APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

Revision History		
Rev. Number	**Date**	**Changes**
Initial	Aug 19, 2013	----------
Rev 2	Sep 15, 2013	Separated data and report for model RFY111LW
Rev 3	Sep 18, 2013	Added re-used SAR test data from model RFW121LW to address FCC OET requirement.
Rev 4	Dec 15, 2014	Added Dipole plots used for 802.11a Hotspot mode testing 1. Page 32-34

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Date/Time: 7/13/2013 12:26:59 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_07_13_13_Amb_Tem_24.1C_Liq_Tem_23.0 C

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

Communication System: UID 0 - n/a, CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.898 S/m; ε_r = 41.565; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

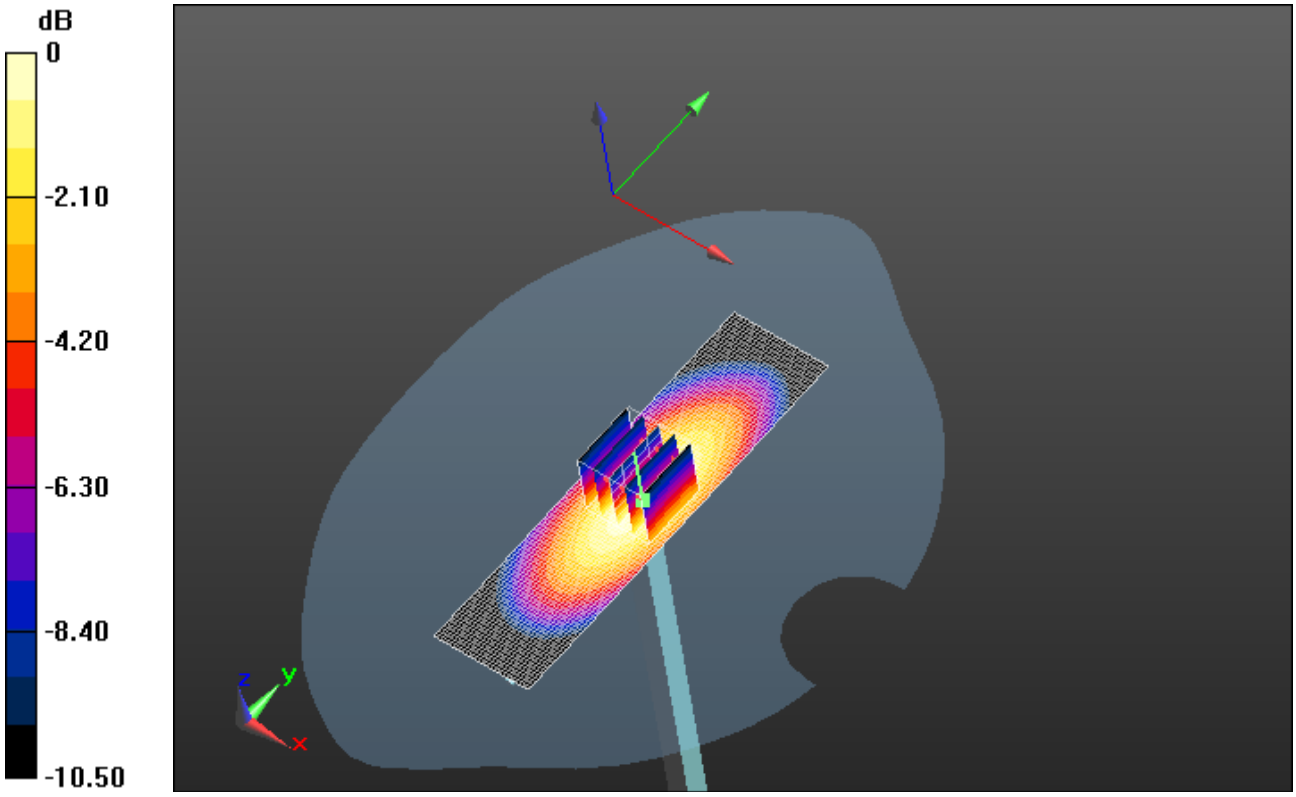
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.19, 6.19, 6.19); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 112.0 V/m; Power Drift = -0.02 dB
Fast SAR: SAR(1 g) = 9.09 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (interpolated) = 10.5 W/kg

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 112.0 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 13.4 W/kg
SAR(1 g) = 9.06 W/kg; SAR(10 g) = 5.94 W/kg
Maximum value of SAR (measured) = 10.6 W/kg

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0 dB = 10.6 W/kg = 10.25 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_07_16_13_Amb_Tem_23.9C_Liq_Tem_23.1 C

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

Communication System: UID 0 - n/a, CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.881 S/m; ε_r = 40.559; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

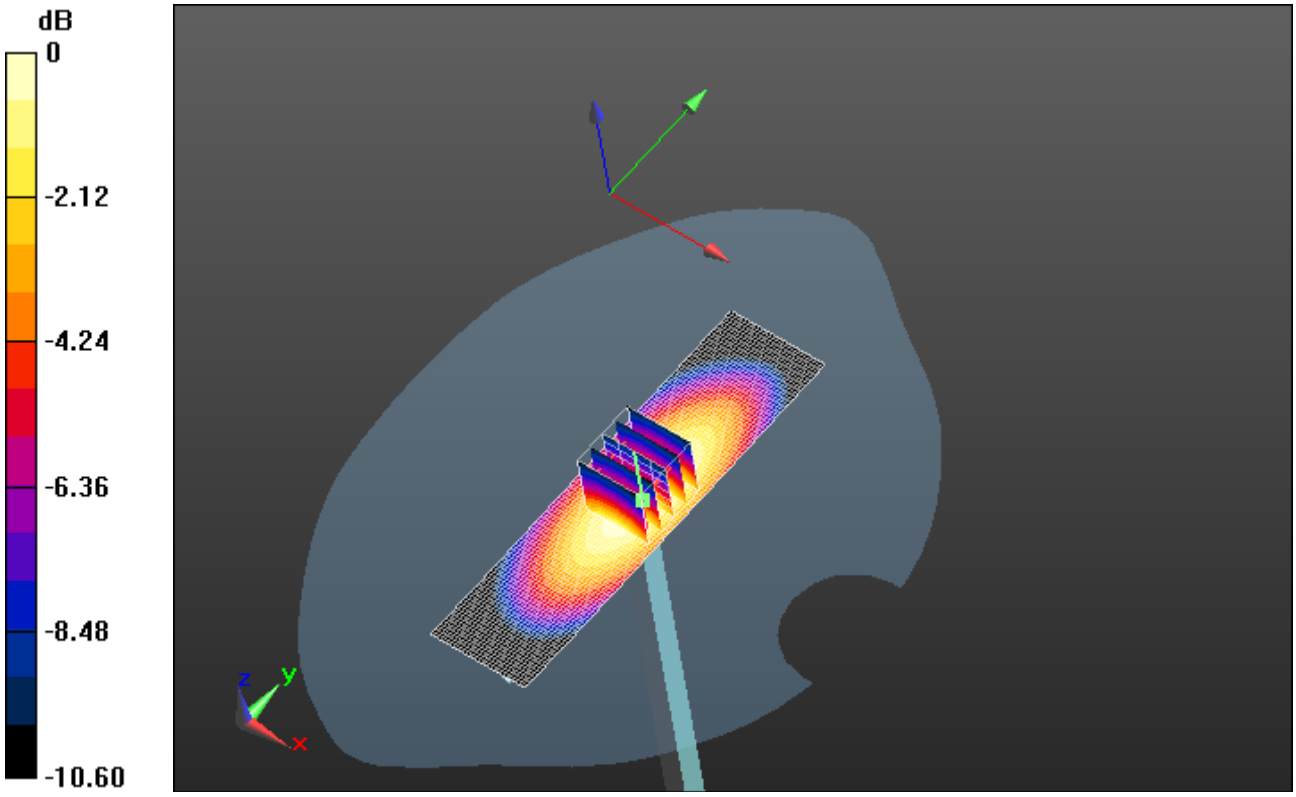
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.19, 6.19, 6.19); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 113.2 V/m; Power Drift = -0.20 dB
Fast SAR: SAR(1 g) = 9.08 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (interpolated) = 10.5 W/kg

