

**Nature Worldwide Technology Corp.****Notebook****Model Number : 747S****FCC ID:OTW777X747X****Prepared for :**

**Nature Worldwide Technology Corp.
No. 1 Min-Chuan Street, Tu-Cheng Industrial Park, Taipei-Hsien,
Taiwan, R.O.C.**

**Report By : Global EMC Standard Tech. Corp.
No.3 Pau-Tou-Tsuo Valley, Chia-Pau
Tsuen, Lin Kou Hsiang, Taipei County,
Taiwan, R.O.C.
Tel : (02) 2603-5321
Fax : (02) 2603-5325**

Test results given in this report only relate to the specimen(s) tested, calibrated or measured.
This report shall not be reproduced other than in full without the written consent of Gestek.
This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

TABLE OF CONTENTS

DESCRIPTION	PAGE
1. CERTIFICATION.....	3
2. SUMMARY OF TEST RESULTS	4
3. GENERAL INFORMATION.....	5
3.1 PRODUCTION DESCRIPTION.....	5
3.2 TEST MODES & EUT COMPONENTS DESCRIPTION.....	5
3.3 CONFIGURATION OF THE TESTED SYSTEM.....	6
3.4 TEST METHODOLOGY.....	8
3.5 TEST FACILITY	8
4. CONDUCTION EMISSION DATA.....	9
4.1 TEST EQUIPMENTS	9
4.2 BLOCK DIAGRAM OF TEST SETUP.....	9
4.3 CONDUCTED EMISSION LIMIT	10
4.4 EUT CONFIGURATION ON MEASUREMENT	10
4.5 CONDUCTED EMISSION DATA.....	10
4.6 EUT OPERATING CONDITIONS.....	10
4.7 CONDUCTED EMISSIONS MEASUREMENT RESULTS	11
4.8 TEST PHOTOGRAPHS FOR CONDUCTION.....	12
5. RADIATION EMISSION DATA.....	13
5.1 TEST EQUIPMENT.....	13
5.2 TEST SETUP	13
5.3 RADIATED EMISSION LIMIT.....	14
5.4 EUT CONFIGURATION	15
5.5 OPERATING CONDITION OF EUT	15
5.6 RADIATED EMISSION DATA	15
5.7 RADIATED EMISSIONS MEASUREMENT RESULTS.....	16
5.8 TEST PHOTOGRAPHS FOR RADIATION	20
6. PHOTOGRAPHS FOR PRODUCT	21
7. EMI REDUCTION METHOD DURING COMPLIANCE TESTING	40

1. CERTIFICATION

Applicant : Nature Worldwide Technology Corp.

EUT Description : Notebook
Model Number : 747S
Serial Number : N/A
FCC ID : OTW777X747X
Tested Power Supply : 110V/60Hz

MEASUREMENT PROCEDURES USED:

- CFR 47, Part 15** Radio Frequency Device Subpart B Unintentional Radiators **Class B: 1996**
 CISPR 22 3rd Edition:1997 Limits and methods of measurement of radio disturbance Characteristics of information technology equipment: **1997**
 ANSI C63.4 Methods of Measurements of Radio-Noise Emissions from Low- Voltage Electrical and Electronic Equipment in the range of 9kHz To 40GHz. 1992

THE MEASUREMENT SHOWN IN THE ATTACHMENT WAS MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE MAXIMUM ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE ABOVE LIMITS APPLICABLE.



Sample Received Date : January 02, 2002

Final Test Date : January 08, 2002

In order to ensure the quality and accuracy of this document, the contents have been thoroughly reviewed by the following qualified personnel from GesTek Lab.

Documented By :

Rini Chen / adm. Dept. Technical Report Author

Administrative Review By :

Rita Tsai / adm. Technical Report Author

Technical Review By :

Tony Tsai / eng. Dept. Deputy Manager

Approved By :

Terry Chung / Manager

This test data shown below is traceable to National or international standard such as NIST/USA, etc. The laboratory's NVLAP accreditation in no way constitutes or implies product certification, approval, or endorsement by NVLAP or the United States government.

2. SUMMARY OF TEST RESULTS

STANDARD	TEST ITEM	TEST RESULT	REMARKS	TESTED BY
(1) FCC Part 15 Class B (2) CISPR 22 3 rd Edition:1997 (3) Canadian ICES-003. Class B	Conducted emission Test (Mode 1)	PASS	The worst emission frequency is <u>0.44456</u> MHz. And minimum passing margin is <u>-12.4</u> dB.	Tony Tsai <i>Tony Tsai</i>
	Radiated emission Test (Mode 1)	PASS	The worst emission frequency is <u>319.900</u> MHz at <u>Horizontal</u> . And minimum passing margin is <u>-3.02</u> dB. Height of antenna is <u>4m</u> , Angle of turntable is <u>125°</u> .	Tony Tsai <i>Tony Tsai</i>

3. GENERAL INFORMATION

3.1 PRODUCTION DESCRIPTION

Product Name	: Notebook
Model Number	: 747S
FCC ID	: OTW777X747X
Serial Number	: N/A
Applicant	: Nature Worldwide Technology Corp.
Address	: No. 1 Min-Chuan Street, Tu-Cheng Industrial Park, Taipei-Hsien, Taiwan, R.O.C.
Manufacturer	: Nature Worldwide Technology Corp.
Address	: No. 1 Min-Chuan Street, Tu-Cheng Industrial Park, Taipei-Hsien, Taiwan, R.O.C.
Power Supply	: AC Input:100-240V, 1.8A, 50~60Hz. DC Output:+15V, 4.0A.
Power Cord	: Non-Shielded, Detachable, 1.8m, 2Pin.

3.2 TEST MODES & EUT COMPONENTS DESCRIPTION

EUT : Notebook

Test Mode	Mode 1
CPU	SUN, M/N:Ultra SPARC IIe 400MHz
LCD Panel	CHI MEI, M/N:N141X201, REV.C3
H.D.D.	FUJITSU, M/N:MHN2200AT, S/N:NH10T1A15JC1, BSMI ID:3902A847
F.D.D.	MITSUMI , MN:/D353F3, S/N:1E16ZT0036, BSMI No:62007002
Battery Pack	GP Batteries, M/N:GPNTA2047
DVD-ROM	Toshiba, M/N:SD-C2502, S/N:154P020105, BSMI ID:3892B234
SDRAM	NATURETECH, 256MB
Mother Board	NATURETECH, M/N:777S, S/N:400-NE280-2300 Ver.L
Invertor	SUMIDA, M/N:IV15145/T
Charger Board	NATURETECH, P/N:400-908V0-2300 Rev:D
Mouse Pad	SYNAPTICS, M/N:TM41FLG134-2, Rev.A Switch Board: P/N:400-N7900-2510, Ver.B
Password Board	NATURETECH, P/N:400-N7900-2640, Ver.C
Adapter	ILAN, M/N:F1960D, AC Input: 100-240V , 1.8A, 50-60Hz. DC Output: +15V, 4.0A
Resolution	1024 x 768, H-Sync:50KHz,V-Sync:60Hz
Power Cord	Non-Shielded, Detachable, 1.8m, 2Pin.

Note :

1. This is series report. Original report number is GesTek Report No.: 0108064F. Because of added some items as follow, it may be interfered EMI test result, so we tested it again.
 - (1) CPU changed to Ultra SPARC IIe 400MHz.
 - (2) Added one LCD Panel→CHI MEI, M/N:N141X201, REV.C3
 - (3) Added H.D.D.→FUJITSU, M/N:MHN2200AT.
 - (4) Added Password Board→NATURETECH, P/N:400-N7900-2640, Ver.C.
 - (5) The series number and version of Mother Board had changed→ NATURETECH, M/N:777S, S/N:400-NE280-2300 Ver.L
 - (6) The version of Charger Board had changed → NATURETECH, P/N:400-908V0-2300 Rev:D.
2. According to pre-scan data, we determine the data shown in this test report, which reflects the worst-case data for each operation mode.

3.3 CONFIGURATION OF THE TESTED SYSTEM

The FCC IDs/Types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards, which have grants) are:

Far End Network Server

Model Number	: Targa PC-2, Mother Board: Asus, P/I-P55T2P4
Serial Number	: AC644101338
Manufacturer	: ACTEBIS
F.D.D.	: Panasonic, M/N:JU-257A606P
H.D.D.	: Seagate, M/N:ST31621A
CD-ROM	: Sony, M/N:CDU311, S/N:5004428
Disk Ctrl Card	: On Board
I/O Card	: On Board
Graphic Card	: Diamond, M/N:Staelth 64Video 2MB Dram, S/N:3160300002342
S.P.S.	: Enhance, M/N:V520, S/N:96035126
Power Cord	: Non-Shielded, Detachable, 1.5m
Data Cable to HUB	: Type:RJ45(UTP/8P8C)Twisted Pairs, Non-Shielded, 12m

HUB H01-001

Model Number	: DE-816TP (10BASE-T Ethernet Hub)
Serial Number	: AN68900072
FCC ID	: KA2OPCH16
Manufacturer	: D-Link.
Data Cable to EUT	: Type:RJ45(UTP/8P8C), Detachable, 12m, Twisted Pairs
Power Cord	: Non-Shielded, Detachable, 1.5m

Monitor M01-021

Model Number	: P1100
Serial Number	: 2400737
BSMI ID	: 3882A692
Manufacturer	: Dell
Data Cable	: Shielded, Undetachable, 1.8m, VGA Cable
Power Cord	: Non-Shielded, Detachable, 2m

☒ Modem M03-013

Model Number : 1414
Serial Number : 960018044
FCC ID : IFAXDM1414
Manufacturer : ACEEX
Power Cord : Non-Shielded, Detachable, 1.5m
Data Cable : Type:RS232, Shielded, Detachable, 1.2m
Line : Type:RJ11(4P2C), Detachable, 1.8m
Phone : Type:RJ11(4P2C), Detachable, 1.8m

☒ Headset & Microphone E01-041

Model Number : SX-M1
Serial Number : N/A
Manufacturer : TOKYO
Power Cord : N/A
Data Cable : Non-Shielded, Undetachable, 1.8m

☒ Keyboard (USB)

Model Number : TYPE6 USB FCC DoC
Serial Number : 3201273-01
Manufacturer : Sun Microsystem
Data Cable : Shielded, Undetachable, 1.5m

☒ Mouse (USB)

Model Number : Crossbow USB
Serial Number : 0Y17737M 03B
Manufacturer : Sun Microsystem
Data Cable : Shielded, Undetachable, 1.5m

3.4 TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992.

Radiated testing was performed at an antenna to EUT distance of 10 meters.

(For frequencies below 1000MHz)

Radiated testing was performed at an antenna to EUT distance of 3 meters.

(For frequencies above 1000MHz)

3.5 TEST FACILITY

Ambient conditions in the laboratory:

ITEMS	REQUIORED(IEC 68-1)	ACTUAL
TEMPERATURE (°C)	15-35	24-27
HUMIDITY (%RH)	25-75	50-65
BAROMETRIC PRESSURE (mbar)	860-1060	950-1000
FCC SITE DESCRIPTION	Aug. 10, 1995 /Aug. 25, 1998 File on FCC Engineering Laboratory Federal Communication Commission 7435 Oakland Mills Road Columbia, MD 21046 Reference 31040/SIT1300F2	
NVLAP LAB. CODE	200085-0 United Stated Department of commerce National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program Accreditation on NVLAP effective through Sep. 30,2002 For CISPR 22, FCC Method and AS/NZS 3548 Measurement.	

