



**Test Report
Application for
Certification
On Behalf Of**

Nature Worldwide Technology Corp.

EUT: Notebook

**Model Number: 737S
FCC ID:OTW737X**

Prepared for:
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1. CERTIFICATION

Applicant : Nature Worldwide Technology Corp.

EUT Description : Notebook

Model Number : 737S

FCC ID : OTW737X

Serial Number : N/A

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 : February 07, 2002

Final Test Date : March 13, 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.

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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

The Worst Emission data was found as following,

STANDARD	TEST ITEM	TEST RESULT	REMARKS	TESTED BY
(1)FCC Part 15 (2)CISPR 22 3 rd Edition:1997 (3)Canadian ICES-003. Class B	Conducted emissionTest (Mode 1)	PASS	The worst emission frequency is <u>0.44277</u> MHz. And minimum passing margin is <u>-2.2</u> dB.	Haowei Shih <i>haowei shih</i>
	Radiated emission Test (Mode 1)	PASS	The worst emission frequency is <u>799.744</u> MHz at <u>Horizontal</u> . And minimum passing margin is <u>-3.00</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 : 737S
Serial Number : N/A
FCC ID : OTW737X
Applicant : Nature Worldwide Technology Corp.
Address : No. 1 Min-Chuan Street, Tu-Cherg Industrial Park, Taipei-Hsien, Taiwan, R.O.C.
Manufacturer : Nature Worldwide Technology Corp.
Address : No. 1 Min-Chuan Street, Tu-Cherg 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, 2Pin, 1.8m

3.2 TEST MODES & EUT COMPONENTS DESCRIPTION

EUT : Notebook

Test Mode	Mode 1
CPU	SUN, M/N:Ultra SPARC Ile 400MHz
LCD Panel	CHI MEI, M/N:N141X201, REV.C3
H.D.D.	FUJITSU, M/N:MHN2200AT, S/N:NH11T195G7WH
External F.D.D.	TEAC, M/N:FD-05HG5755-U, S/N:N132363, BSM ID:3892B233
Battery Pack	NATURETECH, M/N:BJ-369, 7.4V, 6400mAh
DVD-ROM	Toshiba, M/N:SD-C2502, S/N:174N008179, BSMI ID:3892B234
SDRAM	KINGMAX, PC-133, 512MB, S/N:040013
Mother Board	NATURETECH, M/N:737-S
Invertor	NATURETECH, M/N:ENI-141TD, Rev:5
Mouse Pad	SYNAPTICS, M/N:TM41FPUG134-2
LAN, Audio Board	NATURETECH, P/N:400-390M0-2640, Rev:D
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. 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:

Device	No.	Configuration
HUB	-----	Manufacturer : D-Link Model Number : DES-1008D (10/100BASE-T Ethernet Hub) Data Cable to EUT : Type:RJ45(UTP/8P8C), Detachable, 12 m, Twisted Pairs Power Cord : Non-Shielded, Detachable, 1.5m
Far End Network Server	-----	Mother Board : ASUS, M/N: TUSL2-C F.D.D. : Panasonic, M/N: JU-257A606P H.D.D. : Seagate, M/N: ST330621A CD-ROM : MITSUMI, M/N: CRMC-FX4830T VGA Card : On Board Sound : On Board LAN : On Board SDRAM : 32MB PC100 CPU : Intel,733M/133MHz S. P. S. : DELTA, M/N: DTSP-200PB-109C Power Cord : Non-Shielded, Detachable, 1.8m
Monitor	M01-021	Manufacturer : DELL COMPUTER Model Number : P1100 Serial Number : 2400737 BSMI ID : 3882A692 FCC ID : N/A Data Cable : Shielded, Undetachable, 1.8m, VGA Cable Power Cord : Non-Shielded, Detachable, 2m
Modem	M03-019	Manufacturer : ACEEX Model Number : 1414V Serial Number : 0046172 BSMI ID : N/A FCC ID : IFAXDM1414 Data Cable : T Type:RS232, Shielded, Detachable, 1.2m Power Cord : Non-Shielded, Detachable, 1.5m Line : Type:RJ11(4P2C), Detachable, 1.8m Phone : Type:RJ11(4P2C), Detachable, 1.8m
Headset & Earphone	E01-048	Manufacturer : TOKYO Model Number : SX-M1 Serial Number : N/A Data Cable : Non-Shielded, Undetachable, 1.8 m Power Cord : N/A Purchase Date : 2/22/1999
USB Keyboard	-----	Manufacturer : SUN Model Number : TYPE6 USB Serial Number : 3201273-01 Data Cable : Shielded, 1.8 m Power Cord : N/A

