

# Plot 1

Date/Time: 6/23/2015 3:48:08 PM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Reliant Heart; Type: Heart Assist; Serial: 00070**

Communication System: GPRS-FDD (TDMA, GMSK, TN 0-1); Frequency: 1880 MHz

Medium: MSL1900\_Batch 110530-3

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.489$  mho/m;  $\epsilon_r = 52.372$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 20.8C; Medium Temperature: 22.2C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(4.69, 4.69, 4.69); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- DASY52 52.8.1(838);

**Flat-Section/Back 0mm\_2TS/Area Scan (11x17x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.337 mW/g

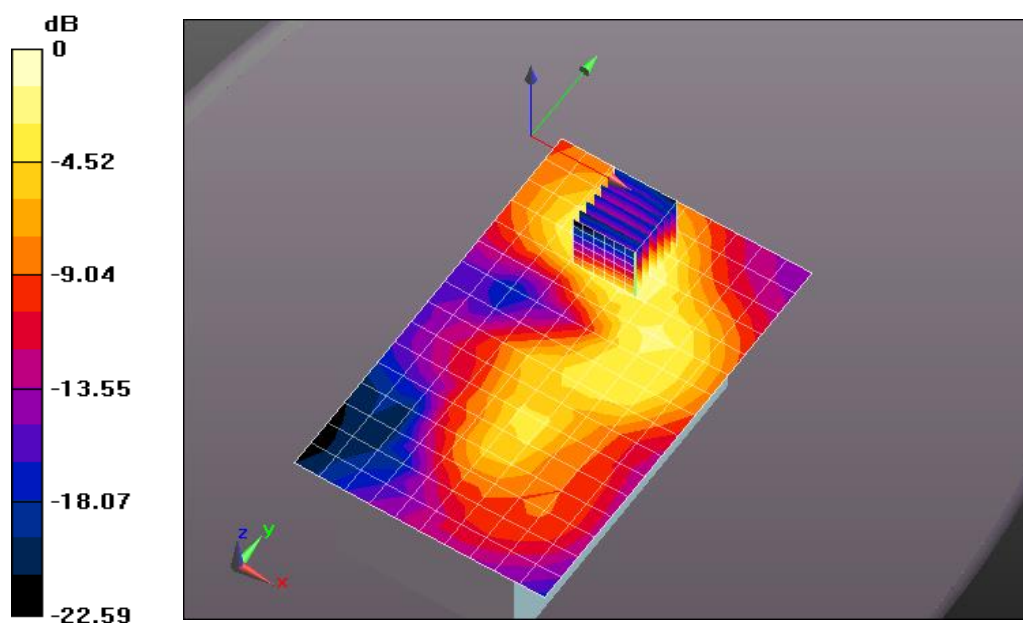
**Flat-Section/Back 0mm\_2TS/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 9.026 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.459 mW/g

**SAR(1 g) = 0.288 mW/g; SAR(10 g) = 0.170 mW/g**

Maximum value of SAR (measured) = 0.314 mW/g



0 dB = 0.337 mW/g = -9.45 dB mW/g

## Plot 2

Date/Time: 6/23/2015 4:51:27 PM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Reliant Heart; Type: Heart Assist; Serial: 00070**

Communication System: UMTS-FDD (WCDMA); Frequency: 1880 MHz

Medium: MSL1900\_Batch 110530-3

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.489$  mho/m;  $\epsilon_r = 52.372$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 20.8C; Medium Temperature: 22.2C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(4.69, 4.69, 4.69); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- DASYS2 52.8.1(838);

