



**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

TEL: 82-2-867-3201  
FAX: 82-2-867-3204

## APPENDIX A : Validation Test Data of Tissue

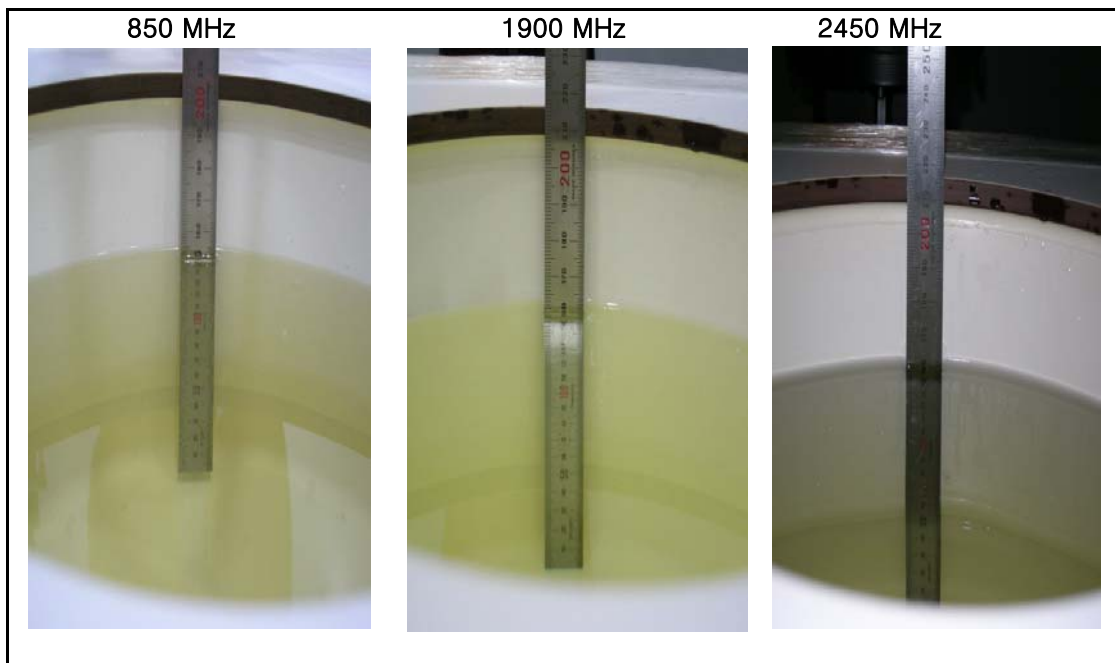


**ESTECH Co., Ltd.**

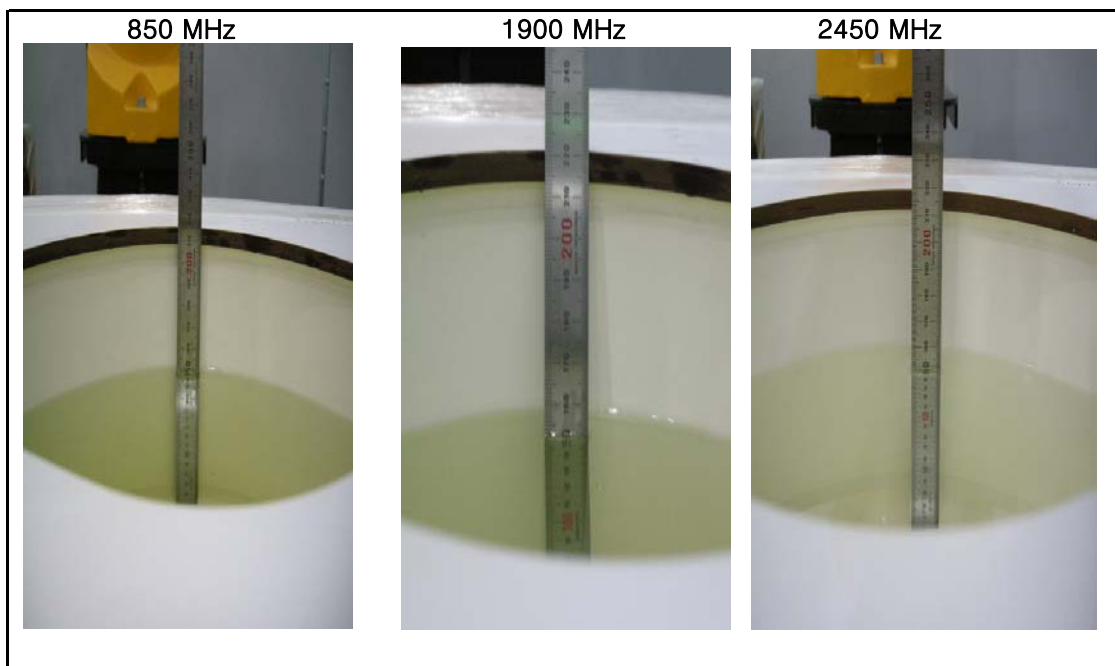
Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

