

Dipole 900 MHz

900 MHz Dipole Validation / Dipole Sn# 94 / Forward Power = 250 / Simulant Temp at time of measurement 21.8C

Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 900 MHz

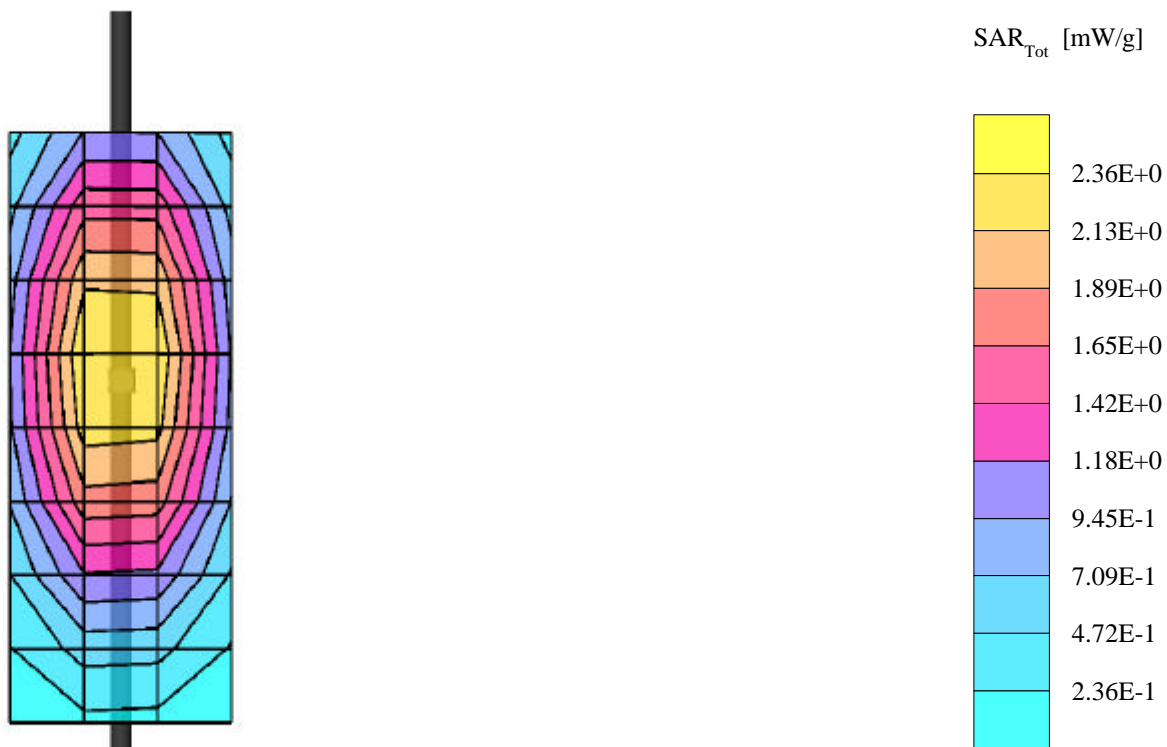
Probe: ET3DV6 - SN1103 Validation; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Validation 900 MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 41.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 2.76 mW/g \pm 0.08 dB, SAR (10g): 1.77 mW/g \pm 0.08 dB, (Worst-case extrapolation)

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

Penetration depth: 12.3 (11.3, 13.7) [mm]

Powerdrift: -0.05 dB



Dipole 1800 MHz

1800MHz Dipole Validation / Dipole Sn# 284 / Forward Power = 249mW / Simulant Temp at time of measurement 22.5 C

Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 1800 MHz

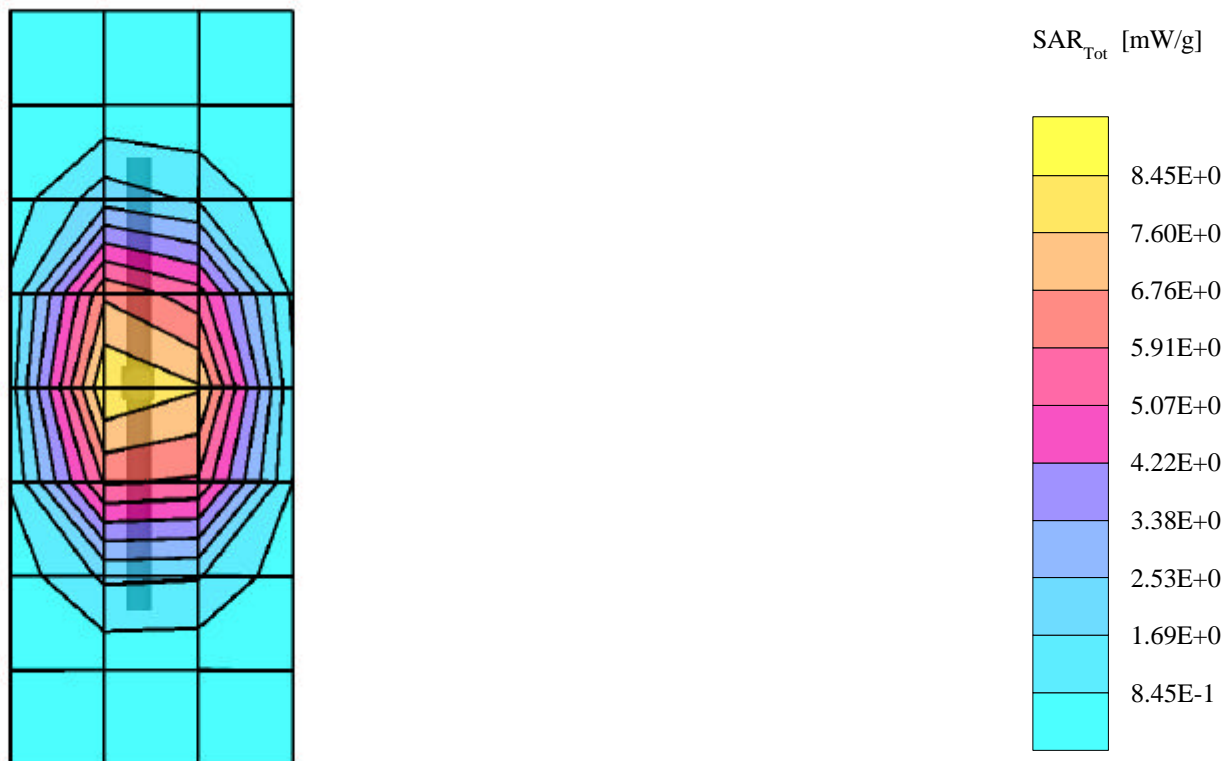
Probe: ET3DV6 - SN1103 Validation; ConvF(5.71,5.71,5.71); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.67$ mho/m $\epsilon_r = 41.1$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 11.0 mW/g ± 0.06 dB, SAR (10g): 5.47 mW/g ± 0.06 dB, (Worst-case extrapolation)

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

Penetration depth: 7.2 (7.0, 7.6) [mm]

Powerdrift: -0.09 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 280 / Forward Power = 251 / Simulant Temp at time of measurement = 23.3C

Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 1800 MHz

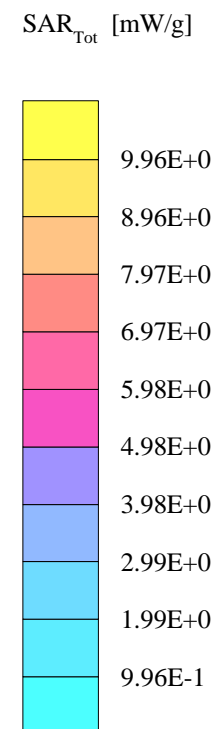
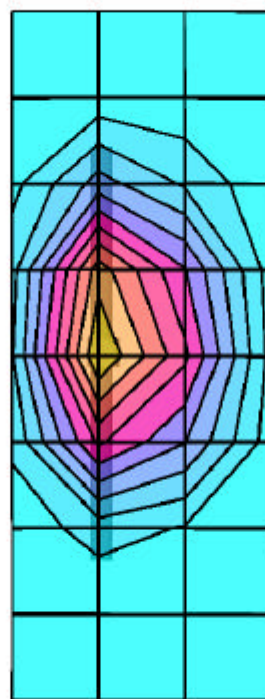
Probe: ET3DV6 - SN1103 Validation; ConvF(5.71,5.71,5.71); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.70$ mho/m $\epsilon_r = 39.1$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 11.4 mW/g ± 0.08 dB, SAR (10g): 5.73 mW/g ± 0.06 dB, (Worst-case extrapolation)

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

Penetration depth: 7.4 (7.2, 7.9) [mm]

Powerdrift: -0.03 dB



Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 94 / Forward Power = 254 / Simulant Temp at time of measurement 22.9C

Robot7 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 900 MHz

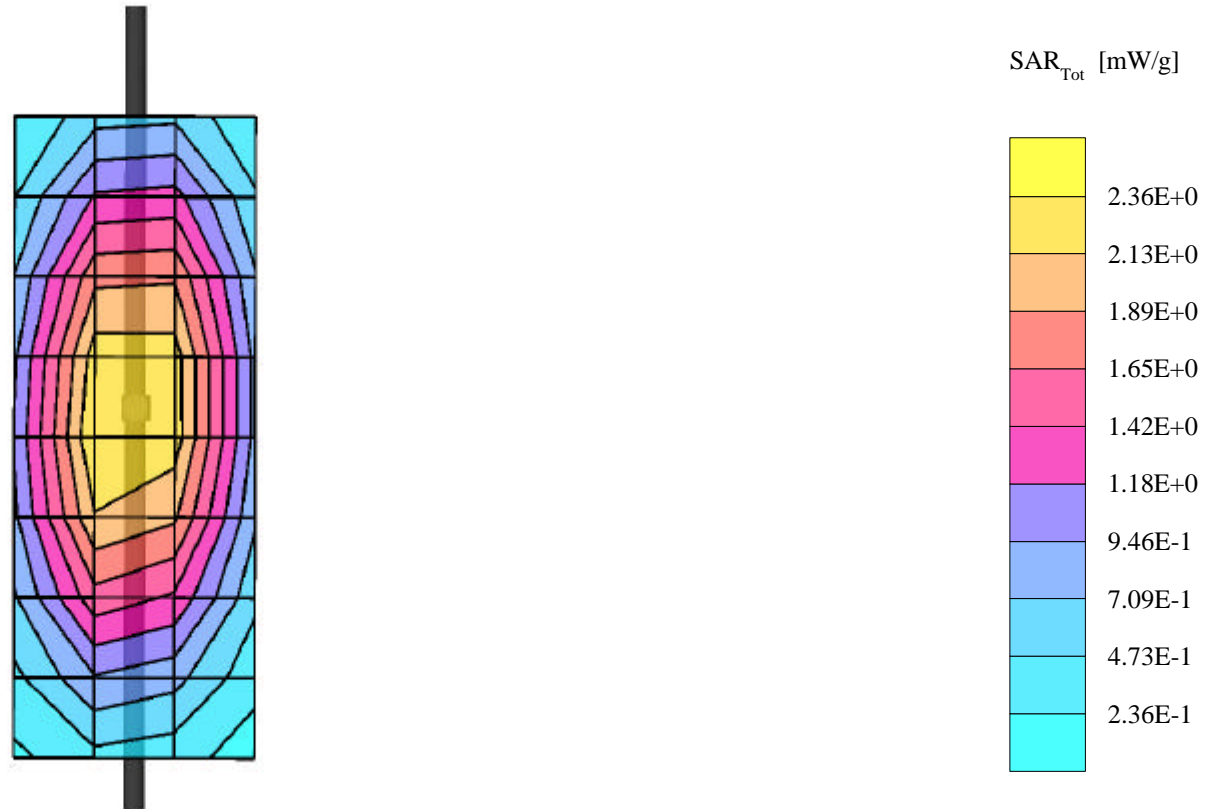
Probe: ET3DV6 - SN1103 Validation; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Validation 900 MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 42.1$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 2.70 mW/g ± 0.04 dB, SAR (10g): 1.74 mW/g ± 0.04 dB, (Worst-case extrapolation)

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

Penetration depth: 12.3 (11.4, 13.6) [mm]

Powerdrift: 0.02 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 282 / Forward Power = 251 / Simulant Temp at time of measurement = 21.1C

R5 Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (90°,180°); Frequency: 1800 MHz

