

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (850MHz Head)

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: $\sigma = 0.88 \text{ mho/m}$, $\epsilon_r = 41.8$, $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 9.88 mW/g, SAR (10g): 6.30 mW/g

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

Powerdrift: -0.01 dB

Comment :

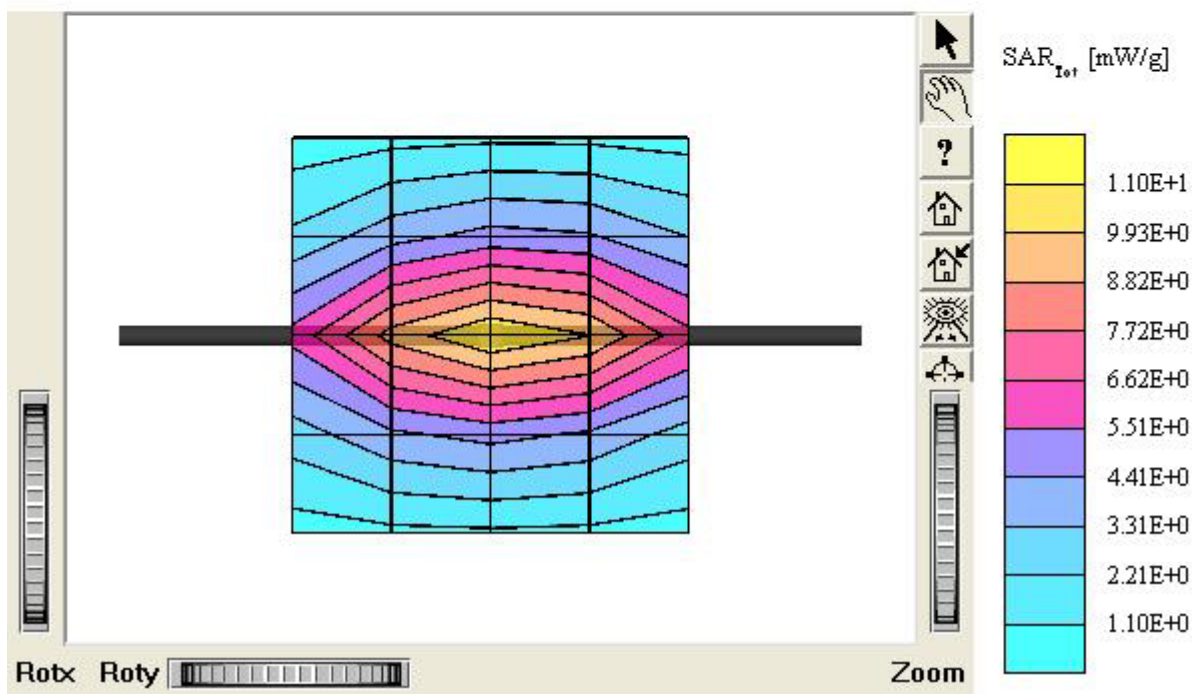
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : August 11, 2005



■ Validation Data (1900MHz Head)

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: $\sigma = 1.45 \text{ mho/m}$ $\epsilon_r = 39.9$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 41.6 mW/g, SAR (10g): 21.0 mW/g

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

Powerdrift: -0.16 dB

Comment :

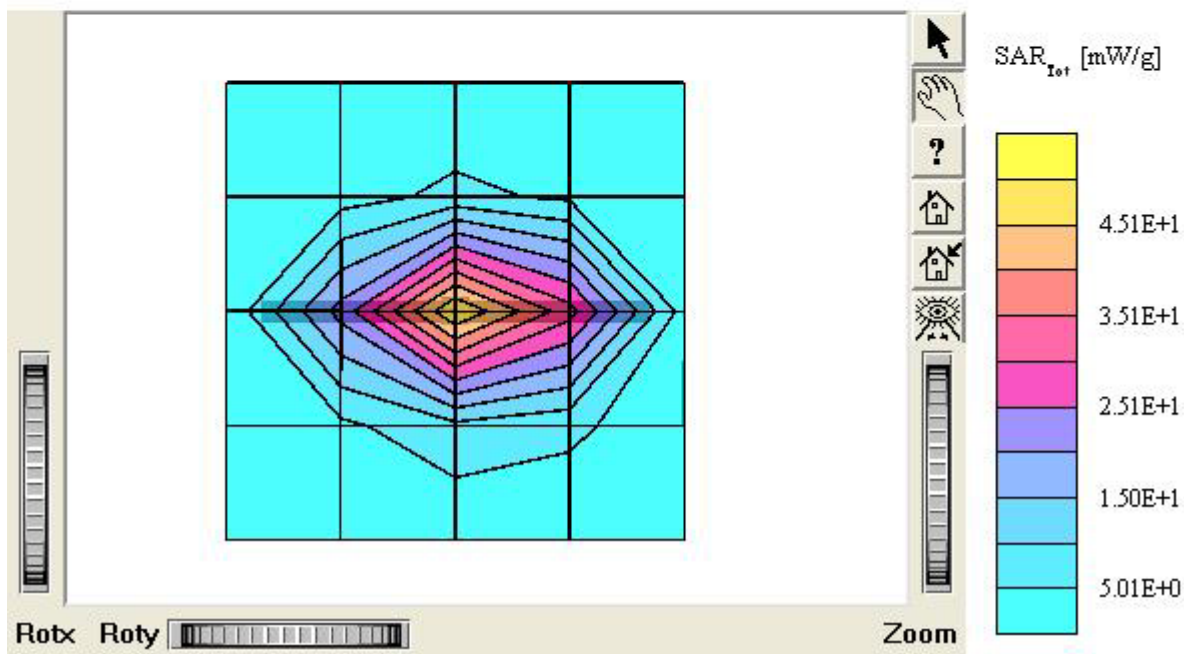
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : August 11, 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: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 41.8$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment :

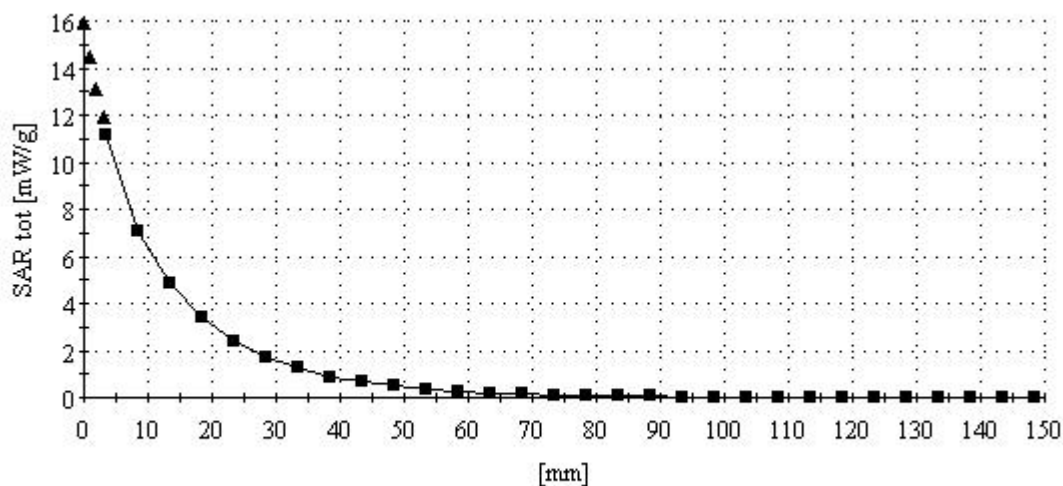
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : August 11, 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: $\sigma = 1.45 \text{ mho/m}$ $\epsilon_r = 39.9$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment :

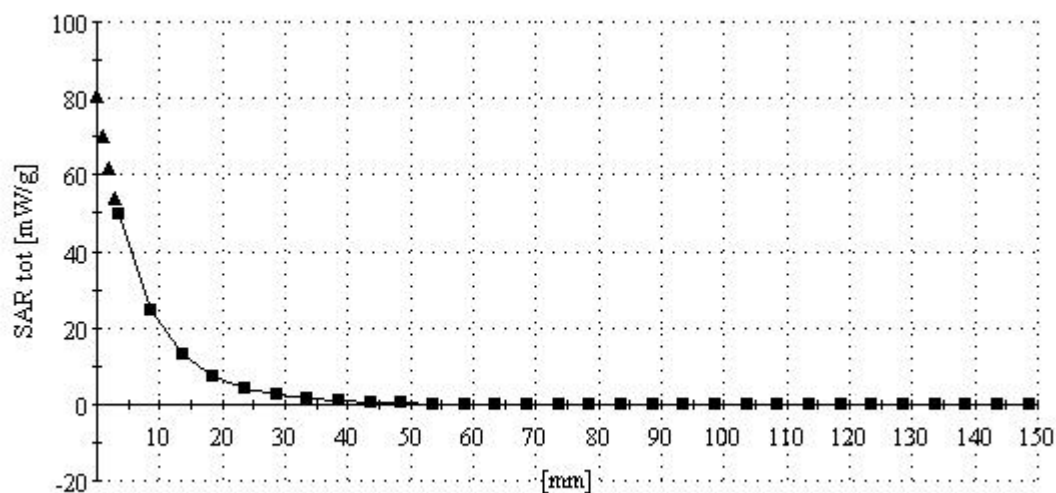
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : August 11, 2005



