

ATTACHMENT Q – DIPOLE VALIDATION

Validation Data (835MHz Brain)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1607; ConvF(6.22,6.22,6.22); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.92 \text{ mho/m}$ $\epsilon_r = 40.4$ $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $10.1 \text{ mW/g} \pm 0.06 \text{ dB}$, SAR (10g): $6.46 \text{ mW/g} \pm 0.05 \text{ dB}$

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

Powerdrift: 0.03 dB

Comment:

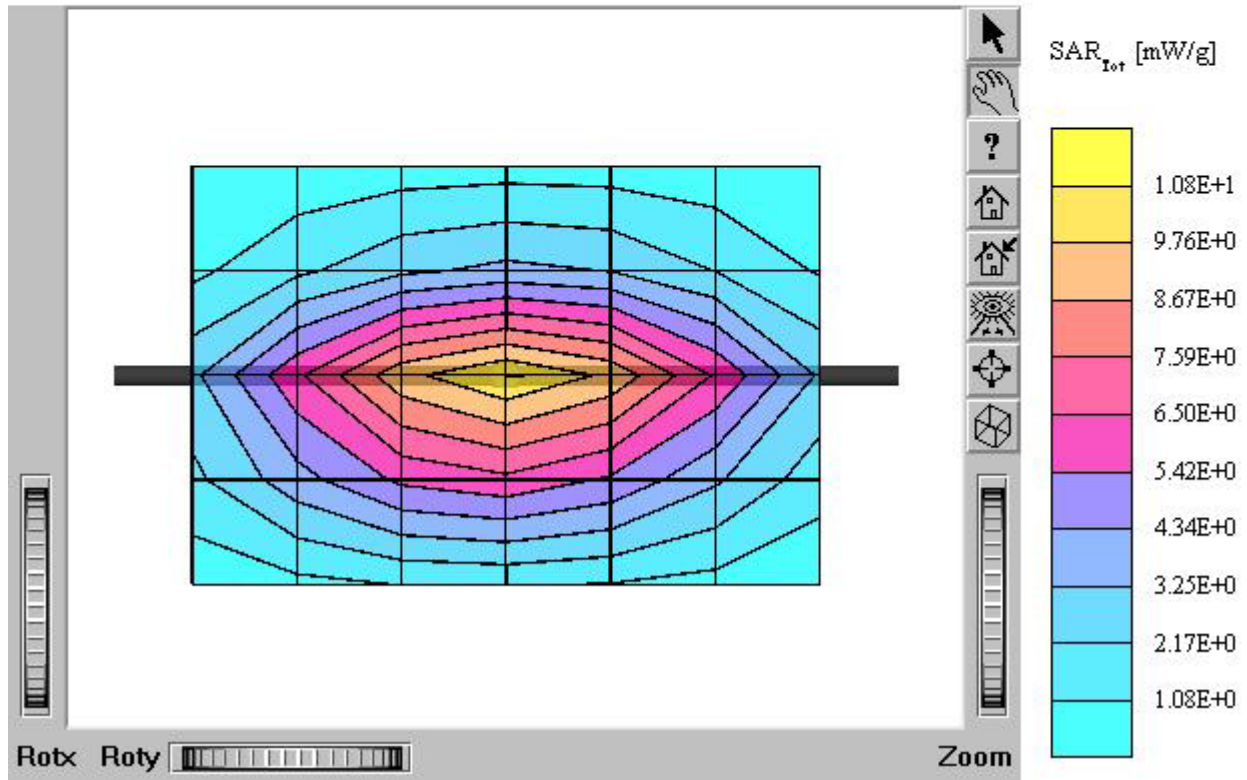
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.4°C

Date Tested : January 15, 2005



Validation Data (835MHz Brain)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1607; ConvF(6.22,6.22,6.22); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 40.9$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.83 mW/g ± 0.04 dB, SAR (10g): 6.26 mW/g ± 0.04 dB

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

Powerdrift: -0.01 dB

Comment:

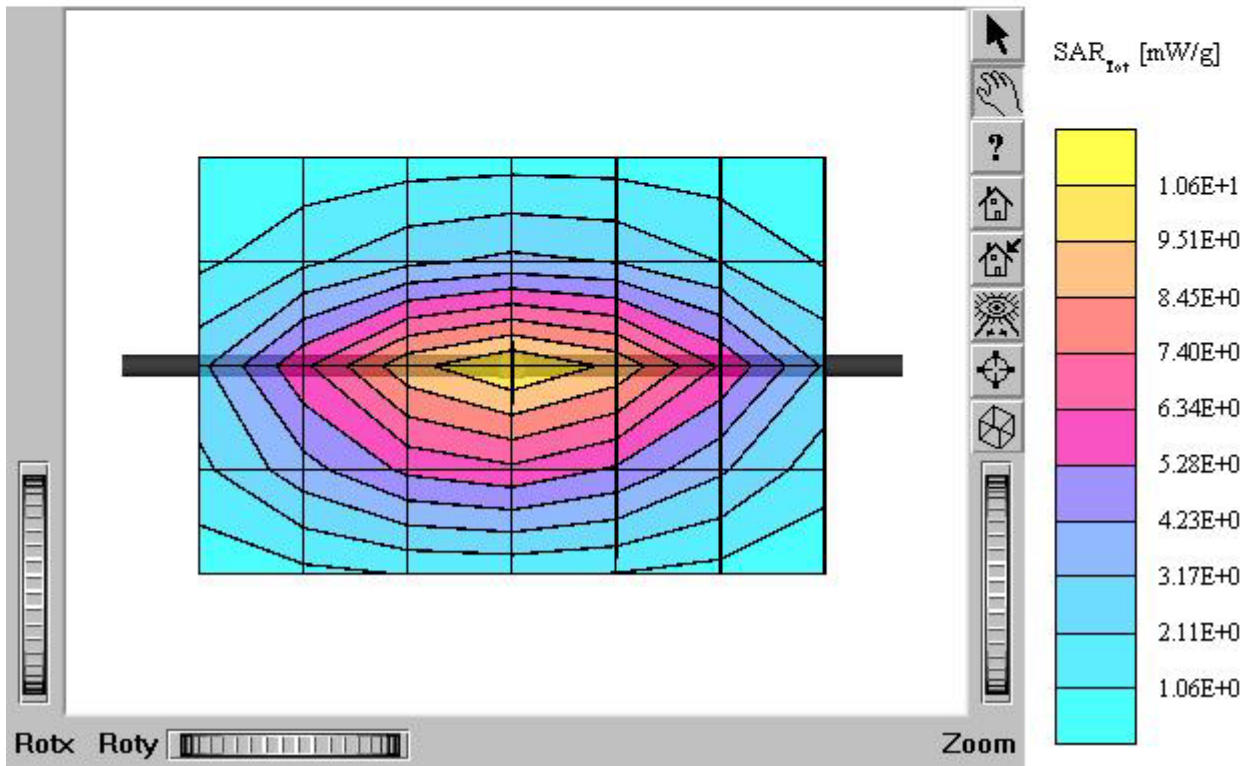
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 22.0°C

Date Tested : January 16, 2005



■ Validation Data (1900MHz Brain)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1607; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.41 \text{ mho/m}$ $\epsilon_r = 39.6$ $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR(1g): $41.8 \text{ mW/g} \pm 0.07 \text{ dB}$, SAR(10g): $20.9 \text{ mW/g} \pm 0.05 \text{ dB}$

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

Powerdrift: -0.09 dB

Comment:

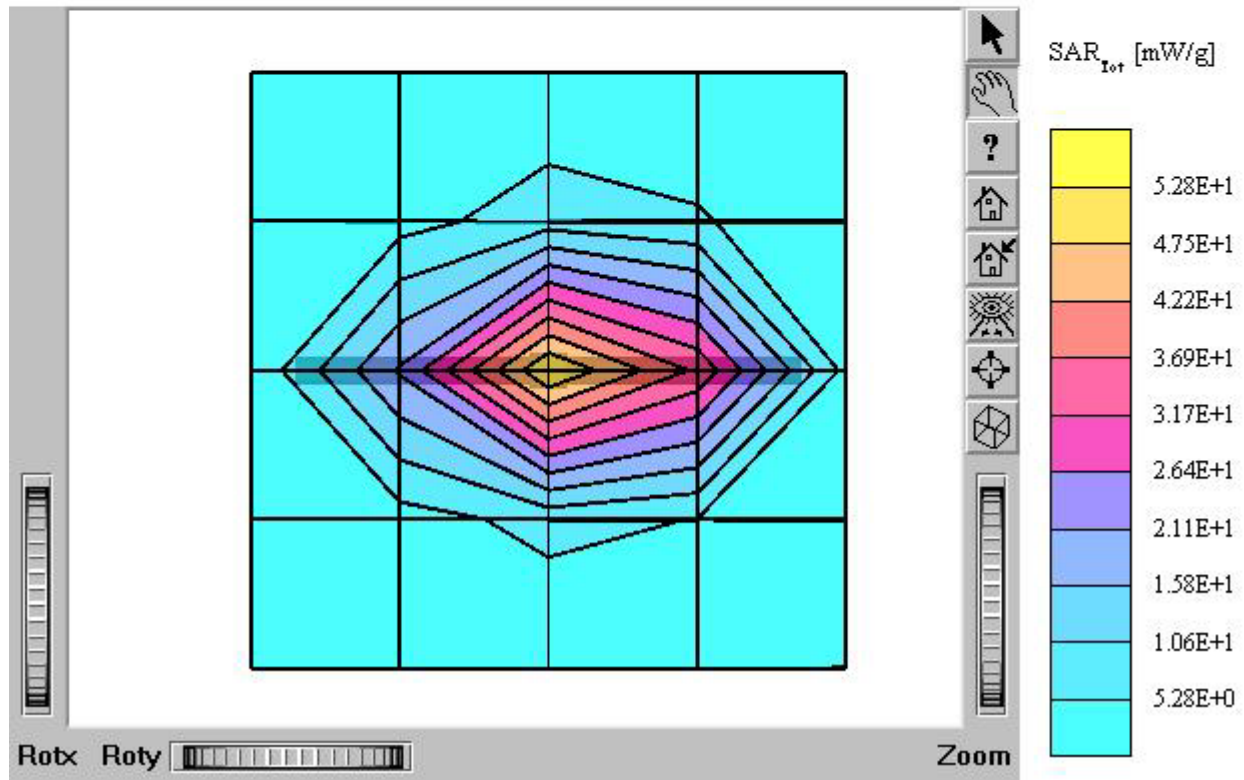
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.8°C

Date Tested : January 17, 2005



Dipole 835 MHz

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

Probe: ET3DV6 - SN1607; ConvF(6.22,6.22,6.22); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.92$ mho/m $\epsilon_r = 40.4$ $\rho = 1.00$ g/cm³

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

Comment:

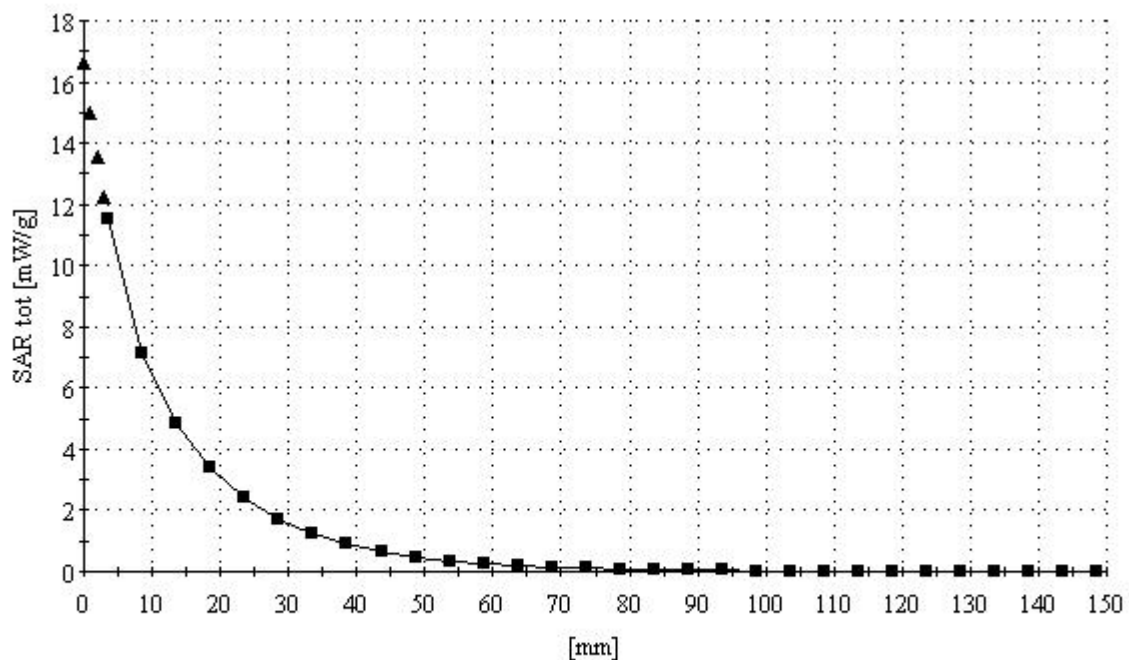
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.4°C