TEL: 82-2-867-3201  
FAX: 82-2-867-3204

### Liquid depth-Head



### Liquid depth-Body(Muscle)





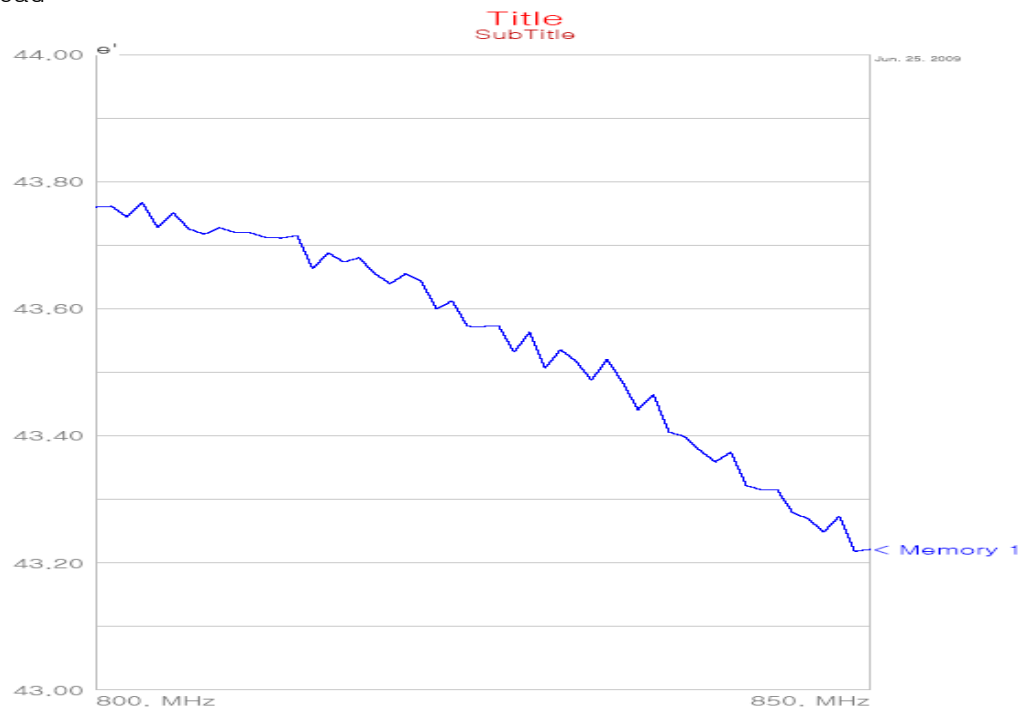
**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

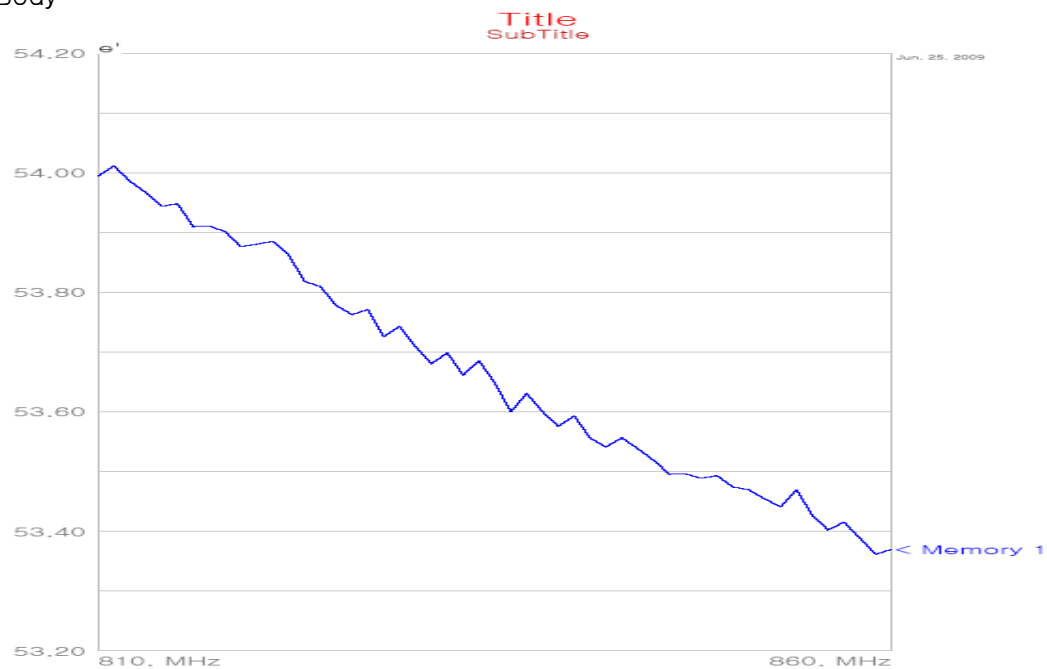
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

**- Head/Body Tissue(GSM 850/WCDMA 850)**

Head



Body



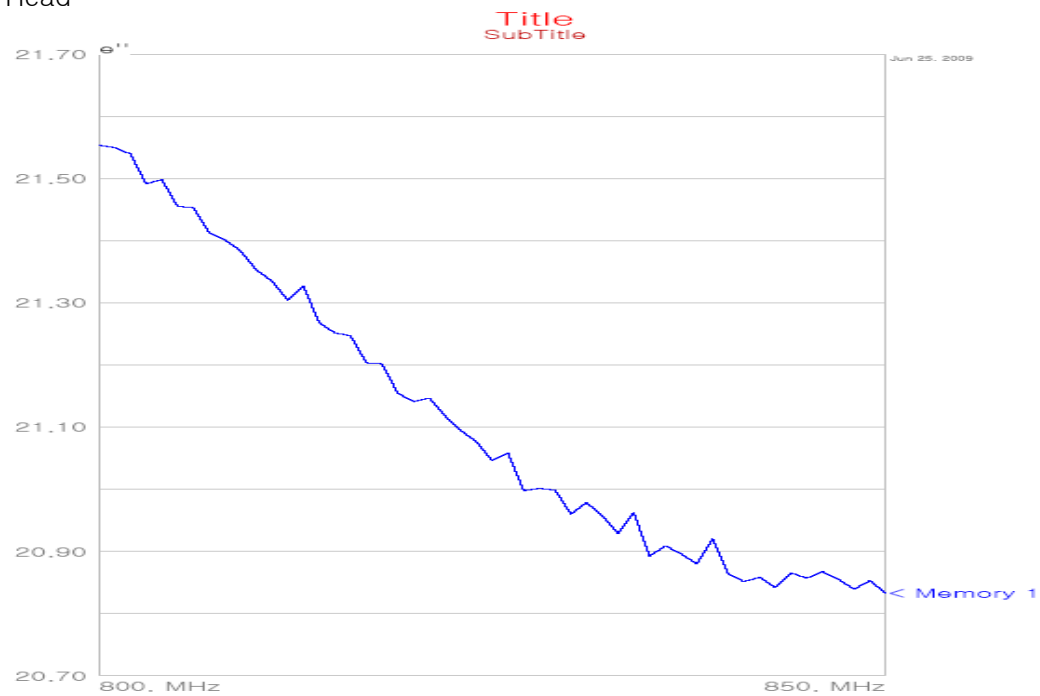
**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

