

12-4 System Verification

The system performance check is performed prior to any usage of the system in order to verify SAR system measurement accuracy. The system performance check verifies that the system operates within its specifications of $\pm 10\%$.

System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the SAM twin phantom filled with Head or Body simulating liquid of the following parameters.
- The DASY4 system with an Isotropic E-Field Probe EX3DV4 was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole. For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 fine cube was chosen for cube
- Distance between probe sensors and phantom surface was set to 3 mm. For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW
- The results are normalized to 1 W input power.

Reference SAR Values for HEAD & BODY-tissue from calibration certificate of SPEAG.

System validation dipole	Cal. certificate #	Cal. date	Cal. Freq. (GHz)	SAR Avg (mW/g)		
				Tissue:	Head	Body
D835V2	D835V2-4d117	4/15/11	0.835	SAR _{1g} :	9.64	10.1
				SAR _{10g} :	6.28	6.6
D1900V2	D1900V2-5d140	4/18/11	1.9	SAR _{1g} :	41.6	41.2
				SAR _{10g} :	21.5	21.6
D2450V2	D2450V2-706	4/19/11	2.45	SAR _{1g} :	51.6	52.4
				SAR _{10g} :	24.4	24.5

SAR D room (DASY 4)

Date Tested	System validation dipole		Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
07/20/11	Head	D1900V2	SAR _{1g} :	41.7	41.6	0.24	±10
			SAR _{10g} :	21.6	21.5	0.47	
07/21/11	Head	D1900V2	SAR _{1g} :	40.8	41.6	-1.92	±10
			SAR _{10g} :	20.9	21.5	-2.79	
07/22/11	Head	D1900V2	SAR _{1g} :	42.0	41.6	0.96	±10
			SAR _{10g} :	21.7	21.5	0.93	
07/23/11	Body	D1900V2	SAR _{1g} :	38.9	41.2	-5.58	±10
			SAR _{10g} :	20.5	21.6	-5.09	
07/24/11	Body	D1900V2	SAR _{1g} :	39.2	41.2	-4.85	±10
			SAR _{10g} :	20.6	21.6	-4.63	
07/25/11	Head	D2450V2	SAR _{1g} :	52.1	51.6	0.97	±10
			SAR _{10g} :	23.7	24.4	-2.87	
07/25/11	Head	D1900V2	SAR _{1g} :	39.3	41.6	-5.53	±10
			SAR _{10g} :	20.4	21.5	-5.12	
07/26/11	Head	D1900V2	SAR _{1g} :	40.8	41.6	-1.92	±10
			SAR _{10g} :	21.0	21.5	-2.33	
07/27/11	Body	D1900V2	SAR _{1g} :	41.5	41.2	0.73	±10
			SAR _{10g} :	21.8	21.6	0.93	
07/28/11	Body	D2450V2	SAR _{1g} :	52.5	52.4	0.19	±10
			SAR _{10g} :	24.4	24.5	-0.41	
08/01/11	Head	D1900V2	SAR _{1g} :	40.2	41.6	-3.37	±10
			SAR _{10g} :	20.7	21.5	-3.72	
08/02/11	Body	D1900V2	SAR _{1g} :	39.9	41.2	-3.16	±10
			SAR _{10g} :	21.1	21.6	-2.31	
08/03/11	Body	D1900V2	SAR _{1g} :	38.8	41.2	-5.83	±10
			SAR _{10g} :	20.5	21.6	-5.09	
08/08/11	Body	D1900V2	SAR _{1g} :	39.2	41.2	-4.85	±10
			SAR _{10g} :	20.5	21.6	-5.09	
08/08/11	Body	D2450V2	SAR _{1g} :	50.1	52.4	-4.39	±10
			SAR _{10g} :	23.3	24.5	-4.90	
08/10/11	Body	D2450V2	SAR _{1g} :	51.4	52.4	-1.91	±10
			SAR _{10g} :	23.8	24.5	-2.86	
08/12/11	Body	D1900V2	SAR _{1g} :	39.6	41.2	-3.88	±10
			SAR _{10g} :	20.7	21.6	-4.17	
08/19/11	Head	D2450V2	SAR _{1g} :	51.6	51.6	0.00	±10
			SAR _{10g} :	24.1	24.4	-1.23	
08/22/11	Body	D835V2	SAR _{1g} :	9.98	10.1	-1.19	±10
			SAR _{10g} :	6.55	6.6	-0.76	
09/30/11	Body	D835V2	SAR _{1g} :	10.14	10.1	0.40	±10
			SAR _{10g} :	6.81	6.6	3.18	

SAR C room (DASY 5)

Date Tested	System validation dipole		Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
07/21/11	Head	D835V2	SAR _{1g}	9.60	9.64	-0.41	±10
			SAR _{10g}	6.32	6.28	0.64	
07/22/11	Head	D835V2	SAR _{1g}	9.48	9.64	-1.66	±10
			SAR _{10g}	6.24	6.28	-0.64	
07/23/11	Head	D835V2	SAR _{1g}	9.29	9.64	-3.63	±10
			SAR _{10g}	6.12	6.28	-2.55	
07/24/11	Body	D835V2	SAR _{1g}	9.91	10.1	-1.88	±10
			SAR _{10g}	6.53	6.6	-1.06	
07/25/11	Body	D835V2	SAR _{1g}	9.70	10.1	-3.96	±10
			SAR _{10g}	6.40	6.6	-3.03	
07/26/11	Body	D835V2	SAR _{1g}	10.2	10.1	0.99	±10
			SAR _{10g}	6.72	6.6	1.82	
07/27/11	Body	D835V2	SAR _{1g}	10.1	10.1	0.00	±10
			SAR _{10g}	6.63	6.6	0.45	
07/28/11	Body	D835V2	SAR _{1g}	10.2	10.1	0.99	±10
			SAR _{10g}	6.73	6.6	1.97	
07/29/11	Body	D835V2	SAR _{1g}	10.2	10.1	0.99	±10
			SAR _{10g}	6.71	6.6	1.67	
08/01/11	Head	D835V2	SAR _{1g}	9.58	9.64	-0.62	±10
			SAR _{10g}	6.31	6.28	0.48	
08/02/11	Body	D835V2	SAR _{1g}	9.56	10.1	-5.35	±10
			SAR _{10g}	6.30	6.6	-4.55	
08/03/11	Body	D835V2	SAR _{1g}	9.87	10.1	-2.28	±10
			SAR _{10g}	6.50	6.6	-1.52	
08/08/11	Body	D835V2	SAR _{1g}	9.91	10.1	-1.88	±10
			SAR _{10g}	6.53	6.6	-1.06	
08/12/11	Body	D835V2	SAR _{1g}	10.2	10.1	0.99	±10
			SAR _{10g}	6.74	6.6	2.12	

Test Laboratory: UL CCS SAR Lab C

20110721_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.866$ mho/m; $\epsilon_r = 43.006$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.52, 8.52, 8.52); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP1632
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Head/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.151 mW/g

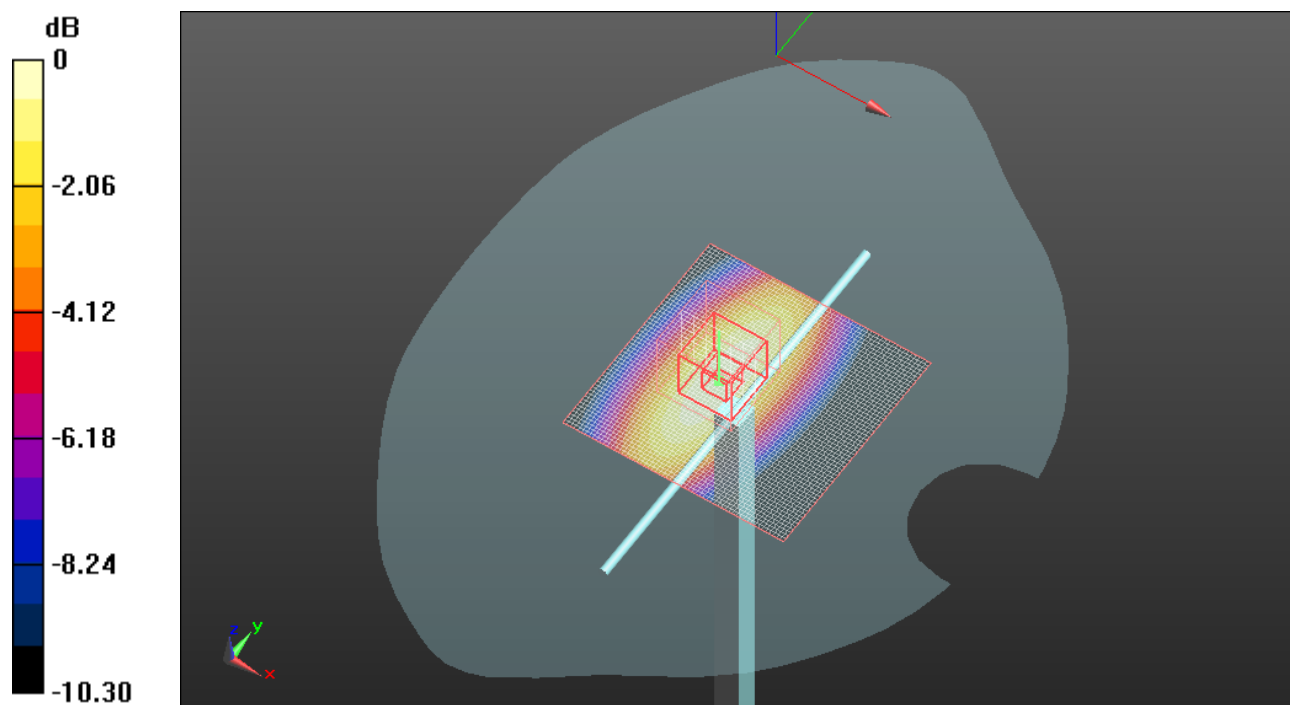
Head/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.541 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.437 W/kg

SAR(1 g) = 0.960 mW/g; SAR(10 g) = 0.632 mW/g

Maximum value of SAR (measured) = 1.165 mW/g



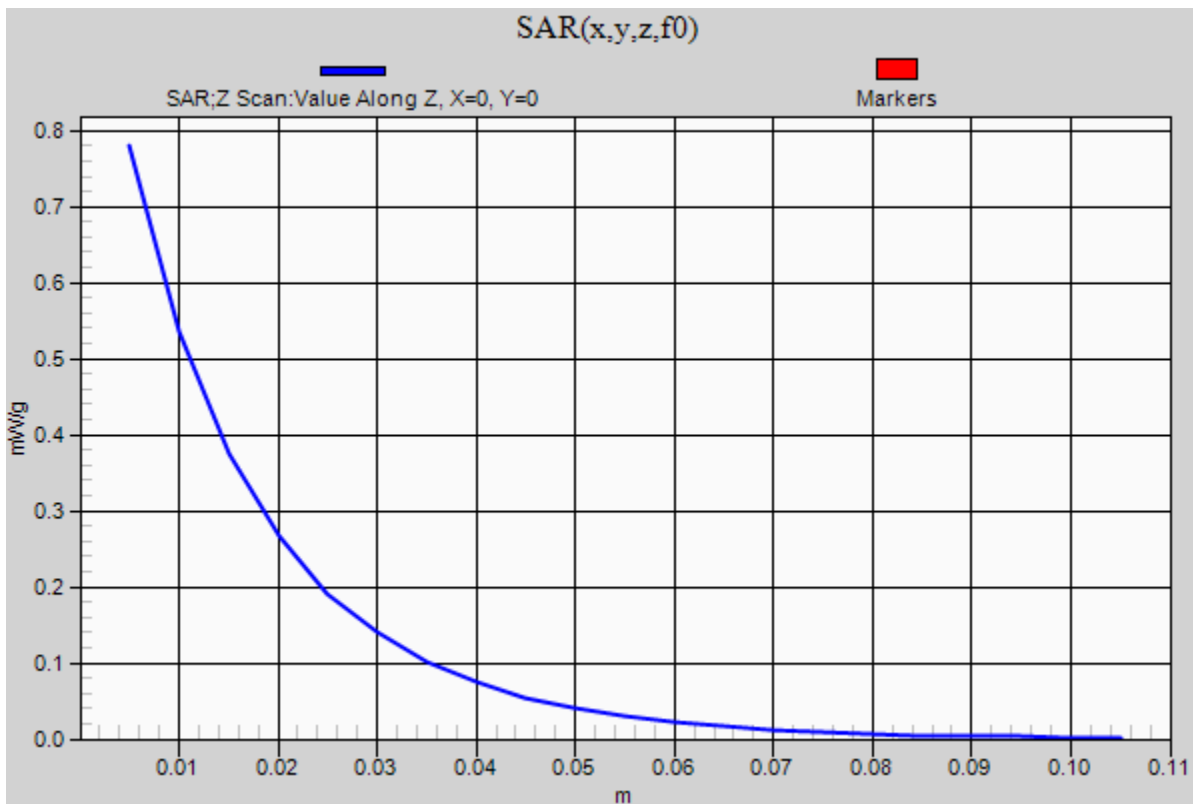
0 dB = 1.160mW/g

Test Laboratory: UL CCS SAR Lab C

20110721_SystemPerformanceCheck-D835V2 SN 4d117

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

Head/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.780 mW/g



Test Laboratory: UL CCS SAR Lab C

20110722_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 43.304$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.52, 8.52, 8.52); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP1632
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Head/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.148 mW/g

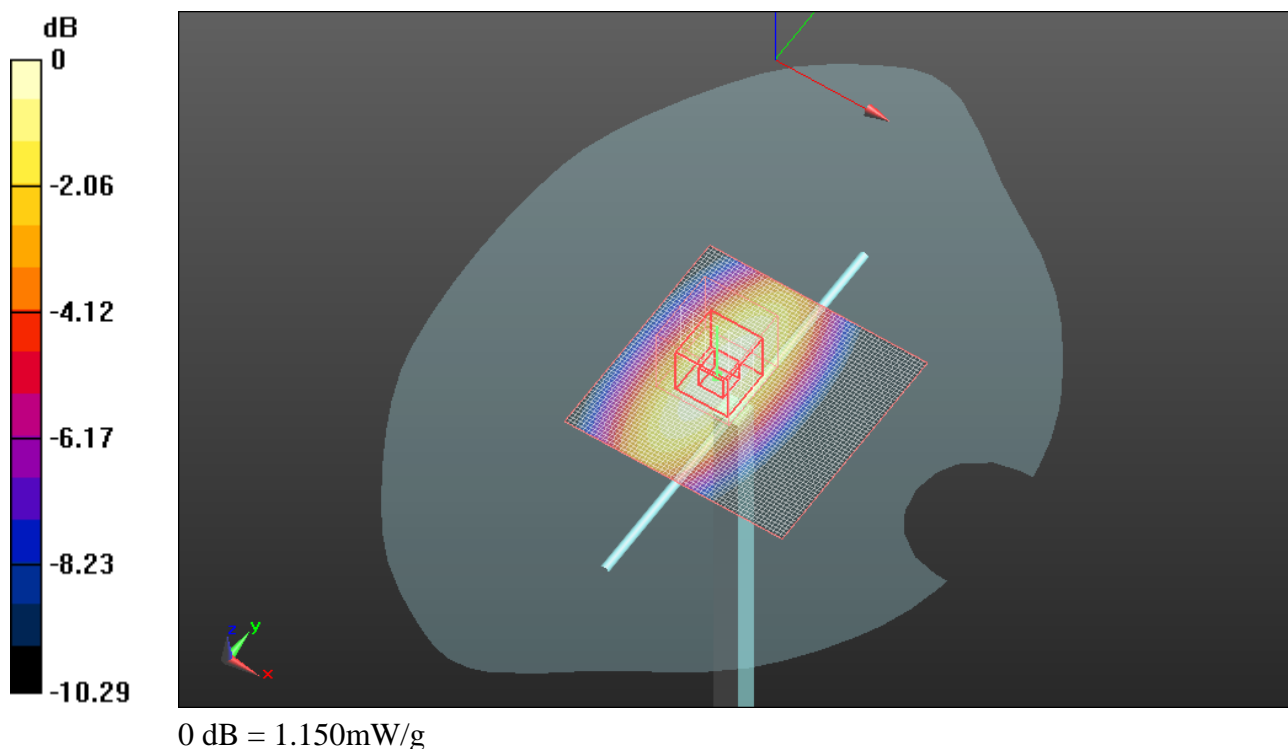
Head/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.750 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.424 W/kg

SAR(1 g) = 0.948 mW/g; SAR(10 g) = 0.624 mW/g

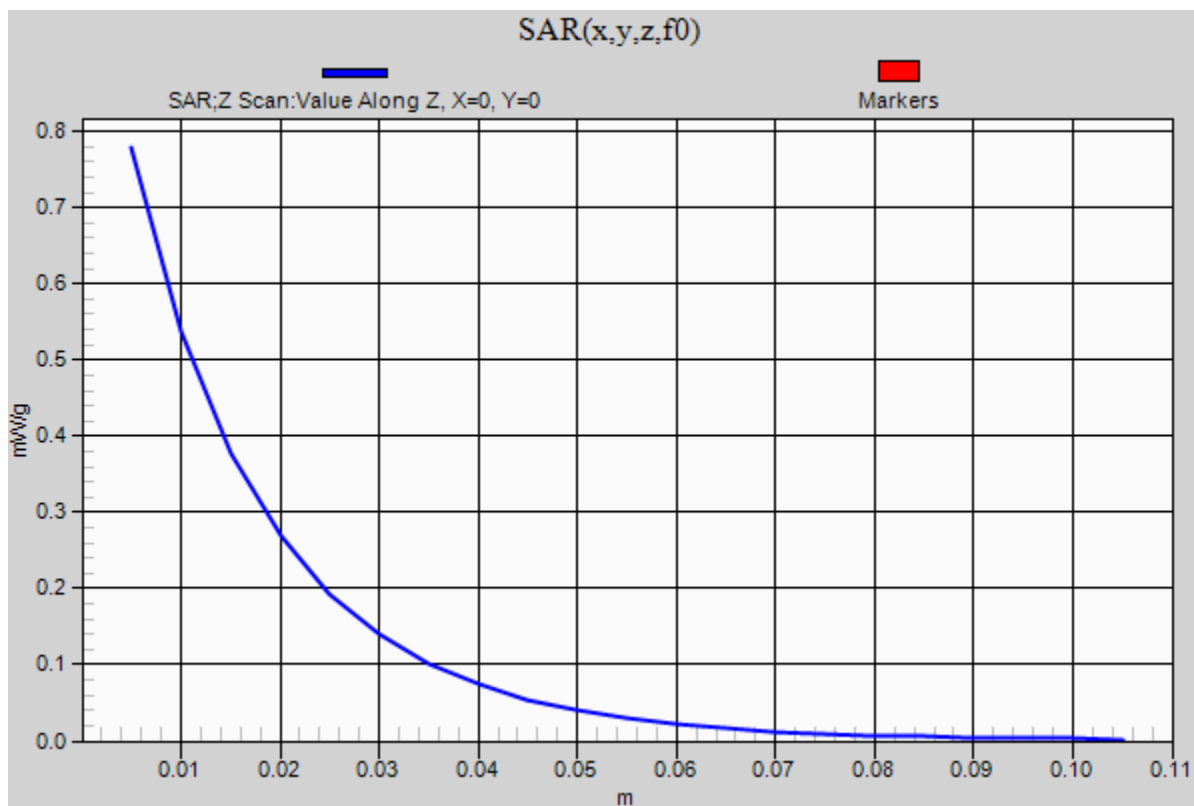
Maximum value of SAR (measured) = 1.152 mW/g



Test Laboratory: UL CCS SAR Lab C

20110722_SystemPerformanceCheck-D835V2 SN 4d117

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

Head/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.779 mW/g

Test Laboratory: UL CCS SAR Lab C

20110723_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.87$ mho/m; $\epsilon_r = 43.304$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.52, 8.52, 8.52); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP1632
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Head/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.134 mW/g

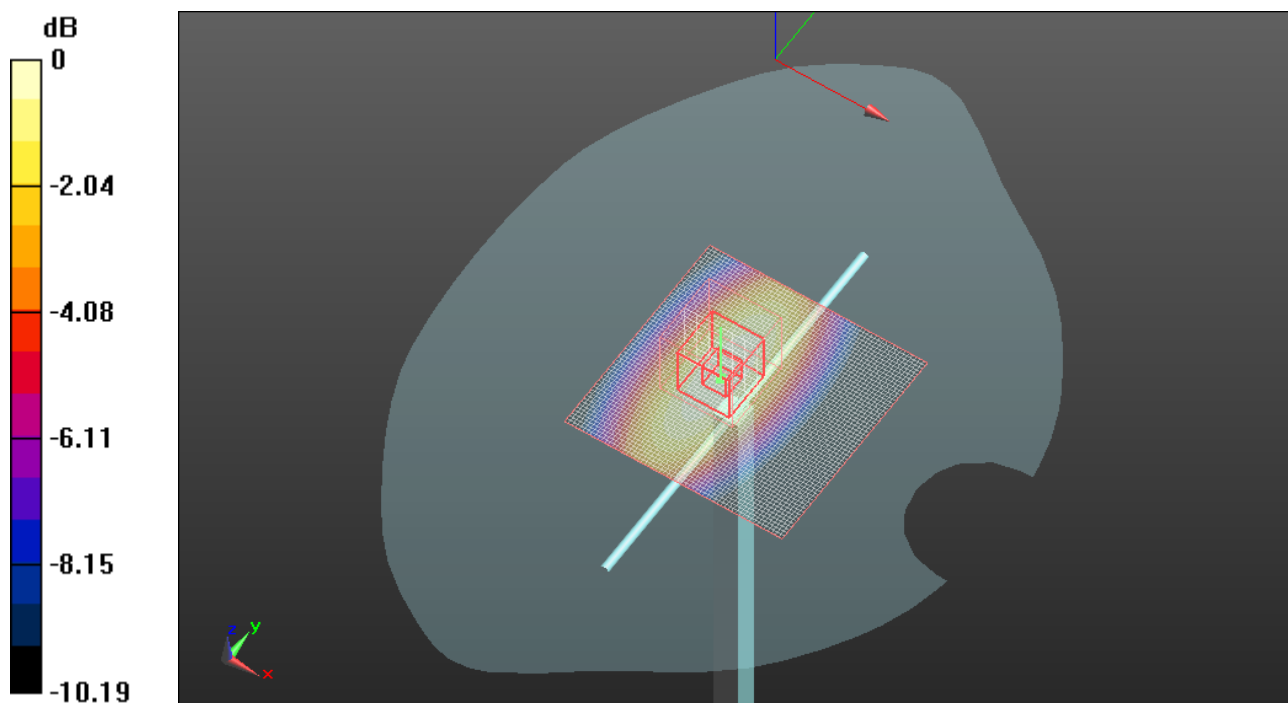
Head/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.934 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.396 W/kg

SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.612 mW/g

Maximum value of SAR (measured) = 1.131 mW/g



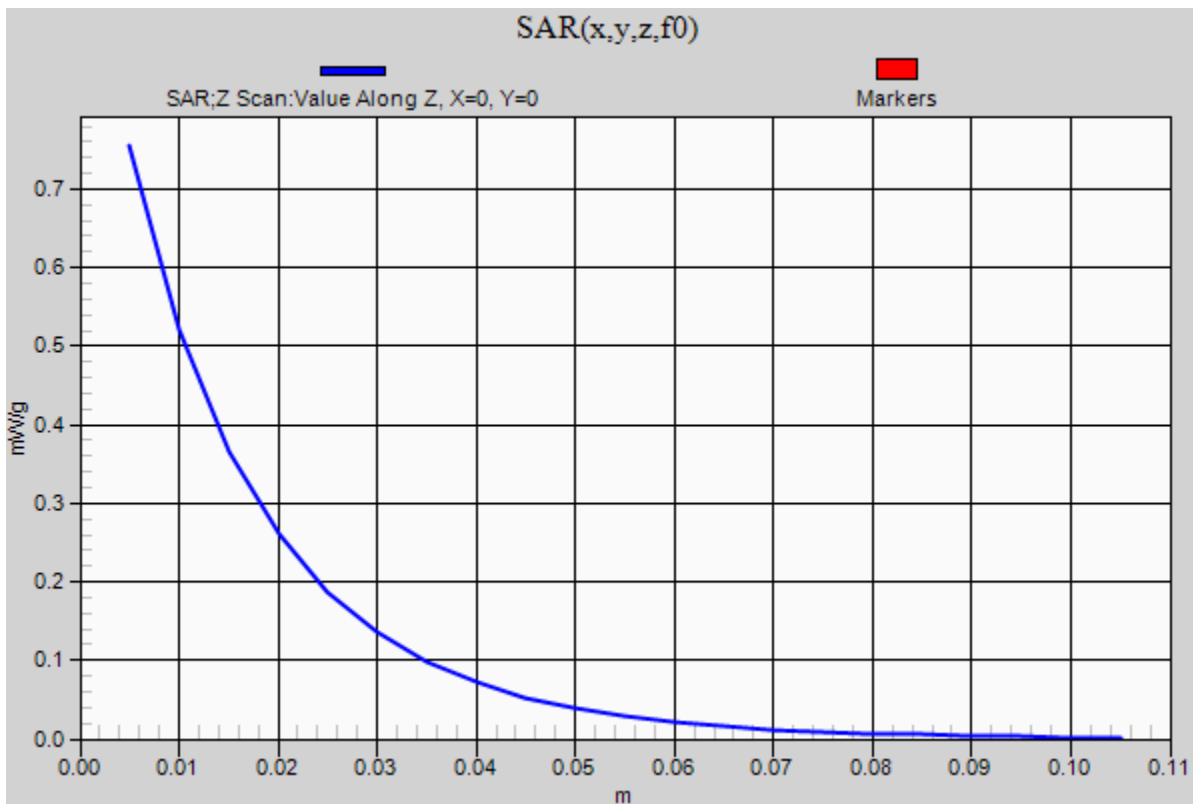
0 dB = 1.130mW/g

Test Laboratory: UL CCS SAR Lab C

20110723_SystemPerformanceCheck-D835V2 SN 4d117

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

Head/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.755 mW/g



Test Laboratory: UL CCS SAR Lab C

20110724_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.967$ mho/m; $\epsilon_r = 54.691$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.200 mW/g