4. CONDUCTION EMISSION DATA

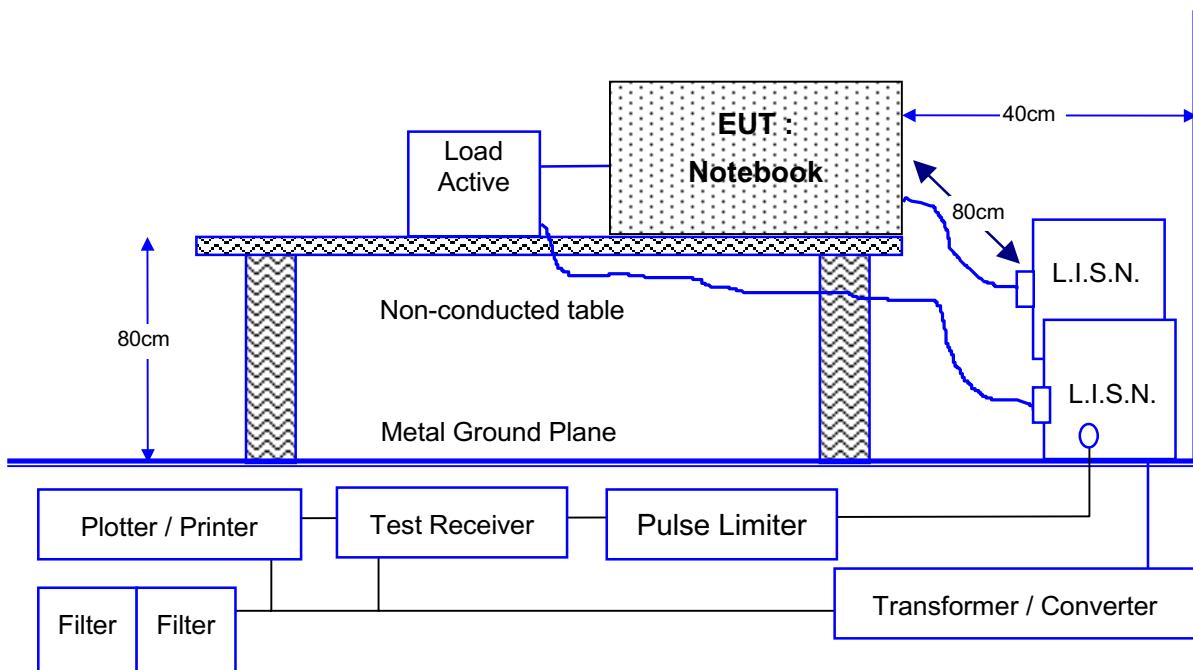
4.1 TEST EQUIPMENTS

The following test equipment are used during the conducted power line tests:

Item	Instrument	Manufacturer	Type / Serial No.	Last Cal. Date
1	Test Receiver	Rohde & Schwarz	ESHS 30 / 828109/010	Jan. 19, 2001
2	L.I.S.N.	Rohde & Schwarz	ESH3-Z5 / 840567/002	Nov. 06, 2001
3	L.I.S.N.	Rolf Heine	NNB-2/16Z / 90091	Jan. 28, 2001
4	Pulse Limiter	Rohde & Schwarz	ESH3-Z2/357.8810.52	Aug. 08, 2001
5	RF CABLE	GesTek	GTK-RF-C05	Aug. 08, 2001
6	50 Ohm Terminator	GesTek	GTK-RF-T01	Nov. 08, 2001
7	Shielded Room	GesTek	GTK-RF-S04	Aug. 08, 2001

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

4.2 BLOCK DIAGRAM OF TEST SETUP



Note: This is a reprehensive setup diagram for Table-top EUT.

For Floor-standing EUT, the table will be removed with all others setup condition remain the same.

4.3 CONDUCTED EMISSION LIMIT

FCC Limit

Frequency	Maximum RF Line Voltage			
	Class A		Class B	
MHz	μ V	dB μ V	μ V	dB μ V
0.45 to 1.705	1000	60.0	250	48.0
1.705 to 30	3000	69.5	250	48.0

Remarks : 1. RF Line Voltage (dB μ V) = 20 log RF Line Voltage (μ V).

2. In the Above Table, the tighter limit applies at the band edges.

CISPR Limit

Frequency	Maximum RF Line Voltage dB(μ V)			
	Class A		Class B	
MHz	QUASI-PEAK	AVERAGE	QUASI-PEAK	AVERAGE
0.15 to 0.50	79	66	66 to 56	56 to 46
0.50 to 5.0	73	60	56	46
5.0 to 30	73	60	60	50

Remarks : In the Above Table, the tighter limit applies at the band edges.

4.4 EUT CONFIGURATION ON MEASUREMENT

The equipments that are listed 4.2 are installed on Conducted Power Line Test to meet the Commission requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 4.2, was placed on a non-conductive table whose total height equal to 80cm. Powered from one L.I.S.N. which signal output to receiver, and the other peripherals was powered from another L.I.S.N. which signal output was terminated by 50 Ω .

4.5 CONDUCTED EMISSION DATA

The measurement range of conducted emission, which is from **0.15 MHz to 30 MHz**, was investigated. All readings are quasi-peak and average values with a resolution Bandwidth of 9 KHz. The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes were reported the following data pages.

The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured: < ± 2.0 dB

The uncertainty is calculated in accordance with NAMAS document NIS 81, and is given as 2 standard deviations.

4.6 EUT OPERATING CONDITIONS

The EUT exercise program used during conducted testing was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below :

1. Setup the EUT and simulators as shown on 4.2.
2. Turn on the power of all equipments.
3. Adjust to appropriate video resolution.
4. Enter the SUN OS, active all devices.
5. Execute SUNVTS testing program.
6. Choose test USB Port, RS232 Port , F.D.D. H.D.D. and DVD-ROM.
7. Start test.
8. P.C. sent "H" pattern to monitor.
9. LAN Port connect to gestek server.
10. Repeat above steps.

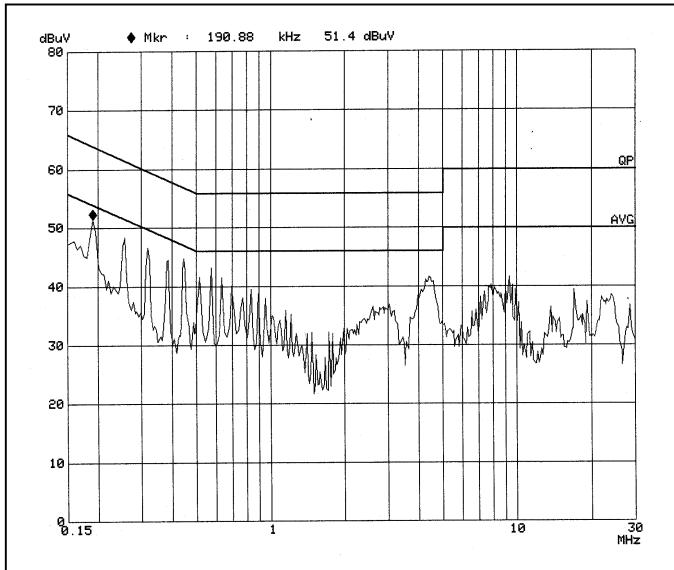
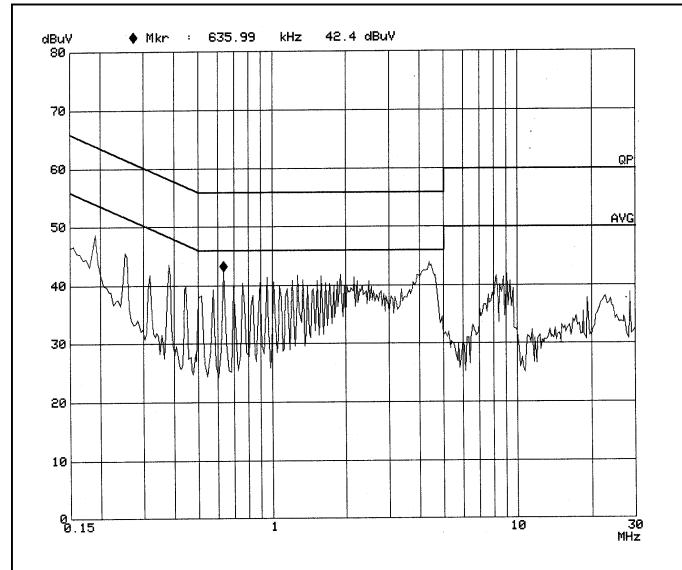
4.7 CONDUCTED EMISSIONS MEASUREMENT RESULTS

Date of Test	January 08, 2002	Temperature	16 °C
EUT	Notebook	Humidity	52 %
Test Mode	Mode 1	Display Pattern	H Pattern

No.	FREQUENCY	READING LEVEL dB μ V				LIMIT	
		MHz	LINE1 Q.P.	LINE1 AV.	LINE2 Q.P.	LINE2 AV.	Q.P.
1	0.19380	46.7	*	46.4	*	63.8	53.8
2	0.25358	46.4	*	44.3	*	61.6	51.6
3	0.31832	45.4	*	39.5	*	59.7	49.7
4	0.38119	43.7	*	42.7	*	58.2	48.2
5	** 0.44456	44.5	*	38.9	*	56.9	46.9
6	0.57103	43.3	*	38.8	*	56.0	46.0
7	0.63424	40.1	*	41.8	*	56.0	46.0

Remarks :

1. All readings are Quasi-peak and Average Values.
2. “ * ” means that the quasi-peak reading level is lower than the average limits; it is not necessary to measure the average level.
3. “ ** ” means that this data is the worse case emission level.
4. Final measurement = (Receiver reading) + (Correction factor if available).

Line 1**Line 2**

4.8 TEST PHOTOGRAPHS FOR CONDUCTION

Mode 1



5. RADIATION EMISSION DATA

5.1 TEST EQUIPMENT

The following test equipments are used during the radiated emission tests:

Radiated test was performed on: Site #1 Site #2 Site #3 Site #4

Item	Instrument	Manufacturer	Type / Serial No.	Last Cal.
1	Test Receiver	Rohde & Schwarz	ESCS 30 / 100035	June 06, 2001
2	Spectrum Analyzer	ADVANTEST	R3162 / 91700161	N/A
3	Pre-Amplifier	HP	8347A / 3307A01401	N/A
4	Pre Amplifier	HP	8449B / 3008A01264	Jul. 26, 2001
5	BILOG ANTENNA	Chase	CBL6112B/2588	Dec. 13, 2001
6	Horn Antenna	Electro-Metrics	EM-6961 / 103329	Jul. 31, 2001
7	RF Cable	GesTek	GTK-RF-C04	Nov. 25, 2001
8	Open Site	GesTek	GTK-RF-SB2	Nov. 25, 2001
9	Test Program Software	GesTek	GTK-RF-P07	N/A

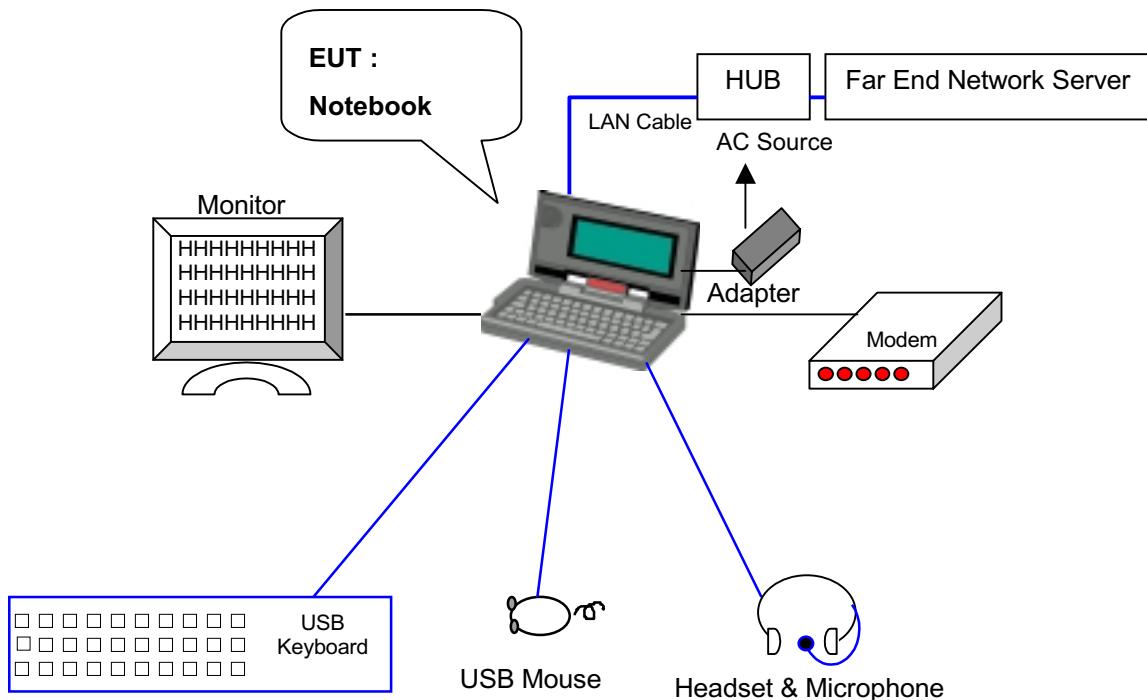
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

5.2 TEST SETUP

5.2.1 BLOCK DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS

Note: This is a reprehensive setup diagram for Table-top EUT.

