

Test Laboratory: Quietek

Date/Time: 8/6/2009

802.11a_ Left -Cheek_Channel-120

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.97$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.030 mW/g

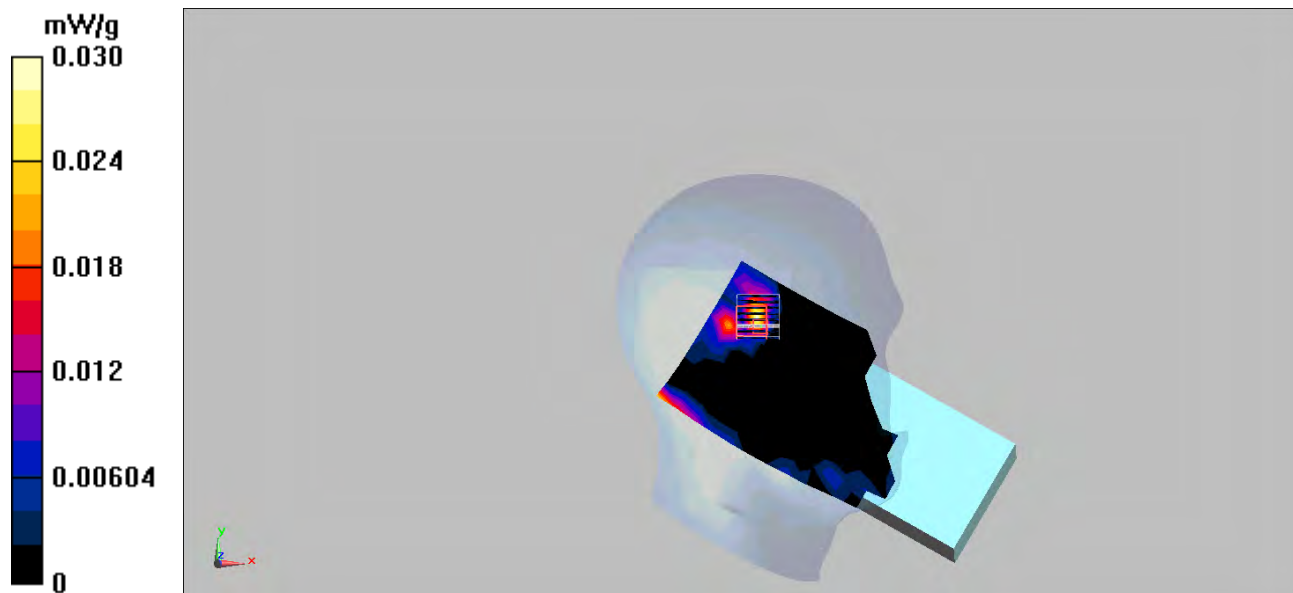
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.224 V/m; Power Drift = 0.141 dB

Peak SAR (extrapolated) = 0.313 W/kg

SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.005 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



Test Laboratory: Quietek

Date/Time: 8/6/2009

802.11a_ Left -Tilt_Channel-100

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.91$ mho/m; $\epsilon_r = 36.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.44, 4.44, 4.44); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.051 mW/g

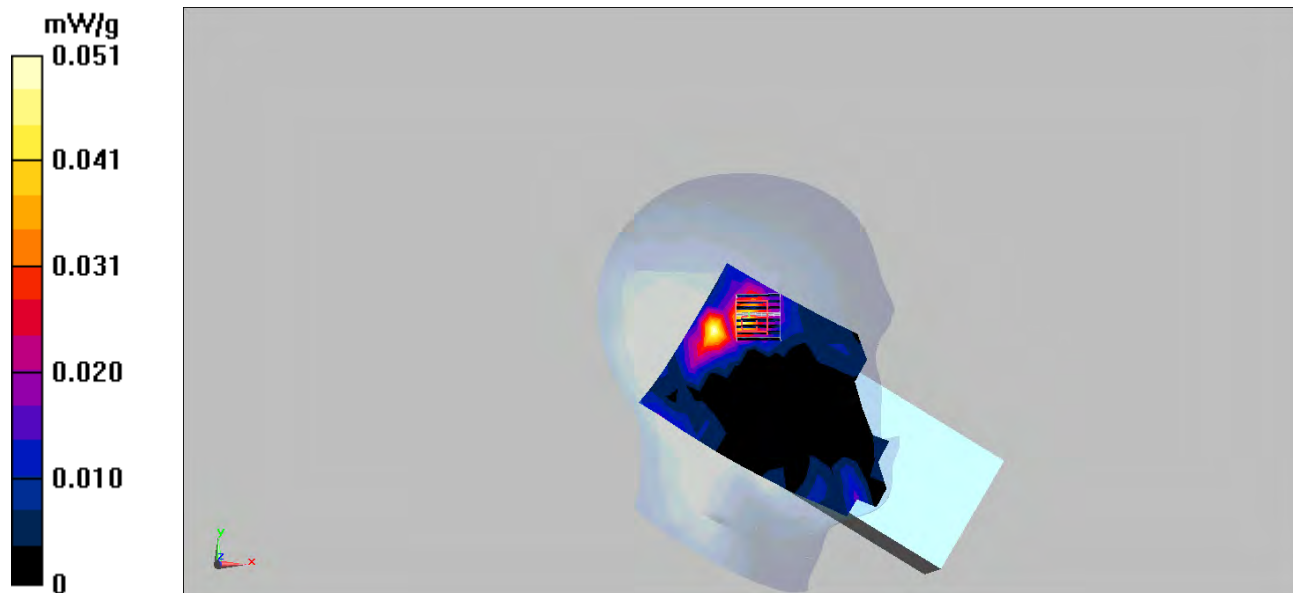
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.227 V/m; Power Drift = 0.108 dB

Peak SAR (extrapolated) = 0.252 W/kg

SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.00612 mW/g

Maximum value of SAR (measured) = 0.058 mW/g



Test Laboratory: Quietek

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802.11a_ Left -Tilt_Channel-120

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.97$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.041 mW/g

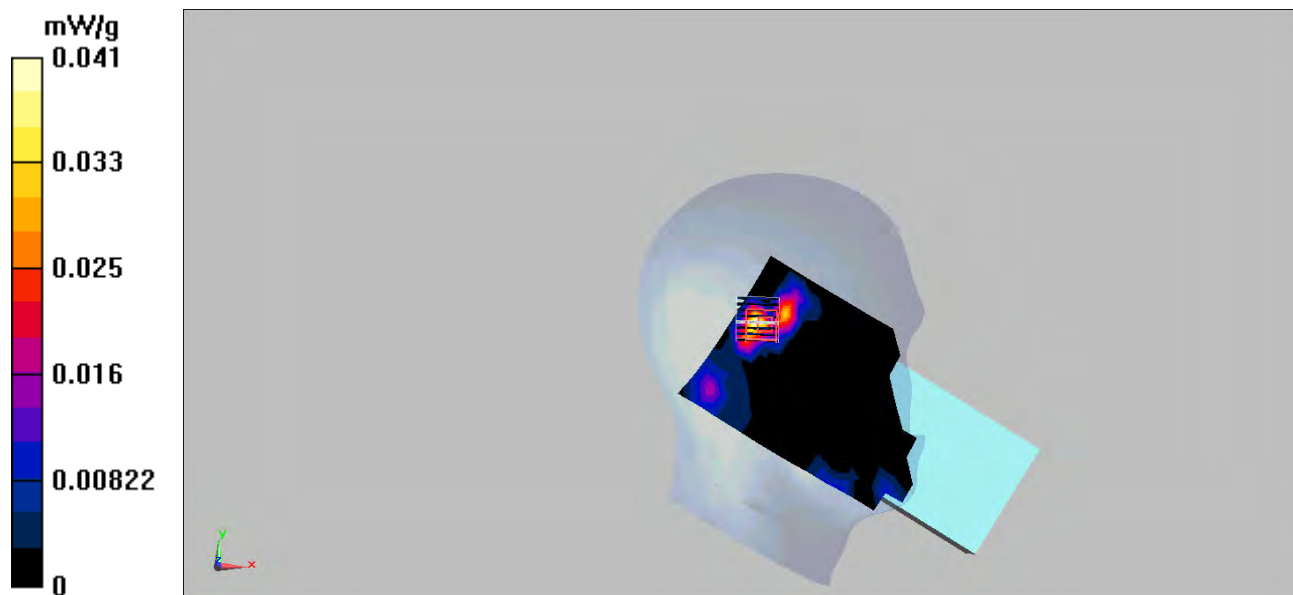
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.243 V/m; Power Drift = 0.175 dB

Peak SAR (extrapolated) = 0.351 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.00577 mW/g

Maximum value of SAR (measured) = 0.097 mW/g



Test Laboratory: Quietek

Date/Time: 8/6/2009

802.11a_Right-Cheek_Channel-100

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.91$ mho/m; $\epsilon_r = 36.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.44, 4.44, 4.44); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.078 mW/g

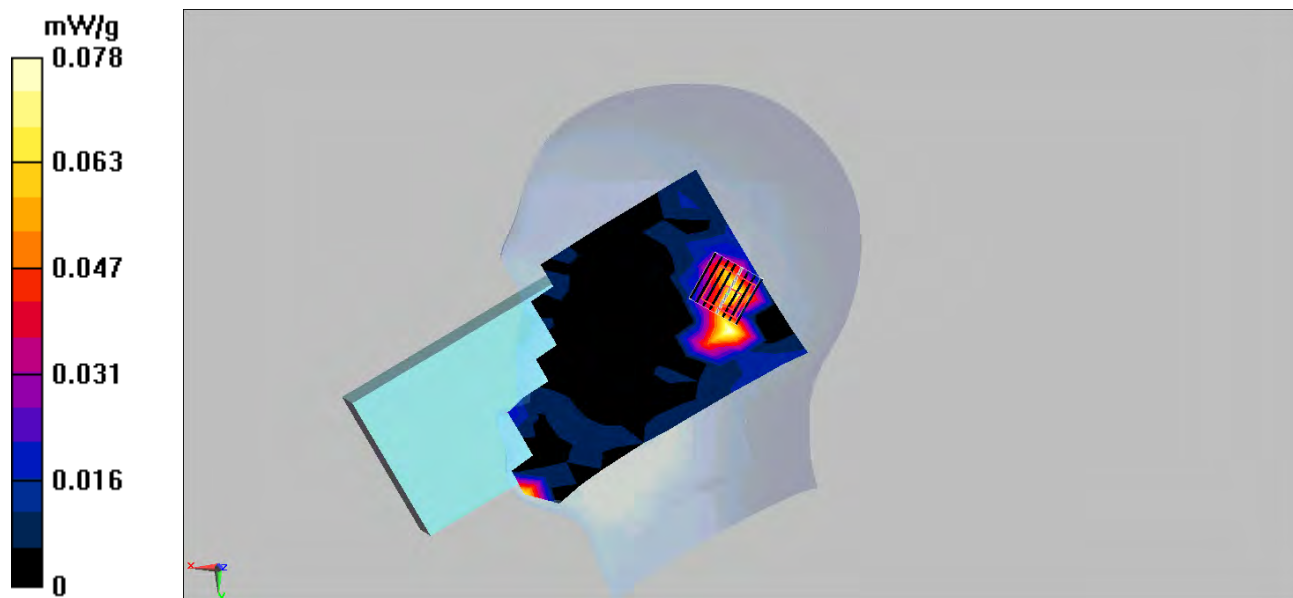
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.82 V/m; Power Drift = -0.145 dB

Peak SAR (extrapolated) = 0.145 W/kg

SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.00991 mW/g

Maximum value of SAR (measured) = 0.082 mW/g



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802.11a_Right-Cheek_Channel-120

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.97$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.046 mW/g

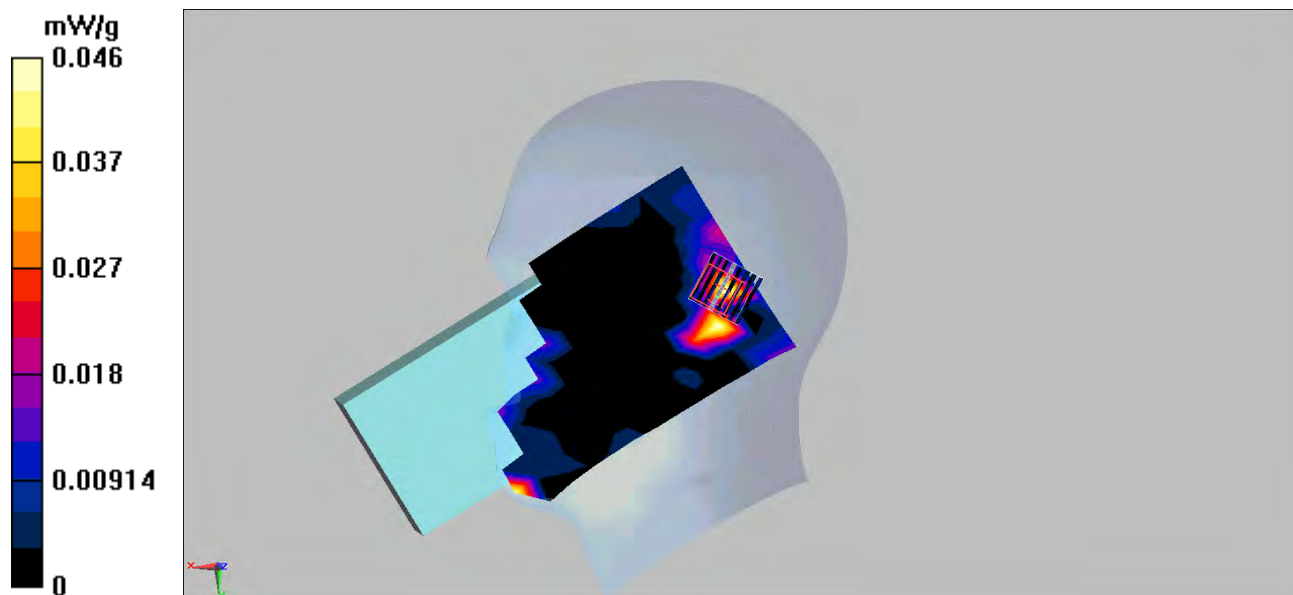
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.434 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 0.121 W/kg

SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.00764 mW/g

Maximum value of SAR (measured) = 0.070 mW/g



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802.11a_Right-Tilt_Channel-100

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.91$ mho/m; $\epsilon_r = 36.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.44, 4.44, 4.44); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.093 mW/g

