

ATTACHMENT –SAR DATA / DIPOLE VALIDATION

Test Laboratory: HCT

Company: Pantech co., Ltd.

Mode: CDMA / Channel: 777 / SAR Test Mode: RC2/S055

Position: Right touch / Antenna: out

Bluetooth: off / Battery: Standard

Liquid Temperature: 21.6 °C

Date Tested: April 26, 2006

DUT: PC-8200N; Type: Folder; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Right 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 Sn447; Calibrated: 2005-11-30

- Phantom: SAM 835/900 MHz; Type: SAM

Right touch 777/Area Scan (51x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (interpolated) = 1.19 mW/g

Right touch 777/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

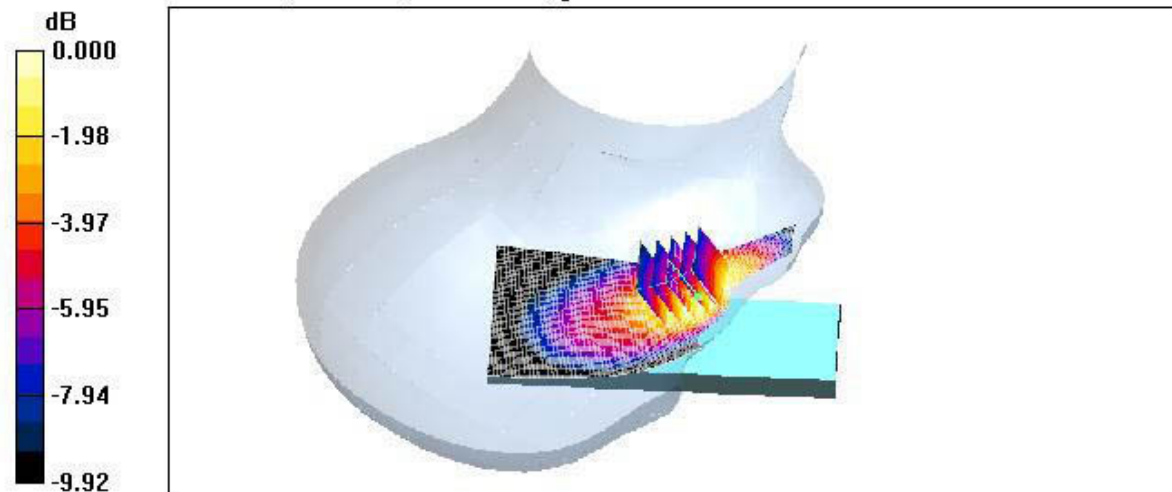
Reference Value = 27.1 V/m; Power Drift = -0.196 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.764 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Test Laboratory: HCT

Company : Pantech co., Ltd.
Mode : PCS1900 / Channel : 1175 / SAR Test Mode : RC2/S055
Position : Right touch / Antenna : in
Bluetooth : off / Battery : Standard
Liquid Temperature : 21.6 °C
Date Tested : April 26, 2006
DUT: PC-8200N; Type: Folder; Serial: #1

Communication System: PCS 1900; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75 \text{ MHz}$; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 39.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right 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 Sn447; Calibrated: 2005-11-30
- Phantom: SAM 1800/1900 MHz; Type: SAM

Right touch 1175/Area Scan (51x101x1): Measurement grid: $\Delta x = 15\text{mm}$, $\Delta y = 15\text{mm}$

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (interpolated) = 1.25 mW/g

Right touch 1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $\Delta x = 8\text{mm}$, $\Delta y = 8\text{mm}$, $\Delta z = 5\text{mm}$

