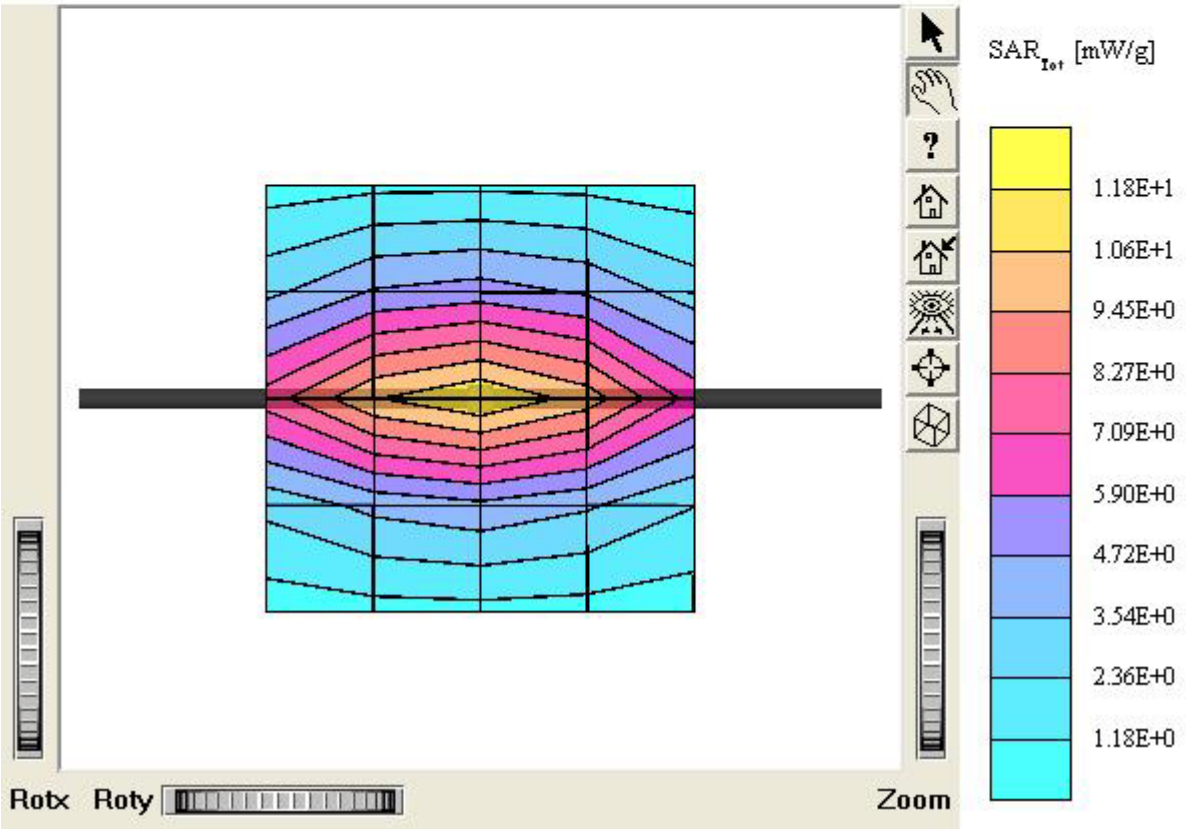
ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (835MHz Brain)

Dipole 835 MHz

SAM I Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz
Probe: ET3DV6 - SN1798; ConvF(6.91,6.91,6.91); Crest factor: 1.0; Head 835 MHz: σ = 0.88 mho/m ε_r = 41.9 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 10.1 mW/g, SAR (10g): 6.29 mW/g
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: 0.01 dB
Comment :
835MHz Brain Dipole Validation (D835V2/ S.N: 441)
Antenna Input Power: 24.0 dBm (1 W)
HCT Co., Ltd. Brain Tissue Simulating Liquid
Liquid Temperature : 21.6℃
Date Tested : March 24, 2006



■ Dielectric Parameter (835MHz Head)

Title : ICU-E640
SubTitle : CDMA835 Head
March 24, 2006 09:18 AM

Frequency	e'	e''
800.000000 MHz	42.5517	19.0237
805.000000 MHz	42.4610	18.9868
810.000000 MHz	42.3737	19.0358
815.000000 MHz	42.3382	18.9952
820.000000 MHz	42.2574	18.9623
825.000000 MHz	42.1608	18.9822
830.000000 MHz	42.0245	18.9870
835.000000 MHz	41.9482	19.0121
840.000000 MHz	41.8857	18.9705
845.000000 MHz	41.7404	18.9635
850.000000 MHz	41.6952	18.9389
855.000000 MHz	41.6169	18.9035
860.000000 MHz	41.5911	18.9048
865.000000 MHz	41.4919	18.8967
870.000000 MHz	41.4382	18.8657
875.000000 MHz	41.3107	18.8566
880.000000 MHz	41.3099	18.8110
885.000000 MHz	41.1861	18.8570
890.000000 MHz	41.1676	18.8320
895.000000 MHz	41.0655	18.7576
900.000000 MHz	41.0243	18.7847

■ Dielectric Parameter (835MHz Body)

