# **CERTIFICATE OF COMPLIANCE SAR EVALUATION**

#### **Test Lab:**

#### CELLTECH RESEARCH INC.

Testing and Engineering Lab 1955 Moss Court

Kelowna, B.C. Canada V1Y 9L3

Phone: 250 - 860-3130 Fax: 250 - 860-3110 Toll Free: 1-877-545-6287

e-mail: celltech@globuswireless.com web site: www.globuswireless.com

#### **Applicant Information:**

#### COMPAL ELECTRONICS INC.

No. 581, Jui-Kuang Rd., Neihu, Taipei, Taiwan 114

Attn: Mr. Eric Liu

Manager of Management Division

FCC ID: GKRVC-5

Model(s): VC-5

**Equipment Type: Dual-Mode AMPS/CDMA Cellular Phone** 

FCC Classification: Licensed Non-Broadcast Transmitter Held to Ear (TNE)

FCC Rule Part(s): 2.1093; ET Docket 96.326 Tx Frequency Range: 824.04 - 848.97 MHz (AMPS)

824.70 - 848.31 MHz (CDMA)

Rx Frequency Range: 869.04 - 893.97 MHz (AMPS)

869.70 - 893.31 MHz (CDMA)

Max. RF Output Power: 0.302 Watts ERP (AMPS)

0.214 Watts ERP (CDMA)

This wireless mobile and/or portable device has been shown to be compliant for localized Specific Absorption Rate (SAR) for uncontrolled environment / general exposure limits specified in ANSI/IEEE Std. C95.1-1992 and had been tested in accordance with the measurement procedures specified in ANSI/IEEE Std. C95.3-1999.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Celltech Research Inc. certifies that no party to this application has been denied FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

Shawn McMillen General Manager Celltech Research Inc.

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#### 1.0 INTRODUCTION

This measurement report shows compliance of the COMPAL ELECTRONICS INC. Model: VC-5 Dual-Mode AMPS/CDMA Cellular Phone FCC ID: GKRVC-5 with FCC Part 2.1093, ET Docket 96-326 Rules for mobile and portable devices. The test procedures, as described in American National Standards Institute C95.1-1992 (1), FCC OET Bulletin 65-1997 were employed. A description of the product and operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used, and the various provisions of the rules are included within this test report.

#### 2.0 DESCRIPTION of Equipment Under Test (EUT)

EUT Type	Dual-Mode Cellular Phone	FCC ID	GKRVC-5
FCC Equipment Class	Licensed Non-Broadcast Transmitter Held to Ear (TNE)	Model No.(s)	VC-5
FCC Rule Part(s)	§ 2.1093, Docket 96-326	Application Type	Part 22 Certification
Tx Frequency Range (MHz)	824.04 - 848.97 (AMPS) 824.70 - 848.31 (CDMA)	S/N No.	Pre-production
Rx Frequency Range (MHz)	869.04 - 893.97 (AMPS) 869.70 - 893.31 (CDMA)	Max. RF Output Power	0.302 W ERP (AMPS) 0.214 W ERP (CDMA)
Modulation(s)	AMPS / CDMA	Battery Type(s)	Ni-Metal Hybrid 3.6V Standard Battery Pack
Antenna Type	Fixed Stubby	Antenna Length	32 mm









Front of EUT

Left Side of EUT

Right Side of EUT

Rear of EUT

#### 3.0 SAR MEASUREMENT SYSTEM

Celltech Research SAR measurement facility utilizes the Dosimetric Assessment System (DASY<sup>TM</sup>) manufactured by Schmid & Partner Engineering AG (SPEAG<sup>TM</sup>) of Zurich, Switzerland. The DASY system is comprised of the robot controller, computer, near-field probe, probe alignment sensor, and the generic twin phantom containing brain or muscle equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card. The DAE3 utilizes a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.



DASY3 SAR Measurement System

#### 4.0 MEASUREMENT SUMMARY

The measurement results were obtained with the EUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the EUT are reported in Appendix A.

