

## Appendix

### Tissue Calibration Result

<b>Head Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
1900 MHz	Reference result ± 5% window	40.0 38 to 42	1.4 1.33 to 1.47	N/A
	13-May-05	39.21	1.42	21.6
<b>Body Tissue Simulant Measurement</b>				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		$\epsilon_r$	$\sigma$ [s/m]	
1900 MHz	Reference result ± 5% window	53.3 50.635 to 55.965	1.52 1.444 to 1.596	N/A
	13-May-05	52.50	1.54	21.6

### Validation Result

<b>System Performance Check at 1900MHz</b>				
<b>Validation Kit: ASL-D-1900-S-2</b>				
Frequency [MHz]	Description	SAR [w/kg]	SAR [w/kg]	Tissue Temp. [°C]
		1g	10g	
1900 MHz	Reference result ± 5% window	39.7 37.715 to 41.685	20.5 19.475 to 21.525	N/A
	13-May-05	39.74	20.44	21.6
Note: All SAR values are 1W forward power.				

**SAR Test Results Summary**

<b>SAR MEASUREMENT</b>						
Ambient Temperature (°C) : 22.3				Relative Humidity (%) : 56		
Liquid Temperature (°C) : 21.6				Depth of Liquid (cm):>15		
Product: GSM900/DCS1800/PCS1900 GSM/GPRS Mobile Phone						
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	<b>SAR 1g</b> (W/kg)	Limit (W/kg)
		Channel	MHz			
Test Mode: PCS1900(GSM) EUT Back						
Body-wore	Internal	512	1850.2	29.3	<b>1.170</b>	1.6
Body-wore	Internal	661	1880.0	29.6	0.939	1.6
Body-wore	Internal	810	1909.8	29.4	0.653	1.6
Test Mode: PCS1900(GPRS) EUT Back						
Body-wore	Internal	512	1850.2	29.4	1.125	1.6
Body-wore	Internal	661	1880.0	29.6	0.813	1.6
Body-wore	Internal	810	1909.8	29.3	0.661	1.6

**SAR System Validation Data**

ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Dipole-1900  
Serial No. : Validation  
Type : Dipole  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 68 mm  
Width : 3.6 mm  
Depth : 39.5 mm  
Power Drift-Start : 29.406  
Power Drift-Finish: 28.855  
Power Drift (%) : -1.876

## Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size : 280mm x 280mm x 200mm  
Location : Center

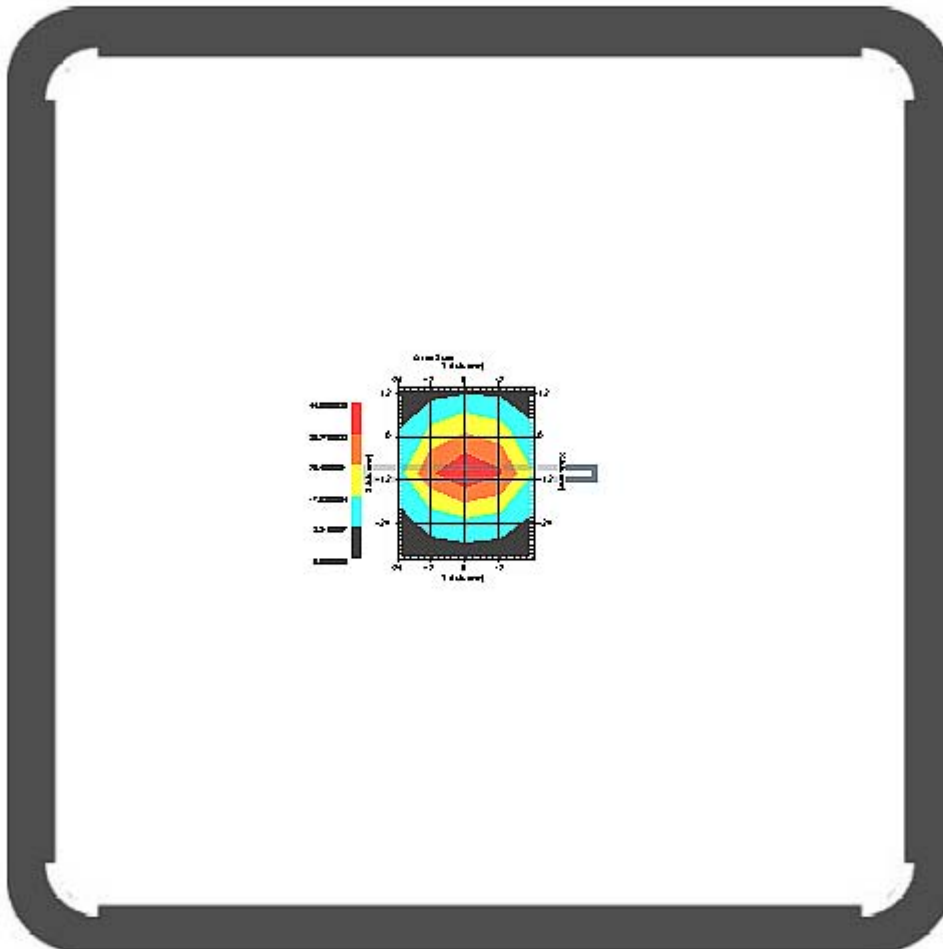
## Tissue Data

Type : HEAD  
Serial No. : 324-H  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 39.21 F/m  
Sigma : 1.42 S/m  
Density : 1000 kg/cu. m

