

ANNEX A Photographs

Confidential

CTTL Test Report

TTL Test Report

TTL Test Report

TTL Test Report

ANNEX B Graphical Results

FCC_Head_RightCheek_GSM850_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.941$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim_Right_Cheek_Low/Area Scan (81x41x1): Measurement grid:
dx=15mm, dy=15mm

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

Maximum value of SAR (interpolated) = 0.862 mW/g

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

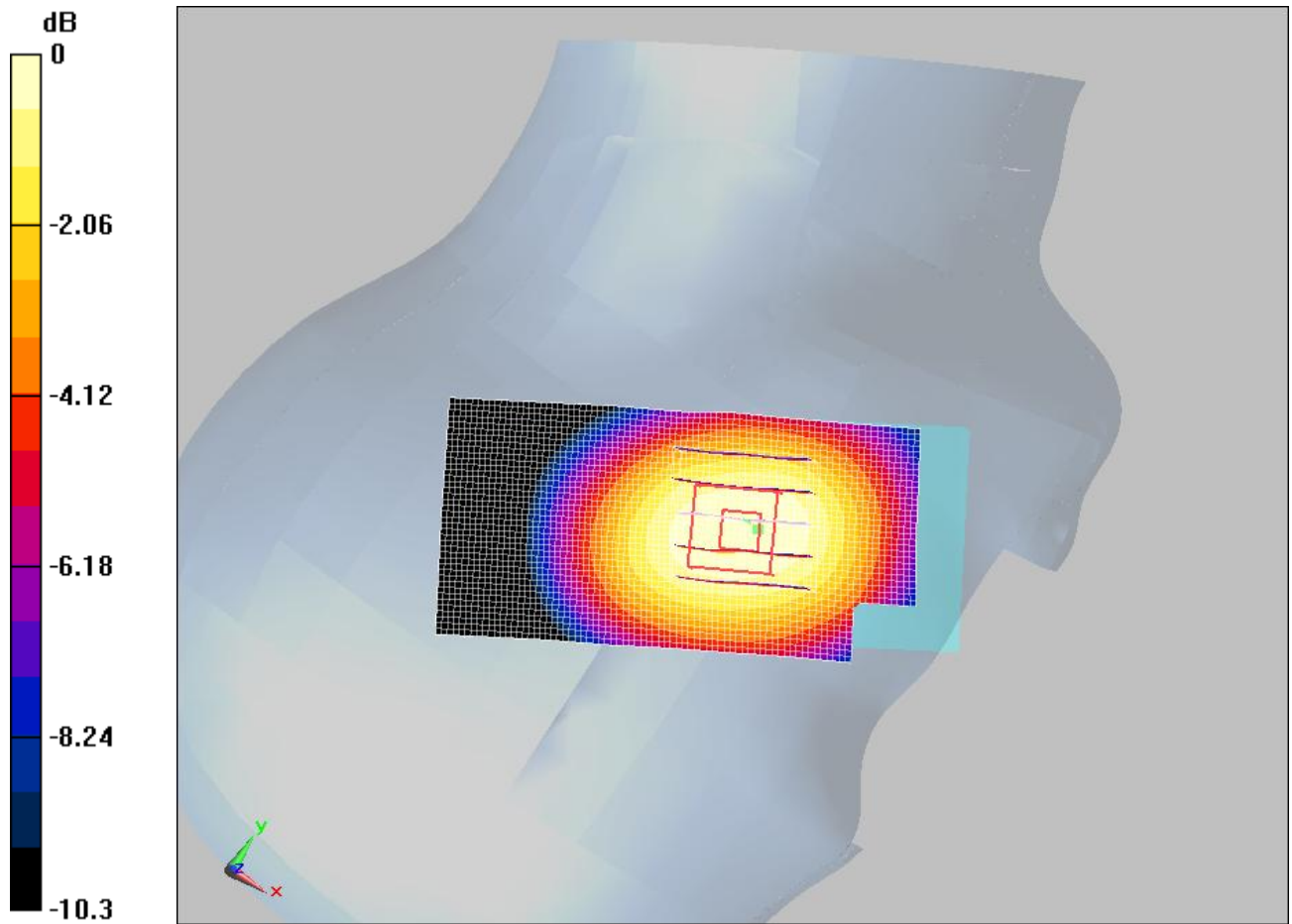
Reference Value = 9.58 V/m; Power Drift = -0.228 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.801 mW/g; SAR(10 g) = 0.586 mW/g

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

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



0 dB = 0.846mW/g

FCC_Head_RightCheek_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 837$ MHz; $\sigma = 0.94$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim_Right_Cheek_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 10.5 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 1.09 W/kg

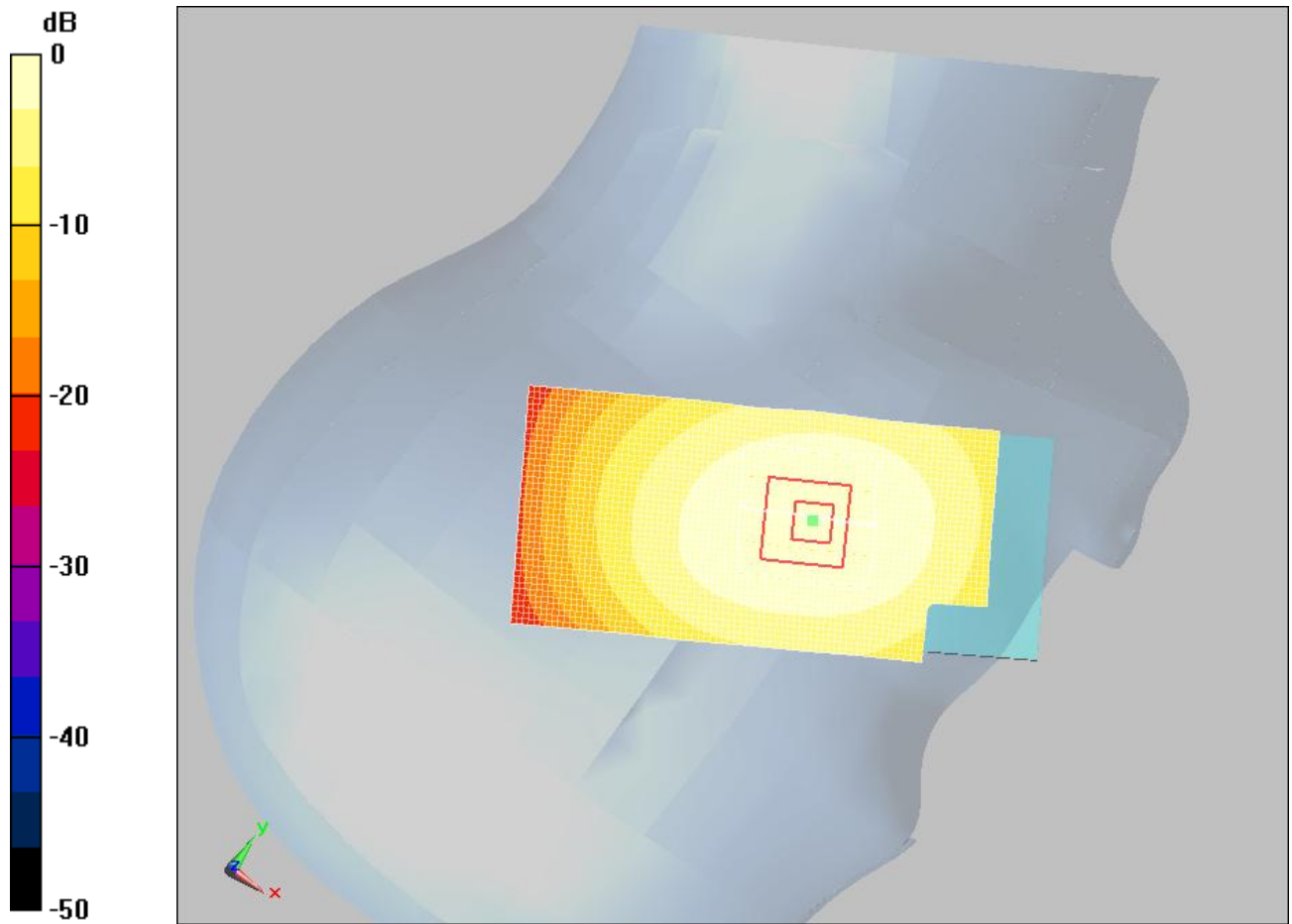
SAR(1 g) = 0.844 mW/g; SAR(10 g) = 0.621 mW/g

Maximum value of SAR (measured) = 0.879 mW/g

Sonim_Right_Cheek_Mid/Area Scan (81x41x1): Measurement grid:

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

Maximum value of SAR (interpolated) = 0.912 mW/g



0 dB = 0.912mW/g

TTL

FCC_Head_RightCheek_GSM850_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 849$ MHz; $\sigma = 0.928$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim_Right_Cheek_High/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 9.92 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 1.16 W/kg

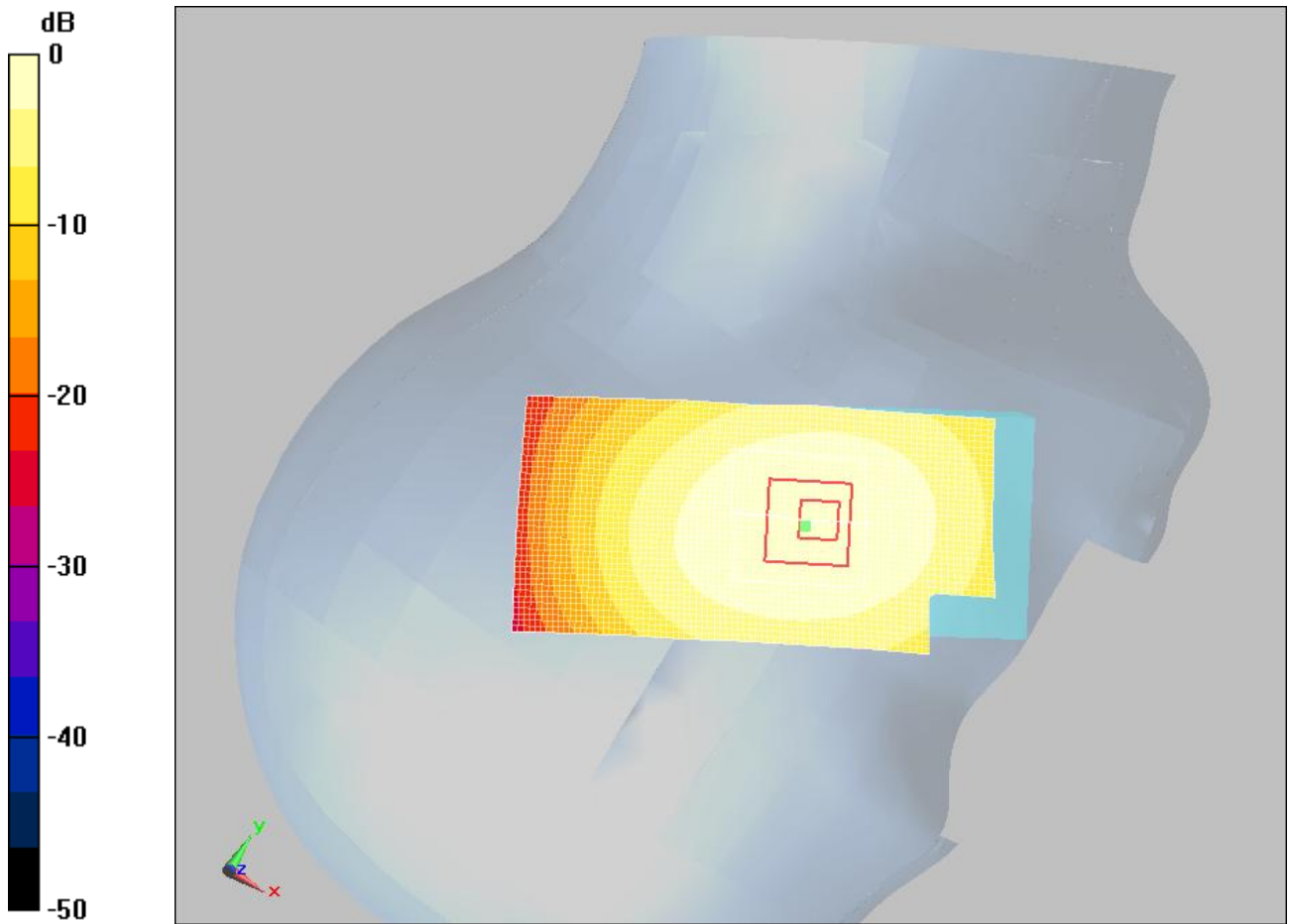
SAR(1 g) = 0.886 mW/g; SAR(10 g) = 0.647 mW/g

Maximum value of SAR (measured) = 0.934 mW/g

Sonim_Right_Cheek_High/Area Scan (81x41x1): Measurement grid:

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

Maximum value of SAR (interpolated) = 0.926 mW/g



0 dB = 0.926mW/g

FCC_Head_RightTilt_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 837$ MHz; $\sigma = 0.94$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim_Right_Tilt_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.531 mW/g

Sonim_Right_Tilt_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

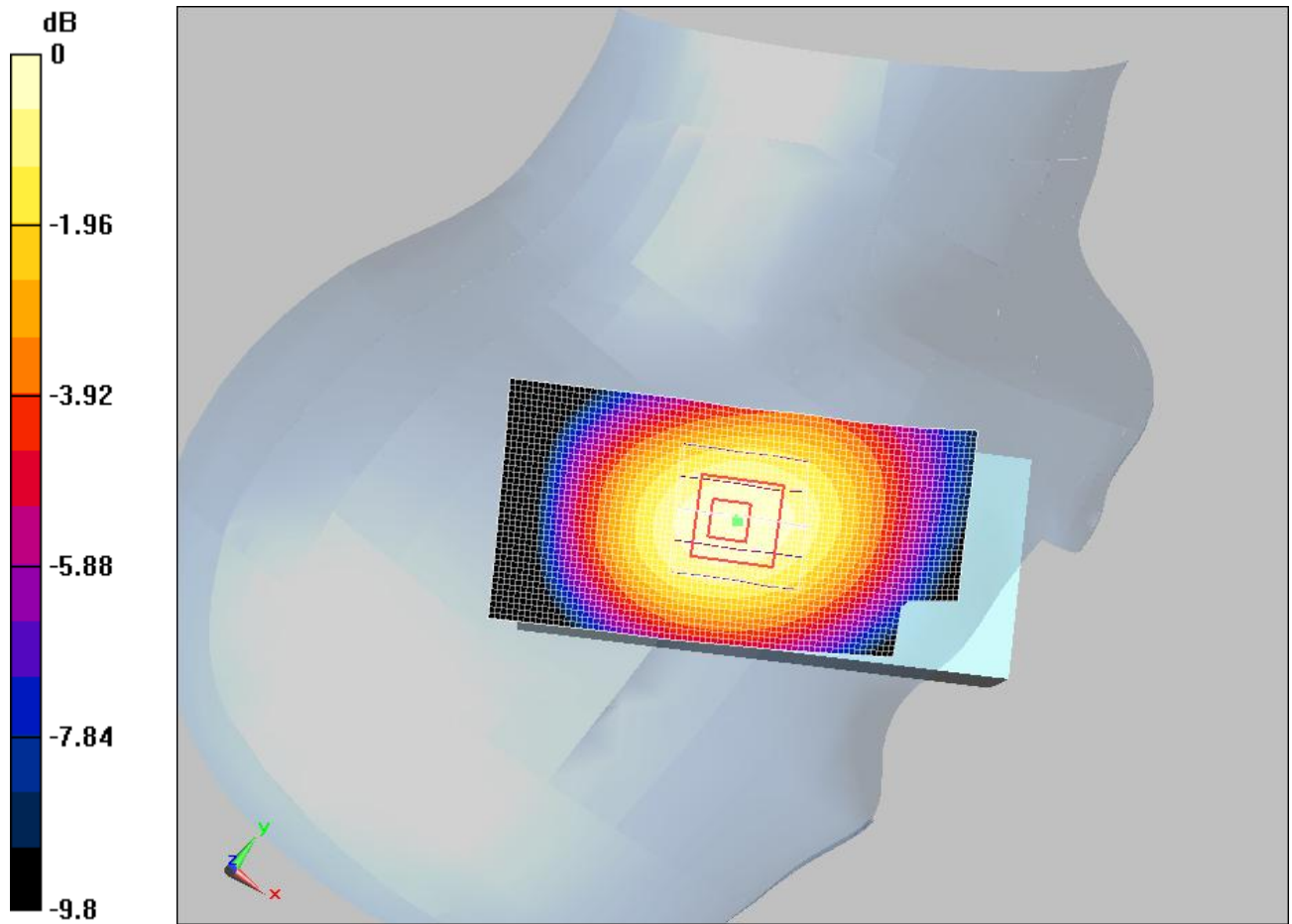
dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.4 V/m; Power Drift = -1.79e-005 dB

Peak SAR (extrapolated) = 0.653 W/kg

SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.368 mW/g

Maximum value of SAR (measured) = 0.531 mW/g



0 dB = 0.531mW/g

FCC_Head_LeftCheek_GSM850_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.941$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek low left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (interpolated) = 0.737 mW/g

Sonim cheek low left/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm

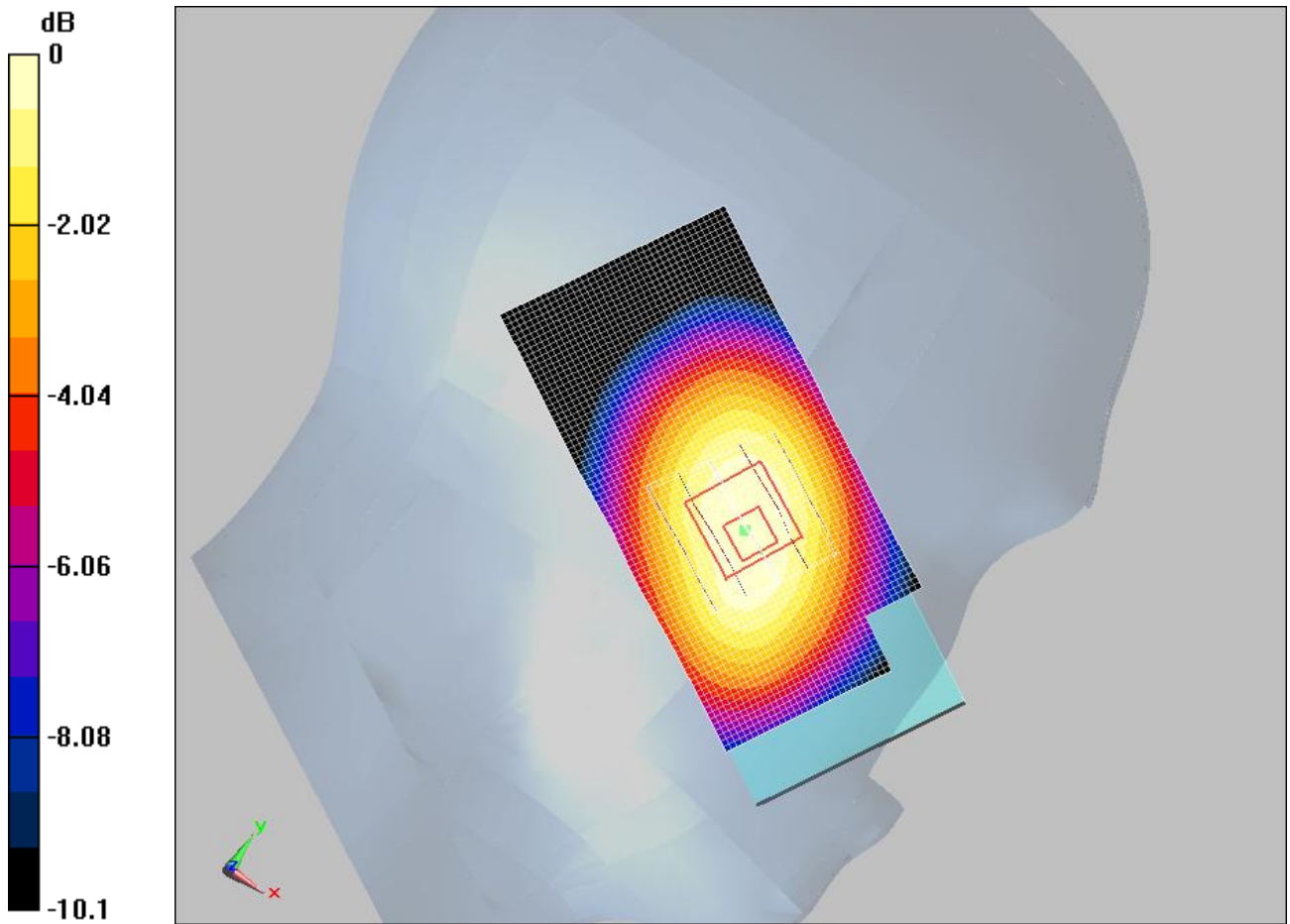
Reference Value = 9.63 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 0.901 W/kg

SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.503 mW/g

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

Maximum value of SAR (measured) = 0.717 mW/g



0 dB = 0.717mW/g

FCC_Head_LeftCheek_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 837$ MHz; $\sigma = 0.94$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek mid Left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.882 mW/g

Sonim cheek mid Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

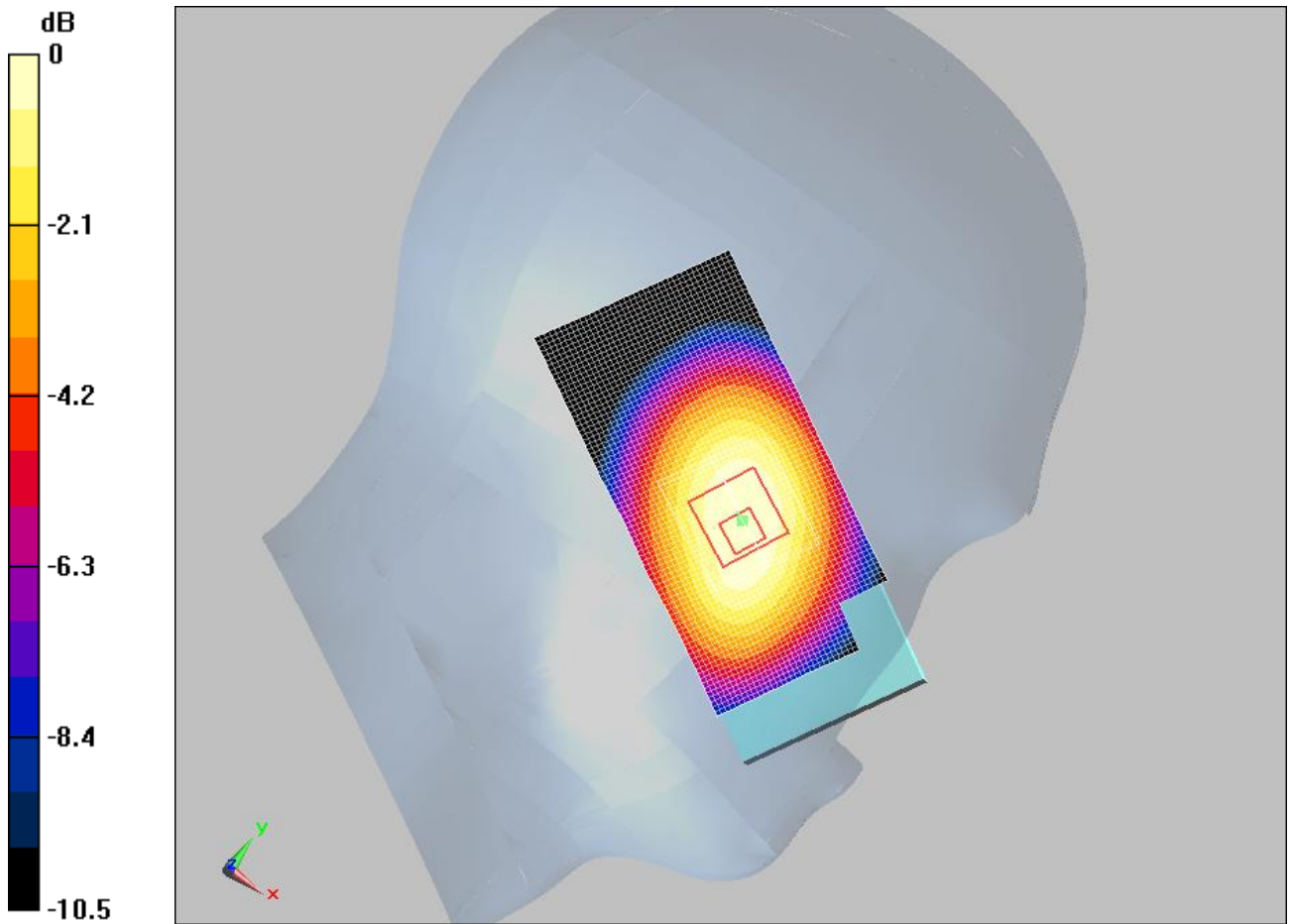
dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.826 mW/g; SAR(10 g) = 0.594 mW/g

