

SAR Test Report

By Operator : Jay
Measurement Date : 14-Mar-2006
Starting Time : 14-Mar-2006 01:15:33 PM
End Time : 14-Mar-2006 01:38:38 PM
Scanning Time : 1385 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5200.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : Touch
Power Drift-Start : 0.380 W/kg
Power Drift-Finish: 0.376 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. : 5200
Frequency : 5200.00 MHz
Last Calib. Date : 14-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 42.00 RH%
Epsilon : 48.00 F/m
Sigma : 5.43 S/m
Density : 1000.00 kg/cu. m

Probe Data

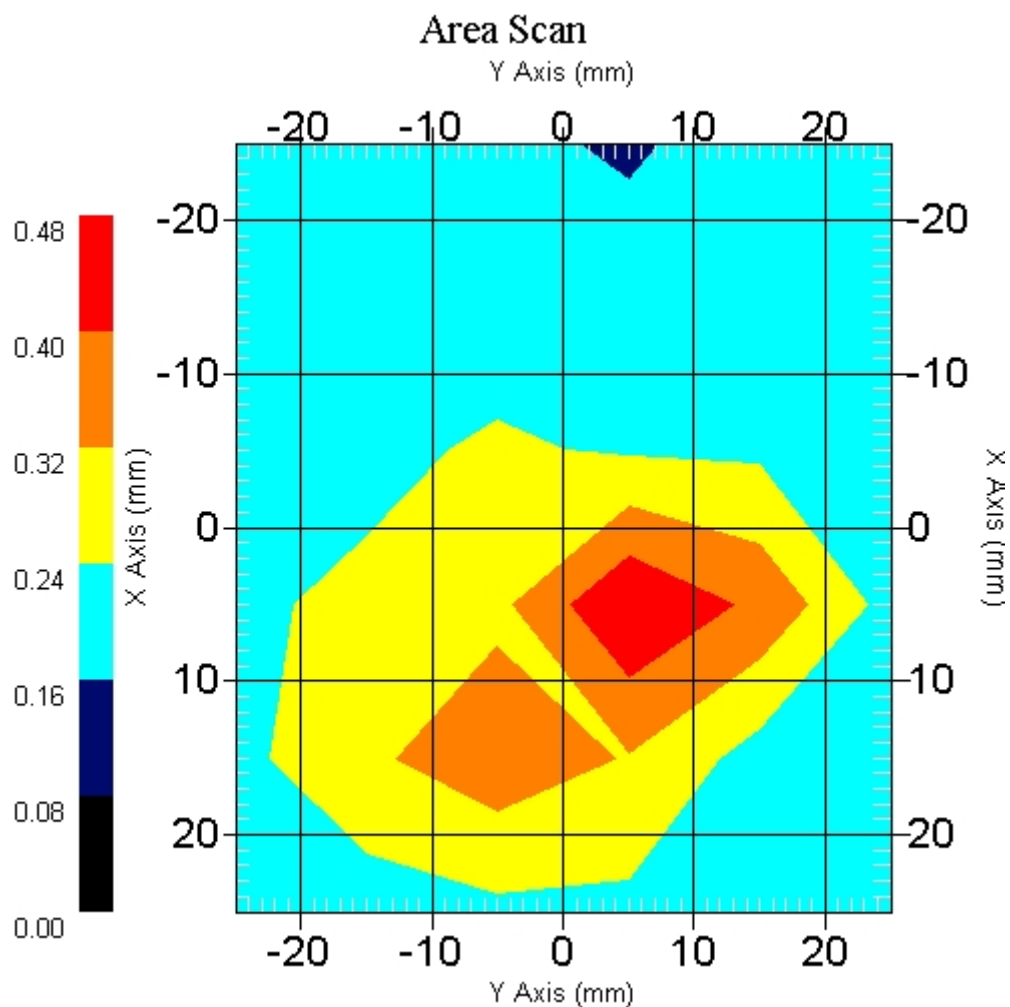
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5200.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.8
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 14-Mar-2006
 Set-up Time : 12:29:43 PM
 Area Scan : 6x6x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Front
 Separation : 0
 Channel : Mid - 58



1 gram SAR value : 0.443 W/kg
 10 gram SAR value : 0.287 W/kg
 Area Scan Peak SAR : 0.478 W/kg
 Zoom Scan Peak SAR : 0.870 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 14-Mar-2006
Starting Time : 14-Mar-2006 10:33:49 AM
End Time : 14-Mar-2006 10:46:45 AM
Scanning Time : 776 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5200.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : End
Power Drift-Start : 0.632 W/kg
Power Drift-Finish: 0.644 W/kg
Power Drift (%) : 1.802

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. : 5200
Frequency : 5200.00 MHz
Last Calib. Date : 14-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 42.00 RH%
Epsilon : 48.00 F/m
Sigma : 5.43 S/m
Density : 1000.00 kg/cu. m

Probe Data

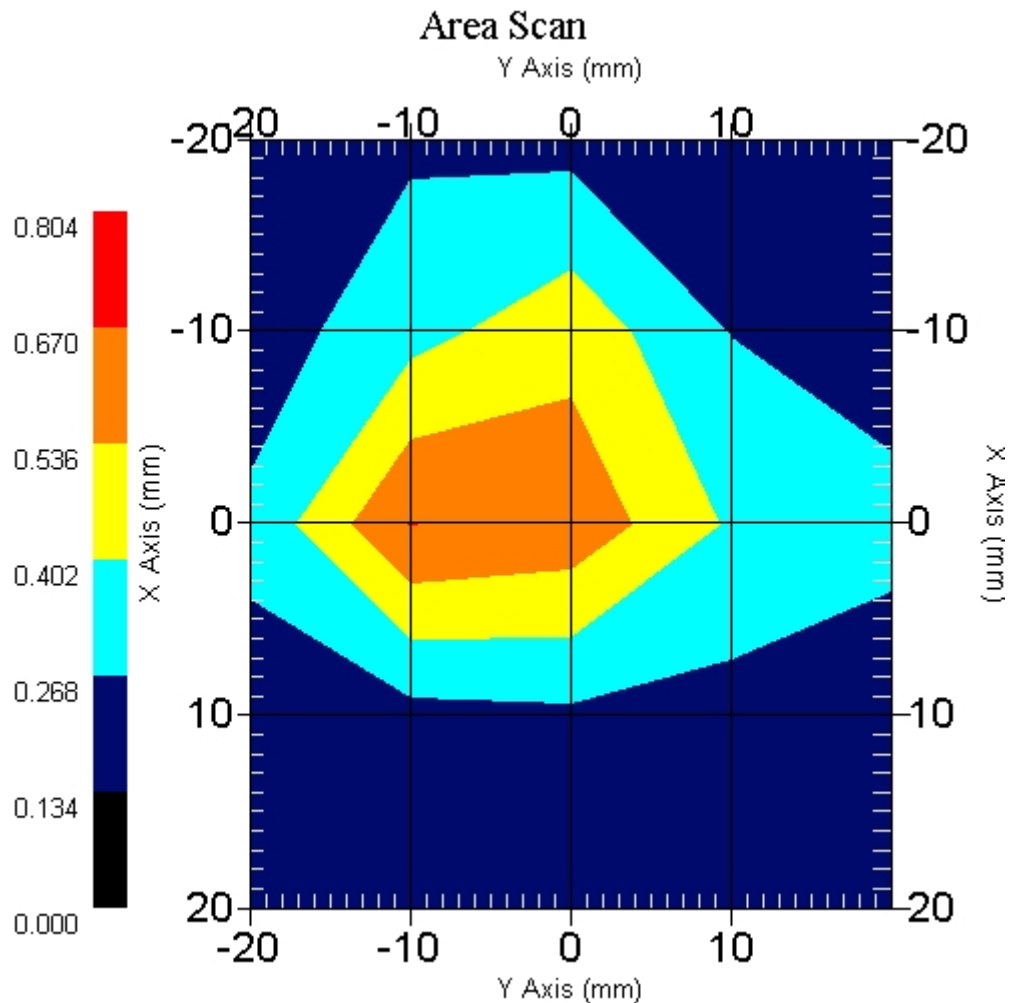
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5200.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.8
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 14-Mar-2006
 Set-up Time : 5:06:13 PM
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : End
 Separation : 0
 Channel : Low - 52



1 gram SAR value : 0.521 W/kg
 10 gram SAR value : 0.290 W/kg
 Area Scan Peak SAR : 0.672 W/kg
 Zoom Scan Peak SAR : 1.281 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 14-Mar-2006
Starting Time : 14-Mar-2006 10:18:58 AM
End Time : 14-Mar-2006 10:31:49 AM
Scanning Time : 771 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5200.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : End
Power Drift-Start : 0.605 W/kg
Power Drift-Finish: 0.624 W/kg
Power Drift (%) : 3.141

Phantom Data

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

Tissue Data

Type : BODY
Serial No. : 5200
Frequency : 5200.00 MHz
Last Calib. Date : 14-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 42.00 RH%
Epsilon : 48.00 F/m
Sigma : 5.43 S/m
Density : 1000.00 kg/cu. m

Probe Data

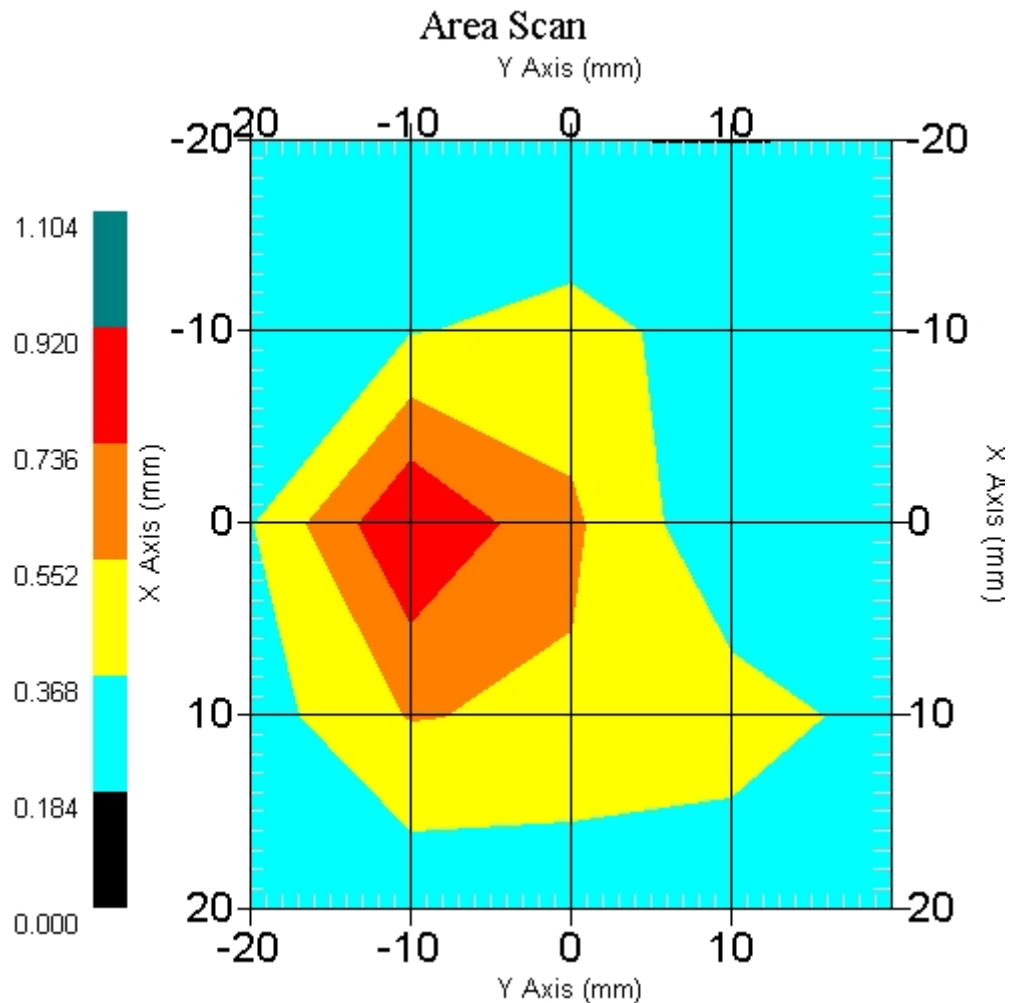
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5200.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.8
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 14-Mar-2006
 Set-up Time : 5:06:13 PM
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : End
 Separation : 0
 Channel : Mid - 58



1 gram SAR value : 0.833 W/kg
 10 gram SAR value : 0.408 W/kg
 Area Scan Peak SAR : 0.920 W/kg
 Zoom Scan Peak SAR : 2.211 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 11:07:21 AM
End Time : 13-Mar-2006 11:20:12 AM
Scanning Time : 771 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : End
Power Drift-Start : 0.656 W/kg
Power Drift-Finish: 0.659 W/kg
Power Drift (%) : 0.457