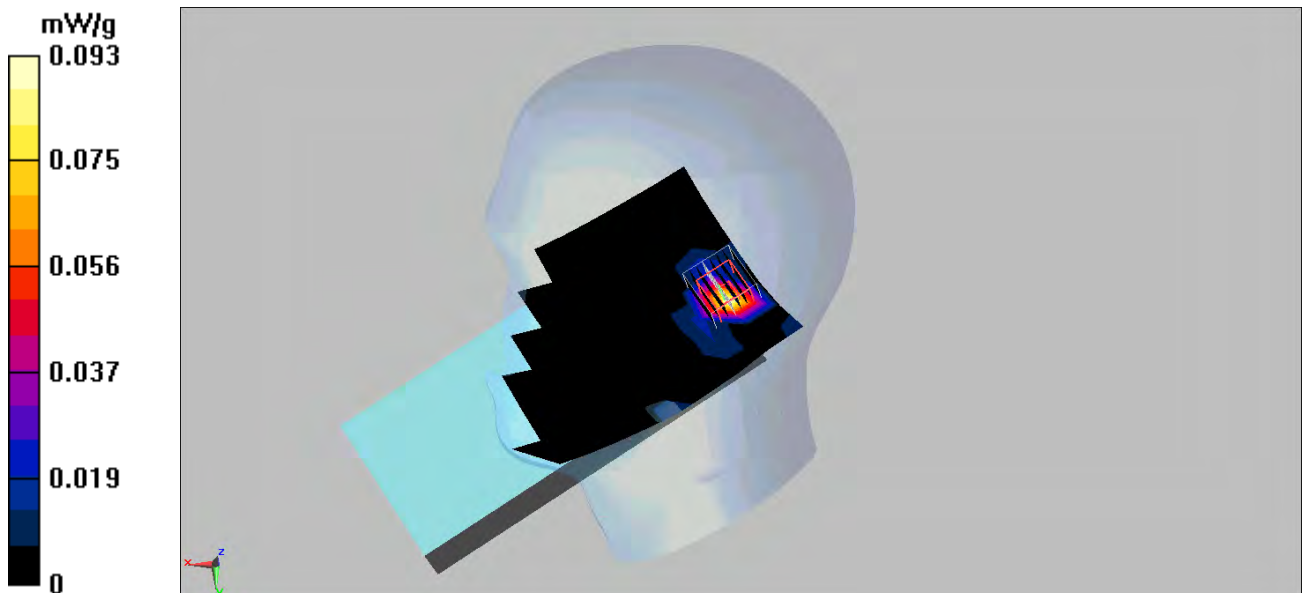
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.069 V/m; Power Drift = 0.142 dB

Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.102 mW/g



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802.11a_Right-Tilt_Channel-120

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.97$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.127 mW/g

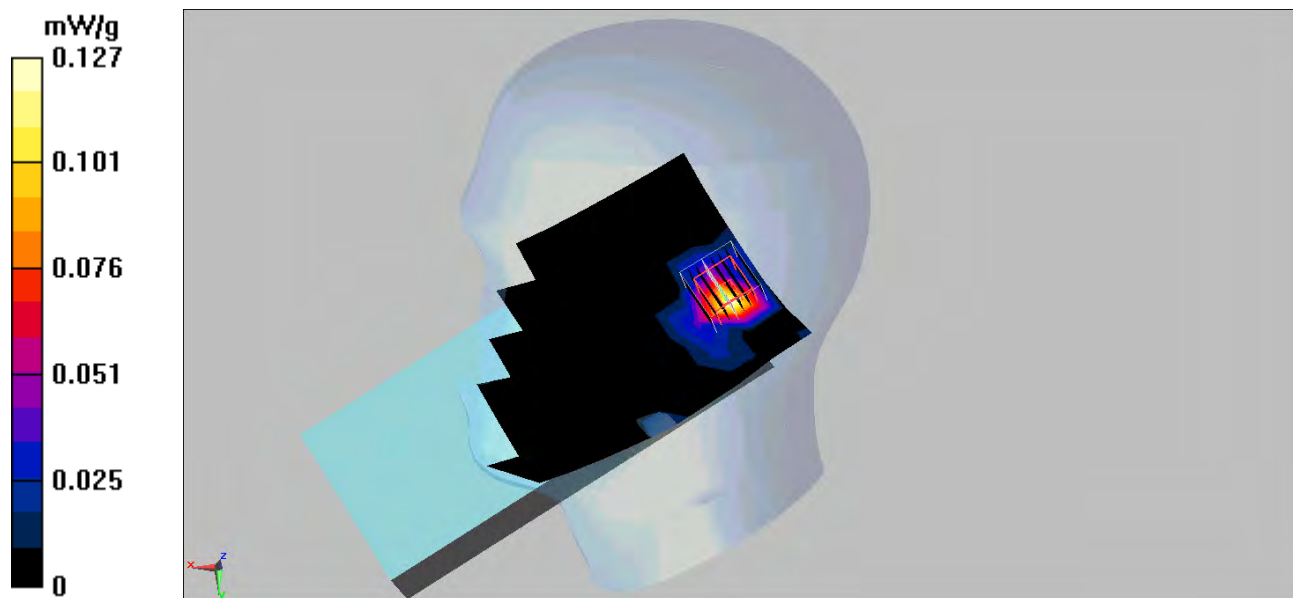
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.399 V/m; Power Drift = 0.109 dB

Peak SAR (extrapolated) = 0.254 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.020 mW/g

Maximum value of SAR (measured) = 0.142 mW/g



Test Laboratory: Quietek

Date/Time: 8/6/2009

802.11a_Body_Channel-100

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.79$ mho/m; $\epsilon_r = 49.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.08, 4.08, 4.08); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.044 mW/g

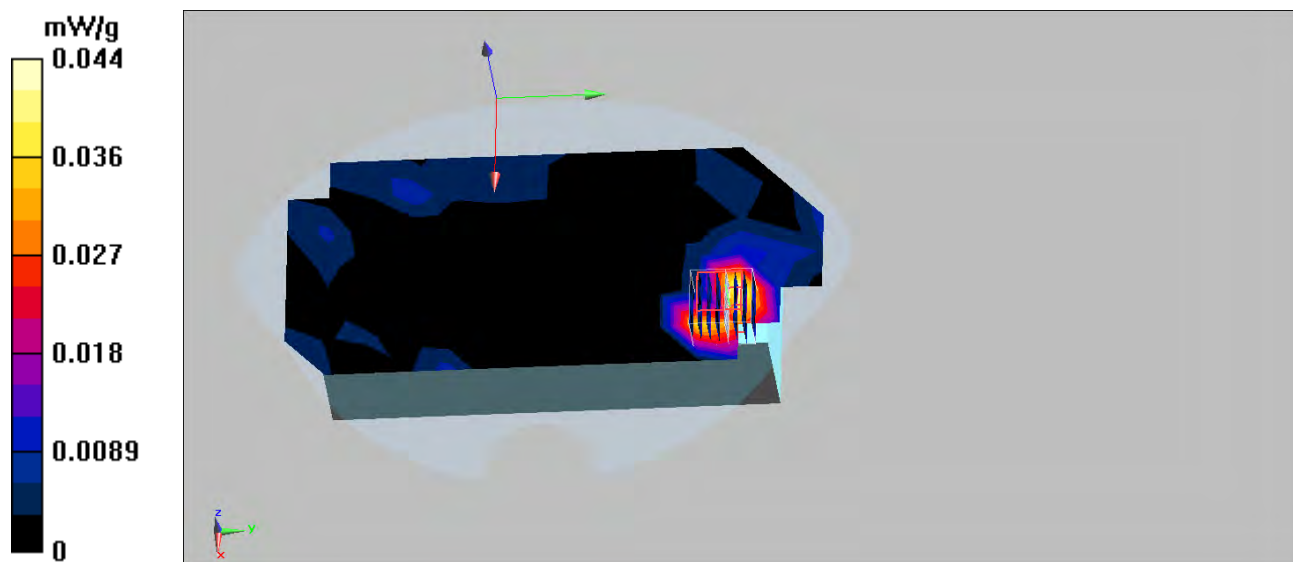
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.324 V/m; Power Drift = 0.175 dB

Peak SAR (extrapolated) = 0.294 W/kg

SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.169 mW/g



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802.11a_Body_Channel-120

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.94$ mho/m; $\epsilon_r = 48.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(3.95, 3.95, 3.95); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.041 mW/g

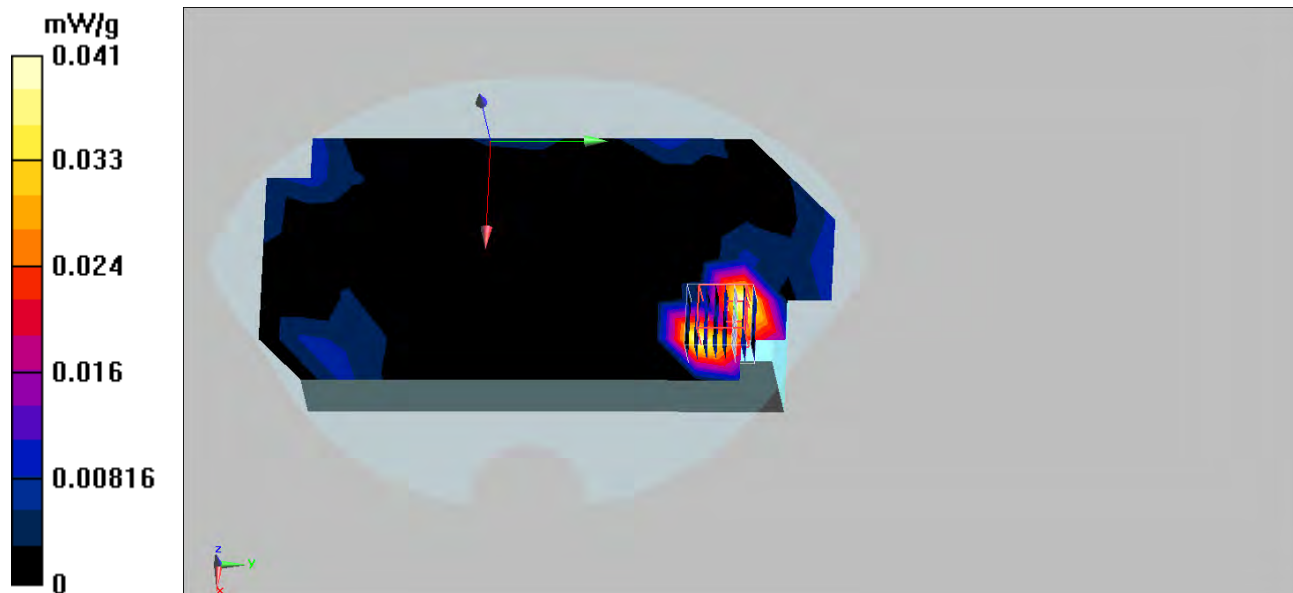
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.254 V/m; Power Drift = 0.105 dB

Peak SAR (extrapolated) = 0.317 W/kg

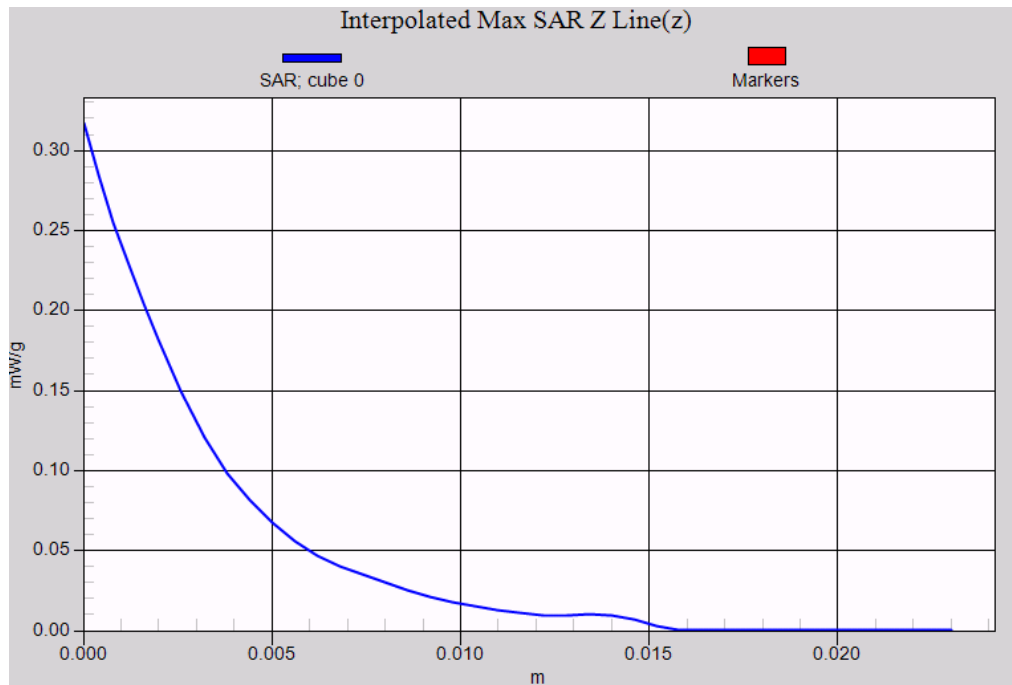
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.184 mW/g



802.11a 5500 MHz EUT Body-worn Z-Axis plot

Channel: 120



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Left-Cheek_Channel-140

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5700$ MHz; $\sigma = 5.29$ mho/m; $\epsilon_r = 36.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.062 mW/g

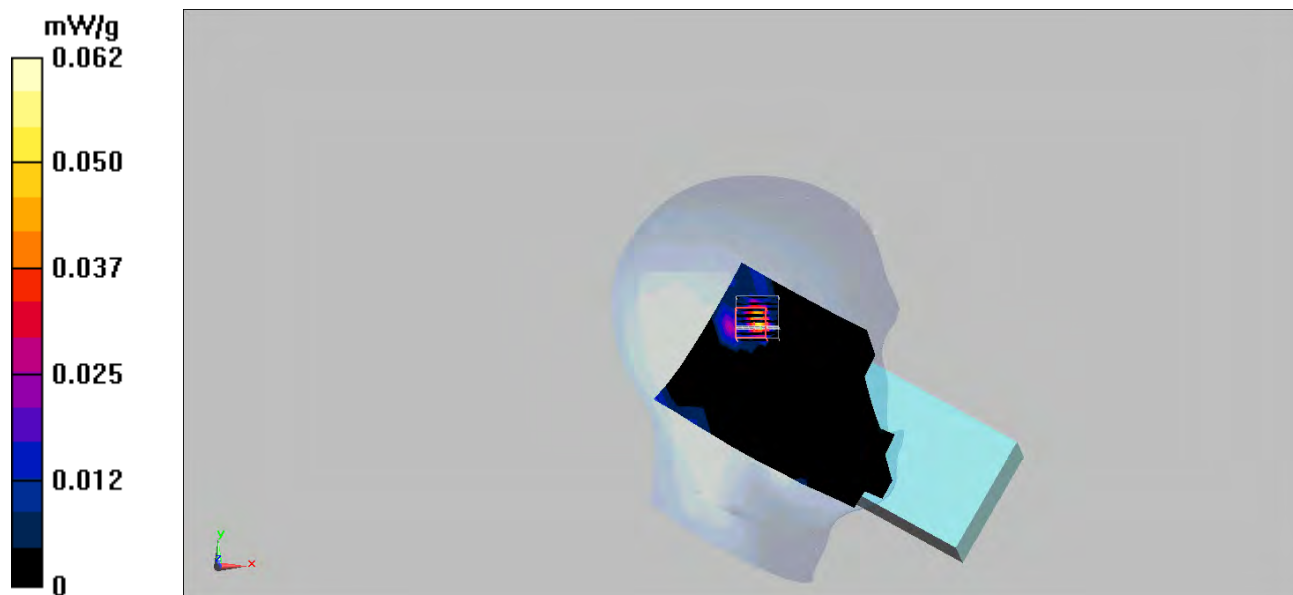
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.255 V/m; Power Drift = 0.142 dB

Peak SAR (extrapolated) = 0.401 W/kg

SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.114 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_ Left -Cheek_Channel-149

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 35.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.085 mW/g

