

APPENDIX B.2: BODY-WORN MEASUREMENT SCANS

Date/Time: 2012-08-01 20:57:56

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 849$ MHz; $\sigma = 1.016$ mho/m; $\epsilon_r = 53.889$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.659 W/kg

3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 23.623 V/m

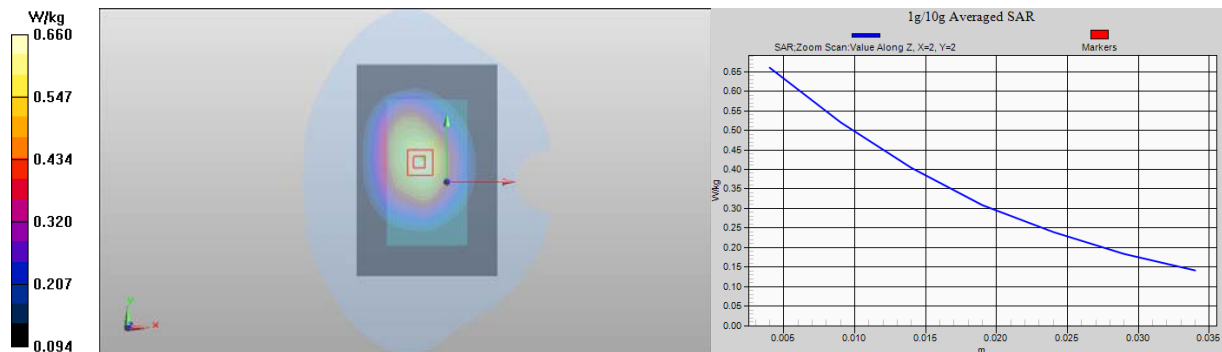
Peak SAR (extrapolated) = 0.792 mW/g

SAR(1 g) = 0.634 mW/g

SAR(10 g) = 0.474 mW/g

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 0.660 W/kg



Date/Time: 2012-08-01 20:29:04

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body – Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

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

3-slot GPRS/Body – Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 18.558 V/m

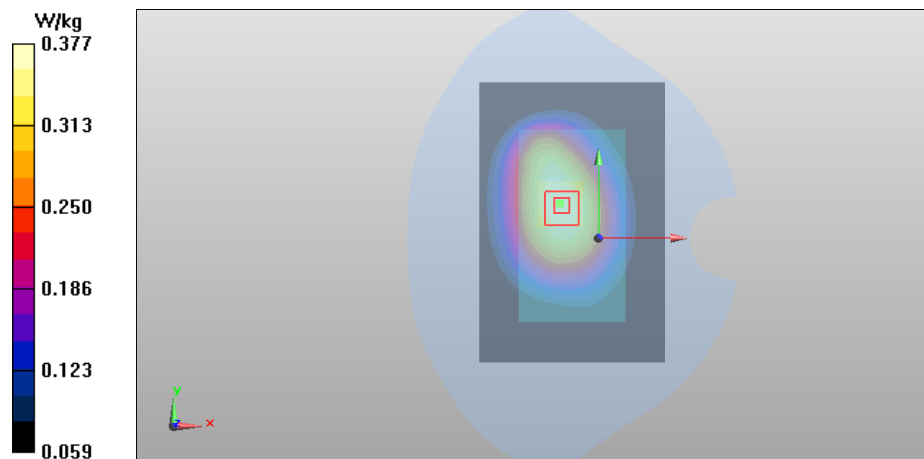
Peak SAR (extrapolated) = 0.435 mW/g

SAR(1 g) = 0.358 mW/g

SAR(10 g) = 0.272 mW/g

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 0.377 W/kg



Date/Time: 2012-08-01 19:25:08

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body – Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

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

3-slot GPRS/Body – Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 18.780 V/m

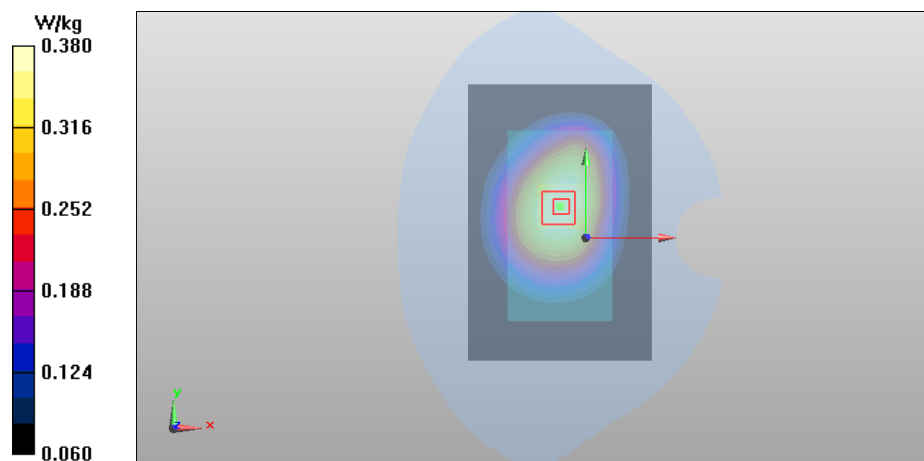
Peak SAR (extrapolated) = 0.449 mW/g

SAR(1 g) = 0.361 mW/g

SAR(10 g) = 0.275 mW/g

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 0.380 W/kg



Date/Time: 2012-08-01 19:44:15

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body – Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.339 W/kg

3-slot GPRS/Body – Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 17.647 V/m

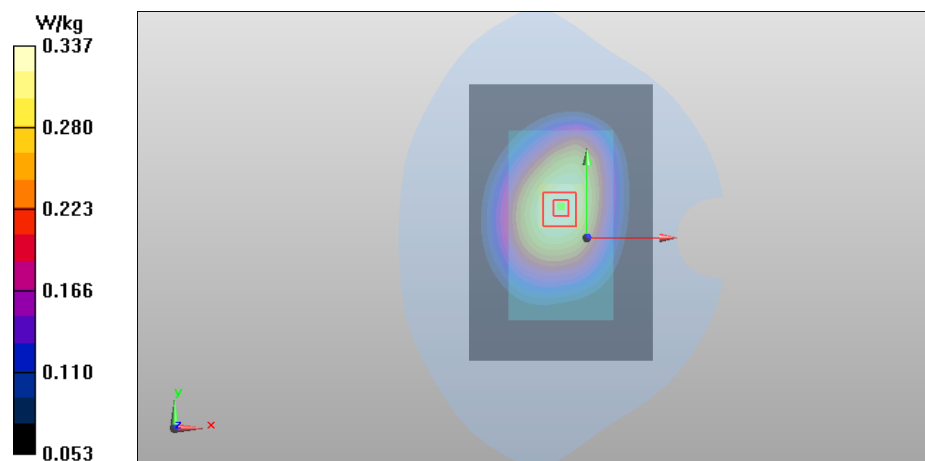
Peak SAR (extrapolated) = 0.404 mW/g

SAR(1 g) = 0.321 mW/g

SAR(10 g) = 0.244 mW/g

Power Drift = -0.12 dB

Maximum value of SAR (measured) = 0.337 W/kg



Date/Time: 2012-08-23 13:25:49

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 21.4

Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ϵ_r = 53.737; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body – Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.211 W/kg

WCDMA/Body – Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.415 V/m

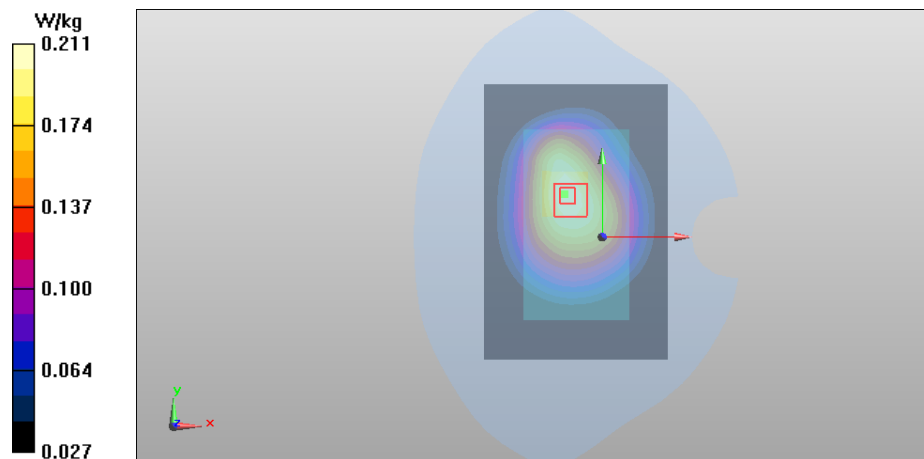
Peak SAR (extrapolated) = 0.259 mW/g

SAR(1 g) = 0.200 mW/g

SAR(10 g) = 0.150 mW/g

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 0.211 W/kg



Date/Time: 2012-08-23 13:50:57

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.985$ mho/m; $\epsilon_r = 53.737$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body – Middle - Spacer 15mm -WH-208 - Back Facing Phantom/Area Scan (81x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.186 W/kg

WCDMA/Body – Middle - Spacer 15mm -WH-208 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 12.540 V/m

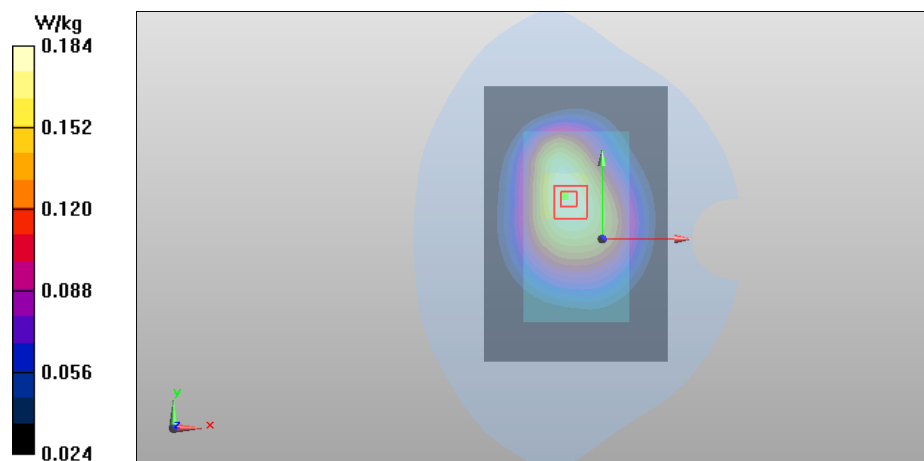
Peak SAR (extrapolated) = 0.231 mW/g

SAR(1 g) = 0.176 mW/g

SAR(10 g) = 0.132 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 0.184 W/kg



Date/Time: 2012-08-23 15:17:11

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4$ C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - High - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.331 W/kg

WCDMA/Body - High - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 17.391 V/m

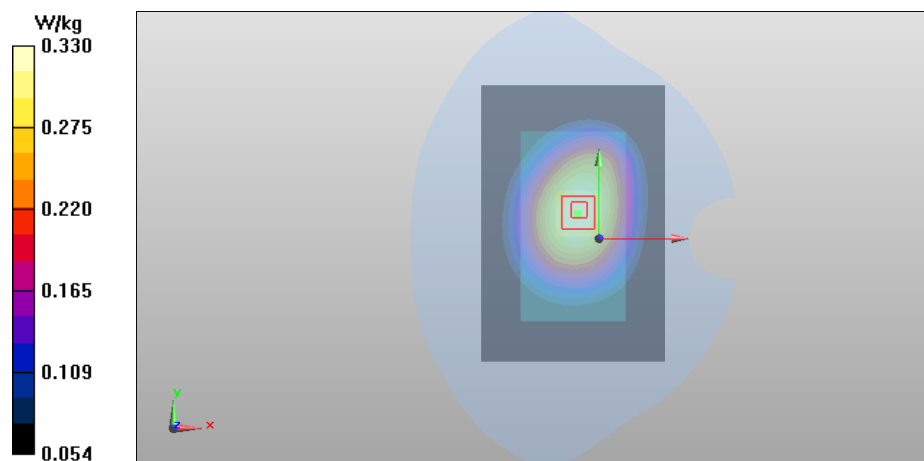
Peak SAR (extrapolated) = 0.389 mW/g

SAR(1 g) = 0.314 mW/g

SAR(10 g) = 0.240 mW/g

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 0.330 W/kg



Date/Time: 2012-08-23 14:29:36

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.985$ mho/m; $\epsilon_r = 53.737$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body – Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.183 W/kg

WCDMA/Body – Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 12.896 V/m

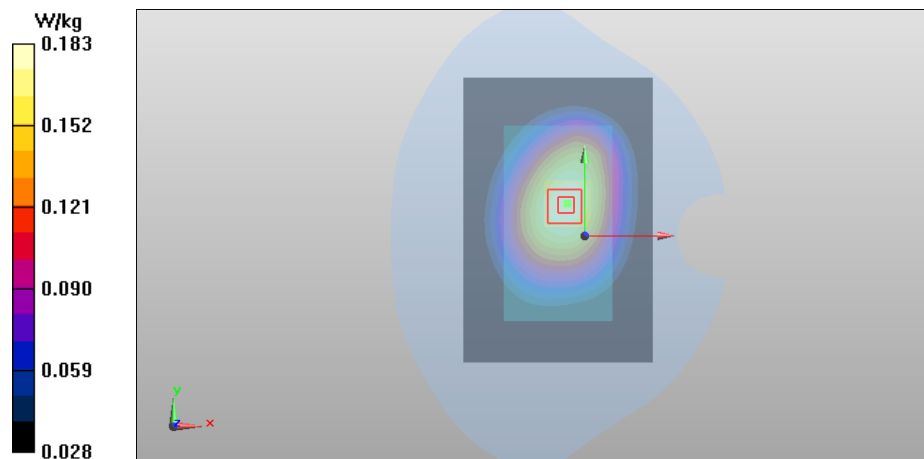
Peak SAR (extrapolated) = 0.218 mW/g

SAR(1 g) = 0.174 mW/g

SAR(10 g) = 0.132 mW/g

Power Drift = 0.07 dB

Maximum value of SAR (measured) = 0.183 W/kg



Date/Time: 2012-08-23 11:26:27

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.4 C

Medium parameters used: f = 849 MHz; σ = 0.992 mho/m; ϵ_r = 53.656; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom - Cover CC-3401/Area Scan (81x121x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.507 W/kg

3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom - Cover CC-3401/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 20.509 V/m

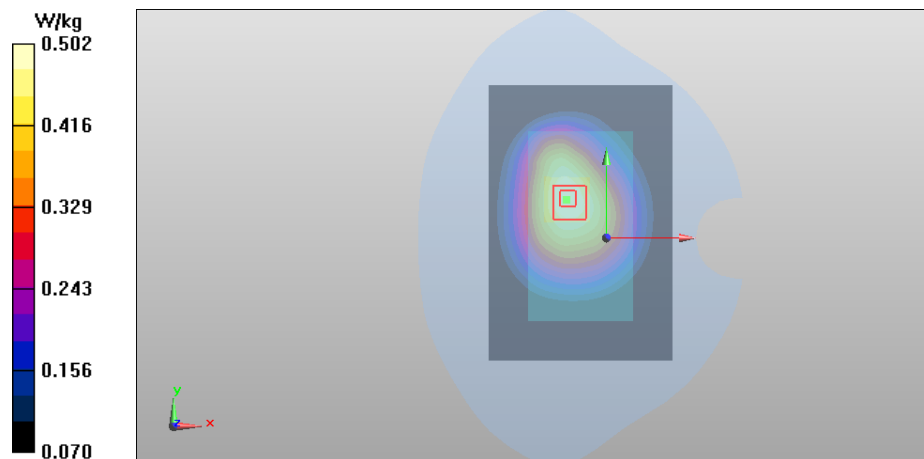
Peak SAR (extrapolated) = 0.603 mW/g

SAR(1 g) = 0.477 mW/g

SAR(10 g) = 0.358 mW/g

Power Drift = -0.03 dB

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



Date/Time: 2012-10-05 20:22:08

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005247/0

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 20.9

Medium parameters used: $f = 849$ MHz; $\sigma = 1.004$ mho/m; $\epsilon_r = 52.943$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(5.97, 5.97, 5.97); Calibrated: 2012-02-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.6 (6824)

Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1): Measurement grid:
dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.509 W/kg

Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.608 V/m

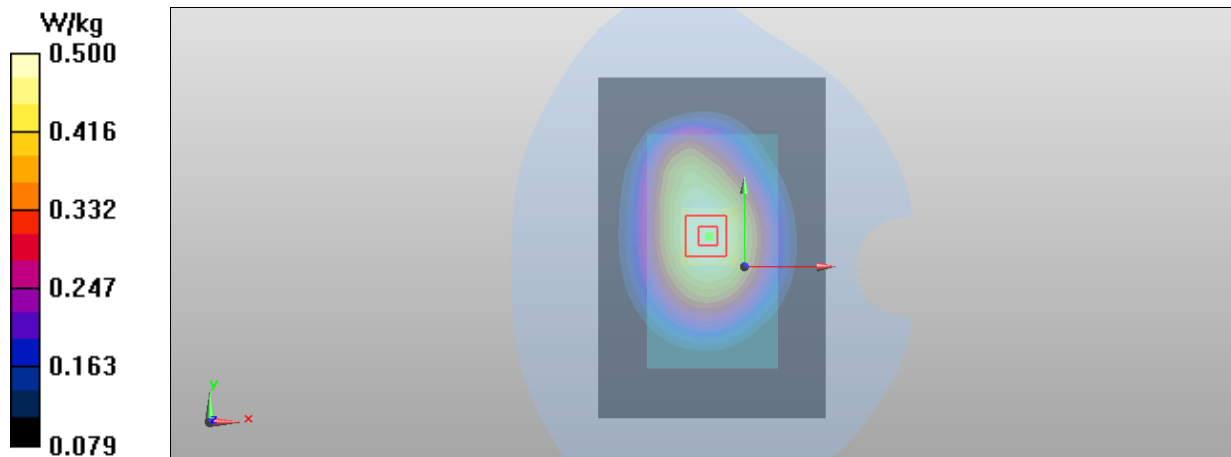
Peak SAR (extrapolated) = 0.605 mW/g

SAR(1 g) = 0.477 mW/g

SAR(10 g) = 0.362 mW/g

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 0.500 W/kg



Date/Time: 2012-10-13 17:11:56

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

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

2-slot GPRS/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.795 V/m

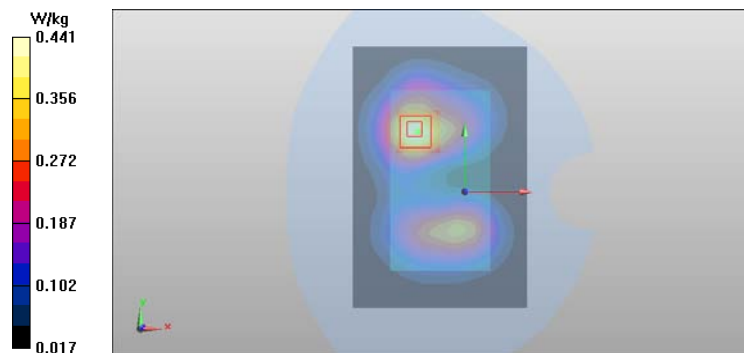
Peak SAR (extrapolated) = 0.630 mW/g

SAR(1 g) = 0.414 mW/g

SAR(10 g) = 0.257 mW/g

Power Drift = -0.00 dB

Maximum value of SAR (measured) = 0.441 W/kg



Date/Time: 2012-10-13 17:28:39

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

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

2-slot GPRS/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.856 V/m

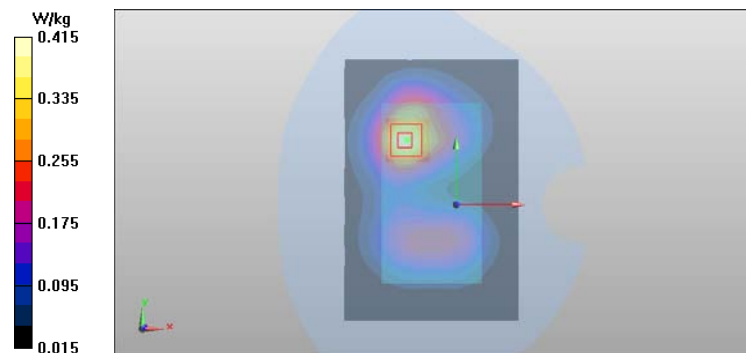
Peak SAR (extrapolated) = 0.584 mW/g

SAR(1 g) = 0.383 mW/g

SAR(10 g) = 0.235 mW/g

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 0.415 W/kg



Date/Time: 2012-10-13 18:51:58

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used (interpolated): $f = 1850.2\text{ MHz}$; $\sigma = 1.468\text{ mho/m}$; $\epsilon_r = 51.459$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Low- Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.516 W/kg

2-slot GPRS/Body - Low- Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.935 V/m

