

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.4 °C

Date Tested : December 19, 2005

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:xxx

Program Name: Validation

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.891 \text{ mho/m}$; $\epsilon_r = 42$; $\rho = 1000 \text{ kg/m}^3$

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 Sn614; Calibrated: 2005-04-21

- 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

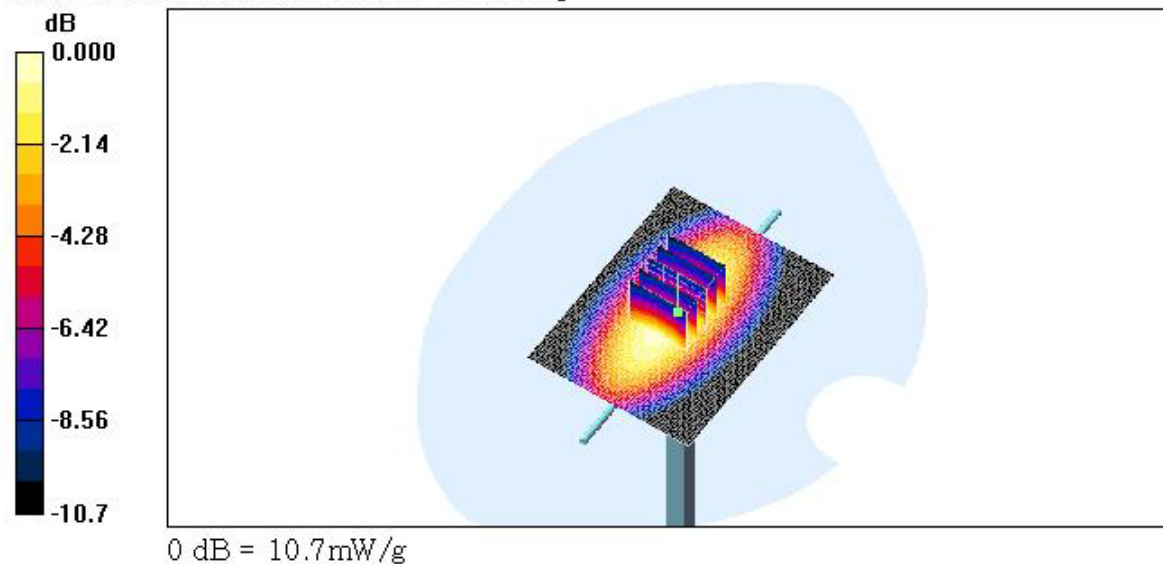
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 112.1 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 14.9 W/kg

SAR(1 g) = 9.98 mW/g; SAR(10 g) = 6.52 mW/g

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



■ Validation Data (835MHz Brain)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.5 °C

Date Tested : December 20, 2005

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:xxx

Program Name: Validation

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.881 \text{ mho/m}$; $\epsilon_r = 41.9$; $\rho = 1000 \text{ kg/m}^3$

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 Sn614; Calibrated: 2005-04-21
- 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

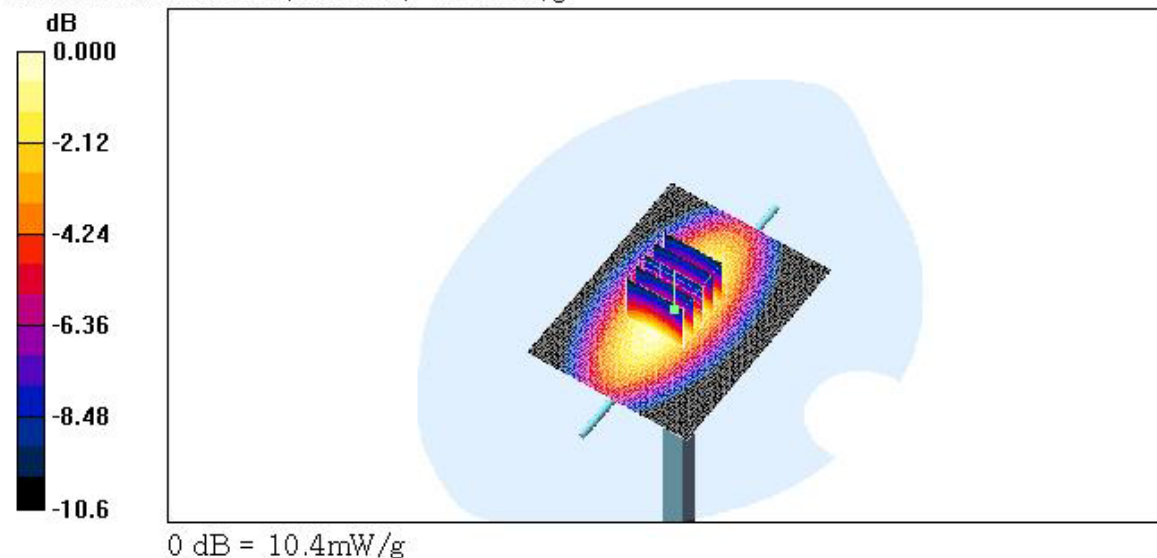
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 112.3 V/m; Power Drift = -0.091 dB