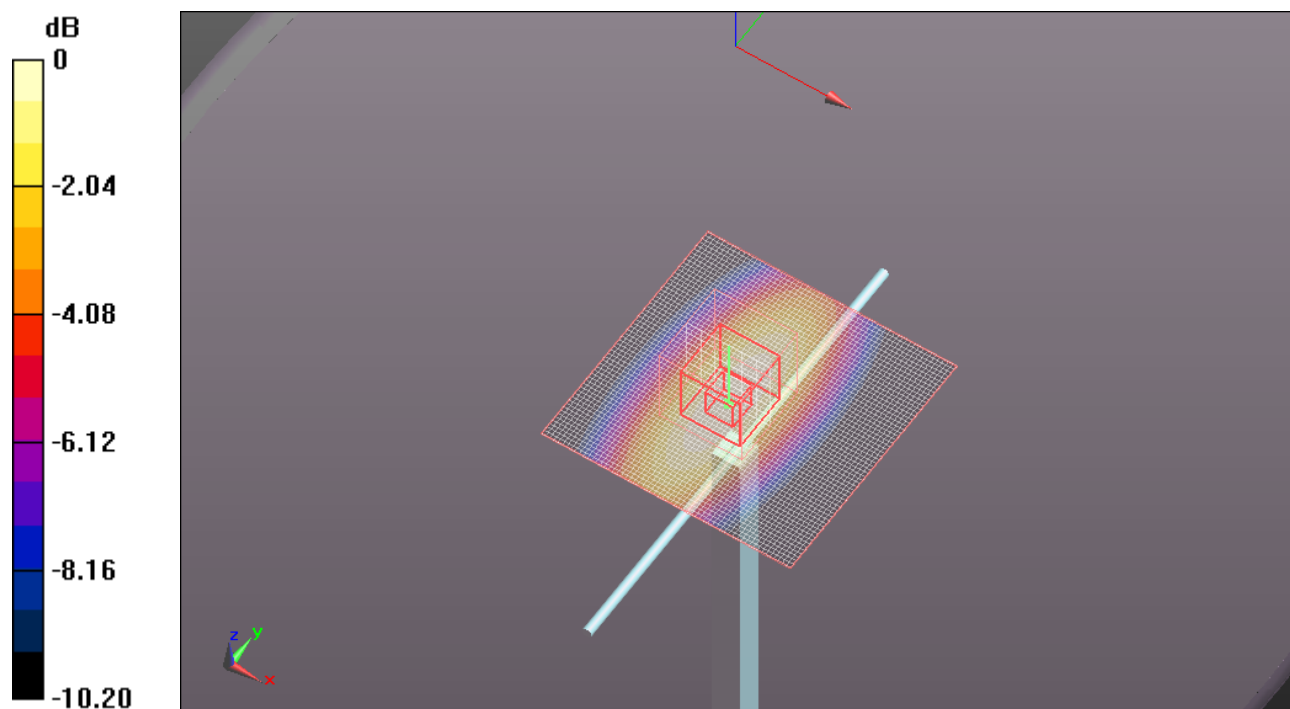
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.561 V/m; Power Drift = 0.0096 dB

Peak SAR (extrapolated) = 1.476 W/kg

SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.653 mW/g

Maximum value of SAR (measured) = 1.203 mW/g



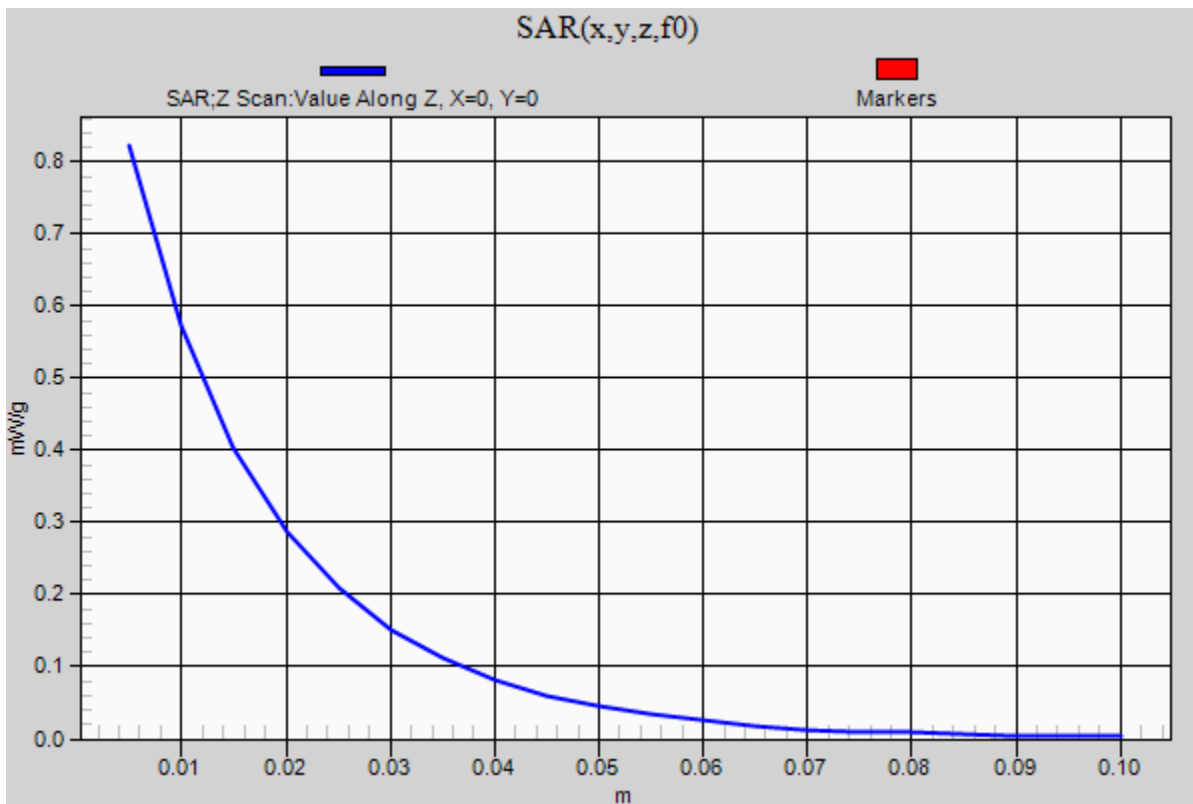
0 dB = 1.200mW/g

Test Laboratory: UL CCS SAR Lab C

20110724_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.823 mW/g



Test Laboratory: UL CCS SAR Lab C

20110725_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.978$ mho/m; $\epsilon_r = 54.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.190 mW/g

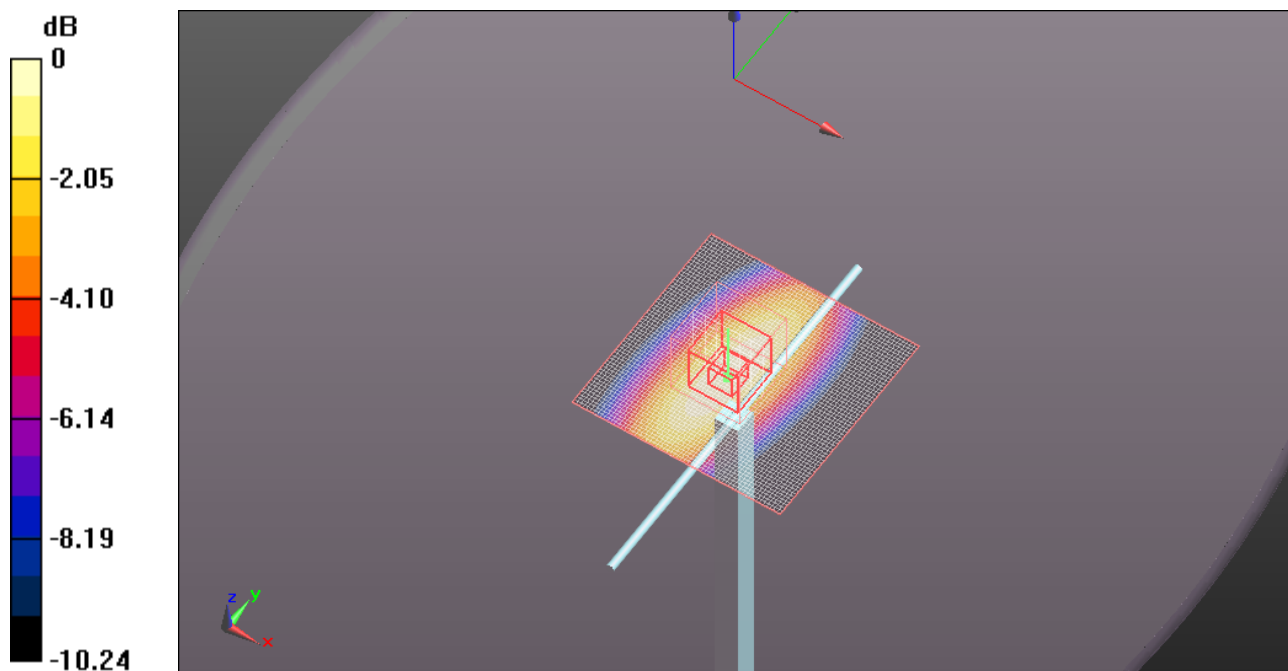
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.448 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.442 W/kg

SAR(1 g) = 0.970 mW/g; SAR(10 g) = 0.640 mW/g

Maximum value of SAR (measured) = 1.177 mW/g



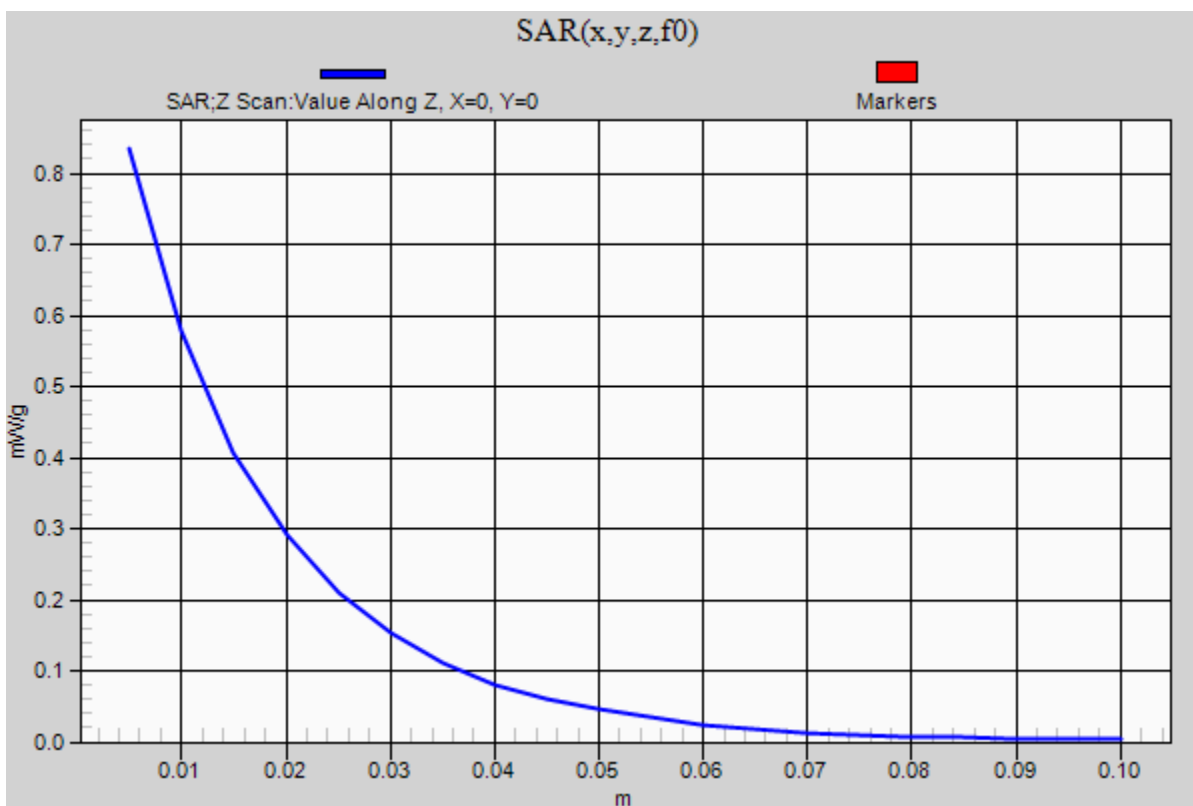
0 dB = 1.180mW/g

Test Laboratory: UL CCS SAR Lab C

20110725_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.835 mW/g



Test Laboratory: UL CCS SAR Lab C

20110726_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 56.286$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.239 mW/g

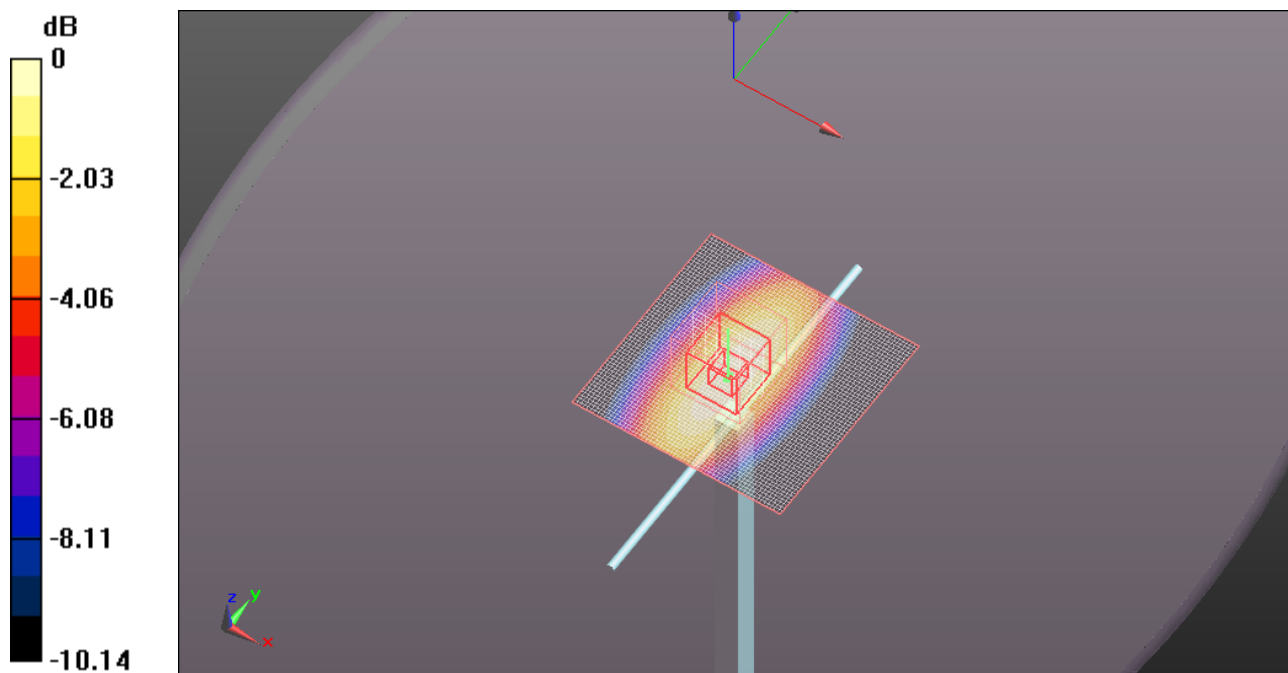
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.815 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.521 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.672 mW/g

Maximum value of SAR (measured) = 1.240 mW/g



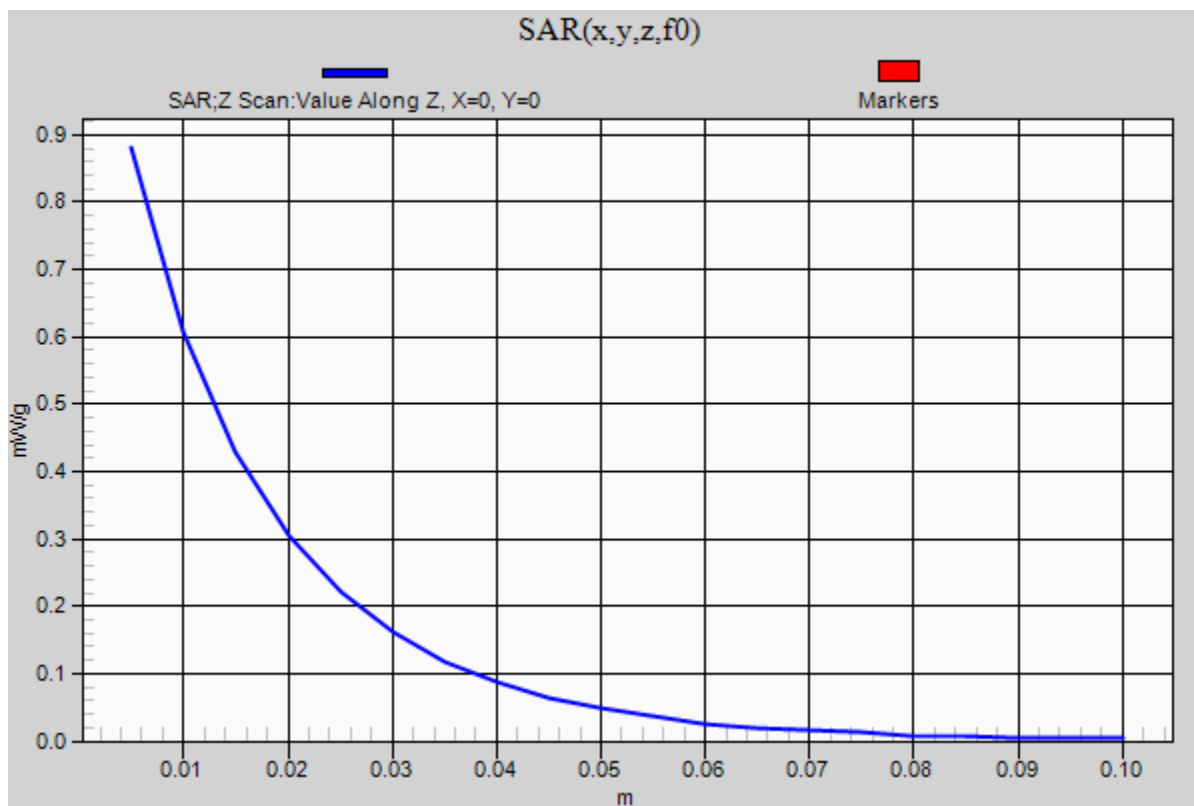
0 dB = 1.240mW/g

Test Laboratory: UL CCS SAR Lab C

20110726_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.881 mW/g



Test Laboratory: UL CCS SAR Lab C

20110727_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.961$ mho/m; $\epsilon_r = 53.73$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.227 mW/g

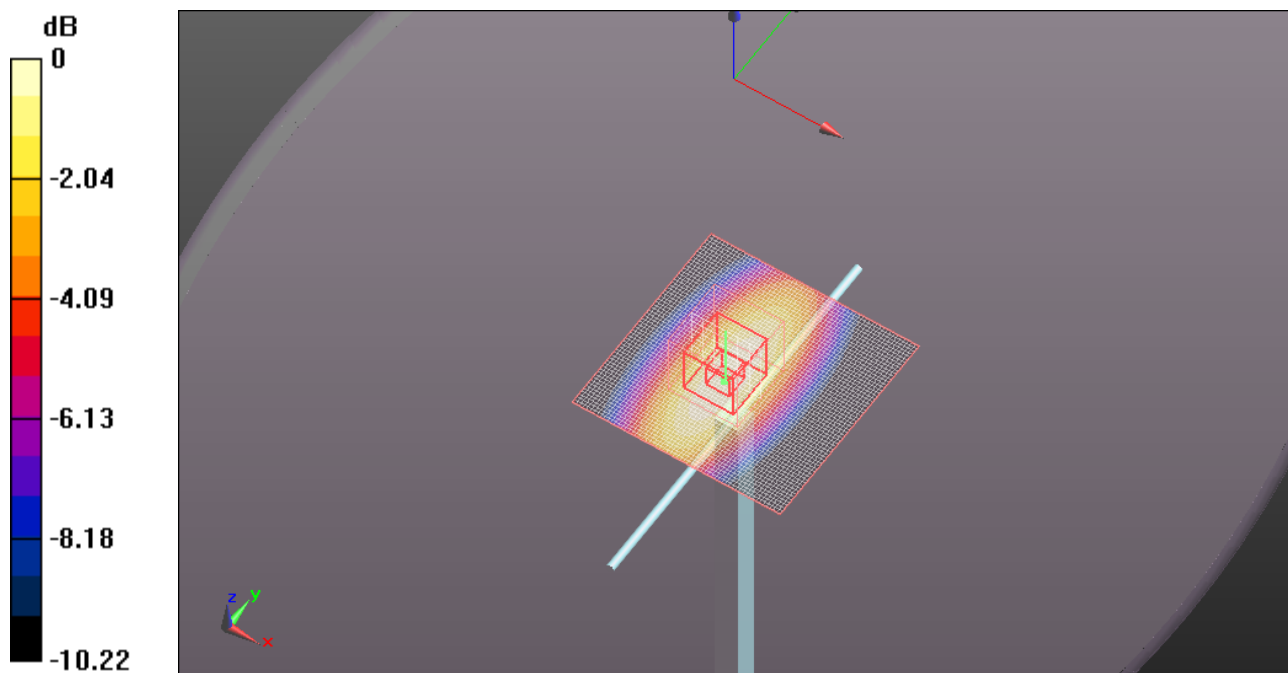
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.128 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.504 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.663 mW/g

Maximum value of SAR (measured) = 1.226 mW/g



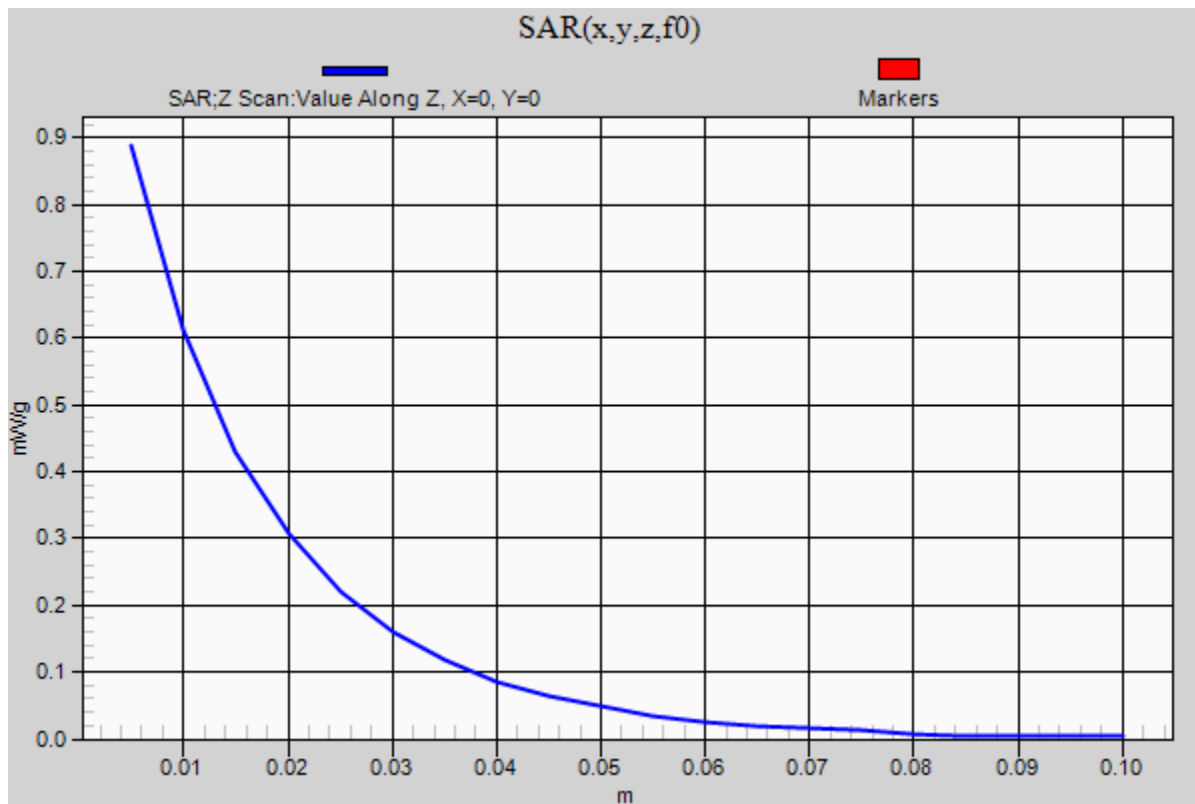
0 dB = 1.230mW/g

Test Laboratory: UL CCS SAR Lab C

20110727_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.888 mW/g



Test Laboratory: UL CCS SAR Lab C

20110728_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used (interpolated): $f = 835$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 55.377$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mmInfo: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.247 mW/g

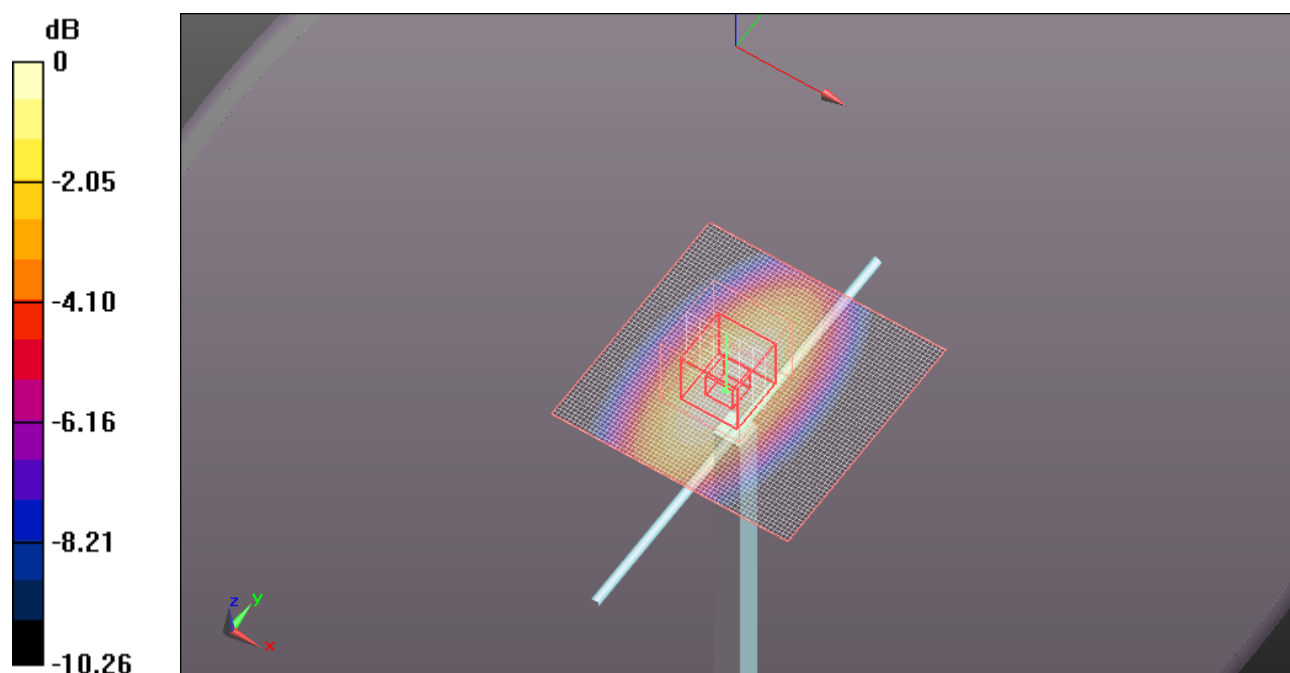
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.029 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.524 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.673 mW/gInfo: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.242 mW/g



