

ATTACHMENT Q – DIPOLE VALIDATION

Validation Data (835MHz Brain)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89 \text{ mho/m}$ $\epsilon_r = 42.0$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 9.63 mW/g, SAR (10g): 5.99 mW/g

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

Powerdrift: -0.01 dB

Comment :

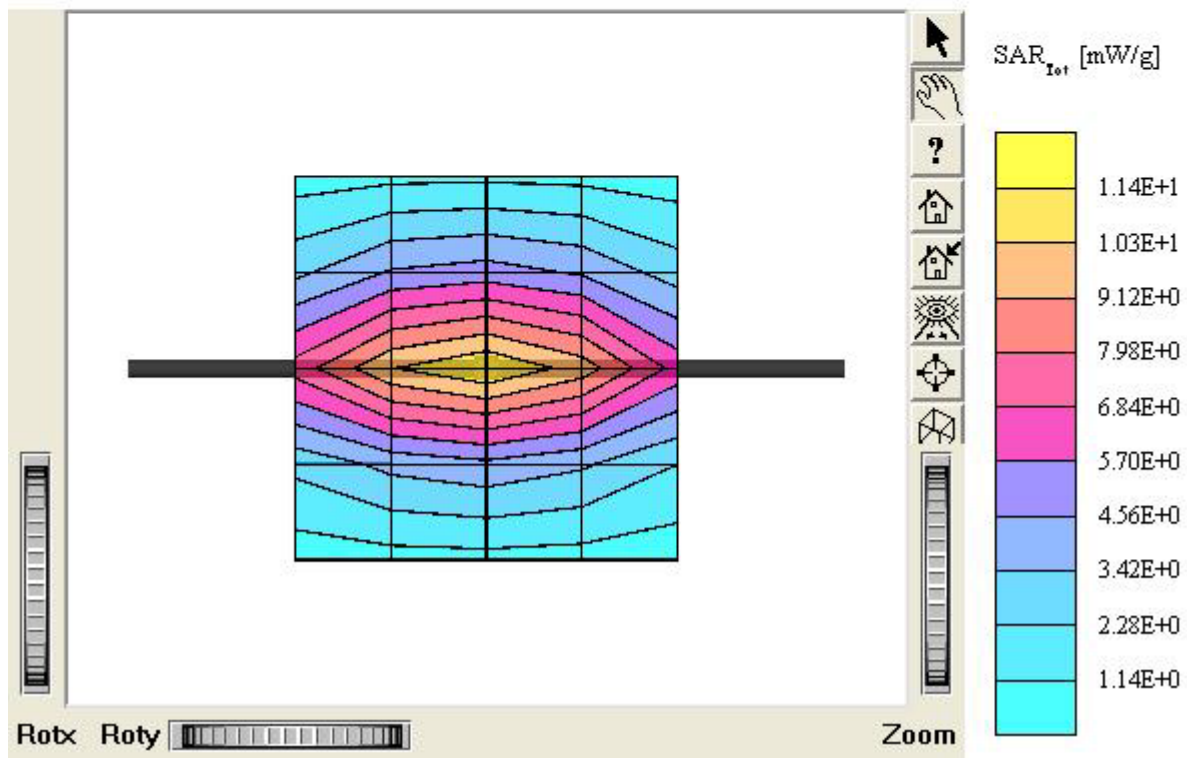
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : January 03, 2006



Validation Data (835MHz Brain)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 41.9$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 9.97 mW/g, SAR (10g): 6.19 mW/g

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

Powerdrift: 0.01 dB

Comment :