## Probe Data

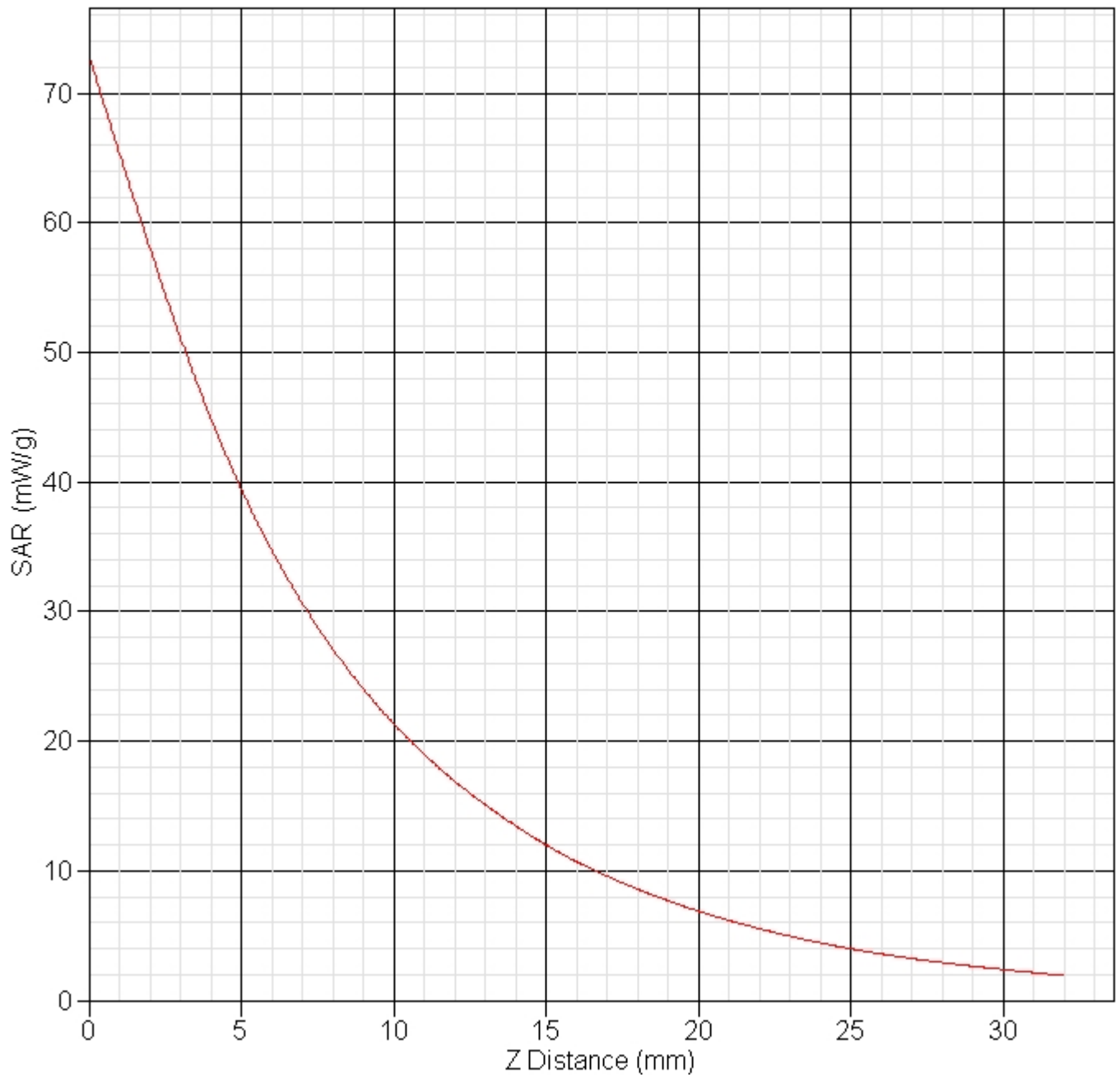
Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 1  
Conversion Factor: 4.9  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

Measurement Data  
Frequency : 1900



1 gram SAR value : 39.747 W/kg  
10 gram SAR value : 20.441 W/kg  
Area Scan Peak SAR : 44.093  
Zoom Scan Peak SAR : 72.964

SAR-Z Axis  
at Hotspot x:10.0 y:-2.0



**SAR Measurement Data**

ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Benq\_Z2  
Type : Std Form Cell Phone  
Model : Z2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 65.8 mm  
Width : 65.8 mm  
Depth : 21.2 mm  
Antenna Type : Internal  
Power Drift-Start : 0.473  
Power Drift-Finish: 0.488  
Power Drift (%) : 3.222

## Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size : 280mm x 280mm x 200mm  
Location : Center

## Tissue Data

Type : BODY  
Serial No. : 324-B  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 52.5 F/m  
Sigma : 1.54 S/m  
Density : 1000 kg/cu. m

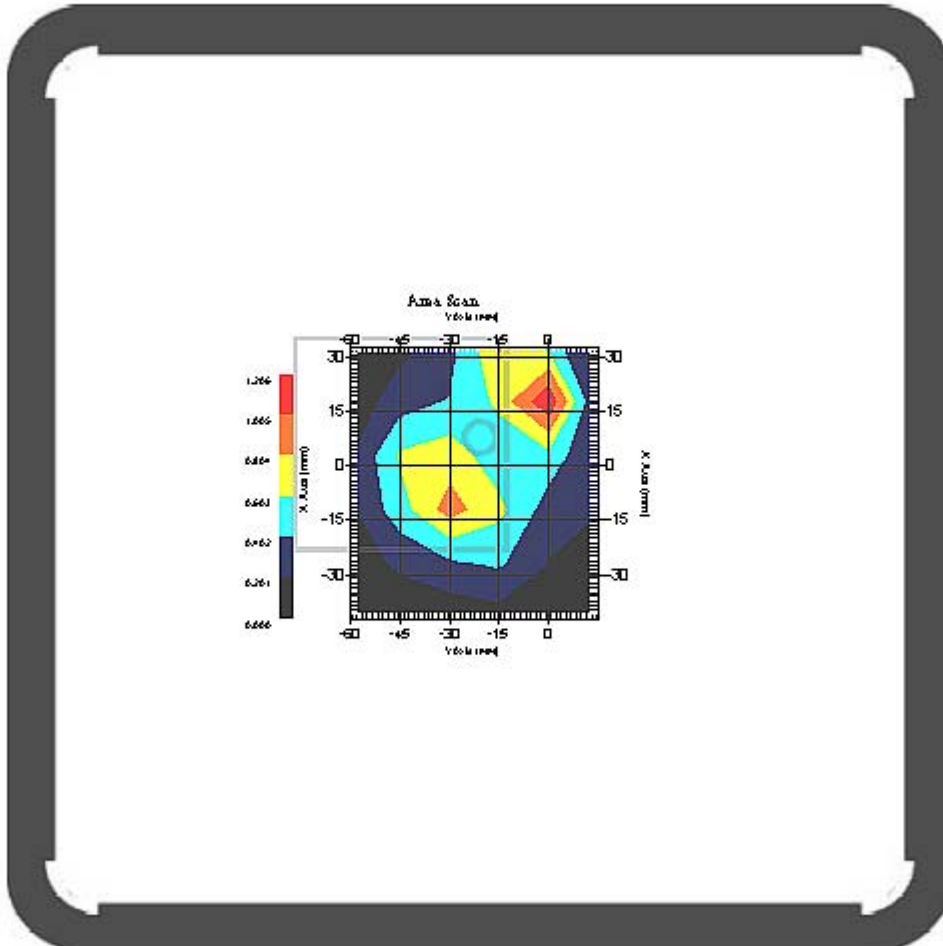
## Probe Data

Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 8  
Conversion Factor: 5.1  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

Measurement Data

DUT Position : Touch(GSM)

