




Exhibit 11: SAR Test Report: IHDT56BJ1

Date of test: December 7th, 2001 – January 17th, 2000

Laboratory: Motorola Personal Communications Sector Product Safety Laboratory
2001 N. Division
Room: AS228
Harvard, Illinois 60033

Test Responsible: Firass Badaruzzaman
SAR RF Engineer

Accreditation: This laboratory is accredited to ISO/IEC 17025-1999 to perform the following electromagnetic exposure tests:
System Validation & Interlaboratory Comparison
Simulated Tissue Specifications and Procedure
EME Cellular Phone Testing Procedure



On the following types of products:
Wireless Communications Devices (Examples): Two Way Radios; Portable Phones (including Cellular, Licensed Non-Broadcast and PCS); Low Frequency Readers; and Pagers

A2LA certificate #1651-01

Statement of Compliance: Motorola declares under its sole responsibility that portable cellular telephone FCC ID IHDT56BJ1 to which this declaration relates, is in conformity with the appropriate RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(none)

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The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Motorola encourages all feedback, both positive and negative, on this test report.

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1. Introduction

The Motorola Personal Communications Sector Product Safety Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone FCC ID IHDT56BJ1. The Specific Absorption Rate (SAR) of this product was measured. The portable cellular phone was tested in accordance with the latest available test guidelines. The SAR values found for the portable cellular phone (FCC ID IHDT56BJ1) are below the maximum recommended levels of 1.6 W/kg. Detailed procedures of the test are described in the *Motorola Exhibit 11 Reference SAR Test Report*.

2. Description of the Device Under Test

Antenna description

Type	Extendable Whip	
Location	Right Side	
Dimensions	Length	58 mm
	Width	8 mm
Configuration	Helix	

Device description

FCC ID Number	IHDT56BJ1		
Serial number	A88BE519		
Mode(s) of Operation	AMPS800	CDMA800	CDMA1900
Modulation Mode(s)	AMPS	CDMA	CDMA
Maximum Output Power Setting	26.80dBm	25.00dBm	25.00dBm
Duty Cycle	1:1	1:1	1:1
Transmitting Frequency Rang(s)	824-849MHz	824-849MHz	1851-1909MHz

3. Test Results

The test sample was operated over the air using a CDMA mobile call box. The phone was then placed in the SAR measurement system with a fully charged battery. The phone was tested in the configurations stipulated in OET Bulletin 65 Supplement C 01-01.

3.1 Head Adjacent Test Results

The SAR results shown in tables 1 through 4 are maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers during the test. The SAR measurements were performed using the Motorola phantoms listed in section 3.1. The tissue stimulant depth was verified to be 15.0cm ±0.5cm at the center of the ear. The device holder used was the supplied SPEAG™ device holder. The measured dielectric constant of the material used is less than 3.3 and the loss tangent is less than 0.053 in the 800MHz cellular band.

A full data set output of test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 2 . The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included. Note that 800MHz digital mode SAR data was measured only for the test conditions that resulted in the highest analog SAR values. This is because the only difference between analog and digital modes that can impact SAR is the average transmitter power.

			Cheek/Touch Position SAR, 1g					
<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	<i>Left Head</i>					
			<i>Ant Ext</i>			<i>Ant Ret</i>		
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)
Analog 800MHz	Channel 991	27.03	1.49	-0.07	1.51	0.783	-0.05	0.79
	Channel 384	27.04	1.46	-0.11	1.50	0.742	0.02	0.74
	Channel 799	27.20	1.55	-0.02	1.56	0.786	-0.02	0.79
Digital 800MHz	Channel 1013	24.98				1.08	-0.05	1.09
	Channel 384	24.98						
	Channel 777	25.05	1.34	0.03	1.34			
Digital 1900MHz	Channel 25	25.02	0.439	-0.15	0.454	0.981	-0.99	1.23
	Channel 600	25.22	0.615	-0.26	0.615	1.100	-0.42	1.21
	Channel 1000	25.32	0.430	-0.22	0.425	0.862	-0.68	1.01

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT56BJ1 at highest possible output power. Measured against the left head in the Cheek/Touch Position.

			15° Tilted Position SAR, 1g					
<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	<i>Left Head</i>					
			<i>Ant Ext</i>			<i>Ant Ret</i>		
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)
Analog 800MHz	Channel 991	27.03	0.82	-0.13	0.85	0.44	0.04	0.44
	Channel 384	27.04						
	Channel 799	27.20						
Digital 1900MHz	Channel 25	25.02	0.74	-1.42	1.03	0.83	-0.14	0.86
	Channel 600	25.22	1.18	-0.08	1.20	1.28	-0.12	1.32
	Channel 1000	25.32	0.73	-0.98	0.92	0.79	-0.75	0.94

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT56BJ1 at highest possible output power. Measured against the Left Head in the 15° Tilted Position.

			Cheek/Touch Position SAR, 1g					
<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	<i>Right Head</i>					
			<i>Ant Ext</i>			<i>Ant Ret</i>		
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)
Analog 800MHz	Channel 991	27.03	1.54	-0.04	1.55	0.726	-0.07	0.74
	Channel 384	27.04	1.57	0.07	1.57	0.717	-0.03	0.72
	Channel 799	27.20	1.43	0.04	1.43	0.721	0.16	0.72
Digital 800MHz	Channel 1013	24.98						
	Channel 384	24.98	1.44	-0.18	1.50	0.578	0.03	0.578
	Channel 777	25.05						
Digital 1900MHz	Channel 25	25.02	0.333	-0.43	0.368	0.511	-0.51	0.575
	Channel 600	25.22	0.497	-0.41	0.546	0.932	-0.87	1.139
	Channel 1000	25.32	0.324	-0.79	0.389	0.697	-0.70	0.819

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHDT56BJ1 at highest possible output power. Measured against the right head.

			15° Tilted Position SAR, 1g					
<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	<i>Right Head</i>					
			<i>Ant Ext</i>			<i>Ant Ret</i>		
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)
Analog 800MHz	Channel 991	27.03	0.724	0.0	0.724	0.349	-0.04	0.35
	Channel 384	27.04						
	Channel 799	27.20						
Digital 1900MHz	Channel 25	25.02	0.42	-0.69	0.50	0.74	-0.24	0.79
	Channel 600	25.22	0.83	-0.78	1.00	0.93	-0.87	1.14
	Channel 1000	25.32	0.50	-1.05	0.64	0.74	-1.09	0.95

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHDT56BJ1 at highest possible output power. Measured against the Right Head in the 15° Tilted Position.

3.2 Body-Worn Test Results

The SAR results shown in table 5 are maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers and the temperature of the test facility during the test. The same “flat” phantom used for the system accuracy verification in section 5 was used for the body-worn tests. The issue stimulant depth was verified to be 15.0cm ±0.5cm. The same device holder described in section 3.1 was used for positioning the phone.

The Portable Radio (IHDT56BJ1) has two (non-metallic) body worn options:

- A Belt Clip

- A leather carry case with plastic window over keypad

All the body worn tests were taken with the belt clip since it is at the closest proximity to the body with a headset connected to the device for all body-worn SAR measurements.

