

SAR Test Datasheet

BlackBerry Closed Loop Antenna Tuning Experiments

As per FCC OET, SAR measurements were performed in 9 tunings states on the first mode which resulted in the worst case SAR value to investigate the effect and cover the corners, midpoints of the edges, and the mid-point of the tuning range, in addition to the Closed Loop condition.

Second worst case mode was tested in the 4 corners and mid-point of tuning range to minimize the number of tests, in addition to the Closed Loop condition.

For other band/mode combinations, the single data scan was chosen, based on simulation, to yield the lowest predicted SAR, in addition to the Closed Loop condition.

Please refer to the Confidential Exhibit: Operational Description for detailed information about the Closed Loop Antenna Tuning and the Tuner Test Matrices explaining the capacitor values for the tuning states.

Device Information

Model #		RFX101LW				
FCC ID #		L6ARFX100LW				
DeviceType	Sample #	Device PIN	HW REV #	CPR #	Software Bundle	Date (mm/dd/yy)
Radiated	64	333E2BE8	1	26937	10.2.0.345	09/13-17/2013

System accuracy verification

f (MHz)	Limits / Measured	Scan Type	SAR 1g/10g (W/kg)	Dielectric Parameters		Liquid Temp. (°C)
				ϵ_r	σ [S/m]	
750	Measured	Zoom Scan	7.74/5.05	40.8	0.89	22.8
	Recommended Limits (Dipole: 1021)		8.46/5.51	41.9	0.89	N/A
835	Measured	Zoom Scan	8.96/5.87	40.5	0.88	22.7
	Recommended Limits (Dipole: 446)		9.39 / 6.13	41.5	0.90	N/A
1800	Measured	Zoom Scan	35.7/18.6	38.2	1.42	22.6
	Recommended Limits (Dipole: 2d020)		38.5/20.3	40.0	1.40	N/A

1900	Measured	Zoom Scan	38.6/20.3	38.1	1.41	22.6
	Measured	Zoom Scan	37.1/19.5	38.6	1.39	23.0
	Recommended Limits (Dipole: 545)		40.2/21.1	40.0	1.40	N/A

Electrical parameters of tissue simulating liquid

Band (MHz)	Tissue Type	Limits / Measured	f (MHz)	Dielectric Parameters		Liquid Temp (°C)
				ϵ_r	σ [S/m]	
750	Head	Measured	705	41.4	0.85	22.8
			715	41.3	0.86	
			750	40.8	0.89	
			775	40.5	0.92	
		790	40.4	0.93		
		Recommended Limits	750	41.9	0.89	N/A
835	Head	Measured	815	40.8	0.86	22.7
			825	40.7	0.87	
		835	40.5	0.88		
		Recommended Limits	835	41.5	0.90	N/A
1800	Head	Measured	1710	38.5	1.34	22.6
			1750	38.4	1.38	
		1800	38.2	1.42		
		Recommended Limits	1800	40.0	1.40	N/A
1900	Head	Measured	1850	38.2	1.36	22.6
			1900	38.1	1.41	
			1910	38.0	1.43	
		Measured	1850	38.9	1.34	23.0
			1900	38.6	1.39	
		1910	38.6	1.40		
		Recommended Limits	1900	40.0	1.40	N/A

SAR Test Data:

Measured SAR Values - Head - WCDMA FDD V 850 MHz							
Channel	Freq. (MHz)	Position	1 g SAR (W/kg)	% delta from Closed Loop	Scan #	Comments	Hotspot Coordinates
							(x, y, z) mm
4182	836.4	Left Cheek	0.35	0.00	1	Closed Loop	65.95, 263.2, -171.5
4182	836.4	Left Cheek	0.31	-11.43	2	Cap 1= Min C, Cap 2= Min C	65.52, 261.8, -171.4

Measured SAR Values - Head - WCDMA FDD V 850 MHz						
Channel	Freq. (MHz)	Position	Declared Conducted power (dBm)	Measured Conducted power (dBm)	Measured 1 g SAR (W/kg)	Extrapolated 1 g SAR (W/kg)
4182	836.4	Left Cheek	23.50	23.30	0.35	0.37
4182	836.4	Left Cheek	23.50	23.30	0.31	0.32

Model	RFX101LW
Hardware Rev. #	1
Software Bundle #	10.2.0.345
Date	09/16/2013

Measured SAR Values - Head - WCDMA FDD II 1900 MHz							
Channel	Freq. (MHz)	Position	1 g SAR (W/kg)	% delta from Closed Loop	Scan #	Comments	Hotspot Coordinates
							(x,y,z) mm
9400	1880.0	Left Cheek	1.00	0.00	1	Closed Loop	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.50	-50.00	2	Cap 1= Max C, Cap 2= Max C	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.64	-36.00	3	Cap 1= Max C, Cap 2= Mid C	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.67	-33.00	4	Cap 1= Max C, Cap 2= Min C	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.62	-38.00	5	Cap 1= Mid C, Cap 2= Max C	65.24, 258.5, -170.9
9400	1880.0	Left Cheek	0.73	-27.00	6	Cap 1= Mid C, Cap 2= Mid C	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.74	-26.00	7	Cap 1= Mid C, Cap 2= Min C	65.24, 258.5, -171.0
9400	1880.0	Left Cheek	0.97	-3.00	8	Cap 1= Min C, Cap 2= Max C	65.23, 258.5, -171.0
9400	1880.0	Left Cheek	0.92	-8.00	9	Cap 1= Min C, Cap 2= Mid C	65.22, 258.5, -171.0
9400	1880.0	Left Cheek	0.85	-15.00	10	Cap 1= Min C, Cap 2= Min C	65.24, 258.5, -170.9

Measured SAR Values - Head - WCDMA FDD II 1900 MHz						
Channel	Freq. (MHz)	Position	Declared Conducted power (dBm)	Measured Conducted power (dBm)	Measured 1 g SAR (W/kg)	Extrapolated 1 g SAR (W/kg)
9400	1880.0	Left Cheek	23.50	22.90	1.00	1.15
9400	1880.0	Left Cheek	23.50	22.90	0.50	0.57
9400	1880.0	Left Cheek	23.50	22.90	0.64	0.73
9400	1880.0	Left Cheek	23.50	22.90	0.67	0.77
9400	1880.0	Left Cheek	23.50	22.90	0.62	0.71
9400	1880.0	Left Cheek	23.50	22.90	0.73	0.84
9400	1880.0	Left Cheek	23.50	22.90	0.74	0.85
9400	1880.0	Left Cheek	23.50	22.90	0.97	1.11
9400	1880.0	Left Cheek	23.50	22.90	0.92	1.06
9400	1880.0	Left Cheek	23.50	22.90	0.85	0.98

Device Model	RFX101LW
Hardware Rev. #	1
Software Bundle #	10.2.0.345
Date	09/14/2013

Measured SAR Values - Head - WCDMA FDD II 1900 MHz							
Channel	Freq. (MHz)	Position	1 g SAR (W/kg)	% delta from Closed Loop	Scan #	Comments	Hotspot Coordinates
							(x,y,z) mm
9262	1852.4	Left Cheek	0.91	0.00	1	Closed Loop	66.77, 257.6, -172.0
9262	1852.4	Left Cheek	0.77	-15.38	2	Cap 1= Max C, Cap 2= Max C	66.77, 257.6, -172.0
9262	1852.4	Left Cheek	0.87	-4.40	3	Cap 1= Max C, Cap 2= Min C	66.78, 257.6, -172.1
9262	1852.4	Left Cheek	0.86	-5.49	4	Cap 1= Mid C, Cap 2= Mid C	65.53, 258.3, -172.5
9262	1852.4	Left Cheek	0.82	-9.89	5	Cap 1= Min C, Cap 2= Max C	66.78, 257.6, -172.1
9262	1852.4	Left Cheek	0.87	-4.40	6	Cap 1= Min C, Cap 2= Min C	65.53, 258.3, -172.5

Measured SAR Values - Head - WCDMA FDD II 1900 MHz						
Channel	Freq. (MHz)	Position	Declared Conducted power (dBm)	Measured Conducted power (dBm)	Measured 1 g SAR (W/kg)	Extrapolated 1 g SAR (W/kg)
9262	1852.4	Left Cheek	23.50	23.10	0.91	1.00
9262	1852.4	Left Cheek	23.50	23.10	0.77	0.84
9262	1852.4	Left Cheek	23.50	23.10	0.87	0.95
9262	1852.4	Left Cheek	23.50	23.10	0.86	0.94
9262	1852.4	Left Cheek	23.50	23.10	0.82	0.90
9262	1852.4	Left Cheek	23.50	23.10	0.87	0.95

Note: Tested low channel since Cetecom report showed this channel as highest/worst case SAR.

Device Model	RFX101LW
Hardware Rev. #	1
Software Bundle #	10.2.0.345
Date	09/16/2013

Measured SAR Values - Head - LTE Band 13 750 MHz (10 MHz BW)										
Channel	Freq. (MHz)	Position	Mod.	RB #	OFFSET	1 g SAR (W/kg)	% delta from Closed Loop	Scan #	Comments	Hotspot Coordinates
										(x,y,z) mm
23230	782.0	Left Cheek	QPSK	1	49	0.41	0.00	1	Closed Loop	67.45, 266.5, -175.5
23230	782.0	Left Cheek	QPSK	1	49	0.29	-29.27	2	Cap 1= Max C, Cap 2= Min C	67.97, 264.5, -175.1

Measured SAR Values - Head - LTE Band 13 750 MHz (10 MHz BW)									
Channel	Freq. (MHz)	Position	Mod.	RB #	OFFSET	Declared Conducted power (dBm)	Measured Conducted power (dBm)	Measured 1 g SAR (W/kg)	Extrapolated 1 g SAR (W/kg)
23230	782.0	Left Cheek	QPSK	1	49	23	22.90	0.41	0.42
23230	782.0	Left Cheek	QPSK	1	49	23	22.90	0.29	0.30

Device Model	RFX101LW
Hardware Rev. #	1
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Measured SAR Values - Head - LTE Band 4 1800 MHz (20 MHz BW)										
Channel	Freq. (MHz)	Position	Mod.	RB #	OFFSET	1 g SAR (W/kg)	% delta from Closed Loop	Scan #	Comments	Hotspot Coordinates
										(x,y,z) mm
20050	1720.0	Left Cheek	QPSK	1	99	1.00	0.00	1	Closed Loop	68.36, 257.2, -171.8
20050	1720.0	Left Cheek	QPSK	1	99	0.87	-13.00	2	Cap 1= Max C, Cap 2= Max C	67.62, 255.9, -171.9
20050	1720.0	Left Cheek	QPSK	1	99	0.82	-18.00	3	Cap 1= Max C, Cap 2= Min C	67.62, 255.9, -171.8
20050	1720.0	Left Cheek	QPSK	1	99	0.98	-2.00	4	Cap 1= Mid C, Cap 2= Mid C	67.63, 255.9, -171.8
20050	1720.0	Left Cheek	QPSK	1	99	0.94	-6.00	5	Cap 1= Min C, Cap 2= Max C	67.62, 255.9, -171.8
20050	1720.0	Left Cheek	QPSK	1	99	0.92	-8.00	6	Cap 1= Min C, Cap 2= Min C	67.61, 255.9, -171.8

Measured SAR Values - Head - LTE Band 4 1800 MHz (20 MHz BW)									
Channel	Freq. (MHz)	Position	Mod.	RB #	OFFSET	Declared Conducted power (dBm)	Measured Conducted power (dBm)	Measured 1 g SAR (W/kg)	Extrapolated 1 g SAR (W/kg)
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	1.00	1.32
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	0.87	1.15
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	0.82	1.08
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	0.98	1.29
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	0.94	1.24
20050	1720.0	Left Cheek	QPSK	1	99	23.5	22.30	0.92	1.21

Device Model	RFX101LW
Hardware Rev. #	1
Software Bundle #	10.2.0.345
Date	09/13/2013

SAR Plots:

Date/Time: 9/16/2013 11:49:29 PM

Test Laboratory: RIM Testing Services

DipoleValidation_750MHz_09_16_13_Amb_Tem_24.1_Liq_Tem_22.8C

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1021

Communication System: UID 0 - n/a, CW; Frequency: 750 MHz

Medium parameters used: $f = 750$ MHz; $\sigma = 0.894$ S/m; $\epsilon_r = 40.844$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.56, 6.56, 6.56); Calibrated: 1/10/2013;
- Sensor-Surface: 3mm (Mechanical Surface Detection), $z = 2.0, 32.0$
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- DASYS2 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 9.18 W/kg

