

## SAR Test Report

By Operator : Jay  
Measurement Date : 05-May-2006  
Starting Time : 05-May-2006 03:29:34 PM  
End Time : 05-May-2006 03:59:28 PM  
Scanning Time : 1794 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 55 mm  
Width : 54 mm  
Depth : 14 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.152 W/kg  
Power Drift-Finish: 0.146 W/kg  
Power Drift (%) : -3.596

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 05-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 51.84 F/m  
Sigma : 2.22 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

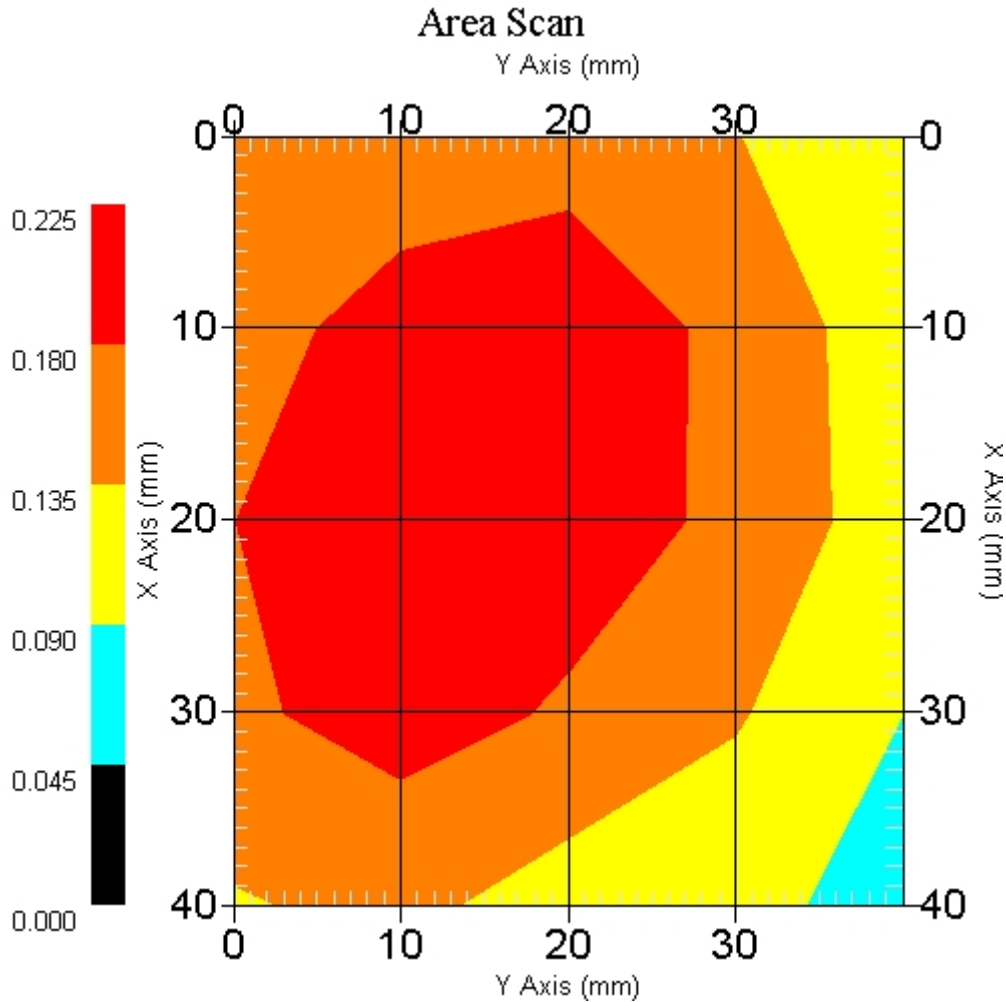
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 05-May-2006  
 Set-up Time : 8:42:11 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 0  
 Channel : Low - 1



1 gram SAR value : 0.220 W/kg  
 10 gram SAR value : 0.144 W/kg  
 Area Scan Peak SAR : 0.225 W/kg  
 Zoom Scan Peak SAR : 0.360 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 07:41:05 AM  
End Time : 06-May-2006 07:59:08 AM  
Scanning Time : 1083 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 55 mm  
Width : 54 mm  
Depth : 14 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.232 W/kg  
Power Drift-Finish: 0.224 W/kg  
Power Drift (%) : -3.448

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

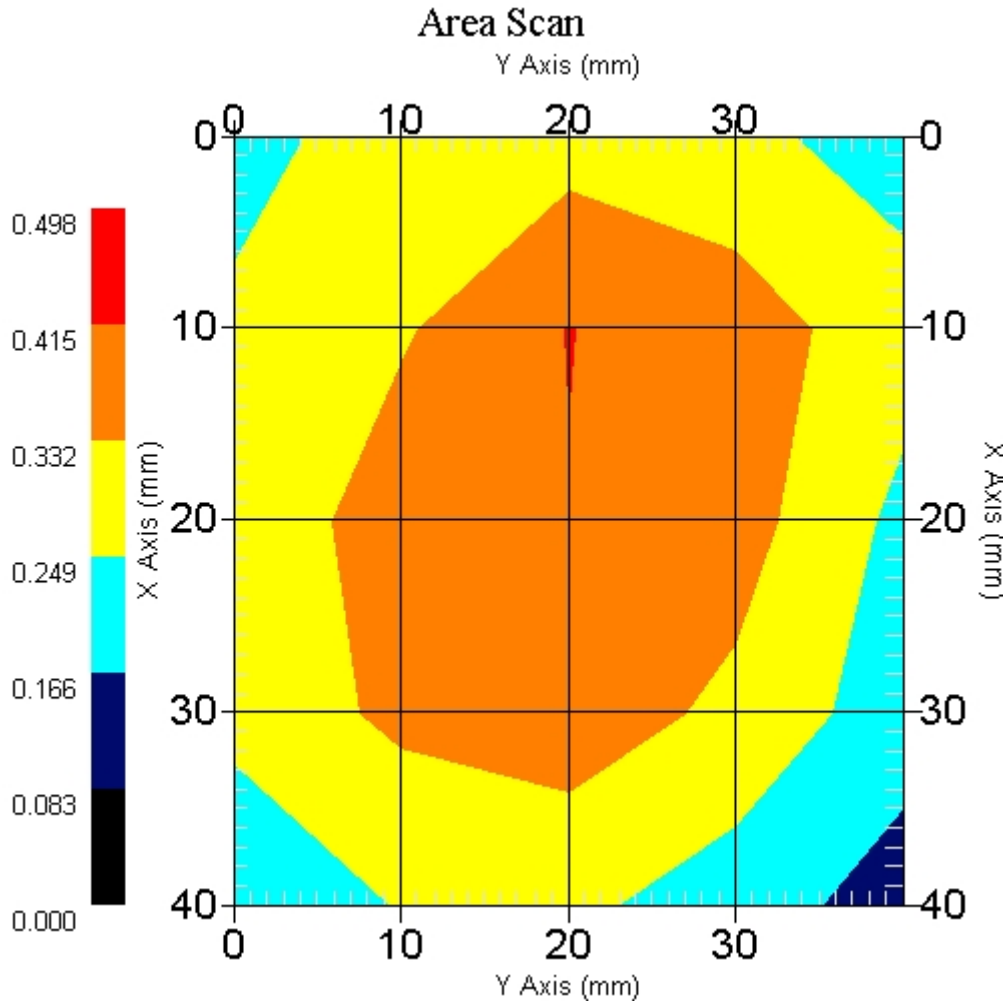
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 0  
 Channel : Mid - 23



1 gram SAR value : 0.302 W/kg  
 10 gram SAR value : 0.157 W/kg  
 Area Scan Peak SAR : 0.417 W/kg  
 Zoom Scan Peak SAR : 0.570 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 08:00:15 AM  
End Time : 06-May-2006 08:18:27 AM  
Scanning Time : 1092 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 55 mm  
Width : 54 mm  
Depth : 14 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.114 W/kg  
Power Drift-Finish: 0.103 W/kg  
Power Drift (%) : -9.447

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

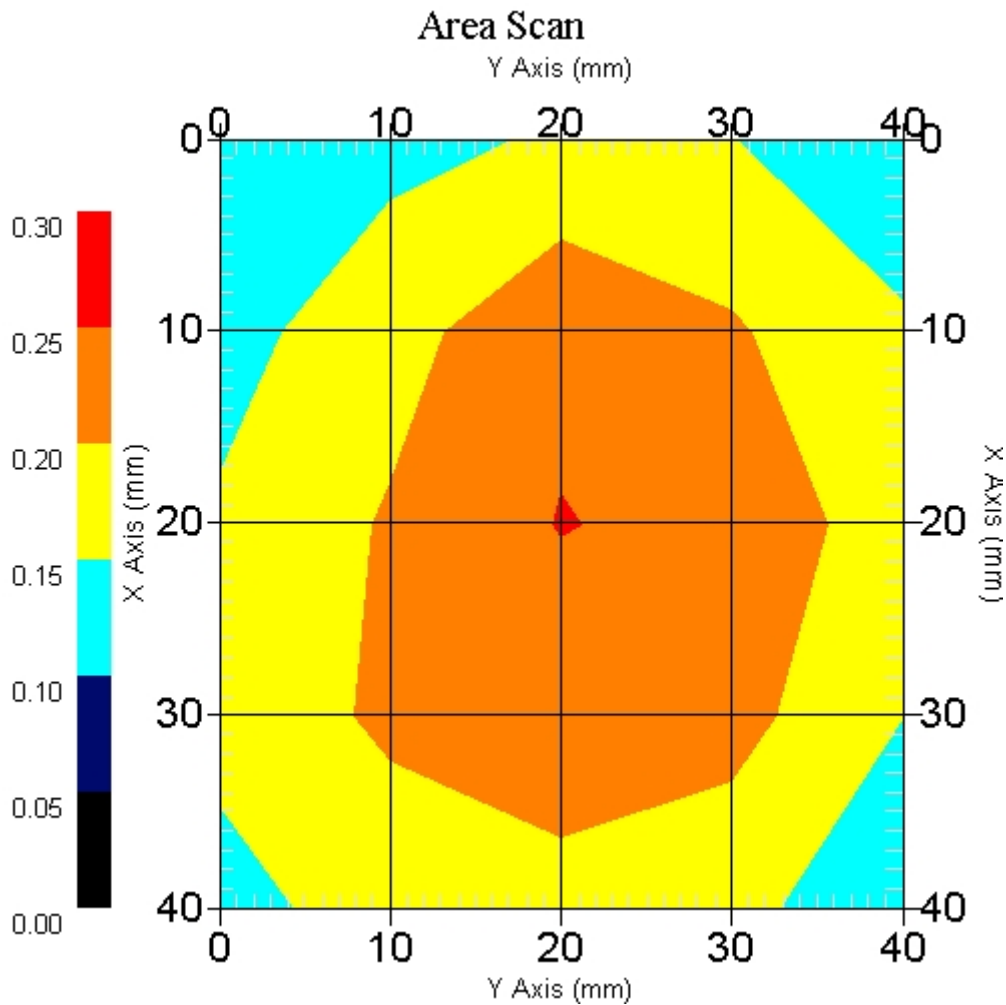
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 0  
 Channel : High - 46



1 gram SAR value : 0.247 W/kg  
 10 gram SAR value : 0.153 W/kg  
 Area Scan Peak SAR : 0.252 W/kg  
 Zoom Scan Peak SAR : 0.400 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 09-May-2006  
Starting Time : 09-May-2006 08:25:00 AM  
End Time : 09-May-2006 08:43:48 AM  
Scanning Time : 1128 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : External  
Orientation : Touch  
Power Drift-Start : 0.131 W/kg  
Power Drift-Finish: 0.119 W/kg  
Power Drift (%) : -9.320

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 09-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 51.96 F/m  
Sigma : 2.19 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

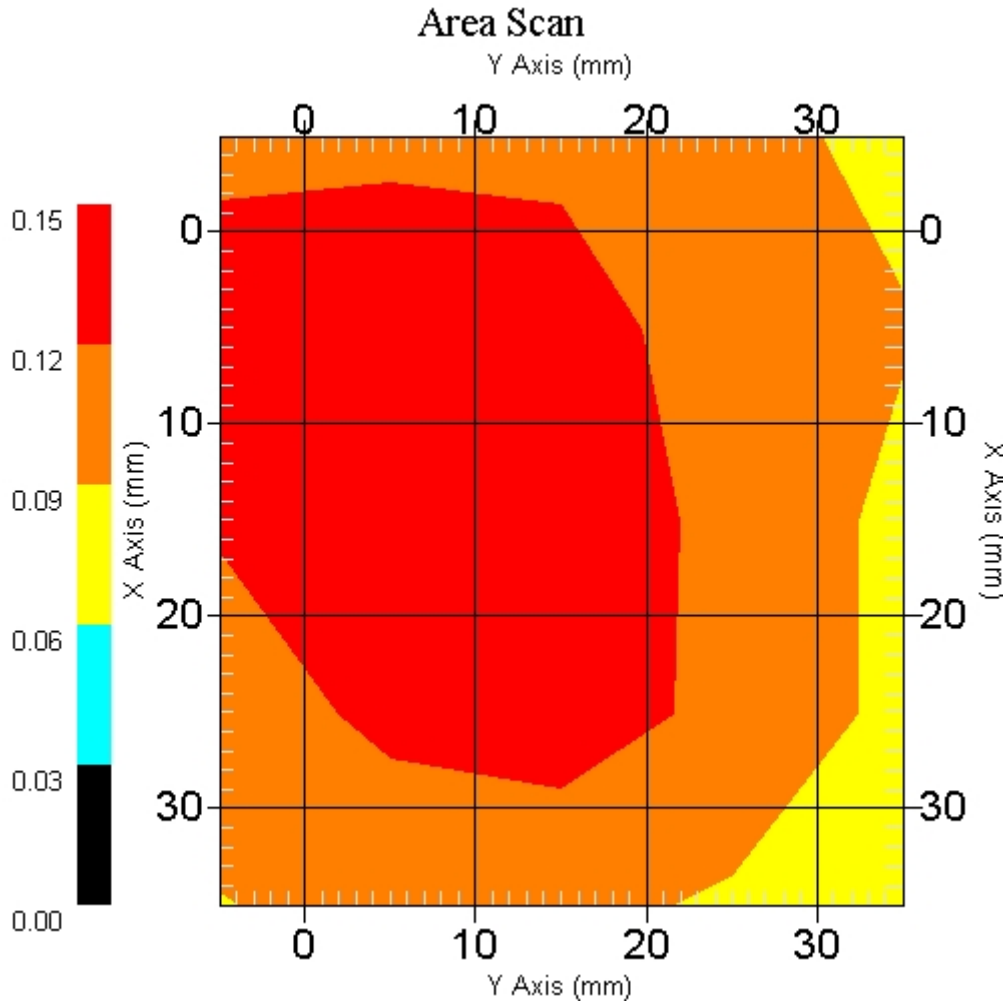
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 09-May-2006  
 Set-up Time : 8:17:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.137 W/kg  
 10 gram SAR value : 0.094 W/kg  
 Area Scan Peak SAR : 0.148 W/kg  
 Zoom Scan Peak SAR : 0.270 W/kg



## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 08:20:07 AM  
End Time : 06-May-2006 08:38:20 AM  
Scanning Time : 1093 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.197 W/kg  
Power Drift-Finish: 0.199 W/kg  
Power Drift (%) : 1.162

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

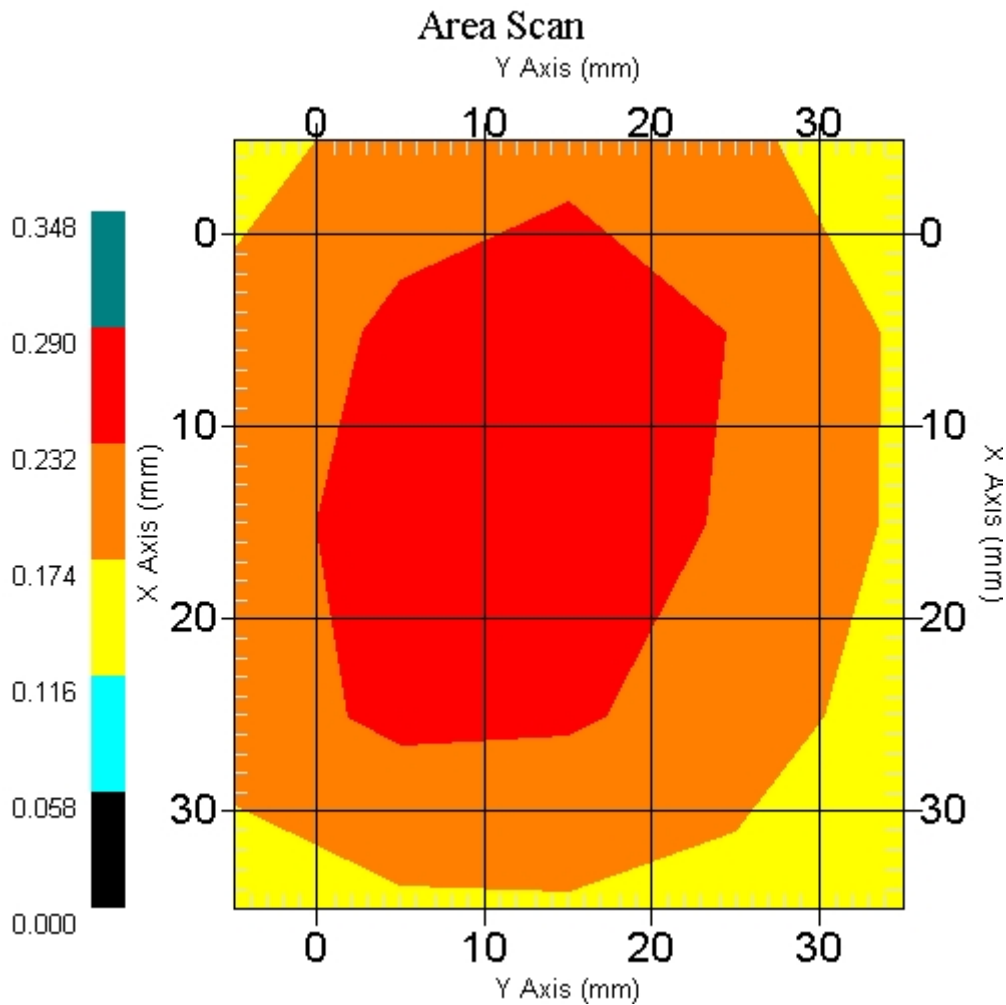
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.280 W/kg  
 10 gram SAR value : 0.176 W/kg  
 Area Scan Peak SAR : 0.290 W/kg  
 Zoom Scan Peak SAR : 0.500 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 08:39:39 AM  
End Time : 06-May-2006 08:57:56 AM  
Scanning Time : 1097 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.320 W/kg  
Power Drift-Finish: 0.296 W/kg  
Power Drift (%) : -7.609

