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APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

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Date/Time: 2/27/2012 9:59:09 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_02_27_12_Amb_Tem_22.6_Liq_Tem_21.1C

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

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.891 \text{ mho/m}$; $\epsilon_r = 41.347$; $\rho = 1000 \text{ kg/m}^3$

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) = 10.434 mW/g

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

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

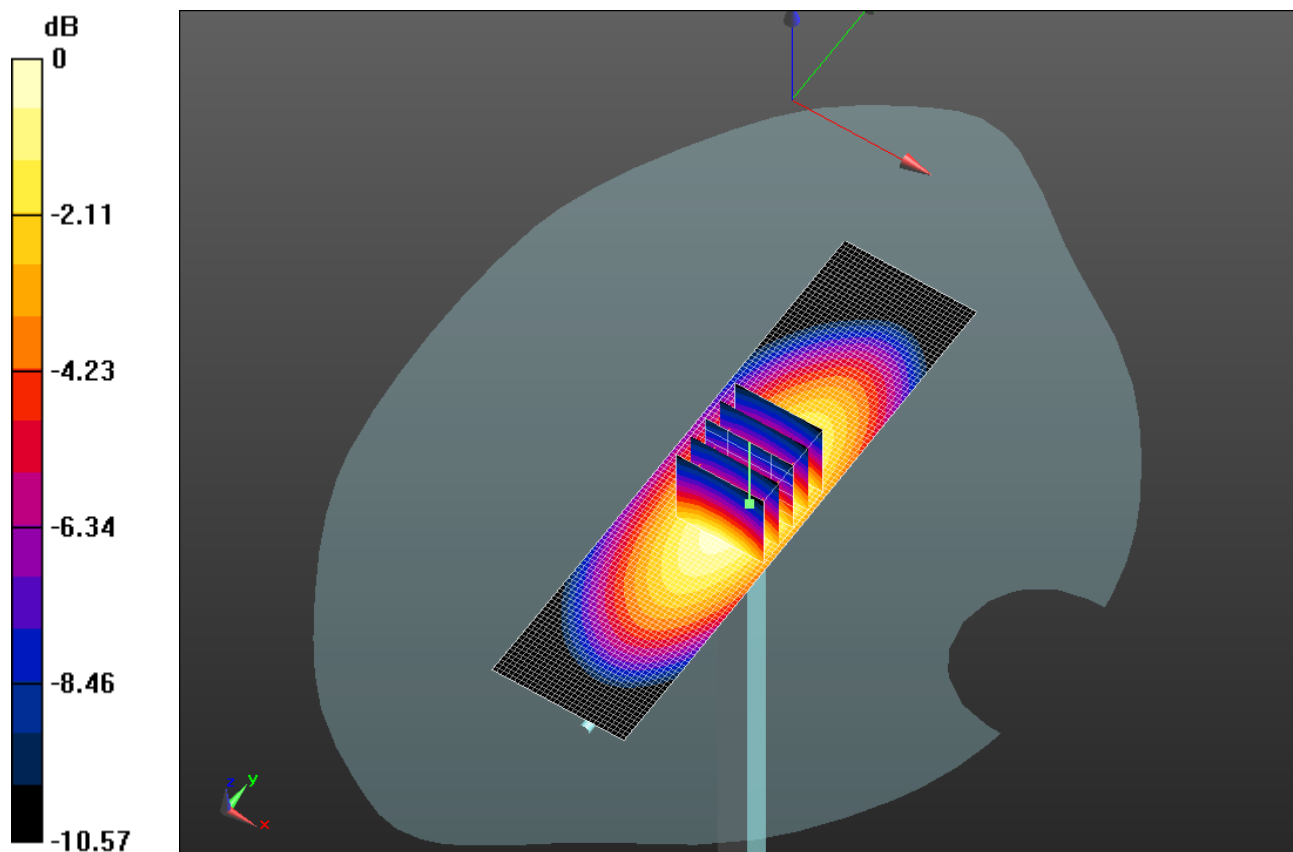
Reference Value = 110.7 V/m ; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.1100

SAR(1 g) = 8.9 mW/g ; SAR(10 g) = 5.83 mW/g

Maximum value of SAR (measured) = 10.403 mW/g

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0 dB = 10.400mW/g = 20.34 dB mW/g

