

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Dipole 835 MHz

SAM 1 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 $\epsilon_r = 42.8$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 10.3 mW/g ± 0.01 dB, SAR (10g): 6.51 mW/g ± 0.00 dB

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

Powerdrift: 0.04 dB

Comment:

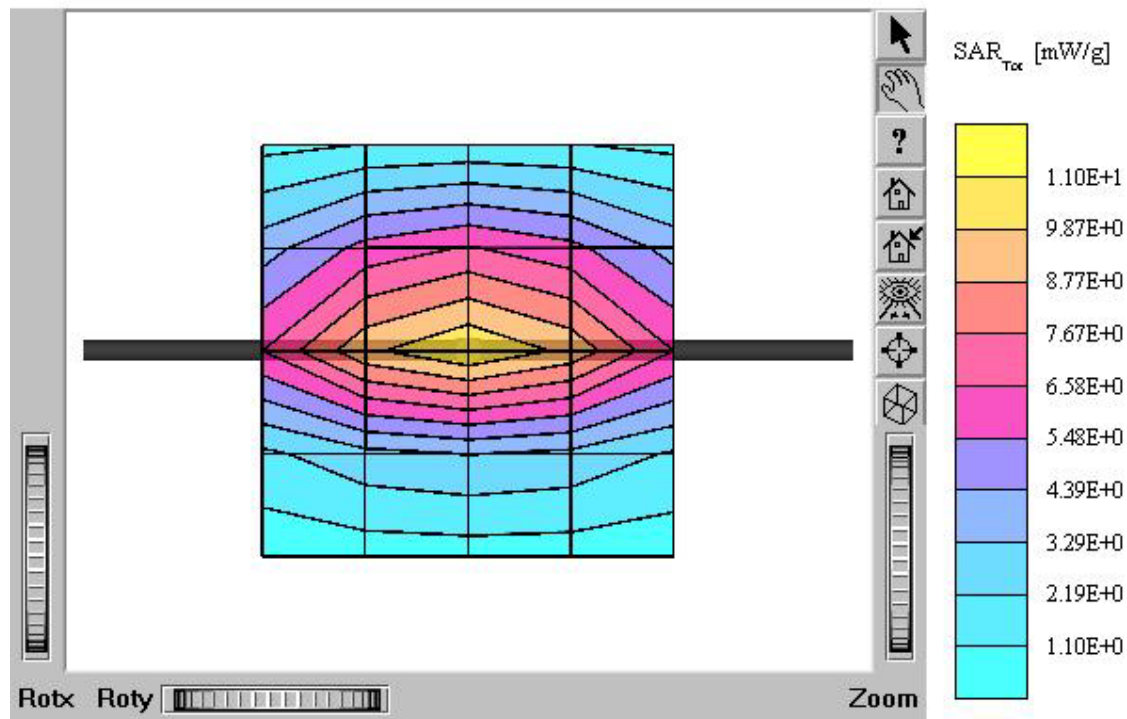
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.8°C

Date Tested : February 17, 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: $\sigma = 1.39$

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

Cubes (2): SAR (1g): 40.8 mW/g ± 0.02 dB, SAR (10g): 20.6 mW/g ± 0.00 dB

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

Powerdrift: 0.01 dB

Comment:

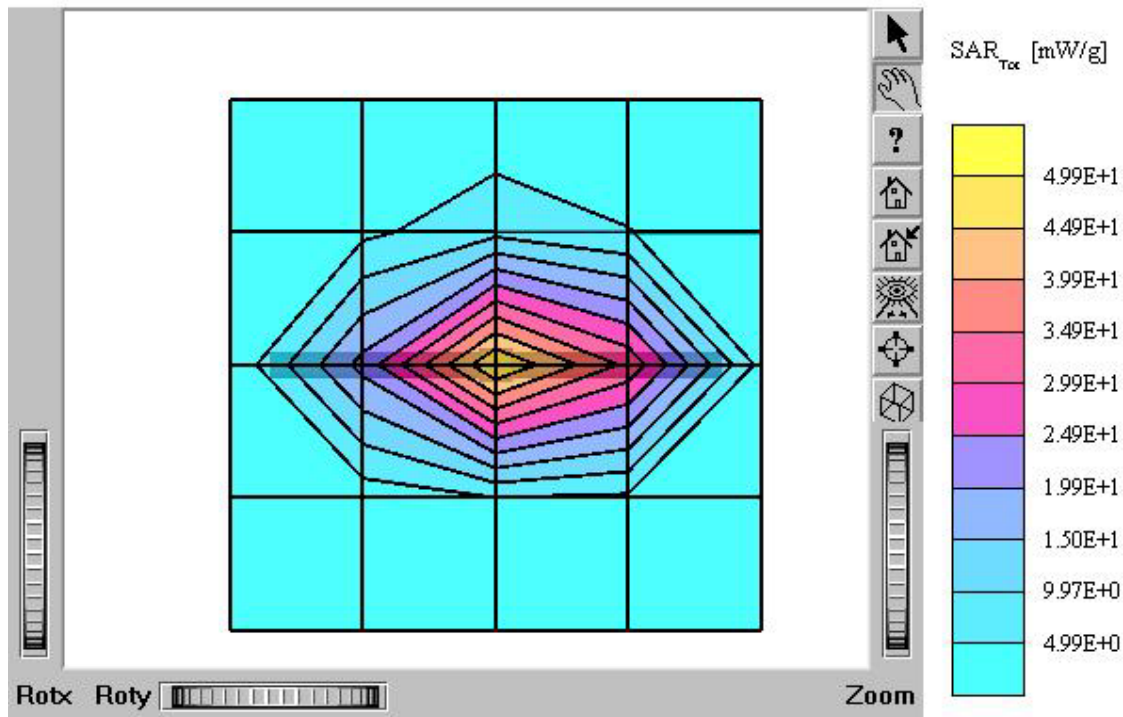
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.4°C

