

ATTACHMENT Q – DIPOLE VALIDATION

Validation Data (835MHz Brain)

Dipole 835 MHz

SAM II 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: $\sigma = 0.87$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cube 5x5x7; SAR (1g): 10.0 mW/g, SAR (10g): 6.47 mW/g

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

Powerdrift: 0.00 dB

Comment :

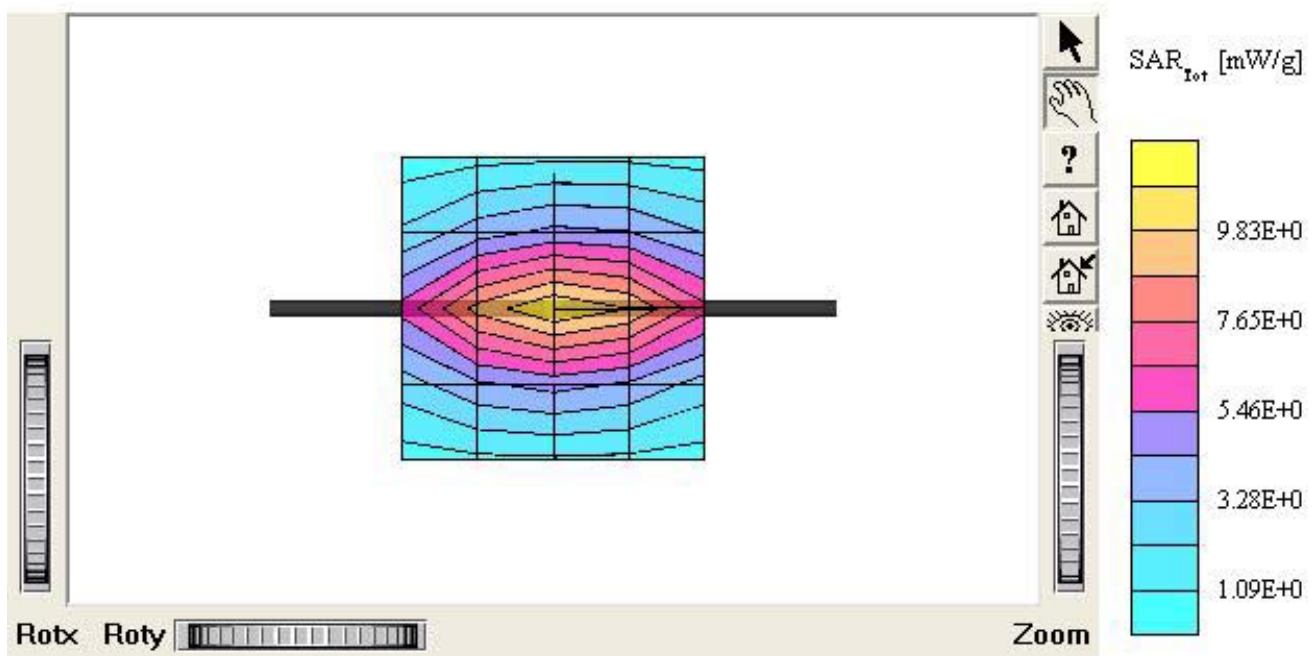
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : June 11, 2005



Validation Data (835MHz Brain)

Dipole 835 MHz

SAM II 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: $\sigma = 0.88 \text{ mho/m}$, $\epsilon_r = 41.9$, $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7; SAR (1g): 10.2 mW/g, SAR (10g): 6.57 mW/g

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

Powerdrift: -0.01 dB

Comment :