Date Tested : January 15, 2005



Dipole 835 MHz

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

Probe: ET3DV6 - SN1607; ConvF(6.22,6.22,6.22); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 40.9$ $\rho = 1.00$ g/cm³

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

Comment:

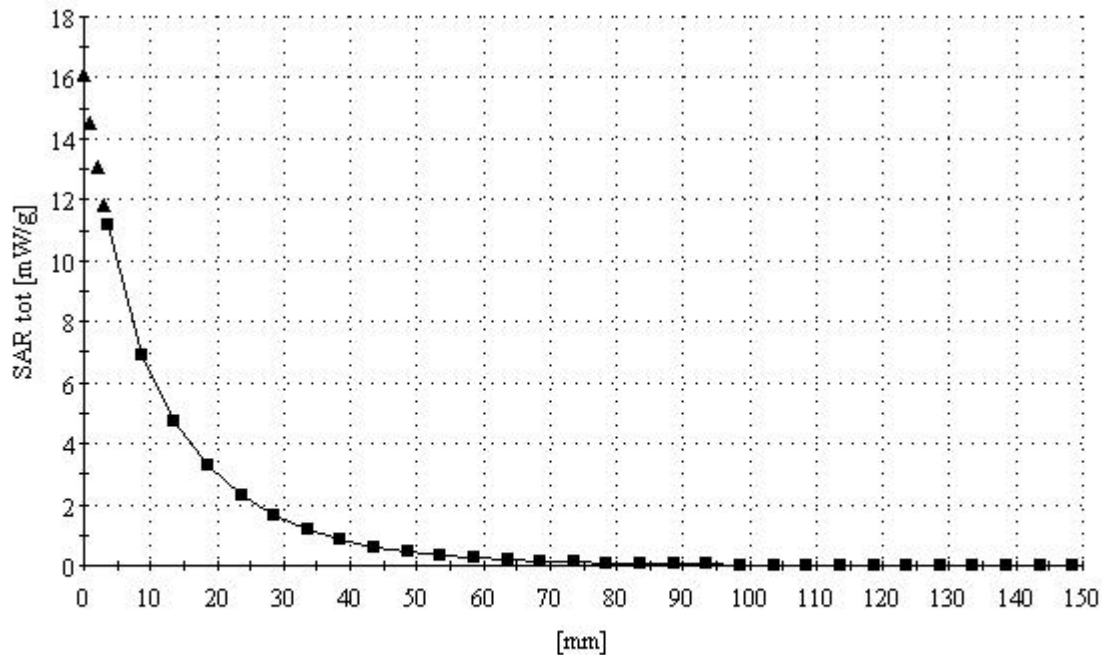
835MHz Brain Dipole Validation (D835W2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 22.0°C

Date Tested : January 16, 2005



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1607; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.41 \text{ mho/m}$ $\epsilon_r = 39.6$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment:

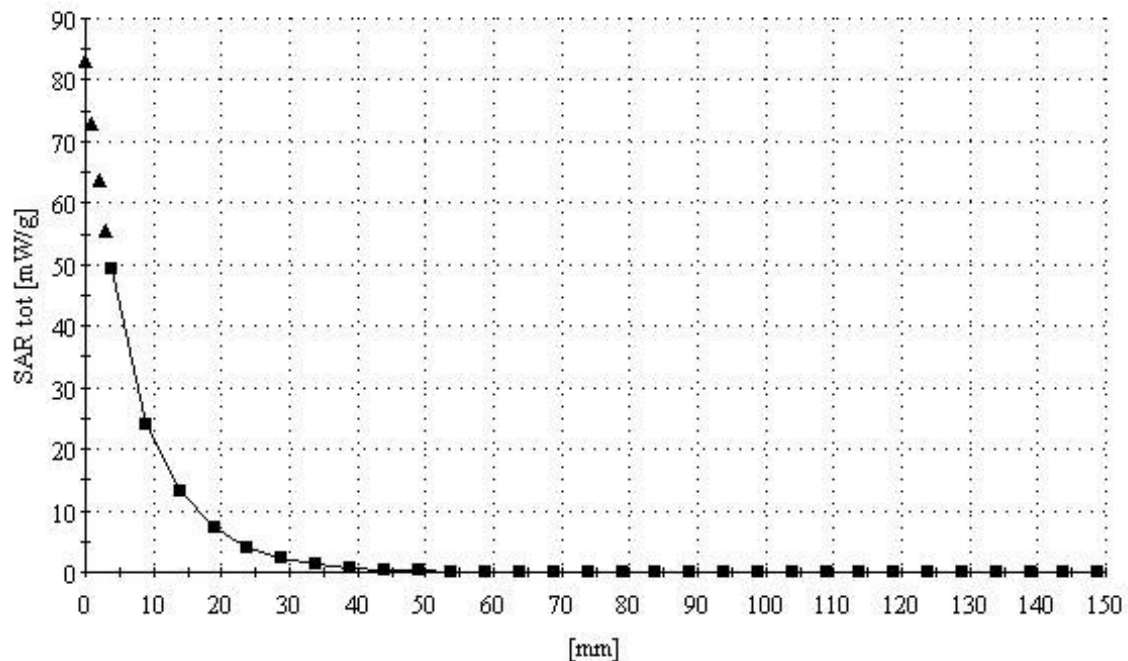
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.8°C

