

## APPENDIX E - EUT SCANS

PegasusTelecom, Model: Z160 (1.5 cm separation to the flat phantom with headset, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

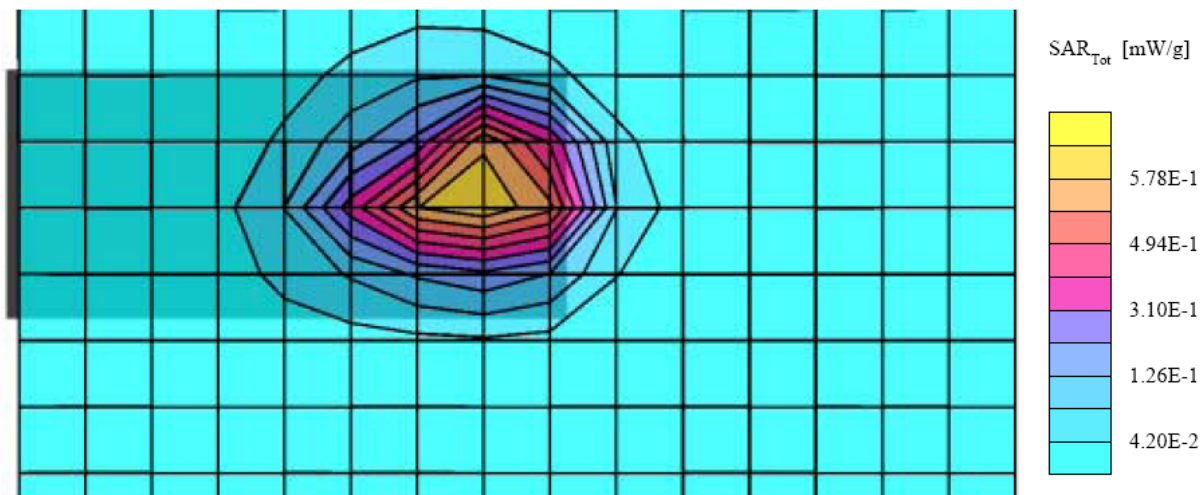
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 837 MHz

Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; (Body) 835 MHz:  $\sigma = 0.93 \text{ mho/m}$   $\epsilon_r = 55.6$   $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.748 mW/g, SAR (10g): 0.412 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.04 dB



Plot #1

Pegasus Telecom, Model: Z160 (Left Head, Cheek, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

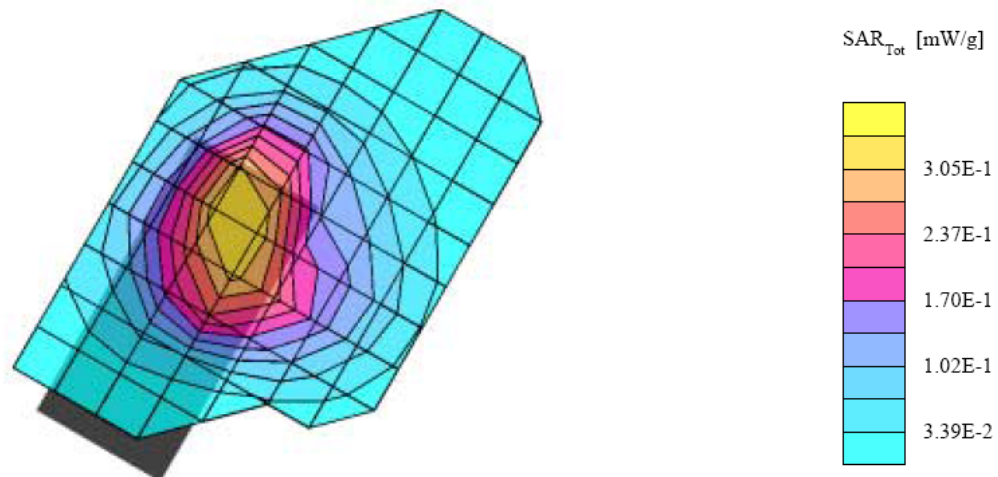
SAM Phantom; Left Hand Section; Position: (90°, 60°); Frequency: 837 MHz

Probe: ET3DV6 - SN1604; ConvF(6.45, 6.45, 6.45); Crest factor: 8.0; Head Liquid 835 MHz:  $\sigma = 0.91$  mho/m  $\epsilon_r = 41.4$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 0.446 mW/g, SAR (10g): 0.289 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.02 dB



Plot #2

Pegasus Telecom, Model: Z160 (Left Head, Tilted, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

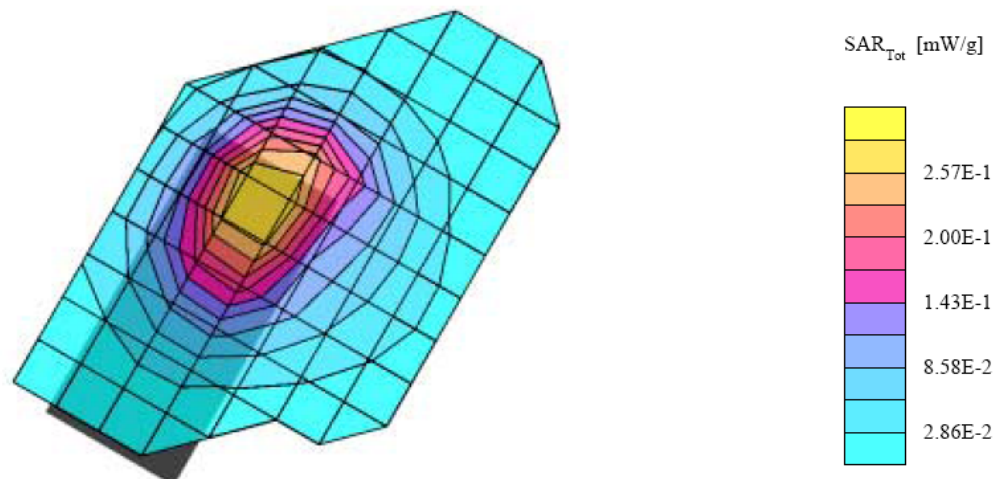
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 837 MHz

