Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, Worst case extrapolation, right

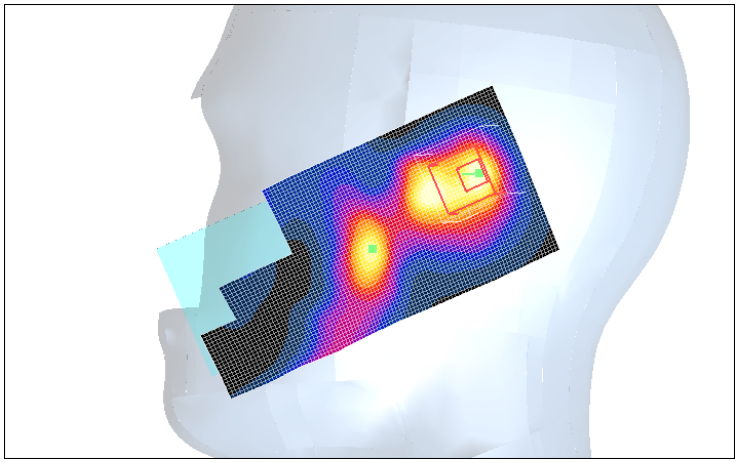
Communication System: WLAN 2450; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3 , t(liq.)=20.6°C
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.3, 4.3, 4.3); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Cheek, no MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 5.15 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.056 mW/g

Cheek, no MMC - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.15 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.051 mW/g, Peak SAR (extrapolated) = 0.102 W/kg
SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.024 mW/g

Cheek, no MMC - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.15 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.051 mW/g, Peak SAR (extrapolated) = 0.106 W/kg
SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.021 mW/g

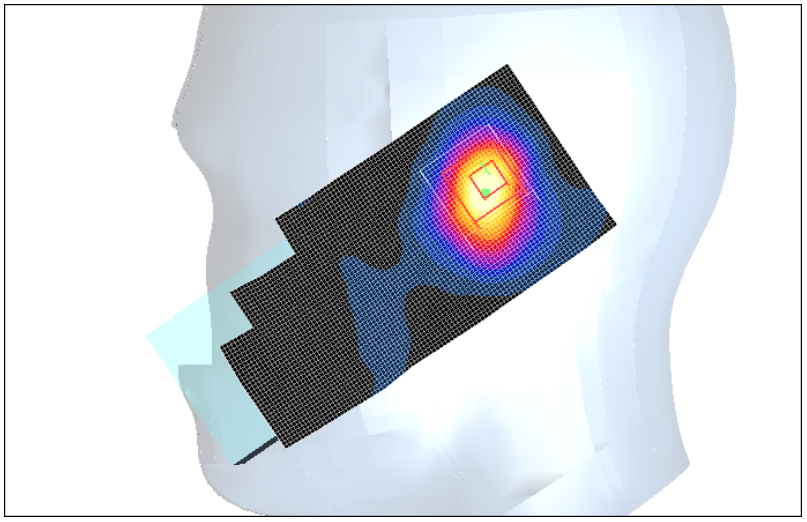


Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, Worst case extrapolation, Right
Communication System: WLAN 2450; Frequency: 2442 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2442 MHz; σ = 1.84 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3 , t(liq.)=20.7°C
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.3, 4.3, 4.3); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Tilt, no MMC - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 4.88 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.047 mW/g

Tilt, no MMC - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.88 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.043 mW/g, Peak SAR (extrapolated) = 0.092 W/kg
SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.020 mW/g



Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, Worst case extrapolation, Right

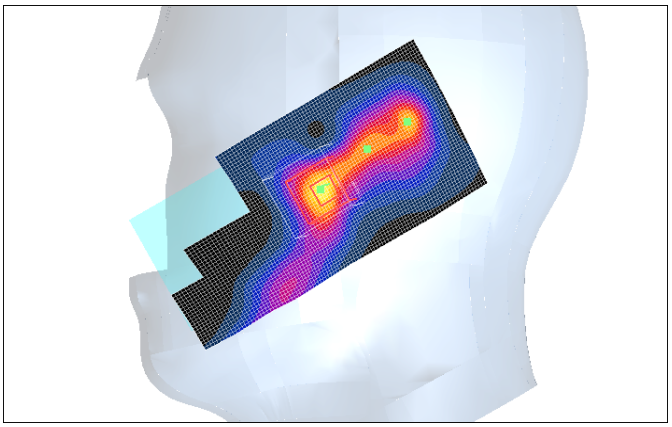
Communication System: WLAN 2450; Frequency: 2472 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2472 MHz; σ = 1.84 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3 , t(liq.)=20.4°C
Phantom section: Right Section

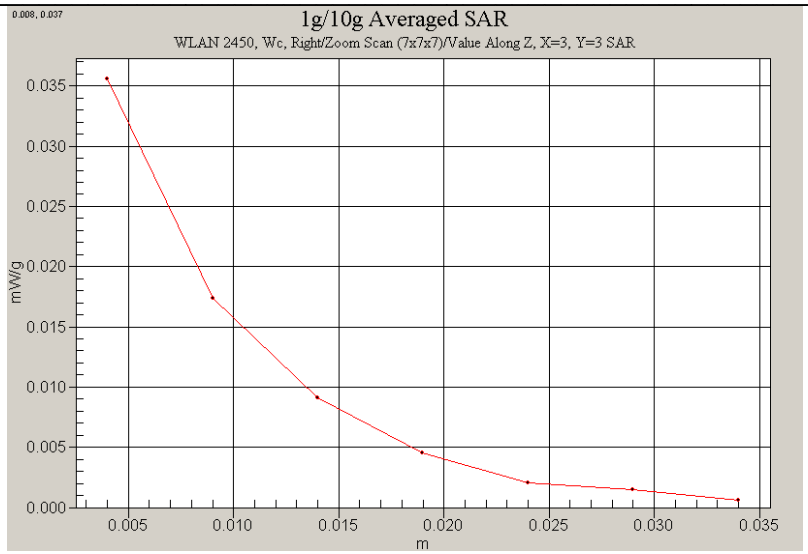
DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.3, 4.3, 4.3); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Cheek, with MMC - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 4.22 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.047 mW/g

Cheek, with MMC - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.22 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.053 mW/g, Peak SAR (extrapolated) = 0.104 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.022 mW/g

Cheek, with MMC - High/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.22 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.036 mW/g, Peak SAR (extrapolated) = 0.077 W/kg
SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.017 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.





Date: 2004-07-13
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS850, Worst case extrapolation, Body

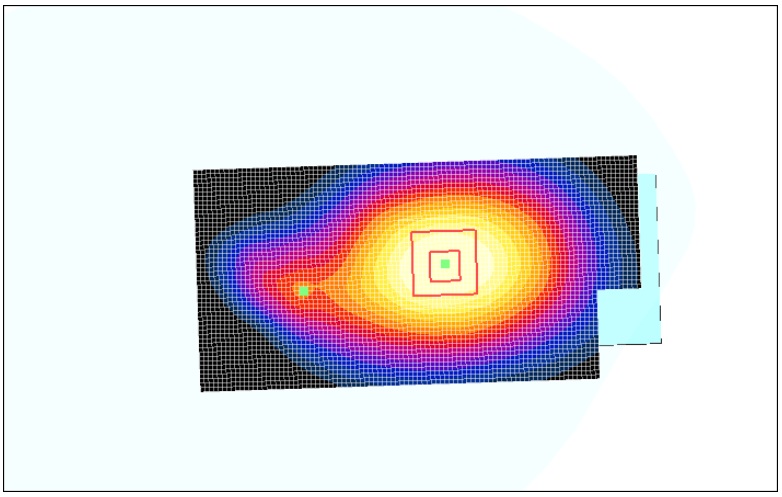
Communication System: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 54; ρ = 1000 kg/m^3 , t(liq.)=20.8°C
Phantom section: Flat Section