#### **HEAD SAR TEST RESULTS - AMPS MODE**

Frequency (MHz)	Channel	Modulation	Conducted Power (dBm)	Battery Type	Phantom Position	Antenna Position	SAR (w/kg)
824.04	991	Unmodulated Carrier	26.0	Standard	Left Ear	Fixed	1.34
836.49	383	Unmodulated Carrier	26.0	Standard	Left Ear	Fixed	1.15
848.97	799	Unmodulated Carrier	25.5	Standard	Left Ear	Fixed	1.32
Mixture Type: BRAIN Dielectric Constant: 41.5 Conductivity: 0.90		Spatial Peal	k Uncontrol	5.1 1992 - SAl led Exposure /kg (averaged	General Po	pulation	

- 1. The SAR values found were below the maximum limit of 1.6 w/kg.
- 2. The highest head SAR value found was 1.34 w/kg.
- 3. The EUT was tested for head SAR using the standard battery, which is the only battery option for this phone.



Head SAR Test Setup

#### MEASUREMENT SUMMARY (CONT.)

#### **HEAD SAR TEST RESULTS - CDMA MODE**

Frequency (MHz)	Channel	Modulation	Conducted Power (dBm)	Battery Type	Phantom Position	Antenna Position	SAR (w/kg)
824.70	1013	CDMA	24.0	Standard	Left Ear	Fixed	0.881
835.89	363	CDMA	24.0	Standard	Left Ear	Fixed	0.858
848.31	777	CDMA	24.0	Standard	Left Ear	Fixed	1.11
Mixture Type: BRAIN Dielectric Constant: 41.5 Conductivity: 0.90		Spatial Peak	Uncontrol	5.1 1992 - SA led Exposure /kg (averaged	/General Po	pulation	

- 1. The SAR values found were below the maximum limit of 1.6 w/kg.
- 2. The highest head SAR value found was 1.12 w/kg.
- 3. The EUT was tested for body SAR using the standard battery, which is the only battery option for this phone.



Head SAR Test Setup

#### MEASUREMENT SUMMARY (CONT.)

#### **BODY SAR TEST RESULTS - AMPS MODE**

Frequency (MHz)	Channel	Modulation	Conducted Power (dBm)	Battery Type	Separation Distance (cm)	Antenna Position	SAR (w/kg)
824.04	991	Unmodulated Carrier	26.0	Standard	1.0	Fixed	1.25
836.49	383	Unmodulated Carrier	26.0	Standard	1.0	Fixed	1.21
848.97	799	Unmodulated Carrier	25.5	Standard	1.0	Fixed	1.37
Mixture Type: Muscle Dielectric Constant: 56.1 Conductivity: 0.95		Spatial Peak	k Uncontrol	5.1 1992 - SAI led Exposure/ kg (averaged o	General Po		

- 1. The SAR values found were below the maximum limit of 1.6 w/kg.
- 2. The highest body SAR value found was 1.37 w/kg.
- 3. The EUT was tested for body SAR with a separation distance of 1.0cm between the back of the phone and the outer surface of the planar phantom.
- 4. The EUT was tested for body SAR using the standard battery, which is the only battery option for this phone.



Body SAR Test Setup

#### MEASUREMENT SUMMARY (CONT.)

#### **BODY SAR TEST RESULTS - CDMA MODE**

Frequency (MHz)	Channel	Modulation	Conducted Power (dBm)	Battery Type	Separation Distance (cm)	Antenna Position	SAR (w/kg)
824.70	1013	CDMA	24.0	Standard	1.0	Fixed	0.874
835.89	363	CDMA	24.0	Standard	1.0	Fixed	0.798
848.31	777	CDMA	24.0	Standard	1.0	Fixed	0.908
Mixture Type: Muscle Dielectric Constant: 56.1 Conductivity: 0.95		Spatial Peak	<b>Uncontrol</b>	5.1 1992 - SAI led Exposure/ kg (averaged o	General Po		

- 1. The SAR values found were below the maximum limit of 1.6 w/kg.
- 2. The highest body SAR value found was 0.908 w/kg.
- 3. The EUT was tested for body SAR with a separation distance of 1.0cm between the back of the phone and the outer surface of the planar phantom.
- 4. The EUT was tested for body SAR using the standard battery, which is the only battery option for this phone.



Body SAR Test Setup

B.C. CANADA V1Y 9L3

#### 5.0 SAR SAFETY LIMITS

EXPOSURE LIMITS (General populations/Uncontrolled Exposure Environment)	SAR (W/Kg)
Spatial Average (averaged over the whole body)	0.08
Spatial Peak (averaged over any 1g of tissue)	1.60
Spatial Peak (hands/wrists/feet/ankles averaged over 10g)	4.00

Notes: 1. The FCC SAR safety limits specified in the table above apply to devices operated in the General Population / Uncontrolled Exposure environment.