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

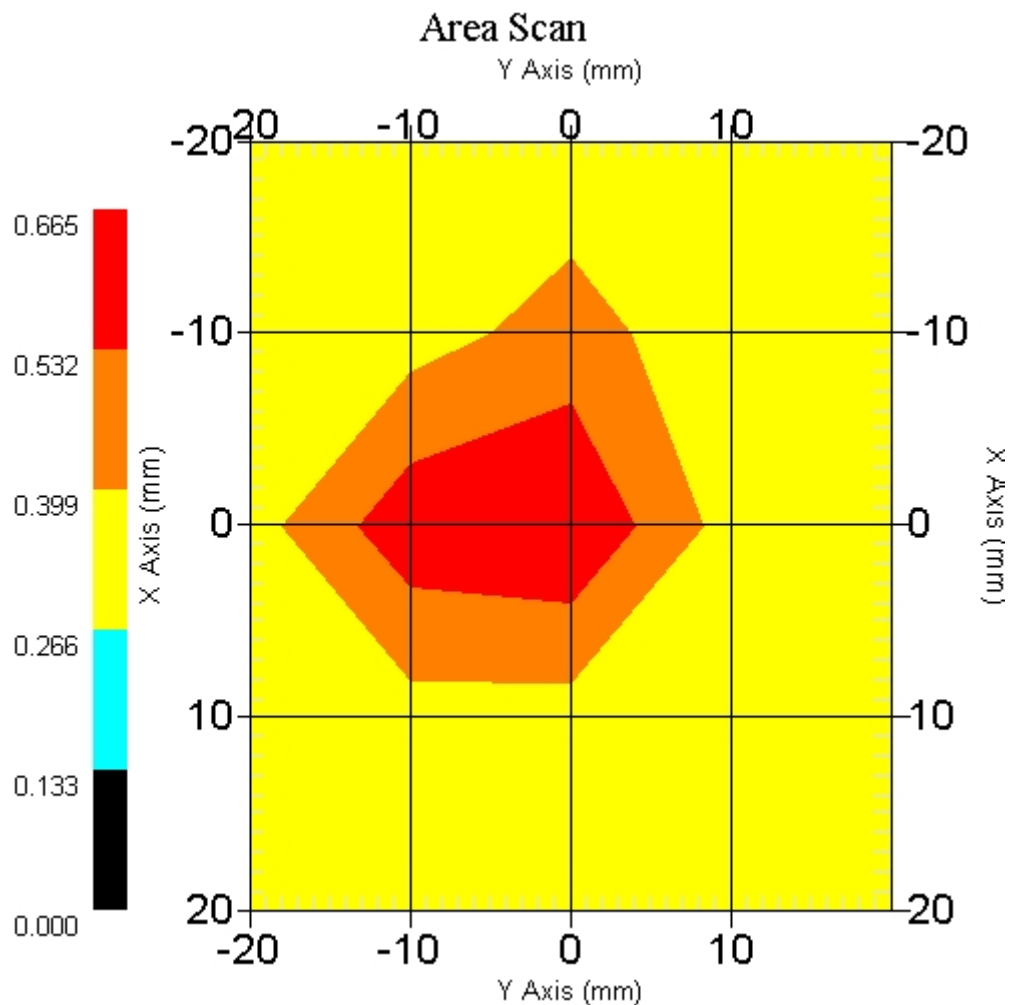
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : Low - 149



1 gram SAR value : 0.574 W/kg
 10 gram SAR value : 0.377 W/kg
 Area Scan Peak SAR : 0.663 W/kg
 Zoom Scan Peak SAR : 1.221 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 10:45:14 AM
End Time : 13-Mar-2006 10:58:26 AM
Scanning Time : 792 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : End
Power Drift-Start : 1.012 W/kg
Power Drift-Finish: 0.971 W/kg
Power Drift (%) : -4.040

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

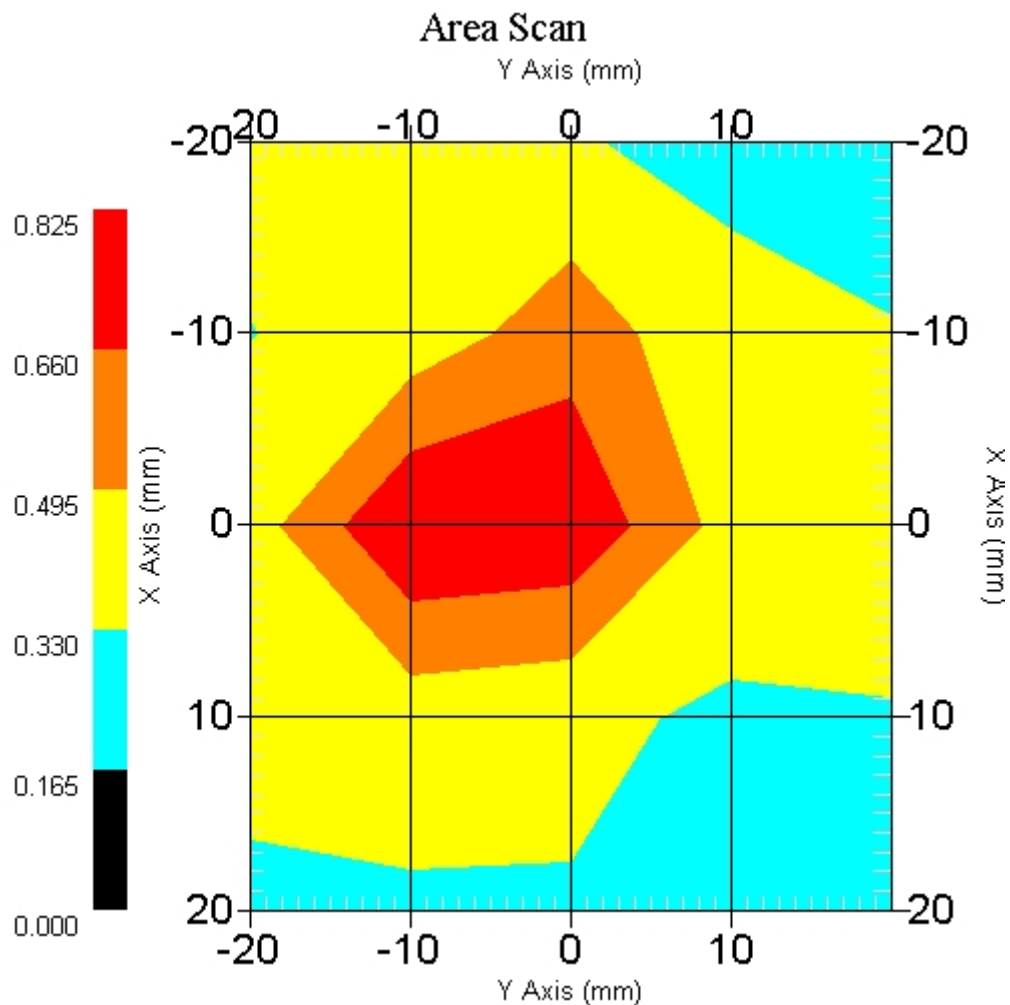
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 AM
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

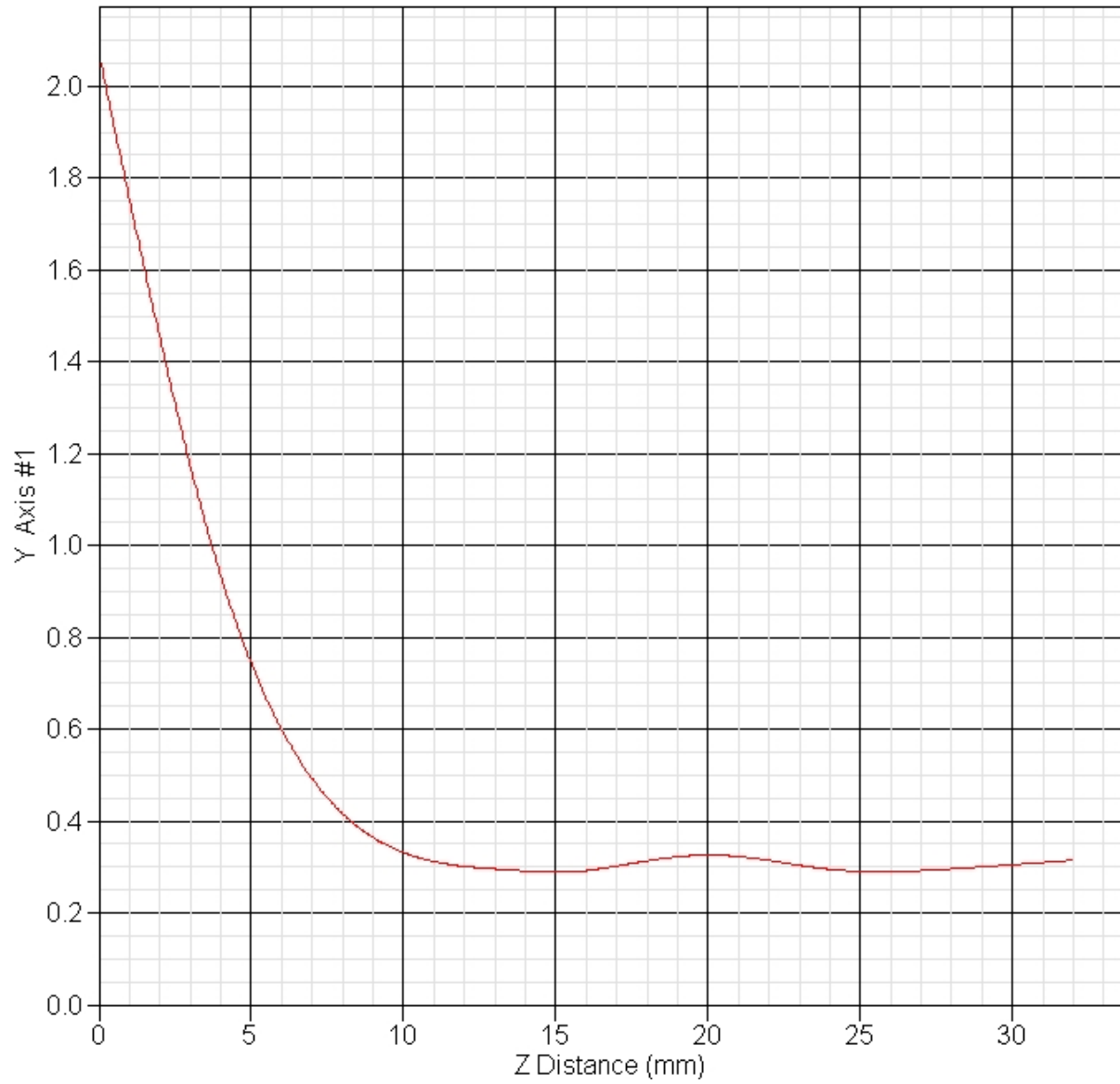
DUT Position : End
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.822 W/kg
 10 gram SAR value : 0.449 W/kg
 Area Scan Peak SAR : 0.824 W/kg
 Zoom Scan Peak SAR : 2.071 W/kg

SAR-Z Axis

at Hotspot x:0.40 y:-2.30



SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 11:21:27 AM
End Time : 13-Mar-2006 11:34:16 AM
Scanning Time : 769 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : End
Power Drift-Start : 0.778 W/kg
Power Drift-Finish: 0.765 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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

