

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.88 \text{ mho/m}$, $\epsilon_r = 41.8$, $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $10.0 \text{ mW/g} \pm 0.29 \text{ dB}$, SAR (10g): $6.42 \text{ mW/g} \pm 0.25 \text{ dB}$

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

Powerdrift: -0.06 dB

Comment :

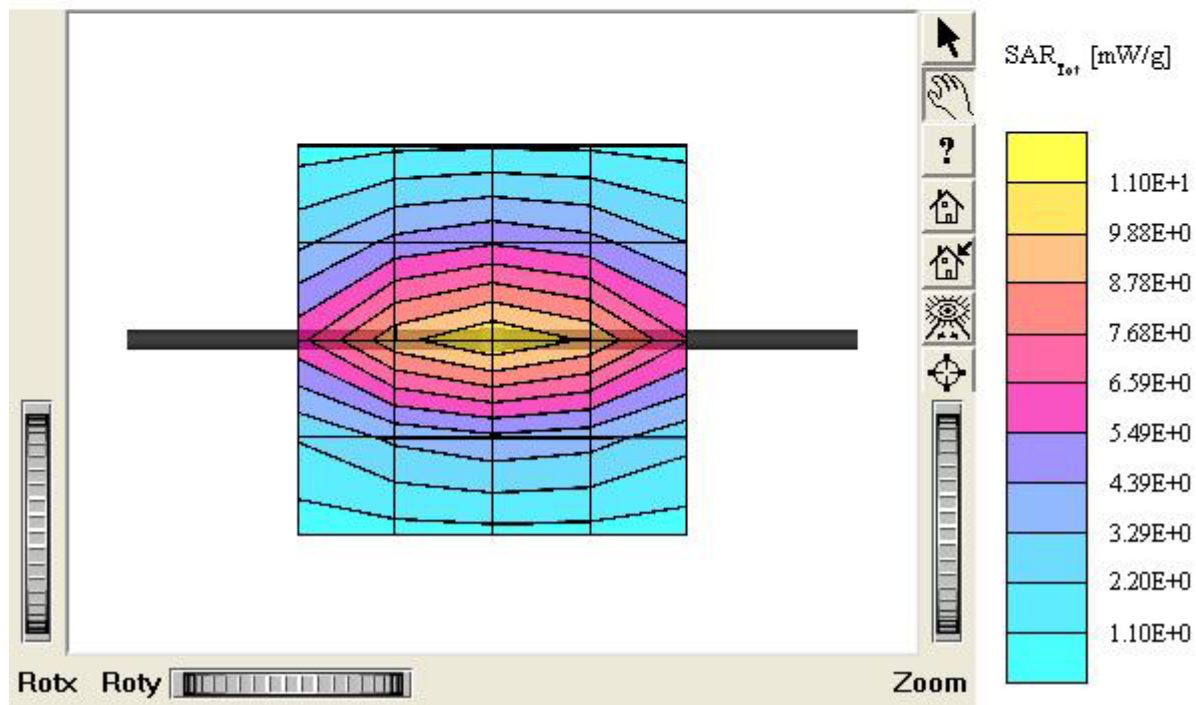
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 07, 2005



■ Validation Data (1900MHz Head)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$, $\epsilon_r = 40.0$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 39.8 mW/g, SAR (10g): 19.9 mW/g

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

Powerdrift: 0.02 dB

Comment :

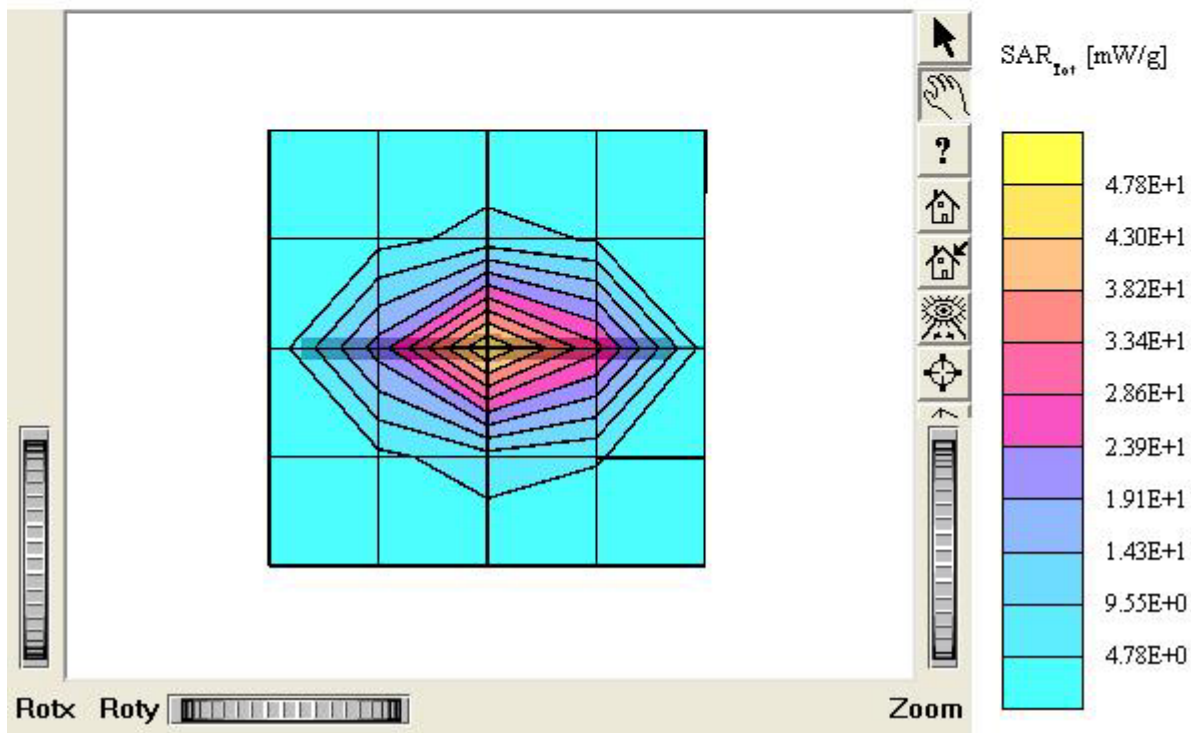
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 07, 2005



Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 41.8$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment:

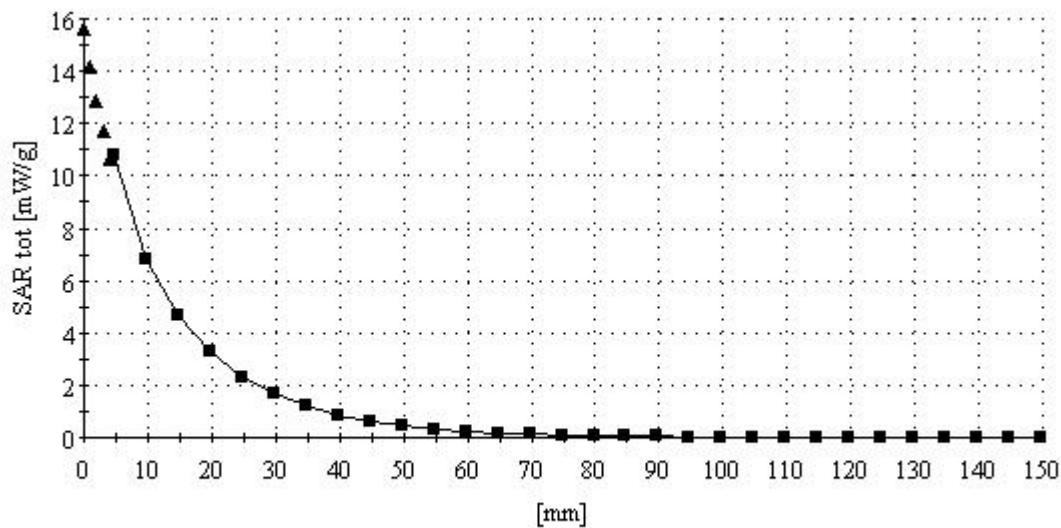
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 07, 2005



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 40.0$ $\rho = 1.00 \text{ g/cm}^3$

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Z-Axis: $D_x = 0.0$, $D_y = 0.0$, $D_z = 5.0$

Comment:

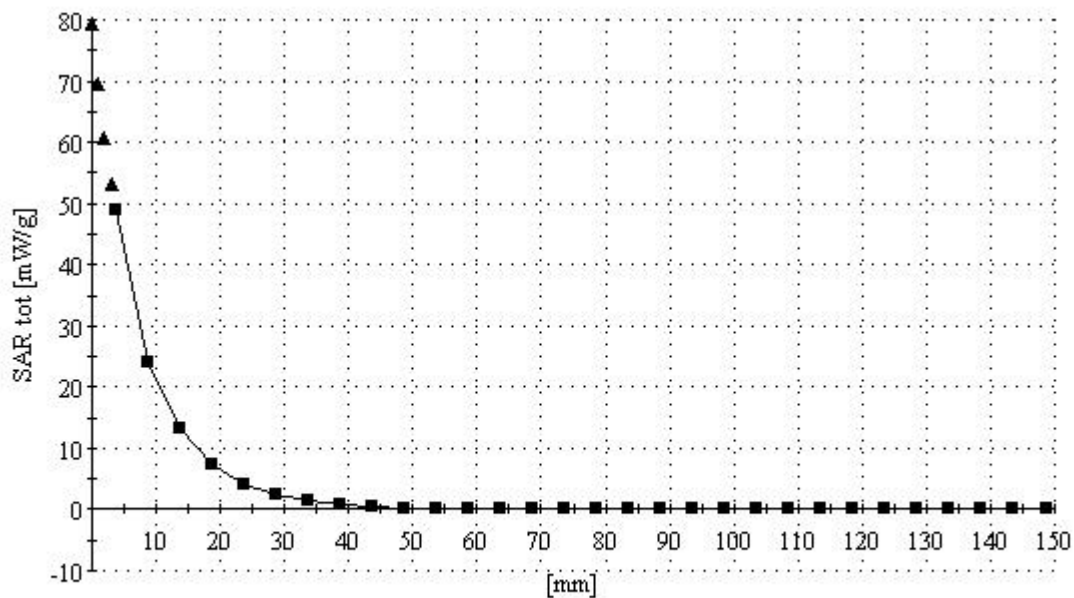
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 07, 2005