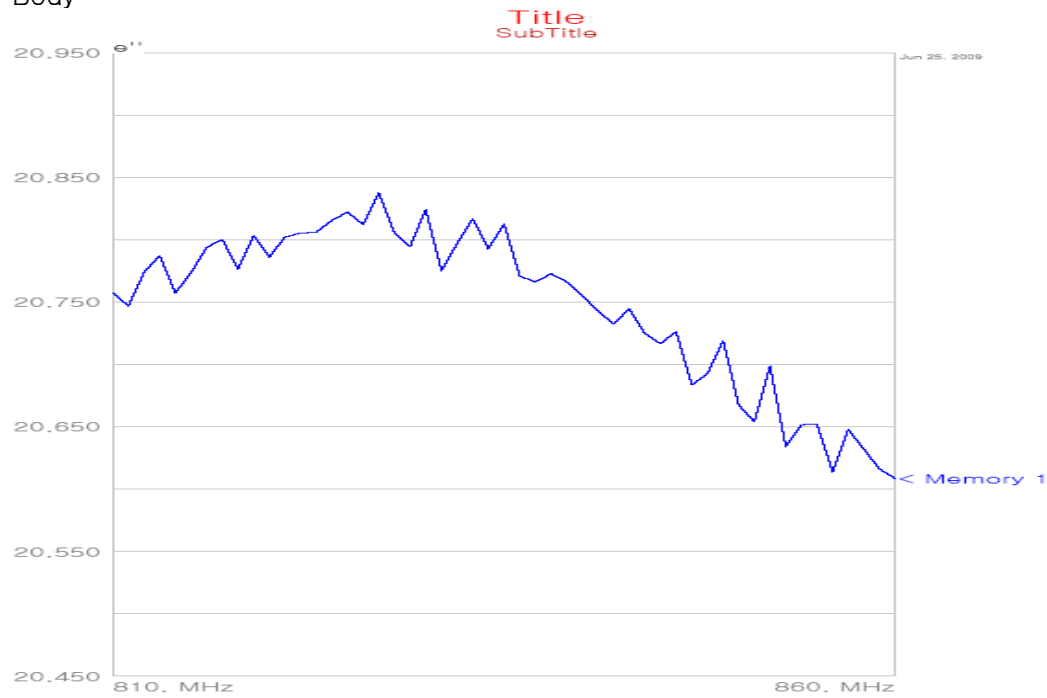
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

**- Head/Body Tissue(GSM 850/WCDMA 850)**

Head



Body



**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

TEL: 82-2-867-3201  
FAX: 82-2-867-3204

**- Head/Body Tissue(GSM 850/WCDMA 850)****Head**

**Title**  
**SubTitle**  
Jan 25, 2009

Frequency	e <sup>i</sup>	e <sup>ii</sup>
800.000000 MHz	43.7601	21.5542
800.972940 MHz	43.7616	21.5500
801.945880 MHz	43.7449	21.5400
802.918821 MHz	43.7671	21.4914
803.891761 MHz	43.7278	21.4968
804.864701 MHz	43.7514	21.4555
805.843557 MHz	43.7260	21.4535
806.822414 MHz	43.7176	21.4138
807.801270 MHz	43.7279	21.4018
808.780127 MHz	43.7202	21.3840
809.758983 MHz	43.7197	21.3532
810.743792 MHz	43.7120	21.3354
811.728601 MHz	43.7115	21.3047
812.713410 MHz	43.7154	21.3275
813.698219 MHz	43.6631	21.2680
814.683027 MHz	43.6886	21.2518
815.673825 MHz	43.6738	21.2472
816.664622 MHz	43.6806	21.2038
817.655419 MHz	43.6558	21.2021
818.646217 MHz	43.6397	21.1545
819.637014 MHz	43.6551	21.1413
820.633836 MHz	43.6433	21.1468
821.630658 MHz	43.6001	21.1181
822.627481 MHz	43.6127	21.0950
823.624303 MHz	43.5725	21.0763
824.621125 MHz	43.5723	21.0462
825.624009 MHz	43.5736	21.0588
826.626893 MHz	43.5320	20.9977
827.629776 MHz	43.5632	21.0016
828.632660 MHz	43.5064	20.9969
829.635544 MHz	43.5359	20.9603
830.644526 MHz	43.5176	20.9787
831.653508 MHz	43.4878	20.9574
832.662491 MHz	43.5201	20.9289
833.671473 MHz	43.4851	20.9628
834.680455 MHz	43.4411	20.8924
835.695573 MHz	43.4652	20.9090
836.710690 MHz	43.4062	20.8966
837.725808 MHz	43.3993	20.8797
838.740926 MHz	43.3773	20.9203
839.756043 MHz	43.3590	20.8643
840.777334 MHz	43.3745	20.8514
841.798624 MHz	43.3218	20.8587
842.819915 MHz	43.3150	20.8419
843.841205 MHz	43.3148	20.8655
844.862496 MHz	43.2789	20.8572
845.889997 MHz	43.2697	20.8676
846.917498 MHz	43.2485	20.8551
847.944998 MHz	43.2739	20.8394
848.972499 MHz	43.2183	20.8529
850.000000 MHz	43.2214	20.8333