Date Tested : January 17, 2005



■ Dielectric Parameter (835MHz Brain)

Title : TX-110C
SubTitle : AMPS BRAIN
January 15, 2005 09:47 AM

Frequency	e'	e''
800.000000 MHz	40.2797	20.0984
805.000000 MHz	40.3492	19.9547
810.000000 MHz	40.4535	19.8242
815.000000 MHz	40.3200	19.8538
820.000000 MHz	40.4684	19.7925
825.000000 MHz	40.5169	19.7205
830.000000 MHz	40.4287	19.8283
835.000000 MHz	40.3523	19.8954
840.000000 MHz	40.2798	20.0868
845.000000 MHz	40.0426	20.1651
850.000000 MHz	40.0736	20.0352
855.000000 MHz	39.9941	19.8439
860.000000 MHz	39.5158	20.0312
865.000000 MHz	39.3874	20.1327
870.000000 MHz	39.4111	20.0392
875.000000 MHz	39.3860	19.9902
880.000000 MHz	39.4679	19.7809
885.000000 MHz	39.4012	19.6197
890.000000 MHz	39.1124	19.7320
895.000000 MHz	39.2384	19.6830
900.000000 MHz	39.2263	19.6036

■ Dielectric Parameter (835MHz Brain)

Title : TX-110C
SubTitle : CDMA BRAIN
January 16, 2005 09:52 AM

Frequency	e'	e''
800.000000 MHz	41.3977	19.4234
805.000000 MHz	41.4168	19.3254
810.000000 MHz	41.4320	19.2937
815.000000 MHz	41.2459	19.3489
820.000000 MHz	41.2865	19.1507
825.000000 MHz	41.0695	19.1572
830.000000 MHz	40.9767	19.0882
835.000000 MHz	40.8554	19.1592
840.000000 MHz	40.9266	18.8638
845.000000 MHz	40.8310	18.7211
850.000000 MHz	40.7554	19.0906
855.000000 MHz	40.6979	18.8557
860.000000 MHz	40.5112	18.9971
865.000000 MHz	40.3186	19.1090
870.000000 MHz	40.3598	18.9619
875.000000 MHz	40.2898	18.9585
880.000000 MHz	40.2924	18.8543
885.000000 MHz	40.2035	18.8671
890.000000 MHz	40.1250	18.8770
895.000000 MHz	39.7938	19.1581
900.000000 MHz	39.8118	19.0609

■ Dielectric Parameter (1900MHz Brain)