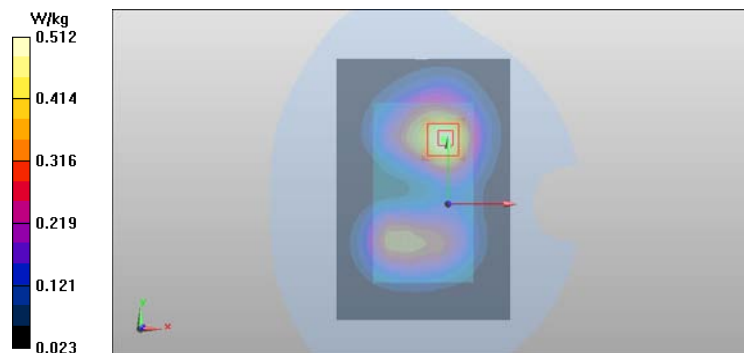
Peak SAR (extrapolated) = 0.708 mW/g

SAR(1 g) = 0.474 mW/g

SAR(10 g) = 0.300 mW/g

Power Drift = -0.11 dB

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



Date/Time: 2012-10-13 17:52:08

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.430 W/kg

2-slot GPRS/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.807 V/m

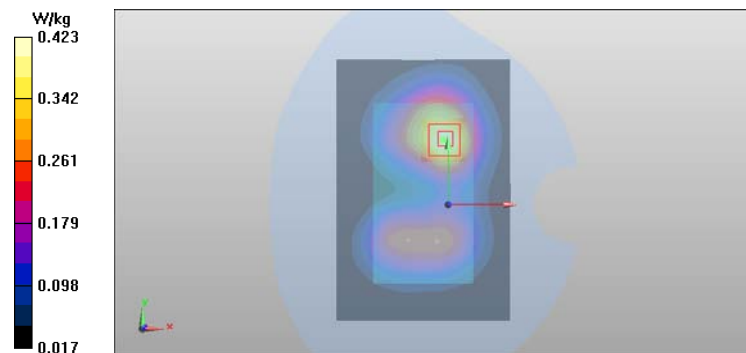
Peak SAR (extrapolated) = 0.596 mW/g

SAR(1 g) = 0.394 mW/g

SAR(10 g) = 0.248 mW/g

Power Drift = 0.09 dB

Maximum value of SAR (measured) = 0.423 W/kg



Date/Time: 2012-10-05 09:08:01

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.446 W/kg

WCDMA/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 6.170 V/m

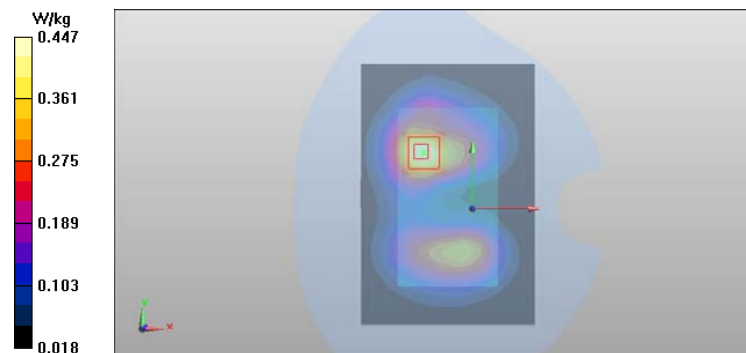
Peak SAR (extrapolated) = 0.629 mW/g

SAR(1 g) = 0.414 mW/g

SAR(10 g) = 0.258 mW/g

Power Drift = -0.13 dB

Maximum value of SAR (measured) = 0.447 W/kg



Date/Time: 2012-10-05 09:26:05

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Area Scan (81x121x1): Measurement
grid: dx=15 mm, dy=15 mm

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

WCDMA/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.673 V/m

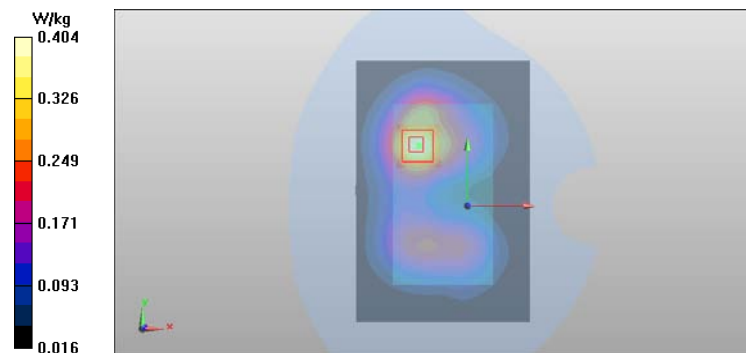
Peak SAR (extrapolated) = 0.571 mW/g

SAR(1 g) = 0.373 mW/g

SAR(10 g) = 0.230 mW/g

Power Drift = -0.12 dB

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



Date/Time: 2012-10-05 10:13:19

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.566 W/kg

WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 8.316 V/m

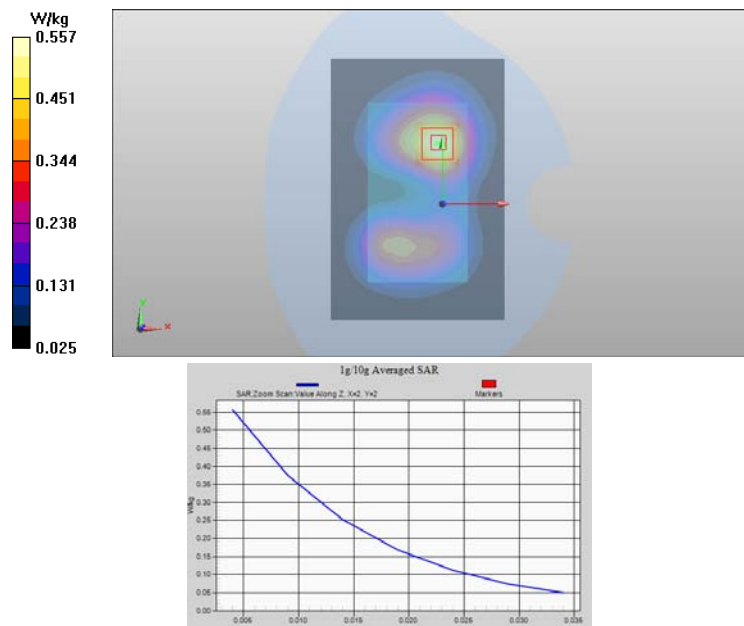
Peak SAR (extrapolated) = 0.772 mW/g

SAR(1 g) = 0.517 mW/g

SAR(10 g) = 0.328 mW/g

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 0.557 W/kg



Date/Time: 2012-10-05 09:56:29

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.469\text{ mho/m}$; $\epsilon_r = 51.352$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Area Scan (81x121x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.483 W/kg

WCDMA/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 8.925 V/m

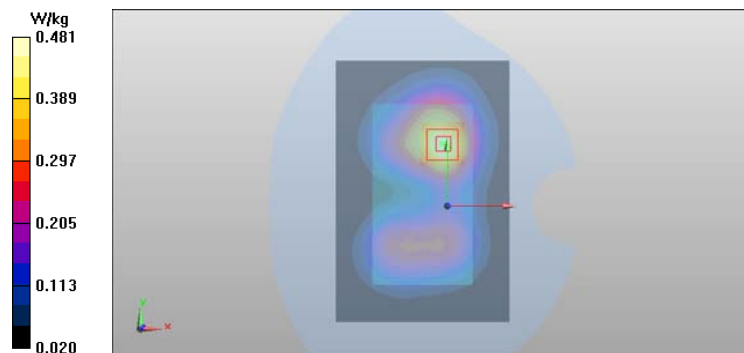
Peak SAR (extrapolated) = 0.678 mW/g

SAR(1 g) = 0.445 mW/g

SAR(10 g) = 0.280 mW/g

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 0.481 W/kg



Date/Time: 2012-10-05 11:07:07

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom - Cover CC-3401/Area Scan (81x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.522 W/kg

WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom - Cover CC-3401/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 8.086 V/m

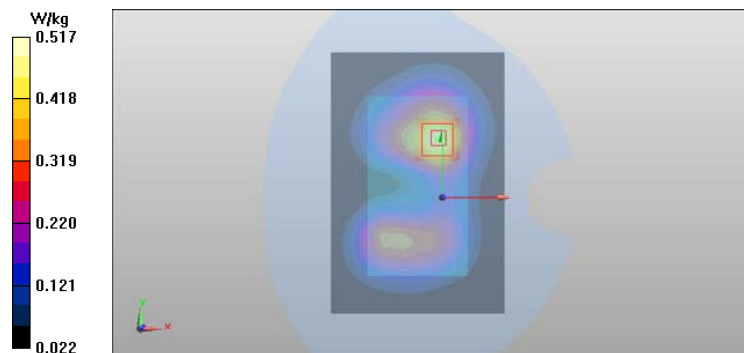
Peak SAR (extrapolated) = 0.729 mW/g

SAR(1 g) = 0.474 mW/g

SAR(10 g) = 0.296 mW/g

Power Drift = -0.17 dB

Maximum value of SAR (measured) = 0.517 W/kg



Date/Time: 2012-08-27 14:52:11

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.1$ C

Medium parameters used: $f = 2412$ MHz; $\sigma = 1.941$ mho/m; $\epsilon_r = 53.748$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (121x181x1): Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.100 W/kg

WLAN/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.646 V/m

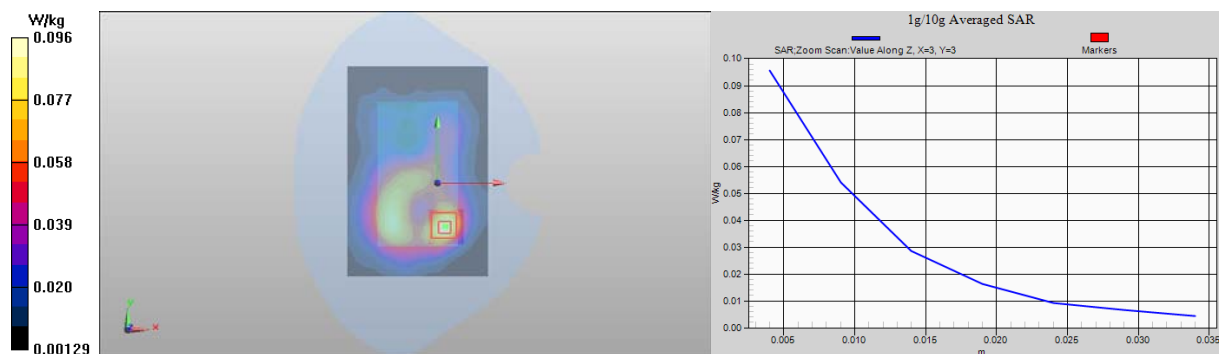
Peak SAR (extrapolated) = 0.159 mW/g

SAR(1 g) = 0.087 mW/g

SAR(10 g) = 0.047 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 0.0956 W/kg



Date/Time: 2012-08-27 12:49:39

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.1$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Area Scan (121x181x1): Measurement
grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.0688 W/kg

WLAN/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 3.845 V/m

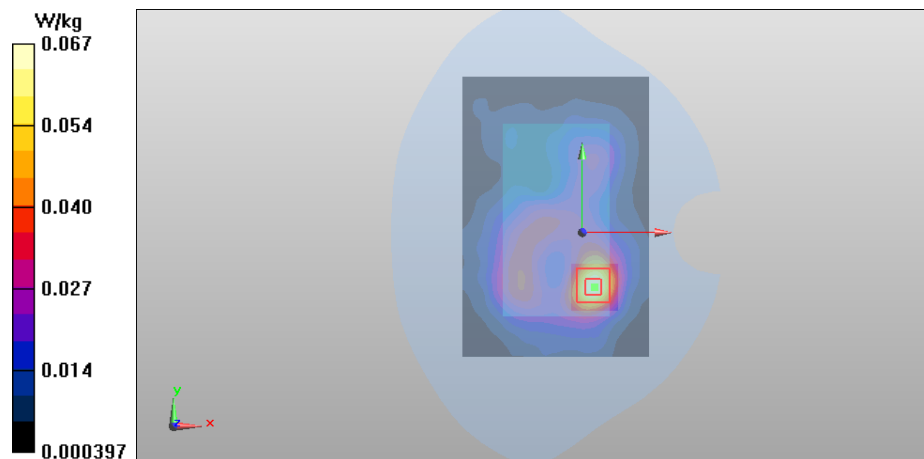
Peak SAR (extrapolated) = 0.116 mW/g

SAR(1 g) = 0.061 mW/g

SAR(10 g) = 0.033 mW/g

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 0.0670 W/kg



Date/Time: 2012-08-27 13:27:34

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.1$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (121x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.0940 W/kg

WLAN/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 5.477 V/m

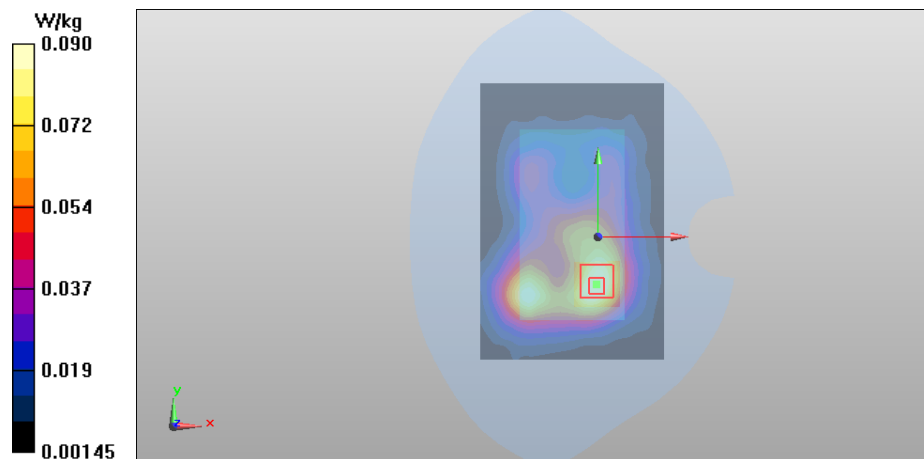
Peak SAR (extrapolated) = 0.138 mW/g

SAR(1 g) = 0.083 mW/g

SAR(10 g) = 0.050 mW/g

Power Drift = 0.15 dB

Maximum value of SAR (measured) = 0.0895 W/kg



Date/Time: 2012-08-27 13:56:08

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.1$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Area Scan (121x181x1): Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.0646 W/kg

WLAN/Body - Middle - Spacer 15mm - WH-208 - Display Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.766 V/m

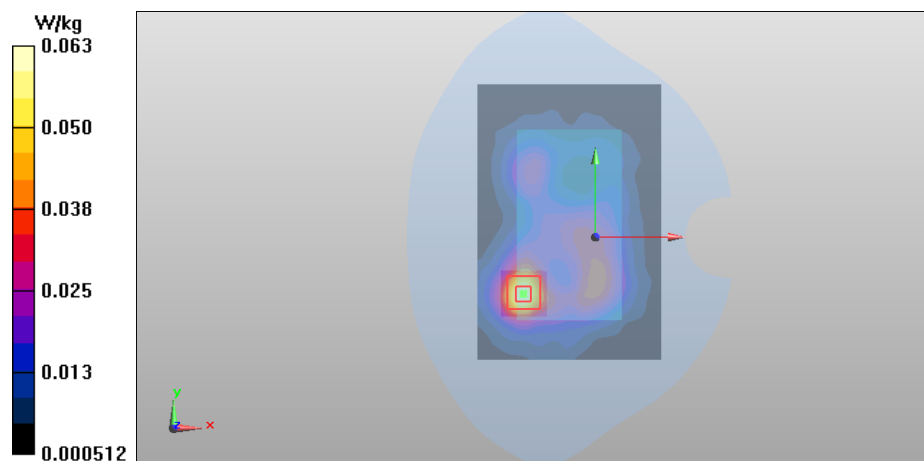
Peak SAR (extrapolated) = 0.101 mW/g

SAR(1 g) = 0.055 mW/g

SAR(10 g) = 0.029 mW/g

Power Drift = 0.45 dB

Maximum value of SAR (measured) = 0.0625 W/kg



Date/Time: 2012-08-28 12:01:43

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2412$ MHz; $\sigma = 1.921$ mho/m; $\epsilon_r = 51.122$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom - Cover CC-3401/Area Scan

(121x181x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.0855 W/kg

WLAN/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom - Cover CC-3401/Zoom Scan

(7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 4.961 V/m

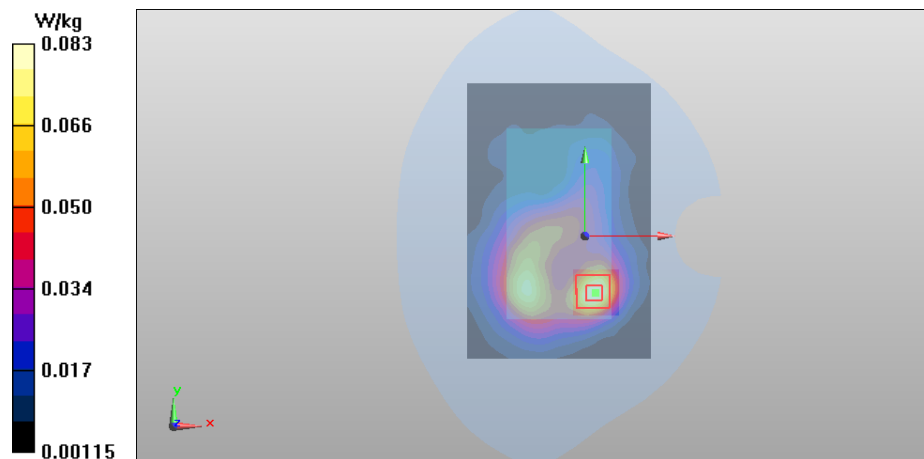
Peak SAR (extrapolated) = 0.139 mW/g

SAR(1 g) = 0.075 mW/g

SAR(10 g) = 0.041 mW/g

Power Drift = 0.35 dB

Maximum value of SAR (measured) = 0.0825 W/kg



Date/Time: 2012-08-27 14:52:11

DASY Configuration for WLAN/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2412 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.941$ mho/m; $\epsilon_r = 53.748$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-08-01 20:57:56

DASY Configuration for 3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850; Frequency: 848.8 MHz; Duty Cycle: 1:2.80027; PMF: 1.6734

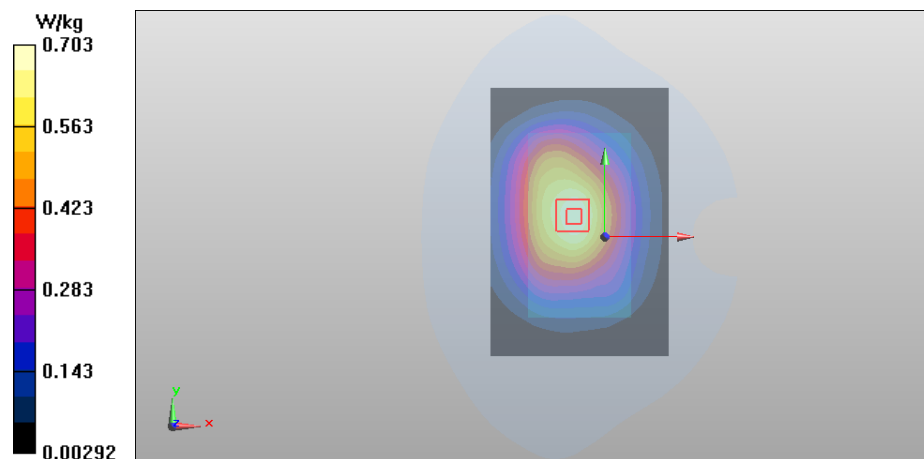
Medium: BSL850 Medium parameters used: $f = 849$ MHz; $\sigma = 1.016$ mho/m; $\epsilon_r = 53.889$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3131; ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.661 mW/g; SAR(10 g) = 0.462 mW/g

Maximum value of SAR (interpolated) = 0.703 W/kg



Date/Time: 2012-08-27 13:27:34

DASY Configuration for WLAN/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-08-23 15:17:11

DASY Configuration for WCDMA/Body - High - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850; Frequency: 846.6 MHz; Duty Cycle: 1:1; PMF: 1

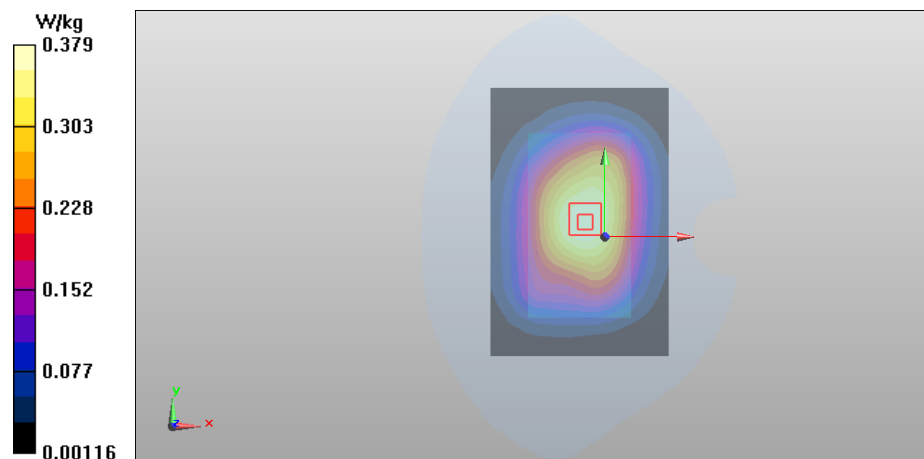
Medium: BSL850 Medium parameters used: $f = 847$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3790; ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.250 mW/g

Maximum value of SAR (interpolated) = 0.379 W/kg



Date/Time: 2012-08-27 13:27:34

DASY Configuration for WLAN/Body - Middle US - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-10-13 18:51:58

DASY Configuration for 2-slot GPRS/Body - Low- Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

