

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.2 °C

Date Tested : March 06, 2006

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: $f = 835 \text{ MHz}$; $\sigma = 0.889 \text{ mho/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(6.18, 6.18, 6.18); Calibrated: 2005-08-30

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn447; Calibrated: 2005-11-30

- Phantom: SAM 835/900 MHz; Type: SAM

Validation 835 MHz/Area Scan (61x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.6 mW/g

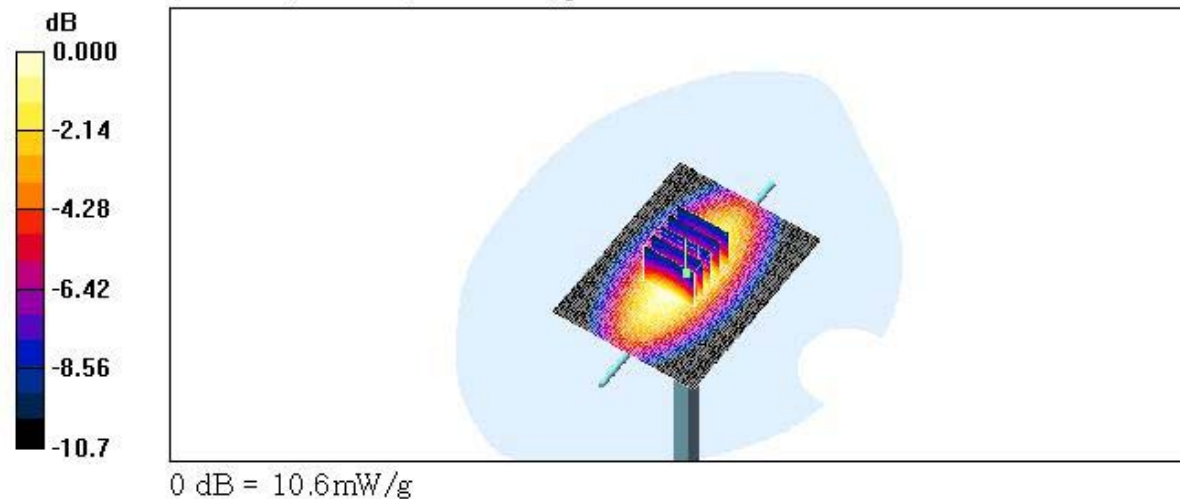
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 113.1 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 14.6 W/kg

SAR(1 g) = 9.84 mW/g; SAR(10 g) = 6.43 mW/g

Maximum value of SAR (measured) = 10.6 mW/g



■ Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.5 °C

Date Tested : March 07, 2006

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: $f = 835 \text{ MHz}$; $\sigma = 0.887 \text{ mho/m}$; $\epsilon_r = 42$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(6.18, 6.18, 6.18); Calibrated: 2005-08-30

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn447; Calibrated: 2005-11-30

- Phantom: SAM 835/900 MHz; Type: SAM

Validation 835 MHz/Area Scan (61x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 10.7 mW/g

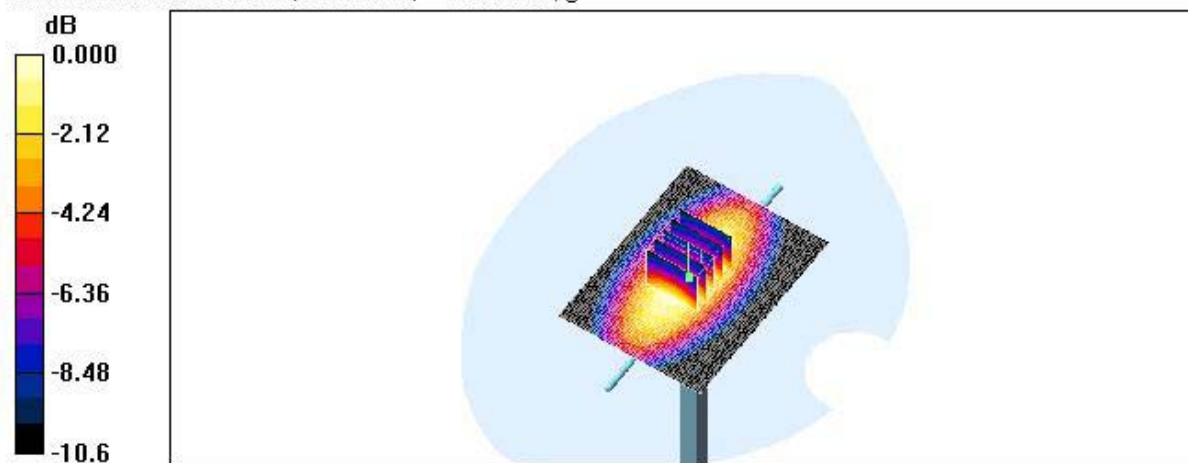
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 112.4 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 14.8 W/kg