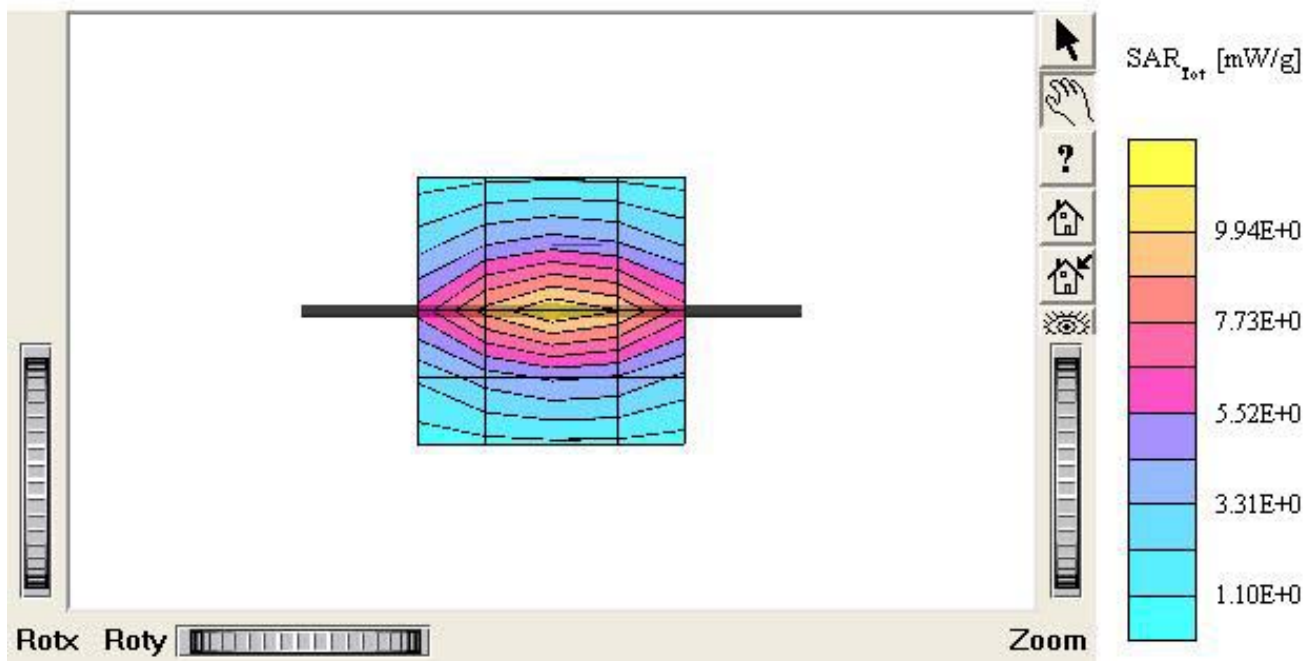
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : June 12, 2005



Validation Data (1900MHz Brain)

Dipole 1900 MHz

SAM I 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: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 38.5$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 41.5 mW/g, SAR (10g): 20.8 mW/g

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

Powerdrift: 0.02 dB

Comment :