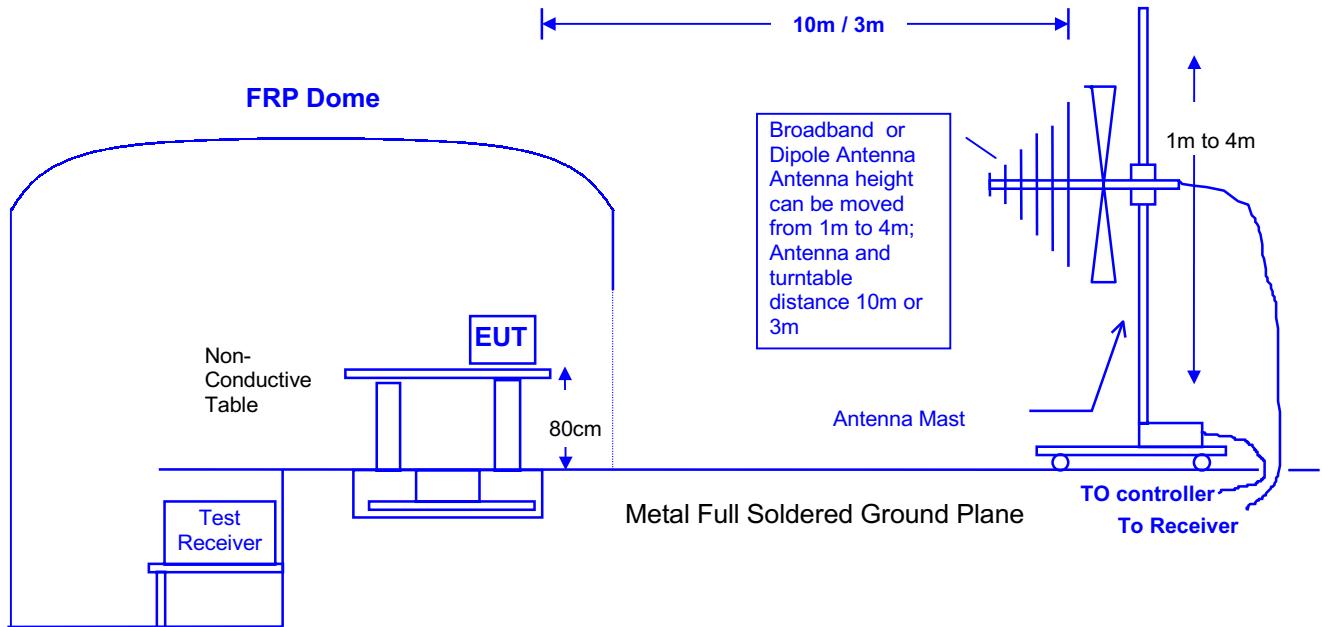
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



5.2.2 OPEN TEST SITE SETUP DIAGRAM

Note: This is a reprehensive setup diagram for Table-top EUT.

For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



5.3 RADIATED EMISSION LIMIT

FCC Class B Limit at 3m

Frequency MHz	Distance Meter	Field Strength	
		$\mu\text{V/M}$	$\text{dB}\mu\text{V/M}$
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0

Remark :1. The tighter limit shall apply at the edge between two frequency bands.

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note: The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.
(Refer 47CFR Ch. 1 (10-1-98 Edition §15.35(b))

FCC Class A Limit at 10m

Frequency	Distance	Field Strength	
MHz	Meter	μ V/M	dB μ V/M
30 to 88	10	90	39.0
88 to 216	10	150	43.5
216 to 960	10	210	46.4
Above 960	10	300	49.5

Remark :1. The tighter limit shall apply at the edge between two frequency bands.

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note: The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.
(Refer 47CFR Ch. 1 (10-1-98 Edition §15.35(b))

 CISPR Class B Limit at 10m

Frequency	Distance	Field Strength
MHz	Meter	dB(μ V/M)
30 to 230	10	30
230 to 1000	10	37

Remark :1. The tighter limit shall apply at the edge between two frequency bands.

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5.4 EUT CONFIGURATION

The equipment which is listed 5.2.1 are installed on Radiated Emission Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 5.2.2, was placed on a non-conductive table whose total height equaled 80 cm. This table can be rotated 360 degree. The measurement antenna was mounted to a non-conductive mast capable of moving the antenna vertically. Antenna height was varied from 1 meter to 4 meters and the system under test was rotated from 0 degree through 360 degrees relative to the antenna position and polarization (Horizontal and Vertical). Also the I/O cable position was investigated to find the maximum emission condition.

5.5 OPERATING CONDITION OF EUT

Same as section 4.6.

5.6 RADIATED EMISSION DATA

The measurement range of radiated emission, which is from **30 MHz to 2 GHz**, was investigated. All readings are quasi-peak values with a resolution Bandwidth of 120 KHz. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement. Then the worst modes were reported the following data pages.

The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured (3m antenna distance): < \pm 4 dB
- Uncertainty in the field strength measured (10m antenna distance): < \pm 4 dB

The uncertainty is calculated in accordance with NAMAS document NIS 81, and is given as 2 standard deviations.

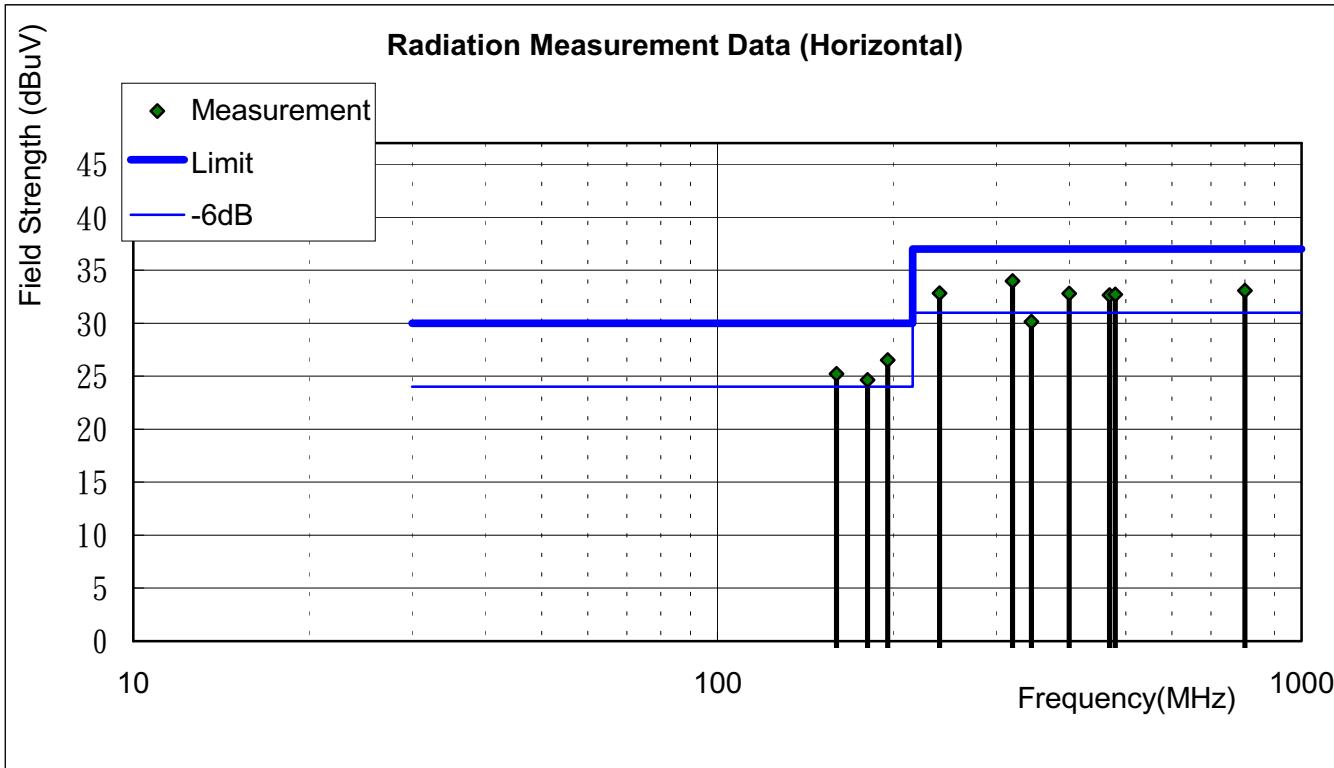
5.7 RADIATED EMISSIONS MEASUREMENT RESULTS

Date of Test	January 02, 2002	Temperature	26 deg/C
EUT	Notebook	Humidity	52 %RH
Working Cond.	Mode 1	Display Pattern	H Pattern
Antenna distance	10m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Amp. Factor [dB]	Limit [dB(uV/m)]	Margin [dB]
1	159.950	2.29	9.37	13.56	25.22	0.00	30.00	-4.78
2	180.691	2.40	8.60	13.66	24.66	0.00	30.00	-5.34
3	195.675	2.47	8.84	15.20	26.51	0.00	30.00	-3.49
4	239.923	2.82	11.11	18.90	32.82	0.00	37.00	-4.18
5	319.900	3.56	13.63	16.80	33.98	0.00	37.00	-3.02
6	344.979	3.76	14.70	11.70	30.16	0.00	37.00	-6.84
7	399.875	4.20	15.20	13.40	32.80	0.00	37.00	-4.20
8	468.971	4.48	16.97	11.20	32.65	0.00	37.00	-4.35
9	479.846	4.52	17.30	10.90	32.72	0.00	37.00	-4.28
10	799.745	6.10	19.60	7.40	33.09	0.00	37.00	-3.91

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have \pm 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.

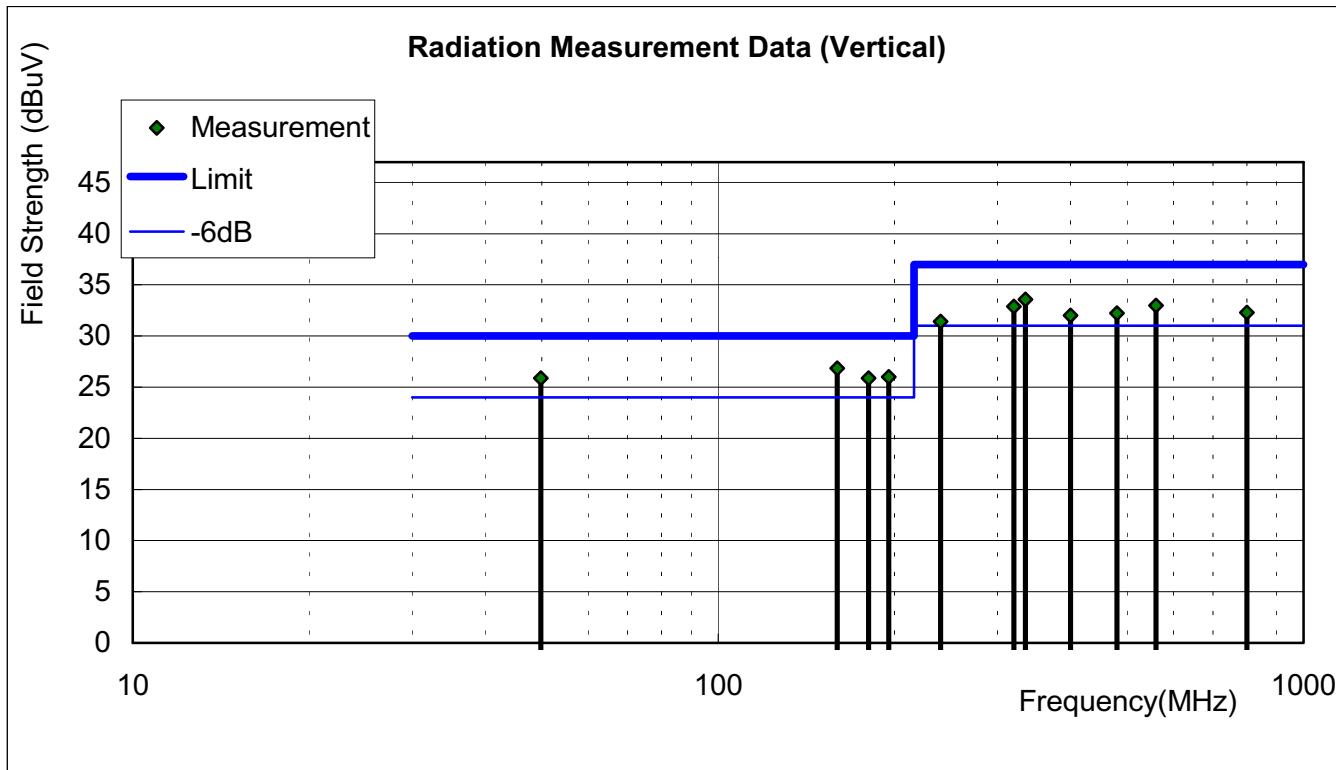


Date of Test	January 02, 2002	Temperature	26 deg/C
EUT	Notebook	Humidity	52 %RH
Working Cond	Mode 1	Display Pattern	H Pattern
Antenna distance	10m at Vertical	Frequency Range	30-1000MHz