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 113.2 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 13.0 W/kg
SAR(1 g) = 8.8 W/kg; SAR(10 g) = 5.76 W/kg
Maximum value of SAR (measured) = 10.3 W/kg

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0 dB = 10.3 W/kg = 10.13 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_07_10_13_Amb_Tem_23.6_Liq_Tem_22.9C

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

Communication System: UID 0 - n/a, CW; Frequency: 1800 MHz
Medium parameters used: f = 1800 MHz; σ = 1.42 S/m; ε_r = 38.217; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

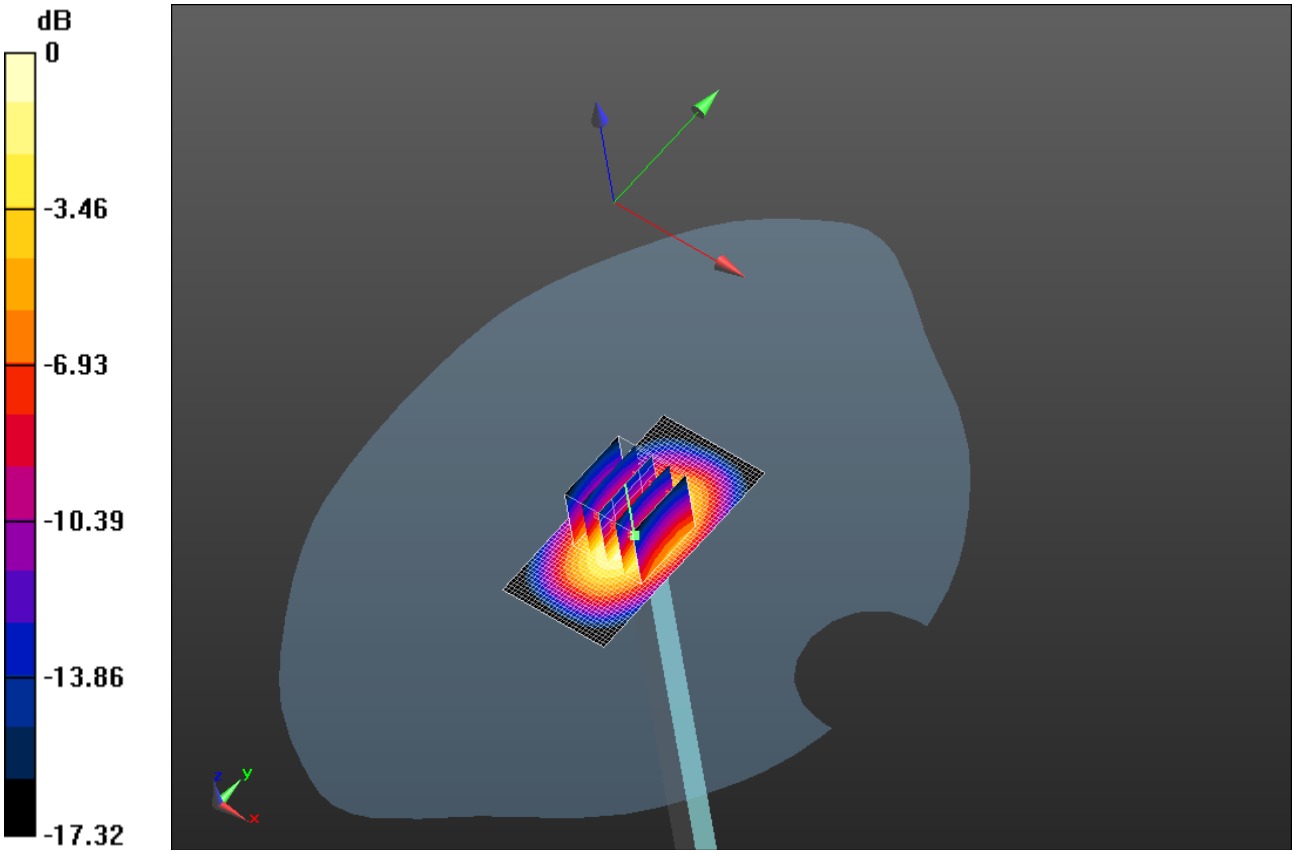
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 186.1 V/m; Power Drift = 0.03 dB
Fast SAR: SAR(1 g) = 36.3 W/kg; SAR(10 g) = 19.8 W/kg
Maximum value of SAR (interpolated) = 44.8 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 186.1 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 64.4 W/kg
SAR(1 g) = 36 W/kg; SAR(10 g) = 18.9 W/kg
Maximum value of SAR (measured) = 45.7 W/kg

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0 dB = 45.7 W/kg = 16.60 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_07_02_13_Amb_Tem_23.2C_Liq_Tem_21.6 C

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.387 S/m; ε_r = 38.399; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

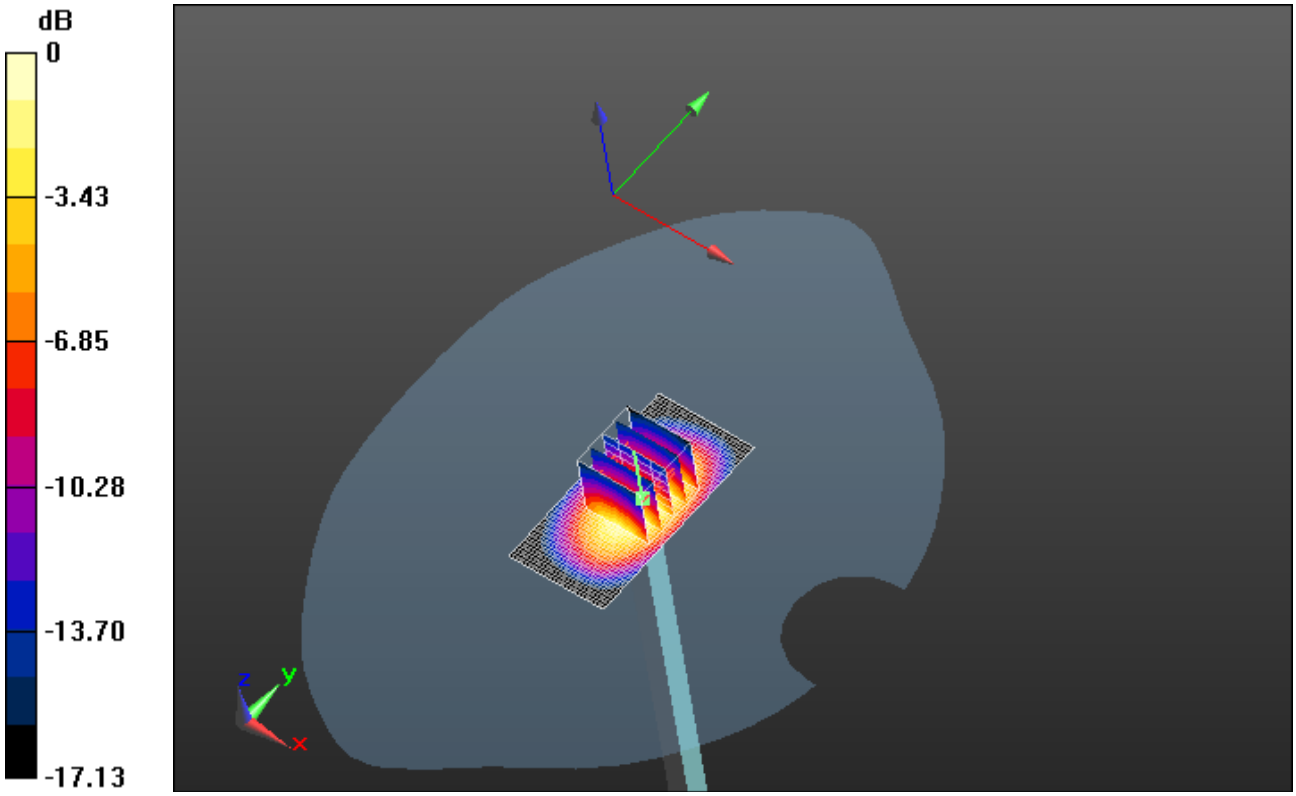
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 190.8 V/m; Power Drift = 0.03 dB
Fast SAR: SAR(1 g) = 37.6 W/kg; SAR(10 g) = 19.8 W/kg
Maximum value of SAR (interpolated) = 47.1 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 190.8 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 65.5 W/kg
SAR(1 g) = 37 W/kg; SAR(10 g) = 19.5 W/kg
Maximum value of SAR (measured) = 46.6 W/kg

