APPENDIX A - SAR MEASUREMENT DATA

Date Tested: 12/19/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

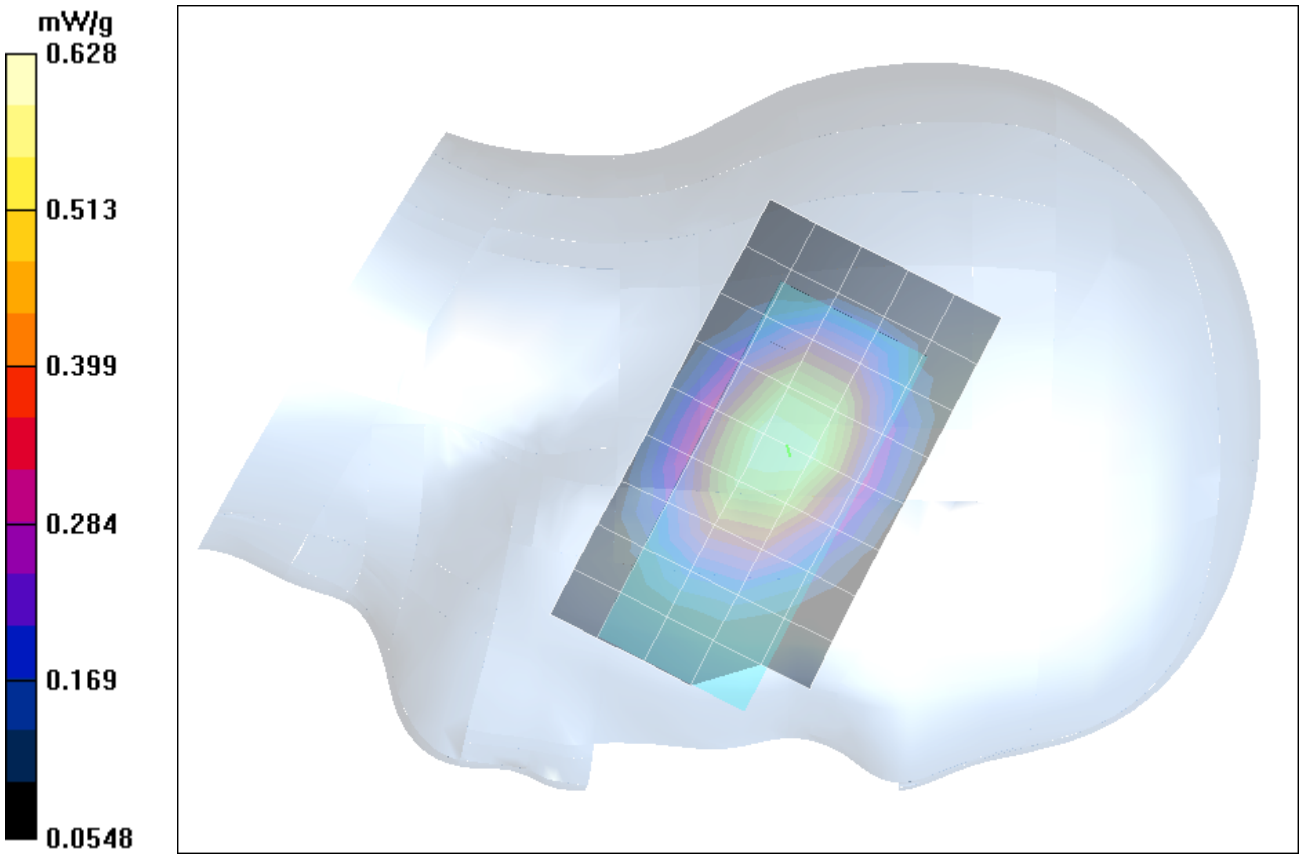
Ambient Temp: 23.3 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.0 kPa; Humidity: 63%

Communication System: AMPS FM
Frequency: 836.49 MHz; Channel: 383; Duty Cycle: 1:1
RF Output Power: 25.0 dBm (Conducted)
Medium: HSL835 (σ = 0.92 mho/m, ε_r = 41.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.592 mW/g; SAR(10 g) = 0.421 mW/g
Reference Value = 23.6 V/m



Date Tested: 12/19/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

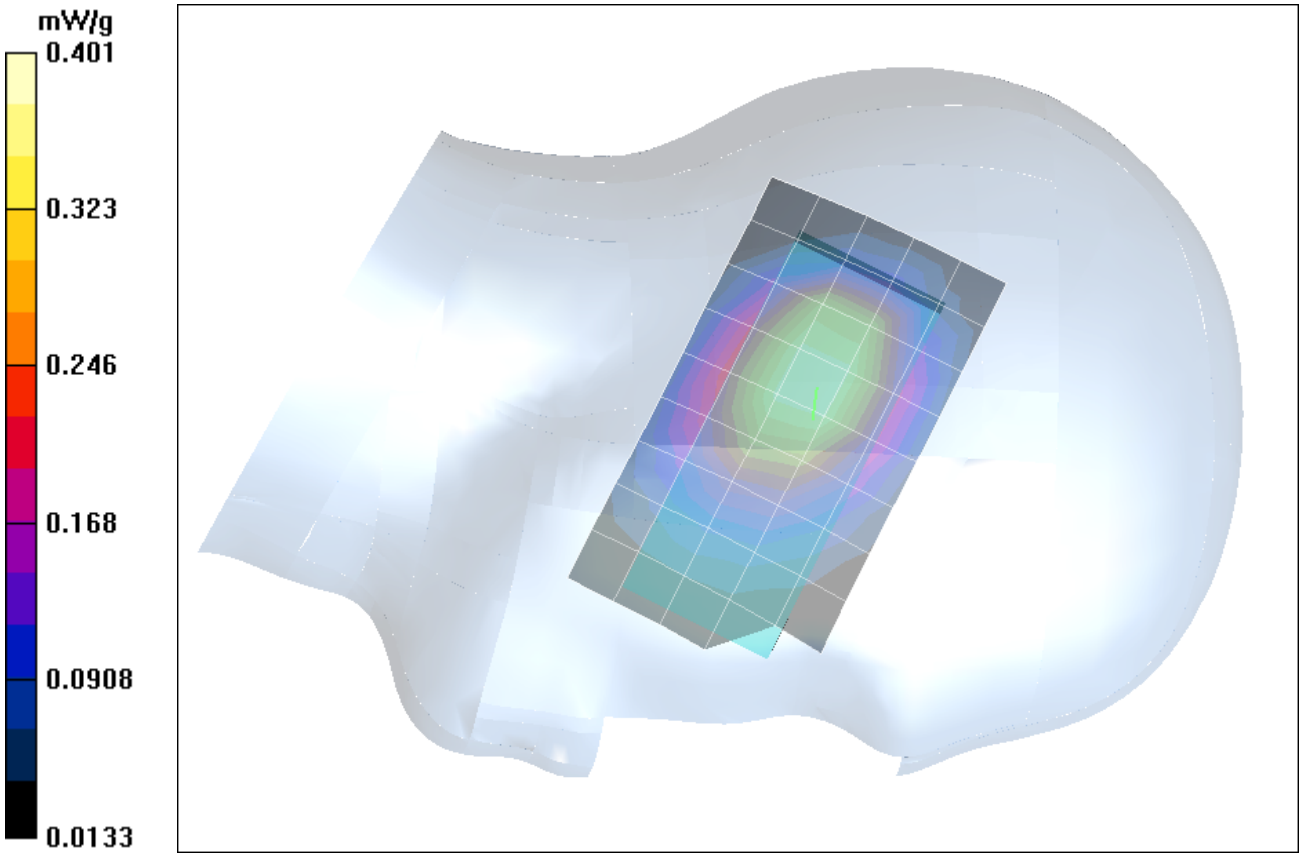
Ambient Temp: 23.3 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.0 kPa; Humidity: 63%

Communication System: AMPS FM
Frequency: 836.49 MHz; Channel 383; Duty Cycle: 1:1
RF Output Power: 25.0 dBm (Conducted)
Medium: HSL835 (σ = 0.92 mho/m, ε_r = 41.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Ear/Tilt (15°) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Ear/Tilt (15°) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.483 W/kg
SAR(1 g) = 0.372 mW/g; SAR(10 g) = 0.252 mW/g
Reference Value = 21 V/m



Date Tested: 12/19/03

DUT: Hop-On Wireless; Model HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

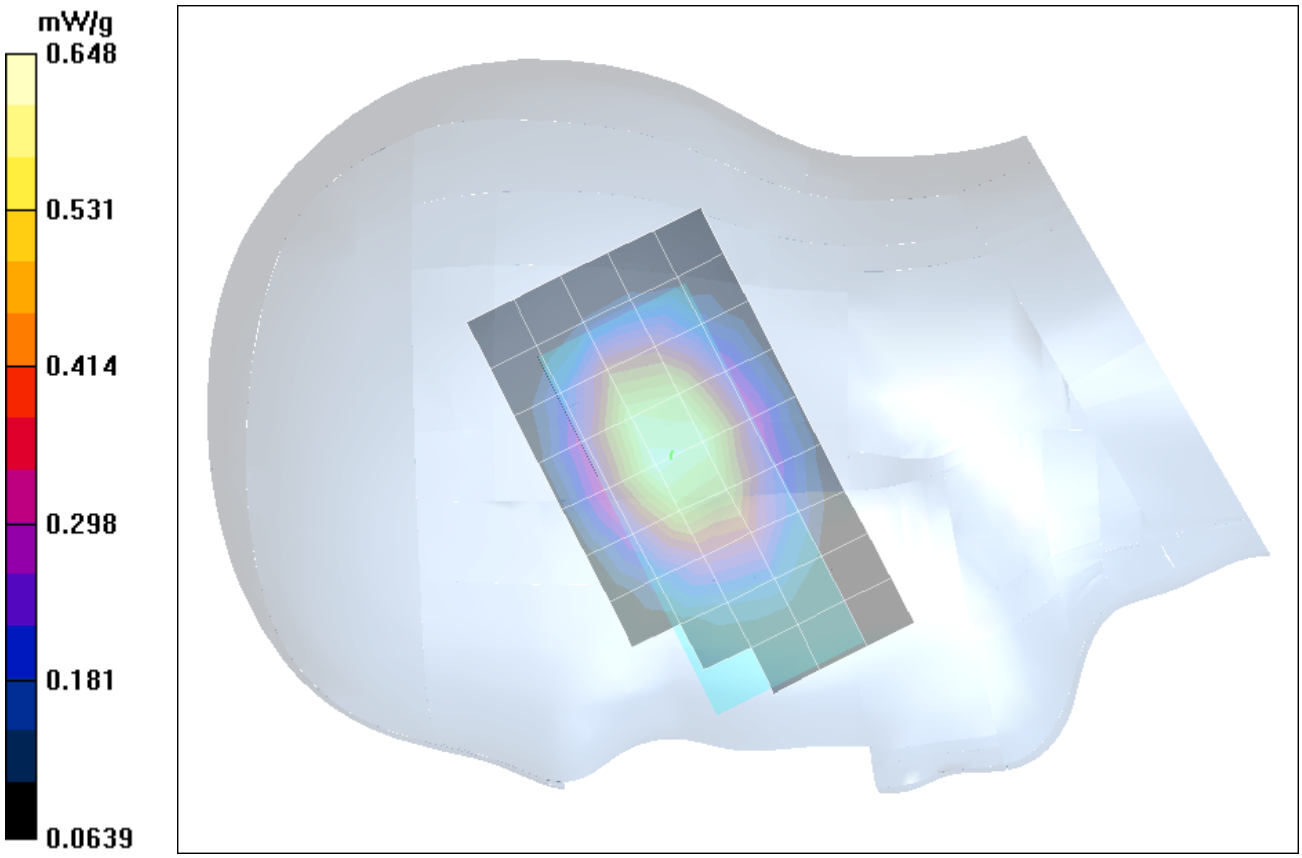
Ambient Temp: 23.3 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.0 kPa; Humidity: 63%