0 dB = 1.240mW/g

Test Laboratory: UL CCS SAR Lab C

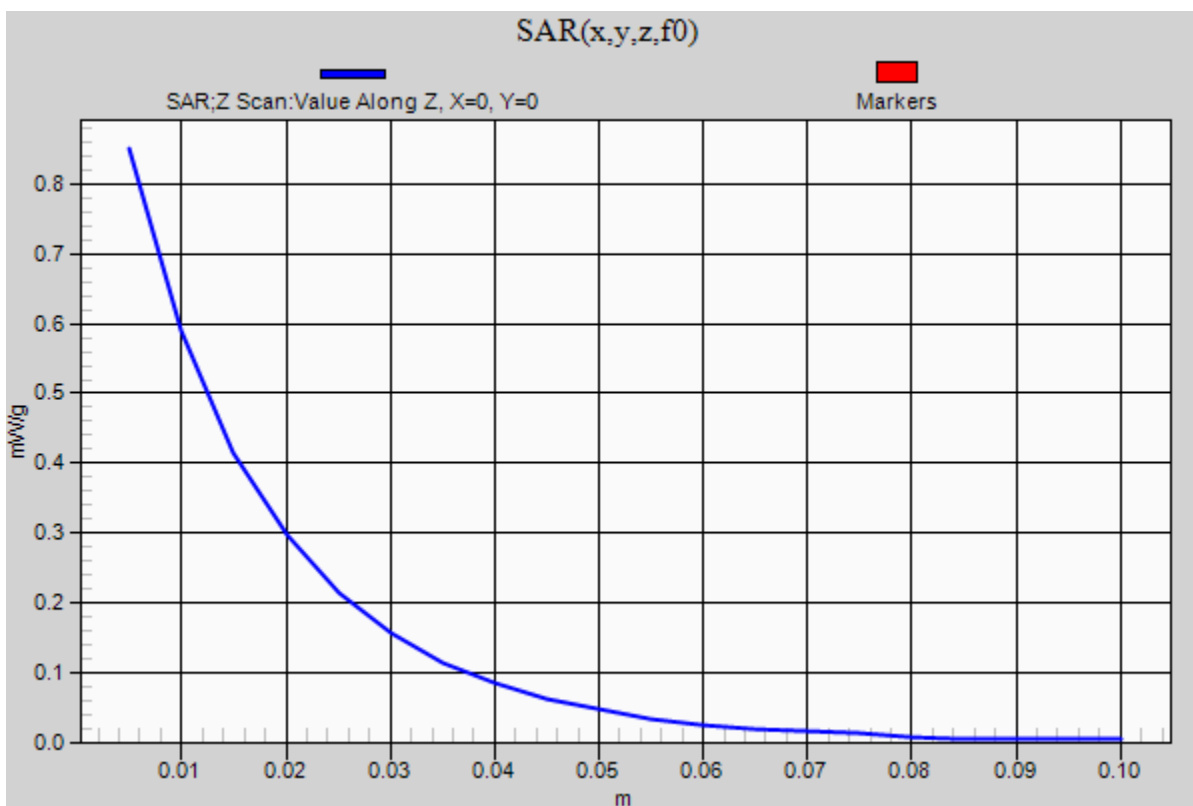
20110728_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of SAR (measured) = 0.851 mW/g



Test Laboratory: UL CCS SAR Lab C

20110729_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 54.111$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.219 mW/g

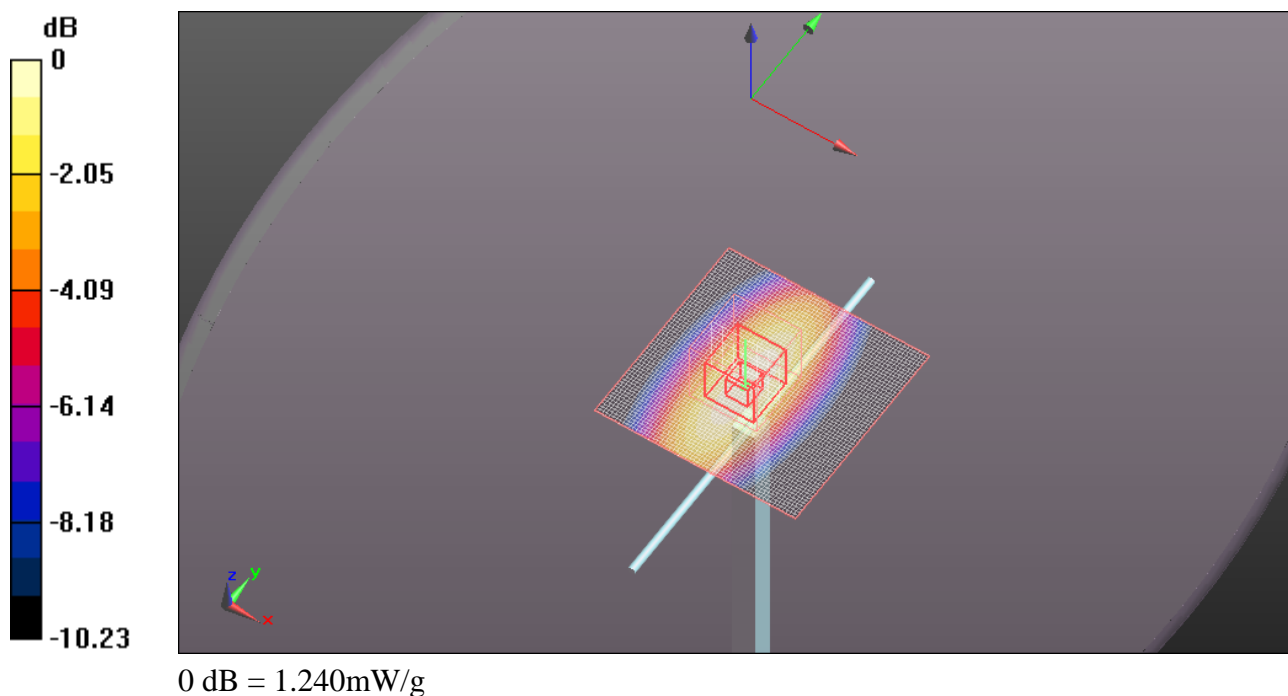
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.921 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.521 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.671 mW/g

Maximum value of SAR (measured) = 1.240 mW/g

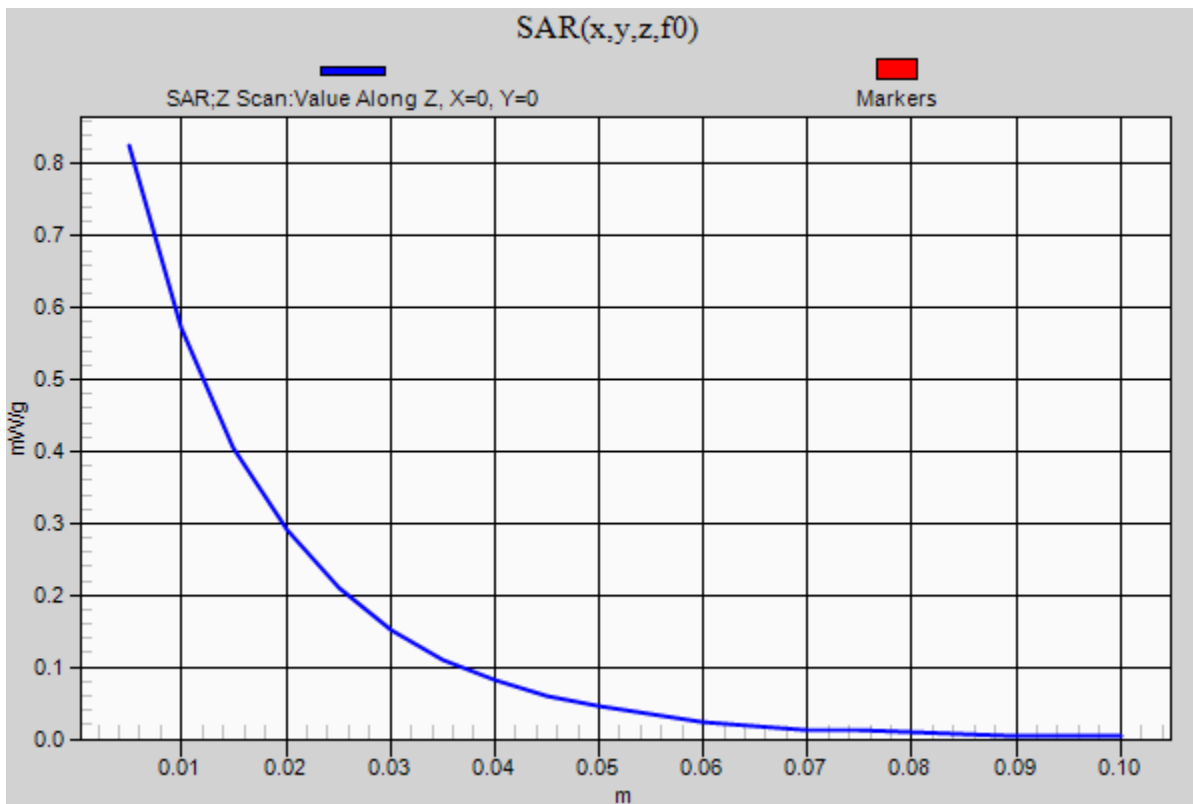


Test Laboratory: UL CCS SAR Lab C

20110729_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.825 mW/g



Test Laboratory: UL CCS SAR Lab C

20110801_SystemPerformanceCheck-D835V2 SN 4d117

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835$ MHz; $\sigma = 0.859$ mho/m; $\epsilon_r = 41.679$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

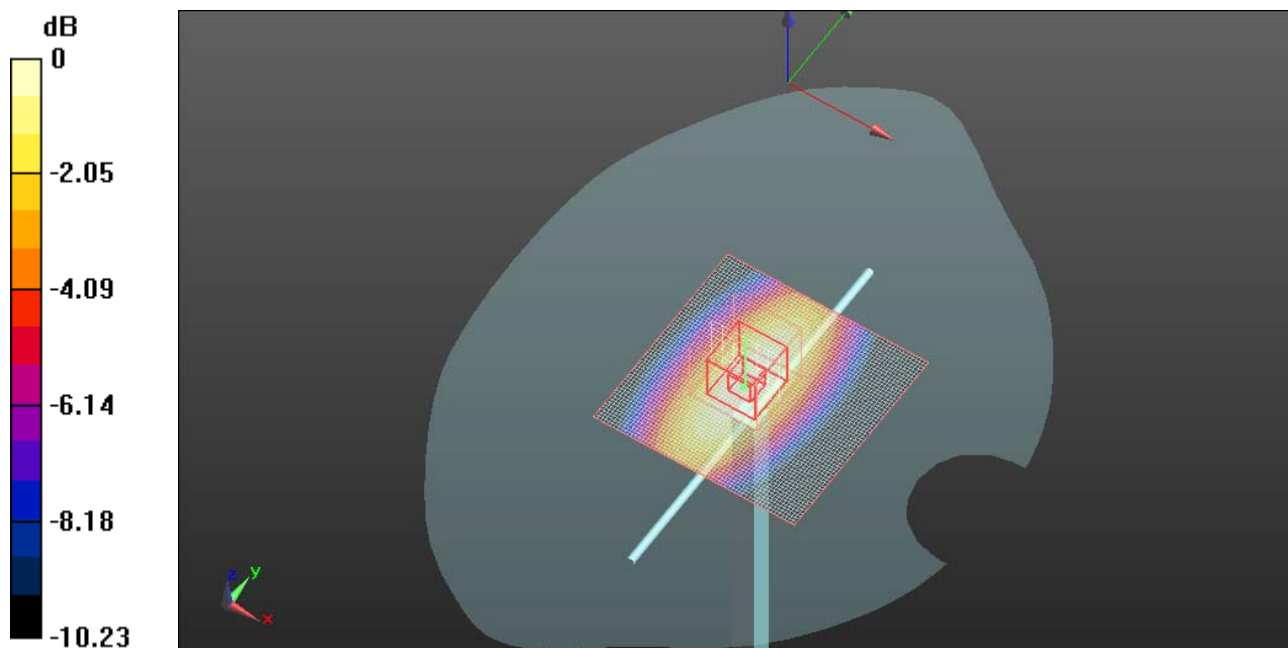
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.52, 8.52, 8.52); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP1632
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 1.151 mW/g

Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 38.305 V/m; Power Drift = -0.01 dB
 Peak SAR (extrapolated) = 1.439 W/kg
SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.631 mW/g
 Maximum value of SAR (measured) = 1.167 mW/g



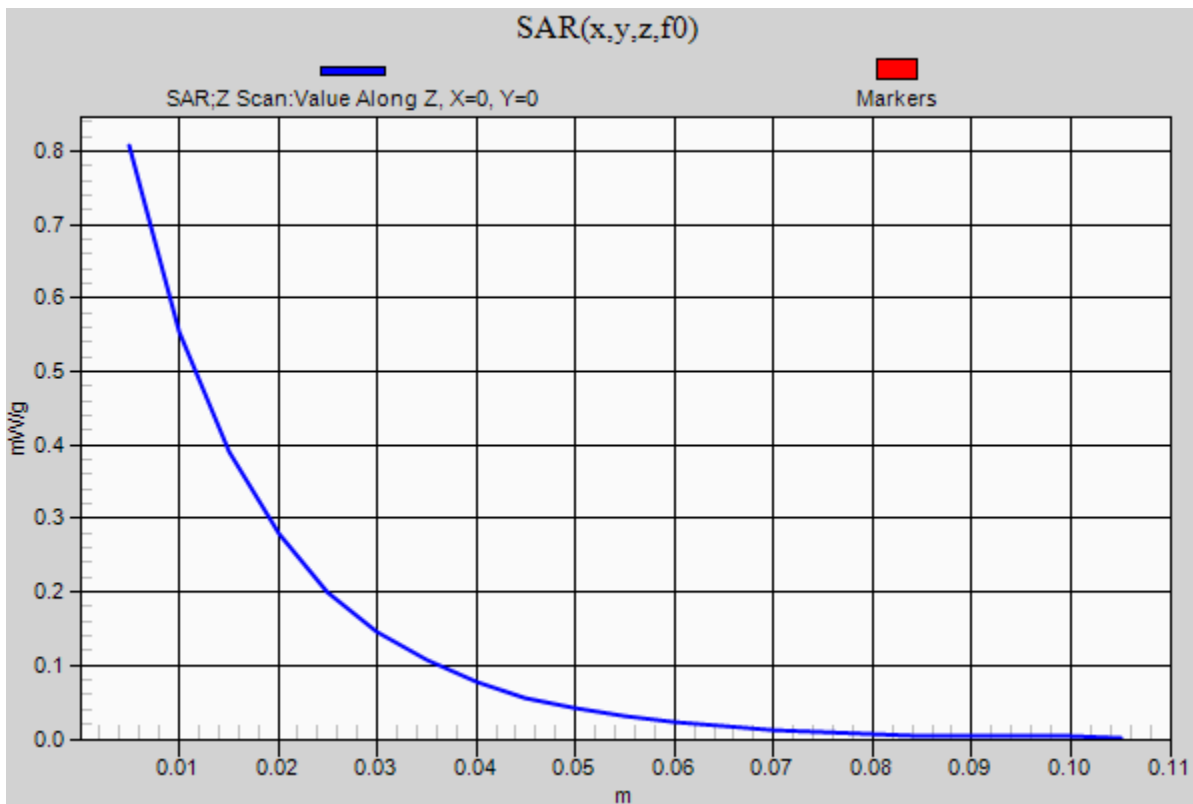
0 dB = 1.170mW/g

Test Laboratory: UL CCS SAR Lab C

20110801_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.808 mW/g



Test Laboratory: UL CCS SAR Lab C

20110802_SystemPerformanceCheck-D835V2 SN 4d117

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 835$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 53.196$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

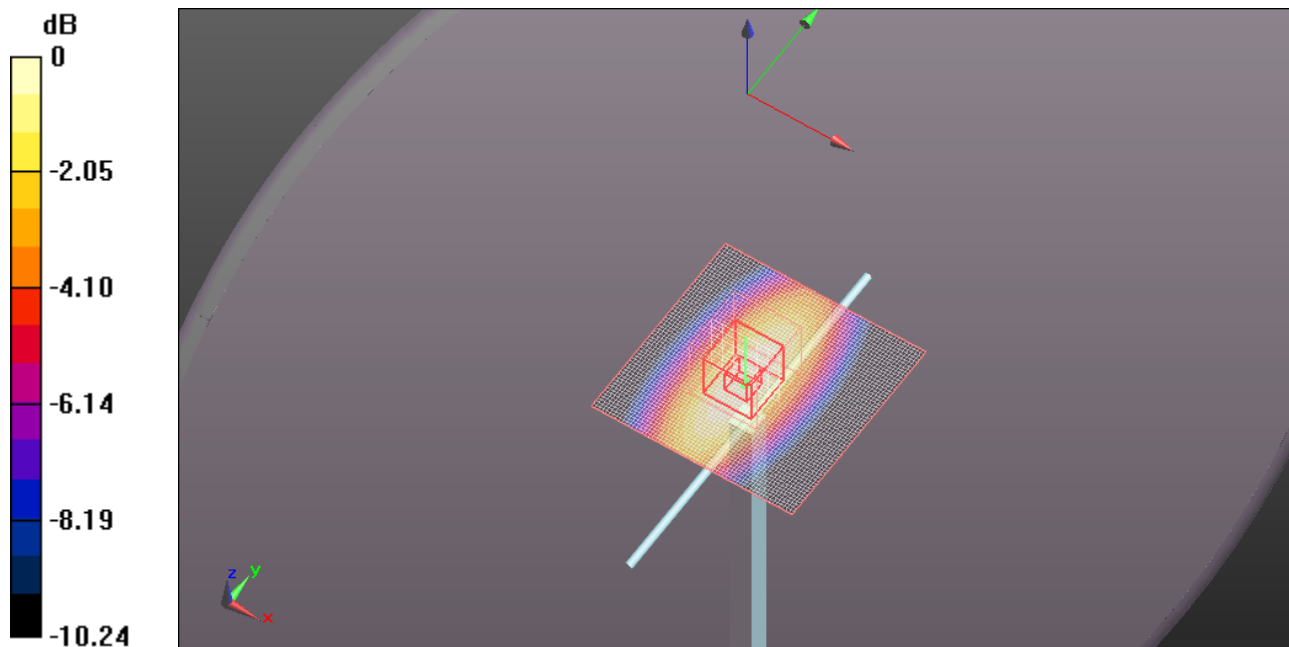
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.162 mW/g

Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 36.201 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.426 W/kg
SAR(1 g) = 0.956 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 1.162 mW/g



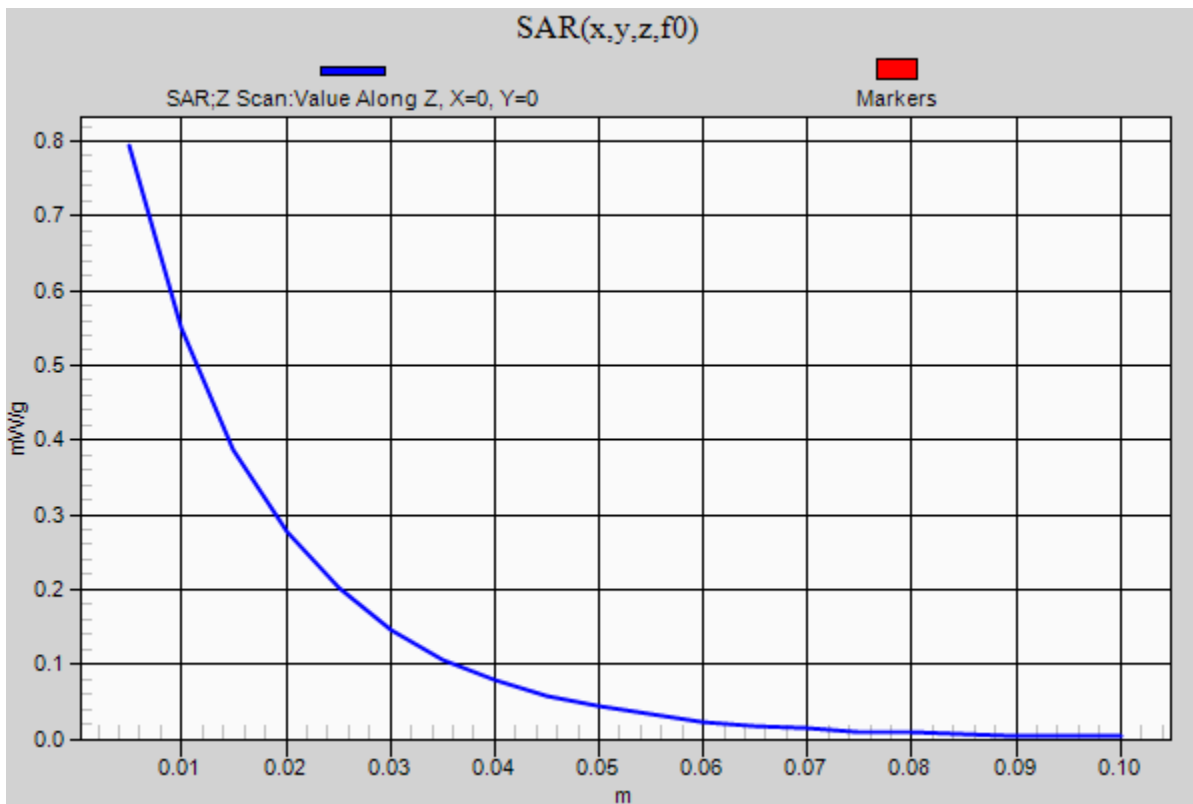
0 dB = 1.160mW/g

Test Laboratory: UL CCS SAR Lab C

20110802_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.794 mW/g



Test Laboratory: UL CCS SAR Lab C

20110803_SystemPerformanceCheck-D835V2 SN 4d117

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835$ MHz; $\sigma = 0.969$ mho/m; $\epsilon_r = 54.899$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

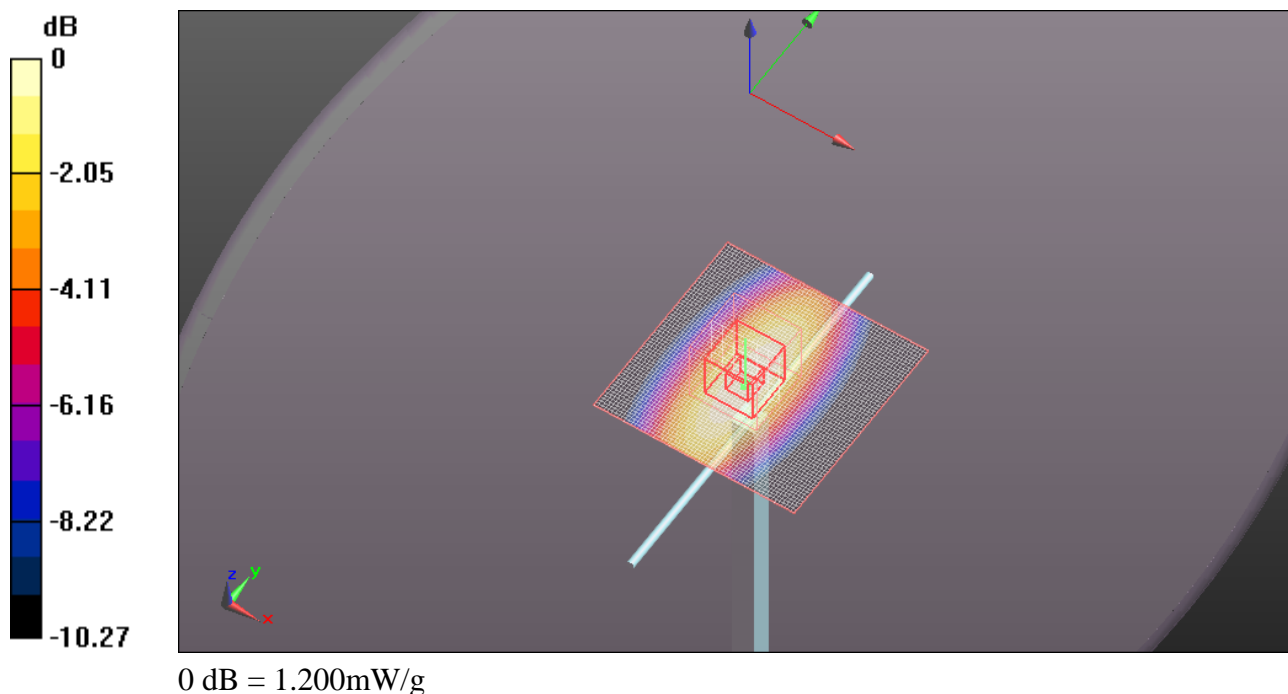
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 1.202 mW/g

Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 36.512 V/m; Power Drift = -0.04 dB
 Peak SAR (extrapolated) = 1.477 W/kg
SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.650 mW/g
 Maximum value of SAR (measured) = 1.200 mW/g

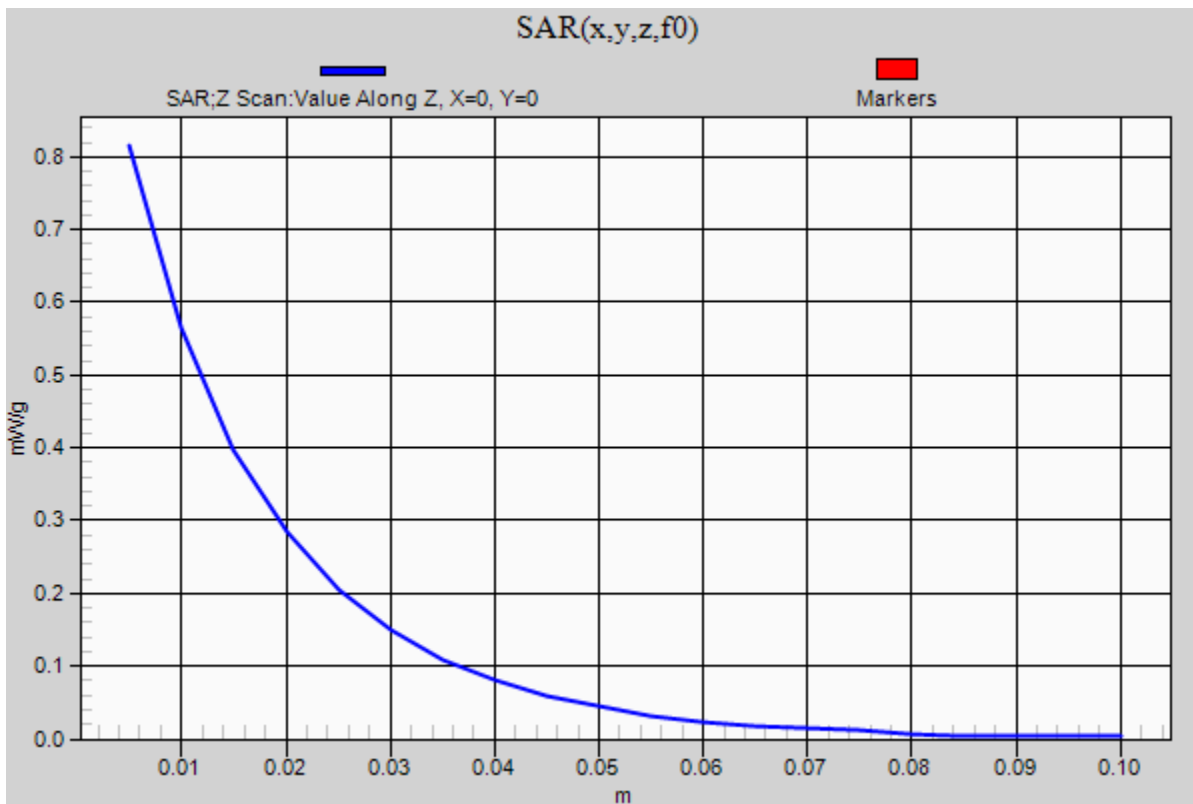


Test Laboratory: UL CCS SAR Lab C

20110803_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.815 mW/g



Test Laboratory: UL CCS SAR Lab C

20110808_SystemPerformanceCheck-D835V2 SN 4d117

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835$ MHz; $\sigma = 0.861$ mho/m; $\epsilon_r = 43.37$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

