ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.4℃
Date Tested : November 16, 2006

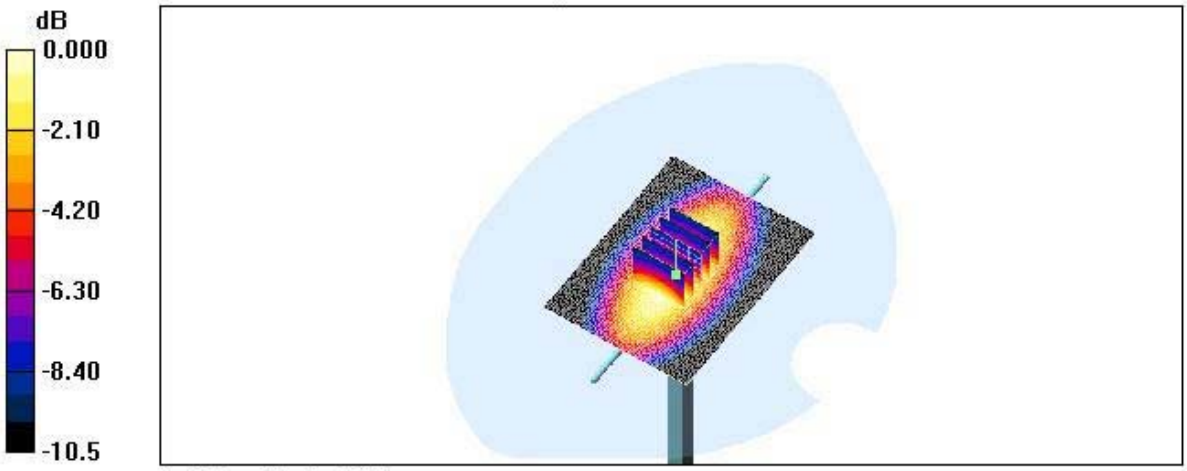
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441
Program Name: Validation 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.885 mho/m; ε_r = 41.4; ρ = 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 Sn614; Calibrated: 2006-08-22
- Phantom: SAM 835/900 MHz; Type: SAM

Validatoin 835 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.6 mW/g

Validatoin 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 112.9 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 14.3 W/kg
SAR(1 g) = 9.74 mW/g; SAR(10 g) = 6.38 mW/g
Maximum value of SAR (measured) = 10.6 mW/g



0 dB = 10.6mW/g

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900Dipole Validation test: Input power(1W)
Liquid Temperature : 21.5 ℃
Date Tested : November 17, 2006

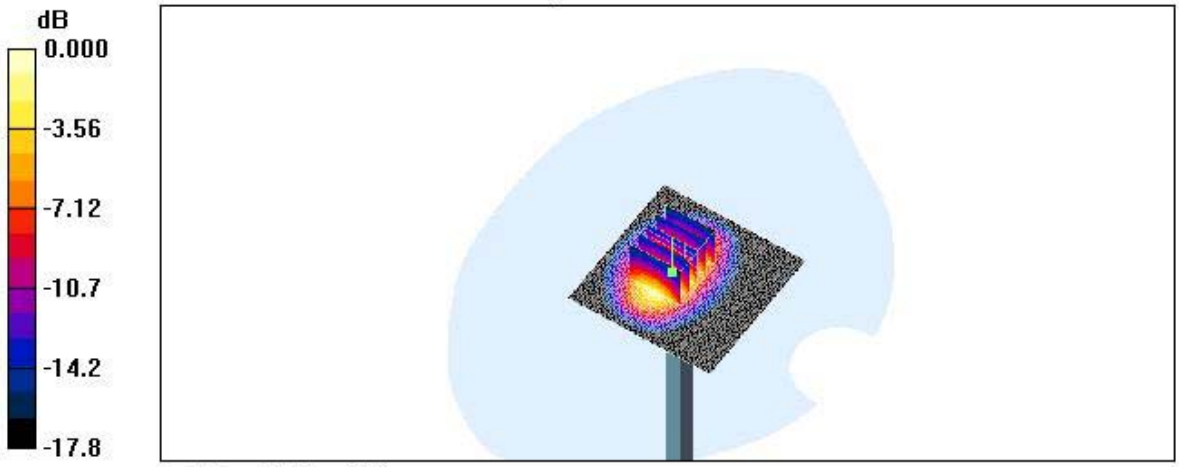
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032
Program Name: Validation 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.45 mho/m; ε_r = 39.6; 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 Sn614; Calibrated: 2006-08-22
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 1900MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 48.6 mW/g

Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 174.7 V/m; Power Drift = 0.098 dB
Peak SAR (extrapolated) = 72.3 W/kg
SAR(1 g) = 41 mW/g; SAR(10 g) = 21.6 mW/g
Maximum value of SAR (measured) = 45.6 mW/g