**Flat-Section 2/Back 0mm\_1880MHz/Area Scan (11x17x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.377 mW/g

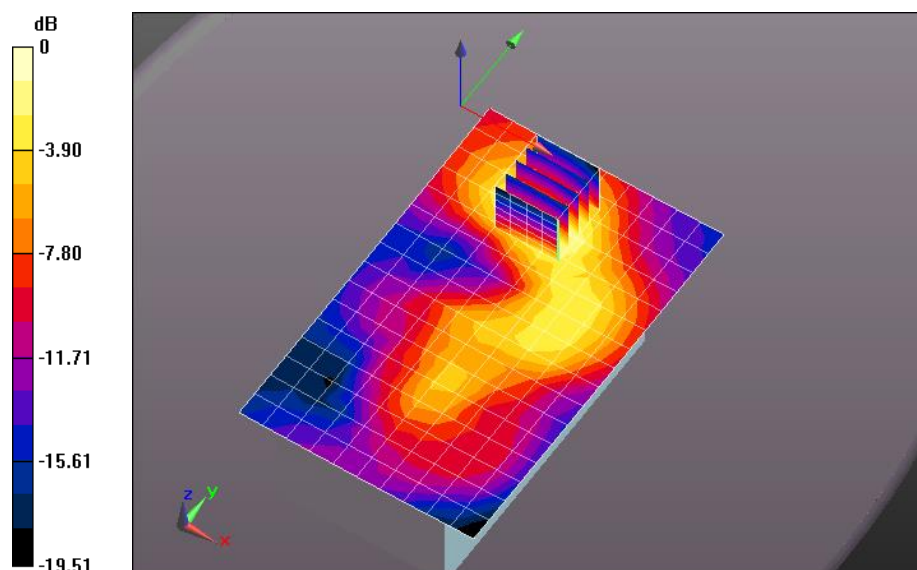
**Flat-Section 2/Back 0mm\_1880MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 8.545 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.529 mW/g

**SAR(1 g) = 0.325 mW/g; SAR(10 g) = 0.190 mW/g**

Maximum value of SAR (measured) = 0.352 mW/g



0 dB = 0.377 mW/g = -8.47 dB mW/g

# Plot 3

Date/Time: 6/24/2015 10:38:48 AM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Reliant Heart; Type: Heart Assist; Serial: 00070**

Communication System: UMTS-FDD (WCDMA); Frequency: 1732.6 MHz

Medium: MSL1900\_Batch 110530-3

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.46$  mho/m;  $\epsilon_r = 53.087$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 19.8C; Medium Temperature: 20.2C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(4.9, 4.9, 4.9); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- DASY52 52.8.1(838);

**Flat-Section 3/Back 0mm/Area Scan (11x17x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.346 mW/g

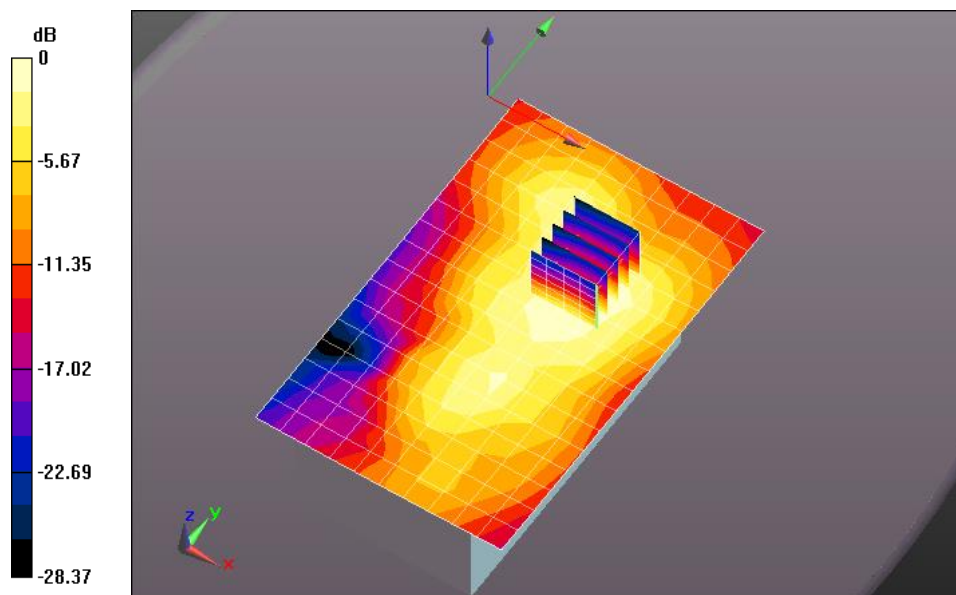
**Flat-Section 3/Back 0mm/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 10.729 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.480 mW/g

**SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.194 mW/g**

Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.346 mW/g = -9.23 dB mW/g

# Plot 4

Date/Time: 11/2/2015 8:04:19 PM

Test Laboratory: Cetecom Inc. SAR 1 Lab

DUT: Reliant Heart; Type: Heart Assist; Serial: 00070

Communication System: GPRS-FDD (TDMA, GMSK, TN 0-1); Frequency: 836.6 MHz

Medium: MSL900\_Batch 100818-1

Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.988$  mho/m;  $\epsilon_r = 53.124$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

Procedure Notes: Test Technician: John; Air Temperature: 21C; Medium Temperature: 20.5C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(6.14, 6.14, 6.14); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1233; Calibrated: 3/17/2014
- Phantom: SAM; Type: QD 000 P40 CC; Serial: 1592
- DASY52 52.8.1(838);

**11-02-2015/Back 0mm\_2TS/Area Scan (9x16x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.652 mW/g

**11-02-2015/Back 0mm\_2TS/Zoom Scan (6x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

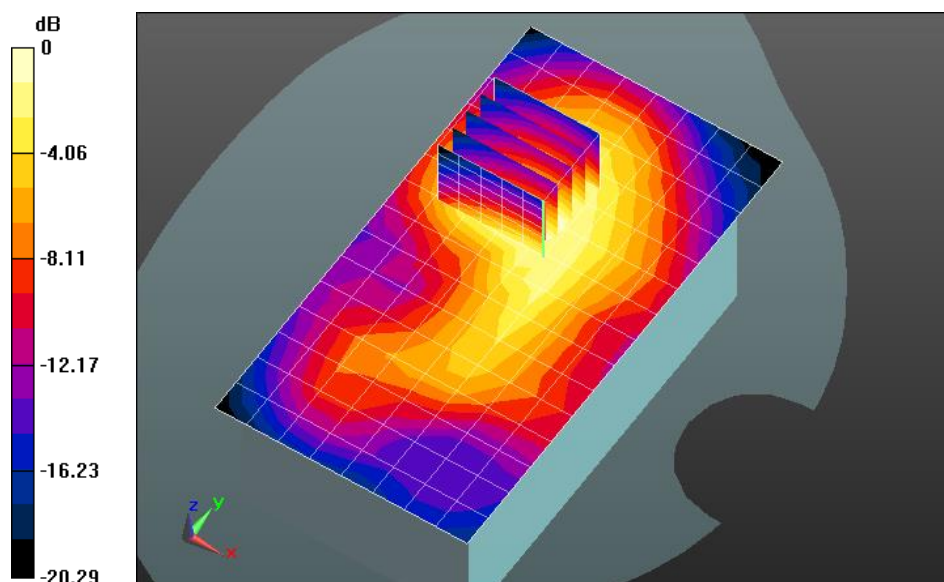
Reference Value = 16.272 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.853 mW/g

**SAR(1 g) = 0.585 mW/g; SAR(10 g) = 0.394 mW/g**

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.621 mW/g



0 dB = 0.652 mW/g = -3.72 dB mW/g

## Plot 5

Date/Time: 6/23/2015 11:40:55 AM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Reliant Heart; Type: Heart Assist; Serial: 00070**

Communication System: UMTS-FDD (WCDMA); Frequency: 836.6 MHz

Medium: MSL900\_Batch 110518-7

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.97$  mho/m;  $\epsilon_r = 54.308$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 20.8C; Medium Temperature: 19.6C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(6.14, 6.14, 6.14); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: SAM; Type: QD 000 P40 CC; Serial: 1592
- DASY52 52.8.1(838);

