
	Document Appendix A for the BlackBerry® Smartphone Model RFF91LW SAR Report			Page 1(55)
Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/15/2012 9:48:42 AM

Test Laboratory: RIM Testing Services

DipoleValidation_750MHz_06_15_12_Amb_Tem_23.3_Liq_Tem_22.7C

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

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.899 \text{ mho/m}$; $\epsilon_r = 42.08$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section


Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

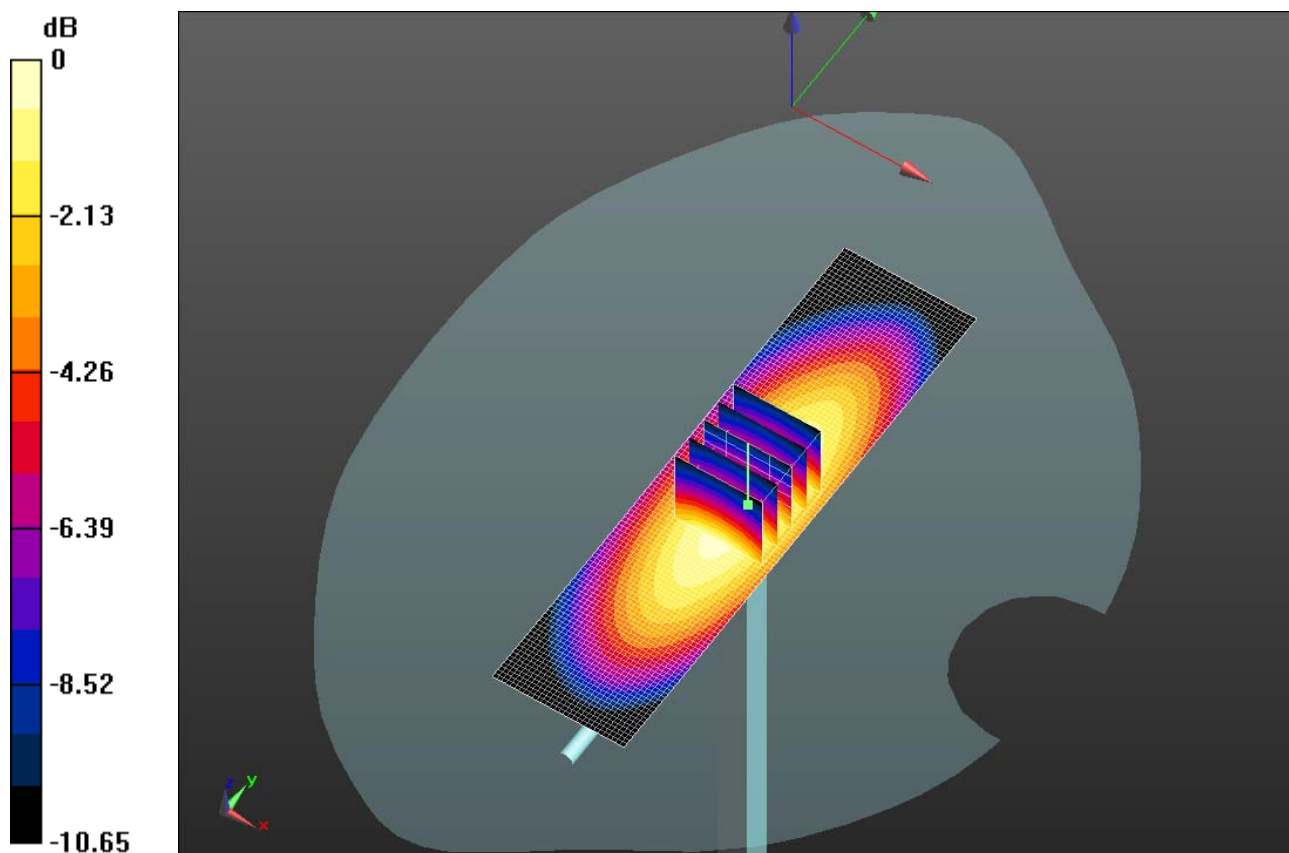
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.42, 6.42, 6.42); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)


Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 9.242 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 105.9 V/m; Power Drift = 0.0014 dB
Peak SAR (extrapolated) = 12.0060
SAR(1 g) = 8.07 mW/g; SAR(10 g) = 5.27 mW/g
Maximum value of SAR (measured) = 9.444 mW/g

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0 dB = 9.440mW/g = 19.50 dB mW/g

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Date/Time: 6/18/2012 12:13:05 AM

Test Laboratory: RIM Testing Services

DipoleValidation_750MHz_06_18_12_Amb_Tem_23.2_Liq_Tem_21.6C

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

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.88 \text{ mho/m}$; $\epsilon_r = 43.211$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.42, 6.42, 6.42); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 9.108 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2


(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

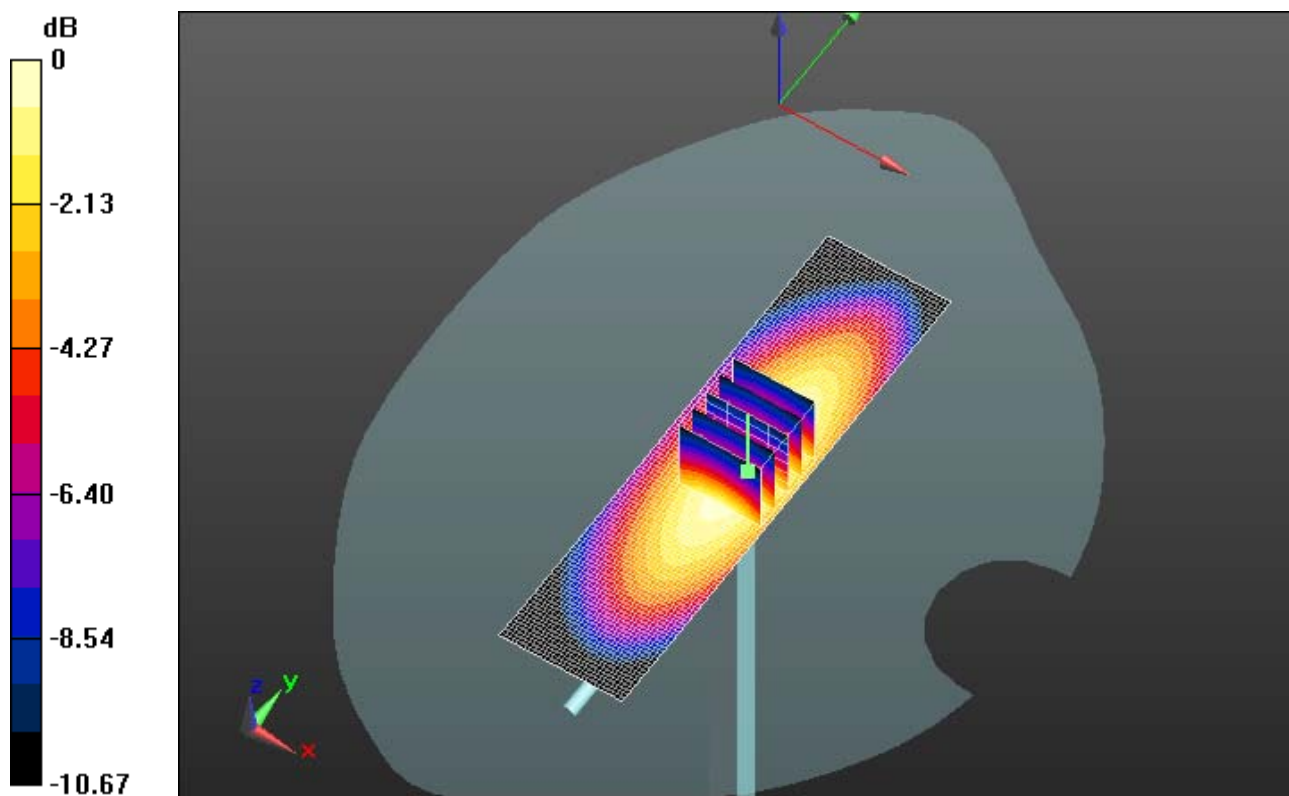
Reference Value = 105.1 V/m ; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 11.5990


SAR(1 g) = 7.8 mW/g ; SAR(10 g) = 5.09 mW/g

Maximum value of SAR (measured) = 9.111 mW/g

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0 dB = 9.110mW/g = 19.19 dB mW/g

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Date/Time: 10/29/2012 11:15:48 AM

Test Laboratory: RIM Testing Services

DipoleValidation_750MHz_10_29_12_Amb_Tem_24.1_Liq_Tem_22.9C

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

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 41.154$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section


Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

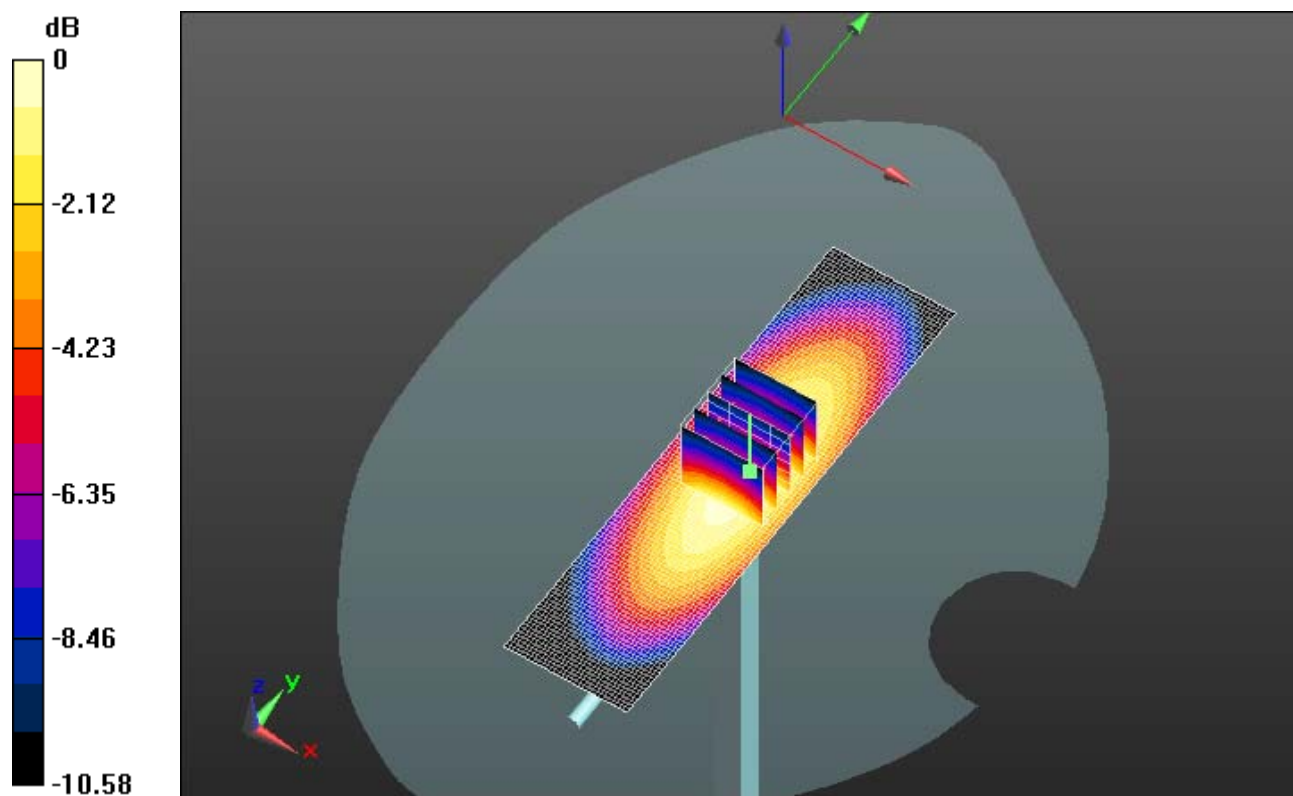
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.42, 6.42, 6.42); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)


Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 8.996 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 104.2 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 11.6390
SAR(1 g) = 7.79 mW/g; SAR(10 g) = 5.08 mW/g
Maximum value of SAR (measured) = 9.166 mW/g

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0 dB = 9.170mW/g = 19.25 dB mW/g

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Date/Time: 6/4/2012 9:48:33 PM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_06_04_12_Amb_Tem_23.2_Liq_Tem_21.9C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.881 \text{ mho/m}$; $\epsilon_r = 39.935$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.06, 6.06, 6.06); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.790 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2