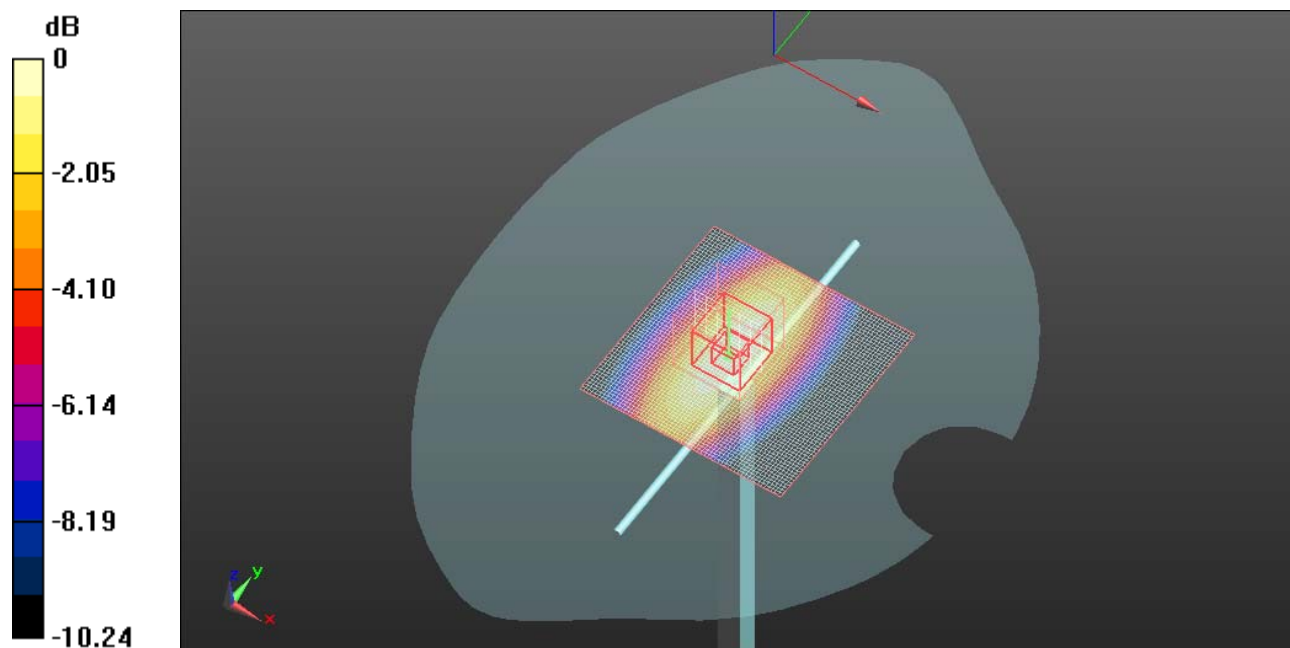
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.52, 8.52, 8.52); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP1632
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 1.186 mW/g

Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 38.727 V/m; Power Drift = -0.01 dB
 Peak SAR (extrapolated) = 1.488 W/kg
SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.653 mW/g
 Maximum value of SAR (measured) = 1.206 mW/g



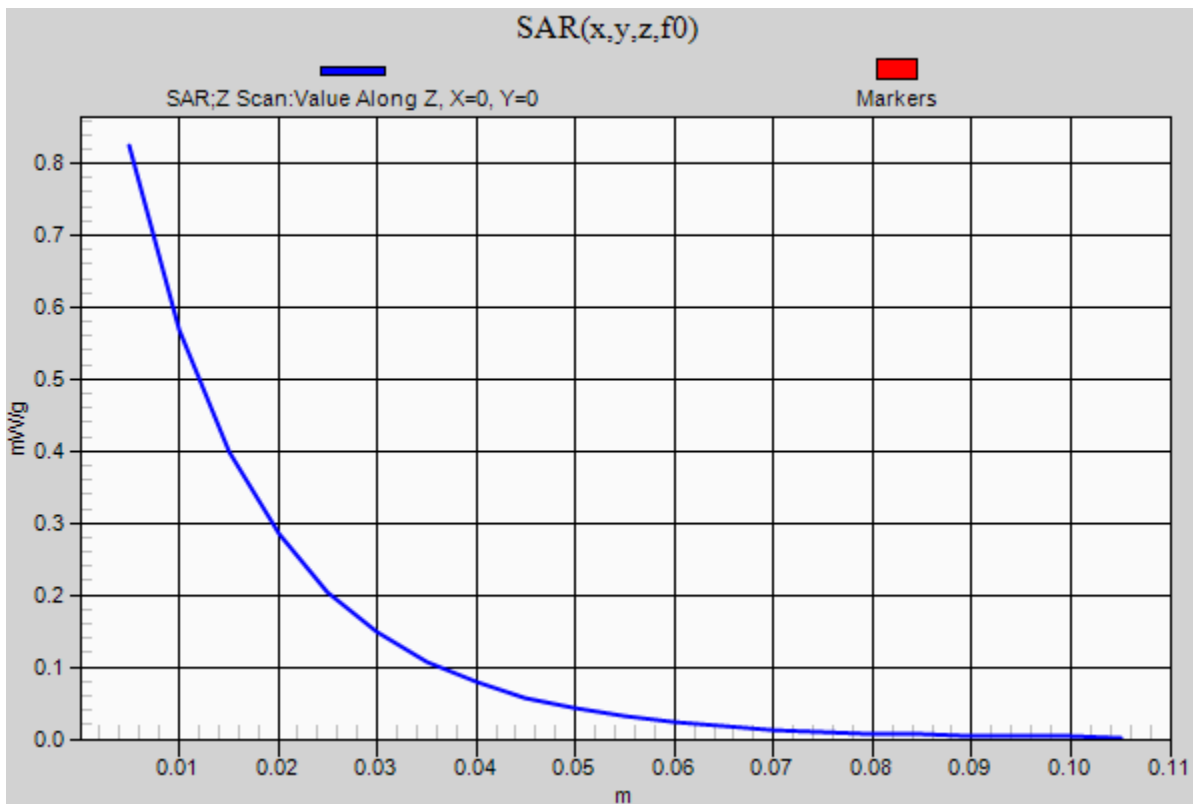
0 dB = 1.210mW/g

Test Laboratory: UL CCS SAR Lab C

20110808_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.824 mW/g



Test Laboratory: UL CCS SAR Lab C

20110812_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.966$ mho/m; $\epsilon_r = 55.395$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v4.0 (B); Type: QDOVA001BB; Serial: 1121
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.248 mW/g

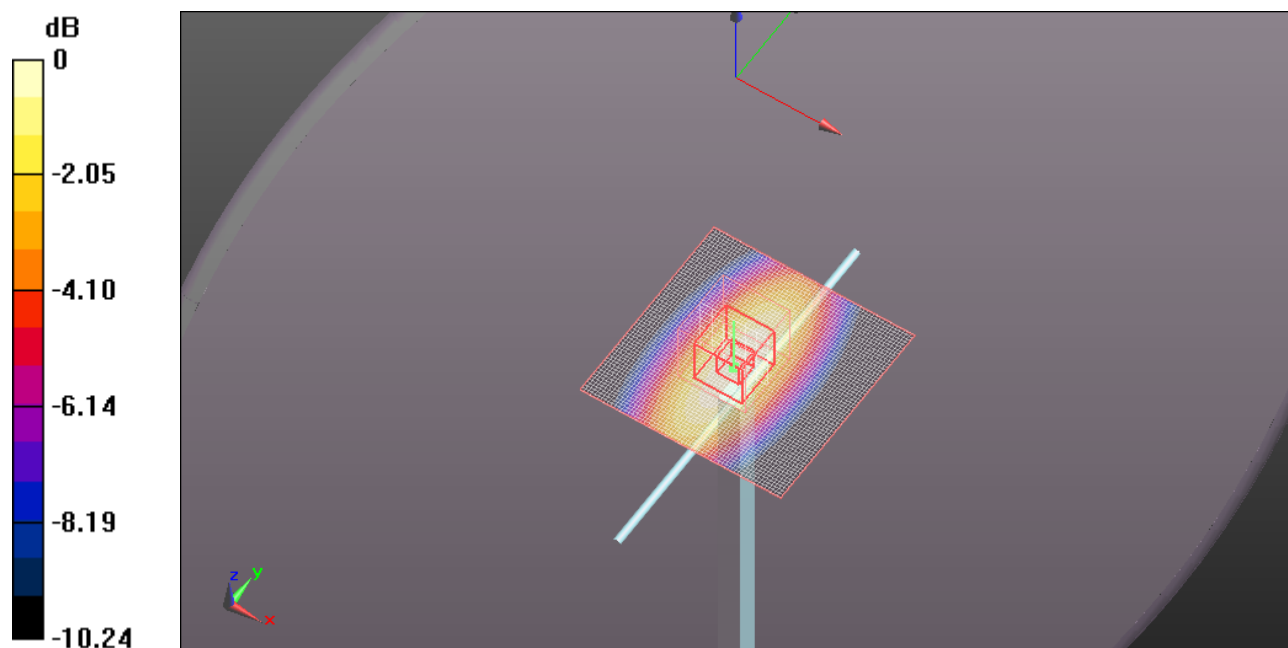
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.047 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.537 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.674 mW/g

Maximum value of SAR (measured) = 1.248 mW/g



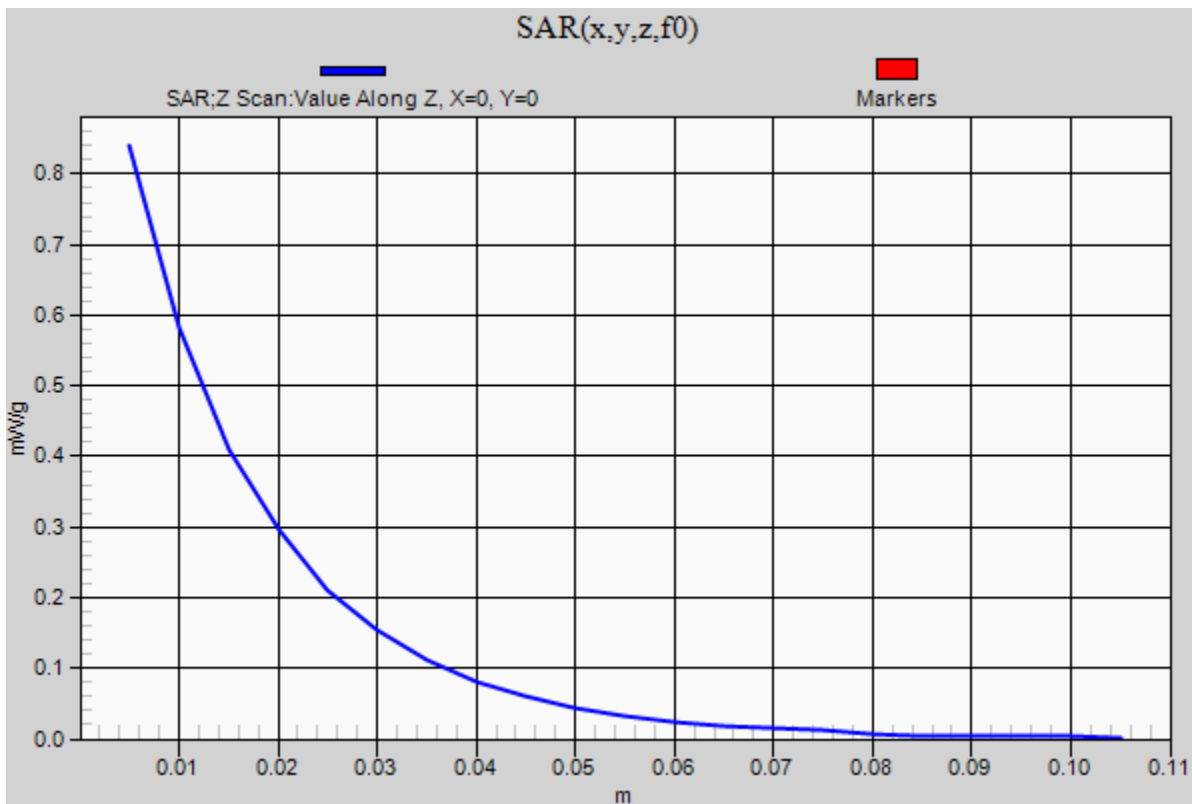
0 dB = 1.250mW/g

Test Laboratory: UL CCS SAR Lab C

20110812_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.840 mW/g



Test Laboratory: UL CCS SAR Lab D

20110822 SystemPerformanceCheck-D835V2 SN 4d117

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 835$ MHz; $\sigma = 0.98$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

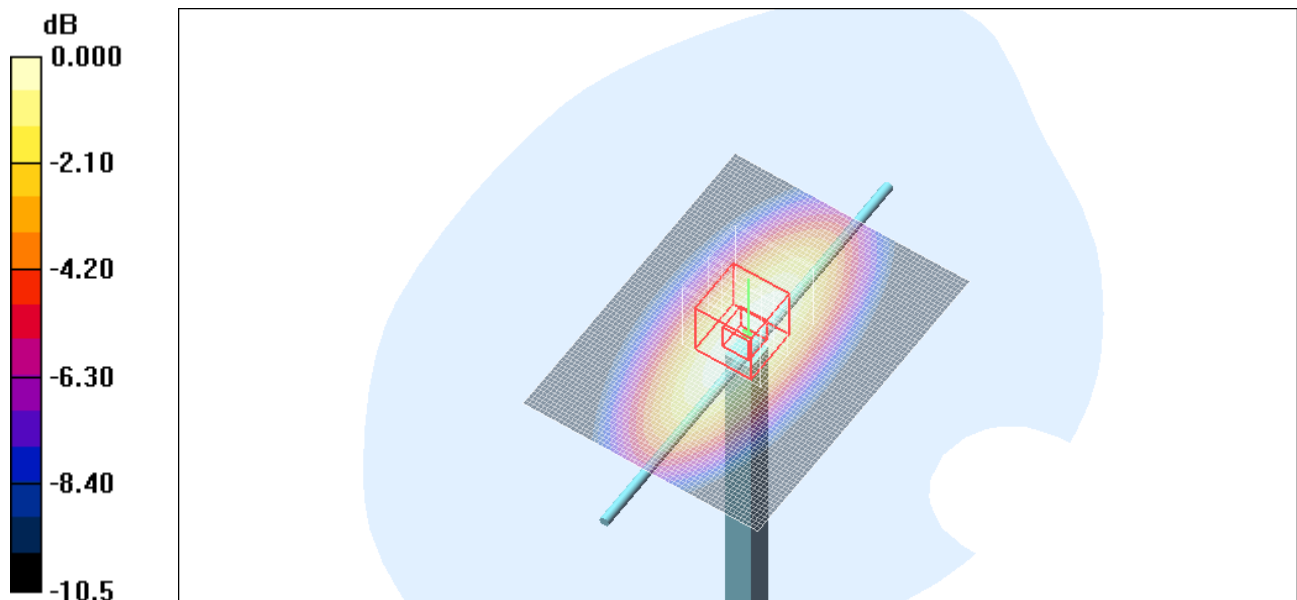
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(8.79, 8.79, 8.79); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM B (Twin); Type: SAM B; Serial: TP-105
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body, Pin=100 mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 1.21 mW/g

Body, Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 35.4 V/m; Power Drift = 0.035 dB
 Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.655 mW/g
 Maximum value of SAR (measured) = 1.21 mW/g



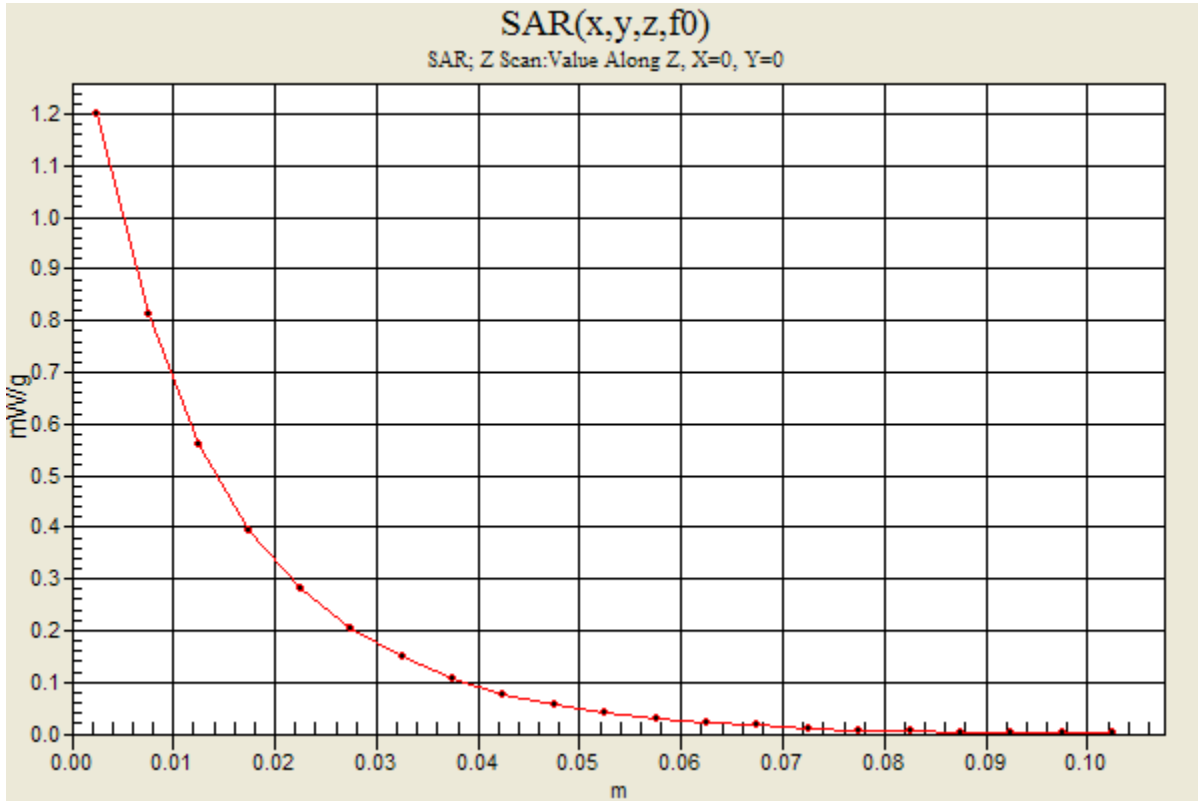
0 dB = 1.21mW/g

Test Laboratory: UL CCS SAR Lab D

20110822 SystemPerformanceCheck-D835V2 SN 4d117

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

Body, Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 1.20 mW/g



Test Laboratory: UL CCS SAR Lab D

20110720_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

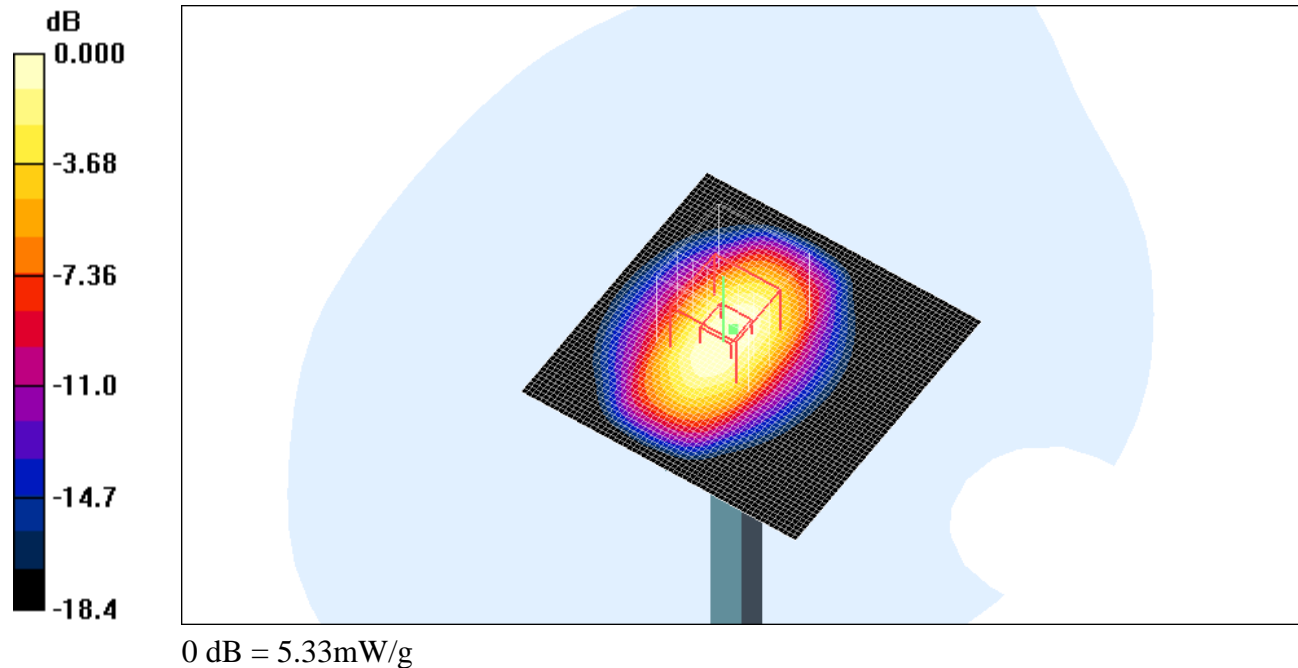
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 5.57 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 59.6 V/m; Power Drift = 0.141 dB
 Peak SAR (extrapolated) = 7.87 W/kg
SAR(1 g) = 4.17 mW/g; SAR(10 g) = 2.16 mW/g
 Maximum value of SAR (measured) = 5.33 mW/g



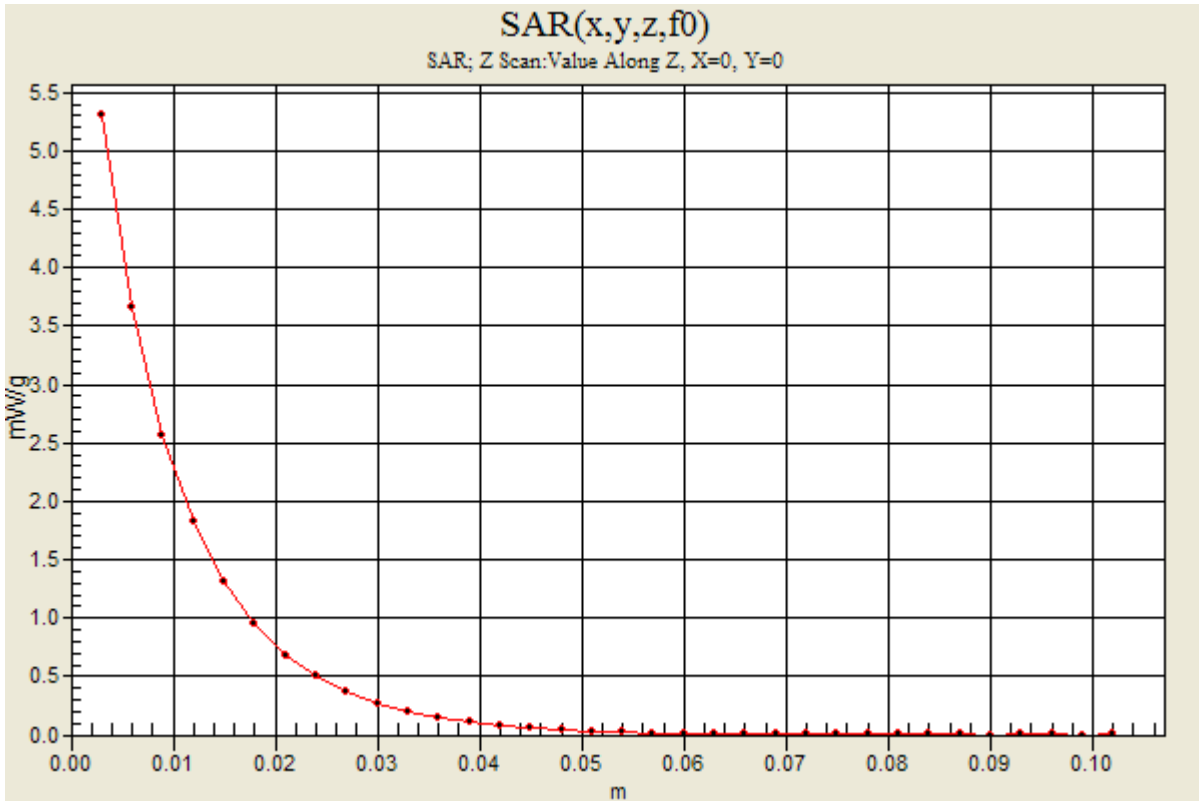
Test Laboratory: UL CCS SAR Lab D

20110720_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.31 mW/g



Test Laboratory: UL CCS SAR Lab D

20110721_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 5.51 mW/g

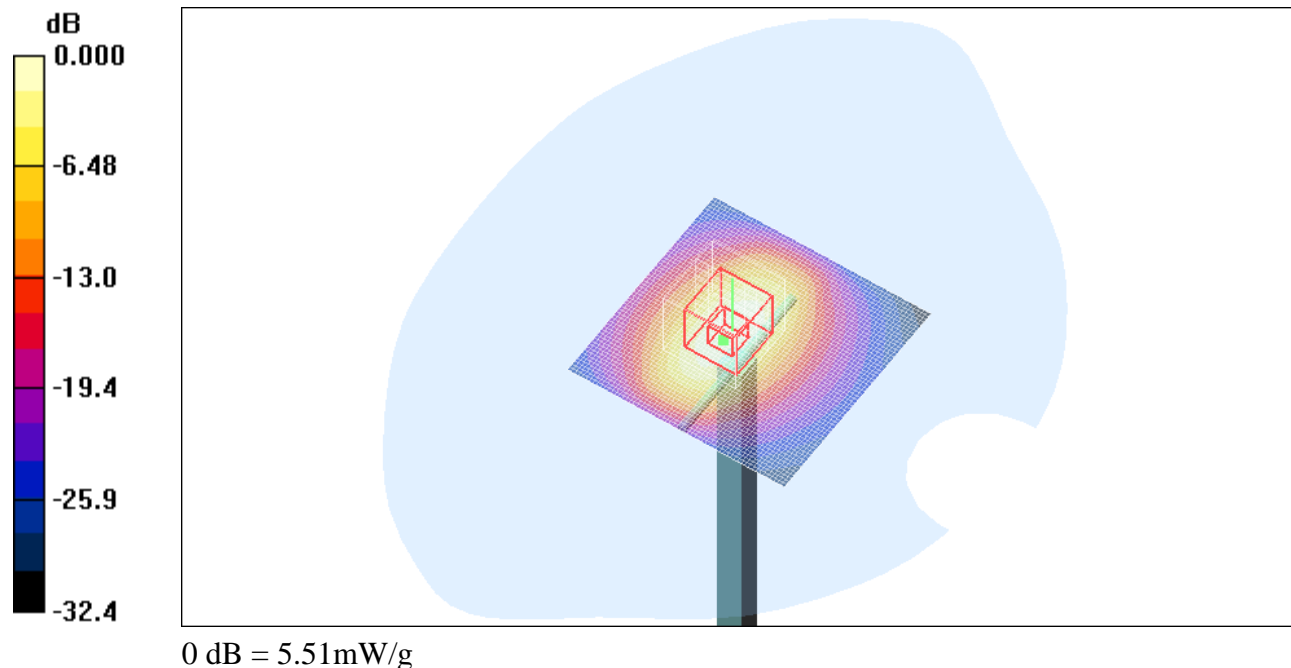
d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 60.3 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 7.84 W/kg