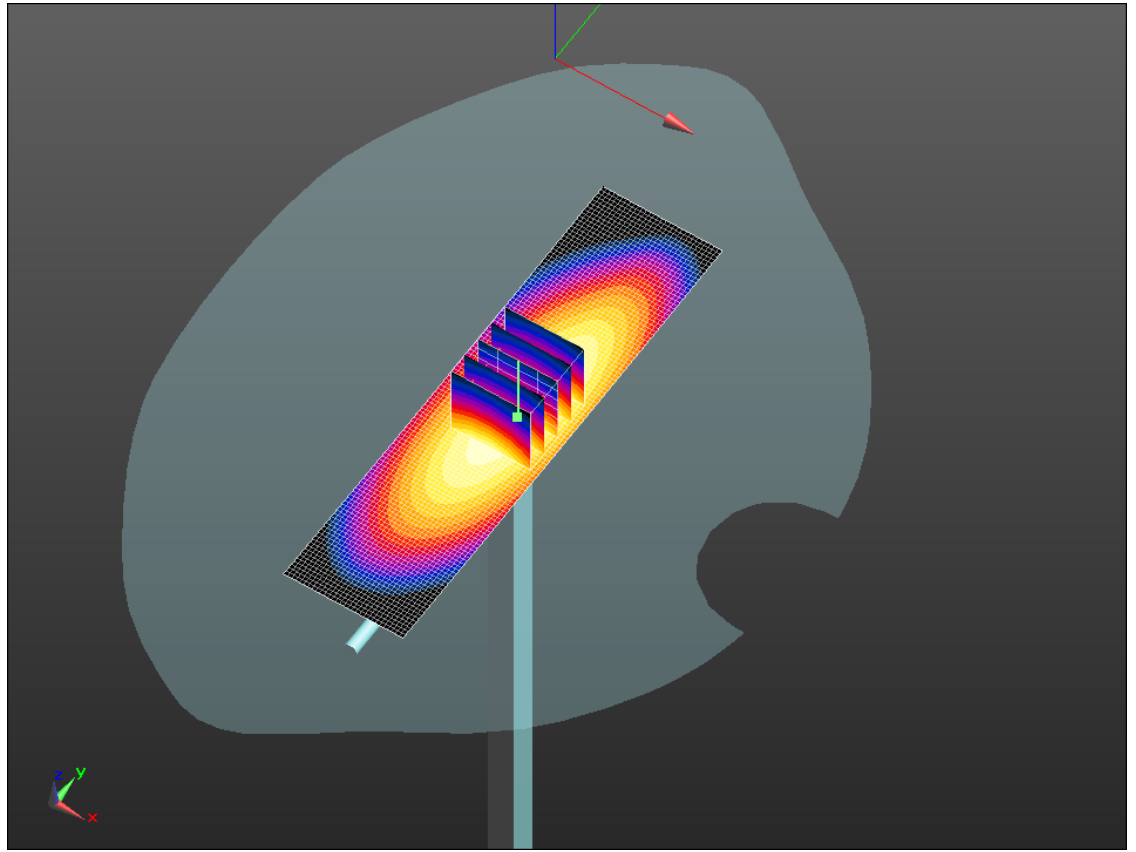
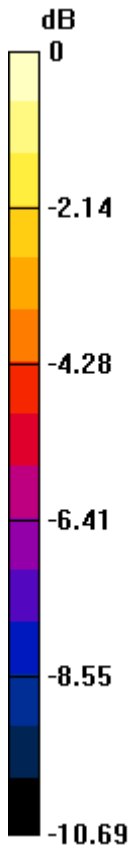
Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) 2 2**(5x5x7)/Cube 0:** Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 106.5 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 11.6 W/kg

SAR(1 g) = 7.74 W/kg; SAR(10 g) = 5.05 W/kg

Maximum value of SAR (measured) = 9.07 W/kg



0 dB = 9.07 W/kg = 9.58 dBW/kg

Date/Time: 9/11/2013 12:57:02 AM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_09_11_13_Amb_Tem_24.0C_Liq_Tem_22.9C

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

Communication System: UID 0 - n/a, CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.876$ S/m; $\epsilon_r = 40.009$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (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
- DASYS2 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 10.1 W/kg

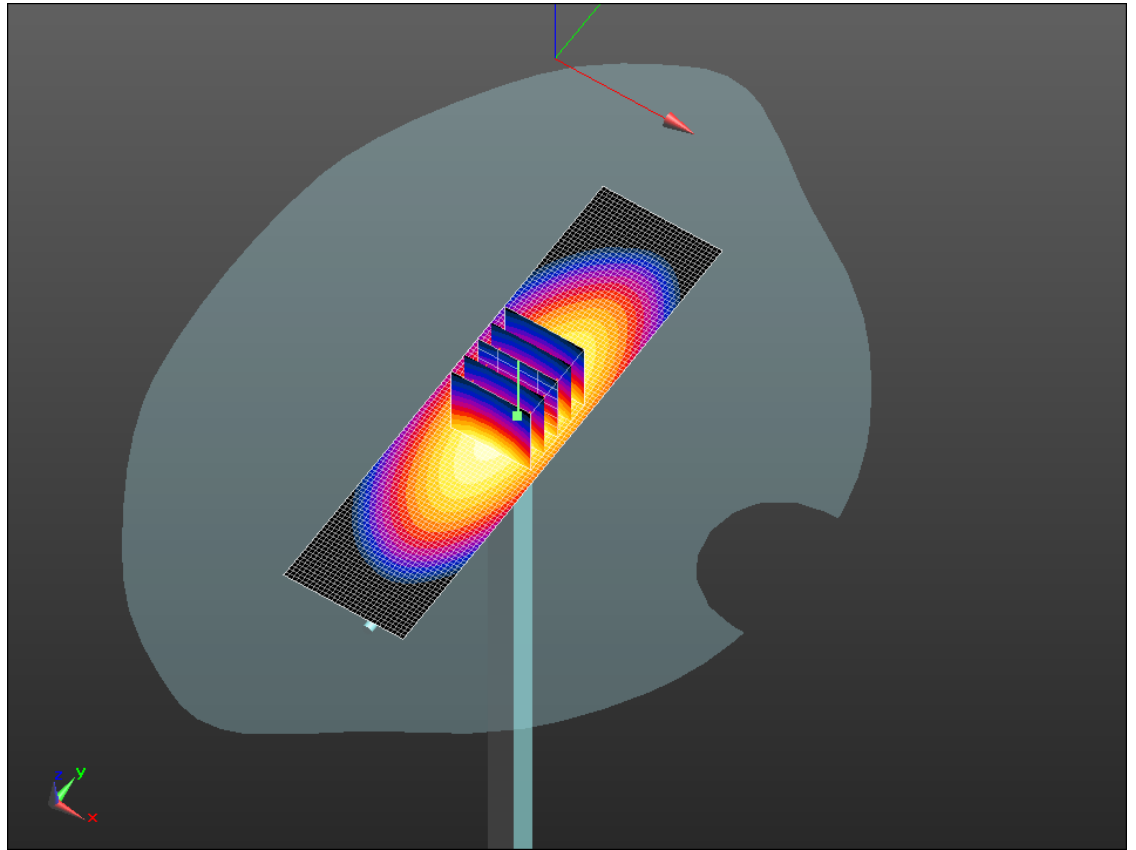
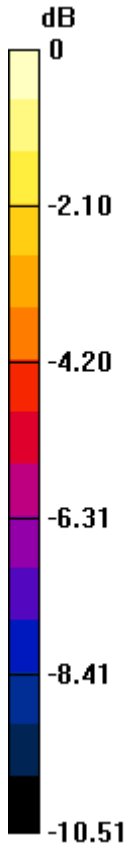
Configuration/d=15mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube**0:** Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 110.8 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 13.1 W/kg

SAR(1 g) = 8.83 W/kg; SAR(10 g) = 5.79 W/kg

Maximum value of SAR (measured) = 10.3 W/kg



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

Date/Time: 9/16/2013 3:07:02 PM

Test Laboratory: RIM Testing Services

DipoleValidation_835MHz_09_16_13_Amb_Tem_24.3C_Liq_Tem_22.7C

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

Communication System: UID 0 - n/a, CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.879 \text{ S/m}$; $\epsilon_r = 40.51$; $\rho = 1000 \text{ kg/m}^3$

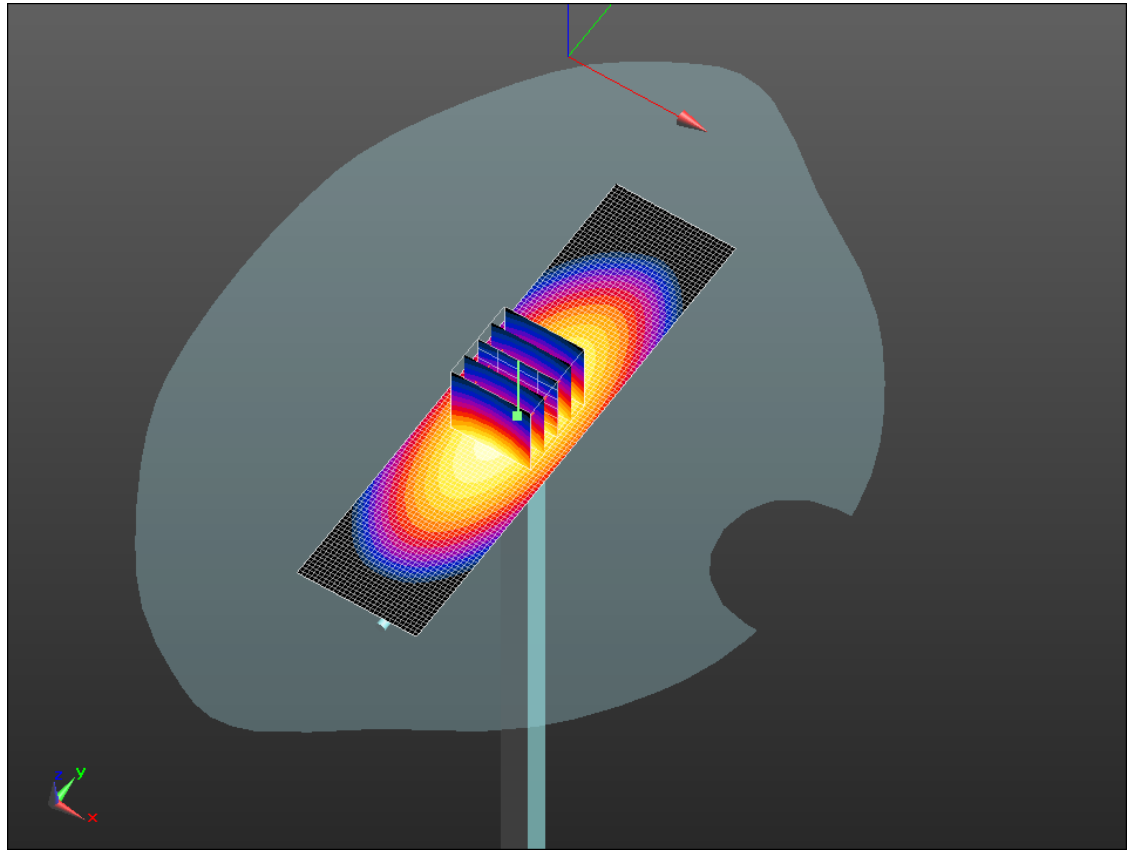
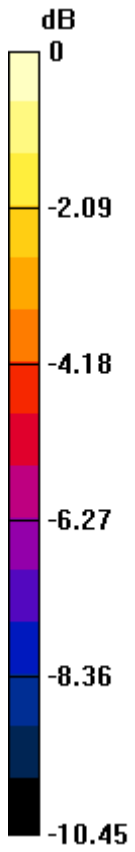
Phantom section: Flat Section

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

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF(6.19, 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
- DASYS2 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=15mm, Pin=1000mW/Area Scan (31x121x1):Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 10.3 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 = 112.3 V/m ; Power Drift = -0.01 dB Peak SAR (extrapolated) = 13.2 W/kg **SAR(1 g) = 8.96 W/kg ; SAR(10 g) = 5.87 W/kg** Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.5 W/kg = 10.21 dBW/kg

Date/Time: 9/12/2013 7:13:54 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_09_12_13_Amb_Tem_23.5_Liq_Tem_22.6C

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d020

Communication System: UID 0 - n/a, CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.424$ S/m; $\epsilon_r = 38.159$; $\rho = 1000$ kg/m³

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 2; Type: SAM 4.0; Serial: 1080
- DASYS2 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 44.8 W/kg