Date Tested : February 18, 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: $\sigma = 0.91$

mho/m $\epsilon_r = 42.8$ $\rho = 1.00$ g/cm³

:

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

Comment:

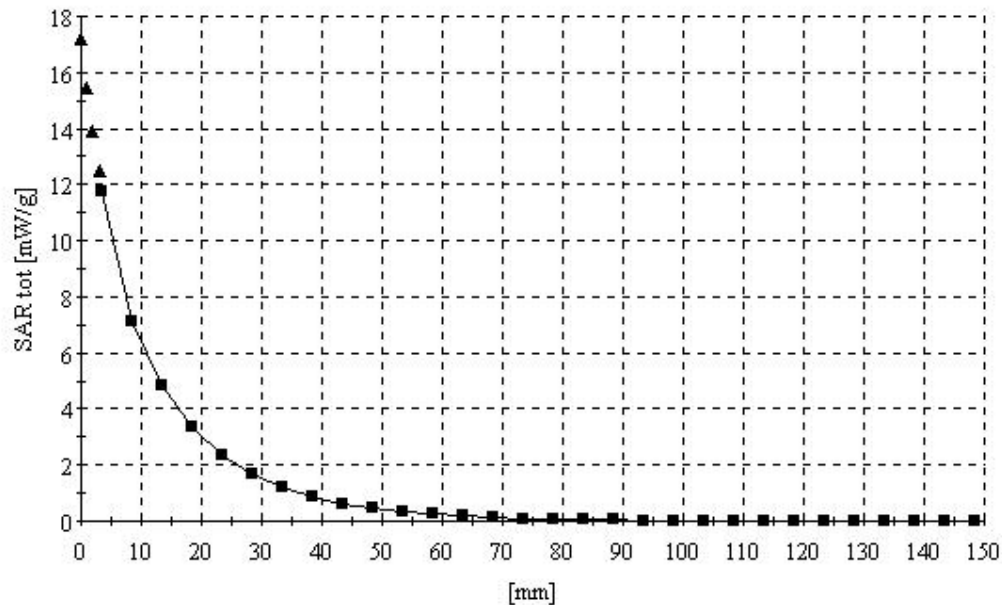
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.8°C

Date Tested : February 17, 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: $\sigma = 1.39$

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

:

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

Comment:

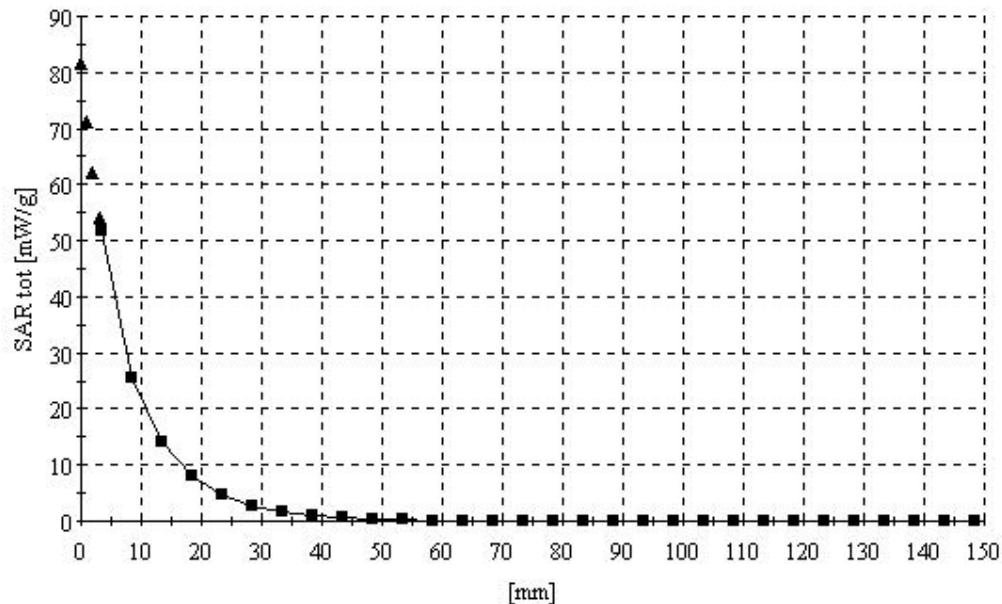
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.4°C