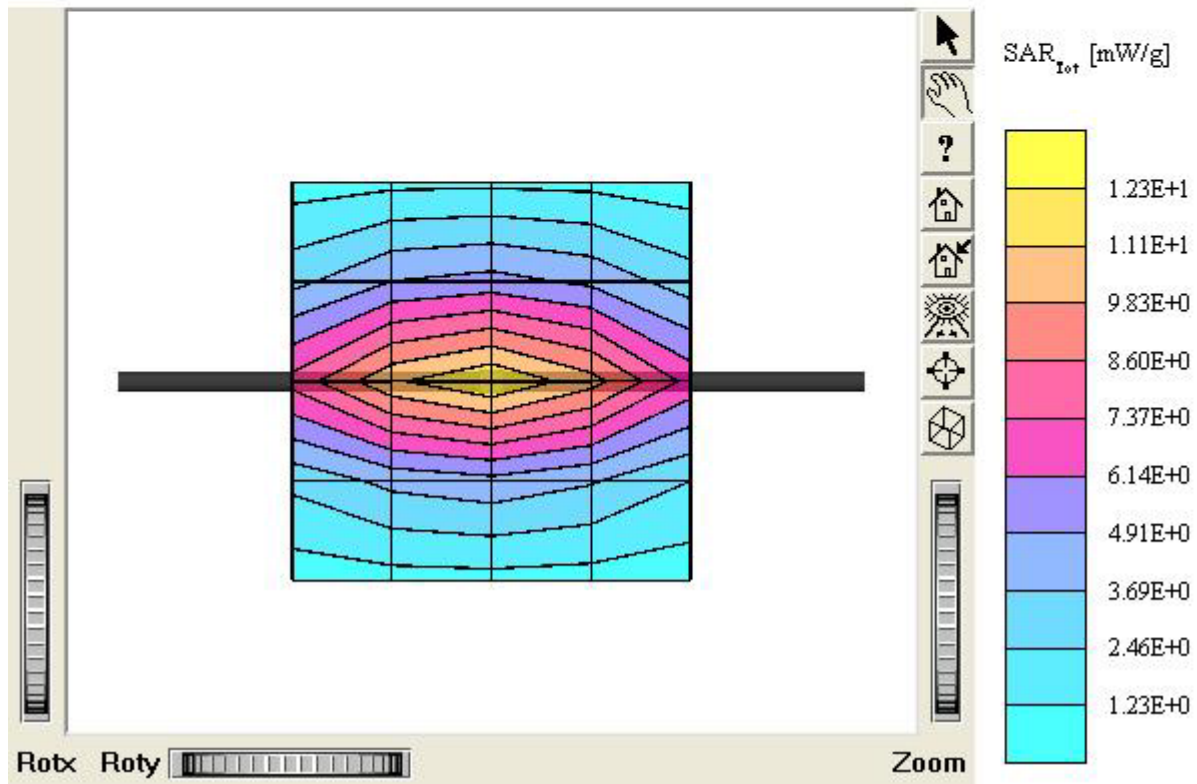
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6°C

Date Tested : January 04, 2006



Validation Data (1900MHz Brain)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1798; ConvF(5.27,5.27,5.27); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 38.6 \rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 41.4 mW/g, SAR (10g): 20.8 mW/g

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

Powerdrift: 0.02 dB

Comment :

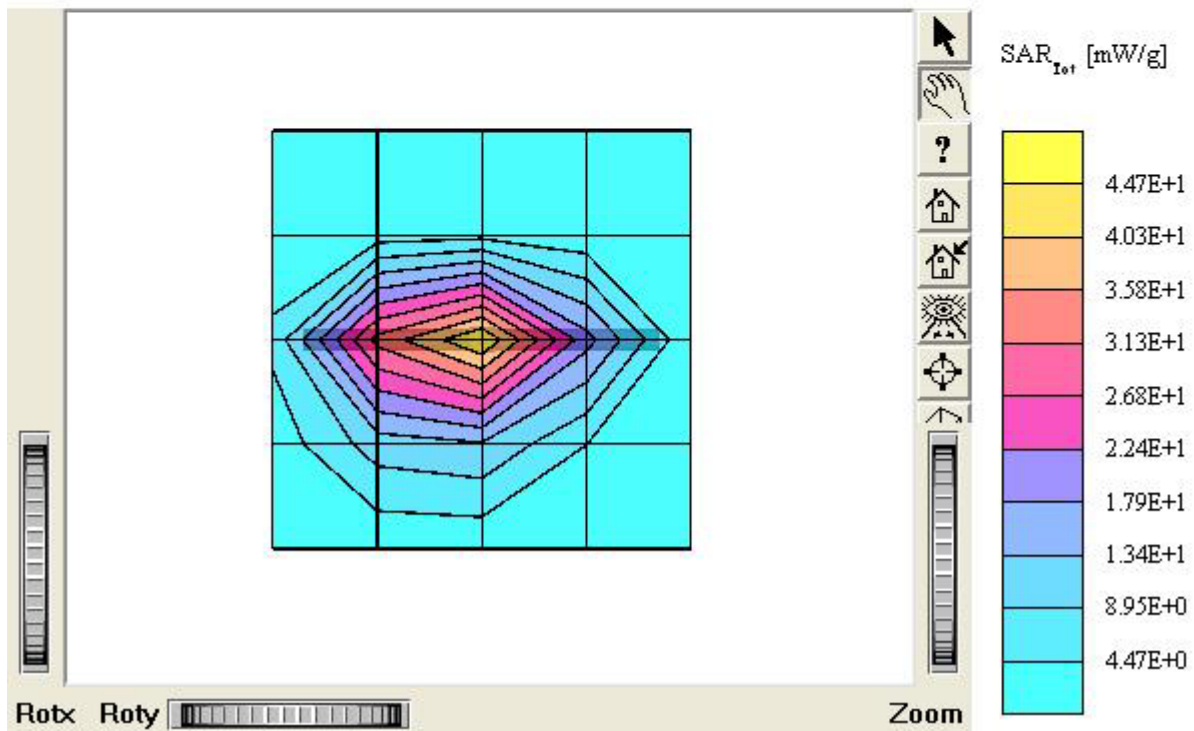
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : January 05, 2006



