APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

750 MHz

Date/Time: 2/26/2015 1:21:08 PM

Test Laboratory: BlackBerry RTS

DipoleValidation_750MHz_02_26_15_Amb_Tem_24.4C_Liq_Tem_21.8C

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1021

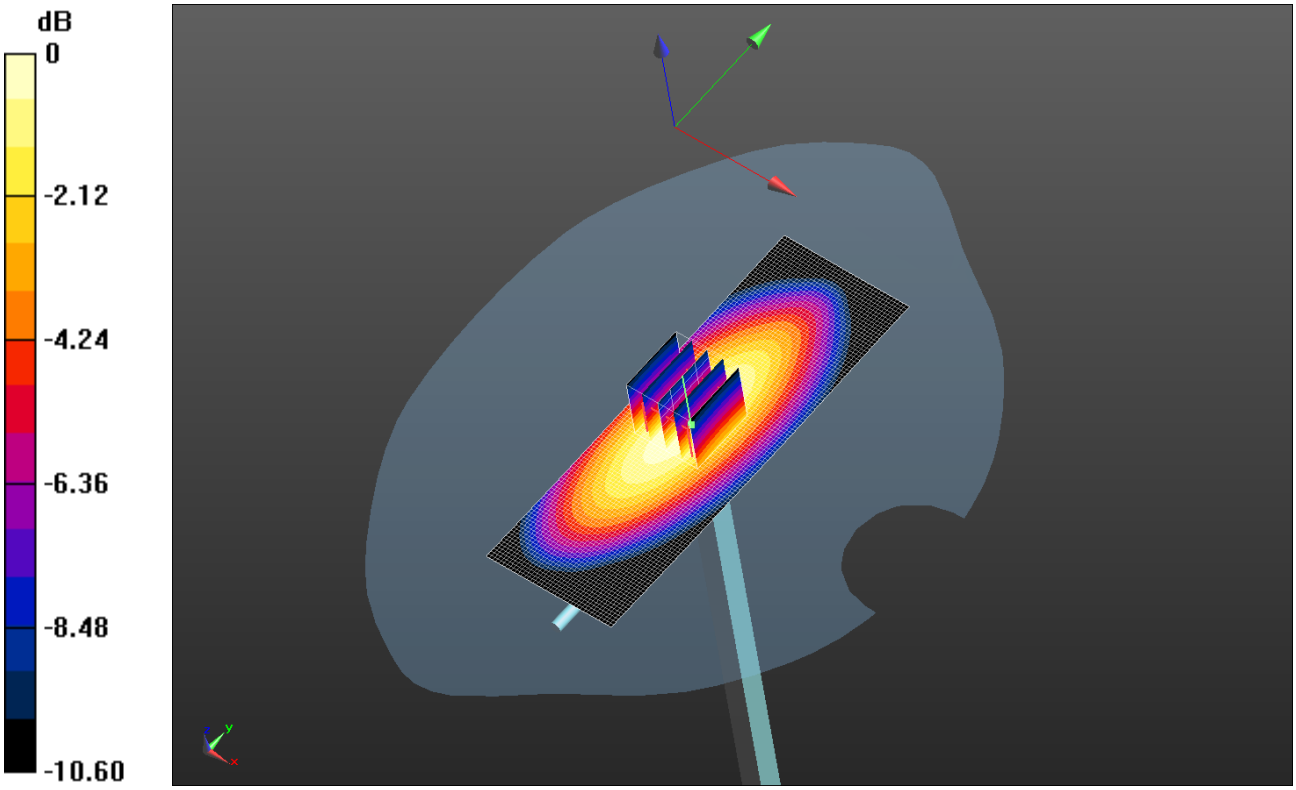
Communication System: UID 0, CW (0); Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.894 S/m; ε_r = 41.411; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(6.55, 6.55, 6.55); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 99.34 V/m; Power Drift = -0.04 dB
Fast SAR: SAR(1 g) = 8.14 W/kg; SAR(10 g) = 5.48 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 8.75 W/kg

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 99.34 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 12.0 W/kg
SAR(1 g) = 8.14 W/kg; SAR(10 g) = 5.33 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 8.80 W/kg



0 dB = 8.80 W/kg = 9.44 dBW/kg

835 MHz

Date/Time: 2/20/2015 11:04:44 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_835MHz_02_20_15_Amb_Tem_24.1C_Liq_Tem_21.0C