A full data set output of two test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 3 . The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included. Note that 800MHz digital mode SAR data was measured only for the test conditions that resulted in the highest analog SAR values. This is because the only difference between analog and digital modes that can impact SAR is the average transmitter power

			Body-Worn SAR, 1g					
f (MHz)	Description	Conducted Output Power (dBm)	Carry Case with Belt Clip					
			Ant Ext			Ant Ret		
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)
Analog 800MHz	Channel 991	27.03	0.519	-0.06	0.520	0.412	-0.06	0.420
	Channel 384	27.04	0.566	0.05	0.566	0.315	-0.04	0.320
	Channel 799	27.20	0.394	-0.09	0.400	0.300	-0.09	0.310
Digital 800MHz	Channel 1013	24.98				0.472	0.13	0.470
	Channel 384	24.98	0.43	0.1	0.430			
	Channel 777	25.05						
Digital 1900MHz	Channel 25	25.02	0.629	-0.38	0.687	0.239	-0.26	0.254
	Channel 600	25.22	0.577	-0.57	0.658	0.206	-0.14	0.213
	Channel 1000	25.32	0.544	-0.80	0.654	0.191	-0.73	0.226

Table 5: SAR measurement results for the portable cellular telephone FCC ID IHDT56BJ1 at highest output power. Measured against the body.

4. Test Equipment Used

4.1 Dosimetric System

The Motorola Personal Communications Sector Product Safety Laboratory utilizes a Dosimetric Assessment System (Dasy3™) SAR measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The overall RSS uncertainty of the measurement system is ±12.0% (K=1).

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN385	26-Feb-02
E-Field Probe ETDV6	SN1103	15-Jan-02
Dipole Validation Kit, DV1800V2	SN284	3-Jan-03
Dipole Validation Kit, DV 900V2	SN94	3-Jan-03

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN378	26-Feb-02
E-Field Probe ETDV6	SN1522	15-Jan-02
Dipole Validation Kit, DV1800V2	SN282	4-Jan-03
Dipole Validation Kit, DV 1800V2	SN280	4-Jan-03

Dipole Validation Kit, DV 900V2	SN92	3-Jan-03
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4.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04844	19-Jan-03
Power Meter E4419B	GB39511084	18-Jan-02
Power Sensor 8481A	2702A59572	16-Oct-02

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04848	19-Jan-03
Power Meter E4419B	GB39511090	28-Nov-02
Power Sensor E9301A	US39210934	24-Jan-02

5. Electrical parameters of the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ϵ_r , and the conductivity, σ , of the tissue simulating liquids were measured with HP85070 Dielectric Probe Kit. These values are shown in the table below. Recommended limits for maximum permittivity and minimum conductivity are also shown. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. The recommended dielectric parameters of the tissue simulate for the exact center frequency of the transmitting band of this portable radio were calculated using linear interpolation from the data points given in Supplement C 01-01. It is seen that the measured parameters are satisfactory for compliance testing. The issue stimulant depth was verified to be 15.0cm \pm 0.5cm at the center of the ear. The ambient temperature measurements and the tissue stimulant temperature measurements always found the temperature \pm 2.0 °C from the temperature measured in the morning.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	ρ (g/cm ³)
835	Head	Measured, 12/01/01	44.40	0.88	1.00
		Recommended Limits	41.50	0.90	1.03
	Head	Measured, 12/01/01	43.30	0.88	1.00
		Recommended Limits	41.50	0.90	1.03
	Body	Measured, 12/13/01	51.10	1.10	1.00
		Recommended Limits	55.2	0.97	N/A
1880	Head	Measured, 12/07/01	39.60	1.39	1.00
		Recommended Limits	40.00	1.40	1.03
	Head	Measured, 12/07/01	39.30	1.43	1.00
		Recommended Limits	40.00	1.40	1.03
	Body	Measured, 12/08/01	46.80	1.65	1.00
		Recommended Limits	53.3	1.52	N/A

Table 6. Tissue Simulate Used For Cheek/Touch and Body Configuration.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			e _r	s (S/m)	r (g/cm ³)
835	Head	Measured, 01/17/02	45.0	0.89	1.00
		Recommended Limits	41.50	0.90	1.03
		Measured, 01/18/02	45.0	0.89	1.00
		Recommended Limits	41.50	0.90	1.03
1880	Head	Measured, 01/16/02	38.2	1.48	1.00
		Recommended Limits	40.00	1.40	1.03
		Measured, 01/15/02	38.20	1.48	1.00
		Recommended Limits	40.00	1.40	1.03

Table 7. Tissue Simulate Used For 15° Tilt Configuration.

6. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 3. The dipole was placed below a “flat” phantom. This “flat” phantom is made out of 1” thick natural High Density Polyethylene with a thickness at the bottom equal to 2.0mm. It measures 52.7cm(long) x 26.7cm(wide) x 21.2cm(tall). The measured dielectric constant of the material used is less than 2.3 and the loss tangent is less than 0.0046 all the way up to 2.184GHz.

A SAR measurement was performed to see if the measured SAR was within +/- 8% from the target SAR indicated on the dipole certification sheet. The test was conducted on the same days as the measurement of the DUT. Recommended limits for maximum permittivity, minimum conductivity are shown in the table below. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. The obtained results from the system accuracy verification are displayed in the table below. The distributions of SAR compare well with those of the reference measurements (see Appendix 1). The issue stimulant depth was verified to be 15.0cm ±0.5cm. SAR values are normalized to 1W forward power delivered to the dipole.

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Temp (°C)
			e _r	s (S/m)	
900	Measured, 12/01/01	11.04	41.70	0.87	21.80
	Recommended Limits	10.24	40.60	0.85	NA
	Measured, 12/13/01	10.63	42.10	0.88	22.90
	Recommended Limits	10.24	40.60	0.85	NA
1800	Measured, 12/07/01	44.17	41.10	1.67	22.50
	Recommended Limits	44.40	40.00	1.71	NA
	Measured, 12/08/01	45.40	39.10	1.70	23.30
	Recommended Limits	44.40	40.00	1.71	NA

<i>f</i> (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Temp (°C)
			ϵ_r	σ (S/m)	
900	Measured, 01/17/02	10.16	41.30	0.87	21.50
	Recommended Limits	10.24	40.60	0.85	NA
	Measured, 01/18/02	10.48	41.30	0.87	21.60
	Recommended Limits	10.24	40.60	0.85	NA
1800	Measured, 01/15/02	44.22	40.40	1.75	21.10
	Recommended Limits	44.40	40.00	1.71	NA
	Measured, 01/16/02	44.44	40.40	1.75	21.40
	Recommended Limits	44.40	40.00	1.71	NA

Appendix 1

SAR distribution comparison for the system accuracy verification

Calibration Certificate

Dosimetric E-Field Probe

Type:

ET3DY6

Serial Number:

1522

Place of Calibration:

Zurich

Date of Calibration:

May 11, 2001

Calibration Interval:

12 months

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:

Idunja Kaja

Approved by:

[Signature]

Probe ET3DV6

SN:1522

Manufactured:	March 21, 2000
Last calibration:	April 7, 2000
Recalibrated:	May 11, 2001

Calibrated for System DASY3

DASY3 - Parameters of Probe: ET3DV6 SN:1522**Sensitivity in Free Space****Diode Compression**

NormX	1.68 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	99 mV
NormY	1.64 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	99 mV
NormZ	1.71 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	99 mV

Sensitivity in Tissue Simulating Liquid

Head **450 MHz** $\epsilon_r = 43.5 \pm 5\%$ $\sigma = 0.87 \pm 10\%$ mho/m

ConvF X	6.81 extrapolated	Boundary effect:	
ConvF Y	6.81 extrapolated	Alpha	0.64
ConvF Z	6.81 extrapolated	Depth	1.92

