

Figure 42 Right Hand Touch Cheek UMTS Band II Channel 9400

UMTS Band II Right Tilt Middle

Date/Time: 3/18/2014 1:35:54 AM

Communication System: WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.413$ S/m; $\epsilon_r = 39.689$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle /Area Scan (81x151x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.332 W/kg

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

Reference Value = 8.047 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.517 W/kg

SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.140 W/kg

Maximum value of SAR (measured) = 0.301 W/kg

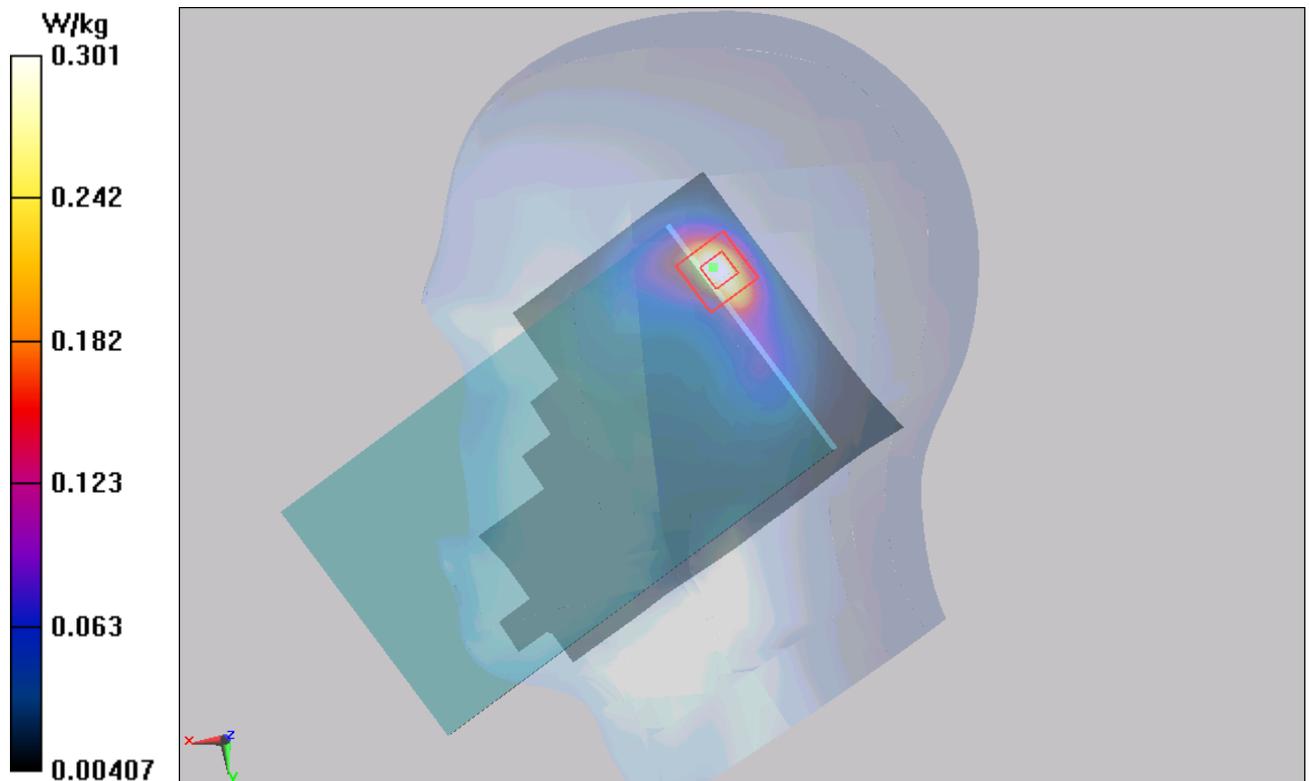


Figure 43 Right Hand Tilt 15° UMTS Band II Channel 9400

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UMTS Band II with Test Position 1 Middle

Date/Time: 3/17/2014 1:25:23 PM

Communication System: WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.493$ S/m; $\epsilon_r = 52.676$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 1 Middle /Area Scan (81x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.546 W/kg

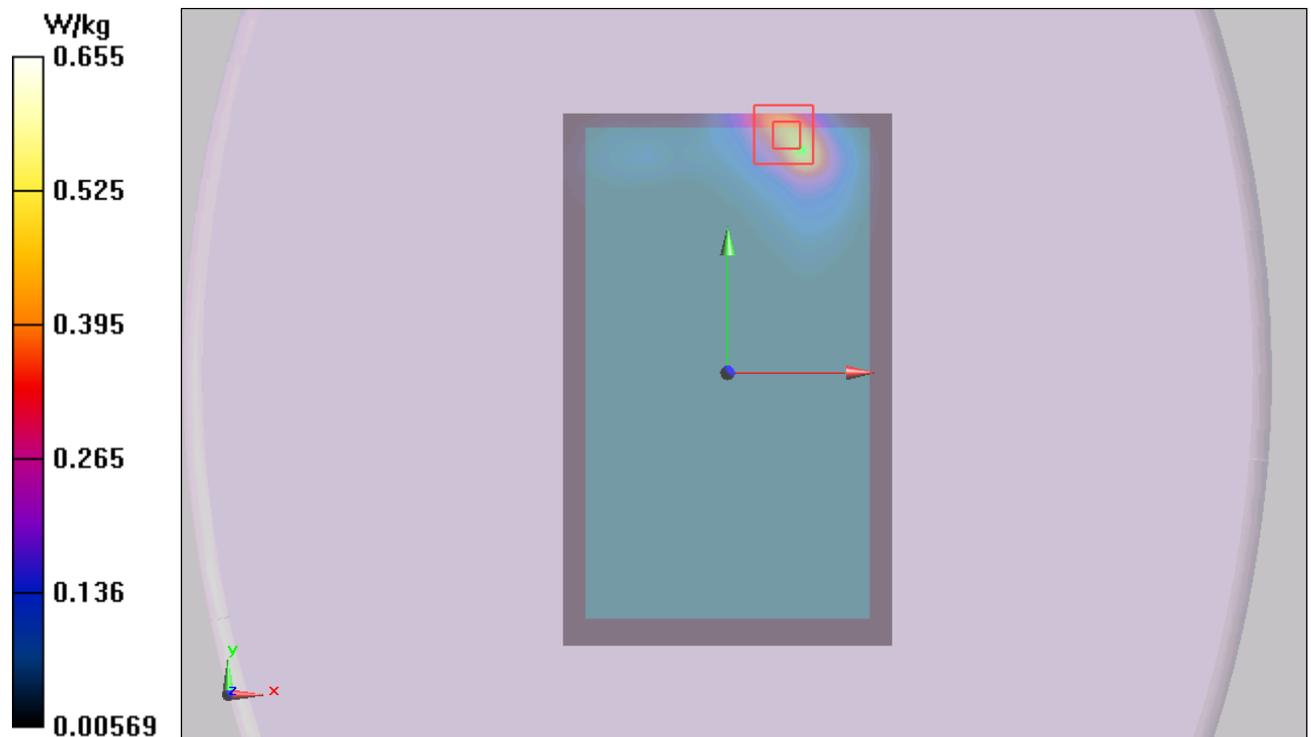
Test Position 1 Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.005 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.596 W/kg; SAR(10 g) = 0.259 W/kg

Maximum value of SAR (measured) = 0.655 W/kg



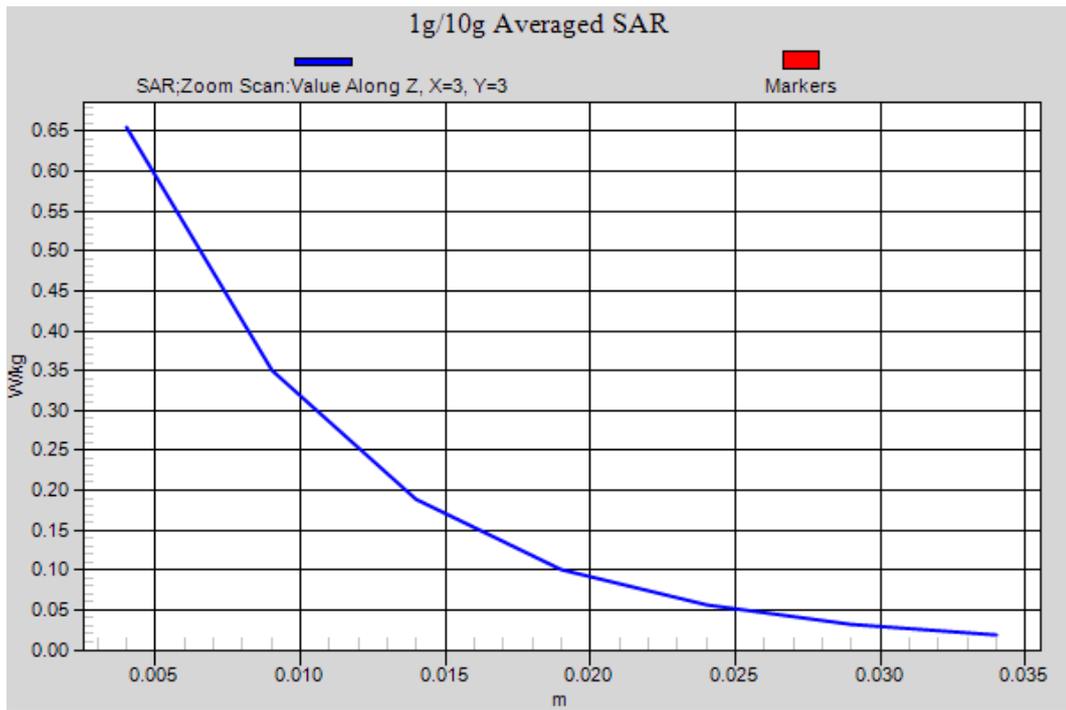


Figure 44 UMTS Band II with Test Position 1 Channel 9400

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UMTS Band II with Test Position 3 Middle

Date/Time: 3/17/2014 2:13:43 PM

Communication System: WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.493$ S/m; $\epsilon_r = 52.676$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 3 Middle /Area Scan (31x91x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.579 W/kg

Test Position 3 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.716 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.565 W/kg; SAR(10 g) = 0.215 W/kg

Maximum value of SAR (measured) = 0.579 W/kg

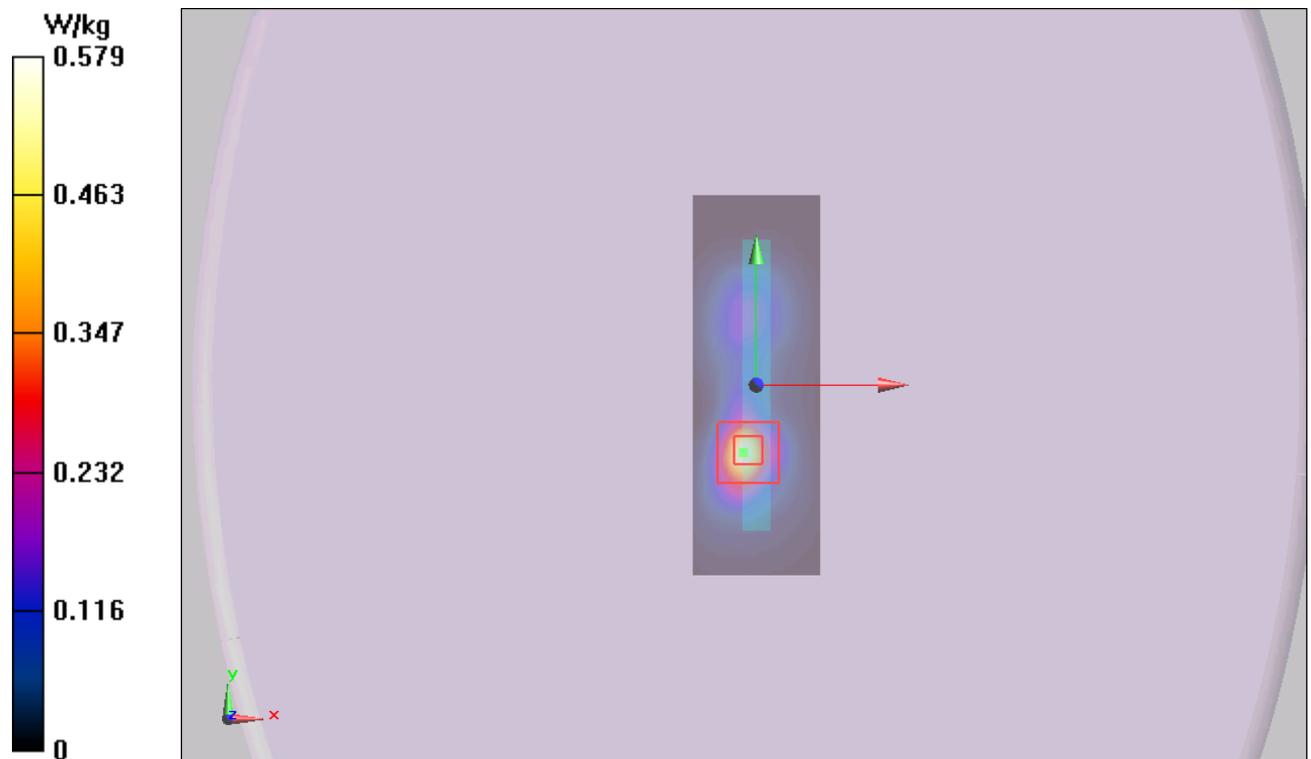


Figure 45 UMTS Band II with Test Position 3 Channel 9400

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UMTS Band II with Test Position 4 Middle

