

ATTACHMENT Q – DIPOLE VALIDATION

■ Validation Data (1900MHz Head)

Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)

Liquid Temperature : 21.6 °C / Ambient Temperature : 22.2 °C

Date Tested : May 30, 2006

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 -SN:5d032

Program Name: Validation 1900 MHz

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(5.16, 5.16, 5.16); Calibrated: 2006-03-23

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

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

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

Validation 1900MHz/Area Scan (61x61x1): Measurement grid: $\Delta x = 15\text{mm}$, $\Delta y = 15\text{mm}$

Maximum value of SAR (interpolated) = 51.0 mW/g

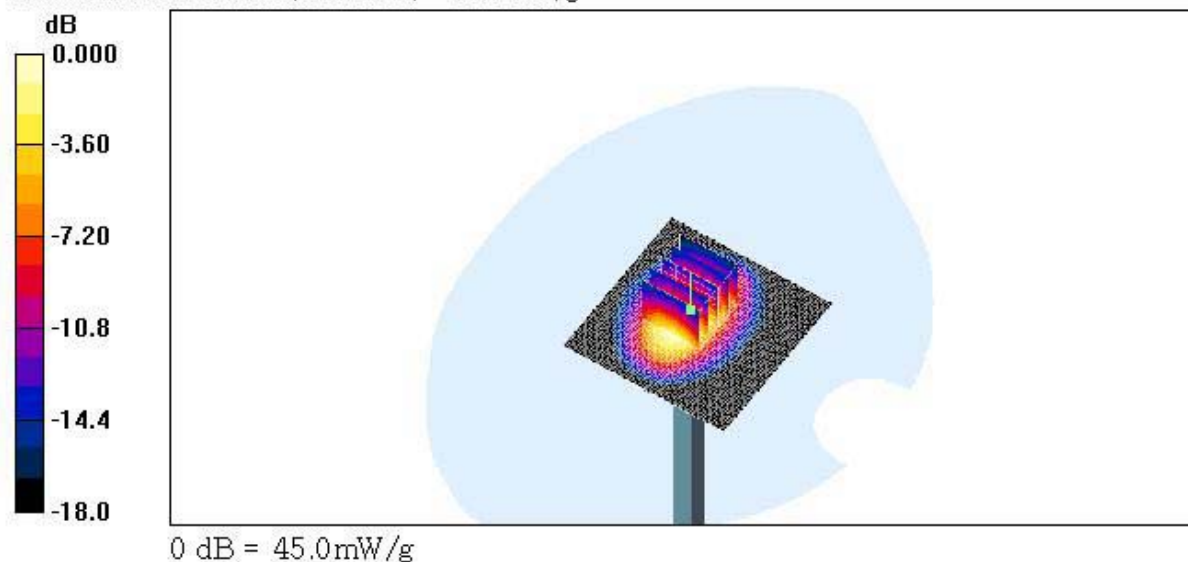
Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $\Delta x = 8\text{mm}$, $\Delta y = 8\text{mm}$, $\Delta z = 5\text{mm}$

Reference Value = 185.0 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 70.6 W/kg

SAR(1 g) = 40.4 mW/g; SAR(10 g) = 21.4 mW/g

Maximum value of SAR (measured) = 45.0 mW/g



Test Laboratory: HCT

1900 Dipole Validation test: Input power(1W)
Liquid Temperature : 21.6 °C / Ambient Temperature : 22.2
Date Tested : June 17, 2006

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032
Program Name: Validation 1900 MHz

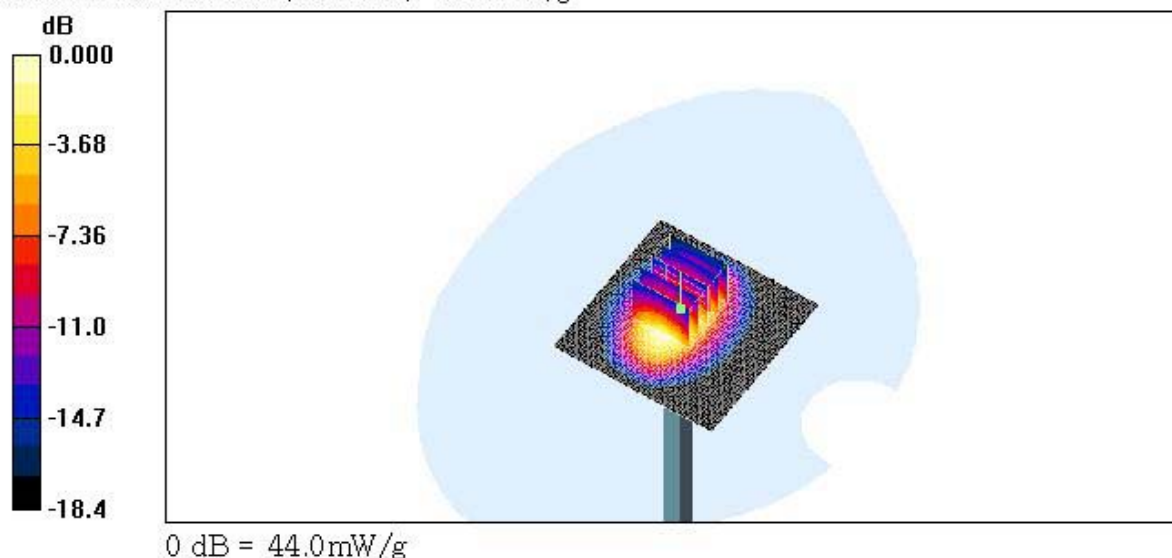
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 38.3$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section ; Measurement SW: DASY4, V4.6 Build d 23

