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| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                      |

## APPENDIX A: SAR DISTRIBUTION COMPARISON FOR ACCURACY VERIFICATION

|                                                                                  |                                                                                        |                                           |                               |                      |
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| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                      |

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:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.898 \text{ S/m}$ ;  $\epsilon_r = 41.565$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section  
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.19, 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:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Reference Value =  $112.0 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$   
**Fast SAR: SAR(1 g) =  $9.09 \text{ W/kg}$ ; SAR(10 g) =  $6.03 \text{ W/kg}$**   
Maximum value of SAR (interpolated) =  $10.5 \text{ W/kg}$

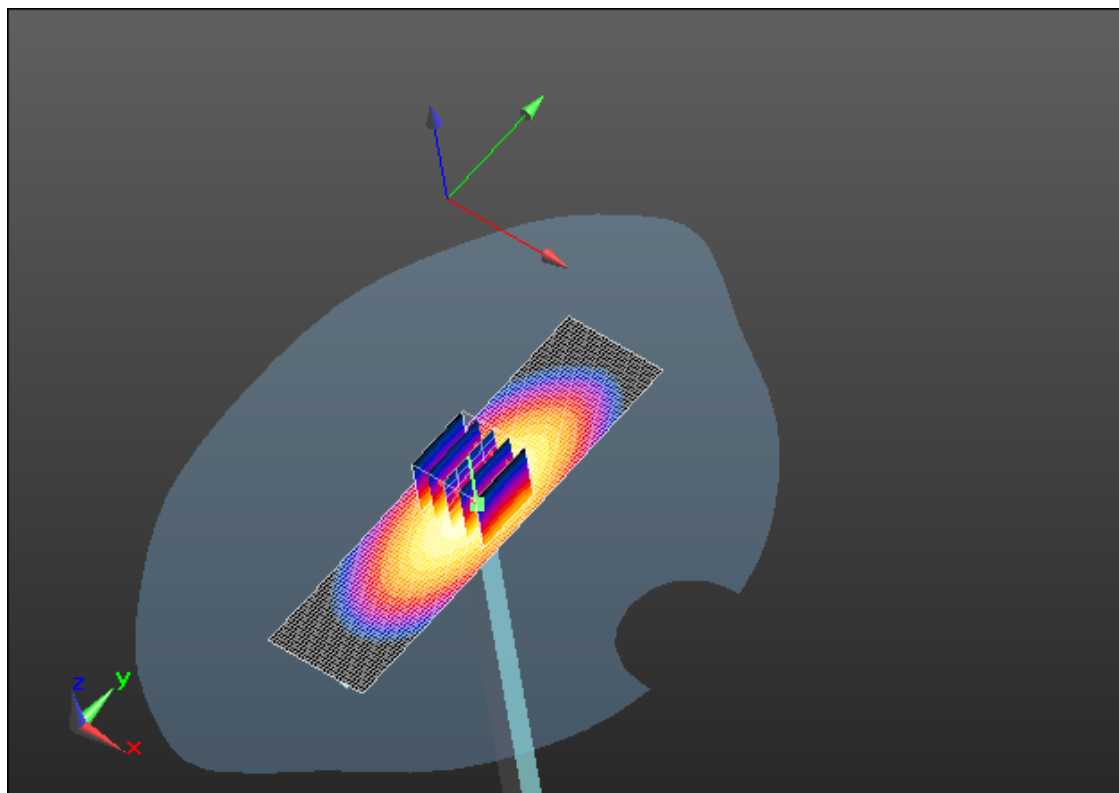
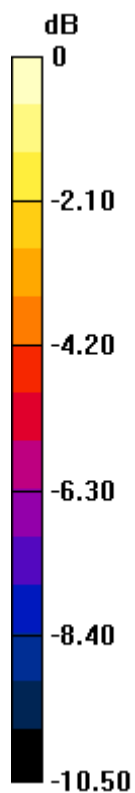
**Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value =  $112.0 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$   
Peak SAR (extrapolated) =  $13.4 \text{ W/kg}$   
**SAR(1 g) =  $9.06 \text{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

Author Data  
**Andrew Becker**

Dates of Test  
**July 02 – August 15, 2013**

Test Report No  
**RTS-6046-1307-42**

FCC ID:  
**L6ARFW120LW**



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

|                                                                                  |                                                                                        |                                           |                               |                      |
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| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                      |

Date/Time: 7/16/2013 1:18:07 AM

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:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.881 \text{ S/m}$ ;  $\epsilon_r = 40.559$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section  
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

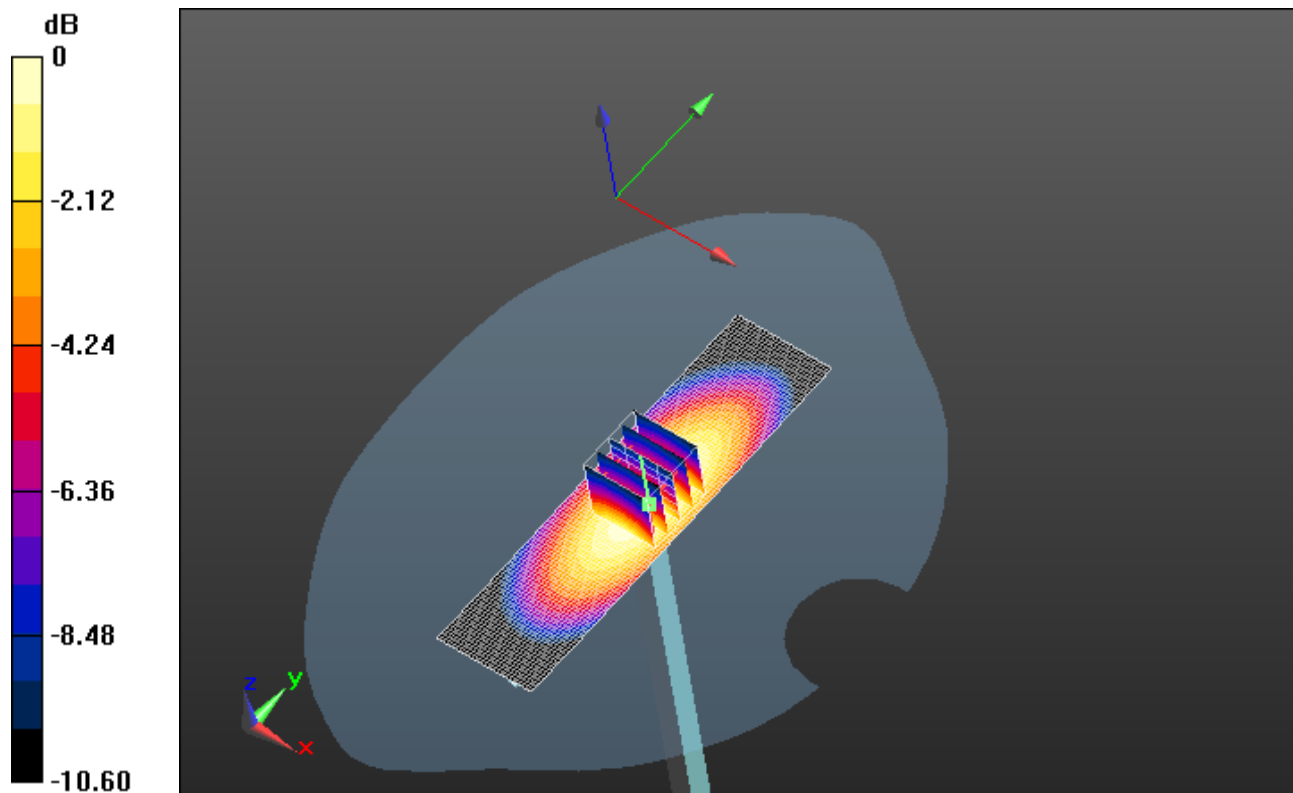
DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.19, 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:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Reference Value =  $113.2 \text{ V/m}$ ; Power Drift =  $-0.20 \text{ dB}$   
**Fast SAR: SAR(1 g) =  $9.08 \text{ W/kg}$ ; SAR(10 g) =  $6.03 \text{ W/kg}$**   
Maximum value of SAR (interpolated) =  $10.5 \text{ W/kg}$

