

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Dipole 835 MHz

SAM 1 Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1609; ConvP(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.90$

mho/m $\epsilon_r = 42.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.95 mW/g ± 0.01 dB, SAR (10g): 6.38 mW/g ± 0.01 dB

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

Powerdrift: 0.02 dB

Comment:

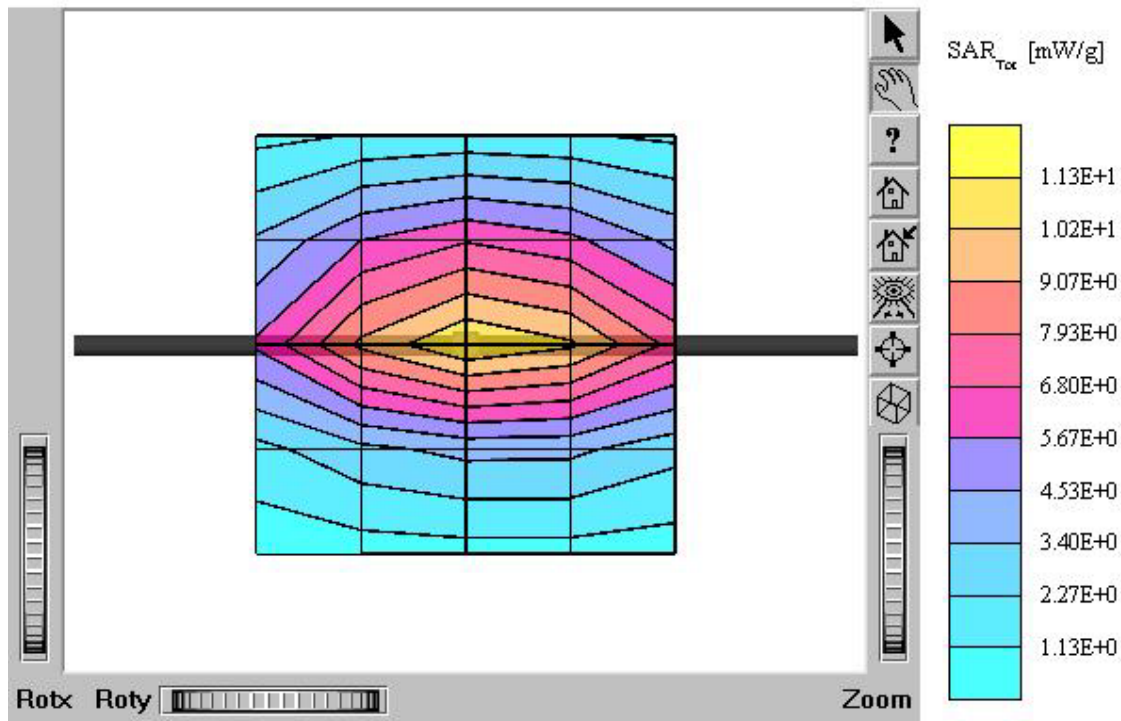
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : February 23, 2004



■ Validation Data (835MHz Brain)

Dipole 835 MHz

SAM I Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.89$

mho/m $\epsilon_r = 42.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.95 mW/g ± 0.00 dB, SAR (10g): 6.37 mW/g ± 0.01 dB

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

Powerdrift: 0.02 dB

Comment:

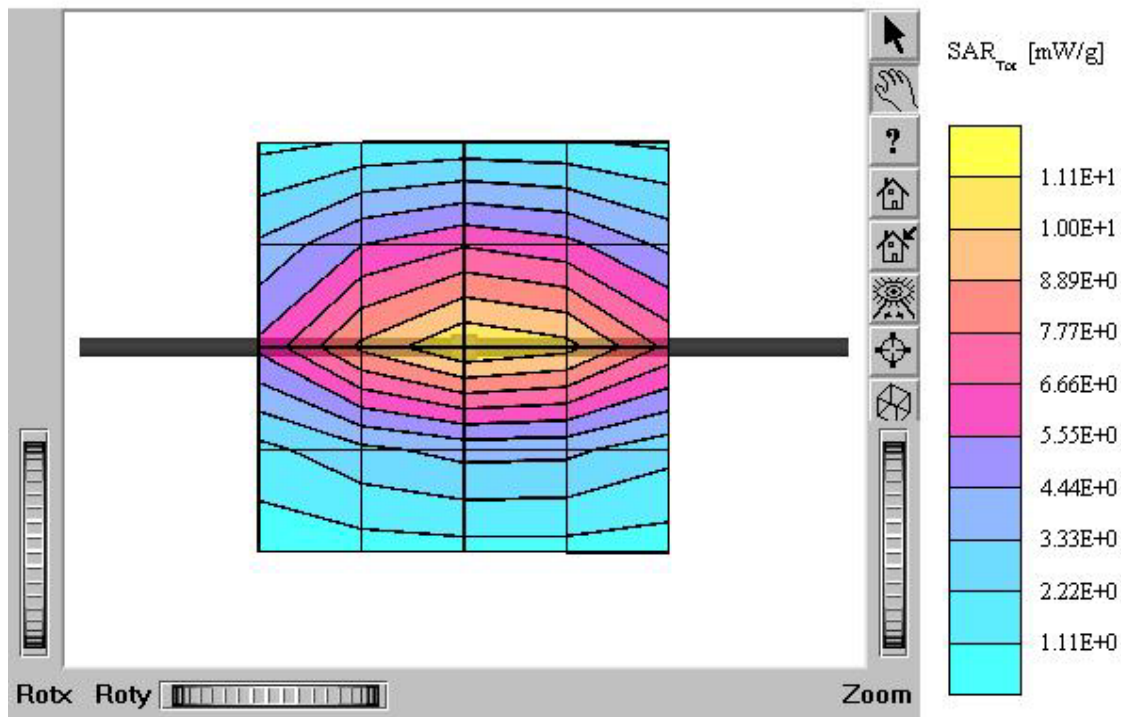
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6°C

Date Tested : February 24, 2004



■ Validation Data (1900MHz Brain)

Dipole 1900 MHz

SAM II Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.39$

mho/m $\epsilon_r = 40.2$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 42.1 mW/g ± 0.04 dB, SAR (10g): 21.2 mW/g ± 0.03 dB

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

Powerdrift: 0.01 dB

Comment:

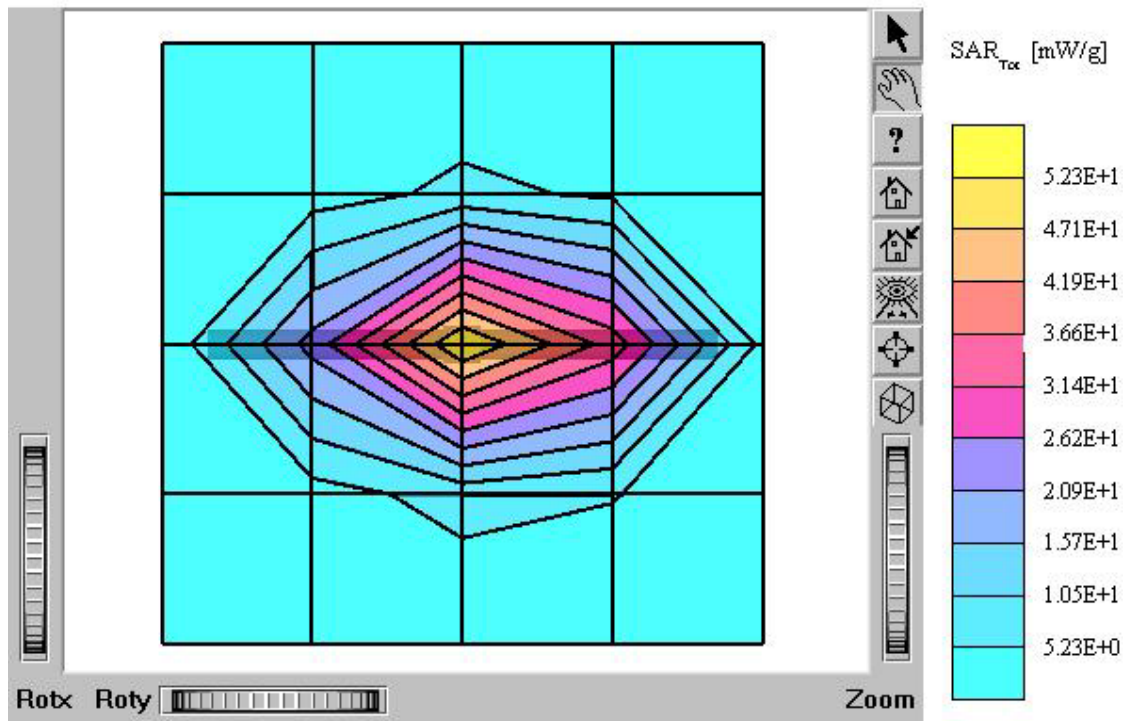
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : February 25, 2004



Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 42.7$ $\rho = 1.00$ g/cm³

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

Comment:

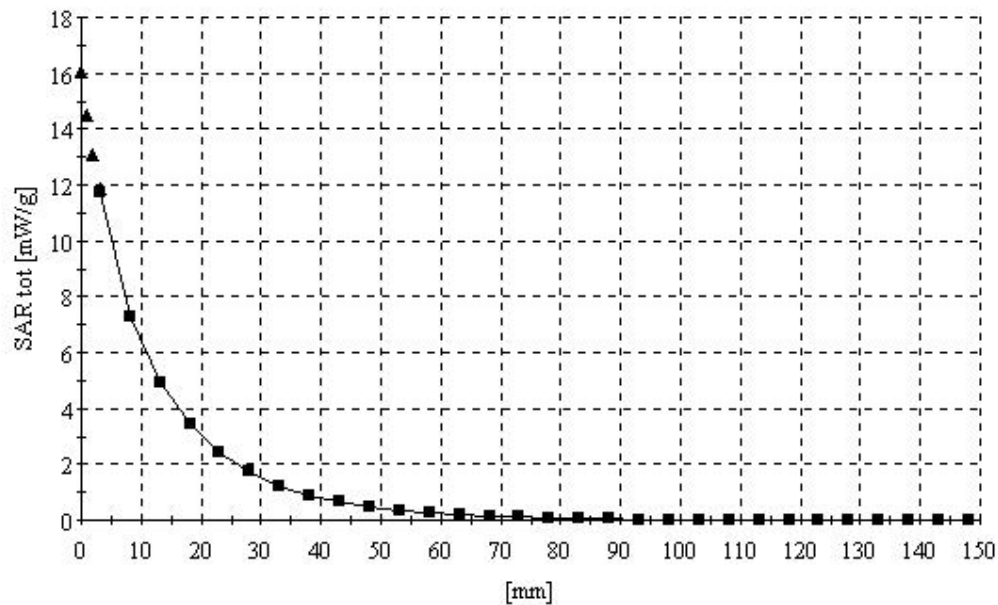
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.2°C

Date Tested : February 23, 2004



Dipole 835 MHz

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

Probe: ET3DV6 - SN1609; ConvF(6.62,6.62,6.62); Crest factor: 1.0; Brain 835 MHz: $\sigma = 0.89$

mho/m $\epsilon_r = 42.7$ $\rho = 1.00$ g/cm³

:

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

Comment:

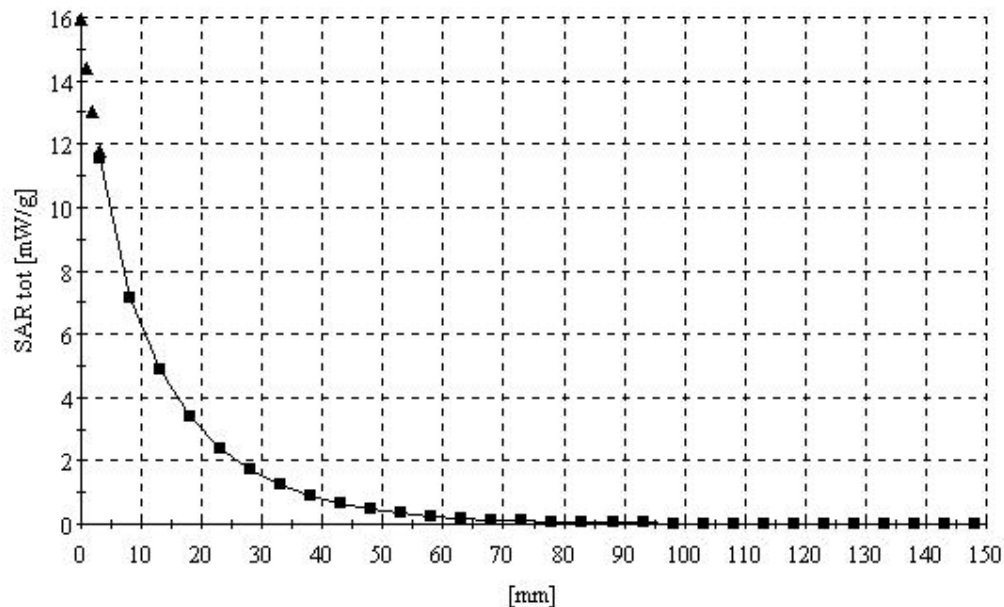
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.6°C

Date Tested : February 24, 2004



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.29,5.29,5.29); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.39$ mho/m $\epsilon_r = 40.2$ $\rho = 1.00$ g/cm³

:

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

Comment:

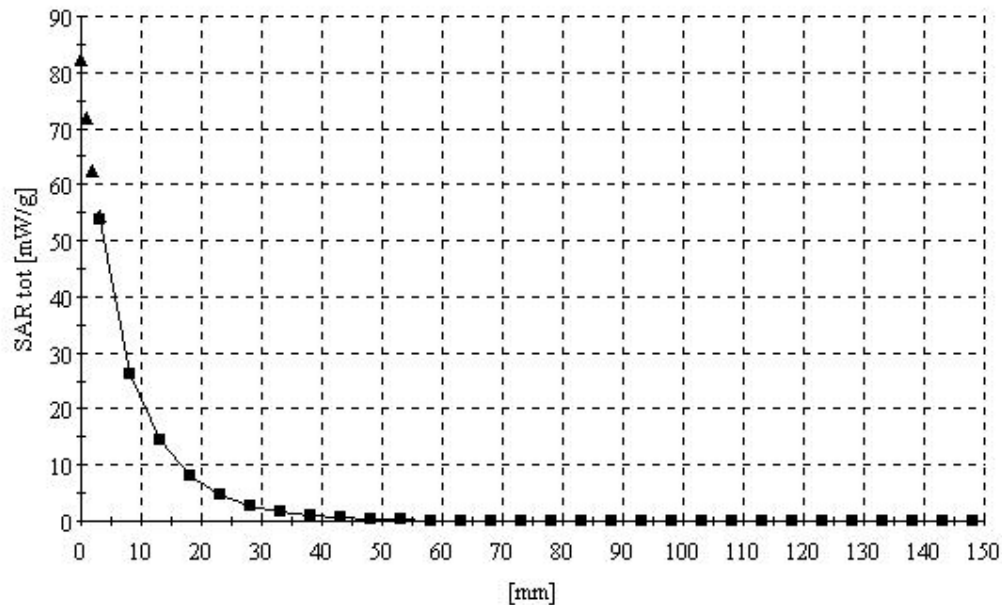
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.5°C

Date Tested : February 25, 2004



■ Dielectric Parameter (835MHz Brain)

Title : TX-130CA**SubTitle : AMPS Brain****February 23, 2004 03:32 AM**

Frequency	e'	e''
800.000000 MHz	43.1527	19.5009
805.000000 MHz	43.0664	19.4478
810.000000 MHz	43.0126	19.4297
815.000000 MHz	42.9613	19.3788
820.000000 MHz	42.8683	19.3672
825.000000 MHz	42.7584	19.3288
830.000000 MHz	42.7298	19.2733
835.000000 MHz	42.6852	19.3073
840.000000 MHz	42.5693	19.3092
845.000000 MHz	42.5198	19.2818
850.000000 MHz	42.4986	19.2777
855.000000 MHz	42.3743	19.2727
860.000000 MHz	42.3576	19.2778
865.000000 MHz	42.3641	19.2554
870.000000 MHz	42.2894	19.2674
875.000000 MHz	42.2417	19.3325
880.000000 MHz	42.1928	19.3215
885.000000 MHz	42.1475	19.3197
890.000000 MHz	42.1200	19.3077
895.000000 MHz	42.0740	19.3313
900.000000 MHz	42.0094	19.2909

■ Dielectric Parameter (835MHz Brain)

Title : TX-130CA**SubTitle : CDMA Brain**

February 24, 2004 09:39 AM

Frequency	e'	e''
800.000000 MHz	43.1702	19.4851
805.000000 MHz	43.0736	19.4349
810.000000 MHz	43.0042	19.3996
815.000000 MHz	42.9342	19.3972
820.000000 MHz	42.8656	19.3198
825.000000 MHz	42.7627	19.3063
830.000000 MHz	42.6934	19.2944
835.000000 MHz	42.6934	19.2628
840.000000 MHz	42.5707	19.2773
845.000000 MHz	42.5045	19.2653
850.000000 MHz	42.4507	19.2916
855.000000 MHz	42.4191	19.2492
860.000000 MHz	42.3531	19.2276
865.000000 MHz	42.3303	19.2449
870.000000 MHz	42.2706	19.2730
875.000000 MHz	42.2268	19.3166
880.000000 MHz	42.2253	19.3118
885.000000 MHz	42.1188	19.2579
890.000000 MHz	42.0694	19.2728
895.000000 MHz	42.0426	19.2609
900.000000 MHz	41.9746	19.2419

■ Dielectric Parameter (1900MHz Brain)

