ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.5 ℃
Date Tested : January 06, 2006

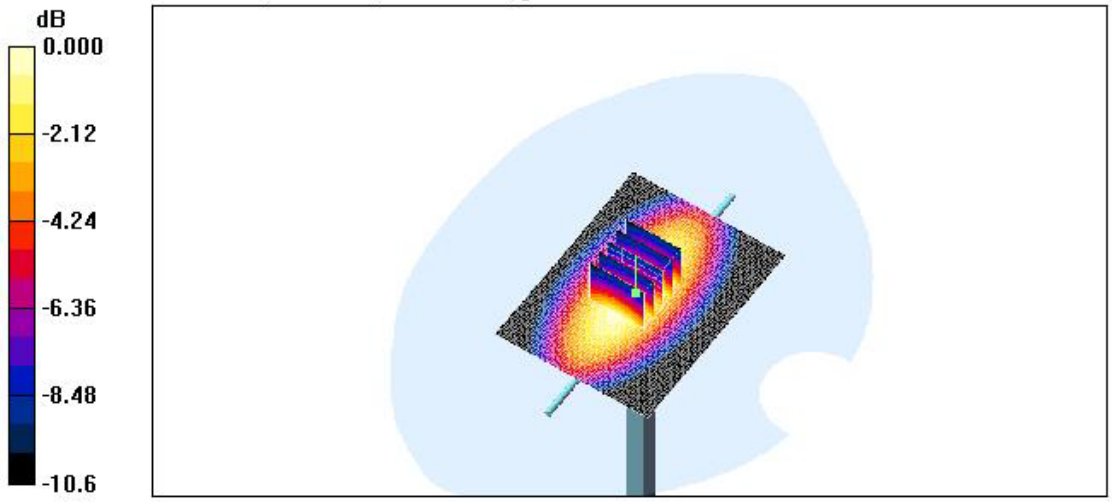
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:xxx
Program Name: Validation

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.881 mho/m; ε_r = 41.9; ρ = 1000 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=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.5 mW/g

Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 111.1 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 14.4 W/kg
SAR(1 g) = 9.63 mW/g; SAR(10 g) = 6.28 mW/g
Maximum value of SAR (measured) = 10.4 mW/g



0 dB = 10.4mW/g

■ Validation Data (1900MHz Brain)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.6 ℃
Date Tested : January 07, 2006

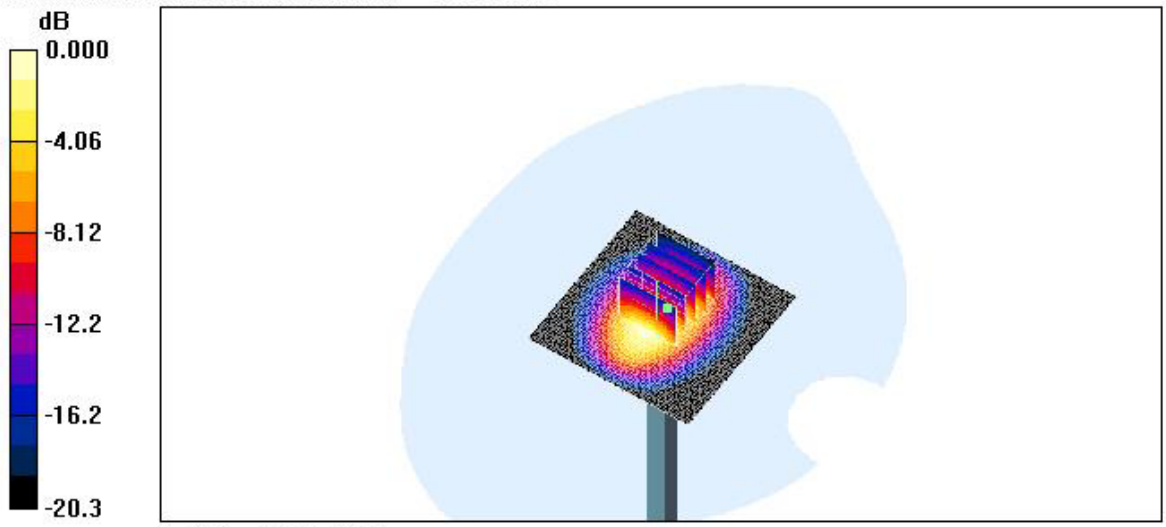
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx
Program Name: Validation

