

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.6 °C

Date Tested : October 17, 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: $f = 835 \text{ MHz}$; $\sigma = 0.875 \text{ mho/m}$; $\epsilon_r = 41.2$; $\rho = 1000 \text{ kg/m}^3$

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: DAE3 Sn446; Calibrated: 2006-03-17

- 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) = 10.5 mW/g

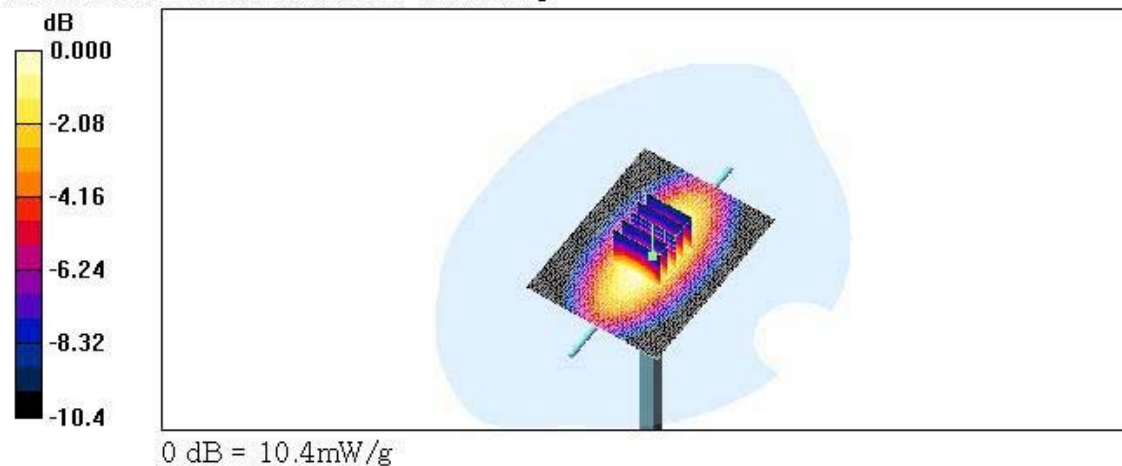
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 112.7 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 14.2 W/kg

SAR(1 g) = 9.64 mW/g; SAR(10 g) = 6.31 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 : 21.6 °C

Date Tested : October 17, 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: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

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: DAE3 Sn446; Calibrated: 2006-03-17

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

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: $\Delta x = 15$ mm, $\Delta y = 15$ mm

Maximum value of SAR (interpolated) = 47.5 mW/g

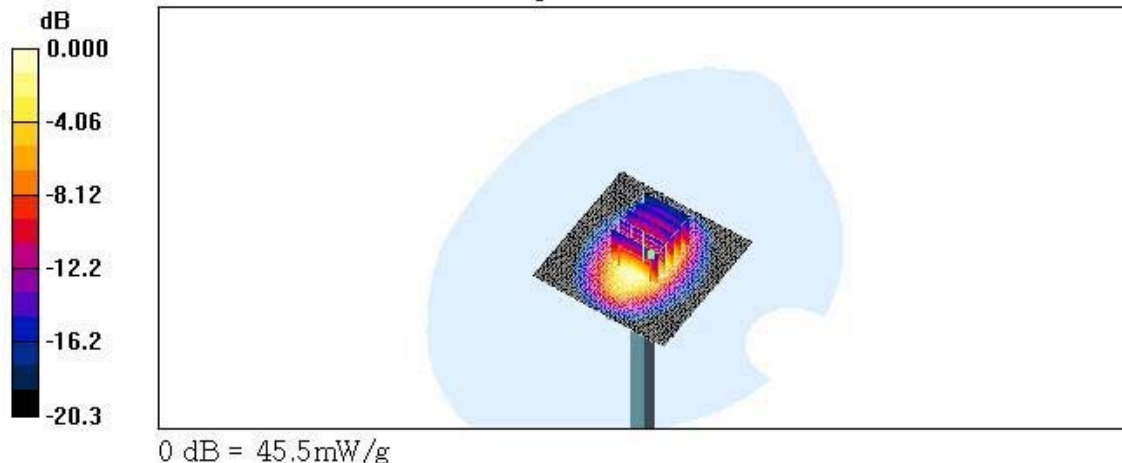
Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $\Delta x = 8$ mm, $\Delta y = 8$ mm, $\Delta z = 5$ mm

Reference Value = 189.2 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 71.9 W/kg

SAR(1 g) = 40.4 mW/g; SAR(10 g) = 20.8 mW/g

Maximum value of SAR (measured) = 45.5 mW/g



■ Dielectric Parameter (835MHz Head)**Title : G'zOne TYPE-S****SubTitle : CDMA835(Head)**