Date/Time: 3/17/2014 2:36:03 PM

Communication System: WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.493$ S/m; $\epsilon_r = 52.676$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 4 Middle /Area Scan (31x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0333 W/kg

Test Position 4 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.415 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.0550 W/kg

SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.014 W/kg

Maximum value of SAR (measured) = 0.027 W/kg

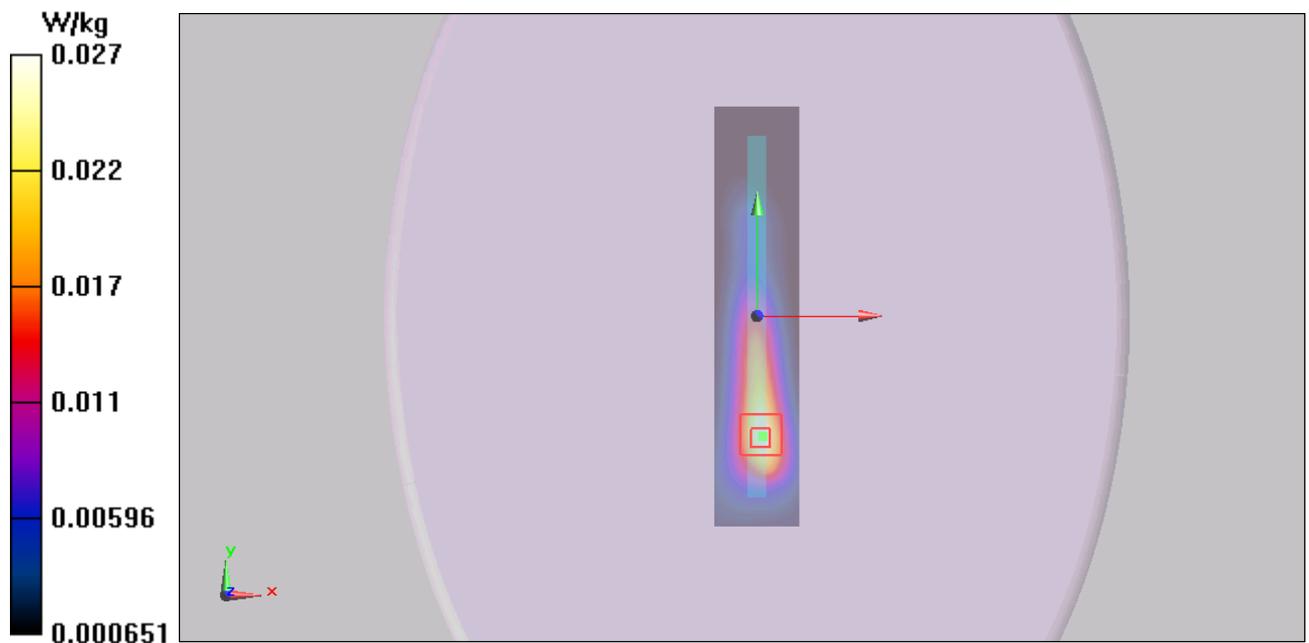


Figure 46 UMTS Band II with Test Position 4 Channel 9400

UMTS Band II with Test Position 5 Middle

Date/Time: 3/17/2014 1:56:55 PM

Communication System: WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.493$ S/m; $\epsilon_r = 52.676$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 5 Middle /Area Scan (31x131x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.111 W/kg

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

Reference Value = 3.770 V/m; Power Drift = 0.098 dB

Peak SAR (extrapolated) = 0.195 W/kg

SAR(1 g) = 0.099 W/kg; SAR(10 g) = 0.048 W/kg

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

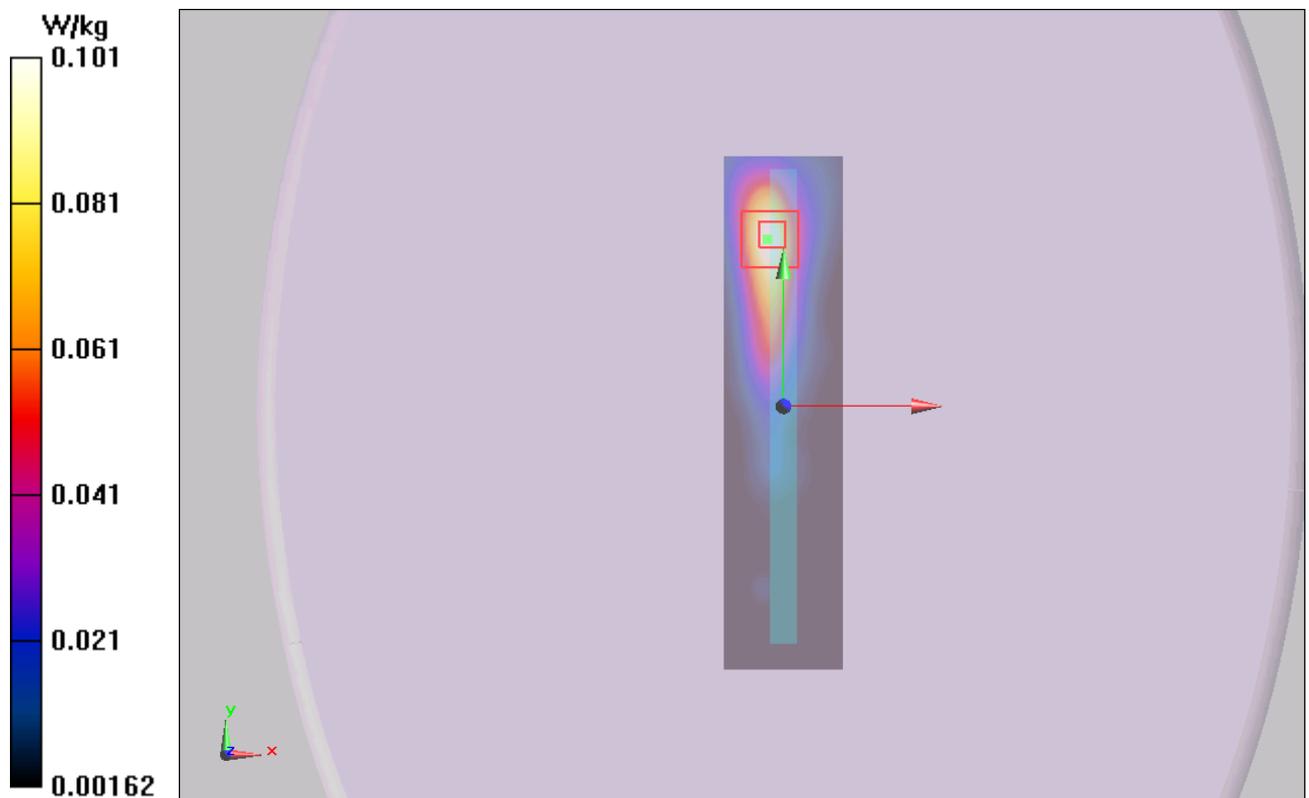


Figure 47 UMTS Band II with Test Position 5 Channel 9400

UMTS Band V Left Cheek Middle

Date/Time: 3/15/2014 6:08:45 AM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.932$ S/m; $\epsilon_r = 41.357$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle /Area Scan (81x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.152 W/kg

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

Reference Value = 12.349 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.089 W/kg

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

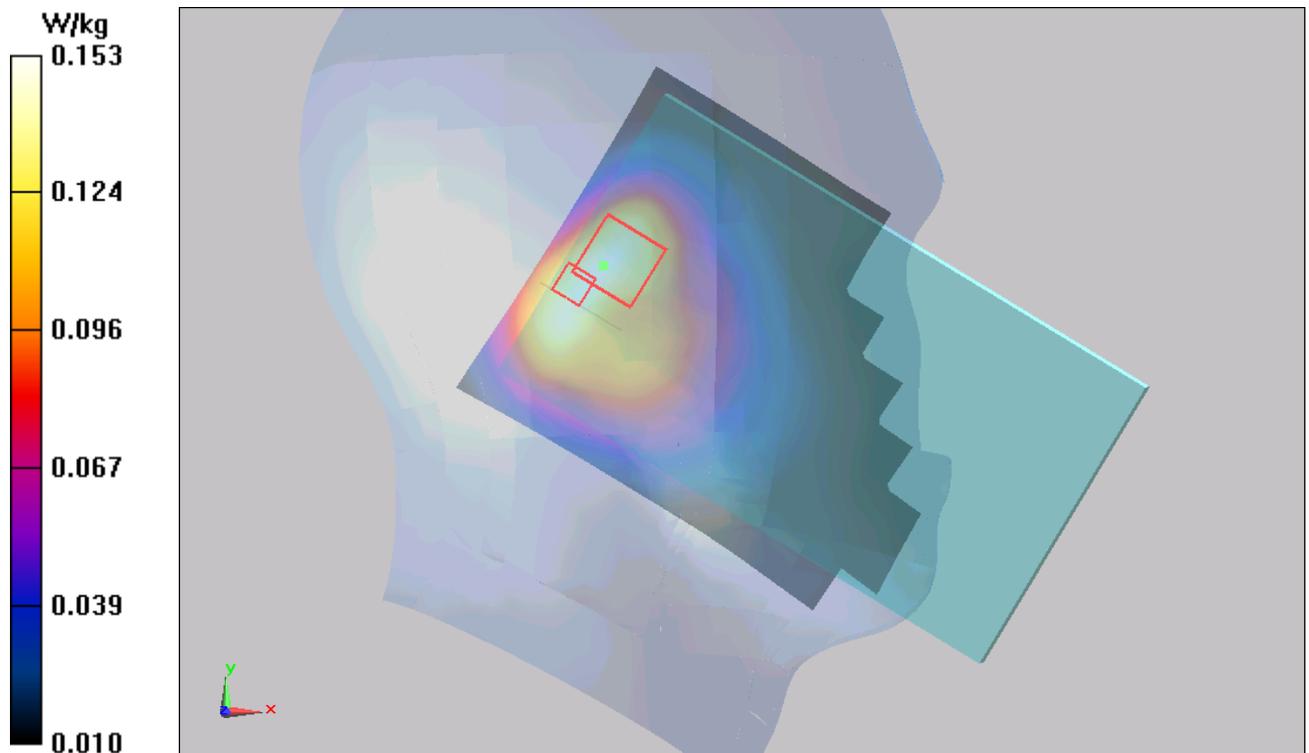


Figure 48 Left Hand Touch Cheek UMTS Band V Channel 4183

UMTS Band V Left Tilt Middle

Date/Time: 3/15/2014 6:25:23 AM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.932$ S/m; $\epsilon_r = 41.357$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle /Area Scan (81x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.155 W/kg

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

Reference Value = 12.640 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.139 W/kg; SAR(10 g) = 0.090 W/kg