No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Amp. Factor [dB]	Limit [dB(uV/m)]	Margin [dB]
1	49.805	1.59	9.70	14.60	25.89	0.00	30.00	-4.11
2	159.650	2.29	9.37	15.20	26.86	0.00	30.00	-3.14
3	180.690	2.40	8.60	14.89	25.89	0.00	30.00	-4.11
4	195.684	2.47	8.84	14.70	26.01	0.00	30.00	-3.99
5	239.924	2.82	11.11	17.50	31.42	0.00	37.00	-5.58
6	319.901	3.56	13.63	15.70	32.88	0.00	37.00	-4.12
7	334.980	3.68	14.29	15.60	33.57	0.00	37.00	-3.43
8	399.875	4.20	15.20	12.60	32.00	0.00	37.00	-5.00
9	479.848	4.52	17.30	10.40	32.22	0.00	37.00	-4.78
10	559.823	4.96	18.72	9.30	32.97	0.00	37.00	-4.03
11	799.755	6.10	19.60	6.60	32.29	0.00	37.00	-4.71

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have \pm 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.

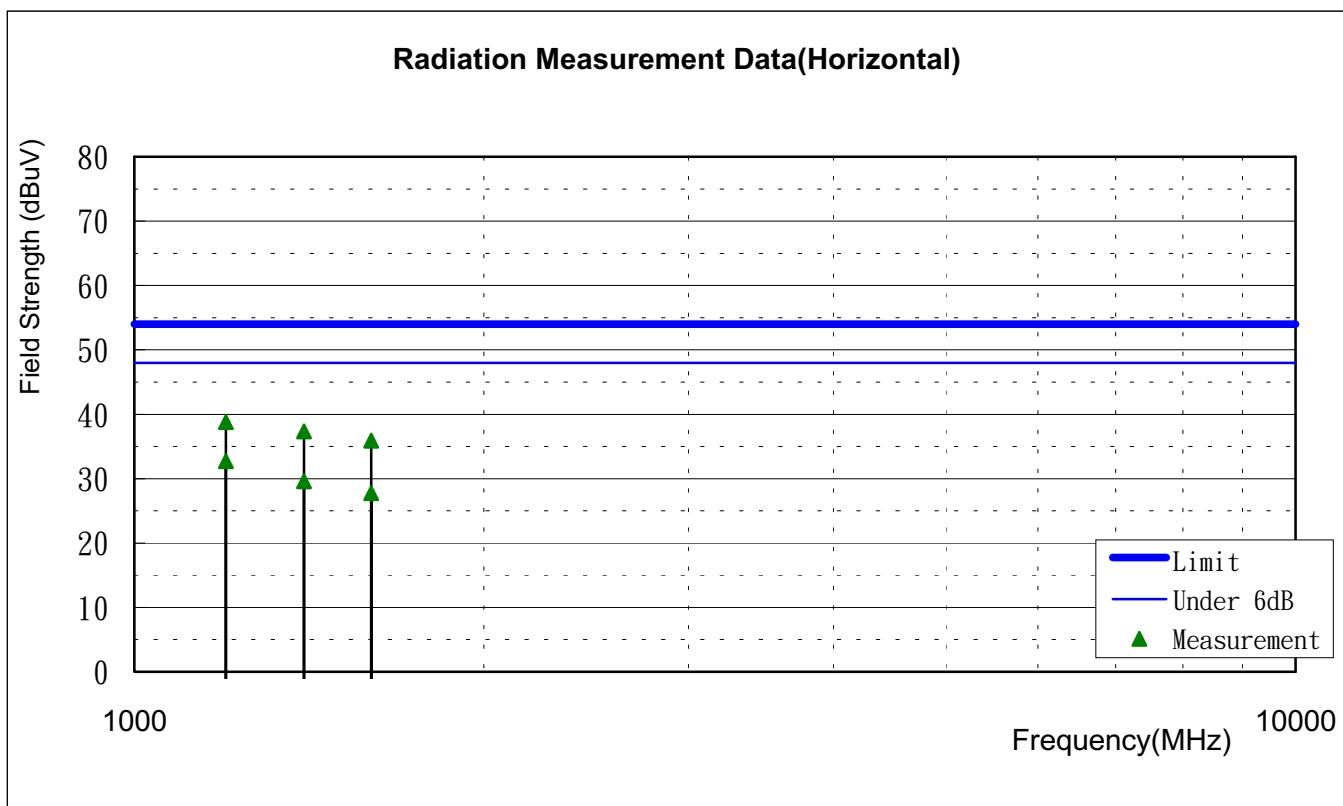


Date of Test	January 02, 2002	Temperature	24 deg/C
EUT	Notebook	Humidity	50 %RH
Working Cond.	Mode 1	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	1GHz ~ 2GHz

No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level		Amp. Factor [dB]	Limit	
					[dB(uV/m)]	(uV/m)		[dB(uV/m)]	(uV/m)
1	1199.254	2.19	25.61	48.65	38.77	86.80	37.67	54.00	500 (PK)
2	1199.254	2.19	25.61	42.60	32.72	43.25	37.67	54.00	500 (AV)
3	1399.962	2.45	25.98	46.29	37.35	73.71	37.37	54.00	500 (PK)
4	1399.962	2.45	25.98	38.54	29.59	30.16	37.37	54.00	500 (AV)
5	1599.906	2.68	26.53	43.85	35.90	62.37	37.16	54.00	500 (PK)
6	1599.906	2.68	26.53	35.67	27.72	24.32	37.16	54.00	500 (AV)

Remarks:

1. All Readings are Peak and Average value.
2. Emission Level = Reading Level + Antenna Factor + Cable loss–Amp Factor (Could have \pm 0.01 tolerance due to computer automatically round off calculation).
3. The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

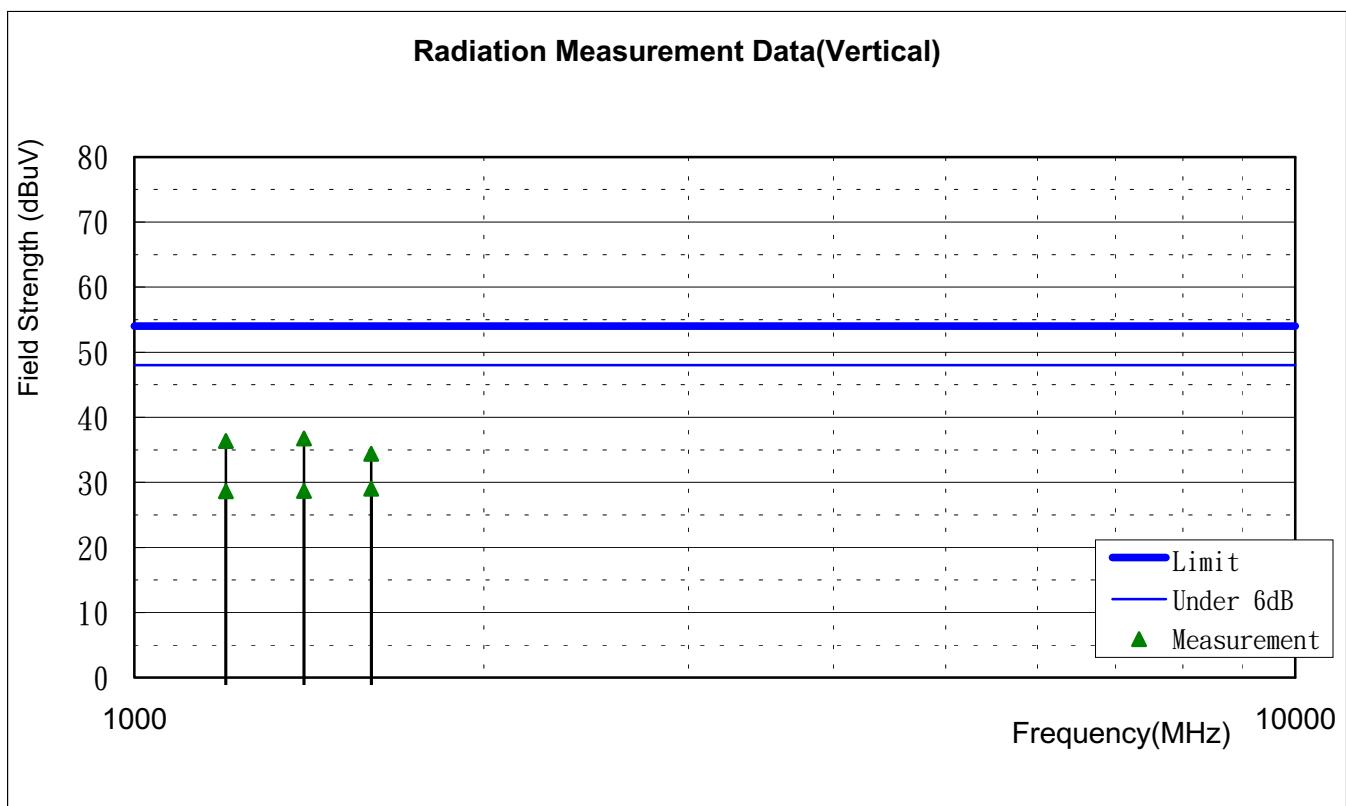


Date of Test	January 02, 2002	Temperature	24 deg/C
EUT	Notebook	Humidity	50 %RH
Working Cond.	Mode 1	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	1GHz ~ 2GHz