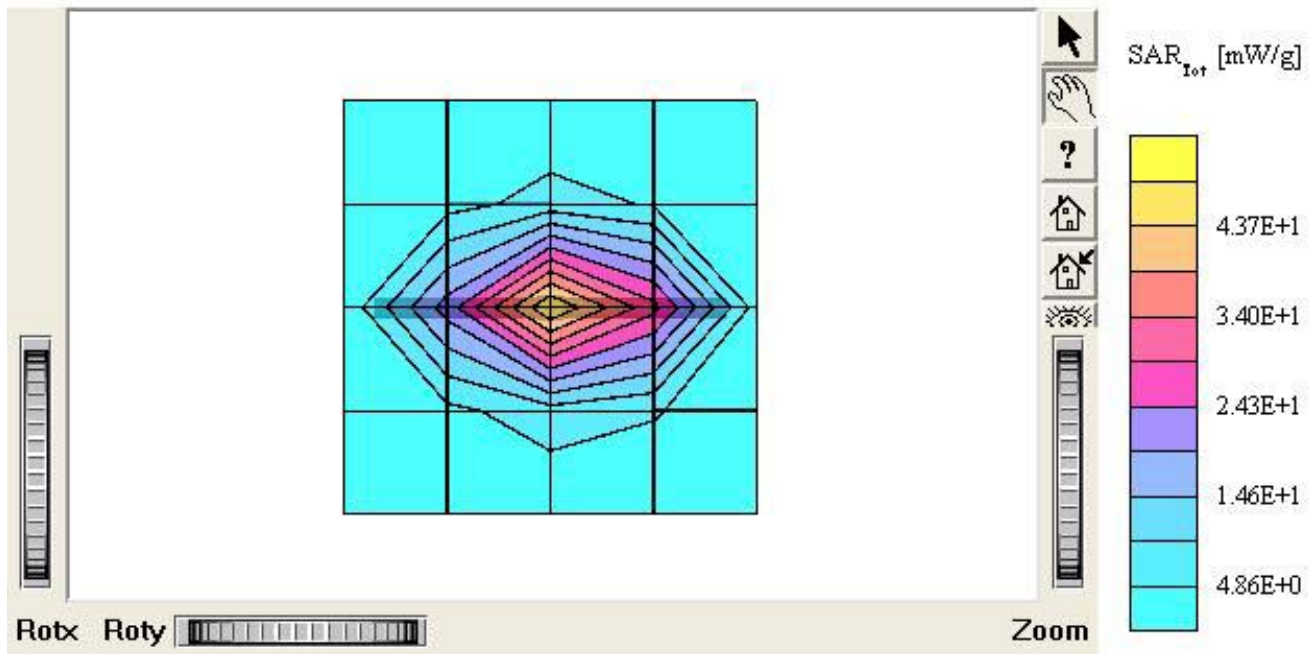
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : June 13, 2005



Dipole 835 MHz

SAM II Phantom; Section; Position: ; Frequency: 835 MHz

Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

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

Comment :

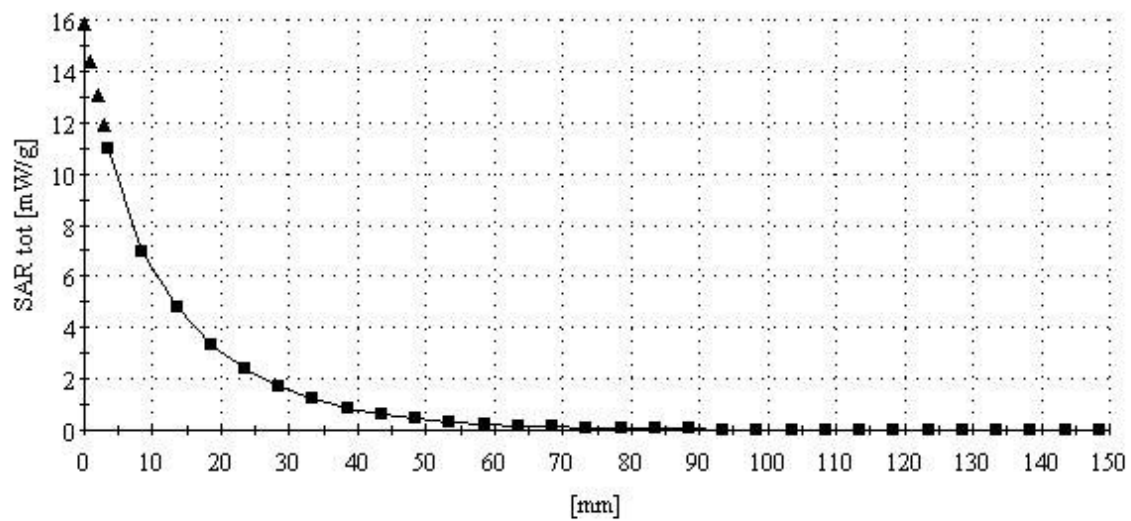
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.8°C