Maximum value of SAR (measured) = 0.859 mW/g



0 dB = 0.859mW/g

FCC_Head_LeftCheek_GSM850_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 849$ MHz; $\sigma = 0.928$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek High left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.986 mW/g

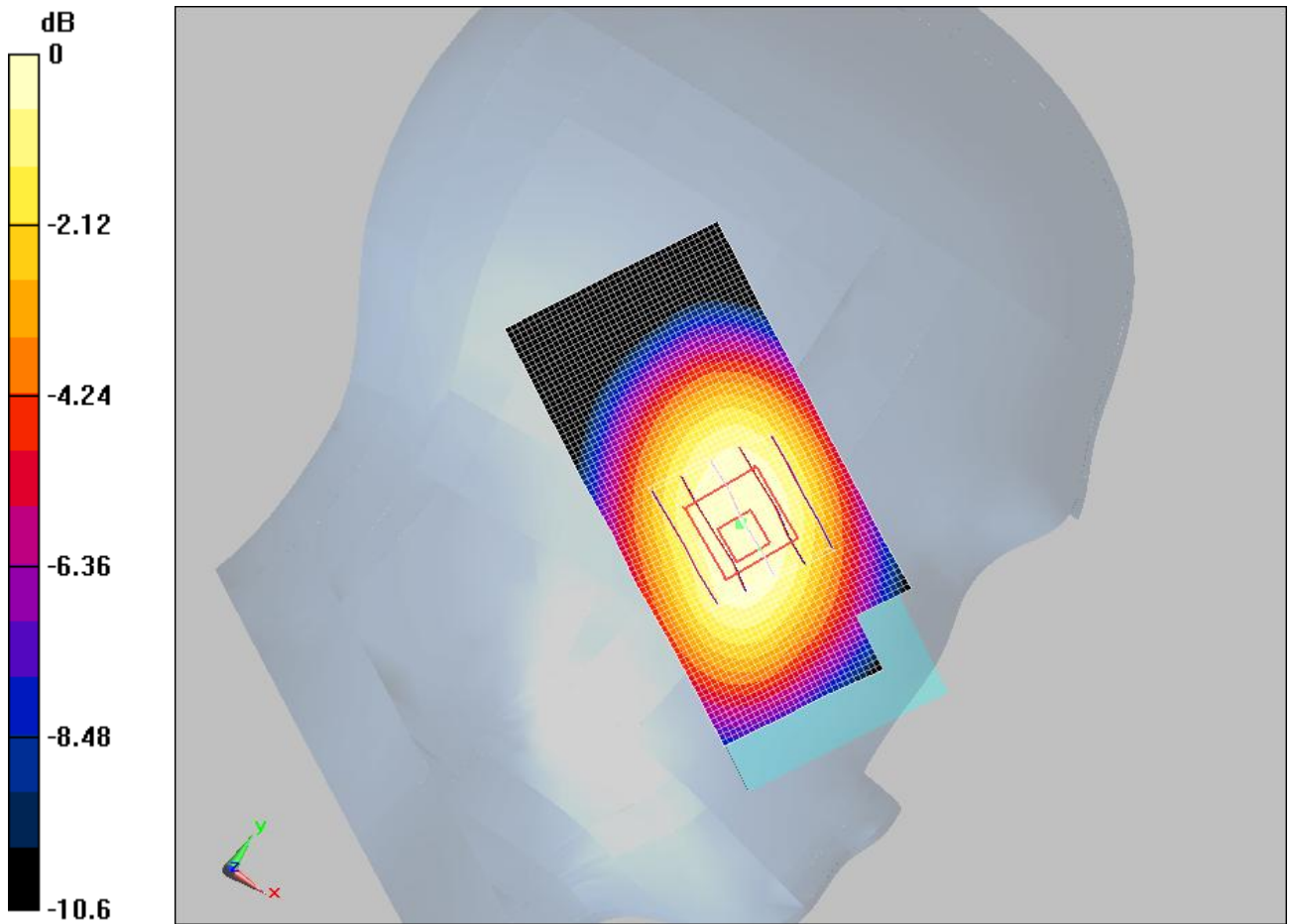
Sonim cheek High left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.2 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.888 mW/g; SAR(10 g) = 0.642 mW/g

Maximum value of SAR (measured) = 0.921 mW/g



0 dB = 0.921mW/g

FCC_Head_LeftTilt_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 837$ MHz; $\sigma = 0.94$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim tilt mid Left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.577 mW/g

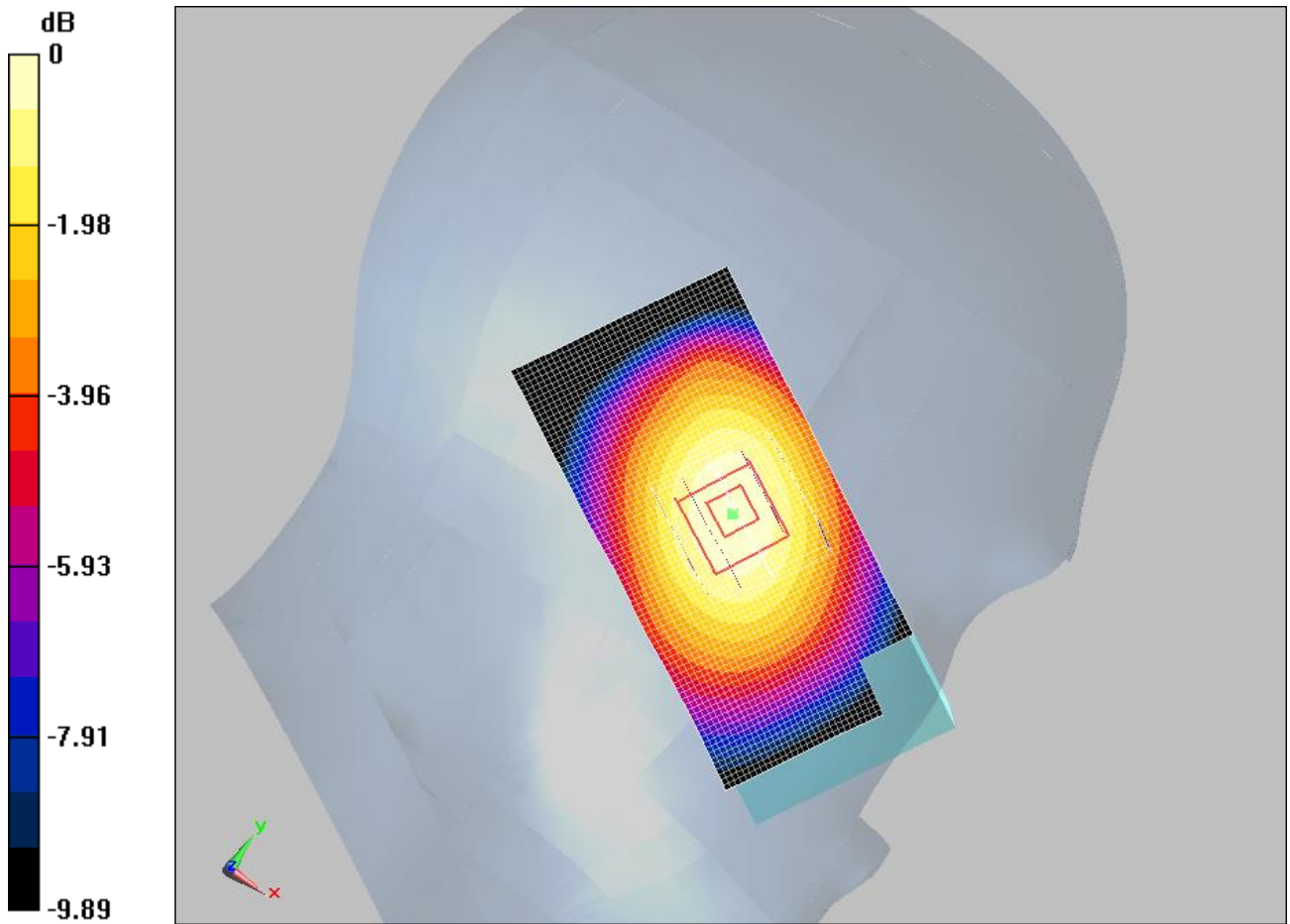
Sonim tilt mid Left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.4 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.714 W/kg

SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.401 mW/g

Maximum value of SAR (measured) = 0.581 mW/g



0 dB = 0.581mW/g

FCC_Head_LeftCheek_GSM850_High_HighBattery

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 849$ MHz; $\sigma = 0.928$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek High left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.797 mW/g

Sonim cheek High left/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.5 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.983 W/kg

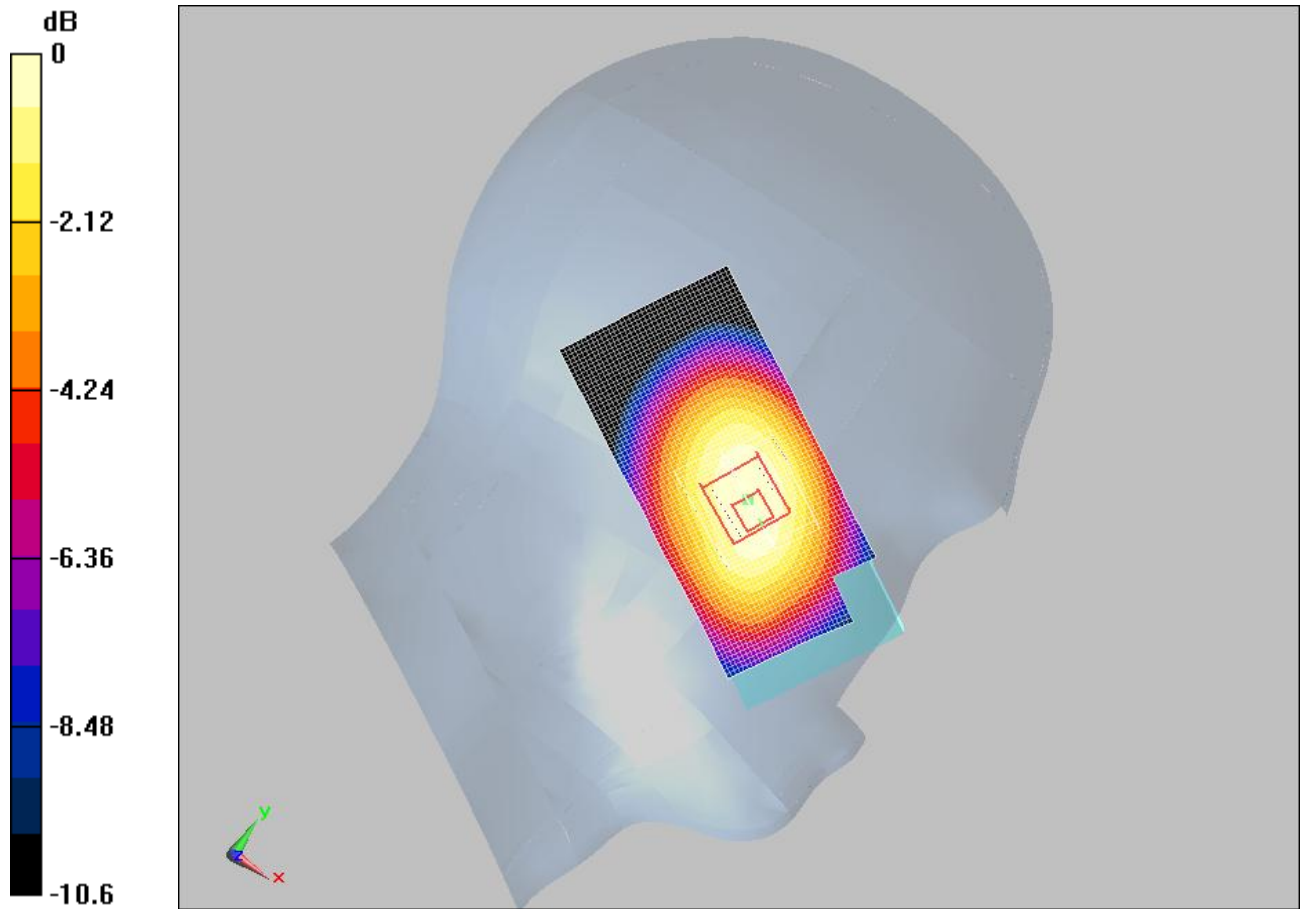
SAR(1 g) = 0.745 mW/g; SAR(10 g) = 0.541 mW/g

Maximum value of SAR (measured) = 0.781 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.781mW/g

FCC_Head_RightCheek_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Cheek_Right mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.622 mW/g

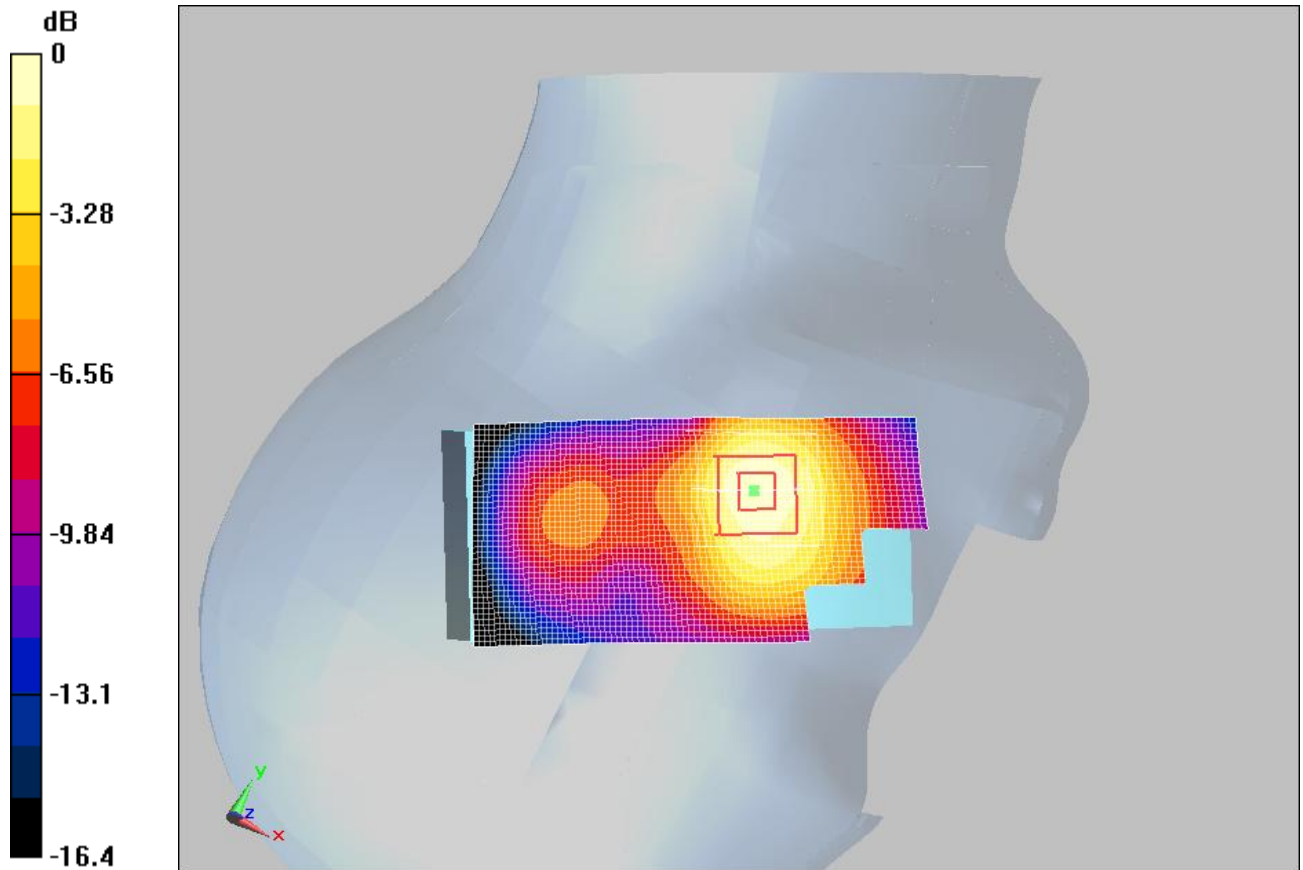
gsm_Cheek_Right mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.88 V/m; Power Drift = -0.342 dB

Peak SAR (extrapolated) = 0.796 W/kg

SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.330 mW/g

Maximum value of SAR (measured) = 0.586 mW/g



0 dB = 0.586mW/g

TTL TEST

FCC_Head_RightTilt_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Tilt_Right mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 9.74 V/m; Power Drift = -0.093 dB

Peak SAR (extrapolated) = 0.257 W/kg

SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.112 mW/g

Maximum value of SAR (measured) = 0.189 mW/g

gsm_Tilt_Right mid/Area Scan (81x41x1): Measurement grid: $dx=15$ mm,

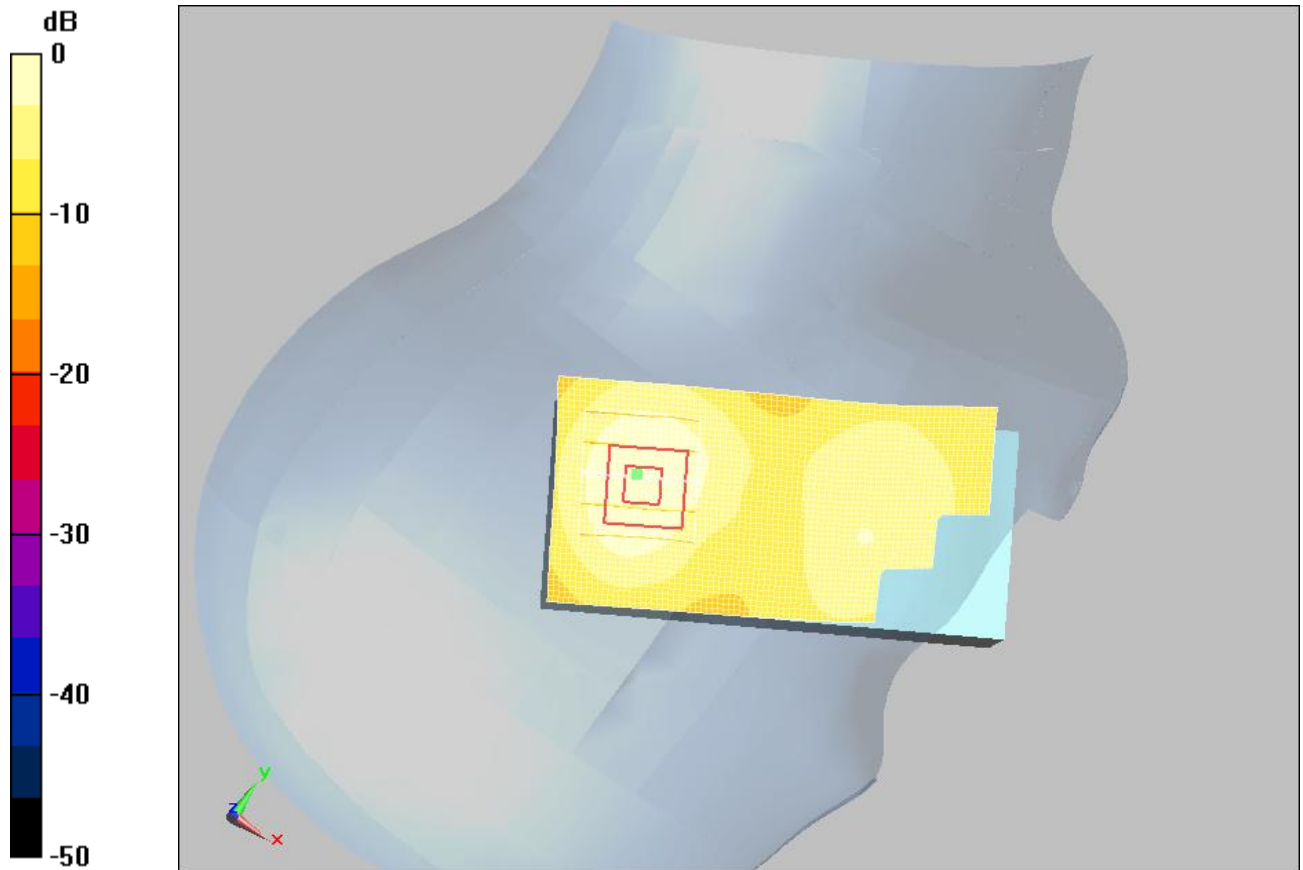
$dy=15$ mm

Maximum value of SAR (interpolated) = 0.220 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.220mW/g

TTL TEST

FCC_Head_LeftCheek_PCS1900_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39$;
 $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Cheek_Left Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 6.41 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.712 W/kg

SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.274 mW/g

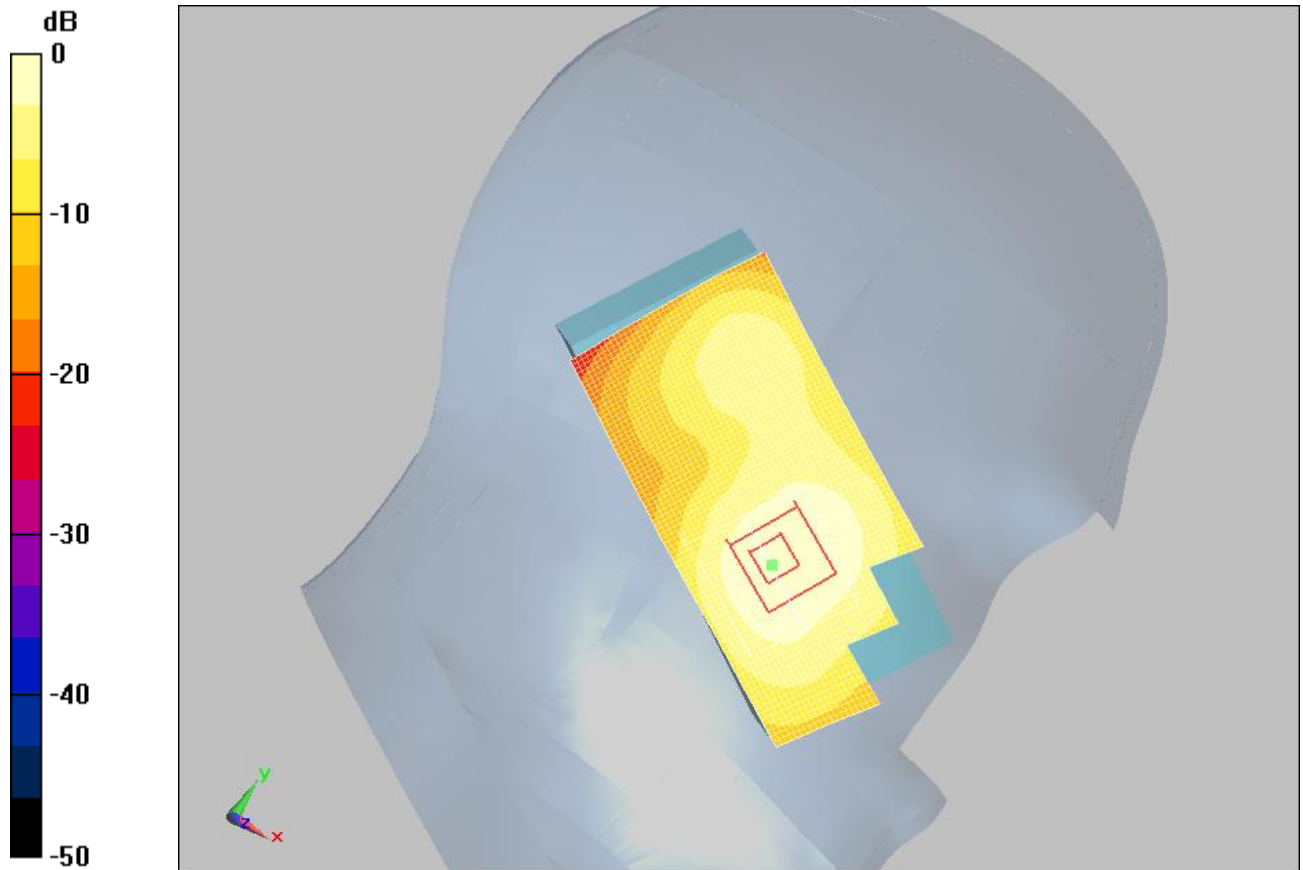
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.494 mW/g

gsm_Cheek_Left Low/Area Scan (81x41x1): Measurement grid: $dx=15$ mm,
 $dy=15$ mm