2. Uncontrolled environments are defined as locations where there is exposure of individuals who have no knowledge or control of their exposure.

#### 6.0 DETAILS OF SAR EVALUATION

The COMPAL ELECTRONICS INC. Model: VC-5 Dual-Mode AMPS/CDMA Cellular Phone FCC ID: GKRVC-5 was found to be compliant for localized Specific Absorption Rate (SAR) based on the following test provisions and conditions:

- 1) The handset was placed in a normal operating position with the center of the earpiece aligned with the ear canal on the phantom.
- 2) With the earpiece touching the phantom the center-line of the handset was aligned with an imaginary plane (X and Y axis) consisting of three lines connecting both ears and the mouth.
- 3) The handset was gradually moved towards the cheek until any point of the mouth-piece or keypad touched the cheek.
- 4) The EUT was tested in a body-worn configuration with the back of the phone facing parallel to the outer surface of the planar phantom, and a 1.0cm separation distance between the back of the phone/antenna and the outer surface of the planar phantom.
- 5) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimize drift.
- 6) The device was keyed to operate continuously in the transmit mode for the duration of the test.
- 7) The location of the maximum spatial SAR distribution (Hot Spot) was determined relative to the handset and its antenna.
- 8) The EUT was tested with a fully charged battery.

#### 7.0 EVALUATION PROCEDURES

The Specific Absorption Rate (SAR) evaluation was performed in the following manner:

- a. (i) The evaluation was performed in an applicable area of the phantom depending on the type of device being tested. For devices worn about the ear during normal operation, both the left and right ear positions were evaluated at the center frequency of the band at maximum power. The side, which produced the greatest SAR, determined which side of the phantom would be used for the entire evaluation. FCC OET Bulletin 65 Supplement C dictated the positioning of the earheld device relative to the phantom.
- (ii) For face-held and body-worn devices, or devices which can be operated within 20cm of the body, the planar section of the phantom was used. The type of device being evaluated dictated the distance of the EUT to the outer surface of the planar phantom.
- b. The SAR was determined by a pre-defined procedure within the DASY3 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 20mm x 20mm.
- c. A 5x5x7 matrix was performed around the greatest spatial SAR distribution found during the area scan of the applicable exposed region. SAR values were then calculated using a 3-D spline interpolation algorithm and averaged over spatial volumes of 1 and 10 grams.
- d. If the EUT had any appreciable drift over the course of the evaluation, then the EUT was reevaluated. Any unusual anomalies over the course of the test also warranted a re-evaluation.

#### 8.0 SYSTEM VALIDATION

Prior to the assessment, the system was verified in the planar region of the phantom. For devices operating below 1GHz, an 835MHz dipole or 900MHz was used, depending on the operating frequency of the EUT. For devices operating above 1GHz, an 1800MHz dipole was used. A forward power of 250mW was applied to the dipole and system was verified to a tolerance of  $\pm 3\%$ . The applicable verification(s) is/are as follows (see Appendix B for validation test plot):

Dipole Validation Kit	Target SAR 1g (w/kg)	Measured SA	AR 1g (w/kg)
D835V2	2.06	2.02 (03/27/2001)	2.04 (03/28/2001)

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#### 9.0 SIMULATED TISSUES

The brain and muscle mixtures consist of a viscous gel using hydroxethylcelulose (HEC) gelling agent and saline solution. Preservation with a bacteriacide is added and visual inspection is made to ensure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permitivity) and conductivity of the tissue.

	MIXTURE – 835MHz				
INGREDIENT	Brain % (Validation)	Brain %	Muscle %		
Water	40.1	41.45	52.4		
Sugar	58.1	56.0	45.0		
Salt	0.7	1.45	1.4		
HEC	1.0	1.0	1.0		
Bactericide	0.1	0.1	0.2		

#### 10.0 TISSUE PARAMETERS

The dielectric parameters of the fluids were verified prior to the SAR evaluation using an 85070C Dielectric Probe Kit and an 8753E Network Analyzer. The dielectric parameters of the fluid are as follows:

Equivalent Tissue (835MHz)	Dielectric Constant	Conductivity ? (mho/m)	? (Kg/m³)
Brain (Validation)	44.2 ± 5%	$0.80 \pm 10\%$	1000
Brain	41.5 ± 5%	0.90 ± 10%	1000
Muscle	56.1 ± 5%	0.95 ± 10%	1000

