Sharp Labs of America, Model No: SHARP TQ-CX1   Date of Test: August 29 to 31, 2001
FCC ID: APYHRO00022

Sharp TQ-CX1
Generic Twin Phantom; Right Hand Section; Position: (80°,65°); Frequency: 1880 MHz
Probe: ET3DV5 - SN1333; ConvF(4.99,4.99,4.99); Crest factor: 1.0; Brain 1880 MHz: σ = 1.75 mho/m ε_r = 40.4 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 1.01 mW/g. SAR (10g): 0.598 mW/g. (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.04 dB; Two Touch

08/29/01

Intertek Testing Services

SHARP TQ-CX1

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1851 MHz

Probe: ET3DV5 - SN1333; ConvF(4.99,4.99,4.99); Crest factor: 1.0; Muscle 1850 MHz: σ = 1.61 mho/m ε_r = 52.5 ρ = 1.00 g/cm³

Cube 5x5x7: SAR (1g): 0.127 mW/g, SAR (10g): 0.0733 mW/g. (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.02 dB; Touching the Phantom

08/31/01   #13

SAR$_{tot}$ [mW/g]

1.28E-1
1.15E-1
1.02E-1
8.96E-2
7.68E-2
6.40E-2
5.12E-2
3.84E-2
2.56E-2
1.28E-2

Intertek Testing Services

SHARP TQ-CX1

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz

Probe: ET3DV5 - SN1333; ConvF(4.99,4.99,4.99); Crest factor: 1.0; Muscle 1880 MHz: σ = 1.65 mho/m ε$_r$ = 52.2 ρ = 1.00 g/cm³

Cube 5x5x7: SAR (1g) 0.151 mW/g, SAR (10g) 0.0874 mW/g. (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.12 dB; Touching the Phantom

08/31/01

#14

SAR$_{Tot}$ [mW/g]

1.43E-1
1.29E-1
1.14E-1
1.00E-1
8.58E-2
7.15E-2
5.72E-2
4.29E-2
2.86E-2
1.43E-2

Intertek Testing Services

#15

08/31/01

SHARP TQ-CX1

Generic Twin Phantom; Flat Section; Position: (90°,90°); Frequency: 1909 MHz
Probe: ET3DV5 - SN1333; ConvF(4.99,4.99,4.99); Crest factor: 1.0; Muscle 1900 MHz: σ = 1.69 mho/m ε$_r$ = 52.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.202 mW/g. SAR (10g): 0.117 mW/g. (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.04 dB; Touching the Phantom

SAR$_{txt}$ [mW/g]

2.08E-1
1.87E-1
1.66E-1
1.46E-1
1.25E-1
1.04E-1
8.32E-2
6.24E-2
4.16E-2
2.08E-2

Intertek Testing Services

APPENDIX B - E-Field Probe Calibration Data

See attached pages.

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

Dosimetric E-Field Probe

Type:	**ET3DV5**
Serial Number:	**1333**
Place of Calibration:	**Zurich**
Date of Calibration:	**April 23, 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:

Approved by:

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Telephone +41 1 245 97 00, Fax +41 1 245 97 79

Probe ET3DV5

SN:1333

Manufactured:	December 20, 1997
Last calibration:	April 10, 2000
Recalibrated:	April 23, 2001

Calibrated for System DASY3

Class II Permissive Change

ET3DV5 SN:1333

DASY3 - Parameters of Probe: ET3DV5 SN:1333

Sensitivity in Free Space

NormX	$2.37 \, \mu V/(V/m)^2$		
NormY	$2.38 \, \mu V/(V/m)^2$		
NormZ	$2.33 \, \mu V/(V/m)^2$		

Diode Compression

DCP X	100 mV
DCP Y	100 mV
DCP Z	100 mV

Sensitivity in Tissue Simulating Liquid

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

			Boundary effect:	
ConvF X	6.25	extrapolated		
ConvF Y	6.25	extrapolated	Alpha	0.19
ConvF Z	6.25	extrapolated	Depth	3.06

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

			Boundary effect:	
ConvF X	5.83	± 7% (k=2)		
ConvF Y	5.83	± 7% (k=2)	Alpha	0.38
ConvF Z	5.83	± 7% (k=2)	Depth	2.70

Brain   1500 MHz $\varepsilon_r = 41 \pm 5\%$ $\sigma = 1.32 \pm 10\%$ mho/m

			Boundary effect:	
ConvF X	5.27	interpolated		
ConvF Y	5.27	interpolated	Alpha	0.63
ConvF Z	5.27	interpolated	Depth	2.23