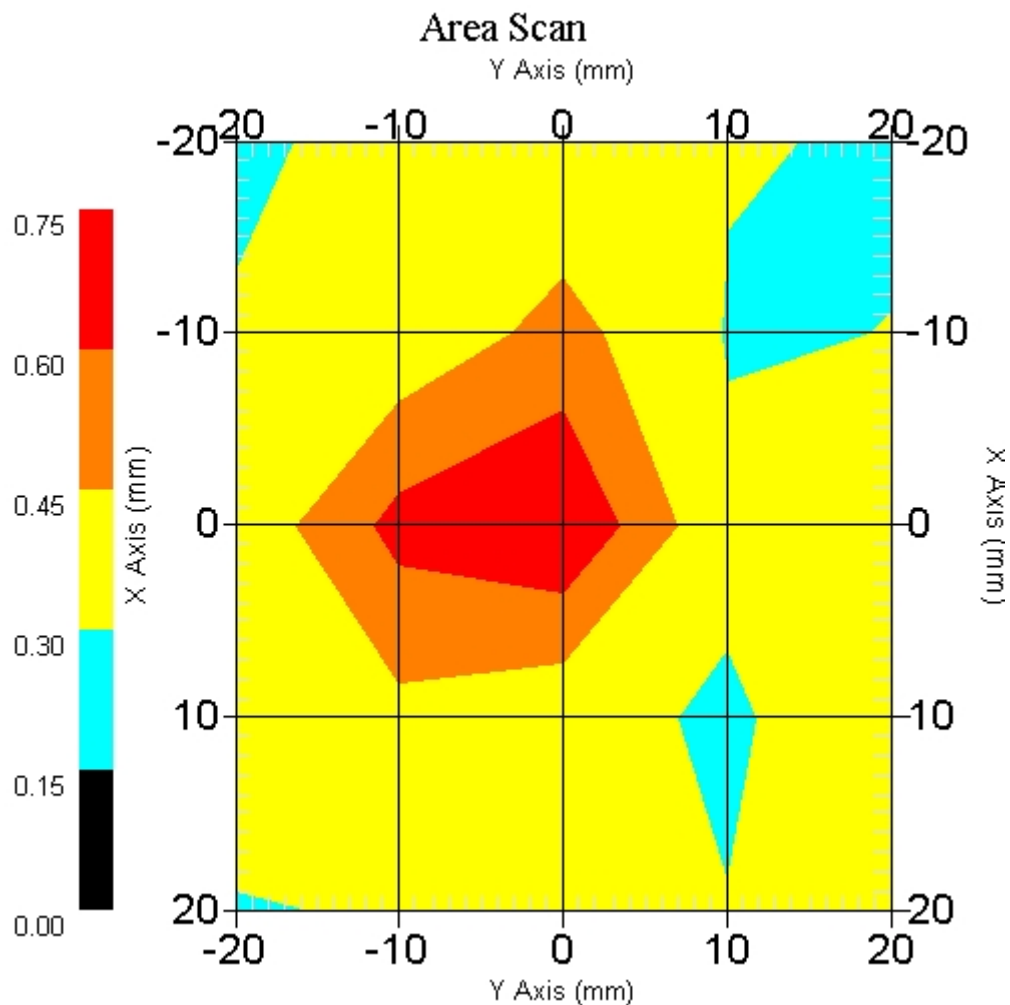
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : High - 161



1 gram SAR value : 0.669 W/kg
 10 gram SAR value : 0.405 W/kg
 Area Scan Peak SAR : 0.748 W/kg
 Zoom Scan Peak SAR : 1.571 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 12:18:28 PM
End Time : 13-Mar-2006 12:39:01 PM
Scanning Time : 1233 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : End
Power Drift-Start : 1.229 W/kg
Power Drift-Finish: 1.172 W/kg
Power Drift (%) : -4.638

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

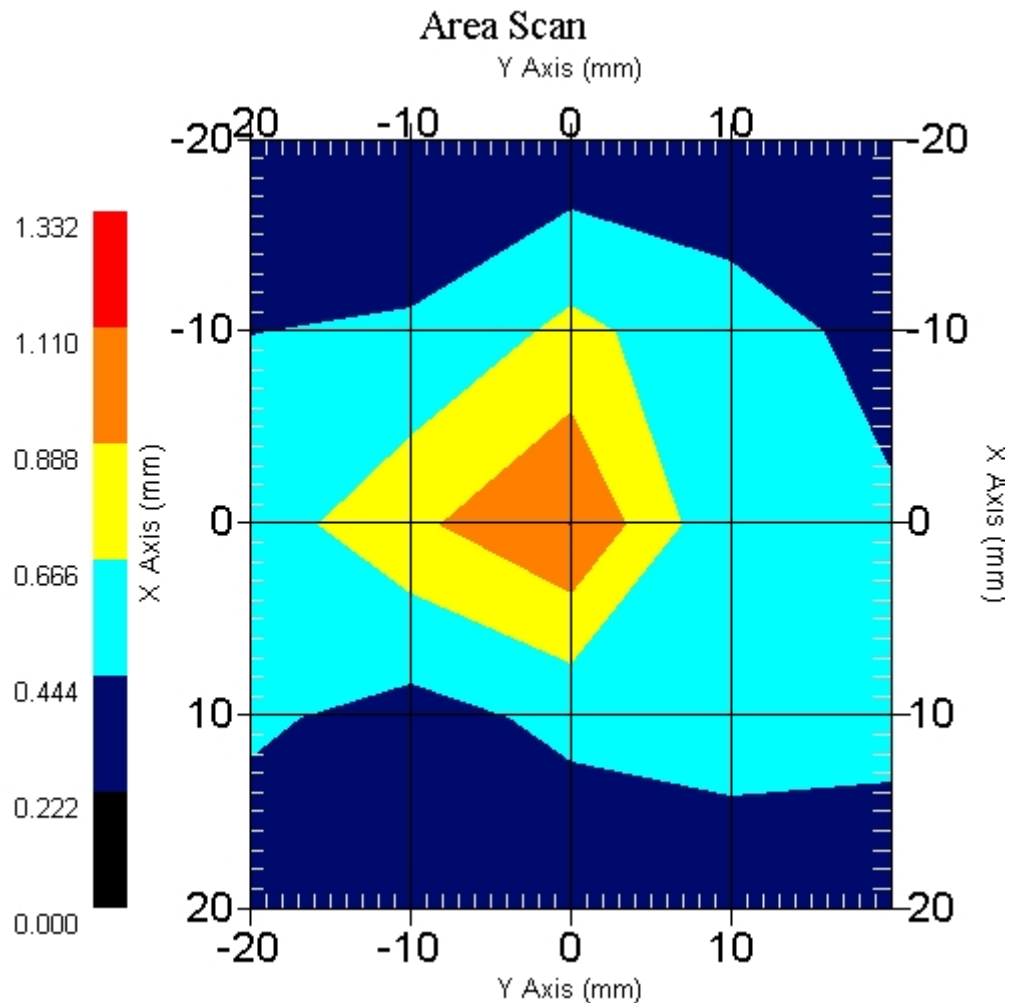
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : Low - 149



1 gram SAR value : 1.122 W/kg
 10 gram SAR value : 0.606 W/kg
 Area Scan Peak SAR : 1.111 W/kg
 Zoom Scan Peak SAR : 2.782 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 12:04:02 PM
End Time : 13-Mar-2006 12:16:57 PM
Scanning Time : 775 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : End
Power Drift-Start : 0.542 W/kg
Power Drift-Finish: 0.552 W/kg
Power Drift (%) : 1.933

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

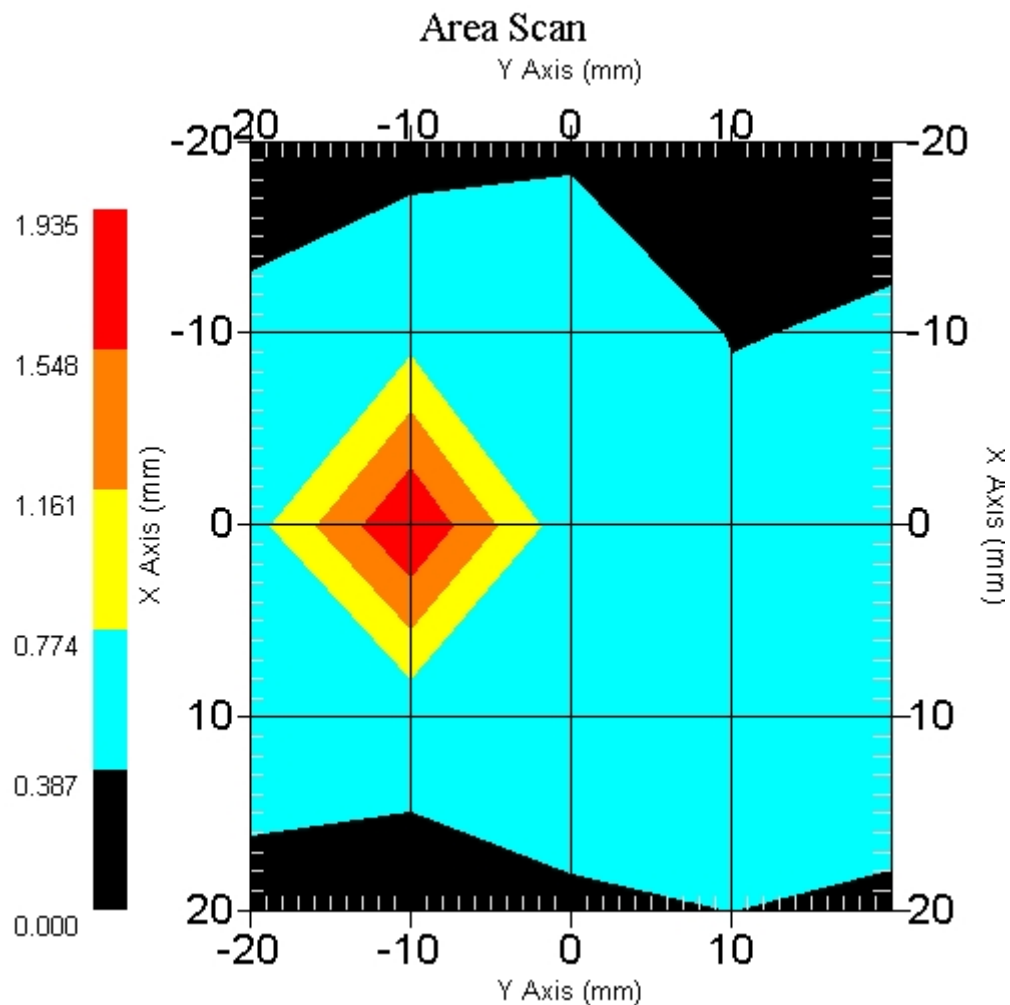
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 1.378 W/kg
 10 gram SAR value : 0.585 W/kg
 Area Scan Peak SAR : 1.933 W/kg
 Zoom Scan Peak SAR : 4.603 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 11:37:43 AM
End Time : 13-Mar-2006 11:58:45 AM
Scanning Time : 1262 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : End
Power Drift-Start : 0.430 W/kg
Power Drift-Finish: 0.453 W/kg
Power Drift (%) : 5.540

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

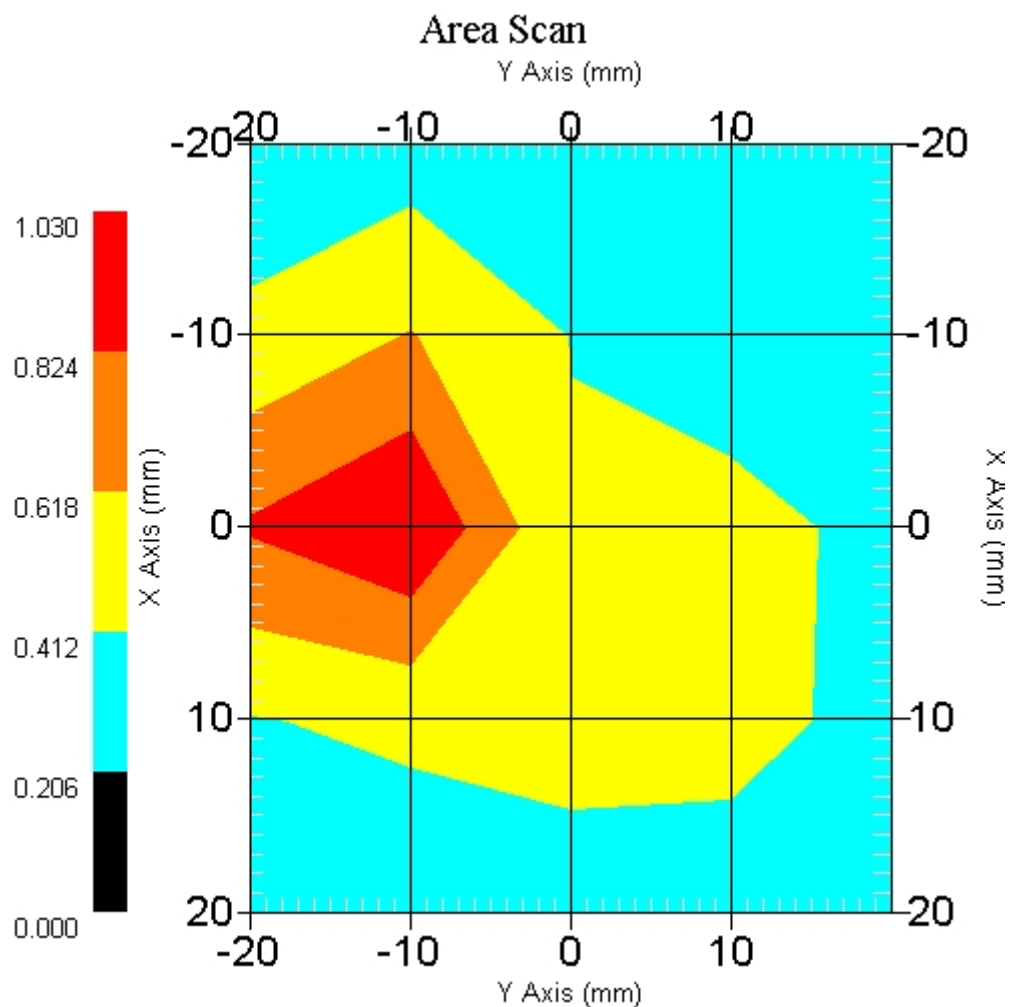
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : High - 161