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0 dB = 46.6 W/kg = 16.68 dBW/kg

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Date/Time: 7/5/2013 12:57:00 AM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_07_05_13_Amb_Tem_23.3C_Liq_Tem_21.7 C

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.408 S/m; ε_r = 38.666; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

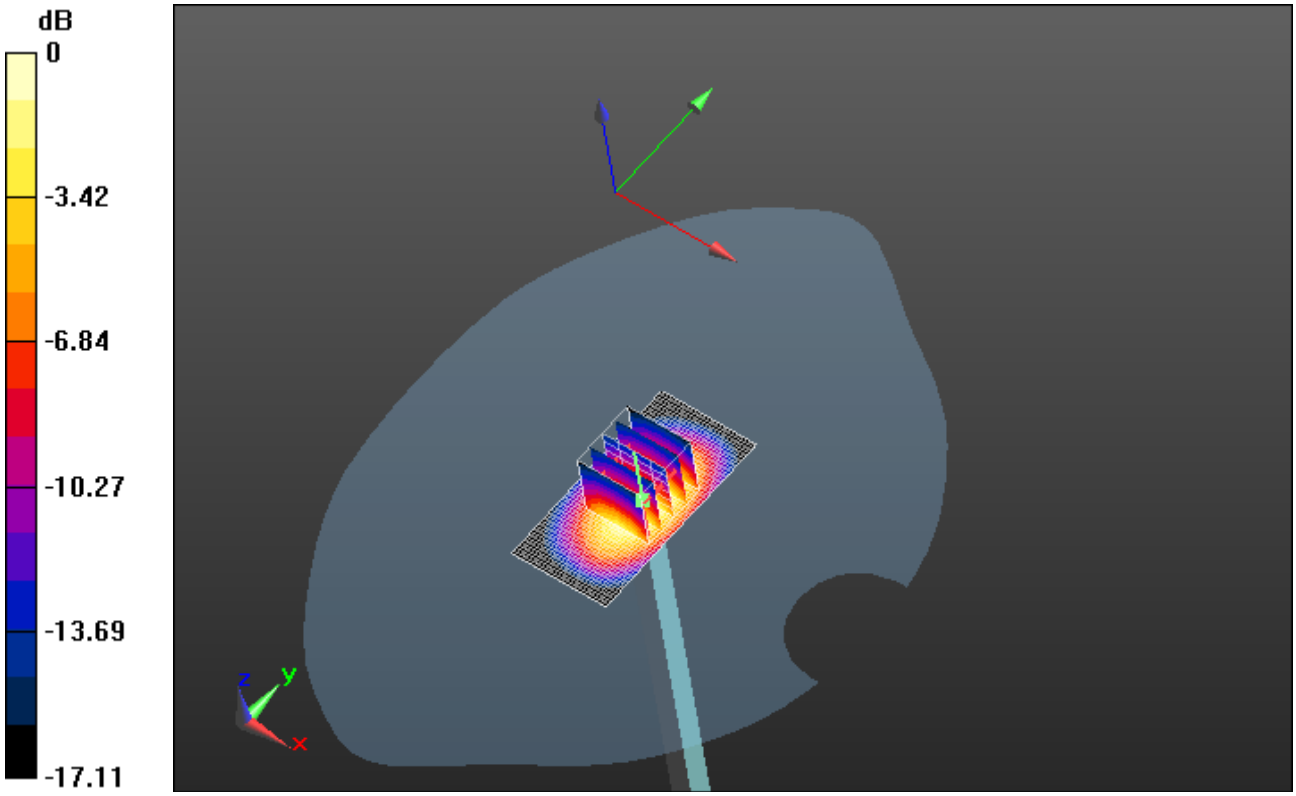
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 186.9 V/m; Power Drift = -0.02 dB
Fast SAR: SAR(1 g) = 36.7 W/kg; SAR(10 g) = 19.4 W/kg
Maximum value of SAR (interpolated) = 45.9 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 186.9 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 63.9 W/kg
SAR(1 g) = 36.2 W/kg; SAR(10 g) = 19.1 W/kg
Maximum value of SAR (measured) = 45.9 W/kg

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0 dB = 45.9 W/kg = 16.62 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_07_08_13_Amb_Tem_23.0C_Liq_Tem_22.5 C

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.375 S/m; ε_r = 38.543; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

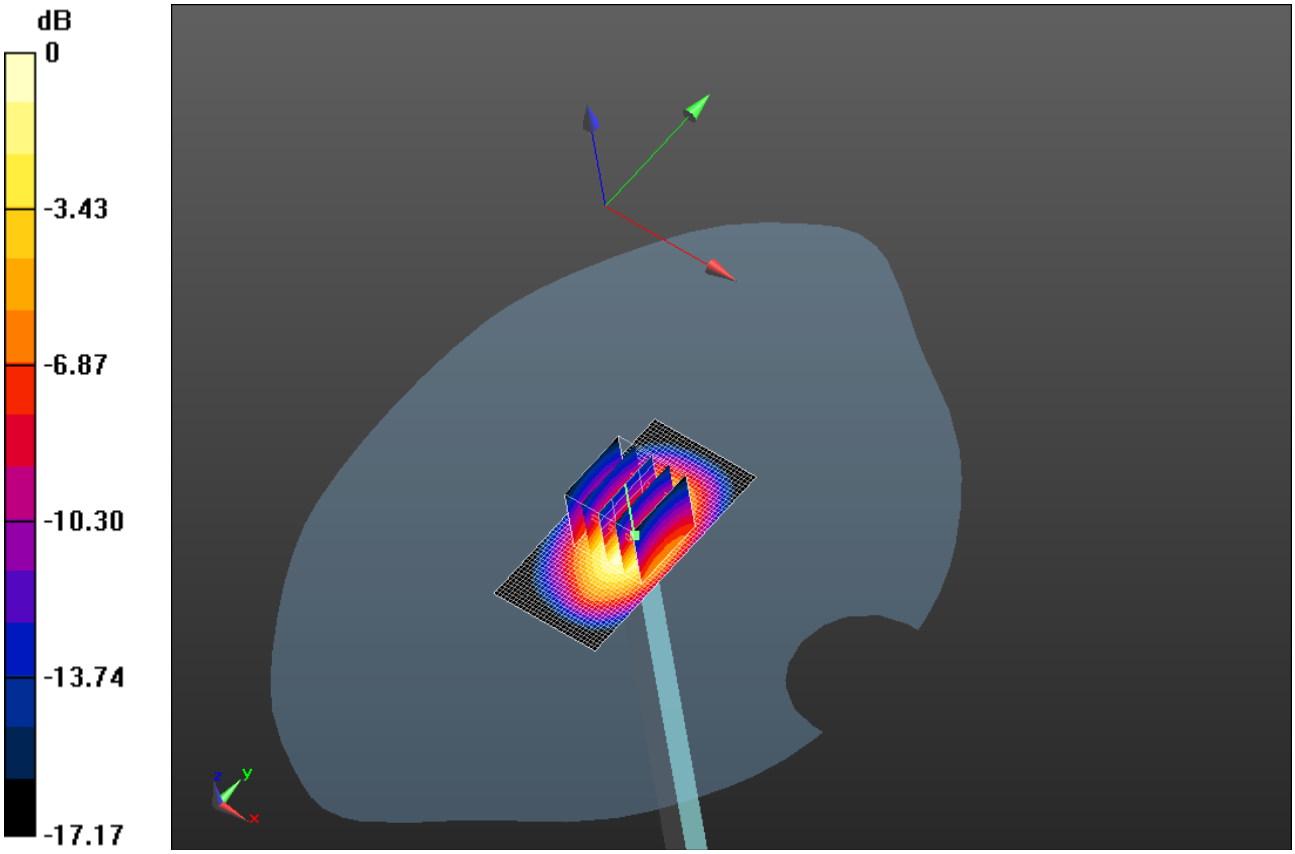
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 190.8 V/m; Power Drift = -0.03 dB
Fast SAR: SAR(1 g) = 37.3 W/kg; SAR(10 g) = 19.6 W/kg
Maximum value of SAR (interpolated) = 46.9 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 190.8 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 65.1 W/kg
SAR(1 g) = 36.6 W/kg; SAR(10 g) = 19.2 W/kg
Maximum value of SAR (measured) = 46.7 W/kg