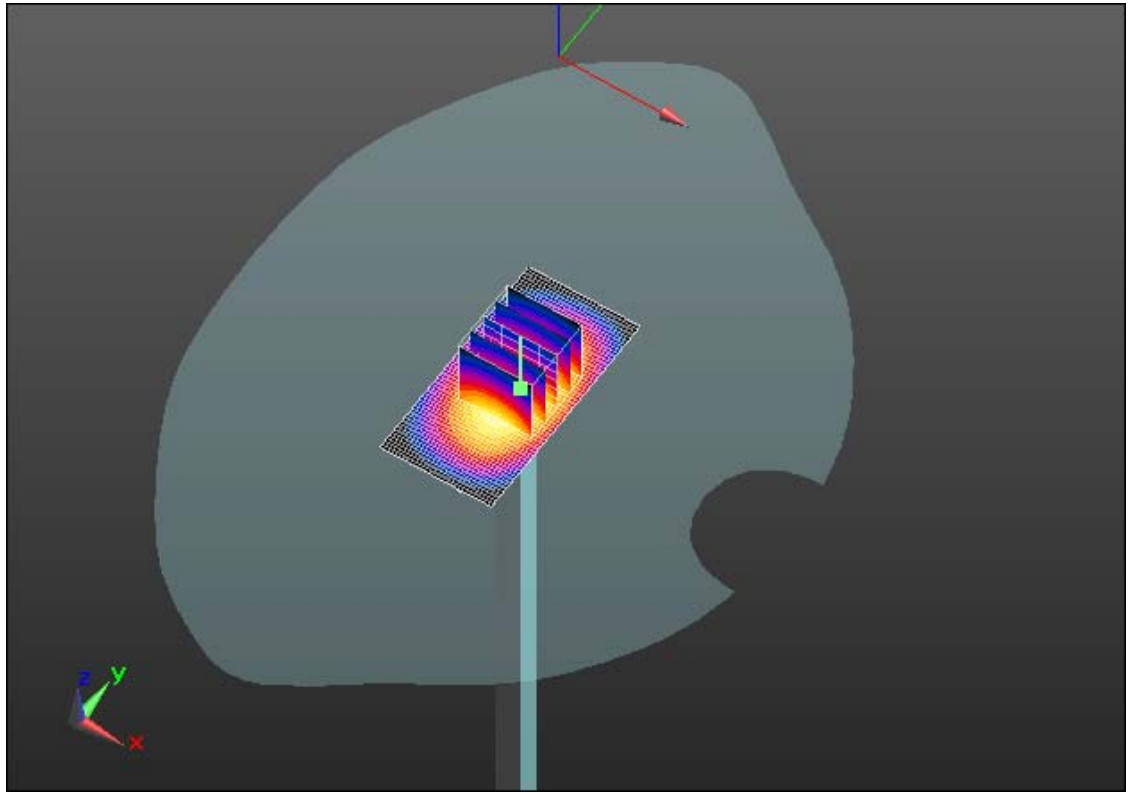
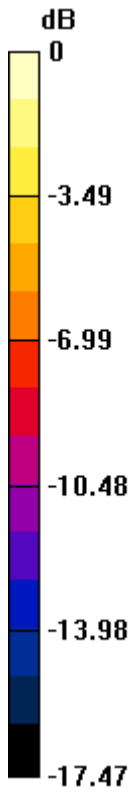
Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube**0:** Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 185.9 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 64.6 W/kg

SAR(1 g) = 35.7 W/kg; SAR(10 g) = 18.6 W/kg

Maximum value of SAR (measured) = 45.6 W/kg



0 dB = 45.6 W/kg = 16.59 dBW/kg

Date/Time: 9/16/2013 12:29:23 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1800MHz_09_16_13_Amb_Tem_23.9_Liq_Tem_22.8C

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d020

Communication System: UID 0 - n/a, CW; Frequency: 1800 MHz

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.423$ S/m; $\epsilon_r = 39.176$; $\rho = 1000$ kg/m³

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 2; Type: SAM 4.0; Serial: 1080
- DASYS2 52.8.6(1115); SEMCAD X 14.6.9(7117)

Configuration/d=10mm, Pin=1000mW/Area Scan (31x61x1): Interpolatedgrid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 46.1 W/kg

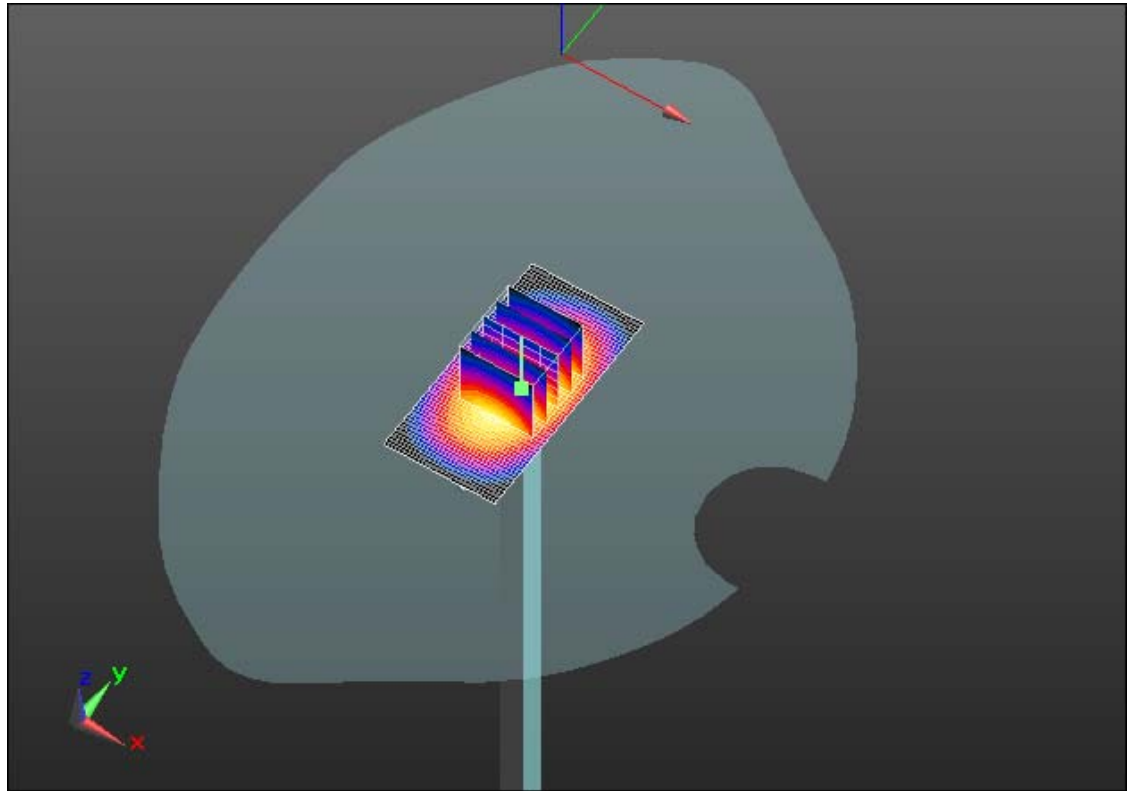
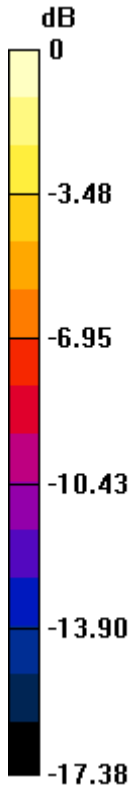
Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) 2 (5x5x7)/Cube**0:** Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 188.6 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 65.7 W/kg

SAR(1 g) = 36.4 W/kg; SAR(10 g) = 19 W/kg

Maximum value of SAR (measured) = 46.5 W/kg



0 dB = 46.5 W/kg = 16.67 dBW/kg

Date/Time: 9/10/2013 7:40:24 PM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_09_10_13_Amb_Tem_22.9C_Liq_Tem_22.6C

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; $\sigma = 1.412$ S/m; $\epsilon_r = 38.067$; $\rho = 1000$ kg/m³

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
- DASYS2 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

Maximum value of SAR (interpolated) = 49.5 W/kg

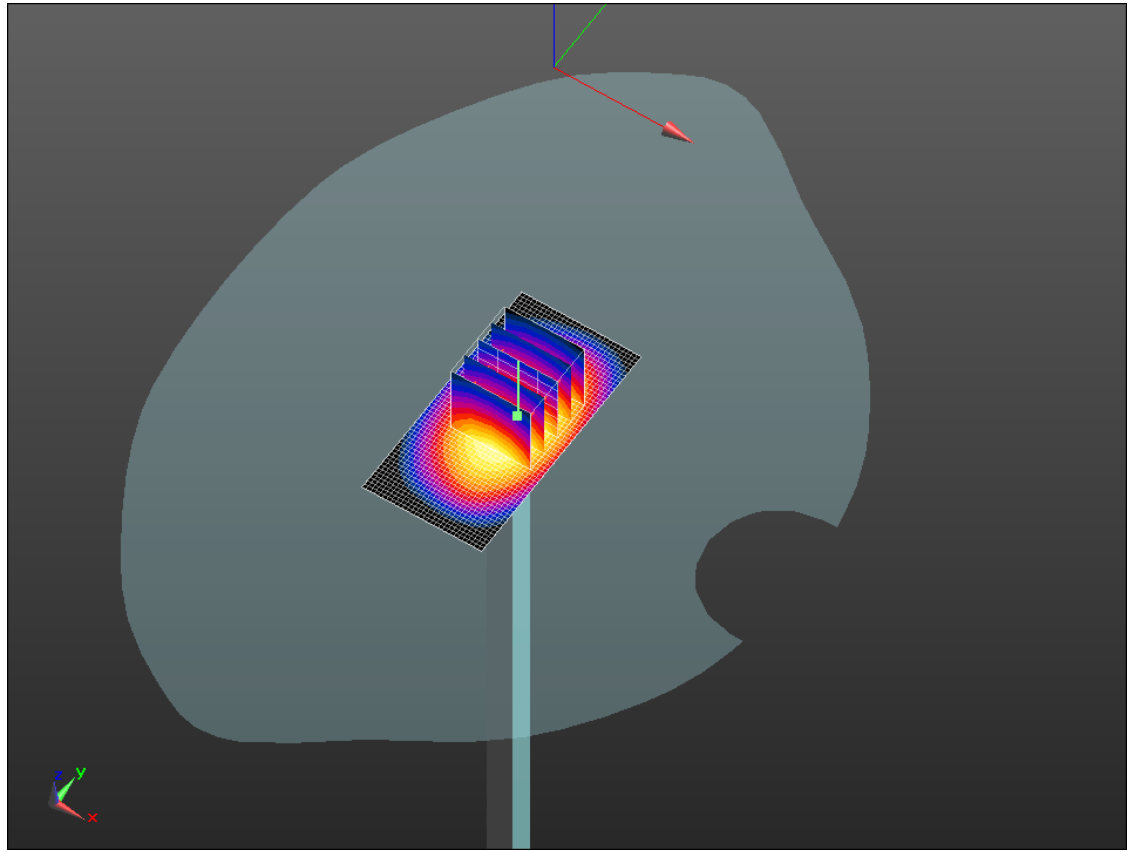
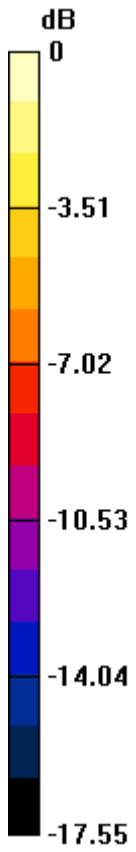
Configuration/d=10mm, Pin=1000mW/Zoom Scan (5x5x7) (5x5x7)/Cube**0:** Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 193.3 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 68.8 W/kg

SAR(1 g) = 38.6 W/kg; SAR(10 g) = 20.3 W/kg

Maximum value of SAR (measured) = 48.6 W/kg



0 dB = 48.6 W/kg = 16.87 dBW/kg

Date/Time: 9/17/2013 2:42:35 AM

Test Laboratory: RIM Testing Services

DipoleValidation_1900MHz_09_17_13_Amb_Tem_24.5C_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: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 38.642$; $\rho = 1000$ kg/m³

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 2; Type: SAM 4.0; Serial: 1080
- DASYS2 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