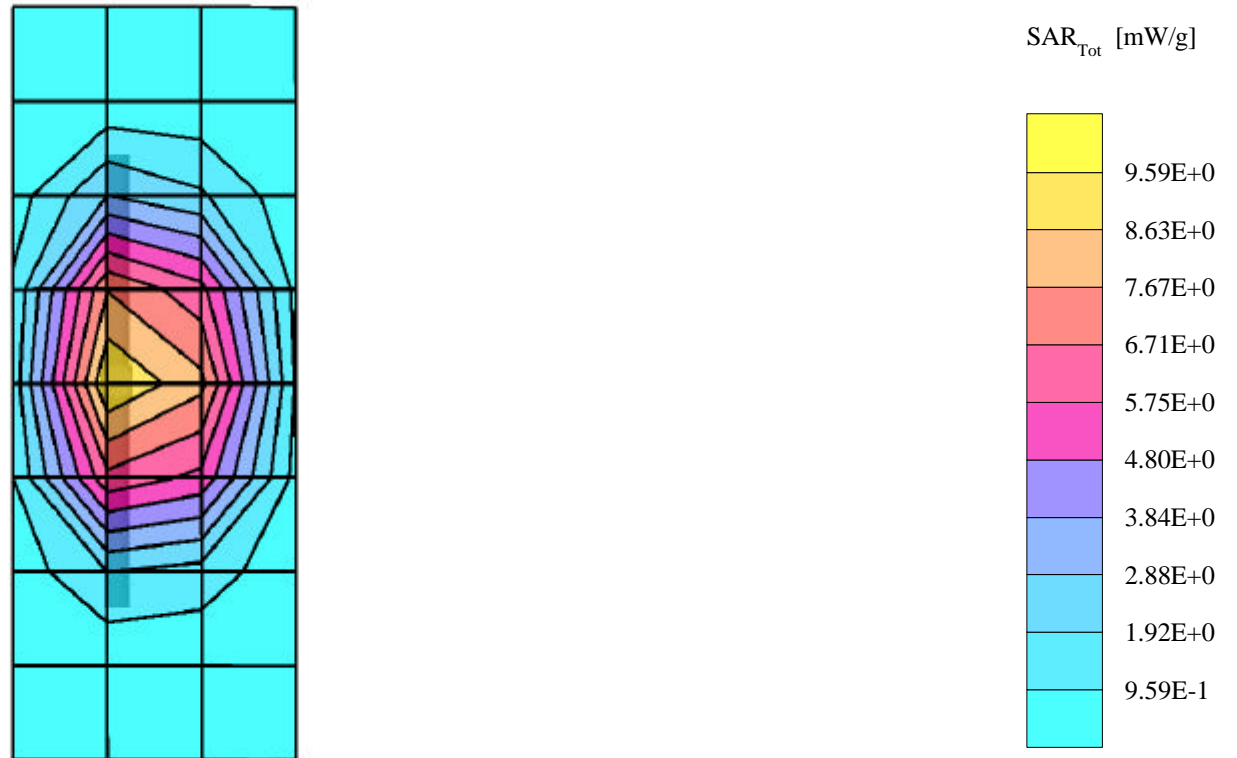
Probe: ET3DV6 - SN1522 Validation; ConvF(5.40,5.40,5.40); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.75$ mho/m $\epsilon_r = 40.4$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 11.1 mW/g ± 0.16 dB, SAR (10g): 5.51 mW/g ± 0.15 dB, (Worst-case extrapolation)

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

Penetration depth: 7.2 (6.8, 8.0) [mm]

Powerdrift: 0.02 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 280 / Forward Power = 250 / Simulant Temp at time of measurement = 21.4 C

R5 Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (90°,180°); Frequency: 1800 MHz

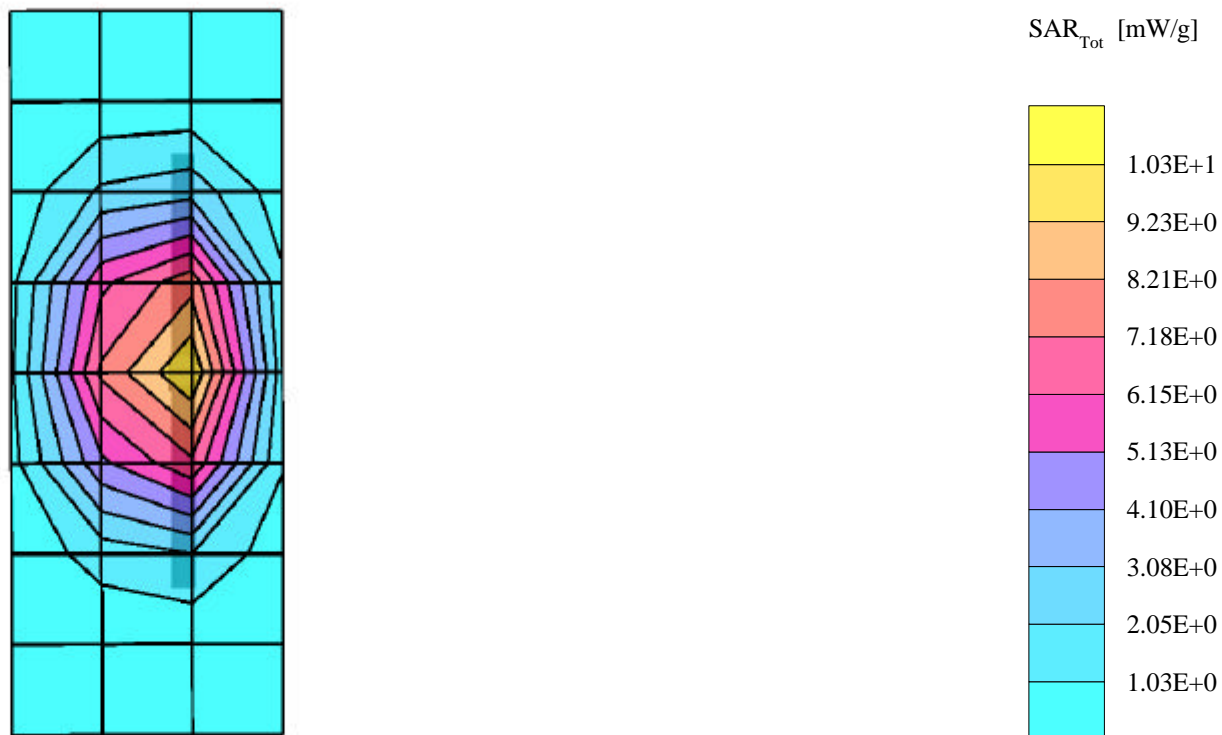
Probe: ET3DV6 - SN1522 Validation; ConvF(5.40,5.40,5.40); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.75$ mho/m $\epsilon_r = 40.4$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 11.1 mW/g ± 0.14 dB, SAR (10g): 5.54 mW/g ± 0.09 dB, (Worst-case extrapolation)

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

Penetration depth: 7.5 (7.2, 8.3) [mm]

Powerdrift: 0.02 dB



Dipole 900 MHz

900 MHz Dipole Validation / Dipole Sn# 92 / Forward Power = 250 / Simulant Temp at time of measurement = 21.5 C

R5 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 900 MHz

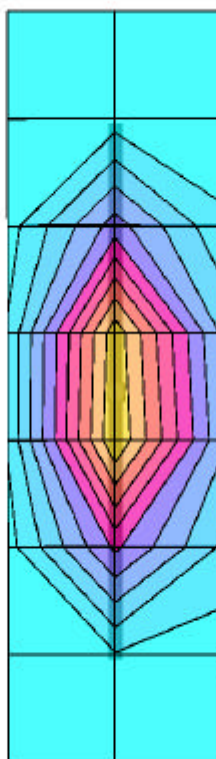
Probe: ET3DV6 - SN1522 - Validation; ConvF(6.31,6.31,6.31); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.87$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 2.54 mW/g ± 0.12 dB, SAR (10g): 1.64 mW/g ± 0.12 dB, (Worst-case extrapolation)

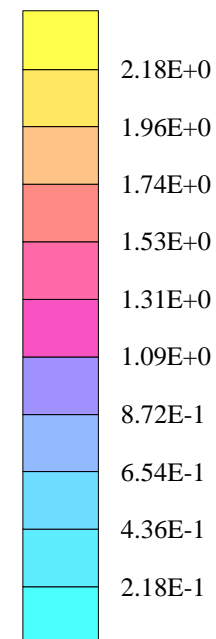
Coarse: Dx = 30.0, Dy = 30.0, Dz = 10.0

Penetration depth: 12.7 (11.7, 14.0) [mm]

Powerdrift: 0.07 dB



SAR_{Tot} [mW/g]



Dipole 900 MHz

900 MHz Dipole Validation / Dipole Sn# 94 / Forward Power = 250 / Simulant Temp at time of measurement = 21.6 C

R5 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 900 MHz

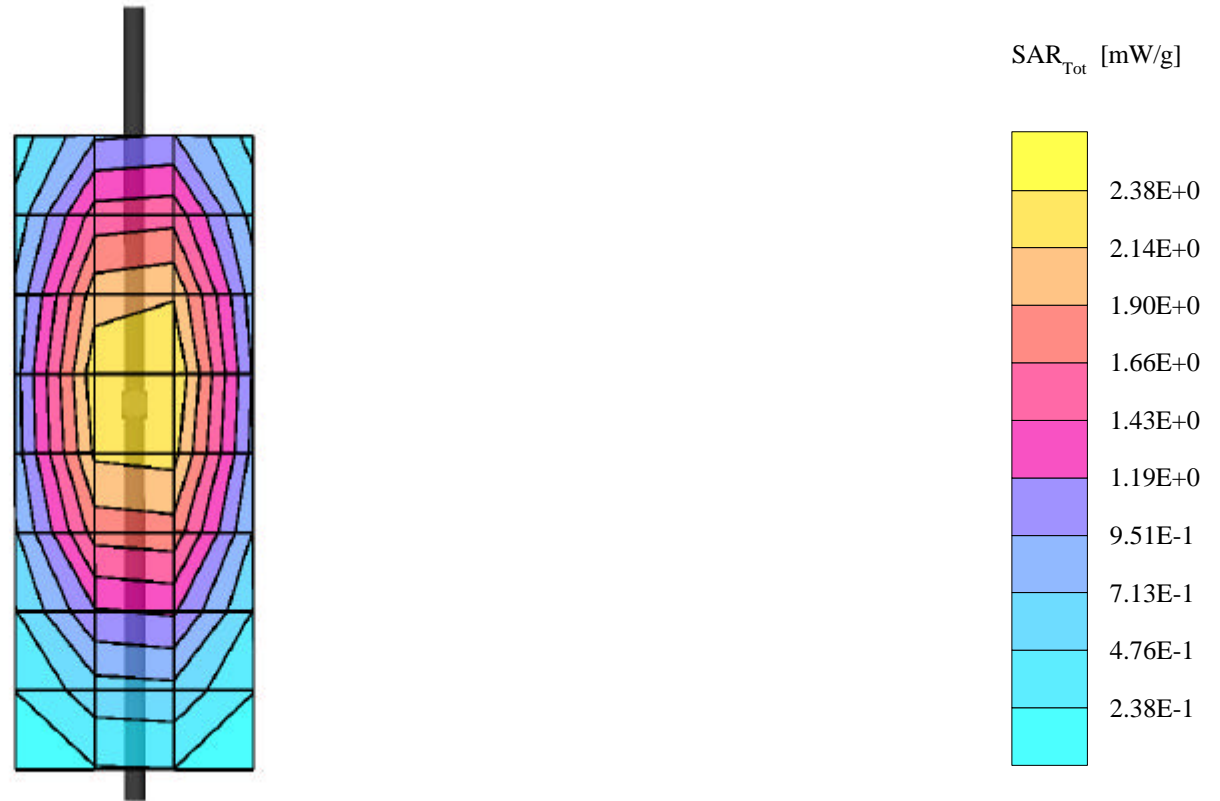
Probe: ET3DV6 - SN1522 "old" Validation; ConvF(6.25,6.25,6.25); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.87$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 2.62 mW/g ± 0.16 dB, SAR (10g): 1.68 mW/g ± 0.15 dB, (Worst-case extrapolation)

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

Penetration depth: 12.4 (11.1, 14.1) [mm]

Powerdrift: 0.07 dB



Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

SN# A88BE519

Ch# 799 / Pwr Step: 02 / Antenna Position: EXTENDED

Robot 7 Lefthead (Archie) Phantom; Left Head Section; Position: (90°,180°); Frequency: 849 MHz