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

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

|                                                                                  |                                                                                        |                                           |                               |                      |
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Date/Time: 7/2/2013 12:46:05 AM

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:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.387 \text{ S/m}$ ;  $\epsilon_r = 38.399$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 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
- DASYS 52.8.6(1115); SEMCAD X 14.6.9(7117)

**Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1):** Interpolated  
grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value =  $190.8 \text{ V/m}$ ; Power Drift =  $0.03 \text{ dB}$

**Fast SAR: SAR(1 g) =  $37.6 \text{ W/kg}$ ; SAR(10 g) =  $19.8 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $47.1 \text{ W/kg}$

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

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

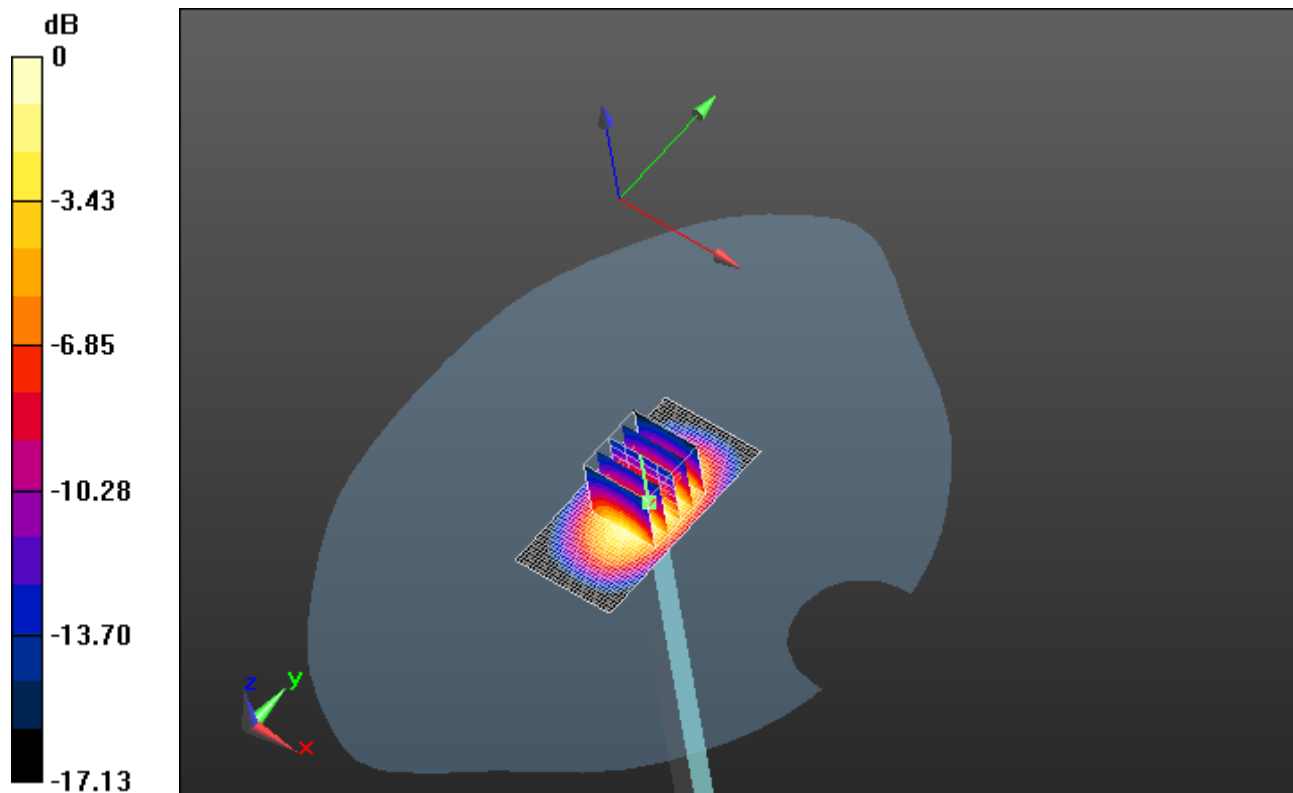
Reference Value =  $190.8 \text{ V/m}$ ; Power Drift =  $0.03 \text{ dB}$

Peak SAR (extrapolated) =  $65.5 \text{ W/kg}$

**SAR(1 g) =  $37 \text{ W/kg}$ ; SAR(10 g) =  $19.5 \text{ W/kg}$**

Maximum value of SAR (measured) =  $46.6 \text{ W/kg}$

|                                                                                  |                                                                                        |                                           |                               |                      |
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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;  $\sigma = 1.408$  S/m;  $\epsilon_r = 38.666$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS (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
- DASYS 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:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