Maximum value of SAR (interpolated) = 47.4 W/kg

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

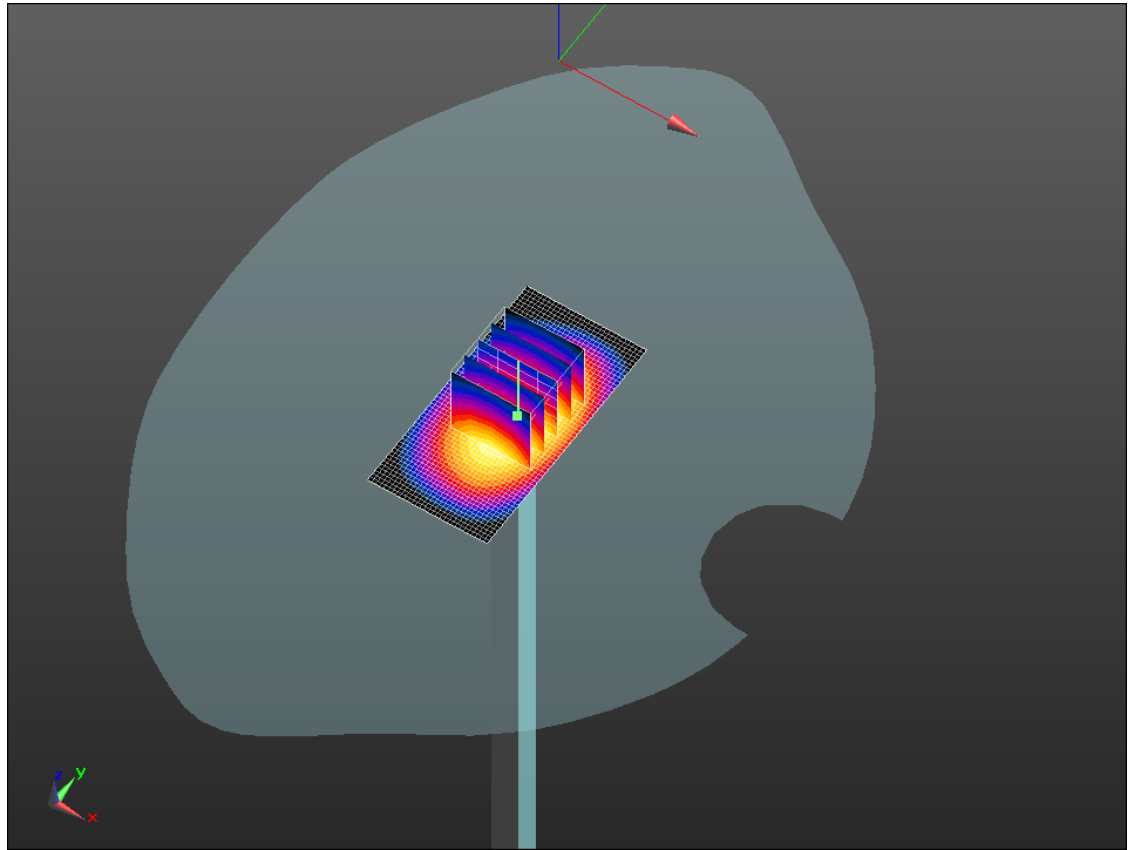
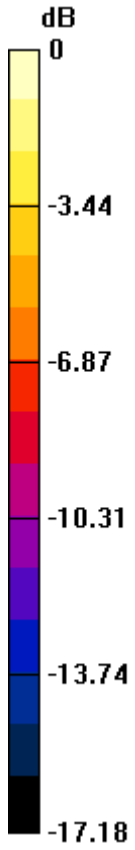
(5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 189.7 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 65.6 W/kg

SAR(1 g) = 37.1 W/kg; SAR(10 g) = 19.5 W/kg

Maximum value of SAR (measured) = 46.8 W/kg



0 dB = 46.8 W/kg = 16.70 dBW/kg

Date: 9/16/2013

Test Lab: RIM Testing Services

DUT Name: BlackBerry Smartphone, Type: Sample, Serial: 333E2BE8**Configuration: Left-Hand-Side HSL - UMTS V**

Communication System: WCDMA FDD V; Communication System Band: UMTS band V;

Frequency: 836.4 MHz

Medium Parameters used: $f=836.4$ MHz; $\sigma = 0.880$ S/m; $\epsilon_r = 40.503$; $\rho = 1.000$ g/cm³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF: (6.19,6.19,6.19); Calibrated: 1/10/2013;
- Sensor-Surface: 3 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)

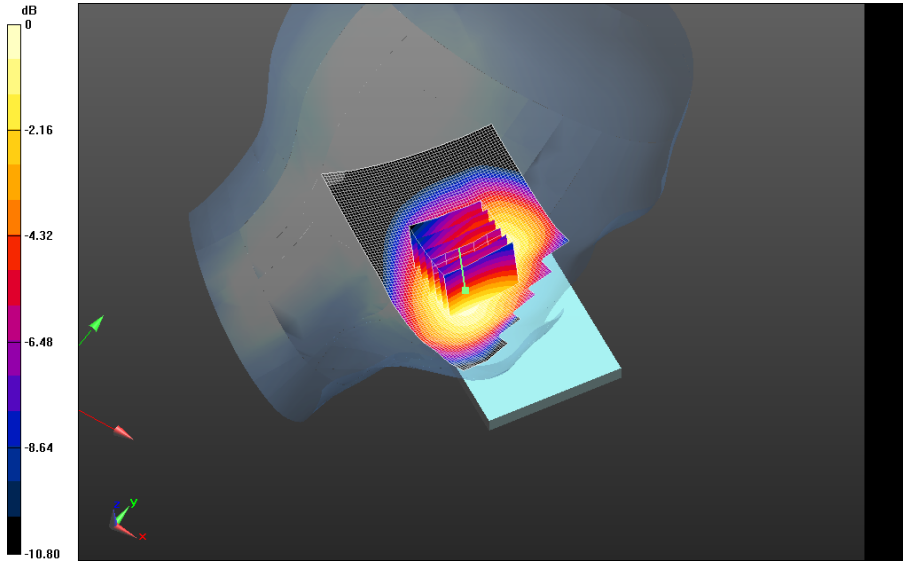
Left-Hand-Side HSL - UMTS V/Touch Position -**UMTS_V_chan4182_Scan#1_amb_temp_24.5C_liq_temp_22.3C/Area Scan (61x101x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.390 W/kg

Left-Hand-Side HSL - UMTS V/Touch Position -**UMTS_V_chan4182_Scan#1_amb_temp_24.5C_liq_temp_22.3C/Zoom Scan (26x26x36)/Cube****0:** Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mmReference Value = 6.232 V/m; **Power Drift = -0.091 dB****Averaged SAR: SAR(1g) = 0.354 W/kg; SAR(10g) = 0.266 W/kg**

Maximum value of SAR (interpolated) = 0.466 W/kg



0 dB = 0.393 W/kg = -4.06 dBW/kg

Left-Hand-Side HSL - UMTS V/Touch Position -

UMTS_V_chan4182_Scan#2_amb_temp_24.2C_liq_temp_22.3C/Area Scan (61x91x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.356 W/kg

Left-Hand-Side HSL - UMTS V/Touch Position -

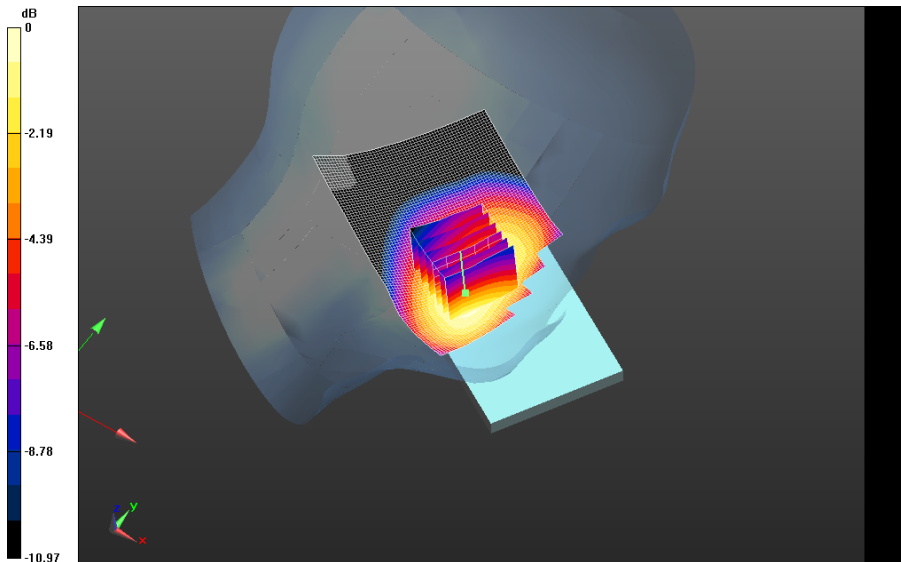
UMTS_V_chan4182_Scan#2_amb_temp_24.2C_liq_temp_22.3C/Zoom Scan (26x26x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 5.777 V/m; **Power Drift = -0.063 dB**

Averaged SAR: SAR(1g) = 0.310 W/kg; SAR(10g) = 0.228 W/kg

Maximum value of SAR (interpolated) = 0.416 W/kg



0 dB = 0.393 W/kg = -4.06 dBW/kg

Date: 9/14/2013

Test Lab: RIM Testing Services

DUT Name: BlackBerry Smartphone, Type: Sample, Serial: 333E2BE8**Configuration: Left-Hand-Side HSL - UMTS II**

Communication System: WCDMA FDD II; Communication System Band: UMTS FDD II; Frequency: 1880 MHz, Communication System PAR: 0 dB; PMF: 1; Duty Cycle: 1:1

Medium Parameters used: $f=1880$ MHz; $\sigma = 1.391$ S/m; $\epsilon_r = 38.121$; $\rho = 1.000$ g/cm³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF: (5.35,5.35,5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3 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)

Left-Hand-Side HSL - UMTS II/Touch Position -**UMTS_II_chan9400_Scan#1_amb_temp_23.3C_liq_temp_21.6C/Area Scan (61x81x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

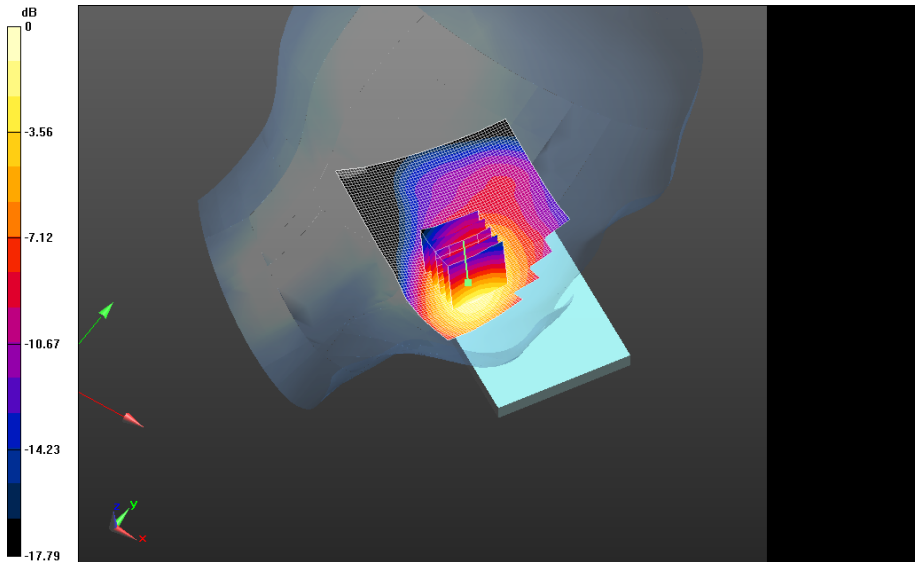
Maximum value of SAR (interpolated) = 1.25 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -**UMTS_II_chan9400_Scan#1_amb_temp_23.3C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube****0:** Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.845 V/m; Power Drift = 0.074 dB

Averaged SAR: SAR(1g) = 1.00 W/kg; SAR(10g) = 0.608 W/kg

Maximum value of SAR (interpolated) = 1.51 W/kg



0 dB = 1.19 W/kg = 0.76 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#2_amb_temp_22.9C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.611 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

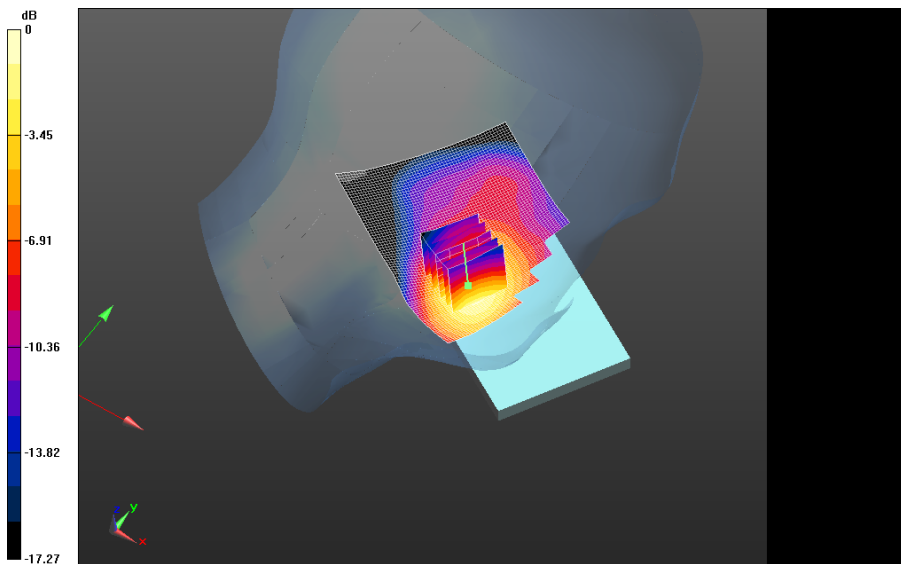
UMTS_II_chan9400_Scan#2_amb_temp_22.9C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 4.911 V/m; Power Drift = 0.193 dB