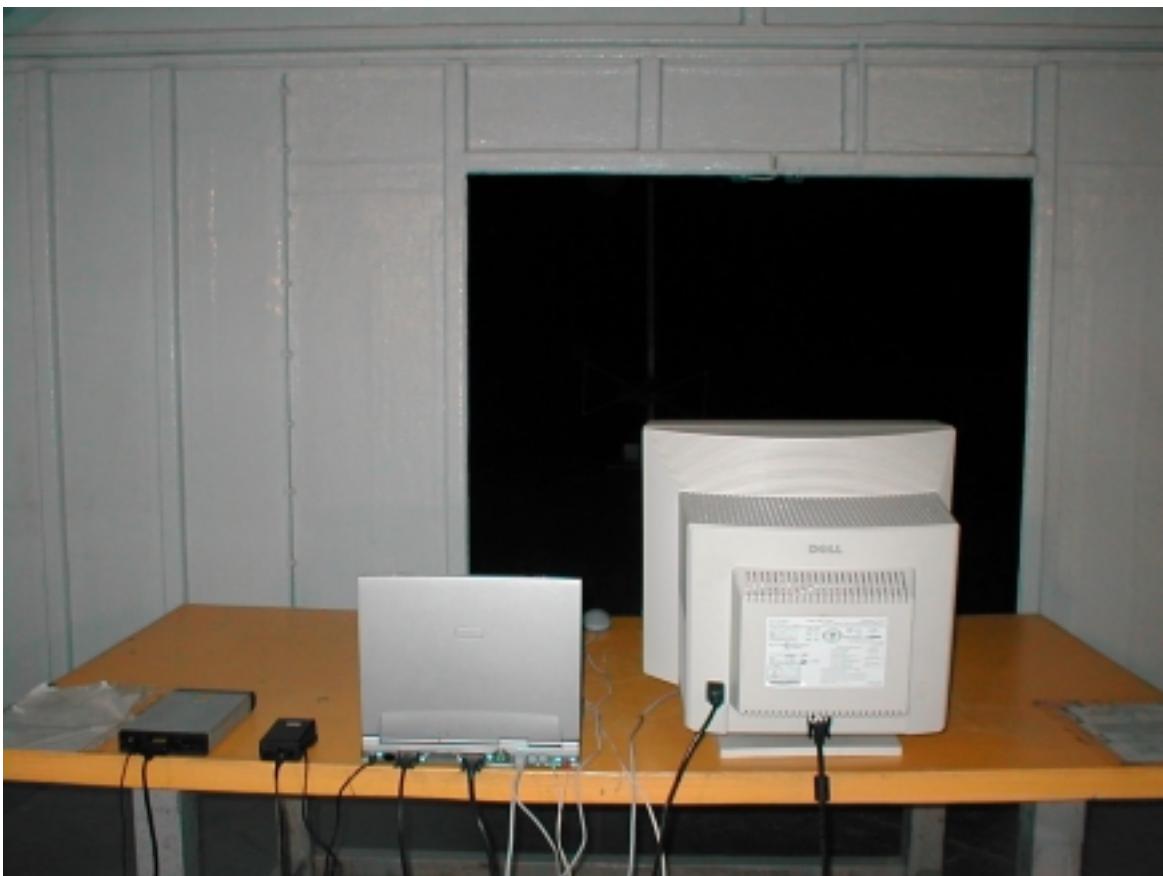
No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level		Amp. Factor [dB]	Limit	
					[dB(uV/m)]	(uV/m)		[dB(uV/m)]	(uV/m)
1	1199.256	2.19	25.61	46.25	36.37	65.84	37.67	54.00	500 (PK)
2	1199.256	2.19	25.61	38.54	28.66	27.10	37.67	54.00	500 (AV)
3	1399.966	2.45	25.98	45.68	36.74	68.71	37.37	54.00	500 (PK)
4	1399.966	2.45	25.98	37.62	28.67	27.13	37.37	54.00	500 (AV)
5	1599.910	2.68	26.53	42.35	34.40	52.48	37.16	54.00	500 (PK)
6	1599.910	2.68	26.53	36.98	29.03	28.28	37.16	54.00	500 (AV)

Remarks:

1. All Readings are Peak and Average value.
2. Emission Level = Reading Level + Antenna Factor + Cable loss–Amp Factor (Could have \pm 0.01 tolerance due to computer automatically round off calculation).
3. The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.



5.8 TEST PHOTOGRAPHS FOR RADIATION

Mode 1

6. PHOTOGRAPHS FOR PRODUCT

1. Front View Of Notebook (EUT)
2. Back View Of Notebook (EUT)

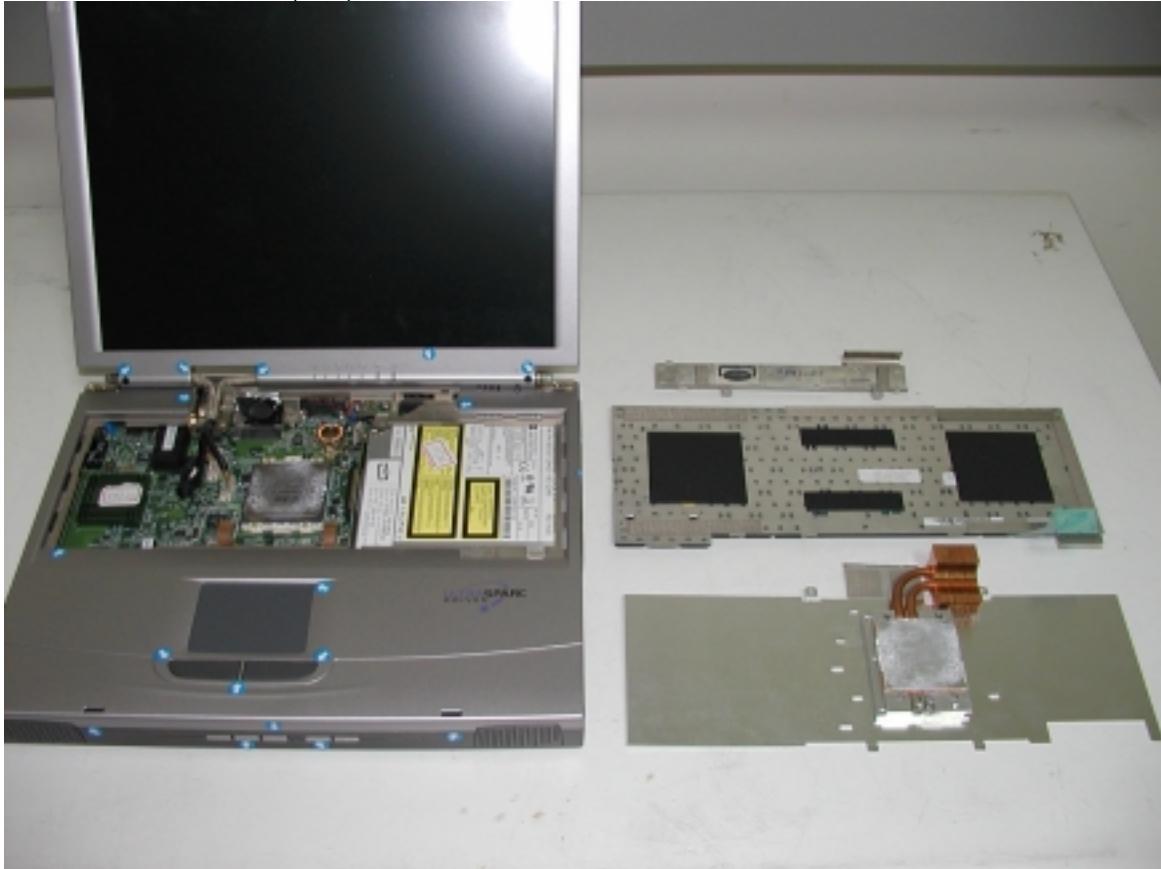


3. Inner View Of Notebook (EUT)

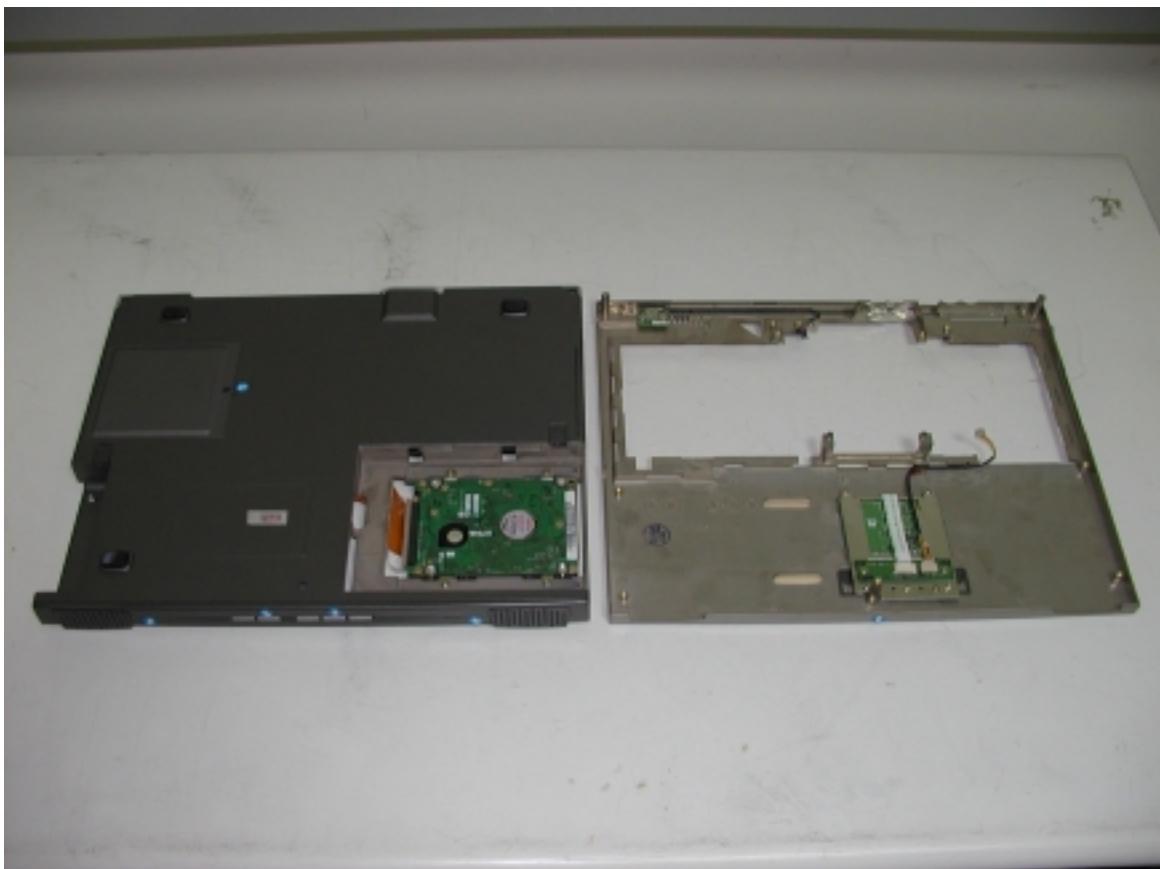
4. Inner View Of Notebook (EUT)



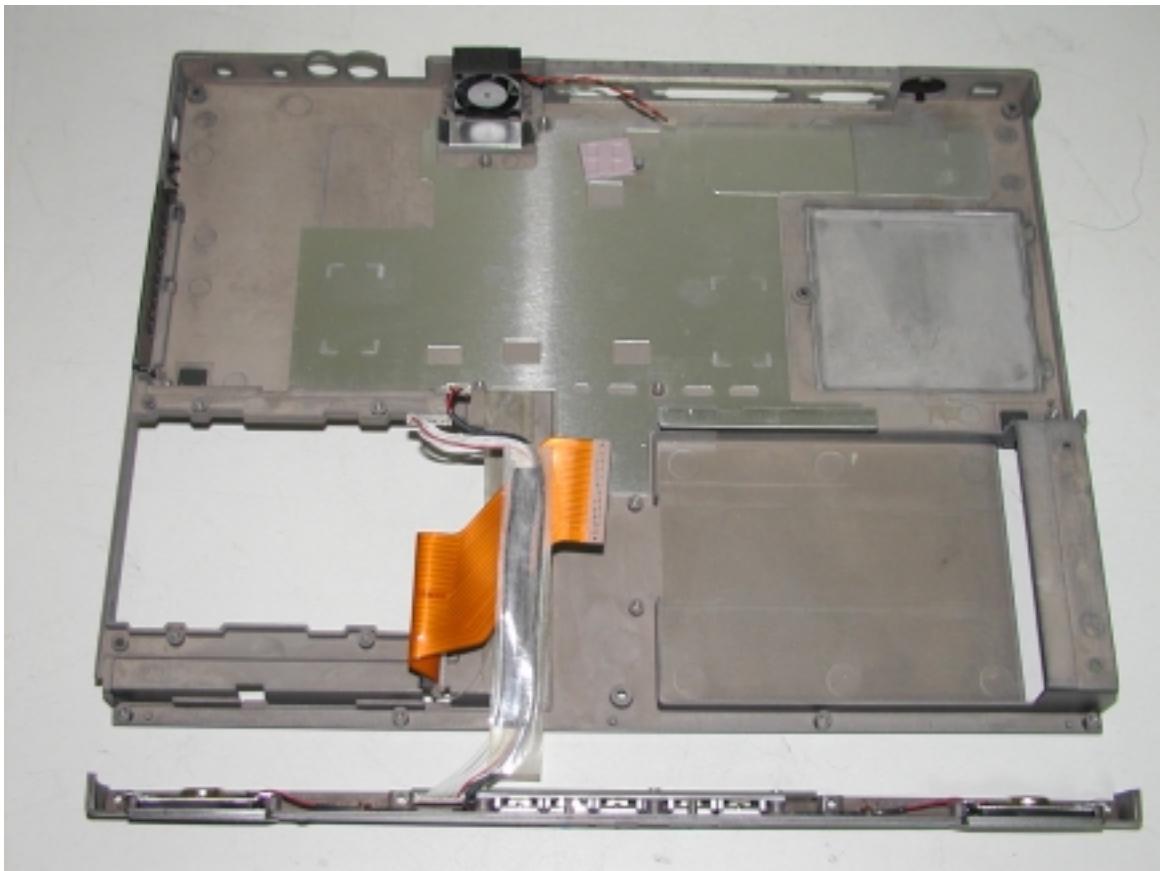
5. Inner View Of Notebook (EUT)
6. Inner View Of Notebook (EUT)