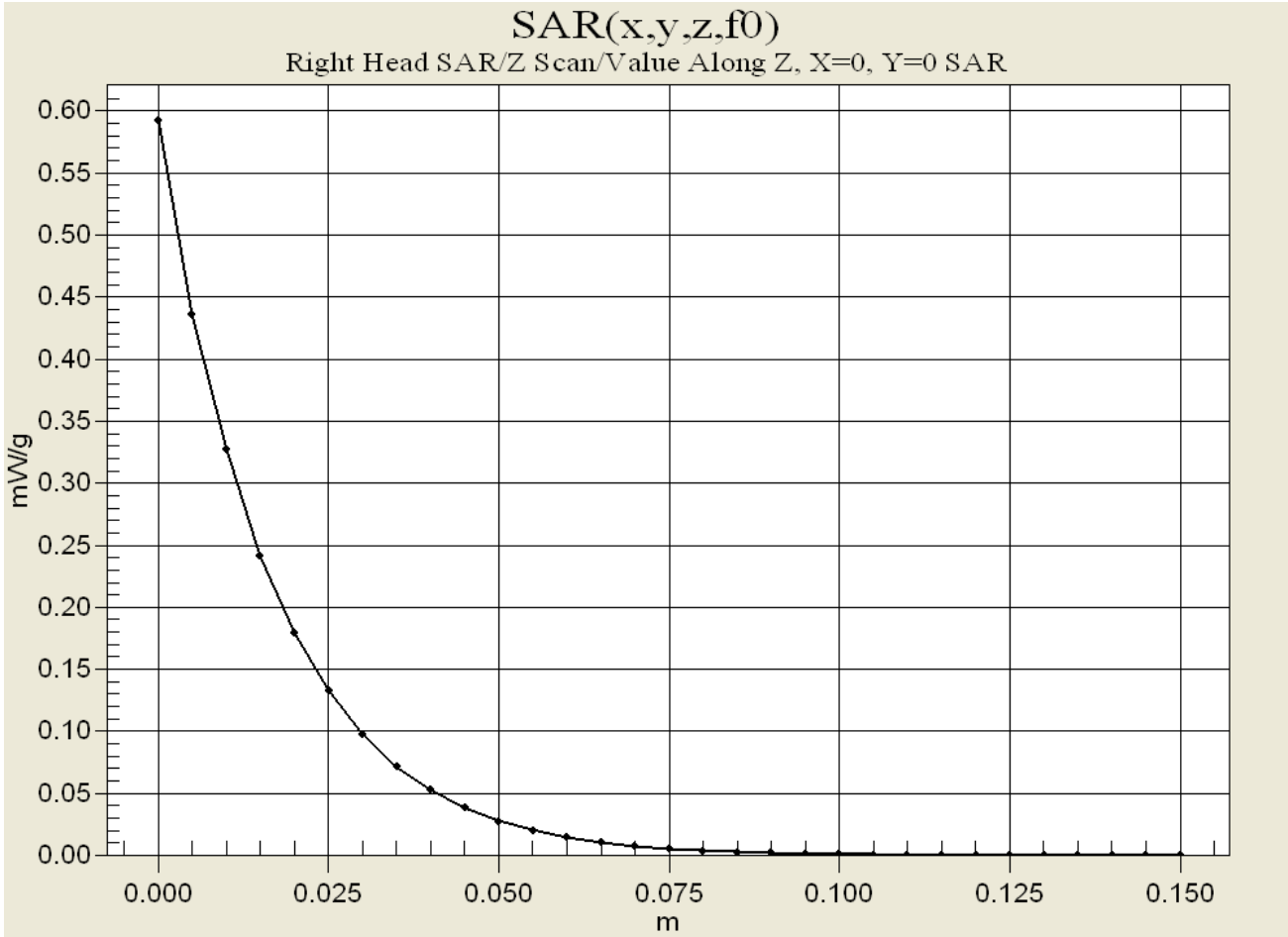
Communication System: AMPS FM
Frequency: 836.49 MHz; Channel; 383; Duty Cycle: 1:1
RF Output Power: 25.0 dBm (Conducted)
Medium: HSL835 (σ = 0.92 mho/m, ε_r = 41.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.751 W/kg
SAR(1 g) = 0.608 mW/g; SAR(10 g) = 0.433 mW/g
Reference Value = 24.1 V/m




SAR(x,y,z,f0)
Right Head SAR/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.000
0.025
0.050
0.075
0.100
0.125
0.150
m

Date Tested: 12/19/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

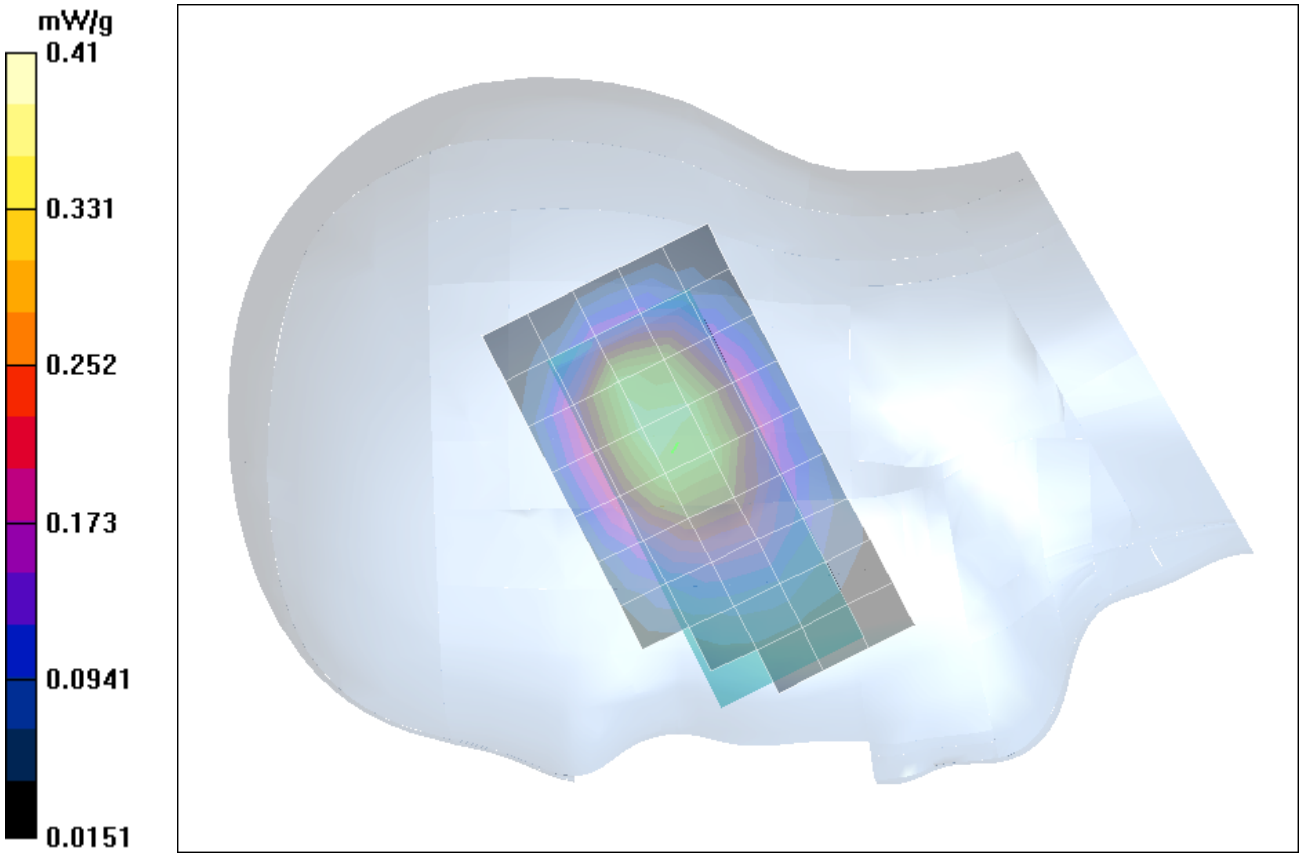
Ambient Temp: 23.3 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.0 kPa; Humidity: 63%

Communication System: AMPS FM
Frequency: 836.49 MHz; Channel 383; Duty Cycle: 1:1
RF Output Power: 25.0 dBm (Conducted)
Medium: HSL835 (σ = 0.92 mho/m, ε_r = 41.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.5 W/kg
SAR(1 g) = 0.386 mW/g; SAR(10 g) = 0.264 mW/g
Reference Value = 21.9 V/m



Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

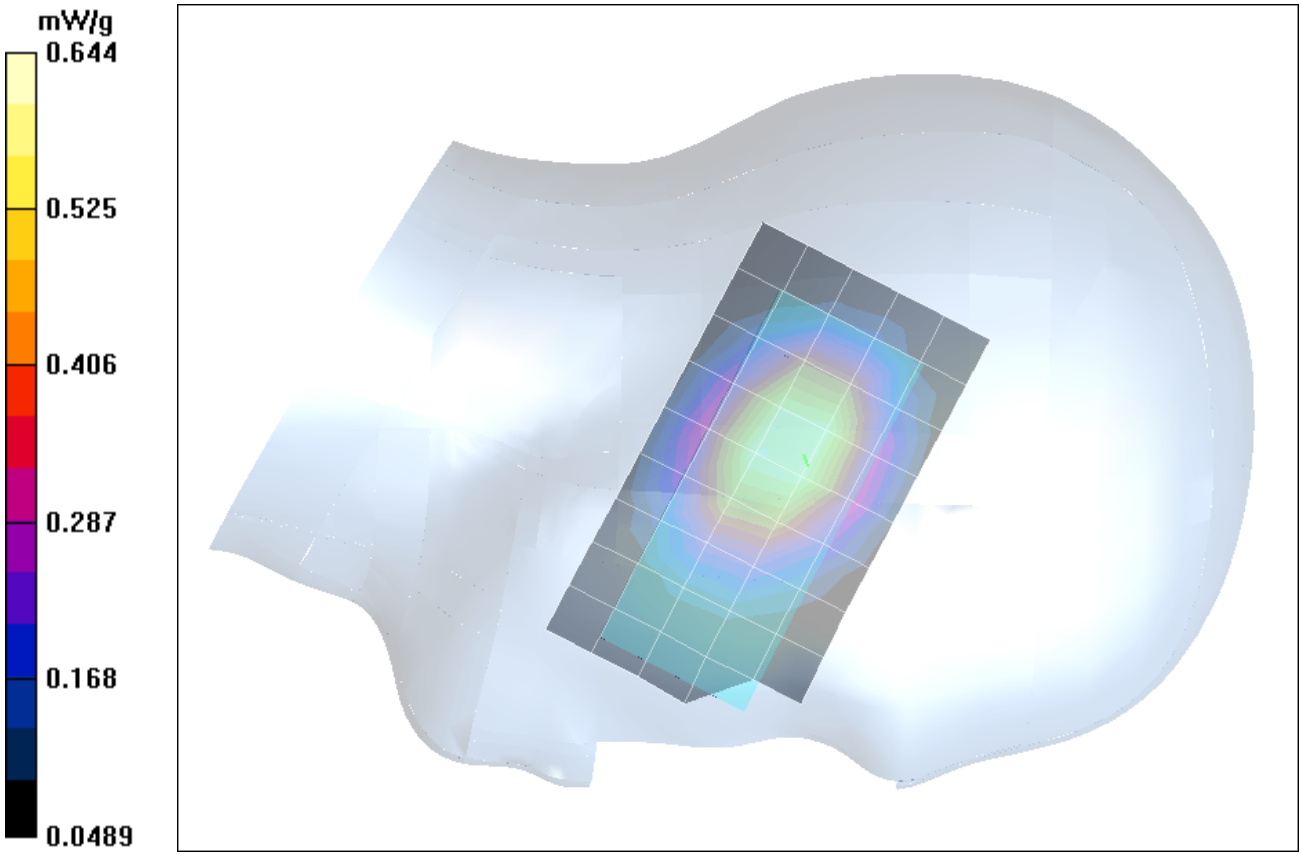
Ambient Temp: 23.3 °C; Fluid Temp: 21.9 °C; Barometric Pressure: 101.5 kPa; Humidity: 60%

Communication System: Cellular CDMA
Frequency: 835.89 MHz; Channel 363; Duty Cycle: 1:1
RF Output Power: 24.2 dBm (Conducted)
Medium: HSL835 (σ = 0.90 mho/m, ε_r = 40.6, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.836 W/kg
SAR(1 g) = 0.61 mW/g; SAR(10 g) = 0.418 mW/g
Reference Value = 23.4 V/m



Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

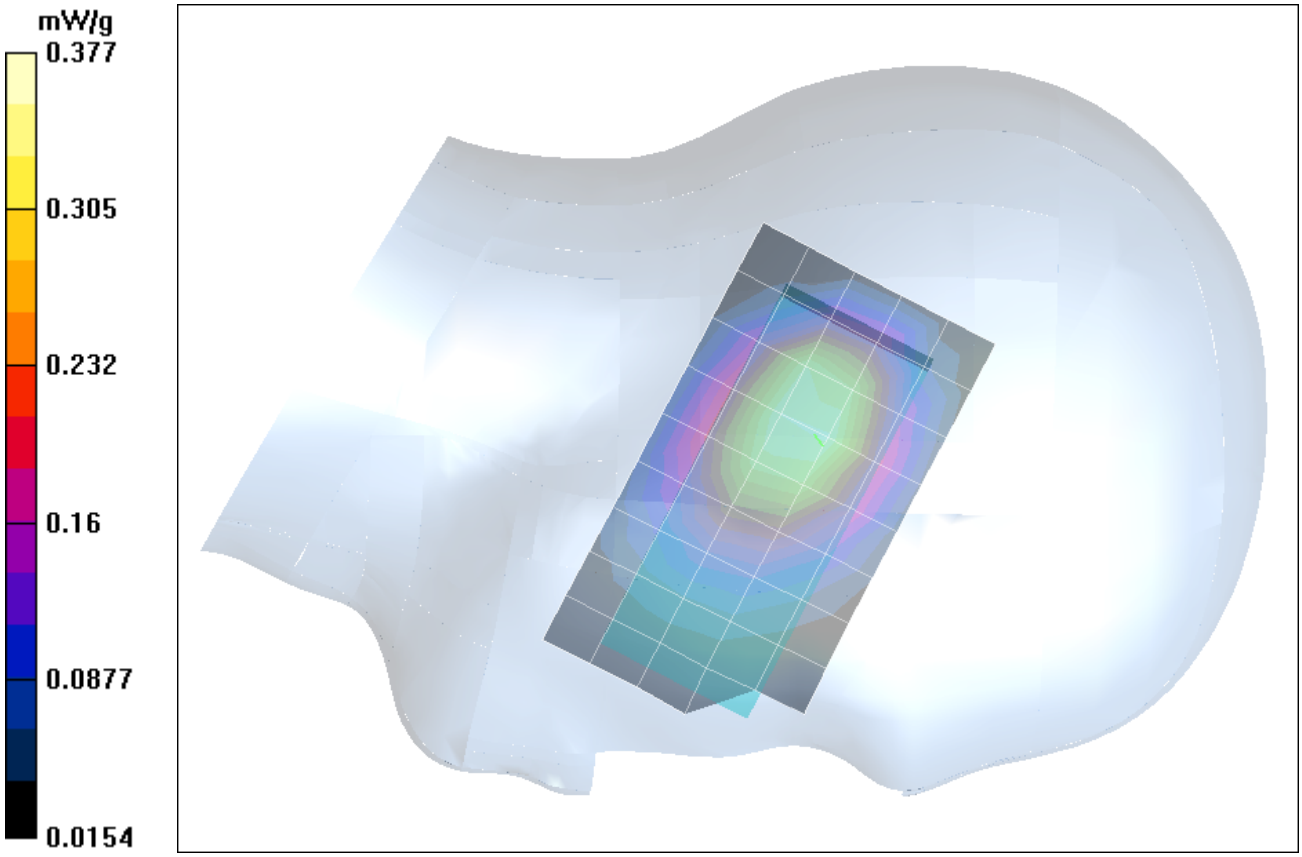
Ambient Temp: 23.3 °C; Fluid Temp: 21.9 °C; Barometric Pressure: 101.5 kPa; Humidity: 60%