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

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



0 dB = 0.502mW/g

TTL TEST

FCC_Head_LeftCheek_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Cheek_Left mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.614 mW/g

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

Reference Value = 7.52 V/m; Power Drift = 0.091 dB

Peak SAR (extrapolated) = 0.875 W/kg

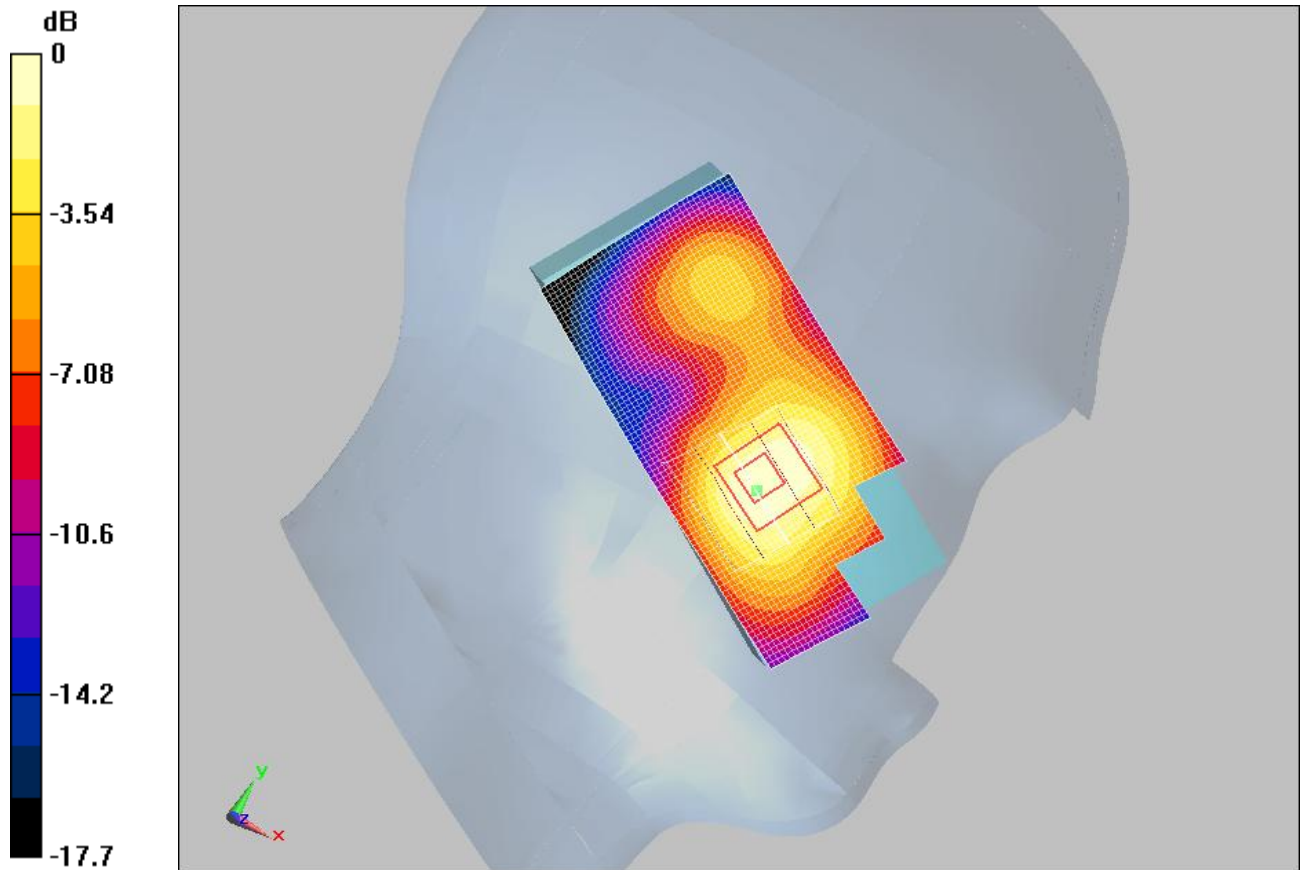
SAR(1 g) = 0.557 mW/g; SAR(10 g) = 0.332 mW/g

Maximum value of SAR (measured) = 0.603 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.603mW/g

TTL TEST

FCC_Head_LeftCheek_PCS1900_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1910$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³
Phantom section: Left Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Cheek_Left High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.647 mW/g

gsm_Cheek_Left High/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.97 V/m; Power Drift = 0.036 dB

Peak SAR (extrapolated) = 0.926 W/kg

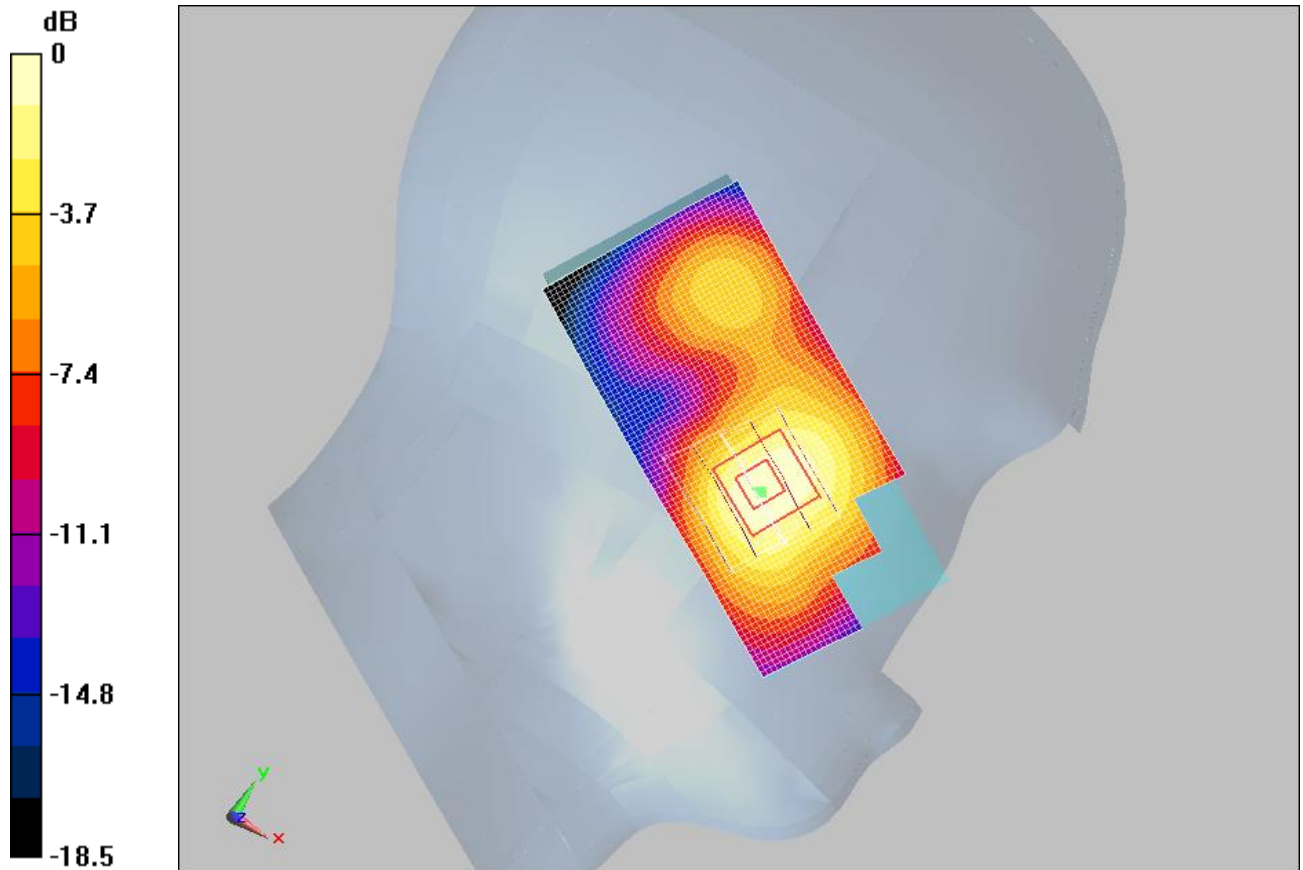
SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.643 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.643mW/g

TTL TEST

FCC_Head_LeftTilt_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Reference Value = 9.34 V/m; Power Drift = -0.00902 dB

Peak SAR (extrapolated) = 0.303 W/kg

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.119 mW/g

Maximum value of SAR (measured) = 0.215 mW/g

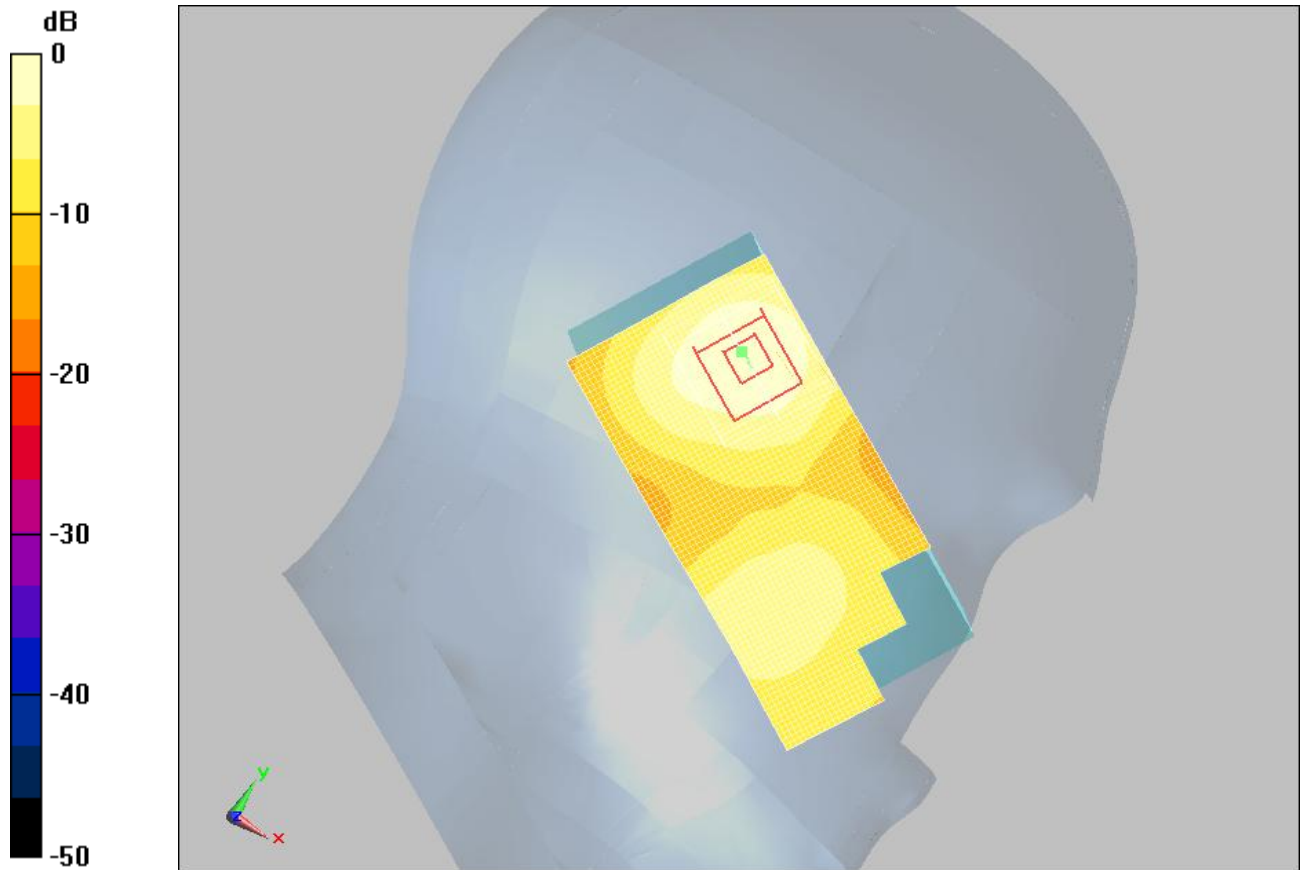
gsm_Tilt_Left mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.239 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.239mW/g

TTL TEST

FCC_Head_LeftCheek_PCS1900_High_HighBattery

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1910$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³
Phantom section: Left Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Cheek_Left High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

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

gsm_Cheek_Left High/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.4 V/m; Power Drift = -0.055 dB

Peak SAR (extrapolated) = 0.644 W/kg

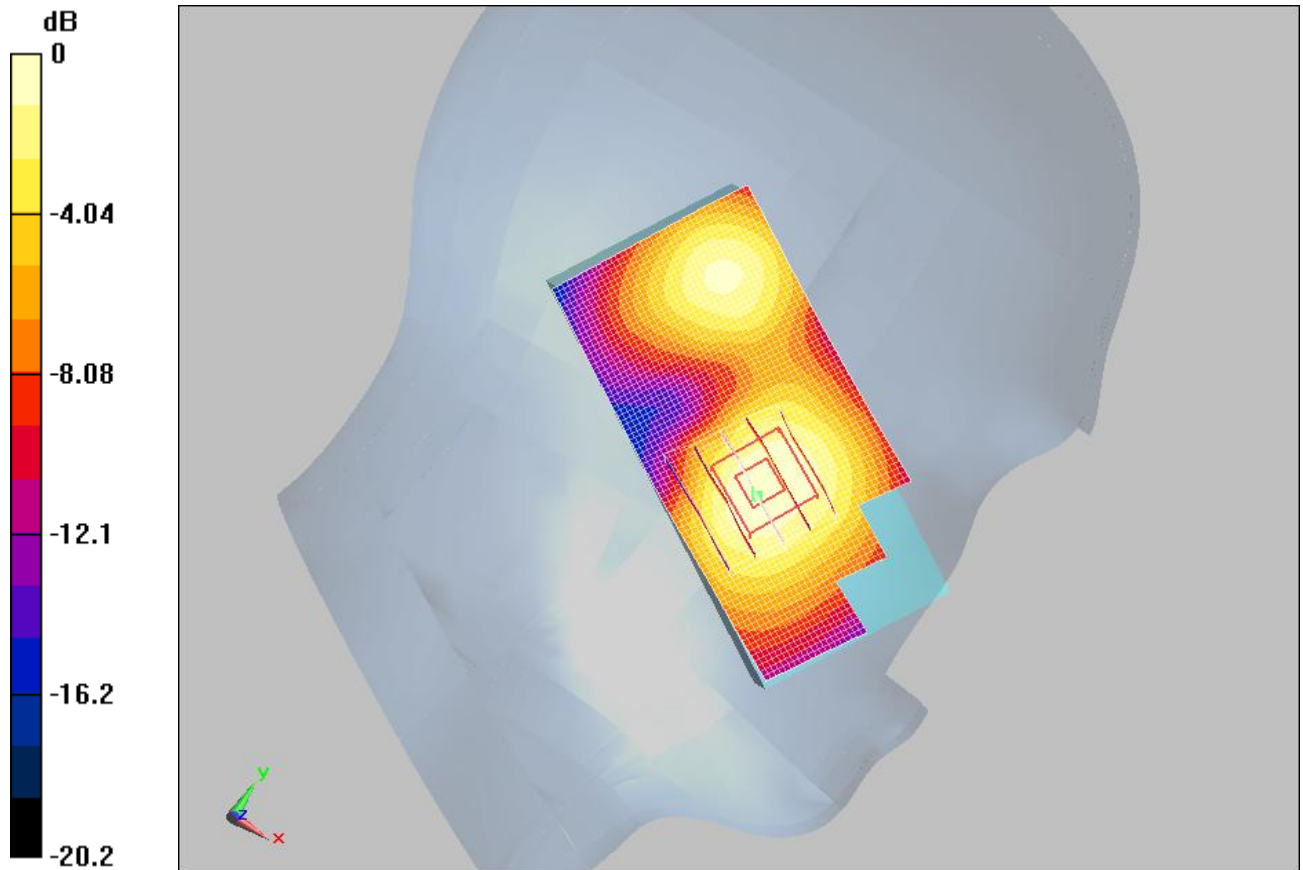
SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.445 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.445mW/g

TTL TEST

FCC_Body_Face_GSM850_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Reference Value = 11.8 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.516 mW/g

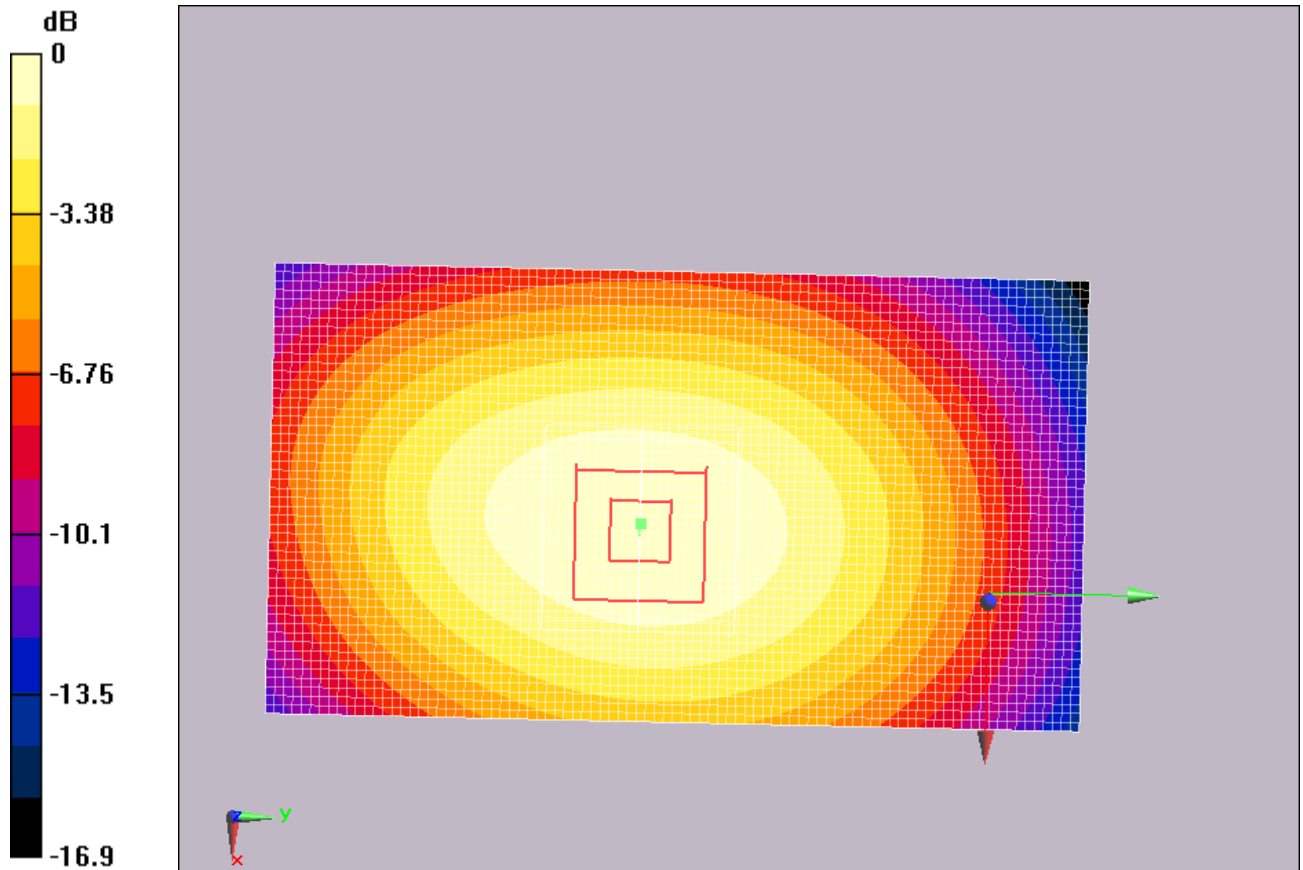
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.741 mW/g

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

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

Maximum value of SAR (interpolated) = 0.738 mW/g



0 dB = 0.738mW/g

TTL TEST

FCC_Body_Face_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Reference Value = 12 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.985 W/kg

SAR(1 g) = 0.758 mW/g; SAR(10 g) = 0.554 mW/g

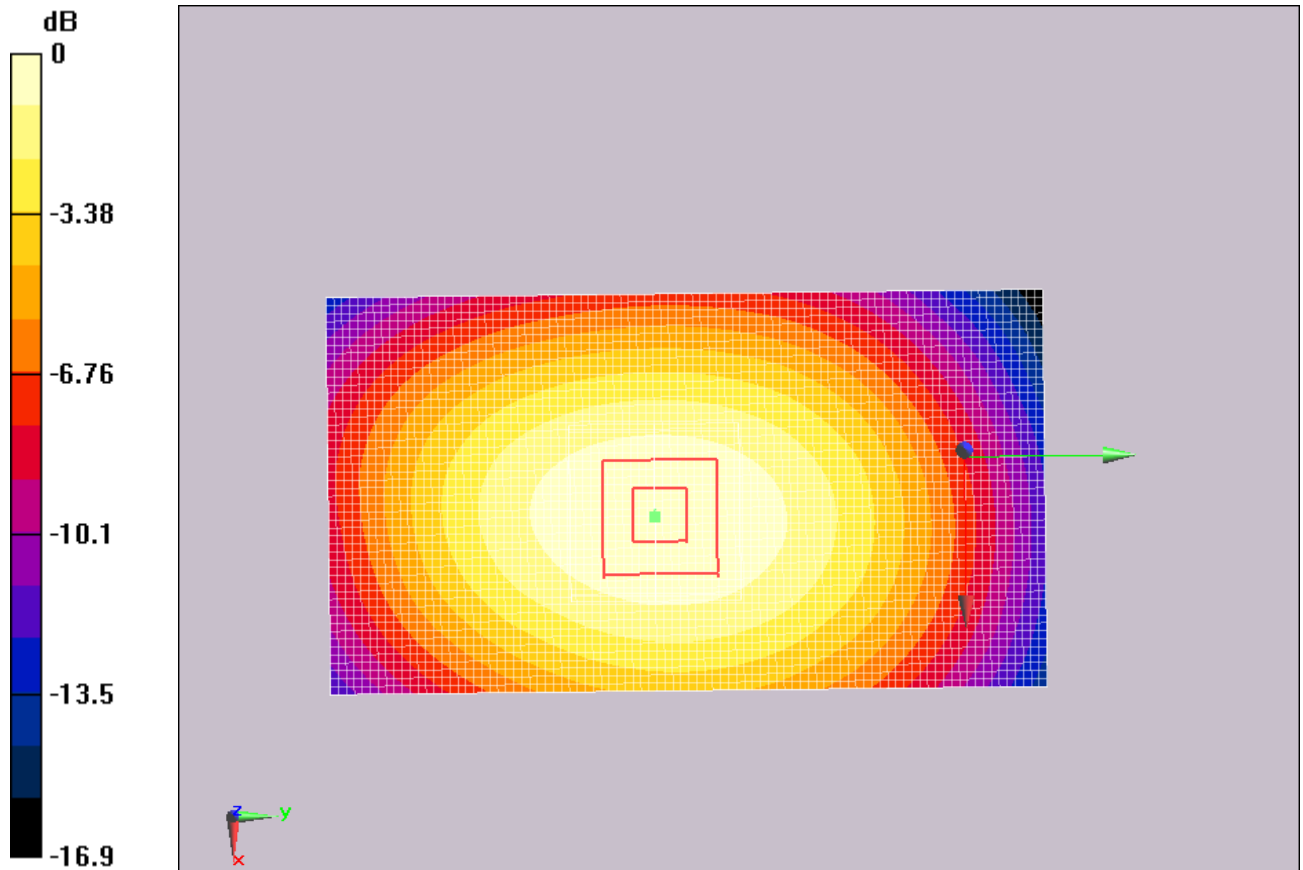
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.801 mW/g

