



Test & Certification Center (TCC) - Dallas



Accredited Laboratory
Certificate Number: 1819-01

APPENDIX A: VALIDATION SCANS

Dipole 835 MHz, Head Validation

SAM 1 (Cellular - Brain Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Brain Tissue: $\sigma = 0.90$ mho/m $\epsilon_r = 40.8$ $\rho = 1.00$ g/cm³

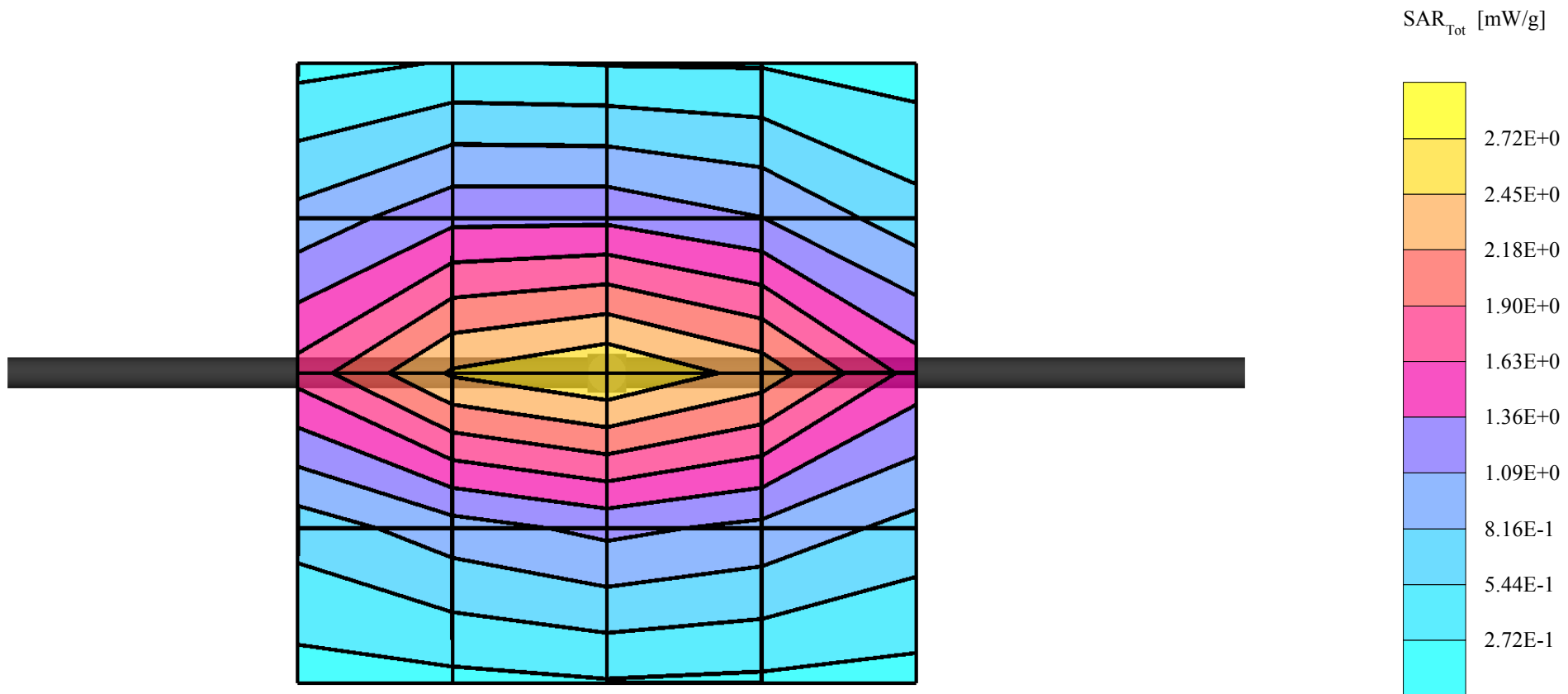
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cubes (2): Peak: 3.85 mW/g ± 0.01 dB, SAR (1g): 2.40 mW/g ± 0.03 dB, SAR (10g): 1.63 mW/g ± 0.04 dB, (Advanced extrapolation)

Penetration depth: 14.9 (14.8, 15.3) [mm]

Powerdrift: 0.12 dB

Liquid Temperature (°C): 21.1



Dipole 835 MHz, Head Validation

SAM 1 (Cellular - Brain Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Brain Tissue: $\sigma = 0.90$ mho/m $\epsilon_r = 40.8$ $\rho = 1.00$ g/cm³

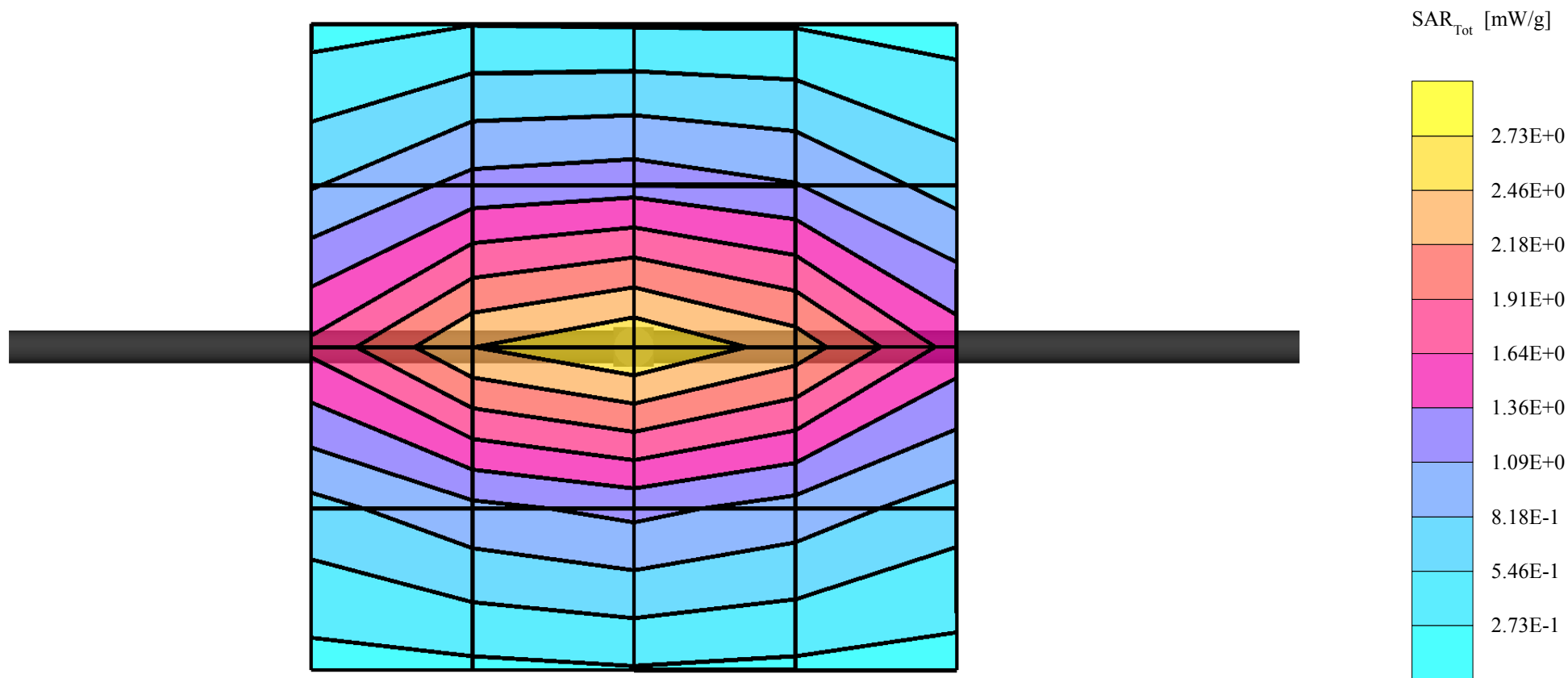
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cubes (2): Peak: 3.78 mW/g ± 0.00 dB, SAR (1g): 2.38 mW/g ± 0.05 dB, SAR (10g): 1.60 mW/g ± 0.05 dB, (Advanced extrapolation)

Penetration depth: 14.8 (14.7, 15.0) [mm]

Powerdrift: 0.14 dB

Liquid Temperature (°C): 20.7



Dipole 835 MHz, Head Validation

SAM 1 (Cellular - Brain Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Brain Tissue: $\sigma = 0.91$ mho/m $\epsilon_r = 41.1$ $\rho = 1.00$ g/cm³

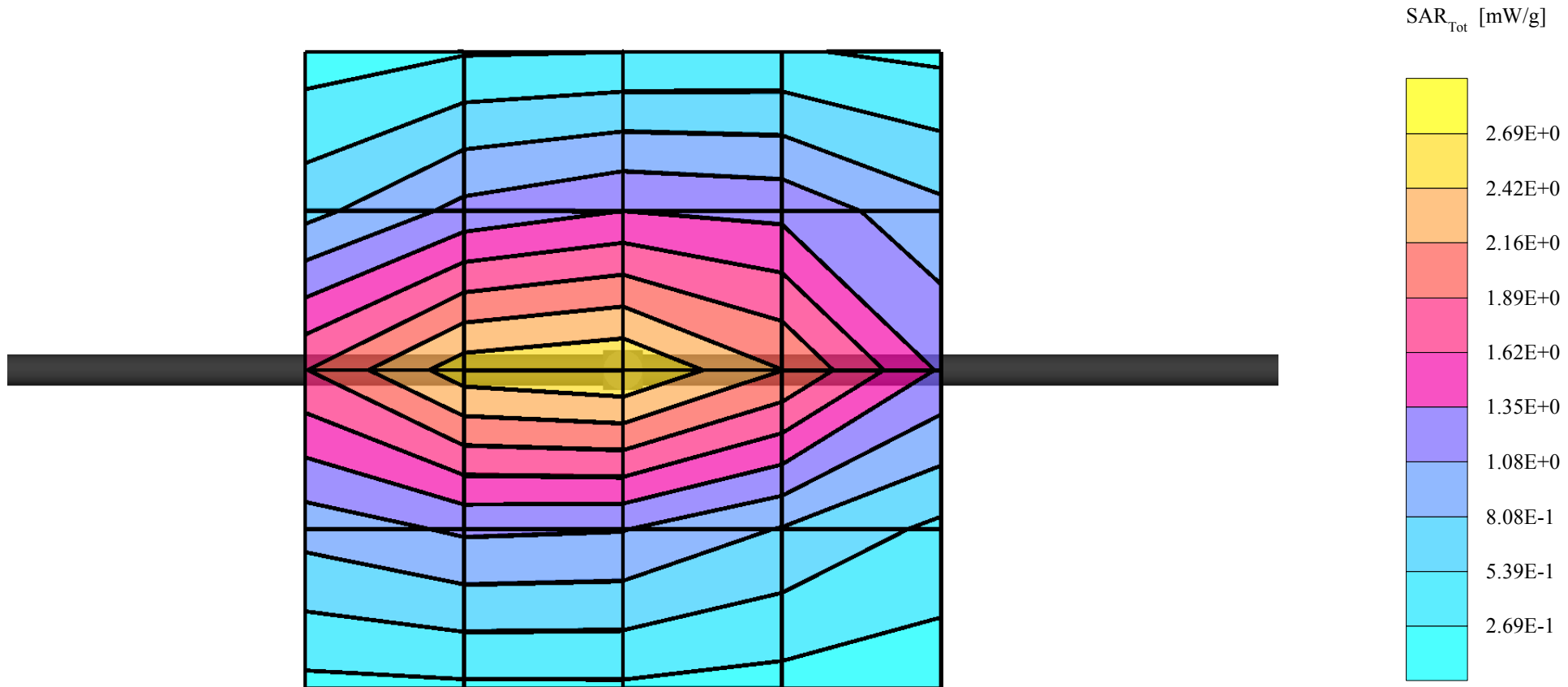
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cubes (2): Peak: 3.68 mW/g ± 0.01 dB, SAR (1g): 2.39 mW/g ± 0.02 dB, SAR (10g): 1.60 mW/g ± 0.03 dB, (Advanced extrapolation)

Penetration depth: 14.3 (14.2, 14.5) [mm]

Powerdrift: 0.09 dB

Liquid Temperature (°C): 20.7



Dipole 835 MHz, Head Validation

SAM 1 (Cellular - Brain Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Brain Tissue: $\sigma = 0.90$ mho/m $\epsilon_r = 41.0$ $\rho = 1.00$ g/cm³

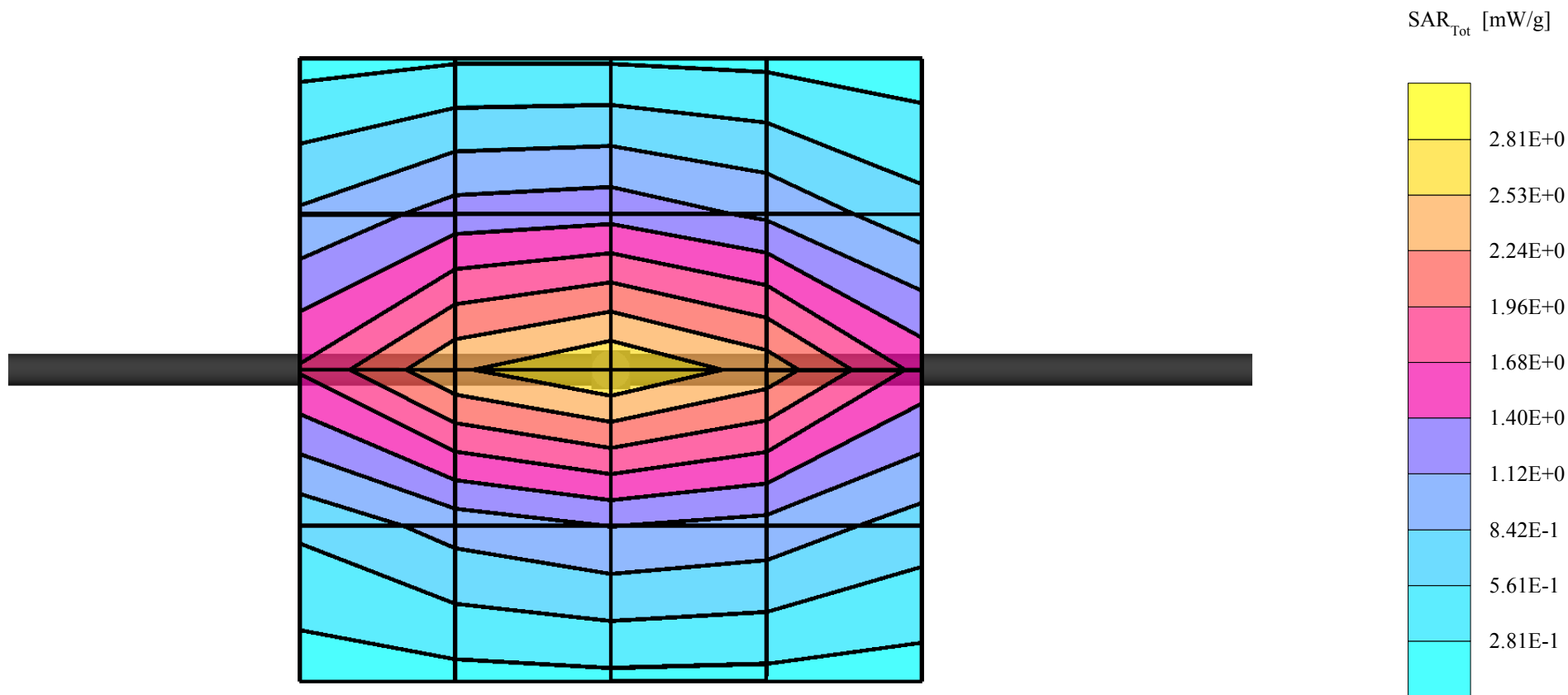
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cubes (2): Peak: 3.58 mW/g ± 0.06 dB, SAR (1g): 2.43 mW/g ± 0.06 dB, SAR (10g): 1.60 mW/g ± 0.06 dB, (Advanced extrapolation)