Communication System: Cellular CDMA
Frequency: 835.89 MHz; Channel 363; Duty Cycle: 1:1
RF Output Power: 24.2 dBm (Conducted)
Medium: HSL835 (σ = 0.90 mho/m, ε_r = 40.6, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Ear/Tilt (15°) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Ear/Tilt (15°) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.483 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.24 mW/g
Reference Value = 20.9 V/m



Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

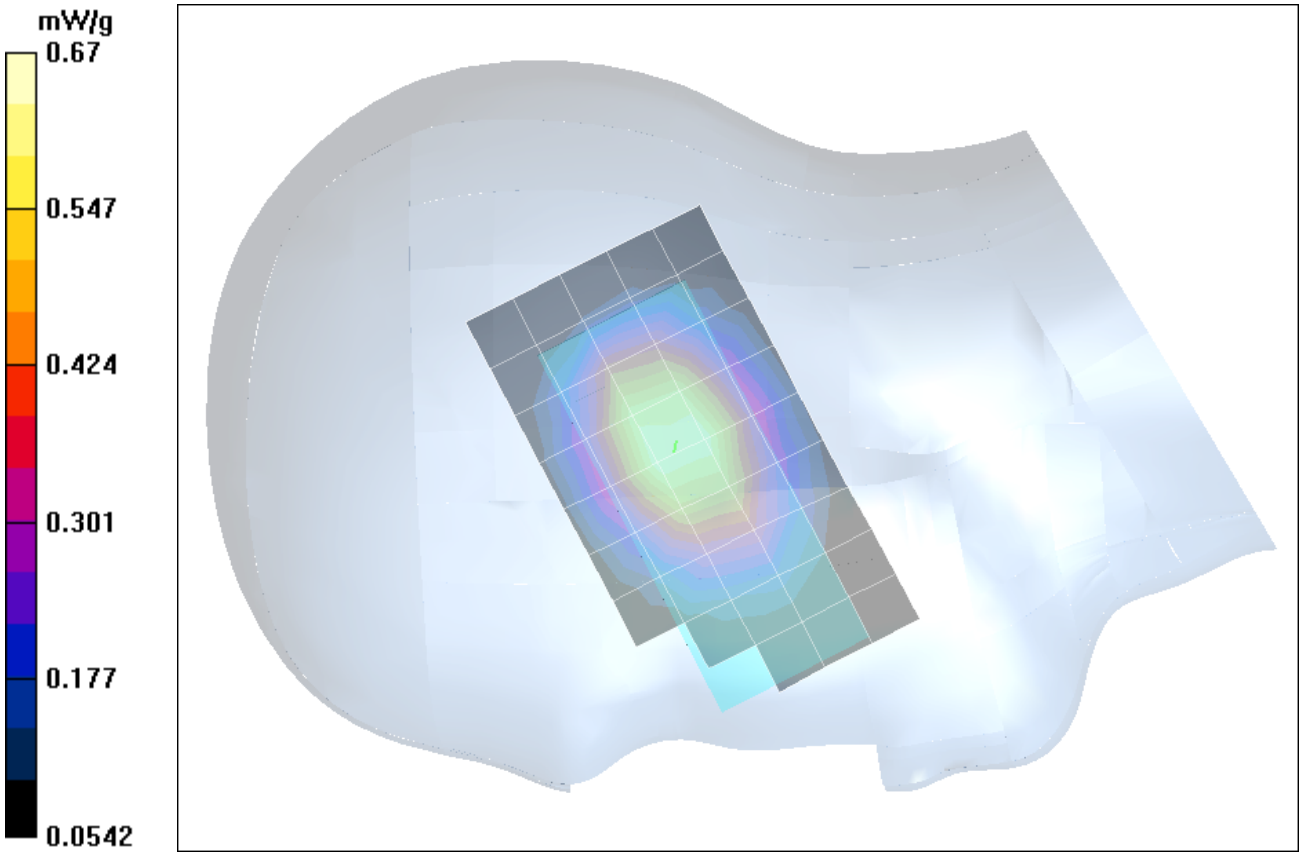
Ambient Temp: 23.3 °C; Fluid Temp: 21.9 °C; Barometric Pressure: 101.5 kPa; Humidity: 60%

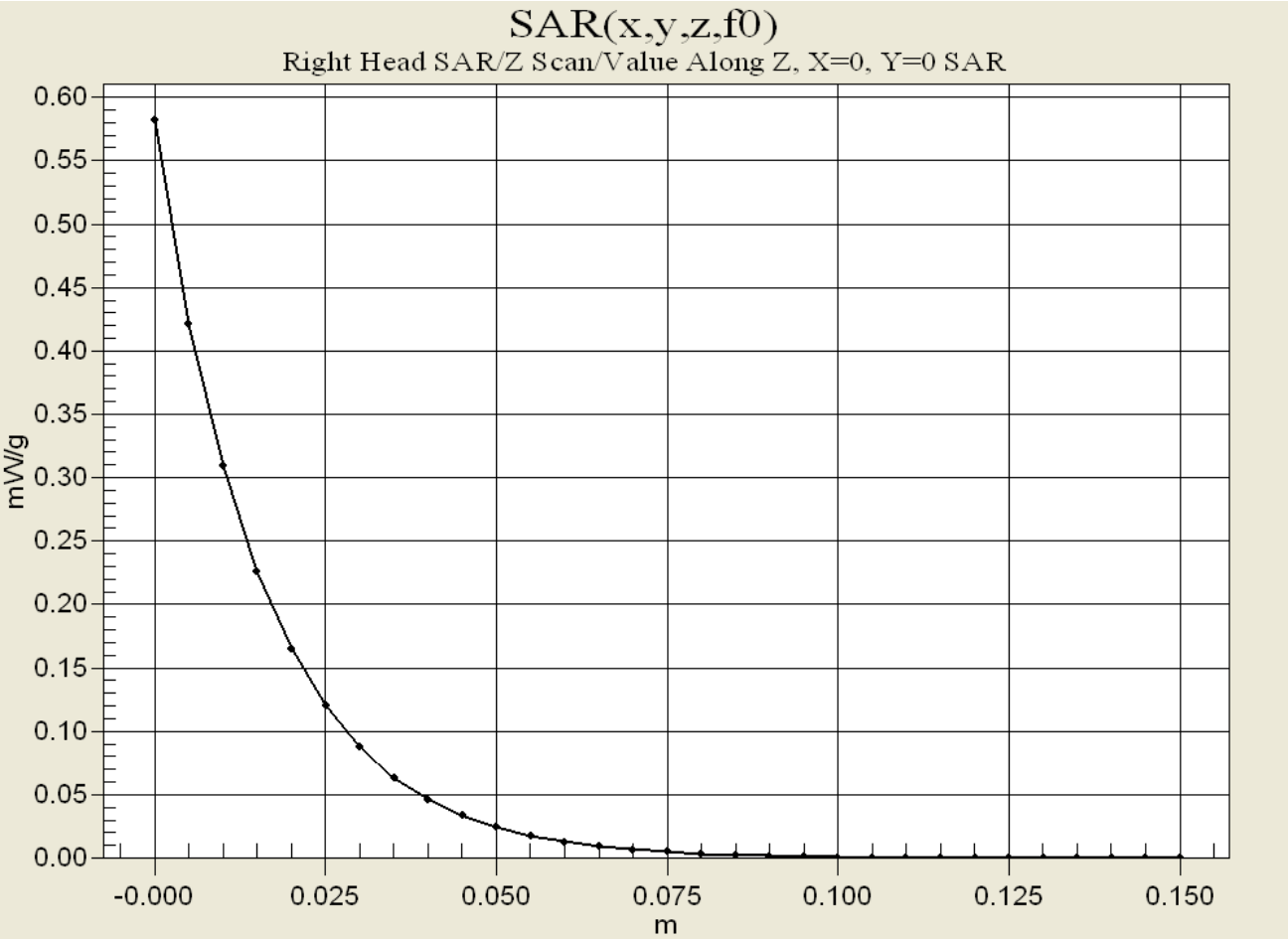
Communication System: Cellular CDMA
Frequency: 835.89 MHz; Channel 363; Duty Cycle: 1:1
RF Output Power: 24.2 dBm (Conducted)
Medium: HSL835 (σ = 0.90 mho/m, ε_r = 40.6, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.821 W/kg
SAR(1 g) = 0.634 mW/g; SAR(10 g) = 0.44 mW/g
Reference Value = 25.2 V/m




SAR(x,y,z,f0)
Right Head SAR/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.000
0.025
0.050
0.075
0.100
0.125
0.150
m

Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

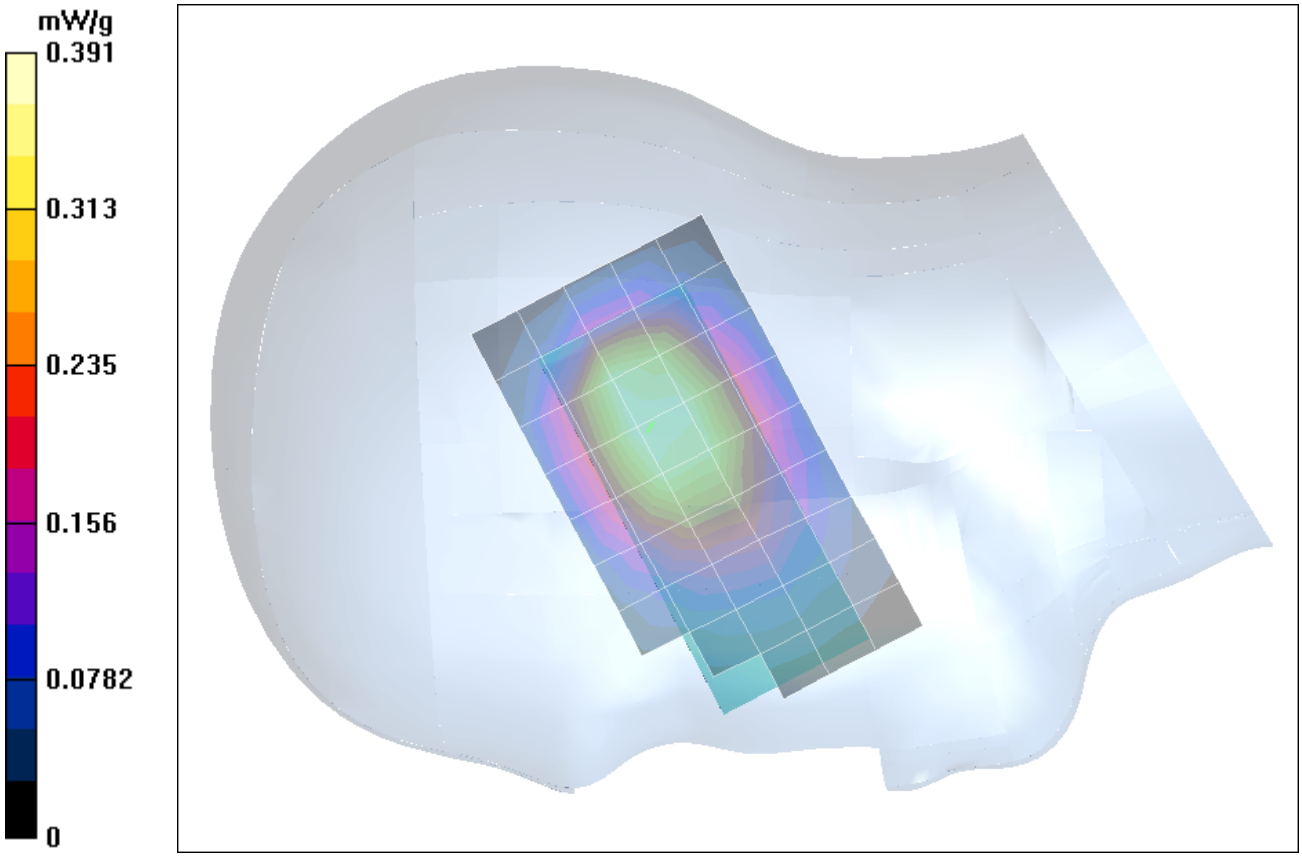
Ambient Temp: 23.3 °C; Fluid Temp: 21.9 °C; Barometric Pressure: 101.5 kPa; Humidity: 60%

Communication System: Cellular CDMA
Frequency: 835.89 MHz; Channel 363; Duty Cycle: 1:1
RF Output Power: 24.2 dBm (Conducted)
Medium: HSL835 (σ = 0.90 mho/m, ε_r = 40.6, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.6, 6.6, 6.6); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.492 W/kg
SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.253 mW/g
Reference Value = 22.3 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

