APPENDIX A - SAR MEASUREMENT PLOTS

Face SAR Plot #1 (F1)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Ext. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) – 406.1 MHz

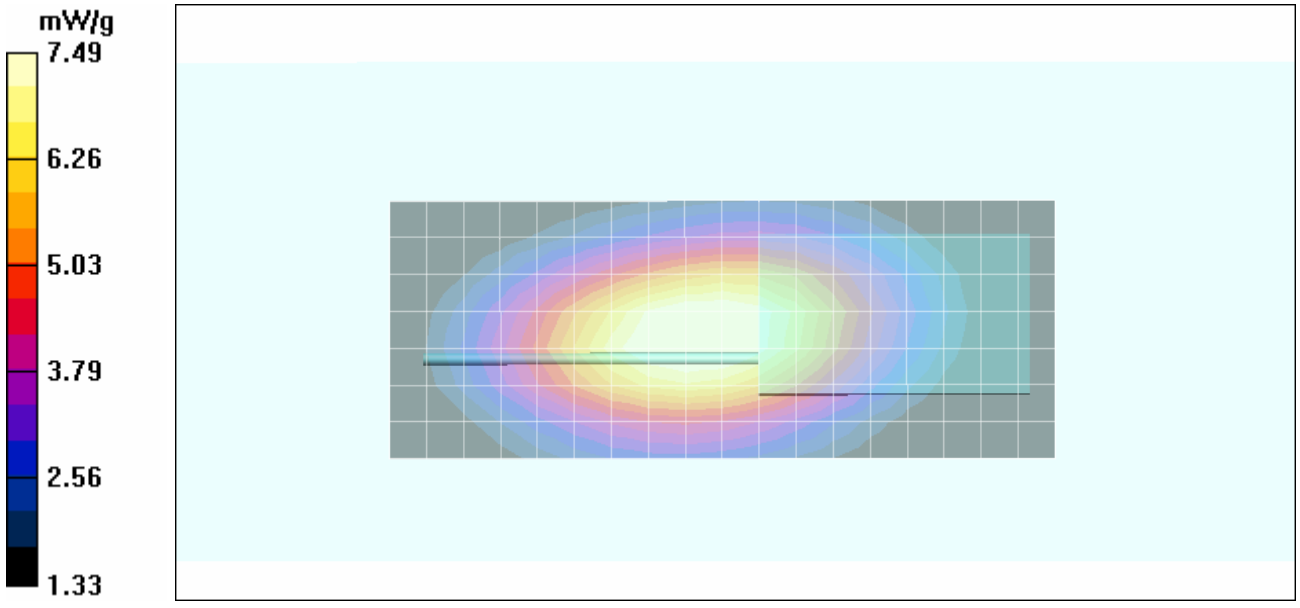
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF-L PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.96 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 95.9 V/m; Power Drift = -0.296 dB
Peak SAR (extrapolated) = 9.82 W/kg
SAR(1 g) = 7.21 mW/g; SAR(10 g) = 5.38 mW/g
Maximum value of SAR (measured) = 7.49 mW/g



Face SAR Plot #2 (F2)

Date Tested: 09/10/2010

Face-held SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

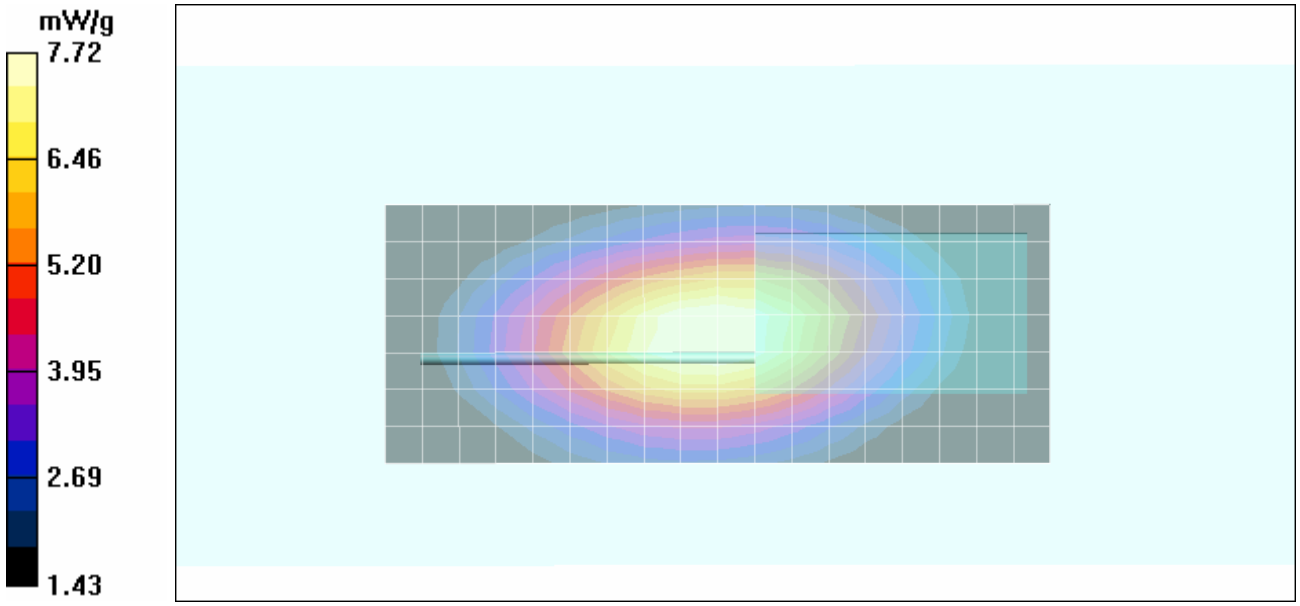
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.91 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.0 V/m; Power Drift = -0.189 dB
Peak SAR (extrapolated) = 9.96 W/kg
SAR(1 g) = 7.36 mW/g; SAR(10 g) = 5.51 mW/g
Maximum value of SAR (measured) = 7.72 mW/g



Face SAR Plot #3 (F3)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Ext. Battery FNB-V113LI (b) - Whip Antenna ATU-16C (B) - 440.0 MHz

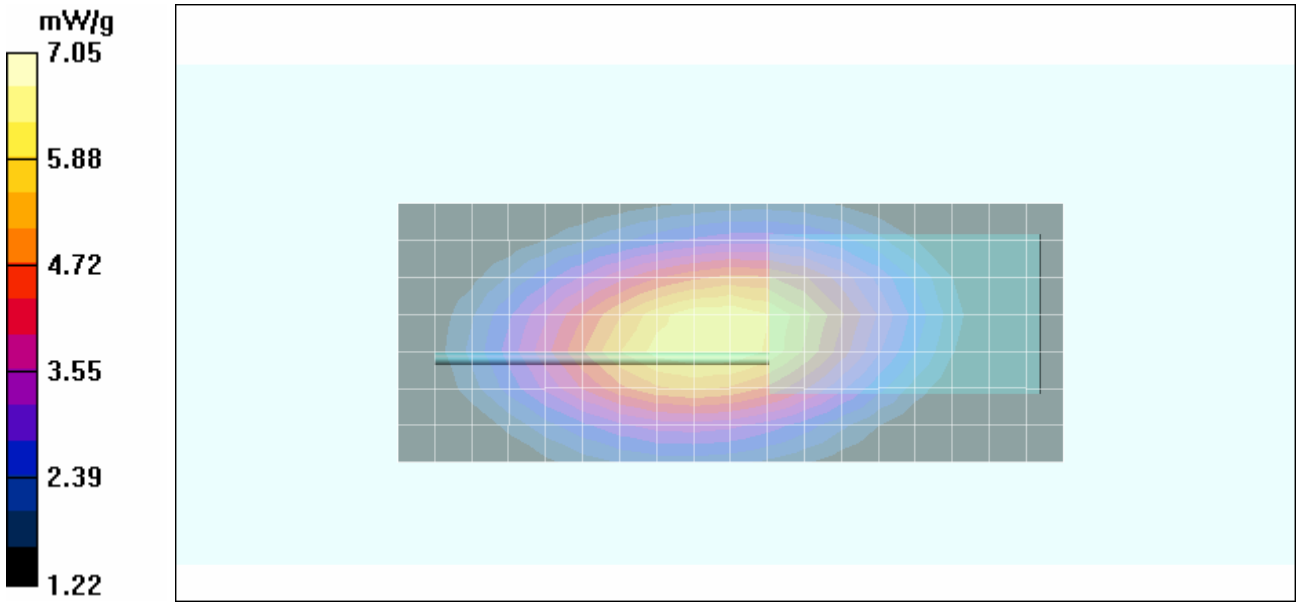
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.85 mho/m; ε_r = 44.8; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.28 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.6 V/m; Power Drift = -0.070 dB
Peak SAR (extrapolated) = 9.12 W/kg
SAR(1 g) = 6.74 mW/g; SAR(10 g) = 5.04 mW/g
Maximum value of SAR (measured) = 7.05 mW/g



Face SAR Plot #4 (F4)

Date Tested: 12/02/2010

Face-held SAR - 2400mAh Ext. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) - 470.0 MHz

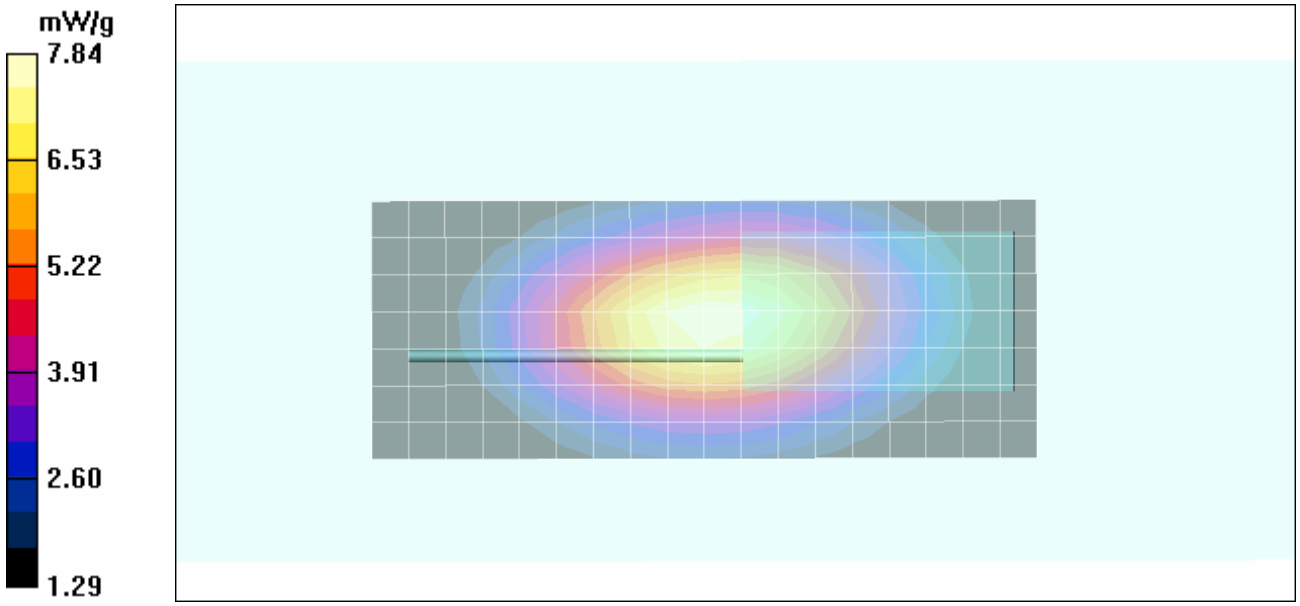
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 22.8°C; Fluid Temp: 22.4°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

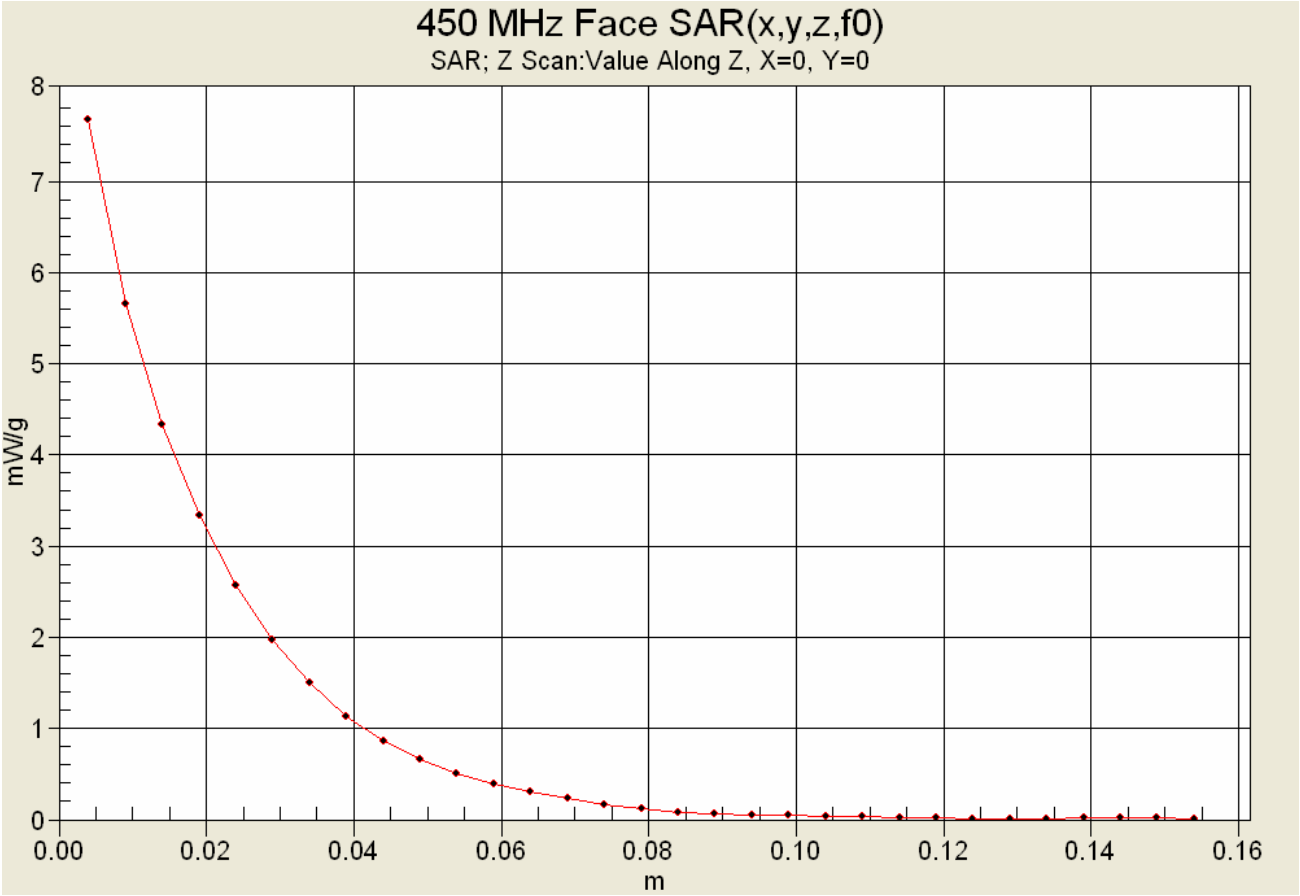
Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.85 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.81 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 99.3 V/m; Power Drift = -0.211 dB
Peak SAR (extrapolated) = 10.4 W/kg
SAR(1 g) = 7.49 mW/g; SAR(10 g) = 5.55 mW/g
Maximum value of SAR (measured) = 7.84 mW/g



Z-Axis Scan



Face SAR Plot #5 (F5)

Date Tested: 12/18/2010

Face-held SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 450.0 MHz

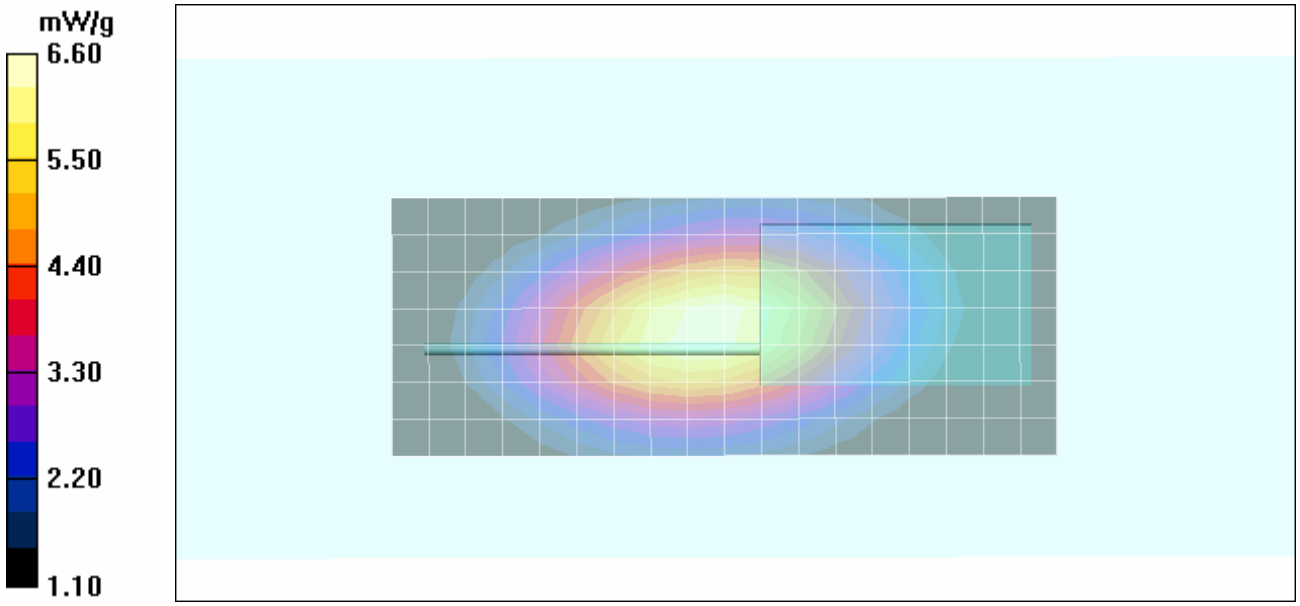
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 23.5°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.85 mho/m; ε_r = 44; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.45 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.7 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 8.58 W/kg
SAR(1 g) = 6.32 mW/g; SAR(10 g) = 4.72 mW/g
Maximum value of SAR (measured) = 6.60 mW/g



Face SAR Plot #6 (F6)

Date Tested: 12/02/2010

Face-held SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

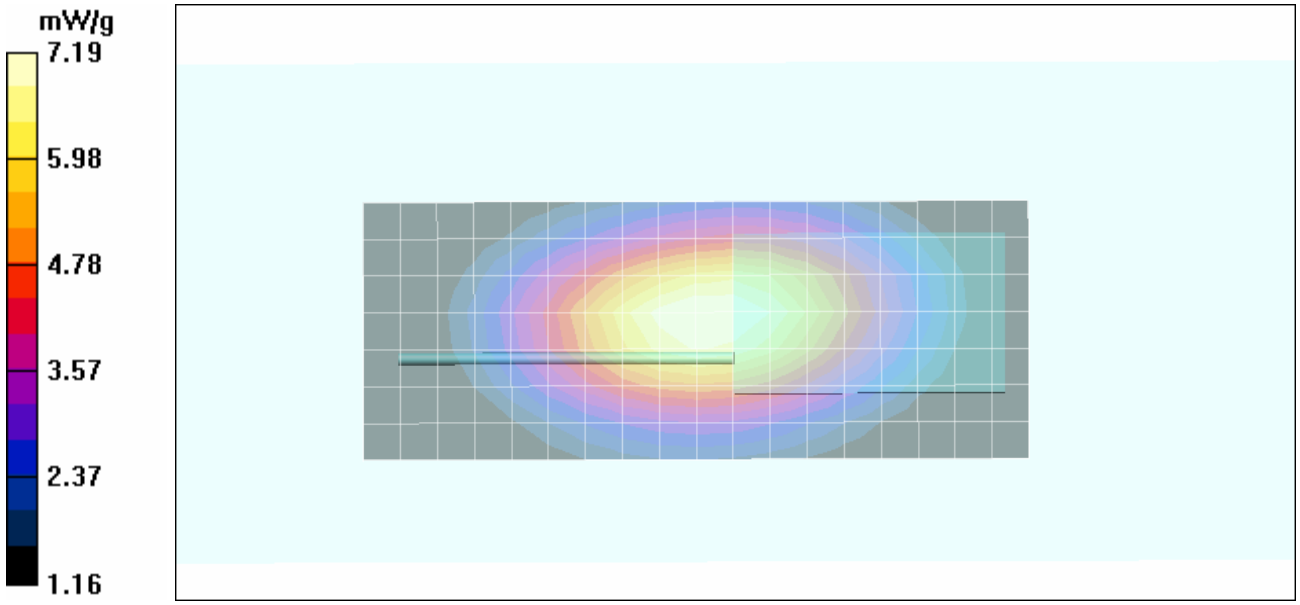
DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

Ambient Temp: 22.8°C; Fluid Temp: 22.4°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.85 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.88 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.0 V/m; Power Drift = -0.369 dB
Peak SAR (extrapolated) = 9.52 W/kg
SAR(1 g) = 6.88 mW/g; SAR(10 g) = 5.09 mW/g
Maximum value of SAR (measured) = 7.19 mW/g



Face SAR Plot #7 (F7)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) – 406.1 MHz

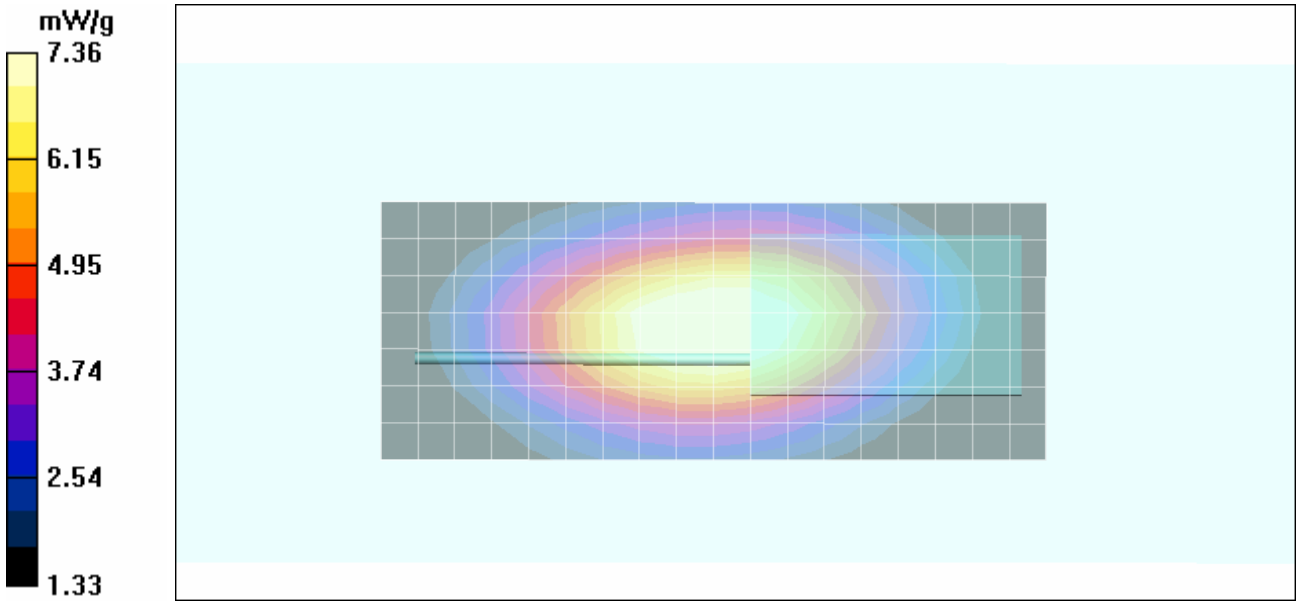
DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.06 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.6 V/m; Power Drift = -0.426 dB
Peak SAR (extrapolated) = 9.57 W/kg
SAR(1 g) =7.04 mW/g; SAR(10 g) = 5.28 mW/g
Maximum value of SAR (measured) = 7.36 mW/g



