1900 MHz Body Liquid System Validation (Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Forward Power = 20.24 dBm, 12/8/2004)

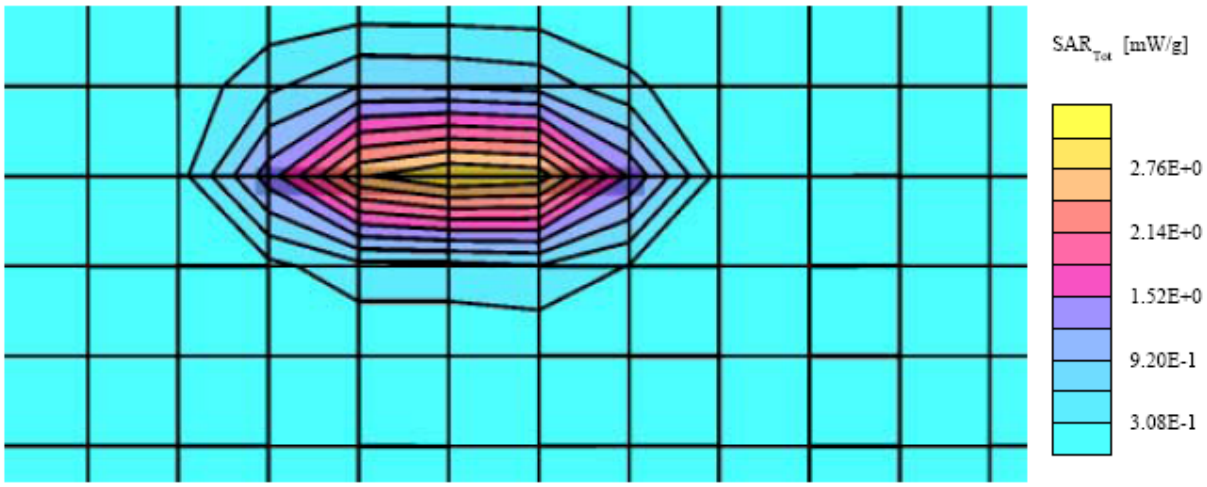
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 1.0; Body Liquid 1900 MHz: σ = 1.50 mho/m ε_r = 53.4 ρ = 1.00 g/cm³

Cube 5x5x7: SAR (1g): 2.63 mW/g, SAR (10g): 1.18 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.00 dB



1900 MHz Head Liquid System Validation (Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Forward Power = 20.04 dBm, 12/8/2004)

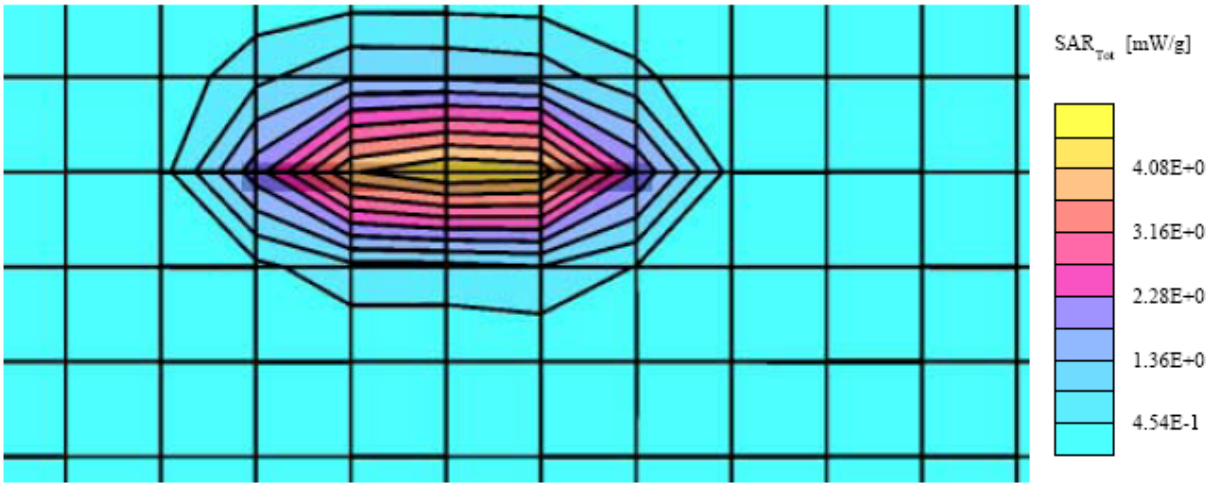
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV2 - SN3019; ConvF(4.70,4.70,4.70); Crest factor: 1.0; Head Liquid 1900 MHz: σ = 1.41 mho/m ε_r = 39.2 ρ = 1.00 g/cm³

Cube 5x5x7: SAR (1g): 3.90 mW/g, SAR (10g): 1.72 mW/g, (Worst-case extrapolation)

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

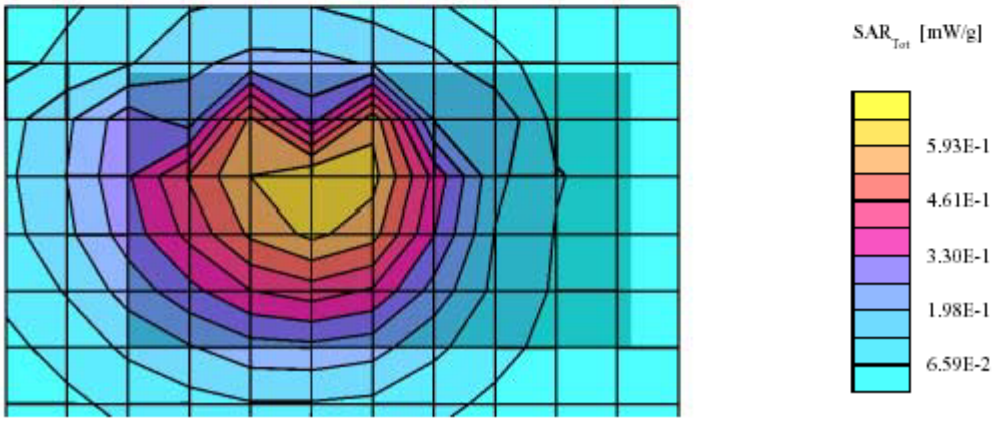
Powerdrift: -0.02 dB



APPENDIX E - EUT SCANS

HTC, Model #: PM10C (835 MHz GPRS + BT activate, Bottom touching flat phantom with accessory (headset, pouch, and memory card), Middle Channel, Ambient Temp = 23 Deg C, Liquid, Temp = 22 Deg C, Middle Channel, 12/18/2004)

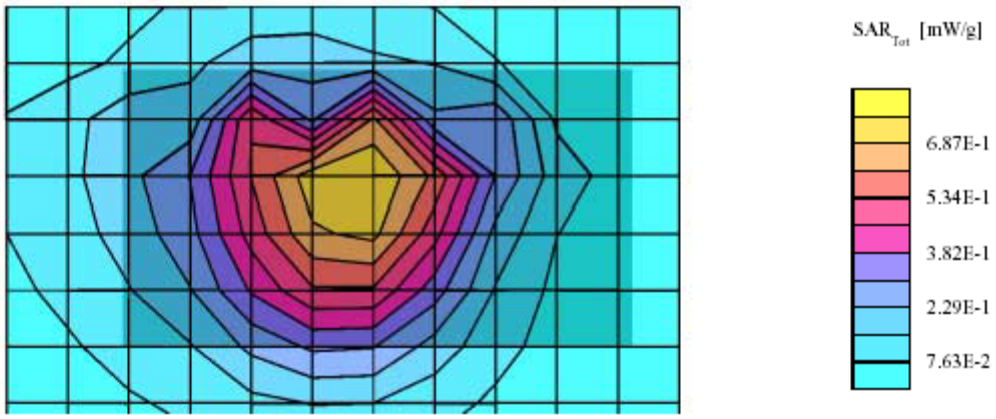
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 837 MHz
Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; 835 MHz Body : σ = 0.93 mho/m ε_r = 55.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.613 mW/g, SAR (10g): 0.425 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 13.0, Dz = 10.0
Powerdrift: -0.02 dB