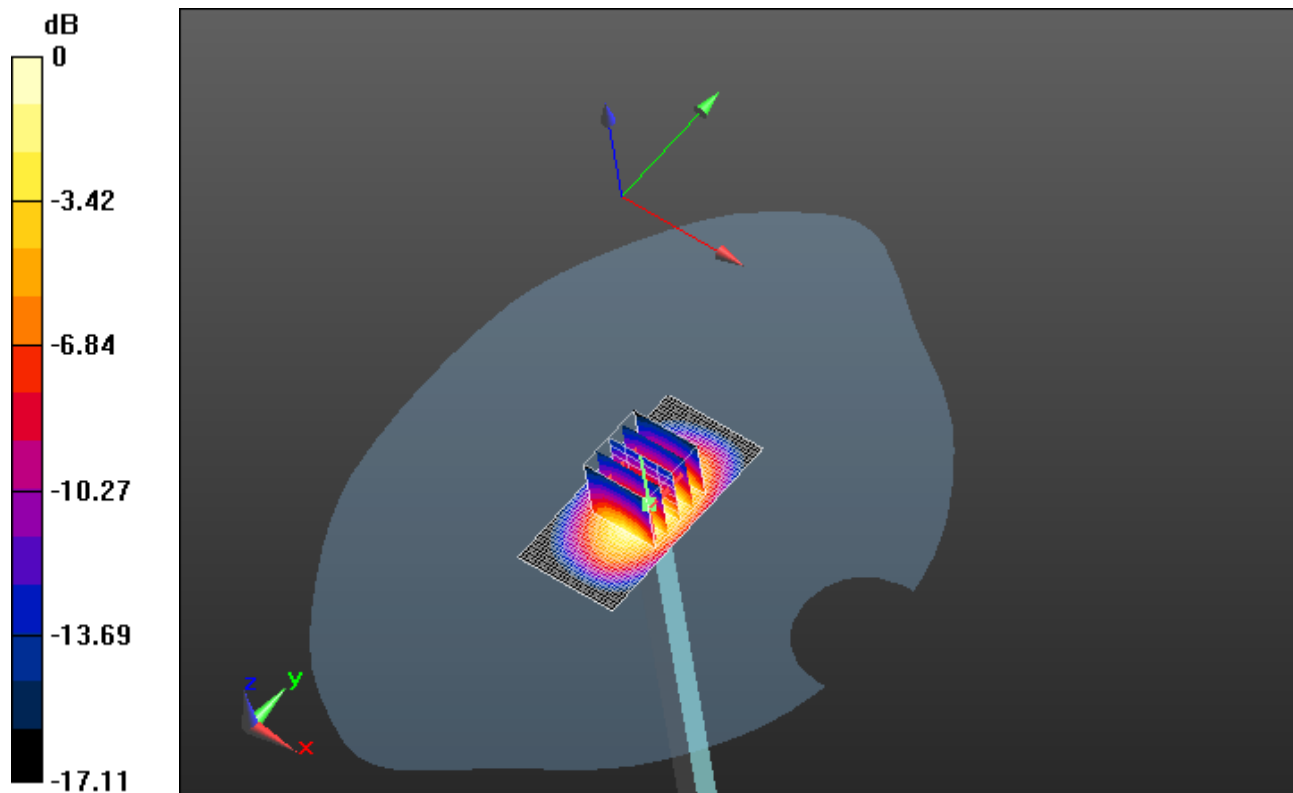
Reference Value = 186.9 V/m; Power Drift = -0.02 dB

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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| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                       |

Date/Time: 7/8/2013 11:04:31 AM

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:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.375 \text{ S/m}$ ;  $\epsilon_r = 38.543$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 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
- DASYS 52.8.6(1115); SEMCAD X 14.6.9(7117)

**Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1):** Interpolated  
grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value =  $190.8 \text{ V/m}$ ; Power Drift =  $-0.03 \text{ dB}$

**Fast SAR: SAR(1 g) =  $37.3 \text{ W/kg}$ ; SAR(10 g) =  $19.6 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $46.9 \text{ W/kg}$

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

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

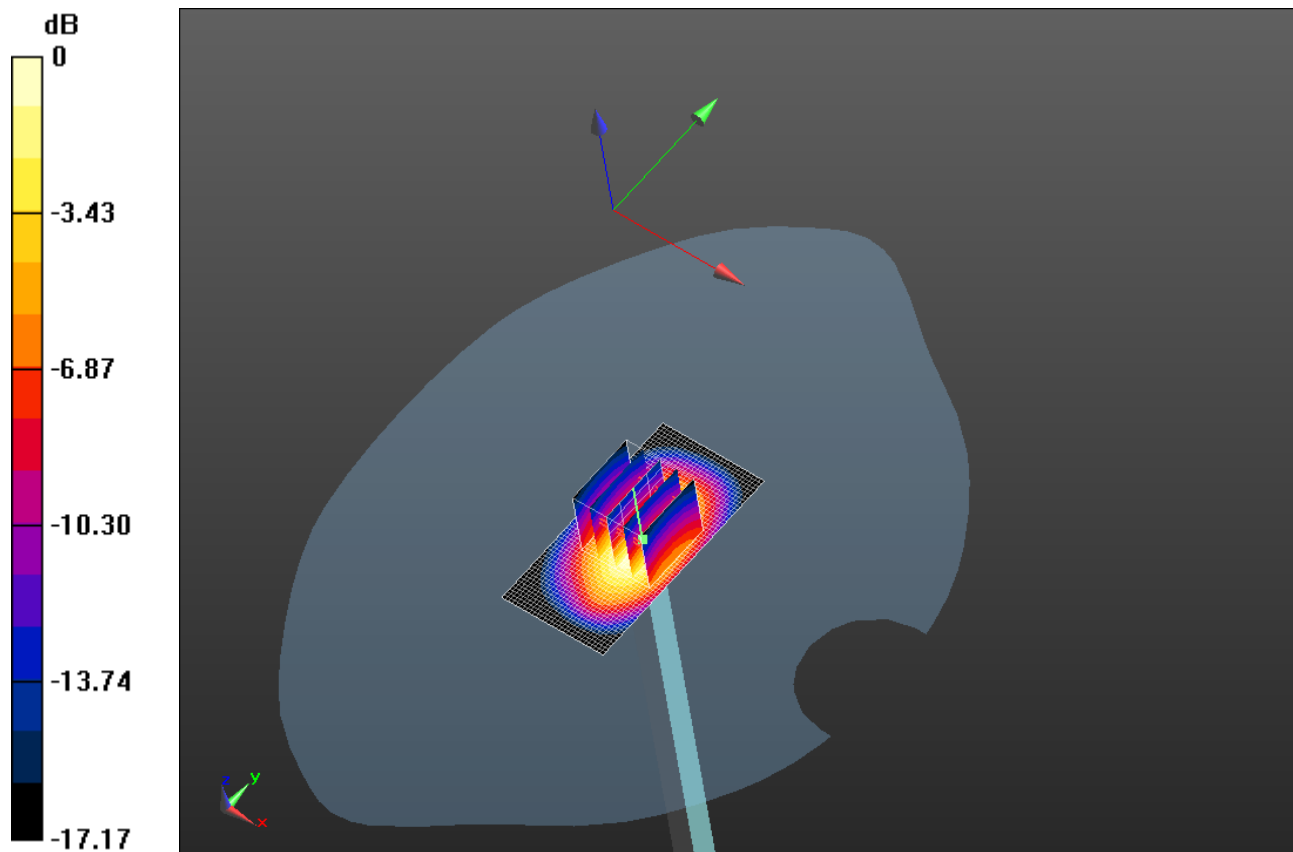
Reference Value =  $190.8 \text{ V/m}$ ; Power Drift =  $-0.03 \text{ dB}$