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

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

Maximum value of SAR (interpolated) = 0.799 mW/g



0 dB = 0.799mW/g

TTL TEST

FCC_Body_Face_GSM850_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.03$ mho/m; $\epsilon_r = 55.1$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

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

Maximum value of SAR (interpolated) = 0.765 mW/g

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

Reference Value = 12.2 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.934 W/kg

SAR(1 g) = 0.721 mW/g; SAR(10 g) = 0.527 mW/g

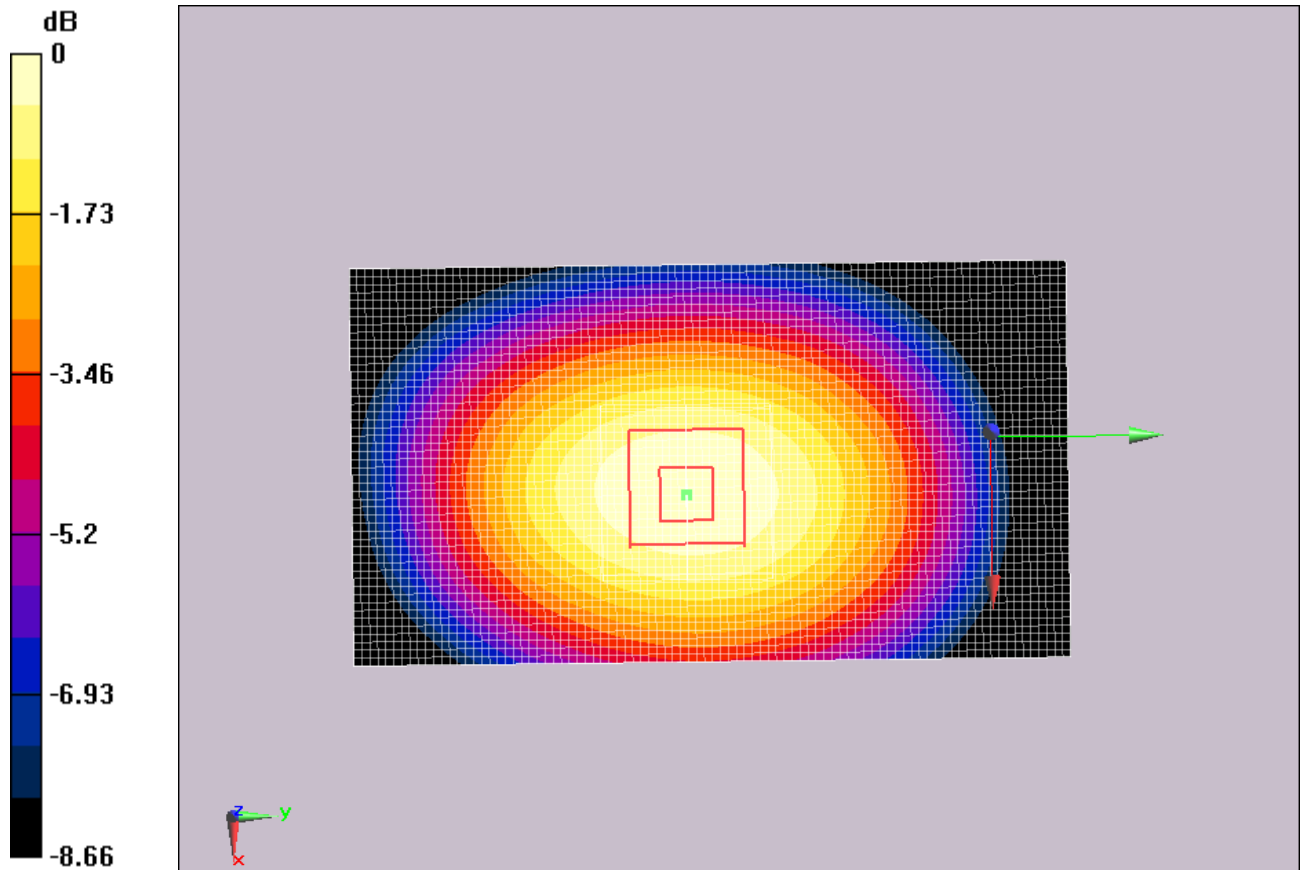
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.764 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.764mW/g

TTL TEST

FCC_Body_Back_GSM850_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Reference Value = 10.1 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 0.656 W/kg

SAR(1 g) = 0.506 mW/g; SAR(10 g) = 0.374 mW/g

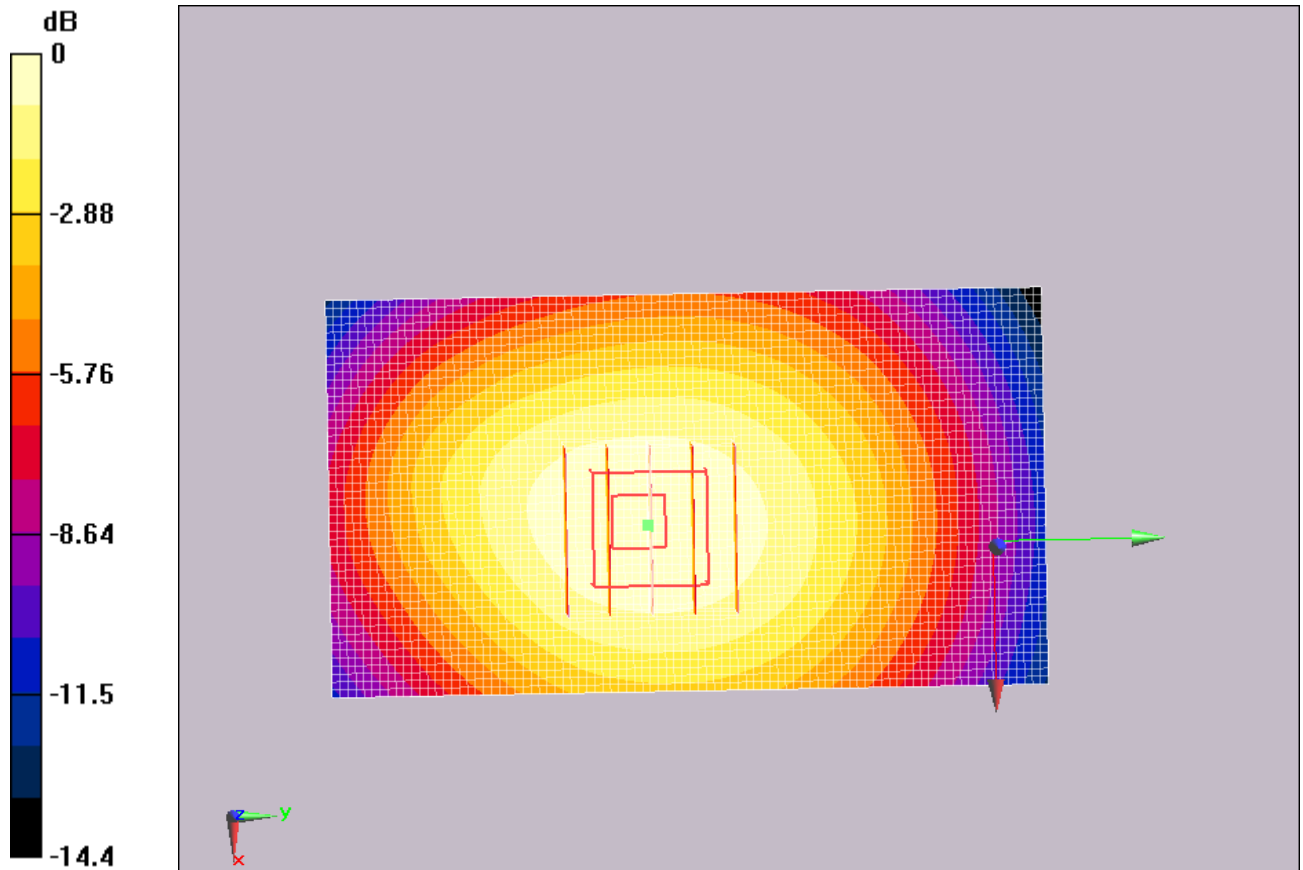
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.531 mW/g

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

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

Maximum value of SAR (interpolated) = 0.532 mW/g



0 dB = 0.532mW/g

TTL TEST

FCC_Body_Face_GSM850_Middle_Earphone

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_Mid_earphone/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 10.6 V/m; Power Drift = 0.046 dB

Peak SAR (extrapolated) = 0.603 W/kg

SAR(1 g) = 0.463 mW/g; SAR(10 g) = 0.340 mW/g

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

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

GSM_face_Mid_earphone/Area Scan (51x91x1): Measurement grid:

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

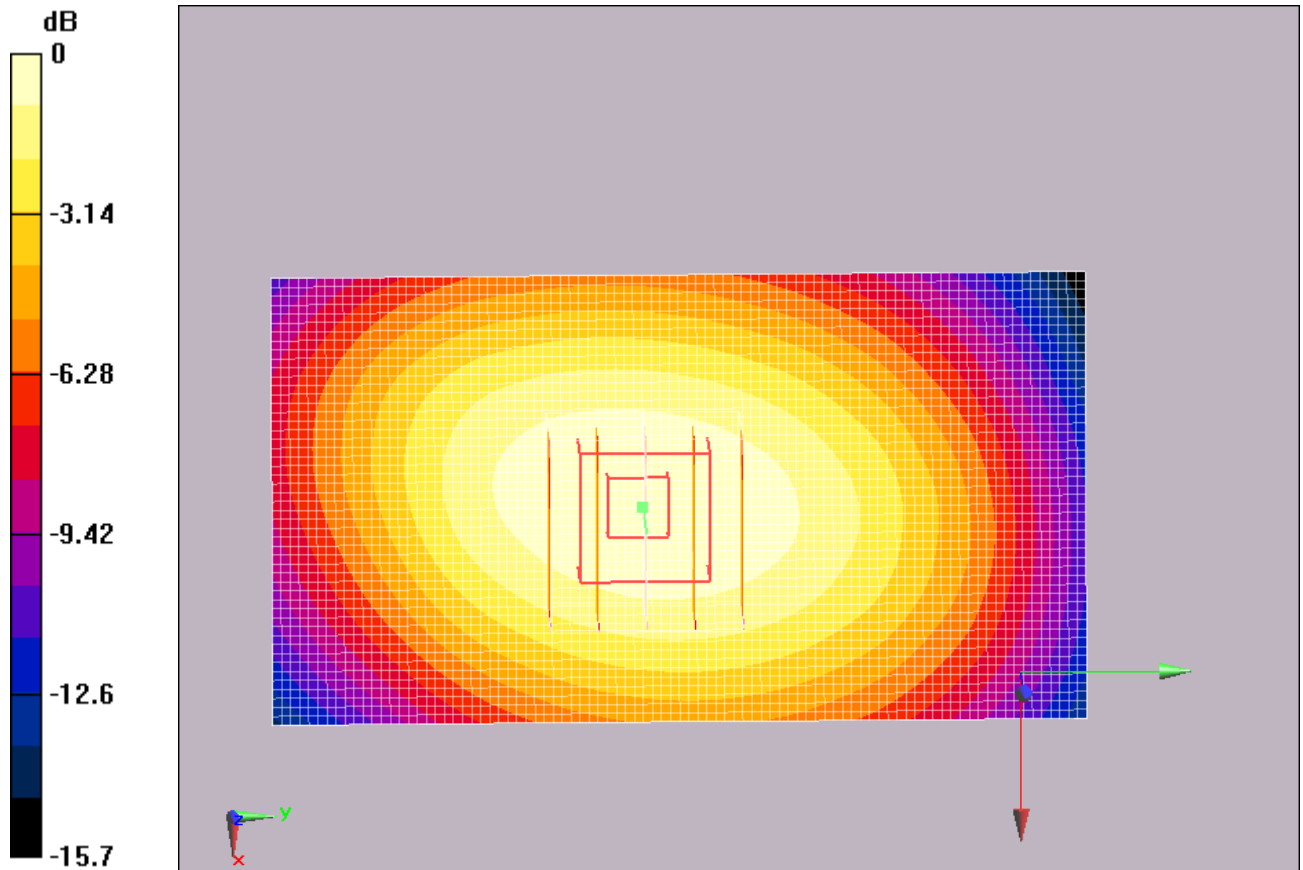
[Info: Interpolated medium parameters used for SAR evaluation.](#)

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

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.488mW/g

TTL TEST

FCC_Body_Face_GSM850_Middle_Handfree

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_Mid_Hand-free/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 12.7 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 0.942 W/kg

SAR(1 g) = 0.725 mW/g; SAR(10 g) = 0.531 mW/g

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

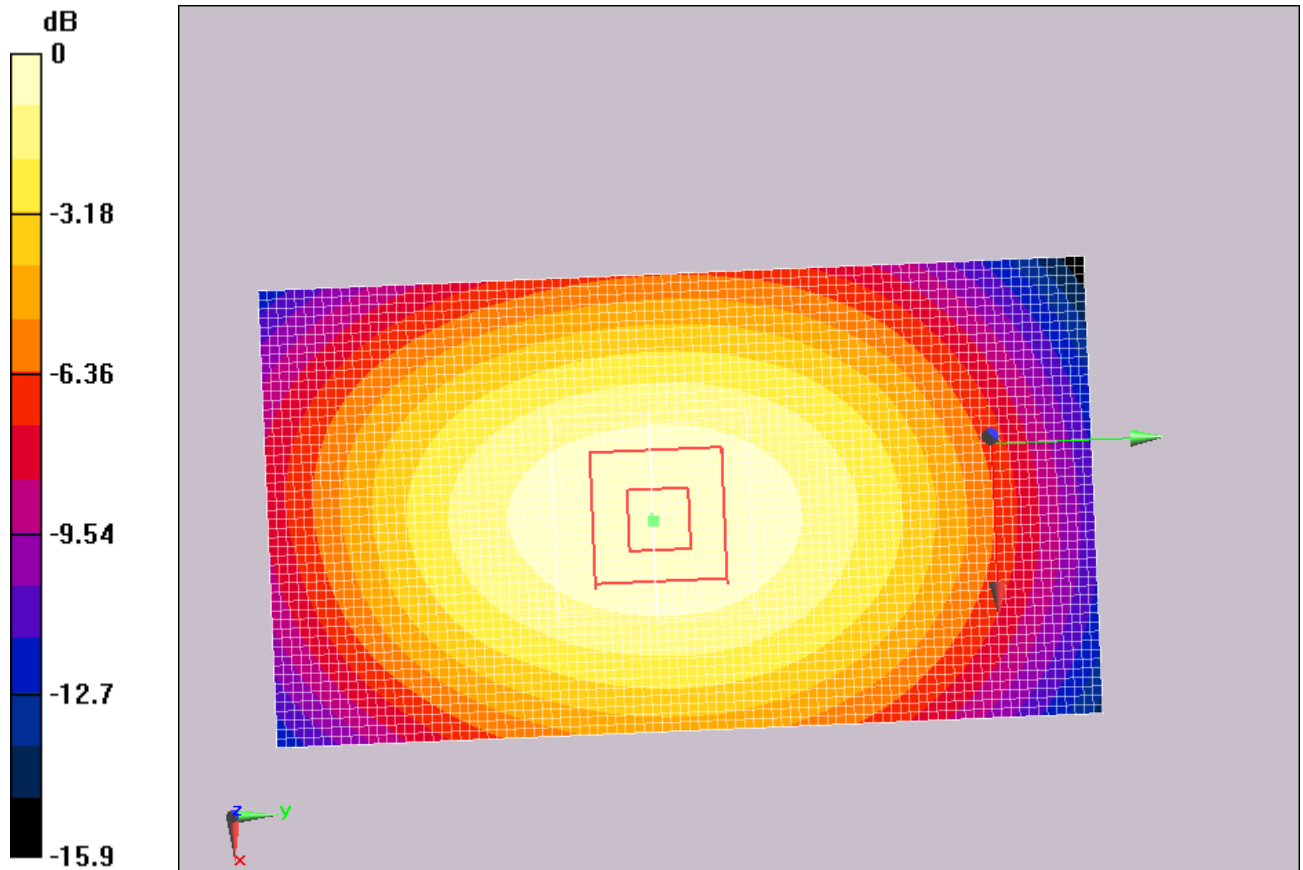
Maximum value of SAR (measured) = 0.768 mW/g

GSM_face_Mid_Hand-free/Area Scan (51x91x1): Measurement grid:

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

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

Maximum value of SAR (interpolated) = 0.764 mW/g



0 dB = 0.764mW/g

TTL TEST

FCC_Body_Face_GSM850_Middle_BT

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Reference Value = 10.7 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.859 W/kg

SAR(1 g) = 0.656 mW/g; SAR(10 g) = 0.482 mW/g

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

Maximum value of SAR (measured) = 0.693 mW/g

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

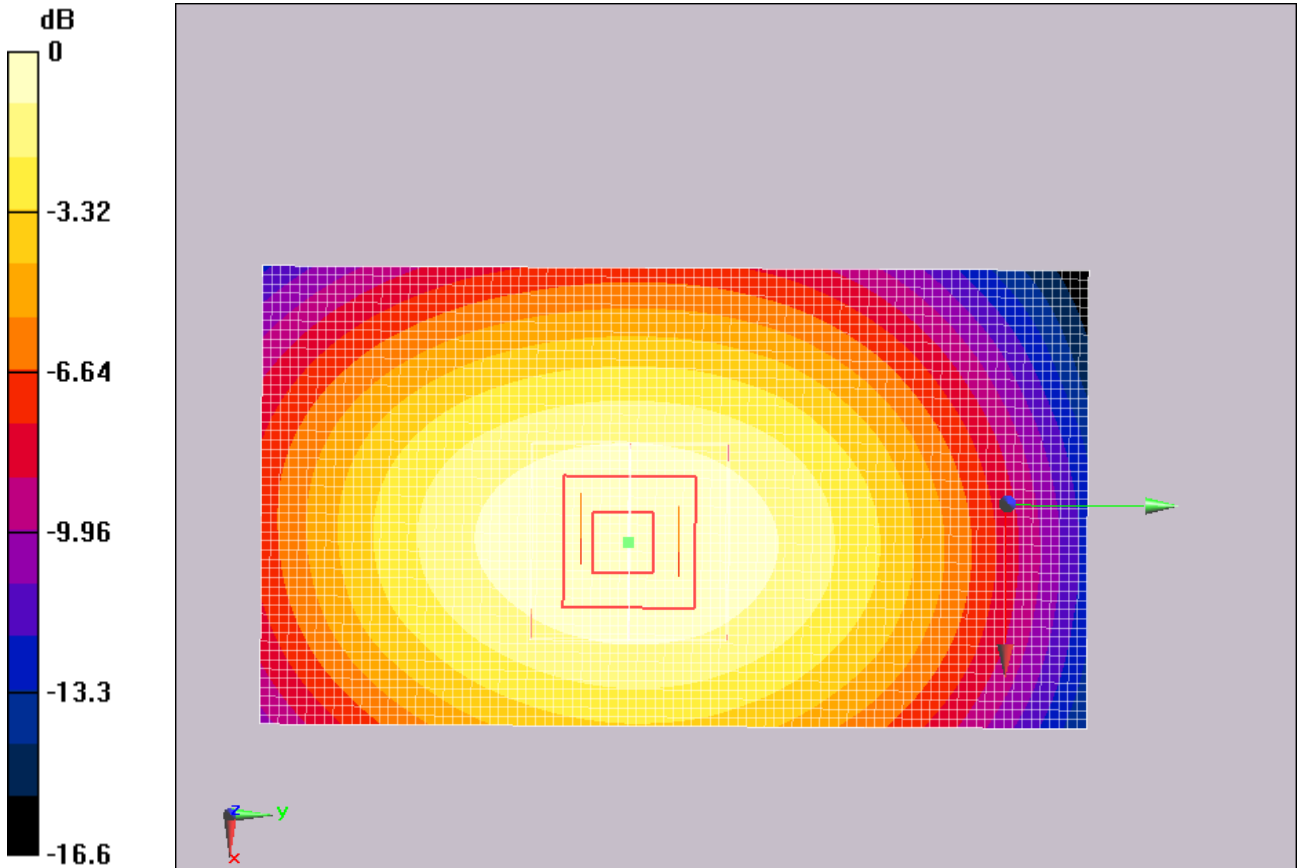
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.687 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.687mW/g

TTL TEST

FCC_Body_Face_GPRS850_4TS_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 824.2 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_low_GPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 16.4 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.962 mW/g

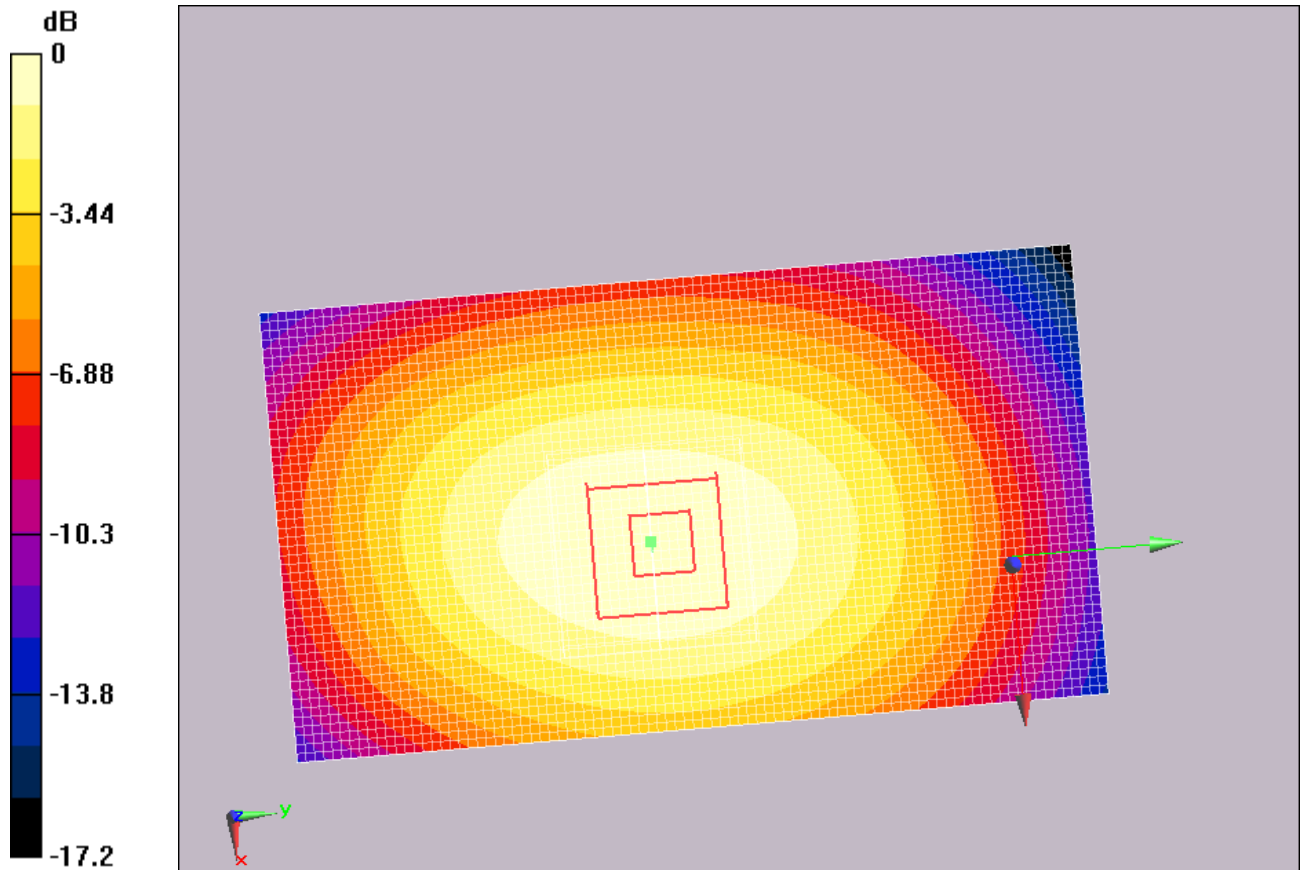
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.37 mW/g

