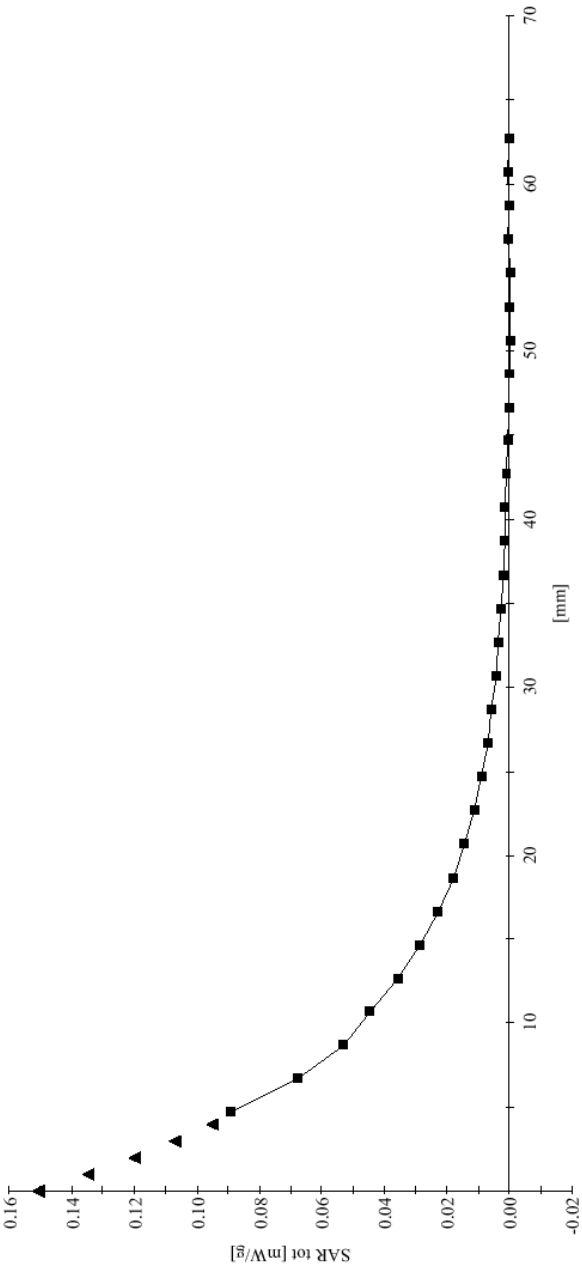
11/29/01

Sharp (M/N: UX-CL220) (Left Tilt, Low/Ch-1/2405M, 50% Duty Cycle)

Generic Twin Phantom; Section; Position: ; Frequency: 2450 MHz
Probe: ET3DV6 - SN1577; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Head 2450MHz: σ = 1.88 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3
; ;()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

Liquid Temperature: 23.8°C



COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Right Cheek, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Right Cheek Section; Position: (72°,65°); Frequency: 2450 MHz
Probe: ET3DV6 - SN1577; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Head 2450MHz: σ = 1.88 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0568 mW/g, SAR (10g): 0.0288 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Liquid Temperature: 23.2°C

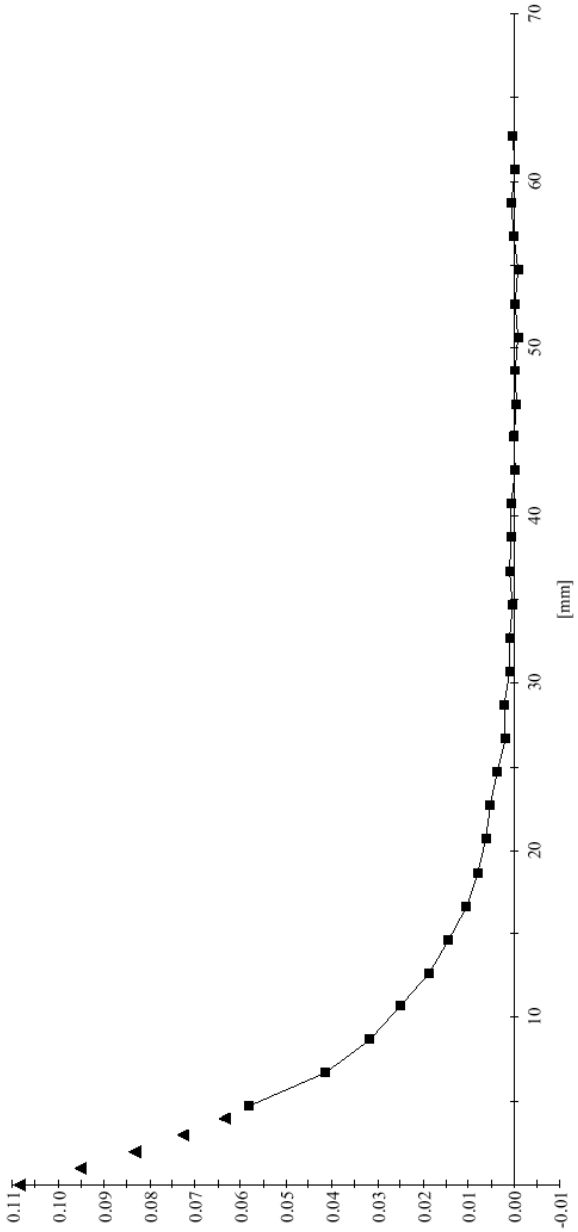
COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Right Cheek, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Section; Position: ; Frequency: 2450 MHz
Probe: ET3DV6 - SN1577; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Head 2450MHz: σ = 1.88 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3
; ;
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

