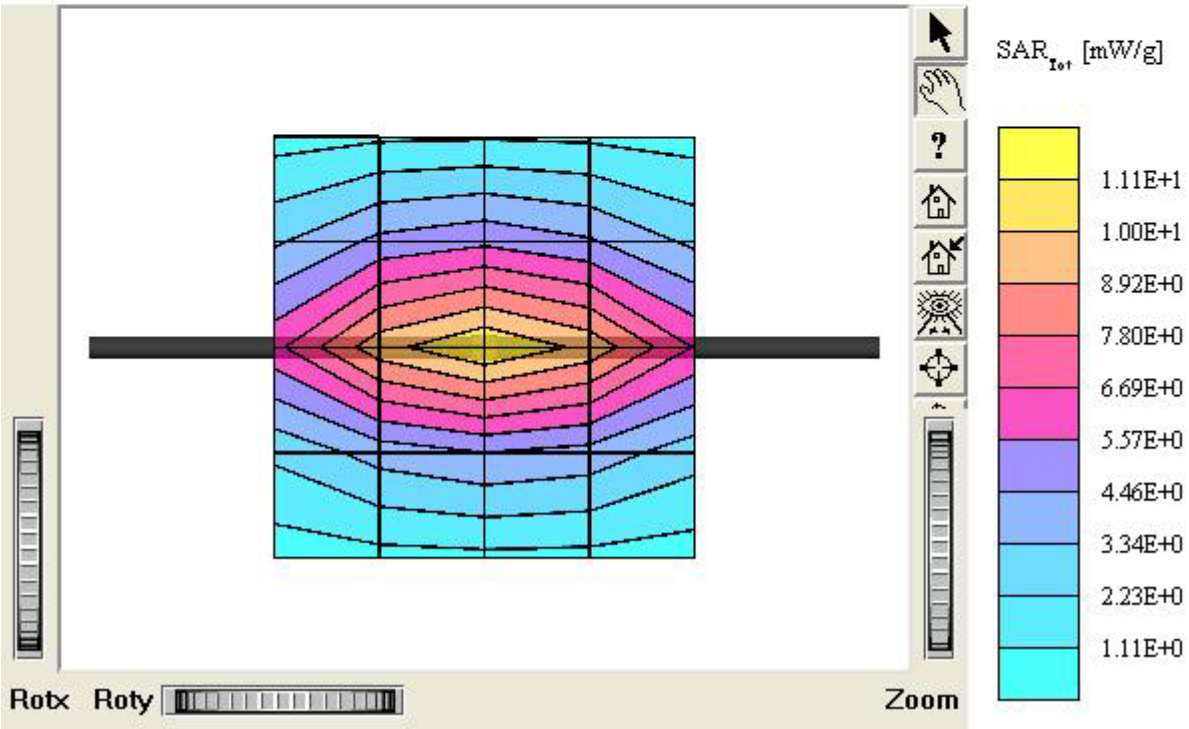
ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Dipole 835 MHz