Maximum value of SAR (measured) = 0.151 W/kg

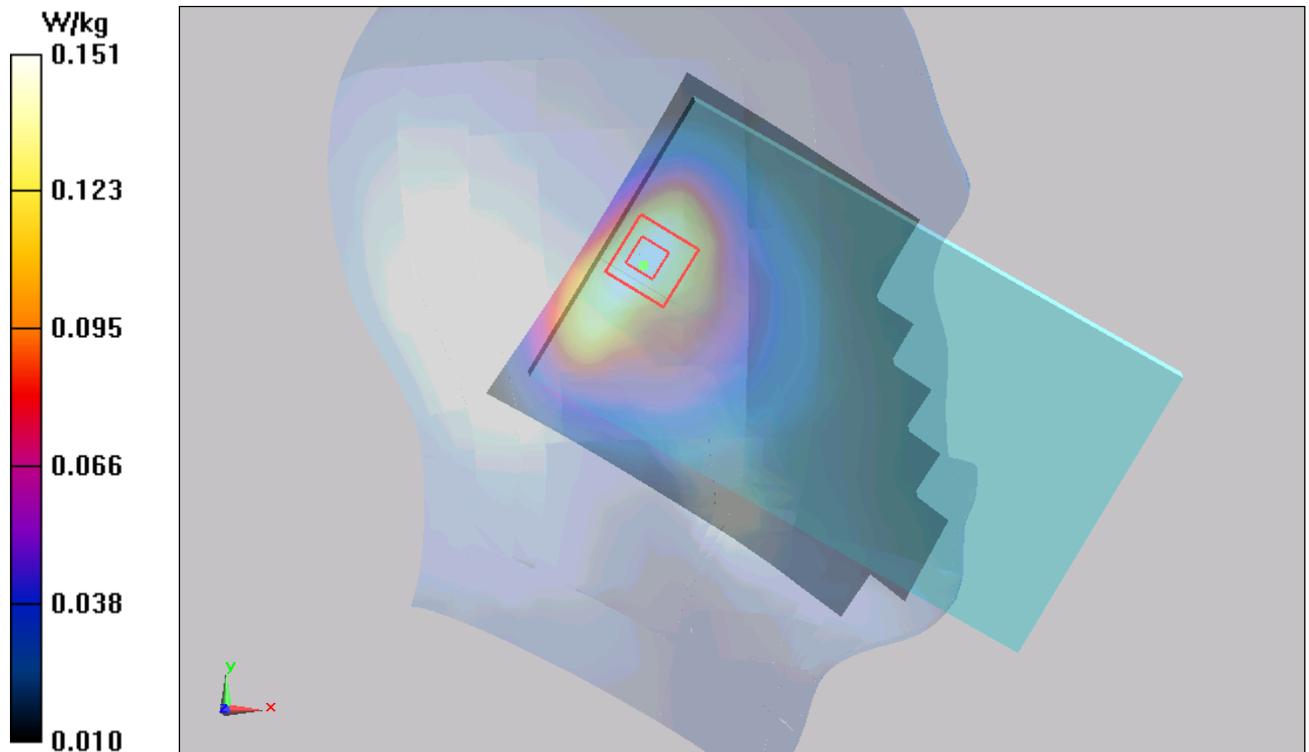


Figure 49 Left Hand Tilt 15° UMTS Band V Channel 4183

UMTS Band V Right Cheek Middle

Date/Time: 3/15/2014 5:50:20 AM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.932$ S/m; $\epsilon_r = 41.357$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle /Area Scan (81x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.289 W/kg

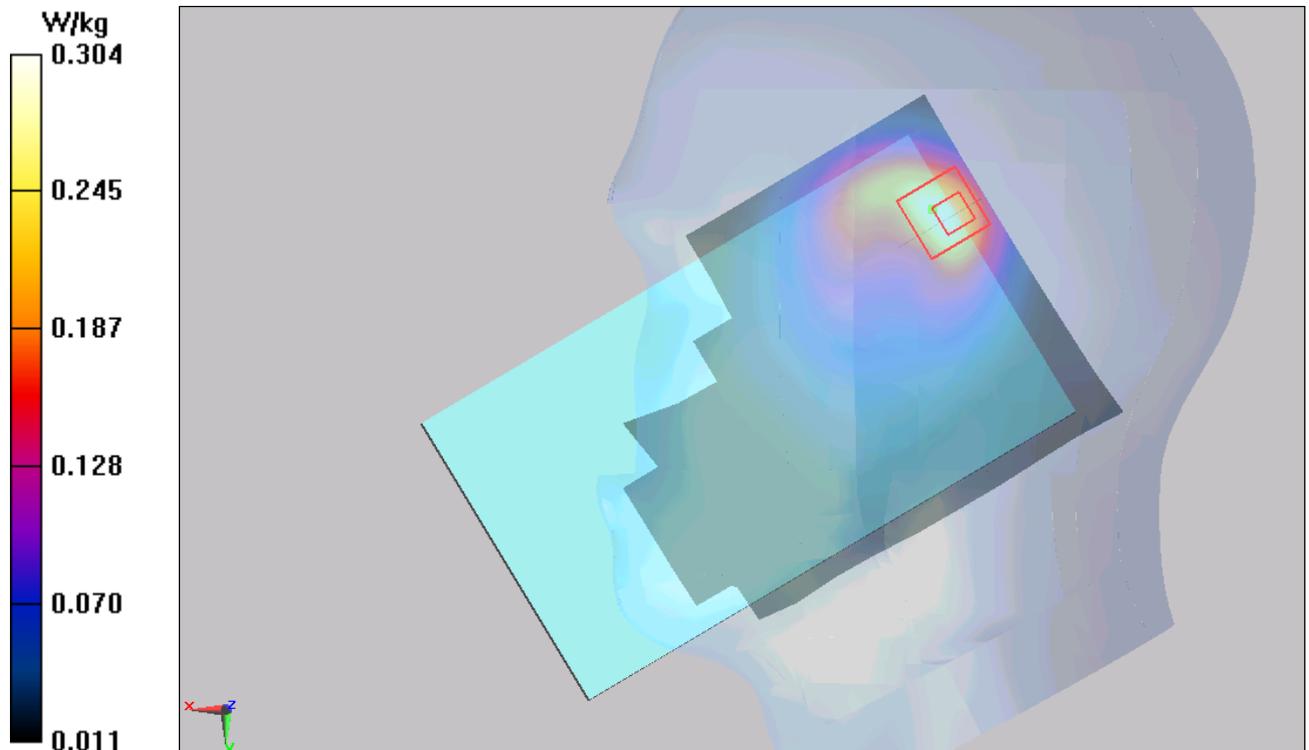
Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.561 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.488 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.137 W/kg

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



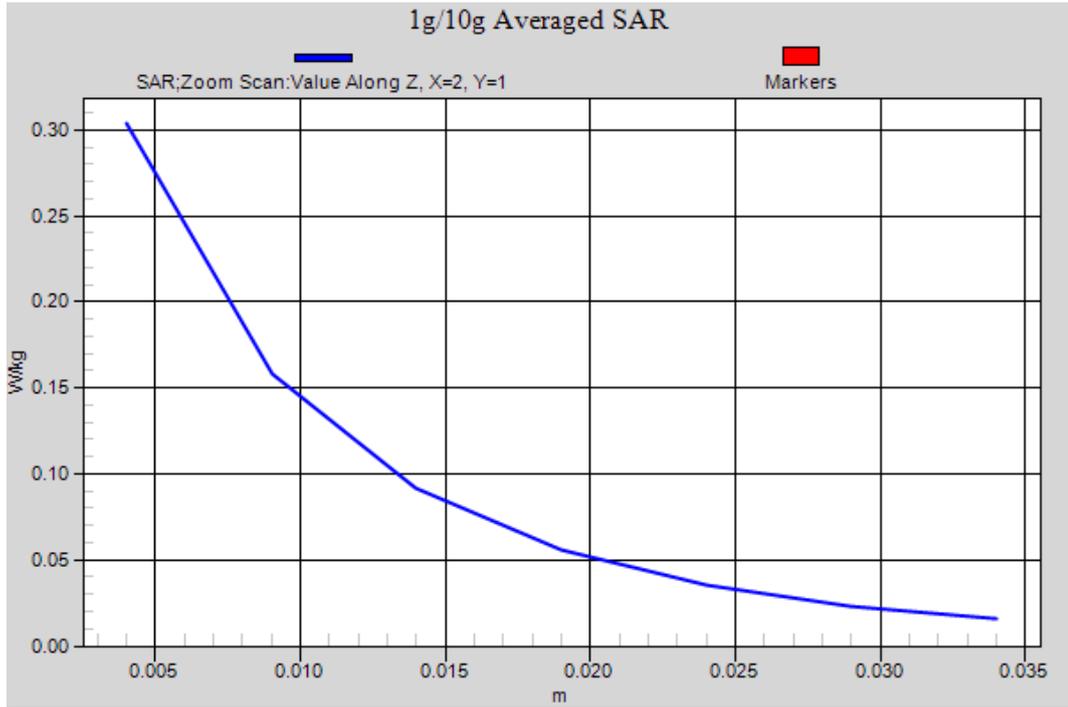


Figure 50 Right Hand Touch Cheek UMTS Band V Channel 4183

UMTS Band V Right Tilt Middle

Date/Time: 3/15/2014 5:33:38 AM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.932$ S/m; $\epsilon_r = 41.357$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle /Area Scan (81x131x1): Interpolated grid: dx=15 mm, dy=15 mm

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

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

Reference Value = 12.812 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.416 W/kg

SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.116 W/kg

Maximum value of SAR (measured) = 0.261 W/kg

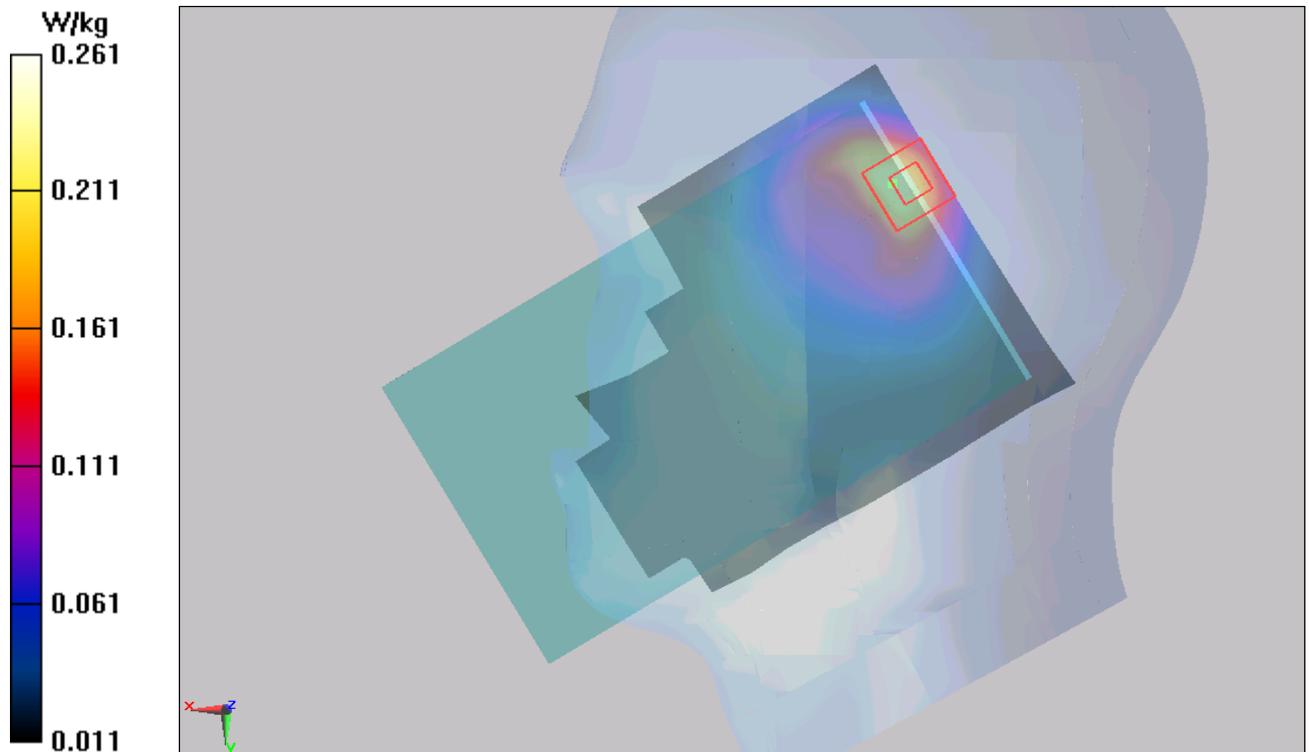


Figure 51 Right Hand Tilt 15° UMTS Band V Channel 4183

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UMTS Band V with Test Position 1 Middle

Date/Time: 3/14/2014 9:41:07 PM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.992$ S/m; $\epsilon_r = 55.885$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 1 Middle /Area Scan (71x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.699 W/kg