Head **900 MHz** $\epsilon_r = 42 \pm 5\%$ $\sigma = 0.97 \pm 10\%$ mho/m

ConvF X	6.31 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	6.31 $\pm 7\%$ (k=2)	Alpha	0.64
ConvF Z	6.31 $\pm 7\%$ (k=2)	Depth	1.95

Head **1500 MHz** $\epsilon_r = 40.4 \pm 5\%$ $\sigma = 1.23 \pm 10\%$ mho/m

ConvF X	5.65 interpolated	Boundary effect:	
ConvF Y	5.65 interpolated	Alpha	0.64
ConvF Z	5.65 interpolated	Depth	1.98

Head **1800 MHz** $\epsilon_r = 40 \pm 5\%$ $\sigma = 1.40 \pm 10\%$ mho/m

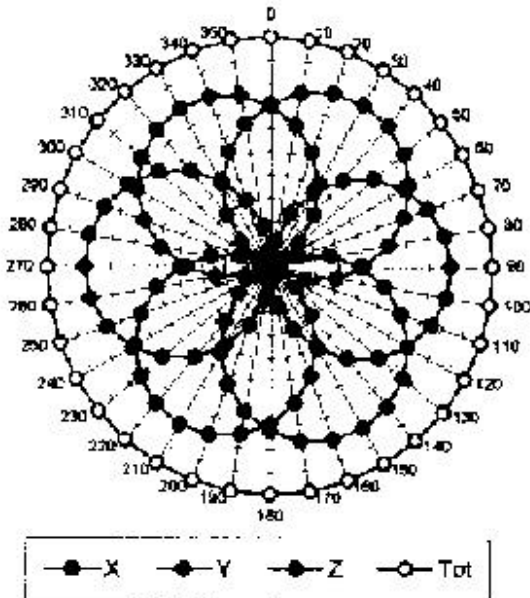
ConvF X	5.32 $\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	5.32 $\pm 7\%$ (k=2)	Alpha	0.64
ConvF Z	5.32 $\pm 7\%$ (k=2)	Depth	1.99

Sensor Offset

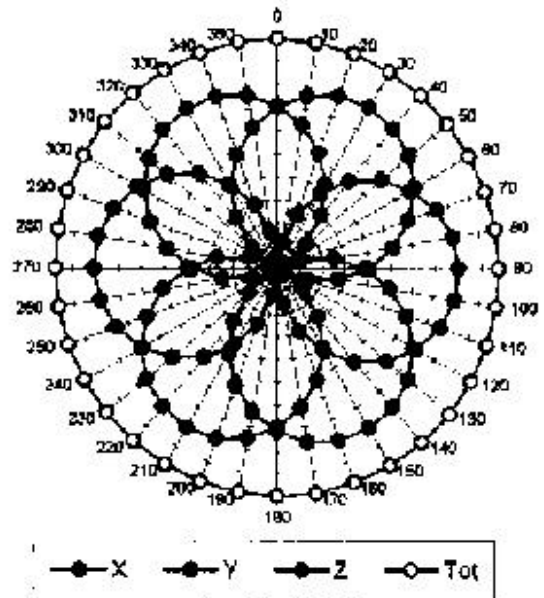
Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.3 \pm 0.2	mm