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.46 mho/m; ε_r = 38.7; ρ = 1000 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 Sn614; Calibrated: 2005-04-21
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 46.9 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 186.9 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 72.5 W/kg
SAR(1 g) = 40.1 mW/g; SAR(10 g) = 20.6 mW/g
Maximum value of SAR (measured) = 44.8 mW/g



0 dB = 44.8mW/g

■ Validation Data (1900MHz Brain)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.4 ℃
Date Tested : February 01, 2006

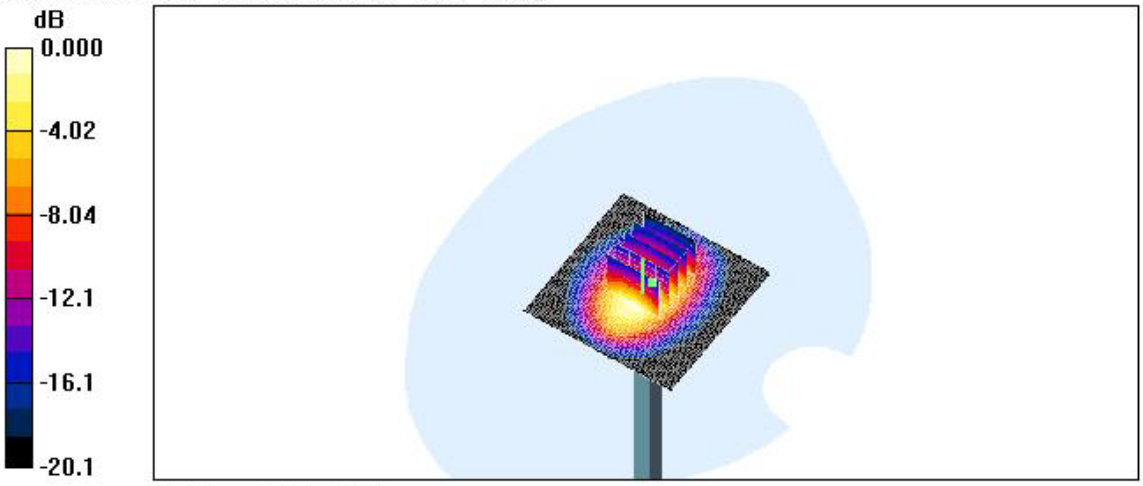
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx
Program Name: Validation

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 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 Sn614; Calibrated: 2005-04-21
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 46.9 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 185.9 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 72.2 W/kg
SAR(1 g) = 40 mW/g; SAR(10 g) = 20.6 mW/g
Maximum value of SAR (measured) = 44.7 mW/g



0 dB = 44.7mW/g

■ Dielectric Parameter (835MHz Head)

Title : KTFT-UV100

SubTitle : CDMA835 Head

January 06, 2006 09:05 AM

Frequency	e'	e''
800.000000 MHz	42.4541	18.9852
805.000000 MHz	42.4225	18.9650
810.000000 MHz	42.3526	18.9986
815.000000 MHz	42.2503	18.9875
820.000000 MHz	42.2033	18.9401
825.000000 MHz	42.1034	18.9665
830.000000 MHz	42.0022	18.9827
835.000000 MHz	41.9247	18.9662
840.000000 MHz	41.8472	18.9083
845.000000 MHz	41.7212	18.8962
850.000000 MHz	41.6693	18.8842
855.000000 MHz	41.6087	18.8749
860.000000 MHz	41.5775	18.8574
865.000000 MHz	41.4905	18.8563
870.000000 MHz	41.3910	18.8083
875.000000 MHz	41.2851	18.8034
880.000000 MHz	41.3129	18.7699
885.000000 MHz	41.1850	18.8022
890.000000 MHz	41.1174	18.7970
895.000000 MHz	41.0564	18.7603
900.000000 MHz	40.9799	18.7682

■ Dielectric Parameter (835MHz Body)