1 gram SAR value : 1.165 W/kg
 10 gram SAR value : 0.618 W/kg
 Area Scan Peak SAR : 1.029 W/kg
 Zoom Scan Peak SAR : 2.952 W/kg

SAR Test Report

Operator : Jay
Measurement Date : 16-Jun-2005
Starting Time : 16-Jun-2005 12:19:22 PM
End Time : 16-Jun-2005 12:32:14 PM
Scanning Time : 772 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Power Drift-Start : 0.255 W/kg
Power Drift-Finish: 0.242 W/kg
Power Drift (%) : -5.098

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. : 5800
Frequency : 5800 MHz
Last Calib. Date : 16-Jun-2005
Temperature : 21 °C
Ambient Temp. : 24 °C
Humidity : 61 RH%
Epsilon : 48.52 F/m
Sigma : 6.16 S/m
Density : 1000 kg/cu. m

Probe Data

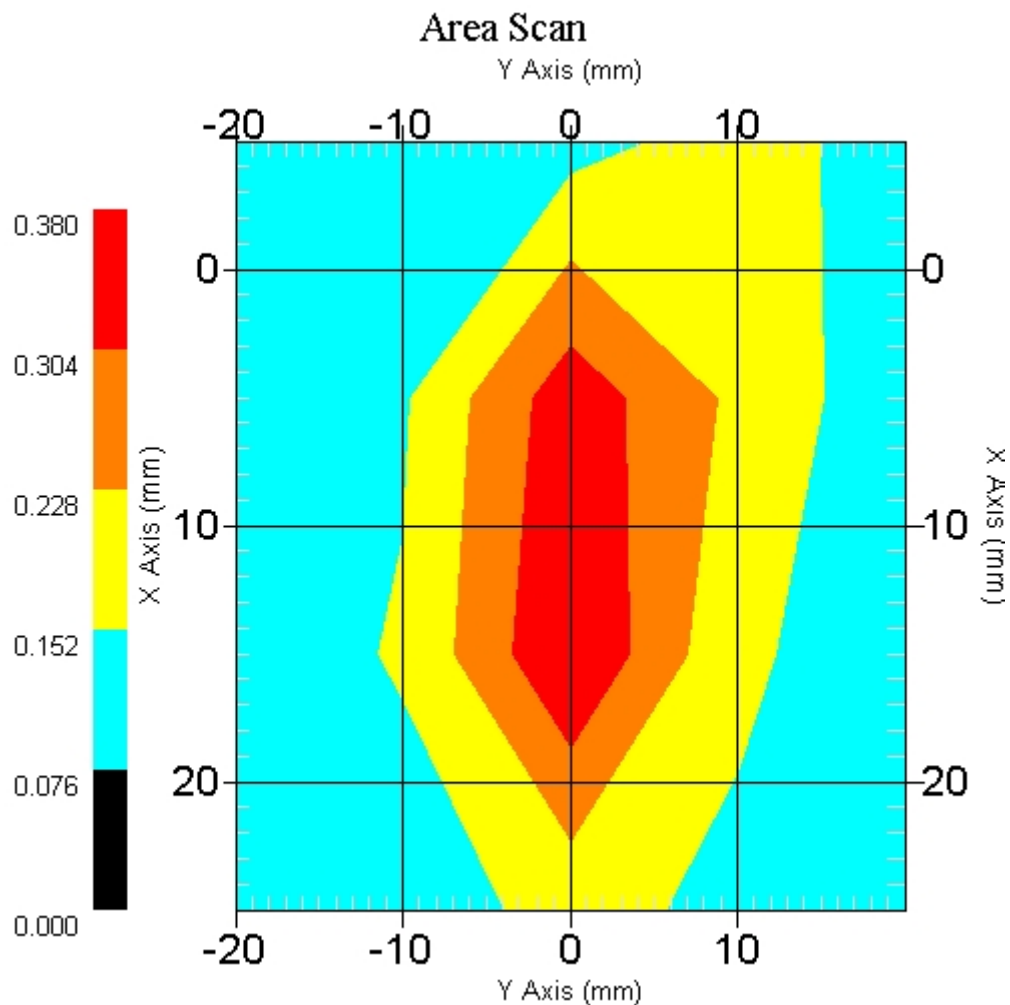
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 21°C
 Ambient Temp. : 24°C
 Set-up Date : 16-Jun-2005
 Set-up Time : 12:17:25 PM
 Area Scan : 4x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : End
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.343 W/kg
 10 gram SAR value : 0.163 W/kg
 Area Scan Peak SAR : 0.375 W/kg
 Zoom Scan Peak SAR : 0.980 W/kg

SAR Test Report

Operator : Jay
Measurement Date : 16-Jun-2005
Starting Time : 16-Jun-2005 11:42:45 AM
End Time : 16-Jun-2005 11:55:50 AM
Scanning Time : 785 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Power Drift-Start : 0.127 W/kg
Power Drift-Finish: 0.130 W/kg
Power Drift (%) : 2.362

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. : 5800
Frequency : 5800 MHz
Last Calib. Date : 16-Jun-2005
Temperature : 21 °C
Ambient Temp. : 24 °C
Humidity : 61 RH%
Epsilon : 48.52 F/m
Sigma : 6.16 S/m
Density : 1000 kg/cu. m

Probe Data

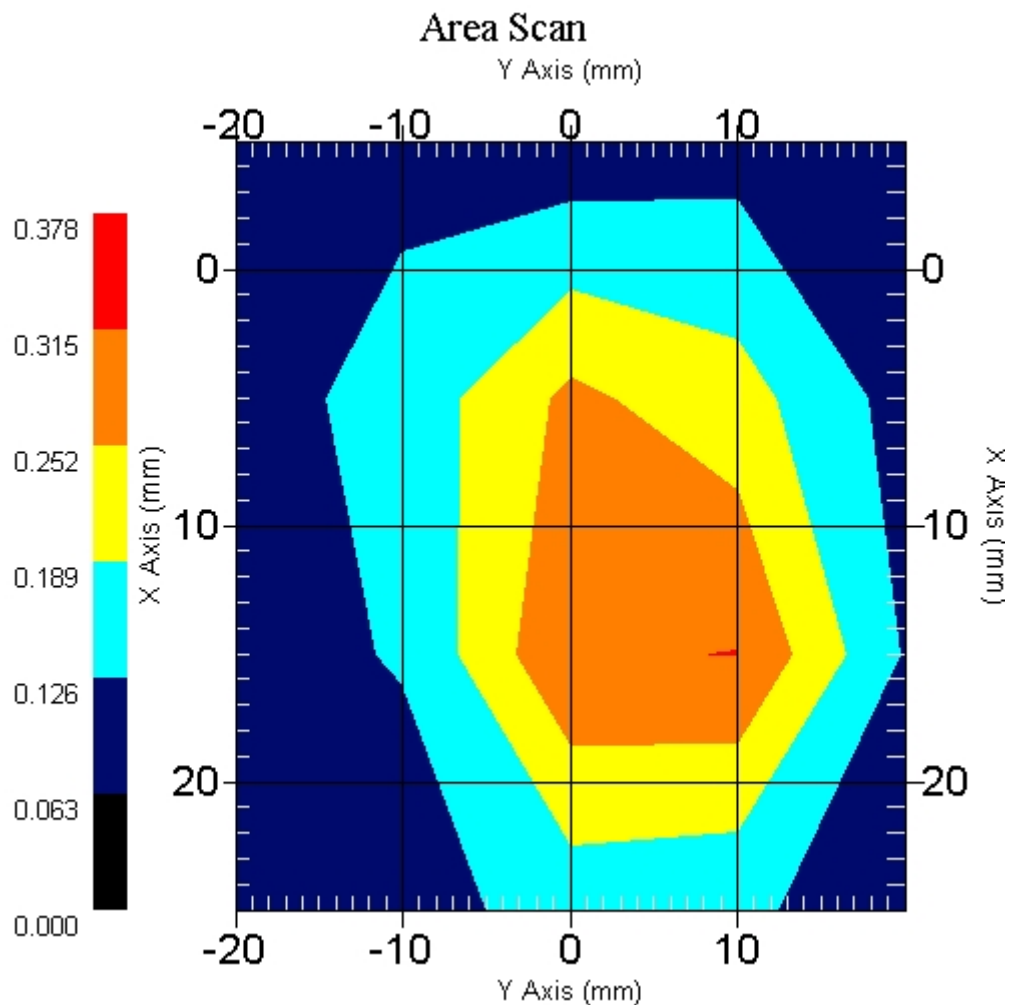
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 21°C
 Ambient Temp. : 24°C
 Set-up Date : 16-Jun-2005
 Set-up Time : 11:37:19 AM
 Area Scan : 4x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Back
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.252 W/kg
 10 gram SAR value : 0.135 W/kg
 Area Scan Peak SAR : 0.316 W/kg
 Zoom Scan Peak SAR : 0.700 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 12:59:54 PM
End Time : 13-Mar-2006 01:12:45 PM
Scanning Time : 771 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : Front
Power Drift-Start : 0.293 W/kg
Power Drift-Finish: 0.301 W/kg
Power Drift (%) : 2.788

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

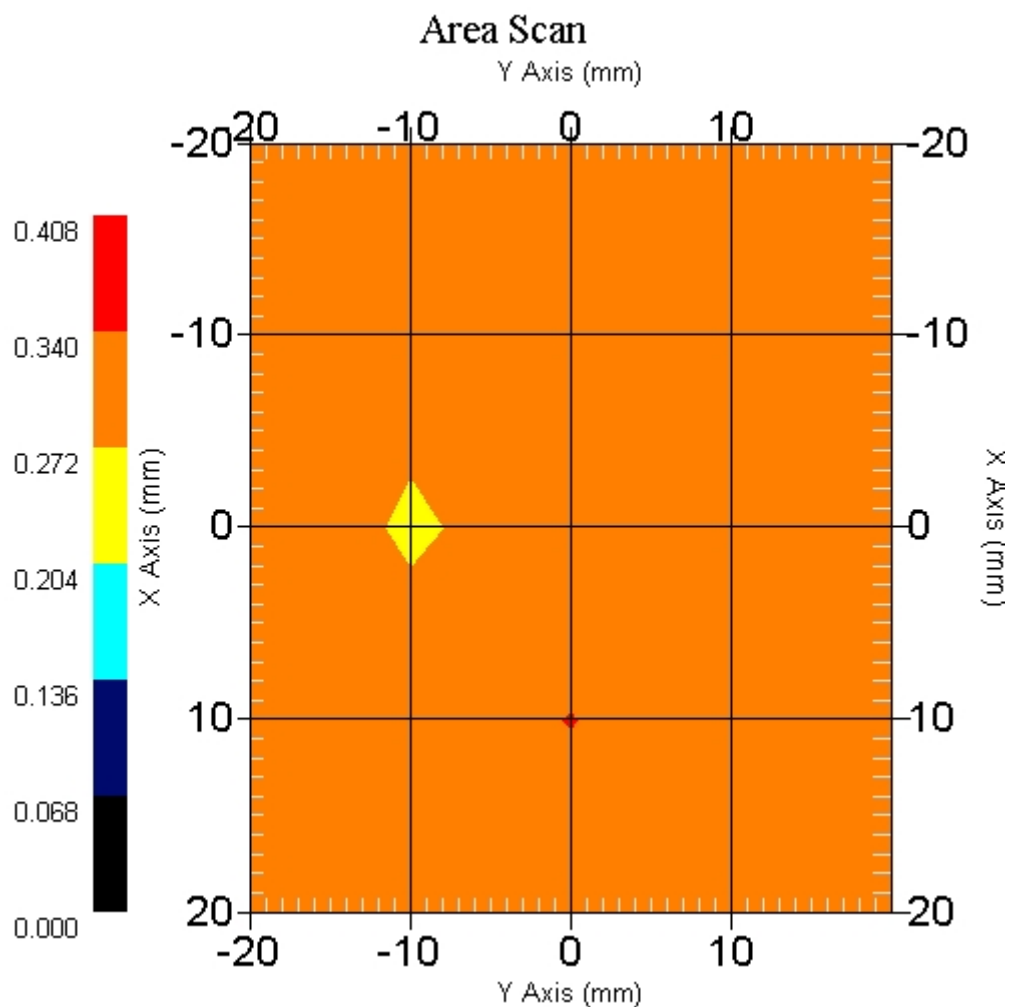
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : Front
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.328 W/kg
 10 gram SAR value : 0.291 W/kg
 Area Scan Peak SAR : 0.342 W/kg
 Zoom Scan Peak SAR : 0.410 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 12:44:58 PM
End Time : 13-Mar-2006 12:57:53 PM
Scanning Time : 775 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : Front
Power Drift-Start : 0.831 W/kg
Power Drift-Finish: 0.821 W/kg
Power Drift (%) : -1.203

