

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (1900MHz Head)

Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.47$ mho/m $\epsilon_r = 38.5$

$$\rho = 1.00 \text{ g/cm}^3$$

Cube 5x5x7: SAR (1g): 41.4 mW/g, SAR (10g): 20.8 mW/g

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

Powerdrift: -0.02 dB

Comment :

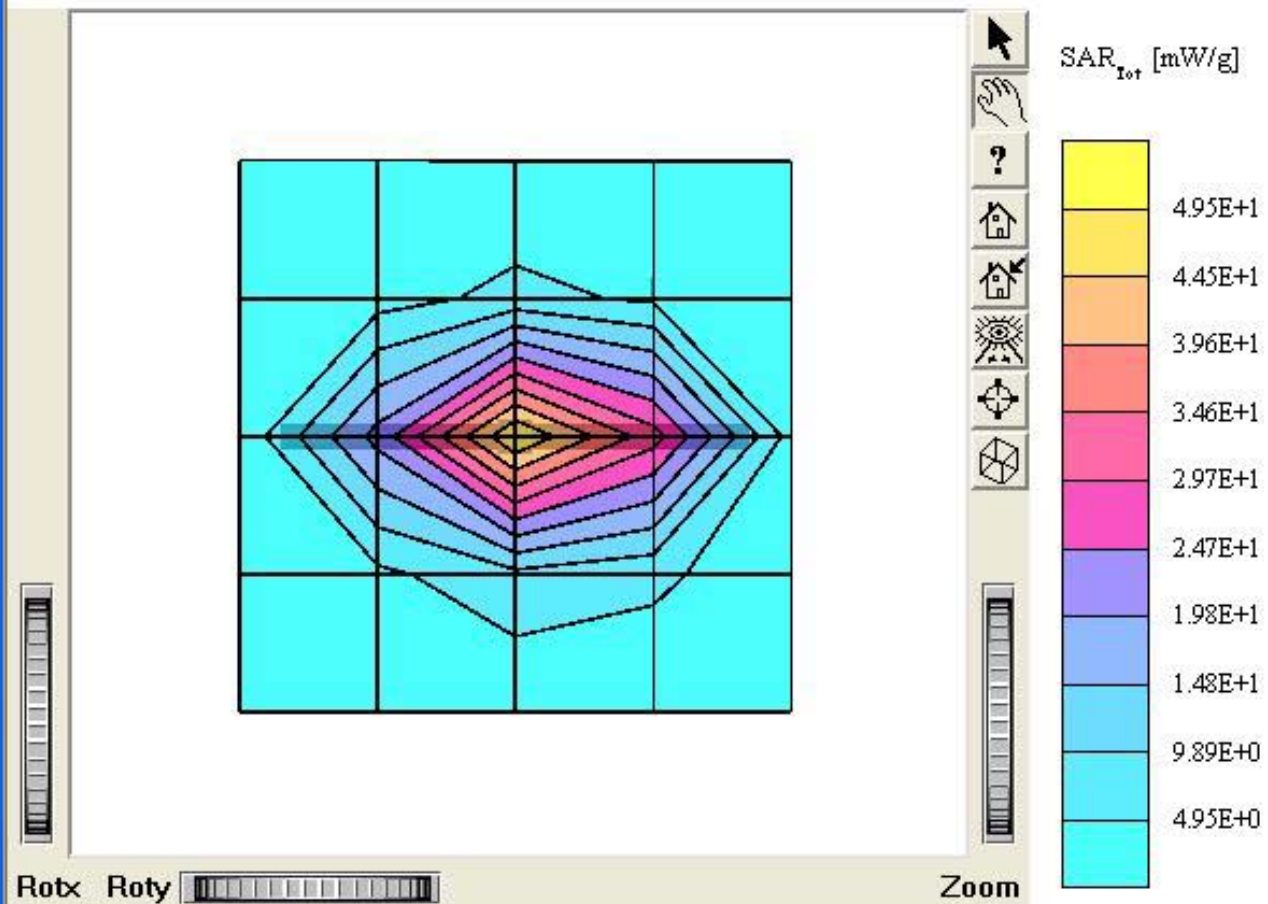
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power : 30 dBm (1W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature : 21.7 °C

Date Tested: June 9, 2005



Dipole 1900 MHz

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

Probe: ET3DV6 - SN1609; ConvF(5.34,5.34,5.34); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.47 \text{ mho/m}$ $\epsilon_r = 38.5$ $\rho = 1.00 \text{ g/cm}^3$

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

Comment :

