

ATTACHMENT Q – DIPOLE VALIDATION

Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.7°C
Date Tested : January 14, 2007

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032
Program Name: Validation 1900 MHz

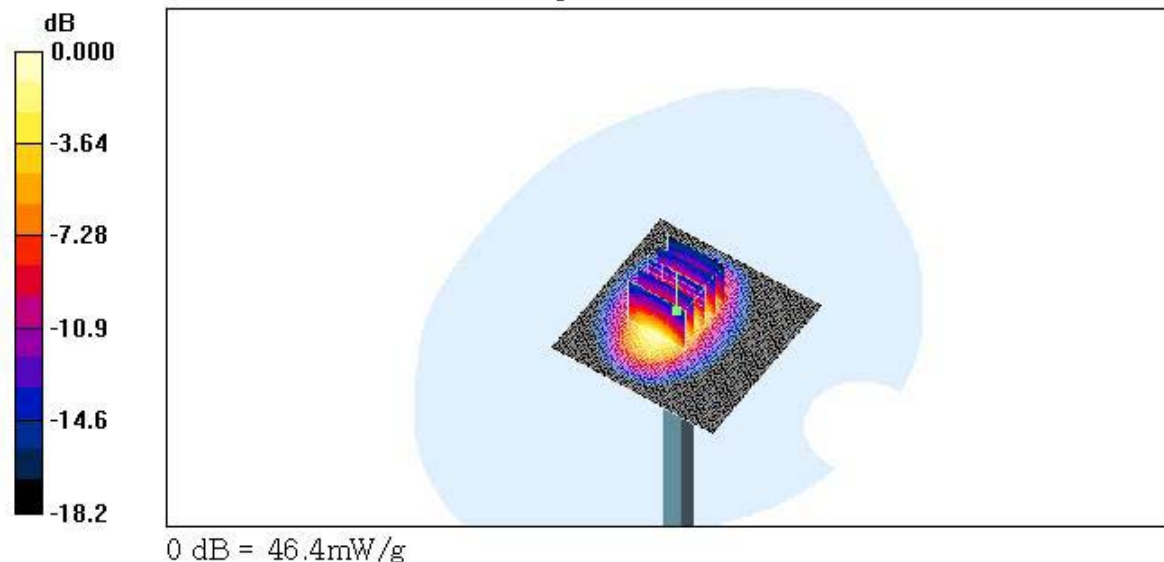
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³
Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(5.16, 5.16, 5.16); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2006-11-15
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 1900MHz/Area Scan (61x61x1): Measurement grid: $\Delta x=15$ mm, $\Delta y=15$ mm
Maximum value of SAR (interpolated) = 49.8 mW/g

Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $\Delta x=8$ mm, $\Delta y=8$ mm, $\Delta z=5$ mm
Reference Value = 177.3 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 73.4 W/kg
SAR(1 g) = 41.5 mW/g; SAR(10 g) = 21.7 mW/g
Maximum value of SAR (measured) = 46.4 mW/g



Validation Data (2450MHz Head)

Test Laboratory: HCT

2450 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.7°C
Date Tested : January 14, 2007

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2
Program Name: Validation 2450 MHz

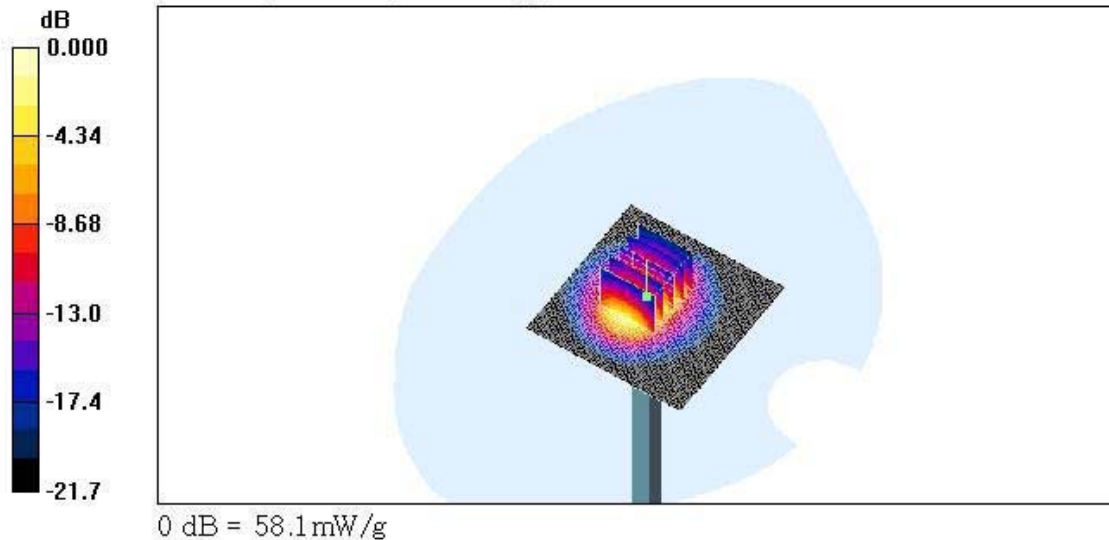
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.883$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³
Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(4.5, 4.5, 4.5); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2006-11-15
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 2450MHz/Area Scan (61x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 67.3 mW/g

Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm
Reference Value = 179.5 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 112.9 W/kg
SAR(1 g) = 53 mW/g; SAR(10 g) = 25.1 mW/g
Maximum value of SAR (measured) = 58.1 mW/g



Dielectric Parameter (1900MHz Head)

Title : MV430

SubTitle : PCS1900(HEAD)

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Frequency	e'	e''
1.800000000 GHz	39.6774	13.5798
1.810000000 GHz	39.6109	13.5823
1.820000000 GHz	39.5398	13.6153
1.830000000 GHz	39.4728	13.6129
1.840000000 GHz	39.4452	13.6138
1.850000000 GHz	39.3730	13.6725
1.860000000 GHz	39.2898	13.6722
1.870000000 GHz	39.2401	13.7234
1.880000000 GHz	39.2250	13.7084
1.890000000 GHz	39.1933	13.7605
1.900000000 GHz	39.1731	13.8052
1.910000000 GHz	39.1533	13.8111
1.920000000 GHz	39.0892	13.8481
1.930000000 GHz	39.0598	13.8633
1.940000000 GHz	39.0302	13.8904
1.950000000 GHz	38.9717	13.8892
1.960000000 GHz	38.8972	13.9340
1.970000000 GHz	38.8557	13.9283
1.980000000 GHz	38.8016	13.9780
1.990000000 GHz	38.7879	13.9984
2.000000000 GHz	38.7210	14.0248

Dielectric Parameter (1900MHz Body)

Title : MV430

SubTitle : PCS1900(BODY)

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Frequency	e'	e''
1.700000000 GHz	52.8298	14.2819
1.710000000 GHz	52.7852	14.3245
1.720000000 GHz	52.7630	14.3603
1.730000000 GHz	52.7124	14.4081
1.740000000 GHz	52.7066	14.4050
1.750000000 GHz	52.6991	14.4068
1.760000000 GHz	52.6675	14.4214
1.770000000 GHz	52.5995	14.4119
1.780000000 GHz	52.5799	14.4278
1.790000000 GHz	52.5600	14.4369
1.800000000 GHz	52.4975	14.4749
1.810000000 GHz	52.4945	14.5206
1.820000000 GHz	52.4211	14.5579
1.830000000 GHz	52.3741	14.6273
1.840000000 GHz	52.3453	14.6776
1.850000000 GHz	52.2777	14.6933
1.860000000 GHz	52.2392	14.7276
1.870000000 GHz	52.2484	14.7524
1.880000000 GHz	52.2076	14.8001
1.890000000 GHz	52.1771	14.7883
1.900000000 GHz	52.1352	14.7943
1.910000000 GHz	52.0668	14.7850
1.920000000 GHz	52.0208	14.8066
1.930000000 GHz	52.0019	14.8362
1.940000000 GHz	51.9491	14.8505
1.950000000 GHz	51.8788	14.9101
1.960000000 GHz	51.8796	14.9512
1.970000000 GHz	51.8236	14.9986
1.980000000 GHz	51.7654	15.0415
1.990000000 GHz	51.7799	15.0489
2.000000000 GHz	51.7536	15.0949

Dielectric Parameter (2450MHz Head)

Title : MV430
SubTitle : 2450(HEAD)
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Frequency	e'	e''
2.400000000 GHz	38.7723	13.7418
2.405000000 GHz	38.7597	13.7249
2.410000000 GHz	38.7447	13.7352
2.415000000 GHz	38.7160	13.7456
2.420000000 GHz	38.6813	13.7416
2.425000000 GHz	38.6470	13.7514
2.430000000 GHz	38.6334	13.7524
2.435000000 GHz	38.5857	13.7790
2.440000000 GHz	38.5593	13.7908
2.445000000 GHz	38.5323	13.8282
2.450000000 GHz	38.5096	13.8372
2.455000000 GHz	38.4704	13.8461
2.460000000 GHz	38.4794	13.8426
2.465000000 GHz	38.4687	13.8751
2.470000000 GHz	38.4320	13.8961
2.475000000 GHz	38.4272	13.8987
2.480000000 GHz	38.4086	13.9241
2.485000000 GHz	38.3960	13.9860
2.490000000 GHz	38.3374	14.0092
2.495000000 GHz	38.3149	14.0685
2.500000000 GHz	38.3119	14.0947

Dielectric Parameter (2450MHz Body)

Title : MV430

SubTitle : 2450(BODY)

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Frequency	e'	e''
2.400000000 GHz	52.2475	14.3684
2.405000000 GHz	52.1136	14.4746
2.410000000 GHz	52.0178	14.5594
2.415000000 GHz	51.9711	14.5686
2.420000000 GHz	51.9460	14.5588
2.425000000 GHz	51.9033	14.5826
2.430000000 GHz	51.8290	14.6350
2.435000000 GHz	51.7637	14.6761
2.440000000 GHz	51.7474	14.6751
2.445000000 GHz	51.7147	14.7176
2.450000000 GHz	51.6875	14.7194
2.455000000 GHz	51.6861	14.7115
2.460000000 GHz	51.6661	14.7274
2.465000000 GHz	51.6688	14.7371
2.470000000 GHz	51.6698	14.7452
2.475000000 GHz	51.6382	14.7688
2.480000000 GHz	51.6376	14.7868
2.485000000 GHz	51.6154	14.8290
2.490000000 GHz	51.5883	14.8700
2.495000000 GHz	51.5623	14.9174
2.500000000 GHz	51.5236	14.9662