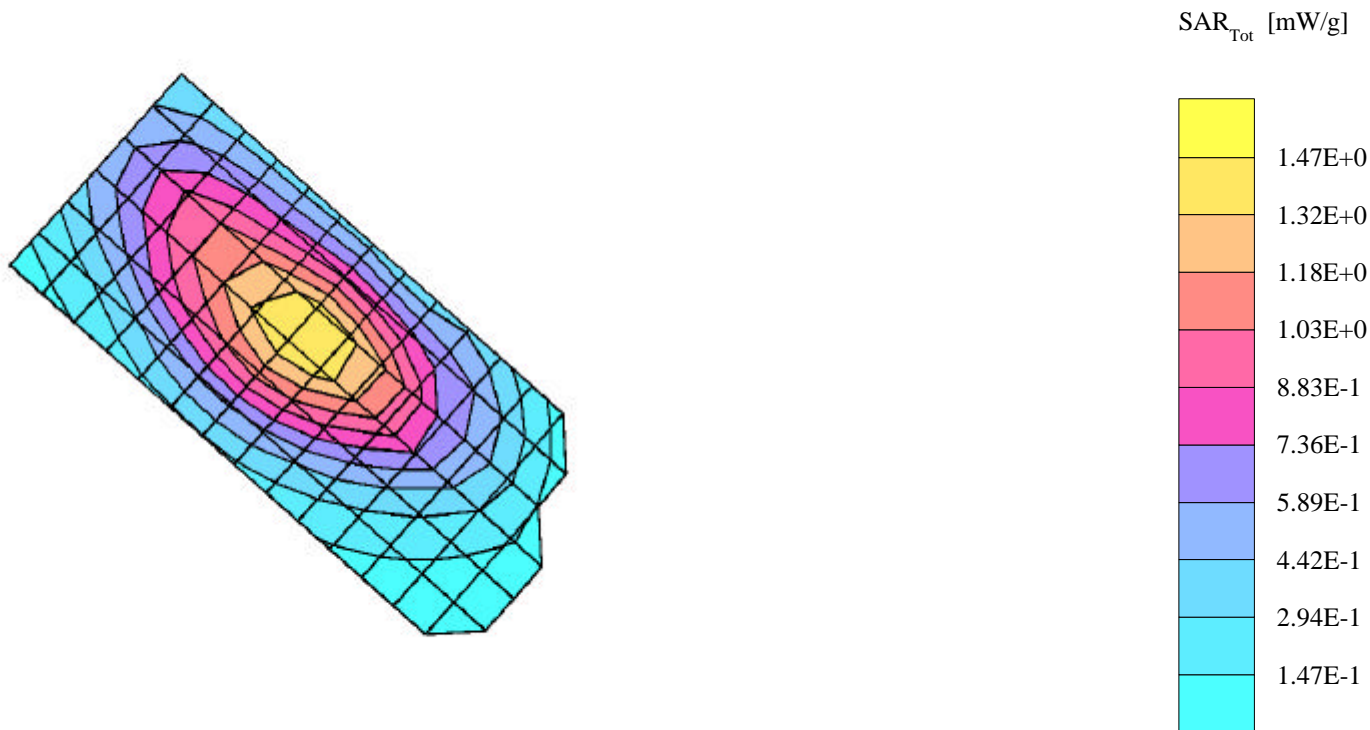
Probe: ET3DV6 - SN1103 Brain (Sugar Water); ConvF(6.80,6.80,6.80); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 44.4$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.55 mW/g, SAR (10g): 1.06 mW/g, (Worst-case extrapolation)

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

Penetration depth: 17.0 (16.4, 17.6) [mm]

Powerdrift: -0.02 dB



SN# A88BE519

Ch# 384 / Pwr Step: 02 / Antenna Position: Retracted

Robot 7 Right Head (Edith) Phantom; Right Head Section; Position: (90°,180°); Frequency: 837 MHz

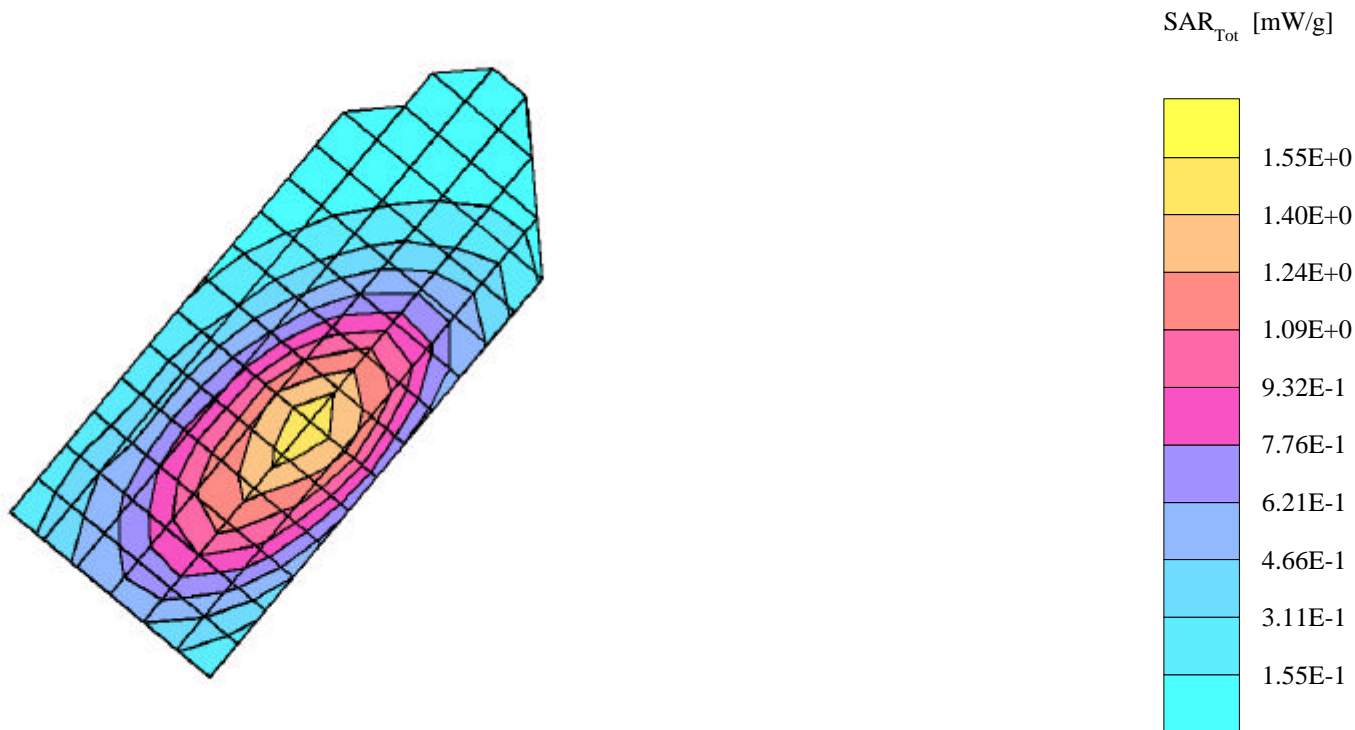
Probe: ET3DV6 - SN1103 Brain (Sugar Water); ConvF(6.80,6.80,6.80); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 43.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.57 mW/g, SAR (10g): 1.09 mW/g, (Worst-case extrapolation)

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

Penetration depth: 17.2 (16.0, 18.2) [mm]

Powerdrift: 0.07 dB



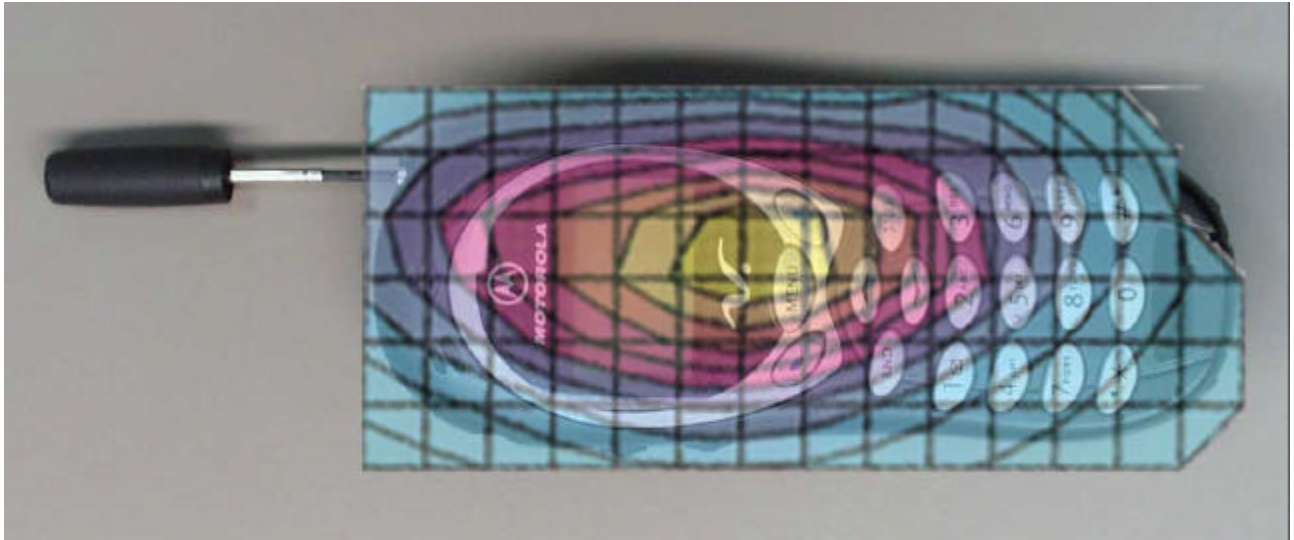


Figure 1. Typical 800MHz Head Adjacent Contour Overlaid on Phone with Antenna Extended

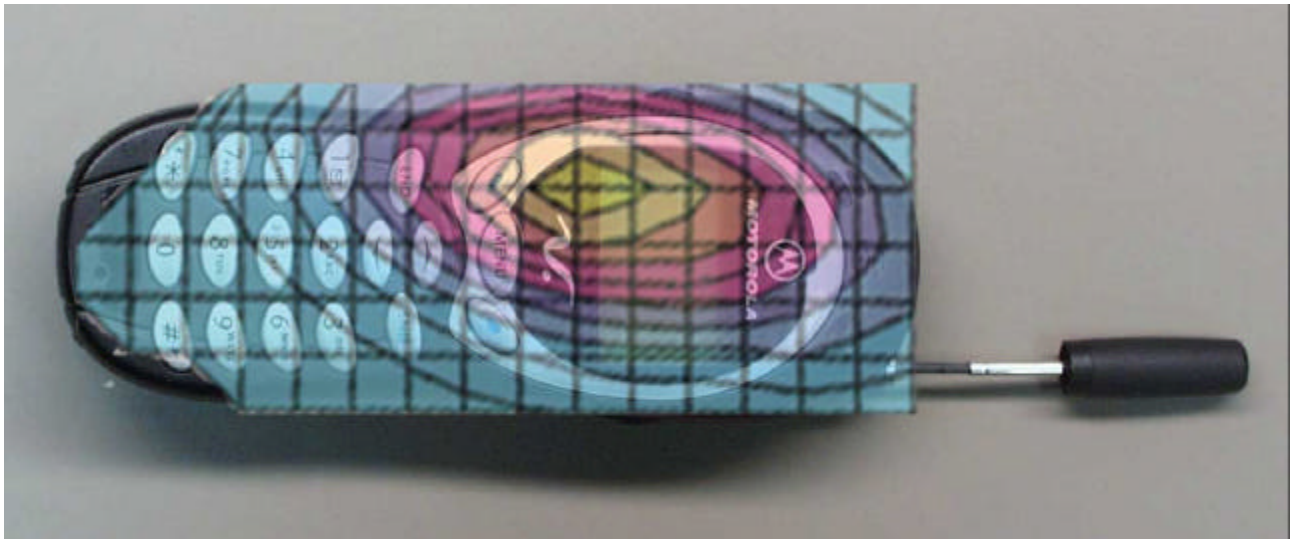


Figure 2. Typical 800MHz Head Adjacent Contour Overlaid on Phone with Antenna Extended

SN: A88BE519

Ch# 25 / Pwr Step: Always Up / Antenna Position: Retracted / Type of Modulation: 1900CDMA

Robot 7 Left Head (George) Glycol Phantom; Left Head Section; Position: (90°,180°); Frequency: 1851 MHz