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

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

Maximum value of SAR (interpolated) = 1.39 mW/g



0 dB = 1.39mW/g

TTL TEST

FCC_Body_Face_GPRS850_4TS_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 836.6 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_mid_GPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

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

Reference Value = 14.8 V/m; Power Drift = 0.169 dB

Peak SAR (extrapolated) = 1.61 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.895 mW/g

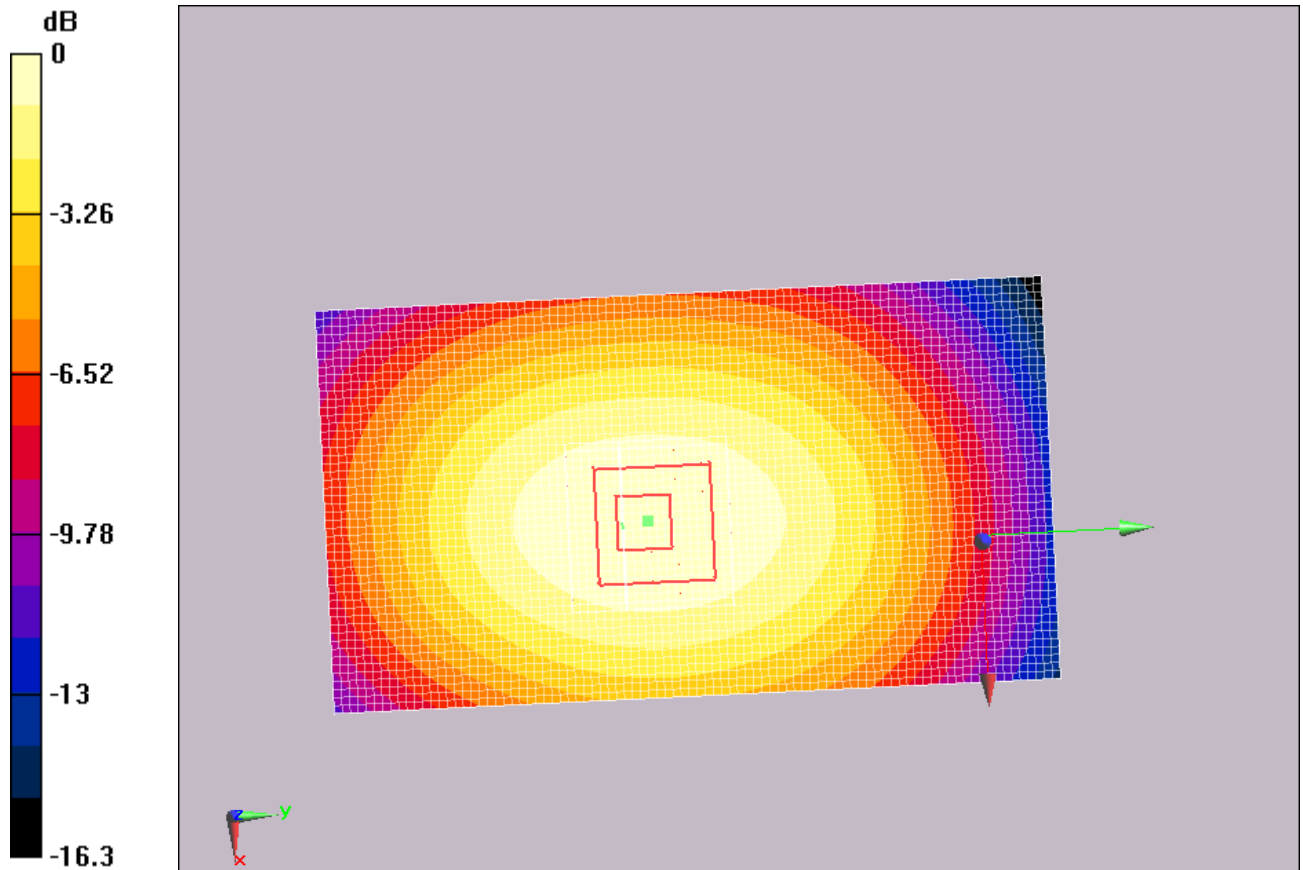
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.29 mW/g

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

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

Maximum value of SAR (interpolated) = 1.27 mW/g



0 dB = 1.27mW/g

TTL TEST

FCC_Body_Face_GPRS850_4TS_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 848.8 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.03$ mho/m; $\epsilon_r = 55.1$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_high_GPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 16.7 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.972 mW/g

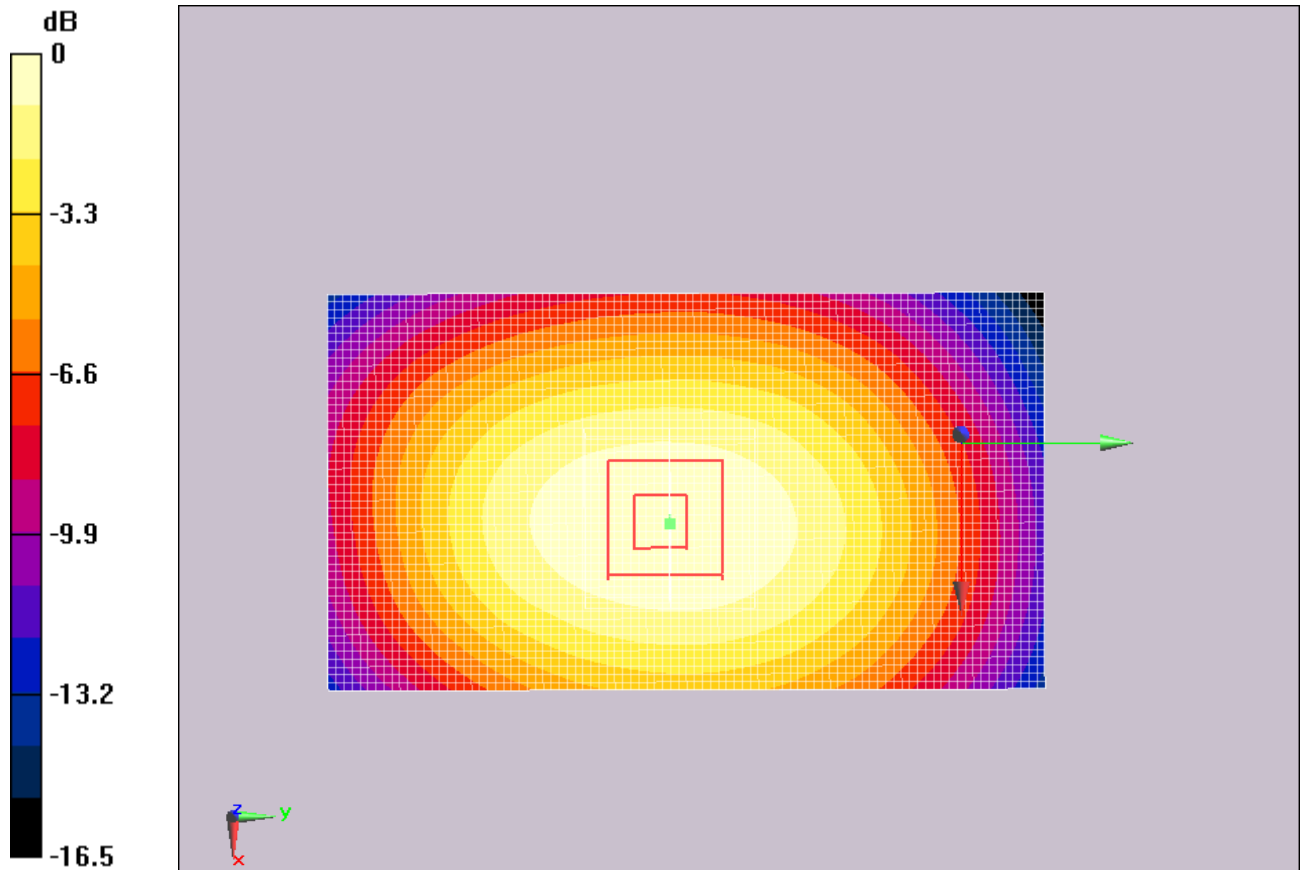
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.4 mW/g

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

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

Maximum value of SAR (interpolated) = 1.39 mW/g



0 dB = 1.39mW/g

TTL TEST

FCC_Body_Face_EGPRS850_4TS_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 824.2 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 55.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

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

Maximum value of SAR (interpolated) = 1.31 mW/g

GSM_front_low_EGPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm

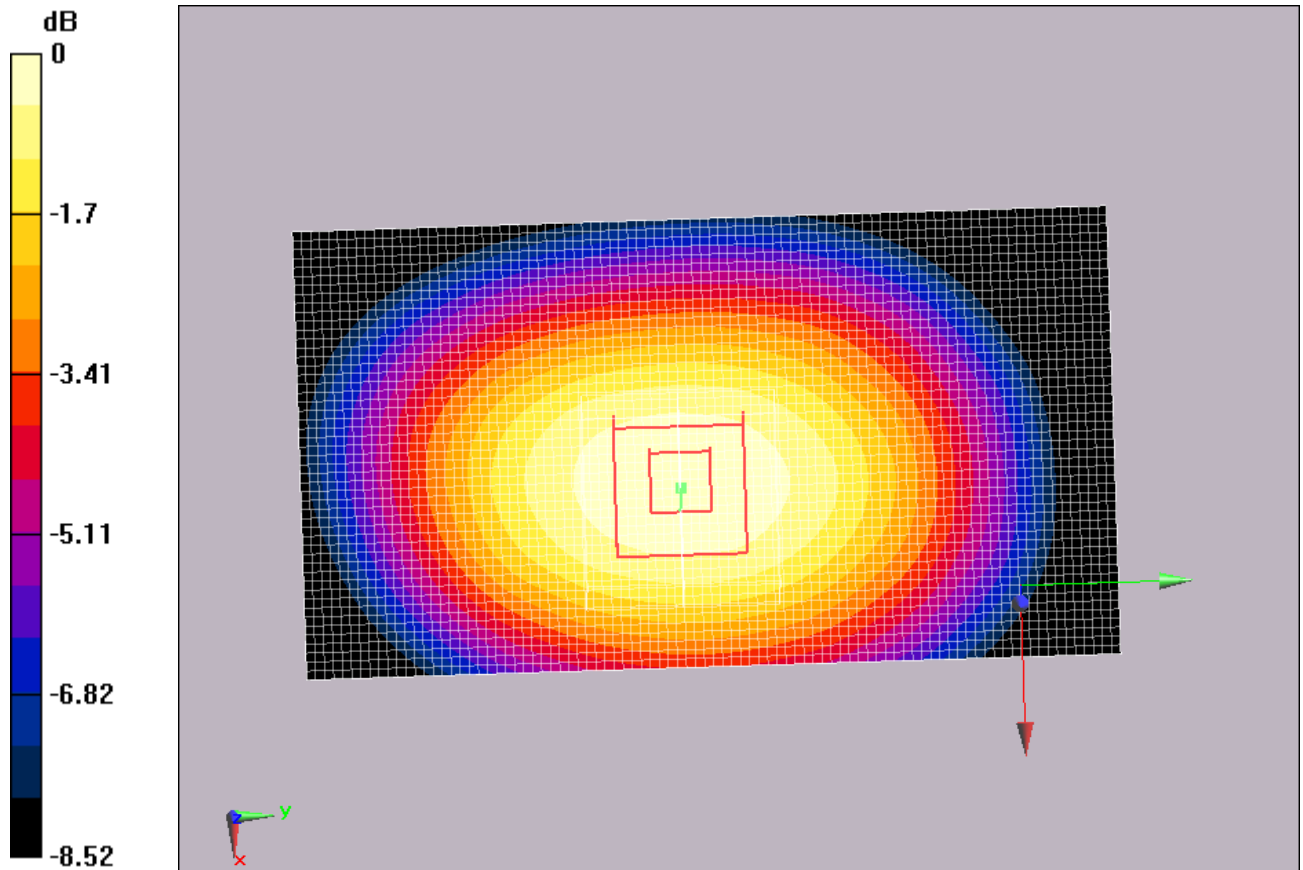
Reference Value = 17.5 V/m; Power Drift = -0.173 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.935 mW/g

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

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



0 dB = 1.33mW/g

TTL TEST

FCC_Body_Face_EGPRS850_4TS_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 836.6 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.3$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_mid_EGPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

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

Reference Value = 15 V/m; Power Drift = 0.107 dB

Peak SAR (extrapolated) = 1.61 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.898 mW/g

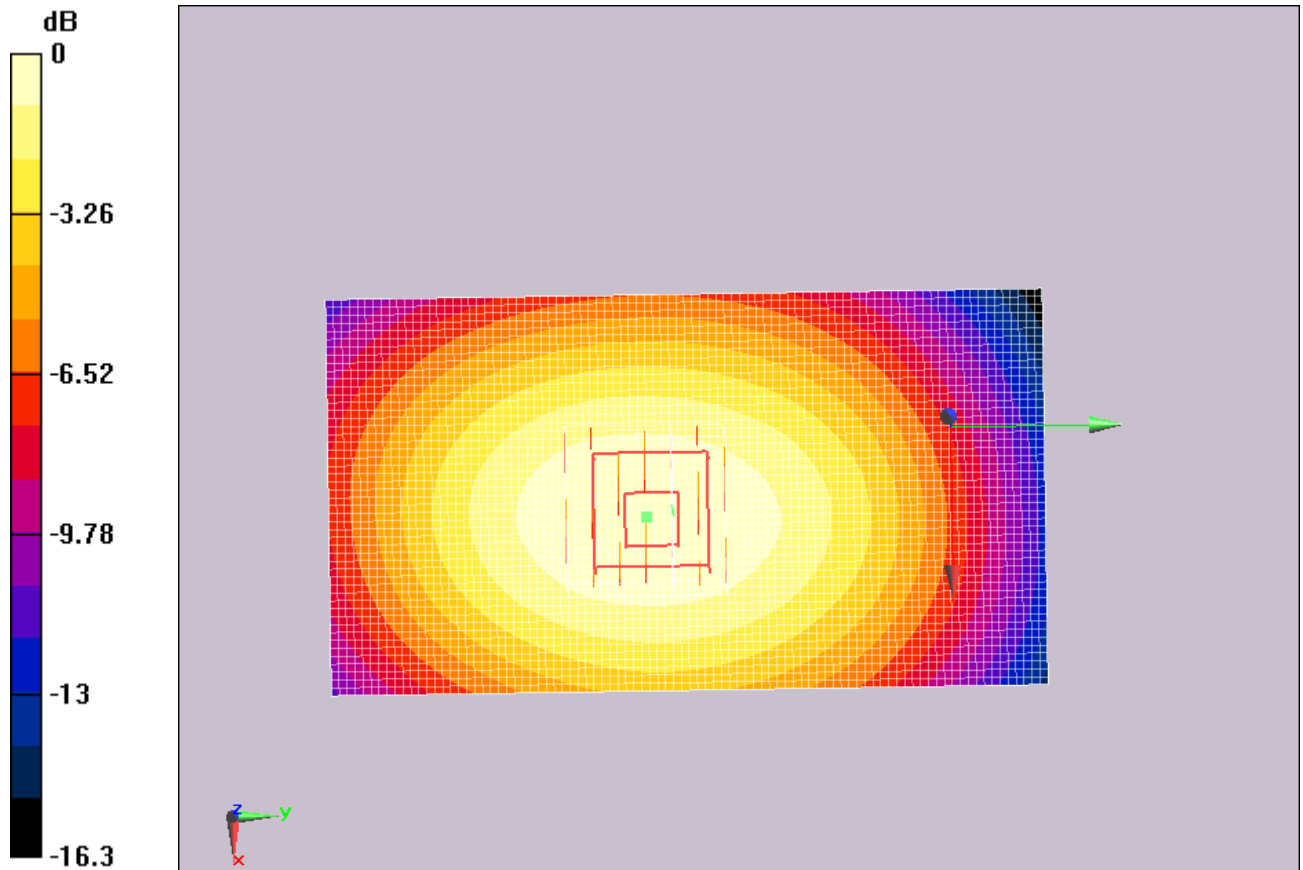
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.3 mW/g

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

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

Maximum value of SAR (interpolated) = 1.28 mW/g



0 dB = 1.28mW/g

TTL TEST

FCC_Body_Face_EGPRS850_4TS_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 848.8 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.03$ mho/m; $\epsilon_r = 55.1$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_high_EGPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 17.4 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.950 mW/g

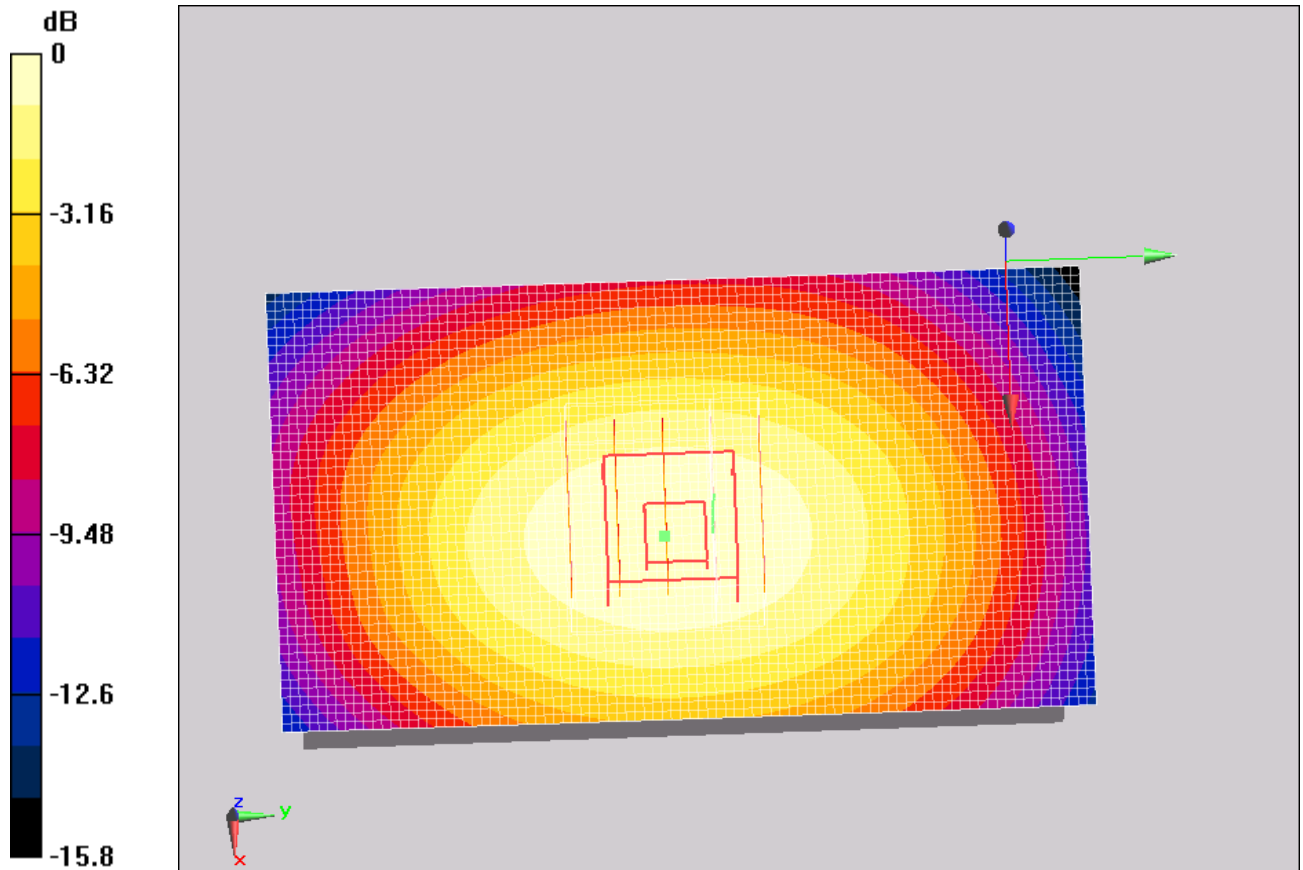
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.37 mW/g

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

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

Maximum value of SAR (interpolated) = 1.36 mW/g



0 dB = 1.36mW/g

TTL TEST

FCC_Body_Face_GPRS850_4TS_High_HighBattery

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS850 4TS; Frequency: 848.8 MHz; Duty Cycle: 1:2
Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.03$ mho/m; $\epsilon_r = 55.1$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_front_High_GPRS 2/Area Scan (51x91x1): Measurement grid:

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

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

Maximum value of SAR (interpolated) = 1.26 mW/g

GSM_front_High_GPRS 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

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

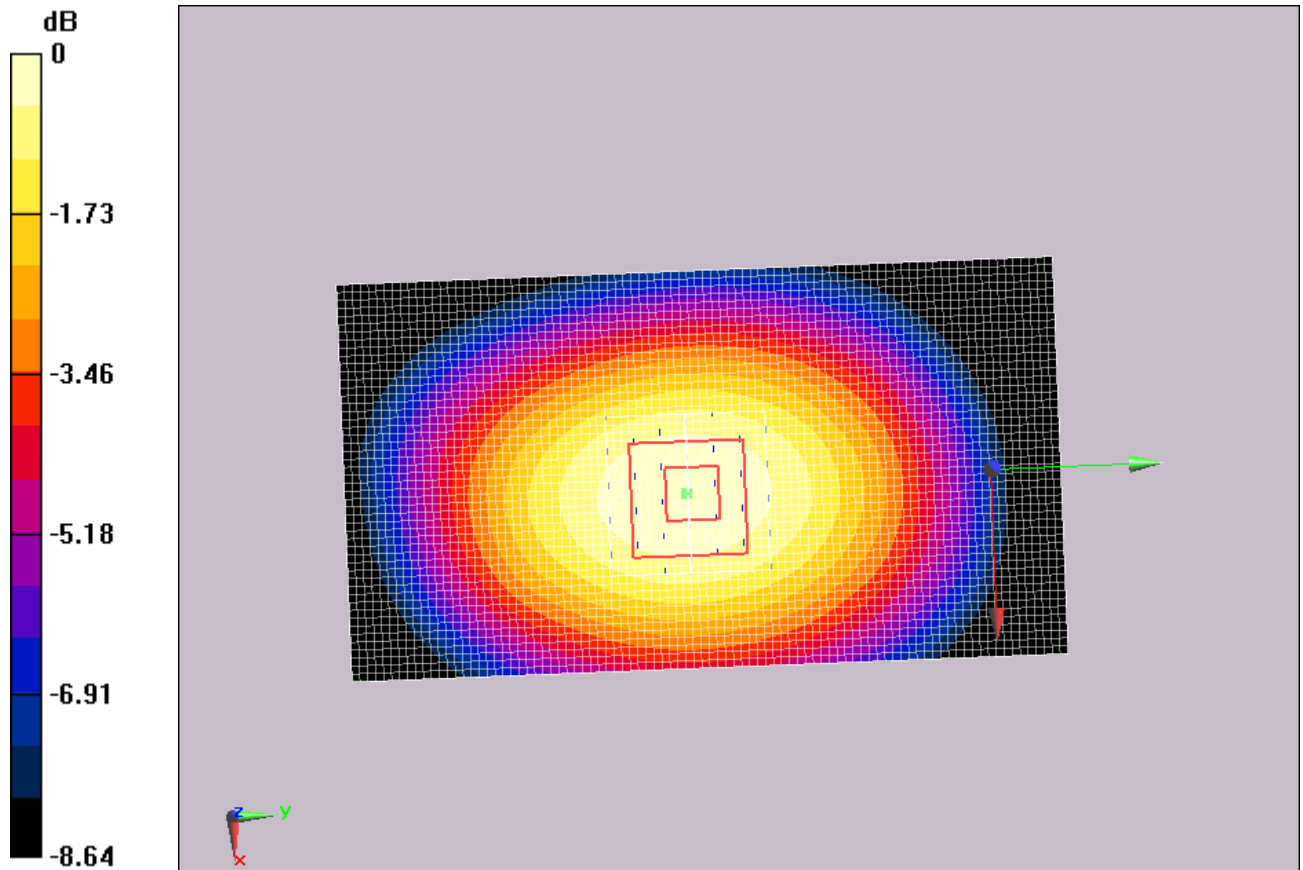
Reference Value = 16.4 V/m; Power Drift = 0.00433 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.879 mW/g

