ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.7℃
Date Tested : January 31, 2007

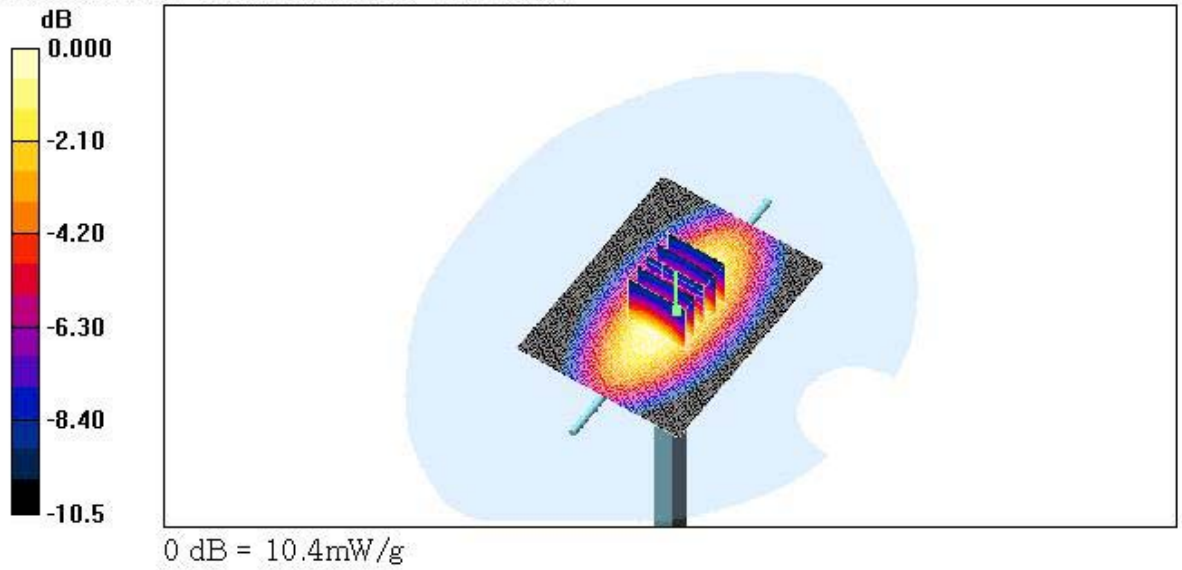
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441
Program Name: Validation

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; $\sigma = 0.884$ mho/m; $\varepsilon_r = 41.7$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section ;Measurement SW: DASY4, V4.7 Build 44

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.73, 6.73, 6.73); Calibrated: 2006-08-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2006-11-17
- Phantom: SAM 835/900 MHz; Type: SAM

Validation 835 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.4 mW/g

Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 111.1 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 14.3 W/kg
SAR(1 g) = 9.66 mW/g; SAR(10 g) = 6.34 mW/g
Maximum value of SAR (measured) = 10.4 mW/g



0 dB = 10.4mW/g

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.7 ℃
Date Tested : January 31, 2007

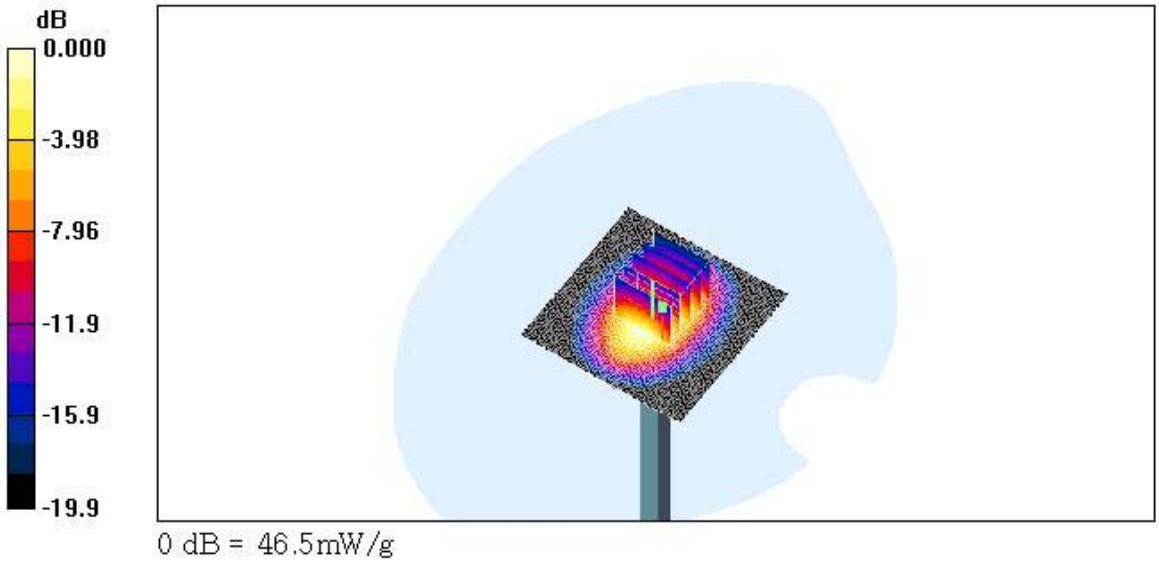
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032
Program Name: Validation