Receiving Pattern (ϕ), $\theta = 0^\circ$

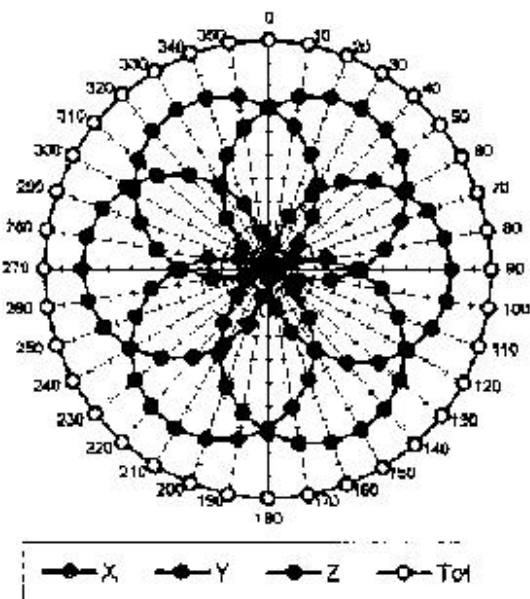
$f = 30 \text{ MHz}$, TEM cell if110



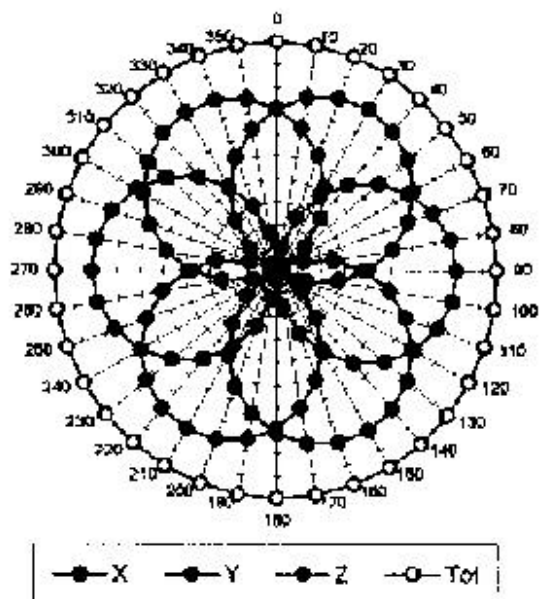
$f = 100 \text{ MHz}$, TEM cell if110



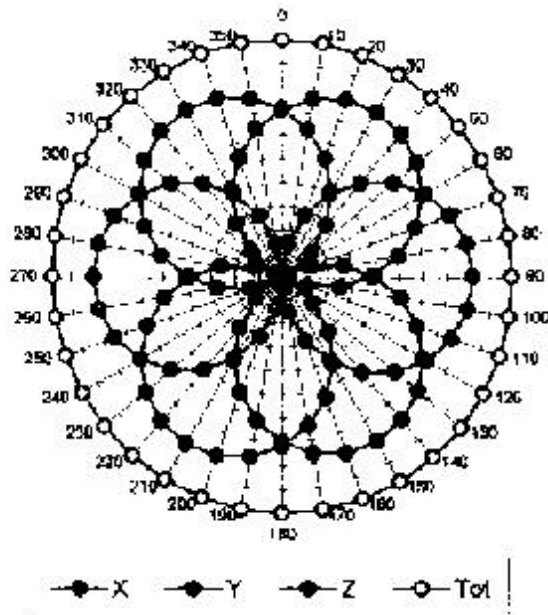
$f = 300 \text{ MHz}$, TEM cell if110



$f = 900 \text{ MHz}$, TEM cell if110



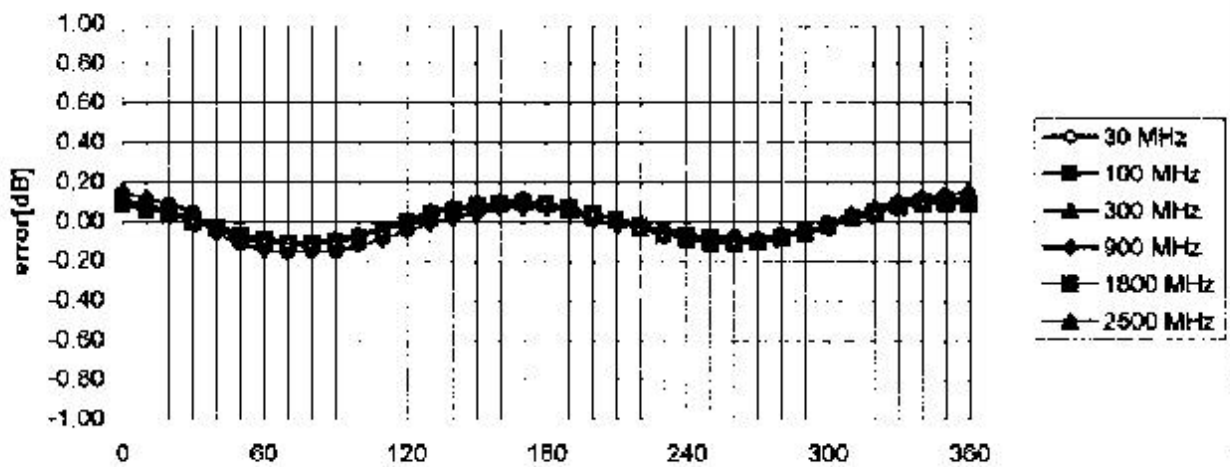
f = 1800 MHz, WG R22



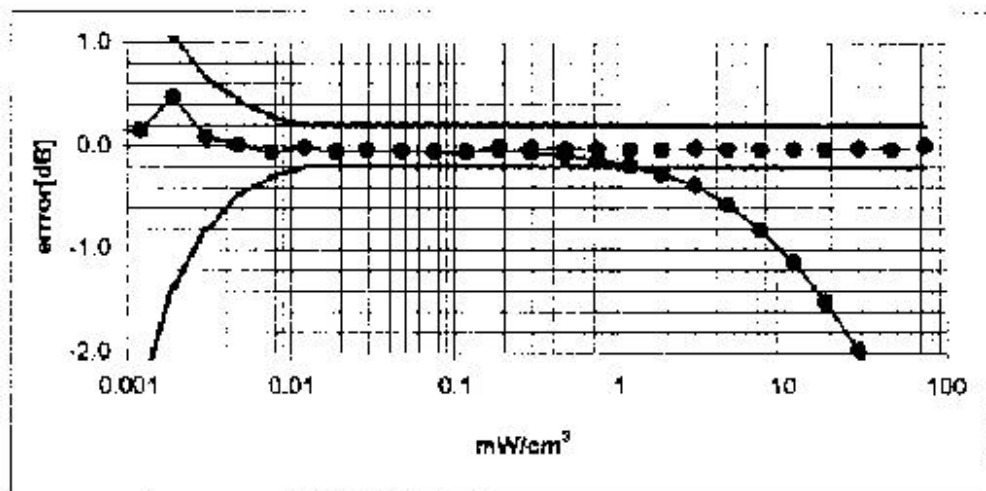
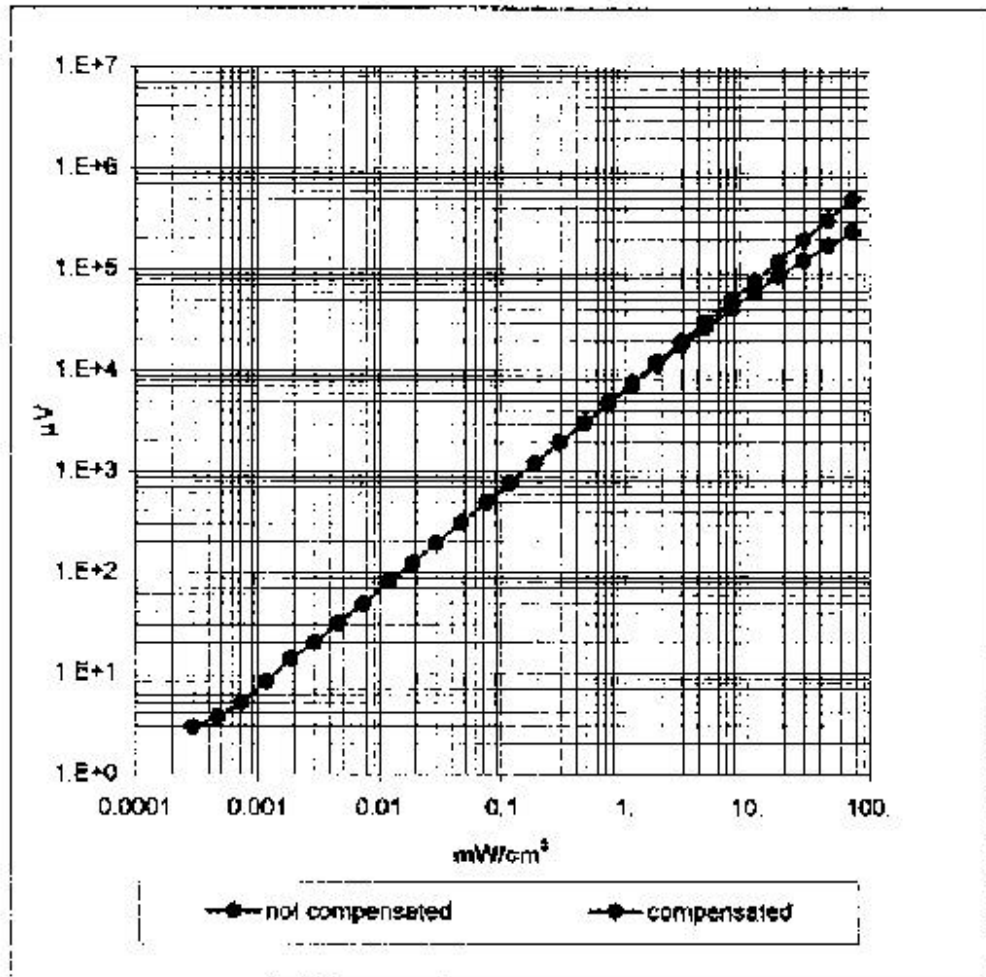
f = 2500 MHz, WG R22