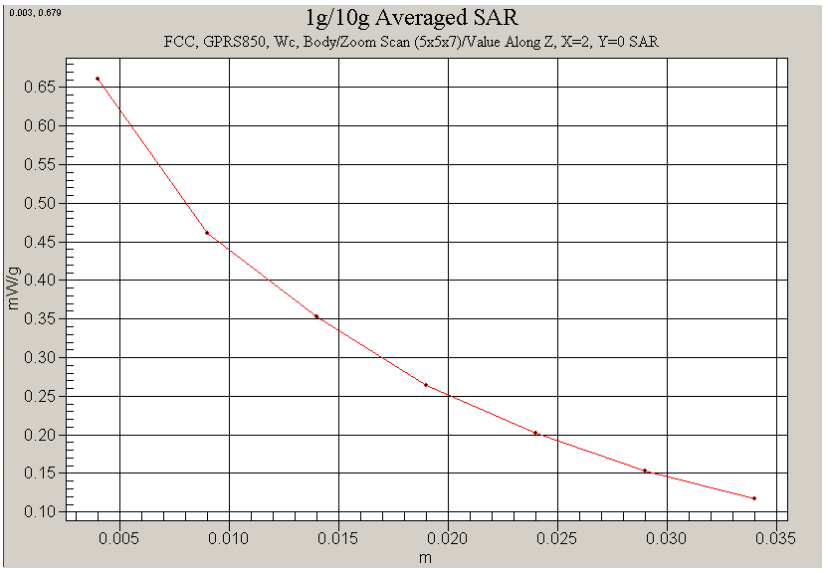
DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, 15mm, no MMC, no hs - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 22.1 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.943 mW/g

Body, 15mm, no MMC, no hs - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.1 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.913 mW/g, Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.877 mW/g; SAR(10 g) = 0.638 mW/g

Body, 15mm, no MMC, no hs - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.1 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.661 mW/g, Peak SAR (extrapolated) = 0.944 W/kg
SAR(1 g) = 0.583 mW/g; SAR(10 g) = 0.388 mW/g
Maximum averaged SAR over 1 g is located on the boundary of the measurement cube.
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.





Date: 2004-07-13
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS850, Worst case extrapolation, Body

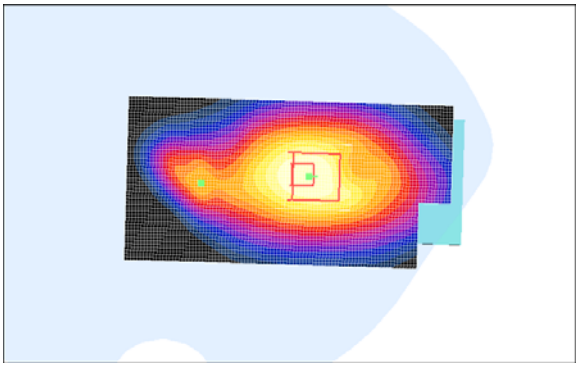
Communication System: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 54; ρ = 1000 kg/m^3 , t(liq.)=20.8°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, 15mm, no MMC, HDS-3 - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 20.6 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.681 mW/g

Body, 15mm, no MMC, HDS-3 - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.667 mW/g, Peak SAR (extrapolated) = 0.901 W/kg
SAR(1 g) = 0.630 mW/g; SAR(10 g) = 0.458 mW/g

Body, 15mm, no MMC, HDS-3 - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.487 mW/g, Peak SAR (extrapolated) = 0.769 W/kg
SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.306 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



Date: 2004-07-13
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS850, Worst case extrapolation, Body

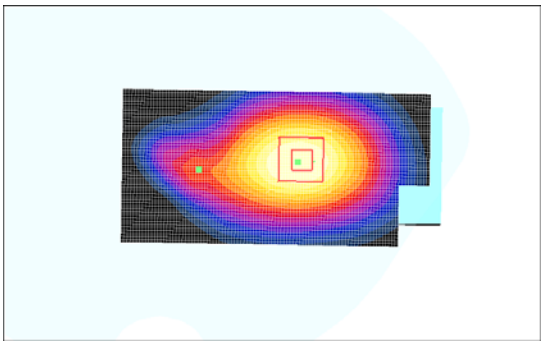
Communication System: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 54; ρ = 1000 kg/m^3 , t(liq.)=20.7°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, 15mm with MMC, no hs - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 21.2 V/m; Power Drift = 0.0 dB
Maximum value of SAR (interpolated) = 0.913 mW/g

Body, 15mm with MMC, no hs - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.2 V/m; Power Drift = 0.0 dB
Maximum value of SAR (measured) = 0.894 mW/g, Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.859 mW/g; SAR(10 g) = 0.623 mW/g

Body, 15mm with MMC, no hs - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.2 V/m; Power Drift = 0.0 dB
Maximum value of SAR (measured) = 0.640 mW/g, Peak SAR (extrapolated) = 0.880 W/kg
SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.381 mW/g
Maximum averaged SAR over 1 g is located on the boundary of the measurement cube.
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



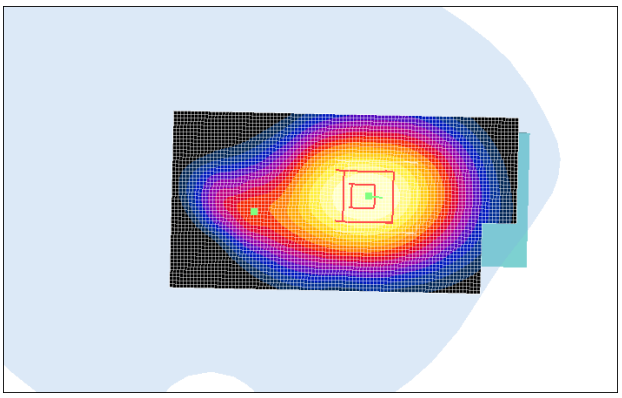
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS850, Worst case extrapolation, Body
Communication System: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3 , t(liq.)=21.3°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, 15mm, no MMC, no hs, BT active - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.904 mW/g

Body, 15mm, no MMC, no hs, BT active - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.886 mW/g, Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.843 mW/g; SAR(10 g) = 0.609 mW/g

Body, 15mm, no MMC, no hs, BT active - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.640 mW/g, Peak SAR (extrapolated) = 0.914 W/kg
SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.376 mW/g
Maximum averaged SAR over 1 g is located on the boundary of the measurement cube.
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



Date: 2004-07-13
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM850, Worst case extrapolation, Body

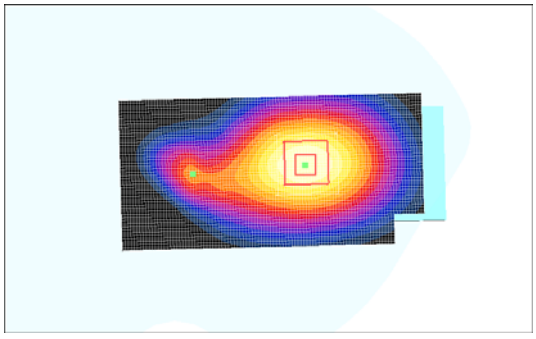
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.95 mho/m; ε_r = 54; ρ = 1000 kg/m^3 , t(liq.)=21.1°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body,15mm, no MMC, no hs, Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 23.1 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.926 mW/g