Penetration depth: 13.4 (13.0, 13.8) [mm]

Powerdrift: -0.10 dB

Liquid Temperature (°C): 20.3



Dipole 1900 MHz, Head Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Brain Tissue: $\sigma = 1.47$ mho/m $\epsilon_r = 38.4$ $\rho = 1.00$ g/cm³

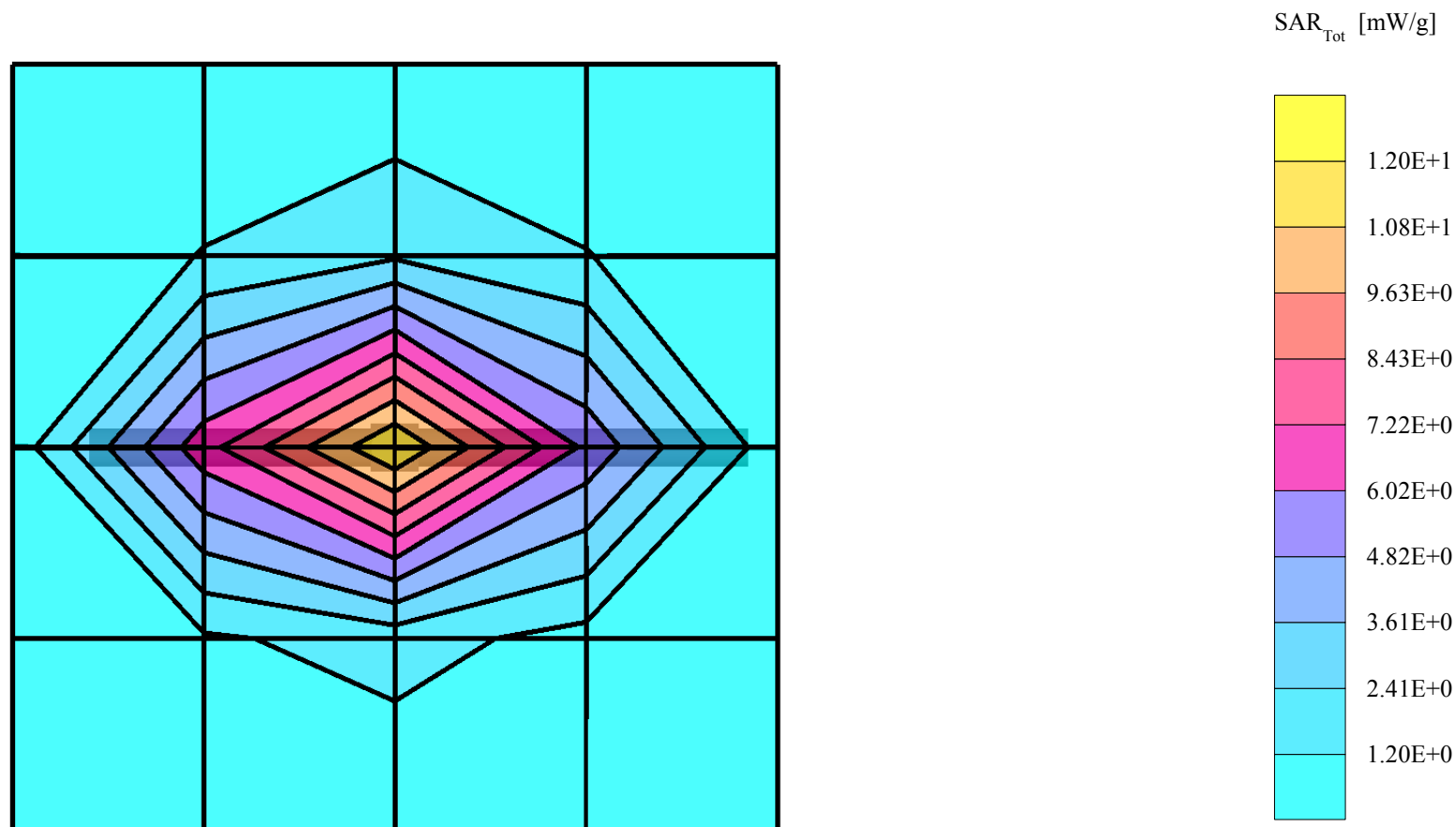
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cubes (2): Peak: 17.1 mW/g ± 0.03 dB, SAR (1g): 9.89 mW/g ± 0.03 dB, SAR (10g): 5.28 mW/g ± 0.04 dB, (Advanced extrapolation)

Penetration depth: 9.3 (9.3, 9.5) [mm]

Powerdrift: 0.13 dB

Liquid Temperature (°C): 19.6



Dipole 1900 MHz, Head Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Brain Tissue: $\sigma = 1.46$ mho/m $\epsilon_r = 38.4$ $\rho = 1.00$ g/cm³

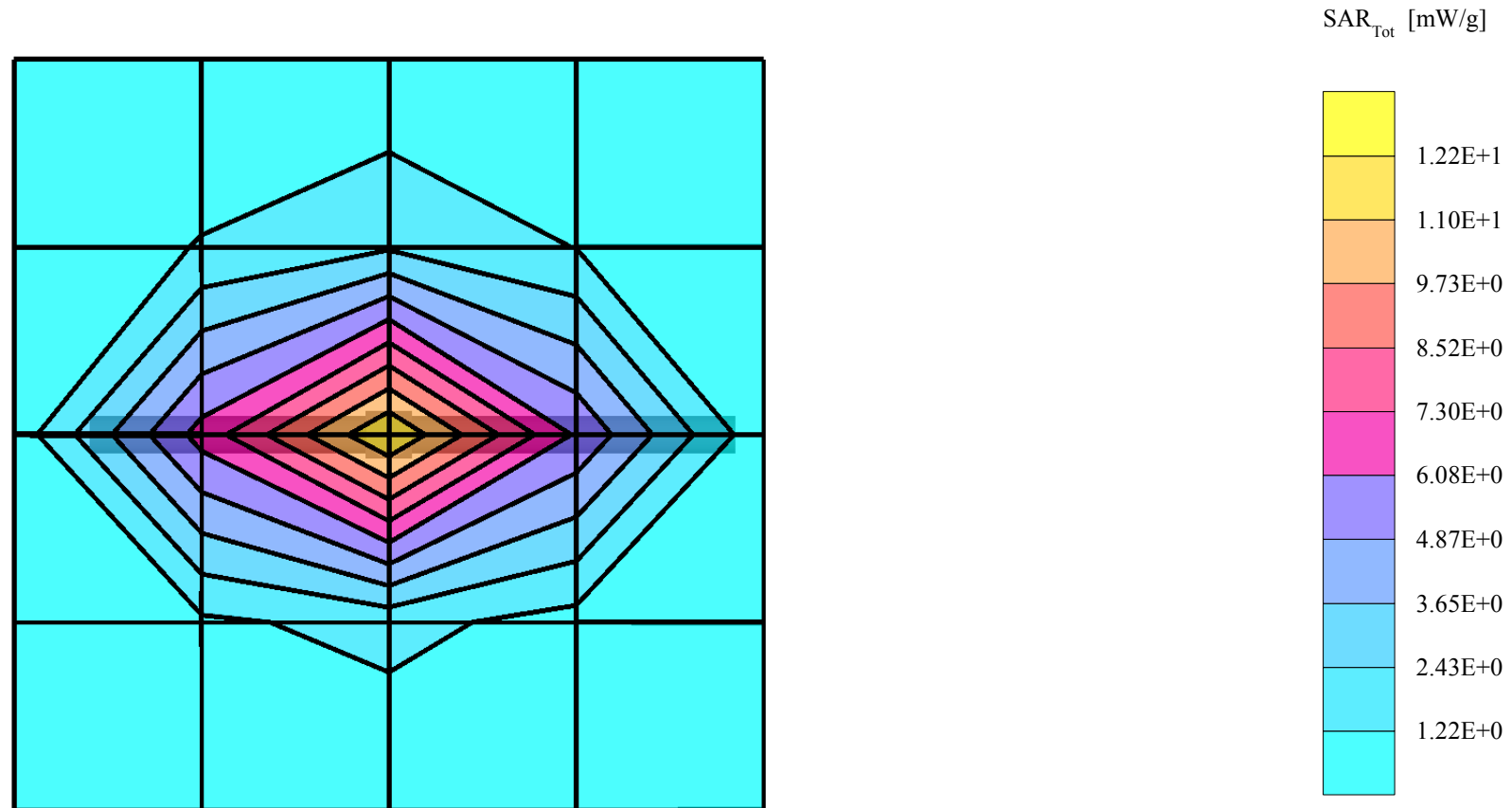
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cubes (2): Peak: 17.5 mW/g ± 0.04 dB, SAR (1g): 10.0 mW/g ± 0.05 dB, SAR (10g): 5.29 mW/g ± 0.06 dB, (Advanced extrapolation)

Penetration depth: 8.9 (8.8, 9.0) [mm]

Powerdrift: 0.14 dB

Liquid Temperature (°C): 19.8



Dipole 1900 MHz, Head Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Brain Tissue: $\sigma = 1.46$ mho/m $\epsilon_r = 38.9$ $\rho = 1.00$ g/cm³

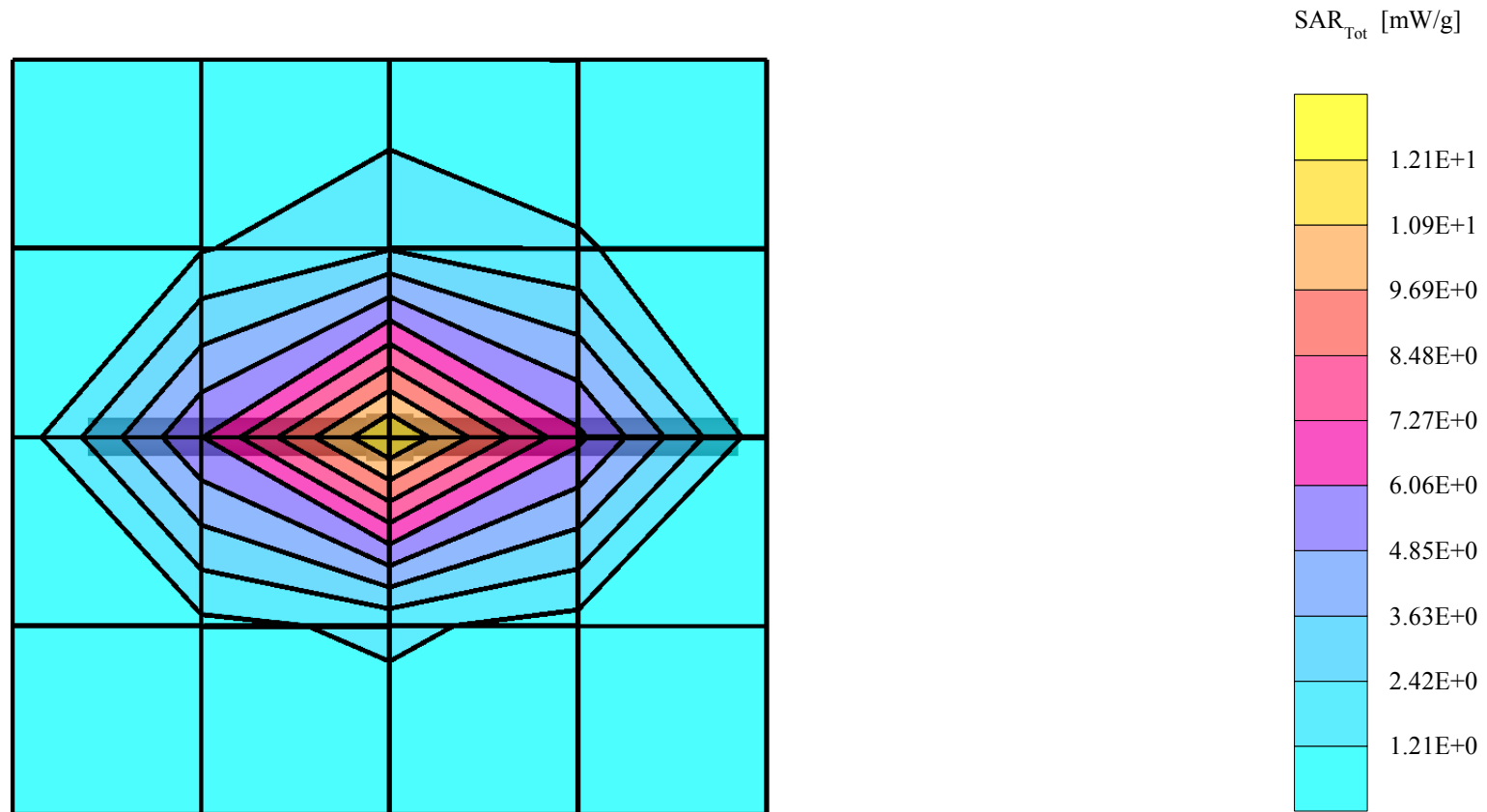
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cubes (2): Peak: 17.6 mW/g ± 0.02 dB, SAR (1g): 9.95 mW/g ± 0.04 dB, SAR (10g): 5.22 mW/g ± 0.05 dB, (Advanced extrapolation)

Penetration depth: 8.7 (8.6, 8.9) [mm]

Powerdrift: 0.05 dB

Liquid Temperature (°C): 19.6



Dipole 1900 MHz, Head Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Brain Tissue: $\sigma = 1.47$ mho/m $\epsilon_r = 38.9$ $\rho = 1.00$ g/cm³