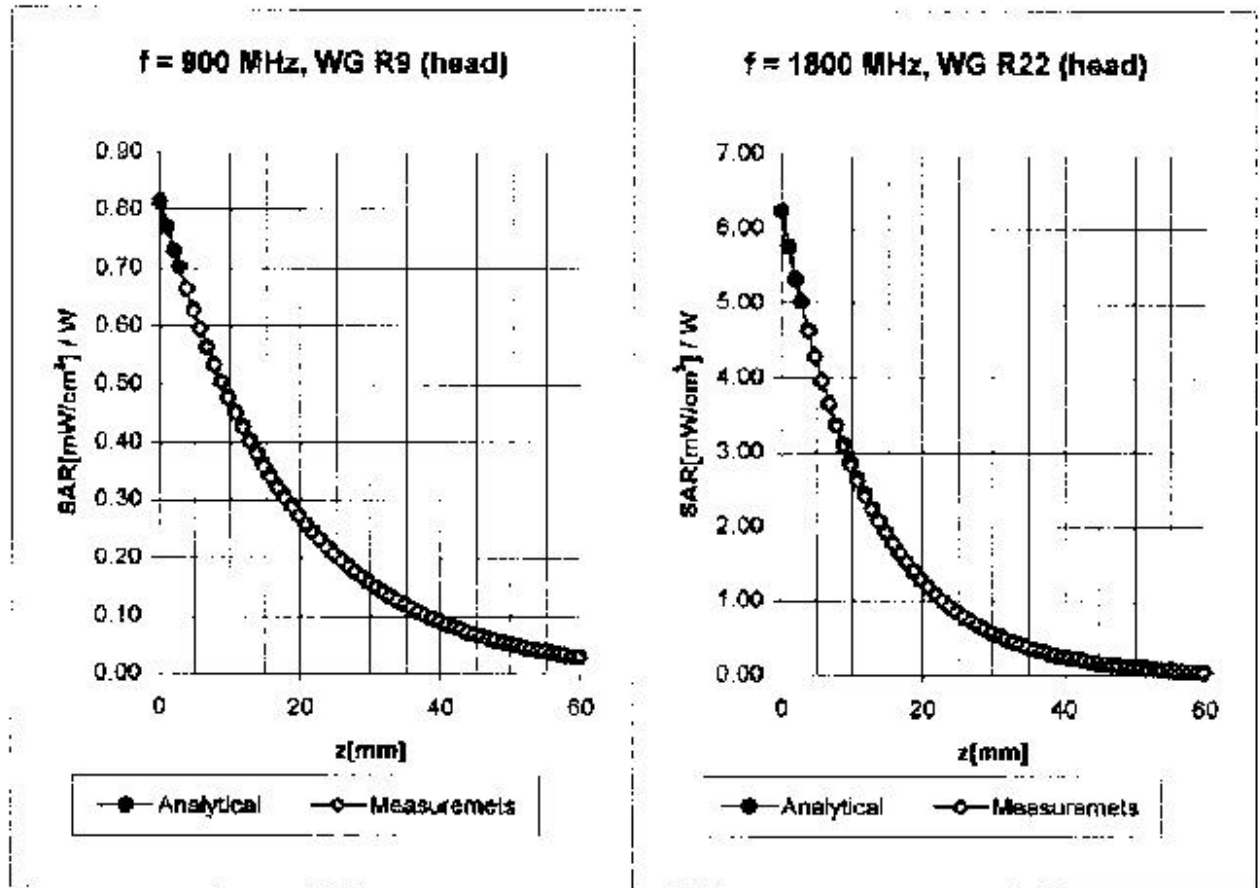
Isotropy Error (ϕ), $\theta = 0^\circ$



Dynamic Range f(SAR_{brain}) (TEM-Cell:ifi110)



Conversion Factor Assessment



Head 900 MHz $\epsilon_r = 42 \pm 5\%$ $\sigma = 0.97 \pm 10\%$ mho/m

ConvF X **6.31** $\pm 7\%$ (k=2)

Boundary effect:

ConvF Y **6.31** $\pm 7\%$ (k=2)

Alpha **0.64**

ConvF Z **6.31** $\pm 7\%$ (k=2)

Depth **1.95**

Head 1800 MHz $\epsilon_r = 40 \pm 5\%$ $\sigma = 1.40 \pm 10\%$ mho/m

ConvF X **5.32** $\pm 7\%$ (k=2)

Boundary effect:

ConvF Y **5.32** $\pm 7\%$ (k=2)

Alpha **0.64**

ConvF Z **5.32** $\pm 7\%$ (k=2)

Depth **1.99**

Calibration Certificate

Dosimetric E-Field Probe

Type:

ETSDVM

Serial Number:

1103

Place of Calibration:

Zurich

Date of Calibration:

Jun. 13, 2001

Calibration Interval:

12 months

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:

Wolfgang Merz

Approved by:

Oliver Hodge

Dosimetric E-Field Probe ET3DV6 SN:1103

Conversion factor (\pm standard deviation)

835 MHz	ConvF	6.8 \pm 8%	$\epsilon_r = 44.0$ $\sigma = 0.90$ mho/m (brain tissue)
835 MHz	ConvF	6.8 \pm 8%	$\epsilon_r = 52.0$ $\sigma = 1.10$ mho/m (muscle tissue)
925 MHz	ConvF	6.7 \pm 8%	$\epsilon_r = 44.0$ $\sigma = 0.93$ mho/m (brain tissue)
925 MHz	ConvF	6.6 \pm 8%	$\epsilon_r = 52.0$ $\sigma = 1.30$ mho/m (muscle tissue)
1800 MHz	ConvF	5.6 \pm 8%	$\epsilon_r = 40.3$ $\sigma = 1.35$ mho/m (brain tissue)
1900 MHz	ConvF	5.4 \pm 8%	$\epsilon_r = 39.9$ $\sigma = 1.41$ mho/m (brain tissue)
1800 MHz	ConvF	5.3 \pm 8%	$\epsilon_r = 50.0$ $\sigma = 1.58$ mho/m (muscle tissue)
1900 MHz	ConvF	5.2 \pm 8%	$\epsilon_r = 50.0$ $\sigma = 1.64$ mho/m (muscle tissue)

Probe ET3DV6

SN:1103

Manufactured:	May 13, 1995
Last calibration:	April 4, 2000
Remake (PEEK):	January 15, 2001
Recalibrated:	January 15, 2001

Calibrated for System DASY3

DASY3 - Parameters of Probe: ET3DV6 SN:1103

Sensitivity in Free Space

NormX	1.73 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.75 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.67 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression

DCP X	99 mV
DCP Y	99 mV
DCP Z	99 mV

Sensitivity in Tissue Simulating Liquid

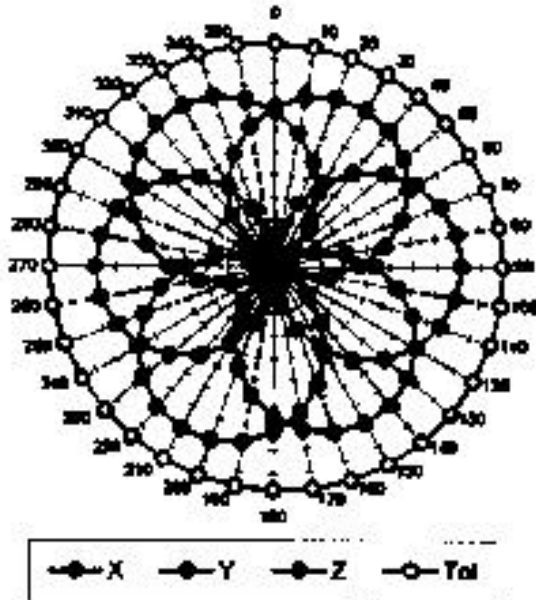
Brain	450 MHz	$\epsilon_r = 48 \pm 6\%$	$\sigma = 0.50 \pm 10\%$ mho/m	
ConvF X	7.19	extrapolated	Boundary effect:	
ConvF Y	7.19	extrapolated	Alpha	0.21
ConvF Z	7.19	extrapolated	Depth	2.97
Brain	800 MHz	$\epsilon_r = 42.5 \pm 6\%$	$\sigma = 0.86 \pm 10\%$ mho/m	
ConvF X	6.70	$\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	6.70	$\pm 7\%$ (k=2)	Alpha	0.32
ConvF Z	6.70	$\pm 7\%$ (k=2)	Depth	2.77
Brain	1600 MHz	$\epsilon_r = 41 \pm 6\%$	$\sigma = 1.32 \pm 10\%$ mho/m	
ConvF X	6.04	interpolated	Boundary effect:	
ConvF Y	6.04	interpolated	Alpha	0.46
ConvF Z	6.04	interpolated	Depth	2.51
Brain	1800 MHz	$\epsilon_r = 41 \pm 6\%$	$\sigma = 1.66 \pm 10\%$ mho/m	
ConvF X	5.71	$\pm 7\%$ (k=2)	Boundary effect:	
ConvF Y	5.71	$\pm 7\%$ (k=2)	Alpha	0.53
ConvF Z	5.71	$\pm 7\%$ (k=2)	Depth	2.38