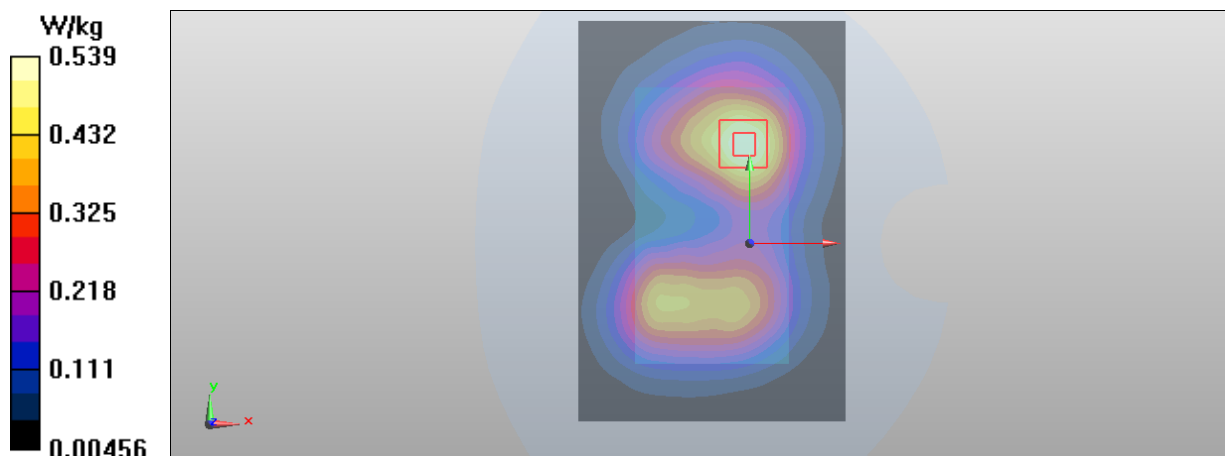
Medium: BSL1900 Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.468$ mho/m; $\epsilon_r = 51.459$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.495 mW/g; SAR(10 g) = 0.297 mW/g

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



Date/Time: 2012-08-27 13:27:34

DASY Configuration for WLAN/Body - Middle US - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.972$ mho/m; $\epsilon_r = 53.643$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-10-05 10:13:19

DASY Configuration for WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900; Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

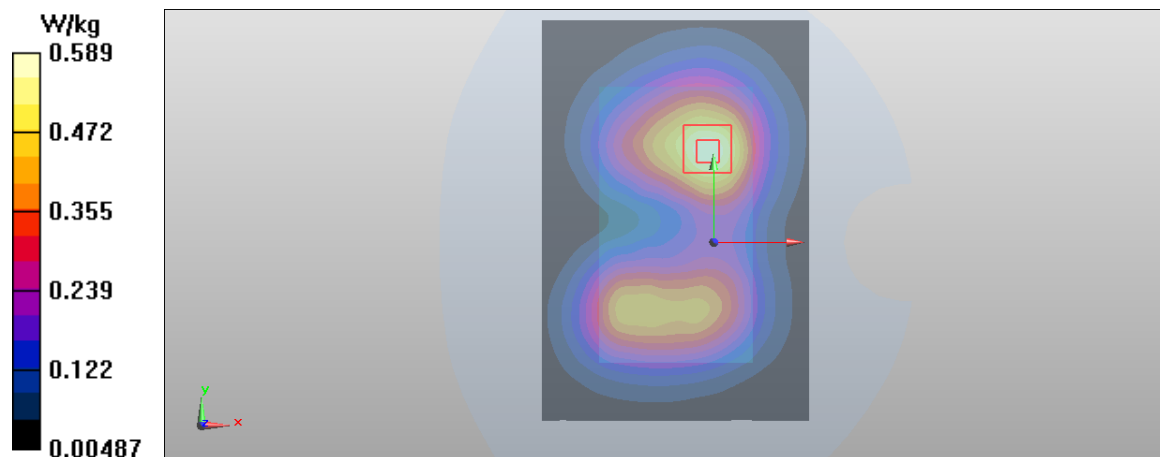
Medium: BSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.323 mW/g

Maximum value of SAR (interpolated) = 0.589 W/kg



Date/Time: 2012-07-04 16:53:21

DASY Configuration for WLAN/Body - Channel 64 - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-824; Serial: 004402/13/976060/1

Communication System: WLAN5000 a-mode; Frequency: 5320 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.618$ mho/m; $\epsilon_r = 48.321$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3834; ConvF(3.75, 3.75, 3.75); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1213; Calibrated: 2012-02-14
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2012-08-01 20:57:56

DASY Configuration for 3-slot GPRS/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850; Frequency: 848.8 MHz; Duty Cycle: 1:2.80027; PMF: 1.6734

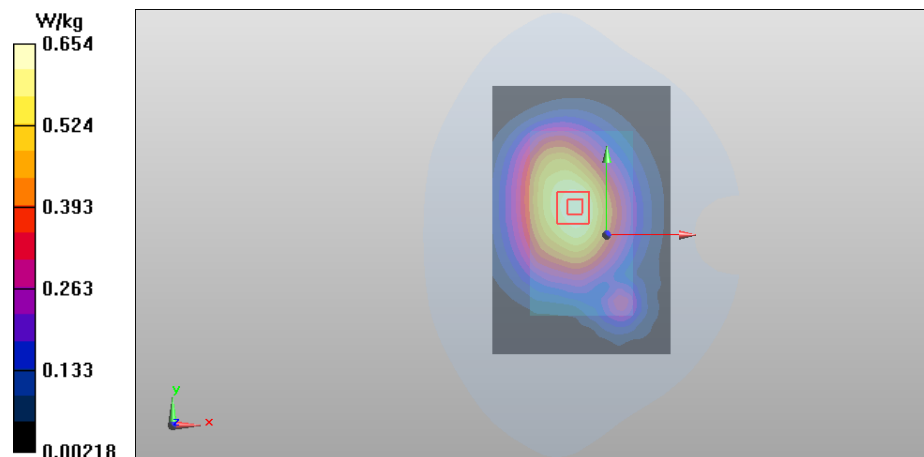
Medium: BSL850 Medium parameters used: $f = 849$ MHz; $\sigma = 1.016$ mho/m; $\epsilon_r = 53.889$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3131; ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.617 mW/g; SAR(10 g) = 0.437 mW/g

Maximum value of SAR (interpolated) = 0.654 W/kg



Date/Time: 2012-07-04 19:02:42

DASY Configuration for WLAN/Body - Channel 64 - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-824; Serial: 004402/13/976060/1

Communication System: WLAN5000 a-mode; Frequency: 5320 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.618$ mho/m; $\epsilon_r = 48.321$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3834; ConvF(3.75, 3.75, 3.75); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1213; Calibrated: 2012-02-14
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2012-08-23 15:17:11

DASY Configuration for WCDMA/Body - High - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850; Frequency: 846.6 MHz; Duty Cycle: 1:1; PMF: 1

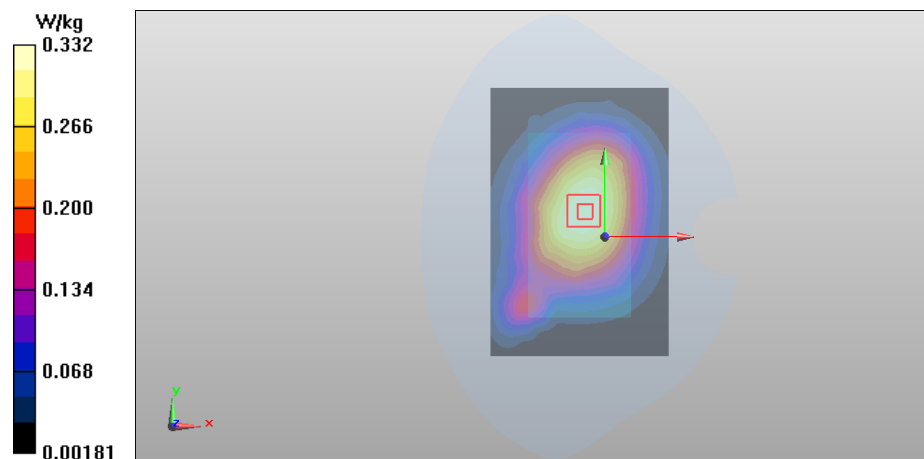
Medium: BSL850 Medium parameters used: $f = 847$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.666$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3790; ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 0.315 mW/g; SAR(10 g) = 0.226 mW/g

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



Date/Time: 2012-08-22 12:29:55

DASY Configuration for WLAN/Body - Channel 44 - Spacer 15mm - WH-208 - Back Facing Phantom - Wireless Charging Cover/Area Scan:

Test Laboratory: The name of your organization

Type: RM-824; Serial: 004402/13/976060/1

Communication System: WLAN5000 a-mode; Frequency: 5220 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5220$ MHz; $\sigma = 5.441$ mho/m; $\epsilon_r = 48.603$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3834; ConvF(3.99, 3.99, 3.99); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 2012-02-14

Phantom: SAM2; Type: SAM; Serial: TP-1570

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-10-13 17:28:39

DASY Configuration for 2-slot GPRS/Body - Middle - Spacer 15mm - WH-208 - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900; Frequency: 1880 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

Medium: BSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.496$ mho/m; $\epsilon_r = 51.261$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;

Sensor-Surface: 4mm (Mechanical Surface Detection)

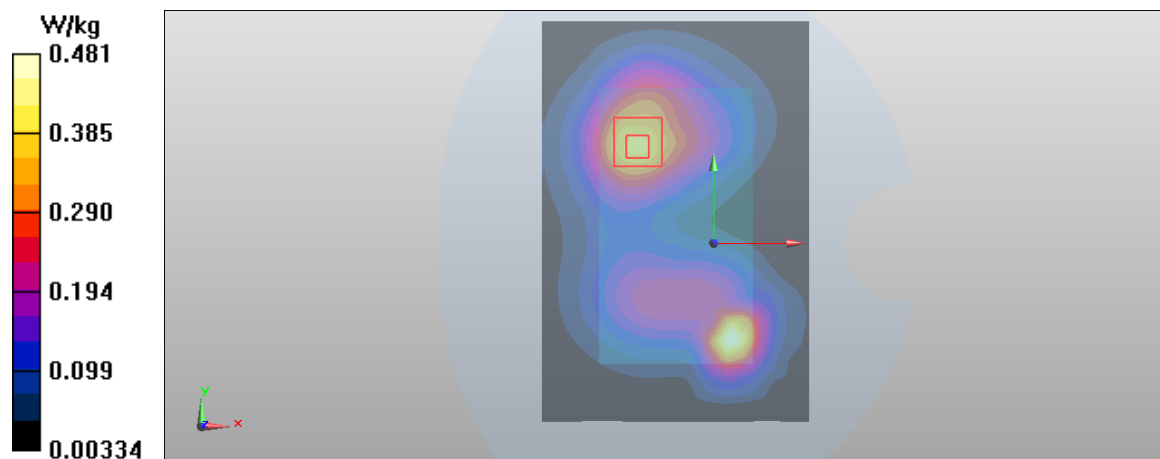
Electronics: DAE4 Sn538; Calibrated: 2012-08-03

Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.221 mW/g

Maximum value of SAR (interpolated) = 0.481 W/kg



Date/Time: 2012-07-04 19:02:42

DASY Configuration for WLAN/Body - Channel 64 - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-824; Serial: 004402/13/976060/1

Communication System: WLAN5000 a-mode; Frequency: 5320 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.618$ mho/m; $\epsilon_r = 48.321$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3834; ConvF(3.75, 3.75, 3.75); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1213; Calibrated: 2012-02-14
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2012-10-05 10:13:19

DASY Configuration for WCDMA/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900; Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

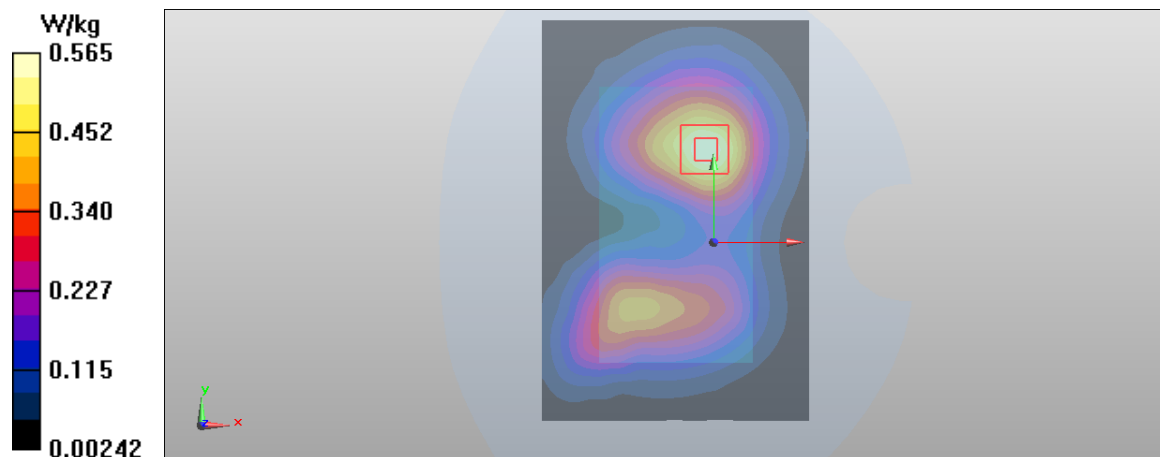
Medium: BSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.518 mW/g; SAR(10 g) = 0.310 mW/g

Maximum value of SAR (interpolated) = 0.565 W/kg



APPENDIX B.3: WIRELESS ROUTER MEASUREMENT SCANS

Date/Time: 2012-08-02 13:04:06

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 849$ MHz; $\sigma = 1.016$ mho/m; $\epsilon_r = 53.889$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body - High - Spacer 10mm - No accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.807 W/kg

3-slot GPRS/Body - High - Spacer 10mm - No accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 26.528 V/m

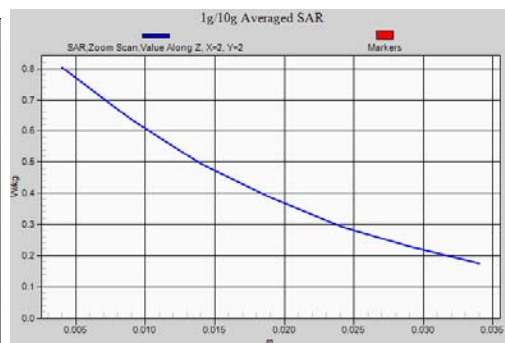
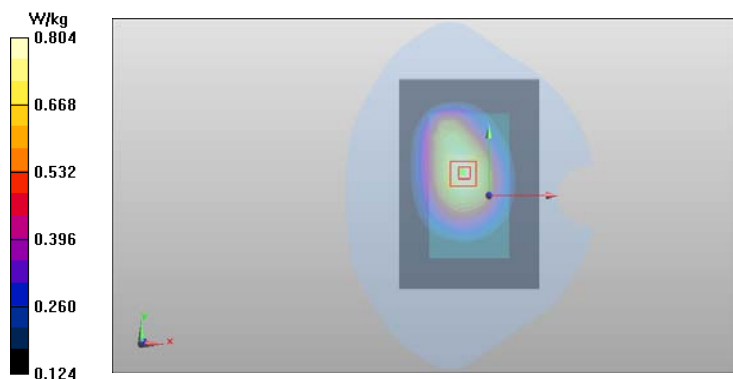
Peak SAR (extrapolated) = 0.943 mW/g

SAR(1 g) = 0.760 mW/g

SAR(10 g) = 0.574 mW/g

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 0.804 W/kg



Date/Time: 2012-08-01 21:18:21

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body - Middle - Spacer 10mm - No accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.457 W/kg

3-slot GPRS/Body - Middle - Spacer 10mm - No accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 20.531 V/m

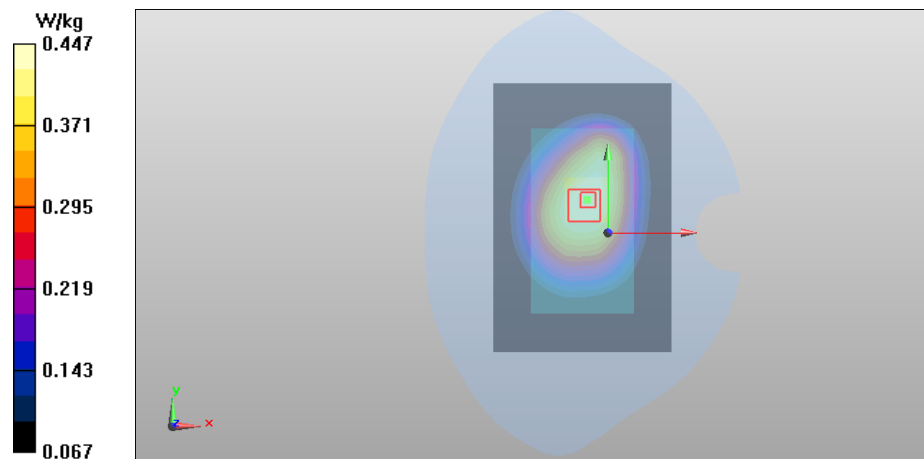
Peak SAR (extrapolated) = 0.533 mW/g

SAR(1 g) = 0.427 mW/g

SAR(10 g) = 0.327 mW/g

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 0.447 W/kg



Date/Time: 2012-08-02 10:37:29

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.0390 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Zoom Scan (7x7x7)/Cube

0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.453 V/m

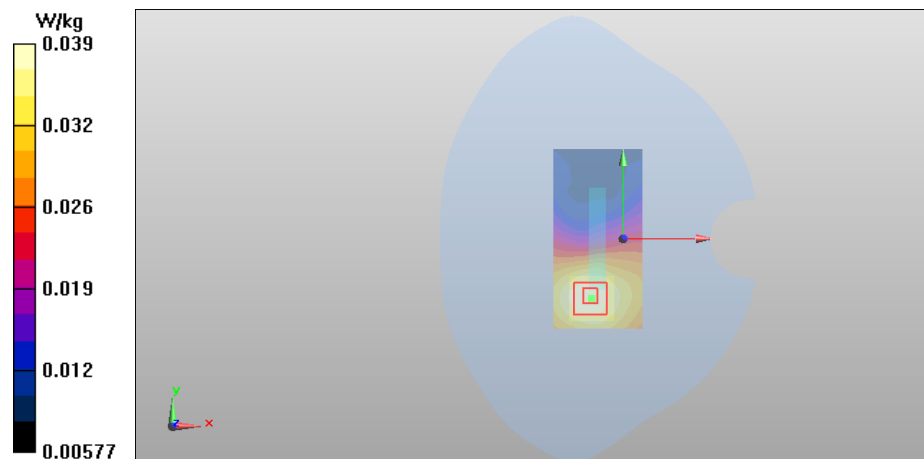
Peak SAR (extrapolated) = 0.047 mW/g

SAR(1 g) = 0.037 mW/g

SAR(10 g) = 0.027 mW/g

Power Drift = 0.07 dB

Maximum value of SAR (measured) = 0.0387 W/kg



Date/Time: 2012-08-02 10:06:46

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan

(61x121x1): Measurement grid: dx=10 mm, dy=10 mm

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

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan

(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.618 V/m

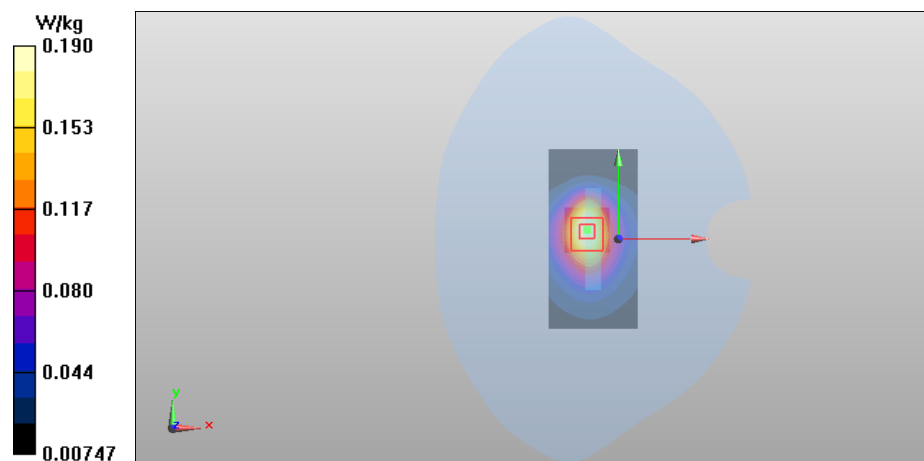
Peak SAR (extrapolated) = 0.280 mW/g

SAR(1 g) = 0.174 mW/g

SAR(10 g) = 0.111 mW/g

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 0.190 W/kg



Date/Time: 2012-08-02 11:45:14

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: dx=10 mm, dy=10 mm

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

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Zoom Scan (7x7x7)/Cube

0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.183 V/m

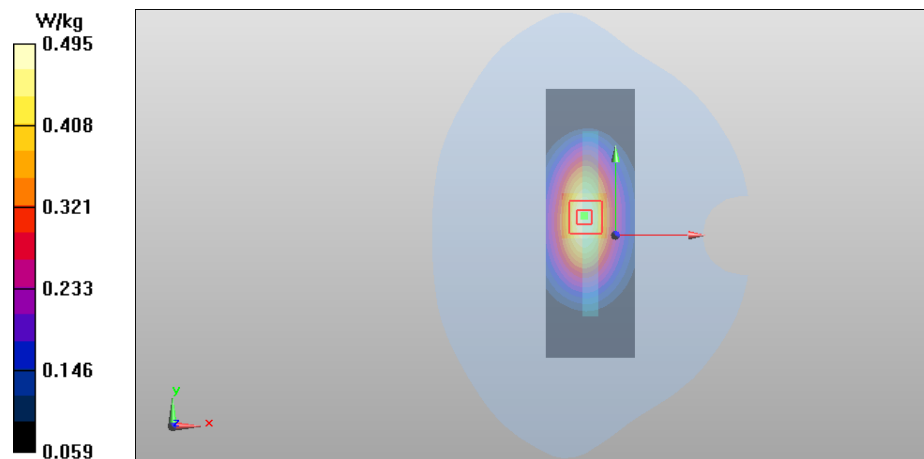
Peak SAR (extrapolated) = 0.609 mW/g

SAR(1 g) = 0.462 mW/g

SAR(10 g) = 0.327 mW/g

Power Drift = -0.10 dB

Maximum value of SAR (measured) = 0.495 W/kg



Date/Time: 2012-08-02 12:15:00

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.0 C

Medium parameters used: f = 837 MHz; σ = 1.008 mho/m; ϵ_r = 53.972; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: dx=10 mm, dy=10 mm