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0 dB = 46.7 W/kg = 16.69 dBW/kg

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Date/Time: 8/7/2013 3:04:00 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_08_07_13_Amb_Tem_23.5C_Liq_Tem_22.2 C

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.378 S/m; ε_r = 38.172; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

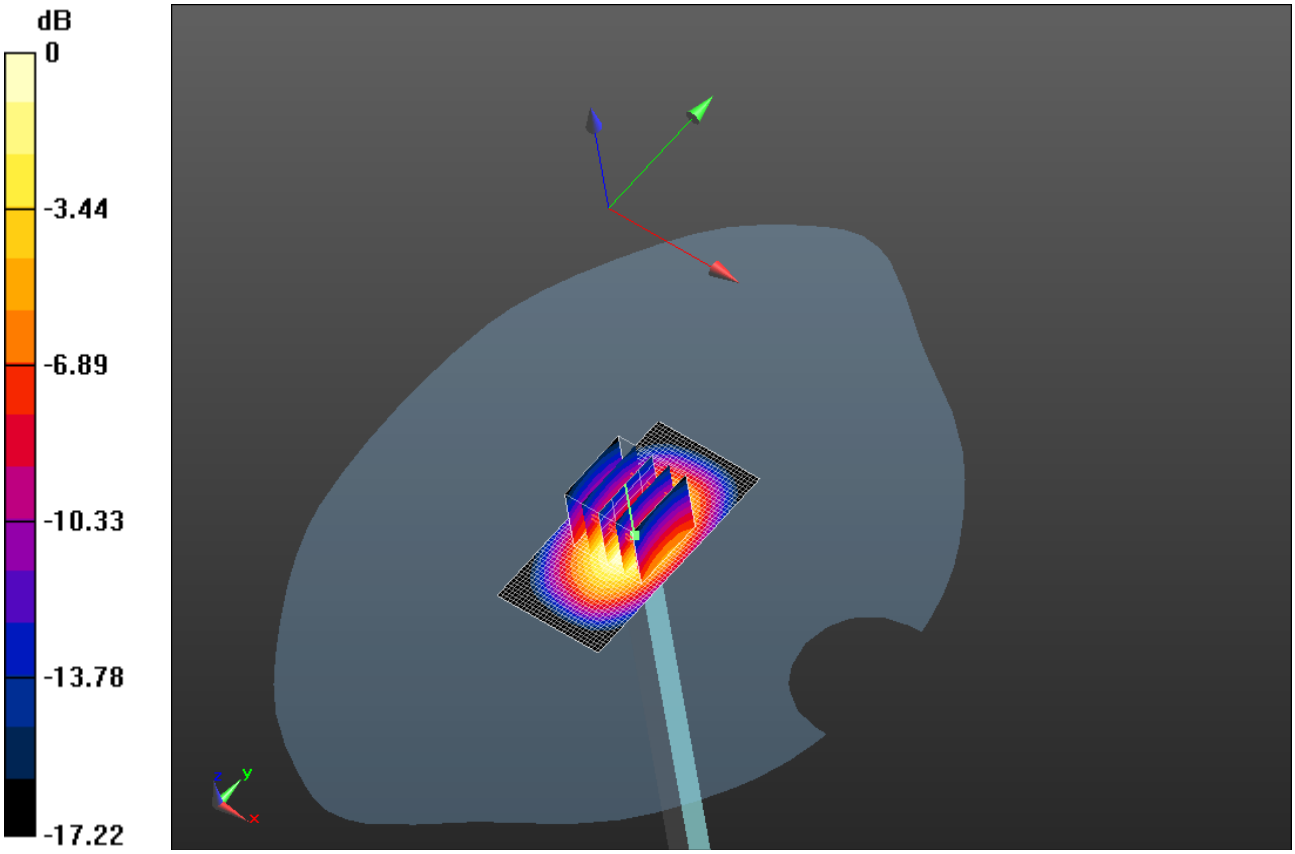
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 194.4 V/m; Power Drift = -0.01 dB
Fast SAR: SAR(1 g) = 38.7 W/kg; SAR(10 g) = 20.5 W/kg
Maximum value of SAR (interpolated) = 48.5 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 194.4 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 67.7 W/kg
SAR(1 g) = 38 W/kg; SAR(10 g) = 19.9 W/kg
Maximum value of SAR (measured) = 48.4 W/kg

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0 dB = 48.4 W/kg = 16.85 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_08_15_13_Amb_Tem_23.2C_Liq_Tem_23.0 C

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.384 S/m; ε_r = 38.362; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

