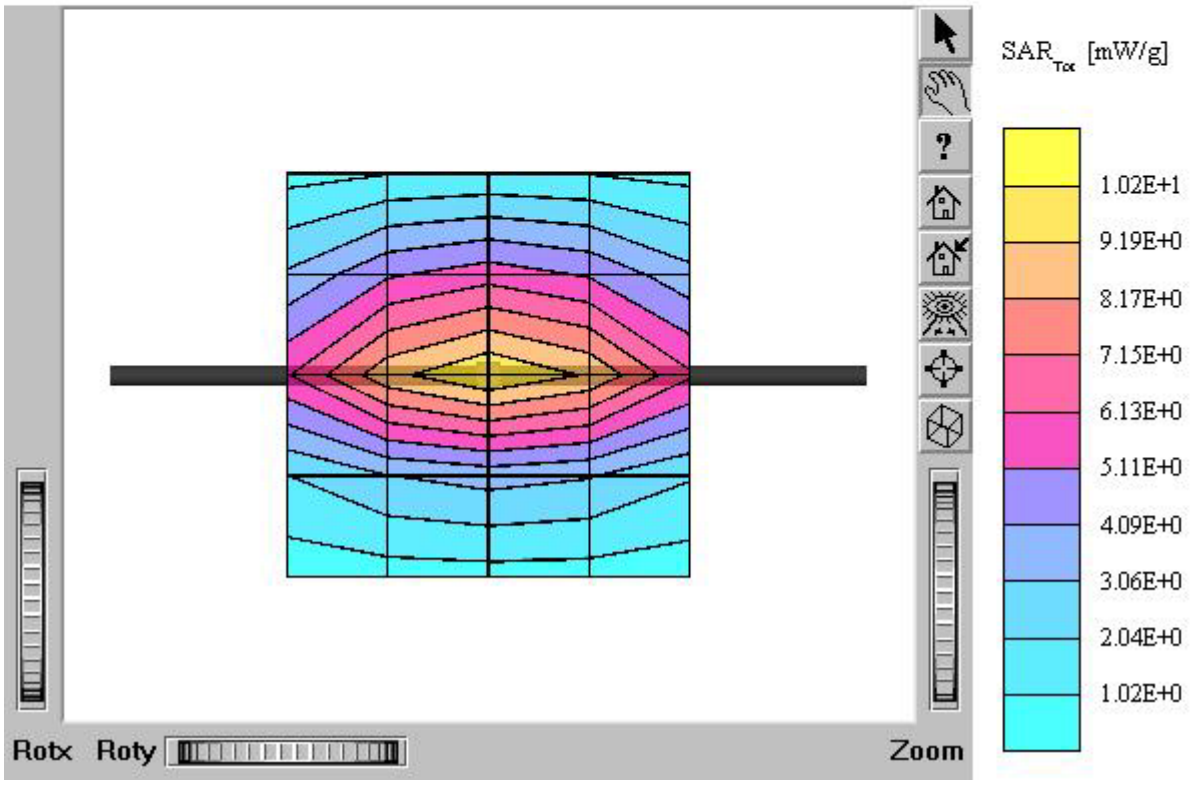
ATTACHMENT Q – DIPOLE VALIDATION

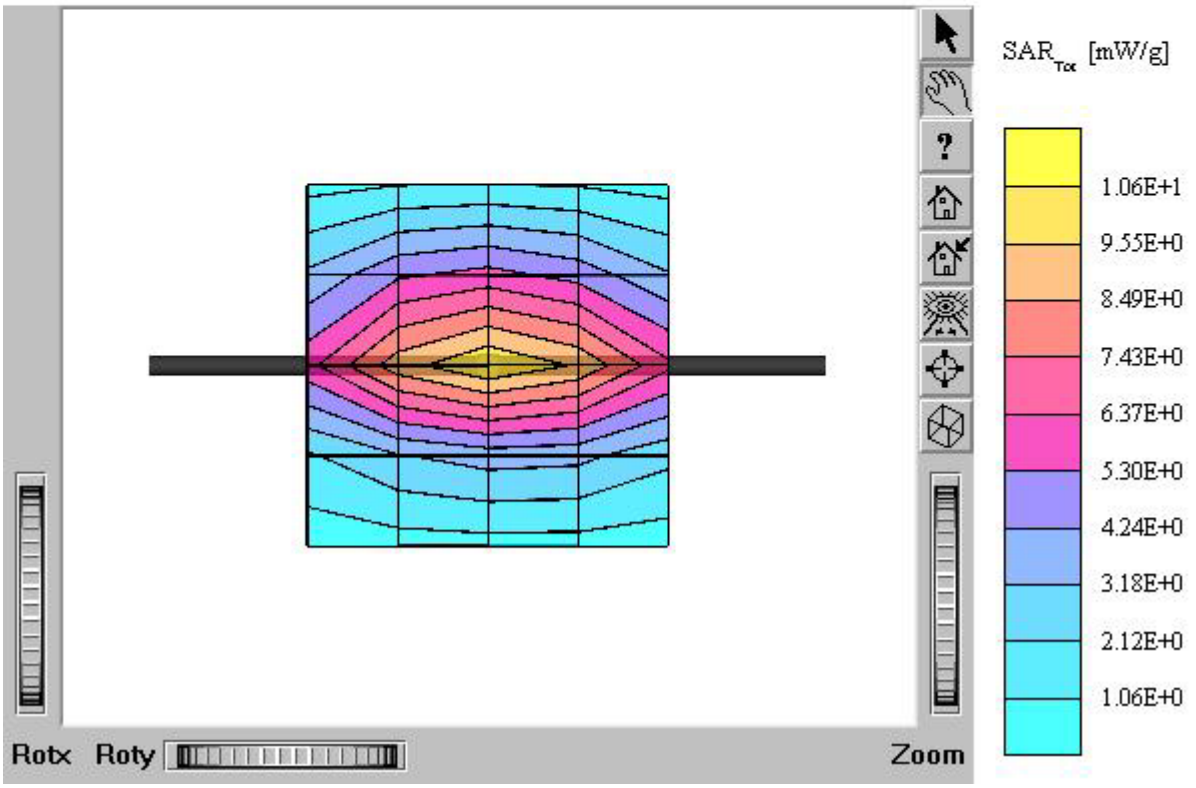
■ Validation Data (835MHz Brain)

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: s = 0.88 mho/m e_r = 42.0 r = 1.00 g/cm³