#### 11.0 ROBOT SYSTEM SPECIFICATIONS

#### **Specifications**

**POSITIONER:** Stäubli Unimation Corp. Robot Model: RX60L

Repeatability: 0.02 mm

No. of axis: 6

#### **Data Acquisition Electronic (DAE) System**

**Cell Controller** 

**Processor:** Pentium III **Clock Speed:** 450 MHz **Operating System:** Windows NT **Data Card:** DASY3 PC-Board

**Data Converter** 

**Features:** Signal Amplifier, multiplexer, A/D converter, and control logic

**Software:** DASY3 software

**Connecting Lines:** Optical downlink for data and status info.

Optical uplink for commands and clock

#### **PC Interface Card**

**Function:** 24 bit (64 MHz) DSP for real time processing

Link to DAE3

16 bit A/D converter for surface detection system

serial link to robot

direct emergency stop output for robot

#### E-Field Probe

**Model:** ET3DV6 Serial No.: 1387

**Construction:** Triangular core fiber optic detection system

**Frequency:** 10 MHz to 6 GHz

**Linearity:** ? 0.2 dB (30 MHz to 3 GHz)

#### **Phantom**

**Phantom:** Generic Twin **Shell Material: Fiberglass** 2.0 ? 0.1 mm **Thickness:** 

#### 12.0 TEST EQUIPMENT LIST

SAR MEASUREMENT SYSTEM						
<u>EQUIPMENT</u>	<u>S/N #</u>	<u>CALIB. DATE</u>				
DASY3 System -Robot -ET3DV6 E-Field Probe -DAE -835MHz Validation Dipole -900MHz Validation Dipole	599396-01 1387 383 411 054	N/A Sept 1999 Sept 1999 Aug 1999				
-1800MHz Validation Dipole -Generic Twin Phantom V3.0	247 N/A	Aug 1999 N/A				
85070C Dielectric Probe Kit	N/A	N/A				
Gigatronics 8652A Power Meter -Power Sensor 80701A -Power Sensor 80701A	1835272 1833535 1833542	Oct 1999 Oct 1999 Oct 1999				
E4408B Spectrum Analyzer	US39240170	Nov 1999				
8594E Spectrum Analyzer	3543A02721	Mar 2000				
8753E Network Analyzer	US38433013	Nov 1999				
8648D Signal Generator	3847A00611	N/A				
5S1G4 Amplifier Research Power Amplifier	26235	N/A				

#### 13.0 MEASUREMENT UNCERTAINTIES

<b>Uncertainty Description</b>	Error	Distribution	Weight	Standard Deviation	Offset
<b>Probe Uncertainty</b>					
Axial isotropy	?0.2 dB	U-Shaped	0.5	?2.4 %	
Spherical isotropy	?0.4 dB	U-Shaped	0.5	?4.8 %	
Isotropy from gradient	?0.5 dB	U-Shaped	0	?	
Spatial resolution	?0.5 %	Normal	1	?0.5 %	
Linearity error	?0.2 dB	Rectangle	1	?2.7 %	
Calibration error	?3.3 %	Normal	1	?3.3 %	
SAR Evaluation Uncertainty					
Data acquisition error	?1 %	Rectangle	1	?0.6 %	
ELF and RF disturbances	?0.25 %	Normal	1	?0.25 %	
Conductivity assessment	?10 %	Rectangle	1	?5.8 %	
Spatial Peak SAR Evaluation Uncertainty					
Extrapolated boundary effect	?3 %	Normal	1	?3 %	?5 %
Probe positioning error	?0.1 mm	Normal	1	?1 %	
Integrated and cube orientation	?3 %	Normal	1	?3 %	
Cube Shape inaccuracies	?2 %	Rectangle	1	?1.2 %	
Device positioning	?6 %	Normal	1	?6 %	
<b>Combined Uncertainties</b>				?11.7 %	?5 %

Measurement uncertainties in SAR measurements are difficult to quantify due to several variables including biological, physiological, and environmental. However, the estimated measurement uncertainties in SAR are less than 15-25 %.

According to ANSI/IEEE C95.3, the overall uncertainties are difficult to assess and will vary with the type of meter and usage situation. However, accuracy's of ? 1 to 3 dB can be expected in practice, with greater uncertainties in near-field situations and at higher frequencies (shorter wavelengths), or areas where large reflecting objects are present. Under optimum measurement conditions, SAR measurement uncertainties of at least ? 2dB can be expected.

