GSM 1900 Left Tilt Middle

Date/Time: 11/21/2013 8:31:13 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: GSM Frequency: 1880 MHz Duty Cycle: 1:8.30042

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Left Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.101 W/kg

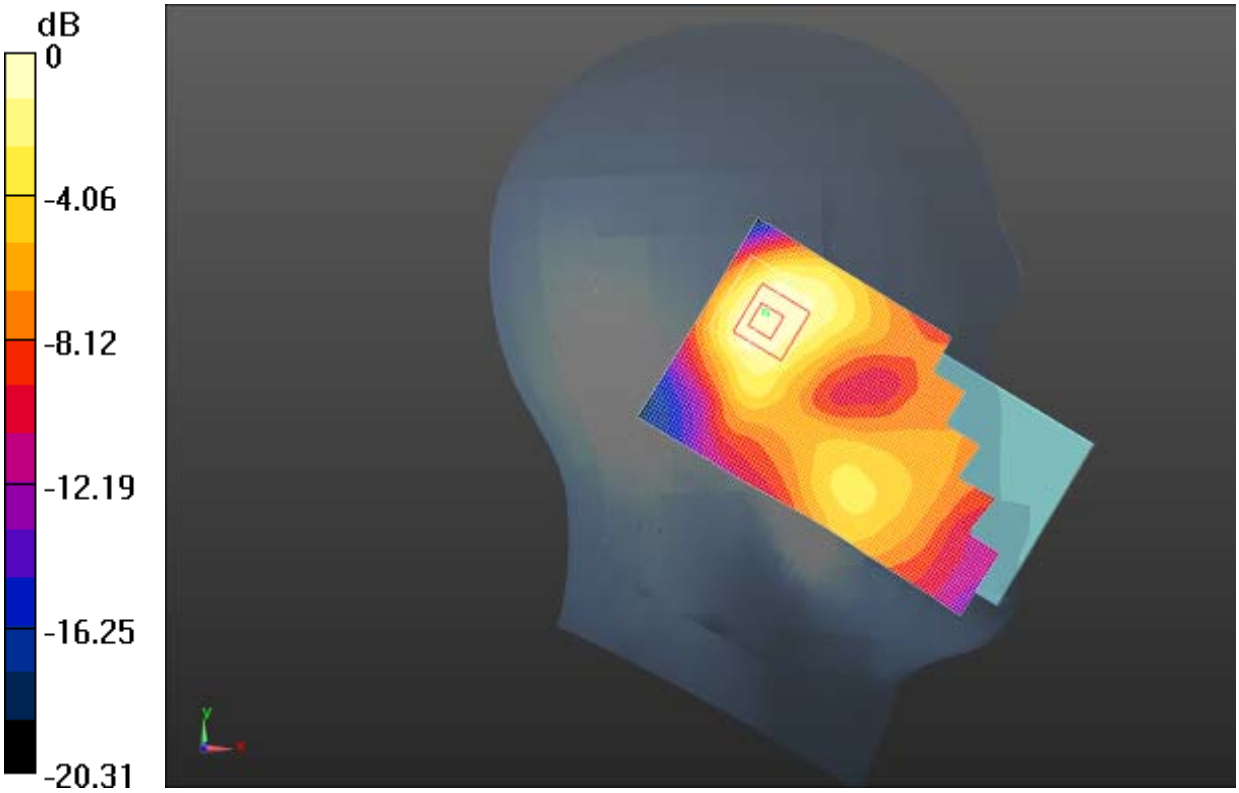
Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.324 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.138 W/kg

SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.052 W/kg

Maximum value of SAR (measured) = 0.0954 W/kg



0 dB = 0.0954 W/kg = -10.20 dBW/kg

Figure 34 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle

Date/Time: 11/21/2013 8:47:26 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: GSM Frequency: 1880 MHz Duty Cycle: 1:8.30042

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.138 W/kg

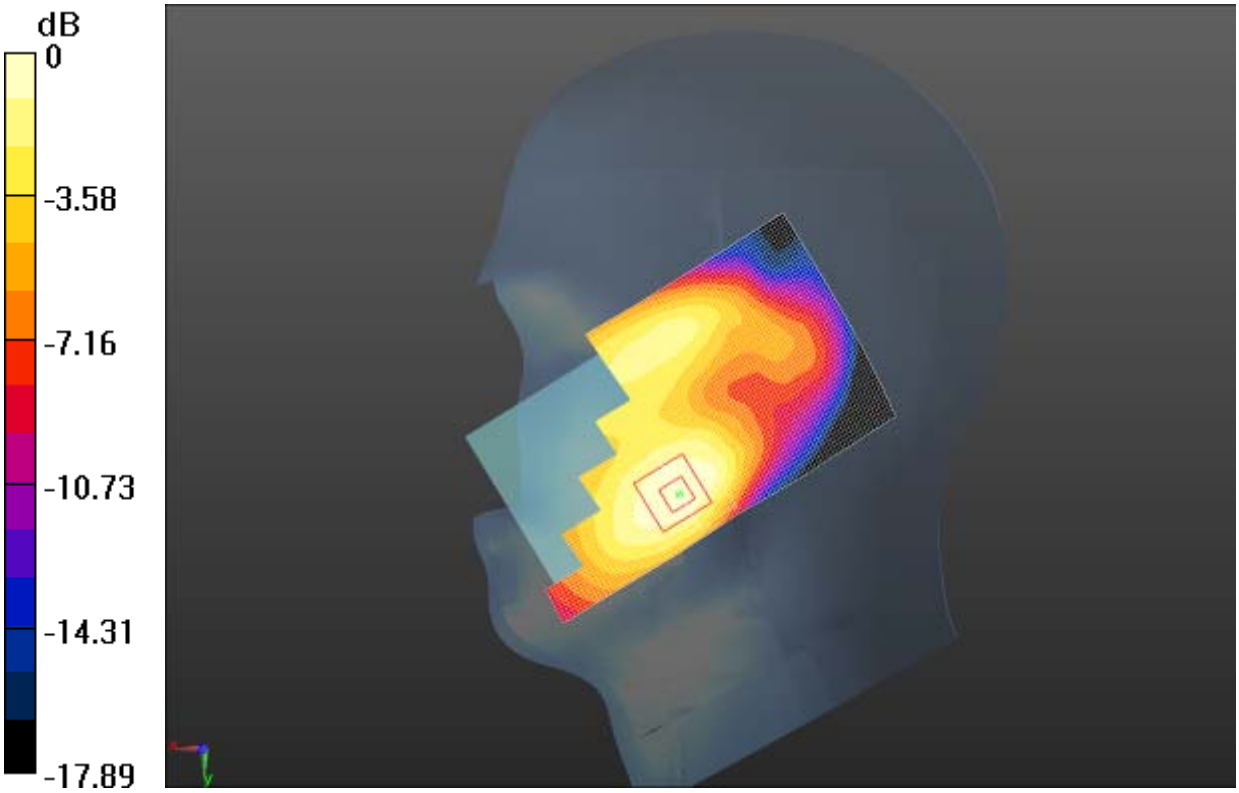
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.076 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.075 W/kg

Maximum value of SAR (measured) = 0.130 W/kg



0 dB = 0.130 W/kg = -8.85 dBW/kg

Figure 35 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Tilt Middle

Date/Time: 11/21/2013 9:02:44 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: GSM Frequency: 1880 MHz Duty Cycle: 1:8.30042

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0810 W/kg

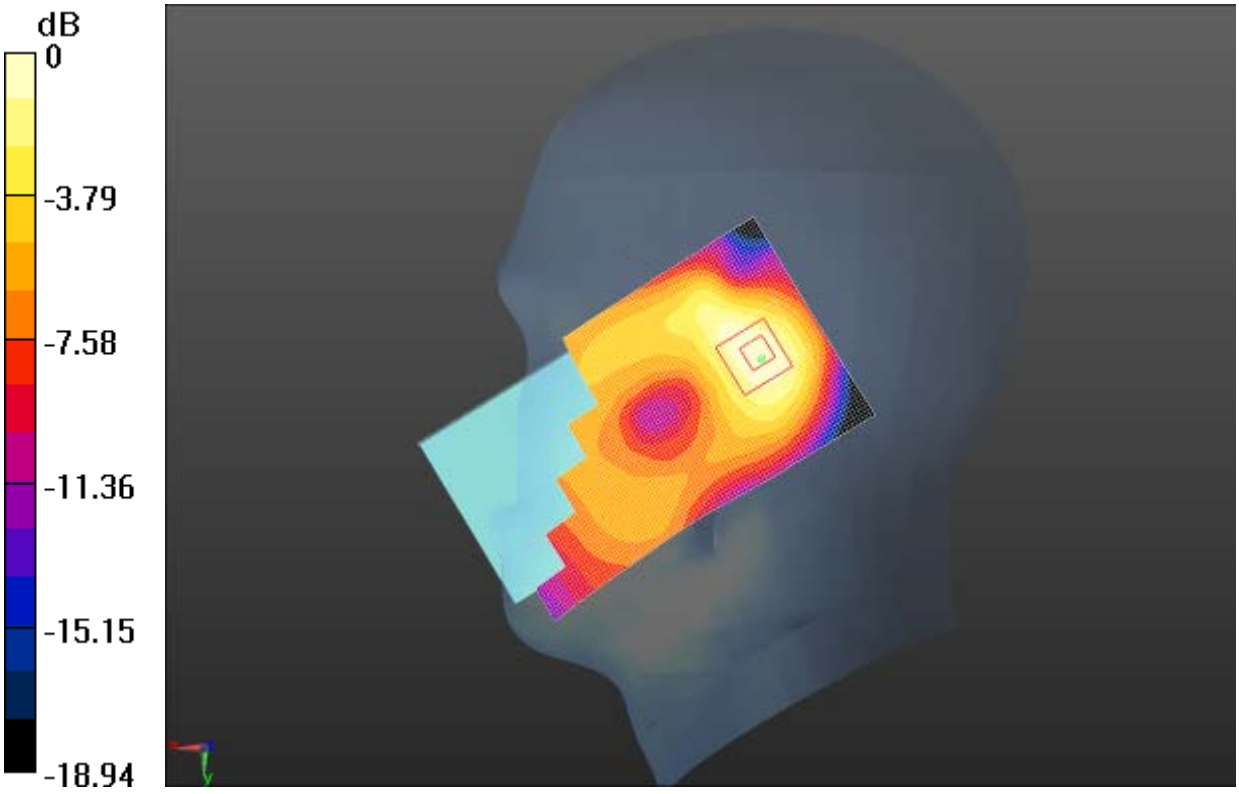
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.193 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.076 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.0832 W/kg



0 dB = 0.0832 W/kg = -10.80 dBW/kg

Figure 36 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Left Cheek High (SIM 2)

Date/Time: 11/21/2013 9:49:32 PM

Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042

Medium parameters used: f = 1910 MHz; σ = 1.431 S/m; ε_r = 39.581; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Left Cheek High /Area Scan (71x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.162 W/kg

Left Cheek High /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.851 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 0.216 W/kg

SAR(1 g) = 0.145 W/kg; SAR(10 g) = 0.088 W/kg

Maximum value of SAR (measured) = 0.159 W/kg

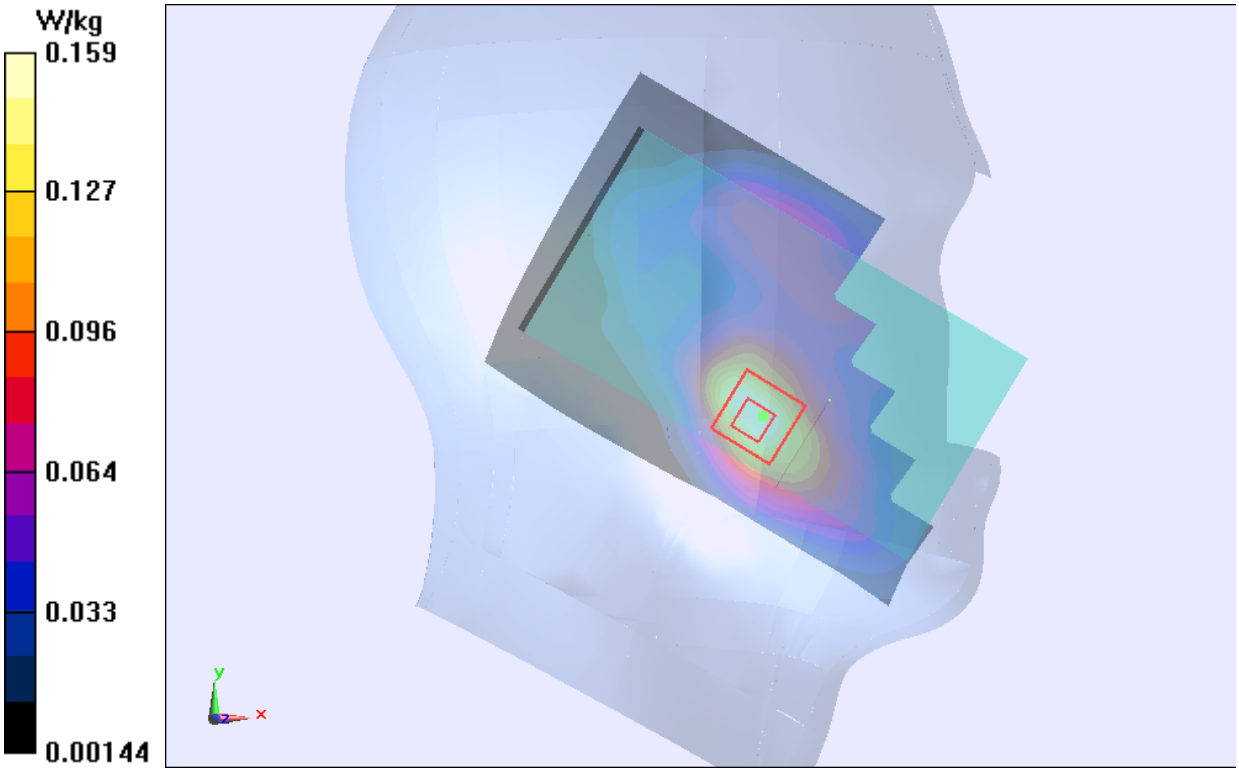


Figure 37 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 GPRS (4Txslots) Back Side Middle

Date/Time: 11/27/2013 3:04:54 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1880 MHz; σ = 1.536 S/m; ε_r = 51.467; ρ = 1000 kg/m^3

Ambient Temperature:21.5°C Liquid Temperature: 21.0°C

Communication System: 4 slot GPRS Frequency: 1880 MHz Duty Cycle: 1:2.08018

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Back Side Middle/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.383 W/kg

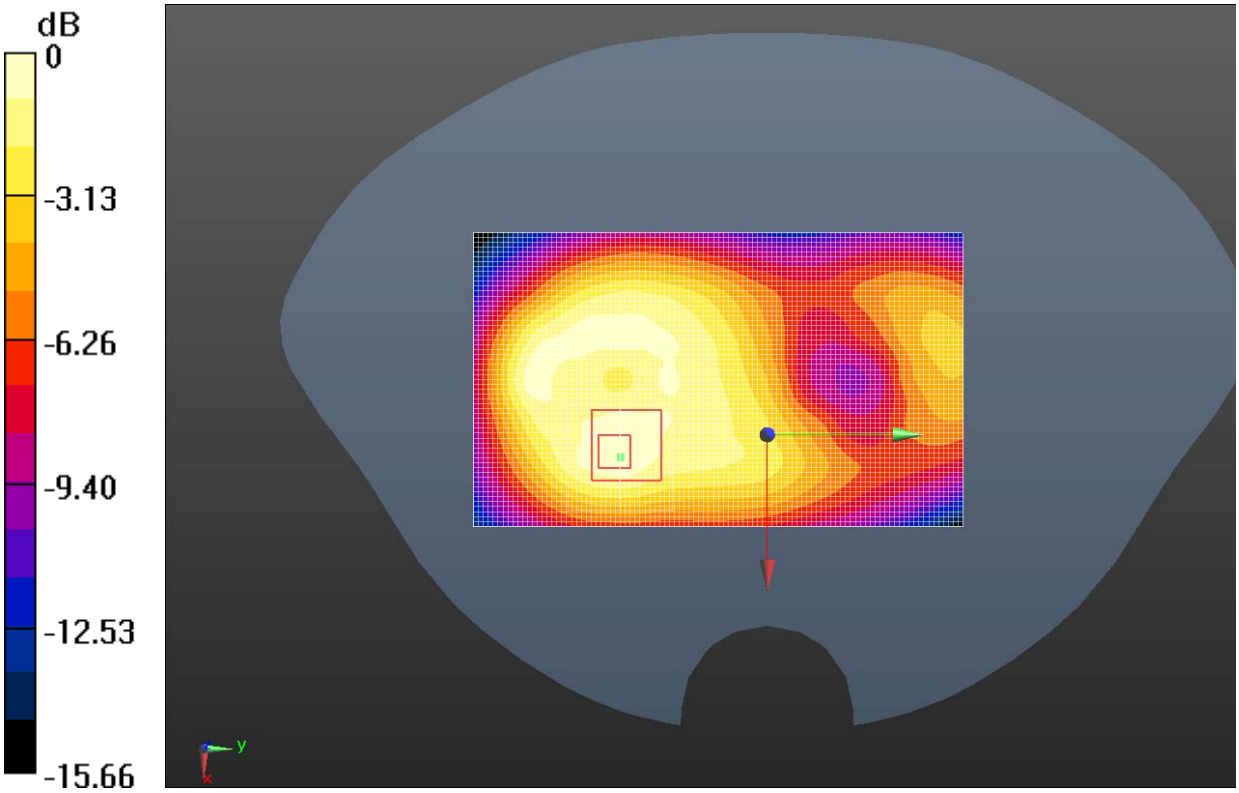
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.296 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.621 W/kg

SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.216 W/kg

Maximum value of SAR (measured) = 0.403 W/kg



0 dB = 0.403 W/kg = -3.95 dBW/kg

Figure 38 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Front Side High

Date/Time: 11/27/2013 4:01:43 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1910 MHz; σ = 1.557 S/m; ε_r = 51.434; ρ = 1000 kg/m^3

Ambient Temperature:21.5°C Liquid Temperature: 21.0°C

Communication System: 4 slot GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.08018

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side High /Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.578 W/kg

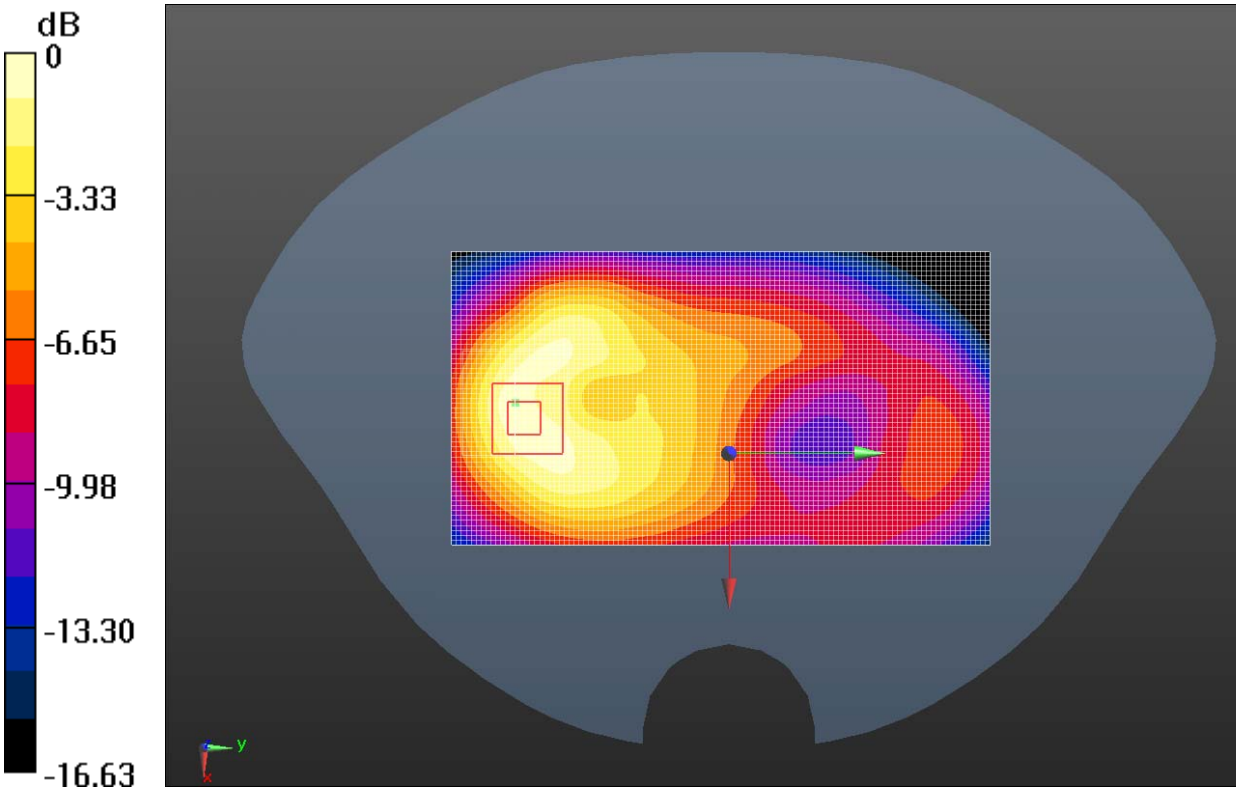
Front Side High /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.784 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.899 W/kg

SAR(1 g) = 0.575 W/kg; SAR(10 g) = 0.333 W/kg

Maximum value of SAR (measured) = 0.617 W/kg



0 dB = 0.617 W/kg = -2.10 dBW/kg

Figure 39 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Front Side Middle

Date/Time: 11/27/2013 2:06:53 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1880 MHz; σ = 1.536 S/m; ε_r = 51.467; ρ = 1000 kg/m^3

Ambient Temperature:21.5°C Liquid Temperature: 21.0°C

Communication System: 4 slot GPRS Frequency: 1880 MHz Duty Cycle: 1:2.08018

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.504 W/kg

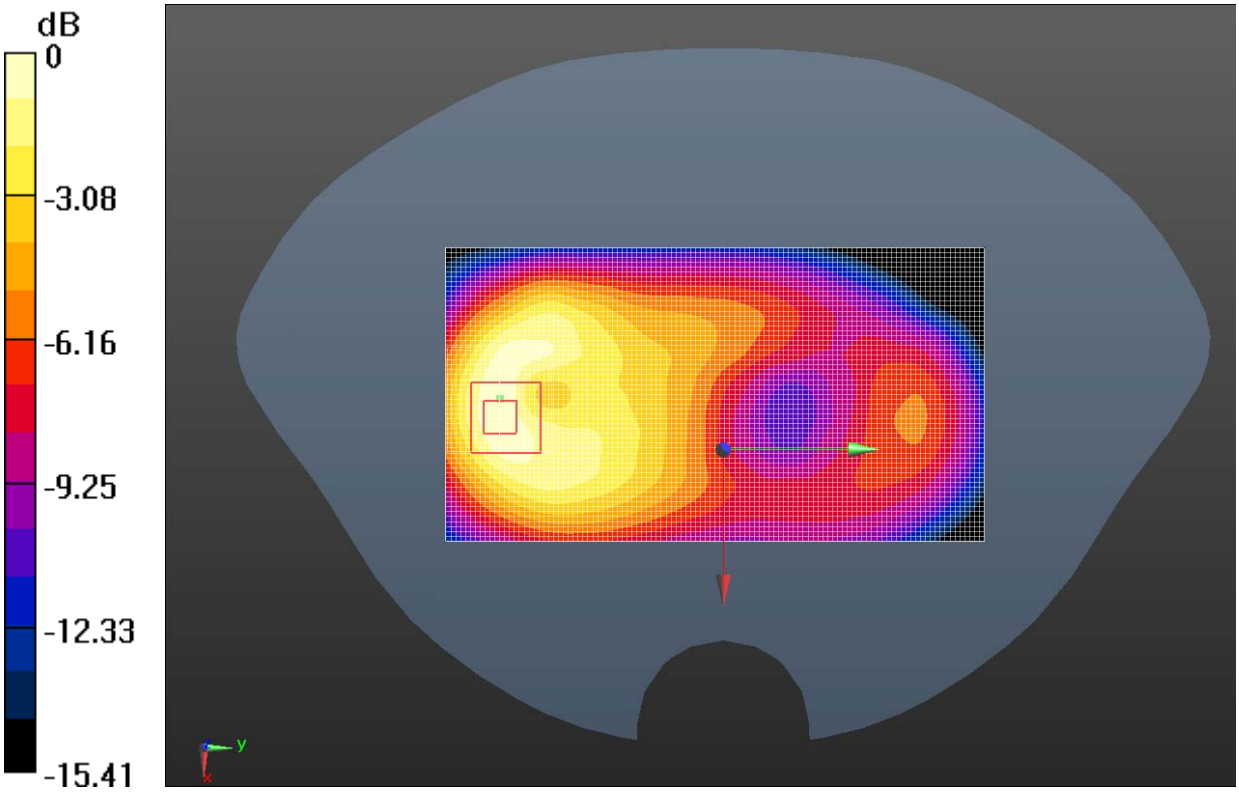
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.575 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.718 W/kg

SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.266 W/kg

Maximum value of SAR (measured) = 0.502 W/kg



0 dB = 0.502 W/kg = -2.99 dBW/kg

Figure 40 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Front Side Low

Date/Time: 11/27/2013 3:41:54 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.499 S/m; ε_r = 51.5; ρ = 1000 kg/m^3

Ambient Temperature:21.5^{o}C Liquid Temperature: 21.0^{o}C

Communication System: 4 slot GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2.08018

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side Low/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.281 W/kg

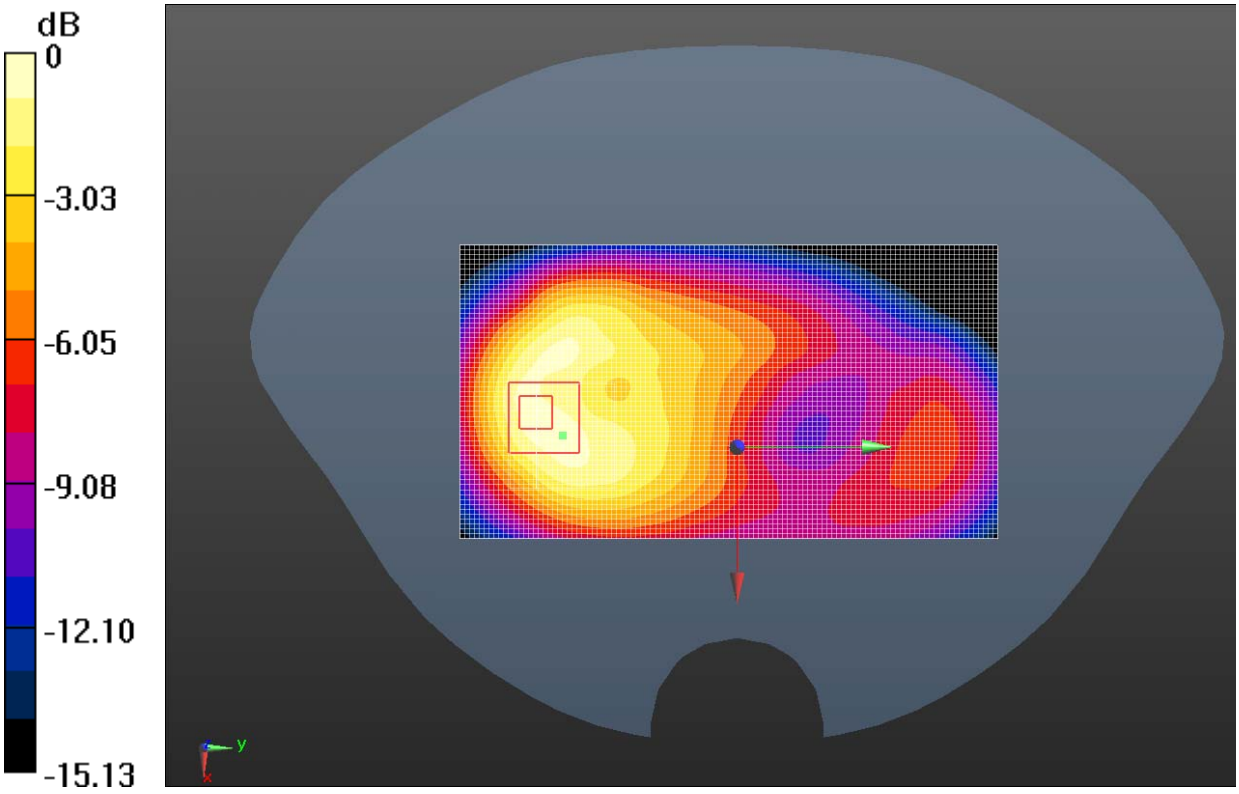
Front Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.580 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.428 W/kg

SAR(1 g) = 0.272 W/kg; SAR(10 g) = 0.161 W/kg

Maximum value of SAR (measured) = 0.304 W/kg



0 dB = 0.304 W/kg = -5.17 dBW/kg

Figure 41 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 512

GSM 1900 GPRS (4Txslots) Left Edge Middle

Date/Time: 11/27/2013 12:58:17 PM
Communication System: GPRS(4UP); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Left Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.397 W/kg

Left Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.475 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.664 W/kg
SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.188 W/kg
Maximum value of SAR (measured) = 0.370 W/kg

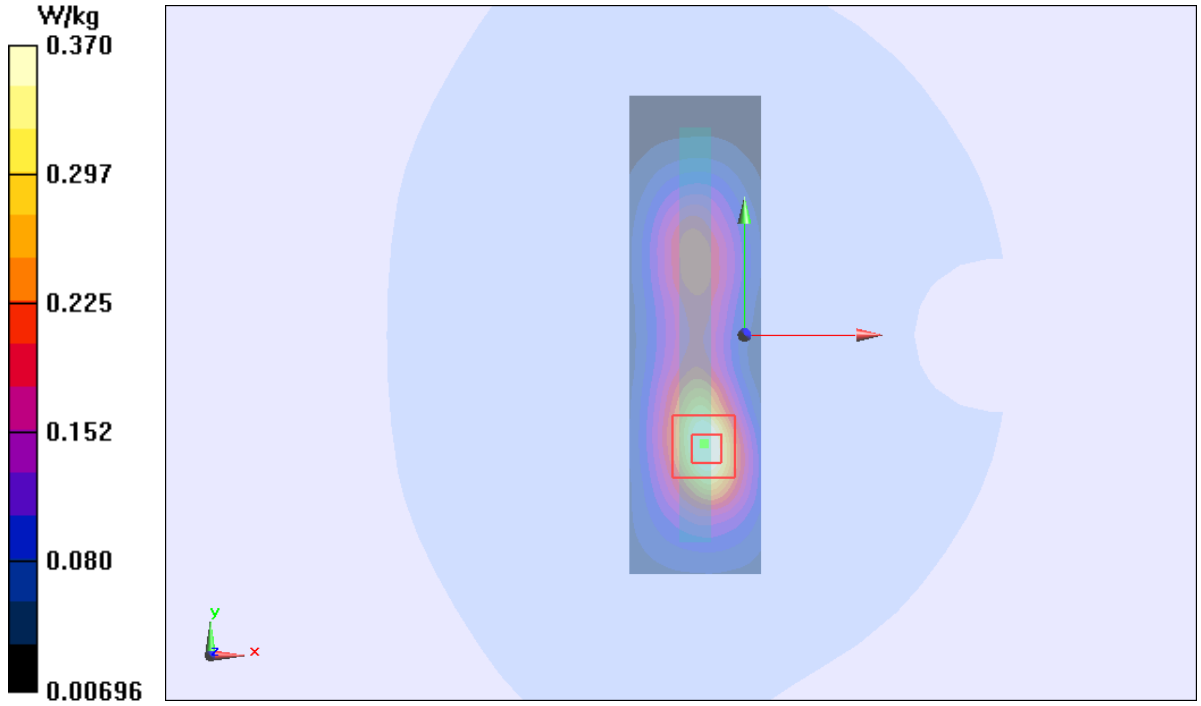


Figure 42 Body, Left Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Right Edge Middle

Date/Time: 11/27/2013 12:14:59 PM
Communication System: GPRS(4UP); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Right Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.163 W/kg

Right Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.267 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.280 W/kg
SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.089 W/kg
Maximum value of SAR (measured) = 0.168 W/kg

