

Test Laboratory: Compliance Certification Services

## UMTS BAND II\_Horizontal Up

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Low-ch/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.22 mW/g

**Low-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 28.7 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 1.93 W/kg

**SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.574 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.40 mW/g

**Low-ch/Zoom Scan (7x7x9)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

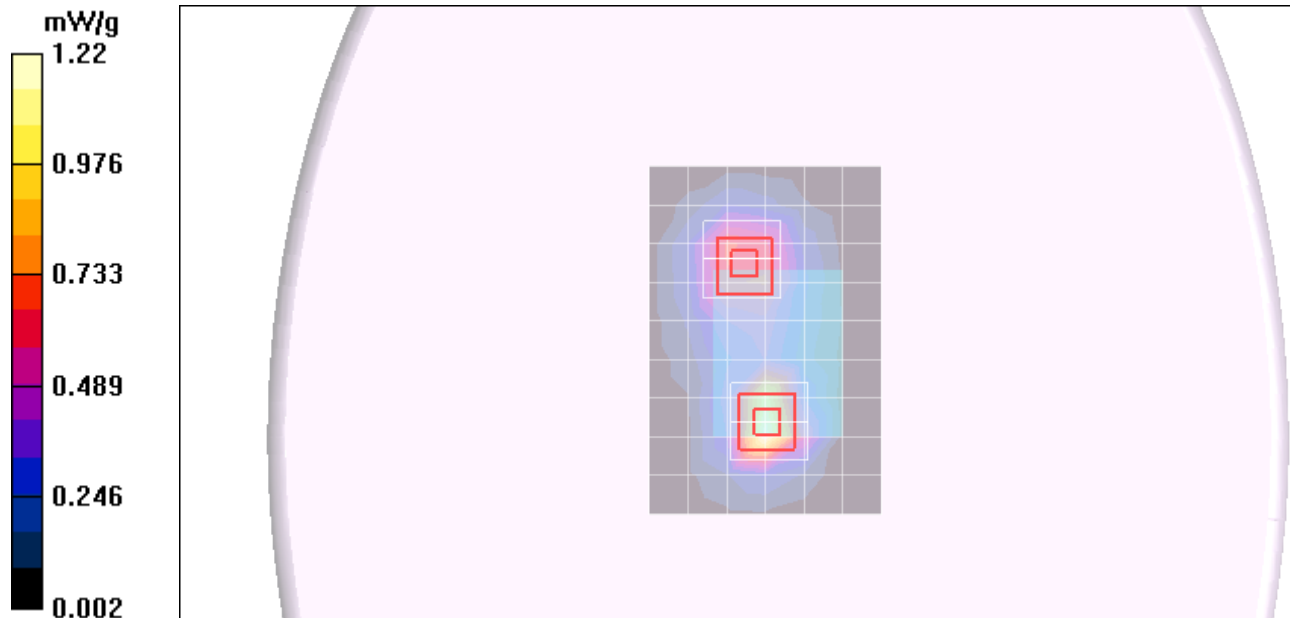
Reference Value = 28.7 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.687 mW/g; SAR(10 g) = 0.412 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.826 mW/g



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## UMTS BAND II\_Horizontal Up