(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

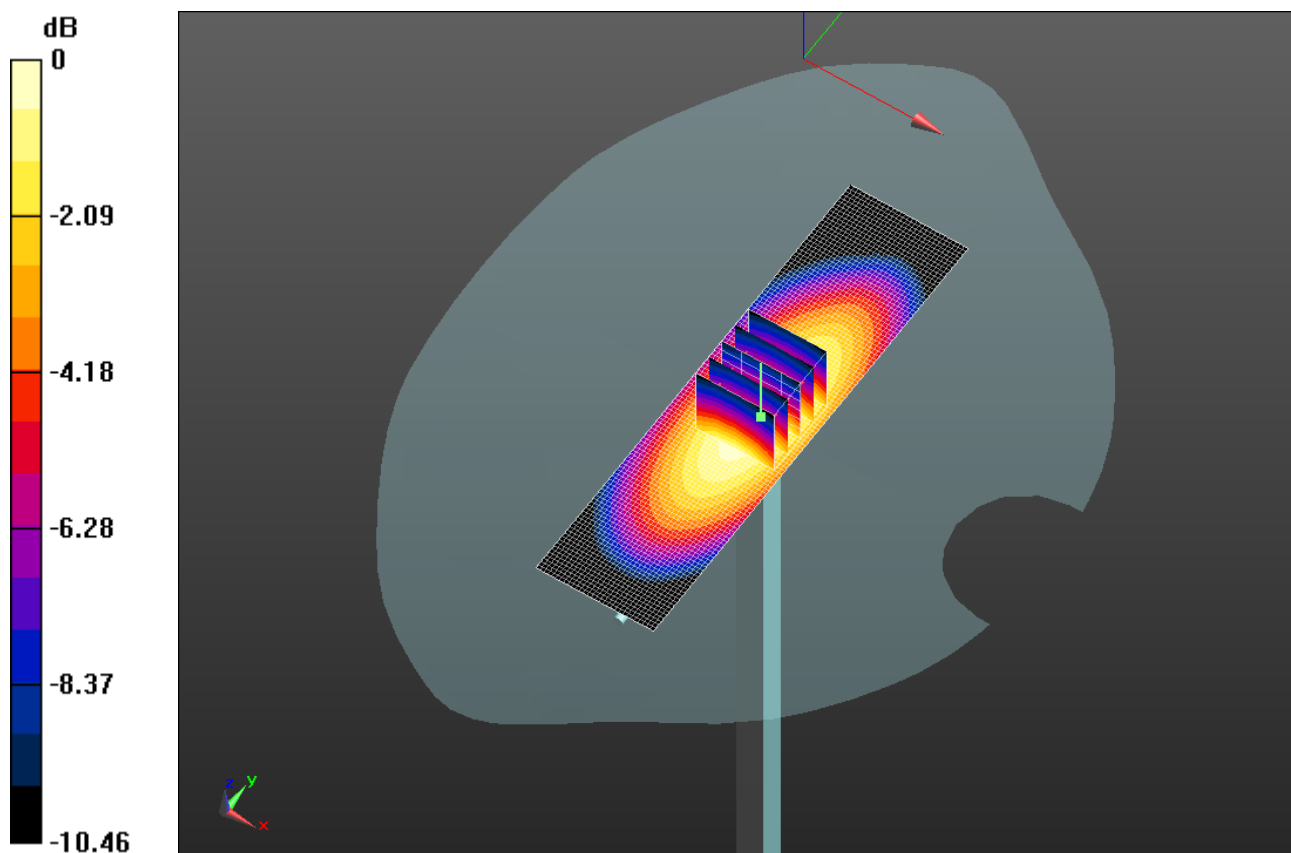
Reference Value = 114.7 V/m ; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 13.6840


SAR(1 g) = 9.33 mW/g ; SAR(10 g) = 6.12 mW/g

Maximum value of SAR (measured) = 10.898 mW/g

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0 dB = 10.900mW/g = 20.75 dB mW/g

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Date/Time: 6/6/2012 11:52:29 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_06_06_12_Amb_Tem_23.1_Liq_Tem_21.5C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.892 \text{ mho/m}$; $\epsilon_r = 42.615$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section


Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

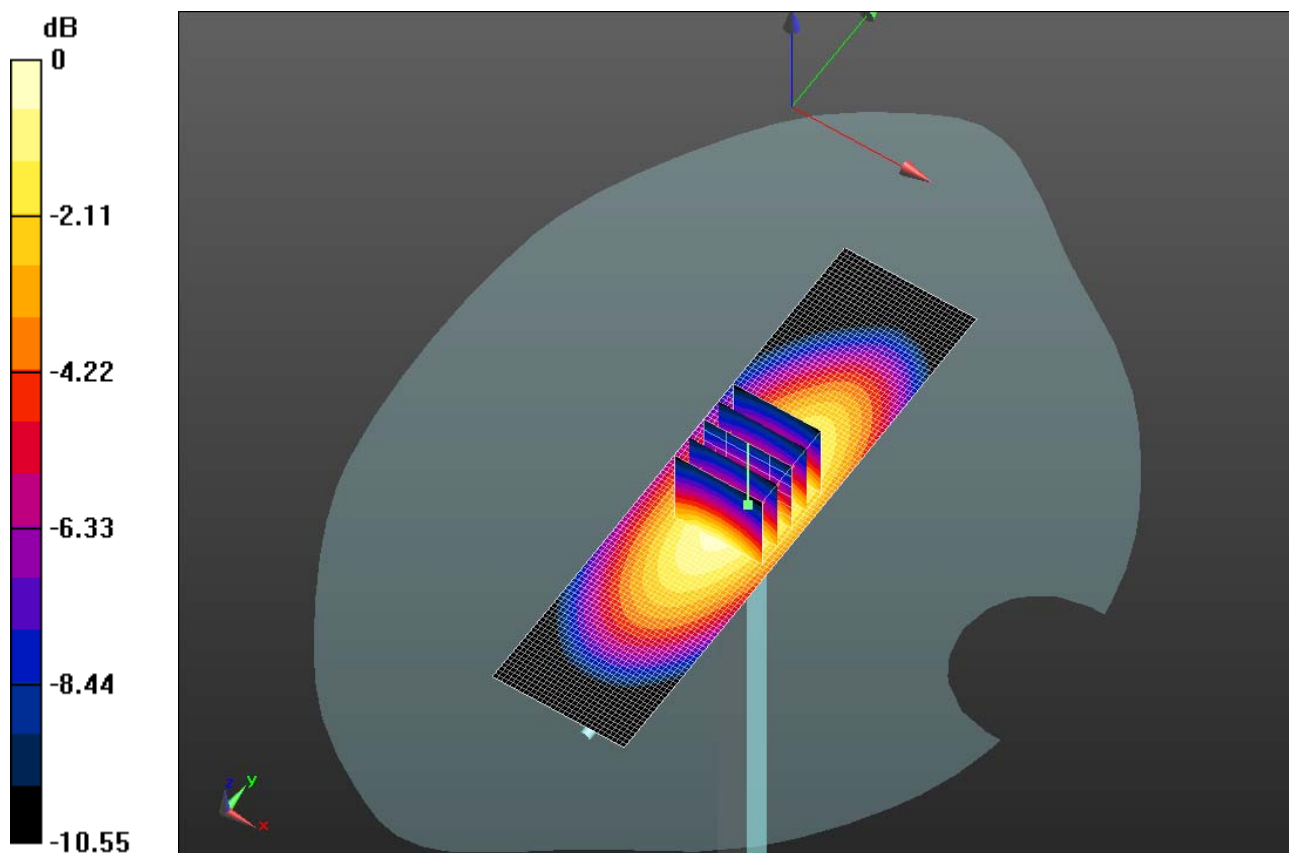
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.06, 6.06, 6.06); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)


Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 10.720 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 113.8 V/m; Power Drift = -0.0015 dB
Peak SAR (extrapolated) = 13.6560
SAR(1 g) = 9.32 mW/g; SAR(10 g) = 6.11 mW/g
Maximum value of SAR (measured) = 10.927 mW/g

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0 dB = 10.930mW/g = 20.77 dB mW/g

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Date/Time: 6/14/2012 9:35:26 PM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_06_14_12_Amb_Tem_23.0_Liq_Tem_22.0C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.895 \text{ mho/m}$; $\epsilon_r = 41.157$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.06, 6.06, 6.06); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.726 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2


(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

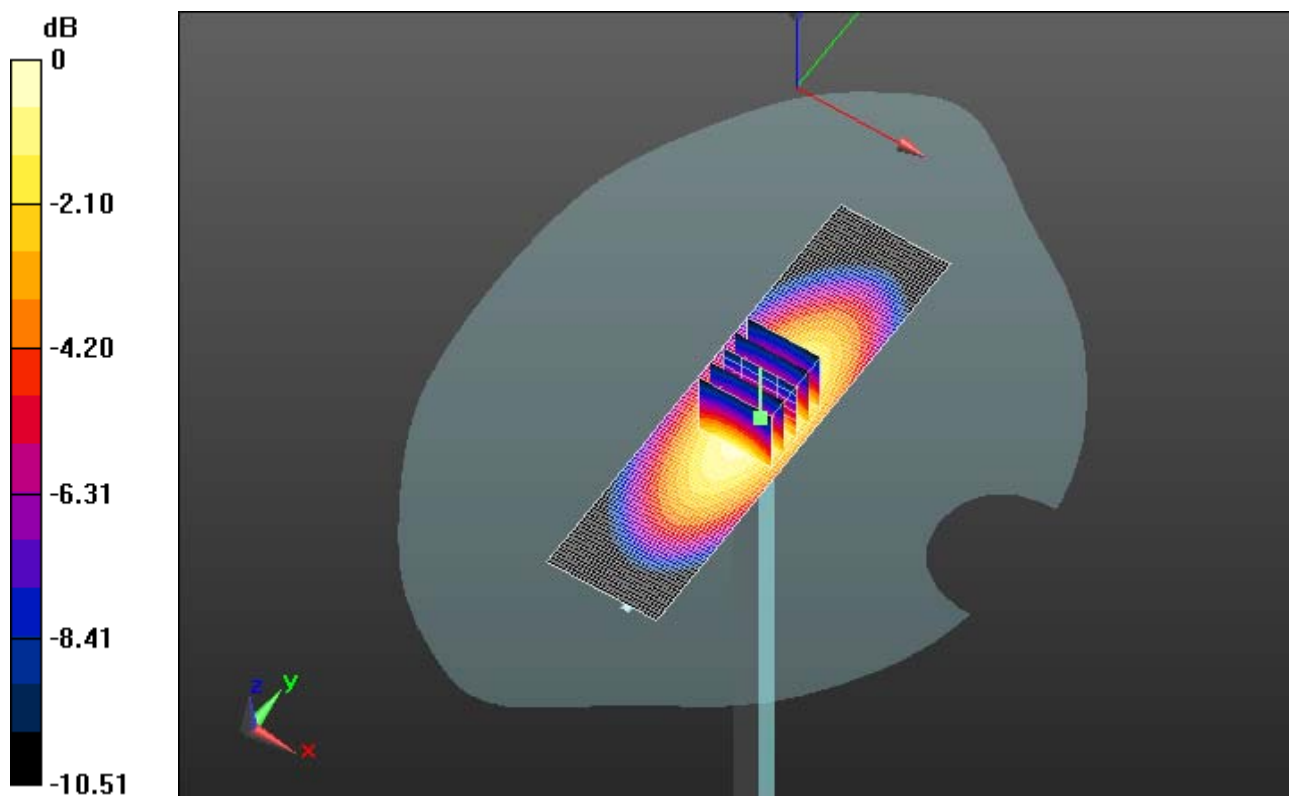
Reference Value = 113.7 V/m ; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 13.6010


SAR(1 g) = 9.24 mW/g ; SAR(10 g) = 6.06 mW/g

Maximum value of SAR (measured) = 10.807 mW/g

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0 dB = 10.810mW/g = 20.68 dB mW/g

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Date/Time: 9/21/2012 11:26:56 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_09_21_12_Amb_Tem_24.7_Liq_Tem_22.6C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.912 \text{ mho/m}$; $\epsilon_r = 40.143$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section


Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

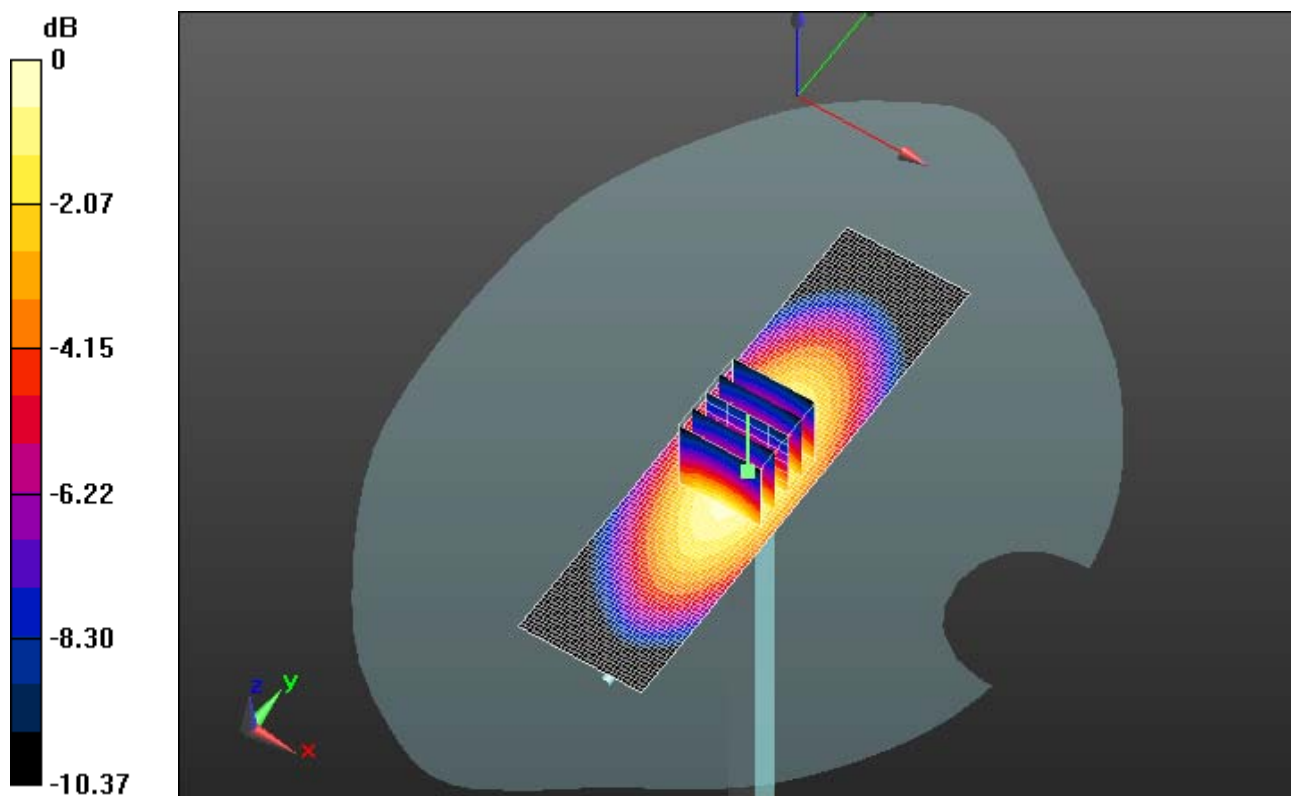
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.06, 6.06, 6.06); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)


Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 11.071 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 114.5 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 14.1700
SAR(1 g) = 9.66 mW/g; SAR(10 g) = 6.35 mW/g
Maximum value of SAR (measured) = 11.315 mW/g

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0 dB = 11.320mW/g = 21.08 dB mW/g

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Date/Time: 9/24/2012 10:33:57 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_09_24_12_Amb_Tem_24.2_Liq_Tem_22.0C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.892 \text{ mho/m}$; $\epsilon_r = 42.065$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.06, 6.06, 6.06); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.924 mW/g

Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2


(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

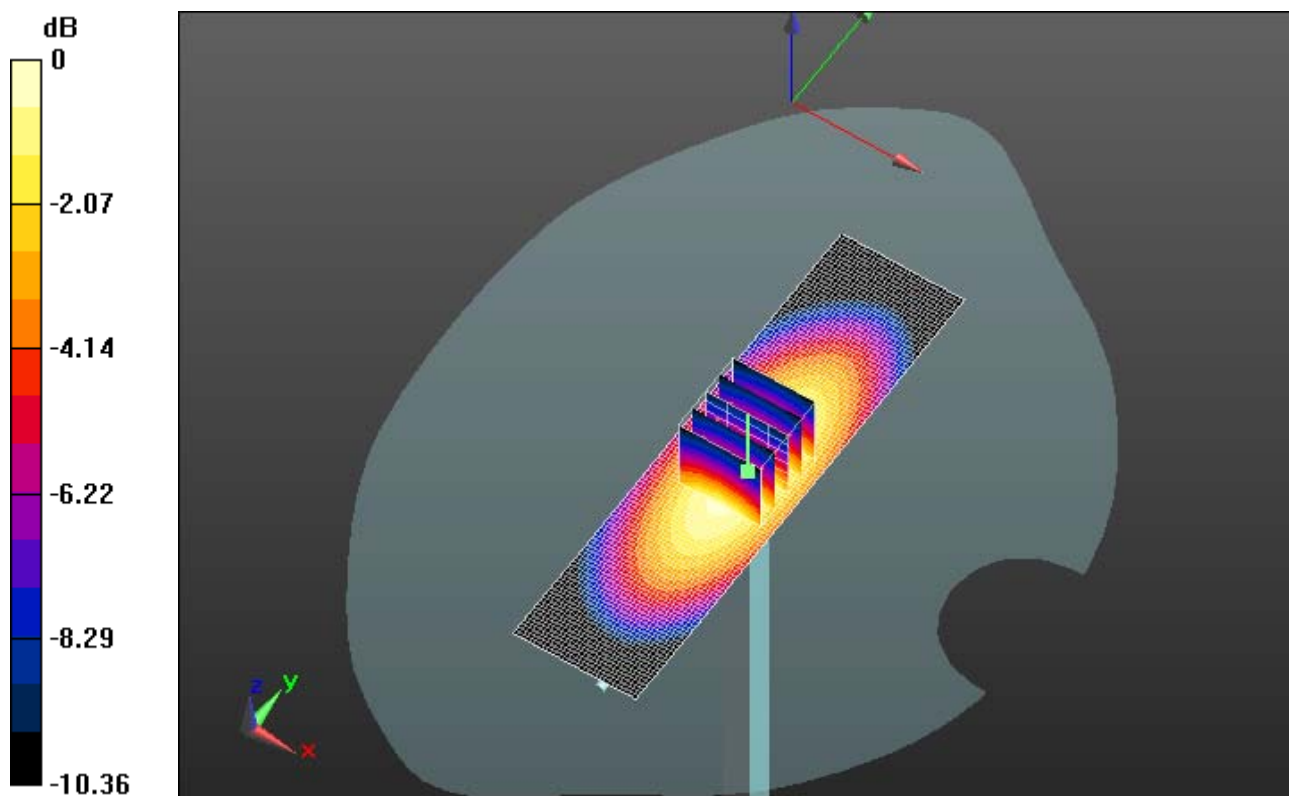
Reference Value = 116.4 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 14.0270


SAR(1 g) = 9.54 mW/g; SAR(10 g) = 6.26 mW/g

Maximum value of SAR (measured) = 11.195 mW/g

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0 dB = 11.190mW/g = 20.98 dB mW/g

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Date/Time: 6/13/2012 3:42:33 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_06_13_12_Amb_Tem_23.2_Liq_Tem_22.0C

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

Communication System: CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.453 \text{ mho/m}$; $\epsilon_r = 38.101$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section


Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

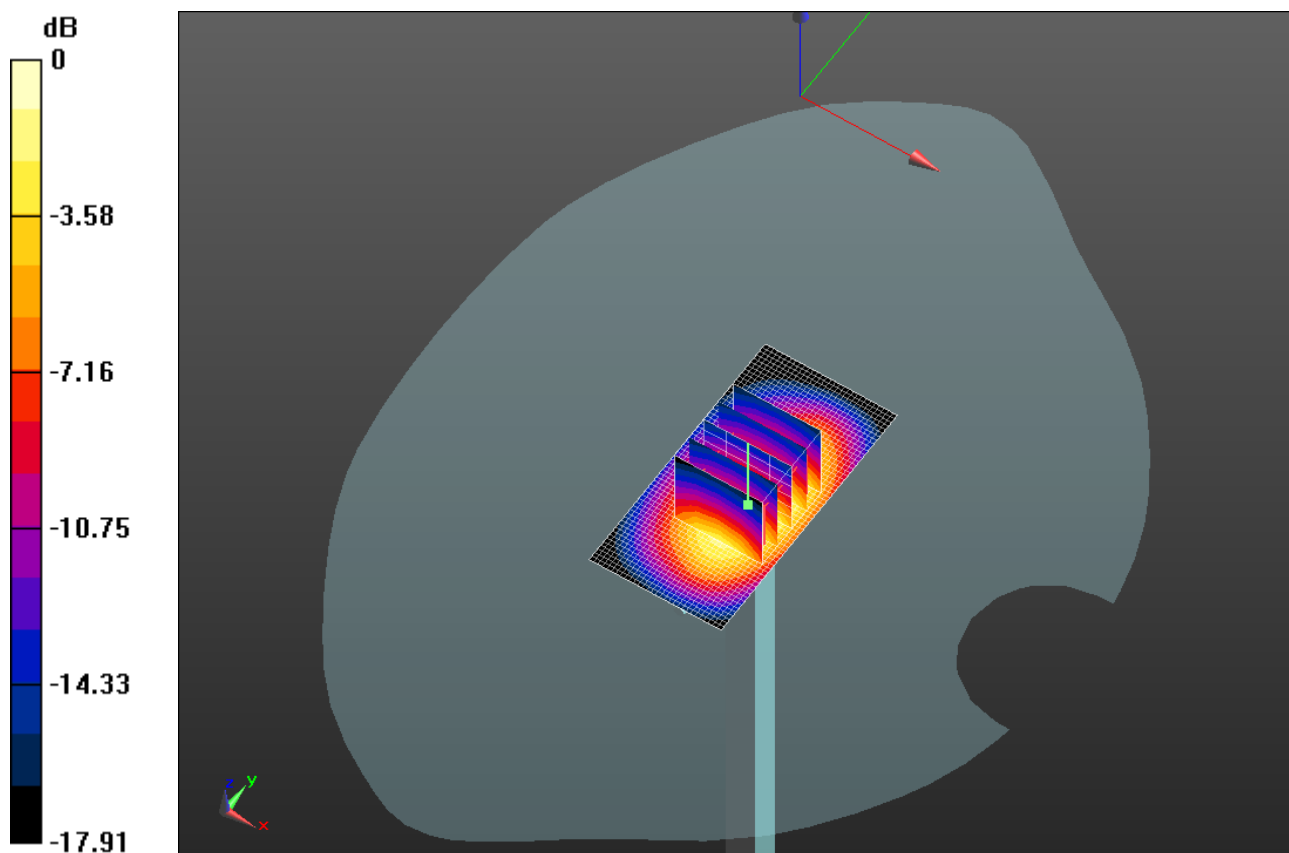
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)


Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 46.920 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 181.5 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 68.0990
SAR(1 g) = 37 mW/g; SAR(10 g) = 19.2 mW/g
Maximum value of SAR (measured) = 46.902 mW/g

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0 dB = 46.900mW/g = 33.42 dB mW/g

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Date/Time: 6/18/2012 2:31:55 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_06_18_12_Amb_Tem_23.3_Liq_Tem_22.2C

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

Communication System: CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.437 \text{ mho/m}$; $\epsilon_r = 38.148$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 46.997 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

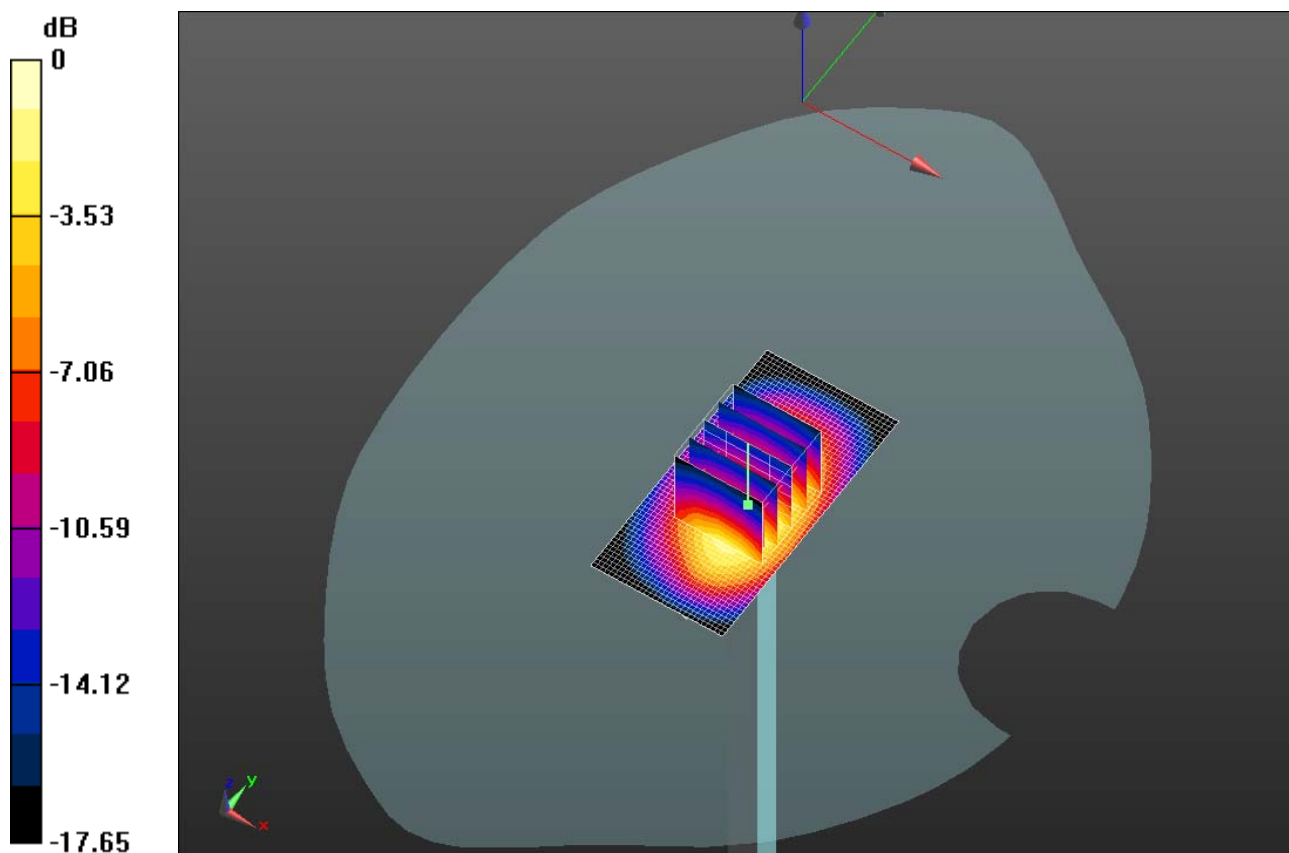
Reference Value = 188.2 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 68.7990


SAR(1 g) = 37.4 mW/g; SAR(10 g) = 19.5 mW/g

Maximum value of SAR (measured) = 47.689 mW/g

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0 dB = 47.690mW/g = 33.57 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 9/12/2012 2:51:55 AM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_09_12_12_Amb_Tem_24.4_Liq_Tem_22.9C

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

Communication System: CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.464 \text{ mho/m}$; $\epsilon_r = 38.541$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 45.086 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