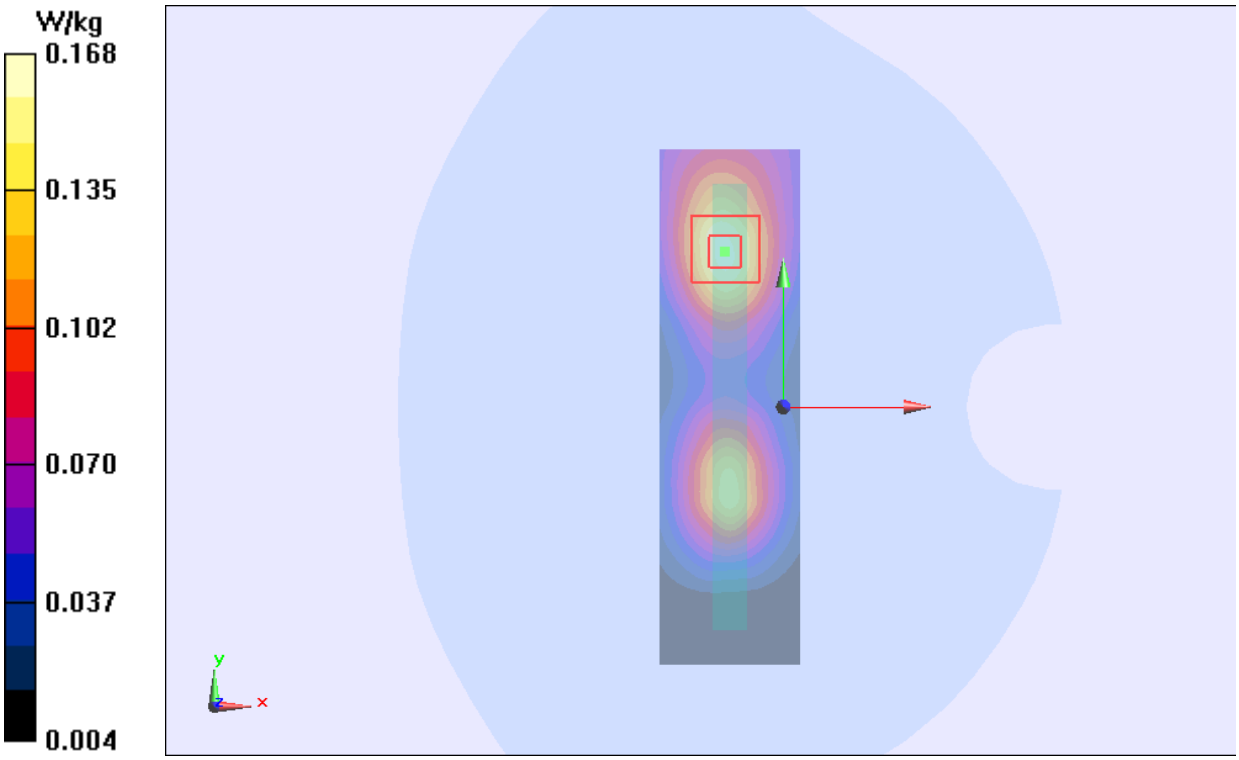


Figure 43 Body, Right Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Bottom Edge Middle

Date/Time: 11/27/2013 12:33:21PM

Communication System: GPRS(4UP); Frequency: 1880 MHz;Duty Cycle: 1:2.07491

Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Bottom Edge Middle /Area Scan (31x71x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.588 W/kg

Bottom Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.315 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.538 W/kg; SAR(10 g) = 0.279 W/kg

Maximum value of SAR (measured) = 0.602 W/kg

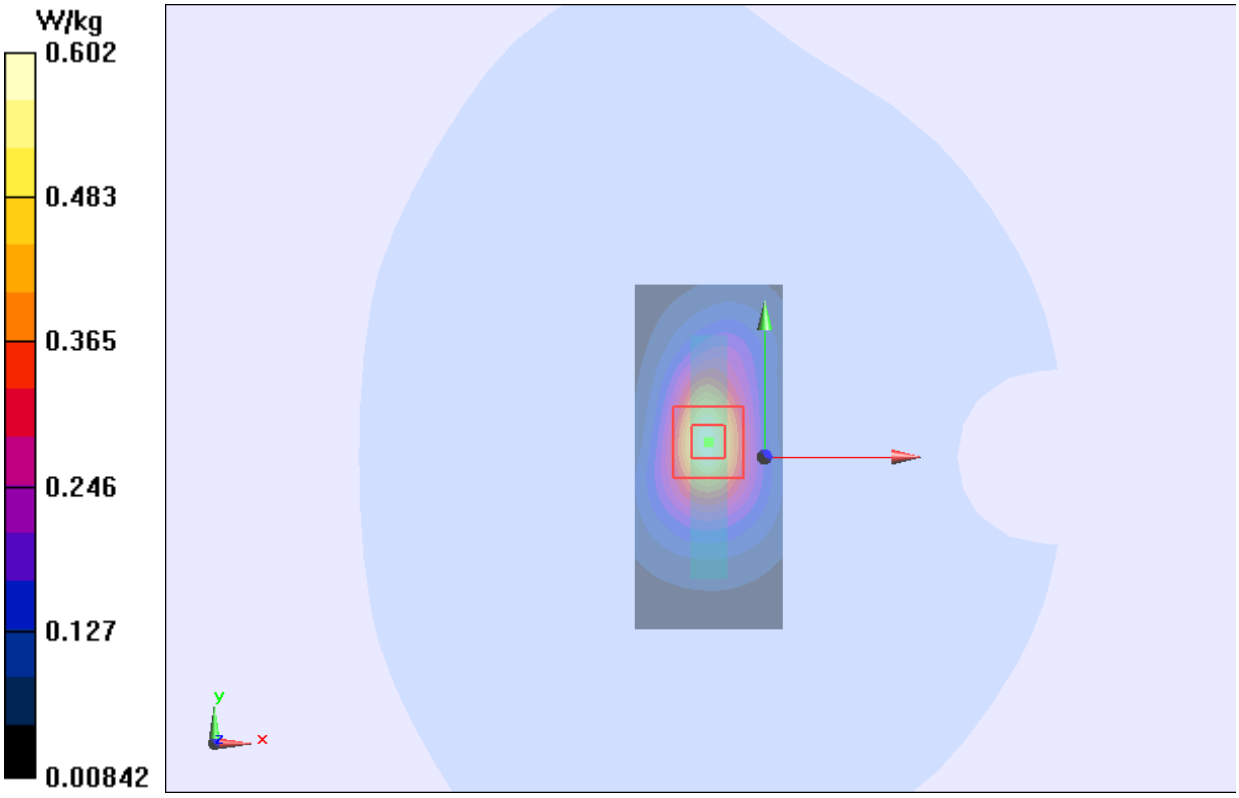


Figure 44 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 EGPRS (4Txslots) Front Side High

Date/Time: 11/27/2013 3:24:52 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1910 MHz; σ = 1.557 S/m; ε_r = 51.434; ρ = 1000 kg/m^3

Ambient Temperature:21.5°C Liquid Temperature: 21.0°C

Communication System: 4 slot GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.08018

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side High/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.573 W/kg

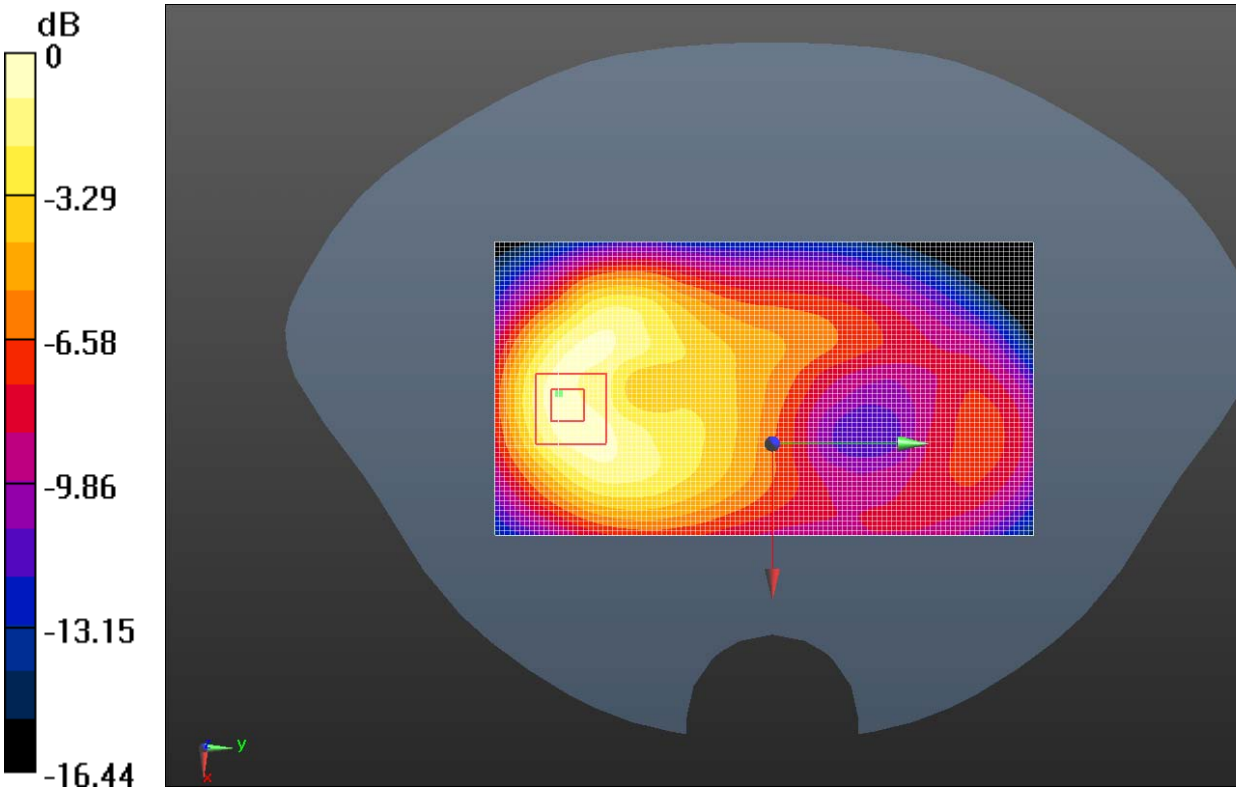
Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.724 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.897 W/kg

SAR(1 g) = 0.573 W/kg; SAR(10 g) = 0.332 W/kg

Maximum value of SAR (measured) = 0.621 W/kg



0 dB = 0.621 W/kg = -2.07 dBW/kg

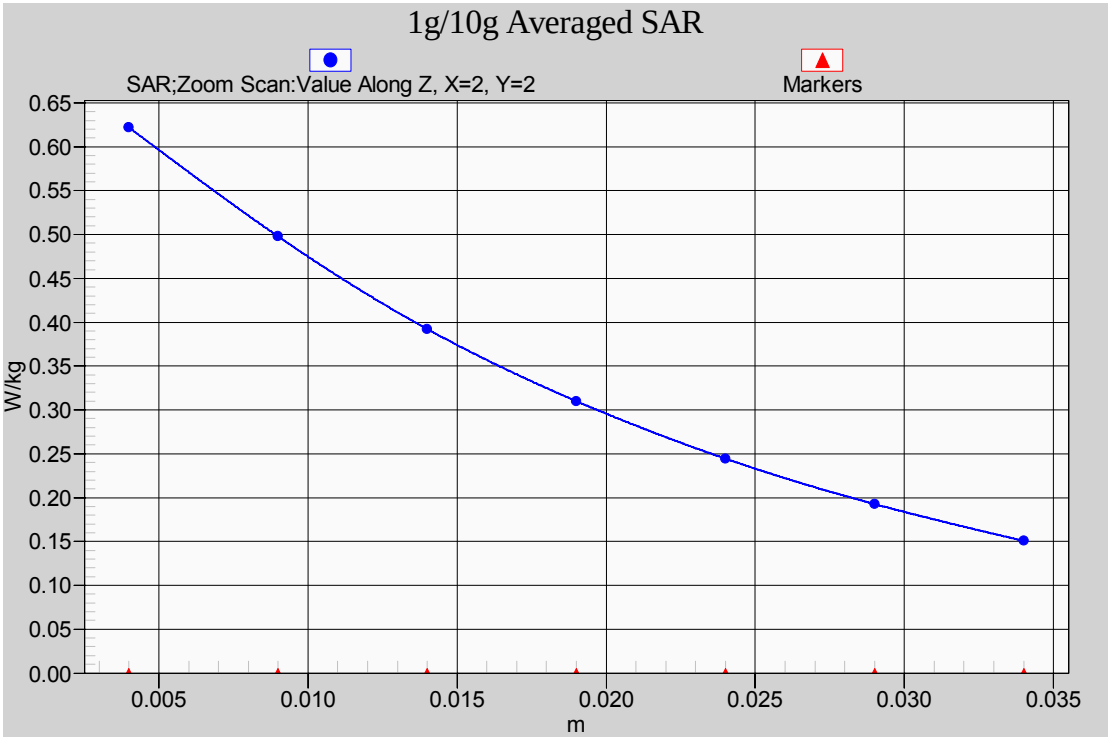


Figure 45 Body, Front Side, GSM 1900 EGPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Front Side High (SIM 2)

Date/Time: 11/27/2013 11:51:08 AM

Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491

Medium parameters used: f = 1910 MHz; σ = 1.535 S/m; ε_r = 52.981; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Front Side High /Area Scan (71x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.573 W/kg

Front Side High /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.359 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.563 W/kg; SAR(10 g) = 0.312 W/kg

Maximum value of SAR (measured) = 0.607 W/kg

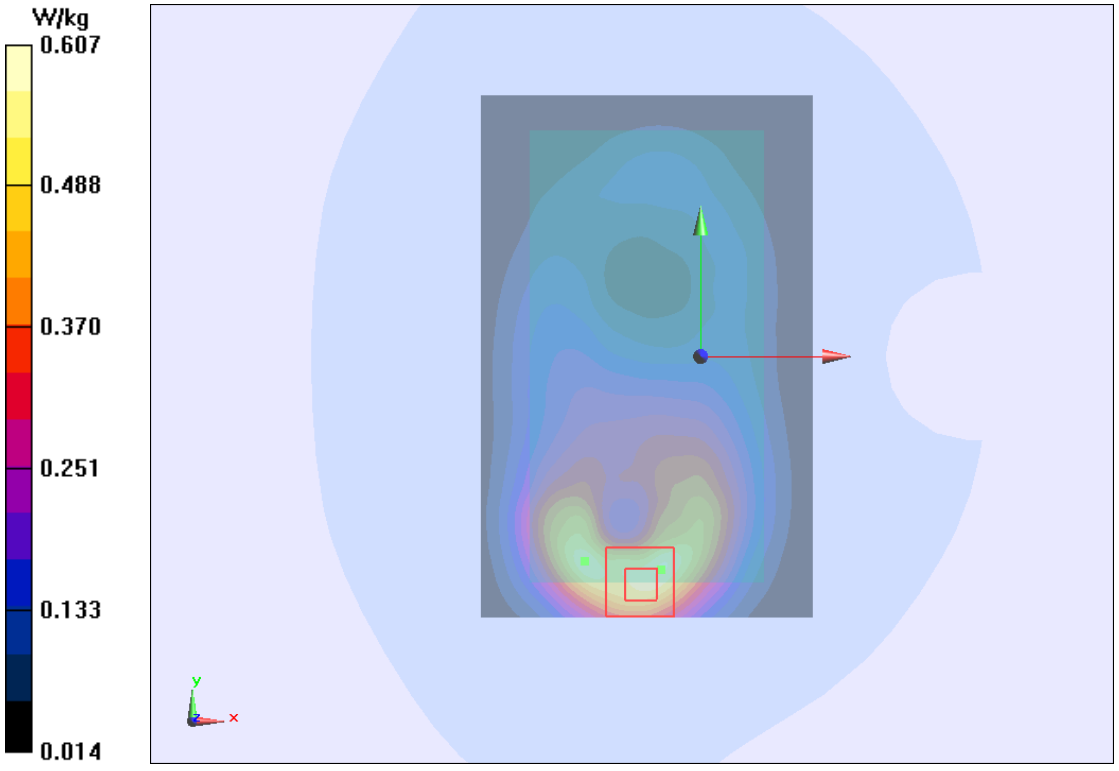


Figure 46 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 with Earphone Front Side High

Date/Time: 11/27/2013 4:20:21 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1910 MHz; σ = 1.557 S/m; ε_r = 51.434; ρ = 1000 kg/m^3

Ambient Temperature:21.5°C Liquid Temperature: 21.0°C

Communication System: GSM Frequency: 1910 MHz Duty Cycle: 1:8.30042

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side High/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.309 W/kg

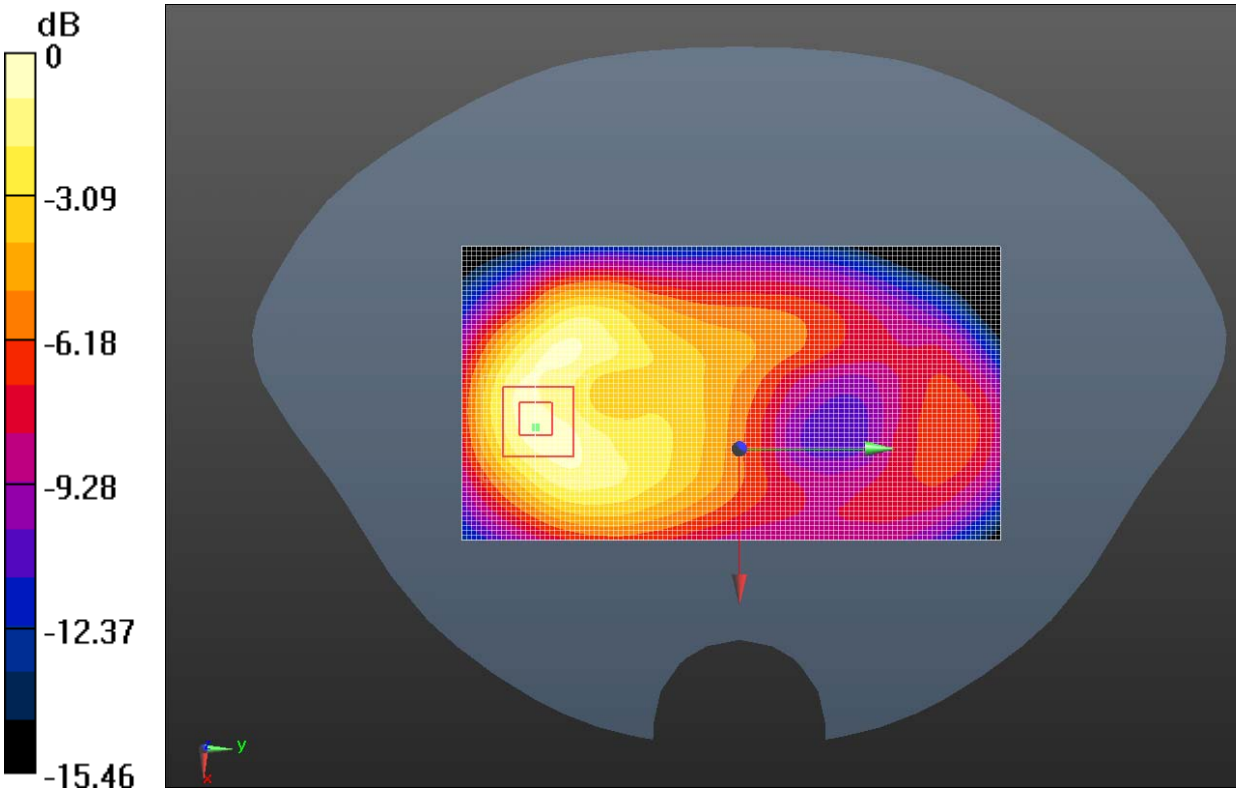
Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.342 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.182 W/kg

Maximum value of SAR (measured) = 0.346 W/kg



0 dB = 0.346 W/kg = -4.62 dBW/kg

Figure 47 Body, Front Side, GSM 1900 with Earphone Channel 810

UMTS Band II Left Cheek High

Date/Time: 11/21/2013 7:16:54 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1908 MHz; σ = 1.439 S/m; ε_r = 38.68; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1908 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Left Cheek High/Area Scan (51x91x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.352 W/kg

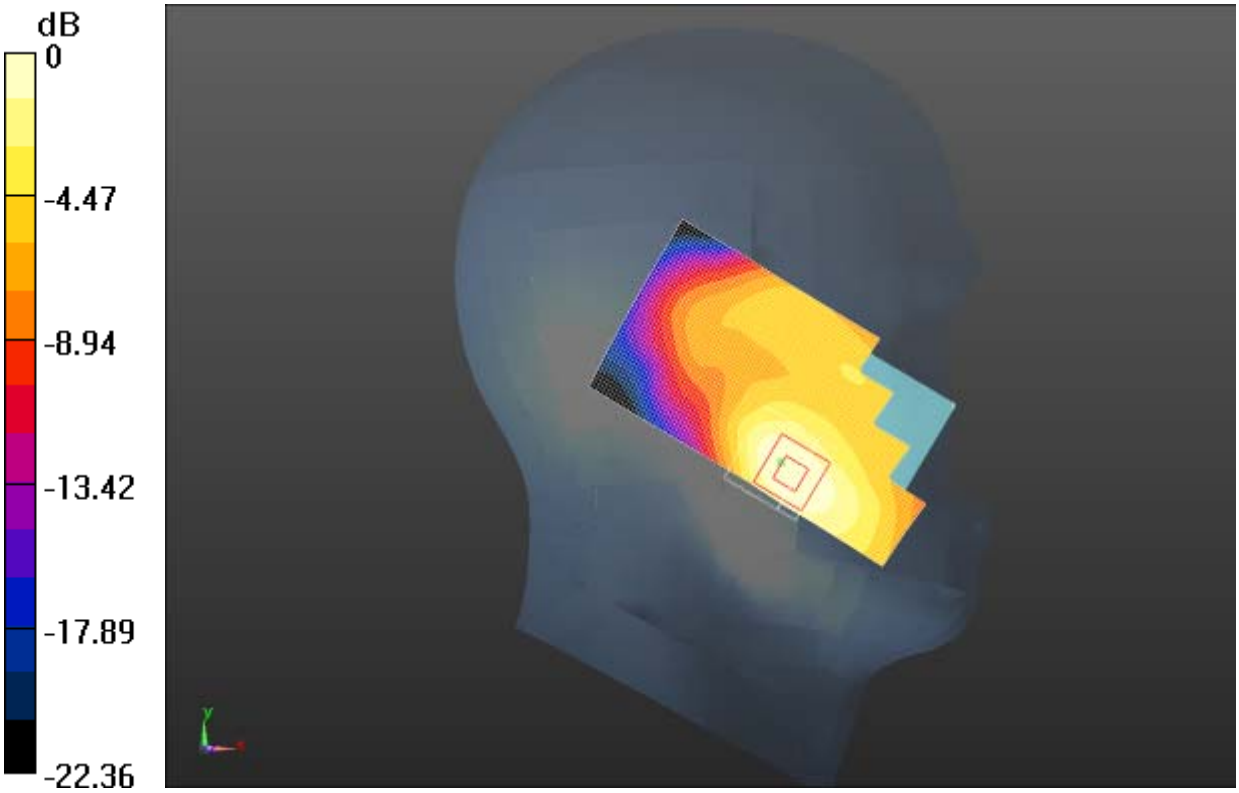
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.374 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.515 W/kg

SAR(1 g) = 0.331 W/kg; SAR(10 g) = 0.197 W/kg

Maximum value of SAR (measured) = 0.355 W/kg



0 dB = 0.355 W/kg = -4.50 dBW/kg

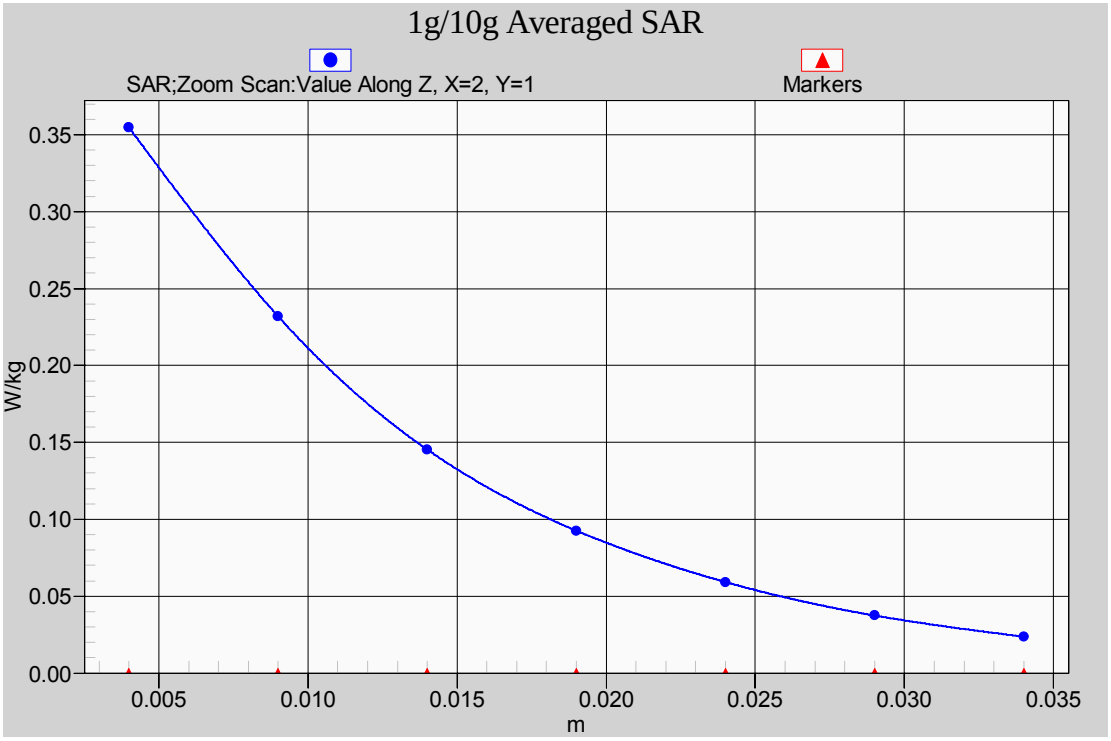


Figure 48 Left Hand Touch Cheek UMTS Band II Channel 9538

UMTS Band II Left Cheek Middle

Date/Time: 11/21/2013 5:42:47 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Left Cheek Middle/Area Scan (51x91x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

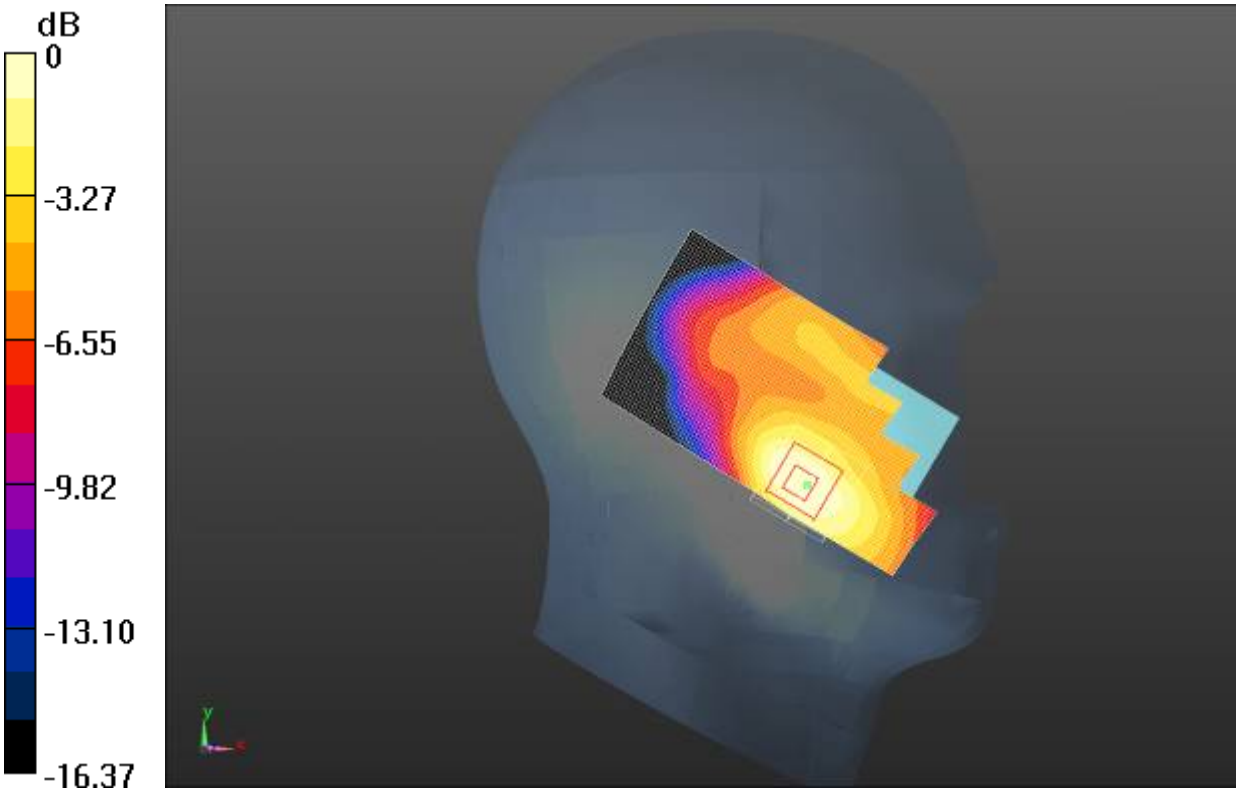
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.864 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.379 W/kg

SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.149 W/kg

Maximum value of SAR (measured) = 0.269 W/kg



0 dB = 0.269 W/kg = -5.70 dBW/kg

Figure 49 Left Hand Touch Cheek UMTS Band II Channel 9400

UMTS Band II Left Cheek Low

Date/Time: 11/21/2013 7:33:40 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.392 S/m; ε_r = 38.469; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Left Cheek Low/Area Scan (51x91x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.323 W/kg

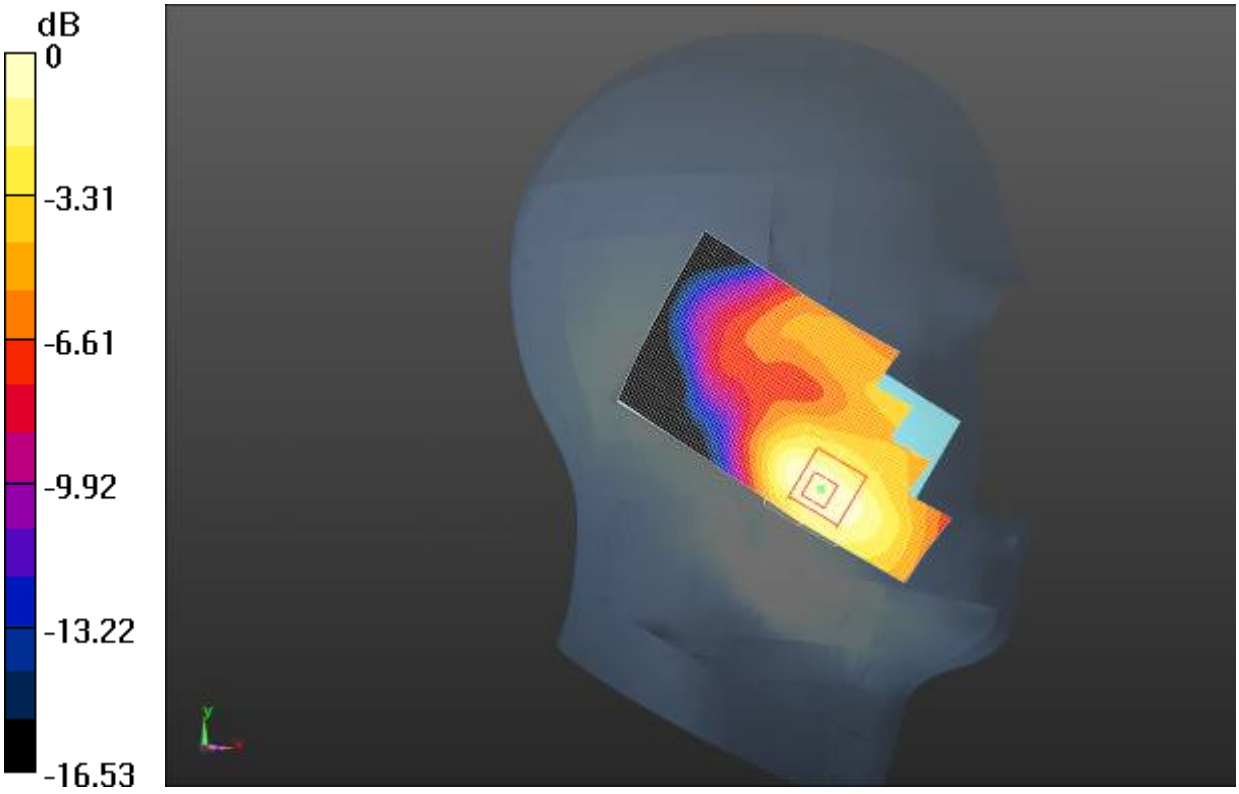
Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.058 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.446 W/kg

SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.176 W/kg

Maximum value of SAR (measured) = 0.318 W/kg



0 dB = 0.318 W/kg = -4.97 dBW/kg

Figure 50 Left Hand Touch Cheek UMTS Band II Channel 9262

UMTS Band II Left Tilt Middle

Date/Time: 11/21/2013 5:57:01 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Left Tilt Middle/Area Scan (51x91x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.160 W/kg

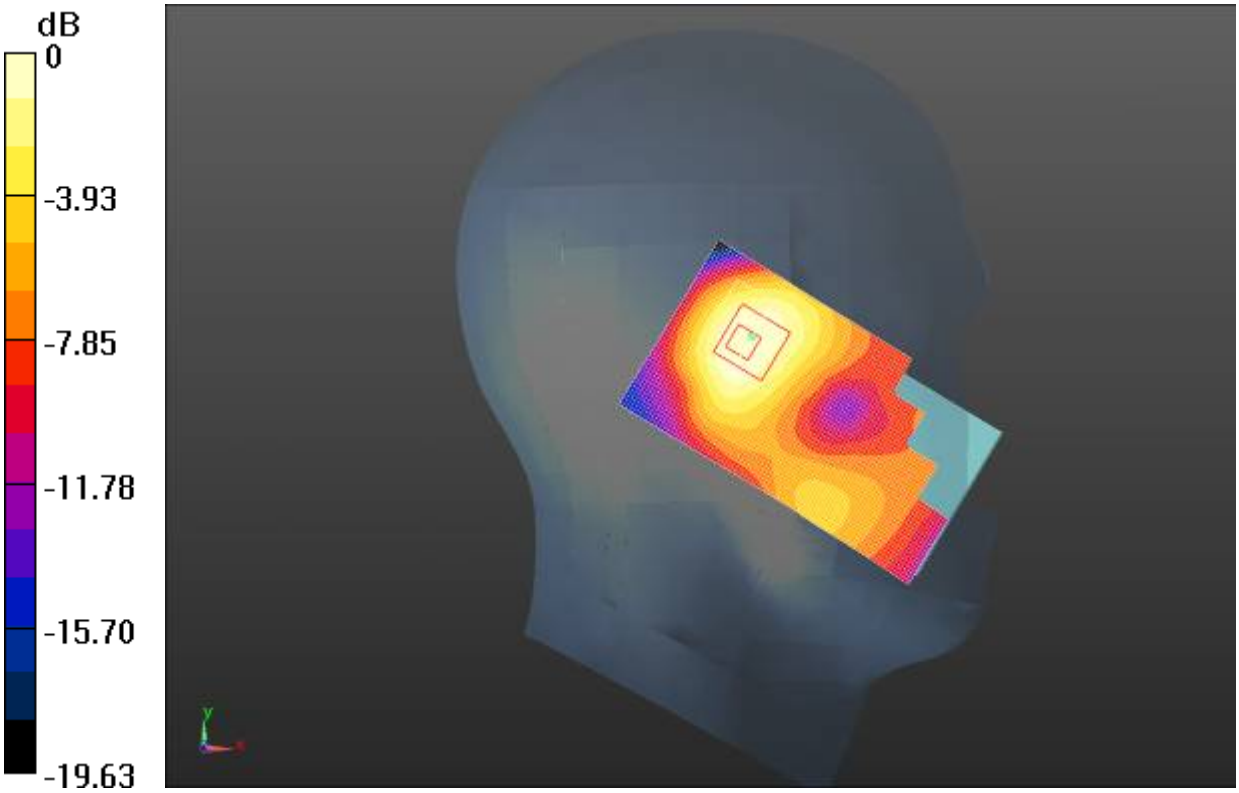
Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.767 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.084 W/kg

Maximum value of SAR (measured) = 0.153 W/kg



0 dB = 0.153 W/kg = -8.14 dBW/kg

Figure 51 Left Hand Tilt 15° UMTS Band II Channel 9400

UMTS Band II Right Cheek Middle

Date/Time: 11/21/2013 6:34:29 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.219 W/kg

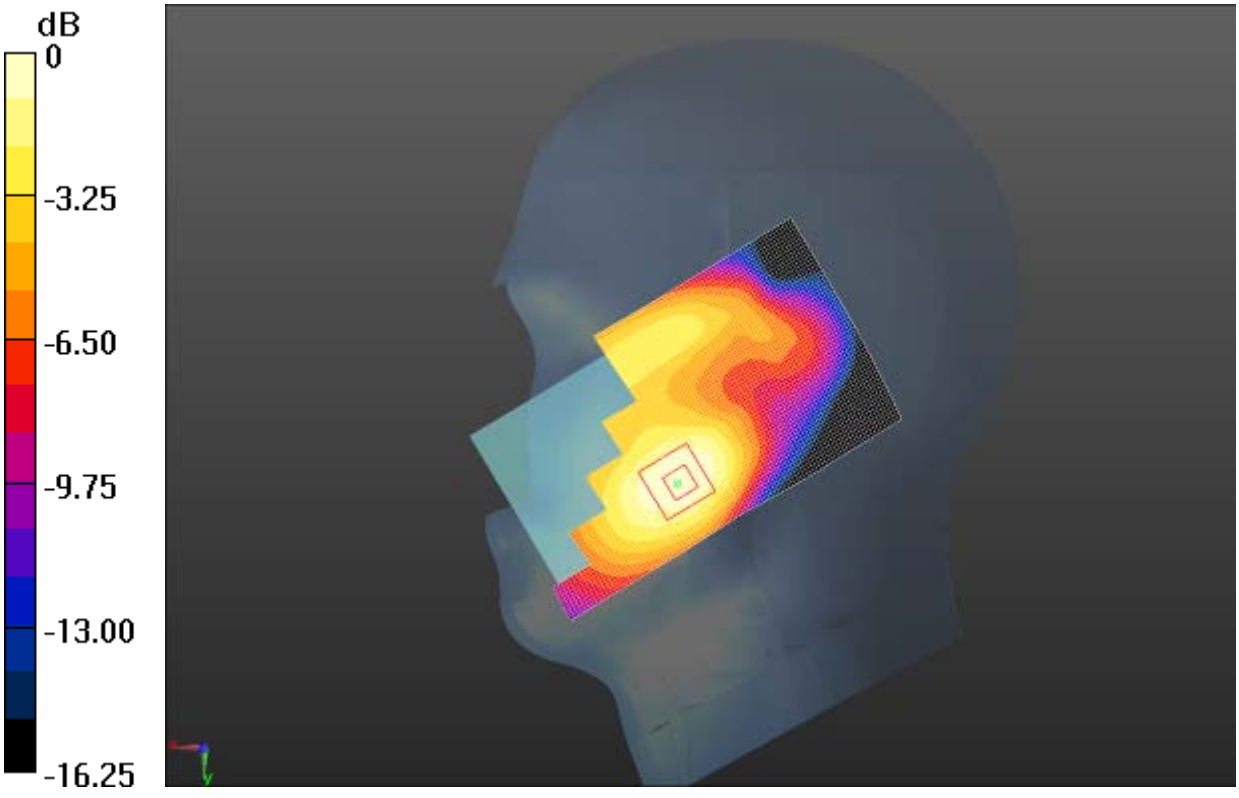
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.673 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.202 W/kg; SAR(10 g) = 0.125 W/kg

Maximum value of SAR (measured) = 0.221 W/kg



0 dB = 0.221 W/kg = -6.56 dBW/kg

Figure 52 Right Hand Touch Cheek UMTS Band II Channel 9400

UMTS Band II Right Tilt Middle

Date/Time: 11/21/2013 6:59:42 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 1900

Medium parameters used: f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.701; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.63, 7.63, 7.63); Calibrated: 1/17/2013

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.148 W/kg

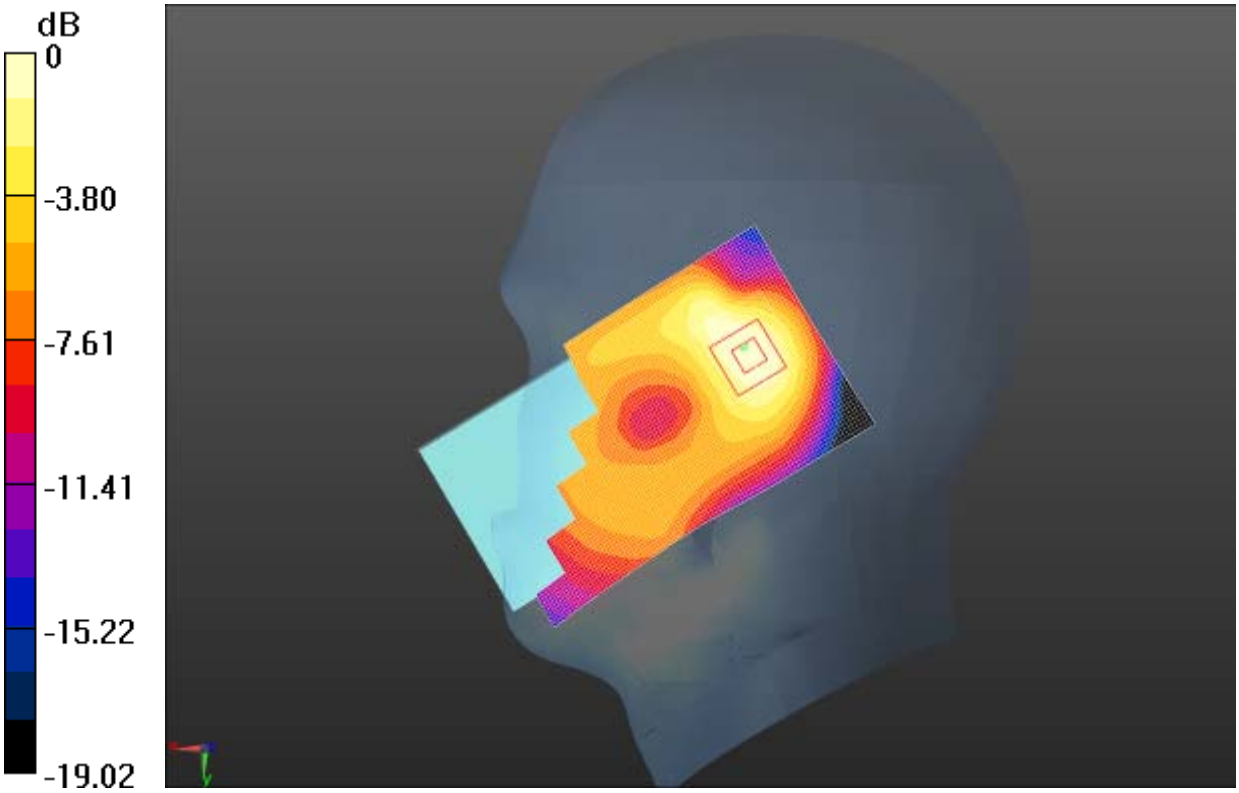
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.228 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.205 W/kg

SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.077 W/kg

Maximum value of SAR (measured) = 0.145 W/kg



0 dB = 0.145 W/kg = -8.40 dBW/kg

Figure 53 Right Hand Tilt 15° UMTS Band II Channel 9400

UMTS Band II Back Side Middle

Date/Time: 11/27/2013 8:44:39 AM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1880 MHz; σ = 1.536 S/m; ε_r = 51.467; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.440 W/kg

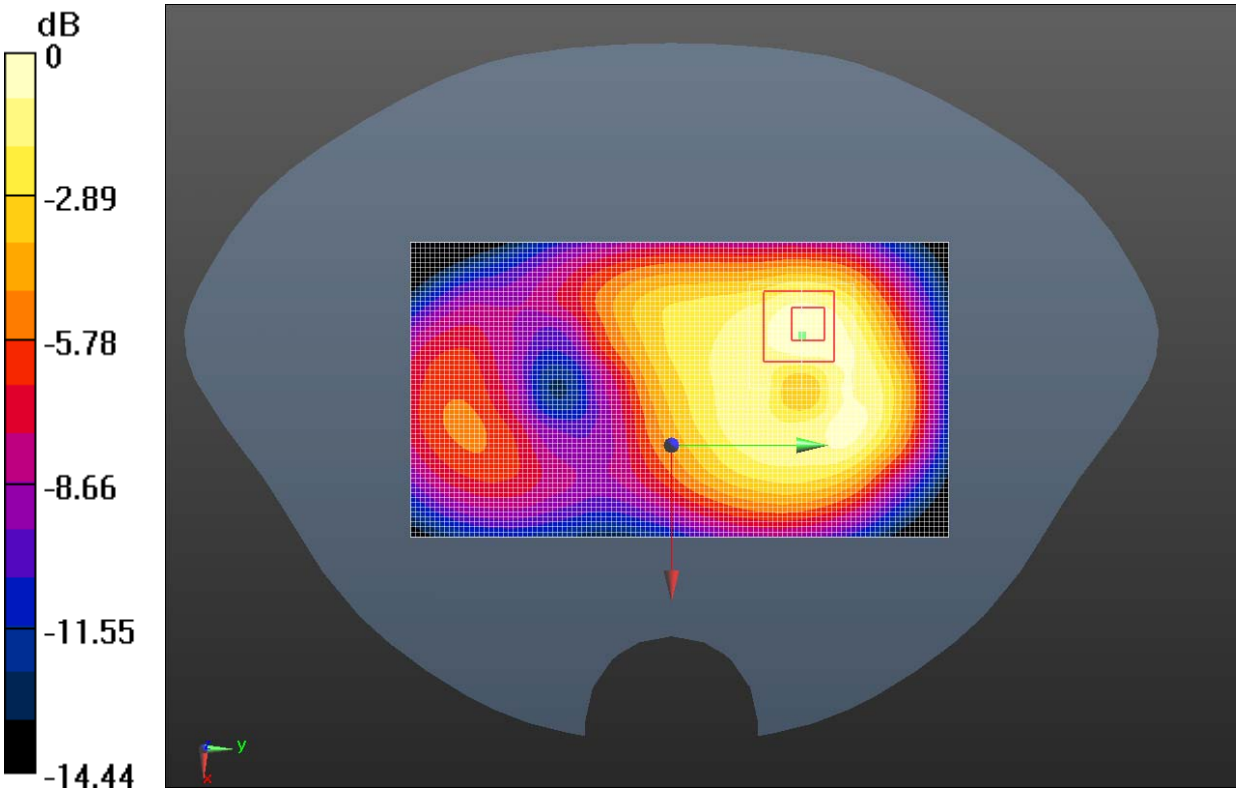
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.991 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.724 W/kg

SAR(1 g) = 0.429 W/kg; SAR(10 g) = 0.242 W/kg

Maximum value of SAR (measured) = 0.462 W/kg



0 dB = 0.462 W/kg = -3.35 dBW/kg

Figure 54 Body, Back Side, UMTS Band II Channel 9400

UMTS Band II Front Side High

Date/Time: 11/27/2013 9:10:20 AM
Communication System: WCDMA; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.532 S/m; ε_r = 53.111; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Front Side High /Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.548 W/kg

Front Side High /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.821 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.973 W/kg
SAR(1 g) = 0.538 W/kg; SAR(10 g) = 0.307 W/kg
Maximum value of SAR (measured) = 0.575 W/kg

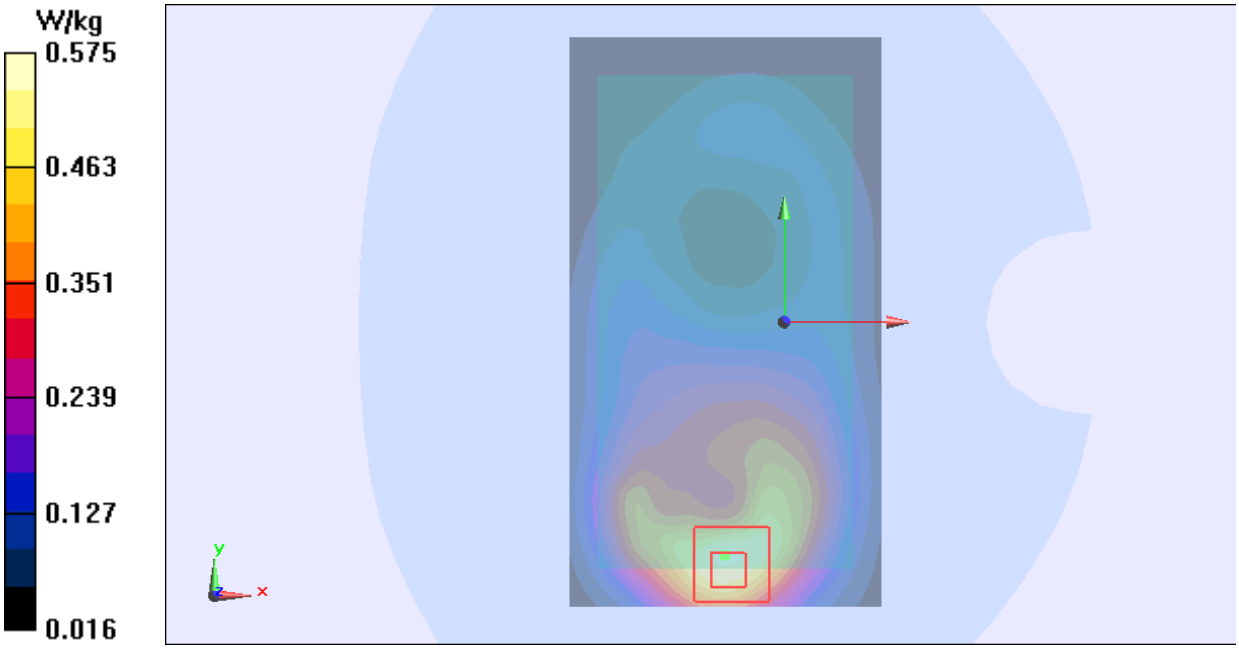


Figure 55 Body, Front Side, UMTS Band II Channel 9538

UMTS Band II Front Side Middle

Date/Time: 11/27/2013 9:27:03 AM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 1900MHz

Medium parameters used: f = 1880 MHz; σ = 1.536 S/m; ε_r = 51.467; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WCDMA Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.478 W/kg

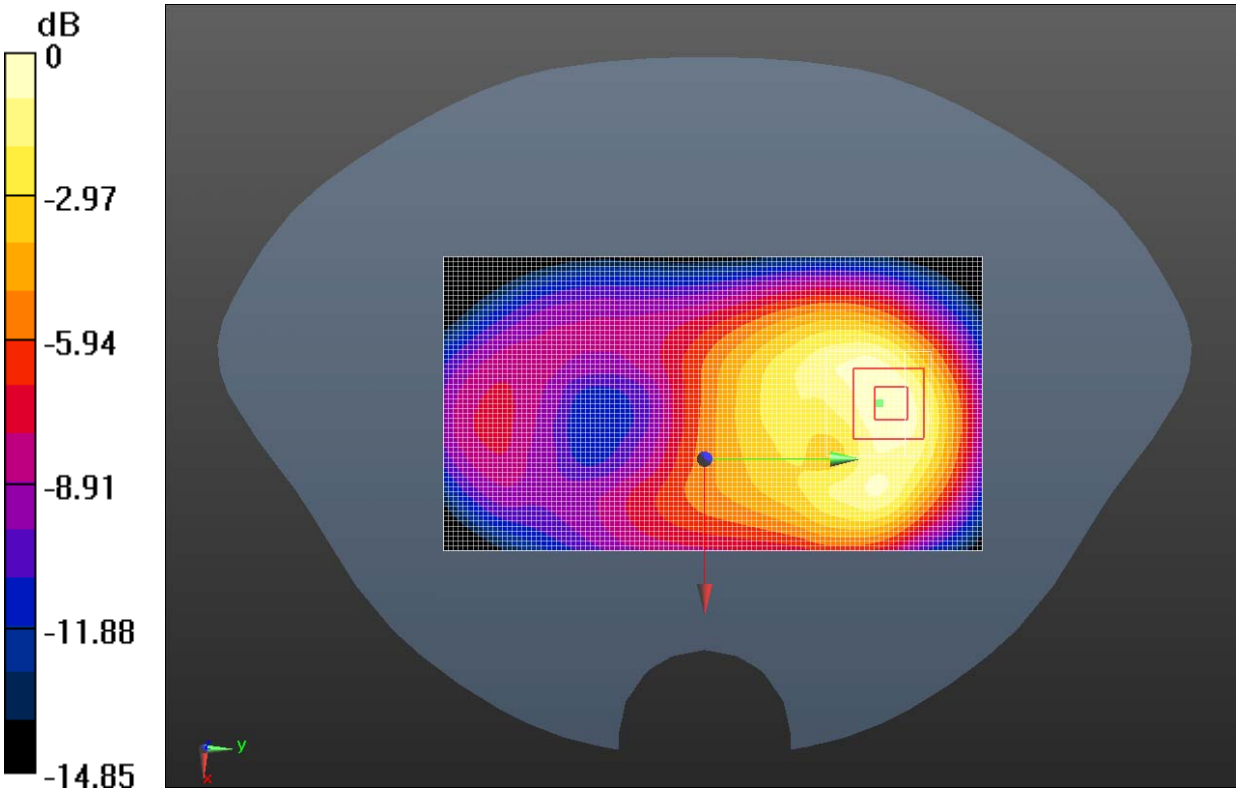
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.433 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.694 W/kg

SAR(1 g) = 0.437 W/kg; SAR(10 g) = 0.255 W/kg

Maximum value of SAR (measured) = 0.460 W/kg



0 dB = 0.460 W/kg = -3.37 dBW/kg

Figure 56 Body, Front Side, UMTS Band II Channel 9400

UMTS Band II Front Side Low

Date/Time: 11/27/2013 9:41:41 AM

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.477 S/m; ε_r = 53.168; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Front Side Low /Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.548 W/kg

Front Side Low /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.751 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.307 W/kg

Maximum value of SAR (measured) = 0.564 W/kg

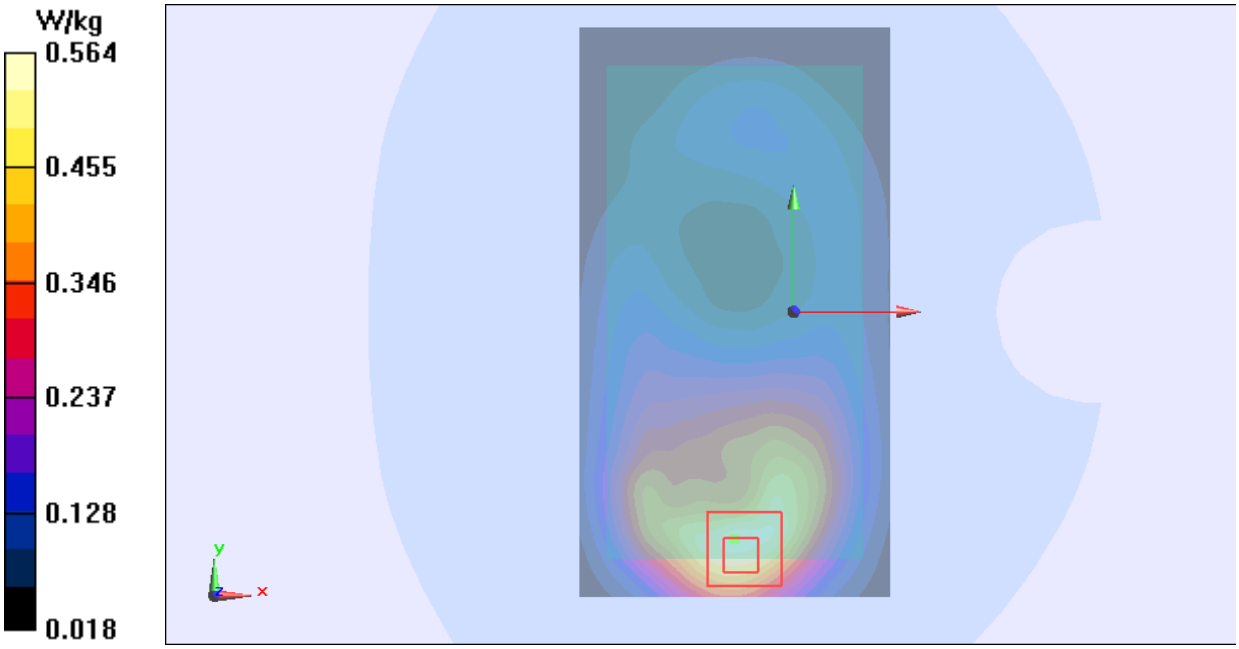


Figure 57 Body, Front Side, UMTS Band II Channel 9262

UMTS Band II Left Edge Middle

Date/Time: 11/27/2013 10:51:31 AM
Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Left Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.403 W/kg

Left Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.530 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.688 W/kg
SAR(1 g) = 0.358 W/kg; SAR(10 g) = 0.193 W/kg
Maximum value of SAR (measured) = 0.390 W/kg

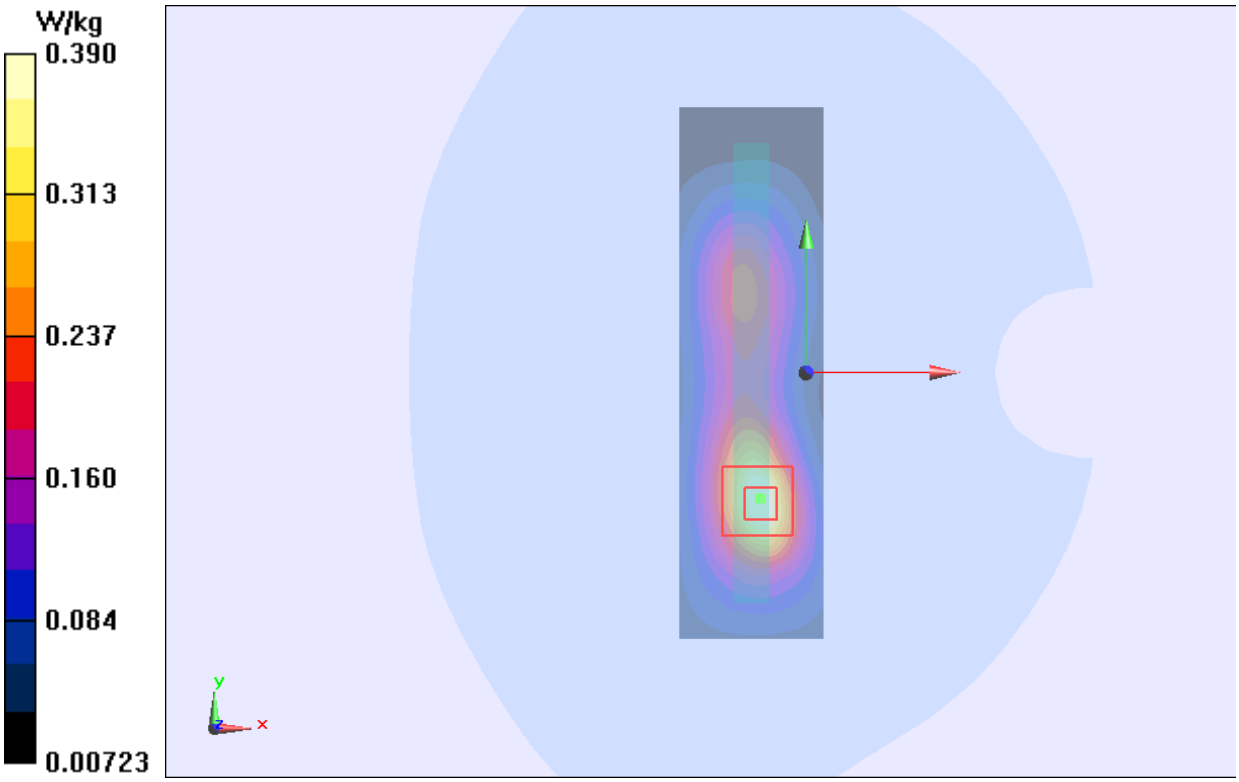


Figure 58 Body, Left Edge, UMTS Band II Channel 9400

UMTS Band II Right Edge Middle

Date/Time: 11/27/2013 10:35:10 AM
Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Right Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.159 W/kg

Right Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.277 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.275 W/kg
SAR(1 g) = 0.152 W/kg; SAR(10 g) = 0.087 W/kg
Maximum value of SAR (measured) = 0.165 W/kg

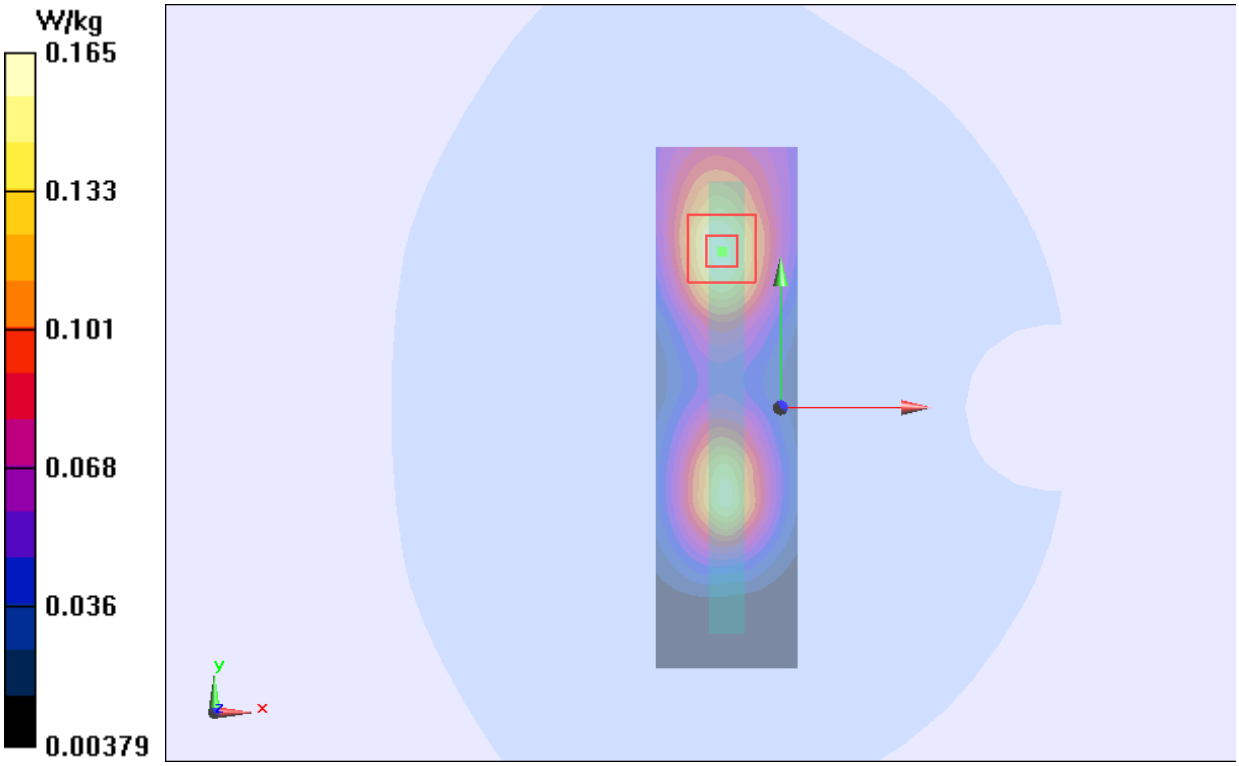


Figure 59 Body, Right Edge, UMTS Band II Channel 9400

UMTS Band II Bottom Edge Middle

Date/Time: 11/27/2013 11:15:27 AM
Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Bottom Edge Middle /Area Scan (31x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.595 W/kg

Bottom Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.186 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.279 W/kg
Maximum value of SAR (measured) = 0.587 W/kg