Brain   1800 MHz $\varepsilon_r = 41 \pm 5\%$ $\sigma = 1.69 \pm 10\%$ mho/m

			Boundary effect:	
ConvF X	4.99	± 7% (k=2)		
ConvF Y	4.99	± 7% (k=2)	Alpha	0.75
ConvF Z	4.99	± 7% (k=2)	Depth	1.99

Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.6 ± 0.2	mm

Class II Permissive Change

ET3DV5 SN:1333

Receiving Pattern (φ), θ = 0°

f = 30 MHz, TEM cell ifi110

f = 100 MHz, TEM cell ifi110

f = 300 MHz, TEM cell ifi110

f = 900 MHz, TEM cell ifi110

Class II Permissive Change

ET3DV5 SN:1333

f = 1800 MHz, WG R22

f = 2500 MHz, WG R26

Isotropy Error (φ), θ = 0°

Class II Permissive Change
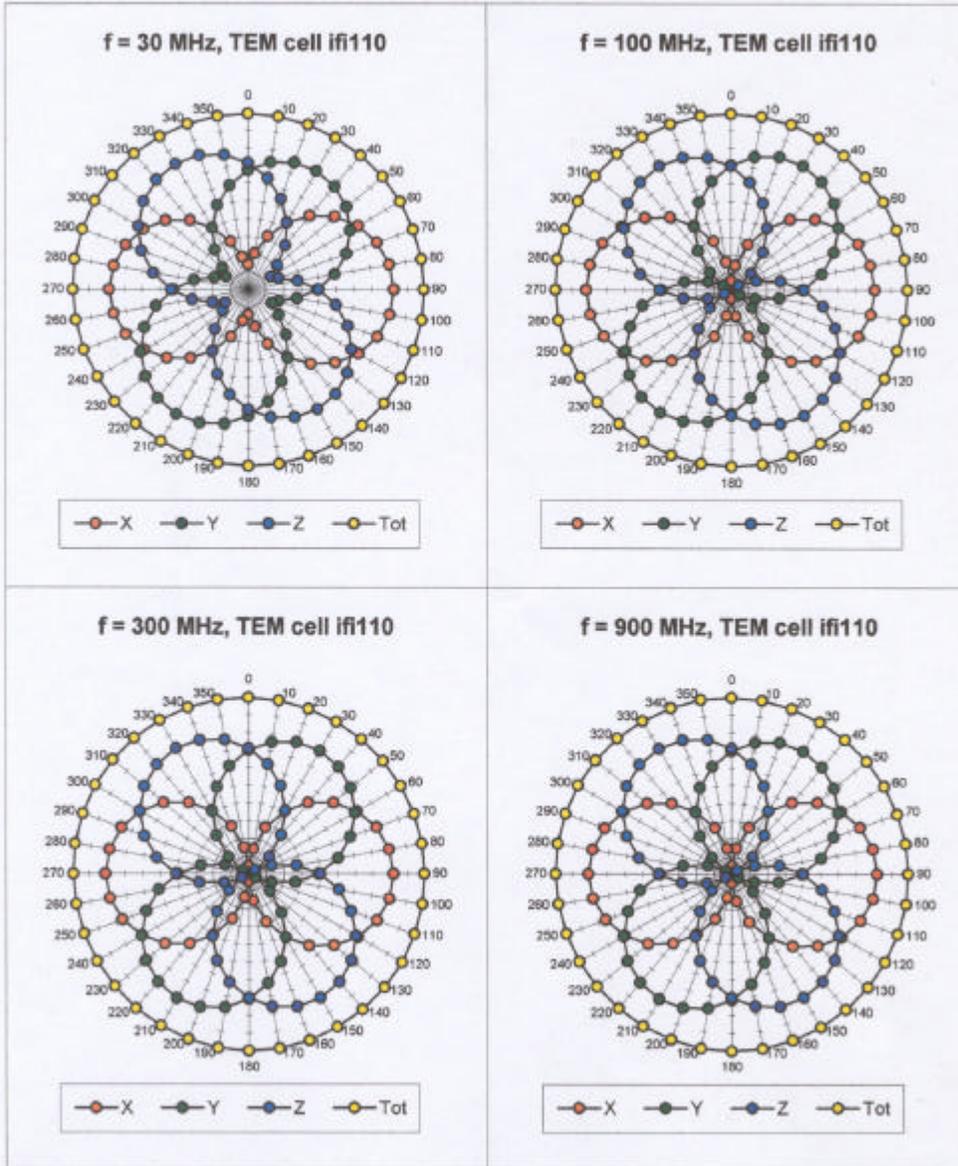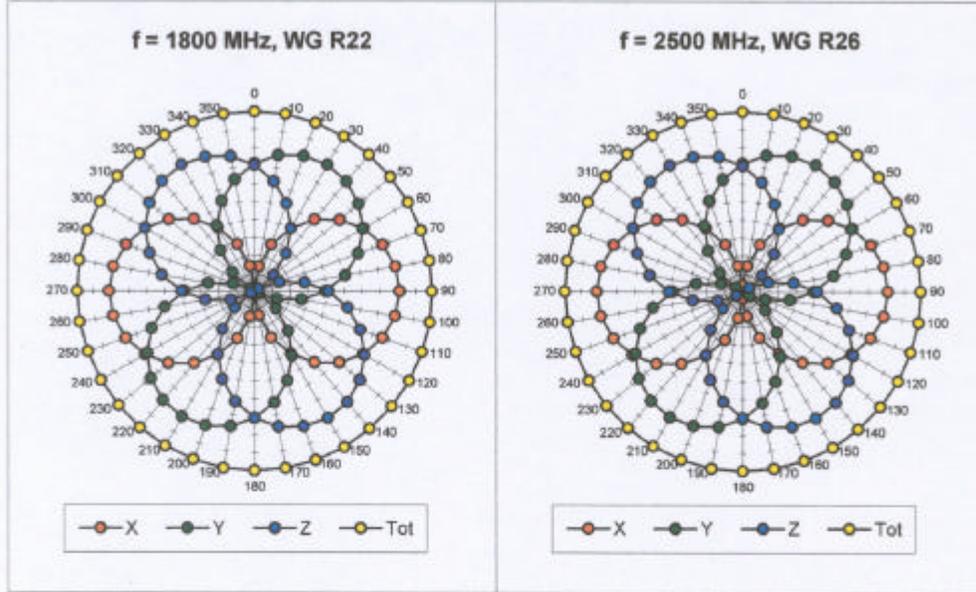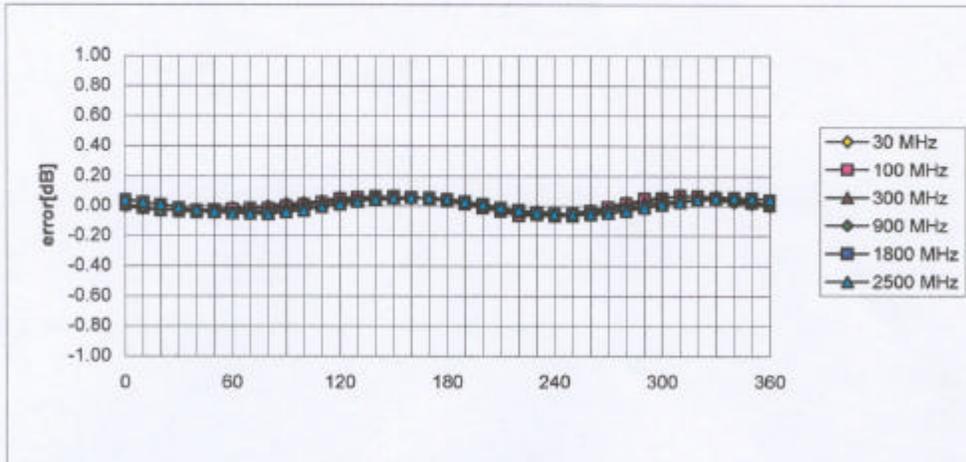
ET3DV5 SN:1333