Body,15mm, no MMC, no hs, Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 23.1 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.914 mW/g, Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.877 mW/g; SAR(10 g) = 0.628 mW/g

Body,15mm, no MMC, no hs, Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 23.1 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.605 mW/g, Peak SAR (extrapolated) = 0.977 W/kg
SAR(1 g) = 0.566 mW/g; SAR(10 g) = 0.371 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



Date: 2004-07-13
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM850, Worst case extrapolation, Body

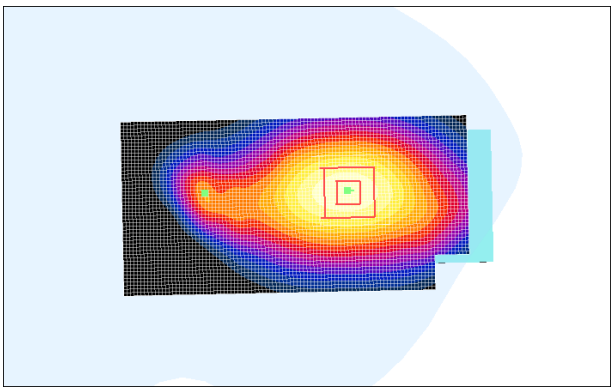
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 54; ρ = 1000 kg/m^3 , t(liq.)=20.8°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body,15mm, no MMC, HDS-3, Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 17.2 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.663 mW/g

Body,15mm, no MMC, HDS-3, Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.664 mW/g, Peak SAR (extrapolated) = 0.933 W/kg
SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.454 mW/g

Body,15mm, no MMC, HDS-3, Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.465 mW/g, Peak SAR (extrapolated) = 0.776 W/kg
SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.281 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM850, Worst case extrapolation, Body

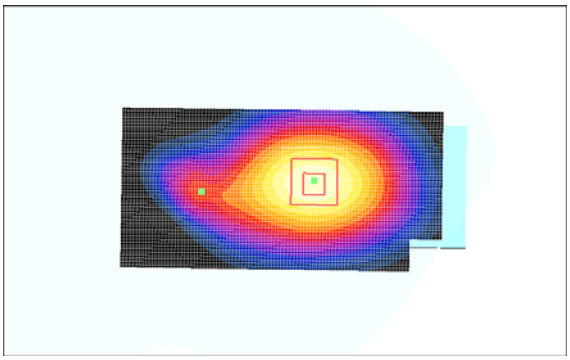
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3 , t(liq.)=21.5°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body,15mm, with MMC, no hs, - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.907 mW/g

Body,15mm, with MMC, no hs, - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.902 mW/g, Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.860 mW/g; SAR(10 g) = 0.618 mW/g

Body,15mm, with MMC, no hs, - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.613 mW/g, Peak SAR (extrapolated) = 0.874 W/kg
SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.362 mW/g
Maximum averaged SAR over 1 g is located on the boundary of the measurement cube.
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM850, Worst case extrapolation, Body

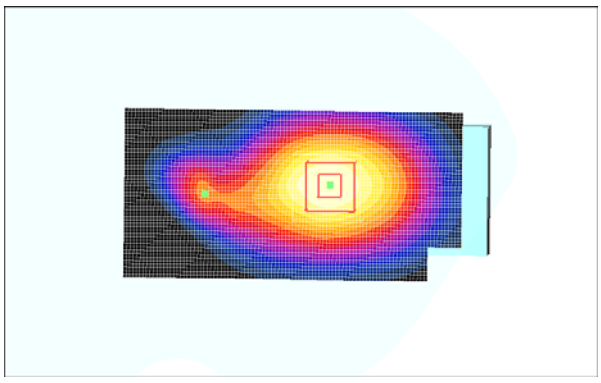
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.6 MHz; σ = 0.95 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3 , t(liq.)=21.2°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(6.18, 6.18, 6.18); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body,15mm, no MMC, no hs, BT active - Mid/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 22.5 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.915 mW/g

Body,15mm, no MMC, no hs, BT active - Mid/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.5 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.899 mW/g, Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.860 mW/g; SAR(10 g) = 0.617 mW/g

Body,15mm, no MMC, no hs, BT active - Mid/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.5 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.601 mW/g, Peak SAR (extrapolated) = 0.961 W/kg
SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.365 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



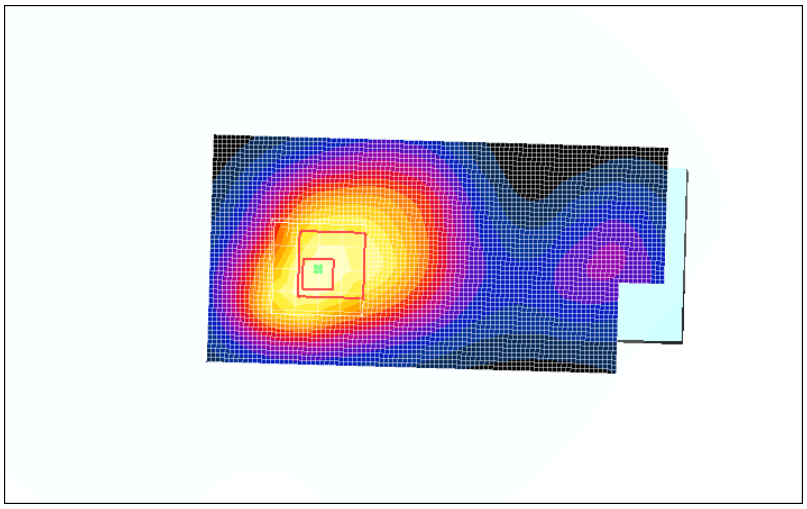
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS 1900, body, Worst case extrapolation

Communication System: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=21.2°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, no hs, no MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 15.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.687 mW/g

Body 15mm, no hs, no MMC - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.679 mW/g, Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.655 mW/g; SAR(10 g) = 0.396 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



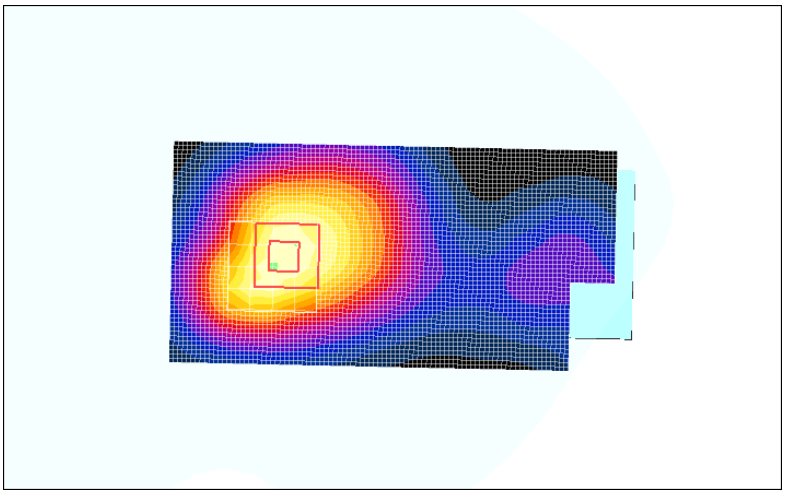
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS 1900, body, Worst case extrapolation

Communication System: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=21.0°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, HDS-3, no MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 16.3 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.682 mW/g

Body 15mm, HDS-3, no MMC - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.3 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.649 mW/g, Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.386 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