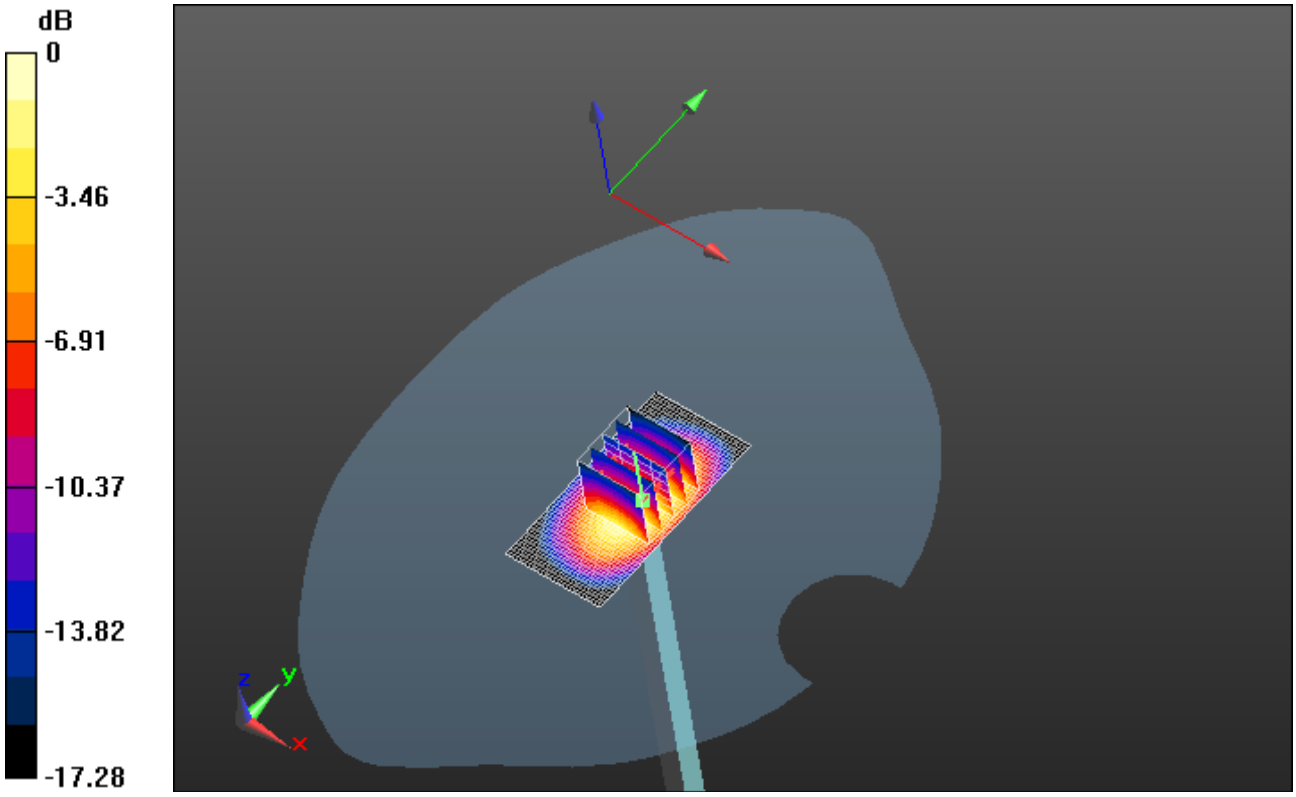
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 5.35, 5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 189.0 V/m; Power Drift = -0.04 dB
Fast SAR: SAR(1 g) = 37.6 W/kg; SAR(10 g) = 19.8 W/kg
Maximum value of SAR (interpolated) = 47.1 W/kg

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 189.0 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 65.1 W/kg
SAR(1 g) = 36.7 W/kg; SAR(10 g) = 19.3 W/kg
Maximum value of SAR (measured) = 46.6 W/kg

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0 dB = 46.6 W/kg = 16.68 dBW/kg

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Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_07_19_13_Amb_Tem_23.0C_Liq_Tem_22.8C

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:747

Communication System: UID 0 - n/a, CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.831 S/m; ε_r = 37.795; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

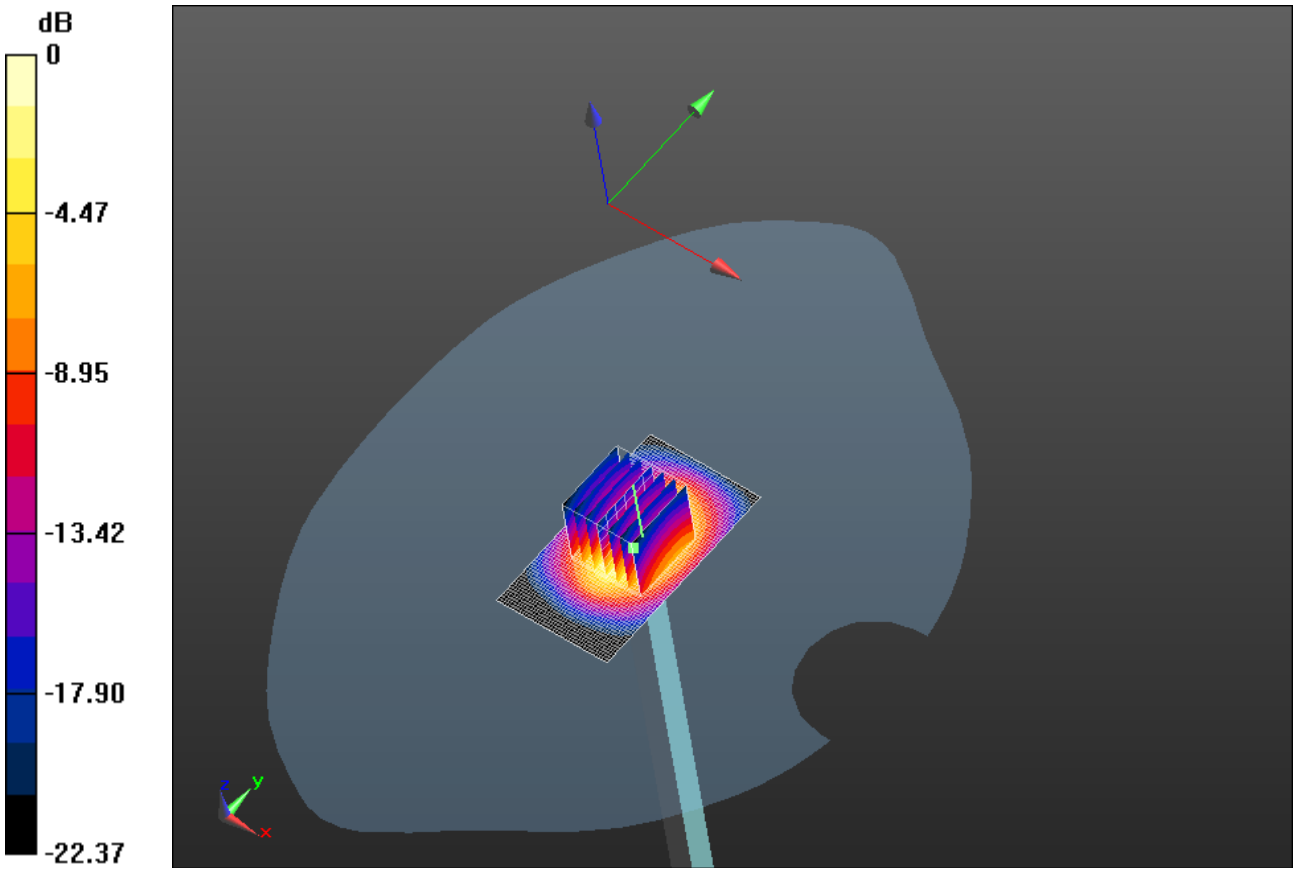
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.65, 4.65, 4.65); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1000 mW, dist=3.0mm (ES-Probe)/Area Scan (41x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Reference Value = 204.6 V/m; Power Drift = -0.09 dB
Fast SAR: SAR(1 g) = 52.5 W/kg; SAR(10 g) = 23.2 W/kg
Maximum value of SAR (interpolated) = 71.2 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1000 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 204.6 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 102 W/kg
SAR(1 g) = 52.1 W/kg; SAR(10 g) = 24.6 W/kg
Maximum value of SAR (measured) = 67.6 W/kg

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0 dB = 67.6 W/kg = 18.30 dBW/kg

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Date/Time: 7/23/2013 11:15:43 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_07_23_13_Amb_Tem_23.2C_Liq_Tem_22.4 C

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:747

Communication System: UID 0 - n/a, CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.845 S/m; ε_r = 37.878; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

