

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(5.34,5.34,5.34); Crest factor: 1.0; Brain 1900 MHz: $\sigma = 1.45 \text{ mho/m}$, $\epsilon_r = 38.6$, $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): 39.0 mW/g $\pm 0.02 \text{ dB}$, SAR (10g): 20.1 mW/g $\pm 0.00 \text{ dB}$

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

Peak: 73.8 mW/g $\pm 0.05 \text{ dB}$; Powerdrift: 0.05 dB

Comment :

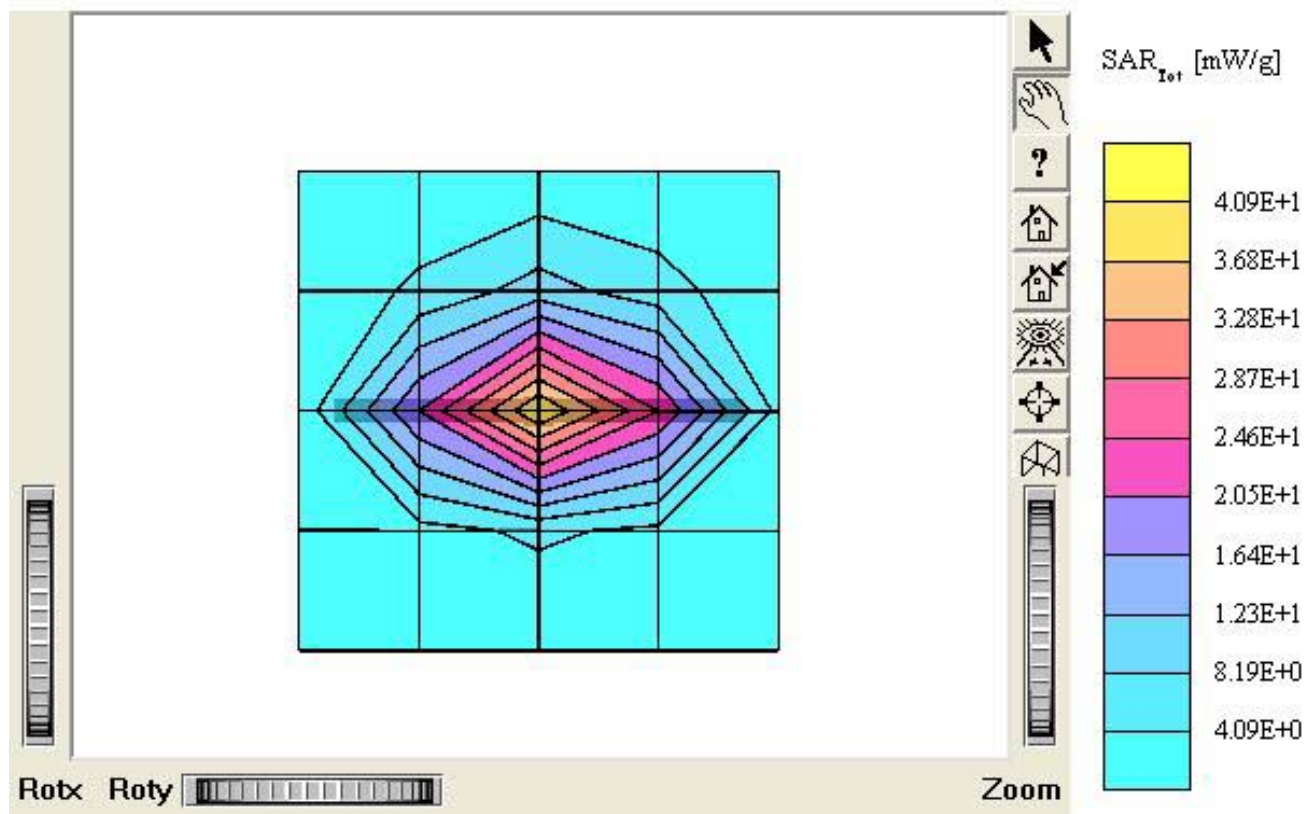
1900 MHz Brain Dipole Validation (D1900V2/ S.N: 5d032)

Antenna Input Power: 30 dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.5°C

Date Tested : April 21, 2005



Dipole 1900 MHz

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

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Comment :