Probe: ET3DV6 - SN1604; ConvF(6.45,6.45,6.45); Crest factor: 8.0; Head Liquid 835 MHz:  $\sigma = 0.91$  mho/m  $\epsilon_r = 41.4$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 0.339 mW/g, SAR (10g): 0.225 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.01 dB



Plot #3

Pegasus Telecom, Model: Z160 (Right Head, Cheek, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

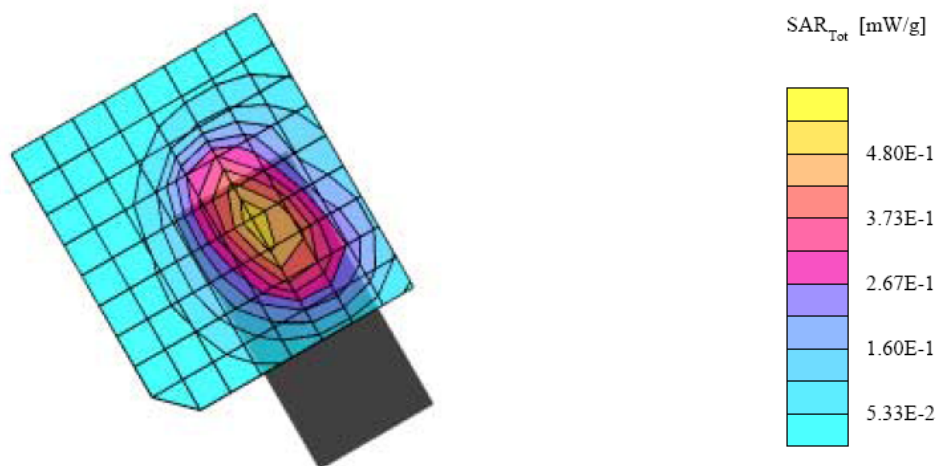
SAM Phantom; Righ Hand Section; Position: (90°,120°); Frequency: 837 MHz

Probe: ET3DV6 - SN1604; ConvF(6.45,6.45,6.45); Crest factor: 8.0; Head Liquid 835 MHz:  $\sigma = 0.91$  mho/m  $\epsilon_r = 41.4$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 0.493 mW/g, SAR (10g): 0.320 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.01 dB



Plot #4

Pegasus Telecom, Model: Z160 (Right Head, Tilted, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

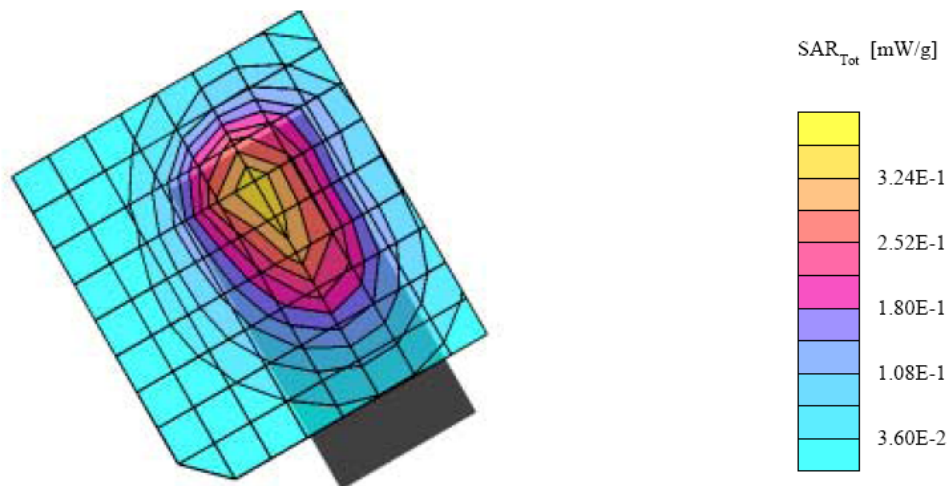
SAM Phantom; Righ Hand Section; Position: (90°, 120°); Frequency: 837 MHz

Probe: ET3DV6 - SN1604; ConvF(6.45,6.45,6.45); Crest factor: 8.0; Head Liquid 835 MHz:  $\sigma = 0.91 \text{ mho/m}$   $\epsilon_r = 41.4$   $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.339 mW/g, SAR (10g): 0.223 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.00 dB



Plot #5

PegasusTelecom, Model: Z160 (1.5 cm separation to flat phantom with headset, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

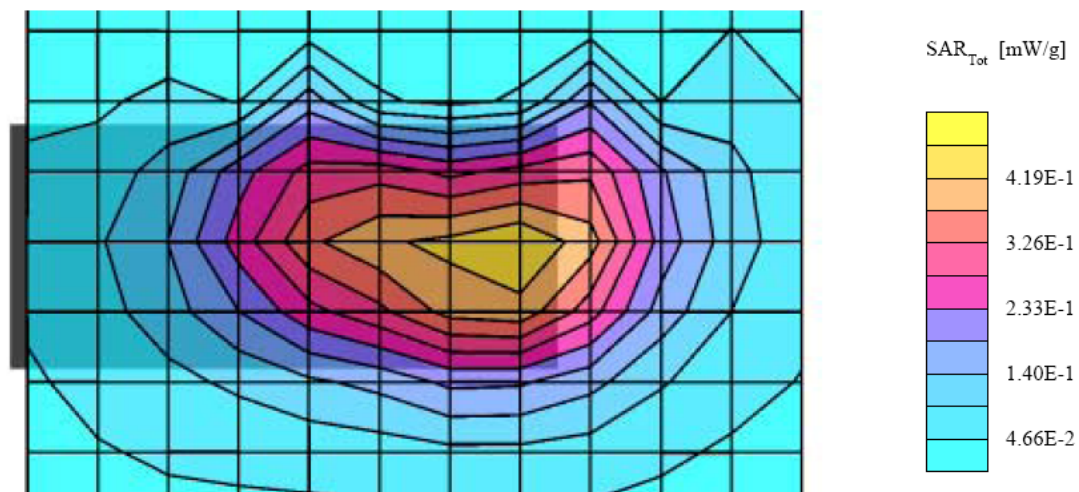
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz

Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 8.0; Body Liquid 1900 MHz:  $\sigma = 1.50 \text{ mho/m}$ ,  $\epsilon_r = 53.4$ ,  $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.595 mW/g, SAR (10g): 0.332 mW/g, (Worst-case extrapolation)

Coarse: Dx = 13.0, Dy = 13.0, Dz = 10.0

Powerdrift: -0.01 dB



Plot #6

PegasusTelecom, Model: Z160 (Left Head, Cheek, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

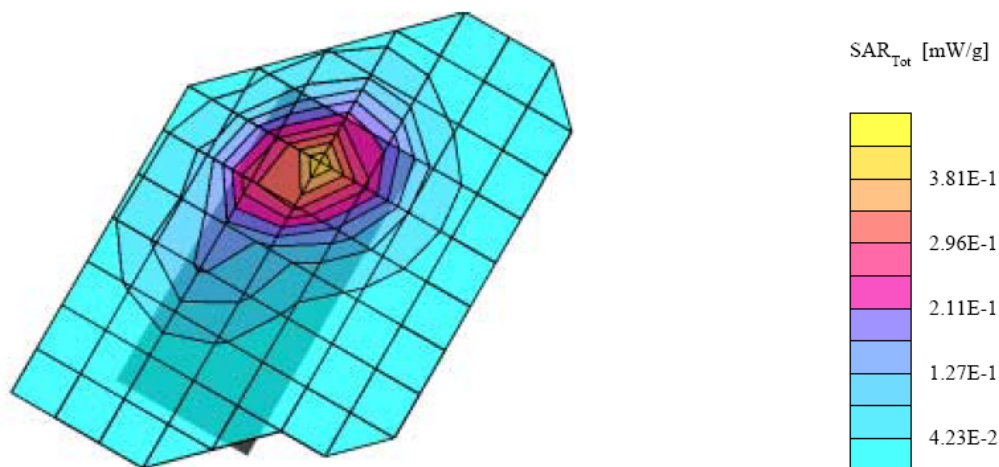
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(5.23,5.23,5.23); Crest factor: 8.0; (Head) 1900 MHz:  $\sigma = 1.41$  mho/m  $\epsilon_r = 39.2$   $\rho = 1.31$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 0.440 mW/g, SAR (10g): 0.263 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.02 dB



Plot #7

PegasusTelecom, Model: Z160 (Left Head, Tilted, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

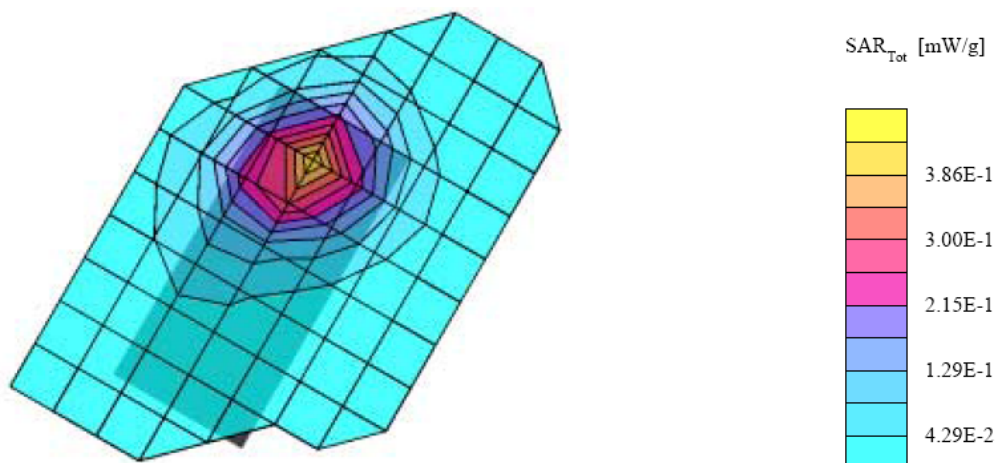
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(5.23,5.23,5.23); Crest factor: 8.0; (Head) 1900 MHz:  $\sigma = 1.41 \text{ mho/m}$   $\epsilon_r = 39.2$   $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.453 mW/g, SAR (10g): 0.258 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.00 dB



Plot #8

PegasusTelecom, Model: Z160 (Right Head, Cheek, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

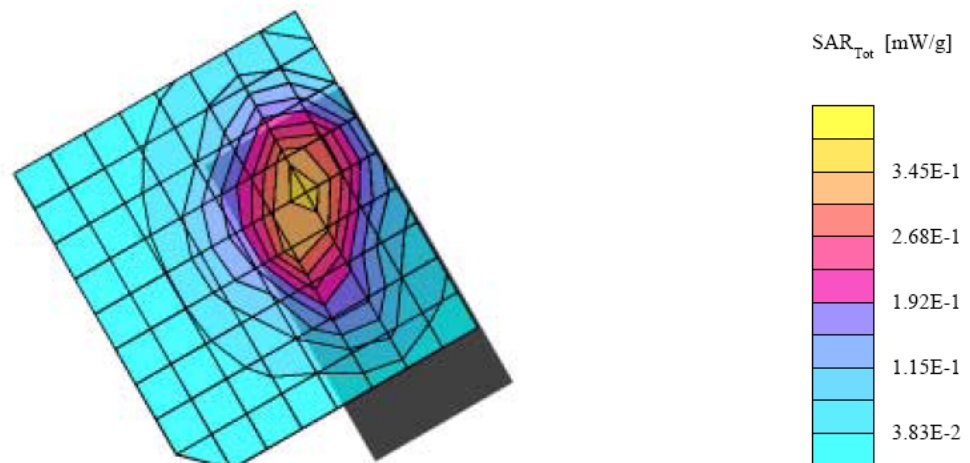
SAM Phantom; Right Hand Section; Position: (90°, 300°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(5.23, 5.23, 5.23); Crest factor: 8.0; (Head) 1900 MHz:  $\sigma = 1.41 \text{ mho/m}$ ,  $\epsilon_r = 39.2$ ,  $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.367 mW/g, SAR (10g): 0.222 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.03 dB



