
APPENDIX A: SYSTEM CHECKING SCANS

See the following pages

Date/Time: 2008-05-14 15:14:58

Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.41 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.3 V/m

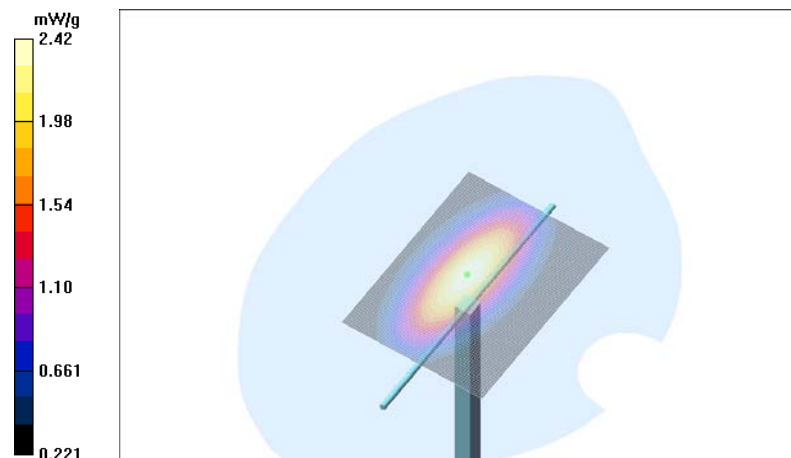
Peak SAR (extrapolated) = 3.26 W/kg

SAR(1 g) = 2.24 mW/g

SAR(10 g) = 1.47 mW/g

Power Drift = -0.065 dB

Maximum value of SAR (measured) = 2.42 mW/g



Date/Time: 2008-05-19 15:23:51

Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d026

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 12.2 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.8 V/m

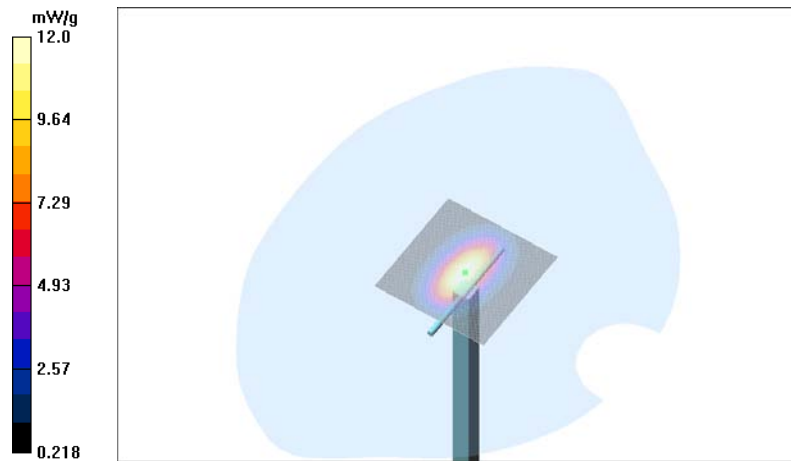
Peak SAR (extrapolated) = 19.9 W/kg

SAR(1 g) = 10.7 mW/g

SAR(10 g) = 5.51 mW/g

Power Drift = 0.006 dB

Maximum value of SAR (measured) = 12.0 mW/g



Date/Time: 2008-04-26 17:25:32

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 790

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.1 V/m

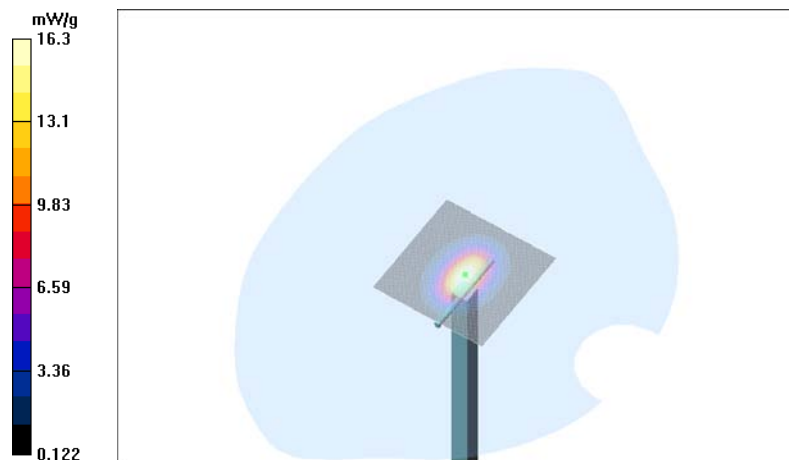
Peak SAR (extrapolated) = 29.6 W/kg

SAR(1 g) = 14.2 mW/g

SAR(10 g) = 6.61 mW/g

Power Drift = 0.026 dB

Maximum value of SAR (measured) = 16.3 mW/g



Date/Time: 2008-05-19 17:49:01

Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.966$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.63 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.5 V/m

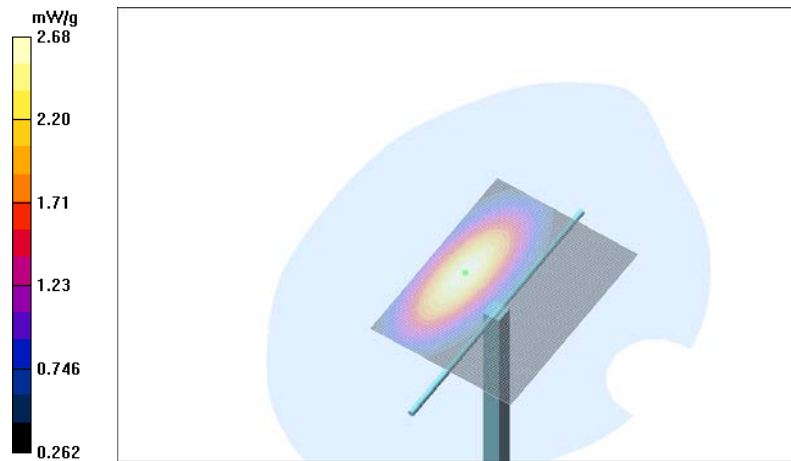
Peak SAR (extrapolated) = 3.52 W/kg

SAR(1 g) = 2.47 mW/g

SAR(10 g) = 1.63 mW/g

Power Drift = -0.033 dB

Maximum value of SAR (measured) = 2.68 mW/g



Date/Time: 2008-04-29 17:27:35

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 790

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.9 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.5 V/m

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 13.9 mW/g

SAR(10 g) = 6.41 mW/g

Power Drift = -0.129 dB

Maximum value of SAR (measured) = 16.0 mW/g



APPENDIX B: MEASUREMENT SCANS

See the following pages

Date/Time: 2008-05-14 16:57:38

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.365 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.52 V/m

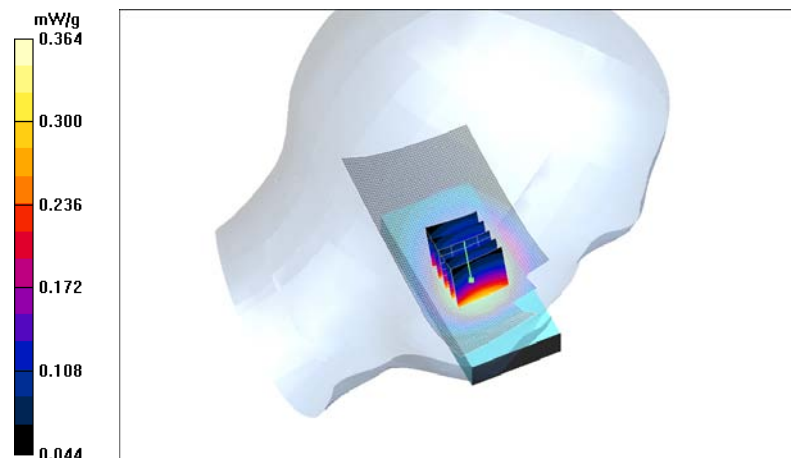
Peak SAR (extrapolated) = 0.423 W/kg

SAR(1 g) = 0.345 mW/g

SAR(10 g) = 0.259 mW/g

Power Drift = -0.072 dB

Maximum value of SAR (measured) = 0.364 mW/g



Date/Time: 2008-05-14 17:24:02

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.457 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.33 V/m

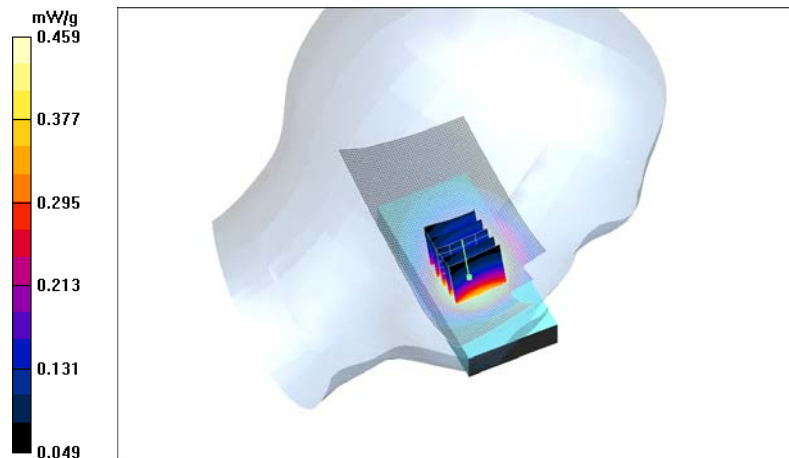
Peak SAR (extrapolated) = 0.546 W/kg

SAR(1 g) = 0.431 mW/g

SAR(10 g) = 0.319 mW/g

Power Drift = -0.116 dB

Maximum value of SAR (measured) = 0.459 mW/g



Date/Time: 2008-05-14 19:04:28

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.502 mW/g

Cheek position - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.6 V/m

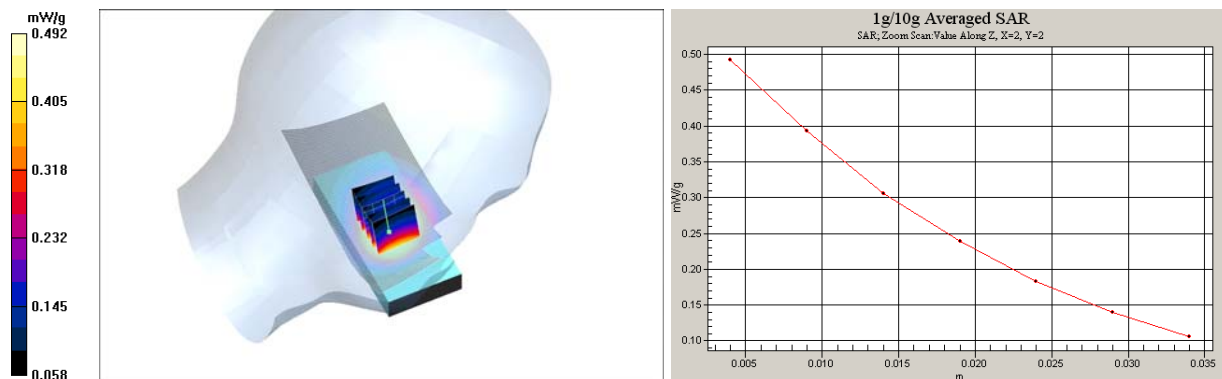
Peak SAR (extrapolated) = 0.568 W/kg

SAR(1 g) = 0.466 mW/g

SAR(10 g) = 0.351 mW/g

Power Drift = -0.147 dB

Maximum value of SAR (measured) = 0.492 mW/g



Date/Time: 2008-05-14 18:01:39

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.312 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.8 V/m