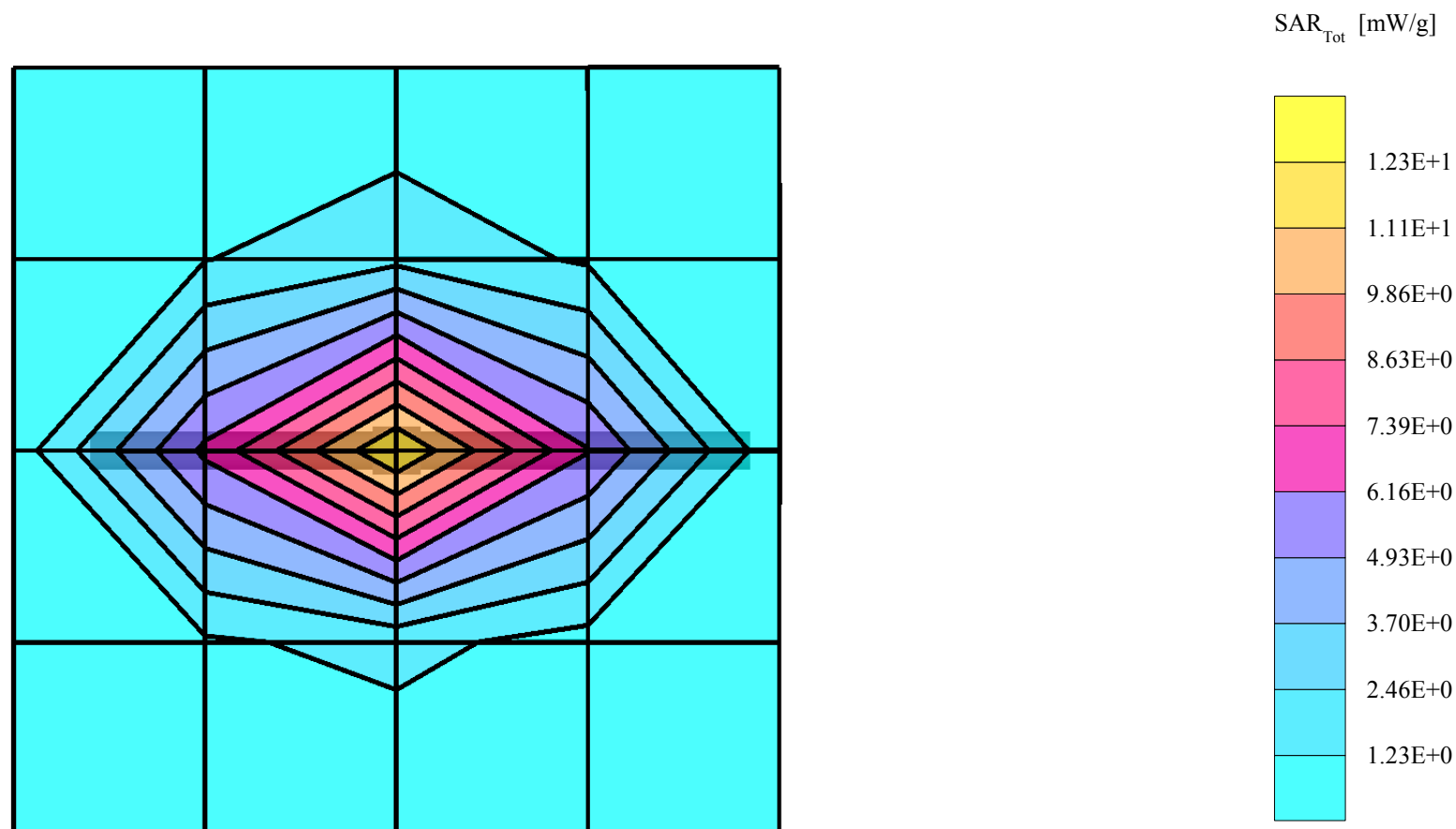
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cubes (2): Peak: 17.8 mW/g ± 0.07 dB, SAR (1g): 10.00 mW/g ± 0.08 dB, SAR (10g): 5.22 mW/g ± 0.08 dB, (Advanced extrapolation)

Penetration depth: 8.6 (8.5, 8.8) [mm]

Powerdrift: -0.25 dB

Liquid Temperature (°C): 19.7



Dipole 835 MHz, Body Validation

SAM 2 (Cellular - Muscle Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Muscle Tissue: $\sigma = 0.94$ mho/m $\epsilon_r = 52.7$ $\rho = 1.00$ g/cm³

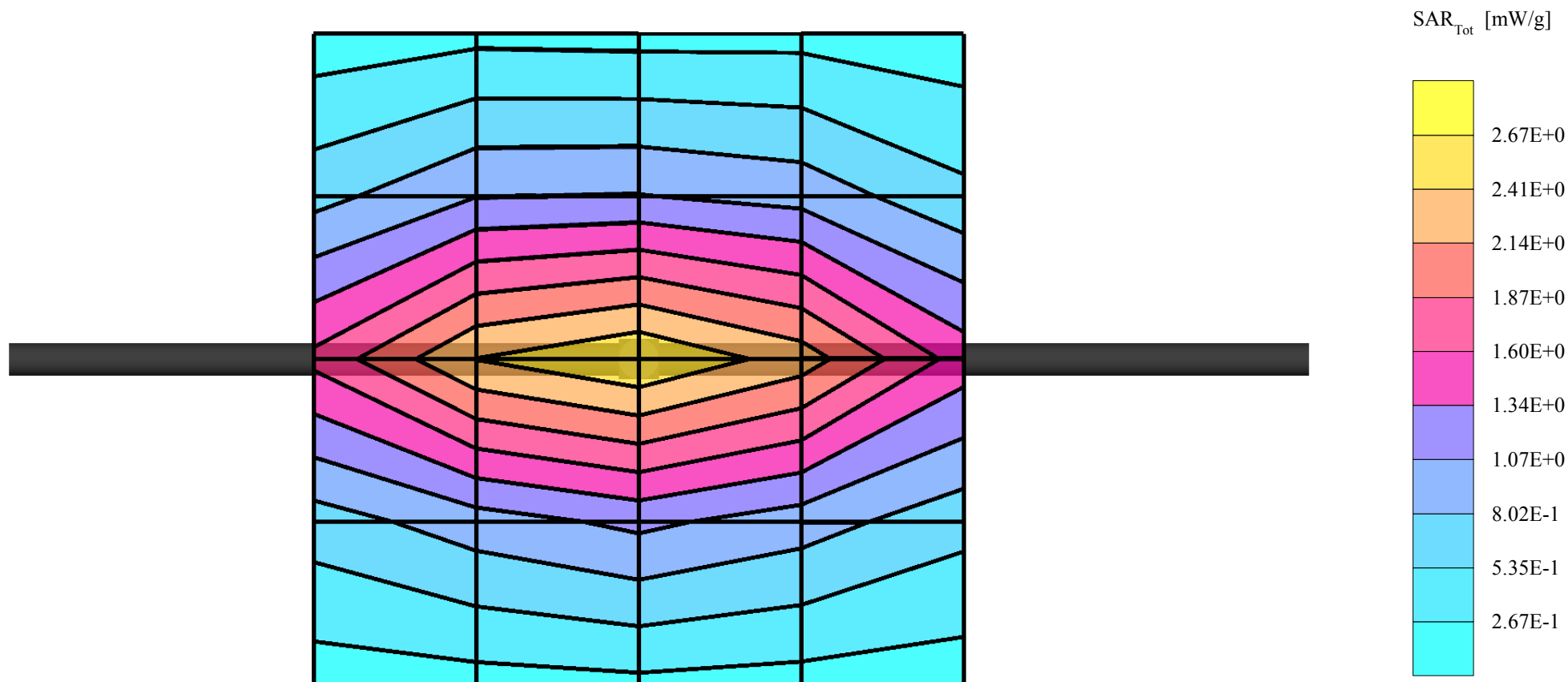
Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cubes (2): Peak: 3.60 mW/g ± 0.02 dB, SAR (1g): 2.35 mW/g ± 0.05 dB, SAR (10g): 1.59 mW/g ± 0.05 dB, (Advanced extrapolation)

Penetration depth: 15.0 (14.9, 15.2) [mm]

Powerdrift: 0.10 dB

Liquid Temperature (°C): 21.3



Dipole 835 MHz, Body Validation

SAM 2 (Cellular - Muscle Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Muscle Tissue: $\sigma = 0.95$ mho/m $\epsilon_r = 52.5$ $\rho = 1.00$ g/cm³

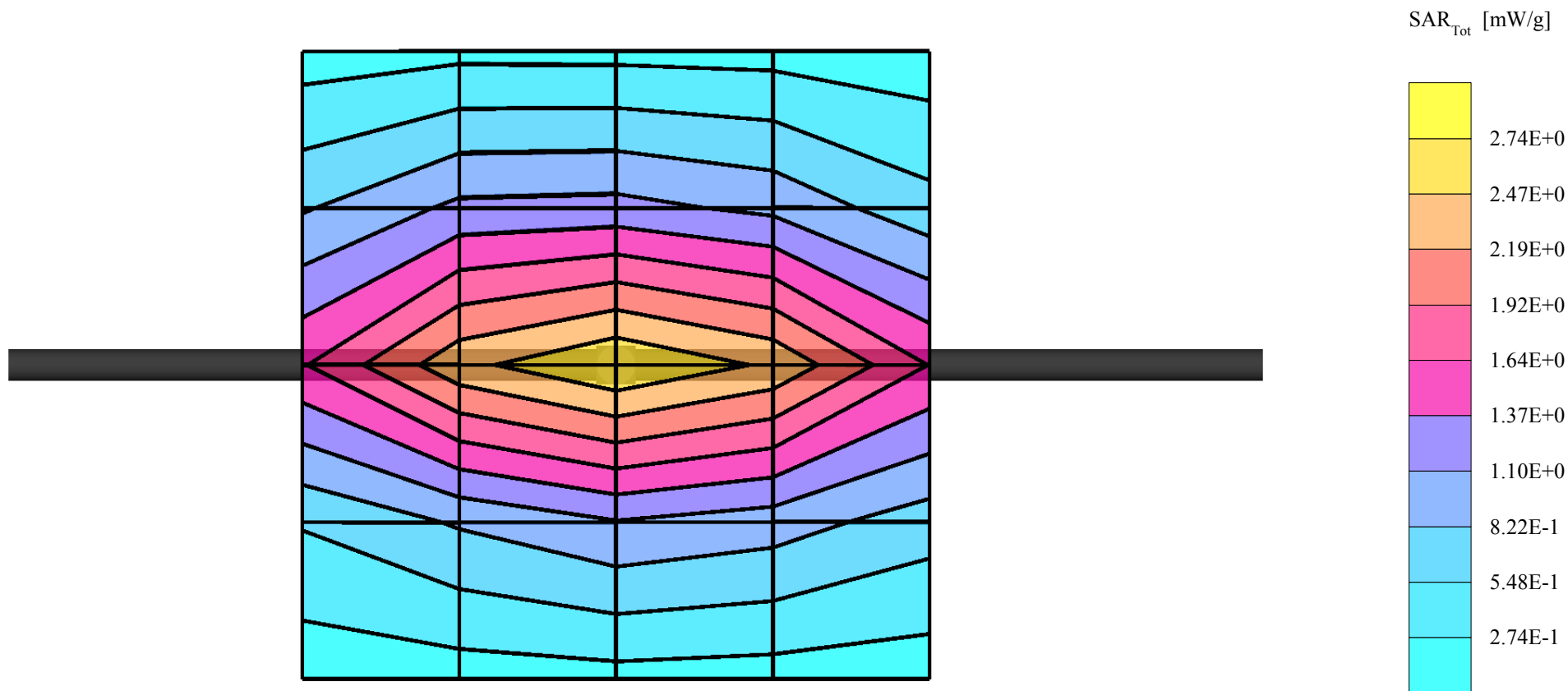
Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cubes (2): Peak: 3.51 mW/g ± 0.01 dB, SAR (1g): 2.39 mW/g ± 0.05 dB, SAR (10g): 1.60 mW/g ± 0.05 dB, (Advanced extrapolation)

Penetration depth: 14.2 (14.0, 14.6) [mm]

Powerdrift: 0.06 dB

Liquid Temperature (°C): 21.4



Dipole 835 MHz, Body Validation

SAM 2 (Cellular - Muscle Tissue)

Frequency: 835 MHz; Crest factor: 1.0

Validation 835MHz - Muscle Tissue: $\sigma = 0.93$ mho/m $\epsilon_r = 52.8$ $\rho = 1.00$ g/cm³

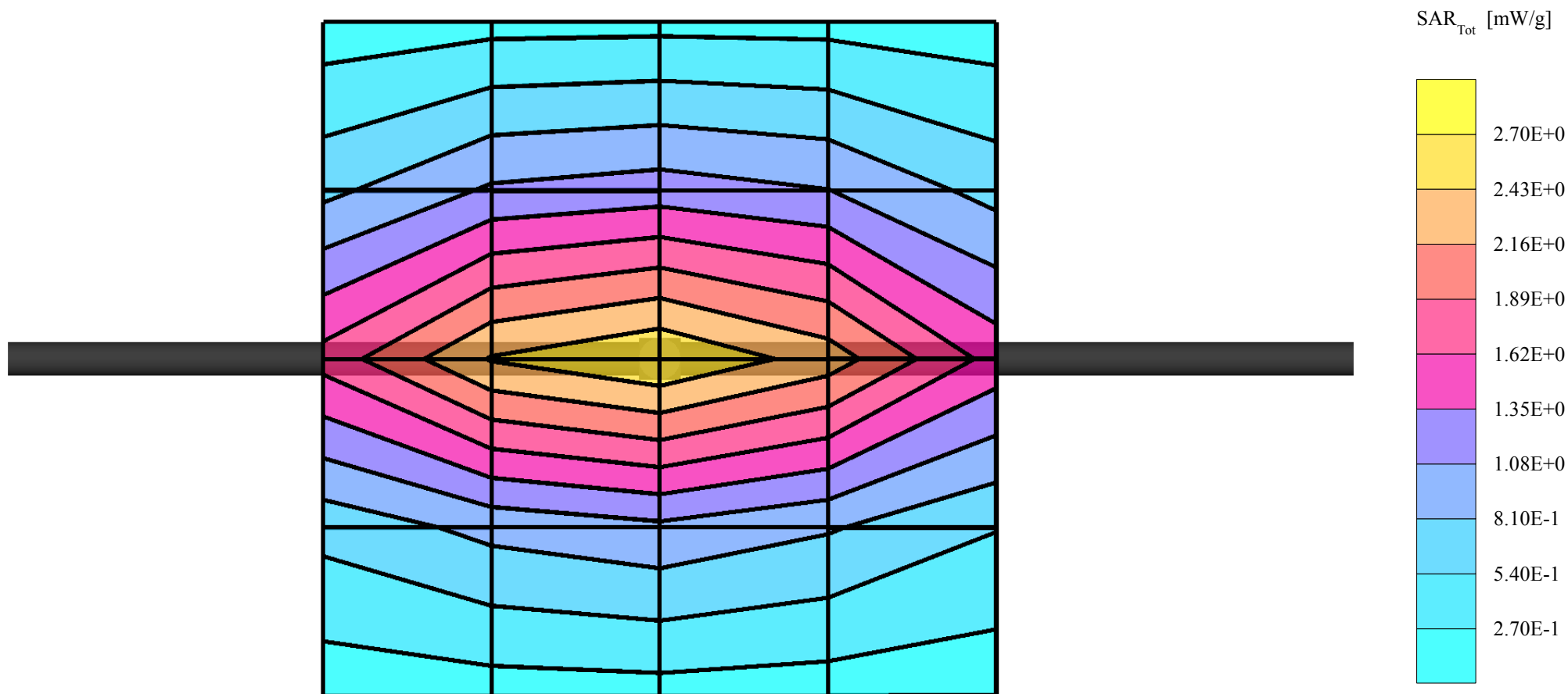
Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cubes (2): Peak: 3.49 mW/g ± 0.03 dB, SAR (1g): 2.41 mW/g ± 0.04 dB, SAR (10g): 1.61 mW/g ± 0.04 dB, (Advanced extrapolation)