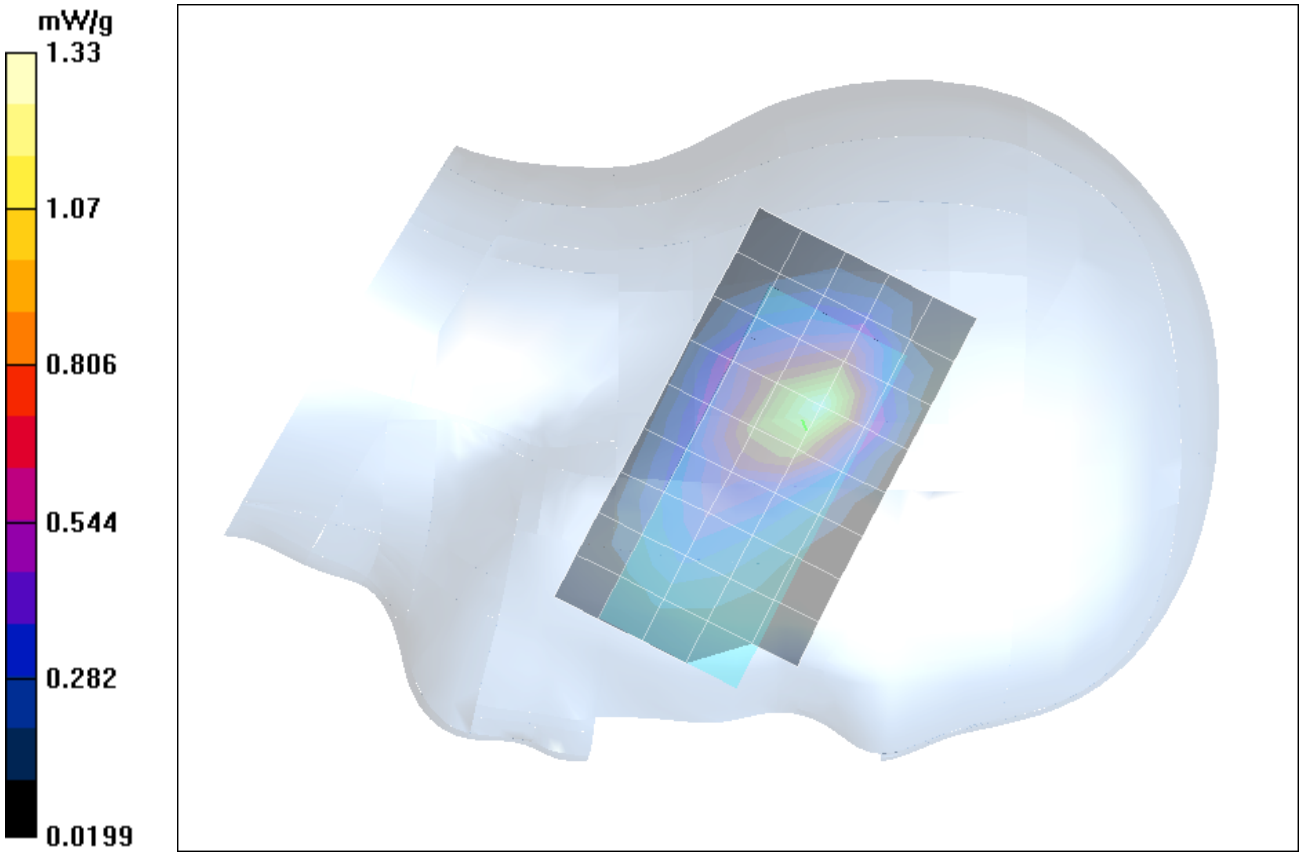
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1851.25 MHz; Channel 25; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Cheek/Touch Position - Low Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Cheek/Touch Position - Low Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.20 mW/g; SAR(10 g) = 0.661 mW/g
Reference Value = 23.9 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

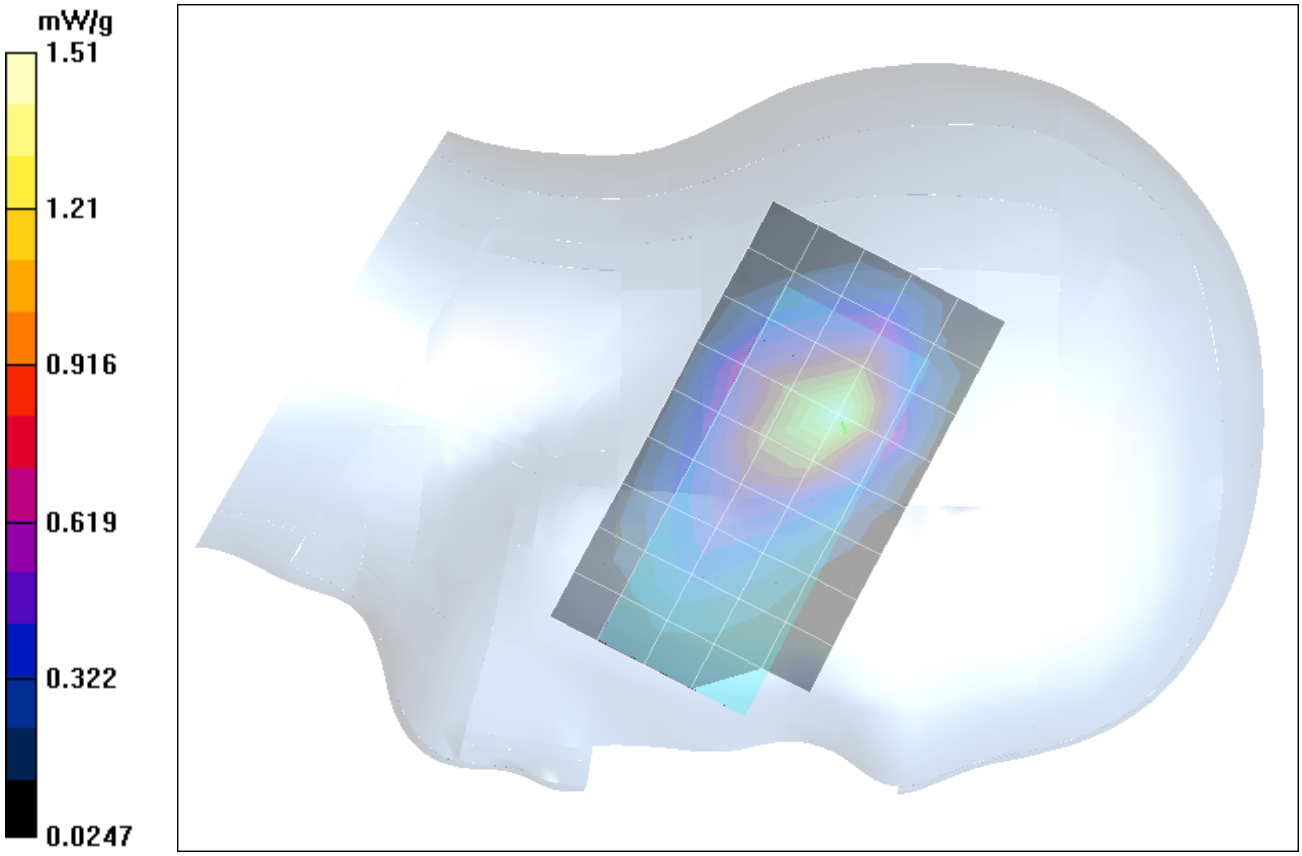
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1880.00 MHz; Channel 600; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 2.27 W/kg
SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.752 mW/g
Reference Value = 25.7 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

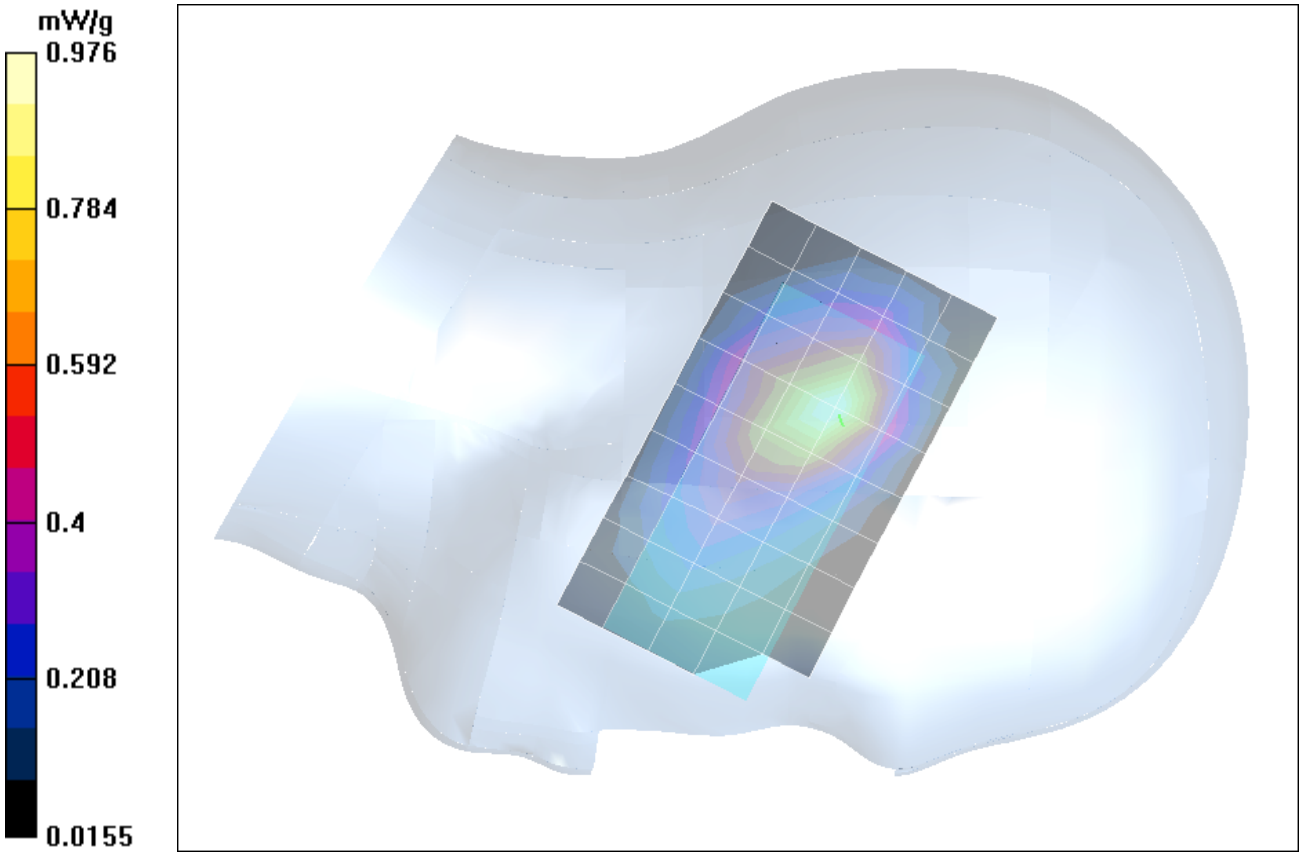
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1908.75 MHz; Channel 1175; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Cheek/Touch Position - High Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Cheek/Touch Position - High Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.897 mW/g; SAR(10 g) = 0.487 mW/g
Reference Value = 21.6 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

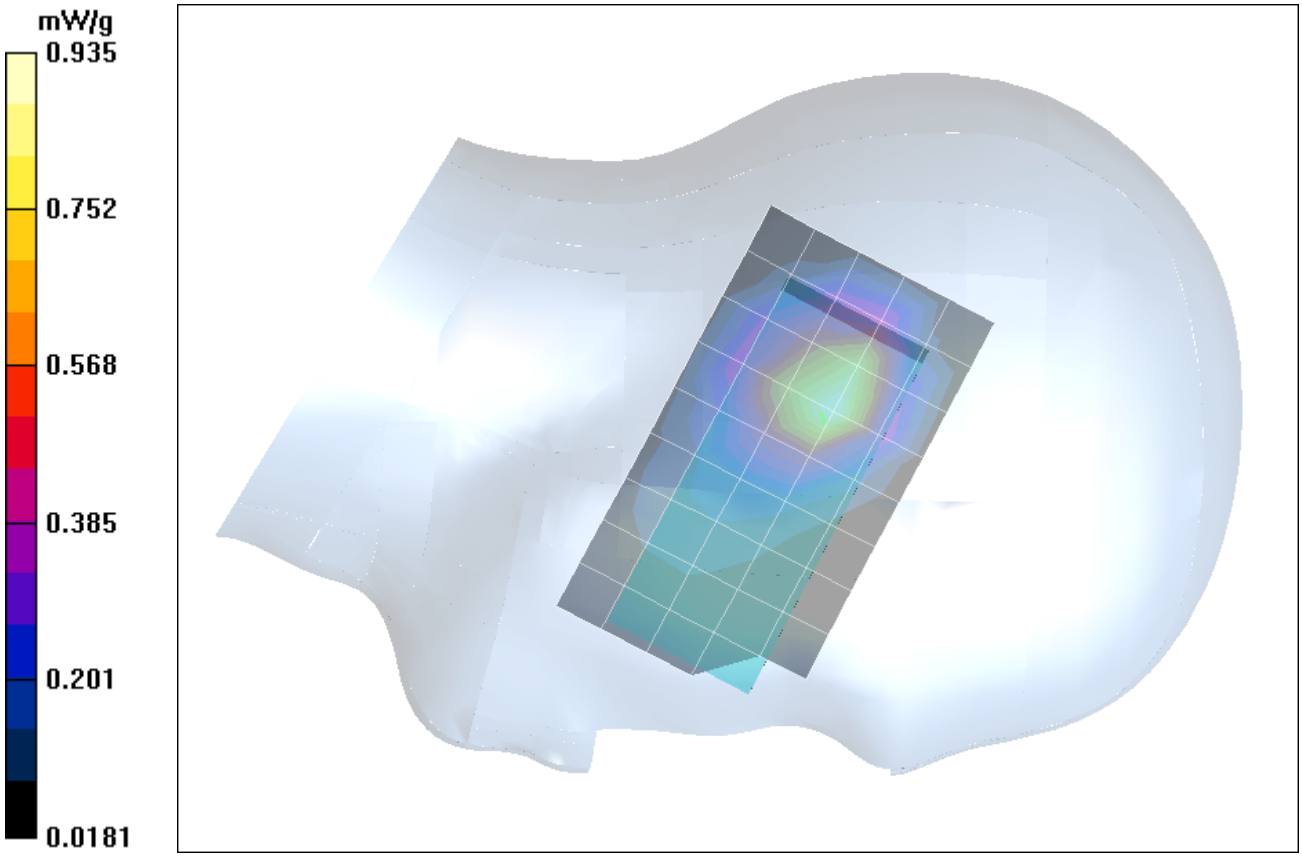
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1851.25 MHz; Channel 25; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Ear/Tilt (15 °) Position - Low Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Ear/Tilt (15°) Position - Low Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.842 mW/g; SAR(10 g) = 0.467 mW/g
Reference Value = 24.3 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