■ Dielectric Parameter (850MHz Head)

Title : INNO-P11**SubTitle : GSM850 Head**

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Frequency	e'	e''
800.000000 MHz	42.3960	18.8924
805.000000 MHz	42.3389	18.8582
810.000000 MHz	42.2412	18.8679
815.000000 MHz	42.1846	18.8665
820.000000 MHz	42.1100	18.8542
825.000000 MHz	42.0317	18.8434
830.000000 MHz	41.9649	18.8876
835.000000 MHz	41.7584	18.8976
840.000000 MHz	41.7161	18.8513
845.000000 MHz	41.6361	18.8164
850.000000 MHz	41.5627	18.8008
855.000000 MHz	41.4523	18.7962
860.000000 MHz	41.4434	18.7833
865.000000 MHz	41.3206	18.7626
870.000000 MHz	41.2878	18.7672
875.000000 MHz	41.1649	18.7374
880.000000 MHz	41.1556	18.7304
885.000000 MHz	41.0573	18.7596
890.000000 MHz	41.0068	18.7598
895.000000 MHz	40.9737	18.7153
900.000000 MHz	40.9338	18.7128

■ Dielectric Parameter (1900MHz Head)**Title : INNO-P11****SubTitle : GSM1900 Head**

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Frequency	e'	e''
1.800000000 GHz	40.3539	13.4058
1.810000000 GHz	40.2881	13.4880
1.820000000 GHz	40.2726	13.4962
1.830000000 GHz	40.2221	13.5780
1.840000000 GHz	40.2378	13.6608
1.850000000 GHz	40.2131	13.7109
1.860000000 GHz	40.1497	13.7550
1.870000000 GHz	40.1121	13.7375
1.880000000 GHz	40.0409	13.7510
1.890000000 GHz	39.9942	13.7491
1.900000000 GHz	39.9256	13.7348
1.910000000 GHz	39.8478	13.7418
1.920000000 GHz	39.7901	13.7364
1.930000000 GHz	39.7627	13.7622
1.940000000 GHz	39.7310	13.8384
1.950000000 GHz	39.6757	13.8946
1.960000000 GHz	39.6743	13.9448
1.970000000 GHz	39.6743	14.0265
1.980000000 GHz	39.6459	14.0766
1.990000000 GHz	39.5997	14.0500
2.000000000 GHz	39.5682	14.0699

■ Dielectric Parameter (850MHz Body)**Title : INNO-P11****SubTitle ; GSM850 Body****August 11, 2005 01:32 PM**

Frequency	e'	e''
800.000000 MHz	54.4330	20.9896
805.000000 MHz	54.3550	20.9242
810.000000 MHz	54.3104	20.9492
815.000000 MHz	54.3023	20.9160
820.000000 MHz	54.2482	20.8772
825.000000 MHz	54.2031	20.8910
830.000000 MHz	54.2053	20.9097
835.000000 MHz	54.1851	20.9251
840.000000 MHz	54.1092	20.9059
845.000000 MHz	54.0970	20.9072
850.000000 MHz	54.0639	20.9378
855.000000 MHz	54.0128	20.8883
860.000000 MHz	54.0219	20.9676
865.000000 MHz	53.9699	20.8541
870.000000 MHz	53.9160	20.9029
875.000000 MHz	53.8444	20.8463
880.000000 MHz	53.7956	20.8188
885.000000 MHz	53.7386	20.7948
890.000000 MHz	53.6675	20.8134
895.000000 MHz	53.5881	20.6729
900.000000 MHz	53.5124	20.6472

■ Dielectric Parameter (1900MHz Body)

Title : INNO-P11
SubTitle : GSM1900 Body
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Frequency	e'	e''
1.800000000 GHz	53.6781	13.7484
1.810000000 GHz	53.6703	13.8101
1.820000000 GHz	53.6664	13.8901
1.830000000 GHz	53.6208	13.9451
1.840000000 GHz	53.6032	13.9716
1.850000000 GHz	53.5415	13.9796
1.860000000 GHz	53.4696	14.0304
1.870000000 GHz	53.4051	14.0750
1.880000000 GHz	53.3605	14.1348
1.890000000 GHz	53.2730	14.2128
1.900000000 GHz	53.2595	14.2776
1.910000000 GHz	53.2574	14.3832
1.920000000 GHz	53.2351	14.4567
1.930000000 GHz	53.2544	14.5019
1.940000000 GHz	53.2706	14.5647
1.950000000 GHz	53.3016	14.6060
1.960000000 GHz	53.2555	14.6222
1.970000000 GHz	53.1919	14.6374
1.980000000 GHz	53.1484	14.6412
1.990000000 GHz	53.0722	14.6811
2.000000000 GHz	53.0327	14.7078