Device	No.	Configuration
USB Mouse	-----	Manufacturer : SUN Model Number : Crossbow USB Serial Number : 0Y17737M03B Data Cable : Shielded, 1.8m

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)

3.5 TEST FACILITY

Ambient conditions in the laboratory:

ITEMS	REQUIRED(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 States 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

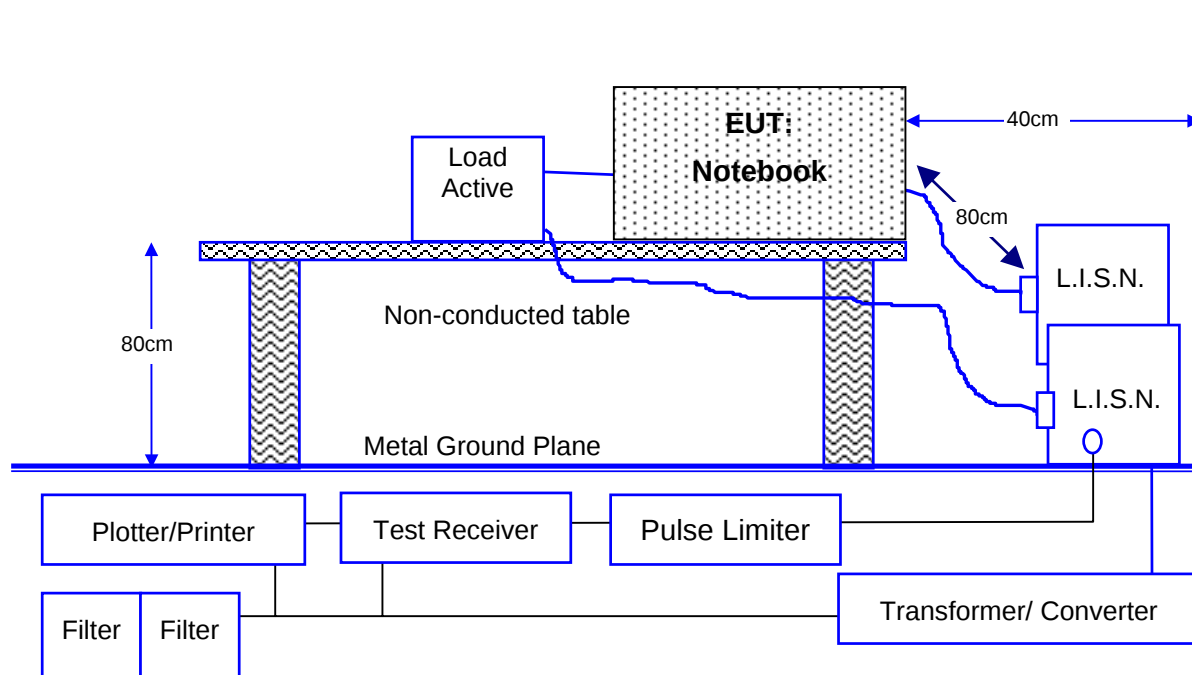
4.1 TEST EQUIPMENTS

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	ESCS 30 / 100035	June 06, 2001
2	L.I.S.N.	Rohde & Schwarz	ESH3-Z5 / 840567/002	Nov. 06, 2001
3	L.I.S.N.	Kyoritsu	KNW-407 / 8-1345-10	Dec. 13, 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 representative setup diagram for Table-top EUT.

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

4.3 CONDUCTED EMISSION LIMIT

☐ FCC Limit

Frequency	Maximum RF Line Voltage			
	Class A		Class B	
MHz	μV	$\text{dB}\mu\text{V}$	μV	$\text{dB}\mu\text{V}$
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 ($\text{dB}\mu\text{V}$) = $20 \log$ RF Line Voltage (μV).
2. In the Above Table, the tighter limit applies at the band edges.

☒ CISPR Limit

Frequency	Maximum RF Line Voltage $\text{dB}(\mu\text{V})$			
	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 50Ω .

