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APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

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Date/Time: 5/27/2010 5:09:38 PM

Test Laboratory: RIM Testing Services

File Name:

[DipoleValidation_835MHz_Amb_Tem_23.8_Liq_Tem_22.4C_05_27_10.da4](#)

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

Program Name: System Performance Check at 835 MHz

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.866 \text{ mho/m}$; $\epsilon_r = 43.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.12, 6.12, 6.12); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 107.6 V/m ; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 13.6 W/kg


SAR(1 g) = 9.16 mW/g ; SAR(10 g) = 6.01 mW/g

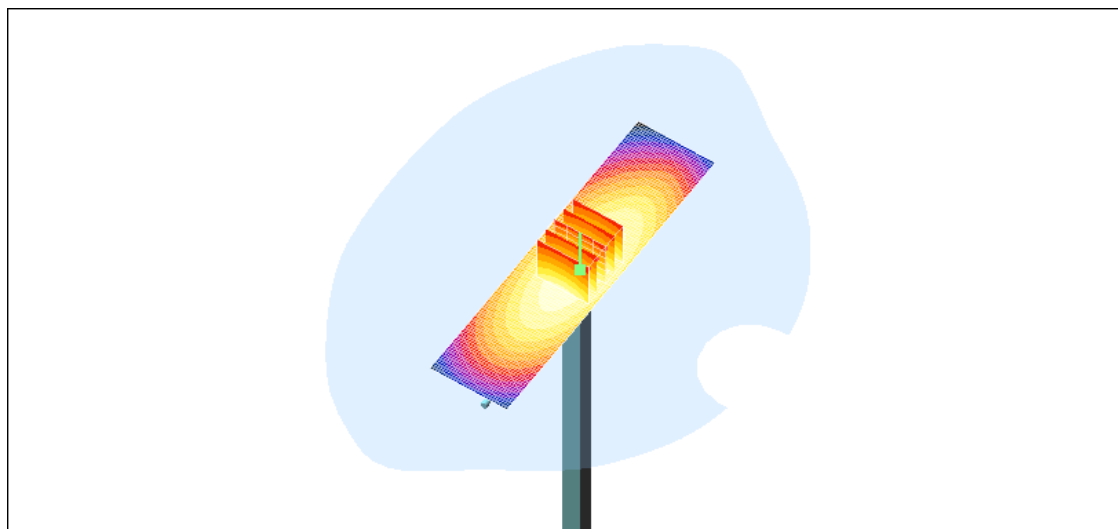
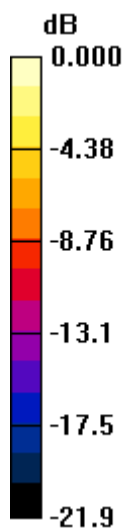
Maximum value of SAR (measured) = 9.89 mW/g

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


$dy=15\text{mm}$

Maximum value of SAR (interpolated) = 9.87 mW/g

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0 dB = 9.87mW/g

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Date/Time: 6/28/2010 10:17:49 AM

Test Laboratory: RIM Testing Services

File Name:

[DipoleValidation_835MHz_Amb_Tem_22.7_Liq_Tem_21.9C_06_28_10.da4](#)

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

Program Name: System Performance Check at 835 MHz

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.882 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.12, 6.12, 6.12); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 107.3 V/m ; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 13.7 W/kg