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:446

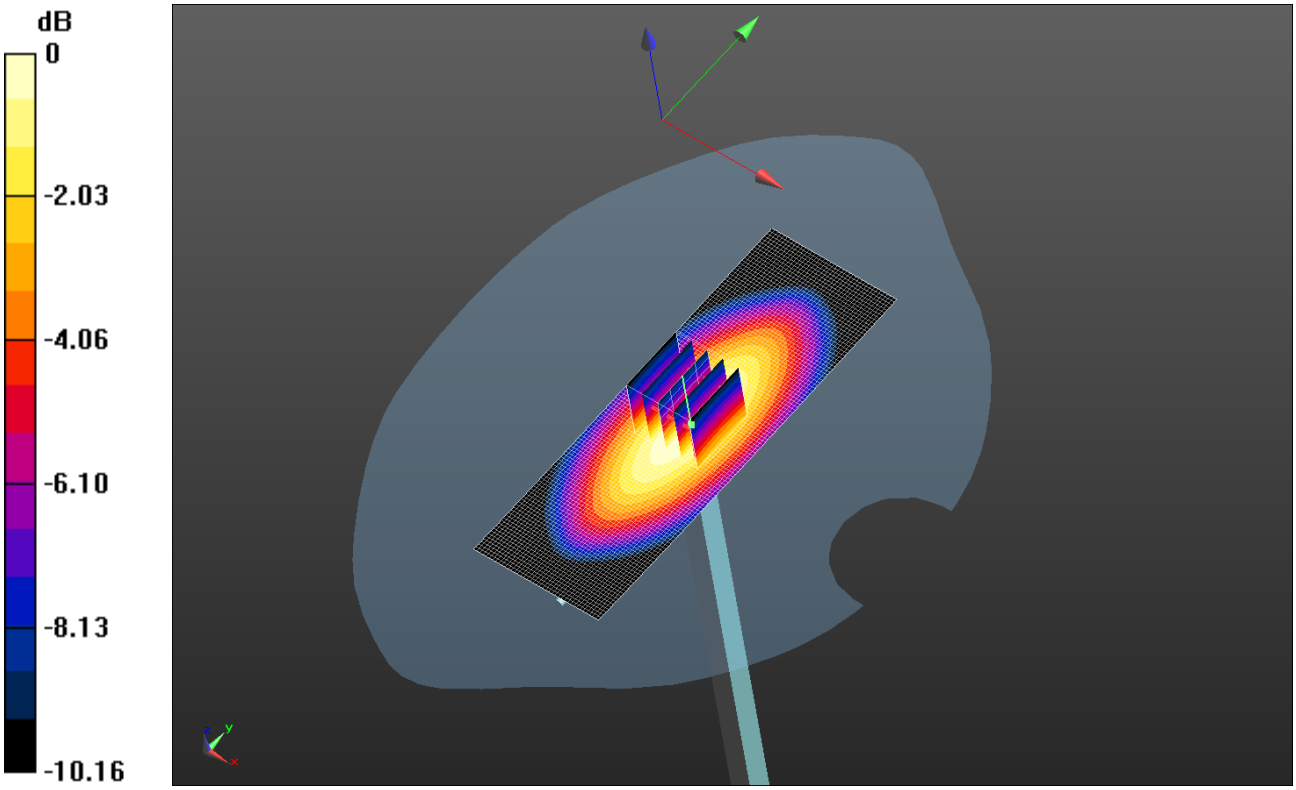
Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.88 S/m; ε_r = 41.164; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(6.55, 6.55, 6.55); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 110.0 V/m; Power Drift = -0.05 dB
Fast SAR: SAR(1 g) = 9.34 W/kg; SAR(10 g) = 6.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 9.90 W/kg

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 110.0 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 9.32 W/kg; SAR(10 g) = 6.16 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 9.91 W/kg



0 dB = 9.91 W/kg = 9.96 dBW/kg

Date/Time: 2/23/2015 10:15:04 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_835MHz_02_23_15_Amb_Tem_24.4C_Liq_Tem_21.8C