Dipole 835 MHz

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

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 42.0$ $\rho = 1.00$ g/cm³

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

Comment :

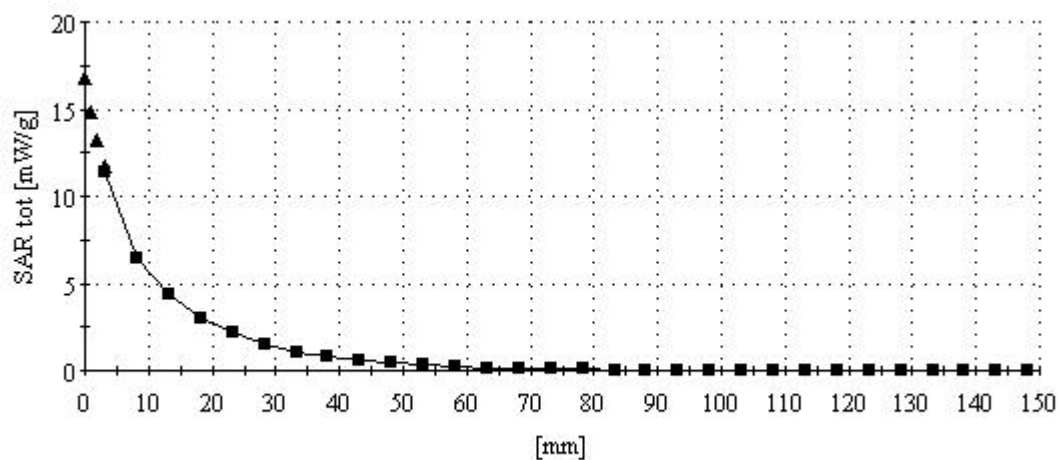
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : January 03, 2006



Dipole 835 MHz

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

Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 41.9$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment :

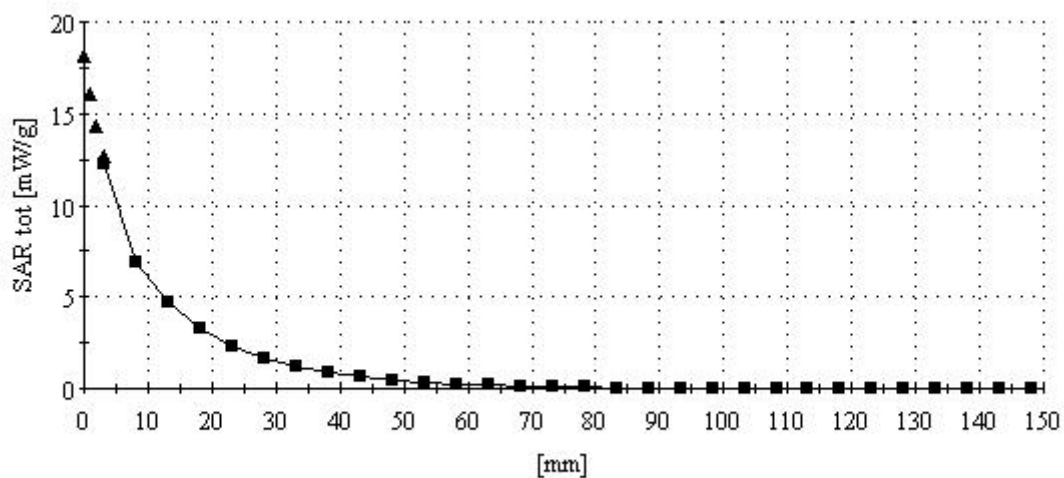
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6°C

Date Tested : January 04, 2006



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1798; ConvF(5.27,5.27,5.27); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 38.6$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment :

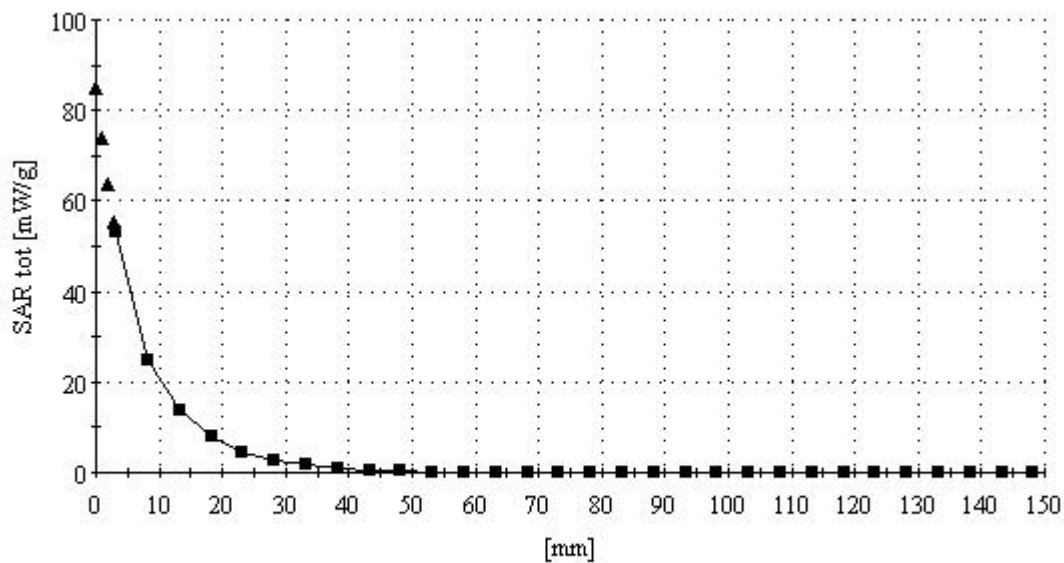
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.3°C

Date Tested : January 05, 2006



■ Dielectric Parameter (835MHz Brain)

Title: TX-215A**SubTitle : AMPS835 Head**

January 03, 2006 09:07 AM

Frequency	e'	e''
800.000000 MHz	42.6254	19.4503
805.000000 MHz	42.6154	19.3886
810.000000 MHz	42.4982	19.3680
815.000000 MHz	42.4143	19.3066
820.000000 MHz	42.3475	19.2840
825.000000 MHz	42.2596	19.3528
830.000000 MHz	42.1854	19.3328
835.000000 MHz	42.0463	19.2473
840.000000 MHz	41.9877	19.1822
845.000000 MHz	41.8695	19.1975
850.000000 MHz	41.8226	19.1304
855.000000 MHz	41.7220	19.0898
860.000000 MHz	41.7027	19.0778
865.000000 MHz	41.6046	19.1092
870.000000 MHz	41.5114	19.0477
875.000000 MHz	41.4276	19.0147
880.000000 MHz	41.3840	18.9604
885.000000 MHz	41.2756	18.9910
890.000000 MHz	41.2110	18.9788
895.000000 MHz	41.1352	18.9256
900.000000 MHz	41.0749	18.8882

■ Dielectric Parameter (835MHz Muscle)

Title : TX-215A**SubTitle : AMPS835 Body**

January 03, 2006 01:23 PM

Frequency	e'	e''
800.000000 MHz	55.1334	21.1963
805.000000 MHz	55.0526	21.1625
810.000000 MHz	55.0041	21.1515
815.000000 MHz	54.9548	21.1972
820.000000 MHz	54.9561	21.1625
825.000000 MHz	54.8234	21.1714
830.000000 MHz	54.8051	21.2441
835.000000 MHz	54.7171	21.2590
840.000000 MHz	54.7538	21.2496
845.000000 MHz	54.6814	21.2697
850.000000 MHz	54.6462	21.2977
855.000000 MHz	54.5989	21.3192
860.000000 MHz	54.5441	21.2891
865.000000 MHz	54.5497	21.3011
870.000000 MHz	54.4946	21.2931
875.000000 MHz	54.4225	21.2383
880.000000 MHz	54.4016	21.2442
885.000000 MHz	54.3267	21.2180
890.000000 MHz	54.2689	21.1380
895.000000 MHz	54.2209	21.0549
900.000000 MHz	54.1211	21.0246

■ Dielectric Parameter (835MHz Brain)