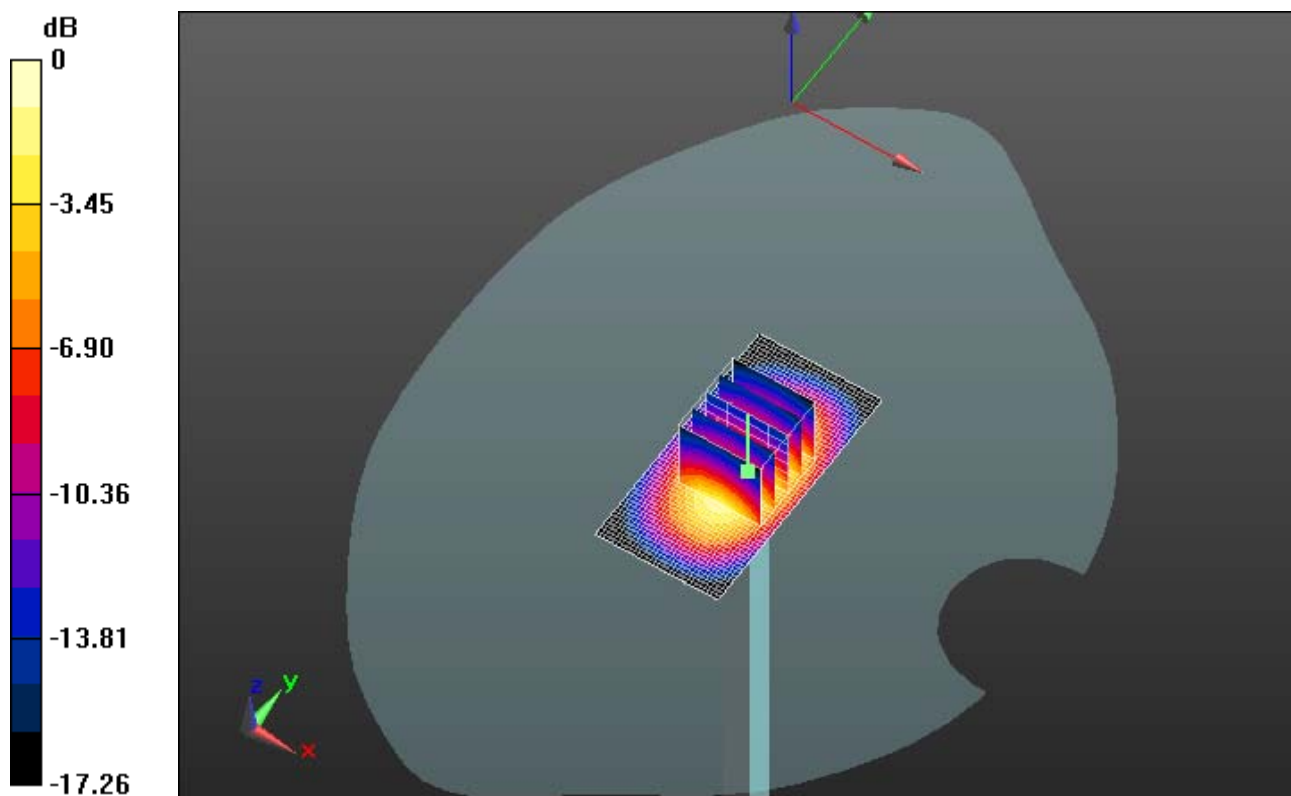
Reference Value = 183.7 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 65.8140


SAR(1 g) = 36.2 mW/g; SAR(10 g) = 19 mW/g

Maximum value of SAR (measured) = 46.064 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 46.060mW/g = 33.27 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 10/25/2012 4:36:58 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_10_25_12_Amb_Tem_23.8_Liq_Tem_22.7C

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

Communication System: CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.433 \text{ mho/m}$; $\epsilon_r = 38.755$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 45.065 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

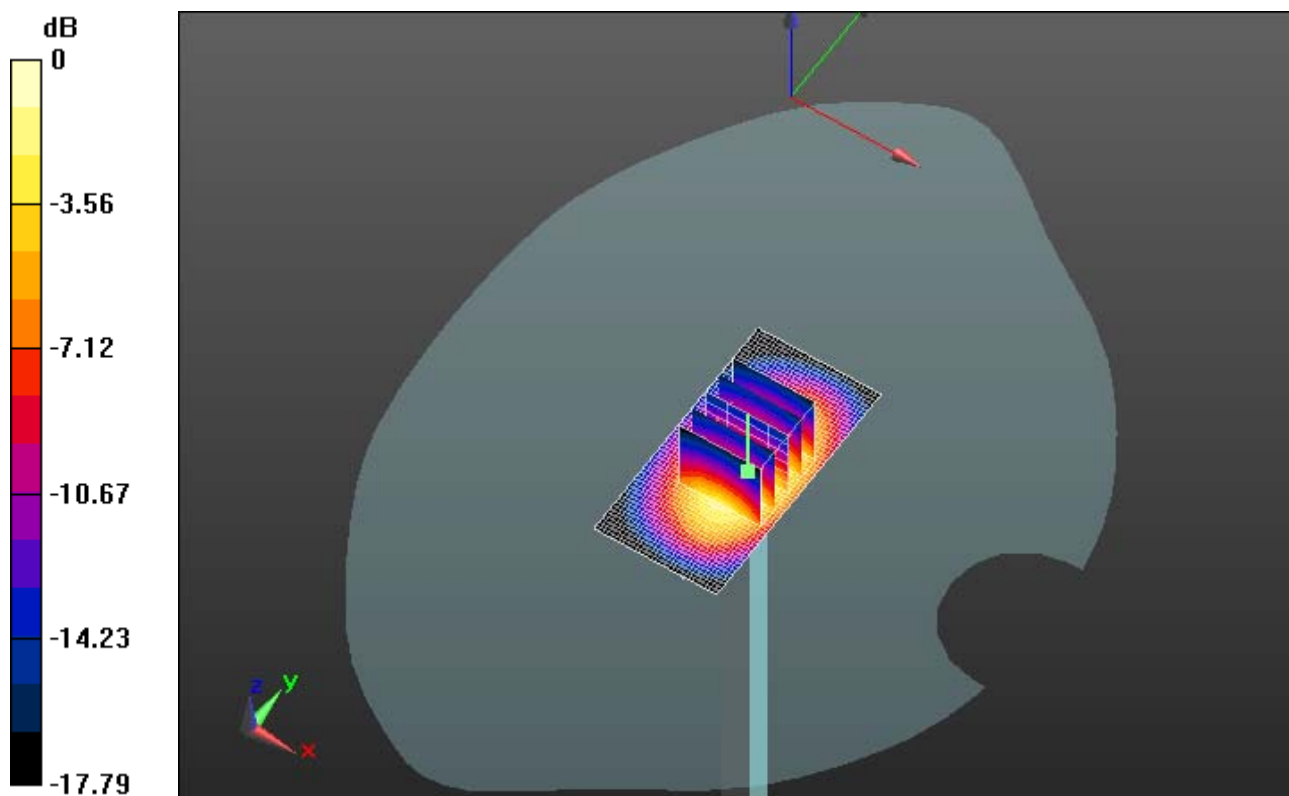
Reference Value = 182.7 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 66.5230


SAR(1 g) = 35.8 mW/g; SAR(10 g) = 18.6 mW/g

Maximum value of SAR (measured) = 45.941 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 45.940mW/g = 33.24 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/10/2012 9:21:00 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_06_10_12_Amb_Tem_23.2_Liq_Tem_21.4C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.379$ mho/m; $\epsilon_r = 38.423$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 49.680 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

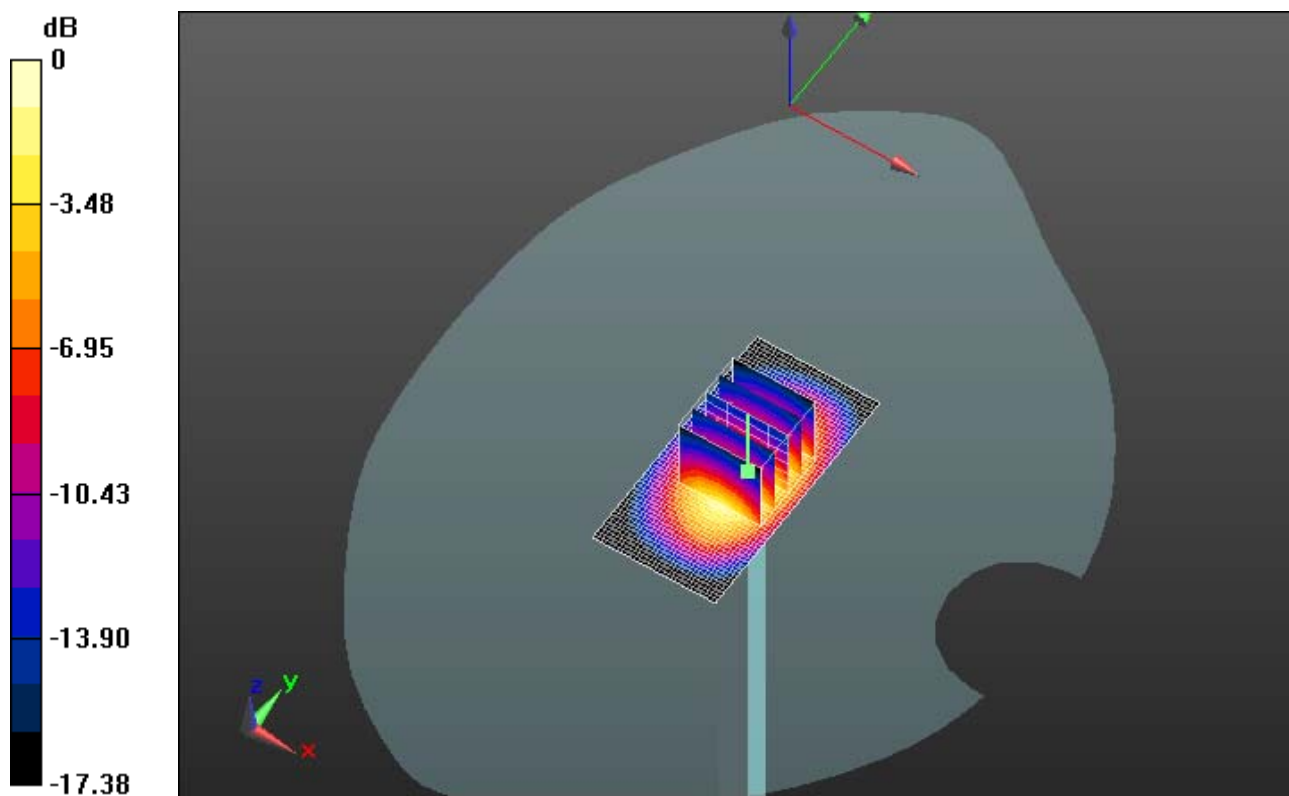
Reference Value = 195.1 V/m; Power Drift = 0.00074 dB

Peak SAR (extrapolated) = 71.4580


SAR(1 g) = 39.2 mW/g; SAR(10 g) = 20.4 mW/g

Maximum value of SAR (measured) = 50.084 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 50.080mW/g = 33.99 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/12/2012 6:17:23 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_06_12_12_Amb_Tem_23.1_Liq_Tem_21.3C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.402 \text{ mho/m}$; $\epsilon_r = 38.675$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 50.120 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

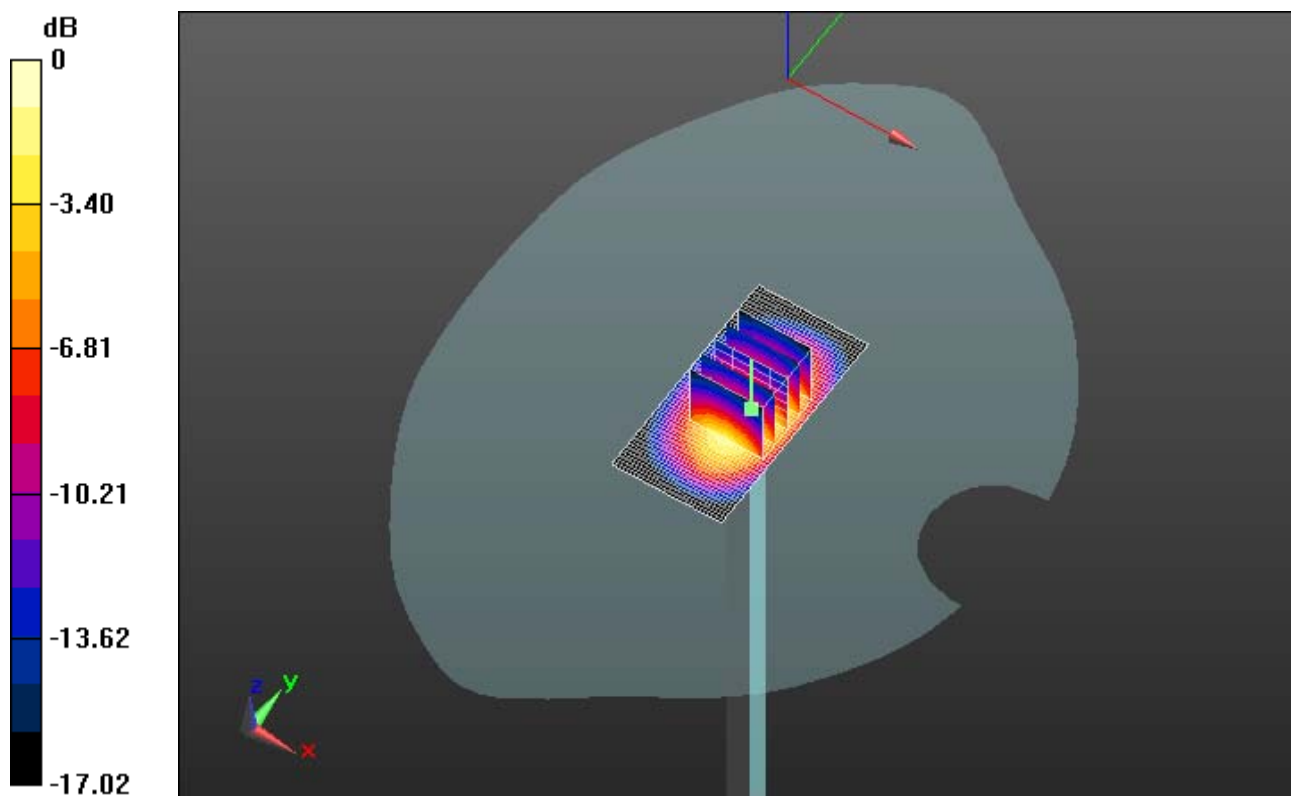
Reference Value = 194.3 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 71.0030


