

7 - EVALUATION PROCEDURE

7.1 SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head or EUT and the horizontal grid spacing was 20 mm x 20 mm. Based on these data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point, a volume of 32 mm x 32 mm x 34 mm was assessed by measuring 5 x 5 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm [11]. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
2. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three onedimensional splines with the "Not a knot"-condition (in x, y and z-directions) [11], [12]. The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
3. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

7.2 Exposure Limits

Table 1: Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Table 2: Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands. Wrists. Feet and Ankles
0.08	1.6	4.0

Note: Whole-body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure.

Occupational/Controlled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

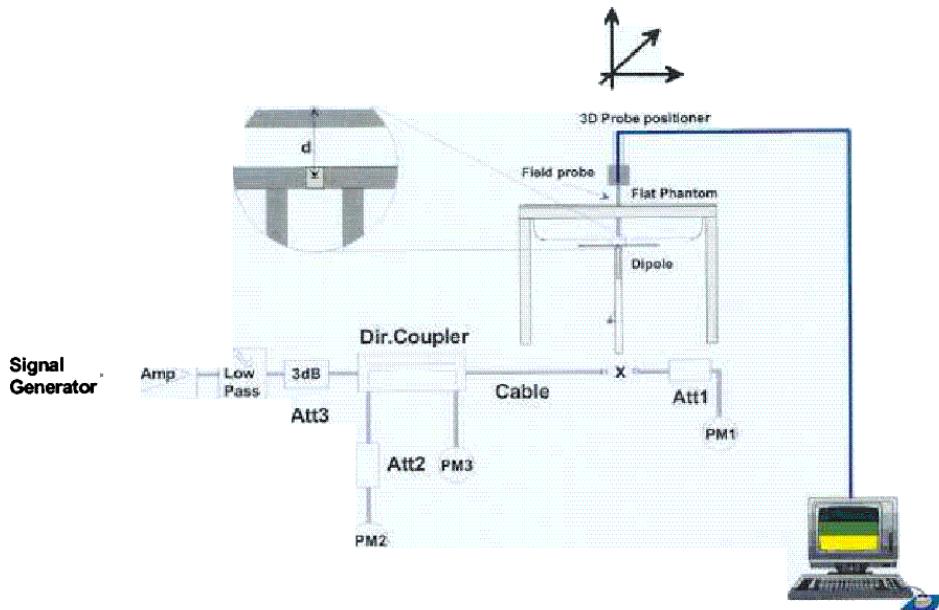
Population/uncontrolled environments Partial-body limit 1.6W/kg applied to the EUT.

7.3 Simulated Tissue Liquid Parameter Confirmation

The dielectric parameters were checked prior to assessment using the HP85070A dielectric probe kit. The dielectric parameters measured are reported in each correspondent section:

7.4 SAR Measurement

The SAR measurement was performed with the E-field probe in mechanical detection mode only. The setup and determination of the forward power into the dipole was performed using the following procedures.



First, the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the attenuation of Att1) as read by power meter PM2. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2. If the signal generator does not allow adjustment in 0.01dB steps, the remaining difference at PM 2 must be taken into consideration. PM3 records the reflected power from the dipole to ensure that the value is not changed from the previous value. The reflected power should be 20dB below the forward power.

The SAR measurements were performed in order to achieve repeatability and to establish an average target value.

7.5 System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of $\pm 10\%$. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

IEEE P1528 recommended reference value for head

Frequency (MHz)	1 g SAR	10 g SAR	Local SAR at surface (above feed point)	Local SAR at surface (v=2cm offset from feed point)
300	3.0	2.0	4.4	2.1
450	4.9	3.3	7.2	3.2
835	9.5	6.2	14.1	4.9
900	10.8	6.9	16.4	5.4
1450	29.0	16.0	50.2	6.5
1800	38.1	19.8	69.5	6.8
1900	39.7	20.5	72.1	6.6
2000	41.1	21.1	74.6	6.5
2450	52.4	24.0	104.2	7.7
3000	63.8	25.7	140.2	9.5

Validation Dipole SAR Reference Test Result for Body (835 MHz)

Validation Measurement	SAR @ 0.025W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.025W Input averaged over 10g	SAR @ 1W Input averaged over 10g
Test 1	0.222	8.88	0.112	4.48
Test 2	0.221	8.84	0.111	4.44
Test 3	0.222	8.88	0.112	4.48
Test 4	0.220	8.80	0.111	4.44
Test 5	0.223	8.92	0.113	4.52
Test 6	0.222	8.88	0.115	4.60
Test 7	0.221	8.84	0.114	4.56
Test 8	0.222	8.88	0.114	4.56
Test 9	0.223	8.92	0.113	4.52
Test 10	0.222	8.88	0.112	4.48
Average	0.2218	8.872	0.1127	4.51

Validation Dipole SAR Reference Test Result for Body (1900 MHz)

Validation Measurement	SAR @ 0.126W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.126W Input averaged over 10g	SAR @ 1W Input averaged over 10g
Test 1	3.1	24.61	1.42	11.27
Test 2	3.1	24.61	1.41	11.20
Test 3	3.2	25.41	1.43	11.35
Test 4	3.2	25.41	1.42	11.27
Test 5	3.1	24.61	1.42	11.27
Test 6	3.2	25.61	1.41	11.20
Test 7	3.2	25.61	1.43	11.35
Test 8	3.1	24.61	1.42	11.27
Test 9	3.1	24.61	1.42	11.27
Test 10	3.1	24.61	1.43	11.35
Average	3.14	24.97	1.421	11.28

Validation Dipole SAR Reference Test Result for Body (900 MHz)

Validation Measurement	SAR @ 0.025W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.025W Input averaged over 10g	SAR @ 1W Input averaged over 10g
Test 1	0.299	11.96	0.149	5.96
Test 2	0.296	11.84	0.148	5.92
Test 3	0.297	11.88	0.149	5.96
Test 4	0.294	11.74	0.147	5.88
Test 5	0.291	11.64	0.148	5.92
Test 6	0.285	11.4	0.143	5.72
Test 7	0.300	12.01	0.151	6.04
Test 8	0.295	11.85	0.147	5.88
Test 9	0.286	11.44	0.148	5.92
Test 10	0.295	11.78	0.147	5.88
Average	0.294	11.76	0.148	5.91

7.6 Liquid Measurement Result

Simulant	Freq [MHz]	Parameters	Liquid Temp [°C]	Target Value	Measured Value	Deviation	Limits [%]
Body	835-CDMA	ϵ_r	21.0	56.1	53.8	-4.10	± 5
		σ	21.0	0.95	0.99	4.21	± 5
		1g SAR	21.0	8.872	8.77	-1.15	± 10
Head	835-CDMA	ϵ_r	21.0	42.54	41.3	2.91	± 5
		σ	21.0	0.91	0.90	1.10	± 5
		1g SAR	21.0	9.5	9.28	-2.32	± 10
Body	1900	ϵ_r	21.0	54.0	52.0	-3.7	± 5
		σ	21.0	1.45	1.49	2.76	± 5
		1g SAR	21.0	24.97	24.4	-2.28	± 10
Head	1900	ϵ_r	21.0	39.9	40.4	1.25	± 5
		σ	21.0	1.42	1.46	2.82	± 5
		1g SAR	21.0	39.7	38.93	1.94	± 10
Body	835-AMPS	ϵ_r	21.0	56.1	53.8	-4.10	± 5
		σ	21.0	0.95	0.97	2.11	± 5
		1g SAR	21.0	8.872	8.92	0.54	± 10
Head	835-AMPS	ϵ_r	21.0	42.54	41.6	2.21	± 5
		σ	21.0	0.91	0.90	-1.10	± 5
		1g SAR	21.0	9.5	9.66	1.68	± 10

