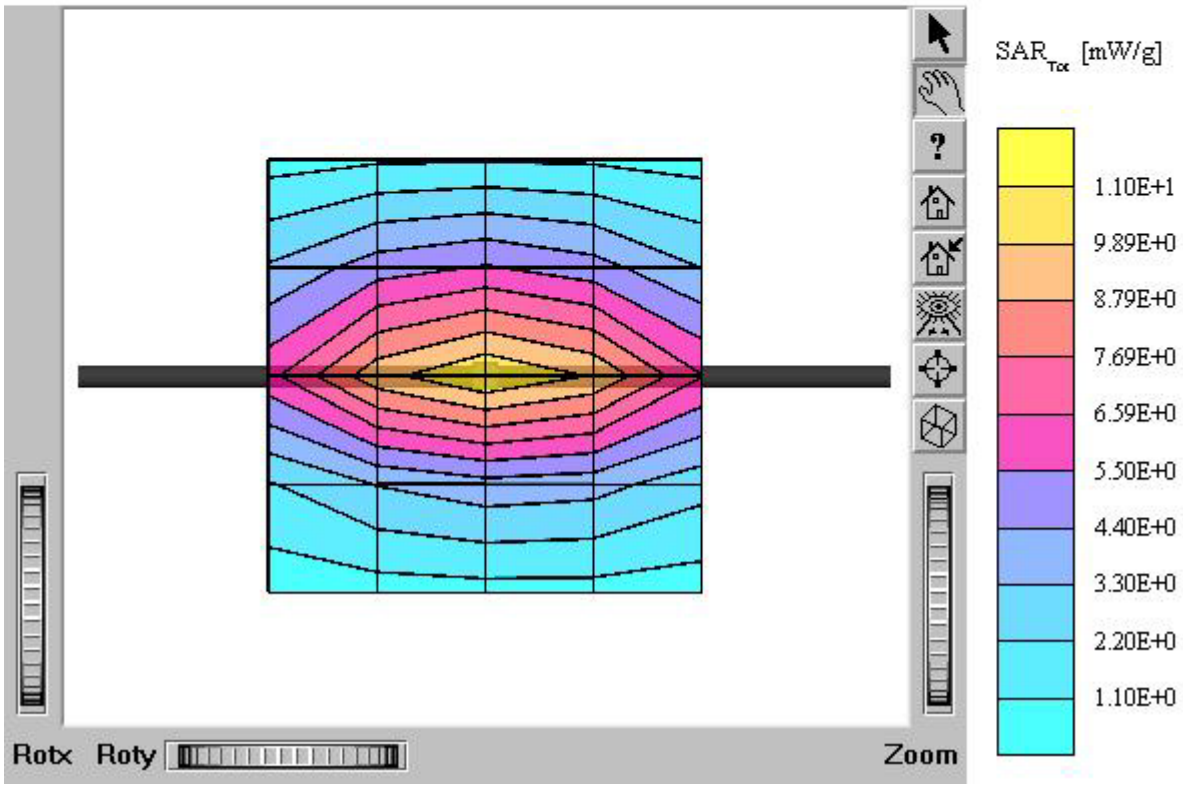
ATTACHMENT Q – DIPOLE VALIDATION

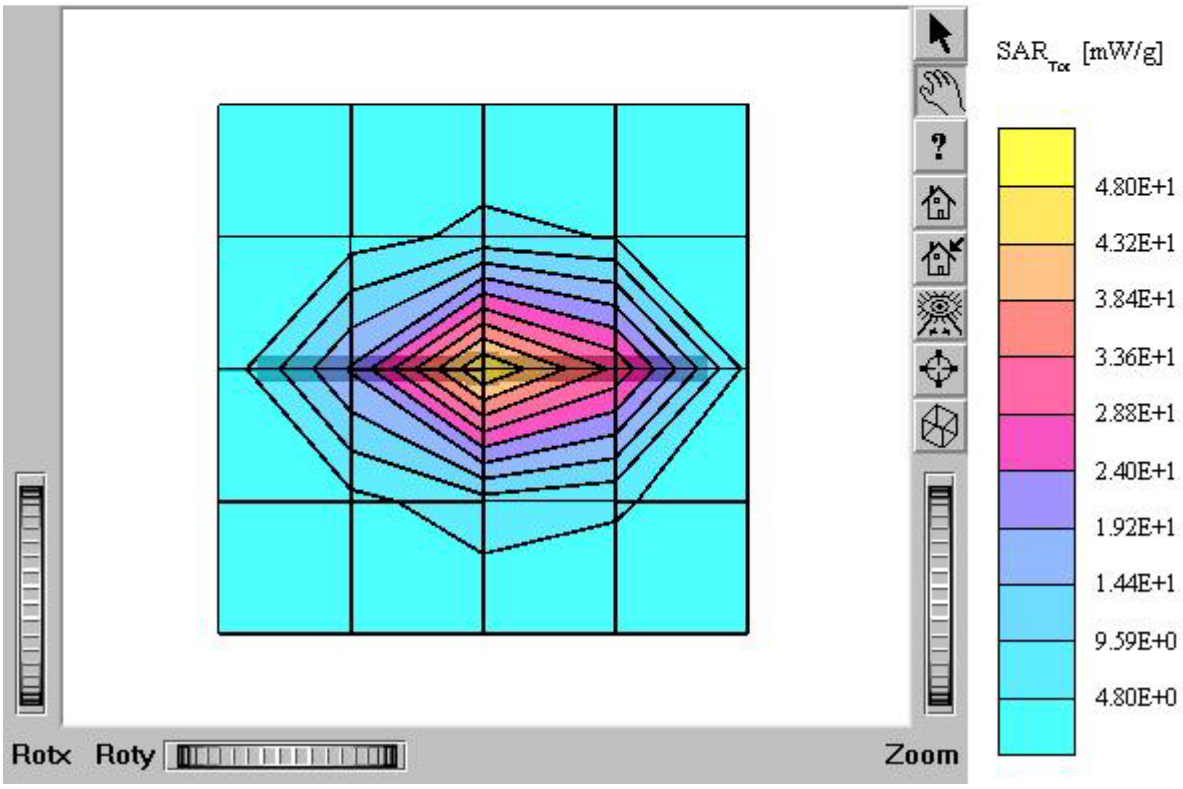
■ Validation Data (835MHz Brain)

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 = 0.89 mho/m e_r = 41.0 r = 1.00 g/cm³