Plot #9

PegasusTelecom, Model: Z160 (Right Head, Tilted, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

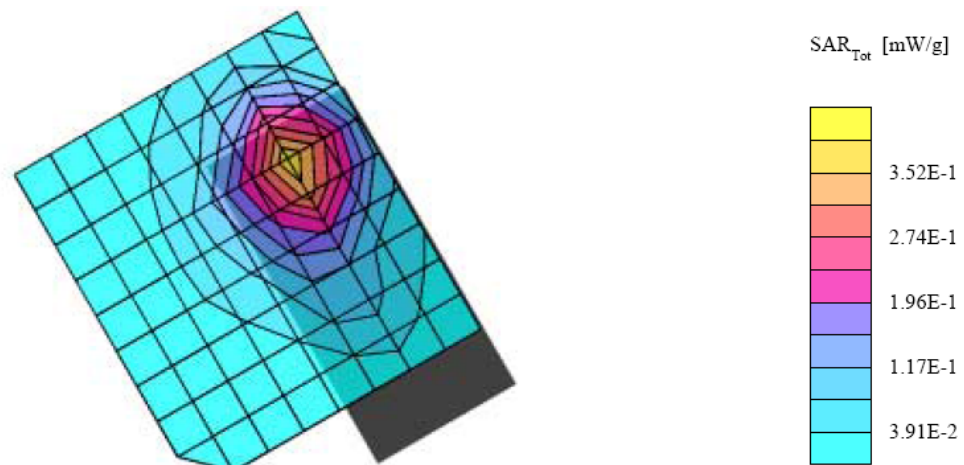
SAM Phantom; Right Hand Section; Position: (90°, 300°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(5.23, 5.23, 5.23); Crest factor: 8.0; (Head) 1900 MHz:  $\sigma = 1.41 \text{ mho/m}$ ,  $\epsilon_r = 39.2$ ,  $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.348 mW/g, SAR (10g): 0.200 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.02 dB



Plot #10

## APPENDIX F – CONDUCTED OUTPUT POWER MEASUREMENT

### Provision Applicable

According to FCC §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts. According to FCC § 24.232(b), EIRP peak power for mobile/portable stations are limited to 2 watts.

### Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

### Test equipment

Hewlett Packard HP8564E Spectrum Analyzer, Calibration Due Date: 2005-08-01.

Hewlett Packard HP 7470A Plotter, Calibration not required.

A.H. Systems SAS200 Horn Antenna, Calibration Due Date: 2005-05-31

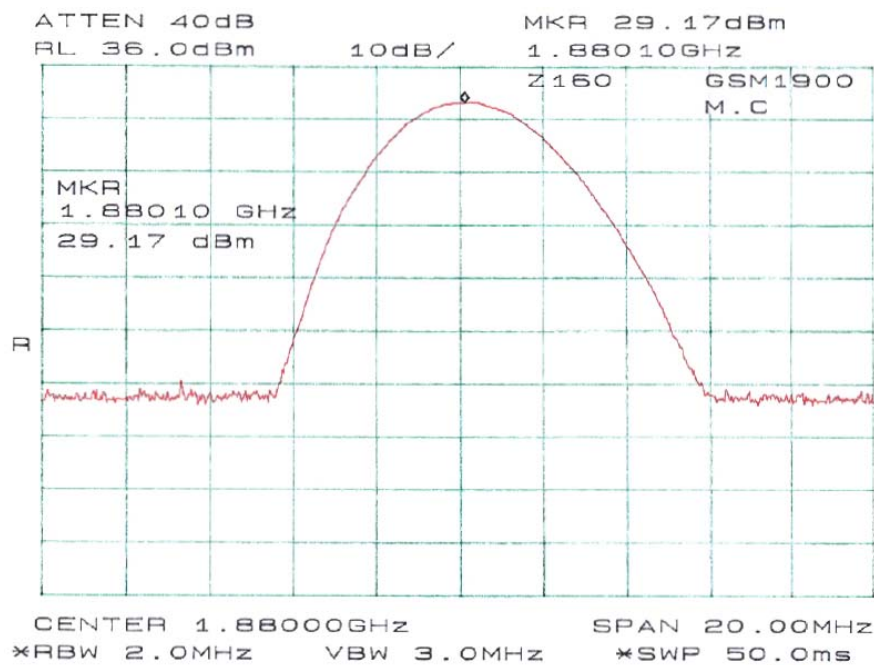
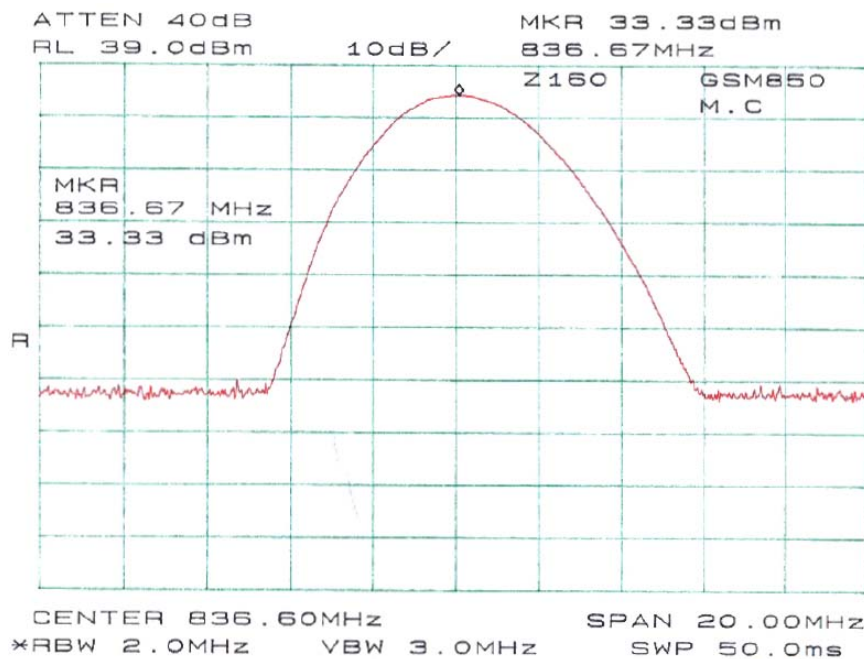
Com-Power AB-100 Dipole Antenna, Calibration Due Date: 2005-09-05