0 dB = 45.6mW/g

■ Dielectric Parameter (835MHz Head)

Title : EZ900
SubTitle :GSM835(Head)
November 16, 2006 08:22 AM

Frequency	e'	e''
800.000000 MHz	41.8567	19.1479
805.000000 MHz	41.8029	19.1129
810.000000 MHz	41.7374	19.0708
815.000000 MHz	41.6792	19.0916
820.000000 MHz	41.6045	19.1061
825.000000 MHz	41.5492	19.0518
830.000000 MHz	41.4892	19.0733
835.000000 MHz	41.4314	19.0417
840.000000 MHz	41.4035	19.0021
845.000000 MHz	41.3362	19.0051
850.000000 MHz	41.2878	18.9616
855.000000 MHz	41.2591	18.9851
860.000000 MHz	41.1919	18.9784
865.000000 MHz	41.1783	18.9769
870.000000 MHz	41.1491	18.9900
875.000000 MHz	41.0752	18.9857
880.000000 MHz	41.0043	18.9707
885.000000 MHz	40.9814	18.9621
890.000000 MHz	40.9004	18.9406
895.000000 MHz	40.8762	18.9227
900.000000 MHz	40.7861	18.9146

■ Dielectric Parameter (1900MHz Head)

Title : EZ900
SubTitle :GSM1900(Head)
November 17, 2006 08:50 AM

Frequency	e'	e''
1.800000000 GHz	39.8287	13.3664
1.810000000 GHz	39.7708	13.4153
1.820000000 GHz	39.7455	13.5049
1.830000000 GHz	39.7667	13.6081
1.840000000 GHz	39.7954	13.6818
1.850000000 GHz	39.8081	13.7224
1.860000000 GHz	39.8155	13.7720
1.870000000 GHz	39.8074	13.7616
1.880000000 GHz	39.7920	13.7620
1.890000000 GHz	39.7094	13.7122
1.900000000 GHz	39.6005	13.6712
1.910000000 GHz	39.5027	13.6598
1.920000000 GHz	39.3796	13.6626
1.930000000 GHz	39.3270	13.7036
1.940000000 GHz	39.3018	13.7803
1.950000000 GHz	39.2878	13.8672
1.960000000 GHz	39.3089	13.9604
1.970000000 GHz	39.3282	14.0485
1.980000000 GHz	39.3505	14.1076
1.990000000 GHz	39.3436	14.1121
2.000000000 GHz	39.3177	14.0999

■ Dielectric Parameter (835MHz Body)

Title : EZ900
SubTitle :GSM835(Body)
November 16, 2006 12:50 PM

Frequency	e'	e''
800.000000 MHz	53.5525	21.3662
805.000000 MHz	53.5214	21.3536
810.000000 MHz	53.4882	21.3643
815.000000 MHz	53.4553	21.3410
820.000000 MHz	53.3897	21.3017
825.000000 MHz	53.3436	21.2670
830.000000 MHz	53.3457	21.2873
835.000000 MHz	53.3003	21.2802
840.000000 MHz	53.3008	21.2456
845.000000 MHz	53.2739	21.2538
850.000000 MHz	53.2467	21.2293
855.000000 MHz	53.2384	21.1655
860.000000 MHz	53.2256	21.1468
865.000000 MHz	53.1922	21.1573
870.000000 MHz	53.1597	21.0818
875.000000 MHz	53.1839	21.0707
880.000000 MHz	53.1400	21.0745
885.000000 MHz	53.0616	21.0545
890.000000 MHz	53.0578	21.0064
895.000000 MHz	53.0117	20.9695
900.000000 MHz	52.9784	20.9906

■ Dielectric Parameter (1900MHz Body)

Title : EZ900
SubTitle :GSM1900(Body)
November 17, 2006 01:10 PM

Frequency	e'	e''
1.800000000 GHz	53.1194	14.1395
1.810000000 GHz	53.0998	14.2145
1.820000000 GHz	53.0818	14.2553
1.830000000 GHz	53.0544	14.3409
1.840000000 GHz	53.0468	14.4090
1.850000000 GHz	53.0133	14.4820
1.860000000 GHz	52.9706	14.5379
1.870000000 GHz	52.9091	14.5056
1.880000000 GHz	52.8722	14.5391
1.890000000 GHz	52.8198	14.5215
1.900000000 GHz	52.7509	14.5160
1.910000000 GHz	52.7185	14.5248
1.920000000 GHz	52.6292	14.5251
1.930000000 GHz	52.6038	14.5610
1.940000000 GHz	52.5698	14.6053
1.950000000 GHz	52.5426	14.7124
1.960000000 GHz	52.5426	14.7651
1.970000000 GHz	52.5362	14.8277
1.980000000 GHz	52.5168	14.8556
1.990000000 GHz	52.4713	14.8617
2.000000000 GHz	52.4577	14.8992