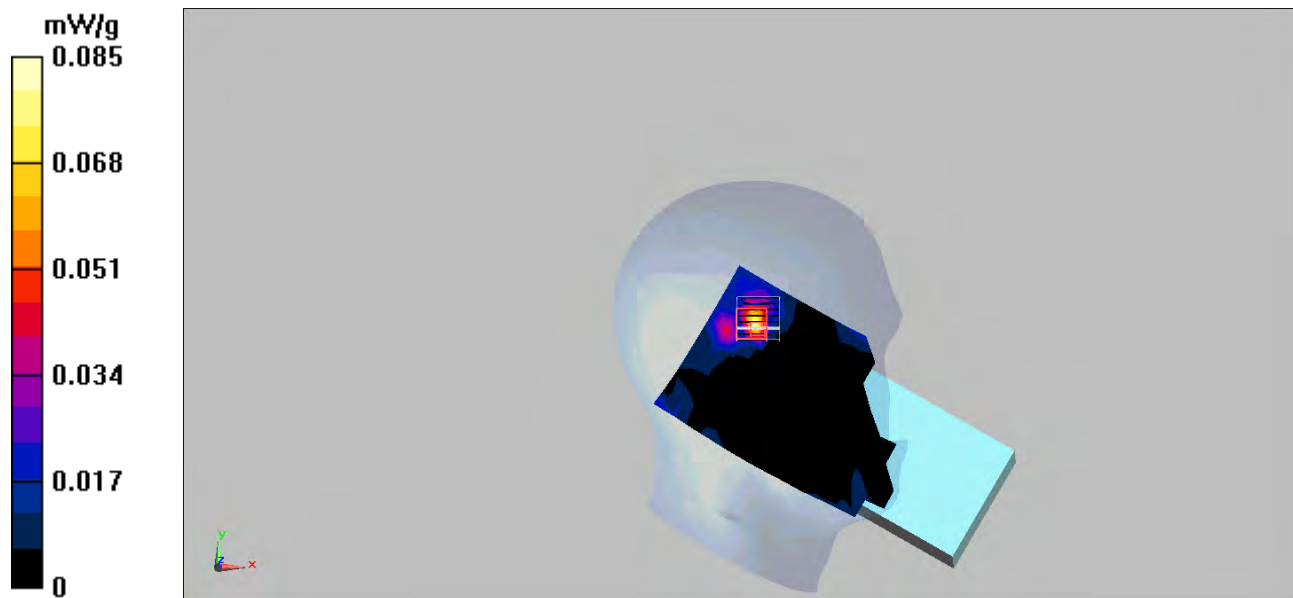
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.08 V/m; Power Drift = 0.187 dB

Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.135 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_ Left -Cheek_Channel-157

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 35.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.083 mW/g

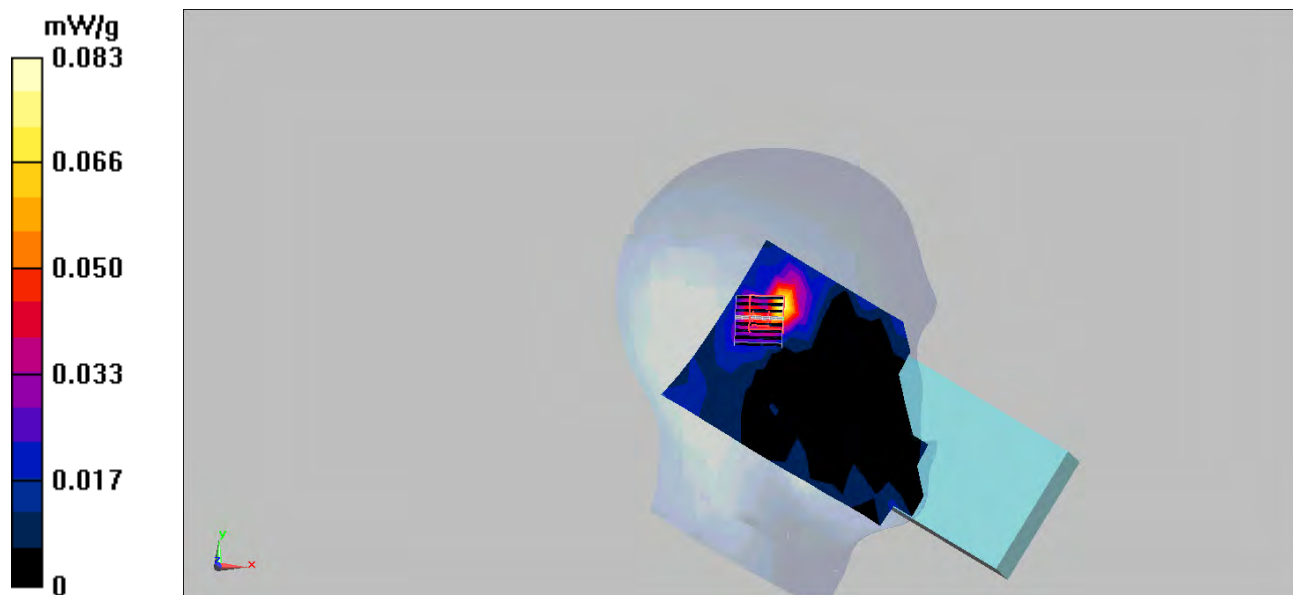
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.45 V/m; Power Drift = -0.142 dB

Peak SAR (extrapolated) = 0.259 W/kg

SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.131 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_ Left -Cheek Channel-161

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5805 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.36$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.070 mW/g

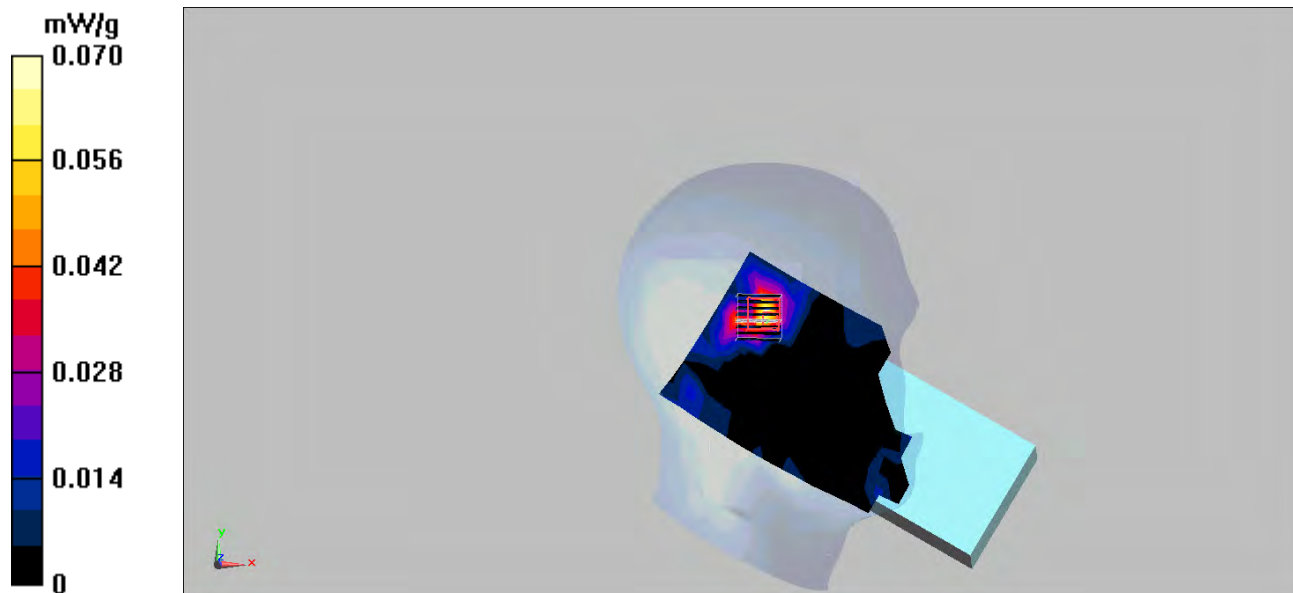
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.446 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 0.388 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.014 mW/g

Maximum value of SAR (measured) = 0.111 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_ Left -Tilt_Channel-140

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5700$ MHz; $\sigma = 5.29$ mho/m; $\epsilon_r = 36.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.037 mW/g

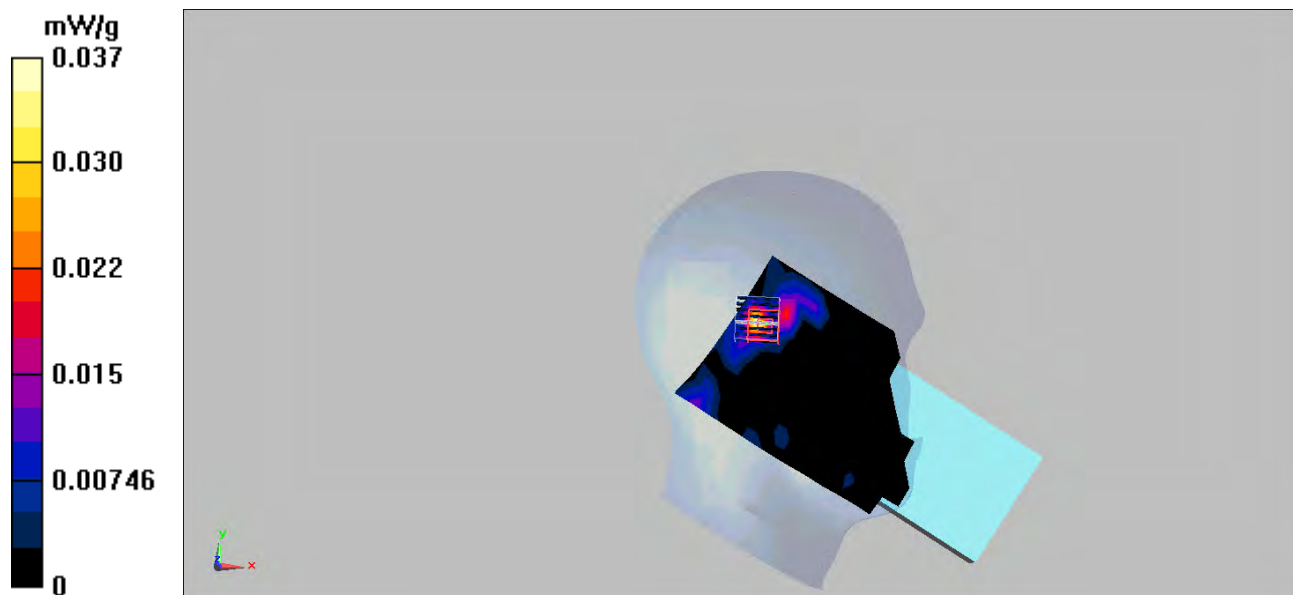
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.325 V/m; Power Drift = 0.147 dB

Peak SAR (extrapolated) = 0.364 W/kg

SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.00741 mW/g

Maximum value of SAR (measured) = 0.103 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_ Left -Tilt_Channel-149

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 35.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.038 mW/g

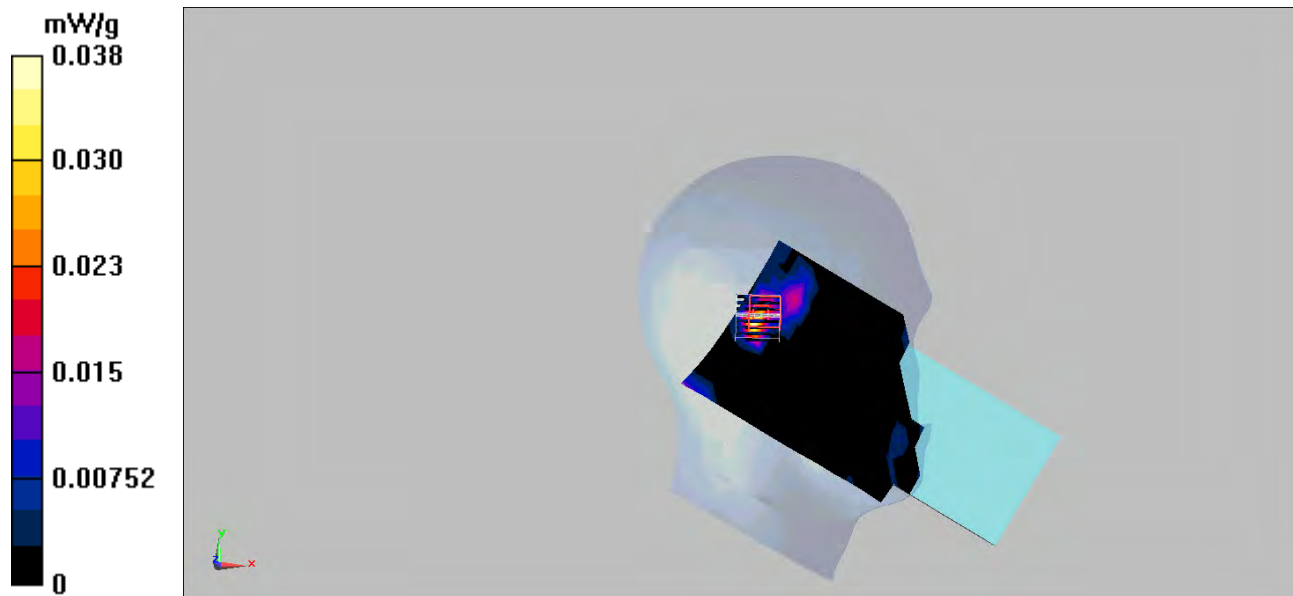
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.363 V/m; Power Drift = 0.162 dB

Peak SAR (extrapolated) = 0.262 W/kg

SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.0028 mW/g

Maximum value of SAR (measured) = 0.061 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-157

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 35.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.043 mW/g

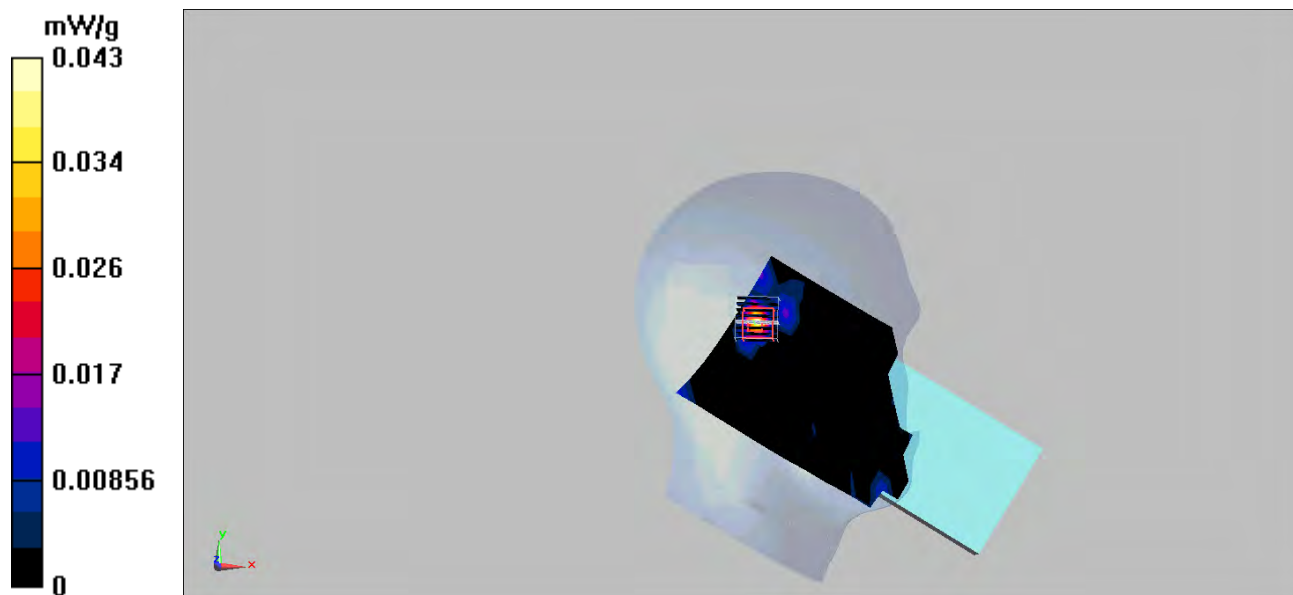
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.357 V/m; Power Drift = 0.214 dB

