Test Laboratory: Sporton International Inc. SAR Testing Lab Date ime: 2007/9/21

Body 802.11g Ch6 Keypad Down with Holster Touch

DUT: 750203

Communication System: 802.11g; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450 Medium parameters used: f = 2437 MHz; $\sigma = 1.95$ mho/m; $\varepsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.7 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(4.02, 4.02, 4.02); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch6/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.015 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.871 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.027 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00729 mW/gMaximum value of SAR (measured) = 0.016 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.871 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.023 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00605 mW/g

Maximum value of SAR (measured) = 0.012 mW/g



FCC SAR Test Report No : FA750203-2-2-04

Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/21

Body 802.11b Ch11 Keypad Down with Holster Touch Bluetooth

DUT: 750203

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

Medium: MSL_2450 Medium parameters used: f = 2462 MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.7 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(4.02, 4.02, 4.02); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch11/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.026 mW/g

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.55 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 0.044 W/kg

SAR(1 g) = 0.022 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.024 mW/g

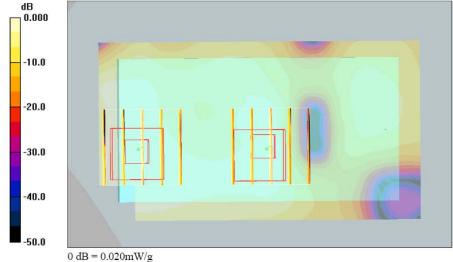
Ch11/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.55 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 0.030 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00764 mW/g

Maximum value of SAR (measured) = 0.020 mW/g



C SAR Test Report No FA750203-2-2-04

Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/2

Left Cheek GSM850 Ch128 Bluetooth On 2D

DUT: 750203

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: HSL_850 Medium parameters used: f = 824.2 MHz; $\sigma = 0.889 \text{ mho/m}$; $\epsilon_r = 40.3$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.6 °C; Liquid Temperature: 21.3 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(6.6, 6.6, 6.6); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch128/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

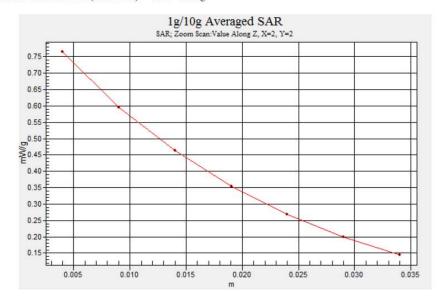
Maximum value of SAR (interpolated) = 0.762 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.9 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.913 W/kg

SAR(1 g) = 0.724 mW/g; SAR(10 g) = 0.534 mW/gMaximum value of SAR (measured) = 0.765 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/2

Right Cheek PCS Ch810 2D

DUT: 750203

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900 Medium parameters used: f = 1910 MHz; $\sigma = 1.4$ mho/m; $\varepsilon_r = 39.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.4 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(5.3, 5.3, 5.3); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch810/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

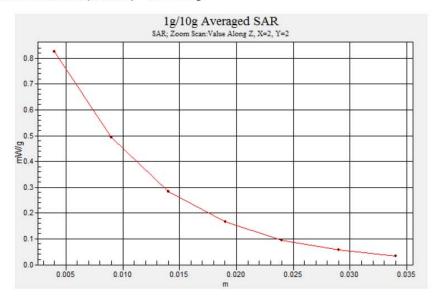
Maximum value of SAR (interpolated) = 0.902 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.9 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.436 mW/gMaximum value of SAR (measured) = 0.825 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/1

Left Cheek WCDMA Ch4233 2D

DUT: 750203

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

Medium: HSL_850 Medium parameters used: f = 847 MHz; $\sigma = 0.911$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.2 °C; Liquid Temperature: 21.6 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(6.6, 6.6, 6.6); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch4233/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.702 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.1 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 0.848 W/kg