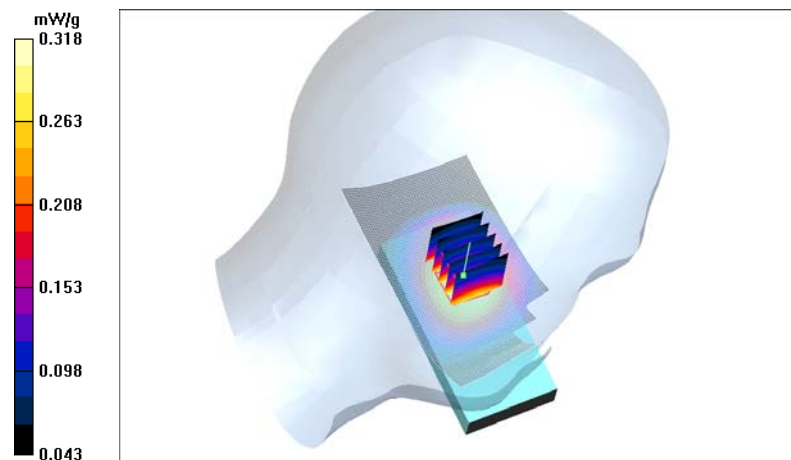
Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.301 mW/g

SAR(10 g) = 0.225 mW/g

Power Drift = -0.065 dB

Maximum value of SAR (measured) = 0.318 mW/g



Date/Time: 2008-05-14 18:17:03

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.429 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.25 V/m

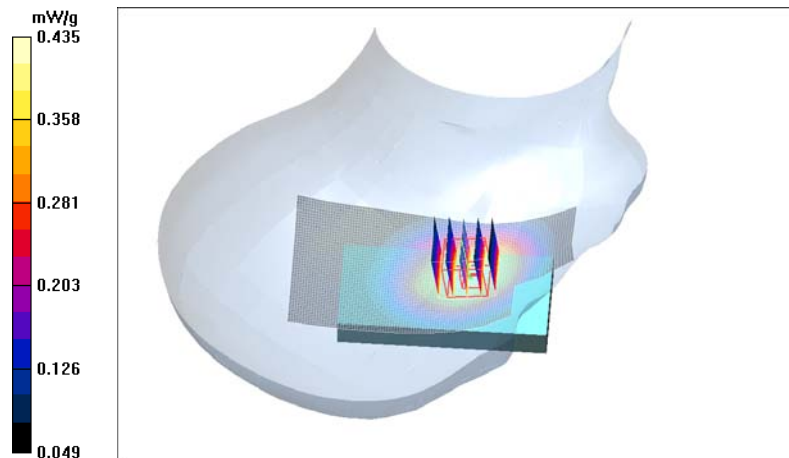
Peak SAR (extrapolated) = 0.499 W/kg

SAR(1 g) = 0.409 mW/g

SAR(10 g) = 0.304 mW/g

Power Drift = -0.173 dB

Maximum value of SAR (measured) = 0.435 mW/g



Date/Time: 2008-05-14 18:34:22

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.300 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.8 V/m

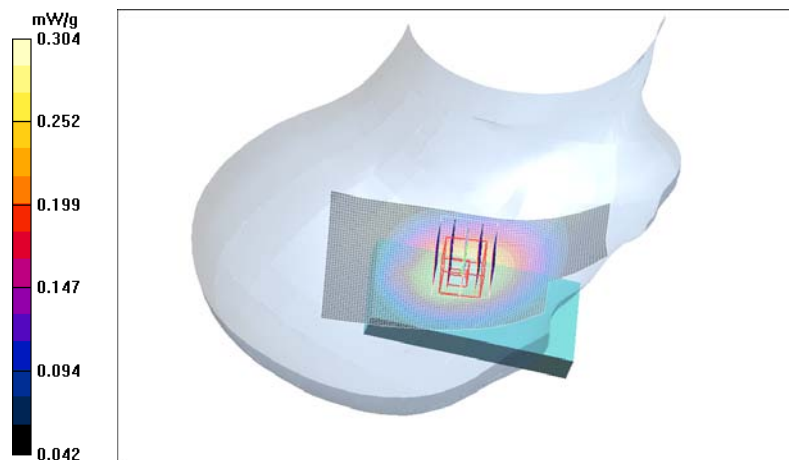
Peak SAR (extrapolated) = 0.357 W/kg

SAR(1 g) = 0.287 mW/g

SAR(10 g) = 0.213 mW/g

Power Drift = -0.012 dB

Maximum value of SAR (measured) = 0.304 mW/g



Date/Time: 2008-05-14 19:51:35

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot 8PSK EGPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.092 mW/g

Cheek position - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.34 V/m

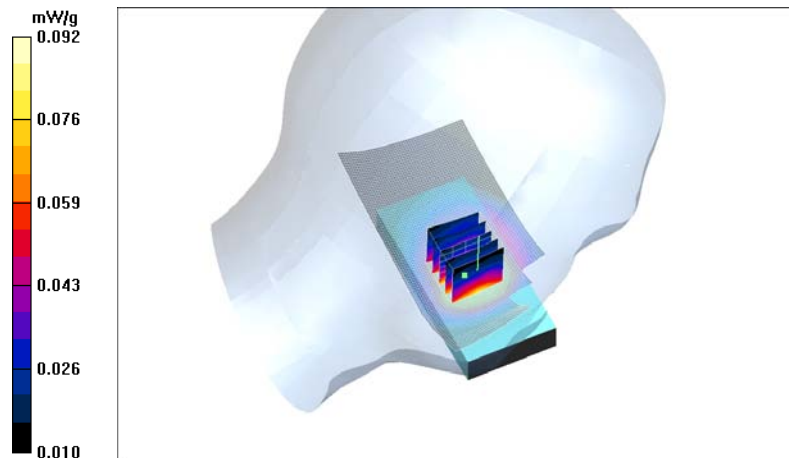
Peak SAR (extrapolated) = 0.103 W/kg

SAR(1 g) = 0.082 mW/g

SAR(10 g) = 0.062 mW/g

Power Drift = 0.161 dB

Maximum value of SAR (measured) = 0.092 mW/g



Date/Time: 2008-05-14 19:16:24

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High - BT active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.491 mW/g

Cheek position - High - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.5 V/m

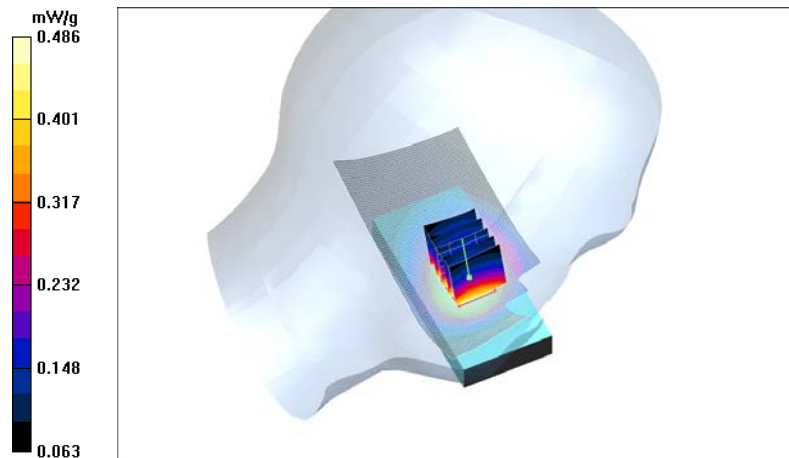
Peak SAR (extrapolated) = 0.570 W/kg

SAR(1 g) = 0.463 mW/g

SAR(10 g) = 0.346 mW/g

Power Drift = -0.051 dB

Maximum value of SAR (measured) = 0.486 mW/g



Date/Time: 2008-05-19 16:27:35

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.770 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.94 V/m

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.700 mW/g

SAR(10 g) = 0.420 mW/g

Power Drift = -0.162 dB

Maximum value of SAR (measured) = 0.750 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.94 V/m

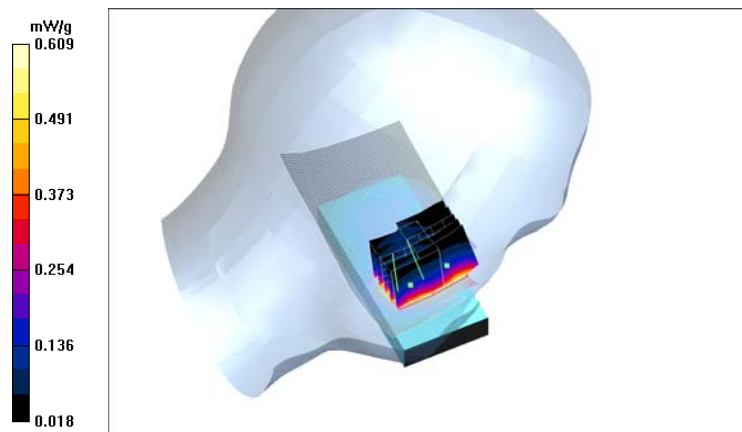
Peak SAR (extrapolated) = 0.867 W/kg

SAR(1 g) = 0.554 mW/g

SAR(10 g) = 0.354 mW/g

Power Drift = -0.162 dB

Maximum value of SAR (measured) = 0.609 mW/g



Date/Time: 2008-05-19 17:47:19

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.355 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.6 V/m

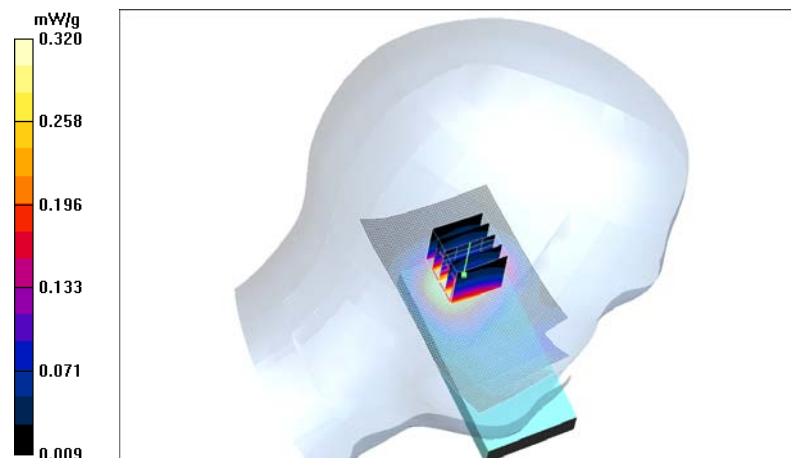
Peak SAR (extrapolated) = 0.443 W/kg

SAR(1 g) = 0.303 mW/g

SAR(10 g) = 0.194 mW/g

Power Drift = -0.018 dB

Maximum value of SAR (measured) = 0.320 mW/g



Date/Time: 2008-05-19 19:28:34

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.978 mW/g

Cheek position - High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.26 V/m