Maximum value of SAR (interpolated) = 0.253 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Zoom Scan

(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.667 V/m

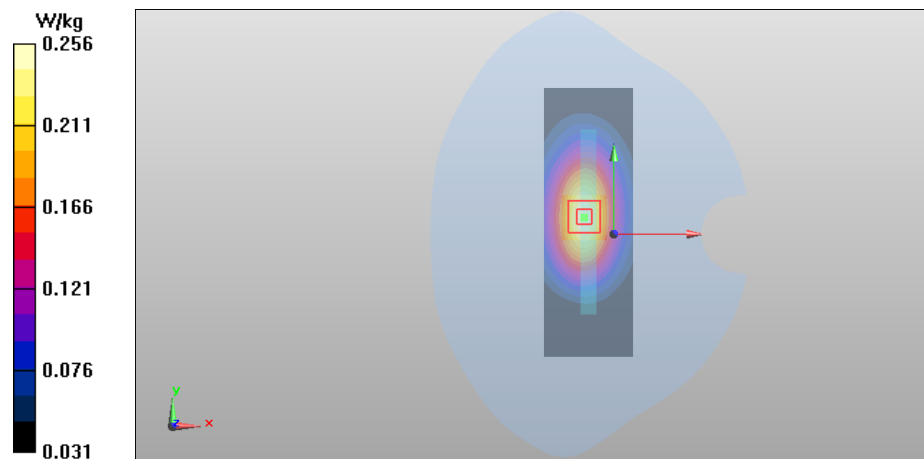
Peak SAR (extrapolated) = 0.323 mW/g

SAR(1 g) = 0.239 mW/g

SAR(10 g) = 0.167 mW/g

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 0.256 W/kg



Date/Time: 2012-08-24 12:41:51

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 21.2

Medium parameters used: f = 847 MHz; $\sigma = 0.997$ mho/m; $\epsilon_r = 53.266$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - High - Spacer 10mm -No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.477 W/kg

WCDMA/Body - High - Spacer 10mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 20.329 V/m

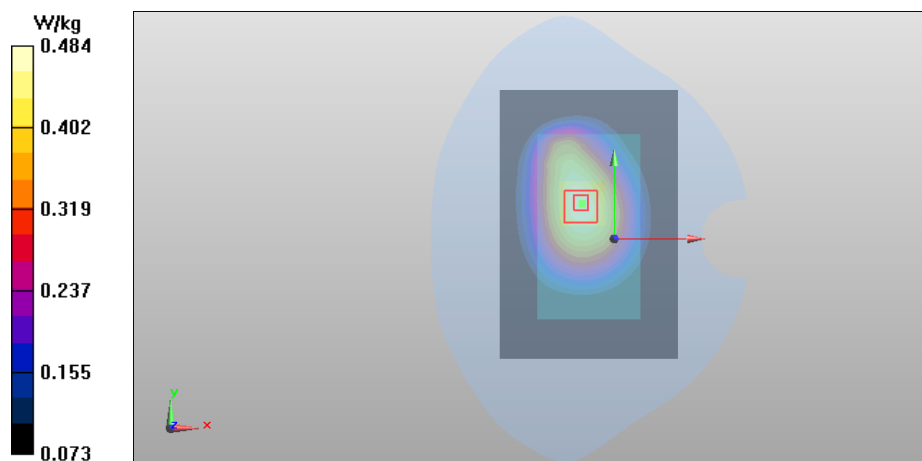
Peak SAR (extrapolated) = 0.574 mW/g

SAR(1 g) = 0.459 mW/g

SAR(10 g) = 0.346 mW/g

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.484 W/kg



Date/Time: 2012-08-24 07:26:05

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.985\text{ mho/m}$; $\epsilon_r = 53.737$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle- Spacer 10mm - No accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

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

WCDMA/Body - Middle- Spacer 10mm - No accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 14.737 V/m

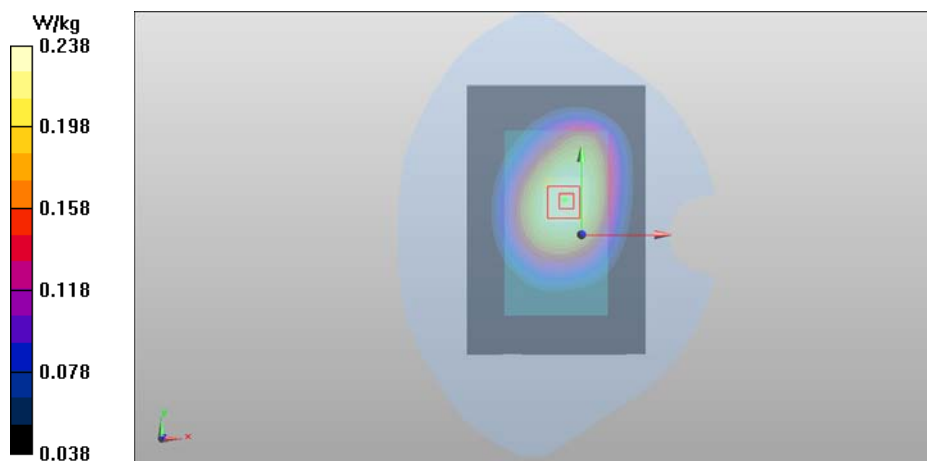
Peak SAR (extrapolated) = 0.280 mW/g

SAR(1 g) = 0.227 mW/g

SAR(10 g) = 0.175 mW/g

Power Drift = -0.10 dB

Maximum value of SAR (measured) = 0.238 W/kg



Date/Time: 2012-08-24 08:10:57

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.985\text{ mho/m}$; $\epsilon_r = 53.737$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.0237 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{ mm}$, $dy=5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 3.660 V/m

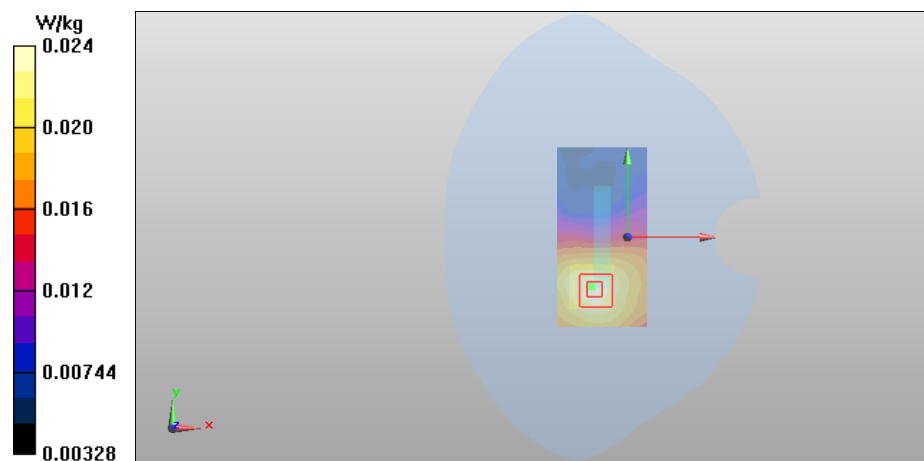
Peak SAR (extrapolated) = 0.029 mW/g

SAR(1 g) = 0.023 mW/g

SAR(10 g) = 0.017 mW/g

Power Drift = 0.26 dB

Maximum value of SAR (measured) = 0.0241 W/kg



Date/Time: 2012-08-24 08:34:53

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: $t = 21.4$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.985$ mho/m; $\epsilon_r = 53.737$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (7x7x7)/Cube

0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 12.200 V/m

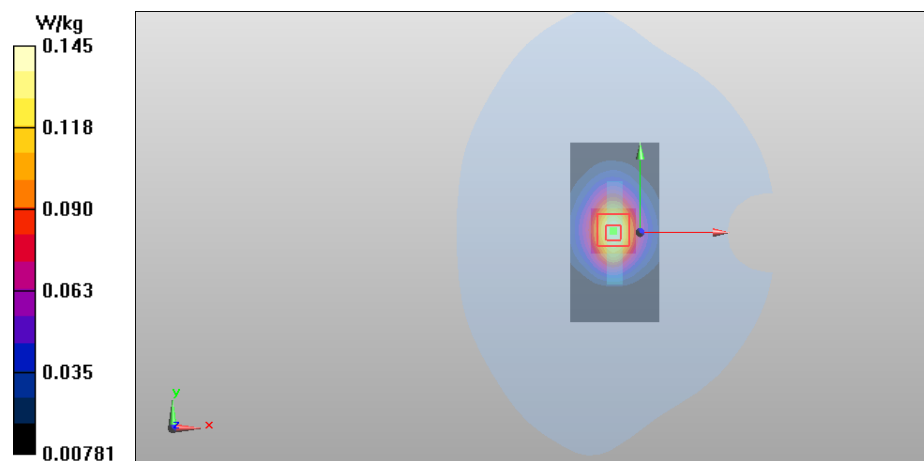
Peak SAR (extrapolated) = 0.198 mW/g

SAR(1 g) = 0.133 mW/g

SAR(10 g) = 0.085 mW/g

Power Drift = -0.03 dB

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



Date/Time: 2012-08-24 08:59:19

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 21.4 C

Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ϵ_r = 53.737; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: dx=10 mm, dy=10 mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.515 V/m

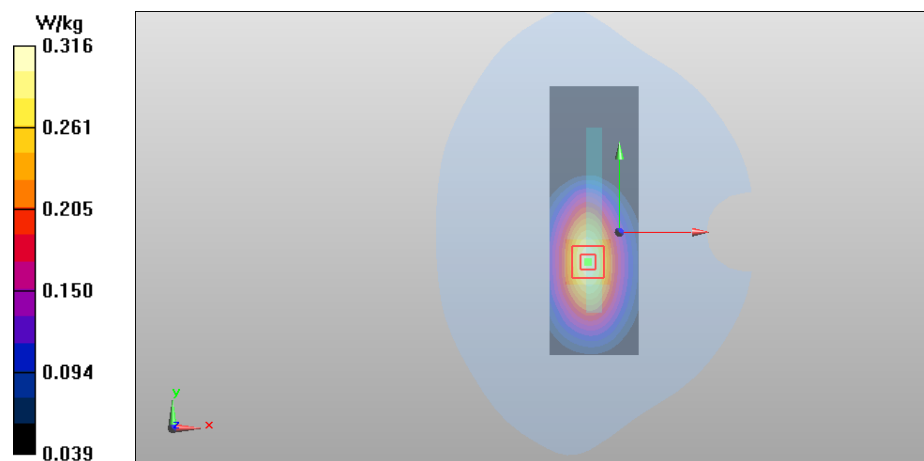
Peak SAR (extrapolated) = 0.405 mW/g

SAR(1 g) = 0.295 mW/g

SAR(10 g) = 0.207 mW/g

Power Drift = -0.01 dB

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



Date/Time: 2012-08-24 11:40:47

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 21.2

Medium parameters used: f = 835 MHz; σ = 0.991 mho/m; ϵ_r = 53.363; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: dx=10 mm, dy=10 mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.305 V/m

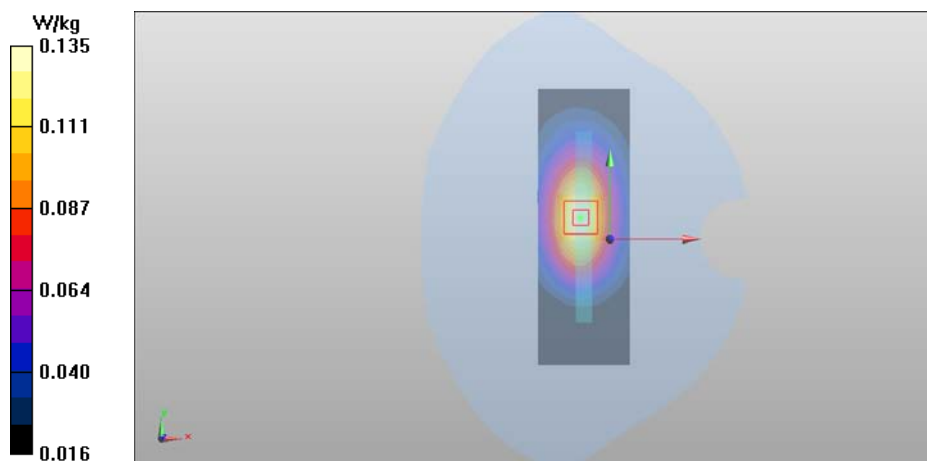
Peak SAR (extrapolated) = 0.174 mW/g

SAR(1 g) = 0.127 mW/g

SAR(10 g) = 0.088 mW/g

Power Drift = -0.11 dB

Maximum value of SAR (measured) = 0.135 W/kg



Date/Time: 2012-08-23 12:40:42

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21.4 C

Medium parameters used: f = 849 MHz; σ = 0.992 mho/m; ϵ_r = 53.656; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS/Body - High - Spacer 10mm - No accessory - Back Facing Phantom - Cover CC-3401/Area Scan

(81x121x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.709 W/kg

3-slot GPRS/Body - High - Spacer 10mm - No accessory - Back Facing Phantom - Cover CC-3401/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 23.256 V/m

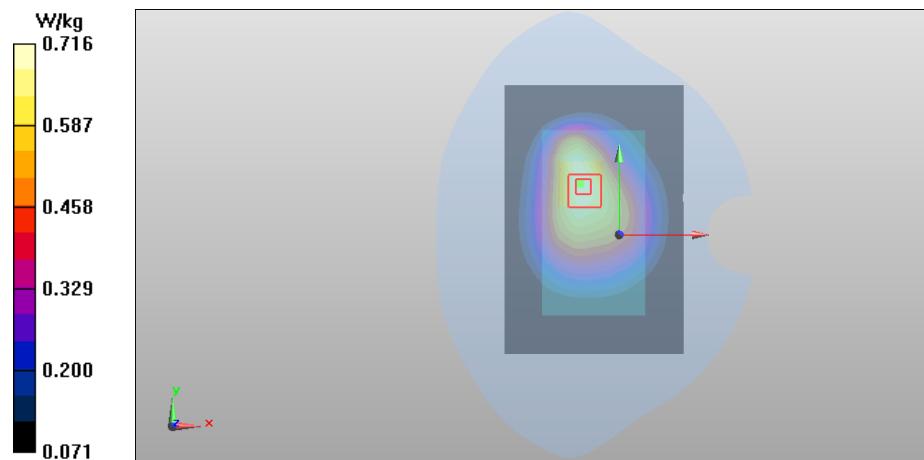
Peak SAR (extrapolated) = 0.896 mW/g

SAR(1 g) = 0.676 mW/g

SAR(10 g) = 0.493 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 0.716 W/kg



Date/Time: 2012-10-08 10:22:10

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005247/0

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.80027

Medium: BSL850; Medium Notes: t= 21,2

Medium parameters used: f = 849 MHz; σ = 1.002 mho/m; ϵ_r = 53.093; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(5.97, 5.97, 5.97); Calibrated: 2012-02-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.6.6 (6824)

3-slot GPRS850/Body - High - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.674 W/kg

3-slot GPRS850/Body - High - Spacer 10mm - No Accessory - Back Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 25.065 V/m

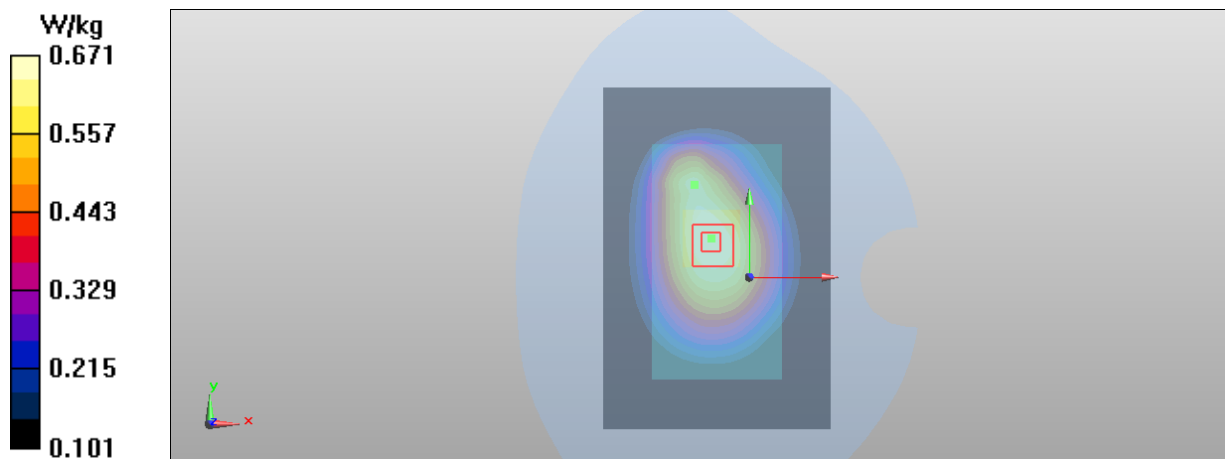
Peak SAR (extrapolated) = 0.817 mW/g

SAR(1 g) = 0.643 mW/g

SAR(10 g) = 0.487 mW/g

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 0.675 W/kg



Date/Time: 2012-10-13 20:50:03

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: t= 20.9C

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.468 mho/m; ϵ_r = 51.459; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Low - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.860 W/kg

2-slot GPRS/Body - Low - Spacer 10mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.304 V/m

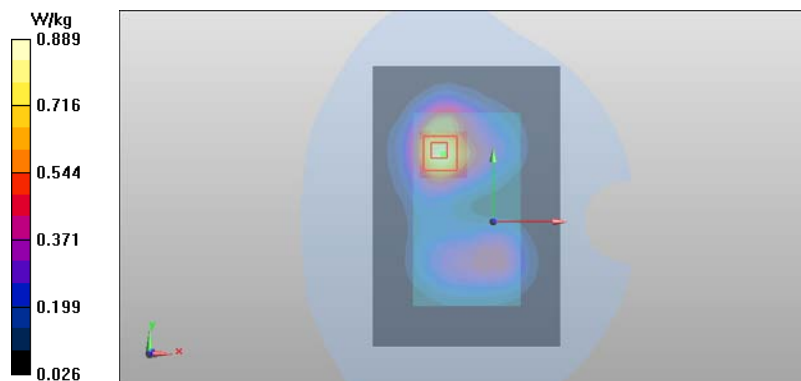
Peak SAR (extrapolated) = 1.268 mW/g

SAR(1 g) = 0.830 mW/g

SAR(10 g) = 0.500 mW/g

Power Drift = 0.12 dB

Maximum value of SAR (measured) = 0.889 W/kg



Date/Time: 2012-10-13 19:50:02

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.852 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.063 V/m

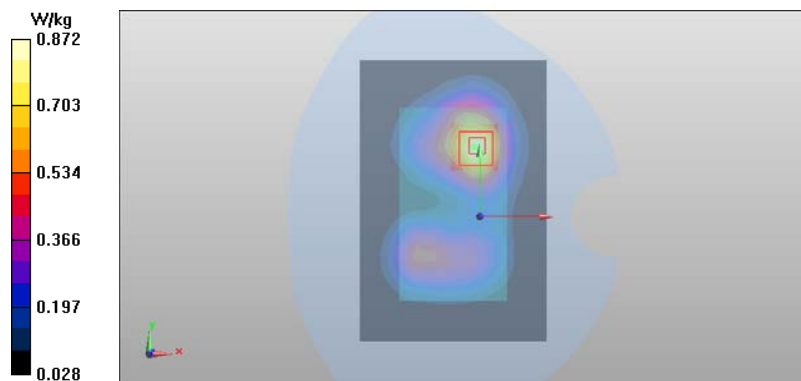
Peak SAR (extrapolated) = 1.236 mW/g

SAR(1 g) = 0.807 mW/g

SAR(10 g) = 0.497 mW/g

Power Drift = 0.12 dB

Maximum value of SAR (measured) = 0.872 W/kg



Date/Time: 2012-10-13 21:27:51

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.0813 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Zoom Scan (5x5x7)/Cube

0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.985 V/m

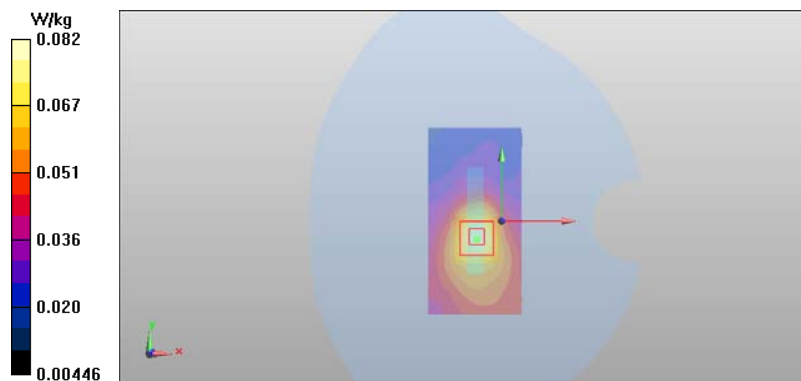
Peak SAR (extrapolated) = 0.115 mW/g

SAR(1 g) = 0.076 mW/g

SAR(10 g) = 0.048 mW/g

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 0.0823 W/kg



Date/Time: 2012-10-13 21:42:03

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.9^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.496\text{ mho/m}$; $\epsilon_r = 51.261$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan

(61x121x1): Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.454 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.700 V/m