Averaged SAR: SAR(1g) = 0.497 W/kg; SAR(10g) = 0.303 W/kg

Maximum value of SAR (interpolated) = 0.742 W/kg



0 dB = 1.19 W/kg = 0.76 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#3_amb_temp_23.3C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.800 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

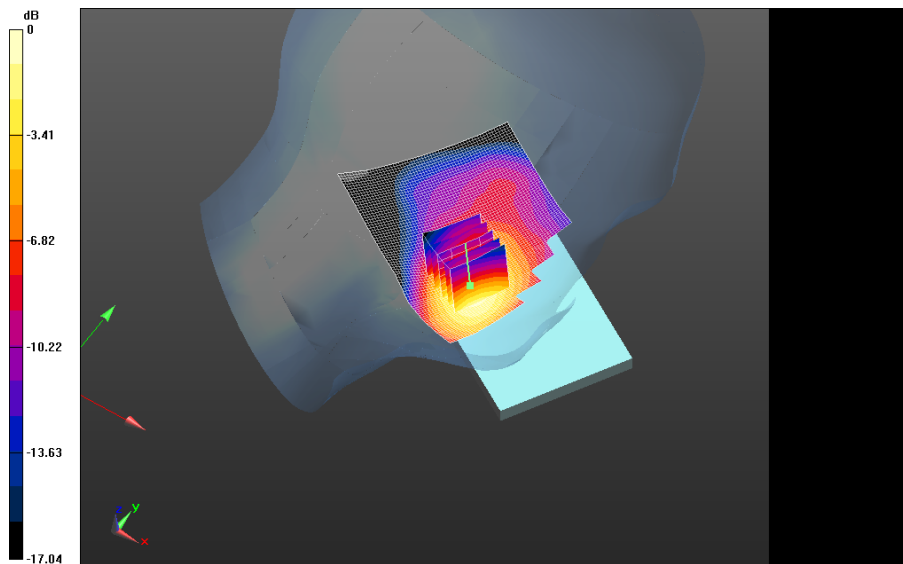
UMTS_II_chan9400_Scan#3_amb_temp_23.3C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 5.670 V/m; Power Drift = 0.202 dB

Averaged SAR: SAR(1g) = 0.642 W/kg; SAR(10g) = 0.392 W/kg

Maximum value of SAR (interpolated) = 0.962 W/kg



0 dB = 0.585 W/kg = -2.33 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#4_amb_temp_22.8C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.827 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

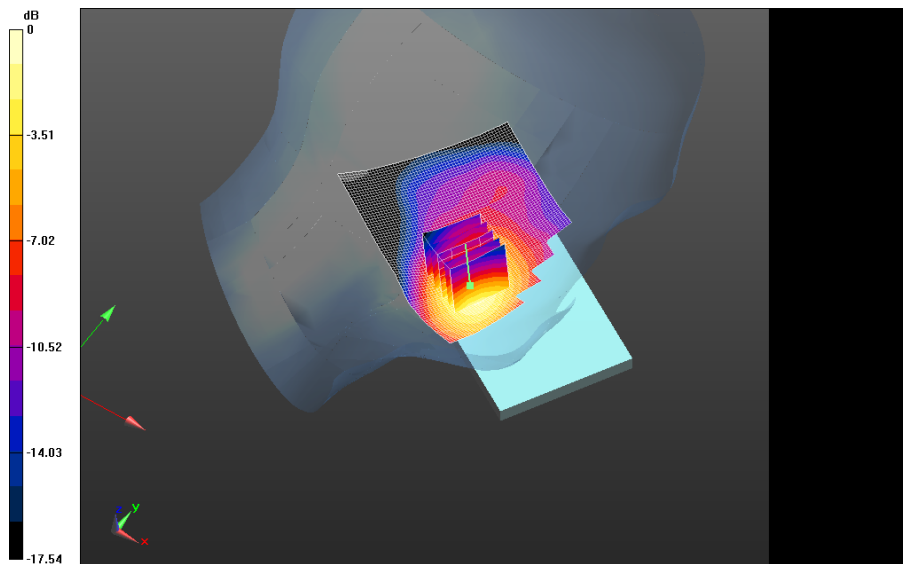
UMTS_II_chan9400_Scan#4_amb_temp_22.8C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 5.479 V/m; Power Drift = 0.119 dB

Averaged SAR: SAR(1g) = 0.670 W/kg; SAR(10g) = 0.404 W/kg

Maximum value of SAR (interpolated) = 1.01 W/kg



0 dB = 0.755 W/kg = -1.22 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#5_amb_temp_23.4C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.771 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

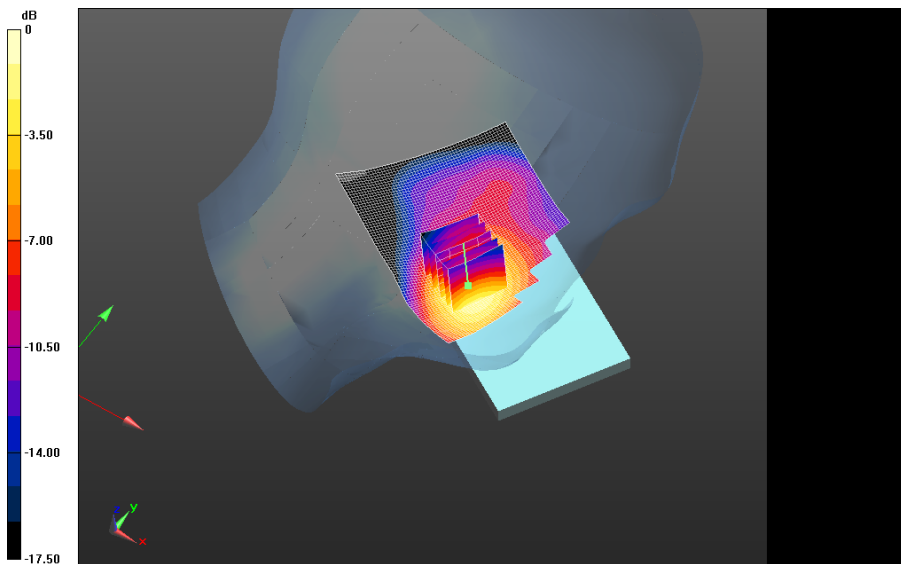
UMTS_II_chan9400_Scan#5_amb_temp_23.4C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 5.343 V/m; Power Drift = 0.112 dB

Averaged SAR: SAR(1g) = 0.622 W/kg; SAR(10g) = 0.376 W/kg

Maximum value of SAR (interpolated) = 0.938 W/kg



0 dB = 0.792 W/kg = -1.01 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#6_amb_temp_22.8C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.893 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

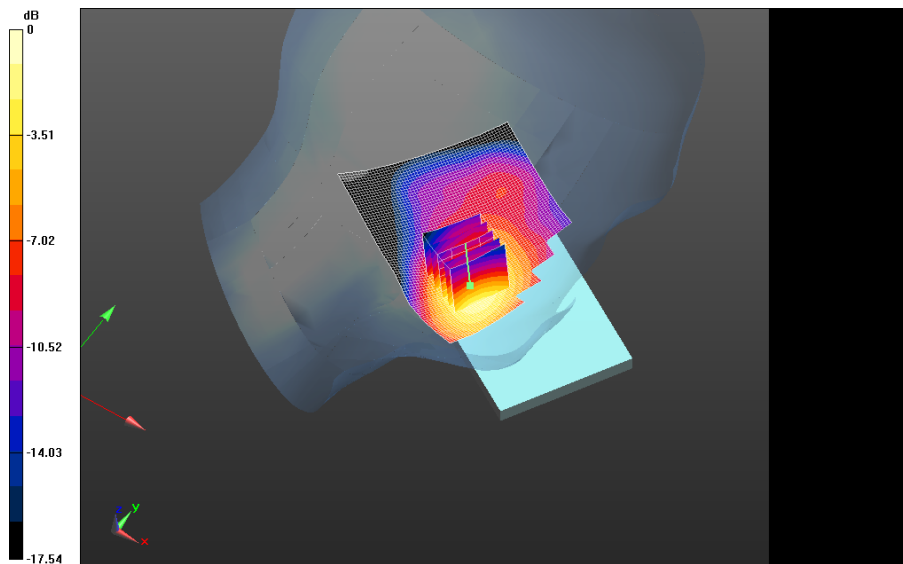
UMTS_II_chan9400_Scan#6_amb_temp_22.8C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.147 V/m; Power Drift = 0.173 dB

Averaged SAR: SAR(1g) = 0.726 W/kg; SAR(10g) = 0.442 W/kg

Maximum value of SAR (interpolated) = 1.08 W/kg



0 dB = 0.739 W/kg = -1.31 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#7_amb_temp_23.4C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.924 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

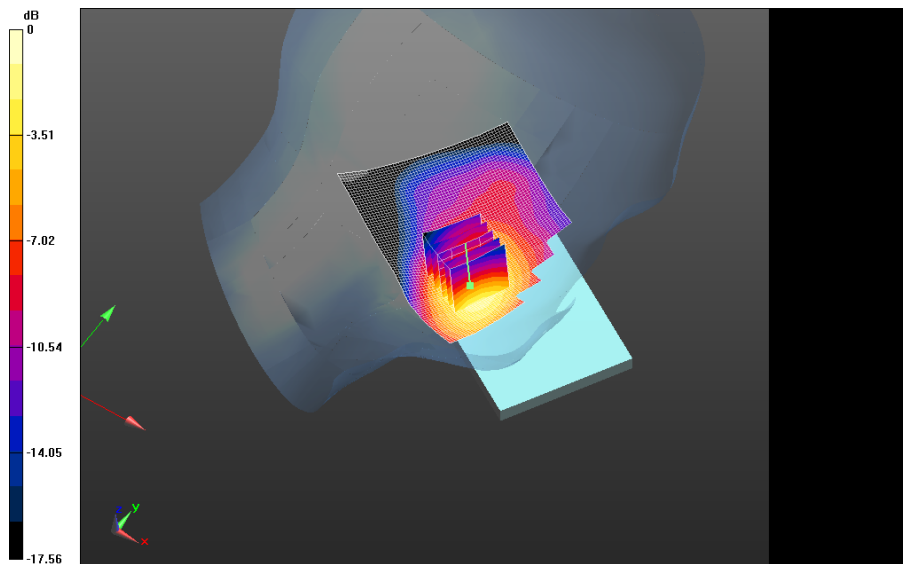
UMTS_II_chan9400_Scan#7_amb_temp_23.4C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 5.716 V/m; Power Drift = 0.147 dB

Averaged SAR: SAR(1g) = 0.744 W/kg; SAR(10g) = 0.449 W/kg

Maximum value of SAR (interpolated) = 1.13 W/kg



0 dB = 0.862 W/kg = -0.64 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#8_amb_temp_22.9C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.23 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

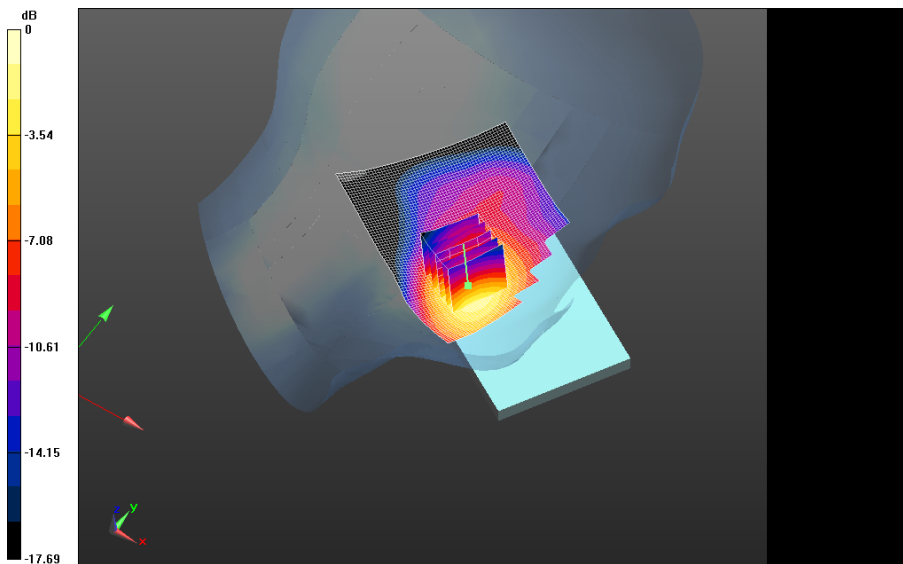
UMTS_II_chan9400_Scan#8_amb_temp_22.9C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.008 V/m; Power Drift = -0.049 dB

