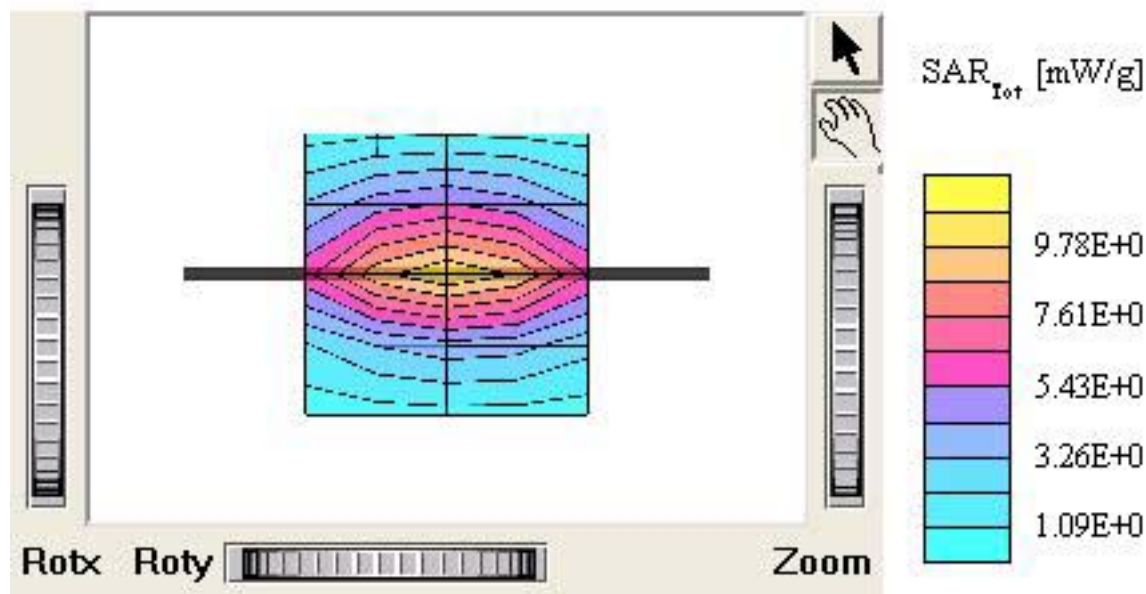


ATTACHMENT Q – DIPOLE VALIDATION

■ 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: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 42.0$ $\rho = 1.00 \text{ g/cm}^3$
Cubes (2): SAR (1g): $10.0 \text{ mW/g} \pm 0.01 \text{ dB}$, SAR (10g): $6.44 \text{ mW/g} \pm 0.01 \text{ dB}$
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.03 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 : 21.5°C
Date Tested : April 25, 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: $\sigma = 1.45$ mho/m $\epsilon_r = 38.5$ $\rho = 1.00$ g/cm³Cubes (2): SAR (1g): 41.3 mW/g ± 0.02 dB, SAR (10g): 20.6 mW/g ± 0.01 dB

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

Powerdrift: 0.07 dB

Comment :

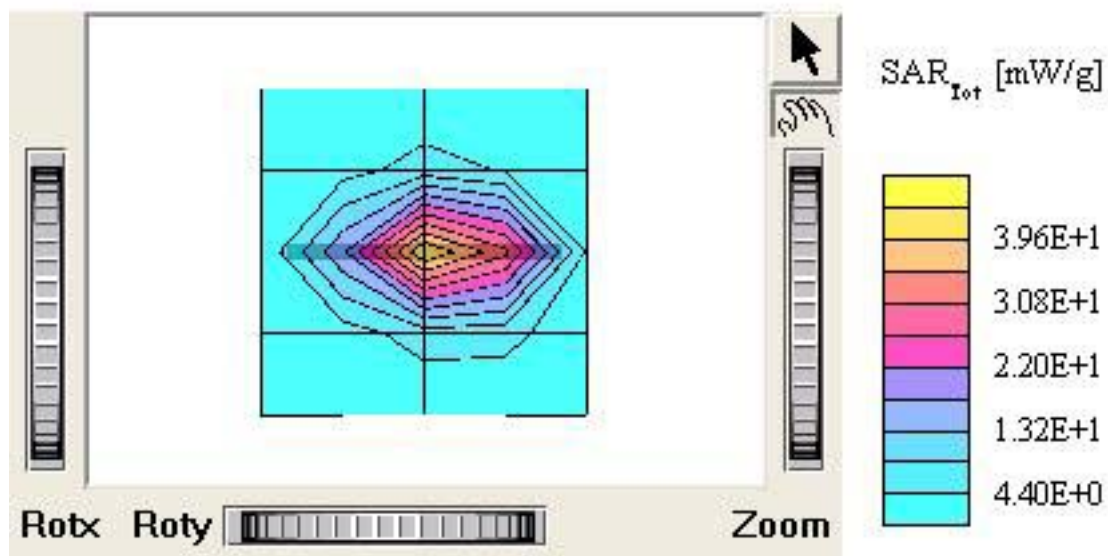
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : April 26, 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: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 42.0$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment :

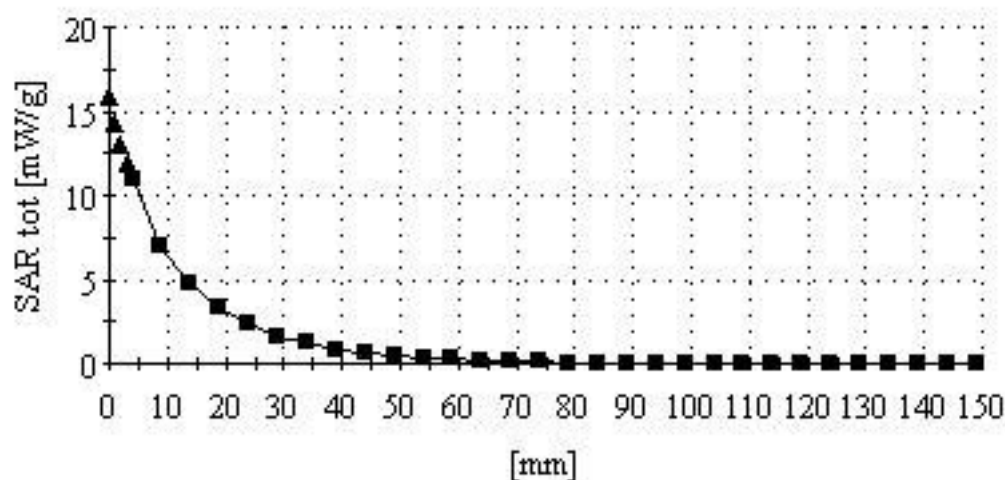
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : April 25, 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: $\sigma = 1.45 \text{ mho/m}$ $\epsilon_r = 38.5$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment :

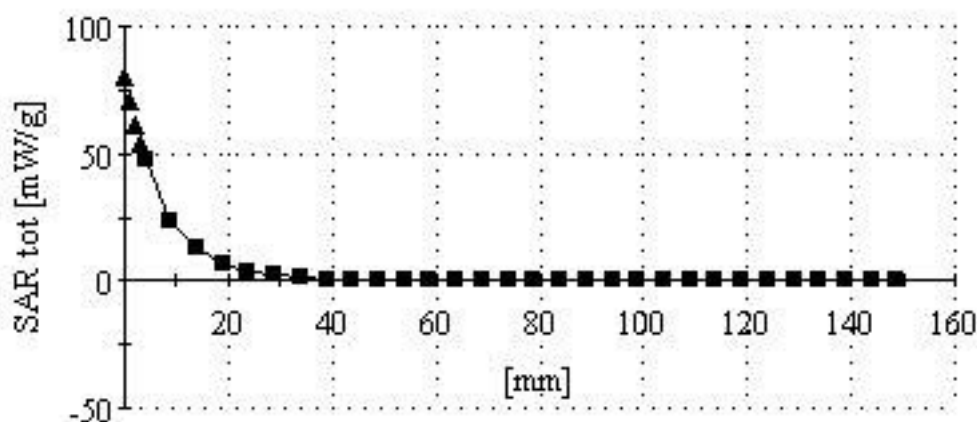
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : April 26, 2005



■ Dielectric Parameter (835MHz Head)