Plot #1

HTC, Model #: PM10C (835 MHz GSM + BT activate, Bottom touching to flat phantom with accessory (headset and pouch), Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Middle Channel, 12/18/2004)

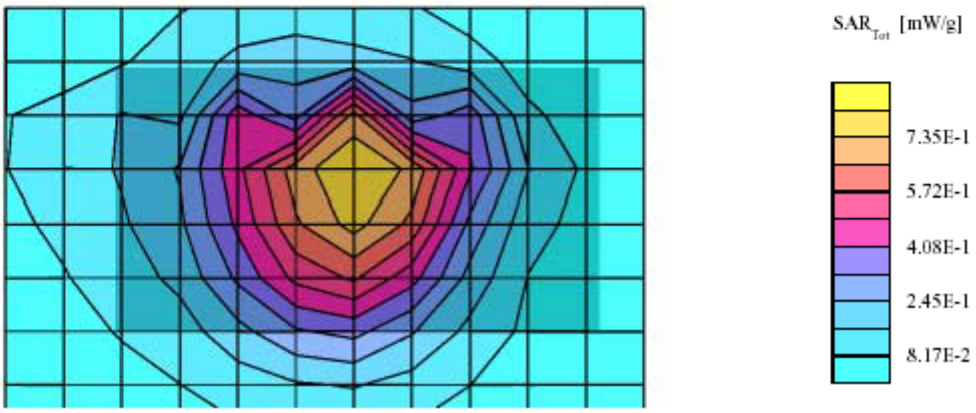
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 837 MHz
Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; 835 MHz Body : σ = 0.93 mho/m ε_r = 55.4 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.717 mW/g, SAR (10g): 0.478 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 13.0, Dz = 10.0
Powerdrift: -0.03 dB



Plot #2

HTC, Model #: PM10C (835 MHz GSM + BT activate, Bottom touhing to flat phantom with accessory (headset, pouch, and memory card), Middle Channel, Ambient Temp = 23 Deg C, Liquid, Temp = 22 Deg C, Middle Channel, 12/18/2004)

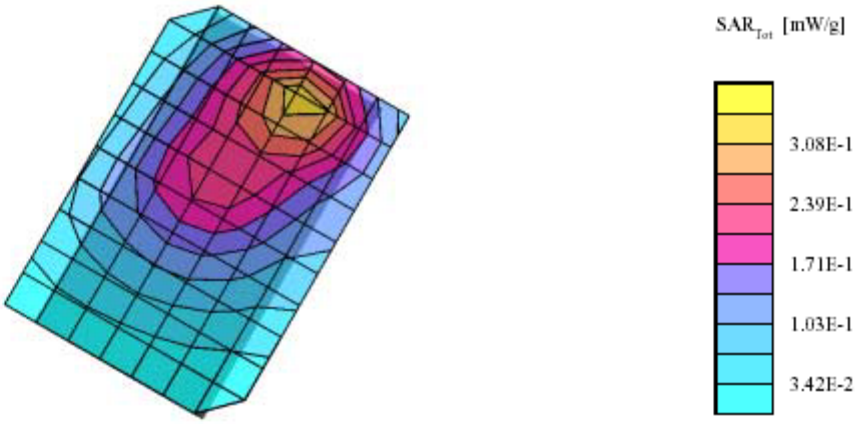
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 837 MHz
Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; 835 MHz Body : σ = 0.93 mho/m ε_r = 55.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.740 mW/g, SAR (10g): 0.496 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 13.0, Dz = 10.0
Powerdrift: -0.00 dB



Plot #3

HTC, Model #: PM10C (Left Head, Cheek with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Middle Channel, 12/18/2004)

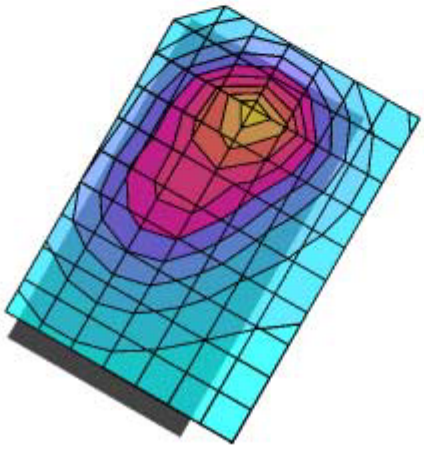
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 837 MHz
Probe: ET3DV6 - SN1064; ConvF(6.45,6.45,6.45); Crest factor: 8.0; (Head) 835 MHz: σ = 0.88 mho/m ε_r = 41.7 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.337 mW/g, SAR (10g): 0.203 mW/g, (Worst-case extrapolation)
Coarse: Dx = 11.0, Dy = 11.0, Dz = 10.0
Powerdrift: 0.01 dB

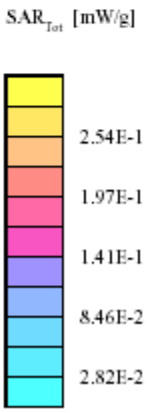


Plot #4

HTC, Model #: PM10C (Left Head, Tilted with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Middle Channel, 12/18/2004)

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) 835MHZ: σ = 0.88 mho/m ε_r = 41.7 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.284 mW/g, SAR (10g): 0.167 mW/g, (Worst-case extrapolation)
Coarse: Dx = 11.0, Dy = 11.0, Dz = 10.0
Powerdrift: 0.00 dB

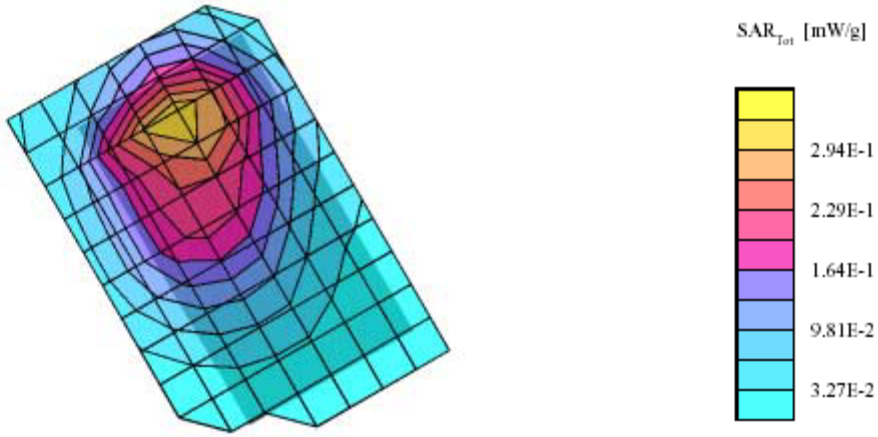




Plot #5

HTC, Model: PM10C (Right Head, Cheek with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/18/2004)

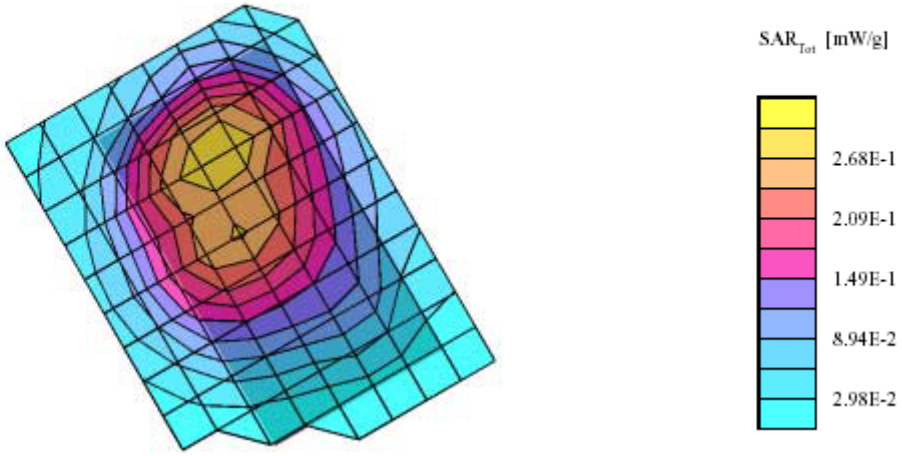
SAM Phantom; Righ Hand Section; Position: (90°,120°); Frequency: 837 MHz
Probe: ET3DV6 - SN1604; ConvF(6.45,6.45,6.45); Crest factor: 8.0; (Head) 835 MHz: σ = 0.88 mho/m ε_r = 41.7 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.307 mW/g, SAR (10g): 0.197 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0
Powerdrift: -0.02 dB