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Date/Time: 2/28/2012 7:31:12 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_02_28_12_Amb_Tem_22.7_Liq_Tem_20.3C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 39.901$; $\rho = 1000 \text{ kg/m}^3$

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) = 50.708 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 = 192.7 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 71.9780

SAR(1 g) = 39.7 mW/g; SAR(10 g) = 20.7 mW/g

Maximum value of SAR (measured) = 50.503 mW/g

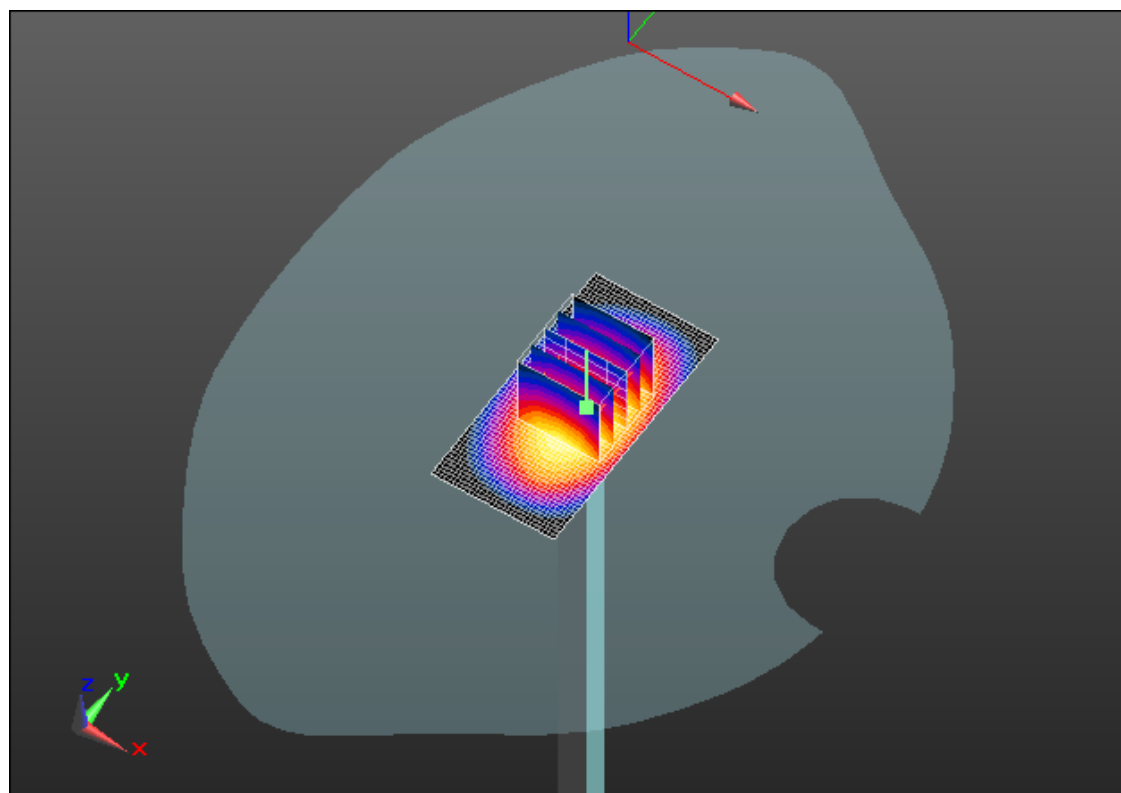
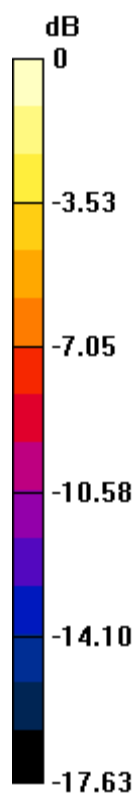
Author Data
Andrew Becker

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0 dB = 50.500mW/g = 34.07 dB mW/g

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Date/Time: 3/5/2012 10:53:42 AM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_03_05_12_Amb_Tem_22.8_Liq_Tem_21.3C