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

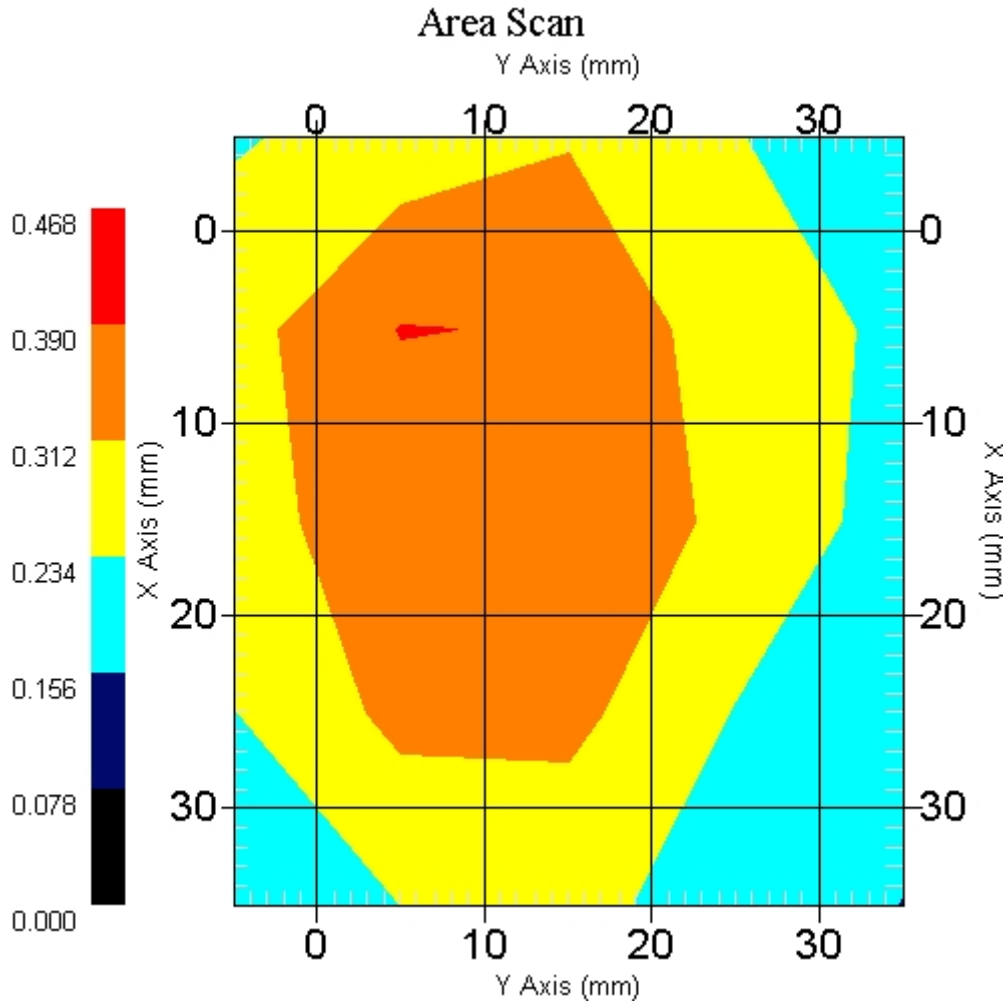
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

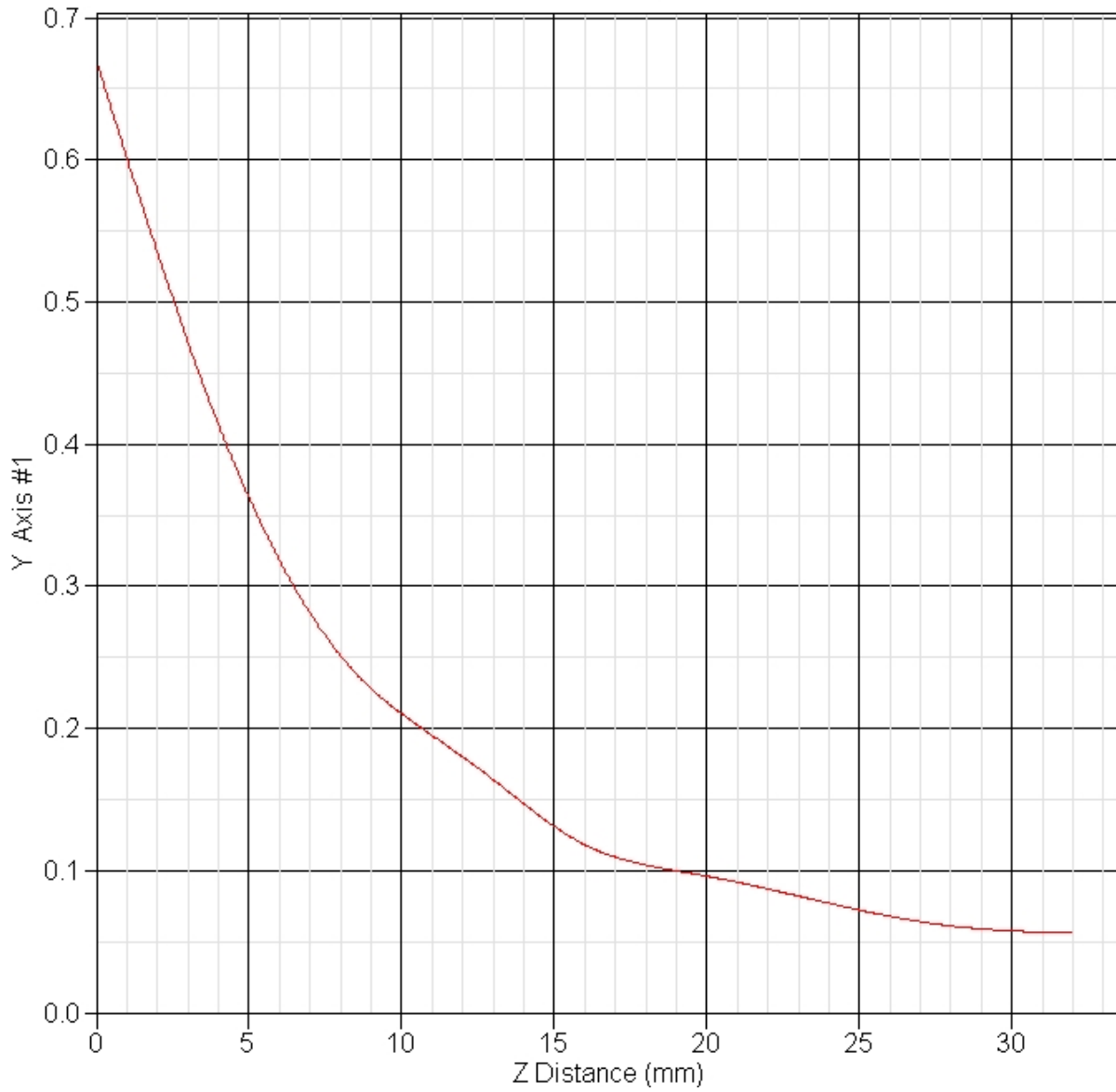
DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.361 W/kg  
 10 gram SAR value : 0.198 W/kg  
 Area Scan Peak SAR : 0.392 W/kg  
 Zoom Scan Peak SAR : 0.670 W/kg

### SAR-Z Axis

at Hotspot x:13.30 y:12.80



## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 12:43:02 PM  
End Time : 06-May-2006 01:00:35 PM  
Scanning Time : 1053 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.270 W/kg  
Power Drift-Finish: 0.257 W/kg  
Power Drift (%) : -4.815

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

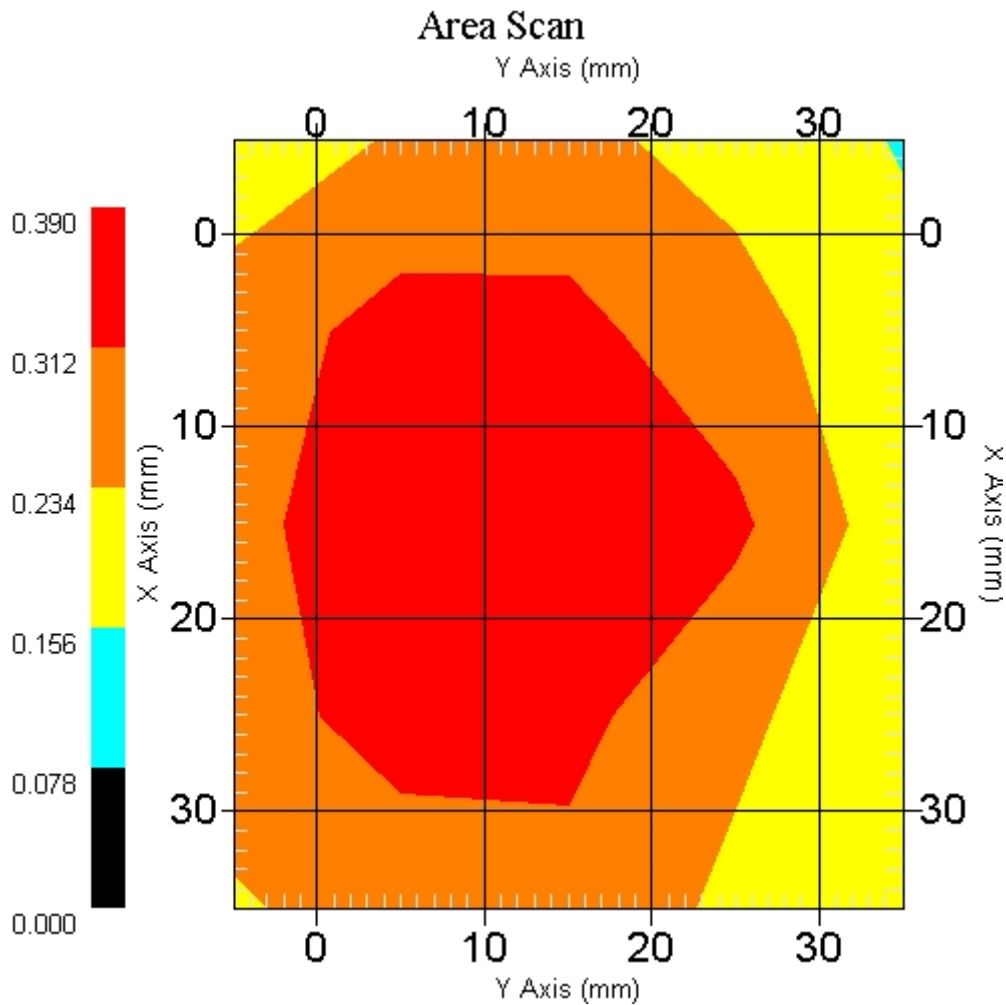
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.357 W/kg  
 10 gram SAR value : 0.205 W/kg  
 Area Scan Peak SAR : 0.389 W/kg  
 Zoom Scan Peak SAR : 0.660 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 09:26:30 AM  
End Time : 08-May-2006 09:45:38 AM  
Scanning Time : 1148 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.130 W/kg  
Power Drift-Finish: 0.134 W/kg  
Power Drift (%) : 3.041

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
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

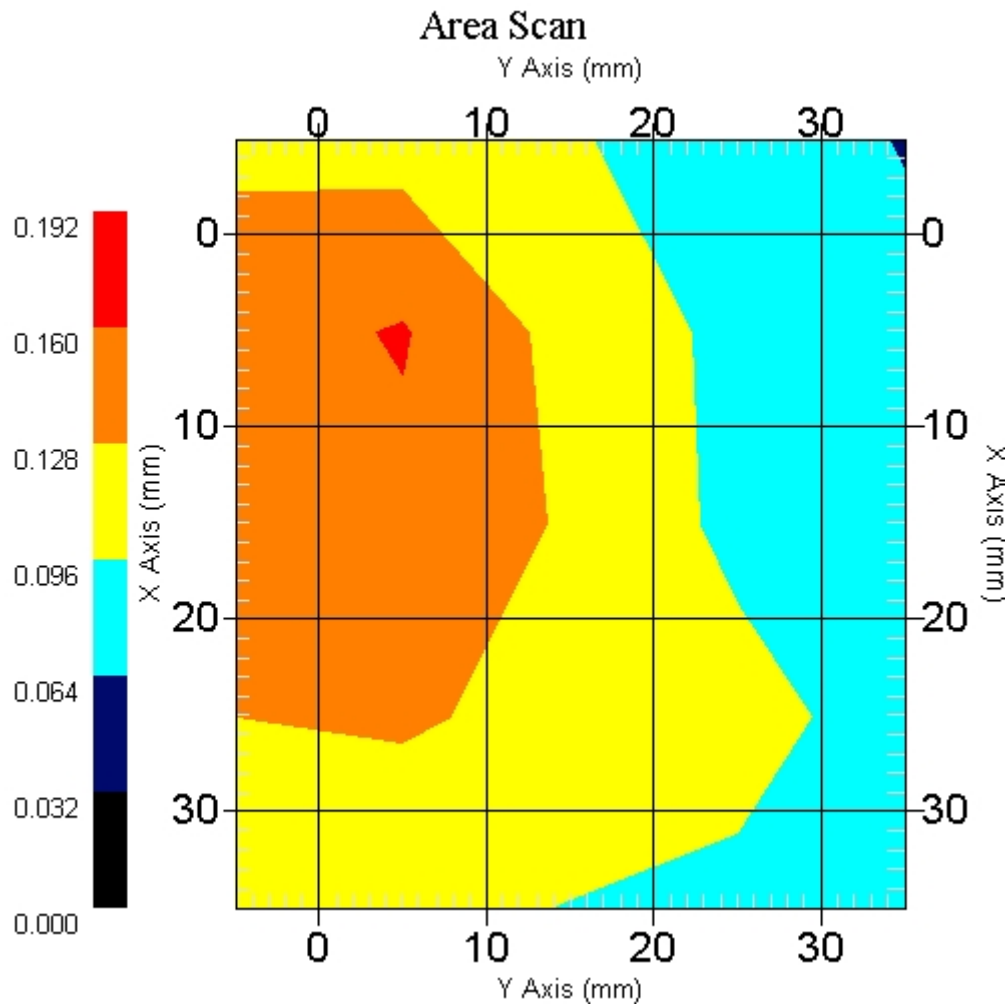


Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.154 W/kg  
 10 gram SAR value : 0.104 W/kg  
 Area Scan Peak SAR : 0.162 W/kg  
 Zoom Scan Peak SAR : 0.250 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 12:35:40 PM  
End Time : 08-May-2006 12:55:00 PM  
Scanning Time : 1160 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.232 W/kg  
Power Drift-Finish: 0.223 W/kg  
Power Drift (%) : -3.879

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

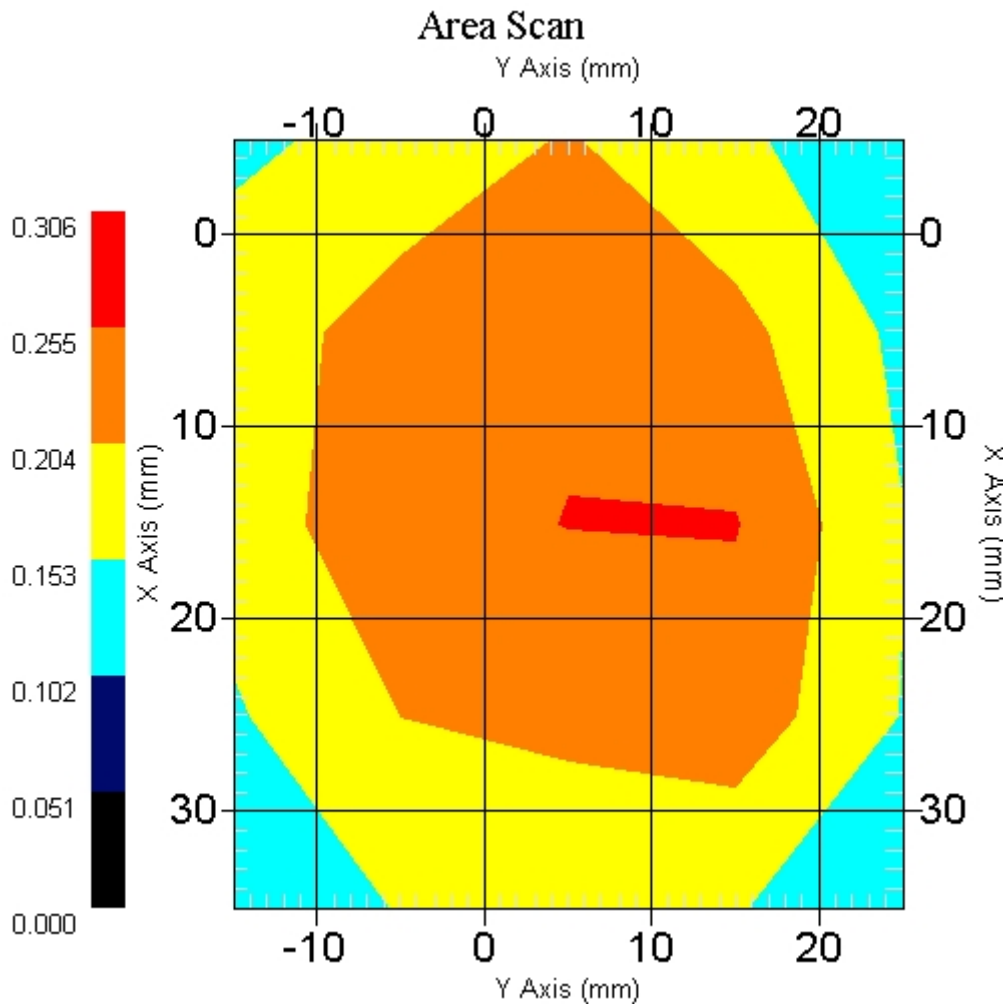
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.271 W/kg  
 10 gram SAR value : 0.162 W/kg  
 Area Scan Peak SAR : 0.257 W/kg  
 Zoom Scan Peak SAR : 0.460 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 12:56:28 PM  
End Time : 08-May-2006 01:15:42 PM  
Scanning Time : 1154 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 200 kHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.182 W/kg  
Power Drift-Finish: 0.177 W/kg  
Power Drift (%) : -2.747

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

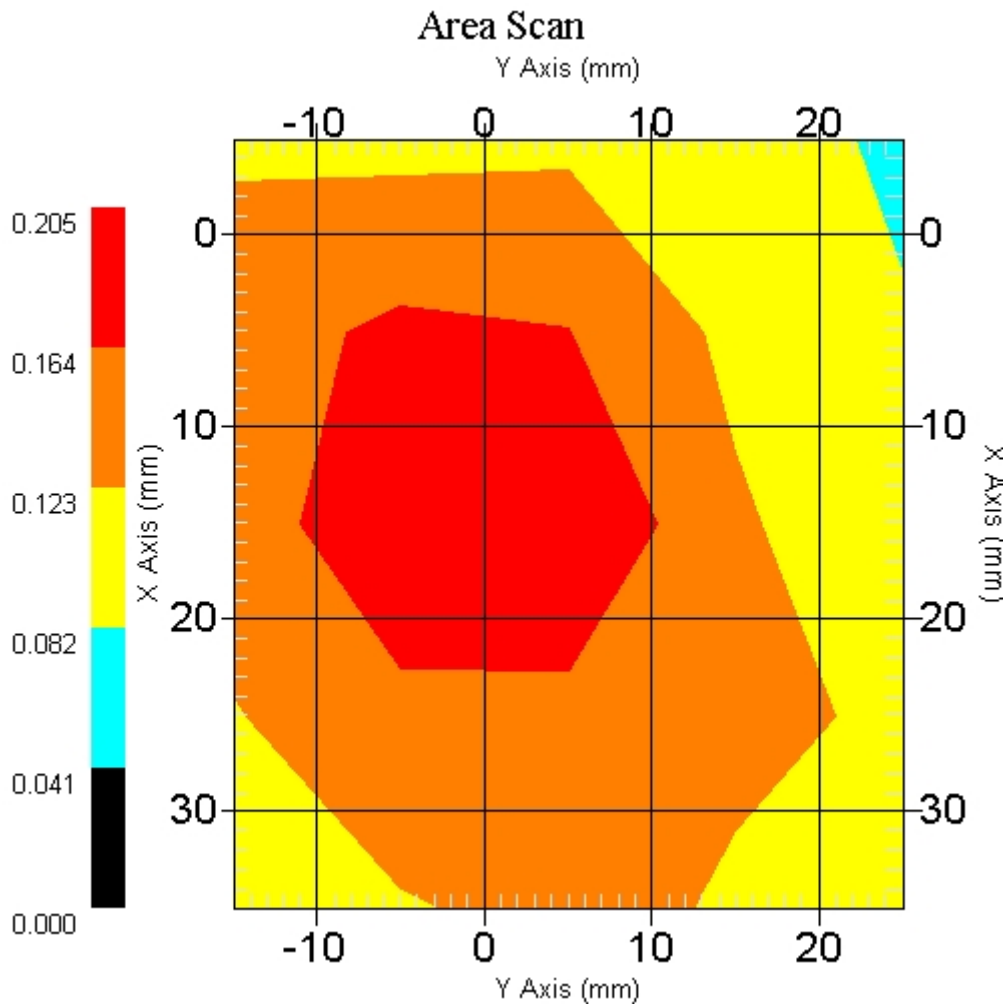
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.199 W/kg  
 10 gram SAR value : 0.120 W/kg  
 Area Scan Peak SAR : 0.203 W/kg  
 Zoom Scan Peak SAR : 0.390 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 09-May-2006  
Starting Time : 09-May-2006 08:45:00 AM  
End Time : 09-May-2006 09:03:54 AM  
Scanning Time : 1134 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : External  
Orientation : Touch  
Power Drift-Start : 0.128 W/kg  
Power Drift-Finish: 0.119 W/kg  
Power Drift (%) : -7.031