SAR(1 g) = 0.668 mW/g; SAR(10 g) = 0.489 mW/gMaximum value of SAR (measured) = 0.706 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/1

Right Cheek WCDMA Ch9400 2D

DUT: 750203

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

Medium: HSL_1900 Medium parameters used: f = 1880 MHz; $\sigma = 1.37$ mho/m; $\varepsilon_r = 39.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C; Liquid Temperature: 21.4 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(5.3, 5.3, 5.3); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch9400/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

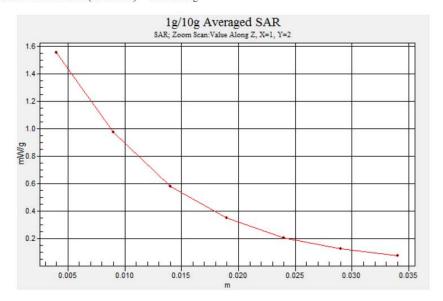
Maximum value of SAR (interpolated) = 1.57 mW/g

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.1 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 2.46 W/kg

SAR(1 g) = 1.46 mW/g; SAR(10 g) = 0.836 mW/g Maximum value of SAR (measured) = 1.55 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/15

Light Cheek_802.11g Ch11_BT On_2D

DUT: 750203

Communication System: 802.11g; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL_2450 Medium parameters used: f = 2462 MHz; $\sigma = 1.87$ mho/m; $\varepsilon_r = 38.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.6 °C; Liquid Temperature: 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(4.66, 4.66, 4.66); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch11/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

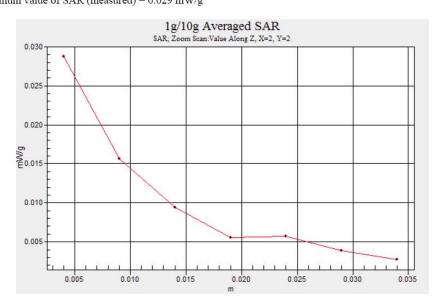
Maximum value of SAR (interpolated) = 0.030 mW/g

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.48 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 0.054 W/kg

SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.014 mW/gMaximum value of SAR (measured) = 0.029 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date : 2007/8/7

Body GSM850 Ch128 Keypad Down with 2.5cm Gap GPRS10 Bluetooth On 2D

DUT: 750203

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:4

Medium: MSL_850 Medium parameters used: f = 824.2 MHz; $\sigma = 0.957$ mho/m; $\varepsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.8 °C; Liquid Temperature: 21.4 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(6.33, 6.33, 6.33); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

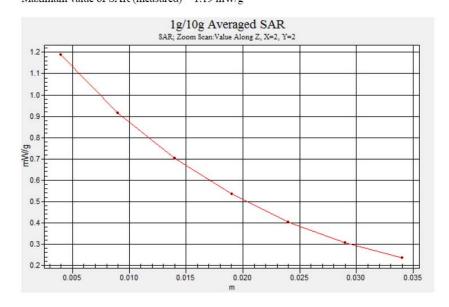
Ch128/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.19 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.4 V/m; Power Drift = -0.092 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.842 mW/gMaximum value of SAR (measured) = 1.19 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/7

Body PCS Ch810 Keypad Down with 2.5cm Gap GPRS10 Bluetooth On 2D

DUT: 750203

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: MSL_1900 Medium parameters used: f = 1910 MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.7 °C; Liquid Temperature: 21.6 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(4.67, 4.67, 4.67); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

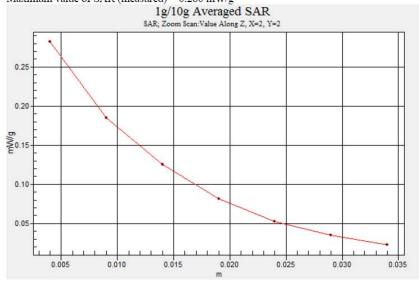
Ch810/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.281 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.5 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.390 W/kg