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

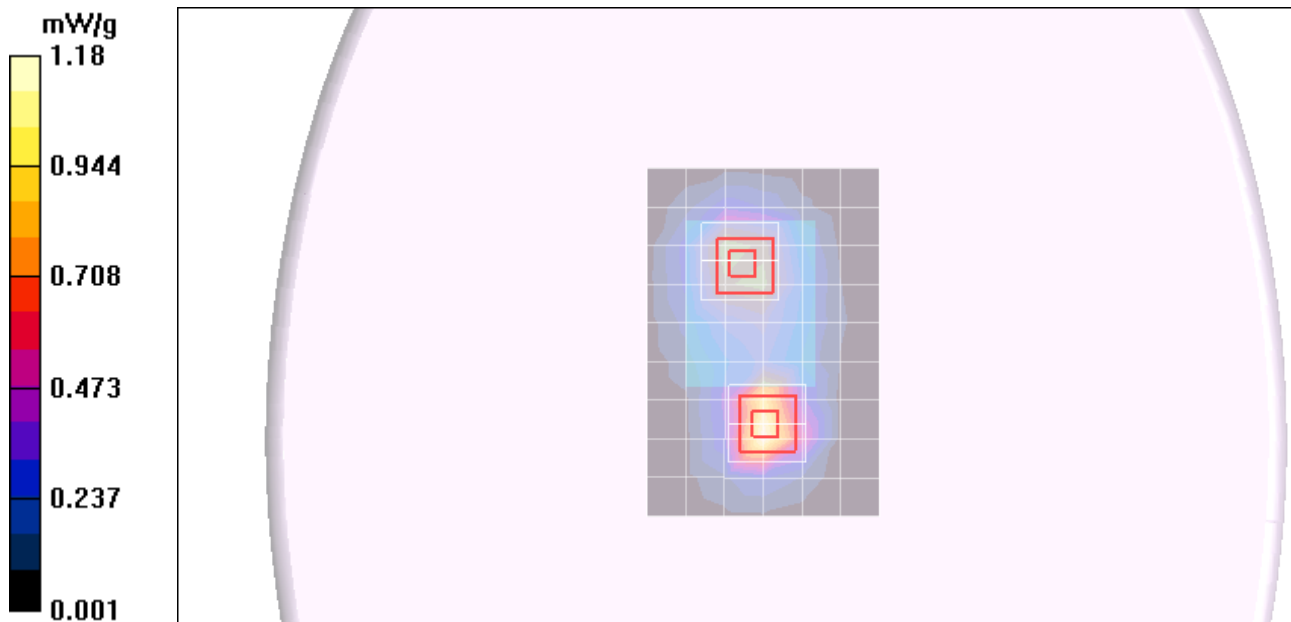
DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Mid-ch/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.18 mW/g

**Mid-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm  
Reference Value = 28.0 V/m; Power Drift = -0.162 dB  
Peak SAR (extrapolated) = 1.92 W/kg  
**SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.544 mW/g**  
Maximum value of SAR (measured) = 1.38 mW/g

**Mid-ch/Zoom Scan (7x7x9)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=3mm  
Reference Value = 28.0 V/m; Power Drift = -0.162 dB  
Peak SAR (extrapolated) = 1.21 W/kg  
**SAR(1 g) = 0.758 mW/g; SAR(10 g) = 0.449 mW/g**  
Maximum value of SAR (measured) = 0.917 mW/g



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## UMTS BAND II\_Horizontal Up

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**High-ch/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.927 mW/g

**High-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 24.7 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.47 W/kg

**SAR(1 g) = 0.913 mW/g; SAR(10 g) = 0.540 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.11 mW/g

**High-ch/Zoom Scan (7x7x9)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

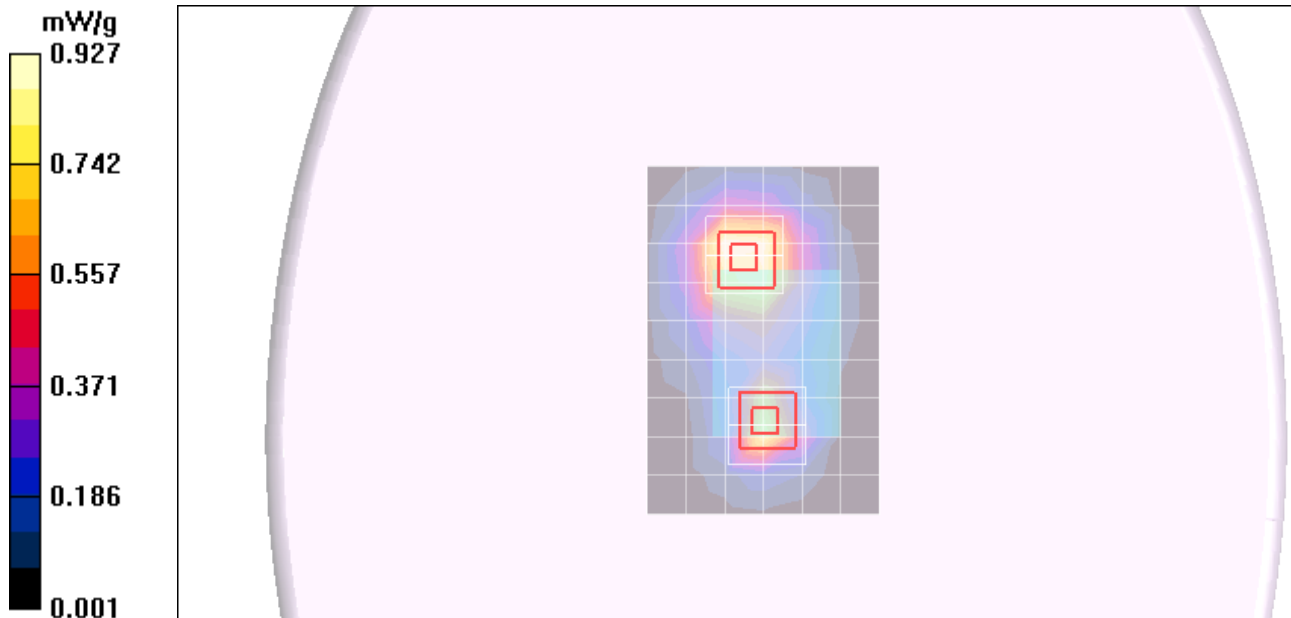
Reference Value = 24.7 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.749 mW/g; SAR(10 g) = 0.385 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