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

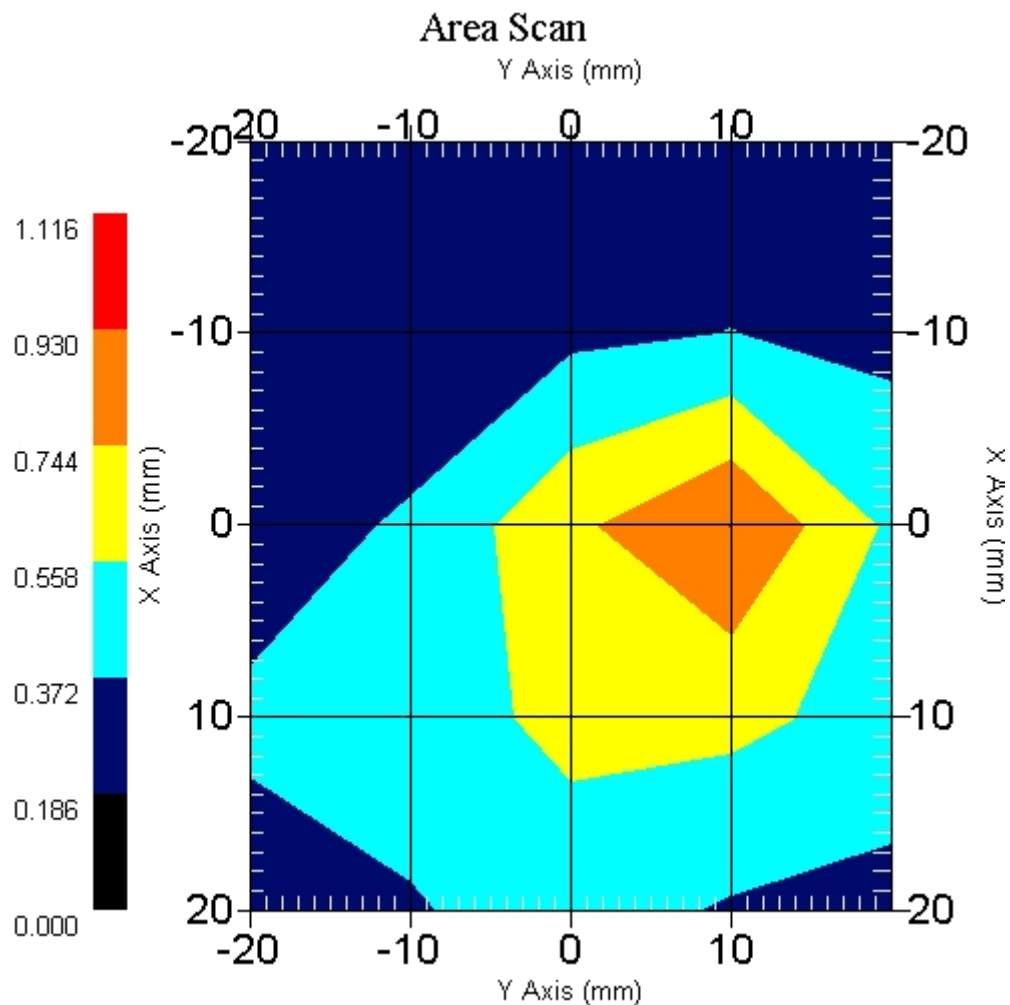
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : Front
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.867 W/kg
 10 gram SAR value : 0.465 W/kg
 Area Scan Peak SAR : 0.931 W/kg
 Zoom Scan Peak SAR : 2.311 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 01:19:04 PM
End Time : 13-Mar-2006 01:32:10 PM
Scanning Time : 786 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Main
Orientation : End
Power Drift-Start : 0.673 W/kg
Power Drift-Finish: 0.711 W/kg
Power Drift (%) : 5.662

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

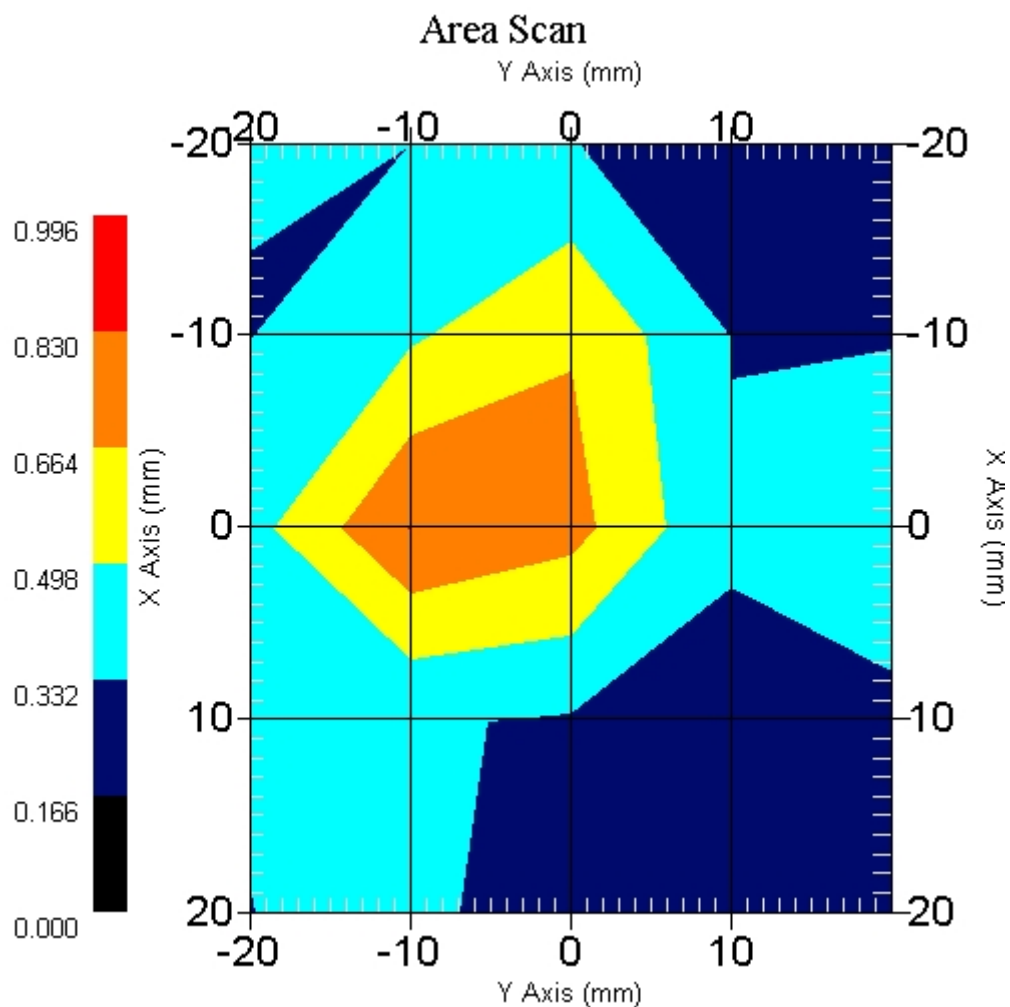
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 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 : End
 Separation : 0
 Channel : Mid - 153



1 gram SAR value : 0.711 W/kg
 10 gram SAR value : 0.417 W/kg
 Area Scan Peak SAR : 0.831 W/kg
 Zoom Scan Peak SAR : 1.651 W/kg

SAR Test Report

By Operator : Jay
Measurement Date : 13-Mar-2006
Starting Time : 13-Mar-2006 01:50:02 PM
End Time : 13-Mar-2006 02:10:34 PM
Scanning Time : 1232 secs

Product Data

Device Name : Motion Computing
Serial No. : 20302464
Type : Other
Model : TS01
Frequency : 5800.00 MHz
Max. Transmit Pwr : 0.025 W
Drift Time : 0 min(s)
Length : 228 mm
Width : 170 mm
Depth : 23 mm
Antenna Type : Internal - Aux
Orientation : End
Power Drift-Start : 1.110 W/kg
Power Drift-Finish: 1.076 W/kg
Power Drift (%) : -3.106

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. : 5800
Frequency : 5765.00 MHz
Last Calib. Date : 13-Mar-2006
Temperature : 20.00 °C
Ambient Temp. : 22.00 °C
Humidity : 43.00 RH%
Epsilon : 46.12 F/m
Sigma : 6.12 S/m
Density : 1000.00 kg/cu. m

Probe Data

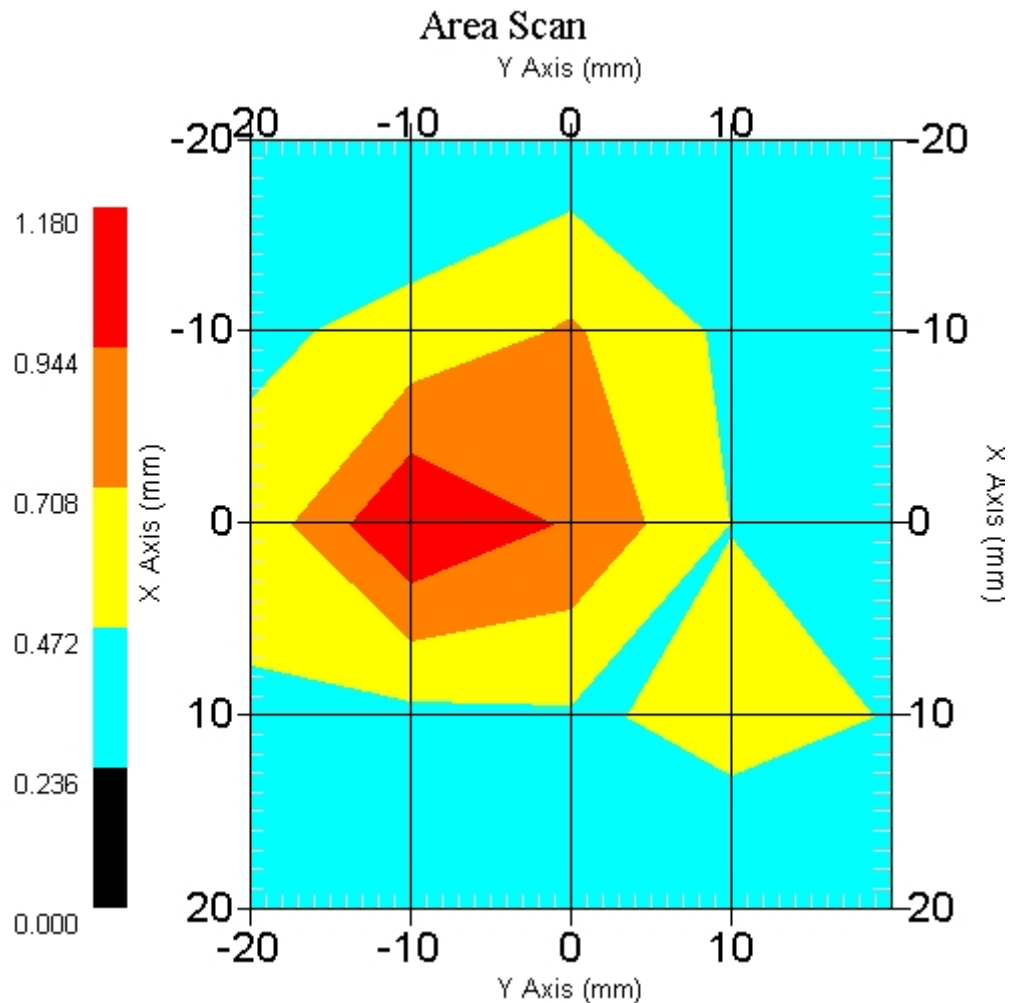
Name : Probe 215 - RFEL
Model : E020
Type : E-Field Triangle
Serial No. : 215
Last Calib. Date : 10-Jun-2005
Frequency : 5800.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 2.1
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
 Scan Type : Complete
 Tissue Temp. : 20.00 °C
 Ambient Temp. : 22.00 °C
 Set-up Date : 13-Mar-2006
 Set-up Time : 11:37:19 AM
 Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm
 Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