Face SAR Plot #8 (F8)

Date Tested: 12/10/2010

Face-held SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

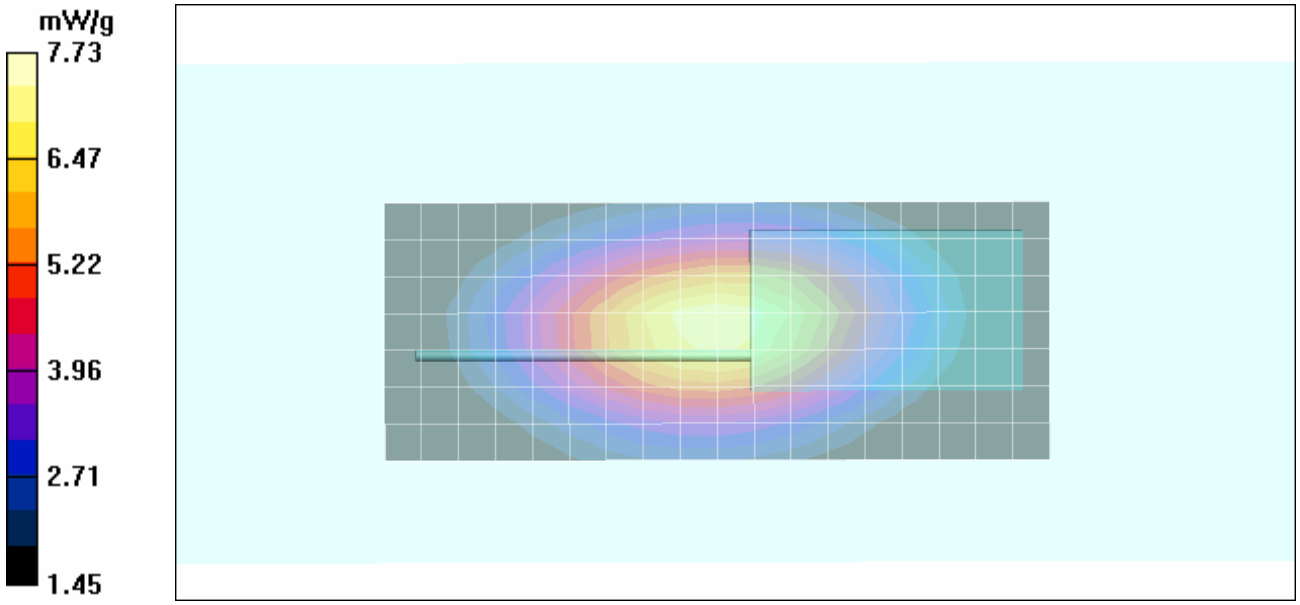
DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.29 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 98.7 V/m; Power Drift = -0.496 dB
Peak SAR (extrapolated) = 10.0 W/kg
SAR(1 g) =7.4 mW/g; SAR(10 g) = 5.58 mW/g
Maximum value of SAR (measured) = 7.73 mW/g



Face SAR Plot #9 (F9)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16C (B) - 440.0 MHz

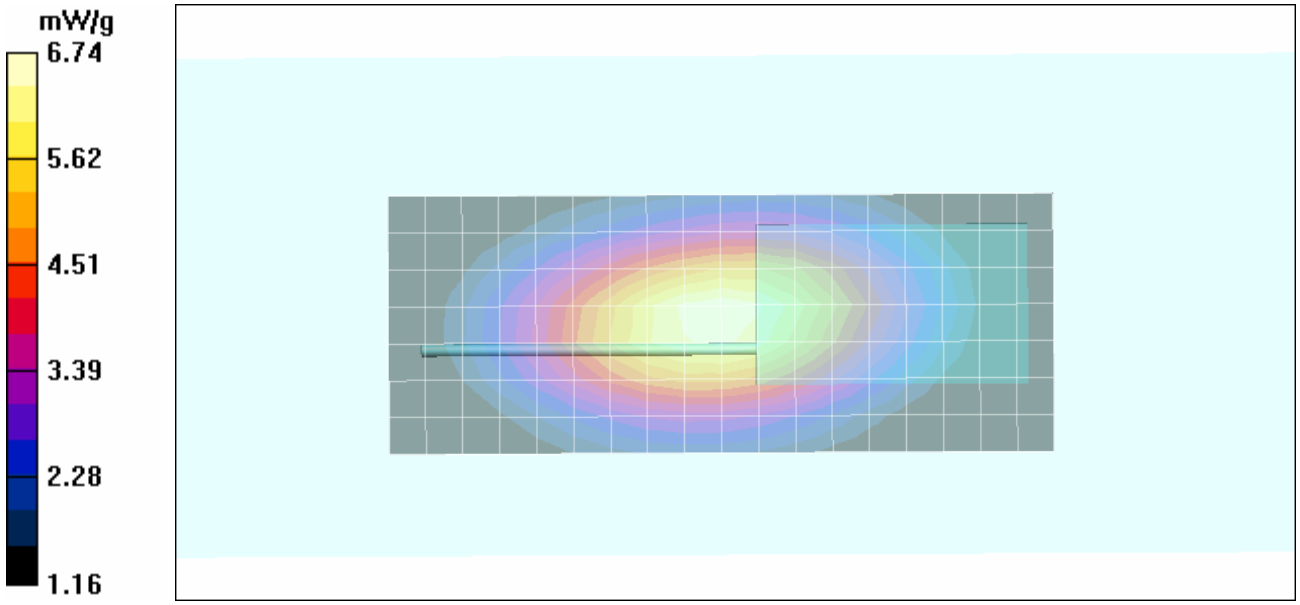
DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.85 mho/m; ε_r = 44.8; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.67 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.5 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 8.76 W/kg
SAR(1 g) =6.46 mW/g; SAR(10 g) = 4.83 mW/g
Maximum value of SAR (measured) = 6.74 mW/g



Face SAR Plot #10 (F10)

Date Tested: 12/02/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) - 470.0 MHz

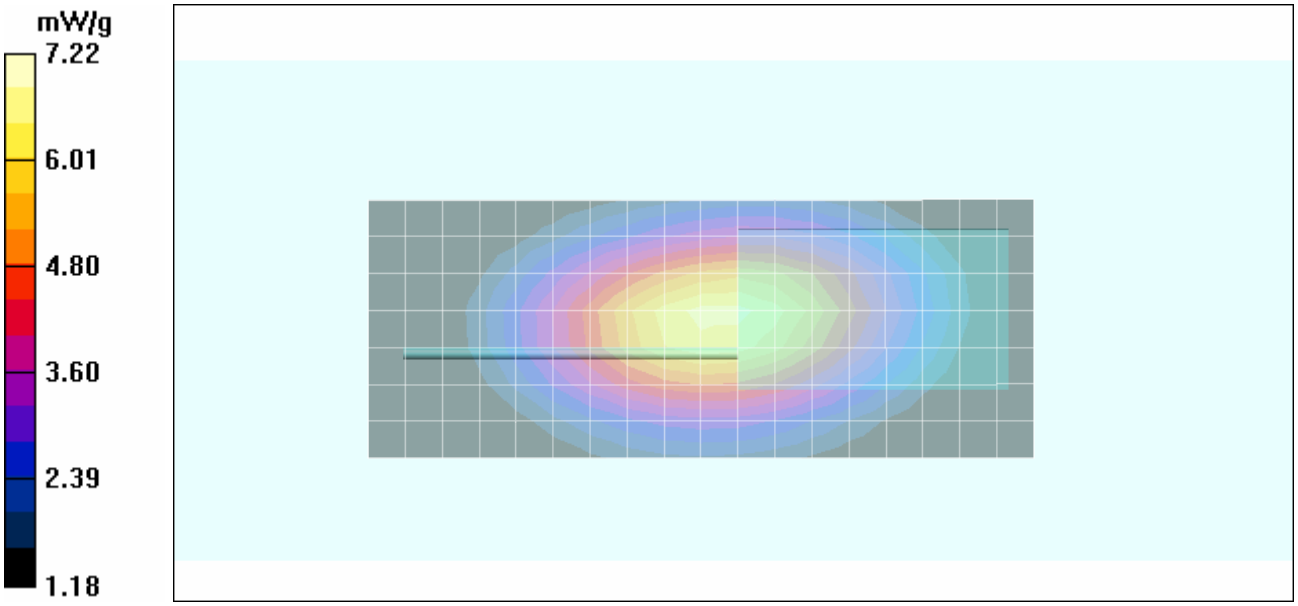
DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Ambient Temp: 22.8°C; Fluid Temp: 22.4°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.85 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.57 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 95.1 V/m; Power Drift = -0.181 dB
Peak SAR (extrapolated) = 9.58 W/kg
SAR(1 g) =6.93 mW/g; SAR(10 g) = 5.13 mW/g
Maximum value of SAR (measured) = 7.22 mW/g



Face SAR Plot #11 (F11)

Date Tested: 12/18/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) - 450.0 MHz

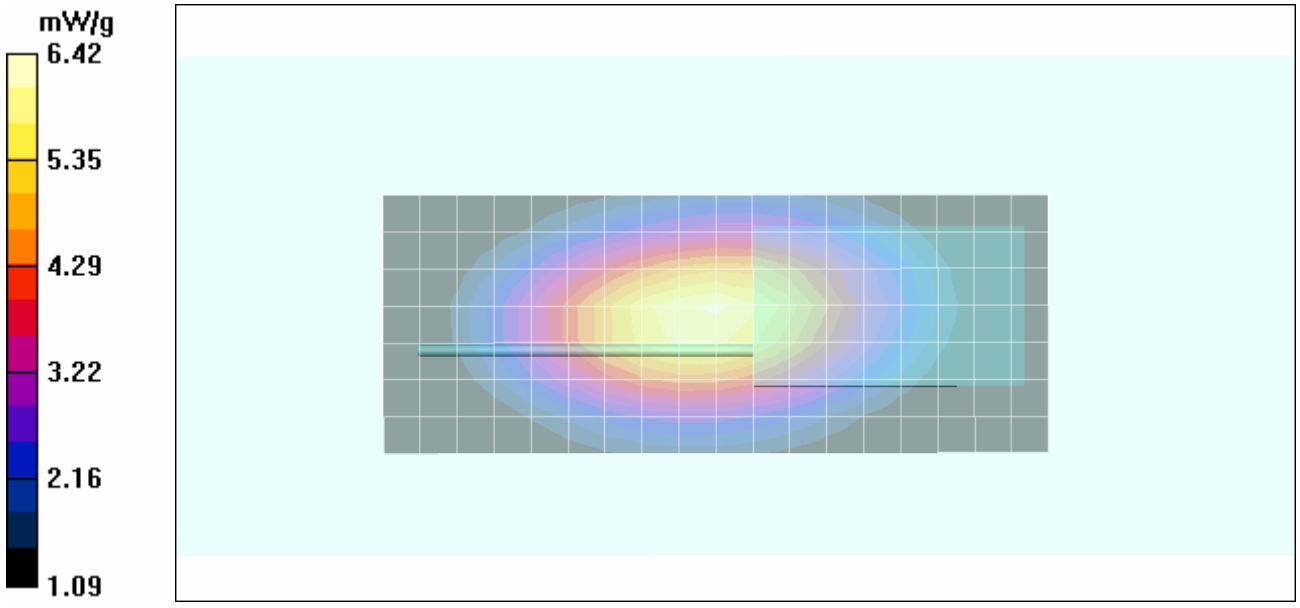
DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Ambient Temp: 23.5°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.85 mho/m; ε_r = 44; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.16 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.8 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 8.40 W/kg
SAR(1 g) =6.15 mW/g; SAR(10 g) = 4.59 mW/g
Maximum value of SAR (measured) = 6.42 mW/g



Face SAR Plot #12 (F12)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) – 406.1 MHz

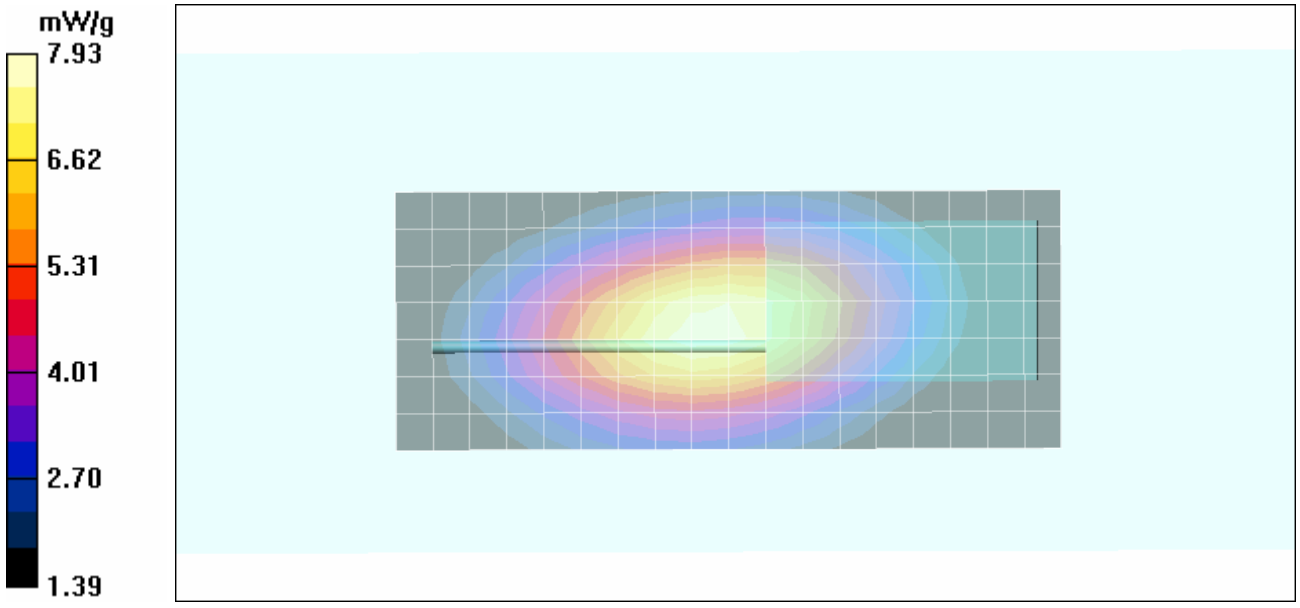
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

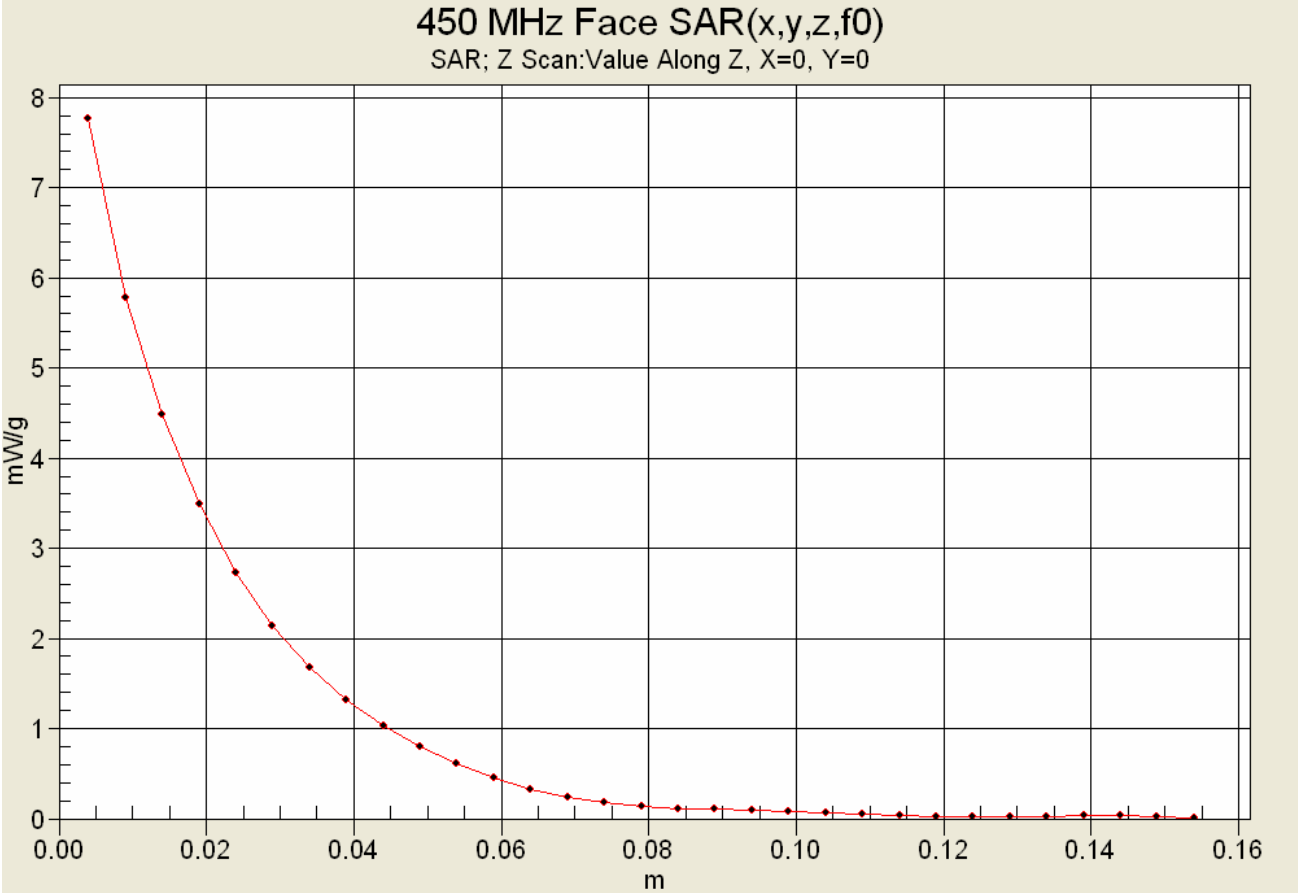
Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.78 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 99.0 V/m; Power Drift = -0.330 dB
Peak SAR (extrapolated) = 10.4 W/kg
SAR(1 g) =7.61 mW/g; SAR(10 g) = 5.68 mW/g
Maximum value of SAR (measured) = 7.93 mW/g



Z-Axis Scan



Face SAR Plot #13 (F13)

Date Tested: 12/18/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) - 420.0 MHz

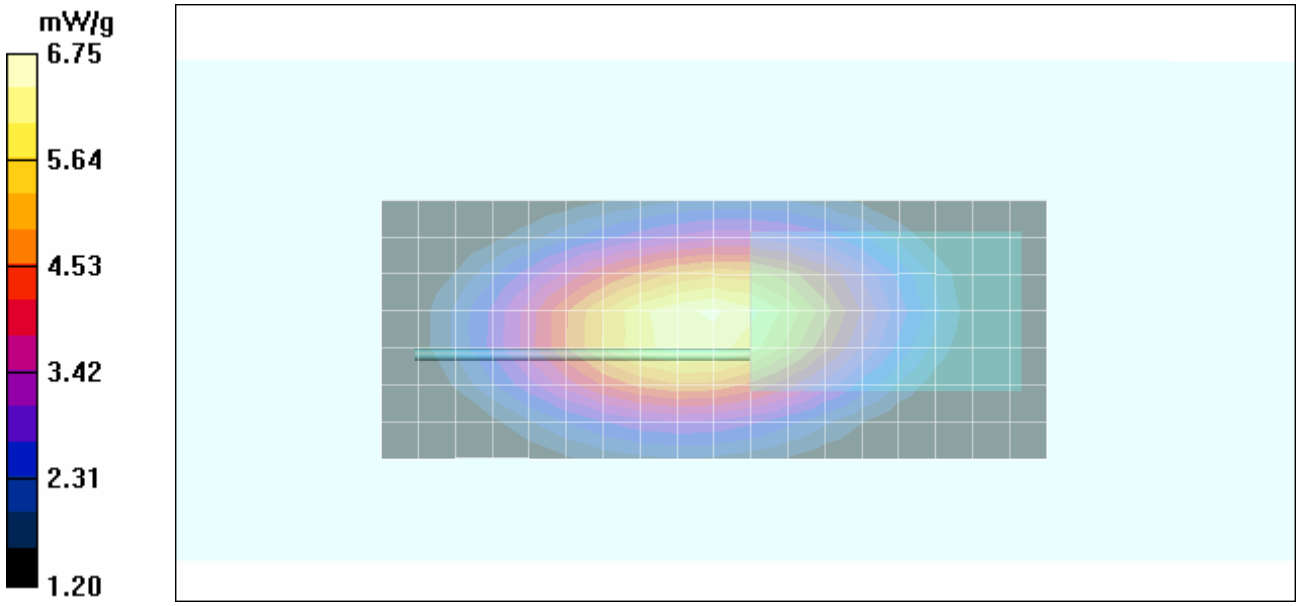
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 23.5°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 420 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 420 MHz; σ = 0.84 mho/m; ε_r = 44.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.47 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.4 V/m; Power Drift = -0.278 dB
Peak SAR (extrapolated) = 8.70 W/kg
SAR(1 g) =6.45 mW/g; SAR(10 g) = 4.85 mW/g
Maximum value of SAR (measured) = 6.75 mW/g



Face SAR Plot #14 (F14)

Date Tested: 12/10/2010

Face-held SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

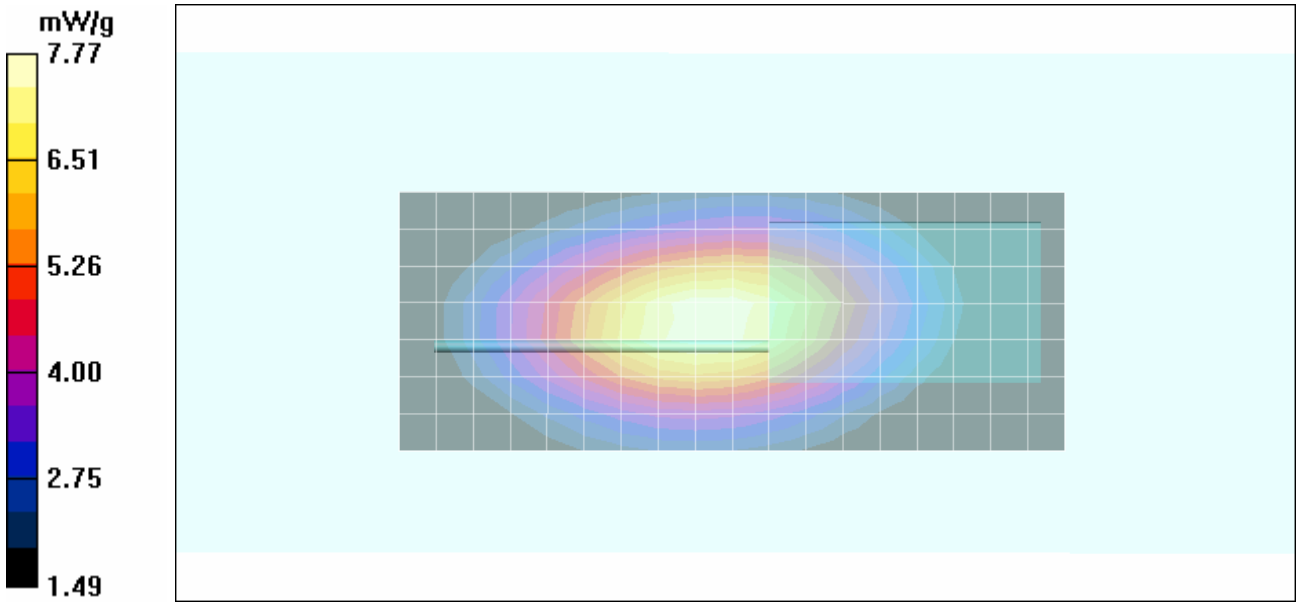
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.83 mho/m; ε_r = 45; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.65 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.7 V/m; Power Drift = -0.394 dB
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) =7.45 mW/g; SAR(10 g) = 5.62 mW/g
Maximum value of SAR (measured) = 7.77 mW/g