**Flat-Section/Back 0mm/Area Scan (9x17x1):** Measurement grid:  $dx=12$ mm,  $dy=12$ mm

Maximum value of SAR (measured) = 0.283 mW/g

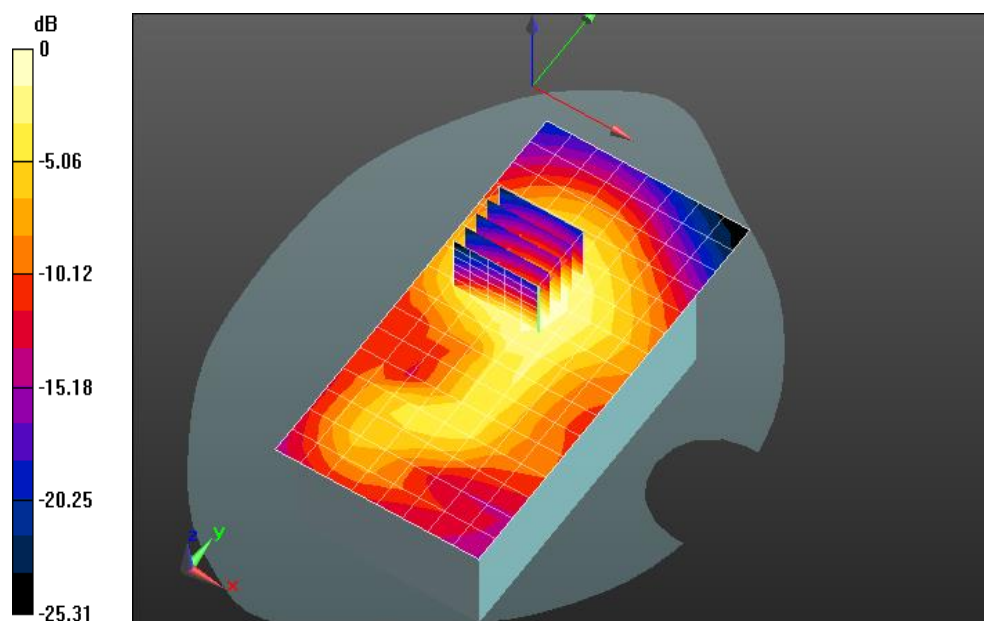
**Flat-Section/Back 0mm/Zoom Scan (6x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 11.830 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.351 mW/g

**SAR(1 g) = 0.250 mW/g; SAR(10 g) = 0.174 mW/g**

Maximum value of SAR (measured) = 0.280 mW/g



0 dB = 0.283 mW/g = -10.98 dB mW/g

# Plot 6

Date/Time: 6/23/2015 10:59:04 AM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Dipole 835 MHz - D835V2 - SN4d113\_April 2014; Type: D835V2; Serial: D835V2 - SN:4d113**

Communication System: CW; Frequency: 835 MHz

Medium: MSL900\_Batch 110518-7

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.967$  mho/m;  $\epsilon_r = 54.318$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 20.4C; Medium Temperature: 19.4C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(6.14, 6.14, 6.14); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: SAM; Type: QD 000 P40 CC; Serial: 1592
- DASY52 52.8.1(838);

**System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1W, dist=3.0mm (ES-Probe)/Area Scan (4x4x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.77 mW/g

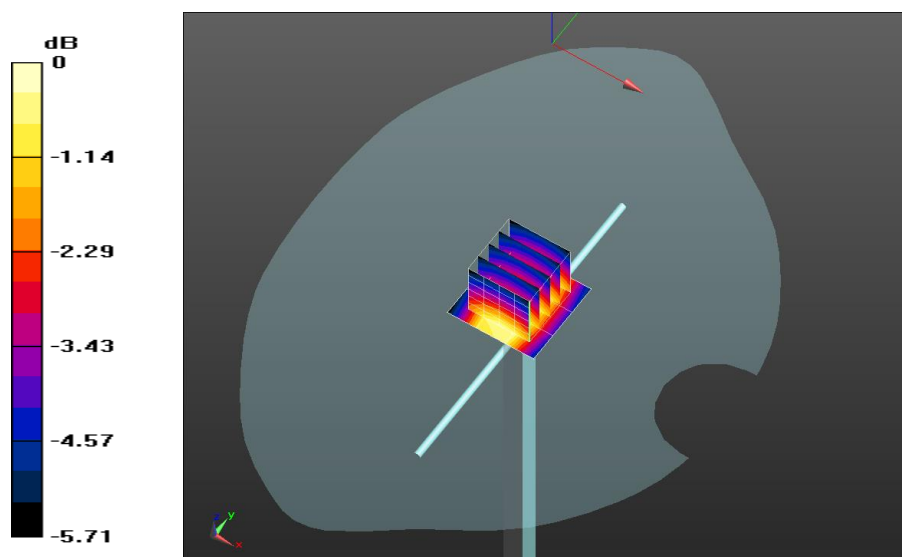
**System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1W, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 111.8 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 13.791 mW/g