Cubes (2): SAR (1g): 10.3 mW/g ± 0.01 dB, SAR (10g): 6.59 mW/g ± 0.01 dB
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.03 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℃
Date Tested : March 17, 2005



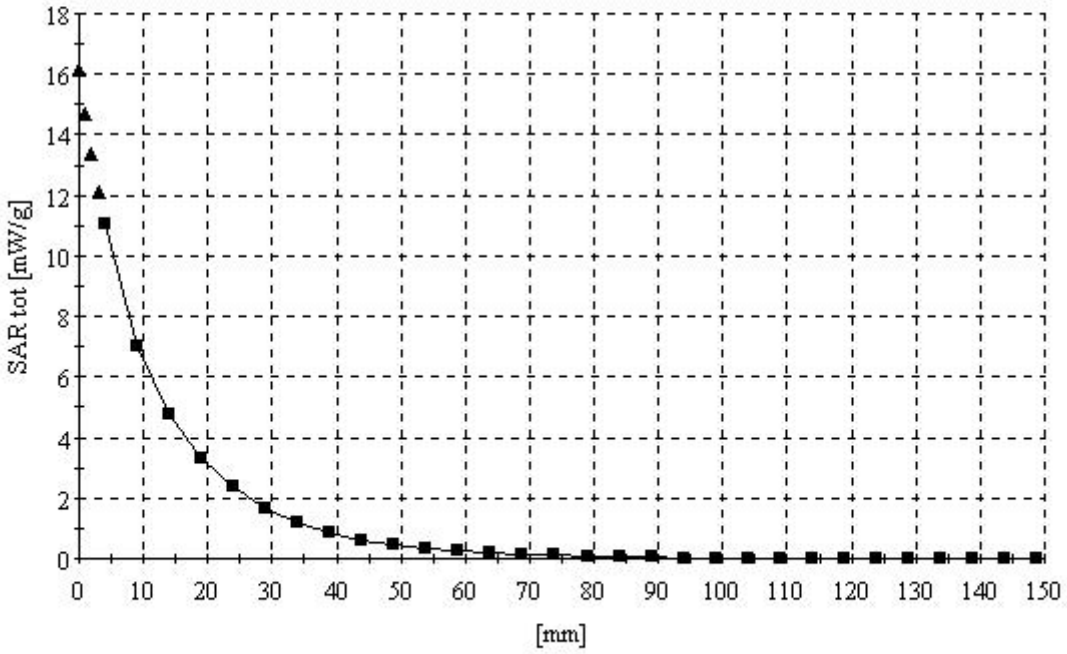
■ Validation Data (1900MHz Brain)