Cubes (2): SAR (1g): 10.0 mW/g ± 0.02 dB, SAR (10g): 6.40 mW/g ± 0.01 dB
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.02 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: 21.2℃
Date Tested : November 17, 2004



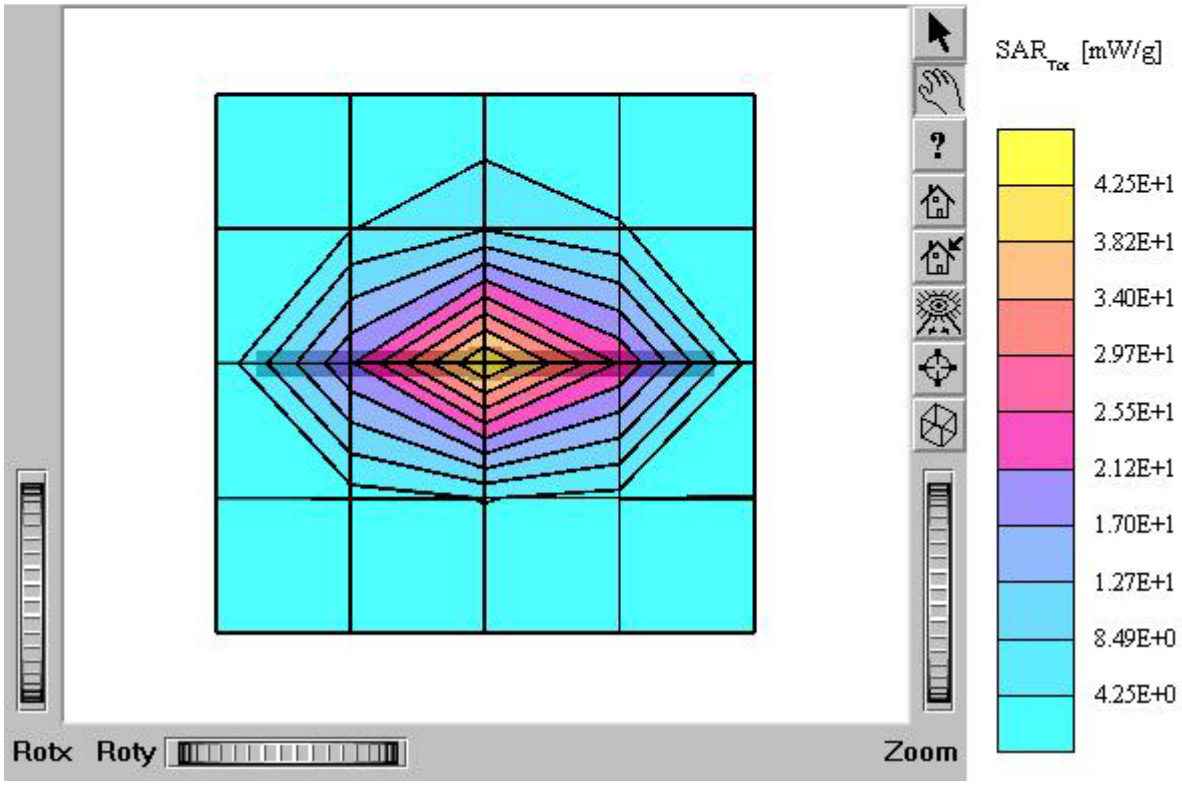
■ Validation Data (835MHz Brain)