Peak SAR (extrapolated) = 14.4 W/kg

SAR(1 g) = 9.61 mW/g; SAR(10 g) = 6.27 mW/g

Maximum value of SAR (measured) = 10.4 mW/g



■ Validation Data (1900MHz Brain)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.8 °C

Date Tested : December 21, 2005

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx

Program Name: Validation

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

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 Sn614; Calibrated: 2005-04-21

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

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

Maximum value of SAR (interpolated) = 47.7 mW/g

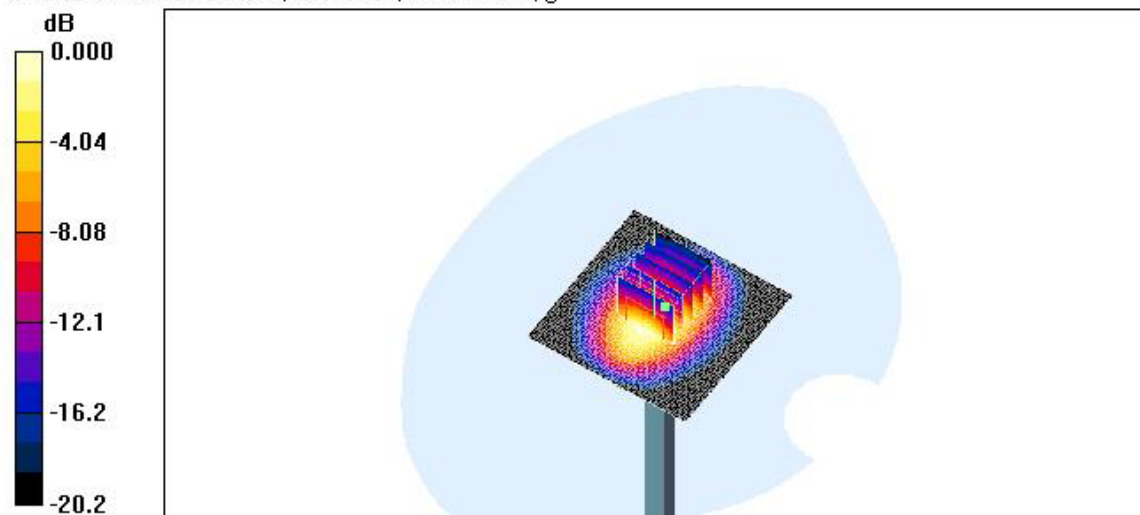
Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 187.4 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 73.2 W/kg

SAR(1 g) = 40.6 mW/g; SAR(10 g) = 20.9 mW/g

Maximum value of SAR (measured) = 45.4 mW/g



■ Dielectric Parameter (835MHz Brain)

Title : CDM7025SP

SubTitle : AMPS 835 Head

December 19, 2005 03:50 AM

Frequency	e'	e''
800.000000 MHz	42.5521	19.2632
805.000000 MHz	42.4589	19.2149
810.000000 MHz	42.3853	19.1943
815.000000 MHz	42.3156	19.1838
820.000000 MHz	42.2198	19.1328
825.000000 MHz	42.1661	19.2090
830.000000 MHz	42.0922	19.1898
835.000000 MHz	41.9630	19.1761
840.000000 MHz	41.8398	19.1404
845.000000 MHz	41.7415	19.1506
850.000000 MHz	41.7035	19.1126
855.000000 MHz	41.6144	19.1104
860.000000 MHz	41.5563	19.0687
865.000000 MHz	41.5477	19.0541
870.000000 MHz	41.4392	19.0789
875.000000 MHz	41.3623	19.0338
880.000000 MHz	41.3490	18.9959
885.000000 MHz	41.2118	19.0299
890.000000 MHz	41.1733	19.0200
895.000000 MHz	41.0612	18.9774
900.000000 MHz	41.0120	18.9762

■ Dielectric Parameter (835MHz Brain)

Title : CDM7025SP

SubTitle : AMPS 835 Body

December 19, 2005 02:10 PM

Frequency	e'	e''
800.000000 MHz	55.0018	21.0836
805.000000 MHz	54.9489	21.0635
810.000000 MHz	54.8835	21.0369
815.000000 MHz	54.8265	21.0300
820.000000 MHz	54.8201	21.0049
825.000000 MHz	54.7499	20.9865
830.000000 MHz	54.6944	20.9740
835.000000 MHz	54.6672	20.9458
840.000000 MHz	54.6180	20.9150
845.000000 MHz	54.5673	20.9069
850.000000 MHz	54.5617	20.8710
855.000000 MHz	54.4831	20.8412
860.000000 MHz	54.4223	20.8267
865.000000 MHz	54.3402	20.8099
870.000000 MHz	54.2609	20.8247
875.000000 MHz	54.2118	20.8172
880.000000 MHz	54.1335	20.8000
885.000000 MHz	54.0608	20.8074
890.000000 MHz	53.9755	20.8200
895.000000 MHz	53.8811	20.7786
900.000000 MHz	53.9034	20.7651