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## UMTS BAND II\_Horizontal Down

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Low-ch/Area Scan (6x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.33 mW/g

**Low-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

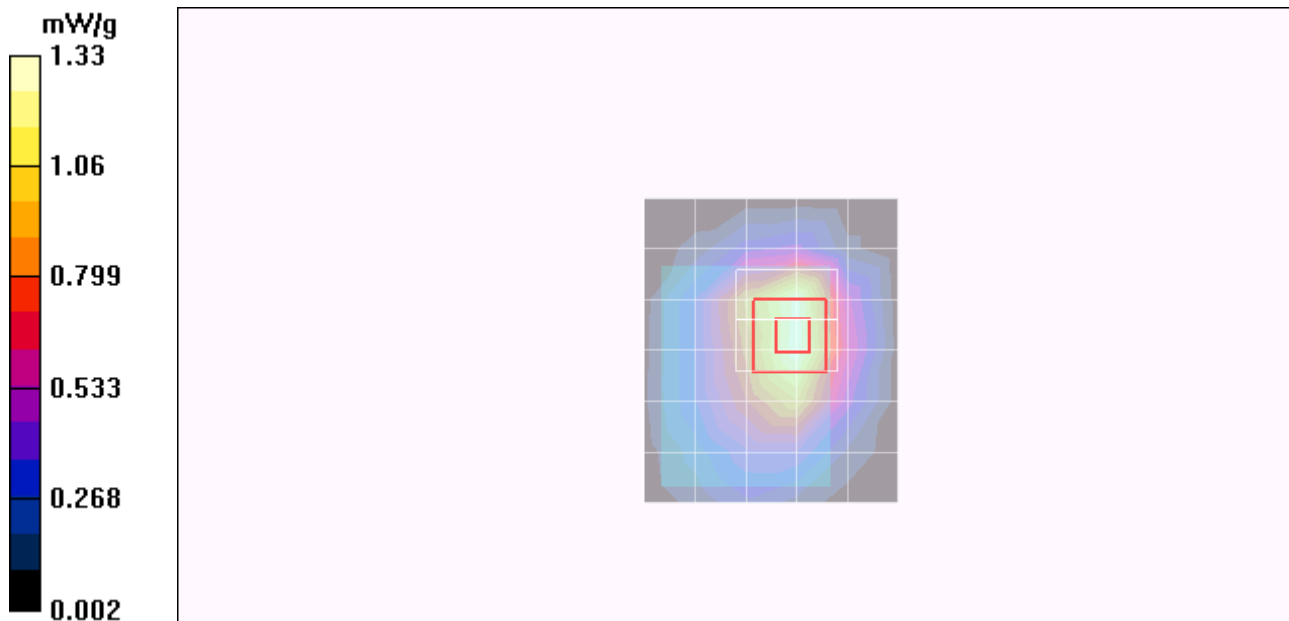
Reference Value = 30.0 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 1.93 W/kg

**SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.661 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.35 mW/g



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## UMTS BAND II\_Horizontal Down