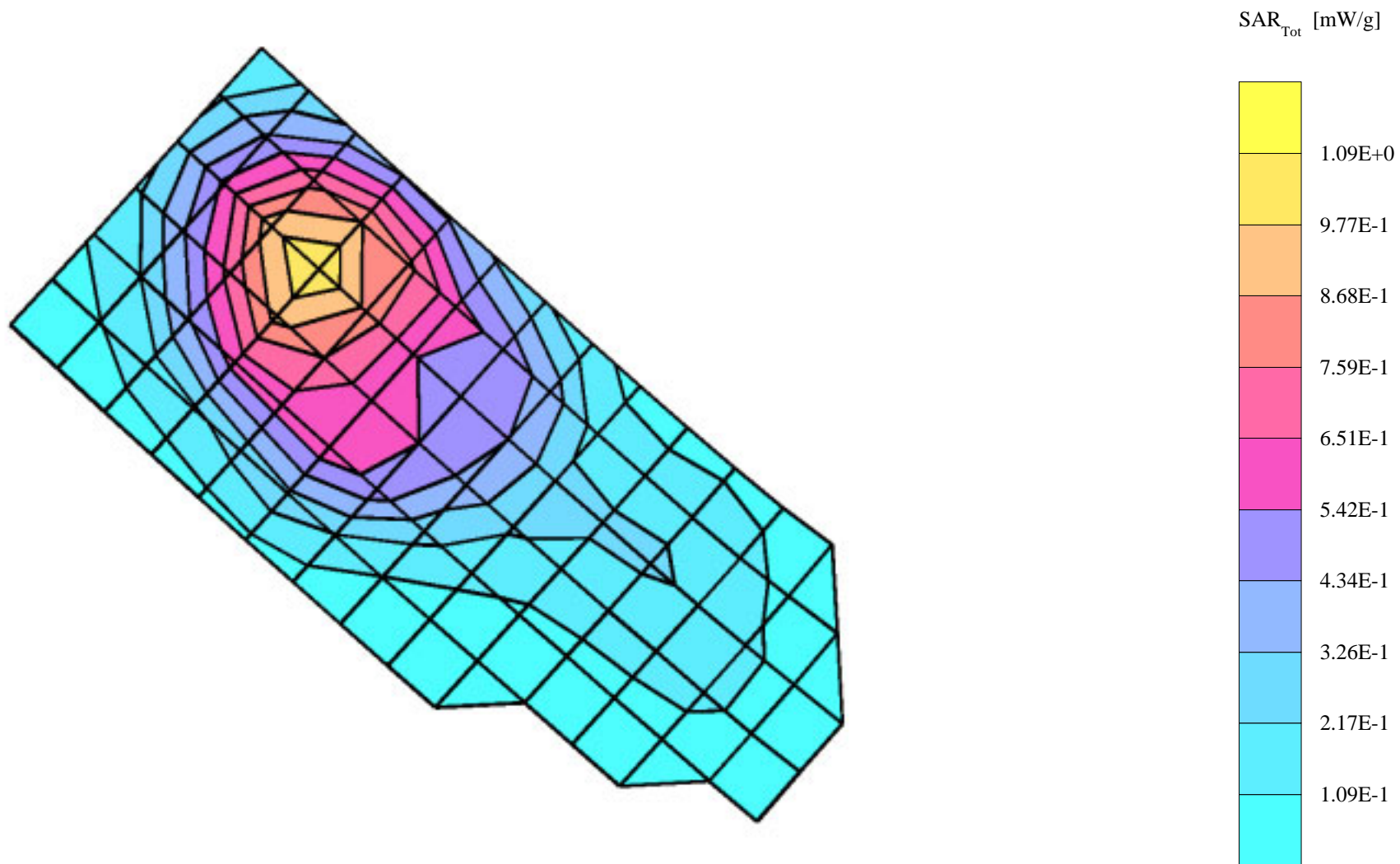
Probe: ET3DV6 - SN1103 Brain (Glycol); ConvF(5.40,5.40,5.40); Crest factor: 1.0; Head Glycol 1900 MHz: $\sigma = 1.39$ mho/m $\epsilon_r = 39.6$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.981 mW/g, SAR (10g): 0.573 mW/g, (Worst-case extrapolation)

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

Penetration depth: 10.2 (9.8, 10.8) [mm]

Powerdrift: -0.99 dB



12/08/01

sn# A88BE519

Ch# 600 / Pwr Step: Always Up / Antenna Position: EXTENDED

Robot 7 Right Head (Weezie) Glycol Phantom; Right Head Section; Position: (90°,180°); Frequency: 1880 MHz

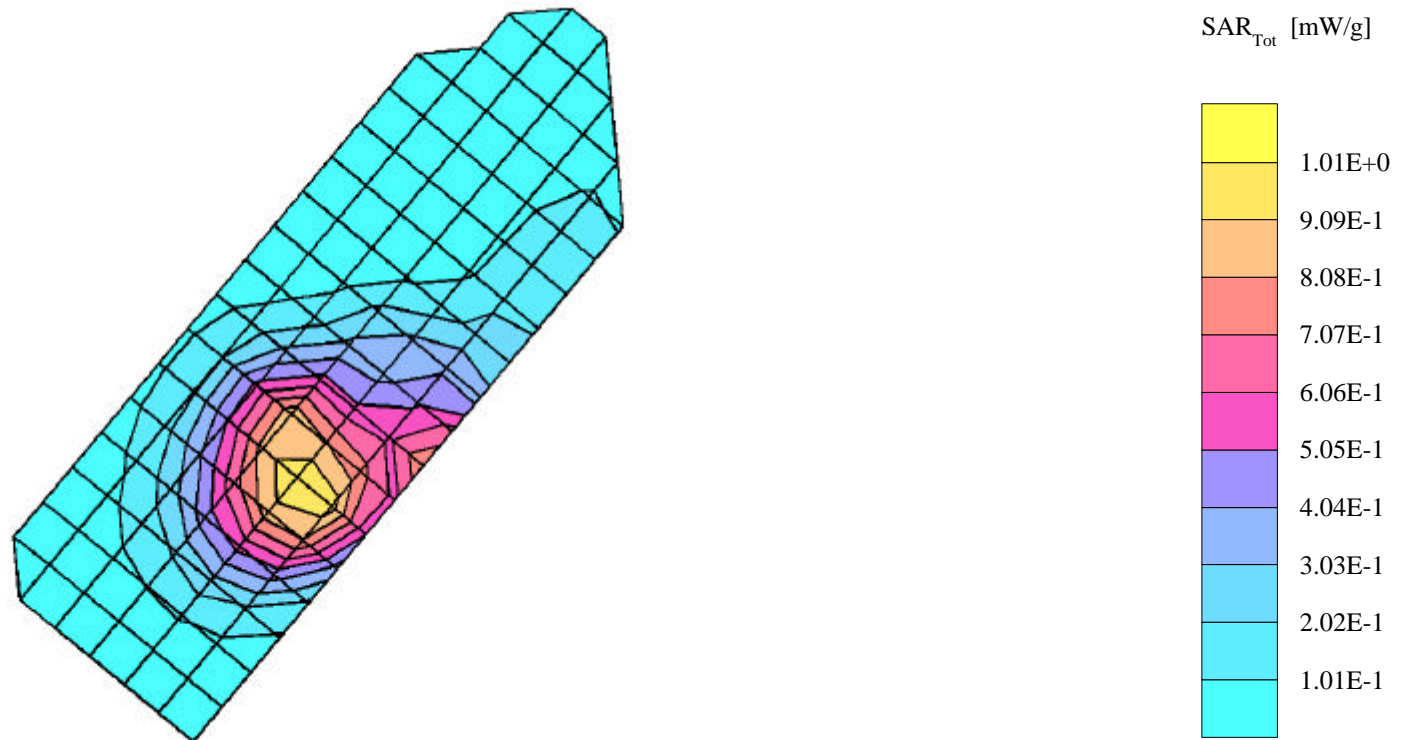
Probe: ET3DV6 - SN1103 Brain (Glycol); ConvF(5.40,5.40,5.40); Crest factor: 1.0; Head Glycol 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 39.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.932 mW/g, SAR (10g): 0.563 mW/g * Max outside, (Worst-case extrapolation)

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

Penetration depth: 11.3 (11.0, 11.6) [mm]

Powerdrift: -0.87 dB



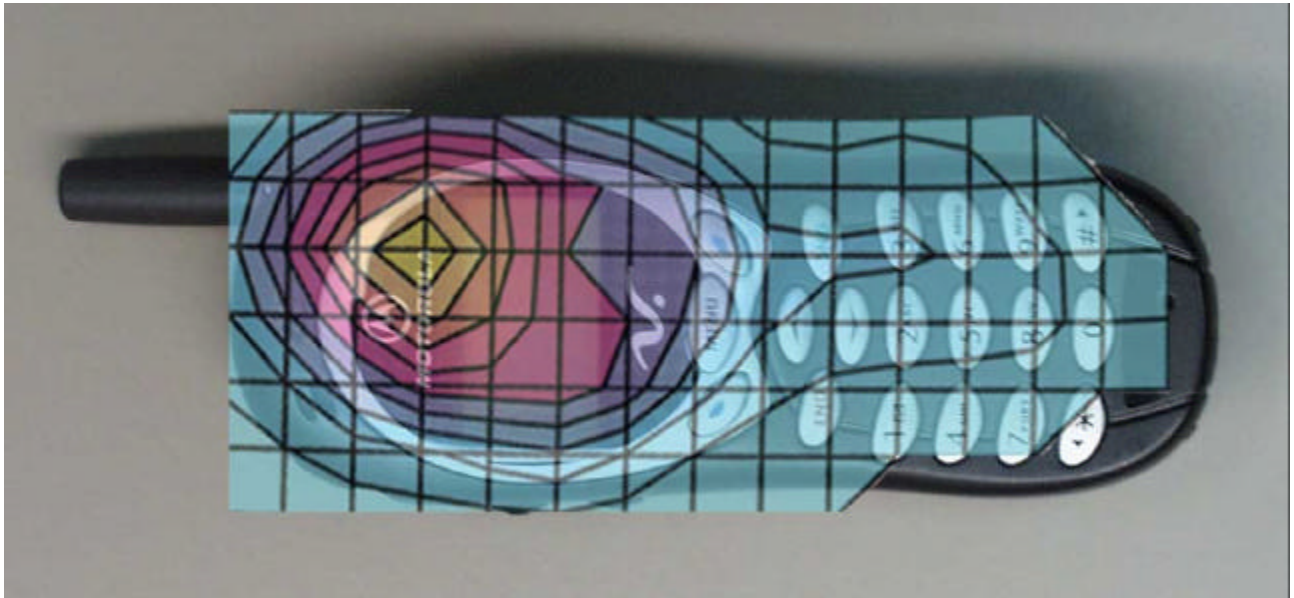


Figure 3. Typical 1900MHz Head Adjacent Contour Overlaid on Phone with Antenna Retracted

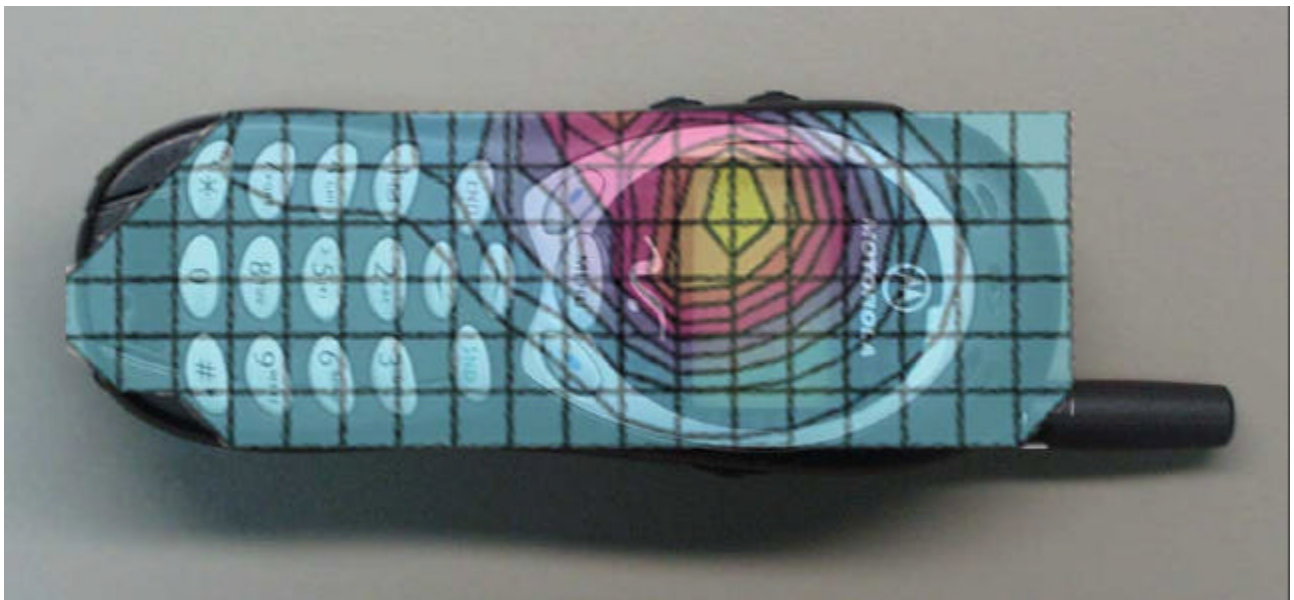


Figure 4. Typical 1900MHz Head Adjacent Contour Overlaid on Phone with Antenna Retracted

SN# A88BE519

Ch# 991 / Pwr Step: Always UP / 15 deg / Antenna Position: Extended

R5 Gilligan Left Head (Sugar) Phantom; Left Head Section; Position: (80°,180°); Frequency: 824 MHz