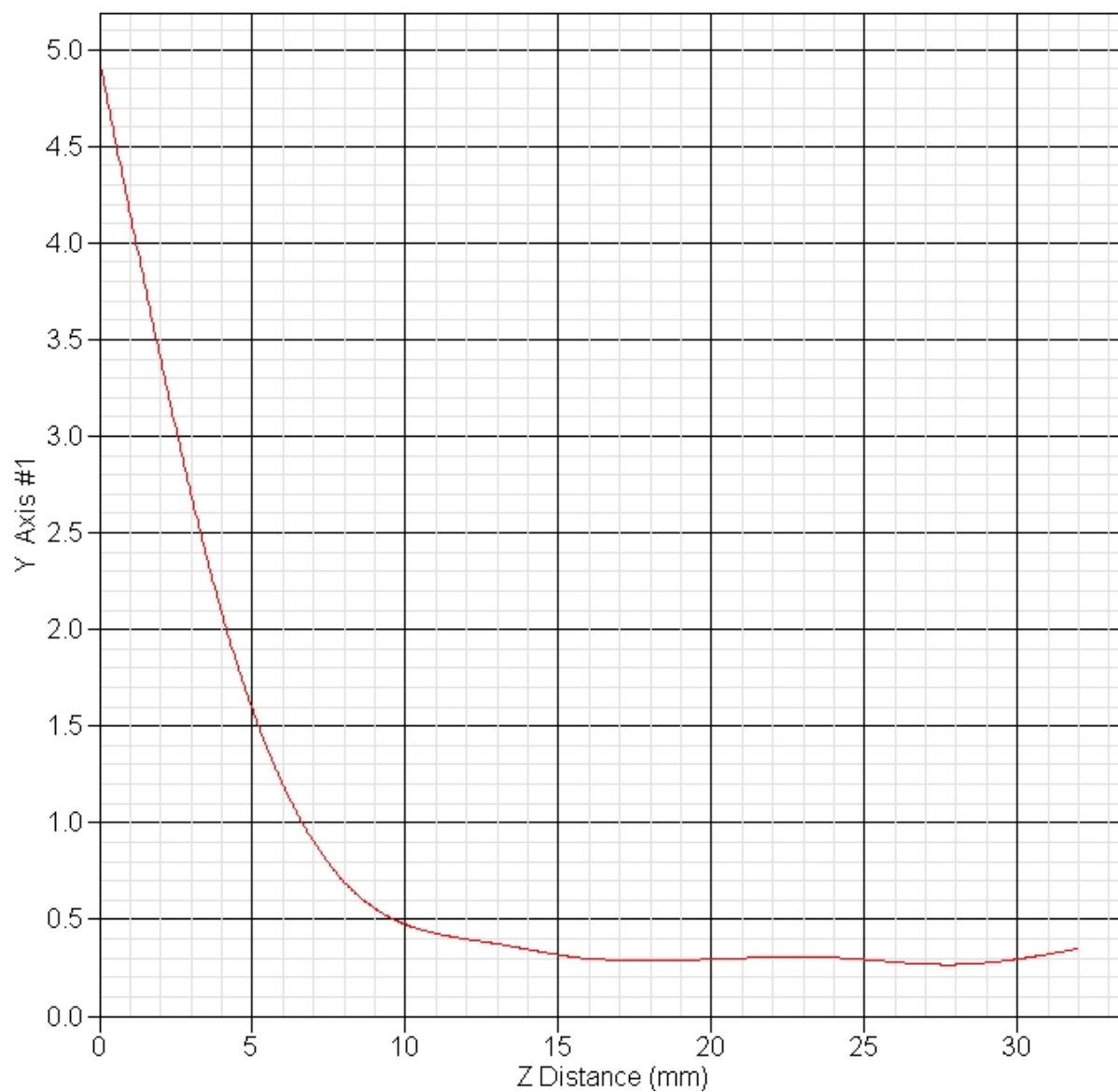
Other Data

DUT Position : End
 Separation : 0
 Channel : Mid - 153

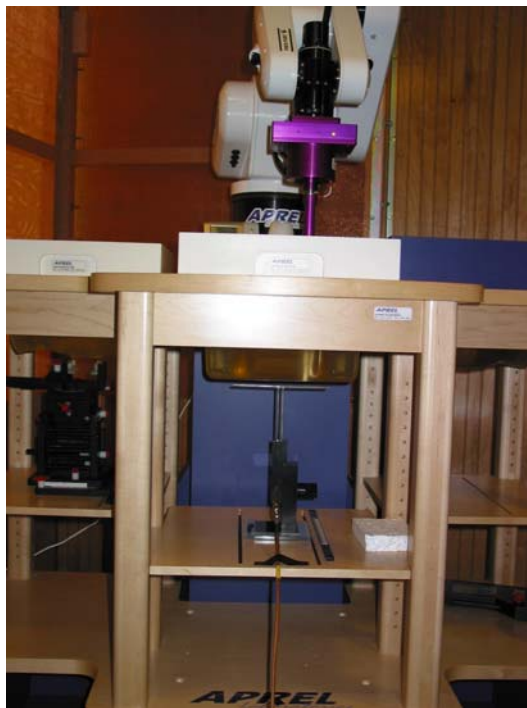


1 gram SAR value : 1.535 W/kg
 10 gram SAR value : 0.755 W/kg
 Area Scan Peak SAR : 1.180 W/kg
 Zoom Scan Peak SAR : 4.053 W/kg

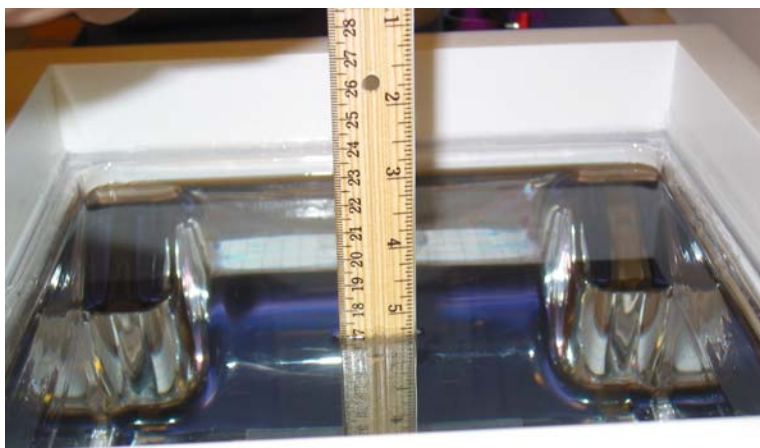
SAR-Z Axis
at Hotspot x:-7.60 y:-6.30



Appendix C – SAR Test Setup Photos



System Body Configuration



Glycol Body Tissue Depth



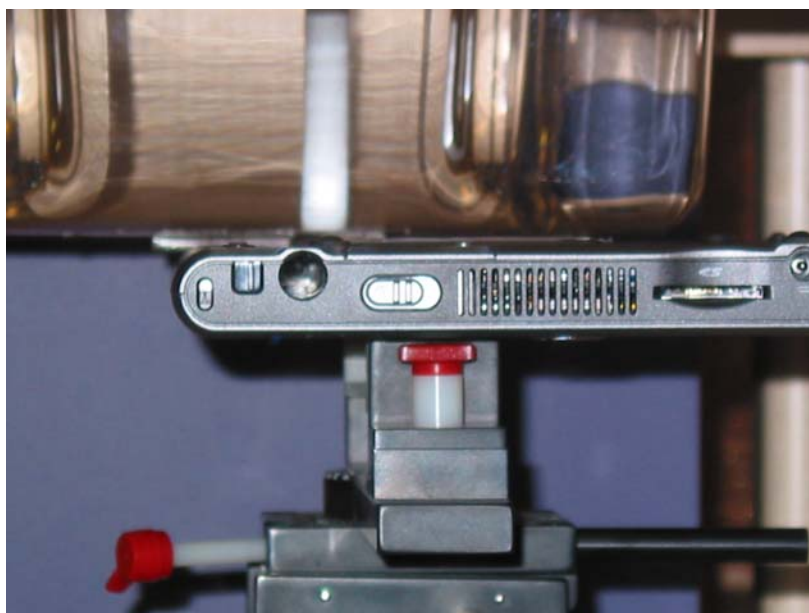
Sugar Body Tissue Depth



Main Antenna Back Test Position Front View



Main Antenna Back Test Position Side View



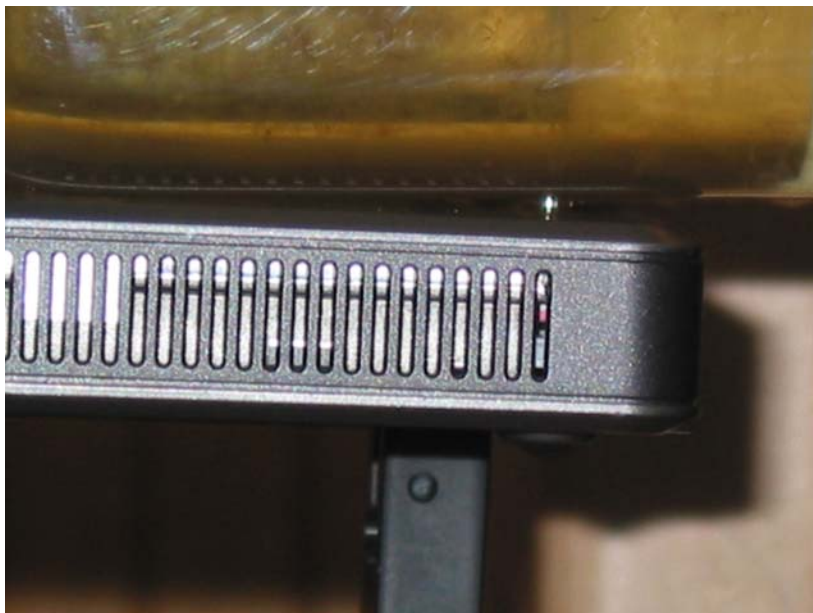
Aux Antenna Back Test Position Front View



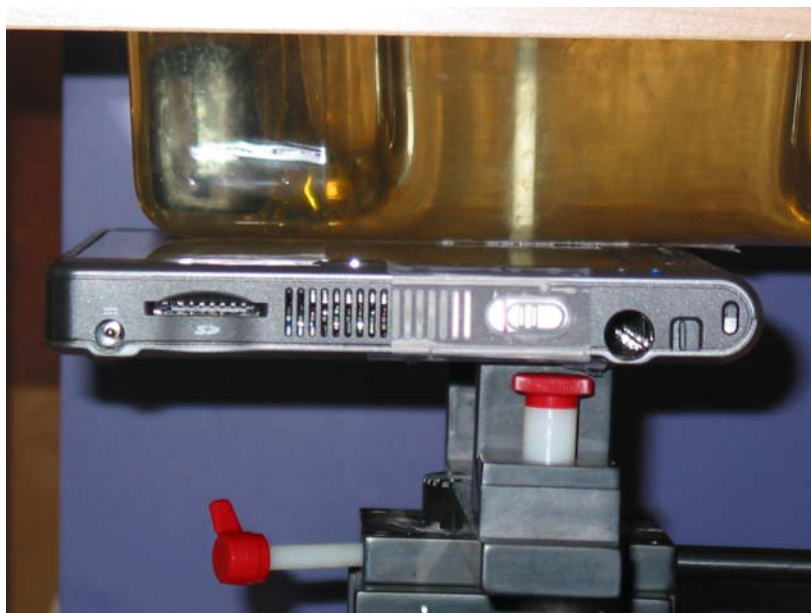
Aux Antenna Back Test Position Side View



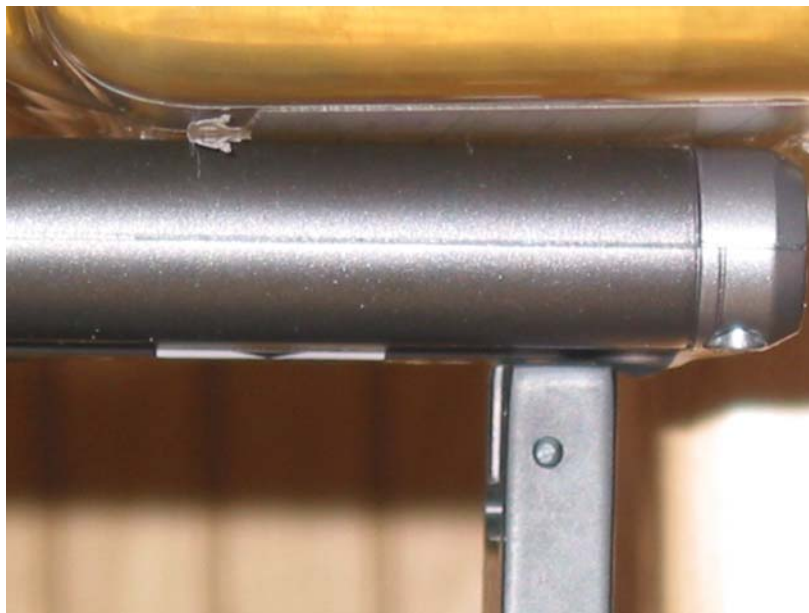
Main Antenna Front Test Position Front View



Main Antenna Front Test Position Side View



Aux Antenna Front Test Position Front View



Aux Antenna Front Test Position Side View



Main Antenna End Test Position Front View



Main Antenna End Test Position Close-up View



Aux Antenna End Test Position Front View



Aux Antenna End Test Position Close-up View



Device Front View



Device Back View



Radio Card



Battery Top View



Battery Inside View

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: 10th June 2005
Released on: 10th 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

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

*Resistive to recommended tissue recipes per IEEE-1528

Sensitivity in Air

Channel X:	$1.2 \mu\text{V}/(\text{V}/\text{m})^2$
Channel Y:	$1.2 \mu\text{V}/(\text{V}/\text{m})^2$
Channel Z:	$1.2 \mu\text{V}/(\text{V}/\text{m})^2$
Diode Compression Point:	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.