SAR(1 g) = 4.08 mW/g; SAR(10 g) = 2.09 mW/g

Maximum value of SAR (measured) = 5.20 mW/g



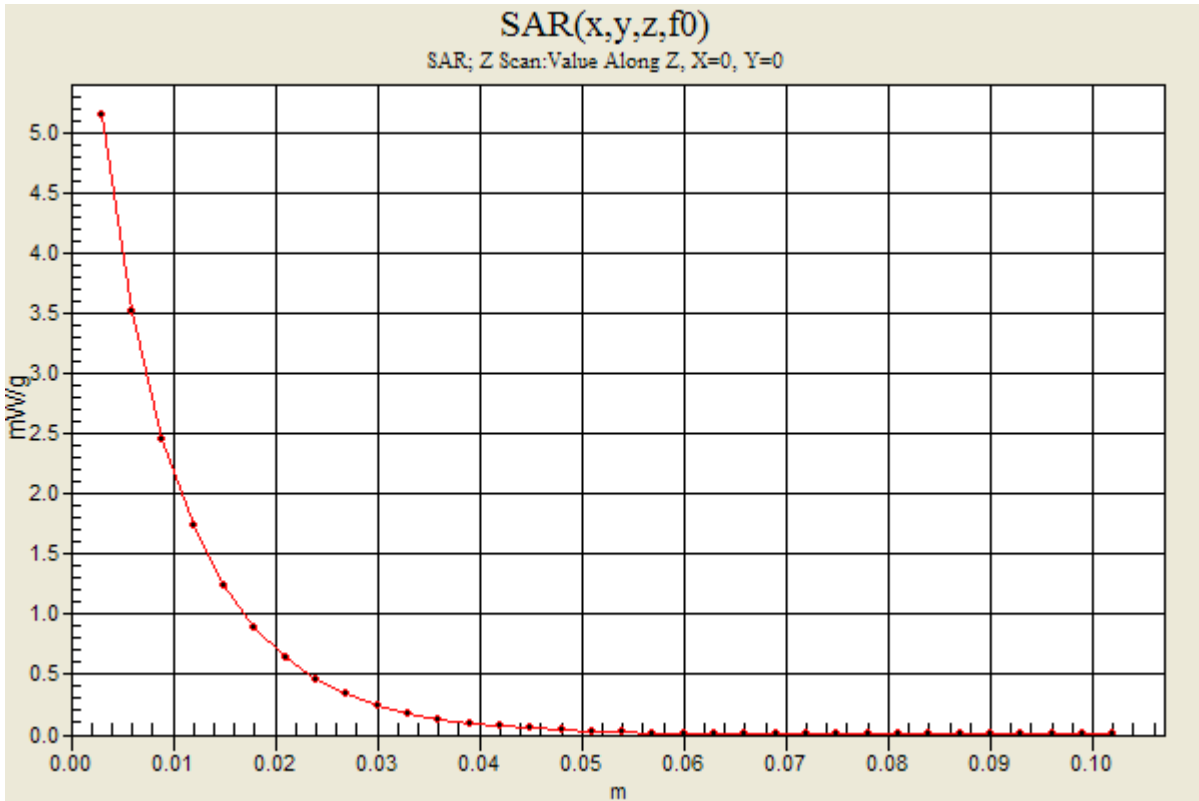
Test Laboratory: UL CCS SAR Lab D

20110721_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.15 mW/g



Test Laboratory: UL CCS SAR Lab D

20110722_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.37 \text{ mho/m}$; $\epsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

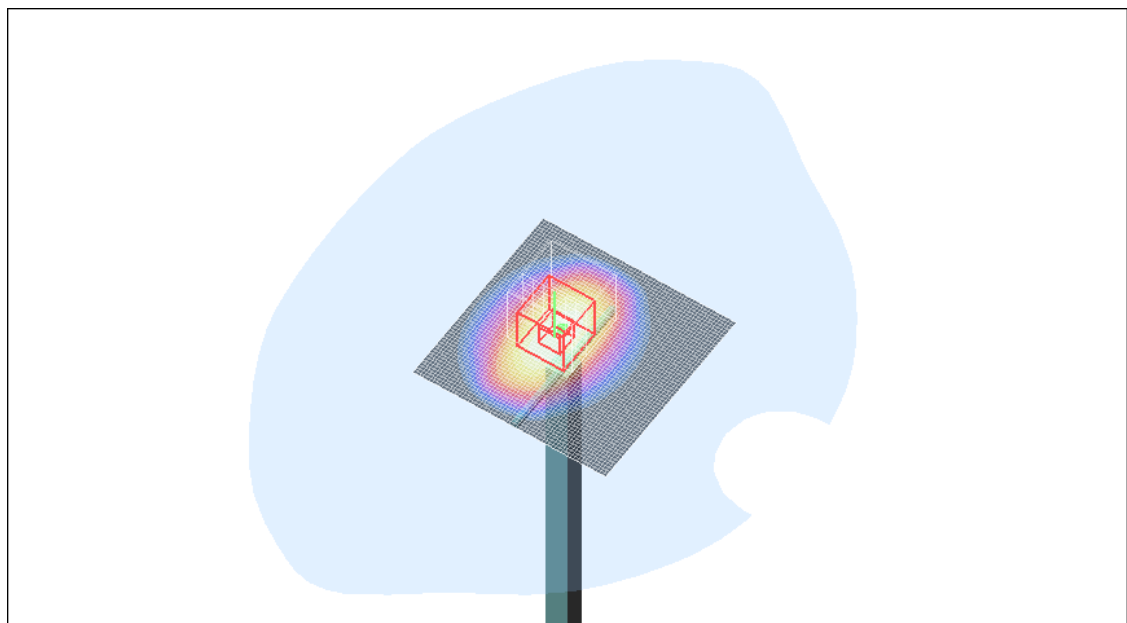
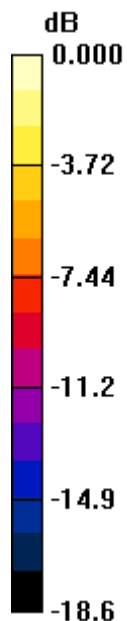
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.73 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.9 V/m; Power Drift = 0.263 dB
Peak SAR (extrapolated) = 7.99 W/kg
SAR(1 g) = 4.2 mW/g; SAR(10 g) = 2.17 mW/g
Maximum value of SAR (measured) = 5.33 mW/g



0 dB = 5.33mW/g

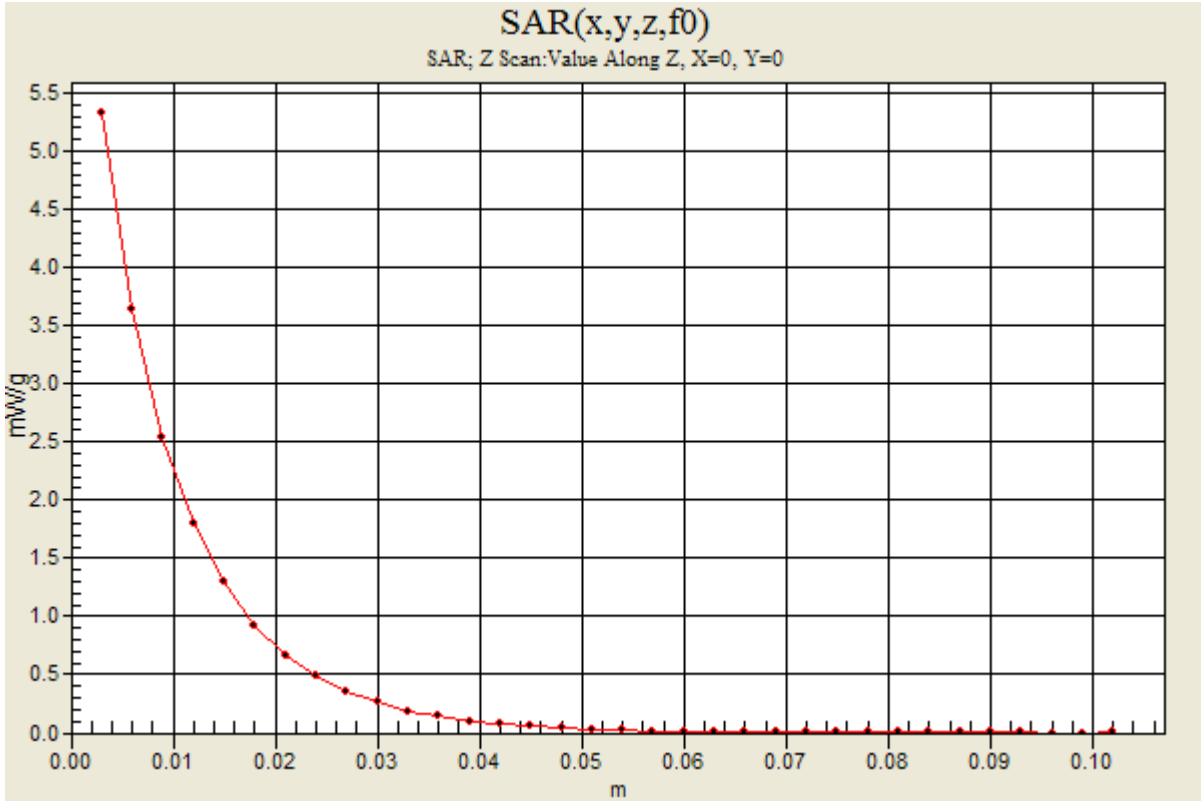
Test Laboratory: UL CCS SAR Lab D

20110722_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.33 mW/g



Test Laboratory: UL CCS SAR Lab D

20110723_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

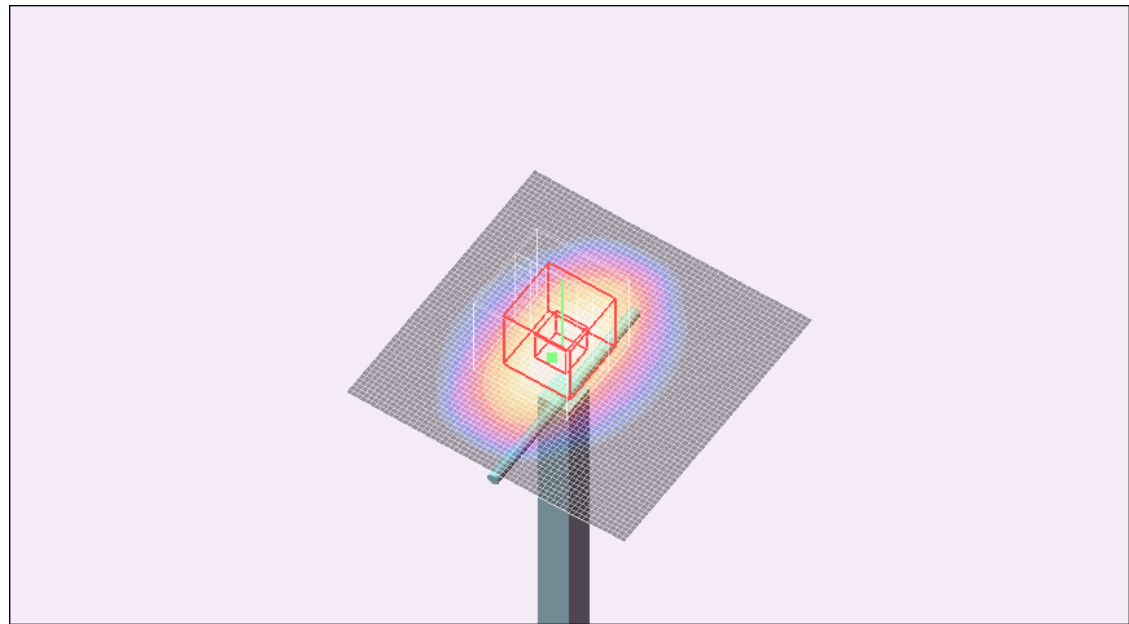
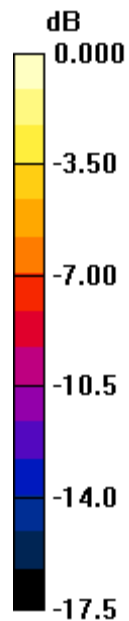
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 4.98 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 56.9 V/m; Power Drift = 0.128 dB
 Peak SAR (extrapolated) = 7.04 W/kg
SAR(1 g) = 3.89 mW/g; SAR(10 g) = 2.05 mW/g
 Maximum value of SAR (measured) = 4.96 mW/g



0 dB = 4.96mW/g

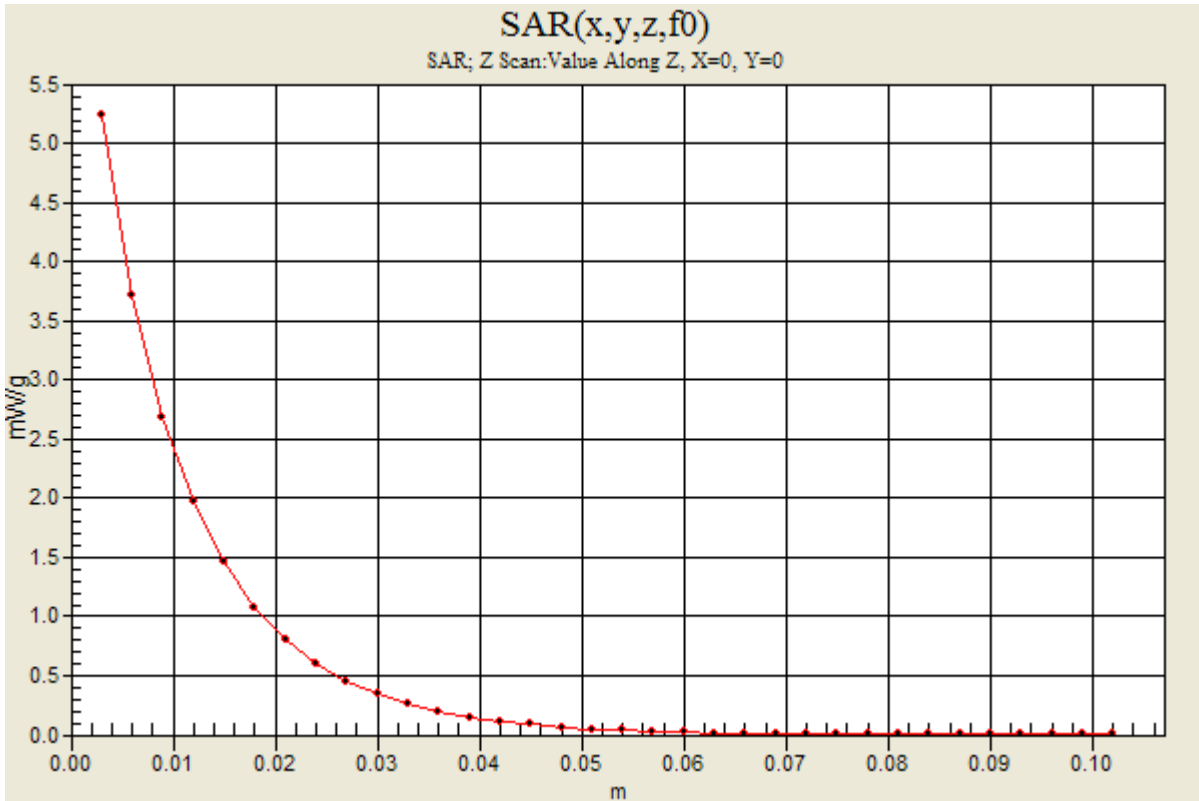
Test Laboratory: UL CCS SAR Lab D

20110723_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.24 mW/g



Test Laboratory: UL CCS SAR Lab D

20110724_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

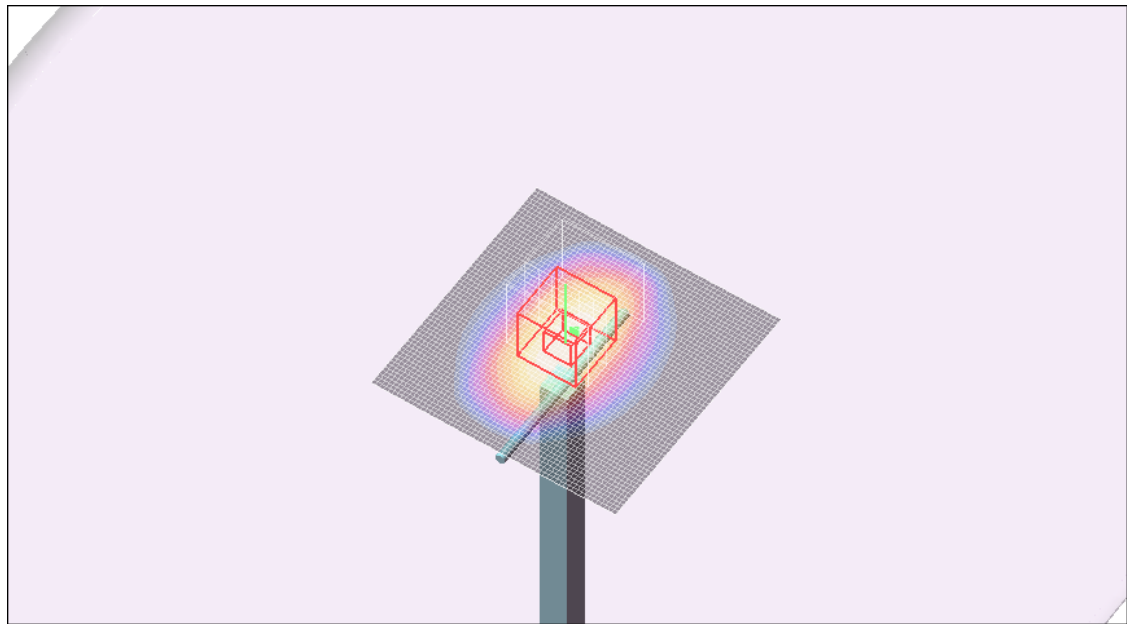
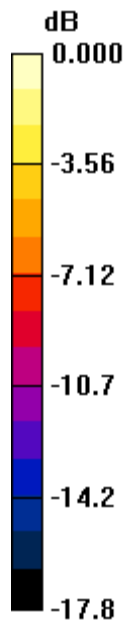
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.16 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.2 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 7.11 W/kg
SAR(1 g) = 3.92 mW/g; SAR(10 g) = 2.06 mW/g
Maximum value of SAR (measured) = 4.99 mW/g



0 dB = 4.99mW/g

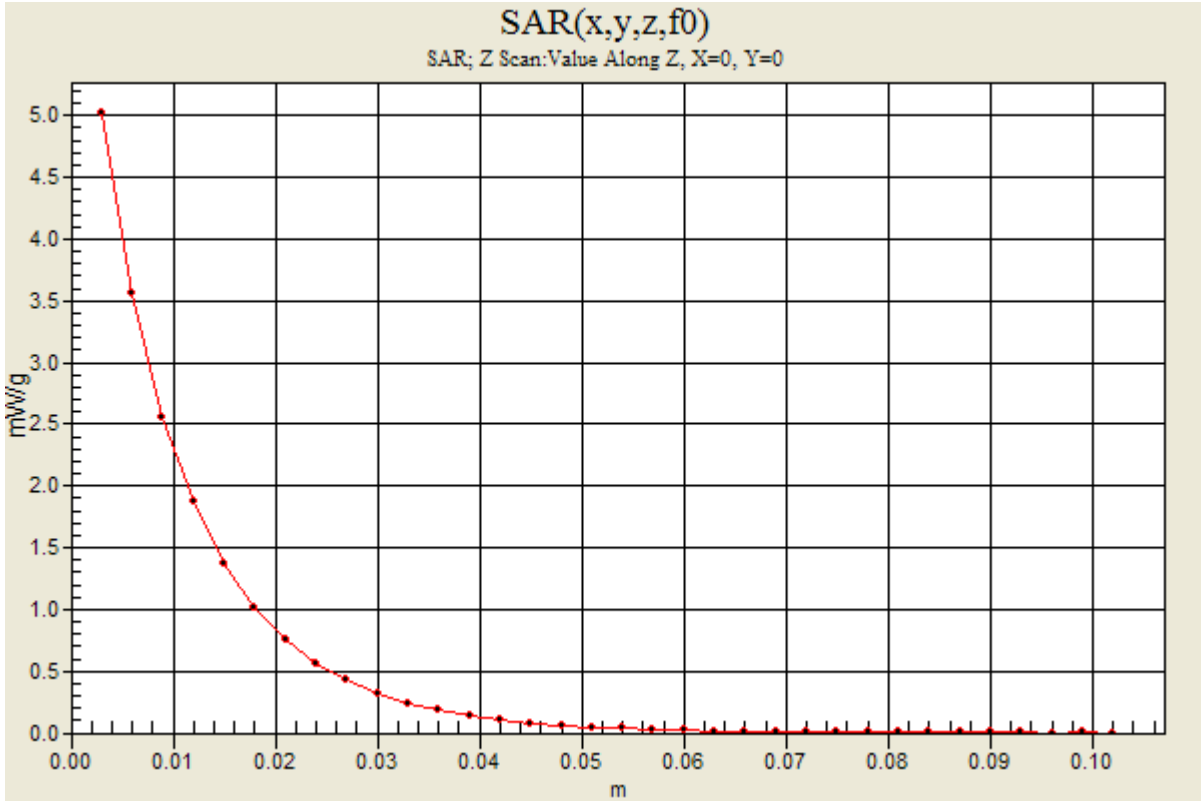
Test Laboratory: UL CCS SAR Lab D

20110724_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.02 mW/g



Test Laboratory: UL CCS SAR Lab D

20110725_SystemPerformanceCheck-D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.75$ mho/m; $\epsilon_r = 39$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

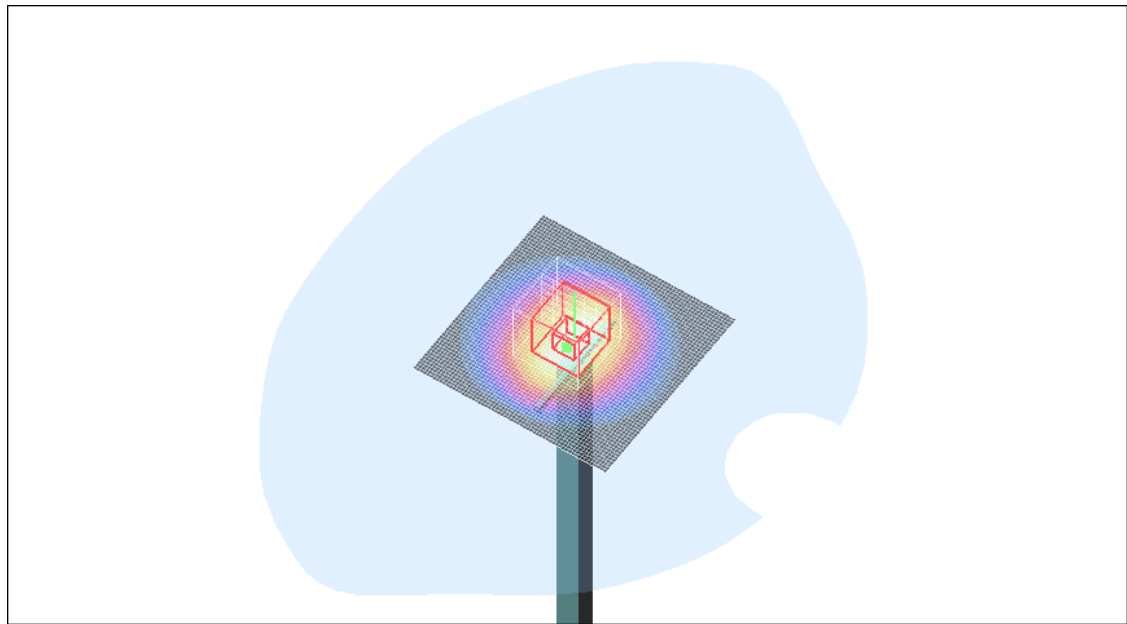
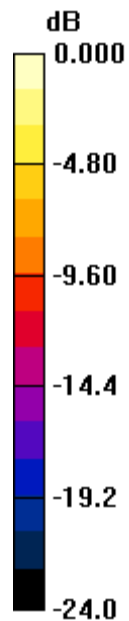
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(6.69, 6.69, 6.69); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM B (Twin); Type: SAM B; Serial: TP-105
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 7.54 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 68.8 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 5.21 mW/g; SAR(10 g) = 2.37 mW/g
Maximum value of SAR (measured) = 7.40 mW/g