Channel : 512



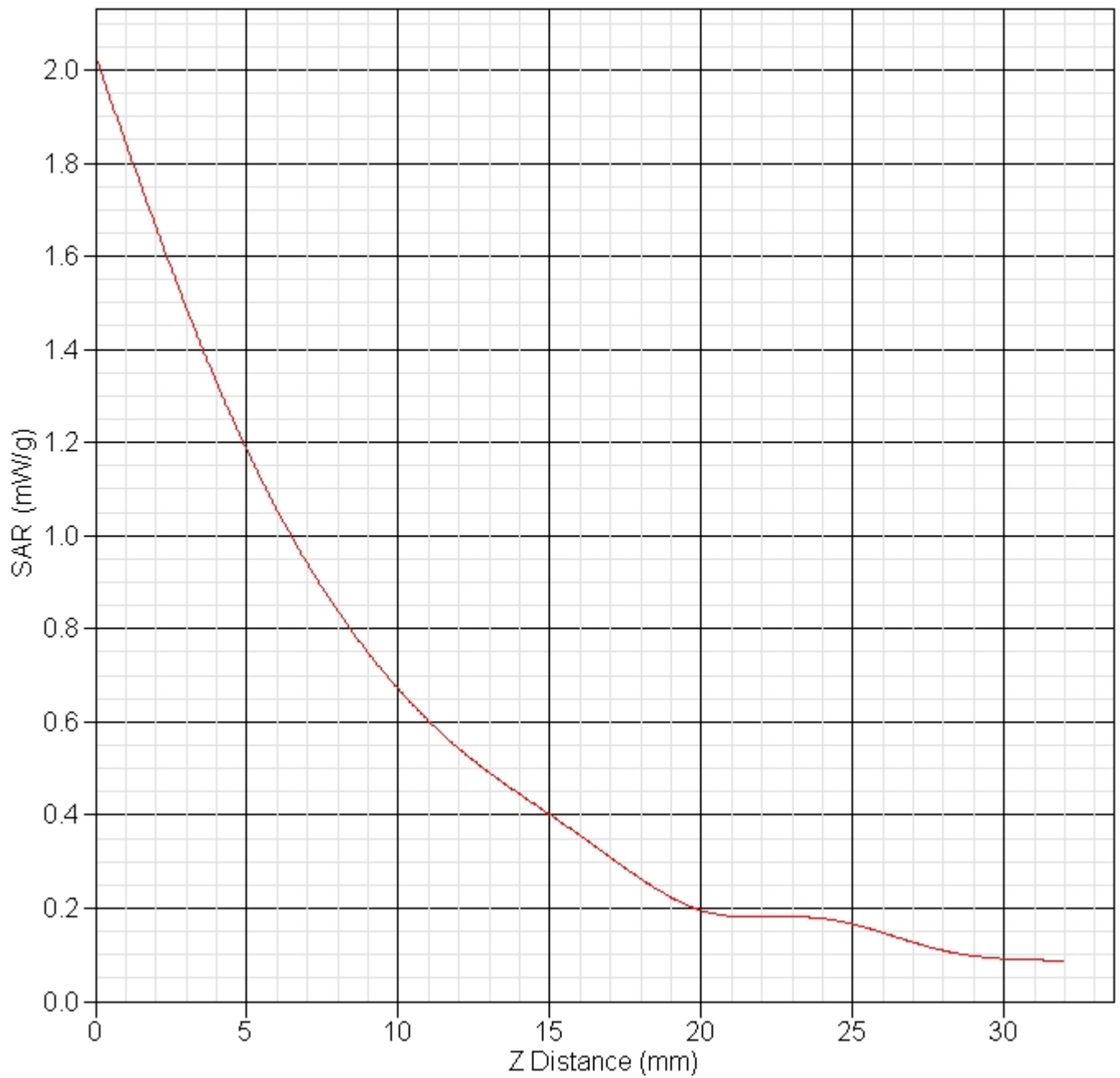
1 gram SAR value : 1.170 W/kg

10 gram SAR value : 0.636 W/kg

Area Scan Peak SAR : 1.201

Zoom Scan Peak SAR : 2.031

SAR-Z Axis  
at Hotspot x:-26.0 y:-8.0





ALSAS-10U VER 2.0.0APREL Laboratories

Product Data

Device Name : Benq\_Z2  
 Type : Std Form Cell Phone  
 Model : Z2  
 Frequency : 1900.00 MHz  
 Max. Transmit Pwr : 1 W  
 Drift Time : 0 min(s)  
 Length : 65.8 mm  
 Width : 65.8 mm  
 Depth : 21.2 mm  
 Antenna Type : Internal  
 Power Drift-Start : 0.393  
 Power Drift-Finish: 0.408  
 Power Drift (%) : 3.817

Phantom Data

Name : APREL-Uni  
 Type : Uni-Phantom  
 Size : 280mm x 280mm x 200mm  
 Location : Center

Tissue Data

Type : BODY  
 Serial No. : 324-B  
 Frequency : 1900 MHz  
 Calibration Date : 13-May-2005  
 Temperature : 21.6 °C  
 Ambient Temp. : 22.3 °C  
 Humidity : 56 RH%  
 Epsilon : 52.5 F/m  
 Sigma : 1.54 S/m  
 Density : 1000 kg/cu. m

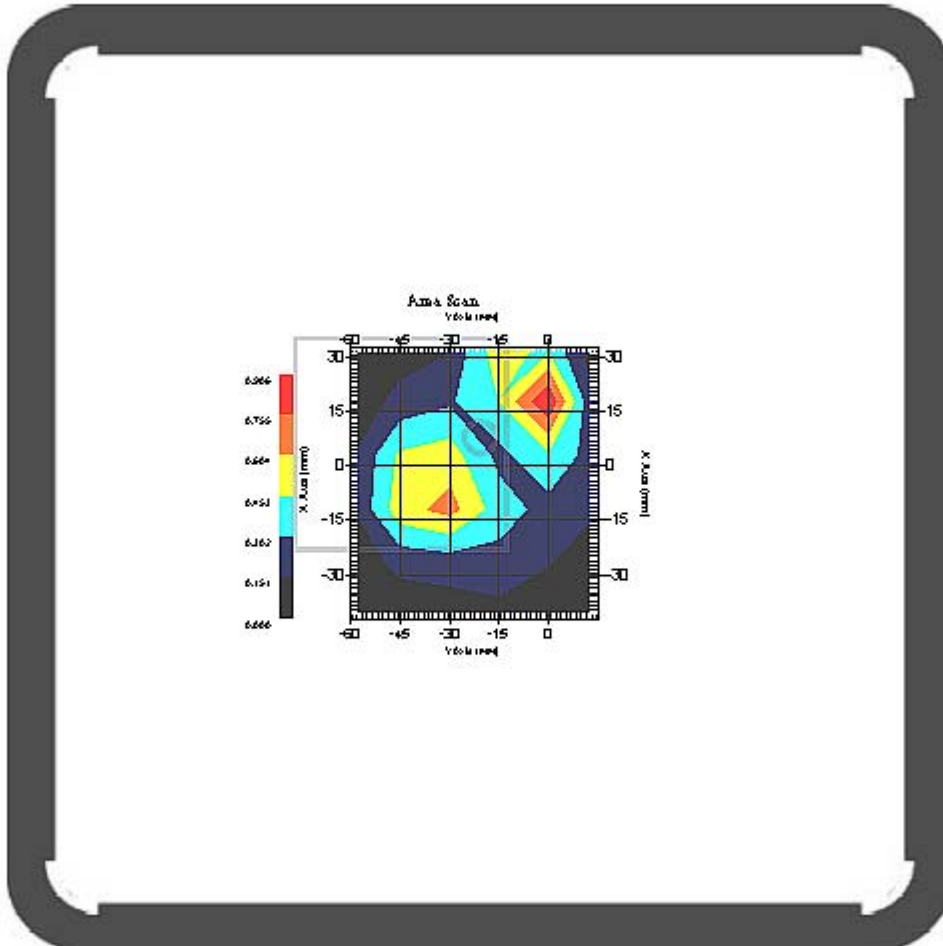
Probe Data

Model : E020  
 Type : E-Field Triangle  
 Serial No. : 265  
 Calibration Date : 23-Mar-2005  
 Frequency : 1900 MHz  
 Duty Cycle Factor: 8  
 Conversion Factor: 5.1  
 Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point: 95 mV  
 Offset : 1.56

Measurement Data

DUT Position : Touch(GSM)