SAR(1 g) = 39.8 mW/g; SAR(10 g) = 21 mW/g

Maximum value of SAR (measured) = 50.248 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 50.250mW/g = 34.02 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 9/27/2012 2:40:24 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_09_27_12_Amb_Tem_25.2_Liq_Tem_22.5C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.399 \text{ mho/m}$; $\epsilon_r = 38.115$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 51.329 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

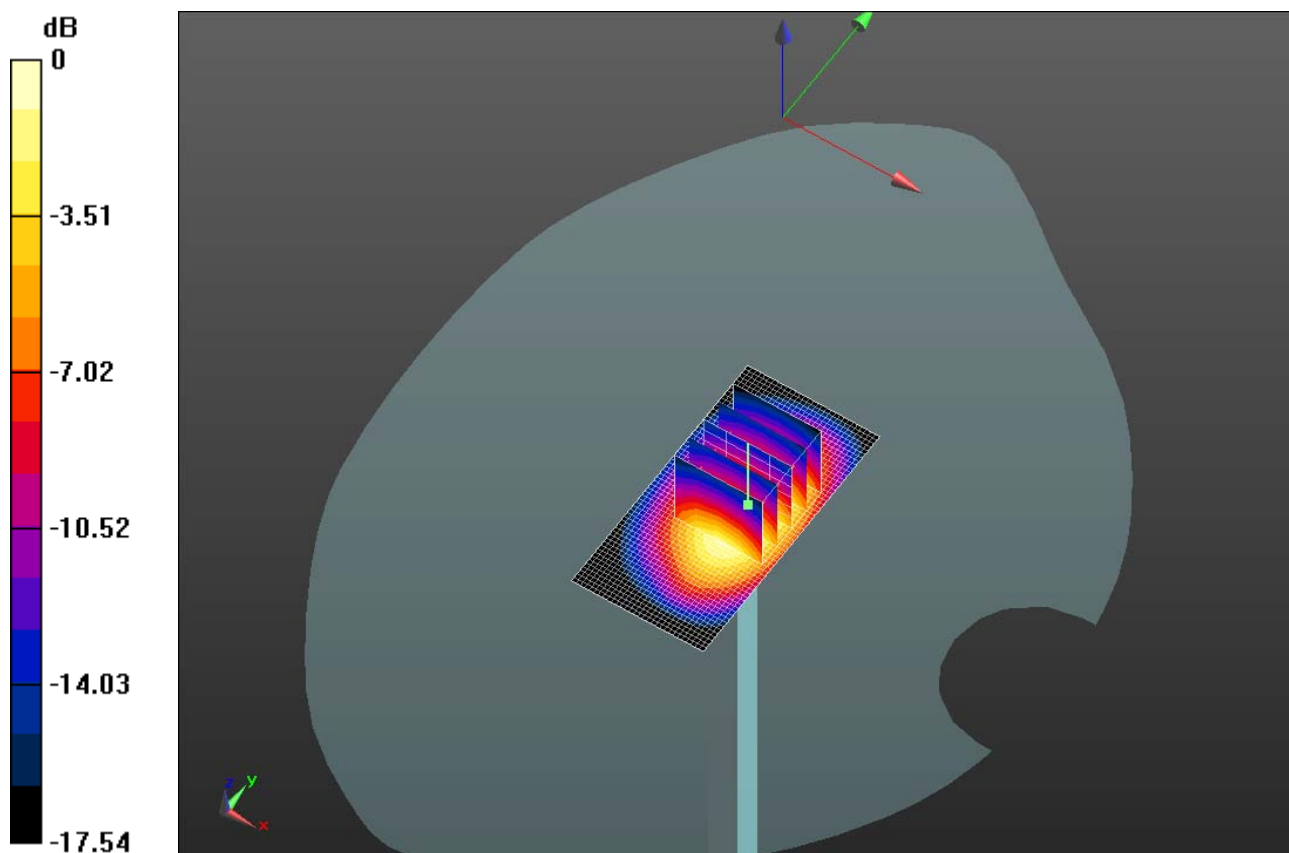
Reference Value = 192.0 V/m ; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 72.1330


SAR(1 g) = 40 mW/g ; SAR(10 g) = 21 mW/g

Maximum value of SAR (measured) = 50.726 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 50.730mW/g = 34.11 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 10/22/2012 6:33:05 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_10_22_12_Amb_Tem_23.7_Liq_Tem_21.6C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.373$ mho/m; $\epsilon_r = 38.295$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.23, 5.23, 5.23); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 48.477 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

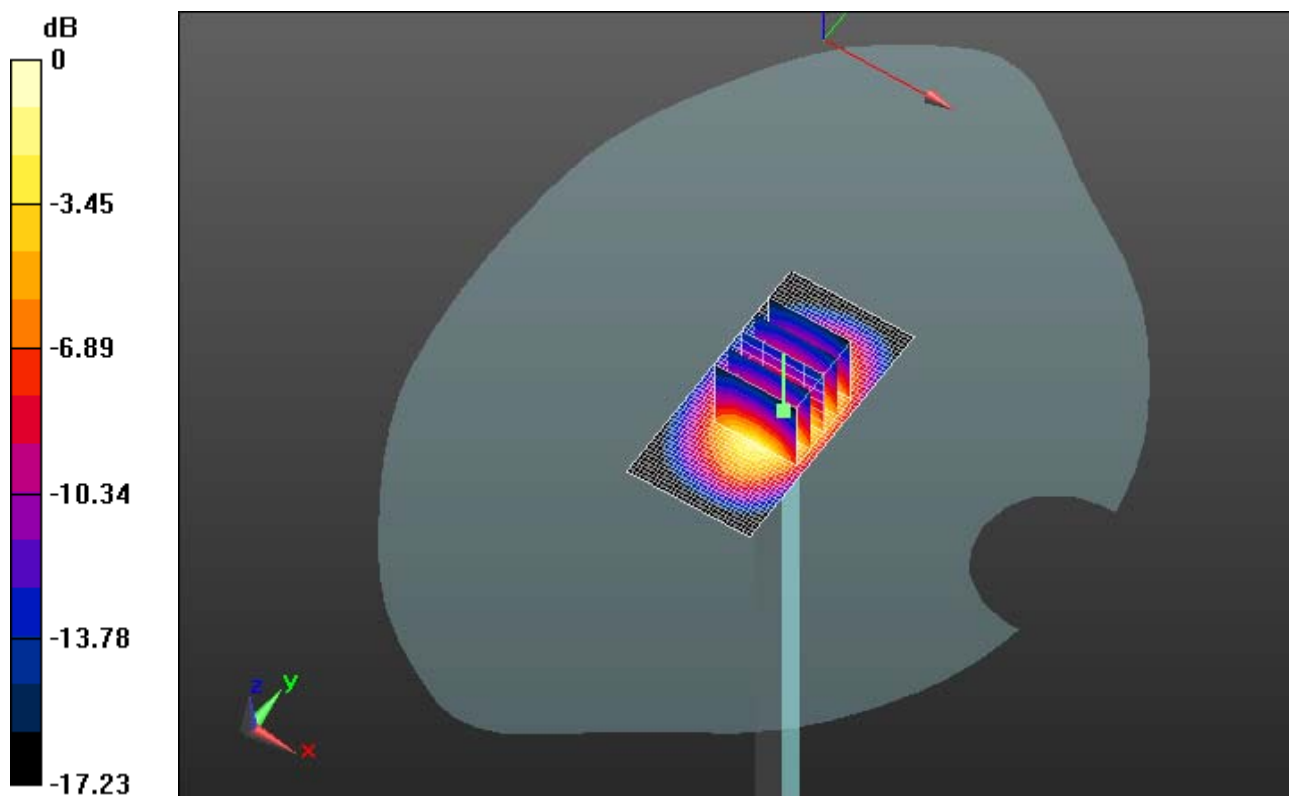
Reference Value = 193.3 V/m; Power Drift = -0.0042 dB

Peak SAR (extrapolated) = 68.0040


SAR(1 g) = 37.8 mW/g; SAR(10 g) = 19.8 mW/g

Maximum value of SAR (measured) = 47.737 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 47.740mW/g = 33.58 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/20/2012 7:54:24 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_06_20_12_Amb_Tem_23.4Liq_Tem_22.6C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.771 \text{ mho/m}$; $\epsilon_r = 38.25$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.5, 4.5, 4.5); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 69.488 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

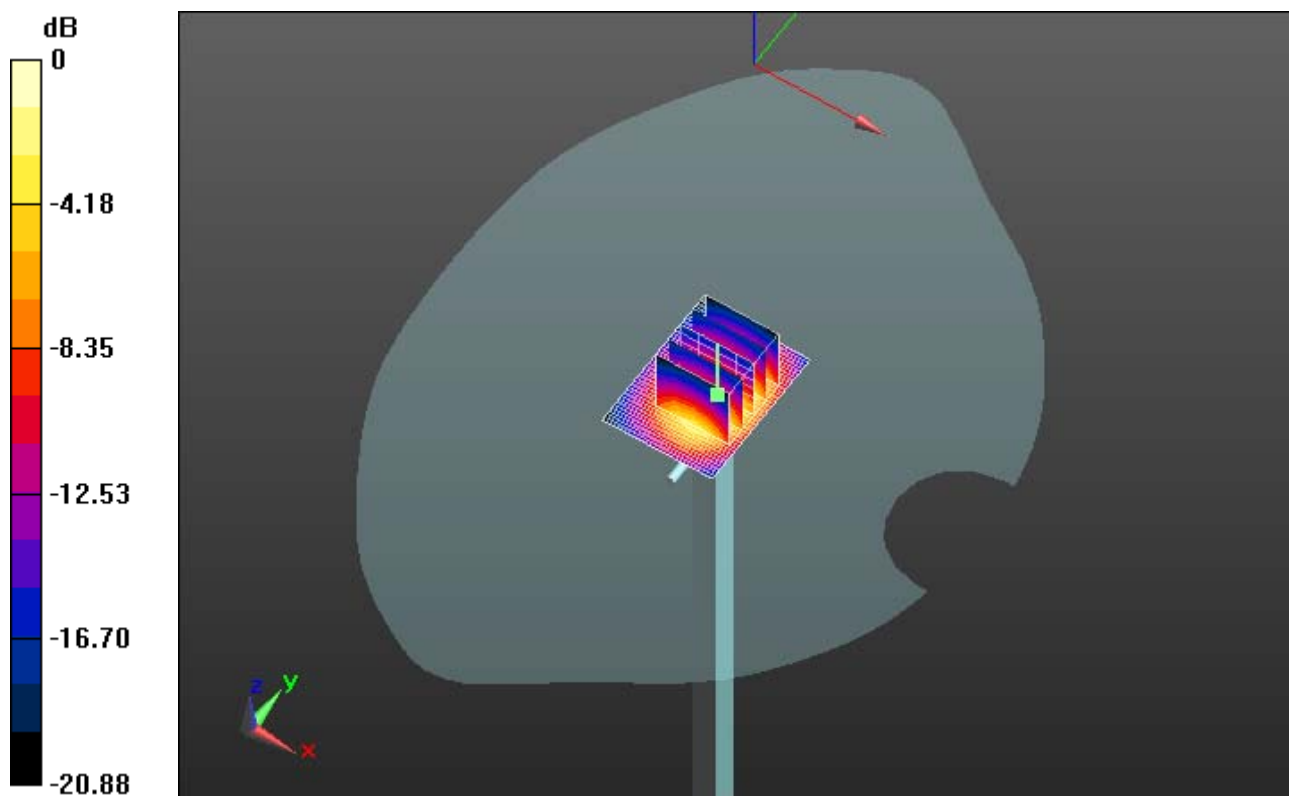
Reference Value = 204.4 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 104.50


SAR(1 g) = 52.8 mW/g ; SAR(10 g) = 25.1 mW/g

Maximum value of SAR (measured) = 69.039 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 69.040mW/g = 36.78 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 9/13/2012 3:32:54 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_09_13_12_Amb_Tem_23.7_Liq_Tem_22.2C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.758 \text{ mho/m}$; $\epsilon_r = 37.704$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.5, 4.5, 4.5); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS2 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 69.825 mW/g

Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube


0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

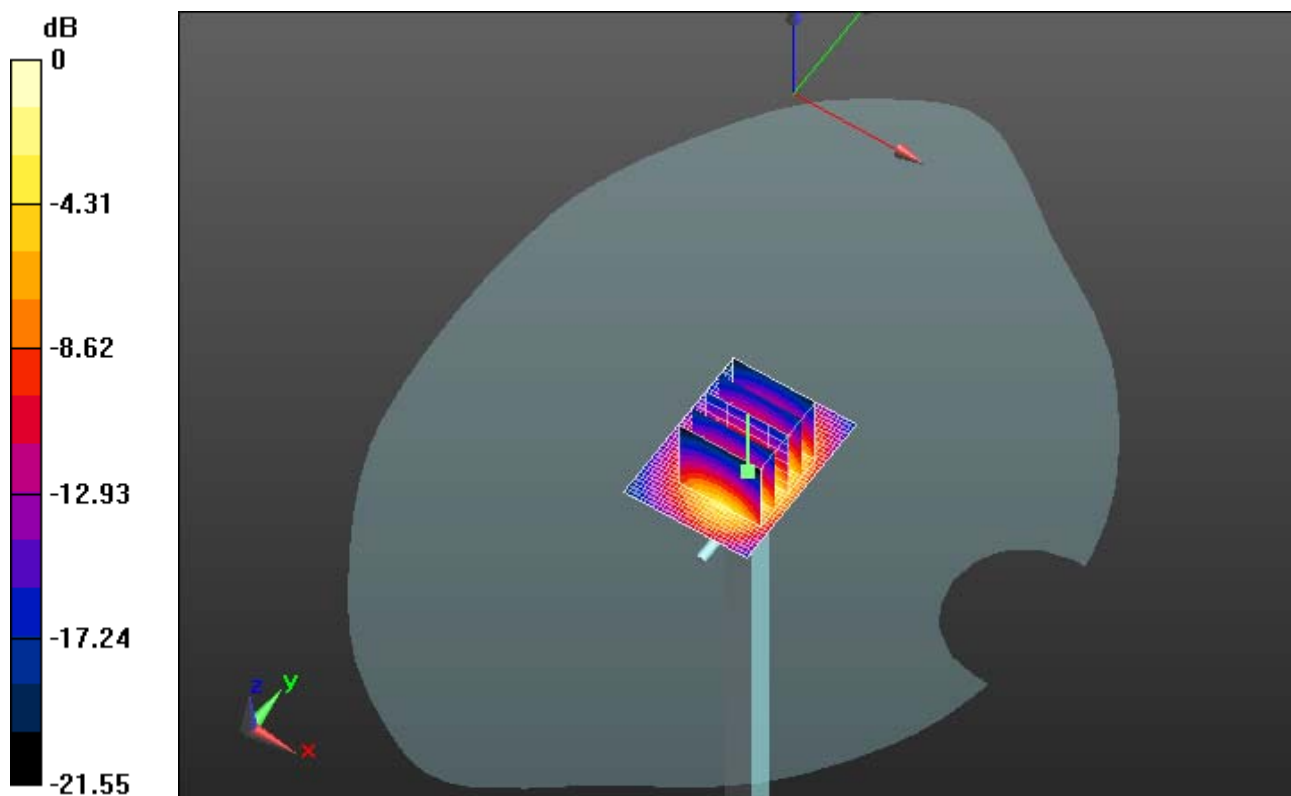
Reference Value = 201.4 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 105.20


SAR(1 g) = 52.5 mW/g; SAR(10 g) = 24.7 mW/g

Maximum value of SAR (measured) = 68.389 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 68.390mW/g = 36.70 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/22/2012 1:33:28 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5200

MHz_06_22_12_Amb_Tem_23.2_Liq_Tem_21.5C

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

Communication System: CW; Frequency: 5200 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.637$ mho/m; $\epsilon_r = 35.482$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.5, 4.5, 4.5); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000

mW, f=5200 MHz/Area Scan (41x51x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 177.4 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000


mW, f=5200 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm), dist=2mm (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

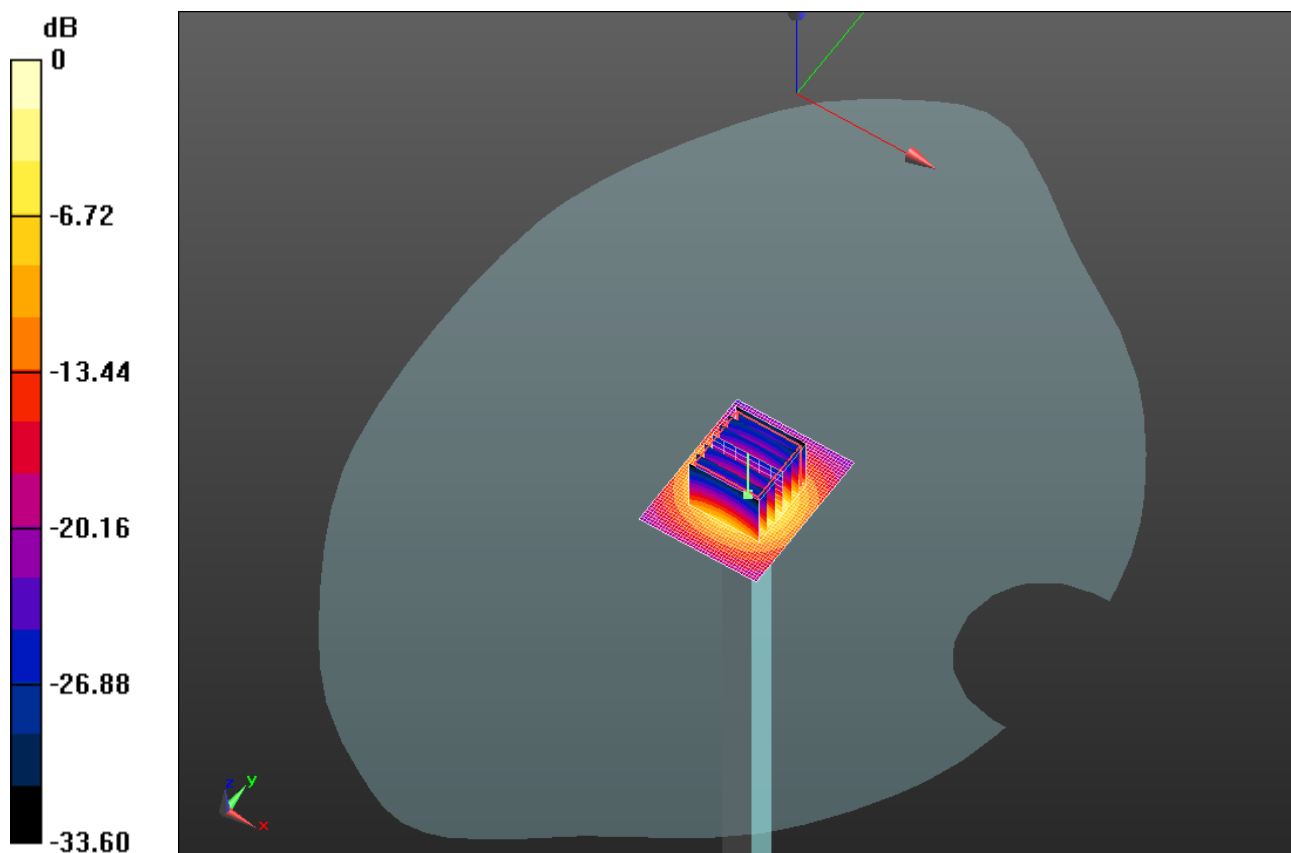
Reference Value = 202.9 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 293.60


SAR(1 g) = 79.3 mW/g; SAR(10 g) = 22.9 mW/g

Maximum value of SAR (measured) = 165.0 mW/g

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0 dB = 165.0mW/g = 44.35 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/25/2012 8:17:29 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5200

MHz_06_25_12_Amb_Tem_23.8_Liq_Tem_21.8C

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

Communication System: CW; Frequency: 5200 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.652$ mho/m; $\epsilon_r = 35.544$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.5, 4.5, 4.5); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000

mW, f=5200 MHz/Area Scan (41x51x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 194.2 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000


mW, f=5200 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm), dist=2mm (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

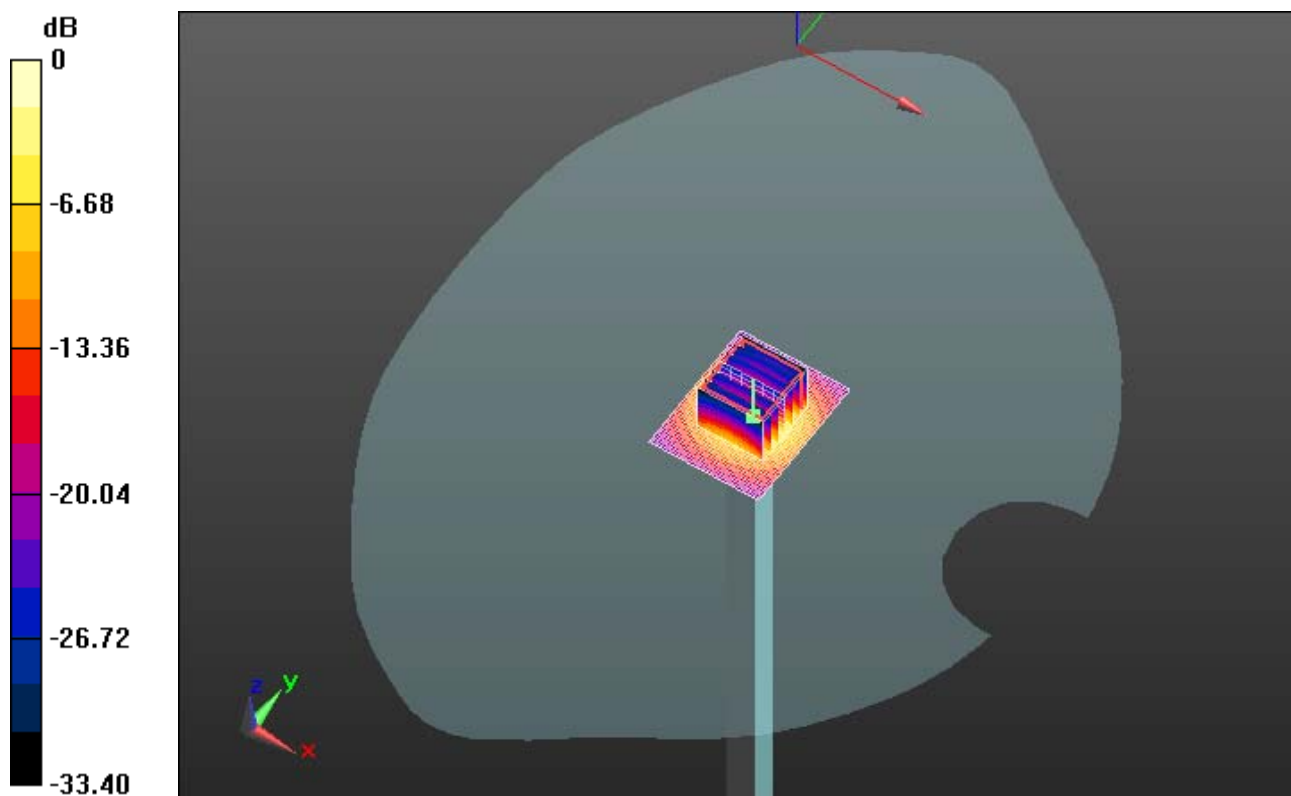
Reference Value = 206.6 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 306.40


SAR(1 g) = 83.8 mW/g; SAR(10 g) = 24.3 mW/g

Maximum value of SAR (measured) = 173.4 mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW



0 dB = 173.4mW/g = 44.78 dB mW/g

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Author Data Andrew Becker	Dates of Test June 04 – October 29, 2012	Test Report No RTS-6012-1208-35	FCC ID: L6ARFF90LW	IC ID 2503A-RFF90LW

Date/Time: 6/22/2012 1:53:53 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5500

MHz_06_22_12_Amb_Tem_23.6_Liq_Tem_21.7C

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

Communication System: CW-5GHz; Frequency: 5500 MHz

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.967$ mho/m; $\epsilon_r = 34.381$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.25, 4.25, 4.25); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 171.8 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