**Body**

**Title**  
**SubTitle**  
Jan 25, 2009

Frequency	e <sup>i</sup>	e <sup>ii</sup>
810.000000 MHz	53.9945	20.7577
810.973262 MHz	54.0118	20.7470
811.946524 MHz	53.9863	20.7740
812.919785 MHz	53.9673	20.7874
813.893047 MHz	53.9442	20.7574
814.866309 MHz	53.9488	20.7736
815.845418 MHz	53.9101	20.7941
816.824527 MHz	53.9112	20.8003
817.803636 MHz	53.9017	20.7767
818.782745 MHz	53.8768	20.8034
819.761854 MHz	53.8808	20.7862
820.746845 MHz	53.8856	20.8022
821.731836 MHz	53.8636	20.8055
822.716828 MHz	53.8184	20.8061
823.701819 MHz	53.8100	20.8156
824.686810 MHz	53.7784	20.8224
825.677719 MHz	53.7630	20.8123
826.668628 MHz	53.7716	20.8379
827.659537 MHz	53.7260	20.8055
828.650446 MHz	53.7436	20.7946
829.641354 MHz	53.7097	20.8244
830.638216 MHz	53.6804	20.7753
831.635078 MHz	53.6989	20.7971
832.631941 MHz	53.6617	20.8171
833.628803 MHz	53.6855	20.7929
834.625665 MHz	53.6485	20.8129
835.628516 MHz	53.6000	20.7710
836.631367 MHz	53.6310	20.7662
837.634218 MHz	53.6003	20.7729
838.637068 MHz	53.5758	20.7664
839.639919 MHz	53.5936	20.7554
840.648795 MHz	53.5560	20.7428
841.657671 MHz	53.5414	20.7328
842.666547 MHz	53.5566	20.7446
843.675423 MHz	53.5385	20.7249
844.684299 MHz	53.5191	20.7167
845.699236 MHz	53.4956	20.7264
846.714173 MHz	53.4963	20.6836
847.729110 MHz	53.4889	20.6928
848.744047 MHz	53.4934	20.7192
849.758984 MHz	53.4745	20.6675
850.780018 MHz	53.4698	20.6541
851.801053 MHz	53.4541	20.6988
852.822087 MHz	53.4413	20.6342
853.843122 MHz	53.4697	20.6517
854.864157 MHz	53.4271	20.6523
855.891325 MHz	53.4024	20.6139
856.918494 MHz	53.4155	20.6478
857.945663 MHz	53.3885	20.6320
858.972831 MHz	53.3615	20.6161
860.000000 MHz	53.3700	20.6086



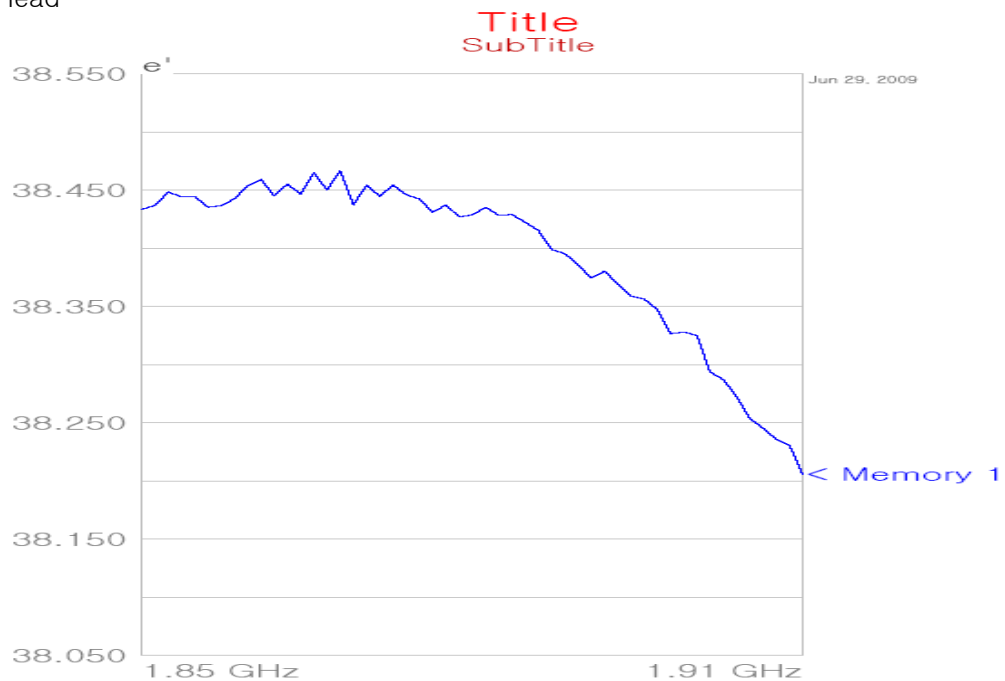
**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

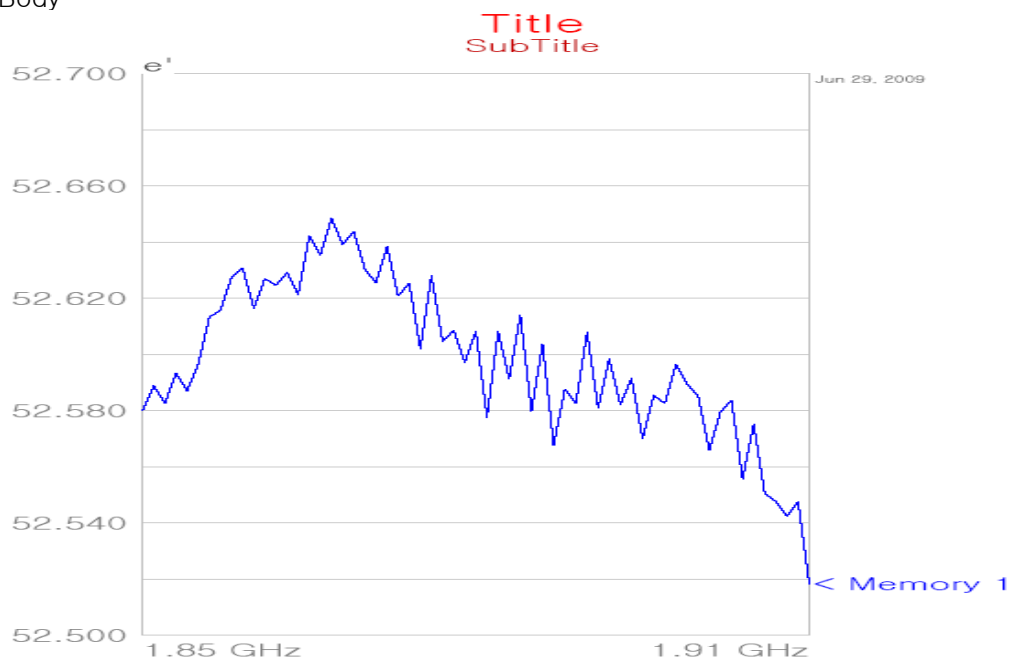
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