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

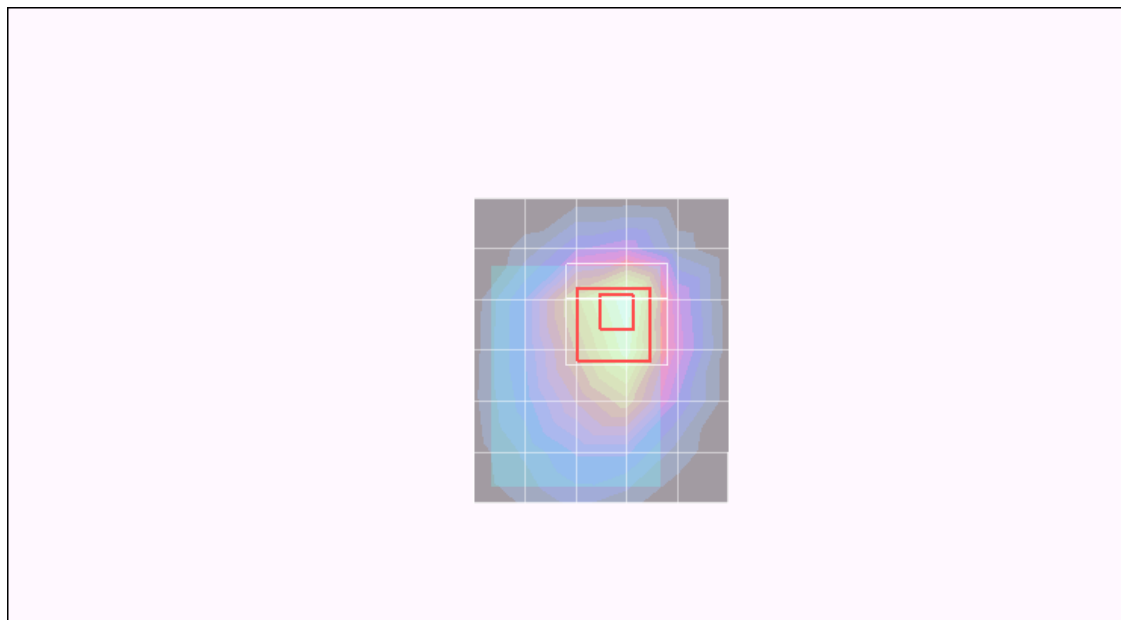
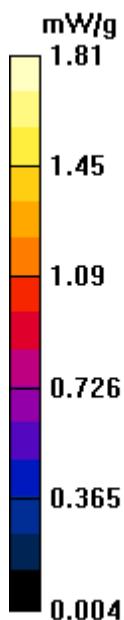
Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Mid-ch/Area Scan (6x7x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.81 mW/g

**Mid-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm  
Reference Value = 34.1 V/m; Power Drift = 0.231 dB  
Peak SAR (extrapolated) = 2.68 W/kg  
**SAR(1 g) = 1.5 mW/g; SAR(10 g) = 0.868 mW/g**  
Maximum value of SAR (measured) = 1.83 mW/g



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## UMTS BAND II\_Horizontal Down

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**High-ch/Area Scan (6x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.84 mW/g

**High-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

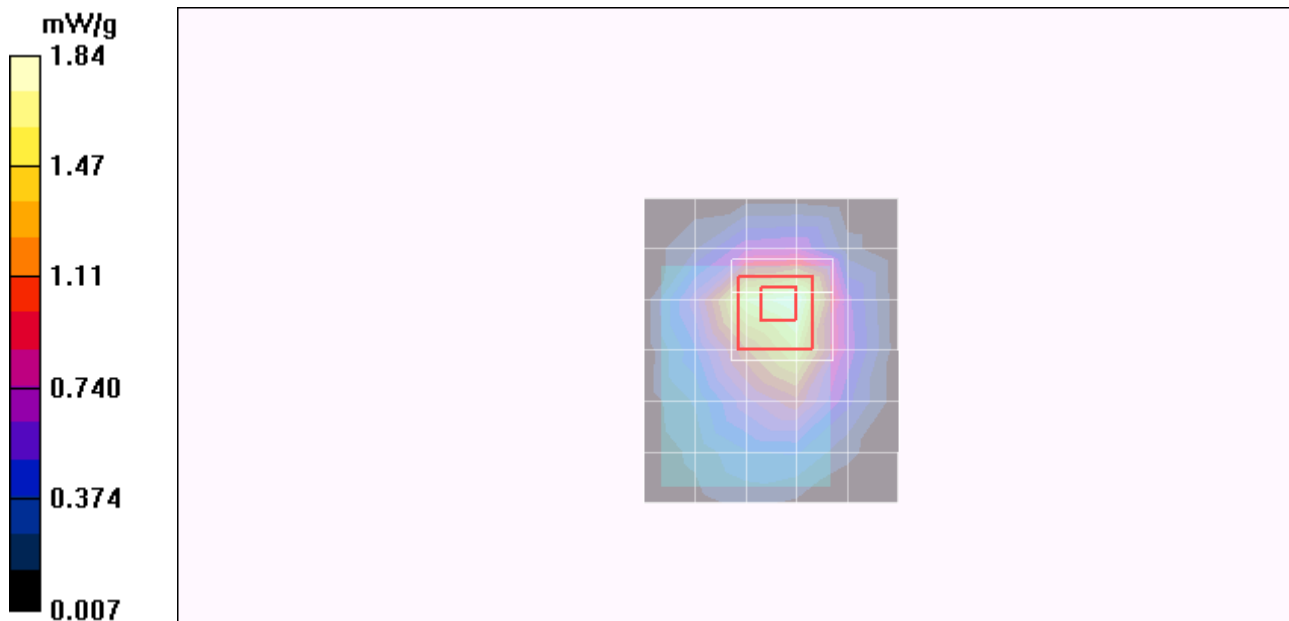
Reference Value = 34.1 V/m; Power Drift = 0.224 dB