Title : KTFT-UV100

SubTitle : CDMA835 Body

January 06, 2006 01:45 PM

Frequency	e'	e''
800.000000 MHz	55.1950	21.3684
805.000000 MHz	55.1964	21.3722
810.000000 MHz	55.1183	21.4045
815.000000 MHz	55.0806	21.3881
820.000000 MHz	55.0249	21.3504
825.000000 MHz	54.9819	21.3141
830.000000 MHz	54.8913	21.3569
835.000000 MHz	54.8638	21.3263
840.000000 MHz	54.8492	21.3573
845.000000 MHz	54.7596	21.3612
850.000000 MHz	54.6965	21.3443
855.000000 MHz	54.6537	21.3202
860.000000 MHz	54.6000	21.3220
865.000000 MHz	54.5757	21.3128
870.000000 MHz	54.5335	21.3104
875.000000 MHz	54.4519	21.2590
880.000000 MHz	54.4132	21.2877
885.000000 MHz	54.3393	21.2503
890.000000 MHz	54.2701	21.2221
895.000000 MHz	54.2293	21.2096
900.000000 MHz	54.1262	21.1170

■ Dielectric Parameter (1900MHz Head)

Title : KTFT-UV100

SubTitle : PCS1900 Head

January 07, 2006 09:20 AM

Frequency	e'	e''
1.800000000 GHz	39.0158	13.3867
1.810000000 GHz	39.0021	13.4455
1.820000000 GHz	38.9826	13.5226
1.830000000 GHz	38.9063	13.6425
1.840000000 GHz	38.9215	13.6920
1.850000000 GHz	38.9057	13.7721
1.860000000 GHz	38.8715	13.8391
1.870000000 GHz	38.8291	13.8514
1.880000000 GHz	38.8242	13.8407
1.890000000 GHz	38.7674	13.7880
1.900000000 GHz	38.6987	13.7818
1.910000000 GHz	38.6218	13.7371
1.920000000 GHz	38.5176	13.7367
1.930000000 GHz	38.4500	13.7785
1.940000000 GHz	38.4316	13.8452
1.950000000 GHz	38.4156	13.9365
1.960000000 GHz	38.3970	14.0030
1.970000000 GHz	38.3796	14.1239
1.980000000 GHz	38.3778	14.1530
1.990000000 GHz	38.3812	14.1435
2.000000000 GHz	38.3276	14.1480

■ Dielectric Parameter (1900MHz Body)

Title : KTFT-UV100

SubTitle : PCS1900 Body

January 07, 2006 02:13 PM

Frequency	e'	e''
1.800000000 GHz	52.3323	13.6846
1.810000000 GHz	52.3205	13.7713
1.820000000 GHz	52.2867	13.8589
1.830000000 GHz	52.2126	13.9384
1.840000000 GHz	52.1867	13.9837
1.850000000 GHz	52.1238	14.0293
1.860000000 GHz	52.0616	14.0569
1.870000000 GHz	52.0052	14.1050
1.880000000 GHz	51.9479	14.1579
1.890000000 GHz	51.8540	14.1832
1.900000000 GHz	51.7961	14.1987
1.910000000 GHz	51.7308	14.2356
1.920000000 GHz	51.6922	14.3237
1.930000000 GHz	51.6566	14.4203
1.940000000 GHz	51.6005	14.4645
1.950000000 GHz	51.5940	14.5564
1.960000000 GHz	51.5150	14.6369
1.970000000 GHz	51.4661	14.6511
1.980000000 GHz	51.4275	14.6669
1.990000000 GHz	51.3467	14.7155
2.000000000 GHz	51.2925	14.7186

■ Dielectric Parameter (1900MHz Head)

Title : KTFT-UV100

SubTitle : PCS1900 Head

February 01, 2006 09:07 AM

Frequency	e'	e''
1.800000000 GHz	38.7787	13.3939
1.810000000 GHz	38.7388	13.4482
1.820000000 GHz	38.7233	13.4758
1.830000000 GHz	38.7095	13.5443
1.840000000 GHz	38.7216	13.5789
1.850000000 GHz	38.6902	13.6335
1.860000000 GHz	38.6806	13.6628
1.870000000 GHz	38.6428	13.6587
1.880000000 GHz	38.5830	13.6653
1.890000000 GHz	38.5124	13.6671
1.900000000 GHz	38.4386	13.6714
1.910000000 GHz	38.3472	13.6548
1.920000000 GHz	38.2834	13.6715
1.930000000 GHz	38.2706	13.6976
1.940000000 GHz	38.2295	13.7561
1.950000000 GHz	38.2086	13.8075
1.960000000 GHz	38.2086	13.8806
1.970000000 GHz	38.2032	13.9568
1.980000000 GHz	38.1528	13.9832
1.990000000 GHz	38.1756	14.0091
2.000000000 GHz	38.0973	13.9844