According to CENELEC, typical worst-case uncertainty of field measurements is ? 5 dB. For well-defined modulation characteristics the uncertainty can be reduced to ? 3 dB.

#### 14.0 REFERENCES

- (1) ANSI, ANSI/IEEE C95.1: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 Ghz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992;
- (2) Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, FCC, Washington, D.C. 20554, 1997;
- (3) Thomas Schmid, Oliver Egger, and Neils Kuster, "Automated E-field scanning system for dosimetric assessments", IEEE *Transaction on Microwave Theory and Techniques*, Vol. 44, pp. 105 113, January, 1996.
- (4) Niels Kuster, Ralph Kastle, and Thomas Schmid, "Dosimetric evaluation of mobile communications equipment with know precision", IEICE Transactions of Communications, vol. E80-B, no. 5, pp. 645 652, May 1997.

1955 Moss Court, Kelowna, B.C. CANADA V1Y 9L3 Test Report S/N: 032601-80GKR Dates of Tests: March 26-29, 2001

#### APPENDIX A - SAR MEASUREMENT DATA

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#### APPENDIX B - DIPOLE VALIDATION

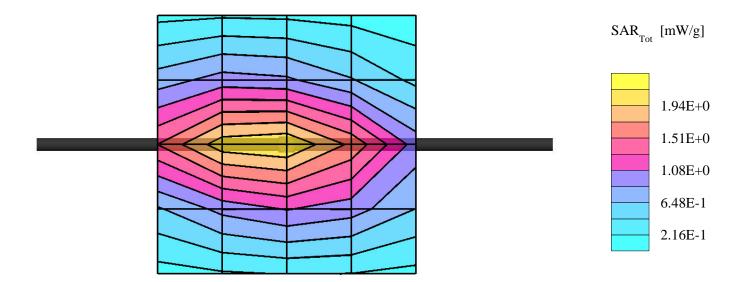
### Dipole 835 MHz

Generic Twin Phantom; Flat Section; Position:  $(90^\circ, 90^\circ)$ ; Probe: ET3DV6 - SN1387; ConvF(6.43,6.43,6.43); Crest factor: 1.0; Brain 835 MHz:  $\sigma = 0.80$  mho/m  $\epsilon_r = 44.2$   $\rho = 1.00$  g/cm<sup>3</sup>

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0Cube 5x5x7

SAR (1g): 2.02 mW/g, SAR (10g): 1.34 mW/g

Validation Date: March 27, 2001



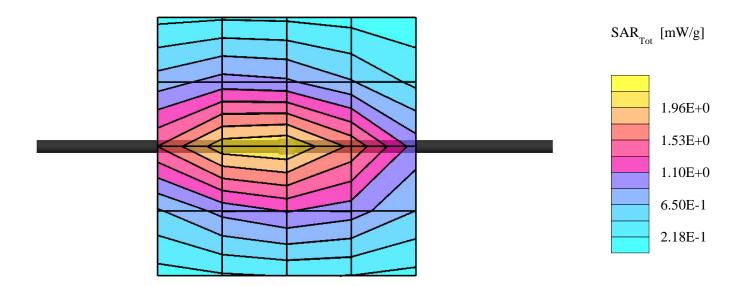
### Dipole 835 MHz

Generic Twin Phantom; Flat Section; Position:  $(90^\circ, 90^\circ)$ ; Probe: ET3DV6 - SN1387; ConvF(6.43,6.43,6.43); Crest factor: 1.0; Brain 835 MHz:  $\sigma = 0.80$  mho/m  $\epsilon_r = 44.2$   $\rho = 1.00$  g/cm<sup>3</sup>