Peak SAR (extrapolated) =  $65.1 \text{ W/kg}$

**SAR(1 g) =  $36.6 \text{ W/kg}$ ; SAR(10 g) =  $19.2 \text{ W/kg}$**

Maximum value of SAR (measured) =  $46.7 \text{ W/kg}$

|                                                                                  |                                                                                        |                                           |                               |                       |
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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:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.378 \text{ S/m}$ ;  $\epsilon_r = 38.172$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 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
- DASYS 52.8.6(1115); SEMCAD X 14.6.9(7117)

**Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1):** Interpolated  
grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value =  $194.4 \text{ V/m}$ ; Power Drift =  $-0.01 \text{ dB}$

**Fast SAR: SAR(1 g) =  $38.7 \text{ W/kg}$ ; SAR(10 g) =  $20.5 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $48.5 \text{ W/kg}$

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

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

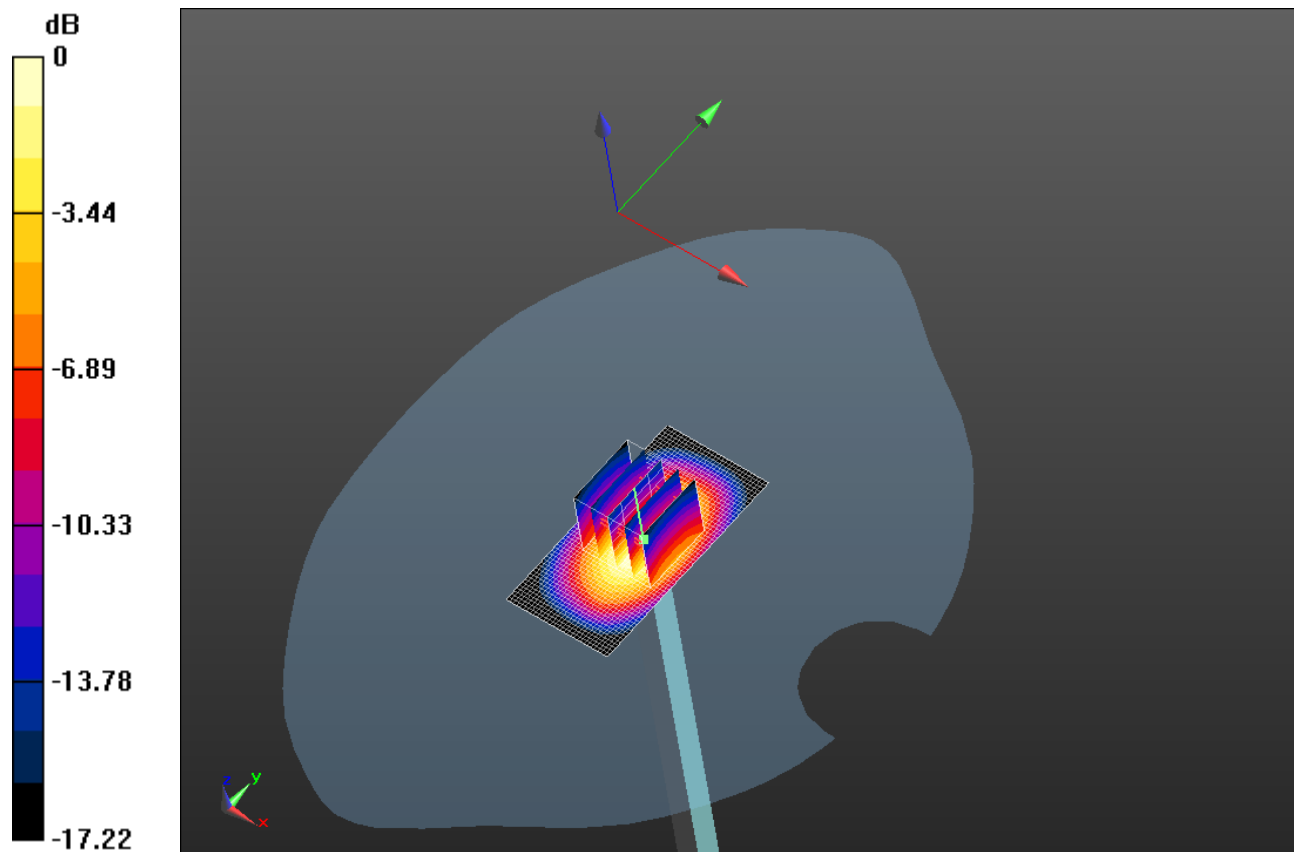
Reference Value =  $194.4 \text{ V/m}$ ; Power Drift =  $-0.01 \text{ dB}$

Peak SAR (extrapolated) =  $67.7 \text{ W/kg}$

**SAR(1 g) =  $38 \text{ W/kg}$ ; SAR(10 g) =  $19.9 \text{ W/kg}$**

Maximum value of SAR (measured) =  $48.4 \text{ W/kg}$

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

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Date/Time: 8/15/2013 1:55:03 AM