Plot #6

HTC, Model: PM10C (Right Head, Tilted with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/18/2004)

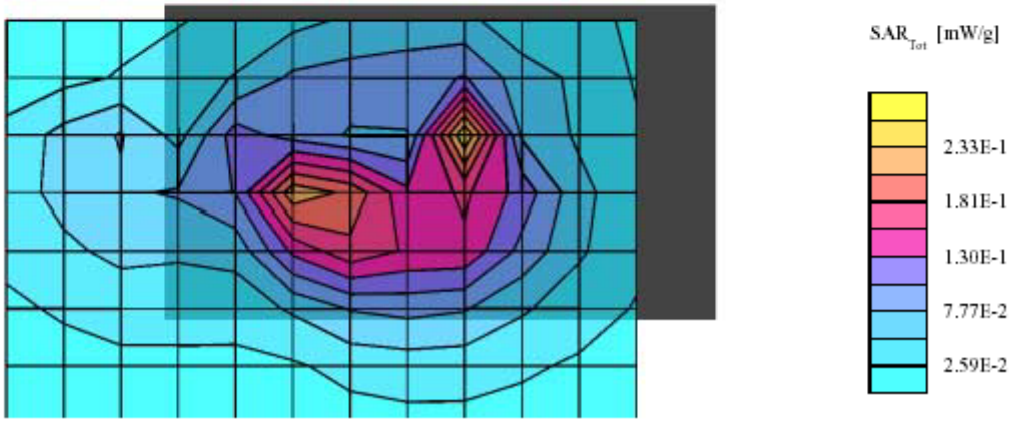
SAM Phantom; Righ Hand Section; Position: (90°,120°); Frequency: 837 MHz
Probe: ET3DV6 - SN1604; ConvF(6.45,6.45,6.45); Crest factor: 8.0; (Head) 835 MHz: σ = 0.88 mho/m ε_r = 41.7 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.283 mW/g, SAR (10g): 0.213 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0
Powerdrift: -0.02 dB



Plot #7

HTC, Model #: PM10C (GSM 1900 MHz + BT activate, Body Worn, Bottom touching flat phantom with accessory (headset and pouch), Mid Channel, Ambient Temp = 23 C, Liquid Temp = 22 C, 12/8/2004)

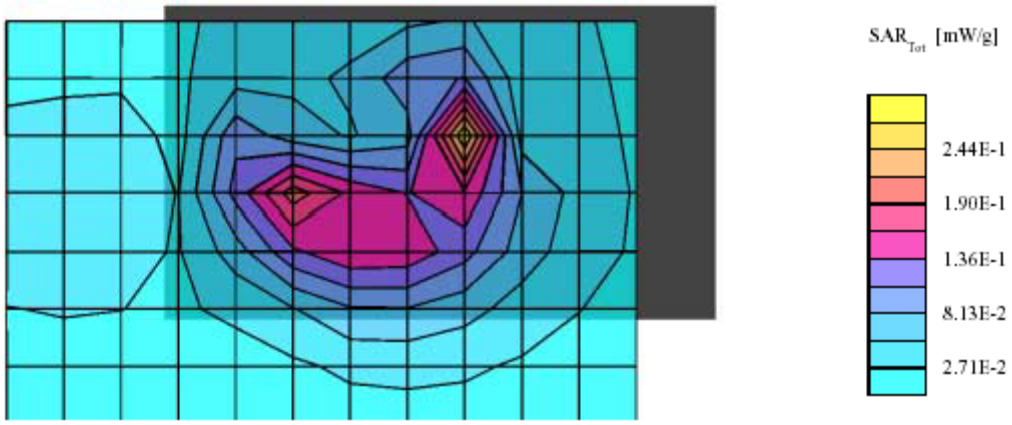
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz
Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 1.0; Body Liquid 1900 MHz: σ = 1.50 mho/m ε_r = 53.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.279 mW/g, SAR (10g): 0.146 mW/g, (Worst-case extrapolation)
Coarse: Dx = 13.0, Dy = 13.0, Dz = 10.0
Powerdrift: 0.01 dB



Plot #8

HTC, Model #: PM10C (GSM 1900 MHz + BT activate, Body Worn, Bottom touching flat phantom with accessory (headset, pouch and memory card), Mid Channel, Ambient Temp = 23 C, Liquid Temp = 22 C, 12/8/2004)

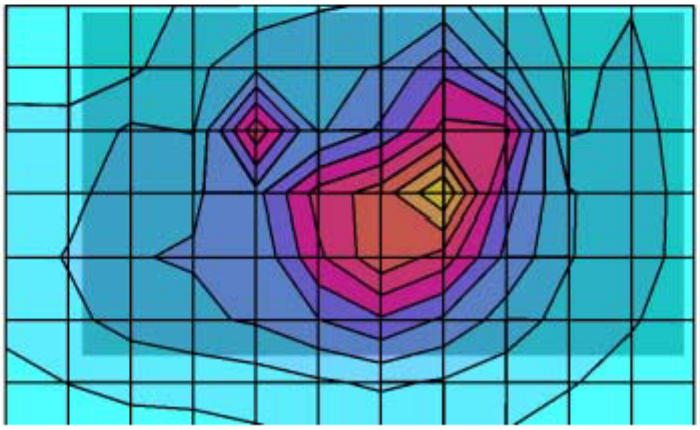
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz
Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 1.0; Body Liquid 1900 MHz: σ = 1.50 mho/m ε_r = 53.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.296 mW/g, SAR (10g): 0.156 mW/g, (Worst-case extrapolation)
Coarse: Dx = 13.0, Dy = 13.0, Dz = 10.0
Powerdrift: -0.02 dB



Plot #9

HTC, Model #: PM10C (GPRS 1900 MHz + BT activate, Body Worn, Bottom touching flat phantom with accessory (headset and pouch), Mid Channel, Ambient Temp = 23 C, Liquid Temp = 22 C, 12/8/2004)

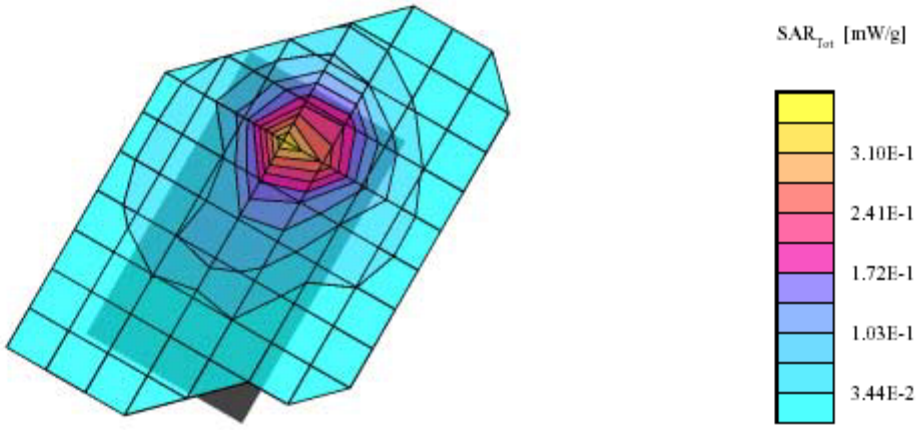
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1880 MHz
Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 1.0; Body Liquid 1900 MHz: σ = 1.50 mho/m ε_r = 53.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.270 mW/g, SAR (10g): 0.129 mW/g, (Worst-case extrapolation)
Coarse: Dx = 13.0, Dy = 13.0, Dz = 10.0
Powerdrift: 0.02 dB