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:446

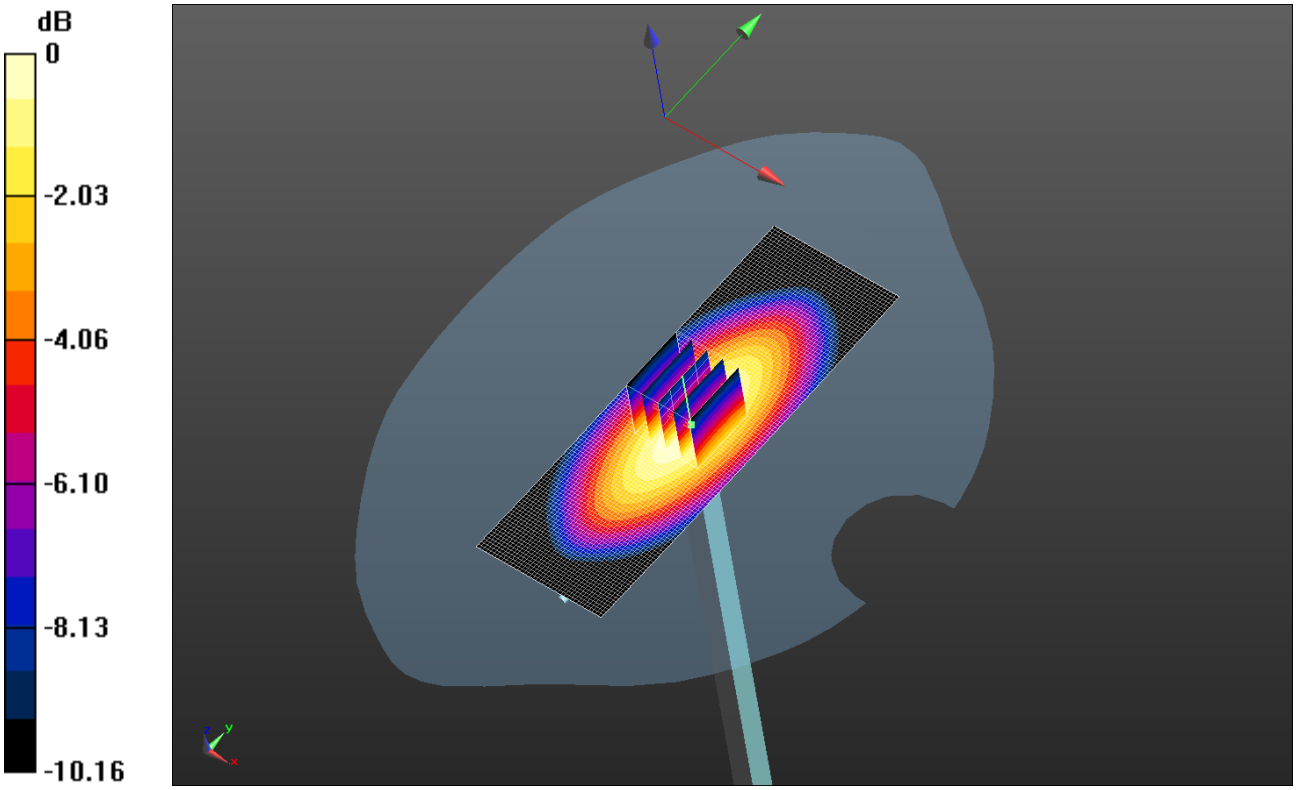
Communication System: UID 0, CW (0); Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.891 S/m; ε_r = 41.71; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(6.55, 6.55, 6.55); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 108.8 V/m; Power Drift = 0.02 dB
Fast SAR: SAR(1 g) = 9.33 W/kg; SAR(10 g) = 6.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 9.95 W/kg

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 108.8 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) = 9.33 W/kg; SAR(10 g) = 6.17 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 9.97 W/kg