Penetration depth: 14.1 (13.9, 14.5) [mm]

Powerdrift: -0.04 dB

Liquid Temperature (°C): 20.3



Dipole 1900 MHz, Body Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Muscle Tissue: $\sigma = 1.57$ mho/m $\epsilon_r = 51.5$ $\rho = 1.00$ g/cm³

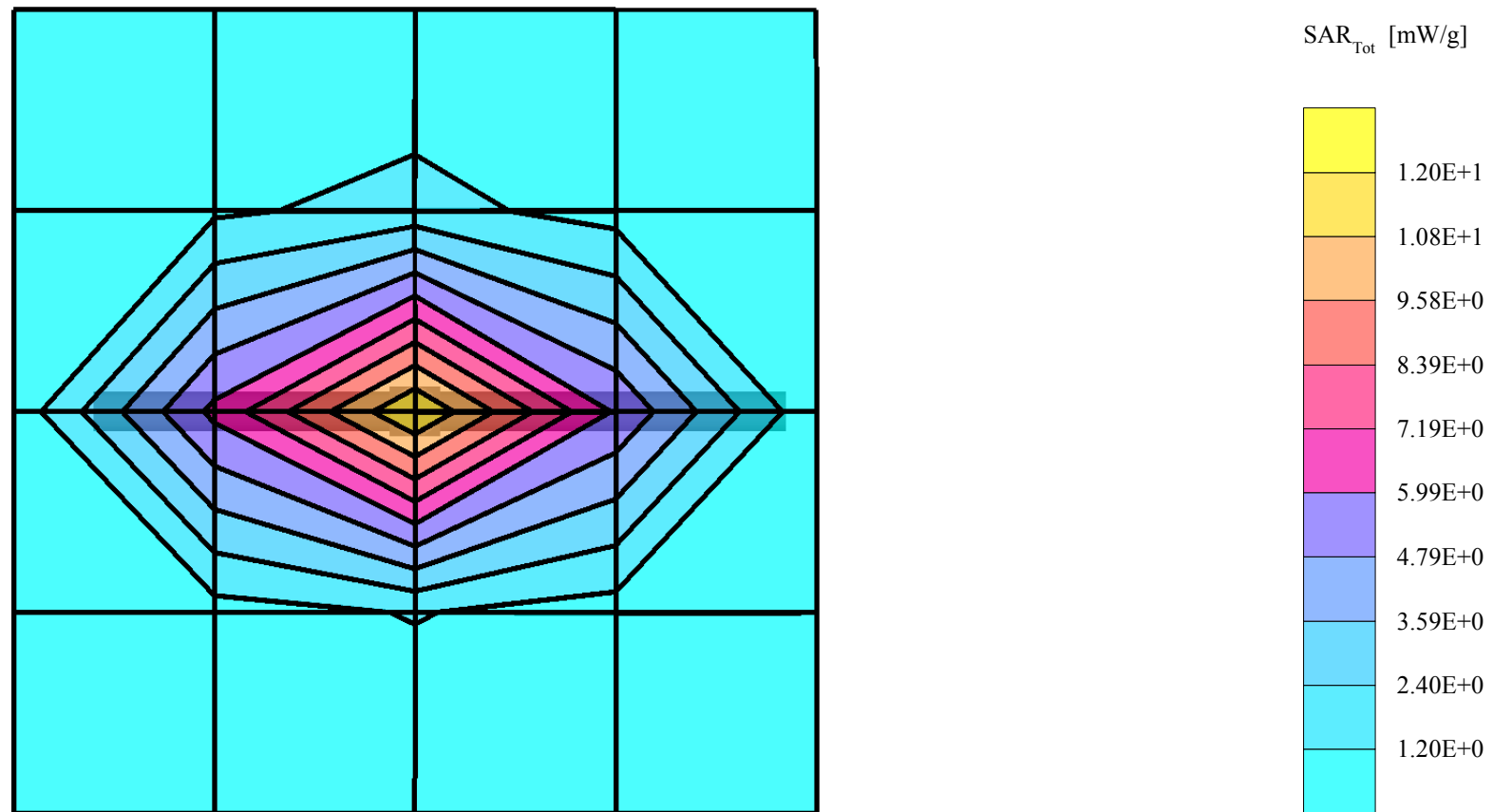
Probe: ET3DV6 - SN1516; ConvF(4.80,4.80,4.80)

Cubes (2): Peak: 16.7 mW/g ± 0.04 dB, SAR (1g): 9.58 mW/g ± 0.05 dB, SAR (10g): 5.07 mW/g ± 0.05 dB, (Advanced extrapolation)

Penetration depth: 9.3 (9.2, 9.6) [mm]

Powerdrift: 0.04 dB

Liquid Temperature (°C): 19.6



Dipole 1900 MHz, Body Validation

SAM 3 (PCS - Brain / Muscle Tissue)

Frequency: 1900 MHz; Crest factor: 1.0

Validation 1900MHz - Muscle Tissue: $\sigma = 1.59$ mho/m $\epsilon_r = 51.4$ $\rho = 1.00$ g/cm³

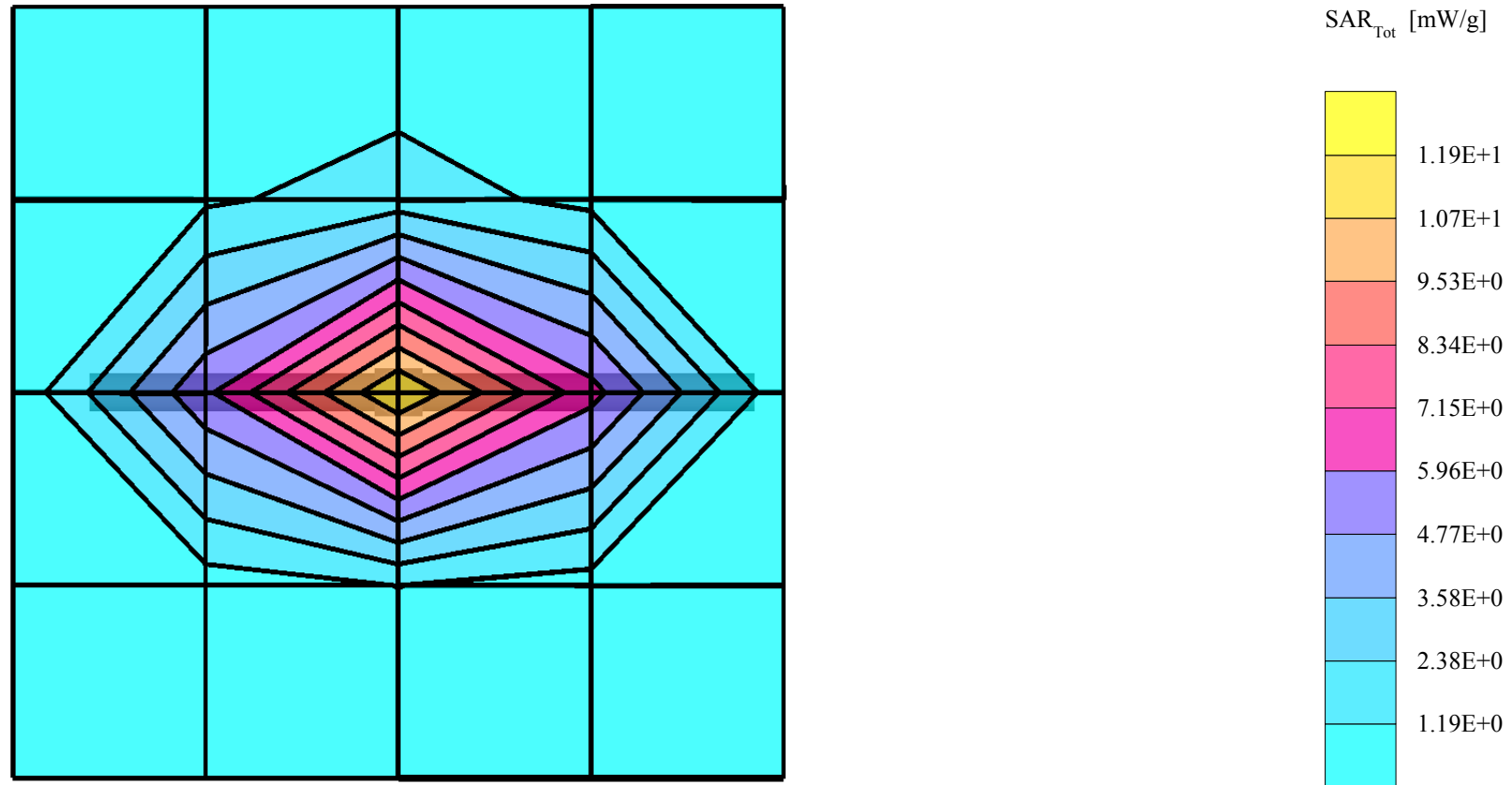
Probe: ET3DV6 - SN1516; ConvF(4.80,4.80,4.80)

Cubes (2): Peak: 16.9 mW/g ± 0.05 dB, SAR (1g): 9.65 mW/g ± 0.05 dB, SAR (10g): 5.09 mW/g ± 0.06 dB, (Advanced extrapolation)

Penetration depth: 9.1 (9.0, 9.4) [mm]

Powerdrift: -0.01 dB

Liquid Temperature (°C): 19.2





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APPENDIX B: MEASUREMENT SCANS

RH-47, GSM 850, Channel 190, Left Cheek Position with BL-6C Battery and Multimedia Card

SAM 1 (Cellular - Brain Tissue) Phantom

Frequency: 837 MHz; Crest factor: 8.0

Cellular Band - Brain Tissue: $\sigma = 0.90$ mho/m $\epsilon_r = 40.7$ $\rho = 1.00$ g/cm³

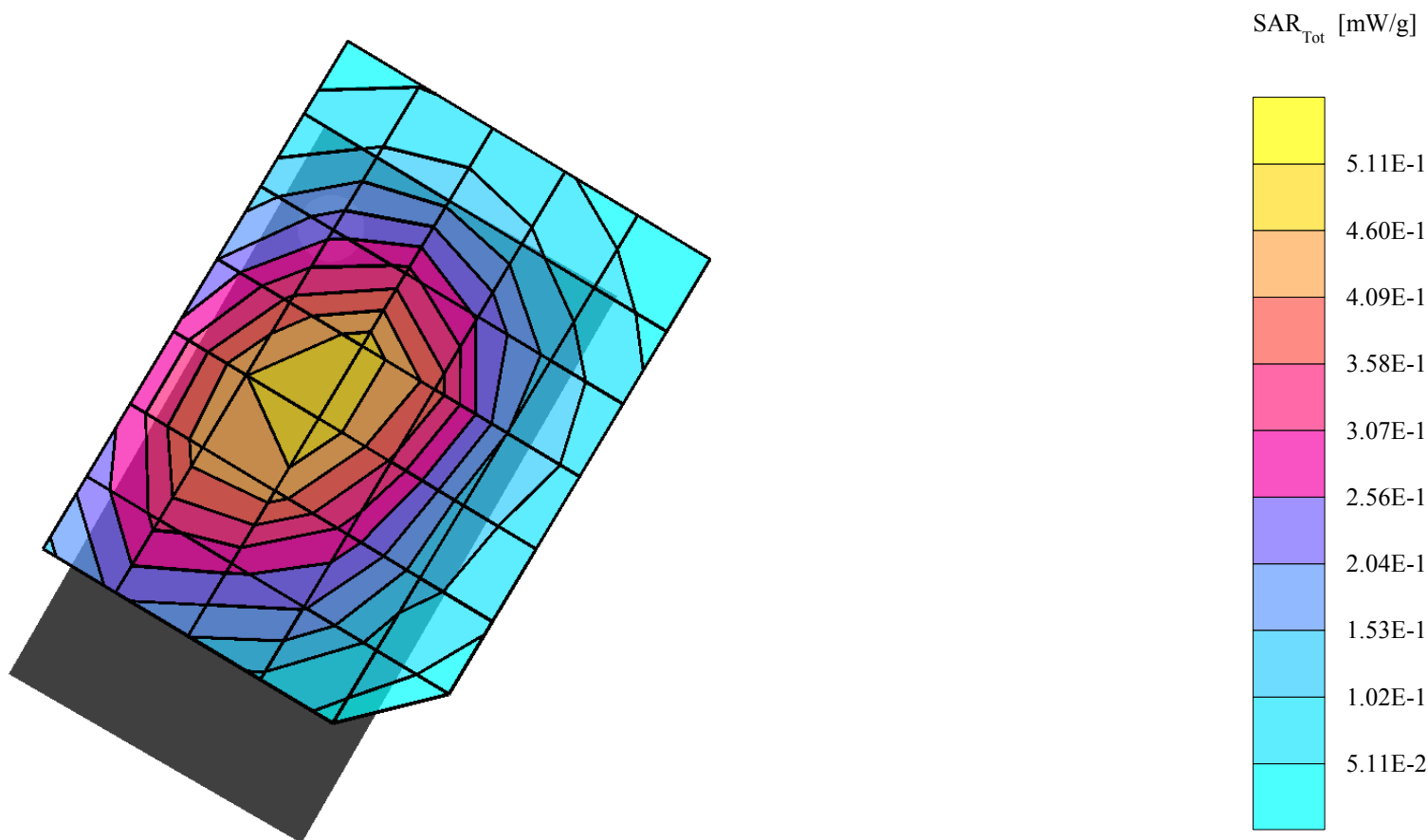
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cube 5x5x7: SAR (1g): 0.504 mW/g, SAR (10g): 0.367 mW/g, (Worst-case extrapolation)