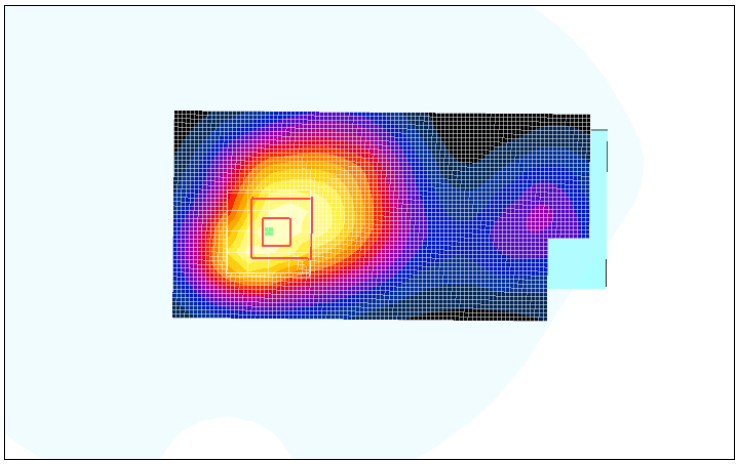
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS 1900, body, Worst case extrapolation

Communication System: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=20.9°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, no hs, with MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 15.5 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.666 mW/g

Body 15mm, no hs, with MMC - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.654 mW/g, Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.629 mW/g; SAR(10 g) = 0.381 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



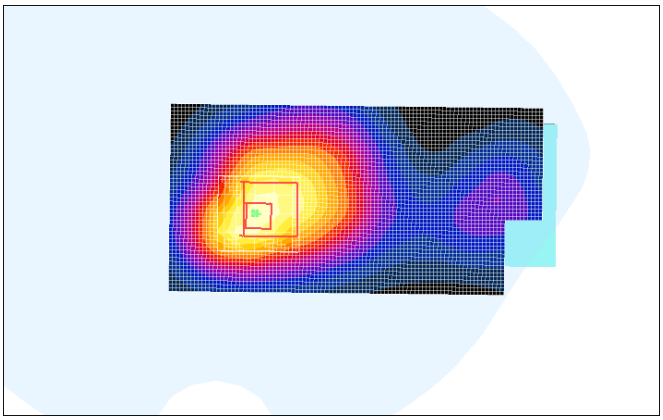
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GPRS 1900, body, Worst case extrapolation

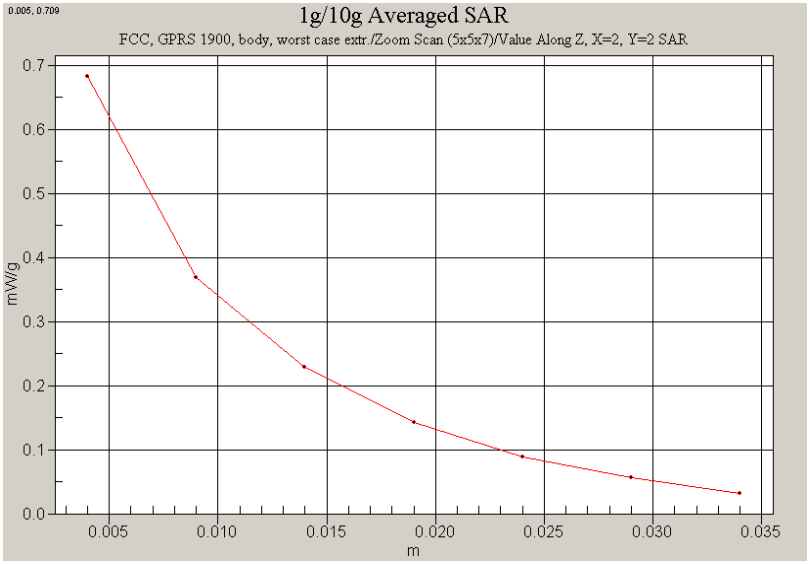
Communication System: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=20.8°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, no hs, no MMC, BT active - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 15.8 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.698 mW/g

Body 15mm, no hs, no MMC, BT active - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.683 mW/g, Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.656 mW/g; SAR(10 g) = 0.393 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.





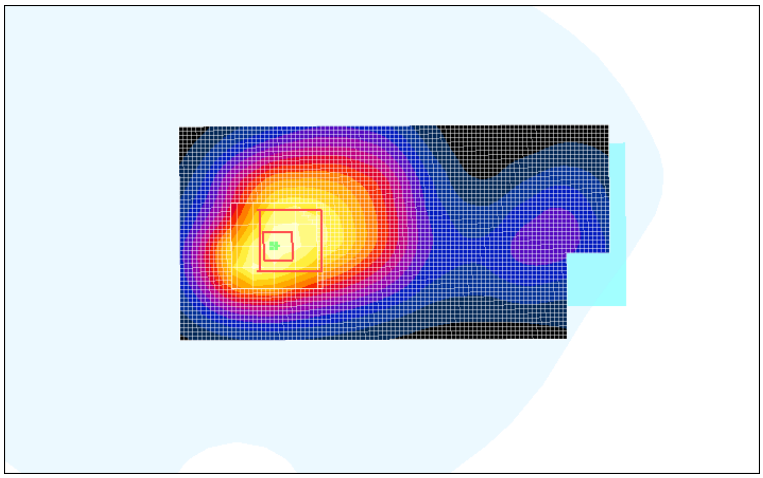
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM1900, Worst case extrapolation, Body

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=21.1°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, no hs, no MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 15.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.642 mW/g

Body 15mm, no hs, no MMC - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.621 mW/g, Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.592 mW/g; SAR(10 g) = 0.354 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



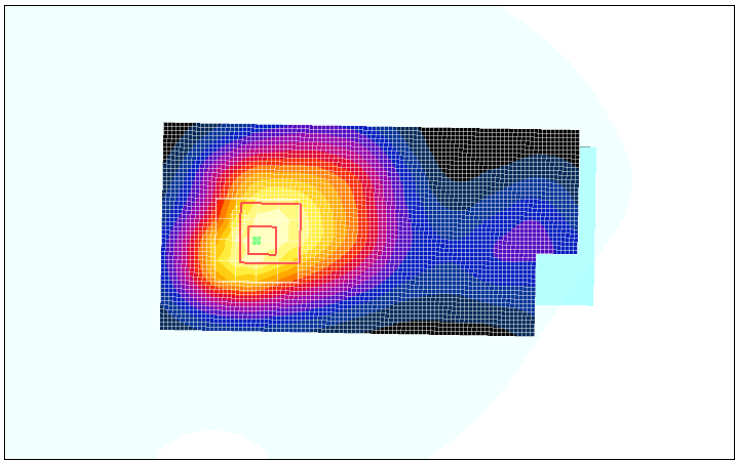
Date: 2004-07-14
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, GSM1900, Worst case extrapolation, Body

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.58 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3 , t(liq.)=21.0°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.39, 4.39, 4.39); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body 15mm, HDS-3 no MMC - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 15.4 V/m; Power Drift = -0.002 dB
Maximum value of SAR (interpolated) = 0.641 mW/g

Body 15mm, HDS-3 no MMC - Low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.002 dB
Maximum value of SAR (measured) = 0.621 mW/g, Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.600 mW/g; SAR(10 g) = 0.362 mW/g
Maximum averaged SAR over 10 g is located on the boundary of the measurement cube.