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 09-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 51.96 F/m  
Sigma : 2.19 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

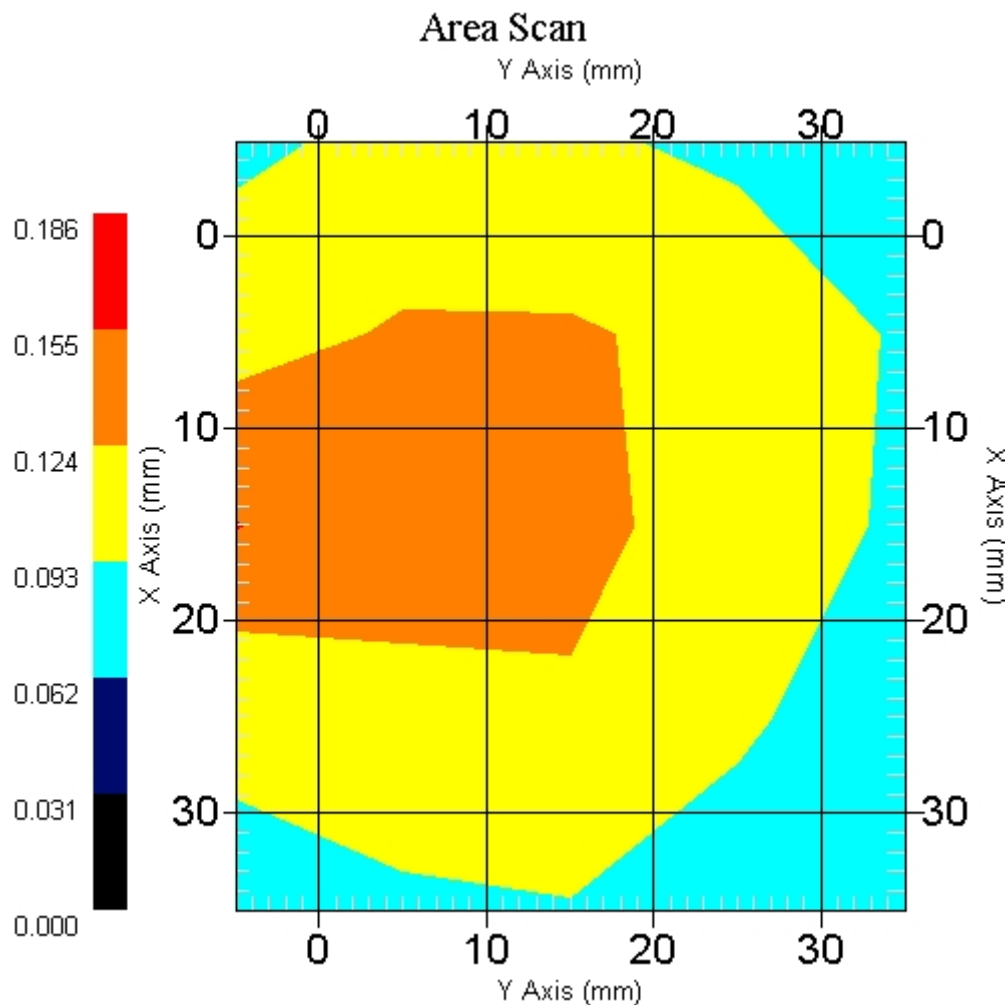
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 09-May-2006  
 Set-up Time : 8:17:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.117 W/kg  
 10 gram SAR value : 0.085 W/kg  
 Area Scan Peak SAR : 0.156 W/kg  
 Zoom Scan Peak SAR : 0.190 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 01:01:39 PM  
End Time : 06-May-2006 01:19:42 PM  
Scanning Time : 1083 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.216 W/kg  
Power Drift-Finish: 0.214 W/kg  
Power Drift (%) : -0.679

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
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

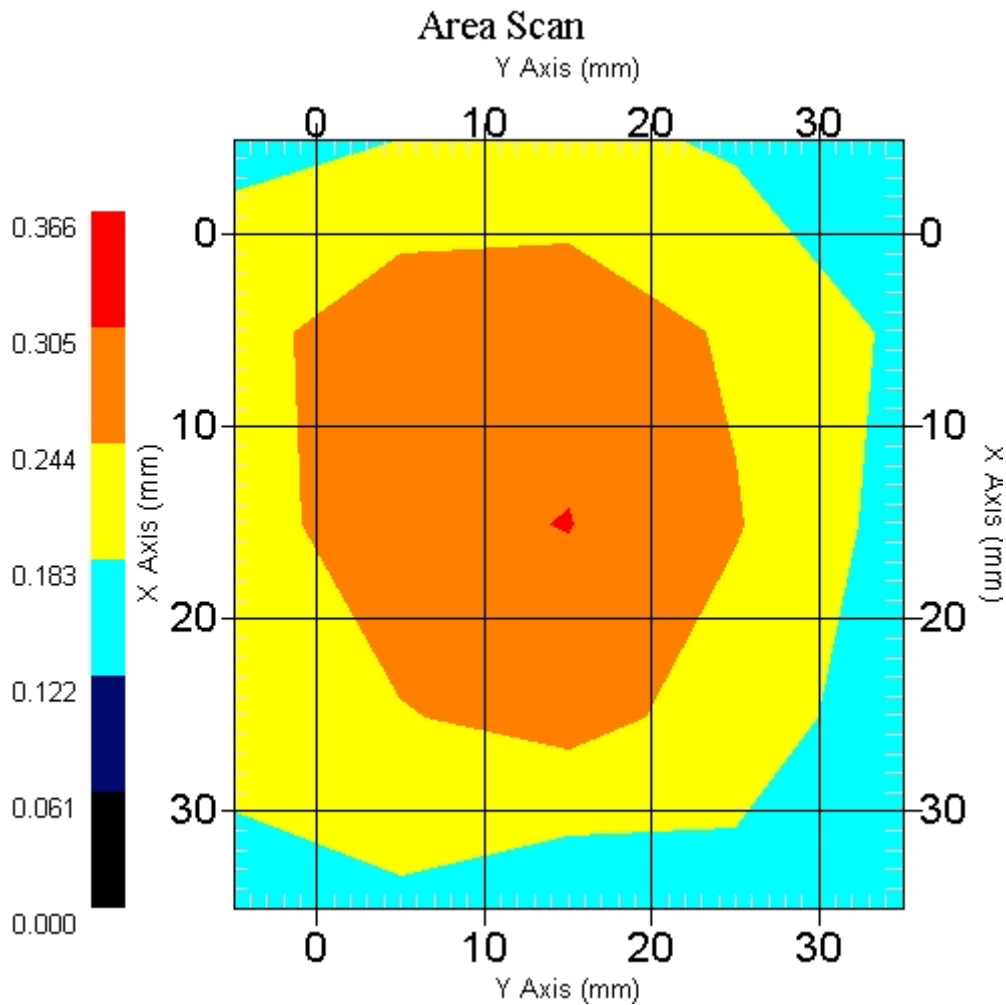


Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.289 W/kg  
 10 gram SAR value : 0.176 W/kg  
 Area Scan Peak SAR : 0.307 W/kg  
 Zoom Scan Peak SAR : 0.500 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 01:20:50 PM  
End Time : 06-May-2006 01:38:17 PM  
Scanning Time : 1047 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 55 mm  
Width : 54 mm  
Depth : 14 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.366 W/kg  
Power Drift-Finish: 0.338 W/kg  
Power Drift (%) : -7.650

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

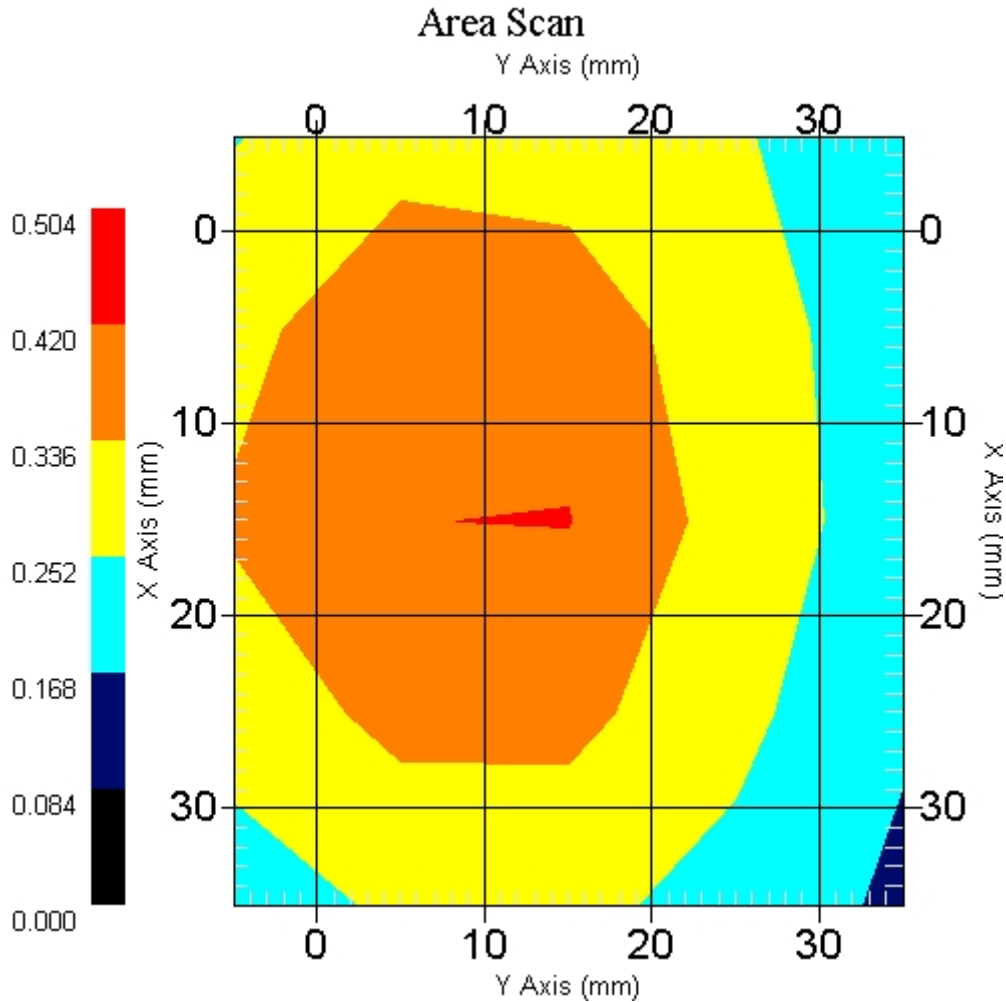
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.425 W/kg  
 10 gram SAR value : 0.248 W/kg  
 Area Scan Peak SAR : 0.422 W/kg  
 Zoom Scan Peak SAR : 0.770 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 01:39:24 PM  
End Time : 06-May-2006 01:57:01 PM  
Scanning Time : 1057 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.306 W/kg  
Power Drift-Finish: 0.293 W/kg  
Power Drift (%) : -4.248

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

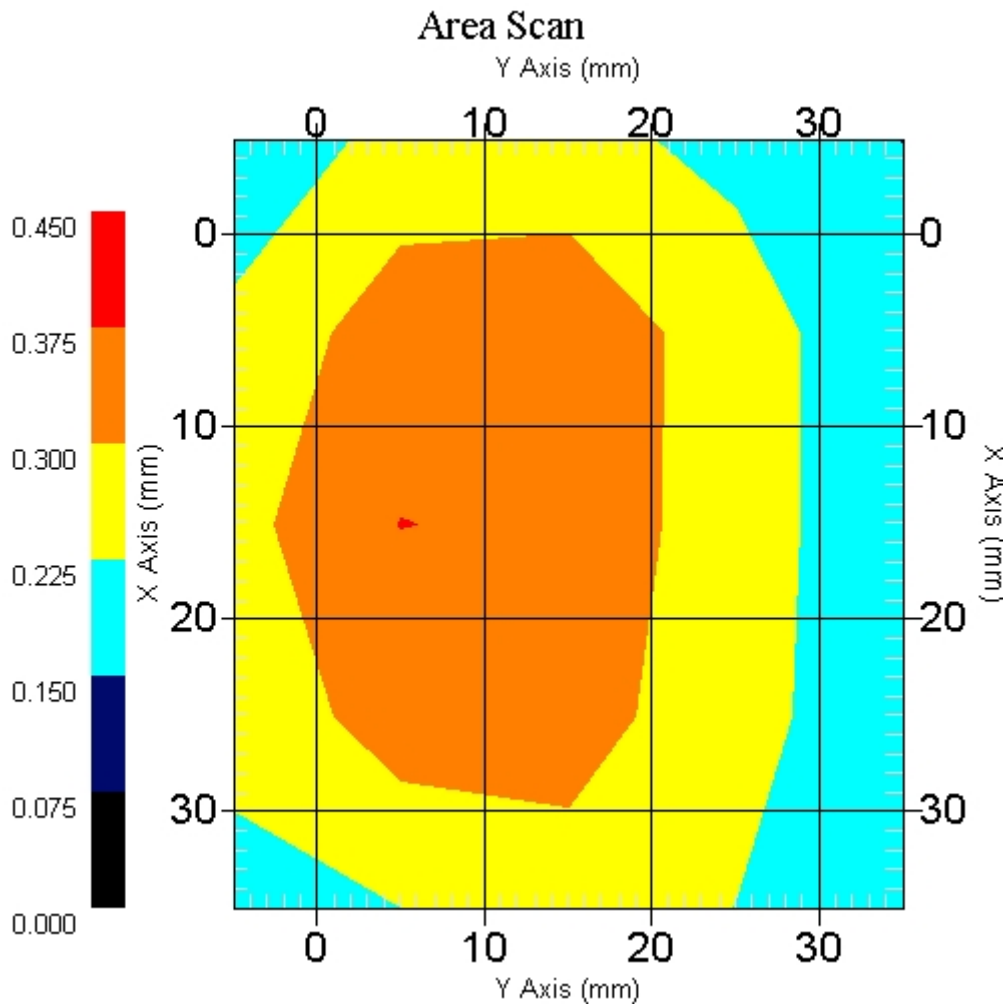
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.359 W/kg  
 10 gram SAR value : 0.212 W/kg  
 Area Scan Peak SAR : 0.376 W/kg  
 Zoom Scan Peak SAR : 0.650 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 01:18:59 PM  
End Time : 08-May-2006 01:51:25 PM  
Scanning Time : 1946 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.138 W/kg  
Power Drift-Finish: 0.127 W/kg  
Power Drift (%) : -8.164

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

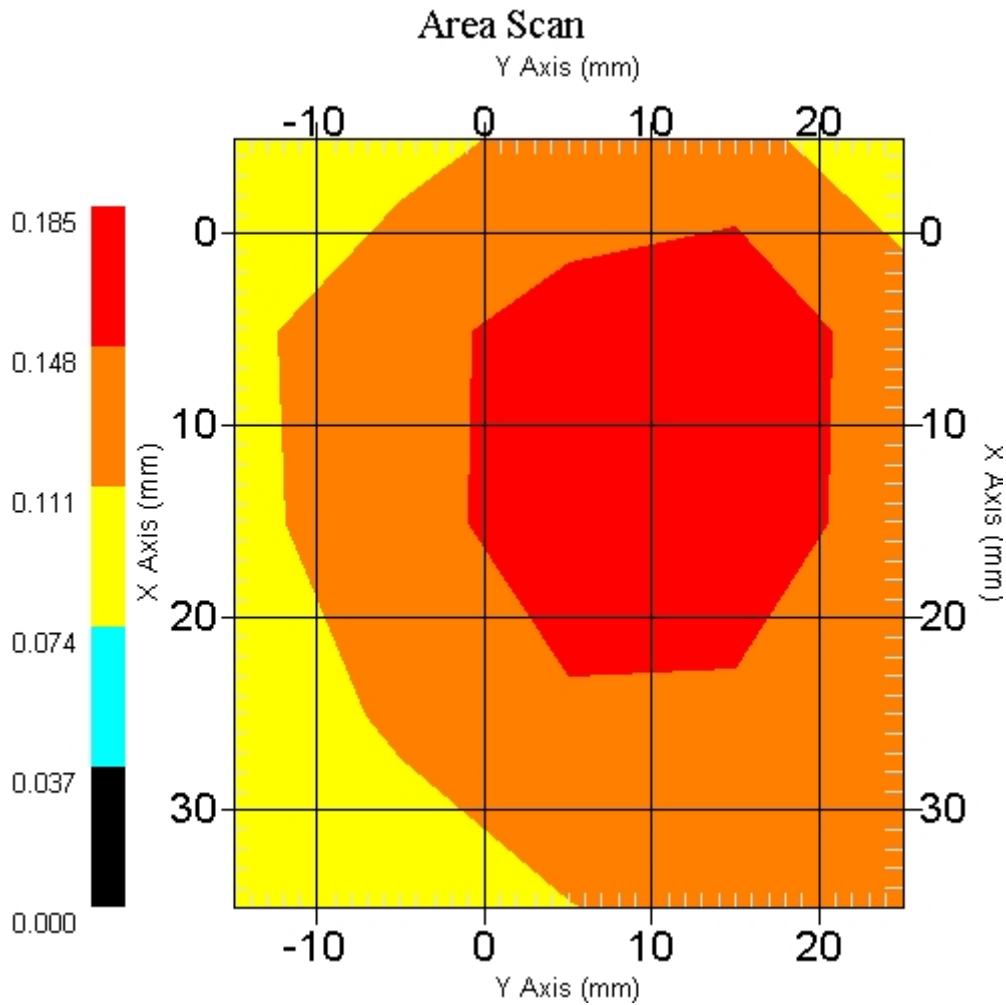
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.171 W/kg  
 10 gram SAR value : 0.108 W/kg  
 Area Scan Peak SAR : 0.183 W/kg  
 Zoom Scan Peak SAR : 0.320 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 06:16:59 PM  
End Time : 08-May-2006 06:35:05 PM  
Scanning Time : 1086 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.394 W/kg  
Power Drift-Finish: 0.369 W/kg  
Power Drift (%) : -6.345

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
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

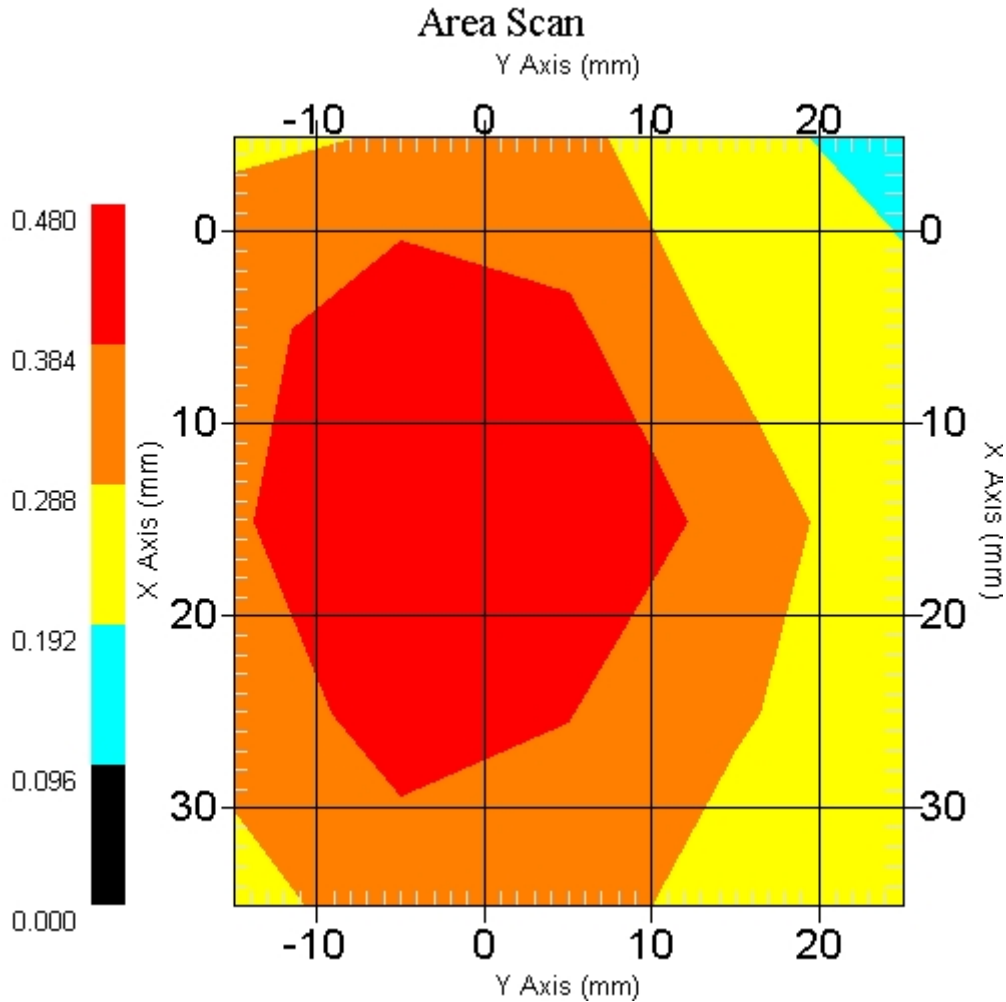


Measurement Data

Crest Factor : 0.46  
Scan Type : Complete  
Tissue Temp. : 20.00 °C  
Ambient Temp. : 23.00 °C  
Set-up Date : 08-May-2006  
Set-up Time : 8:01:28 AM  
Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