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

Powerdrift: 0.02 dB

Liquid Temperature (°C): 20.7



RH-47, GSM 850, Channel 190, Left Tilt Position with BL-6C Battery

SAM 1 (Cellular - Brain Tissue) Phantom

Frequency: 837 MHz; Crest factor: 8.0

Cellular Band - Brain Tissue: $\sigma = 0.90$ mho/m $\epsilon_r = 40.8$ $\rho = 1.00$ g/cm³

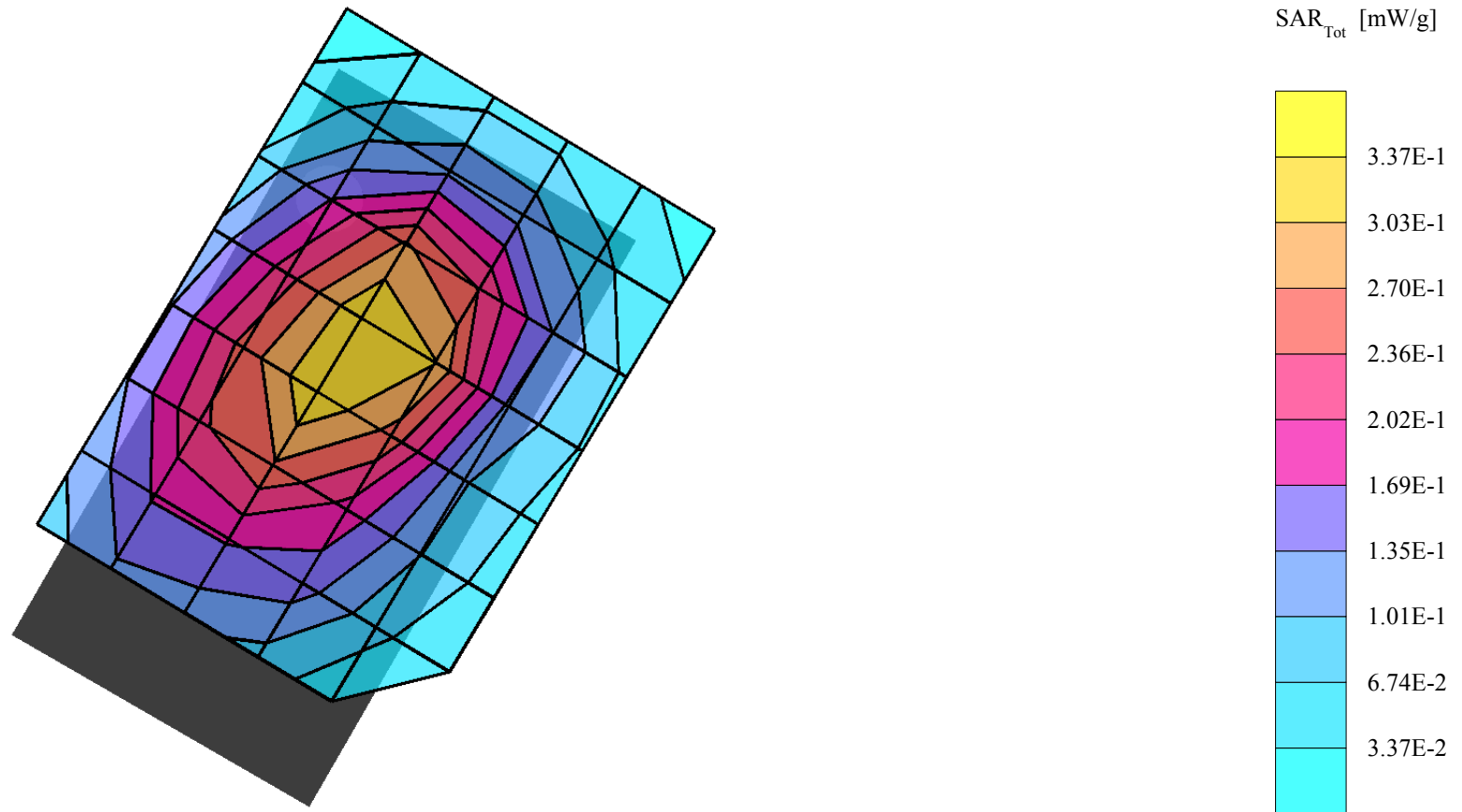
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cube 5x5x7: SAR (1g): 0.334 mW/g, SAR (10g): 0.236 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.16 dB

Liquid Temperature (°C): 21.1



RH-47, GSM 850, Channel 190, Right Cheek Position with BL-6C Battery

SAM 1 (Cellular - Brain Tissue) Phantom

Frequency: 837 MHz; Crest factor: 8.0

Cellular Band - Brain Tissue: $\sigma = 0.91$ mho/m $\epsilon_r = 41.1$ $\rho = 1.00$ g/cm³

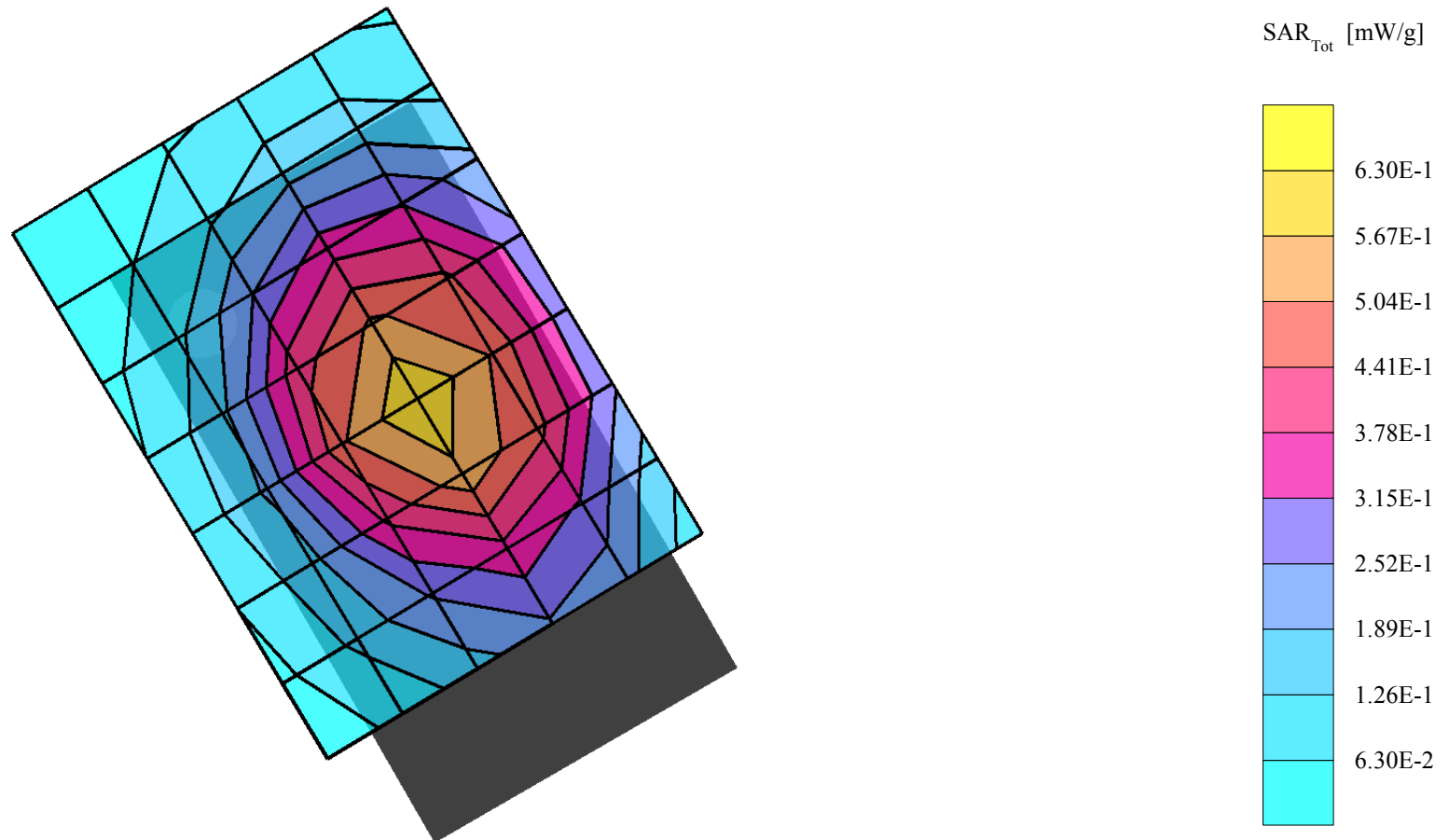
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cube 5x5x7: SAR (1g): 0.602 mW/g, SAR (10g): 0.436 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.03 dB

Liquid Temperature (°C): 20.7



RH-47, GSM 850, Channel 190, Right Tilt Position with BL-6C Battery

SAM 1 (Cellular - Brain Tissue) Phantom

Frequency: 837 MHz; Crest factor: 8.0

Cellular Band - Brain Tissue: $\sigma = 0.91$ mho/m $\epsilon_r = 41.1$ $\rho = 1.00$ g/cm³

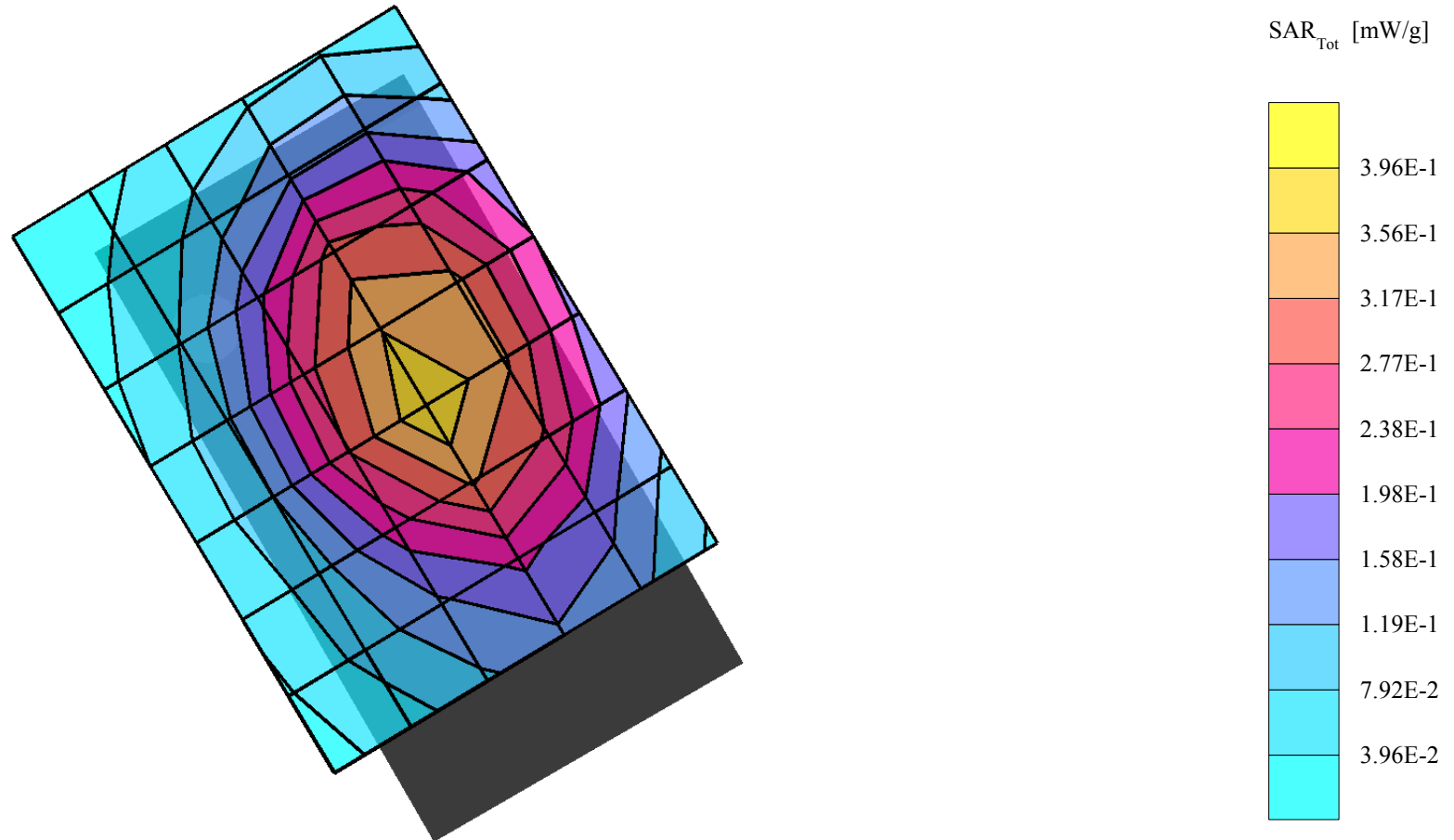
Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cube 5x5x7: SAR (1g): 0.375 mW/g, SAR (10g): 0.270 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.24 dB

Liquid Temperature (°C): 20.7



RH-47, GSM 1900, Channel 661, Left Cheek Position with BL-6C Battery and Multimedia Card

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1880 MHz; Crest factor: 8.0

PCS Band - Brain Tissue: $\sigma = 1.43$ mho/m $\epsilon_r = 38.5$ $\rho = 1.00$ g/cm³