Test Laboratory: RIM Testing Services

**DipoleValidation\_1900MHz\_08\_15\_13\_Amb\_Tem\_23.2C\_Liq\_Tem\_23.0C**

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

Communication System: UID 0 - n/a, CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.384 \text{ S/m}$ ;  $\epsilon_r = 38.362$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(5.35, 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:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Reference Value =  $189.0 \text{ V/m}$ ; Power Drift =  $-0.04 \text{ dB}$

**Fast SAR: SAR(1 g) =  $37.6 \text{ W/kg}$ ; SAR(10 g) =  $19.8 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $47.1 \text{ W/kg}$

**Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

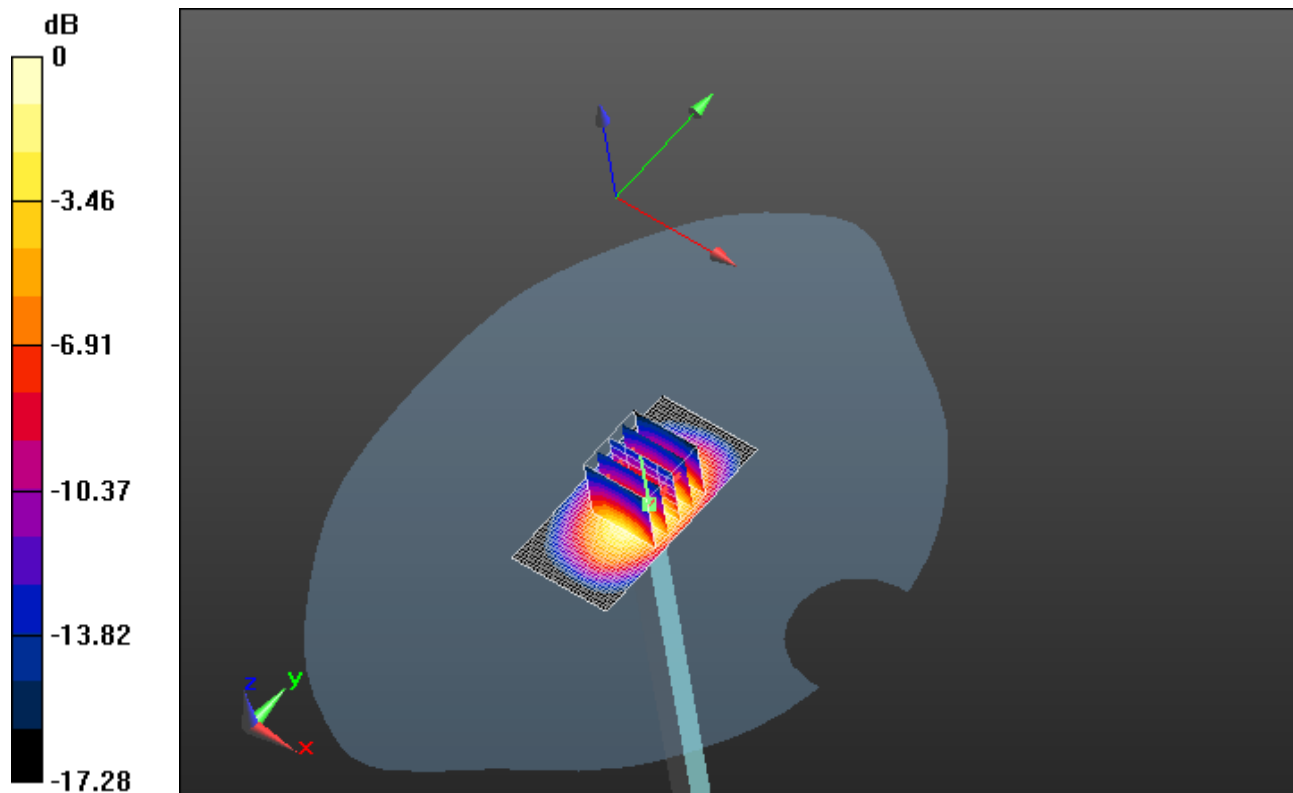
Reference Value =  $189.0 \text{ V/m}$ ; Power Drift =  $-0.04 \text{ dB}$

Peak SAR (extrapolated) =  $65.1 \text{ W/kg}$

**SAR(1 g) =  $36.7 \text{ W/kg}$ ; SAR(10 g) =  $19.3 \text{ W/kg}$**

Maximum value of SAR (measured) =  $46.6 \text{ W/kg}$

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

|                                                                                  |                                                                                        |                                           |                               |                       |
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| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                       |

Date/Time: 7/19/2013 8:54:16 AM

Test Laboratory: RIM Testing Services

## DipoleValidation\_2450MHz\_07\_19\_13\_Amb\_Tem\_23.0C\_Liq\_Tem\_22.8 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;  $\sigma = 1.831$  S/m;  $\epsilon_r = 37.795$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