Plot #10

HTC, Model: PM10C (Left Head, Cheek with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/8/2004)

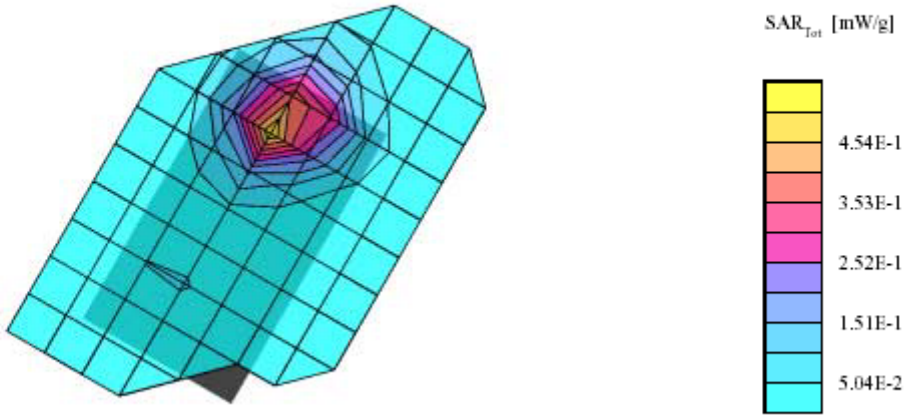
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1604; ConvF(5.23,5.23,5.23); Crest factor: 8.0; (Head) 1900 MHz: σ = 1.41 mho/m ε_r = 39.2 ρ = 1.31 g/cm^3
Cube 5x5x7: SAR (1g): 0.399 mW/g, SAR (10g): 0.217 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB



Plot #11

HTC, Model: PM10C (Left Head, Tilted with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/8/2004)

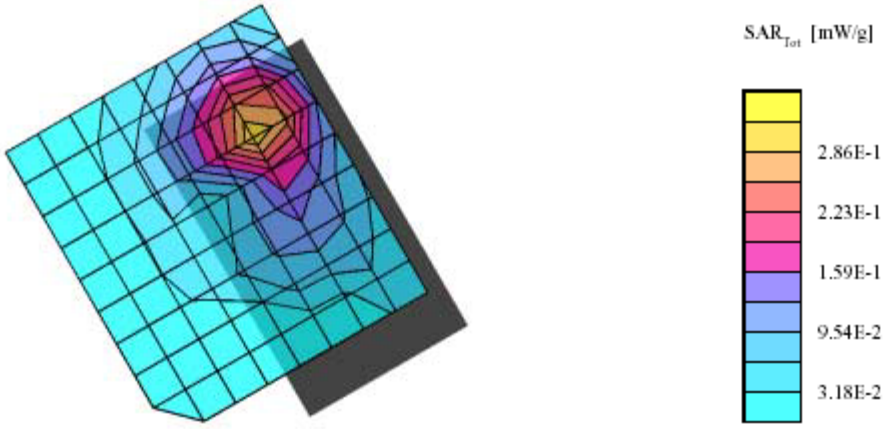
SAM Phantom; Left Hand Section; Position: (90°,60°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1604; ConvF(5.23,5.23,5.23); Crest factor: 8.0; (Head) 1900 MHz: σ = 1.41 mho/m ε_r = 39.2 ρ = 1.31 g/cm³
Cube 5x5x7: SAR (1g): 0.532 mW/g, SAR (10g): 0.293 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.03 dB



Plot #12

HTC, Model: PM10C (Right Head, Cheek with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/8/2004)

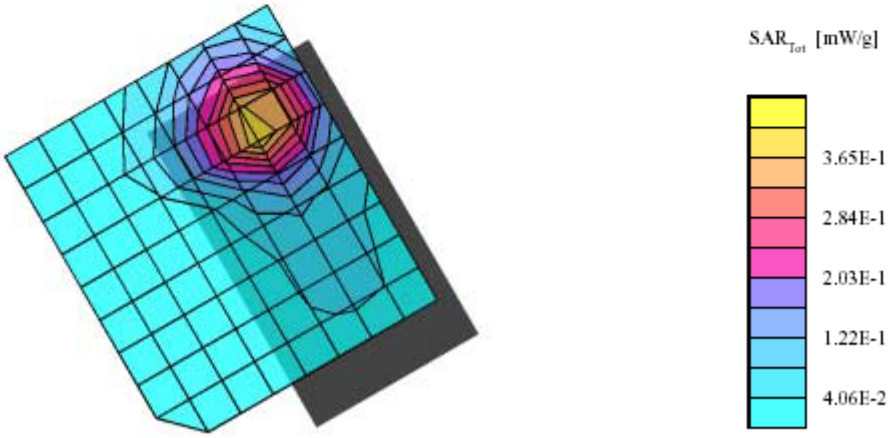
SAM Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1604; ConvF(5.23,5.23,5.23); Crest factor: 8.0; (Head) 1900 MHz: σ = 1.41 mho/m ε_r = 39.2 ρ = 1.31 g/cm³
Cube 5x5x7: SAR (1g): 0.308 mW/g, SAR (10g): 0.173 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0
Powerdrift: -0.01 dB



Plot #13

HTC, Model: PM10C (Right Head, Tilted with BT activate, Middle Channel, Ambient Temp = 23 Deg C, Liqiud Temp = 22 Deg C, 12/8/2004)

SAM Phantom; Righ 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: σ = 1.41 mho/m ε_r = 39.2 ρ = 1.31 g/cm³
Cube 5x5x7: SAR (1g): 0.403 mW/g, SAR (10g): 0.229 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0
Powerdrift: 0.02 dB



Plot #14

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

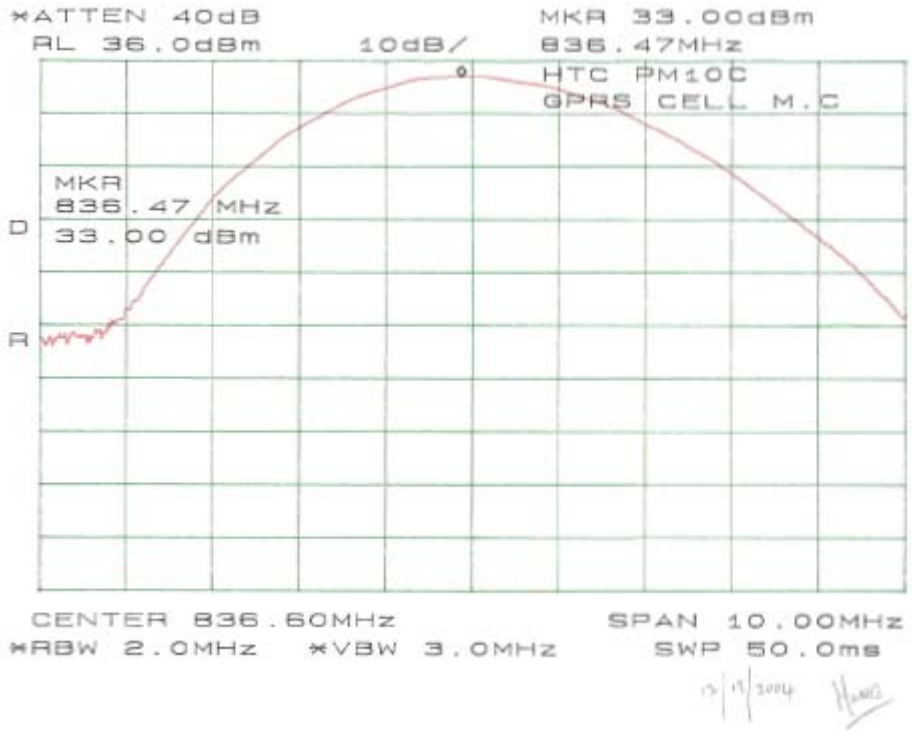
GSM:

Frequency (MHz)	Output Power in dBm	Output Power in W	Limit (W)
836.60	33	1.995	7
1880.00	29.50	0.891	2

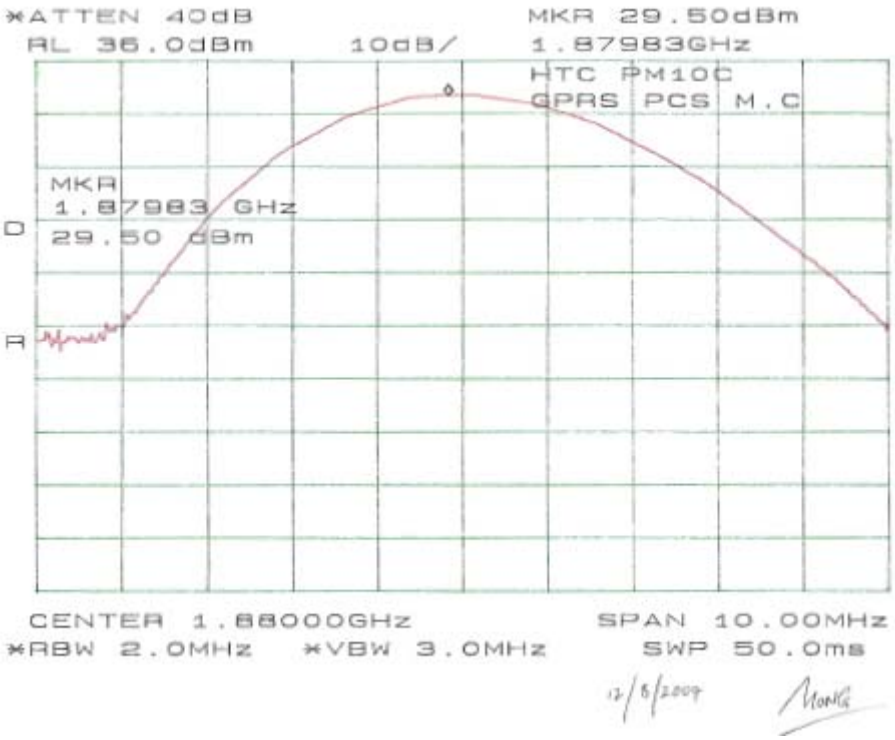
GPRS:

Frequency (MHz)	Output Power in dBm	Output Power in W	Limit (W)
836.60	33	1.995	7
1880.00	29.50	0.891	2

Please refer to the following plots.


*ATTEN 40dB
RL 36.0dBm
10dB/
MKA 33.00dBm
836.47MHz
HTC PM10C
GPRS CELL M.C
MKA
836.47 MHz
33.00 dBm
D
R
CENTER 836.60MHz
SPAN 10.00MHz
*RBW 2.0MHz
*VBW 3.0MHz
SWP 50.0ms


*ATTEN 40dB
RL 36.0dBm
10dB/
MKA 33.00dBm
836.47MHz
HTC PM10C
GSM CELL M.C
MKA
836.47 MHz
33.00 dBm
R
CENTER 836.60MHz
SPAN 10.00MHz
*RBW 2.0MHz
VBW 3.0MHz
SWP 50.0ms


*ATTEN 40dB
RL 36.0dBm
10dB/
MKR 29.50dBm
1.87983GHz
HTC PM10C
GPRS PCS M.C
MKR
1.87983 GHz
29.50 dBm
CENTER 1.88000GHz
SPAN 10.00MHz
*RBW 2.0MHz
*VBW 3.0MHz
SWP 50.0ms
12/8/2004


*ATTEN 40dB
RL 36.0dBm
10dB/
MKR 29.50dBm
1.87983GHz
HTC PM10C
GSM PCS M.C
MKR
1.87983 GHz
29.50 dBm
CENTER 1.88000GHz
SPAN 10.00MHz
*RBW 2.0MHz
VBW 3.0MHz
*SWP 50.0ms
12/8/2004

APPENDIX G – Z-AXIS PLOT

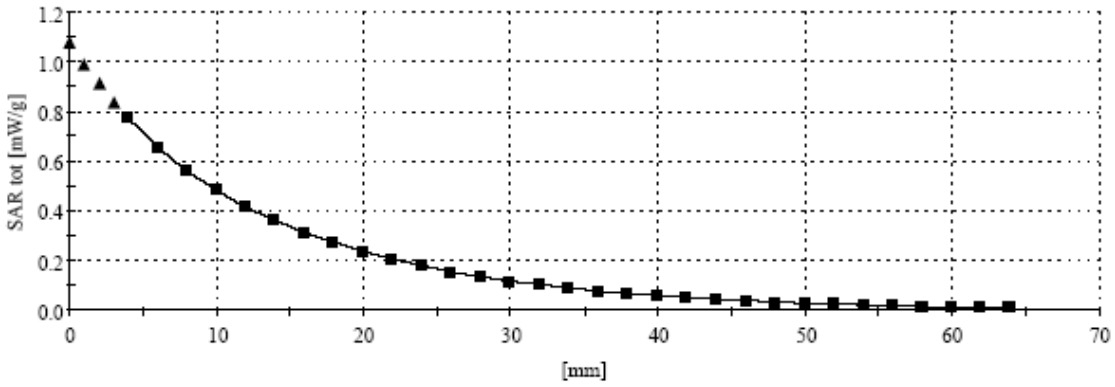
HTC, Model #: PM10C (850 MHz GSM + BT activate, 1.5 cm separation to flat phantom with accessory (headset, pouch, and memory card), Middle Channel, Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, Middle Channel, 12/18/2004)

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

Probe: ES3DV2 - SN3019; ConvF(6.10,6.10,6.10); Crest factor: 8.0; 835 MHZ Body : $\sigma = 0.93$ mho/m $\varepsilon_r = 55.4$ $\rho = 1.00$ g/cm³

: , ()

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

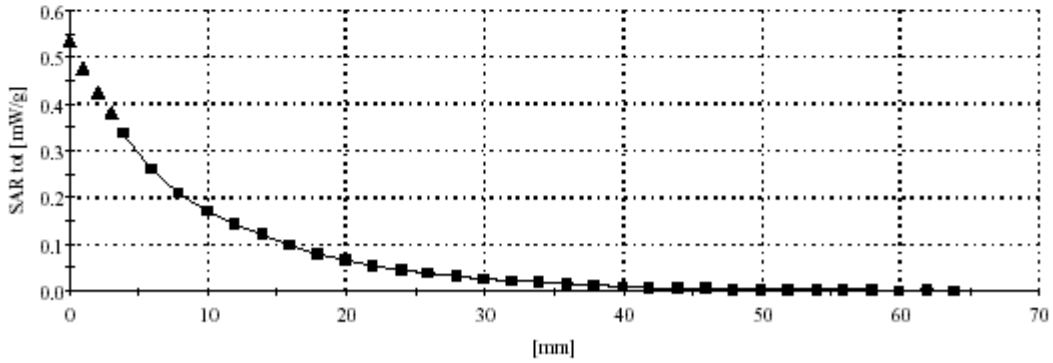


HTC, Model #: PM10C (GSM 1900 MHz + BT activate, Body Worn, Bottom touching flat phantom with accessory (headset and pouch), Mid Channel, Ambient Temp = 23 C, Liquid Temp = 22 C, 12/8/2004)