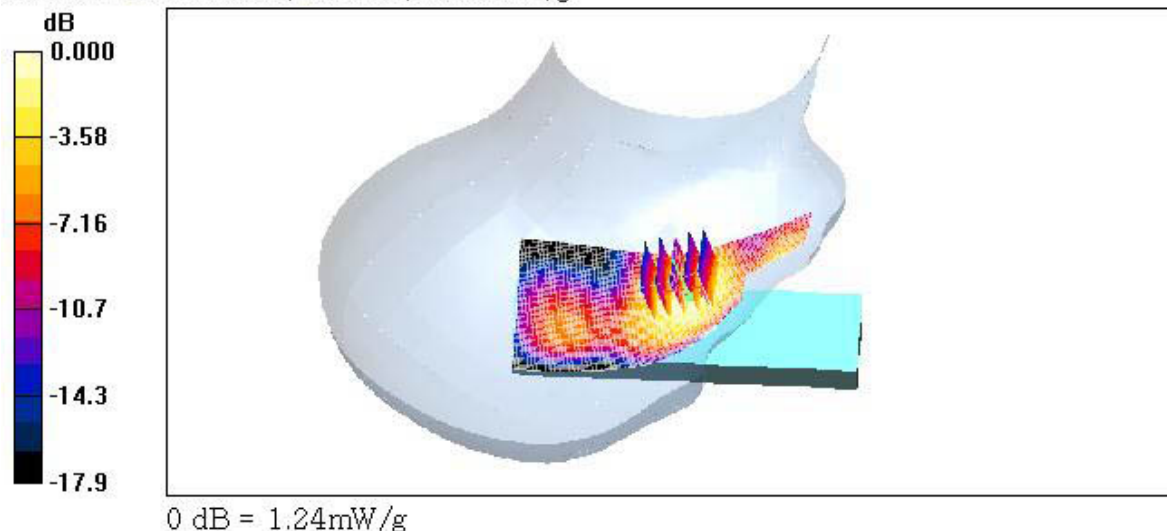
Reference Value = 22.7 V/m; Power Drift = 0.124 dB

Peak SAR (extrapolated) = 2.32 W/kg

SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.670 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 1.24 mW/g



Test Laboratory: HCT

Company : Pantech co., Ltd.
Mode : CDMA / Channel : 363 / SAR Test Mode : RC2/SO55
Position : Body / Antenna : out
Bluetooth : off / Battery : E-battery
Liquid Temperature : 21.6 °C
Date Tested : April 26, 2006

DUT: PC-8200N Body; Type: Folder; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 835.89 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 835.89 \text{ MHz}$; $\sigma = 0.988 \text{ mho/m}$; $\epsilon_r = 53.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(6.27, 6.27, 6.27); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2005-11-30
- Phantom: SAM 835/900 MHz; Type: SAM

CDMA Body 363/Area Scan (51x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (interpolated) = 0.555 mW/g

CDMA Body 363/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

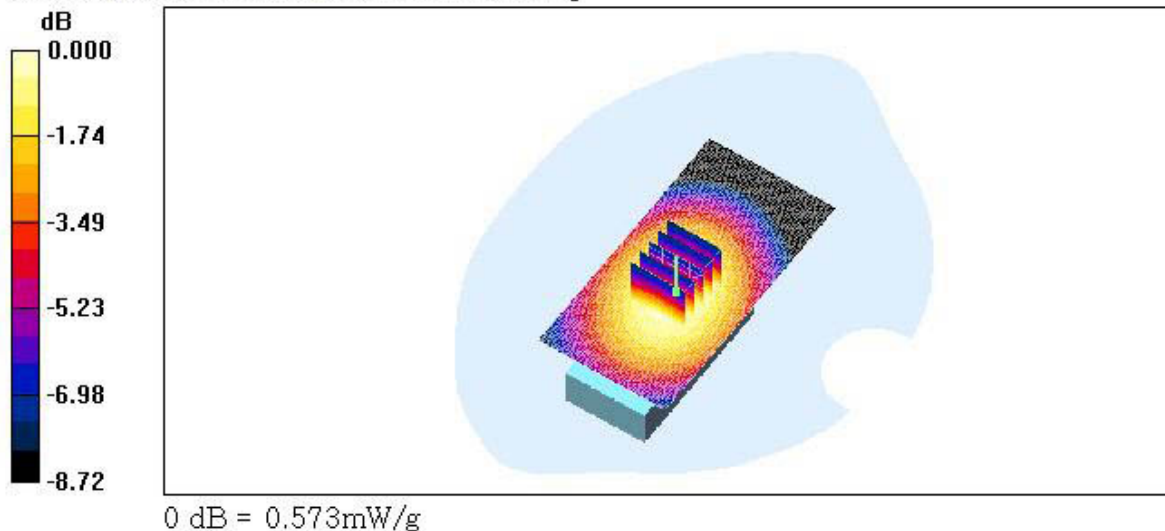
Reference Value = 23.3 V/m; Power Drift = 0.205 dB

Peak SAR (extrapolated) = 0.697 W/kg

SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.396 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.573 mW/g



Test Laboratory: HCT

Company: Pantech co., Ltd.

