

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (1900MHz Head)

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

Cubes (2): SAR (1g): $39.2 \text{ mW/g} \pm 0.09 \text{ dB}$, SAR (10g): $20.2 \text{ mW/g} \pm 0.08 \text{ dB}$

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

Peak: $73.9 \text{ mW/g} \pm 0.11 \text{ dB}$; Powerdrift: 0.08 dB

Comment :

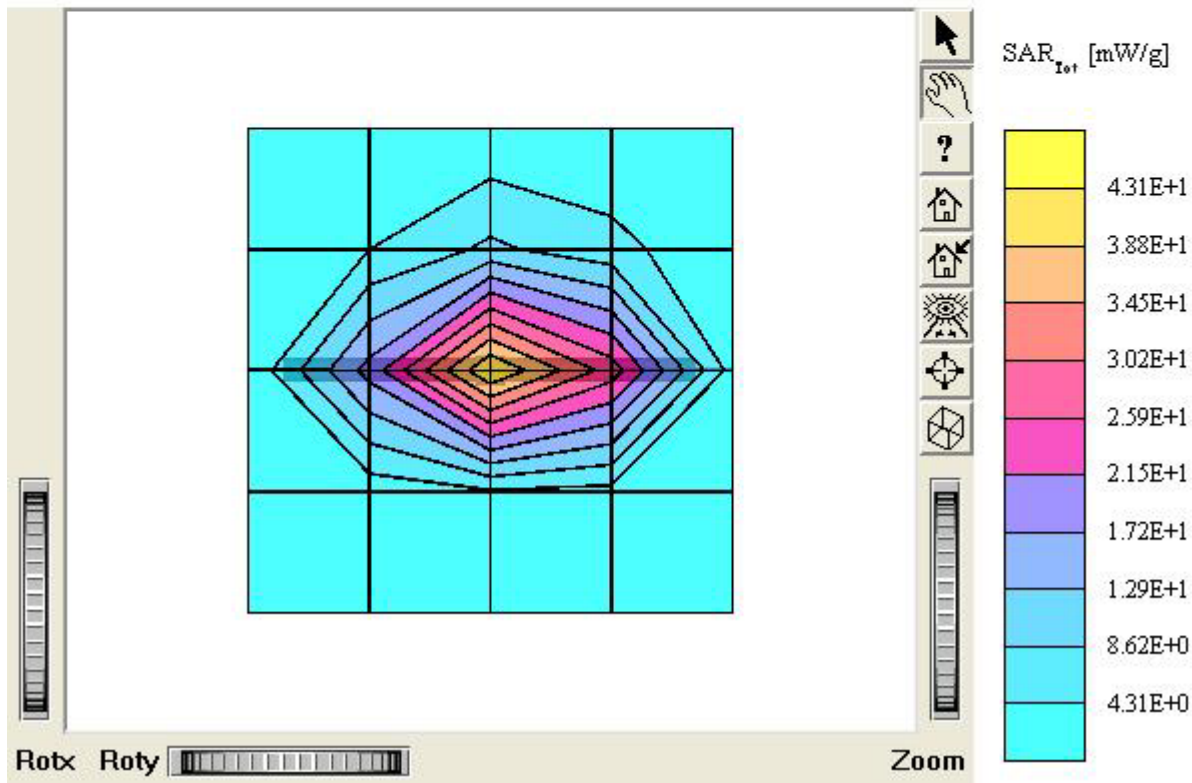
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.7°C

Date Tested : April 22, 2005



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.44 \text{ mho/m}$ $\epsilon_r = 38.5$ $\rho = 1.00 \text{ g/cm}^3$

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

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Comment :