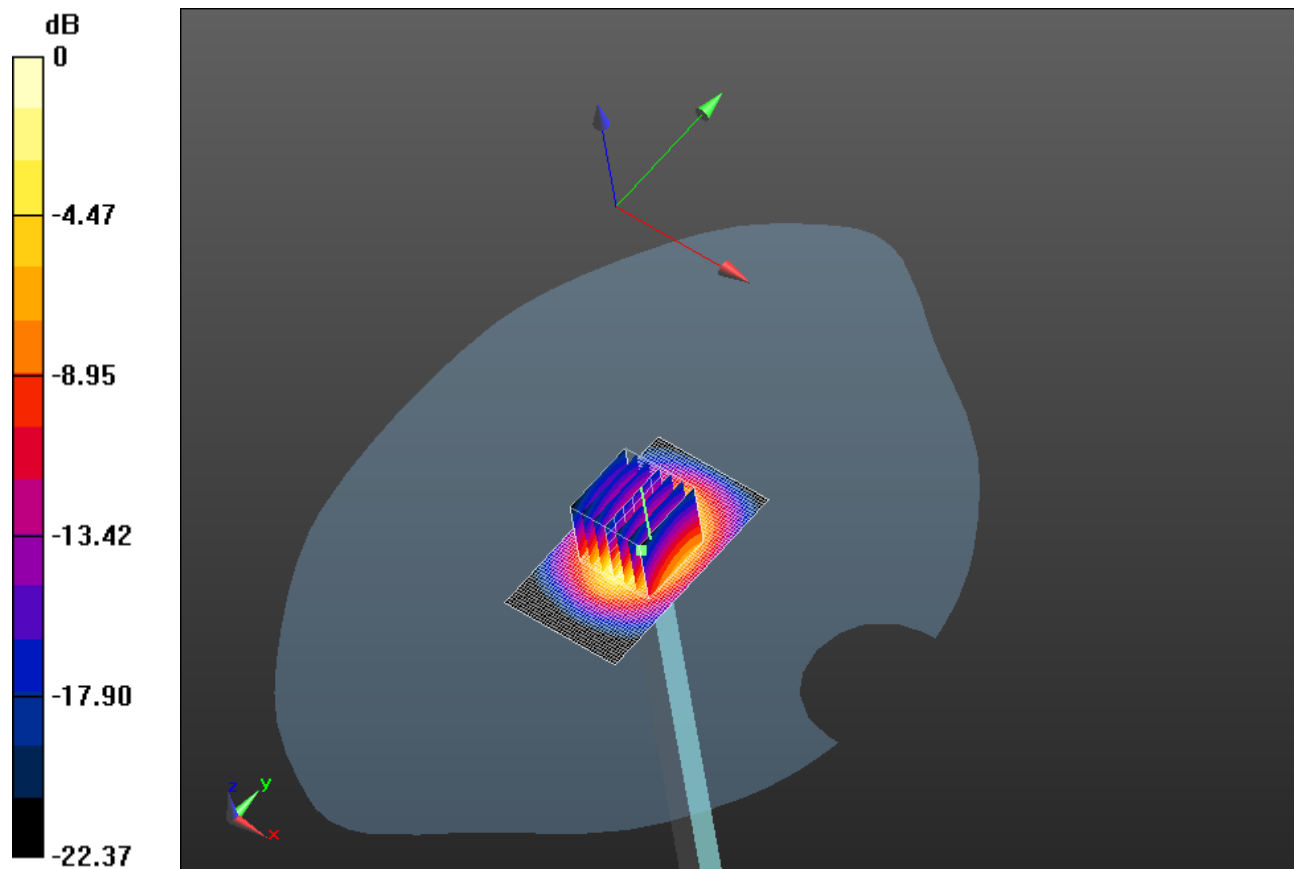
DASY Configuration:

- 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
- DASYS 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:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm  
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;  $\sigma = 1.845$  S/m;  $\epsilon_r = 37.878$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

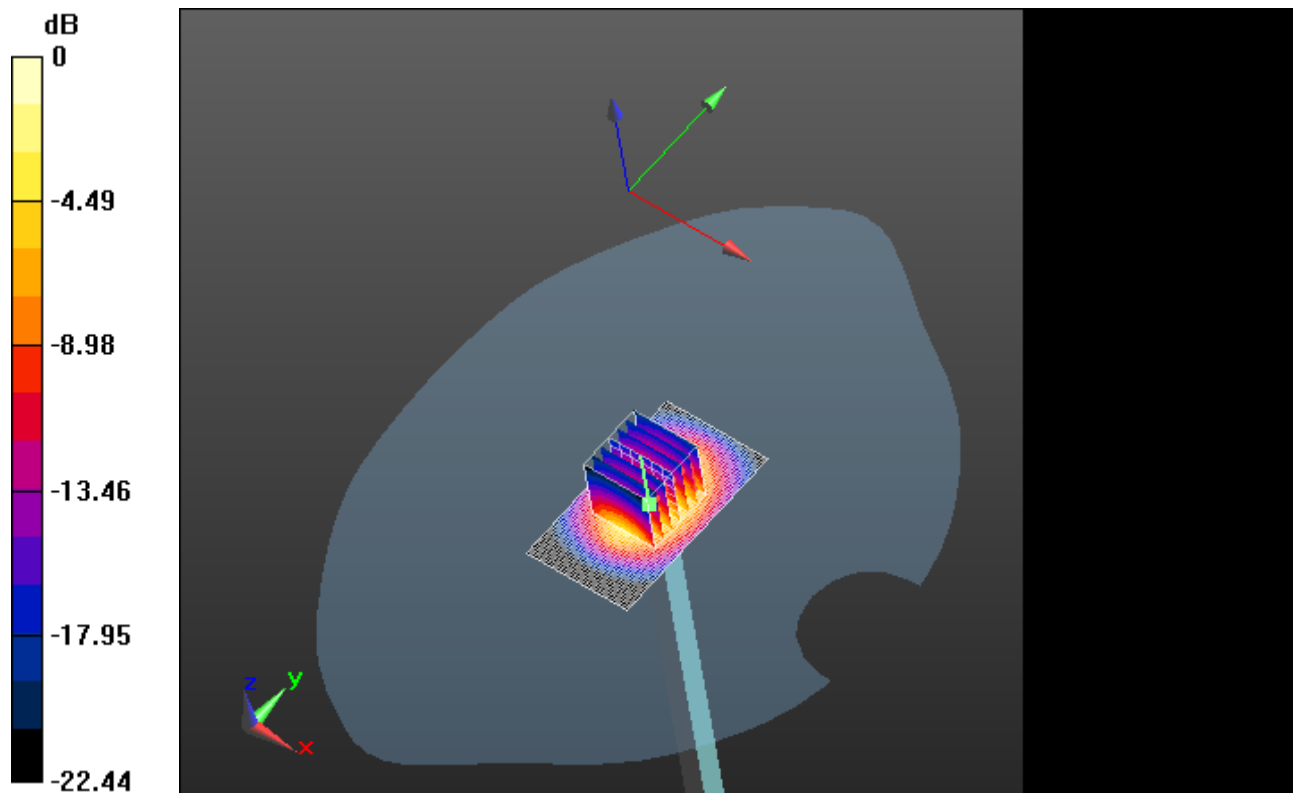
DASY Configuration:

- 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
- DASYS 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:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm  
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 – 5200 MHz**

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5200 MHz

Medium Parameters used:  $f=5200$  MHz;  $\sigma = 4.633$  S/m;  $\epsilon_r = 35.221$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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 = 195.0 V/m; **Power Drift = -0.00767 dB**

**Fast SAR: SAR(1g) = 77.3 W/kg; SAR(10g) = 21.6 W/kg**

Maximum value of SAR (interpolated) = 175 W/kg

#### **System Performance Check with D5GHzV2 Dipole/d=10mm, Pin=1000 mW, f=5200 MHz/Zoom**

**Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0:** Interpolated grid:

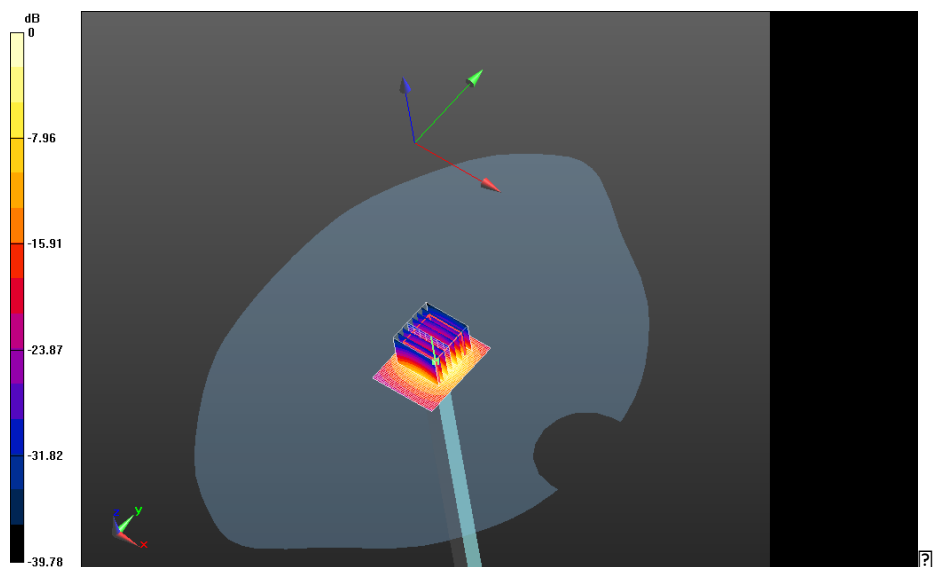
dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

Reference Value = 195.0 V/m; **Power Drift = -0.00767 dB**

**Averaged SAR: SAR(1g) = 83.1 W/kg; SAR(10g) = 24.1 W/kg**

Maximum value of SAR (interpolated) = 316 W/kg

|                                                                                  |                                                                                        |                                           |                               |                       |
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0 dB = 167 W/kg = 22.23 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: **Not Specified**; Frequency: 5500 MHz

Medium Parameters used:  $f=5500$  MHz;  $\sigma = 5.007$  S/m;  $\epsilon_r = 34.543$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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**

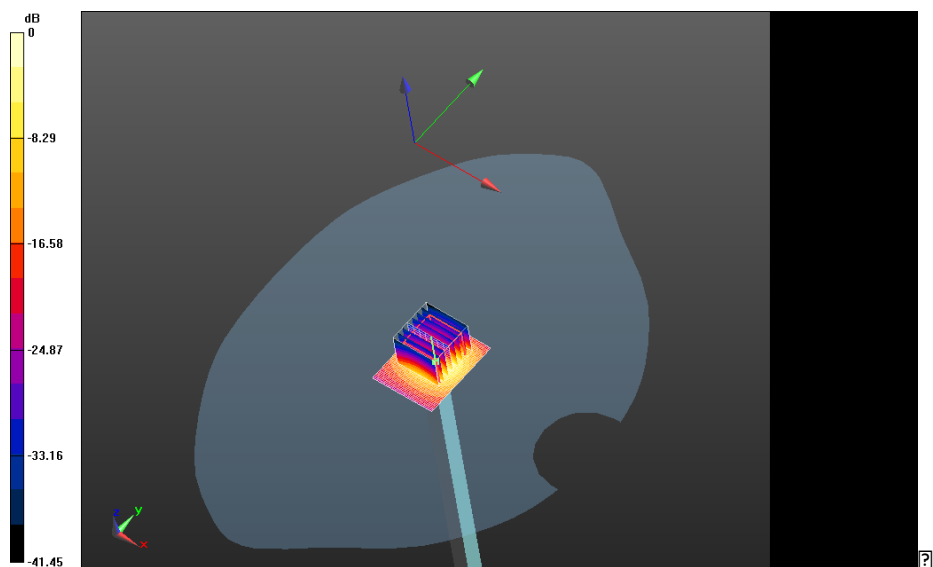
**MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0:** Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

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;  $\sigma = 5.322$  S/m;  $\epsilon_r = 33.887$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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**

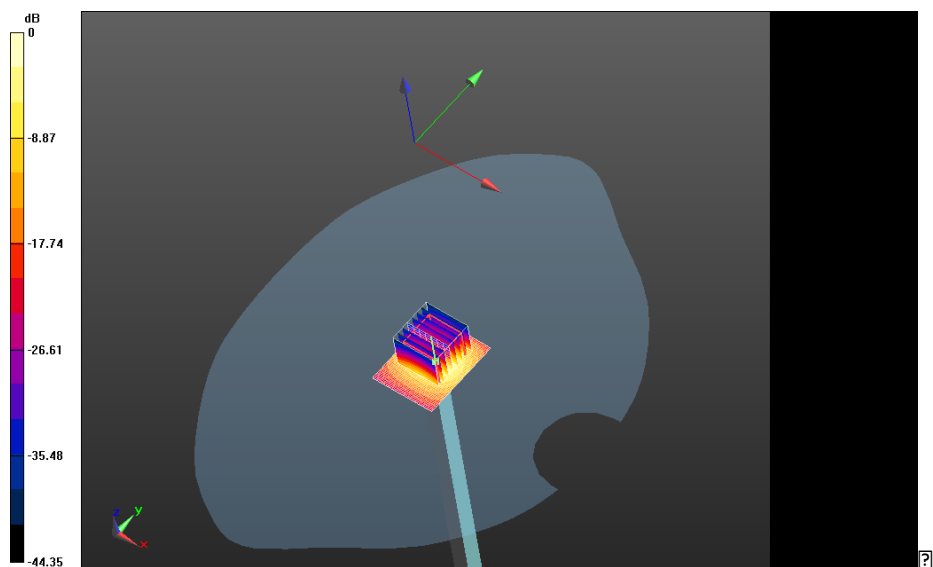
**MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0:** Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