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

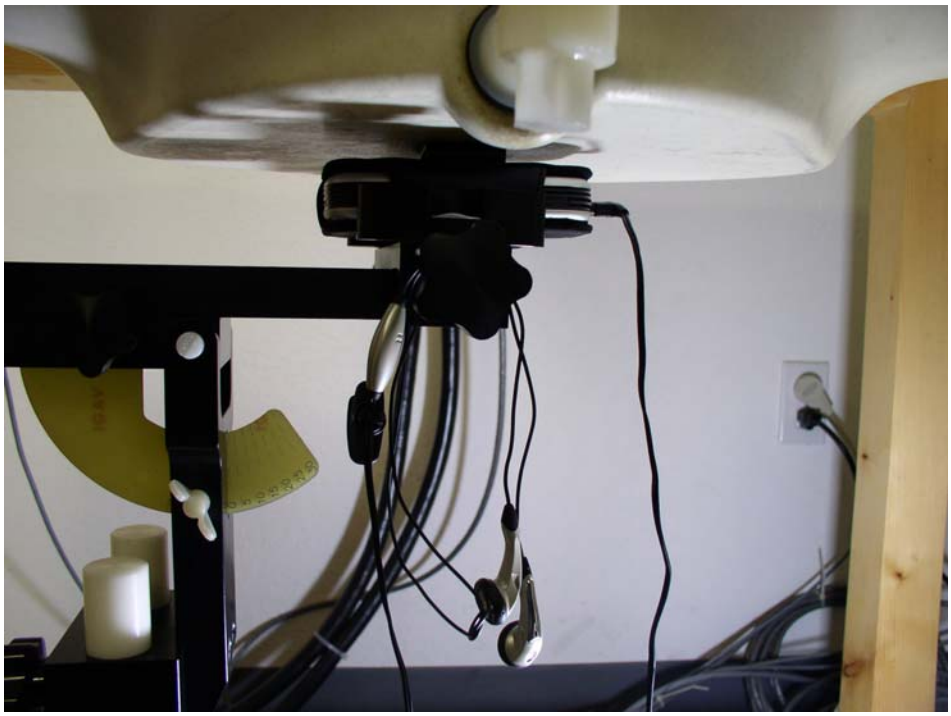
Probe: ET3DV2 - SN3019; ConvF(4.60,4.60,4.60); Crest factor: 1.0; Body Liquid 1900 MHz: σ = 1.50 mho/m ε_r = 53.4 ρ = 1.00 g/cm^3 : , 0

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

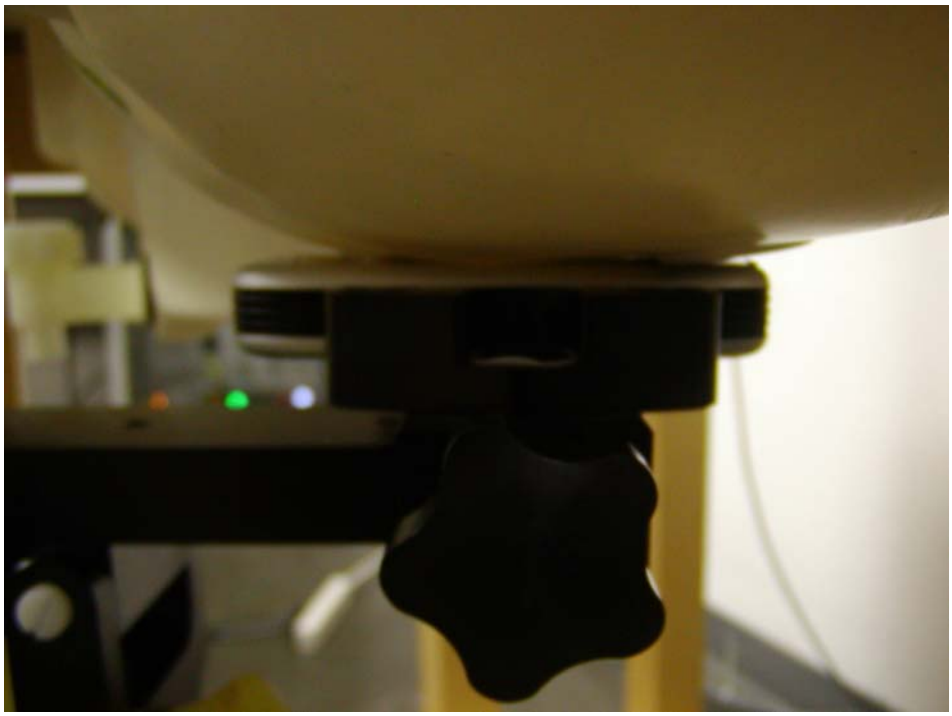


APPENDIX H – EUT TEST POSITION PHOTOS

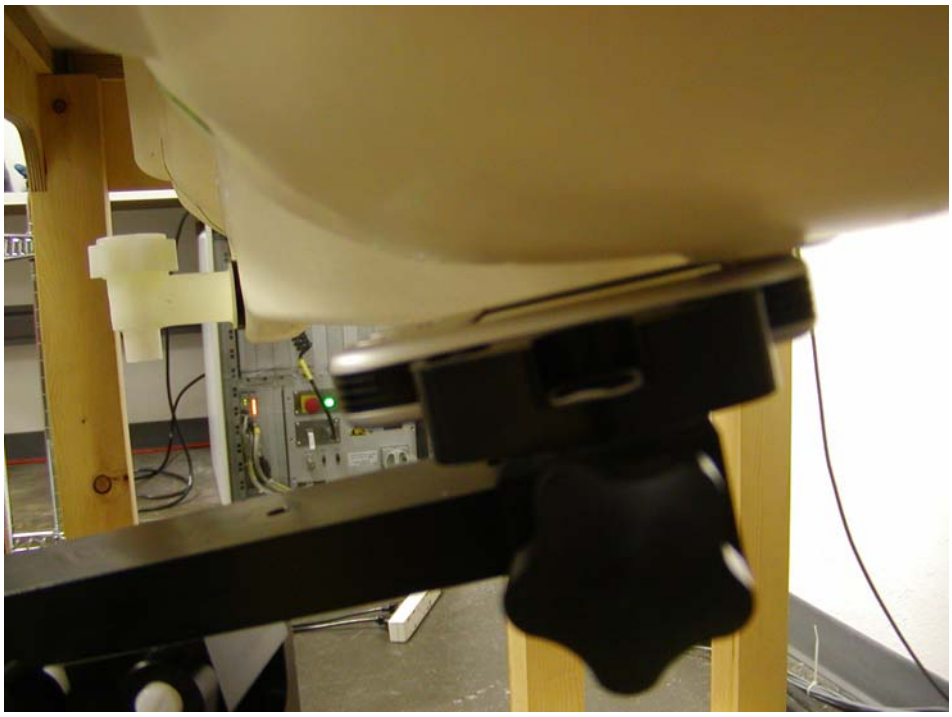
Bottom Touching 1cm Flat Phantom with Accessory