Mode: PCS1900 / Channel: 600 / SAR Test Mode: RC2/S055

Position: Body / Antenna: in

Bluetooth: off / Battery: Standard

Liquid Temperature: 21.6 °C

Date Tested: April 26, 2006

DUT: PC-8200N Body; Type: Folder; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.48 \text{ mho/m}$; $\epsilon_r = 52.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(4.44, 4.44, 4.44); Calibrated: 2005-08-30

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn447; Calibrated: 2005-11-30

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

PCS Body 600/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.386 mW/g

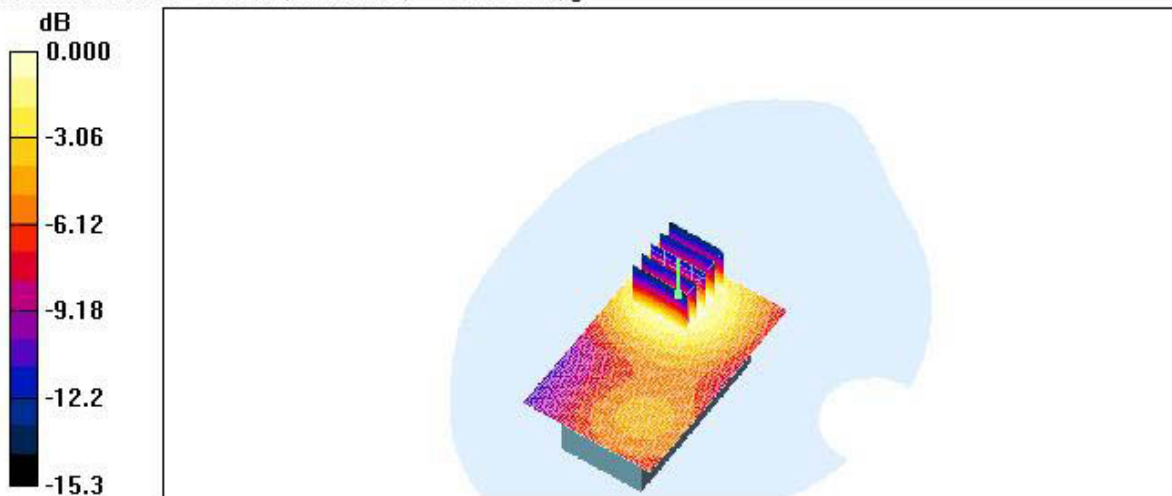
PCS Body 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.3 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.512 W/kg

SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.221 mW/g

Maximum value of SAR (measured) = 0.356 mW/g



0 dB = 0.356mW/g

■ Validation Data (835MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.6 °C

Date Tested : April 26, 2006

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

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.883 \text{ mho/m}$; $\epsilon_r = 42.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1607; ConvF(6.29, 6.29, 6.29); Calibrated: 2005-08-30
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2005-11-30
- 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) = 10.6 mW/g