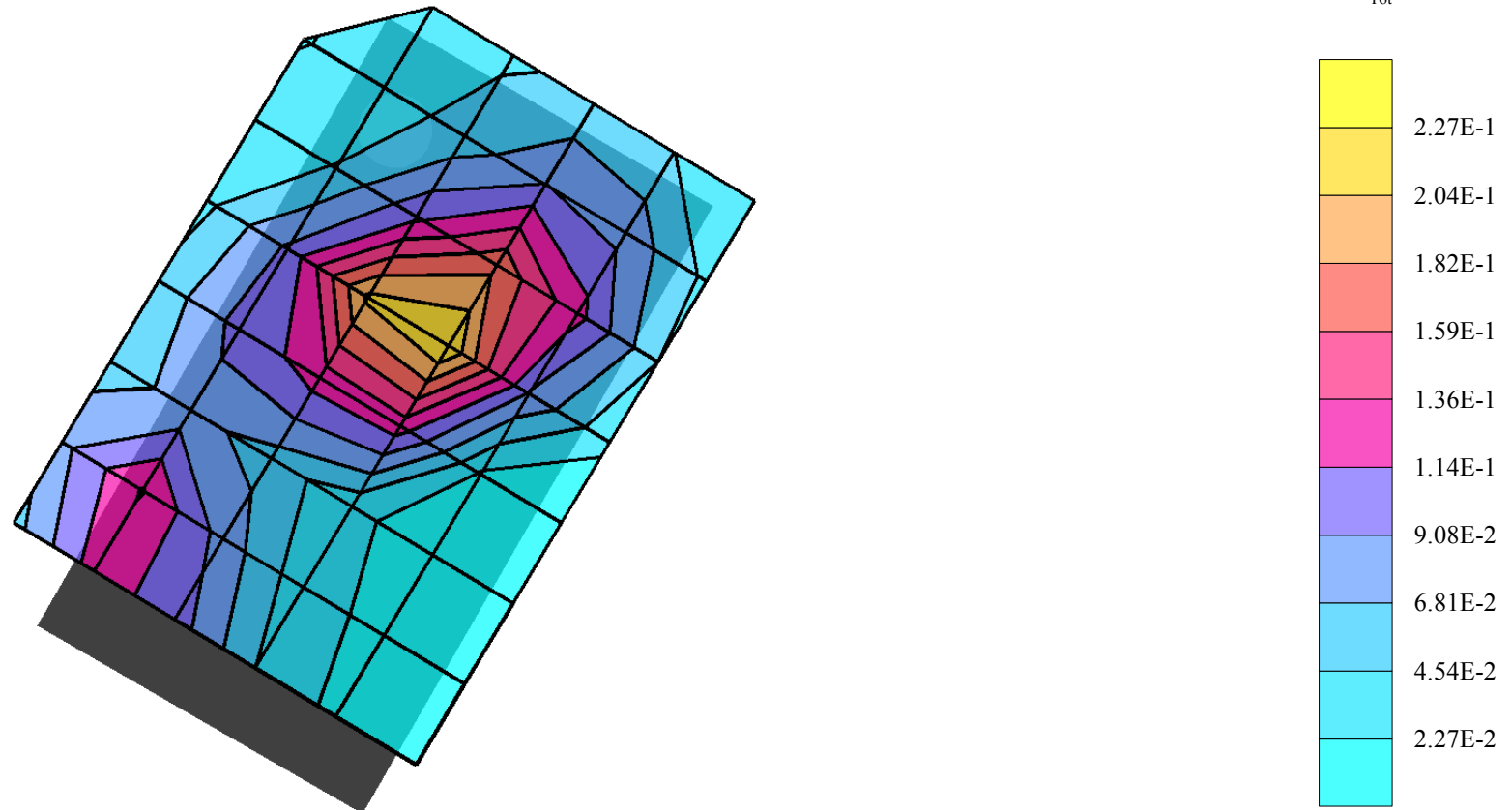
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cube 5x5x7: SAR (1g): 0.225 mW/g, SAR (10g): 0.131 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.02 dB

Liquid Temperature (°C): 19.8



RH-47, GSM 1900, Channel 661, Left Tilt Position with BL-6C Battery and Multimedia Card

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1880 MHz; Crest factor: 8.0

PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\epsilon_r = 39.0$ $\rho = 1.00$ g/cm³

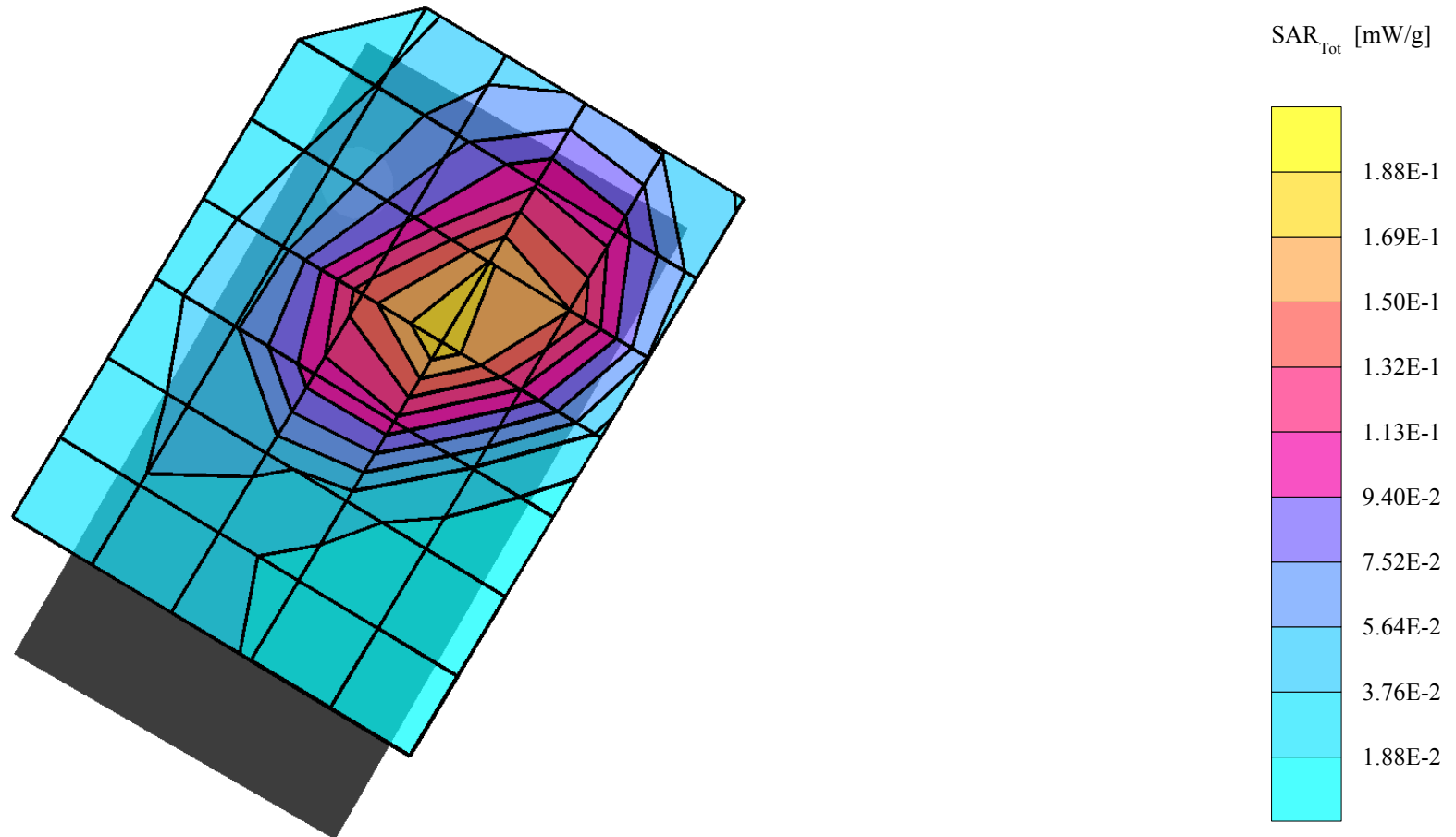
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cube 5x5x7: SAR (1g): 0.187 mW/g, SAR (10g): 0.108 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.11 dB

Liquid Temperature (°C): 19.6



RH-47, GSM 1900, Channel 512, Bluetooth Active, Right Cheek Position with BL-6C Battery and Multimedia Card

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1850 MHz; Crest factor: 8.0

PCS Band - Brain Tissue: $\sigma = 1.46$ mho/m $\epsilon_r = 39.0$ $\rho = 1.00$ g/cm³

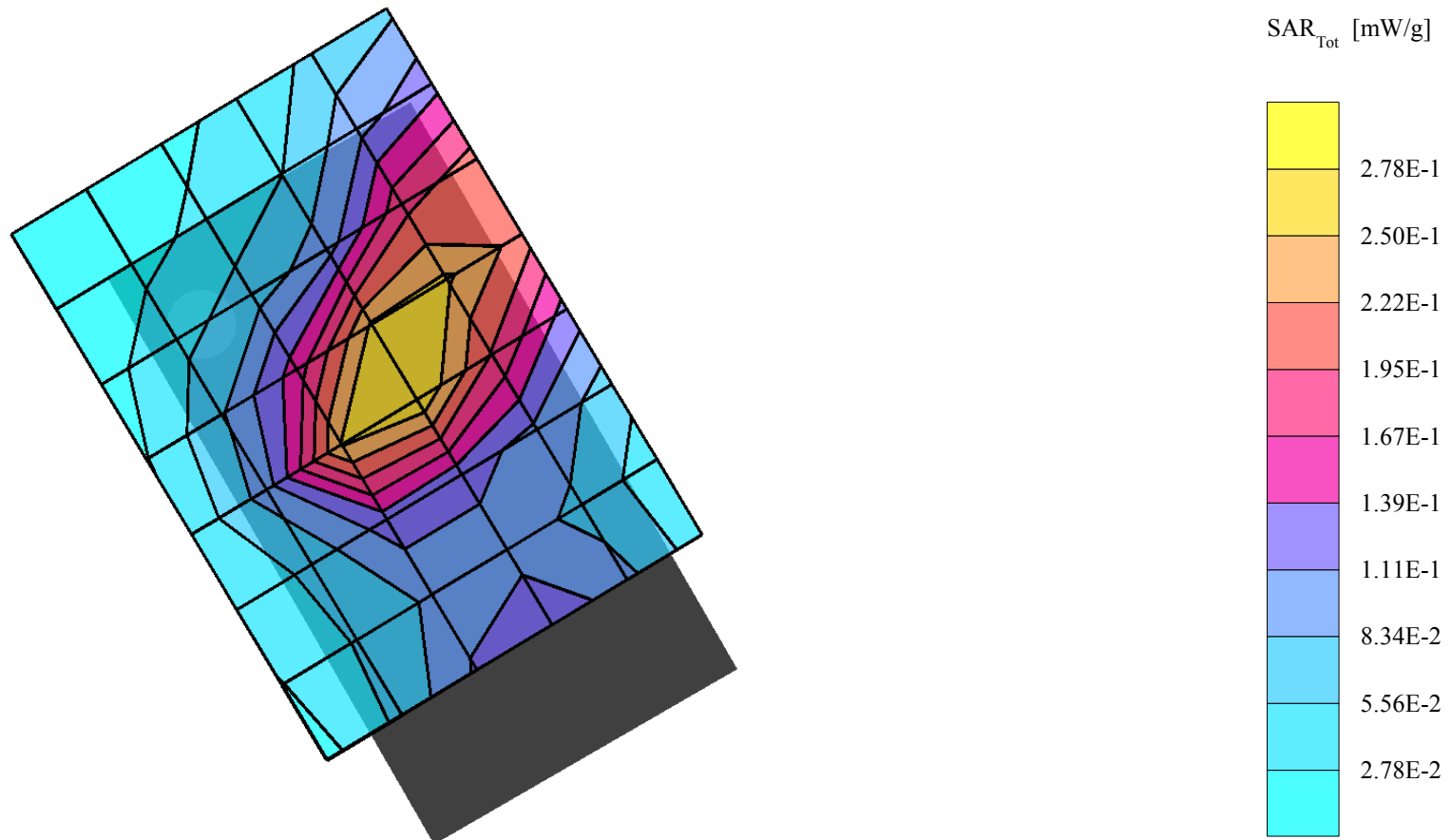
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cube 5x5x7: SAR (1g): 0.302 mW/g, SAR (10g): 0.174 mW/g, (Worst-case extrapolation)

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

Powerdrift: 0.16 dB

Liquid Temperature (°C): 19.7



RH-47, GSM 1900, Channel 661, Right Tilt Position with BL-6C Battery

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1880 MHz; Crest factor: 8.0

PCS Band - Brain Tissue: $\sigma = 1.43$ mho/m $\epsilon_r = 38.5$ $\rho = 1.00$ g/cm³

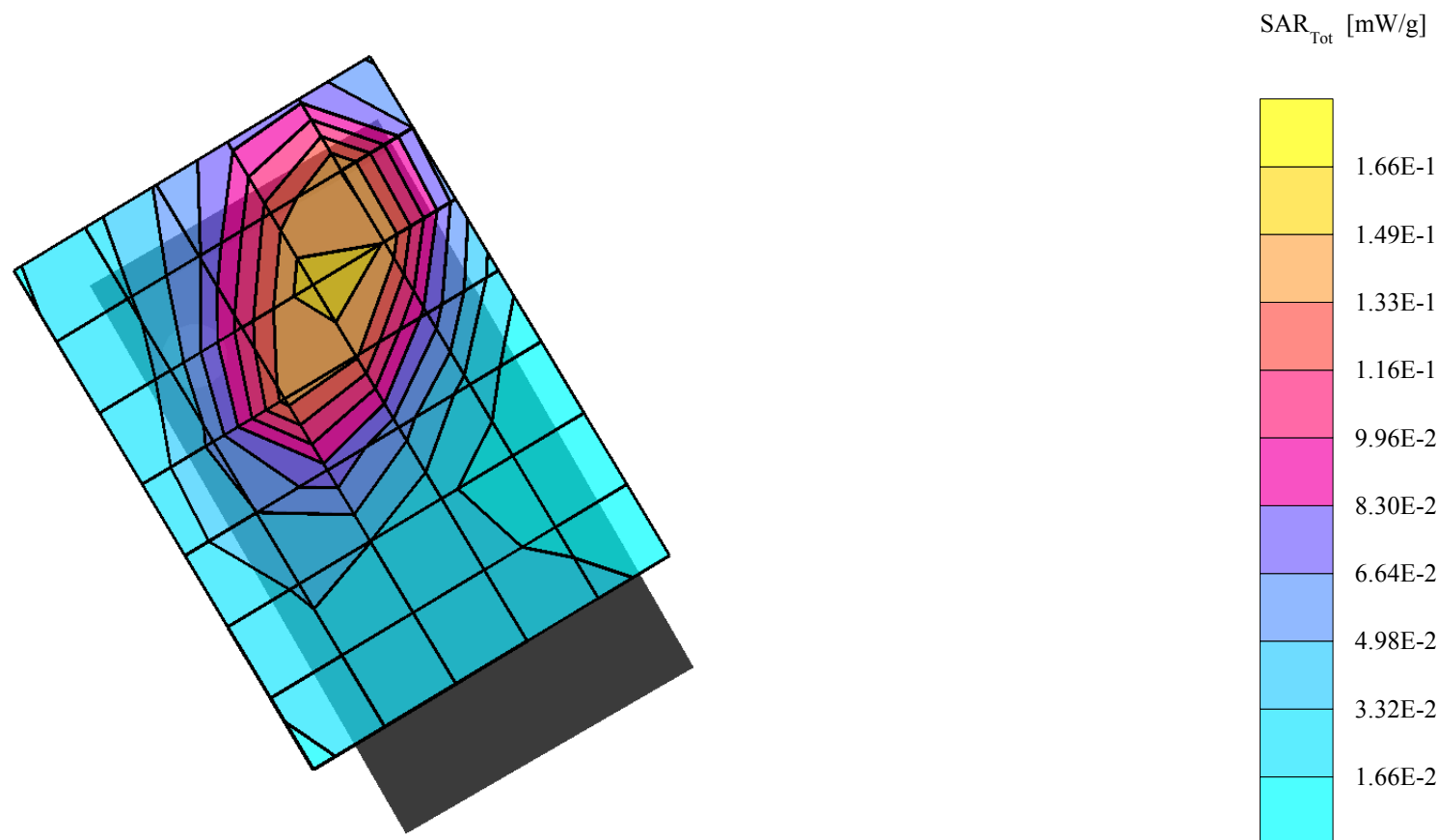
Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cube 5x5x7: SAR (1g): 0.162 mW/g, SAR (10g): 0.0980 mW/g, (Worst-case extrapolation)

