

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Test Laboratory: HCT

835Dipole Validation test: Input power(1W)

Liquid Temperature : 21.7 °C

Date Tested : September 9, 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: $f = 835 \text{ MHz}$; $\sigma = 0.896 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$

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: $\Delta x = 15\text{mm}$, $\Delta y = 15\text{mm}$

Maximum value of SAR (interpolated) = 10.5 mW/g

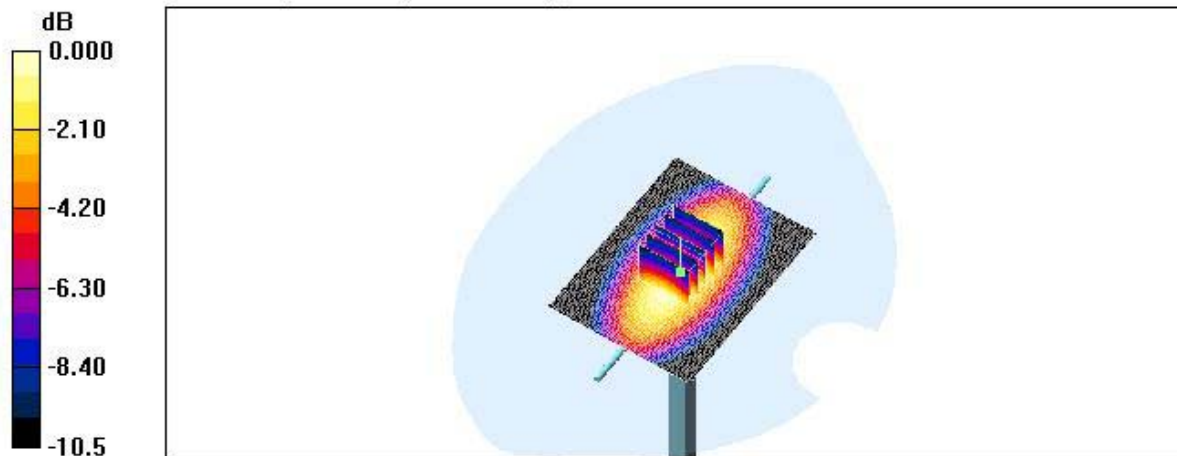
Validatoin 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $\Delta x = 8\text{mm}$, $\Delta y = 8\text{mm}$, $\Delta z = 5\text{mm}$

Reference Value = 112.0 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 14.3 W/kg

SAR(1 g) = 9.72 mW/g; SAR(10 g) = 6.38 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 : 21.7 °C

Date Tested : September 9, 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; $\sigma = 1.45$ 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(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) = 49.8 mW/g

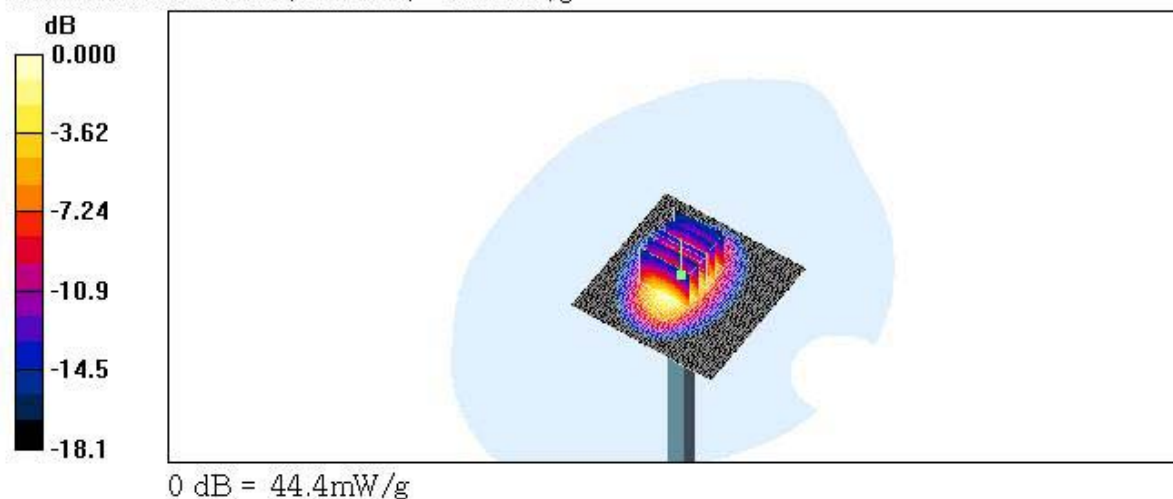
Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 185.3 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 69.9 W/kg

SAR(1 g) = 39.9 mW/g; SAR(10 g) = 21.1 mW/g

Maximum value of SAR (measured) = 44.4 mW/g



■ Dielectric Parameter (835MHz Head)