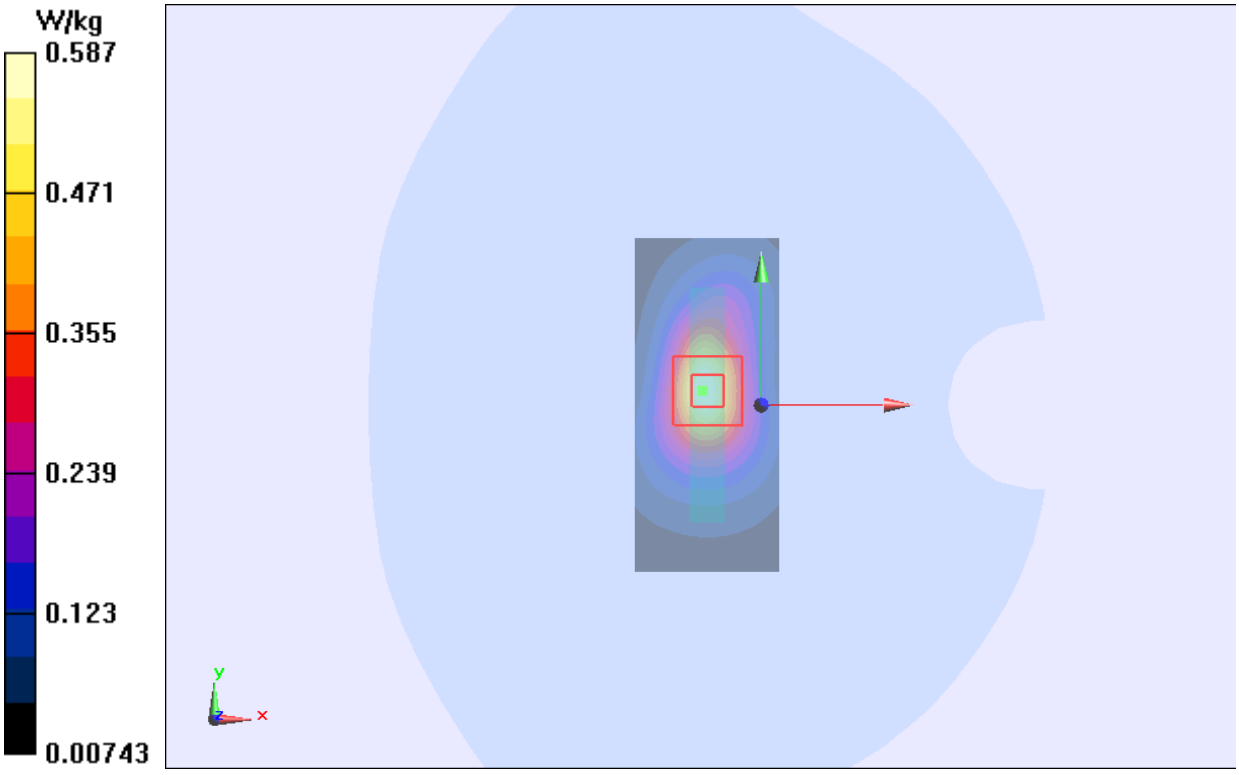


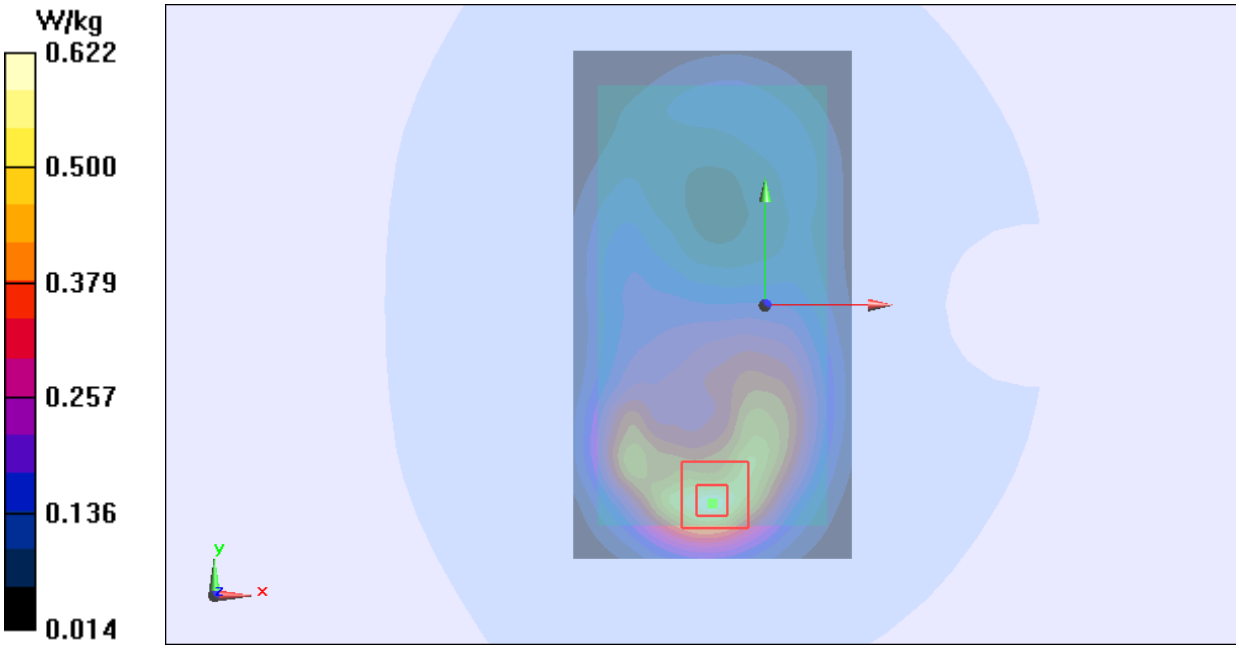
Figure 60 Body, Bottom Edge, UMTS Band II Channel 9400

UMTS Band II with Earphone Front Side High

Date/Time: 11/27/2013 11:29:05 AM
Communication System: WCDMA; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.532 S/m; ε_r = 53.111; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(7.33, 7.33, 7.33); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Front Side High /Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.616 W/kg

Front Side High /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.379 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.562 W/kg; SAR(10 g) = 0.317 W/kg
Maximum value of SAR (measured) = 0.622 W/kg



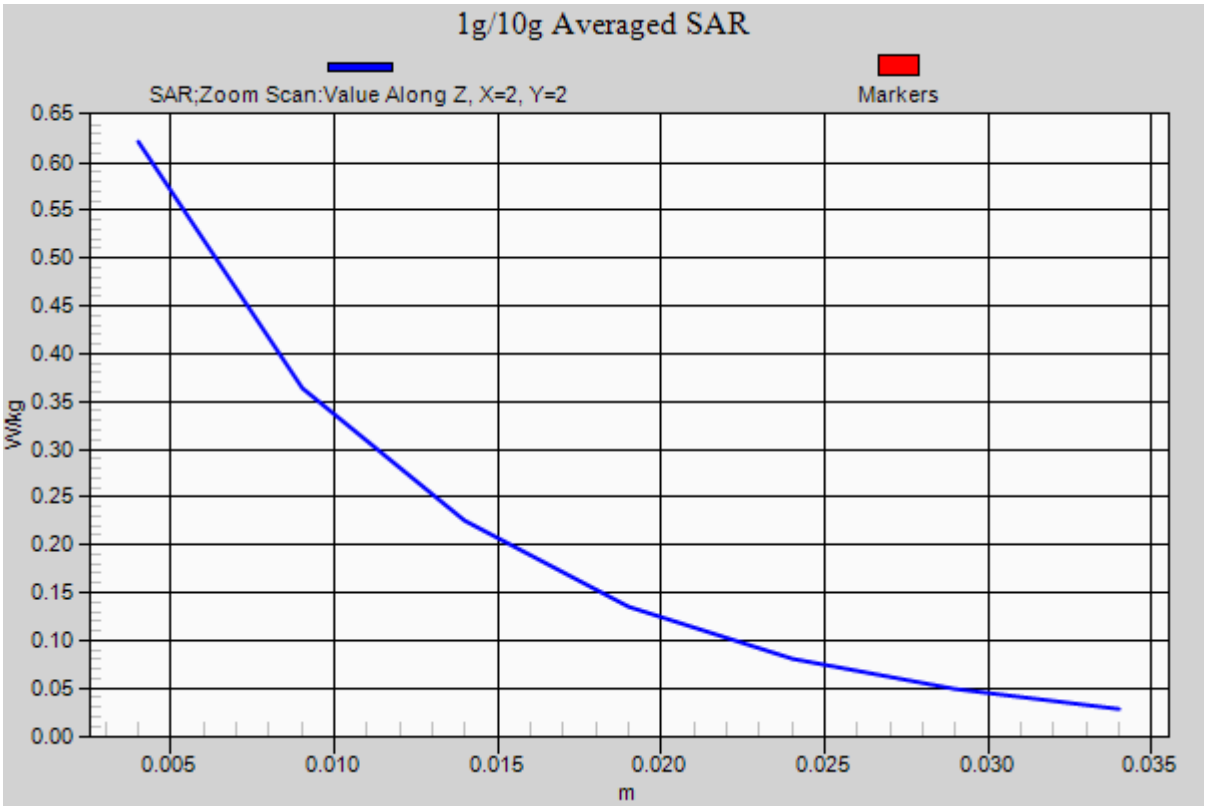


Figure 61 Body, Front Side, UMTS Band II with Earphone Channel 9538

UMTS Band V Left Cheek High

Date/Time: 11/26/2013 5:58:13 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 1.021 S/m; ε_r = 42.625; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.354 W/kg

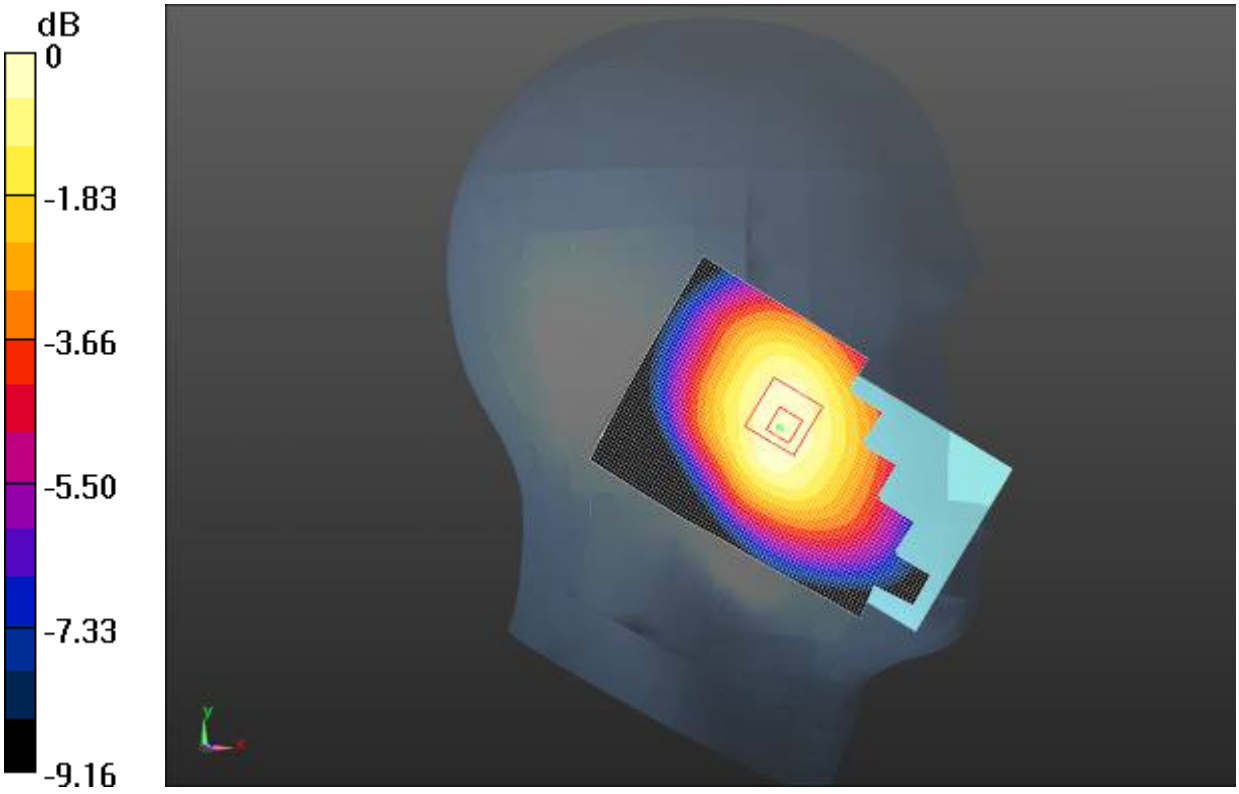
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.903 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.423 W/kg

SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.260 W/kg

Maximum value of SAR (measured) = 0.355 W/kg



0 dB = 0.355 W/kg = -4.50 dBW/kg

Figure 62 Left Hand Touch Cheek UMTS Band V Channel 4233

UMTS Band V Left Cheek Middle

Date/Time: 11/26/2013 4:39:38 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.935 S/m; ε_r = 42.694; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.404 W/kg

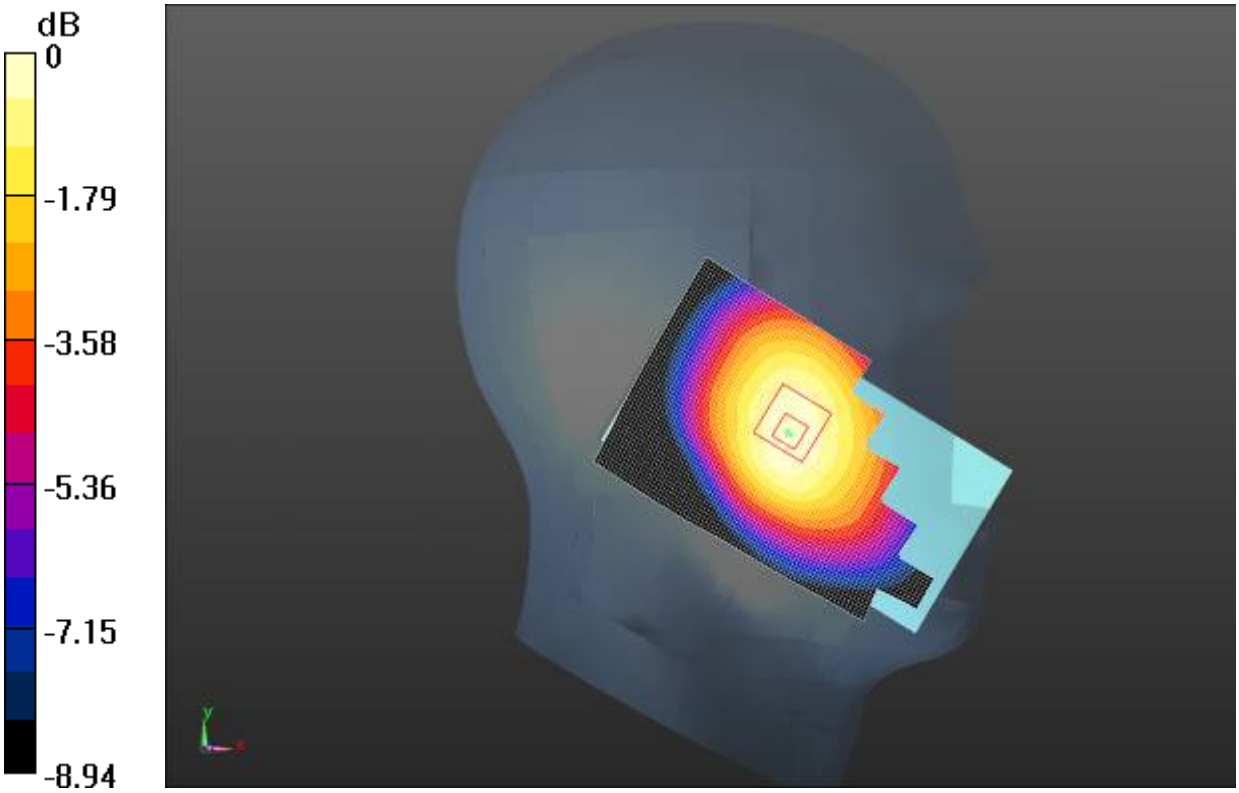
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.616 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.487 W/kg

SAR(1 g) = 0.387 W/kg; SAR(10 g) = 0.297 W/kg

Maximum value of SAR (measured) = 0.408 W/kg



0 dB = 0.408 W/kg = -3.89 dBW/kg

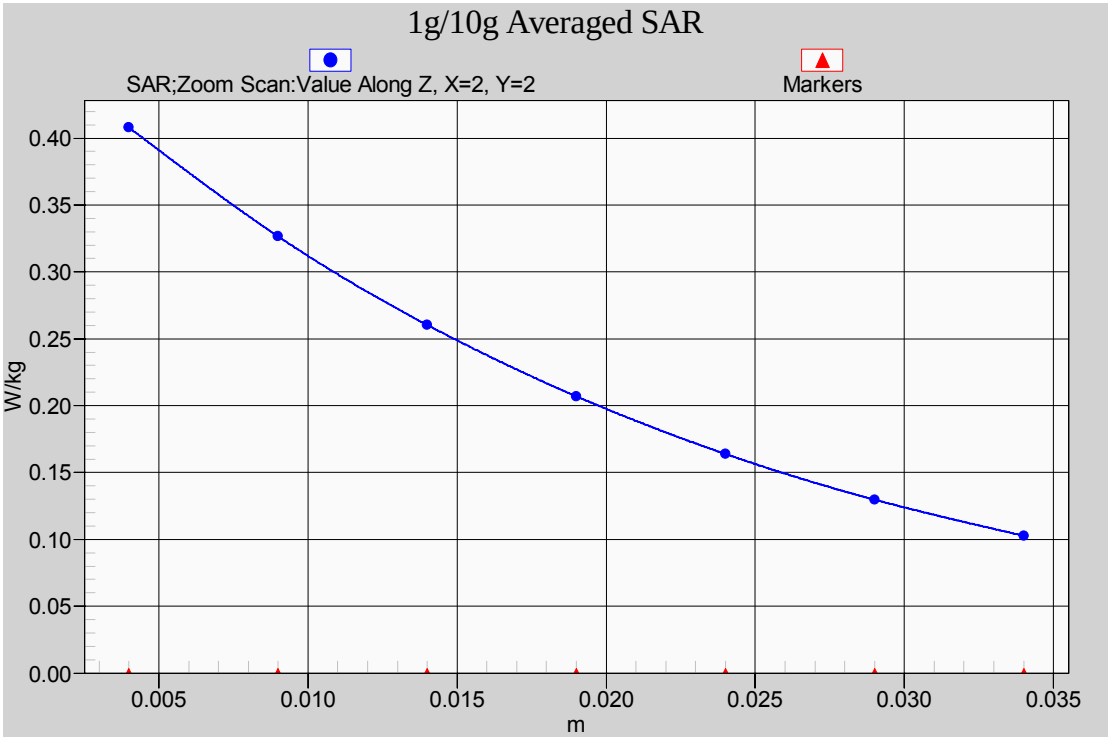


Figure 63 Left Hand Touch Cheek UMTS Band V Channel 4182

UMTS Band V Left Cheek Low

Date/Time: 11/26/2013 6:17:19 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.923 S/m; ε_r = 42.858; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 826.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Left Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.350 W/kg

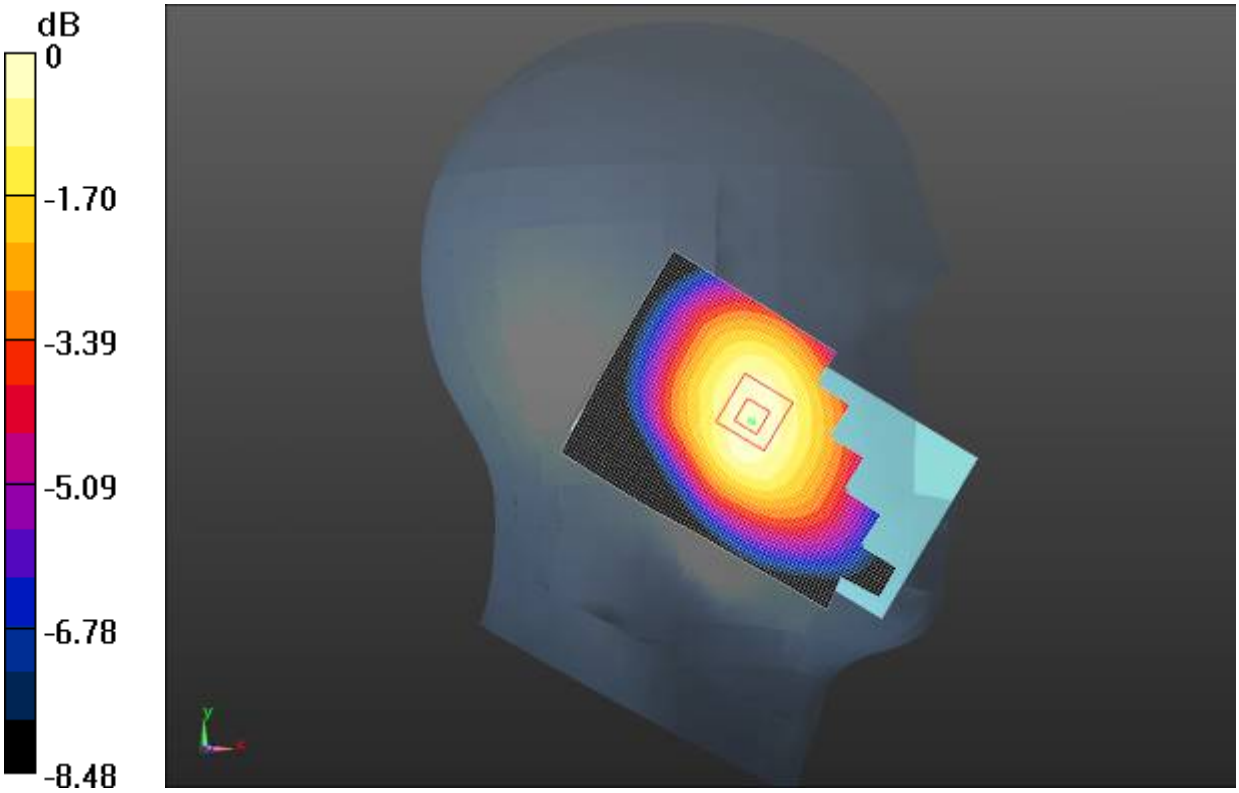
Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.172 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.414 W/kg

SAR(1 g) = 0.336 W/kg; SAR(10 g) = 0.260 W/kg

Maximum value of SAR (measured) = 0.353 W/kg



0 dB = 0.353 W/kg = -4.52 dBW/kg

Figure 64 Left Hand Touch Cheek UMTS Band V Channel 4132

UMTS Band V Left Tilt Middle

Date/Time: 11/26/2013 4:55:11 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.935 S/m; ε_r = 42.694; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Left Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.239 W/kg

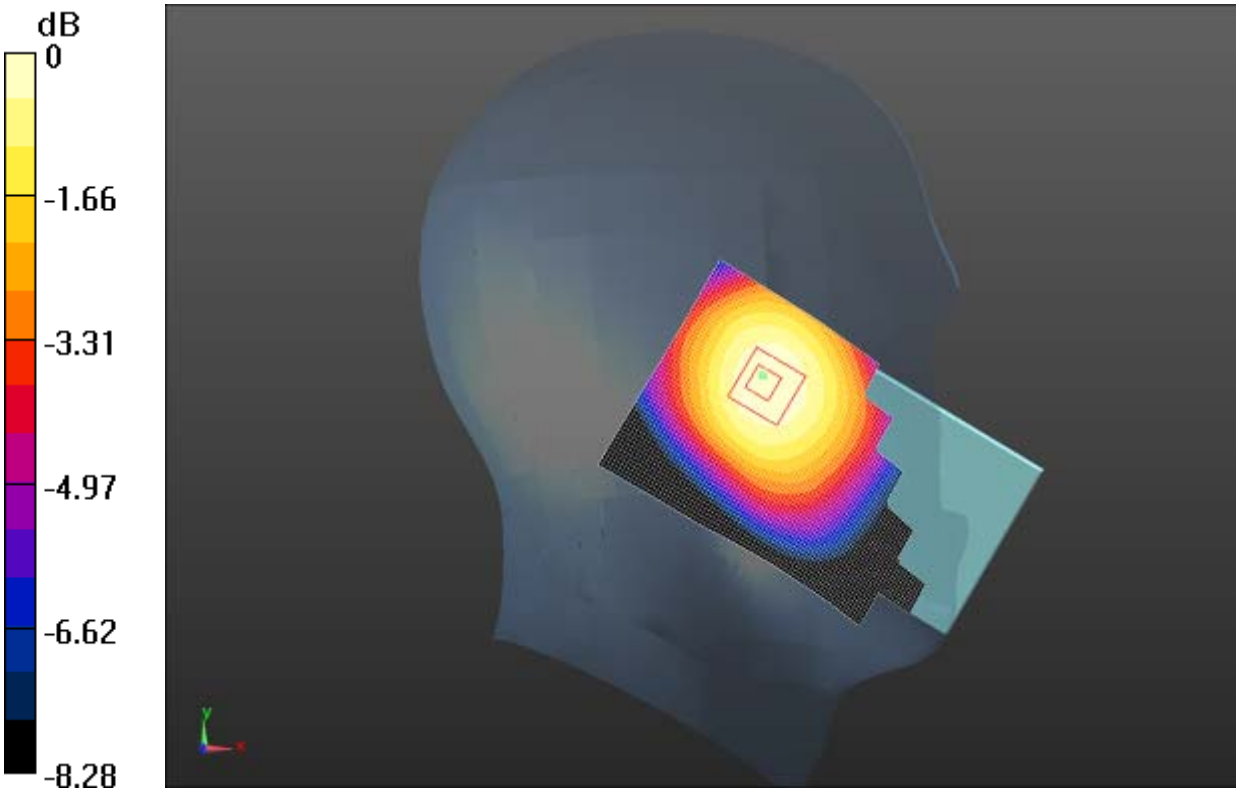
Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.280 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.278 W/kg

SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.181 W/kg

Maximum value of SAR (measured) = 0.240 W/kg



0 dB = 0.240 W/kg = -6.19 dBW/kg

Figure 65 Left Hand Tilt 15° UMTS Band V Channel 4182

UMTS Band V Right Cheek Middle

Date/Time: 11/26/2013 5:12:45 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.935 S/m; ε_r = 42.694; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.392 W/kg

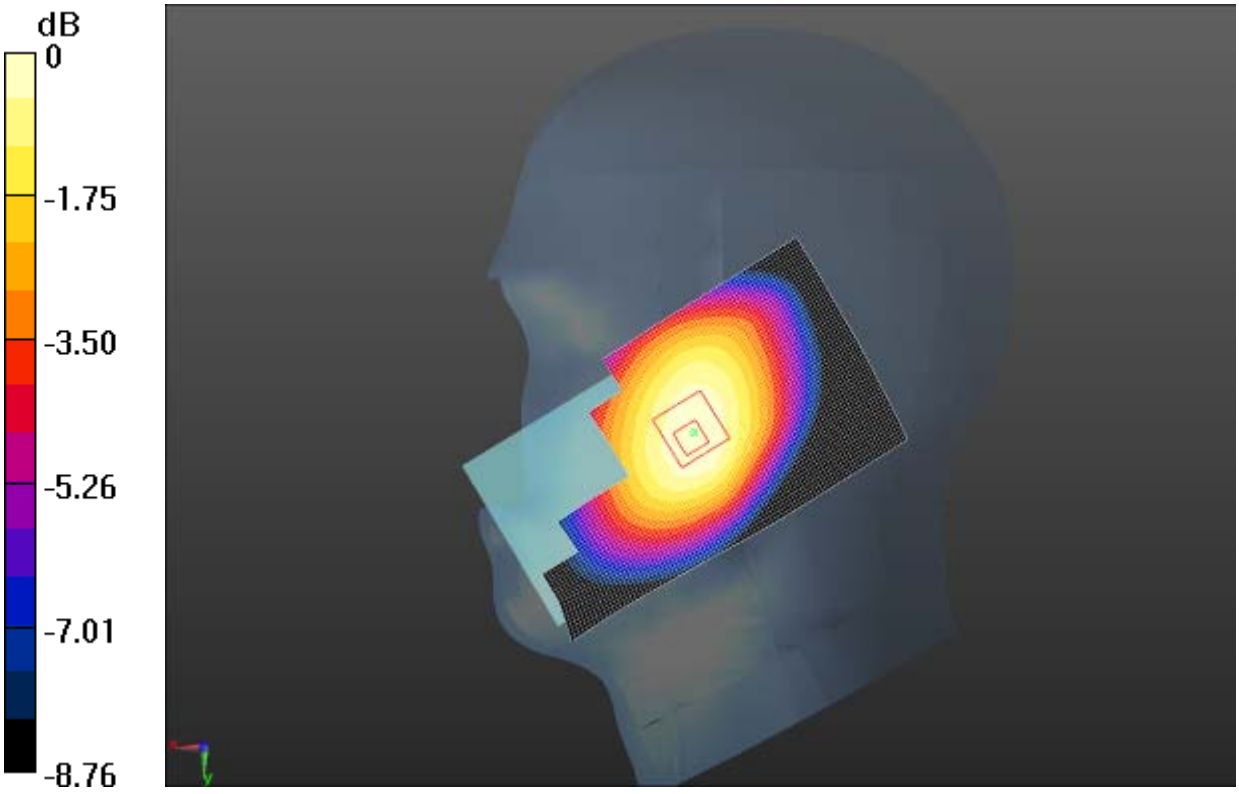
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.065 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.454 W/kg

SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.291 W/kg

Maximum value of SAR (measured) = 0.390 W/kg



0 dB = 0.390 W/kg = -4.09 dBW/kg

Figure 66 Right Hand Touch Cheek UMTS Band V Channel 4182

UMTS Band V Right Tilt Middle

Date/Time: 11/26/2013 5:28:32 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Head 900MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.935 S/m; ε_r = 42.694; ρ = 1000 kg/m^3

Ambient Temperature:21.0°C Liquid Temperature: 20.5°C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(8.95, 8.95, 8.95); Calibrated: 1/17/2013

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.246 W/kg

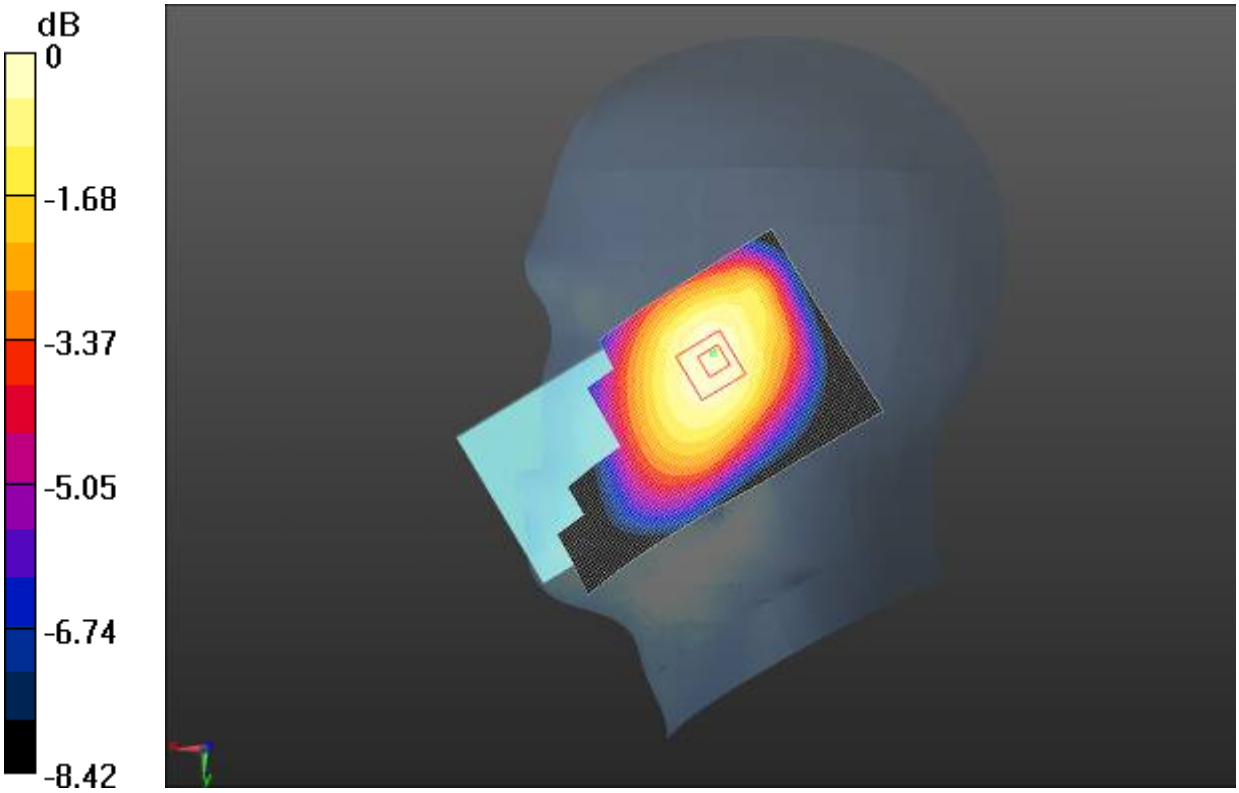
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.320 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.285 W/kg

SAR(1 g) = 0.236 W/kg; SAR(10 g) = 0.185 W/kg

Maximum value of SAR (measured) = 0.247 W/kg



0 dB = 0.247 W/kg = -6.07 dBW/kg

Figure 67 Right Hand Tilt 15° UMTS Band V Channel 4182

UMTS Band V Back Side High

Date/Time: 11/28/2013 5:30:47 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 900