Title : ICU-E640
SubTitle : CDMA835 Body
March 24, 2006 01:40 PM

Frequency	e'	e''
800.000000 MHz	55.1587	21.2672
805.000000 MHz	55.0989	21.2595
810.000000 MHz	55.0230	21.2352
815.000000 MHz	55.0000	21.2596
820.000000 MHz	54.9842	21.2699
825.000000 MHz	54.8911	21.2191
830.000000 MHz	54.8453	21.2626
835.000000 MHz	54.8057	21.2593
840.000000 MHz	54.7501	21.3282
845.000000 MHz	54.7078	21.2818
850.000000 MHz	54.6593	21.3037
855.000000 MHz	54.6094	21.2607
860.000000 MHz	54.5892	21.2936
865.000000 MHz	54.5273	21.2989
870.000000 MHz	54.4758	21.3003
875.000000 MHz	54.3831	21.2749
880.000000 MHz	54.3682	21.2679
885.000000 MHz	54.2630	21.2588
890.000000 MHz	54.2155	21.1907
895.000000 MHz	54.1768	21.1566
900.000000 MHz	54.0593	21.0805

■ Validation Data (835MHz Brain)

Test Laboratory: HCT

835 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.6 ℃
Date Tested : April 24, 2006

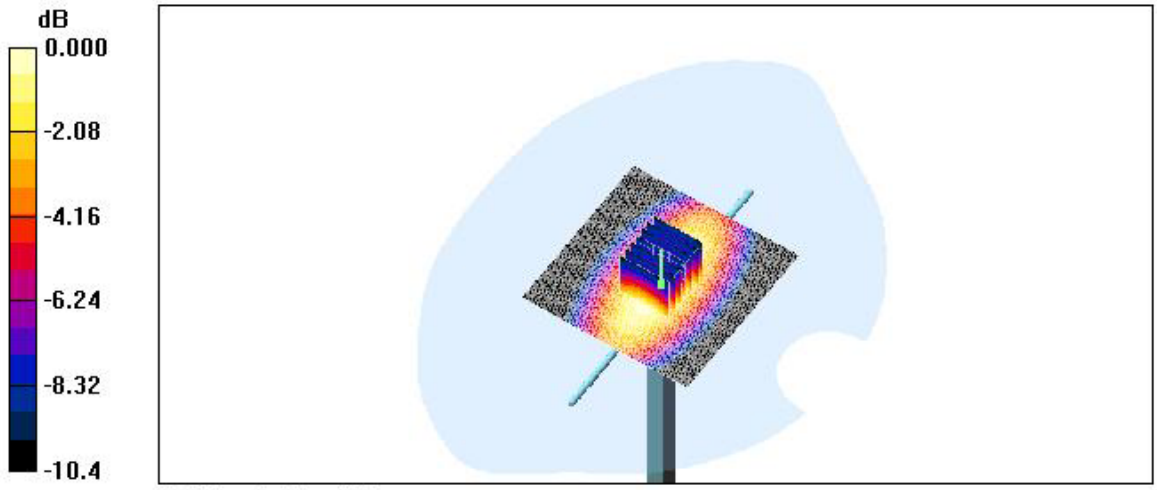
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

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: 2006-03-17
- Phantom: SAM with CRP 835MHz; Type: SAM

Validation 835MHz/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.0 mW/g

Validation 835MHz/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 114.1 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 14.9 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 6.64 mW/g
Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

■ Dielectric Parameter (835MHz Head)

Title : ICU-E640

SubTitle : CDMA835 Head

April 24, 2006 08:52 AM

Frequency	e'	e''
800.000000 MHz	42.6152	19.0171
805.000000 MHz	42.6157	18.9982
810.000000 MHz	42.5121	19.0297
815.000000 MHz	42.4774	18.9563
820.000000 MHz	42.3759	18.9664
825.000000 MHz	42.3300	18.9611
830.000000 MHz	42.2437	18.9779
835.000000 MHz	42.1206	18.9527
840.000000 MHz	42.0571	18.9113
845.000000 MHz	41.9795	18.8536
850.000000 MHz	41.8907	18.8621
855.000000 MHz	41.7677	18.8189
860.000000 MHz	41.7762	18.8000
865.000000 MHz	41.6195	18.8087
870.000000 MHz	41.5490	18.7928
875.000000 MHz	41.4423	18.7879
880.000000 MHz	41.4028	18.7334
885.000000 MHz	41.2837	18.7632
890.000000 MHz	41.2129	18.7488
895.000000 MHz	41.1503	18.7423
900.000000 MHz	41.0861	18.7267

■ Dielectric Parameter (835MHz Body)

Title : ICU-E640

SubTitle : CDMA835 Body

April 24, 2006 01:22 PM

Frequency	e'	e''
800.000000 MHz	55.2094	21.2490
805.000000 MHz	55.1802	21.2643
810.000000 MHz	55.1403	21.2153
815.000000 MHz	55.0796	21.2307
820.000000 MHz	55.0553	21.2495
825.000000 MHz	54.9744	21.2331
830.000000 MHz	54.9576	21.2656
835.000000 MHz	54.8616	21.2607
840.000000 MHz	54.8613	21.3307
845.000000 MHz	54.7704	21.3022
850.000000 MHz	54.7731	21.3154
855.000000 MHz	54.7085	21.3211
860.000000 MHz	54.6415	21.3171
865.000000 MHz	54.6337	21.3229
870.000000 MHz	54.6099	21.3132
875.000000 MHz	54.5409	21.2674
880.000000 MHz	54.4727	21.2486
885.000000 MHz	54.4341	21.2345
890.000000 MHz	54.3618	21.1862
895.000000 MHz	54.2842	21.1353
900.000000 MHz	54.2042	21.0756