– Head/Body Tissue(GSM 1900/WCDMA 1900)

Head



Body





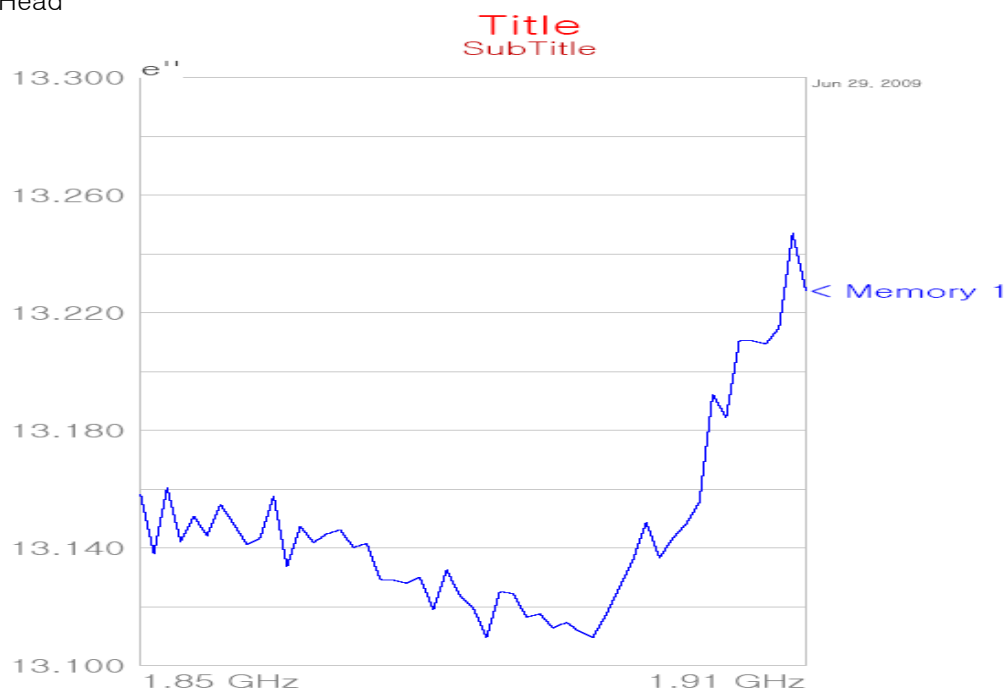
**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

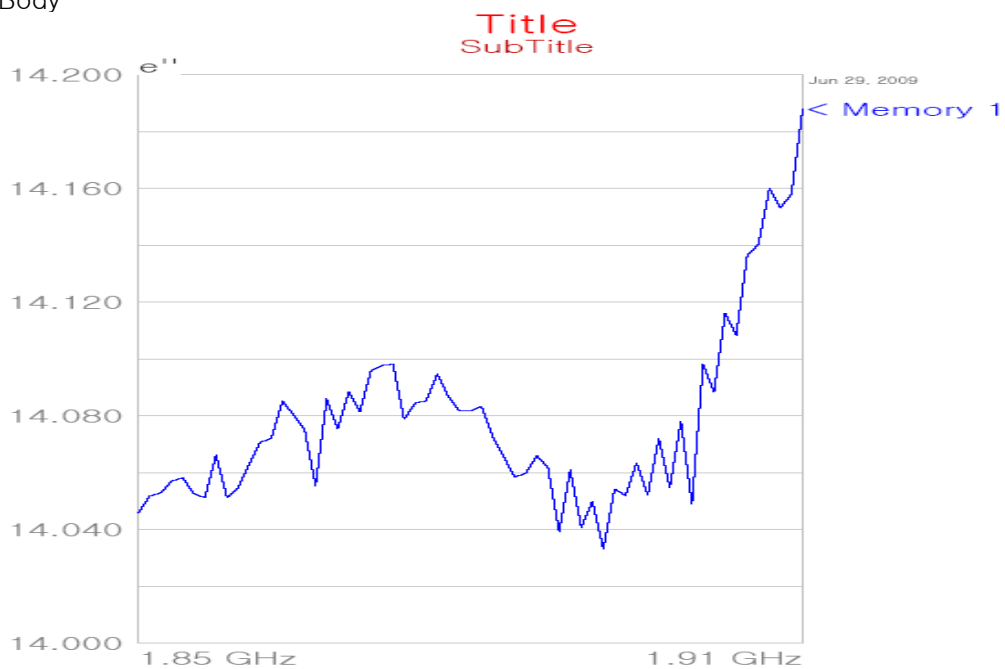
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

– Head/Body Tissue(GSM 1900/WCDMA 1900)