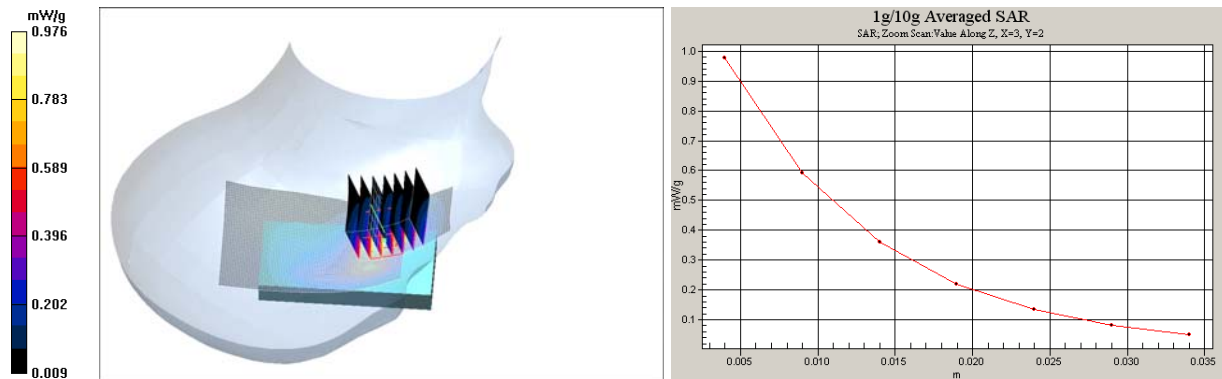
Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.937 mW/g

SAR(10 g) = 0.526 mW/g

Power Drift = -0.009 dB

Maximum value of SAR (measured) = 0.976 mW/g



Date/Time: 2008-05-19 18:17:46

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.459 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.9 V/m

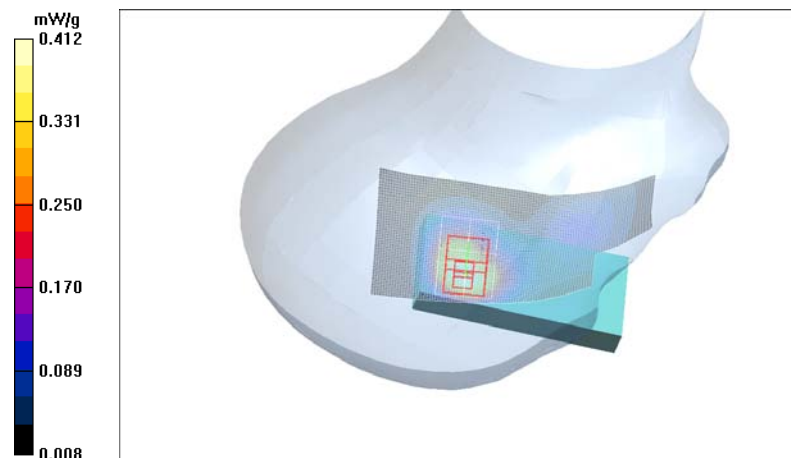
Peak SAR (extrapolated) = 0.580 W/kg

SAR(1 g) = 0.380 mW/g

SAR(10 g) = 0.233 mW/g

Power Drift = -0.078 dB

Maximum value of SAR (measured) = 0.412 mW/g



Date/Time: 2008-05-19 16:48:49

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.758 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.87 V/m

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.682 mW/g

SAR(10 g) = 0.412 mW/g

Power Drift = -0.183 dB

Maximum value of SAR (measured) = 0.731 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.87 V/m

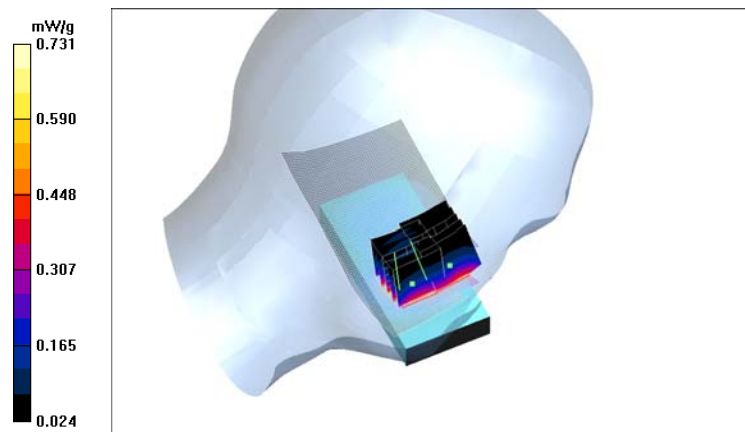
Peak SAR (extrapolated) = 0.827 W/kg

SAR(1 g) = 0.537 mW/g

SAR(10 g) = 0.344 mW/g

Power Drift = -0.183 dB

Maximum value of SAR (measured) = 0.583 mW/g



Date/Time: 2008-05-19 17:09:36

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.720 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.61 V/m

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.664 mW/g

SAR(10 g) = 0.400 mW/g

Power Drift = -0.159 dB

Maximum value of SAR (measured) = 0.716 mW/g

Cheek position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.61 V/m

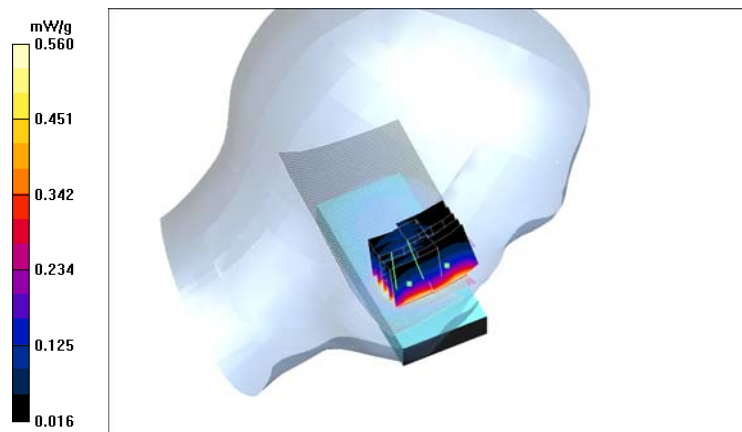
Peak SAR (extrapolated) = 0.803 W/kg

SAR(1 g) = 0.520 mW/g

SAR(10 g) = 0.332 mW/g

Power Drift = -0.159 dB

Maximum value of SAR (measured) = 0.560 mW/g



Date/Time: 2008-05-19 20:52:29

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 1-slot 8PSK EGPRS 1900

Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.253 mW/g

Cheek position - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.01 V/m

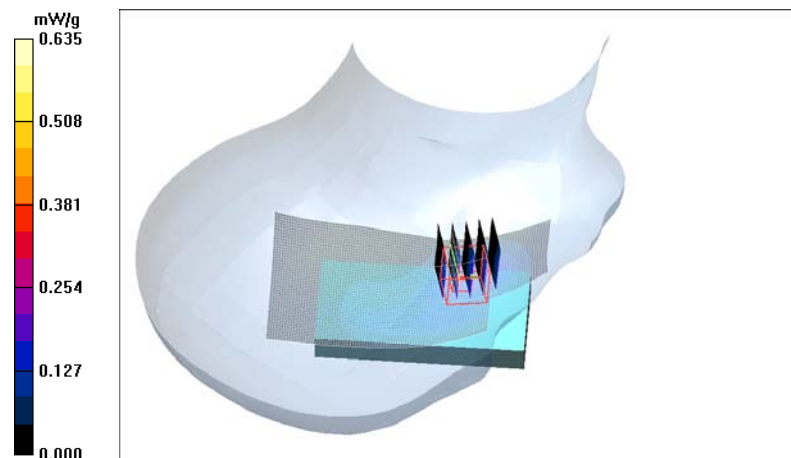
Peak SAR (extrapolated) = 0.635 W/kg

SAR(1 g) = 0.323 mW/g

SAR(10 g) = 0.138 mW/g

Power Drift = 0.039 dB

Maximum value of SAR (measured) = 0.635 mW/g



Date/Time: 2008-05-19 19:49:46

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.05, 5.05, 5.05); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High - BT active/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.959 mW/g

Cheek position - High - BT active/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.26 V/m

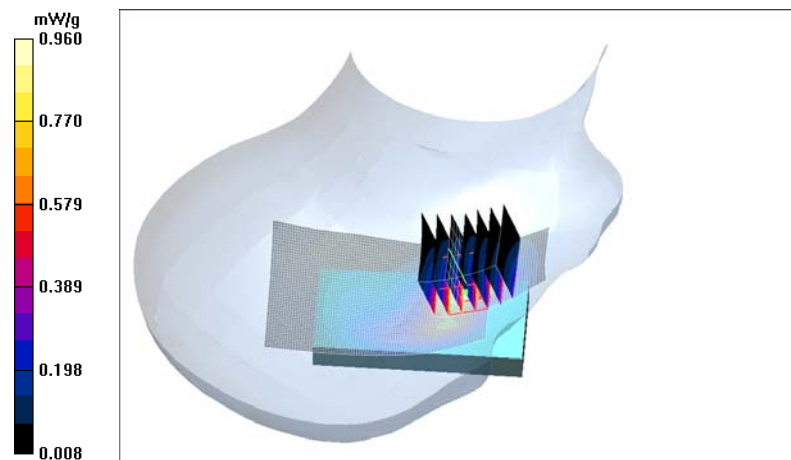
Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.925 mW/g