Title : TX-110C

SubTitle : PCS BRAIN

January 17, 2005 09:10 AM

Frequency	e'	e''
1.800000000 GHz	39.7995	12.9283
1.806666667 GHz	39.7645	12.9706
1.813333333 GHz	39.7021	12.9964
1.820000000 GHz	39.6619	13.0720
1.826666667 GHz	39.7152	13.1414
1.833333333 GHz	39.7462	13.2029
1.840000000 GHz	39.8210	13.2850
1.846666667 GHz	39.8216	13.3435
1.853333333 GHz	39.8354	13.3453
1.860000000 GHz	39.8341	13.3987
1.866666667 GHz	39.8107	13.4447
1.873333333 GHz	39.7970	13.4245
1.880000000 GHz	39.7864	13.4414
1.886666667 GHz	39.7292	13.4222
1.893333333 GHz	39.6525	13.3949
1.900000000 GHz	39.5745	13.3928
1.906666667 GHz	39.5171	13.3570
1.913333333 GHz	39.4129	13.3815
1.920000000 GHz	39.3440	13.3953
1.926666667 GHz	39.2834	13.4071
1.933333333 GHz	39.2242	13.4477
1.940000000 GHz	39.1773	13.4923
1.946666667 GHz	39.1306	13.5544
1.953333333 GHz	39.1092	13.6090
1.960000000 GHz	39.1074	13.6566
1.966666667 GHz	39.1141	13.7161
1.973333333 GHz	39.0979	13.8022
1.980000000 GHz	39.0967	13.8168
1.986666667 GHz	39.1013	13.8480
1.993333333 GHz	39.0934	13.8728
2.000000000 GHz	39.0575	13.8635

■ Dielectric Parameter (835MHz Muscle)

Title : TX-110C**SubTitle : AMPS BODY**

January 18, 2005 04:44 PM

Frequency	e'	e''
800.000000 MHz	54.3425	21.0557
805.000000 MHz	54.1961	21.0825
810.000000 MHz	54.1582	21.0598
815.000000 MHz	54.0986	21.0676
820.000000 MHz	54.0466	21.0615
825.000000 MHz	53.9510	21.0546
830.000000 MHz	53.8746	21.0965
835.000000 MHz	53.8236	21.1125
840.000000 MHz	53.7209	21.1035
845.000000 MHz	53.6774	21.0732
850.000000 MHz	53.6048	21.1084
855.000000 MHz	53.5693	21.0646
860.000000 MHz	53.5642	21.0423
865.000000 MHz	53.5291	21.0527
870.000000 MHz	53.5087	21.0146
875.000000 MHz	53.4733	20.9771
880.000000 MHz	53.4180	20.9688
885.000000 MHz	53.4008	20.9195
890.000000 MHz	53.3836	20.9232
895.000000 MHz	53.3525	20.8483
900.000000 MHz	53.2888	20.8493

■ Dielectric Parameter (835MHz Muscle)

Title : TX-110C
SubTitle : CDMA BODY
January 16, 2005 04:09 PM

Frequency	e'	e''
800.000000 MHz	54.4588	20.5486
805.000000 MHz	54.4144	20.5187
810.000000 MHz	54.3261	20.5834
815.000000 MHz	54.2181	20.5877
820.000000 MHz	54.1842	20.6381
825.000000 MHz	54.0904	20.6265
830.000000 MHz	53.9654	20.6764
835.000000 MHz	53.8771	20.6856
840.000000 MHz	53.7822	20.6426
845.000000 MHz	53.7558	20.5751
850.000000 MHz	53.6714	20.5839
855.000000 MHz	53.6359	20.5747
860.000000 MHz	53.5953	20.4921
865.000000 MHz	53.5791	20.5296
870.000000 MHz	53.5109	20.5117
875.000000 MHz	53.4733	20.4453
880.000000 MHz	53.4469	20.4757
885.000000 MHz	53.4117	20.4670
890.000000 MHz	53.4218	20.4776
895.000000 MHz	53.4345	20.4396
900.000000 MHz	53.3773	20.4082

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-110C

SubTitle : PCS BODY

January 17, 2005 05:51 PM

Frequency	e'	e''
1.800000000 GHz	51.3570	14.6423
1.810000000 GHz	51.3304	14.6711
1.820000000 GHz	51.3019	14.7123
1.830000000 GHz	51.2687	14.7753
1.840000000 GHz	51.2638	14.7933
1.850000000 GHz	51.2105	14.8275
1.860000000 GHz	51.1732	14.8449
1.870000000 GHz	51.1309	14.8917
1.880000000 GHz	51.0812	14.9276
1.890000000 GHz	50.9942	14.9181
1.900000000 GHz	50.9040	14.9193
1.910000000 GHz	50.8691	14.9051
1.920000000 GHz	50.8110	14.9434
1.930000000 GHz	50.7748	14.9524
1.940000000 GHz	50.7569	15.0161
1.950000000 GHz	50.6975	15.0428
1.960000000 GHz	50.6575	15.1127
1.970000000 GHz	50.6620	15.1358
1.980000000 GHz	50.6357	15.1657
1.990000000 GHz	50.6194	15.2009
2.000000000 GHz	50.5702	15.2136