Liquid Temperature: 23.2°C



COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Right Tilt, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Right Hand Section; Position: (80°,65°); Frequency: 2450 MHz
Probe: ET3DV6 - SN1577; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Head 2450MHz: σ = 1.88 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0827 mW/g, SAR (10g): 0.0424 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Liquid Temperature: 23.4°C

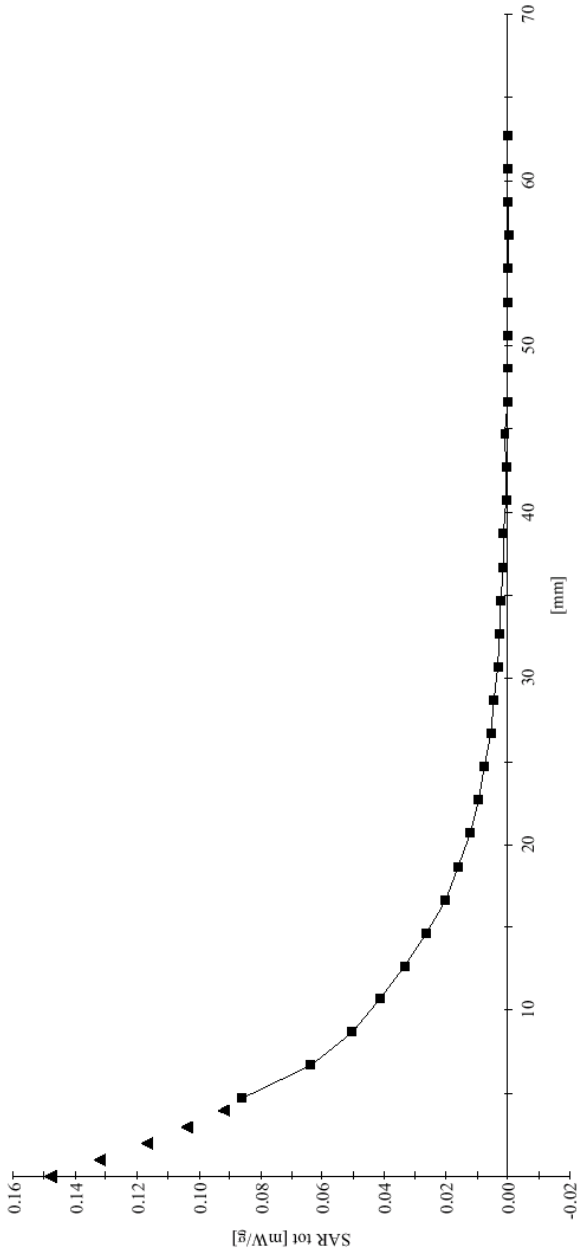
COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Right Tilt, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Section; Position: ; Frequency: 2450 MHz
Probe: ET3DV6 - SN1577; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Head 2450MHz: σ = 1.88 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3
: ; ()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