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: $< \pm 2.0 \text{ dB}$

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

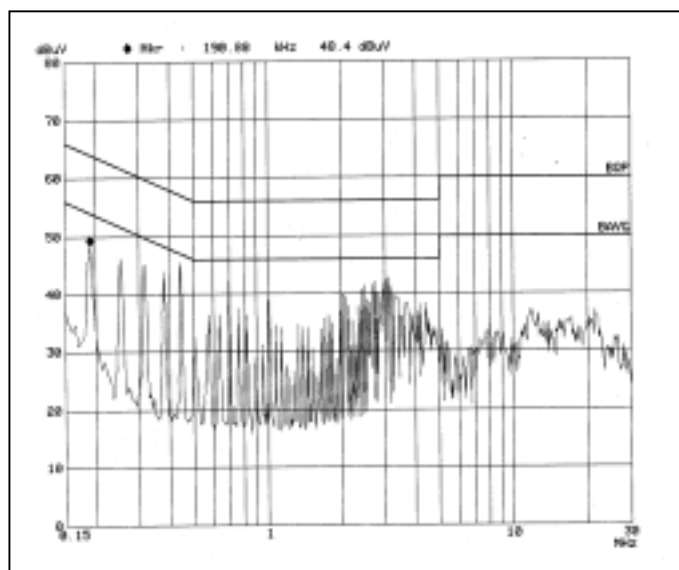
Date of Test	February 07, 2002	Temperature	21 °C
EUT	Notebook	Humidity	57 %
Test Mode	Mode 1	Display Pattern	H Pattern

No.	FREQUENCY	READING LEVEL dB μ V				LIMIT	
	MHz	LINE1 Q.P.	LINE1 AV.	LINE2 Q.P.	LINE2 AV.	Q.P.	AV.
1	0.19088	47.7	46.3	42.7	39.9	64.0	54.0
2	** 0.44277	45.5	44.8	42.0	41.3	57.0	47.0
3	0.69643	42.5	42.2	36.0	35.4	56.0	46.0
4	3.10167	41.9	37.5	42.3	37.5	56.0	46.0
5	11.83492	34.8	28.3	34.0	28.4	60.0	50.0
6	21.52802	33.2	25.1	32.1	26.0	60.0	50.0

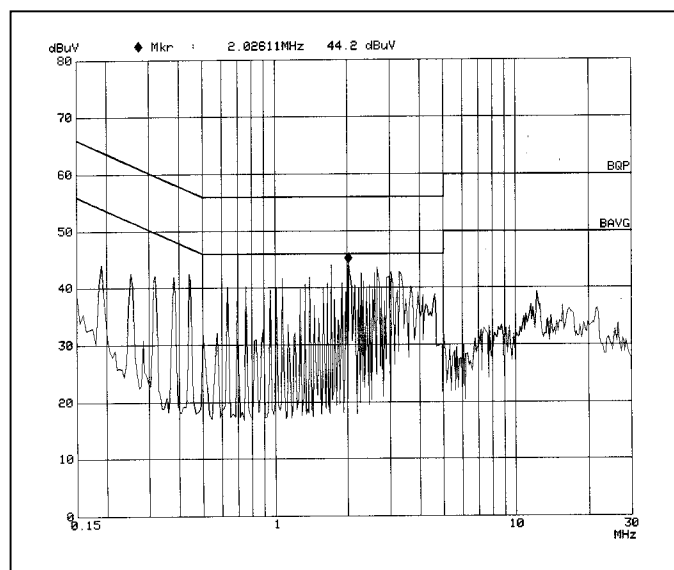
Remarks :