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

Maximum value of SAR (measured) = 1.27 mW/g



0 dB = 1.27mW/g

TTL TEST

FCC_Body_Face_PCS1900_Low

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 51.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_Low/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.8 V/m; Power Drift = 0.066 dB

Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.160 mW/g

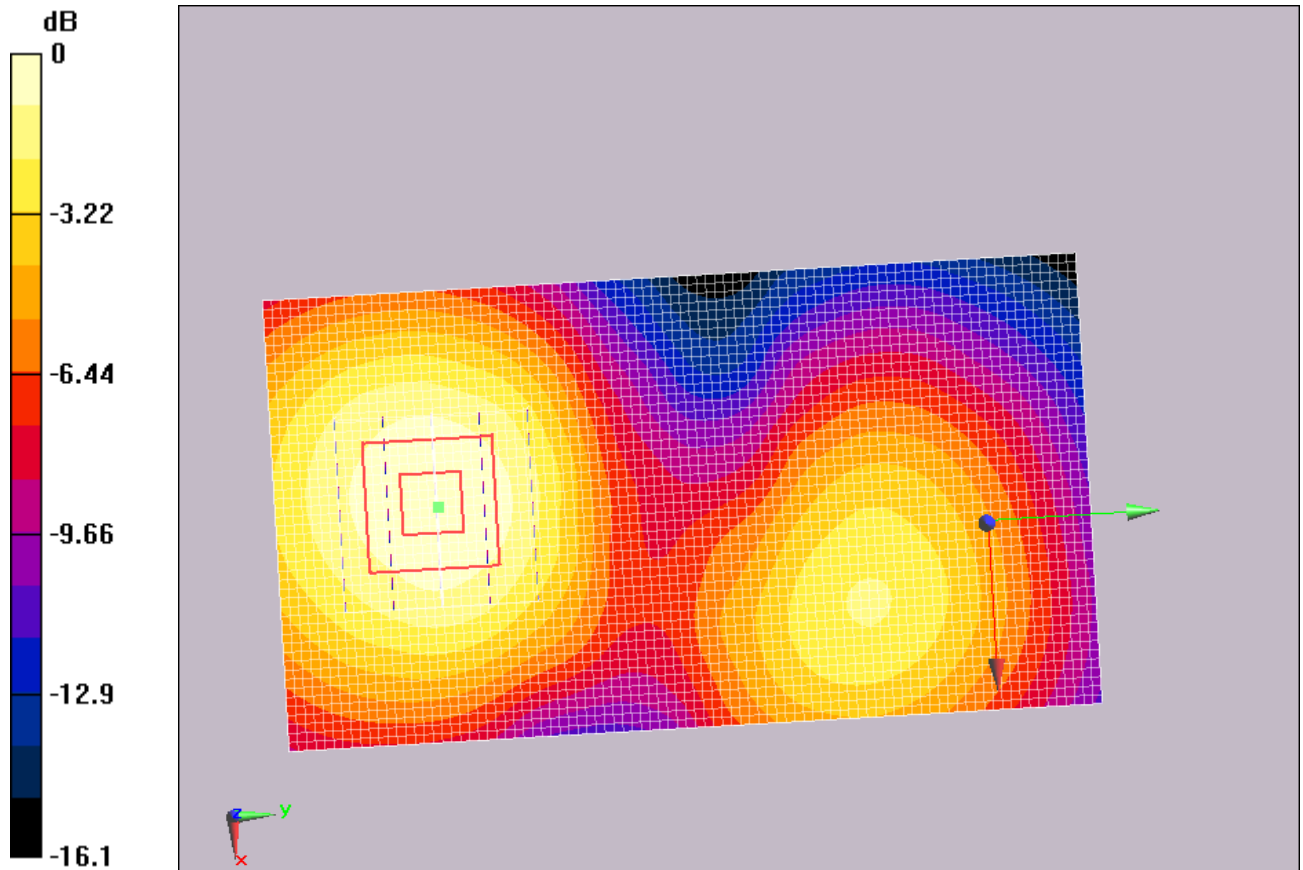
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.278 mW/g

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

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

Maximum value of SAR (interpolated) = 0.286 mW/g



0 dB = 0.286mW/g

TTL TEST

FCC_Body_Face_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Maximum value of SAR (interpolated) = 0.363 mW/g

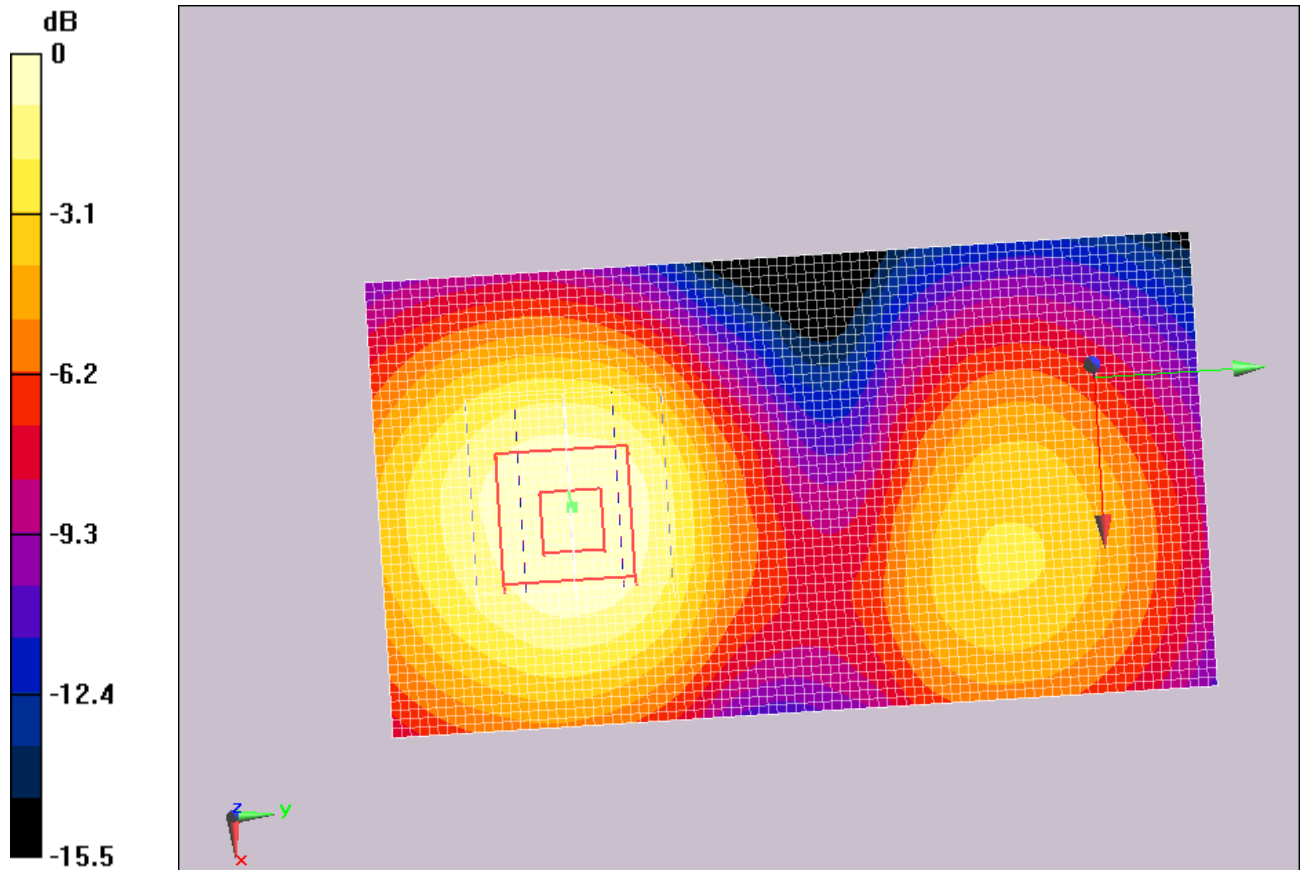
GSM_Face_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm

Reference Value = 8.56 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.511 W/kg

SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.202 mW/g

Maximum value of SAR (measured) = 0.350 mW/g



0 dB = 0.350mW/g

TTL TEST

FCC_Body_Face_PCS1900_High

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_High/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.26 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.436 W/kg

SAR(1 g) = 0.274 mW/g; SAR(10 g) = 0.168 mW/g

Maximum value of SAR (measured) = 0.296 mW/g

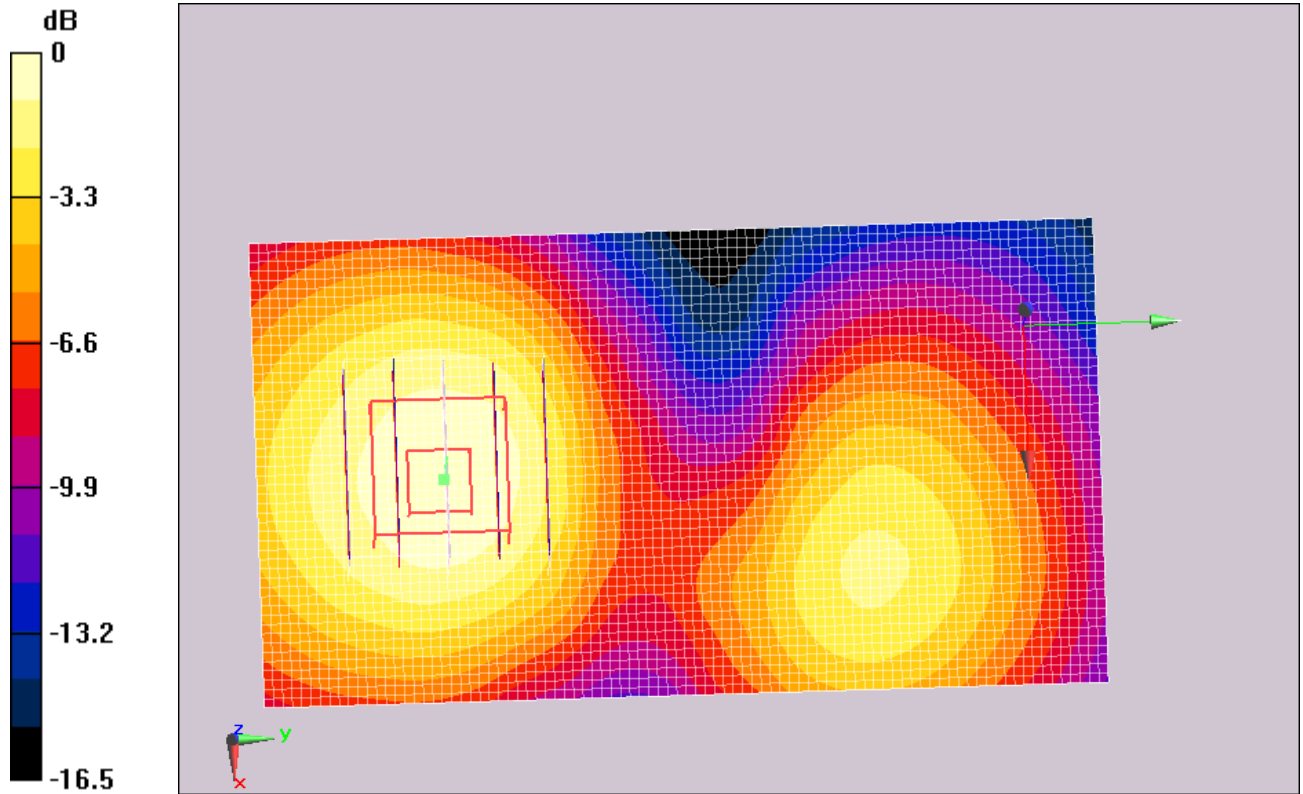
GSM_face_High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.307 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.307mW/g

CTTL TEST

FCC_Body_Back_PCS1900_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

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

Maximum value of SAR (interpolated) = 0.199 mW/g

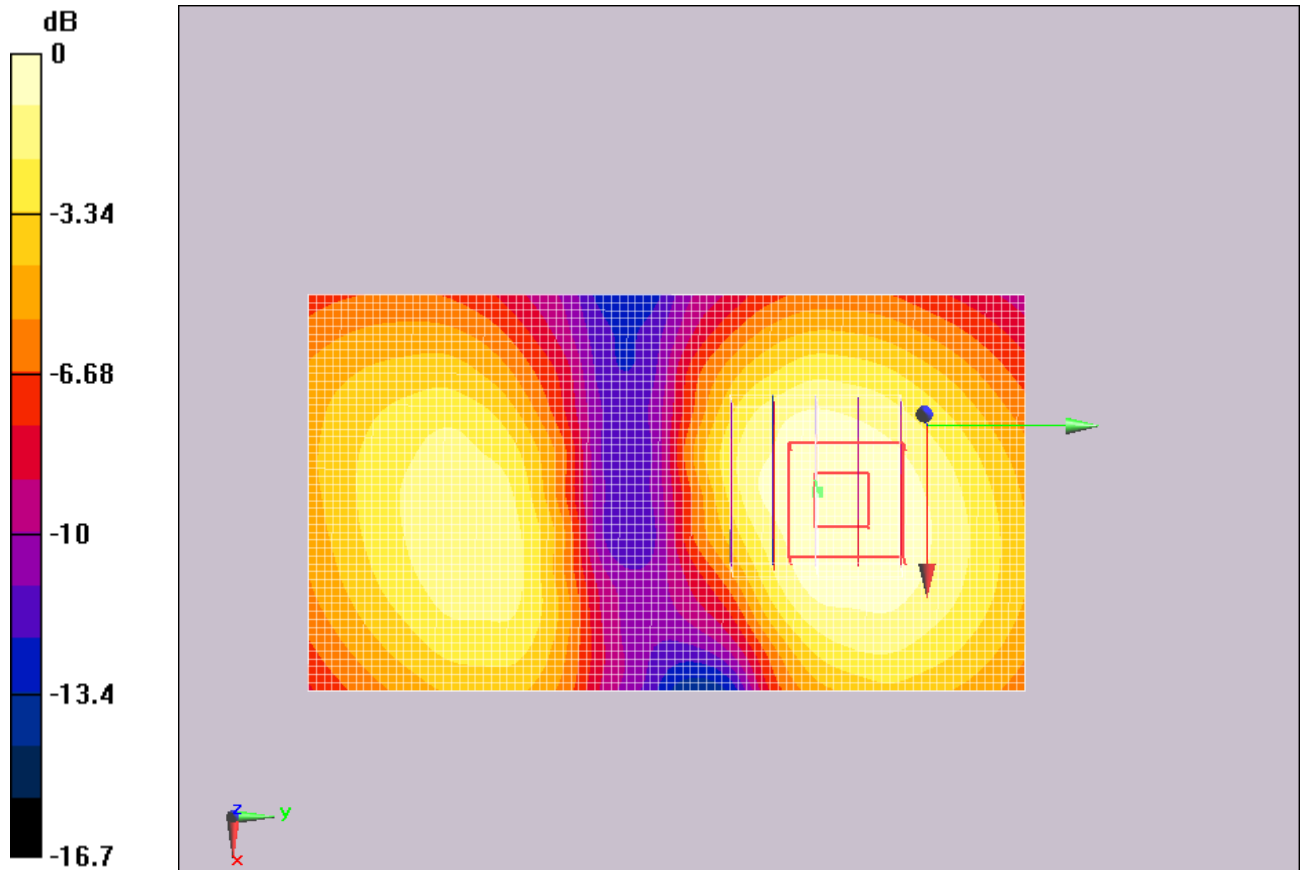
GSM_Back_Mid/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.25 V/m; Power Drift = -0.00873 dB

Peak SAR (extrapolated) = 0.267 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.110 mW/g

Maximum value of SAR (measured) = 0.184 mW/g



0 dB = 0.184mW/g

CTTL TEST

FCC_Body_Face_PCS1900_Middle_Earphone

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_earphone/Area Scan (51x91x1): Measurement grid:

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

Maximum value of SAR (interpolated) = 0.433 mW/g

GSM_face_mid_earphone/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 9.97 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.615 W/kg

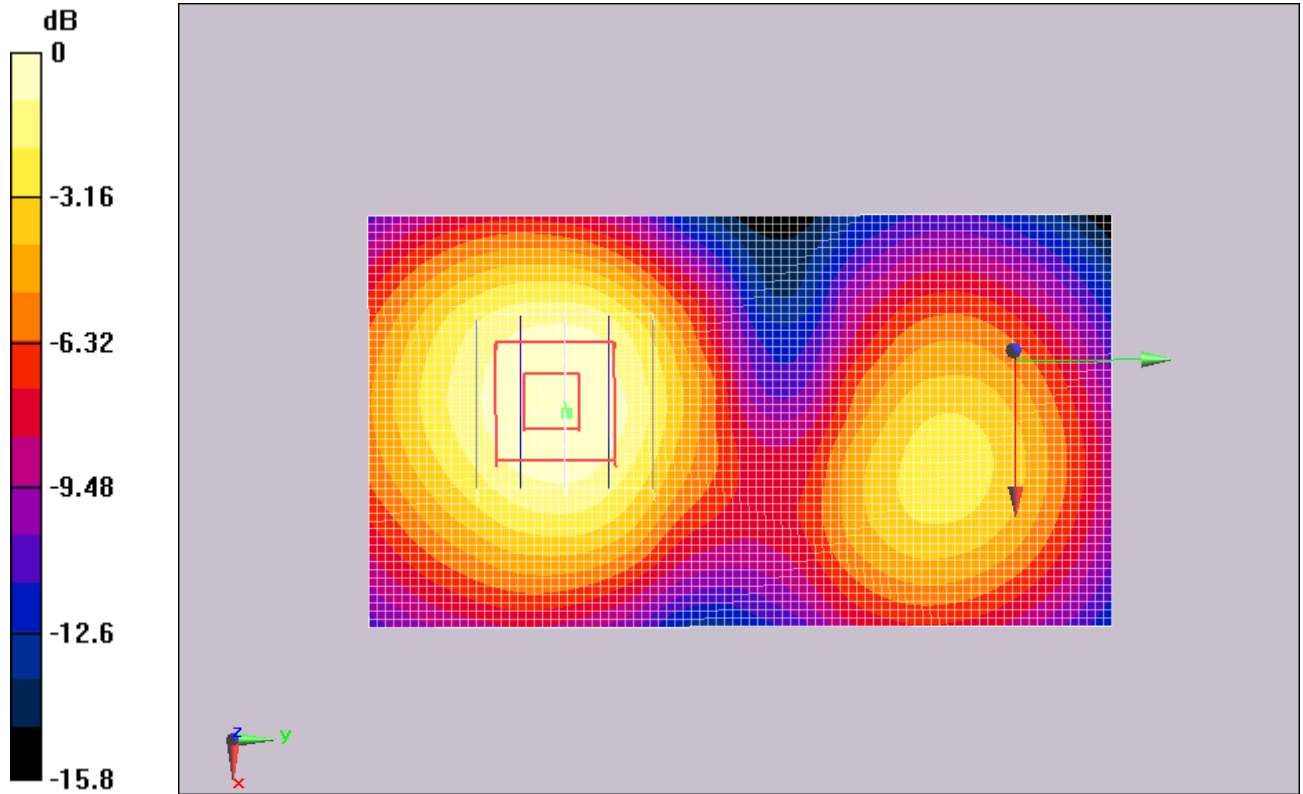
SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.237 mW/g

Maximum value of SAR (measured) = 0.416 mW/g

FCC Part 2.1093 (2010-10-01), FCC OET 65C (01-01), IEEE Std 1528™-2003

Equipment: Sonim XP3300-A-X1

REPORT NO.: I11GC7074-FCC-SAR-2



0 dB = 0.416mW/g

CTTL TEST

FCC_Body_Face_PCS1900_Middle_Handfree

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_Handfree/Area Scan (51x91x1): Measurement grid:

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

Maximum value of SAR (interpolated) = 0.380 mW/g

GSM_face_mid_Handfree/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid:

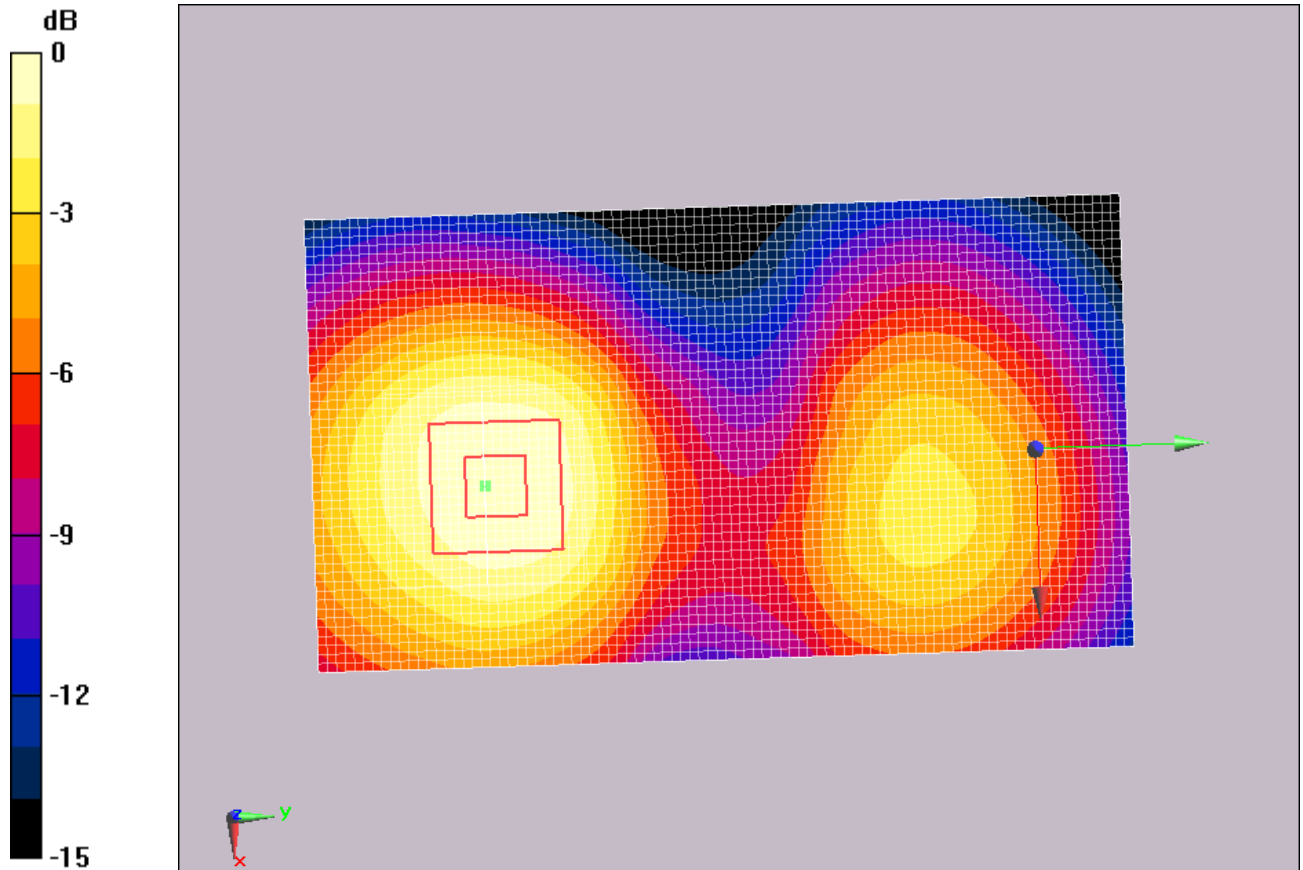
$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 8.5 V/m; Power Drift = -0.049 dB