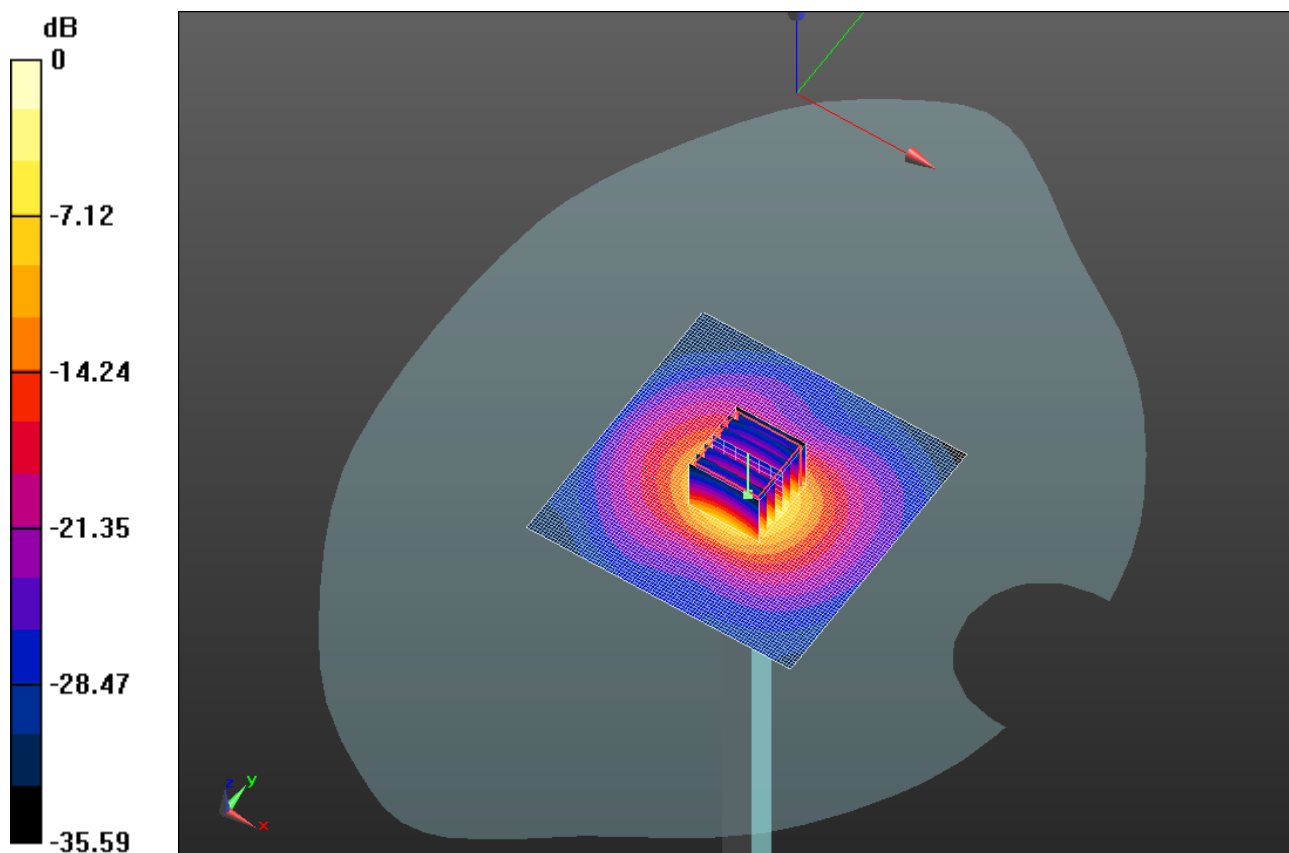
Reference Value = 201.0 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 308.00


SAR(1 g) = 81.1 mW/g; SAR(10 g) = 23 mW/g

Maximum value of SAR (measured) = 171.2 mW/g

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0 dB = 171.2mW/g = 44.67 dB mW/g

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Date/Time: 6/25/2012 9:32:50 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5500

MHz_06_25_12_Amb_Tem_23.3_Liq_Tem_21.8C

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

Communication System: CW-5GHz; Frequency: 5500 MHz

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.967$ mho/m; $\epsilon_r = 34.381$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.25, 4.25, 4.25); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 191.6 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

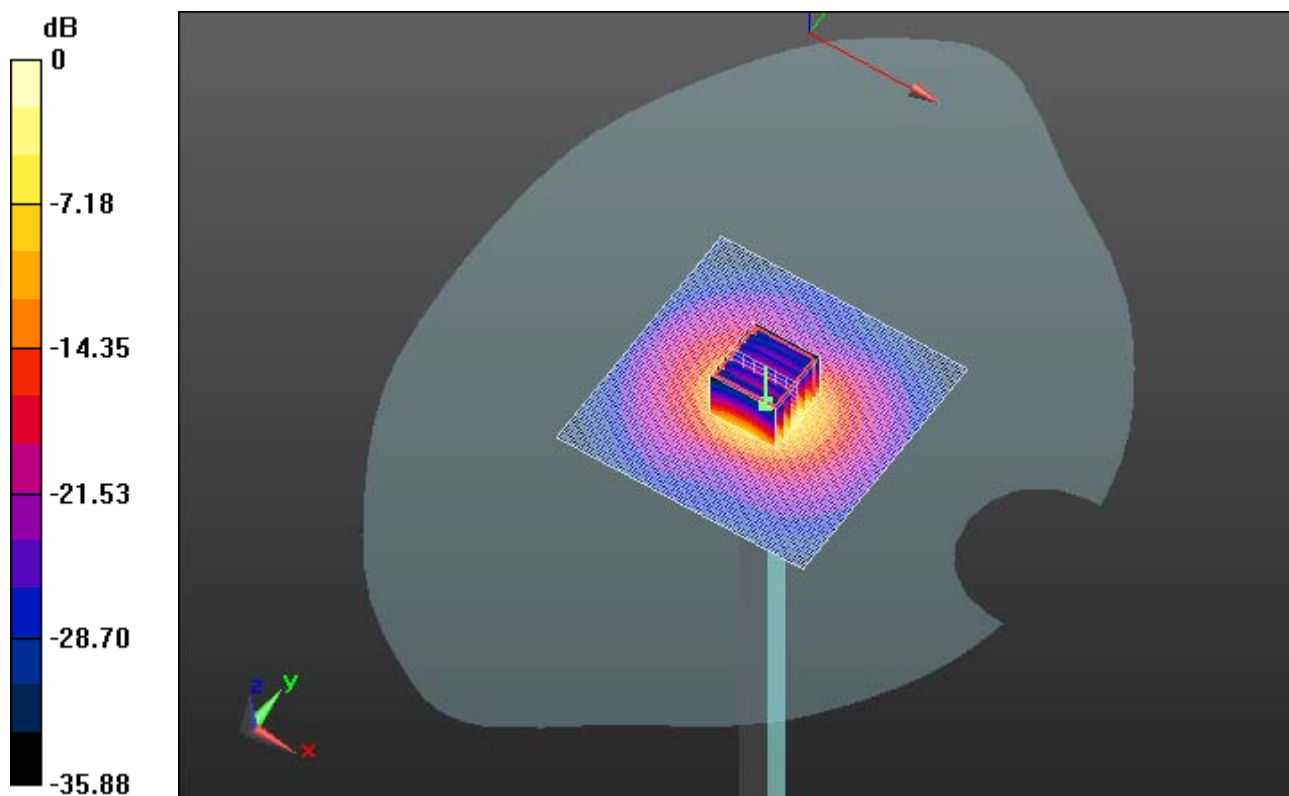
Reference Value = 209.9 V/m; Power Drift = -0.0093 dB

Peak SAR (extrapolated) = 346.00


SAR(1 g) = 89.3 mW/g; SAR(10 g) = 25.2 mW/g

Maximum value of SAR (measured) = 189.2 mW/g

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0 dB = 189.2mW/g = 45.54 dB mW/g

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Date/Time: 6/22/2012 2:30:33 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5800

MHz_06_22_12_Amb_Tem_23.4_Liq_Tem_21.6C

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

Communication System: CW-5GHz; Frequency: 5800 MHz

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.317$ mho/m; $\epsilon_r = 33.735$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(3.98, 3.98, 3.98); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 172.1 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

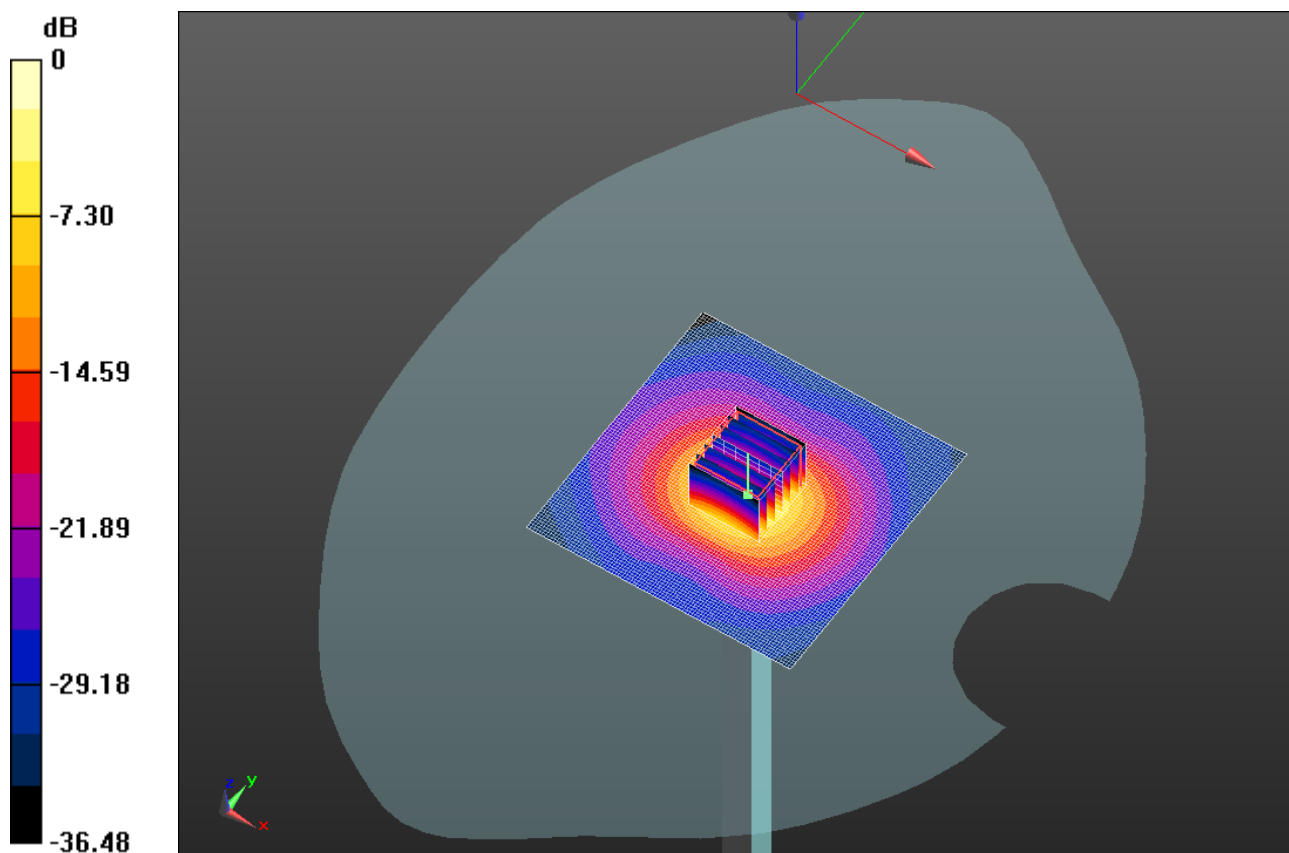
Reference Value = 195.5 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 316.50


SAR(1 g) = 80.1 mW/g; SAR(10 g) = 22.8 mW/g

Maximum value of SAR (measured) = 170.3 mW/g

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0 dB = 170.3mW/g = 44.62 dB mW/g

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Date/Time: 6/25/2012 10:25:20 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5800

MHz_06_25_12_Amb_Tem_23.4_Liq_Tem_21.8C

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

Communication System: CW-5GHz; Frequency: 5800 MHz

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.355$ mho/m; $\epsilon_r = 34.231$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(3.98, 3.98, 3.98); Calibrated: 11/16/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 188.7 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

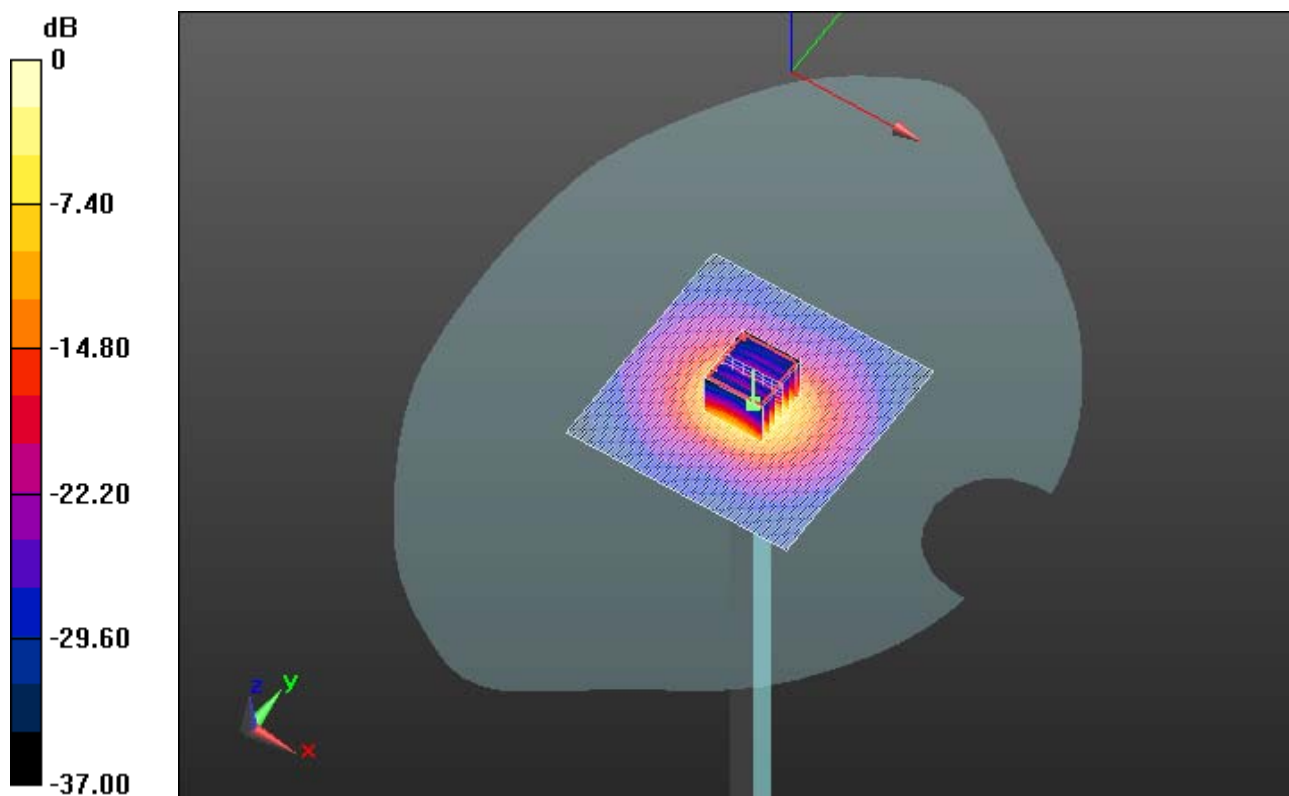
Reference Value = 201.5 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 340.70