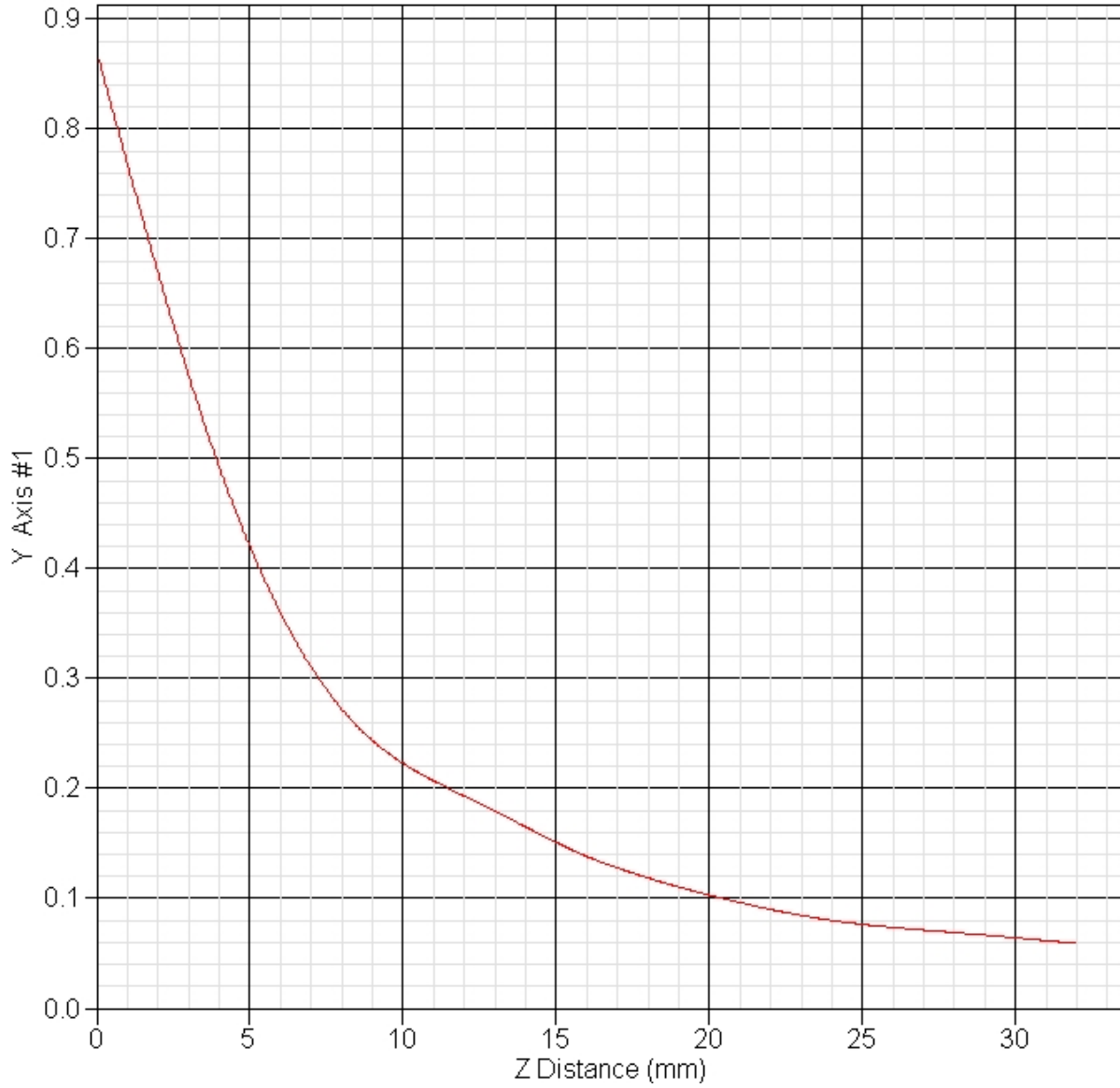
Other Data

DUT Position : Touch  
Separation : 15 mm  
Channel : Mid - 23



1 gram SAR value : 0.455 W/kg  
10 gram SAR value : 0.270 W/kg  
Area Scan Peak SAR : 0.478 W/kg  
Zoom Scan Peak SAR : 0.870 W/kg

### SAR-Z Axis at Hotspot x:15.40 y:2.80



## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 06:38:20 PM  
End Time : 08-May-2006 06:56:24 PM  
Scanning Time : 1084 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.209 W/kg  
Power Drift-Finish: 0.218 W/kg  
Power Drift (%) : 4.341

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

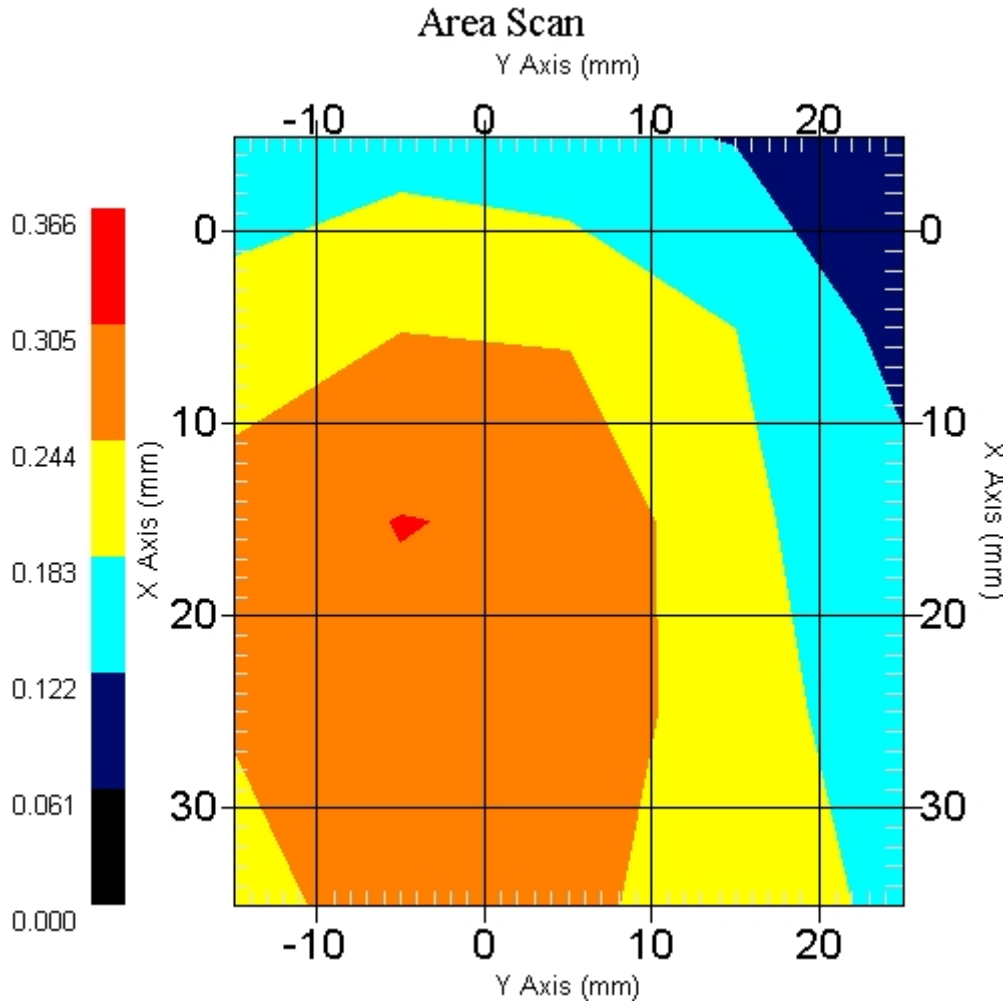
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.327 W/kg  
 10 gram SAR value : 0.188 W/kg  
 Area Scan Peak SAR : 0.307 W/kg  
 Zoom Scan Peak SAR : 0.640 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 09-May-2006  
Starting Time : 09-May-2006 09:04:54 AM  
End Time : 09-May-2006 09:36:17 AM  
Scanning Time : 1883 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : External  
Orientation : Touch  
Power Drift-Start : 0.129 W/kg  
Power Drift-Finish: 0.127 W/kg  
Power Drift (%) : -1.317

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 09-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 51.96 F/m  
Sigma : 2.19 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

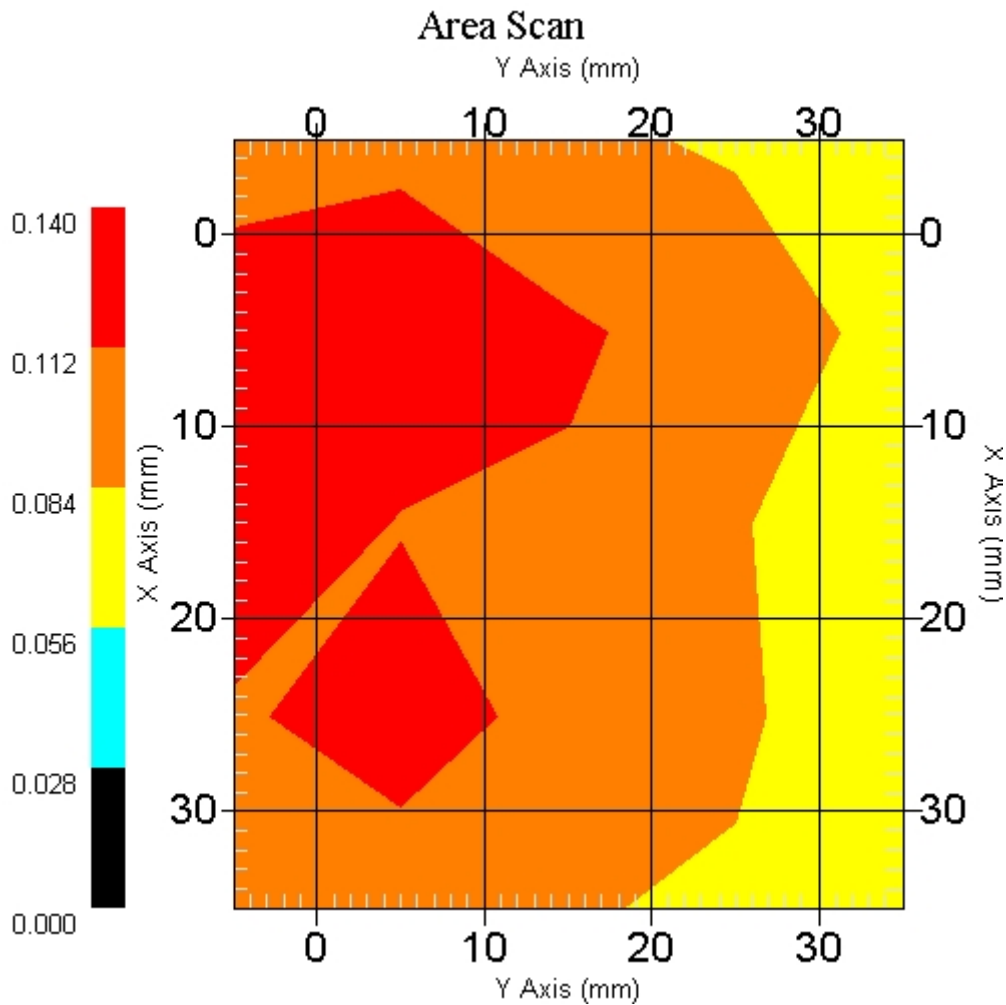
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 09-May-2006  
 Set-up Time : 8:17:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.136 W/kg  
 10 gram SAR value : 0.093 W/kg  
 Area Scan Peak SAR : 0.140 W/kg  
 Zoom Scan Peak SAR : 0.200 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 06-May-2006  
Starting Time : 06-May-2006 01:57:59 PM  
End Time : 06-May-2006 02:15:55 PM  
Scanning Time : 1076 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.206 W/kg  
Power Drift-Finish: 0.203 W/kg  
Power Drift (%) : -1.591

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 06-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.92 F/m  
Sigma : 2.20 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

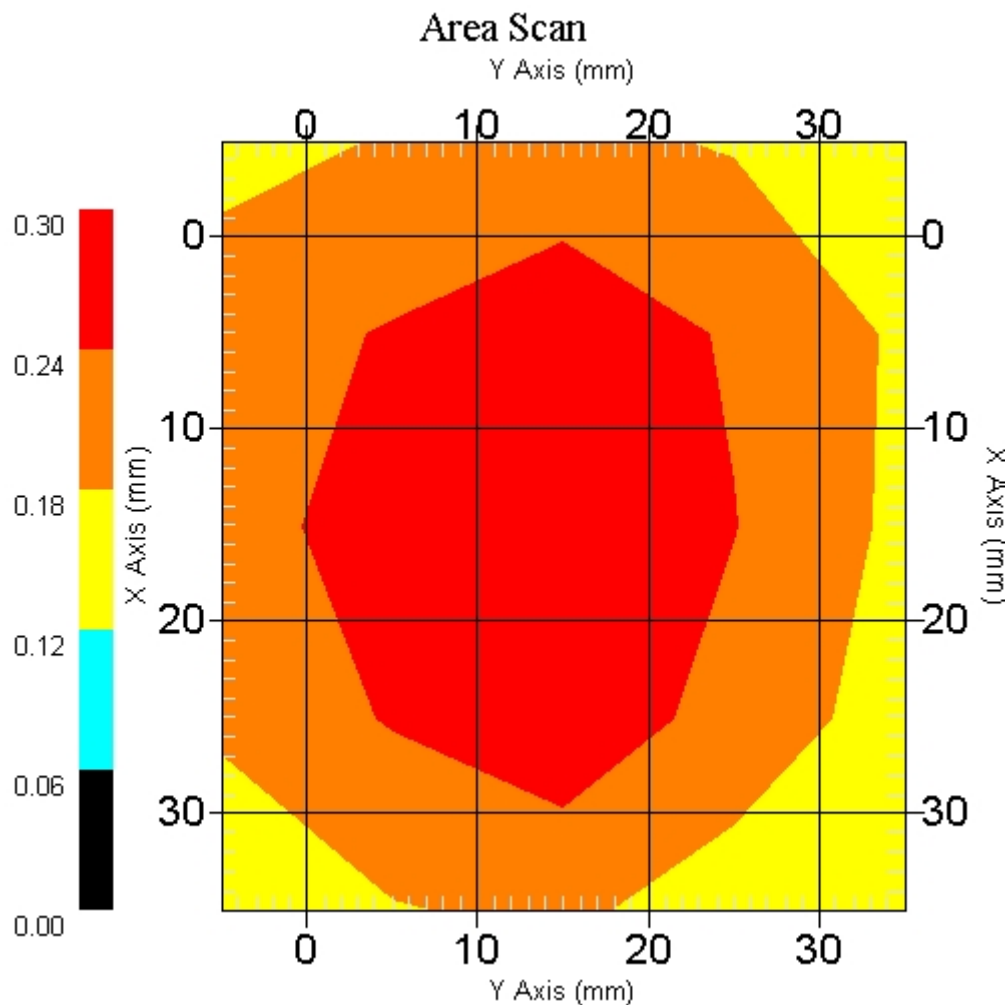
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 06-May-2006  
 Set-up Time : 7:35:03 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

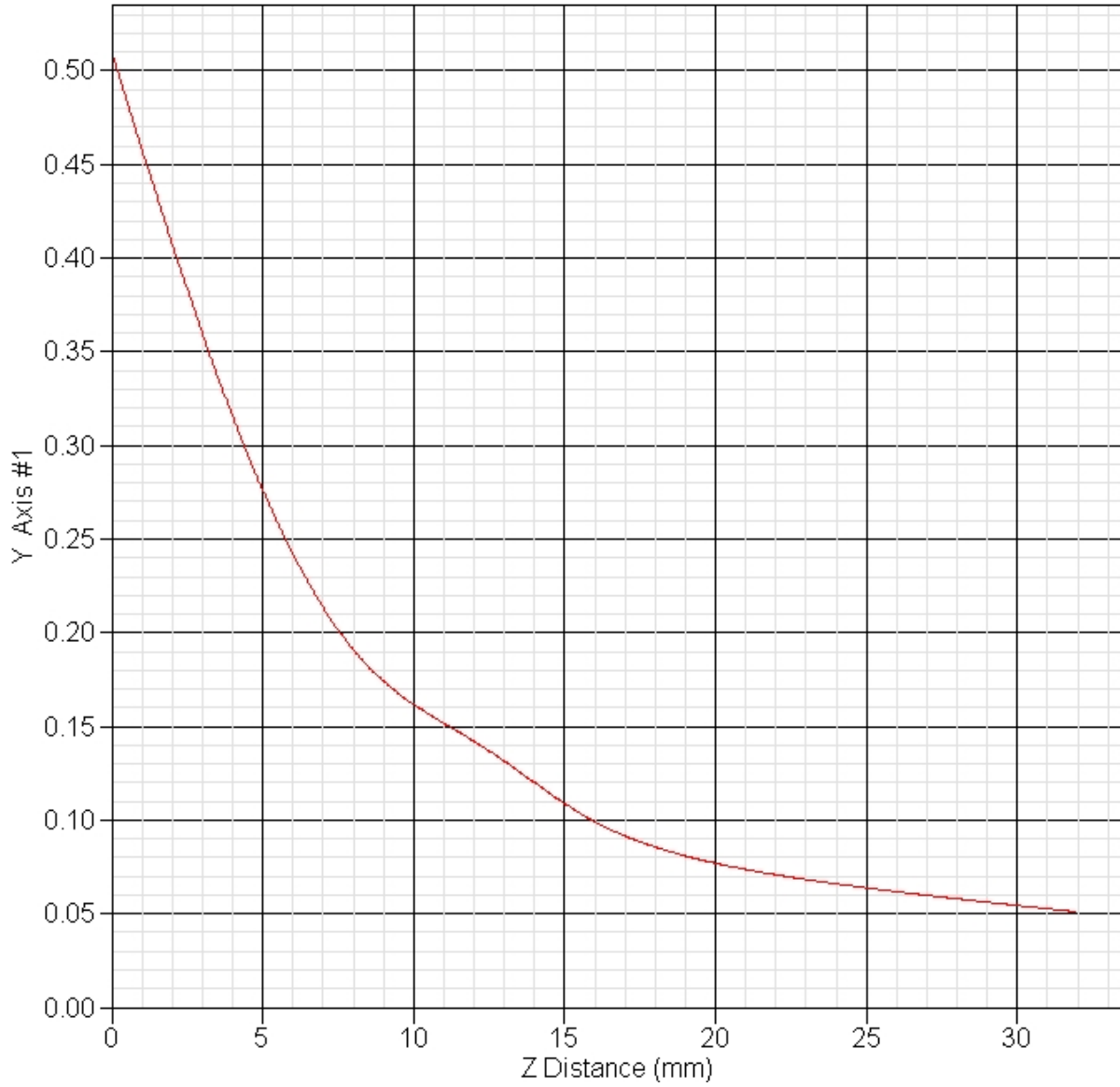
DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.294 W/kg  
 10 gram SAR value : 0.180 W/kg  
 Area Scan Peak SAR : 0.298 W/kg  
 Zoom Scan Peak SAR : 0.510 W/kg