ϵ_r = relative permittivity, σ = conductivity and $\rho=1000\text{kg/m}^3$

835-CDMA MHz Body Liquid Forward Power = 21.14 dBm = 130.02mW

835-CDMA MHz Head Liquid Forward Power = 20.97 dBm = 125.03mW

1900 MHz Body Liquid Forward Power = 20 dBm = 100 mW

1900 MHz Head Liquid Forward Power = 18.23 dBm = 66.53 mW

835-AMPS MHz Body Liquid Forward Power = 21.14 dBm = 130.02 mW

835-AMPS MHz Head Liquid Forward Power = 20.68 dBm = 116.95 mW

System Validation 835 MHz Body liquid (Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/05/03)

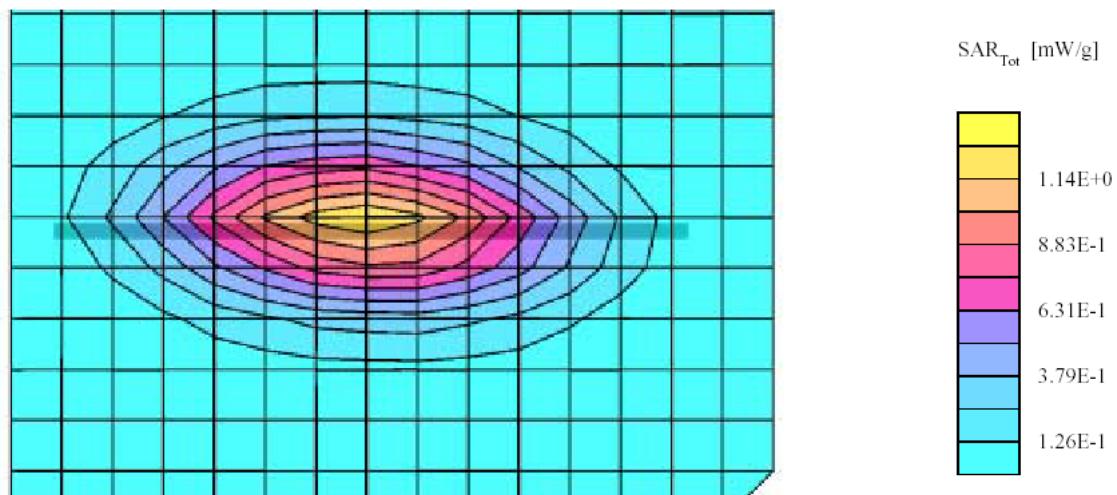
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 (Body) MHz: $\sigma = 0.99 \text{ mho/m}$ $\epsilon_r = 53.8$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 1.14 mW/g, SAR (10g): 0.678 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.00 dB



System Validation 835 MHz Head liquid (Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/03)

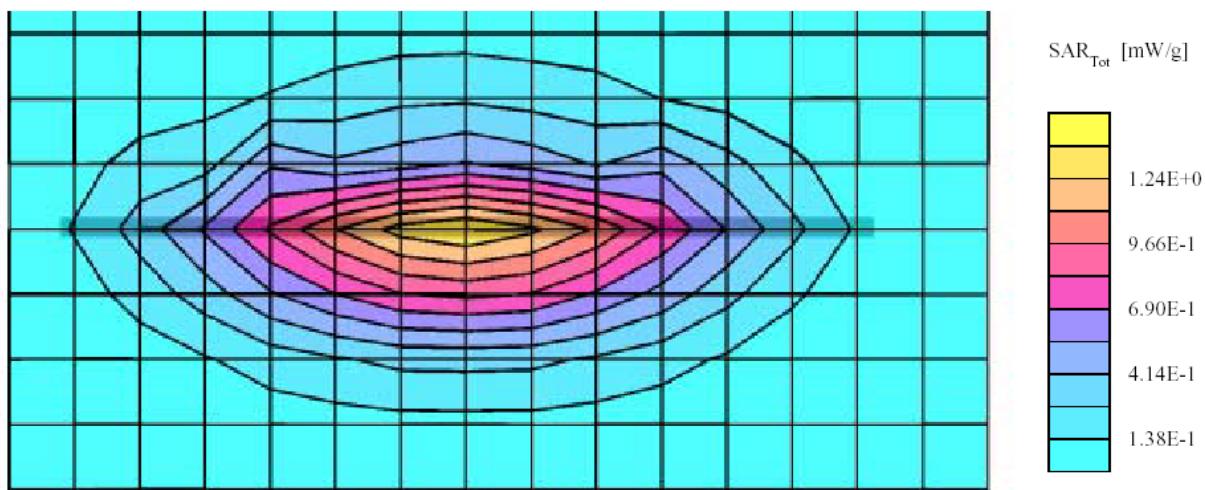
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 (Head) MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 1.18 mW/g, SAR (10g): 0.707 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.00 dB



1900 MHz Body Liquid System Validation (Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 8/8/2003)

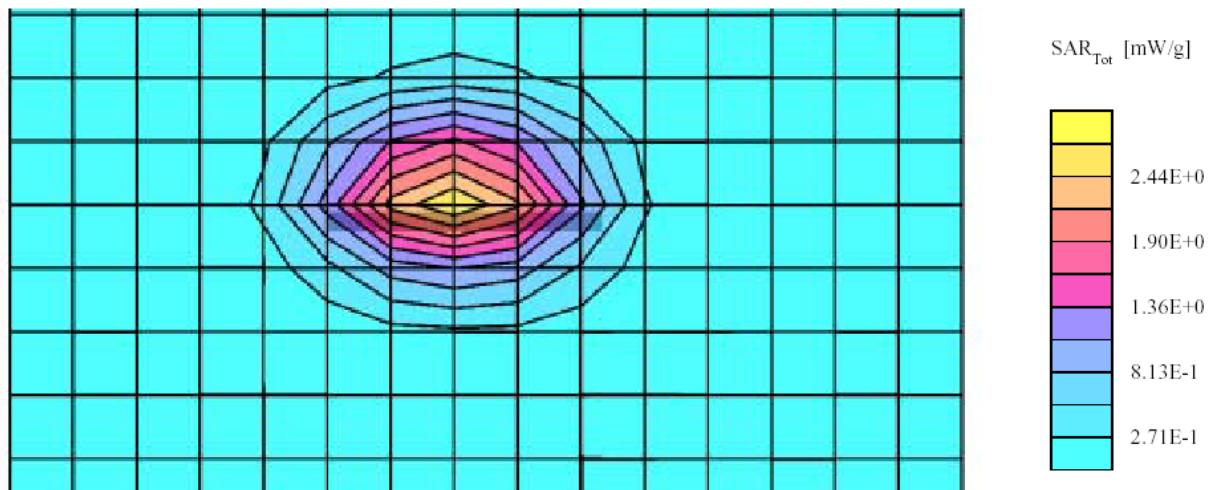
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1604; ConvF(4.90,4.90,4.90); Crest factor: 1.0; Body 1900 MHz: $\sigma = 1.49 \text{ mho/m}$ $\epsilon_r = 52.0$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 2.44 mW/g, SAR (10g): 1.35 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.00 dB