Peak SAR (extrapolated) = 2.81 W/kg

**SAR(1 g) = 1.55 mW/g; SAR(10 g) = 0.875 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.93 mW/g



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## UMTS BAND II\_Horizontal Down

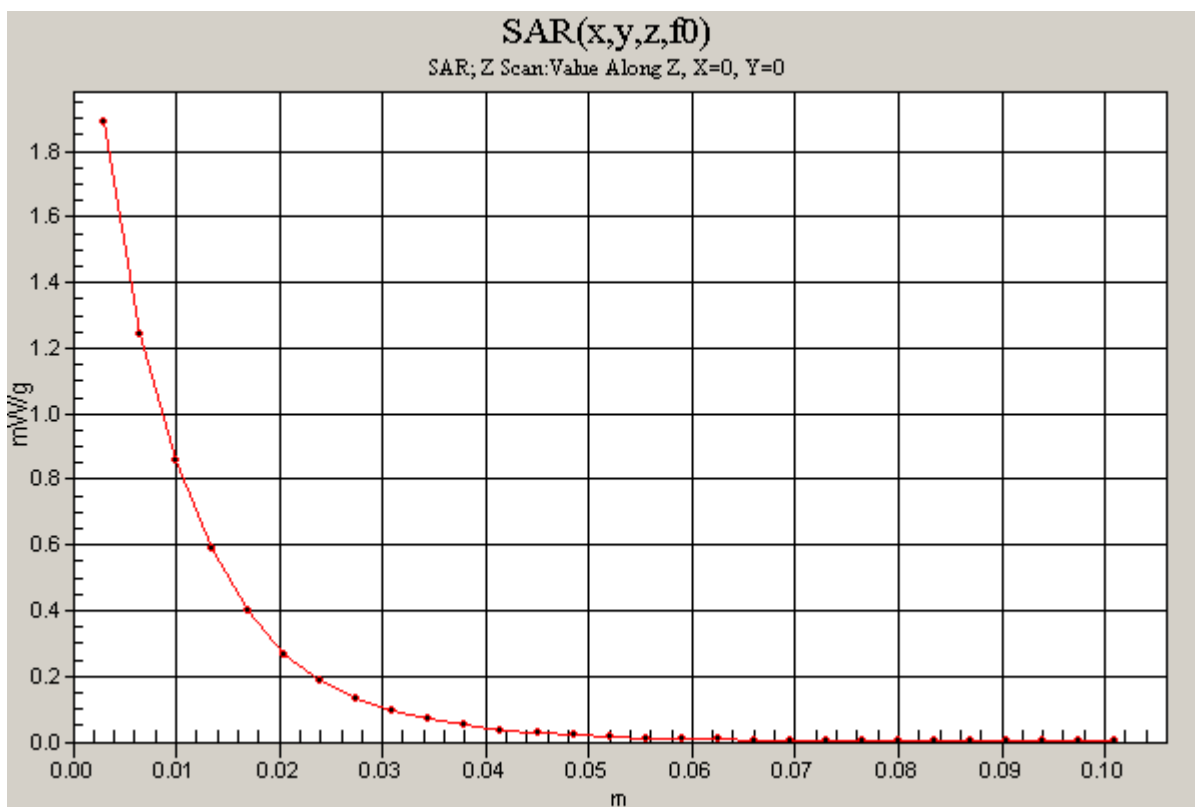
DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