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 = 1.42 mho/m e_r = 39.6 r = 1.00 g/cm³
Cubes (2): SAR (1g): 41.5 mW/g ± 0.03 dB, SAR (10g): 20.7 mW/g ± 0.03 dB
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.04 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 : March 17, 2005



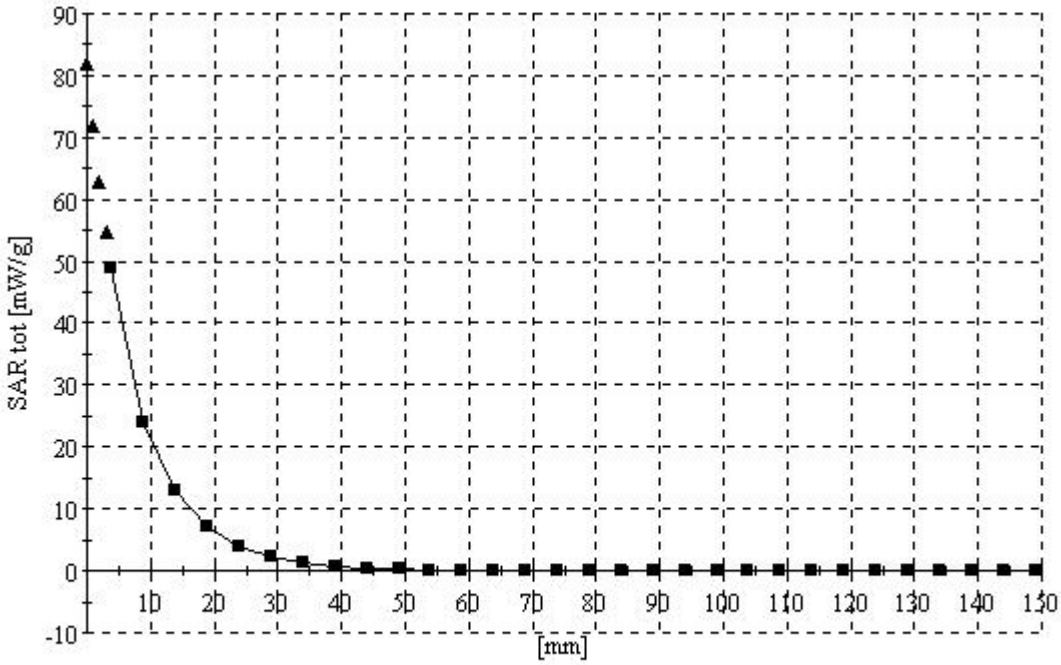
Dipole 835 MHz
SAM I Phantom; Section; Position: ; Frequency: 835 MHz
Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Brain 835 MHz: s = 0.89 mho/m e_r = 41.0 r = 1.00 g/cm³
:
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

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: 21.6℃
Date Tested : March 17, 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 = 1.42 mho/m e, = 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: 21.6℃
Date Tested : March 17, 2005



■ Dielectric Parameter (835MHz Brain)