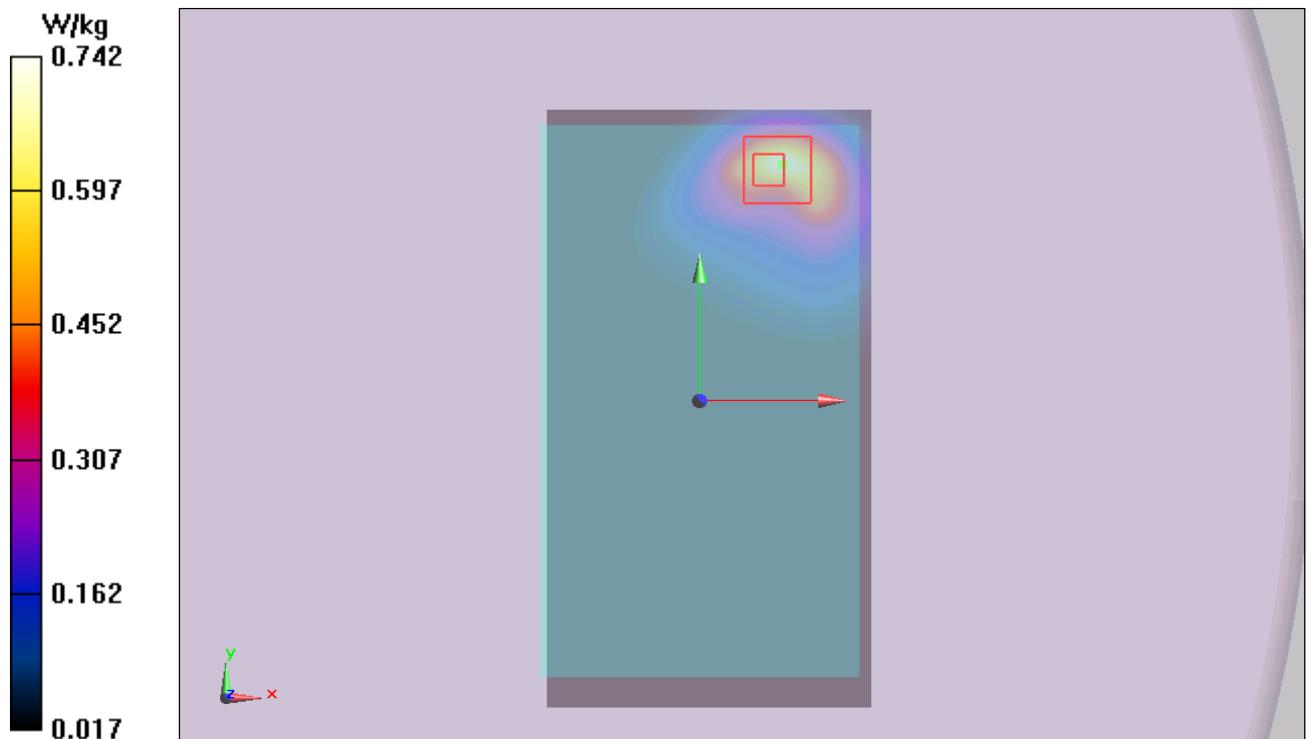
Test Position 1 Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.808 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.666 W/kg; SAR(10 g) = 0.317 W/kg

Maximum value of SAR (measured) = 0.742 W/kg



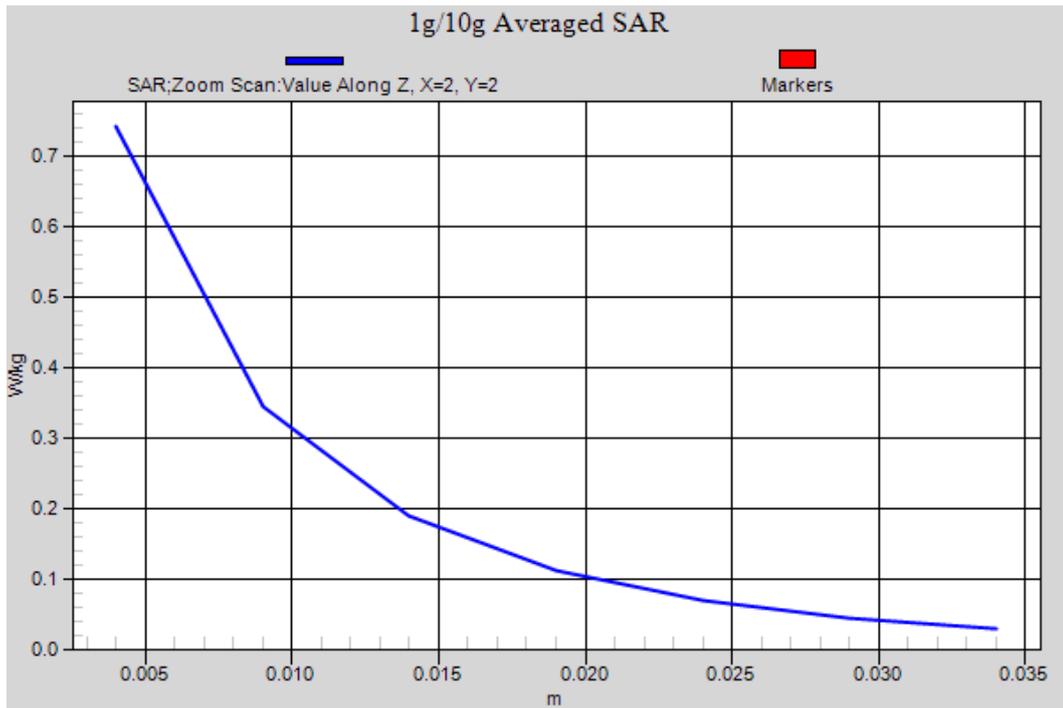


Figure 52 UMTS Band V with Test Position 1 Channel 4183

UMTS Band V with Test Position 3 Middle

Date/Time: 3/14/2014 8:50:42 PM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.992$ S/m; $\epsilon_r = 55.885$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 3 Middle /Area Scan (31x91x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.512 W/kg

Test Position 3 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.969 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.563 W/kg; SAR(10 g) = 0.288 W/kg

Maximum value of SAR (measured) = 0.610 W/kg

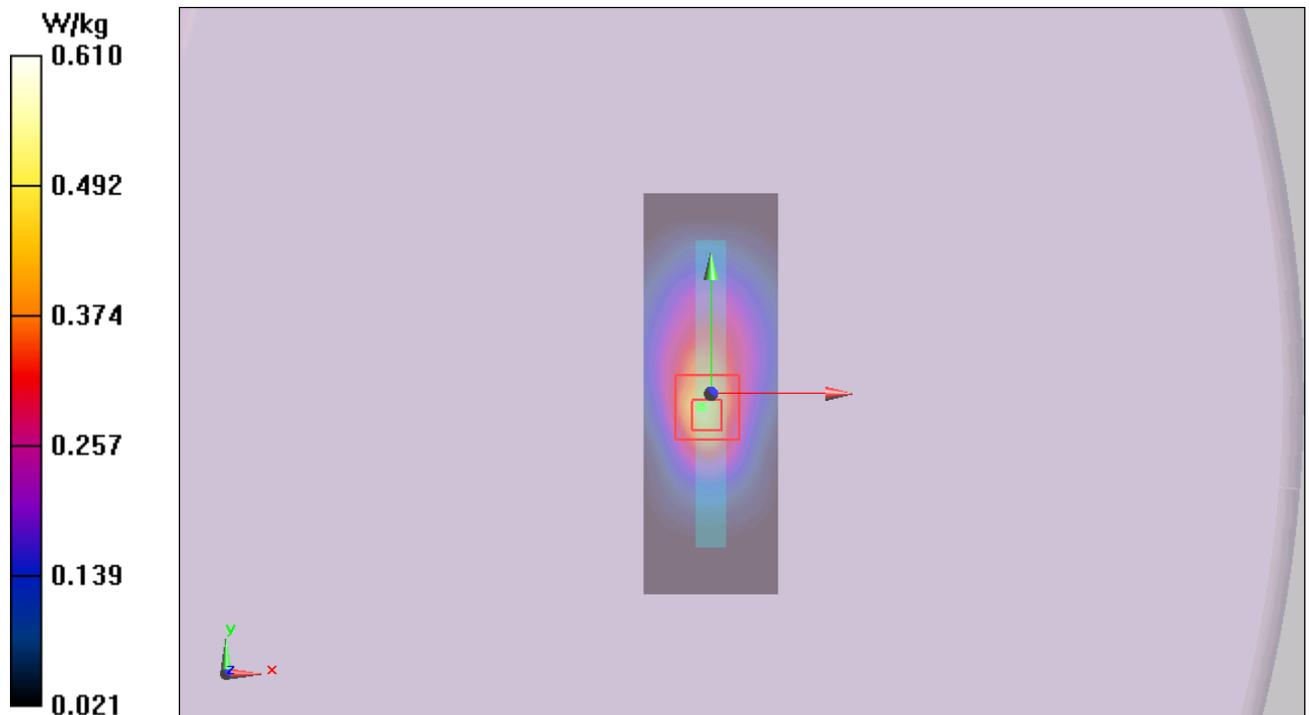


Figure 53 UMTS Band V with Test Position 3 Channel 4183

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UMTS Band V with Test Position 4 Middle

Date/Time: 3/14/2014 9:58:23 PM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.992$ S/m; $\epsilon_r = 55.882$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 4 Middle /Area Scan (31x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0359 W/kg

Test Position 4 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.771 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0710 W/kg

SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.018 W/kg

Maximum value of SAR (measured) = 0.0386 W/kg

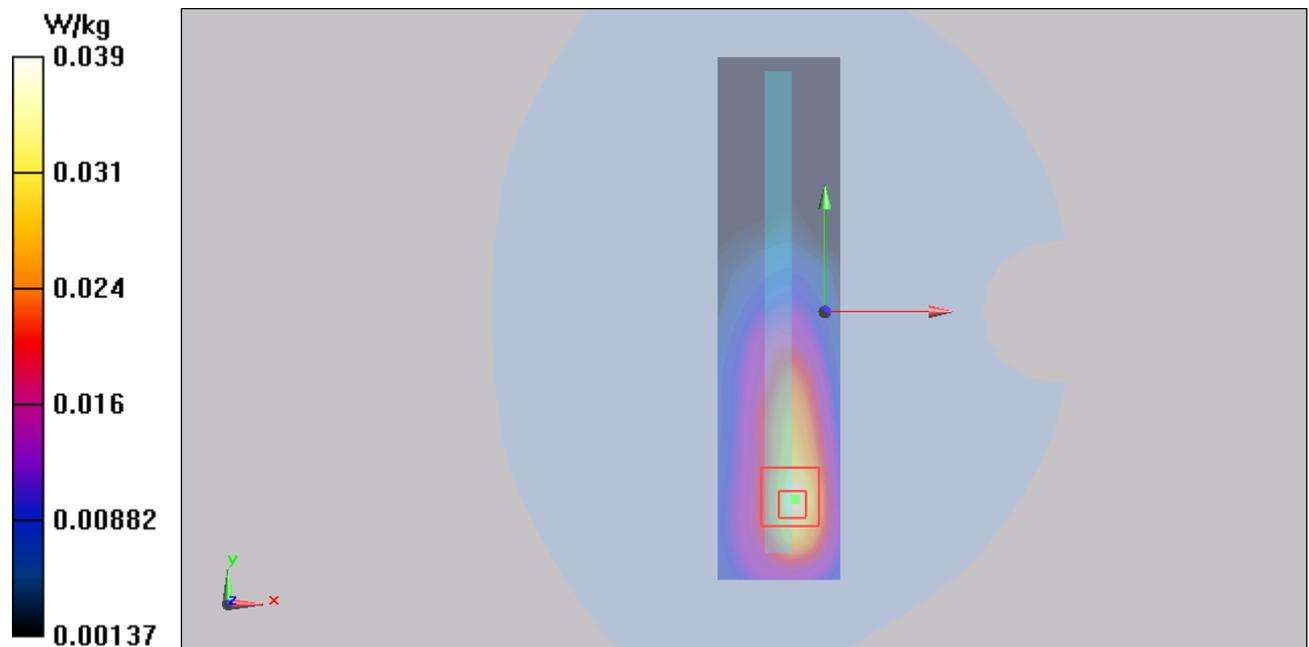


Figure 54 UMTS Band V with Test Position 4 Channel 4183

UMTS Band V with Test Position 5 Middle

Date/Time: 3/14/2014 9:18:07 PM

Communication System: WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.992$ S/m; $\epsilon_r = 55.885$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 5 Middle /Area Scan (31x131x1): Interpolated grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.0985 W/kg

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

Reference Value = 4.934 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.047 W/kg