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: s = 0.88 mho/m e_r = 42.3 r = 1.00 g/cm³
Cubes (2): SAR (1g): 9.72 mW/g ± 0.04 dB, SAR (10g): 6.23 mW/g ± 0.03 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 : 21.4℃
Date Tested : November 18, 2004



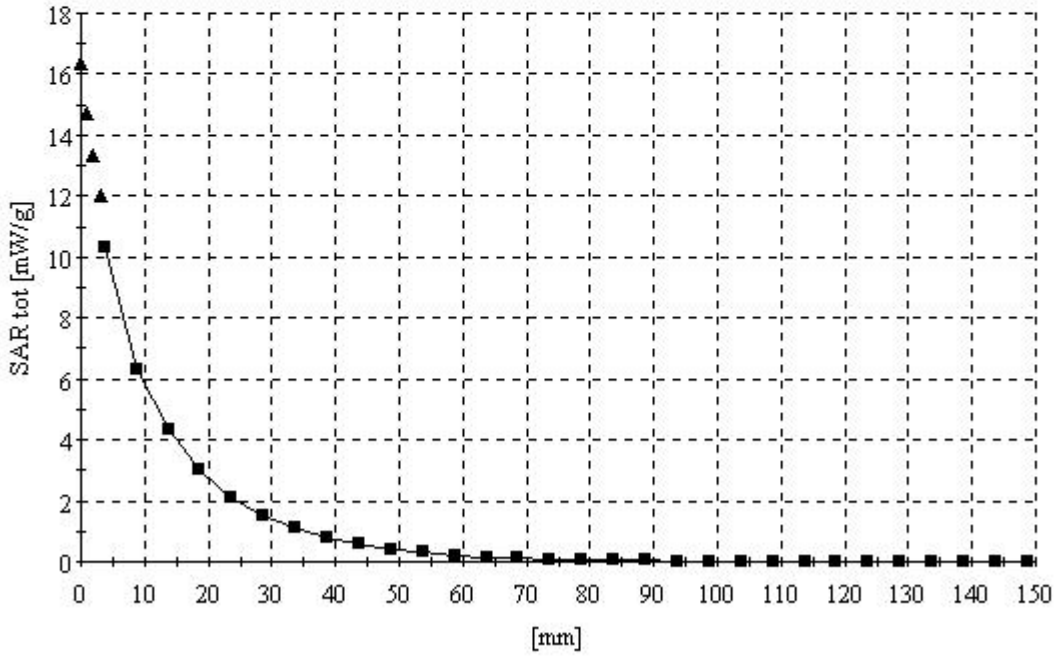
■ Validation Data (1900MHz Brain)

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: s = 1.39 mho/m e_r = 40.4 r = 1.00 g/cm³
Cubes (2): SAR (1g): 42.0 mW/g ± 0.09 dB, SAR (10g): 21.4 mW/g ± 0.10 dB
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.00 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℃
Date Tested : November 19, 2004