Frequency Response of E-Field

(TEM-Cell:ifi110, Waveguide R22)

Report # 3007GJ91   FCC Part 2 SAR Evaluation
Class II Permissive Change
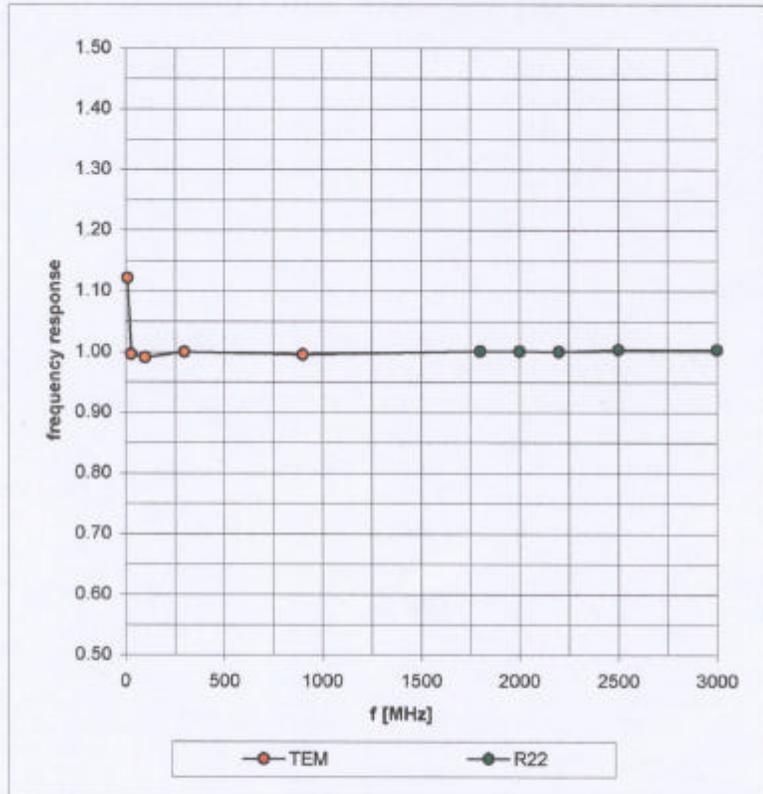
ET3DV5 SN:1333