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.173 mW/gMaximum value of SAR (measured) = 0.280 mW/g



C SAR Test Report No FA750203-2-2-04

Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/7

Body WCDMA Ch4132 Keypad Down with 2.5cm Gap RMC64K 2D

DUT: 750203

Communication System: WCDMA Band 5; Frequency: 826.4 MHz; Duty Cycle: 1:1 Medium: MSL_850 Medium parameters used: f = 826.4 MHz; σ = 0.959 mho/m; ϵ_r = 54.4; ρ = 1000 kg/m³ Ambient Temperature: 22.8 °C; Liquid Temperature: 21.4 °C

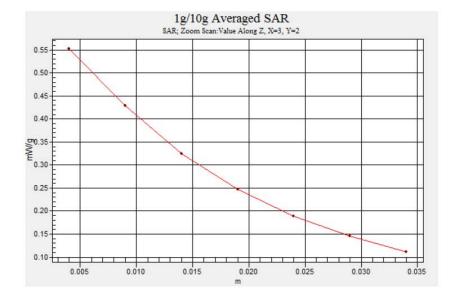
DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(6.33, 6.33, 6.33); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch4132/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.548 mW/g

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm Reference Value = 18.2 V/m; Power Drift = 0.103 dB Peak SAR (extrapolated) = 0.660 W/kg

SAR(1 g) = 0.529 mW/g; SAR(10 g) = 0.393 mW/gMaximum value of SAR (measured) = 0.552 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/7

Body WCDMA Ch9400 Keypad Down with 2.5cm Gap RMC144K 2D

DUT: 750203

Communication System: WCDMA Band 2; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: MSL_1900 Medium parameters used: f = 1880 MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.1 °C; Liquid Temperature: 21.6 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(4.67, 4.67, 4.67); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

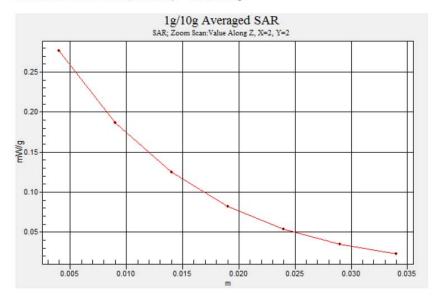
Ch9400/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.277 mW/g

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.2 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.375 W/kg

SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.172 mW/gMaximum value of SAR (measured) = 0.276 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/8/15

Body 802.11g Ch6 Keypad Down with 2.5cm Gap Bluetooth On 2D

DUT: 750203

Communication System: 802.11g; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450 Medium parameters used: f = 2437 MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C; Liquid Temperature: 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1788; ConvF(4.11, 4.11, 4.11); Calibrated: 2006/9/19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch6/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.012 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.88 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.044 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00536 mW/gMaximum value of SAR (measured) = 0.012 mW/g

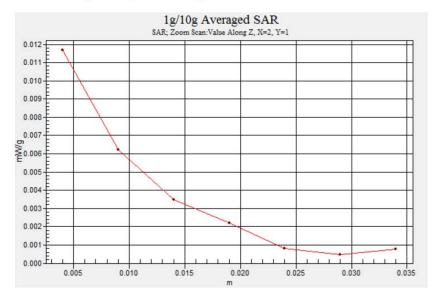
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.88 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.038 W/kg

SAR(1 g) = 0.00937 mW/g; SAR(10 g) = 0.00432 mW/g

Maximum value of SAR (measured) = 0.009 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/9

Body GSM850 Ch128 Keypad Down with Holster Touch GPRS10 2D

DUT: 750203

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:4

Medium: MSL_850 Medium parameters used : f = 824.2 MHz; $\sigma = 0.958$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.2 °C; Liquid Temperature: 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(6.1, 6.1, 6.1); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