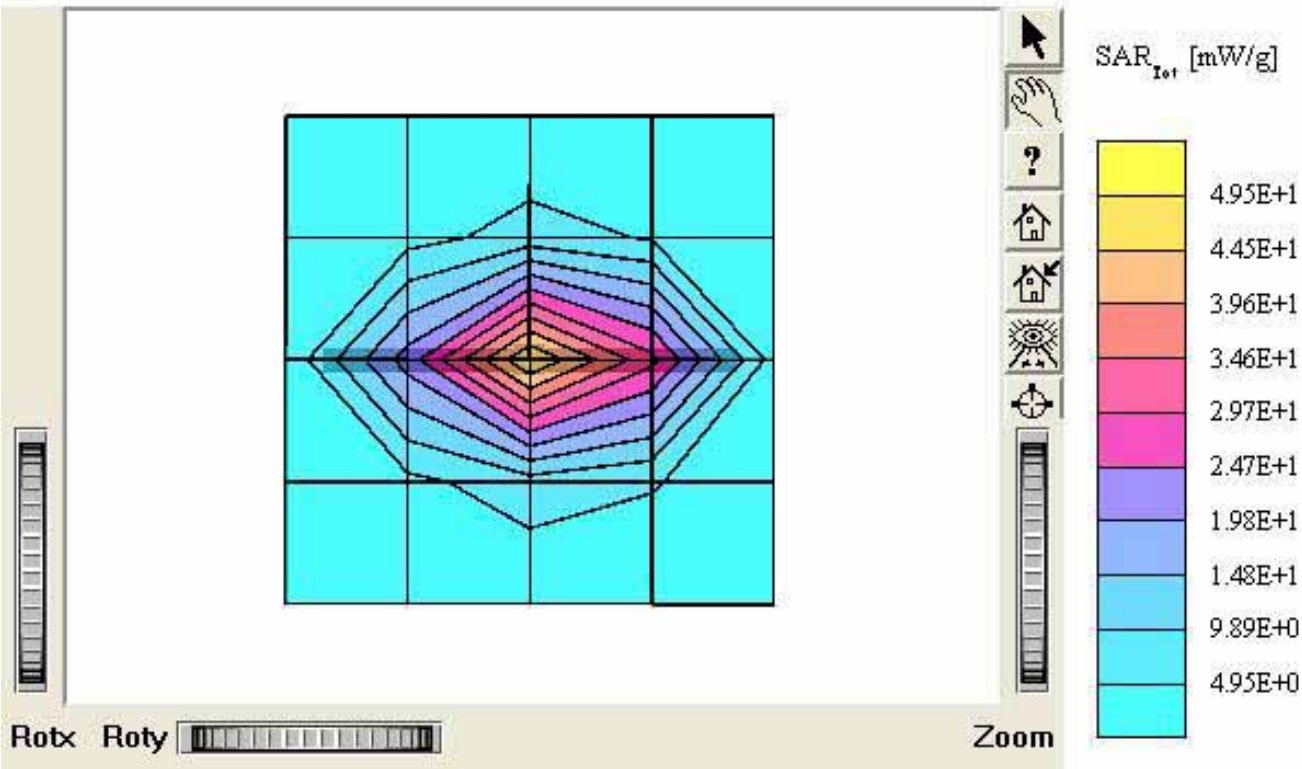
SAM I Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz
Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Head 835 MHz: σ = 0.89 mho/m ε_r = 41.9 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 9.98 mW/g, SAR (10g): 6.43 mW/g
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.01 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: 21.7℃
Date Tested : August 18, 2005



■ Validation Data (1900MHz Head)

Dipole 1900 MHz

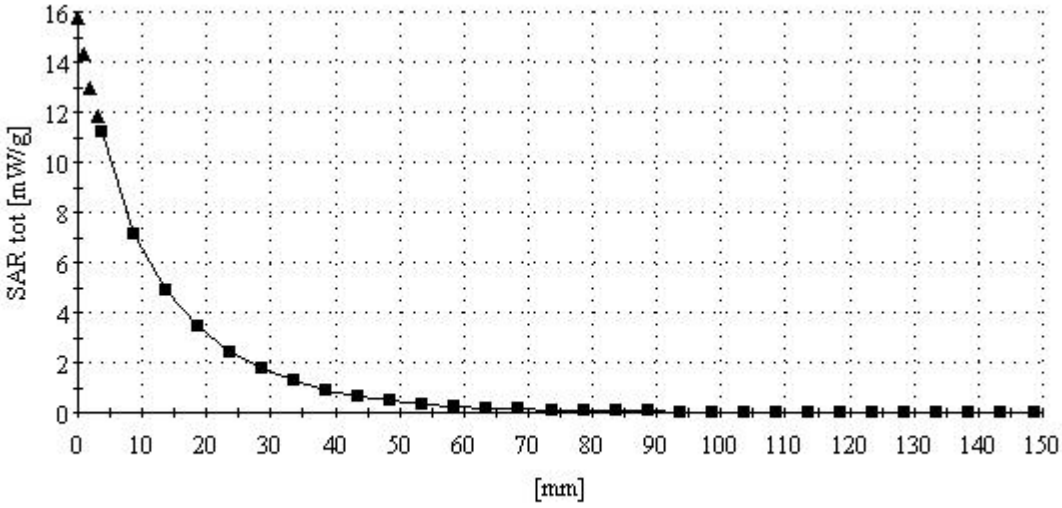
SAM II Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz
Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: σ = 1.44 mho/m ε_r = 39.9 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 41.1 mW/g, SAR (10g): 20.7 mW/g
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.09 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: 21.5℃
Date Tested : August 19, 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: σ = 0.89 mho/m ε_r = 41.9 ρ = 1.00 g/cm^3
:
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 5.0

