

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90 \text{ mho/m}$, $\epsilon_r = 40.9$, $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $9.99 \text{ mW/g} \pm 0.01 \text{ dB}$, SAR (10g): $6.39 \text{ mW/g} \pm 0.01 \text{ dB}$

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

Powerdrift: -0.03 dB

Comment :

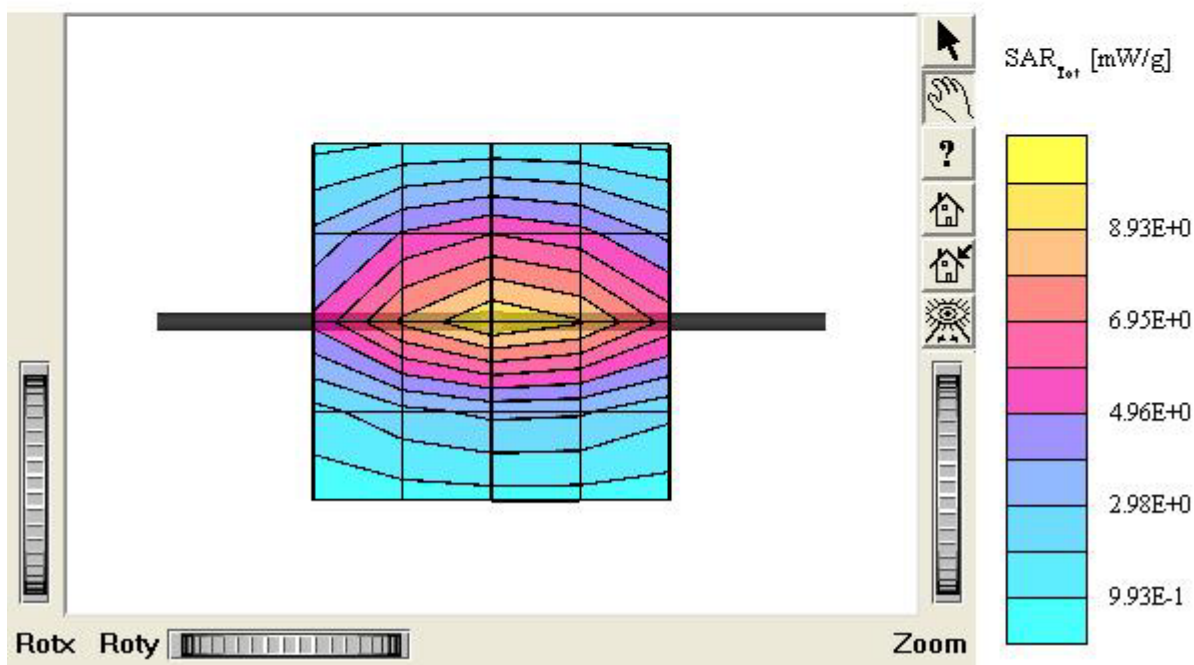
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.4°C

Date Tested : September 30, 2005



Validation Data (1900MHz Head)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1798; ConvF(5.27,5.27,5.27); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$, $\epsilon_r = 38.6$, $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 41.3 mW/g, SAR (10g): 21.3 mW/g

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

Powerdrift: -0.21 dB

Comment :

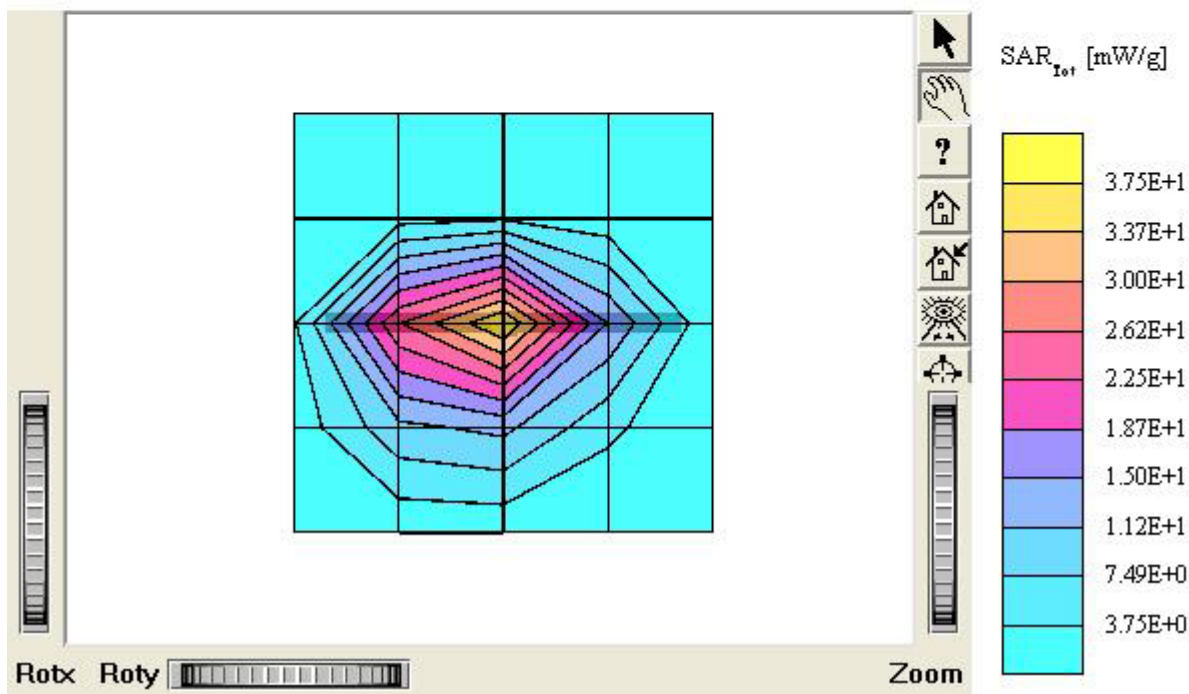
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.4°C