Peak SAR (extrapolated) = 0.544 W/kg

SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.214 mW/g

Maximum value of SAR (measured) = 0.376 mW/g



0 dB = 0.376mW/g

TTL TEST

FCC_Body_Face_PCS1900_Middle_BT

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_BT/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 10.6 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 0.573 W/kg

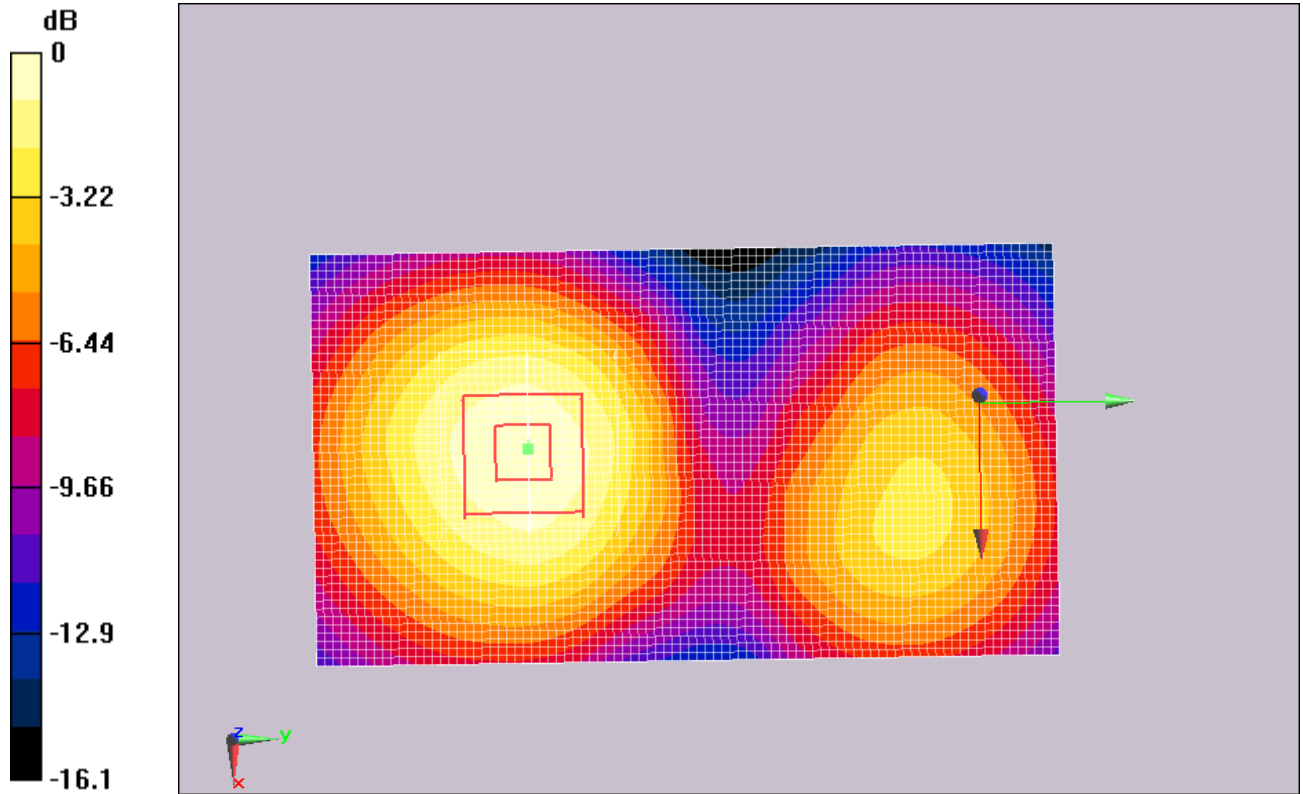
SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.225 mW/g

Maximum value of SAR (measured) = 0.395 mW/g

GSM_face_mid_BT/Area Scan (51x91x1): Measurement grid: $dx=15$ mm,

$dy=15$ mm

Maximum value of SAR (interpolated) = 0.416 mW/g



0 dB = 0.416mW/g

TTL TEST

FCC_Body_Face_GPRS1900_4TS_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS1900 4TS; Frequency: 1880 MHz; Duty Cycle: 1:2
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_GPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 12.7 V/m; Power Drift = -0.106 dB

Peak SAR (extrapolated) = 0.900 W/kg

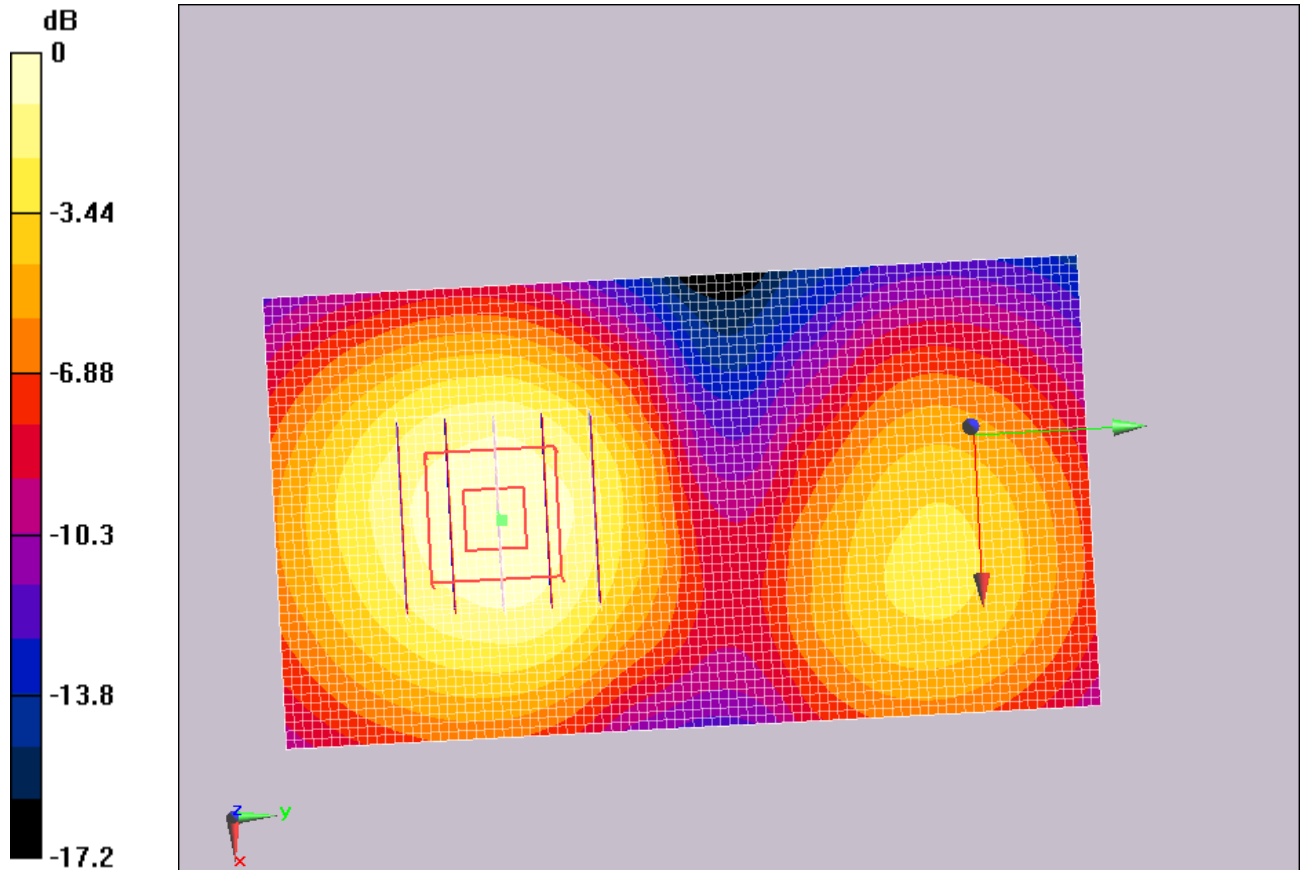
SAR(1 g) = 0.570 mW/g; SAR(10 g) = 0.350 mW/g

Maximum value of SAR (measured) = 0.617 mW/g

GSM_face_mid_GPRS/Area Scan (51x91x1): Measurement grid: $dx=15$ mm,

$dy=15$ mm

Maximum value of SAR (interpolated) = 0.637 mW/g



0 dB = 0.637mW/g

TTL TEST

FCC_Body_Face_EGPRS1900_4TS_Middle

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS1900 4TS; Frequency: 1880 MHz; Duty Cycle: 1:2
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_EGPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 12.1 V/m; Power Drift = -0.135 dB

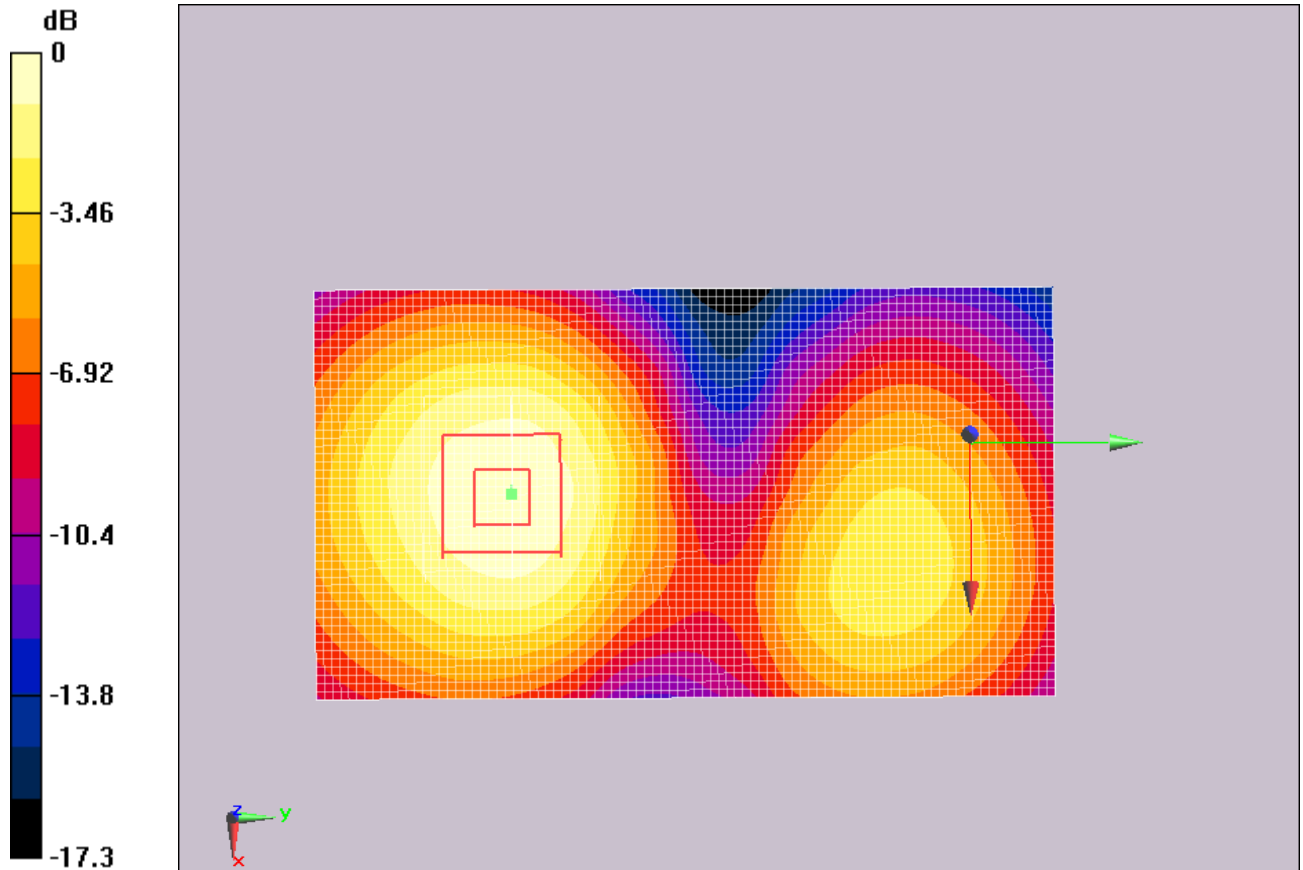
Peak SAR (extrapolated) = 0.831 W/kg

SAR(1 g) = 0.532 mW/g; SAR(10 g) = 0.327 mW/g

Maximum value of SAR (measured) = 0.570 mW/g

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

Maximum value of SAR (interpolated) = 0.591 mW/g



0 dB = 0.591mW/g

TTL TEST

FCC_Body_Face_GPRS1900_4TS_Middle_HighBattery

DUT: Sonim XP3300-A-Y1; Type: Sonim XP3300-A-Y1; Serial: --

Communication System: (E)GPRS1900 4TS; Frequency: 1880 MHz; Duty Cycle: 1:2
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_face_mid_GPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 11.8 V/m; Power Drift = -0.258 dB

Peak SAR (extrapolated) = 0.829 W/kg

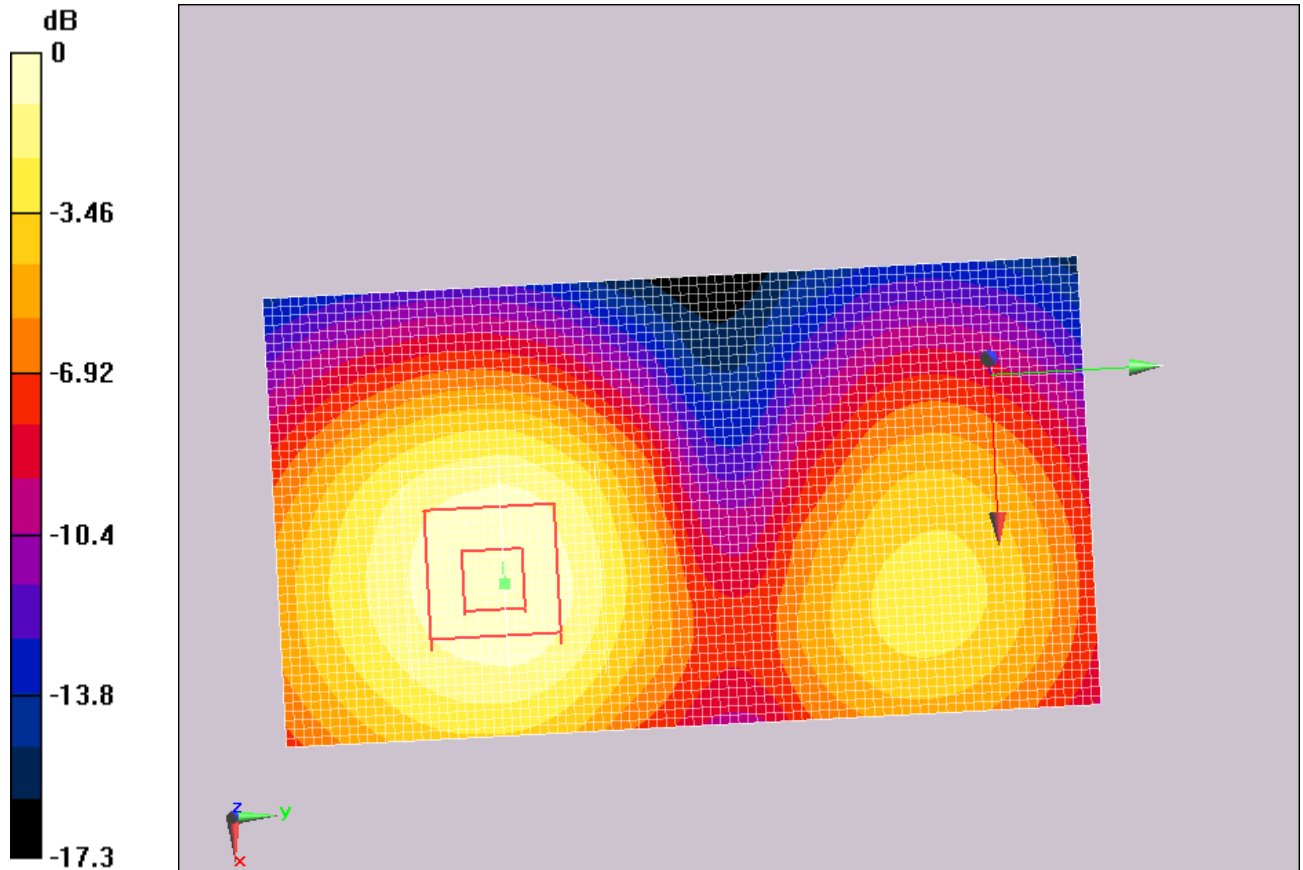
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.333 mW/g

Maximum value of SAR (measured) = 0.575 mW/g

GSM_face_mid_GPRS/Area Scan (51x91x1): Measurement grid: $dx=15$ mm,

$dy=15$ mm

Maximum value of SAR (interpolated) = 0.610 mW/g



0 dB = 0.610mW/g

TTL TEST

ANNEX C System Performance Check Graphical Results

FCC_Head_Verification_1900MHz_24dBm

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.9, 7.9, 7.9); Calibrated: 2010-12-13
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=10mm, Pin=24.00 dBm 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

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

Reference Value = 93.1 V/m; Power Drift = -0.226 dB

Peak SAR (extrapolated) = 17.9 W/kg

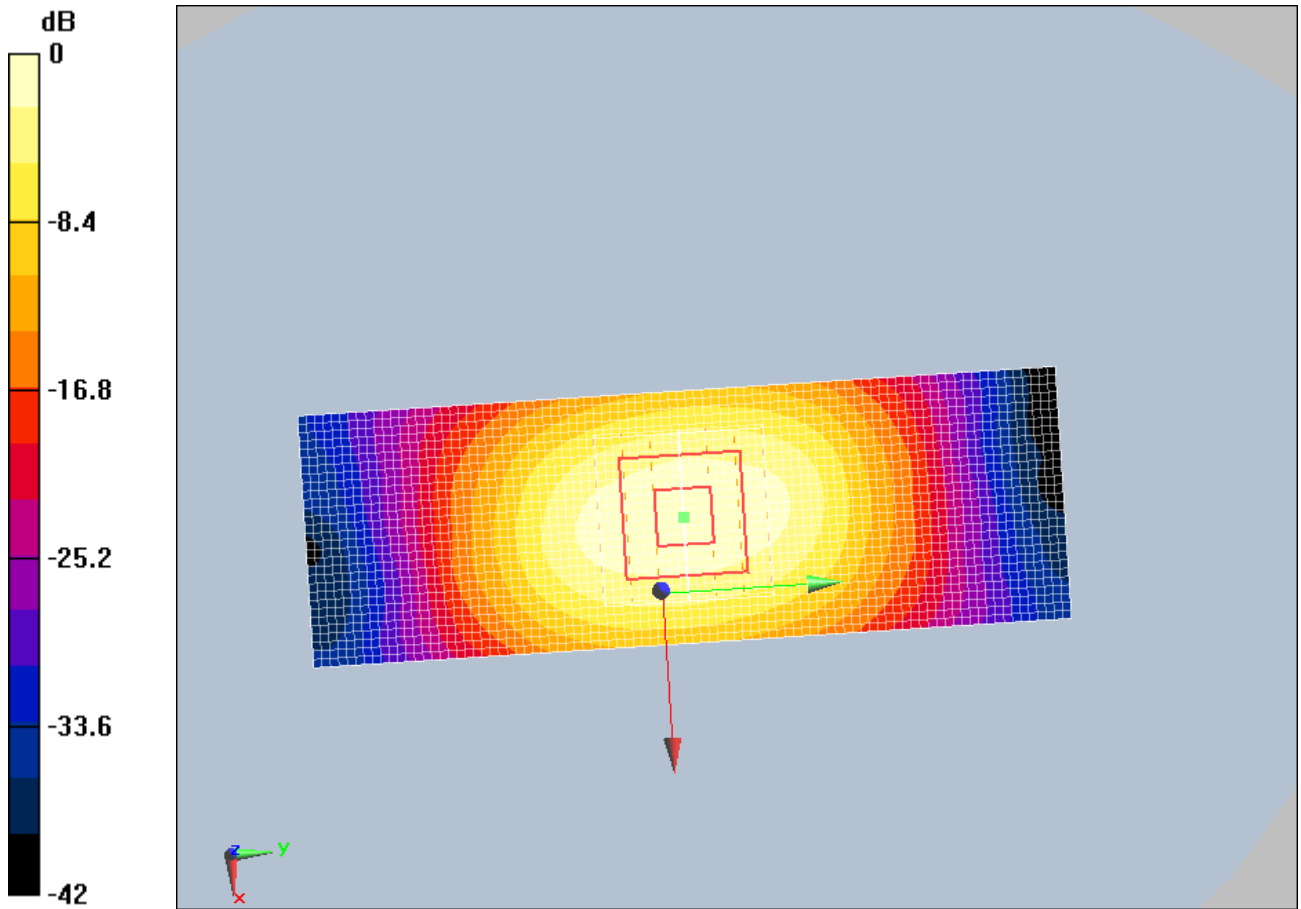
SAR(1 g) = 9.74 mW/g; SAR(10 g) = 5.14 mW/g

Maximum value of SAR (measured) = 11.8 mW/g

d=10mm, Pin=24.00 dBm 2/Area Scan (31x91x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.6 mW/g



0 dB = 12.6mW/g

FCC_Head_Verification_835MHz_24dBm

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

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.931$ mho/m; $\epsilon_r = 42.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.06, 9.06, 9.06); Calibrated: 2010-12-13
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24.00 dBm/Area Scan (31x91x1): Measurement grid:

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

Maximum value of SAR (interpolated) = 2.73 mW/g

d=15mm, Pin=24.00 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

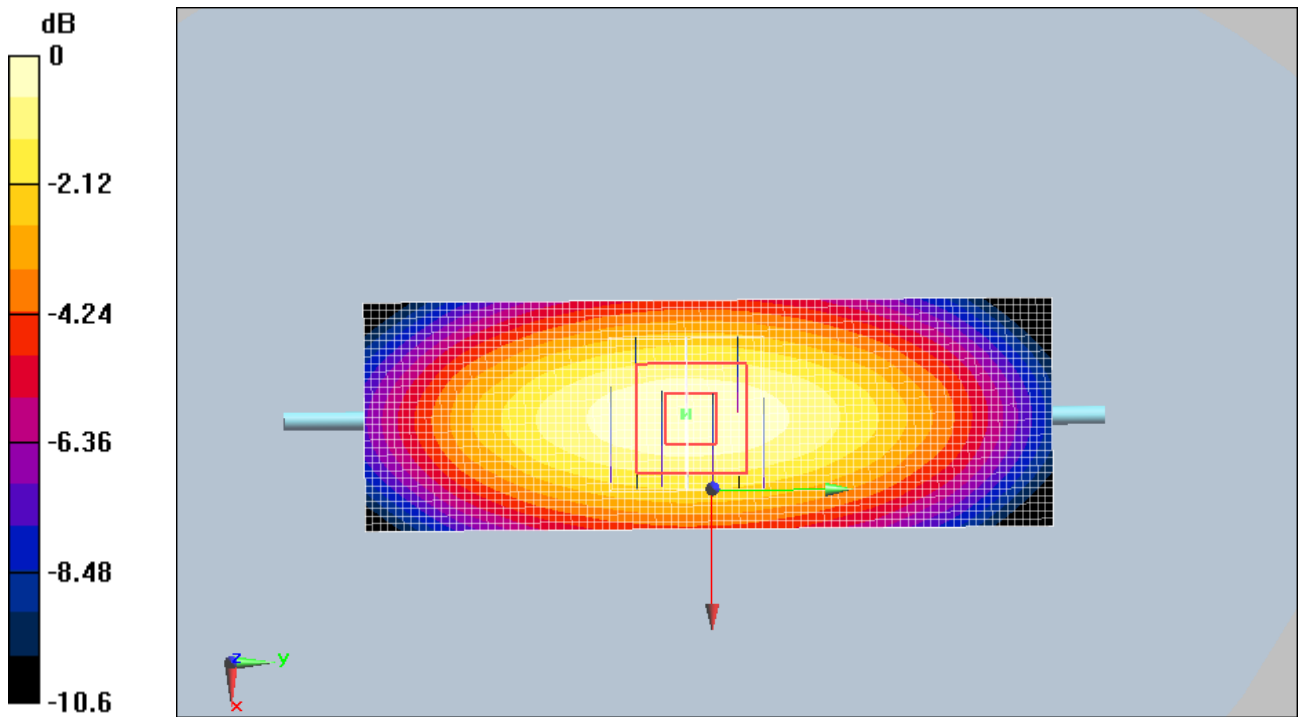
Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 55.2 V/m; Power Drift = -0.096 dB