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

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.398 \text{ mho/m}$; $\epsilon_r = 39.453$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ET3DV6 - SN1644; ConvF(5.1, 5.1, 5.1); Calibrated: 11/15/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection), $z = 2.7, 32.7$
- 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) = 43.726 mW/g

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

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

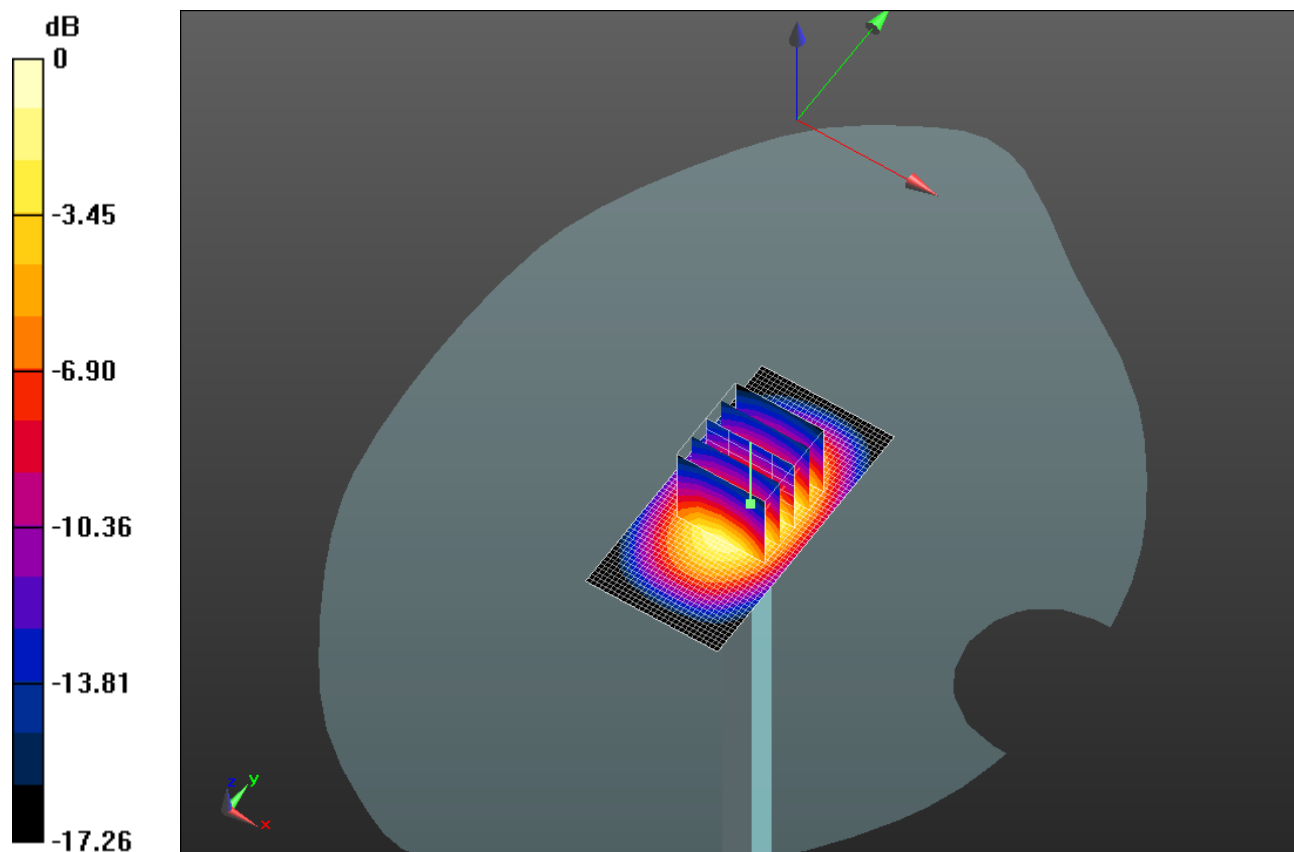
Reference Value = 184.4 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 62.2240

SAR(1 g) = 37.3 mW/g; SAR(10 g) = 19.9 mW/g

Maximum value of SAR (measured) = 42.138 mW/g

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0 dB = 42.140mW/g = 32.49 dB mW/g

