

## APPENDIX C – DIPOLE VALIDATION

## Validation Data (835MHz Brain)

### Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz:  $\sigma = 0.91 \text{ mho/m}$   $\epsilon_r = 41.9$   $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g):  $10.0 \text{ mW/g} \pm 0.00 \text{ dB}$ , SAR (10g):  $6.38 \text{ mW/g} \pm 0.00 \text{ dB}$

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.00 dB

Comment :

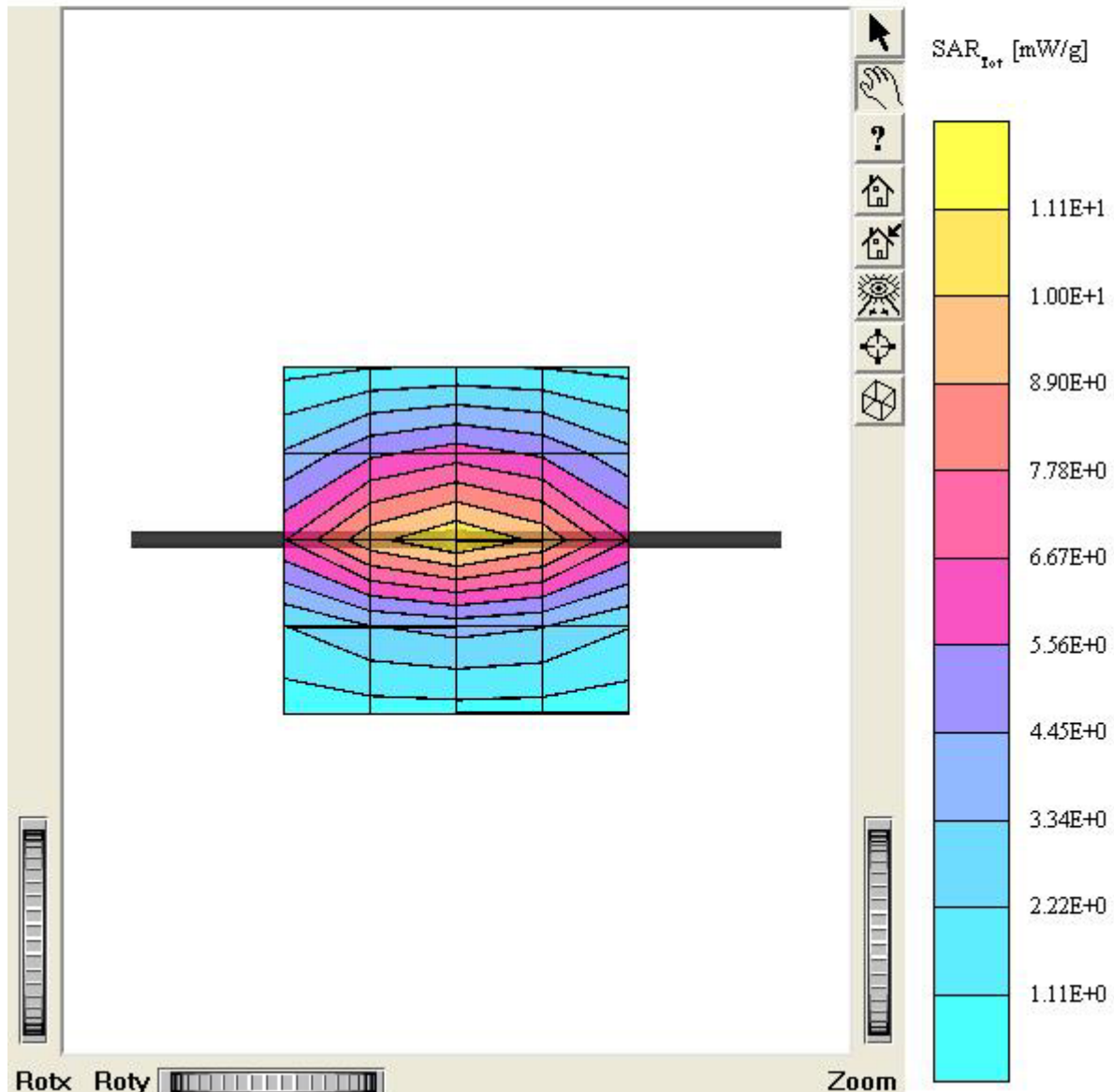
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