1900 MHz Head Liquid System Validation (Ambient Temp = 23 Deg C, Liquid Temp = 22 Deg C, 8/07/03)

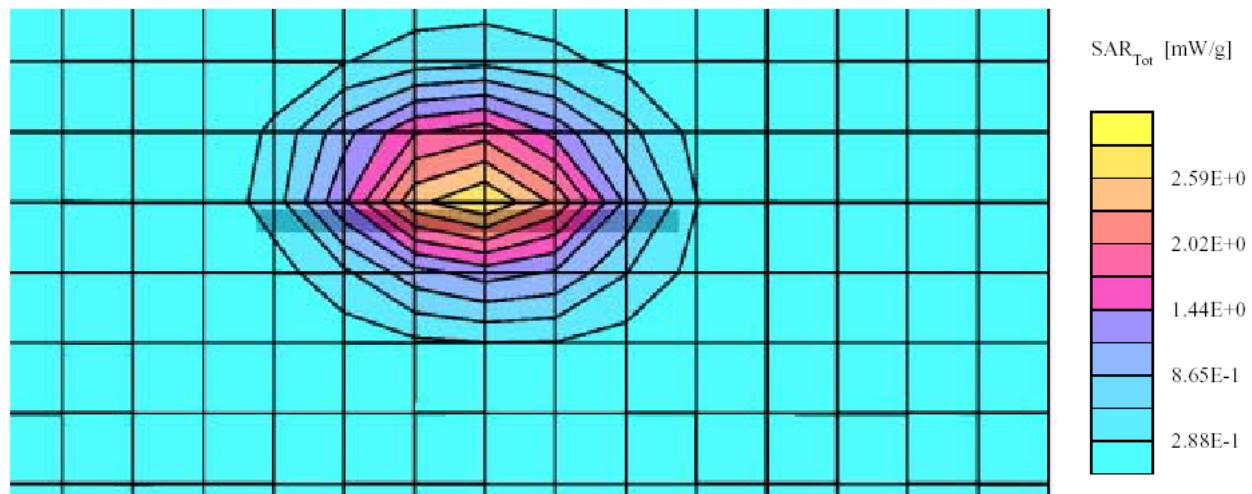
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1604; ConvF(5.50,5.50,5.50); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.46 \text{ mho/m}$ $\epsilon_r = 40.4$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 2.59 mW/g, SAR (10g): 1.40 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.00 dB



System Validation 835 MHz Body liquid (Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/04/03)

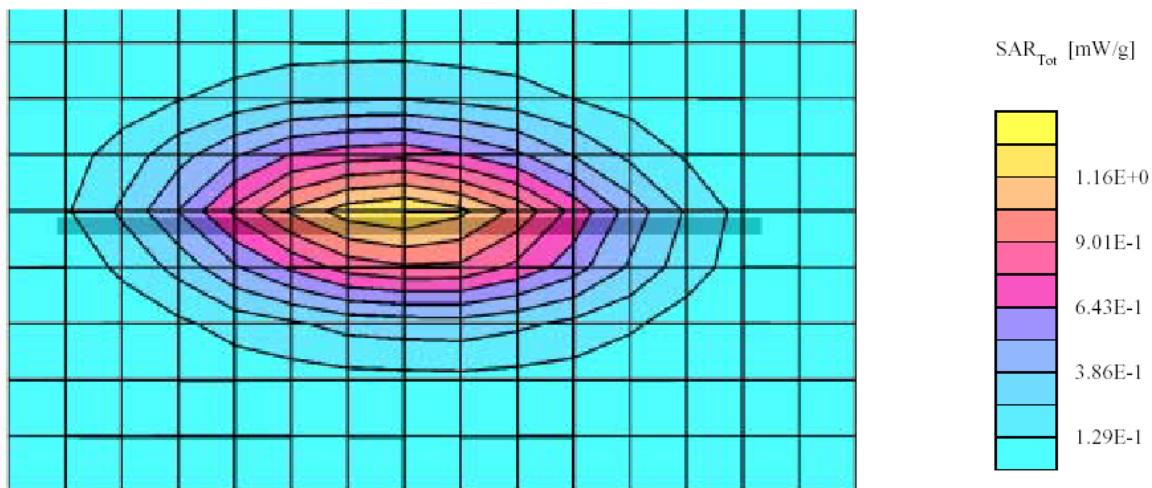
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; 835 (Body) MHz: $\sigma = 0.97 \text{ mho/m}$ $\epsilon_r = 53.8$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 1.16 mW/g, SAR (10g): 0.693 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.00 dB



System Validation 835 MHz Head liquid (Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 7/30/03)

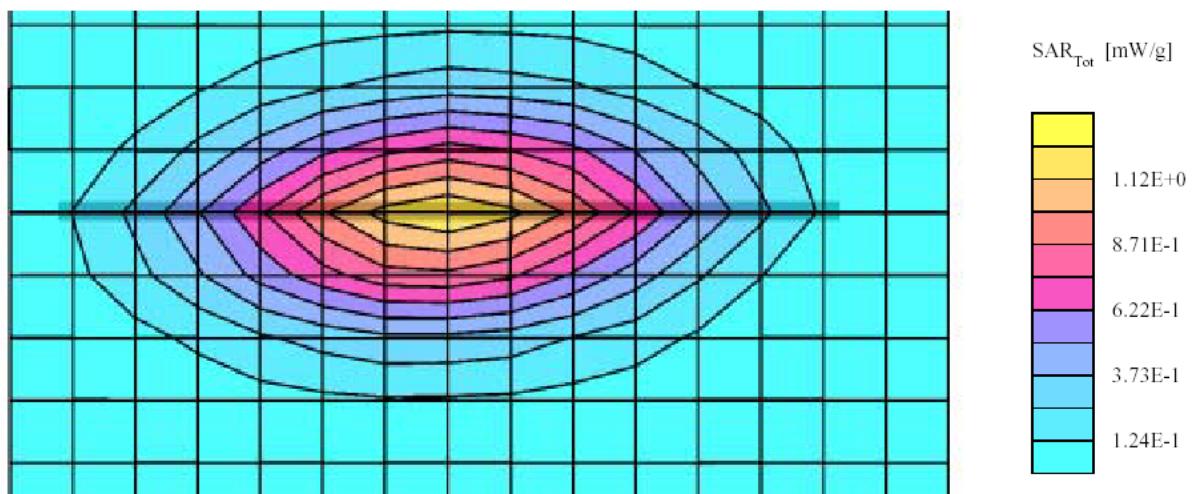
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 (Head) MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.6$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 1.13 mW/g, SAR (10g): 0.692 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.00 dB



8 - SAR TEST RESULTS

This page summarizes the results of the performed dosimetric evaluation. The plots with the corresponding SAR distributions, which reveal information about the location of the maximum SAR with respect to the device could be found in the following pages.

The output power was measured prior to testing and a fresh battery charge was ensured before each test. The modulation characteristics of the EUT is GSM, therefore, a crest factor of 8 was used during the test.

8.1 SAR Body and Head Worst-Case Test Data

Ambient Temperature (°C): 23.0

Relative Humidity (%): 47

Modulation	Position	Frequency (MHz)	Output Power (dBm)	Test Type	Antenna position	Liquid	Phantom	Notes / Accessories	Measured (mW/g)	Limit (mW/g)	Plot #
CDMA	Body Touch	836	24.67	Body worn	Retracted	Body	Flat	Belt Clip & Headset	0.115	1.6	1
					Extended				0.0870		2
	1.5cm separation	836	24.67	Body worn	Retracted	Body	Flat	Headset	0.146	1.6	3
					Extended				0.100		4
	Left Head, Cheek	836	24.67	Face-held	Retracted	Head	Flat	None	0.422	1.6	5
					Extended				0.365		6
	Left Head, Tilted	836	24.67	Face-held	Retracted	Head	Flat	None	0.354	1.6	7
					Extended				0.282		8
	Right Head, Cheek	836	24.67	Face-held	Retracted	Head	Flat	None	0.364	1.6	9
					Extended				0.464		10
	Right Head, Tilted	836	24.67	Face-held	Retracted	Head	Flat	None	0.311	1.6	11
					Extended				0.458		12
PCS	Body Touch	1880	24.5	Body worn	Retracted	Body	Flat	Belt Clip & Headset	0.214	1.6	13
					Extended				0.365		14
	1.5cm separation	1880	24.5	Body worn	Retracted	Body	Flat	Headset	0.150	1.6	15
					Extended				0.0756		16
	Left Head, Cheek	1880	24.5	Face-held	Retracted	Head	Flat	None	0.501	1.6	17
					Extended				0.505		18
	Left Head, Tilted	1880	24.5	Face-held	Retracted	Head	Flat	None	0.712	1.6	19
					Extended				0.686		20
	Right Head, Cheek	1880	24.5	Face-held	Retracted	Head	Flat	None	0.395	1.6	21
					Extended				0.182		22
	Right Head, Tilted	1880	24.5	Face-held	Retracted	Head	Flat	None	0.576	1.6	23
					Extended				0.206		24