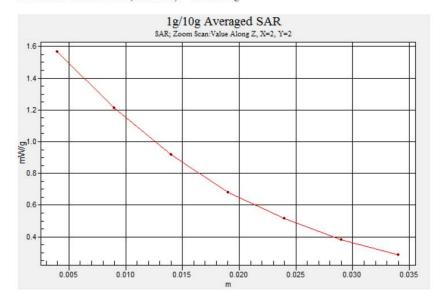
Ch128/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.56 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.1 V/m; Power Drift = -0.061 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 1.49 mW/g; SAR(10 g) = 1.09 mW/gMaximum value of SAR (measured) = 1.57 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/10

Body PCS Ch810 Keypad Up with Holster Touch GPRS10 2D

DUT: 750203

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: MSL_1900 Medium parameters used: f = 1910 MHz; $\sigma = 1.58$ mho/m; $\varepsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(4.68, 4.68, 4.68); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch810/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.886 mW/g

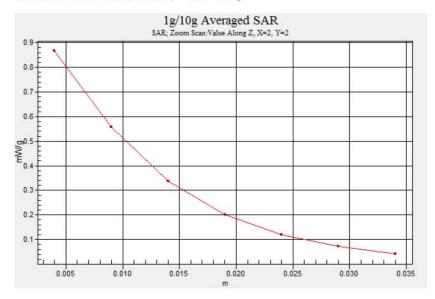
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.784 mW/g; SAR(10 g) = 0.421 mW/g

Maximum value of SAR (measured) = 0.867 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/12

Body WCDMA Ch4233 Keypad Down with Holster Touch RMC64K 2D

DUT: 750203

Communication System: WCDMA Band 5; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: MSL_850 Medium parameters used: f = 847 MHz; $\sigma = 0.979$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.4 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(6.1, 6.1, 6.1); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-B; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

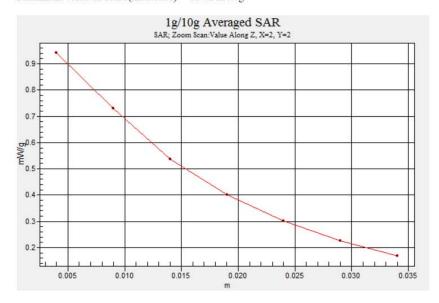
Ch4233/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.942 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm Reference Value = 22.7 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.892 mW/g; SAR(10 g) = 0.651 mW/g

Maximum value of SAR (measured) = 0.941 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/12

Body WCDMA Ch9400 Keypad Up with Holster Touch RMC64K BT On 2D

DUT: 750203

Communication System: WCDMA Band 2; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: MSL_1900 Medium parameters used: f = 1880 MHz; $\sigma = 1.51$ mho/m; $\varepsilon_r = 55$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.2 °C; Liquid Temperature: 21.7 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(4.68, 4.68, 4.68); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch9400/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.971 mW/g

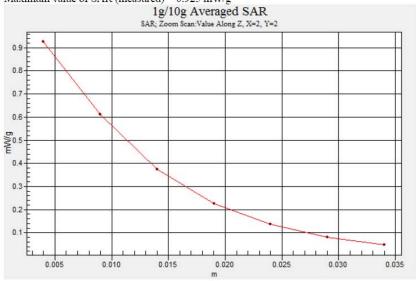
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.1 V/m; Power Drift = 0.093 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.921 mW/g; SAR(10 g) = 0.485 mW/g

Maximum value of SAR (measured) = 0.925 mW/g



Test Laboratory: Sporton International Inc. SAR Testing Lab Date: 2007/9/21

Body 802.11b Ch11 Keypad Down with Holster Touch 2D

DUT: 750203

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

Medium: MSL_2450 Medium parameters used: f = 2462 MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9 °C; Liquid Temperature: 21.7 °C

DASY4 Configuration:

- Probe: ET3DV6 SN1787; ConvF(4.02, 4.02, 4.02); Calibrated: 2007/8/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2006/11/21
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Ch11/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.030 mW/g