Title : Slim 11B

SubTitle : GSM835(HEAD)

September 09, 2006 03:02 PM

Frequency	e'	e''
800.000000 MHz	43.5582	19.3874
805.000000 MHz	43.5240	19.3735
810.000000 MHz	43.4835	19.2965
815.000000 MHz	43.4464	19.3055
820.000000 MHz	43.3565	19.3136
825.000000 MHz	43.3136	19.3136
830.000000 MHz	43.2268	19.3053
835.000000 MHz	43.2060	19.2833
840.000000 MHz	43.1165	19.2764
845.000000 MHz	42.9995	19.2779
850.000000 MHz	43.0287	19.2054
855.000000 MHz	42.8961	19.1813
860.000000 MHz	42.8104	19.2059
865.000000 MHz	42.7448	19.2245
870.000000 MHz	42.7225	19.1791
875.000000 MHz	42.6216	19.2086
880.000000 MHz	42.5844	19.1430
885.000000 MHz	42.5308	19.2039
890.000000 MHz	42.4340	19.1523
895.000000 MHz	42.3935	19.1341
900.000000 MHz	42.3236	19.1153

■ Dielectric Parameter (835MHz Body)**Title : Slim 11B****SubTitle : GSM835(BODY)**

September 09, 2006 06:15 PM

Frequency	e'	e''
800.000000 MHz	53.4612	21.3979
805.000000 MHz	53.3801	21.4028
810.000000 MHz	53.3607	21.3864
815.000000 MHz	53.2957	21.3973
820.000000 MHz	53.2982	21.3899
825.000000 MHz	53.2006	21.3179
830.000000 MHz	53.2049	21.3266
835.000000 MHz	53.1373	21.3169
840.000000 MHz	53.0859	21.2576
845.000000 MHz	53.0950	21.2425
850.000000 MHz	53.0985	21.2401
855.000000 MHz	53.0553	21.1680
860.000000 MHz	53.0670	21.1840
865.000000 MHz	53.0155	21.2016
870.000000 MHz	52.9957	21.1005
875.000000 MHz	53.0085	21.0995
880.000000 MHz	52.9519	21.0397
885.000000 MHz	52.9292	21.0256
890.000000 MHz	52.8752	21.0236
895.000000 MHz	52.8517	20.9891
900.000000 MHz	52.8009	21.0174

■ Dielectric Parameter (1900MHz Head)

Title : Slim 11B

SubTitle : GSM1900(HEAD)

September 09, 2006 09:10 AM

Frequency	e'	e''
1.800000000 GHz	38.8022	13.3620
1.810000000 GHz	38.7823	13.4405
1.820000000 GHz	38.7565	13.4862
1.830000000 GHz	38.7196	13.6162
1.840000000 GHz	38.7094	13.7029
1.850000000 GHz	38.6880	13.7782
1.860000000 GHz	38.6674	13.8079
1.870000000 GHz	38.6419	13.8376
1.880000000 GHz	38.6103	13.8116
1.890000000 GHz	38.5763	13.7519
1.900000000 GHz	38.5137	13.7311
1.910000000 GHz	38.4264	13.6879
1.920000000 GHz	38.3456	13.7149
1.930000000 GHz	38.2998	13.7584
1.940000000 GHz	38.2542	13.8048
1.950000000 GHz	38.2091	13.9238
1.960000000 GHz	38.2151	14.0104
1.970000000 GHz	38.2178	14.0987
1.980000000 GHz	38.2129	14.1364
1.990000000 GHz	38.1797	14.1282
2.000000000 GHz	38.1478	14.1252

■ Dielectric Parameter (1900MHz Body)**Title : Slim 11B****SubTitle : GSM1900(BODY)**

September 09, 2006 01:10 PM

Frequency	e'	e''
1.800000000 GHz	52.9966	13.8453
1.810000000 GHz	52.9662	13.9013
1.820000000 GHz	52.9636	13.9367
1.830000000 GHz	52.9009	13.9632
1.840000000 GHz	52.8941	13.9770
1.850000000 GHz	52.8538	13.9917
1.860000000 GHz	52.7820	14.0096
1.870000000 GHz	52.7513	14.0671
1.880000000 GHz	52.6784	14.1594
1.890000000 GHz	52.5928	14.1952
1.900000000 GHz	52.6044	14.2875
1.910000000 GHz	52.5699	14.3861
1.920000000 GHz	52.5986	14.4446
1.930000000 GHz	52.6072	14.5217
1.940000000 GHz	52.6220	14.5565
1.950000000 GHz	52.6214	14.5804
1.960000000 GHz	52.5866	14.5969
1.970000000 GHz	52.5414	14.6272
1.980000000 GHz	52.5020	14.6162
1.990000000 GHz	52.4016	14.6644
2.000000000 GHz	52.3396	14.7053