0 dB = 9.97 W/kg = 9.99 dBW/kg

1800 MHz

Date/Time: 2/11/2015 11:12:49 PM

Test Laboratory: BlackBerry RTS

DipoleValidation_1800MHz_02_11_15_Amb_Tem_24.8C_Liq_Tem_21.4C

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d020

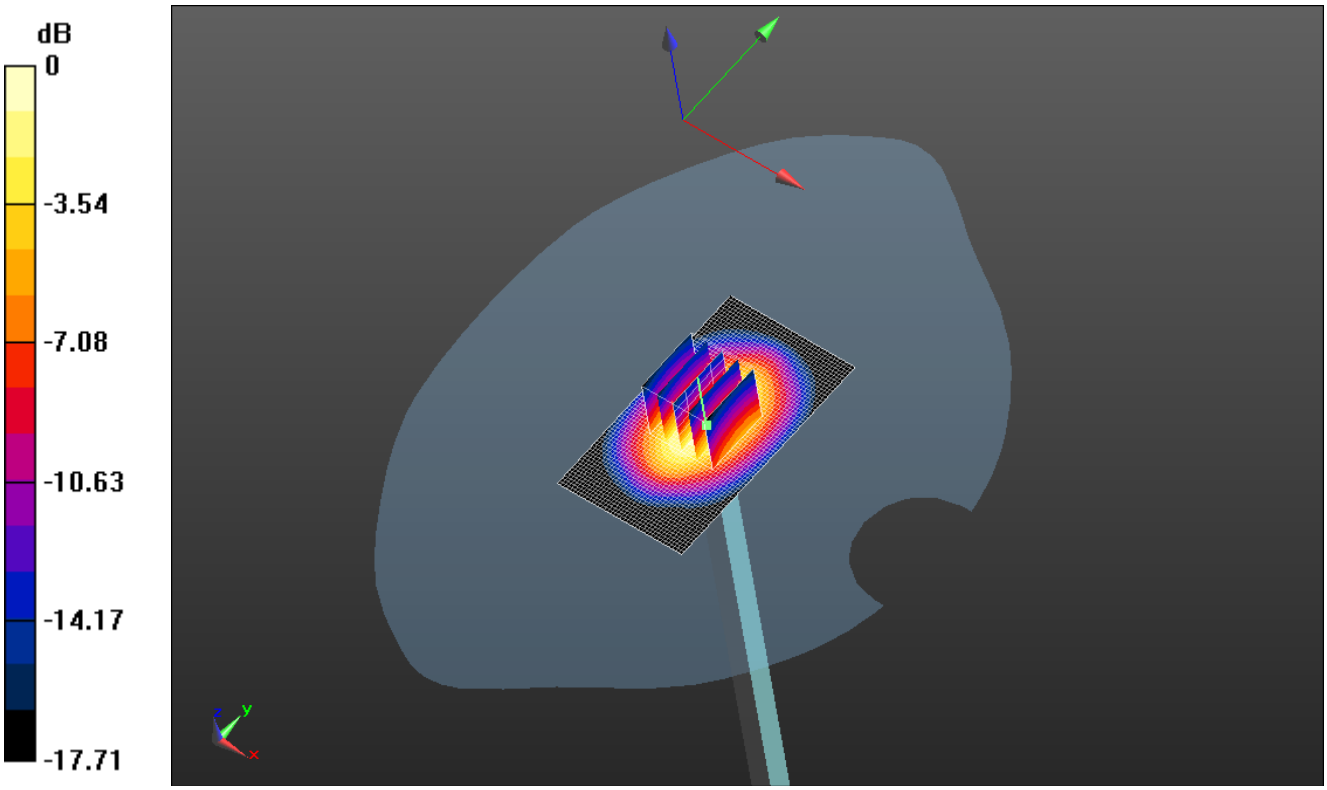
Communication System: UID 0, CW (0); Frequency: 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.461 S/m; ε_r = 40.373; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ET3DV6 - SN1643; ConvF(5.17, 5.17, 5.17); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 176.2 V/m; Power Drift = -0.03 dB
Fast SAR: SAR(1 g) = 36.7 W/kg; SAR(10 g) = 19.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 42.6 W/kg

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 176.2 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 61.9 W/kg
SAR(1 g) = 36.2 W/kg; SAR(10 g) = 19.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 40.5 W/kg



0 dB = 40.5 W/kg = 16.07 dBW/kg

Date/Time: 2/17/2015 6:16:58 PM

Test Laboratory: BlackBerry RTS

DipoleValidation_1800MHz_02_17_15_Amb_Tem_23.9C_Liq_Tem_22.0C

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d020

Communication System: UID 0, CW (0); Frequency: 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.47 S/m; ε_r = 38.943; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