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.982 S/m; ε_r = 53.563; ρ = 1000 kg/m^3

Ambient Temperature:21.3°C Liquid Temperature: 20.8°C

Communication System: WCDMA Frequency: 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.543 W/kg

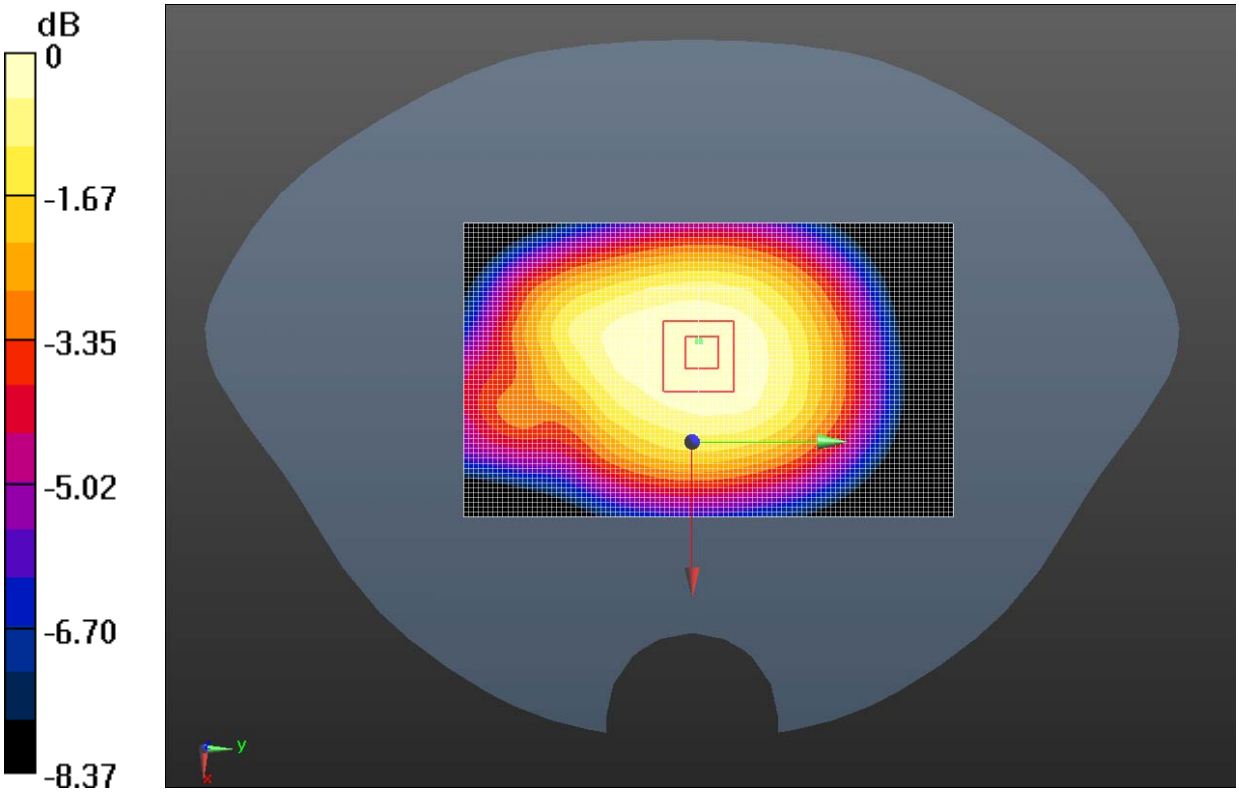
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.411 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.636 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.404 W/kg

Maximum value of SAR (measured) = 0.543 W/kg



0 dB = 0.543 W/kg = -2.65 dBW/kg

Figure 68 Body, Back Side, UMTS Band V Channel 4233

UMTS Band V Back Side Middle

Date/Time: 11/28/2013 6:33:56 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 900

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.971 S/m; ε_r = 53.662; ρ = 1000 kg/m^3

Ambient Temperature:21.3°C Liquid Temperature: 20.8°C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.621 W/kg

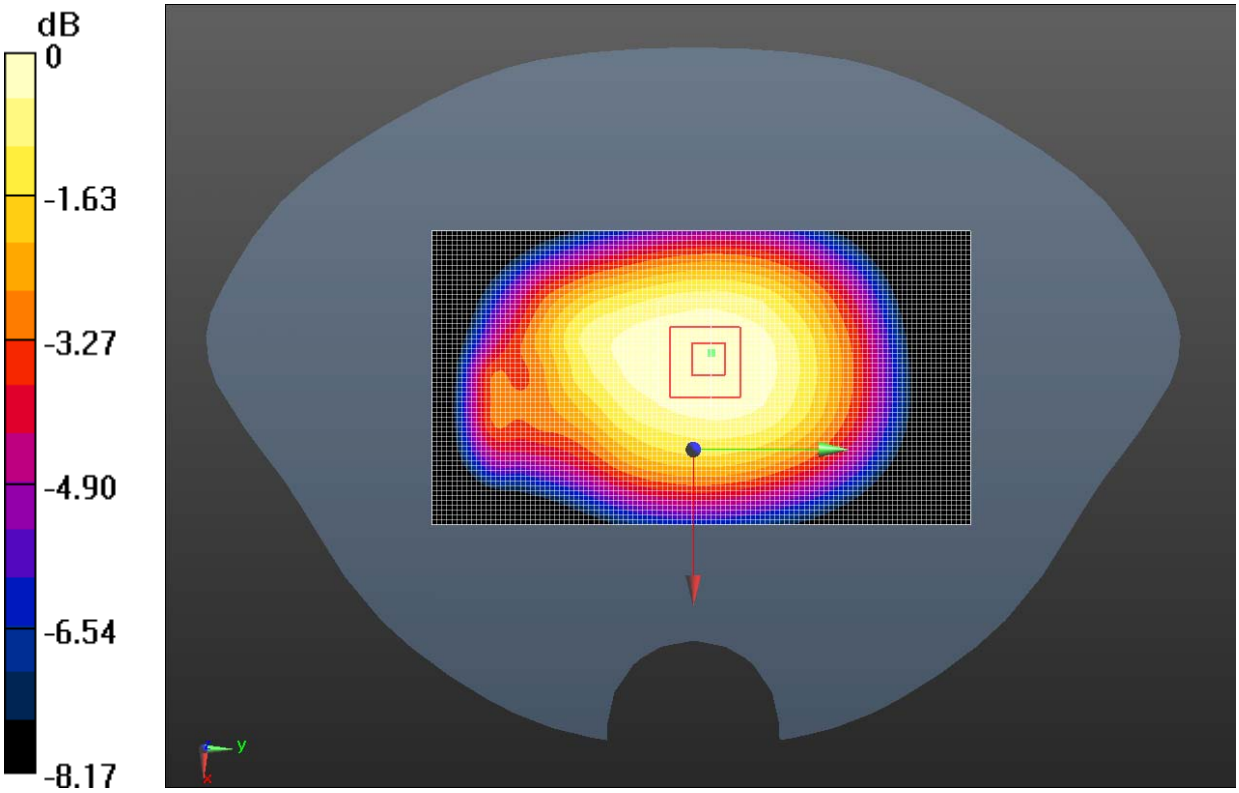
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.075 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.723 W/kg

SAR(1 g) = 0.595 W/kg; SAR(10 g) = 0.462 W/kg

Maximum value of SAR (measured) = 0.622 W/kg



0 dB = 0.622 W/kg = -2.06 dBW/kg

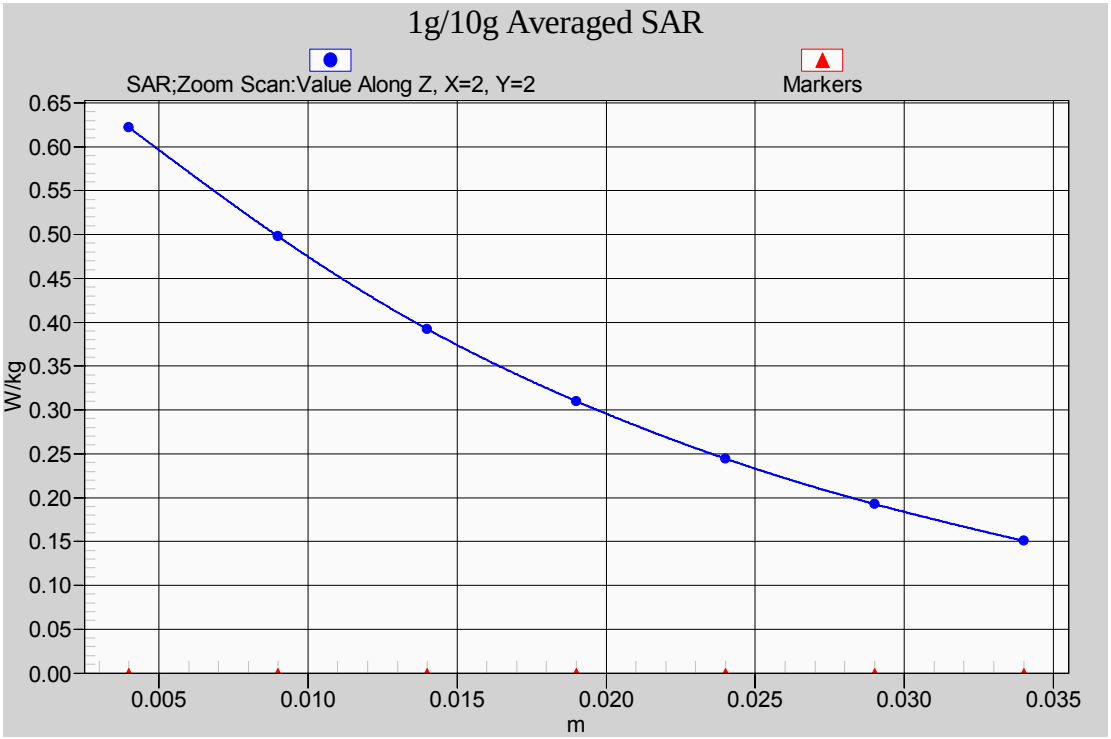


Figure 69 Body, Back Side, UMTS Band V Channel 4182

UMTS Band V Back Side Low

Date/Time: 11/28/2013 5:59:01 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 900

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.959 S/m; ε_r = 53.758; ρ = 1000 kg/m^3

Ambient Temperature:21.3°C Liquid Temperature: 20.8°C

Communication System: WCDMA Frequency: 826.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013

Back Side Low/Area Scan (61x101x1): Interpolated grid: dx=15 mm, dy=15 mm

Reference Value = 23.672 V/m; Power Drift = 0.02 dB

Maximum value of SAR (interpolated) = 0.537 W/kg

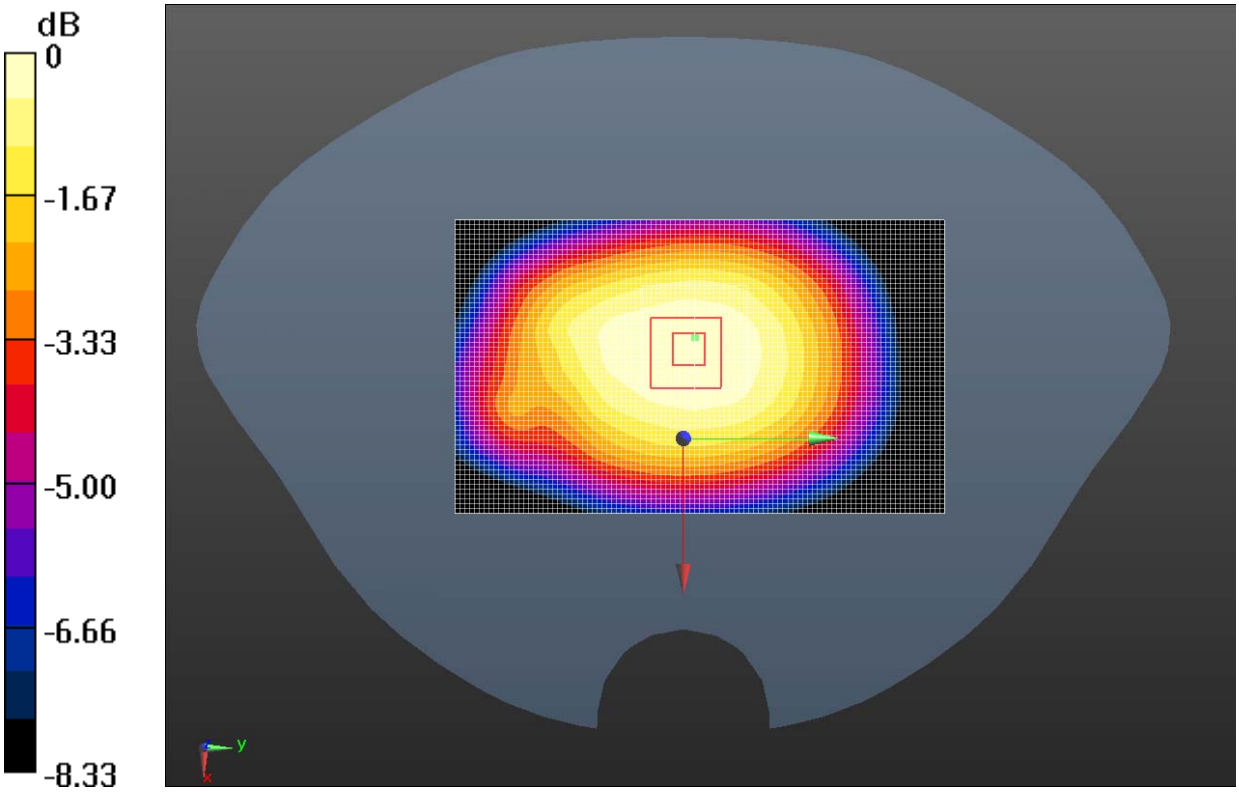
Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.672 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.629 W/kg

SAR(1 g) = 0.518 W/kg; SAR(10 g) = 0.404 W/kg

Maximum value of SAR (measured) = 0.539 W/kg



0 dB = 0.539 W/kg = -2.68 dBW/kg

Figure 70 Body, Back Side, UMTS Band V Channel 4132

UMTS Band V Front Side Middle

Date/Time: 11/28/2013 4:54:15 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 900

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.971 S/m; ε_r = 53.662; ρ = 1000 kg/m^3

Ambient Temperature:21.3^{o}C Liquid Temperature: 20.8^{o}C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.453 W/kg

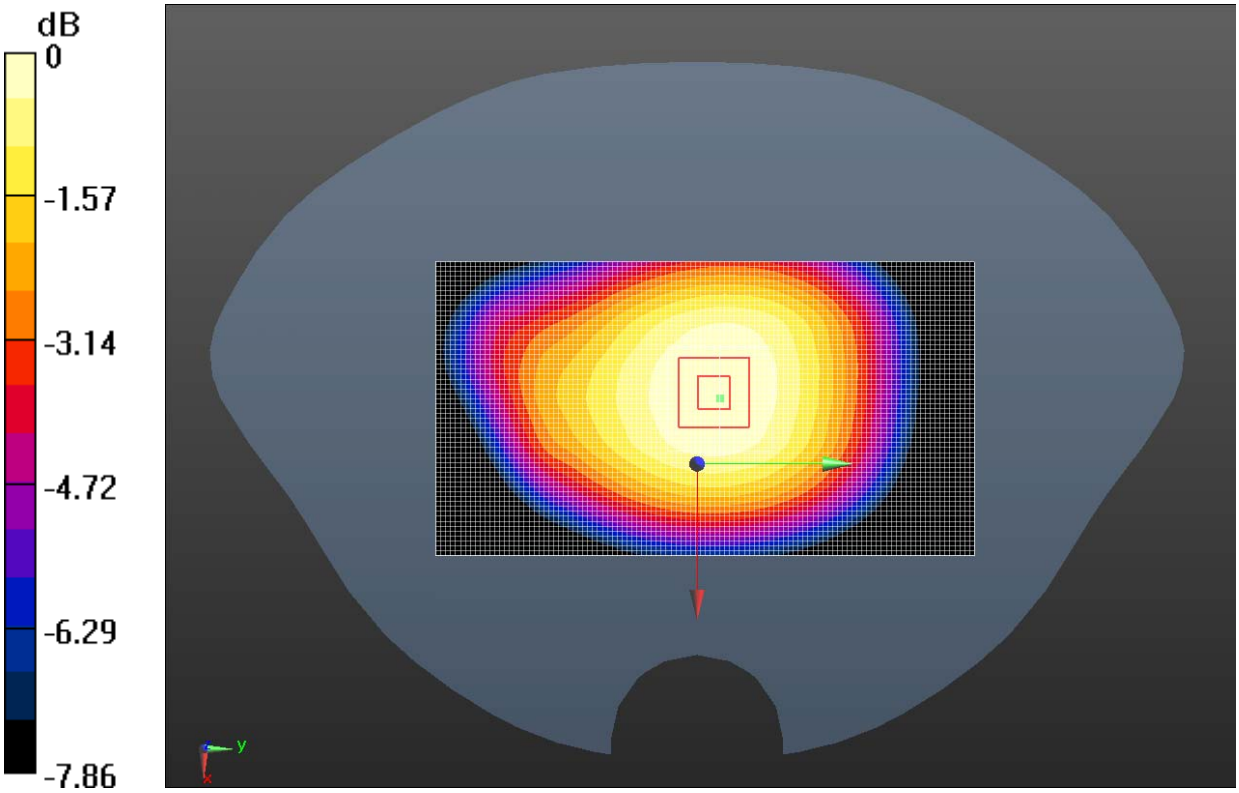
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.199 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.521 W/kg

SAR(1 g) = 0.432 W/kg; SAR(10 g) = 0.337 W/kg

Maximum value of SAR (measured) = 0.452 W/kg



0 dB = 0.452 W/kg = -3.45 dBW/kg

Figure 71 Body, Front Side, UMTS Band V Channel 4182

UMTS Band V Left Edge Middle

Date/Time: 11/28/2013 1:52:49 PM
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.995 S/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated:1/25/2013
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Left Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.246 W/kg

Left Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.344 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.302 W/kg
SAR(1 g) = 0.226 W/kg; SAR(10 g) = 0.157 W/kg
Maximum value of SAR (measured) = 0.242 W/kg

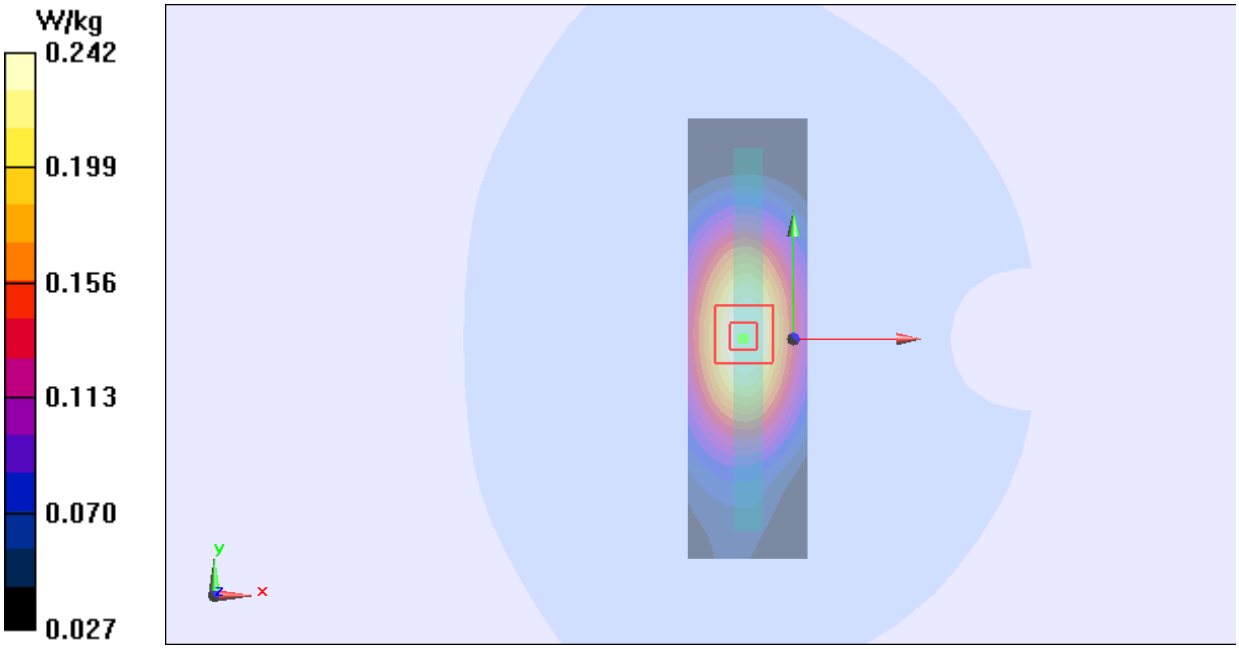


Figure 72 Body, Left Edge, UMTS Band V Channel 4182

UMTS Band V Right Edge Middle

Date/Time: 11/28/2013 1:34:49 PM
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.995 S/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated:1/25/2013
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Right Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.324 W/kg

Right Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.702 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.407 W/kg
SAR(1 g) = 0.303 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 0.326 W/kg

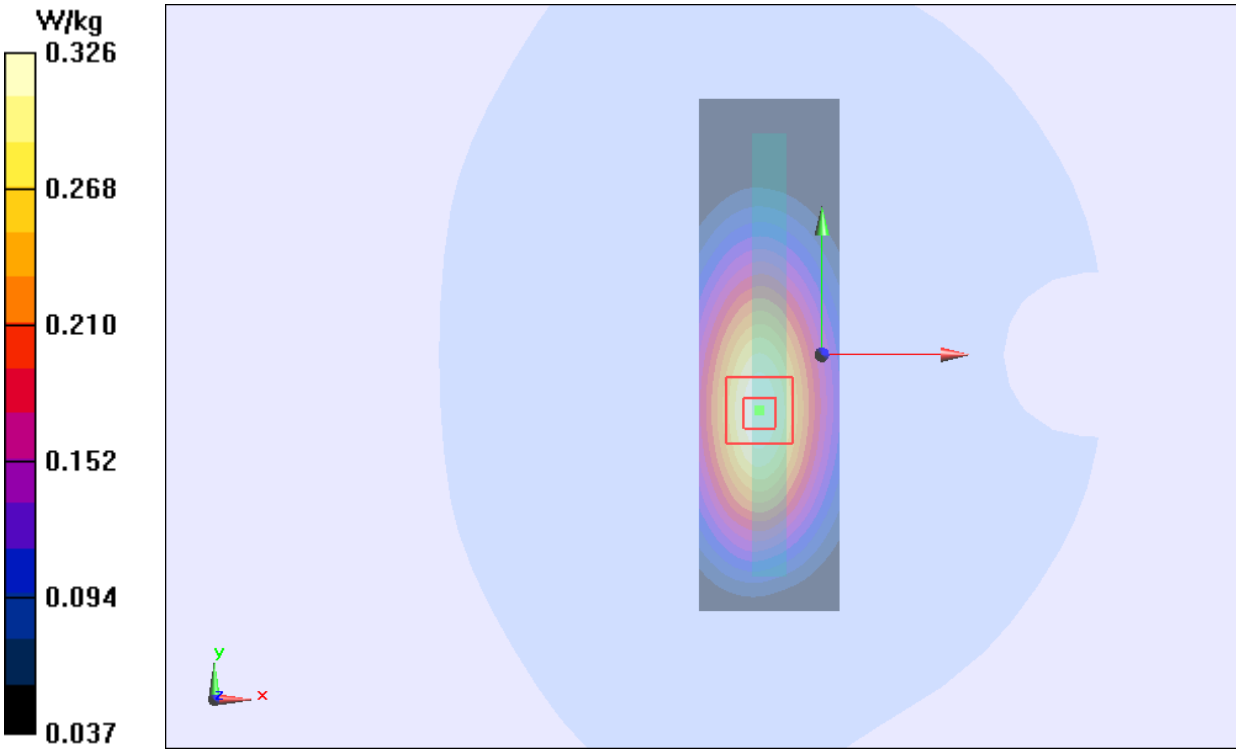


Figure 73 Body, Right Edge, UMTS Band V Channel 4182

UMTS Band V Bottom Edge Middle

Date/Time: 11/28/2013 1:17:49 PM
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.995 S/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated:1/25/2013
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Bottom Edge Middle /Area Scan (31x71x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.192 W/kg

Bottom Edge Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.746 V/m; Power Drift = 0.21 dB
Peak SAR (extrapolated) = 0.449 W/kg
SAR(1 g) = 0.182 W/kg; SAR(10 g) = 0.096 W/kg
Maximum value of SAR (measured) = 0.191 W/kg

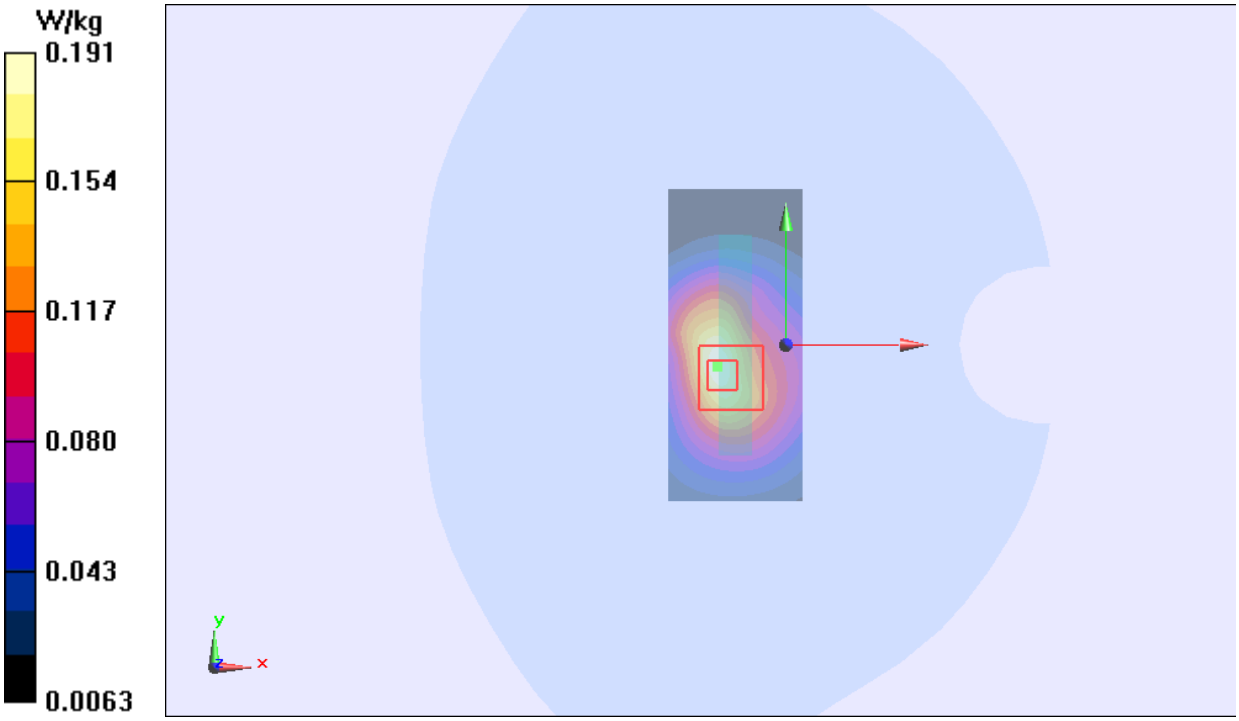


Figure 74 Body, Bottom Edge, UMTS Band V Channel 4182

UMTS Band V with Earphone Back Side Middle

Date/Time: 11/28/2013 6:15:50 PM

Electronics: DAE4 Sn1317; Calibrated:1/25/2013

Medium: Body 900

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.971 S/m; ε_r = 53.662; ρ = 1000 kg/m^3

Ambient Temperature:21.3^{o}C Liquid Temperature: 20.8^{o}C

Communication System: WCDMA Frequency: 836.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(9.05, 9.05, 9.05); Calibrated: 1/17/2013

Back Side Middle speech/Area Scan (61x111x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.619 W/kg

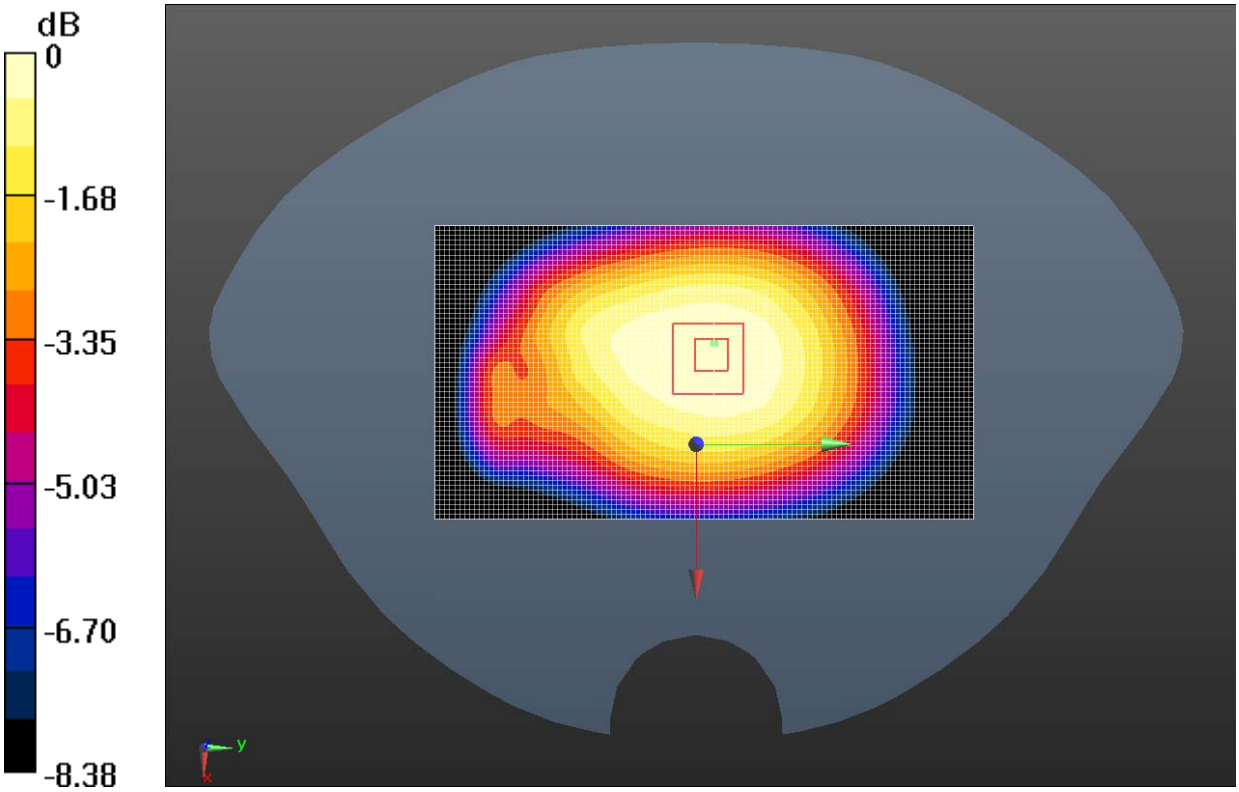
Back Side Middle speech/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.039 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.721 W/kg

SAR(1 g) = 0.592 W/kg; SAR(10 g) = 0.461 W/kg

Maximum value of SAR (measured) = 0.617 W/kg



0 dB = 0.617 W/kg = -2.10 dBW/kg

Figure 75 Body, Back Side, UMTS Band V with Earphone Channel 4183

802.11b Left Cheek High

Date/Time: 11/30/2013 2:10:53 PM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used: f = 2462 MHz; σ = 1.897 S/m; ε_r = 39.441; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Left Cheek High/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.315 W/kg