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Date/Time: 2/22/2012 11:18:12 PM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_02_22_12_Amb_Tem_23.0_Liq_Tem_21.5C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.818 \text{ mho/m}$; $\epsilon_r = 37.545$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.5, 4.5, 4.5); Calibrated: 1/11/2012
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE3 Sn472; Calibrated: 3/7/2011
- 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 (31x41x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 74.530 mW/g

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

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

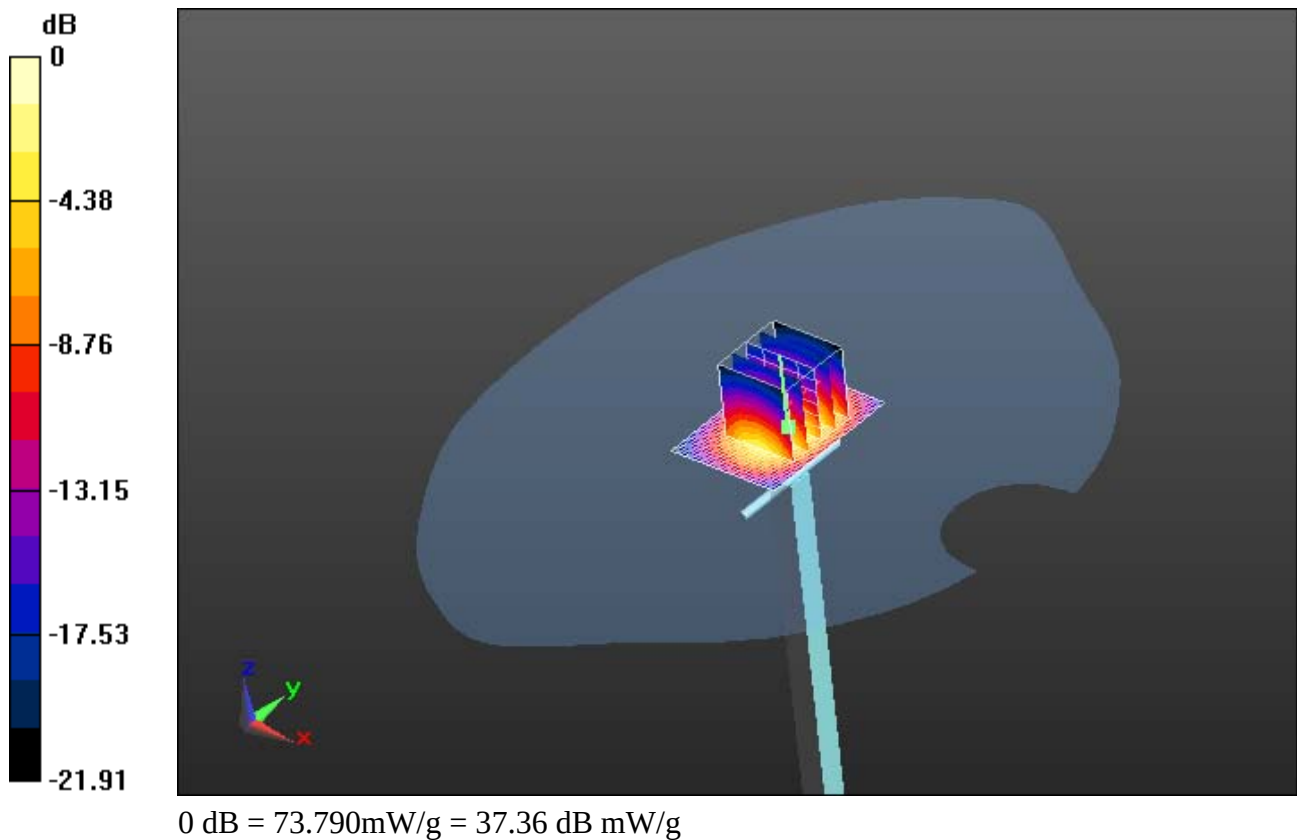
Reference Value = 209.5 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 115.20