Face SAR Plot #15 (F15)

Date Tested: 12/10/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16C (B) - 440.0 MHz

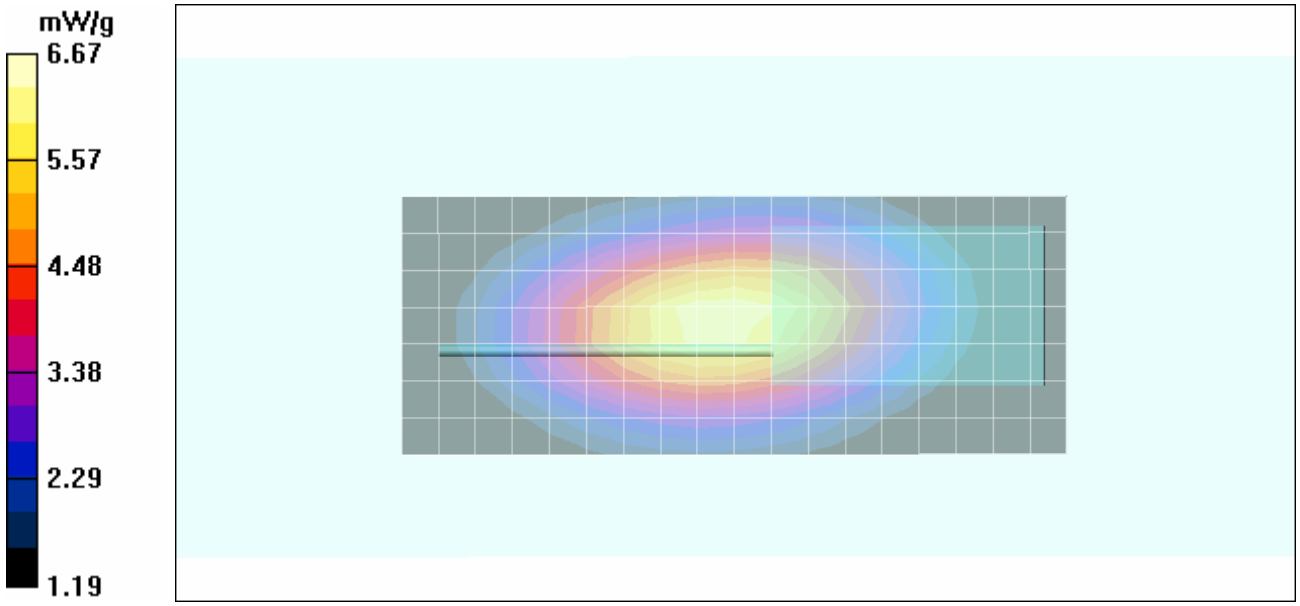
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 23.4°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 40

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.85 mho/m; ε_r = 44.8; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 6.23 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.3 V/m; Power Drift = -0.134 dB
Peak SAR (extrapolated) = 8.63 W/kg
SAR(1 g) =6.4 mW/g; SAR(10 g) = 4.81 mW/g
Maximum value of SAR (measured) = 6.67mW/g



Face SAR Plot #16 (F16)

Date Tested: 12/02/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) - 470.0 MHz

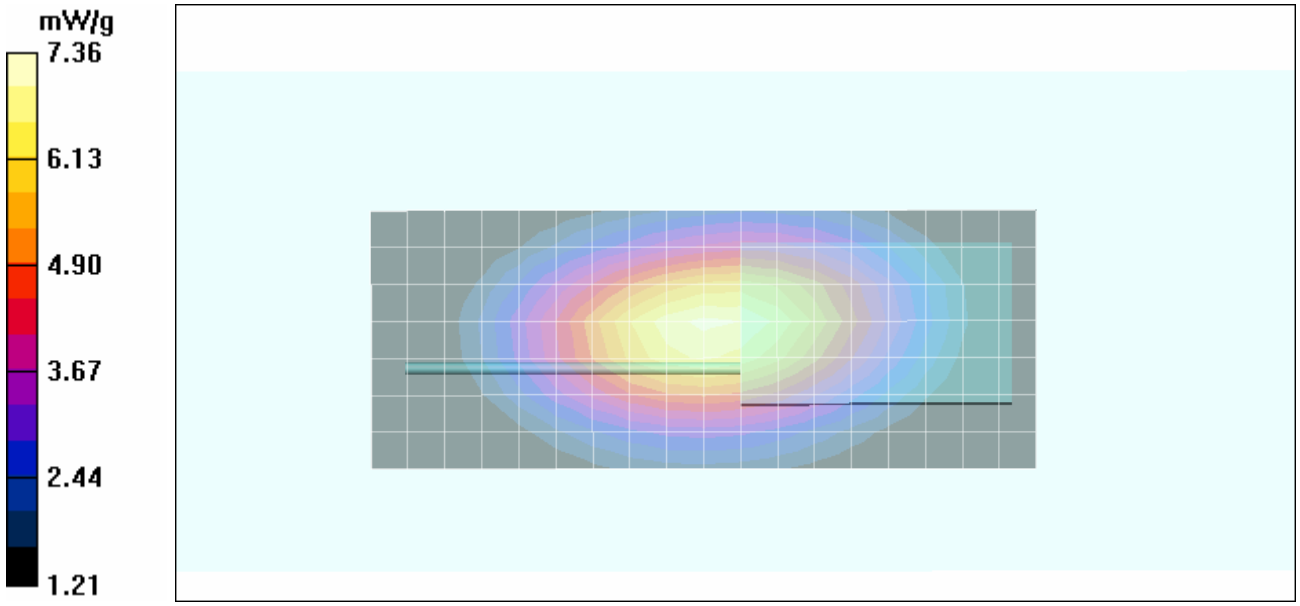
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 22.8°C; Fluid Temp: 22.4°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.85 mho/m; ε_r = 44.4; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.08 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.1 V/m; Power Drift = -0.191 dB
Peak SAR (extrapolated) = 9.75 W/kg
SAR(1 g) = 7.05 mW/g; SAR(10 g) = 5.22 mW/g
Maximum value of SAR (measured) = 7.36 mW/g



Face SAR Plot #17 (F17)

Date Tested: 12/18/2010

Face-held SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) – 450.0 MHz

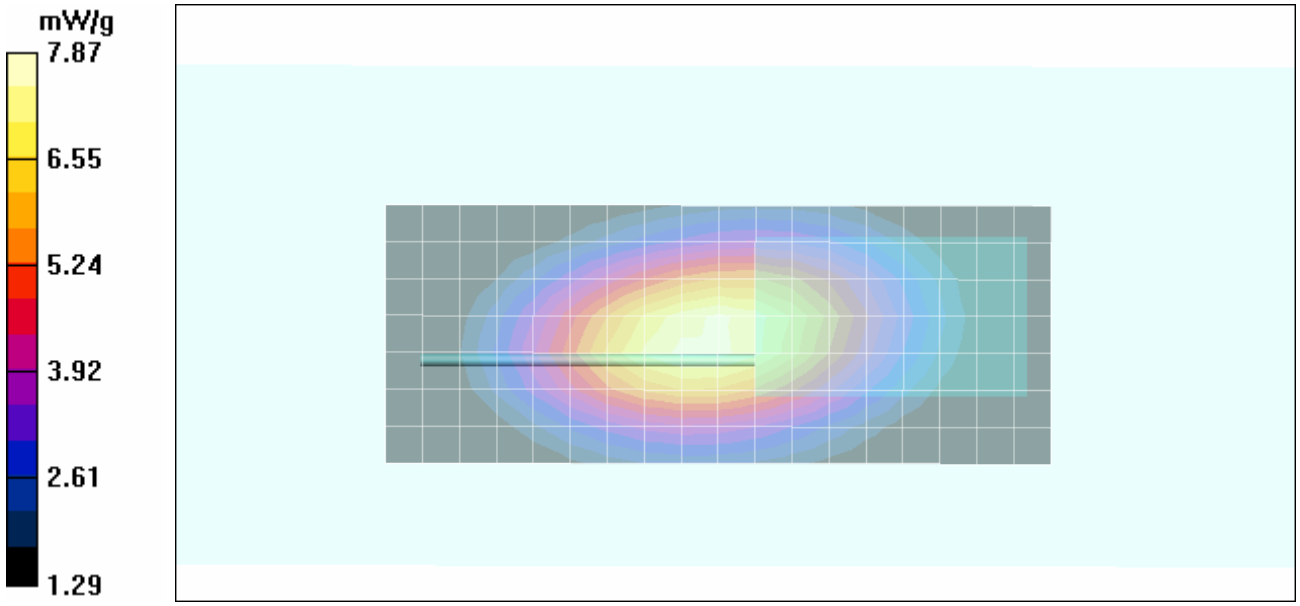
DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

Ambient Temp: 23.5°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

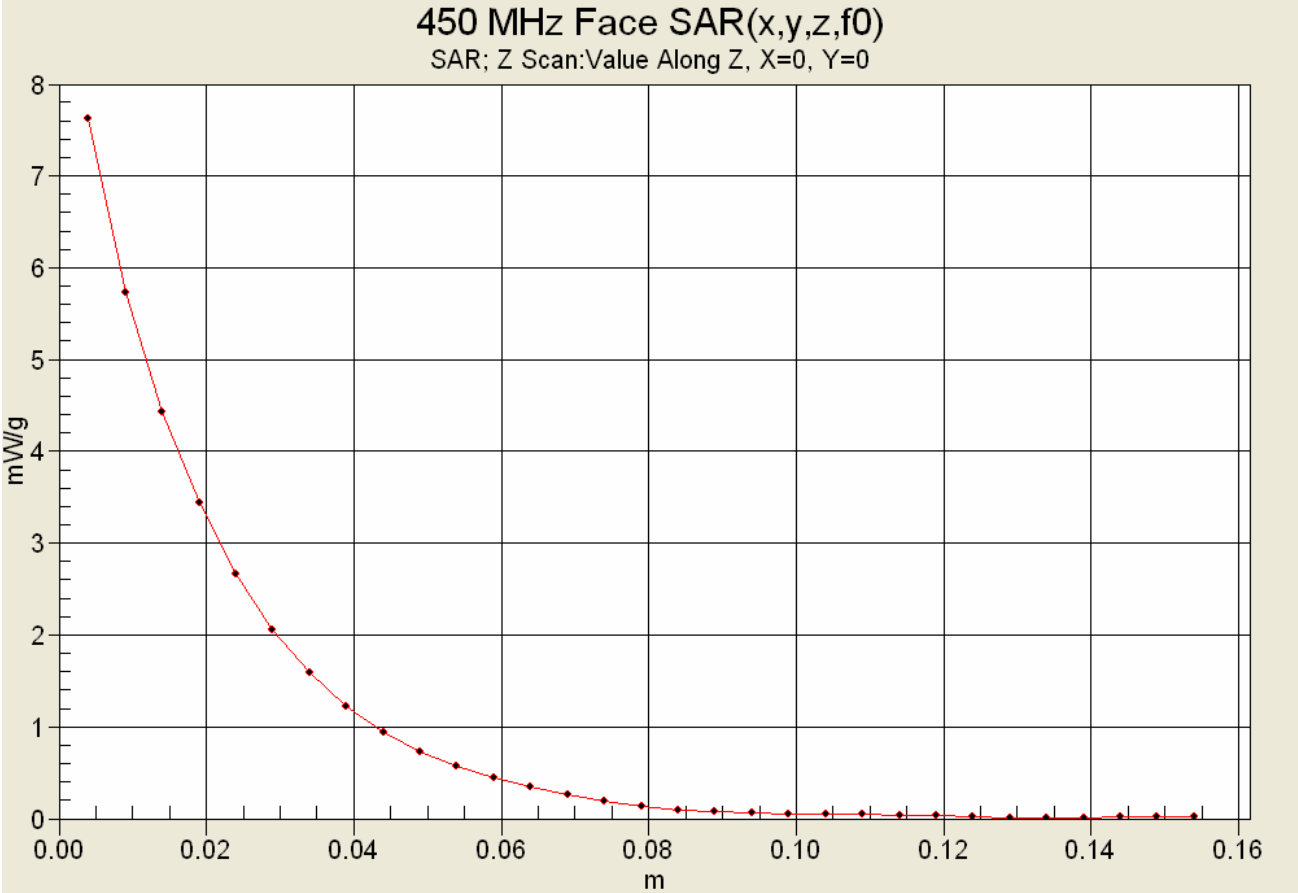
Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.85 mho/m; ε_r = 44; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.25, 7.25, 7.25); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom
Area Scan (8x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.60 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.1 V/m; Power Drift = -0.218 dB
Peak SAR (extrapolated) = 10.2 W/kg
SAR(1 g) = 7.53 mW/g; SAR(10 g) = 5.64 mW/g
Maximum value of SAR (measured) = 7.87 mW/g



Z-Axis Scan


450 MHz Face SAR(x,y,z,f0)
SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
m
0
1
2
3
4
5
6
7
8
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16

Body SAR Plot #1 (B1)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) - 406.1 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

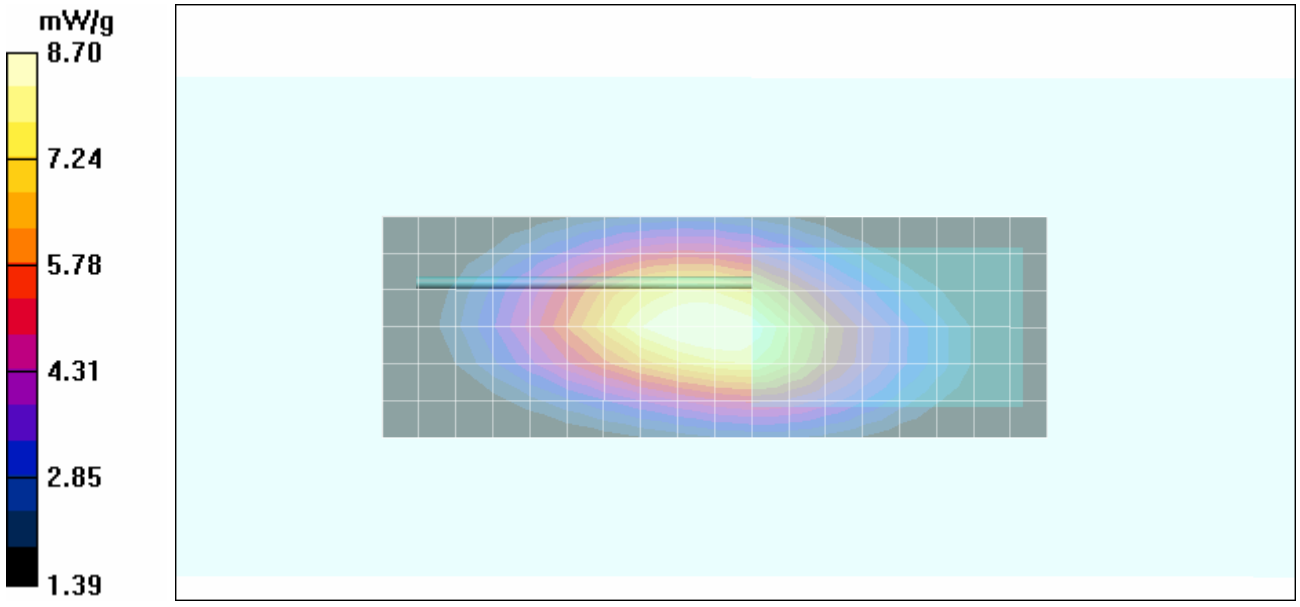
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.90mho/m; ε_r = 58.5; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.16 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.5 V/m; Power Drift = -0.221 dB
Peak SAR (extrapolated) = 11.8 W/kg
SAR(1 g) =8.35 mW/g; SAR(10 g) = 6.05 mW/g
Maximum value of SAR (measured) = 8.70 mW/g



Body SAR Plot #2 (B2)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) - 420.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

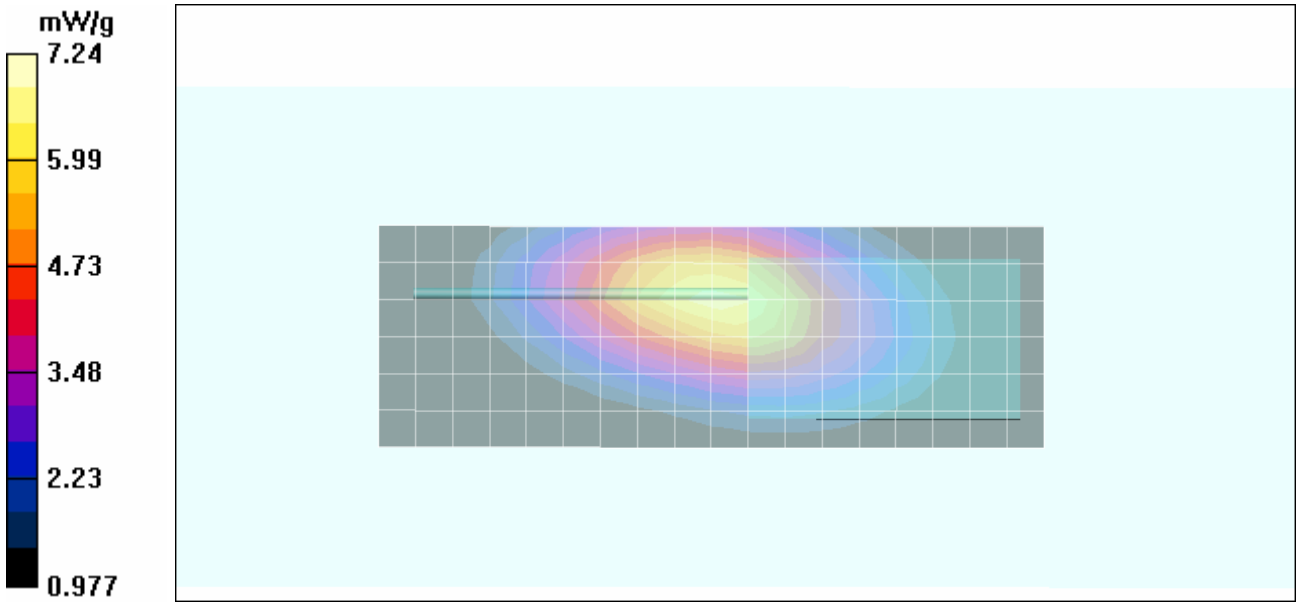
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 420 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 420 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 6.67 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.3 V/m; Power Drift = -0.281 dB
Peak SAR (extrapolated) = 9.73 W/kg
SAR(1 g) =6.91 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 7.24 mW/g



Body SAR Plot #3 (B3)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 440.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

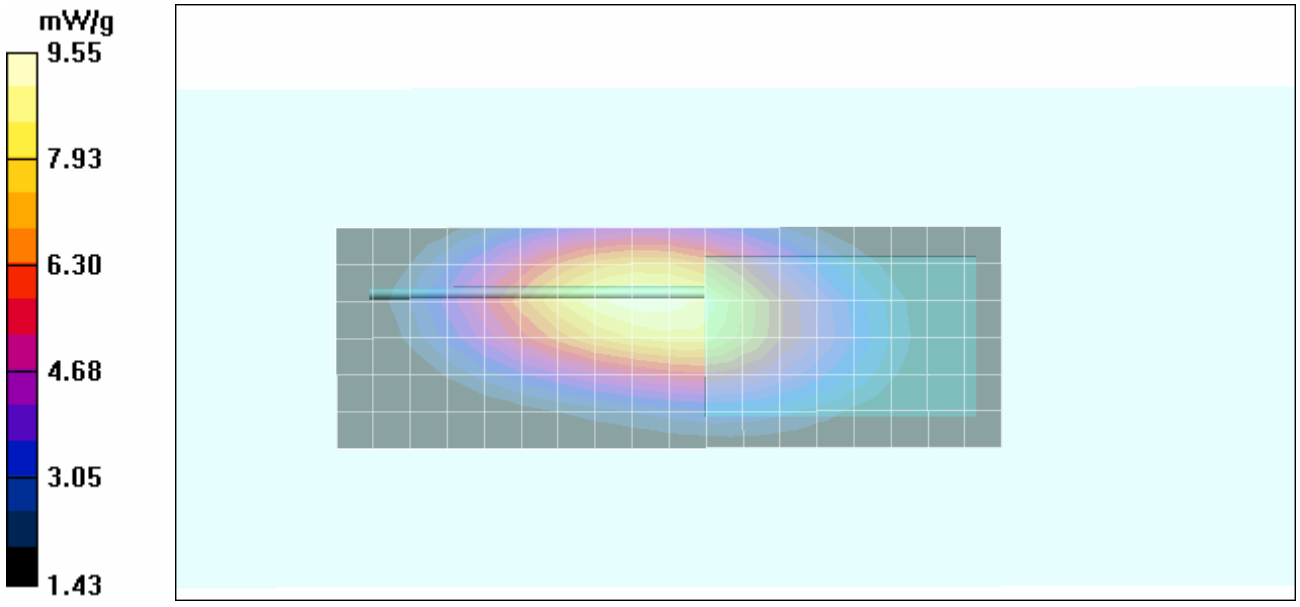
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.93 mho/m; ε_r = 58.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.36 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.6 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 13.0 W/kg
SAR(1 g) = 9.16 mW/g; SAR(10 g) = 6.76 mW/g
Maximum value of SAR (measured) = 9.55 mW/g



Body SAR Plot #4 (B4)

Date Tested: 12/17/2010

Body-worn SAR - 1700mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 430.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

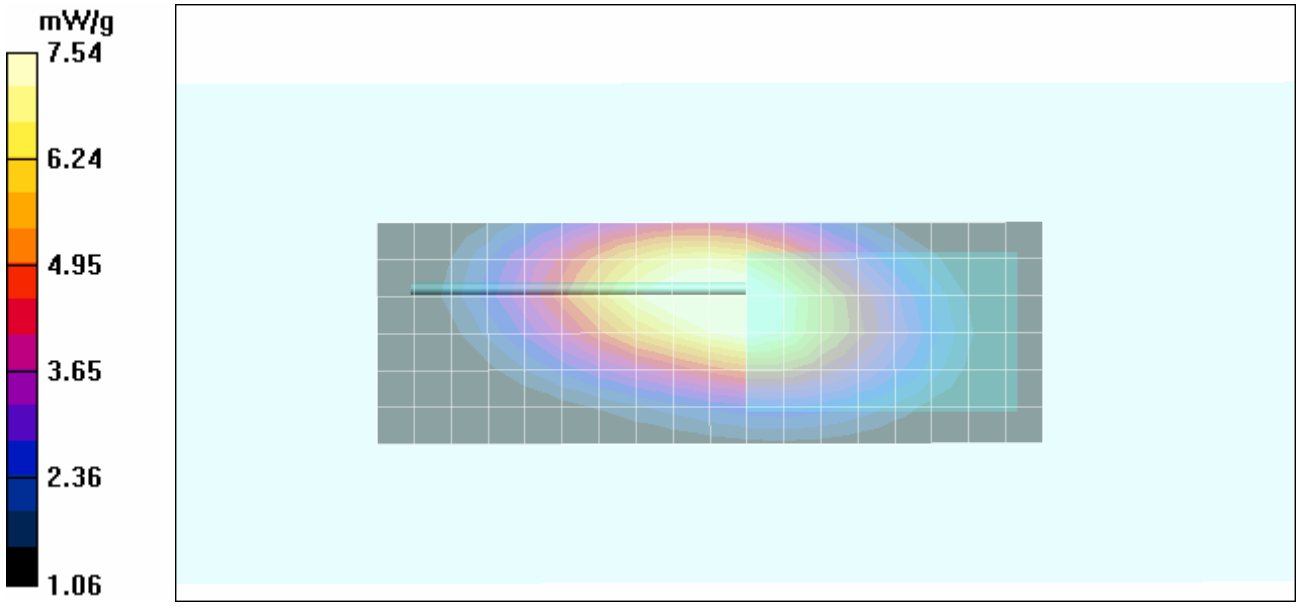
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 430 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 430 MHz; σ = 0.92 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.27 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.6 V/m; Power Drift = -0.230 dB
Peak SAR (extrapolated) = 13.0 W/kg
SAR(1 g) = 7.2 mW/g; SAR(10 g) = 5.29 mW/g
Maximum value of SAR (measured) = 7.54 mW/g