Peak SAR (extrapolated) = 0.295 W/kg

SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.00338 mW/g

Maximum value of SAR (measured) = 0.062 mW/g



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Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-161

DUT: Portable Data Collection Terminal; Type: MM31

Communication System: 802.11a; Frequency: 5805 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.36$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.047 mW/g

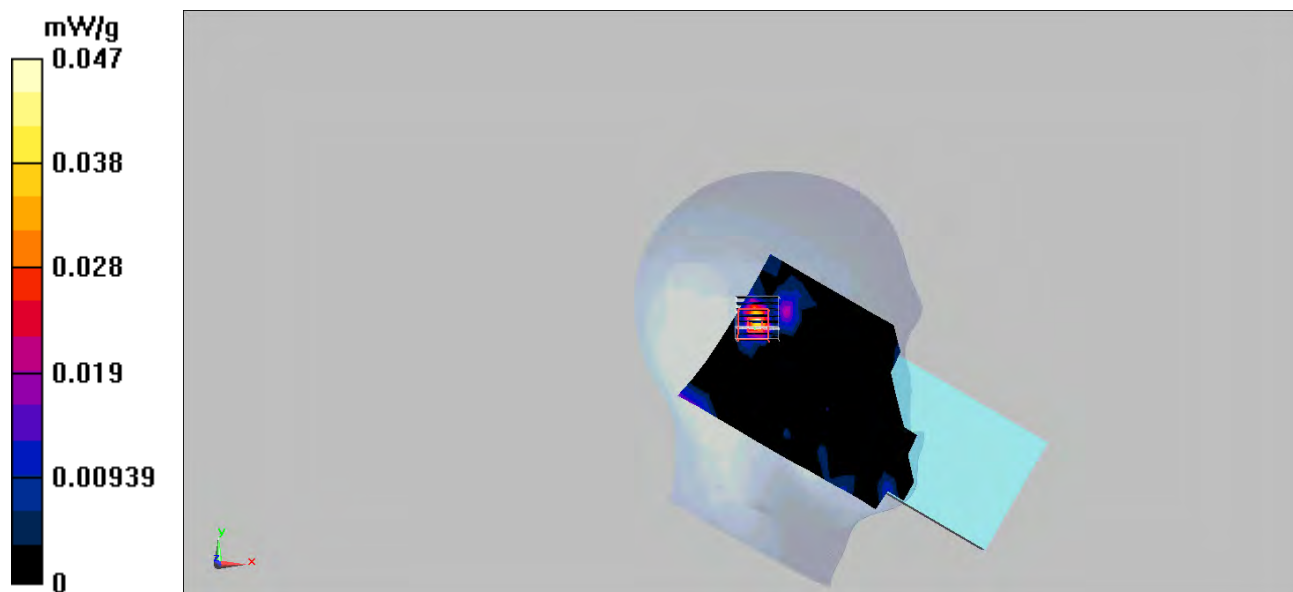
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.254 V/m; Power Drift = 0.096 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.0038 mW/g

Maximum value of SAR (measured) = 0.069 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Cheek_Channel-140

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5700$ MHz; $\sigma = 5.29$ mho/m; $\epsilon_r = 36.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.052 mW/g

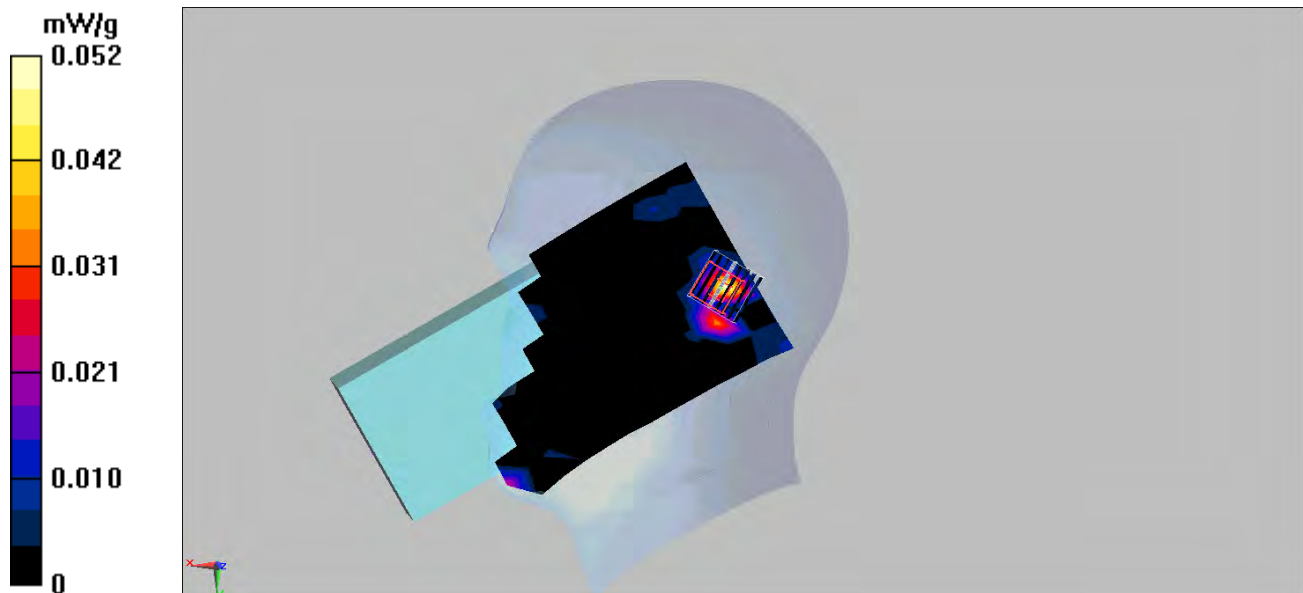
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.287 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 0.176 W/kg

SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.00703 mW/g

Maximum value of SAR (measured) = 0.064 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Cheek_Channel-149

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 35.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.057 mW/g

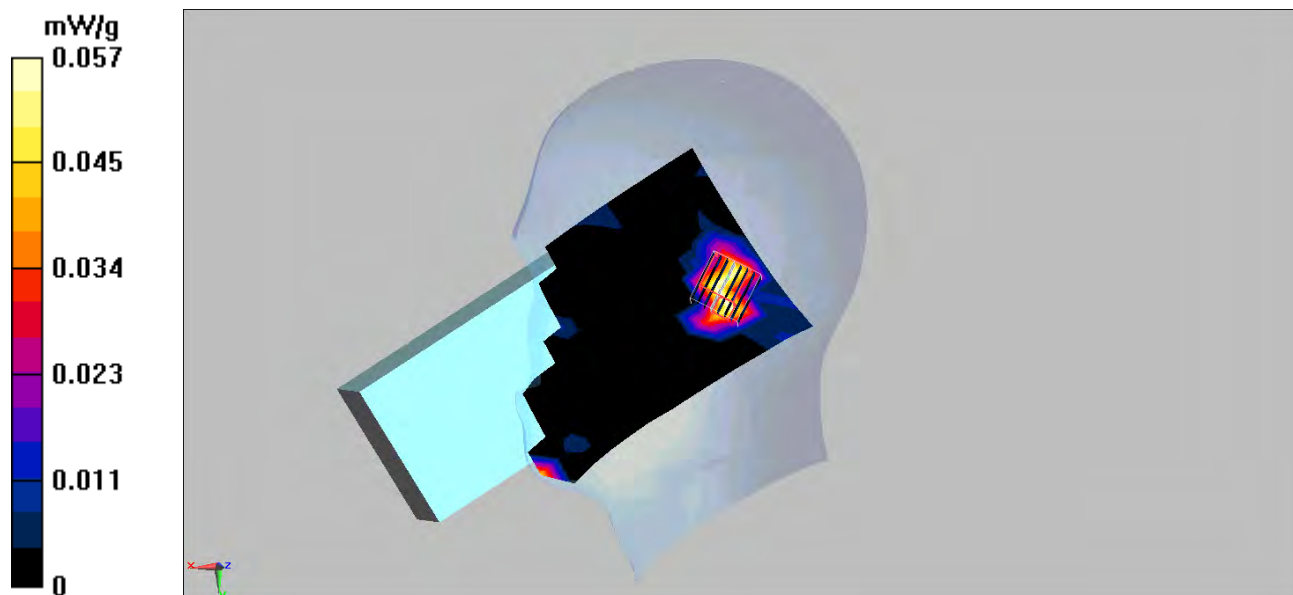
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.07 V/m; Power Drift = 0.174 dB

Peak SAR (extrapolated) = 0.384 W/kg

SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.00921 mW/g

Maximum value of SAR (measured) = 0.082 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Cheek_Channel-157

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 35.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.100 mW/g

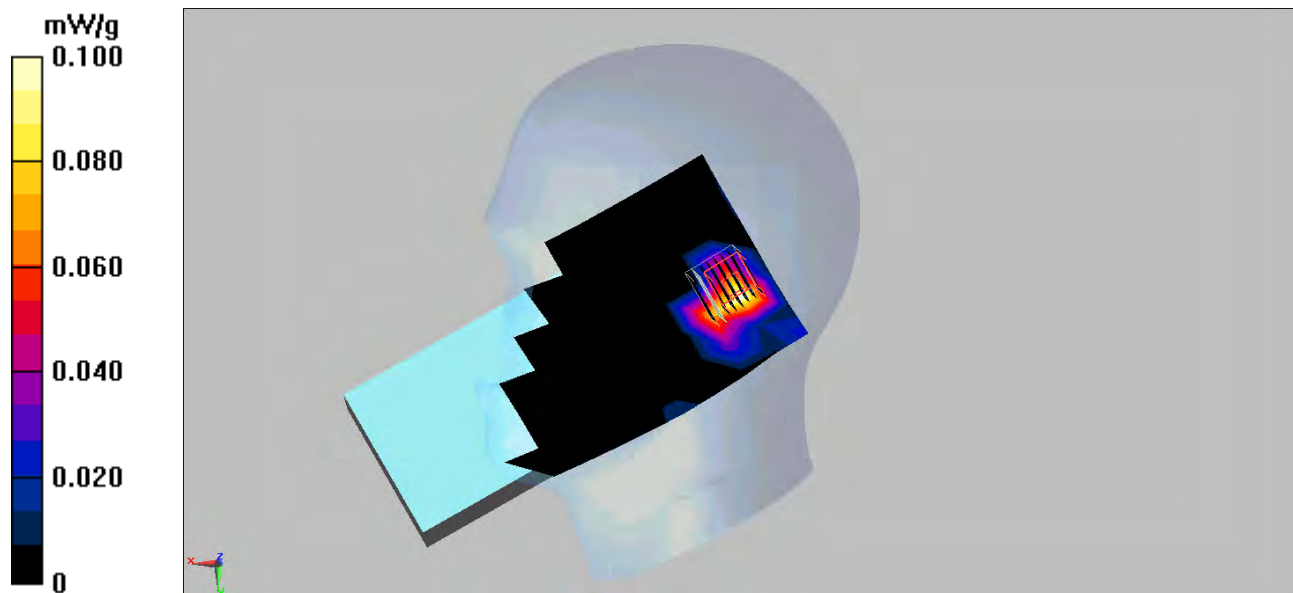
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.45 V/m; Power Drift = 0.173 dB

Peak SAR (extrapolated) = 0.462 W/kg

SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.015 mW/g

Maximum value of SAR (measured) = 0.153 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Cheek_Channel-161

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5805 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.36$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.040 mW/g

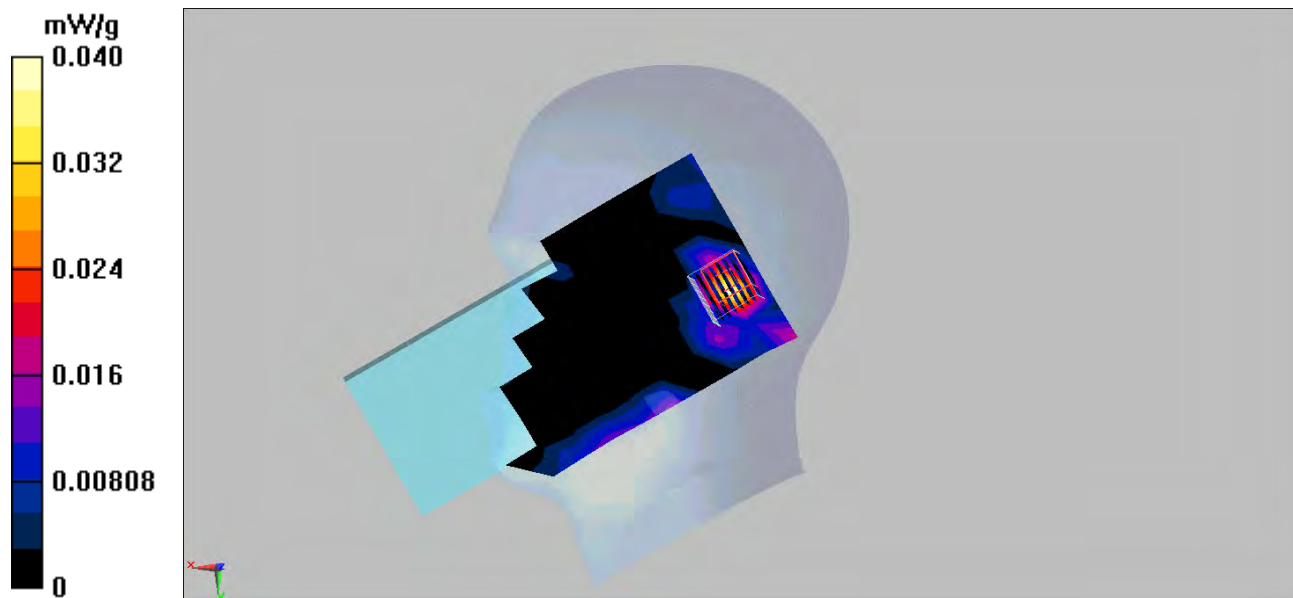
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.237 V/m; Power Drift = 0.110 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.00794 mW/g

Maximum value of SAR (measured) = 0.070 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-140

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5700$ MHz; $\sigma = 5.29$ mho/m; $\epsilon_r = 36.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.42, 4.42, 4.42); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.214 mW/g