SAR(10 g) = 0.519 mW/g

Power Drift = -0.071 dB

Maximum value of SAR (measured) = 0.960 mW/g



Date/Time: 2008-04-26 18:20:25

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.168 mW/g

Cheek position - Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.65 V/m

Peak SAR (extrapolated) = 0.404 W/kg

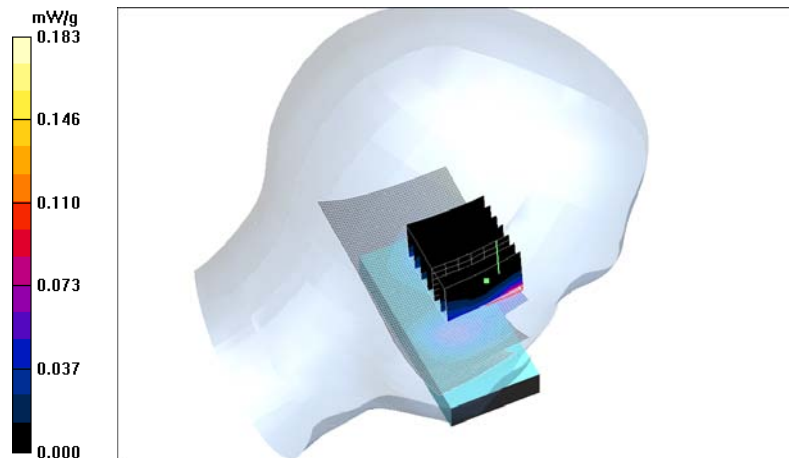
SAR(1 g) = 0.178 mW/g

SAR(10 g) = 0.079 mW/g

Power Drift = 0.269 dB

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.183 mW/g



Date/Time: 2008-04-26 18:41:07

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.074 mW/g

Tilt position - Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.09 V/m

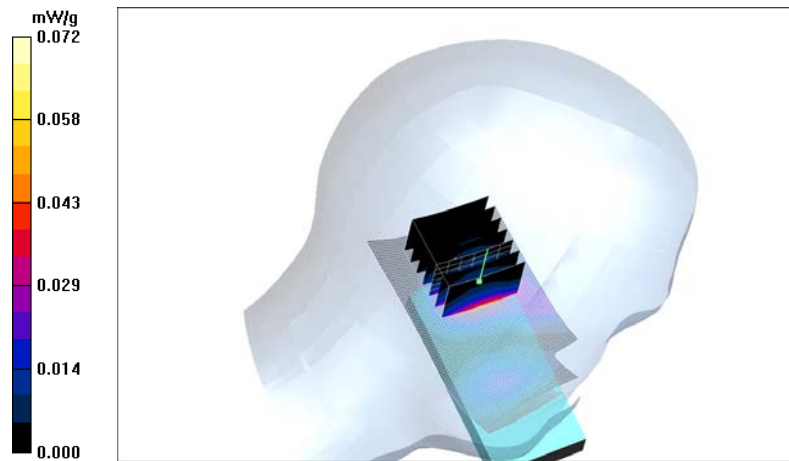
Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.066 mW/g

SAR(10 g) = 0.037 mW/g

Power Drift = 0.058 dB

Maximum value of SAR (measured) = 0.072 mW/g



Date/Time: 2008-04-26 20:12:56

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 38.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek position - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.193 mW/g

Cheek position - High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.60 V/m

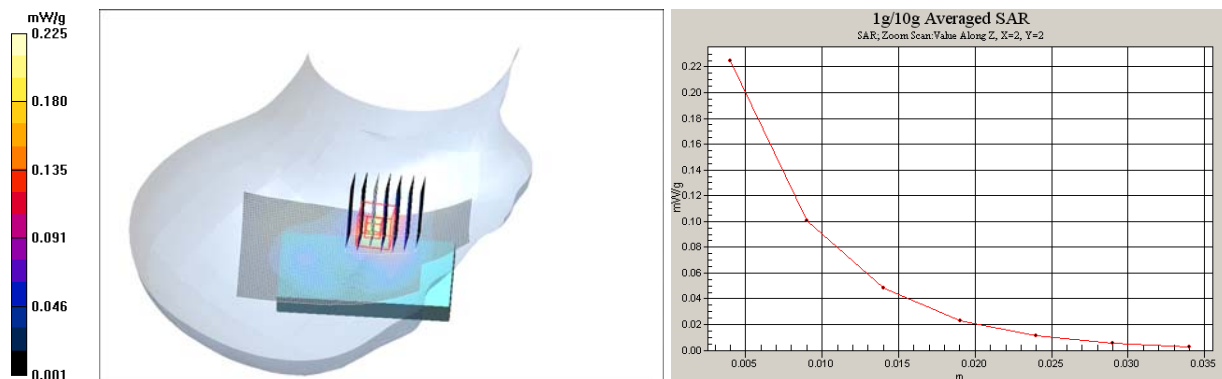
Peak SAR (extrapolated) = 0.497 W/kg

SAR(1 g) = 0.211 mW/g

SAR(10 g) = 0.098 mW/g

Power Drift = -0.254 dB

Maximum value of SAR (measured) = 0.225 mW/g



Date/Time: 2008-04-26 19:29:37

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.075 mW/g

Tilt position - Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.04 V/m

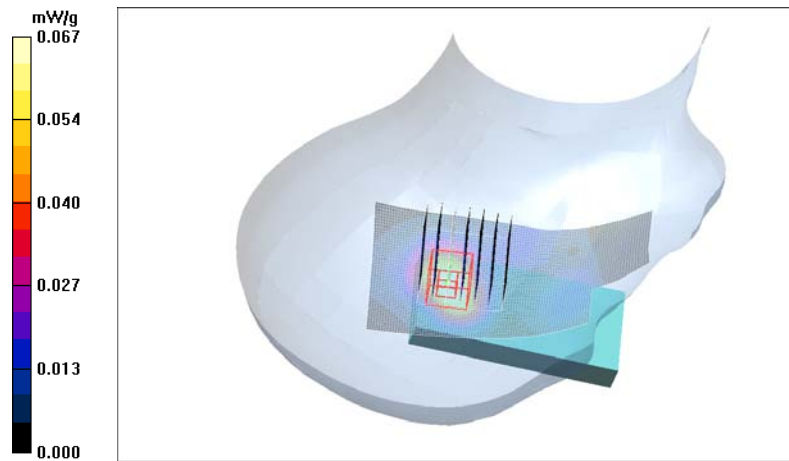
Peak SAR (extrapolated) = 0.105 W/kg

SAR(1 g) = 0.061 mW/g

SAR(10 g) = 0.034 mW/g

Power Drift = 0.003 dB

Maximum value of SAR (measured) = 0.067 mW/g



Date/Time: 2008-05-19 23:22:01

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.967$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.421 mW/g

Body - Middle - No Accessory - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.30 V/m

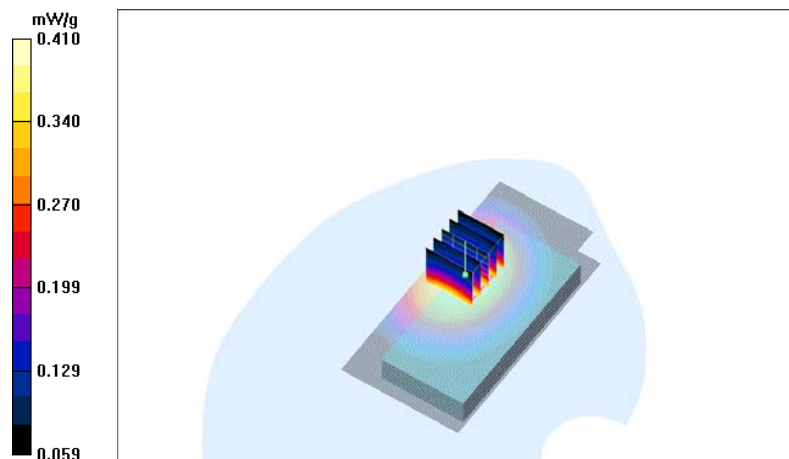
Peak SAR (extrapolated) = 0.479 W/kg

SAR(1 g) = 0.387 mW/g

SAR(10 g) = 0.290 mW/g

Power Drift = -0.330 dB

Maximum value of SAR (measured) = 0.410 mW/g



Date/Time: 2008-05-19 23:34:56

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.967$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - HS-45+AD-54 - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.228 mW/g

Body - Middle - HS-45+AD-54 - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.60 V/m

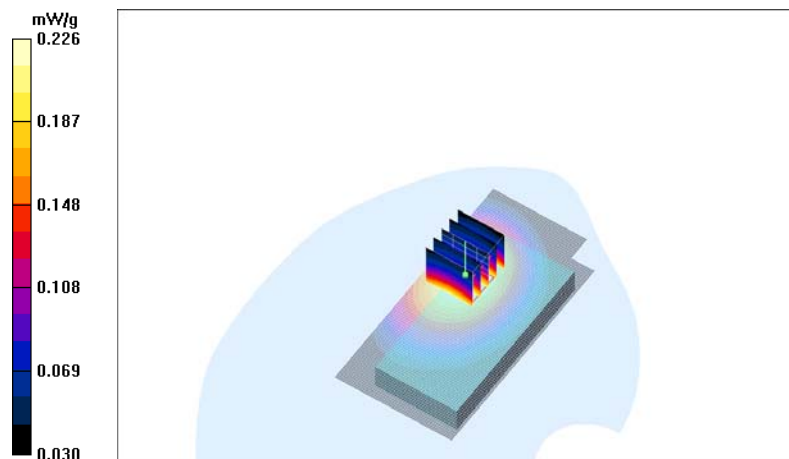
Peak SAR (extrapolated) = 0.268 W/kg

SAR(1 g) = 0.214 mW/g

SAR(10 g) = 0.160 mW/g

Power Drift = -0.086 dB

Maximum value of SAR (measured) = 0.226 mW/g



Date/Time: 2008-05-20 00:16:20

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.98$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - No Accessory - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.679 mW/g

Body - High - No Accessory - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.46 V/m

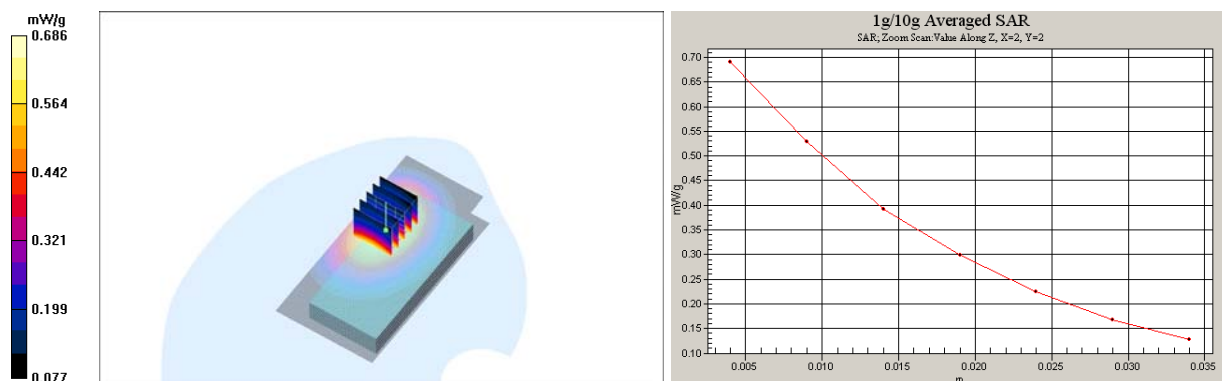
Peak SAR (extrapolated) = 0.831 W/kg

SAR(1 g) = 0.647 mW/g

SAR(10 g) = 0.469 mW/g

Power Drift = 0.039 dB

Maximum value of SAR (measured) = 0.686 mW/g



Date/Time: 2008-05-20 00:06:32

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.98$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - HS-45+AD-54 - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.398 mW/g

Body - High - HS-45+AD-54 - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.84 V/m