Body SAR Plot #5 (B5)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 450.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

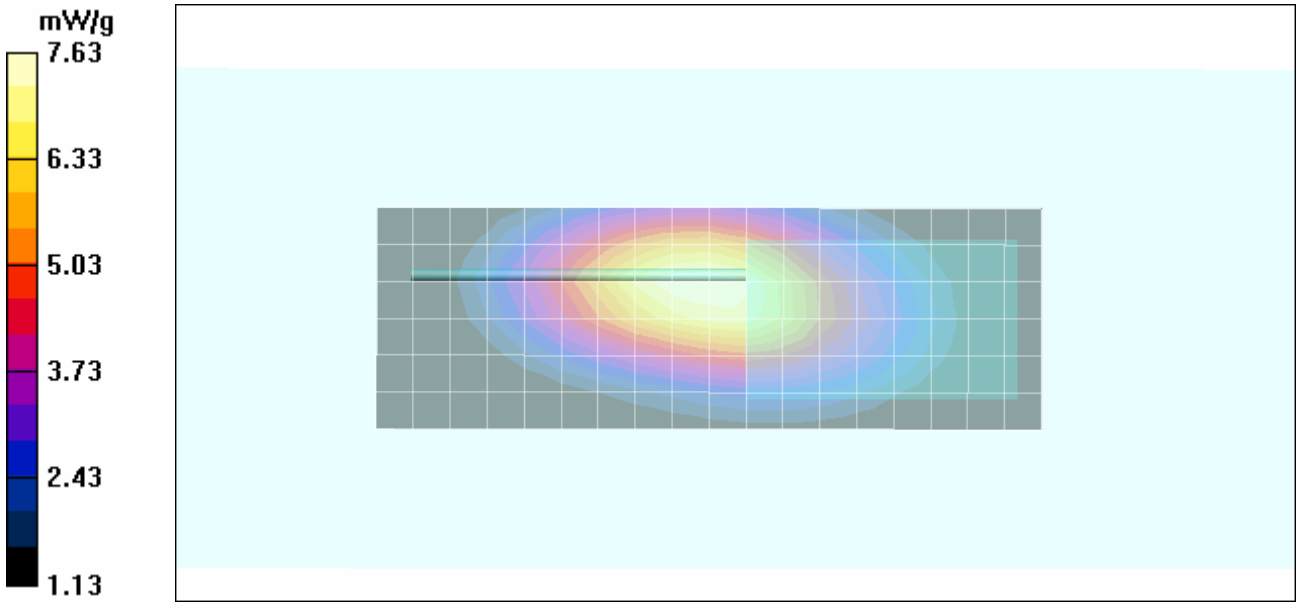
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.91 mho/m; ε_r = 57.2; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 7.67 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.6 V/m; Power Drift = -0.114 dB
Peak SAR (extrapolated) = 10.4 W/kg
SAR(1 g) 7.29 mW/g; SAR(10 g) = 5.34 mW/g
Maximum value of SAR (measured) = 7.63 mW/g



Body SAR Plot #6 (B6)

Date Tested: 12/02/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

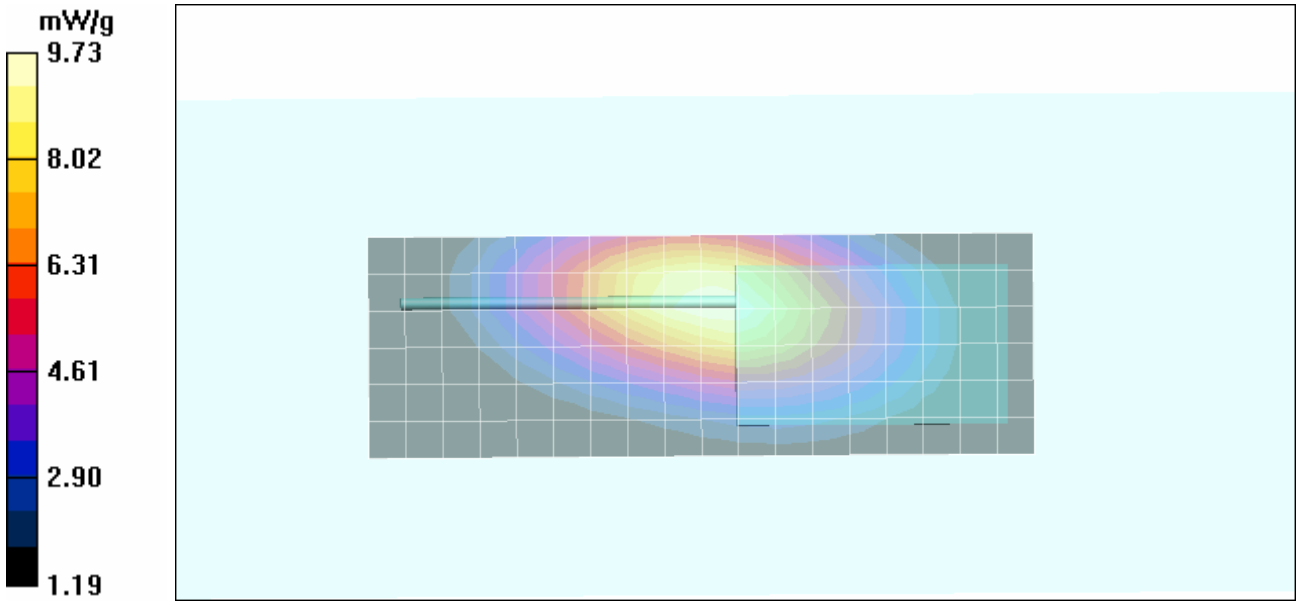
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 22.8°C; Fluid Temp: 22.2°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.71 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.3 V/m; Power Drift = -0.378 dB
Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) 9.25 mW/g; SAR(10 g) = 6.73 mW/g
Maximum value of SAR (measured) = 9.73 mW/g



Body SAR Plot #7 (B7)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 460.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

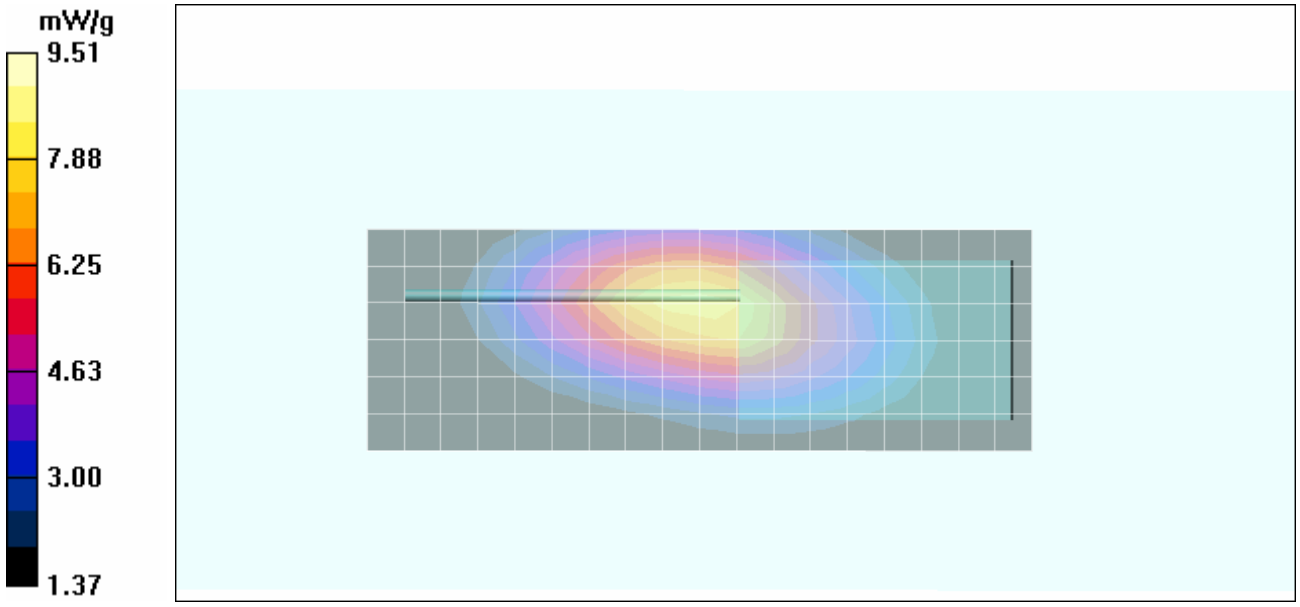
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

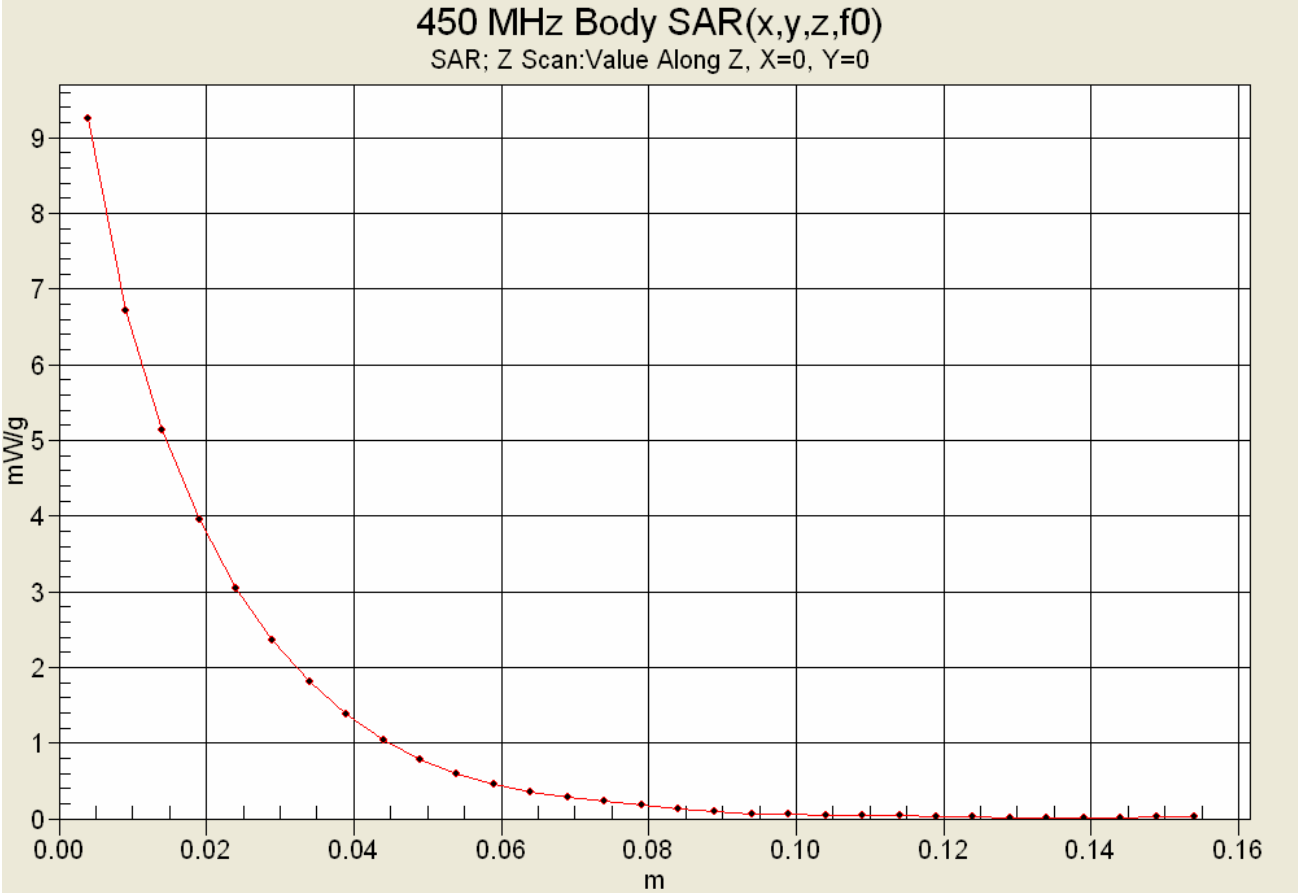
Communication System: CW
Frequency: 460 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 460 MHz; σ = 0.92 mho/m; ε_r = 56.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.28 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.8 V/m; Power Drift = -0.163 dB
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) 9.07 mW/g; SAR(10 g) = 6.63 mW/g
Maximum value of SAR (measured) = 9.51 mW/g



Z-Axis Scan



Body SAR Plot #8 (B8)

Date Tested: 12/02/2010

Body-worn SAR - 2400mAh Std. Battery FNB-V113LI (b) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

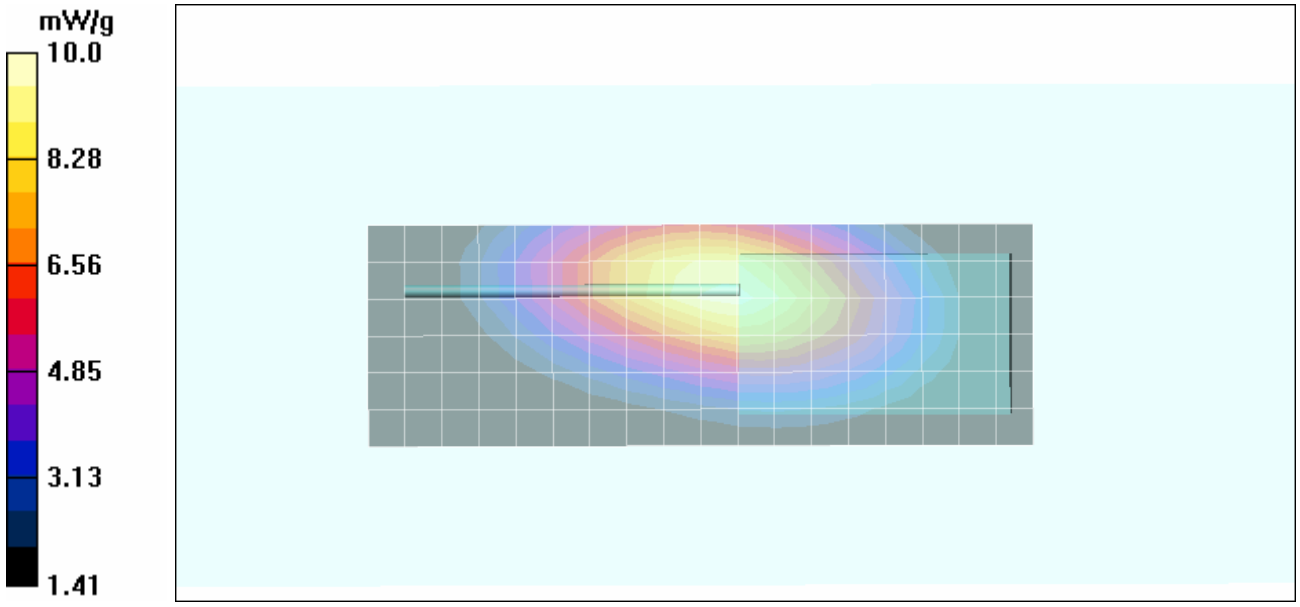
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 22.8°C; Fluid Temp: 22.2°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

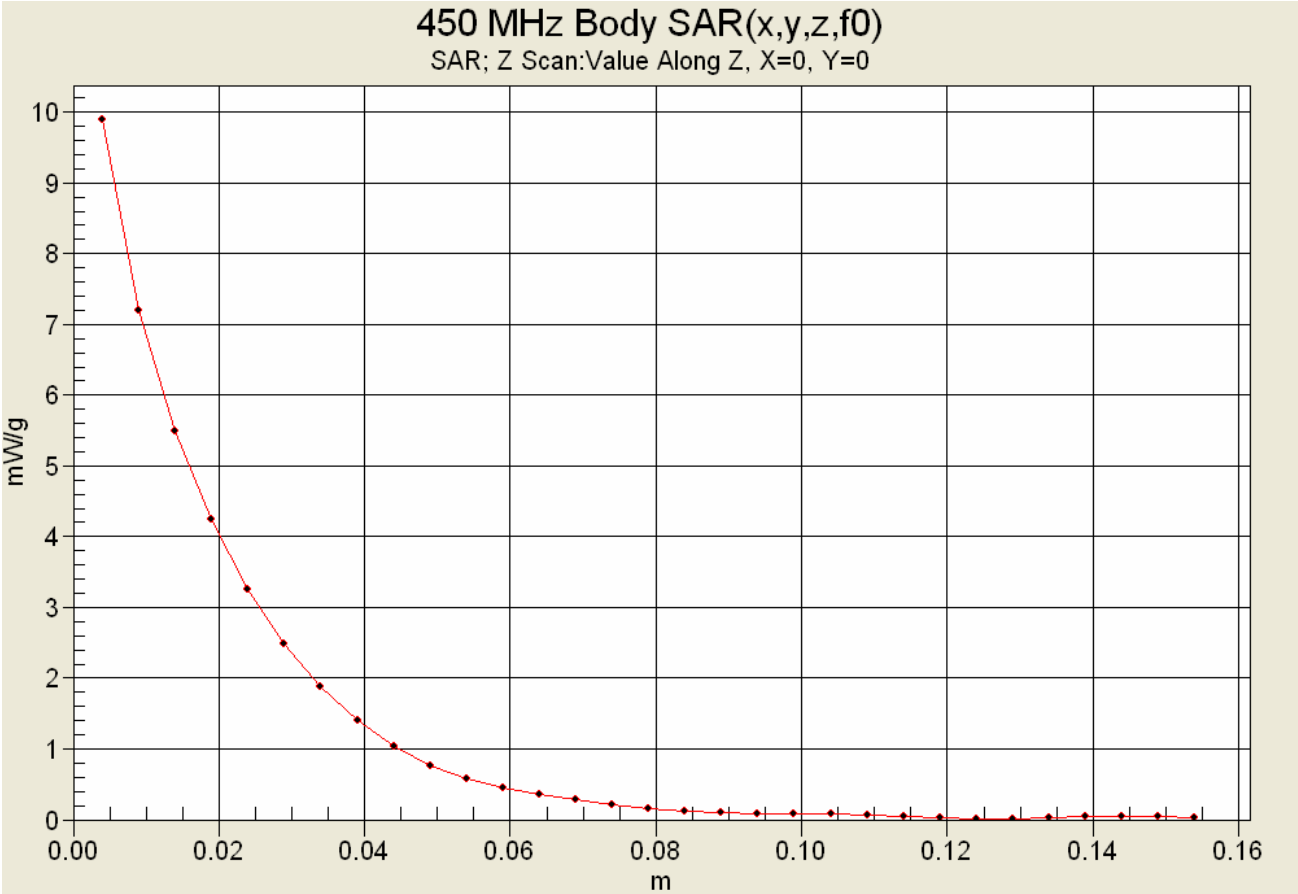
Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR – 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.75 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 94.6 V/m; Power Drift = -0.177 dB
Peak SAR (extrapolated) = 13.6 W/kg
SAR(1 g) 9.61 mW/g; SAR(10 g) = 7.04 mW/g
Maximum value of SAR (measured) = 10.0 mW/g



Z-Axis Scan



Body SAR Plot #9 (B9)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) - 406.1 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

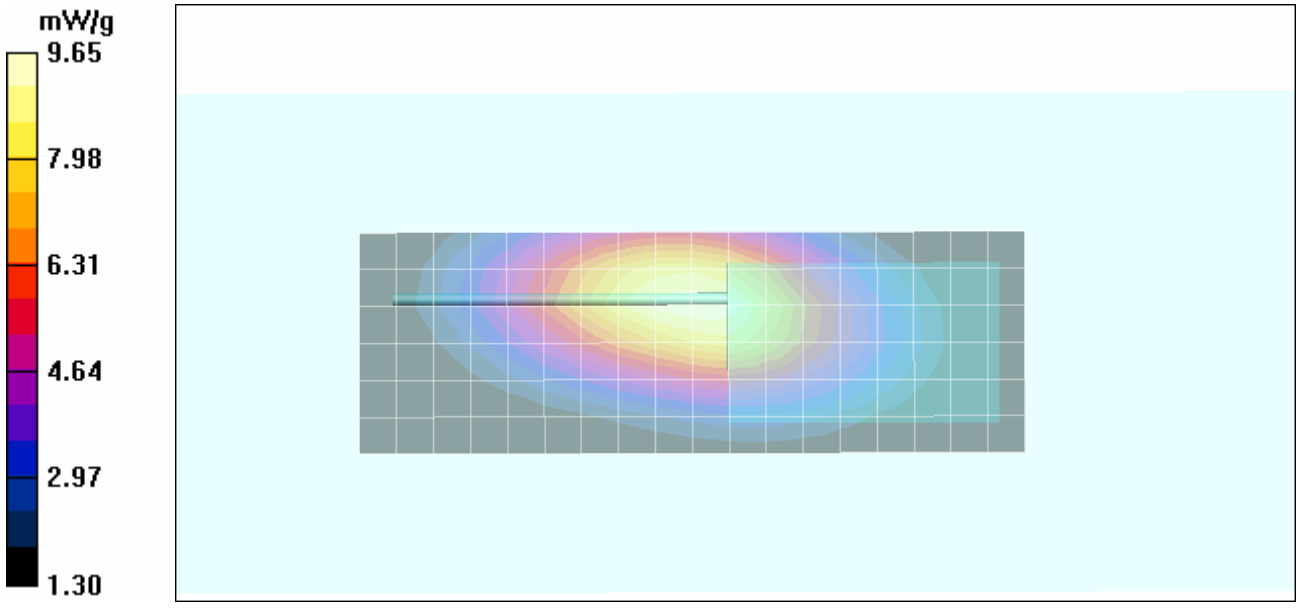
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.90 mho/m; ε_r = 58.5; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.61 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 103.8 V/m; Power Drift = -0.390 dB
Peak SAR (extrapolated) = 13.0 W/kg
SAR(1 g) 9.24 mW/g; SAR(10 g) = 6.82 mW/g
Maximum value of SAR (measured) = 9.65 mW/g



Body SAR Plot #10 (B10)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 420.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