SAR(1 g) = 9.21 mW/g; SAR(10 g) = 6.04 mW/g

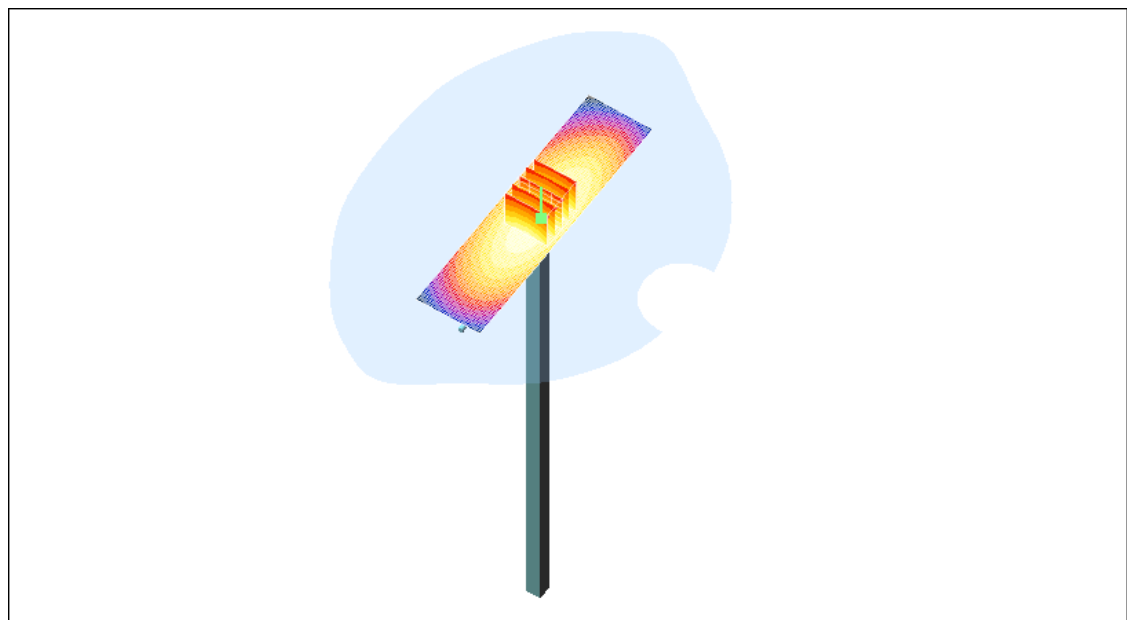
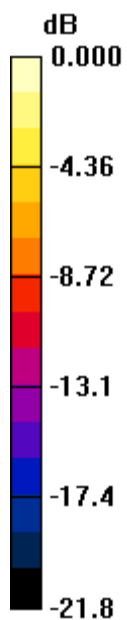
Maximum value of SAR (measured) = 9.92 mW/g

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


$dy=15\text{mm}$

Maximum value of SAR (interpolated) = 9.90 mW/g

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0 dB = 9.90mW/g

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Date/Time: 5/31/2010 10:47:13 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_Amb_Tem_23.1_Liq_Tem_22.6_C_05_31_10

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

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 39.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.14, 5.14, 5.14); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 183.0 V/m; Power Drift = -0.183 dB


Peak SAR (extrapolated) = 75.0 W/kg

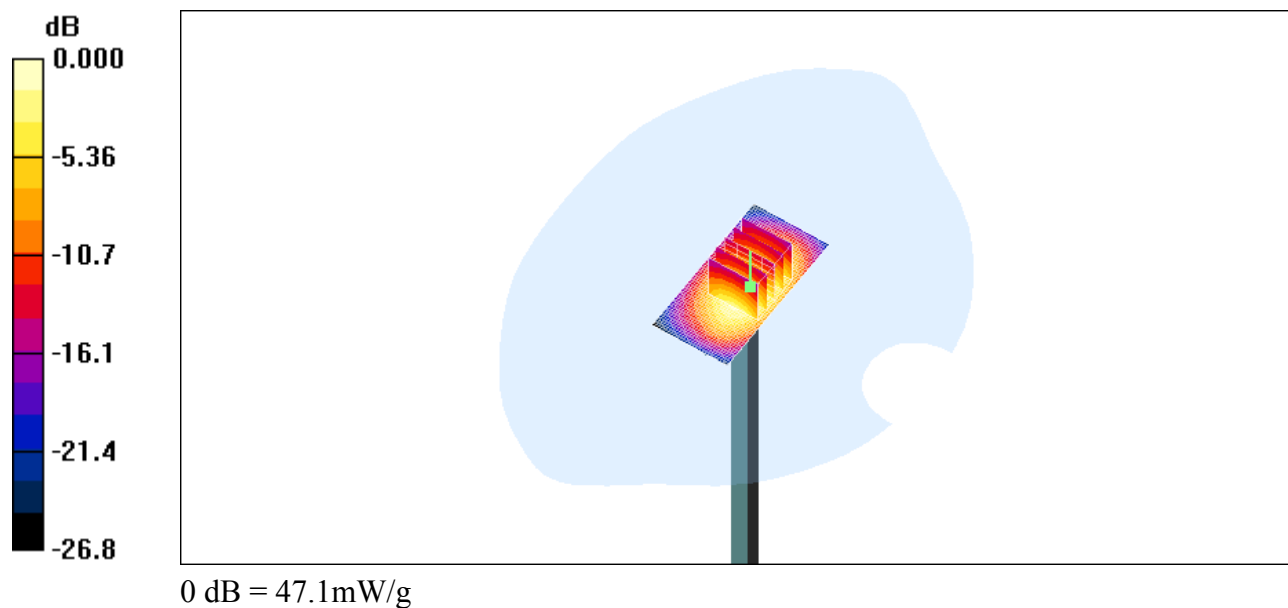
SAR(1 g) = 41.1 mW/g; SAR(10 g) = 21.3 mW/g