Title : TX-215**SubTitle : CDMA Head**

April 25, 2005 09:10 AM

Frequency	e'	e''
800.000000 MHz	42.6762	19.1201
805.000000 MHz	42.6162	19.1172
810.000000 MHz	42.4532	19.0892
815.000000 MHz	42.4256	19.0780
820.000000 MHz	42.2934	19.0909
825.000000 MHz	42.2270	19.0856
830.000000 MHz	42.1316	19.1047
835.000000 MHz	42.0134	19.0567
840.000000 MHz	41.9478	19.0784
845.000000 MHz	41.8255	19.0433
850.000000 MHz	41.7568	19.0455
855.000000 MHz	41.6838	19.0286
860.000000 MHz	41.6564	18.9885
865.000000 MHz	41.5867	19.0122
870.000000 MHz	41.5044	18.9887
875.000000 MHz	41.4047	18.9708
880.000000 MHz	41.3627	18.9566
885.000000 MHz	41.2702	18.9726
890.000000 MHz	41.2185	18.9367
895.000000 MHz	41.1599	18.9083
900.000000 MHz	41.1012	18.9101

■ Dielectric Parameter (1900MHz Head)

Title : TX-215**SubTitle : PCS Head**

April 26, 2005 10:28 AM

Frequency	e'	e''
1.800000000 GHz	38.8372	13.3294
1.810000000 GHz	38.7711	13.3810
1.820000000 GHz	38.7416	13.4560
1.830000000 GHz	38.7091	13.5686
1.840000000 GHz	38.7217	13.6686
1.850000000 GHz	38.7204	13.7526
1.860000000 GHz	38.6797	13.8184
1.870000000 GHz	38.6682	13.8513
1.880000000 GHz	38.6389	13.8148
1.890000000 GHz	38.5940	13.7470
1.900000000 GHz	38.5209	13.7237
1.910000000 GHz	38.4450	13.6705
1.920000000 GHz	38.3372	13.6732
1.930000000 GHz	38.2677	13.7024
1.940000000 GHz	38.2363	13.7809
1.950000000 GHz	38.2033	13.8546
1.960000000 GHz	38.1907	13.9764
1.970000000 GHz	38.1858	14.0667
1.980000000 GHz	38.1772	14.1214
1.990000000 GHz	38.1886	14.1195
2.000000000 GHz	38.1349	14.1277

■ Dielectric Parameter (835MHz Body)

Title : TX-215**SubTitle : CDMA Body**

April 25, 2005 01:46 PM

Frequency	e'	e''
800.000000 MHz	54.1359	21.5042
805.000000 MHz	54.0207	21.2918
810.000000 MHz	53.9266	21.4241
815.000000 MHz	53.8161	21.3143
820.000000 MHz	53.7281	21.2483
825.000000 MHz	53.7482	21.1554
830.000000 MHz	53.7874	21.1613
835.000000 MHz	53.7130	21.0206
840.000000 MHz	53.5791	21.0456
845.000000 MHz	53.5013	21.0396
850.000000 MHz	53.4163	21.0691
855.000000 MHz	53.3426	21.0079
860.000000 MHz	53.3611	20.9025
865.000000 MHz	53.3279	20.8598
870.000000 MHz	53.2380	20.8067
875.000000 MHz	53.0375	20.9503
880.000000 MHz	53.0031	20.9091
885.000000 MHz	52.8674	21.0017
890.000000 MHz	52.9800	20.7210
895.000000 MHz	52.9485	20.6695
900.000000 MHz	52.8884	20.6503

■ Dielectric Parameter (1900MHz Body)

Title : TX-215**SubTitle : PCS Body**

April 26, 2005 04:31 PM

Frequency	e'	e''
1.800000000 GHz	54.2843	13.6684
1.810000000 GHz	54.3052	13.7378
1.820000000 GHz	54.3430	13.7619
1.830000000 GHz	54.3498	13.8064
1.840000000 GHz	54.4052	13.8208
1.850000000 GHz	54.4364	13.8308
1.860000000 GHz	54.4547	13.8450
1.870000000 GHz	54.4505	13.9357
1.880000000 GHz	54.4598	14.0025
1.890000000 GHz	54.4853	14.0797
1.900000000 GHz	54.5345	14.1712
1.910000000 GHz	54.5677	14.2778
1.920000000 GHz	54.6173	14.3944
1.930000000 GHz	54.6427	14.4297
1.940000000 GHz	54.6390	14.4483
1.950000000 GHz	54.6118	14.4866
1.960000000 GHz	54.5690	14.4771
1.970000000 GHz	54.4769	14.4990
1.980000000 GHz	54.3695	14.5148
1.990000000 GHz	54.2452	14.5637
2.000000000 GHz	54.1560	14.6083