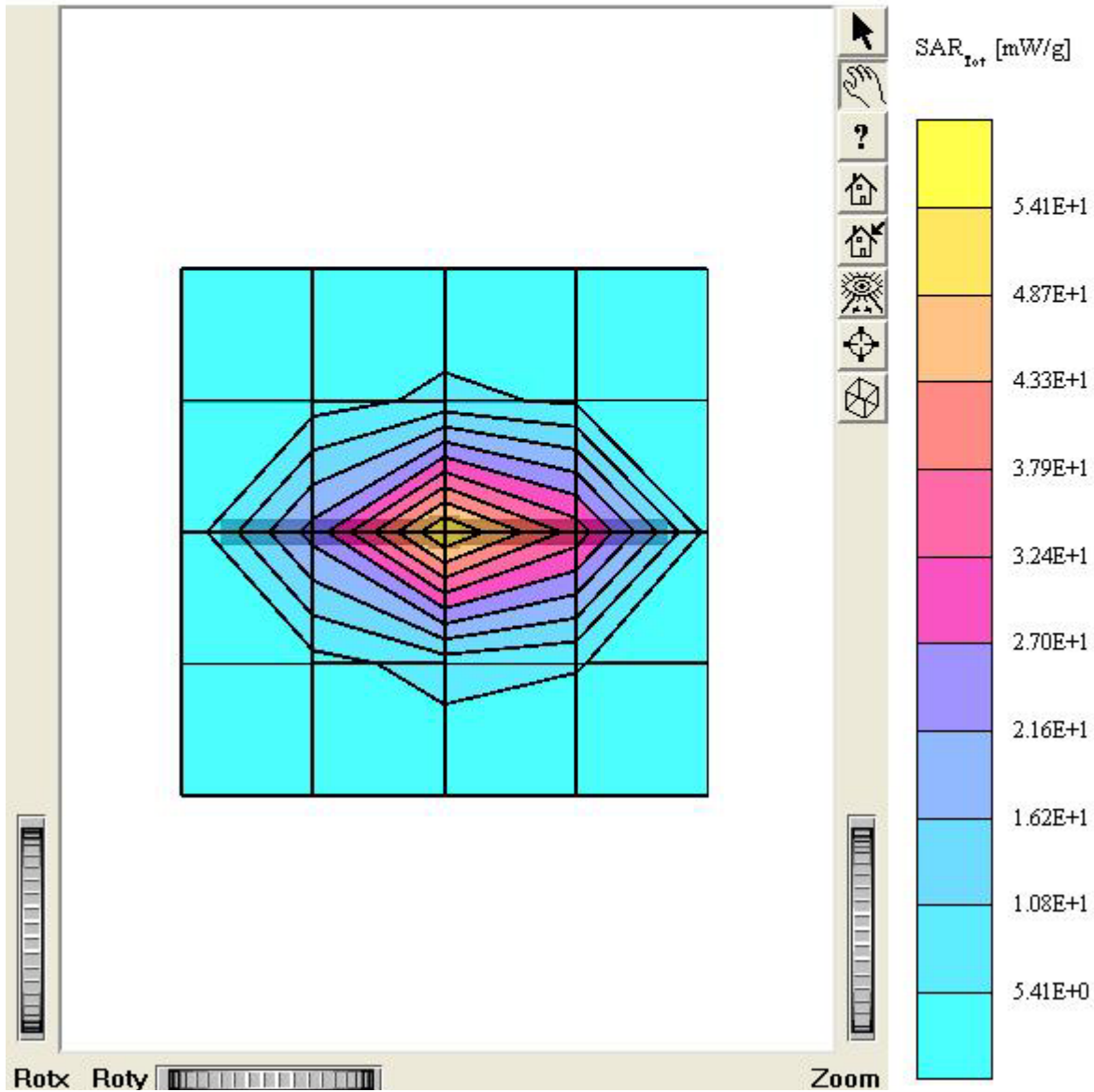
Date Tested : April 23, 2004



■ Validation Data (1900MHz Brain)

**Dipole 1900 MHz**

SAM II Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz  
 Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz:  $\sigma = 1.41 \text{ mho/m}$   $\epsilon_r = 40.2$   
 $\rho = 1.00 \text{ g/cm}^3$   
 Cubes (Z): SAR (1g):  $42.0 \text{ mW/g} \pm 0.01 \text{ dB}$ , SAR (10g):  $21.1 \text{ mW/g} \pm 0.01 \text{ dB}$   
 Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0  
 Powerdrift: 0.00 dB  
 Comment :  
 1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)  
 Antenna Input Power: 30 dBm (1 W)  
 HCT Co., Ltd. Brain Tissue Simulating Liquid  
 Liquid Temperature: 21.2°C  
 Date Tested : April 23, 2004



### Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz:  $\sigma = 0.91 \text{ mho/m}$   $\epsilon_r = 41.9$

$\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): 10.0 mW/g  $\pm 0.00 \text{ dB}$ , SAR (10g): 6.38 mW/g  $\pm 0.00 \text{ dB}$

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Comment :

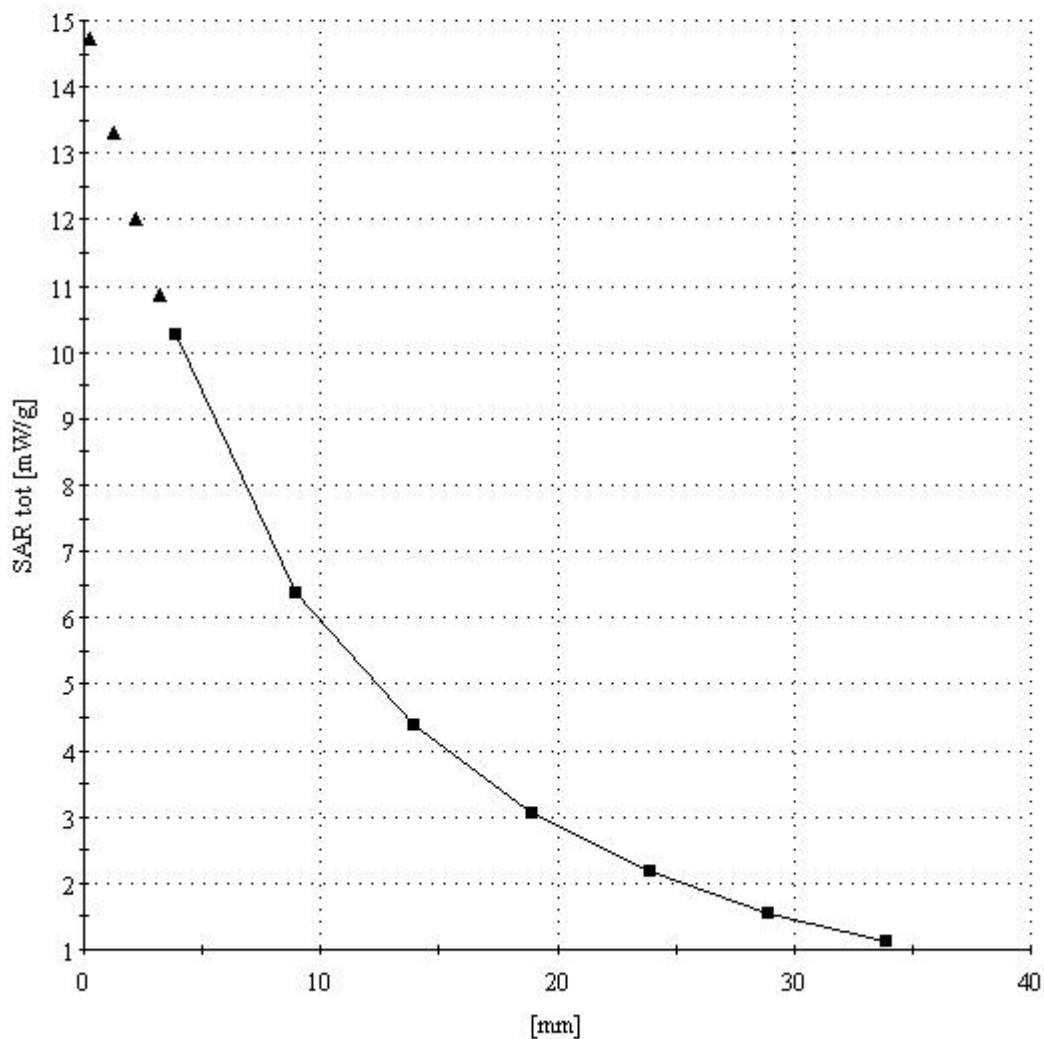
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : April 23, 2004



## Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz:  $\sigma = 1.41 \text{ mho/m}$   $\epsilon_r = 40.2$   $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g):  $42.0 \text{ mW/g} \pm 0.01 \text{ dB}$ , SAR (10g):  $21.1 \text{ mW/g} \pm 0.01 \text{ dB}$

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

### Comment :

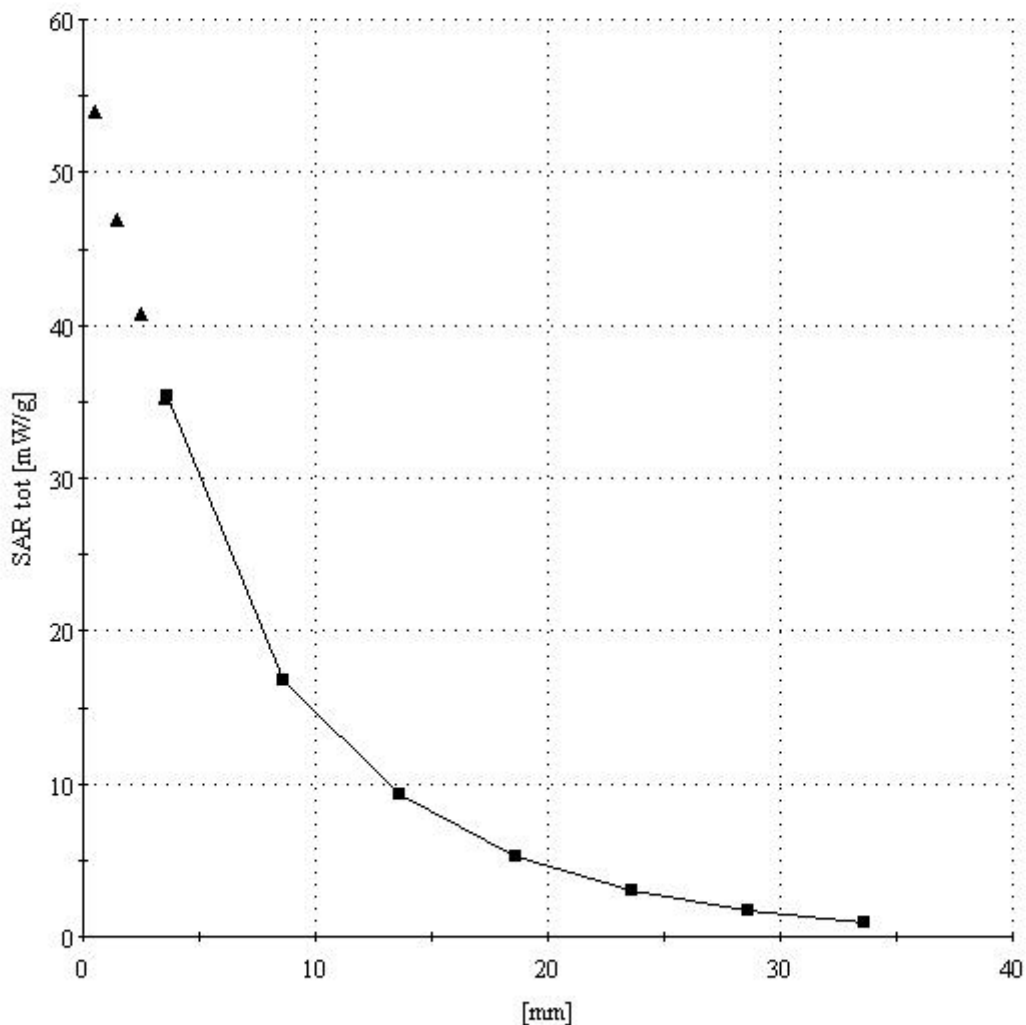
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : April 23, 2004



■ Dielectric Parameter (835MHz Brain)