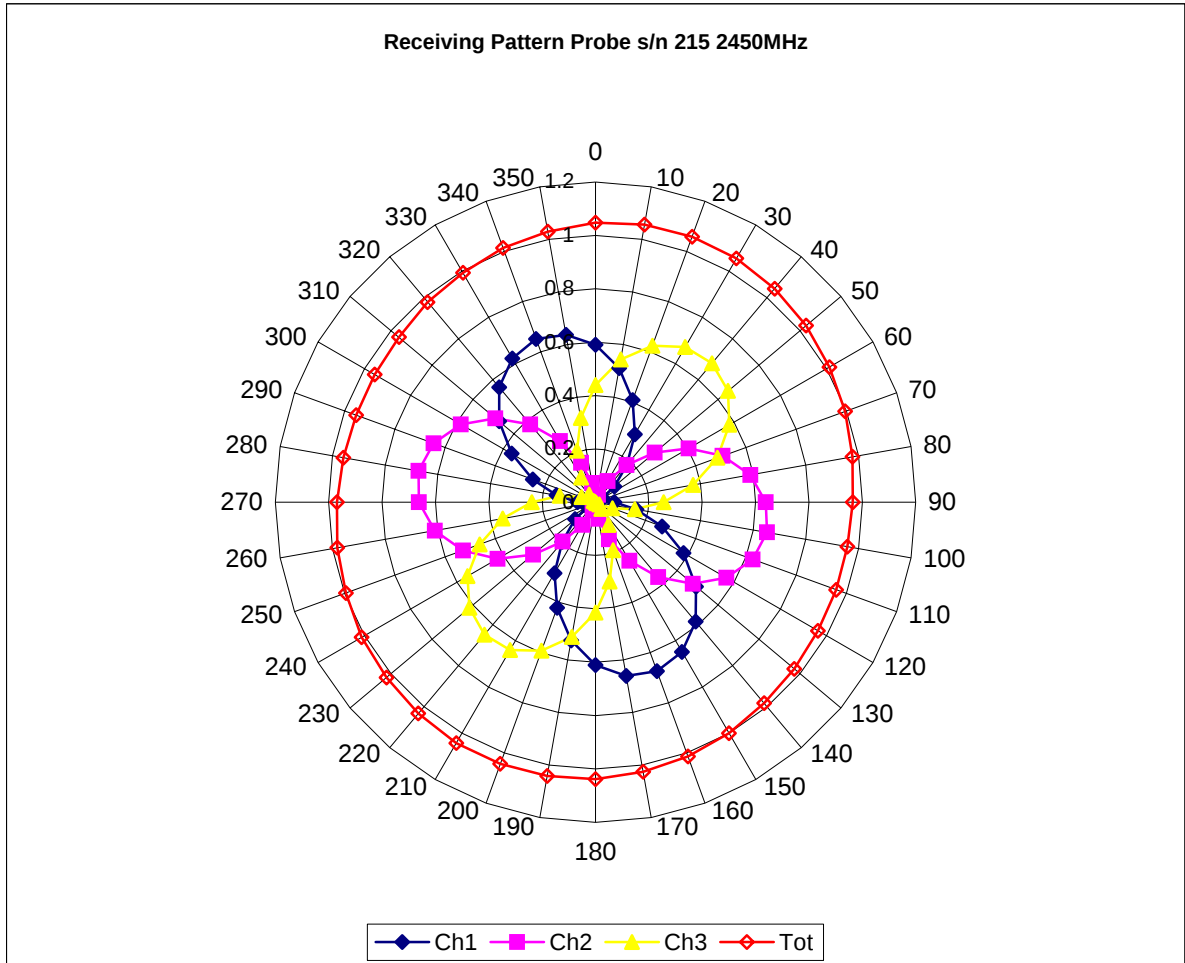
Boundary Effect:

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.

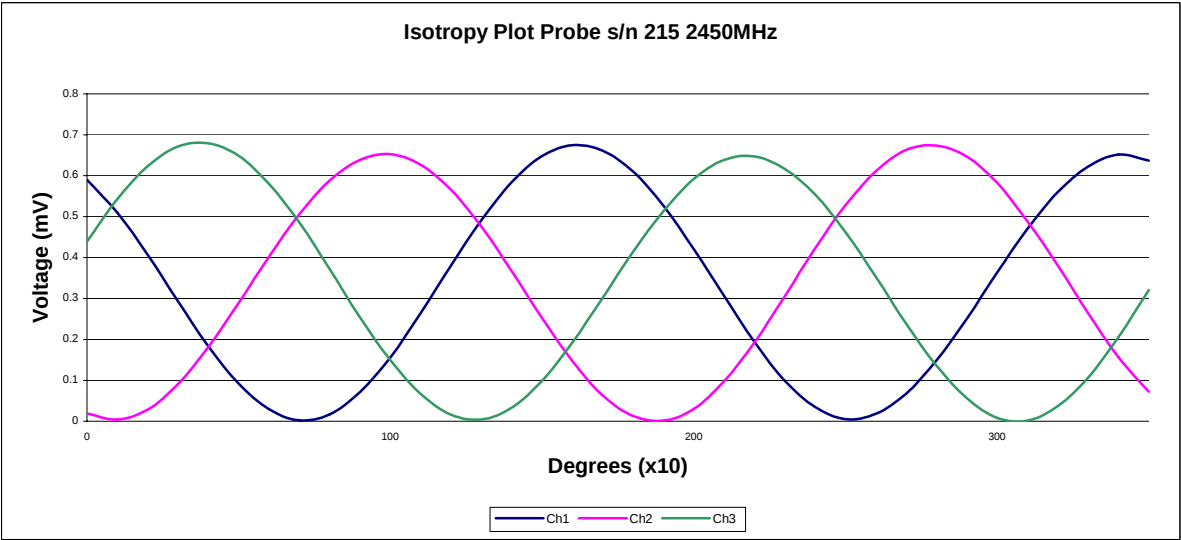
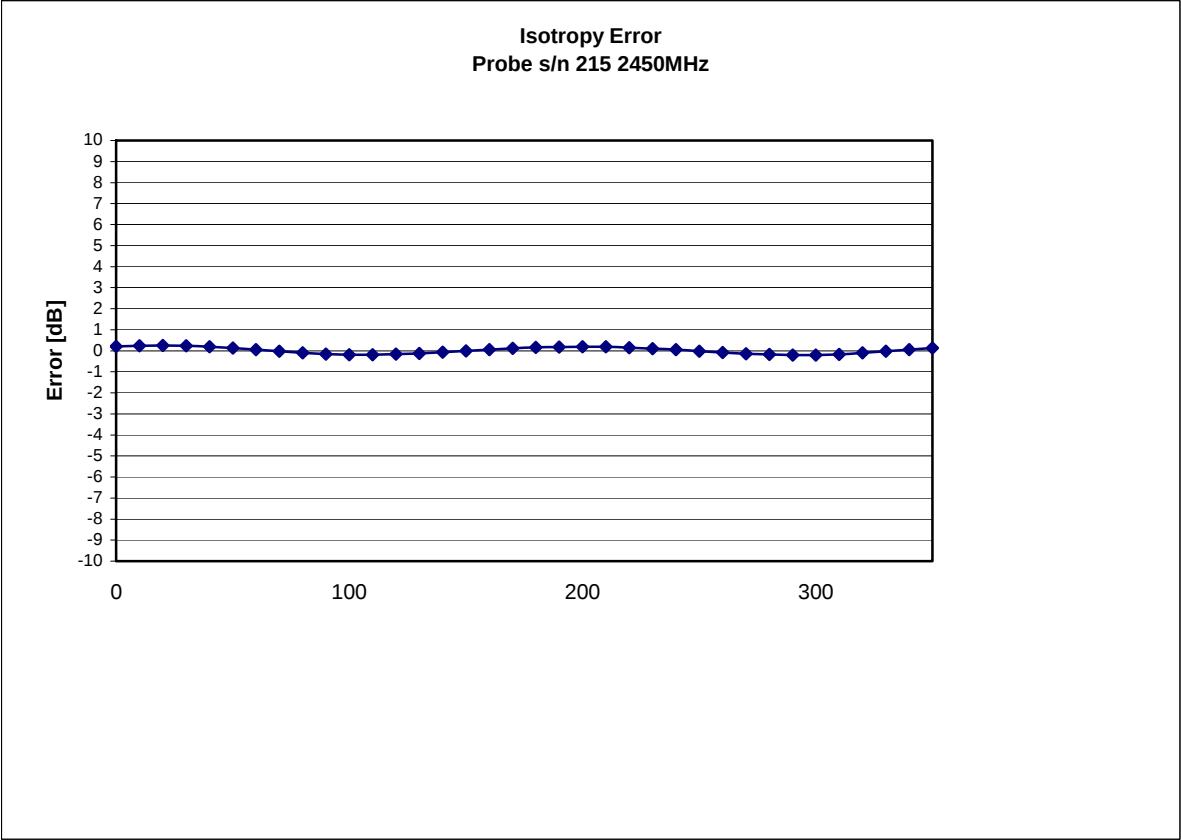
Spatial Resolution:

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)



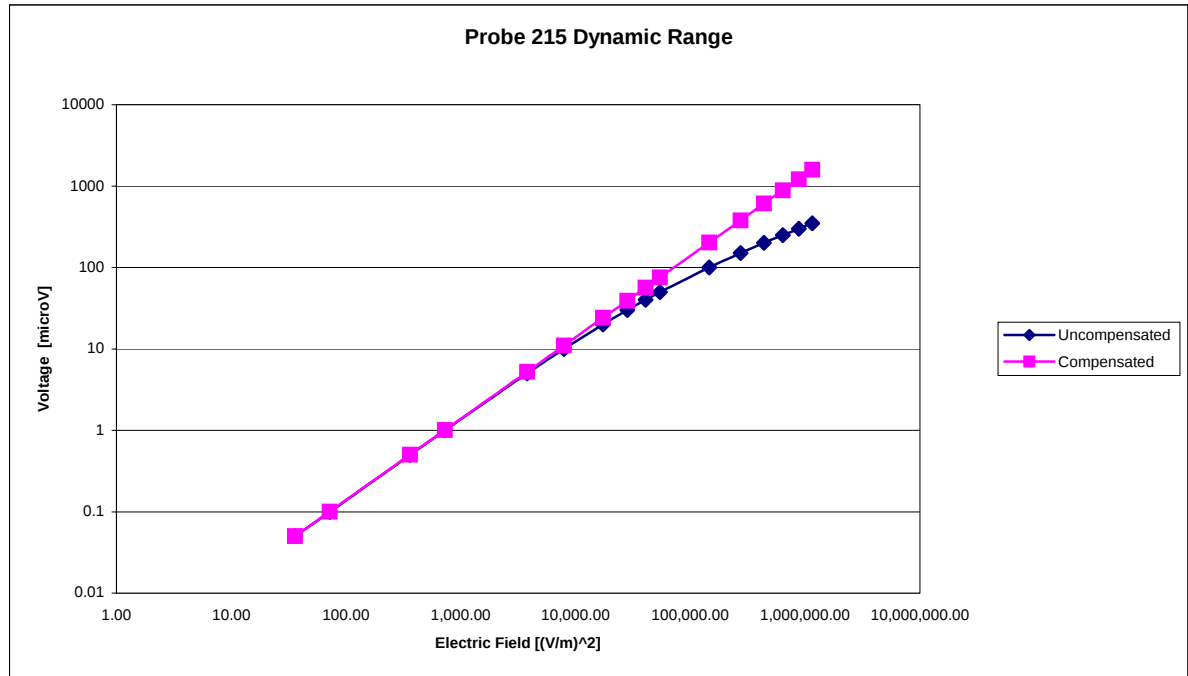
Isotropy Error 2450 MHz (Air)



