

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: $\sigma = 0.88$ mho/m $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.79 mW/g ± 0.03 dB, SAR (10g): 6.22 mW/g ± 0.02 dB

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

Powerdrift: -0.02 dB

Comment :

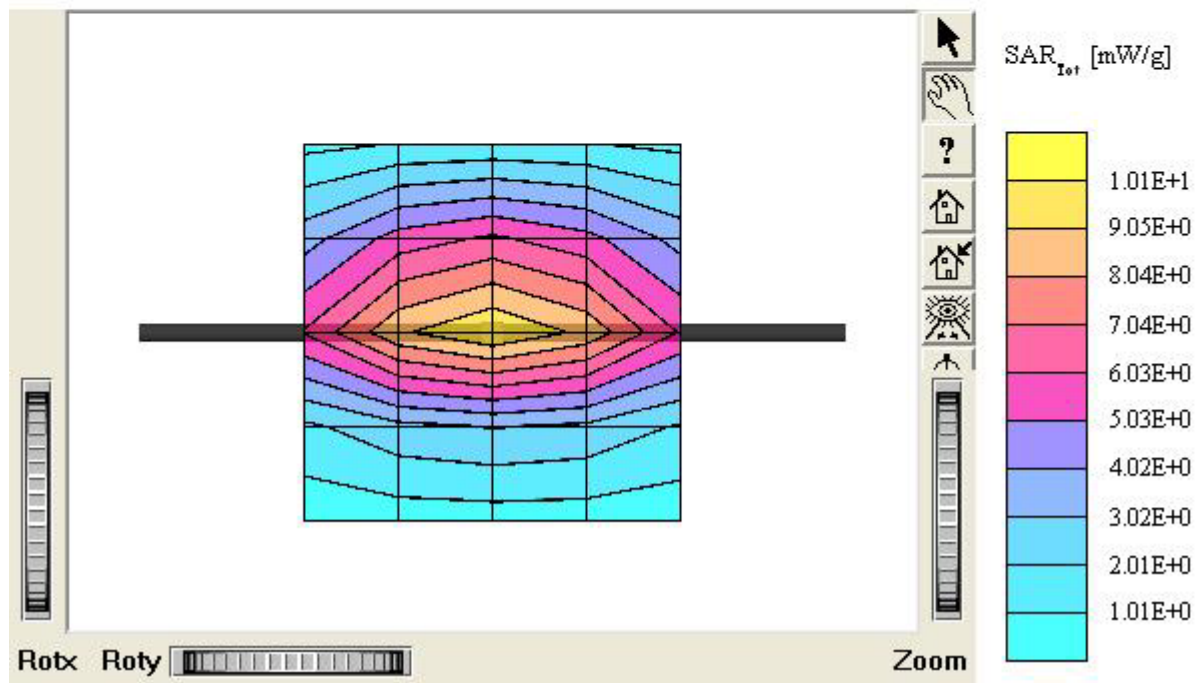
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 21, 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; Brain 1900 MHz: $\sigma = 1.46$ mho/m $\epsilon_r = 38.5$ $\rho = 1.00$ g/cm³

Cubes (2): SAR(1g): 42.8 mW/g ± 0.06 dB, SAR(10g): 21.5 mW/g ± 0.04 dB

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

Powerdrift: -0.02 dB

Comment :

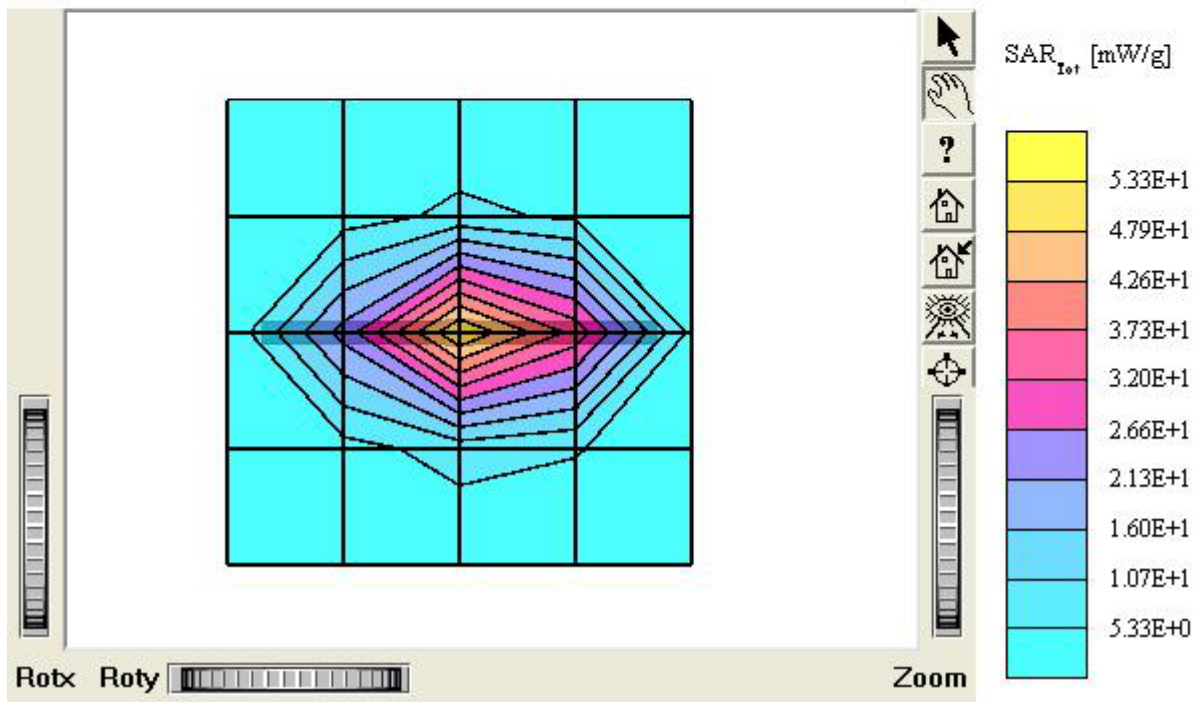
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 21, 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: $D_x = 0.0$, $D_y = 0.0$, $D_z = 5.0$

