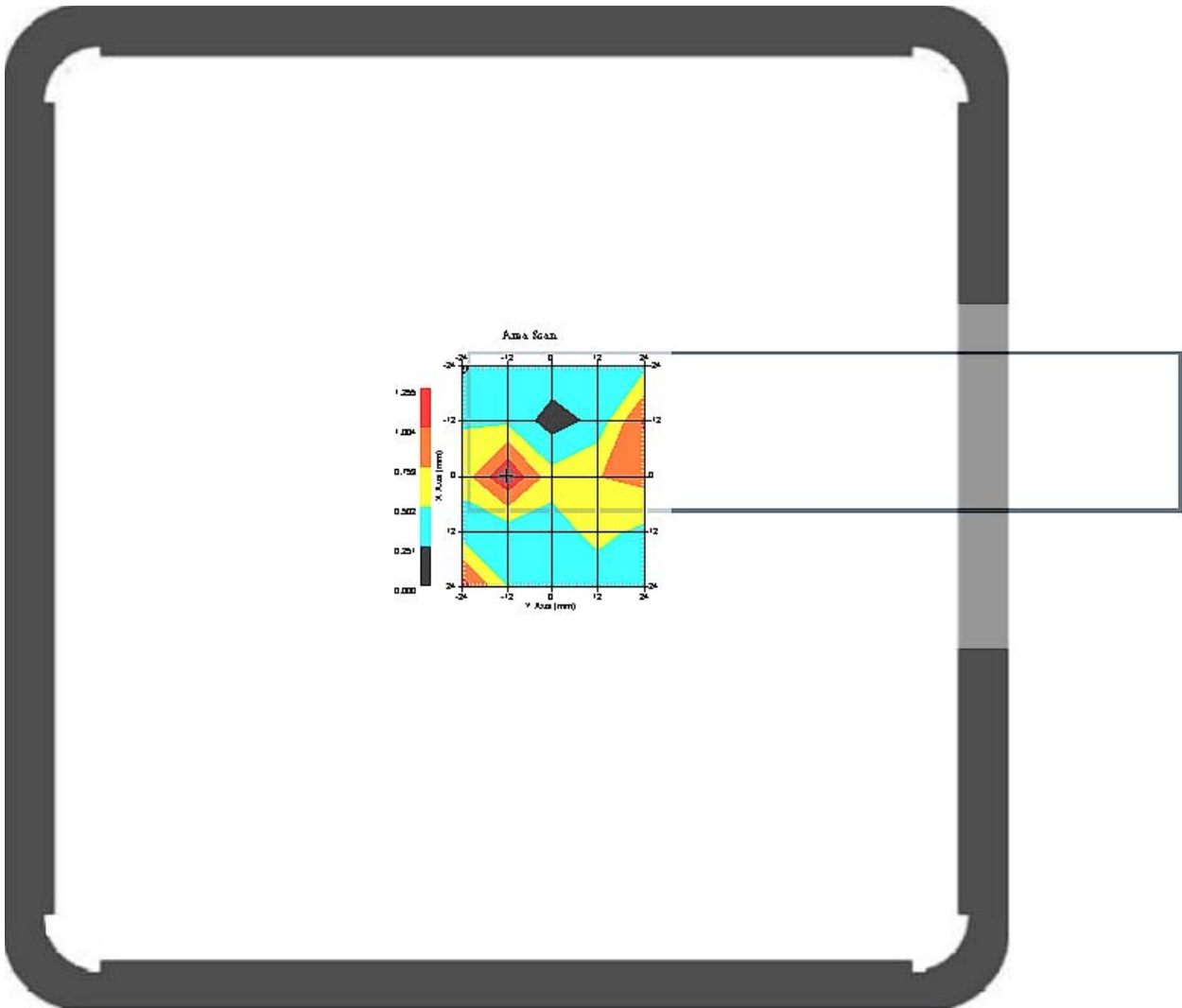


Measurement Data

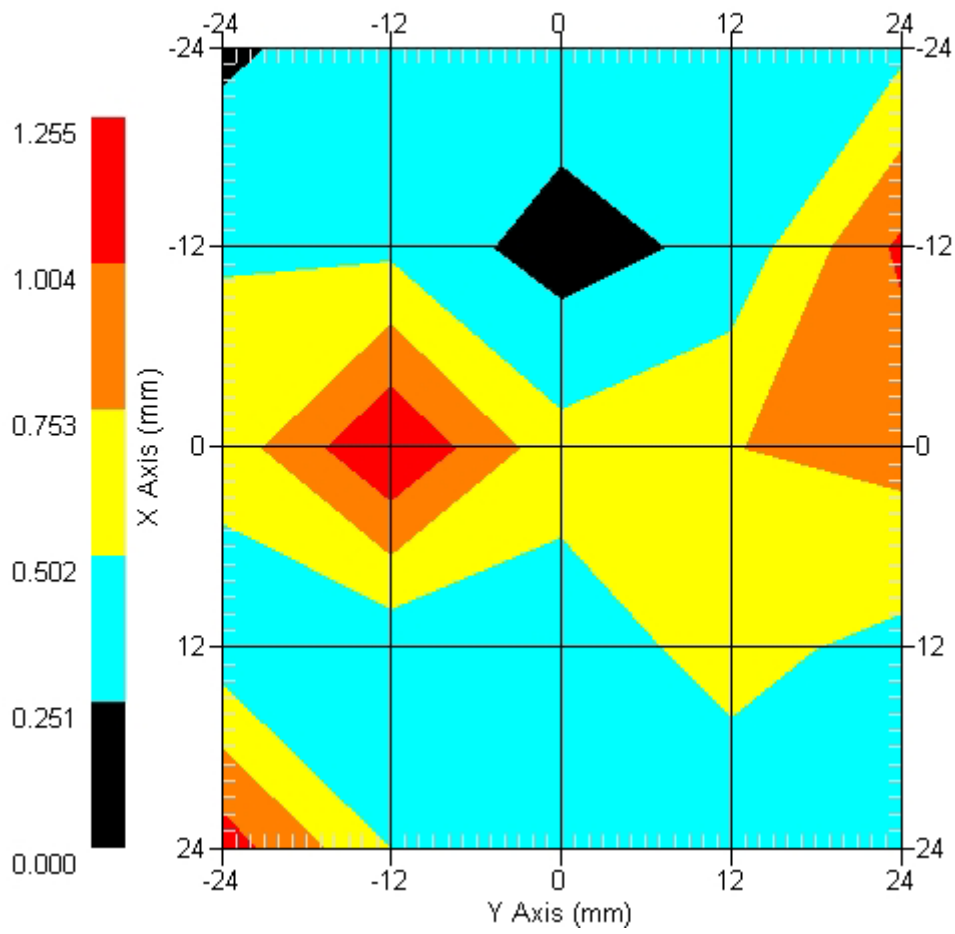
Crest Factor : 1  
Tissue Temp. : 21.10 °C  
Ambient Temp. : 22.60 °C  
Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.378 W/kg  
Power Drift-Finish: 0.386 W/kg  
Power Drift (%) : 2.116

DUT Position : Touch  
Channel : 157



1 gram SAR value : 0.489 W/kg  
10 gram SAR value : 0.302 W/kg  
Area Scan Peak SAR : 1.254 W/kg  
Zoom Scan Peak SAR : 0.780 W/kg