7. Inner View Of Notebook (EUT)
8. Inner View Of Notebook (EUT)



9. Inner View Of Notebook (EUT)
10. Inner View Of Notebook (EUT)



11. Inner View Of Notebook (EUT)

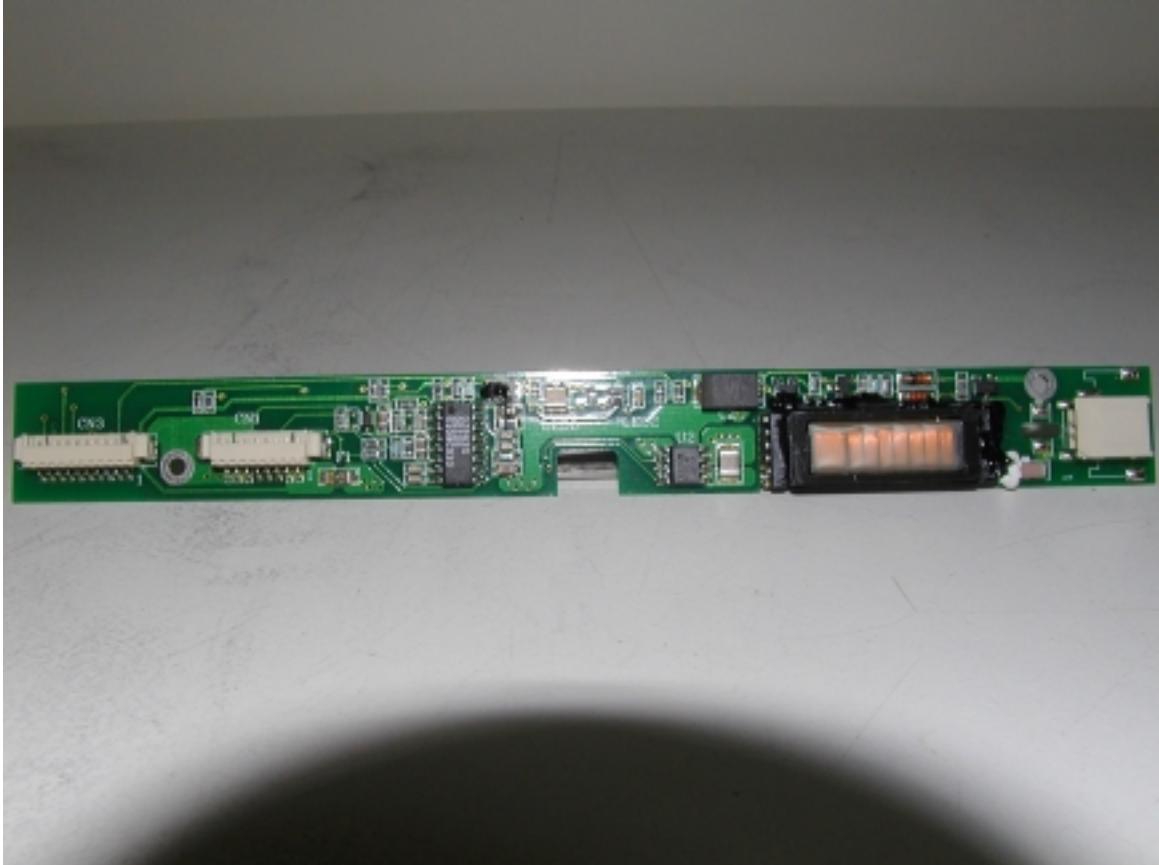


12. Component Side CPU & Charger Board & SDRAM
13. Solder Side CPU & Charger Board & SDRAM

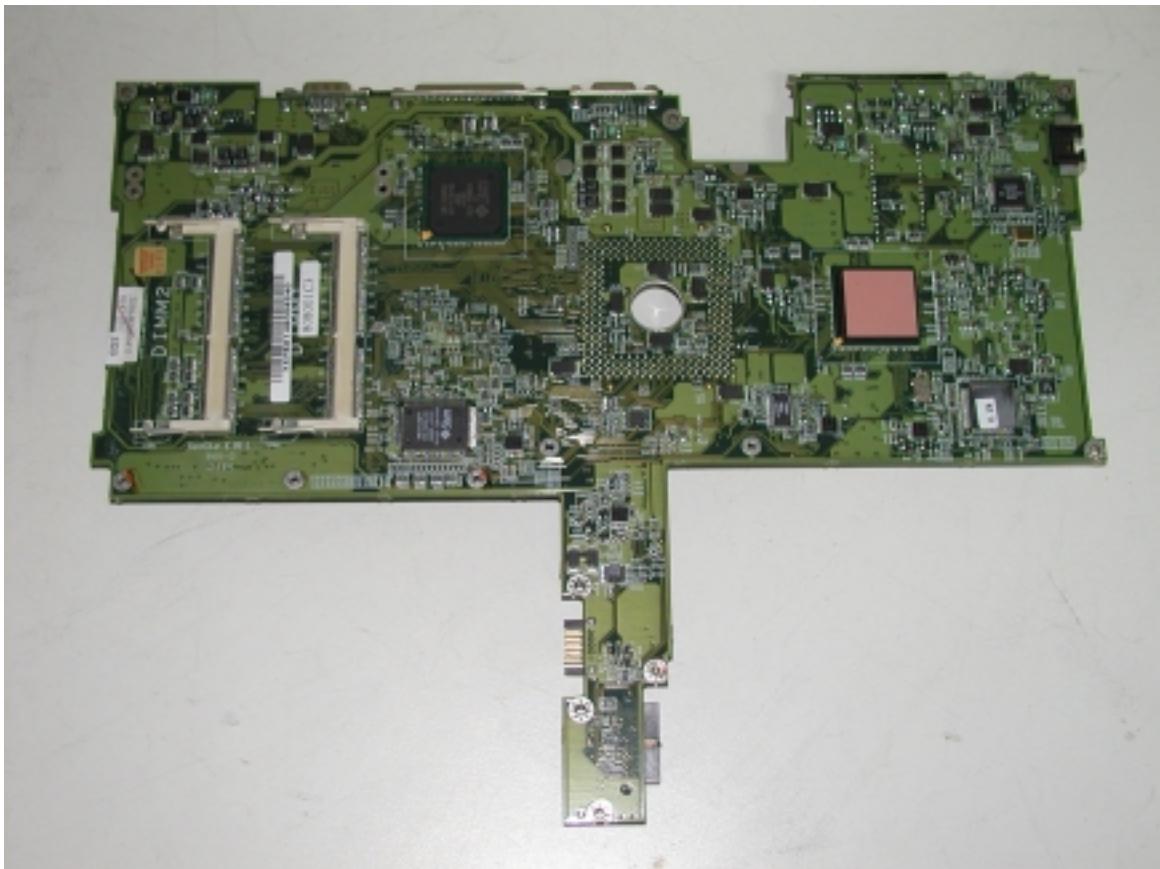
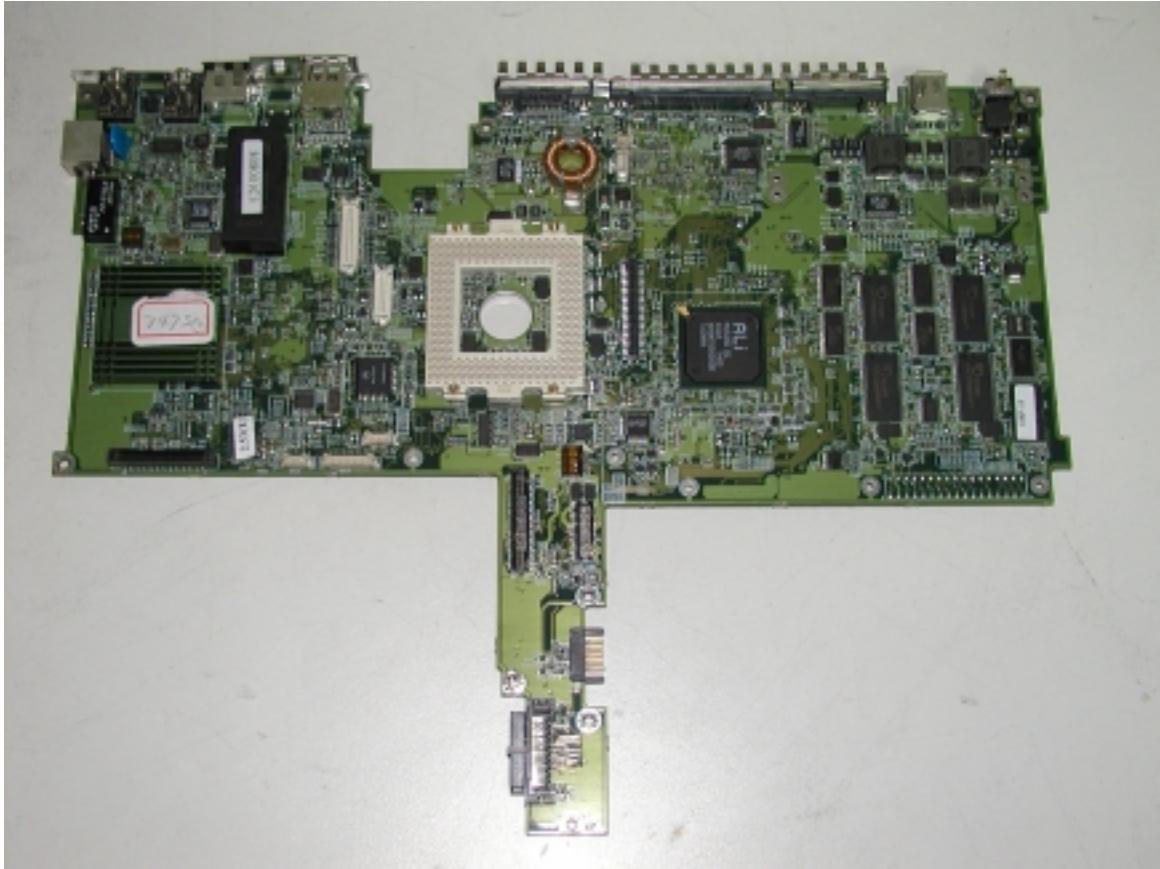


