

## ATTACHMENT Q – DIPOLE VALIDATION

## Validation Data (835MHz Head)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)  
Liquid Temperature : 21.5 °C  
Date Tested : January 13, 2007

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

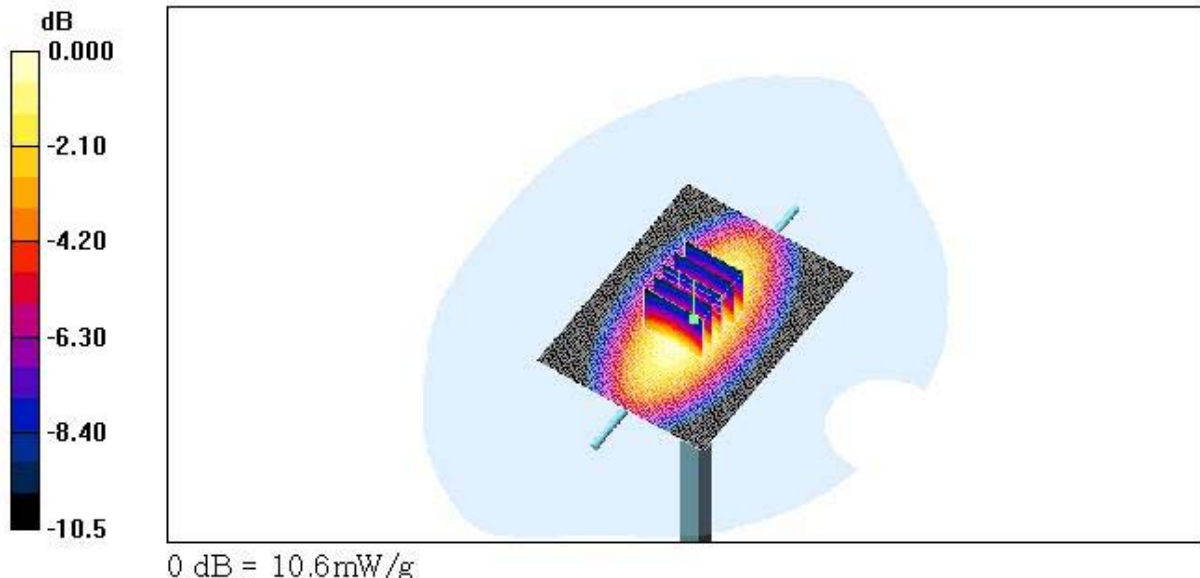
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.883 \text{ mho/m}$ ;  $\epsilon_r = 41.7$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(6.85, 6.85, 6.85); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2006-11-15
- Phantom: SAM 835/900 MHz; Type: SAM

**Validatoin 835 MHz/Area Scan (61x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 10.6 mW/g

**Validatoin 835 MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 113.2 V/m; Power Drift = -0.019 dB  
Peak SAR (extrapolated) = 14.5 W/kg  
**SAR(1 g) = 9.82 mW/g; SAR(10 g) = 6.44 mW/g**  
Maximum value of SAR (measured) = 10.6 mW/g



## Validation Data (2450MHz Head)

Test Laboratory: HCT

2450 Dipole Validation test: Input power(1W)  
Liquid Temperature : 21.5 °C  
Date Tested : January 13, 2007

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2**  
**Program Name: Validation 2450 MHz**

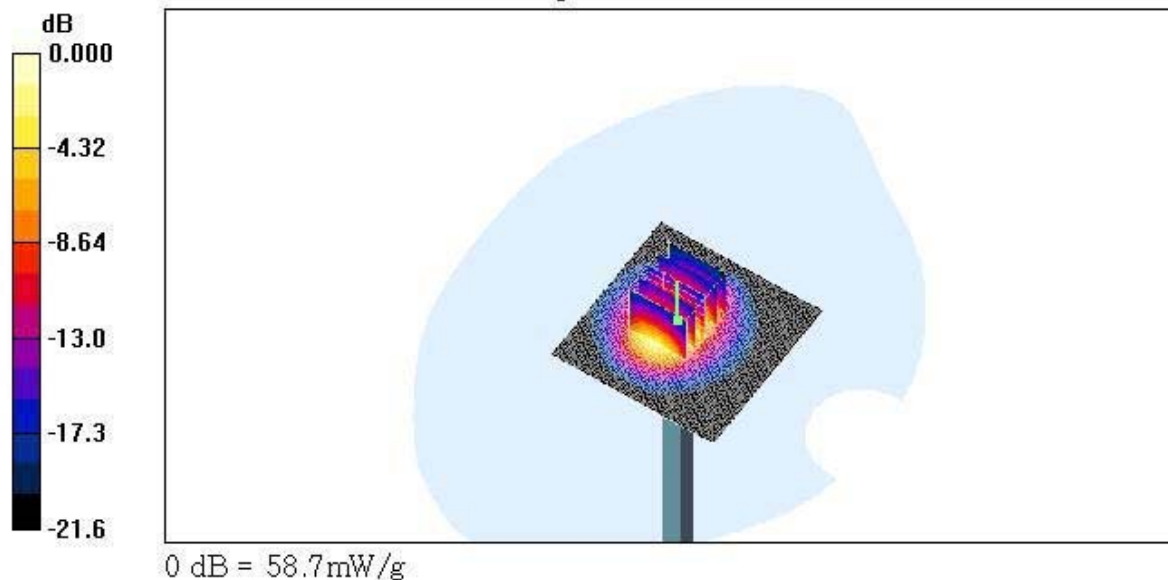
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.886$  mho/m;  $\epsilon_r = 37.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(4.5, 4.5, 4.5); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2006-11-15
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Validation 2450MHz/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 67.4 mW/g

**Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 180.3 V/m; Power Drift = 0.000 dB  
Peak SAR (extrapolated) = 115.4 W/kg  
**SAR(1 g) = 53.7 mW/g; SAR(10 g) = 25.4 mW/g**  
Maximum value of SAR (measured) = 58.7 mW/g



Dielectric Parameter (835MHz Head)

Title : MV420

SubTitle : CDMA835(HEAD)

January 13, 2007 09:35 AM

Frequency	e'	e''
800.000000 MHz	42.1200	19.0765
805.000000 MHz	42.0813	19.1019
810.000000 MHz	42.0196	19.0797
815.000000 MHz	41.9545	19.0801
820.000000 MHz	41.8990	19.0727
825.000000 MHz	41.8882	19.0319
830.000000 MHz	41.8092	19.0474
835.000000 MHz	41.7371	19.0085
840.000000 MHz	41.6966	18.9300
845.000000 MHz	41.5865	18.9344
850.000000 MHz	41.5913	18.9375
855.000000 MHz	41.4782	18.9226
860.000000 MHz	41.4597	18.8401
865.000000 MHz	41.3706	18.8298
870.000000 MHz	41.3188	18.8394
875.000000 MHz	41.2571	18.8116
880.000000 MHz	41.1770	18.7694
885.000000 MHz	41.1018	18.7916
890.000000 MHz	41.0074	18.8294
895.000000 MHz	40.9233	18.7798
900.000000 MHz	40.9163	18.7871

Dielectric Parameter (835MHz Body)

Title : MV420

SubTitle : CDMA835(BODY)

January 13, 2007 02:00 PM

Frequency	e'	e''
800.000000 MHz	53.7674	21.4280
805.000000 MHz	53.7080	21.4016
810.000000 MHz	53.6739	21.4117
815.000000 MHz	53.6267	21.3815
820.000000 MHz	53.5673	21.3614
825.000000 MHz	53.4647	21.3572
830.000000 MHz	53.4790	21.3501
835.000000 MHz	53.4065	21.3301
840.000000 MHz	53.3863	21.2694
845.000000 MHz	53.3317	21.2327
850.000000 MHz	53.2886	21.2248
855.000000 MHz	53.2670	21.1549
860.000000 MHz	53.2162	21.1503
865.000000 MHz	53.1887	21.1479
870.000000 MHz	53.1316	21.0923
875.000000 MHz	53.1553	21.0655
880.000000 MHz	53.0720	21.0631
885.000000 MHz	53.0326	21.0338
890.000000 MHz	52.9556	21.0140
895.000000 MHz	52.9113	21.0081
900.000000 MHz	52.8645	20.9929

Dielectric Parameter (2450MHz Head)

Title : MV420

SubTitle : 2450(HEAD)

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Frequency	e'	e''
2.400000000 GHz	37.9987	13.7569
2.405000000 GHz	38.0031	13.7502
2.410000000 GHz	37.9696	13.7576
2.415000000 GHz	37.9626	13.7738
2.420000000 GHz	37.9229	13.7697
2.425000000 GHz	37.8979	13.7868
2.430000000 GHz	37.8608	13.8193
2.435000000 GHz	37.8630	13.8119
2.440000000 GHz	37.8369	13.8302
2.445000000 GHz	37.8286	13.8533
2.450000000 GHz	37.8177	13.8594
2.455000000 GHz	37.7900	13.8682
2.460000000 GHz	37.7723	13.8991
2.465000000 GHz	37.7627	13.9261
2.470000000 GHz	37.7320	13.9404
2.475000000 GHz	37.7202	13.9475
2.480000000 GHz	37.7113	13.9878
2.485000000 GHz	37.6749	14.0043
2.490000000 GHz	37.6638	14.0246
2.495000000 GHz	37.6462	14.0203
2.500000000 GHz	37.6340	14.0553

Dielectric Parameter (2450MHz Body)

Title : MV420

SubTitle : 2450(BODY)

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Frequency	e'	e''
2.400000000 GHz	51.1497	14.4204
2.405000000 GHz	51.1078	14.3888
2.410000000 GHz	51.0919	14.3481
2.415000000 GHz	51.0401	14.3804
2.420000000 GHz	51.0105	14.4006
2.425000000 GHz	50.9683	14.4401
2.430000000 GHz	50.9570	14.4566
2.435000000 GHz	50.9059	14.5002
2.440000000 GHz	50.9033	14.4991
2.445000000 GHz	50.8539	14.5375
2.450000000 GHz	50.8461	14.5615
2.455000000 GHz	50.8220	14.5839
2.460000000 GHz	50.8001	14.6257
2.465000000 GHz	50.7877	14.6450
2.470000000 GHz	50.7889	14.6512
2.475000000 GHz	50.7774	14.6587
2.480000000 GHz	50.7577	14.7097
2.485000000 GHz	50.7350	14.7314
2.490000000 GHz	50.7547	14.7482
2.495000000 GHz	50.7537	14.7541
2.500000000 GHz	50.7628	14.8030