Maximum value of SAR (measured) = 0.0968 W/kg

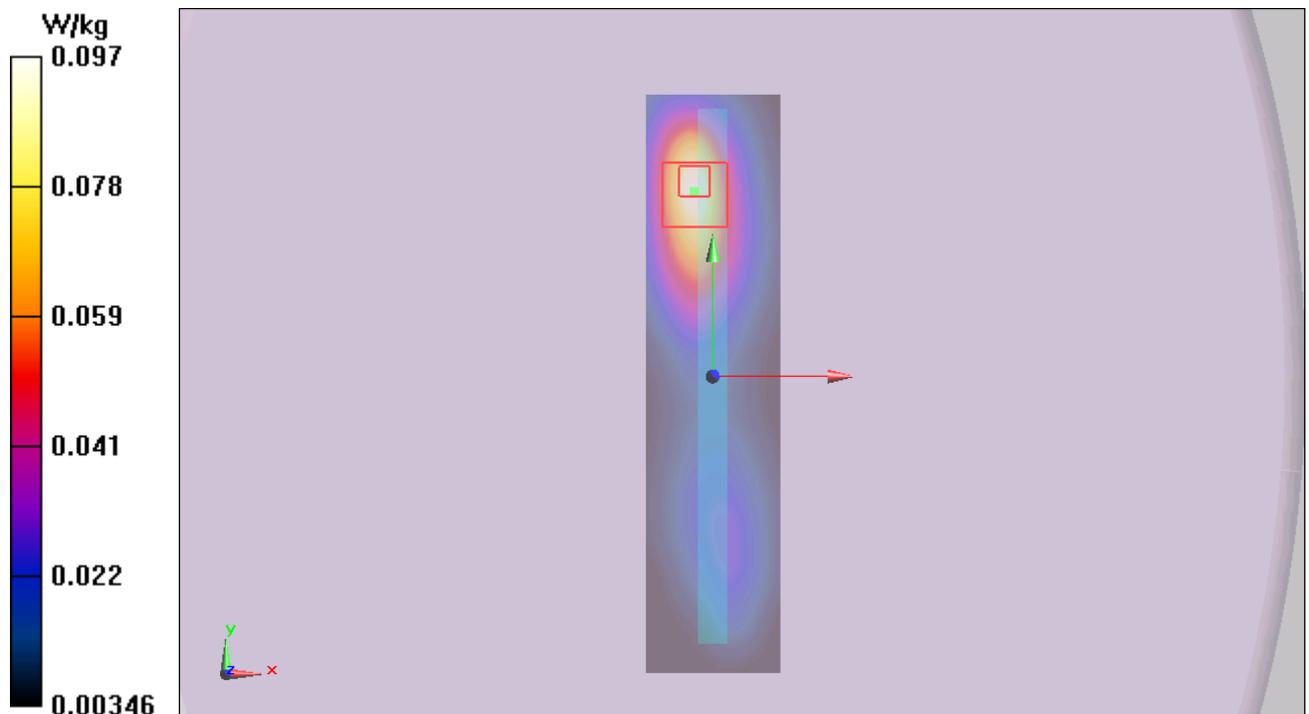


Figure 55 UMTS Band V with Test Position 5 Channel 4183

802.11b Left Cheek Middle

Date/Time: 3/19/2014 6:51:49 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.787$ S/m; $\epsilon_r = 39.199$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.64, 7.64, 7.64); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle /Area Scan (101x161x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0196 W/kg

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

Reference Value = 1.065 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.0230 W/kg

SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00687 W/kg

Maximum value of SAR (measured) = 0.0131 W/kg

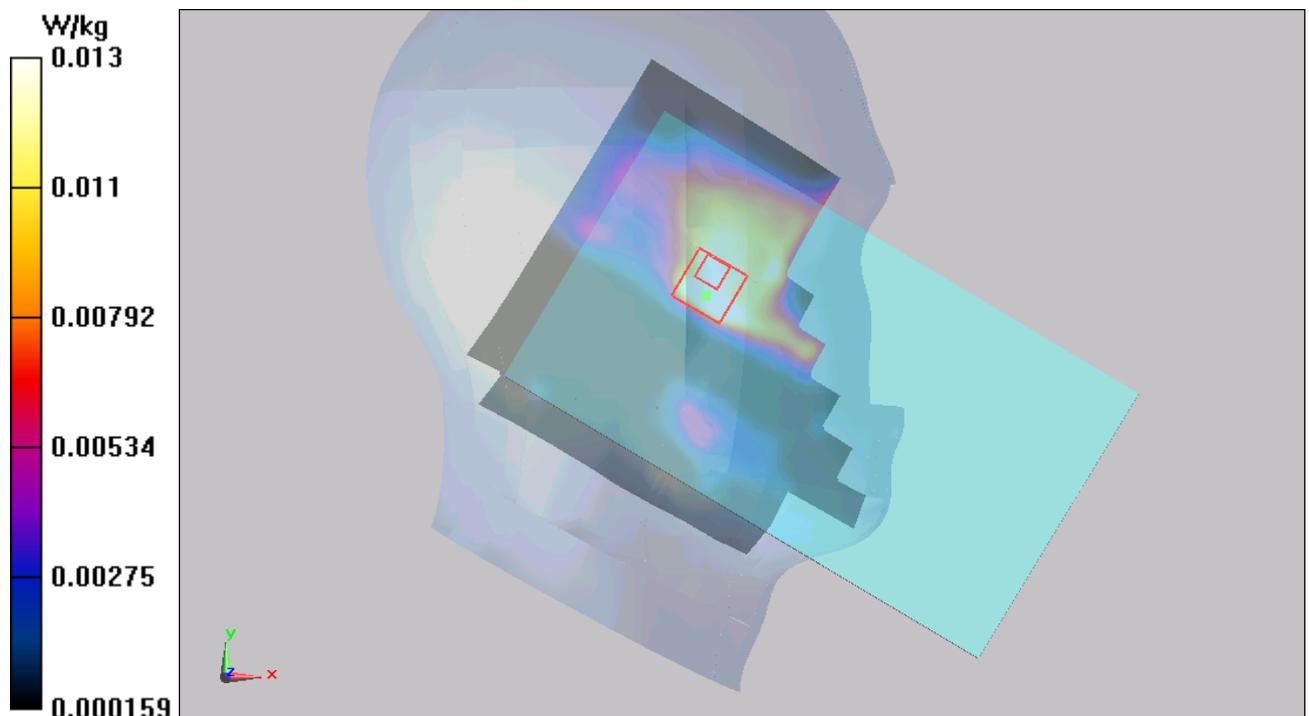


Figure 56 Left Hand Touch Cheek 802.11b Channel 6

802.11b Left Tilt Middle

Date/Time: 3/19/2014 7:11:21 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.787$ S/m; $\epsilon_r = 39.199$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.64, 7.64, 7.64); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle /Area Scan (101x161x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0144 W/kg

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

Reference Value = 1.679 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.0230 W/kg

SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.0073 W/kg

Maximum value of SAR (measured) = 0.0135 W/kg

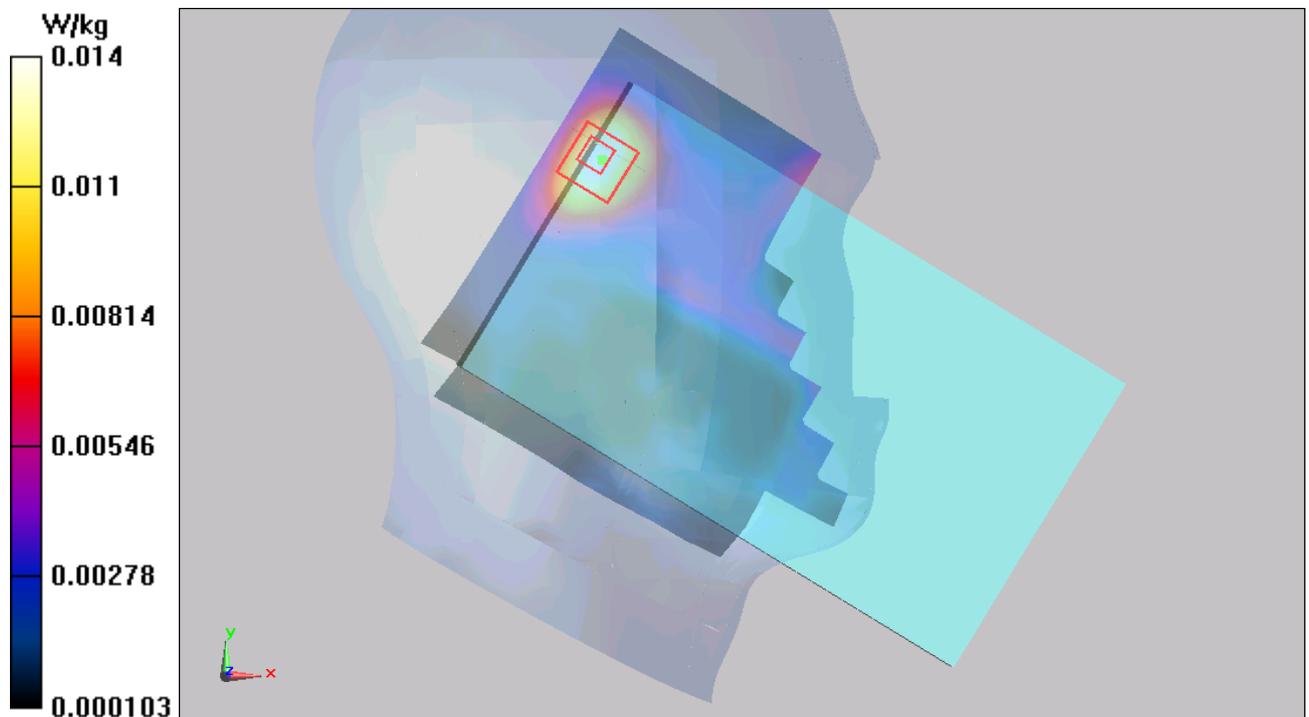


Figure 57 Left Hand Tilt 15° 802.11b Channel 6

802.11b Right Cheek Middle

Date/Time: 3/19/2014 8:02:31 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.787$ S/m; $\epsilon_r = 39.199$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.64, 7.64, 7.64); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle /Area Scan (91x161x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0423 W/kg

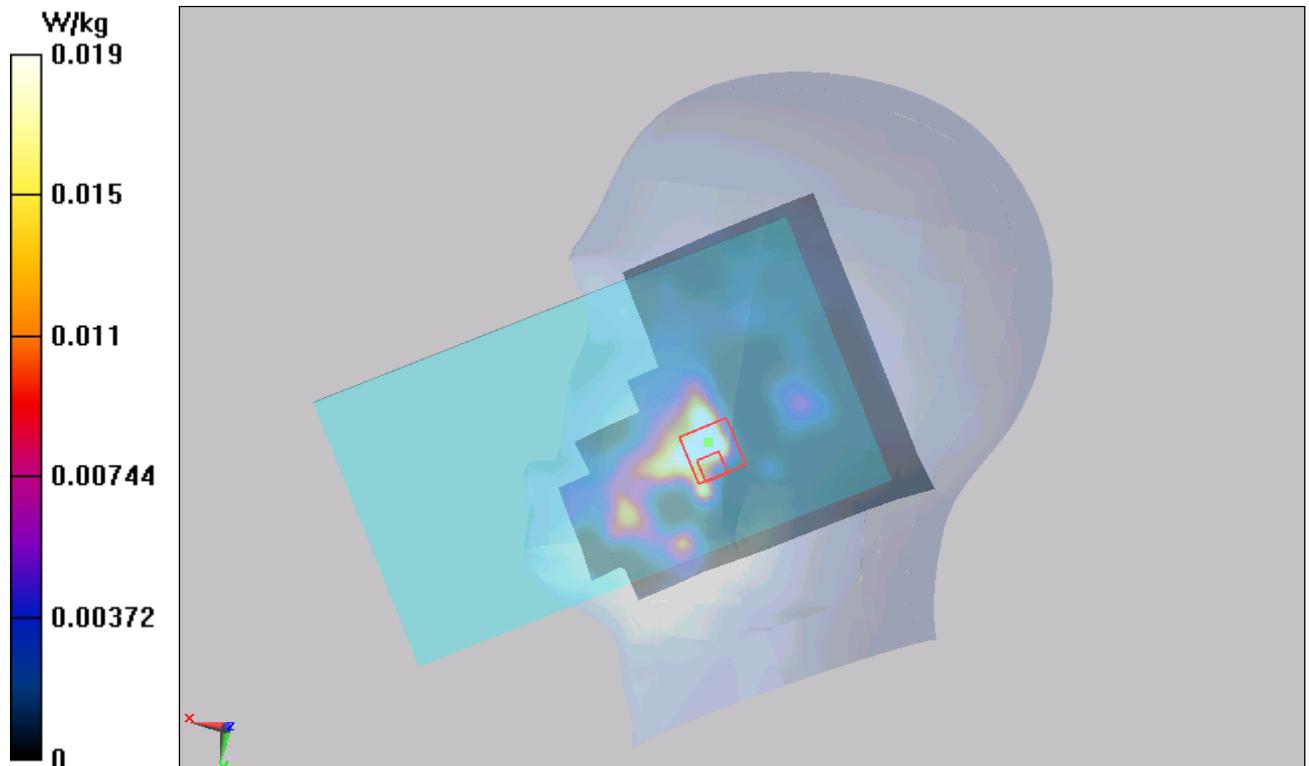
Right Cheek Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.305 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.0300 W/kg

SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.00939 W/kg

Maximum value of SAR (measured) = 0.0186 W/kg



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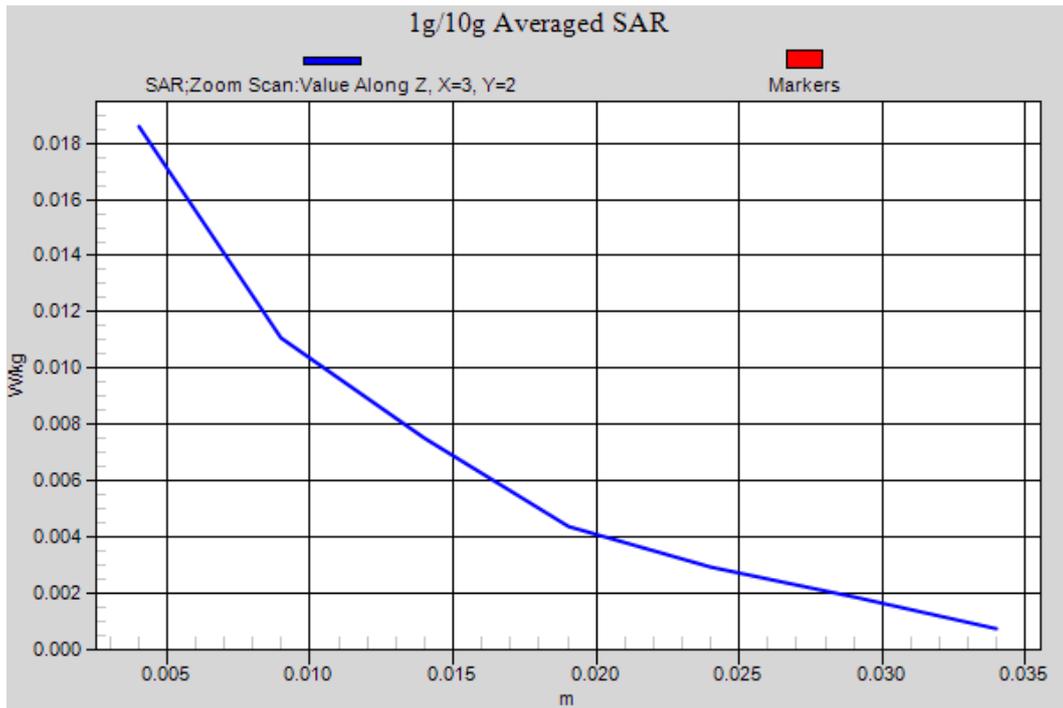


Figure 58 Right Hand Touch Cheek 802.11b Channel 6

802.11b Right Tilt Middle

Date/Time: 3/19/2014 8:20:58 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.787$ S/m; $\epsilon_r = 39.199$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.64, 7.64, 7.64); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle /Area Scan (91x161x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.0144 W/kg

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

Reference Value = 2.112 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.0160 W/kg

SAR(1 g) = 0.010 W/kg; SAR(10 g) = 0.00499 W/kg

Maximum value of SAR (measured) = 0.0111 W/kg

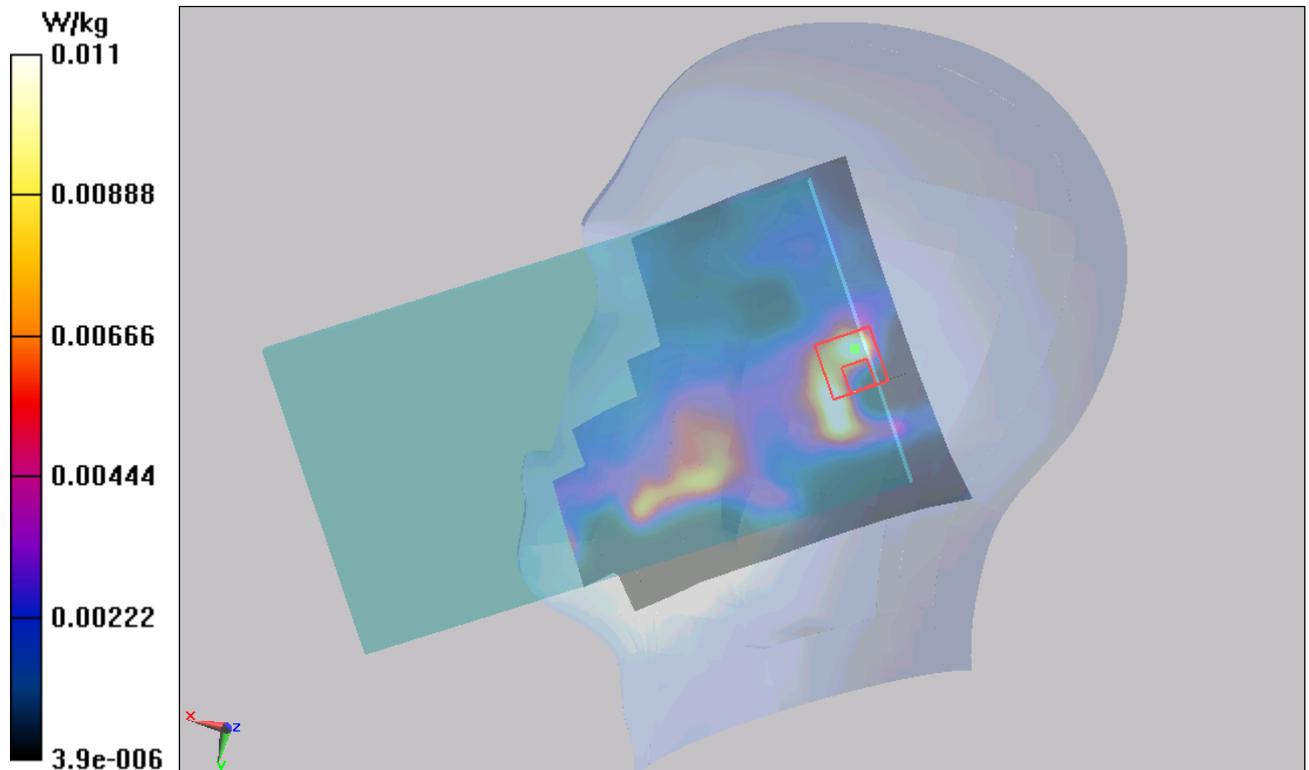


Figure 59 Right Hand Tilt 15° 802.11b Channel 6

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802.11b Test Position 1 Middle

Date/Time: 3/19/2014 12:17:59 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.977$ S/m; $\epsilon_r = 52.177$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 1 Middle /Area Scan (91x141x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.665 W/kg

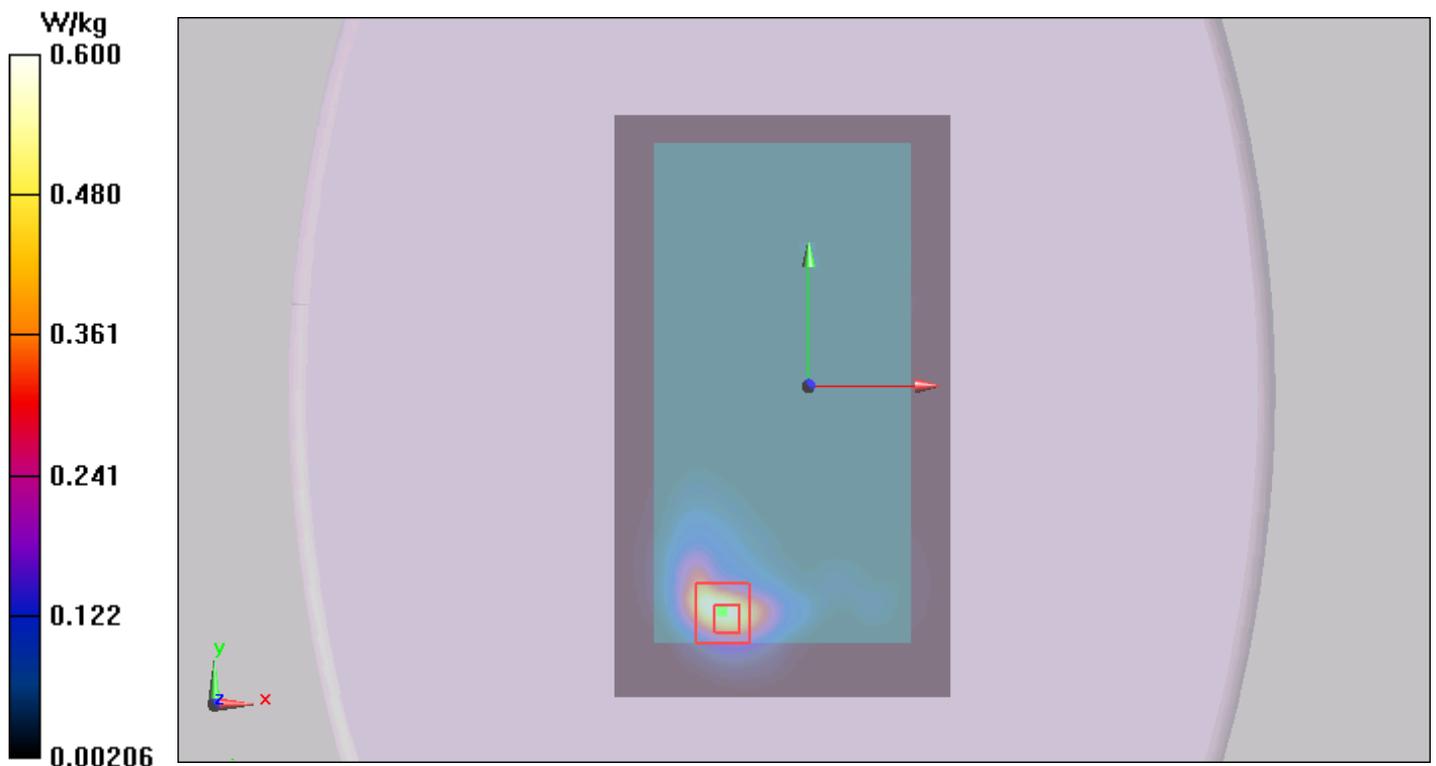
Test Position 1 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 0.564 W/kg; SAR(10 g) = 0.215 W/kg

Maximum value of SAR (measured) = 0.600 W/kg



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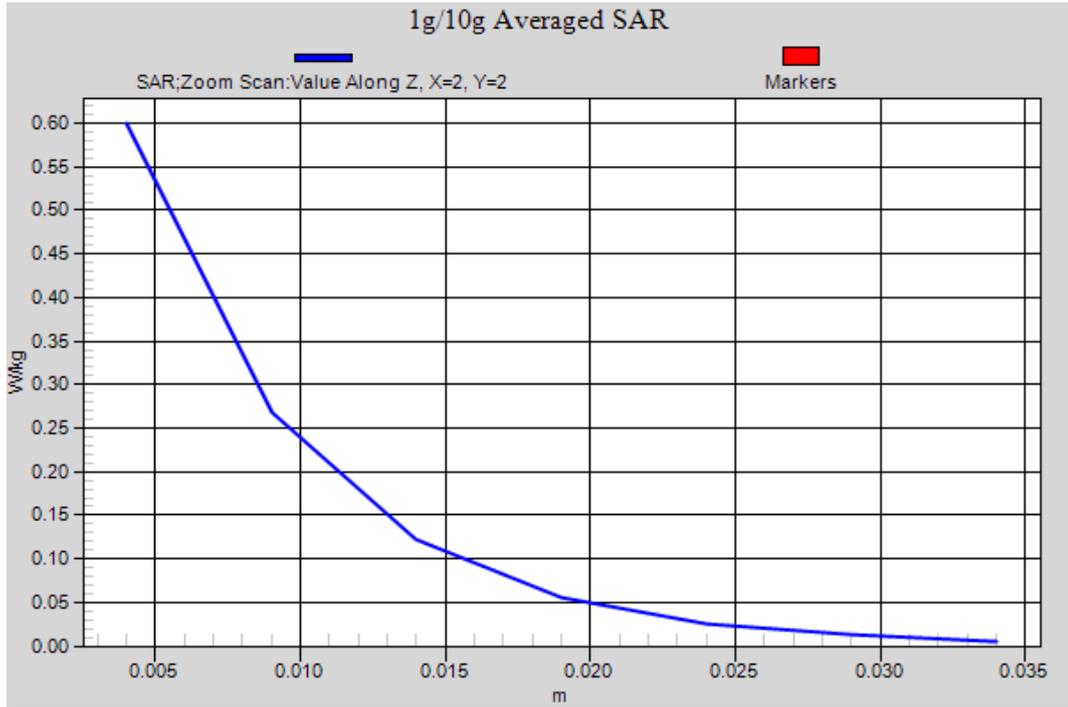


Figure 60 802.11b Test Position 1 Channel 6

802.11b Test Position 2 Middle

Date/Time: 3/19/2014 1:07:48 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.977$ S/m; $\epsilon_r = 52.177$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 2 Middle /Area Scan (31x91x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.316 W/kg

Test Position 2 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.652 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.893 W/kg