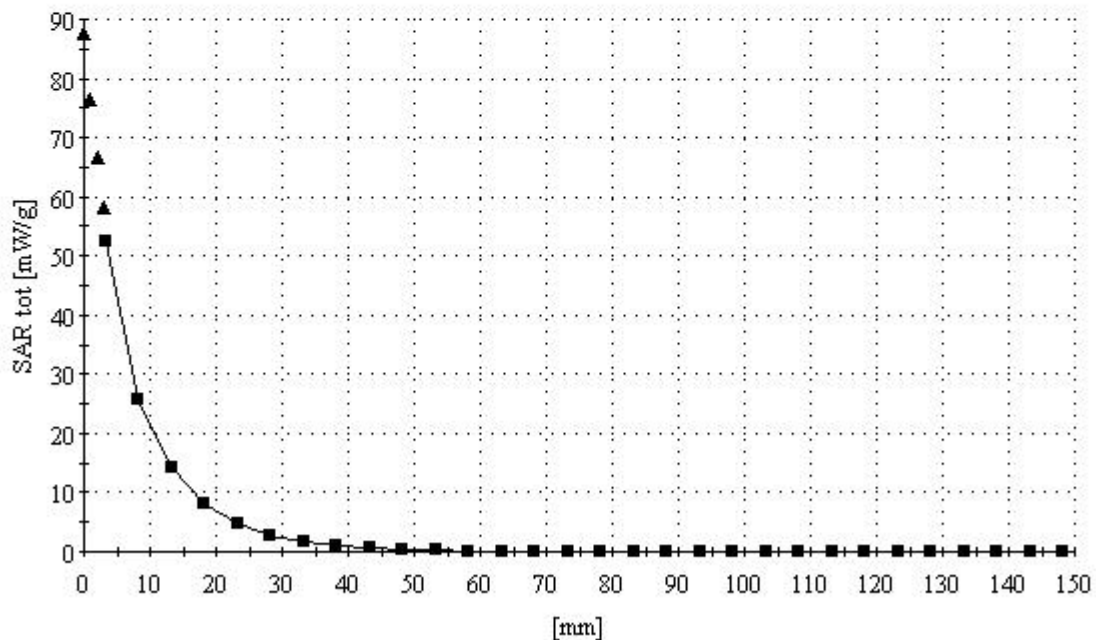
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

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■ Dielectric Parameter (1900MHz Head)**Title : N301****SubTitle : GSM1900 Head****April 22, 2005 09:00 AM**

Frequency	e'	e''
1.800000000 GHz	36.9502	12.6717
1.810000000 GHz	38.4366	13.3161
1.820000000 GHz	38.4912	13.4276
1.830000000 GHz	38.5434	13.5415
1.840000000 GHz	38.5898	13.6430
1.850000000 GHz	38.6808	13.7167
1.860000000 GHz	38.6811	13.7519
1.870000000 GHz	38.7253	13.7450
1.880000000 GHz	38.7111	13.7438
1.890000000 GHz	38.6592	13.6801
1.900000000 GHz	38.5235	13.6278
1.910000000 GHz	38.3734	13.5741
1.920000000 GHz	38.2369	13.5777
1.930000000 GHz	38.1311	13.6096
1.940000000 GHz	37.6990	13.5524
1.950000000 GHz	38.0159	13.7597
1.960000000 GHz	38.1298	13.8984
1.970000000 GHz	38.2167	14.0237
1.980000000 GHz	38.0516	14.0247
1.990000000 GHz	36.8635	13.6196
2.000000000 GHz	37.7830	13.8887

■ Dielectric Parameter (1900MHz Body)**Title : N301****SubTitle : GSM1900 Body**

April 22, 2005 02:42 PM

Frequency	e'	e''
1.800000000 GHz	52.2558	13.7637
1.810000000 GHz	52.2599	13.8265
1.820000000 GHz	52.2368	13.9053
1.830000000 GHz	52.2064	13.9436
1.840000000 GHz	52.1453	13.9731
1.850000000 GHz	52.1101	14.0054
1.860000000 GHz	52.0399	14.0402
1.870000000 GHz	51.9708	14.0781
1.880000000 GHz	51.8927	14.1318
1.890000000 GHz	51.8051	14.1803
1.900000000 GHz	51.7240	14.2096
1.910000000 GHz	51.6759	14.2776
1.920000000 GHz	51.6549	14.3929
1.930000000 GHz	51.6143	14.4798
1.940000000 GHz	51.6172	14.5453
1.950000000 GHz	51.6253	14.5597
1.960000000 GHz	51.6099	14.6278
1.970000000 GHz	51.5591	14.6363
1.980000000 GHz	51.5167	14.6480
1.990000000 GHz	51.4501	14.7044
2.000000000 GHz	51.3733	14.7139