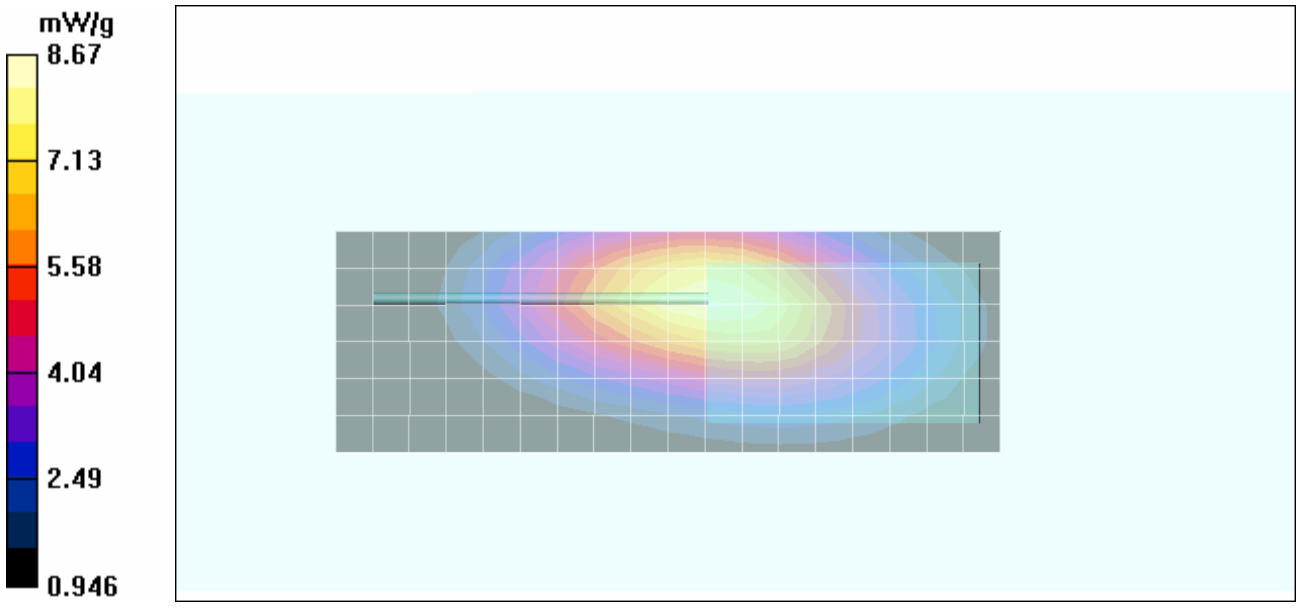
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 420 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 420 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.29 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 93.5 V/m; Power Drift = -0.258 dB
Peak SAR (extrapolated) = 11.7 W/kg
SAR(1 g) 8.17 mW/g; SAR(10 g) = 5.8 mW/g
Maximum value of SAR (measured) = 8.67 mW/g



Body SAR Plot #11 (B11)

Date Tested: 12/18/2010

Body-worn SAR - 2400mAh Ext. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) - 406.1 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

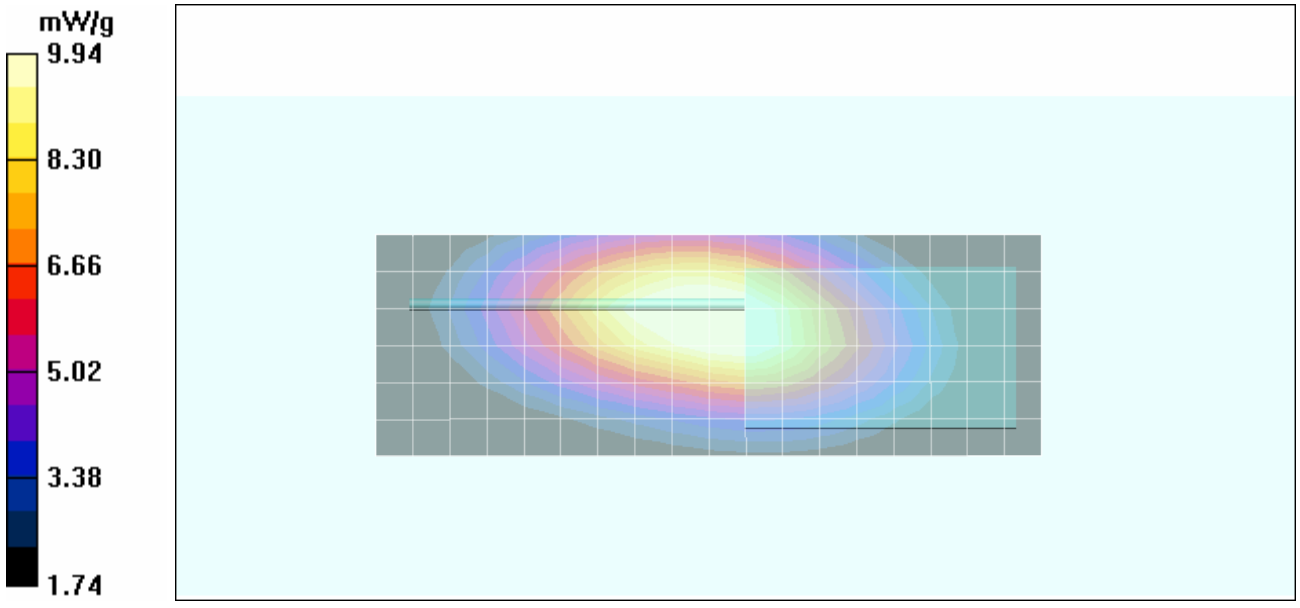
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.5°C; Fluid Temp: 22.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR – 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 10.9 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 103.5 V/m; Power Drift = -0.175 dB
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) 9.56 mW/g; SAR(10 g) = 7.16 mW/g
Maximum value of SAR (measured) = 9.94 mW/g



Body SAR Plot #12 (B12)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) – 440.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

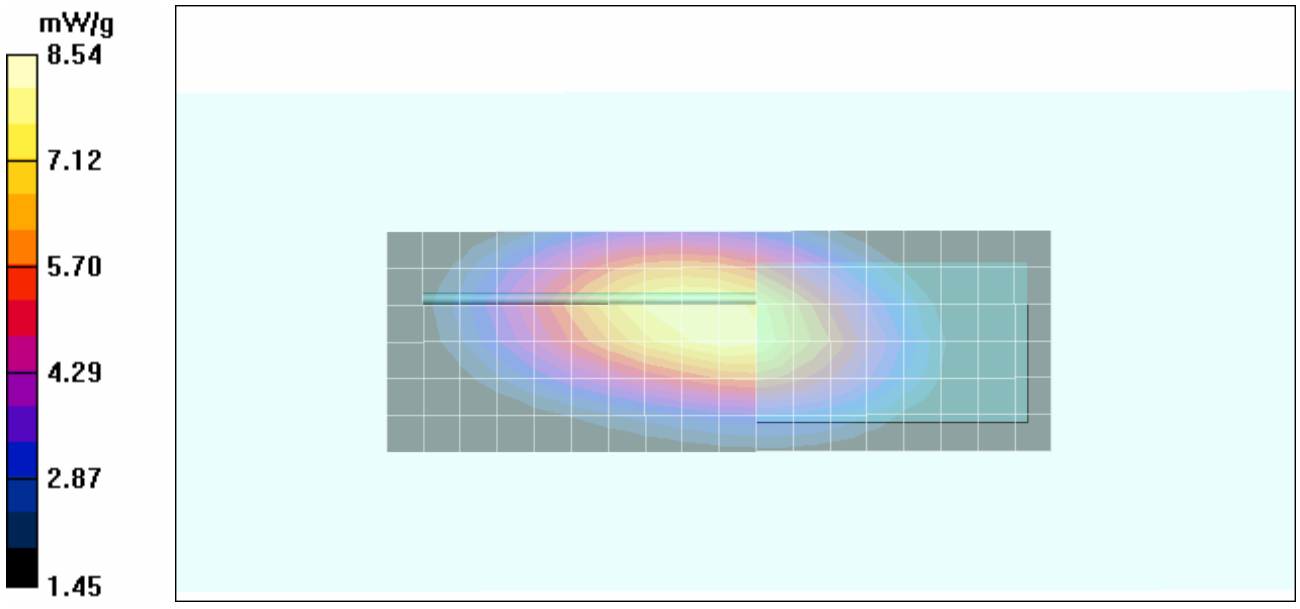
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.93 mho/m; ε_r = 58.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.02 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 93.2 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 11.6 W/kg
SAR(1 g) 8.23 mW/g; SAR(10 g) = 6.07 mW/g
Maximum value of SAR (measured) = 8.54 mW/g



Body SAR Plot #13 (B13)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) – 430.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

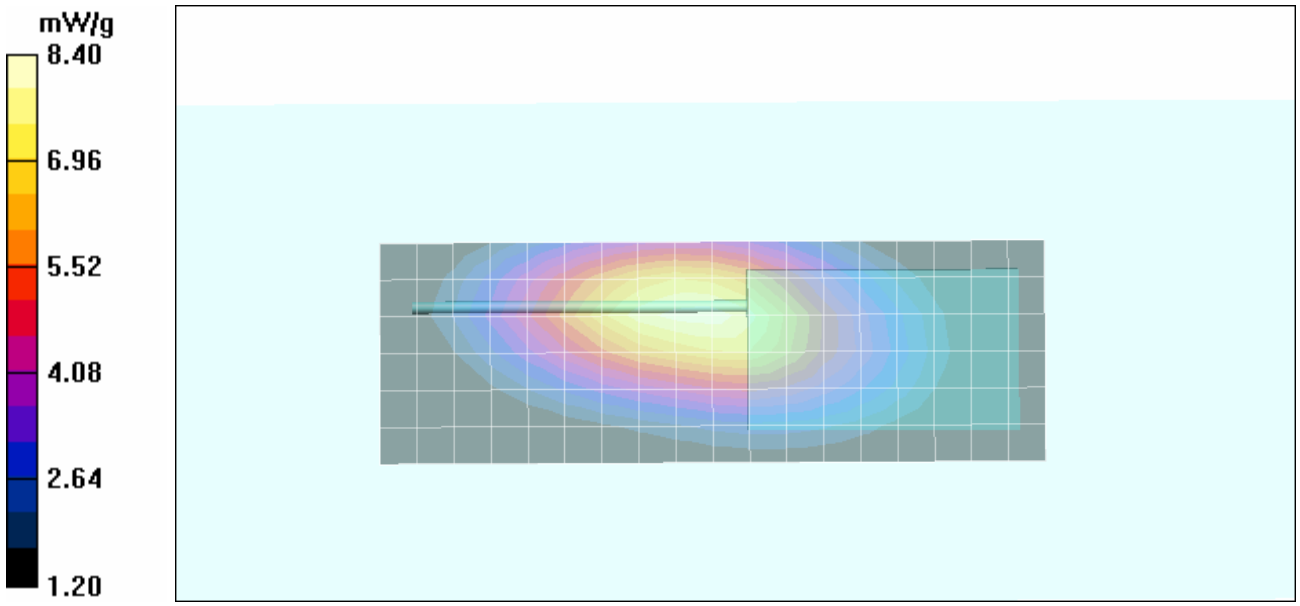
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 430 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 430 MHz; σ = 0.92 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.24 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 92.0 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 11.4 W/kg
SAR(1 g) 8.06 mW/g; SAR(10 g) = 5.94 mW/g
Maximum value of SAR (measured) = 8.40 mW/g



Body SAR Plot #14 (B14)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16F (B) – 450.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

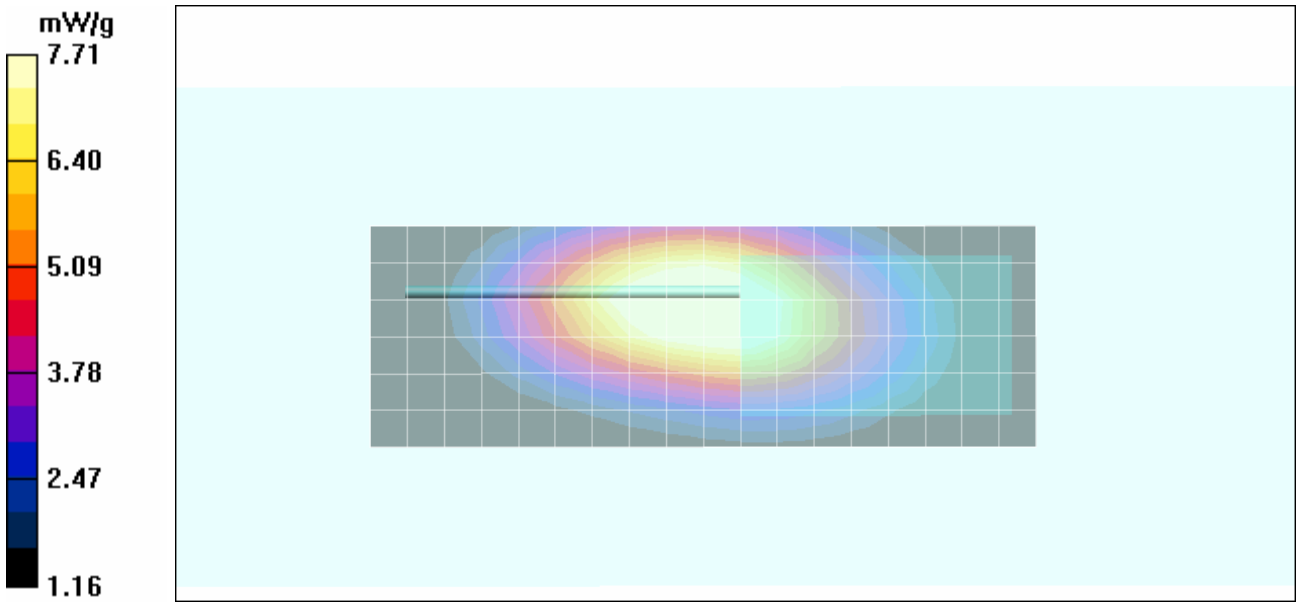
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.91 mho/m; ε_r = 57.2; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.06 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.1 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 10.5 W/kg
SAR(1 g) 7.4 mW/g; SAR(10 g) = 5.41 mW/g
Maximum value of SAR (measured) = 7.71 mW/g



Body SAR Plot #15 (B15)

Date Tested: 12/02/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 470.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

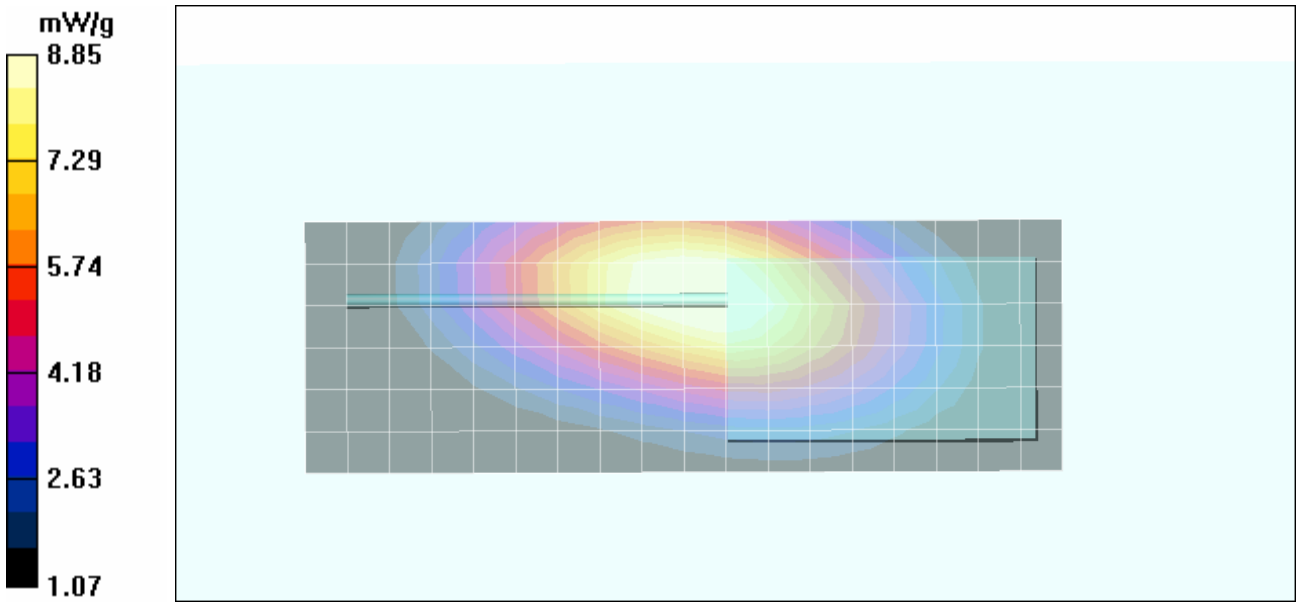
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 22.8°C; Fluid Temp: 22.2°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.63 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 93.4 V/m; Power Drift = -0.268 dB
Peak SAR (extrapolated) = 12.2 W/kg
SAR(1 g) 8.46 mW/g; SAR(10 g) = 6.17 mW/g
Maximum value of SAR (measured) = 8.85 mW/g



Body SAR Plot #16 (B16)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 460.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

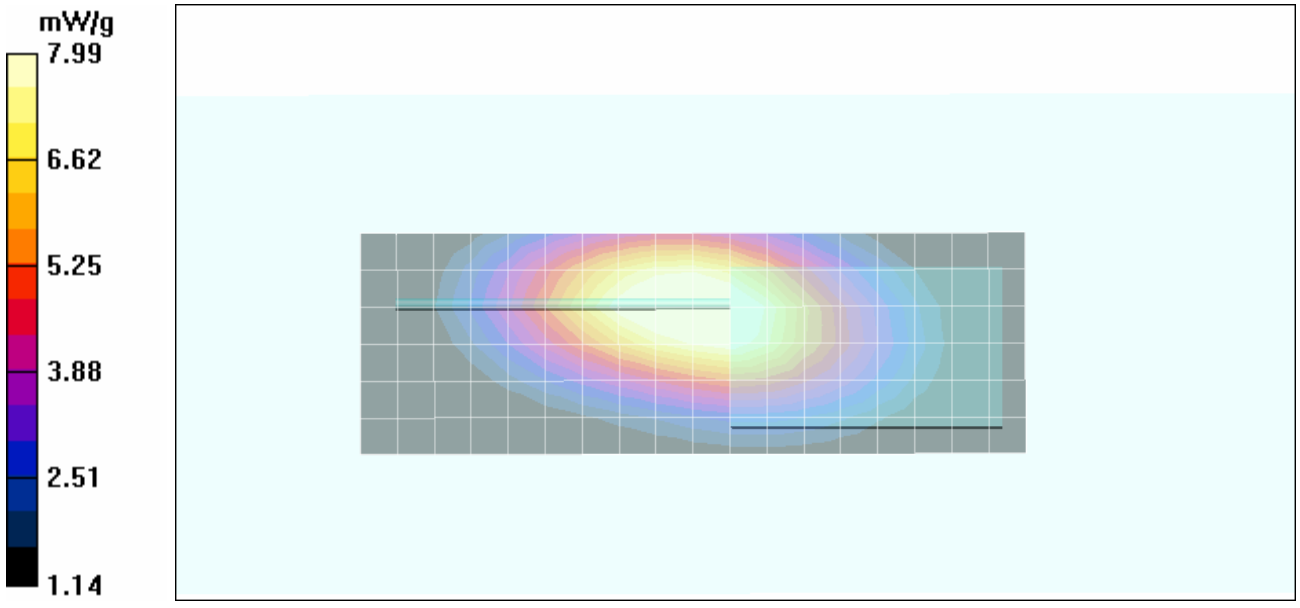
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 460 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 460 MHz; σ = 0.92 mho/m; ε_r = 56.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.95 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.9 V/m; Power Drift = -0.166 dB
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) 7.68 mW/g; SAR(10 g) = 5.57 mW/g
Maximum value of SAR (measured) = 7.99 mW/g



Body SAR Plot #17 (B17)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

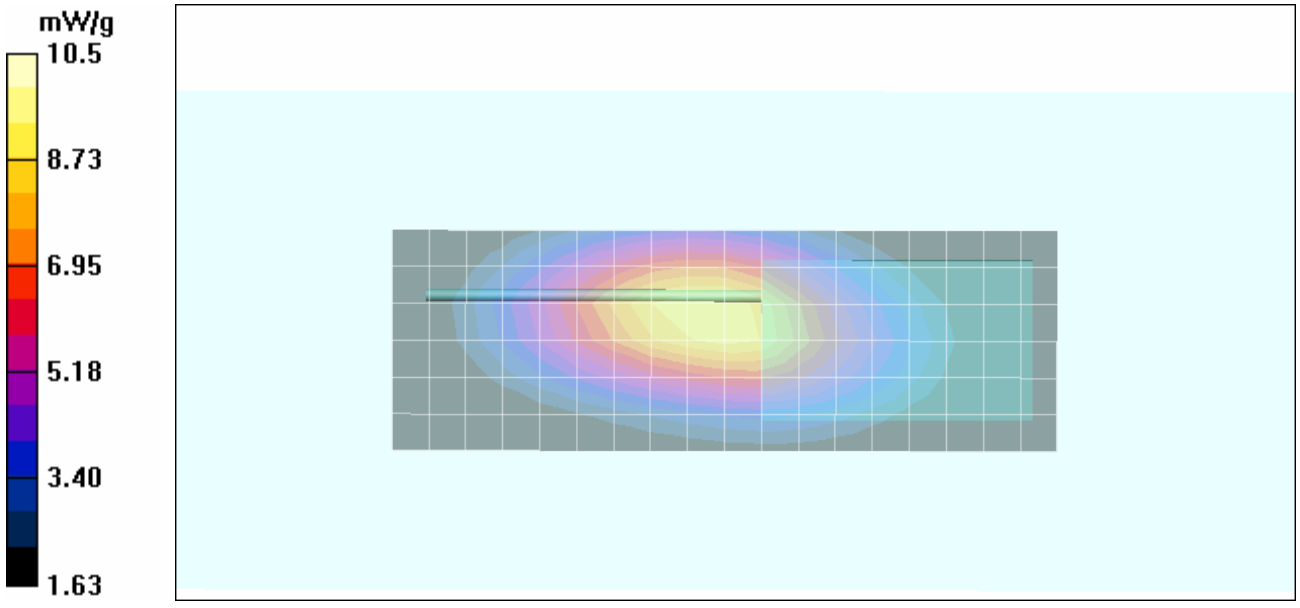
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

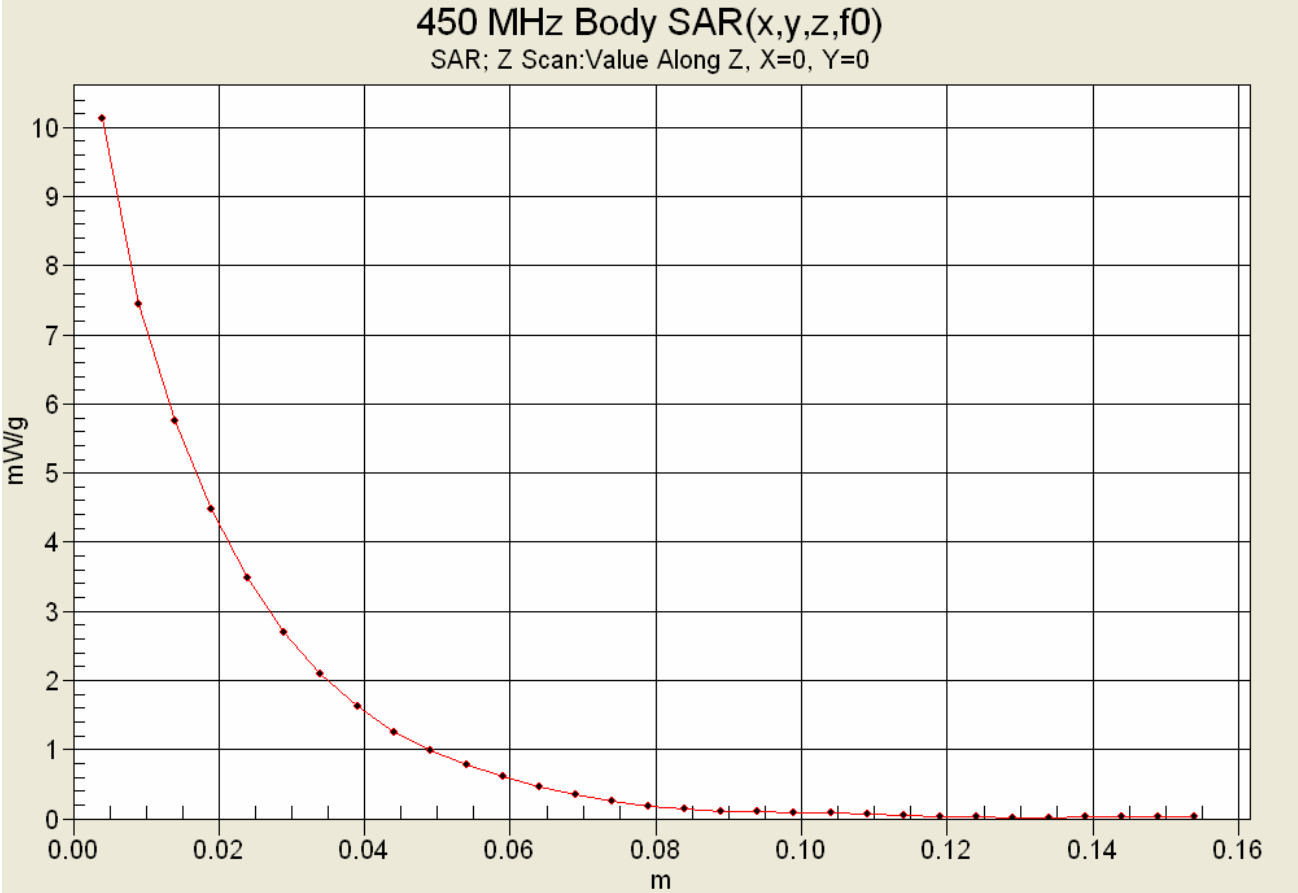
Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.90 mho/m; ε_r = 58.5; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.27 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 108.5 V/m; Power Drift = -0.506 dB
Peak SAR (extrapolated) = 14.2 W/kg
SAR(1 g) 10.1 mW/g; SAR(10 g) = 7.45 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