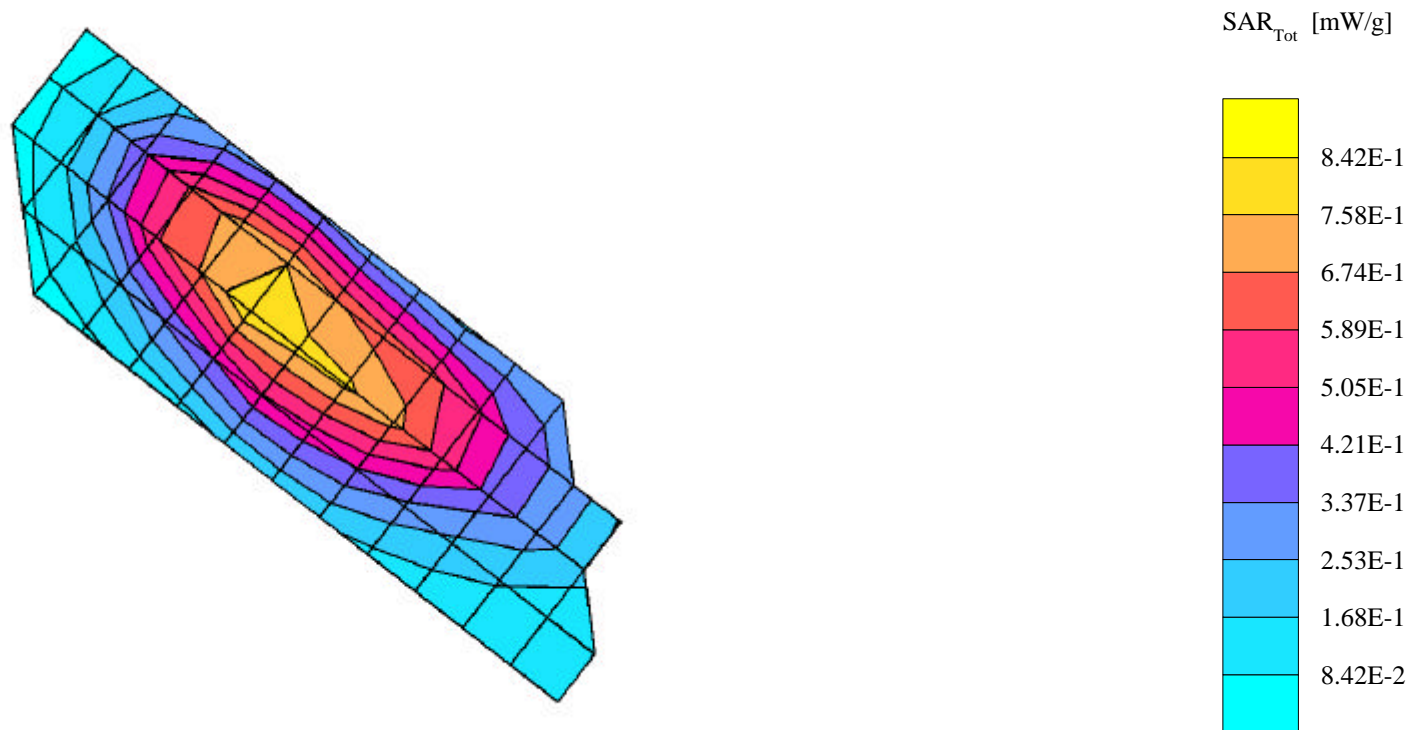
Probe: ET3DV6 - SN1522 BRAIN (Sugarwater); ConvF(6.37,6.37,6.37); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 45.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.823 mW/g, SAR (10g): 0.558 mW/g, (Worst-case extrapolation)

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

Penetration depth: 14.4 (12.8, 16.2) [mm]

Powerdrift: -0.13 dB



SN# A88BE519

Ch# 991 / Pwr Step: 02 (OTA) / 15 deg / Antenna Position: EXTENDED

R5 Mary Ann Right Head (Sugar) Phantom; Right Head Section; Position: (80°,180°); Frequency: 824 MHz

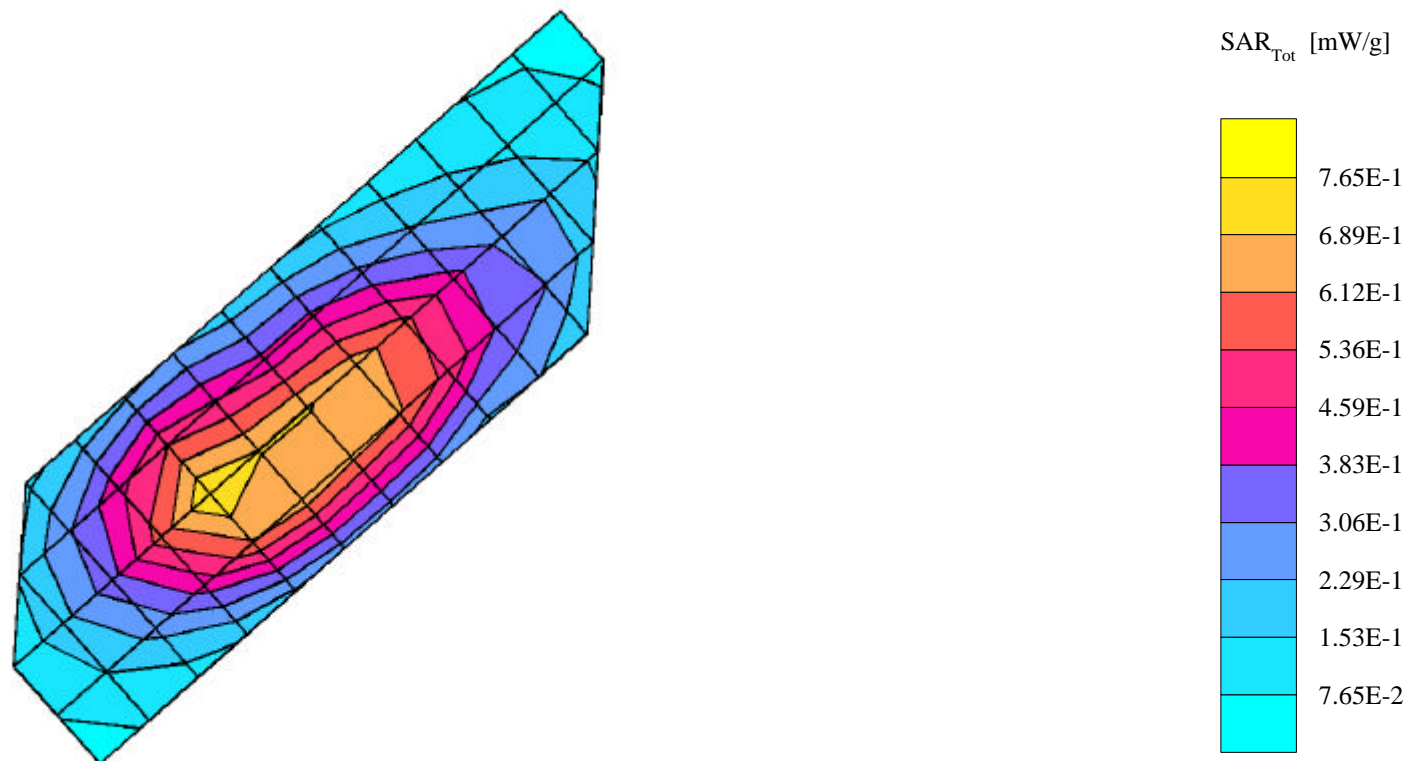
Probe: ET3DV6 - SN1522 BRAIN (Sugarwater); ConvF(6.37,6.37,6.37); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 45.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.724 mW/g, SAR (10g): 0.493 mW/g, (Worst-case extrapolation)

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

Penetration depth: 13.1 (10.5, 16.7) [mm]

Powerdrift: -0.00 dB



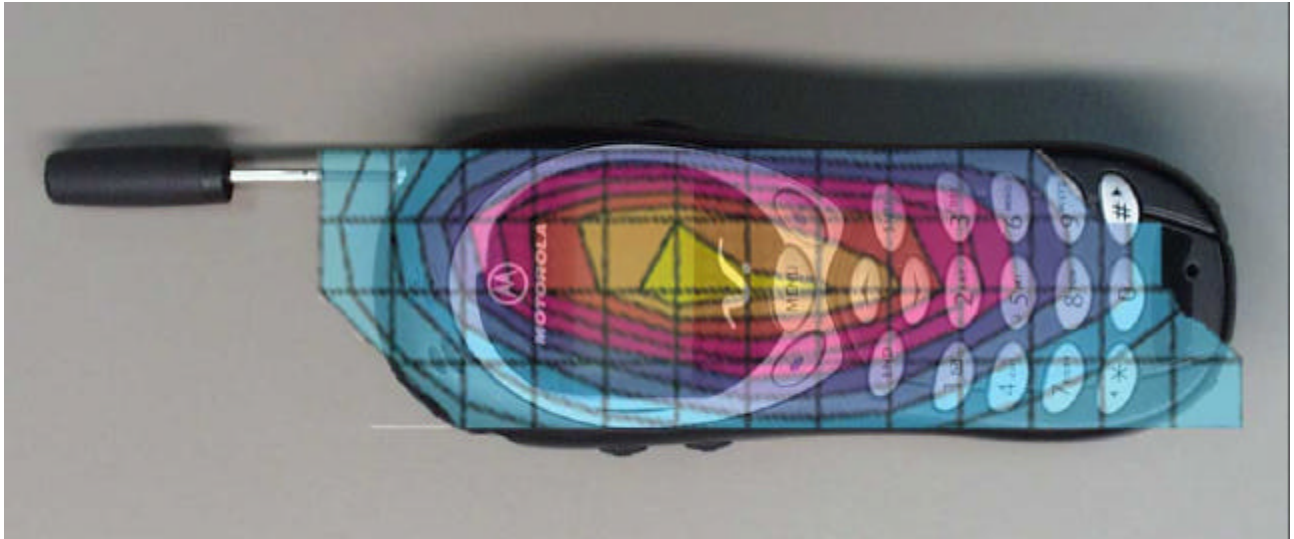


Figure 5. Typical 800MHz Head Contour with 15 ° Tilt Position Overlaid on Phone with Antenna Extended

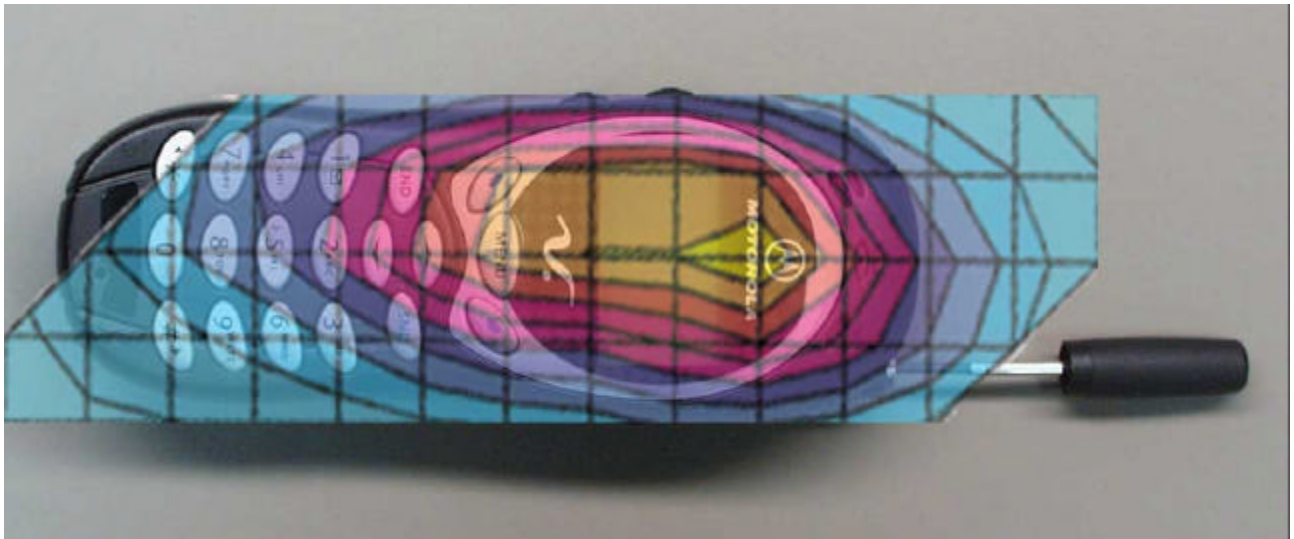


Figure 6. Typical 800MHz Head Contour with 15 ° Tilt Position Overlaid on Phone with Antenna Extended

SN# A88BE519

Ch# 600 / Pwr Step: Always UP / 15 deg / Antenna Position: Retracted

R5 Skipper Left Head (Glycol) Phantom; Left Head Section; Position: (80°,180°); Frequency: 1880 MHz