Ch11/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.33 V/m; Power Drift = 0.158 dB

Peak SAR (extrapolated) = 0.060 W/kg

SAR(1 g) = 0.026 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.028 mW/g

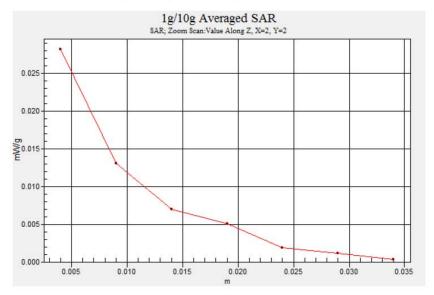
Ch11/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.33 V/m; Power Drift = 0.158 dB

Peak SAR (extrapolated) = 0.032 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00846 mW/g

Maximum value of SAR (measured) = 0.020 mW/g





Appendix C – Calibration Data

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





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Client

Sporton (Auden)

Certificate No: D835V2-499_Mar06

Accreditation No.: SCS 108

NATION OF THE PARTY OF THE PART			Desired to the second s
Object	D835V2 - SN: 49	9	
Calibration procedure(s)	QA CAL-05.v6 Calibration proce	dure for dipole validation kits	
Calibration date:	March 15, 2006		
Condition of the calibrated item	In Tolerance		
The measurements and the unce	rtainties with confidence pr	onal standards, which realize the physical units of obability are given on the following pages and are y facility: environment temperature (22 ± 3)°C and	e part of the certificate.
Calibration Equipment used (M&	F	4	
rimary Standards	ID#	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
rimary Standards lower meter EPM-442A	ID # GB37480704	04-Oct-05 (METAS, No. 251-00516)	Oct-06
rimary Standards lower meter EPM-442A lower sensor HP 8481A	ID # GB37480704 US37292783	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516)	Oct-06 Oct-06
rimary Standards lower meter EPM-442A lower sensor HP 8481A Leference 20 dB Attenuator	ID # GB37480704 US37292783 SN: 5086 (20g)	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498)	Oct-06 Oct-08 Aug-06
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r)	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No 251-00498) 11-Aug-05 (METAS, No 251-00498)	Oct-06 Oct-08 Aug-06 Aug-06
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No 251-00498) 11-Aug-05 (METAS, No 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06 Oct-06 Aug-06 Aug-06 Oct-08
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r)	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No 251-00498) 11-Aug-05 (METAS, No 251-00498)	Oct-06 Oct-08 Aug-06 Aug-06
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No 251-00498) 11-Aug-05 (METAS, No 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05)	Oct-06 Oct-06 Aug-06 Aug-06 Oct-08
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No 251-00498) 11-Aug-05 (METAS, No 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05)	Oct-06 Oct-06 Aug-06 Aug-06 Oct-08 Dec-06
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agilent E4421B	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05) 11-May-05 (SPEAG, in house check Nov-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07 In house check: Nov-07
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agilent E4421B	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601 ID # MY41092317	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agilent E4421B	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601 ID # MY41092317 MY41000675 US37390585 S4206	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05) 11-May-05 (SPEAG, in house check Nov-05) 18-Oct-01 (SPEAG, in house check Nov-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07 In house check: Nov-07 In house check: Nov-06
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agilent E4421B Network Analyzer HP 8753E	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601 ID # MY41092317 MY41000675 US37390585 S4206 Name	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05) 11-May-05 (SPEAG, in house check Nov-05) 18-Oct-01 (SPEAG, in house check Nov-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07 In house check: Nov-07
Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agilent E4421B Network Analyzer HP 8753E	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601 ID # MY41092317 MY41000675 US37390585 S4206	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05) 11-May-05 (SPEAG, in house check Nov-05) 18-Oct-01 (SPEAG, in house check Nov-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07 In house check: Nov-07 In house check: Nov-06
Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Reference 10 dB Attenuator Reference Probe ET3DV6 DAE4 Secondary Standards Power sensor HP 8481A RF generator Agillent E4421B Network Analyzer HP 8753E Calibrated by:	ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 (10r) SN 1507 SN 601 ID # MY41092317 MY41000675 US37390585 S4206 Name	04-Oct-05 (METAS, No. 251-00516) 04-Oct-05 (METAS, No. 251-00516) 11-Aug-05 (METAS, No. 251-00498) 11-Aug-05 (METAS, No. 251-00498) 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) Check Date (in house) 18-Oct-02 (SPEAG, in house check Oct-05) 11-May-05 (SPEAG, in house check Nov-05) 18-Oct-01 (SPEAG, in house check Nov-05)	Oct-06 Oct-08 Aug-06 Aug-06 Oct-08 Dec-06 Scheduled Check In house check: Oct-07 In house check: Nov-07 In house check: Nov-06 Signature