SAR(1 g) = 9.93 mW/g; SAR(10 g) = 6.48 mW/g

Maximum value of SAR (measured) = 10.7 mW/g



0 dB = 10.7mW/g

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.4 °C

Date Tested : March 08, 2006

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: $f = 1900 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 40$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(5.14, 5.14, 5.14); Calibrated: 2005-08-30

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn447; Calibrated: 2005-11-30

- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 47.4 mW/g

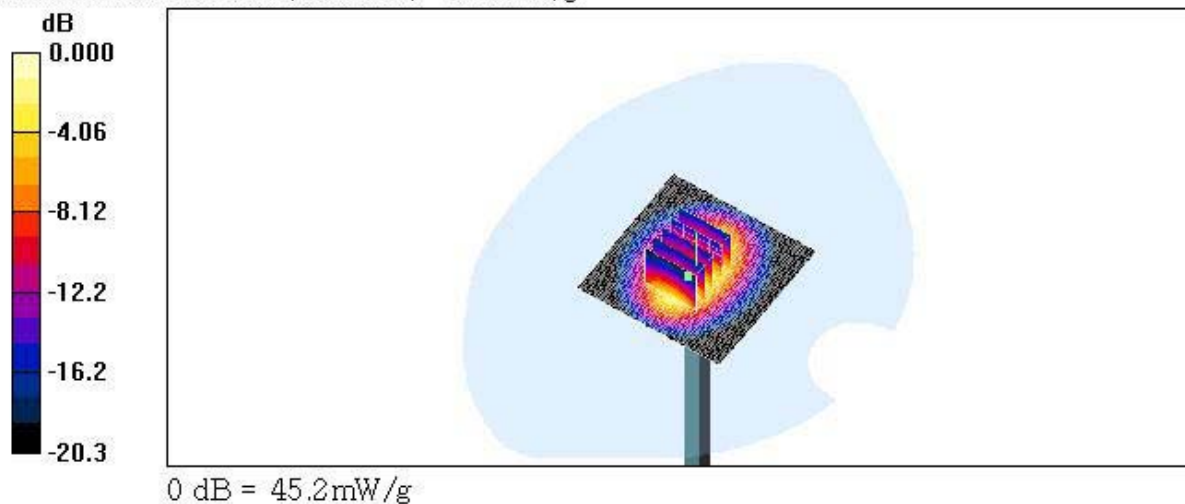
Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 185.9 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 73.2 W/kg

SAR(1 g) = 40.4 mW/g; SAR(10 g) = 20.7 mW/g

Maximum value of SAR (measured) = 45.2 mW/g



■ Dielectric Parameter (835MHz Head)**Title : CDM7075A****SubTitle : AMPS 835 Head**

March 06, 2006 09:00 AM

Frequency	e'	e''
800.000000 MHz	42.4617	19.2117
805.000000 MHz	42.4304	19.1902
810.000000 MHz	42.2869	19.1892
815.000000 MHz	42.2332	19.1960
820.000000 MHz	42.1499	19.1310
825.000000 MHz	42.0518	19.1613
830.000000 MHz	41.9569	19.1222
835.000000 MHz	41.8366	19.1382
840.000000 MHz	41.8080	19.1390
845.000000 MHz	41.6494	19.0830
850.000000 MHz	41.6337	19.1222
855.000000 MHz	41.5231	19.0437
860.000000 MHz	41.4858	19.0377
865.000000 MHz	41.4076	19.0640
870.000000 MHz	41.3478	19.0444
875.000000 MHz	41.2341	19.0104
880.000000 MHz	41.2236	18.9974
885.000000 MHz	41.1187	19.0372
890.000000 MHz	41.0889	19.0049
895.000000 MHz	41.0219	18.9790
900.000000 MHz	40.9831	18.9452

■ Dielectric Parameter (835MHz Body)

Title : CDM7075A

SubTitle : AMPS 835 Body

March 06, 2006 02:25 PM

Frequency	e'	e''
800.000000 MHz	55.0105	21.1718
805.000000 MHz	54.9605	21.1275
810.000000 MHz	54.8816	21.0941
815.000000 MHz	54.8084	21.1041
820.000000 MHz	54.8094	21.0984
825.000000 MHz	54.7257	21.1180
830.000000 MHz	54.6615	21.1860
835.000000 MHz	54.5852	21.1420
840.000000 MHz	54.6053	21.2058
845.000000 MHz	54.5491	21.2095
850.000000 MHz	54.5420	21.2823
855.000000 MHz	54.5319	21.2574
860.000000 MHz	54.4589	21.3215
865.000000 MHz	54.4294	21.3255
870.000000 MHz	54.4196	21.3219
875.000000 MHz	54.3440	21.2846
880.000000 MHz	54.2637	21.2871
885.000000 MHz	54.2261	21.2732
890.000000 MHz	54.1824	21.2142
895.000000 MHz	54.0823	21.1306
900.000000 MHz	53.9815	21.0693

