

ATTACHMENT Q – DIPOLE VALIDATION

Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.6°C
Date Tested : February 2, 2007

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

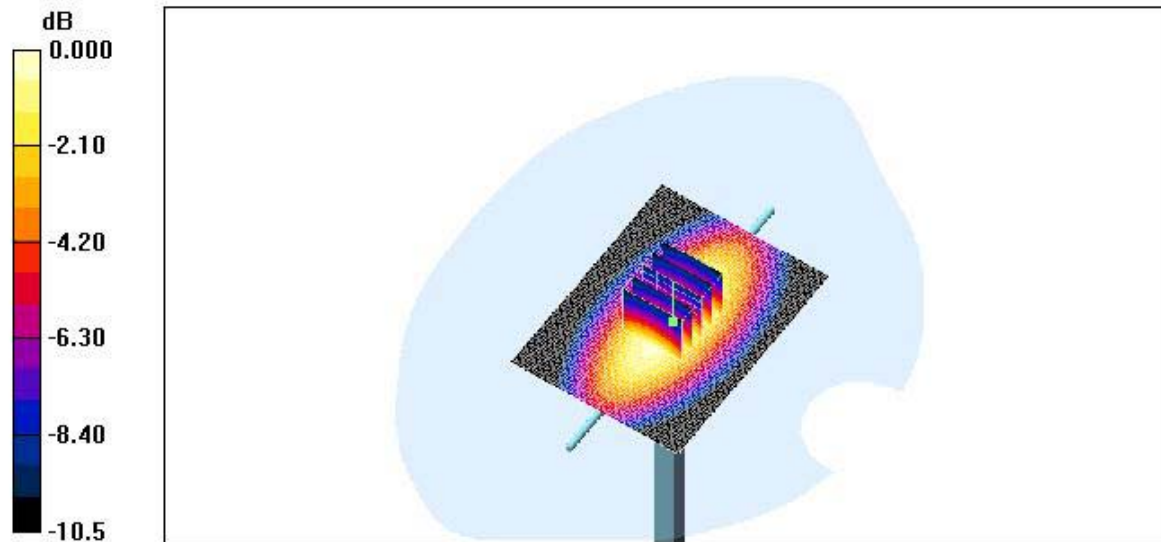
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.874 \text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 53

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: $dx=15\text{mm}$, $dy=15\text{mm}$
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 = 112.3 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 14.0 W/kg
SAR(1 g) = 9.51 mW/g; SAR(10 g) = 6.24 mW/g
Maximum value of SAR (measured) = 10.3 mW/g



0 dB = 10.3mW/g

Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.6°C
Date Tested : February 2, 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; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 53

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) = 51.6 mW/g

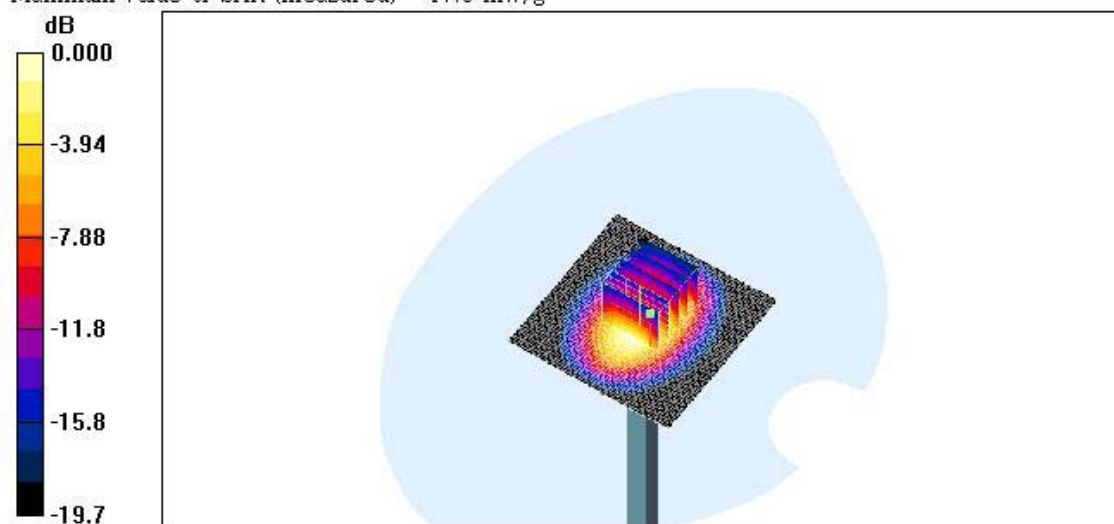
Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 194.4 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 74.8 W/kg