Dynamic Range f(SAR$_{brain}$)
(TEM-Cell:ifi110)

Class II Permissive Change
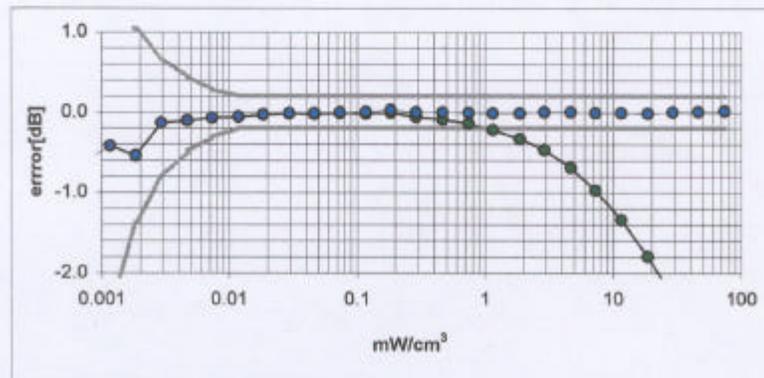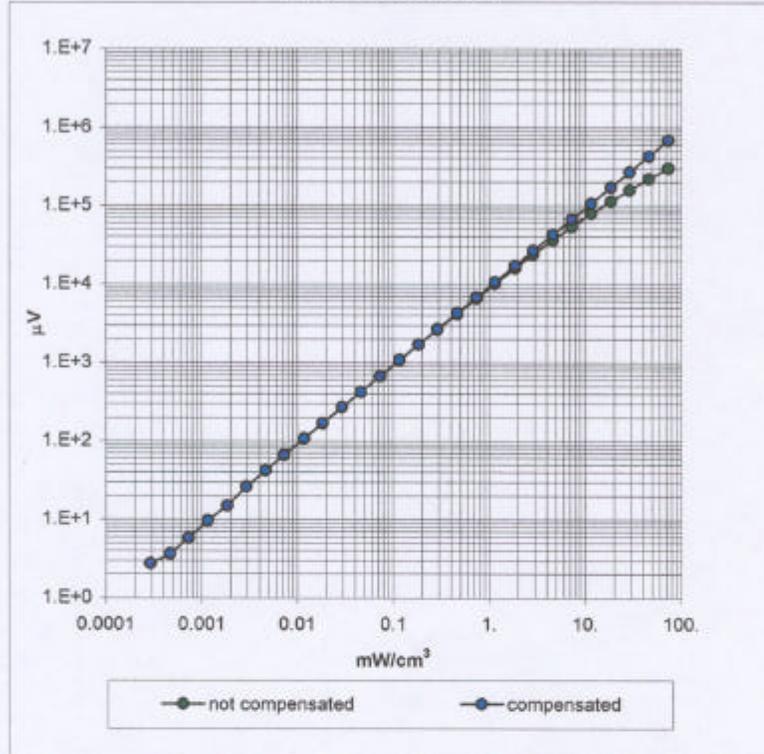
ET3DV5 SN:1333

Conversion Factor Assessment

f = 900 MHz, WG R9 (head)

f = 1800 MHz, WG R22 (brain)

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

		Boundary effect:	
ConvF X	5.83 ± 7% (k=2)		
ConvF Y	5.83 ± 7% (k=2)	Alpha	0.38
ConvF Z	5.83 ± 7% (k=2)	Depth	2.70

Brain	1800 MHz	$\varepsilon_r = 41 \pm 5\%$	$\sigma = 1.69 \pm 10\%$ mho/m

		Boundary effect:	
ConvF X	4.99 ± 7% (k=2)		
ConvF Y	4.99 ± 7% (k=2)	Alpha	0.75
ConvF Z	4.99 ± 7% (k=2)	Depth	1.99

Class II Permissive Change