0 dB = 7.40mW/g

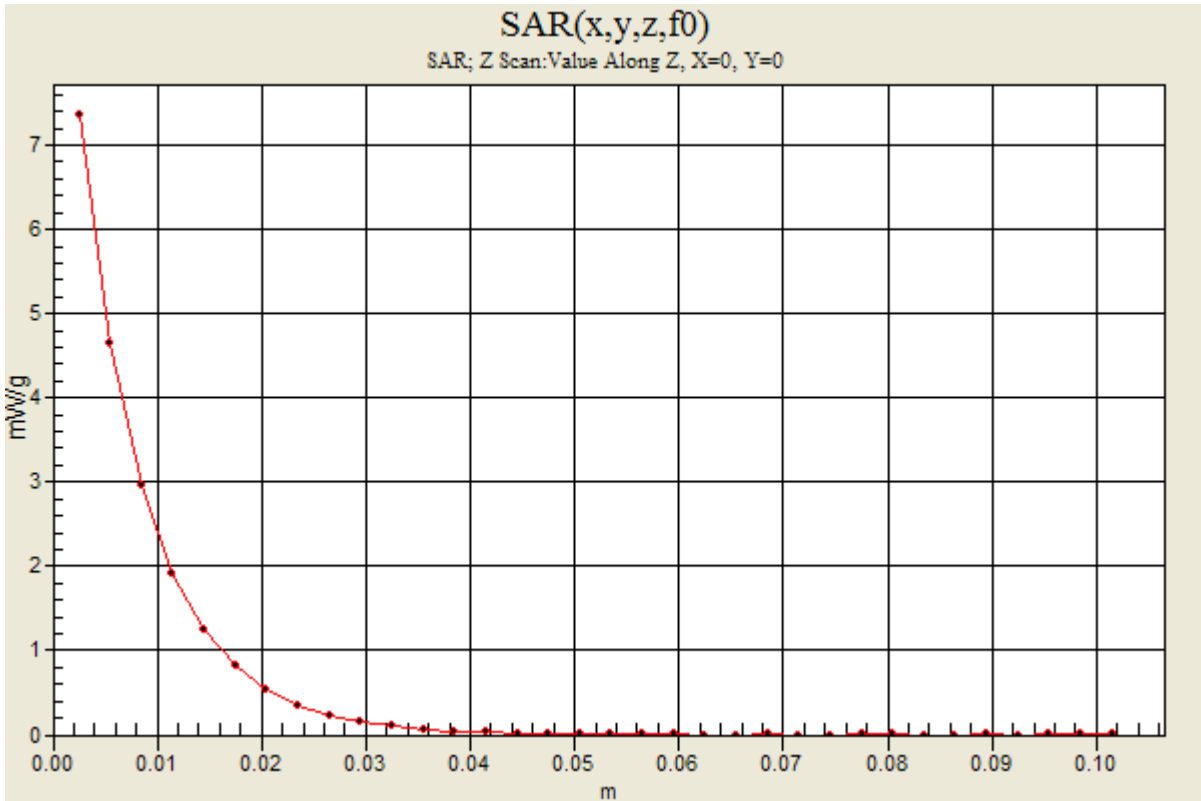
Test Laboratory: UL CCS SAR Lab D

20110725_SystemPerformanceCheck-D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

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

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 7.36 mW/g



Test Laboratory: UL CCS SAR Lab D

20110725_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

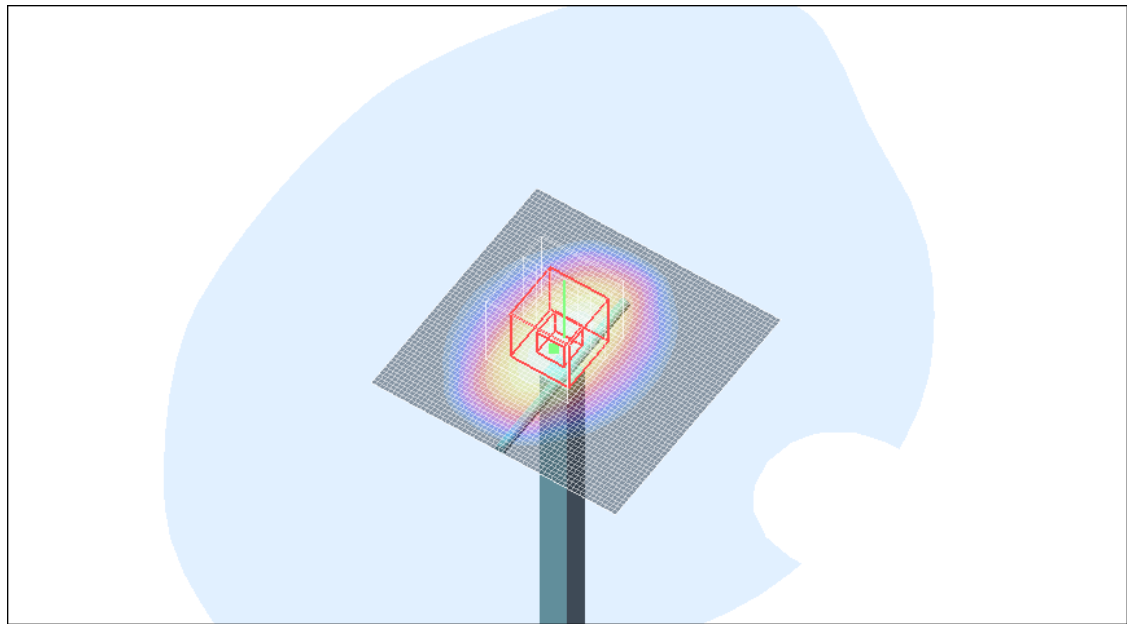
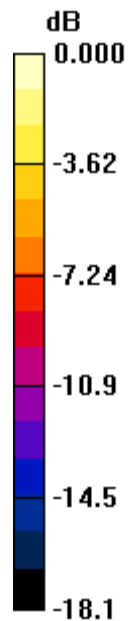
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.36 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.4 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 7.36 W/kg
SAR(1 g) = 3.93 mW/g; SAR(10 g) = 2.04 mW/g
Maximum value of SAR (measured) = 4.97 mW/g



0 dB = 4.97mW/g

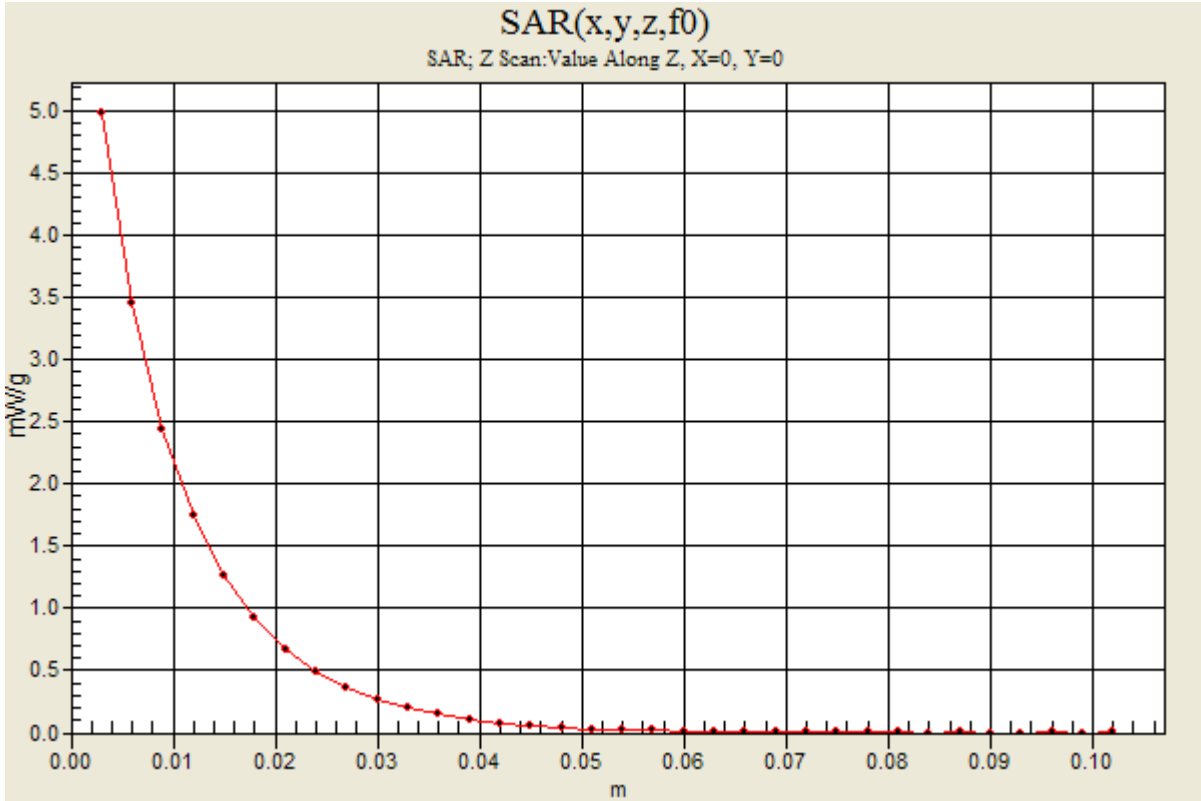
Test Laboratory: UL CCS SAR Lab D

20110725_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 4.98 mW/g



Test Laboratory: UL CCS SAR Lab D

20110726_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

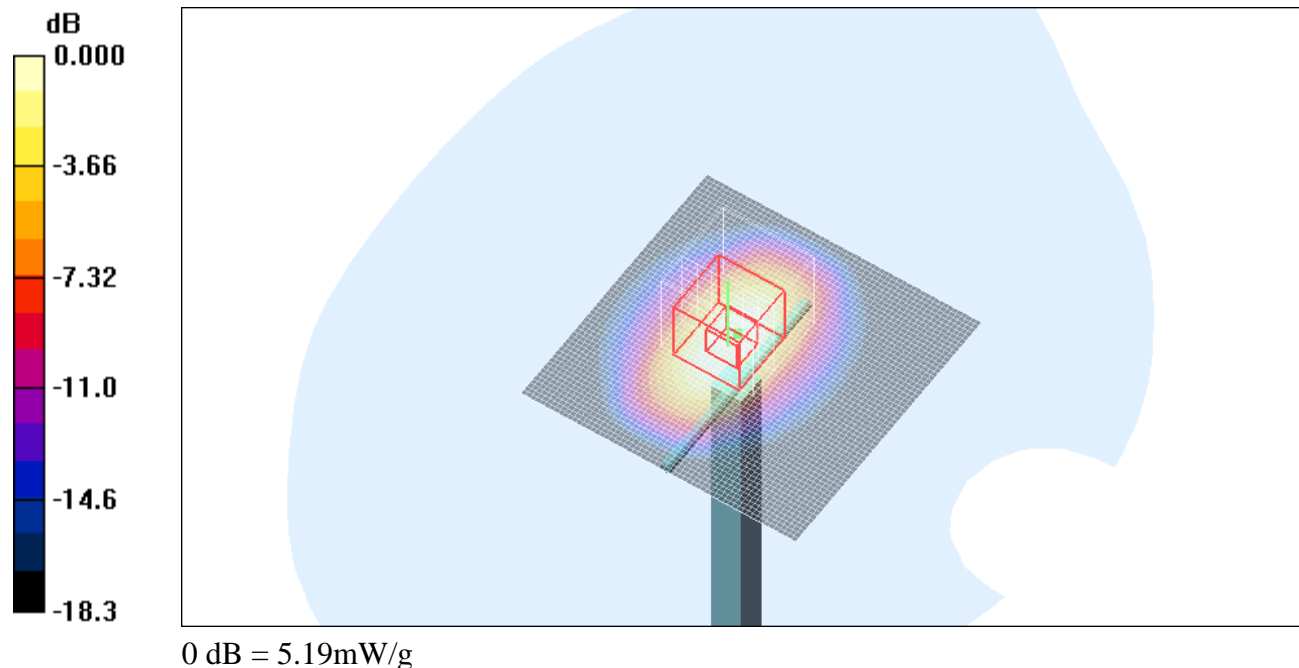
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW 2/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 5.56 mW/g

d=10mm, Pin=100mW 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 59.9 V/m; Power Drift = 0.106 dB
 Peak SAR (extrapolated) = 7.76 W/kg
SAR(1 g) = 4.08 mW/g; SAR(10 g) = 2.1 mW/g
 Maximum value of SAR (measured) = 5.19 mW/g



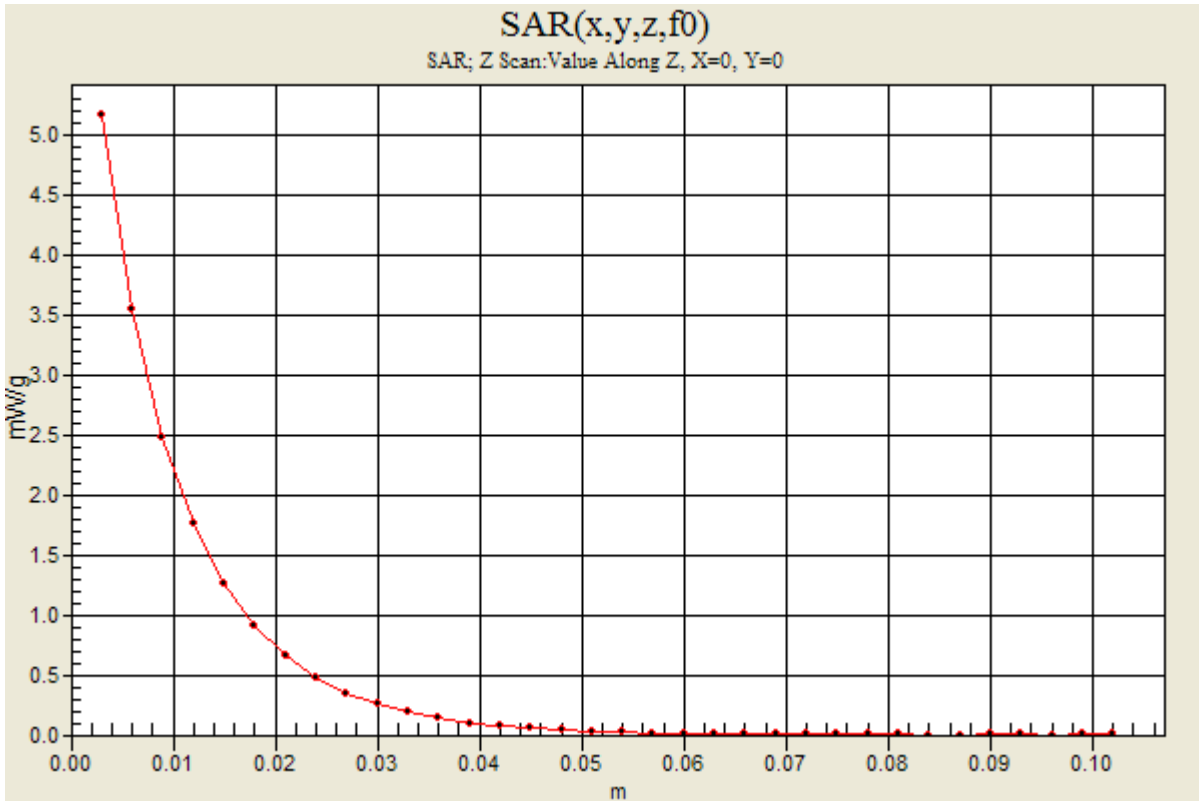
Test Laboratory: UL CCS SAR Lab D

20110726_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

d=10mm, Pin=100mW 2/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.17 mW/g



Test Laboratory: UL CCS SAR Lab D

20110727_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

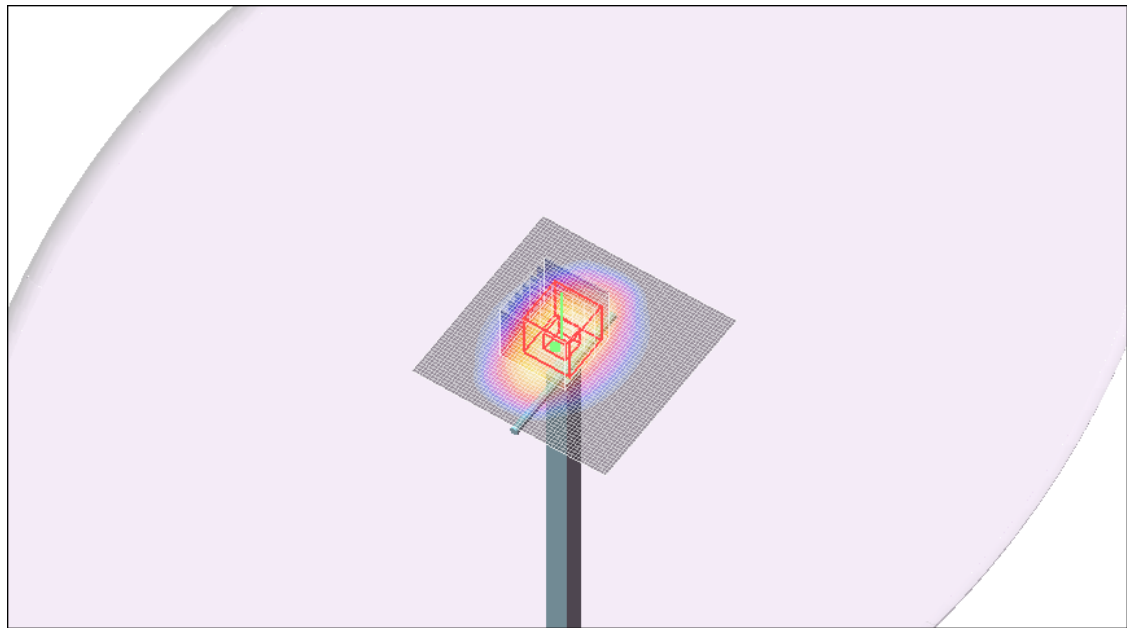
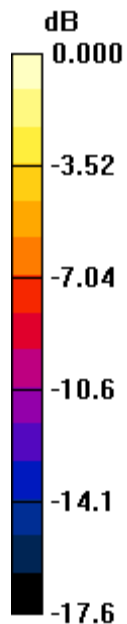
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0 A; Type: QDOVA001BB; Serial: SN:1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.66 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 60.2 V/m; Power Drift = -0.172 dB
Peak SAR (extrapolated) = 7.54 W/kg
SAR(1 g) = 4.15 mW/g; SAR(10 g) = 2.18 mW/g
Maximum value of SAR (measured) = 5.25 mW/g



0 dB = 5.25mW/g

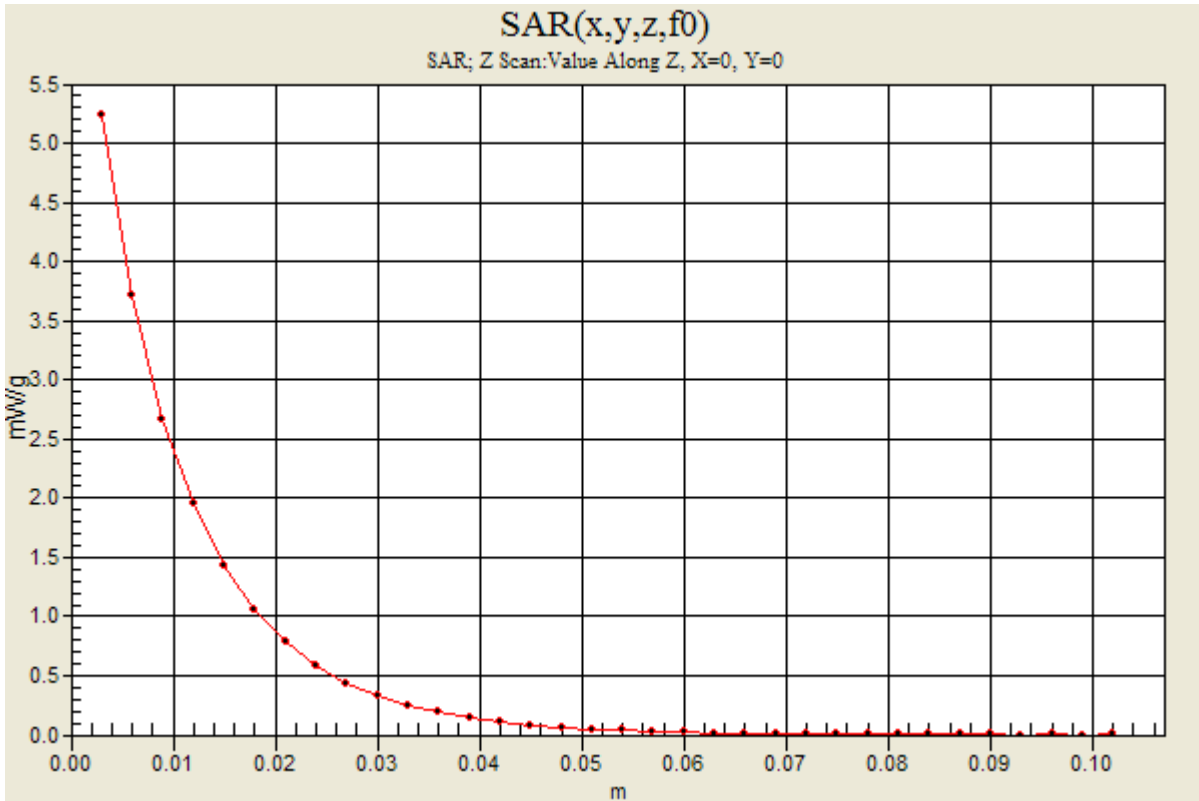
Test Laboratory: UL CCS SAR Lab D

20110727_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.24 mW/g



Test Laboratory: UL CCS SAR Lab D

20110728_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 50.6$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

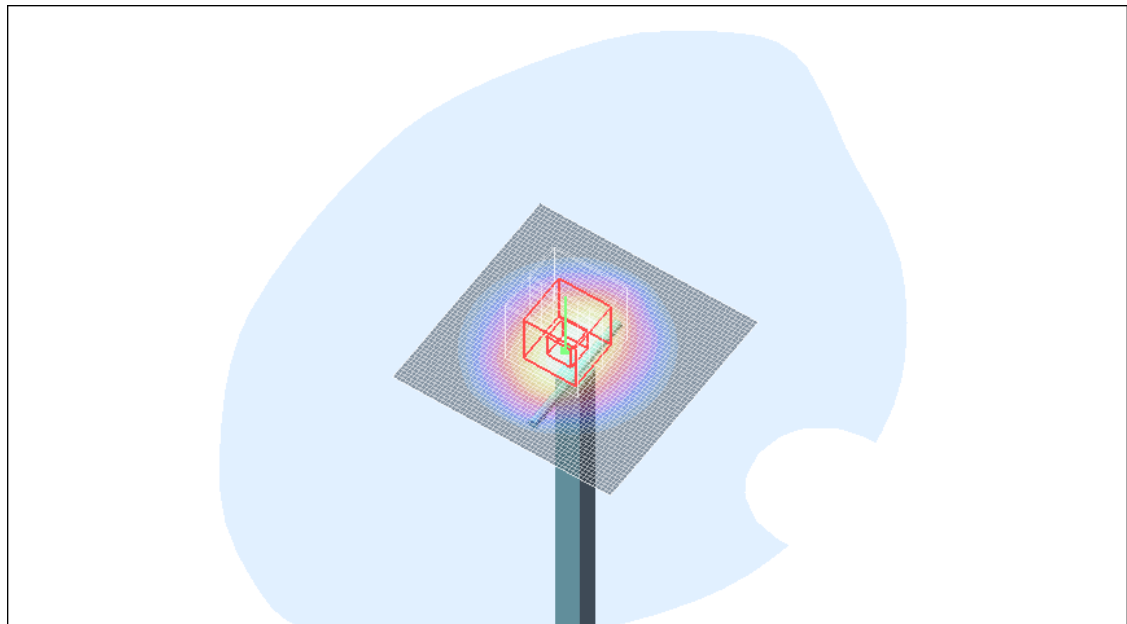
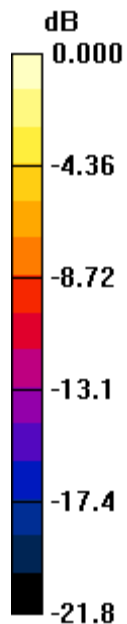
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(6.9, 6.9, 6.9); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM B (Twin); Type: SAM B; Serial: TP-105
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 7.42 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 62.4 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.25 mW/g; SAR(10 g) = 2.44 mW/g
Maximum value of SAR (measured) = 7.45 mW/g