Date Tested : June 11, 2005



Dipole 835 MHz

SAM II Phantom; Section; Position: ; Frequency: 835 MHz

Probe: ET3DV6 - SN1609; ConvF(6.63,6.63,6.63); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.88 \text{ mho/m}$ $\epsilon_r = 41.9$ $\rho = 1.00 \text{ g/cm}^3$

:

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

Comment :

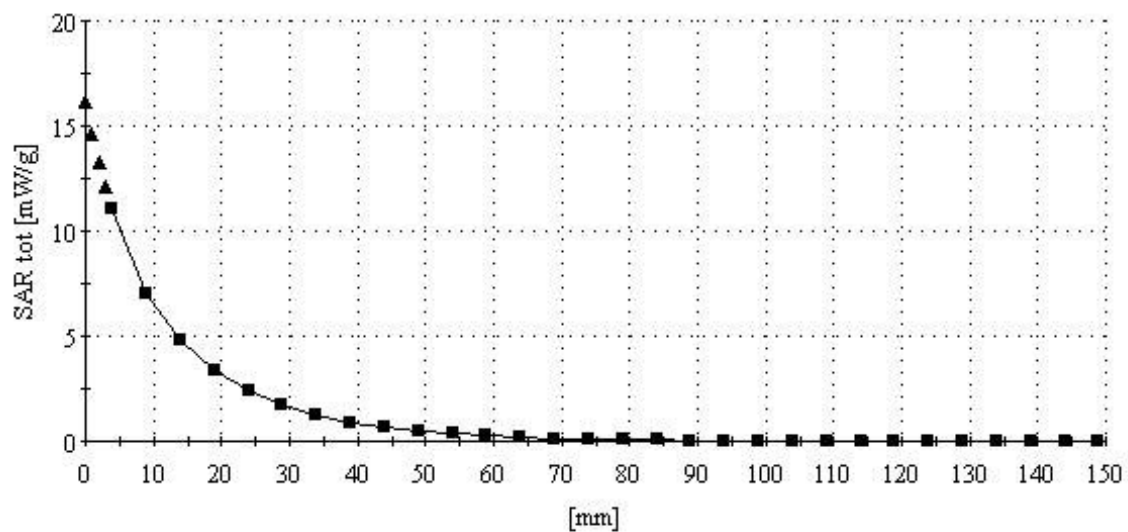
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : June 12, 2005



Dipole 1900 MHz

SAM I Phantom; Section; Position: ; Frequency: 1900 MHz

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44$ mho/m $\epsilon_r = 38.5$ $\rho = 1.00$ g/cm³

:

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

Comment :

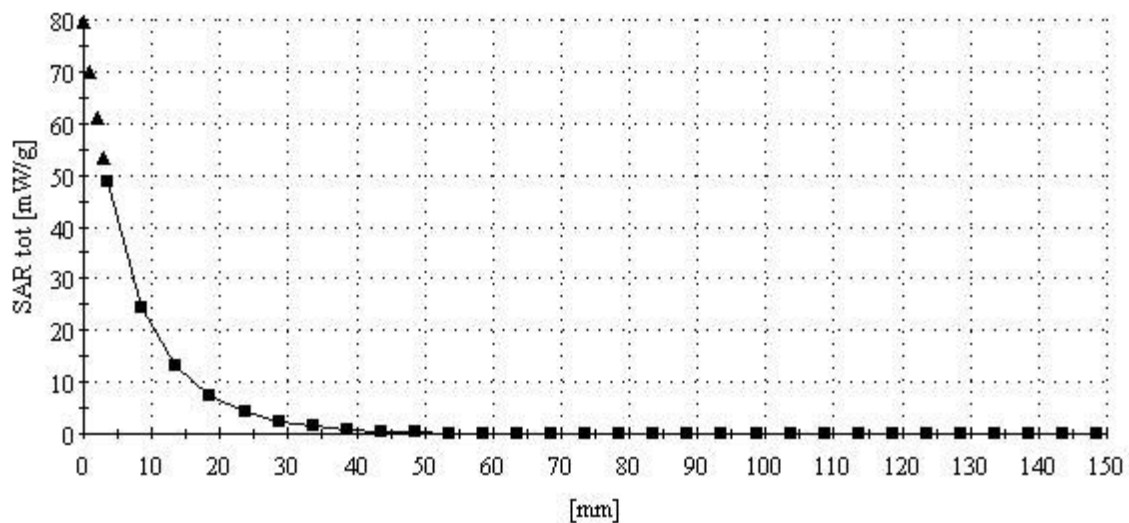
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : June 13, 2005