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

Powerdrift: 0.19 dB

Liquid Temperature (°C): 19.8



RH-47, GSM 850, Channel 251, Flat Position with 22mm Spacer, BL-6C Battery, HS-7 Headset and Multimedia Card

SAM 2 (Cellular - Muscle Tissue) Phantom

Frequency: 849 MHz; Crest factor: 8.0

Cellular Band - Muscle Tissue: $\sigma = 0.95$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³

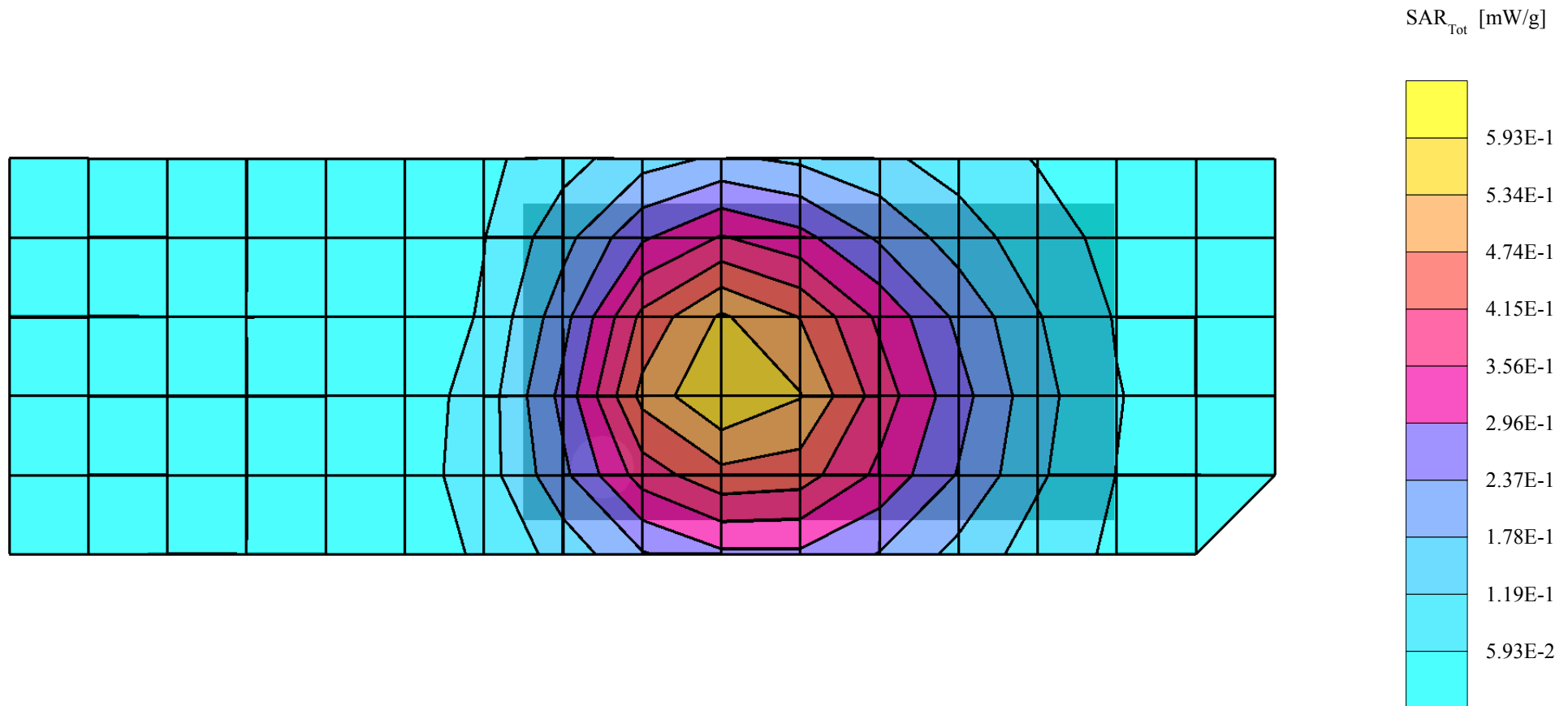
Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cube 5x5x7: SAR (1g): 0.573 mW/g, SAR (10g): 0.408 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0

Powerdrift: -0.05 dB

Liquid Temperature (°C): 21.4



RH-47, GSM 1900, Channel 512, Bluetooth Active, Flat Position with 22mm Spacer, BL-6C Battery and HS-7 Headset

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1850 MHz; Crest factor: 8.0

PCS Band - Muscle Tissue: $\sigma = 1.57$ mho/m $\epsilon_r = 51.5$ $\rho = 1.00$ g/cm³

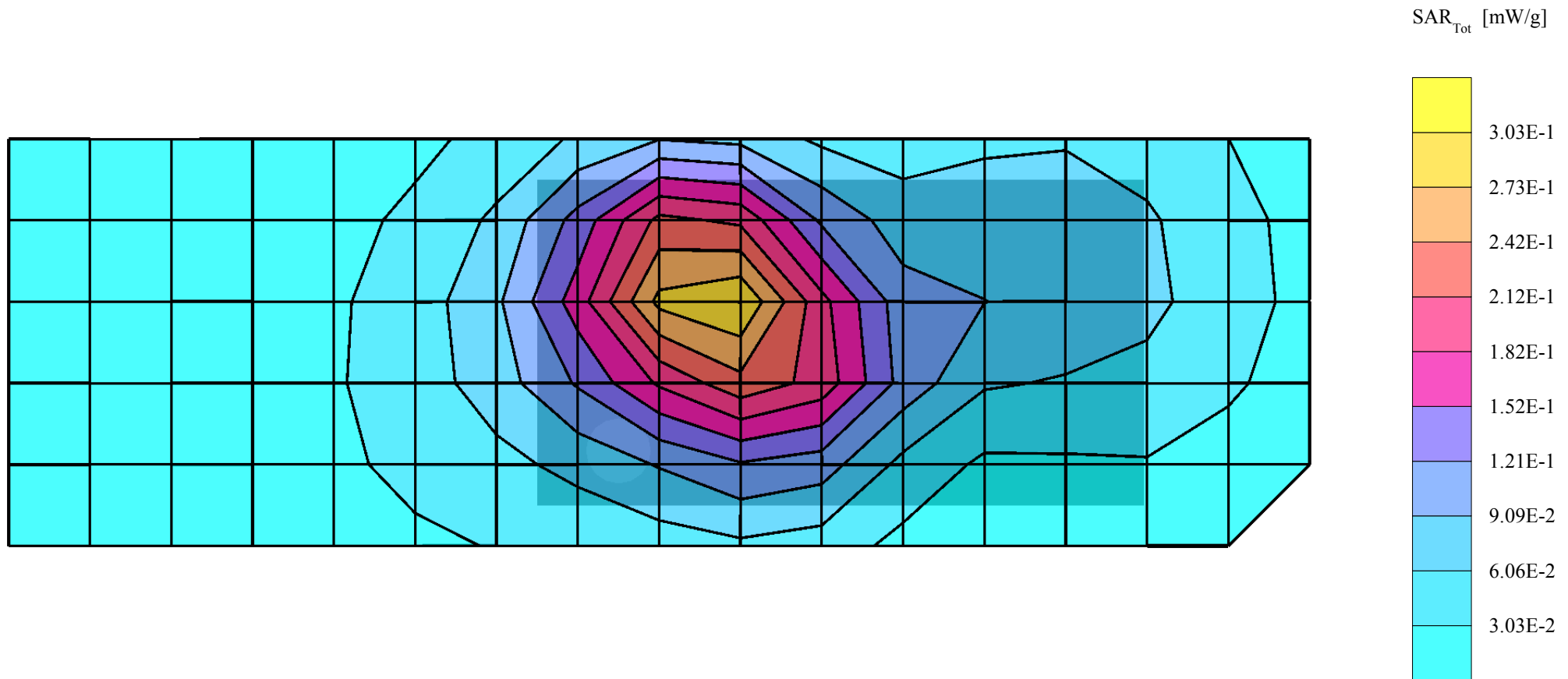
Probe: ET3DV6 - SN1516; ConvF(4.80,4.80,4.80)

Cube 5x5x7: SAR (1g): 0.300 mW/g, SAR (10g): 0.181 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0

Powerdrift: -0.05 dB

Liquid Temperature (°C): 19.2



RH-47, GPRS 850, Channel 128, Flat Position with 22mm Spacer, BL-6C Battery and Multimedia Card

SAM 2 (Cellular - Muscle Tissue) Phantom

Frequency: 824 MHz; Crest factor: 4.0

Cellular Band - Muscle Tissue: $\sigma = 0.95$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³

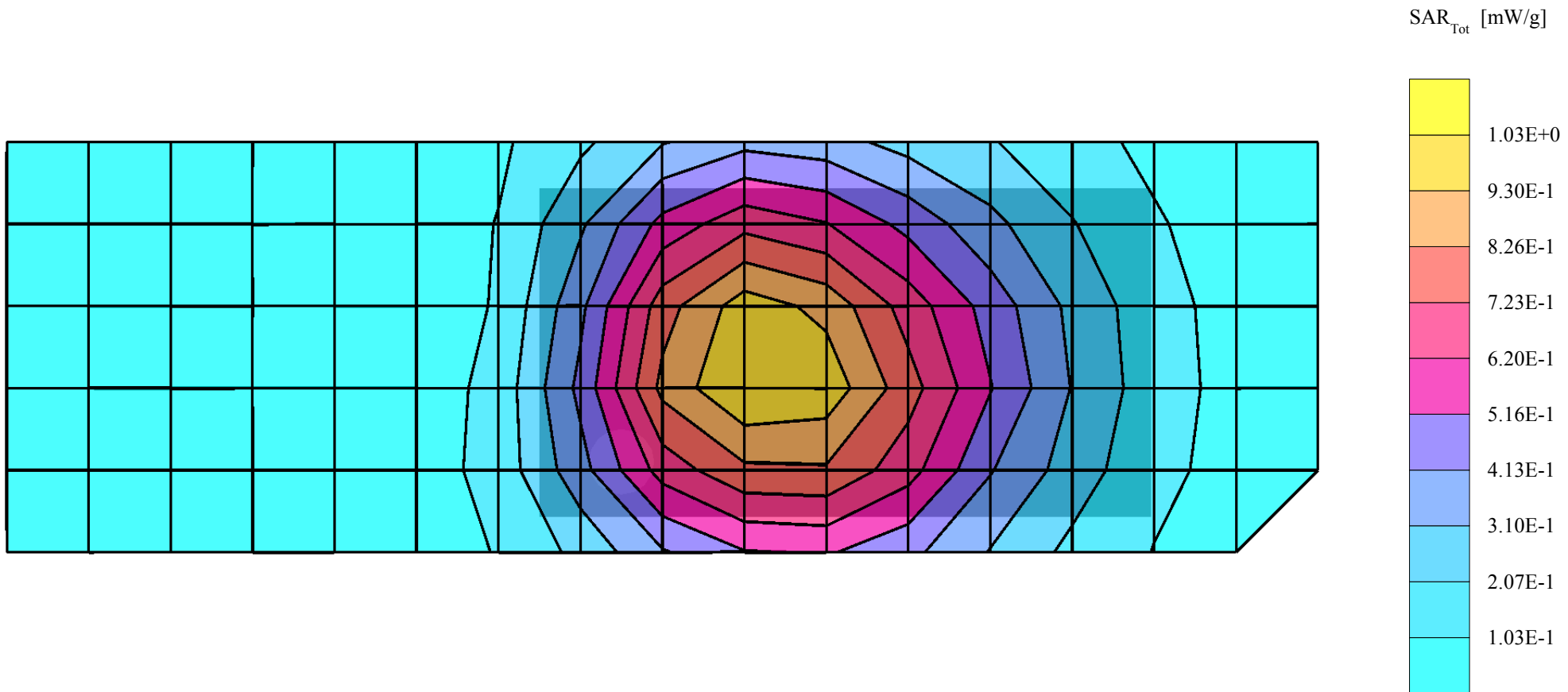
Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cube 5x5x7: SAR (1g): 1.03 mW/g, SAR (10g): 0.737 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0

Powerdrift: -0.04 dB

Liquid Temperature (°C): 21.4



RH-47, GPRS 1900, Channel 512, Flat Position with 22mm Spacer and BL-6C Battery

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1850 MHz; Crest factor: 4.0

PCS Band - Muscle Tissue: $\sigma = 1.55$ mho/m $\epsilon_r = 51.6$ $\rho = 1.00$ g/cm³

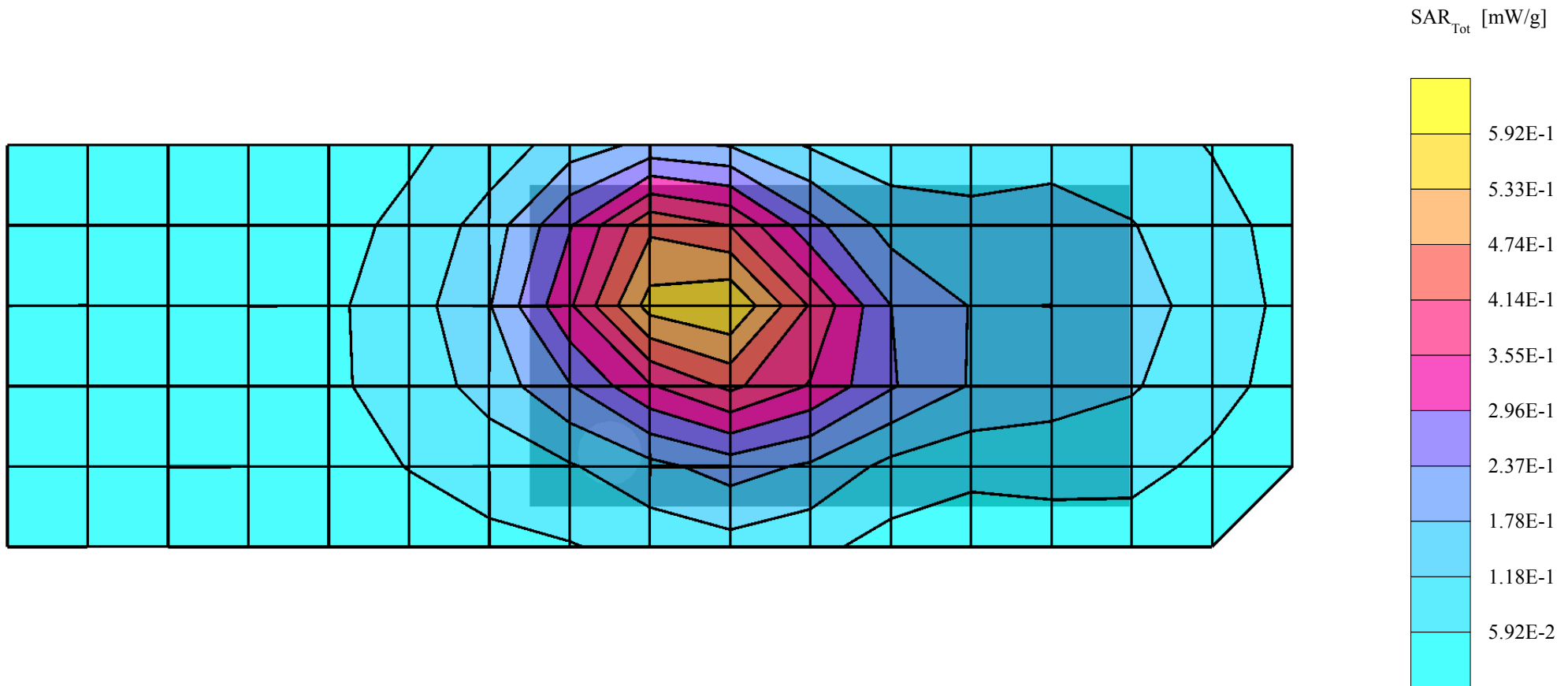
Probe: ET3DV6 - SN1516; ConvF(4.80,4.80,4.80)