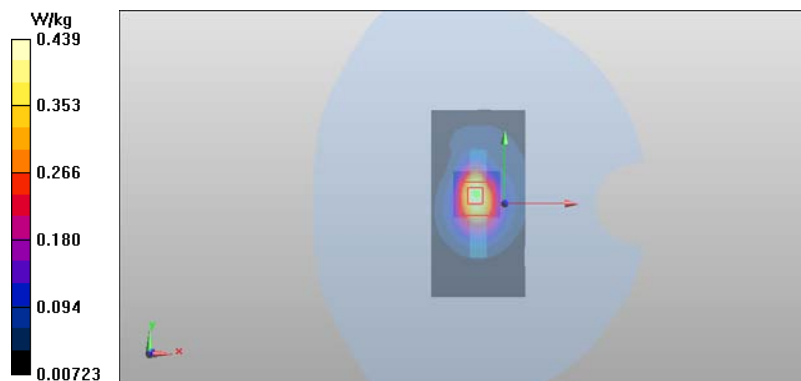
Peak SAR (extrapolated) = 0.684 mW/g

SAR(1 g) = 0.392 mW/g

SAR(10 g) = 0.212 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.439 W/kg



Date/Time: 2012-10-15 07:45:23

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.8^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.499\text{ mho/m}$; $\epsilon_r = 51.052$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.382 W/kg

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Zoom Scan (5x5x7)/Cube

0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.825 V/m

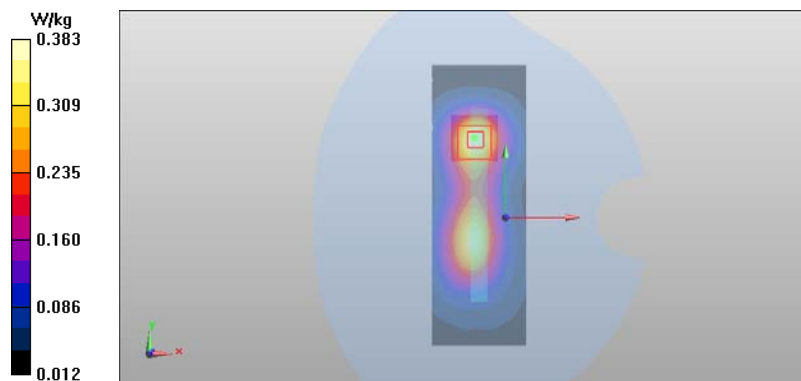
Peak SAR (extrapolated) = 0.571 mW/g

SAR(1 g) = 0.350 mW/g

SAR(10 g) = 0.205 mW/g

Power Drift = 0.03 dB

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



Date/Time: 2012-10-15 07:23:41

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.8^\circ\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.499\text{ mho/m}$; $\epsilon_r = 51.052$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

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

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.264 V/m

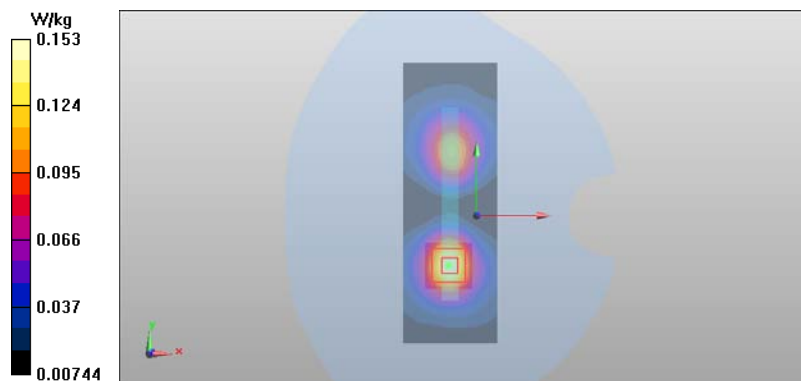
Peak SAR (extrapolated) = 0.226 mW/g

SAR(1 g) = 0.140 mW/g

SAR(10 g) = 0.083 mW/g

Power Drift = 0.23 dB

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



Date/Time: 2012-10-05 13:20:40

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.772 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 8.023 V/m

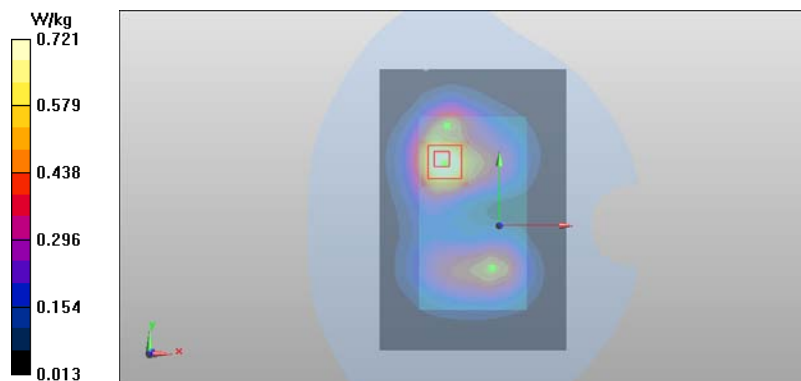
Peak SAR (extrapolated) = 1.141 mW/g

SAR(1 g) = 0.739 mW/g

SAR(10 g) = 0.447 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.784 W/kg



Date/Time: 2012-10-05 12:47:06

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.938 W/kg

WCDMA/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 11.041 V/m

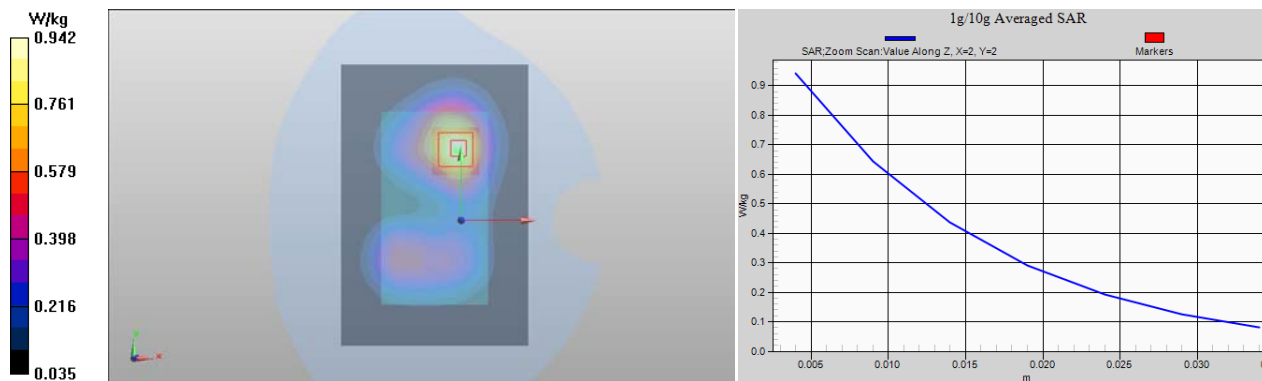
Peak SAR (extrapolated) = 1.329 mW/g

SAR(1 g) = 0.882 mW/g

SAR(10 g) = 0.545 mW/g

Power Drift = 0.00 dB

Maximum value of SAR (measured) = 0.942 W/kg



Date/Time: 2012-10-05 14:15:53

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.0794 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 6.279 V/m

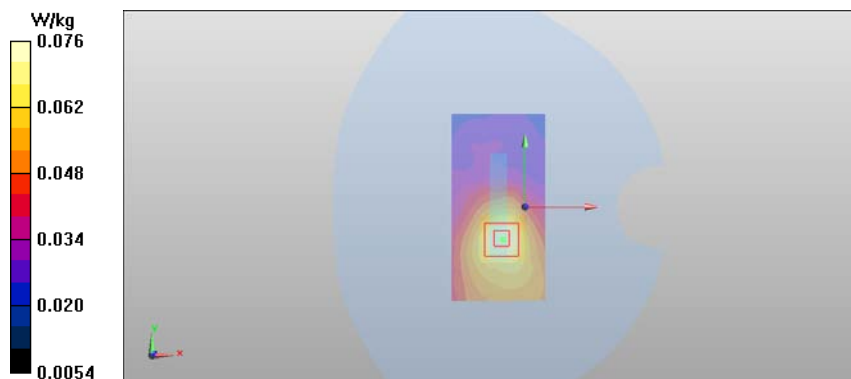
Peak SAR (extrapolated) = 0.105 mW/g

SAR(1 g) = 0.071 mW/g

SAR(10 g) = 0.046 mW/g

Power Drift = -0.13 dB

Maximum value of SAR (measured) = 0.0761 W/kg



Date/Time: 2012-10-05 14:32:01

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3\text{ C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.469\text{ mho/m}$; $\epsilon_r = 51.352$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.495 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube

0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.346 V/m

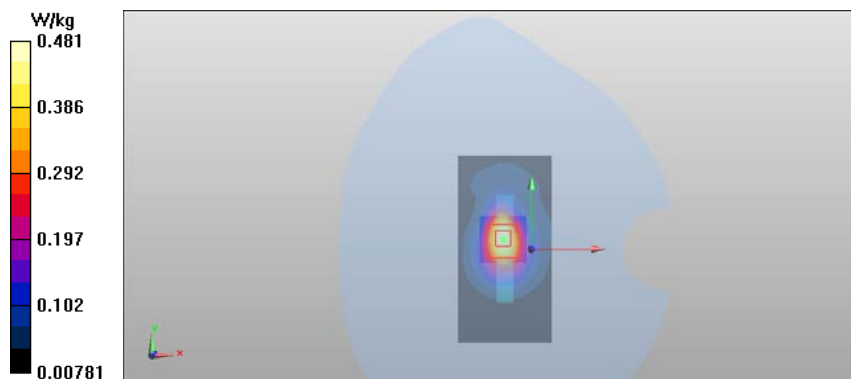
Peak SAR (extrapolated) = 0.747 mW/g

SAR(1 g) = 0.427 mW/g

SAR(10 g) = 0.229 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 0.481 W/kg



Date/Time: 2012-10-05 15:24:35

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3\text{ C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.469\text{ mho/m}$; $\epsilon_r = 51.352$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10\text{ mm}$, $dy=10\text{ mm}$

Maximum value of SAR (interpolated) = 0.451 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.806 V/m

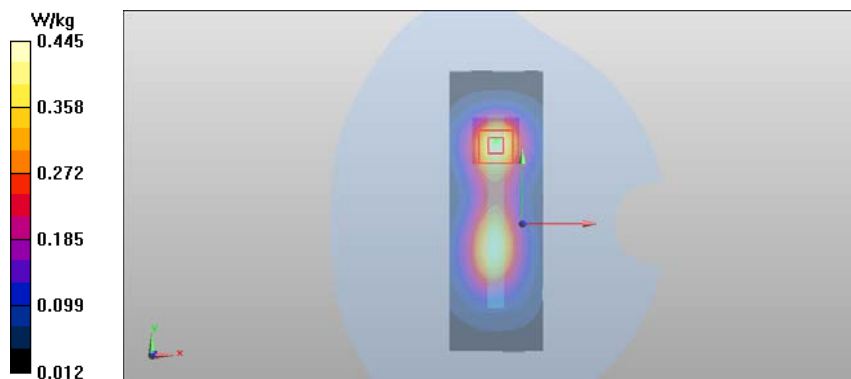
Peak SAR (extrapolated) = 0.665 mW/g

SAR(1 g) = 0.409 mW/g

SAR(10 g) = 0.240 mW/g

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.445 W/kg



Date/Time: 2012-10-05 14:55:31

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 3.770 V/m

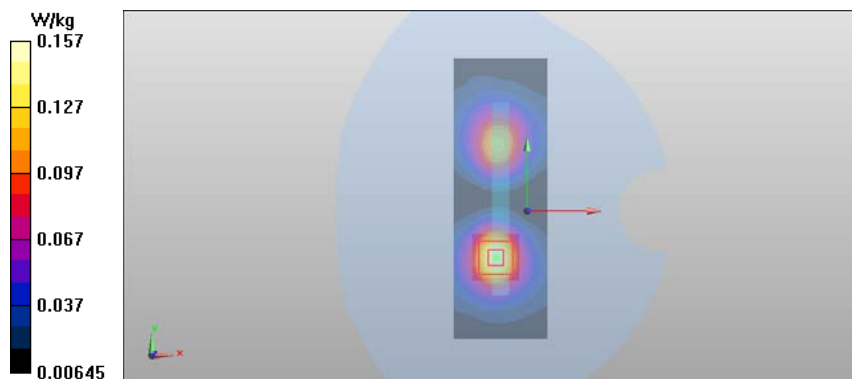
Peak SAR (extrapolated) = 0.225 mW/g

SAR(1 g) = 0.144 mW/g

SAR(10 g) = 0.086 mW/g

Power Drift = 0.16 dB

Maximum value of SAR (measured) = 0.157 W/kg



Date/Time: 2012-10-05 15:59:25

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.469$ mho/m; $\epsilon_r = 51.352$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom - Cover CC-3041/Area Scan (81x121x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.860 W/kg

WCDMA/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom - Cover CC-3041/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 10.444 V/m

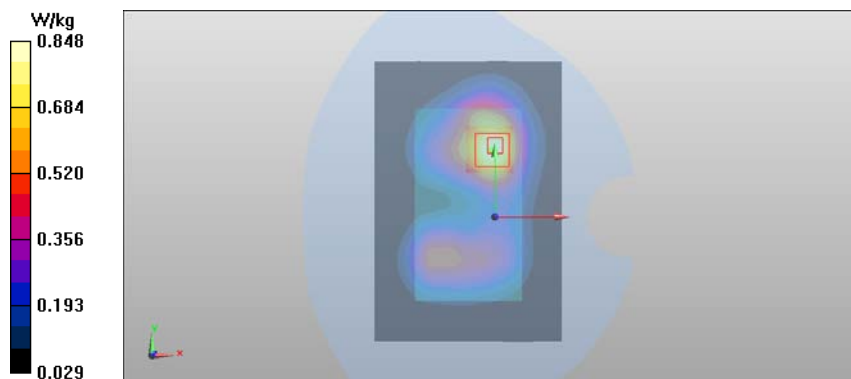
Peak SAR (extrapolated) = 1.245 mW/g

SAR(1 g) = 0.816 mW/g

SAR(10 g) = 0.500 mW/g

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 0.848 W/kg



Date/Time: 2012-08-28 14:07:17

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan (121x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.204 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 6.558 V/m

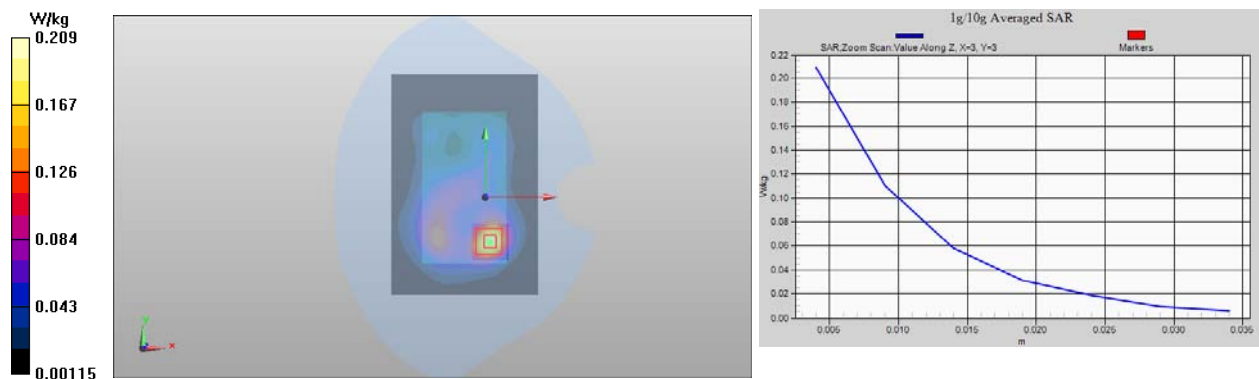
Peak SAR (extrapolated) = 0.358 mW/g

SAR(1 g) = 0.187 mW/g

SAR(10 g) = 0.095 mW/g

Power Drift = 0.10 dB

Maximum value of SAR (measured) = 0.209 W/kg



Date/Time: 2012-08-28 14:34:21

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (121x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.181 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 6.800 V/m

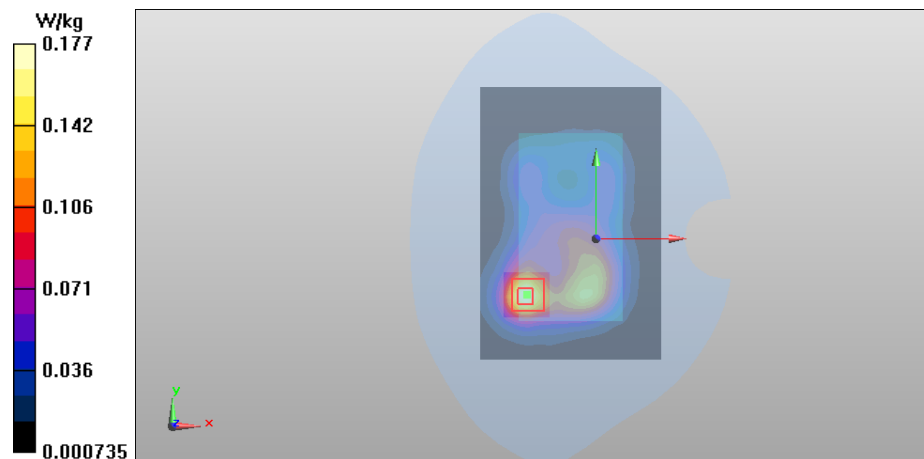
Peak SAR (extrapolated) = 0.302 mW/g

SAR(1 g) = 0.160 mW/g

SAR(10 g) = 0.083 mW/g

Power Drift = 0.17 dB

Maximum value of SAR (measured) = 0.177 W/kg



Date/Time: 2012-08-28 15:03:56

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

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

WLAN/Body - Middle - Spacer 10mm - No Accessory - Top Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 7.902 V/m

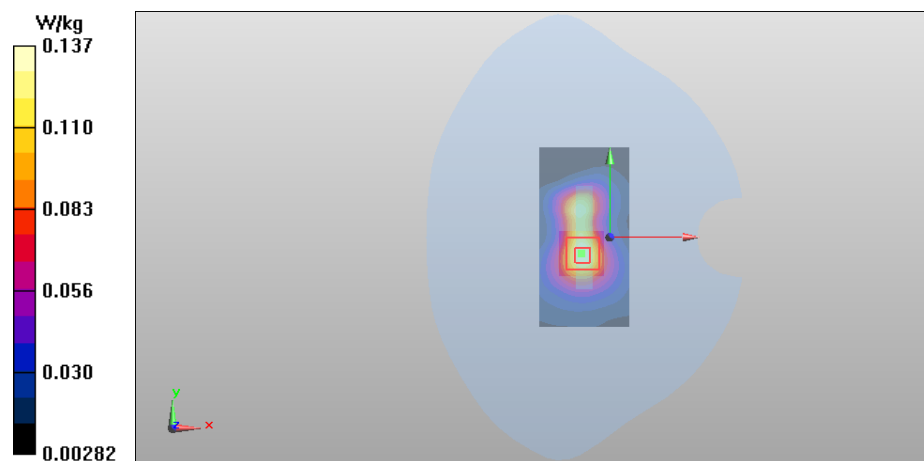
Peak SAR (extrapolated) = 0.214 mW/g

SAR(1 g) = 0.125 mW/g

SAR(10 g) = 0.070 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.137 W/kg



Date/Time: 2012-08-28 15:29:43

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (61x121x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.00818 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 1.785 V/m

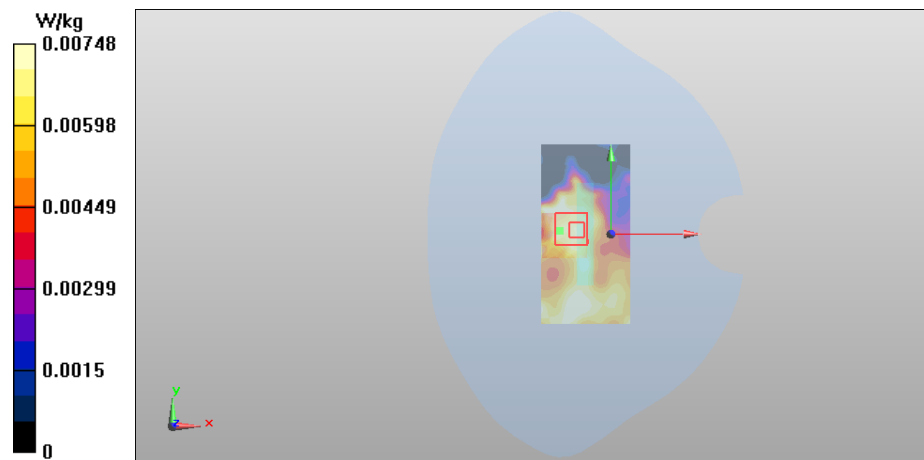
Peak SAR (extrapolated) = 0.010 mW/g

SAR(1 g) = 0.00666 mW/g

SAR(10 g) = 0.00426 mW/g

Power Drift = -0.30 dB

Maximum value of SAR (measured) = 0.00748 W/kg



Date/Time: 2012-08-28 16:33:54

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.0413 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Left Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 2.393 V/m

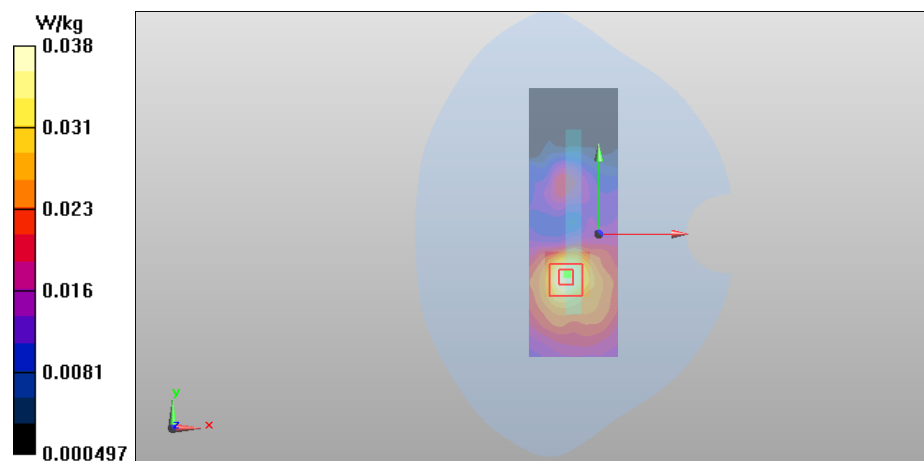
Peak SAR (extrapolated) = 0.061 mW/g

SAR(1 g) = 0.035 mW/g

SAR(10 g) = 0.021 mW/g

Power Drift = 0.11 dB

Maximum value of SAR (measured) = 0.0385 W/kg



Date/Time: 2012-08-28 15:52:12

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Area Scan (61x181x1):

Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.116 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Right Edge Facing Phantom/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 5.701 V/m

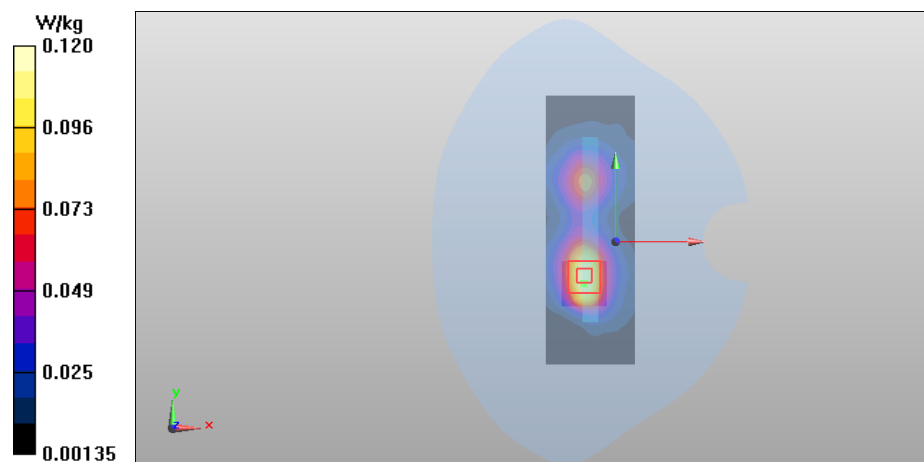
Peak SAR (extrapolated) = 0.192 mW/g

SAR(1 g) = 0.110 mW/g

SAR(10 g) = 0.061 mW/g

Power Drift = 0.16 dB

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



Date/Time: 2012-08-28 13:07:53

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3573
- ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom - Cover CC-3401/Area Scan

(121x181x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.172 W/kg

WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom - Cover CC-3401/Zoom Scan

(7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 5.542 V/m

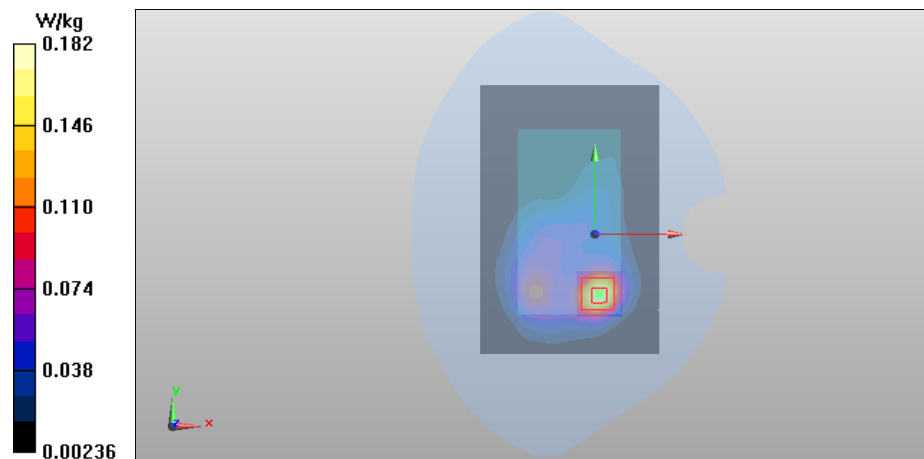
Peak SAR (extrapolated) = 0.310 mW/g

SAR(1 g) = 0.162 mW/g

SAR(10 g) = 0.083 mW/g

Power Drift = 0.03 dB

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



Date/Time: 2012-08-28 14:07:17

DASY Configuration for WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-08-02 13:04:06

DASY Configuration for 3-slot GPRS/Body - High - Spacer 10mm - No accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/13/865999/4

Communication System: 3-slot GPRS850; Frequency: 848.8 MHz; Duty Cycle: 1:2.80027; PMF: 1.6734

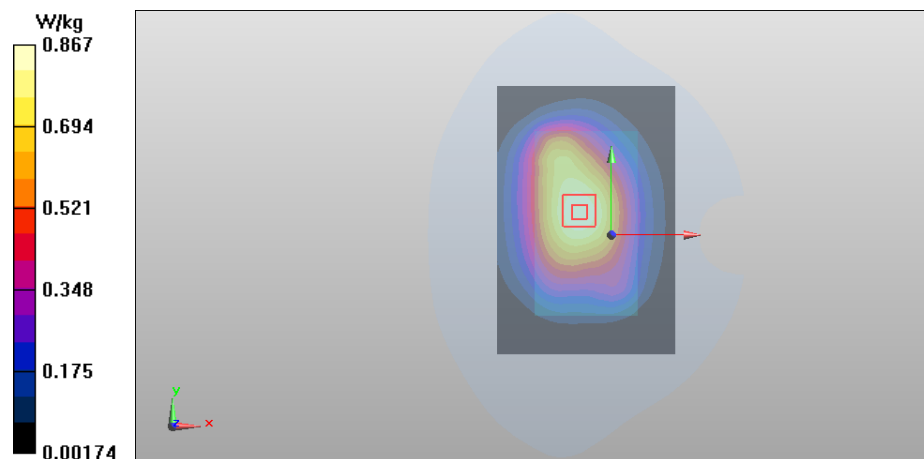
Medium: BSL850 Medium parameters used: $f = 849$ MHz; $\sigma = 1.016$ mho/m; $\epsilon_r = 53.889$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3131; ConvF(5.92, 5.92, 5.92); Calibrated: 2011-09-14;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.819 mW/g; SAR(10 g) = 0.575 mW/g

Maximum value of SAR (interpolated) = 0.867 W/kg



Date/Time: 2012-08-28 14:07:17

DASY Configuration for WLAN/Body - Middle - Spacer 10mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-08-24 12:41:51

DASY Configuration for WCDMA/Body - High - Spacer 10mm -No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402138659994

Communication System: WCDMA850; Frequency: 846.6 MHz; Duty Cycle: 1:1; PMF: 1

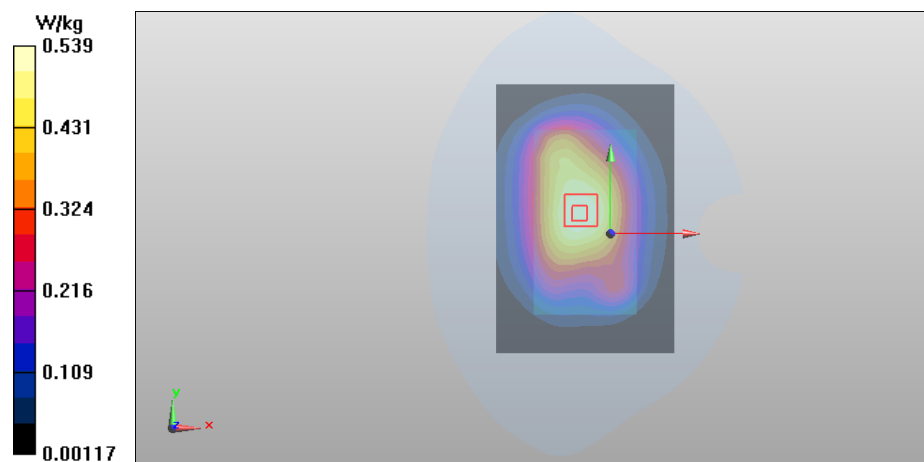
Medium: BSL850 Medium parameters used: $f = 847$ MHz; $\sigma = 0.997$ mho/m; $\epsilon_r = 53.266$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3790; ConvF(8.54, 8.54, 8.54); Calibrated: 2012-04-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.354 mW/g

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



Date/Time: 2012-08-28 14:07:17

DASY Configuration for WLAN/Body - Middle US - Spacer 10mm - No Accessory - Back Facing Phantom/Area

Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-10-13 20:50:03

DASY Configuration for 2-slot GPRS/Body - Low - Spacer 10mm - No Accessory - Back Facing Phantom/Area

Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: 2-slot GPRS1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

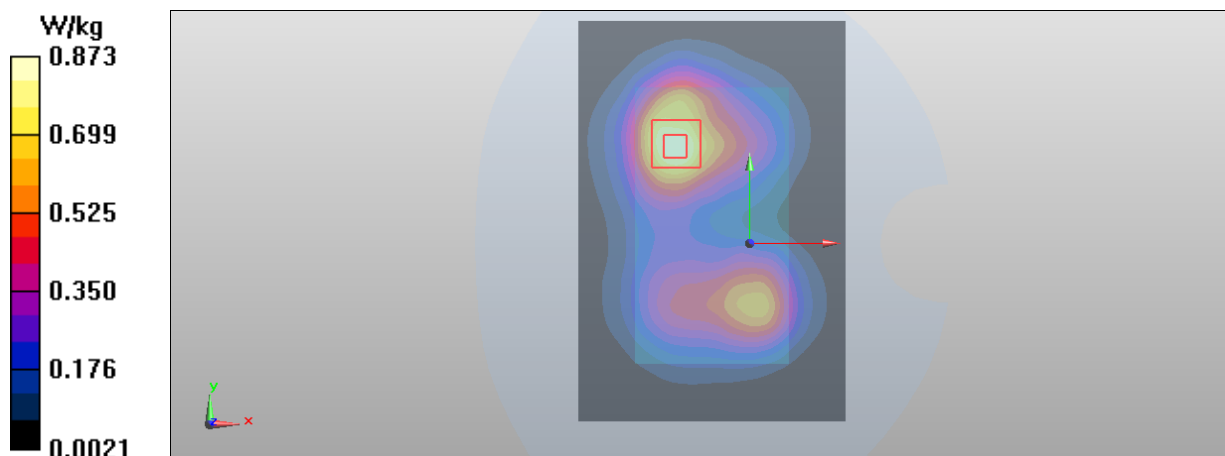
Medium: BSL1900 Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.468$ mho/m; $\epsilon_r = 51.459$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.796 mW/g; SAR(10 g) = 0.469 mW/g

Maximum value of SAR (interpolated) = 0.873 W/kg



Date/Time: 2012-08-28 14:34:21

DASY Configuration for WLAN/Body - Middle US - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087008/4

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.943$ mho/m; $\epsilon_r = 51.07$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3573; ConvF(6.45, 6.45, 6.45); Calibrated: 2012-02-23;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2012-10-05 12:47:06

DASY Configuration for WCDMA/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 354105/05/005235/5

Communication System: WCDMA1900; Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

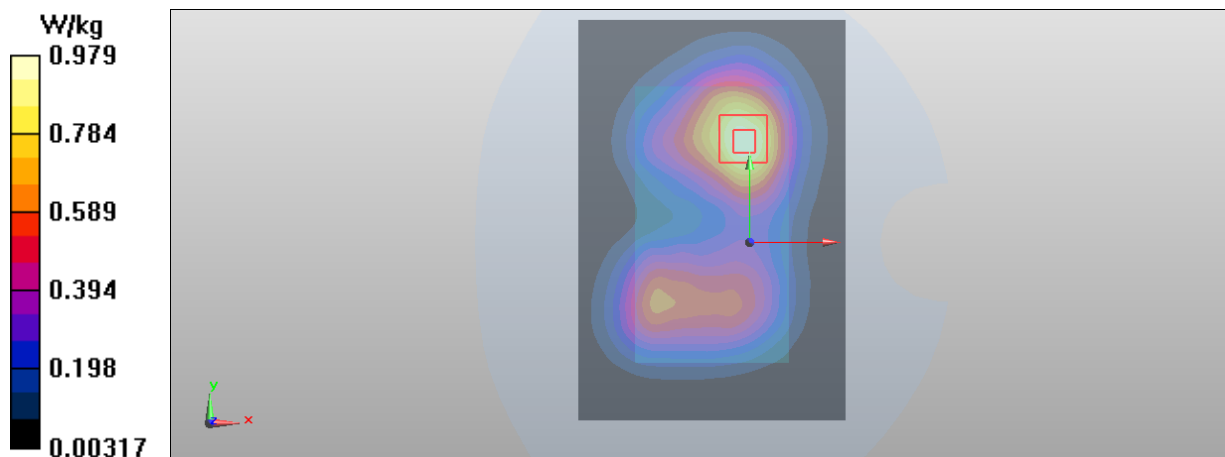
Medium: BSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.442$ mho/m; $\epsilon_r = 51.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3835; ConvF(6.96, 6.96, 6.96); Calibrated: 2012-02-07;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 2 (2012 10 05); Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.896 mW/g; SAR(10 g) = 0.532 mW/g

Maximum value of SAR (interpolated) = 0.979 W/kg



APPENDIX C: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

Head tissue simulant dielectric parameters used in the measurements 709 – 2462 MHz:

F (MHz)	Date	Dielectric Parameters					
		Ch 4132 826.4 MHz		Ch 4175 835.0 MHz		Ch 4233 846.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
835	2012-08-06	40.8	0.89	40.8	0.90	40.7	0.91
	2012-08-12	41.1	0.91	41.1	0.92	41.0	0.93
	2012-10-03	41.0	0.92	40.9	0.92	40.8	0.93
f (MHz)	Date	Dielectric Parameters					
		Ch 128 824.2 MHz		Ch 190 836.6 MHz		Ch 251 848.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
836	2012-07-26	40.7	0.92	40.6	0.93	40.4	0.94
	2012-08-12	41.1	0.91	41.1	0.92	41.0	0.93
	2012-09-05	42.9	0.85	42.8	0.86	42.7	0.88
	2012-09-06	40.8	0.91	40.7	0.91	40.6	0.92
	2012-10-03	41.0	0.92	40.9	0.92	40.8	0.93
f (MHz)	Date	Dielectric Parameters					
		Ch 512 1850.2 MHz		Ch 661 1880.0 MHz		Ch 810 1909.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2012-10-12	38.8	1.33	38.6	1.35	38.5	1.38
	2012-10-16	39.2	1.32	39.1	1.34	39.0	1.37
f (MHz)	Date	Dielectric Parameters					
		Ch 9262 1852.4 MHz		Ch 9400 1880.0 MHz		Ch 9538 1907.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2012-10-02	38.9	1.35	38.8	1.38	38.8	1.41
	2012-10-10	39.1	1.35	38.9	1.38	38.8	1.41
f (MHz)	Date	Dielectric Parameters					
		Ch 1 2412.0 MHz		Ch 6 2437.0 MHz		Ch 11 2462.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
2437	2012-08-20	38.3	1.76	38.2	1.78	38.1	1.80
	2012-08-21	38.0	1.74	37.9	1.76	37.7	1.79
	2012-09-06	38.2	1.77	38.1	1.79	38.0	1.82

Body tissue simulant dielectric parameters used in the measurements 709 – 2462 MHz:

F (MHz)	Date	Dielectric Parameters					
		Ch 4132 826.4 MHz		Ch 4175 835.0 MHz		Ch 4233 846.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
835	2012-08-23	53.8	0.98	53.7	0.99	53.7	0.99
	2012-08-24	53.4	0.99	53.4	0.99	53.3	1.00
	2012-10-08	53.1	0.99	53.1	0.99	53.1	1.00
f (MHz)	Date	Dielectric Parameters					
		Ch 128 824.2 MHz		Ch 190 836.6 MHz		Ch 251 848.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
836	2012-08-01	54.1	1.00	54.0	1.01	53.9	1.02
	2012-08-23	53.8	0.98	53.7	0.98	53.7	0.99
	2012-10-05	53.0	0.99	53.0	1.00	52.9	1.00
	2012-10-08	53.1	0.99	53.1	0.99	53.1	1.00
f (MHz)	Date	Dielectric Parameters					
		Ch 512 1850.2 MHz		Ch 661 1880.0 MHz		Ch 810 1909.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2012-10-12	51.5	1.47	51.4	1.50	51.1	1.53
	2012-10-15	51.3	1.47	51.1	1.50	50.8	1.53
f (MHz)	Date	Dielectric Parameters					
		Ch 9262 1852.4 MHz		Ch 9400 1880.0 MHz		Ch 9538 1907.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2012-10-05	51.4	1.44	51.4	1.47	51.3	1.49
f (MHz)	Date	Dielectric Parameters					
		Ch 1 2412.0 MHz		Ch 6 2437.0 MHz		Ch 11 2462.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
2437	2012-08-27	53.7	1.94	53.6	1.97	53.5	2.00
	2012-08-28	51.1	1.92	51.1	1.94	50.9	1.97

APPENDIX D: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087117/3, HW: 2411, SW: 1230.0015.8441.9735.255

D.1. WCDMA850 Test results

Average power

Ch / f (MHz)	P [dBm]
4133	22.86
4175	22.86
4232	22.64

D.2. HSUPA850 Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
4133	21.45	19.32	20.66	21.60	22.08
4175	22.00	19.34	20.94	21.64	22.07
4232	21.58	19.05	20.80	21.39	21.99

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
0.0dB	2.0dB	1.0dB	2.0dB	0.0dB

Test Laboratory: TCC Nokia

Type: RM-825; Serial: 004402/47/087117/3, HW: 2411, SW: 1230.0015.8441.9735.255

D.3. WCDMA1900 Test results

Average power

Ch / f (MHz)	P [dBm]
9263	22.59
9400	22.59
9537	22.39

D.4. HSUPA1900 Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
9263	21.36	18.61	20.70	20.67	21.57
9400	21.47	18.73	20.66	21.35	21.73
9537	21.02	18.76	20.82	21.26	21.86

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
0.0dB	2.0dB	1.0dB	2.0dB	0.0dB

APPENDIX E: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS



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 **Nokia Salo TCC**

Certificate No: **EX3-3790_Apr12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3790**

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: **April 27, 2012**

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	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	10-Jan-12 (No. DAE4-660_Jan12)	Jan-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-11)	In house check: Oct-12

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

Issued: April 28, 2012

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3790

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	8.87	8.87	8.87	0.19	1.38	± 12.0 %
835	41.5	0.90	8.44	8.44	8.44	0.16	1.49	± 12.0 %
1750	40.1	1.37	7.35	7.35	7.35	0.21	1.18	± 12.0 %
1900	40.0	1.40	7.12	7.12	7.12	0.31	0.89	± 12.0 %
2450	39.2	1.80	6.45	6.45	6.45	0.21	1.30	± 12.0 %
2600	39.0	1.96	6.27	6.27	6.27	0.32	0.97	± 12.0 %
5200	36.0	4.66	4.71	4.71	4.71	0.38	1.80	± 13.1 %
5300	35.9	4.76	4.57	4.57	4.57	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.15	4.15	4.15	0.40	1.80	± 13.1 %
5600	35.5	5.07	3.99	3.99	3.99	0.48	1.80	± 13.1 %
5800	35.3	5.27	4.52	4.52	4.52	0.48	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:3790

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	8.75	8.75	8.75	0.19	1.32	± 12.0 %
835	55.2	0.97	8.54	8.54	8.54	0.15	1.69	± 12.0 %
1750	53.4	1.49	7.11	7.11	7.11	0.12	2.14	± 12.0 %
1900	53.3	1.52	6.82	6.82	6.82	0.14	3.00	± 12.0 %
2450	52.7	1.95	6.56	6.56	6.56	0.80	0.52	± 12.0 %
2600	52.5	2.16	6.39	6.39	6.39	0.80	0.57	± 12.0 %
5200	49.0	5.30	3.85	3.85	3.85	0.50	1.80	± 13.1 %
5300	48.9	5.42	3.66	3.66	3.66	0.50	1.80	± 13.1 %
5500	48.6	5.65	3.49	3.49	3.49	0.55	1.80	± 13.1 %
5600	48.5	5.77	3.22	3.22	3.22	0.60	1.80	± 13.1 %
5800	48.2	6.00	3.50	3.50	3.50	0.55	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.