■ Dielectric Parameter (835MHz Brain)

Title : TX-215A

SubTitle : AMPS Head

June 11, 2005 09:49 AM

Frequency	e'	e''
800.000000 MHz	41.9036	18.6791
805.000000 MHz	41.8928	18.6887
810.000000 MHz	41.7573	18.7107
815.000000 MHz	41.6778	18.6963
820.000000 MHz	41.6315	18.7209
825.000000 MHz	41.5015	18.7262
830.000000 MHz	41.3790	18.7141
835.000000 MHz	41.2544	18.7450
840.000000 MHz	41.1803	18.6890
845.000000 MHz	41.0891	18.6801
850.000000 MHz	40.9664	18.7010
855.000000 MHz	40.8687	18.6228
860.000000 MHz	40.8179	18.6345
865.000000 MHz	40.7653	18.6366
870.000000 MHz	40.6721	18.5998
875.000000 MHz	40.5523	18.5713
880.000000 MHz	40.4887	18.5072
885.000000 MHz	40.3723	18.5340
890.000000 MHz	40.2801	18.4845
895.000000 MHz	40.1733	18.4154
900.000000 MHz	40.1039	18.3363

■ Dielectric Parameter (835MHz Brain)

Title : TX-215A

SubTitle : AMPS Body

June 11, 2005 01:37 PM

Frequency	e'	e''
800.000000 MHz	53.1426	20.4765
805.000000 MHz	53.0475	20.4130
810.000000 MHz	53.0176	20.3724
815.000000 MHz	52.9330	20.3958
820.000000 MHz	52.8971	20.3800
825.000000 MHz	52.8597	20.3262
830.000000 MHz	52.8224	20.3167
835.000000 MHz	52.7455	20.3160
840.000000 MHz	52.6830	20.3213
845.000000 MHz	52.6539	20.3254
850.000000 MHz	52.6378	20.3032
855.000000 MHz	52.5585	20.2825
860.000000 MHz	52.5672	20.2942
865.000000 MHz	52.4855	20.2323
870.000000 MHz	52.4465	20.2827
875.000000 MHz	52.4121	20.2570
880.000000 MHz	52.3370	20.2047
885.000000 MHz	52.2750	20.1847
890.000000 MHz	52.2267	20.1704
895.000000 MHz	52.2000	20.1014
900.000000 MHz	52.1245	20.0928

■ Dielectric Parameter (1900MHz Brain)

Title : TX-215A

SubTitle : CDMA Head

June 12, 2005 09:54 AM

Frequency	e'	e''
800.000000 MHz	42.4412	18.9779
805.000000 MHz	42.4308	18.9951
810.000000 MHz	42.3299	18.9941
815.000000 MHz	42.2420	18.9576
820.000000 MHz	42.2193	18.9783
825.000000 MHz	42.0935	18.9692
830.000000 MHz	42.0037	18.9506
835.000000 MHz	41.8901	18.9550
840.000000 MHz	41.8444	18.8986
845.000000 MHz	41.6827	18.9071
850.000000 MHz	41.6652	18.9060
855.000000 MHz	41.5353	18.9063
860.000000 MHz	41.5180	18.8643
865.000000 MHz	41.4124	18.8687
870.000000 MHz	41.3590	18.8379
875.000000 MHz	41.2467	18.8450
880.000000 MHz	41.2288	18.7744
885.000000 MHz	41.1180	18.8469
890.000000 MHz	41.0688	18.8013
895.000000 MHz	41.0473	18.7630
900.000000 MHz	40.9916	18.7746

