ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 22.3℃
Date Tested : June 14, 2006

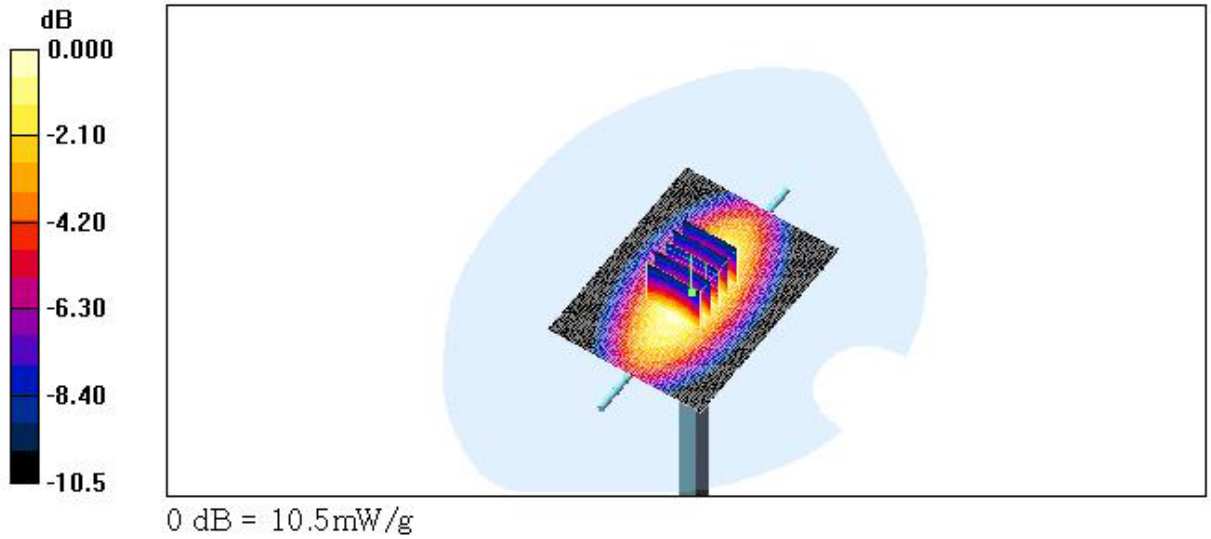
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441
Program Name: Validation 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; $\sigma = 0.874$ mho/m; $\varepsilon_r = 40.9$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section ;Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:
- Probe: ET3DV6 - SN1609; ConvF(6.85, 6.85, 6.85); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2005-11-30
- Phantom: SAM 835/900 MHz; Type: SAM

Validatoin 835 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.5 mW/g

Validatoin 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 113.0 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 14.2 W/kg
SAR(1 g) = 9.68 mW/g; SAR(10 g) = 6.35 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 22.4 ℃
Date Tested : June 15, 2006

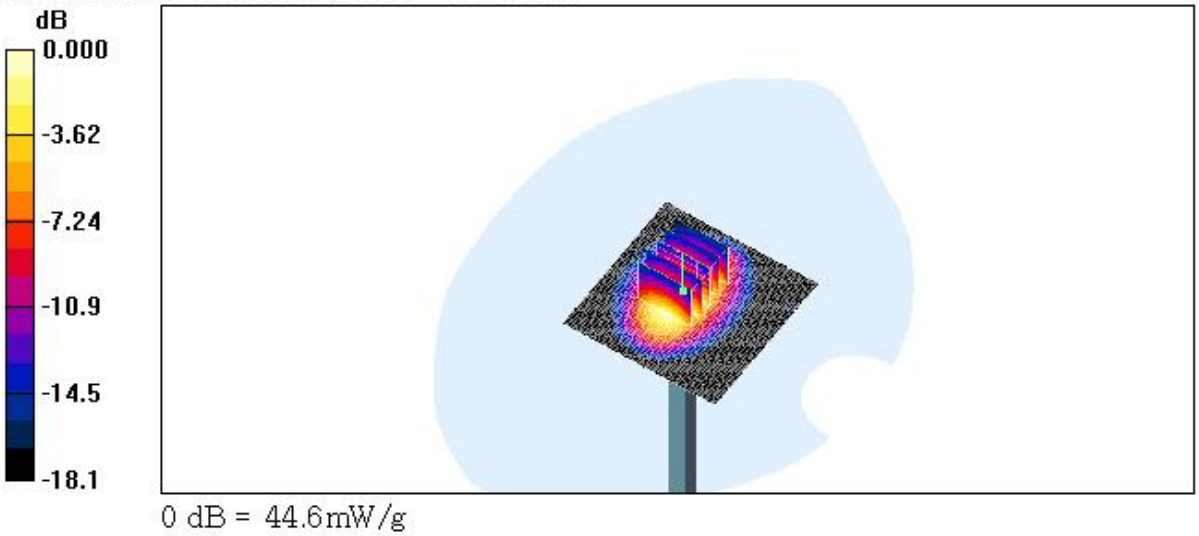
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032
Program Name: Validation 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.46 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
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: DAE4 Sn447; Calibrated: 2005-11-30
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 1900MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 50.1 mW/g

Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 185.0 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 70.4 W/kg
SAR(1 g) = 40.1 mW/g; SAR(10 g) = 21.2 mW/g
Maximum value of SAR (measured) = 44.6 mW/g



0 dB = 44.6mW/g

■ Dielectric Parameter (835MHz Head)

Title : PN-320

SubTitle : CDMA835(HEAD)

June 14, 2006 08:17 AM

Frequency	e'	e''
800.000000 MHz	41.2160	18.8637
805.000000 MHz	41.1487	18.8895
810.000000 MHz	41.0592	18.8675
815.000000 MHz	41.0479	18.8143
820.000000 MHz	40.9834	18.8184
825.000000 MHz	40.9683	18.8831
830.000000 MHz	40.8696	18.8123
835.000000 MHz	40.8546	18.8137
840.000000 MHz	40.8445	18.7927
845.000000 MHz	40.8167	18.8183
850.000000 MHz	40.7570	18.8010
855.000000 MHz	40.6724	18.8012
860.000000 MHz	40.6621	18.7705
865.000000 MHz	40.6346	18.7856
870.000000 MHz	40.5517	18.7454
875.000000 MHz	40.4991	18.7376
880.000000 MHz	40.4394	18.7369
885.000000 MHz	40.3608	18.7020
890.000000 MHz	40.3189	18.7217
895.000000 MHz	40.2214	18.7177
900.000000 MHz	40.1431	18.6397

■ Dielectric Parameter (1900MHz Head)

Title : PN-320

SubTitle : PCS1900(HEAD)

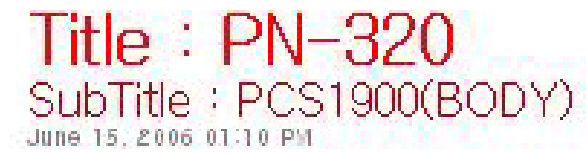
June 15, 2006 09:20 AM

Frequency	e'	e''
1.800000000 GHz	38.6475	13.5914
1.810000000 GHz	38.6420	13.6105
1.820000000 GHz	38.6087	13.6368
1.830000000 GHz	38.5459	13.6567
1.840000000 GHz	38.5119	13.6926
1.850000000 GHz	38.4879	13.7135
1.860000000 GHz	38.4216	13.7361
1.870000000 GHz	38.3795	13.7771
1.880000000 GHz	38.3326	13.7884
1.890000000 GHz	38.2892	13.8038
1.900000000 GHz	38.2605	13.8221
1.910000000 GHz	38.2568	13.8221
1.920000000 GHz	38.2058	13.8485
1.930000000 GHz	38.1847	13.8506
1.940000000 GHz	38.1470	13.8806
1.950000000 GHz	38.0915	13.8667
1.960000000 GHz	38.0693	13.8902
1.970000000 GHz	38.0258	13.9243
1.980000000 GHz	37.9748	13.9403
1.990000000 GHz	37.9382	13.9588
2.000000000 GHz	37.9069	13.9885

■ Dielectric Parameter (835MHz Body)

Frequency	e'	e''
800.000000 MHz	55.2531	20.6403
805.000000 MHz	55.1745	20.6194
810.000000 MHz	55.0311	20.6336
815.000000 MHz	54.9556	20.6124
820.000000 MHz	54.9137	20.6184
825.000000 MHz	54.8550	20.6361
830.000000 MHz	54.7789	20.6325
835.000000 MHz	54.7142	20.6855
840.000000 MHz	54.7172	20.6801
845.000000 MHz	54.6956	20.6946
850.000000 MHz	54.7142	20.7262
855.000000 MHz	54.6205	20.7457
860.000000 MHz	54.7089	20.7281
865.000000 MHz	54.6939	20.7497
870.000000 MHz	54.7046	20.6965
875.000000 MHz	54.7169	20.7015
880.000000 MHz	54.6765	20.6789
885.000000 MHz	54.6542	20.6865
890.000000 MHz	54.5729	20.5959
895.000000 MHz	54.5352	20.5205
900.000000 MHz	54.4963	20.4671

■ Dielectric Parameter (1900MHz Body)



Frequency	e'	e''
1.800000000 GHz	53.1925	14.3173
1.810000000 GHz	53.1583	14.3535
1.820000000 GHz	53.1408	14.3898
1.830000000 GHz	53.1190	14.4519
1.840000000 GHz	53.0872	14.4754
1.850000000 GHz	53.0567	14.5309
1.860000000 GHz	52.9972	14.5433
1.870000000 GHz	52.9465	14.5594
1.880000000 GHz	52.9066	14.6135
1.890000000 GHz	52.8376	14.6253
1.900000000 GHz	52.7702	14.6327
1.910000000 GHz	52.7587	14.6476
1.920000000 GHz	52.6924	14.6407
1.930000000 GHz	52.6610	14.6892
1.940000000 GHz	52.6316	14.7144
1.950000000 GHz	52.6004	14.7742
1.960000000 GHz	52.5823	14.8111
1.970000000 GHz	52.5836	14.8625
1.980000000 GHz	52.5364	14.8914
1.990000000 GHz	52.5196	14.9423
2.000000000 GHz	52.4859	14.9736