**High-ch/Z Scan (1x1x29):** Measurement grid: dx=20mm, dy=20mm, dz=3.5mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.89 mW/g



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## UMTS BAND II\_Vertical Front

DUT: Sierra Wireless; Type: AC313Us; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.52 \text{ mho/m}$ ;  $\epsilon_r = 52.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

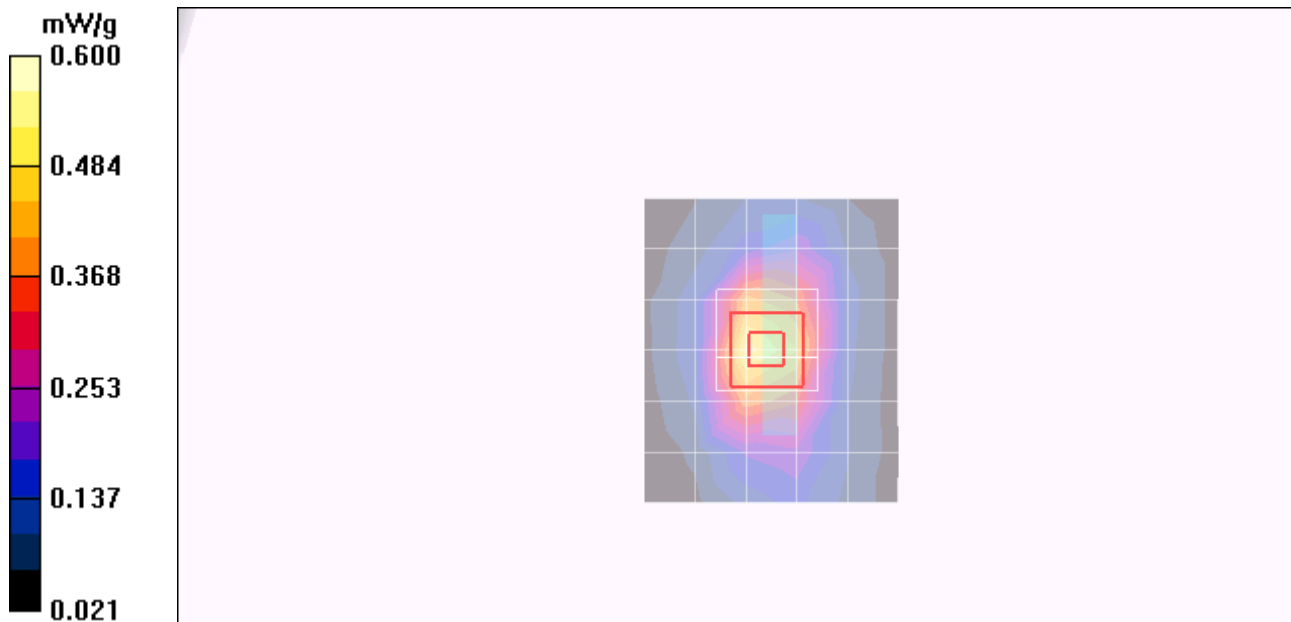
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Mid-ch/Area Scan (6x7x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 0.545 mW/g

**Mid-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm  
Reference Value = 19.1 V/m; Power Drift = -0.116 dB  
Peak SAR (extrapolated) = 0.902 W/kg  
**SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.314 mW/g**  
Maximum value of SAR (measured) = 0.682 mW/g





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## UMTS BAND II\_Vertical Back

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Mid-ch/Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.150 mW/g