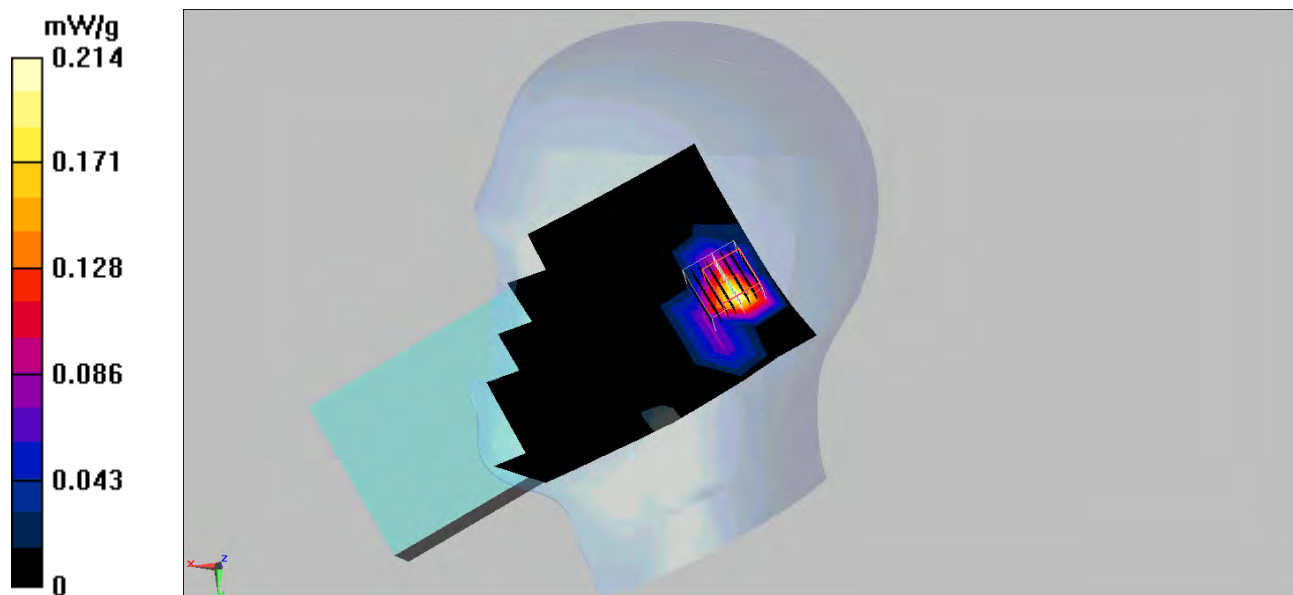
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.85 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.459 W/kg

SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.039 mW/g

Maximum value of SAR (measured) = 0.262 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-149

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 35.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.175 mW/g

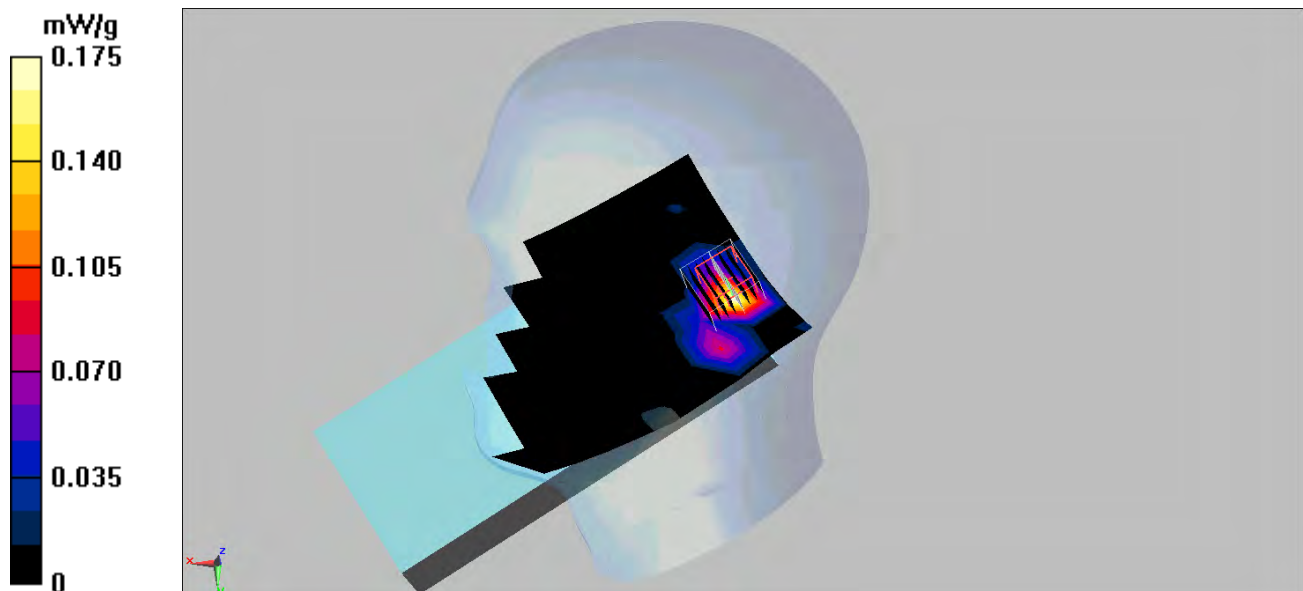
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.518 V/m; Power Drift = 0.165 dB

Peak SAR (extrapolated) = 0.613 W/kg

SAR(1 g) = 0.100 mW/g; SAR(10 g) = 0.028 mW/g

Maximum value of SAR (measured) = 0.231 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-157

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 35.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.123 mW/g

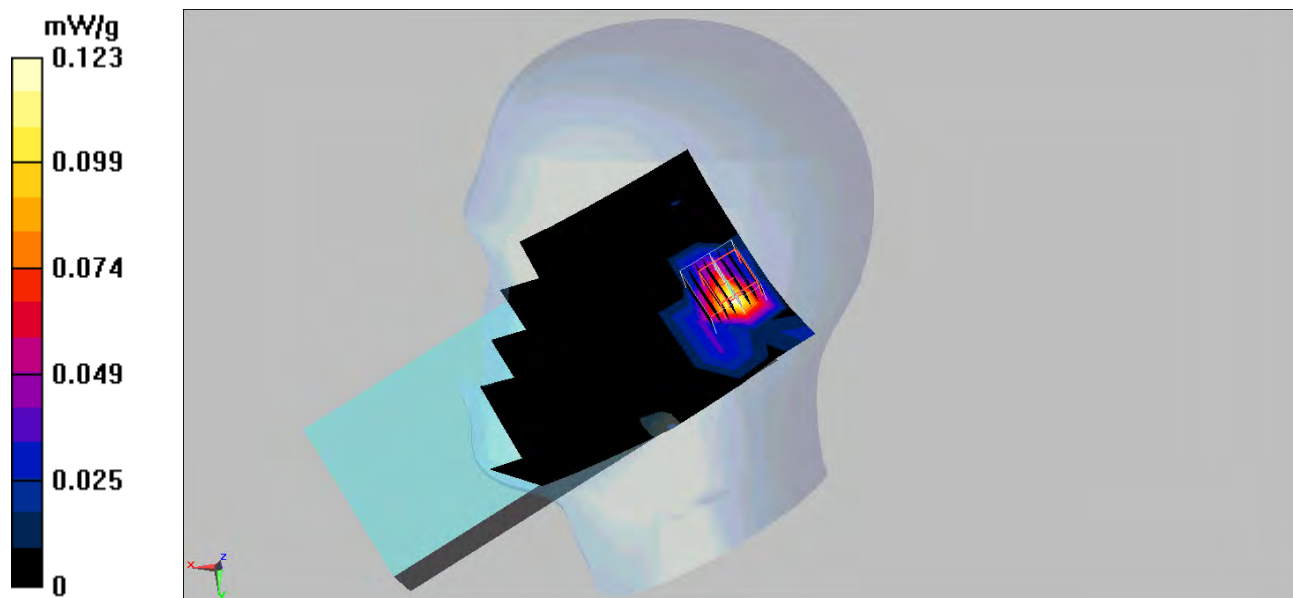
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.549 V/m; Power Drift = 0.187 dB

Peak SAR (extrapolated) = 0.339 W/kg

SAR(1 g) = 0.081 mW/g; SAR(10 g) = 0.023 mW/g

Maximum value of SAR (measured) = 0.172 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Right-Tilt_Channel-161

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5805 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.36$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.21, 4.21, 4.21); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Head/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.073 mW/g

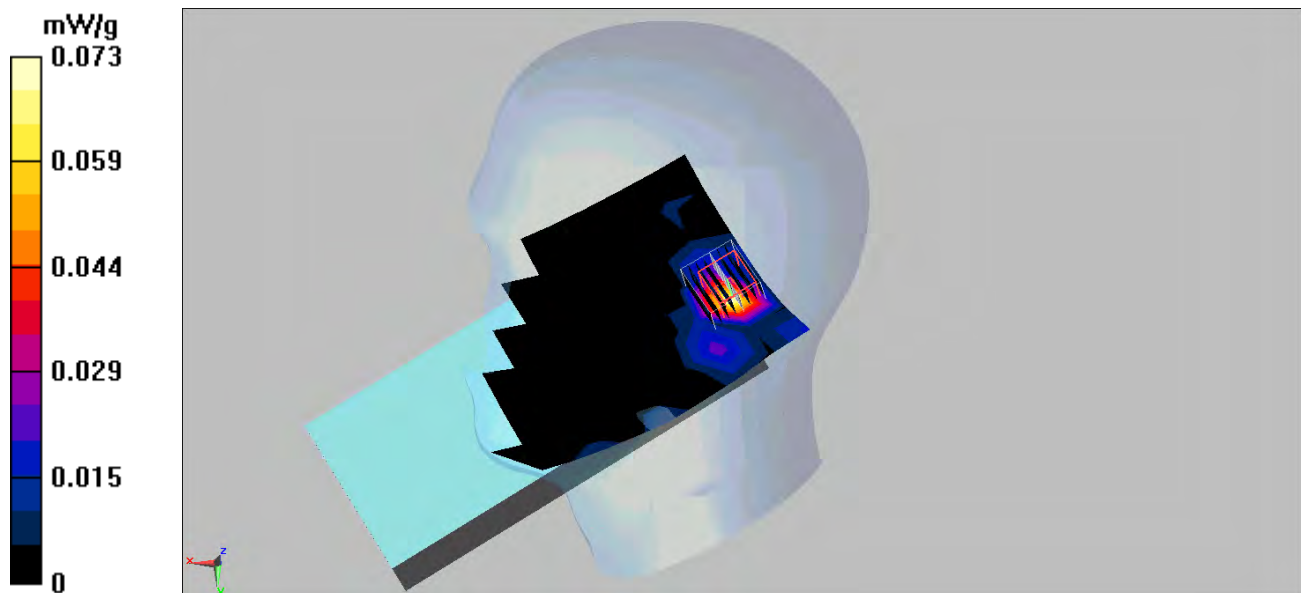
Head/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.248 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.260 W/kg

SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.012 mW/g

Maximum value of SAR (measured) = 0.094 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Body_Channel-140

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5700$ MHz; $\sigma = 6.12$ mho/m; $\epsilon_r = 48.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.121 mW/g

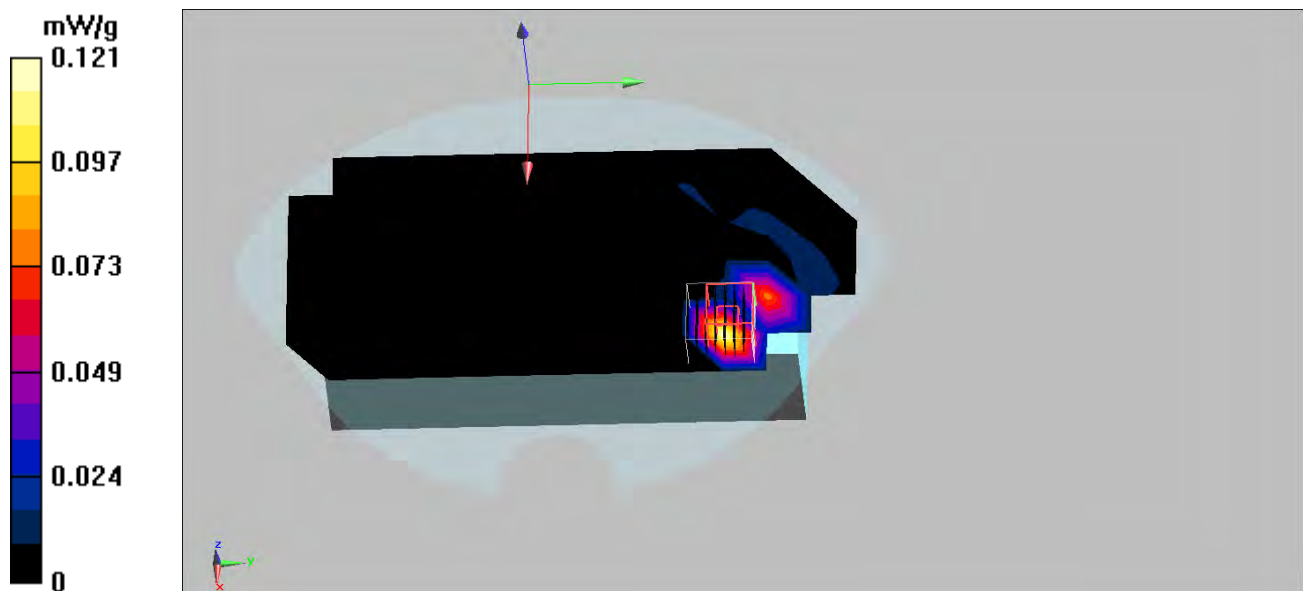
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.346 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.528 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.027 mW/g

Maximum value of SAR (measured) = 0.277 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Body_Channel-149

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.19$ mho/m; $\epsilon_r = 48.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.059 mW/g

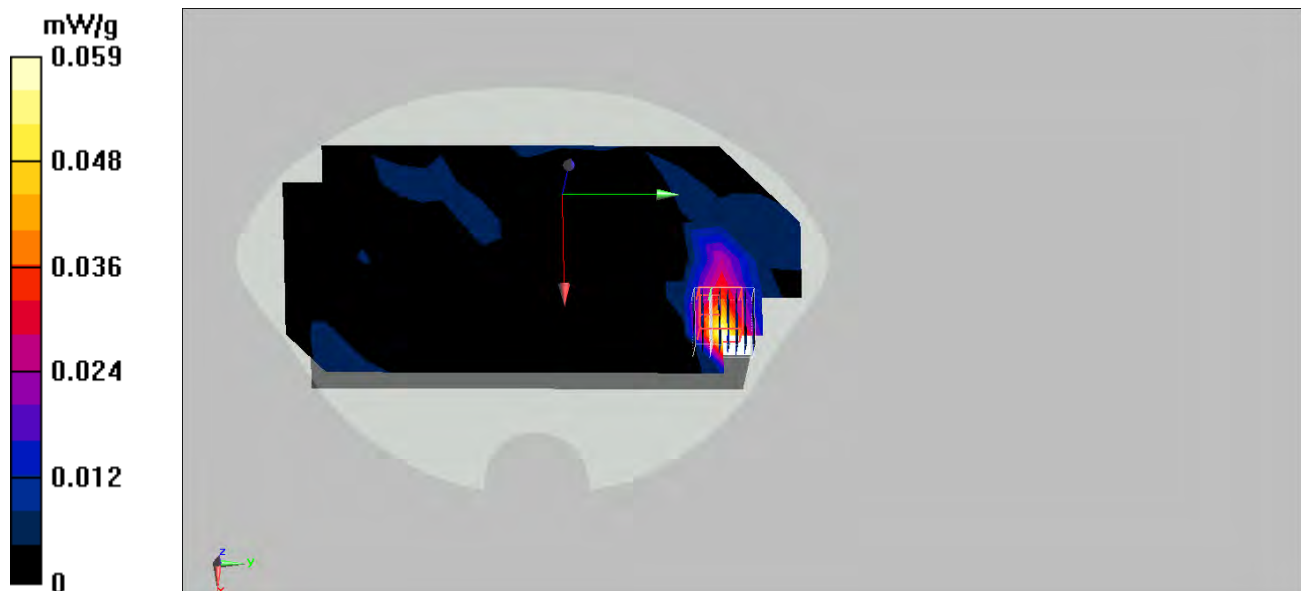
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.327 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 0.300 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.173 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Body_Channel-157