Peak SAR (extrapolated) = 3.73 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.78 mW/g



0 dB = 2.78mW/g

CTTL TEST REPORT

FCC_Body_Verification_1900MHz_24dBm

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 51.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(7.17, 7.17, 7.17); Calibrated: 2010-12-13
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=10mm, Pin=24.00 dBm/Area Scan (31x91x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.9 mW/g

d=10mm, Pin=24.00 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

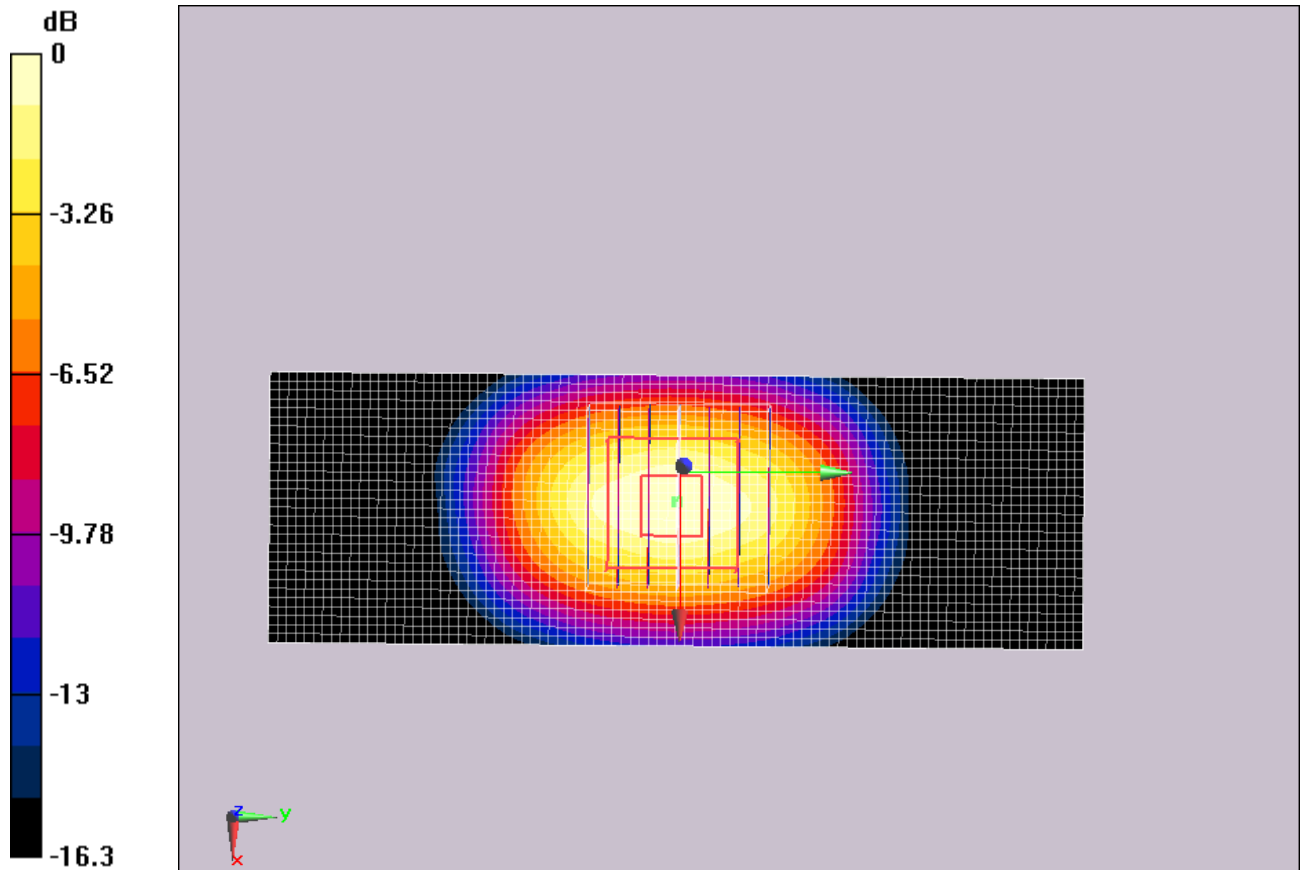
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.4 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 18 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.4 mW/g

Maximum value of SAR (measured) = 12.3 mW/g



0 dB = 12.3mW/g

CITL TEST

FCC_Body_Verification_835MHz_24dBm

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

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

Medium parameters used: $f = 835$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC)

DASY4 Configuration:

- Probe: EX3DV4 - SN3753; ConvF(9.07, 9.07, 9.07); Calibrated: 2010-12-13
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn913; Calibrated: 2010-11-18
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- Measurement SW: DASYS, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24 dBm/Area Scan (31x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.76 mW/g

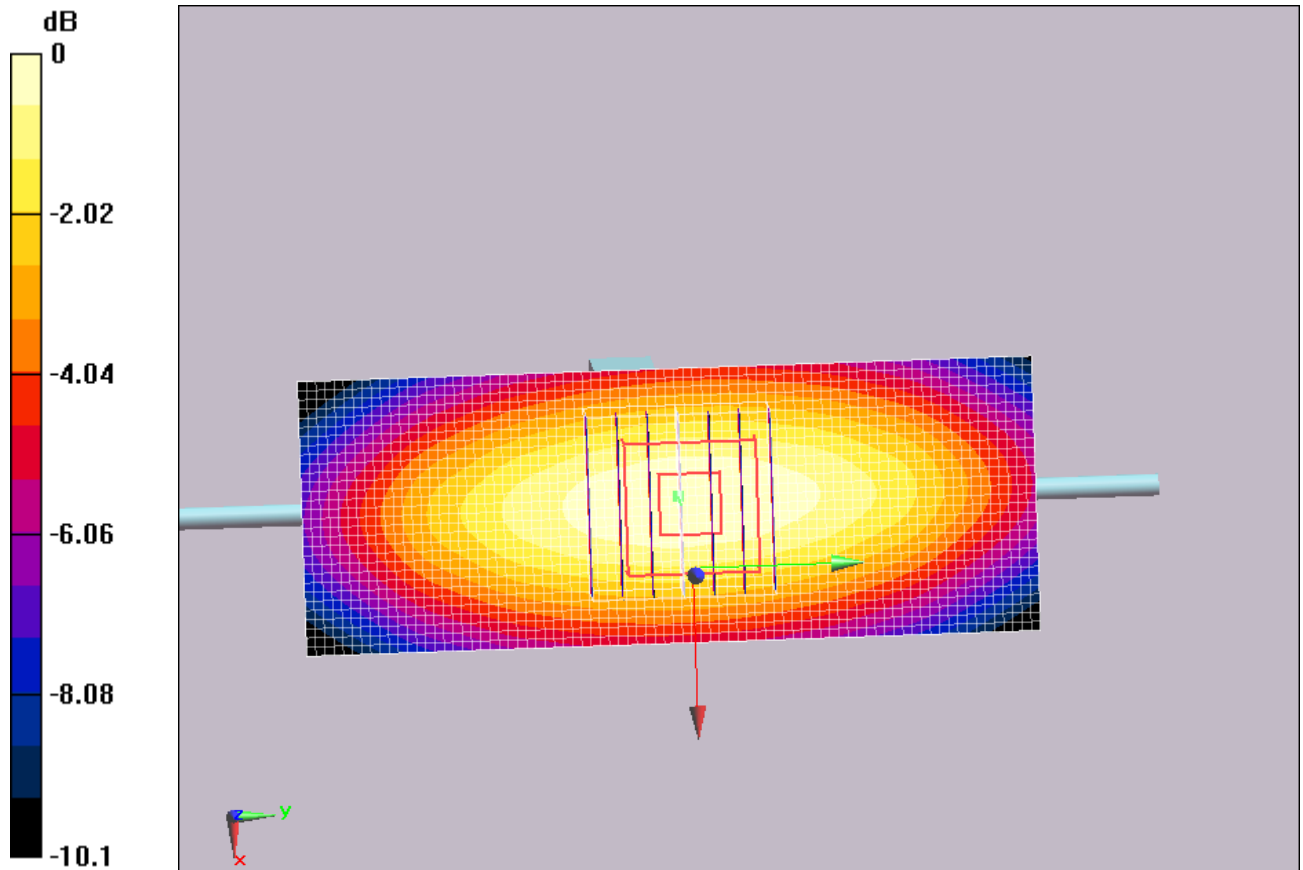
d=15mm, Pin=24 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.6 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.63 mW/g

Maximum value of SAR (measured) = 2.79 mW/g



0 dB = 2.79mW/g

TTL TEST

ANNEX D Probes Calibration Certificates

The System Validation was conducted following the requirements of standard IEEE 1528: 2003 Clause 8.3.

The scanned copy of the calibration certificate of the probe used is as following.

CTTL Test Report

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



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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client: **Auden**

Certificate No.: **EX3-3753_Dec10**

CALIBRATION CERTIFICATE

Object: **EX3DV4 - SN:3753**

Calibration procedure(s): **QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2
Calibration procedure for doemetric E-field probes**

Calibration date: **December 13, 2010**

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


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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01138)	Apr-11
Power sensor E4412A	MY41485277	1-Apr-10 (No. 217-01138)	Apr-11
Power sensor E4412A	MY41498067	1-Apr-10 (No. 217-01138)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01158)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES30V2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 850	20-Apr-10 (No. DAE4-850_Apr10)	Apr-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3542U01700	4-Aug-98 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by: **Kate Pothier** (Technician)

Approved by: **Nils Kuster** (Quality Manager)

Signature: 

Issued: December 14, 2010

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

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



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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., θ = 0 is normal to probe axis

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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}: Assessed for E-field polarization θ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- Ax,y,z; Bx,y,z; Cx,y,z, VR_{x,y,z}; A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3753

Manufactured: March 16, 2010
Calibrated: December 13, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

EX3DV4 SN:3753

December 13, 2010

DASY/EASY - Parameters of Probe: EX3DV4 SN:3753

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$) ^A	0.34	0.49	0.52	± 10.1%
DCP (mV) ^B	99.3	98.8	103.0	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc ^C (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	120.2	± 2.9 %
			Y	0.00	0.00	1.00	111.7	
			Z	0.00	0.00	1.00	118.9	

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 The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^C Uncertainty is determined using the maximum deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

EX3DV4 SN:3753

December 13, 2010

DASY/EASY - Parameters of Probe: EX3DV4 SN:3753

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
750	± 50 / ± 100	41.9 ± 5%	0.89 ± 5%	9.52	9.52	9.52	0.52	0.72 ± 11.0%
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	9.06	9.06	9.06	0.58	0.70 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	8.25	8.25	8.25	0.67	0.64 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.90	7.90	7.90	0.54	0.71 ± 11.0%
2000	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.82	7.82	7.82	0.62	0.65 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	7.11	7.11	7.11	0.38	0.83 ± 11.0%
5200	± 50 / ± 100	36.0 ± 5%	4.66 ± 5%	4.96	4.96	4.96	0.32	1.90 ± 13.1%
5300	± 50 / ± 100	35.9 ± 5%	4.76 ± 5%	4.69	4.69	4.69	0.40	1.90 ± 13.1%
5500	± 50 / ± 100	35.6 ± 5%	4.96 ± 5%	4.43	4.43	4.43	0.45	1.90 ± 13.1%
5600	± 50 / ± 100	35.5 ± 5%	5.07 ± 5%	4.44	4.44	4.44	0.45	1.90 ± 13.1%
5800	± 50 / ± 100	35.3 ± 5%	5.27 ± 5%	4.32	4.32	4.32	0.45	1.90 ± 13.1%

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

EX3DV4 SN:3753

December 13, 2010

DASY/EASY - Parameters of Probe: EX3DV4 SN:3753

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
750	± 50 / ± 100	55.5 ± 5%	0.96 ± 5%	9.25	9.25	9.25	0.54	0.74 ± 11.0%
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	9.07	9.07	9.07	0.55	0.73 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	7.48	7.48	7.48	0.32	1.19 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	7.17	7.17	7.17	0.55	0.96 ± 11.0%
2000	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	7.22	7.22	7.22	0.98	0.52 ± 11.0%
2300	± 50 / ± 100	52.8 ± 5%	1.85 ± 5%	7.11	7.11	7.11	0.54	0.75 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	6.91	6.91	6.91	0.54	0.88 ± 11.0%
2600	± 50 / ± 100	52.5 ± 5%	2.16 ± 5%	6.86	6.86	6.86	0.97	0.34 ± 11.0%
3500	± 50 / ± 100	51.3 ± 5%	3.31 ± 5%	6.19	6.19	6.19	0.35	1.20 ± 13.1%
5200	± 50 / ± 100	49.0 ± 5%	5.30 ± 5%	4.21	4.21	4.21	0.55	1.95 ± 13.1%
5300	± 50 / ± 100	48.9 ± 5%	5.42 ± 5%	4.02	4.02	4.02	0.55	1.95 ± 13.1%
5500	± 50 / ± 100	48.6 ± 5%	5.65 ± 5%	3.69	3.69	3.69	0.55	1.95 ± 13.1%
5600	± 50 / ± 100	48.5 ± 5%	5.77 ± 5%	3.41	3.41	3.41	0.60	1.95 ± 13.1%
5800	± 50 / ± 100	48.2 ± 5%	6.00 ± 5%	3.90	3.90	3.90	0.60	1.95 ± 13.1%

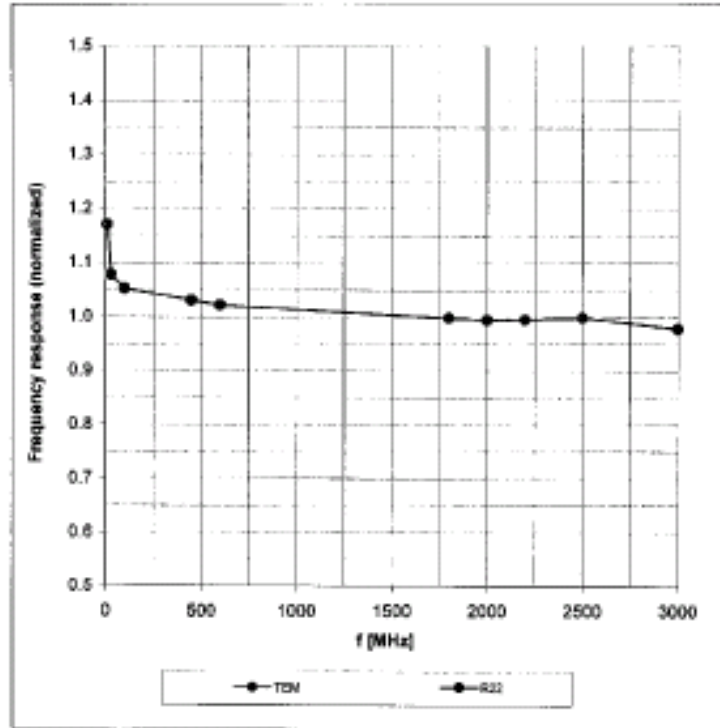
^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF² uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

EX3DV4 SN:3753

December 13, 2010

Frequency Response of E-Field

(TEM-Cell: Ifl110 EXX, Waveguide: R22)

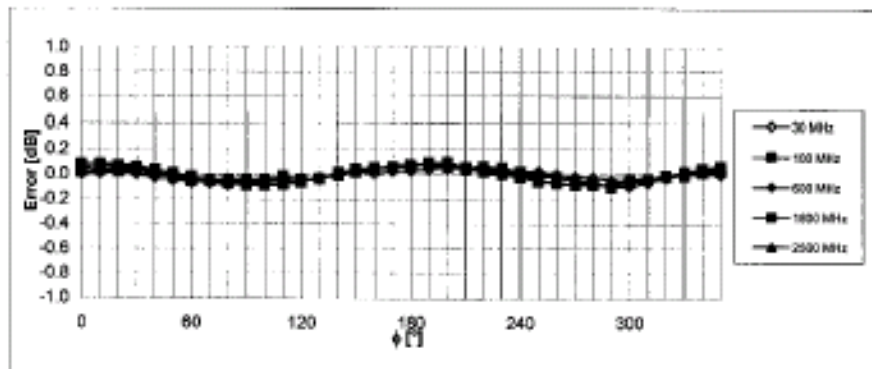
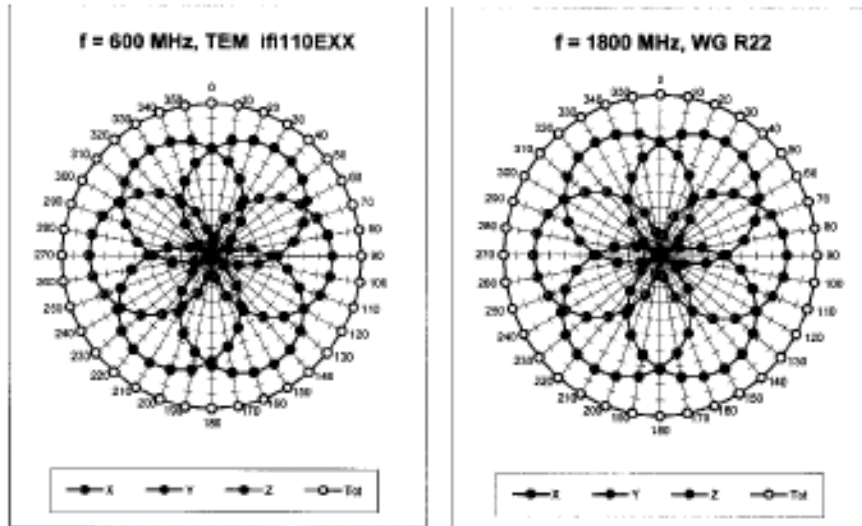


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

EX3DV4 SN:3753

December 13, 2010

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



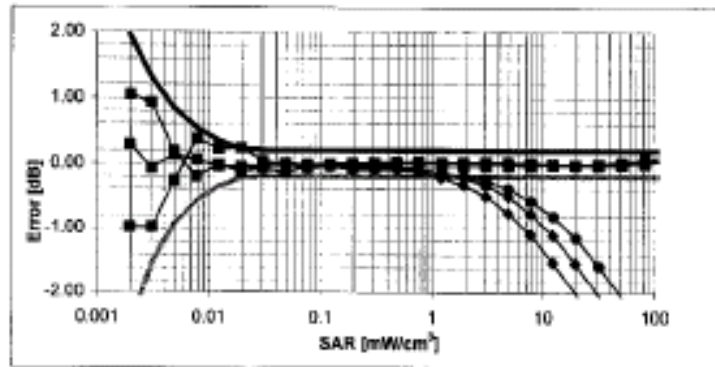
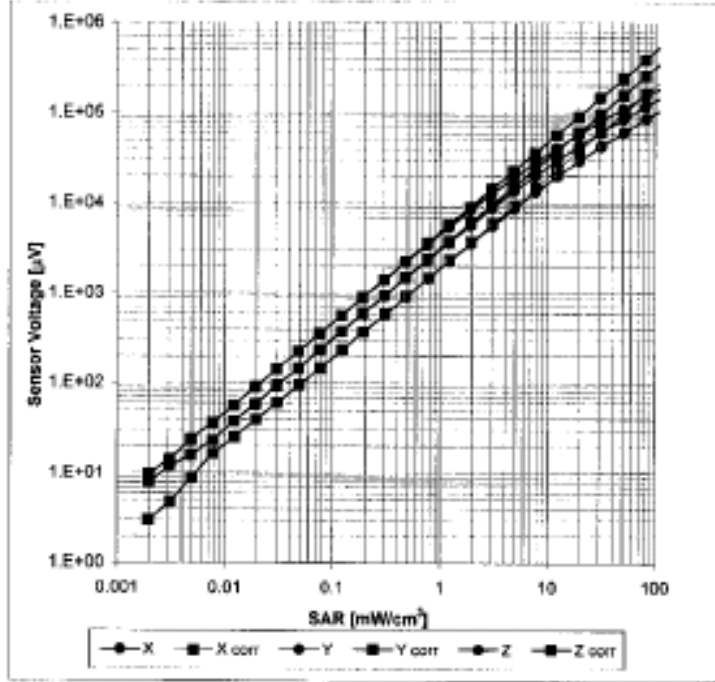
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

EX3DV4 SN:3753

December 13, 2010

Dynamic Range f(SAR_{head})

(TEM cell, f = 900 MHz)

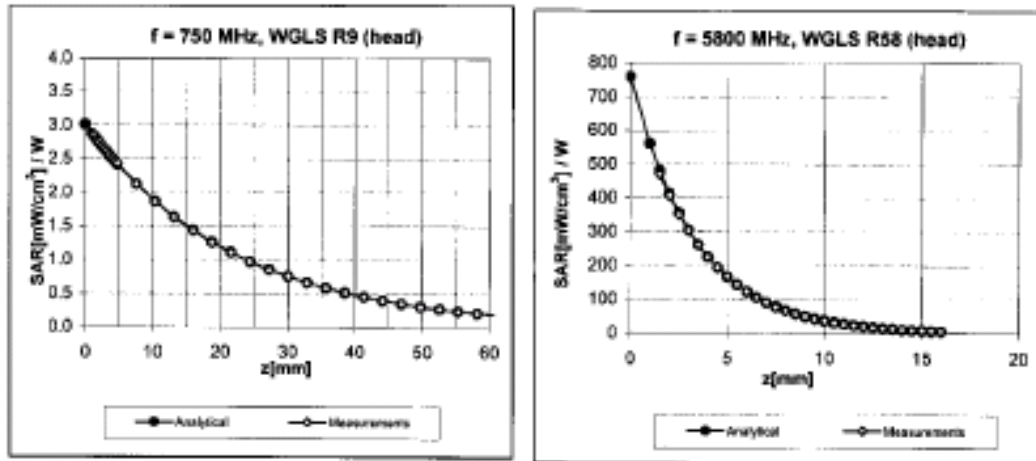


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

EX3DV4 SN:3753

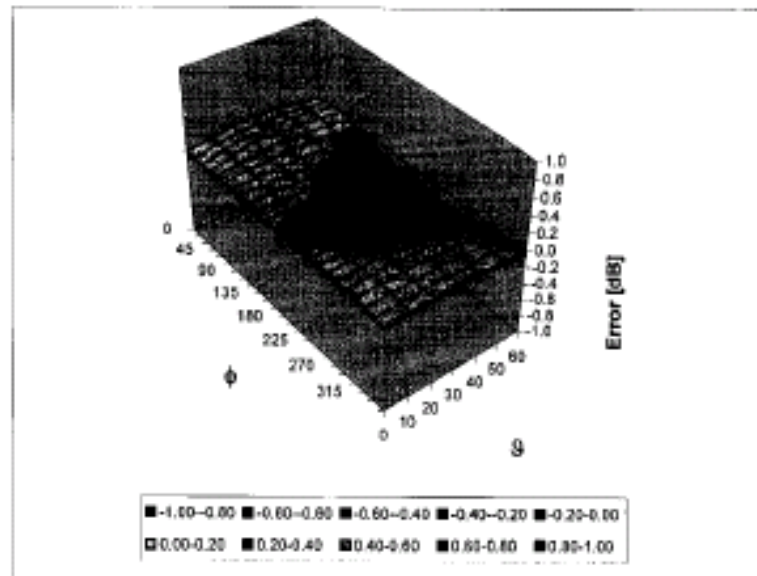
December 13, 2010

Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ , θ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ (k=2)

EX3DV4 SN:3753

December 13, 2010

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

ANNEX E Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

———— The End of this Report ————

TTL Test Report