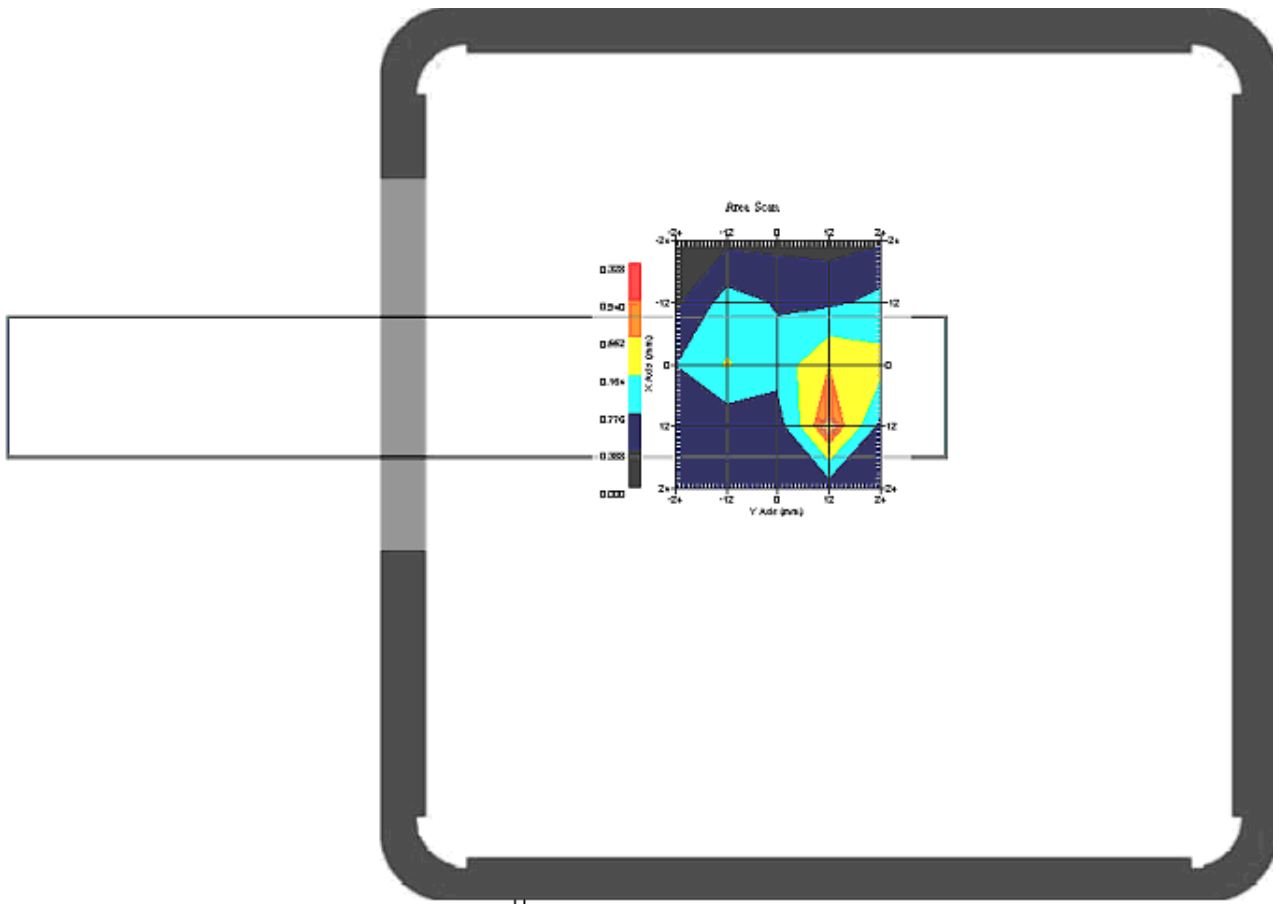
Area Scan



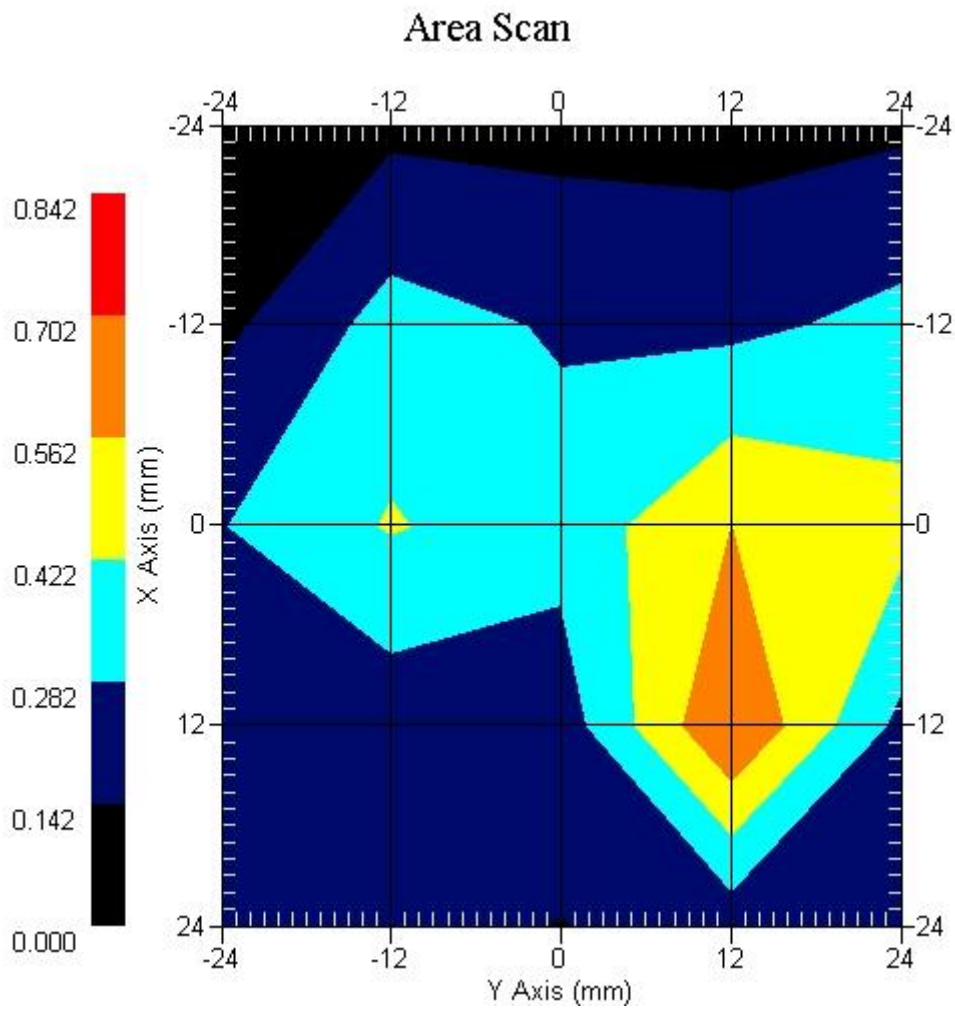
Measurement Data

Crest Factor : 1  
Tissue Temp. : 20.70 °C  
Ambient Temp. : 22.20 °C  
Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
Zoom Scan : 7x75x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 1.014 W/kg  
Power Drift-Finish: 0.975 W/kg  
Power Drift (%) : -3.846

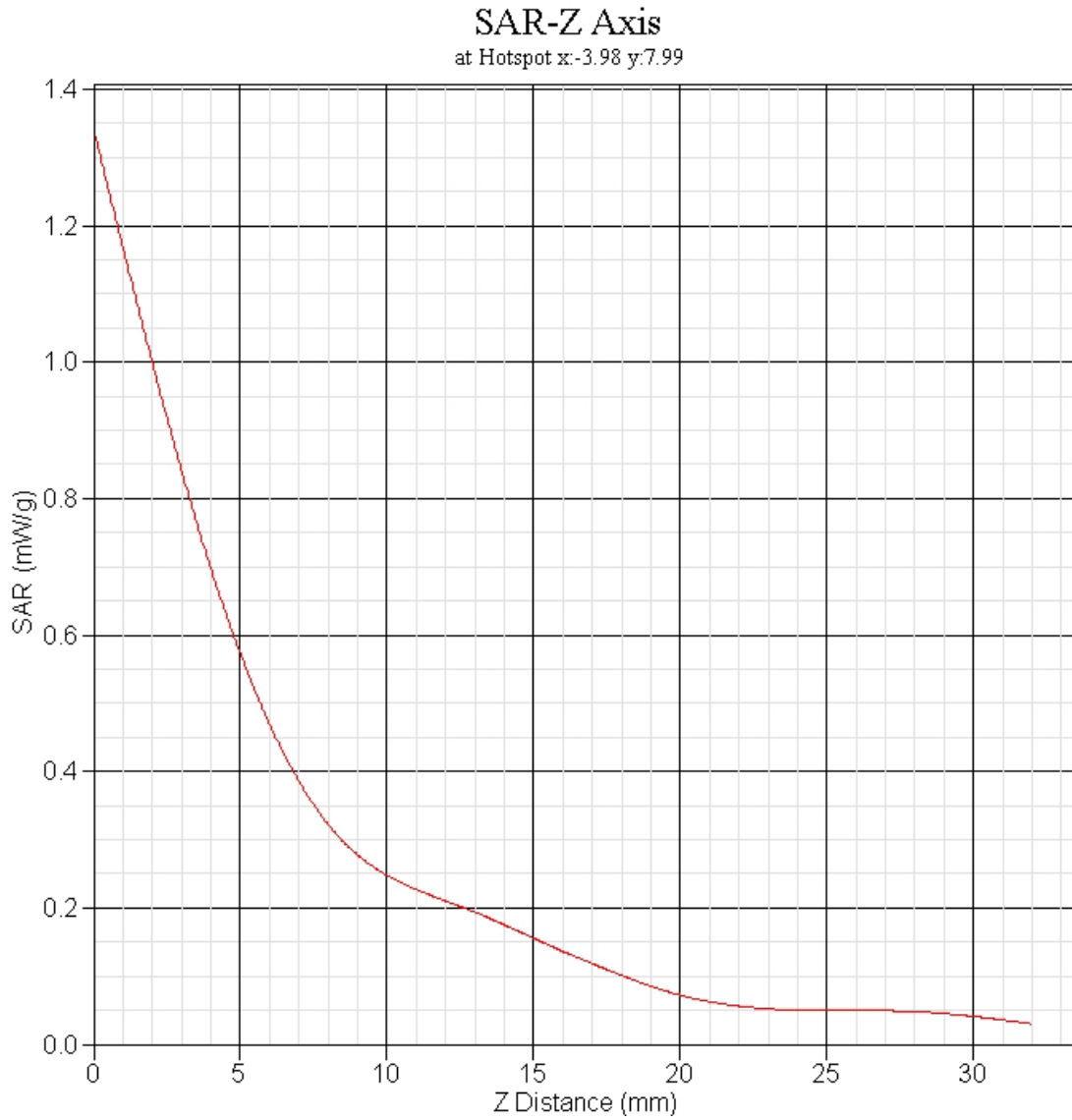
DUT Position : Touch  
Channel : 157



1 gram SAR value : 0.627 W/kg  
10 gram SAR value : 0.495 W/kg  
Area Scan Peak SAR : 0.842 W/kg  
Zoom Scan Peak SAR : 1.331 W/kg



**802.11a(5.8GHz) Main Antenna with Bluetooth (1M), Z-Axis plot**  
channel: 165



ALSAS-10U VER 2.3.2 APREL Laboratories

SAR Test Report -802.11a(5.8GHz) Aux Antenna, with Bluetooth (1M)

Report Date : 06-DEC-2007  
Measurement Date : 06-DEC-2007

## Product Data

Device Name : Tablet PC  
Type : Other  
Model : T8700  
Frequency : 5800.00 MHz  
Drift Time : 0 min(s)  
Length : 182 mm  
Width : 268 mm  
Depth : 42 mm  
Antenna Type : Internal

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 327-B  
Frequency : 5800.00 MHz  
Last Calib. Date : 06-DEC-2007  
Temperature : 21.10 °C  
Ambient Temp. : 22.60 °C  
Humidity : 52.00 RH%  
Epsilon : 48.11 F/m  
Sigma : 6.143 S/m  
Density : 1000.00 kg/cu. m