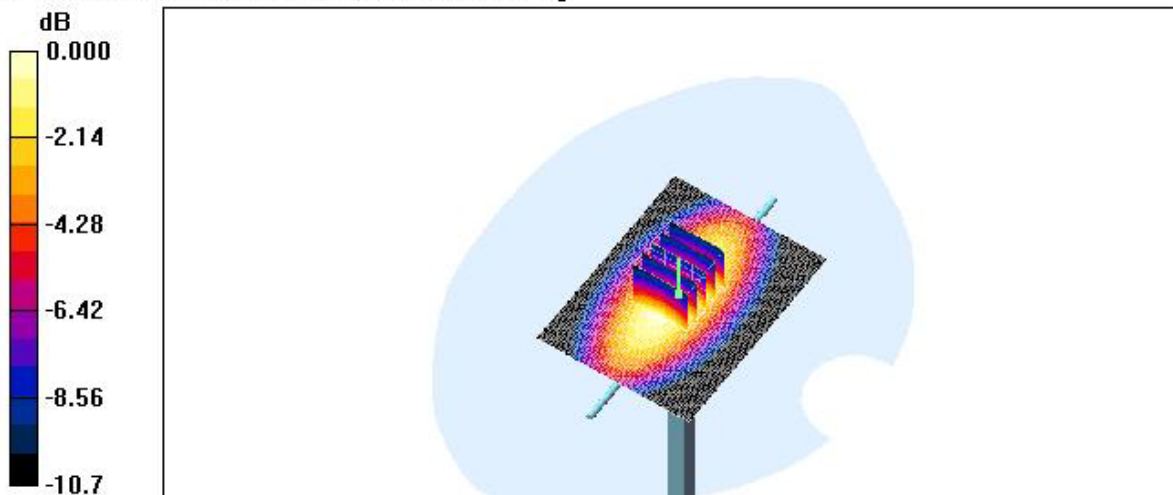
Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 111.9 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 14.7 W/kg

SAR(1 g) = 9.87 mW/g; SAR(10 g) = 6.44 mW/g

Maximum value of SAR (measured) = 10.6 mW/g



0 dB = 10.6mW/g

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.6 °C

Date Tested : April 26, 2006

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 40$; $\rho = 1000 \text{ kg/m}^3$

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 Sn447; Calibrated: 2005-11-30

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

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 47.6 mW/g

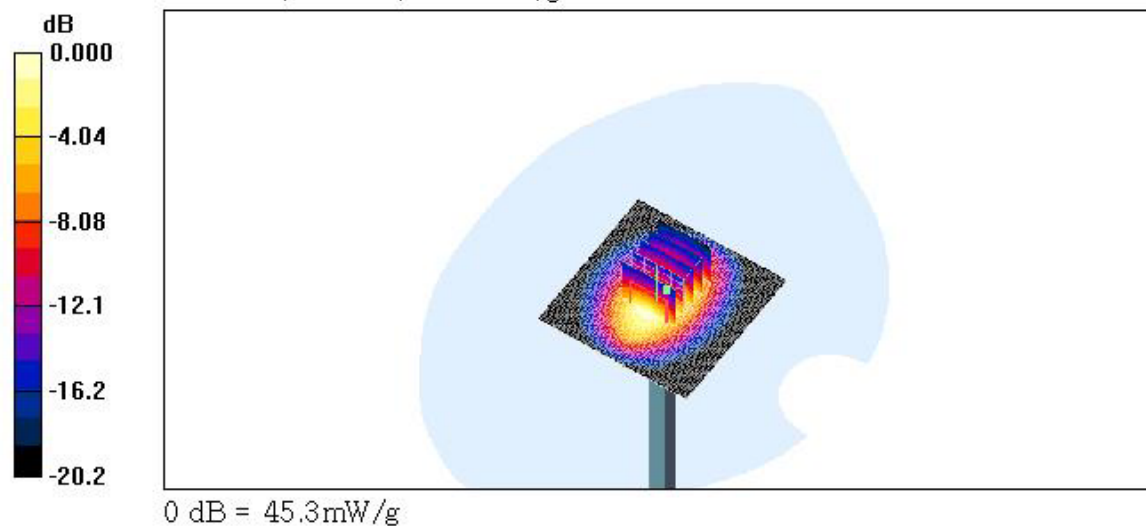
Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 187.0 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 73.1 W/kg

SAR(1 g) = 40.5 mW/g; SAR(10 g) = 20.8 mW/g

Maximum value of SAR (measured) = 45.3 mW/g



■ Dielectric Parameter (835MHz Head)

Title :PC-8200N**SubTitle :CDMA835 Head**

April 26, 2006 03:40 AM

Frequency	e'	e''
800.000000 MHz	42.7903	19.0995
805.000000 MHz	42.7040	19.0820
810.000000 MHz	42.7173	19.0696
815.000000 MHz	42.6501	19.0367
820.000000 MHz	42.5604	19.0533
825.000000 MHz	42.4827	19.0507
830.000000 MHz	42.4154	19.0243
835.000000 MHz	42.4511	19.0057
840.000000 MHz	42.3197	19.0245
845.000000 MHz	42.3055	19.0098
850.000000 MHz	42.2495	19.0281
855.000000 MHz	42.2199	18.9560
860.000000 MHz	42.1995	18.9846
865.000000 MHz	42.0974	18.9756
870.000000 MHz	42.0874	18.9296
875.000000 MHz	41.9567	18.9198
880.000000 MHz	41.9221	18.9223
885.000000 MHz	41.8311	18.9016
890.000000 MHz	41.7734	18.9213
895.000000 MHz	41.7292	18.8175
900.000000 MHz	41.6914	18.8317

