

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(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.91$

mho/m $\epsilon_r = 41.9$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.98 mW/g ± 0.03 dB, SAR (10g): 6.35 mW/g ± 0.01 dB

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

Powerdrift: 0.01 dB

Comment:

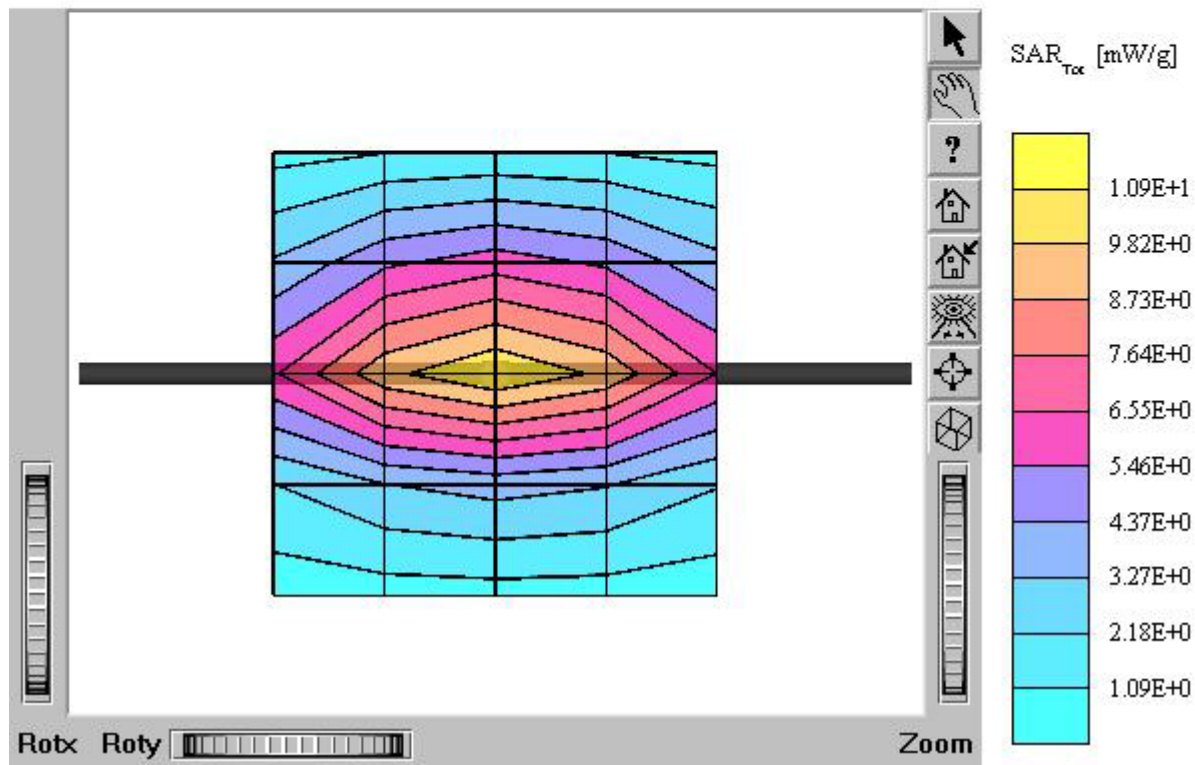
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6 °C

Date Tested : May 05, 2004



Validation Data (835MHz Brain)

Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.90$

mho/m $\epsilon_r = 41.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.98 mW/g ± 0.03 dB, SAR (10g): 6.35 mW/g ± 0.02 dB

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

Powerdrift: 0.04 dB

Comment:

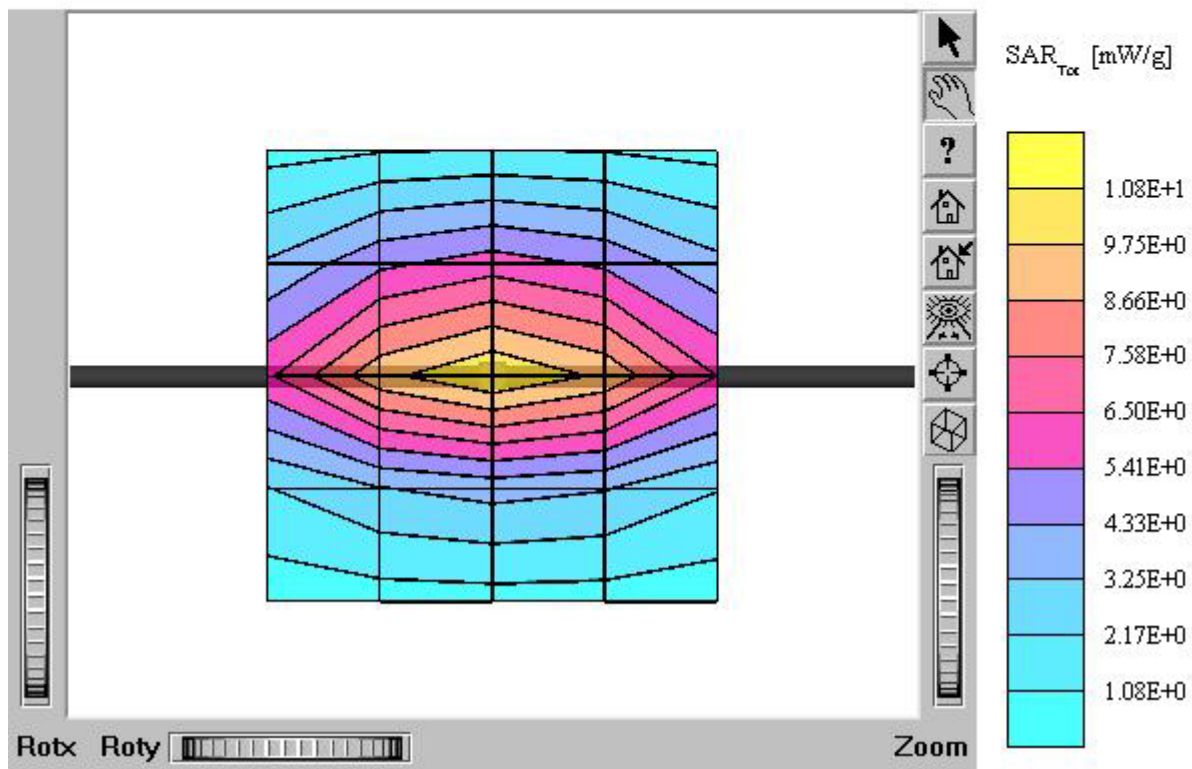
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.7°C

Date Tested : May 06, 2004



■ Validation Data (1900MHz Brain)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.41$

mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 41.8 mW/g ± 0.03 dB, SAR (10g): 21.1 mW/g ± 0.03 dB

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

Powerdrift: -0.01 dB

Comment:

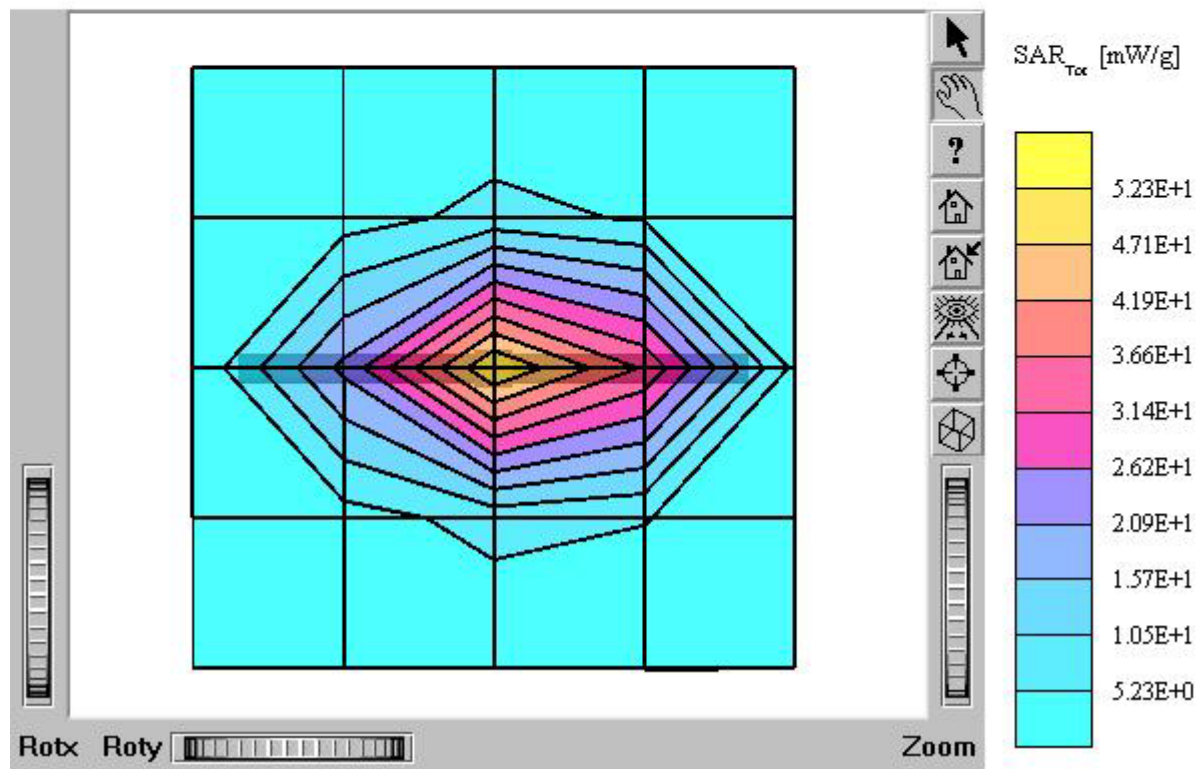
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : May 07, 2004



Dipole 835 MHz

SAM 1 Phantom; Section: Position: ; Frequency: 835 MHz

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.91$ mho/m $\epsilon_r = 41.9$ $\rho = 1.00$ g/cm³

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

Comment:

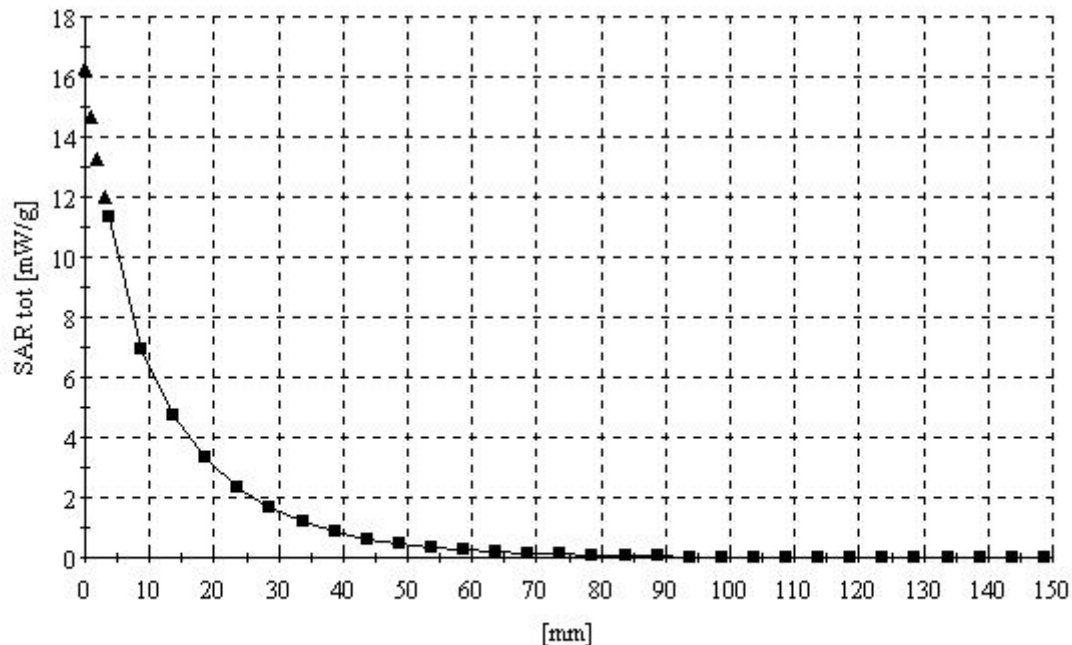
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6 °C

Date Tested : May 05, 2004



Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.7$ $\rho = 1.00$ g/cm³

:

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

Comment:

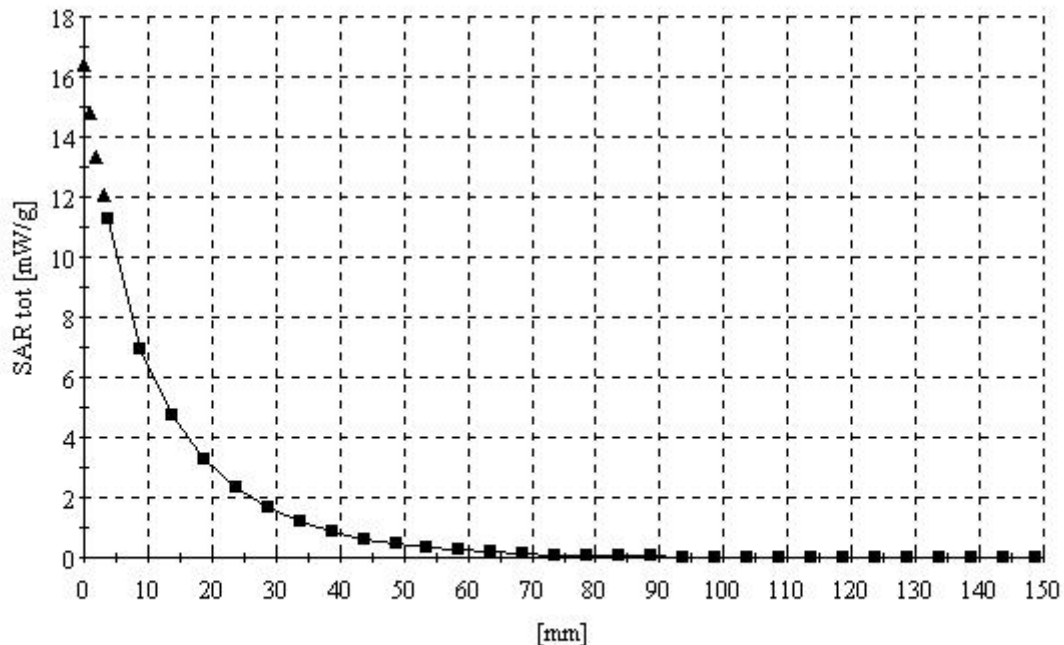
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.7°C

Date Tested : May 06, 2004



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.41$

mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

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

Comment:

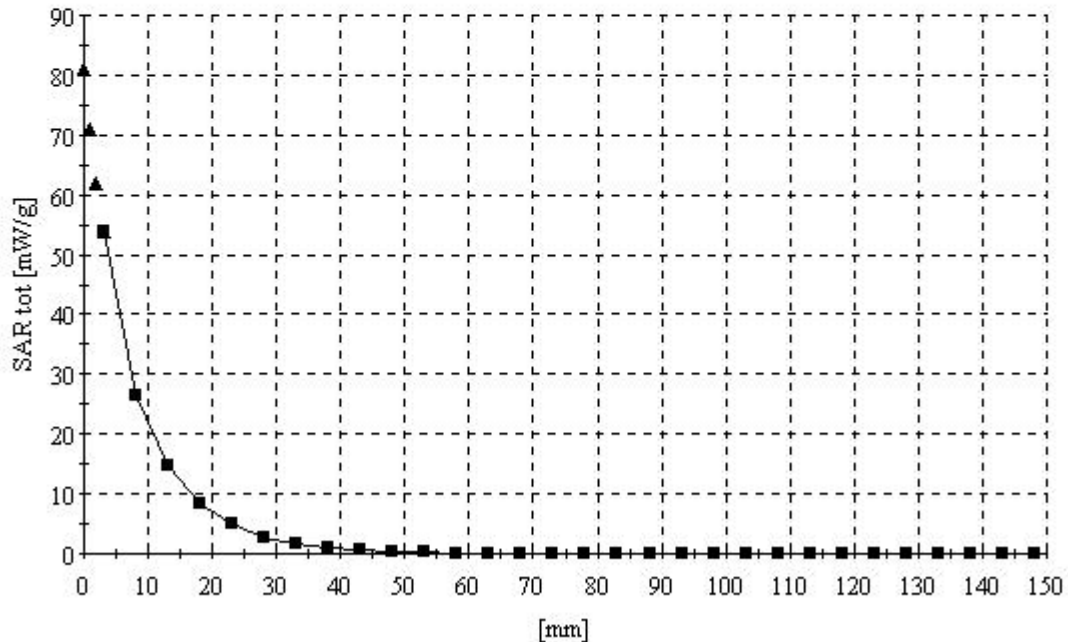
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : May 07, 2004



■ Dielectric Parameter (835MHz Brain)

Title : TX-95C**SubTitle : AMPS BRAIN**

May 05, 2004 09:45 AM

Frequency	e'	e''
800.000000 MHz	42.3809	19.5937
805.000000 MHz	42.2670	19.5823
810.000000 MHz	42.1537	19.5281
815.000000 MHz	42.1710	19.5139
820.000000 MHz	42.0917	19.4783
825.000000 MHz	41.9994	19.4683
830.000000 MHz	41.9202	19.4815
835.000000 MHz	41.8630	19.5308
840.000000 MHz	41.8294	19.4367
845.000000 MHz	41.6998	19.4439
850.000000 MHz	41.6075	19.4305
855.000000 MHz	41.5642	19.4035
860.000000 MHz	41.5299	19.4052
865.000000 MHz	41.4421	19.3608
870.000000 MHz	41.3946	19.3463
875.000000 MHz	41.3425	19.3131
880.000000 MHz	41.2708	19.3314
885.000000 MHz	41.2226	19.3229
890.000000 MHz	41.1031	19.2905
895.000000 MHz	41.0692	19.2734
900.000000 MHz	40.9705	19.2361

■ Dielectric Parameter (835MHz Brain)

Title : TX-95C
SubTitle : CDMA BRAIN
May 06, 2004 09:44 AM

Frequency	e'	e''
800.000000 MHz	42.2101	19.6076
805.000000 MHz	42.1237	19.5347
810.000000 MHz	42.0249	19.5311
815.000000 MHz	41.9947	19.4981
820.000000 MHz	41.9142	19.4742
825.000000 MHz	41.8579	19.4758
830.000000 MHz	41.7718	19.4807
835.000000 MHz	41.7074	19.4270
840.000000 MHz	41.6300	19.3987
845.000000 MHz	41.5717	19.3967
850.000000 MHz	41.4992	19.3783
855.000000 MHz	41.4209	19.3721
860.000000 MHz	41.3886	19.3429
865.000000 MHz	41.2799	19.2950
870.000000 MHz	41.2050	19.2892
875.000000 MHz	41.1603	19.2444
880.000000 MHz	41.1149	19.2811
885.000000 MHz	41.0124	19.2740
890.000000 MHz	40.9738	19.2585
895.000000 MHz	40.9350	19.2235
900.000000 MHz	40.8059	19.2155

■ Dielectric Parameter (1900MHz Brain)

Title : TX-95C**SubTitle : PCS CDMA BRAIN**

May 07, 2004 01:27 PM

Frequency	e'	e''
1.800000000 GHz	40.7666	12.9841
1.810000000 GHz	40.7009	13.0411
1.820000000 GHz	40.7046	13.0941
1.830000000 GHz	40.6032	13.1282
1.840000000 GHz	40.5543	13.1658
1.850000000 GHz	40.5086	13.2014
1.860000000 GHz	40.4651	13.2147
1.870000000 GHz	40.4521	13.2687
1.880000000 GHz	40.3789	13.2743
1.890000000 GHz	40.3316	13.3175
1.900000000 GHz	40.2661	13.3308
1.910000000 GHz	40.2091	13.3688
1.920000000 GHz	40.1504	13.3932
1.930000000 GHz	40.0736	13.4240
1.940000000 GHz	40.0144	13.4435
1.950000000 GHz	39.9534	13.5030
1.960000000 GHz	39.9222	13.5251
1.970000000 GHz	39.9030	13.5894
1.980000000 GHz	39.8627	13.6207
1.990000000 GHz	39.8234	13.6602
2.000000000 GHz	39.8207	13.6867

■ Dielectric Parameter (835MHz Muscle)

Title : TX-95C**SubTitle : AMPS BODY**

May 05, 2004 09:44 AM

Frequency	e'	e''
800.000000 MHz	56.5210	20.7382
805.000000 MHz	56.4395	20.7248
810.000000 MHz	56.3756	20.6938
815.000000 MHz	56.3771	20.6839
820.000000 MHz	56.1929	20.6706
825.000000 MHz	56.0859	20.7074
830.000000 MHz	55.9981	20.6870
835.000000 MHz	55.8546	20.6329
840.000000 MHz	55.7048	20.6155
845.000000 MHz	55.6167	20.5533
850.000000 MHz	55.6125	20.5362
855.000000 MHz	55.5360	20.4709
860.000000 MHz	55.4878	20.5035
865.000000 MHz	55.5046	20.4783
870.000000 MHz	55.4546	20.5005
875.000000 MHz	55.4197	20.4900
880.000000 MHz	55.3901	20.5306
885.000000 MHz	55.2372	20.3655
890.000000 MHz	55.2471	20.3802
895.000000 MHz	55.1843	20.4606
900.000000 MHz	55.0848	20.5240

■ Dielectric Parameter (835MHz Muscle)

Title : TX-95C**SubTitle : CDMA BODY**

May 06, 2004 01:44 PM

Frequency	e'	e''
800.000000 MHz	56.5210	20.7382
805.000000 MHz	56.3984	20.7058
810.000000 MHz	56.3645	20.6639
815.000000 MHz	56.2745	20.7110
820.000000 MHz	56.1800	20.6810
825.000000 MHz	56.0785	20.6879
830.000000 MHz	55.9226	20.6933
835.000000 MHz	55.7989	20.6319
840.000000 MHz	55.6916	20.6095
845.000000 MHz	55.6226	20.5401
850.000000 MHz	55.6016	20.5077
855.000000 MHz	55.5034	20.5270
860.000000 MHz	55.4768	20.4753
865.000000 MHz	55.4672	20.4929
870.000000 MHz	55.4562	20.5321
875.000000 MHz	55.3807	20.5268
880.000000 MHz	55.3570	20.5278
885.000000 MHz	55.2372	20.3655
890.000000 MHz	55.1889	20.3930
895.000000 MHz	55.1897	20.4479
900.000000 MHz	55.0848	20.5240

■ Dielectric Parameter (1900MHz Muscle)**Title : TX-95C****SubTitle : PCS CDMA BODY**

May 07, 2004 11:43 AM

Frequency	e'	e''
1.850000000 GHz	53.7892	14.9632
1.855000000 GHz	53.7653	14.9506
1.860000000 GHz	53.7247	14.9682
1.865000000 GHz	53.6606	14.9999
1.870000000 GHz	53.5878	14.9770
1.875000000 GHz	53.5430	14.9881
1.880000000 GHz	53.5132	14.9708
1.885000000 GHz	53.4211	14.9374
1.890000000 GHz	53.4018	14.9148
1.895000000 GHz	53.3460	14.9003
1.900000000 GHz	53.3000	14.8918
1.905000000 GHz	53.2589	14.9121
1.910000000 GHz	53.2125	14.8787
1.915000000 GHz	53.1654	14.8757
1.920000000 GHz	53.1588	14.9157
1.925000000 GHz	53.1858	14.9244
1.930000000 GHz	53.1762	14.9601
1.935000000 GHz	53.1814	15.0148
1.940000000 GHz	53.1896	15.0447
1.945000000 GHz	53.1825	15.0928
1.950000000 GHz	53.2081	15.1281

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.41$ mho/m $\epsilon_r = 40.5$ $\rho = 1.00$ g/cm³Cubes (2): SAR (1g): 41.3 mW/g ± 0.08 dB, SAR (10g): 20.9 mW/g ± 0.05 dB

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

Powerdrift: -0.02 dB

Comment:

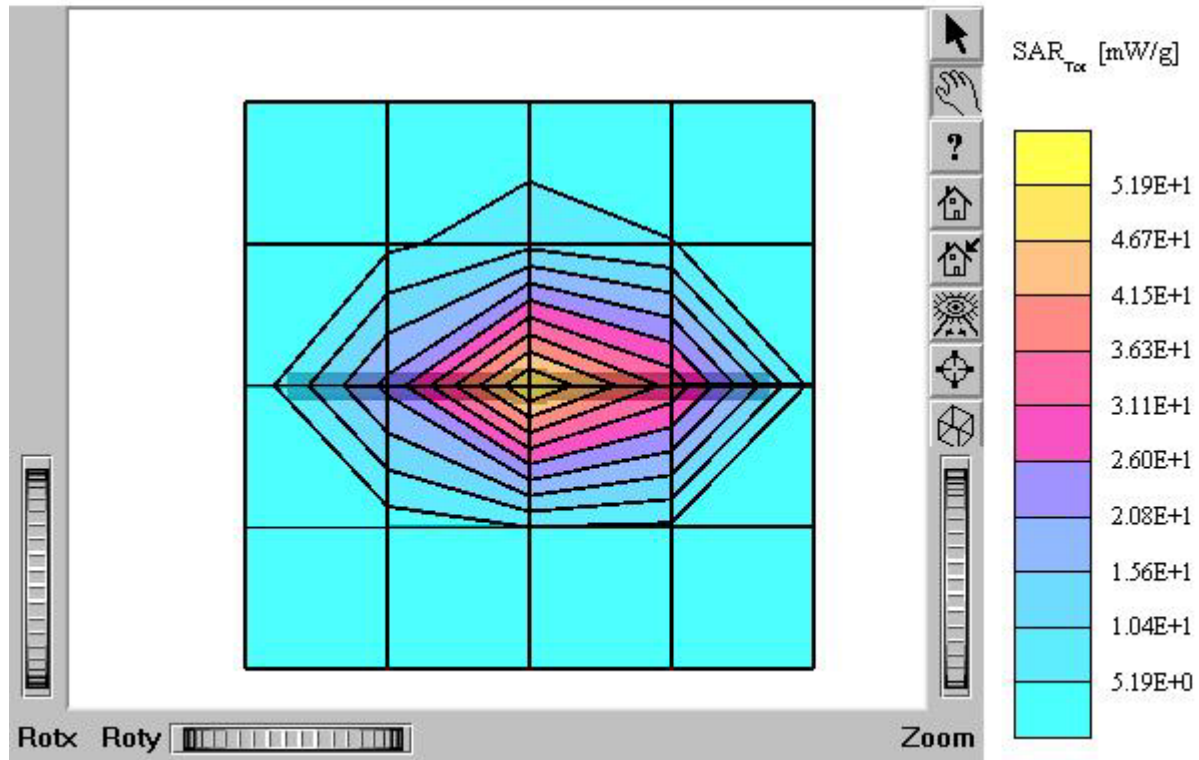
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : May 31, 2004



Title : TX-95C**SubTitle : 1900 MHz Brain**

May 31, 2004 01:24 PM

Frequency	e'	e''
1.800000000 GHz	40.9574	13.0241
1.810000000 GHz	40.8741	13.0730
1.820000000 GHz	40.8741	13.1060
1.830000000 GHz	40.7852	13.1651
1.840000000 GHz	40.7340	13.1758
1.850000000 GHz	40.7067	13.2262
1.860000000 GHz	40.6441	13.2387
1.870000000 GHz	40.6482	13.2960
1.880000000 GHz	40.5622	13.3150
1.890000000 GHz	40.5445	13.3531
1.900000000 GHz	40.4567	13.3560
1.910000000 GHz	40.3894	13.3880
1.920000000 GHz	40.3661	13.4480
1.930000000 GHz	40.2513	13.4673
1.940000000 GHz	40.2211	13.4814
1.950000000 GHz	40.1452	13.5145
1.960000000 GHz	40.1314	13.5804
1.970000000 GHz	40.0774	13.6199
1.980000000 GHz	40.0626	13.6627
1.990000000 GHz	40.0336	13.7002
2.000000000 GHz	39.9769	13.7214