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 6.26$ mho/m; $\epsilon_r = 48.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (9x18x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.284 mW/g

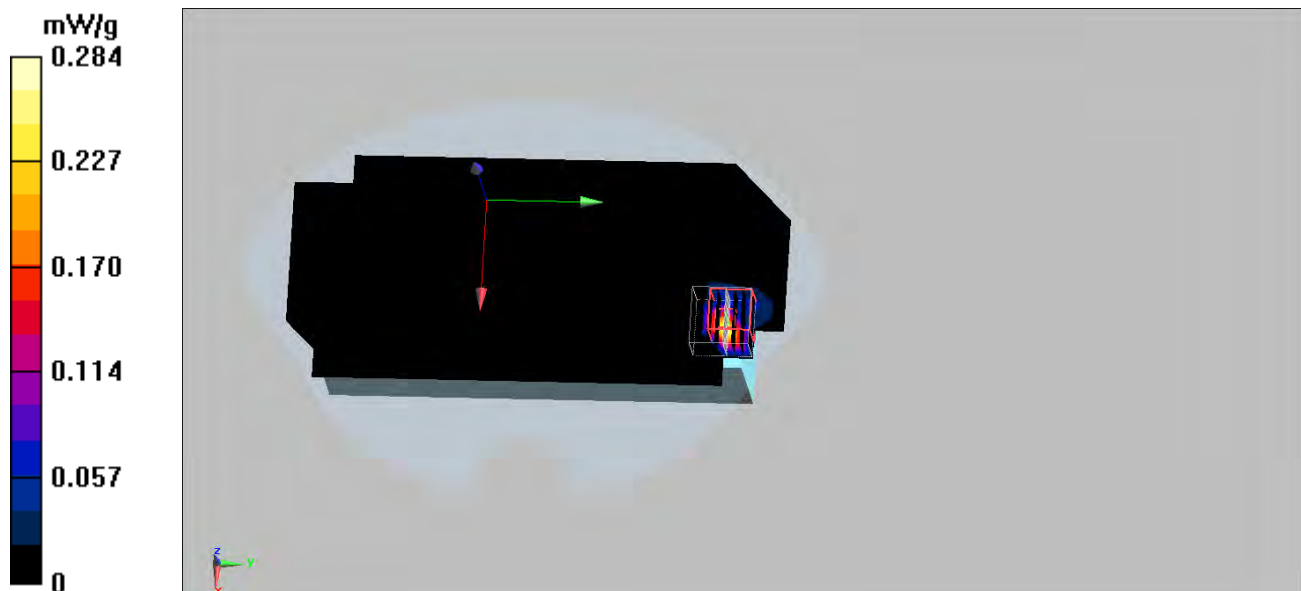
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.255 V/m; Power Drift = 0.142 dB

Peak SAR (extrapolated) = 0.621 W/kg

SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.025 mW/g

Maximum value of SAR (measured) = 0.358 mW/g



Test Laboratory: Quietek

Date/Time: 8/11/2009

802.11a_Body_Channel-161

DUT: Portable Data Collection Terminal; Type: MM3

Communication System: 802.11a; Frequency: 5805 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 6.29$ mho/m; $\epsilon_r = 48.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (7x14x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.116 mW/g

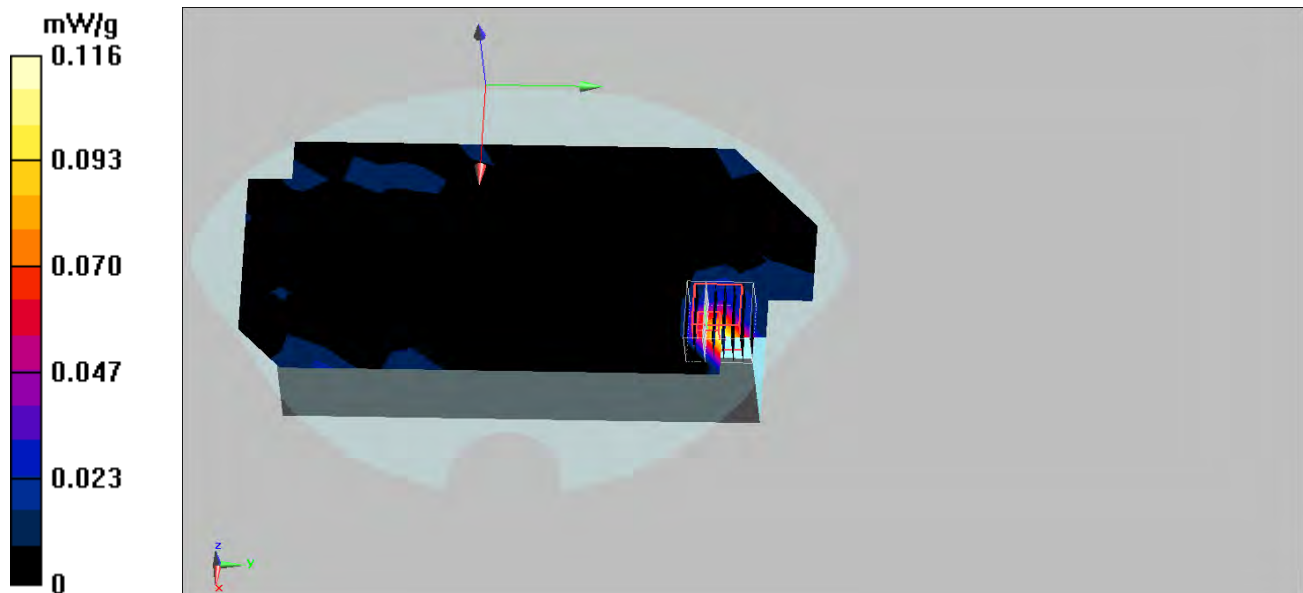
Body/Zoom Scan (8x8x8) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.687 V/m; Power Drift = -0.080 dB

Peak SAR (extrapolated) = 0.481 W/kg

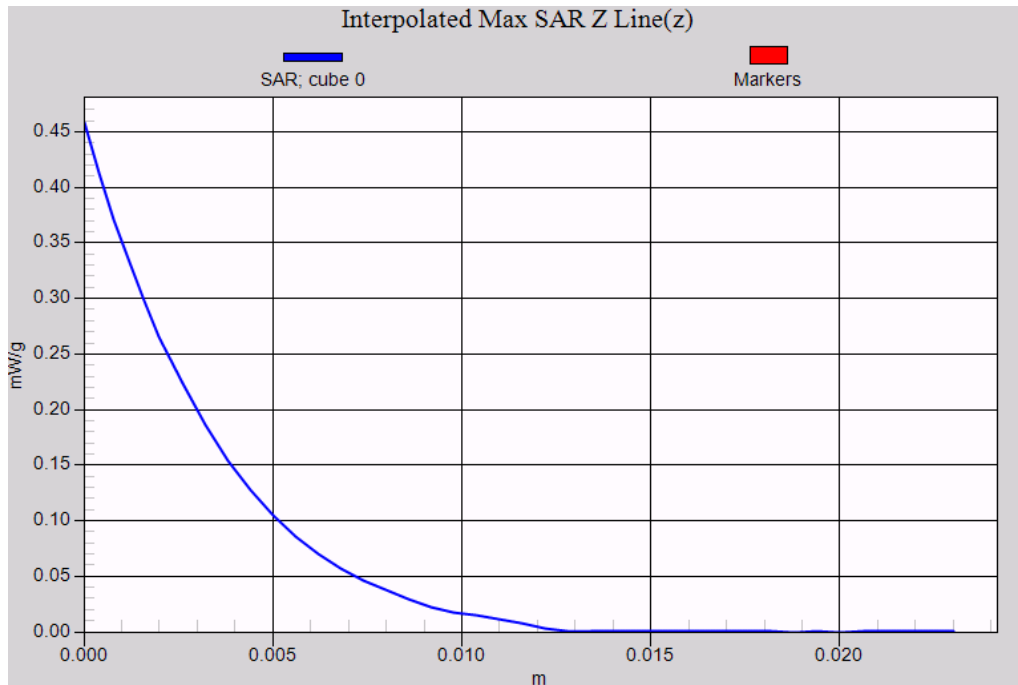
SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.030 mW/g

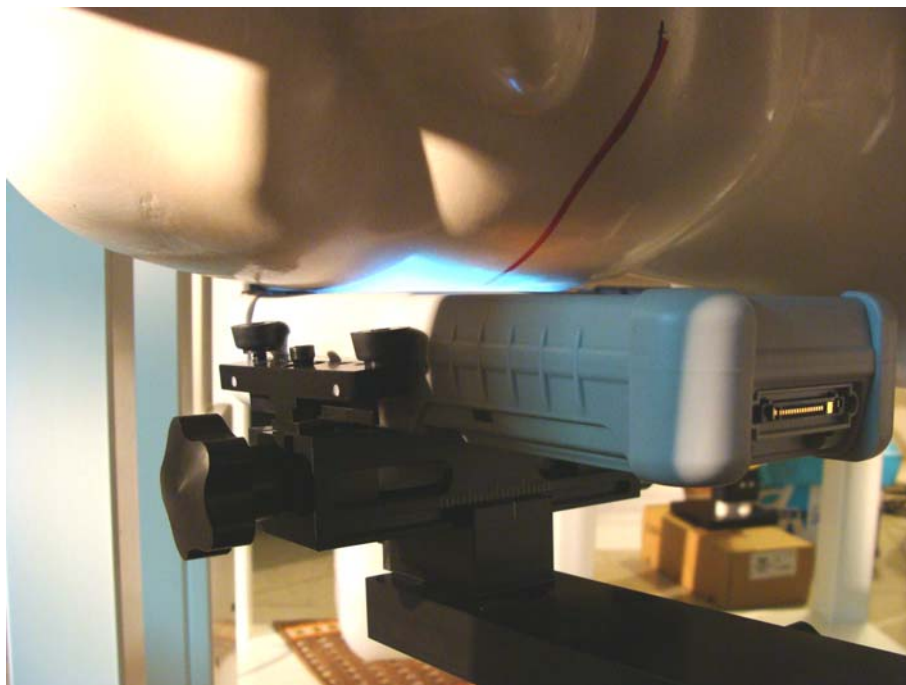
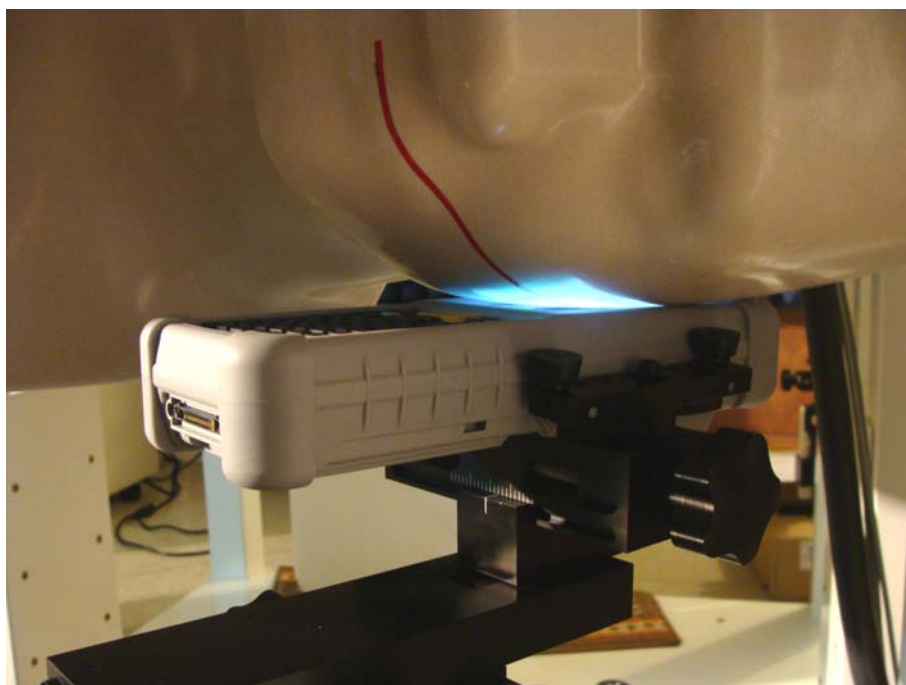
Maximum value of SAR (measured) = 0.303 mW/g



802.11a 5800 MHz EUT Right-Tilted Z-Axis plot

Channel: 140

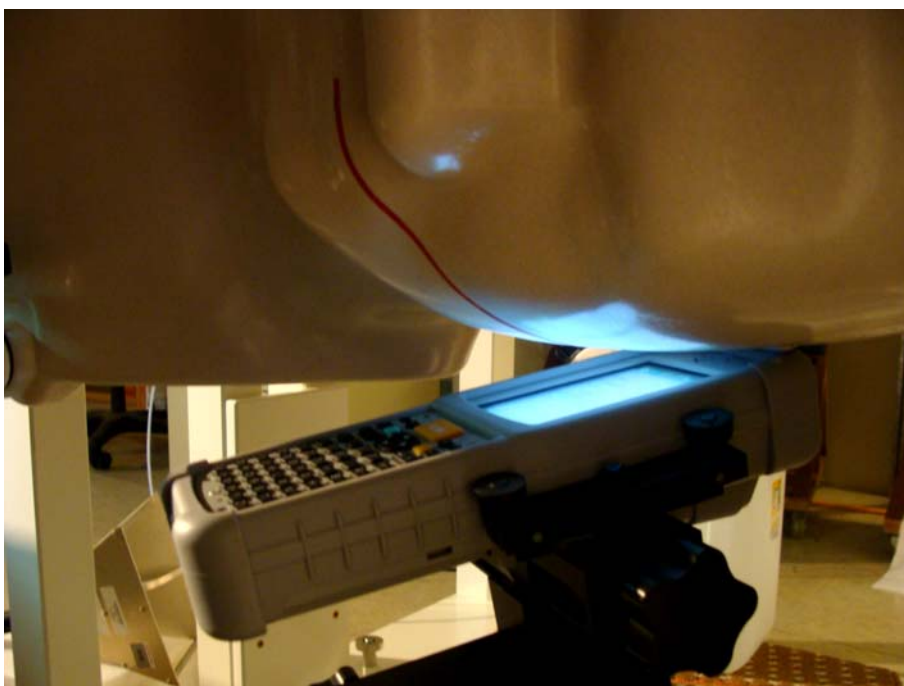


Appendix C. Test Setup Photographs & EUT Photographs**Test Setup Photographs****Right Head (EUT Cheek)****Left Head (EUT Cheek)**

Right Head (EUT Tilted)



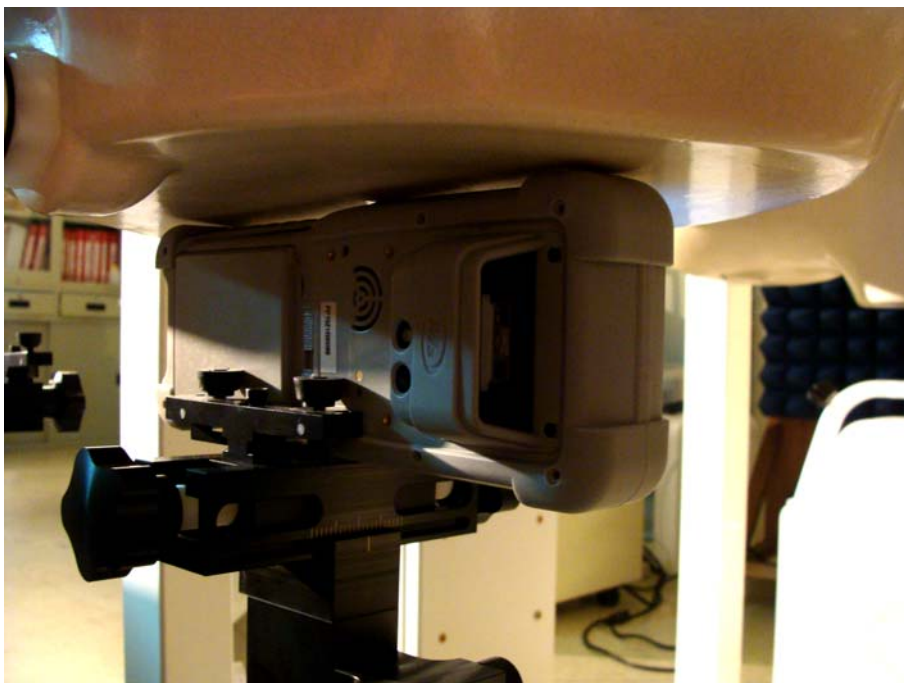
Left Head (EUT Tilted)



Body-worn (Aux)



Body-worn (Main)



Depth of the liquid in the phantom-Zoom In



Note: The positions used in the measurements were according to IEEE 1528-2003.