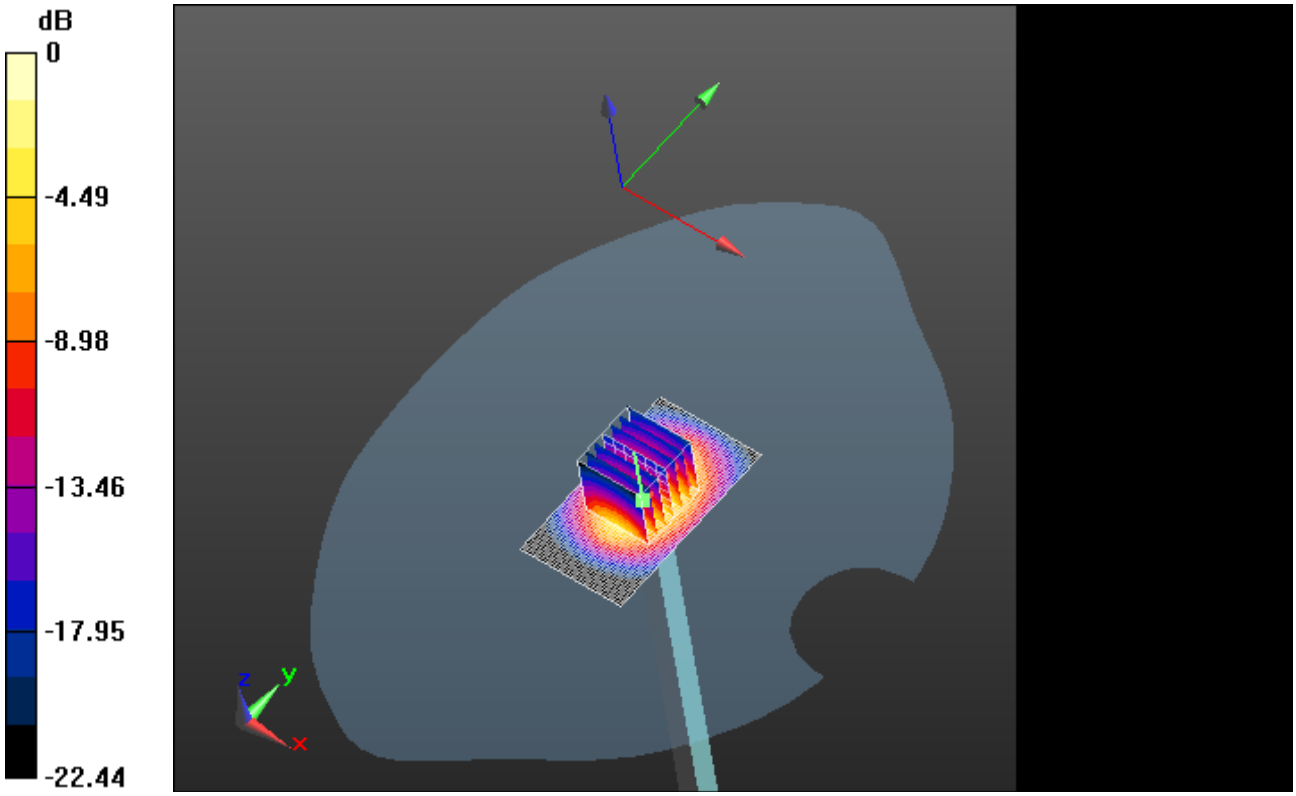
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.65, 4.65, 4.65); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 2.0, 32.0
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X 14.6.9(7117)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1000 mW, dist=3.0mm (ES-Probe)/Area Scan (41x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Reference Value = 202.1 V/m; Power Drift = -0.06 dB
Fast SAR: SAR(1 g) = 51.7 W/kg; SAR(10 g) = 22.8 W/kg
Maximum value of SAR (interpolated) = 70.4 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1000 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 202.1 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 102 W/kg
SAR(1 g) = 51.6 W/kg; SAR(10 g) = 24.3 W/kg
Maximum value of SAR (measured) = 67.1 W/kg

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0 dB = 67.1 W/kg = 18.27 dBW/kg

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Date: 7/22/2013

Test Lab: RIM Testing Services
DUT Name: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1033

Configuration: System Performance Check with D5GHzV2 Dipole – 5500 MHz

Communication System: CW-5GHz; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5500 MHz
Medium Parameters used: f=5500 MHz; σ = 5.007 S/m; ε_r = 34.543; ρ = 1.000 g/cm^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3548; ConvF: (4.79,4.79,4.79); Calibrated: 1/15/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

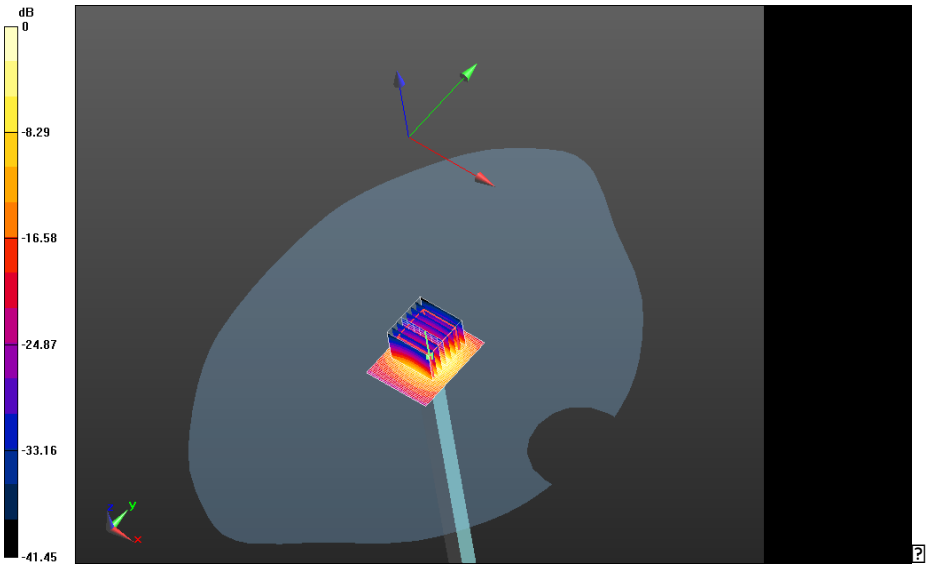
System Performance Check with D5GHzV2 Dipole 2/d=10mm, Pin=1000mW, f=5500 MHz/Area Scan (41x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 197.1 V/m; **Power Drift = 0.028 dB**

Fast SAR: SAR(1g) = 83.2 W/kg; SAR(10g) = 22.9 W/kg
Maximum value of SAR (interpolated) = 193 W/kg

System Performance Check with D5GHzV2 Dipole 2/d=10mm, Pin=1000mW, f=5500 MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0: Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm
Reference Value = 197.1 V/m; **Power Drift = 0.028 dB**

Averaged SAR: SAR(1g) = 90.0 W/kg; SAR(10g) = 25.7 W/kg
Maximum value of SAR (interpolated) = 378 W/kg

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0 dB = 189 W/kg = 22.76 dBW/kg

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Date: 7/22/2013

Test Lab: RIM Testing Services
DUT Name: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1033

Configuration: System Performance Check with D5GHzV2 Dipole – 5800 MHz

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz
Medium Parameters used: f=5800 MHz; σ = 5.322 S/m; ε_r = 33.887; ρ = 1.000 g/cm^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3548; ConvF: (4.61,4.61,4.61); Calibrated: 1/15/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

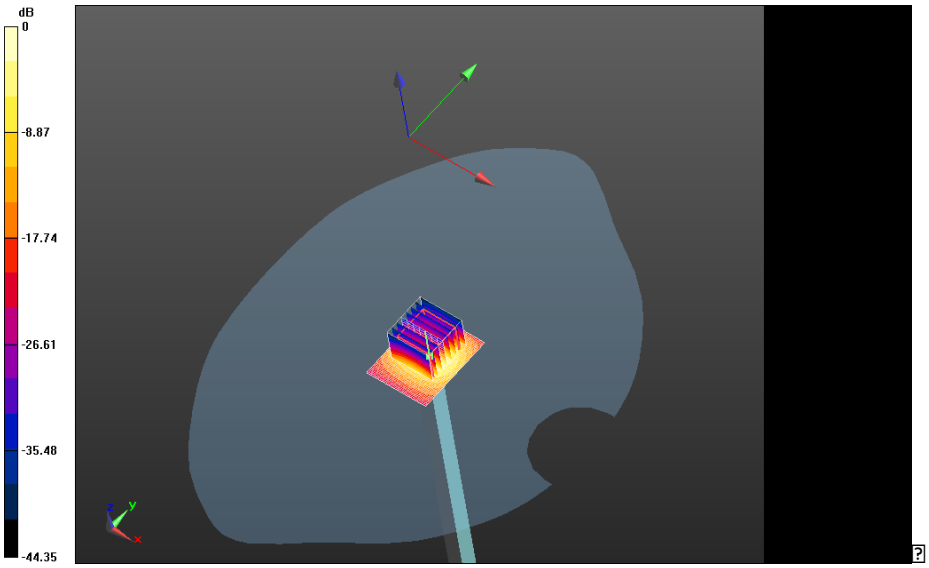
System Performance Check with D5GHzV2 Dipole 3/d=10mm, Pin=1000 mW, f=5800 MHz/Area Scan (41x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 188.7 V/m; **Power Drift = 0.025 dB**