Z-Axis Scan



Body SAR Plot #18 (B18)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 420.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

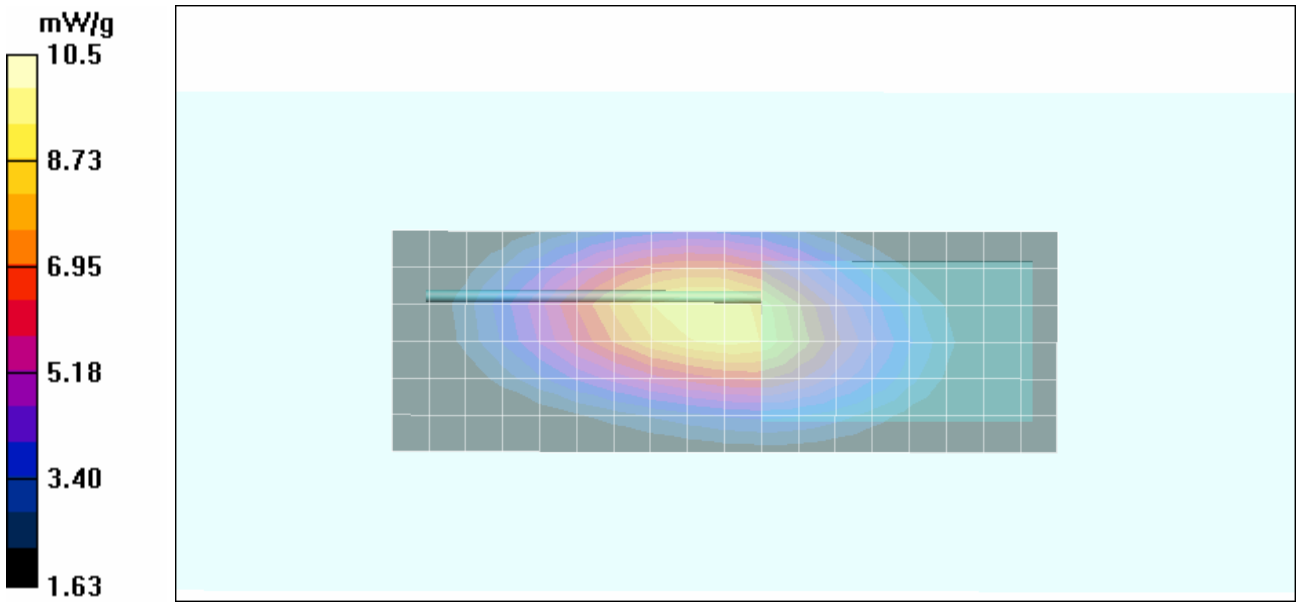
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 420 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 420 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.27 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.2 V/m; Power Drift = -0.295 dB
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) 7.18 mW/g; SAR(10 g) = 5.28 mW/g
Maximum value of SAR (measured) = 7.50 mW/g



Body SAR Plot #19 (B19)

Date Tested: 12/10/2010

Body-worn SAR - 2400mAh Ext. Battery FNB-V113LI (b) - Whip Antenna ATU-16B (A) – 406.1 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

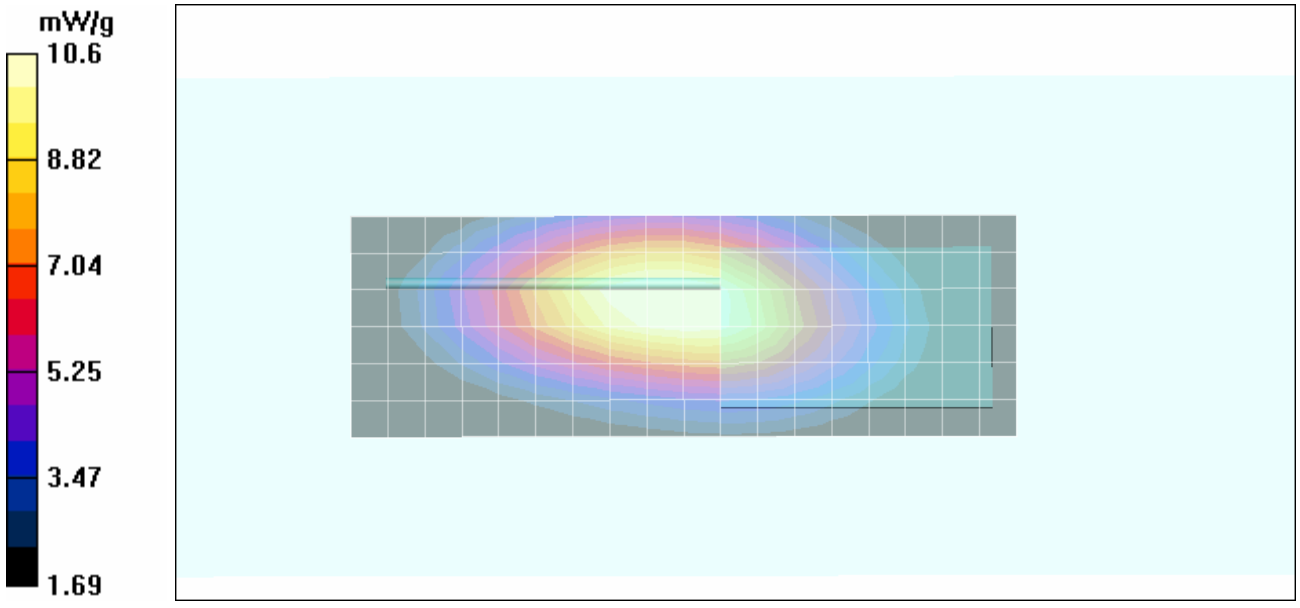
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.90 mho/m; ε_r = 58.5; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR – 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 10.8 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 106.0 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 14.2 W/kg
SAR(1 g) 10.1 mW/g; SAR(10 g) = 7.48 mW/g
Maximum value of SAR (measured) = 10.6 mW/g



Body SAR Plot #20 (B20)

Date Tested: 12/10/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) – 440.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

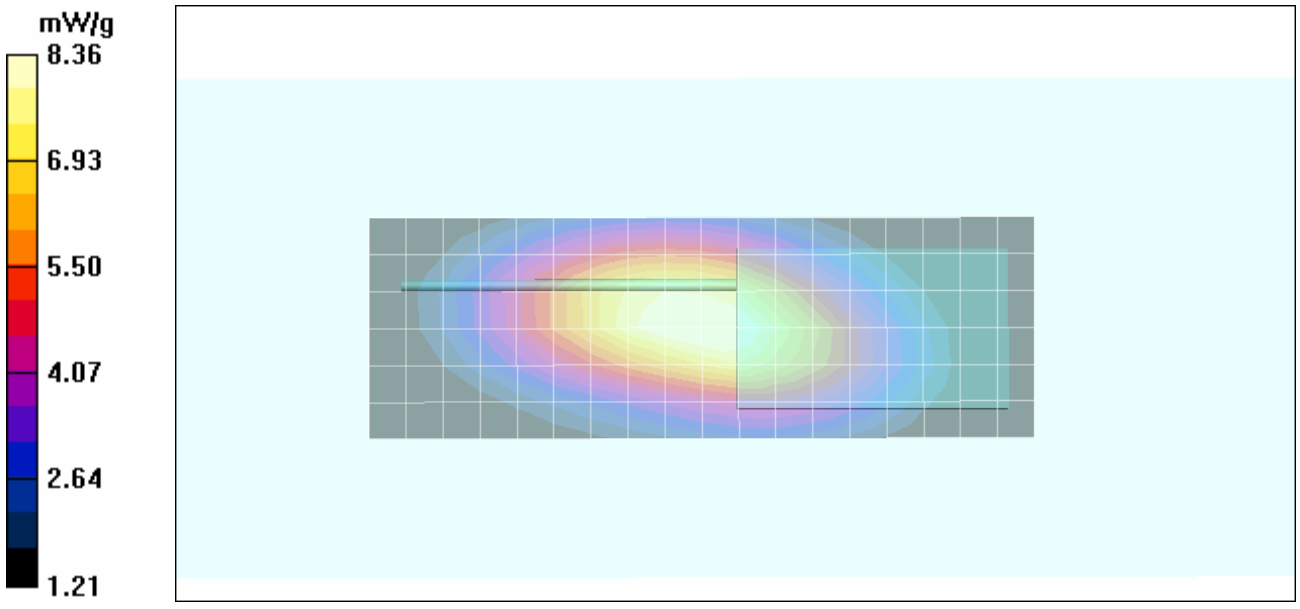
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.4°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.93 mho/m; ε_r = 58.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.78 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 88.9 V/m; Power Drift = -0.226 dB
Peak SAR (extrapolated) = 11.3 W/kg
SAR(1 g) 7.91 mW/g; SAR(10 g) = 5.64 mW/g
Maximum value of SAR (measured) = 8.36 mW/g



Body SAR Plot #21 (B21)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) – 430.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

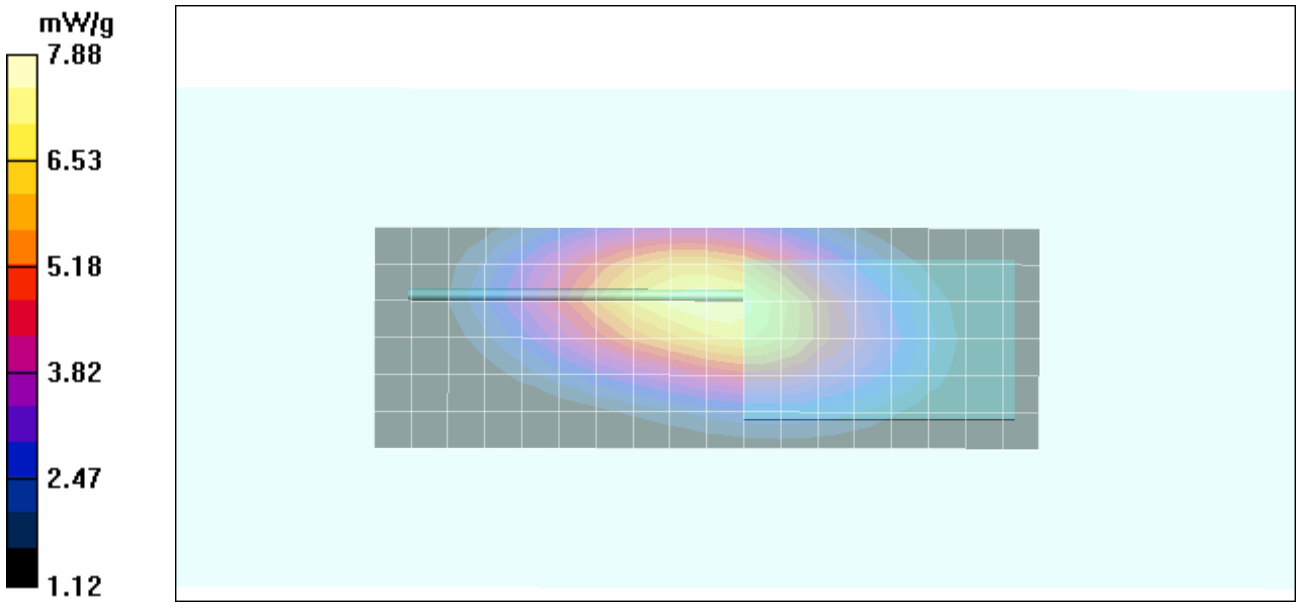
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 430 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 430 MHz; σ = 0.92 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 7.52 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 88.5 V/m; Power Drift = -0.222 dB
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) 7.52 mW/g; SAR(10 g) = 5.57 mW/g
Maximum value of SAR (measured) = 7.88 mW/g



Body SAR Plot #22 (B22)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) – 450.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

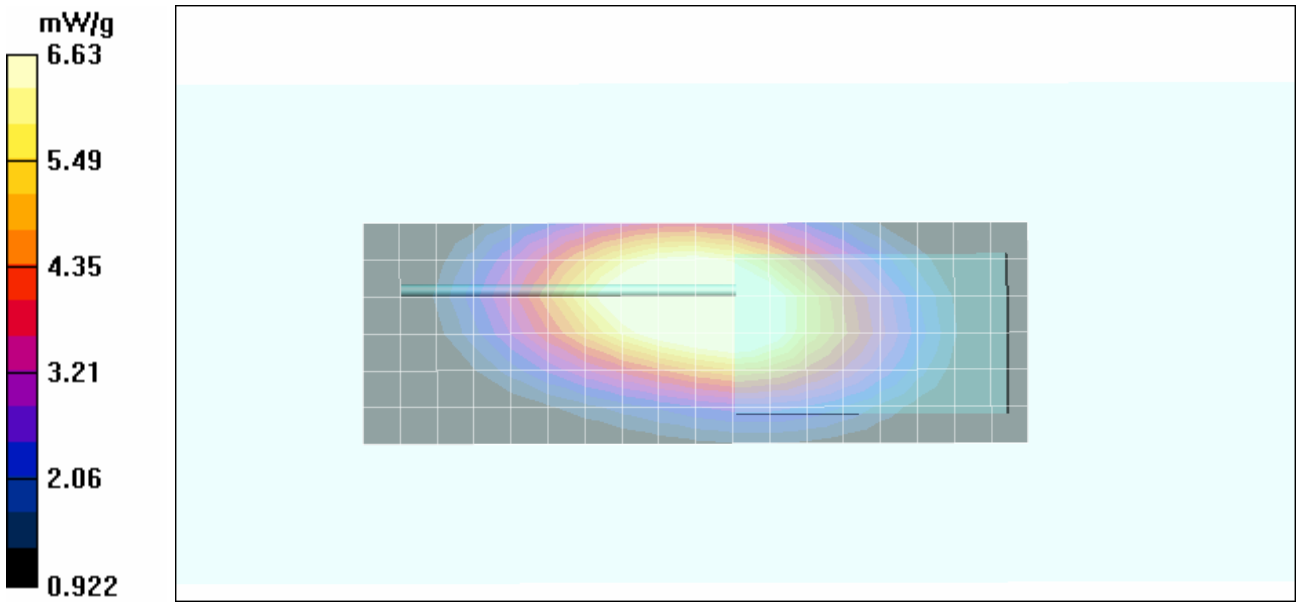
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 450 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 450 MHz; σ = 0.91 mho/m; ε_r = 57.2; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.17 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 83.4 V/m; Power Drift = -0.242 dB
Peak SAR (extrapolated) = 8.99 W/kg
SAR(1 g) 6.33 mW/g; SAR(10 g) = 4.64 mW/g
Maximum value of SAR (measured) = 6.63mW/g



Body SAR Plot #23 (B23)

Date Tested: 12/02/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 470.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

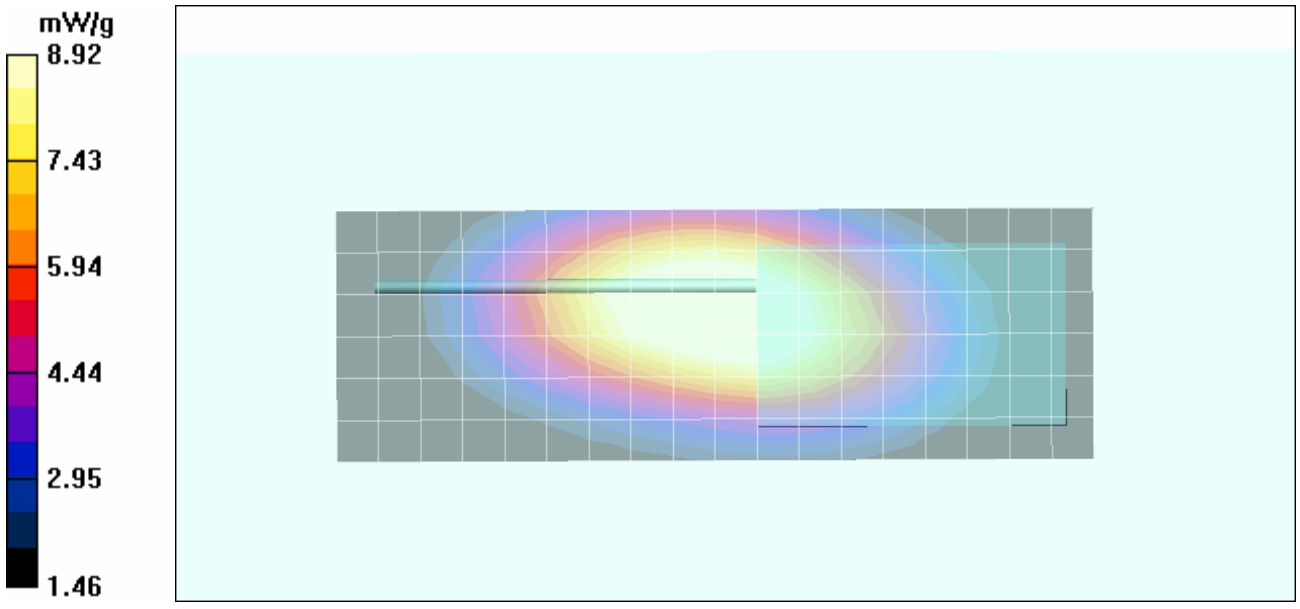
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 22.8°C; Fluid Temp: 22.2°C; Barometric Pressure: 101.1 kPa; Humidity: 40%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.92 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 10.7 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.5 V/m; Power Drift = -0.175 dB
Peak SAR (extrapolated) = 12.3 W/kg
SAR(1 g) 8.61 mW/g; SAR(10 g) = 6.3 mW/g
Maximum value of SAR (measured) = 8.92 mW/g



Body SAR Plot #24 (B24)

Date Tested: 12/17/2010

Body-worn SAR - 1170mAh Ext. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 460.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

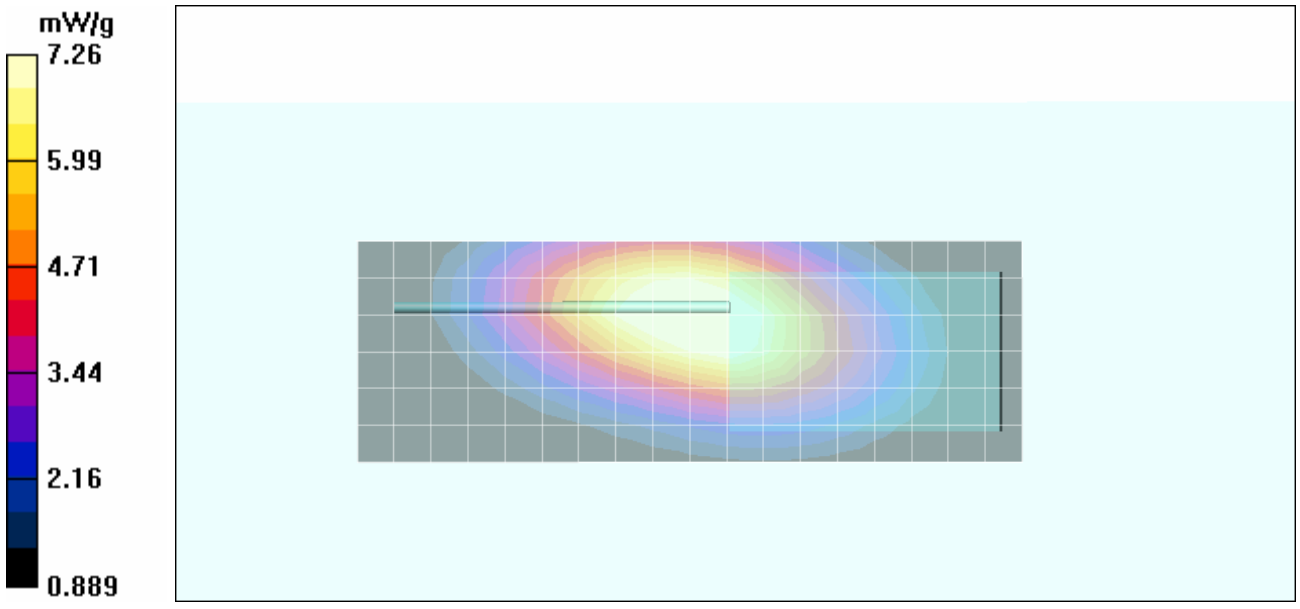
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: None

Ambient Temp: 23.0°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 460 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 460 MHz; σ = 0.92 mho/m; ε_r = 56.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.10 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 84.8 V/m; Power Drift = -0.237 dB
Peak SAR (extrapolated) = 9.88 W/kg
SAR(1 g) 6.94 mW/g; SAR(10 g) = 5 mW/g
Maximum value of SAR (measured) = 7.26 mW/g



Audio Accessory SAR Plot #1 (A1)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