1. All readings are Quasi-peak.
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

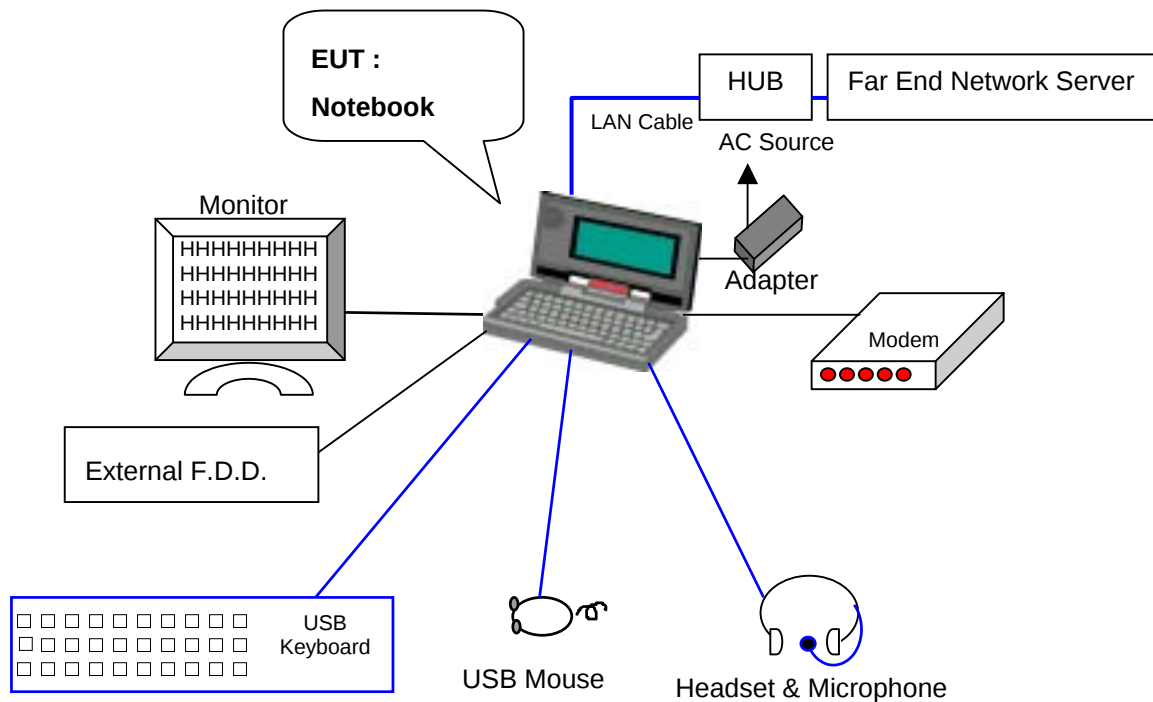
Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

5.2 TEST SETUP

5.2.1 BLOCK DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS

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

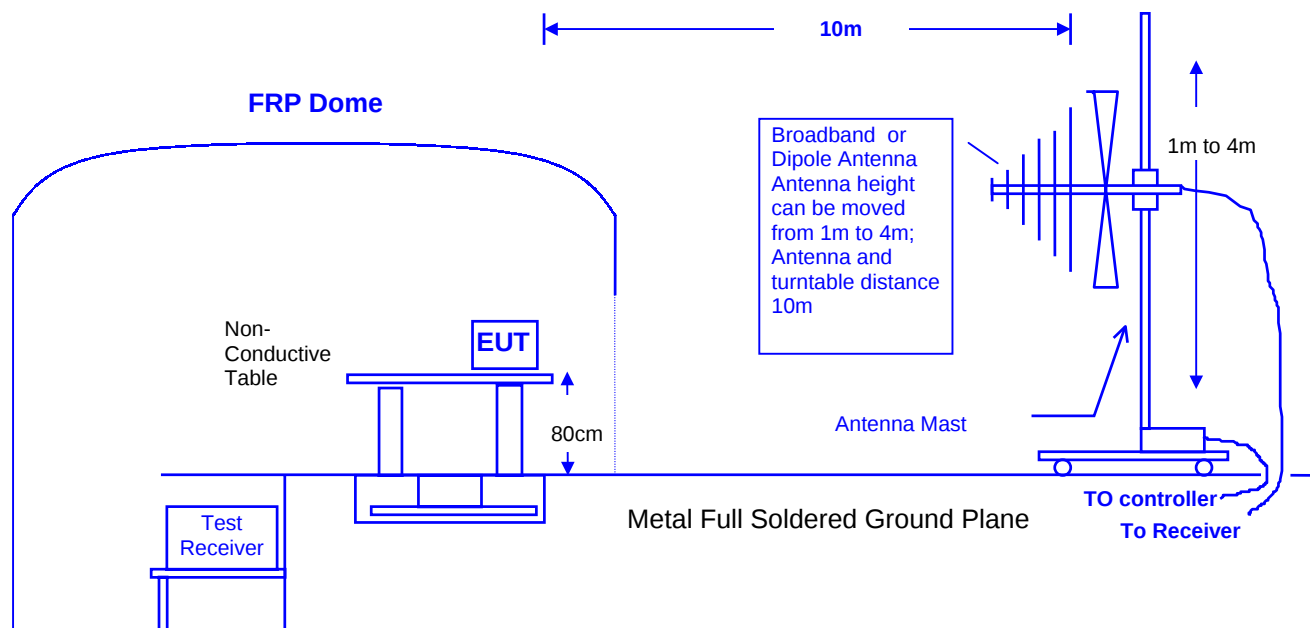
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



5.2.2 OPEN TEST SITE SETUP DIAGRAM

Note: This is a representative 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	Distance	Field Strength	
MHz	Meter	$\mu\text{V}/\text{M}$	$\text{dB}\mu\text{V}/\text{M}$
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

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	$\mu\text{V}/\text{M}$	$\text{dB}\mu\text{V}/\text{M}$
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.