EUT Photographs



Appendix D. Probe Calibration Data

**Miniature Isotropic RF Probe
S/N: 3602**



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **Quietek (Auden)**

Certificate No: **EX3-3602_May09**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3602**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-14.v3 and QA CAL-23.v3
Calibration procedure for dosimetric E-field probes**

Calibration date: **May 20, 2009**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41283874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAEA	SN: 660	9-Sep-08 (No. DAEA-660_Sep08)	Sep-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: May 20, 2009

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below **ConvF**).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of **ConvF**.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3602

Manufactured:	March 23, 2009
Calibrated:	May 20, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: EX3DV4 SN:3602

Sensitivity in Free Space^A

Diode Compression^B

NormX	0.41 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	87 mV
NormY	0.40 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	89 mV
NormZ	0.52 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	89 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR _{loc} [%]	Without Correction Algorithm	10.2	6.1
SAR _{loc} [%]	With Correction Algorithm	0.9	0.6

TSL **1810 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR _{sa} [%]	Without Correction Algorithm	6.7	2.9
SAR _{sa} [%]	With Correction Algorithm	0.5	0.3

Sensor Offset

Probe Tip to Sensor Center **1.0 mm**

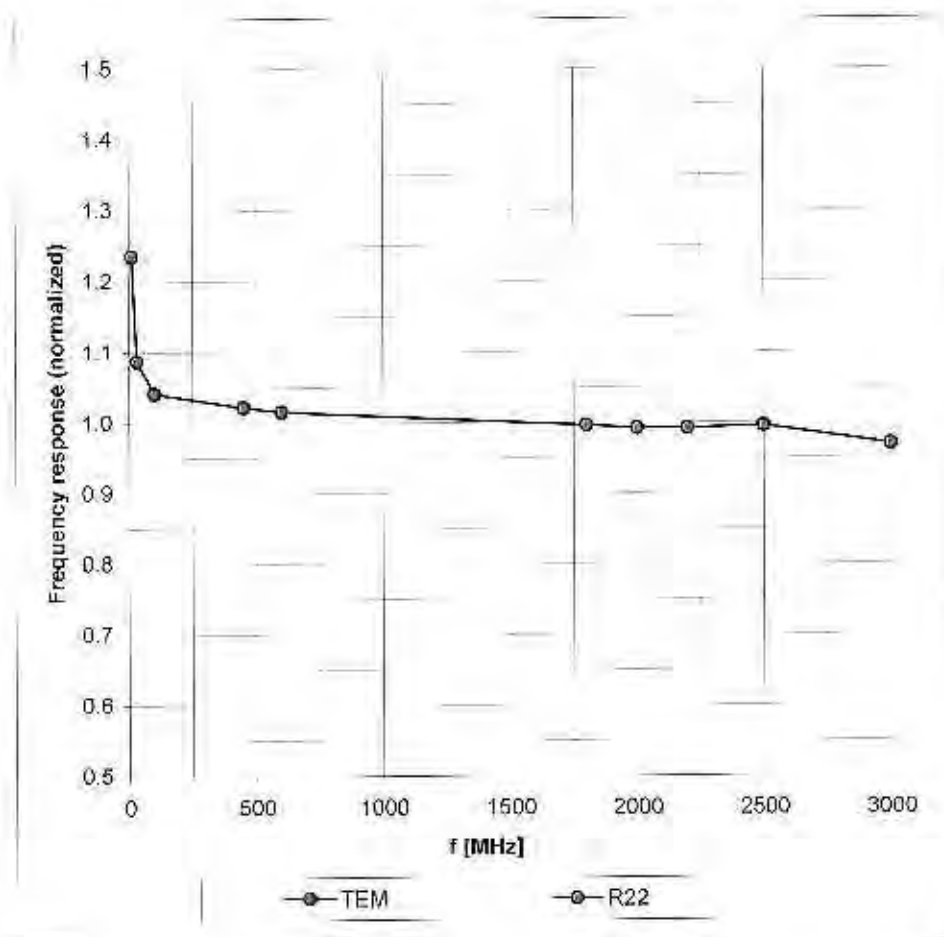
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL. (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

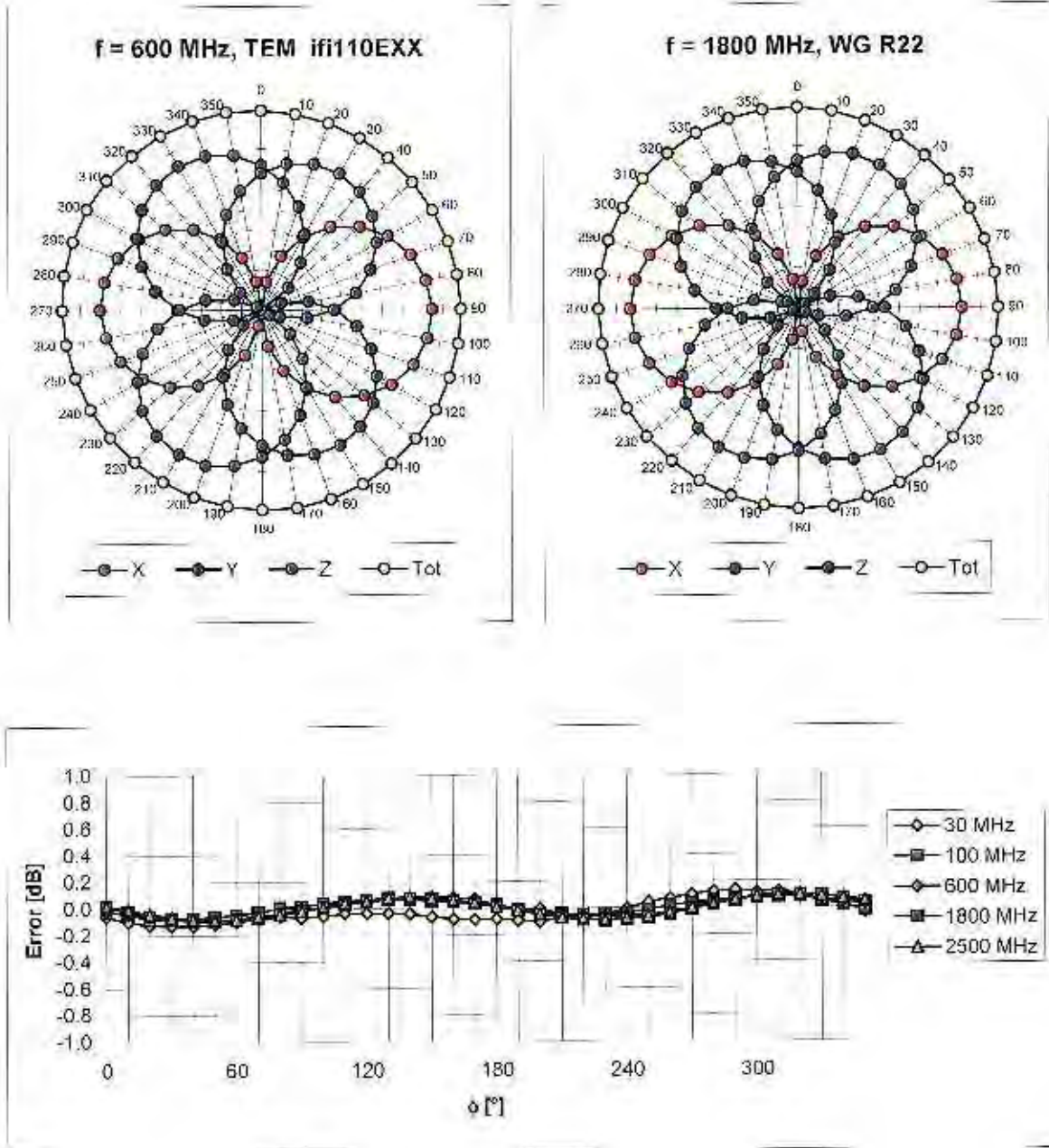
Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



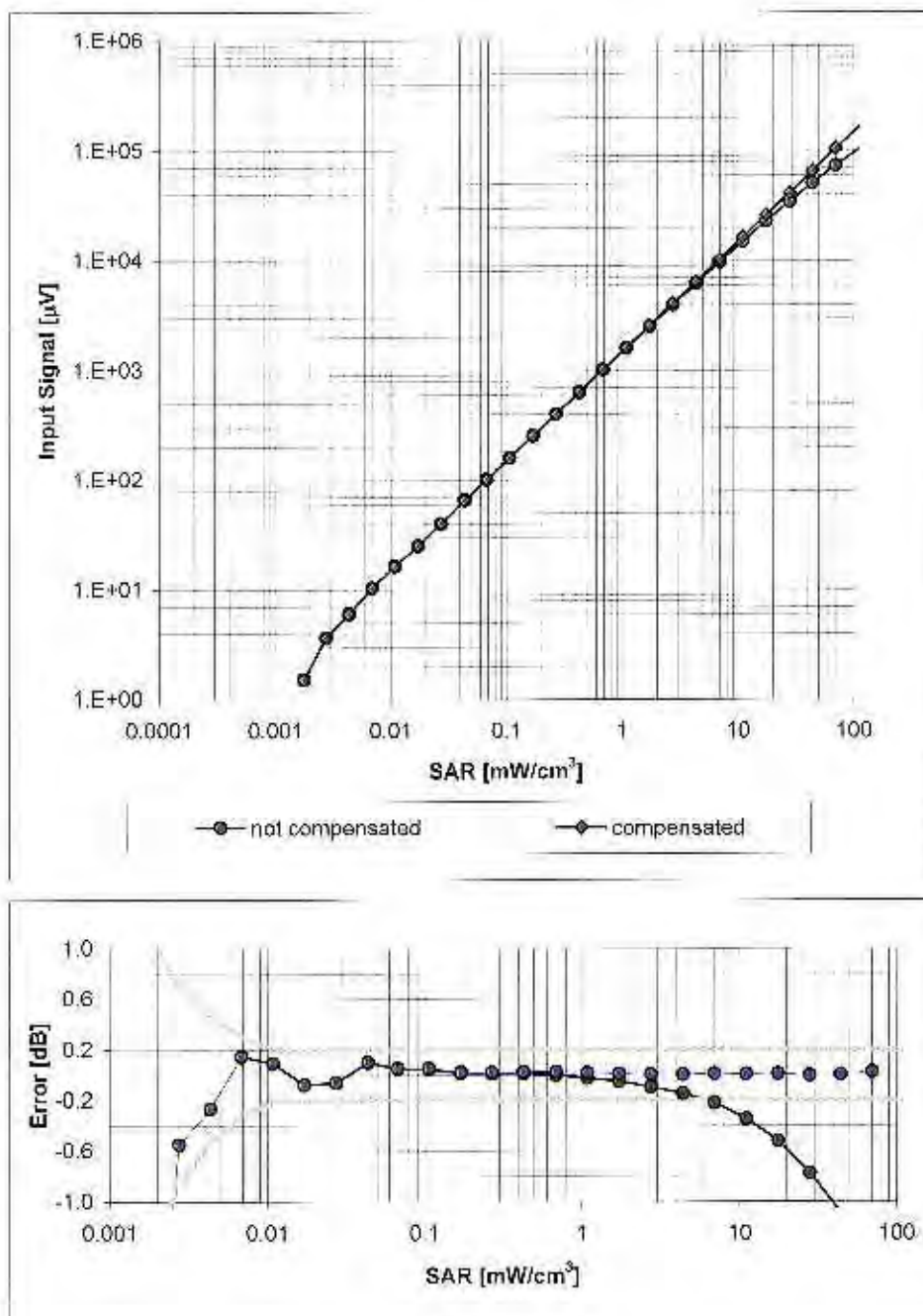
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800 \text{ MHz}$)



Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

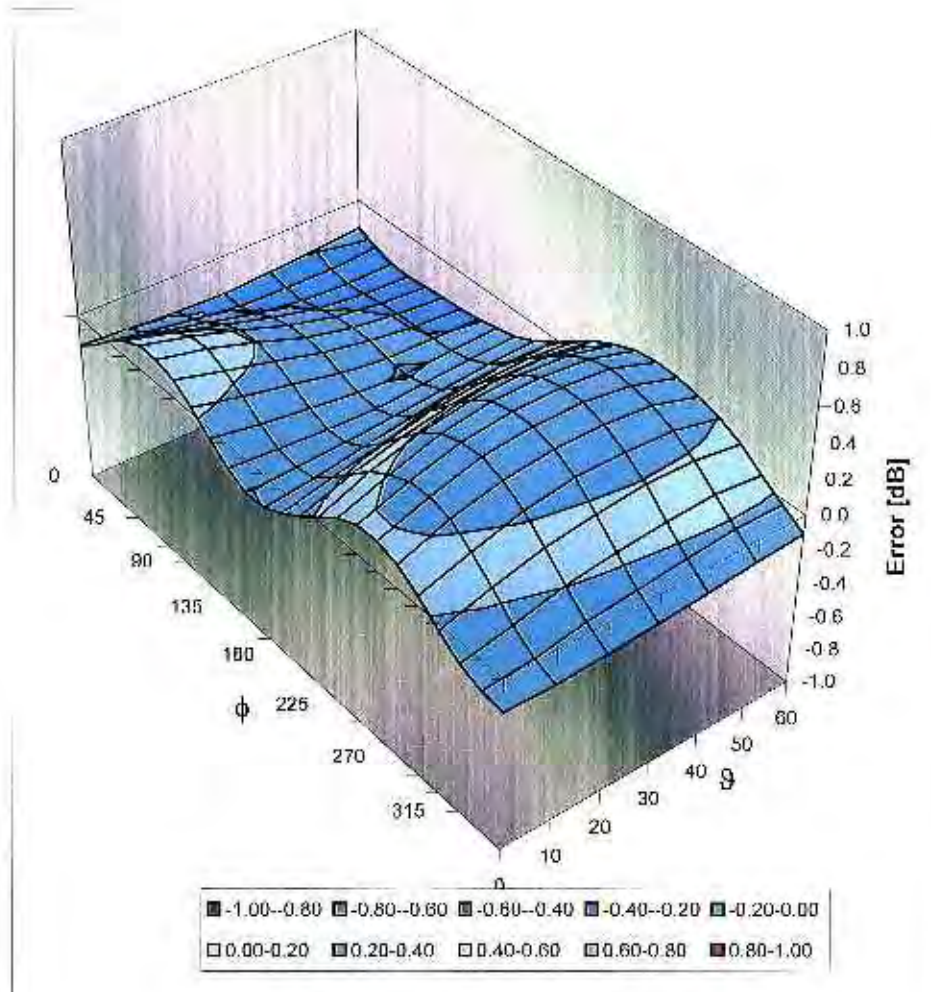
Conversion Factor Assessment

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.56	0.71	9.14 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.65	0.65	8.86 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.84	0.55	7.81 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.84	0.56	7.55 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.46	0.70	7.10 ± 11.0% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.41	0.77	7.10 ± 11.0% (k=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.42	1.00	6.26 ± 13.1% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.43	1.75	4.79 ± 13.1% (k=2)
5300	± 50 / ± 100	Head	35.9 ± 5%	4.76 ± 5%	0.43	1.75	4.43 ± 13.1% (k=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.50	1.75	4.44 ± 13.1% (k=2)
5600	± 50 / ± 100	Head	35.5 ± 5%	5.07 ± 5%	0.50	1.75	4.42 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.52	1.75	4.21 ± 13.1% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.72	0.65	9.32 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.55	0.74	8.97 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.70	0.65	7.97 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.48	0.78	7.68 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.42	0.79	6.90 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.28	1.23	6.81 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.35	1.22	5.75 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.50	1.80	4.43 ± 13.1% (k=2)
5300	± 50 / ± 100	Body	48.5 ± 5%	5.42 ± 5%	0.52	1.80	4.23 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.55	1.80	4.08 ± 13.1% (k=2)
5600	± 50 / ± 100	Body	48.5 ± 5%	5.77 ± 5%	0.55	1.80	3.95 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.61	1.80	4.00 ± 13.1% (k=2)