### Test Results

GMS:

| Frequency (MHz) | Output Power in dBm | Output Power in W | Limit (W) |
|-----------------|---------------------|-------------------|-----------|
| 836.67          | 33.33               | 2.153             | 7         |
| 1880.10         | 29.17               | 0.826             | 2         |

Please refer to the following plots.



## APPENDIX G – Z-AXIS PLOT

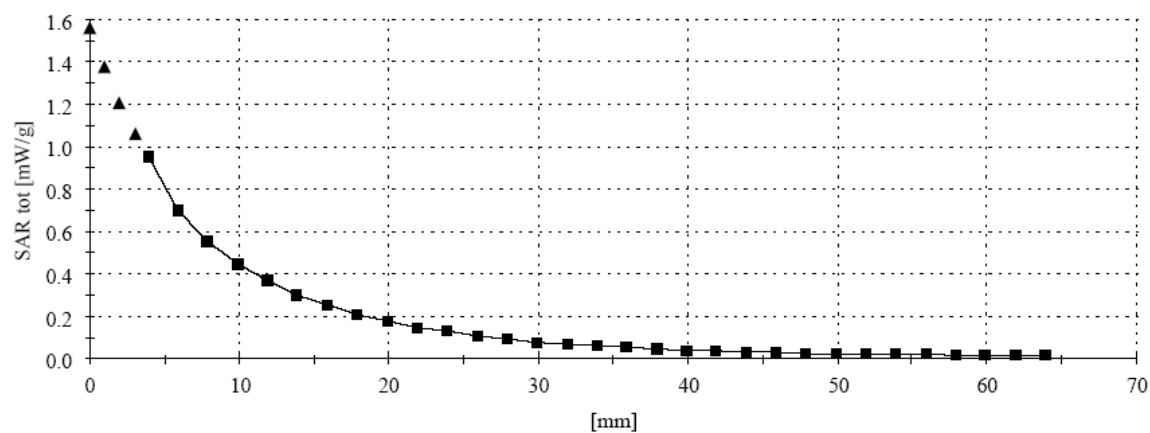
PegasusTelecom, Model: Z160 (1.5 cm separation to the flat phantom with headset, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 11/22/2004)

SAM Phantom; Section: Position: ; Frequency: 837 MHz

Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; (Body) 835 MHz:  $\sigma = 0.93 \text{ mho/m}$   $\epsilon_r = 55.6$   $\rho = 1.31 \text{ g/cm}^3$

; 0

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

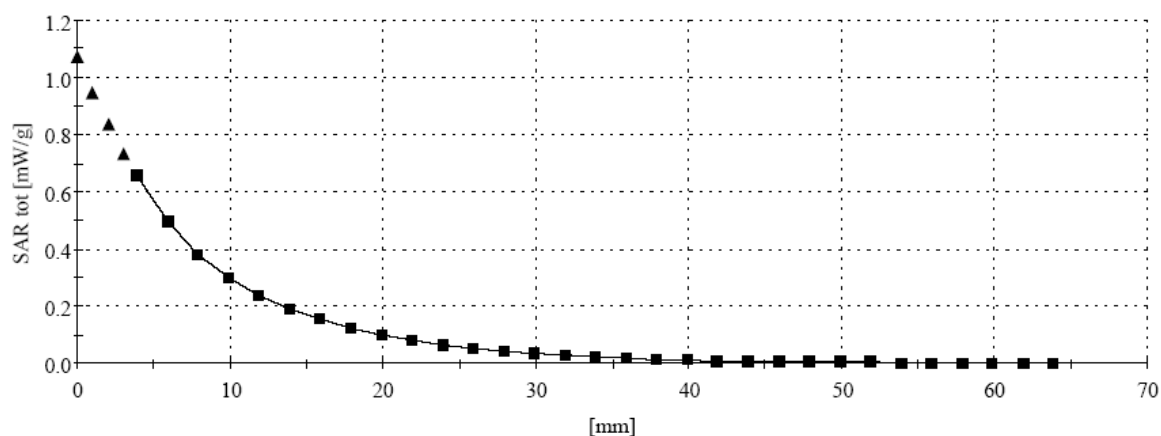


PegasusTelecom, Model: Z160 (1.5 cm separation to flat phantom with headset, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 12/8/2004)