Title : TX-215A

SubTitle : CDMA835 Head

January 04, 2006 08:50 AM

Frequency	e'	e''
800.000000 MHz	42.4913	19.2799
805.000000 MHz	42.4985	19.2798
810.000000 MHz	42.3702	19.2956
815.000000 MHz	42.2785	19.2048
820.000000 MHz	42.1612	19.1332
825.000000 MHz	42.1024	19.1525
830.000000 MHz	42.0058	19.1084
835.000000 MHz	41.8911	19.0702
840.000000 MHz	41.7999	19.0367
845.000000 MHz	41.6826	18.9799
850.000000 MHz	41.6569	18.9498
855.000000 MHz	41.5393	18.8845
860.000000 MHz	41.4788	18.9064
865.000000 MHz	41.3762	18.9200
870.000000 MHz	41.2814	18.8503
875.000000 MHz	41.1547	18.8414
880.000000 MHz	41.1083	18.8096
885.000000 MHz	40.9575	18.8289
890.000000 MHz	40.8946	18.8526
895.000000 MHz	40.8202	18.8003
900.000000 MHz	40.7576	18.7848

■ Dielectric Parameter (835MHz Muscle)

Title : TX-215A
SubTitle : CDMA835 Body
January 04, 2006 02:21 PM

Frequency	e'	e''
800.000000 MHz	55.1891	21.2563
805.000000 MHz	55.1939	21.2707
810.000000 MHz	55.1184	21.2799
815.000000 MHz	55.0778	21.2877
820.000000 MHz	55.1094	21.2746
825.000000 MHz	55.0109	21.2867
830.000000 MHz	54.9036	21.3301
835.000000 MHz	54.8166	21.2885
840.000000 MHz	54.8771	21.3138
845.000000 MHz	54.7644	21.3154
850.000000 MHz	54.7385	21.3394
855.000000 MHz	54.6941	21.2831
860.000000 MHz	54.6415	21.3171
865.000000 MHz	54.6076	21.3113
870.000000 MHz	54.5601	21.2679
875.000000 MHz	54.4674	21.2852
880.000000 MHz	54.4441	21.2437
885.000000 MHz	54.3688	21.2441
890.000000 MHz	54.3399	21.1842
895.000000 MHz	54.2624	21.1334
900.000000 MHz	54.1608	21.0719

■ Dielectric Parameter (1900MHz Head)

Title : TX-215A
SubTitle : PCS1900 Head
January 05, 2006 09:14 AM

Frequency	e'	e''
1.800000000 GHz	38.7953	13.2276
1.810000000 GHz	38.7318	13.2992
1.820000000 GHz	38.7201	13.4148
1.830000000 GHz	38.7069	13.5698
1.840000000 GHz	38.7213	13.6928
1.850000000 GHz	38.7873	13.8138
1.860000000 GHz	38.8000	13.8886
1.870000000 GHz	38.8143	13.8663
1.880000000 GHz	38.7870	13.8190
1.890000000 GHz	38.7357	13.7512
1.900000000 GHz	38.6343	13.6830
1.910000000 GHz	38.5017	13.6295
1.920000000 GHz	38.3742	13.5917
1.930000000 GHz	38.2573	13.6389
1.940000000 GHz	38.2219	13.7346
1.950000000 GHz	38.2139	13.8712
1.960000000 GHz	38.2272	14.0203
1.970000000 GHz	38.2691	14.1243
1.980000000 GHz	38.3103	14.2021
1.990000000 GHz	38.3103	14.1777
2.000000000 GHz	38.2746	14.1736

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-215A

SubTitle : PCS1900 Body

January 05, 2006 02:04 PM

Frequency	e'	e''
1.800000000 GHz	53.1640	13.7951
1.810000000 GHz	53.1721	13.8748
1.820000000 GHz	53.1593	13.9071
1.830000000 GHz	53.1200	13.9482
1.840000000 GHz	53.0852	13.9675
1.850000000 GHz	53.0418	13.9911
1.860000000 GHz	52.9693	14.0086
1.870000000 GHz	52.9465	14.0507
1.880000000 GHz	52.8646	14.1214
1.890000000 GHz	52.7540	14.1936
1.900000000 GHz	52.7153	14.2587
1.910000000 GHz	52.6393	14.3515
1.920000000 GHz	52.5780	14.3987
1.930000000 GHz	52.5660	14.4695
1.940000000 GHz	52.5613	14.5263
1.950000000 GHz	52.5586	14.5598
1.960000000 GHz	52.4958	14.5850
1.970000000 GHz	52.4489	14.6136
1.980000000 GHz	52.3538	14.6275
1.990000000 GHz	52.2208	14.6678
2.000000000 GHz	52.1464	14.7070