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3
Phantom section: Flat Section ;Measurement SW: DASY4, V4.7 Build 44

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.6, 5.6, 5.6); Calibrated: 2006-08-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2006-11-17
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 50.0 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 192.4 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 72.9 W/kg
SAR(1 g) = 41.6 mW/g; SAR(10 g) = 21.6 mW/g
Maximum value of SAR (measured) = 46.5 mW/g



0 dB = 46.5mW/g

■ Dielectric Parameter (835MHz Head)

Title : PG330
SubTitle : GSM835(HEAD)
January 31, 2007 05:01 AM

Frequency	e'	e''
800.000000 MHz	42.1053	19.1022
805.000000 MHz	42.0850	19.1551
810.000000 MHz	42.0189	19.1553
815.000000 MHz	41.9600	19.1000
820.000000 MHz	41.9232	19.1407
825.000000 MHz	41.8481	19.0590
830.000000 MHz	41.7994	19.0502
835.000000 MHz	41.7231	19.0335
840.000000 MHz	41.6688	18.9796
845.000000 MHz	41.6208	18.9455
850.000000 MHz	41.5708	18.9019
855.000000 MHz	41.5135	18.9022
860.000000 MHz	41.4395	18.8767
865.000000 MHz	41.3653	18.8823
870.000000 MHz	41.3243	18.8581
875.000000 MHz	41.2505	18.8236
880.000000 MHz	41.2557	18.8319
885.000000 MHz	41.1416	18.8250
890.000000 MHz	41.0770	18.8289
895.000000 MHz	41.0135	18.7829
900.000000 MHz	40.9261	18.8534

■ Dielectric Parameter (1900MHz Head)

Title : PG330
SubTitle : GSM1900(HEAD)
January 31, 2007 03:12 PM

Frequency	e'	e''
1.800000000 GHz	39.1085	13.3800
1.810000000 GHz	39.0647	13.4595
1.820000000 GHz	39.0618	13.4991
1.830000000 GHz	39.1026	13.5542
1.840000000 GHz	39.1926	13.6387
1.850000000 GHz	39.2435	13.6378
1.860000000 GHz	39.2647	13.6217
1.870000000 GHz	39.2640	13.6128
1.880000000 GHz	39.1712	13.5840
1.890000000 GHz	39.0403	13.5590
1.900000000 GHz	38.8650	13.5601
1.910000000 GHz	38.7304	13.5809
1.920000000 GHz	38.5967	13.6285
1.930000000 GHz	38.5368	13.6976
1.940000000 GHz	38.5620	13.7598
1.950000000 GHz	38.5851	13.8259
1.960000000 GHz	38.6736	13.8962
1.970000000 GHz	38.7414	13.9145
1.980000000 GHz	38.7805	13.9099
1.990000000 GHz	38.7475	13.8966
2.000000000 GHz	38.6720	13.8796

■ Dielectric Parameter (835MHz Body)

Title : PG330
SubTitle : GSM835(BODY)
January 31, 2007 11:20 AM

Frequency	e'	e''
800.000000 MHz	53.7842	21.4108
805.000000 MHz	53.7751	21.3667
810.000000 MHz	53.7005	21.3911
815.000000 MHz	53.6595	21.3474
820.000000 MHz	53.6212	21.3087
825.000000 MHz	53.5217	21.3145
830.000000 MHz	53.5084	21.3395
835.000000 MHz	53.4614	21.2991
840.000000 MHz	53.4189	21.2685
845.000000 MHz	53.4062	21.2273
850.000000 MHz	53.3602	21.2420
855.000000 MHz	53.3192	21.1790
860.000000 MHz	53.3001	21.1731
865.000000 MHz	53.2782	21.1574
870.000000 MHz	53.1761	21.0970
875.000000 MHz	53.1933	21.1097
880.000000 MHz	53.1377	21.0966
885.000000 MHz	53.0414	21.0569
890.000000 MHz	52.9648	21.0105
895.000000 MHz	52.9752	20.9835
900.000000 MHz	52.9239	21.0117

■ Dielectric Parameter (1900MHz Body)

Title : PG330
SubTitle : GSM1900(BODY)
January 31, 2007 06:56 PM

Frequency	e'	e''
1.800000000 GHz	51.4952	14.5499
1.810000000 GHz	51.4514	14.5673
1.820000000 GHz	51.4135	14.6194
1.830000000 GHz	51.3809	14.6457
1.840000000 GHz	51.3254	14.6846
1.850000000 GHz	51.3294	14.7410
1.860000000 GHz	51.2856	14.7349
1.870000000 GHz	51.2010	14.8034
1.880000000 GHz	51.1563	14.8416
1.890000000 GHz	51.0933	14.8359
1.900000000 GHz	51.0540	14.8598
1.910000000 GHz	51.0075	14.9258
1.920000000 GHz	50.9869	14.9586
1.930000000 GHz	50.9163	15.0007
1.940000000 GHz	50.8663	15.0003
1.950000000 GHz	50.8583	15.0371
1.960000000 GHz	50.7878	15.0771
1.970000000 GHz	50.7715	15.1007
1.980000000 GHz	50.7792	15.1450
1.990000000 GHz	50.7322	15.1545
2.000000000 GHz	50.7370	15.1840