SAM Phantom; Section; Position: ; Frequency: 1880 MHz

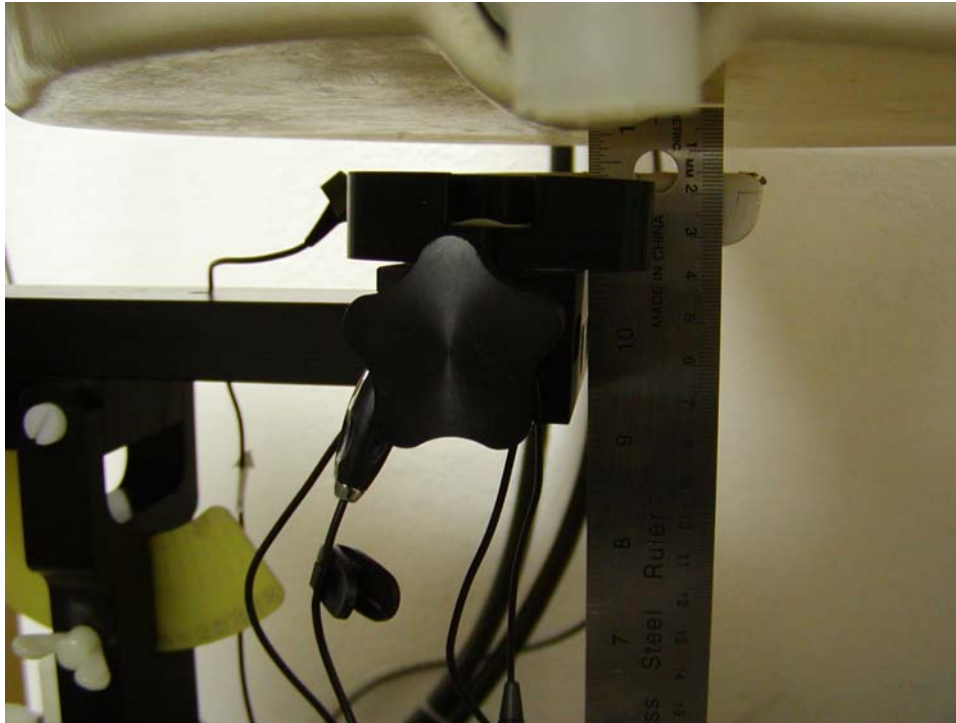
Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 8.0; Body Liquid 1900 MHz:  $\sigma = 1.50$  mho/m  $\epsilon_r = 53.4$   $\rho = 1.00$  g/cm<sup>3</sup>  
:, 0

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

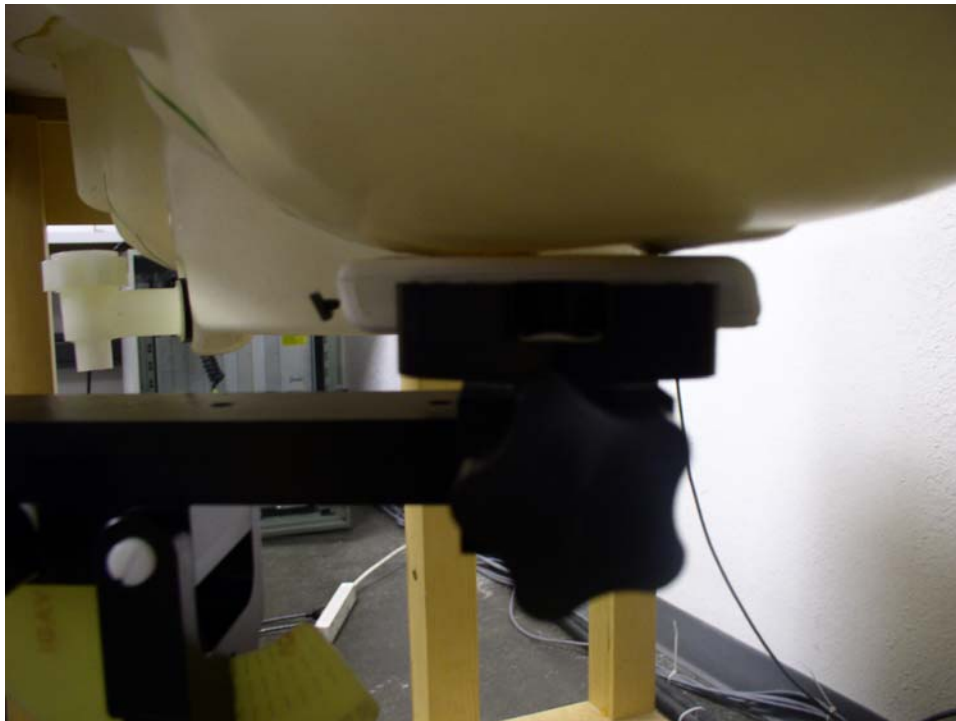


## APPENDIX H – EUT TEST POSITION PHOTOS

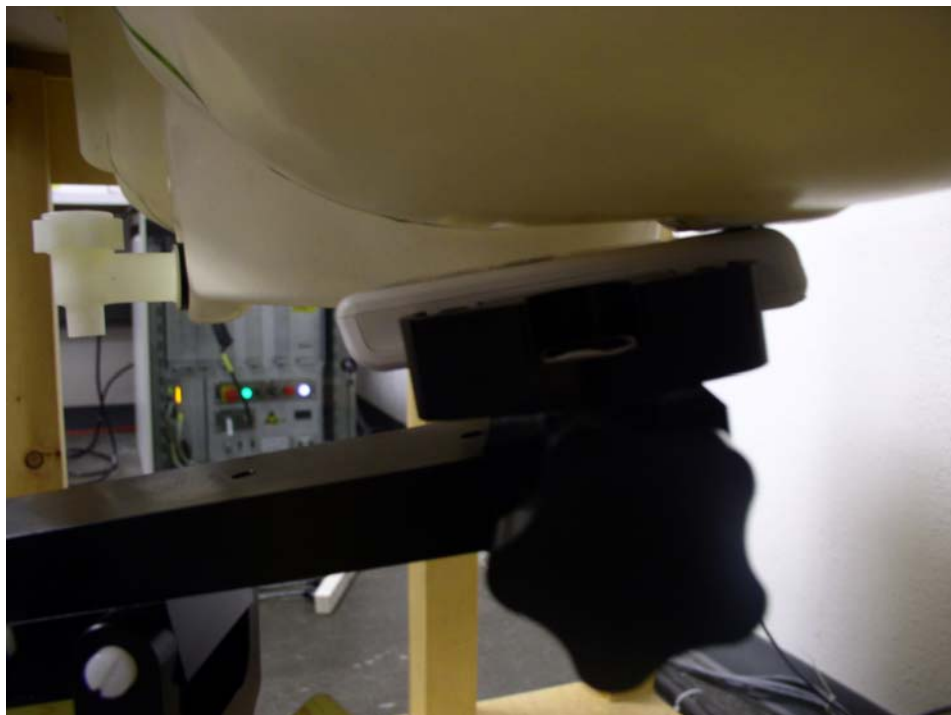
### 1.5 Separation to Flat Phantom with Headset