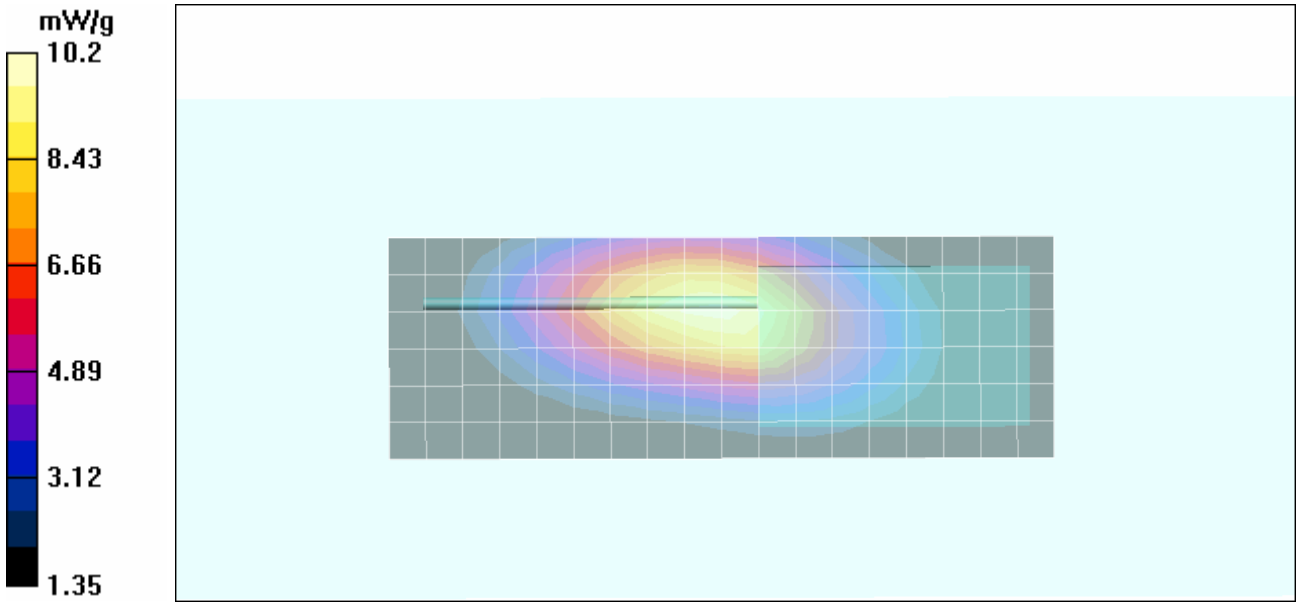
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Headset P/N: VH-215S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.94 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.8 V/m; Power Drift = -0.222 dB
Peak SAR (extrapolated) = 14.0 W/kg
SAR(1 g) 9.83 mW/g; SAR(10 g) = 7.2 mW/g
Maximum value of SAR (measured) = 10.2 mW/g



Audio Accessory SAR Plot #2 (A2)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

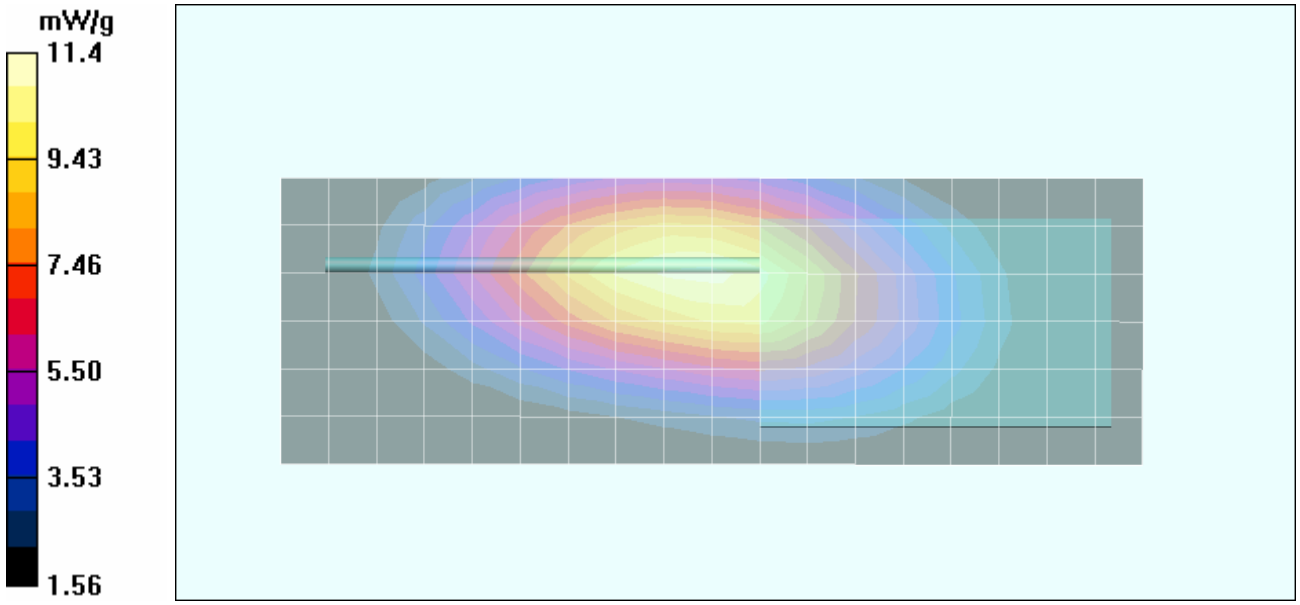
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Earpiece P/N: VH-120S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

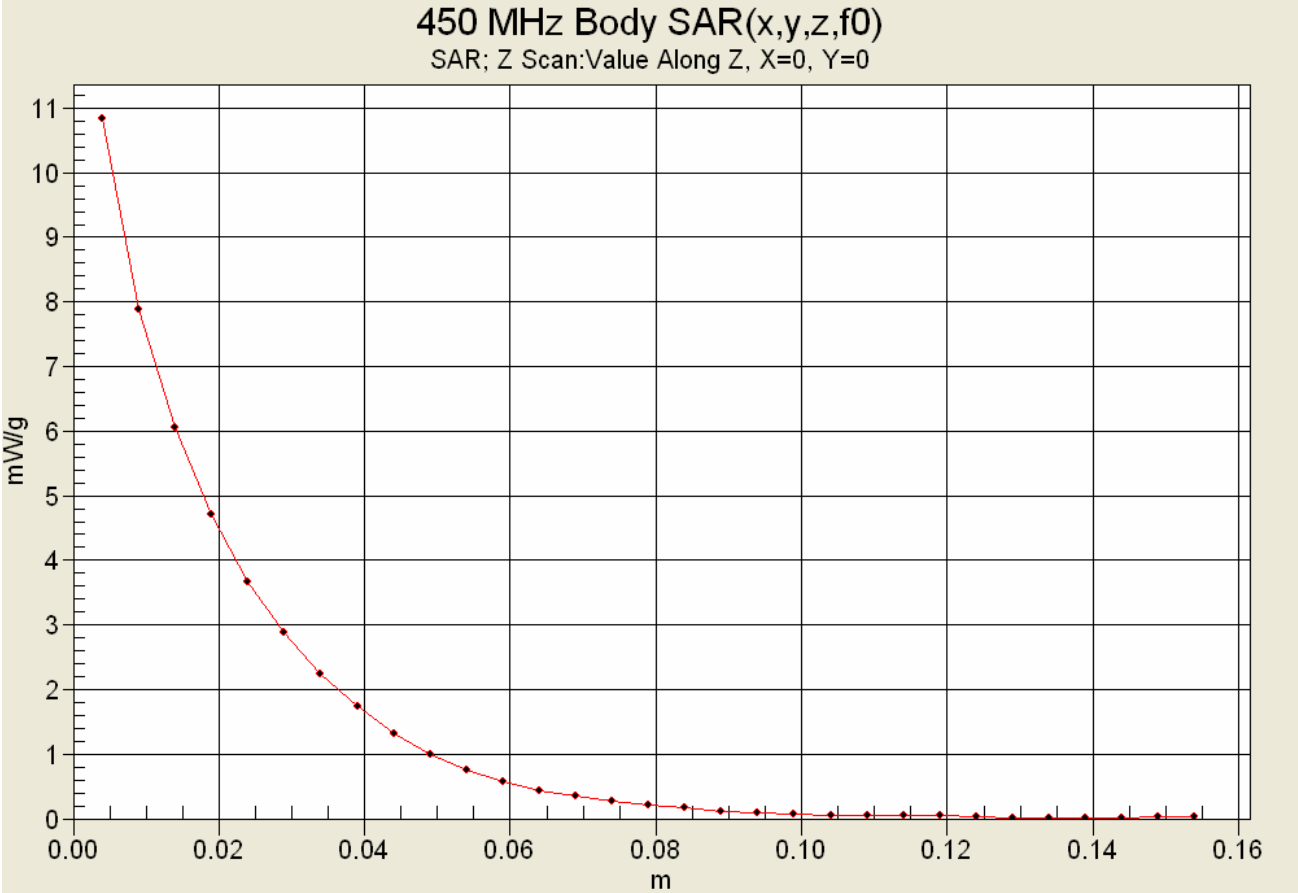
Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

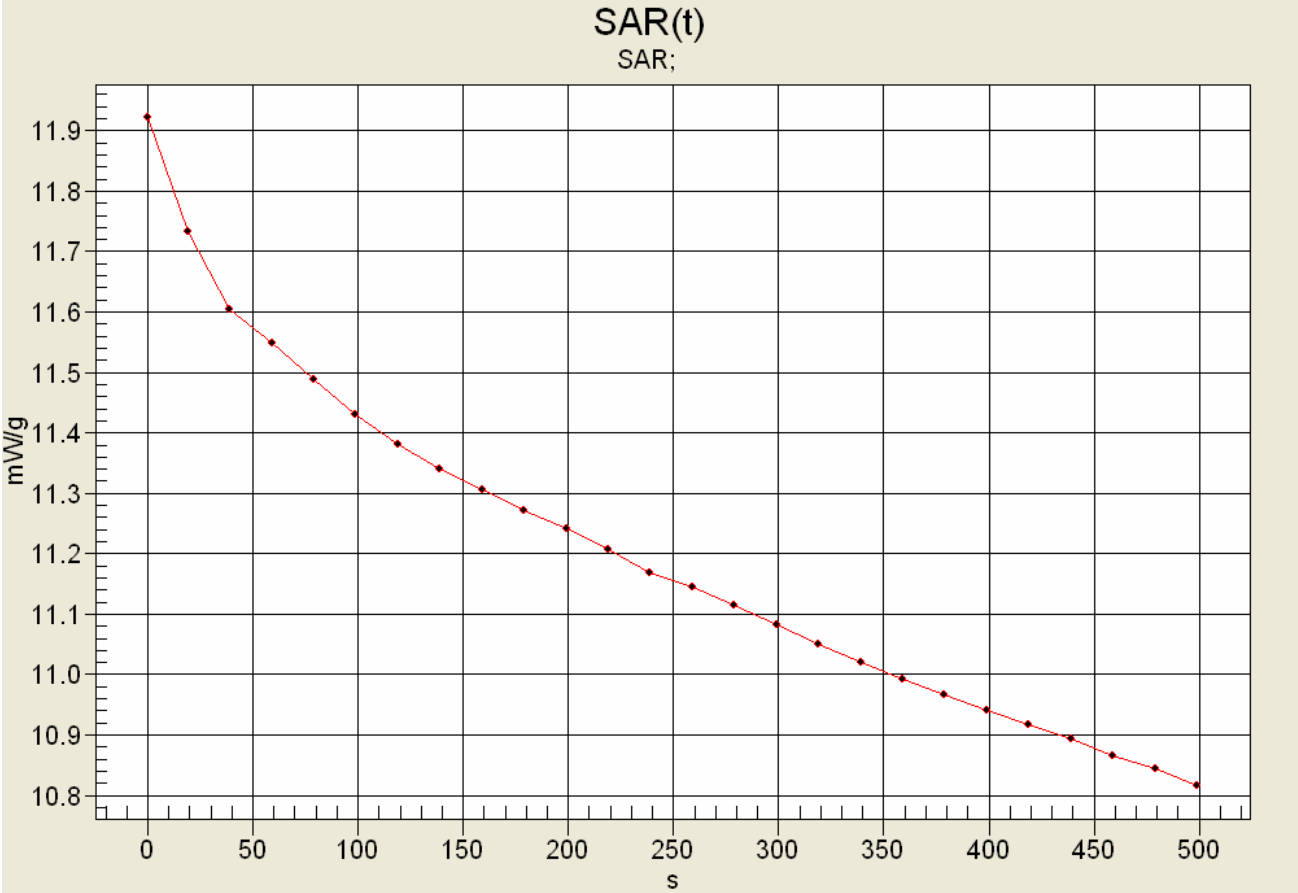
Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 11.0 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 107.4 V/m; Power Drift = -0.365 dB
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) 11 mW/g; SAR(10 g) = 8.08 mW/g
Maximum value of SAR (measured) = 11.4 mW/g



Z-Axis Scan



SAR Droop Evaluation (SAR-versus-Time)



SAR - 0s – 11.922 mW/g
SAR - 340s – 11.028 mW/g (-0.338 dB)
SAR - 500s – 10.816 mW/g (-0.422 dB)

Audio Accessory SAR Plot #3 (A3)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-459-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000006 (Pre-production)

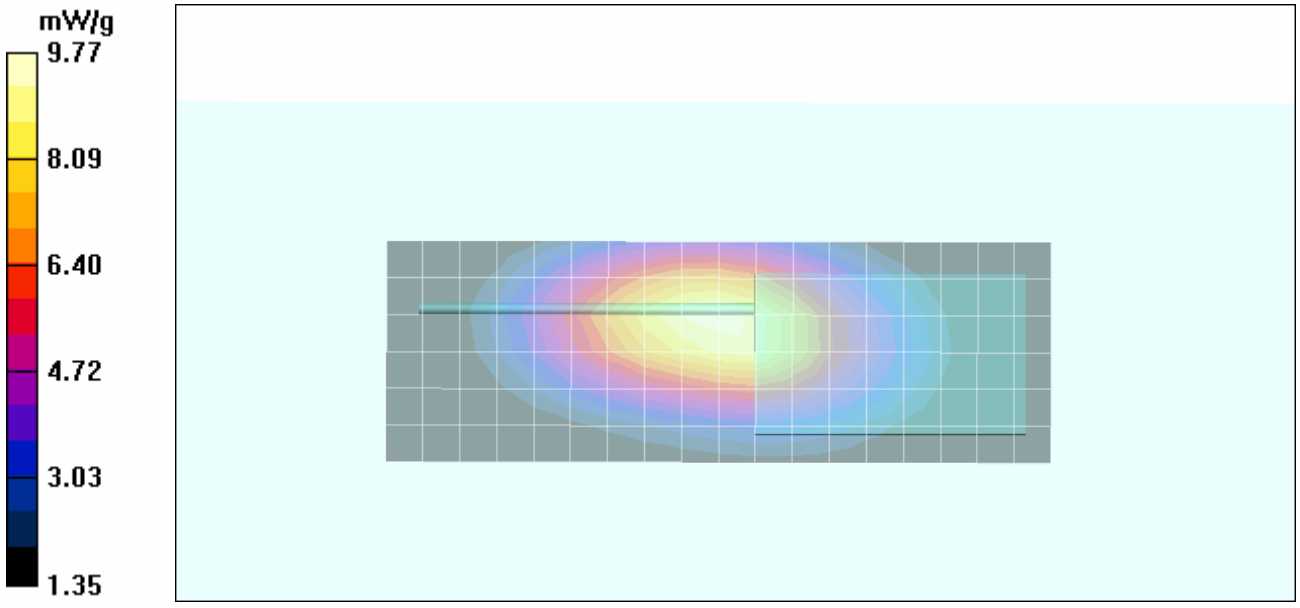
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Speaker Microphone P/N: MH-45B4B

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.61 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 96.8 V/m; Power Drift = -0.177 dB
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) 9.33 mW/g; SAR(10 g) = 6.82 mW/g
Maximum value of SAR (measured) = 9.77 mW/g



Audio Accessory SAR Plot #4 (A4)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 406.1 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

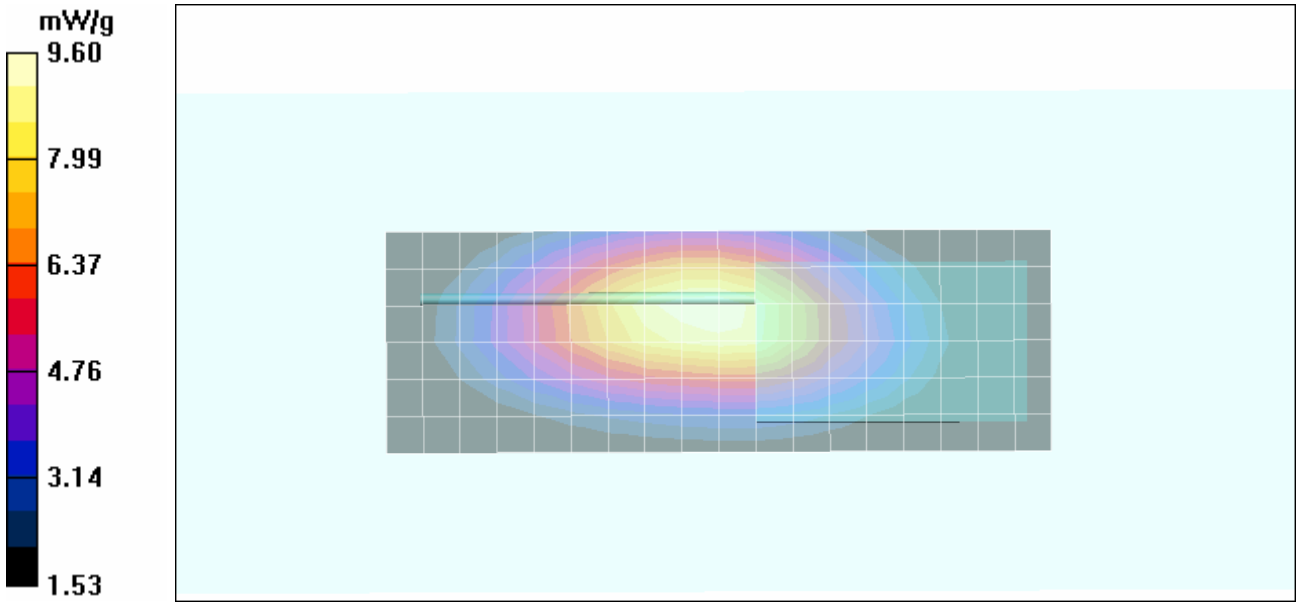
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Headset P/N: VH-215S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.56 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.0 V/m; Power Drift = -0.287 dB
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) 9.22 mW/g; SAR(10 g) = 6.81 mW/g
Maximum value of SAR (measured) = 9.60 mW/g



Audio Accessory SAR Plot #5 (A5)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) – 406.1MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

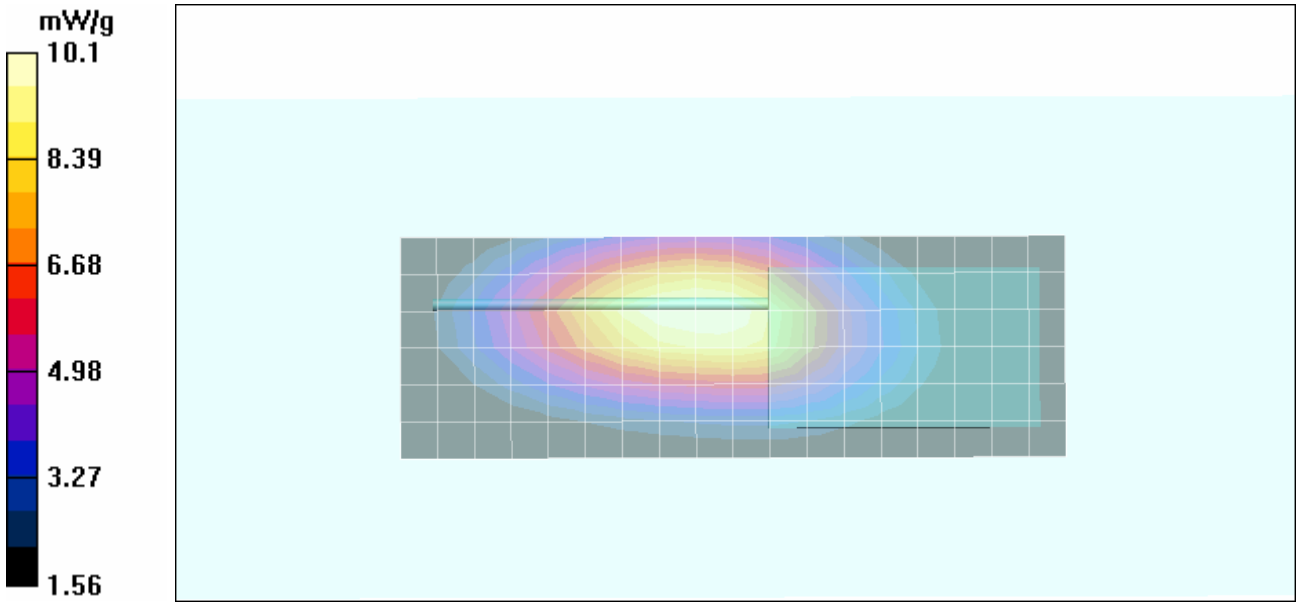
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Earpiece P/N: VH-120S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 10.3 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 101.4 V/m; Power Drift = -0.357 dB
Peak SAR (extrapolated) = 13.6 W/kg
SAR(1 g) 9.68 mW/g; SAR(10 g) = 7.2 mW/g
Maximum value of SAR (measured) = 10.1 mW/g



Audio Accessory SAR Plot #6 (A6)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-454-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000010 (Pre-production)

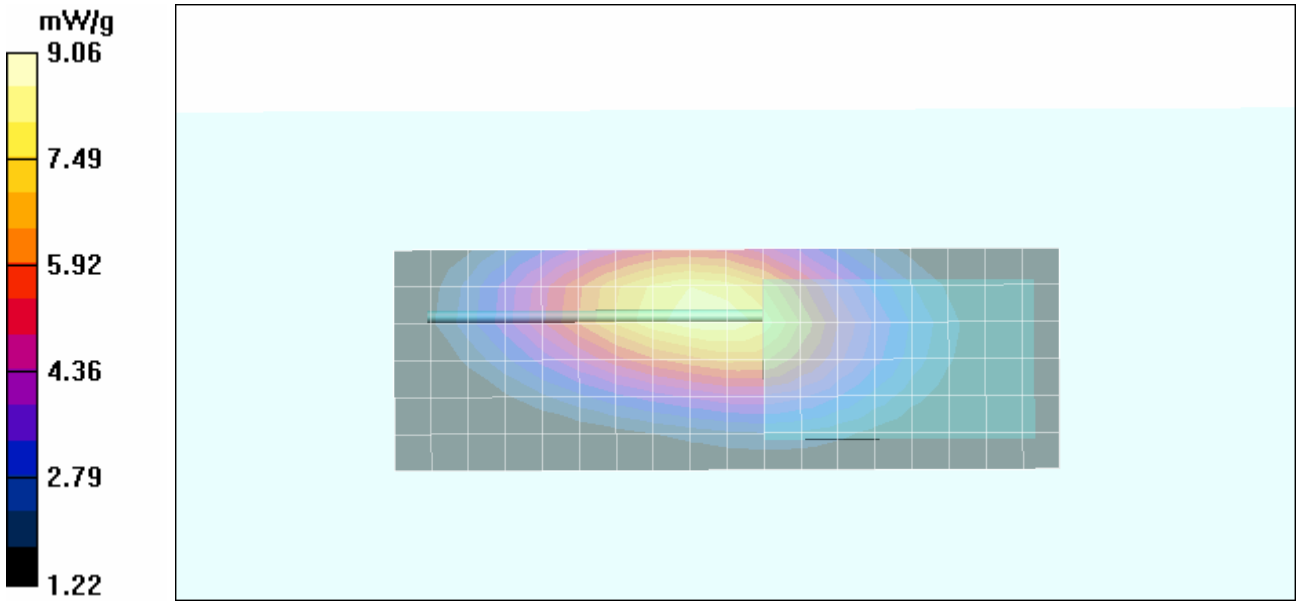
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Speaker Microphone P/N: MH-45B4B

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.39 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 97.5 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 12.2 W/kg
SAR(1 g) 8.72 mW/g; SAR(10 g) = 9.06 mW/g
Maximum value of SAR (measured) = 9.06 mW/g



Audio Accessory SAR Plot #7 (A7)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