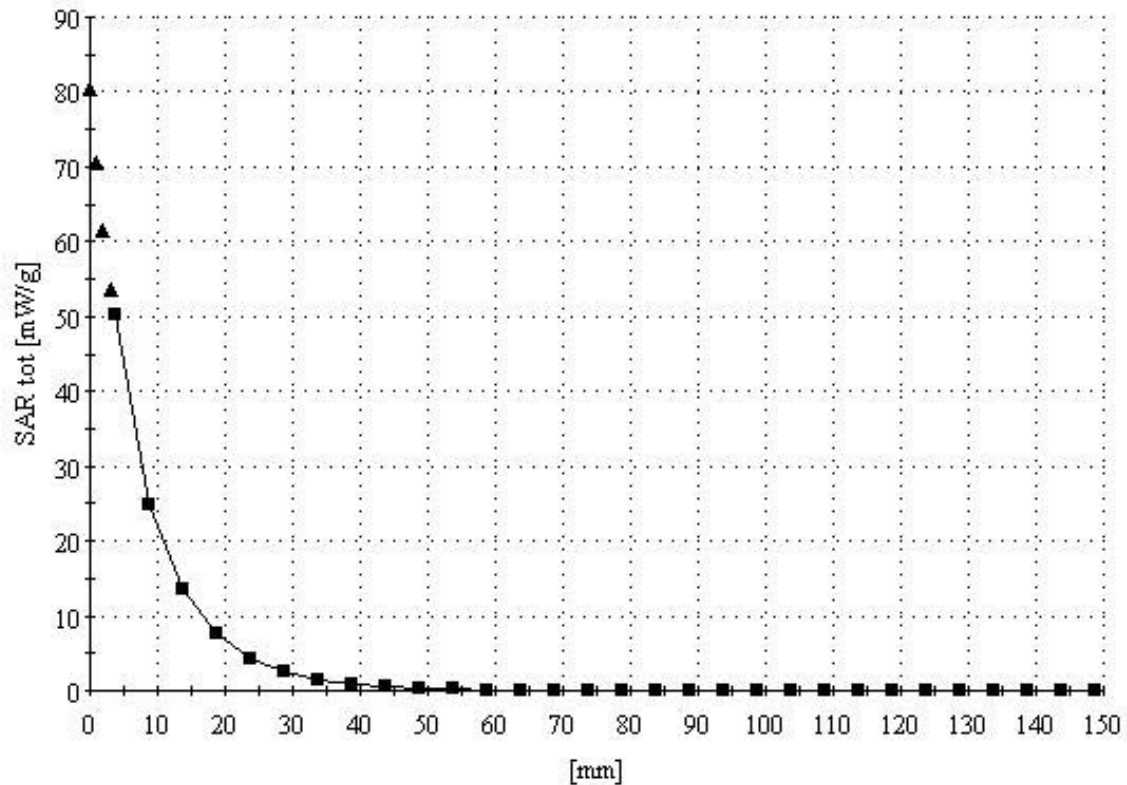
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

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■ Dielectric Parameter (1900MHz Head)

Title : AP-200**SubTitle : PCS HEAD**

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Frequency	e'	e''
1.800000000 GHz	38.6825	13.4865
1.810000000 GHz	38.6590	13.5373
1.820000000 GHz	38.6162	13.5784
1.830000000 GHz	38.5923	13.6441
1.840000000 GHz	38.6271	13.6954
1.850000000 GHz	38.5835	13.7336
1.860000000 GHz	38.5884	13.7366
1.870000000 GHz	38.5456	13.7624
1.880000000 GHz	38.5106	13.7747
1.890000000 GHz	38.4213	13.7496
1.900000000 GHz	38.3531	13.7476
1.910000000 GHz	38.2705	13.7491
1.920000000 GHz	38.2183	13.7646
1.930000000 GHz	38.1840	13.8071
1.940000000 GHz	38.1580	13.8562
1.950000000 GHz	38.1183	13.9139
1.960000000 GHz	38.1217	13.9733
1.970000000 GHz	38.1087	14.0459
1.980000000 GHz	38.0755	14.0847
1.990000000 GHz	38.0846	14.1109
2.000000000 GHz	38.0319	14.0756

■ Dielectric Parameter (1900MHz Body)

Title : AP-200**SubTitle : PCS BODY**

June 09, 2005 02:17 PM

Frequency	ϵ'	ϵ''
1.8000000000 GHz	55.5178	13.7535
1.8100000000 GHz	55.6340	13.8142
1.8200000000 GHz	55.7972	13.8331
1.8300000000 GHz	55.7743	13.8252
1.8400000000 GHz	55.5341	13.8572
1.8500000000 GHz	55.3337	13.8723
1.8600000000 GHz	55.1101	13.9078
1.8700000000 GHz	54.8962	13.9662
1.8800000000 GHz	54.6530	14.0731
1.8900000000 GHz	54.5367	14.1613
1.9000000000 GHz	54.4151	14.2411
1.9100000000 GHz	54.3153	14.3718
1.9200000000 GHz	54.3204	14.4655
1.9300000000 GHz	54.3730	14.5094
1.9400000000 GHz	54.4211	14.5500
1.9500000000 GHz	54.4872	14.5423
1.9600000000 GHz	54.4844	14.5575
1.9700000000 GHz	54.4170	14.5289
1.9800000000 GHz	54.3527	14.5390
1.9900000000 GHz	54.2658	14.5989
2.0000000000 GHz	54.1562	14.6417