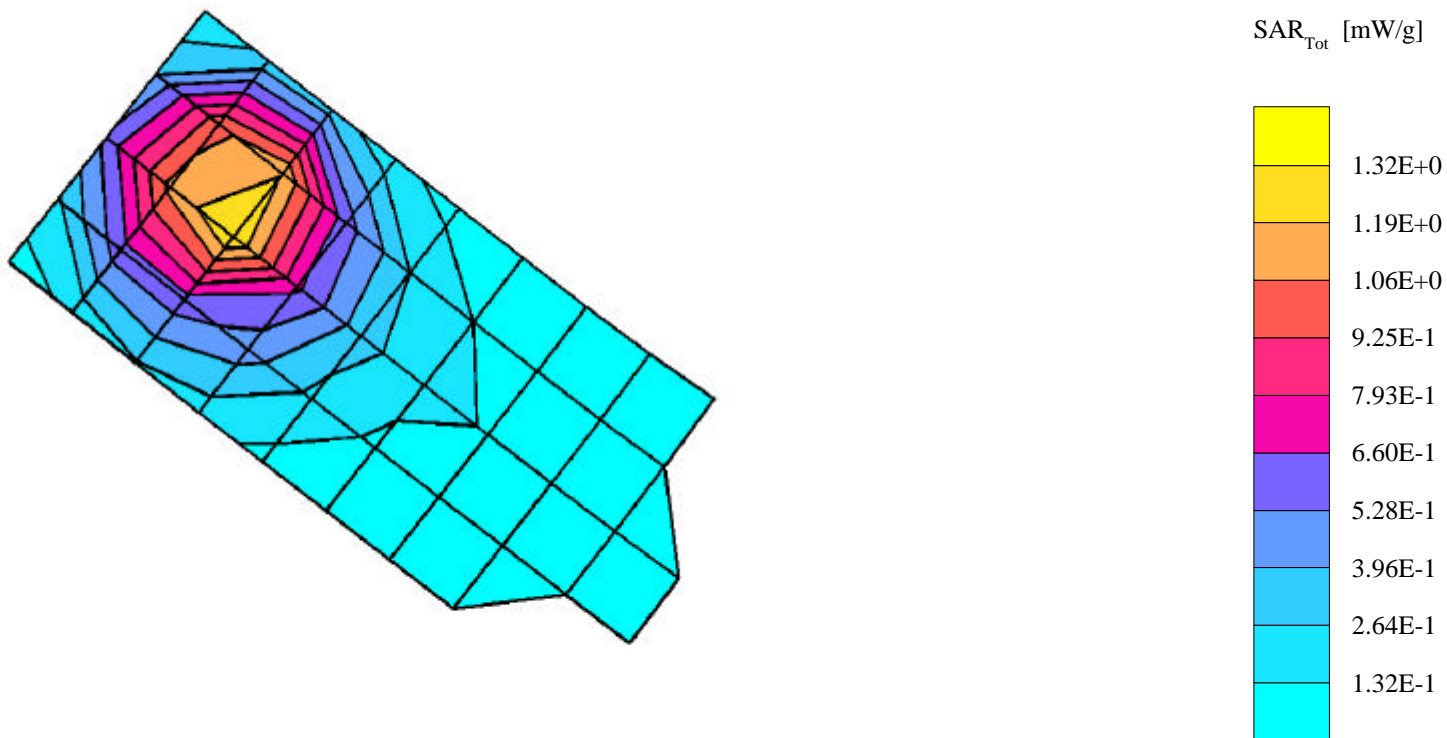
Probe: ET3DV6 - SN1522 Brain (Glycol); ConvF(5.16,5.16,5.16); Crest factor: 1.0; Head Glycol 1900 MHz: $\sigma = 1.48$ mho/m $\epsilon_r = 38.2$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.28 mW/g, SAR (10g): 0.759 mW/g, (Worst-case extrapolation)

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

Penetration depth: 10.5 (9.8, 11.5) [mm]

Powerdrift: -0.12 dB



SN# A88BE519

Ch# 600 / Pwr Step: Always UP / 15 deg / Antenna Position: RET

R5 Ginger Right Head (Glycol) Phantom; Right Head Section; Position: (80°,180°); Frequency: 1880 MHz

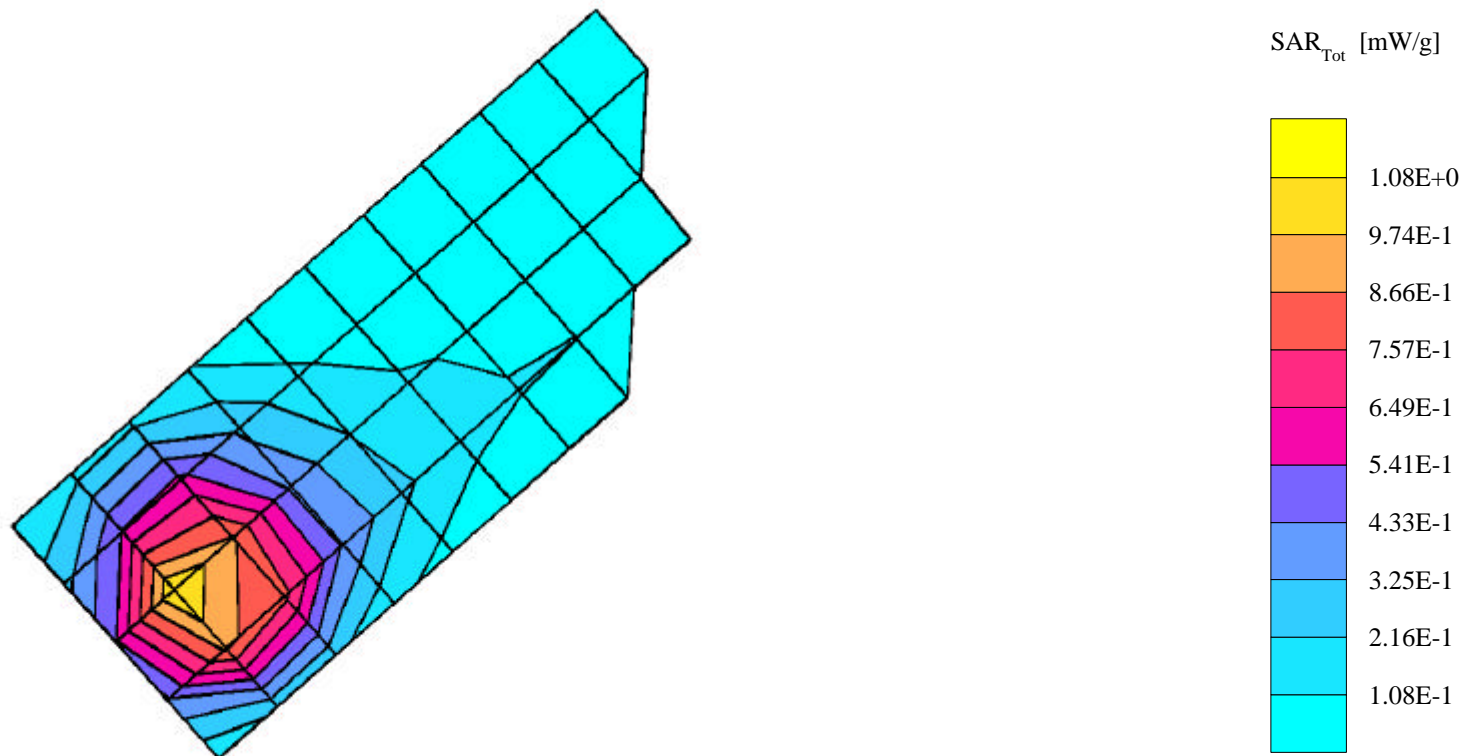
Probe: ET3DV6 - SN1522 Brain (Glycol); ConvF(5.16,5.16,5.16); Crest factor: 1.0; Head Glycol 1900 MHz: $\sigma = 1.48$ mho/m $\epsilon_r = 38.2$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.935 mW/g, SAR (10g): 0.545 mW/g * Max outside, (Worst-case extrapolation)

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

Penetration depth: 8.7 (8.0, 10.0) [mm]

Powerdrift: -0.87 dB



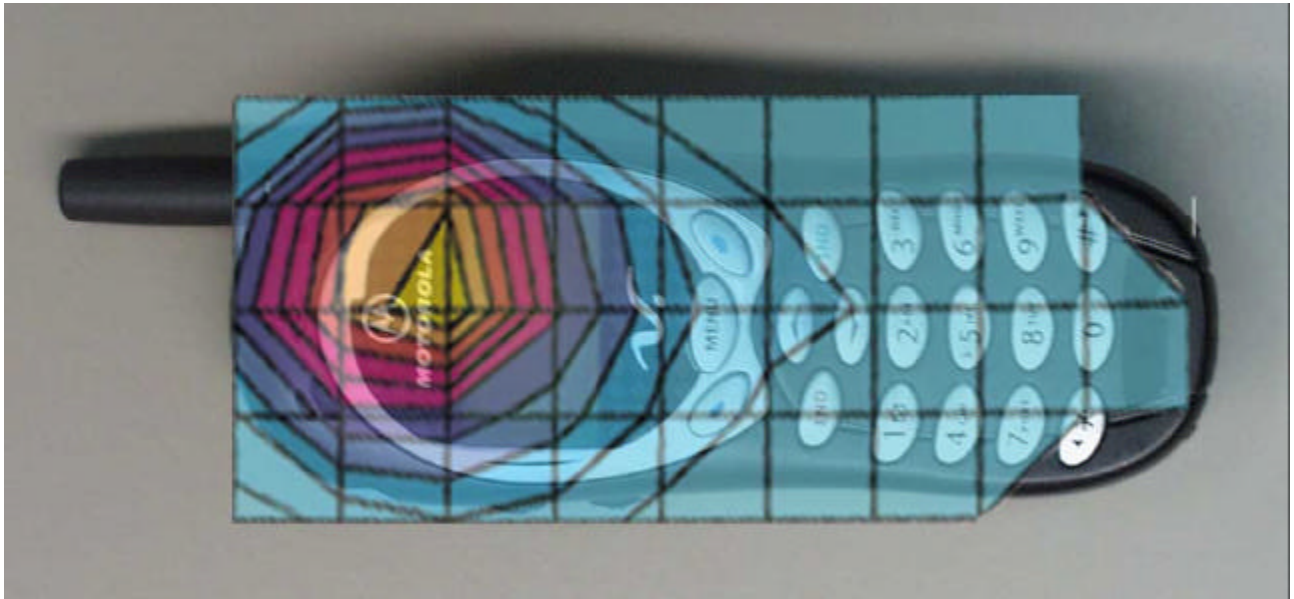


Figure 7. Typical 1900MHz Head Contour with 15 ° Tilt Position Overlaid on Phone with Antenna Retracted

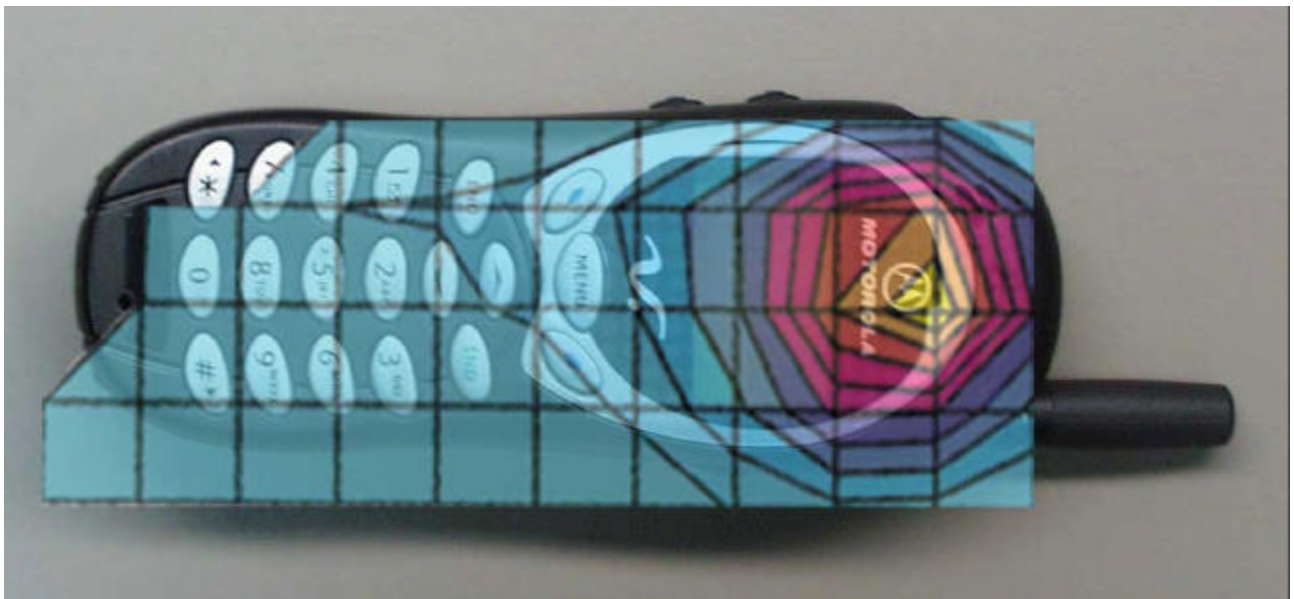


Figure 8. Typical 1900MHz Head Contour with 15 ° Tilt Position Overlaid on Phone with Antenna Retracted