Head



Body



**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

TEL: 82-2-867-3201  
FAX: 82-2-867-3204

**- Head/Body Tissue(GSM 1900/WCDMA 1900)****Head****Title****SubTitle**

Jan 20, 2009

Frequency	e <sup>s</sup>	e <sup>18</sup>
1.850000000 GHz	38.4337	13.1582
1.851182838 GHz	38.4372	13.1381
1.852365676 GHz	38.4486	13.1606
1.853548514 GHz	38.4443	13.1422
1.854731352 GHz	38.4445	13.1508
1.855914190 GHz	38.4355	13.1442
1.857100809 GHz	38.4369	13.1549
1.858287429 GHz	38.4427	13.1482
1.859474048 GHz	38.4541	13.1411
1.860660667 GHz	38.4594	13.1435
1.861847287 GHz	38.4453	13.1577
1.863037699 GHz	38.4553	13.1337
1.864228112 GHz	38.4469	13.1474
1.865418525 GHz	38.4652	13.1419
1.866608938 GHz	38.4503	13.1448
1.867799351 GHz	38.4669	13.1462
1.868993569 GHz	38.4377	13.1402
1.870187787 GHz	38.4543	13.1416
1.871382006 GHz	38.4449	13.1293
1.872576224 GHz	38.4546	13.1290
1.873770442 GHz	38.4462	13.1280
1.874968479 GHz	38.4426	13.1300
1.876166515 GHz	38.4311	13.1191
1.877364551 GHz	38.4375	13.1325
1.878562587 GHz	38.4273	13.1238
1.879760623 GHz	38.4288	13.1197
1.880962489 GHz	38.4354	13.1095
1.882164355 GHz	38.4286	13.1252
1.883366221 GHz	38.4293	13.1245
1.884568087 GHz	38.4226	13.1165
1.885769953 GHz	38.4156	13.1176
1.886975662 GHz	38.3992	13.1128
1.888181370 GHz	38.3957	13.1147
1.889387078 GHz	38.3861	13.1115
1.890592787 GHz	38.3745	13.1097
1.891798495 GHz	38.3805	13.1174
1.893008058 GHz	38.3698	13.1267
1.894217620 GHz	38.3592	13.1359
1.895427183 GHz	38.3567	13.1488
1.896636746 GHz	38.3476	13.1367
1.897846309 GHz	38.3267	13.1434
1.899059738 GHz	38.3281	13.1482
1.900273168 GHz	38.3252	13.1556
1.901486597 GHz	38.2937	13.1923
1.902700027 GHz	38.2872	13.1844
1.903913456 GHz	38.2727	13.2106
1.905130765 GHz	38.2536	13.2105
1.906348074 GHz	38.2456	13.2094
1.907565383 GHz	38.2360	13.2151
1.908782691 GHz	38.2310	13.2471
1.910000000 GHz	38.2058	13.2275

**Body****Title****SubTitle**

Jan 20, 2009

Frequency	e <sup>s</sup>	e <sup>18</sup>
1.850000000 GHz	52.5802	14.0459
1.850985698 GHz	52.5889	14.0518
1.851971397 GHz	52.5826	14.0529
1.852957095 GHz	52.5934	14.0570
1.853942793 GHz	52.5871	14.0582
1.854928492 GHz	52.5965	14.0526
1.855914190 GHz	52.6133	14.0512
1.856903039 GHz	52.6158	14.0662
1.857891889 GHz	52.6276	14.0512
1.858880738 GHz	52.6308	14.0548
1.859869588 GHz	52.6165	14.0630
1.860858437 GHz	52.6271	14.0708
1.861847287 GHz	52.6246	14.0720
1.862839297 GHz	52.6292	14.0852
1.863831308 GHz	52.6214	14.0804
1.864823319 GHz	52.6423	14.0753
1.865815329 GHz	52.6354	14.0554
1.866807340 GHz	52.6485	14.0860
1.867799351 GHz	52.6392	14.0754
1.868794533 GHz	52.6438	14.0884
1.869789715 GHz	52.6305	14.0815
1.870784896 GHz	52.6255	14.0958
1.871780078 GHz	52.6384	14.0978
1.872775260 GHz	52.6209	14.0962
1.873770442 GHz	52.6254	14.0788
1.874768806 GHz	52.6020	14.0845
1.875767169 GHz	52.6282	14.0853
1.876765533 GHz	52.6047	14.0948
1.877763896 GHz	52.6086	14.0868
1.878762260 GHz	52.5972	14.0818
1.879760623 GHz	52.6083	14.0817
1.880762178 GHz	52.5776	14.0833
1.881763733 GHz	52.6082	14.0727
1.882765288 GHz	52.5913	14.0656
1.883766843 GHz	52.6141	14.0584
1.884768398 GHz	52.5797	14.0599
1.885769953 GHz	52.6038	14.0660
1.886774710 GHz	52.5678	14.0617
1.887779467 GHz	52.5876	14.0392
1.888784224 GHz	52.5826	14.0610
1.889788981 GHz	52.6079	14.0407
1.890793738 GHz	52.5809	14.0500
1.891798495 GHz	52.5984	14.0331
1.892806464 GHz	52.5822	14.0543
1.893814433 GHz	52.5915	14.0520
1.894822402 GHz	52.5701	14.0635
1.895830371 GHz	52.5855	14.0521
1.896838340 GHz	52.5826	14.0720
1.897846309 GHz	52.5964	14.0548
1.898857500 GHz	52.5896	14.0782
1.899868691 GHz	52.5851	14.0490
1.900879883 GHz	52.5659	14.0981
1.901891074 GHz	52.5794	14.0885
1.902902265 GHz	52.5837	14.1161
1.903913456 GHz	52.5557	14.1084
1.904927880 GHz	52.5751	14.1366
1.905942304 GHz	52.5505	14.1403
1.906956728 GHz	52.5477	14.1600
1.907971152 GHz	52.5423	14.1532
1.908985576 GHz	52.5477	14.1582
1.910000000 GHz	52.5183	14.1880