☒ 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.

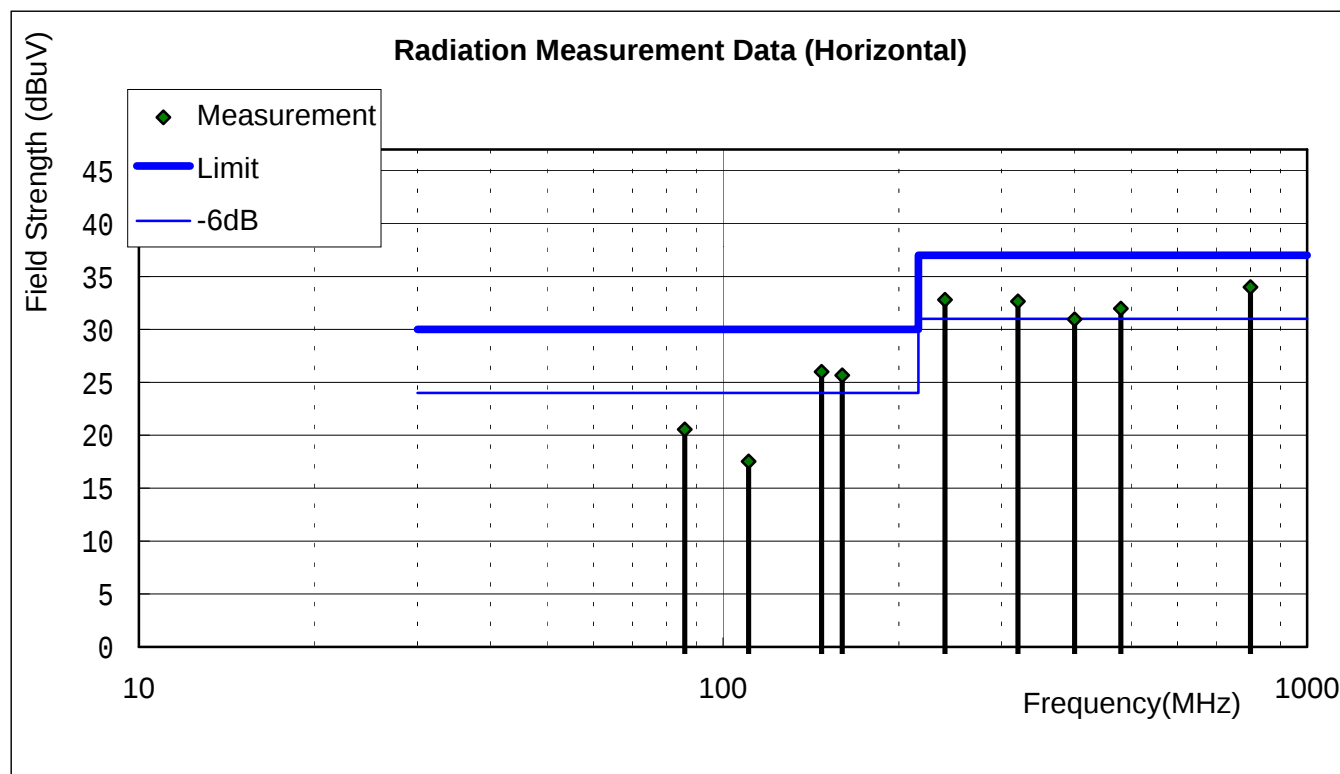
5.7 RADIATED EMISSIONS MEASUREMENT RESULTS

Date of Test	February 07, 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	86.014	2.00	7.93	10.62	20.55	0.00	30.00	-9.45
2	110.610	2.20	11.30	4.02	17.52	0.00	30.00	-12.48
3	147.448	2.50	10.84	12.65	25.99	0.00	30.00	-4.01
4	159.963	2.59	9.85	13.23	25.67	0.00	30.00	-4.33
5	239.935	2.90	11.45	18.45	32.80	0.00	37.00	-4.20
6	319.900	4.18	13.39	15.08	32.65	0.00	37.00	-4.35
7	399.890	4.50	15.00	11.46	30.96	0.00	37.00	-6.04
8	479.864	4.50	17.17	10.30	31.97	0.00	37.00	-5.03
9	799.744	5.50	19.00	9.50	34.00	0.00	37.00	-3.00

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have ± 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.
4. The "gray shadow" means this data is worst-case emission level.