Averaged SAR: SAR(1g) = 0.969 W/kg; SAR(10g) = 0.576 W/kg

Maximum value of SAR (interpolated) = 1.49 W/kg



0 dB = 0.894 W/kg = -0.49 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#9_amb_temp_22.8C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.16 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

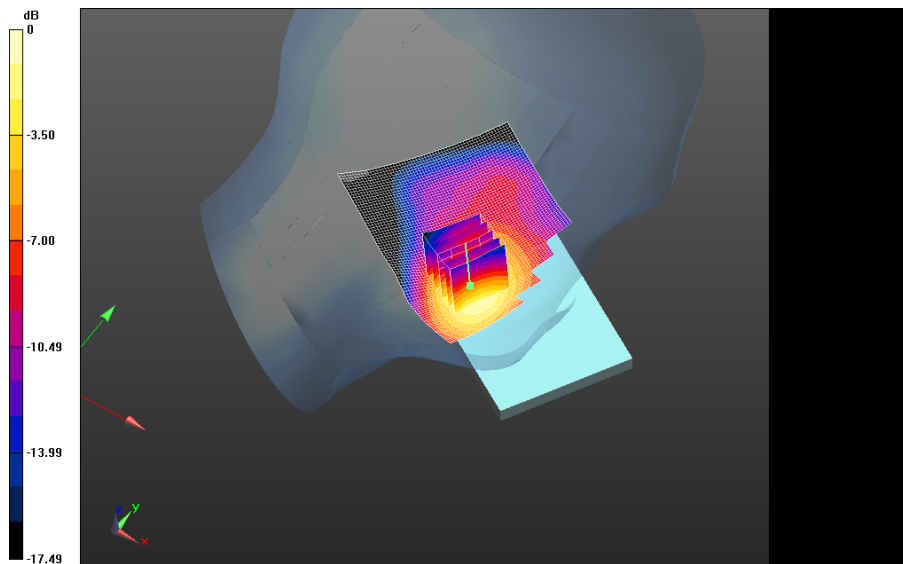
UMTS_II_chan9400_Scan#9_amb_temp_22.8C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.744 V/m; Power Drift = -0.126 dB

Averaged SAR: SAR(1g) = 0.917 W/kg; SAR(10g) = 0.557 W/kg

Maximum value of SAR (interpolated) = 1.38 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

UMTS_II_chan9400_Scan#10_amb_temp_22.9C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

Left-Hand-Side HSL - UMTS II/Touch Position -

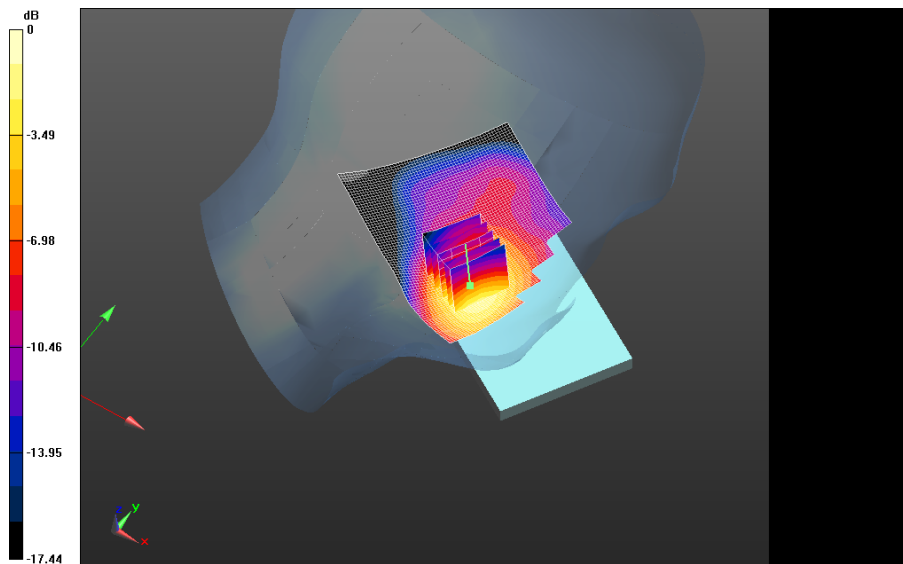
UMTS_II_chan9400_Scan#10_amb_temp_22.9C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.346 V/m; Power Drift = 0.071 dB

Averaged SAR: SAR(1g) = 0.847 W/kg; SAR(10g) = 0.512 W/kg

Maximum value of SAR (interpolated) = 1.27 W/kg



0 dB = 1.09 W/kg = 0.37 dBW/kg

Date: 9/17/2013

Test Lab: RIM Testing Services

DUT Name: BlackBerry Smartphone, Type: Sample, Serial: 333E2BE8**Configuration: Left-Hand-Side HSL - UMTS II Low channel**

Communication System: WCDMA FDD II; Communication System Band: UMTS FDD II; Frequency: 1852.4 MHz

Medium Parameters used: $f=1852.4$ MHz; $\sigma = 1.340$ S/m; $\epsilon_r = 38.839$; $\rho = 1.000$ g/cm³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF: (5.35,5.35,5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

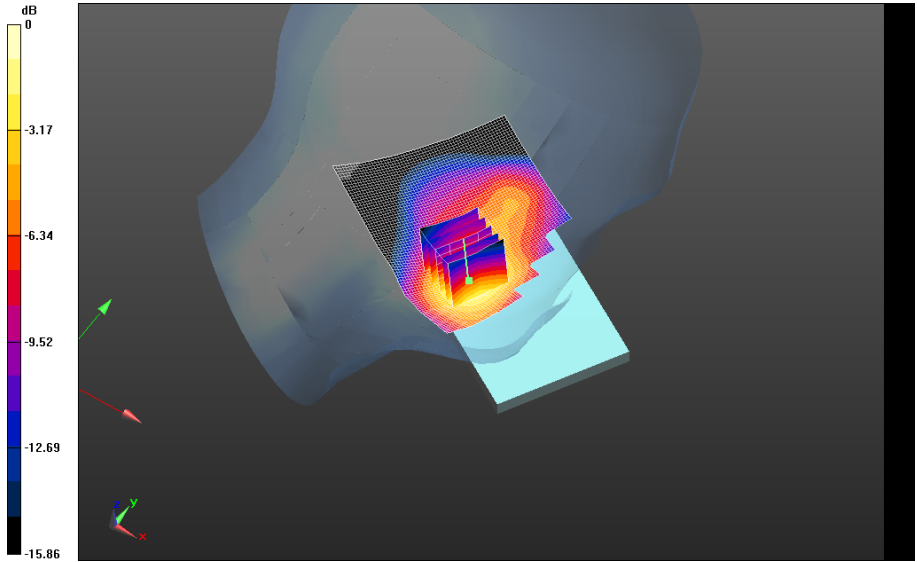
Left-Hand-Side HSL - UMTS II Low channel/Touch Position -**UMTS_II_chan9262_Scan#1_amb_temp_23.3C_liq_temp_21.6C/Area Scan (61x81x1):**

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.12 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -**UMTS_II_chan9262_Scan#1_amb_temp_23.3C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube****0:** Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mmReference Value = 6.687 V/m; **Power Drift = -0.028 dB****Averaged SAR: SAR(1g) = 0.911 W/kg; SAR(10g) = 0.559 W/kg**

Maximum value of SAR (interpolated) = 1.36 W/kg



0 dB = 1.07 W/kg = 0.29 dBW/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

UMTS_II_chan9262_Scan#2_amb_temp_22.9C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.933 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

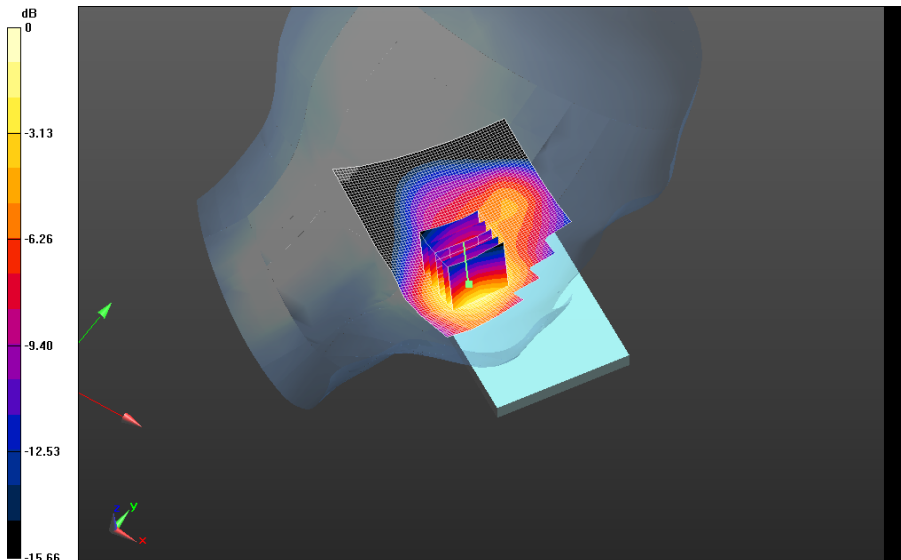
UMTS_II_chan9262_Scan#2_amb_temp_22.9C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.211 V/m; **Power Drift = -0.099 dB**

Averaged SAR: SAR(1g) = 0.771 W/kg; SAR(10g) = 0.473 W/kg

Maximum value of SAR (interpolated) = 1.15 W/kg



0 dB = 1.07 W/kg = 0.29 dBW/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

UMTS_II_chan9262_Scan#3_amb_temp_23.3C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.07 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

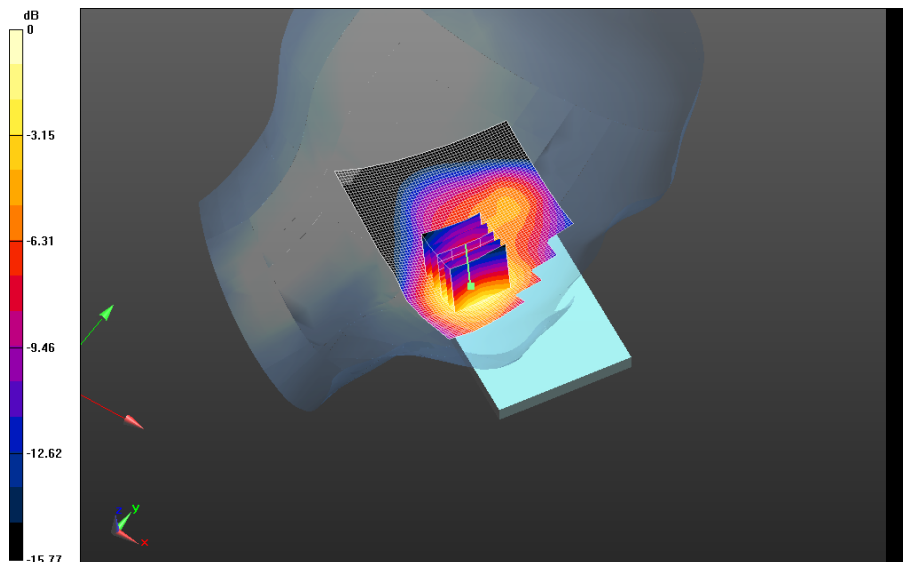
UMTS_II_chan9262_Scan#3_amb_temp_23.3C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.234 V/m; **Power Drift = -0.044 dB**

Averaged SAR: SAR(1g) = 0.868 W/kg; SAR(10g) = 0.530 W/kg

Maximum value of SAR (interpolated) = 1.30 W/kg



0 dB = 0.896 W/kg = -0.48 dBW/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

UMTS_II_chan9262_Scan#4_amb_temp_22.8C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.05 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