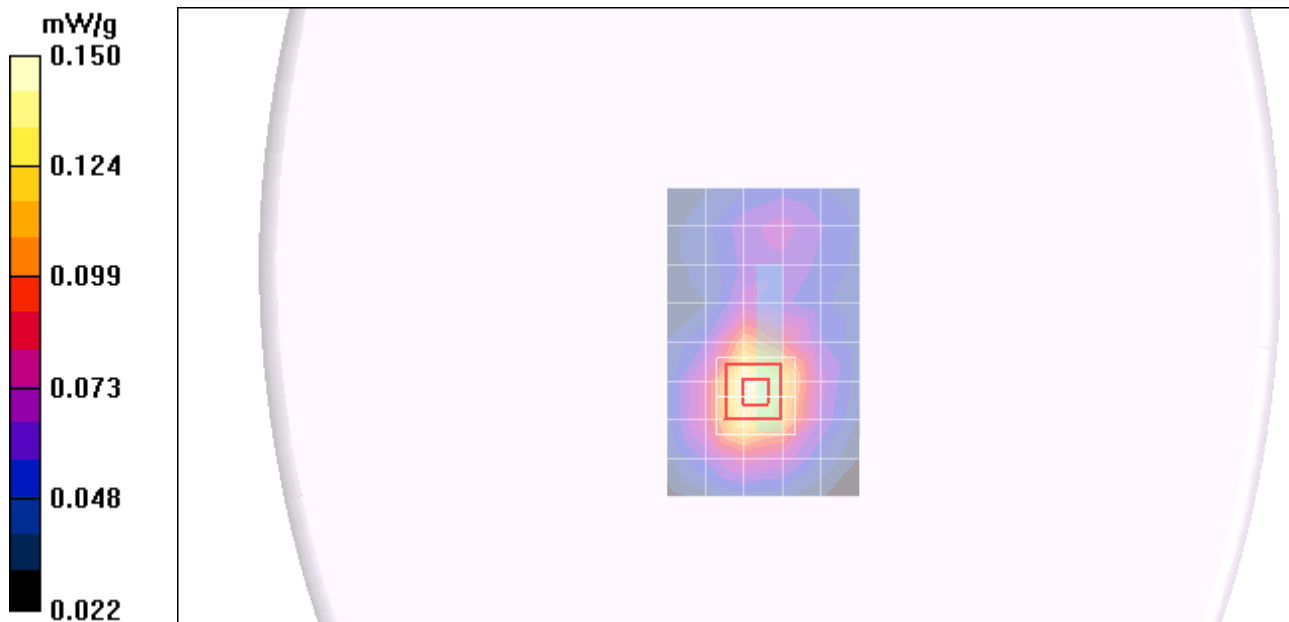
**Mid-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 9.98 V/m; Power Drift = 0.202 dB

Peak SAR (extrapolated) = 0.237 W/kg

**SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.091 mW/g**

Maximum value of SAR (measured) = 0.182 mW/g



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## UMTS BAND II\_Tip

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Low-ch/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.846 mW/g

**Low-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

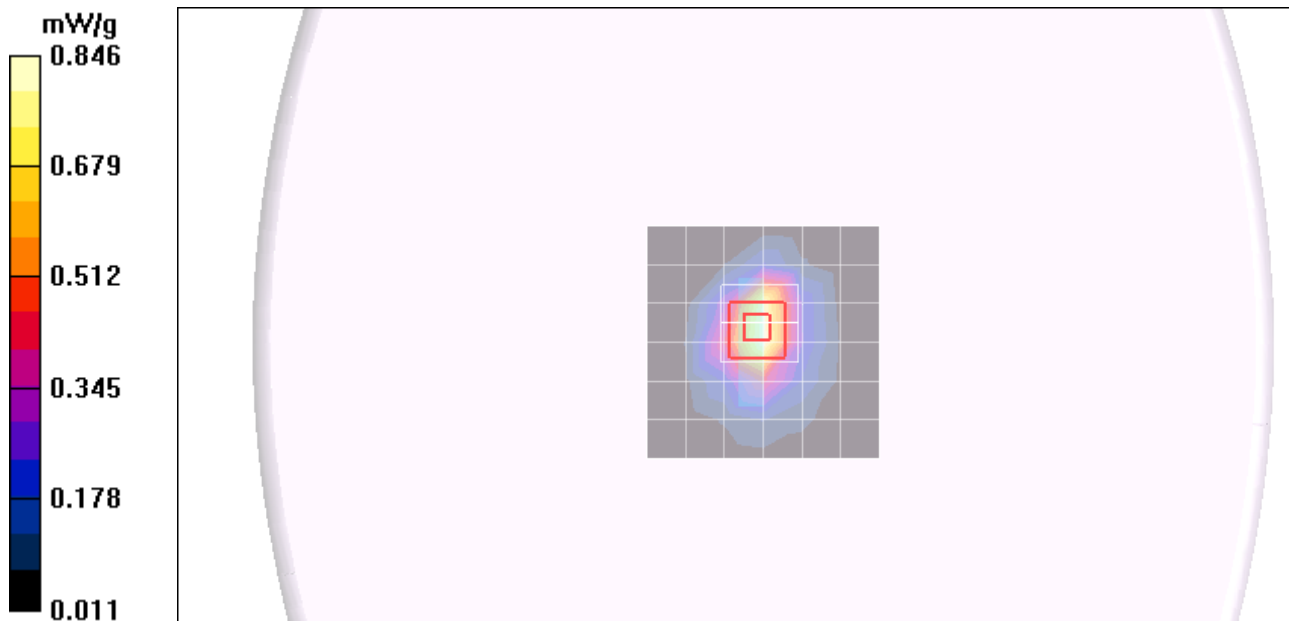
Reference Value = 23.8 V/m; Power Drift = 0.245 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.412 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.949 mW/g