Fast SAR: SAR(1g) = 78.1 W/kg; SAR(10g) = 21.6 W/kg
Maximum value of SAR (interpolated) = 182 W/kg

System Performance Check with D5GHzV2 Dipole 3/d=10mm, Pin=1000 mW, f=5800 MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0: Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm
Reference Value = 188.7 V/m; **Power Drift = 0.025 dB**

Averaged SAR: SAR(1g) = 84.5 W/kg; SAR(10g) = 24.3 W/kg
Maximum value of SAR (interpolated) = 348 W/kg

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0 dB = 174 W/kg = 22.41 dBW/kg

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Date: 8/12/2013

Test Lab: RIM Testing Services
DUT Name: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1033

Configuration: System Performance Check with D5GHzV2 Dipole – 5200 MHz

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);
Frequency: 5200 MHz
Medium Parameters used: f=5200 MHz; σ = 4.667 S/m; ε_r = 34.365; ρ = 1.000 g/cm^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3548; ConvF: (5.13,5.13,5.13); Calibrated: 1/15/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

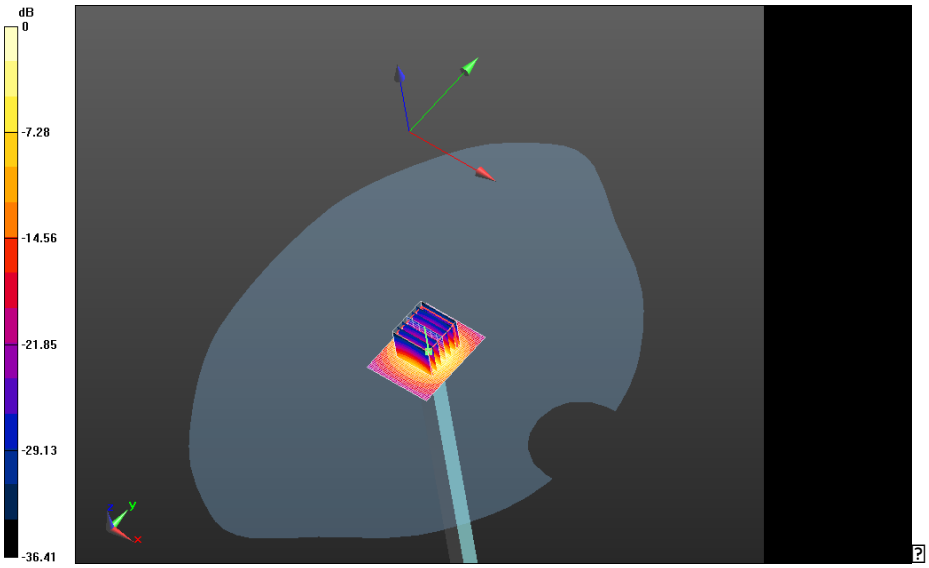
System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000 mW, f=5200 MHz/Area Scan (41x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 195.6 V/m; **Power Drift = 0.00864 dB**

Fast SAR: SAR(1g) = 74.4 W/kg; SAR(10g) = 20.6 W/kg
Maximum value of SAR (interpolated) = 174 W/kg

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000 mW, f=5200 MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (31x31x61)/Cube 0: Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm
Reference Value = 195.6 V/m; **Power Drift = 0.00864 dB**

Averaged SAR: SAR(1g) = 78.1 W/kg; SAR(10g) = 22.7 W/kg
Maximum value of SAR (interpolated) = 300 W/kg

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0 dB = 161 W/kg = 22.07 dBW/kg

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Date: 8/12/2013

Test Lab: RIM Testing Services
DUT Name: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1033

Configuration: System Performance Check with D5GHzV2 Dipole – 5500 MHz

Communication System: CW-5GHz; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5500 MHz
Medium Parameters used: f=5500 MHz; σ = 4.997 S/m; ε_r = 34.755; ρ = 1.000 g/cm^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3548; ConvF: (4.79,4.79,4.79); Calibrated: 1/15/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

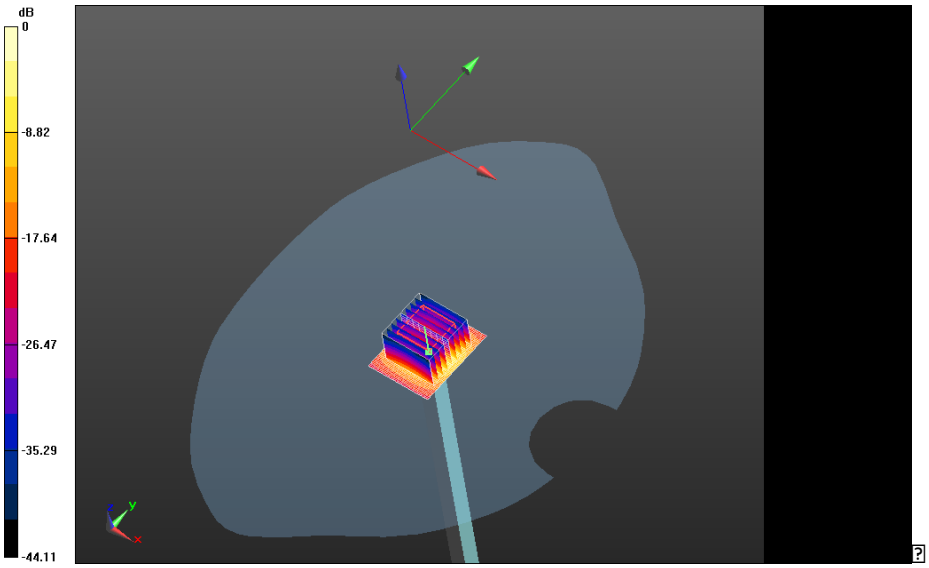
System Performance Check with D5GHzV2 Dipole 2/d=10mm, Pin=1000mW, f=5500 MHz/Area Scan (41x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 198.0 V/m; **Power Drift = 0.021 dB**

Fast SAR: SAR(1g) = 80.9 W/kg; SAR(10g) = 21.9 W/kg
Maximum value of SAR (interpolated) = 197 W/kg

System Performance Check with D5GHzV2 Dipole 2/d=10mm, Pin=1000mW, f=5500 MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (41x41x61)/Cube 0: Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm
Reference Value = 198.0 V/m; **Power Drift = 0.021 dB**

Averaged SAR: SAR(1g) = 85.1 W/kg; SAR(10g) = 24.3 W/kg
Maximum value of SAR (interpolated) = 355 W/kg

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0 dB = 176 W/kg = 22.46 dBW/kg

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Date: 8/12/2013

Test Lab: RIM Testing Services
DUT Name: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1033

Configuration: System Performance Check with D5GHzV2 Dipole – 5800 MHz

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz
Medium Parameters used: f=5800 MHz; σ = 5.279 S/m; ε_r = 33.885; ρ = 1.000 g/cm^3
Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3548; ConvF: (4.61,4.61,4.61); Calibrated: 1/15/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