SAR(1 g) = 56.3 mW/g ; SAR(10 g) = 26.2 mW/g

Maximum value of SAR (measured) = 73.794 mW/g

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Date/Time: 2/24/2012 10:56:28 AM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_02_24_12_Amb_Tem_23.3_Liq_Tem_22.3C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.761 \text{ mho/m}$; $\epsilon_r = 37.583$; $\rho = 1000 \text{ kg/m}^3$

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) = 74.456 mW/g

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

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

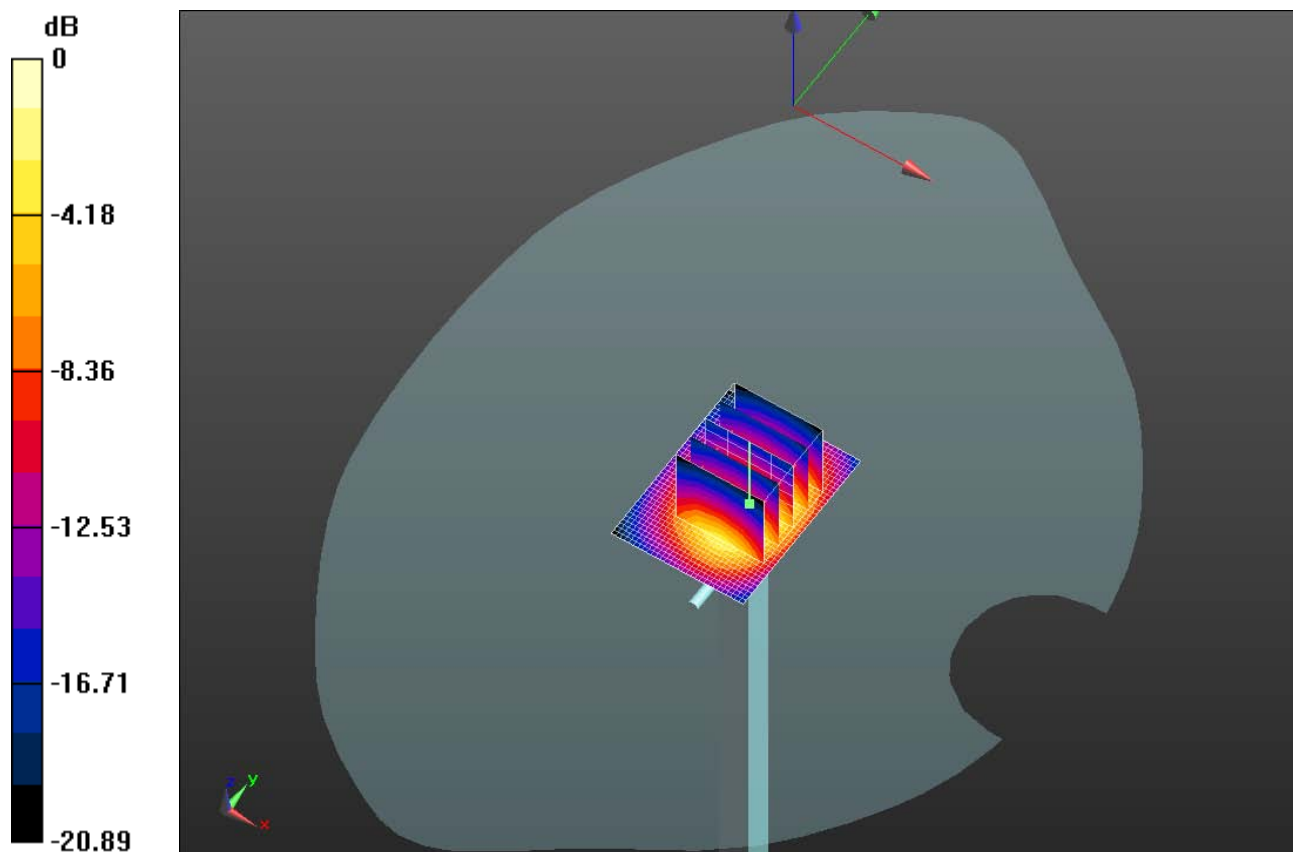
Reference Value = 211.4 V/m ; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 112.90

SAR(1 g) = 56.7 mW/g ; SAR(10 g) = 26.8 mW/g

Maximum value of SAR (measured) = 74.217 mW/g

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0 dB = 74.220mW/g = 37.41 dB mW/g