Certificate No: D835V2-499_Mar06

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





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Glossary:

TSL

tissue simulating liquid

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

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end
 of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
 point exactly below the center marking of the flat phantom section, with the arms oriented
 parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole
 positioned under the liquid filled phantom. The impedance stated is transformed from the
 measurement at the SMA connector to the feed point. The Return Loss ensures low
 reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. No
 uncertainty required.
- · SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Certificate No: D835V2-499 Mar06

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Area Scan resolution	dx, dy = 15 mm	
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.1 ± 6 %	0.94mho/m ± 6 %
Head TSL temperature during test	(22.2 ± 0.2) °C		_

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	2.35 mW/g
SAR normalized	normalized to 1W	9.40 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	9.24 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.53 mW / g
SAR normalized	normalized to 1W	6.12 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	6.07 mW / g ± 16.5 % (k=2)

Certificate No: D835V2-499_Mar06

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¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	56.8 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature during test	(21.4 ± 0.2) °C		

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	condition	
SAR measured	250 mW input power	2.45 mW/g
SAR normalized	normalized to 1W	9.80 mW/g
SAR for nominal Body TSL parameters 2	normalized to 1W	9.91 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.62 mW/g
SAR normalized	normalized to 1W	6.48 mW/g
SAR for nominal Body TSL parameters 2	normalized to 1W	6.55 mW / g ± 16.5 % (k=2)

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² Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.1 Ω - 2.9 jΩ
Return Loss	- 29.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.9 Ω - 5.1 jΩ	
Return Loss	- 24.9 dB	

General Antenna Parameters and Design

		-
Electrical Delay (one direction)	1.391ns	

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG	
Manufactured on	July 10, 2003	

Certificate No: D835V2-499_Mar06

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DASY4 Validation Report for Head TSL

Date/Time: 15.03.2006 12:51:44

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:499

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

Medium: HSL U10 BB;

Medium parameters used: f = 835 MHz; $\sigma = 0.942$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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 14; Postprocessing SW: SEMCAD, V1.8 Build 165

Pin = 250 mW; d = 10 mm/Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.54 mW/g

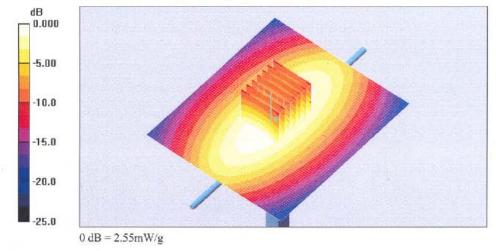
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.7 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 3'.53 W/kg

SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.53 mW/g

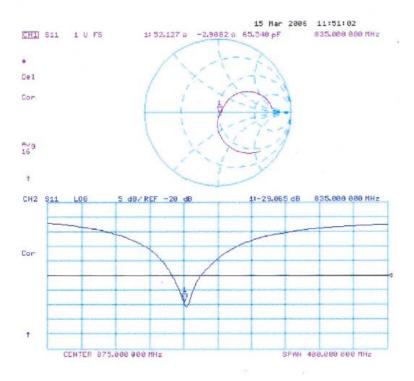
Maximum value of SAR (measured) = 2.55 mW/g