■ Dielectric Parameter (835MHz Head)

Title : CDM7075A

SubTitle : CDMA 835 Head

March 07, 2006 09:22 AM

Frequency	e'	e''
800.000000 MHz	42.5527	19.0670
805.000000 MHz	42.5564	19.0579
810.000000 MHz	42.4304	19.0848
815.000000 MHz	42.3576	19.0648
820.000000 MHz	42.2661	19.0505
825.000000 MHz	42.2026	19.0553
830.000000 MHz	42.0912	19.0738
835.000000 MHz	42.0022	19.0914
840.000000 MHz	41.9382	19.0079
845.000000 MHz	41.8187	18.9828
850.000000 MHz	41.7595	18.9826
855.000000 MHz	41.6809	18.9469
860.000000 MHz	41.6170	18.9589
865.000000 MHz	41.6134	18.9636
870.000000 MHz	41.4705	18.9071
875.000000 MHz	41.3790	18.9176
880.000000 MHz	41.3655	18.8803
885.000000 MHz	41.2599	18.9205
890.000000 MHz	41.1785	18.8687
895.000000 MHz	41.1582	18.8691
900.000000 MHz	41.0923	18.8138

■ Dielectric Parameter (835MHz Body)**Title : CDM7075A****SubTitle : CDMA 835 Body**

March 07, 2006 01:40 PM

Frequency	e'	e''
800.000000 MHz	55.1016	21.2990
805.000000 MHz	55.0888	21.2631
810.000000 MHz	55.0239	21.2688
815.000000 MHz	55.0272	21.2723
820.000000 MHz	55.0058	21.2676
825.000000 MHz	54.9007	21.2602
830.000000 MHz	54.8098	21.2869
835.000000 MHz	54.7874	21.2994
840.000000 MHz	54.7888	21.3137
845.000000 MHz	54.6729	21.3058
850.000000 MHz	54.6342	21.3241
855.000000 MHz	54.5953	21.3096
860.000000 MHz	54.5752	21.3423
865.000000 MHz	54.5286	21.3308
870.000000 MHz	54.4945	21.2931
875.000000 MHz	54.3526	21.2653
880.000000 MHz	54.3692	21.2568
885.000000 MHz	54.2788	21.2314
890.000000 MHz	54.2043	21.2162
895.000000 MHz	54.1132	21.1289
900.000000 MHz	54.0557	21.0714

■ Dielectric Parameter (1900MHz Head)

Title : CDM7075A

SubTitle : PCS 1900 Head

March 09, 2006 08:55 AM

Frequency	ϵ'	ϵ''
1.800000000 GHz	40.3648	13.2643
1.810000000 GHz	40.2800	13.3219
1.820000000 GHz	40.2438	13.4104
1.830000000 GHz	40.2197	13.5643
1.840000000 GHz	40.2190	13.6696
1.850000000 GHz	40.2385	13.7799
1.860000000 GHz	40.2034	13.8301
1.870000000 GHz	40.1912	13.8142
1.880000000 GHz	40.1389	13.7909
1.890000000 GHz	40.0895	13.7149
1.900000000 GHz	39.9915	13.6652
1.910000000 GHz	39.9092	13.6243
1.920000000 GHz	39.7848	13.5908
1.930000000 GHz	39.7226	13.6278
1.940000000 GHz	39.6866	13.6983
1.950000000 GHz	39.6384	13.8242
1.960000000 GHz	39.6442	13.9351
1.970000000 GHz	39.6470	14.0565
1.980000000 GHz	39.6836	14.1549
1.990000000 GHz	39.6659	14.1177
2.000000000 GHz	39.6295	14.1258

■ Dielectric Parameter (1900MHz Body)

Title : CDM7075A

SubTitle : PCS 1900 Body

March 09, 2006 02:36 PM

Frequency	e'	e''
1.800000000 GHz	52.7580	13.5008
1.810000000 GHz	52.6881	13.6465
1.820000000 GHz	52.6343	13.7533
1.830000000 GHz	52.5684	13.8637
1.840000000 GHz	52.5298	13.9650
1.850000000 GHz	52.4643	14.0328
1.860000000 GHz	52.4005	14.0672
1.870000000 GHz	52.3732	14.0876
1.880000000 GHz	52.2707	14.0823
1.890000000 GHz	52.1767	14.0883
1.900000000 GHz	52.0760	14.1049
1.910000000 GHz	51.9997	14.1147
1.920000000 GHz	51.9123	14.1889
1.930000000 GHz	51.8746	14.2720
1.940000000 GHz	51.8377	14.3691
1.950000000 GHz	51.8598	14.4692
1.960000000 GHz	51.8337	14.5532
1.970000000 GHz	51.8293	14.6350
1.980000000 GHz	51.7954	14.6410
1.990000000 GHz	51.7649	14.6978
2.000000000 GHz	51.7388	14.6971