DASY4 Configuration:

- Probe: ET3DV6 - SN1609; ConvF(5.16, 5.16, 5.16); Calibrated: 2006-03-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn447; Calibrated: 2005-11-30
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 1900MHz/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 50.1 mW/g

Validation 1900MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 184.7 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 70.2 W/kg
SAR(1 g) = 40.1 mW/g; SAR(10 g) = 21.2 mW/g
Maximum value of SAR (measured) = 44.0 mW/g



■ Dielectric Parameter (1900MHz Head)**Title : EZ700****SubTitle : GSM1900**

May 30, 2006 07:53 AM

Frequency	e'	e''
1.800000000 GHz	38.6283	13.5484
1.810000000 GHz	38.6209	13.5748
1.820000000 GHz	38.5828	13.5981
1.830000000 GHz	38.5107	13.6327
1.840000000 GHz	38.4632	13.6410
1.850000000 GHz	38.4573	13.7020
1.860000000 GHz	38.4363	13.6916
1.870000000 GHz	38.3753	13.7114
1.880000000 GHz	38.3142	13.7582
1.890000000 GHz	38.2923	13.7606
1.900000000 GHz	38.2680	13.7528
1.910000000 GHz	38.2221	13.7848
1.920000000 GHz	38.1632	13.7987
1.930000000 GHz	38.1404	13.7934
1.940000000 GHz	38.1234	13.8195
1.950000000 GHz	38.0732	13.8374
1.960000000 GHz	38.0129	13.8561
1.970000000 GHz	37.9805	13.8893
1.980000000 GHz	37.9419	13.8976
1.990000000 GHz	37.9221	13.9200
2.000000000 GHz	37.8868	13.9438

■ Dielectric Parameter (1900MHz Body)

Title : EZ700

SubTitle : GSM1900

May 30, 2006 07:53 AM

Frequency	e'	e''
1.800000000 GHz	53.1098	13.6822
1.810000000 GHz	53.0523	13.7830
1.820000000 GHz	53.0013	13.8676
1.830000000 GHz	52.9263	13.9301
1.840000000 GHz	52.8435	13.9893
1.850000000 GHz	52.7698	14.0519
1.860000000 GHz	52.6607	14.0600
1.870000000 GHz	52.5913	14.1022
1.880000000 GHz	52.5105	14.1373
1.890000000 GHz	52.3963	14.1890
1.900000000 GHz	52.3305	14.2121
1.910000000 GHz	52.2876	14.2978
1.920000000 GHz	52.2590	14.3887
1.930000000 GHz	52.2817	14.4974
1.940000000 GHz	52.2534	14.6066
1.950000000 GHz	52.2528	14.6613
1.960000000 GHz	52.1594	14.6878
1.970000000 GHz	52.0797	14.6807
1.980000000 GHz	52.0188	14.7071
1.990000000 GHz	51.9275	14.7450
2.000000000 GHz	51.8969	14.7618

■ Dielectric Parameter (1900MHz Head))

Title : EZ700
SubTitle : GSM1900 Head
June 17 2006 08:31 AM

Frequency	e'	e''
1.800000000 GHz	38.6438	13.6057
1.810000000 GHz	38.6339	13.6122
1.820000000 GHz	38.5950	13.6239
1.830000000 GHz	38.5340	13.6668
1.840000000 GHz	38.5140	13.6913
1.850000000 GHz	38.4748	13.7214
1.860000000 GHz	38.4286	13.7379
1.870000000 GHz	38.3868	13.7548
1.880000000 GHz	38.3369	13.7858
1.890000000 GHz	38.2992	13.8154
1.900000000 GHz	38.2549	13.8226
1.910000000 GHz	38.2345	13.8241
1.920000000 GHz	38.1910	13.8342
1.930000000 GHz	38.1862	13.8671
1.940000000 GHz	38.1470	13.8806
1.950000000 GHz	38.0669	13.8646
1.960000000 GHz	38.0570	13.8892
1.970000000 GHz	38.0288	13.9108
1.980000000 GHz	37.9670	13.9279
1.990000000 GHz	37.9161	13.9874
2.000000000 GHz	37.8977	13.9743

■ Dielectric Parameter (1900MHz Body)

Title : EZ700

SubTitle : GSM1900 Body

June 17 2006 01:20 PM

Frequency	e'	e''
1.800000000 GHz	53.0201	14.1595
1.810000000 GHz	52.9998	14.2210
1.820000000 GHz	52.9952	14.2688
1.830000000 GHz	52.9367	14.3603
1.840000000 GHz	52.9603	14.4306
1.850000000 GHz	52.9192	14.5072
1.860000000 GHz	52.8668	14.5359
1.870000000 GHz	52.8199	14.5601
1.880000000 GHz	52.7780	14.5476
1.890000000 GHz	52.7423	14.5481
1.900000000 GHz	52.6624	14.5423
1.910000000 GHz	52.6417	14.5517
1.920000000 GHz	52.5485	14.5632
1.930000000 GHz	52.5334	14.5828
1.940000000 GHz	52.5043	14.6554
1.950000000 GHz	52.4749	14.7214
1.960000000 GHz	52.4380	14.7694
1.970000000 GHz	52.4280	14.8359
1.980000000 GHz	52.4140	14.8846
1.990000000 GHz	52.3887	14.9117
2.000000000 GHz	51.0936	14.6020