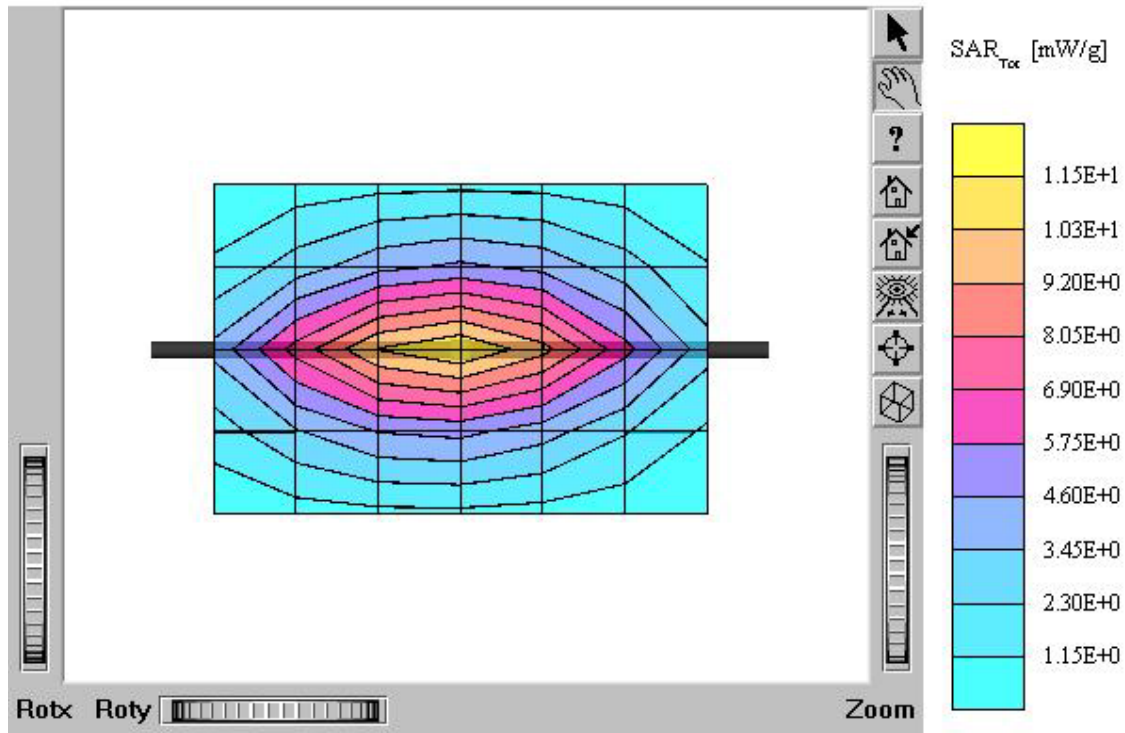


ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Dipole 835 MHz

SAM II Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz
Probe: ET3DV6 - SN1607; ConvF(6.22,6.22,6.22); Crest factor: 1.0; Head 835 MHz: $s = 0.88$
 $\rho_{\text{ho/m e}_r} = 42.8$ $r = 1.00$ g/cm^3
Cubes (2): SAR (1g): $10.2 \text{ mW/g} \pm 0.00 \text{ dB}$, SAR (10g): $6.44 \text{ mW/g} \pm 0.06 \text{ dB}$
Coarse: $D_x = 20.0$, $D_y = 20.0$, $D_z = 10.0$
Powerdrift: 0.03 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: 21.5°C
Date Tested : October 6, 2004



■ Validation Data (1900MHz Brain)

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: Brain 1900 MHz: $s = 1.39$

$\rho_{\text{ho/m}}$ $\epsilon_r = 40.3$ $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $41.7 \text{ mW/g} \pm 0.09 \text{ dB}$, SAR (10g): $21.3 \text{ mW/g} \pm 0.11 \text{ dB}$

Coarse: $D_x = 20.0$, $D_y = 20.0$, $D_z = 10.0$

Powerdrift: -0.02 dB

Comment:

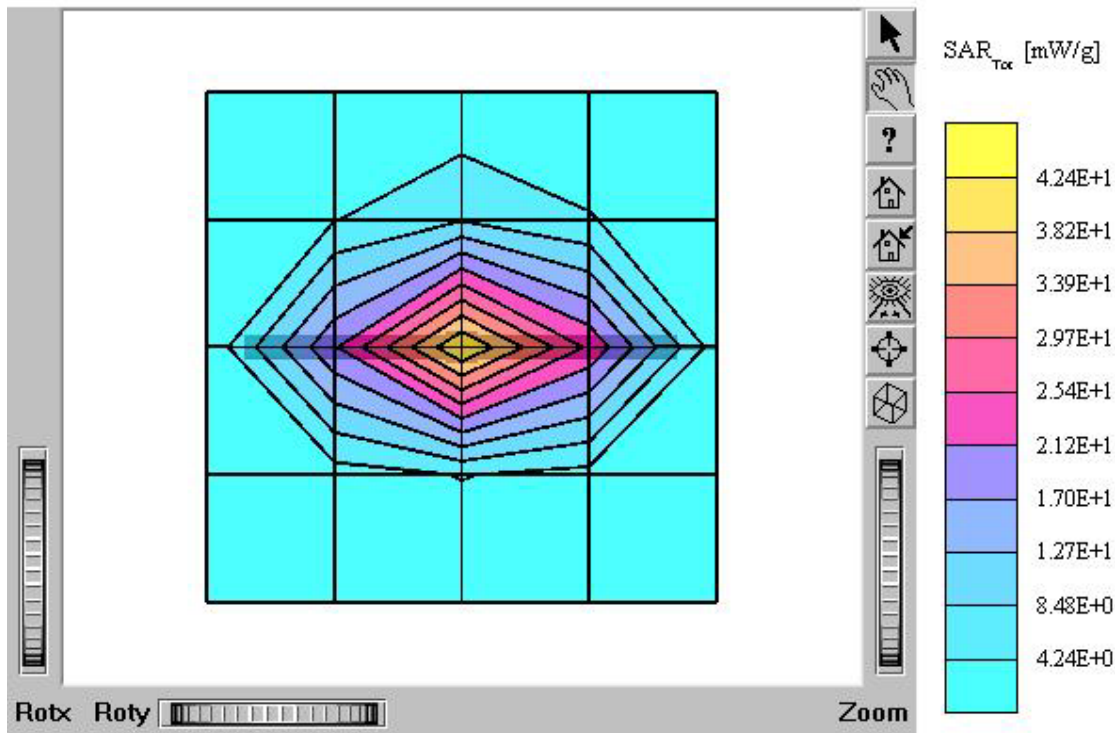
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.5°C

Date Tested : October 6, 2004



N541 (Body)

SAM II Phantom: Section: Position: ; Frequency: 835 MHz
Probe: ET3DV6 - SN1607; ConvF(6.26,6.26,6.26); Crest factor: 8.0; Body 835 MHz: $s = 0.97$
 $\rho_{\text{ho/m}} e_r = 55.8$ $r = 1.00$ g/cm³

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

Comment:

FCC ID : R5WNGTN541T / MODEL : N541

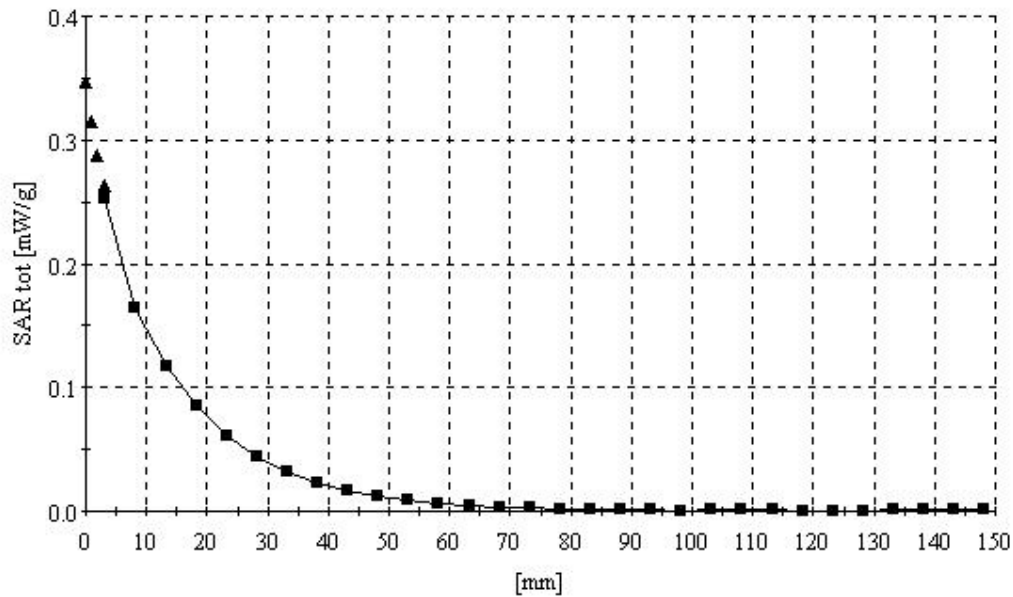
Company : Newgen Telecom Co., Ltd

Test Position: Body / Antenna: Fixed

Mode: GSM850 / Channel : 190

Liquid Temperature: 21.5°C

Date Tested : October 6, 2004



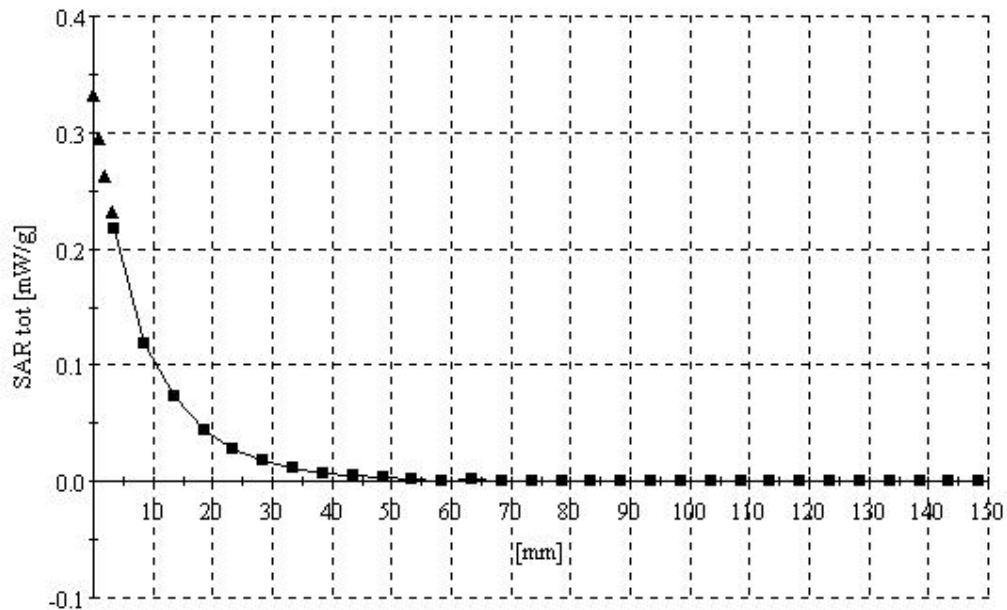
N541 (Body)

SAM II Phantom: Section: Position: ; Frequency: 1900 MHz
Probe: ET3DV6 - SN1609; ConvF(4.60,4.60,4.60); Crest factor: 8.0; Body 1900 MHz: $s = 1.49$
 ρ_{ho}/m , $e_r = 51.6$ $r = 1.00$ g/cm³

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

Comment:

FCC ID : R5WNGTN541T / MODEL : N541
Company : Newgen Telecom Co., Ltd
Test Position: Body / Antenna: Fixed
Mode: GSM1900 / Channel : 661
Liquid Temperature: 21.5°C
Date Tested : October 6, 2004



■ Dielectric Parameter (835MHz Brain)

Title : N514**SubTitle : GSM850 Brain**

October 12, 2004 02:11 PM

Frequency	e'	e''
800.000000 MHz	43.2693	19.0971
805.000000 MHz	43.1630	19.0949
810.000000 MHz	43.1211	19.0857
815.000000 MHz	43.0673	19.0693
820.000000 MHz	42.9953	19.0423
825.000000 MHz	42.8662	19.0161
830.000000 MHz	42.7995	18.9993
835.000000 MHz	42.7527	18.9928
840.000000 MHz	42.6141	18.9921
845.000000 MHz	42.6188	18.9399
850.000000 MHz	42.5488	18.9514
855.000000 MHz	42.4733	18.9749
860.000000 MHz	42.4550	18.9095
865.000000 MHz	42.4473	18.9132
870.000000 MHz	42.3558	18.9417
875.000000 MHz	42.3168	19.0053
880.000000 MHz	42.2898	19.0042
885.000000 MHz	42.2459	18.9780
890.000000 MHz	42.2083	18.9703
895.000000 MHz	42.1460	19.0100
900.000000 MHz	42.1024	18.9446