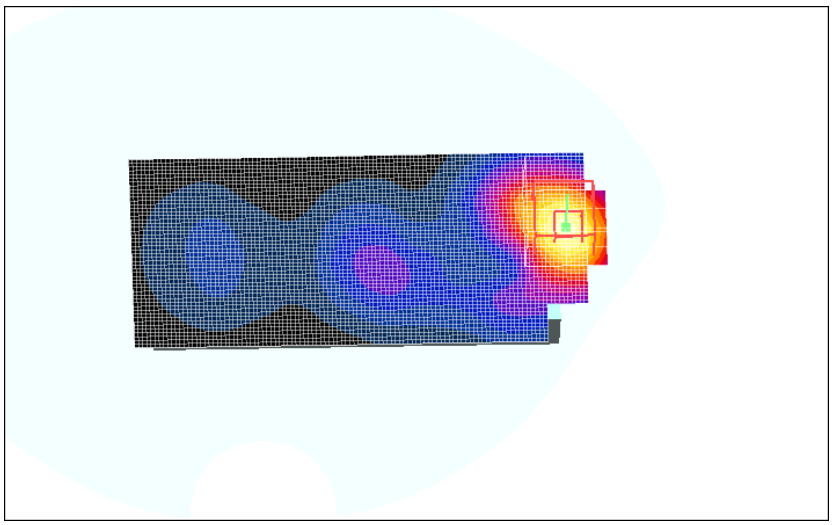
Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, body, Worst case extrapolation

Communication System: WLAN 2450; Frequency: 2472 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2472 MHz; σ = 2.01 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3 , t(liq.)=21.3°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.17, 4.17, 4.17); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, no MMC,no hs - high/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 3.88 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.239 mW/g

Body, no MMC,no hs - high/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.88 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.239 mW/g, Peak SAR (extrapolated) = 0.563 W/kg
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.123 mW/g



Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, body, Worst case extrapolation

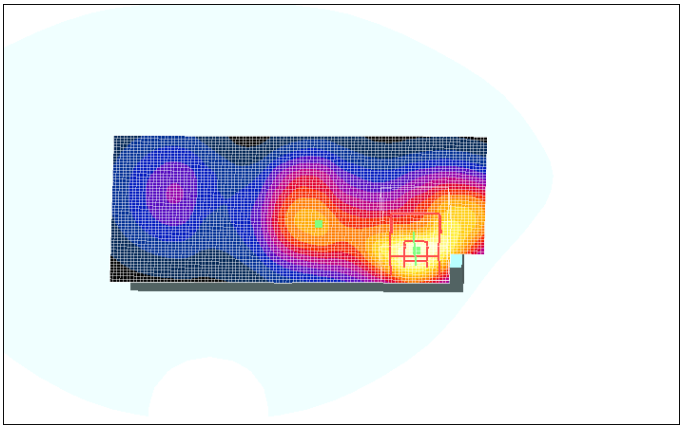
Communication System: WLAN 2450; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 2.01 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3 , t(liq.)=20.9°C
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.17, 4.17, 4.17); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, no MMC,HDS-3 - low/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 3.9 V/m; Power Drift = -0.1 dB
Maximum value of SAR (interpolated) = 0.152 mW/g

Body, no MMC,HDS-3 - low/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.9 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.144 mW/g, Peak SAR (extrapolated) = 0.402 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.077 mW/g

Body, no MMC,HDS-3 - low/Zoom Scan (5x5x7) (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.9 V/m; Power Drift = -0.1 dB
Maximum value of SAR (measured) = 0.101 mW/g, Peak SAR (extrapolated) = 0.260 W/kg
SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.057 mW/g



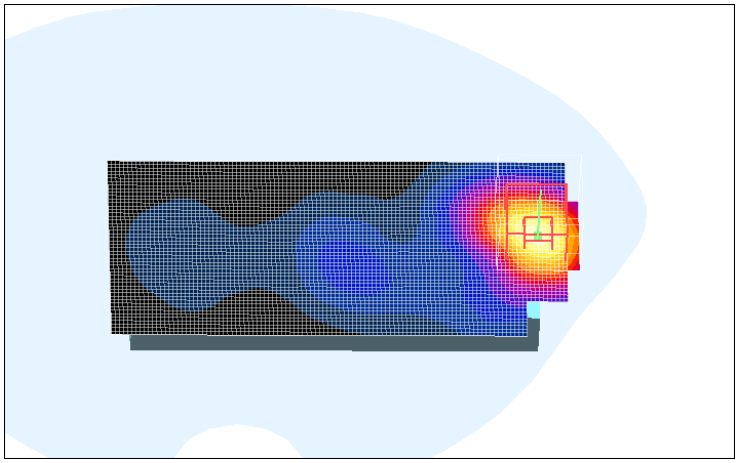
Date: 2004-07-21
Test Laboratory: TCC Salo
Type: RA-3; DUT: 07304, WLAN 2450, body, Worst case extrapolation

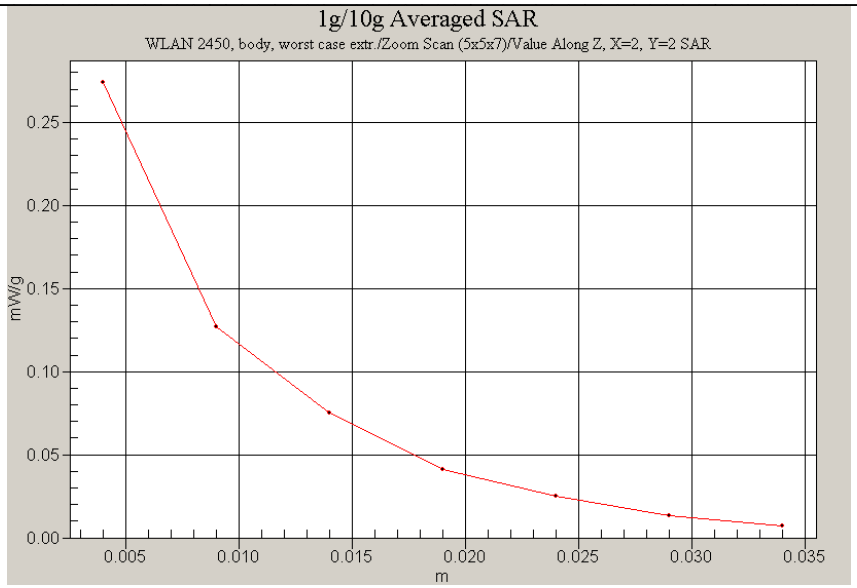
Communication System: WLAN 2450; Frequency: 2472 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2472 MHz; σ = 2.01 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1766; ConvF(4.17, 4.17, 4.17); Calibrated: 26.04.2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn372; Calibrated: 26.08.2003
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Body, with MMC,no hs -high/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 3.55 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 0.266 mW/g

Body, with MMC,no hs -high/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.55 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 0.274 mW/g, Peak SAR (extrapolated) = 0.681 W/kg
SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.141 mW/g





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

Please, see the next three pages for the probe, SN:1766.

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

Please, see the next pages:

- Three pages for 900MHz dipole, SN: 056
- Three pages for 1800MHz dipole, SN: 256
- Three pages for 2450MHz dipole, SN: 749

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

Client **Nokia Oulu**

CALIBRATION CERTIFICATE

Object(s)	ET3DV6 - SN:1766
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	April 26, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

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 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05
RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug-02)	In house check: Aug-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Nico Vetterli	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: April 27, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

DASY - Parameters of Probe: ET3DV6 SN:1766

Sensitivity in Free Space

Diode Compression[A]

NormX	**1.99** $\mu V/(V/m)^2$	DCP X	**94**	mV
NormY	**1.72** $\mu V/(V/m)^2$	DCP Y	**94**	mV
NormZ	**1.89** $\mu V/(V/m)^2$	DCP Z	**94**	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Plese see Page 7.