SAR(1 g) = 0.280 W/kg; SAR(10 g) = 0.100 W/kg

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



Figure 61 802.11b Test Position 2 Channel 6

802.11b Test Position 3 Middle

Date/Time: 3/19/2014 4:45:10 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.977$ S/m; $\epsilon_r = 52.177$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 3 Middle /Area Scan (31x141x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (measured) = 0.0393 W/kg

Test Position 3 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.817 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.675 mW/g

SAR(1 g) = 0.003 mW/g; SAR(10 g) = 0.002 mW/g

Maximum value of SAR (measured) = 0.076 W/kg

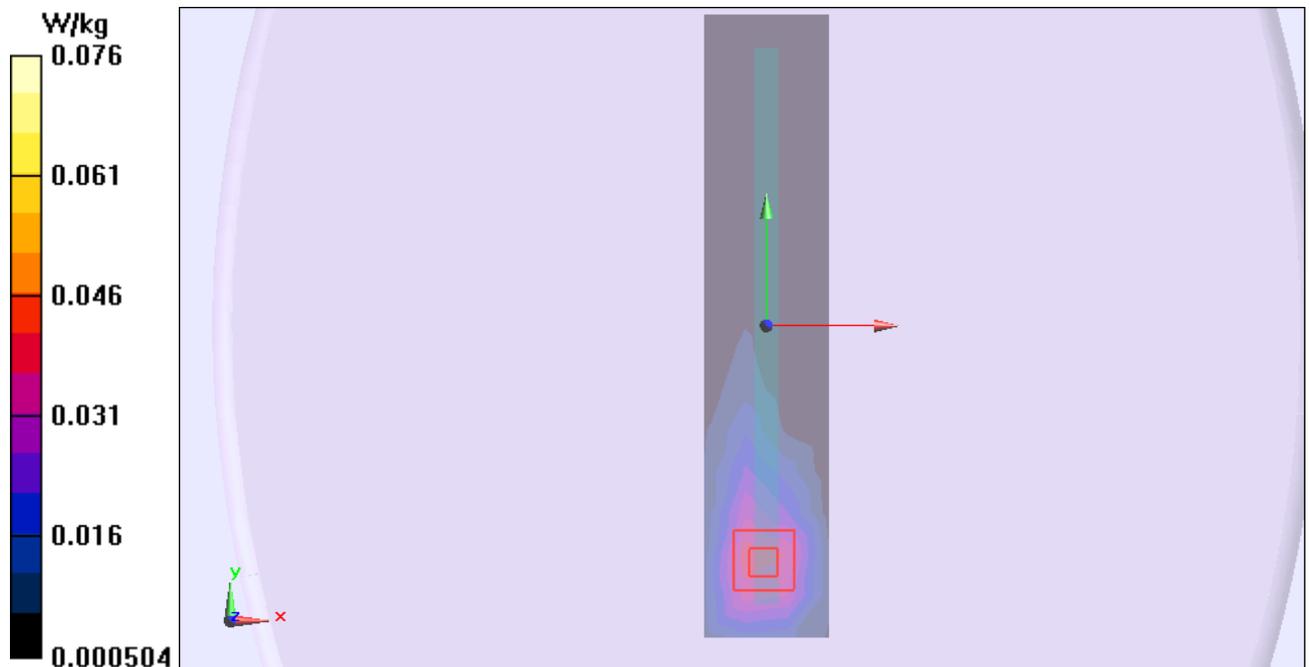


Figure 62 802.11b Test Position 3 Channel 6

802.11b Test Position 4 Middle

Date/Time: 3/19/2014 12:47:10 AM

Communication System: 802.11b (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.977$ S/m; $\epsilon_r = 52.177$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 4 Middle /Area Scan (31x141x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (interpolated) = 0.244 W/kg

Test Position 4 Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.311 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.097 W/kg

Maximum value of SAR (measured) = 0.255 W/kg

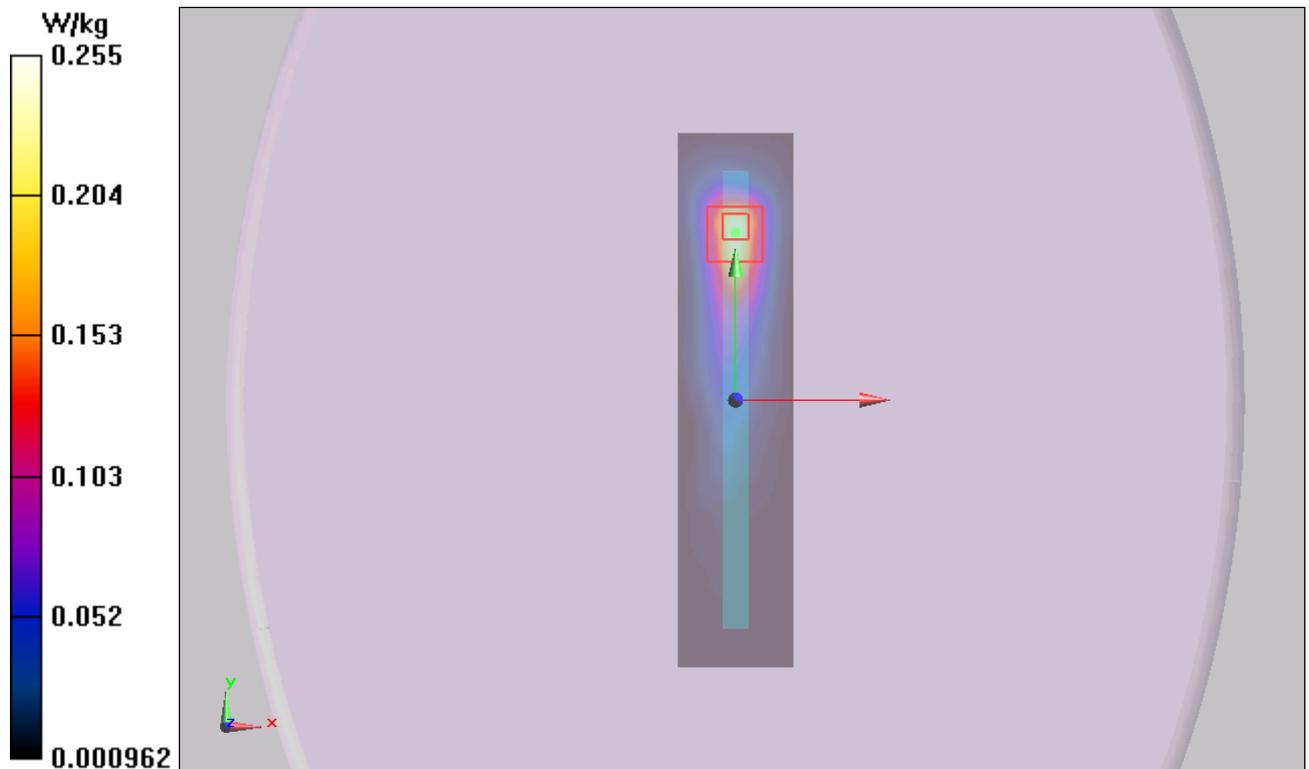


Figure 63 802.11b Test Position 4 Channel 6

BT Test Position 3 High

Date/Time: 3/19/2014 5:15:17 AM

Communication System: BT(0); Frequency: 2480 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2480$ MHz; $\sigma = 1.99$ S/m; $\epsilon_r = 52.011$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Test Position 3 High /Area Scan (31x141x1): Interpolated grid: dx=12 mm, dy=12 mm

Maximum value of SAR (measured) = 0.0271 W/kg

Test Position 3 High /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.412 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.451 mW/g

SAR(1 g) = 0.001 mW/g; SAR(10 g) = 0.001 mW/g

Maximum value of SAR (measured) = 0.061 W/kg

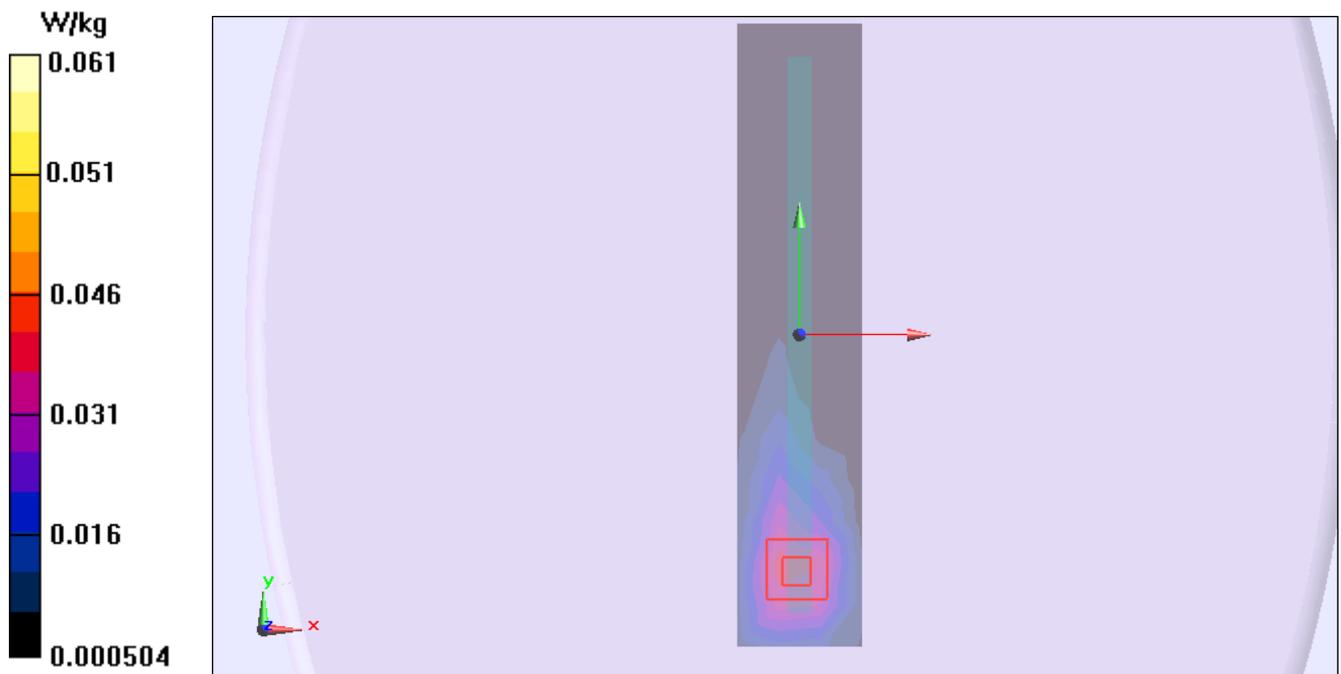


Figure 64 BT Test Position 3 Channel 78

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ANNEX D: Probe Calibration Certificate



In Collaboration with
s p e a g
CALIBRATION LABORATORY



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Client **TA-ShangHai**

Certificate No: **J13-2-2971**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3677**

Calibration Procedure(s) **TMC-OS-E-02-195
Calibration Procedures for Dosimetric E-field Probes**

Calibration date: **November 28, 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(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-13 (TMC, No.JW13-044)	Jun-14
Power sensor NRP-Z91	101547	01-Jul-13 (TMC, No.JW13-044)	Jun-14
Power sensor NRP-Z91	101548	01-Jul-13 (TMC, No.JW13-044)	Jun-14
Reference10dBAttenuator	BT0520	12-Dec-12(TMC,No.JZ12-867)	Dec-14
Reference20dBAttenuator	BT0267	12-Dec-12(TMC,No.JZ12-866)	Dec-14
Reference Probe EX3DV4	SN 3846	03-Sep-13(SPEAG.No.EX3-3846_Sep13)	Sep-14
DAE4	SN 777	22-Feb-13 (SPEAG, DAE4-777_Feb13)	Feb -14
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	01-Jul-13 (TMC, No.JW13-045)	Jun-14
Network Analyzer E5071C	MY46110673	15-Feb-13 (TMC, No.JZ13-781)	Feb-14

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the Laboratory	

Issued: November 29, 2013

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

TA Technology (Shanghai) Co., Ltd.

Test Report



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Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
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 $\theta=0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\theta=0$ ($f \leq 900\text{MHz}$: in TEM-cell; $f > 1800\text{MHz}$: waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E^2 -field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}; A,B,C** 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 $f \leq 800\text{MHz}$) and inside waveguide using analytical field distributions based on power measurements for $f > 800\text{MHz}$. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from $\pm 50\text{MHz}$ to $\pm 100\text{MHz}$.
- 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.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).



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Probe EX3DV4

SN: 3677

Calibrated: November 28, 2013

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)



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DASY – Parameters of Probe: EX3DV4 - SN: 3677

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.38	0.44	0.38	±10.8%
DCP(mV) ^B	99.8	100.9	101.9	

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	93.3	±2.6%
		Y	0.0	0.0	1.0		101.7	
		Z	0.0	0.0	1.0		92.1	

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 Norm X, Y, Z do not affect the E²-field uncertainty inside TSL (see Page 5 and Page 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.