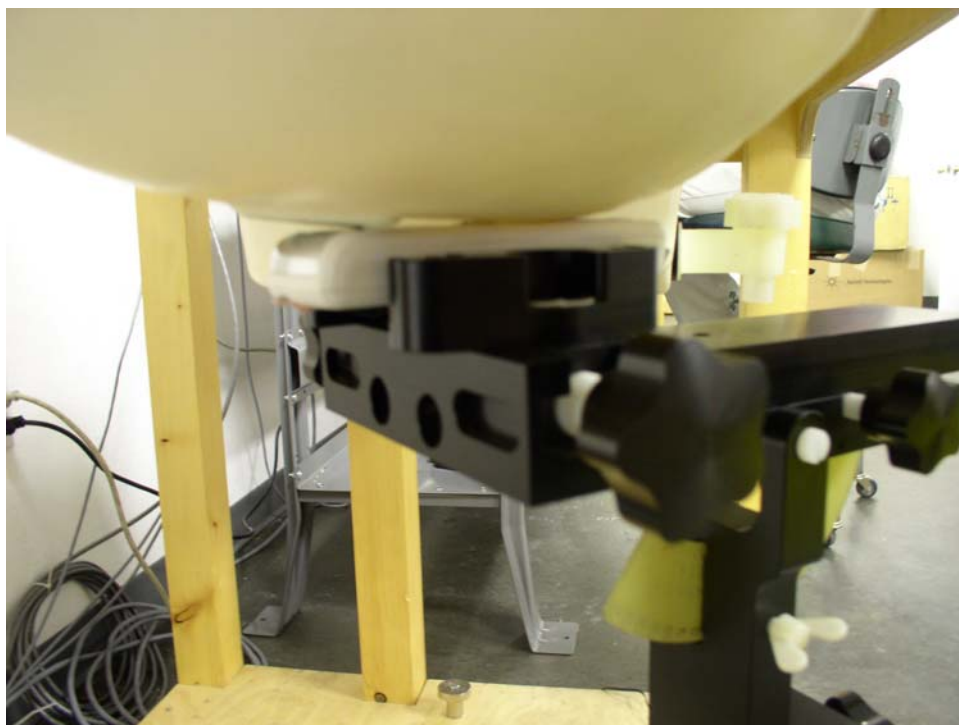
### Left Head, Cheek



### **Left Head, Tilted**



### **Right Head, Cheek**



## Right Head, Tilted



## APPENDIX I – EUT & ACCESSORIES PHOTOS

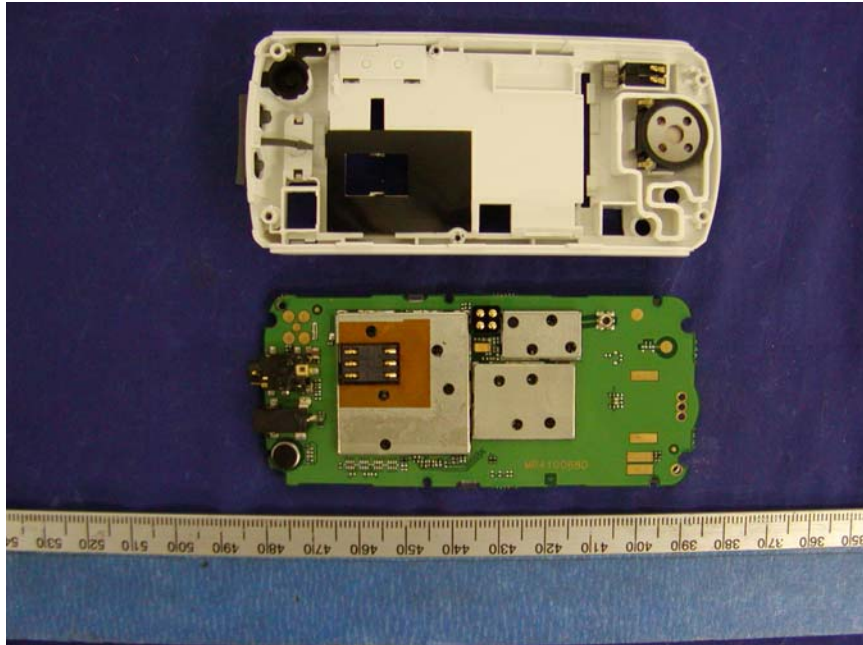
### EUT Front View



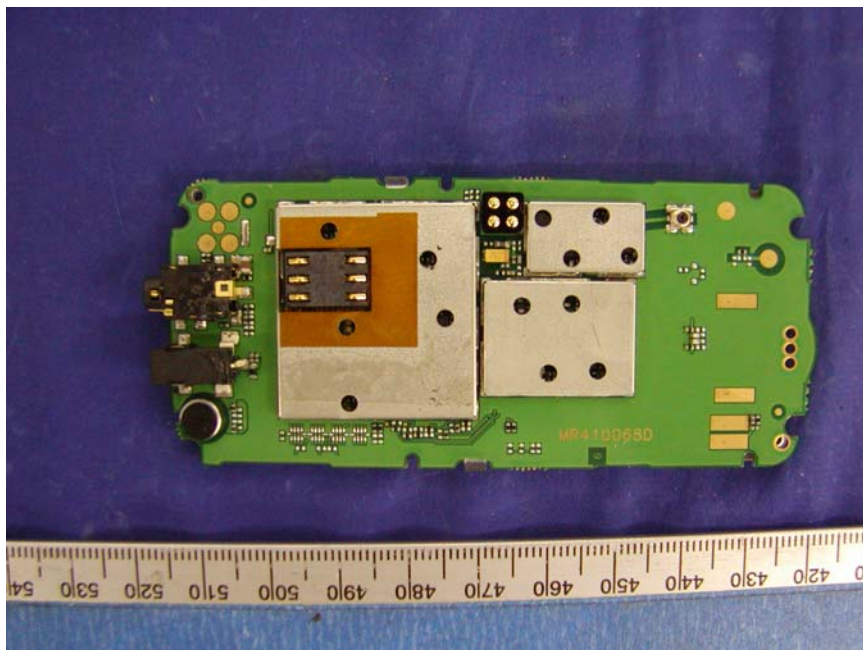
### EUT Rear View

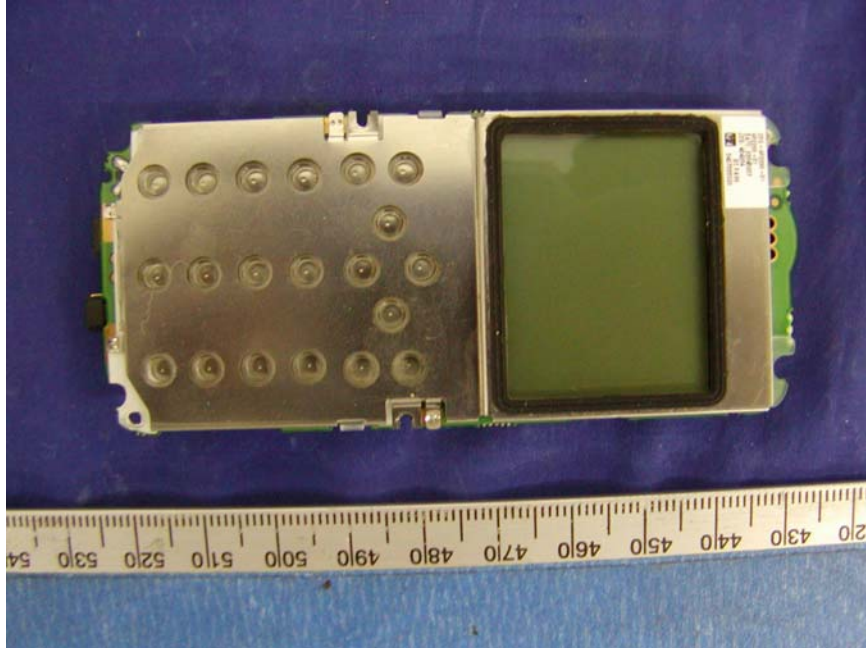


## Board and Housing View



## Board Top View



**Board Top without Shielding View****Board Bottom View**

## Board Bottom without Shielding View



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## APPENDIX J - INFORMATIVE REFERENCES

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- [1] Federal Communications Commission, \Report and order: Guidelines for evaluating the environmental effects of radiofrequency radiation", Tech. Rep. FCC 96-326, FCC, Washington, D.C. 20554, 1996.
- [2] David L. Means Kwok Chan, Robert F. Cleveland, \Evaluating compliance with FCC guidelines for human exposure to radiofrequency electromagnetic fields", Tech. Rep., Federal Communication Commission, Office of Engineering & Technology, Washington, DC, 1997.
- [3] Thomas Schmid, Oliver Egger, and Niels Kuster, \Automated E-field scanning system for dosimetric assessments", IEEE Transactions on Microwave Theory and Techniques, vol. 44, pp. 105{113, Jan. 1996.
- [4] Niels Kuster, Ralph Kastle, and Thomas Schmid, \Dosimetric evaluation of mobile communications equipment with known precision", IEICE Transactions on Communications, vol. E80-B, no. 5, pp. 645{652, May 1997.
- [5] CENELEC, \Considerations for evaluating of human exposure to electromagnetic fields (EMFs) from mobile telecommunication equipment (MTE) in the frequency range 30MHz - 6GHz", Tech. Rep., CENELEC, European Committee for Electrotechnical Standardization, Brussels, 1997.