Channel : 661



1 gram SAR value : 0.939 W/kg

10 gram SAR value : 0.509 W/kg

Area Scan Peak SAR : 0.900

Zoom Scan Peak SAR : 1.721

## ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Benq\_Z2  
Type : Std Form Cell Phone  
Model : Z2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 65.8 mm  
Width : 65.8 mm  
Depth : 21.2 mm  
Antenna Type : Internal  
Power Drift-Start : 0.304  
Power Drift-Finish: 0.308  
Power Drift (%) : 0.329

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 324-B  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 52.5 F/m  
Sigma : 1.54 S/m  
Density : 1000 kg/cu. m

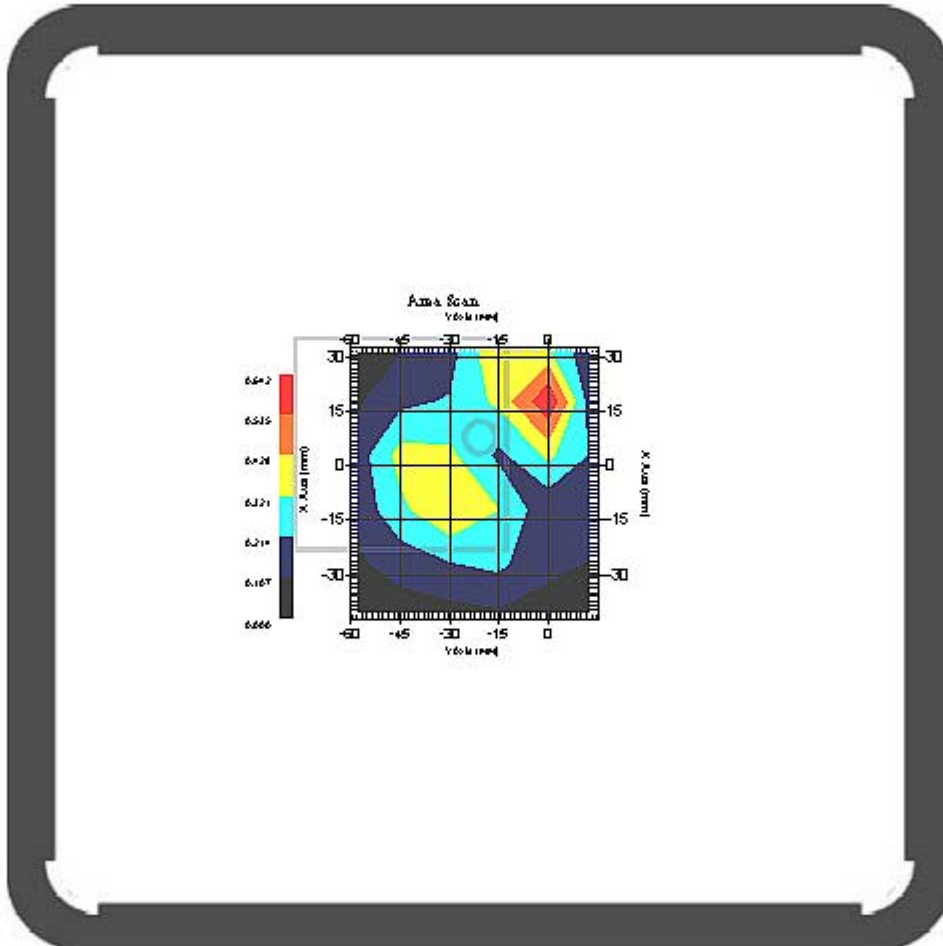
## Probe Data

Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 8  
Conversion Factor: 5.1  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

Measurement Data

DUT Position : Touch(GSM)

Channel : 810



1 gram SAR value : 0.653 W/kg

10 gram SAR value : 0.387 W/kg

Area Scan Peak SAR : 0.634

Zoom Scan Peak SAR : 0.980

## ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Benq\_Z2  
Type : Std Form Cell Phone  
Model : Z2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 65.8 mm  
Width : 65.8 mm  
Depth : 21.2 mm  
Antenna Type : Internal  
Power Drift-Start : 0.416  
Power Drift-Finish: 0.427  
Power Drift (%) : 2.644

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 324-B  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 52.5 F/m  
Sigma : 1.54 S/m  
Density : 1000 kg/cu. m

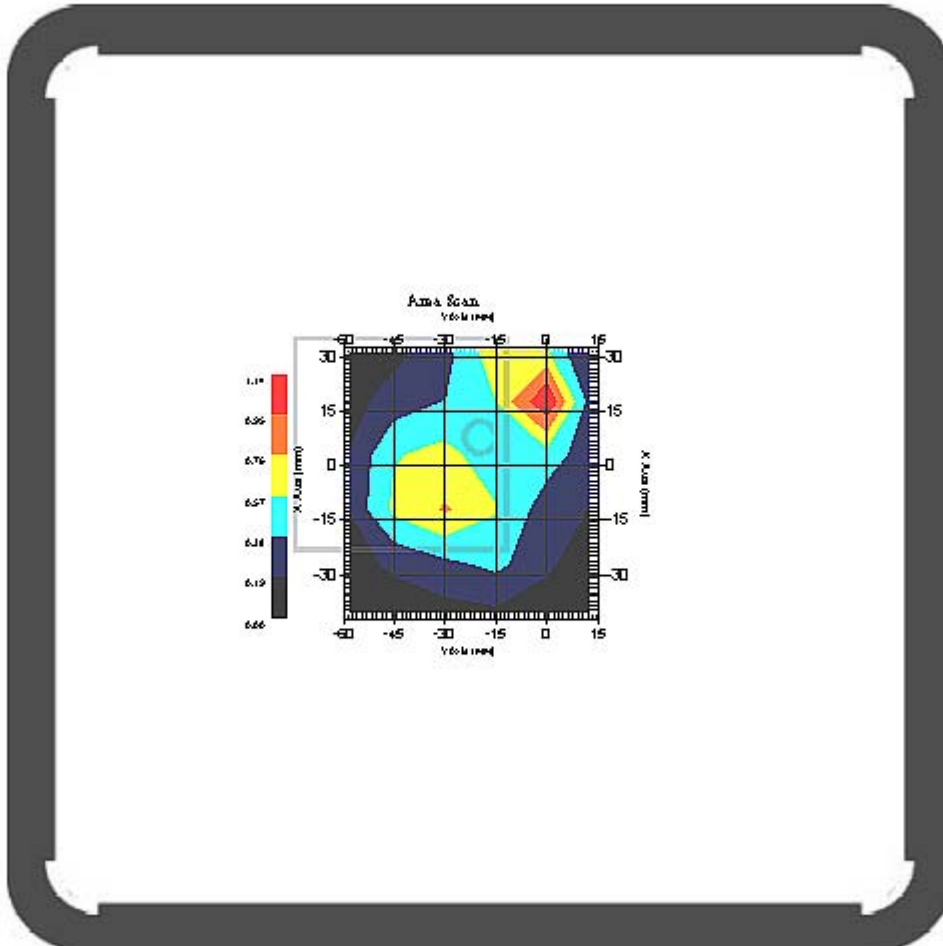
## Probe Data

Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 4  
Conversion Factor: 5.1  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

Measurement Data

DUT Position : Touch(GPRS)

Channel : 512



1 gram SAR value : 1.125 W/kg

10 gram SAR value : 0.614 W/kg

Area Scan Peak SAR : 1.137

Zoom Scan Peak SAR : 2.021

## ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Benq\_Z2  
Type : Std Form Cell Phone  
Model : Z2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 65.8 mm  
Width : 65.8 mm  
Depth : 21.2 mm  
Antenna Type : Internal  
Power Drift-Start : 0.345  
Power Drift-Finish: 0.351  
Power Drift (%) : 1.739