Date Tested : September 30, 2005



Dipole 835 MHz

SAM I Phantom; Section; Position: ; Frequency: 835 MHz

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 40.9$ $\rho = 1.00$ g/cm³

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Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

Comment :

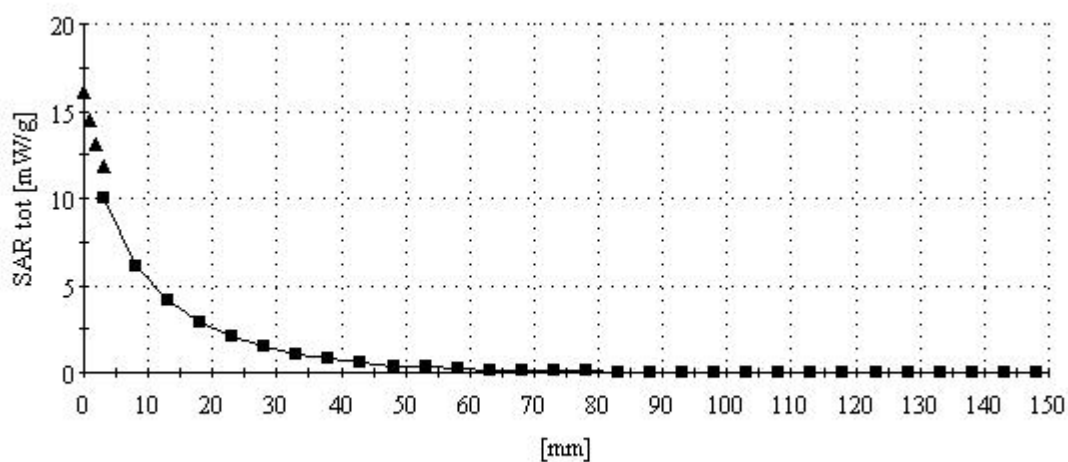
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.4°C

Date Tested : September 30, 2005



Dipole 1900 MHz

SAM II Phantom; Section; Position: ; Frequency: 1900 MHz

Probe: ET3DV6 - SN1798; ConvF(5.27,5.27,5.27); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 38.6$ $\rho = 1.00 \text{ g/cm}^3$

:

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

Comment :

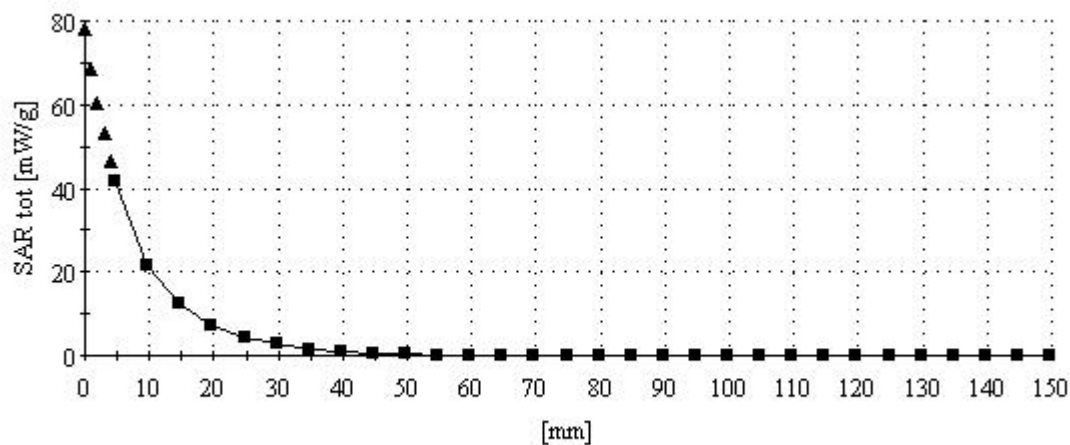
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.4°C