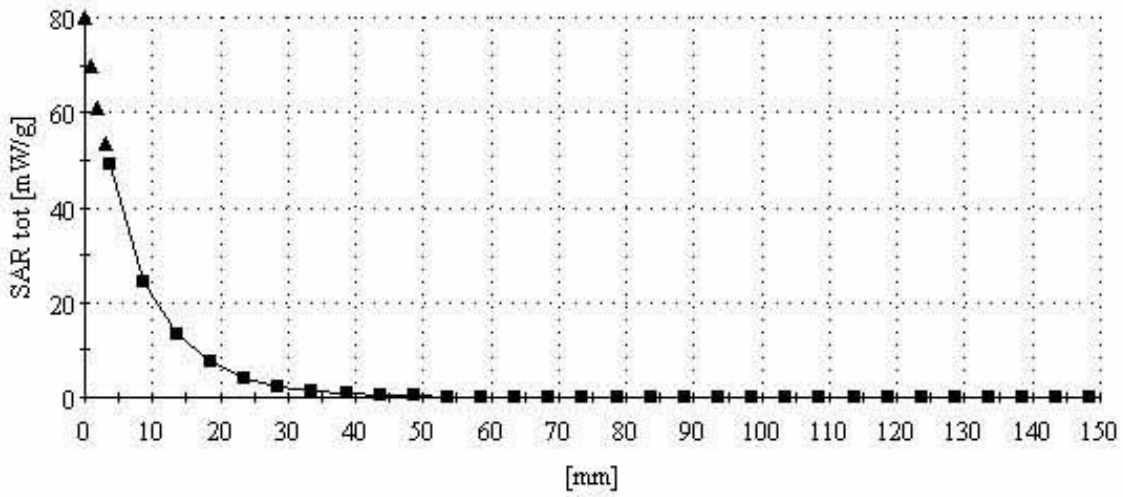
Comment :
835 MHz Brain Dipole Validation (D835V2/ S.N: 441)
Antenna Input Power : 30 dBm (1W)
HCT Co., Ltd. Brain Tissue Simulating Liquid
Liquid Temperature: 21.7℃
Date Tested : August 18, 2005



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: σ = 1.44 mho/m ε_r = 39.9 ρ = 1.00 g/cm^3
:
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 (1W)
HCT Co., Ltd. Brain Tissue Simulating Liquid
Liquid Temperature: 21.5℃
Date Tested : August 19, 2005



■ Dielectric Parameter (835MHz Head)

Title : INNO-A21
SubTitle : GSM850 HEAD
August 18, 2005 09:10 AM

Frequency	e'	e''
800.000000 MHz	42.5124	19.1978
805.000000 MHz	42.4690	19.2121
810.000000 MHz	42.3397	19.1854
815.000000 MHz	42.3200	19.1611
820.000000 MHz	42.2295	19.1675
825.000000 MHz	42.1066	19.1673
830.000000 MHz	42.0349	19.1742
835.000000 MHz	41.9131	19.1482
840.000000 MHz	41.8522	19.1474
845.000000 MHz	41.7168	19.1368
850.000000 MHz	41.6857	19.0866
855.000000 MHz	41.6130	19.0695
860.000000 MHz	41.5820	19.0510
865.000000 MHz	41.4830	19.0423
870.000000 MHz	41.4216	19.0535
875.000000 MHz	41.2796	19.0275
880.000000 MHz	41.2715	19.0236
885.000000 MHz	41.2142	19.0041
890.000000 MHz	41.1511	19.0465
895.000000 MHz	41.0611	18.9774
900.000000 MHz	41.0221	18.9435