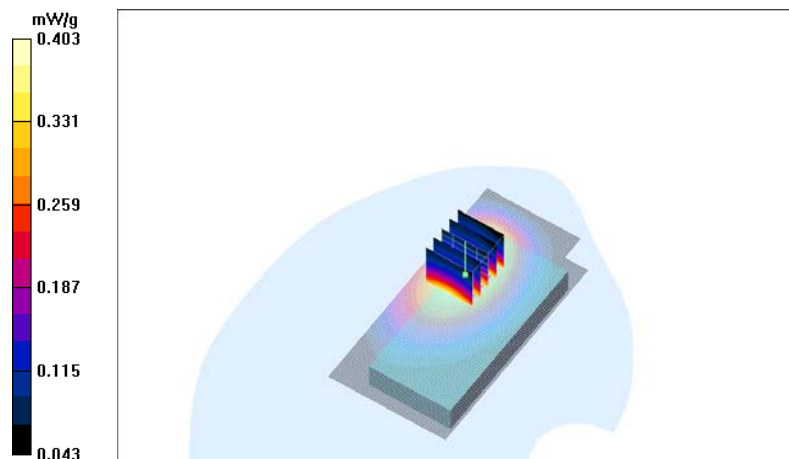
Peak SAR (extrapolated) = 0.494 W/kg

SAR(1 g) = 0.381 mW/g

SAR(10 g) = 0.276 mW/g

Power Drift = -0.118 dB

Maximum value of SAR (measured) = 0.403 mW/g



Date/Time: 2008-05-20 00:26:23

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: 3-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:2.8

Medium: Body 850; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.98$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.59, 5.59, 5.59); Calibrated: 2007-10-26
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2007-08-29
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - No Accessory - Back facing phantom - BT active/Area Scan (51x101x1): Measurement grid:

$dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.677 mW/g

Body - High - No Accessory - Back facing phantom - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 9.42 V/m

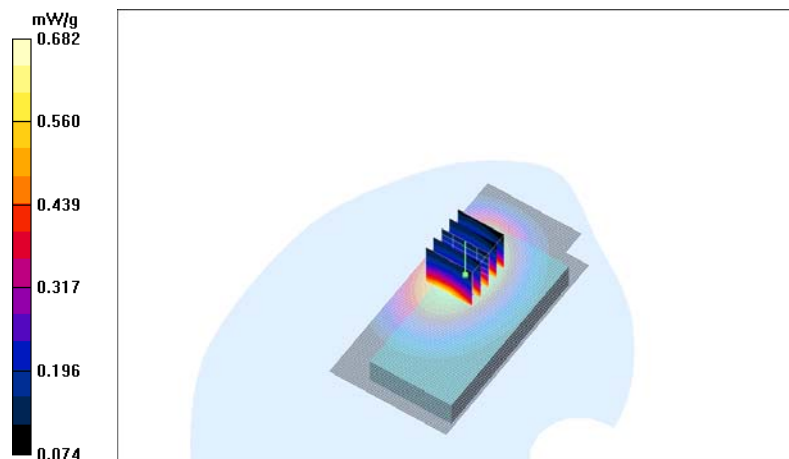
Peak SAR (extrapolated) = 0.826 W/kg

SAR(1 g) = 0.642 mW/g

SAR(10 g) = 0.465 mW/g

Power Drift = -0.007 dB

Maximum value of SAR (measured) = 0.682 mW/g



Date/Time: 2008-05-19 21:25:31

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.62, 4.62, 4.62); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.385 mW/g

Body - Middle - No Accessory - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.96 V/m

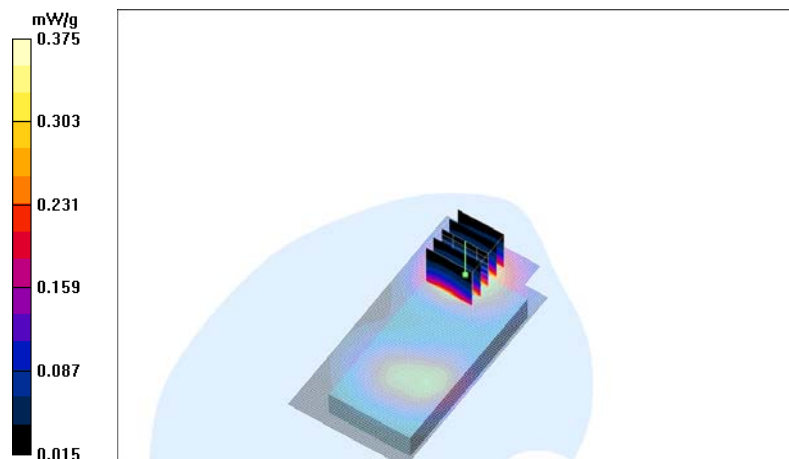
Peak SAR (extrapolated) = 0.576 W/kg

SAR(1 g) = 0.354 mW/g

SAR(10 g) = 0.214 mW/g

Power Drift = -0.344 dB

Maximum value of SAR (measured) = 0.375 mW/g



Date/Time: 2008-05-19 21:39:52

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.62, 4.62, 4.62); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - HS-45+AD54 - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.335 mW/g

Body - Middle - HS-45+AD54 - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.74 V/m

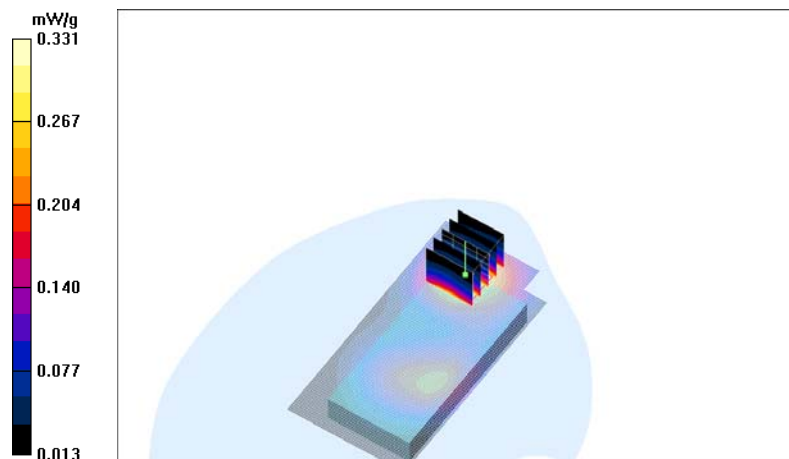
Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.307 mW/g

SAR(10 g) = 0.185 mW/g

Power Drift = 0.005 dB

Maximum value of SAR (measured) = 0.331 mW/g



Date/Time: 2008-05-19 22:40:32

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.62, 4.62, 4.62); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Low - No Accessory - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.557 mW/g

Body - Low - No Accessory - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.99 V/m

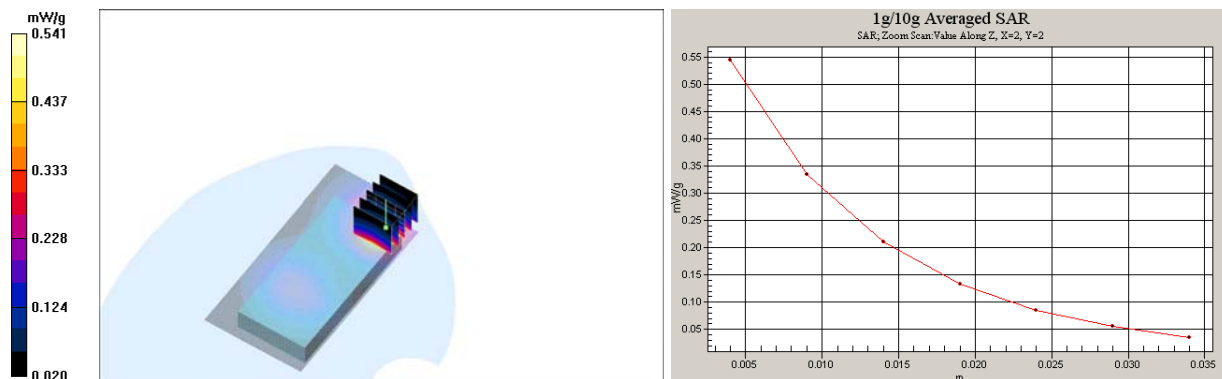
Peak SAR (extrapolated) = 0.812 W/kg

SAR(1 g) = 0.494 mW/g

SAR(10 g) = 0.293 mW/g

Power Drift = -0.022 dB

Maximum value of SAR (measured) = 0.541 mW/g



Date/Time: 2008-05-19 22:28:54

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.62, 4.62, 4.62); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Low - HS-45+AD54 - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.505 mW/g

Body - Low - HS-45+AD54 - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.55 V/m

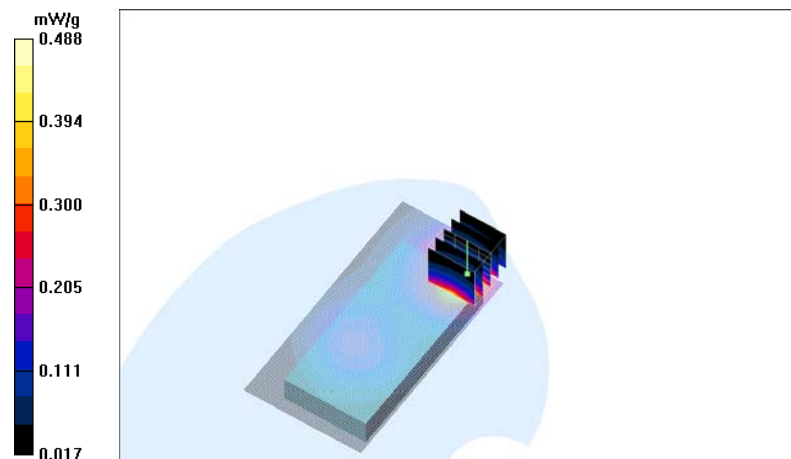
Peak SAR (extrapolated) = 0.746 W/kg

SAR(1 g) = 0.446 mW/g

SAR(10 g) = 0.263 mW/g

Power Drift = -0.029 dB

Maximum value of SAR (measured) = 0.488 mW/g



Date/Time: 2008-05-19 23:05:38

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: GSM 1900

Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.62, 4.62, 4.62); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2008-03-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Low - No Accessory - Back facing phantom - BT active/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.558 mW/g

Body - Low - No Accessory - Back facing phantom - BT active/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.01 V/m

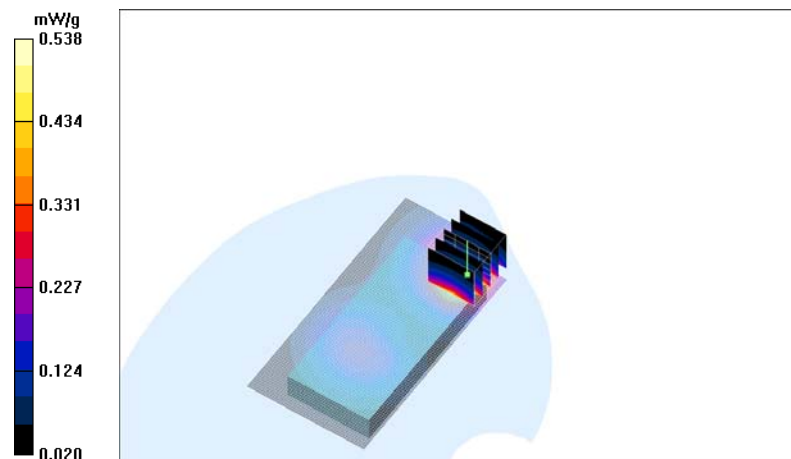
Peak SAR (extrapolated) = 0.819 W/kg

SAR(1 g) = 0.493 mW/g

SAR(10 g) = 0.293 mW/g

Power Drift = -0.047 dB

Maximum value of SAR (measured) = 0.538 mW/g



Date/Time: 2008-04-29 18:00:24

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.035 mW/g

Body - Middle - No Accessory - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.90 V/m