■ Dielectric Parameter (835MHz Muscle)

Title : TX-215A**SubTitle : CDMA Body**

June 12, 2005 01:41 PM

Frequency	e'	e''
800.000000 MHz	54.1521	21.0317
805.000000 MHz	54.1504	20.9854
810.000000 MHz	54.1262	20.9698
815.000000 MHz	54.0702	20.9880
820.000000 MHz	54.0856	20.9525
825.000000 MHz	54.0182	20.9025
830.000000 MHz	53.9947	20.9090
835.000000 MHz	53.9480	20.8797
840.000000 MHz	53.8434	20.8392
845.000000 MHz	53.8444	20.8150
850.000000 MHz	53.7362	20.7879
855.000000 MHz	53.6143	20.6908
860.000000 MHz	53.5999	20.7056
865.000000 MHz	53.5299	20.6553
870.000000 MHz	53.4776	20.7057
875.000000 MHz	53.4267	20.6862
880.000000 MHz	53.3399	20.6806
885.000000 MHz	53.3720	20.6930
890.000000 MHz	53.3243	20.7148
895.000000 MHz	53.3112	20.6340
900.000000 MHz	53.2867	20.6832

■ Dielectric Parameter (835MHz Muscle)

Title : TX-215A

SubTitle : PCS Head

June 13, 2005 08:35 AM

Frequency	e'	e''
1.800000000 GHz	38.8290	13.3462
1.810000000 GHz	38.8264	13.4083
1.820000000 GHz	38.7738	13.4548
1.830000000 GHz	38.7783	13.5091
1.840000000 GHz	38.7849	13.5499
1.850000000 GHz	38.7540	13.5711
1.860000000 GHz	38.7449	13.6118
1.870000000 GHz	38.7305	13.5932
1.880000000 GHz	38.6939	13.6239
1.890000000 GHz	38.6007	13.6187
1.900000000 GHz	38.5464	13.6313
1.910000000 GHz	38.4827	13.6177
1.920000000 GHz	38.4263	13.6470
1.930000000 GHz	38.3951	13.6724
1.940000000 GHz	38.3886	13.7261
1.950000000 GHz	38.3697	13.7903
1.960000000 GHz	38.3877	13.8601
1.970000000 GHz	38.3577	13.9165
1.980000000 GHz	38.3336	13.9574
1.990000000 GHz	38.3411	13.9691
2.000000000 GHz	38.2902	13.9608

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-215A

SubTitle : PCS Body

June 13, 2005 09:18 AM

Frequency	e'	e''
1.800000000 GHz	54.8413	13.5537
1.810000000 GHz	54.4263	13.6630
1.820000000 GHz	54.2091	13.7282
1.830000000 GHz	53.9761	13.7769
1.840000000 GHz	53.7629	13.7913
1.850000000 GHz	53.5733	13.8048
1.860000000 GHz	53.4239	13.8676
1.870000000 GHz	53.3526	13.9295
1.880000000 GHz	53.2313	14.0018
1.890000000 GHz	53.1418	14.0822
1.900000000 GHz	53.0946	14.1897
1.910000000 GHz	53.0307	14.2805
1.920000000 GHz	52.9171	14.3893
1.930000000 GHz	52.8595	14.4501
1.940000000 GHz	52.8356	14.4980
1.950000000 GHz	52.8277	14.5529
1.960000000 GHz	52.7458	14.5621
1.970000000 GHz	52.6360	14.5517
1.980000000 GHz	52.5605	14.5676
1.990000000 GHz	52.4768	14.5921
2.000000000 GHz	52.3722	14.6342