Date Tested : February 18, 2004



■ Dielectric Parameter (835MHz Brain)

Title : TX-130C**SubTitle : CDMA Brain**

February 17, 2004 09:36 PM

Frequency	e'	e''
800.000000 MHz	43.2189	19.7778
805.000000 MHz	43.1006	19.7647
810.000000 MHz	43.0674	19.6632
815.000000 MHz	42.9732	19.6878
820.000000 MHz	42.9175	19.5782
825.000000 MHz	42.8350	19.5415
830.000000 MHz	42.7677	19.5170
835.000000 MHz	42.7594	19.5288
840.000000 MHz	42.6281	19.5128
845.000000 MHz	42.5744	19.5064
850.000000 MHz	42.5301	19.5286
855.000000 MHz	42.4535	19.5084
860.000000 MHz	42.4122	19.4989
865.000000 MHz	42.4000	19.4809
870.000000 MHz	42.3214	19.5133
875.000000 MHz	42.2740	19.5772
880.000000 MHz	42.2247	19.5804
885.000000 MHz	42.2036	19.5903
890.000000 MHz	42.1343	19.5544
895.000000 MHz	42.0527	19.5578
900.000000 MHz	42.0241	19.5352

■ Dielectric Parameter (1900MHz Brain)

Title : TX-130C**SubTitle : PCS CDMA Brain**

February 18, 2004 09:36 AM

Frequency	e'	e''
1.800000000 GHz	40.6455	12.8883
1.810000000 GHz	40.5544	12.9681
1.820000000 GHz	40.5319	12.9895
1.830000000 GHz	40.4669	13.0714
1.840000000 GHz	40.4462	13.1009
1.850000000 GHz	40.4247	13.1459
1.860000000 GHz	40.4305	13.1703
1.870000000 GHz	40.4314	13.1945
1.880000000 GHz	40.4050	13.2031
1.890000000 GHz	40.3353	13.2310
1.900000000 GHz	40.2623	13.2015
1.910000000 GHz	40.1865	13.2342
1.920000000 GHz	40.1057	13.2438
1.930000000 GHz	40.0102	13.2696
1.940000000 GHz	39.9454	13.3082
1.950000000 GHz	39.8975	13.3833
1.960000000 GHz	39.8717	13.4317
1.970000000 GHz	39.8741	13.5025
1.980000000 GHz	39.8499	13.5231
1.990000000 GHz	39.8604	13.5585
2.000000000 GHz	39.8600	13.5892

■ Dielectric Parameter (835MHz Muscle)**Title : TX-130C****SubTitle : CDMA Body**

February 17, 2004 09:12 AM

Frequency	e'	e''
800.000000 MHz	54.4642	21.7883
805.000000 MHz	54.4723	21.7337
810.000000 MHz	54.4005	21.7079
815.000000 MHz	54.3806	21.6976
820.000000 MHz	54.3301	21.6311
825.000000 MHz	54.2756	21.5667
830.000000 MHz	54.2712	21.6069
835.000000 MHz	54.1735	21.5258
840.000000 MHz	54.1293	21.4372
845.000000 MHz	54.1083	21.4395
850.000000 MHz	54.0104	21.3502
855.000000 MHz	53.9579	21.3212
860.000000 MHz	53.9087	21.2696
865.000000 MHz	53.8275	21.2738
870.000000 MHz	53.7557	21.2425
875.000000 MHz	53.7112	21.1959
880.000000 MHz	53.6457	21.2589
885.000000 MHz	53.5031	21.2823
890.000000 MHz	53.4729	21.2365
895.000000 MHz	53.4134	21.2760
900.000000 MHz	53.4207	21.2683

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-130C**SubTitle : PCS CDMA Body**

February 19, 2004 09:26 AM

Frequency	e'	e''
1.850000000 GHz	53.6413	14.8154
1.855000000 GHz	53.6325	14.8119
1.860000000 GHz	53.5839	14.8371
1.865000000 GHz	53.5256	14.8714
1.870000000 GHz	53.4598	14.8685
1.875000000 GHz	53.3733	14.9068
1.880000000 GHz	53.3602	14.9080
1.885000000 GHz	53.3204	14.9117
1.890000000 GHz	53.3083	14.9050
1.895000000 GHz	53.2640	14.8949
1.900000000 GHz	53.2418	14.9123
1.905000000 GHz	53.2421	14.9495
1.910000000 GHz	53.2028	14.9316
1.915000000 GHz	53.1665	14.9479
1.920000000 GHz	53.1762	14.9581
1.925000000 GHz	53.2105	14.9783
1.930000000 GHz	53.2153	14.9784
1.935000000 GHz	53.2172	15.0178
1.940000000 GHz	53.2010	15.0413
1.945000000 GHz	53.1986	15.0555
1.950000000 GHz	53.2336	15.0892