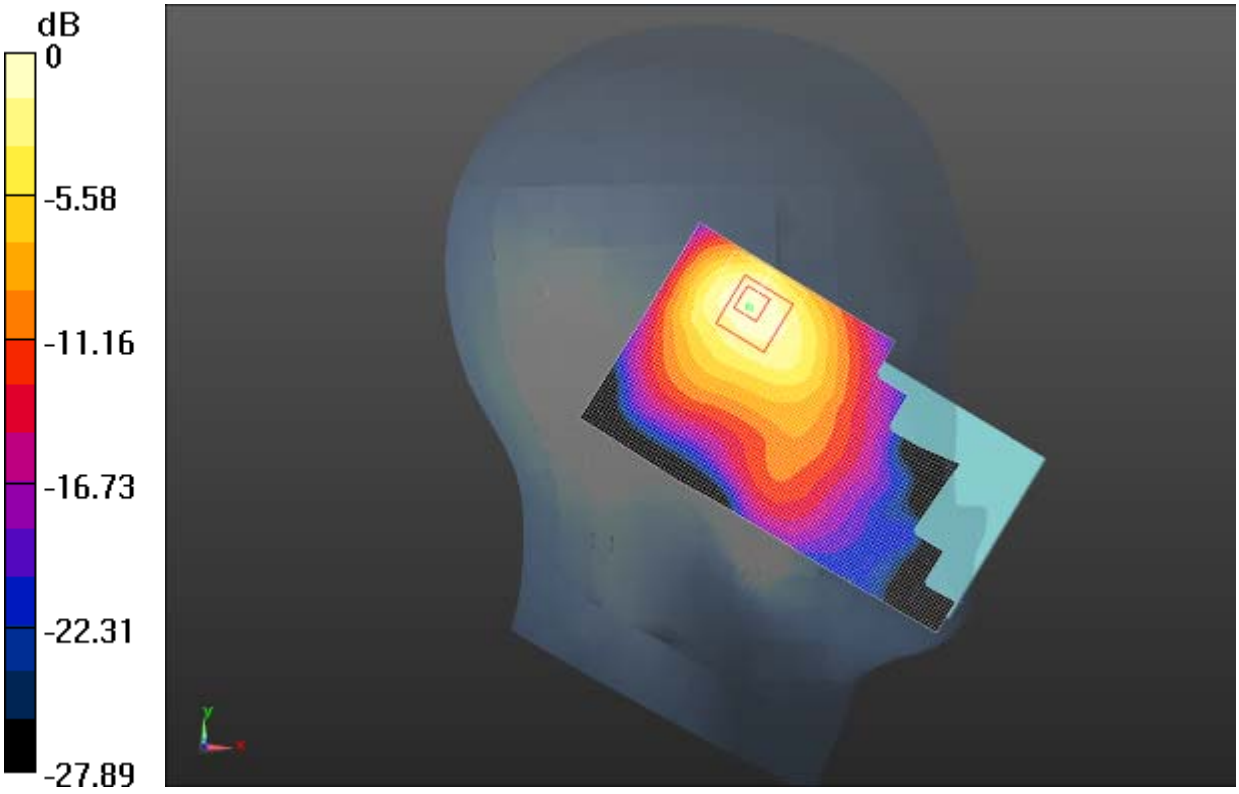
Left Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.814 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.618 W/kg

SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.124 W/kg

Maximum value of SAR (measured) = 0.291 W/kg



0 dB = 0.291 W/kg = -5.36 dBW/kg

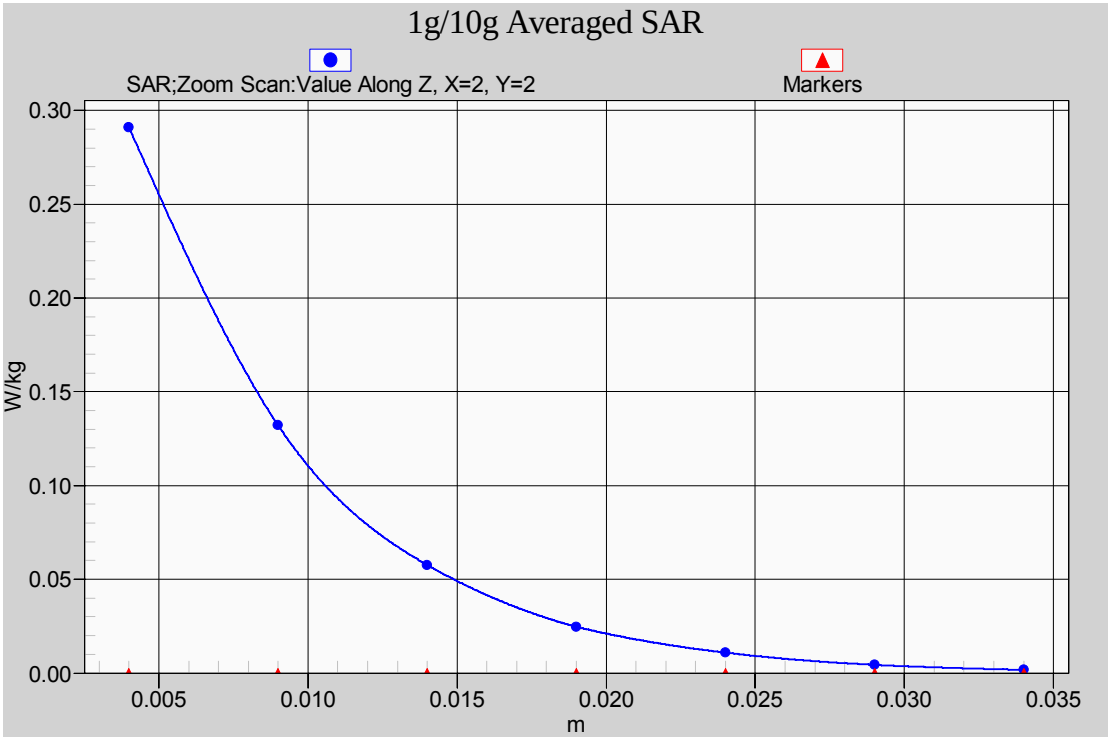


Figure 76 Left Hand Touch Cheek 802.11b Channel 11

802.11b Left Cheek Middle

Date/Time: 11/30/2013 10:56:41 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.875 S/m; ε_r = 39.488; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Left Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.290 W/kg

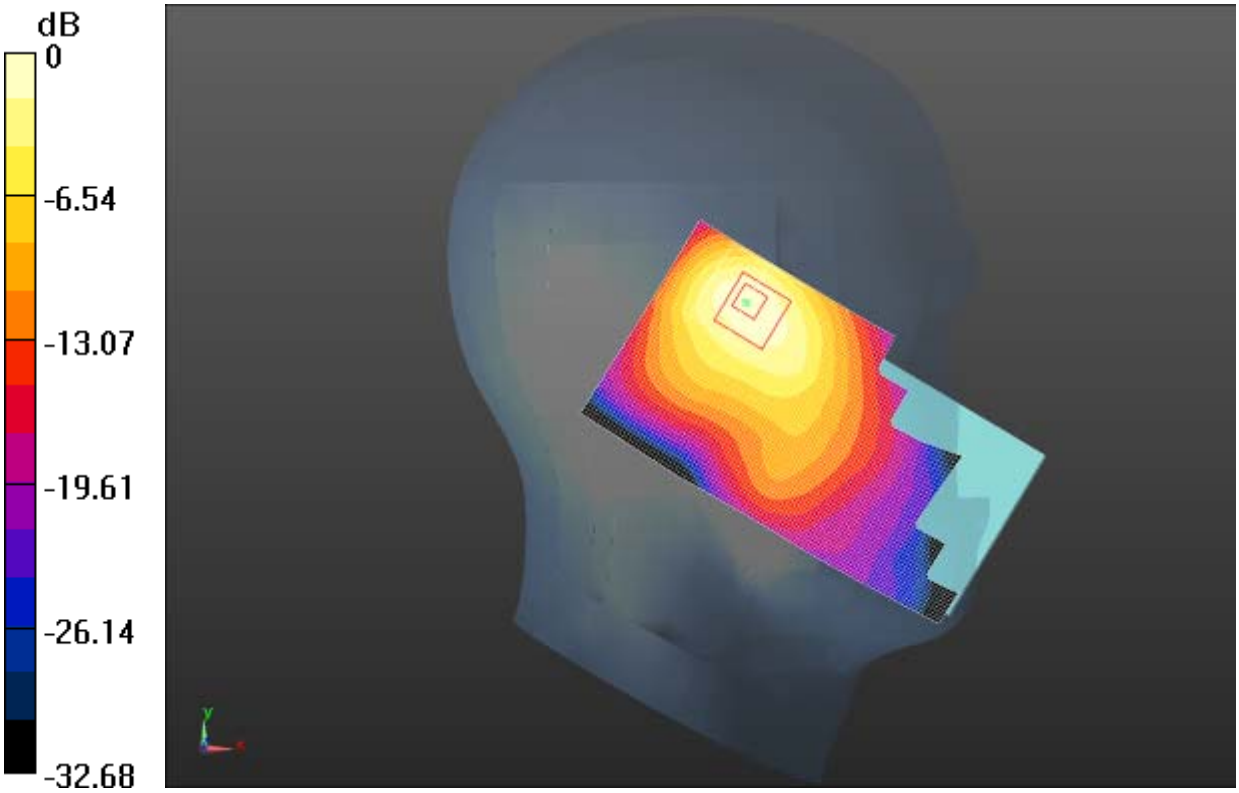
Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.693 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.240 W/kg; SAR(10 g) = 0.115 W/kg

Maximum value of SAR (measured) = 0.269 W/kg



0 dB = 0.269 W/kg = -5.70 dBW/kg

Figure 77 Left Hand Touch Cheek 802.11b Channel 6

802.11b Left Cheek Low

Date/Time: 11/30/2013 1:55:00 PM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used: f = 2412 MHz; σ = 1.838 S/m; ε_r = 39.561; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Left Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.262 W/kg

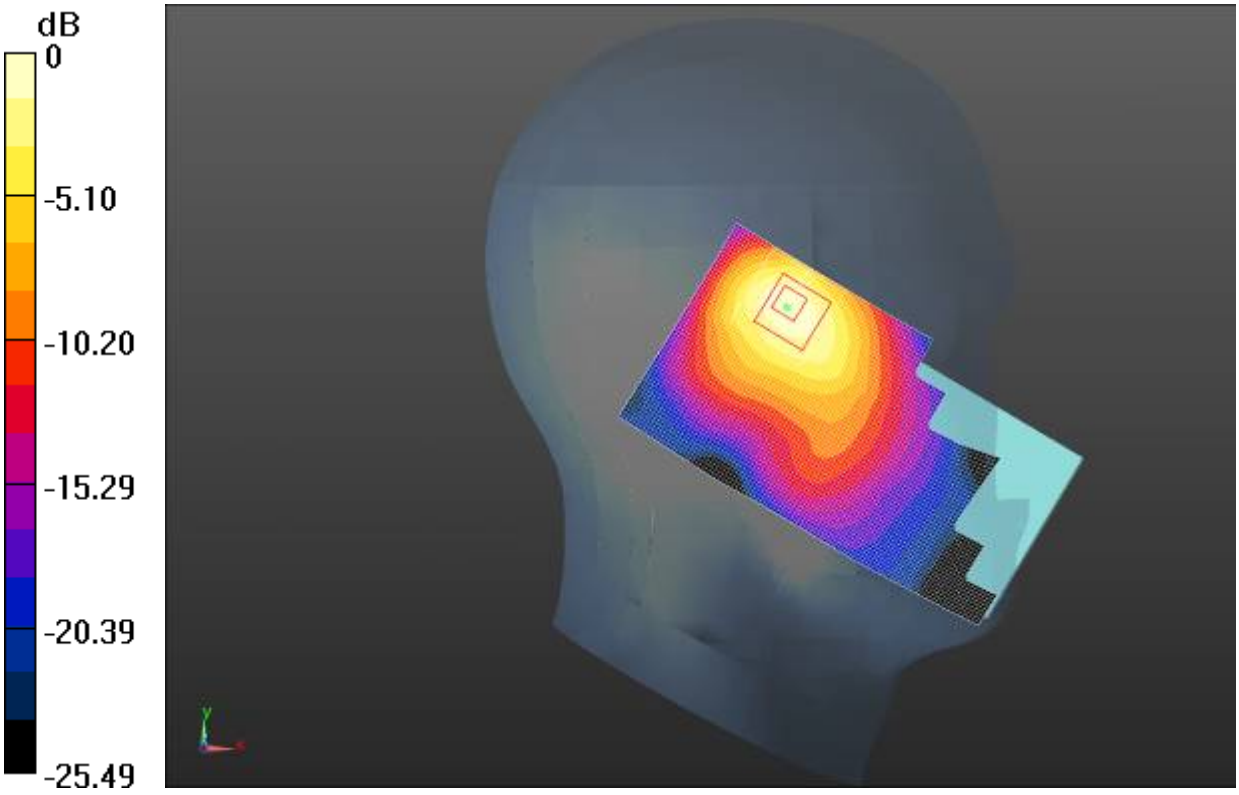
Left Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.866 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.498 W/kg

SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.103 W/kg

Maximum value of SAR (measured) = 0.245 W/kg



0 dB = 0.245 W/kg = -6.11 dBW/kg

Figure 78 Left Hand Touch Cheek 802.11b Channel 1

802.11b Left Tilt Middle

Date/Time: 11/30/2013 11:12:29 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.875 S/m; ε_r = 39.488; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Left Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.154 W/kg

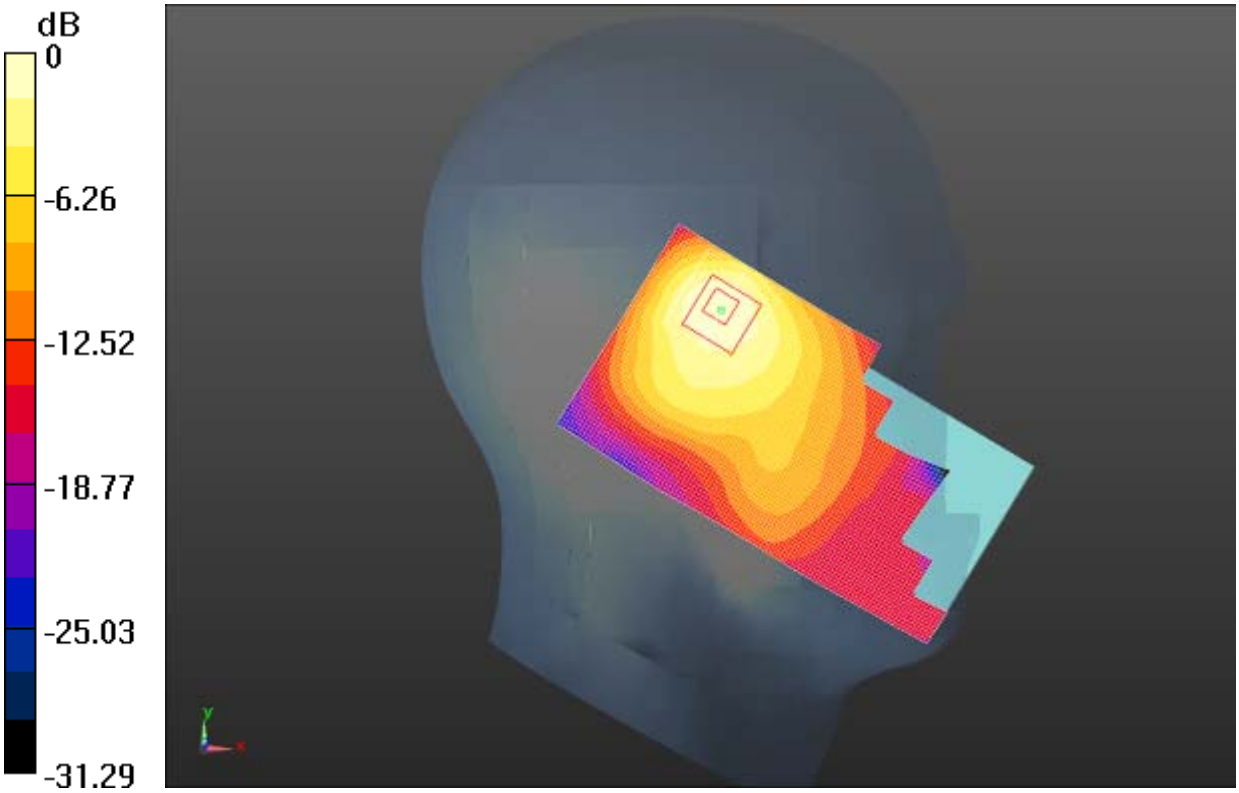
Left Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.377 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.307 W/kg

SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.062 W/kg

Maximum value of SAR (measured) = 0.141 W/kg



0 dB = 0.141 W/kg = -8.51 dBW/kg

Figure 79 Left Hand Tilt 15° 802.11b Channel 6

802.11b Right Cheek Middle

Date/Time: 11/30/2013 11:44:37 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.875 S/m; ε_r = 39.488; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.120 W/kg

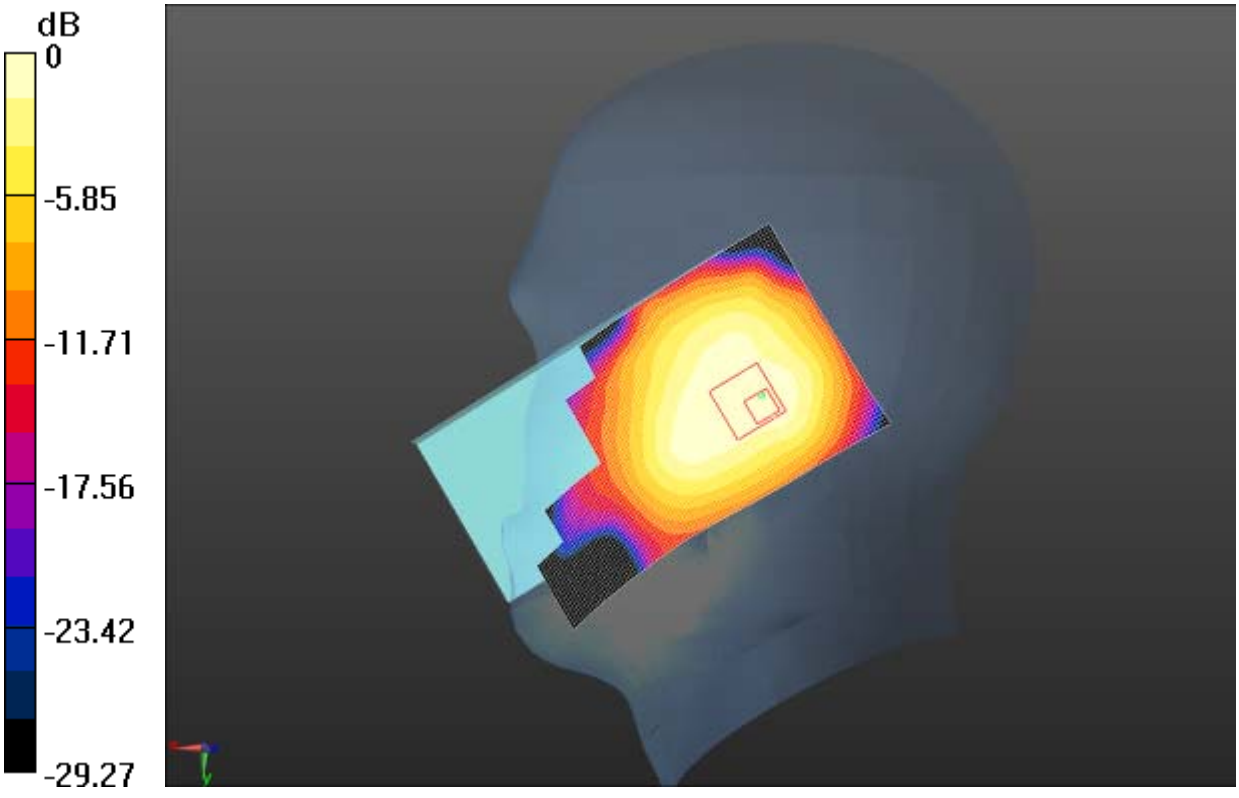
Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.165 V/m; Power Drift = 0.19dB

Peak SAR (extrapolated) = 0.224 W/kg

SAR(1 g) = 0.108 W/kg; SAR(10 g) = 0.060 W/kg

Maximum value of SAR (measured) = 0.115 W/kg



0 dB = 0.115 W/kg = -9.39 dBW/kg

Figure 80 Right Hand Touch Cheek 802.11b Channel 6

802.11b Right Tilt Middle

Date/Time: 11/30/2013 11:59:54 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Head 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.875 S/m; ε_r = 39.488; ρ = 1000 kg/m^3

Ambient Temperature:21.7°C Liquid Temperature: 21.2°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.86, 6.86, 6.86); Calibrated: 1/17/2013

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.0791 W/kg

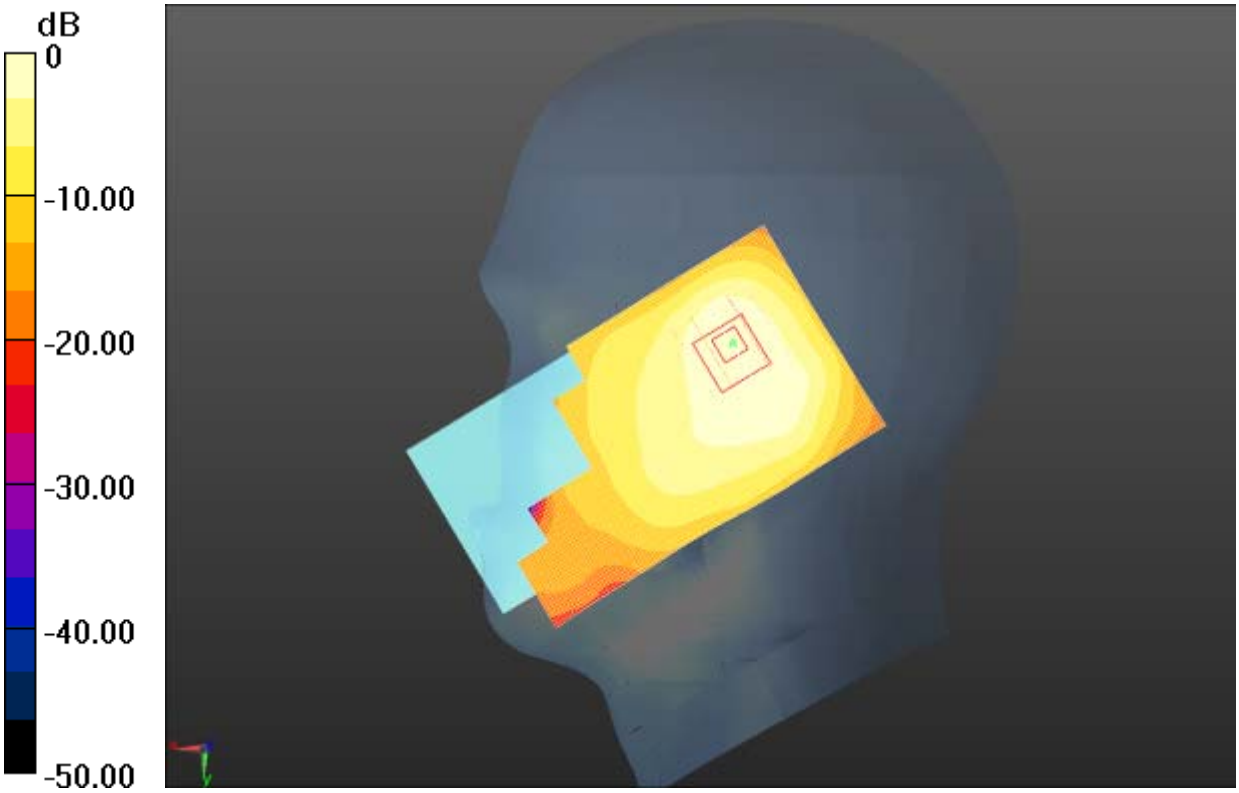
Right Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.052 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.137 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.036 W/kg

Maximum value of SAR (measured) = 0.0762 W/kg



0 dB = 0.0762 W/kg = -11.18 dBW/kg

Figure 81 Right Hand Tilt 15° 802.11b Channel 6

802.11b Back Side High

Date/Time: 11/29/2013 10:00:14 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Body 2450

Medium parameters used: f = 2462 MHz; σ = 1.948 S/m; ε_r = 52.202; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: WiFi 802.11 b Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013

Back Side High/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.224 W/kg

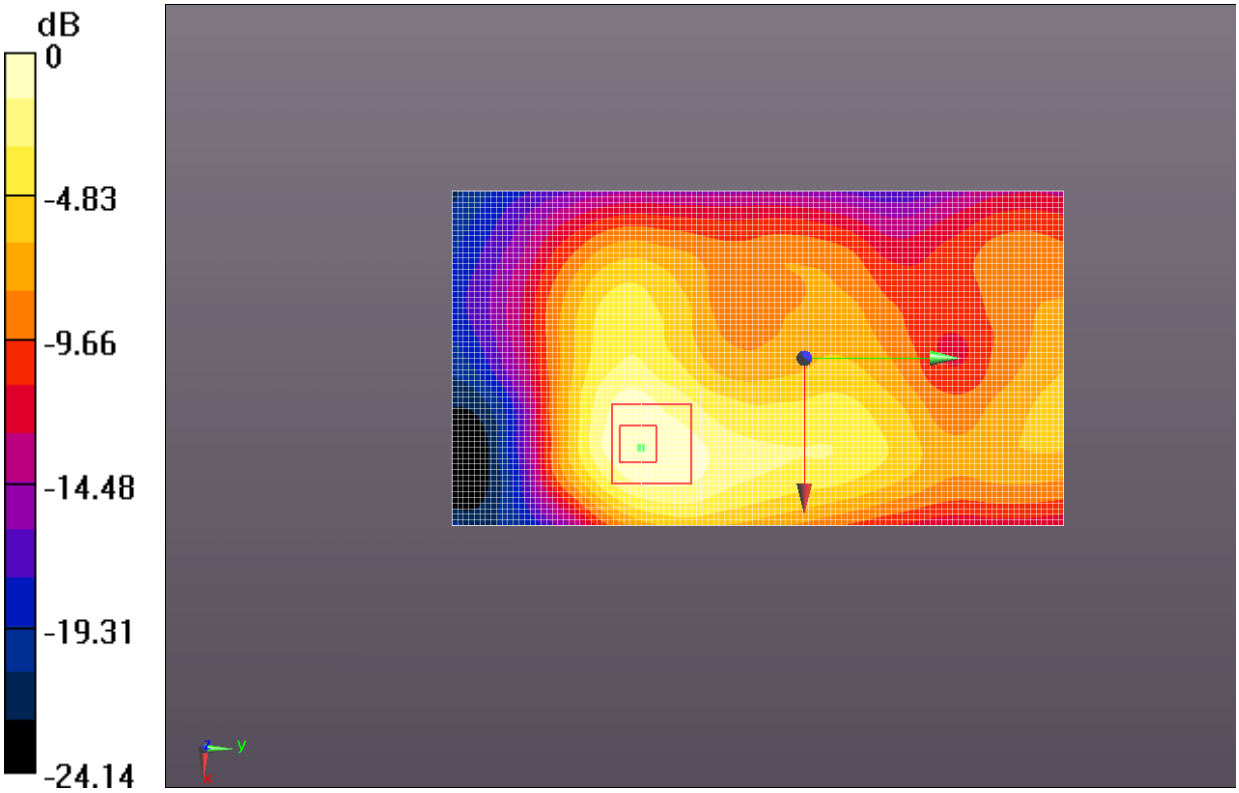
Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.887 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.373 W/kg

SAR(1 g) = 0.183 W/kg; SAR(10 g) = 0.096 W/kg

Maximum value of SAR (measured) = 0.199 W/kg



0 dB = 0.199 W/kg = -7.01 dBW/kg

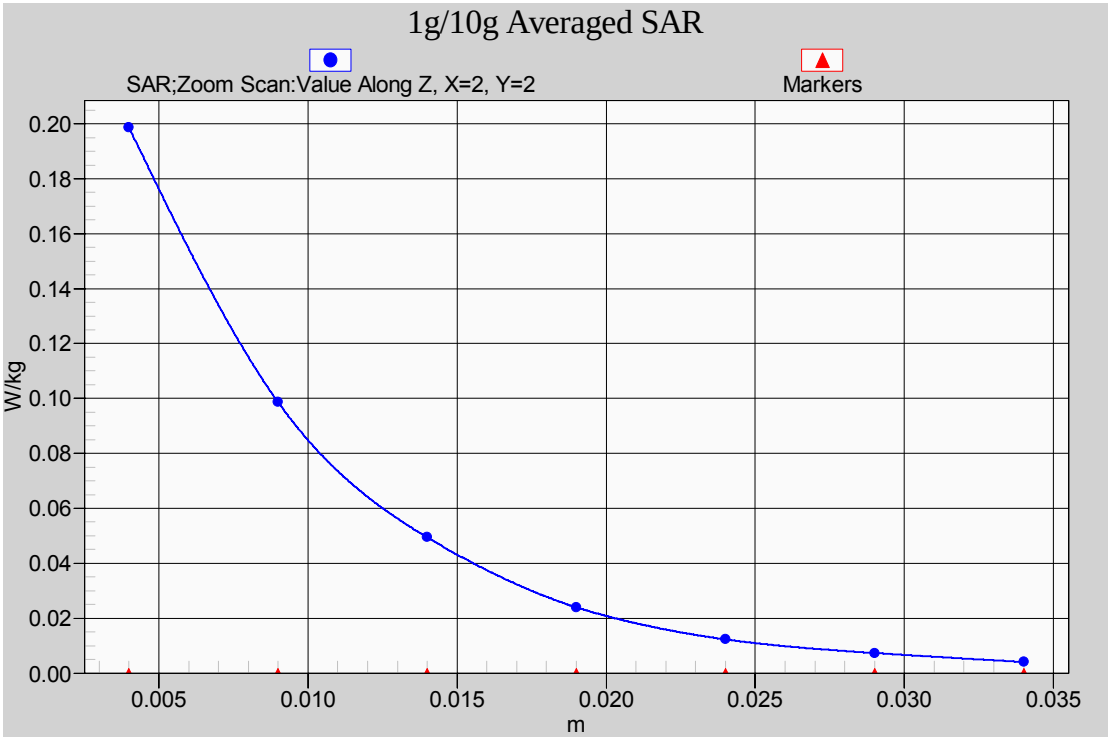


Figure 82 Body, Back Side, 802.11b Channel 11

802.11b Back Side Middle

Date/Time: 11/29/2013 9:42:49 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Body 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.923 S/m; ε_r = 52.269; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.196 W/kg

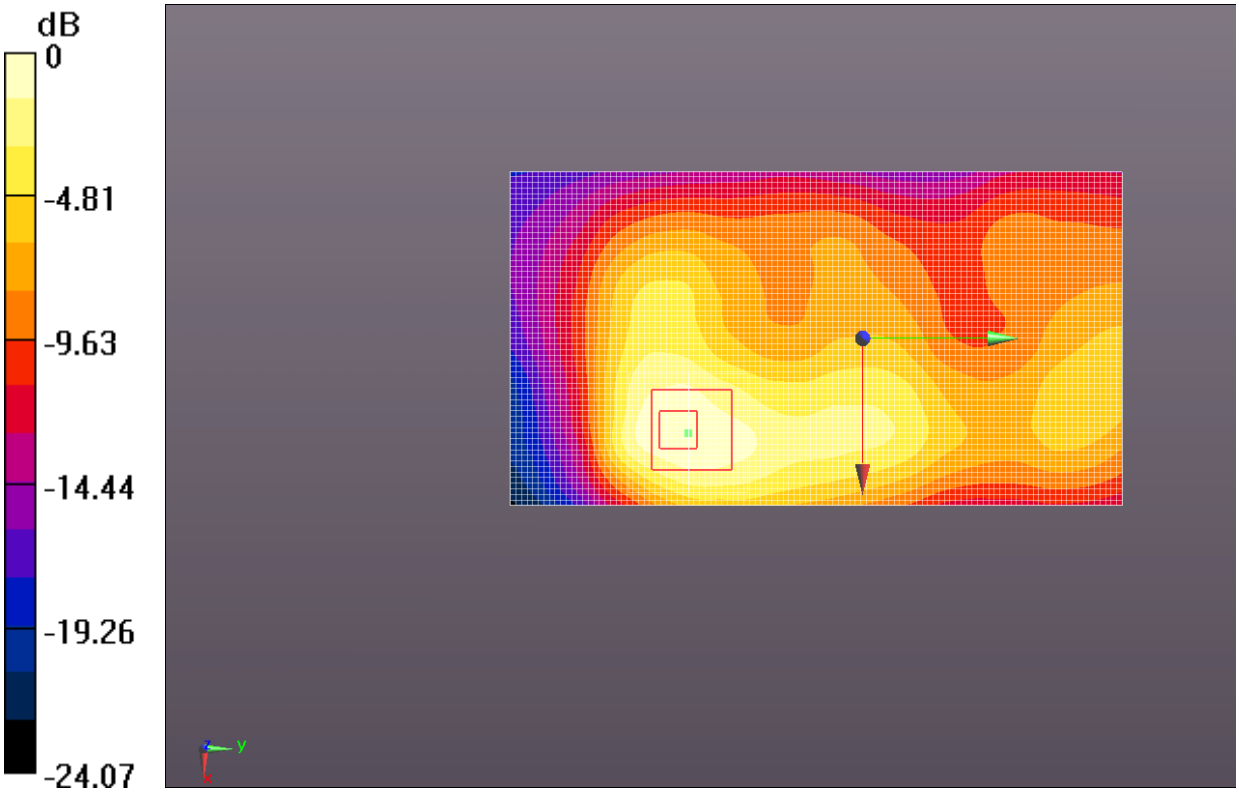
Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.006 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.167 W/kg; SAR(10 g) = 0.086 W/kg