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 324-B  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 52.5 F/m  
Sigma : 1.54 S/m  
Density : 1000 kg/cu. m

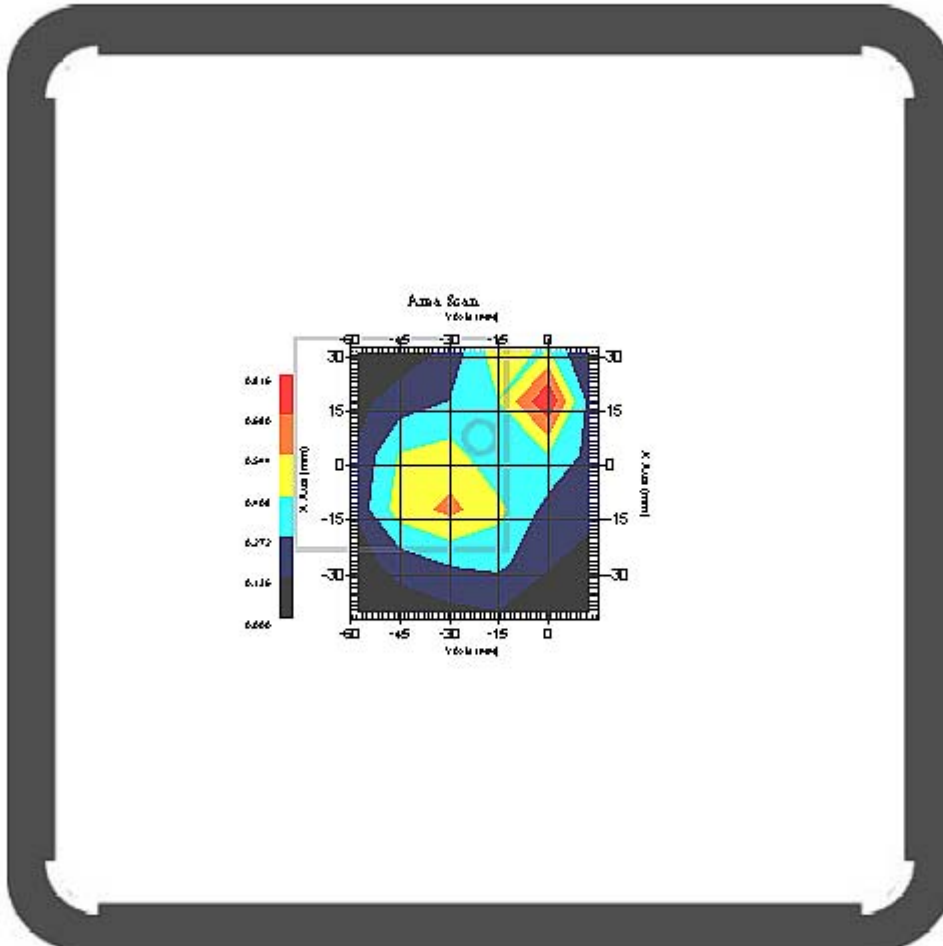
## Probe Data

Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 4  
Conversion Factor: 5.1  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

## Measurement Data

DUT Position : Touch(GPRS)

Channel : 661



1 gram SAR value : 0.813 W/kg

10 gram SAR value : 0.461 W/kg

Area Scan Peak SAR : 0.809

Zoom Scan Peak SAR : 1.441



## ALSAS-10U VER 2.0.0APREL Laboratories

## Product Data

Device Name : Benq\_Z2  
Type : Std Form Cell Phone  
Model : Z2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 0 min(s)  
Length : 65.8 mm  
Width : 65.8 mm  
Depth : 21.2 mm  
Antenna Type : Internal  
Power Drift-Start : 0.291  
Power Drift-Finish: 0.303  
Power Drift (%) : 4.123

## Phantom Data

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

## Tissue Data

Type : BODY  
Serial No. : 324-B  
Frequency : 1900 MHz  
Calibration Date : 13-May-2005  
Temperature : 21.6 °C  
Ambient Temp. : 22.3 °C  
Humidity : 56 RH%  
Epsilon : 52.5 F/m  
Sigma : 1.54 S/m  
Density : 1000 kg/cu. m

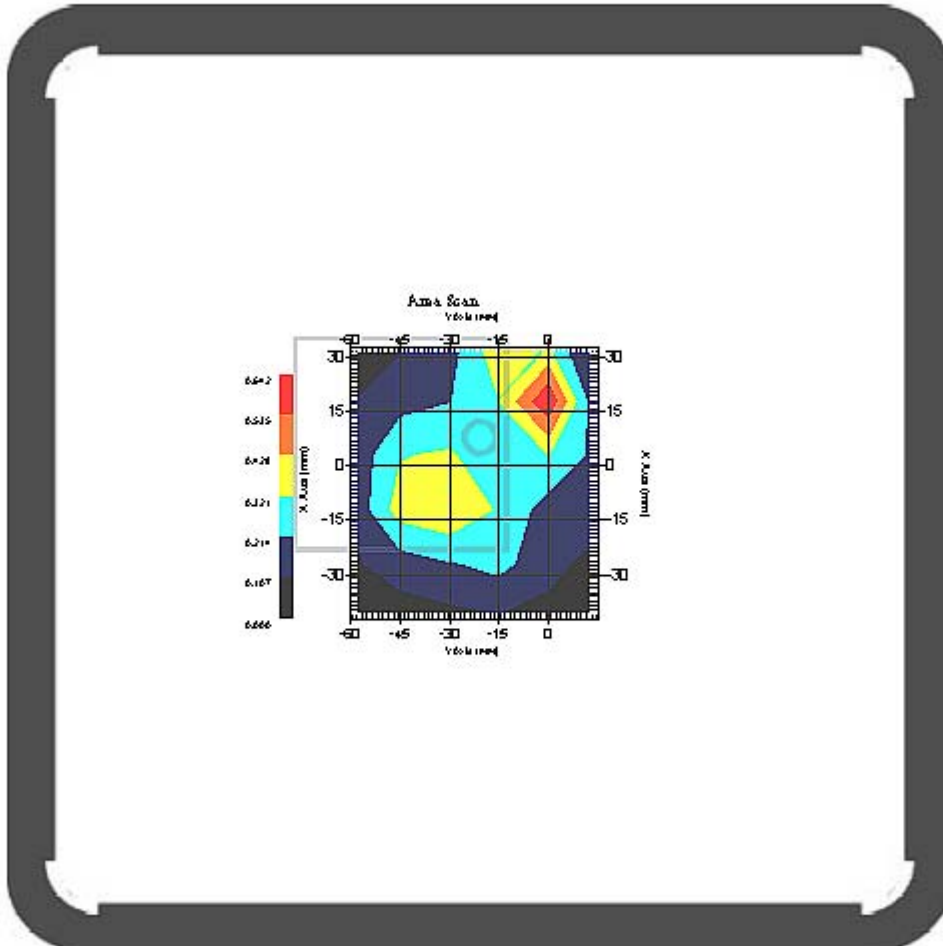
## Probe Data

Model : E020  
Type : E-Field Triangle  
Serial No. : 265  
Calibration Date : 23-Mar-2005  
Frequency : 1900 MHz  
Duty Cycle Factor: 4  
Conversion Factor: 5.1  
Probe Sensitivity: 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point: 95 mV  
Offset : 1.56