■ Dielectric Parameter (1900MHz Head)

Title : INNO-A21
SubTitle : GSM1900 HEAD
August 19, 2005 09:56 AM

Frequency	e'	e''
1.800000000 GHz	40.2951	13.3501
1.810000000 GHz	40.2416	13.4128
1.820000000 GHz	40.1901	13.4468
1.830000000 GHz	40.1649	13.5497
1.840000000 GHz	40.1490	13.6405
1.850000000 GHz	40.1292	13.7030
1.860000000 GHz	40.1198	13.7557
1.870000000 GHz	40.0626	13.7690
1.880000000 GHz	39.9998	13.7622
1.890000000 GHz	39.9375	13.6983
1.900000000 GHz	39.8719	13.6794
1.910000000 GHz	39.8210	13.6635
1.920000000 GHz	39.7449	13.6942
1.930000000 GHz	39.7189	13.7223
1.940000000 GHz	39.6679	13.7966
1.950000000 GHz	39.6223	13.8674
1.960000000 GHz	39.6072	13.9062
1.970000000 GHz	39.5814	14.0113
1.980000000 GHz	39.5531	14.0705
1.990000000 GHz	39.5155	14.0739
2.000000000 GHz	39.4917	14.0832

■ Dielectric Parameter (835MHz Body)

Title : INNO-A21
SubTitle : GSM850 BODY
August 18, 2005 01:33 PM

Frequency	e'	e''
800.000000 MHz	54.3777	20.9295
805.000000 MHz	54.2905	20.9019
810.000000 MHz	54.2655	20.8864
815.000000 MHz	54.2178	20.8679
820.000000 MHz	54.1828	20.8505
825.000000 MHz	54.1335	20.8830
830.000000 MHz	54.1483	20.8751
835.000000 MHz	54.1090	20.8979
840.000000 MHz	54.0563	20.8815
845.000000 MHz	54.0418	20.9058
850.000000 MHz	54.0472	20.9223
855.000000 MHz	53.9700	20.8610
860.000000 MHz	53.9816	20.9180
865.000000 MHz	53.9252	20.8495
870.000000 MHz	53.8924	20.8691
875.000000 MHz	53.8455	20.8353
880.000000 MHz	53.7956	20.8188
885.000000 MHz	53.7088	20.7588
890.000000 MHz	53.6533	20.7768
895.000000 MHz	53.5522	20.6346
900.000000 MHz	53.4944	20.6543

■ Dielectric Parameter (1900MHz Body)

Title : INNO-A21
SubTitle : GSM1900 BODY
August 19, 2005 02:23 PM

Frequency	e'	e''
1.800000000 GHz	54.3319	13.6555
1.810000000 GHz	54.1483	13.7606
1.820000000 GHz	53.9994	13.8393
1.830000000 GHz	53.8196	13.8846
1.840000000 GHz	53.6895	13.9454
1.850000000 GHz	53.5952	13.9823
1.860000000 GHz	53.4932	14.0163
1.870000000 GHz	53.3373	14.0567
1.880000000 GHz	53.1939	14.1161
1.890000000 GHz	53.0581	14.1772
1.900000000 GHz	52.9413	14.2365
1.910000000 GHz	52.8412	14.3034
1.920000000 GHz	52.7828	14.3541
1.930000000 GHz	52.7471	14.4424
1.940000000 GHz	52.6838	14.5025
1.950000000 GHz	52.6578	14.5535
1.960000000 GHz	52.5470	14.6163
1.970000000 GHz	52.4744	14.6329
1.980000000 GHz	52.3954	14.6636
1.990000000 GHz	52.2498	14.6869
2.000000000 GHz	52.1314	14.7251