■ Dielectric Parameter (1900MHz Brain)

Title : N541**SubTitle : GSM1900 Brain**

October 06, 2004 03:15 PM

Frequency	e'	e''
1.800000000 GHz	40.8078	12.9031
1.810000000 GHz	40.7378	12.9538
1.820000000 GHz	40.7072	13.0162
1.830000000 GHz	40.6392	13.0841
1.840000000 GHz	40.6021	13.0836
1.850000000 GHz	40.5818	13.1546
1.860000000 GHz	40.5773	13.1727
1.870000000 GHz	40.5671	13.1943
1.880000000 GHz	40.5017	13.2036
1.890000000 GHz	40.4324	13.2278
1.900000000 GHz	40.3408	13.2070
1.910000000 GHz	40.2572	13.2236
1.920000000 GHz	40.2133	13.2443
1.930000000 GHz	40.0906	13.2789
1.940000000 GHz	40.0372	13.3214
1.950000000 GHz	39.9904	13.3806
1.960000000 GHz	39.9473	13.4432
1.970000000 GHz	39.9283	13.4778
1.980000000 GHz	39.9415	13.5408
1.990000000 GHz	39.9321	13.5686
2.000000000 GHz	39.9240	13.5838

■ Dielectric Parameter (835MHz Muscle)**Title : N541****SubTitle : GSM850 Body**

October 06, 2004 01:45 PM

Frequency	e'	e''
800.000000 MHz	56.2970	20.9692
805.000000 MHz	56.2397	20.9238
810.000000 MHz	56.1834	20.8784
815.000000 MHz	56.2184	20.9237
820.000000 MHz	56.0975	20.8804
825.000000 MHz	56.0322	20.9065
830.000000 MHz	55.9072	20.8883
835.000000 MHz	55.8263	20.8209
840.000000 MHz	55.7502	20.7635
845.000000 MHz	55.6334	20.7115
850.000000 MHz	55.5752	20.6379
855.000000 MHz	55.5247	20.6383
860.000000 MHz	55.4548	20.6138
865.000000 MHz	55.4346	20.6027
870.000000 MHz	55.3834	20.5929
875.000000 MHz	55.3145	20.6438
880.000000 MHz	55.2279	20.6323
885.000000 MHz	55.0952	20.5016
890.000000 MHz	55.1051	20.5004
895.000000 MHz	55.0231	20.6096
900.000000 MHz	54.9624	20.6887

■ Dielectric Parameter (1900MHz Muscle)

Title : N541**SubTitle : GSM1900 Body**

October 06, 2004 07:22 PM

Frequency	e'	e''
1.800000000 GHz	52.0461	13.4903
1.806666667 GHz	52.0186	13.4967
1.813333333 GHz	52.0057	13.5444
1.820000000 GHz	51.9522	13.5768
1.826666667 GHz	51.9543	13.6437
1.833333333 GHz	51.9170	13.6554
1.840000000 GHz	51.8573	13.7223
1.846666667 GHz	51.8614	13.7590
1.853333333 GHz	51.8573	13.8384
1.860000000 GHz	51.8046	13.8607
1.866666667 GHz	51.7709	13.9198
1.873333333 GHz	51.7608	13.9761
1.880000000 GHz	51.7292	14.0231
1.886666667 GHz	51.7050	14.0530
1.893333333 GHz	51.6656	14.0929
1.900000000 GHz	51.6393	14.1463
1.906666667 GHz	51.6475	14.1618
1.913333333 GHz	51.6120	14.2343
1.920000000 GHz	51.5837	14.2507
1.926666667 GHz	51.5739	14.2826
1.933333333 GHz	51.5519	14.3078
1.940000000 GHz	51.5051	14.3594
1.946666667 GHz	51.5199	14.4152
1.953333333 GHz	51.5084	14.4490
1.960000000 GHz	51.4489	14.4914