Sensor Offset

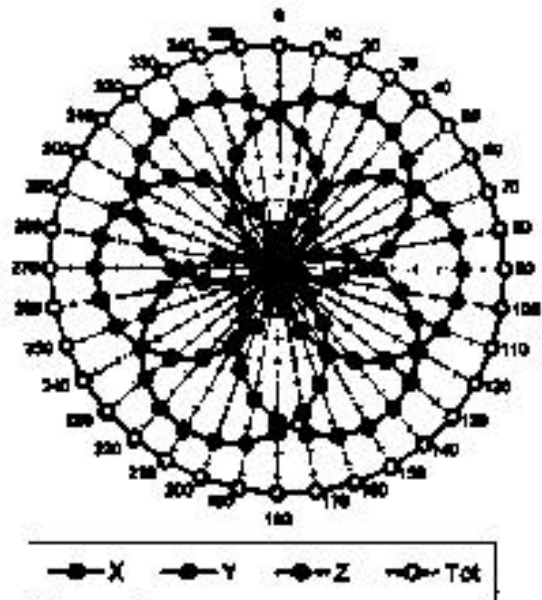
Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	2.2 \pm 0.2	mm

Receiving Pattern (ϕ), $\theta = 0^\circ$

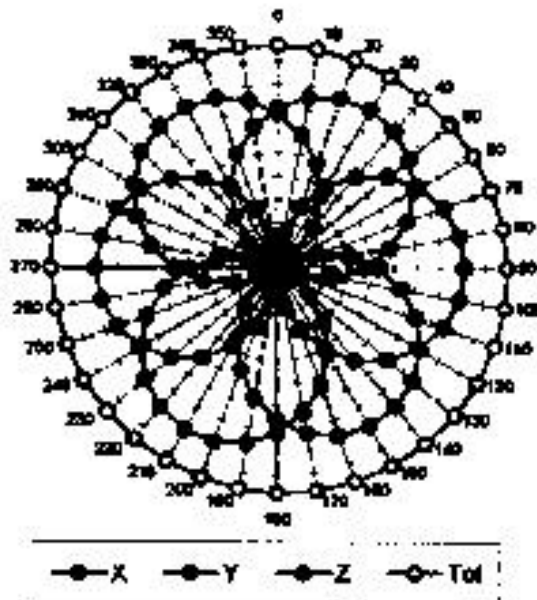
$f = 30$ MHz, TEM cell WR110



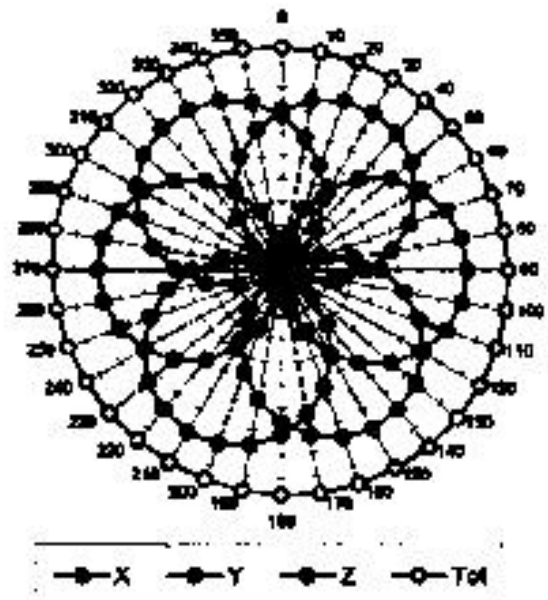
$f = 100$ MHz, TEM cell WR110

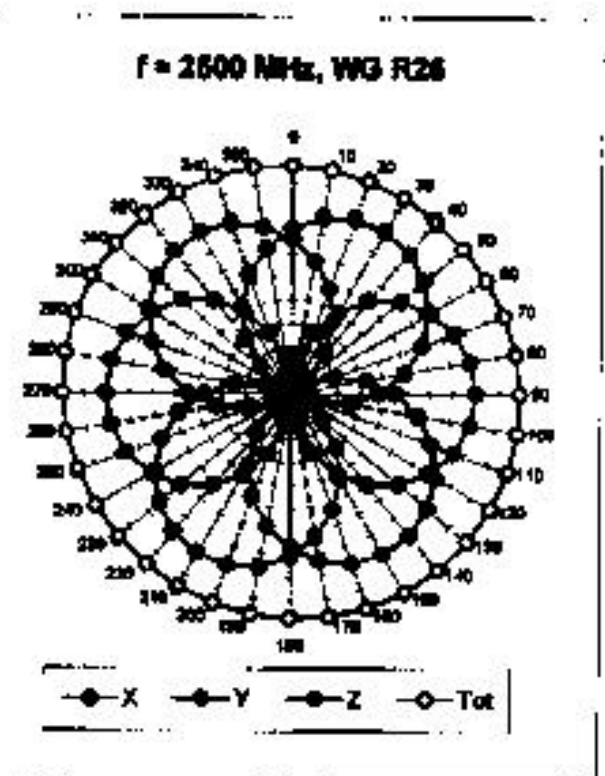
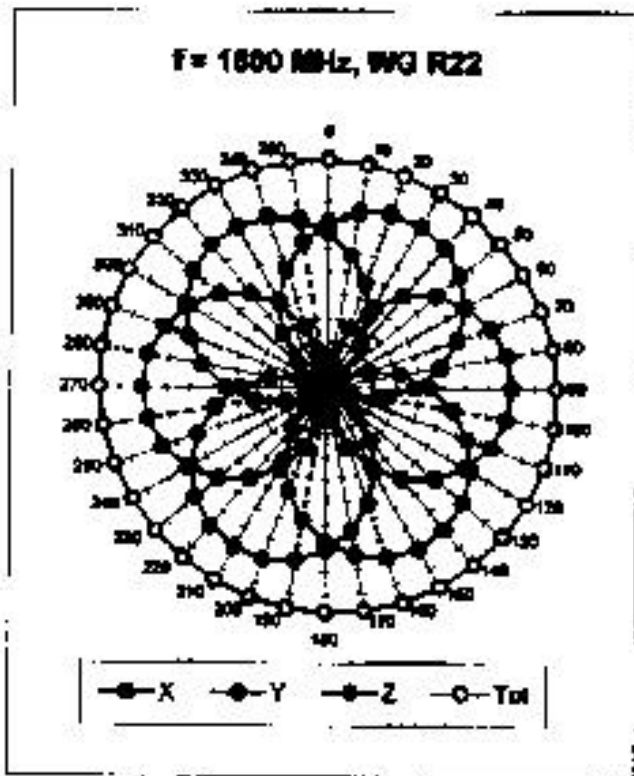