Appendix 3

SAR distribution plots for Body Worn Configuration

SN# A88BE519

Ch# 384 / Pwr Step: 2 / Antenna Position: Extended

Robot7 Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (0°,0°); Frequency: 837 MHz

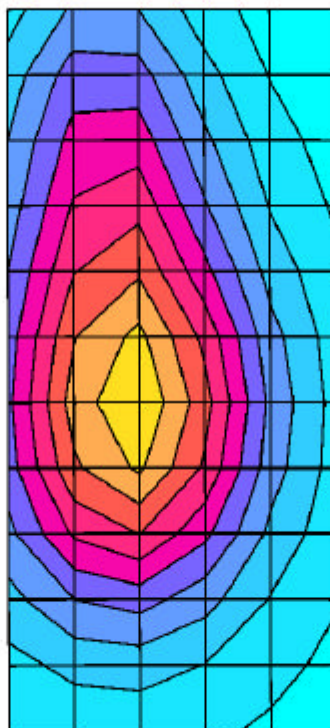
Probe: ET3DV6 - SN1103 Muscle (Sugar Water); ConvF(6.80,6.80,6.80); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 1.10$ mho/m $\epsilon_r = 51.1$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.566 mW/g, SAR (10g): 0.390 mW/g, (Worst-case extrapolation)

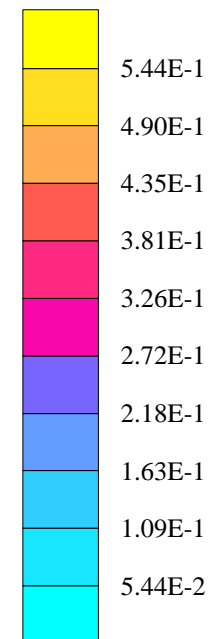
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 14.5 (13.5, 15.6) [mm]

Powerdrift: 0.05 dB



SAR_{Tot} [mW/g]



s/n: A88BE519

Ch# 25 / Pwr Step: Always Up / Antenna Position: Ext / Type of Modulation: 1900 CDMA

Body-Worm Configuration

Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 1851 MHz

Probe: ET3DV6 - SN1103 Muscle (Glycol); ConvF(5.20,5.20,5.20); Crest factor: 1.0; Muscle Glycol 1900 MHz: $\sigma = 1.65$ mho/m $\epsilon_r = 48.8$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.629 mW/g, SAR (10g): 0.348 mW/g, (Worst-case extrapolation)

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

Penetration depth: 9.0 (8.4, 10.1) [mm]

Powerdrift: -0.38 dB

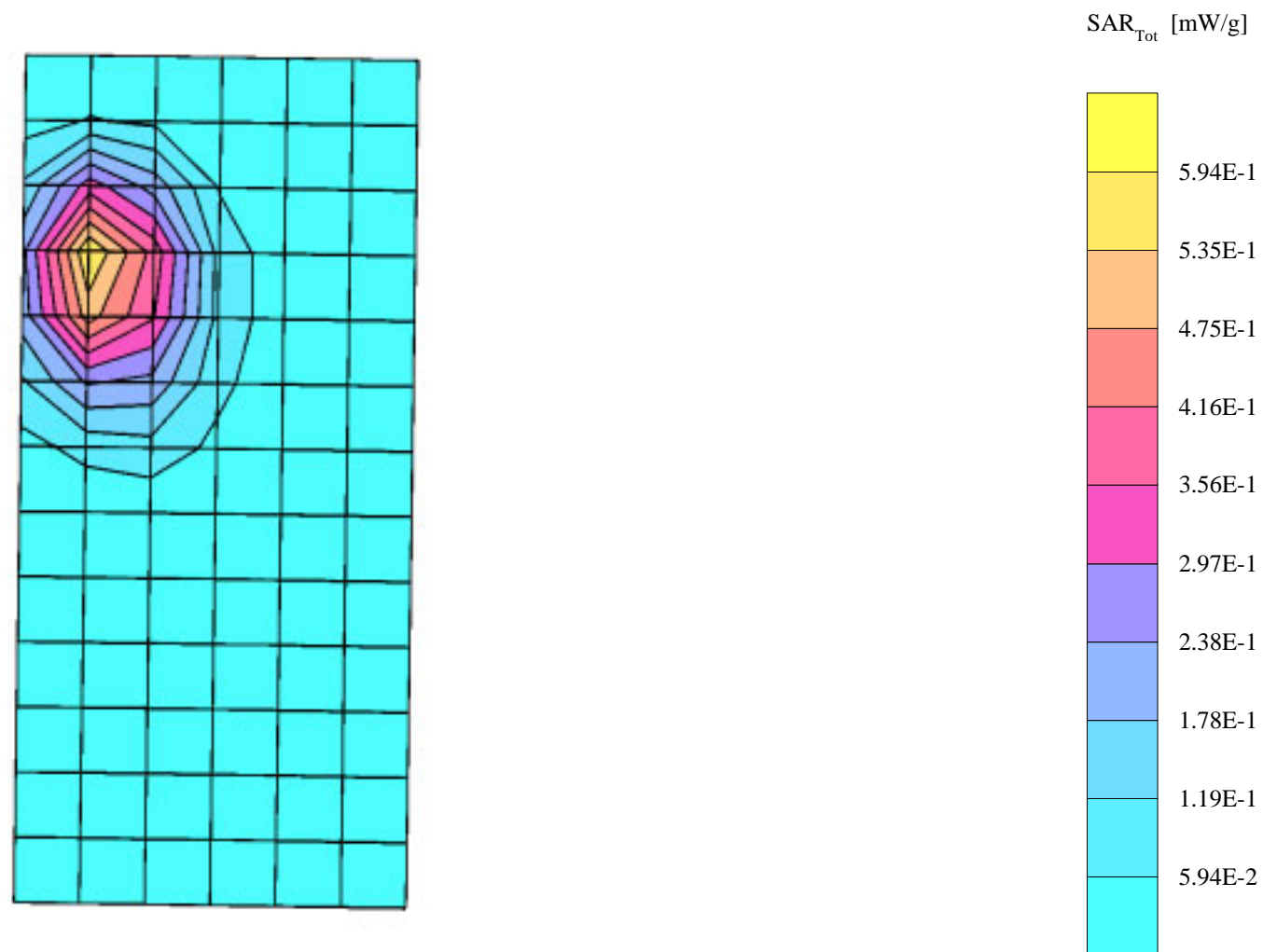




Figure 9. Typical 1900 MHz Body-Worn Contour Overlaid on Phone with Antenna Extended

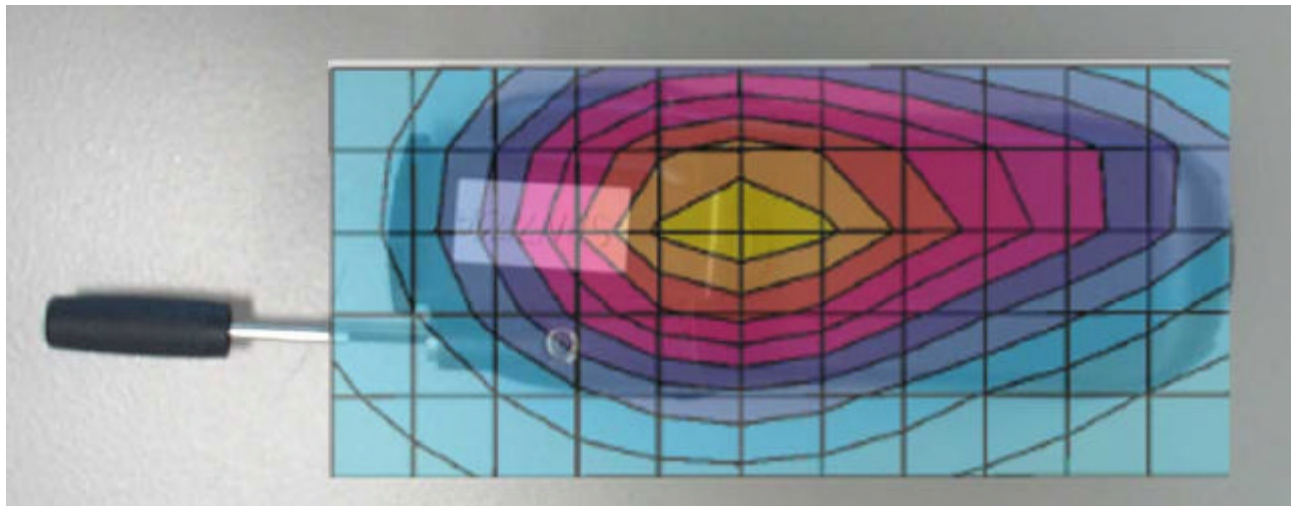


Figure 10. Typical 800 MHz Body-Worn Contour Overlaid on Phone with Antenna Extended

Appendix 4

Photographs of the device under test



Figure 11. Front of Phone with Antenna Retracted



Figure 12. Front of Phone with Antenna Extended



Figure 13. Side View of the Phone with Antenna Retracted



Figure 14. Front of the Phone with Antenna Extended



Figure 15. Back of the Phone with Phone Clip (Antenna Retracted)



Figure 16. Back of the Phone with Phone Clip (Antenna Extended)



Figure 17. Distance of the Antenna (Extended) to the Base of the Flat Phantom



Figure 18. Distance of the Antenna (Retracted) to the Base of the Flat Phantom

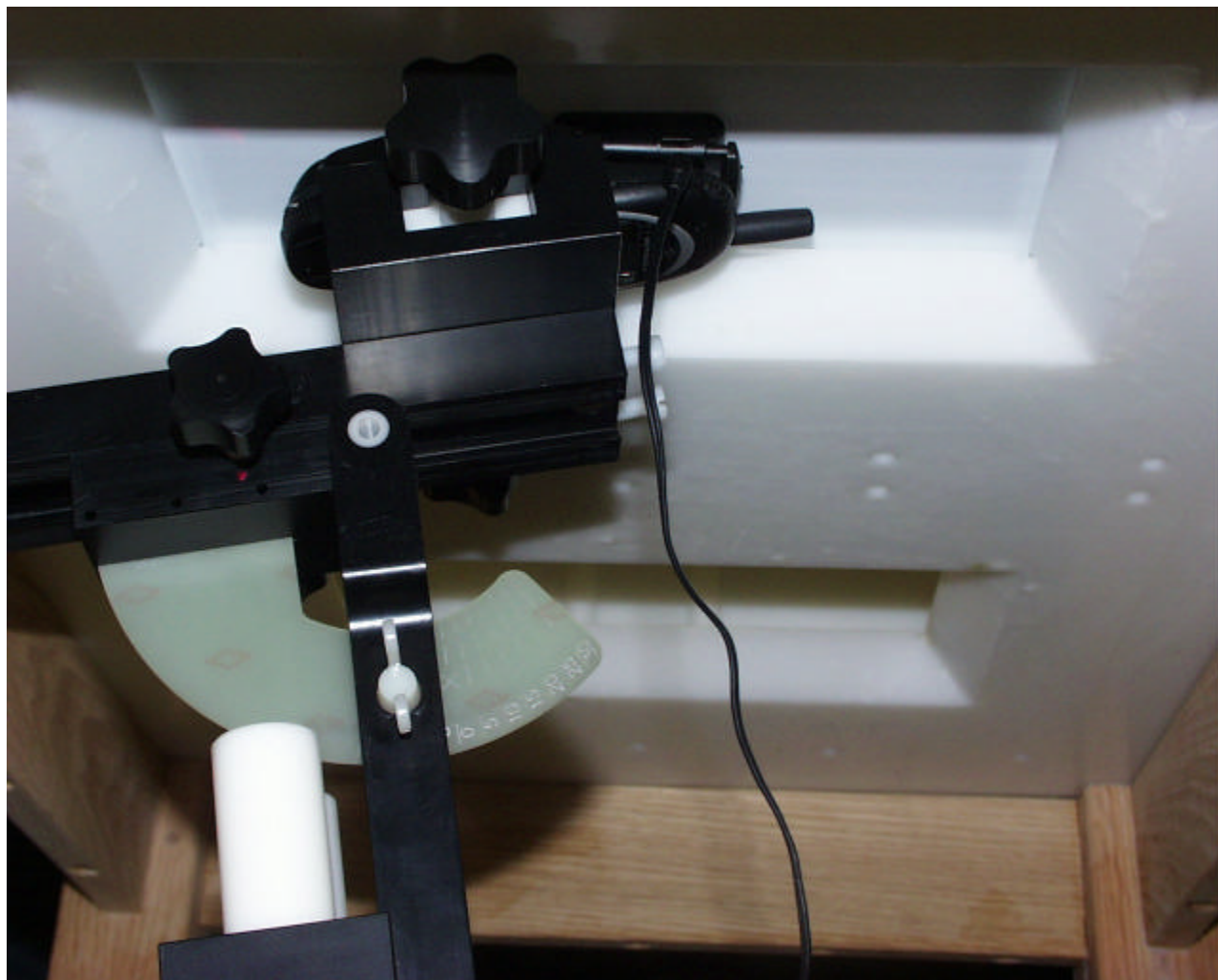


Figure 19. Phone with Belt Clip Placed under a Flat Phantom with Headset (Antenna Retracted)