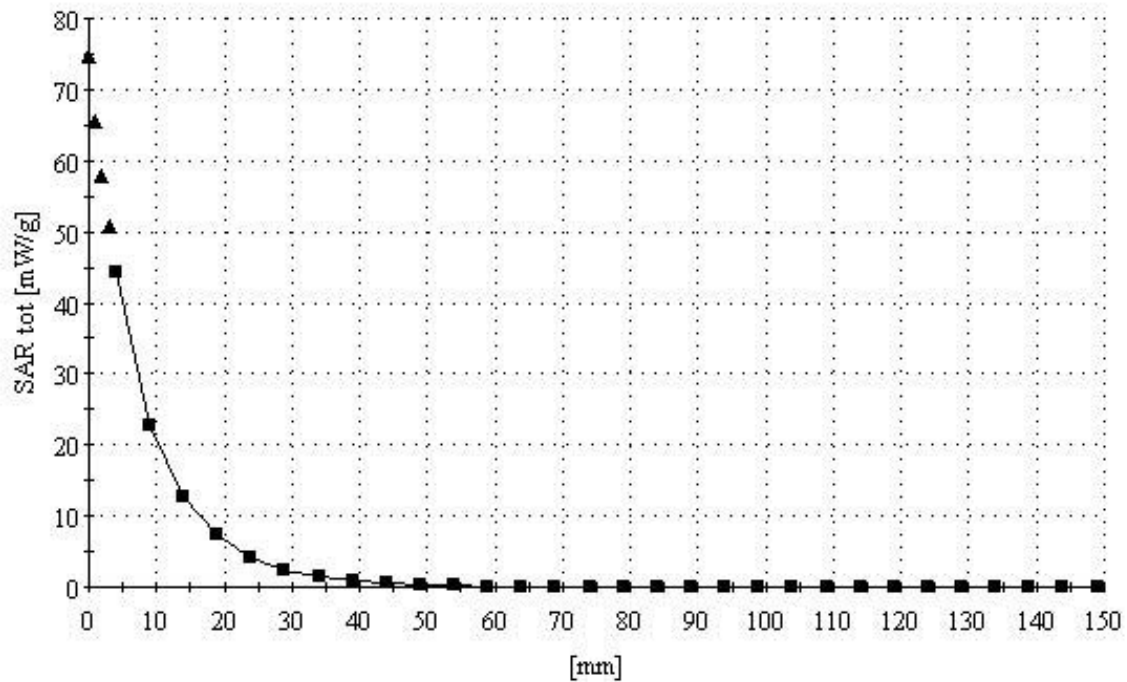
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■ Dielectric Parameter (1900MHz Head)

Title : EM201**SubTitle : GSM1900 Head****May 02, 2005 02:36 PM**

Frequency	e'	e''
1.800000000 GHz	38.8424	13.3383
1.810000000 GHz	38.8392	13.4399
1.820000000 GHz	38.8250	13.5054
1.830000000 GHz	38.7959	13.6786
1.840000000 GHz	38.8147	13.7685
1.850000000 GHz	38.7979	13.8314
1.860000000 GHz	38.7702	13.8888
1.870000000 GHz	38.7823	13.8531
1.880000000 GHz	38.7645	13.8209
1.890000000 GHz	38.6948	13.7617
1.900000000 GHz	38.6073	13.7440
1.910000000 GHz	38.4915	13.6887
1.920000000 GHz	38.3888	13.6997
1.930000000 GHz	38.3342	13.7573
1.940000000 GHz	38.3179	13.8319
1.950000000 GHz	38.3042	13.9543
1.960000000 GHz	38.2533	14.0708
1.970000000 GHz	38.2672	14.1489
1.980000000 GHz	38.2892	14.2010
1.990000000 GHz	38.3205	14.1711
2.000000000 GHz	38.2963	14.1712

■ Dielectric Parameter (1900MHz Body)

Title : EM201**SubTitle : GSM1900 Body**

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Frequency	e'	e''
1.800000000 GHz	51.2233	13.4050
1.810000000 GHz	51.1826	13.5178
1.820000000 GHz	51.1572	13.6248
1.830000000 GHz	51.1021	13.7394
1.840000000 GHz	51.1118	13.8274
1.850000000 GHz	51.0805	13.8975
1.860000000 GHz	51.0631	13.9275
1.870000000 GHz	51.0315	13.9839
1.880000000 GHz	50.9785	13.9888
1.890000000 GHz	50.8919	13.9812
1.900000000 GHz	50.8451	13.9573
1.910000000 GHz	50.7657	13.9905
1.920000000 GHz	50.7280	14.0331
1.930000000 GHz	50.6832	14.1207
1.940000000 GHz	50.6752	14.2354
1.950000000 GHz	50.6834	14.3496
1.960000000 GHz	50.6405	14.4433
1.970000000 GHz	50.6282	14.5061
1.980000000 GHz	50.6259	14.5390
1.990000000 GHz	50.5750	14.5744
2.000000000 GHz	50.5418	14.5623