Left Head Cheek

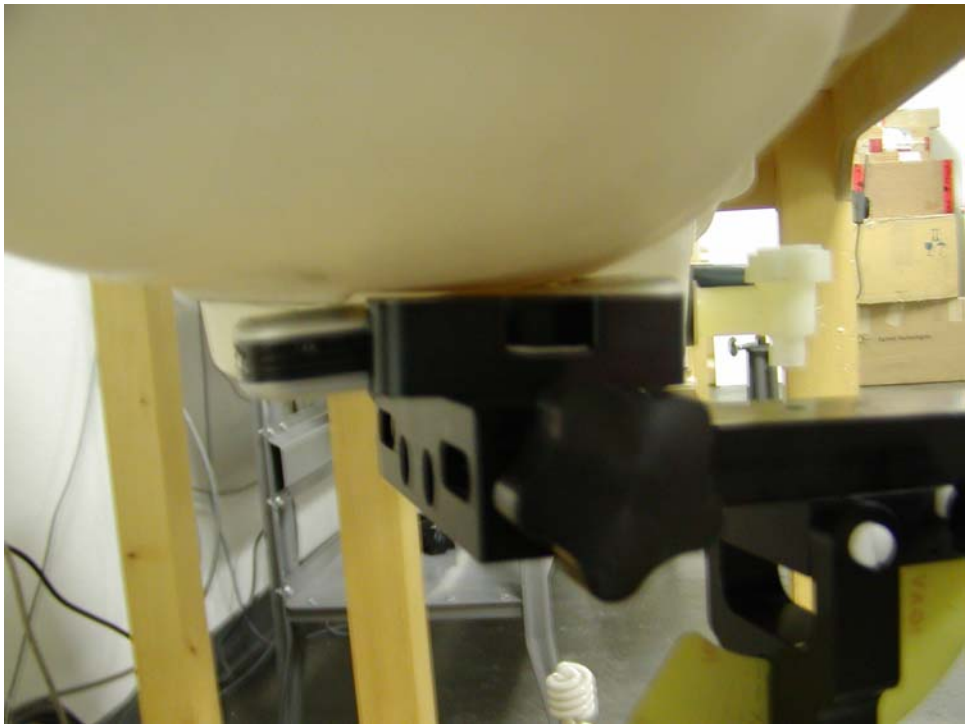


Left Head Tilted



Right Tilted

Right Head, Cheek



APPENDIX I – EUT & ACCESSORIES PHOTOS

Chassis – Top View

Chassis – Back View

Chassis – Port View

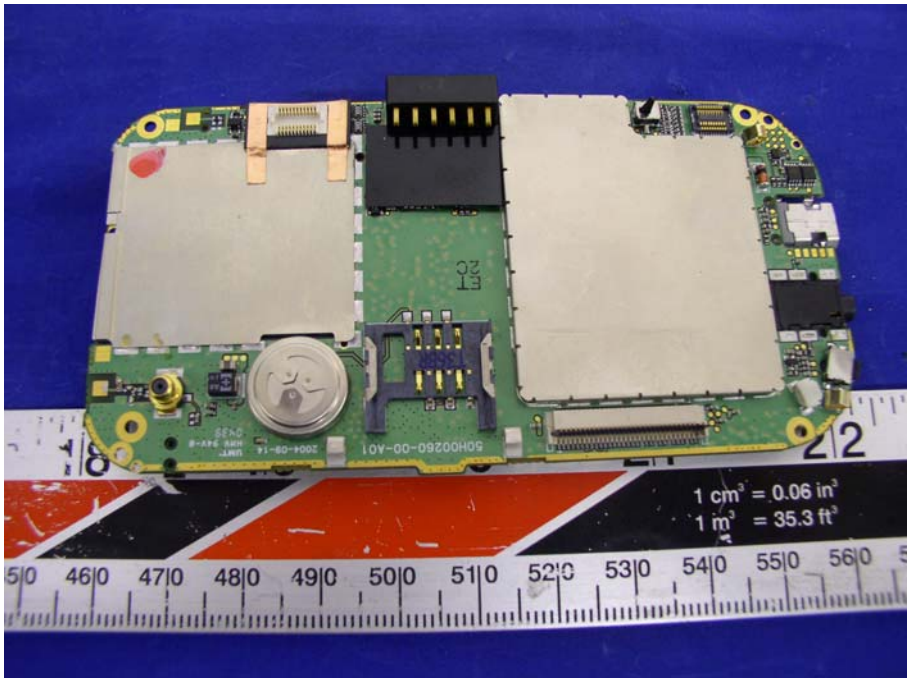
Chassis – Cover off View

Chassis – Battery off View

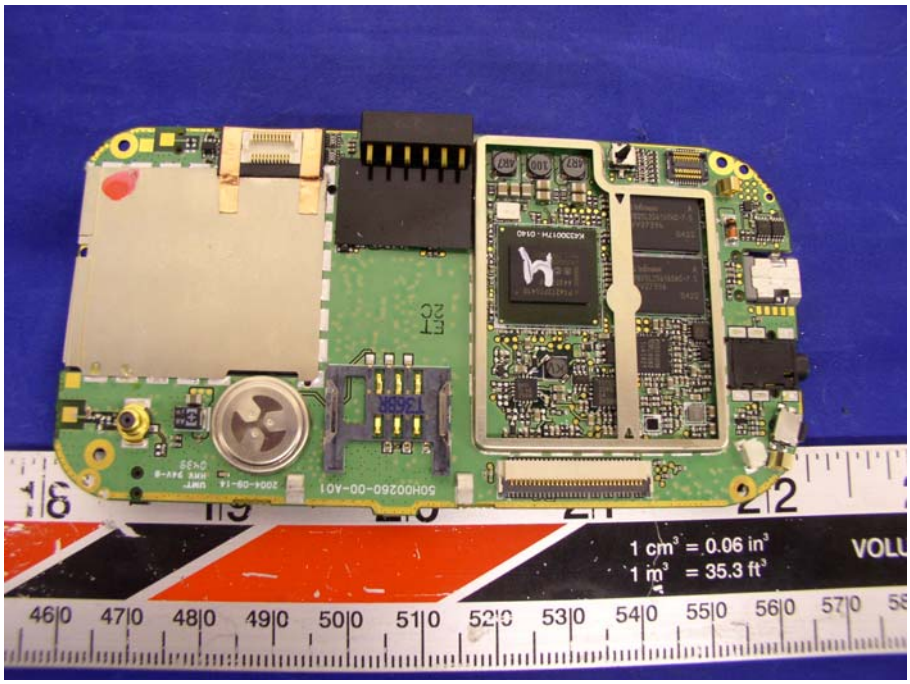
Chassis – Battery View

Chassis – Open View

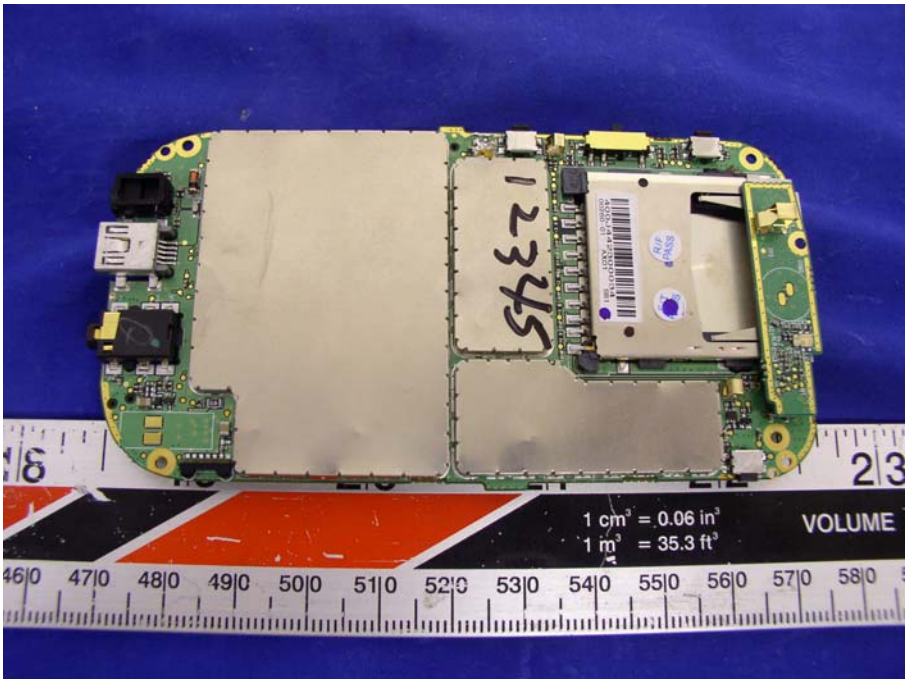
Main Board – Component with Shielding View