Liquid Temperature: 23.4°C



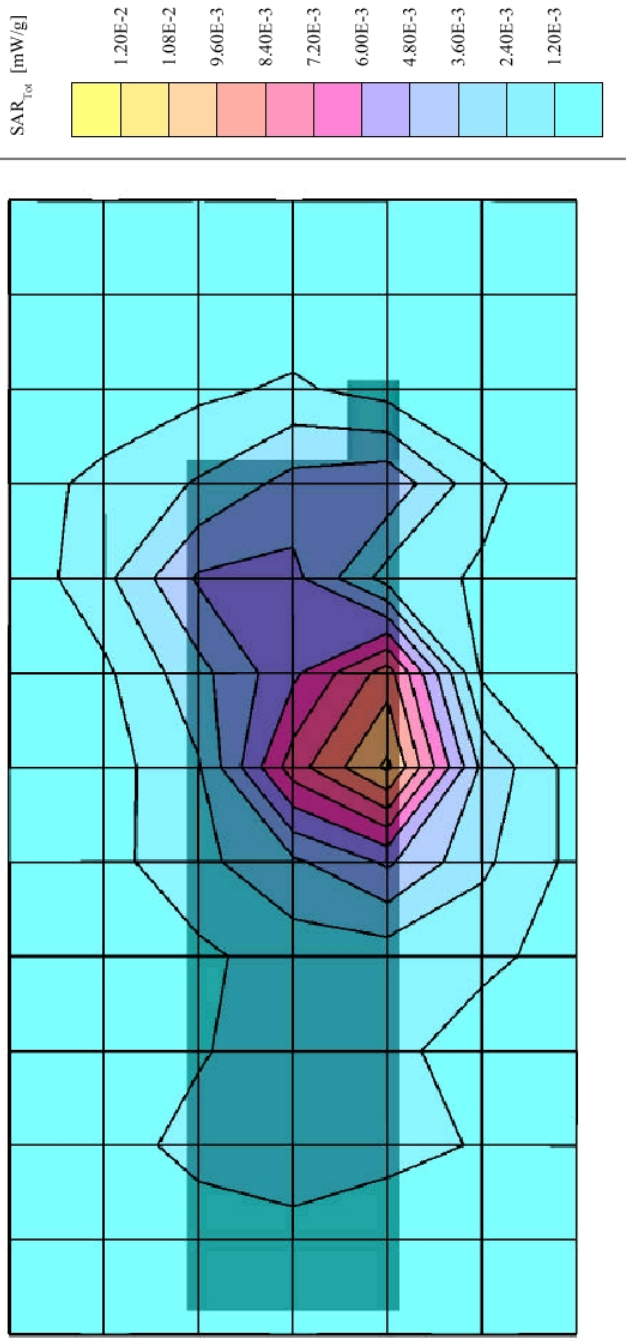
COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Body Configuration, 15mm Separation, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Flat Section; Position: (270°,270°); Frequency: 2450 MHz
Probe: ET3DV6 - SN1577M; ConvF(4.40,4.40,4.40); Crest factor: 1.0; Muscle 2450 MHz: σ = 2.02 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.0131 mW/g, SAR (10g): 0.0066 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Liquid Temperature: 23.2°C



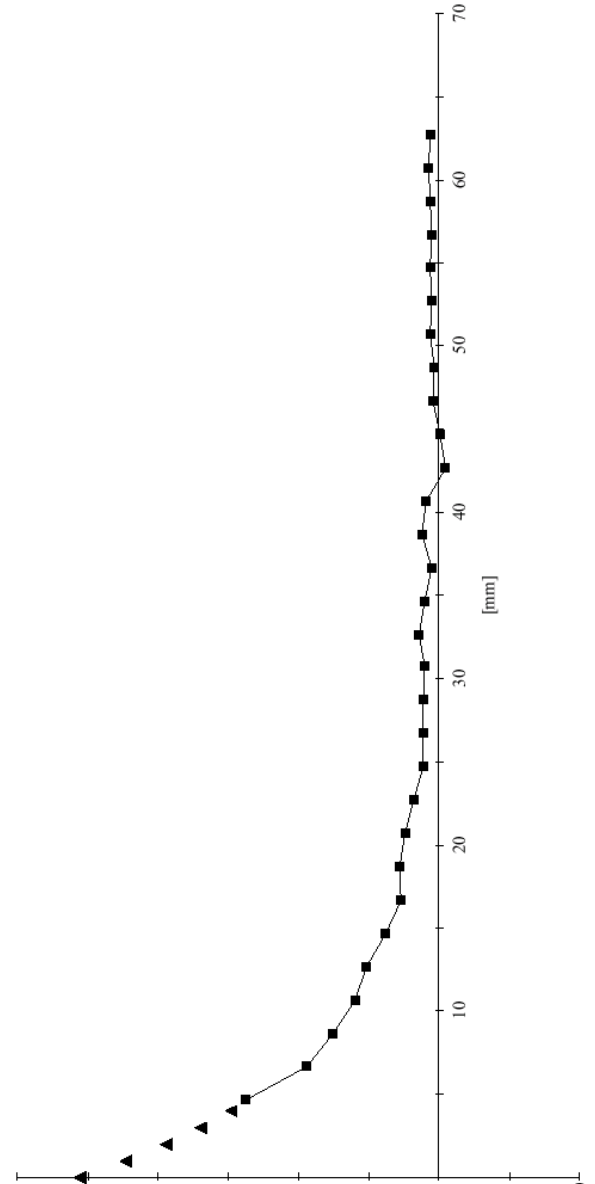
COMPLIANCE CERTIFICATION SERVICES

11/30/01

Sharp (M/N: UX-CL220) (Body Configuration, 15mm Separation, High/Ch-40/2475M, 50% Duty Cycle)