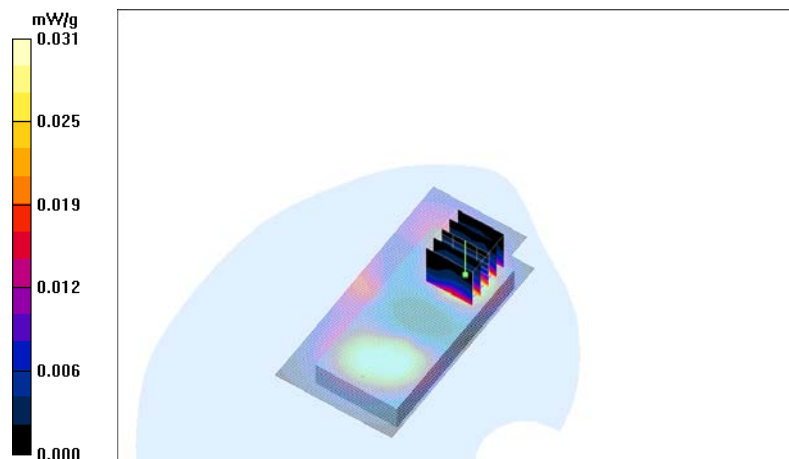
Peak SAR (extrapolated) = 0.052 W/kg

SAR(1 g) = 0.029 mW/g

SAR(10 g) = 0.017 mW/g

Power Drift = -0.086 dB

Maximum value of SAR (measured) = 0.031 mW/g



Date/Time: 2008-04-29 18:14:22

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - HS-45+AD-54 - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.034 mW/g

Body - Middle - HS-45+AD-54 - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.08 V/m

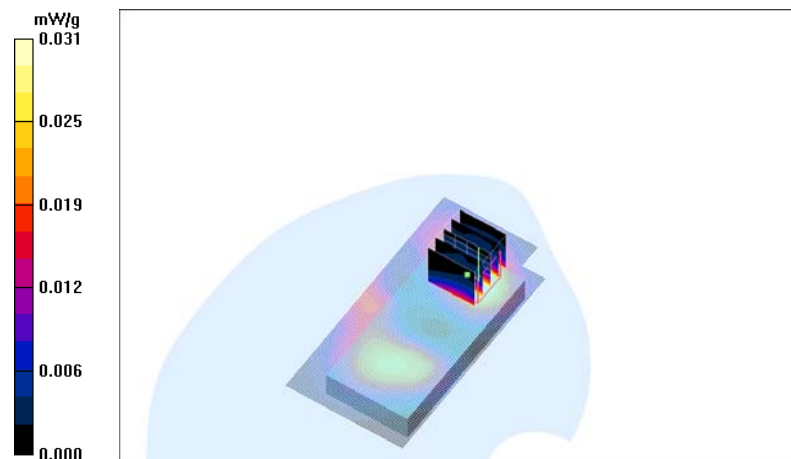
Peak SAR (extrapolated) = 0.051 W/kg

SAR(1 g) = 0.029 mW/g

SAR(10 g) = 0.017 mW/g

Power Drift = 0.049 dB

Maximum value of SAR (measured) = 0.031 mW/g



Date/Time: 2008-04-29 19:26:10

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 2462$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - No Accessory - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - High - No Accessory - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.57 V/m

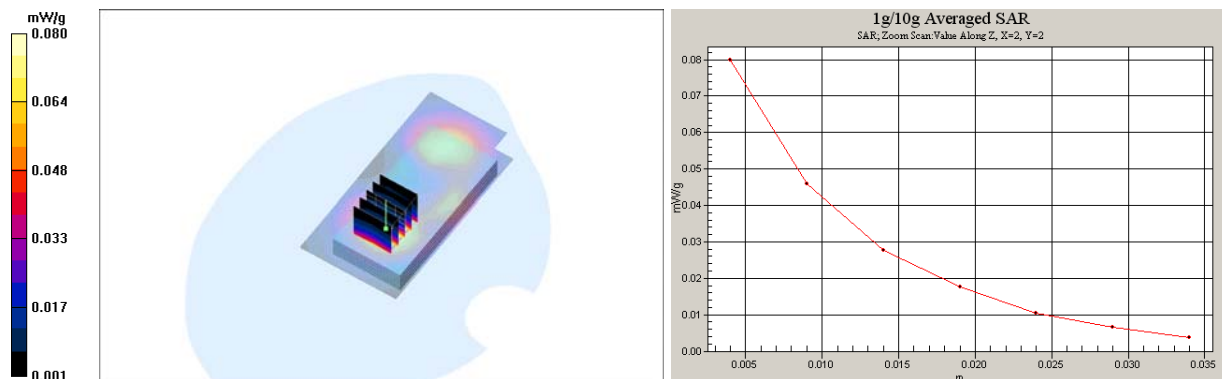
Peak SAR (extrapolated) = 0.131 W/kg

SAR(1 g) = 0.074 mW/g

SAR(10 g) = 0.043 mW/g

Power Drift = -0.106 dB

Maximum value of SAR (measured) = 0.080 mW/g



Date/Time: 2008-04-29 19:37:17

Test Laboratory: TCC Nokia

Type: RM-356; Serial: 0044001/10/048450/6

Communication System: WLAN2450

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 2462$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2007-08-29
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn339; Calibrated: 2007-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - HS-45+AD-54 - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.071 mW/g

Body - High - HS-45+AD-54 - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.98 V/m

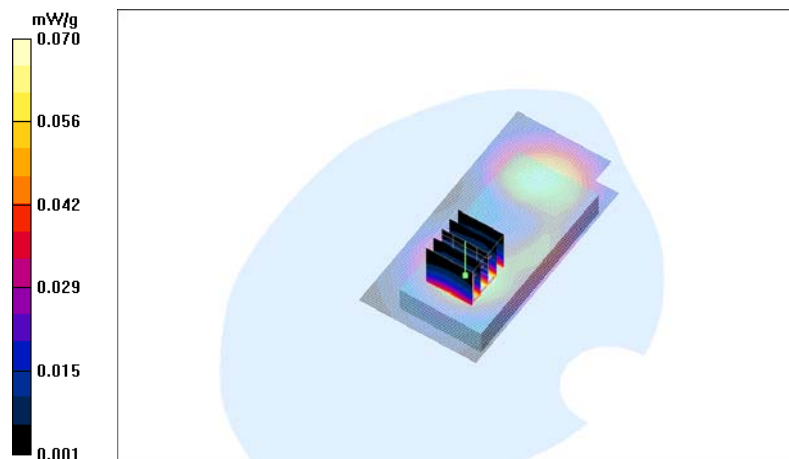
Peak SAR (extrapolated) = 0.111 W/kg

SAR(1 g) = 0.065 mW/g

SAR(10 g) = 0.038 mW/g

Power Drift = 0.036 dB

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



APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)

See the following pages



Accredited by the Swiss Federal Office of Metrology and Accreditation
 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 Denmark A/S**

Certificate No: **ES3-3117_Aug07**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3117**

Calibration procedure(s) **QA CAL-01.v6**
Calibration procedure for dosimetric E-field probes

Calibration date: **August 29, 2007**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

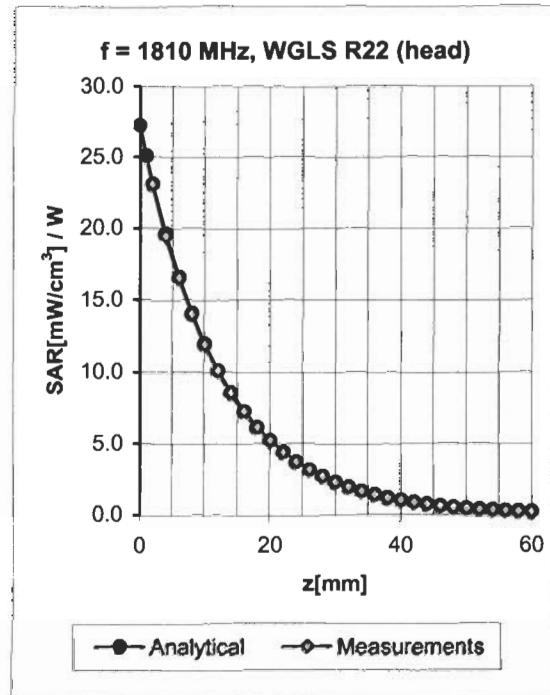
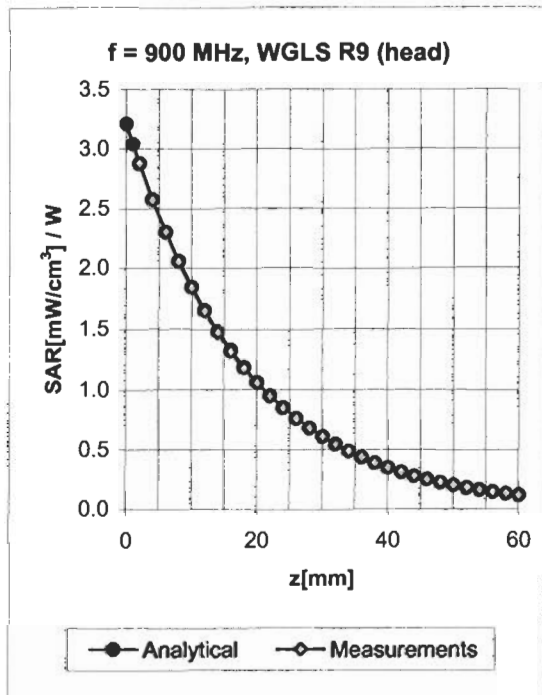
Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41495277	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41498087	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Reference 3 dB Attenuator	SN: S5054 (3c)	8-Aug-07 (METAS, No. 217-00719)	Aug-08
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-07 (METAS, No. 217-00671)	Mar-08
Reference 30 dB Attenuator	SN: S5129 (30b)	8-Aug-07 (METAS, No. 217-00720)	Aug-08
Reference Probe ES3DV2	SN: 3013	4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Jan-08
DAE4	SN: 654	20-Apr-07 (SPEAG, No. DAE4-654_Apr07)	Apr-08
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

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

Issued: August 29, 2007

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

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	1.00	1.13	6.01	± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.75	1.32	5.05	± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.79	1.23	4.71	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.68	1.35	4.41	± 11.8% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.63	1.36	4.28	± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.97	1.21	5.74	± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.78	1.30	4.62	± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.67	1.48	4.41	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.85	1.09	4.12	± 11.8% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.80	1.17	3.89	± 11.8% (k=2)

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



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 Denmark A/S**

Certificate No: **ES3-3118_Oct07**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3118**

Calibration procedure(s) **QA CAL-01.v6**
Calibration procedure for dosimetric E-field probes