Measurement Data

DUT Position : Touch(GPRS)

Channel : 810



1 gram SAR value : 0.661 W/kg

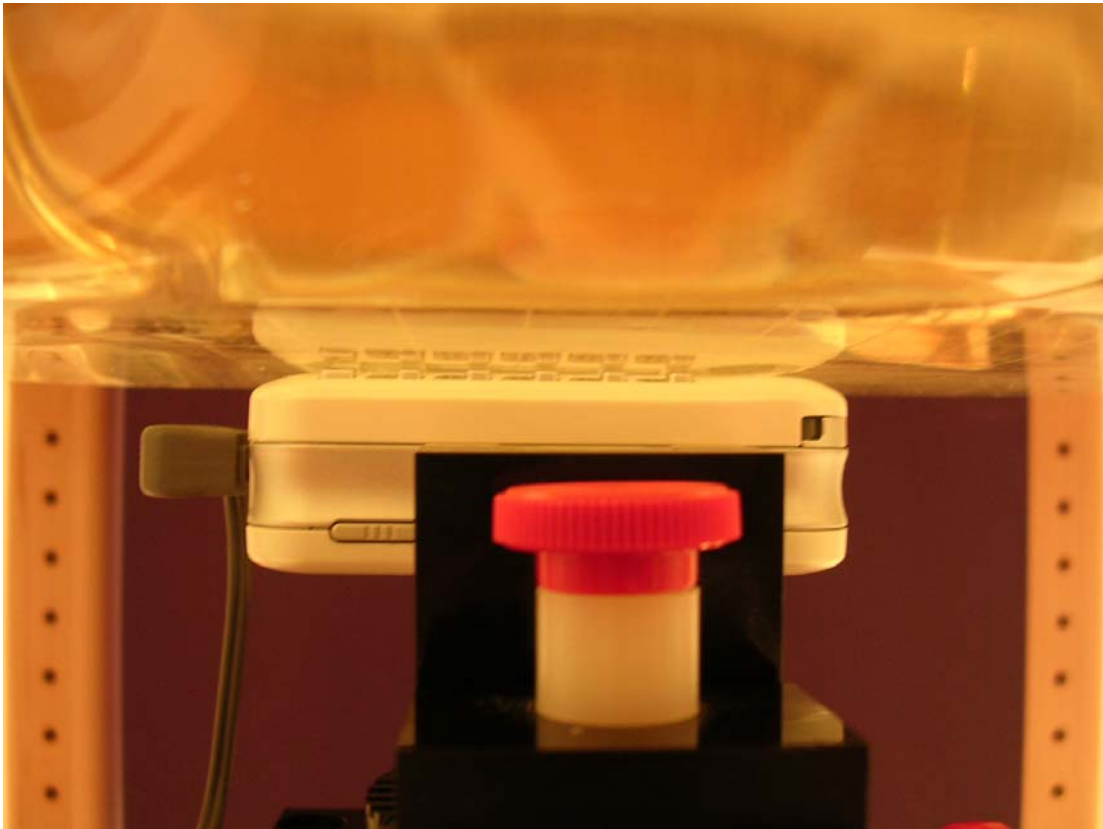
10 gram SAR value : 0.394 W/kg

Area Scan Peak SAR : 0.634

Zoom Scan Peak SAR : 1.060

**Test Setup Photographs**

**Body worn bottom (EUT Back Touch)**



Probe Calibration

NCL CALIBRATION LABORATORIES

Calibration File No.: CP-555

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 1900 MHz

Manufacturer: APREL Laboratories

Model No.: ALS-E-020

Serial No.: 265

HEAD Calibration

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

Project No: QTKB-ALS-E-020 Probe Cal-S091

Calibrated: 23<sup>rd</sup> March 2005

Released on: 23<sup>rd</sup> March 2005

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: (513) 820-4988  
FAX: (513) 820-4161

**NCL Calibration Laboratories**  
Division of APREL Laboratories.

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**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-020 265.

**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 265 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.

  
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Ron Dulmage

  
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Y. Chen

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**Calibration Results Summary**

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	265
<b>Frequency:</b>	1900 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

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**Sensitivity in Head Tissue**

<b>Frequency:</b>	1900 MHz
<b>Epsilon:</b> 40.0 (+/-5%)	<b>Sigma:</b> 1.40 S/m (+/-5%)

**ConvF**

**Channel X:** 4.9

**Channel Y:** 4.9

**Channel Z:** 4.9

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.

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**Sensitivity in Head Tissue**

<b>Frequency:</b>	1900 MHz
<b>Epsilon:</b> 40.0 (+/-5%)	<b>Sigma:</b> 1.40 S/m (+/-5%)

**ConvF**

**Channel X:** 4.9

**Channel Y:** 4.9

**Channel Z:** 4.9

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.