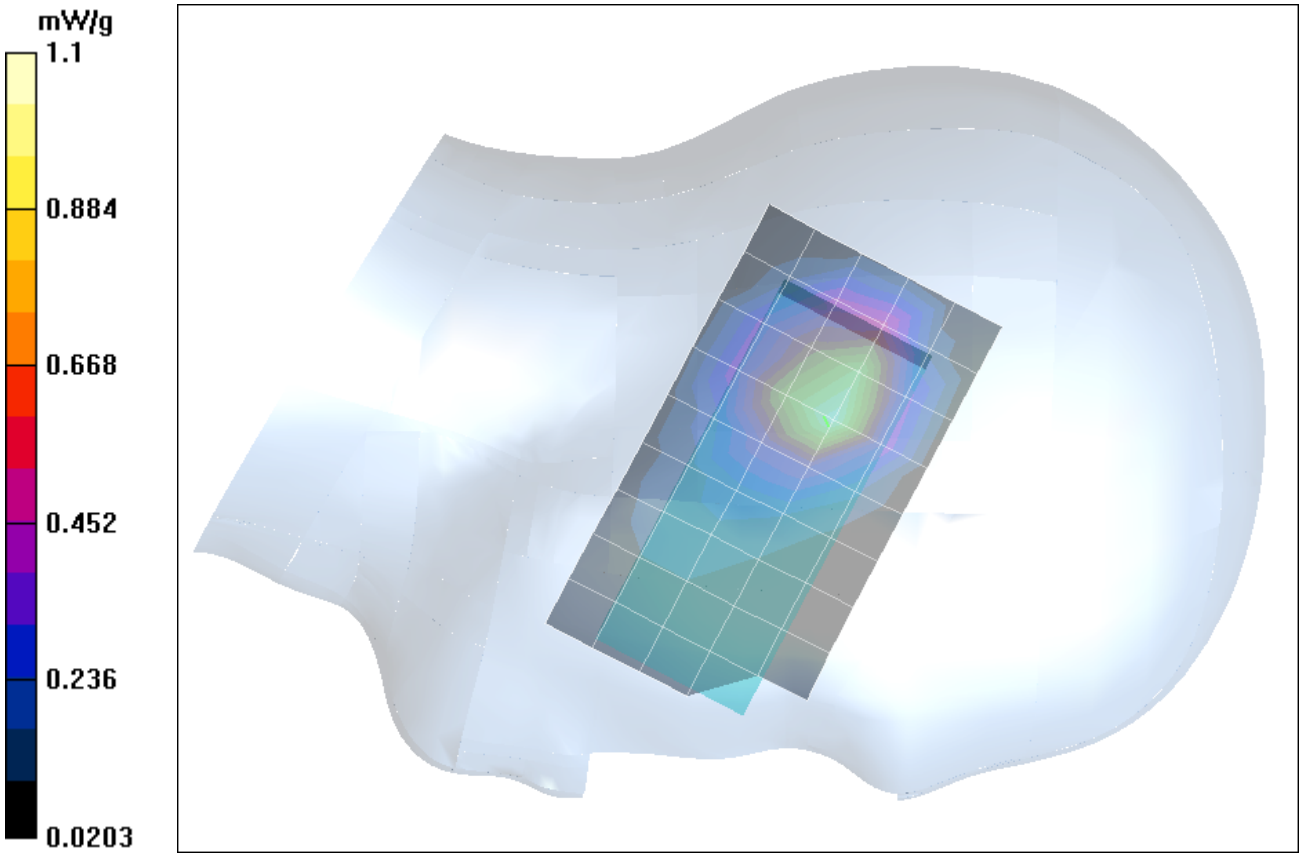
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1880.00 MHz; Channel 600; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Ear/Tilt (°15) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Ear/Tilt (°15) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.996 mW/g; SAR(10 g) = 0.554 mW/g
Reference Value = 26.5 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

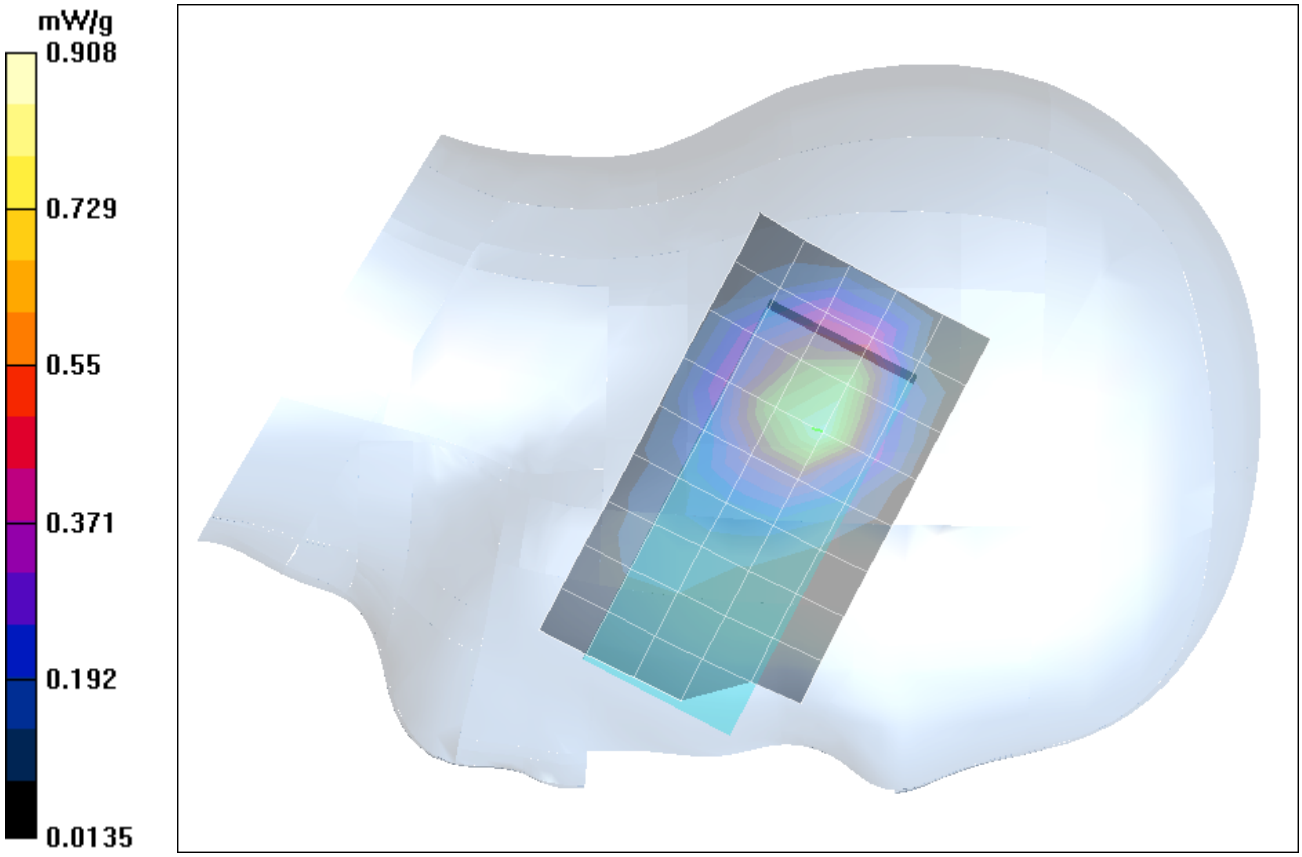
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1908.75 MHz; Channel 1175; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Left Ear Ear/Tilt (°15) Position - High Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Left Ear Ear/Tilt (°15) Position - High Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.817 mW/g; SAR(10 g) = 0.459 mW/g
Reference Value = 24.4 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

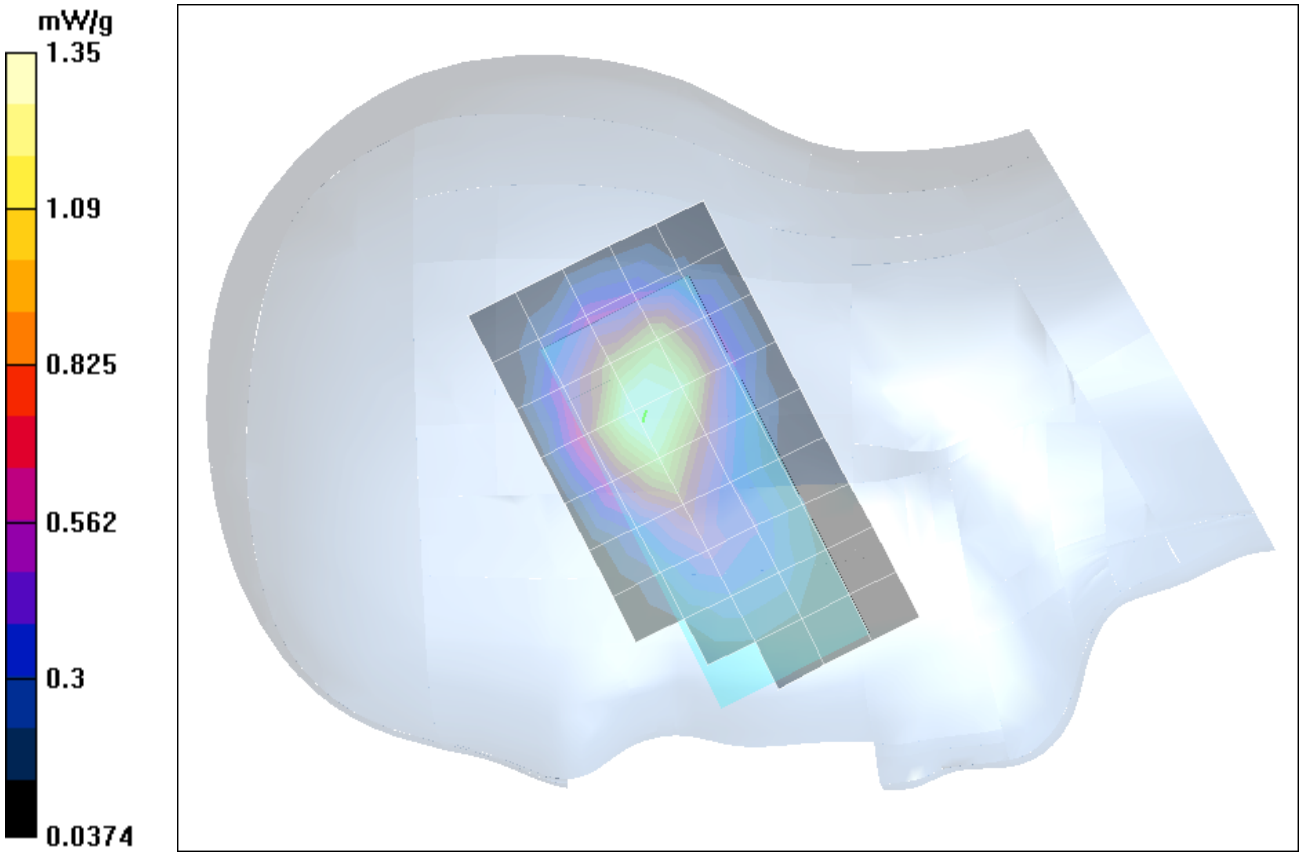
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1851.25 MHz; Channel 25; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Cheek/Touch Position - Low Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Cheek/Touch Position - Low Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.731 mW/g
Reference Value = 27.5 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