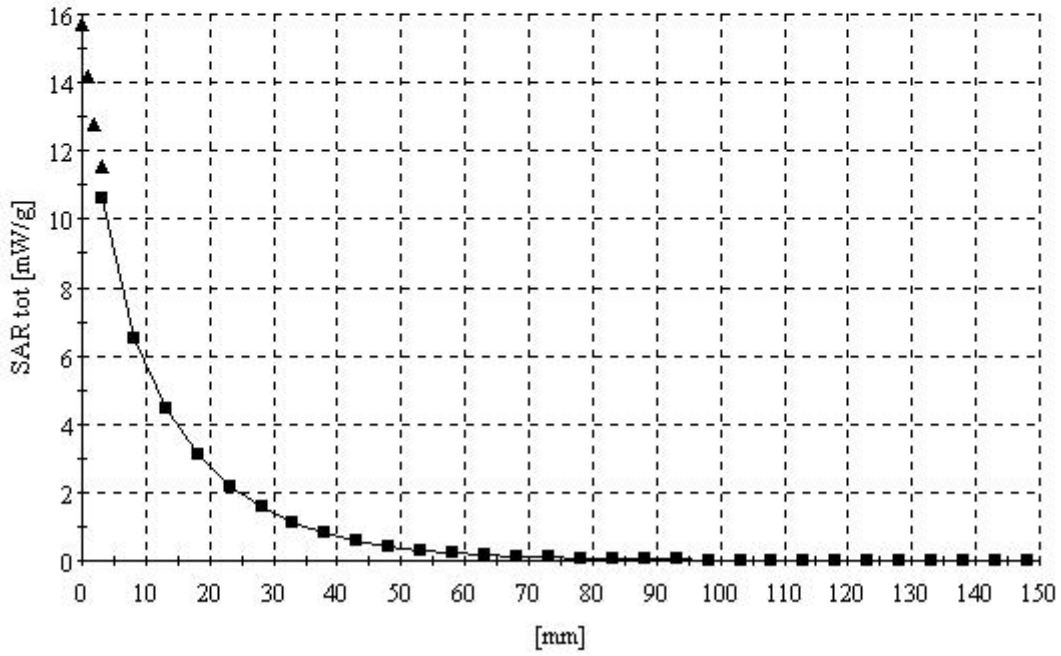
Dipole 835 MHz
SAM I Phantom; Section; Position: ; Frequency: 835 MHz
Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: s = 0.88 mho/m e, = 42.0 r = 1.00 g/cm³
:
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

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: 21.2℃
Date Tested : November 17, 2004



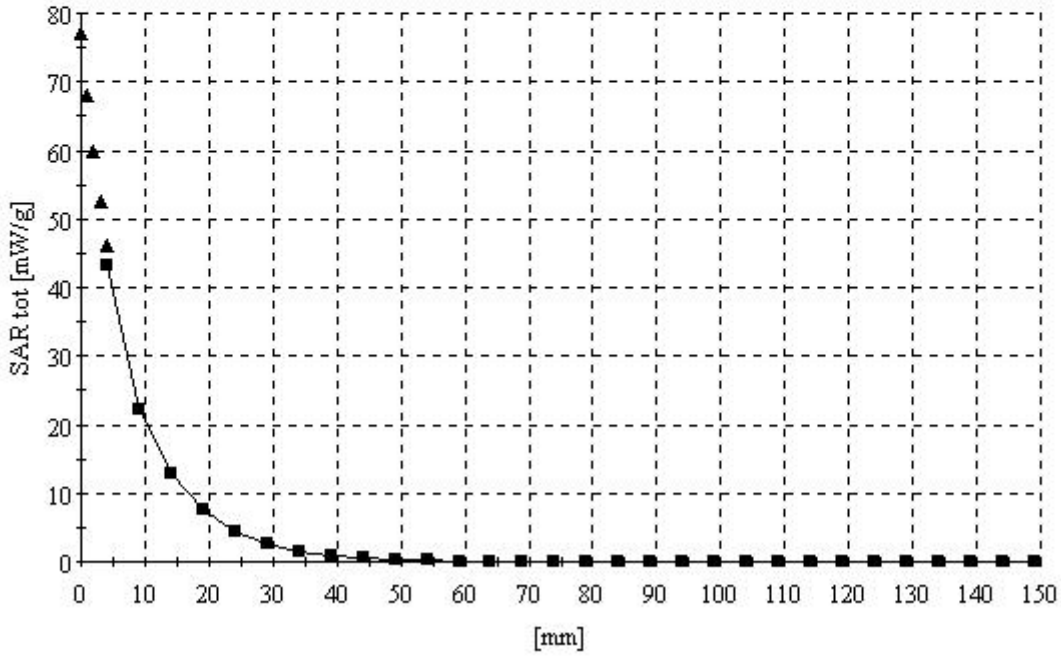
Dipole 835 MHz
SAM I Phantom; Section; Position: ; Frequency: 835 MHz
Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: s = 0.88 mho/m e, = 42.3 r = 1.00 g/cm³
:
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