**Title: GA-400B**

**SubTitle: 835 BRAIN**

April 23, 2004 08:42 AM

Frequency	e'	e''
800.000000 MHz	42.3477	19.7120
805.000000 MHz	42.2654	19.7349
810.000000 MHz	42.1789	19.7373
815.000000 MHz	42.1292	19.7513
820.000000 MHz	42.1103	19.6604
825.000000 MHz	42.0260	19.6206
830.000000 MHz	41.9588	19.6190
<b>835.000000 MHz</b>	<b>41.9156</b>	<b>19.6425</b>
840.000000 MHz	41.8666	19.5310
845.000000 MHz	41.7478	19.5764
850.000000 MHz	41.6980	19.5293
855.000000 MHz	41.5847	19.5114
860.000000 MHz	41.5463	19.4622
865.000000 MHz	41.4478	19.4514
870.000000 MHz	41.4043	19.4148
875.000000 MHz	41.3444	19.4241
880.000000 MHz	41.2620	19.4047
885.000000 MHz	41.2046	19.3985
890.000000 MHz	41.1265	19.4037
895.000000 MHz	41.0688	19.3731
900.000000 MHz	40.9655	19.3863

■ Dielectric Parameter (1900MHz Brain)

**Title: GA-400B**

**SubTitle: 1900 MHZ BRAIN**

April 23, 2004 09:25 AM

Frequency	e'	e''
1.800000000 GHz	40.7390	12.9891
1.810000000 GHz	40.6559	13.0327
1.820000000 GHz	40.6268	13.0822
1.830000000 GHz	40.5637	13.1380
1.840000000 GHz	40.5297	13.1510
1.850000000 GHz	40.4773	13.2093
1.860000000 GHz	40.4406	13.2425
1.870000000 GHz	40.4148	13.2717
1.880000000 GHz	40.3460	13.2745
1.890000000 GHz	40.3007	13.3346
1.900000000 GHz	40.2311	13.3416
1.910000000 GHz	40.1591	13.3657
1.920000000 GHz	40.1256	13.3737
1.930000000 GHz	40.0371	13.4184
1.940000000 GHz	39.9828	13.4318
1.950000000 GHz	39.9281	13.5050
1.960000000 GHz	39.8963	13.5394
1.970000000 GHz	39.8485	13.5788
1.980000000 GHz	39.8092	13.6332
1.990000000 GHz	39.8025	13.6685
2.000000000 GHz	39.7633	13.6846

■ Dielectric Parameter (835MHz Muscle)

**Title: GA-400B**  
**SubTitle: 835 MHZ BODY**  
April 23, 2004 08:48 AM

Frequency	e'	e''
800.000000 MHz	56.5210	20.7382
805.000000 MHz	56.4558	20.7073
810.000000 MHz	56.3906	20.6429
815.000000 MHz	56.3289	20.7358
820.000000 MHz	56.2366	20.6823
825.000000 MHz	56.1567	20.6583
830.000000 MHz	55.9421	20.6860
<b>835.000000 MHz</b>	<b>55.8523</b>	<b>20.6559</b>
840.000000 MHz	55.7506	20.6200
845.000000 MHz	55.6094	20.5342
850.000000 MHz	55.6374	20.5157
855.000000 MHz	55.5659	20.4919
860.000000 MHz	55.4560	20.5051
865.000000 MHz	55.5176	20.4839
870.000000 MHz	55.4473	20.4819
875.000000 MHz	55.3937	20.5056
880.000000 MHz	55.3763	20.5095
885.000000 MHz	55.2363	20.3765
890.000000 MHz	55.2471	20.3802
895.000000 MHz	55.1860	20.4389
900.000000 MHz	55.1245	20.5184



■ Dielectric Parameter (1900MHz Muscle)

**Title: GA-400B**  
**SubTitle: 1900 MHZ BODY**  
April 23, 2004 09:48 AM

Frequency	e'	e''
1.850000000 GHz	53.8445	15.0245
1.855000000 GHz	53.8313	15.0317
1.860000000 GHz	53.7833	15.0409
1.865000000 GHz	53.7562	15.0684
1.870000000 GHz	53.6592	15.0635
1.875000000 GHz	53.5943	15.0484
1.880000000 GHz	53.5844	15.0164
1.885000000 GHz	53.5088	14.9970
1.890000000 GHz	53.4471	14.9763
1.895000000 GHz	53.3941	14.9406
1.900000000 GHz	53.3340	14.9486
1.905000000 GHz	53.3067	14.9559
1.910000000 GHz	53.2527	14.9221
1.915000000 GHz	53.2357	14.9276
1.920000000 GHz	53.2220	14.9522
1.925000000 GHz	53.2222	14.9674
1.930000000 GHz	53.2428	15.0076
1.935000000 GHz	53.2534	15.0756
1.940000000 GHz	53.2237	15.1081
1.945000000 GHz	53.2287	15.1299
1.950000000 GHz	53.2649	15.1956