Title : N551
SubTitle : GSM 850 Brain
March 17, 2005 09:07 AM

Frequency	e'	e''
800.000000 MHz	41.7885	19.1771
805.000000 MHz	41.6270	19.1822
810.000000 MHz	41.5397	19.1353
815.000000 MHz	41.4455	19.1768
820.000000 MHz	41.1801	19.3075
825.000000 MHz	41.1644	19.1365
830.000000 MHz	41.1585	19.0593
835.000000 MHz	40.9573	19.1102
840.000000 MHz	40.9158	19.0128
845.000000 MHz	40.9028	18.8670
850.000000 MHz	40.7941	19.0074
855.000000 MHz	40.8366	18.8372
860.000000 MHz	40.7296	18.7924
865.000000 MHz	40.5929	18.8178
870.000000 MHz	40.5182	18.8056
875.000000 MHz	40.5430	18.7855
880.000000 MHz	40.3932	18.8907
885.000000 MHz	40.3579	18.8827
890.000000 MHz	40.2860	18.7113
895.000000 MHz	40.0083	19.0766
900.000000 MHz	40.1115	18.8361

■ Dielectric Parameter (1900MHz Brain)

Title : N551
SubTitle : GSM 1900 Brain
March 17, 2005 11:13 AM

Frequency	e'	e''
1.800000000 GHz	39.9992	13.0069
1.806666667 GHz	39.9696	13.0482
1.813333333 GHz	39.9020	13.0856
1.820000000 GHz	39.8821	13.1452
1.826666667 GHz	39.8685	13.2039
1.833333333 GHz	39.8650	13.2289
1.840000000 GHz	39.9017	13.2982
1.846666667 GHz	39.9013	13.3360
1.853333333 GHz	39.8906	13.3469
1.860000000 GHz	39.9204	13.3924
1.866666667 GHz	39.8743	13.4075
1.873333333 GHz	39.8921	13.4181
1.880000000 GHz	39.8422	13.4209
1.886666667 GHz	39.7754	13.4196
1.893333333 GHz	39.7080	13.4071
1.900000000 GHz	39.6295	13.4230
1.906666667 GHz	39.5426	13.4060
1.913333333 GHz	39.4853	13.4297
1.920000000 GHz	39.4232	13.4449
1.926666667 GHz	39.3686	13.4614

■ Dielectric Parameter (835MHz Muscle)

Title : N551

SubTitle : GSM 850 Body

March 17, 2005 10:11 AM

Frequency	e'	e''
800.000000 MHz	54.4531	20.7892
805.000000 MHz	54.3288	20.7865
810.000000 MHz	54.2983	20.8521
815.000000 MHz	54.2163	20.8012
820.000000 MHz	54.1779	20.8523
825.000000 MHz	54.0447	20.8374
830.000000 MHz	53.9450	20.8939
835.000000 MHz	53.8923	20.8781
840.000000 MHz	53.7696	20.8772
845.000000 MHz	53.7508	20.8277
850.000000 MHz	53.6421	20.7684
855.000000 MHz	53.6295	20.7608
860.000000 MHz	53.5976	20.7280
865.000000 MHz	53.5242	20.7540
870.000000 MHz	53.4718	20.7186
875.000000 MHz	53.4566	20.7227
880.000000 MHz	53.4393	20.6638
885.000000 MHz	53.3975	20.7044
890.000000 MHz	53.3538	20.6824
895.000000 MHz	53.3345	20.6668
900.000000 MHz	53.3339	20.6439

■ Dielectric Parameter (1900MHz Muscle)

Title : N551
SubTitle : GSM 1900 Body
March 17, 2005 12:03 PM

Frequency	e'	e''
1.800000000 GHz	51.3897	14.7083
1.810000000 GHz	51.3757	14.7086
1.820000000 GHz	51.3345	14.7387
1.830000000 GHz	51.2928	14.7872
1.840000000 GHz	51.2776	14.8138
1.850000000 GHz	51.2669	14.8438
1.860000000 GHz	51.1953	14.9043
1.870000000 GHz	51.1279	14.9298
1.880000000 GHz	51.0855	14.9451
1.890000000 GHz	51.0015	14.9471
1.900000000 GHz	50.9280	14.9551
1.910000000 GHz	50.8725	14.9658
1.920000000 GHz	50.8275	14.9784
1.930000000 GHz	50.7949	15.0193
1.940000000 GHz	50.7673	15.0598
1.950000000 GHz	50.7159	15.0793
1.960000000 GHz	50.6898	15.1331
1.970000000 GHz	50.6773	15.1997
1.980000000 GHz	50.6530	15.2277
1.990000000 GHz	50.6234	15.2325
2.000000000 GHz	50.5705	15.2485