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0Cube 5x5x7

SAR (1g): 2.04 mW/g, SAR (10g): 1.35 mW/g

Validation Date: March 28, 2001



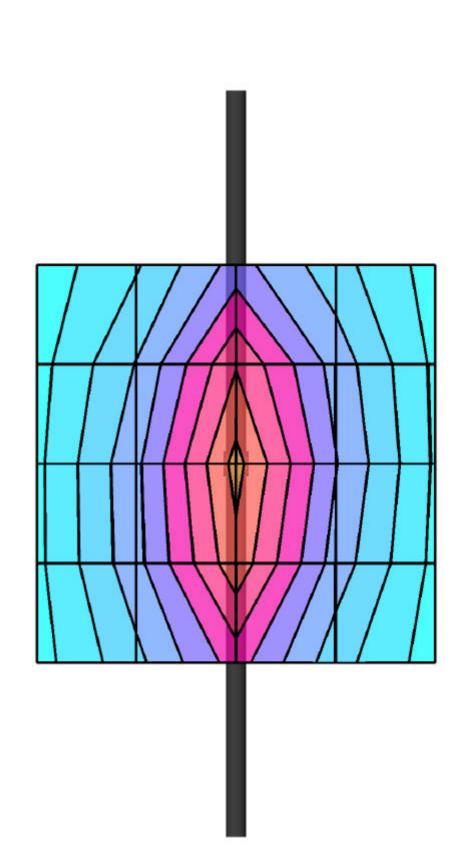
Validation Dipole D835V2 SN:411, d = 15mm

Frequency: 835 MHz; Antenna Input Power: 250 [mW]

Generic Twin Phantom; Flat Section; Grid Spacing: Dx = 20.0, Dy = 20.0, Dz = 10.0

Probe: ET3DV5 - SN1342/DAE3; ConvF(5.75,5.75); Brain 835 MHz:  $\sigma = 0.80$  mho/m  $\epsilon_r = 44.2$   $\rho = 1.00$  g/cm<sup>3</sup> Cubes (2): Peak: 3.07 mW/g  $\pm$  0.05 dB, SAR (1g): 2.06 mW/g  $\pm$  0.05 dB, SAR (10g): 1.38 mW/g  $\pm$  0.05 dB, (Worst-case extrapolation) Penetration depth: 13.6 (12.7, 14.8) [mm]

Powerdrift: -0.00 dB



2.25E+0

2.50E+0

 $SAR_{Tot} \ [mW/g]$ 

2.00E+0

1.75E+0

1.50E+0

1.25E+0

1.00E+0

7.50E-1

5.00E-1

2.50E-1

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#### APPENDIX C - PROBE CALIBRATION

### Schmid & Partner Engineering AG

Staffelstrasse 8, 8045 Zurich, Switzerland, Telefon +41 1 280 08 60, Fax +41 1 280 08 64