Cube 5x5x7: SAR (1g): 0.585 mW/g, SAR (10g): 0.352 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0

Powerdrift: -0.00 dB

Liquid Temperature (°C): 19.6



RH-47, GSM 850, Channel 190, Right Cheek Position with BL-6C Battery

SAM 1 (Cellular - Brain Tissue) Phantom

Frequency: 837 MHz; Crest factor: 8.0

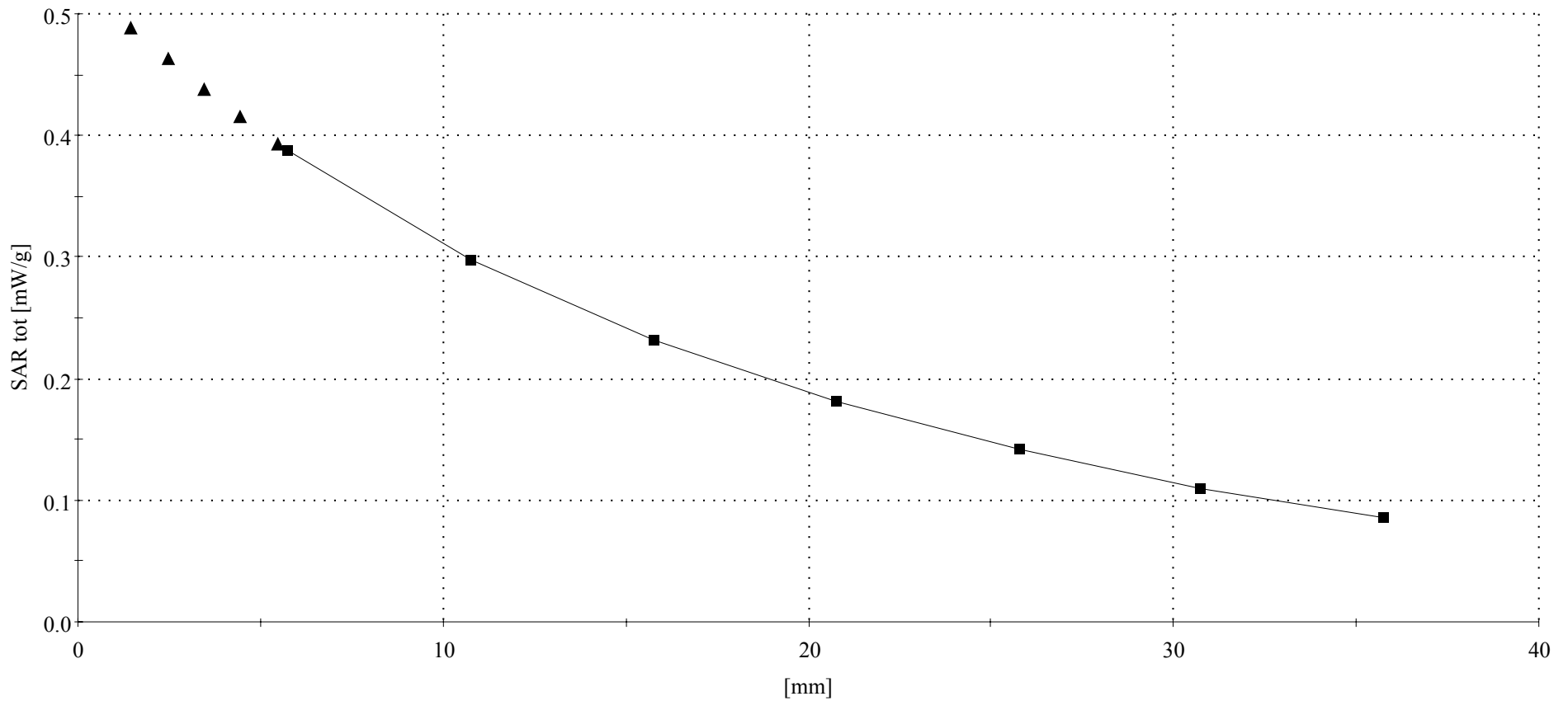
Cellular Band - Brain Tissue: $\sigma = 0.91$ mho/m $\epsilon_r = 41.1$ $\rho = 1.00$ g/cm³

Probe: ET3DV6 - SN1516; ConvF(6.60,6.60,6.60)

Cube 5x5x7: SAR (1g): 0.602 mW/g, SAR (10g): 0.436 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature (°C): 20.7



RH-47, GSM 1900, Channel 512, Bluetooth Active, Right Cheek Position with BL-6C Battery and Multimedia Card

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1850 MHz; Crest factor: 8.0

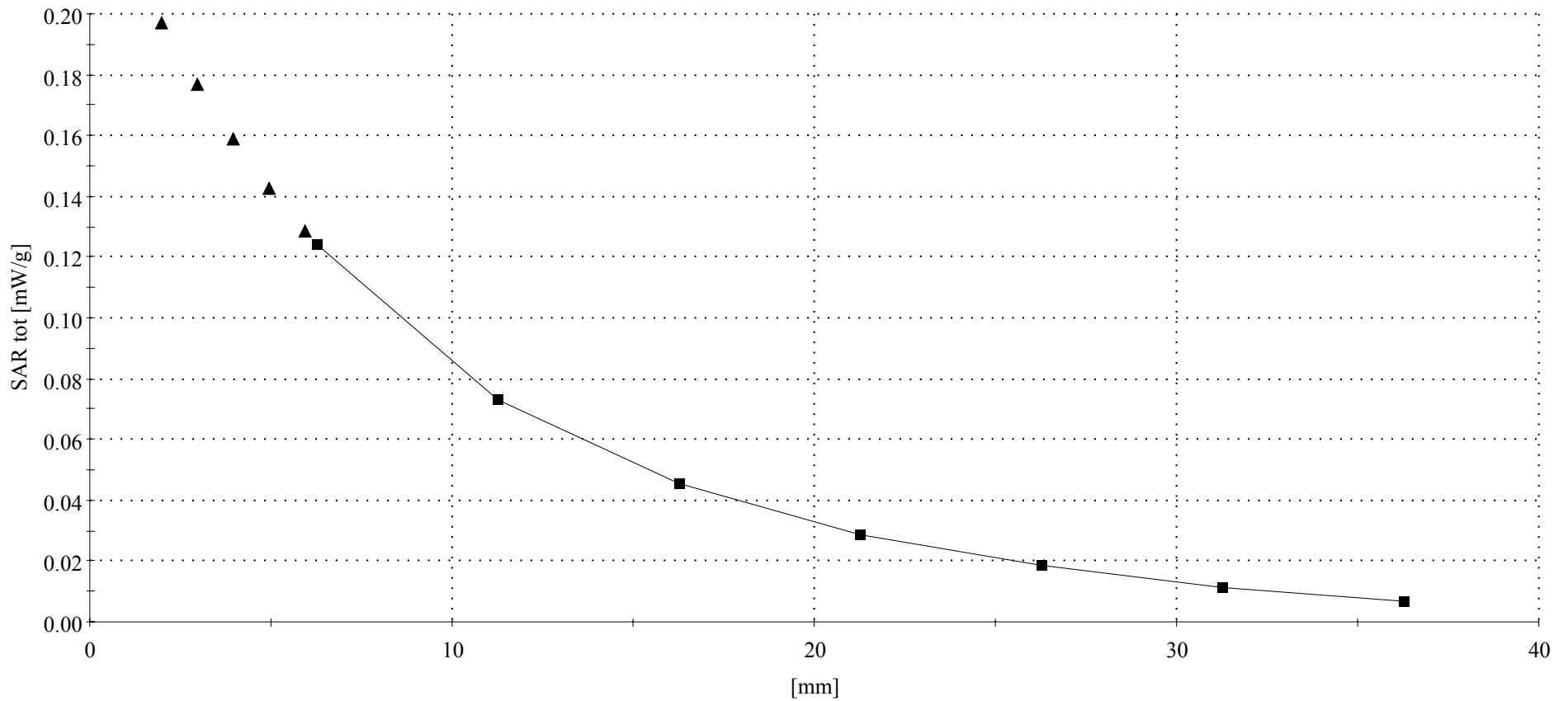
PCS Band - Brain Tissue: $\sigma = 1.46$ mho/m $\epsilon_r = 39.0$ $\rho = 1.00$ g/cm³

Probe: ET3DV6 - SN1516; ConvF(5.00,5.00,5.00)

Cube 5x5x7: SAR (1g): 0.302 mW/g, SAR (10g): 0.174 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature (°C): 19.7



RH-47, GPRS 850, Channel 128, Flat Position with 22mm Spacer, BL-6C Battery and Multimedia Card

SAM 2 (Cellular - Muscle Tissue) Phantom

Frequency: 824 MHz; Crest factor: 4.0

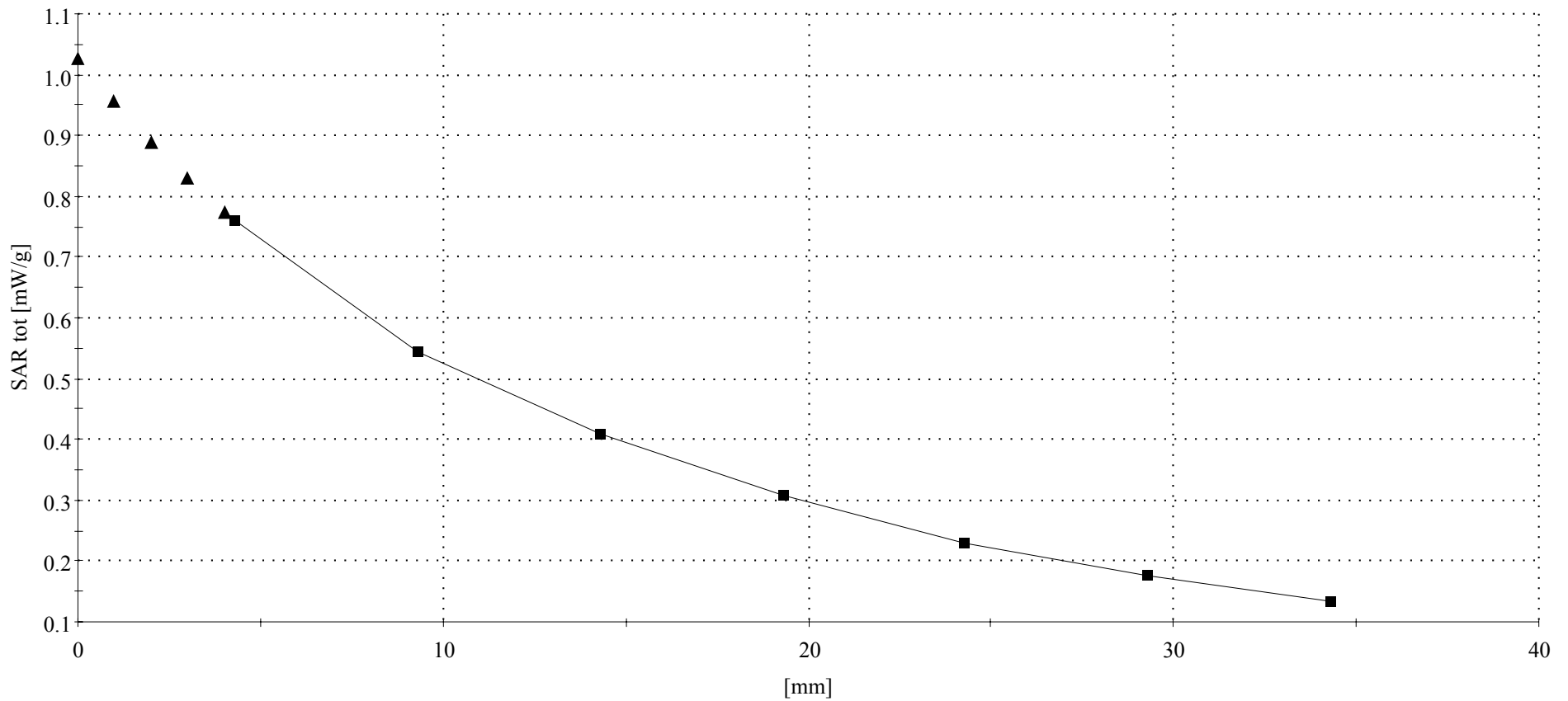
Cellular Band - Muscle Tissue: $\sigma = 0.95$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³

Probe: ET3DV6 - SN1516; ConvF(6.50,6.50,6.50)

Cube 5x5x7: SAR (1g): 1.03 mW/g, SAR (10g): 0.737 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature (°C): 21.4



RH-47, GPRS 1900, Channel 512, Flat Position with 22mm Spacer and BL-6C Battery

SAM 3 (PCS - Brain / Muscle Tissue) Phantom

Frequency: 1850 MHz; Crest factor: 4.0

PCS Band - Muscle Tissue: $\sigma = 1.55$ mho/m $\epsilon_r = 51.6$ $\rho = 1.00$ g/cm³

Probe: ET3DV6 - SN1516; ConvF(4.80,4.80,4.80)

Cube 5x5x7: SAR (1g): 0.585 mW/g, SAR (10g): 0.352 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature (°C): 19.6