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL

Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)



Appendix E. Dipole Calibration

Validation Dipole 3-6 GHz

M/N: D5GHzV2

S/N: 1041



Accredited by the Swiss Accreditation Service (SAS)
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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Quietek (Auden)**

Certificate No: **D5GHzV2-1041_May09**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1041**

Calibration procedure(s) **QA CAL-22.v1**
Calibration procedure for dipole validation kits between 3-6 GHz

Calibration date: **May 15, 2009**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe EX3DV4	SN: 3503	11-Mar-09 (No. EX3-3503_Mar09)	Mar-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

Calibrated by: **Name** **Function** **Signature**
Claudio Leubler **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Issued: May 26, 2009

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) IEC Std 62209 Part 2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", Draft Version 0.9, December 2004
- b) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- c) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 10 mm	
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 2.5 mm	
Frequency	5200 MHz \pm 1 MHz 5500 MHz \pm 1 MHz 5800 MHz \pm 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2) °C	34.9 \pm 6 %	4.45 mho/m \pm 6 %
Head TSL temperature during test	(22.0 \pm 0.2) °C	---	---

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.72 mW / g
SAR normalized	normalized to 1W	77.2 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	76.7 mW / g \pm 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.17 mW / g
SAR normalized	normalized to 1W	21.7 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	21.5 mW / g \pm 19.5 % (k=2)

¹ Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities"

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.3 ± 6 %	4.75 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	---	---

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	8.23 mW / g
SAR normalized	normalized to 1W	82.3 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	81.6 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.30 mW / g
SAR normalized	normalized to 1W	23.0 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	22.8 mW / g ± 19.5 % (k=2)

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.7 ± 6 %	5.03 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	---	---

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.59 mW / g
SAR normalized	normalized to 1W	75.9 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	75.1 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.11 mW / g
SAR normalized	normalized to 1W	21.1 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	20.8 mW / g ± 19.5 % (k=2)

¹ Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities"

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.4 ± 6 %	5.30 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.00 mW / g
SAR normalized	normalized to 1W	70.0 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	69.5 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	1.94 mW / g
SAR normalized	normalized to 1W	19.4 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	19.3 mW / g ± 19.5 % (k=2)

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.7 ± 6 %	5.69 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.66 mW / g
SAR normalized	normalized to 1W	76.6 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	76.0 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.11 mW / g
SAR normalized	normalized to 1W	21.1 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	20.9 mW / g ± 19.5 % (k=2)

¹ Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities"

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.0 ± 6 %	6.07 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	6.82 mW / g
SAR normalized	normalized to 1W	68.2 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	67.6 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	1.87 mW / g
SAR normalized	normalized to 1W	18.7 mW / g
SAR for nominal Body TSL parameters ¹	normalized to 1W	18.5 mW / g ± 19.5 % (k=2)

¹ Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	49.7 Ω - 4.0 j Ω
Return Loss	-28.0 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	52.2 Ω - 2.5 j Ω
Return Loss	-29.8 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	55.0 Ω - 2.0 j Ω
Return Loss	-25.9 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	49.5 Ω - 4.0 j Ω
Return Loss	-27.9 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	52.8 Ω - 2.2 j Ω
Return Loss	-29.2 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	55.3 Ω - 0.4 j Ω
Return Loss	-26.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.199 ns
----------------------------------	----------

After long term use with 40 W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 30, 2005

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1041

Communication System: CW-5GHz; Frequency: 5200 MHz Frequency: 5500 MHz Frequency: 5800 MHz;
Duty Cycle: 1:1

Medium: HSL 5800 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.45$ mho/m; $\epsilon_r = 34.9$; $\rho = 1000$ kg/m³ Medium parameters used: $f = 5500$ MHz; $\sigma = 4.75$ mho/m; $\epsilon_r = 34.3$; $\rho = 1000$ kg/m³ Medium parameters used: $f = 5800$ MHz; $\sigma = 5.03$ mho/m; $\epsilon_r = 33.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.36, 5.36, 5.36)ConvF(4.85, 4.85, 4.85)ConvF(4.74, 4.74, 4.74); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 61.5 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 29.7 W/kg

SAR(1 g) = 7.72 mW/g; SAR(10 g) = 2.17 mW/g

Maximum value of SAR (measured) = 15.8 mW/g

d=10mm, Pin=100mW, f=5500 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 62.1 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 33.5 W/kg

SAR(1 g) = 8.23 mW/g; SAR(10 g) = 2.3 mW/g

Maximum value of SAR (measured) = 17 mW/g

d=10mm, Pin=100mW, f=5800 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

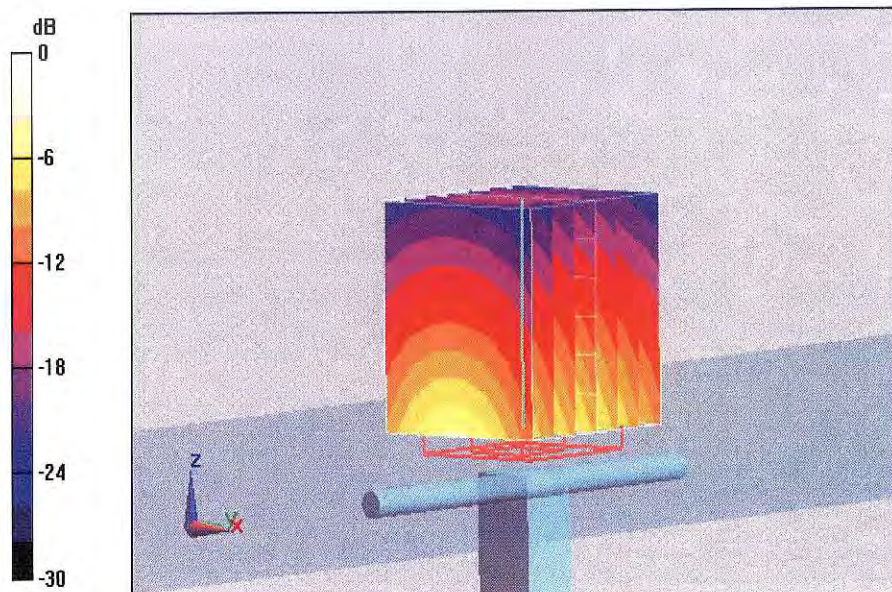
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 58.5 V/m; Power Drift = 0.096 dB

Peak SAR (extrapolated) = 32.3 W/kg

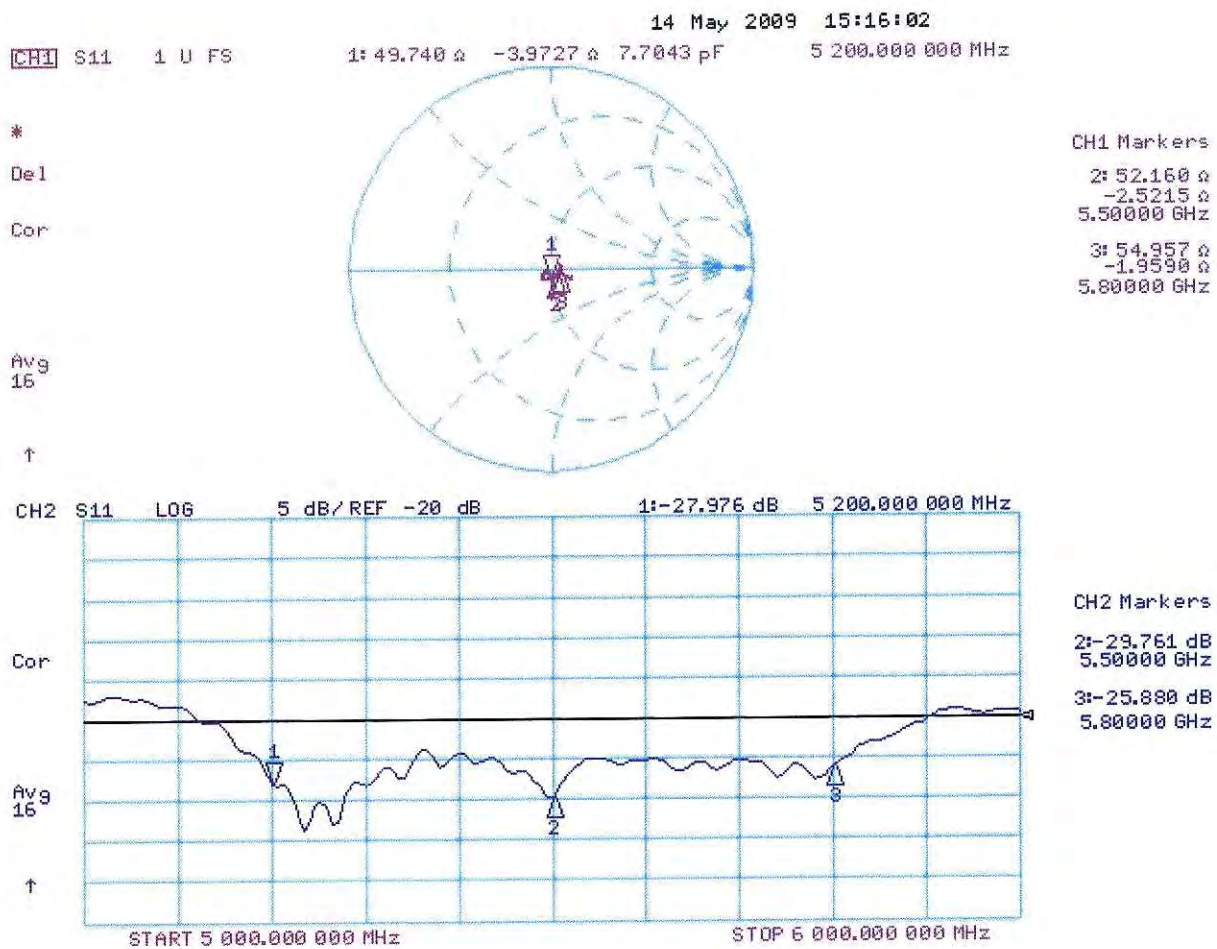
SAR(1 g) = 7.59 mW/g; SAR(10 g) = 2.11 mW/g

Maximum value of SAR (measured) = 16 mW/g



0 dB = 16mW/g

Impedance Measurement Plot for Head TSL



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1041

Communication System: CW-5GHz; Frequency: 5200 MHz Frequency: 5500 MHz Frequency: 5800 MHz;
Duty Cycle: 1:1

Medium: MSL 5800 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.29$ mho/m; $\epsilon_r = 47.4$; $\rho = 1000$ kg/m³ Medium parameters used: $f = 5500$ MHz; $\sigma = 5.68$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³ Medium parameters used: $f = 5800$ MHz; $\sigma = 6.06$ mho/m; $\epsilon_r = 46.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.88, 4.88, 4.88)ConvF(4.37, 4.37, 4.37)ConvF(4.57, 4.57, 4.57); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 14.5 mW/g

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 57.2 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 26.6 W/kg

SAR(1 g) = 7 mW/g; SAR(10 g) = 1.94 mW/g

Maximum value of SAR (measured) = 14.2 mW/g

d=10mm, Pin=100mW, f=5500 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 58.7 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 31 W/kg

SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.11 mW/g

Maximum value of SAR (measured) = 15.8 mW/g

d=10mm, Pin=100mW, f=5800 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:

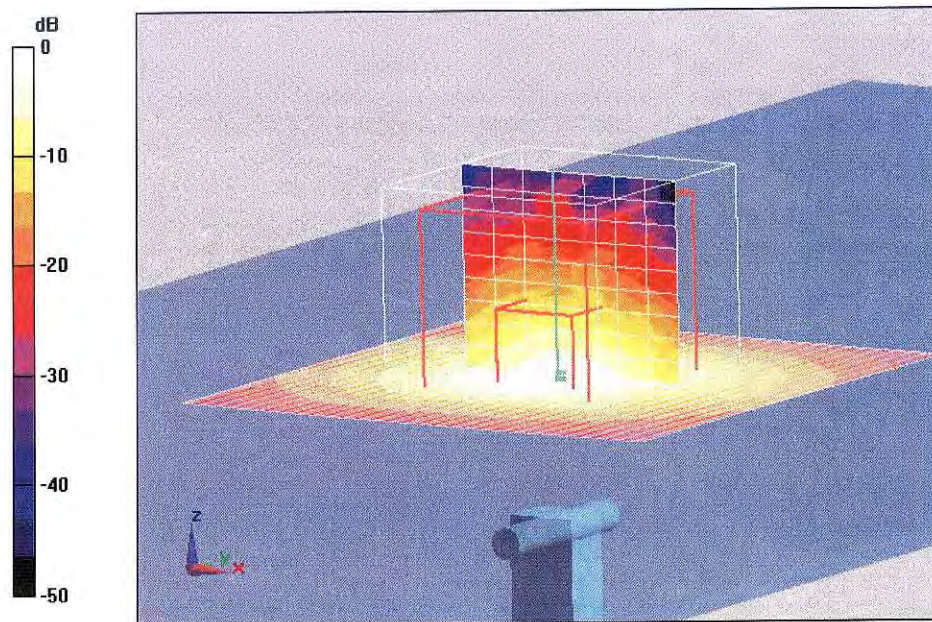
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 53.9 V/m; Power Drift = -0.00954 dB

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 6.82 mW/g; SAR(10 g) = 1.87 mW/g

Maximum value of SAR (measured) = 14.3 mW/g



0 dB = 14.3mW/g

Impedance Measurement Plot for Body TSL