SAR Test Data (Continued)

Modulation	Position	Frequency (MHz)	Output Power (dBm)	Test Type	Antenna position	Liquid	Phantom	Notes / Accessories	Measured (mW/g)	Limit (mW/g)	Plot #
AMPS	Body Touch	836	26.5	Body worn	Retracted	Body	Flat	Belt Clip & Headset	0.203	1.6	25
					Extended				0.293		26
	1.5cm separation	836	26.5	Body worn	Retracted	Body	Flat	Headset	0.323	1.6	27
					Extended				0.268		28
	Left Head, Cheek	836	26.5	Face-held	Retracted	Head	Flat	None	0.784	1.6	29
					Extended				0.655		30
	Left Head, Tilted	836	26.5	Face-held	Retracted	Head	Flat	None	0.560	1.6	31
					Extended				0.724		32
	Right Head, Cheek	836	26.5	Face-held	Retracted	Head	Flat	None	0.622	1.6	33
					Extended				0.488		34
	Right Head, Tilted	836	26.5	Face-held	Retracted	Head	Flat	None	0.541	1.6	35
					Extended				0.532		36

8.2 Plots of Test Result

The plots of test result were attached as reference.

Axesstel, Model: VerizonONE (Body in touch with flat phantom with accessory (belt clip and ear phone), Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/05/2003)

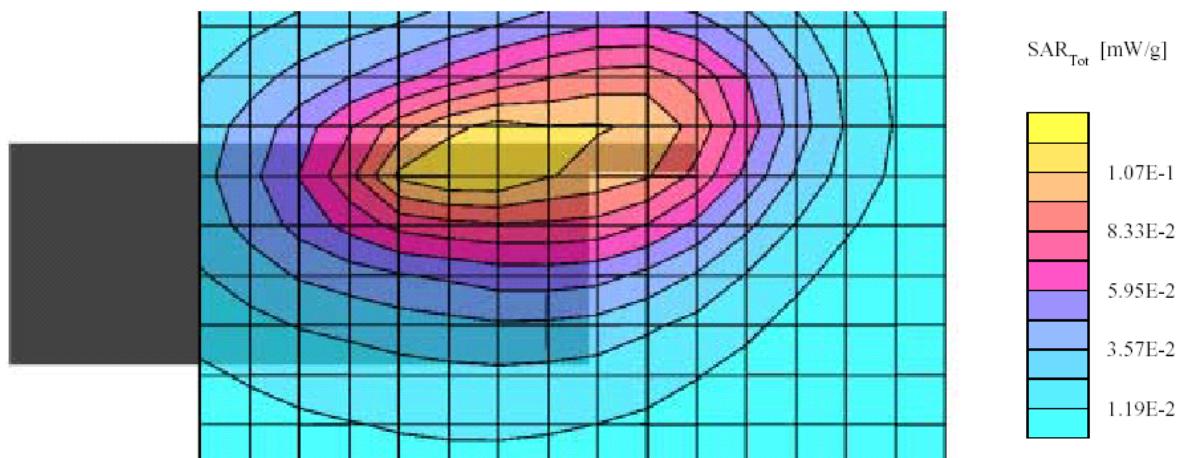
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; (Body) 835 MHz; $\sigma = 0.99 \text{ mho/m}$ $\epsilon_r = 54.4$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.115 mW/g, SAR (10g): 0.0797 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.01 dB



Axesstel, Model: VerizonONE (Body in touch with flat phantom with accessory (belt clip and headset), Antenna position extented, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/05/2003)

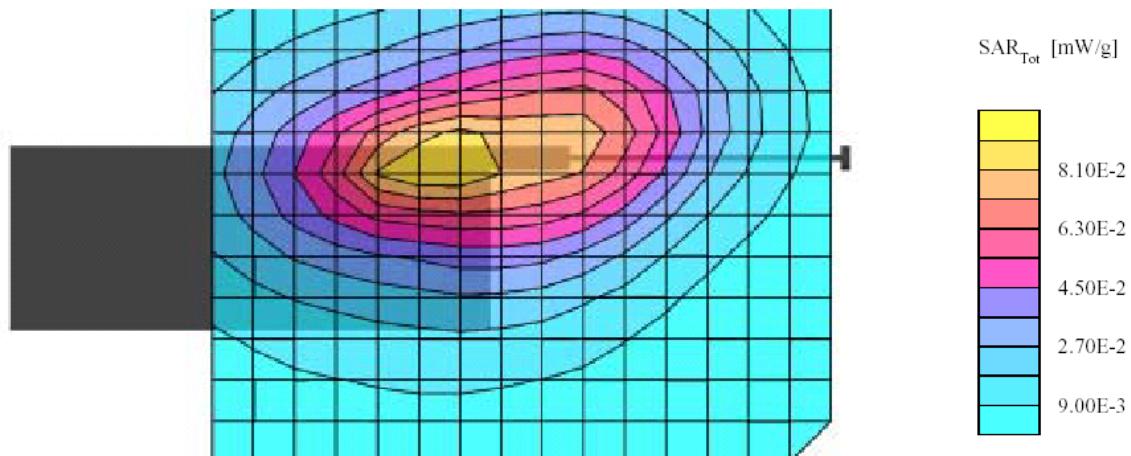
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; (Body) 835 MHz: $\sigma = 0.99 \text{ mho/m}$ $\epsilon_r = 54.4$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.0870 mW/g, SAR (10g): 0.0602 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.04 dB



Plot #2

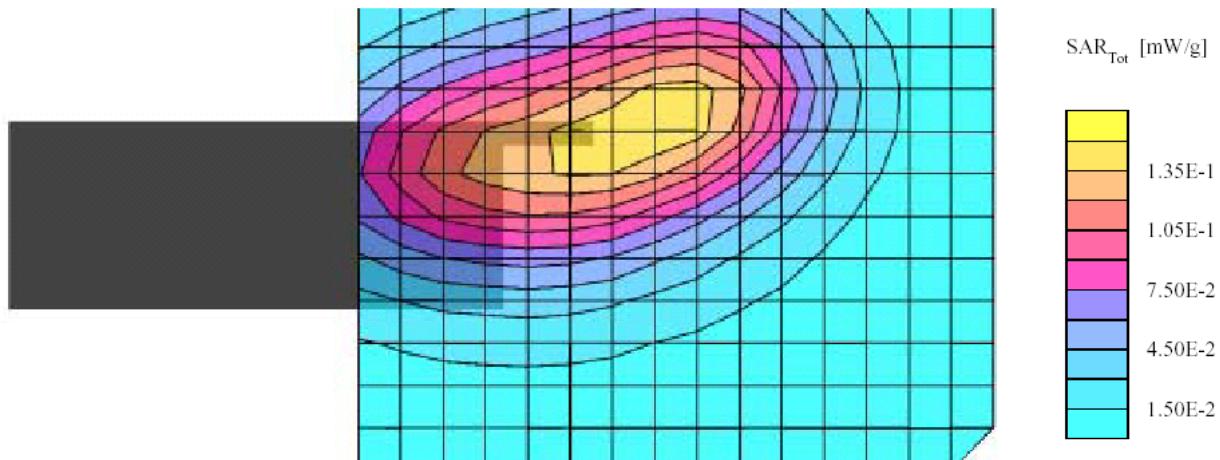
Axesstel, Model: VerizonONE (1.5 cm separation to the flat phantom with accessory (headset), Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/05/2003)

SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; (Body) 835 MHz: $\sigma = 0.99 \text{ mho/m}$ $\epsilon_r = 54.4$ $\rho = 1.31 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.146 mW/g, SAR (10g): 0.102 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.00 dB



Plot #3

Axesstel, Model: VerizonONE (1.5 cm separation to the flat phantom with accessory (headset), Antenna position extented, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/05/2003)

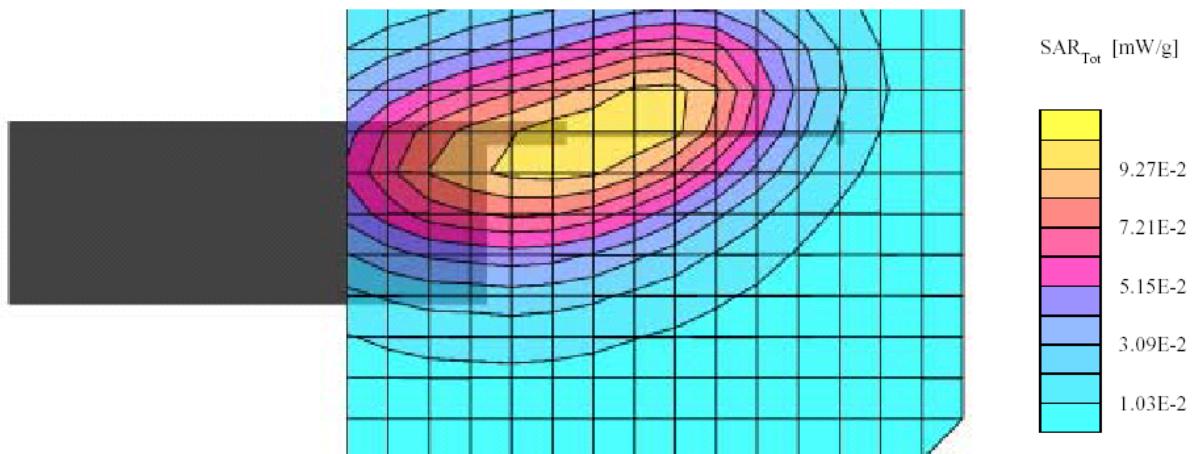
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.40,6.40,6.40); Crest factor: 1.0; (Body) 835 MHz: $\sigma = 0.99 \text{ mho/m}$ $\epsilon_r = 54.4$ $\rho = 1.31 \text{ g/cm}^3$

Cubes (2); SAR (1g): $0.100 \text{ mW/g} \pm 0.00 \text{ dB}$, SAR (10g): $0.0702 \text{ mW/g} \pm 0.00 \text{ dB}$, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.01 dB



Plot #4

Axestel Model: W2 (Left Head, Cheek, Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

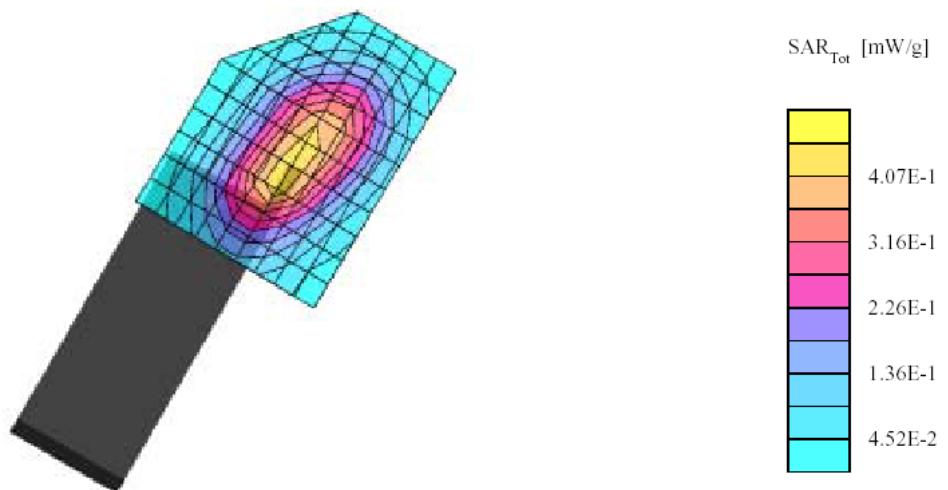
SAM Phantom; Left Hand Section; Position: (74°,60°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cubes (2): SAR (1g): 0.422 mW/g ± 0.00 dB, SAR (10g): 0.293 mW/g ± 0.01 dB, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 10.0, Dz = 10.0

Powerdrift: 0.01 dB



Plot #5

Axesstel Model: W2 (Left Head, Cheek, Antenna position extented, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 21 Deg C, 08/01/2003)

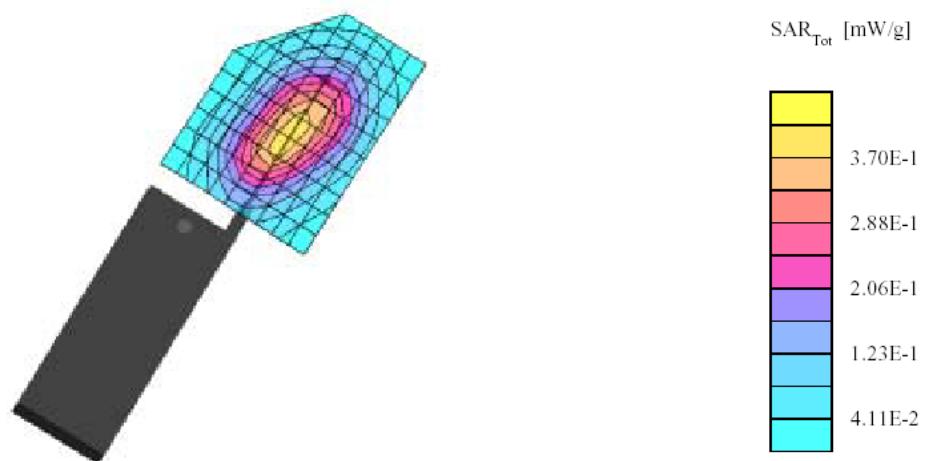
SAM Phantom; Left Hand Section; Position: (74°,60°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.365 mW/g, SAR (10g): 0.252 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 10.0, Dz = 10.0

Powerdrift: -0.01 dB



Plot #6

Axesstel Model: W2 (Left Head, Tilted, Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

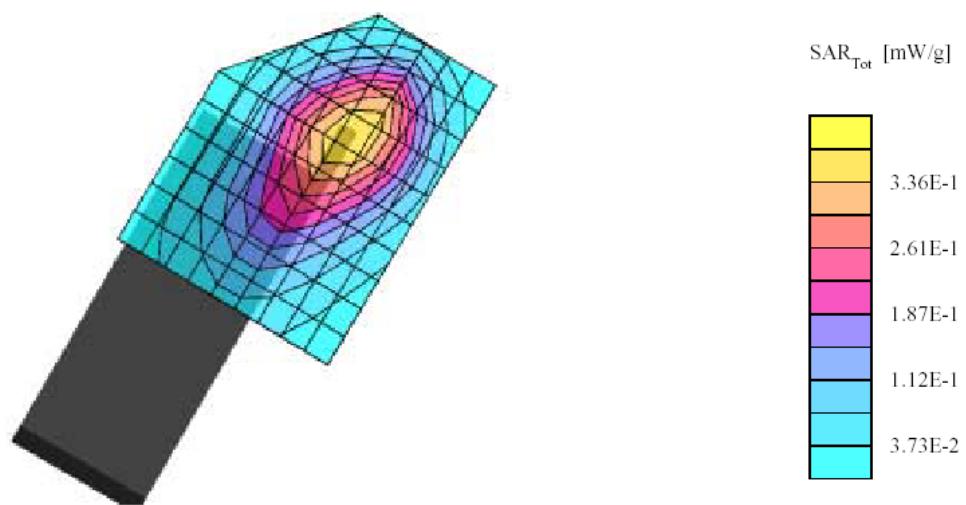
SAM Phantom; Left Hand Section; Position: (74°,60°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6,50,6,50,6,50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.354 mW/g, SAR (10g): 0.239 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 10.0, Dz = 10.0