SAR(1 g) = 42.7 mW/g; SAR(10 g) = 22.2 mW/g

Maximum value of SAR (measured) = 47.9 mW/g



0 dB = 47.9mW/g

Dielectric Parameter (835MHz Head)

Title : MV140

SubTitle : CDMA835(HEAD)

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Frequency	e'	e''
800.000000 MHz	41.1249	18.8879
805.000000 MHz	41.0420	18.8533
810.000000 MHz	41.0131	18.8155
815.000000 MHz	40.9603	18.8059
820.000000 MHz	40.8325	18.7902
825.000000 MHz	40.8413	18.7856
830.000000 MHz	40.7530	18.7706
835.000000 MHz	40.7714	18.8156
840.000000 MHz	40.7160	18.8178
845.000000 MHz	40.7113	18.7750
850.000000 MHz	40.6549	18.7676
855.000000 MHz	40.6046	18.7791
860.000000 MHz	40.5878	18.7608
865.000000 MHz	40.5286	18.7342
870.000000 MHz	40.4875	18.7333
875.000000 MHz	40.4126	18.7522
880.000000 MHz	40.3573	18.7304
885.000000 MHz	40.2429	18.6910
890.000000 MHz	40.1929	18.6984
895.000000 MHz	40.1482	18.6697
900.000000 MHz	40.0781	18.6192

Dielectric Parameter (835MHz Body)

Title : MV140

SubTitle : CDMA835(BODY)

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Frequency	e'	e''
800.000000 MHz	53.5416	21.3018
805.000000 MHz	53.4771	21.3238
810.000000 MHz	53.4505	21.3212
815.000000 MHz	53.4178	21.2982
820.000000 MHz	53.3625	21.2722
825.000000 MHz	53.2661	21.2835
830.000000 MHz	53.2869	21.3084
835.000000 MHz	53.2445	21.2783
840.000000 MHz	53.2092	21.2349
845.000000 MHz	53.2273	21.2161
850.000000 MHz	53.1787	21.2216
855.000000 MHz	53.1446	21.1459
860.000000 MHz	53.1498	21.1749
865.000000 MHz	53.0780	21.1677
870.000000 MHz	53.0590	21.0982
875.000000 MHz	53.0656	21.1099
880.000000 MHz	53.0610	21.0620
885.000000 MHz	52.9951	21.0323
890.000000 MHz	52.9704	20.9978
895.000000 MHz	52.9261	20.9920
900.000000 MHz	52.8847	20.9643

Dielectric Parameter (1900MHz Head)

Title : MV140

SubTitle : PCS1900(HEAD)

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Frequency	e'	e''
1.800000000 GHz	38.7317	13.5602
1.810000000 GHz	38.6754	13.6059
1.820000000 GHz	38.6147	13.5913
1.830000000 GHz	38.5810	13.5850
1.840000000 GHz	38.5401	13.6250
1.850000000 GHz	38.4836	13.6268
1.860000000 GHz	38.3962	13.6742
1.870000000 GHz	38.3496	13.6737
1.880000000 GHz	38.3295	13.6957
1.890000000 GHz	38.2972	13.7252
1.900000000 GHz	38.2778	13.7497
1.910000000 GHz	38.2231	13.7959
1.920000000 GHz	38.1675	13.7960
1.930000000 GHz	38.1174	13.8457
1.940000000 GHz	38.0906	13.8371
1.950000000 GHz	38.0298	13.8472
1.960000000 GHz	37.9813	13.8934
1.970000000 GHz	37.9125	13.8917
1.980000000 GHz	37.8506	13.9266
1.990000000 GHz	37.8695	13.9506
2.000000000 GHz	37.8211	13.9715

Dielectric Parameter (1900MHz Body)

Title : MV140

SubTitle : PCS1900(BODY)

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Frequency	e'	e''
1.800000000 GHz	52.3228	14.4994
1.810000000 GHz	52.2579	14.5699
1.820000000 GHz	52.2201	14.6356
1.830000000 GHz	52.1574	14.6400
1.840000000 GHz	52.1274	14.7429
1.850000000 GHz	52.1636	14.7778
1.860000000 GHz	52.1236	14.7852
1.870000000 GHz	52.0769	14.7951
1.880000000 GHz	52.0254	14.8385
1.890000000 GHz	51.9851	14.8436
1.900000000 GHz	51.9044	14.8458
1.910000000 GHz	51.8370	14.9050
1.920000000 GHz	51.7832	14.9490
1.930000000 GHz	51.7406	14.9834
1.940000000 GHz	51.7218	15.0181
1.950000000 GHz	51.7203	15.0659
1.960000000 GHz	51.6814	15.0980
1.970000000 GHz	51.6841	15.1421
1.980000000 GHz	51.6936	15.1799
1.990000000 GHz	51.6428	15.1667
2.000000000 GHz	51.6108	15.1756