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 **Nokia Salo TCC**

Certificate No: **ES3-3131_Sep11**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3131**

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

Calibration date: **September 14, 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 E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	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: September 15, 2011

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

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	6.10	6.10	6.10	0.80	1.00	± 12.0 %
835	41.5	0.90	5.88	5.88	5.88	0.80	1.31	± 12.0 %
1750	40.1	1.37	5.14	5.14	5.14	0.80	1.25	± 12.0 %
1900	40.0	1.40	4.92	4.92	4.92	0.80	1.25	± 12.0 %
2450	39.2	1.80	4.32	4.32	4.32	0.79	1.25	± 12.0 %
2600	39.0	1.96	4.21	4.21	4.21	0.76	1.30	± 12.0 %

^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: ES3DV3- SN:3131

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	5.97	5.97	5.97	0.80	1.00	± 12.0 %
835	55.2	0.97	5.92	5.92	5.92	0.80	1.34	± 12.0 %
1750	53.4	1.49	4.64	4.64	4.64	0.80	1.35	± 12.0 %
1900	53.3	1.52	4.44	4.44	4.44	0.80	1.28	± 12.0 %
2450	52.7	1.95	4.07	4.07	4.07	0.80	1.17	± 12.0 %
2600	52.5	2.16	3.97	3.97	3.97	0.80	1.00	± 12.0 %

^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.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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

Client **Nokia Salo TCC**

Certificate No: **EX3-3573_Feb12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3573**

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: **February 23, 2012**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
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-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: February 23, 2012
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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3573

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	8.71	8.71	8.71	0.20	1.24	± 12.0 %
835	41.5	0.90	8.33	8.33	8.33	0.14	1.71	± 12.0 %
1750	40.1	1.37	7.67	7.67	7.67	0.75	0.59	± 12.0 %
1900	40.0	1.40	7.43	7.43	7.43	0.80	0.59	± 12.0 %
2450	39.2	1.80	6.52	6.52	6.52	0.38	0.93	± 12.0 %
2600	39.0	1.96	6.30	6.30	6.30	0.37	0.89	± 12.0 %
5200	36.0	4.66	4.63	4.63	4.63	0.39	1.80	± 13.1 %
5300	35.9	4.76	4.46	4.46	4.46	0.35	1.80	± 13.1 %
5500	35.6	4.96	4.23	4.23	4.23	0.40	1.80	± 13.1 %
5600	35.5	5.07	3.96	3.96	3.96	0.45	1.80	± 13.1 %
5800	35.3	5.27	3.99	3.99	3.99	0.50	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:3573

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	8.71	8.71	8.71	0.44	0.87	± 12.0 %
835	55.2	0.97	8.54	8.54	8.54	0.35	0.94	± 12.0 %
1750	53.4	1.49	7.07	7.07	7.07	0.38	0.93	± 12.0 %
1900	53.3	1.52	6.69	6.69	6.69	0.52	0.77	± 12.0 %
2450	52.7	1.95	6.45	6.45	6.45	0.80	0.57	± 12.0 %
2600	52.5	2.16	6.24	6.24	6.24	0.80	0.50	± 12.0 %
5200	49.0	5.30	3.99	3.99	3.99	0.50	1.90	± 13.1 %
5300	48.9	5.42	3.84	3.84	3.84	0.50	1.90	± 13.1 %
5500	48.6	5.65	3.64	3.64	3.64	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.05	3.05	3.05	0.75	1.90	± 13.1 %
5800	48.2	6.00	3.71	3.71	3.71	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.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **EX3-3834_Feb12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3834**

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: **February 7, 2012**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
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-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
Issued: February 7, 2012			
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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3834

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	9.17	9.17	9.17	0.38	0.90	± 12.0 %
835	41.5	0.90	8.69	8.69	8.69	0.34	0.97	± 12.0 %
900	41.5	0.97	8.59	8.59	8.59	0.23	1.26	± 12.0 %
1750	40.1	1.37	7.84	7.84	7.84	0.51	0.70	± 12.0 %
1900	40.0	1.40	7.61	7.61	7.61	0.80	0.58	± 12.0 %
2450	39.2	1.80	6.82	6.82	6.82	0.45	0.78	± 12.0 %
2600	39.0	1.96	6.65	6.65	6.65	0.48	0.77	± 12.0 %
5200	36.0	4.66	4.81	4.81	4.81	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.57	4.57	4.57	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.60	4.60	4.60	0.38	1.80	± 13.1 %
5600	35.5	5.07	4.37	4.37	4.37	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.14	4.14	4.14	0.50	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:3834

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	9.03	9.03	9.03	0.26	1.22	± 12.0 %
835	55.2	0.97	8.75	8.75	8.75	0.21	1.58	± 12.0 %
900	55.0	1.05	8.72	8.72	8.72	0.46	0.83	± 12.0 %
1750	53.4	1.49	7.54	7.54	7.54	0.80	0.62	± 12.0 %
1900	53.3	1.52	7.17	7.17	7.17	0.52	0.77	± 12.0 %
2450	52.7	1.95	6.93	6.93	6.93	0.80	0.50	± 12.0 %
2600	52.5	2.16	6.65	6.65	6.65	0.80	0.50	± 12.0 %
5200	49.0	5.30	3.99	3.99	3.99	0.55	1.90	± 13.1 %
5300	48.9	5.42	3.75	3.75	3.75	0.60	1.90	± 13.1 %
5500	48.6	5.65	3.50	3.50	3.50	0.58	1.90	± 13.1 %
5600	48.5	5.77	3.28	3.28	3.28	0.60	1.90	± 13.1 %
5800	48.2	6.00	3.78	3.78	3.78	0.58	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.



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Accreditation No.: **SCS 108**

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 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **EX3-3835_Feb12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3835**

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: **February 7, 2012**

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	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
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-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
Issued: February 7, 2012			
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3835

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	8.96	8.96	8.96	0.40	0.87	± 12.0 %
835	41.5	0.90	8.61	8.61	8.61	0.42	0.85	± 12.0 %
900	41.5	0.97	8.50	8.50	8.50	0.28	1.11	± 12.0 %
1750	40.1	1.37	7.83	7.83	7.83	0.60	0.66	± 12.0 %
1900	40.0	1.40	7.55	7.55	7.55	0.71	0.62	± 12.0 %
2450	39.2	1.80	6.73	6.73	6.73	0.44	0.80	± 12.0 %
2600	39.0	1.96	6.49	6.49	6.49	0.28	1.15	± 12.0 %
5200	36.0	4.66	4.67	4.67	4.67	0.45	1.80	± 13.1 %
5300	35.9	4.76	4.60	4.60	4.60	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.29	4.29	4.29	0.45	1.80	± 13.1 %
5600	35.5	5.07	4.22	4.22	4.22	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.07	4.07	4.07	0.50	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:3835

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	8.78	8.78	8.78	0.26	1.17	± 12.0 %
835	55.2	0.97	8.68	8.68	8.68	0.23	1.29	± 12.0 %
900	55.0	1.05	8.48	8.48	8.48	0.23	1.34	± 12.0 %
1750	53.4	1.49	7.28	7.28	7.28	0.56	0.79	± 12.0 %
1900	53.3	1.52	6.96	6.96	6.96	0.41	0.87	± 12.0 %
2450	52.7	1.95	6.57	6.57	6.57	0.80	0.50	± 12.0 %
2600	52.5	2.16	6.46	6.46	6.46	0.80	0.50	± 12.0 %
5200	49.0	5.30	3.96	3.96	3.96	0.55	1.90	± 13.1 %
5300	48.9	5.42	3.86	3.86	3.86	0.50	1.90	± 13.1 %
5500	48.6	5.65	3.54	3.54	3.54	0.58	1.90	± 13.1 %
5600	48.5	5.77	3.34	3.34	3.34	0.60	1.90	± 13.1 %
5800	48.2	6.00	3.70	3.70	3.70	0.60	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.



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Accreditation No.: **SCS 108**

Client **Nokia Salo TCC**

Certificate No: **ES3-3165_Feb12**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3165**

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

Calibration date: **February 21, 2012**

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	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
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-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: February 23, 2012
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3165

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	6.13	6.13	6.13	0.29	1.78	± 12.0 %
835	41.5	0.90	5.88	5.88	5.88	0.21	2.26	± 12.0 %
1750	40.1	1.37	5.51	5.51	5.51	0.49	1.46	± 12.0 %
1900	40.0	1.40	5.24	5.24	5.24	0.54	1.44	± 12.0 %
2450	39.2	1.80	4.37	4.37	4.37	0.70	1.37	± 12.0 %
2600	39.0	1.96	4.20	4.20	4.20	0.80	1.28	± 12.0 %

^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: ES3DV3 - SN:3165

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	6.06	6.06	6.06	0.37	1.66	± 12.0 %
835	55.2	0.97	5.97	5.97	5.97	0.59	1.30	± 12.0 %
1750	53.4	1.49	4.84	4.84	4.84	0.52	1.61	± 12.0 %
1900	53.3	1.52	4.57	4.57	4.57	0.42	1.93	± 12.0 %
2450	52.7	1.95	4.14	4.14	4.14	0.73	1.08	± 12.0 %
2600	52.5	2.16	3.96	3.96	3.96	0.80	1.03	± 12.0 %

^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.

APPENDIX F: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORTS



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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

Client **Nokia Salo TCC**

Certificate No: **D835V2-462_Sep11**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 462**

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

Calibration date: **September 13, 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	
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Issued: September 13, 2011

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.6 Ω - 1.8 j Ω
Return Loss	- 32.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.8 Ω - 3.7 j Ω
Return Loss	- 27.2 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	March 27, 2002

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 462

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.1$; $\rho = 1000 \text{ kg/m}^3$

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:

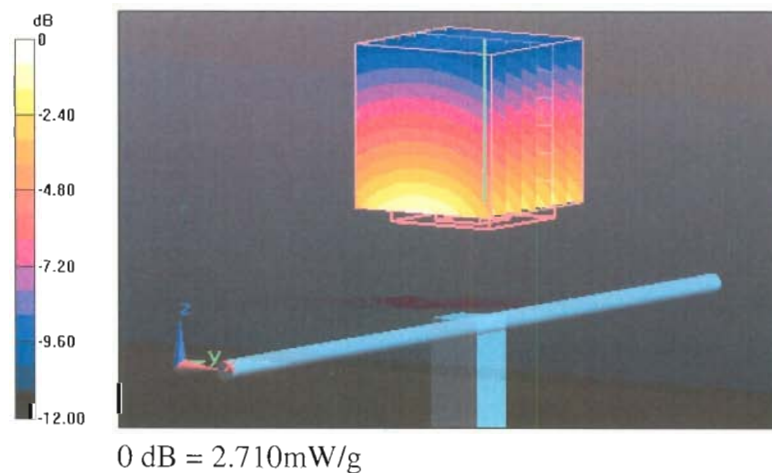
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 56.987 V/m; Power Drift = 0.02 dB

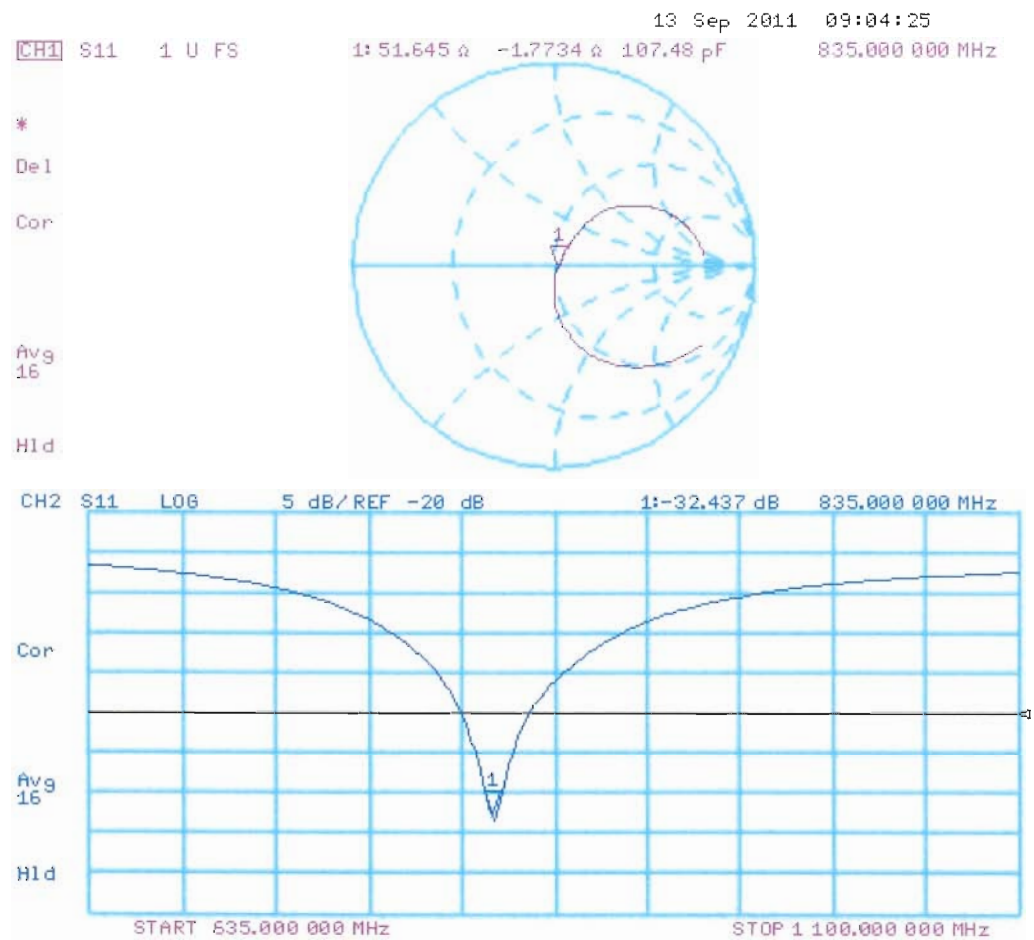
Peak SAR (extrapolated) = 3.423 W/kg

SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.52 mW/g

Maximum value of SAR (measured) = 2.708 mW/g



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 12.09.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 462

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 53.5$; $\rho = 1000 \text{ kg/m}^3$

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:

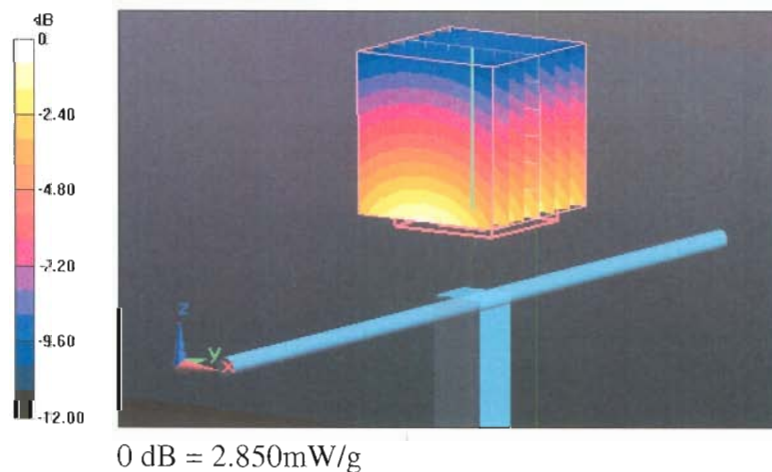
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 55.464 V/m; Power Drift = 0.0033 dB

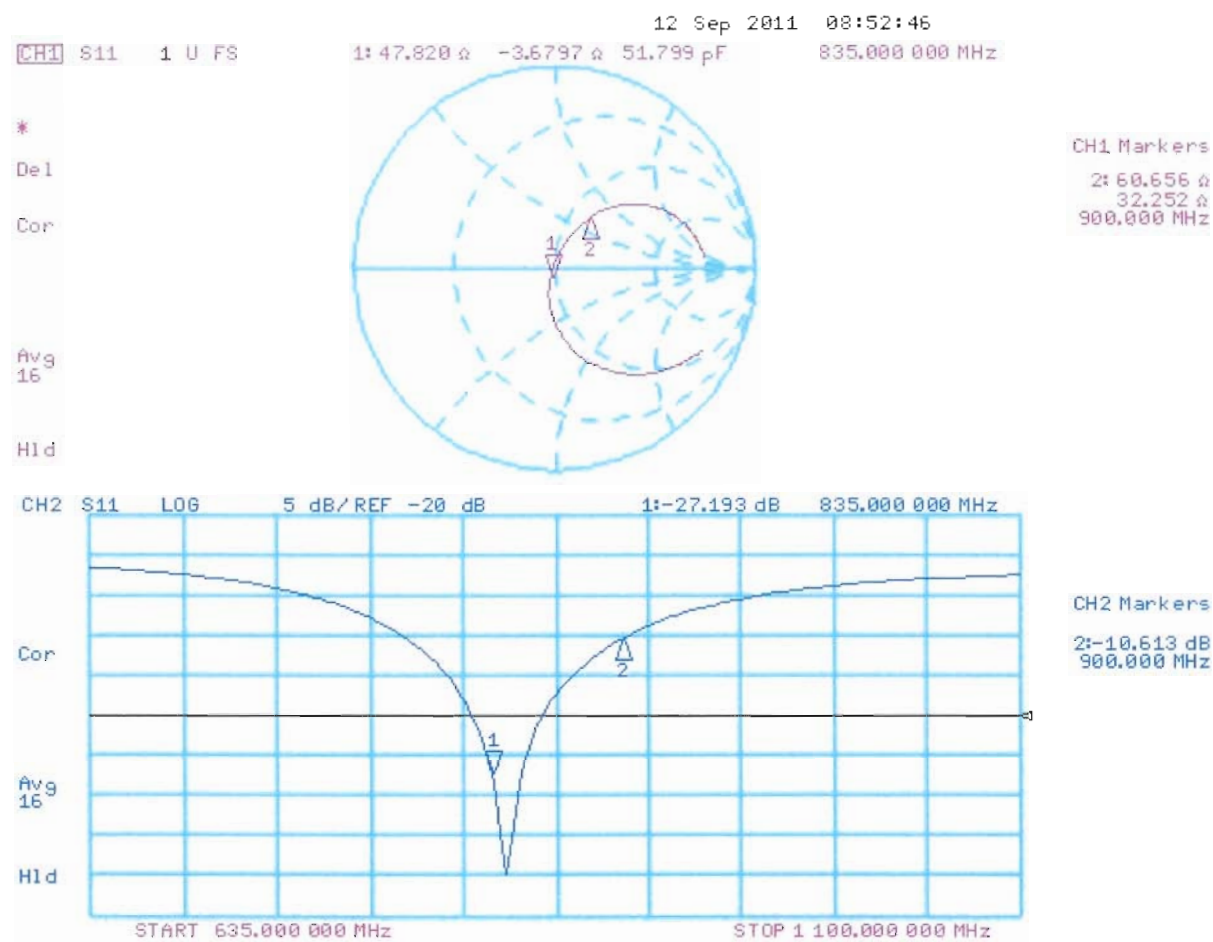
Peak SAR (extrapolated) = 3.540 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/g

Maximum value of SAR (measured) = 2.851 mW/g



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

Client **Nokia Salo TCC**

Certificate No: **D1900V2-5d030_Feb12**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d030**

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

Calibration date: **February 22, 2012**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-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-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: February 22, 2012

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.0 \Omega + 5.3 j\Omega$
Return Loss	- 25.2 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$47.6 \Omega + 5.4 j\Omega$
Return Loss	- 24.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.192 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. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

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 17, 2002

DASY5 Validation Report for Head TSL

Date: 22.02.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d030

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.4 \text{ mho/m}$; $\epsilon_r = 40.4$; $\rho = 1000 \text{ kg/m}^3$

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: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

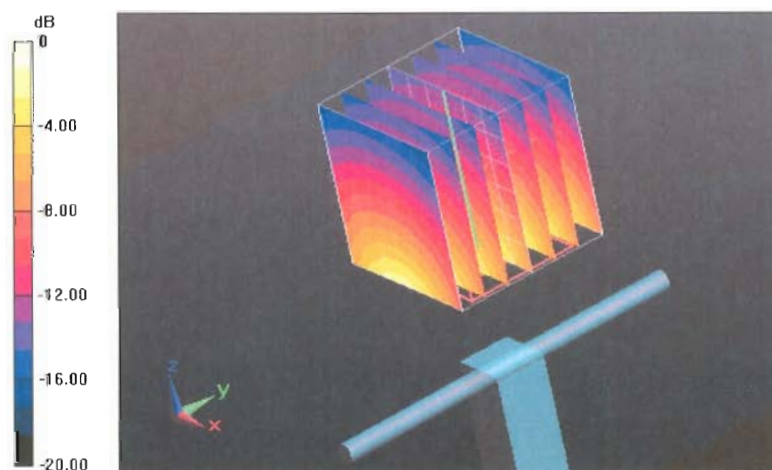
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 96.565 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 17.4270

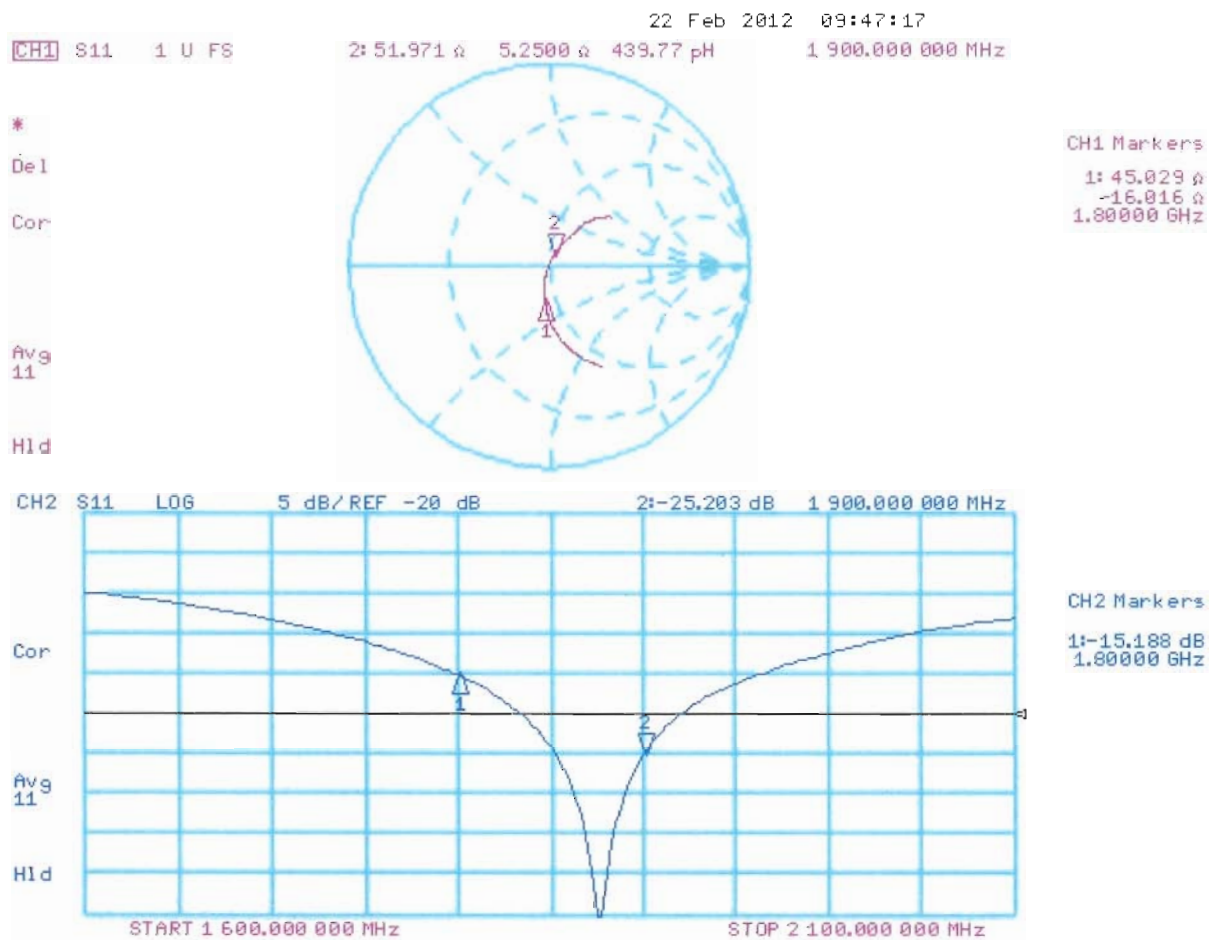
SAR(1 g) = 9.79 mW/g; SAR(10 g) = 5.18 mW/g