# Probe ET3DV6

SN:1387

Manufactured: September 21, 1999 Last calibration: September 22, 1999

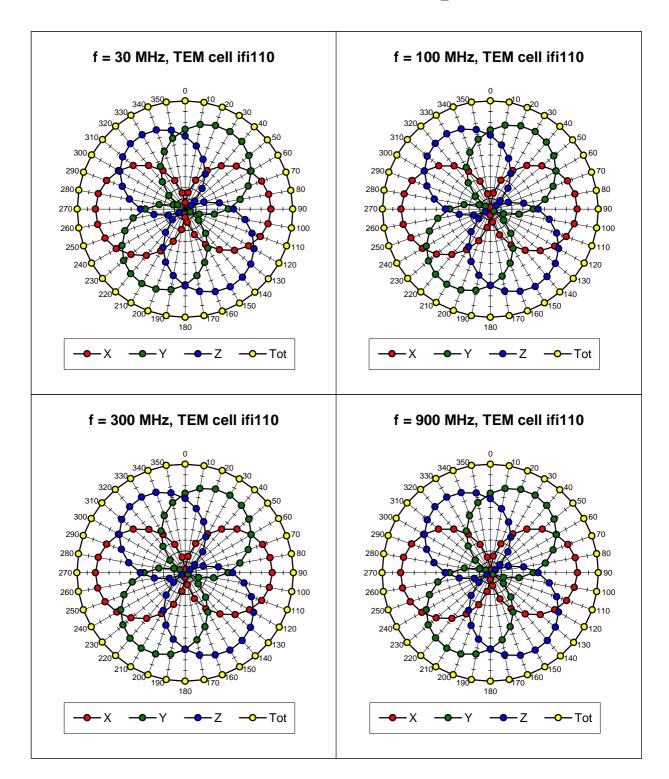
Calibrated for System DASY3

### DASY3 - Parameters of Probe: ET3DV6 SN:1387

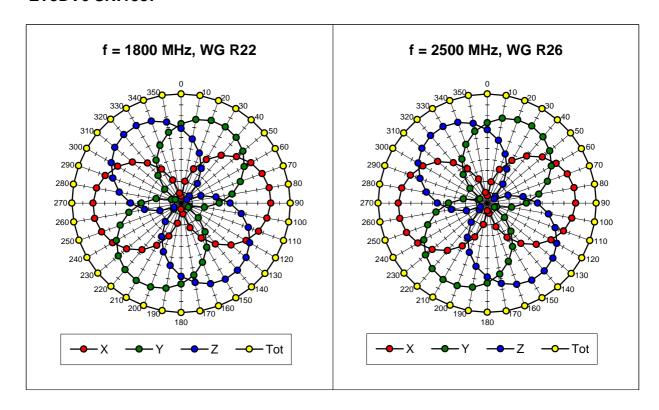
Sensitiv	vity in Free S	Space	Diode Compression			
	NormX	<b>1.55</b> μV/(\	V/m) <sup>2</sup>		DCP X	<b>98</b> mV
	NormY	<b>1.65</b> μV/(\	-		DCP Y	<b>98</b> mV
	NormZ	<b>1.64</b> μV/(\	•		DCP Z	<b>98</b> mV
	11011112	110-1 μ. / (	• / · · · · /		201 2	00 1110
Sensitiv	vity in Tissue	Simulatir	ng Liquid			
Brain	450 MHz	Z	$e_r = 48 \pm 5\%$ s =		= 0.50 ± 10% mho/m	
	ConvF X	<b>6.76</b> extra	polated		Boundary effe	ct:
	ConvF Y	<b>6.76</b> extra	polated		Alpha	0.30
	ConvF Z	<b>6.76</b> extra	polated		Depth	2.52
Brain	900 MHz		$e_r = 42.5 \pm 5\%$ s =		= 0.86 ± 10% mho/m	
	ConvF X	<b>6.34</b> ± 7%	(k=2)		Boundary effe	ct:
	ConvF Y	<b>6.34</b> ± 7%	(k=2)		Alpha	0.47
	ConvF Z	<b>6.34</b> ± 7%	(k=2)		Depth	2.25
Brain	1500 MH	z	<b>e</b> <sub>f</sub> = 41 ± 5%	s =	s = 1.32 ± 10% mho/m	
	ConvF X	<b>5.78</b> interp	oolated		Boundary effe	ct:
	ConvF Y	<b>5.78</b> interp	oolated		Alpha	0.69
	ConvF Z	<b>5.78</b> interp	oolated		Depth	1.88
Brain			$e_r = 41 \pm 5\%$ s		= 1.69 ± 10% mho/m	
			(k=2)		Boundary effe	ct:
	ConvF Y	<b>5.50</b> ± 7%	(k=2)		Alpha	0.81
	ConvF Z	<b>5.50</b> ± 7%	(k=2)		Depth	1.70
Sensor	Offset					

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	$1.6 \pm 0.2$	mm

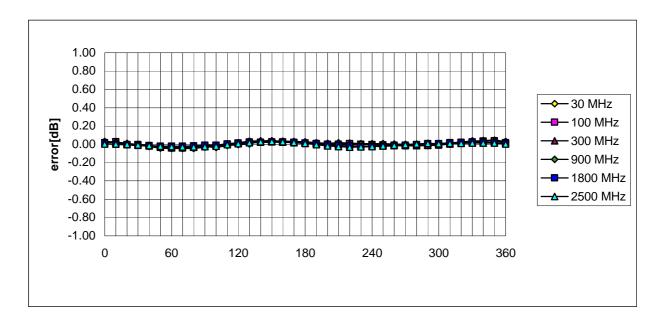
# Receiving Pattern ( $\mathbf{f}$ ), $\mathbf{q} = \mathbf{0}^{\circ}$