Maximum value of SAR (measured) = 46.4 mW/g

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

Maximum value of SAR (interpolated) = 47.1 mW/g

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Date/Time: 6/28/2010 3:22:24 PM

Test Laboratory: RIM Testing Services

File Name:

[DipoleValidation 1900MHz Amb Tem 23.2 Liq Tem 22.9 C 06 28 10.da4](#)

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

Program Name: System Performance Check at 1900 MHz

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.47 \text{ mho/m}$; $\epsilon_r = 40.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.14, 5.14, 5.14); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 176.2 V/m ; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 75.4 W/kg


SAR(1 g) = 41 mW/g ; SAR(10 g) = 21.2 mW/g

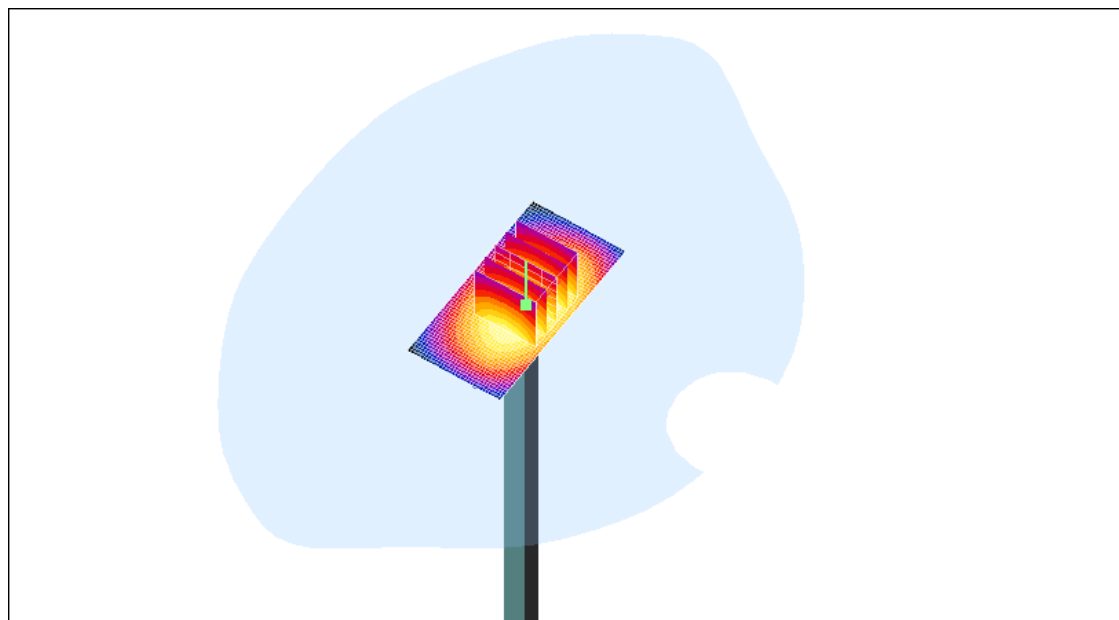
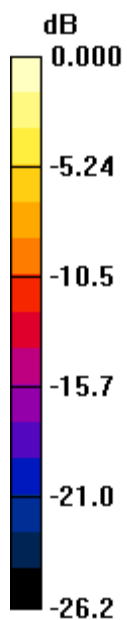
Maximum value of SAR (measured) = 46.2 mW/g

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


$dy=15\text{mm}$

Maximum value of SAR (interpolated) = 46.5 mW/g

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0 dB = 46.5mW/g

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Date/Time: 5/19/2010 10:31:49 PM

Test Laboratory: RIM TESTING SERVICES

File Name:

[DipoleValidation 2450MHz Amb Tem 23.0 Liq Tem 22.2 C 05 19 10.da4](#)

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

Program Name: System Performance Check at 2450 MHz

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.88 \text{ mho/m}$; $\epsilon_r = 39.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.53, 4.53, 4.53); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 178.6 V/m ; Power Drift = 0.128 dB

Peak SAR (extrapolated) = 107.9 W/kg


SAR(1 g) = 51.9 mW/g ; SAR(10 g) = 23.9 mW/g

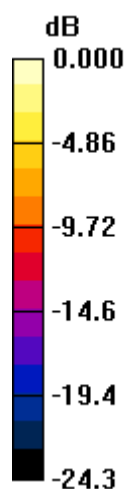
Maximum value of SAR (measured) = 59.0 mW/g

d=15mm, Pin=1000mW/Area Scan (31x51x1): Measurement grid: $dx=15\text{mm}$,


$dy=15\text{mm}$

Maximum value of SAR (interpolated) = 64.3 mW/g

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0 dB = 64.3mW/g

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Date/Time: 5/26/2010 5:07:10 PM

Test Laboratory: RIM Testing Services

File Name:

[DipoleValidation 2450MHz Amb Tem 23.9 Liq Tem 22.3 C 05 26 10.da4](#)

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

Program Name: System Performance Check at 2450 MHz

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.83 \text{ mho/m}$; $\epsilon_r = 40.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3225; ConvF(4.53, 4.53, 4.53); Calibrated: 12/11/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn473; Calibrated: 1/4/2010
- Phantom: SAM 1; Type: SAM 4.0; Serial: 1076
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, 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 = 180.5 V/m ; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 105.6 W/kg


SAR(1 g) = 51.1 mW/g ; SAR(10 g) = 23.7 mW/g

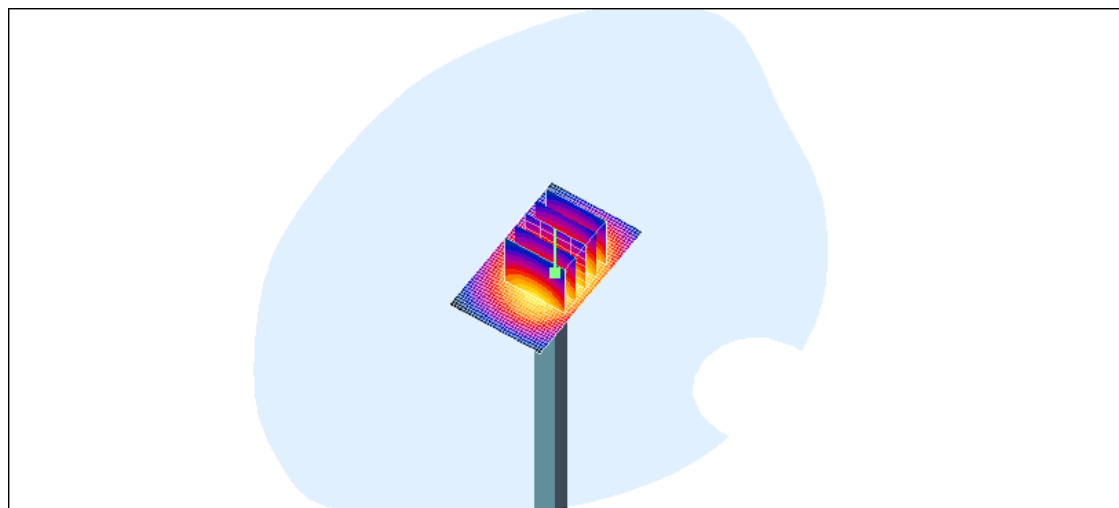
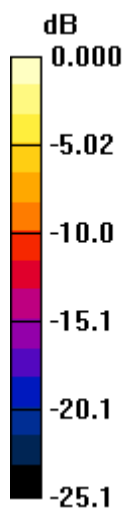
Maximum value of SAR (measured) = 58.1 mW/g

d=15mm, Pin=1000mW/Area Scan (31x51x1): Measurement grid: $dx=15\text{mm}$,

$dy=15\text{mm}$

Maximum value of SAR (interpolated) = 62.8 mW/g

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0 dB = 62.8mW/g