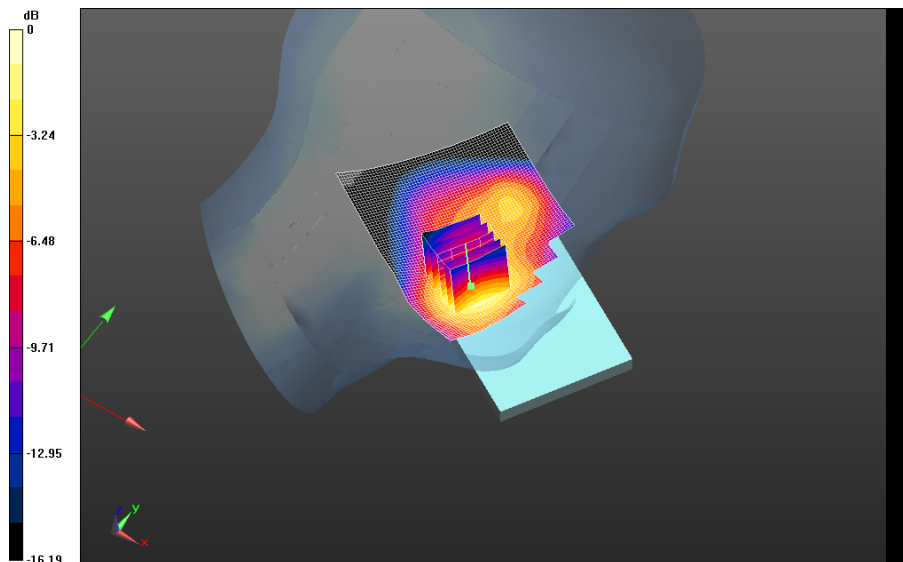
UMTS_II_chan9262_Scan#4_amb_temp_22.8C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.918 V/m; **Power Drift = -0.00158 dB**

Averaged SAR: SAR(1g) = 0.863 W/kg; SAR(10g) = 0.533 W/kg

Maximum value of SAR (interpolated) = 1.28 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

UMTS_II_chan9262_Scan#5_amb_temp_23.4C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.992 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

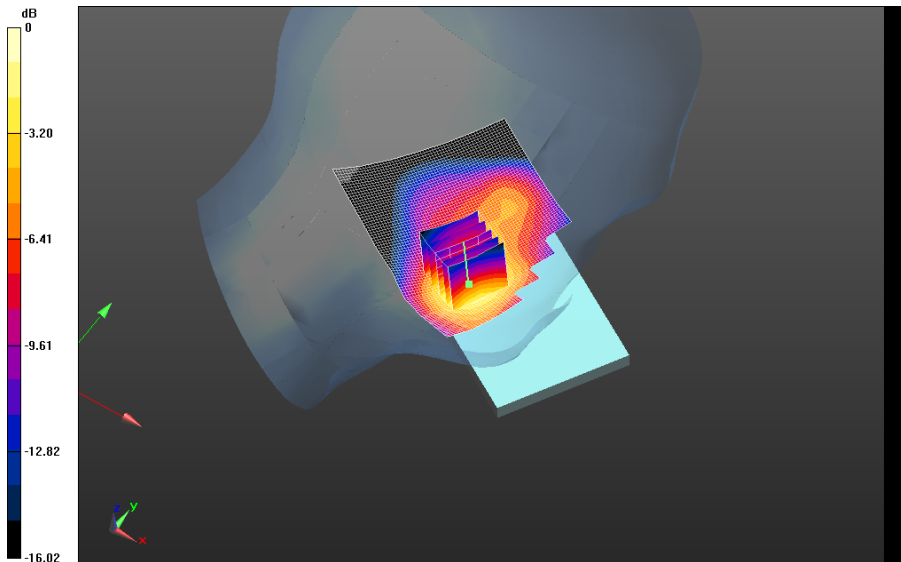
UMTS_II_chan9262_Scan#5_amb_temp_23.4C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.171 V/m; **Power Drift = -0.0026 dB**

Averaged SAR: SAR(1g) = 0.819 W/kg; SAR(10g) = 0.501 W/kg

Maximum value of SAR (interpolated) = 1.23 W/kg



0 dB = 1.02 W/kg = 0.09 dBW/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

UMTS_II_chan9262_Scan#6_amb_temp_22.8C_liq_temp_21.6C/Area Scan (61x81x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.08 W/kg

Left-Hand-Side HSL - UMTS II Low channel/Touch Position -

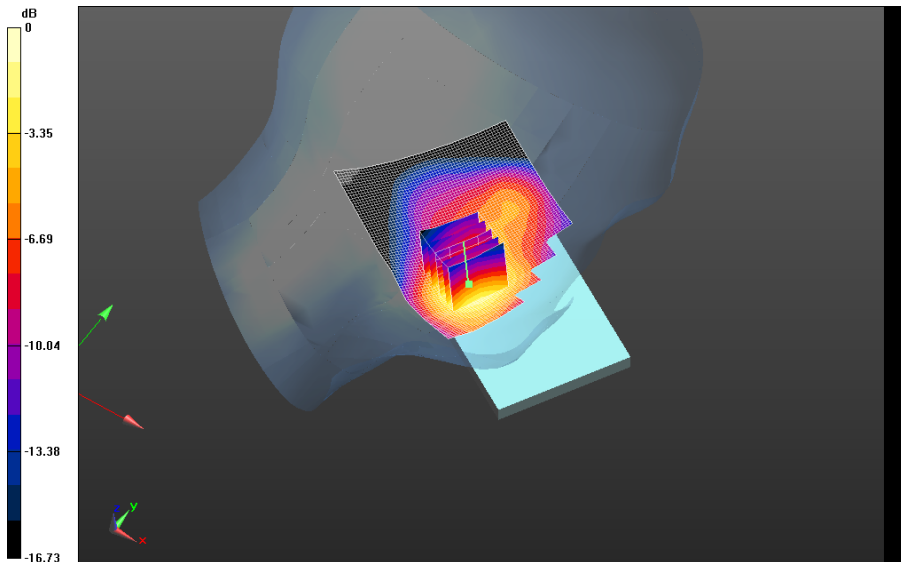
UMTS_II_chan9262_Scan#6_amb_temp_22.8C_liq_temp_21.6C/Zoom Scan (21x21x36)/Cube

0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 6.321 V/m; **Power Drift = 0.061 dB**

Averaged SAR: SAR(1g) = 0.865 W/kg; SAR(10g) = 0.530 W/kg

Maximum value of SAR (interpolated) = 1.30 W/kg



0 dB = 0.953 W/kg = -0.21 dBW/kg

Date: 9/17/2013

Test Lab: RIM Testing Services

DUT Name: BlackBerry Smartphone, Type: Sample, Serial: 333E2BE8**Configuration: Left-Hand-Side HSL - LTE Band 13**

Communication System: LTE band 13; Communication System Band: LTE band 13; Frequency: 782 MHz

Medium Parameters used: $f=782$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 40.447$; $\rho = 1.000$ g/cm³

Phantom section: Left Section

DASY Configuration:

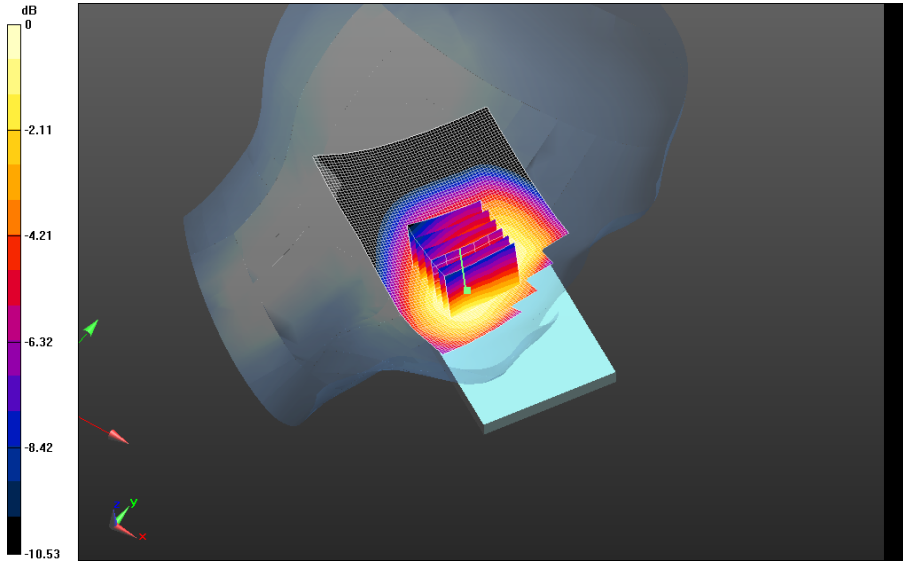
- Probe: ES3DV3 - SN3225; ConvF: (6.56,6.56,6.56); Calibrated: 1/10/2013;
- Sensor-Surface: 3 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

Left-Hand-Side HSL - LTE Band 13/Touch Position -**LTE_13_chan23230_QPSK_RB1_OFFSET49_Scan#1_amb_temp_23.5C_liq_temp_22.6C/Area****Scan (61x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.466 W/kg

Left-Hand-Side HSL - LTE Band 13/Touch Position -**LTE_13_chan23230_QPSK_RB1_OFFSET49_Scan#1_amb_temp_23.5C_liq_temp_22.6C/Zoom****Scan (26x26x36)/Cube 0:** Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mmReference Value = 7.664 V/m; **Power Drift = -0.031 dB****Averaged SAR: SAR(1g) = 0.413 W/kg; SAR(10g) = 0.311 W/kg**

Maximum value of SAR (interpolated) = 0.542 W/kg

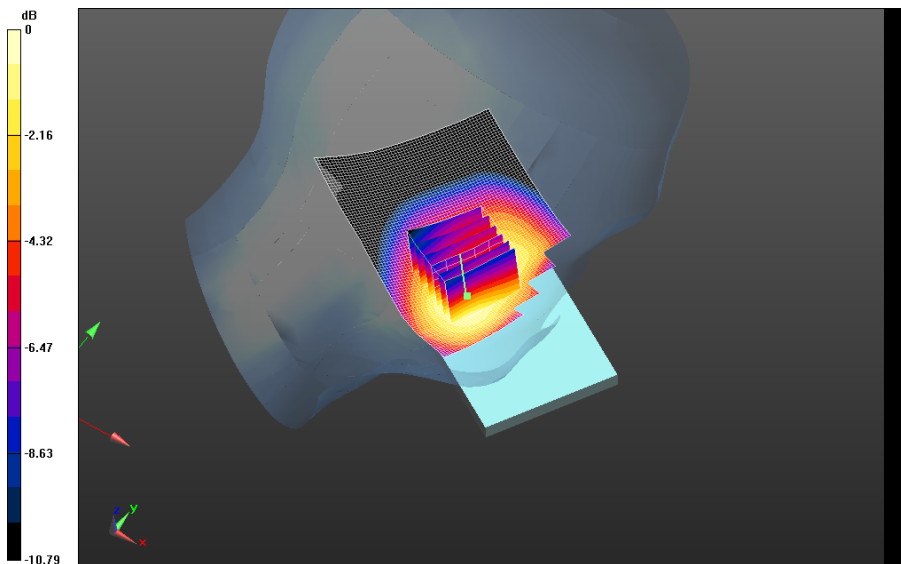


0 dB = 0.459 W/kg = -3.38 dBW/kg

Left-Hand-Side HSL - LTE Band 13/Touch Position -
LTE_13_chan23230_QPSK_RB1_OFFSET49_Scan#2_amb_temp_23.4C_liq_temp_22.6C/Area
Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.330 W/kg

Left-Hand-Side HSL - LTE Band 13/Touch Position -
LTE_13_chan23230_QPSK_RB1_OFFSET49_Scan#2_amb_temp_23.4C_liq_temp_22.6C/Zoom
Scan (26x26x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm
Reference Value = 5.924 V/m; **Power Drift = 0.146 dB**

Averaged SAR: SAR(1g) = 0.290 W/kg; SAR(10g) = 0.210 W/kg
Maximum value of SAR (interpolated) = 0.398 W/kg



0 dB = 0.459 W/kg = -3.38 dBW/kg

Date: 9/13/2013

Test Lab: RIM Testing Services

DUT Name: BlackBerry Smartphone, Type: Sample, Serial: 333E2BE8

Configuration: Left-Hand-Side HSL - LTE Band 4

Communication System: LTE 4; Communication System Band: LTE 4; Frequency: 1720 MHz

Medium Parameters used: $f=1720$ MHz; $\sigma = 1.347$ S/m; $\epsilon_r = 38.496$; $\rho = 1.000$ g/cm³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3225; ConvF: (5.35,5.35,5.35); Calibrated: 1/10/2013;
- Sensor-Surface: 3 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn881; Calibrated: 1/14/2013
- Phantom: SAM 2; Type: SAM 4.0; Serial: 1080
- DASY52 52.8.6(1115); SEMCAD X Version 14.6.9 (7117)

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#1_amb_temp_23.5C_liq_temp_22.6C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.20 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