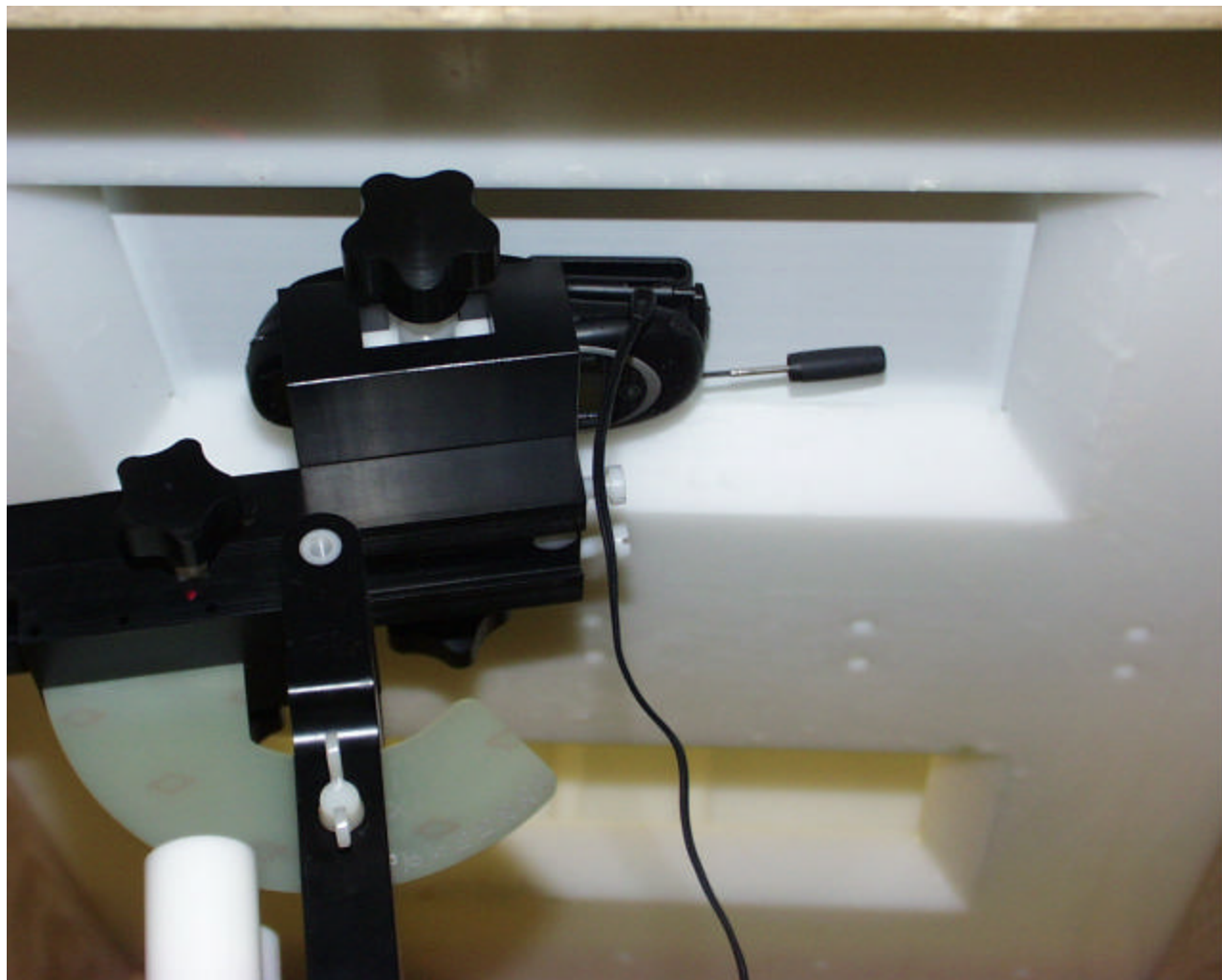


Figure 20. Phone with Belt Clip placed under a Flat Phantom with Headset (Antenna Extended)

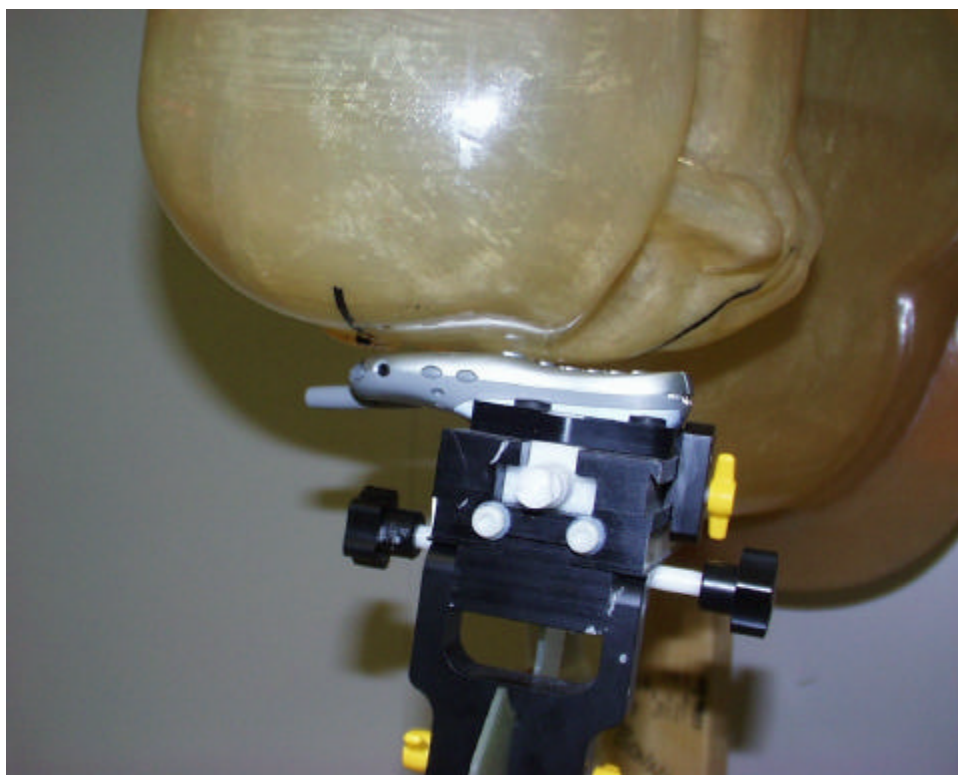


Figure 21. Top View of Phone Placed Against Head with Antenna Retracted

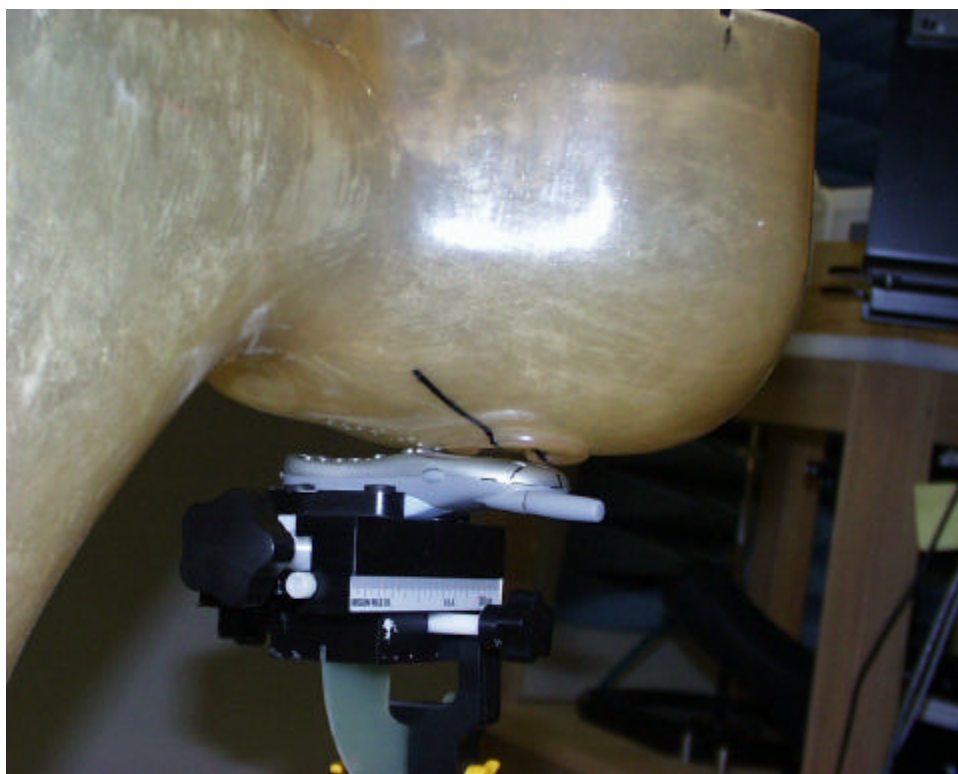


Figure 22. Back View of Phone Placed Against Head with Antenna Retracted

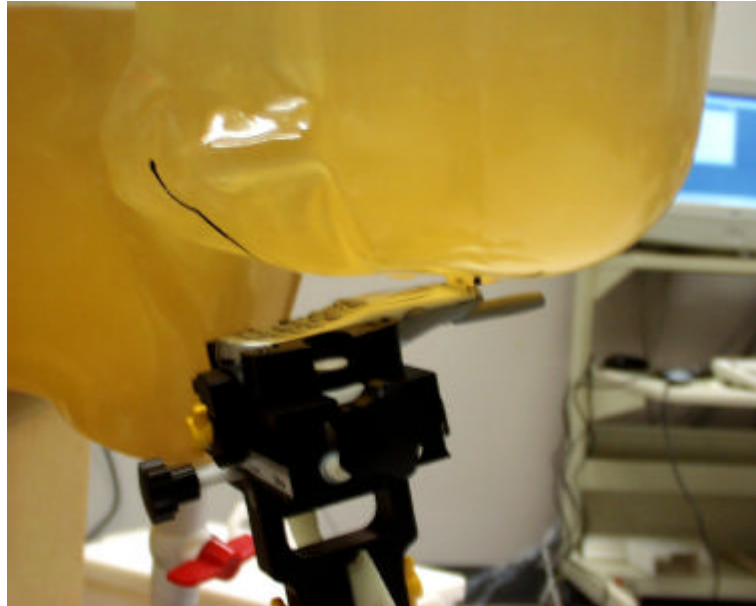


Figure 23. Phone Against the Head in 15 ° Tilt Position (Antenna Retracted)

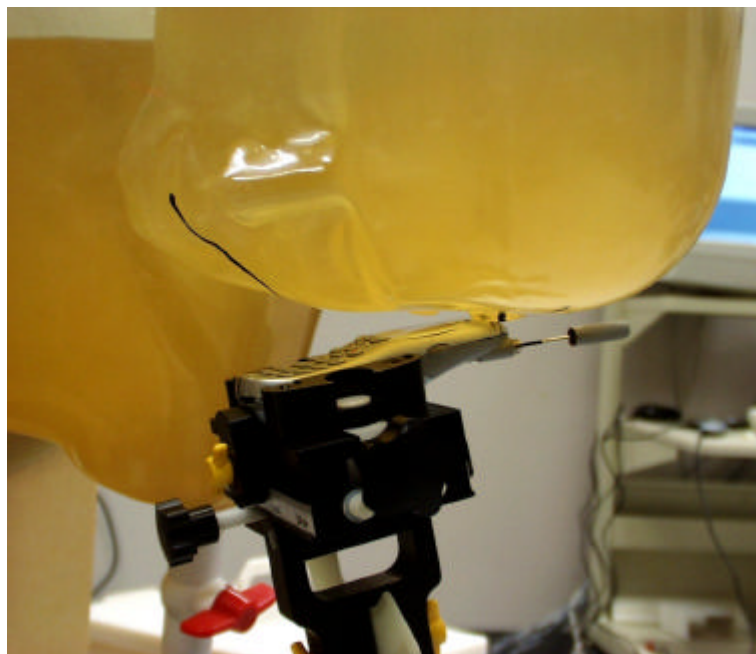


Figure 24. Phone Against the Head in 15 ° Tilt Position (Antenna Extended)