■ Dielectric Parameter (850MHz Head)

Title : EZ100

SubTitle : GSM850 Head

August 07, 2005 08:56 AM

Frequency	e'	e''
800.000000 MHz	42.4606	19.0487
805.000000 MHz	42.4190	19.0309
810.000000 MHz	42.2982	19.0352
815.000000 MHz	42.2641	19.0372
820.000000 MHz	42.1462	19.0413
825.000000 MHz	42.0876	19.0239
830.000000 MHz	41.9392	19.0215
835.000000 MHz	41.8357	19.0228
840.000000 MHz	41.7669	18.9937
845.000000 MHz	41.6702	18.9730
850.000000 MHz	41.6542	18.9402
855.000000 MHz	41.5435	18.9348
860.000000 MHz	41.5438	18.9184
865.000000 MHz	41.4342	18.9440
870.000000 MHz	41.3433	18.9237
875.000000 MHz	41.2722	18.8982
880.000000 MHz	41.2200	18.8474
885.000000 MHz	41.1283	18.8990
890.000000 MHz	41.0576	18.8645
895.000000 MHz	41.0307	18.8076
900.000000 MHz	40.9789	18.7982

■ Dielectric Parameter (1900MHz Head)

Title : EZ100**SubTitle : GSM1900 Head**

August 07, 2005 10:30 AM

Frequency	e'	e''
1.800000000 GHz	40.3579	13.2135
1.810000000 GHz	40.2402	13.3068
1.820000000 GHz	40.2296	13.3827
1.830000000 GHz	40.1899	13.5312
1.840000000 GHz	40.2378	13.6608
1.850000000 GHz	40.2866	13.7982
1.860000000 GHz	40.2730	13.8345
1.870000000 GHz	40.2675	13.8291
1.880000000 GHz	40.2023	13.7955
1.890000000 GHz	40.1387	13.7072
1.900000000 GHz	40.0292	13.6168
1.910000000 GHz	39.9183	13.5647
1.920000000 GHz	39.7880	13.5590
1.930000000 GHz	39.7064	13.5849
1.940000000 GHz	39.6462	13.6773
1.950000000 GHz	39.6151	13.8158
1.960000000 GHz	39.6462	13.9515
1.970000000 GHz	39.6716	14.0757
1.980000000 GHz	39.7109	14.1781
1.990000000 GHz	39.7416	14.1466
2.000000000 GHz	39.7211	14.1435

■ Dielectric Parameter (835MHz Body)

Title : EZ100**SubTitle : GSM850 Body****August 07, 2005 01:25 PM**

Frequency	e'	e''
800.000000 MHz	54.4854	21.0735
805.000000 MHz	54.3865	20.9810
810.000000 MHz	54.3411	20.9721
815.000000 MHz	54.3210	20.9991
820.000000 MHz	54.3001	20.9589
825.000000 MHz	54.1847	20.9478
830.000000 MHz	54.1840	20.9728
835.000000 MHz	54.1452	20.9067
840.000000 MHz	54.0864	20.9033
845.000000 MHz	54.0706	20.8951
850.000000 MHz	53.9852	20.9019
855.000000 MHz	53.9308	20.8431
860.000000 MHz	53.9342	20.8495
865.000000 MHz	53.8520	20.7698
870.000000 MHz	53.7762	20.8170
875.000000 MHz	53.7095	20.7860
880.000000 MHz	53.6598	20.7967
885.000000 MHz	53.6426	20.7790
890.000000 MHz	53.5385	20.7793
895.000000 MHz	53.4774	20.6846
900.000000 MHz	53.4200	20.7042

■ Dielectric Parameter (1900MHz Body)

Title : EZ100**SubTitle GSM1900 Body**

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Frequency	e'	e''
1.8000000000 GHz	54.1304	13.6282
1.8100000000 GHz	54.1450	13.7115
1.8200000000 GHz	54.1517	13.7832
1.8300000000 GHz	54.0853	13.8325
1.8400000000 GHz	54.0242	13.8848
1.8500000000 GHz	53.9178	13.9093
1.8600000000 GHz	53.8445	13.9594
1.8700000000 GHz	53.7440	14.0133
1.8800000000 GHz	53.6003	14.0459
1.8900000000 GHz	53.4506	14.1402
1.9000000000 GHz	53.3574	14.1942
1.9100000000 GHz	53.2692	14.2628
1.9200000000 GHz	53.2647	14.3558
1.9300000000 GHz	53.2477	14.4096
1.9400000000 GHz	53.2427	14.4852
1.9500000000 GHz	53.2192	14.5237
1.9600000000 GHz	53.1260	14.5636
1.9700000000 GHz	53.0476	14.5939
1.9800000000 GHz	52.9487	14.6011
1.9900000000 GHz	52.8284	14.6556
2.0000000000 GHz	52.7472	14.6696