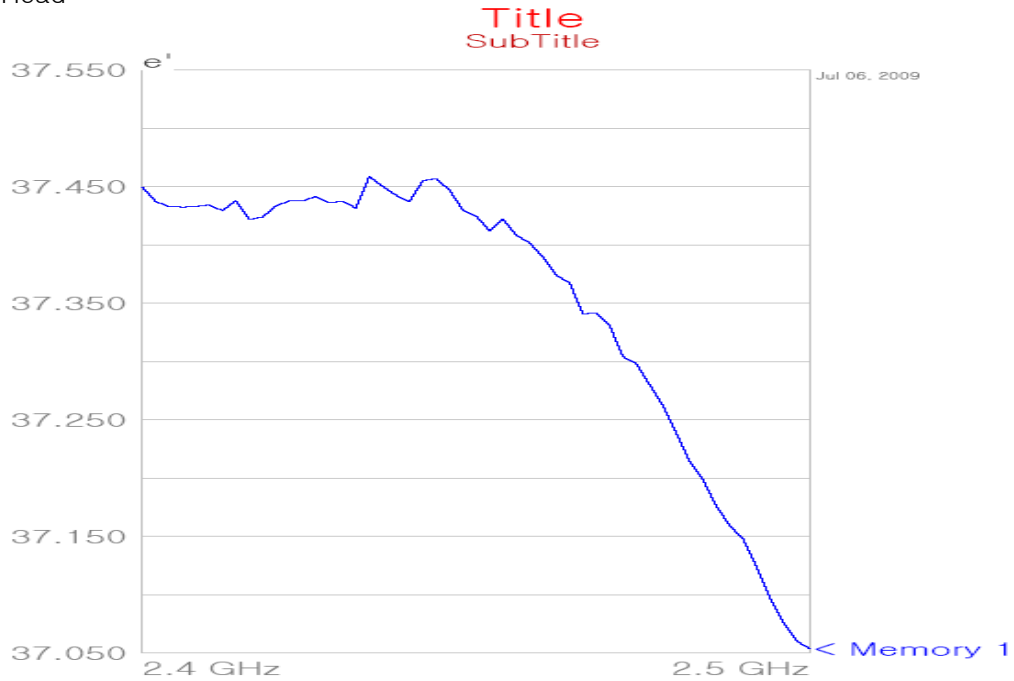
**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

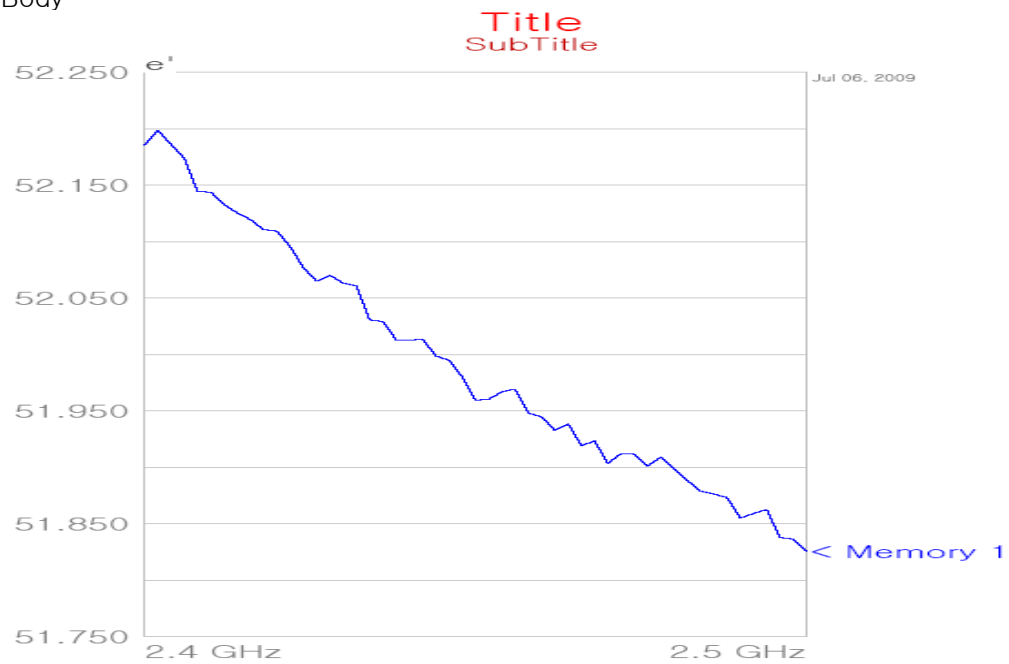
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

## - Head/Body Tissue(WLAN)

Head



Body





**ESTECH Co., Ltd.**

Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, Korea

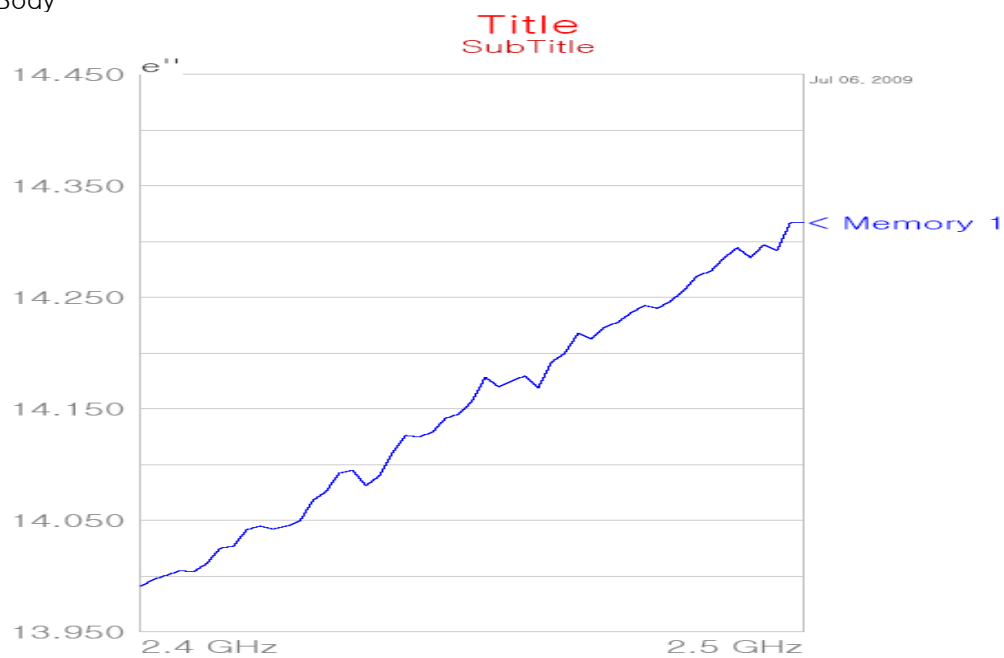
TEL: 82-2-867-3201  
FAX: 82-2-867-3204

**- Head/Body Tissue(WLAN)**

Head



Body



**ESTECH Co., Ltd.**Rm.1015, World Venture Center II,  
426-5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-803, KoreaTEL: 82-2-867-3201  
FAX: 82-2-867-3204**- Head/Body Tissue(WLAN)****Head****Title****SubTitle**