14. Component Side Invertor

15. Solder Side Invertor

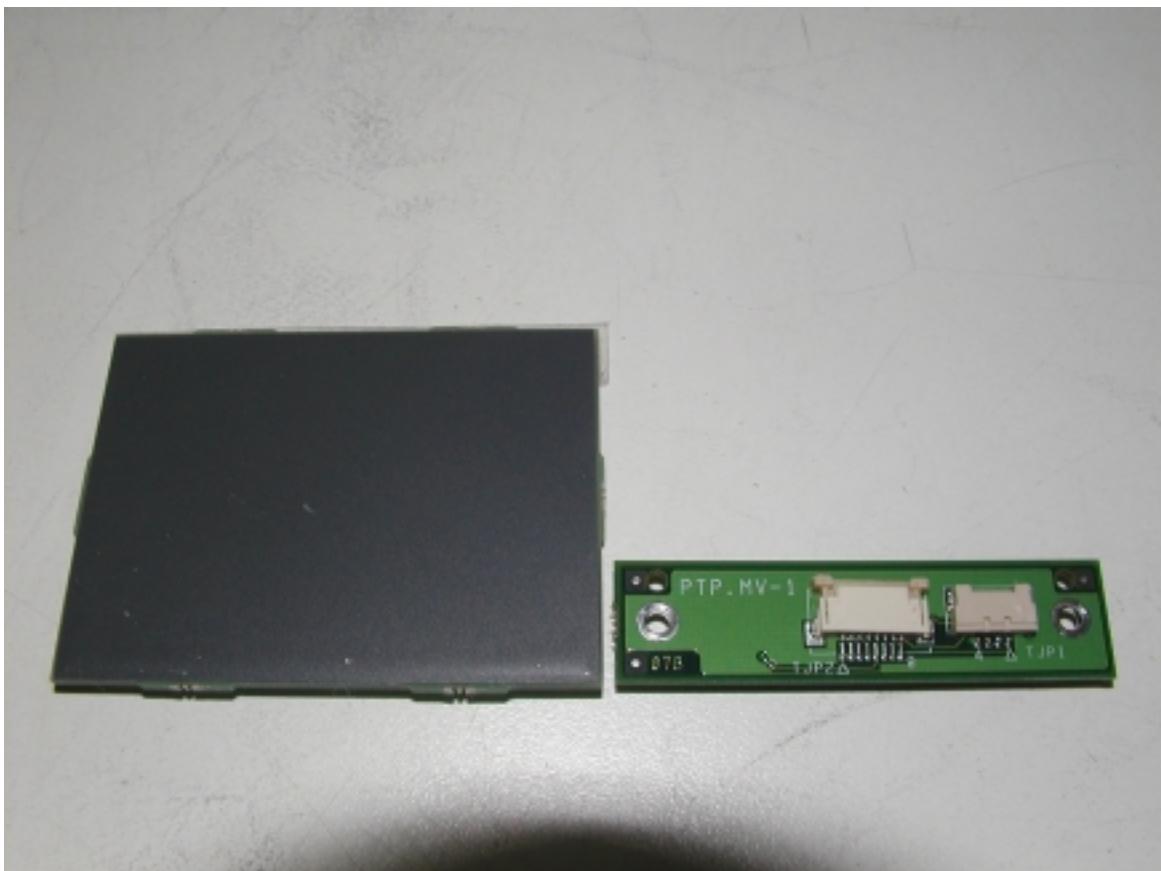


16. Component Side Mother Board
17. Solder Side Mother Board



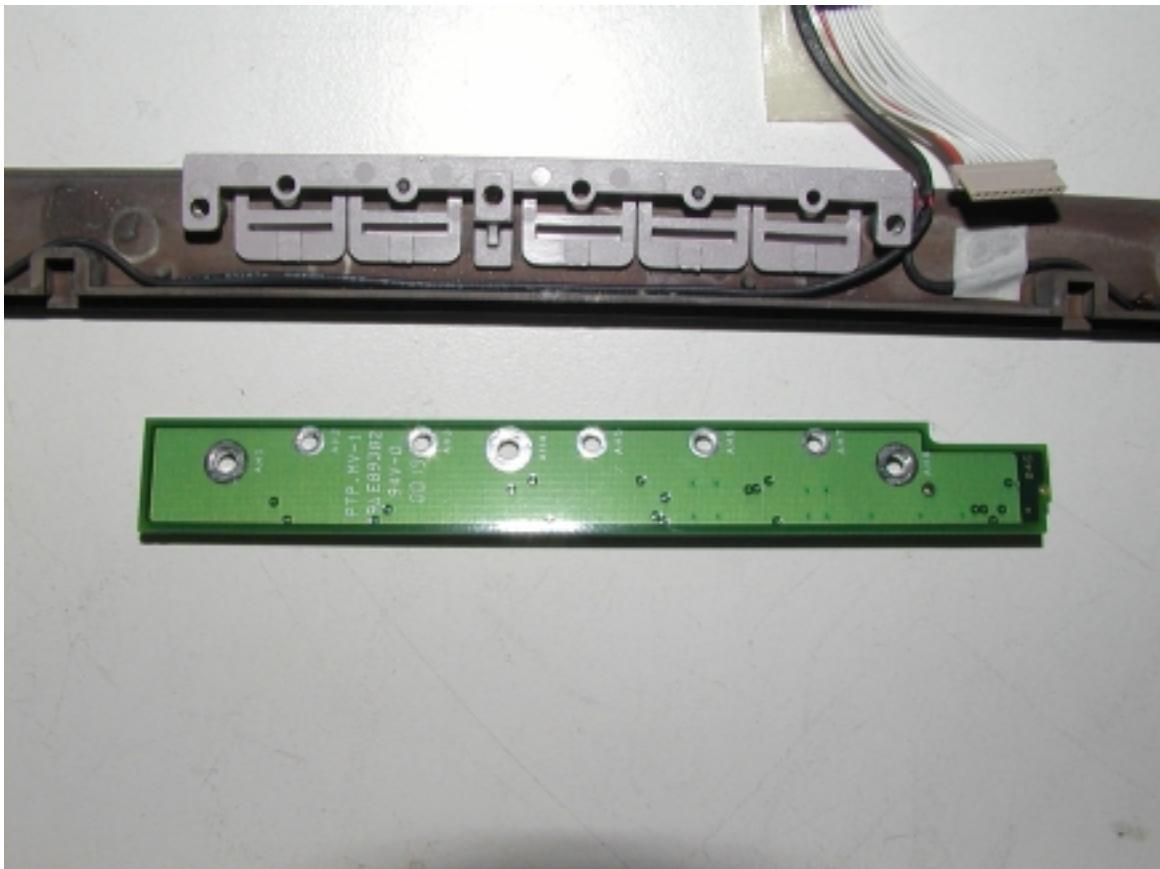
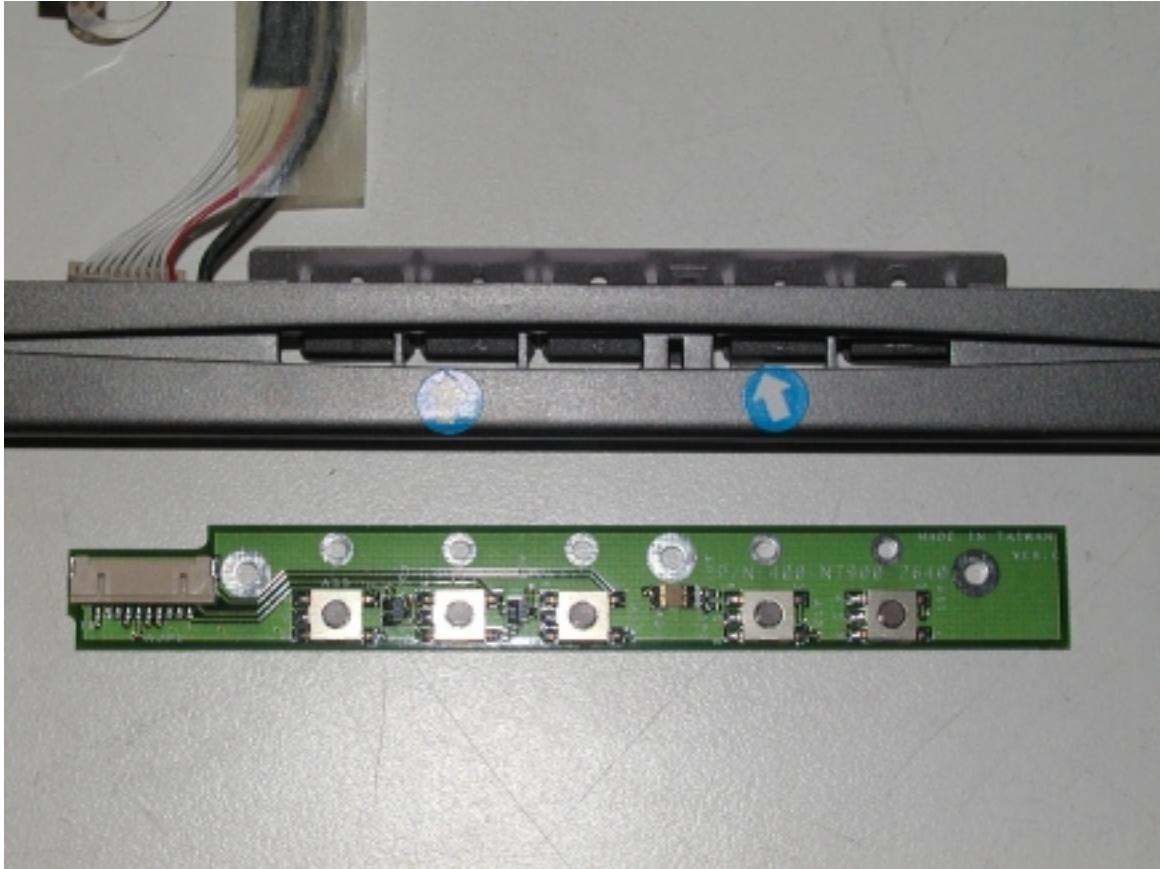
18. Component Side Mouse Pad