### SAR-Z Axis at Hotspot x:15.30 y:6.80



## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 08:45:19 AM  
End Time : 08-May-2006 09:04:54 AM  
Scanning Time : 1175 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.202 W/kg  
Power Drift-Finish: 0.198 W/kg  
Power Drift (%) : -1.793

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

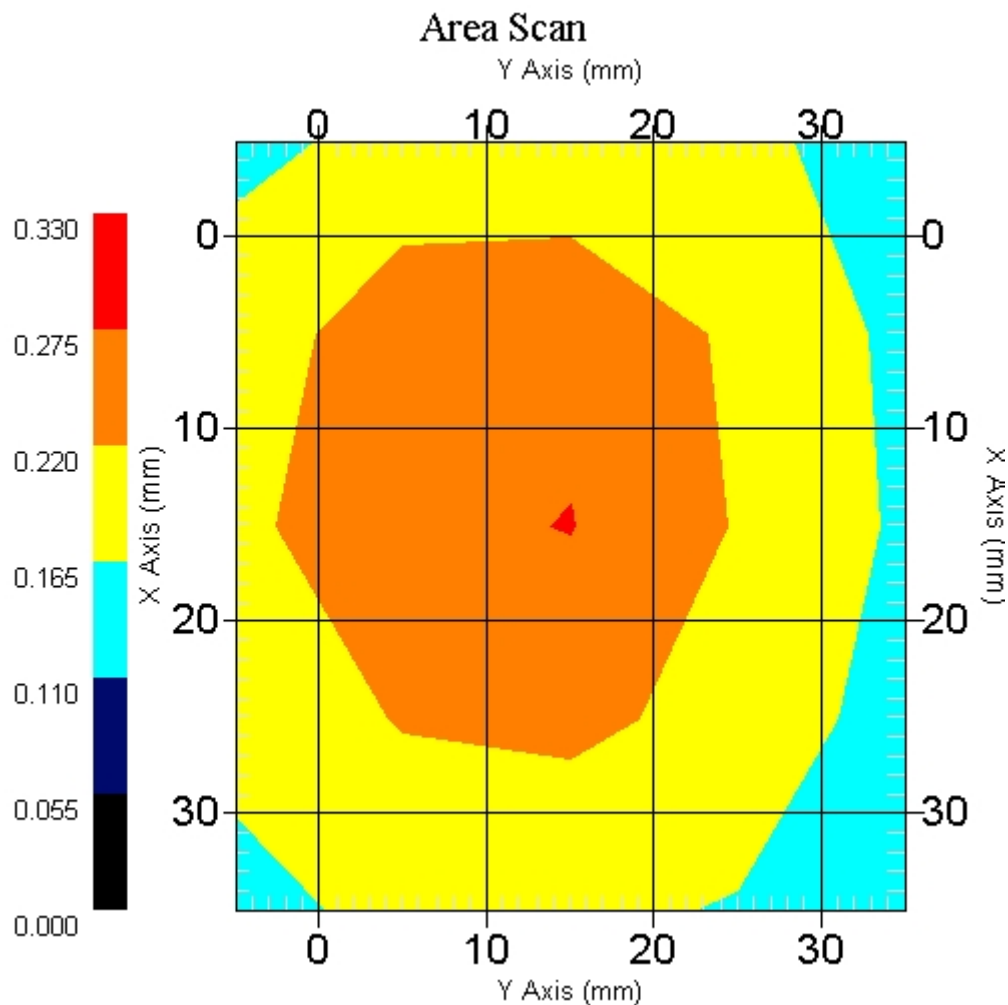
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.267 W/kg  
 10 gram SAR value : 0.166 W/kg  
 Area Scan Peak SAR : 0.277 W/kg  
 Zoom Scan Peak SAR : 0.440 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 09:06:06 AM  
End Time : 08-May-2006 09:25:04 AM  
Scanning Time : 1138 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F1  
Orientation : Touch  
Power Drift-Start : 0.167 W/kg  
Power Drift-Finish: 0.155 W/kg  
Power Drift (%) : -7.310

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

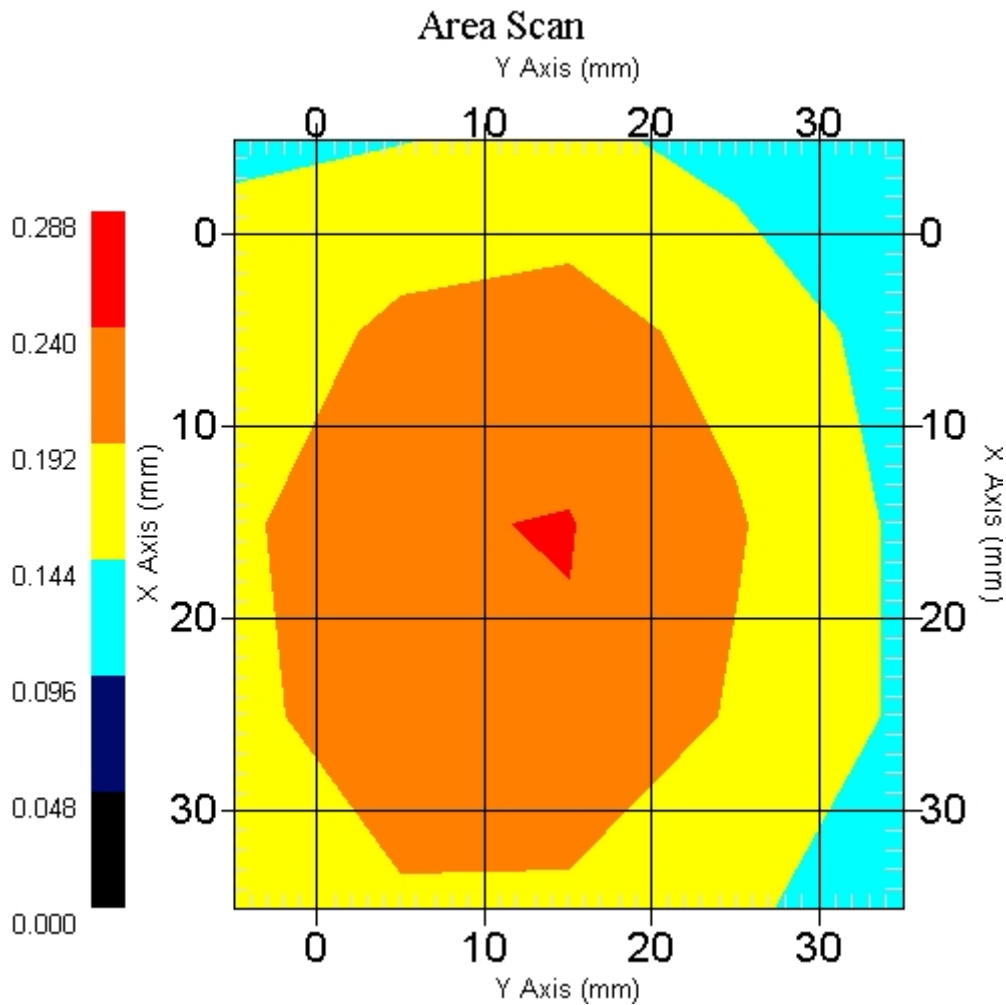
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.233 W/kg  
 10 gram SAR value : 0.146 W/kg  
 Area Scan Peak SAR : 0.242 W/kg  
 Zoom Scan Peak SAR : 0.390 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 07:00:49 PM  
End Time : 08-May-2006 07:19:28 PM  
Scanning Time : 1119 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.197 W/kg  
Power Drift-Finish: 0.214 W/kg  
Power Drift (%) : 8.409

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

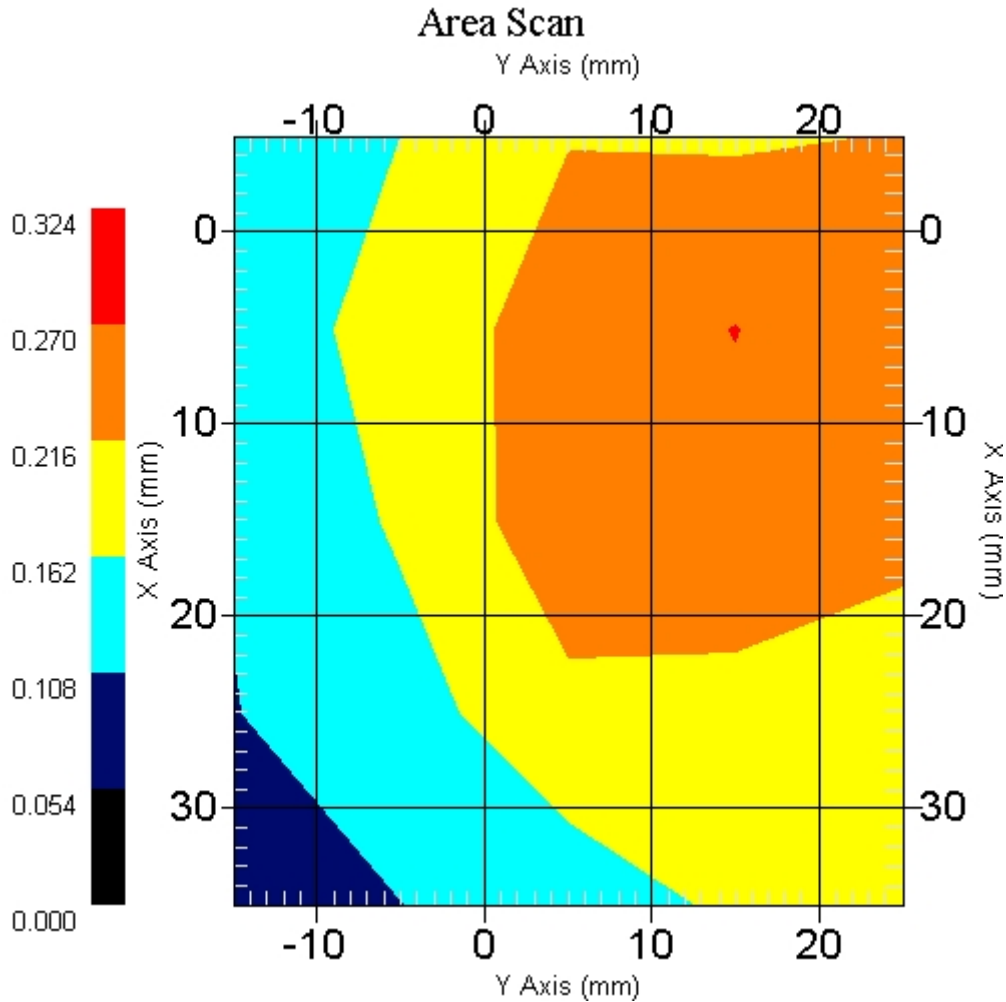
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Low - 1



1 gram SAR value : 0.263 W/kg  
 10 gram SAR value : 0.162 W/kg  
 Area Scan Peak SAR : 0.271 W/kg  
 Zoom Scan Peak SAR : 0.520 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 08:24:20 AM  
End Time : 08-May-2006 08:43:33 AM  
Scanning Time : 1153 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.217 W/kg  
Power Drift-Finish: 0.199 W/kg  
Power Drift (%) : -8.295

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
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

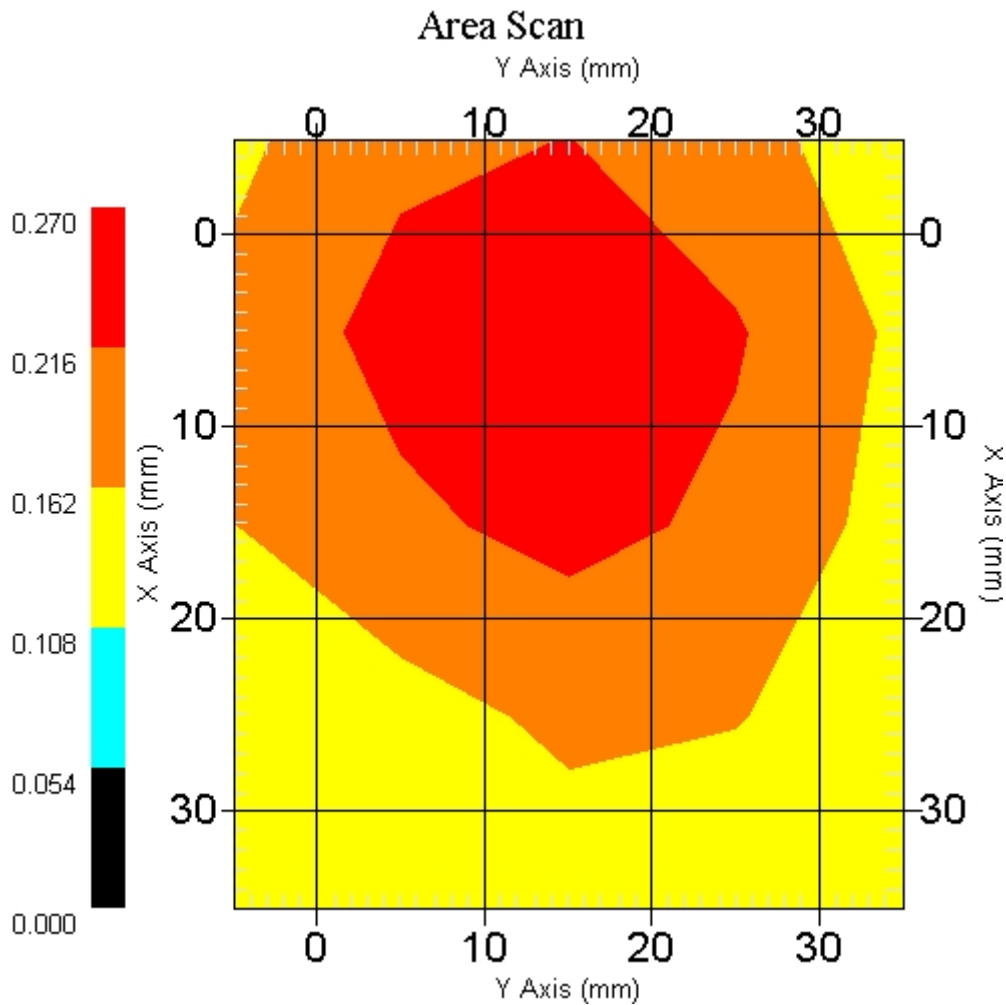


Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : Mid - 23



1 gram SAR value : 0.233 W/kg  
 10 gram SAR value : 0.141 W/kg  
 Area Scan Peak SAR : 0.268 W/kg  
 Zoom Scan Peak SAR : 0.400 W/kg

## SAR Test Report

By Operator : Jay  
Measurement Date : 08-May-2006  
Starting Time : 08-May-2006 07:20:34 PM  
End Time : 08-May-2006 07:38:47 PM  
Scanning Time : 1093 secs

### Product Data

Device Name : Navini Networks - Toshiba  
Serial No. : FFFE421E - 1.6 MHz  
Type : Other  
Model : 2500-2686 PMX  
Frequency : 2590.00 MHz  
Max. Transmit Pwr : 0.316 W  
Drift Time : 0 min(s)  
Length : 14 mm  
Width : 54 mm  
Depth : 55 mm  
Antenna Type : Internal - F2  
Orientation : Touch  
Power Drift-Start : 0.215 W/kg  
Power Drift-Finish: 0.236 W/kg  
Power Drift (%) : 9.671

### Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Uni-Phantom

### Tissue Data

Type : BODY  
Serial No. : 2590  
Frequency : 2590.00 MHz  
Last Calib. Date : 08-May-2006  
Temperature : 20.00 °C  
Ambient Temp. : 23.00 °C  
Humidity : 45.00 RH%  
Epsilon : 52.26 F/m  
Sigma : 2.21 S/m  
Density : 1000.00 kg/cu. m

### Probe Data

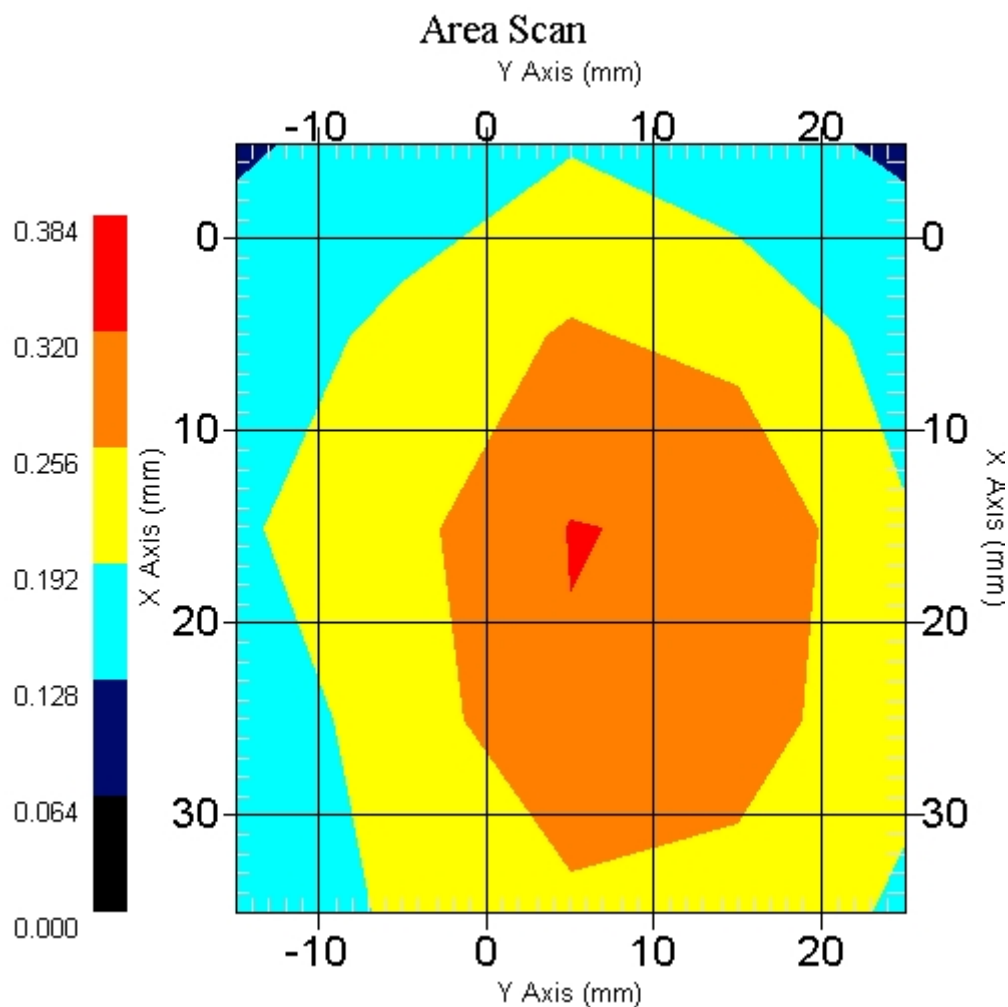
Name : Probe 215 - RFEL  
Model : E020  
Type : E-Field Triangle  
Serial No. : 215  
Last Calib. Date : 10-Jun-2005  
Frequency : 2450.00 MHz  
Duty Cycle Factor: 0.46  
Conversion Factor: 4.6  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

Crest Factor : 0.46  
 Scan Type : Complete  
 Tissue Temp. : 20.00 °C  
 Ambient Temp. : 23.00 °C  
 Set-up Date : 08-May-2006  
 Set-up Time : 8:01:28 AM  
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch  
 Separation : 15 mm  
 Channel : High - 46



1 gram SAR value : 0.291 W/kg  
 10 gram SAR value : 0.182 W/kg  
 Area Scan Peak SAR : 0.322 W/kg  
 Zoom Scan Peak SAR : 0.500 W/kg