- [6] ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.
- [7] Katja Pokovic, Thomas Schmid, and Niels Kuster, \Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies", in ICECOM \_97, Dubrovnik, October 15{17, 1997, pp. 120-24.
- [8] Katja Pokovic, Thomas Schmid, and Niels Kuster, \E-field probe with improved isotropy in brain simulating liquids", in Proceedings of the ELMAR, Zadar, Croatia, 23{25 June, 1996, pp. 172-175.
- [9] Volker Hombach, Klaus Meier, Michael Burkhardt, Eberhard K. uhn, and Niels Kuster, \The dependence of EM energy absorption upon human head modeling at 900 MHz", IEEE Transactions on Microwave Theory and Techniques, vol. 44, no. 10, pp. 1865-1873, Oct. 1996.
- [10] Klaus Meier, Ralf Kastle, Volker Hombach, Roger Tay, and Niels Kuster, \The dependence of EM energy absorption upon human head modeling at 1800 MHz", IEEE Transactions on Microwave Theory and Techniques, Oct. 1997, in press.
- [11] W. Gander, Computermathematik, Birkhaeuser, Basel, 1992.
- [12] W. H. Press, S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second Edition, Cambridge University Press, 1992. Dosimetric Evaluation of Sample device, month 1998 9
- [13] NIS81 NAMAS, \The treatment of uncertainty in EMC measurement", Tech. Rep., NAMAS Executive, National Physical Laboratory, Teddington, Middlesex, England, 1994.
- [14] Barry N. Taylor and Christ E. Kuyatt, \Guidelines for evaluating and expressing the uncertainty of NIST measurement results", Tech. Rep., National Institute of Standards and Technology, 1994. Dosimetric Evaluation of Sample device, month 1998 10.