$f = 300$ MHz, TEM cell WR110

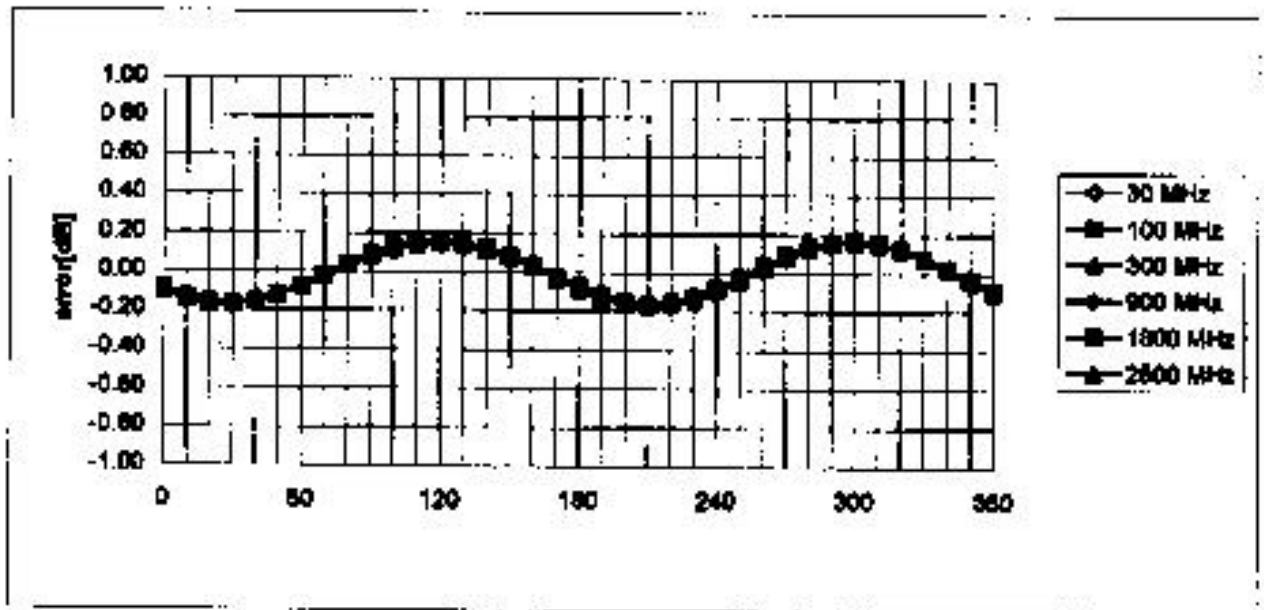


$f = 900$ MHz, TEM cell WR110



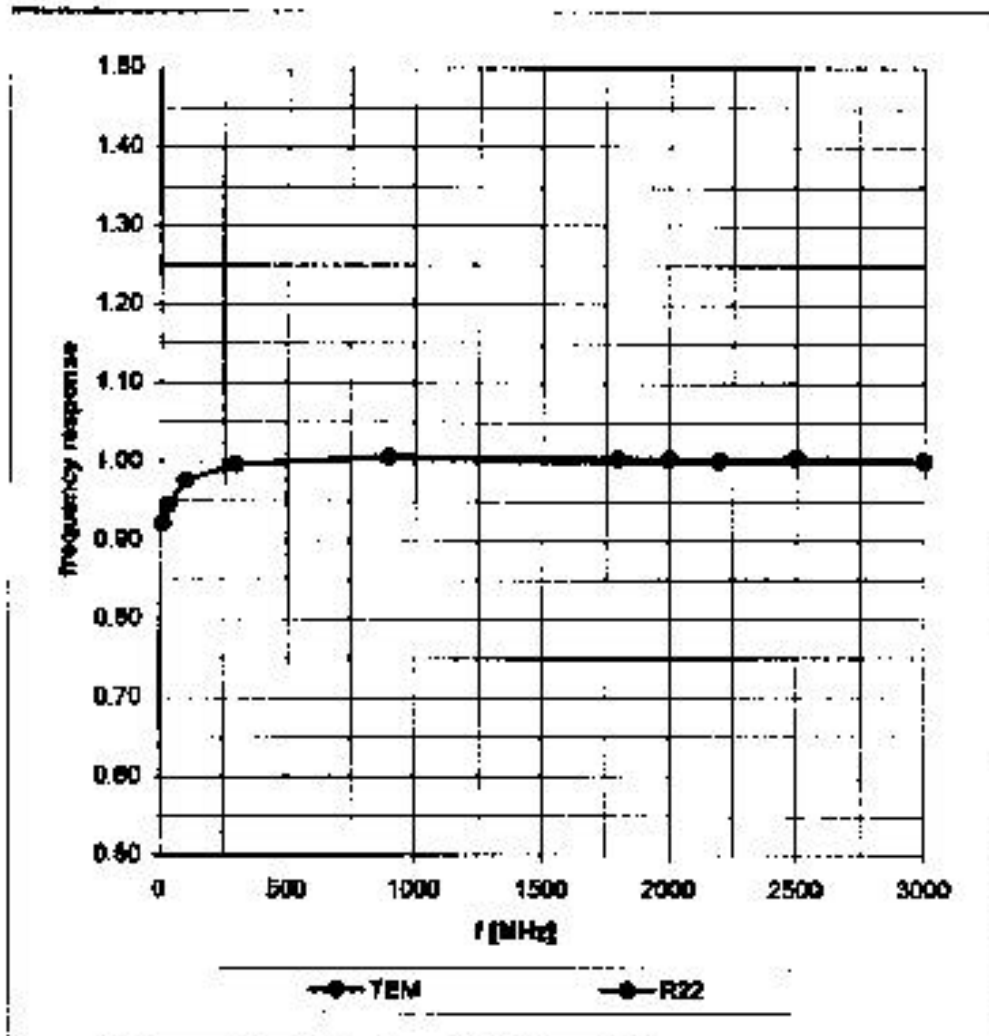


Isotropy Error (ϕ), $\theta = 0^\circ$



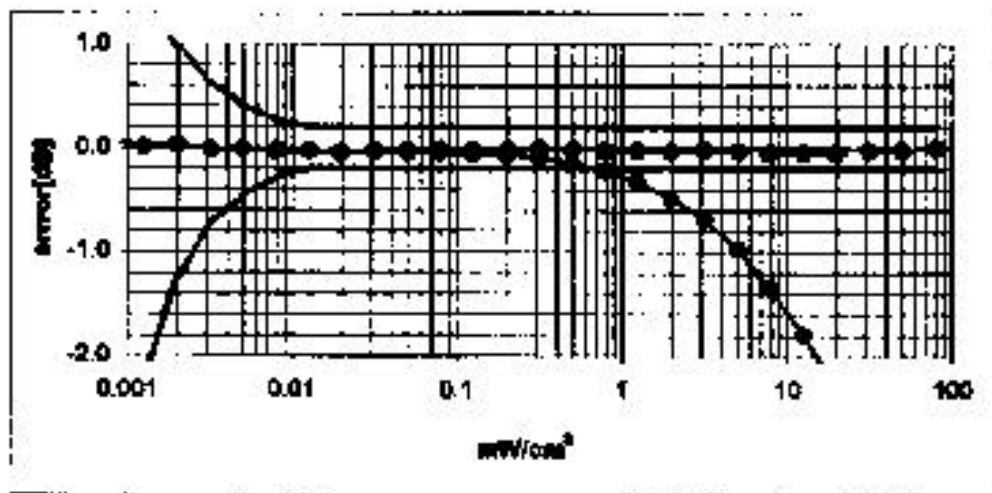
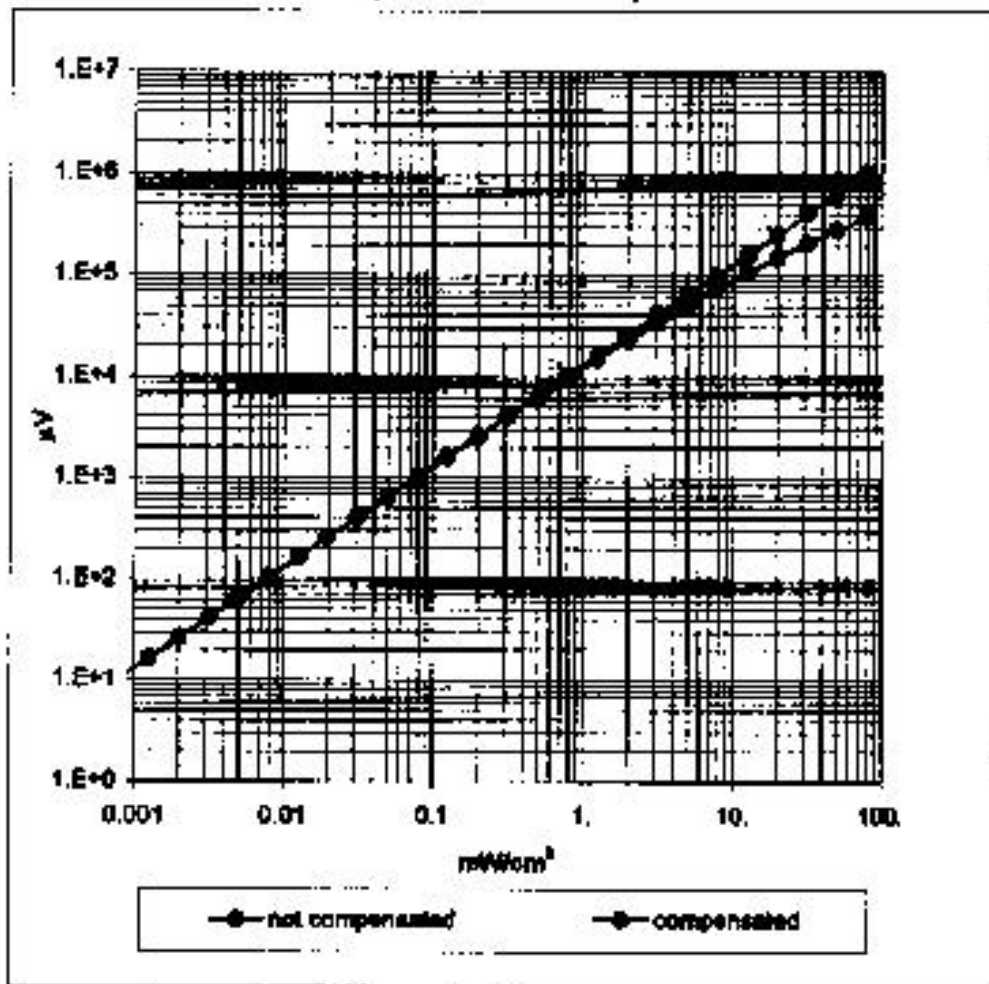