Date Tested : September 30, 2005



■ Dielectric Parameter (850MHz Head)

Title : M342

SubTitle : GSM850 Head

September 30, 2005 09:24 AM

Frequency	e'	e''
800.000000 MHz	41.6134	19.6597
805.000000 MHz	41.4578	19.6393
810.000000 MHz	41.4138	19.6650
815.000000 MHz	41.1672	19.6919
820.000000 MHz	41.0333	19.4540
825.000000 MHz	40.9115	19.4334
830.000000 MHz	41.0413	19.3236
835.000000 MHz	40.8632	19.4931
840.000000 MHz	40.8422	19.3882
845.000000 MHz	40.7234	19.3427
850.000000 MHz	40.7091	19.2586
855.000000 MHz	40.6450	19.1070
860.000000 MHz	40.6329	18.9935
865.000000 MHz	40.5820	18.8514
870.000000 MHz	40.5704	18.7401
875.000000 MHz	40.5071	18.7655
880.000000 MHz	40.3917	18.6754
885.000000 MHz	40.2941	18.6264
890.000000 MHz	40.2491	18.6524
895.000000 MHz	40.1847	18.6591
900.000000 MHz	40.1212	18.6658

■ Dielectric Parameter (1900MHz Head)

Title : M342

SubTitle : GSM1900 Head

September 30, 2005 02:15 PM

Frequency	e'	e''
1.800000000 GHz	38.8796	13.3706
1.810000000 GHz	38.8486	13.4103
1.820000000 GHz	38.8269	13.4532
1.830000000 GHz	38.8202	13.4990
1.840000000 GHz	38.8077	13.5481
1.850000000 GHz	38.7873	13.5867
1.860000000 GHz	38.7536	13.6066
1.870000000 GHz	38.7441	13.6057
1.880000000 GHz	38.6886	13.6539
1.890000000 GHz	38.6224	13.6348
1.900000000 GHz	38.5862	13.6243
1.910000000 GHz	38.5240	13.6273
1.920000000 GHz	38.4685	13.6675
1.930000000 GHz	38.4574	13.6830
1.940000000 GHz	38.4437	13.7439
1.950000000 GHz	38.4050	13.8001
1.960000000 GHz	38.4210	13.8301
1.970000000 GHz	38.4163	13.9080
1.980000000 GHz	38.3661	13.9627
1.990000000 GHz	38.3520	13.9679
2.000000000 GHz	38.3066	13.9414

■ Dielectric Parameter (850MHz Body)

Title : M342

SubTitle : GSM850 Body

September 30, 2005 10:52 AM

Frequency	ϵ'	ϵ''
800.000000 MHz	54.4354	21.1253
805.000000 MHz	54.4359	21.0880
810.000000 MHz	54.3876	21.1021
815.000000 MHz	54.3587	21.0417
820.000000 MHz	54.2713	21.0029
825.000000 MHz	54.2271	20.9880
830.000000 MHz	54.2071	20.9755
835.000000 MHz	54.1232	20.9368
840.000000 MHz	54.0609	20.9237
845.000000 MHz	53.9998	20.9104
850.000000 MHz	53.9805	20.8601
855.000000 MHz	53.9118	20.8502
860.000000 MHz	53.8681	20.8744
865.000000 MHz	53.8426	20.7734
870.000000 MHz	53.7949	20.8099
875.000000 MHz	53.7040	20.8414
880.000000 MHz	53.6651	20.8106
885.000000 MHz	53.5867	20.7847
890.000000 MHz	53.5597	20.8341
895.000000 MHz	53.5058	20.7574
900.000000 MHz	53.4412	20.7585

■ Dielectric Parameter (1900MHz Body)

Title : M342

SubTitle : GSM1900 Body

September 30, 2005 03:48 PM

Frequency	e'	e''
1.800000000 GHz	51.6033	13.6411
1.810000000 GHz	51.5756	13.7093
1.820000000 GHz	51.5334	13.7826
1.830000000 GHz	51.4962	13.8591
1.840000000 GHz	51.4786	13.9225
1.850000000 GHz	51.4206	13.9817
1.860000000 GHz	51.3524	14.0182
1.870000000 GHz	51.3100	14.0576
1.880000000 GHz	51.2597	14.0938
1.890000000 GHz	51.1770	14.0987
1.900000000 GHz	51.1092	14.1547
1.910000000 GHz	51.0691	14.2080
1.920000000 GHz	51.0328	14.2829
1.930000000 GHz	50.9802	14.3410
1.940000000 GHz	50.9765	14.4119
1.950000000 GHz	50.9631	14.4776
1.960000000 GHz	50.9278	14.5245
1.970000000 GHz	50.9007	14.5820
1.980000000 GHz	50.8565	14.5919
1.990000000 GHz	50.8255	14.6677
2.000000000 GHz	50.7512	14.6641