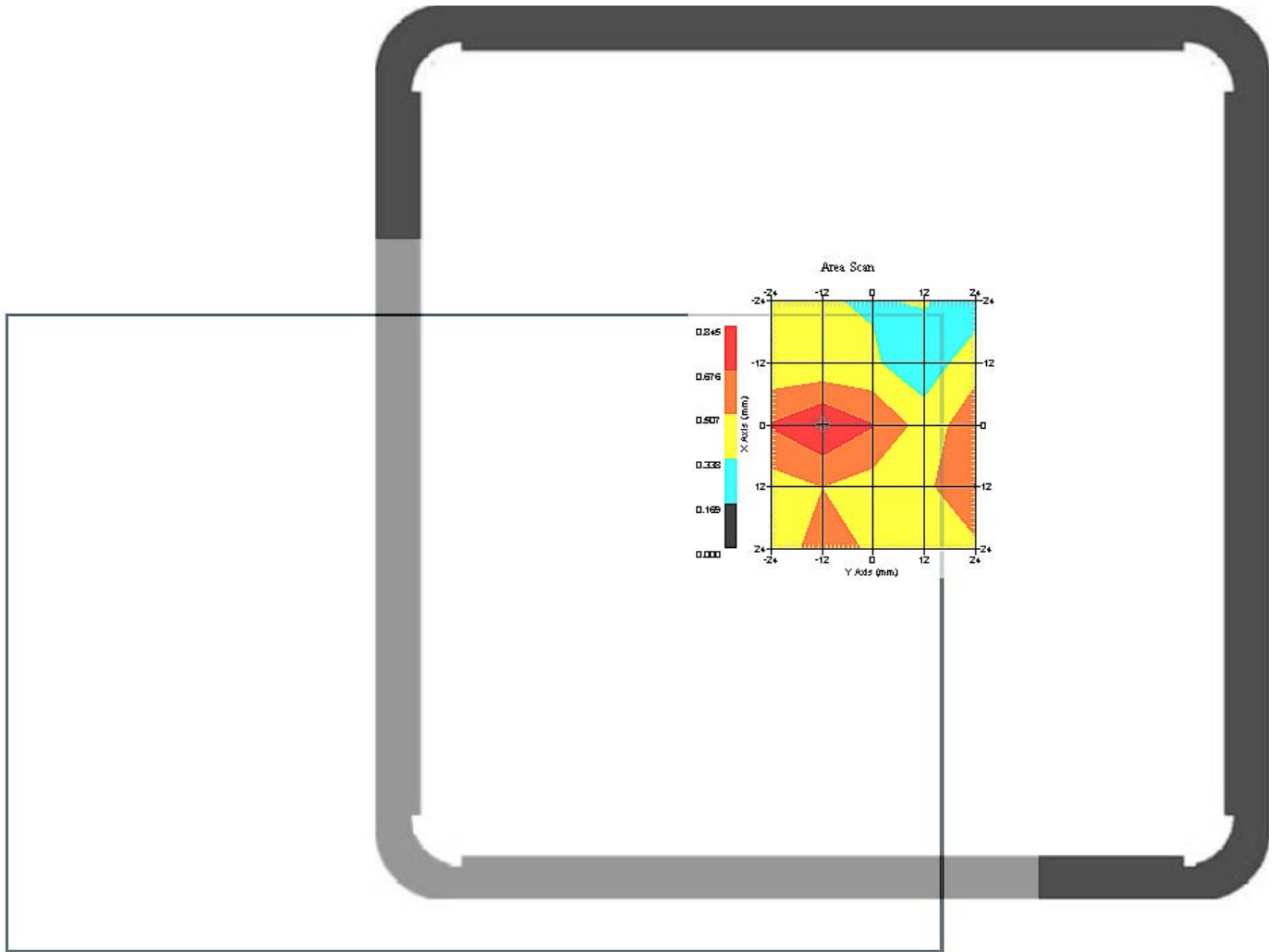
## Probe Data

Name : Probe 264  
Model : E020  
Type : E-Field Triangle  
Serial No. : 264  
Last Calib. Date : 23-Aug-2007  
Frequency : 5800.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 4.3  
Probe Sensitivity: 0.61 0.61 0.61  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

Measurement Data

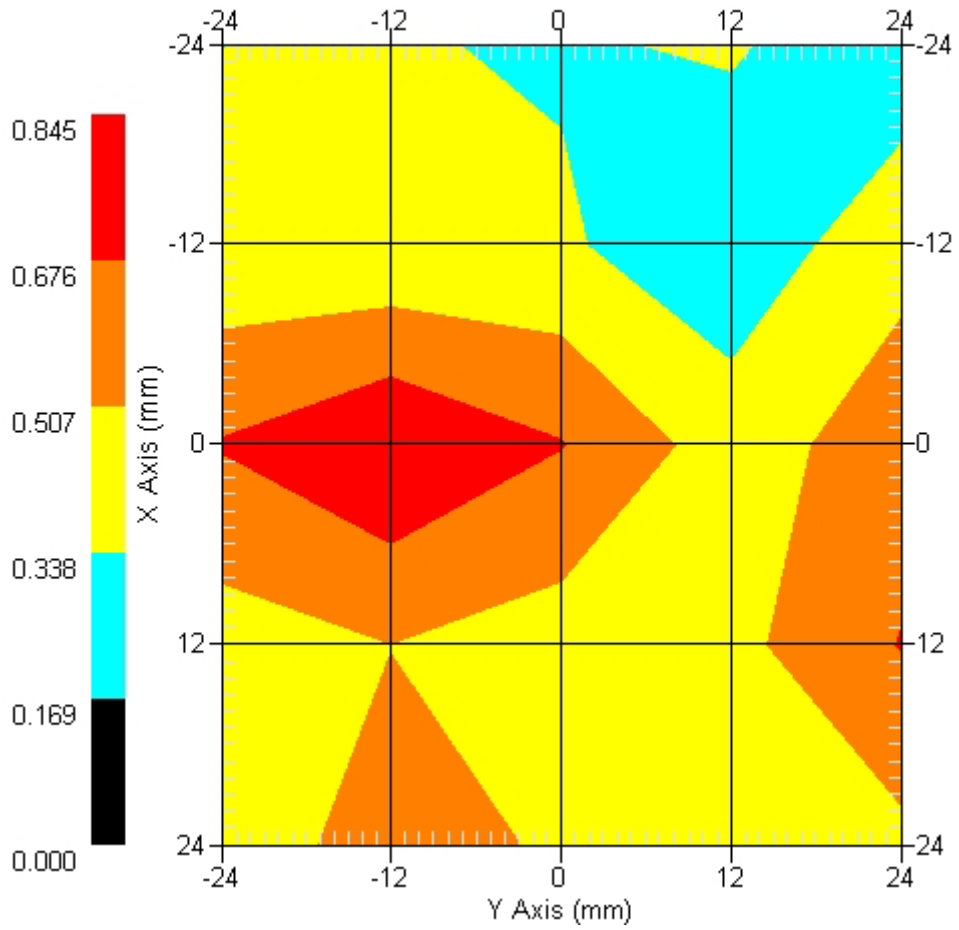
Crest Factor : 1  
Tissue Temp. : 21.10 °C  
Ambient Temp. : 22.60 °C  
Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.367 W/kg  
Power Drift-Finish: 0.381 W/kg  
Power Drift (%) : 3.814

DUT Position : Touch  
Channel : 157



1 gram SAR value : 0.614 W/kg  
10 gram SAR value : 0.437 W/kg  
Area Scan Peak SAR : 0.845 W/kg  
Zoom Scan Peak SAR : 1.241 W/kg