Boundary Effect

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

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	9.0	4.7
SAR_{be} [%]	With Correction Algorithm	0.1	0.2

Head **1800 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	12.7	8.6
SAR_{be} [%]	With Correction Algorithm	0.2	0.1

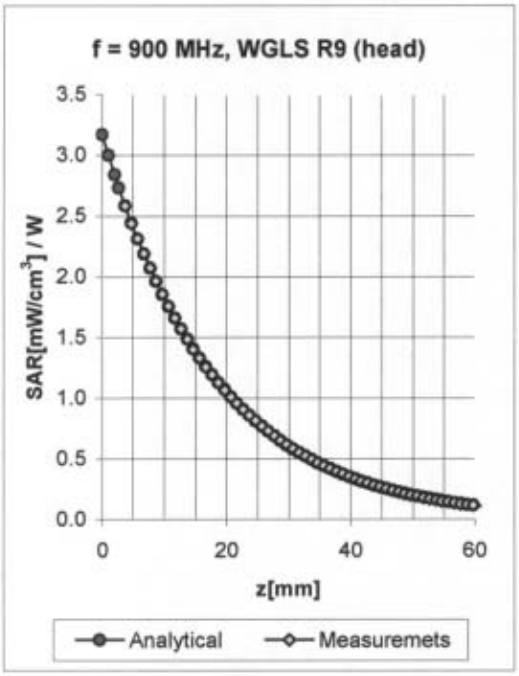
Sensor Offset

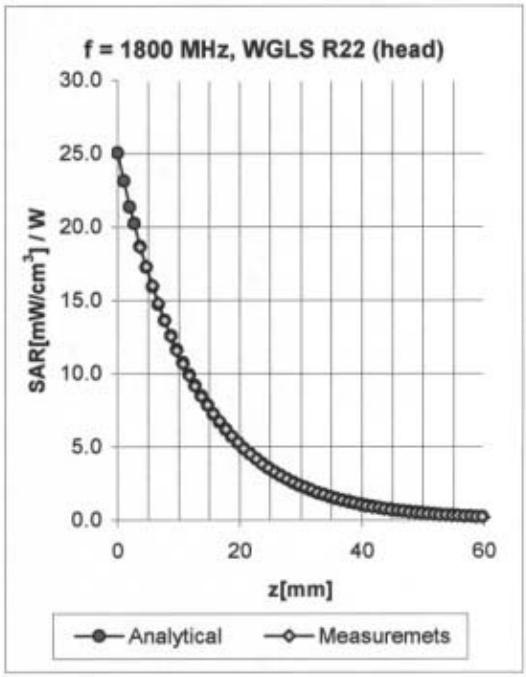
Probe Tip to Sensor Center	**2.7** mm
Optical Surface Detection	**in tolerance**

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

[A] numerical linearization parameter: uncertainty not required

Conversion Factor Assessment





f [MHz]	Validity [MHz][B]	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	785-885	Head	41.5 ± 5%	0.90 ± 5%	0.60	1.85	6.26 ± 9.7% (k=2)
900	850-950	Head	41.5 ± 5%	0.97 ± 5%	0.62	1.82	6.14 ± 9.7% (k=2)
1750	1700-1800	Head	40.0 ± 5%	1.40 ± 5%	0.48	2.69	5.05 ± 9.7% (k=2)
1900	1850-1950	Head	40.0 ± 5%	1.40 ± 5%	0.51	2.71	4.91 ± 9.7% (k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	0.98	1.92	4.30 ± 9.7% (k=2)
835	785-885	Body	55.2 ± 5%	0.97 ± 5%	0.65	1.80	6.18 ± 9.7% (k=2)
900	850-950	Body	55.0 ± 5%	1.05 ± 5%	0.49	2.17	5.88 ± 9.7% (k=2)
1750	1700-1800	Body	53.3 ± 5%	1.52 ± 5%	0.56	2.66	4.63 ± 9.7% (k=2)
1900	1850-1950	Body	53.3 ± 5%	1.52 ± 5%	0.61	2.75	4.39 ± 9.7% (k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.31	1.54	4.17 ± 9.7% (k=2)

[B] The total standard uncertainty is calculated as root-sum-square of standard uncertainty of the Conversion Factor at calibration frequency and the standard uncertainty for the indicated frequency band.

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

Client **Nokia TCC Salo**

CALIBRATION CERTIFICATE

Object(s) D900V2 - SN:056

Calibration procedure(s) QA CAL-05.v2
Calibration procedure for dipole validation kits

Calibration date: January 13, 2004

Condition of the calibrated item In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: January 19, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Date/Time: 01/13/04 13:47:42

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN056

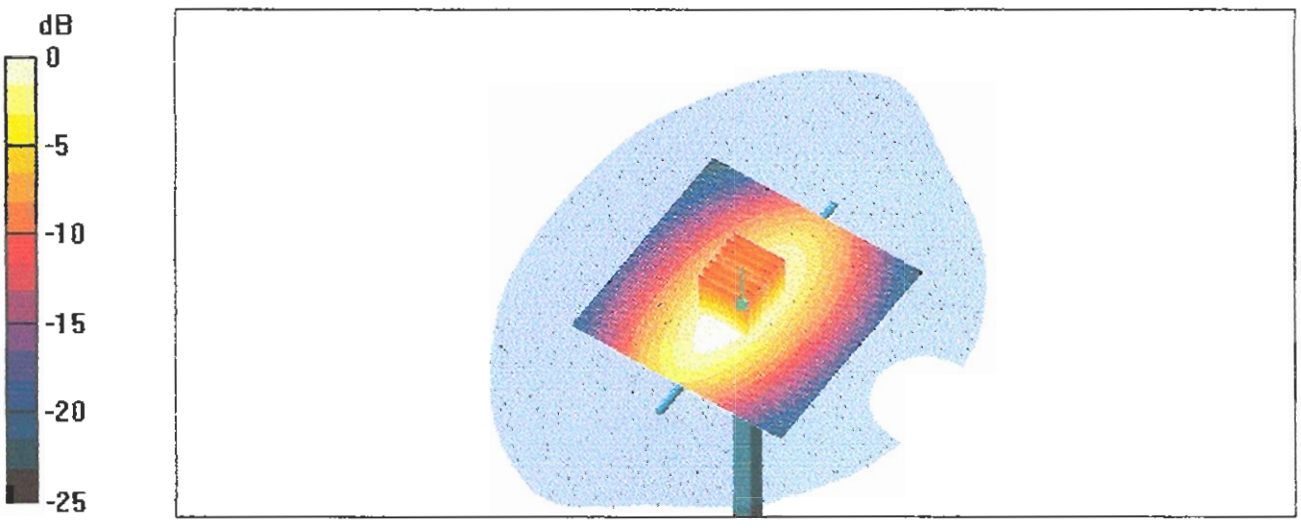
Communication System: CW-900; Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.94 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.6, 6.6, 6.6); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 57.3 V/m
Power Drift = 0.009 dB
Maximum value of SAR = 2.85 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 3.95 W/kg
SAR(1 g) = 2.64 mW/g; SAR(10 g) = 1.7 mW/g
Reference Value = 57.3 V/m
Power Drift = 0.009 dB
Maximum value of SAR = 2.85 mW/g