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℃
Date Tested : November 18, 2004



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: s = 1.39 mho/m e, = 40.4 r = 1.00 g/cm³
:
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 (1 W)
HCT Co., Ltd. Brain Tissue Simulating Liquid
Liquid Temperature : 21.7℃
Date Tested : November 19, 2004



■ Dielectric Parameter (835MHz Brain)

Title : TX-110C
SubTitle : AMPS BRAIN
November 17, 2004 09:11 AM

Frequency	e'	e''
800.000000 MHz	42.5284	18.8996
805.000000 MHz	42.4415	18.9164
810.000000 MHz	42.3677	18.8975
815.000000 MHz	42.3050	18.8759
820.000000 MHz	42.1940	18.9640
825.000000 MHz	42.0990	18.8563
830.000000 MHz	42.0471	18.9173
835.000000 MHz	41.9831	18.9497
840.000000 MHz	41.8817	18.9194
845.000000 MHz	41.8682	18.9375
850.000000 MHz	41.7910	18.9839
855.000000 MHz	41.7435	18.9495
860.000000 MHz	41.6753	18.9831
865.000000 MHz	41.6578	18.9405
870.000000 MHz	41.6384	18.9598
875.000000 MHz	41.5714	18.9524
880.000000 MHz	41.5443	18.9233
885.000000 MHz	41.4552	18.9029
890.000000 MHz	41.3589	18.9051
895.000000 MHz	41.3634	18.8576
900.000000 MHz	41.2747	18.8285

■ Dielectric Parameter (835MHz Brain)

Title : TX-110C
SubTitle : CDMA BRAIN
November 18, 2004 09:06 AM

Frequency	e'	e''
800.000000 MHz	43.0791	18.8451
805.000000 MHz	42.9178	18.8384
810.000000 MHz	42.7985	18.8205
815.000000 MHz	42.7035	18.8072
820.000000 MHz	42.5864	18.8805
825.000000 MHz	42.5203	18.9020
830.000000 MHz	42.3945	18.9880
835.000000 MHz	42.3164	19.0127
840.000000 MHz	42.2423	19.0467
845.000000 MHz	42.2700	19.1035
850.000000 MHz	42.1663	19.1351
855.000000 MHz	42.1487	19.1729
860.000000 MHz	42.1279	19.2318
865.000000 MHz	42.1261	19.2128
870.000000 MHz	42.1097	19.1777
875.000000 MHz	42.1236	19.1745
880.000000 MHz	42.0102	19.1333
885.000000 MHz	42.0191	19.1267
890.000000 MHz	42.0248	19.0257
895.000000 MHz	41.9850	18.9393
900.000000 MHz	41.9059	18.8856

■ Dielectric Parameter (1900MHz Brain)