SAR(1 g) = 85.6 mW/g; SAR(10 g) = 24.3 mW/g

Maximum value of SAR (measured) = 182.8 mW/g

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0 dB = 182.8mW/g = 45.24 dB mW/g

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Date/Time: 9/17/2012 3:31:26 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5200

MHz_09_17_12_Amb_Tem_24.4_Liq_Tem_22.3C

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

Communication System: CW; Frequency: 5200 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.746$ mho/m; $\epsilon_r = 34.439$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.5, 4.5, 4.5); Calibrated: 11/18/2010
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000

mW, f=5200 MHz/Area Scan (41x51x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 197.0 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000


mW, f=5200 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm), dist=2mm (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

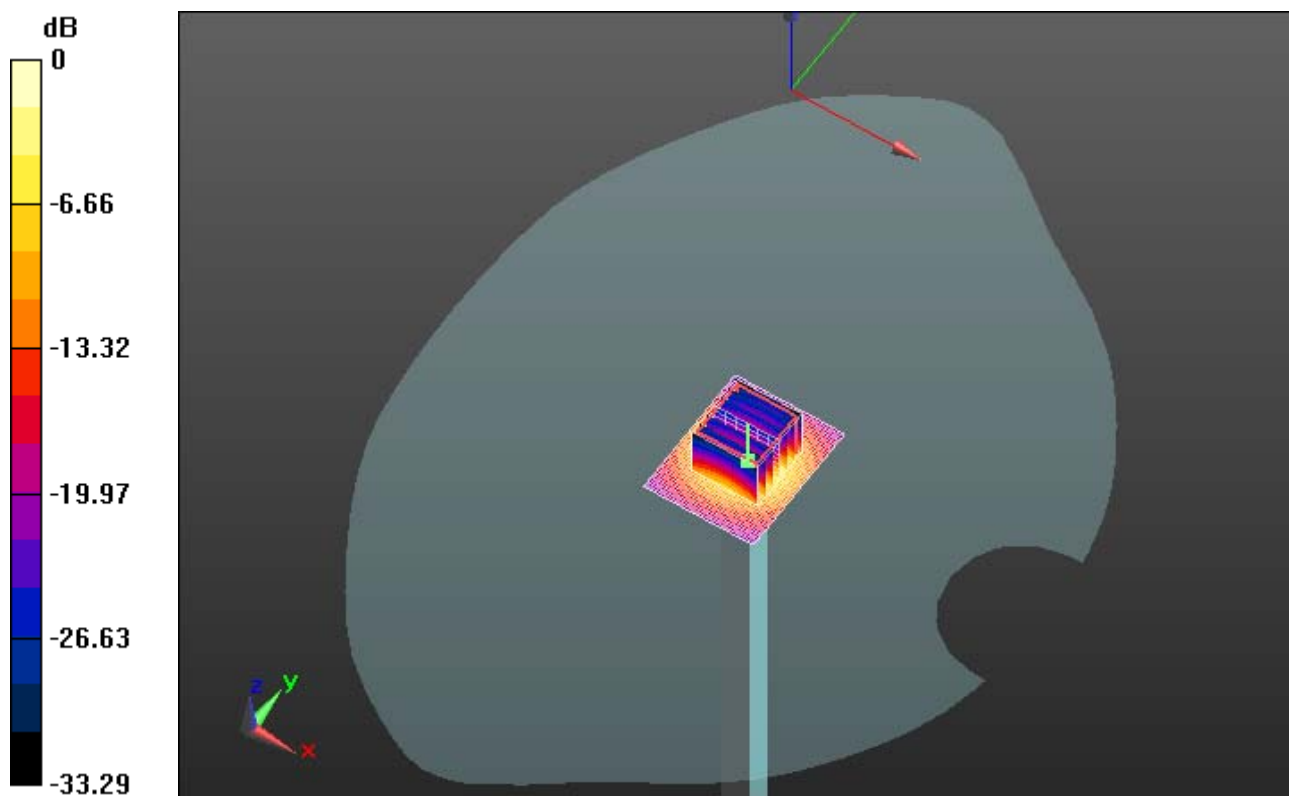
Reference Value = 214.3 V/m; Power Drift = -0.30 dB

Peak SAR (extrapolated) = 313.60


SAR(1 g) = 85.4 mW/g; SAR(10 g) = 24.6 mW/g

Maximum value of SAR (measured) = 176.6 mW/g

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0 dB = 176.6mW/g = 44.94 dB mW/g

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Date/Time: 9/17/2012 3:51:39 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5500

MHz_09_17_12_Amb_Tem_24.1_Liq_Tem_22.3C

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

Communication System: CW-5GHz; Frequency: 5500 MHz

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.007$ mho/m; $\epsilon_r = 34.468$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(4.25, 4.25, 4.25); Calibrated: 11/18/2010
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 194.6 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5500 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2.5$ mm

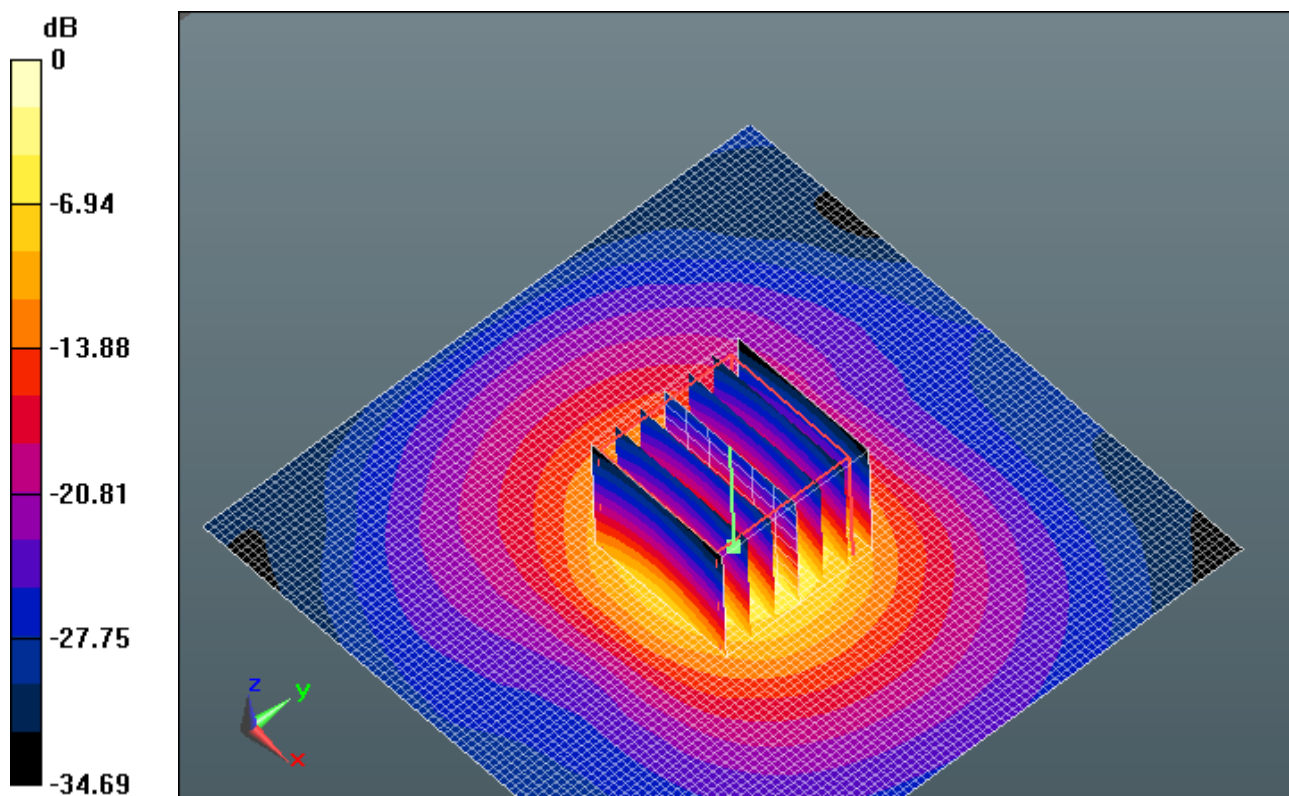
Reference Value = 212.3 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 340.50


SAR(1 g) = 89.6 mW/g; SAR(10 g) = 25.5 mW/g

Maximum value of SAR (measured) = 187.9 mW/g

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0 dB = 187.9mW/g = 45.48 dB mW/g

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Date/Time: 9/17/2012 4:17:23 PM

Test Laboratory: RIM Testing Services

Dipole Validation_5800

MHz_09_17_12_Amb_Tem_24.4_Liq_Tem_22.4C

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

Communication System: CW-5GHz; Frequency: 5800 MHz

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.304$ mho/m; $\epsilon_r = 34.066$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: EX3DV4 - SN3592; ConvF(3.98, 3.98, 3.98); Calibrated: 11/18/2010
- Sensor-Surface: 2mm (Mechanical Surface Detection), $z = 1.0, 21.0$
- Electronics: DAE3 Sn473; Calibrated: 1/13/2012
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- DASYS 52 52.8.0(692); SEMCAD X 14.6.4(4989)

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Area Scan (91x91x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 184.3 mW/g

System Performance Check with D5GHzV2 Dipole/d=10mm,

Pin=1000mW, f=5800 MHz/Zoom Scan -Ext(24x24x20), Step (4x4x2.5mm),


dist=2mm (7x7x9)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2.5\text{mm}$

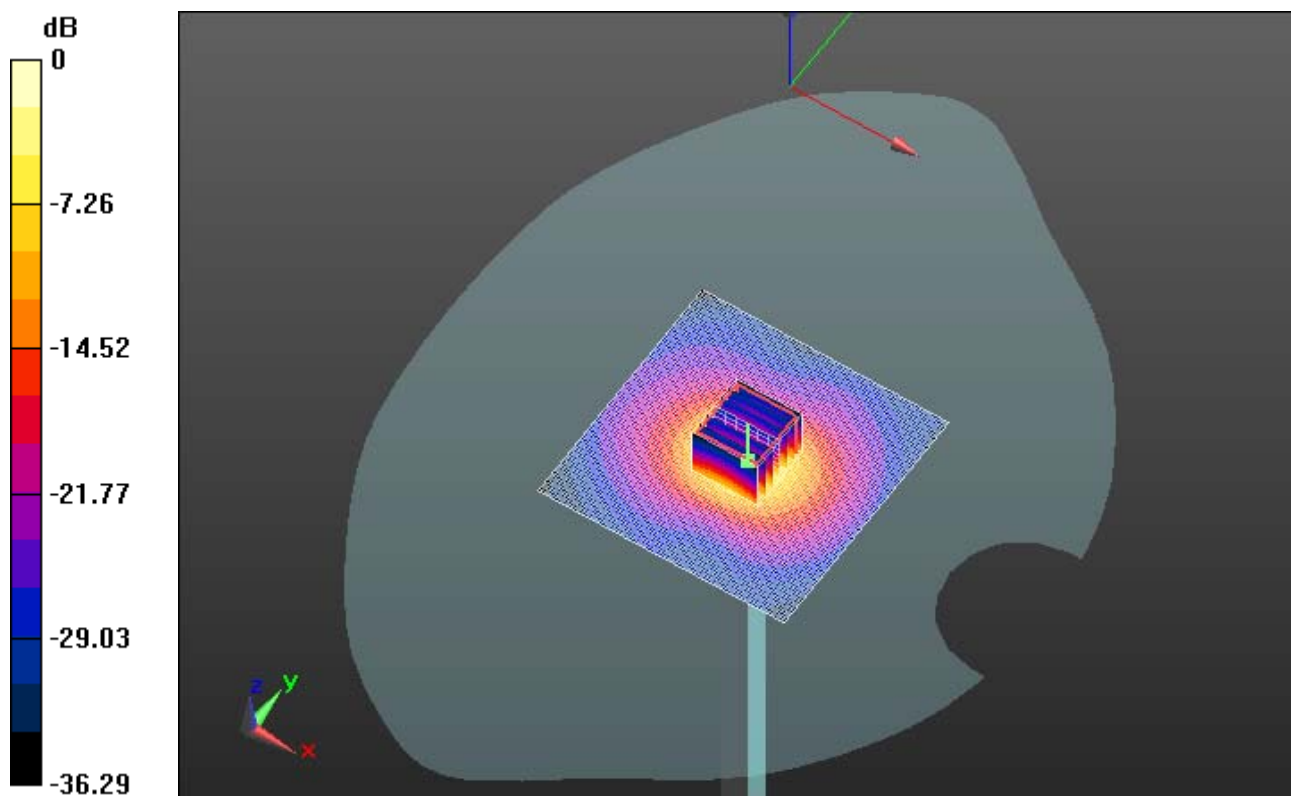
Reference Value = 201.2 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 343.60

SAR(1 g) = 85.7 mW/g; SAR(10 g) = 24.4 mW/g

Maximum value of SAR (measured) = 183.0 mW/g

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0 dB = 183.0mW/g = 45.25 dB mW/g