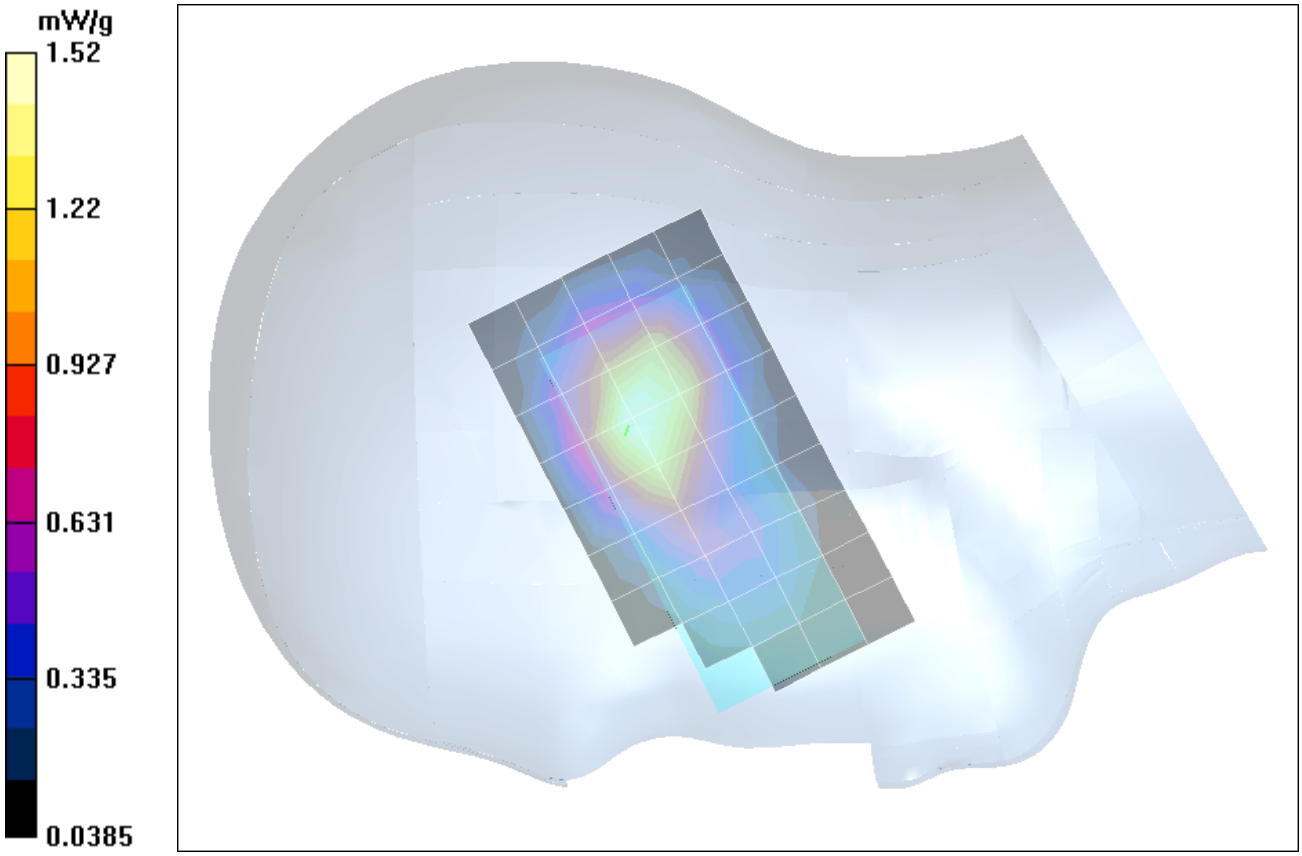
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

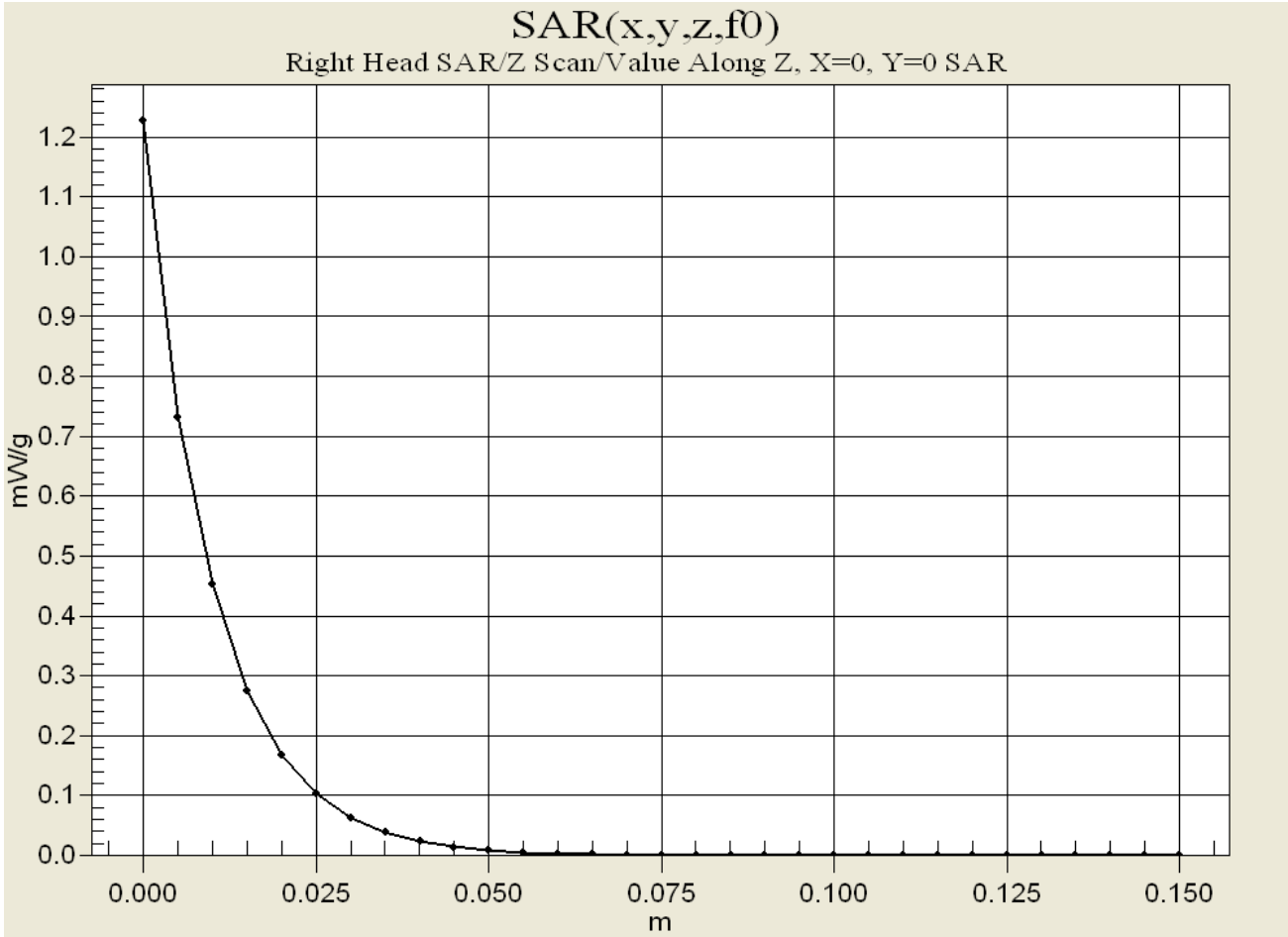
Communication System: PCS CDMA
Frequency: 1880.00 MHz; Channel 600; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Cheek/Touch Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 2.1 W/kg
SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.805 mW/g
Reference Value = 29.4 V/m




SAR(x,y,z,f0)
Right Head SAR/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.000
0.025
0.050
0.075
0.100
0.125
0.150
m

Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

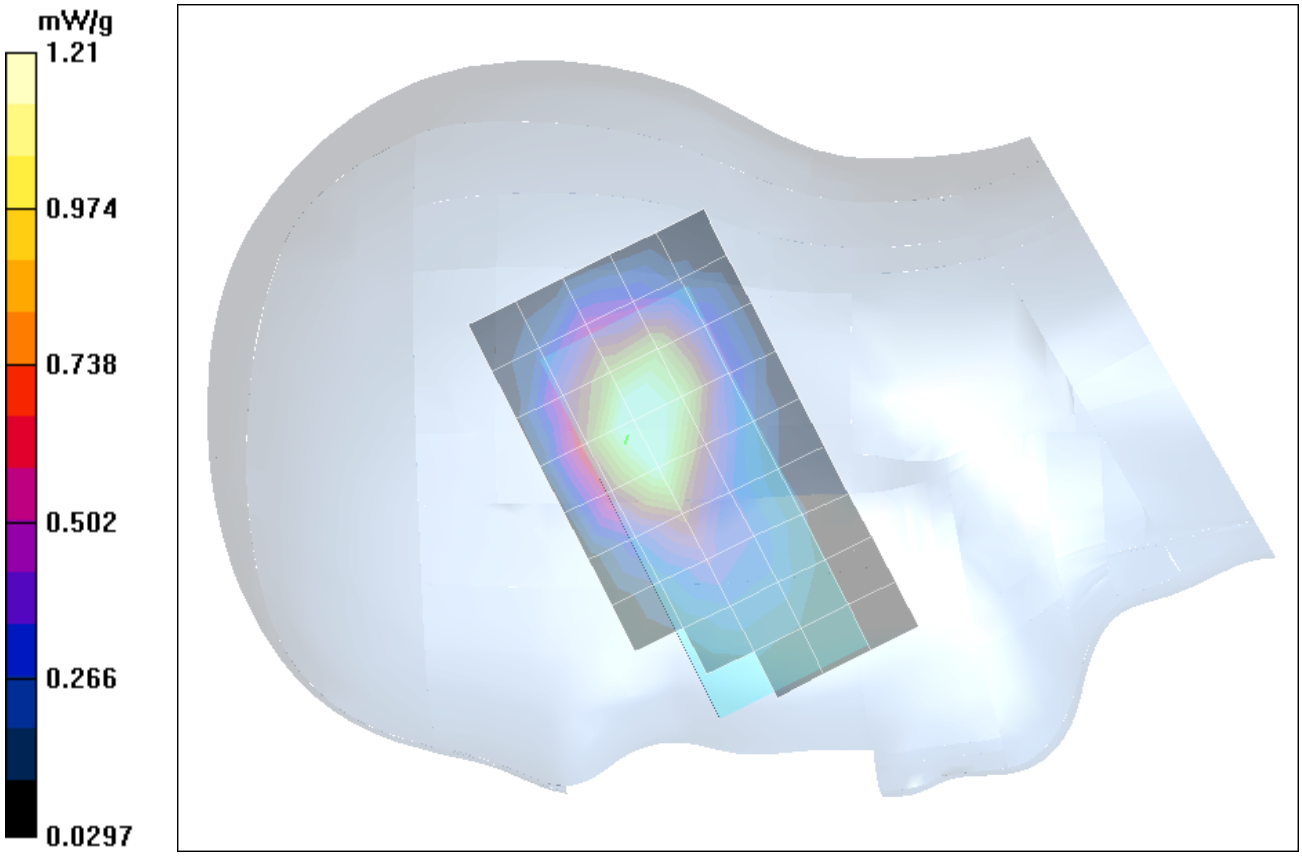
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1908.75 MHz; Channel 1175; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Cheek/Touch Position - High Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Cheek/Touch Position - High Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.63 mW/g
Reference Value = 26.4 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

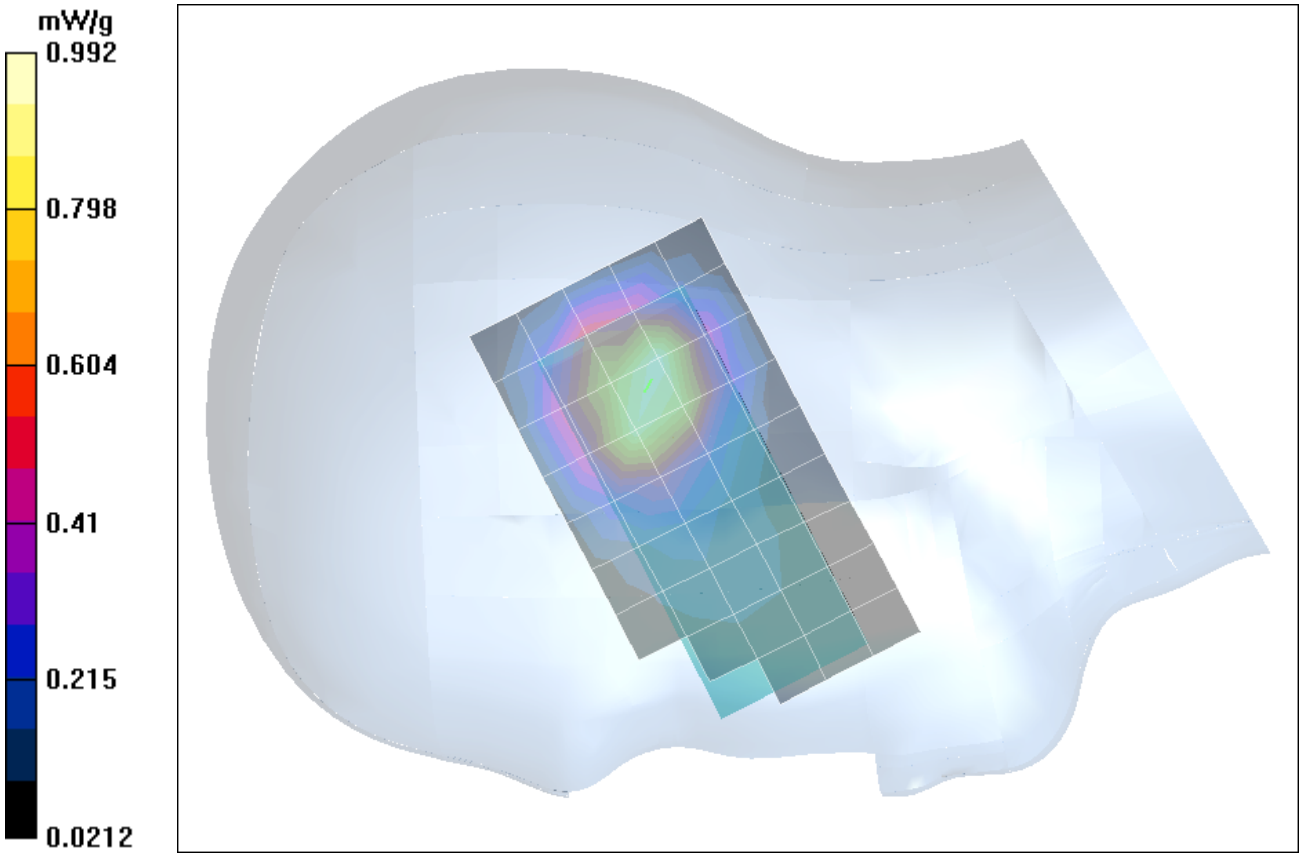
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1851.25 MHz; Channel 25; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Ear/Tilt (15°) Position - Low Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Ear/Tilt (15°) Position - Low Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.92 mW/g; SAR(10 g) = 0.552 mW/g
Reference Value = 27.6 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