Frequency Response of E-Field

(TEM-Cell:M1110, Waveguide R22)

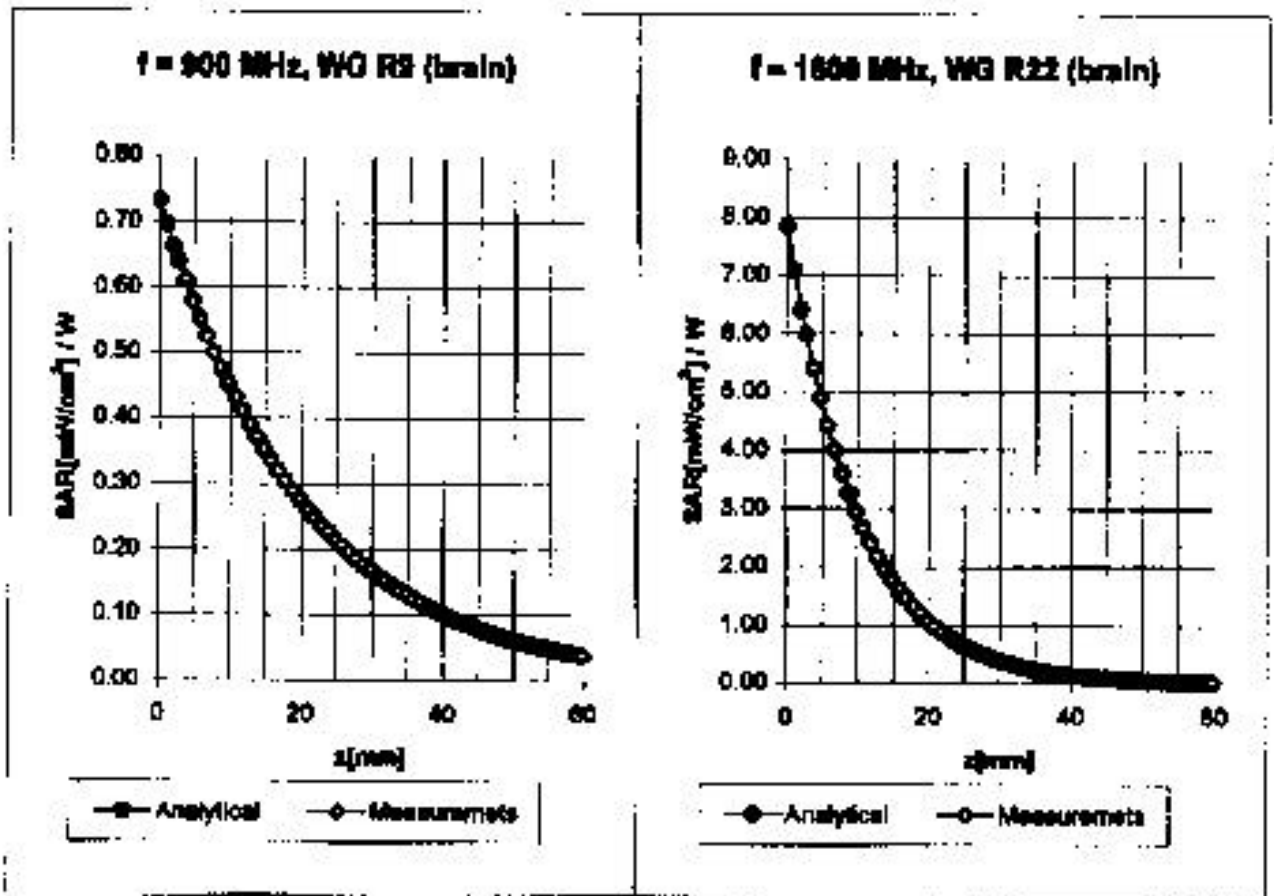


Dynamic Range f(SAR_{brain})

(TEM-Cell: #1110)



Conversion Factor Assessment



Receiving Pattern (ϕ)

(in brain tissue, z = 5 mm)