Certificate No: D835V2-499_Mar06

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Impedance Measurement Plot for Head TSL



Certificate No: D835V2-499_Mar06

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DASY4 Validation Report for Body TSL

Date/Time: 14.03.2006 12:37:15

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:499

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

Medium: MSL U10;

Medium parameters used: f = 835 MHz; $\sigma = 0.972$ mho/m; $\varepsilon_r = 56.9$; $\rho = 1000$ kg/m³

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 14; Postprocessing SW: SEMCAD, V1.8 Build 165

Pin = 250 mW; d = 10 mm/Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.63 mW/g

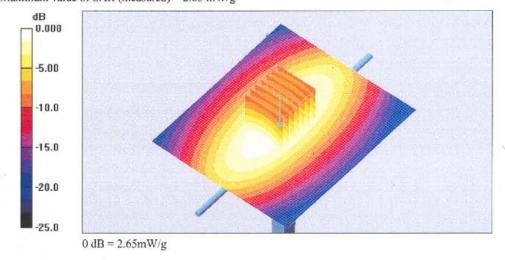
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.3 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 3:51 W/kg

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

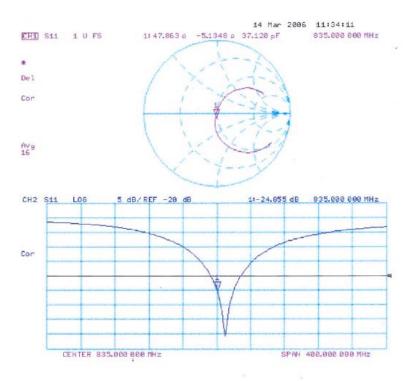
Maximum value of SAR (measured) = 2.65 mW/g



Certificate No: D835V2-499_Mar06

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Impedance Measurement Plot Body TSL



Certificate No: D835V2-499_Mar06

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





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Sporton (Auden)

Accreditation No.: SCS 108

Certificate No: D1900V2-5d041 Mar06 CALIBRATION CERTIFICATE D1900V2 - SN: 5d041 Object Calibration procedure(s) QA CAL-05.v6 Calibration procedure for dipole validation kits March 21, 2006 Calibration date: 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) 11-Aug-05 (METAS, No 251-00498) Aug-06 Reference 10 dB Attenuator SN: 5047.2 (10r) 11-Aug-05 (METAS, No 251-00498) Aug-06 Reference Probe ET3DV6 SN: 1507 28-Oct-05 (SPEAG, No. ET3-1507 Oct05) Oct-06 DAE4 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) SN: 601 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 Calibrated by: Judith Müller Laboratory Technician Katja Pokovic Technical Manager Approved by: Issued: March 22, 2006 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D1900V2-5d041_Mar06

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Swiss Calibration Service

Accreditation No.: SCS 108

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

Glossary:

TSL tissue simulating liquid

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

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- . Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- · Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- · Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 15 mm	(0
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.4 ± 6 %	1.42 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C		

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	9.75 mW / g
SAR normalized	normalized to 1W	39.0 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	38.4 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.17 mW / g
SAR normalized	normalized to 1W	20.7 mW / g
SAR for nominal Head TSL parameters 1	normalized to 1W	20.5 mW / g ± 16.5 % (k=2)

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¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.7 ± 6 %	1.54 mho/m ± 6 %
Body TSL temperature during test	(21.6 ± 0.2) °C		

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.2 mW / g
SAR normalized	normalized to 1W	40.8 mW / g
SAR for nominal Body TSL parameters 2	normalized to 1W	41.1 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.40 mW / g
SAR normalized	normalized to 1W	21.6 mW / g
SAR for nominal Body TSL parameters 2	normalized to 1W	21.8 mW / g ± 16.5 % (k=2)

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² Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"