Jul 06, 2006

Frequency	e'	e''
2.400000000 GHz	37.4497	13.4212
2.401963461 GHz	37.4375	13.4376
2.403926921 GHz	37.4330	13.4534
2.405890382 GHz	37.4326	13.4606
2.407853843 GHz	37.4330	13.4618
2.409817303 GHz	37.4345	13.4783
2.411788795 GHz	37.4296	13.4728
2.413760288 GHz	37.4380	13.4839
2.415731780 GHz	37.4221	13.4816
2.417703272 GHz	37.4239	13.4844
2.419674764 GHz	37.4336	13.4836
2.421654321 GHz	37.4378	13.4791
2.423633878 GHz	37.4379	13.4831
2.425613435 GHz	37.4417	13.4815
2.427592991 GHz	37.4363	13.4819
2.429572548 GHz	37.4375	13.4906
2.431560202 GHz	37.4318	13.4803
2.433547856 GHz	37.4588	13.4738
2.435535511 GHz	37.4504	13.4738
2.437523165 GHz	37.4428	13.4678
2.439510819 GHz	37.4371	13.4711
2.441506604 GHz	37.4552	13.4635
2.443502388 GHz	37.4571	13.4526
2.445498173 GHz	37.4472	13.4404
2.447493958 GHz	37.4301	13.4394
2.449489743 GHz	37.4248	13.4396
2.451493691 GHz	37.4124	13.4511
2.453497640 GHz	37.4223	13.4500
2.455501589 GHz	37.4085	13.4464
2.457505537 GHz	37.4020	13.4315
2.459509486 GHz	37.3897	13.4429
2.461521632 GHz	37.3740	13.4301
2.463533778 GHz	37.3676	13.4422
2.465545923 GHz	37.3410	13.4491
2.467558069 GHz	37.3418	13.4499
2.469570215 GHz	37.3309	13.4495
2.471590592 GHz	37.3043	13.4564
2.473610968 GHz	37.2981	13.4683
2.475631345 GHz	37.2801	13.4791
2.477651722 GHz	37.2622	13.4898
2.479672098 GHz	37.2384	13.4999
2.481700739 GHz	37.2141	13.5158
2.483729380 GHz	37.1983	13.5356
2.485758021 GHz	37.1759	13.5339
2.487786662 GHz	37.1591	13.5491
2.489815303 GHz	37.1477	13.5708
2.491852243 GHz	37.1239	13.5838
2.493889182 GHz	37.0974	13.5935
2.495926121 GHz	37.0763	13.6097
2.497963061 GHz	37.0602	13.6352
2.500000000 GHz	37.0537	13.6529

**Body****Title****SubTitle**

Jul 06, 2006

Frequency	e'	e''
2.400000000 GHz	52.1859	13.9910
2.401963461 GHz	52.1987	13.9971
2.403926921 GHz	52.1862	14.0010
2.405890382 GHz	52.1739	14.0049
2.407853843 GHz	52.1444	14.0040
2.409817303 GHz	52.1441	14.0114
2.411788795 GHz	52.1330	14.0251
2.413760288 GHz	52.1255	14.0268
2.415731780 GHz	52.1196	14.0415
2.417703272 GHz	52.1107	14.0449
2.419674764 GHz	52.1095	14.0424
2.421654321 GHz	52.0956	14.0447
2.423633878 GHz	52.0770	14.0492
2.425613435 GHz	52.0651	14.0678
2.427592991 GHz	52.0703	14.0761
2.429572548 GHz	52.0632	14.0925
2.431560202 GHz	52.0611	14.0950
2.433547856 GHz	52.0306	14.0811
2.435535511 GHz	52.0295	14.0900
2.437523165 GHz	52.0131	14.1108
2.439510819 GHz	52.0128	14.1262
2.441506604 GHz	52.0137	14.1250
2.443502388 GHz	51.9989	14.1290
2.445498173 GHz	51.9950	14.1415
2.447493958 GHz	51.9802	14.1455
2.449489743 GHz	51.9597	14.1567
2.451493691 GHz	51.9604	14.1785
2.453497640 GHz	51.9672	14.1699
2.455501589 GHz	51.9693	14.1750
2.457505537 GHz	51.9482	14.1797
2.459509486 GHz	51.9449	14.1689
2.461521632 GHz	51.9329	14.1922
2.463533778 GHz	51.9387	14.2001
2.465545923 GHz	51.9194	14.2177
2.467558069 GHz	51.9235	14.2125
2.469570215 GHz	51.9035	14.2236
2.471590592 GHz	51.9123	14.2277
2.473610968 GHz	51.9118	14.2363
2.475631345 GHz	51.9012	14.2428
2.477651722 GHz	51.9092	14.2404
2.479672098 GHz	51.8987	14.2469
2.481700739 GHz	51.8886	14.2566
2.483729380 GHz	51.8790	14.2696
2.485758021 GHz	51.8764	14.2734
2.487786662 GHz	51.8733	14.2854
2.489815303 GHz	51.8551	14.2946
2.491852243 GHz	51.8592	14.2859
2.493889182 GHz	51.8627	14.2970
2.495926121 GHz	51.8378	14.2922
2.497963061 GHz	51.8367	14.3170
2.500000000 GHz	51.8256	14.3169