Calibration date: **October 26, 2007**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41495277	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41498087	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Reference 3 dB Attenuator	SN: S5054 (3c)	8-Aug-07 (METAS, No. 217-00719)	Aug-08
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-07 (METAS, No. 217-00671)	Mar-08
Reference 30 dB Attenuator	SN: S5129 (30b)	8-Aug-07 (METAS, No. 217-00720)	Aug-08
Reference Probe ES3DV2	SN: 3013	4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Jan-08
DAE4	SN: 654	20-Apr-07 (SPEAG, No. DAE4-654_Apr07)	Apr-08
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

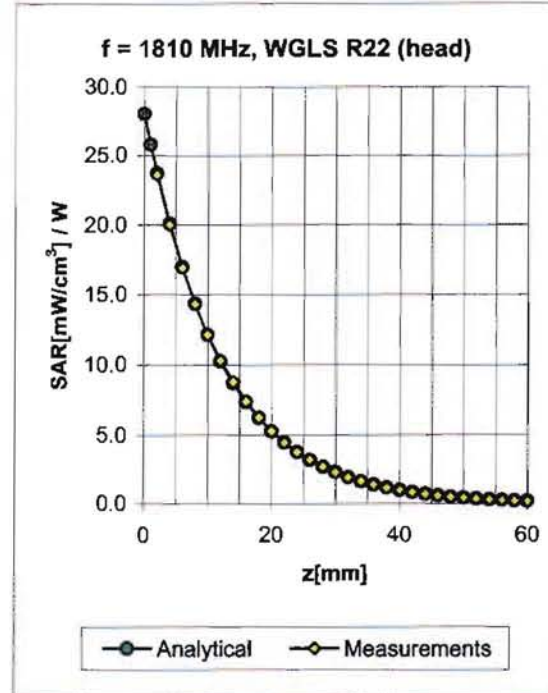
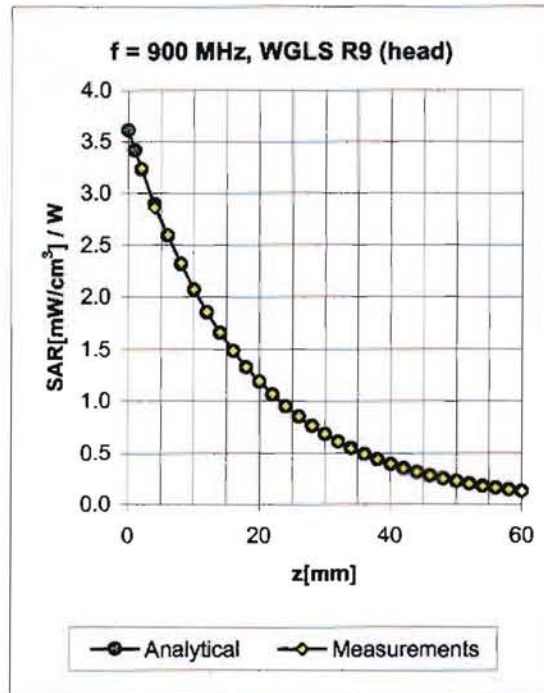
Calibrated by: **Katja Pokovic** **Technical Manager**

Approved by: **Niels Kuster** **Quality Manager**

Issued: October 29, 2007

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

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.85	1.30	5.99	± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.90	1.21	5.26	± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.85	1.26	5.05	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.85	1.21	4.68	± 11.8% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.85	1.34	5.59	± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.89	1.31	4.92	± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.89	1.27	4.66	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.80	1.19	4.30	± 11.8% (k=2)

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

APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)

See the following pages



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 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 DK R&D**

Certificate No: **D835V2-4d042_Sep06**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d042**

Calibration procedure(s) **QA CAL-05.v6**
Calibration procedure for dipole validation kits

Calibration date: **September 19, 2006**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ET3DV6	SN 1507	28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

Calibrated by:	Name Mike Meili	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 19, 2006

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DASY4 Validation Report for Head TSL

Date/Time: 14.08.2006 14:29:57

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d042

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900;

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 42.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(6.09, 6.09, 6.09); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

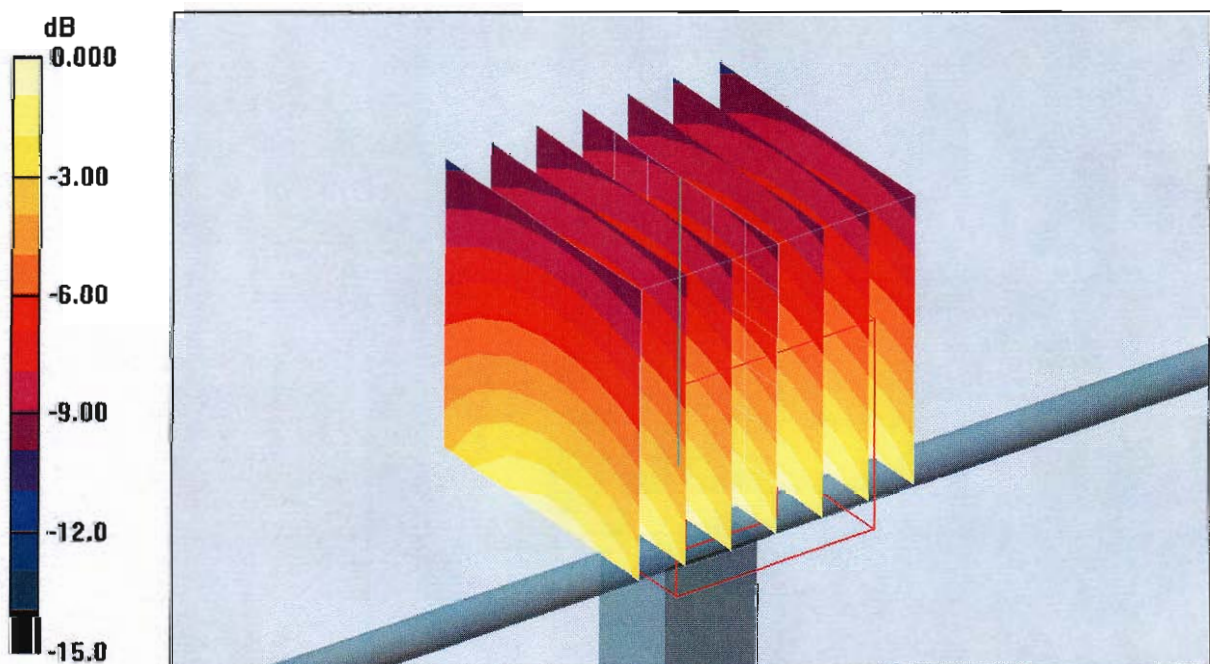
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 55.3 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 3.46 W/kg

SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.53 mW/g

Maximum value of SAR (measured) = 2.52 mW/g



0 dB = 2.52mW/g

DASY4 Validation Report for Body TSL

Date/Time: 19.09.2006 15:10:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL 900;

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 53.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.84, 5.84, 5.84); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:

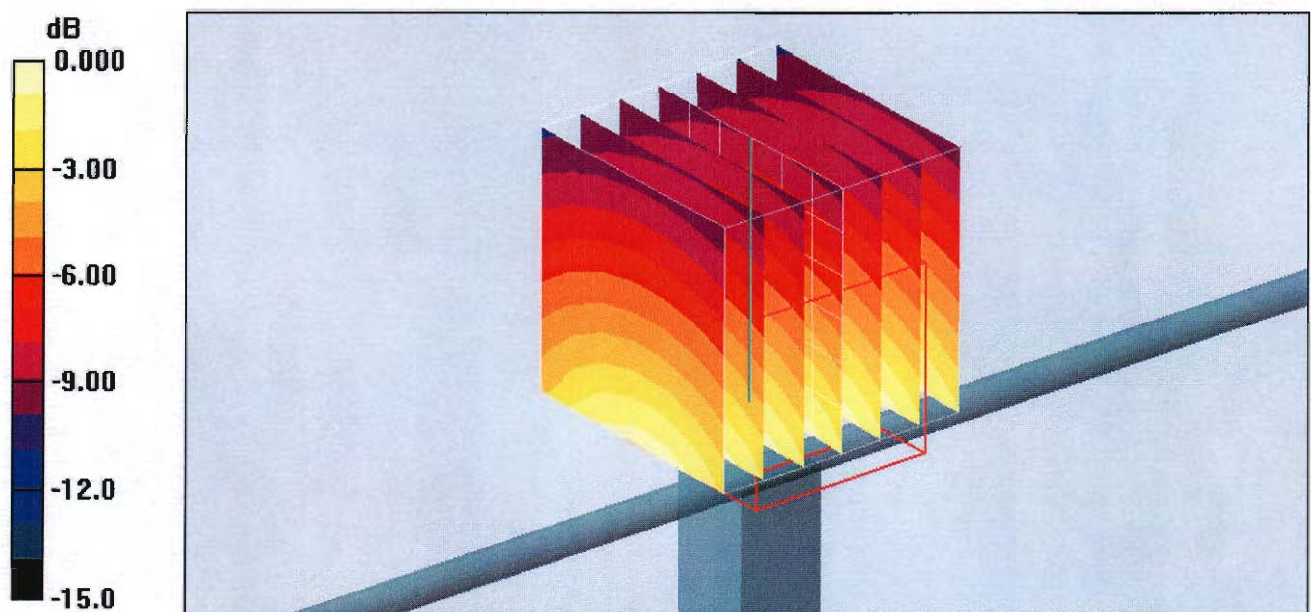
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.8 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 3.54 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.61 mW/g



0 dB = 2.61mW/g

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



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

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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D1900V2-5d026_Mar08**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d026**

Calibration procedure(s) **QA CAL-05.v7**
Calibration procedure for dipole validation kits

Calibration date: **March 18, 2008**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (METAS, No 217-00718)	Aug-08
Reference 10 dB Attenuator	SN: 5047.2 (10r)	07-Aug-07 (METAS, No 217-00718)	Aug-08
Reference Probe ES3DV2	SN: 3025	01-Mar-08 (SPEAG, No. ES3-3025_Mar08)	Mar-09
DAE4	SN 909	3-Sep-08 (SPEAG, No. DAE4-909_Sep07)	Sep-07
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-07)	In house check: Oct-08
RF generator R&S SMT-06	100005	4-Aug-99 (SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-07)	In house check: Oct-08
Power meter EPM-442A	GB37480704	04-Oct-07 (METAS, No. 217-00736)	Oct-08

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 18, 2008

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DASY4 Validation Report for Head TSL

Date/Time: 18.03.2008 11:48:54

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL U10 BB;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn909; Calibrated: 03.09.2007
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

