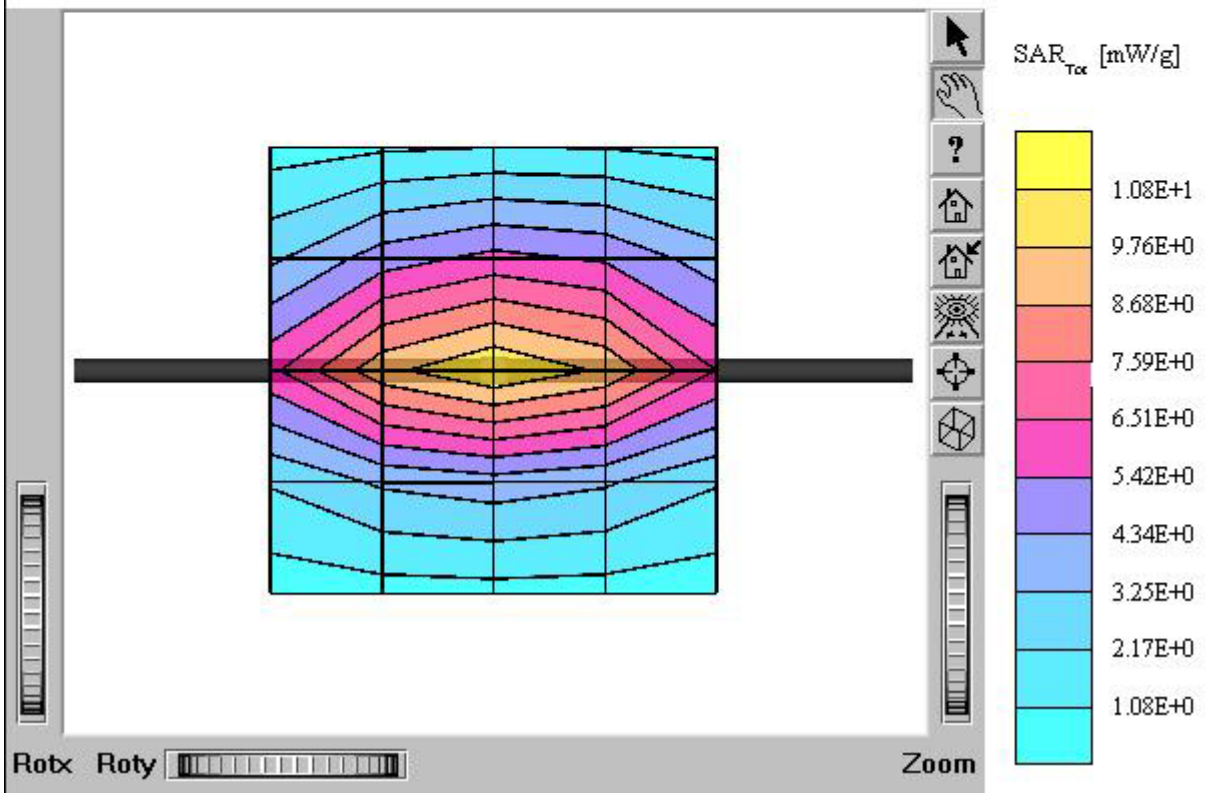
ATTACHMENT Q – DIPOLE VALIDATION

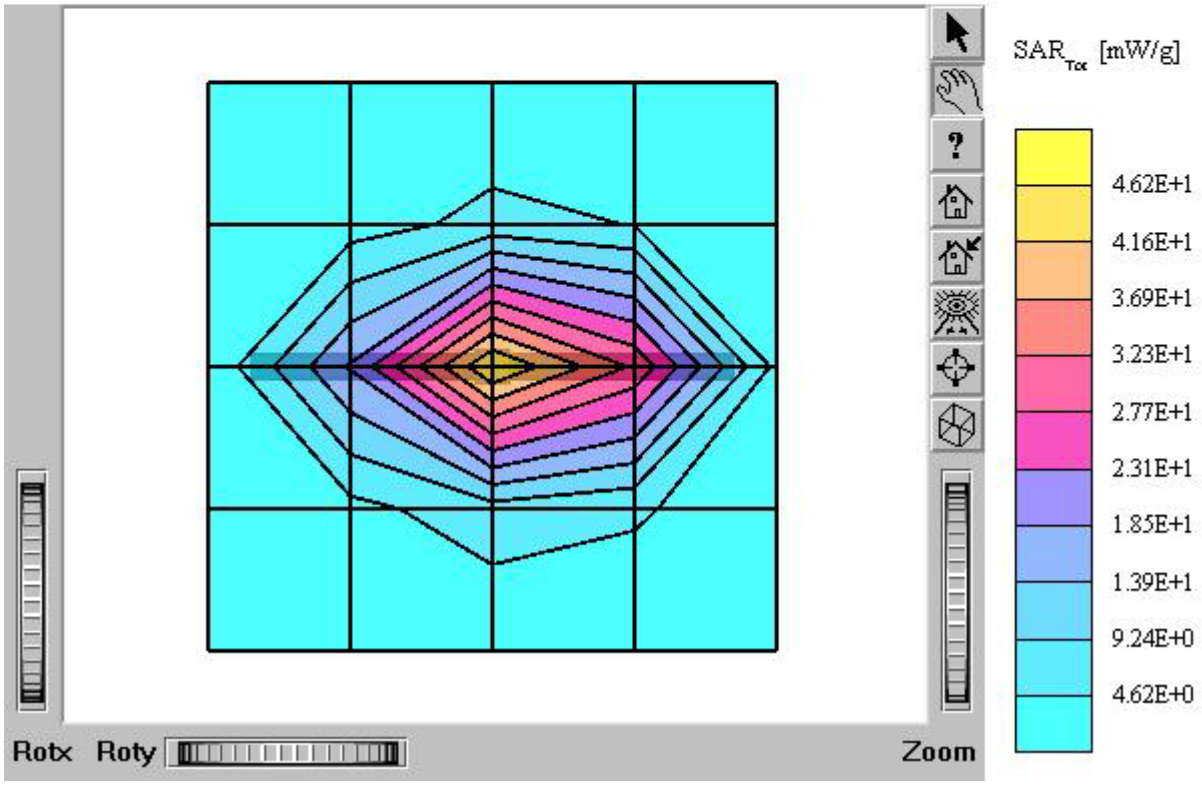
■ Validation Data (835MHz Brain)

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 = 0.90 mho/m e_r = 41.5 r = 1.00 g/cm³
Cubes (2): SAR (1g): 10.2 mW/g ± 0.01 dB, SAR (10g): 6.57 mW/g ± 0.02 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 : 21.3℃
Date Tested : February 26, 2005



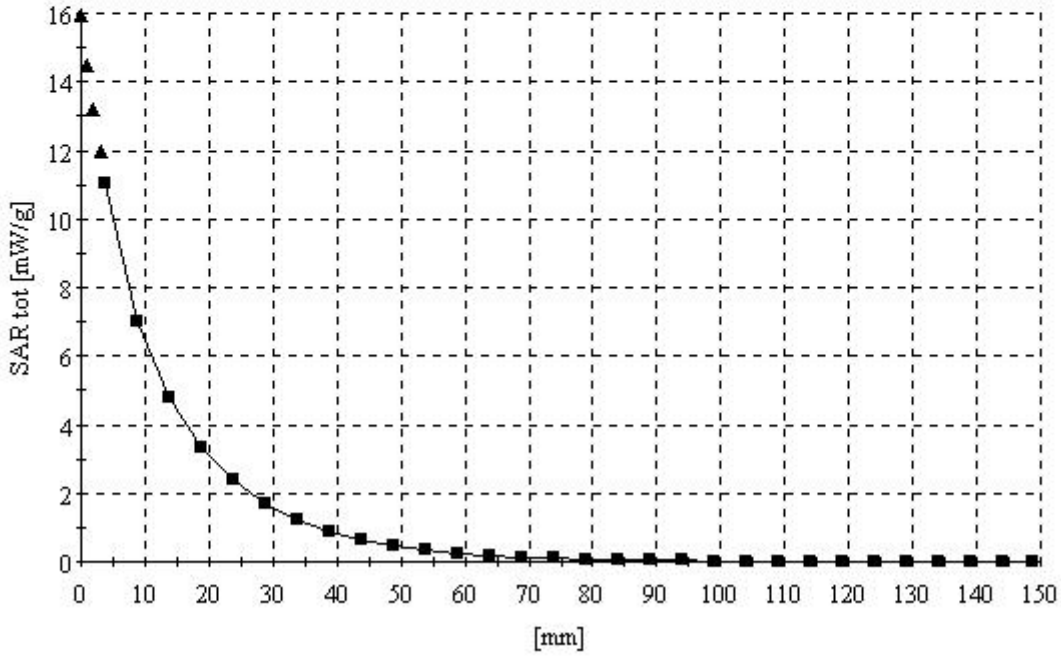
■ Validation Data (1900MHz Brain)

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 = 1.40 mho/m e_r = 40.0 r = 1.00 g/cm³
Cubes (2): SAR (1g): 41.6 mW/g ± 0.00 dB, SAR (10g): 20.8 mW/g ± 0.00 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℃
Date Tested : February 27, 2005



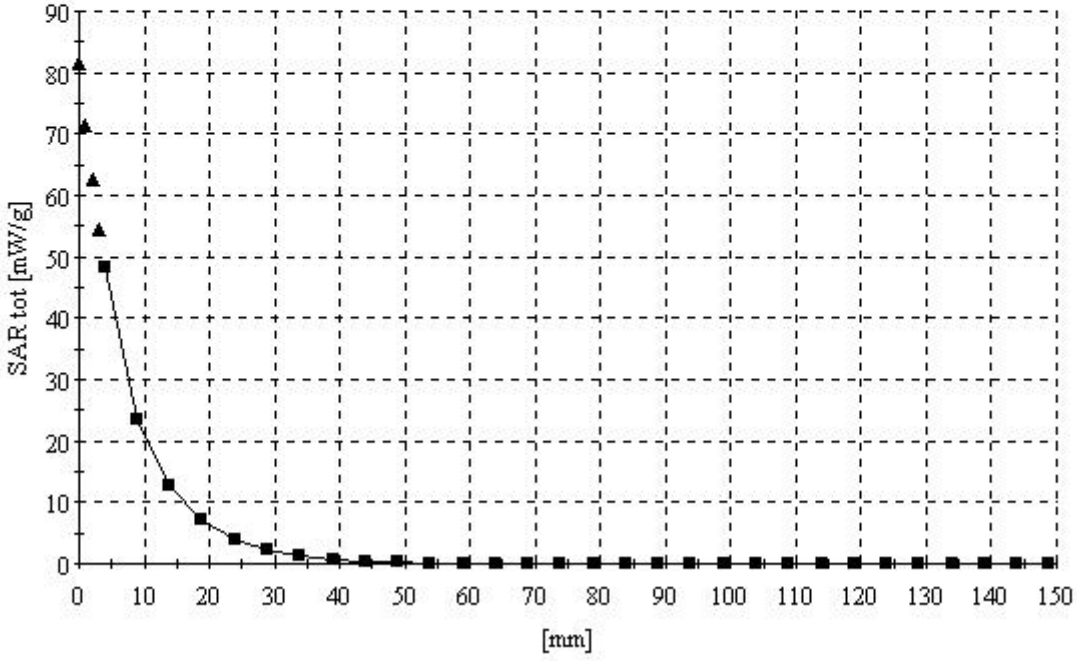
Dipole 835 MHz
SAM I Phantom; Section; Position: ; Frequency: 835 MHz
Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: s = 0.90 mho/m e, = 41.5 r = 1.00 g/cm³
:
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

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 : 21.3℃
Date Tested : February 26, 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: s = 1.40 mho/m e, = 40.0 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 : 21.6℃
Date Tested : February 27, 2005



■ Dielectric Parameter (835MHz Brain)

Title : TX-215

SubTitle : CDMA BRAIN

February 26, 2005 09:50 AM

Frequency	e'	e''
800.000000 MHz	41.7085	19.4054
805.000000 MHz	41.5294	19.3817
810.000000 MHz	41.3853	19.3601
815.000000 MHz	41.2850	19.2954
820.000000 MHz	41.1625	19.3603
825.000000 MHz	41.1363	19.2661
830.000000 MHz	41.1114	19.1566
835.000000 MHz	40.9771	19.2202
840.000000 MHz	40.9438	19.1511
845.000000 MHz	40.8345	19.2183
850.000000 MHz	40.8358	19.1198
855.000000 MHz	40.7783	19.1416
860.000000 MHz	40.5929	19.1789
865.000000 MHz	40.5909	19.0628
870.000000 MHz	40.5137	19.1110
875.000000 MHz	40.4430	19.0360
880.000000 MHz	40.4172	19.1150
885.000000 MHz	40.2255	19.1358
890.000000 MHz	40.0807	19.1386
895.000000 MHz	40.1553	18.8656
900.000000 MHz	39.9942	19.0773

■ Dielectric Parameter (1900MHz Brain)

Title : TX-215
SubTitle : PCS BRAIN
February 27, 2005 09:16 AM

Frequency	e'	e''
1.800000000 GHz	39.6890	13.0257
1.806666667 GHz	39.6210	13.0429
1.813333333 GHz	39.5445	13.0895
1.820000000 GHz	39.5325	13.1662
1.826666667 GHz	39.5118	13.2030
1.833333333 GHz	39.5032	13.2924
1.840000000 GHz	39.5357	13.3593
1.846666667 GHz	39.5466	13.4242
1.853333333 GHz	39.5336	13.4495
1.860000000 GHz	39.5341	13.4665
1.866666667 GHz	39.5284	13.5111
1.873333333 GHz	39.5455	13.5053
1.880000000 GHz	39.4928	13.4927
1.886666667 GHz	39.4373	13.4701
1.893333333 GHz	39.3771	13.4629
1.900000000 GHz	39.2769	13.4338
1.906666667 GHz	39.2133	13.4383
1.913333333 GHz	39.1454	13.4164
1.920000000 GHz	39.0537	13.4395
1.926666667 GHz	39.0008	13.4441
1.933333333 GHz	38.9053	13.4820
1.940000000 GHz	38.9030	13.5543
1.946666667 GHz	38.8565	13.5934
1.953333333 GHz	38.8492	13.6511
1.960000000 GHz	38.8517	13.7230

■ Dielectric Parameter (835MHz Muscle)

Title : TX-215

SubTitle : CDMA BODY

February 26, 2005 02:46 PM

Frequency	e'	e''
800.000000 MHz	54.2806	21.2027
805.000000 MHz	54.2346	21.1595
810.000000 MHz	54.1739	21.1670
815.000000 MHz	54.0937	21.1479
820.000000 MHz	54.0665	21.1325
825.000000 MHz	53.9928	21.1396
830.000000 MHz	53.8826	21.1490
835.000000 MHz	53.8228	21.2010
840.000000 MHz	53.7476	21.2364
845.000000 MHz	53.6673	21.1644
850.000000 MHz	53.5221	21.1498
855.000000 MHz	53.5310	21.1655
860.000000 MHz	53.5167	21.1463
865.000000 MHz	53.4019	21.1434
870.000000 MHz	53.3836	21.1367
875.000000 MHz	53.3448	21.0738
880.000000 MHz	53.3642	21.1060
885.000000 MHz	53.2969	21.0756
890.000000 MHz	53.2729	21.0185
895.000000 MHz	53.3017	21.0147
900.000000 MHz	53.2621	20.9954

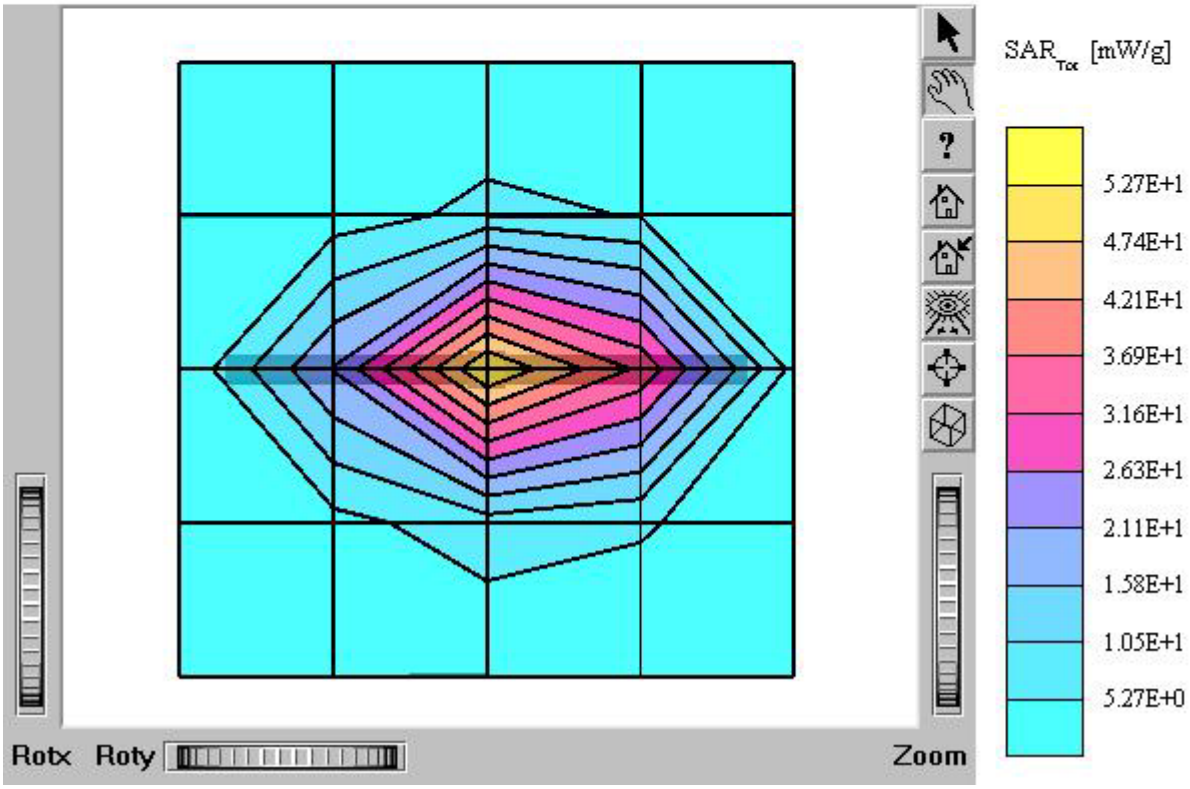
■ Dielectric Parameter (1900MHz Muscle)

Title : TX-215
SubTitle : PCS BODY
February 27, 2005 03:03 PM

Frequency	e'	e''
1.800000000 GHz	51.3868	14.6178
1.810000000 GHz	51.3463	14.6687
1.820000000 GHz	51.3029	14.7007
1.830000000 GHz	51.2718	14.7620
1.840000000 GHz	51.2775	14.7925
1.850000000 GHz	51.2440	14.8419
1.860000000 GHz	51.1808	14.8455
1.870000000 GHz	51.1491	14.9046
1.880000000 GHz	51.1039	14.9293
1.890000000 GHz	51.0177	14.9084
1.900000000 GHz	50.9689	14.9125
1.910000000 GHz	50.8921	14.8992
1.920000000 GHz	50.8450	14.9419
1.930000000 GHz	50.8194	14.9590
1.940000000 GHz	50.7596	15.0032
1.950000000 GHz	50.7349	15.0412
1.960000000 GHz	50.6999	15.1206
1.970000000 GHz	50.6768	15.1366
1.980000000 GHz	50.6629	15.2152
1.990000000 GHz	50.6363	15.1925
2.000000000 GHz	50.5825	15.2270

■ Validation Data (1900MHz Brain)

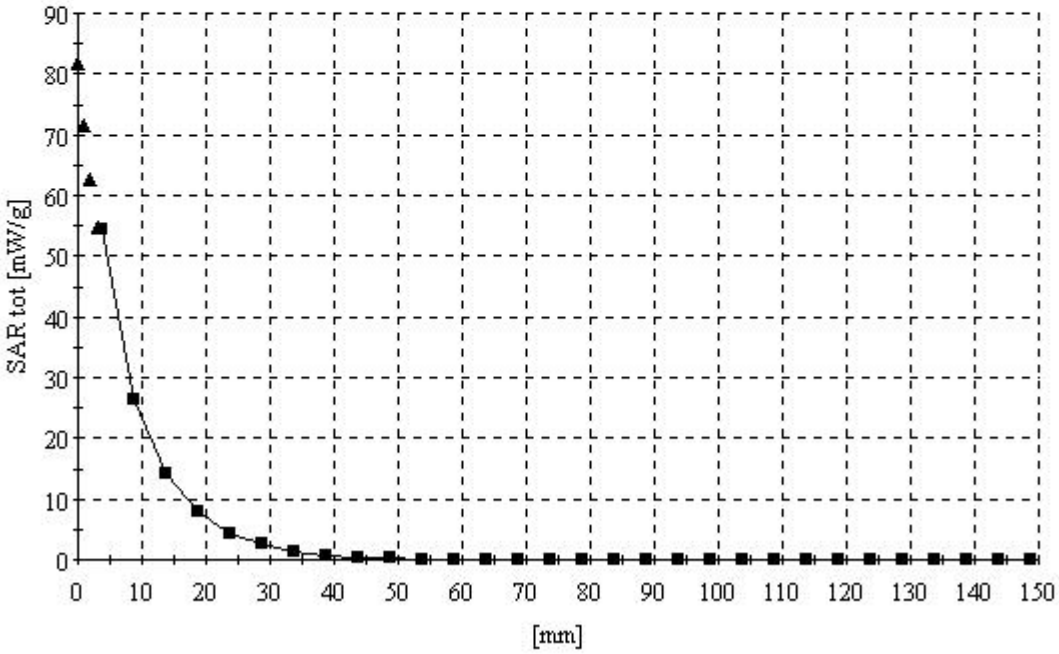
Dipole 1900 MHz
SAM II Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz
Probe: ET3DV6 - SN1607; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Brain 1900 MHz: s = 1.42 mho/m e_r = 39.6 r = 1.00 g/cm³
Cubes (2): SAR (1g): 41.3 mW/g ± 0.04 dB, SAR (10g): 20.6 mW/g ± 0.04 dB
Coarse: Dx = 20.0, 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 : 21.4℃
Date Tested : March 21, 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: s = 1.42 mho/m e_r = 39.6 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 : 21.4℃
Date Tested : March 21, 2005



■ Dielectric Parameter (1900MHz Brain)

Title : TX-215
SubTitle : PCS Brain
March 21, 2005 09:17 AM

Frequency	e'	e''
1.800000000 GHz	39.8208	13.0731
1.806666667 GHz	39.7769	13.0902
1.813333333 GHz	39.7235	13.1254
1.820000000 GHz	39.7044	13.1758
1.826666667 GHz	39.6778	13.2278
1.833333333 GHz	39.6825	13.2754
1.840000000 GHz	39.7267	13.3225
1.846666667 GHz	39.7105	13.3586
1.853333333 GHz	39.7057	13.3784
1.860000000 GHz	39.7289	13.4227
1.866666667 GHz	39.7266	13.4256
1.873333333 GHz	39.7375	13.4441
1.880000000 GHz	39.7160	13.4532
1.886666667 GHz	39.6854	13.4800
1.893333333 GHz	39.6178	13.4528
1.900000000 GHz	39.5532	13.4480
1.906666667 GHz	39.4998	13.4690
1.913333333 GHz	39.4208	13.4771
1.920000000 GHz	39.3867	13.4802
1.926666667 GHz	39.3256	13.5276
1.933333333 GHz	39.2557	13.5512
1.940000000 GHz	39.2384	13.5822
1.946666667 GHz	39.1897	13.6455
1.953333333 GHz	39.1881	13.6987
1.960000000 GHz	39.1912	13.7310