

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

mho/m $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.90 mW/g ± 0.03 dB, SAR (10g): 6.32 mW/g ± 0.02 dB

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

Powerdrift: 0.02 dB

Comment:

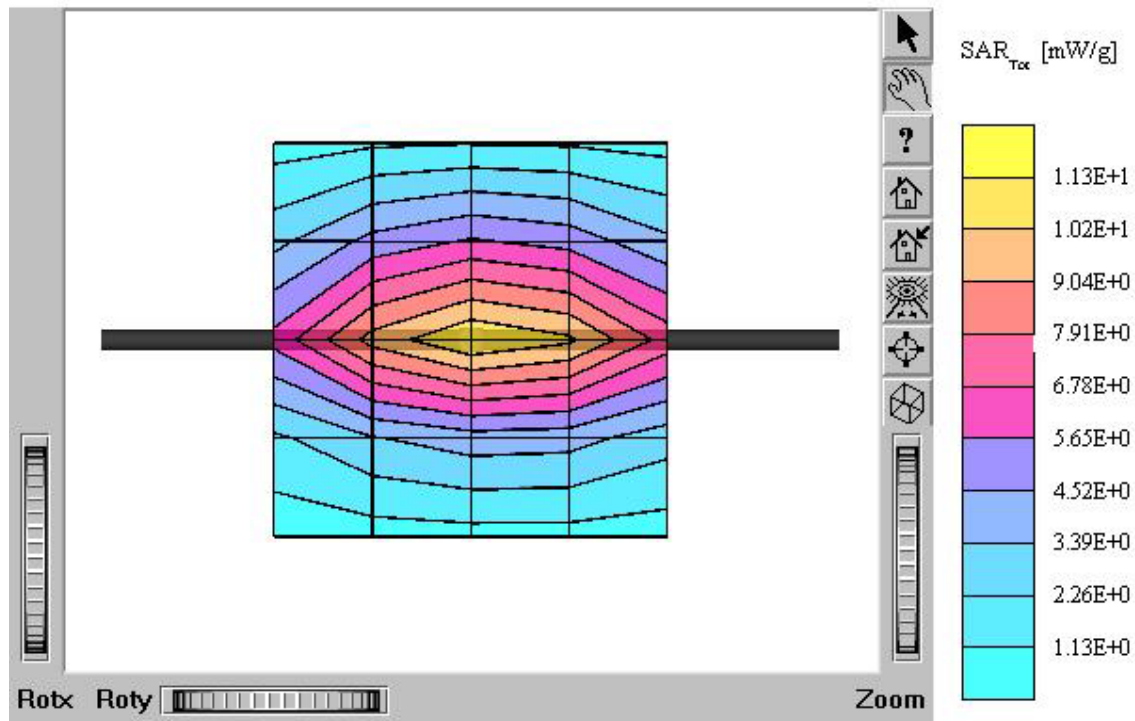
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : June 23, 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): 21.1 mW/g ± 0.03 dB

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

Powerdrift: 0.04 dB

Comment:

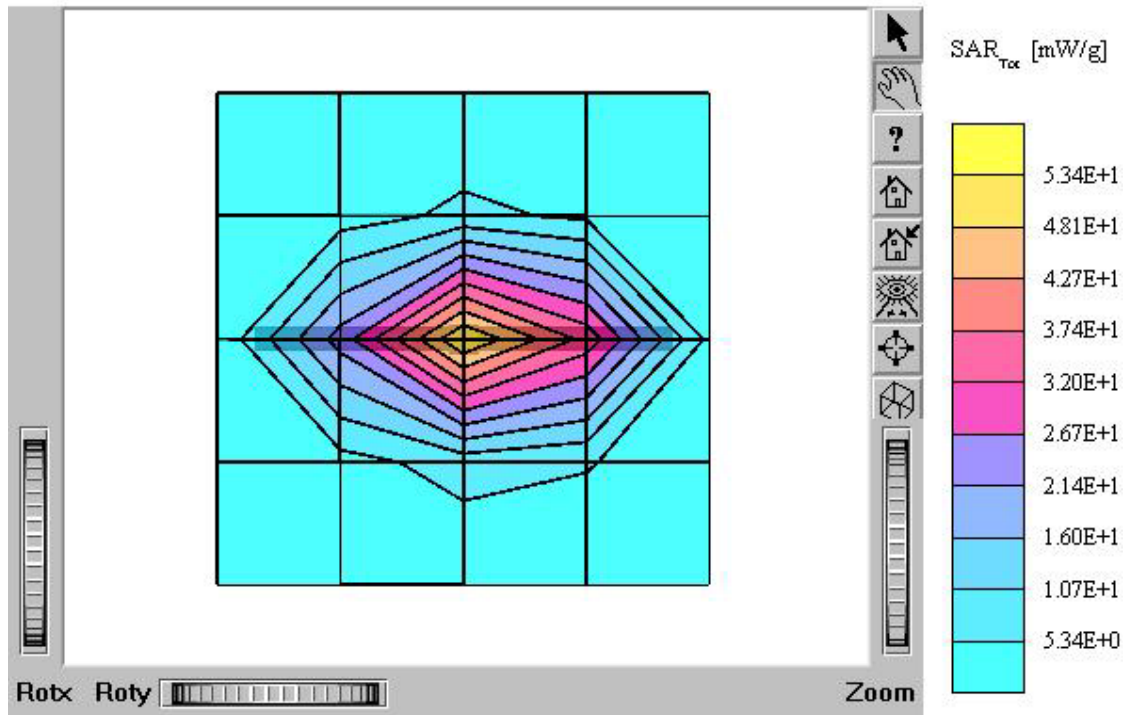
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : June 24, 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 $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³