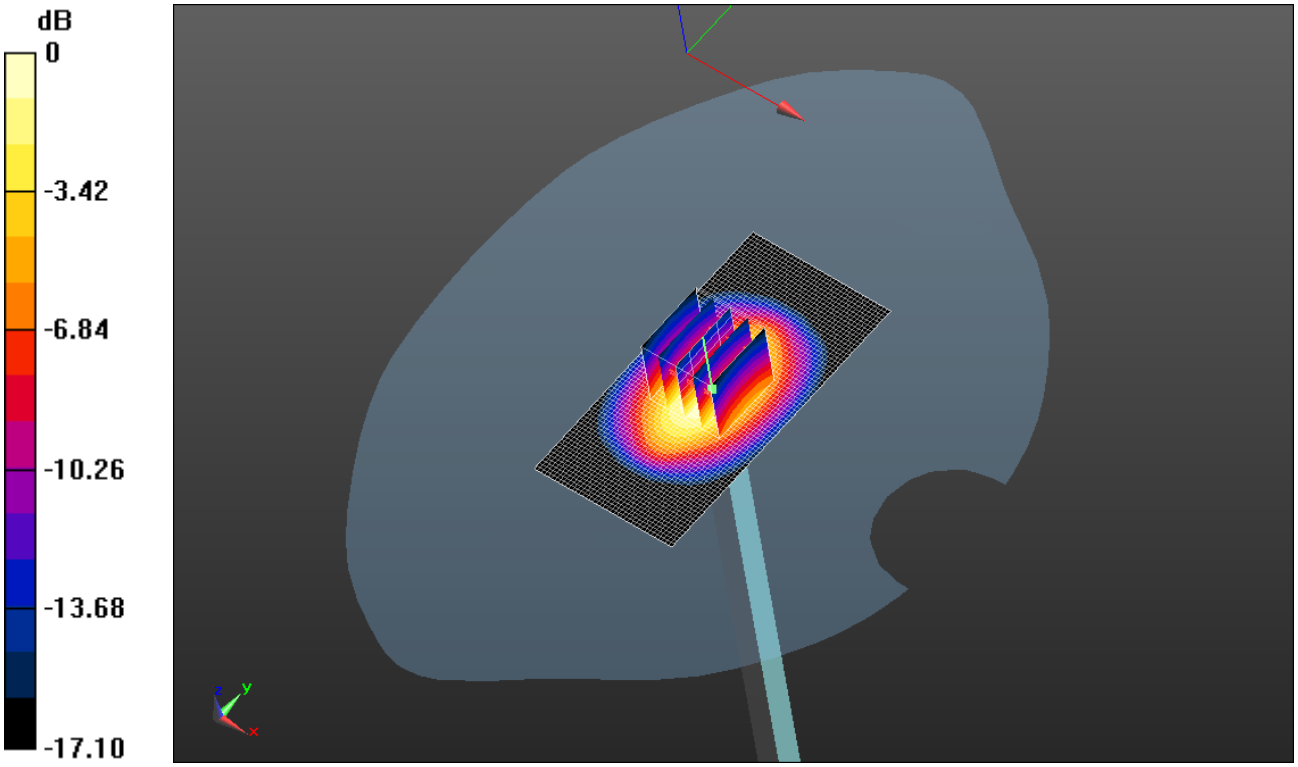
- Probe: ET3DV6 - SN1643; ConvF(5.17, 5.17, 5.17); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 176.6 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 36.3 W/kg; SAR(10 g) = 19.6 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 40.4 W/kg

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 176.6 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 60.6 W/kg
SAR(1 g) = 35.7 W/kg; SAR(10 g) = 19 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 40.4 W/kg



0 dB = 40.4 W/kg = 16.06 dBW/kg

1900 MHz

Date/Time: 2/5/2015 12:43:13 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_1900MHz_02_04_15_Amb_Tem_24.2C_Liq_Tem_21.0 C

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:545

Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.433 S/m; ε_r = 40.09; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