■ Dielectric Parameter (835MHz Body)

Title :PC-8200N**SubTitle :CDMA835 Body**

April 26, 2006 10:40 AM

Frequency	e'	e''
800.000000 MHz	53.8762	22.1659
805.000000 MHz	53.7227	21.9298
810.000000 MHz	53.6535	21.8028
815.000000 MHz	53.5269	21.6077
820.000000 MHz	53.4577	21.4619
825.000000 MHz	53.3509	21.3811
830.000000 MHz	53.2413	21.3358
835.000000 MHz	53.1587	21.2541
840.000000 MHz	53.0762	21.2611
845.000000 MHz	53.0503	21.2696
850.000000 MHz	53.0044	21.3397
855.000000 MHz	52.9814	21.3792
860.000000 MHz	52.9693	21.5329
865.000000 MHz	52.9539	21.6437
870.000000 MHz	52.9220	21.7060
875.000000 MHz	52.9567	21.8283
880.000000 MHz	52.9600	21.8493
885.000000 MHz	52.9035	21.8925
890.000000 MHz	52.8221	21.9081
895.000000 MHz	52.8463	21.8519
900.000000 MHz	52.7765	21.7690

■ Dielectric Parameter (1900MHz Head)

Title :PC-8200N

SubTitle :PCS1900 Head

April 26, 2006 11:40 AM

Frequency	e'	e''
1.800000000 GHz	40.4117	13.3702
1.810000000 GHz	40.3485	13.4078
1.820000000 GHz	40.3131	13.4679
1.830000000 GHz	40.2654	13.5936
1.840000000 GHz	40.2854	13.6978
1.850000000 GHz	40.2641	13.7820
1.860000000 GHz	40.1932	13.8427
1.870000000 GHz	40.1838	13.8310
1.880000000 GHz	40.1234	13.8280
1.890000000 GHz	40.0718	13.7715
1.900000000 GHz	40.0073	13.7360
1.910000000 GHz	39.9138	13.7051
1.920000000 GHz	39.8322	13.6911
1.930000000 GHz	39.8053	13.7135
1.940000000 GHz	39.7644	13.7987
1.950000000 GHz	39.7040	13.8700
1.960000000 GHz	39.6879	13.9743
1.970000000 GHz	39.6853	14.0785
1.980000000 GHz	39.6713	14.1543
1.990000000 GHz	39.6578	14.1409
2.000000000 GHz	39.6330	14.1441

■ Dielectric Parameter (1900MHz Body)

Title :PC-8200N

SubTitle :PCS1900 Body

April 26, 2006 12:59 PM

Frequency	e'	e''
1.800000000 GHz	52.8325	13.6967
1.810000000 GHz	52.8553	13.7690
1.820000000 GHz	52.8383	13.8178
1.830000000 GHz	52.8406	13.8531
1.840000000 GHz	52.8324	13.9193
1.850000000 GHz	52.8476	13.9683
1.860000000 GHz	52.8398	14.0013
1.870000000 GHz	52.8305	14.0827
1.880000000 GHz	52.7611	14.1390
1.890000000 GHz	52.7113	14.1744
1.900000000 GHz	52.6882	14.2329
1.910000000 GHz	52.6412	14.3063
1.920000000 GHz	52.6623	14.3569
1.930000000 GHz	52.6440	14.4405
1.940000000 GHz	52.6206	14.4891
1.950000000 GHz	52.6341	14.5322
1.960000000 GHz	52.5857	14.5615
1.970000000 GHz	52.5606	14.6016
1.980000000 GHz	52.5574	14.6211
1.990000000 GHz	52.5155	14.6925
2.000000000 GHz	52.4776	14.7096