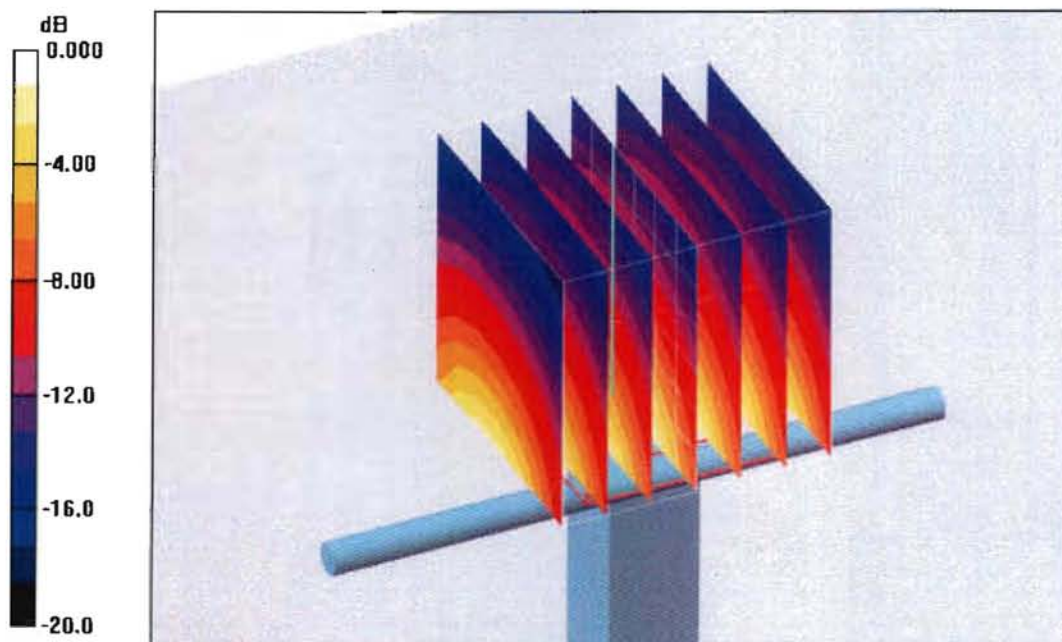
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 90.7 V/m; Power Drift = 0.071 dB

Peak SAR (extrapolated) = 19.3 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.27 mW/g

Maximum value of SAR (measured) = 12.0 mW/g



0 dB = 12.0mW/g

DASY4 Validation Report for Body TSL

Date/Time: 14.03.2008 12:53:13

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn909; Calibrated: 03.09.2007
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

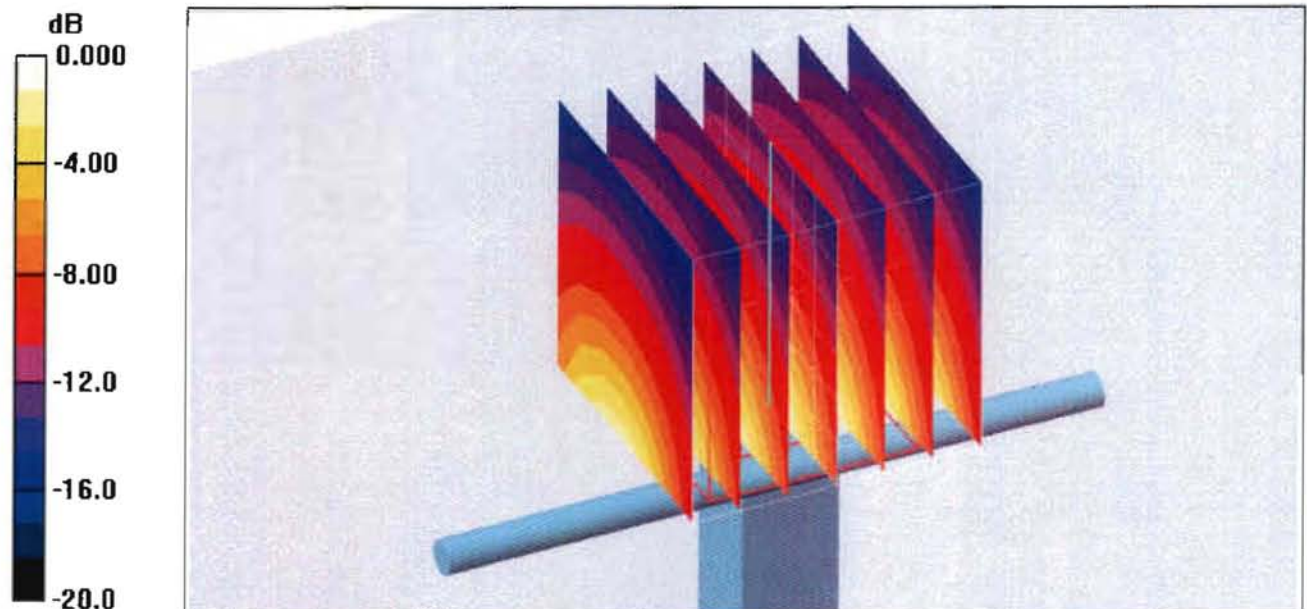
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.8 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 18.7 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.5 mW/g

Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1 mW/g



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Accreditation No.: **SCS 108**

Client **Nokia DK TCC**

Certificate No: **D2450V2-790_Aug06**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 790**

Calibration procedure(s) **QA CAL-05.v6**
Calibration procedure for dipole validation kits

Calibration date: **August 21, 2006**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Power sensor HP 8481A	US37292783	04-Oct-05 (METAS, No. 251-00516)	Oct-06
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ES3DV2	SN 3025	28-Oct-05 (SPEAG, No. ES3-3025_Oct05)	Oct-06
DAE4	SN 601	15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Dec-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov-06

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	<i>M. Meili</i>
Approved by:	Katja Pokovic	Technical Manager	<i>K. Pokovic</i>
			Issued: August 22, 2006

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DASY4 Validation Report for Head TSL

Date/Time: 21.08.2006 12:56:27

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN790

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL U10 BB_060425;

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025 (HF); ConvF(4.4, 4.4, 4.4); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

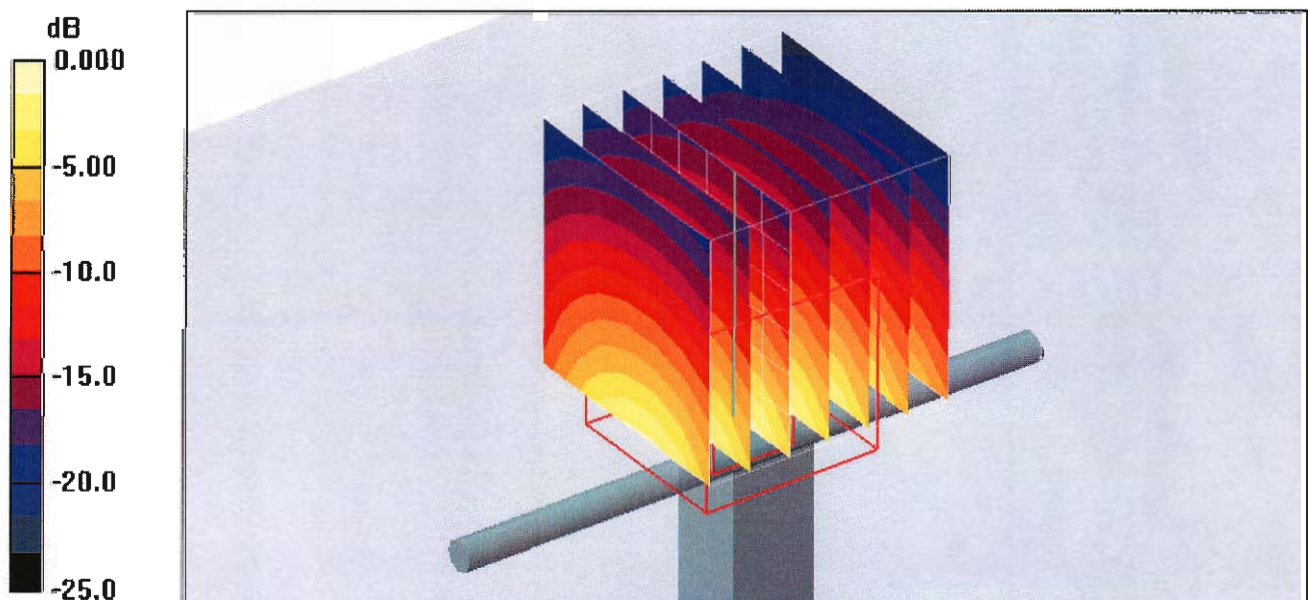
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.1 V/m; Power Drift = -0.132 dB

Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 14.1 mW/g; SAR(10 g) = 6.56 mW/g

Maximum value of SAR (measured) = 15.5 mW/g



0 dB = 15.5mW/g

DASY4 Validation Report for Body TSL

Date/Time: 21.08.2006 16:26:47

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN790

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL U10;

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025 (HF); ConvF(4.06, 4.06, 4.06); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

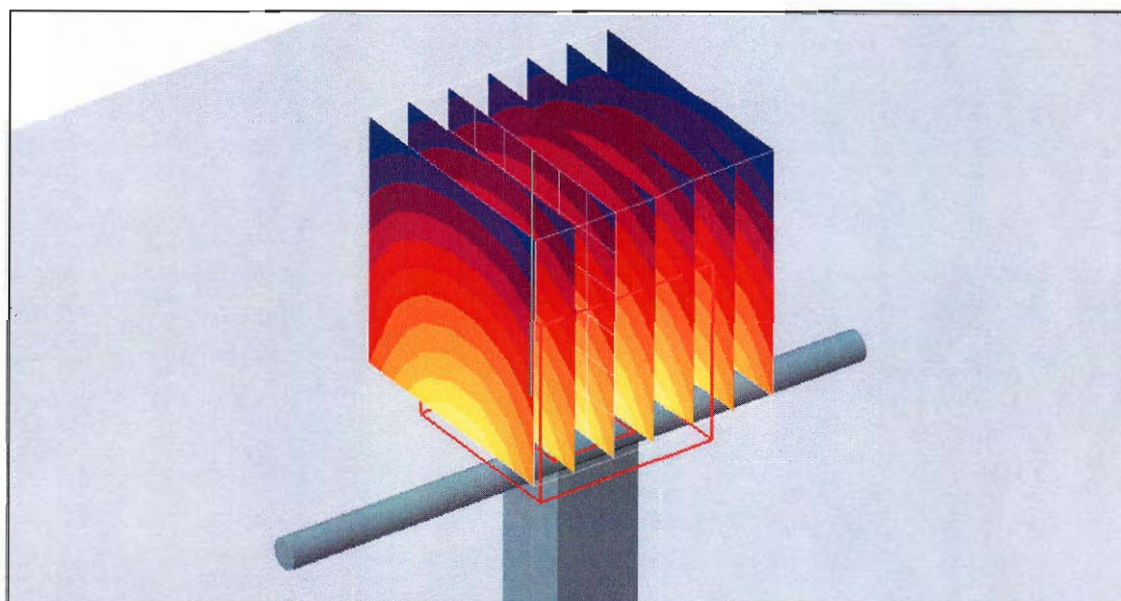
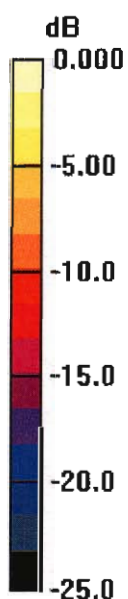
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 30.4 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.24 mW/g

Maximum value of SAR (measured) = 14.7 mW/g



0 dB = 14.7mW/g