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DASY – Parameters of Probe: EX3DV4 - SN: 3677

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	9.94	9.94	9.94	0.16	1.13	± 12%
850	41.5	0.92	9.41	9.41	9.41	0.11	1.47	± 12%
1750	40.1	1.37	8.22	8.22	8.22	0.14	2.11	± 12%
1900	40.0	1.40	8.15	8.15	8.15	0.14	2.34	± 12%
2100	39.8	1.49	7.87	7.87	7.87	0.13	3.21	± 12%
2450	39.2	1.80	7.64	7.64	7.64	0.39	0.95	± 12%
5200	36.0	4.66	5.73	5.73	5.73	0.95	0.62	± 13%
5300	35.9	4.76	5.68	5.68	5.68	0.87	0.67	± 13%
5500	35.6	4.96	5.62	5.62	5.62	0.97	0.62	± 13%
5600	35.5	5.07	5.29	5.29	5.29	0.89	0.63	± 13%
5800	35.3	5.27	5.29	5.29	5.29	1.02	0.61	± 13%

^C Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequency 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.



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DASY – Parameters of Probe: EX3DV4 - SN: 3677

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	9.72	9.72	9.72	0.11	1.97	± 12%
850	55.2	0.99	9.51	9.51	9.51	0.15	1.55	± 12%
1750	53.4	1.49	7.77	7.77	7.77	0.14	3.23	± 12%
1900	53.3	1.52	7.63	7.63	7.63	0.15	2.81	± 12%
2100	53.2	1.62	7.97	7.97	7.97	0.16	4.09	± 12%
2450	52.7	1.95	7.61	7.61	7.61	0.45	0.92	± 12%
5200	49.0	5.30	4.72	4.72	4.72	0.66	1.10	± 13%
5300	48.9	5.42	4.67	4.67	4.67	0.64	1.19	± 13%
5500	48.6	5.65	4.34	4.34	4.34	0.73	0.80	± 13%
5600	48.5	5.77	4.29	4.29	4.29	0.74	0.81	± 13%
5800	48.2	6.00	4.46	4.46	4.46	0.78	0.80	± 13%

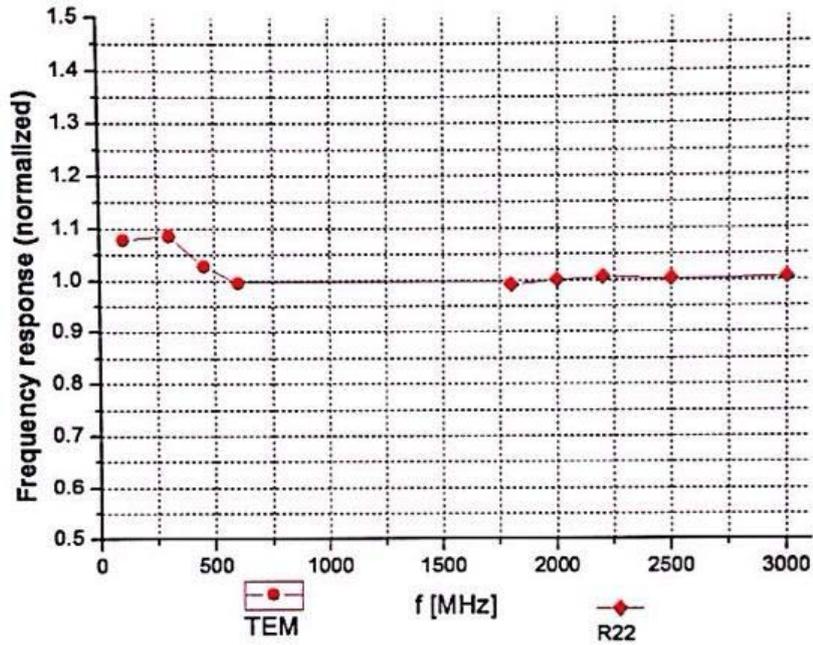
^C Frequency validity of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequency 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.



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



Uncertainty of Frequency Response of E-field: $\pm 7.5\%$ (k=2)

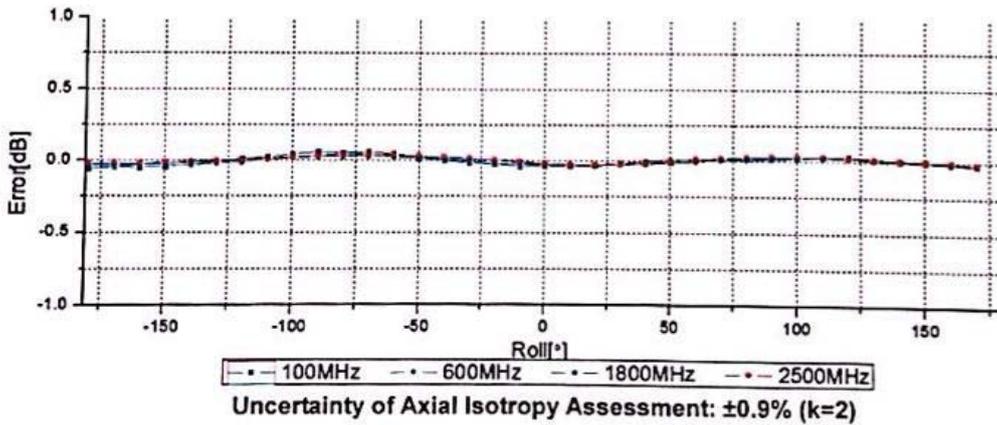
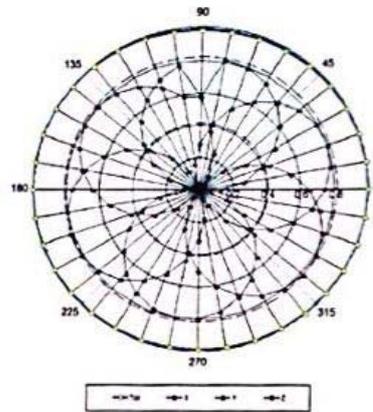
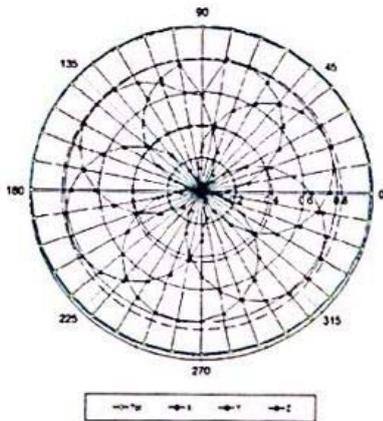


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Receiving Pattern (Φ), $\theta=0^\circ$

f=600 MHz, TEM

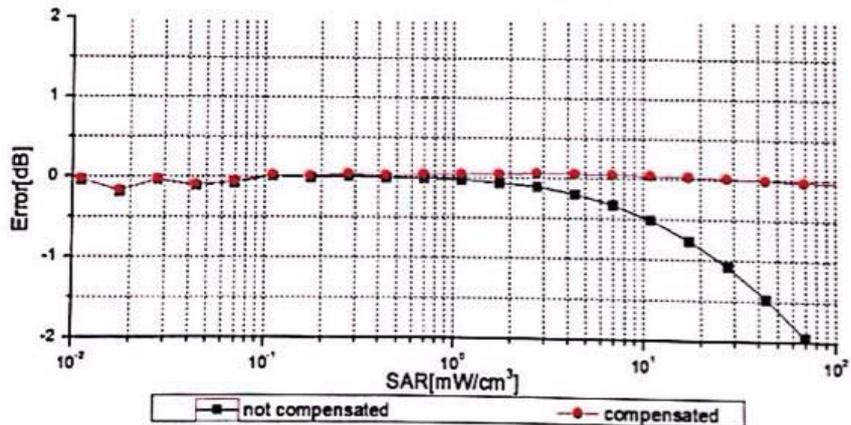
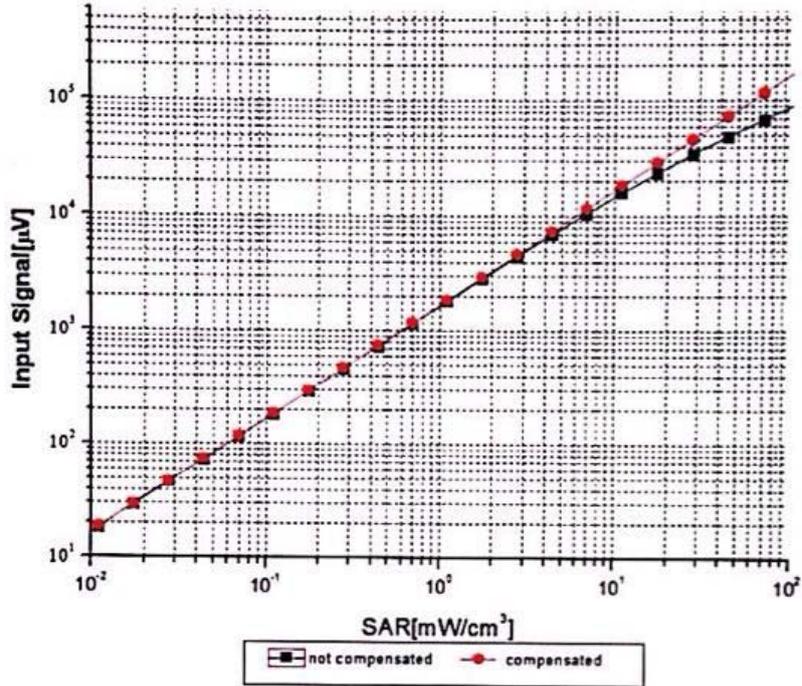
f=1800 MHz, R22





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



Uncertainty of Linearity Assessment: ±0.9% (k=2)

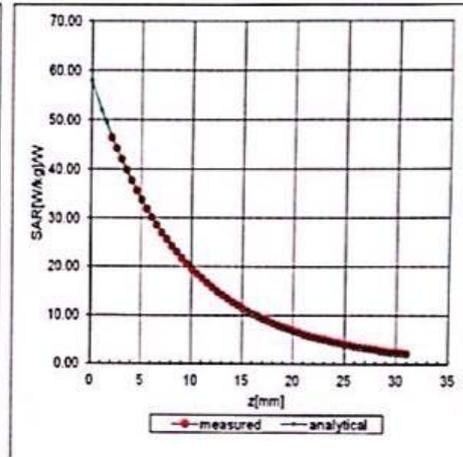
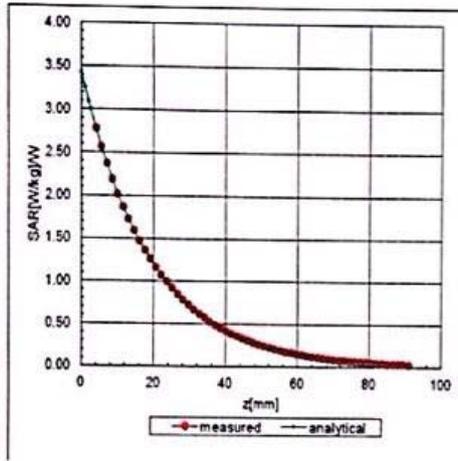


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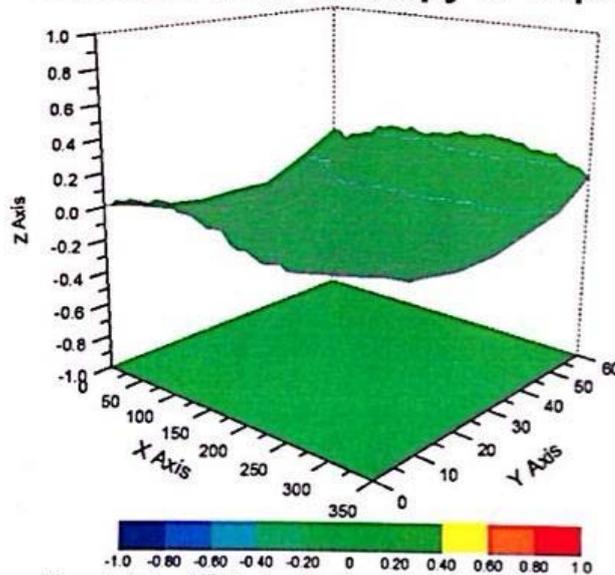
Conversion Factor Assessment

f=850 MHz, WGLS R9(H_convF)

f=2450 MHz, WGLS R26(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: $\pm 2.8\%$ (K=2)



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DASY - Parameters of Probe: EX3DV4 - SN: 3677

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	117
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	2mm

TA Technology (Shanghai) Co., Ltd. Test Report

Report No. RHA1403-0022SAR

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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

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

Issued: August 26, 2011

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