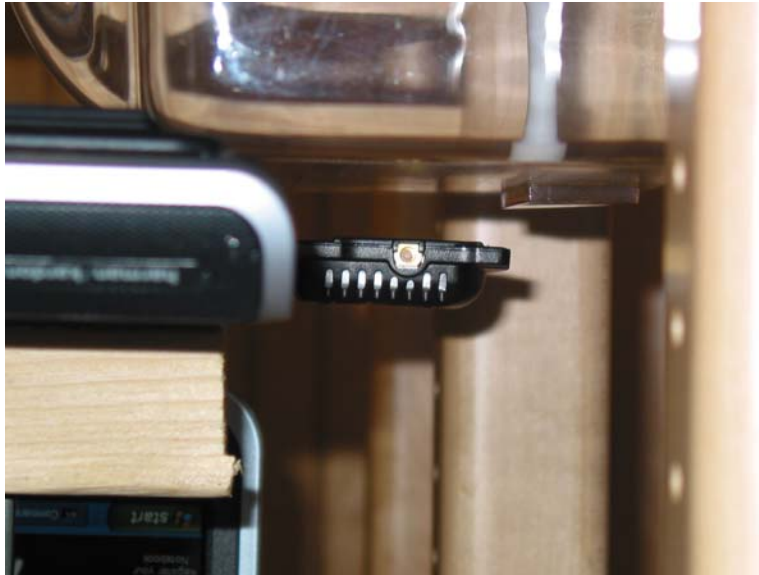
## Appendix C – SAR Test Setup Photos



**Figure 1 – Dell Internal Antenna Touch Position**



**Figure 2 – Dell External Antenna Touch Position**



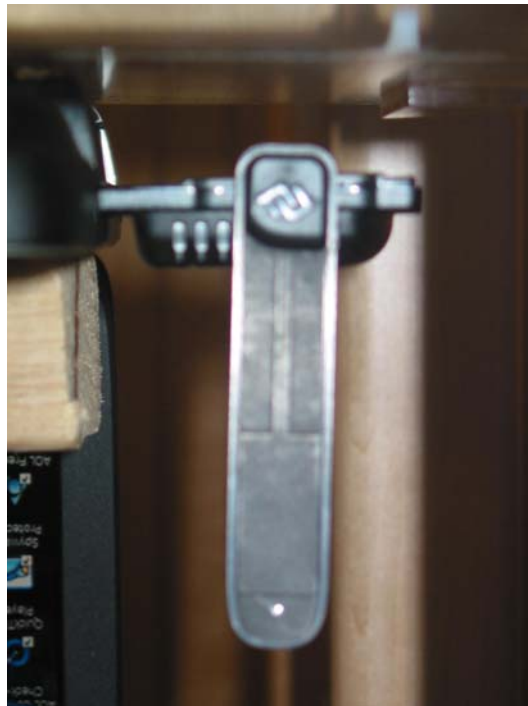
**Figure 3 – HP Internal Antenna Touch Position**



**Figure 4 – HP External Antenna Touch Position**



**Figure 5 – Toshiba Internal Antenna Touch Position**



**Figure 6 – Toshiba External Antenna Touch Position**



**Figure 7 – Toshiba Internal Antenna 15 mm Position**

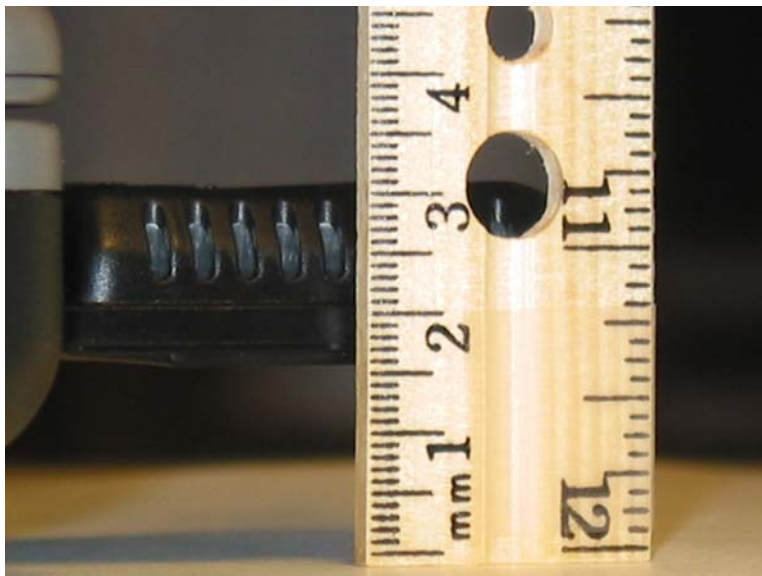


**Figure 8 – Toshiba External Antenna 15mm Postion**



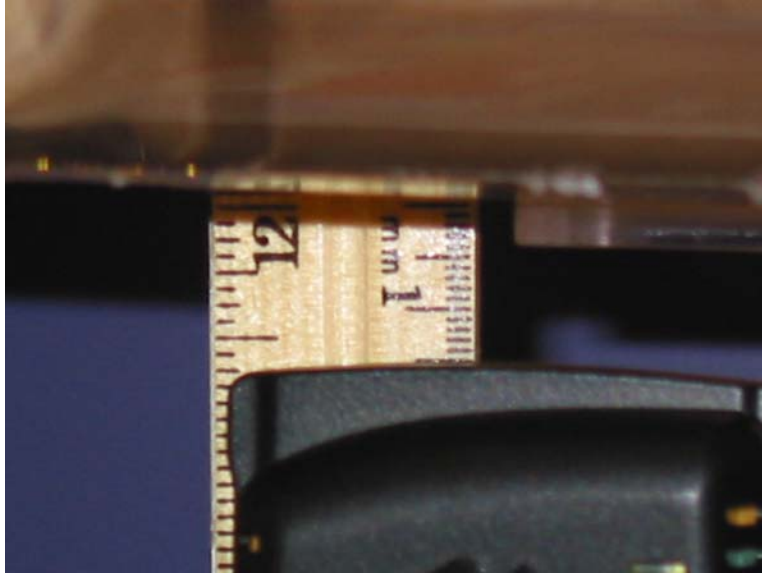


**Figure 9 – Dell Measurement from Lap**



**Figure 10 – HP Measurement from Lap**





**Figure 11 – Toshiba Measurement for 15 mm Test**



**Figure 12 – Back of Antenna**



**Figure 13 – Front of Antenna**

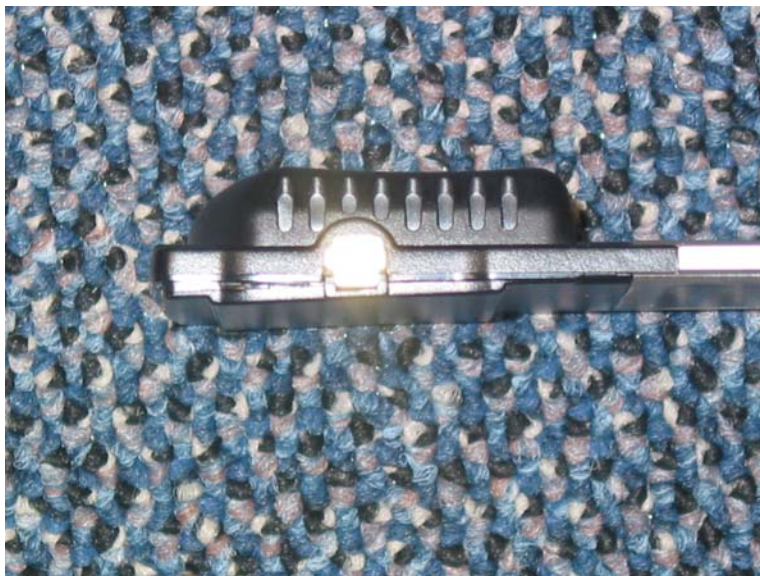


**Figure 14 – Front of Unit**

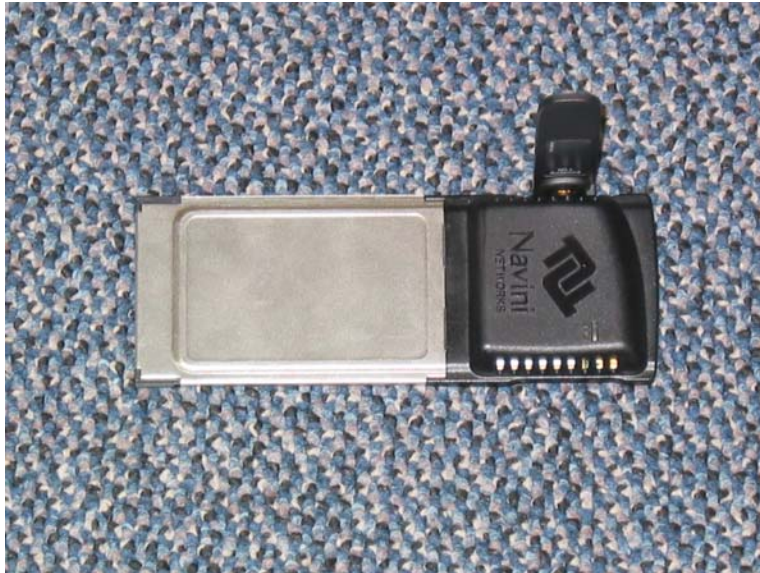




**Figure 15 – Back of Unit**



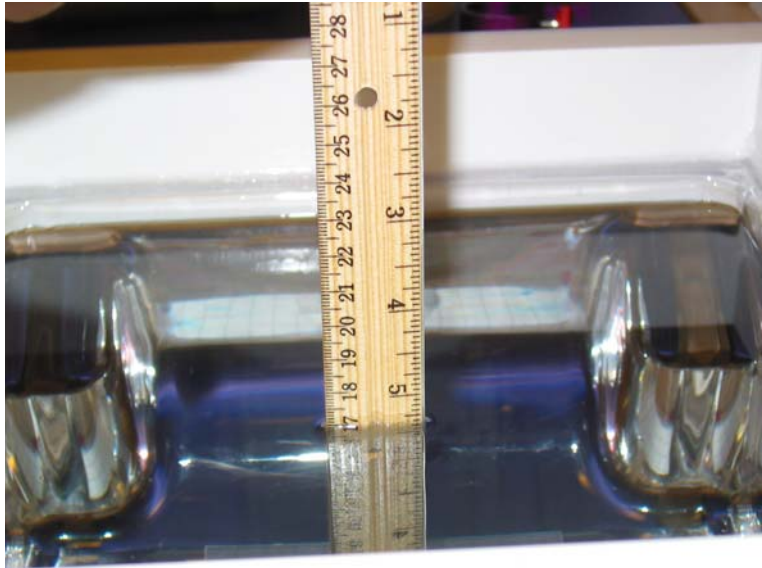
**Figure 16 – Side of Unit**



**Figure 17 – Front of Unit w/External Antenna**



**Figure 18 – Side of Unit w/External Antenna**



**Figure 19 – Body Tissue Depth**

## Appendix D – Probe Calibration Data Sheets

# NCL CALIBRATION LABORATORIES

Calibration File No.: CP-606

Client.: RFEL

## CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the  
**NCL CALIBRATION LABORATORIES** by qualified personnel following recognized  
procedures and using transfer standards traceable to NRC/NIST.

Equipment: Miniature Isotropic RF Probe 2450 MHz

Manufacturer: APREL Laboratories

Model No.: E-020

Serial No.: 215

Calibration Procedure: SSI/DRB-TP-D01-032-E020-V2

Project No: RFEL-Probe-215-Calibration-5166

BODY Calibration

Calibrated: 10<sup>th</sup> June 2005  
Released on: 10<sup>th</sup> June 2005

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: \_\_\_\_\_ Signature On File

**NCL** CALIBRATION LABORATORIES

51 SPECTRUM WAY  
NEPEAN, ONTARIO  
CANADA K2R 1E6

Division of APREL Lab.  
TEL: (613) 820-4988  
FAX: (613) 820-4161

## **Introduction**

This Calibration Report reproduces the results of the calibration performed in line with the SSI/DRB-TP-D01-032-E020-V2 E-Field Probe Calibration Procedure. The results contained within this report are for APREL E-Field Probe E-020 215.

## **References**

SSI/DRB-TP-D01-032-E020-V2 E-Field Probe Calibration Procedure  
IEEE 1528 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques"  
SSI-TP-011 Tissue Calibration Procedure

## **Conditions**

Probe 215 was a new probe taken from stock prior to calibration.

**Ambient Temperature of the Laboratory:** 22 °C +/- 0.5°C

**Temperature of the Tissue:** 21 °C +/- 0.5°C

**We the undersigned attest that to the best of our knowledge the calibration of this probe has been accurately conducted and that all information contained within this report has been reviewed for accuracy.**

-----  
**Stuart Nicol**  
**Director Product Development**

-----  
**Janusz Lokaj**  
**Member of Engineering Staff**  
**(Calibration Engineer)**



## Calibration Results Summary

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	215
<b>Frequency:</b>	2450 MHz
<b>Sensor Offset:</b>	1.56 mm
<b>Sensor Length:</b>	2.5 mm
<b>Tip Enclosure:</b>	Ertalyte*
<b>Tip Diameter:</b>	<5 mm
<b>Tip Length:</b>	60 mm
<b>Total Length:</b>	290 mm

\*Resistive to recommended tissue recipes per IEEE-1528

## Sensitivity in Air

<b>Channel X:</b>	1.2 $\mu\text{V}/(\text{V}/\text{m})^2$
<b>Channel Y:</b>	1.2 $\mu\text{V}/(\text{V}/\text{m})^2$
<b>Channel Z:</b>	1.2 $\mu\text{V}/(\text{V}/\text{m})^2$
<b>Diode Compression Point:</b>	95 mV

## **Sensitivity in Body Tissue**

**Frequency:** 2450 MHz

**Epsilon:** 39.2 (+/-5%)                      **Sigma:** 1.80 S/m (+/-10%)

### **ConvF**

**Channel X:** 4.6

**Channel Y:** 4.6

**Channel Z:** 4.6

Tissue sensitivity values were calculated using the load impedance of the APREL Laboratories Daq-Paq.

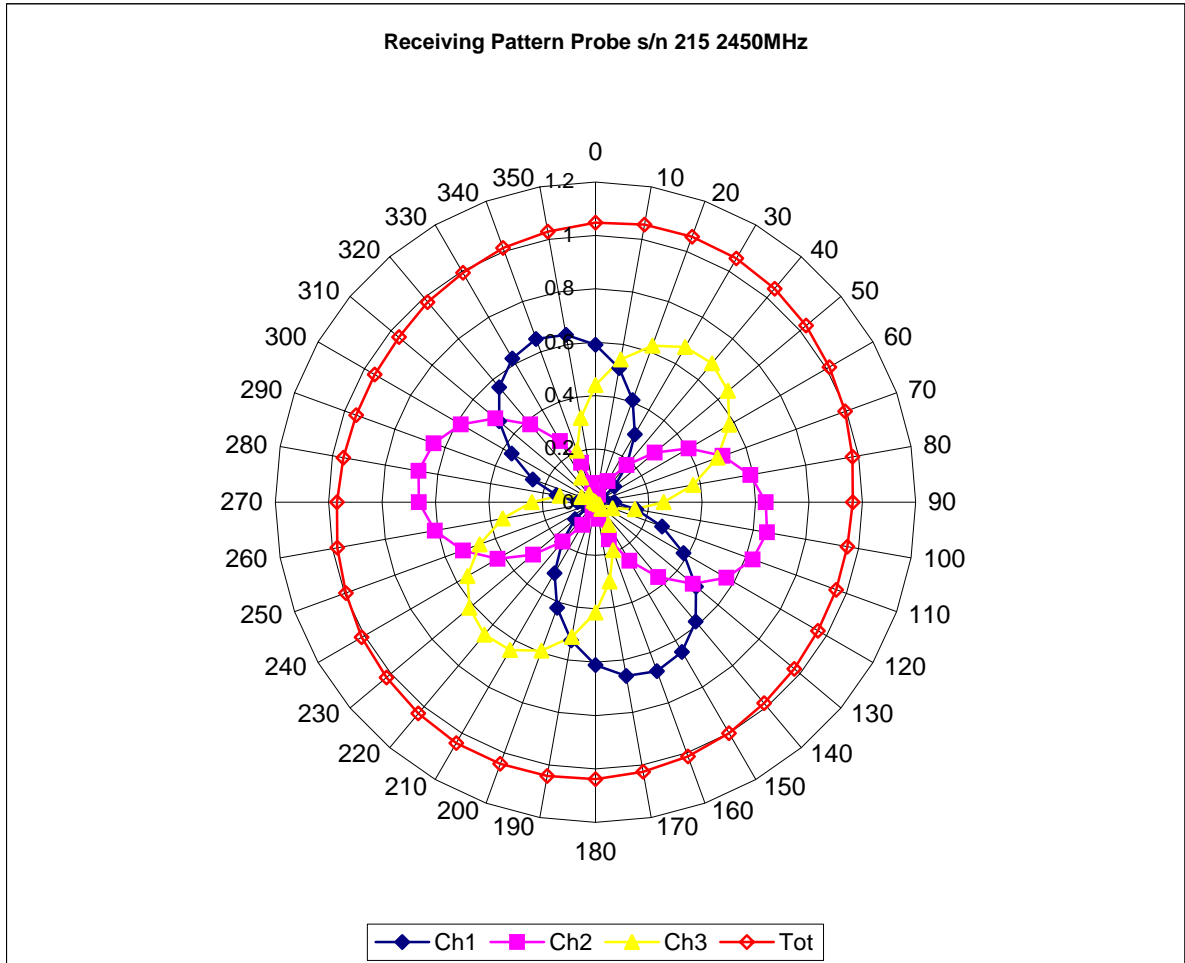
### **Boundary Effect:**

Uncertainty resulting from the boundary effect is less than 2% for the distance between the tip of the probe and the tissue boundary, when less than 2.44mm.

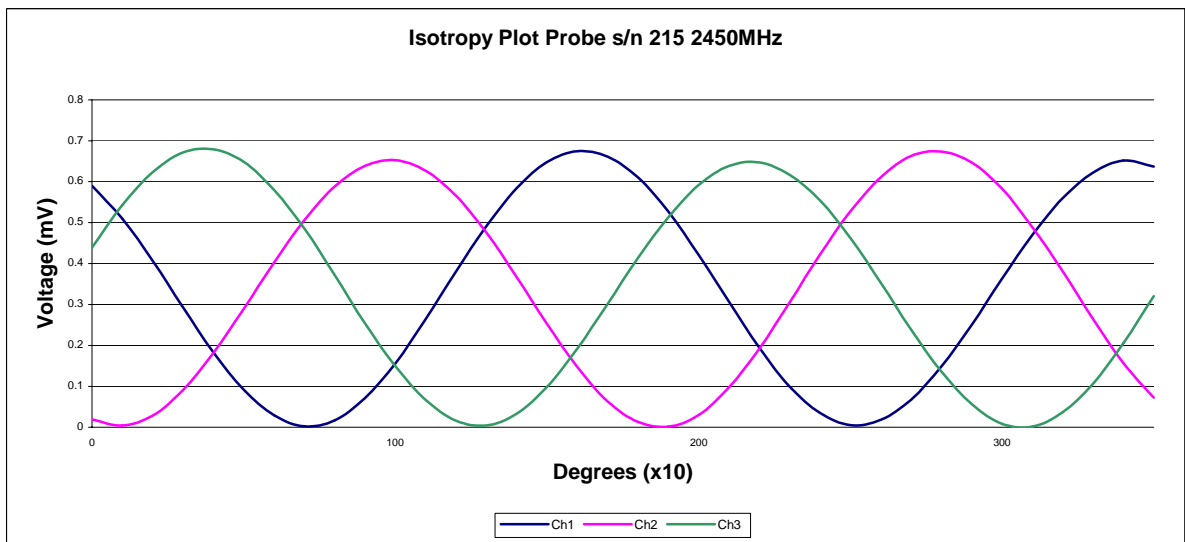
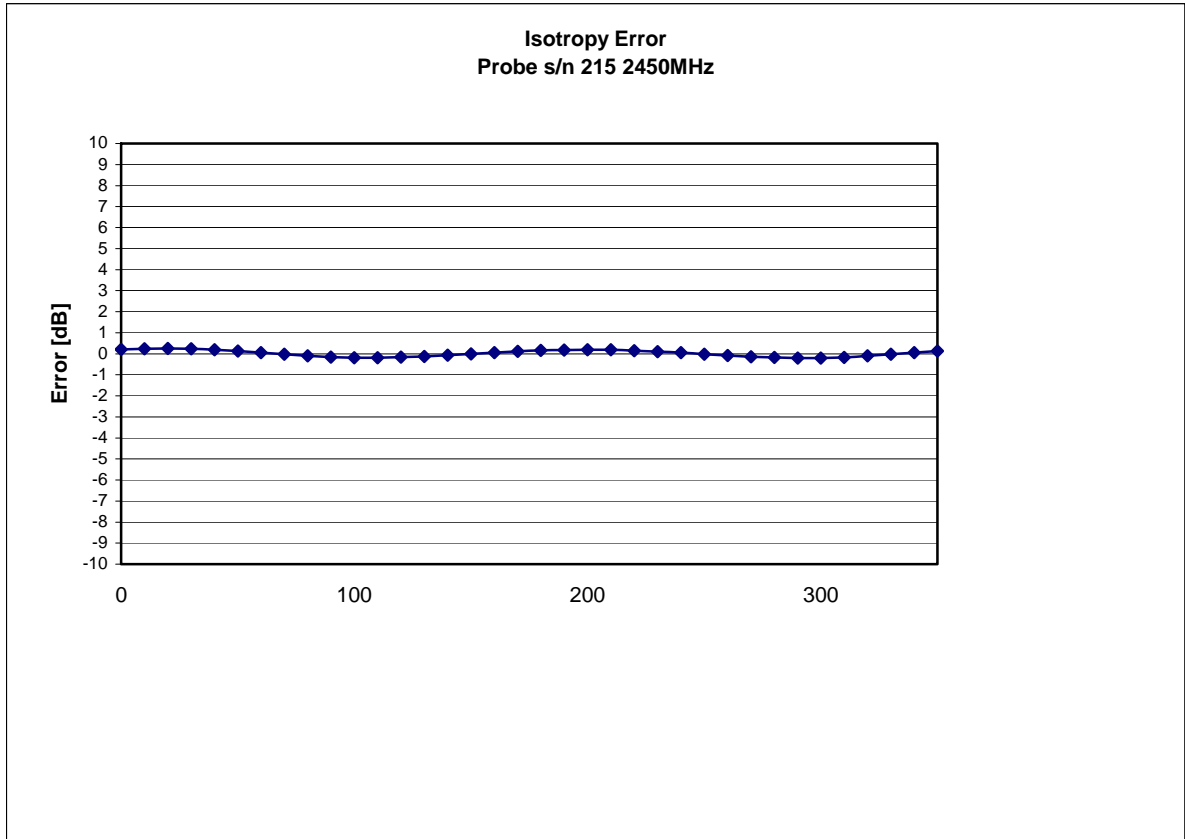
### **Spatial Resolution:**

The measured probe tip diameter is 5 mm (+/- 0.01 mm) and therefore meets the requirements of SSI/DRB-TP-D01-032 for spatial resolution.