Maximum value of SAR (measured) = 12.117 mW/g



0 dB = 12.120mW/g = 21.67 dB mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 22.02.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d030

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

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: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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 = 93.541 V/m; Power Drift = -0.0095 dB

Peak SAR (extrapolated) = 17.4260

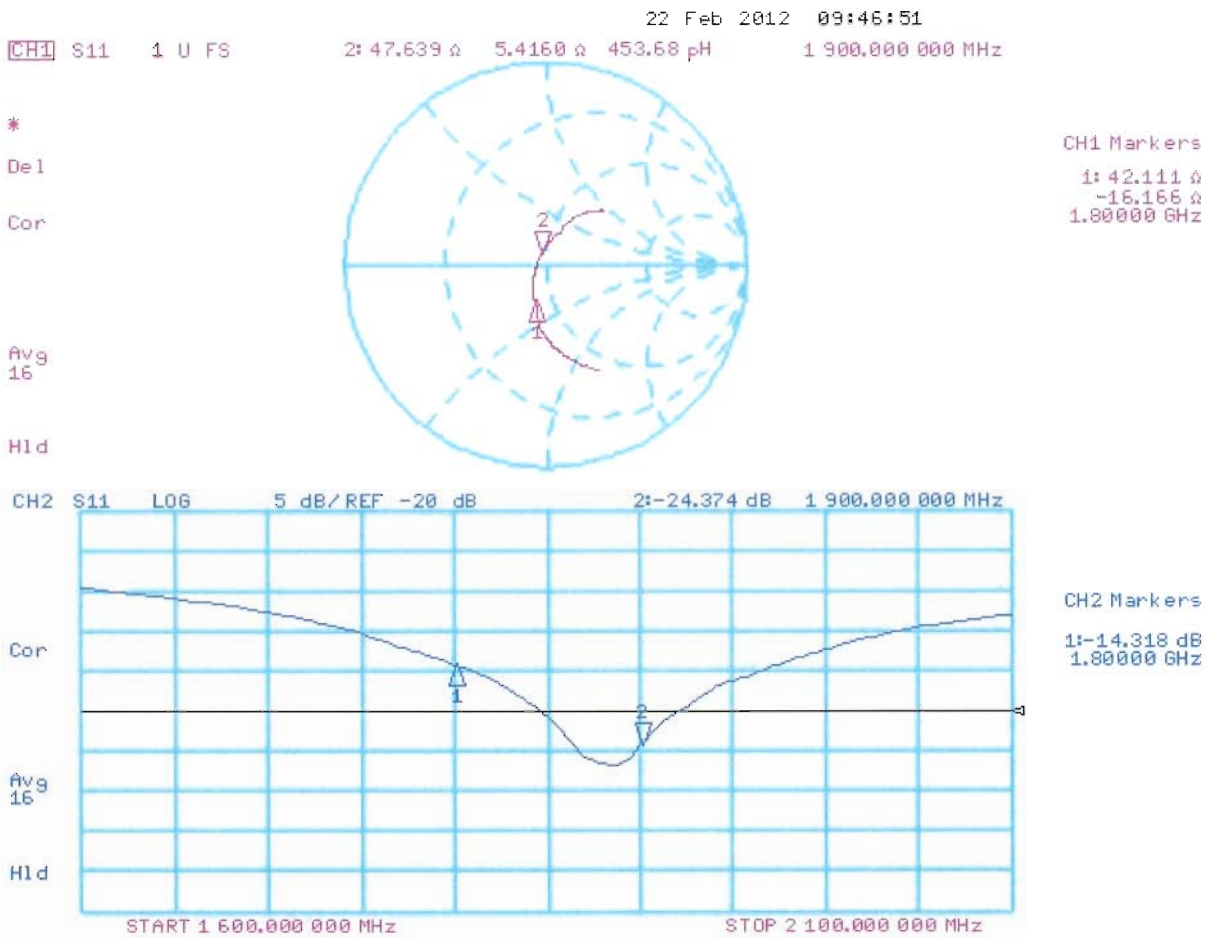
SAR(1 g) = 9.87 mW/g; SAR(10 g) = 5.17 mW/g

Maximum value of SAR (measured) = 12.485 mW/g



0 dB = 12.480mW/g = 21.92 dB mW/g

Impedance Measurement Plot for Body TSL





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Salo TCC**

Certificate No: **D2450V2-729_Sep11**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 729**

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

Calibration date: **September 13, 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: **Dimce Iliev** **Laboratory Technician** *[Signature]*

Approved by: **Katja Pokovic** **Technical Manager** *[Signature]*

Issued: September 13, 2011

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Accreditation No.: **SCS 108**

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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:

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

- 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 $\pm$ 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 $\pm$ 0.2) °C	38.3 $\pm$ 6 %	1.85 mho/m $\pm$ 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	13.9 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	54.6 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.45 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	25.6 mW / g $\pm$ 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 $\pm$ 0.2) °C	51.7 $\pm$ 6 %	2.04 mho/m $\pm$ 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	13.3 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	51.8 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.18 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	24.4 mW / g $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$51.8 \Omega - 0.6 j\Omega$
Return Loss	- 34.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$48.7 \Omega + 1.1 j\Omega$
Return Loss	- 35.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.148 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	January 09, 2003

DASY5 Validation Report for Head TSL

Date: 13.09.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 729

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

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:

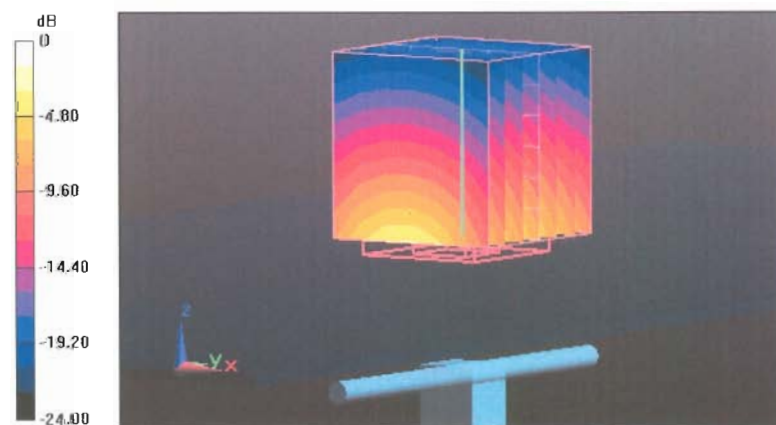
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.5 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 28.852 W/kg

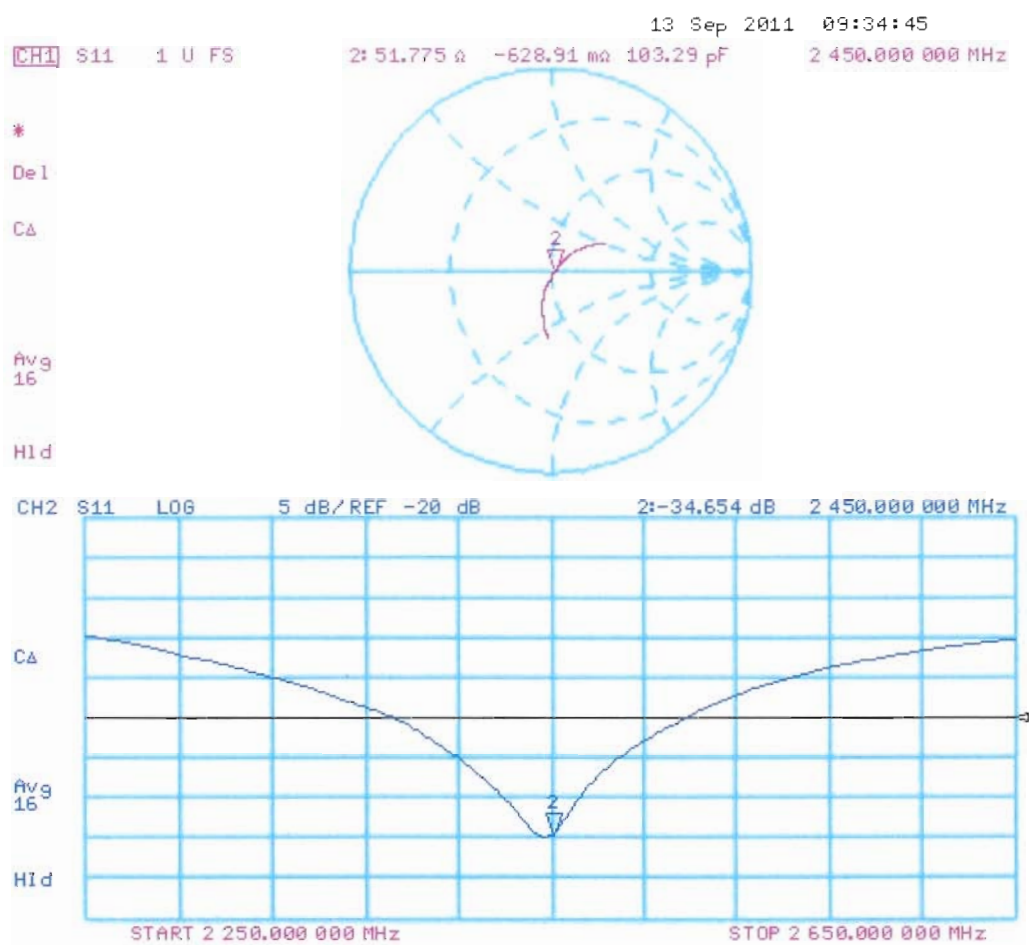
SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.45 mW/g

Maximum value of SAR (measured) = 18.134 mW/g



0 dB = 18.130mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 12.09.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 729

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 2.04 \text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$

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:

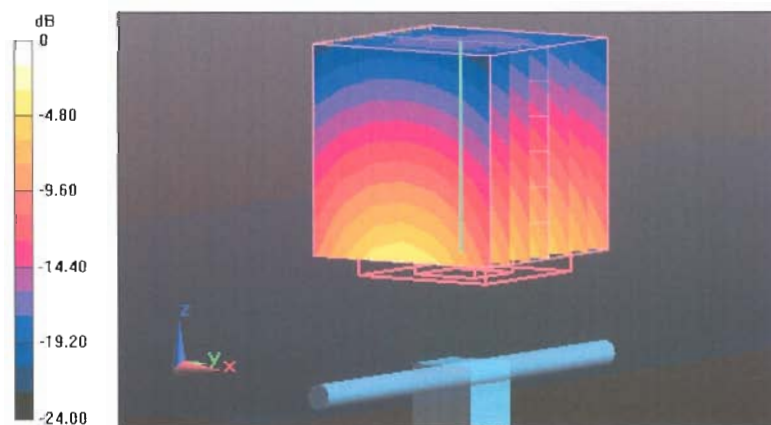
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 96.035 V/m; Power Drift = -0.0016 dB

Peak SAR (extrapolated) = 27.393 W/kg

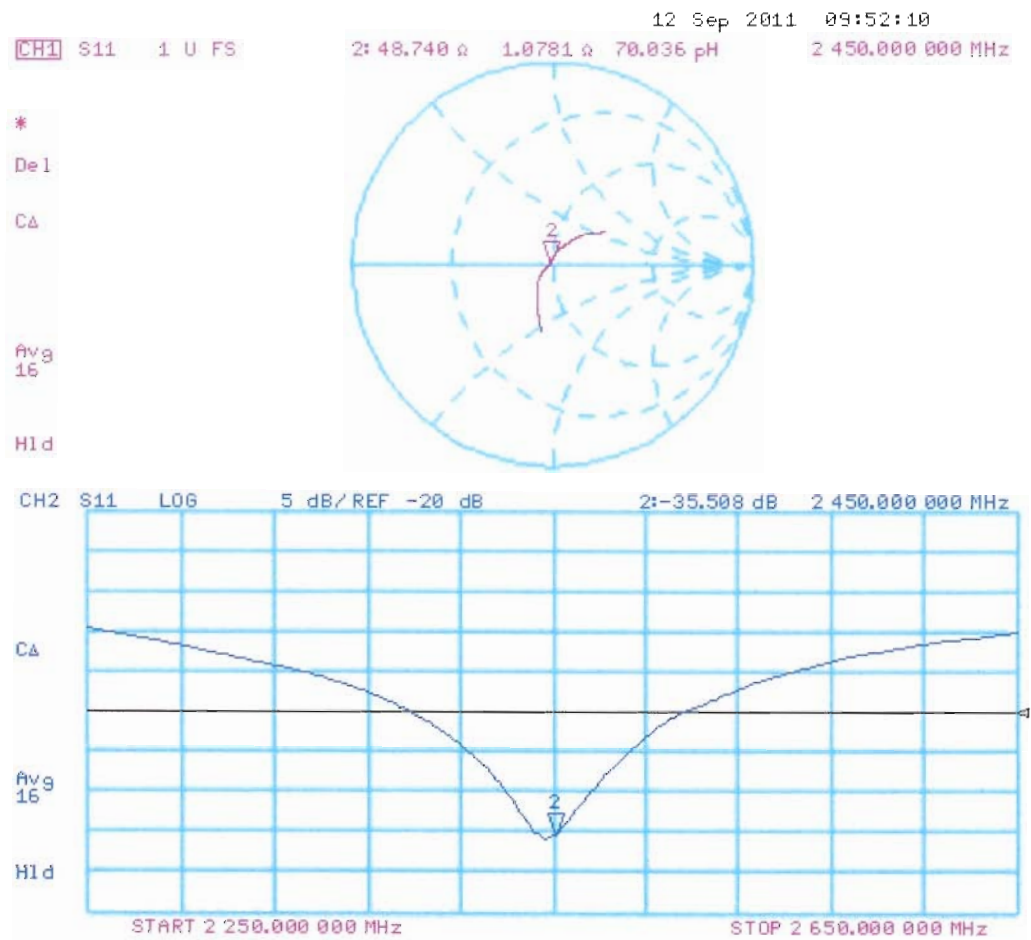
SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.18 mW/g

Maximum value of SAR (measured) = 17.569 mW/g



0 dB = 17.570mW/g

Impedance Measurement Plot for Body TSL



APPENDIX G: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED GSM/GPRS/EGPRS TRANSMISSION MODES

G.1 Power Tuning Targets

Tuning targets GSM850			
Slot configuration	Low channel	Mid channel	High channel
GSM 1-slot	-	32.0	-
GPRS 2-slot	-	32.0	-
GPRS 3-slot	-	31.0	-
GPRS 4-slot	-	29.5	-
EGPRS 1-slot	-	26.5	-
EGPRS 2-slot	-	26.5	-
EGPRS 3-slot	-	25.0	-
EGPRS 4-slot	-	23.5	-

Tuning targets GSM1900			
Slot configuration	Low channel	Mid channel	High channel
GSM 1-slot	-	29.5	-
GPRS 2-slot	-	28.5	-
GPRS 3-slot	-	26.5	-
GPRS 4-slot	-	25.0	-
EGPRS 1-slot	-	25.5	-
EGPRS 2-slot	-	25.5	-
EGPRS 3-slot	-	24.0	-
EGPRS 4-slot	-	22.5	-

G.2 Conducted Power from the Samples used in the Testing

Type: RM-825; Serial number: 354105/05/005247/0 used for GSM/GPRS/EGPRS850 for SAR Head, Body-worn and Wireless Router measurements.

Type: RM-825; Serial number: 354105/05/005235/5 used for GSM/GPRS/EGPRS1900 for SAR Head, Body-worn and Wireless Router measurements.

GSM850			
Slot configuration	Low channel	Mid channel	High channel
GSM 1-slot	31.92	32.02	31.96
GPRS 2-slot	28.65	28.66	28.95
GPRS 3-slot	30.3	30.4	30.48
GPRS 4-slot	28.86	28.83	29.12
EGPRS 1-slot	22.61	22.58	22.78
EGPRS 2-slot	25.92	26.06	26.09
EGPRS 3-slot	24.25	24.31	24.31
EGPRS 4-slot	22.67	22.62	22.84

GSM1900			
Slot configuration	Low channel	Mid channel	High channel
GSM 1-slot	29.4	29.51	29.33
GPRS 2-slot	28.33	28.45	28.34
GPRS 3-slot	26.36	26.61	26.52
GPRS 4-slot	24.75	24.95	24.83
EGPRS 1-slot	21.79	21.96	21.77
EGPRS 2-slot	25.11	25.21	25.12
EGPRS 3-slot	23.55	23.72	23.44
EGPRS 4-slot	21.94	22.06	21.87

APPENDIX H: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED WCDMA TRANSMISSION MODES

H.1 Power Tuning Targets

Tuning targets			
Mode	Low channel	Mid channel	High channel
WCDMA850	-	23.5	-
WCDMA1900	-	22.0	-

H.2 Conducted Power from the Samples used in the Testing

Type: RM-825; Serial number: 354105/05/005247/0 used for WCDMA850 for SAR Head, Body-worn and Wireless Router measurements.

Type: RM-825; Serial number: 354105/05/005235/5 used for WCDMA1900 for SAR Head, Body-worn and Wireless Router measurements.

WCDMA850 (Band 5)			
Mode	Low channel	Mid channel	High channel
WCDMA	23.79	23.74	23.9

WCDMA1900 (Band 2)			
Mode	Low channel	Mid channel	High channel
WCDMA	22.4	22.29	22.31

WCDMA and HSUPA Subtest mode conducted powers, measured from as separate, fully representative sample are presented in Appendix D.

APPENDIX I: CONDUCTED POWER RESULTS FOR WLAN2450

I.1 Power Tuning Targets

Tuning targets for WLAN 2.4 GHz					
Modulation mode	Ch 1	Ch 2	Ch 6	Ch 10	Ch 11
b-mode WLAN DSSS 1 Mbps	-	-	16	-	-
b-mode WLAN DSSS 2 Mbps	-	-	16	-	-
b-mode WLAN DSSS 5.5 Mbps	-	-	16	-	-
b-mode WLAN DSSS 11 Mbps	16	-	16	-	16
g-mode WLAN OFDM 6 Mbps	-	-	15	-	-
g-mode WLAN OFDM 9 Mbps	-	-	15	-	-
g-mode WLAN OFDM 12 Mbps	-	-	15	-	-
g-mode WLAN OFDM 18 Mbps	-	-	15	-	-
g-mode WLAN OFDM 24 Mbps	-	-	13	-	-
g-mode WLAN OFDM 36 Mbps	-	-	13	-	-
g-mode WLAN OFDM 48 Mbps	-	-	12	-	-
g-mode WLAN OFDM 54 Mbps	-	-	12	-	-
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	12.5	-	14	-	12.5
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	-	-	14	-	-
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	-	-	14	-	-
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	-	-	13	-	-
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	-	-	13	-	-
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	-	-	11	-	-
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	-	-	11	-	-
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	-	-	11	-	-
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	-	-	13	-	-
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	-	-	13	-	-
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	-	-	13	-	-
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	-	-	12	-	-
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	-	-	11	-	-
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	-	-	11	-	-
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	-	-	10	-	-
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	-	-	10	-	-

I.2 Conducted Power from the Samples used in the Testing

Type: RM-825; Serial number: 004402/47/087008/4 used for WLAN2450 for SAR Head, Body-worn and Wireless Router measurements.

WLAN 2.4 GHz					
Modulation mode	Ch 1	Ch 2	Ch 6	Ch 10	Ch 11
b-mode WLAN DSSS 1 Mbps	15.47	-	16.17	-	15.67
b-mode WLAN DSSS 2 Mbps	15.44	-	16.18	-	15.60
b-mode WLAN DSSS 5.5 Mbps	15.49	-	16.19	-	15.61
b-mode WLAN DSSS 11 Mbps	15.56	-	16.24	-	15.62
g-mode WLAN OFDM 6 Mbps	14.49	-	15.21	-	14.58
g-mode WLAN OFDM 9 Mbps	14.53	-	15.01	-	14.64
g-mode WLAN OFDM 12 Mbps	14.54	-	15.22	-	14.56
g-mode WLAN OFDM 18 Mbps	14.41	-	15.15	-	14.63
g-mode WLAN OFDM 24 Mbps	12.46	-	13.01	-	12.58
g-mode WLAN OFDM 36 Mbps	12.61	-	13.01	-	12.56
g-mode WLAN OFDM 48 Mbps	11.49	-	12.09	-	11.63
g-mode WLAN OFDM 54 Mbps	11.61	-	12.09	-	11.60
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	13.62	-	14.11	-	13.74
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	13.44	-	14.06	-	13.53
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	13.47	-	14.15	-	13.69
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	12.44	-	13.09	-	12.71
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	12.43	-	13.02	-	12.73
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	10.57	-	11.21	-	10.52
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	10.62	-	11.19	-	10.65
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	10.64	-	11.23	-	10.59
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	10.42	-	11.30	-	10.51
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	10.44	-	11.18	-	10.63
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	10.40	-	11.26	-	10.69
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	10.41	-	11.24	-	10.58
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	10.48	-	11.16	-	10.55
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	10.4	-	11.33	-	10.74
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	9.60	-	10.34	-	9.55
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	9.60	-	10.22	-	9.56