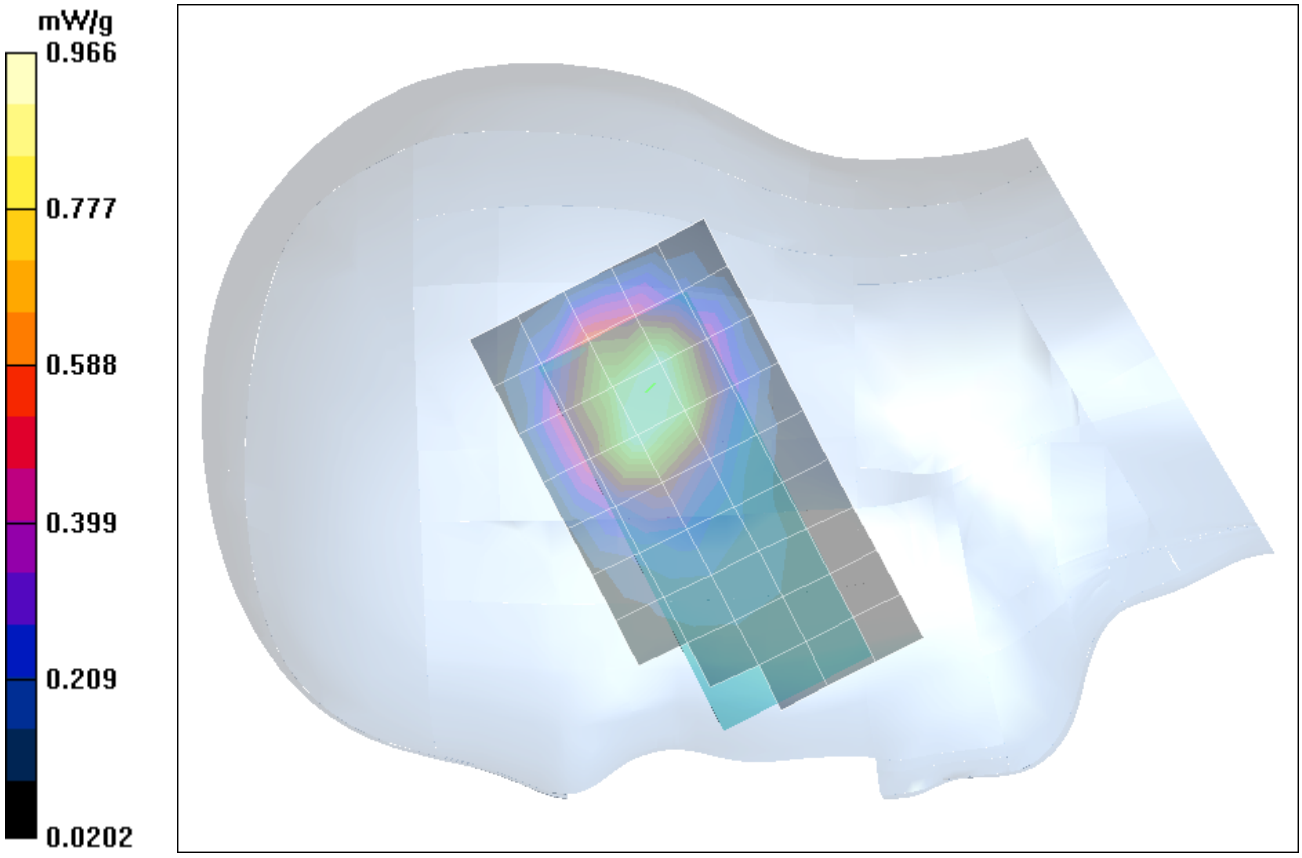
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1880.00 MHz; Channel 600; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Ear/Tilt (15°) Position - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.890 mW/g; SAR(10 g) = 0.545 mW/g
Reference Value = 27.7 V/m



Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

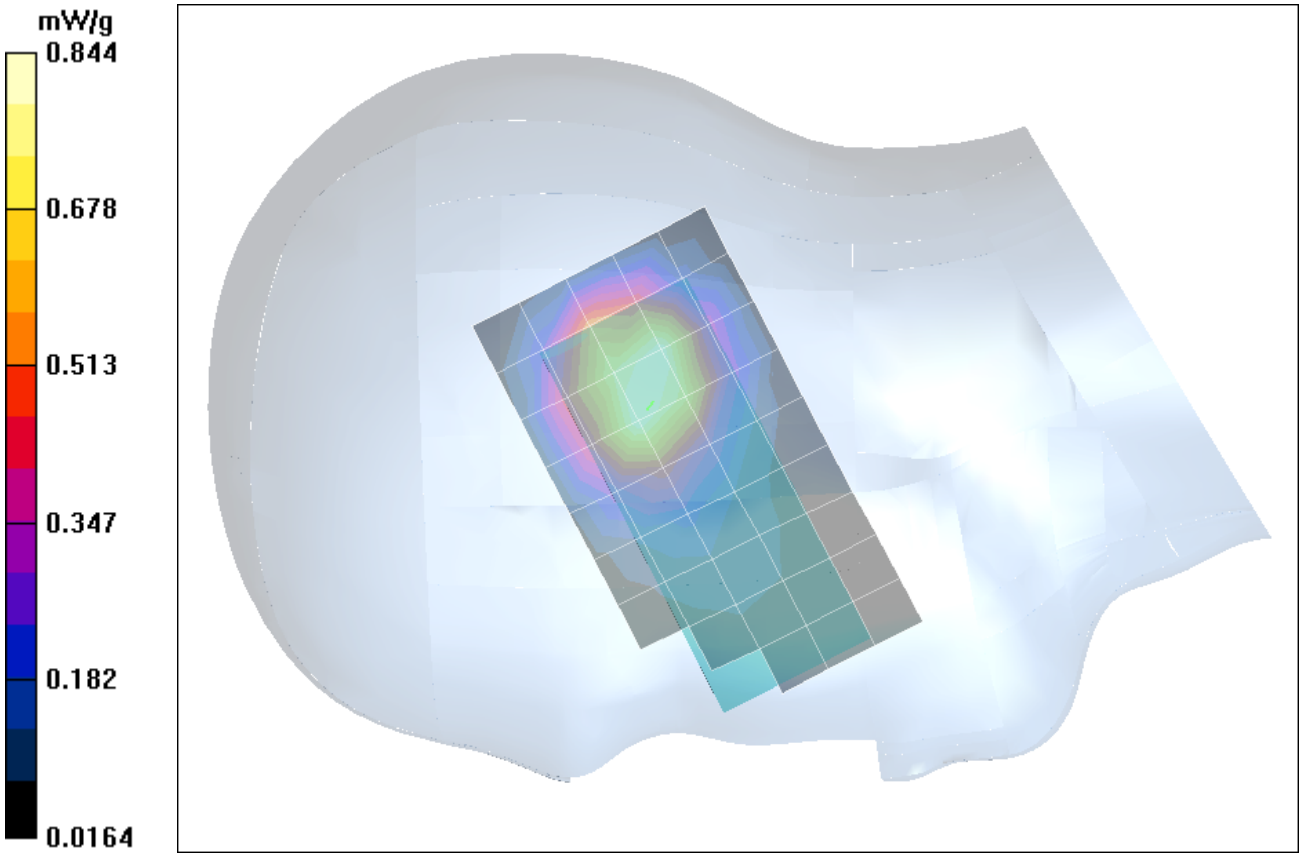
Ambient Temp: 24.2 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.7 kPa; Humidity: 58%

Communication System: PCS CDMA
Frequency: 1908.75 MHz; Channel 1175; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: HSL1880 (σ = 1.42 mho/m, ε_r = 38.2, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.2, 5.2, 5.2); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Ear-Held - Right Ear Ear/Tilt (15°) Position - High Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Ear-Held - Right Ear Ear/Tilt (15°) Position - High Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.771 mW/g; SAR(10 g) = 0.475 mW/g
Reference Value = 25.2 V/m



Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

Body-worn Accessories: Belt-Clip, Earpiece/Boom-Microphone

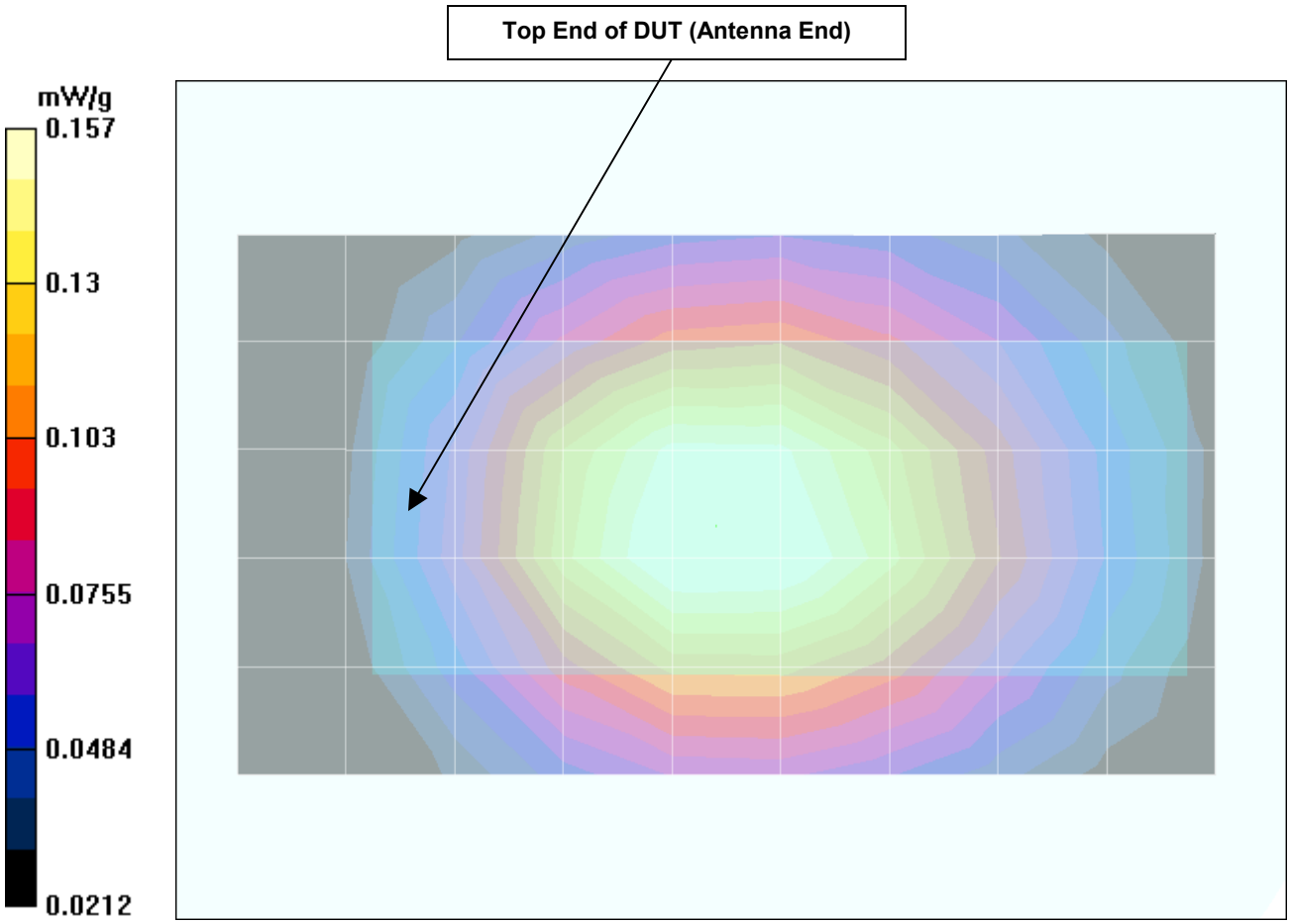
Ambient Temp: 23.9 °C; Fluid Temp: 21.7 °C; Barometric Pressure: 101.5 kPa; Humidity: 64%

Communication System: AMPS FM
Frequency: 836.49 MHz; Channel 383; Duty Cycle: 1:1
RF Output Power: 25.0 dBm (Conducted)
Medium: M835 (σ = 0.98 mho/m, ε_r = 53.5, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.4, 6.4, 6.4); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.187 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.108 mW/g
Reference Value = 10.7 V/m



Date Tested: 12/20/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

Body-worn Accessories: Belt-Clip, Earpiece/Boom-Microphone

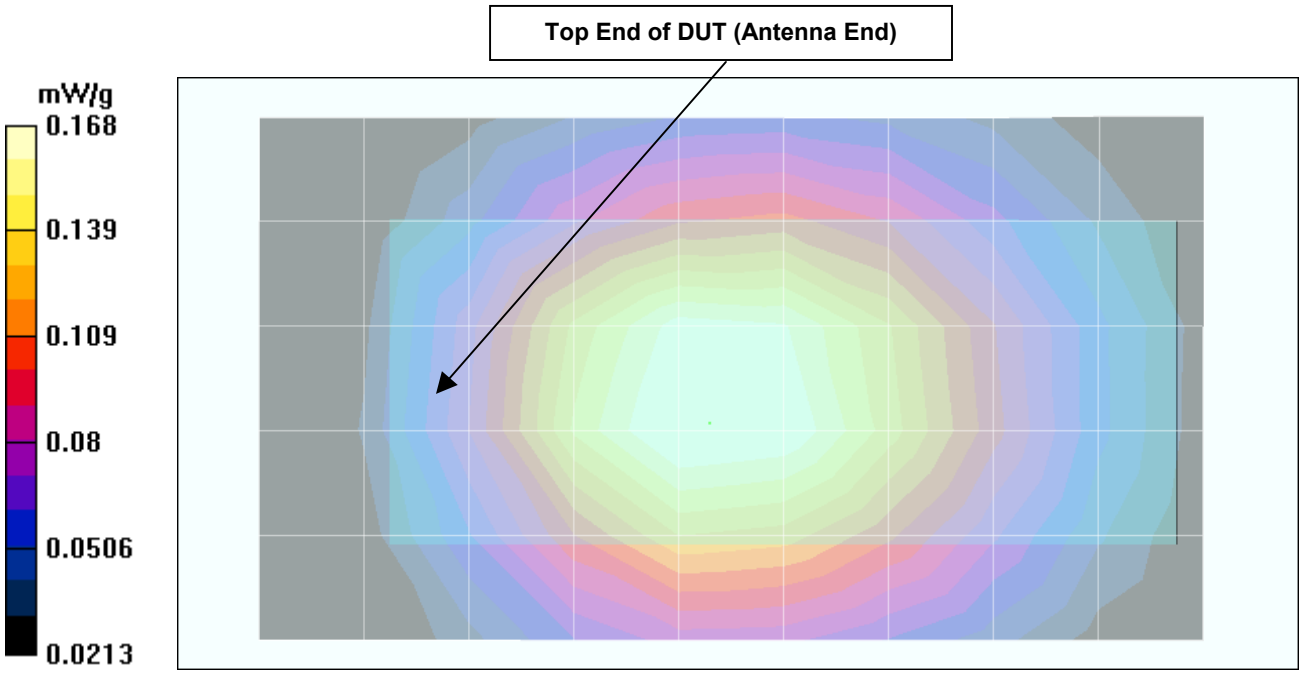
Ambient Temp: 23.9 °C; Fluid Temp: 21.7 °C; Barometric Pressure: 101.5 kPa; Humidity: 64%