## Receiving Pattern 2450 MHz (Air)



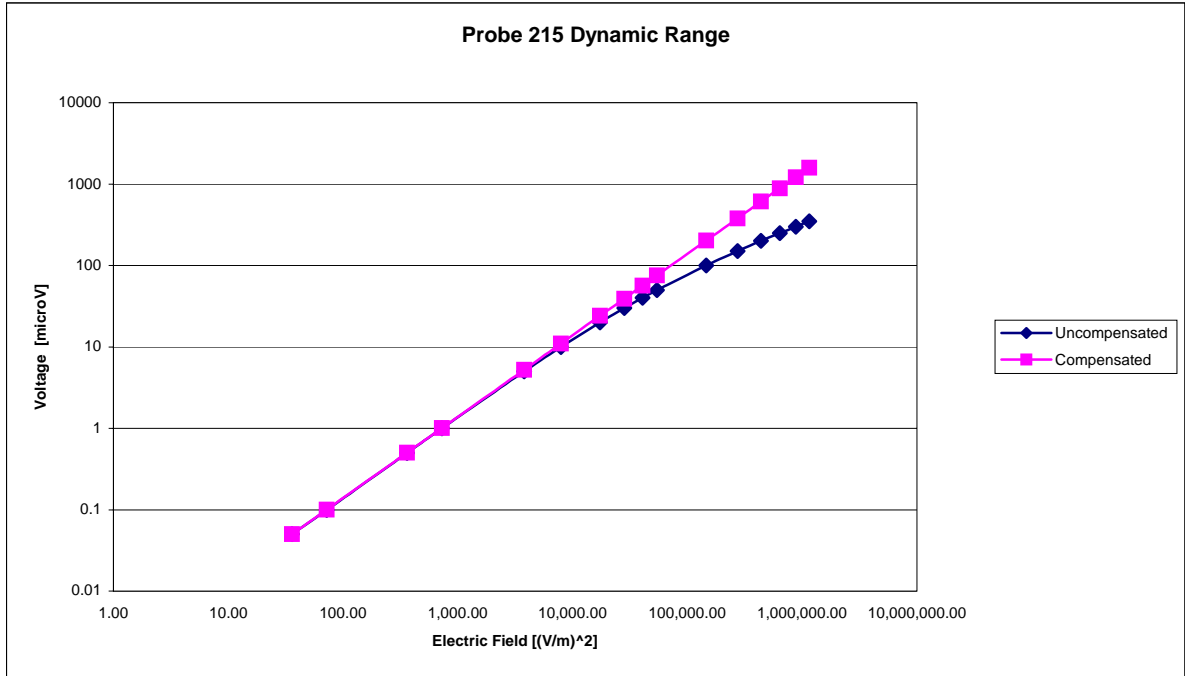
### Isotropy Error 2450 MHz (Air)



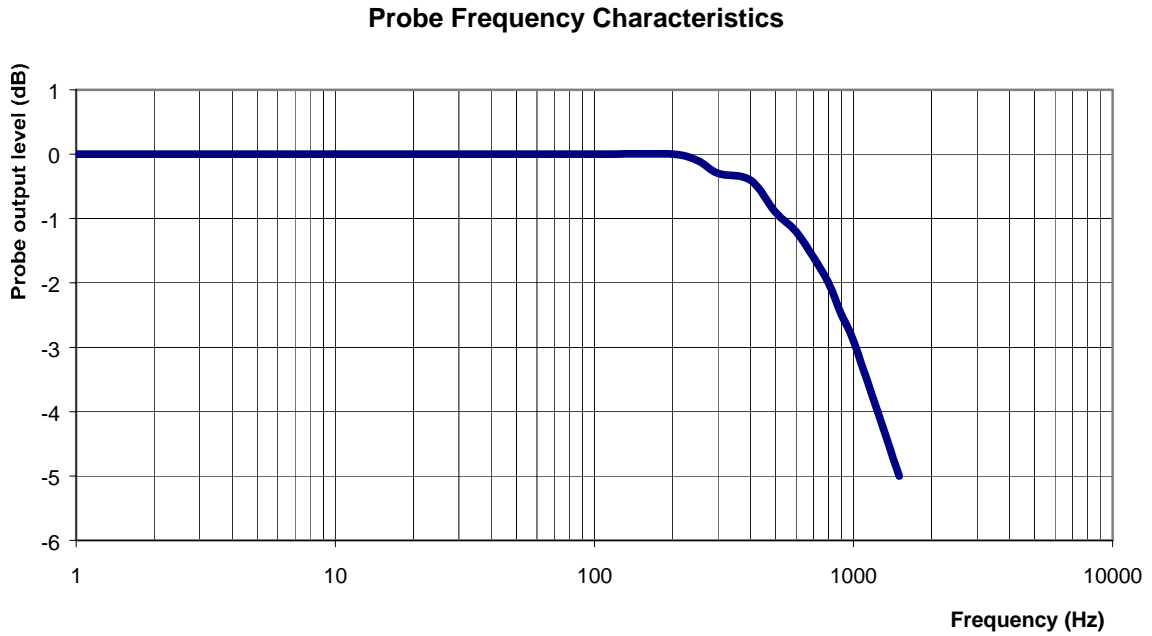
Isotropicity in Tissue:

0.10 dB

## Dynamic Range



## Video Bandwidth



**Video Bandwidth at 500 Hz**                      1 dB  
**Video Bandwidth at 1.02 KHz:**                3 dB

## **Conversion Factor Uncertainty Assessment**

**Frequency:** 2450MHz  
**Epsilon:** 39.2 (+/-5%)      **Sigma:** 1.80 S/m (+/-10%)

### **ConvF**

**Channel X:** 4.6      7%(K=2)  
**Channel Y:** 4.6      7%(K=2)  
**Channel Z:** 4.6      7%(K=2)

To minimize the uncertainty calculation all tissue sensitivity values were calculated using a load impedance of 5 MΩ.

### **Boundary Effect:**

For a distance of 2.4mm the evaluated uncertainty (increase in the probe sensitivity) is less than 2%.

## **Test Equipment**

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List May 2005.



## Appendix E – Dipole Calibration Data Sheets

## RF Exposure Lab, LLC

Calibration File No: CAL.20060203

# CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated at RF Exposure Lab, LLC by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

### Validation Dipole

Manufacturer: APREL Laboratories

Part Number: ALS-D-2450-S-2

Frequency: 2.4 GHz

Serial No: RFE-278

Manufactured: 20 February 2004  
Calibrated: 17 February 2006

Calibrated By: Signature on File  
Jay Moulton – Technical Manager

Approved By: Signature on File  
Tamara Moulton – Quality Manager



**RF EXPOSURE LAB, LLC**

2867 Progress Place, Suite 4D  
Escondido, CA 92029

Tel: (760) 737-3131  
FAX: (760) 737-9131

## Calibration Results Summary

The following results relate to the Calibrated Dipole and should be used as a quick reference for the user.

### Mechanical Dimensions

**Length:** 51.5 mm  
**Height:** 30.5 mm

### Electrical Specifications

#### Head

**SWR:** 1.0994 U  
**Return Loss:** -28.139 dB  
**Impedance:** 53.471  $\Omega$

### System Validation Results

Frequency	1 Gram	10 Gram
2.45 GHz	52.920	26.370

#### Body

**SWR:** 1.1373 U  
**Return Loss:** -31.923 dB  
**Impedance:** 53.338  $\Omega$

### System Validation Results

Frequency	1 Gram	10 Gram
2.45 GHz	54.230	24.880

## Head Measurement Conditions

The measurements were performed in the Uni-Phantom filled with head simulating liquid of the following electrical parameters at 2450 MHz:

Relative Dielectricity	39.63	± 5%
Conductivity	1.82 mho/m	± 5%

The APREL Laboratories ALSAS system with a dosimetric E-field probe E-020 (SN:215, Conversion factor 4.6 at 2450 MHz) was used for the measurements.

The dipole was mounted so that the dipole feed point was positioned below the center marking of the flat phantom and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from the dipole center to the solution surface.

The coarse grid with a grid spacing of 10mm was aligned with the dipole. The 5x5x8 fine cube was chosen for cube integration. The dipole input power (forward power) was 100mW ± 3%. The results are normalized to 1W input power.

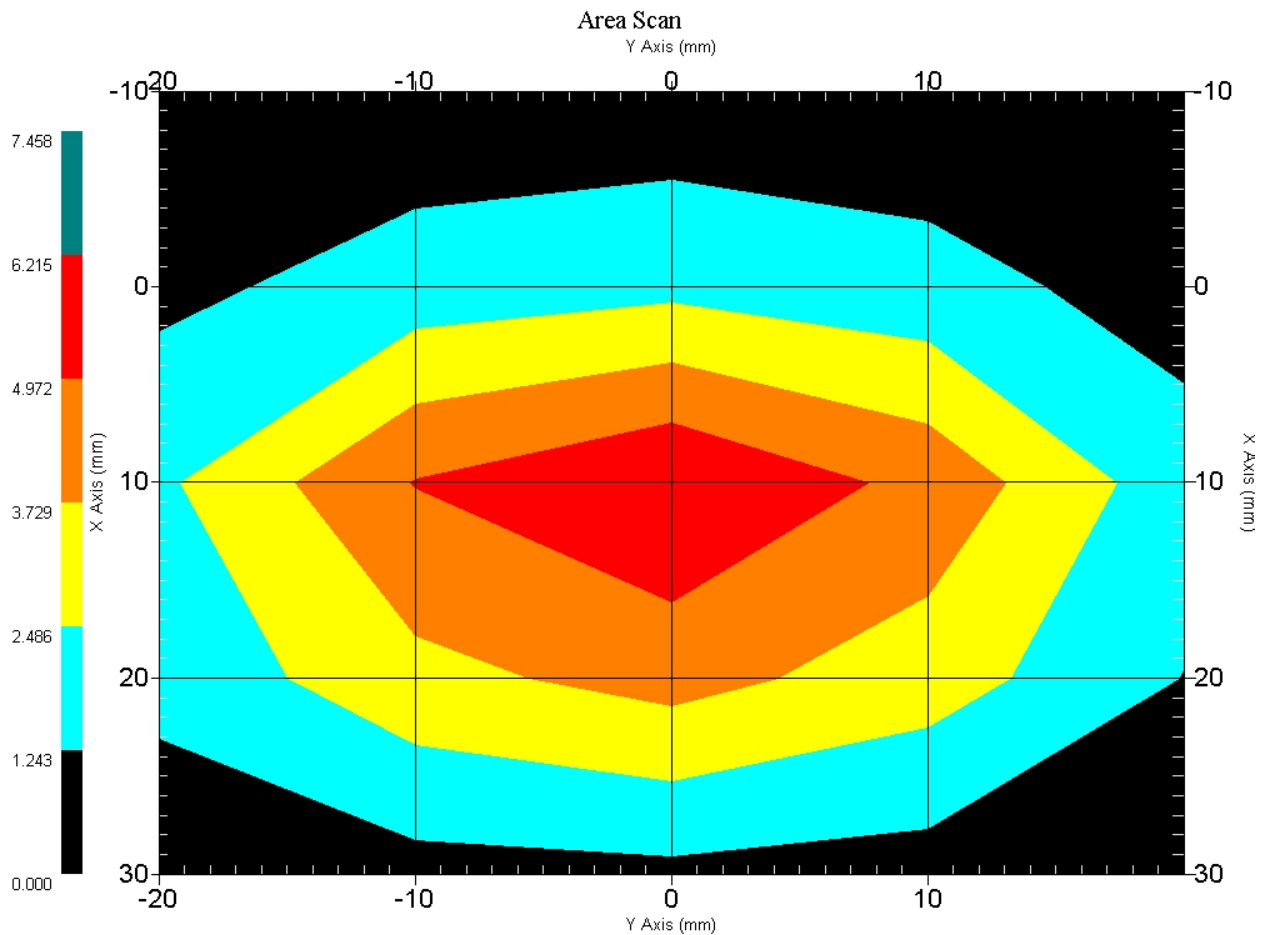
The laboratories environmental conditions were as follows during the calibration sequence.

Ambient Temperature of the Laboratory:	23 °C ± 1.0 °C
Temperature of the Tissue:	20 °C ± 1.0 °C
Relative Humidity:	42%

**SAR Measurement**

Standard SAR measurements were performed according to the measurement conditions described above. The results have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR values measured with the dosimetric probe E-020 SN:215 and applying the advanced extrapolation are:

Averaged over 1 cm<sup>3</sup> (1 g) of tissue:                      52.920 mW/g ± 19.7% (k=2)<sup>1</sup>  
 Averaged over 10 cm<sup>3</sup> (10 g) of tissue:                      26.370 mW/g ± 19.4% (k=2)<sup>1</sup>



1 gram SAR value : 5.292 W/kg  
 10 gram SAR value : 2.637 W/kg  
 Area Scan Peak SAR : 6.215 W/kg  
 Zoom Scan Peak SAR : 10.080 W/kg

<sup>1</sup> validation uncertainty

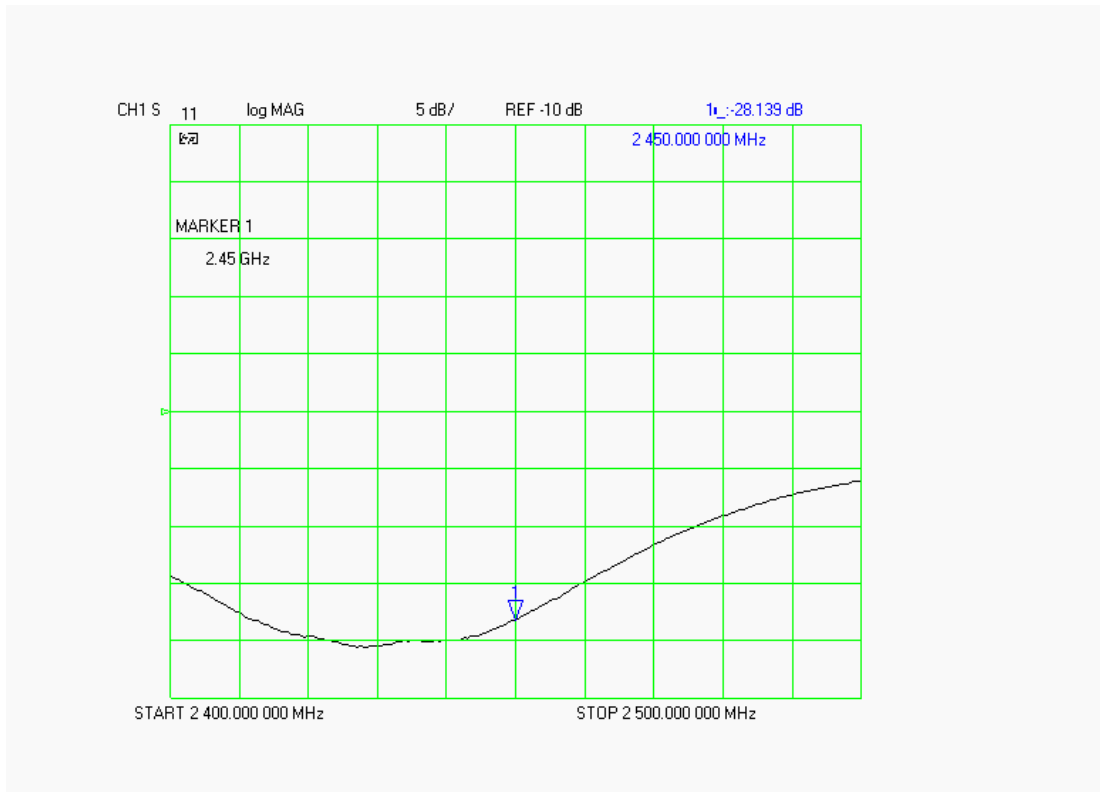
### Dipole Impedance and Return Loss

The impedance was measured at the SMA connector with a network analyzer. The dipole was positioned at the flat phantom sections according to measurement conditions stated above during impedance measurements.

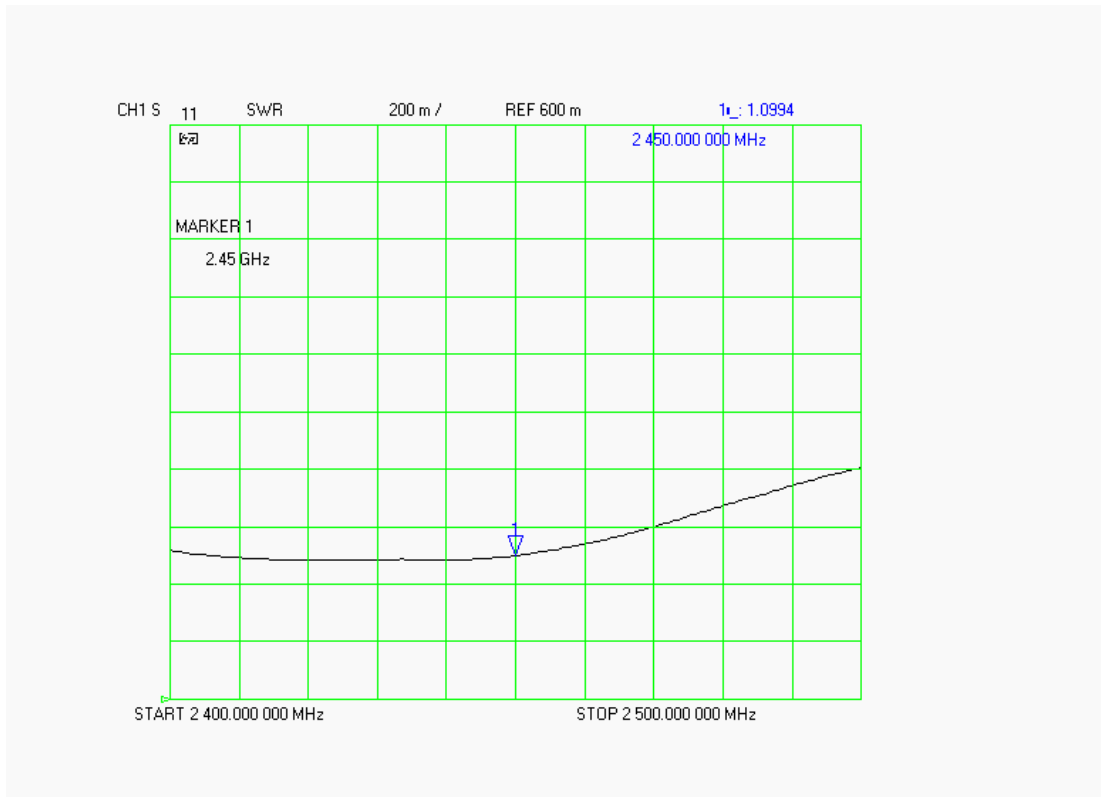
Test	Result
S11 R/L	-28.139 dB
SWR	1.0994 U
Impedance	53.471 $\Omega$

The following graphs are the results as displayed on the Vector Network Analyzer.