0 dB = 7.45mW/g

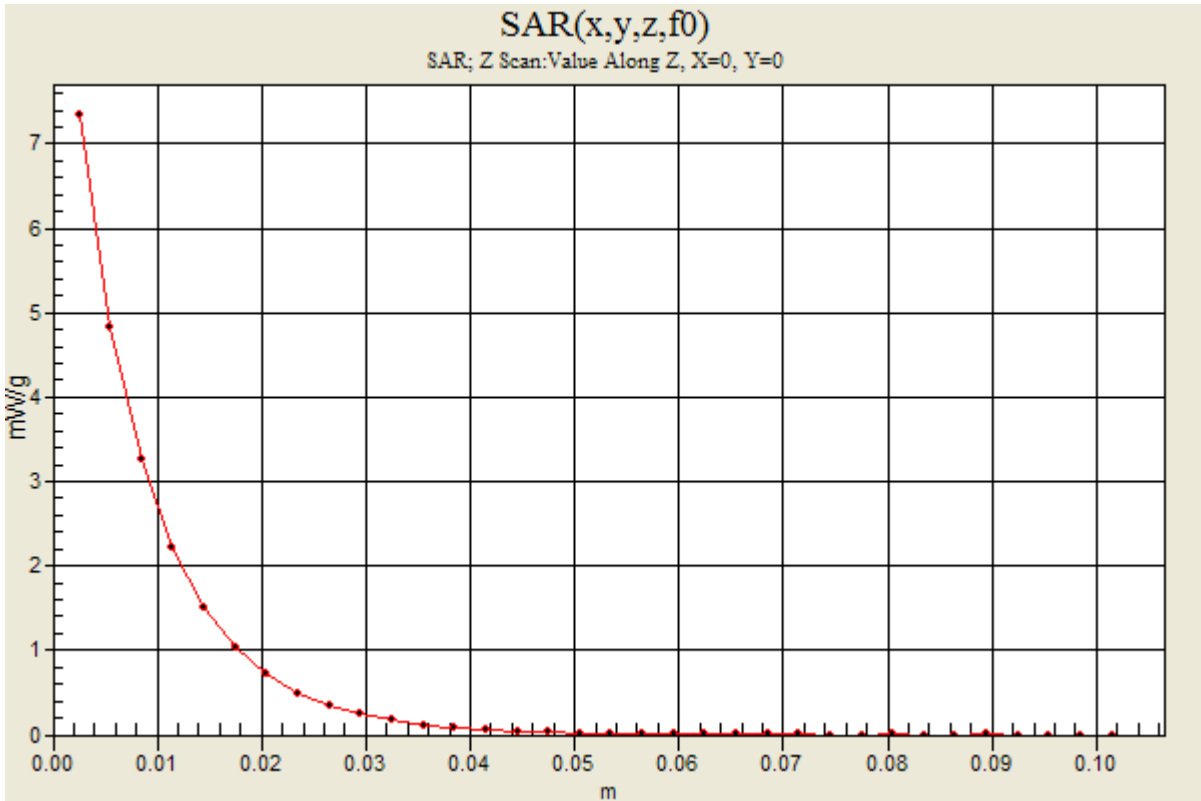
Test Laboratory: UL CCS SAR Lab D

20110728_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

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

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 7.34 mW/g



Test Laboratory: UL CCS SAR Lab D

20110801_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

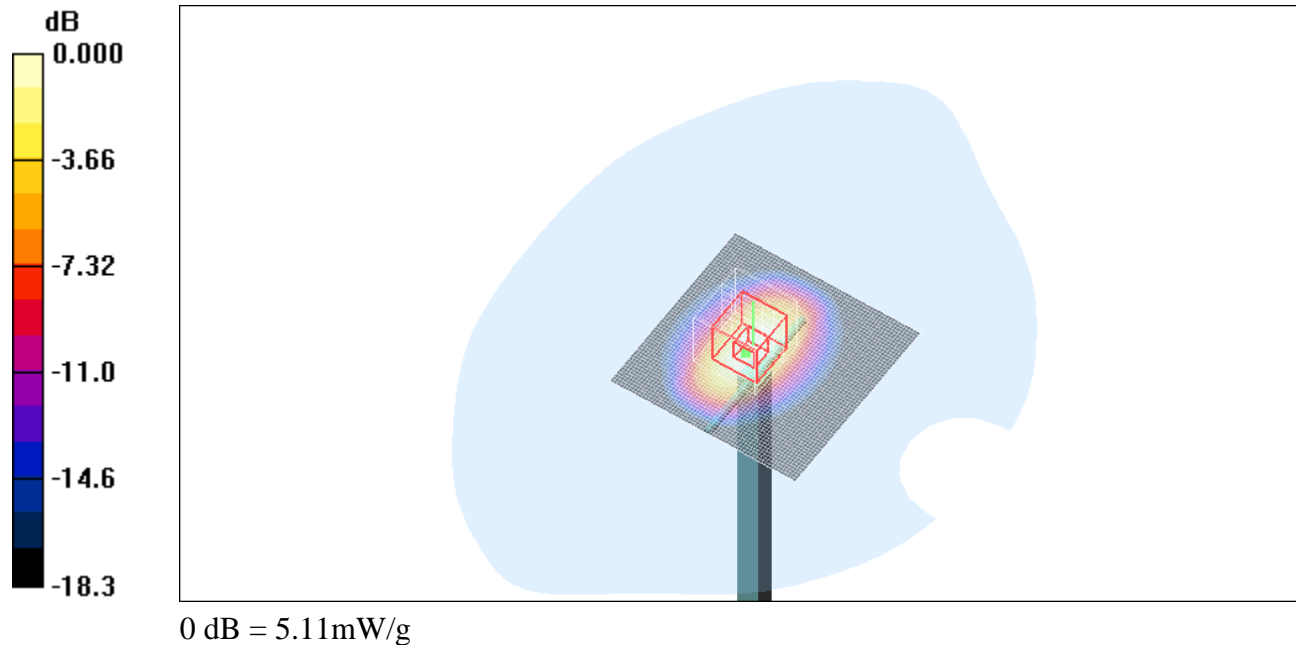
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.36, 7.36, 7.36); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM A (Twin); Type: SAM A; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 5.44 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 59.6 V/m; Power Drift = 0.125 dB
 Peak SAR (extrapolated) = 7.71 W/kg
SAR(1 g) = 4.02 mW/g; SAR(10 g) = 2.07 mW/g
 Maximum value of SAR (measured) = 5.11 mW/g



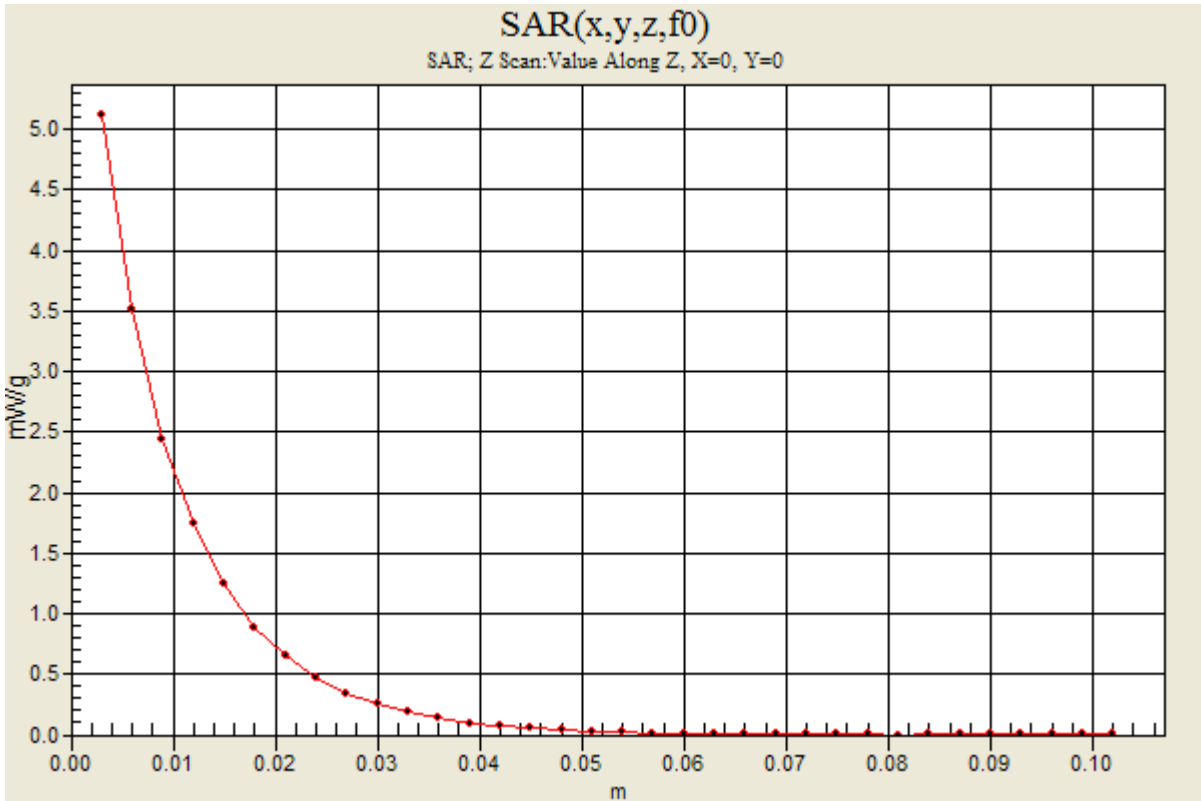
Test Laboratory: UL CCS SAR Lab D

20110801_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.12 mW/g



Test Laboratory: UL CCS SAR Lab D

20110802_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

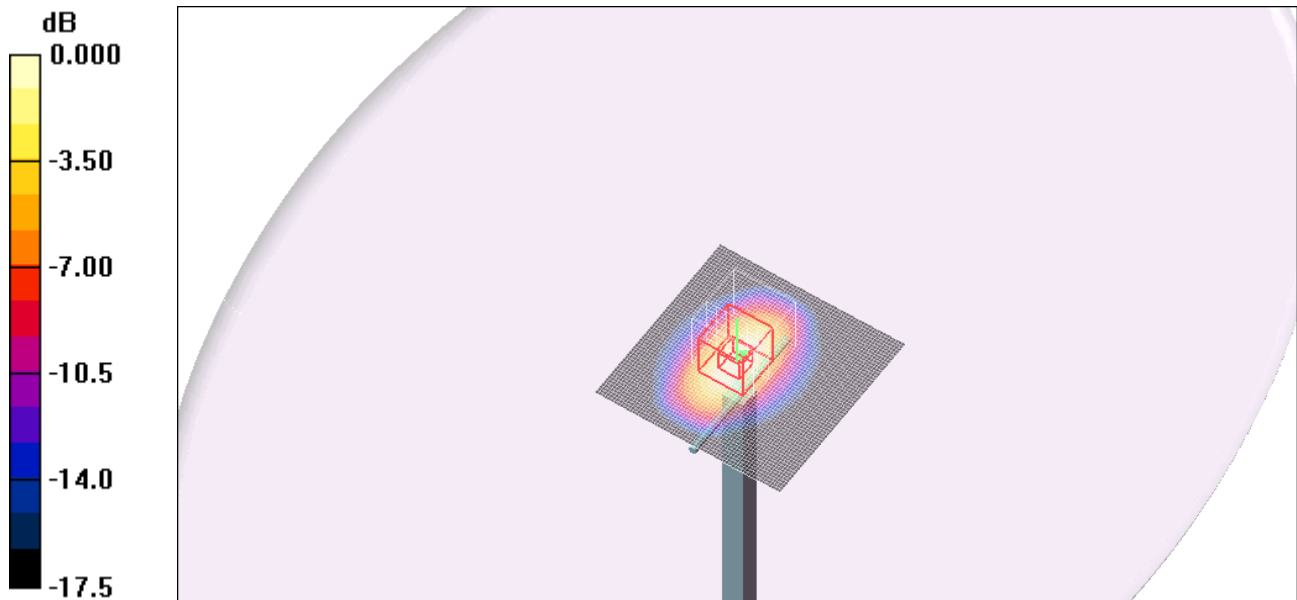
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.37 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.4 V/m; Power Drift = 0.074 dB
Peak SAR (extrapolated) = 7.23 W/kg
SAR(1 g) = 3.99 mW/g; SAR(10 g) = 2.11 mW/g
Maximum value of SAR (measured) = 5.09 mW/g



0 dB = 5.09mW/g

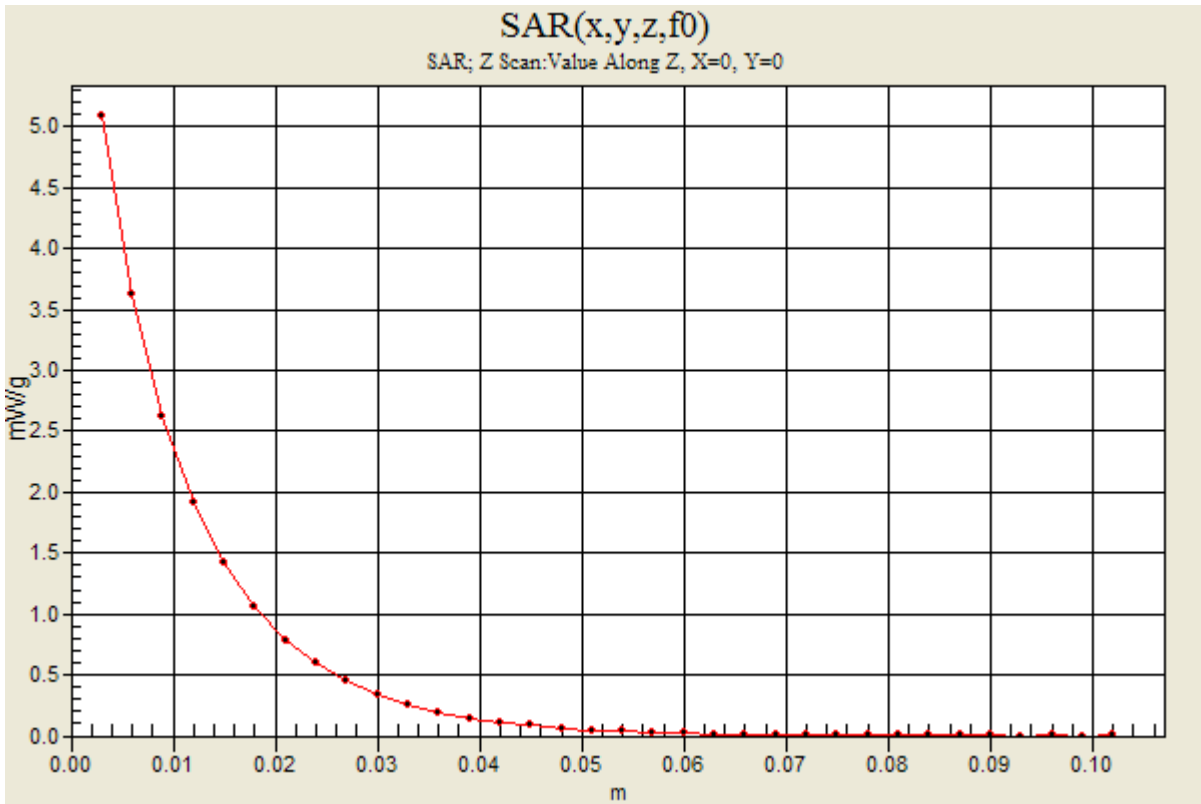
Test Laboratory: UL CCS SAR Lab D

20110802_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 5.09 mW/g



Test Laboratory: UL CCS SAR Lab D

20110803_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 53.9$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.15 mW/g

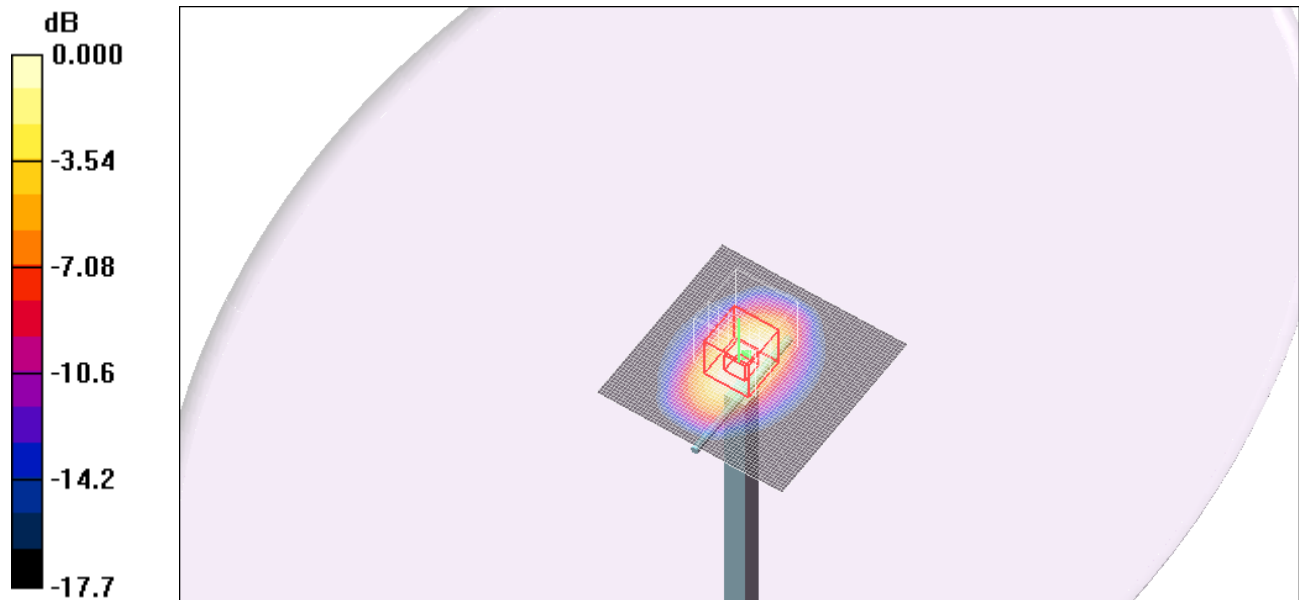
d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.9 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 7.01 W/kg

SAR(1 g) = 3.88 mW/g; SAR(10 g) = 2.05 mW/g

Maximum value of SAR (measured) = 4.90 mW/g



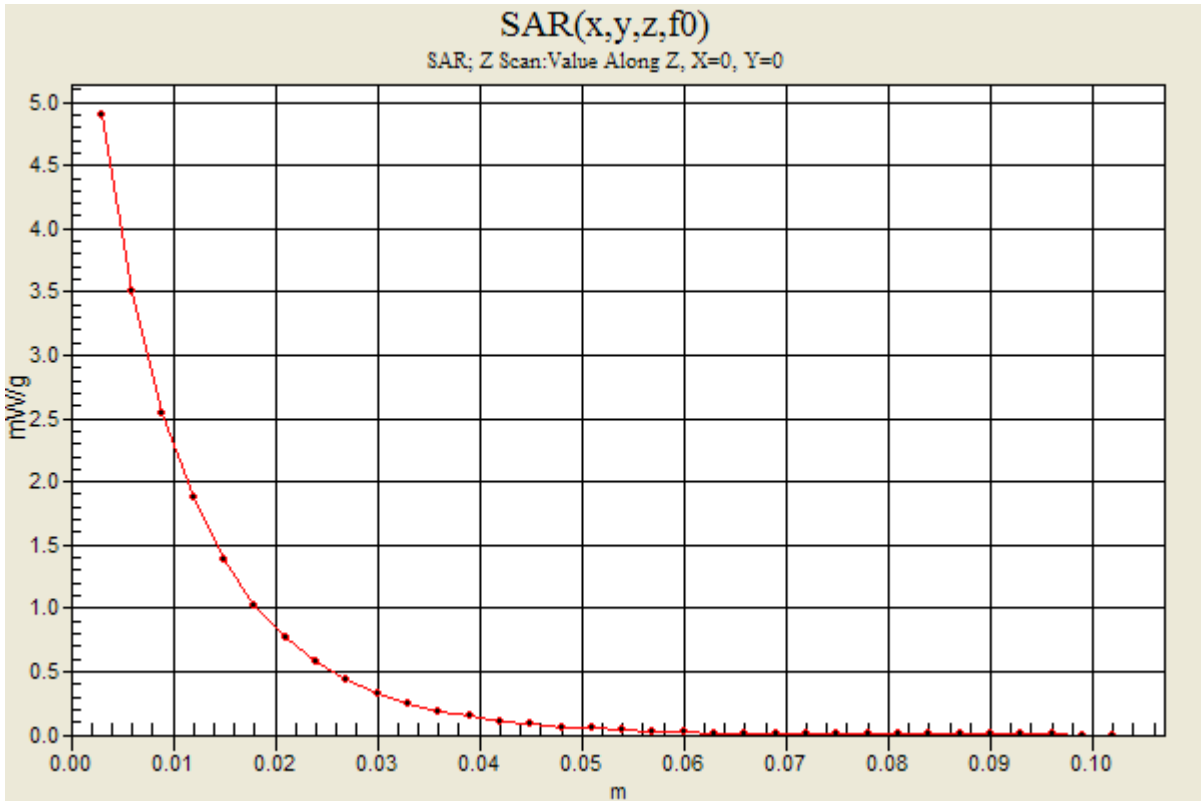
Test Laboratory: UL CCS SAR Lab D

20110803_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 4.90 mW/g



Test Laboratory: UL CCS SAR Lab D

20110808_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

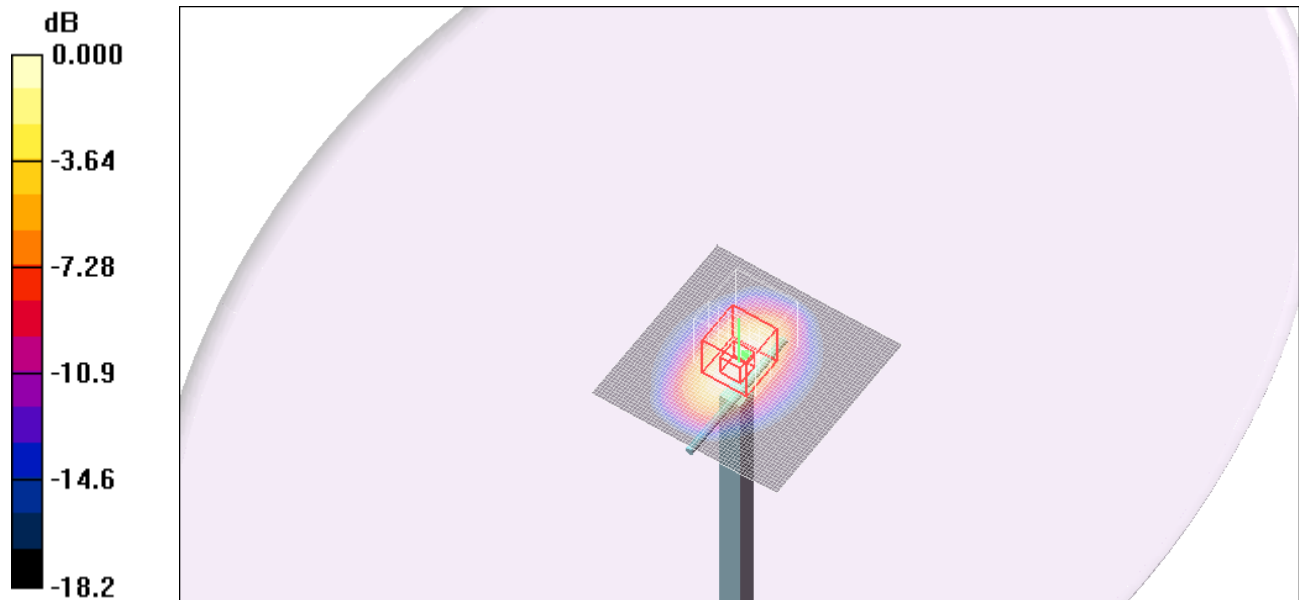
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.14 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.5 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 7.14 W/kg
SAR(1 g) = 3.92 mW/g; SAR(10 g) = 2.05 mW/g
Maximum value of SAR (measured) = 4.98 mW/g



0 dB = 4.98mW/g

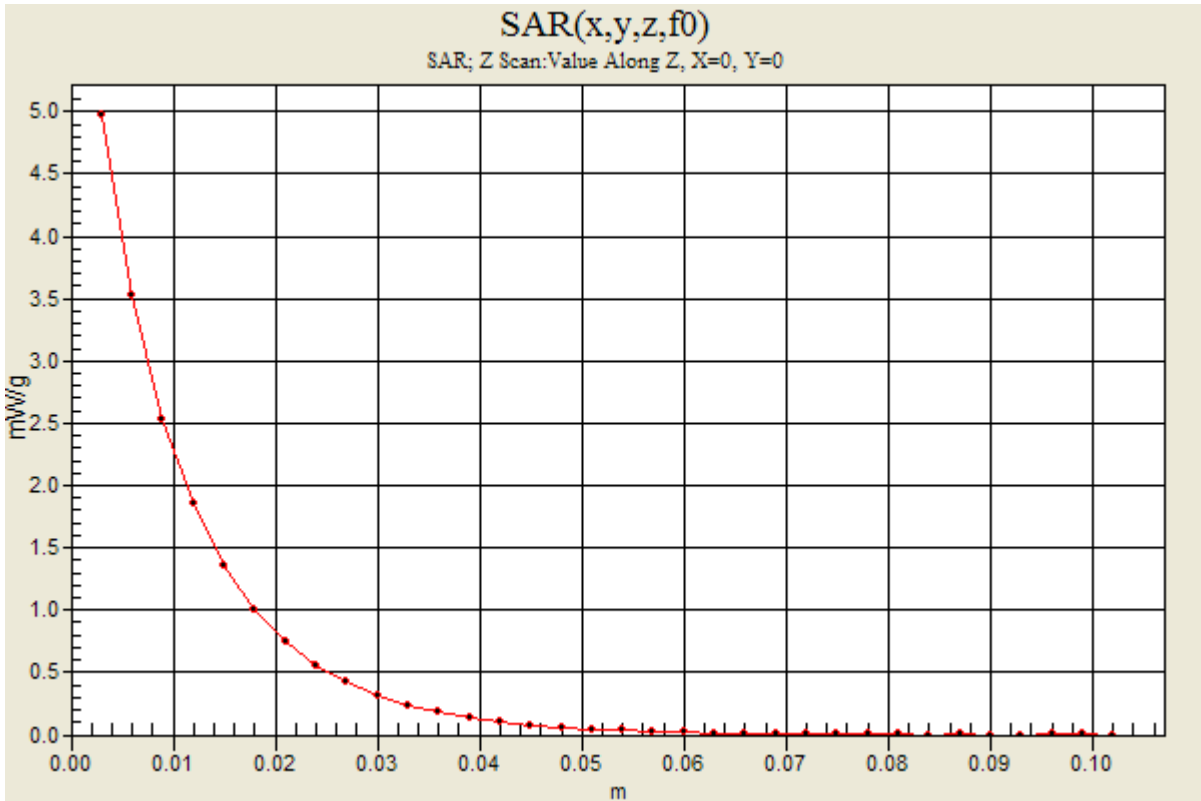
Test Laboratory: UL CCS SAR Lab D

20110808_SystemPerformanceCheck - D1900V2 SN 5d140

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 4.97 mW/g



Test Laboratory: UL CCS SAR Lab D

20110808_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

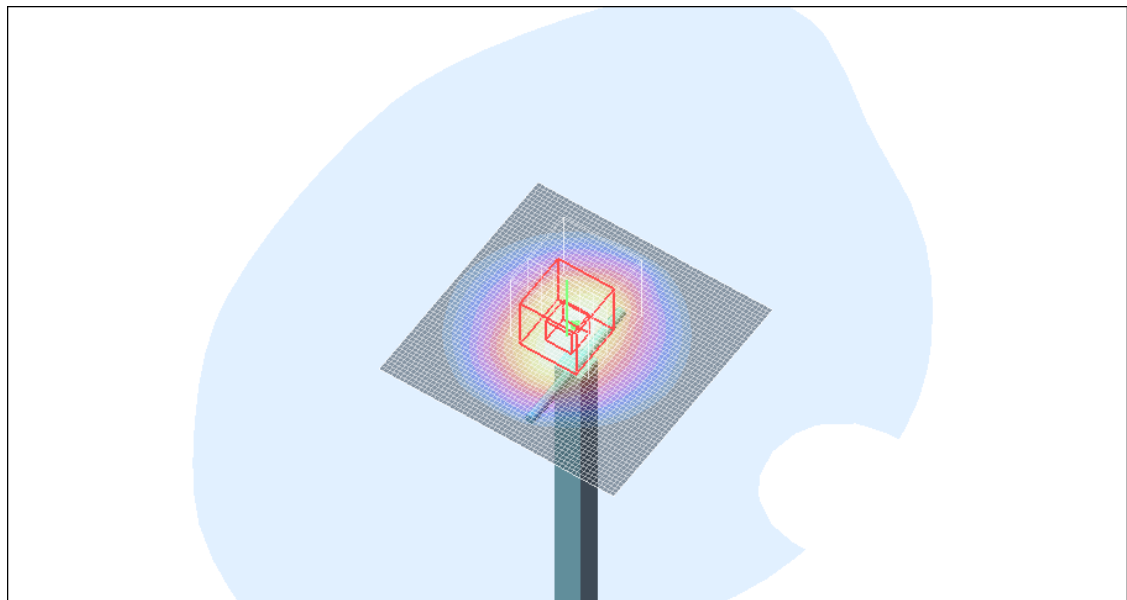
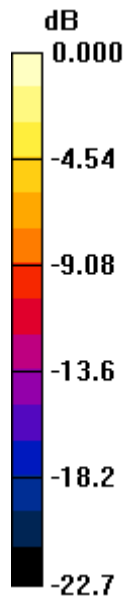
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(6.9, 6.9, 6.9); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM B (Twin); Type: SAM B; Serial: TP-105
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 7.06 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 60.1 V/m; Power Drift = 0.241 dB
Peak SAR (extrapolated) = 10.3 W/kg
SAR(1 g) = 5.01 mW/g; SAR(10 g) = 2.33 mW/g
Maximum value of SAR (measured) = 7.00 mW/g