Comment :

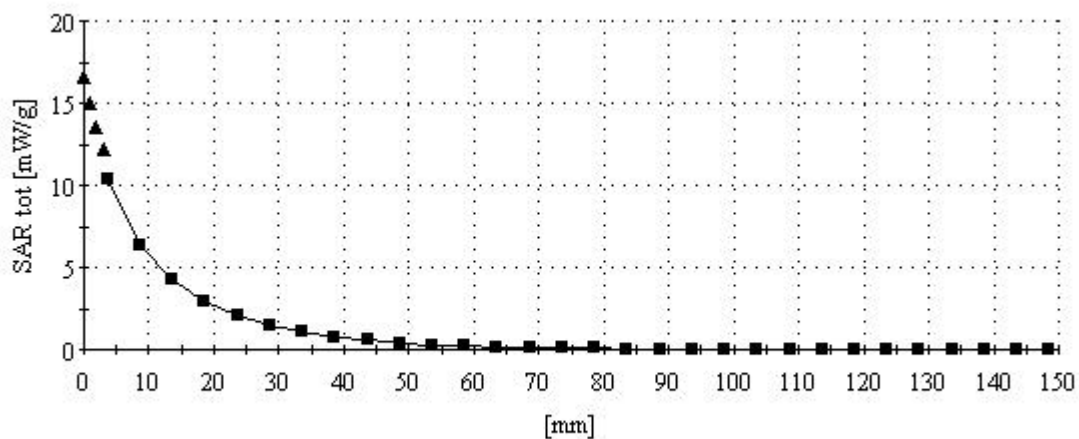
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 21, 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; Brain 1900 MHz: $\sigma = 1.46 \text{ mho/m}$ $\epsilon_r = 38.5$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment :

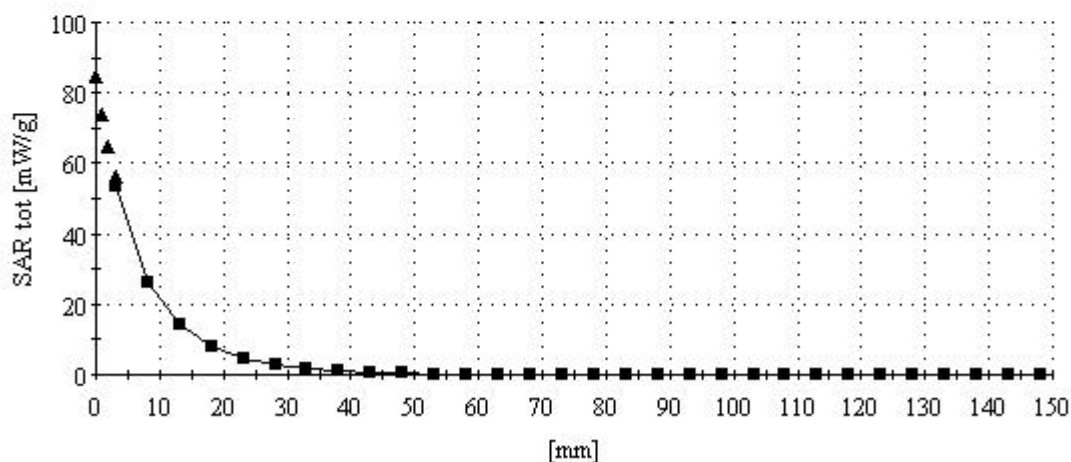
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : August 21, 2005