Powerdrift: -0.00 dB



Plot #7

AxesTel Model: W2 (Left Head, Tilted, Antenna position extented, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 21 Deg C, 08/01/2003)

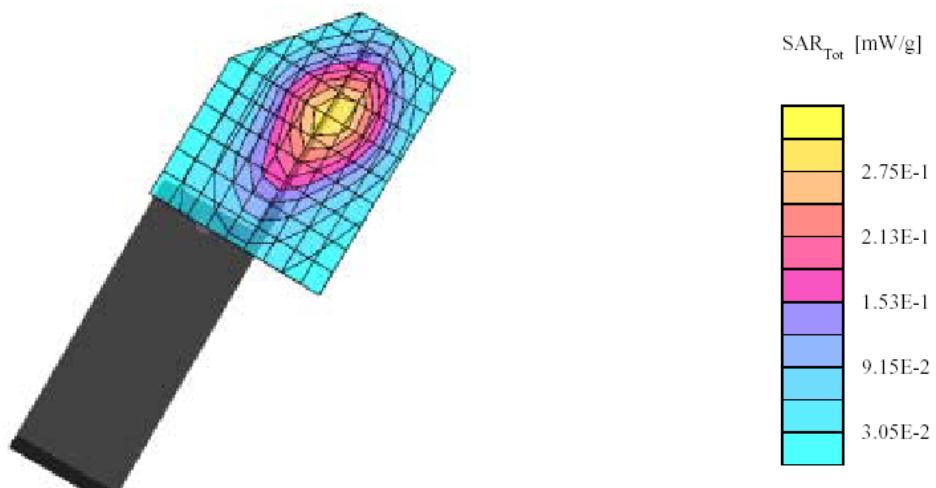
SAM Phantom; Left Hand Section; Position: (74°,60°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.282 mW/g, SAR (10g): 0.191 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 10.0, Dz = 10.0

Powerdrift: 0.01 dB



Plot #8

Axesstel Model: W2 (Right Head, Cheek, Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

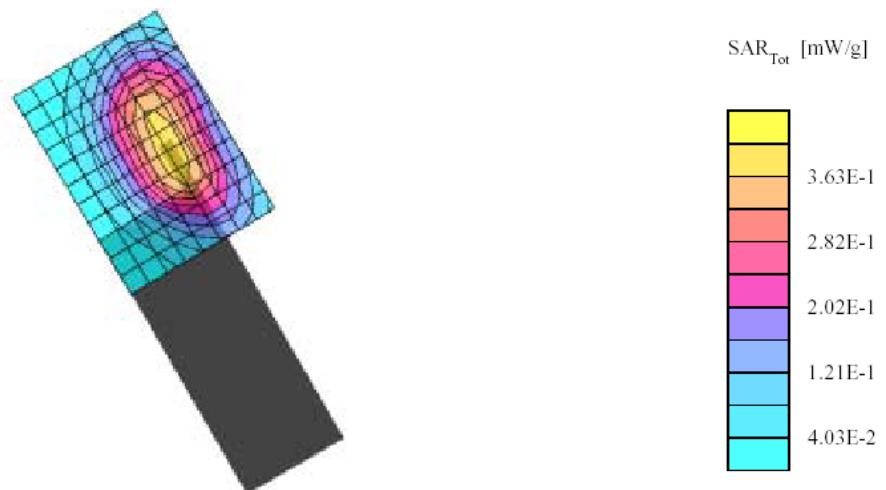
SAM Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.364 mW/g, SAR (10g): 0.256 mW/g, (Worst-case extrapolation)

Coarse: Dx = 10.0, Dy = 10.0, Dz = 8.0

Powerdrift: -0.02 dB



Plot #9

Axestel Model: W2 (Right Head, Cheek, Antenna position extented, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

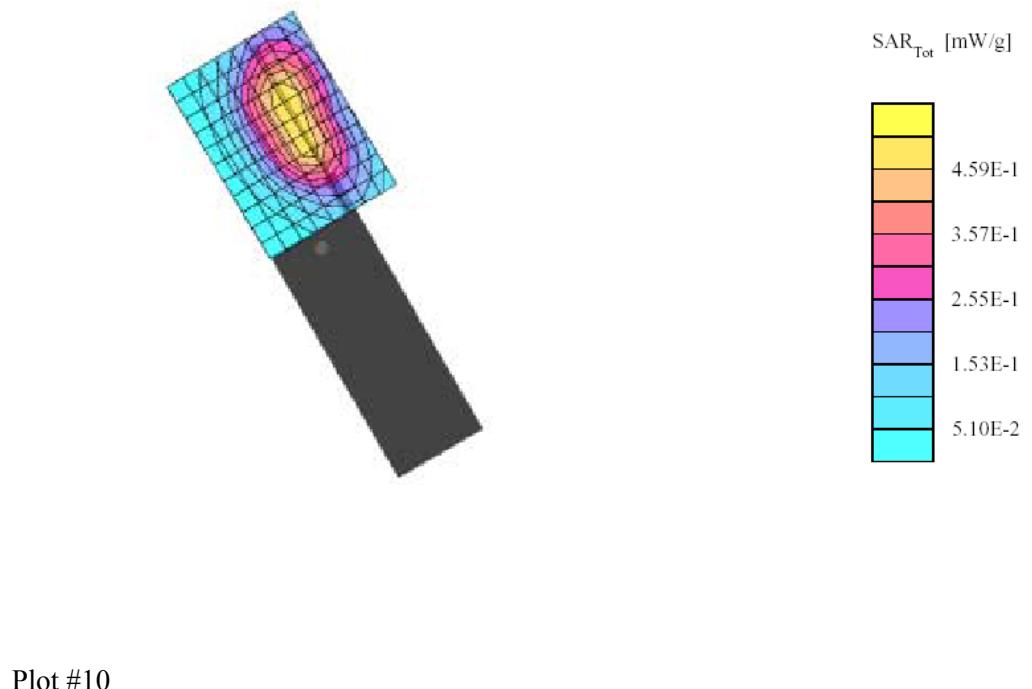
SAM Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.464 mW/g, SAR (10g): 0.331 mW/g, (Worst-case extrapolation)

Coarse: Dx = 10.0, Dy = 10.0, Dz = 8.0

Powerdrift: -0.00 dB



Axesstel Model: W2 (Right Head, Tilted, Antenna position retracted, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