**SAR(1 g) = 9.69 mW/g; SAR(10 g) = 6.48 mW/g**

Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 9.77 mW/g = 19.80 dB mW/g



# Plot 7

Date/Time: 6/24/2015 9:59:14 AM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Dipole 1750 MHz - D1750V2 - SN1045\_April 2014; Type: D1750V2; Serial: D1750V2 - SN:1045**

Communication System: CW; Frequency: 1750 MHz

Medium: MSL1900\_Batch 110530-3

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.479$  mho/m;  $\epsilon_r = 52.998$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 20.2C; Medium Temperature: 20.2C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(4.9, 4.9, 4.9); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- DASY52 52.8.1(838);

**System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1W, dist=3.0mm (ES-Probe)/Area Scan (4x4x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 29.3 mW/g

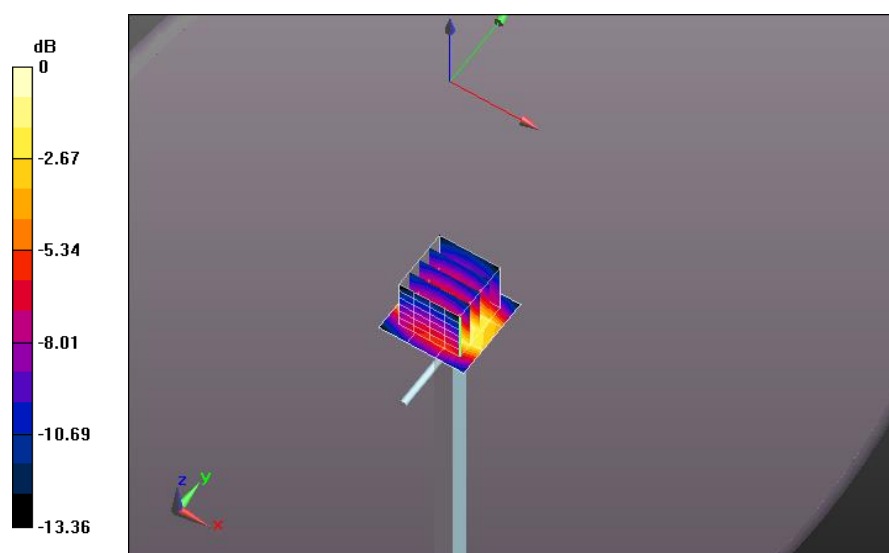
**System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1W, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 177.1 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 57.758 mW/g

**SAR(1 g) = 34.4 mW/g; SAR(10 g) = 18.8 mW/g**

Maximum value of SAR (measured) = 43.0 mW/g



0 dB = 29.3 mW/g = 29.34 dB mW/g

# Plot 8

Date/Time: 6/23/2015 3:14:57 PM

Test Laboratory: Cetecom Inc. SAR 1 Lab

**DUT: Dipole 1900 MHz - D1900V2 - SN5d135\_April 2014; Type: D1900V2; Serial: D1900V2 - SN:5d135**

Communication System: CW; Frequency: 1900 MHz

Medium: MSL1900\_Batch 110530-3

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.511$  mho/m;  $\epsilon_r = 52.312$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: Kathy; Air Temperature: 21.7C; Medium Temperature: 22.6C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(4.69, 4.69, 4.69); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1265; Calibrated: 1/29/2014
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: xxxx
- DASYS2 52.8.1(838);

**System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1W, dist=3.0mm (ES-Probe)/Area Scan (4x4x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 29.7 mW/g

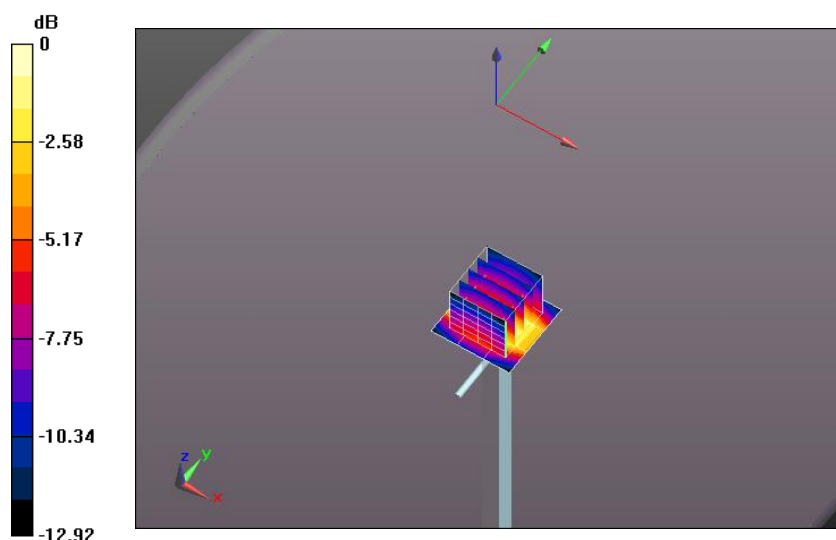
**System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=1W, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 182.5 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 63.147 mW/g

**SAR(1 g) = 36.7 mW/g; SAR(10 g) = 19.6 mW/g**

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



0 dB = 29.7 mW/g = 29.44 dB mW/g



# Plot 9

Date/Time: 11/2/2015 7:40:22 PM

Test Laboratory: Cetecom Inc. SAR 1 Lab

DUT: Dipole 835 MHz - D835V2 - SN4d113\_April 2014; Type: D835V2; Serial: D835V2 - SN:4d113

Communication System: CW; Frequency: 835 MHz

Medium: MSL900\_Batch 100818-1

Medium parameters used (interpolated):  $f = 835$  MHz;  $\sigma = 0.986$  mho/m;  $\epsilon_r = 53.142$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

Procedure Notes: Test Technician: John; Air Temperature: 21.2C; Medium Temperature: 20.7C; Comments: ;

DASY Configuration:

- Probe: ES3DV3 - SN3260; ConvF(6.14, 6.14, 6.14); Calibrated: 3/19/2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1233; Calibrated: 3/17/2014
- Phantom: SAM; Type: QD 000 P40 CC; Serial: 1592
- DASY52 52.8.1(838);

## System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1W, dist=3.0mm (ES-Probe)/Area Scan (4x4x1): Measurement grid: dx=15mm, dy=15mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 9.35 mW/g

## System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=1W, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

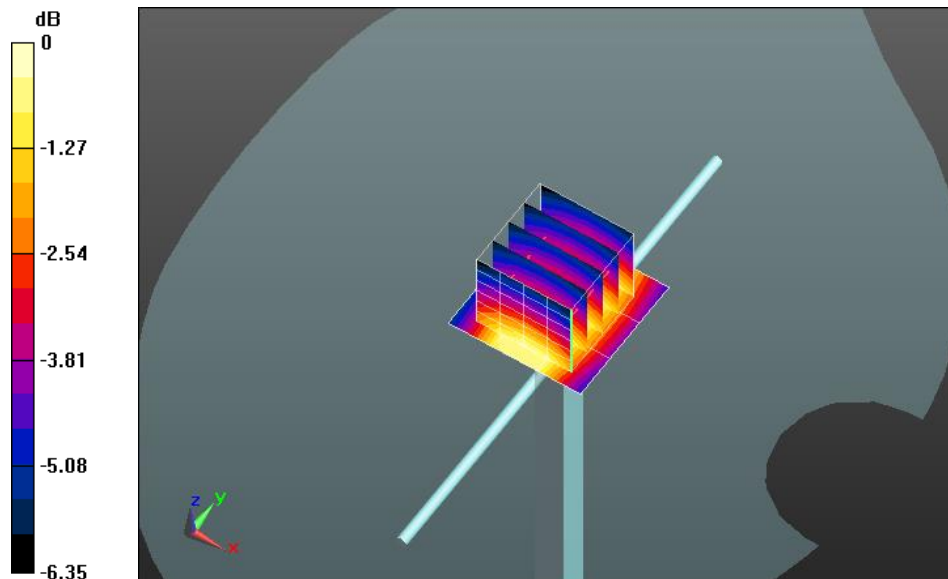
Reference Value = 106.4 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 12.958 mW/g

SAR(1 g) = 9.01 mW/g; SAR(10 g) = 6 mW/g

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 10.4 mW/g



0 dB = 9.35 mW/g = 19.41 dB mW/g