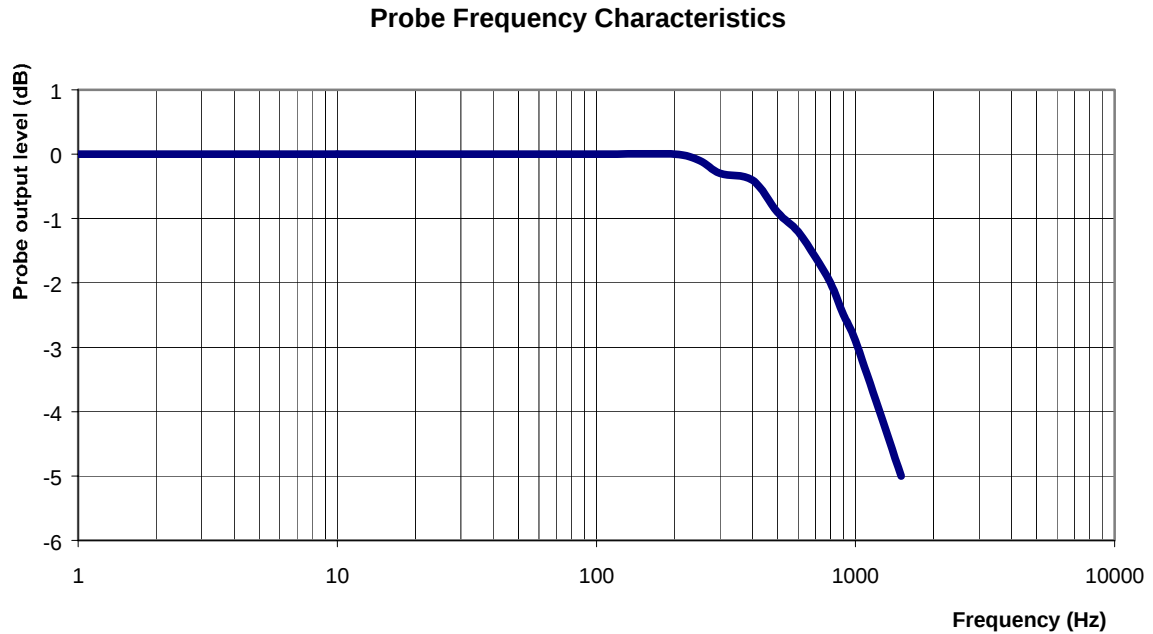
Isotropy in Tissue:

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 M Ω .

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.

NCL CALIBRATION LABORATORIES

Calibration File No.: CP-607

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 5200 MHz

Manufacturer: APREL Laboratories

Model No.: E-020

Serial No.: 215

BODY Calibration

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

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

Calibrated: 10th June 2005
Released on: 10th 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

Probe Type:	E-Field Probe E-020
Serial Number:	215
Frequency:	5200 MHz
Sensor Offset:	1.56 mm
Sensor Length:	2.5 mm
Tip Enclosure:	Ertalyte*
Tip Diameter:	<5 mm
Tip Length:	60 mm
Total Length:	290 mm

*Resistive to recommended tissue recipes per IEEE-1528

Sensitivity in Air

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

Sensitivity in Body Tissue

Frequency: 5200 MHz

Epsilon: 43.4 (+/-5%) **Sigma:** 5.7 S/m (+/-10%)

ConvF

Channel X: 2.8

Channel Y: 2.8

Channel Z: 2.8

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

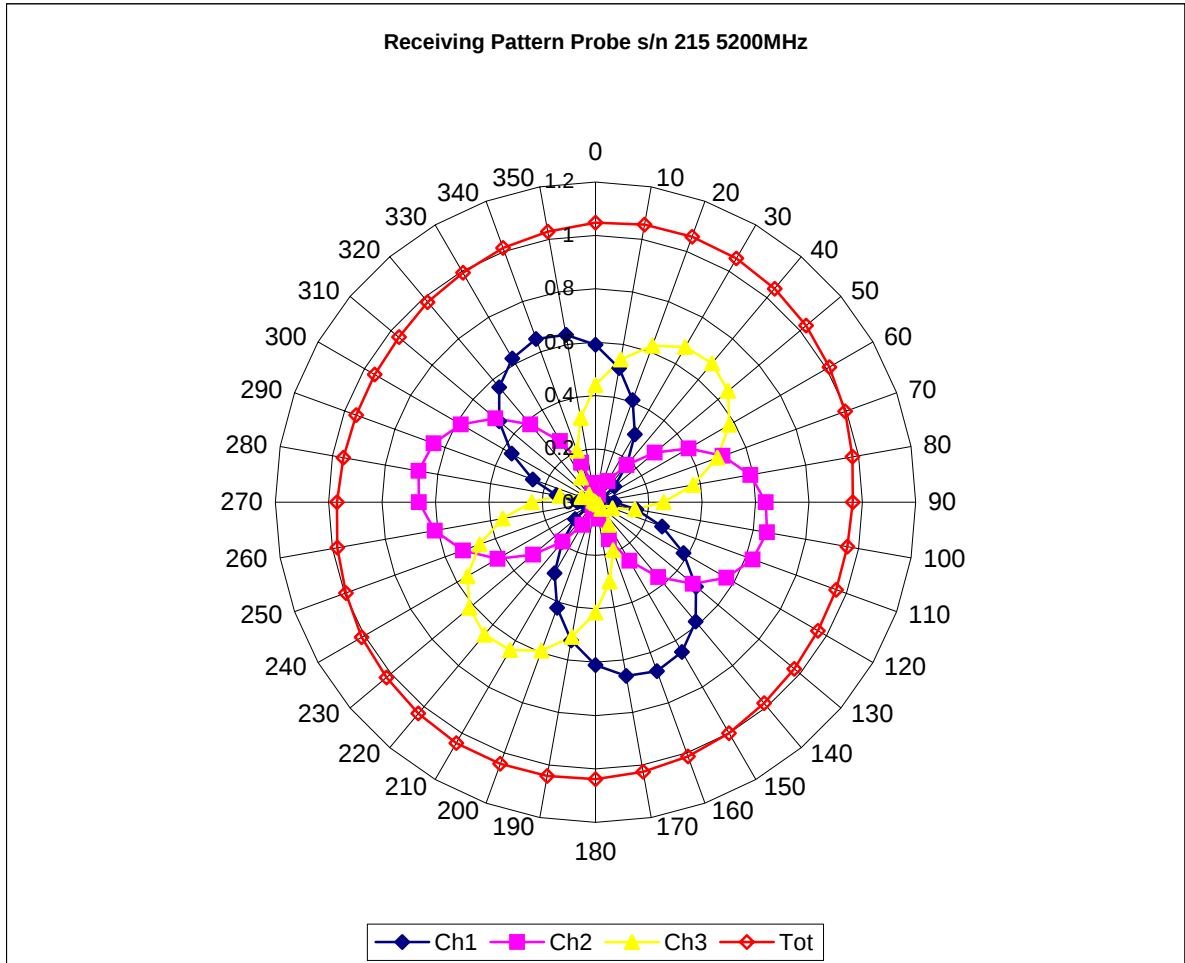
Boundary Effect:

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.

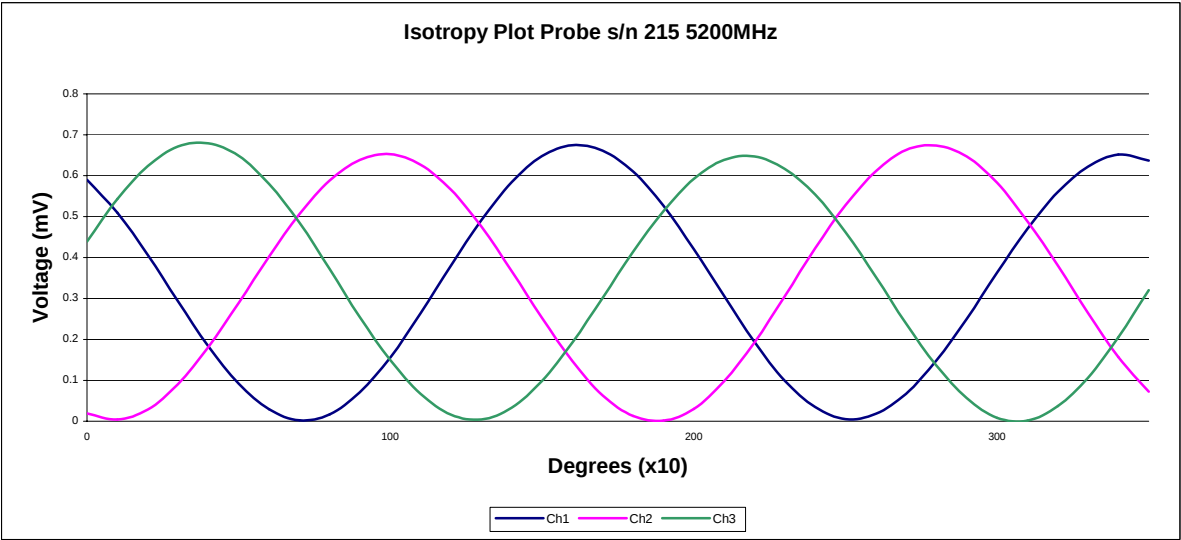
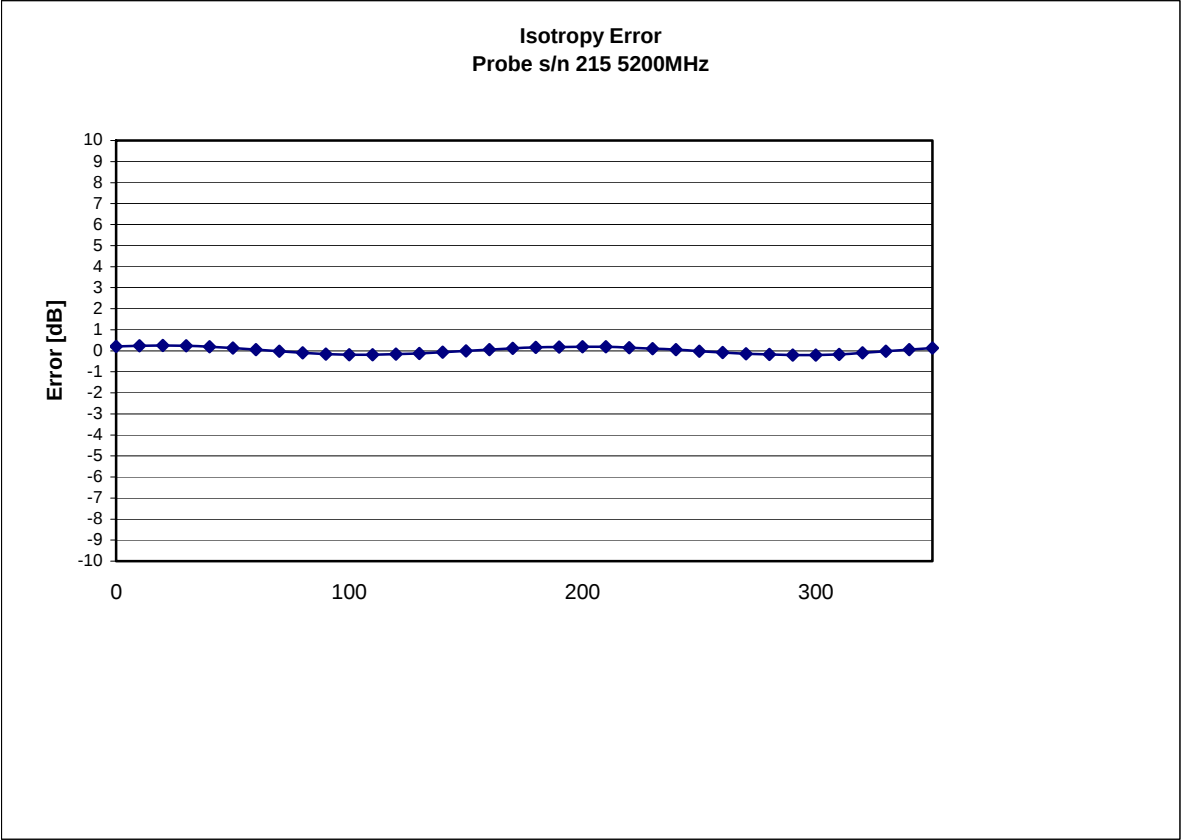
Spatial Resolution:

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 5200 MHz (Air)



Isotropy Error 5200 MHz (Air)



Isotropy in Tissue:

0.10 dB

Dynamic Range