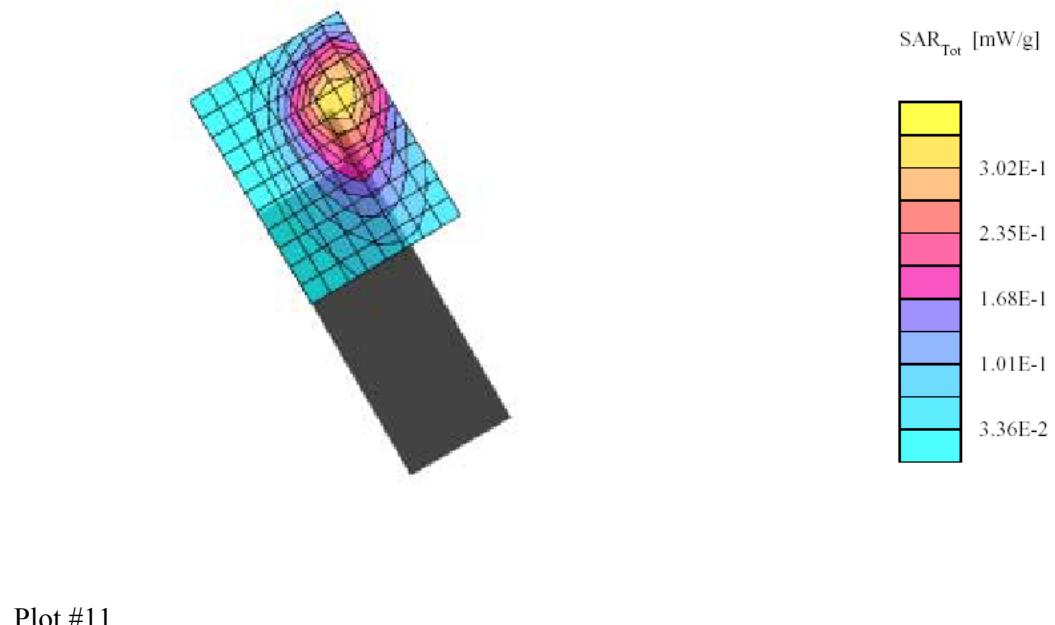
SAM Phantom; Right Hand Section; Position: (90°,300°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.311 mW/g, SAR (10g): 0.212 mW/g, (Worst-case extrapolation)

Coarse: Dx = 10.0, Dy = 10.0, Dz = 8.0

Powerdrift: -0.03 dB



Plot #11

Axesstel Model: W2 (Right Head, Tilted, Antenna position extented, Mid channel, Ambient Temp = 23 Deg C, Liquid Temp = 21 Deg C, 08/01/2003)

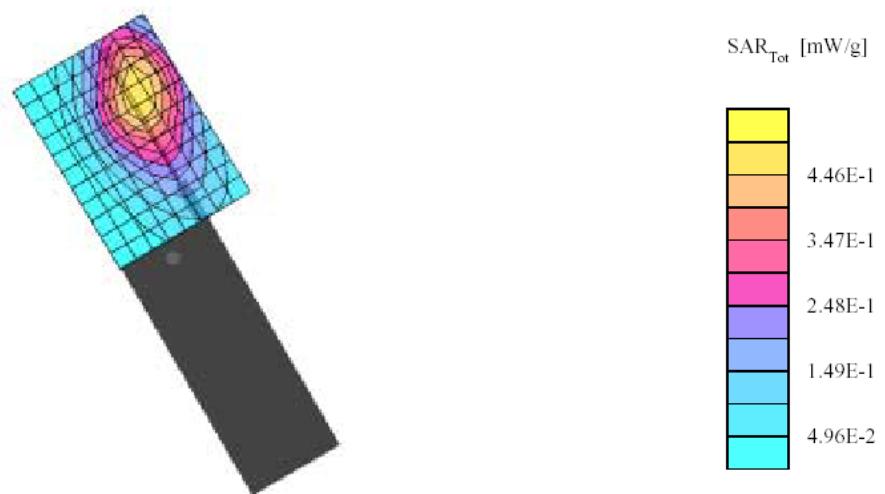
SAM Phantom; Righ Hand Section; Position: (90°,300°); Frequency: 836 MHz

Probe: ET3DV6 - SN1604; ConvF(6.50,6.50,6.50); Crest factor: 1.0; (Head) 835 MHz: $\sigma = 0.90 \text{ mho/m}$ $\epsilon_r = 41.3$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.458 mW/g, SAR (10g): 0.317 mW/g, (Worst-case extrapolation)

Coarse: Dx = 10.0, Dy = 10.0, Dz = 8.0

Powerdrift: -0.03 dB



Plot #12

Axesstel, Model: VerizonONE (Body intouch with flat phantom with accessory (belt clip and headset), Antenna position retracted, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 22 Deg C, 08/08/2003)

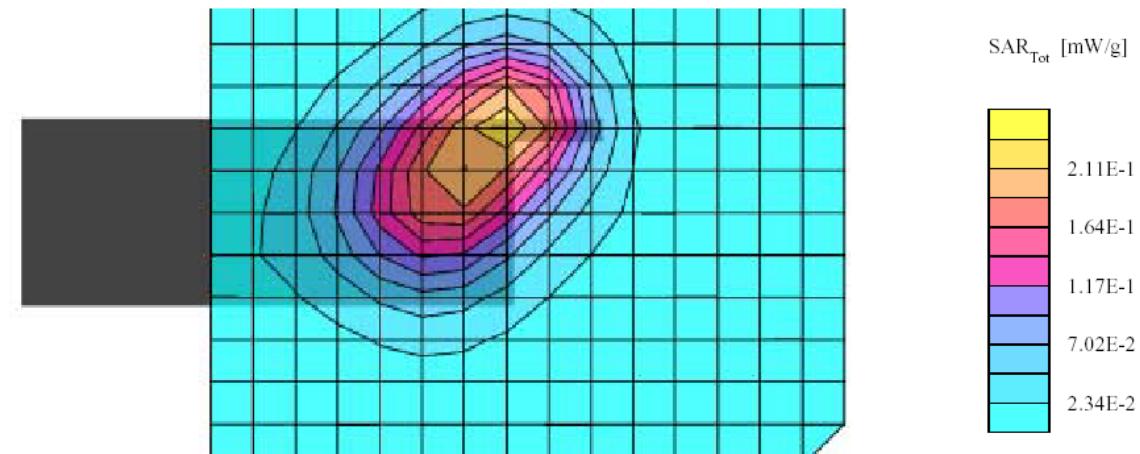
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(4.90,4.90,4.90); Crest factor: 8.0; (Body) 1900 MHz: $\sigma = 1.49 \text{ mho/m}$ $\epsilon_r = 52.0$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.214 mW/g, SAR (10g): 0.131 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.01 dB



Plot #13

Axesstel, Model: VerizonONE (Body in touch with flat phantom with accessory (belt clip and headset), Antenna position extented, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 22 Deg C, 08/08/2003)

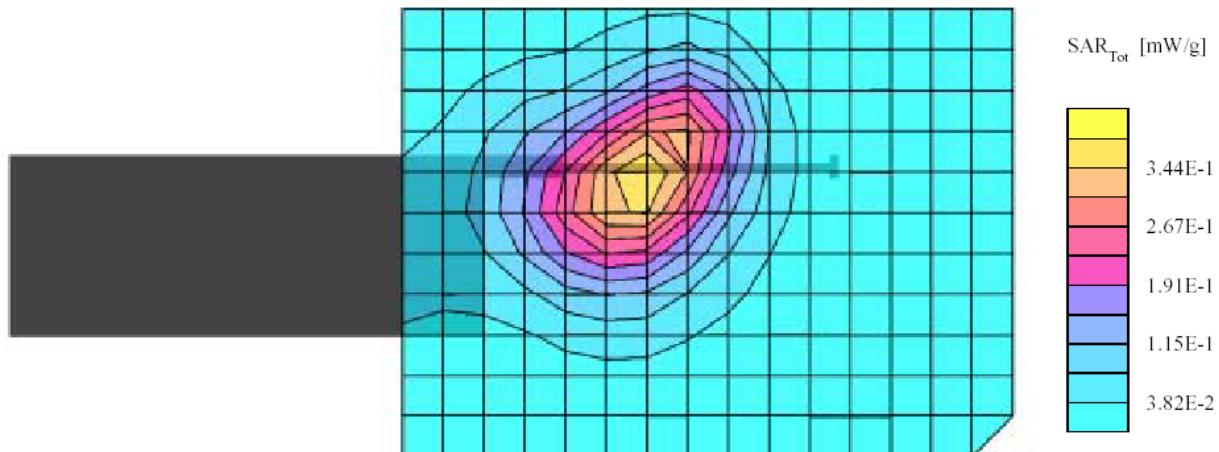
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(4.90,4.90,4.90); Crest factor: 8.0; (Body) 1900 MHz: $\sigma = 1.49 \text{ mho/m}$ $\epsilon_r = 52.0$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.365 mW/g, SAR (10g): 0.228 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: 0.01 dB