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Date/Time: 3/6/2012 12:13:26 AM

Test Laboratory: RIM Testing Services

DipoleValidation_2450MHz_03_05_12_Amb_Tem_23.1_Liq_Tem_19.9C

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

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.853$ mho/m; $\epsilon_r = 37.613$; $\rho = 1000$ kg/m³

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
- DASYS 52.8.0(692); SEMCAD X 14.6.4(4989)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x41x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 75.570 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 = 206.9 V/m; Power Drift = -7e-005 dB

Peak SAR (extrapolated) = 116.70

SAR(1 g) = 57.5 mW/g; SAR(10 g) = 26.9 mW/g

Maximum value of SAR (measured) = 76.156 mW/g

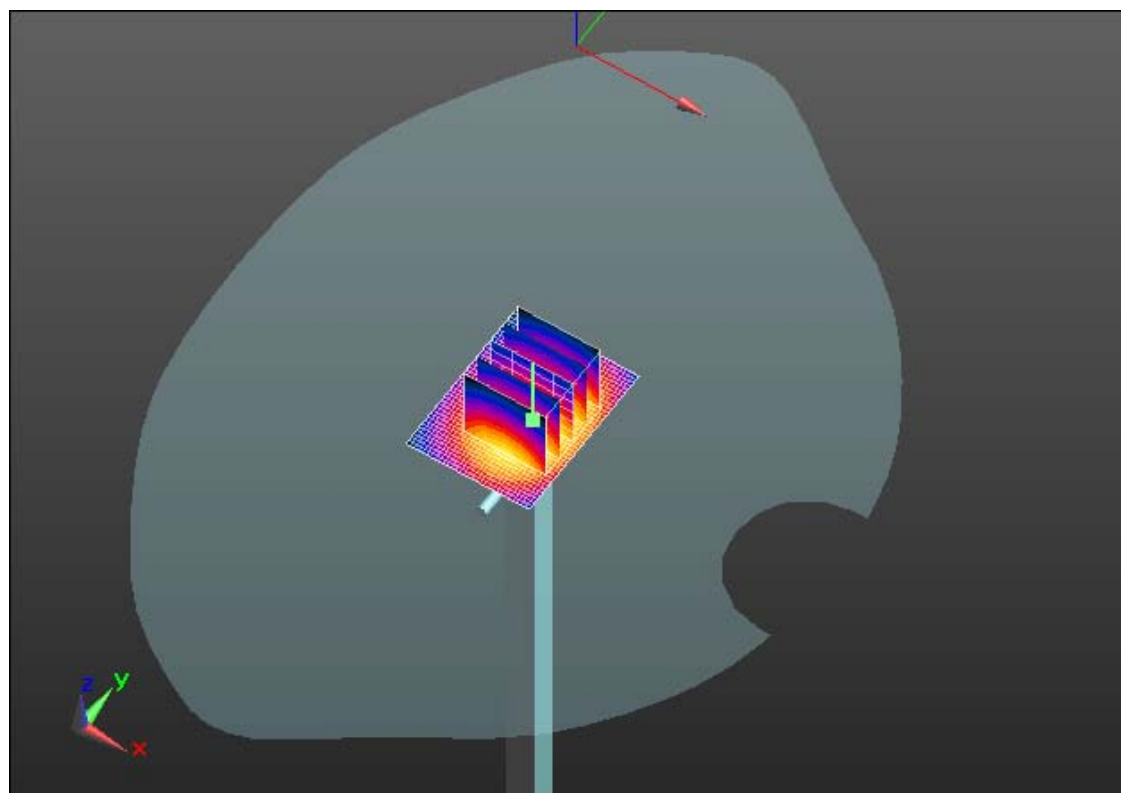
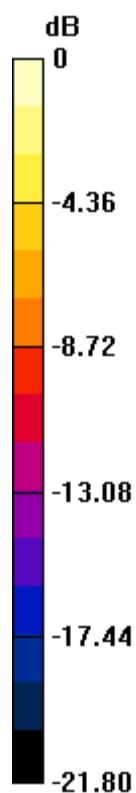
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0 dB = 76.160mW/g = 37.63 dB mW/g