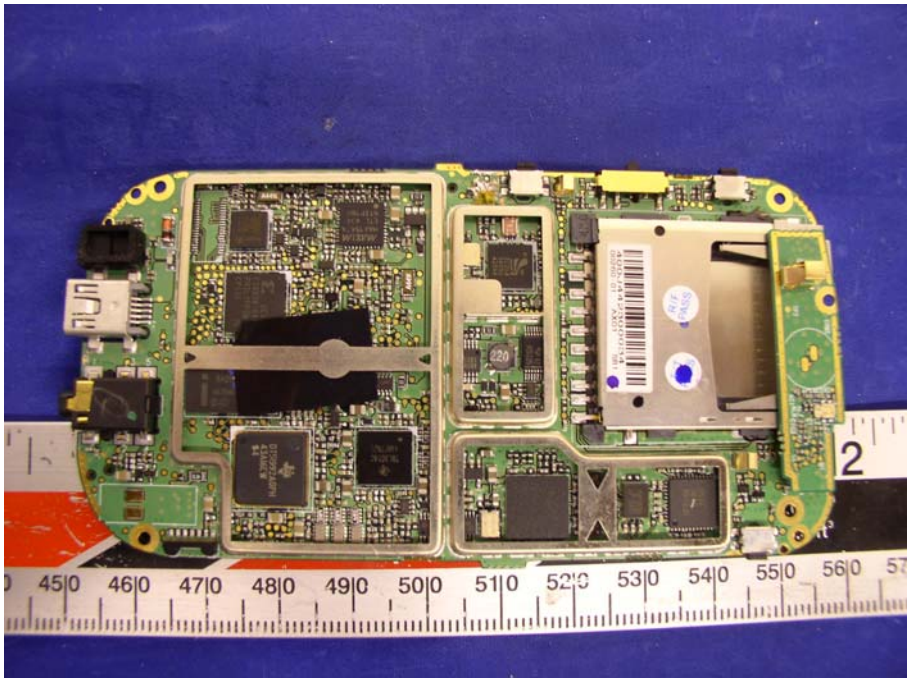
Main Board – Component without Shielding View



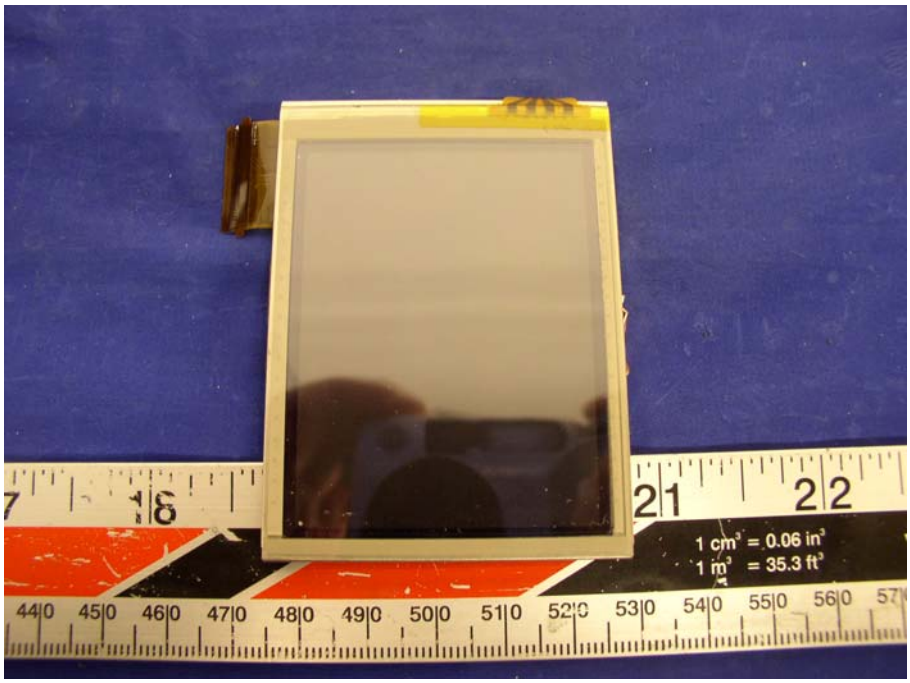
Main Board – Solder with Shielding View



Main Board – Solder without Shielding View

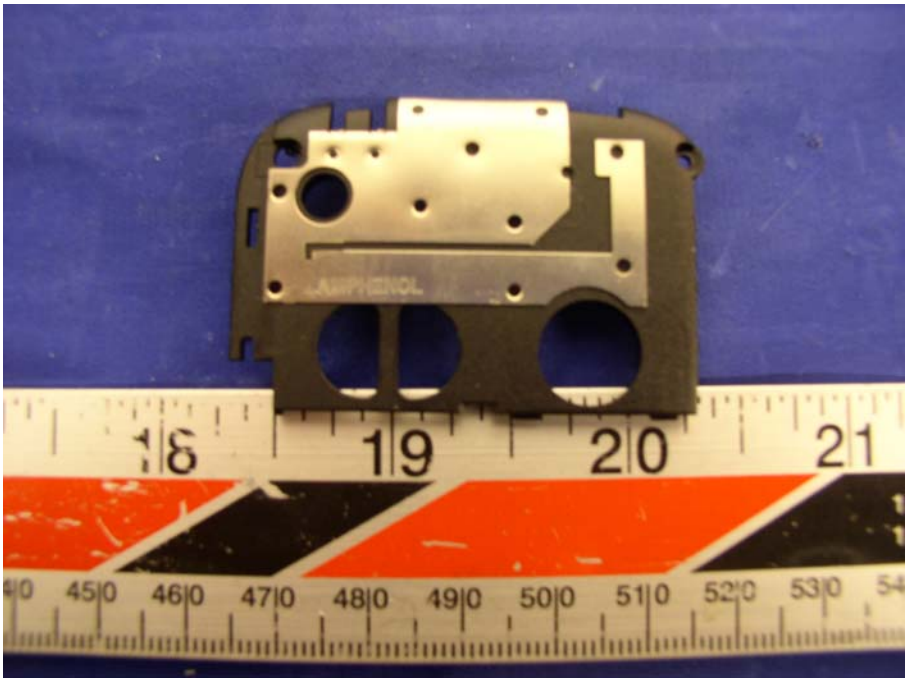


LCD Display View 1



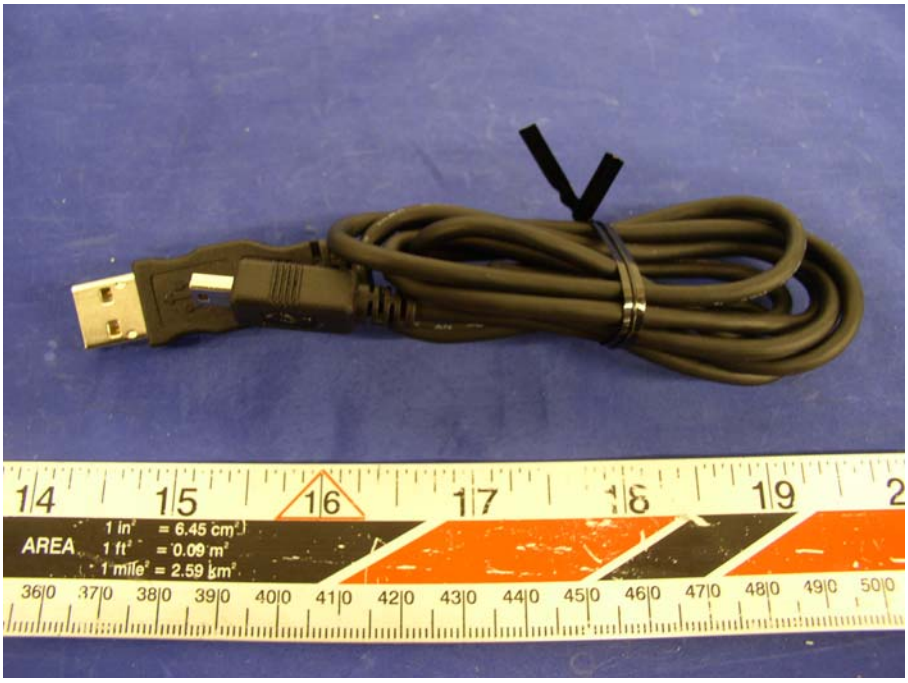
LCD Display View 2

Antenna View



Adapter View

Data Cable View



Pouch View

APPENDIX J - INFORMATIVE REFERENCES

[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, O_ce of Engineering & Technology, Washington, DC, 1997.

[3] Thomas Schmid, Oliver Egger, and Niels Kuster, \Automated E-_eld scanning system for dosimetric assessments", IEEE Transactions on Microwave Theory and Techniques, vol. 44, pp. 105{113, Jan. 1996.

[4] Niels Kuster, Ralph K.astle, 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 depen-dence 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 Recepies 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 uncertainity 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.