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

Comment:

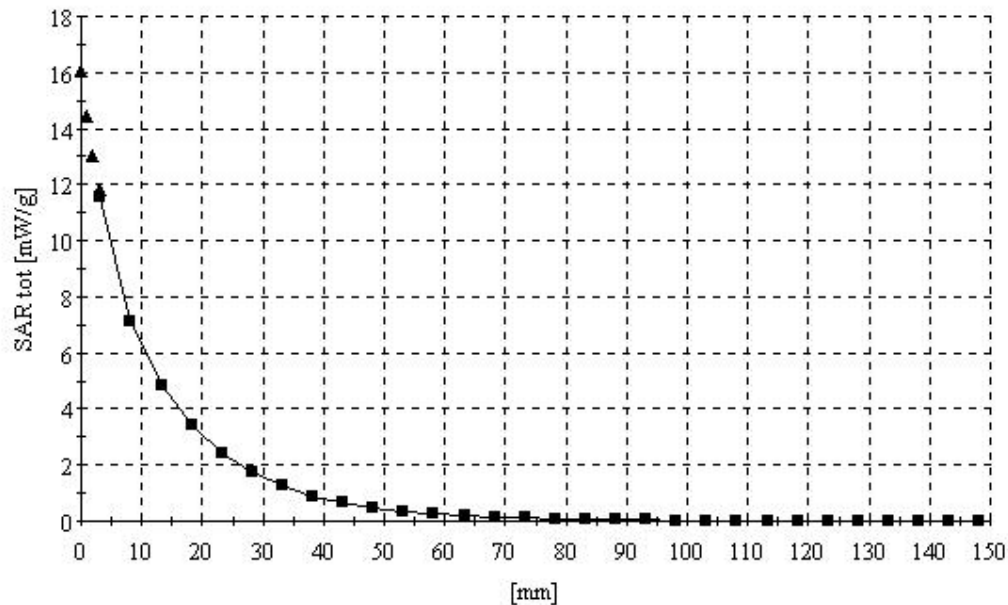
835MHz Brain Dipole Validation (D835V2/ S.N: 441)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.6°C

Date Tested : June 23, 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:

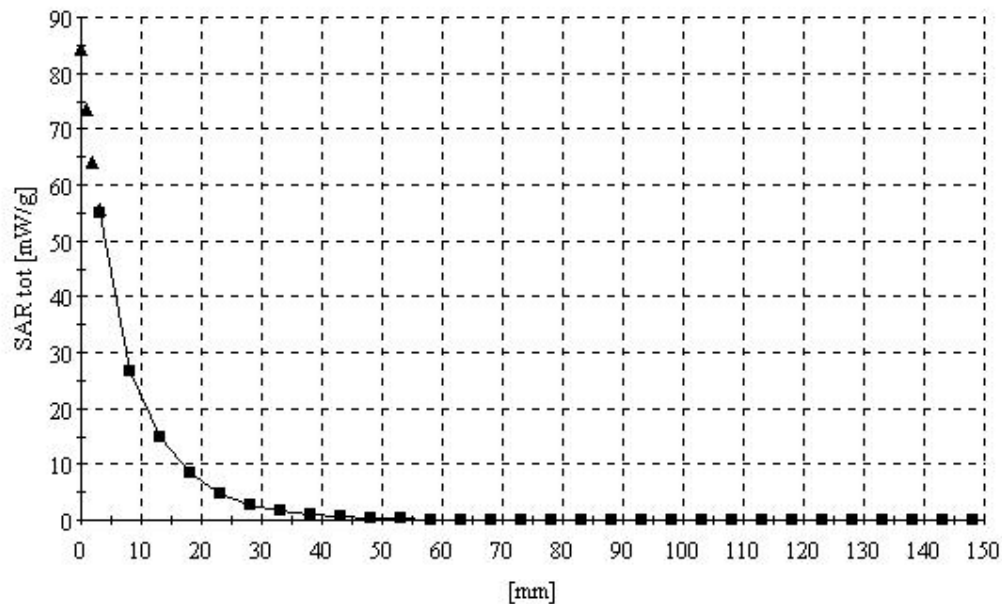
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7°C