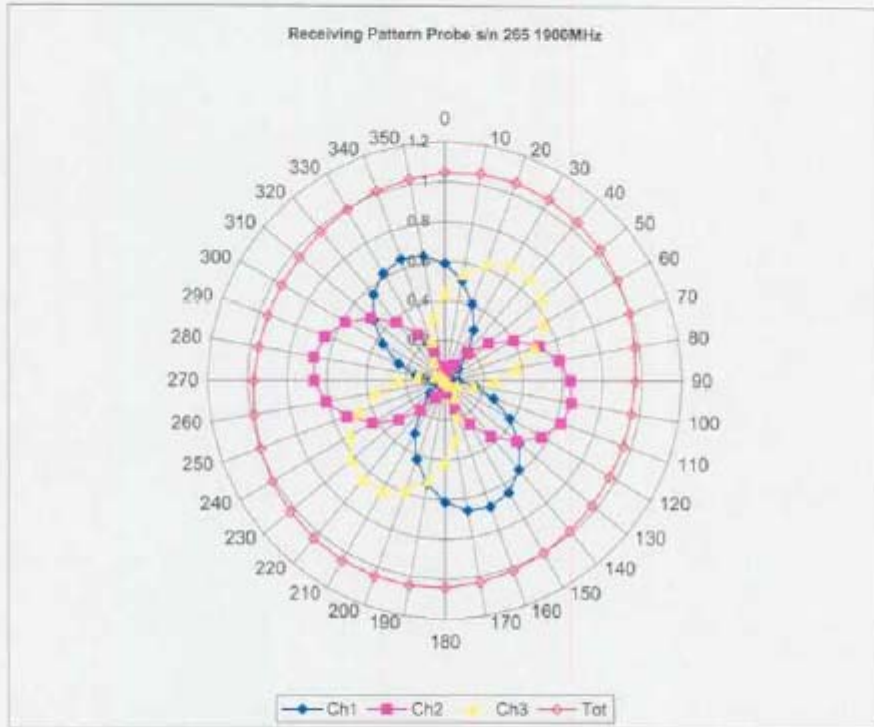
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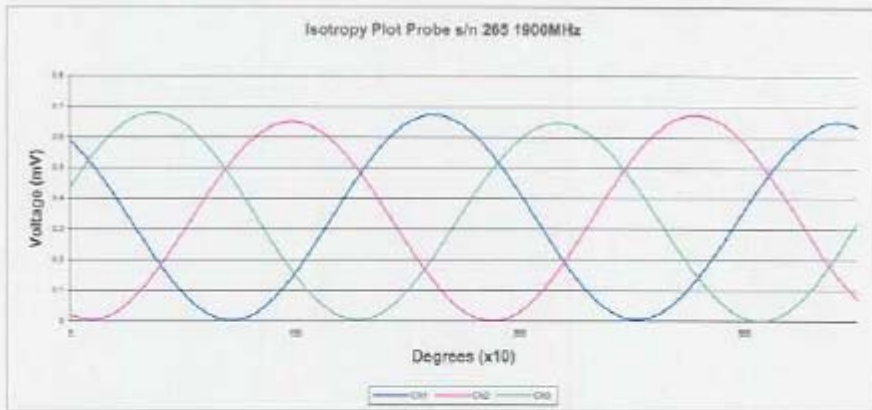
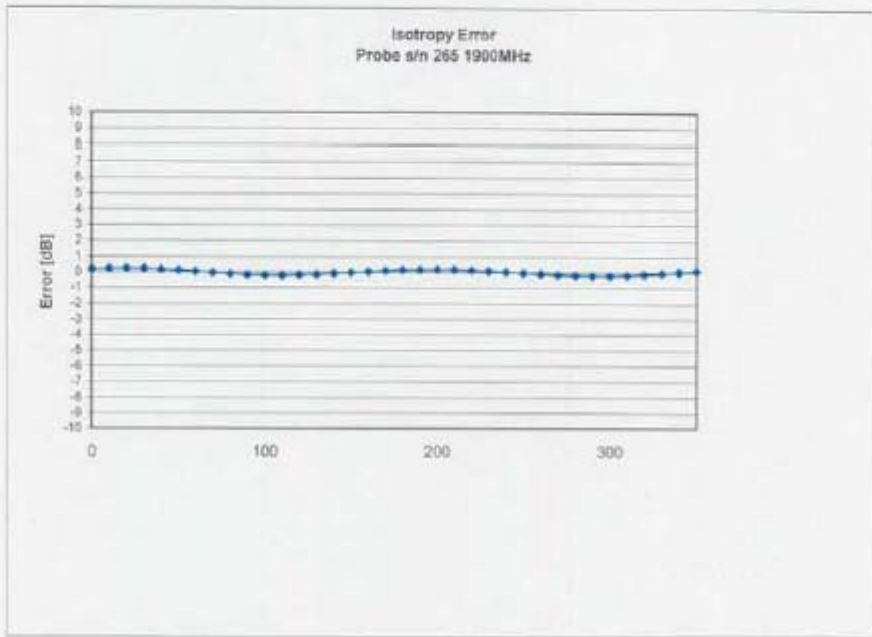
Receiving Pattern 1900 MHz (Air)



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Isotropy Error 1900 MHz (Air)

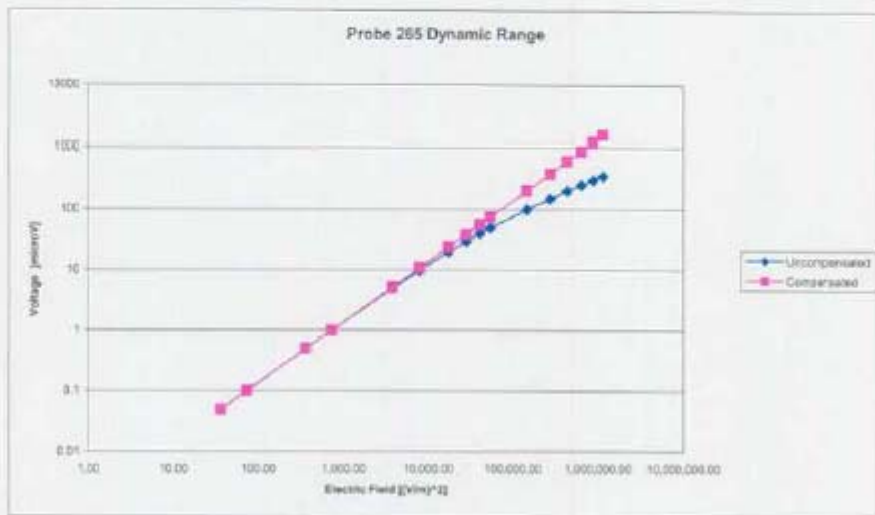


Isotropicity in Tissue: 0.10 dB

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### Dynamic Range

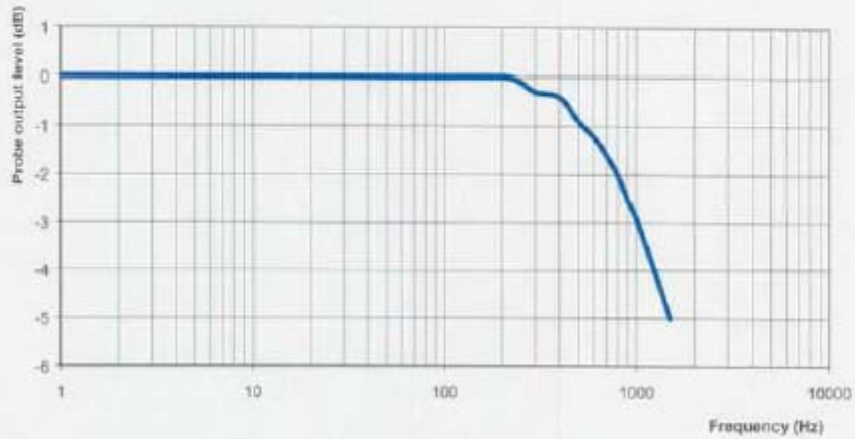


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### Video Bandwidth

Probe Frequency Characteristics



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

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**Conversion Factor Uncertainty Assessment**

<b>Frequency:</b>		1900MHz	
<b>Epsilon:</b>	40.0 (+/-5%)	<b>Sigma:</b>	1.40 S/m (+/-5%)
<b>ConvF</b>			
<b>Channel X:</b>	4.9		7%(K=2)
<b>Channel Y:</b>	4.9		7%(K=2)
<b>Channel Z:</b>	4.9		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%.

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**NCL Calibration Laboratories**

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**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 2004.

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**NCL CALIBRATION LABORATORIES**

Calibration File No.: CP-556

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 1900 MHz

Manufacturer: APREL Laboratories

Model No.: ALS-E-020

Serial No.: 265

BODY Calibration

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

Project No: QTKB-ALS-E-020 Probe Cal-5091

Calibrated: 23<sup>rd</sup> March 2005

Released on: 23<sup>rd</sup> March 2005

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

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

**NCL CALIBRATION LABORATORIES**

51 SPECTRUM WAY  
NEPEAN, ONTARIO  
CANADA K2R 1E8

Division of APREL Lab.  
TEL: (513) 820-4988  
FAX: (513) 820-4191

**NCL Calibration Laboratories**

Division of APREL Laboratories.

**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-020 265.

**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 265 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.

  
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Ron Dulmage

  
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Y. Chen

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**Calibration Results Summary**

<b>Probe Type:</b>	E-Field Probe E-020
<b>Serial Number:</b>	265
<b>Frequency:</b>	1900 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

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**Sensitivity in Body Tissue**

<b>Frequency:</b>	1900 MHz
<b>Epsilon:</b> 53.3 (+/-5%)	<b>Sigma:</b> 1.52 S/m (+/-5%)

**ConvF**

**Channel X:** 5.1  
**Channel Y:** 5.1  
**Channel Z:** 5.1

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.