Maximum value of SAR (measured) = 0.182 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

Figure 83 Body, Back Side, 802.11b Channel 6

802.11b Back Side Low

Date/Time: 11/29/2013 10:17:46 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Body 2450

Medium parameters used: f = 2412 MHz; σ = 1.893 S/m; ε_r = 52.318; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: WiFi 802.11 b Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013

Back Side Low/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.206 W/kg

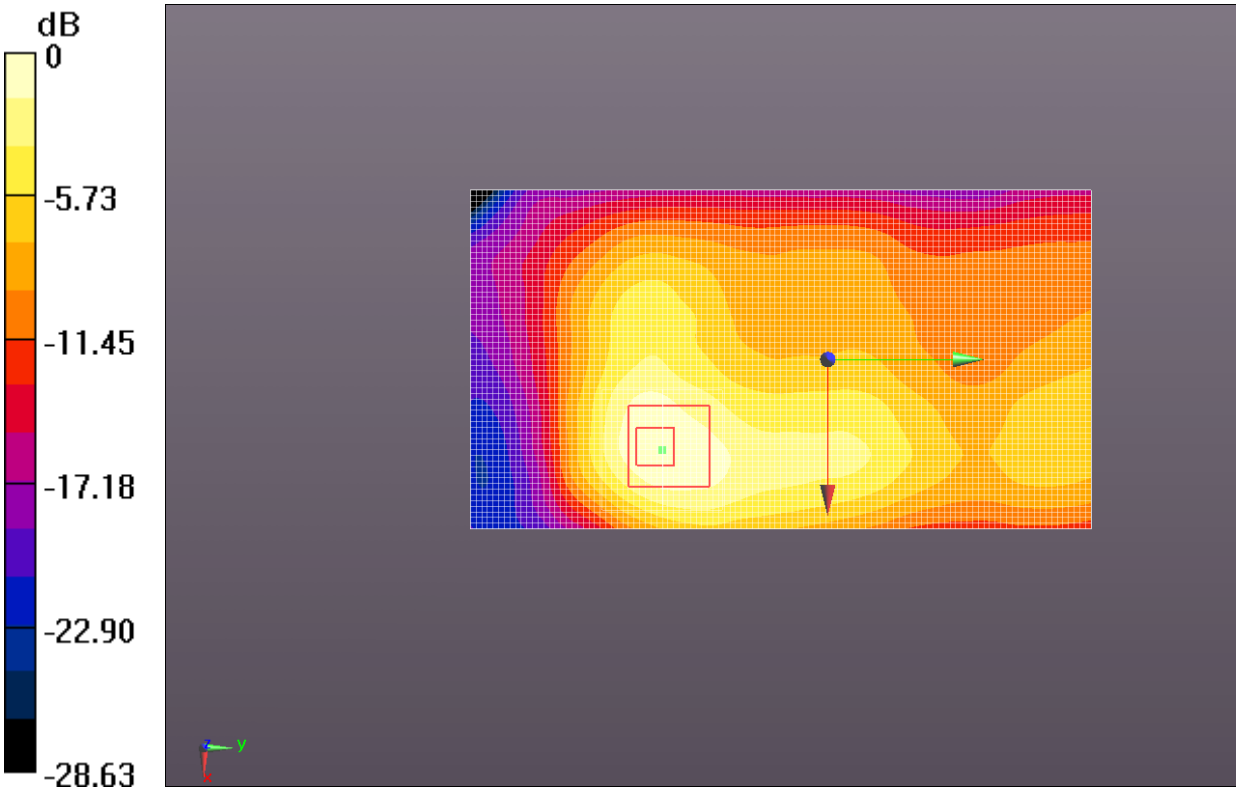
Back Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.536 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.364 W/kg

SAR(1 g) = 0.175 W/kg; SAR(10 g) = 0.089 W/kg

Maximum value of SAR (measured) = 0.191 W/kg



0 dB = 0.191 W/kg = -7.19 dBW/kg

Figure 84 Body, Back Side, 802.11b Channel 1

802.11b Front Side Middle

Date/Time: 11/29/2013 9:08:20 AM

Electronics: DAE4 Sn1317; Calibrated: 1/25/2013

Medium: Body 2450

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.923 S/m; ε_r = 52.269; ρ = 1000 kg/m^3

Ambient Temperature:21.4°C Liquid Temperature: 20.9°C

Communication System: WiFi 802.11 b Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.115 W/kg

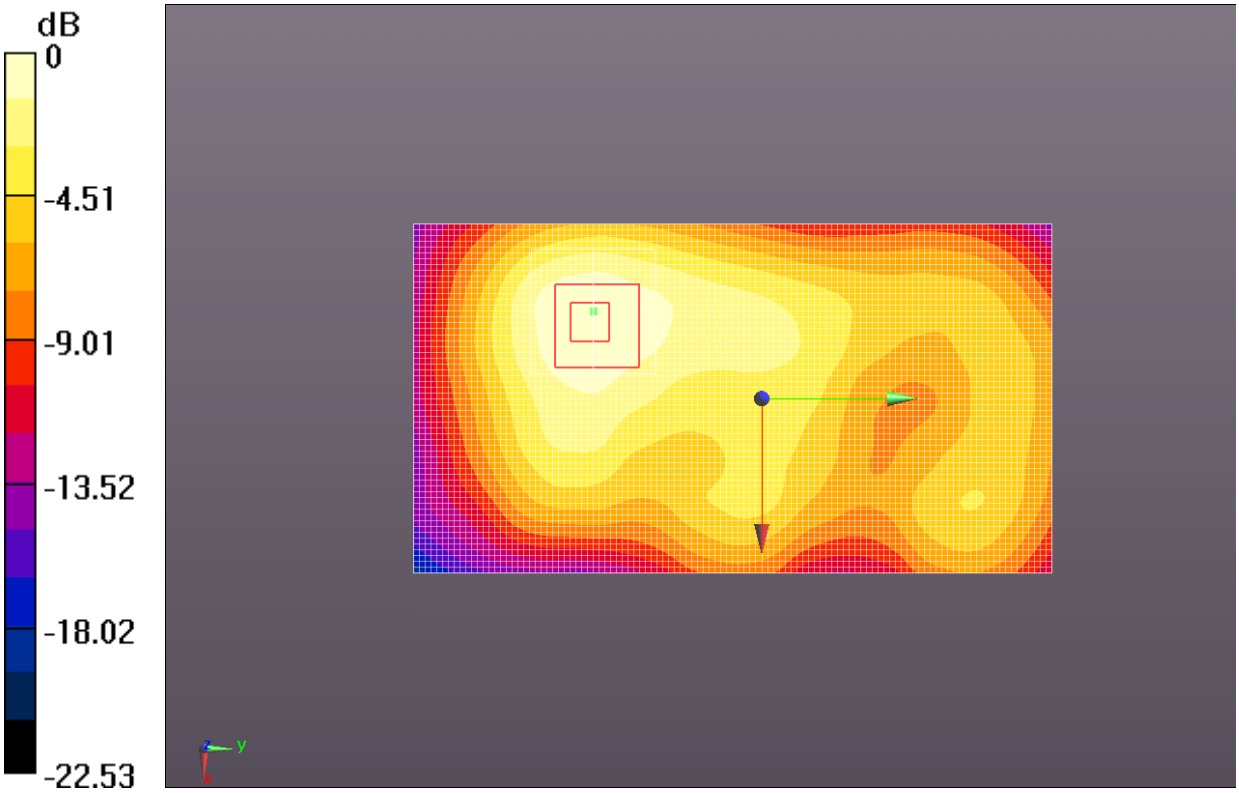
Front Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.407 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.183 W/kg

SAR(1 g) = 0.108 W/kg; SAR(10 g) = 0.062 W/kg

Maximum value of SAR (measured) = 0.117 W/kg



0 dB = 0.117 W/kg = -9.32 dBW/kg

Figure 85 Body, Front Side, 802.11b Channel 6

802.11b Right Edge Middle

Date/Time: 11/29/2013 10:41:59 AM
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.977 S/m; ε_r = 52.177; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: ELI v4.0; Type: QDOVA001BB;
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Right Edge Middle /Area Scan (31x111x1): Interpolated grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 0.132 W/kg

Right Edge Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.187 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.287 W/kg
SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.059 W/kg
Maximum value of SAR (measured) = 0.125 W/kg

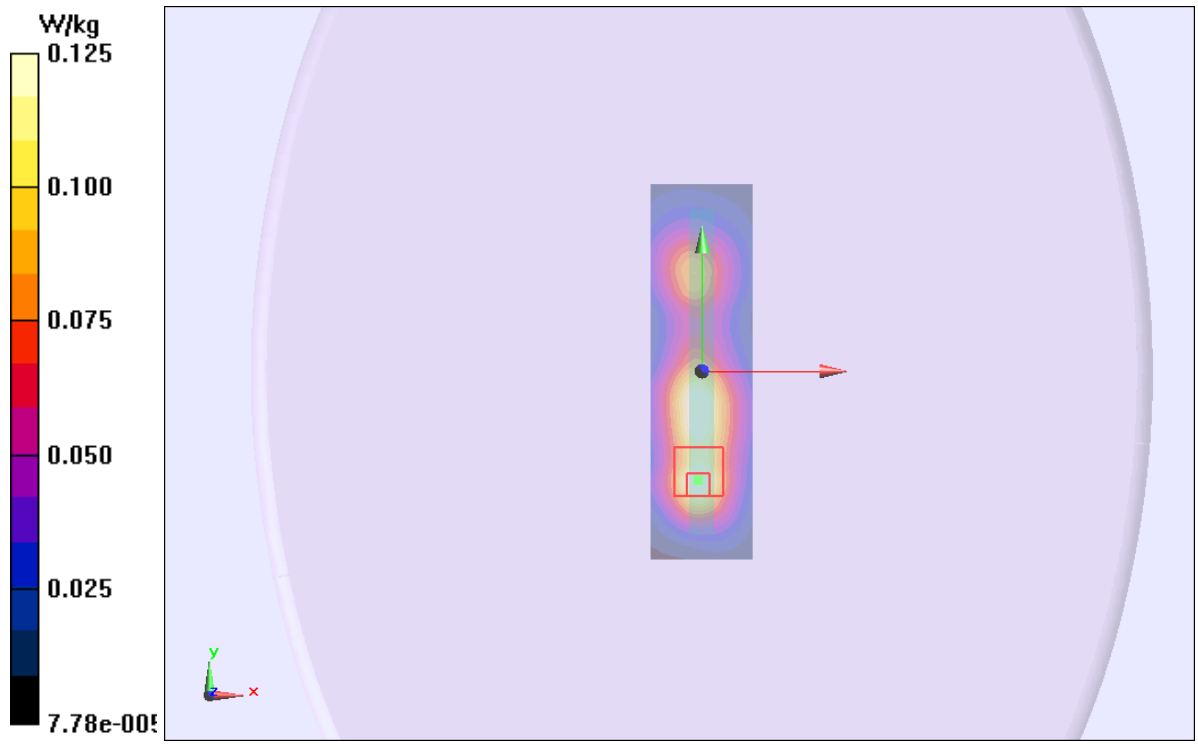


Figure 86 Body, Right Edge, 802.11b Channel 6

802.11b Top Edge Middle

Date/Time: 11/29/2013 11:04:37 AM
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.977 S/m; ε_r = 52.177; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 - SN3753; ConvF(6.90, 6.90, 6.90); Calibrated: 1/17/2013
Electronics: DAE4 Sn1317; Calibrated: 1/25/2013
Phantom: ELI v4.0; Type: QDOVA001BB;
Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

Top Edge Middle /Area Scan (31x71x1): Interpolated grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.120 W/kg

Top Edge Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.249 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.263 W/kg
SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.057 W/kg
Maximum value of SAR (measured) = 0.123 W/kg

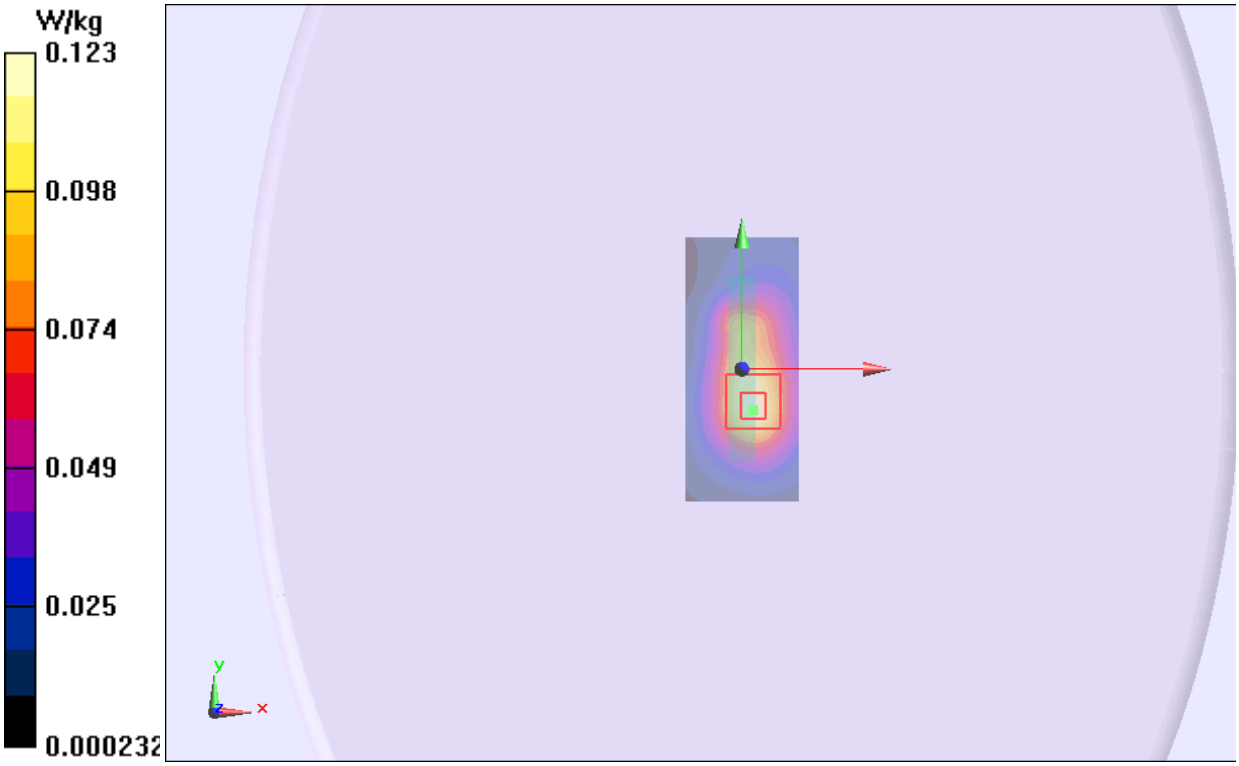


Figure 87 Body, Top Edge, 802.11b Channel 6

ANNEX D: Probe Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

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

Client **Auden**

Certificate No: **EX3-3753_Jan13**

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:3753

Calibration procedure(s): QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes

Calibration date: January 17, 2013

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 E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 17, 2013

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
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., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

a) 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
b) 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:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,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*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 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 *NORMx,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:3753

Manufactured: March 16, 2010
Calibrated: January 17, 2013

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3753

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.47	0.31	0.45	± 10.1 %
DCP (mV)[B]	101.8	102.3	102.3	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	163.7	±3.5 %
		Y	0.0	0.0	1.0		168.5	
		Z	0.0	0.0	1.0		159.9	

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 E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3753

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	9.46	9.46	9.46	0.45	0.83	± 12.0 %
835	41.5	0.90	8.95	8.95	8.95	0.26	1.19	± 12.0 %
1750	40.1	1.37	7.86	7.86	7.86	0.52	0.79	± 12.0 %
1900	40.0	1.40	7.63	7.63	7.63	0.54	0.73	± 12.0 %
2000	40.0	1.40	7.50	7.50	7.50	0.53	0.77	± 12.0 %
2450	39.2	1.80	6.86	6.86	6.86	0.44	0.80	± 12.0 %
5200	36.0	4.66	4.65	4.65	4.65	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.48	4.48	4.48	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.46	4.46	4.46	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.51	4.51	4.51	0.35	1.80	± 13.1 %
5800	35.3	5.27	4.36	4.36	4.36	0.45	1.80	± 13.1 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3753

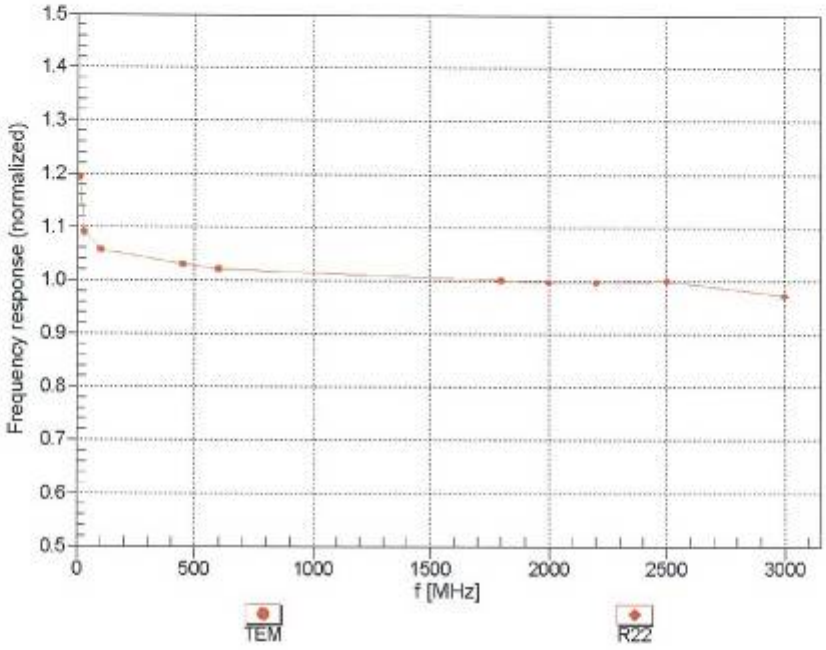
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	9.25	9.25	9.25	0.54	0.75	± 12.0 %
835	55.2	0.97	9.05	9.05	9.05	0.68	0.68	± 12.0 %
1750	53.4	1.49	7.82	7.82	7.82	0.50	0.84	± 12.0 %
1900	53.3	1.52	7.33	7.33	7.33	0.31	1.01	± 12.0 %
2000	53.3	1.52	7.43	7.43	7.43	0.57	0.73	± 12.0 %
2300	52.9	1.81	7.07	7.07	7.07	0.74	0.64	± 12.0 %
2450	52.7	1.95	6.90	6.90	6.90	0.80	0.50	± 12.0 %
2600	52.5	2.16	6.66	6.66	6.66	0.80	0.50	± 12.0 %
3500	51.3	3.31	6.30	6.30	6.30	0.38	1.11	± 13.1 %
5200	49.0	5.30	4.38	4.38	4.38	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.13	4.13	4.13	0.50	1.90	± 13.1 %
5500	48.6	5.65	4.09	4.09	4.09	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.10	4.10	4.10	0.45	1.90	± 13.1 %
5800	48.2	6.00	4.02	4.02	4.02	0.55	1.90	± 13.1 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

EX3DV4– SN:3753 January 17, 2013

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)

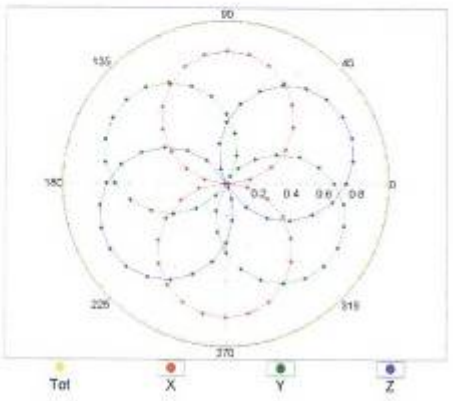


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

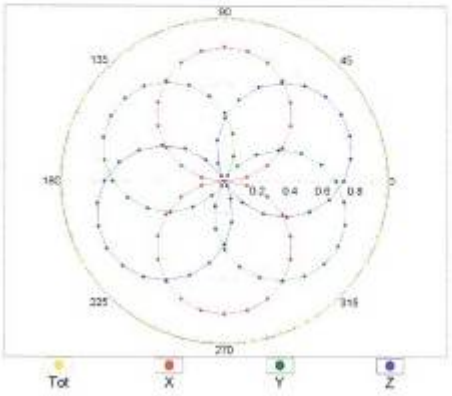
EX3DV4– SN:3753 January 17, 2013

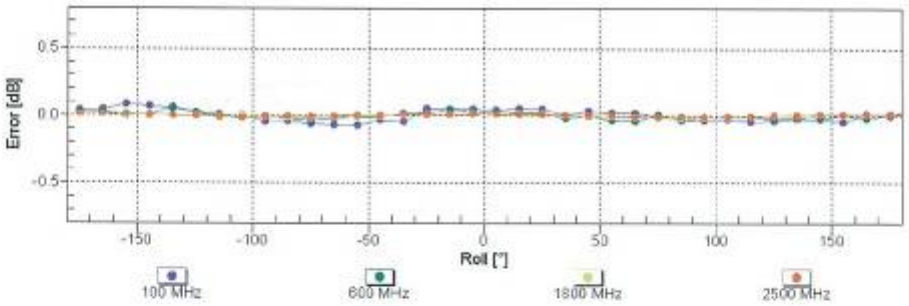
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



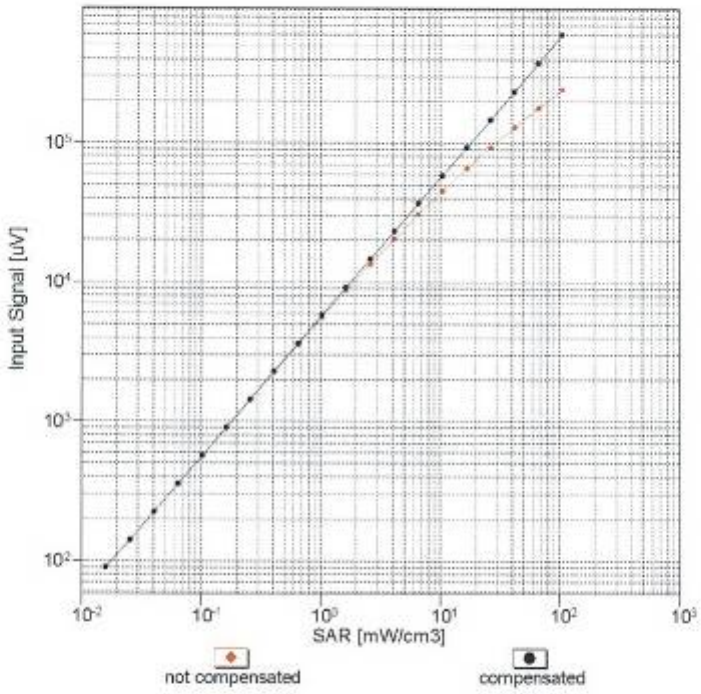
f=1800 MHz,R22

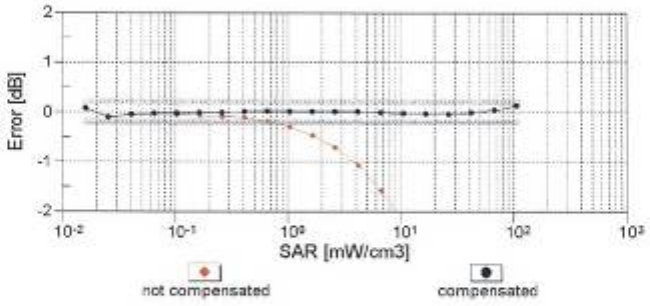




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})
(TEM cell , f = 900 MHz)



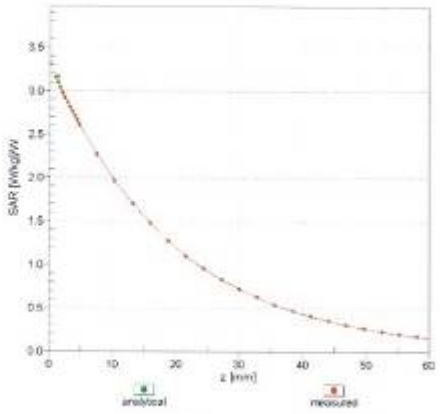


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

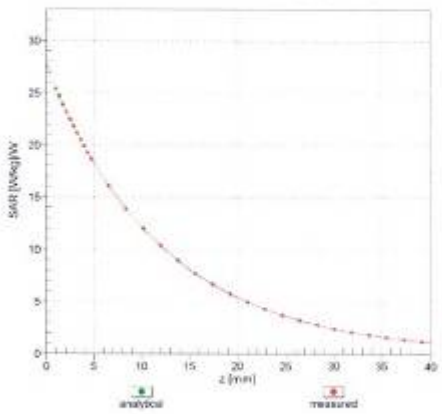
EX3DV4– SN:3753 January 17, 2013

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

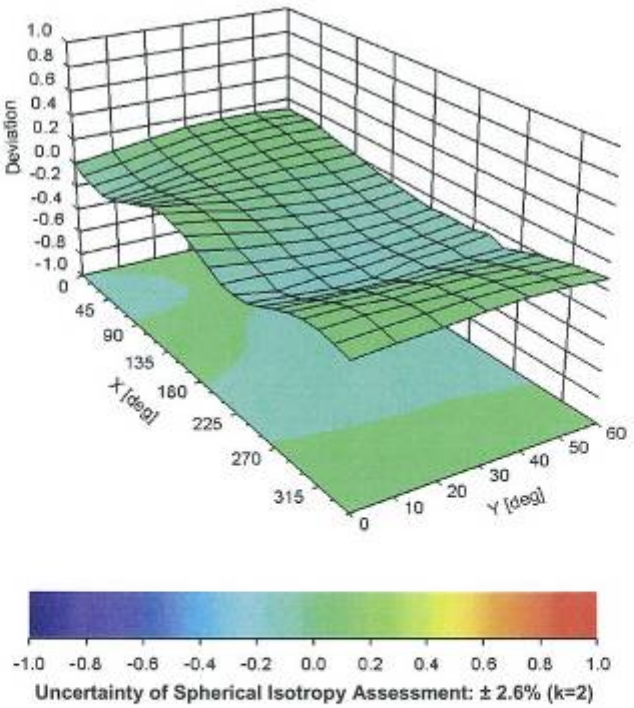


f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3753

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	55.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

ANNEX E: D835V2 Dipole Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Client TA-Shanghai (Auden)

Certificate No: D835V2-4d020_Aug11

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d020
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 26, 2011

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	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 26, 2011

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) 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:

d) 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	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.1 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.32 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.34 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.52 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.11 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.4 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.42 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**9.46 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.59 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.26 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.9 Ω - 3.1 jΩ
Return Loss	- 27.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.7 Ω - 5.4 jΩ
Return Loss	- 25.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.391 ns

After long term use with 100W 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	April 22, 2004

DASY5 Validation Report for Head TSL

Date: 25.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

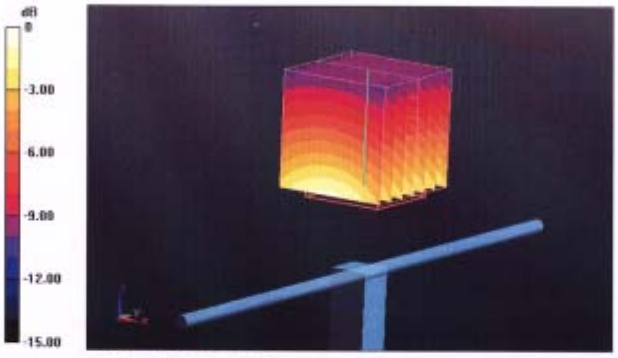
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

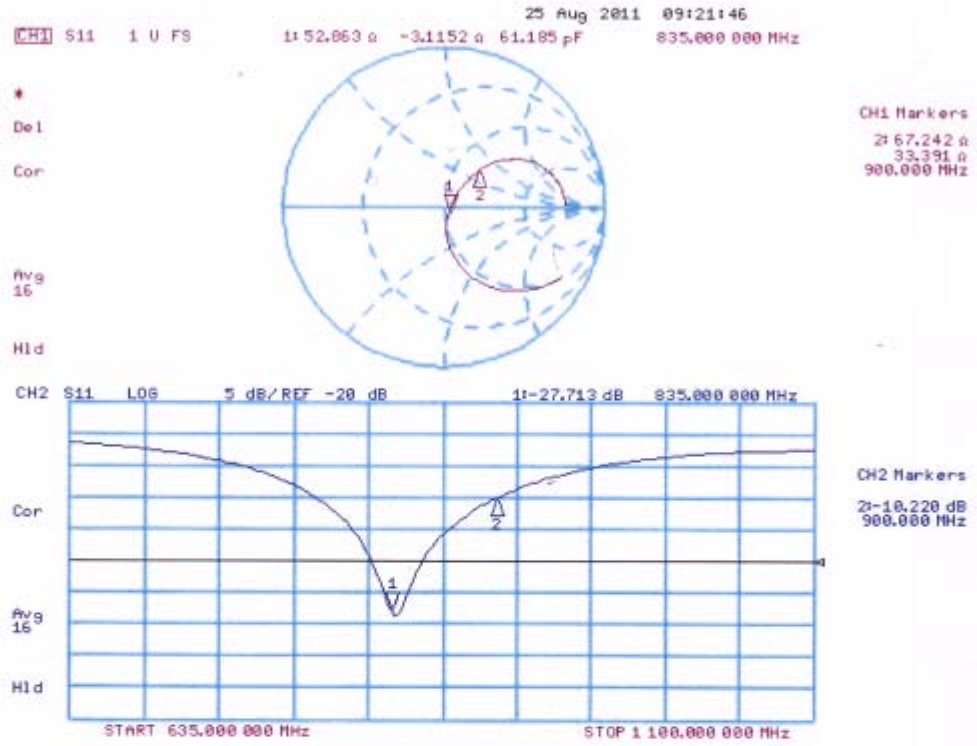
- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.930 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.421 W/kg
SAR(1 g) = 2.32 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.708 mW/g



0 dB = 2.710mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 26.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

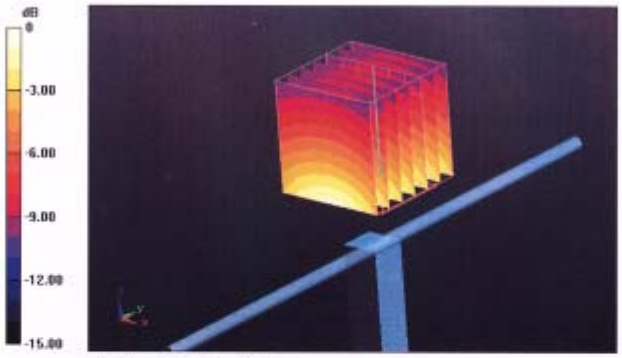
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

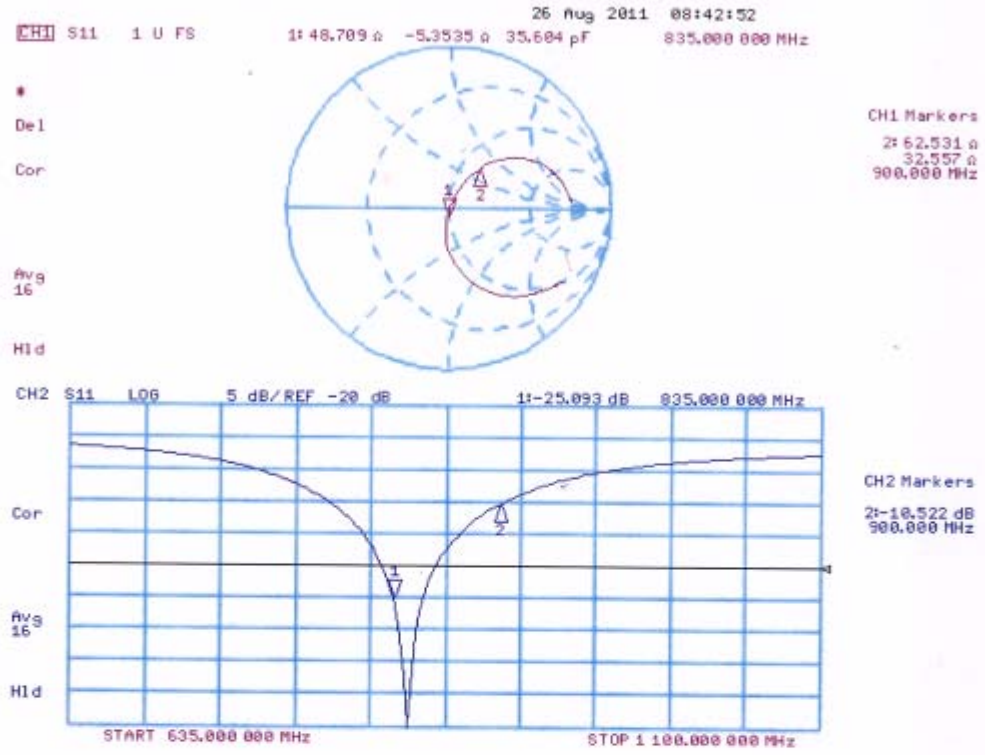
- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.406 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.509 W/kg
SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.59 mW/g
Maximum value of SAR (measured) = 2.827 mW/g