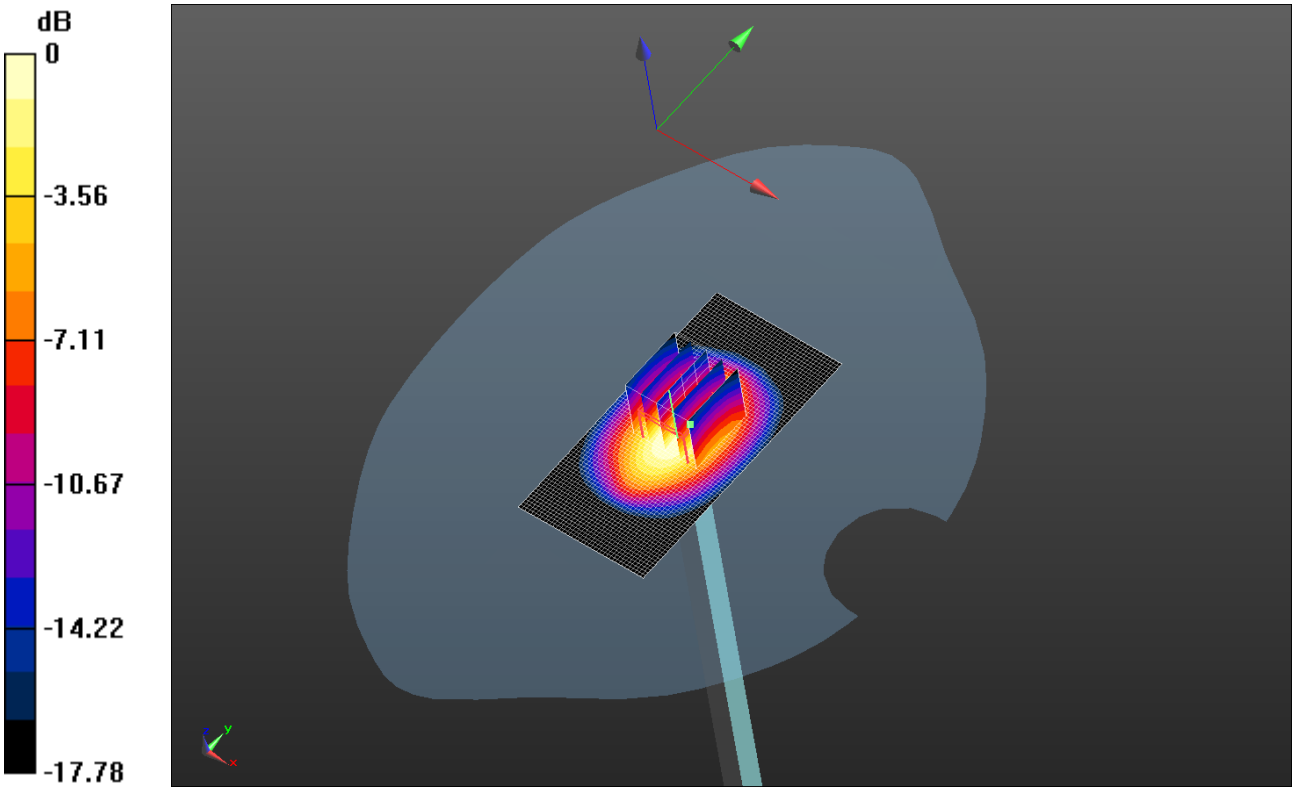
- Probe: ET3DV6 - SN1643; ConvF(5.17, 5.17, 5.17); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 185.1 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 39.1 W/kg; SAR(10 g) = 20.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 44.8 W/kg

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 185.1 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 64.9 W/kg
SAR(1 g) = 38.3 W/kg; SAR(10 g) = 20.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 42.7 W/kg



0 dB = 42.7 W/kg = 16.30 dBW/kg

Date/Time: 2/9/2015 9:43:48 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_1900MHz_02_09_15_Amb_Tem_24.5C_Liq_Tem_21.8C

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:545

Communication System: UID 0, CW (0); Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.411 S/m; ε_r = 38.638; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

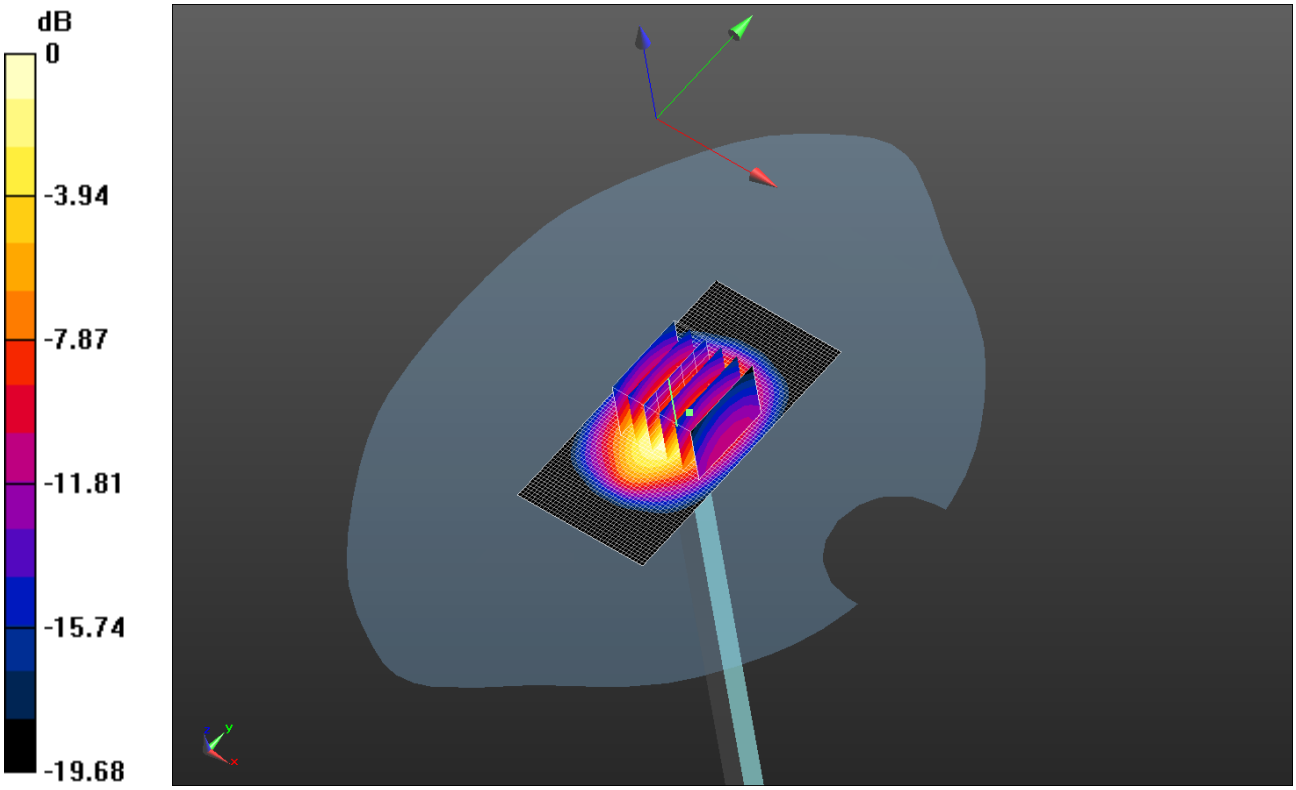
- Probe: ET3DV6 - SN1643; ConvF(5.17, 5.17, 5.17); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 184.2 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 37.9 W/kg; SAR(10 g) = 20.1 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 42.6 W/kg