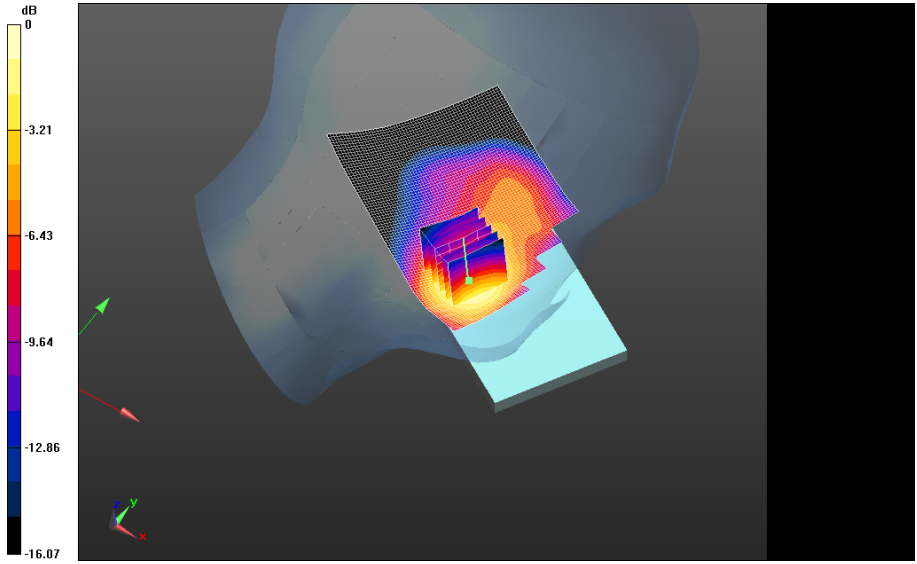
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#1_amb_temp_23.5C_liq_temp_22.6C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 8.401 V/m; **Power Drift = 0.147 dB**

Averaged SAR: SAR(1g) = 1.00 W/kg; SAR(10g) = 0.614 W/kg

Maximum value of SAR (interpolated) = 1.50 W/kg



0 dB = 1.18 W/kg = 0.72 dBW/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#2_amb_temp_23.4C_liq_temp_22.6C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

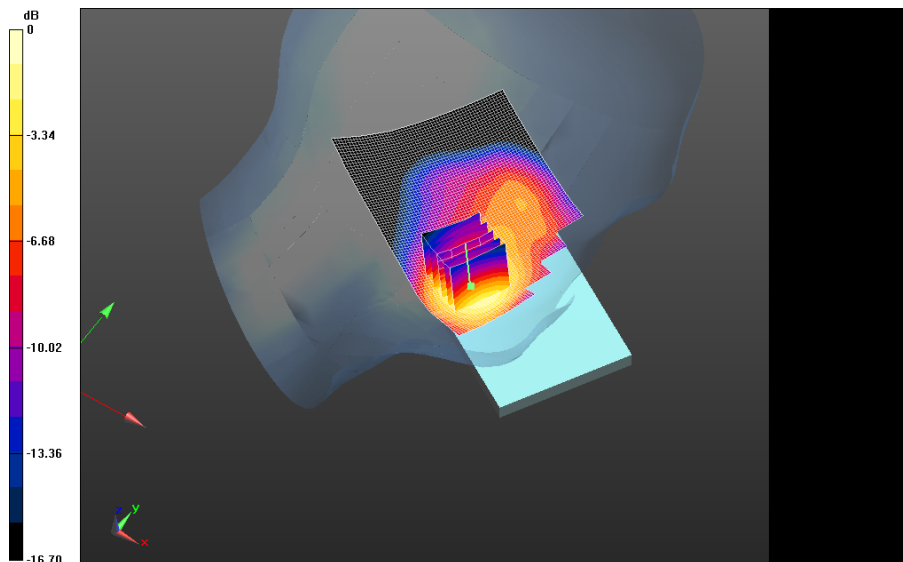
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#2_amb_temp_23.4C_liq_temp_22.6C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 7.580 V/m; **Power Drift = -0.102 dB**

Averaged SAR: SAR(1g) = 0.866 W/kg; SAR(10g) = 0.529 W/kg

Maximum value of SAR (interpolated) = 1.31 W/kg



0 dB = 1.18 W/kg = 0.72 dBW/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#3_amb_temp_23.5C_liq_temp_22.6C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.998 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

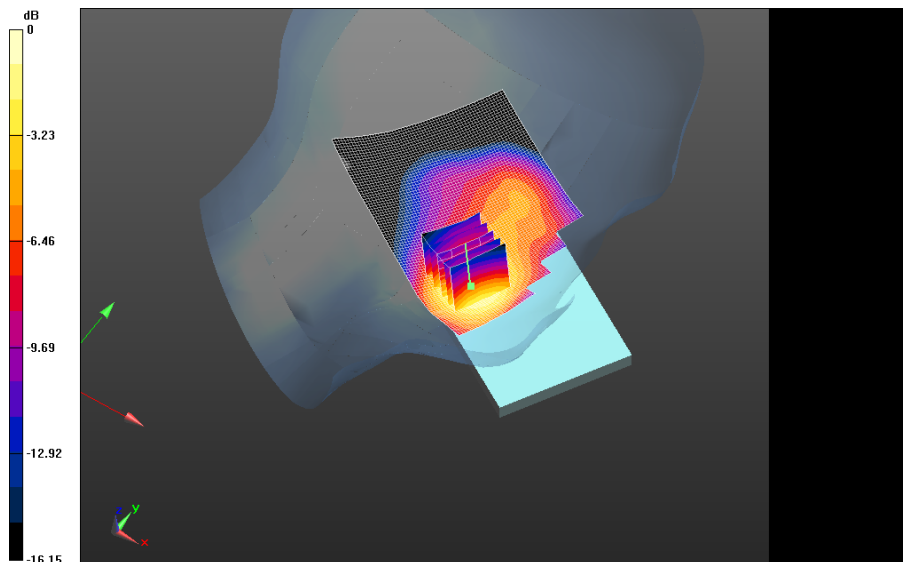
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#3_amb_temp_23.5C_liq_temp_22.6C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 7.649 V/m; **Power Drift = 0.106 dB**

Averaged SAR: SAR(1g) = 0.816 W/kg; SAR(10g) = 0.500 W/kg

Maximum value of SAR (interpolated) = 1.24 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#4_amb_temp_23.1C_liq_temp_22.6C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

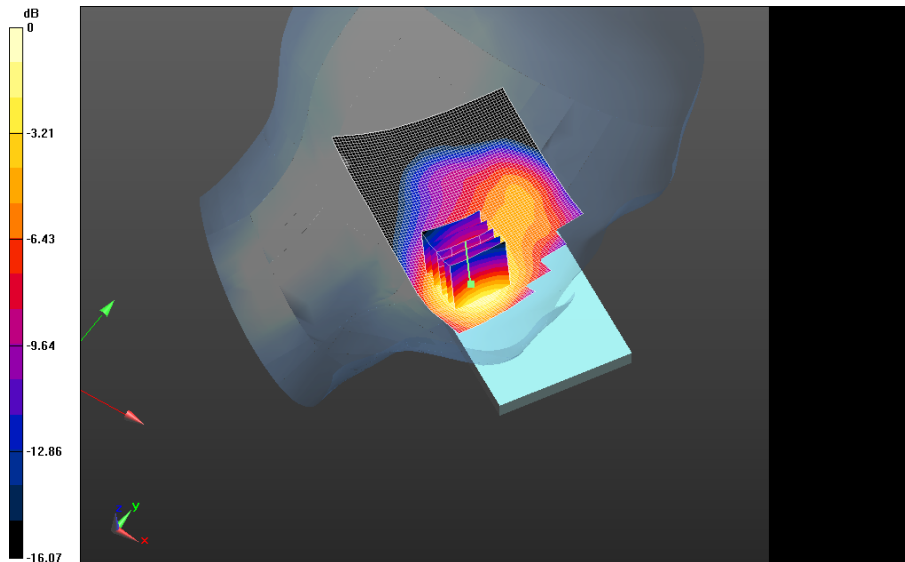
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#4_amb_temp_23.1C_liq_temp_22.6C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 8.742 V/m; **Power Drift = 0.065 dB**

Averaged SAR: SAR(1g) = 0.978 W/kg; SAR(10g) = 0.605 W/kg

Maximum value of SAR (interpolated) = 1.46 W/kg



0 dB = 0.977 W/kg = -0.10 dBW/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#5_amb_temp_23.4C_liq_temp_22.0C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.14 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

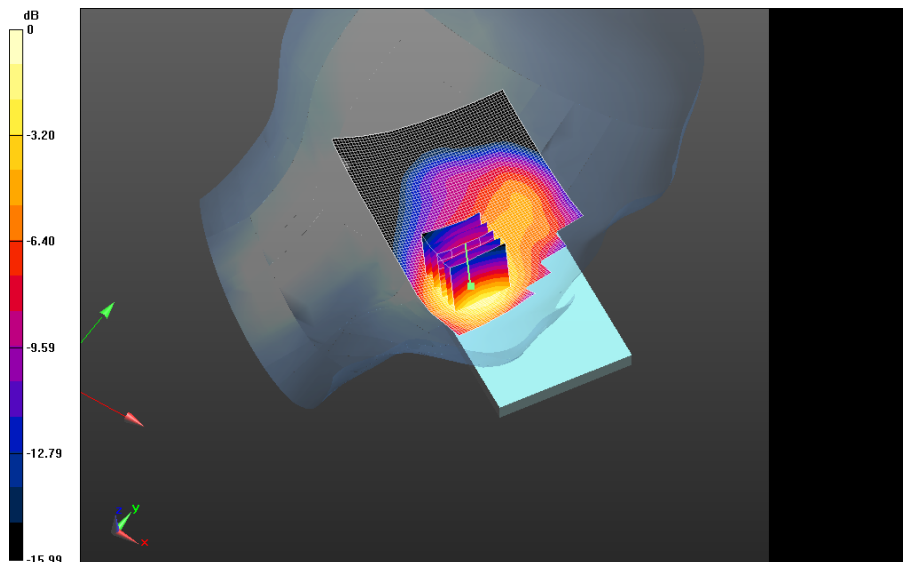
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#5_amb_temp_23.4C_liq_temp_22.0C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 8.487 V/m; **Power Drift = -0.045 dB**

Averaged SAR: SAR(1g) = 0.940 W/kg; SAR(10g) = 0.581 W/kg

Maximum value of SAR (interpolated) = 1.41 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#6_amb_temp_22.8C_liq_temp_22.0C/Area

Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.12 W/kg

Left-Hand-Side HSL - LTE Band 4/Touch Position -

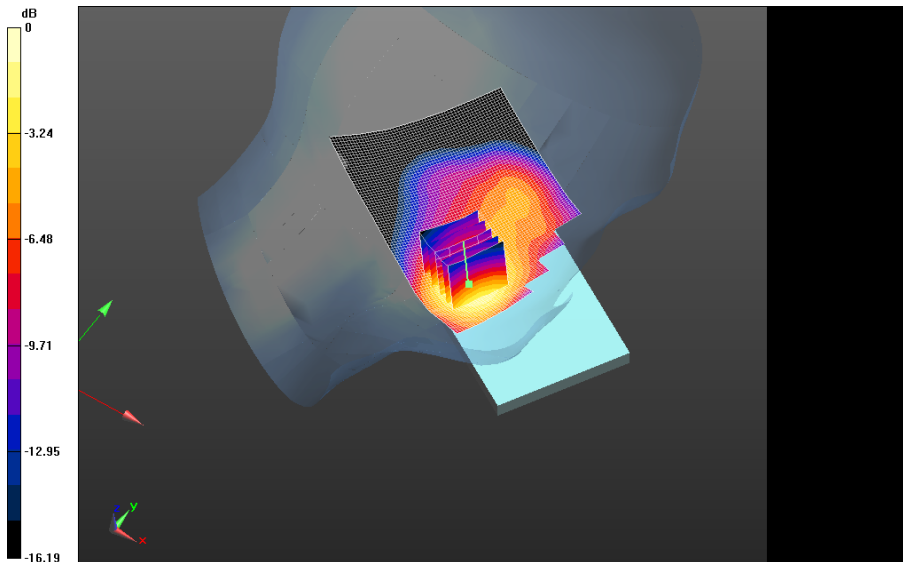
LTE_4_chan20050_QPSK_RB1_OFFSET99_Scan#6_amb_temp_22.8C_liq_temp_22.0C/Zoom

Scan (21x21x36)/Cube 0: Interpolated grid: dx=1.500 mm, dy=1.500 mm, dz=1.000 mm

Reference Value = 8.067 V/m; **Power Drift = -0.012 dB**

Averaged SAR: SAR(1g) = 0.923 W/kg; SAR(10g) = 0.568 W/kg

Maximum value of SAR (interpolated) = 1.39 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg