

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; Head 835 MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 40.9$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 9.94 mW/g, SAR (10g): 6.43 mW/g

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

Powerdrift: 0.01 dB

Comment :

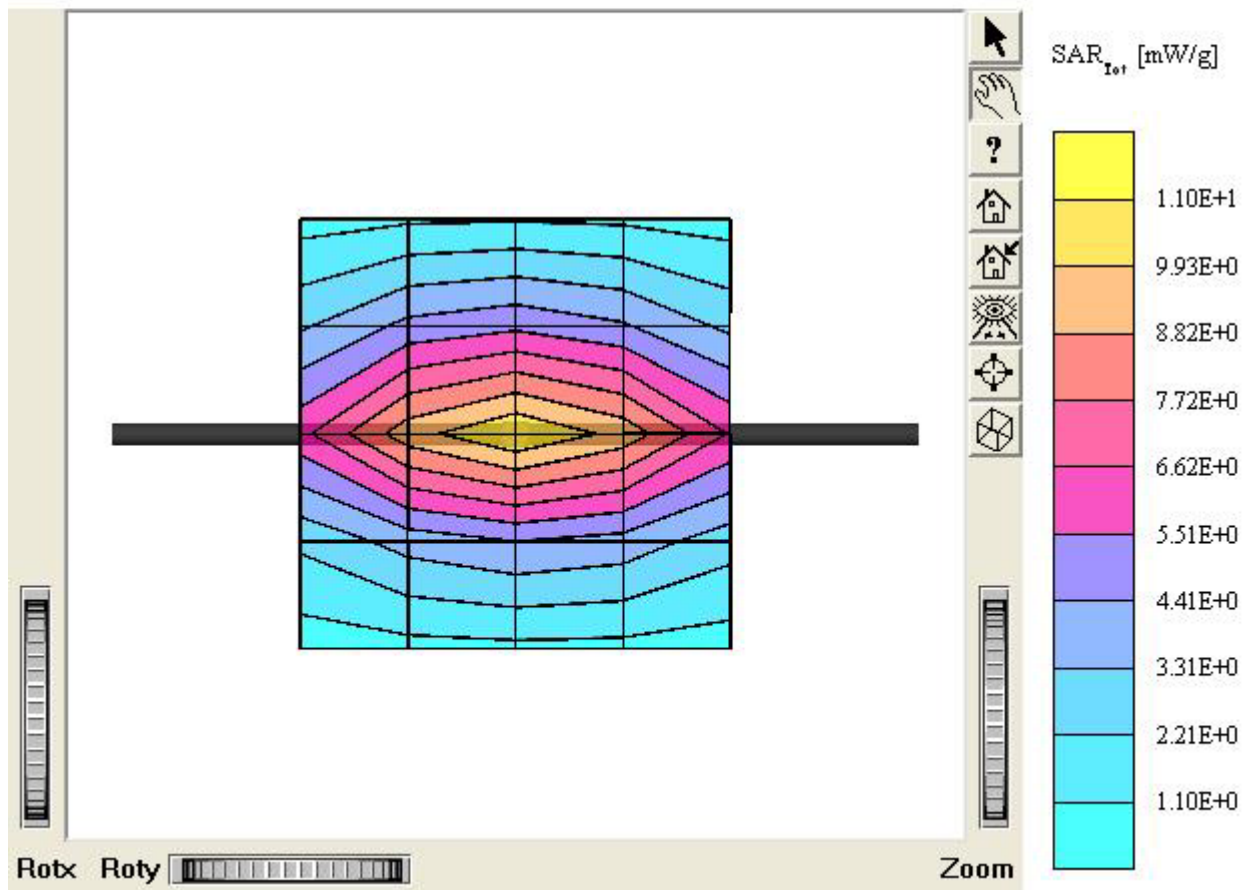
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : May 19, 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; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$, $\epsilon_r = 38.6$, $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 41.0 mW/g, SAR (10g): 20.7 mW/g

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

Powerdrift: -0.03 dB

Comment :

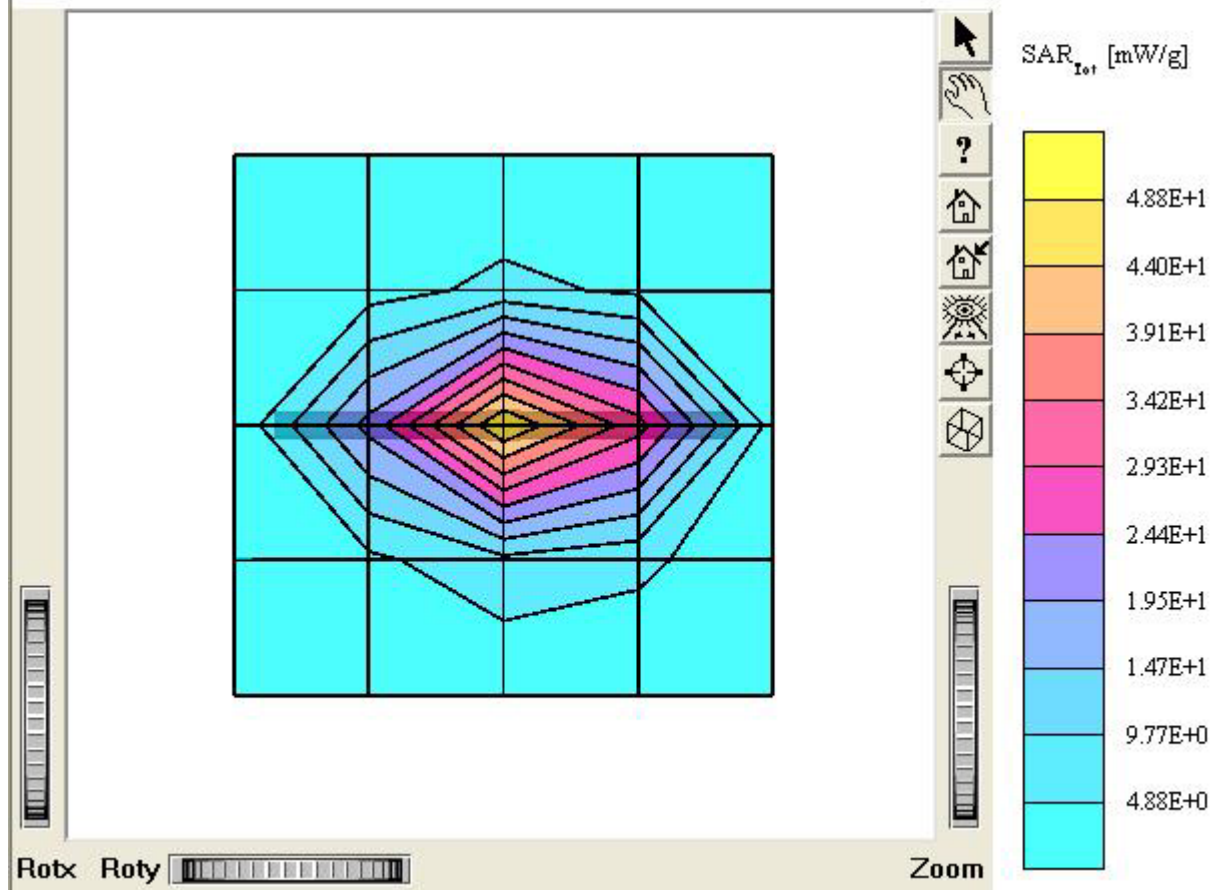
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : May 20, 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; Head 835 MHz: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 40.9$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment :

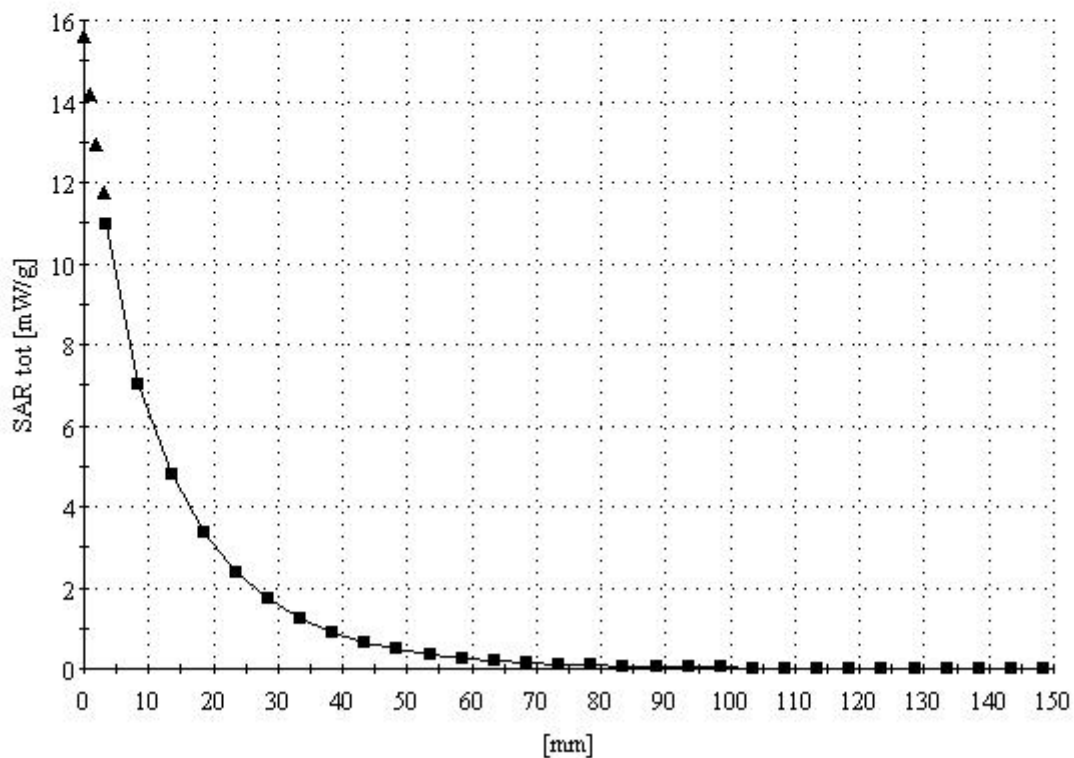
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : May 19, 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; 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 :

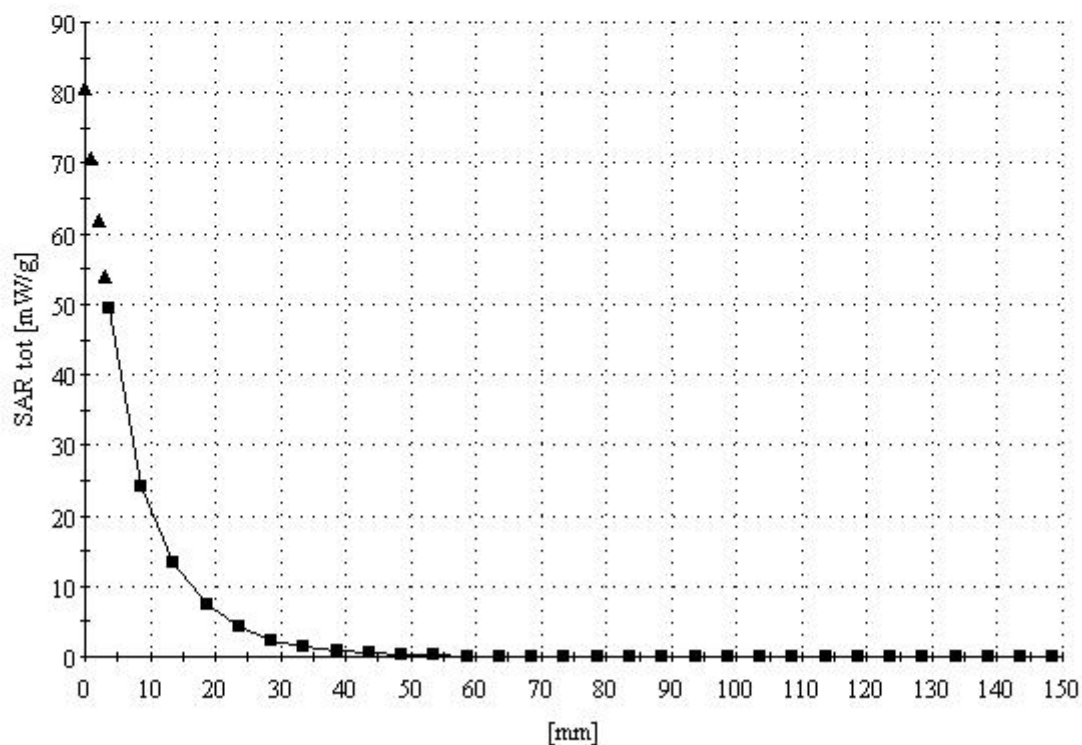
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : May 20, 2005



■ Dielectric Parameter (835MHz Brain)

Title : PX-100
SubTitle : CDMA Brain
May 19, 2005 08:52 AM

Frequency	e'	e''
800.000000 MHz	41.7175	19.1963
805.000000 MHz	41.3329	19.4562
810.000000 MHz	41.2046	19.4089
815.000000 MHz	41.3241	19.1242
820.000000 MHz	41.1941	19.2025
825.000000 MHz	41.0668	19.1473
830.000000 MHz	41.0686	19.1157
835.000000 MHz	40.9243	19.0669
840.000000 MHz	40.7207	19.2128
845.000000 MHz	40.7396	19.0265
850.000000 MHz	40.8285	18.6881
855.000000 MHz	40.8160	18.5453
860.000000 MHz	40.6573	19.0071
865.000000 MHz	40.6051	18.7533
870.000000 MHz	40.1714	19.2281
875.000000 MHz	40.3563	18.9799
880.000000 MHz	40.4149	18.7390
885.000000 MHz	40.2936	18.7114
890.000000 MHz	40.2550	18.8793
895.000000 MHz	40.1808	18.6801
900.000000 MHz	39.8680	19.0843

■ Dielectric Parameter (1900MHz Brain)

Title : PX-100**SubTitle : PCS Brain**

May 20, 2005 10:34 AM

Frequency	ϵ'	ϵ''
1.800000000 GHz	38.8867	13.3725
1.810000000 GHz	38.8791	13.4312
1.820000000 GHz	38.8476	13.4679
1.830000000 GHz	38.8559	13.5136
1.840000000 GHz	38.8491	13.5620
1.850000000 GHz	38.8389	13.5734
1.860000000 GHz	38.7843	13.6177
1.870000000 GHz	38.7562	13.6013
1.880000000 GHz	38.7045	13.6412
1.890000000 GHz	38.6194	13.6012
1.900000000 GHz	38.5730	13.6266
1.910000000 GHz	38.5187	13.6188
1.920000000 GHz	38.4664	13.6454
1.930000000 GHz	38.4387	13.6860
1.940000000 GHz	38.4286	13.7154
1.950000000 GHz	38.4073	13.7898
1.960000000 GHz	38.4314	13.8555
1.970000000 GHz	38.4039	13.9160
1.980000000 GHz	38.3527	13.9509
1.990000000 GHz	38.3631	13.9403
2.000000000 GHz	38.3039	13.9374

■ Dielectric Parameter (835MHz Muscle)

Title : PX-100**SubTitle : CDMA Muscle**

May 19, 2005 01:34 PM

Frequency	ϵ'	ϵ''
800.000000 MHz	54.5438	21.1097
805.000000 MHz	54.4446	21.0170
810.000000 MHz	54.3790	21.0149
815.000000 MHz	54.3274	20.9856
820.000000 MHz	54.3539	20.9841
825.000000 MHz	54.2544	21.0170
830.000000 MHz	54.2569	20.9905
835.000000 MHz	54.2003	20.9967
840.000000 MHz	54.1871	20.9979
845.000000 MHz	54.1640	20.9698
850.000000 MHz	54.1725	20.9953
855.000000 MHz	54.0734	20.9631
860.000000 MHz	54.0503	20.9569
865.000000 MHz	54.0347	20.8832
870.000000 MHz	53.9805	20.9319
875.000000 MHz	53.9054	20.9083
880.000000 MHz	53.8259	20.8974
885.000000 MHz	53.7581	20.8454
890.000000 MHz	53.7091	20.8394
895.000000 MHz	53.6513	20.7007
900.000000 MHz	53.5424	20.7503

■ Dielectric Parameter (1900MHz Muscle)

Title : PX-100
SubTitle : PCS Muscle
May 20, 2005 03:16 PM

Frequency	e'	e''
1.800000000 GHz	52.0333	13.6867
1.810000000 GHz	52.0091	13.7926
1.820000000 GHz	51.9766	13.8270
1.830000000 GHz	51.9245	13.8569
1.840000000 GHz	51.8976	13.9262
1.850000000 GHz	51.8510	13.9948
1.860000000 GHz	51.7688	14.0484
1.870000000 GHz	51.7036	14.0985
1.880000000 GHz	51.6429	14.1594
1.890000000 GHz	51.5295	14.1822
1.900000000 GHz	51.4869	14.2425
1.910000000 GHz	51.4502	14.2873
1.920000000 GHz	51.3877	14.3485
1.930000000 GHz	51.3657	14.4127
1.940000000 GHz	51.3425	14.4499
1.950000000 GHz	51.3658	14.5088
1.960000000 GHz	51.2944	14.5550
1.970000000 GHz	51.3091	14.6039
1.980000000 GHz	51.2619	14.6145
1.990000000 GHz	51.1955	14.6824
2.000000000 GHz	51.1362	14.7407