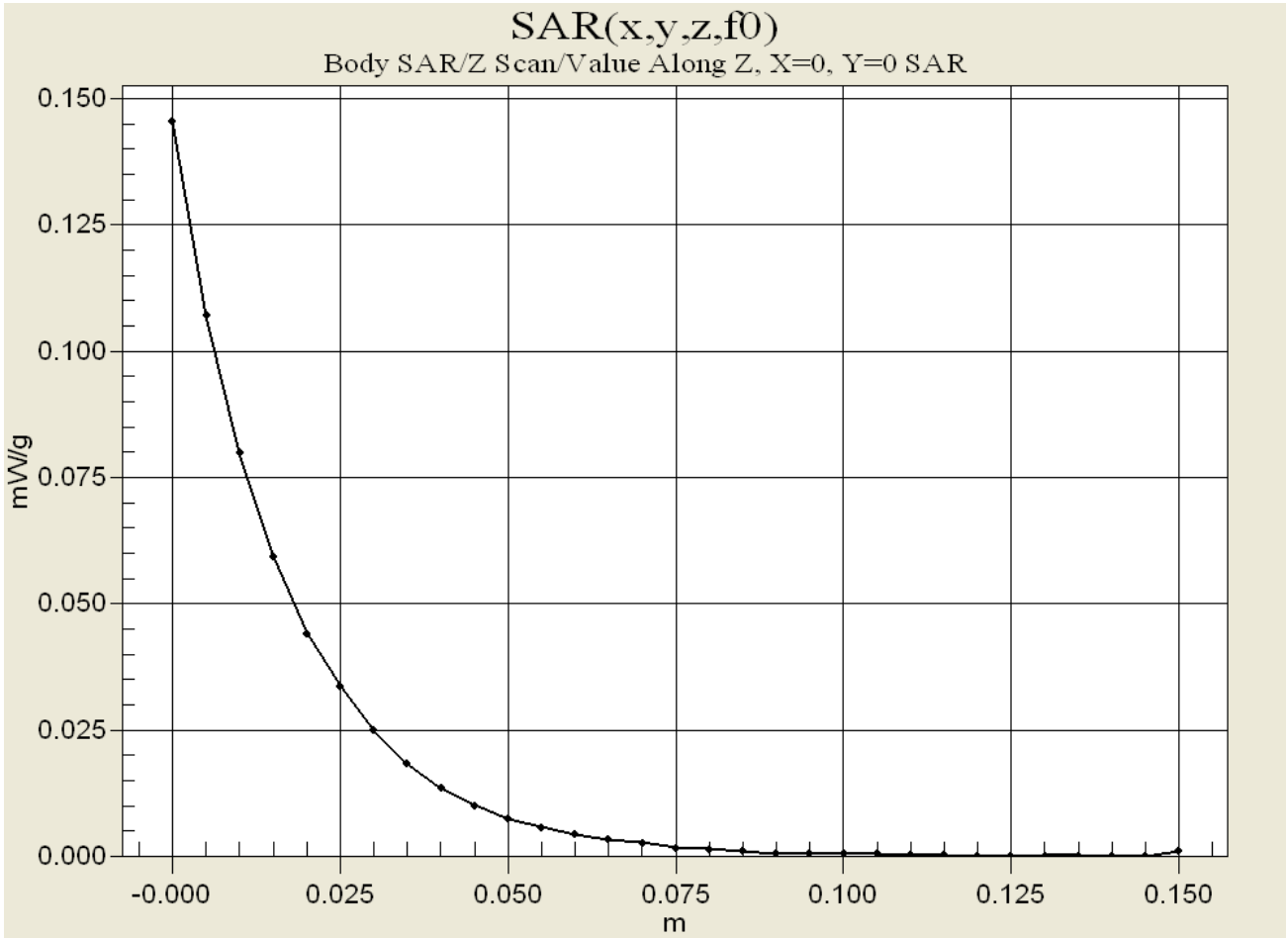
Communication System: Cellular CDMA
Frequency: 835.89 MHz; Channel 363; Duty Cycle: 1:1
RF Output Power: 24.2 dBm (Conducted)
Medium: M835 (σ = 0.98 mho/m, ε_r = 53.5, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(6.4, 6.4, 6.4); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.198 W/kg
SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.115 mW/g
Reference Value = 10.6 V/m




SAR(x,y,z,f0)
Body SAR/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.150
0.125
0.100
0.075
0.050
0.025
0.000
-0.000
0.025
0.050
0.075
0.100
0.125
0.150
m

Date Tested: 12/21/03

DUT: Hop-On Wireless Model: HPN1900; Type: Portable Dual-Band Tri-Mode Phone; Serial: Identical Prototype

Body-worn Accessories: Belt-Clip, Earpiece/Boom-Microphone

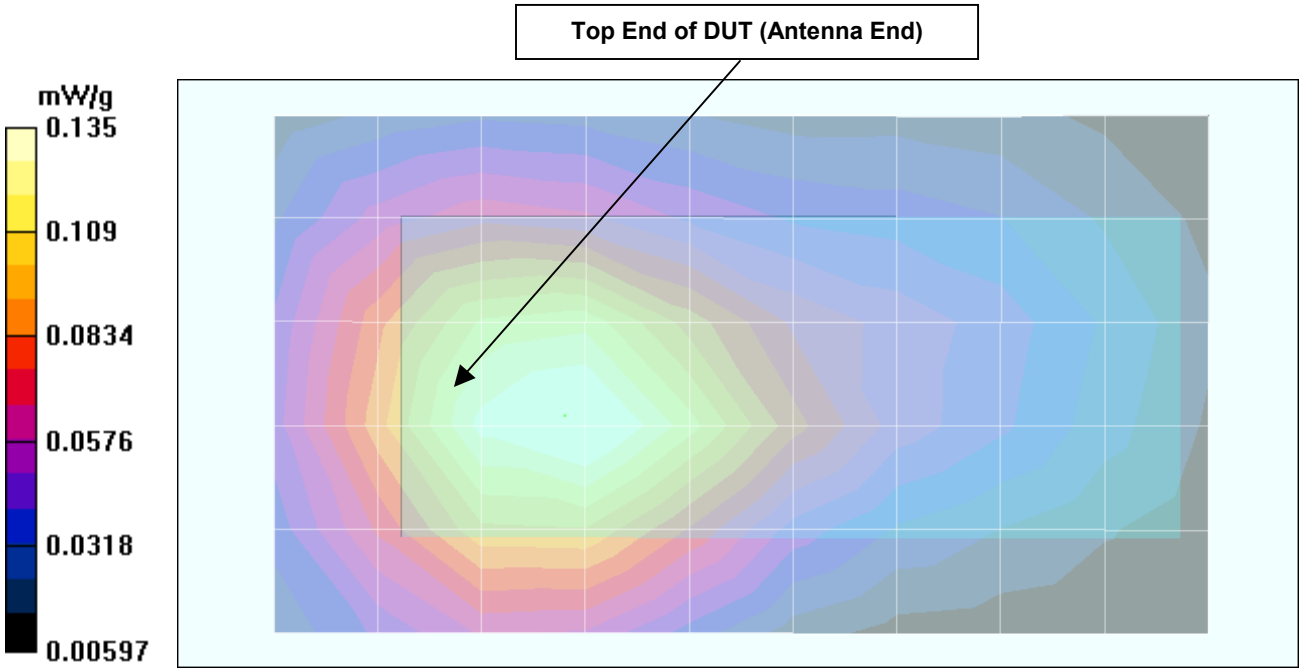
Ambient Temp: 23.6 °C; Fluid Temp: 23.0 °C; Barometric Pressure: 101.5 kPa; Humidity: 55%

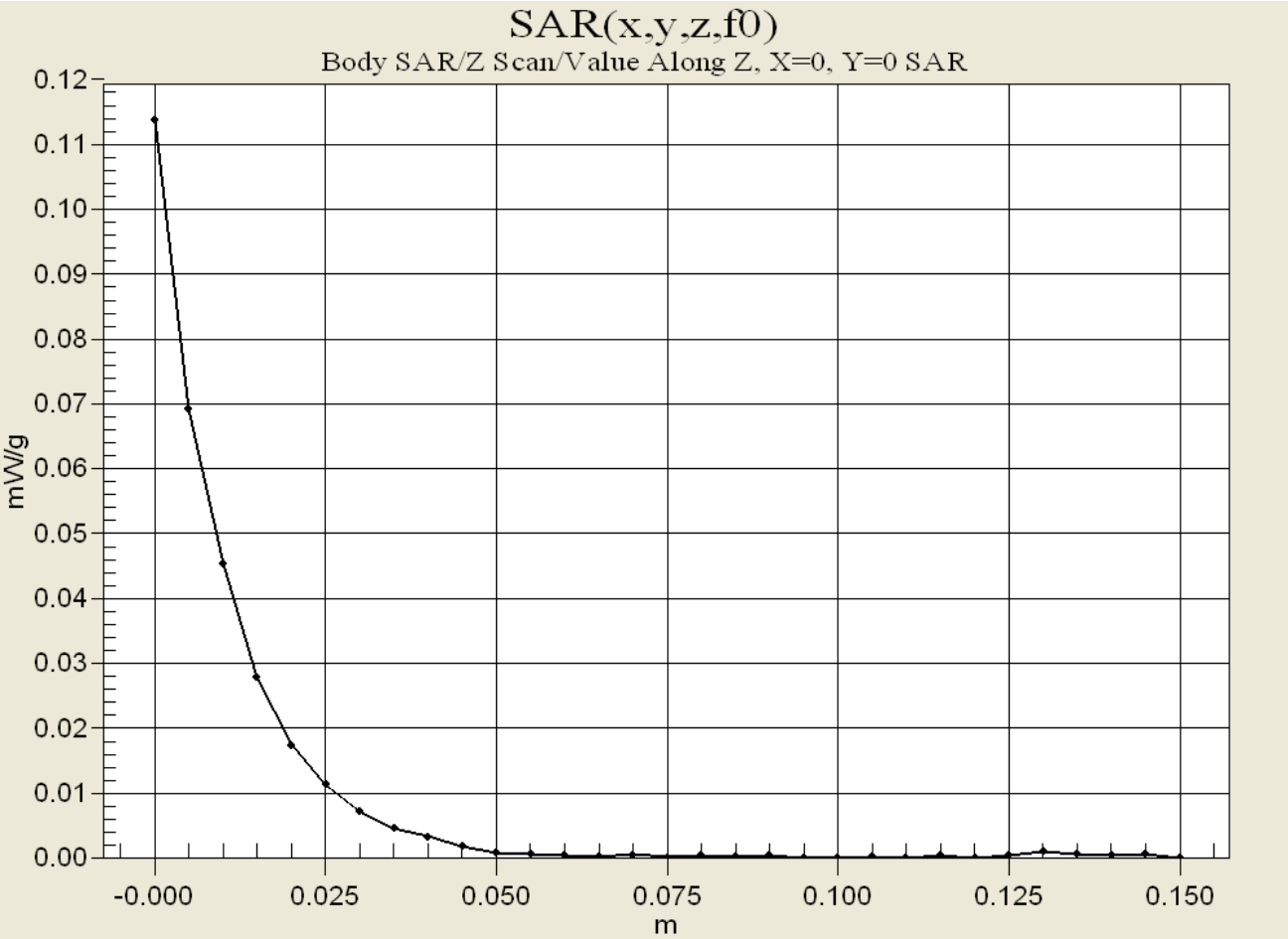
Communication System: PCS CDMA
Frequency: 1880.00 MHz; Channel 600; Duty Cycle: 1:1
RF Output Power: 22.1 dBm (Conducted)
Medium: M1880 (σ = 1.52 mho/m, ε_r = 51.5, ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(4.9, 4.9, 4.9); Calibrated: 26/02/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 19/05/2003
- Phantom: SAM front; Type: SAM 4.0; Serial: 1033
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Area Scan (6x10x1):
Measurement grid: dx=15mm, dy=15mm

Body-Worn - Back Side of DUT - 2.3 cm Belt-Clip Separation Distance - Mid Channel/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 0.195 W/kg
SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.0799 mW/g
Reference Value = 10.1 V/m




SAR(x,y,z,f0)
Body SAR/Z Scan/Value Along Z, X=0, Y=0 SAR
mW/g
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.000
0.025
0.050
0.075
0.100
0.125
0.150
m