System Performance Check at Frequencies between 1 GHz - 2 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (5x5x7) (6x6x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 184.2 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 61.8 W/kg
SAR(1 g) = 37.2 W/kg; SAR(10 g) = 20 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 41.9 W/kg



0 dB = 41.9 W/kg = 16.22 dBW/kg

2450 MHz

Date/Time: 3/2/2015 9:35:11 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_2450MHz_03_02_15_Amb_Tem_23.9C_Liq_Tem_22.1C

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:791

Communication System: UID 0, CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.853 S/m; ε_r = 40.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

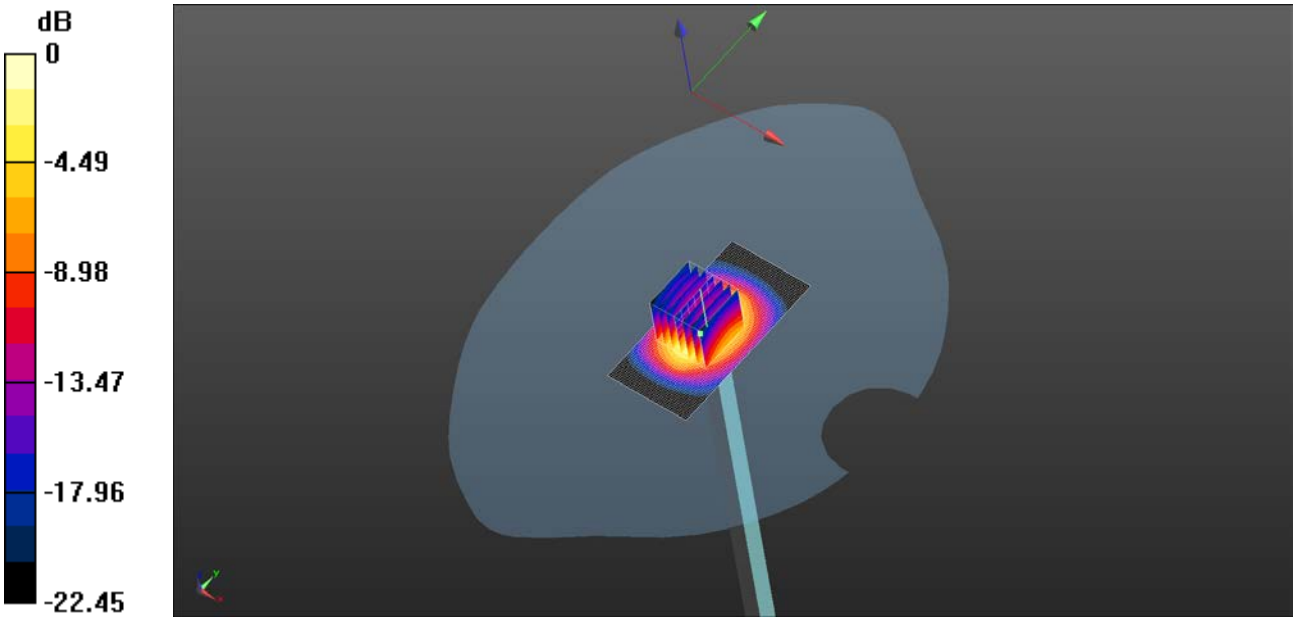
- Probe: ET3DV6 - SN1643; ConvF(4.46, 4.46, 4.46); Calibrated: 3/10/2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequencies between 2 GHz - 3 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Area Scan (41x81x1):