0 dB = 7.00mW/g

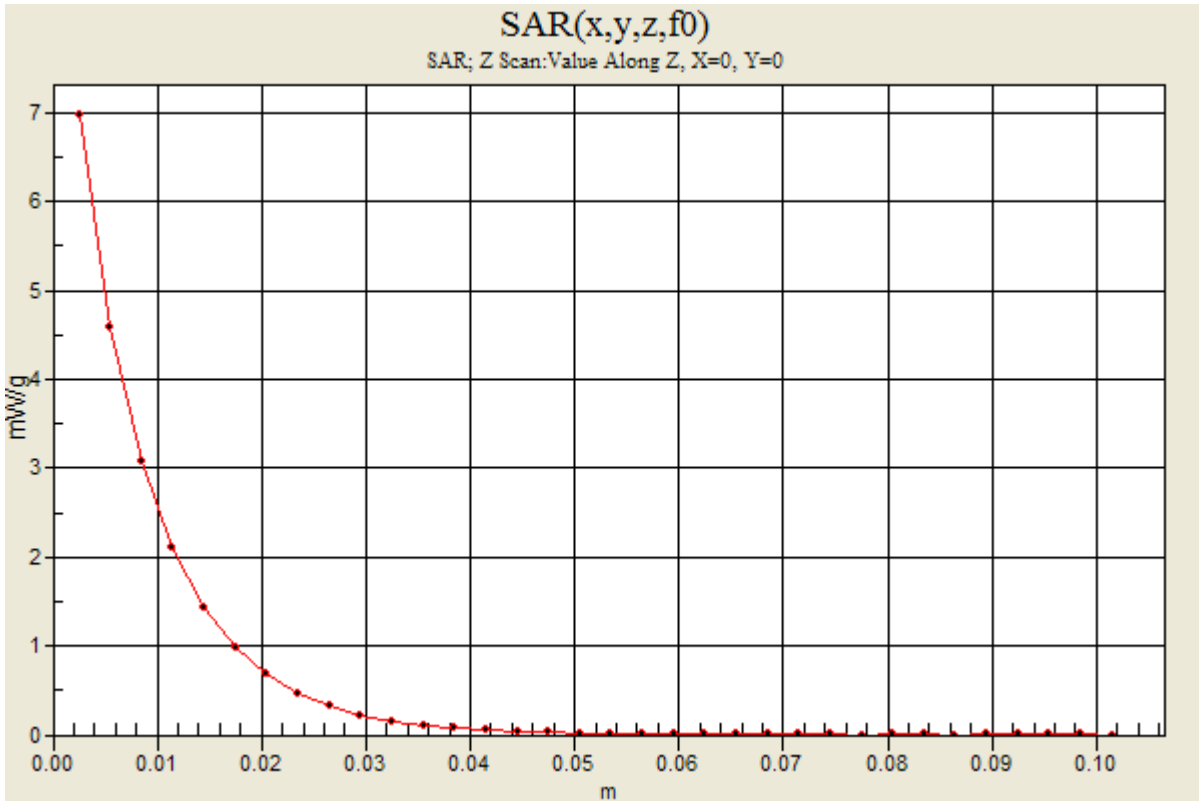
Test Laboratory: UL CCS SAR Lab D

20110808_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

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

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 6.98 mW/g



Test Laboratory: UL CCS SAR Lab D

20110810_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

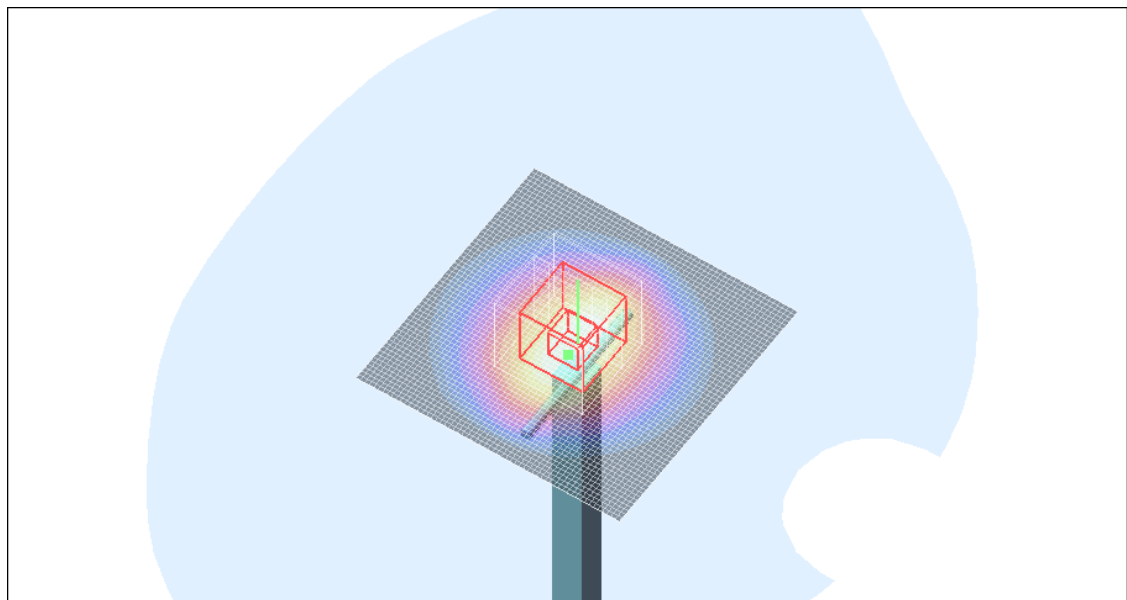
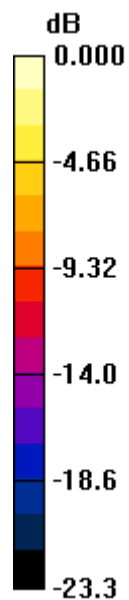
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(6.9, 6.9, 6.9); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: SAM B (Twin); Type: SAM B; Serial: TP-105
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 7.40 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 63.2 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) = 5.14 mW/g; SAR(10 g) = 2.38 mW/g
Maximum value of SAR (measured) = 7.21 mW/g



0 dB = 7.21mW/g

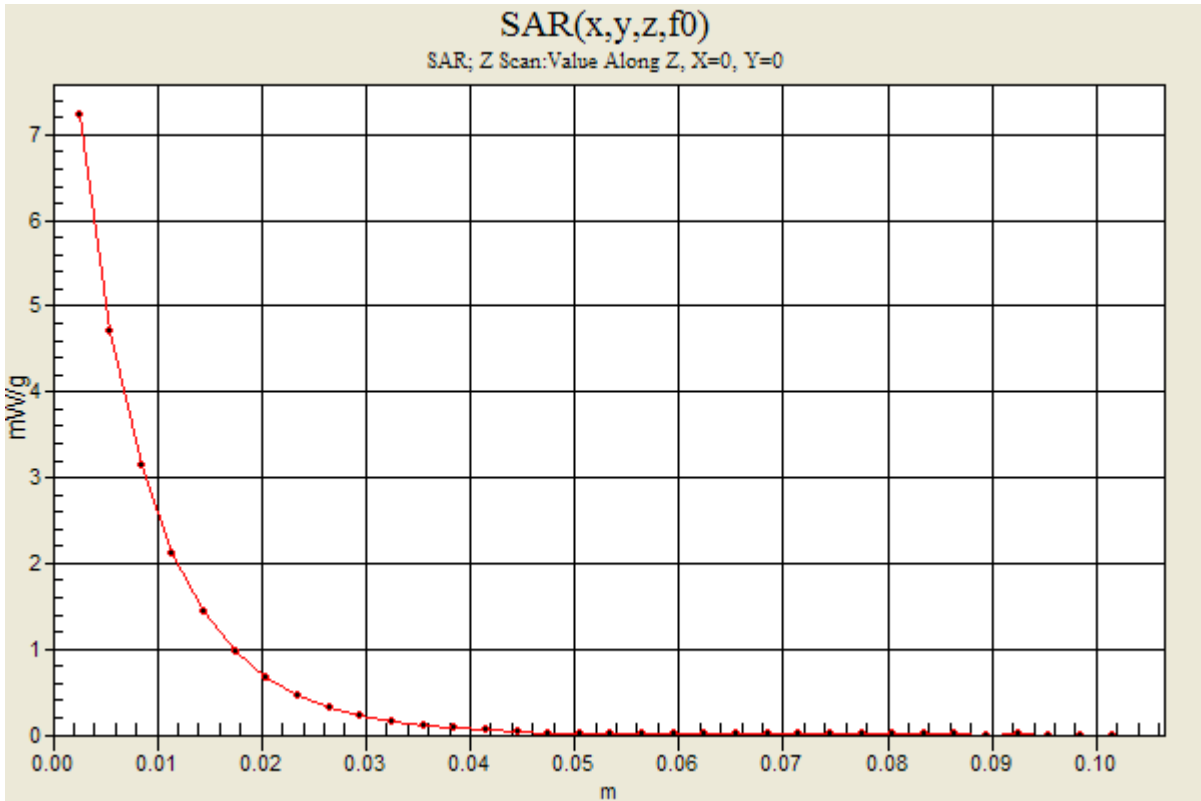
Test Laboratory: UL CCS SAR Lab D

20110810_SystemPerformanceCheck - D2450V2 SN 706

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 706

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

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 7.23 mW/g



Test Laboratory: UL CCS SAR Lab D

20110812_SystemPerformanceCheck - D1900V2 SN 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz; Duty Cycle: 1:1
 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 53.9$; $\rho = 1000$ kg/m³
 Phantom section: Flat Section

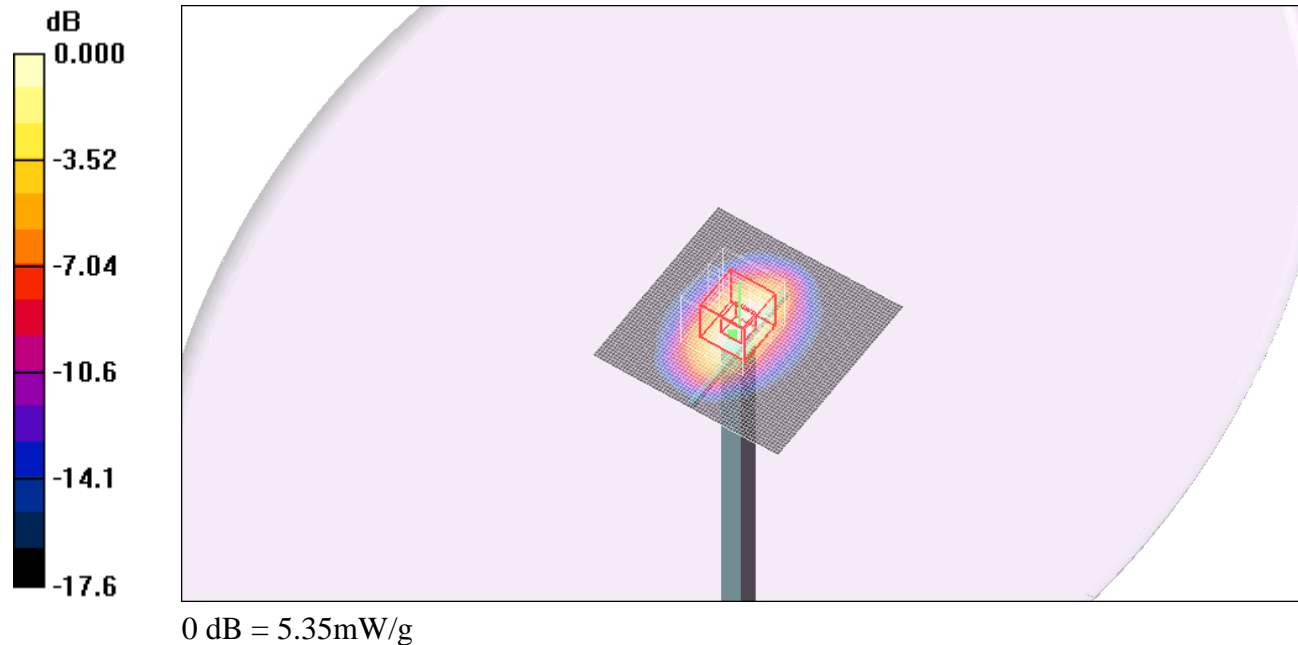
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(7.33, 7.33, 7.33); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (interpolated) = 5.45 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 60.5 V/m; Power Drift = -0.133 dB
 Peak SAR (extrapolated) = 7.20 W/kg
SAR(1 g) = 3.96 mW/g; SAR(10 g) = 2.07 mW/g
 Maximum value of SAR (measured) = 5.35 mW/g

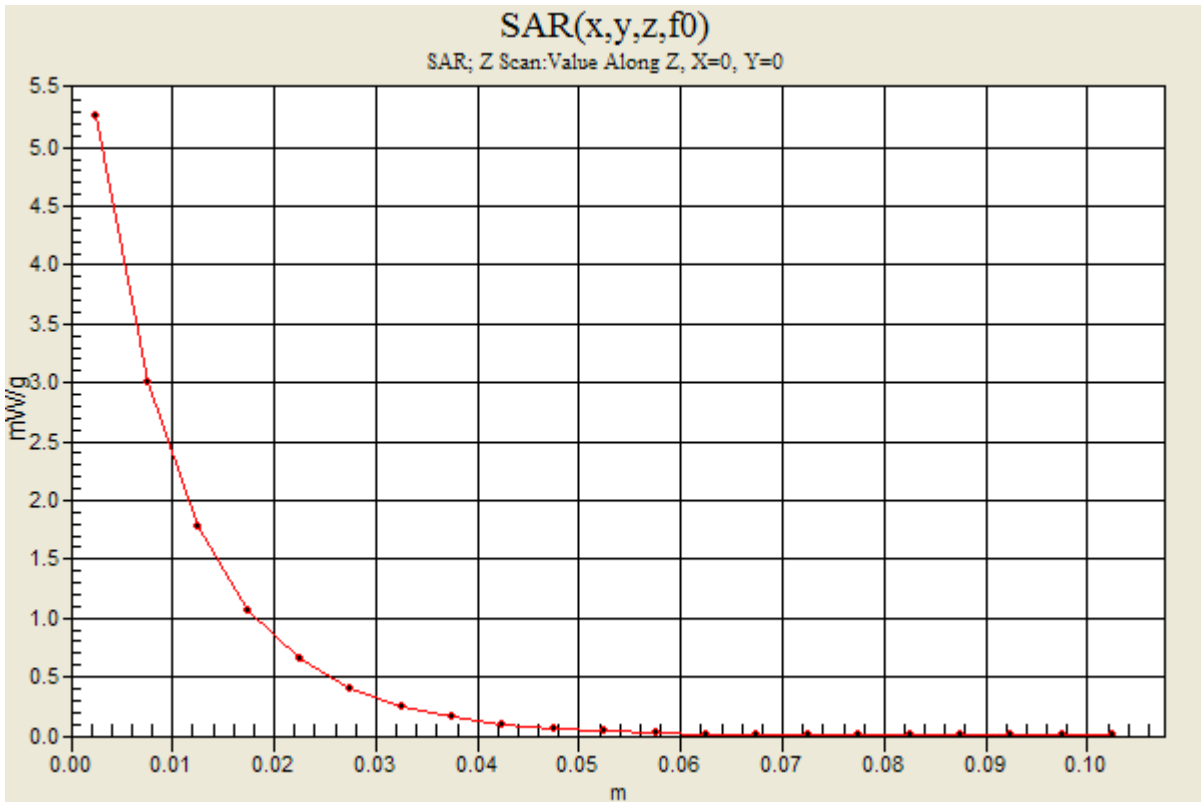


Test Laboratory: UL CCS SAR Lab D

20110812_SystemPerformanceCheck - D1900V2 SN 5d140

Communication System: System Check Signal - CW; Frequency: 1900 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 5.27 mW/g



Test Laboratory: UL CCS SAR Lab D

20110819_SystemPerformanceCheck - D2450V2 SN 706

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

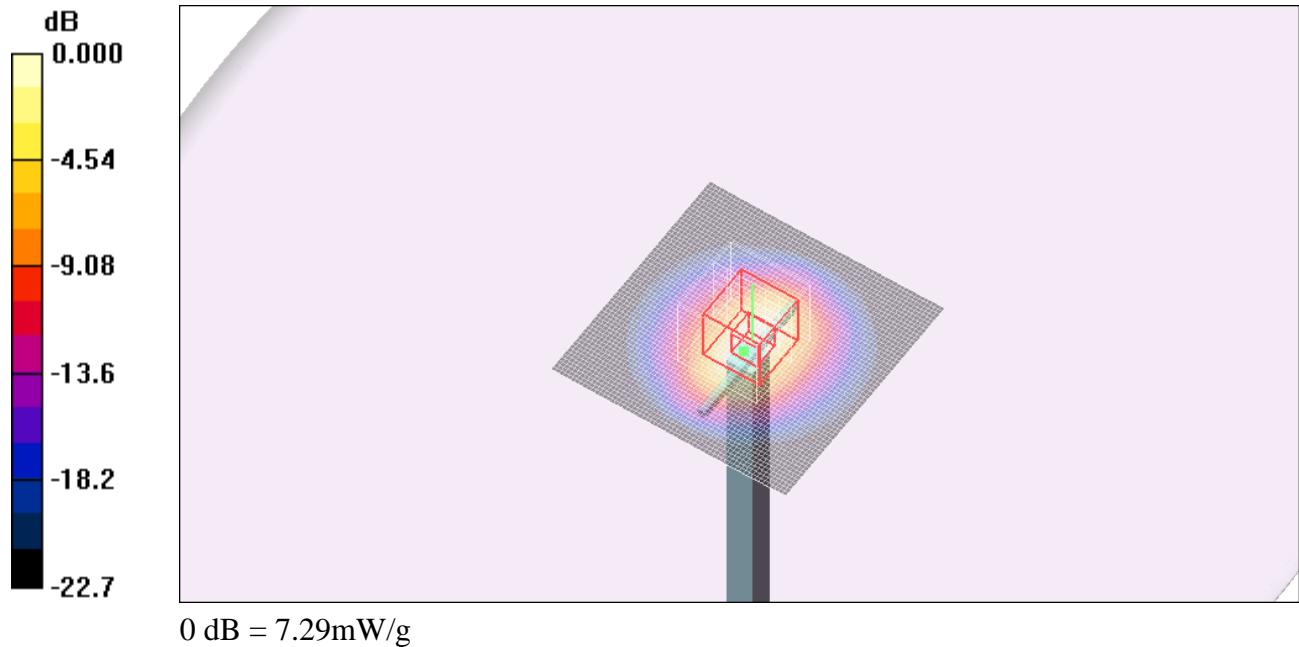
Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3749; ConvF(6.9, 6.9, 6.9); Calibrated: 12/13/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1259; Calibrated: 5/3/2011
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BB; Serial: 1017
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body, Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 7.33 mW/g

Body, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 60.6 V/m; Power Drift = -0.157 dB
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) = 5.16 mW/g; SAR(10 g) = 2.41 mW/g
Maximum value of SAR (measured) = 7.29 mW/g

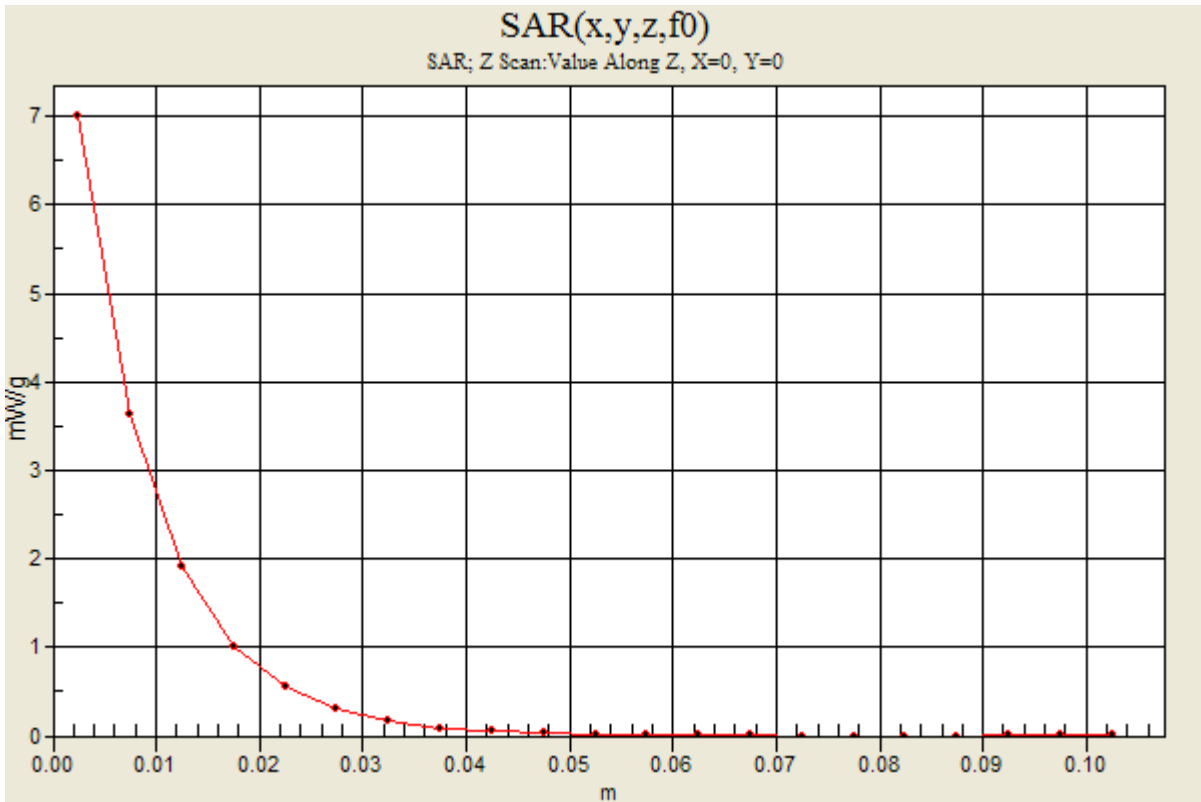


Test Laboratory: UL CCS SAR Lab D

20110819_SystemPerformanceCheck - D2450V2 SN 706

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

Body, Pin=100mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 7.00 mW/g



Test Laboratory: UL CCS SAR Lab C

20110930_ELI-A_SystemPerformanceCheck-D835V2 SN 4d117

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.983$ mho/m; $\epsilon_r = 54.819$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY5 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3772; ConvF(8.57, 8.57, 8.57); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1257; Calibrated: 5/3/2011
- Phantom: ELI v4.0 (A); Type: QDOVA001BB; Serial: 1117
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Body/Pin=100 mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.260 mW/g

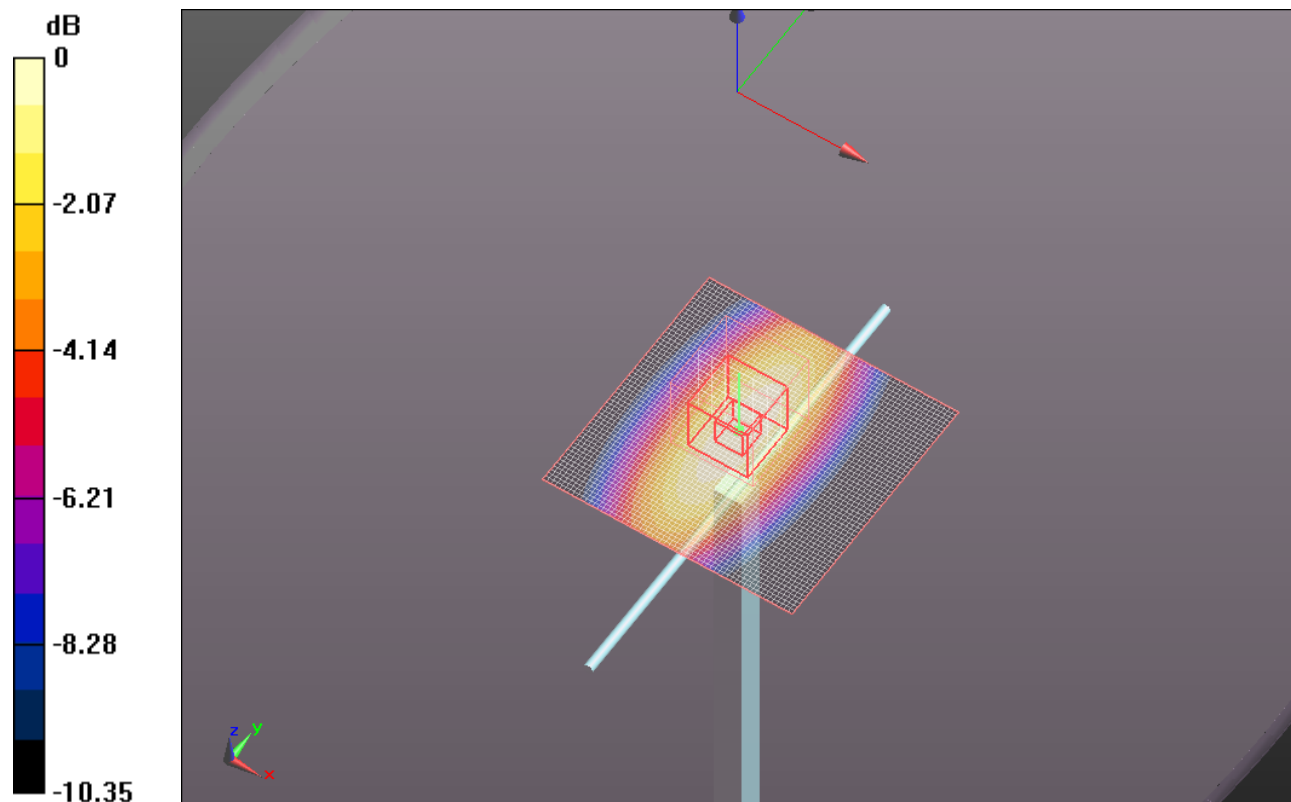
Body/Pin=100 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.216 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.558 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.681 mW/g

Maximum value of SAR (measured) = 1.268 mW/g



0 dB = 1.270mW/g

Test Laboratory: UL CCS SAR Lab C

20110930_ELI-A_SystemPerformanceCheck-D835V2 SN 4d117

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

Body/Pin=100 mW/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 0.914 mW/g