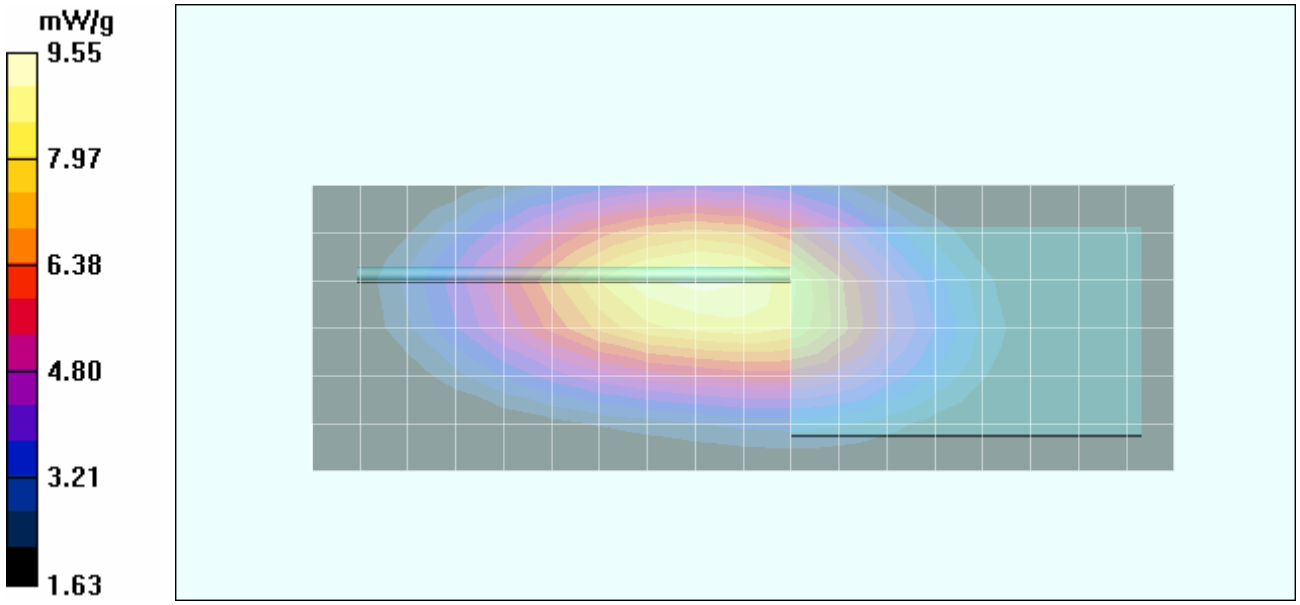
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Headset P/N: VH-215S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.24 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 99.5 V/m; Power Drift = -0.296 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) 9.17 mW/g; SAR(10 g) = 6.82 mW/g
Maximum value of SAR (measured) = 9.55 mW/g



Audio Accessory SAR Plot #8 (A8)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

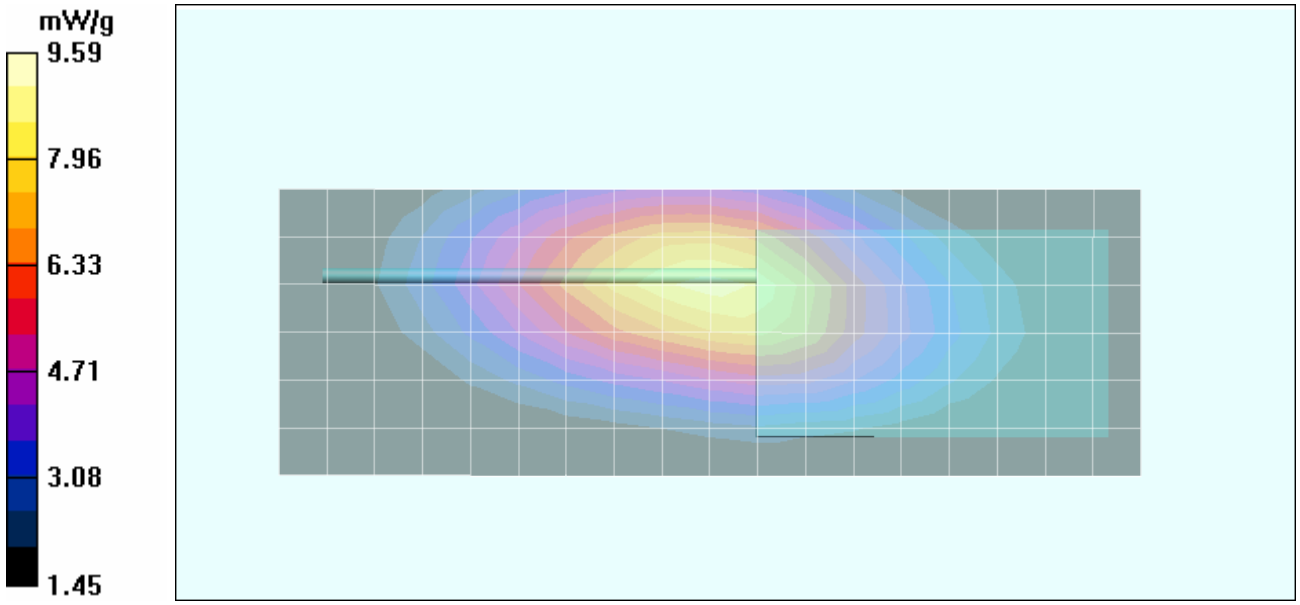
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Earpiece P/N: VH-120S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.81 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 101.9 V/m; Power Drift = -0.454 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) 9.19 mW/g; SAR(10 g) = 6.85 mW/g
Maximum value of SAR (measured) = 9.59 mW/g



Audio Accessory SAR Plot #9 (A9)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16B (A) – 406.1 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

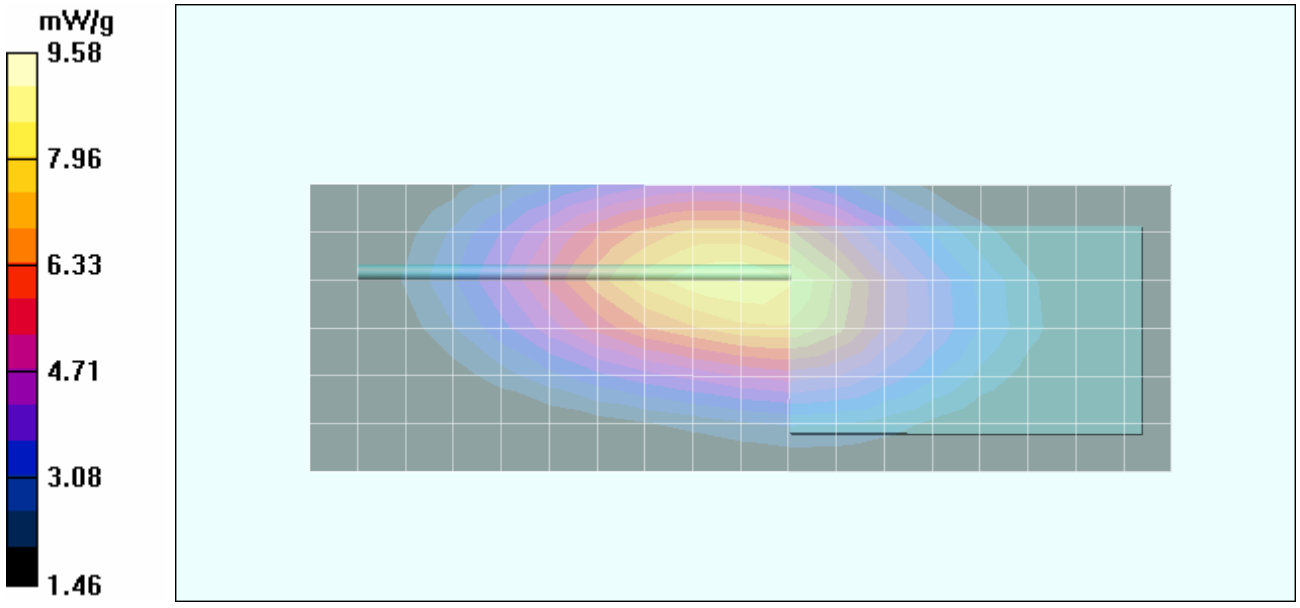
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Speaker Microphone P/N: MH-45B4B

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 406.1 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used (interpolated): f = 406.1 MHz; σ = 0.91 mho/m; ε_r = 57.9; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.56 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 99.9 V/m; Power Drift = -0.442 dB
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) 9.16 mW/g; SAR(10 g) = 6.78 mW/g
Maximum value of SAR (measured) = 9.58 mW/g



Audio Accessory SAR Plot #10 (A10)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 440.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

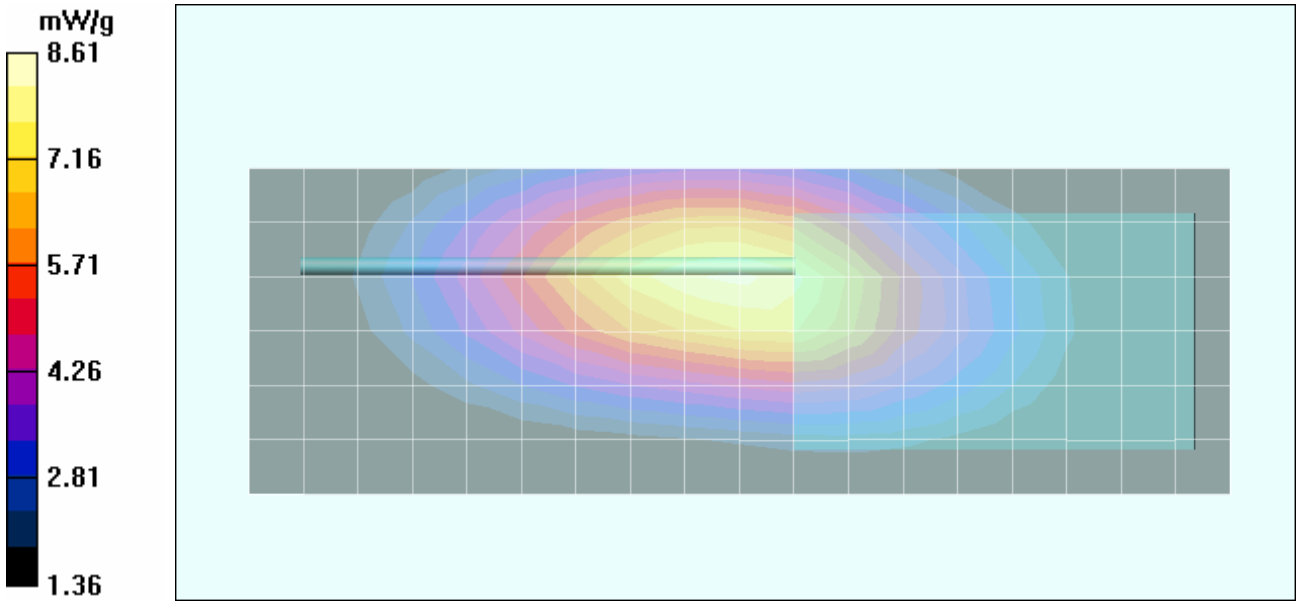
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Headset P/N: VH-215S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.29 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 92.9 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 11.6 W/kg
SAR(1 g) 8.23 mW/g; SAR(10 g) = 6.05 mW/g
Maximum value of SAR (measured) = 8.61 mW/g



Audio Accessory SAR Plot #11 (A11)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 440.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

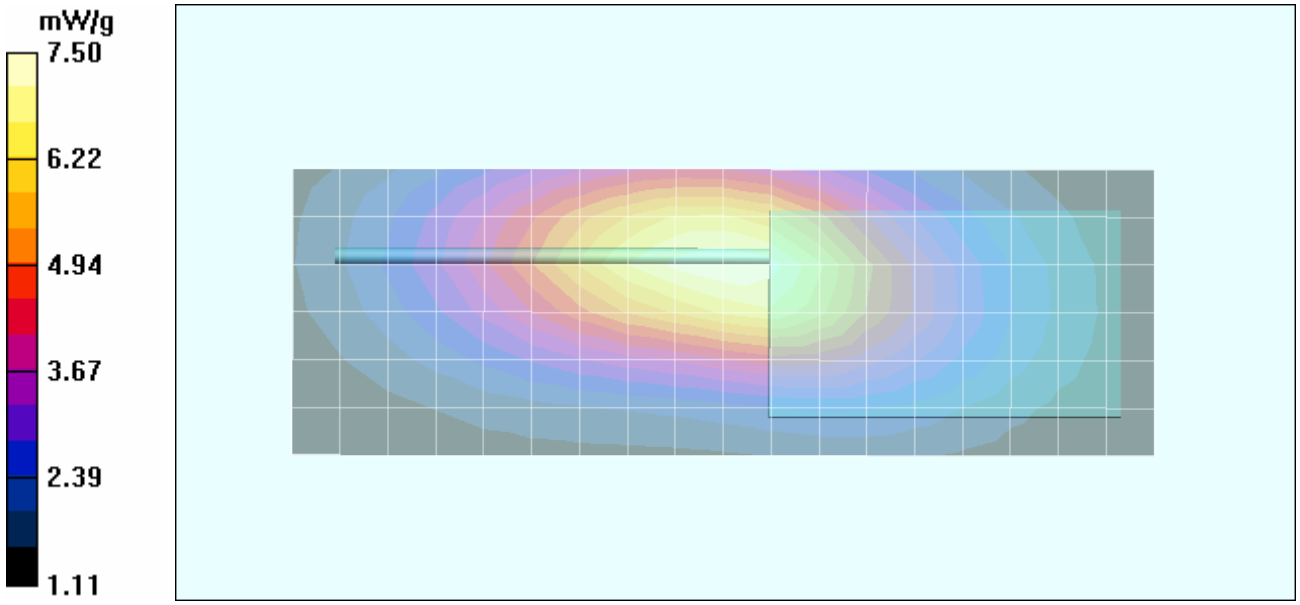
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Earpiece P/N: VH-120S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.55 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 85.1 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 10.2 W/kg
SAR(1 g) 7.14 mW/g; SAR(10 g) = 5.23 mW/g
Maximum value of SAR (measured) = 7.50 mW/g



Audio Accessory SAR Plot #12 (A12)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16C (B) - 440.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

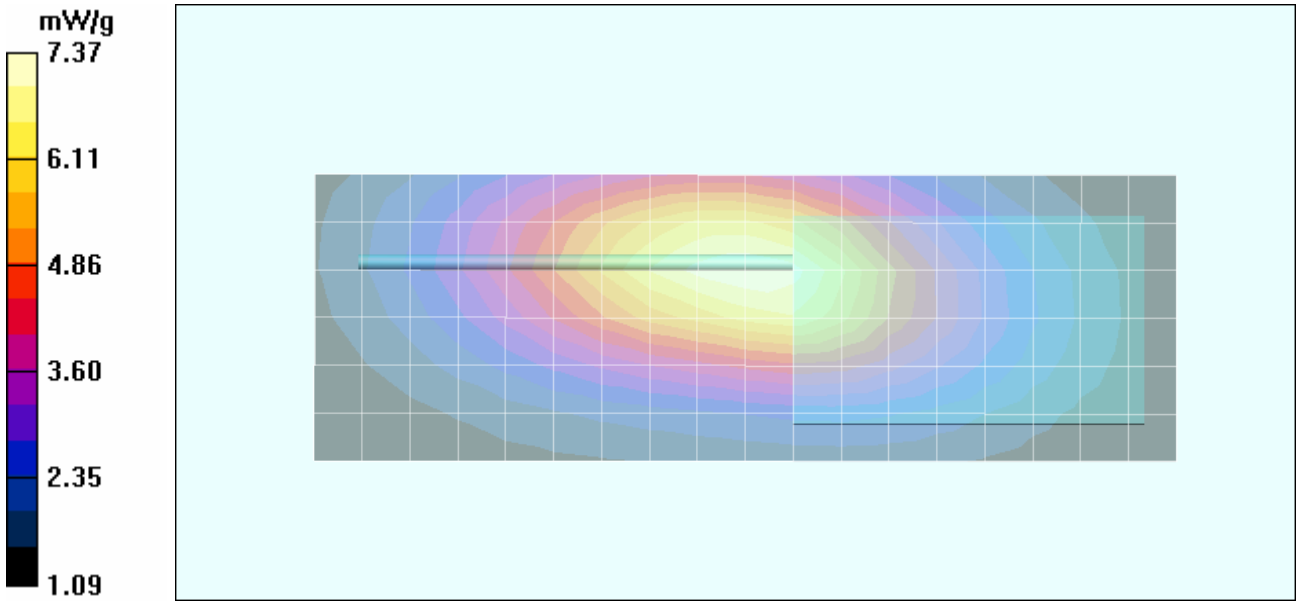
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Speaker Microphone P/N: MH-45B4B

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 440 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 440 MHz; σ = 0.91 mho/m; ε_r = 57.6; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.83 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 87.2 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 10.0 W/kg
SAR(1 g) 7.11 mW/g; SAR(10 g) = 5.26 mW/g
Maximum value of SAR (measured) =7.37 mW/g



Audio Accessory SAR Plot #13 (A13)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

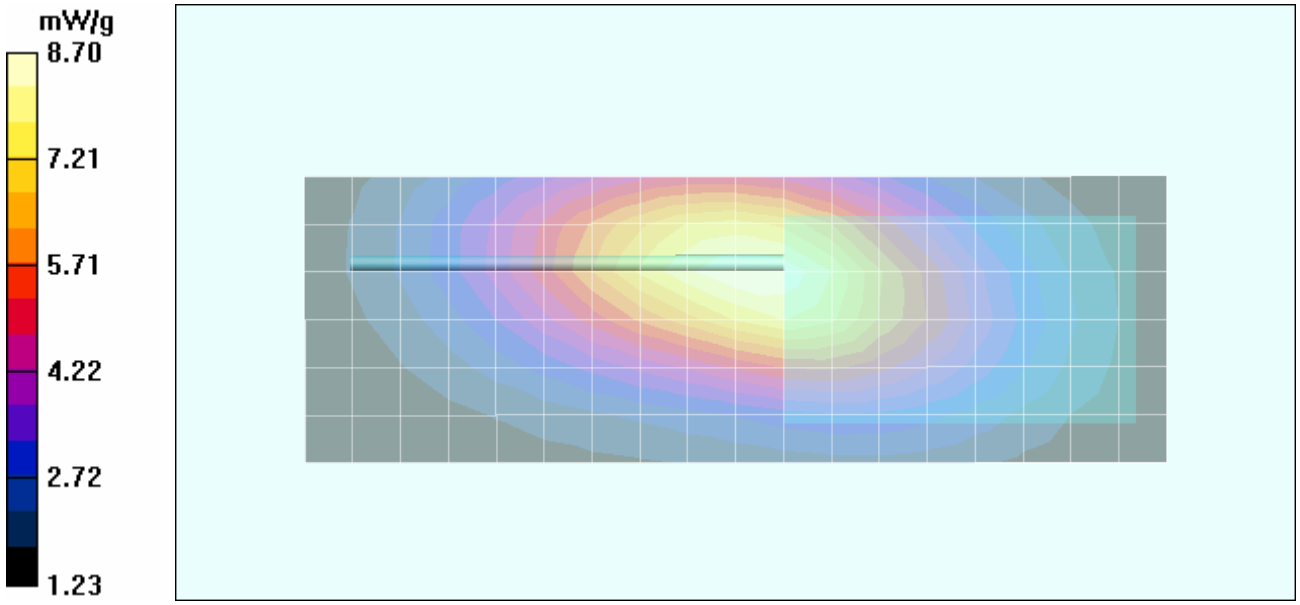
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Headset P/N: VH-215S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 10.4 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.9 V/m; Power Drift = -0.302 dB
Peak SAR (extrapolated) = 11.8 W/kg
SAR(1 g) 8.3 mW/g; SAR(10 g) = 6.07 mW/g
Maximum value of SAR (measured) =8.70 mW/g



Audio Accessory SAR Plot #14 (A14)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

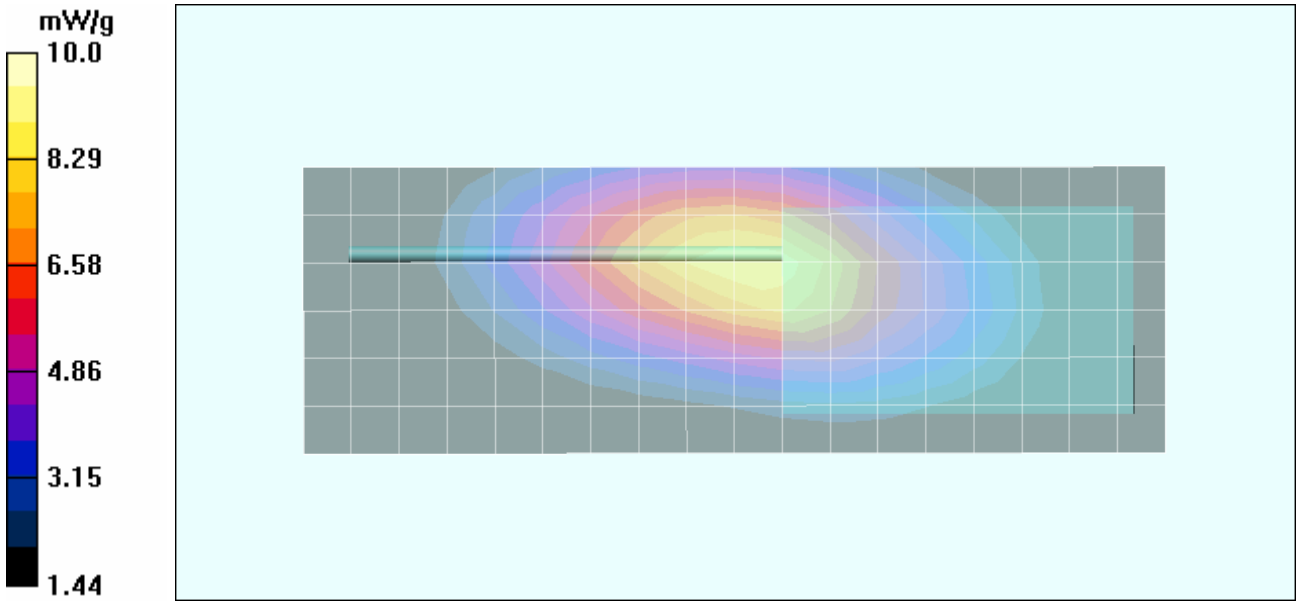
Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Earpiece P/N: VH-120S

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR - 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 8.86 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 100.7 V/m; Power Drift = -0.264 dB
Peak SAR (extrapolated) = 13.7 W/kg
SAR(1 g) 9.62 mW/g; SAR(10 g) = 7.06 mW/g
Maximum value of SAR (measured) = 10.0 mW/g



Audio Accessory SAR Plot #15 (A15)

Date Tested: 12/18/2010

Body-worn SAR - 1170mAh Std. Battery FNB-V112LI (a) - Whip Antenna ATU-16D (C) - 470.0 MHz

DUT: Vertex VX-451-G6-5; Type: Portable FM UHF PTT Radio Transceiver; Serial: 0L000011 (Pre-production)

Body-worn Accessory: Belt-Clip P/N: CLIP-20; Audio Accessory: Speaker Microphone P/N: MH-45B4B

Ambient Temp: 23.5°C; Fluid Temp: 23.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
Frequency: 470 MHz; Duty Cycle: 1:1
Medium: HSL450 Medium parameters used: f = 470 MHz; σ = 0.95 mho/m; ε_r = 57.1; ρ = 1000 kg/m^3

- Probe: ET3DV6 - SN1590; ConvF(7.73, 7.73, 7.73); Calibrated: 15/07/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Face-held SAR – 1.8 cm Belt-Clip Spacing from Back of DUT to Planar Phantom
Area Scan (7x19x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) 9.80 mW/g
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 101.0 V/m; Power Drift = -0.233 dB
Peak SAR (extrapolated) = 13.8 W/kg
SAR(1 g) 9.71 mW/g; SAR(10 g) = 7.11 mW/g
Maximum value of SAR (measured) = 10.1 mW/g