Dielectric Parameter (835MHz Head)

Title : ES807
SubTitle : GSM850 HEAD
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Frequency	e'	e''
800.000000 MHz	42.4495	19.0082
805.000000 MHz	42.3867	18.9532
810.000000 MHz	42.2443	18.9962
815.000000 MHz	42.2348	18.9703
820.000000 MHz	42.1524	18.9490
825.000000 MHz	42.0669	18.9501
830.000000 MHz	42.0064	18.9604
835.000000 MHz	41.8277	18.9201
840.000000 MHz	41.7450	18.9163
845.000000 MHz	41.6456	18.8864
850.000000 MHz	41.5941	18.8746
855.000000 MHz	41.4659	18.8438
860.000000 MHz	41.4232	18.8199
865.000000 MHz	41.3463	18.8164
870.000000 MHz	41.2624	18.7847
875.000000 MHz	41.1012	18.7963
880.000000 MHz	41.1126	18.7380
885.000000 MHz	41.0042	18.8002
890.000000 MHz	40.9588	18.8337
895.000000 MHz	40.9050	18.7852
900.000000 MHz	40.8810	18.7680

Dielectric Parameter (1900MHz Head)**Title : ES807****SubTitle : GSM1900 HEAD**

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Frequency	e'	e''
1.800000000 GHz	38.8891	13.4072
1.810000000 GHz	38.8763	13.4721
1.820000000 GHz	38.8603	13.5445
1.830000000 GHz	38.8184	13.6411
1.840000000 GHz	38.8067	13.7253
1.850000000 GHz	38.7634	13.7745
1.860000000 GHz	38.7374	13.8251
1.870000000 GHz	38.7274	13.7973
1.880000000 GHz	38.6992	13.8017
1.890000000 GHz	38.6330	13.7910
1.900000000 GHz	38.5448	13.8004
1.910000000 GHz	38.4722	13.7712
1.920000000 GHz	38.4161	13.8000
1.930000000 GHz	38.3953	13.8596
1.940000000 GHz	38.3550	13.9373
1.950000000 GHz	38.3329	14.0092
1.960000000 GHz	38.2771	14.0762
1.970000000 GHz	38.2796	14.1410
1.980000000 GHz	38.2695	14.1612
1.990000000 GHz	38.2485	14.1449
2.000000000 GHz	38.2360	14.1319

Dielectric Parameter (835MHz Body)**Title : ES807****SubTitle : GSM850 BODY**

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Frequency	e'	e''
800.000000 MHz	54.4151	20.9390
805.000000 MHz	54.3758	20.9508
810.000000 MHz	54.3333	20.9185
815.000000 MHz	54.2932	20.9529
820.000000 MHz	54.2441	20.9121
825.000000 MHz	54.2066	20.9009
830.000000 MHz	54.2052	20.9097
835.000000 MHz	54.1708	20.8862
840.000000 MHz	54.0899	20.9130
845.000000 MHz	54.1294	20.9061
850.000000 MHz	54.0926	20.9272
855.000000 MHz	54.0163	20.8978
860.000000 MHz	54.0064	20.8978
865.000000 MHz	53.9887	20.8470
870.000000 MHz	53.9333	20.8642
875.000000 MHz	53.8662	20.8753
880.000000 MHz	53.8077	20.8089
885.000000 MHz	53.7488	20.7803
890.000000 MHz	53.6533	20.7769
895.000000 MHz	53.5830	20.6330
900.000000 MHz	53.5302	20.6924

Dielectric Parameter (1900MHz Body)

Title : ES807
SubTitle : GSM1900 BODY
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Frequency	e'	e''
1.800000000 GHz	51.5179	13.8116
1.810000000 GHz	51.5202	13.8550
1.820000000 GHz	51.5049	13.9131
1.830000000 GHz	51.4647	13.9602
1.840000000 GHz	51.4444	13.9657
1.850000000 GHz	51.3640	13.9735
1.860000000 GHz	51.2960	14.0101
1.870000000 GHz	51.2216	14.0493
1.880000000 GHz	51.1399	14.1061
1.890000000 GHz	51.0557	14.1657
1.900000000 GHz	51.0163	14.2537
1.910000000 GHz	50.9736	14.3554
1.920000000 GHz	50.9488	14.4346
1.930000000 GHz	50.9564	14.4923
1.940000000 GHz	50.9409	14.5494
1.950000000 GHz	50.9695	14.5669
1.960000000 GHz	50.9101	14.5828
1.970000000 GHz	50.8820	14.5848
1.980000000 GHz	50.8089	14.5898
1.990000000 GHz	50.7230	14.6212
2.000000000 GHz	50.6182	14.6568