0 dB = 2.830mW/g

Impedance Measurement Plot for Body TSL



ANNEX F: D1900V2 Dipole Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Client **TA-Shanghai (Auden)**

Certificate No: D1900V2-5d060_Aug11

CALIBRATION CERTIFICATE

Object: D1900V2 - SN: 5d060

Calibration procedure(s): QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: August 31, 2011

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	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 31, 2011

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) 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:

d) 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	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.5 ± 6 %	1.42 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.2 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**40.3 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.30 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**21.1 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.9 ± 6 %	1.57 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.6 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**41.7 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.55 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**22.0 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.6 Ω + 7.5 jΩ
Return Loss	- 22.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω + 7.9 jΩ
Return Loss	- 21.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.194 ns

After long term use with 100W 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 10, 2004

DASY5 Validation Report for Head TSL

Date: 30.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

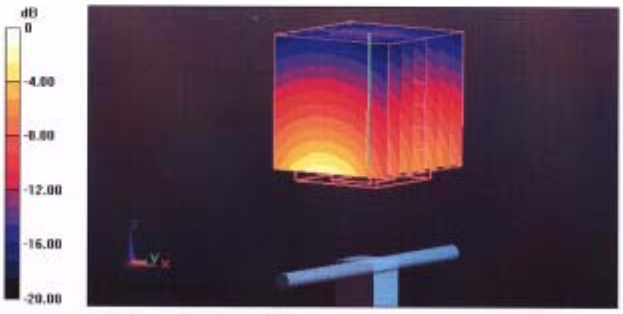
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

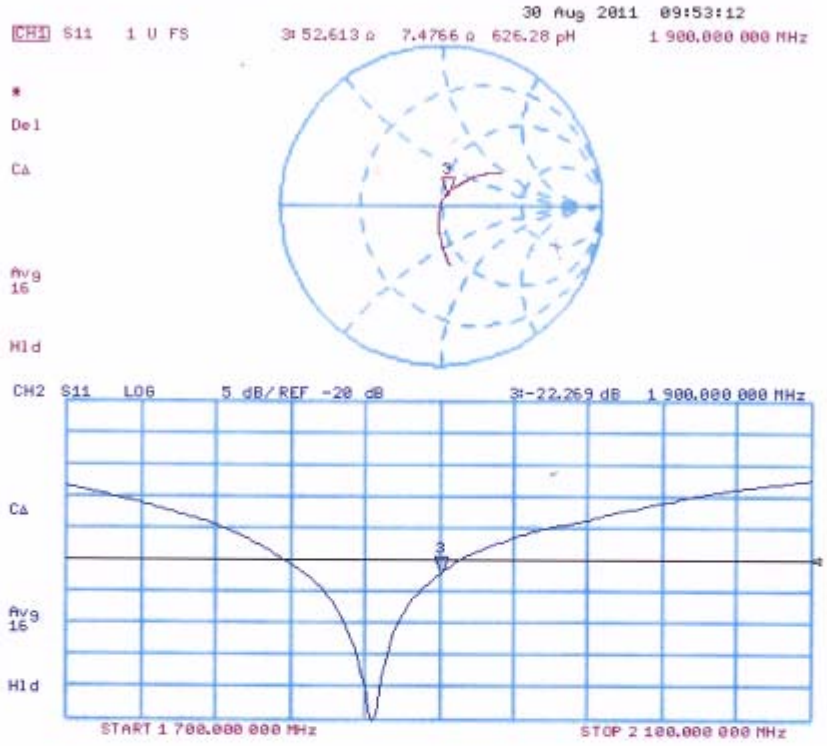
- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.636 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 18.535 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 12.600 mW/g



0 dB = 12.600mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 31.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

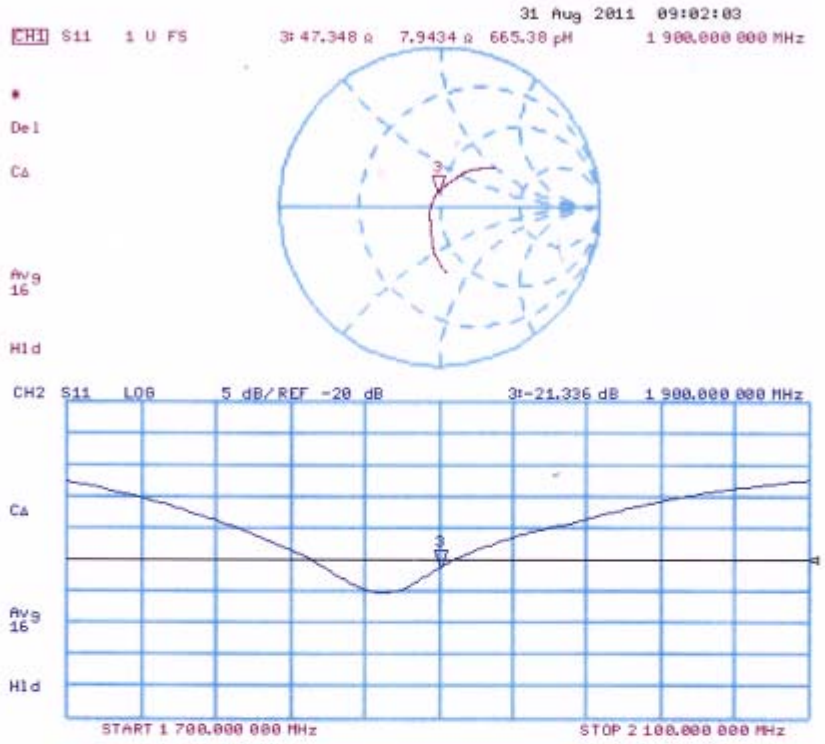
DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.435 V/m; Power Drift = -0.0099 dB
Peak SAR (extrapolated) = 18.663 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.55 mW/g
Maximum value of SAR (measured) = 13.397 mW/g

0 dB = 13.400mW/g

Impedance Measurement Plot for Body TSL



ANNEX G: D2450V2 Dipole Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client TA-Shanghai (Auden)

Certificate No: D2450V2-786_Aug11

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 786
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	August 29, 2011

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	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 29, 2011

Calibration Laboratory of
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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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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) 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
b) 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
c) 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:

d) 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	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.4 ± 6 %	1.85 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.7 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**53.8 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.41 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**25.4 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.8 ± 6 %	2.02 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**51.7 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.10 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**24.2 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.0 Ω + 2.4 jΩ
Return Loss	- 25.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.4 Ω + 3.5 jΩ
Return Loss	- 29.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.154 ns

After long term use with 100W 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	May 06, 2005

DASY5 Validation Report for Head TSL

Date: 29.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

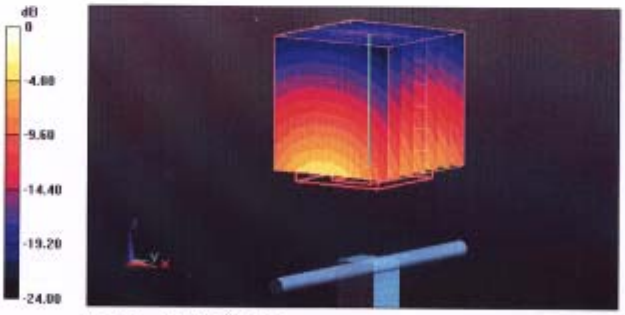
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.85 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

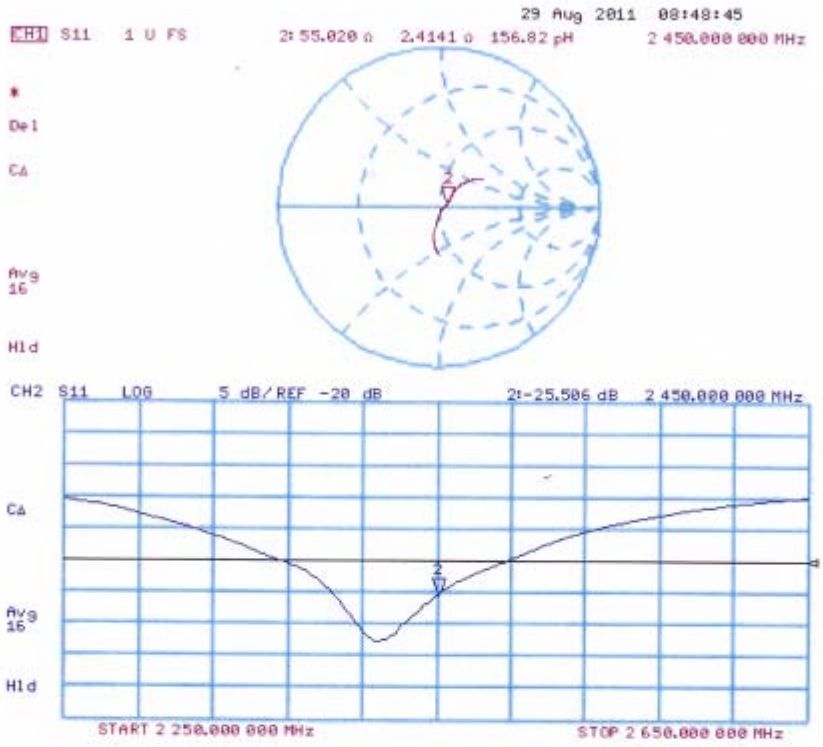
- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.5 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 28.303 W/kg
SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.41 mW/g
Maximum value of SAR (measured) = 17.561 mW/g



0 dB = 17.560mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 29.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

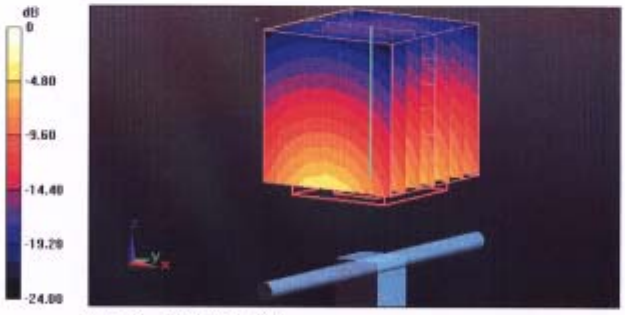
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.02 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

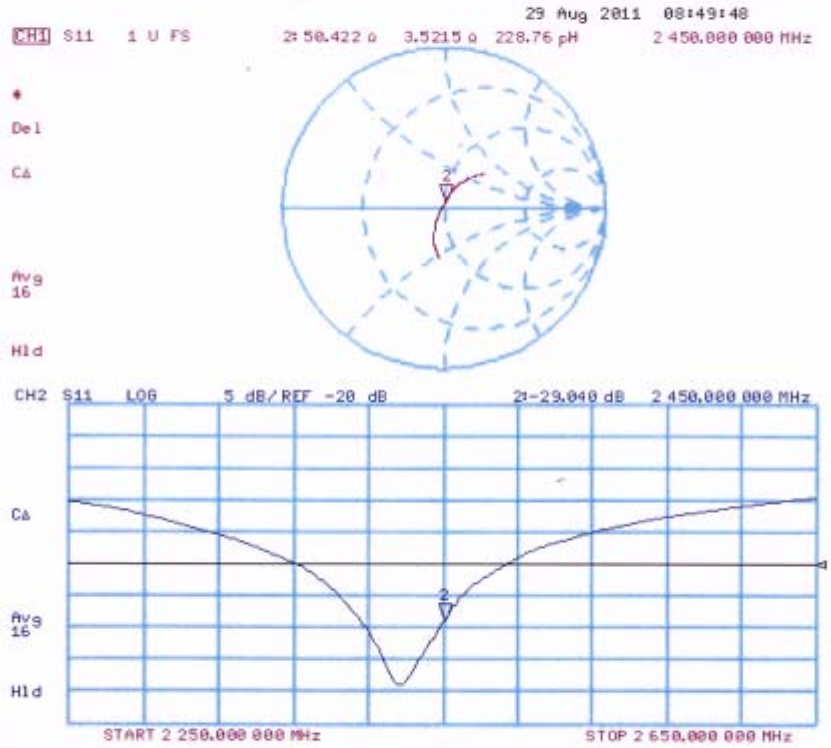
- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.118 V/m; Power Drift = 0.0072 dB
Peak SAR (extrapolated) = 27.129 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.1 mW/g
Maximum value of SAR (measured) = 17.387 mW/g



0 dB = 17.390mW/g

Impedance Measurement Plot for Body TSL



ANNEX H: DAE4 Calibration Certificate

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Accreditation No.: SCS 108

Client TA Shanghai (Auden)

Certificate No: DAE4-1317_Jan13

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BJ - SN: 1317

Calibration procedure(s): QA CAL-06.v25
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: January 25, 2013

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
Keithley Multimeter Type 2001	SN: 0810278	02-Oct-12 (No:12728)	Oct-13
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	07-Jan-13 (in house check)	In house check: Jan-14
Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-13 (in house check)	In house check: Jan-14

	Name	Function	Signature
Calibrated by:	R.Mayoraz	Technician	
Approved by:	Fin Bomholt	Deputy Technical Manager	

Issued: January 25, 2013

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

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Accreditation No.: **SCS 108**

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	full range =	-100...+300 mV
Low Range:	1LSB =	61nV ,	full range =	-1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.011 ± 0.02% (k=2)	404.006 ± 0.02% (k=2)	403.901 ± 0.02% (k=2)
Low Range	3.98819 ± 1.55% (k=2)	3.99805 ± 1.55% (k=2)	3.98192 ± 1.55% (k=2)

Connector Angle

Connector Angle to be used in DASY system	117 ° ± 1 °

Appendix

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	199994.16	-0.78	-0.00
Channel X	+ Input	20000.75	0.37	0.00
Channel X	- Input	-19997.98	2.89	-0.01
Channel Y	+ Input	199995.20	0.02	0.00
Channel Y	+ Input	19999.08	-1.15	-0.01
Channel Y	- Input	-20002.66	-1.68	0.01
Channel Z	+ Input	199994.67	-0.43	-0.00
Channel Z	+ Input	19997.92	-2.31	-0.01
Channel Z	- Input	-20000.66	0.26	-0.00

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.23	0.59	0.03
Channel X	+ Input	201.53	0.55	0.28
Channel X	- Input	-198.20	0.62	-0.31
Channel Y	+ Input	2000.33	-0.29	-0.01
Channel Y	+ Input	200.43	-0.68	-0.34
Channel Y	- Input	-199.64	-0.69	0.35
Channel Z	+ Input	2000.78	0.22	0.01
Channel Z	+ Input	200.32	-0.69	-0.34
Channel Z	- Input	-199.27	-0.35	0.18

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-23.69	-25.75
	- 200	28.59	26.45
Channel Y	200	-1.44	-1.70
	- 200	-0.06	-0.16
Channel Z	200	-10.76	-11.18
	- 200	9.82	9.91

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	1.52	-4.72
Channel Y	200	8.54	-	4.31
Channel Z	200	10.79	5.34	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16104	15986
Channel Y	16111	15993
Channel Z	16217	16069

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	1.28	0.53	2.45	0.33
Channel Y	-1.29	-2.89	0.51	0.58
Channel Z	-0.39	-1.47	1.06	0.37

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

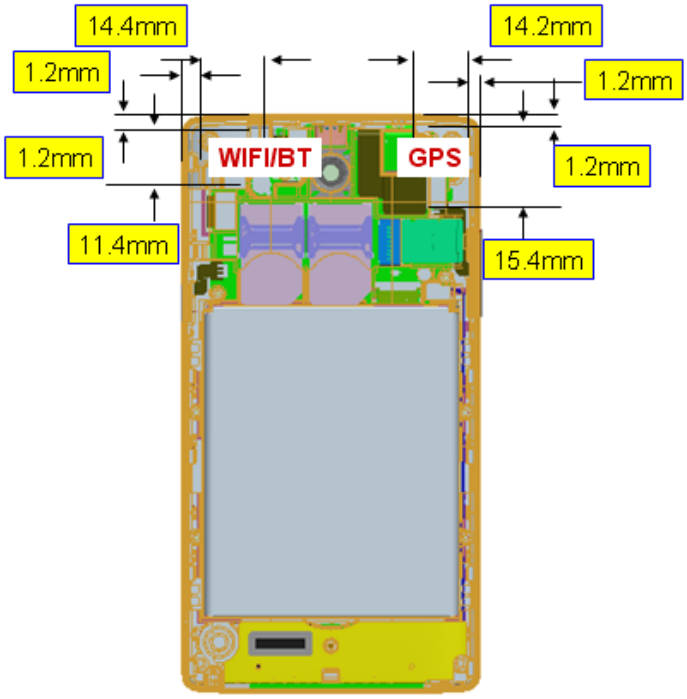
9. Power Consumption (Typical values for information)

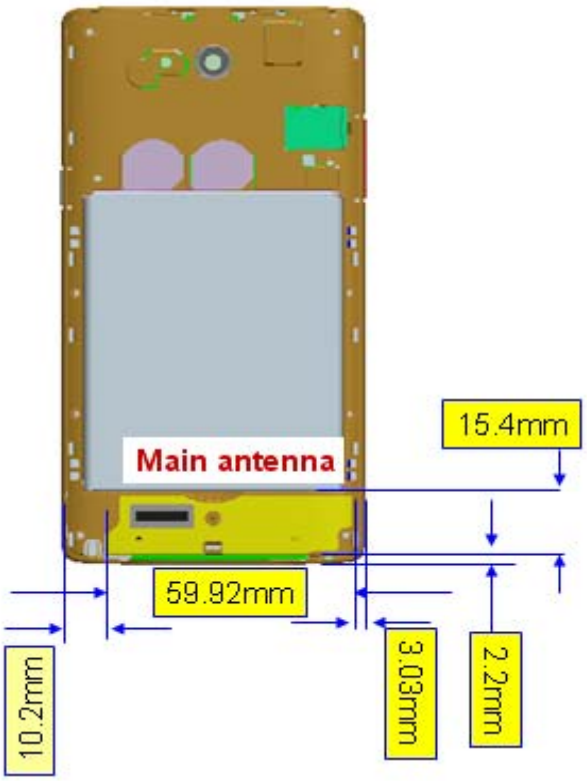
Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

ANNEX I: The EUT Appearances and Test Configuration

a: EUT

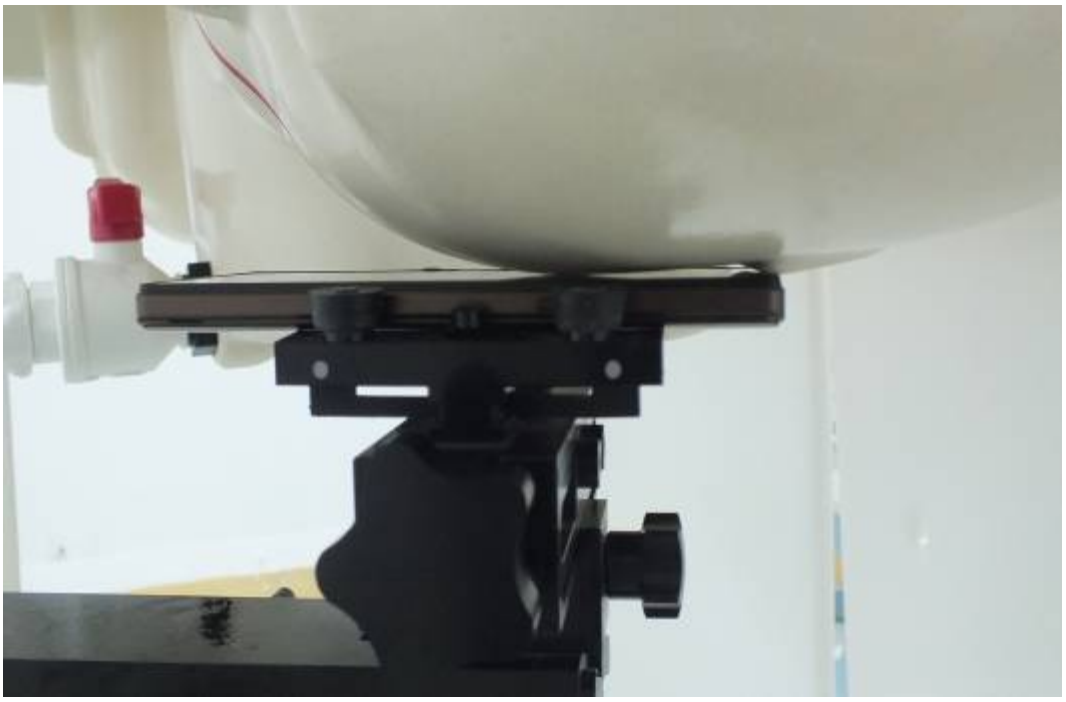
b: Battery



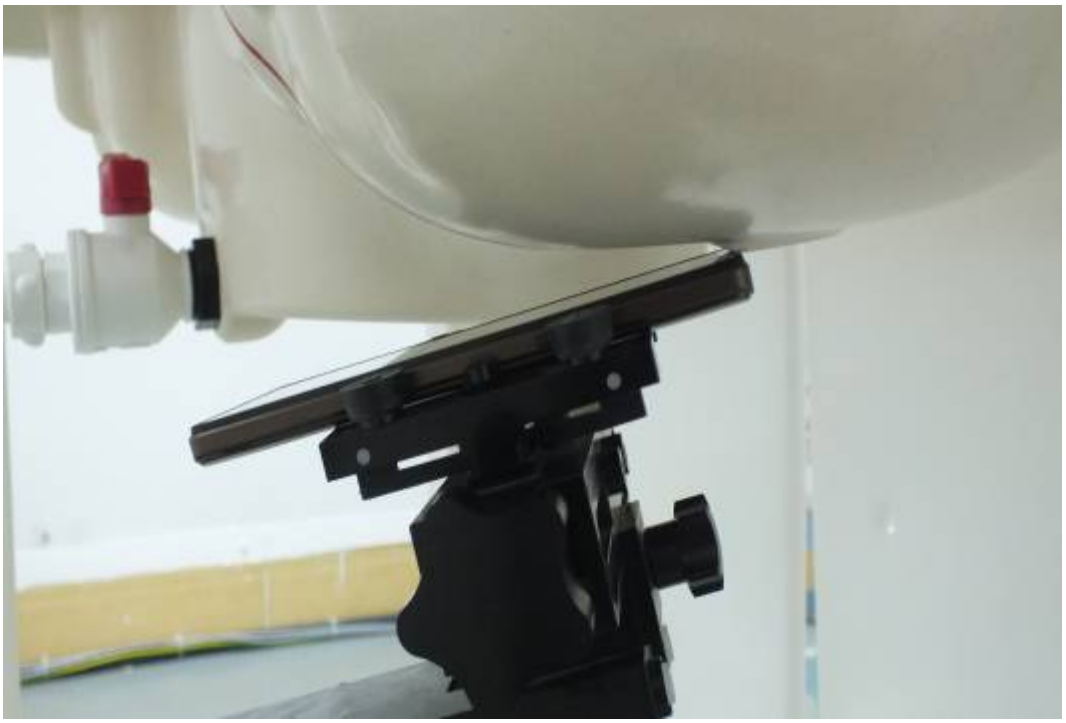


c. Antenna

Picture 8: Constituents of EUT



Picture 9: Left Hand Touch Cheek Position



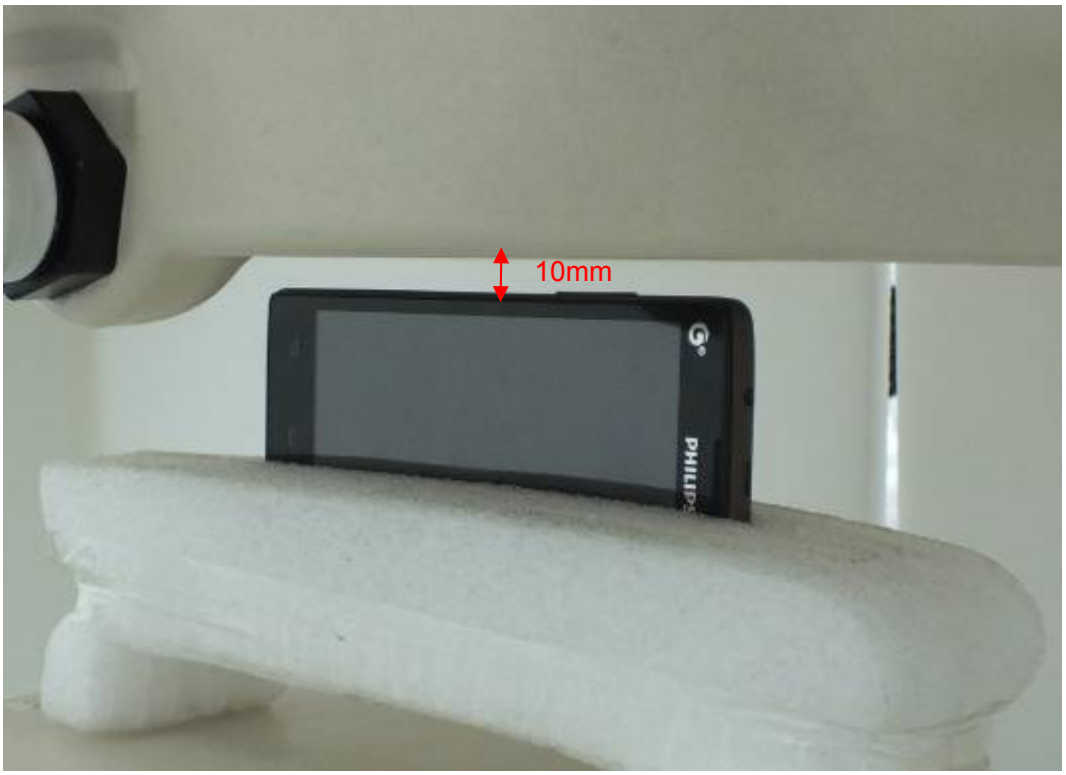
Picture 10: Left Hand Tilt 15 Degree Position

Picture 11: Right Hand Touch Cheek Position

Picture 12: Right Hand Tilt 15 Degree Position

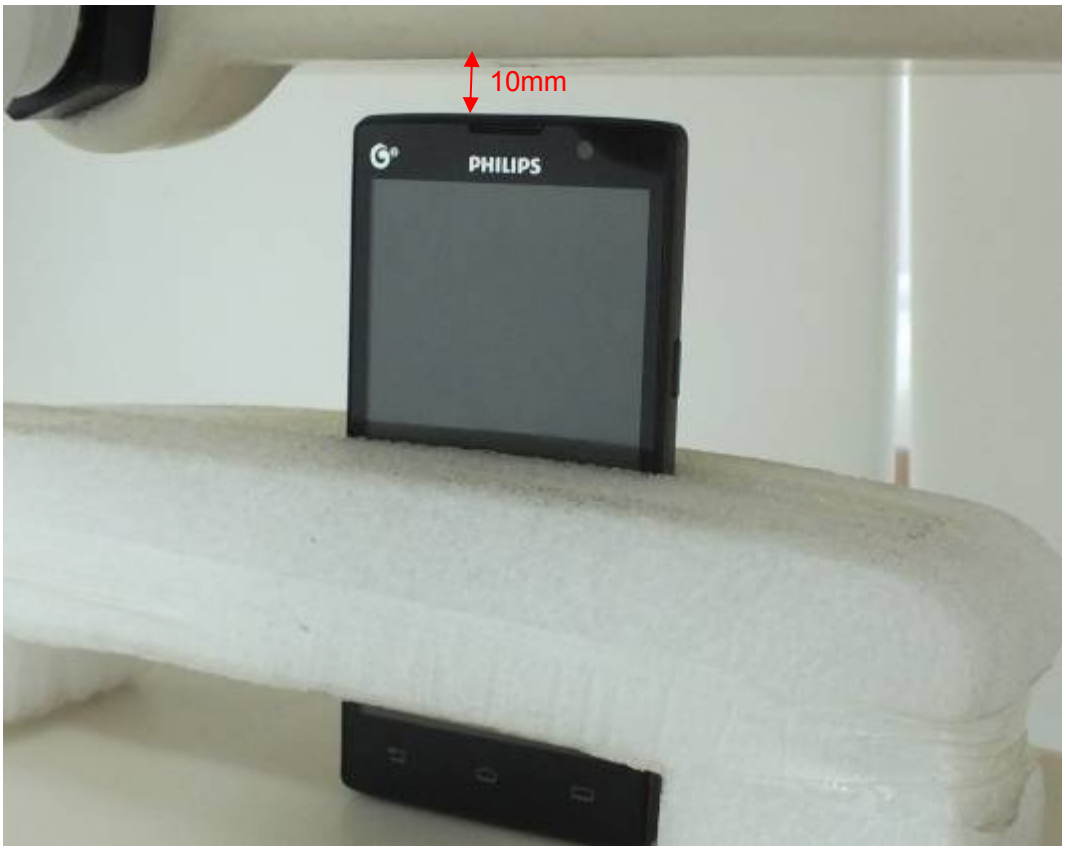
Picture 13: Back Side, the distance from handset to the bottom of the Phantom is 10mm

Picture 14: Front Side, the distance from handset to the bottom of the Phantom is 10mm

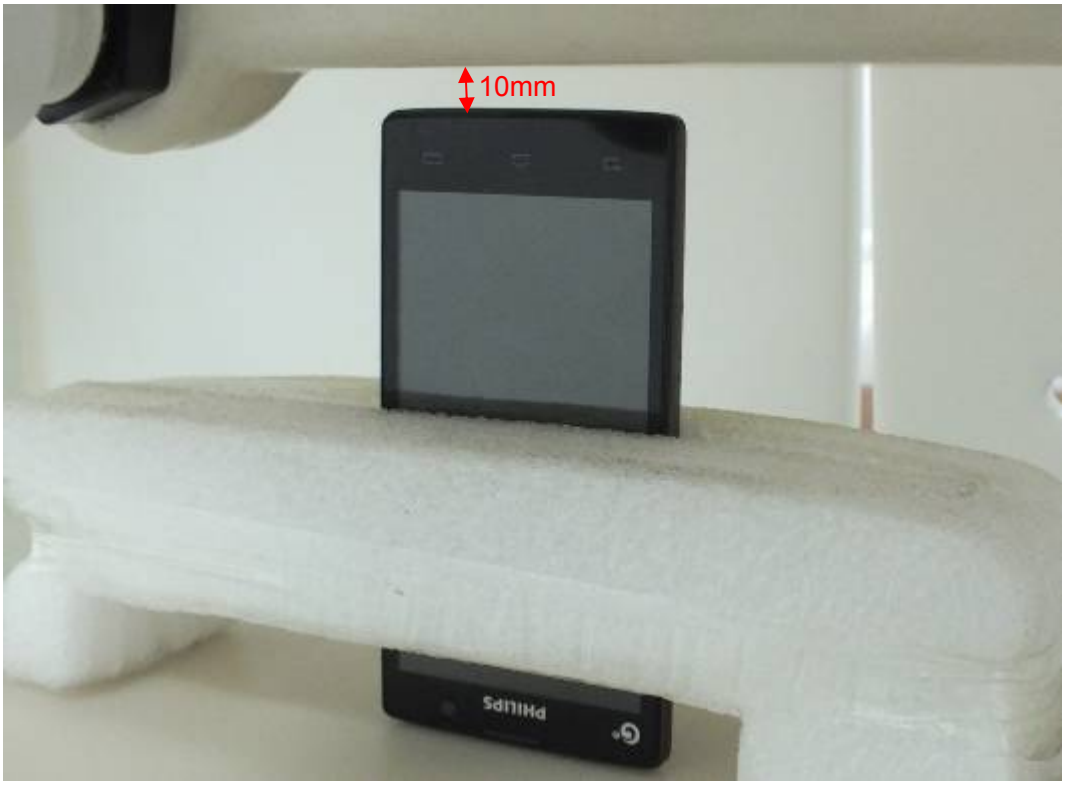


Picture 15: Left Edge, the distance from handset to the bottom of the Phantom is 10mm

Picture 16: Right Edge, the distance from handset to the bottom of the Phantom is 10mm



Picture 17: Top Edge, the distance from handset to the bottom of the Phantom is 10mm



Picture 18: Bottom Edge, the distance from handset to the bottom of the Phantom is 10mm

Picture 19: Back Side with earphone, the distance from handset to the bottom of the Phantom is 10mm