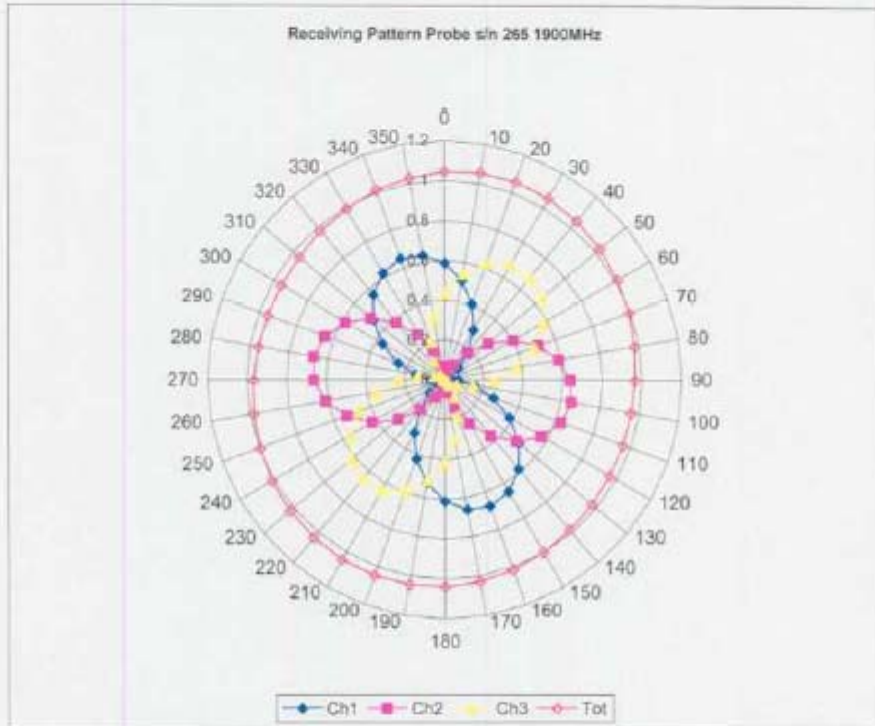
**Spatial Resolution:**

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.

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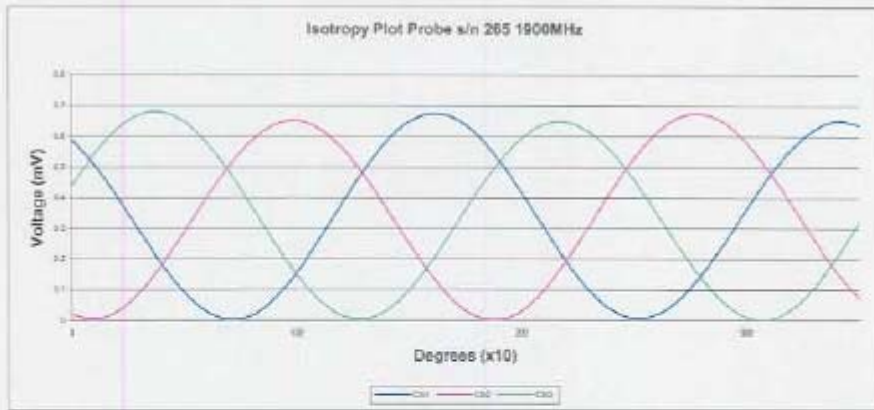
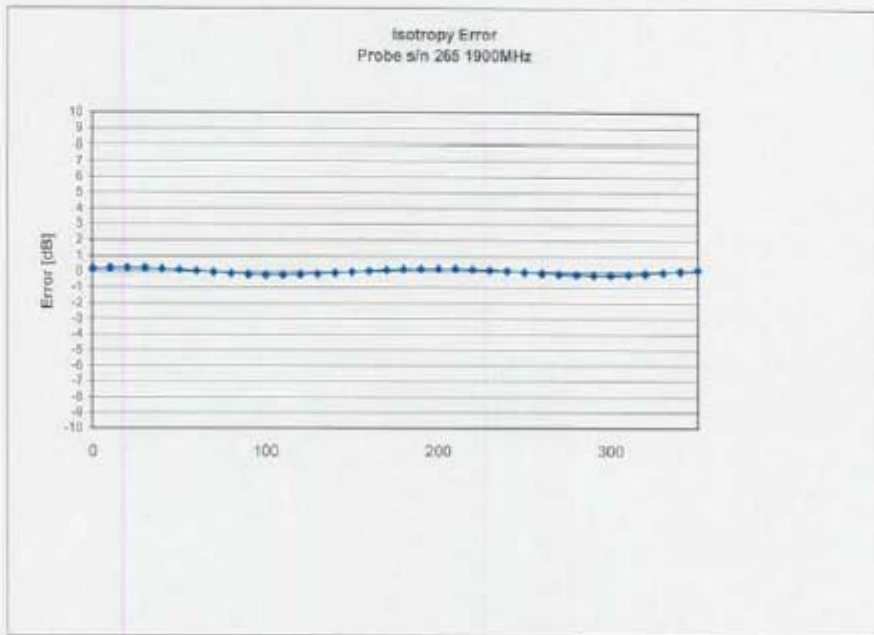
Receiving Pattern 1900 MHz (Air)



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Isotropy Error 1900 MHz (Air)



Isotropicity in Tissue: 0.10 dB

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### Dynamic Range

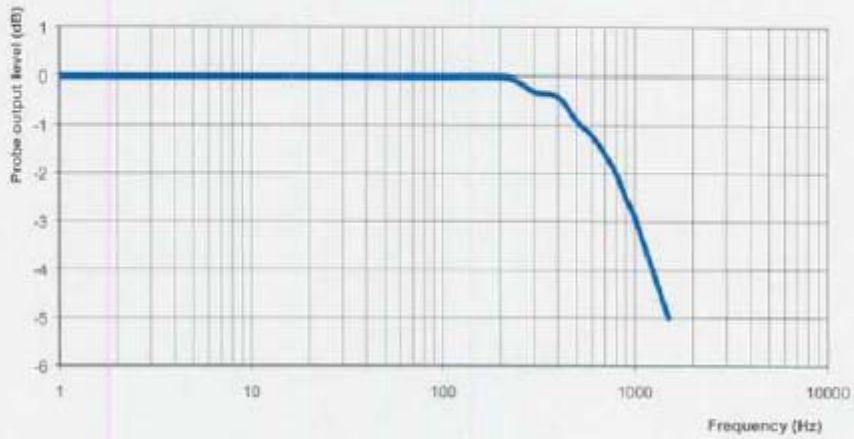


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## Video Bandwidth

Probe Frequency Characteristics



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

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**Conversion Factor Uncertainty Assessment**

<b>Frequency:</b>		1900MHz	
<b>Epsilon:</b>	53.3 (+/-5%)	<b>Sigma:</b>	1.52 S/m (+/-5%)
<b>ConvF</b>			
<b>Channel X:</b>	5.1		7%(K=2)
<b>Channel Y:</b>	5.1		7%(K=2)
<b>Channel Z:</b>	5.1		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%.

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### **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 2004.

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