Title : TX-130CA
SubTitle : PCS CDMA Brain
February 25, 2004 08:34 AM

Frequency	e'	e''
1.800000000 GHz	40.6516	12.8784
1.810000000 GHz	40.5576	12.9294
1.820000000 GHz	40.5205	12.9907
1.830000000 GHz	40.4861	13.0441
1.840000000 GHz	40.4533	13.1024
1.850000000 GHz	40.4294	13.1248
1.860000000 GHz	40.4223	13.1574
1.870000000 GHz	40.4202	13.1866
1.880000000 GHz	40.3812	13.2035
1.890000000 GHz	40.3347	13.2163
1.900000000 GHz	40.2423	13.1937
1.910000000 GHz	40.1588	13.2285
1.920000000 GHz	40.0932	13.2520
1.930000000 GHz	40.0047	13.2703
1.940000000 GHz	39.9133	13.2910
1.950000000 GHz	39.8872	13.3545
1.960000000 GHz	39.8772	13.4398
1.970000000 GHz	39.8387	13.4850
1.980000000 GHz	39.8437	13.5096
1.990000000 GHz	39.8466	13.5296
2.000000000 GHz	39.8510	13.5631

■ Dielectric Parameter (835MHz Muscle)

Title : TX-130CA**SubTitle : AMPS Body**

February 23, 2004 09:15 AM

Frequency	e'	e''
800.000000 MHz	54.2934	21.5630
805.000000 MHz	54.3271	21.5806
810.000000 MHz	54.2694	21.5623
815.000000 MHz	54.2862	21.5287
820.000000 MHz	54.2102	21.5005
825.000000 MHz	54.1999	21.4657
830.000000 MHz	54.1577	21.4482
835.000000 MHz	54.1440	21.4150
840.000000 MHz	54.0762	21.4127
845.000000 MHz	53.9894	21.3849
850.000000 MHz	53.9482	21.3297
855.000000 MHz	53.8865	21.2175
860.000000 MHz	53.8435	21.2401
865.000000 MHz	53.7626	21.2445
870.000000 MHz	53.7040	21.2192
875.000000 MHz	53.6708	21.1739
880.000000 MHz	53.5809	21.2145
885.000000 MHz	53.4857	21.2096
890.000000 MHz	53.4318	21.1574
895.000000 MHz	53.3623	21.1172
900.000000 MHz	53.3091	21.1967

■ Dielectric Parameter (835MHz Muscle)**Title : TX-130CA****SubTitle : CDMA Body**

February 24, 2004 09:15 AM

Frequency	e'	e''
800.000000 MHz	54.5519	21.5516
805.000000 MHz	54.5087	21.5161
810.000000 MHz	54.4399	21.5014
815.000000 MHz	54.4538	21.5248
820.000000 MHz	54.3715	21.4816
825.000000 MHz	54.3975	21.4721
830.000000 MHz	54.3406	21.4926
835.000000 MHz	54.2957	21.4367
840.000000 MHz	54.2456	21.3943
845.000000 MHz	54.1939	21.3748
850.000000 MHz	54.1241	21.3624
855.000000 MHz	54.0948	21.2807
860.000000 MHz	54.0082	21.2755
865.000000 MHz	53.9938	21.2863
870.000000 MHz	53.9297	21.3051
875.000000 MHz	53.8433	21.2203
880.000000 MHz	53.7862	21.2369
885.000000 MHz	53.7274	21.2596
890.000000 MHz	53.6523	21.2094
895.000000 MHz	53.5782	21.1594
900.000000 MHz	53.5412	21.1480

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-130CA
SubTitle : PCS CDMA Body
February 25, 2004 09:53 AM

Frequency	e'	e''
1.850000000 GHz	53.6829	14.8370
1.855000000 GHz	53.6520	14.8090
1.860000000 GHz	53.6155	14.8232
1.865000000 GHz	53.5601	14.8770
1.870000000 GHz	53.4990	14.8549
1.875000000 GHz	53.4048	14.8929
1.880000000 GHz	53.3990	14.8579
1.885000000 GHz	53.3400	14.8608
1.890000000 GHz	53.3086	14.8533
1.895000000 GHz	53.2522	14.8581
1.900000000 GHz	53.2199	14.8885
1.905000000 GHz	53.2104	14.8834
1.910000000 GHz	53.1633	14.8730
1.915000000 GHz	53.1381	14.8936
1.920000000 GHz	53.1514	14.9079
1.925000000 GHz	53.1762	14.9260
1.930000000 GHz	53.1841	14.9490
1.935000000 GHz	53.1908	14.9546
1.940000000 GHz	53.1682	15.0026
1.945000000 GHz	53.1660	15.0056
1.950000000 GHz	53.1857	15.0503