Interpolated grid: dx=1.200 mm, dy=1.200 mm
Reference Value = 187.3 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 53.8 W/kg; SAR(10 g) = 25.6 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 61.9 W/kg

System Performance Check at Frequencies between 2 GHz - 3 GHz/d=10mm, Pin=1000mW, dist=4.0mm (ET-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 187.3 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 117 W/kg
SAR(1 g) = 54.1 W/kg; SAR(10 g) = 25.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 60.2 W/kg



0 dB = 60.2 W/kg = 17.80 dBW/kg

2600 MHz

Date/Time: 3/3/2015 2:08:39 PM

Test Laboratory: BlackBerry RTS

DipoleValidation_2600MHz_03_03_15_Amb_Tem_24.0C_Liq_Tem_22.0C

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1033

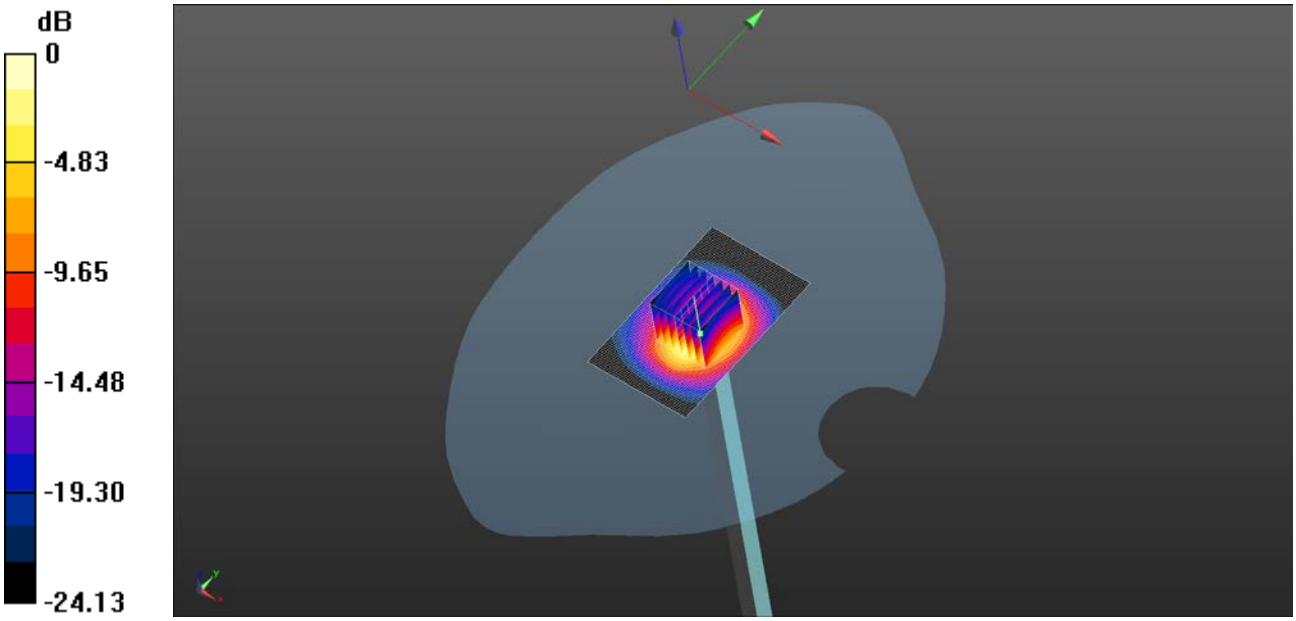
Communication System: UID 0, CW (0); Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.021 S/m; ε_r = 39.804; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.4, 4.4, 4.4); Calibrated: 2/25/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/13/2015
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/d=10mm, Pin=1000mW/Area Scan (51x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Reference Value = 203.4 V/m; Power Drift = 0.00 dB
Fast SAR: SAR(1 g) = 60.6 W/kg; SAR(10 g) = 26.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 82.9 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 203.4 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 128 W/kg
SAR(1 g) = 58.9 W/kg; SAR(10 g) = 26.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 78.8 W/kg



0 dB = 78.8 W/kg = 18.97 dBW/kg