Date Tested : June 24, 2004



■ Dielectric Parameter (835MHz Brain)

Title : TX-160C**SubTitle : CDMA BRAIN**

June 23, 2004 09:13 AM

Frequency	e'	e''
800.000000 MHz	43.1295	19.2998
805.000000 MHz	43.0789	19.2596
810.000000 MHz	42.9691	19.2365
815.000000 MHz	42.9035	19.2123
820.000000 MHz	42.8687	19.1424
825.000000 MHz	42.7235	19.1312
830.000000 MHz	42.6892	19.1684
835.000000 MHz	42.6376	19.1418
840.000000 MHz	42.5094	19.1376
845.000000 MHz	42.4832	19.0836
850.000000 MHz	42.4236	19.0917
855.000000 MHz	42.3186	19.0821
860.000000 MHz	42.2897	19.0815
865.000000 MHz	42.2708	19.0780
870.000000 MHz	42.1813	19.0750
875.000000 MHz	42.1703	19.1607
880.000000 MHz	42.1757	19.1293
885.000000 MHz	42.0948	19.1443
890.000000 MHz	42.0406	19.1111
895.000000 MHz	41.9947	19.1357
900.000000 MHz	41.9220	19.0691

■ Dielectric Parameter (835MHz Brain)

Title : TX-160C**SubTitle : CDMA BODY**

June 23, 2004 05:41 PM

Frequency	e'	e''
800.000000 MHz	56.1485	21.1265
805.000000 MHz	56.1498	21.0821
810.000000 MHz	56.0881	21.0497
815.000000 MHz	56.0558	21.0633
820.000000 MHz	55.9384	20.9960
825.000000 MHz	55.8680	20.9905
830.000000 MHz	55.7440	21.0166
835.000000 MHz	55.6010	20.9283
840.000000 MHz	55.5253	20.9262
845.000000 MHz	55.4975	20.8732
850.000000 MHz	55.3818	20.7887
855.000000 MHz	55.3215	20.7602
860.000000 MHz	55.2486	20.7804
865.000000 MHz	55.2483	20.7616
870.000000 MHz	55.2206	20.7534
875.000000 MHz	55.1712	20.7966
880.000000 MHz	55.1002	20.7947
885.000000 MHz	54.9336	20.6558
890.000000 MHz	54.9263	20.6880
895.000000 MHz	54.9051	20.7622
900.000000 MHz	54.8199	20.8825

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-160C**SubTitle : CDMA PCS BRAIN**

June 24, 2004 03:50 AM

Frequency	e'	e''
1.800000000 GHz	40.7396	12.9703
1.810000000 GHz	40.6905	13.0293
1.820000000 GHz	40.6734	13.0833
1.830000000 GHz	40.5984	13.1160
1.840000000 GHz	40.5822	13.1571
1.850000000 GHz	40.5227	13.2045
1.860000000 GHz	40.4819	13.2220
1.870000000 GHz	40.4446	13.2524
1.880000000 GHz	40.4084	13.2732
1.890000000 GHz	40.3682	13.2907
1.900000000 GHz	40.2998	13.2908
1.910000000 GHz	40.2399	13.3247
1.920000000 GHz	40.1755	13.3588
1.930000000 GHz	40.1047	13.3945
1.940000000 GHz	40.0364	13.4051
1.950000000 GHz	39.9883	13.4442
1.960000000 GHz	39.9543	13.5066
1.970000000 GHz	39.9233	13.5581
1.980000000 GHz	39.8986	13.6082
1.990000000 GHz	39.8712	13.6307
2.000000000 GHz	39.8523	13.6769

■ Dielectric Parameter (1900MHz Muscle)

Title : TX-160C**SubTitle : CDMA PCS BODY**

June 24, 2004 04:43 PM

Frequency	e'	e''
1.850000000 GHz	53.6649	14.8089
1.855000000 GHz	53.6635	14.8134
1.860000000 GHz	53.6155	14.8232
1.865000000 GHz	53.5654	14.8463
1.870000000 GHz	53.4926	14.8681
1.875000000 GHz	53.4070	14.8872
1.880000000 GHz	53.4123	14.8604
1.885000000 GHz	53.3402	14.8570
1.890000000 GHz	53.3121	14.8611
1.895000000 GHz	53.2629	14.8298
1.900000000 GHz	53.2182	14.8865
1.905000000 GHz	53.2146	14.8721
1.910000000 GHz	53.1669	14.8769
1.915000000 GHz	53.1578	14.8754
1.920000000 GHz	53.1596	14.8930
1.925000000 GHz	53.1541	14.9102
1.930000000 GHz	53.1691	14.9447
1.935000000 GHz	53.1735	14.9635
1.940000000 GHz	53.1800	14.9840
1.945000000 GHz	53.1731	15.0246
1.950000000 GHz	53.1947	15.0637