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;  $\sigma = 4.667$  S/m;  $\epsilon_r = 34.365$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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:

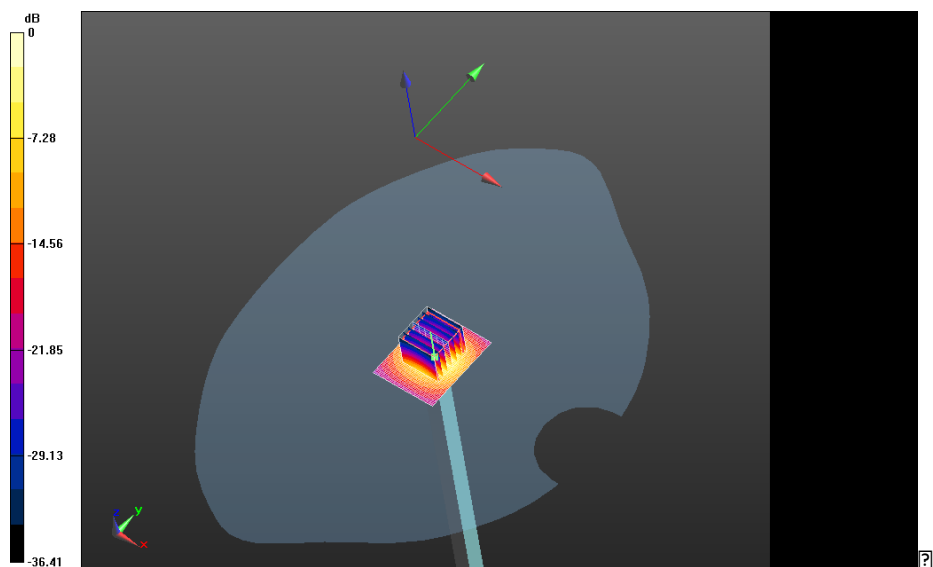
dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

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;  $\sigma = 4.997$  S/m;  $\epsilon_r = 34.755$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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

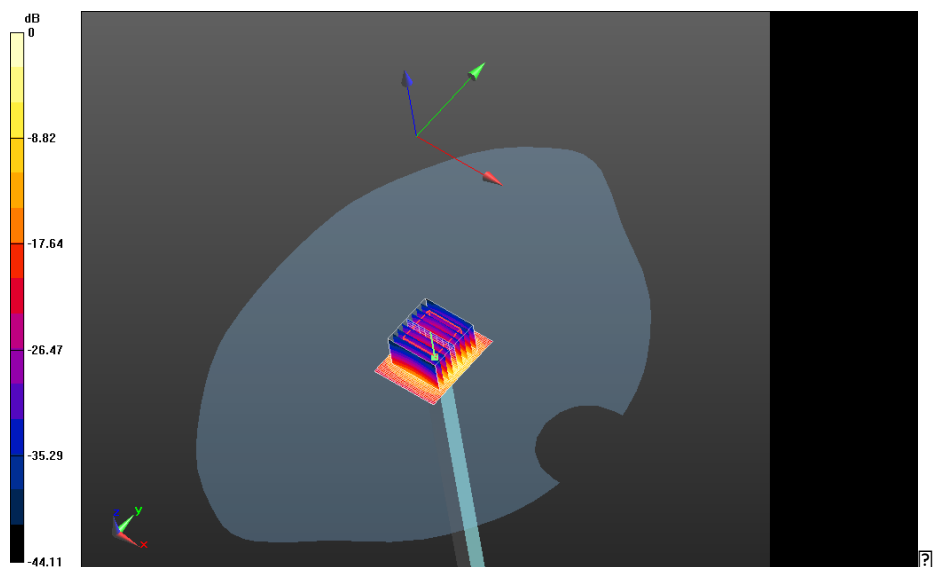
grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

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;  $\sigma = 5.279$  S/m;  $\epsilon_r = 33.885$ ;  $\rho = 1.000$  g/cm<sup>3</sup>

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**

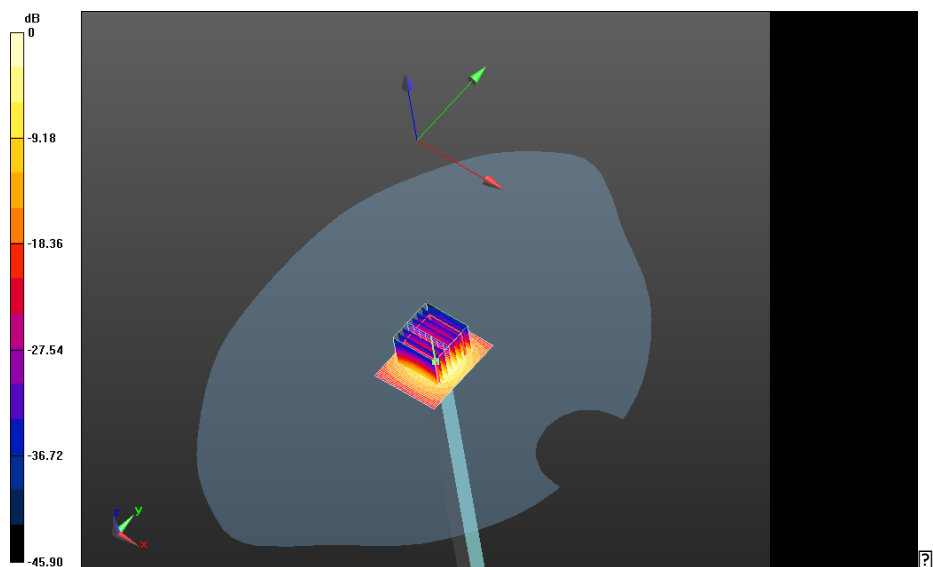
**MHz/Zoom Scan -Ext(24x24x22), Step (4x4x2mm), dist=2mm (36x36x61)/Cube 0:** Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm

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

|                                                                                  |                                                                                        |                                           |                               |                       |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------|-----------------------|
|  | Document<br><b>Appendix A for the BlackBerry® Smartphone Model RFW121LW SAR Report</b> |                                           |                               | Page<br><b>31(31)</b> |
| Author Data<br><b>Andrew Becker</b>                                              | Dates of Test<br><b>July 02 – August 15, 2013</b>                                      | Test Report No<br><b>RTS-6046-1307-42</b> | FCC ID:<br><b>L6ARFW120LW</b> |                       |



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