Generic Twin Phantom; Section; Position: ; Frequency: 2450 MHz
Probe: ET3DV6 - SN1577M; ConvF(4.40,4.40,4.40); Crest factor: 1.0; Muscle 2450 MHz: $\sigma = 2.02$ mho/m $\varepsilon_r = 51.5$ $\rho = 1.00$ g/cm³
: ; ()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

Liquid Temperature: 23.2°C



COMPLIANCE CERTIFICATION SERVICES

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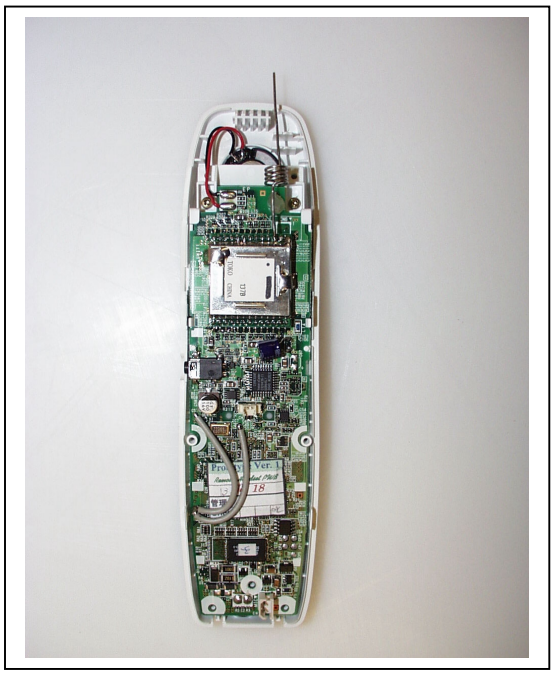
8. APPENDIX

8.1. EUT PHOTOS

External Photos

Internal Photo



8.2 EQUIPMENTS LIST & CALIBRATION INFO

Type / Model	Cal. Date	S/N:
DASY3 Professional Dosimetric System	N/A	
Robot RX90BL	N/A	F00/5H31A1/A/01
Robot Controller	N/A	D22134001-1
Teach Pendant	N/A	321
Dell Computer Optiplex GX110	N/A	
Pentium III, Windows NT	N/A	
SPEAG EDC3	N/A	
SPEAG DAE3	4/27/01	421
SPEAG E-Field Probe ET3DV6	4/20/01	1577
SPEAG E-Field Probe ET3DV6	4/20/01	1578
SPEAG Dummy Probe	N/A	
SPEAG Generic Twin Phantom	N/A	
SPEAG Light Alignment Sensor	N/A	261
SPEAG Validation Dipole D1800V2	4/19/01	294
SPEAG Validation Dipole D900V2	4/17/01	108
Brain Equivalent Matter (800MHz)	Daily	
Brain Equivalent Matter (1900MHz)	Daily	
Muscle Equivalent Matter (800MHz)	Daily	
Muscle Equivalent Matter (1900MHz)	Daily	
Robot Table	N/A	
Phone Holder	N/A	
Phantom Cover	N/A	
HP Spectrum Analyzer HP8593GM	6/20/01	3009A00791
Microwave Amp. Model: ZHL-42W	N/A	D072701-5
Power Meter HP436A	4/2/01	2709A29209
Power Sensor HP8482A	4/2/01	2349A08568
Signal Generator HP-83732B	3/21/01	US13449049
Network Analyzer HP-8753ES	7/28/01	MY40001647
Dielectric Probe Kit HP85070A	N/A	

8.3 IEEE SCC-34/SC-2 P1528 RECOMMENDED TISSUE DIELECTRIC PARAMETERS

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528.

Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

8.4 EQUIPMENTS CALIBRATION CERTIFICATE

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:	**ET3DV6**
Serial Number:	**1577**
Place of Calibration:	**Zurich**
Date of Calibration:	**Apr. 20, 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:	Nikolai Nevjana
Approved by:	

Schmid & Partner Engineering AG

DASY - DOSIMETRIC ASSESSMENT SYSTEM

CALIBRATION REPORT

DATA ACQUISITION ELECTRONICS

MODEL:	**DAE3 V1**
SERIAL NUMBER:	**427**

This Data Acquisition Unit was calibrated and tested using a FLUKE 702 Process Calibrator. Calibration and verification were performed at an ambient temperature of 23 ± 5 °C and a relative humidity of < 70%.

Measurements were performed using the standard DASY software for converting binary values, offset compensation and noise filtering. Software settings are indicated in the reports.

Results from this calibration relate only to the unit calibrated.

Calibrated by:	**E. Meyer**
Calibration Date:	**April 27, 2001**
DASY Software Version:	**DASY3 V3.1c**