#### ET3DV6 SN:1387

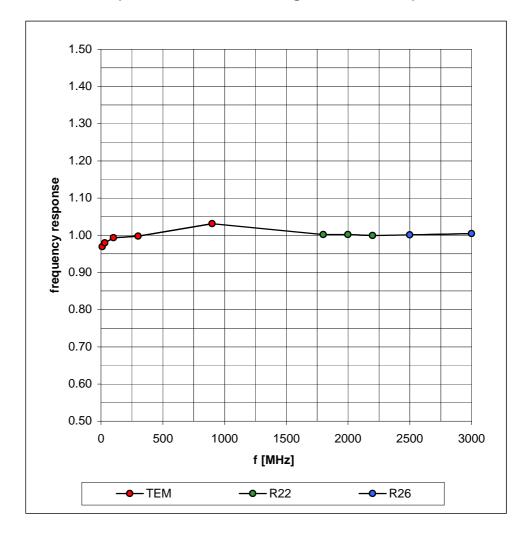


# Isotropy Error (f), $q = 0^{\circ}$



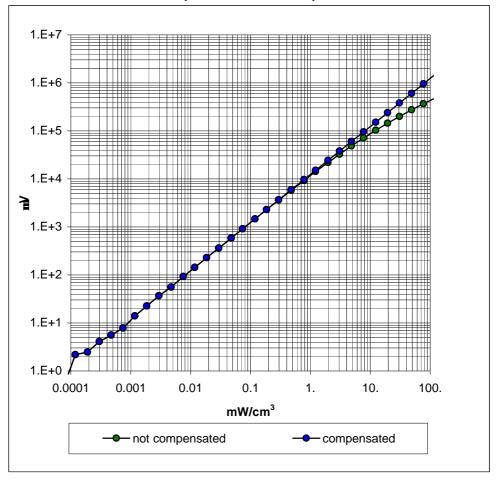
# **Frequency Response of E-Field**

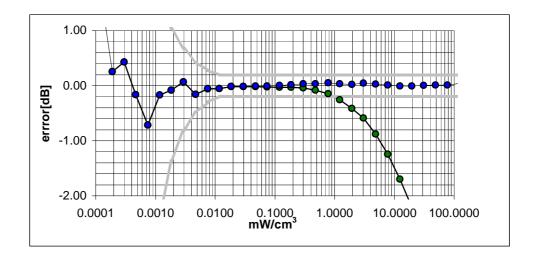
(TEM-Cell:ifi110, Waveguide R22, R26)



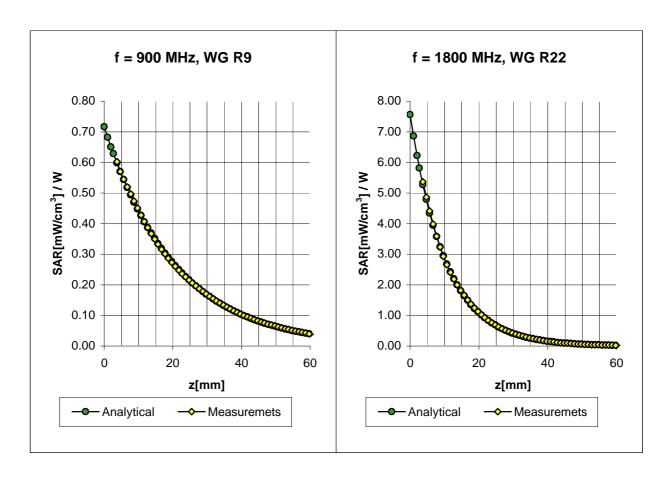
# **Dynamic Range f(SAR**<sub>brain</sub>)

(TEM-Cell:ifi110)



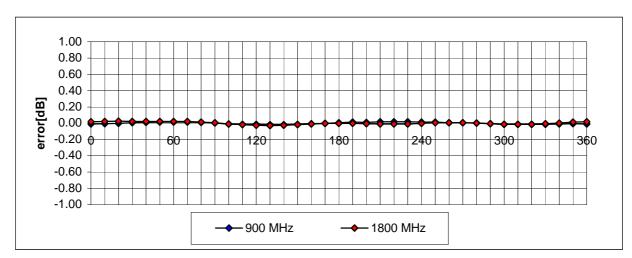


### **Conversion Factor Assessment**



### Receiving Pattern (f)

(in brain tissue, z = 5 mm)

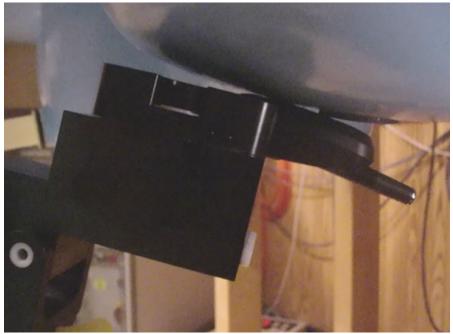


1955 Moss Court, Kelowna, B.C. CANADA V1Y 9L3 Test Report S/N: 032601-80GKR Dates of Tests: March 26-29, 2001

#### APPENDIX D - SAR TEST SETUP PHOTOGRAPHS

#### HEAD SAR TEST SETUP PHOTOGRAPHS





#### BODY SAR TEST SETUP PHOTOGRAPHS 1.0cm Separation Distance





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#### APPENDIX E - RF EXPOSURE MANUAL WARNING STATEMENT