Title : TX-110C
SubTitle : PCS BRAIN
November 19, 2004 09:45 AM

Frequency	e'	e''
1.800000000 GHz	40.8431	12.9300
1.810000000 GHz	40.7679	12.9532
1.820000000 GHz	40.7735	13.0292
1.830000000 GHz	40.6965	13.0690
1.840000000 GHz	40.6812	13.1122
1.850000000 GHz	40.6327	13.1584
1.860000000 GHz	40.6195	13.1818
1.870000000 GHz	40.5766	13.2184
1.880000000 GHz	40.5122	13.2058
1.890000000 GHz	40.4493	13.2077
1.900000000 GHz	40.3638	13.2009
1.910000000 GHz	40.2752	13.2237
1.920000000 GHz	40.1981	13.2663
1.930000000 GHz	40.0988	13.3002
1.940000000 GHz	40.0379	13.3269
1.950000000 GHz	40.0034	13.3867
1.960000000 GHz	39.9856	13.4737
1.970000000 GHz	39.9814	13.4952
1.980000000 GHz	39.9484	13.5509
1.990000000 GHz	39.9610	13.5548
2.000000000 GHz	39.9254	13.5858

■ Dielectric Parameter (835MHz Muscle)

Frequency	e'	e''
800.000000 MHz	56.2674	20.8885
805.000000 MHz	56.2766	20.8077
810.000000 MHz	56.2211	20.7965
815.000000 MHz	56.2310	20.8061
820.000000 MHz	56.0926	20.7924
825.000000 MHz	56.0523	20.7815
830.000000 MHz	55.9118	20.7531
835.000000 MHz	55.7822	20.7047
840.000000 MHz	55.7268	20.6732
845.000000 MHz	55.5762	20.5908
850.000000 MHz	55.5672	20.5318
855.000000 MHz	55.5086	20.5684
860.000000 MHz	55.4298	20.4936
865.000000 MHz	55.4448	20.4908
870.000000 MHz	55.3785	20.4982
875.000000 MHz	55.3003	20.5264
880.000000 MHz	55.2079	20.5549
885.000000 MHz	55.0790	20.4073
890.000000 MHz	55.0705	20.4403
895.000000 MHz	55.0321	20.5534
900.000000 MHz	54.9441	20.5912

■ Dielectric Parameter (835MHz Muscle)

Title : TX-110C
SubTitle : CDMA BODY
November 18, 2004 05:13 PM

Frequency	e'	e''
800.000000 MHz	53.6953	20.3751
805.000000 MHz	53.6111	20.3515
810.000000 MHz	53.5340	20.2809
815.000000 MHz	53.4722	20.2505
820.000000 MHz	53.3982	20.2137
825.000000 MHz	53.3355	20.1899
830.000000 MHz	53.3304	20.2008
835.000000 MHz	53.1736	20.1076
840.000000 MHz	53.1087	20.1132
845.000000 MHz	53.0718	20.0437
850.000000 MHz	52.9926	20.0335
855.000000 MHz	52.9420	19.9808
860.000000 MHz	52.8957	19.9378
865.000000 MHz	52.8736	19.9288
870.000000 MHz	52.7662	19.8881
875.000000 MHz	52.7655	19.9030
880.000000 MHz	52.6559	19.8641
885.000000 MHz	52.6302	19.8361
890.000000 MHz	52.5846	19.7949
895.000000 MHz	52.5401	19.7952
900.000000 MHz	52.5027	19.7309

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-110C
SubTitle : PCS BODY
November 19, 2004 04:35 PM

Frequency	e'	e''
1.800000000 GHz	51.5955	13.0388
1.806666667 GHz	51.5234	13.0567
1.813333333 GHz	51.5090	13.1002
1.820000000 GHz	51.4888	13.1523
1.826666667 GHz	51.4991	13.2347
1.833333333 GHz	51.4685	13.2639
1.840000000 GHz	51.3980	13.3274
1.846666667 GHz	51.3280	13.3696
1.853333333 GHz	51.3545	13.4451
1.860000000 GHz	51.3014	13.5331
1.866666667 GHz	51.2492	13.5394
1.873333333 GHz	51.2895	13.6591
1.880000000 GHz	51.2058	13.7320
1.886666667 GHz	51.2166	13.8069
1.893333333 GHz	51.1926	13.8491
1.900000000 GHz	51.2104	13.9812
1.906666667 GHz	51.1628	14.0619
1.913333333 GHz	51.1605	14.0849
1.920000000 GHz	51.0758	14.1252
1.926666667 GHz	51.0705	14.1547
1.933333333 GHz	51.0904	14.2780
1.940000000 GHz	51.1367	14.3314
1.946666667 GHz	51.0774	14.3604
1.953333333 GHz	51.0585	14.3706
1.960000000 GHz	50.9104	14.4315