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## UMTS BAND II\_Tip

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

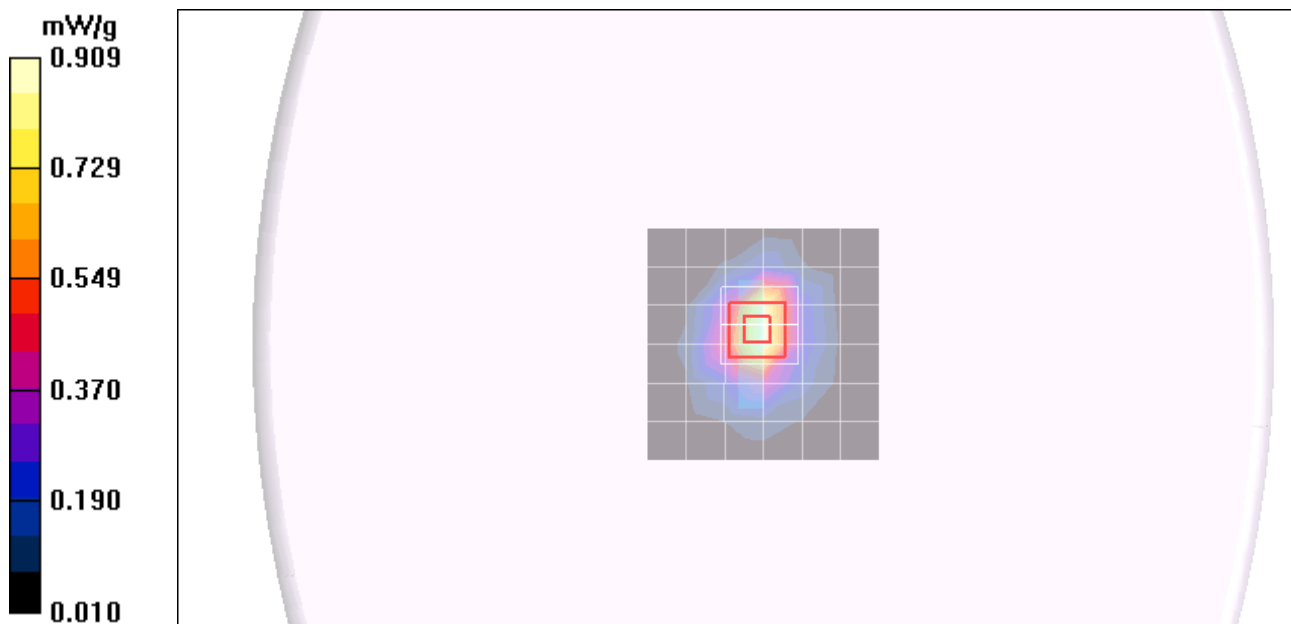
Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Mid-ch/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 0.909 mW/g

**Mid-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm  
Reference Value = 24.7 V/m; Power Drift = 0.188 dB  
Peak SAR (extrapolated) = 1.49 W/kg  
**SAR(1 g) = 0.874 mW/g; SAR(10 g) = 0.463 mW/g**  
Maximum value of SAR (measured) = 1.11 mW/g



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## UMTS BAND II\_Tip

DUT: Sierra Wireless; Type: AC313U; Serial: Unit # 2

Communication System: UMTS Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(8.04, 8.04, 8.04); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**High-ch/Area Scan (7x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.61 mW/g

**High-ch/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 31.8 V/m; Power Drift = 0.156 dB

Peak SAR (extrapolated) = 2.46 W/kg

**SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.730 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.69 mW/g