0 dB = 2.85mW/g

Date/Time: 01/12/04 14:12:15

Body

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN056

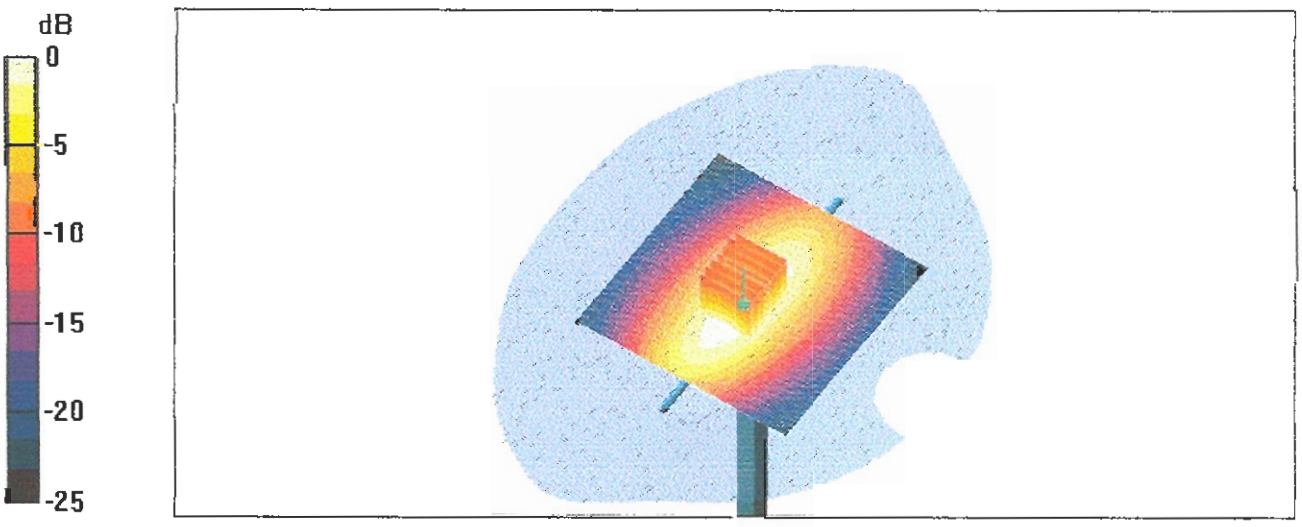
Communication System: CW-900; Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 1.04 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.3, 6.3, 6.3); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 55.8 V/m
Power Drift = -0.0 dB
Maximum value of SAR = 2.98 mW/g

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 4.1 W/kg
SAR(1 g) = 2.76 mW/g; SAR(10 g) = 1.79 mW/g
Reference Value = 55.8 V/m
Power Drift = -0.0 dB
Maximum value of SAR = 3 mW/g



0 dB = 3mW/g

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

Client Nokia TCC Salo

CALIBRATION CERTIFICATE

Object(s)	D1800V2 - SN:256
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits
Calibration date:	January 15, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: January 19, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Date/Time: 01/14/04 13:40:44

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN256

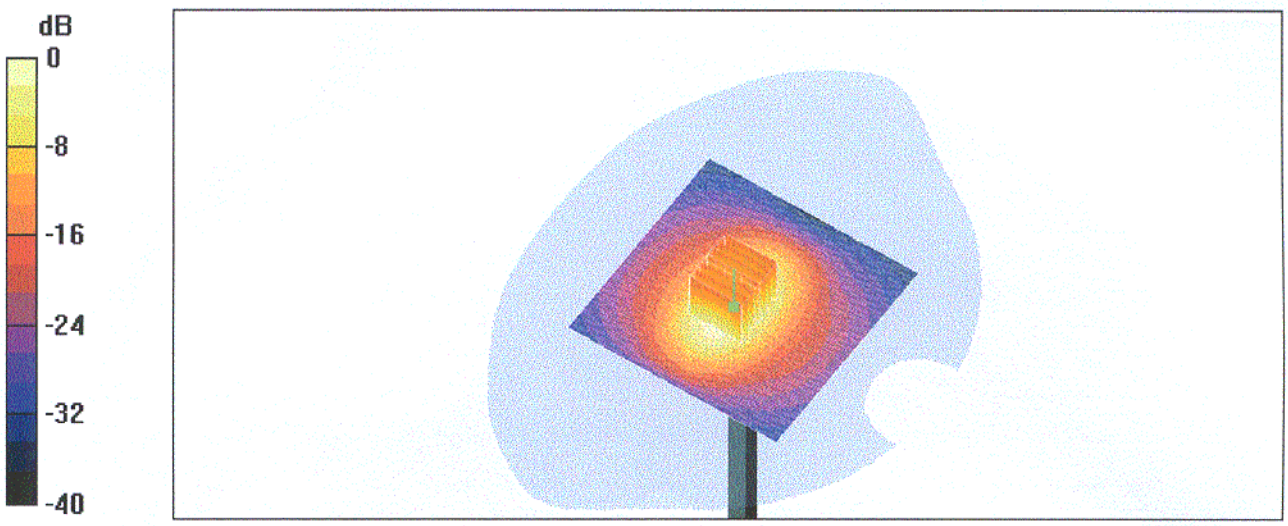
Communication System: CW-1800; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: HSL 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.38 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.3, 5.3, 5.3); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 91.7 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 11.4 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 9.95 mW/g; SAR(10 g) = 5.27 mW/g
Reference Value = 91.7 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 11.1 mW/g



0 dB = 11.1mW/g

Date/Time: 01/15/04 13:09:20

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN256

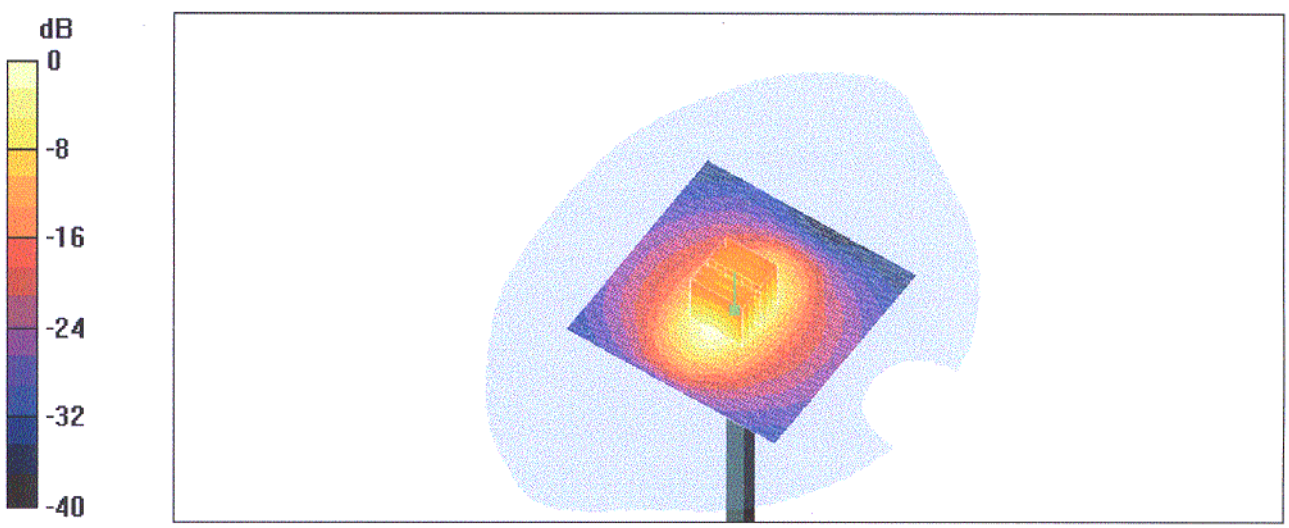
Communication System: CW-1800; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: Muscle 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.49 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5, 5, 5); Calibrated: 1/18/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 - SN411; Calibrated: 1/16/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 88.1 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 10.9 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 15.9 W/kg
SAR(1 g) = 9.49 mW/g; SAR(10 g) = 5.14 mW/g
Reference Value = 88.1 V/m
Power Drift = 0.0 dB
Maximum value of SAR = 10.7 mW/g



0 dB = 10.7mW/g

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

Client **Nokia Salo TCC**

CALIBRATION CERTIFICATE

Object(s)	D2450V2 - SN:749
Calibration procedure(s)	QA CAL-05.v2 Calibration procedure for dipole validation kits
Calibration date:	June 7, 2004
Condition of the calibrated item	In Tolerance (according to the specific calibration document)

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	
Approved by:	Katja Pokovic	Laboratory Director	

Date issued: June 14, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.