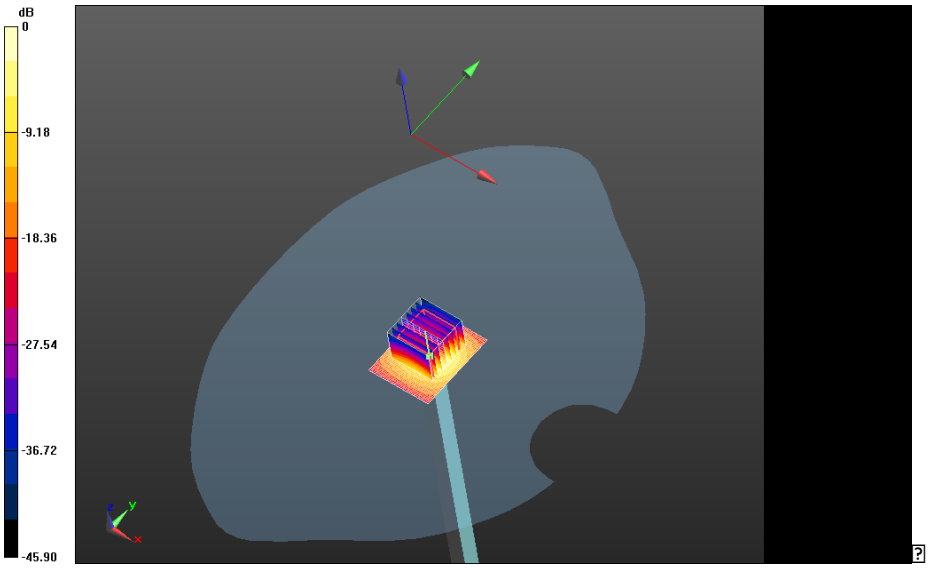
System Performance Check with D5GHzV2 Dipole 3/d=10mm, Pin=1000 mW, f=5800 MHz/Area Scan (41x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 198.4 V/m; **Power Drift = 0.019 dB**

Fast SAR: SAR(1g) = 81.9 W/kg; SAR(10g) = 22.2 W/kg
Maximum value of SAR (interpolated) = 201 W/kg

System Performance Check with D5GHzV2 Dipole 3/d=10mm, Pin=1000 mW, f=5800 MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0: Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm
Reference Value = 198.4 V/m; **Power Drift = 0.019 dB**

Averaged SAR: SAR(1g) = 86.0 W/kg; SAR(10g) = 24.6 W/kg
Maximum value of SAR (interpolated) = 365 W/kg

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0 dB = 181 W/kg = 22.58 dBW/kg

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Date/Time: 12/8/2014 11:58:15 AM

Test Laboratory: BlackBerry RTS

DipoleValidation_5200-5800MHz_12_08_14_Amb_Tem_24.2C _Liq_Tem_22.6C

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN 1033

Communication System: UID 0, CW (0); Frequency: 5200 MHz
Medium parameters used: f = 5200 MHz; σ = 4.67 S/m; ε_r = 34.276; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.63, 4.63, 4.63); Calibrated: 11/10/2014;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE3 Sn472; Calibrated: 3/18/2014
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequency 5.2 GHz/d=10mm, Pin=1000mW, dist=2.0mm (EX-Probe)/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 180 W/kg

System Performance Check at Frequency 5.2 GHz/d=10mm, Pin=1000mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 203.8 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 339 W/kg
SAR(1 g) = 83.7 W/kg; SAR(10 g) = 24.2 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 173 W/kg

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Date/Time: 12/8/2014 12:46:30 PM

Test Laboratory: BlackBerry RTS

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN 1033

Communication System: UID 0, CW (0); Frequency: 5800 MHz
Medium parameters used: f = 5800 MHz; σ = 5.403 S/m; ε_r = 33.704; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

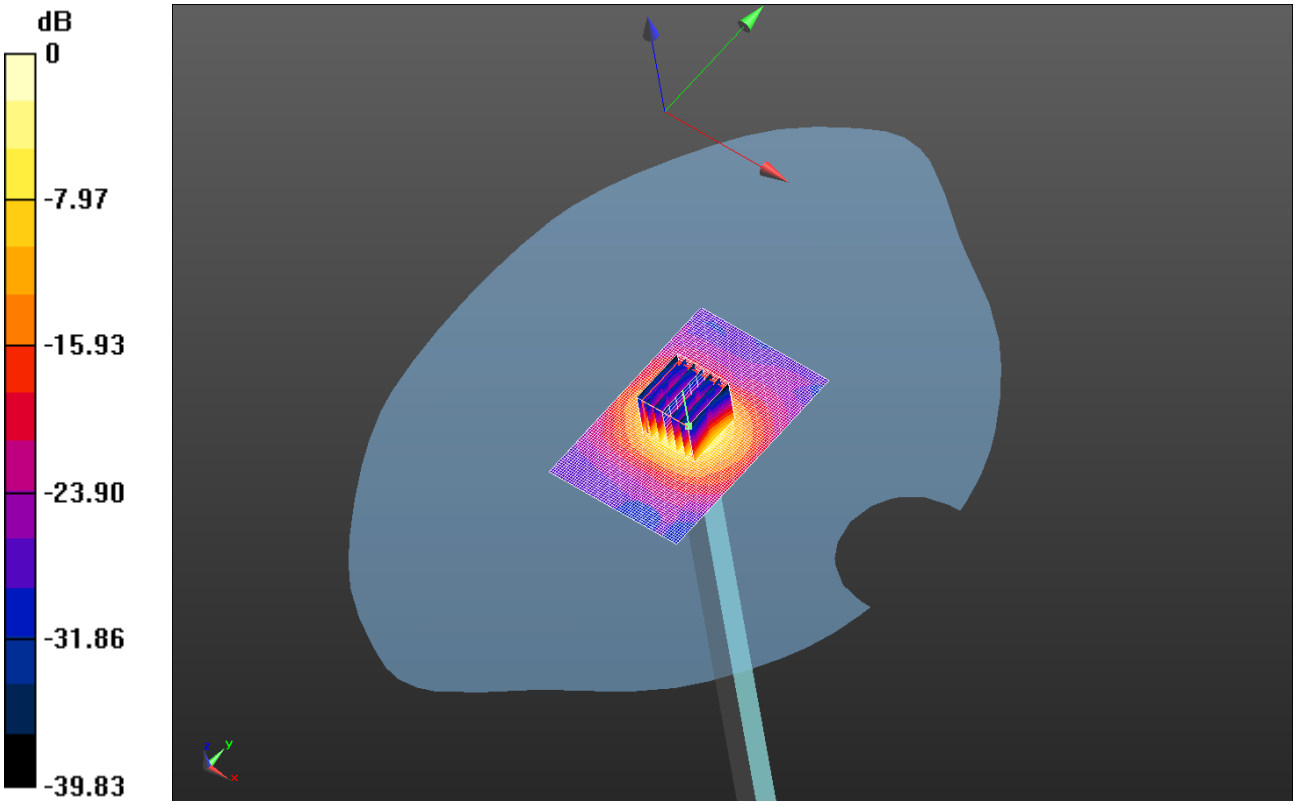
DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.34, 4.34, 4.34); Calibrated: 11/10/2014;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 23.0
- Electronics: DAE3 Sn472; Calibrated: 3/18/2014
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

System Performance Check at Frequency 5.8 GHz/d=10mm, Pin=1000mW, dist=2.0mm (EX-Probe)/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 191 W/kg

System Performance Check at Frequency 5.8 GHz/d=10mm, Pin=1000mW, dist=2.0mm (EX-Probe)/Zoom Scan (7x7x12) (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 197.5 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 380 W/kg
SAR(1 g) = 85.8 W/kg; SAR(10 g) = 24.4 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 182 W/kg

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0 dB = 182 W/kg = 22.60 dBW/kg

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