19. Solder Side Mouse Pad



20. Component Side Password Board

21. Solder Side Password Board



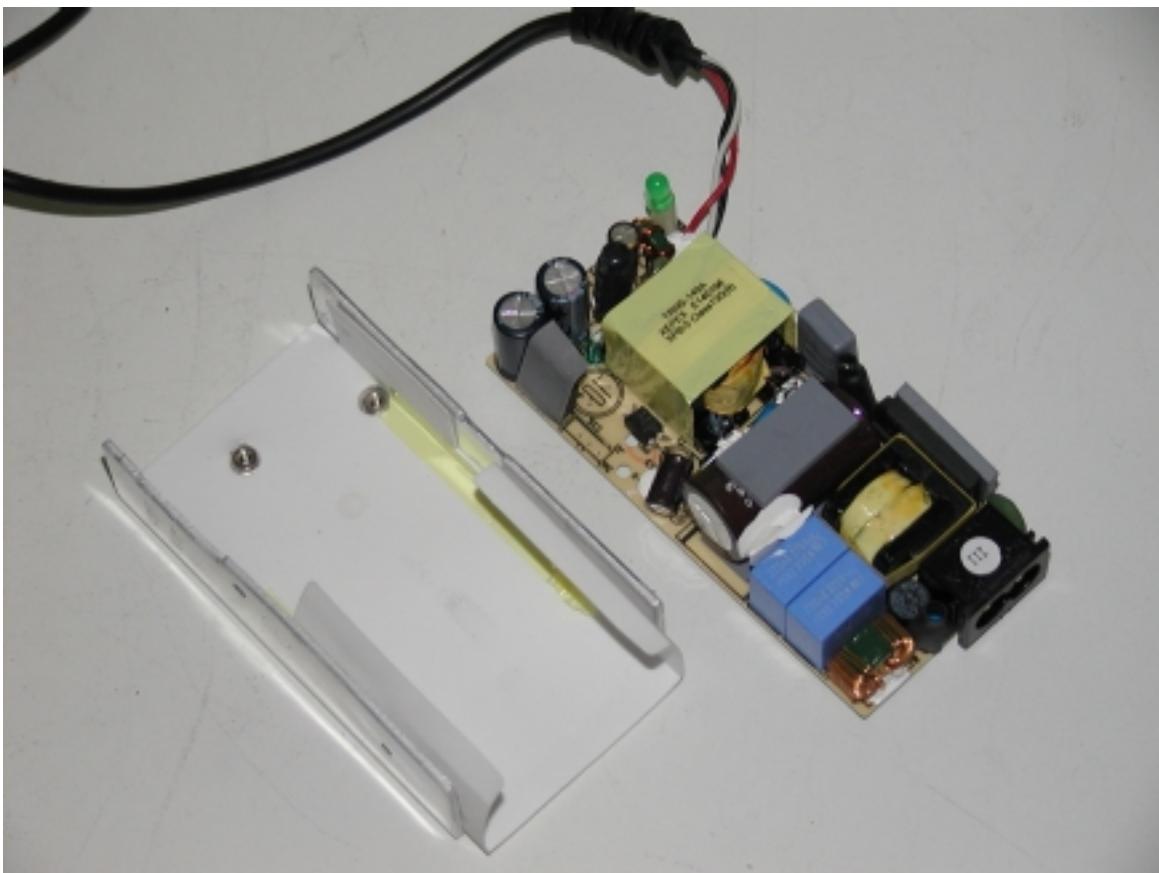
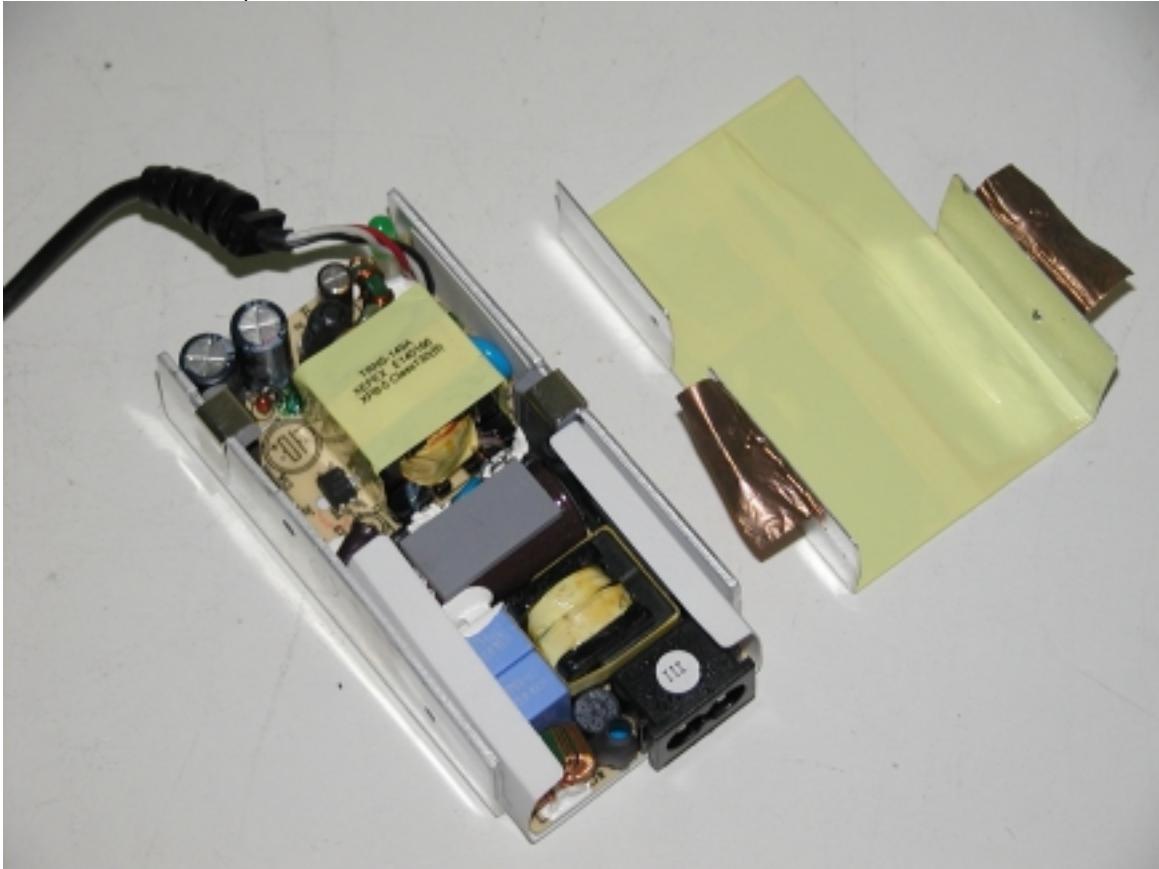
22. Front View Of Adapter
23. Back View Of Adapter



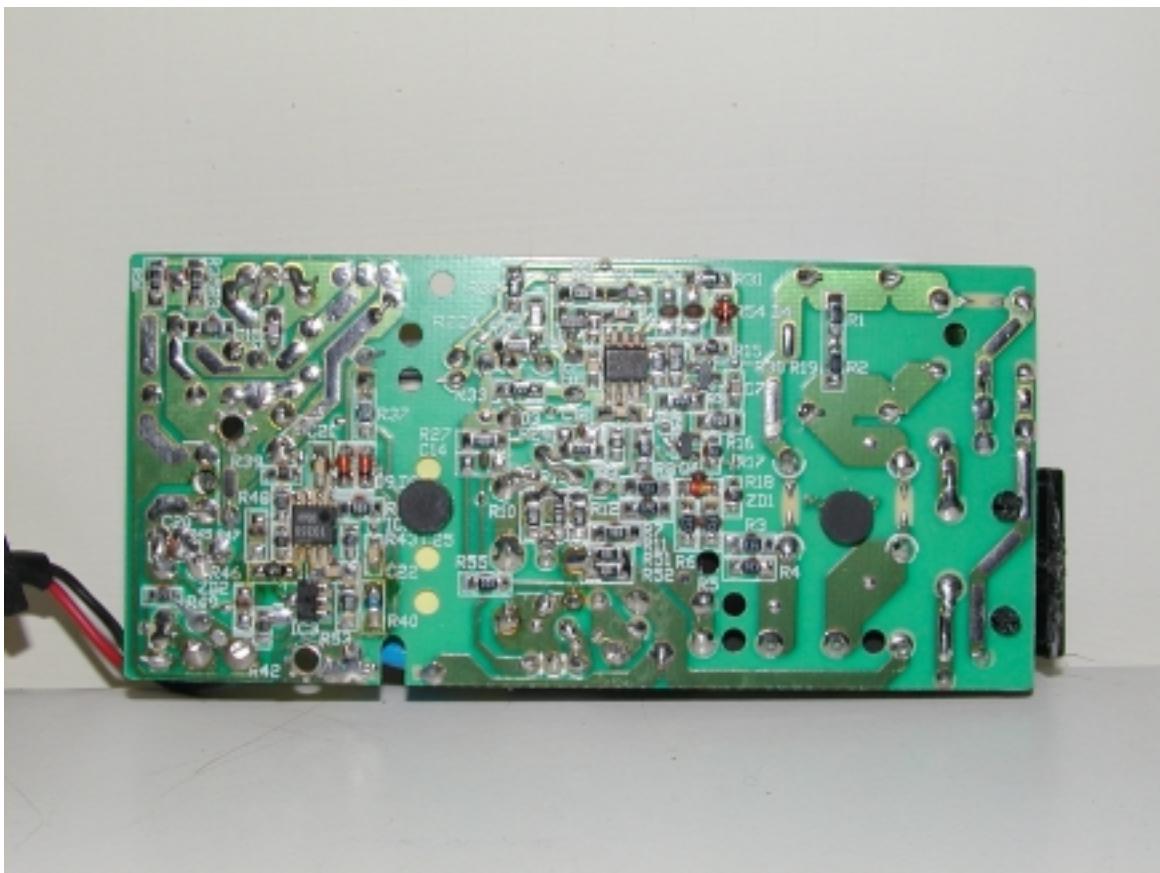
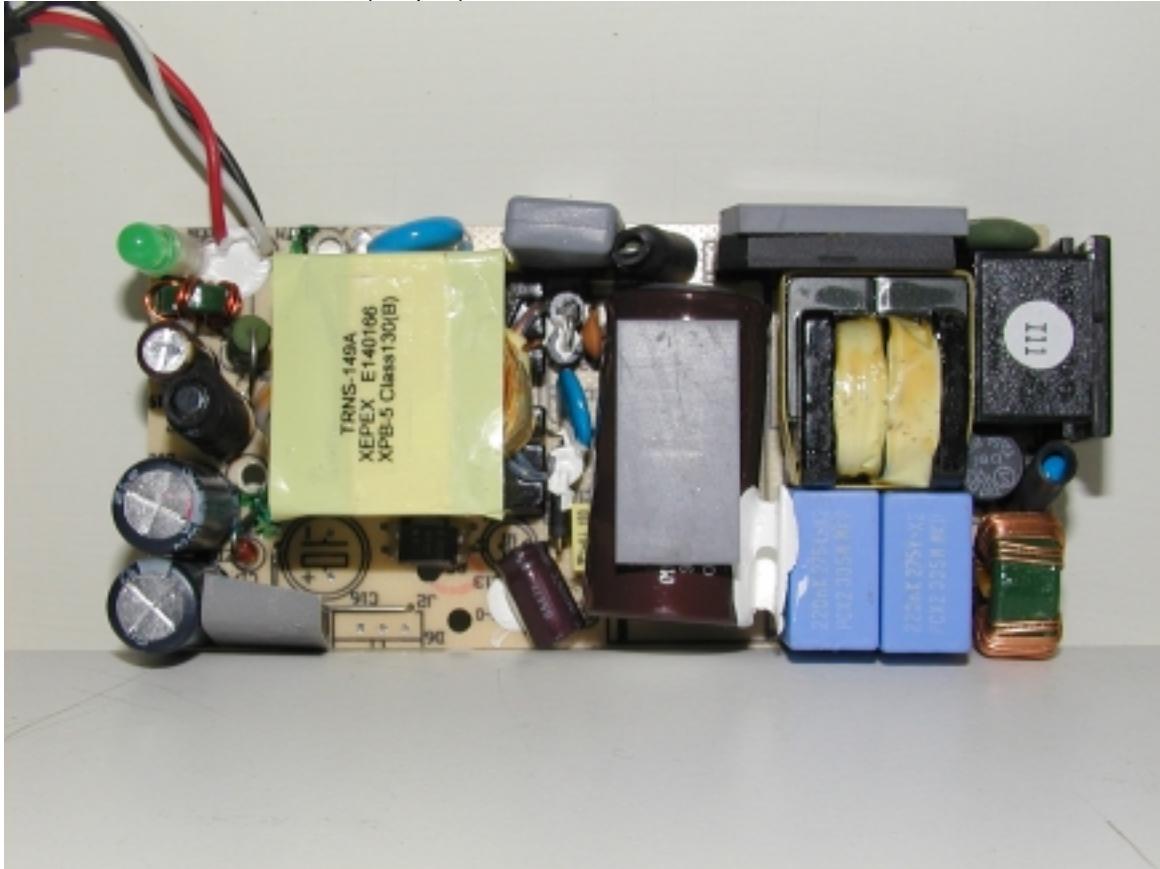
24. Inner View Of Adapter
25. Inner View Of Adapter



26. Inner View Of Adapter
27. Inner View Of Adapter



28. Component Side Of Mother Board (Adapter)
29. Solder Side Of Mother Board (Adapter)



30. Front View Of F.D.D & H.D.D. & DVD-ROM & Battery
31. Back View Of F.D.D & H.D.D. & DVD-ROM & Battery



32. Front View Of LCD Panel
33. Back View Of LCD Panel



34. Inner View Of Panel
35. Inner View Of Panel



36. Inner View Of LCD Panel



7. EMI REDUCTION METHOD DURING COMPLIANCE TESTING

- A. LAN Port:
 - 1. FB18 change to BLM31B601S
 - 2. CN12 pin #1, 2, 3, 6 connect to BLM21B221S
- B. PLL
 - 1. R219 // 22p cap.
 - 2. R238 // 22p cap.
 - 3. R242 // 22p cap.
 - 4. R244 // 22p cap.
- C. Audio
 - 1. FB59 change to BLM21B601S
 - 2. FB57, 65 change to BLM21B601S
- D. Serial port
 - 1. FB64 change to BLM31B601S
- E. USB Port
 - 1. L1, L2, L3, L4 change to BLM21B221SB
 - 2. FB12 change to BLM31B601S
- F. CPU clk gen
 - 1. U35 pin #23, 24 added BLM11B220SB
 - 2. R229, C178 grounding point change to GND_CLK
 - 3. FB42 change to BLM31B601S
- G. CRT Port
 - 1. FB 1, 2, 3, 8, 9 change to BLM21B221S
 - 2. FB66 change to BLM31B601S
- H. Added gasket between upper cover and bottom chassis on the I/O ports.
- I. Added gasket between bottom chassis and I/O ports connector.
- J. Added gasket on the rear side around the keyboard.
- K. Added gasket on the LCD cable and invertor cable import of the panel.
- L. Added metal foil on the MB where under the DVD-ROM.
- M. Added two fingers under the keyboard.

Appendix A

Circuit (Block) Diagram

(Shall be added by Applicant)

Appendix B

User Manual

(Shall be added by Applicant)