Axesstel, Model: VerizonONE (1.5 cm separation to the flat phantom with accessory (headset), Antenna position retracted, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 22 Deg C, 08/08/2003)

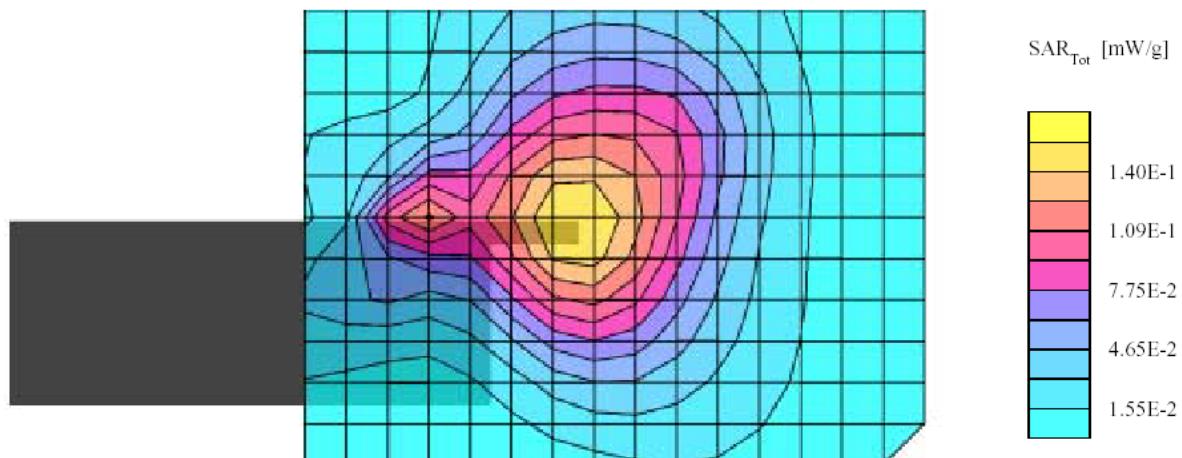
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(4.90,4.90,4.90); Crest factor: 8.0; (Body) 1900 MHz: $\sigma = 1.49 \text{ mho/m}$ $\epsilon_r = 52.0$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.150 mW/g, SAR (10g): 0.0984 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.02 dB



Plot #15

Axestel, Model: VerizonONE (1.5 cm separation to the flat phantom with accessory (headset), Antenna position extented, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 22 Deg C, 08/08/2003)

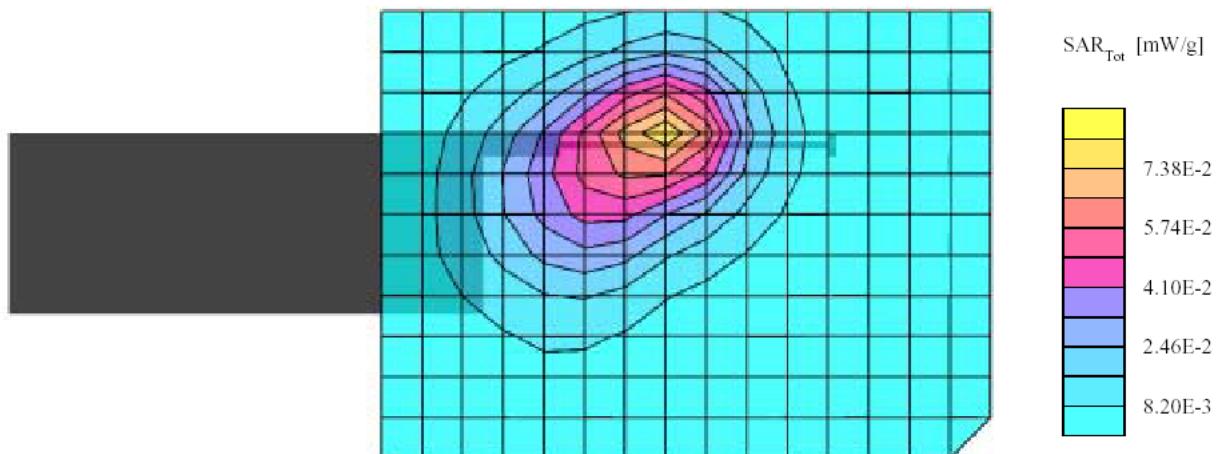
SAM Phantom; Flat Section; Position: (270°,270°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(4.90,4.90,4.90); Crest factor: 8.0; (Body) 1900 MHz: $\sigma = 1.49 \text{ mho/m}$ $\epsilon_r = 52.0$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.0756 mW/g, SAR (10g): 0.0462 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 12.0, Dz = 10.0

Powerdrift: -0.05 dB



Plot #16

Axesstel Model: VerizonONE (Left Head, Cheek, Antenna position retracted, Mid channel, Ambient Temp = 23 DegC, Liquid Temp = 22 Deg C, 08/07/2003)

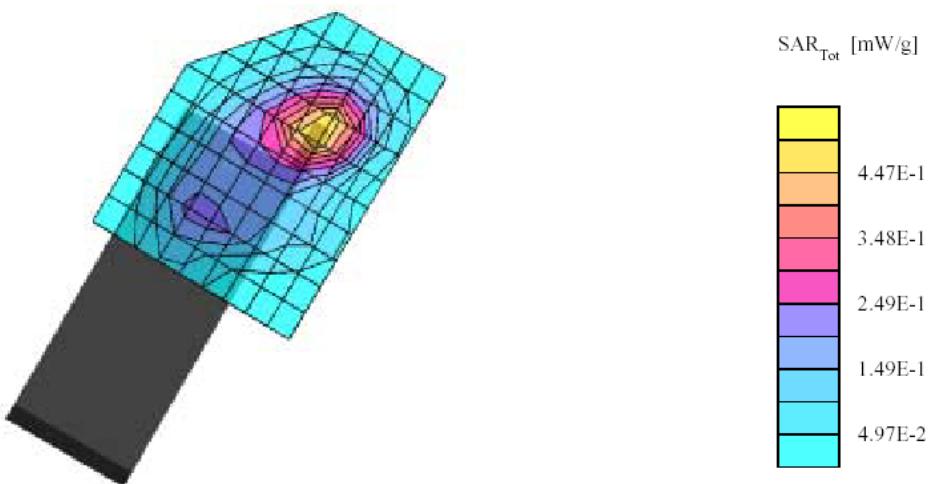
SAM Phantom; Left Hand Section; Position: (74°,60°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1604; ConvF(5.50,5.50,5.50); Crest factor: 8.0; (Head) 1900 MHz: $\sigma = 1.46 \text{ mho/m}$ $\epsilon_r = 40.4$ $\rho = 1.31 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.501 mW/g, SAR (10g): 0.277 mW/g, (Worst-case extrapolation)

Coarse: Dx = 12.0, Dy = 10.0, Dz = 10.0

Powerdrift: -0.01 dB



Plot #17