Area Scan

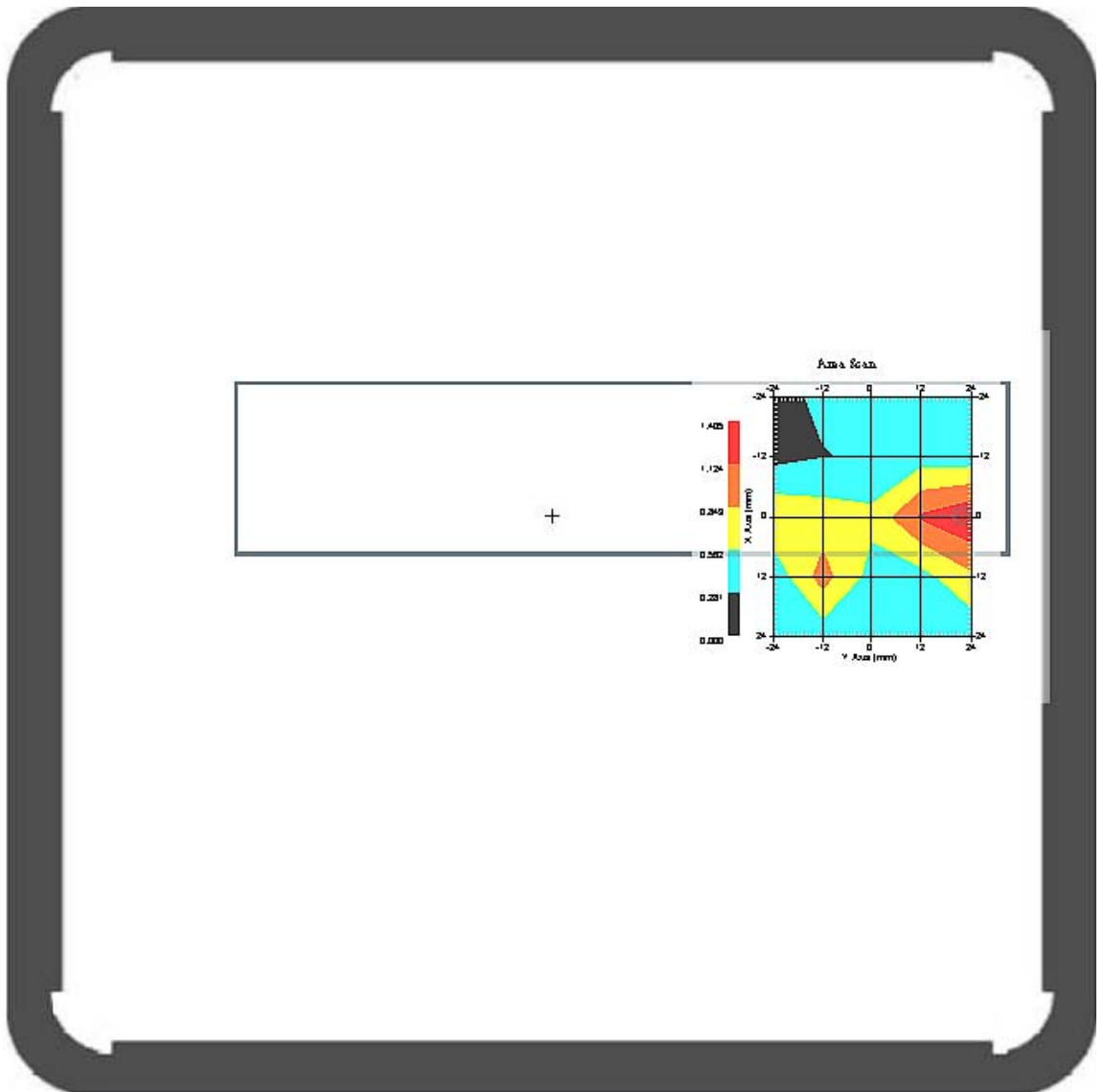




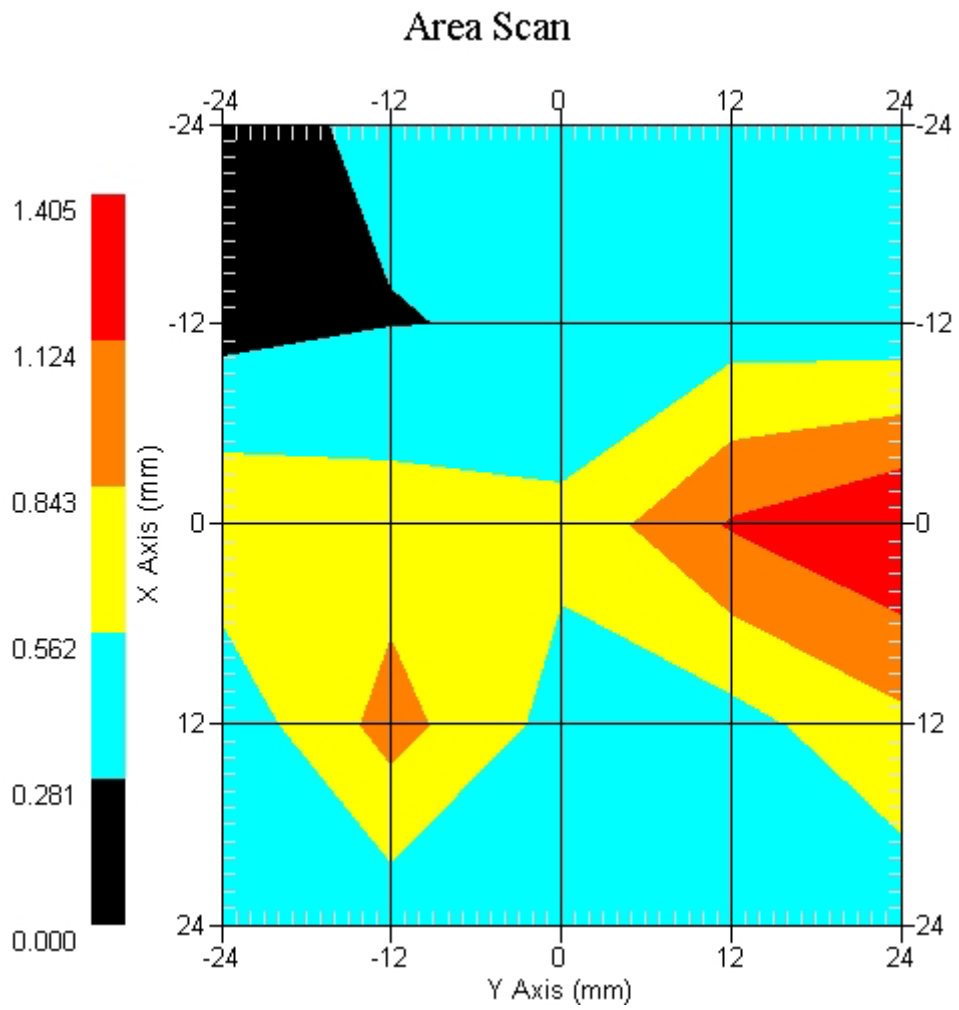
Measurement Data

Crest Factor : 1  
 Tissue Temp. : 21.10 °C  
 Ambient Temp. : 22.60 °C  
 Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.265 W/kg  
 Power Drift-Finish: 0.271 W/kg  
 Power Drift (%) : 2.264

DUT Position : Touch  
 Channel : 157



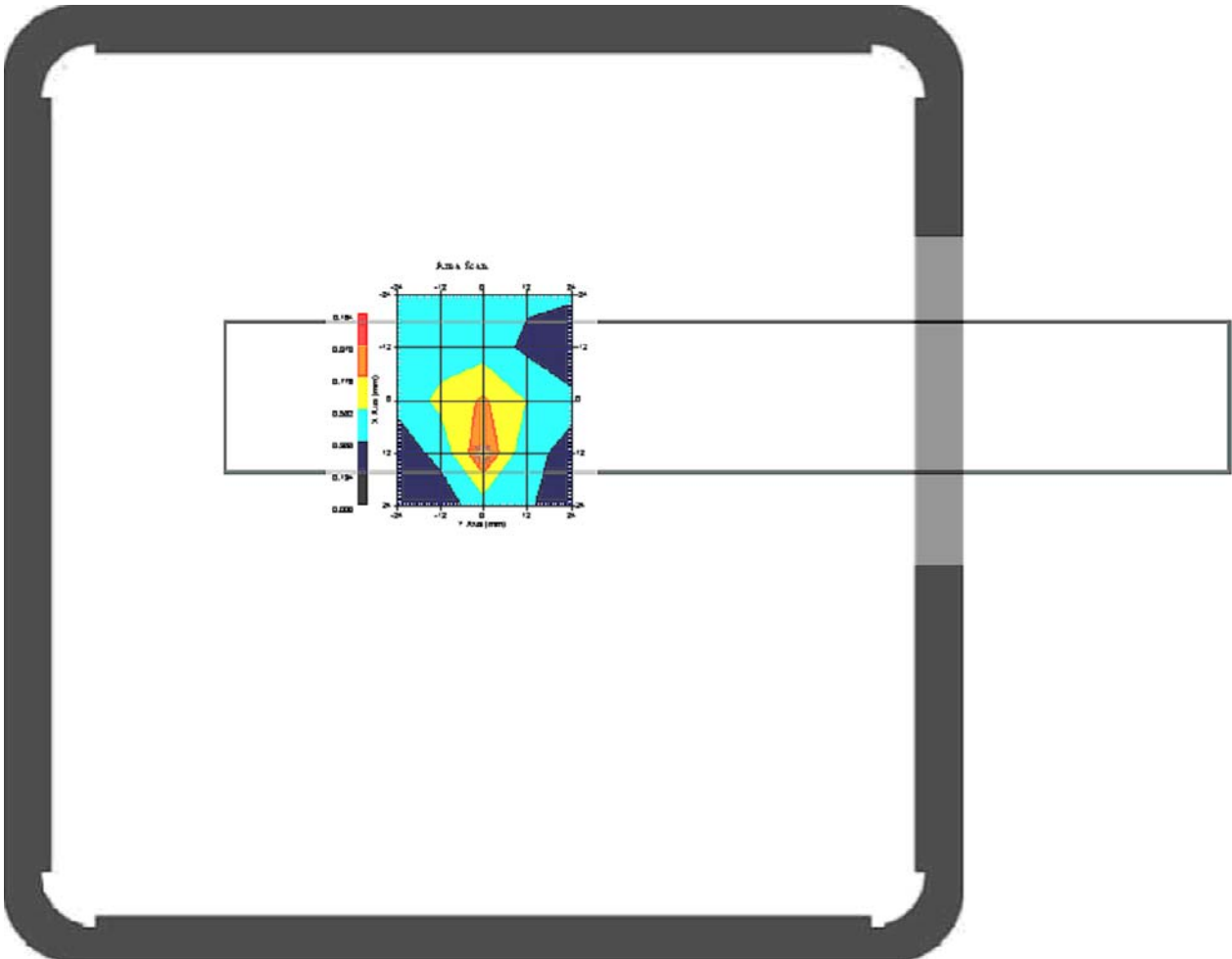
1 gram SAR value : 0.525 W/kg  
 10 gram SAR value : 0.349 W/kg  
 Area Scan Peak SAR : 1.405 W/kg  
 Zoom Scan Peak SAR : 1.440 W/kg



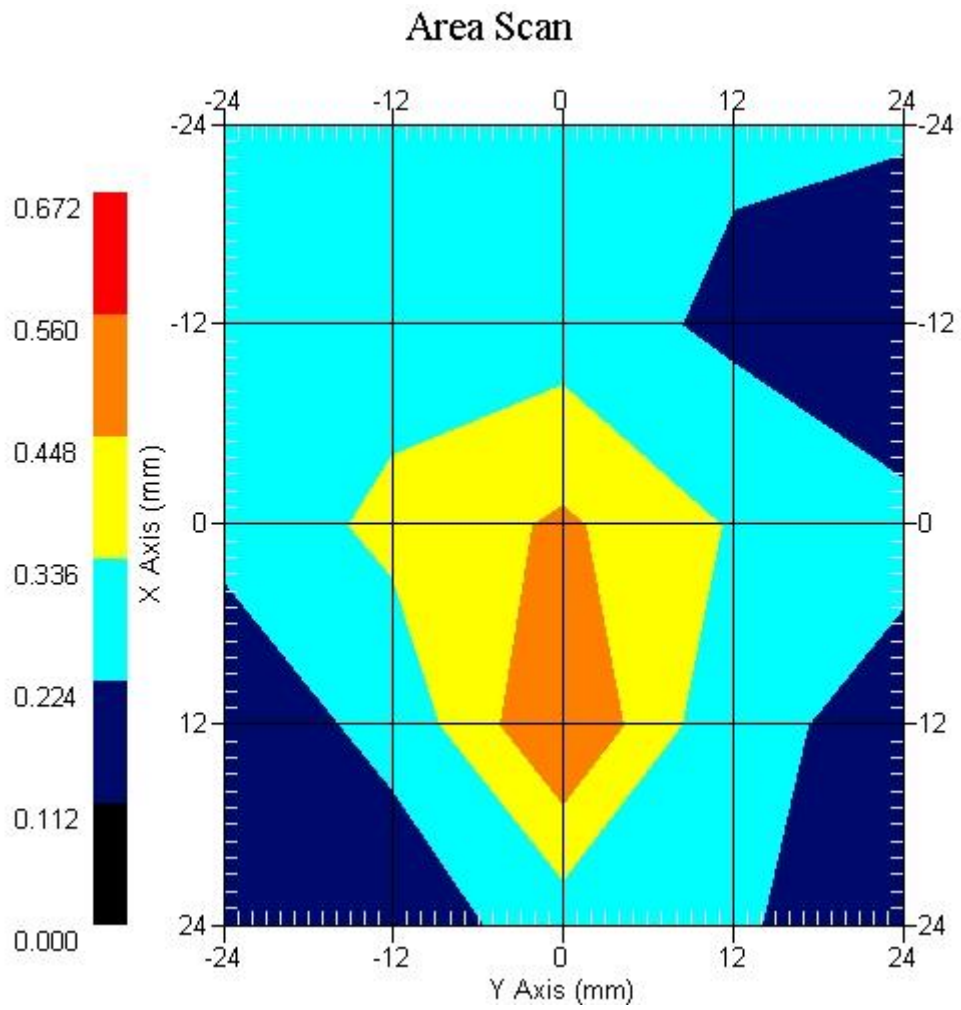
Measurement Data

Crest Factor : 1  
Tissue Temp. : 20.70 °C  
Ambient Temp. : 21.50 °C  
Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.496 W/kg  
Power Drift-Finish: 0.511 W/kg  
Power Drift (%) : -2.935

DUT Position : Touch  
Channel : 157



1 gram SAR value : 0.515 W/kg  
10 gram SAR value : 0.305 W/kg  
Area Scan Peak SAR : 0.672 W/kg  
Zoom Scan Peak SAR : 1.113 W/kg



ALSAS-10U VER 2.3.2 APREL Laboratories

SAR Test Report -802.11a(5.8GHz) Main Antenna, with Bluetooth (3M)

Report Date : 06-Dec-2007  
Measurement Date : 06-Dec-2007

## Product Data

Device Name : Tablet PC  
Type : Other  
Model : T8700  
Frequency : 5800.00 MHz  
Drift Time : 0 min(s)  
Length : 182 mm  
Width : 268 mm  
Depth : 42 mm  
Antenna Type : Internal

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 327-B  
Frequency : 5800.00 MHz  
Last Calib. Date : 06-Dec-2007  
Temperature : 21.10 °C  
Ambient Temp. : 22.60 °C  
Humidity : 52.00 RH%  
Epsilon : 48.11 F/m  
Sigma : 6.143 S/m  
Density : 1000.00 kg/cu. m

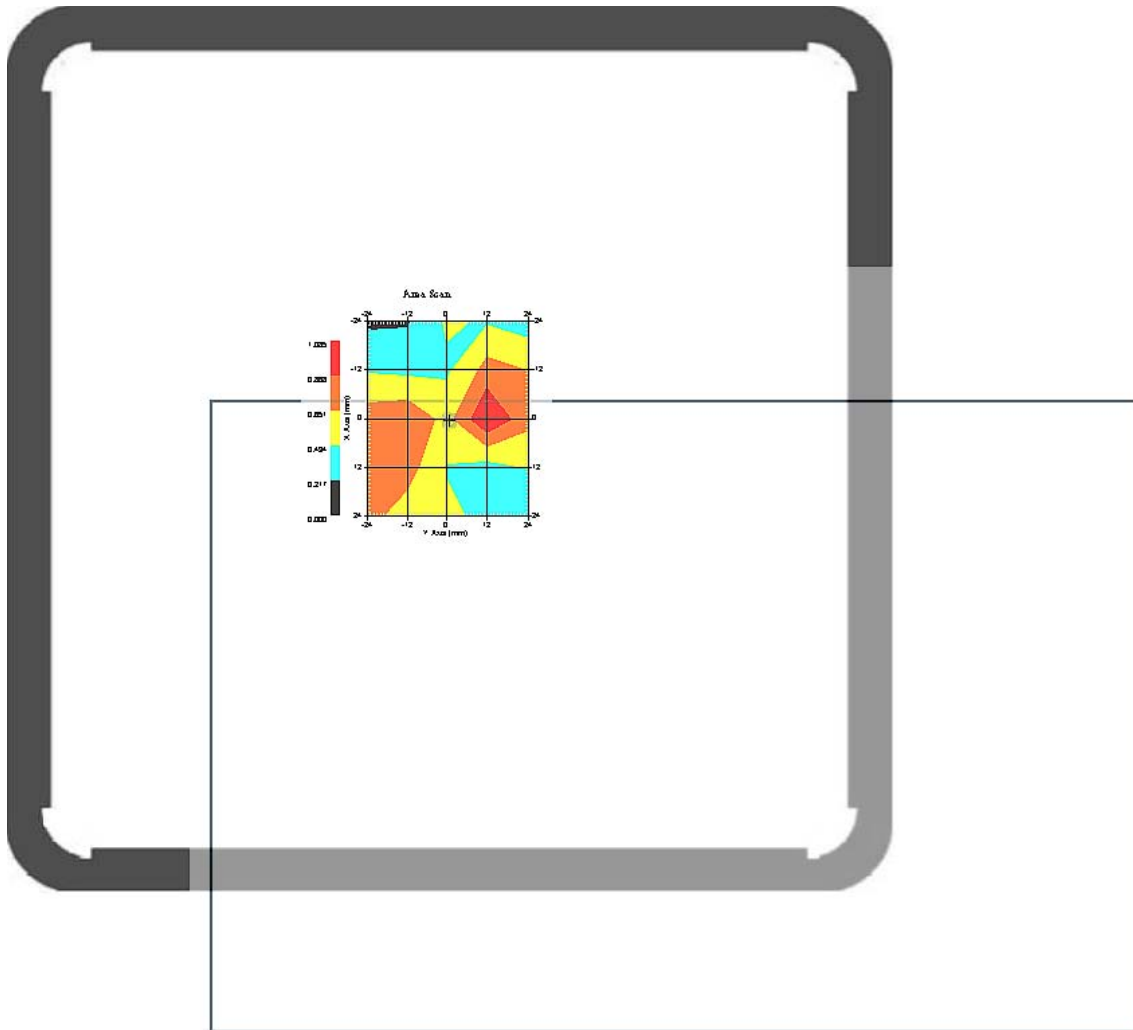
## Probe Data

Name : Probe 264  
Model : E020  
Type : E-Field Triangle  
Serial No. : 264  
Last Calib. Date : 23-Aug-2007  
Frequency : 5800.00 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 4.3  
Probe Sensitivity: 0.61 0.61 0.61  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95.00 mV  
Offset : 1.56 mm

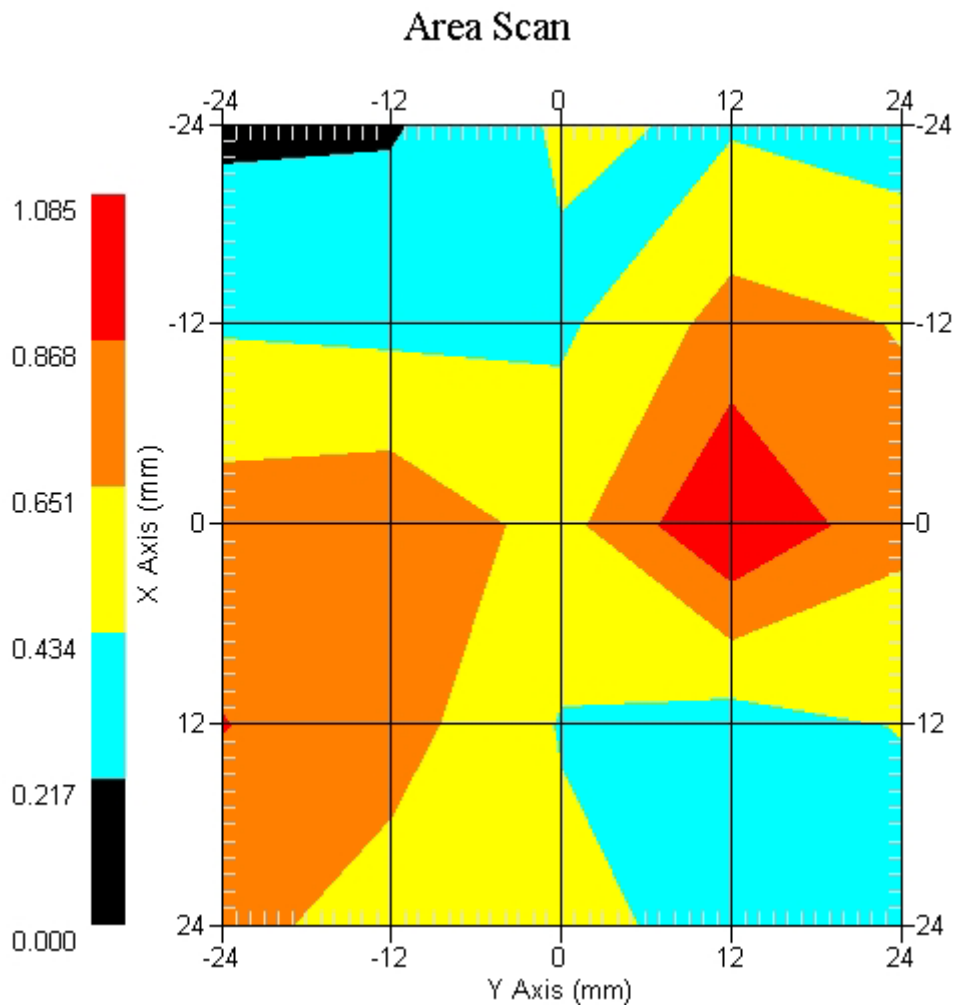
Measurement Data

Crest Factor : 1  
Tissue Temp. : 21.10 °C  
Ambient Temp. : 22.60 °C  
Area Scan : 5x5x1 : Measurement x=12mm, y=12mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 1.332 W/kg  
Power Drift-Finish: 1.361 W/kg  
Power Drift (%) : 2.130

DUT Position : Touch  
Channel : 165



1 gram SAR value : 0.720 W/kg  
10 gram SAR value : 0.617 W/kg  
Area Scan Peak SAR : 1.084 W/kg  
Zoom Scan Peak SAR : 1.581 W/kg



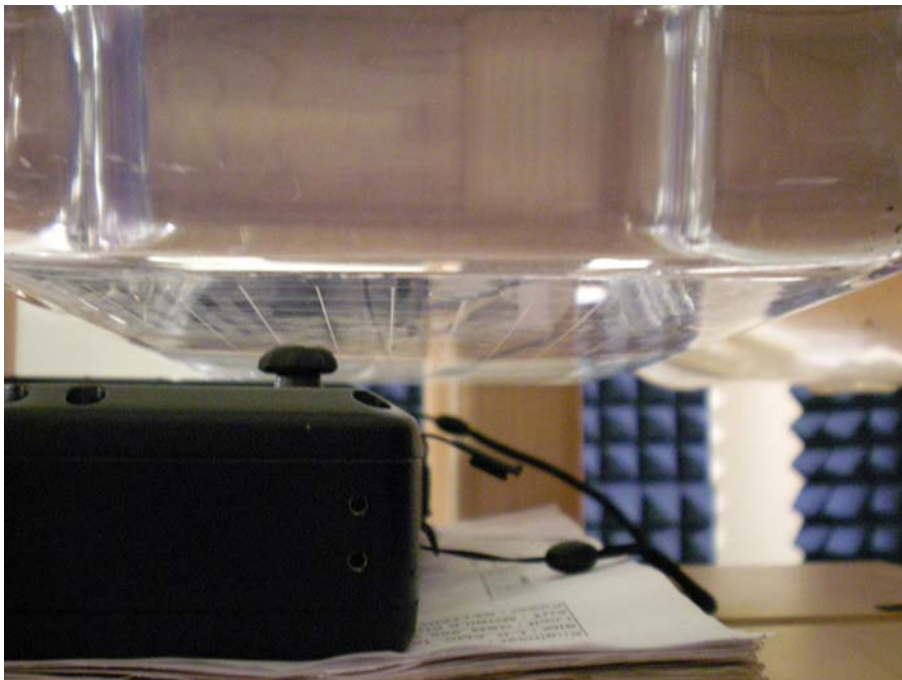
**Appendix C. Test Setup Photographs & EUT Photographs**

**Test Setup Photograph**

**EUT Back-Main Antenna**



**EUT Back-Aux Antenna**





**EUT Edge-Main Antenna**



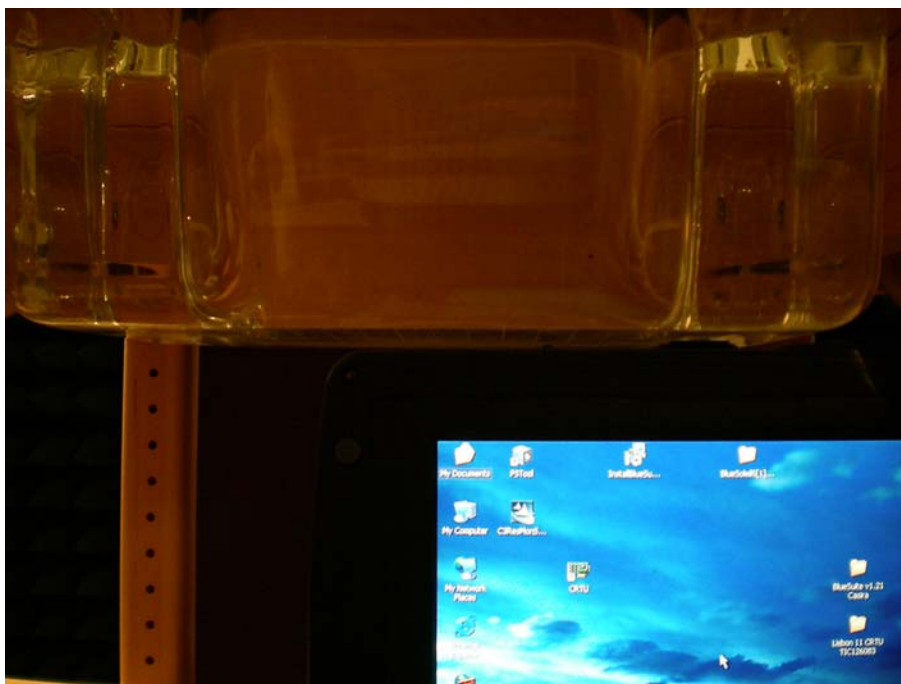
**EUT Edge-Aux Antenna**



**EUT Top-Main Antenna**



**EUT Top-Aux Antenna**



Note: The positions used in the measurements were according to IEEE 1528-2003.

Test EUT Photographs









## **Appendix - Probe Calibration**

**Miniature Isotropic RF Probe**

**M/N: ALS-E-020**

**S/N: 264**

**2450MHz Head Calibration**

**2450MHz Body Calibration**

**5200MHz Head Calibration**

**5200MHz Body Calibration**

**5800MHz Head Calibration**

**5800MHz Body Calibration**

# NCL CALIBRATION LABORATORIES

Calibration File No.: CP-825

Client: QUIETEK

## 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.: ALS-E-020

Serial No.: 264

HEAD Calibration

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

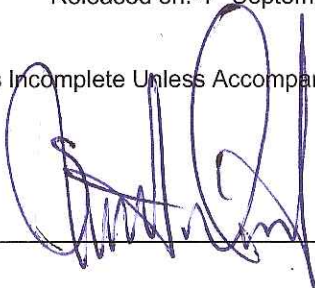
Project No: QTKB-E-Probe-5305

Calibrated: 22<sup>nd</sup> August 2007

Released on: 4<sup>th</sup> September 2007

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

Released By: \_\_\_\_\_



**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-020 264.

## 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

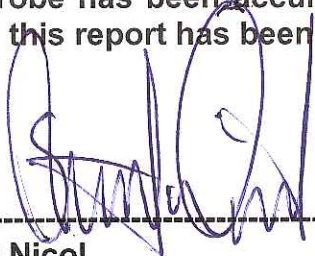
## Conditions

Probe 264 was a re-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**



-----  
**J. Hones**

## Calibration Results Summary

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	264
<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 Head Tissue**

**Frequency:** 2450 MHz

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

### **ConvF**

**Channel X:** 5.0

**Channel Y:** 5.0

**Channel Z:** 5.0

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

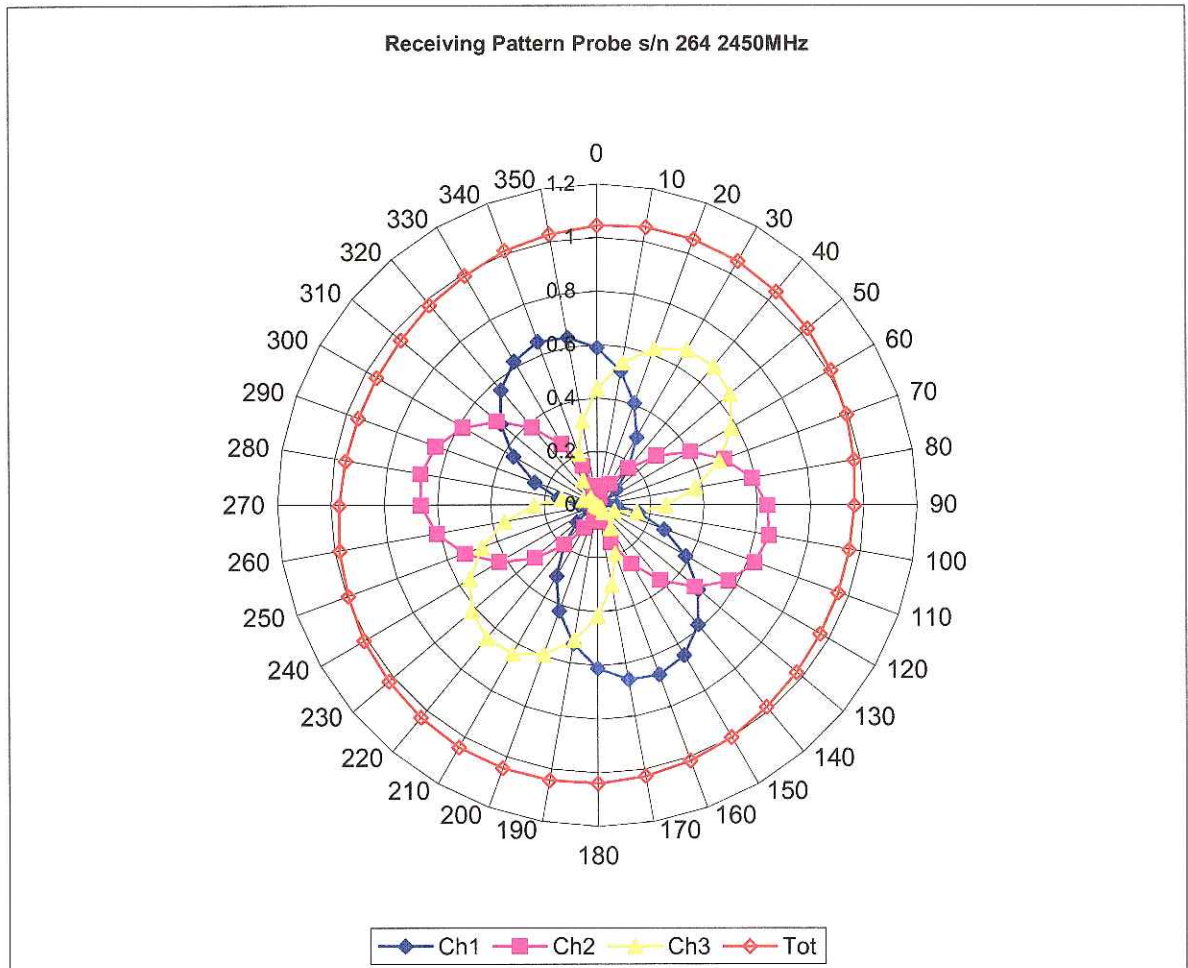
### **Boundary Effect:**

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.

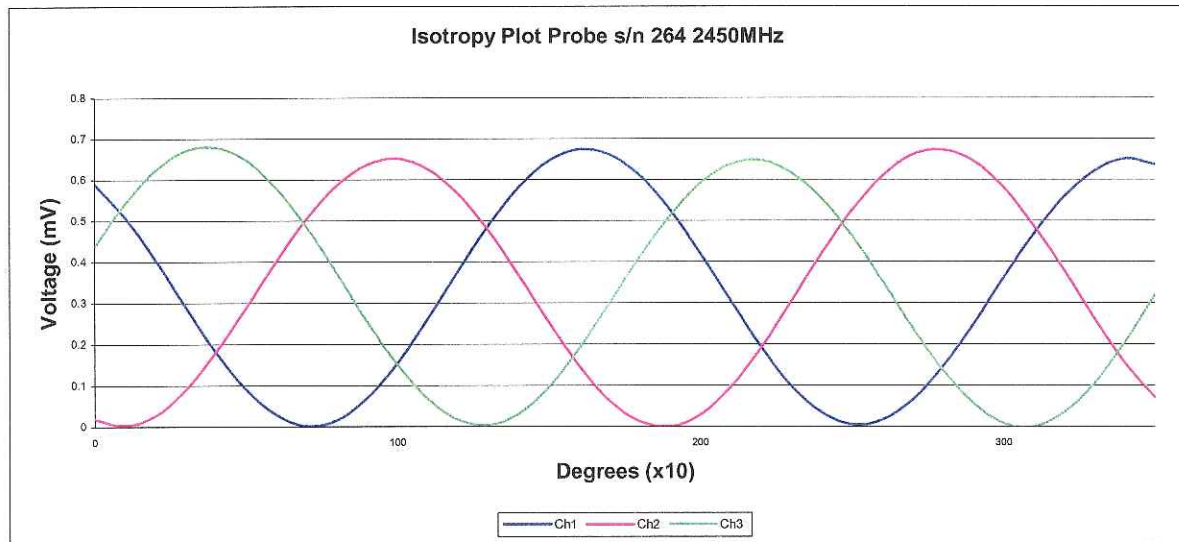
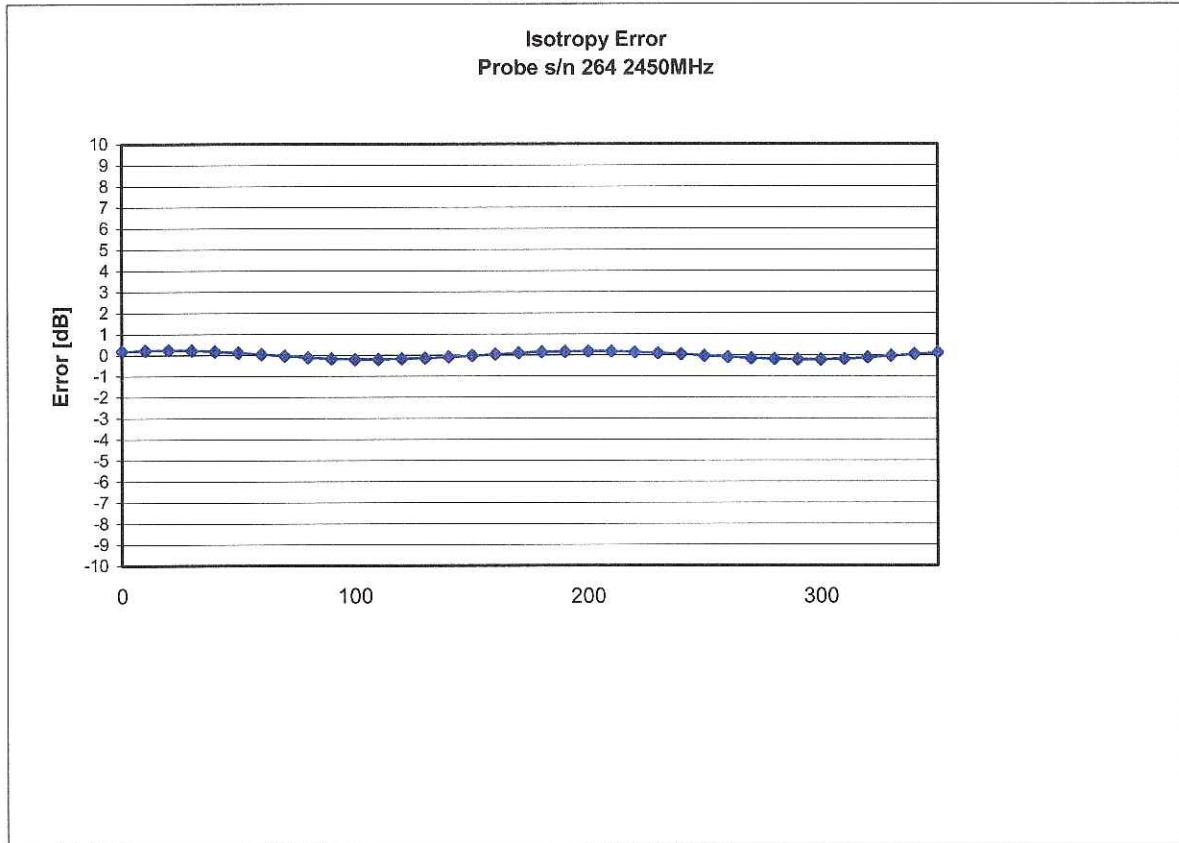
### **Spatial Resolution:**

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)



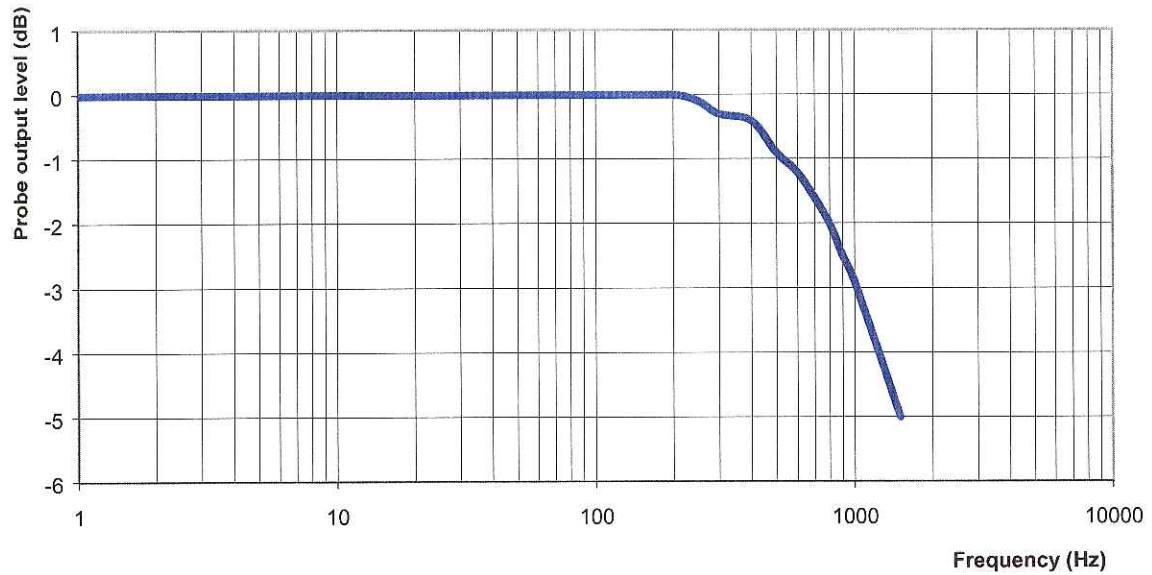
Isotropicity in Tissue:

0.10 dB



## Video Bandwidth

**Probe Frequency Characteristics**



**Video Bandwidth at 500 Hz**            1 dB  
**Video Bandwidth at 1000 Hz**        3 dB

## **Conversion Factor Uncertainty Assessment**

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

### **ConvF**

**Channel X:** 5.0      7%(K=2)  
**Channel Y:** 5.0      7%(K=2)  
**Channel Z:** 5.0      7%(K=2)

To minimize the uncertainty calculation all tissue sensitivity values were calculated using a load impedance of 5 M $\Omega$ .

### **Boundary Effect:**

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

## **NCL Calibration Laboratories**

---

Division of APREL Laboratories.

### **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 2007.

# NCL CALIBRATION LABORATORIES

Calibration File No.: CP-832

Client: QUIETEK

## 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.: ALS-E-020

Serial No.: 264

BODY Calibration

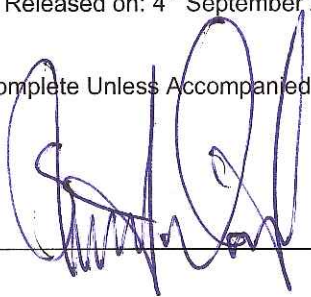
Calibration Procedure: SSI/DRB-TP-D01-032-E020-V2

Project No: QTKB-E-Probe-5305

Calibrated: 21<sup>st</sup> August 2007  
Released on: 4<sup>th</sup> September 2007

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

Released By: \_\_\_\_\_



**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-020 264.

## 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

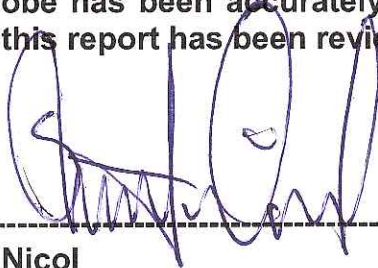
## Conditions

Probe 264 was a re-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**



-----  
**J. Hones**

## Calibration Results Summary

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	264
<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:** 52.7 (+/-5%)      **Sigma:** 1.95 S/m (+/-5%)

### **ConvF**

**Channel X:** 5.2

**Channel Y:** 5.2

**Channel Z:** 5.2

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

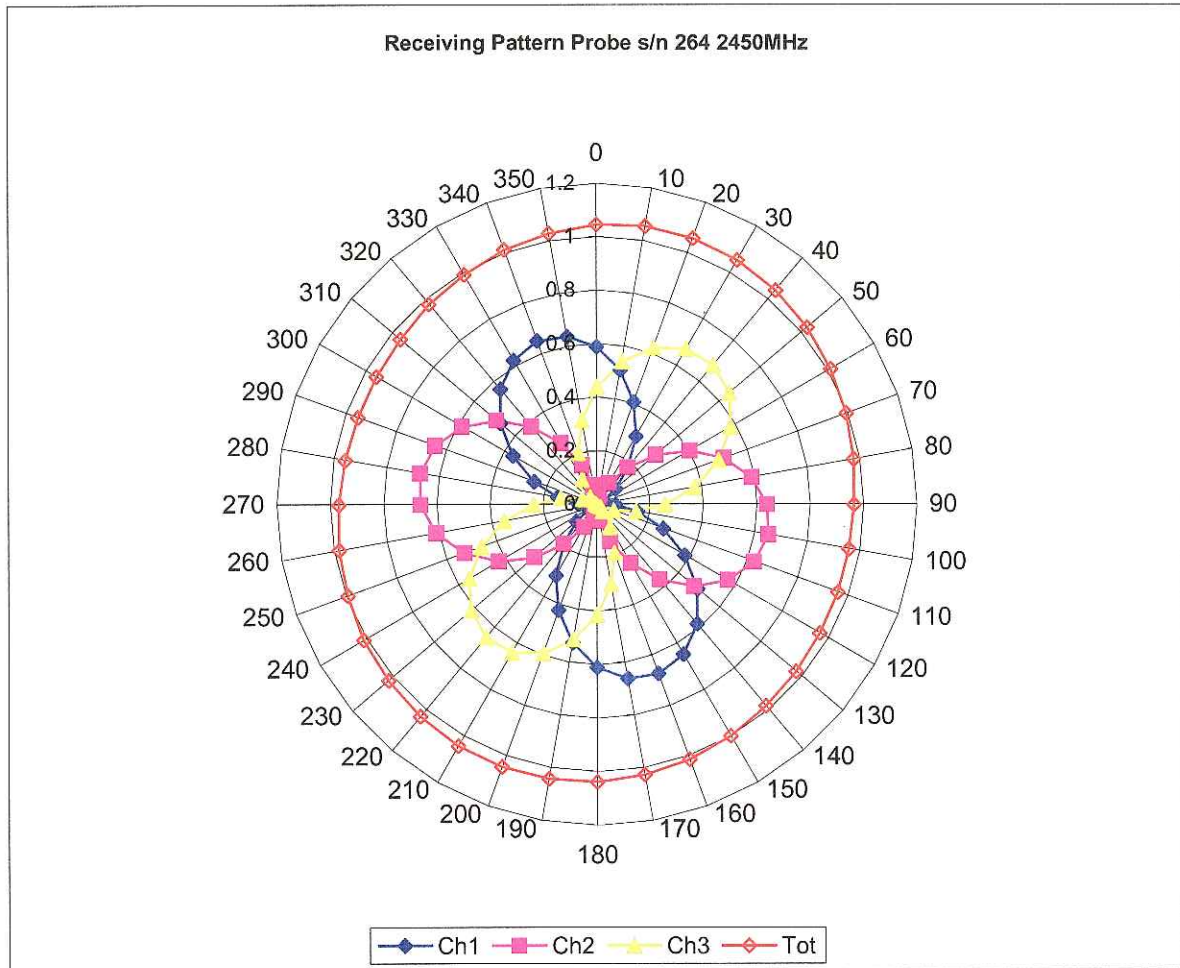
### **Boundary Effect:**

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.

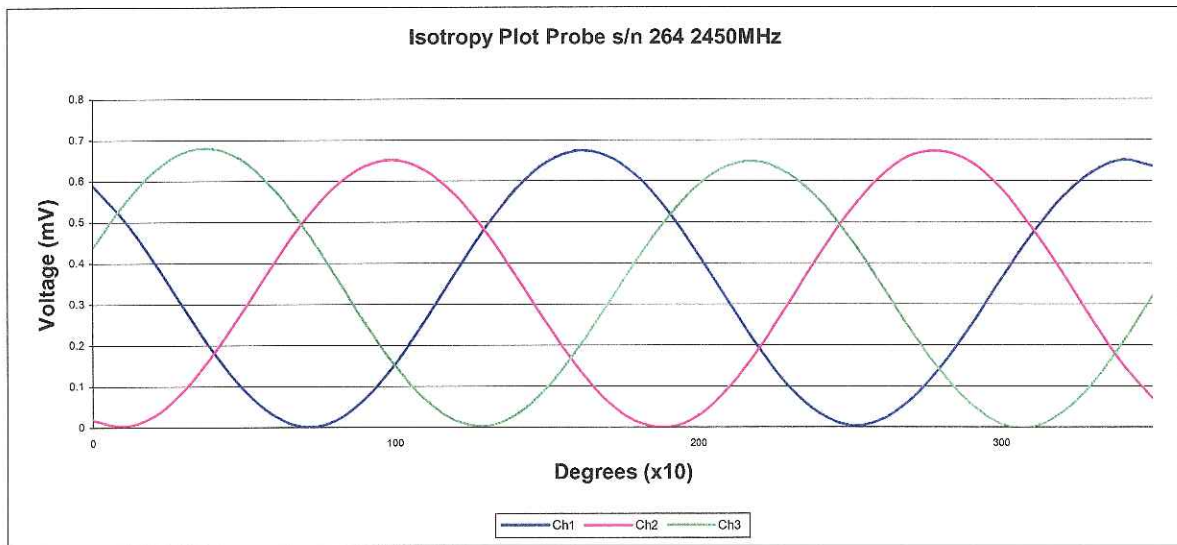
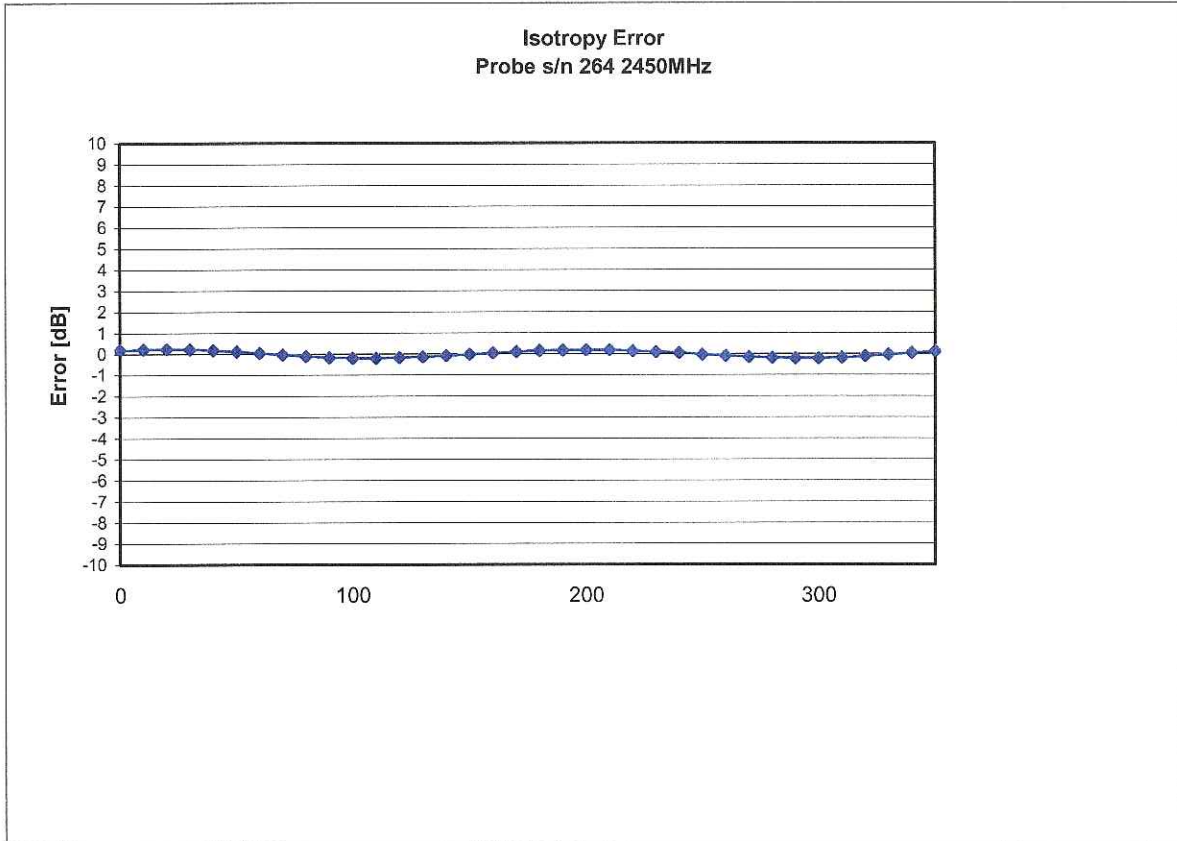
### **Spatial Resolution:**

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)



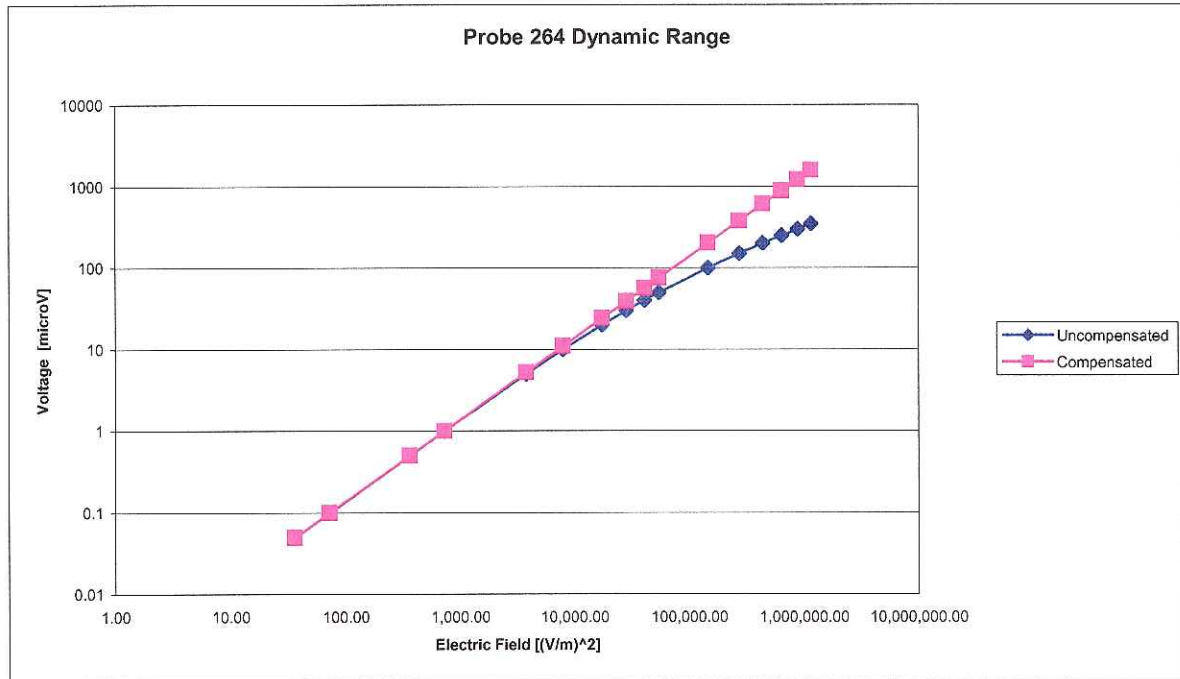
### Isotropy Error 2450 MHz (Air)



Isotropicity in Tissue:

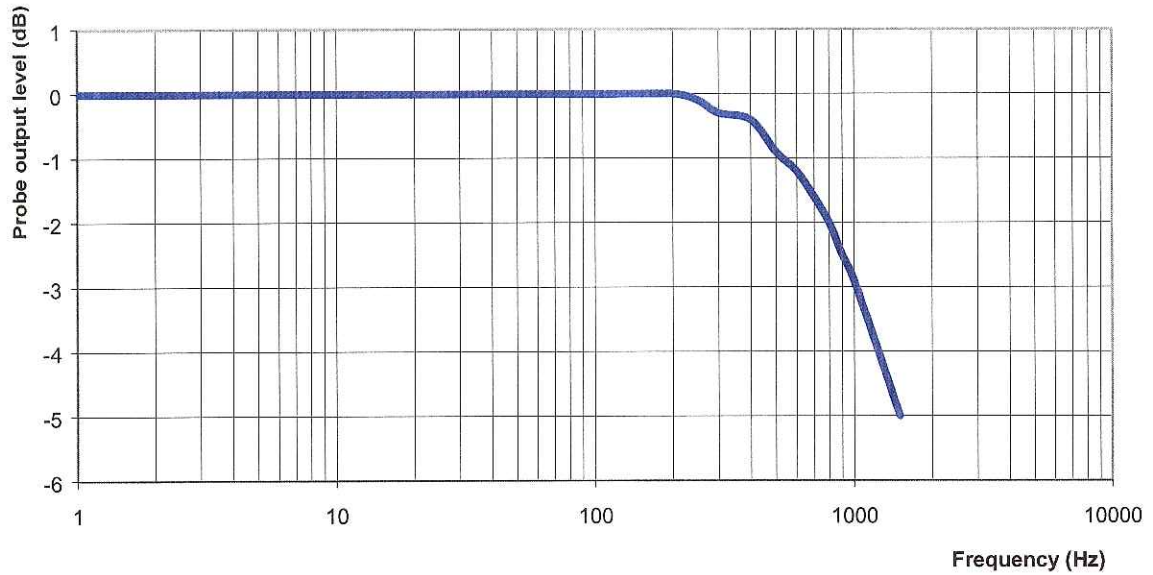
0.10 dB

## Dynamic Range



## Video Bandwidth

**Probe Frequency Characteristics**



**Video Bandwidth at 500 Hz**            1 dB  
**Video Bandwidth at 1000 Hz**        3 dB

## **Conversion Factor Uncertainty Assessment**

**Frequency:** 2450MHz  
**Epsilon:** 52.7 (+/-5%)      **Sigma:** 1.95 S/m (+/-5%)

### **ConvF**

**Channel X:** 5.2      7%(K=2)  
**Channel Y:** 5.2      7%(K=2)  
**Channel Z:** 5.2      7%(K=2)

To minimize the uncertainty calculation all tissue sensitivity values were calculated using a load impedance of 5 M $\Omega$ .

### **Boundary Effect:**

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



## **NCL Calibration Laboratories**

---

Division of APREL Laboratories.

### **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 2007.

# NCL CALIBRATION LABORATORIES

Calibration File No.: CP-826

Client: QUIETEK

## 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.: ALS-E-020

Serial No.: 264

HEAD Calibration

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

Project No: QTKB-EProbe-5305

Calibrated: 22<sup>nd</sup> August 2007  
Released on: 4<sup>th</sup> September 2007

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

Released By: \_\_\_\_\_

**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-020 264.

## 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

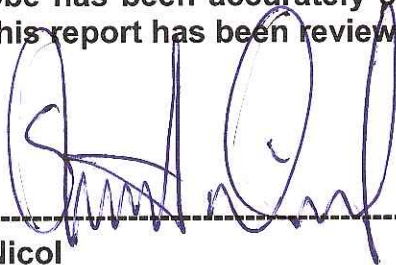
## Conditions

Probe 264 was a re-calibration.

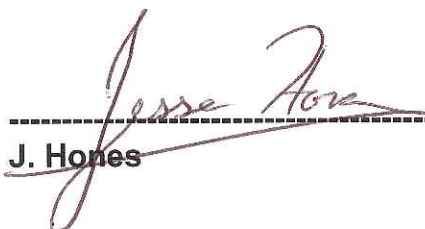
**Ambient Temperature of the Laboratory:** 22 °C +/- 0.5°C

**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.**



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**Stuart Nicol**



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**J. Hones**

## Calibration Results Summary

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	264
<b>Frequency:</b>	5200 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 Head Tissue**

**Frequency:** 5200 MHz

**Epsilon:** 35.9 (+/-10%)      **Sigma:** 4.7 S/m (+/-5%)

### **ConvF**

**Channel X:** 3.9

**Channel Y:** 3.9

**Channel Z:** 3.9

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)