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Frequency	e'	e''
800.000000 MHz	41.5439	18.8737
805.000000 MHz	41.4541	18.8615
810.000000 MHz	41.3683	18.8594
815.000000 MHz	41.2883	18.8346
820.000000 MHz	41.2693	18.8149
825.000000 MHz	41.2179	18.8678
830.000000 MHz	41.1606	18.8376
835.000000 MHz	41.1539	18.8357
840.000000 MHz	41.1155	18.9051
845.000000 MHz	41.0949	18.8859
850.000000 MHz	41.0435	18.8652
855.000000 MHz	41.0186	18.8989
860.000000 MHz	40.9525	18.8929
865.000000 MHz	40.9466	18.8801
870.000000 MHz	40.9050	18.8472
875.000000 MHz	40.8895	18.8676
880.000000 MHz	40.7869	18.8276
885.000000 MHz	40.7154	18.8393
890.000000 MHz	40.6463	18.8555
895.000000 MHz	40.5835	18.7707
900.000000 MHz	40.5556	18.7358

■ Dielectric Parameter (835MHz Body)**Title : G'zOne TYPE-S****SubTitle : CDMA835(Body)**

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Frequency	e'	e''
800.000000 MHz	53.7771	21.3905
805.000000 MHz	53.7181	21.3980
810.000000 MHz	53.6734	21.3781
815.000000 MHz	53.6572	21.4043
820.000000 MHz	53.5907	21.3643
825.000000 MHz	53.4925	21.3417
830.000000 MHz	53.5155	21.3591
835.000000 MHz	53.4287	21.3000
840.000000 MHz	53.4083	21.2394
845.000000 MHz	53.3641	21.2318
850.000000 MHz	53.3148	21.2369
855.000000 MHz	53.2670	21.1549
860.000000 MHz	53.2362	21.1752
865.000000 MHz	53.1687	21.1231
870.000000 MHz	53.1597	21.0818
875.000000 MHz	53.1431	21.0754
880.000000 MHz	53.1022	21.0729
885.000000 MHz	53.0528	21.0314
890.000000 MHz	53.0120	21.0239
895.000000 MHz	52.9619	21.0306
900.000000 MHz	52.9128	21.0369

■ Dielectric Parameter (1900MHz Head)

Title : G'zOne TYPE-S

SubTitle : PCS1900(Head)

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Frequency	e'	e''
1.800000000 GHz	40.4263	13.3244
1.810000000 GHz	40.3530	13.3805
1.820000000 GHz	40.3293	13.4303
1.830000000 GHz	40.2857	13.5627
1.840000000 GHz	40.2918	13.6451
1.850000000 GHz	40.2596	13.7362
1.860000000 GHz	40.2322	13.8180
1.870000000 GHz	40.2124	13.8189
1.880000000 GHz	40.1547	13.8109
1.890000000 GHz	40.1029	13.7544
1.900000000 GHz	40.0402	13.6847
1.910000000 GHz	39.9616	13.6681
1.920000000 GHz	39.8756	13.6569
1.930000000 GHz	39.8312	13.6757
1.940000000 GHz	39.7806	13.7554
1.950000000 GHz	39.7262	13.8405
1.960000000 GHz	39.7196	13.9326
1.970000000 GHz	39.7291	14.0552
1.980000000 GHz	39.7341	14.1330
1.990000000 GHz	39.6870	14.1095
2.000000000 GHz	39.6676	14.1473

■ Dielectric Parameter (1900MHz Body)

Title : G'zOne TYPE-S

SubTitle : PCS1900(Body)

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Frequency	e'	e''
1.800000000 GHz	51.4198	14.3980
1.810000000 GHz	51.4523	14.4309
1.820000000 GHz	51.4661	14.4647
1.830000000 GHz	51.5178	14.4947
1.840000000 GHz	51.5022	14.5314
1.850000000 GHz	51.5658	14.5751
1.860000000 GHz	51.5624	14.5759
1.870000000 GHz	51.5718	14.5691
1.880000000 GHz	51.6263	14.6081
1.890000000 GHz	51.6271	14.6083
1.900000000 GHz	51.6350	14.6269
1.910000000 GHz	51.6424	14.6708
1.920000000 GHz	51.6135	14.6723
1.930000000 GHz	51.6079	14.7135
1.940000000 GHz	51.6219	14.7192
1.950000000 GHz	51.5967	14.7428
1.960000000 GHz	51.6190	14.7656
1.970000000 GHz	51.6577	14.7658
1.980000000 GHz	51.7024	14.8280
1.990000000 GHz	51.7219	14.8347
2.000000000 GHz	51.7515	14.8351