■ Dielectric Parameter (1900MHz Brain)

Title : CDM7025SP

SubTitle : CDMA 835 Head

December 20, 2005 09:12 AM

Frequency	e'	e''
800.000000 MHz	42.6455	19.0088
805.000000 MHz	42.6028	18.9909
810.000000 MHz	42.4699	18.9553
815.000000 MHz	42.3835	19.0040
820.000000 MHz	42.2893	18.9427
825.000000 MHz	42.1673	18.9485
830.000000 MHz	42.0957	18.9775
835.000000 MHz	41.9442	18.9607
840.000000 MHz	41.8803	18.9511
845.000000 MHz	41.7610	18.9264
850.000000 MHz	41.6898	18.9197
855.000000 MHz	41.6074	18.9062
860.000000 MHz	41.5708	18.8696
865.000000 MHz	41.4947	18.9061
870.000000 MHz	41.4503	18.8723
875.000000 MHz	41.3468	18.8764
880.000000 MHz	41.3385	18.8227
885.000000 MHz	41.2634	18.8643
890.000000 MHz	41.1731	18.8504
895.000000 MHz	41.1456	18.7934
900.000000 MHz	41.0923	18.8138

■ Dielectric Parameter (835MHz Muscle)**Title : CDM7025SP****SubTitle : CDMA 835 Body**

December 20, 2005 01:38 PM

Frequency	e'	e''
800.000000 MHz	55.2153	21.3612
805.000000 MHz	55.1754	21.3457
810.000000 MHz	55.1129	21.3271
815.000000 MHz	55.0615	21.3049
820.000000 MHz	55.0640	21.3193
825.000000 MHz	54.9630	21.2931
830.000000 MHz	54.8902	21.3239
835.000000 MHz	54.8530	21.2971
840.000000 MHz	54.8480	21.3247
845.000000 MHz	54.7451	21.3227
850.000000 MHz	54.7025	21.3311
855.000000 MHz	54.7108	21.2985
860.000000 MHz	54.6285	21.3112
865.000000 MHz	54.5815	21.2997
870.000000 MHz	54.5356	21.2880
875.000000 MHz	54.4552	21.2952
880.000000 MHz	54.4420	21.2658
885.000000 MHz	54.3724	21.2533
890.000000 MHz	54.2593	21.1947
895.000000 MHz	54.2295	21.1568
900.000000 MHz	54.1498	21.0972

■ Dielectric Parameter (835MHz Muscle)**Title : CDM7025SP****SubTitle : PCS 1900 Head**

December 21, 2005 09:42 AM

Frequency	e'	e''
1.800000000 GHz	40.4495	13.3223
1.810000000 GHz	40.3528	13.3654
1.820000000 GHz	40.3313	13.4139
1.830000000 GHz	40.2665	13.5320
1.840000000 GHz	40.2711	13.6460
1.850000000 GHz	40.2548	13.7575
1.860000000 GHz	40.2168	13.8034
1.870000000 GHz	40.2104	13.8110
1.880000000 GHz	40.1514	13.8010
1.890000000 GHz	40.1010	13.7467
1.900000000 GHz	40.0547	13.6933
1.910000000 GHz	39.9698	13.6807
1.920000000 GHz	39.8772	13.6320
1.930000000 GHz	39.8203	13.6590
1.940000000 GHz	39.7691	13.7154
1.950000000 GHz	39.7215	13.8199
1.960000000 GHz	39.7114	13.9202
1.970000000 GHz	39.6990	14.0278
1.980000000 GHz	39.6726	14.1120
1.990000000 GHz	39.6953	14.1393
2.000000000 GHz	39.6493	14.1508

■ Dielectric Parameter (1900MHz Muscle)**Title : CDM7025SP****SubTitle : PCS 1900 Body**

December 21, 2005 02:35 PM

Frequency	e'	e''
1.800000000 GHz	53.0084	13.6320
1.810000000 GHz	52.9351	13.7399
1.820000000 GHz	52.8688	13.8238
1.830000000 GHz	52.7765	13.8914
1.840000000 GHz	52.7180	13.9659
1.850000000 GHz	52.6728	14.0076
1.860000000 GHz	52.5971	14.0371
1.870000000 GHz	52.5069	14.0803
1.880000000 GHz	52.4462	14.1338
1.890000000 GHz	52.3379	14.1481
1.900000000 GHz	52.2536	14.1668
1.910000000 GHz	52.1593	14.2278
1.920000000 GHz	52.1322	14.2892
1.930000000 GHz	52.1209	14.3615
1.940000000 GHz	52.0626	14.4737
1.950000000 GHz	52.0519	14.5494
1.960000000 GHz	51.9905	14.6297
1.970000000 GHz	51.9586	14.6433
1.980000000 GHz	51.9324	14.6914
1.990000000 GHz	51.8785	14.7159
2.000000000 GHz	51.8131	14.7340