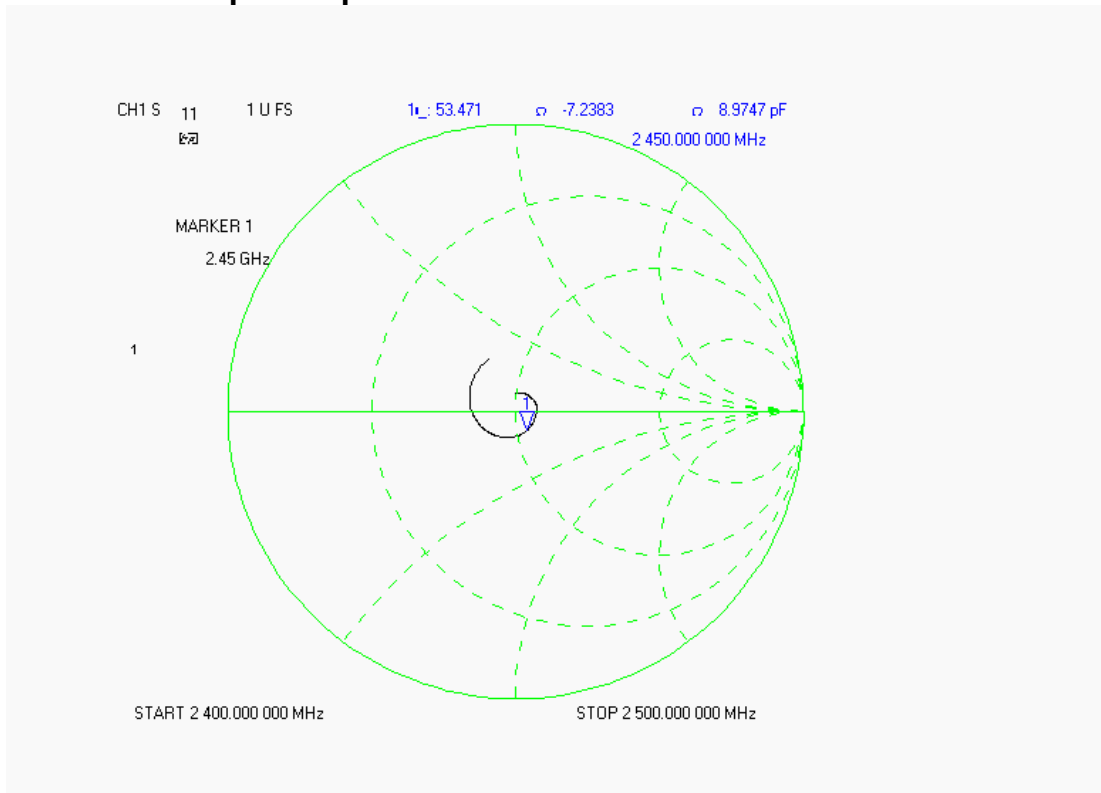
### S11 Parameter Return Loss



### SWR



### Smith Chart Dipole Impedance



## Body Measurement Conditions

The measurements were performed in the Uni-Phantom filled with body simulating liquid of the following electrical parameters at 2450 MHz:

Relative Dielectricity	51.09	± 5%
Conductivity	1.96 mho/m	± 5%

The APREL Laboratories ALSAS system with a dosimetric E-field probe E-020 (SN:215, Conversion factor 4.6 at 2450 MHz) was used for the measurements.

The dipole was mounted so that the dipole feed point was positioned below the center marking of the flat phantom and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10mm from the dipole center to the solution surface.

The coarse grid with a grid spacing of 10mm was aligned with the dipole. The 5x5x8 fine cube was chosen for cube integration. The dipole input power (forward power) was 100mW ± 3%. The results are normalized to 1W input power.

The laboratories environmental conditions were as follows during the calibration sequence.

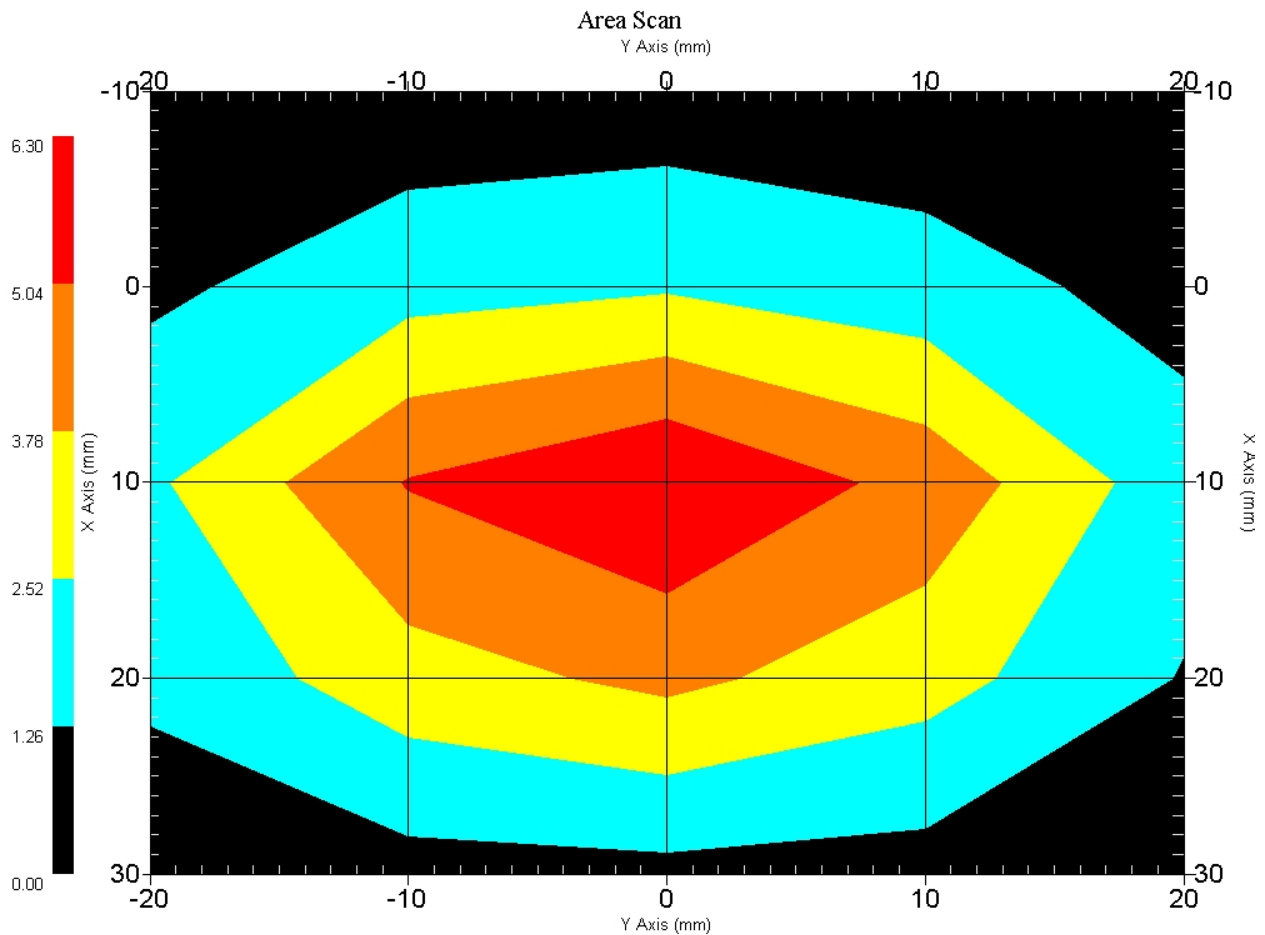
Ambient Temperature of the Laboratory:	20 °C ± 1.0 °C
Temperature of the Tissue:	20 °C ± 1.0 °C
Relative Humidity:	43%



**SAR Measurement**

Standard SAR measurements were performed according to the measurement conditions described above. The results have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR values measured with the dosimetric probe E-020 SN:215 and applying the advanced extrapolation are:

Averaged over 1 cm<sup>3</sup> (1 g) of tissue:                    54.230 mW/g ± 18.8% (k=2)<sup>1</sup>  
 Averaged over 10 cm<sup>3</sup> (10 g) of tissue:                    24.880 mW/g ± 18.4% (k=2)<sup>1</sup>



1 gram SAR value : 5.423 W/kg  
 10 gram SAR value : 2.488 W/kg  
 Area Scan Peak SAR : 6.298 W/kg  
 Zoom Scan Peak SAR : 11.090 W/kg

<sup>1</sup> validation uncertainty

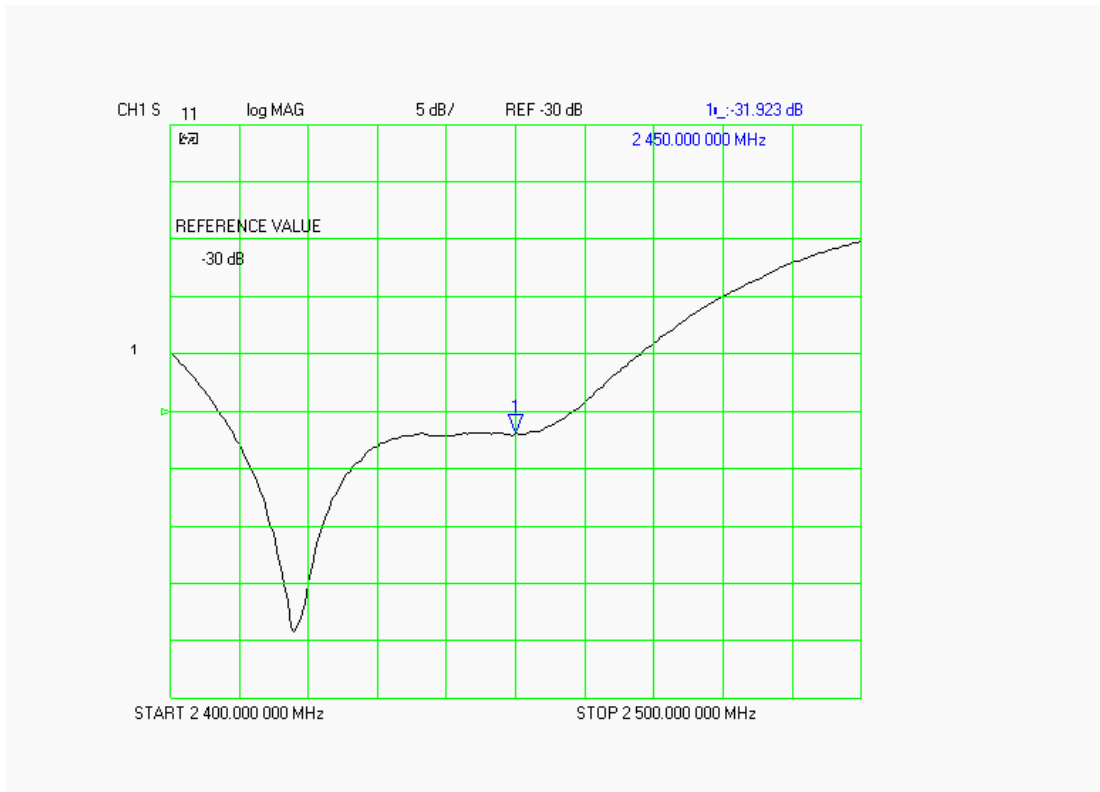
### Dipole Impedance and Return Loss

The impedance was measured at the SMA connector with a network analyzer. The dipole was positioned at the flat phantom sections according to measurement conditions stated above during impedance measurements.

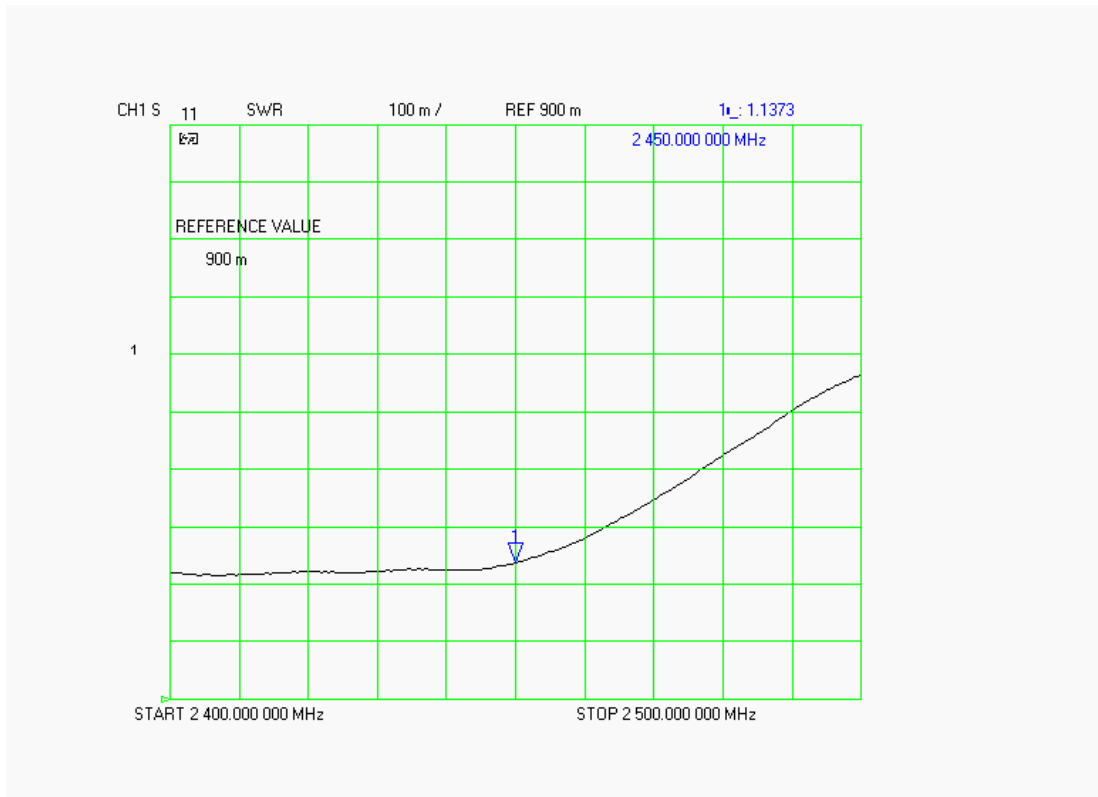
Test	Result
S11 R/L	-31.923 dB
SWR	1.1373 U
Impedance	53.338 $\Omega$

The following graphs are the results as displayed on the Vector Network Analyzer.

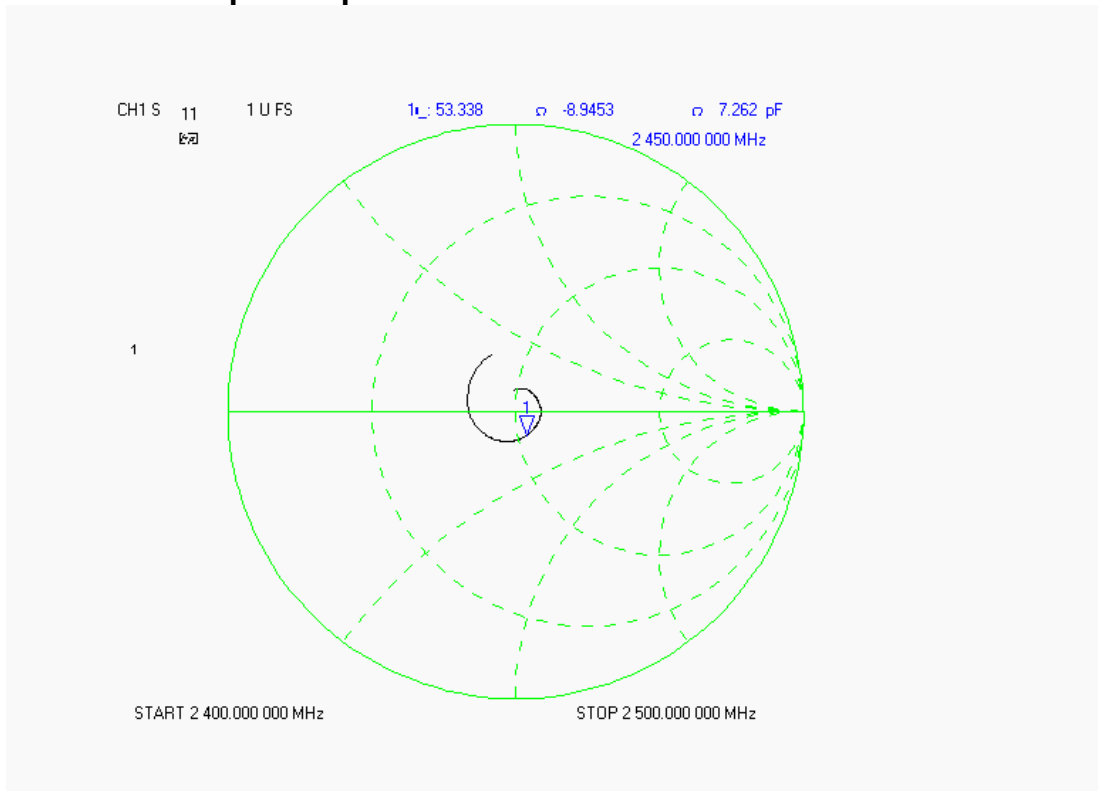
### S11 Parameter Return Loss



### SWR



### Smith Chart Dipole Impedance



**Test Equipment List**

Type	Calibration Due Date	Serial Number
ThermoCRS Robot	N/A	RAF0338198
ThermoCRS Controller	N/A	RCF0338224
ThermoCRS Teach Pendant (Joystick)	N/A	STP0334405
IBM Computer, 2.66 MHz P4	N/A	8189D8U KCPR08N
Apriel E-Field Probe ALS-E020	06/10/2006	RFE-215
Apriel E-Field Probe ALS-E020	01/25/2007	
Apriel UniPhantom	N/A	RFE-273
Agilent (HP) 437B Power Meter	12/12/2006	3125U08837
Agilent (HP) 8481B Power Sensor	12/19/2006	3318A05384
Agilent (HP) 8350B Signal Generator	03/03/2006	2749A10226
Agilent (HP) 83525A RF Plug-In	03/03/2006	2647A01172
Agilent (HP) 8753C Vector Network Analyzer	02/02/2007	3135A01724
Agilent (HP) 85047A S-Parameter Test Set	02/02/2007	2904A00595
Apriel Dielectric Probe Assembly	N/A	0011
Microwave Power Devices 510-10E Amplifier	03/03/2006	6063-001
Microwave Power Devices 1020-9E Amplifier	03/03/2006	5618-1
Brain Equivalent Matter (835 MHz)	N/A	N/A
Brain Equivalent Matter (1900 MHz)	N/A	N/A
Brain Equivalent Matter (900 MHz)	N/A	N/A
Muscle Equivalent Matter (835 MHz)	N/A	N/A
Muscle Equivalent Matter (1900 MHz)	N/A	N/A
Muscle Equivalent Matter (900 MHz)	N/A	N/A
Muscle Equivalent Matter (2450 MHz)	N/A	N/A
Muscle Equivalent Matter (5200 MHz)	N/A	N/A

## Appendix F – Phantom Calibration Data Sheets

## NCL CALIBRATION LABORATORIES

Calibration File No.: RFE-273

# CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to National Standards.

Thickness of the UniPhantom is 2 mm  $\pm$  10%  
Pinna thickness is 6 mm  $\pm$  10%

Resolution:	0.01 mm	Calibrated to:	0.0 mm
Stability:	OK	Accuracy:	< 0.1 mm

Calibrated By: Karen K. Feb 17/04.

### **NCL** CALIBRATION LABORATORIES

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