Date/Time: 06/07/04 11:53:10

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN749

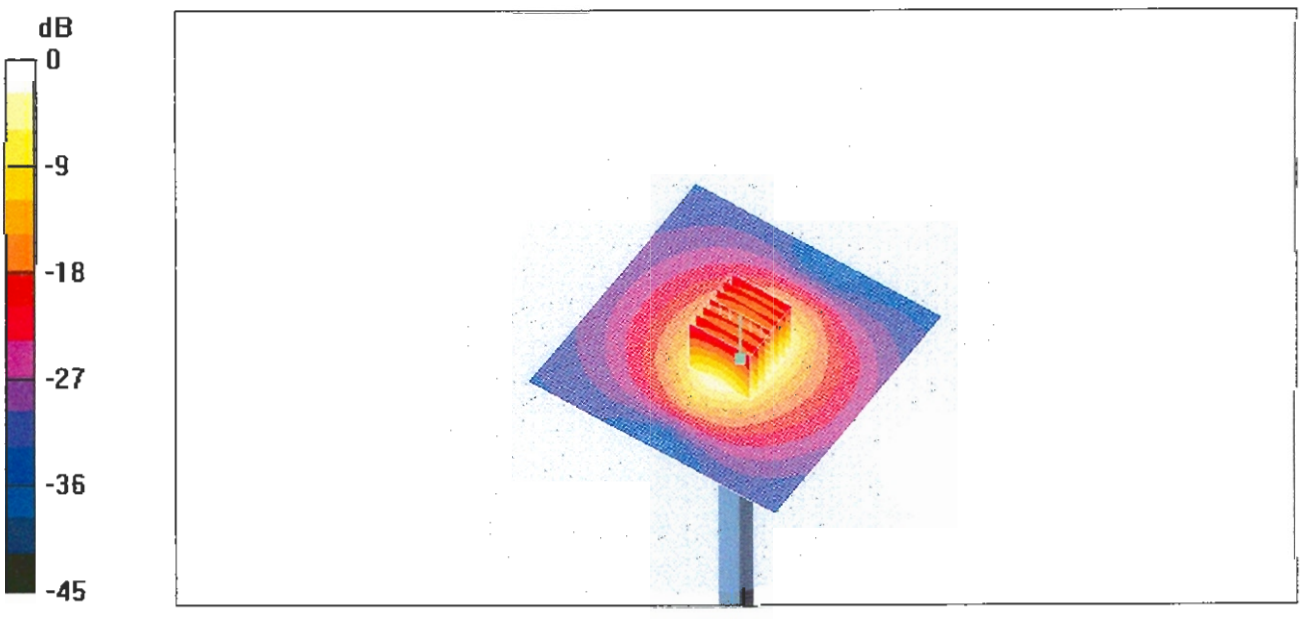
Communication System: CW-2450; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL 2450 MHz;
Medium parameters used: f = 2450 MHz; σ = 1.86 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.55, 4.55, 4.55); Calibrated: 9/29/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 54; Postprocessing SW: SEMCAD, V1.8 Build 112

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 85.3 V/m; Power Drift = 0.0 dB
Maximum value of SAR (interpolated) = 15.2 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.3 V/m; Power Drift = 0.0 dB
Maximum value of SAR (measured) = 15.2 mW/g
Peak SAR (extrapolated) = 29.2 W/kg
SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.11 mW/g



0 dB = 15.2mW/g

Date/Time: 06/07/04 14:29:30

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN749

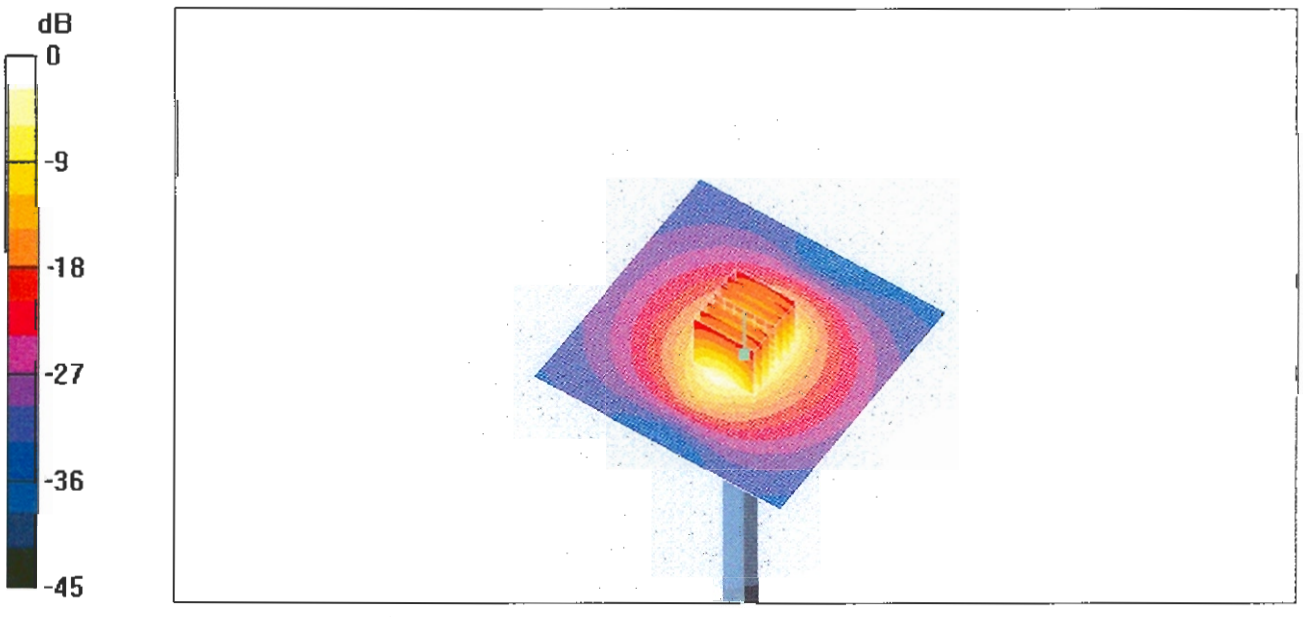
Communication System: CW-2450; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 MHz;
Medium parameters used: f = 2450 MHz; σ = 2 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.22, 4.22, 4.22); Calibrated: 9/29/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 54; Postprocessing SW: SEMCAD, V1.8 Build 112

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 81.2 V/m; Power Drift = 0.0 dB
Maximum value of SAR (interpolated) = 15 mW/g

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 81.2 V/m; Power Drift = 0.0 dB
Maximum value of SAR (measured) = 15.1 mW/g
Peak SAR (extrapolated) = 27.5 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.1 mW/g



0 dB = 15.1mW/g