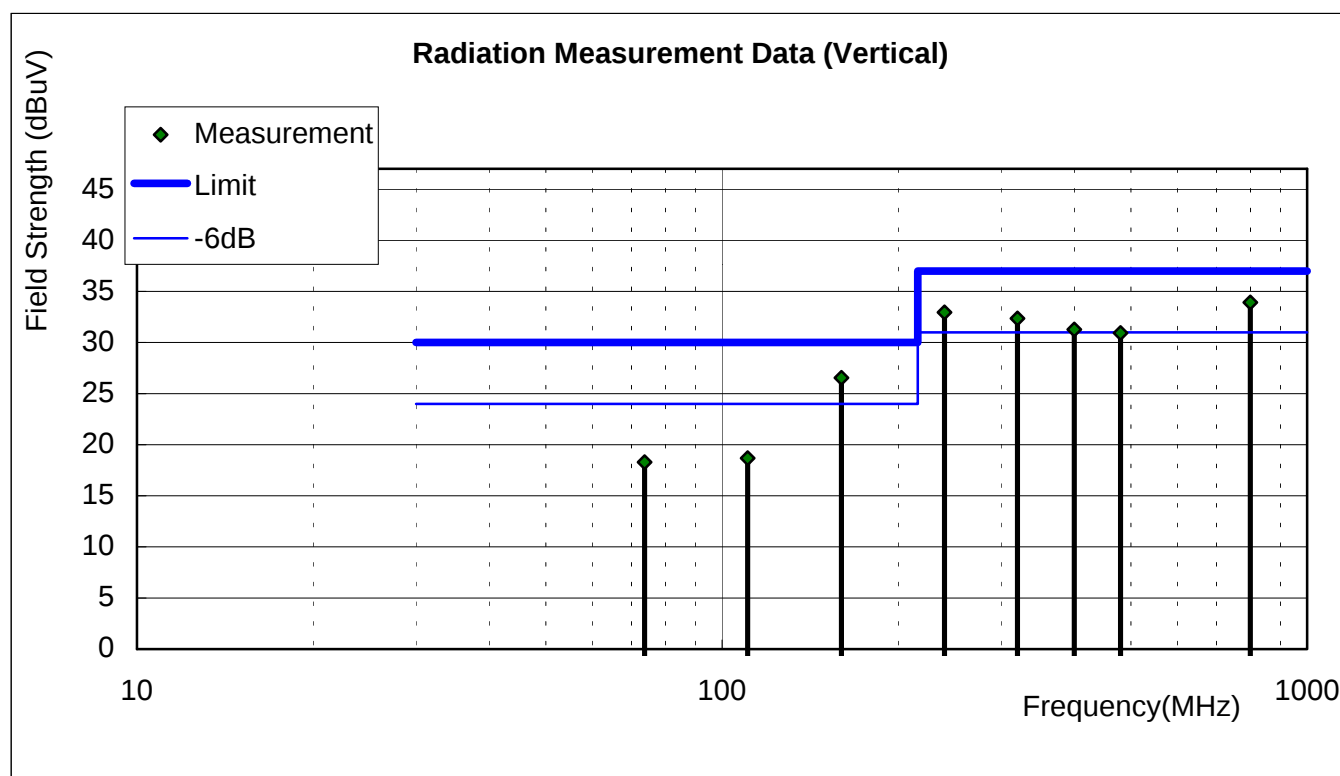


Date of Test	February 07, 2002	Temperature	26 deg/C
EUT	Notebook	Humidity	52 %RH
Working Cond	Mode 1	Display Pattern	H Pattern
Antenna distance	10m at Vertical	Frequency Range	30-1000MHz

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	73.727	1.94	6.73	9.63	18.30	0.00	30.00	-11.70
2	110.587	2.20	11.30	5.18	18.68	0.00	30.00	-11.32
3	159.949	2.59	9.85	14.10	26.54	0.00	30.00	-3.46
4	239.930	2.90	11.45	18.60	32.95	0.00	37.00	-4.05
5	319.902	4.18	13.39	14.79	32.36	0.00	37.00	-4.64
6	399.875	4.50	15.00	11.78	31.28	0.00	37.00	-5.72
7	479.846	4.50	17.17	9.26	30.93	0.00	37.00	-6.07
8	799.744	5.50	19.00	9.43	33.93	0.00	37.00	-3.07

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have ± 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.
4. The "gray shadow" means this data is worst-case emission level.

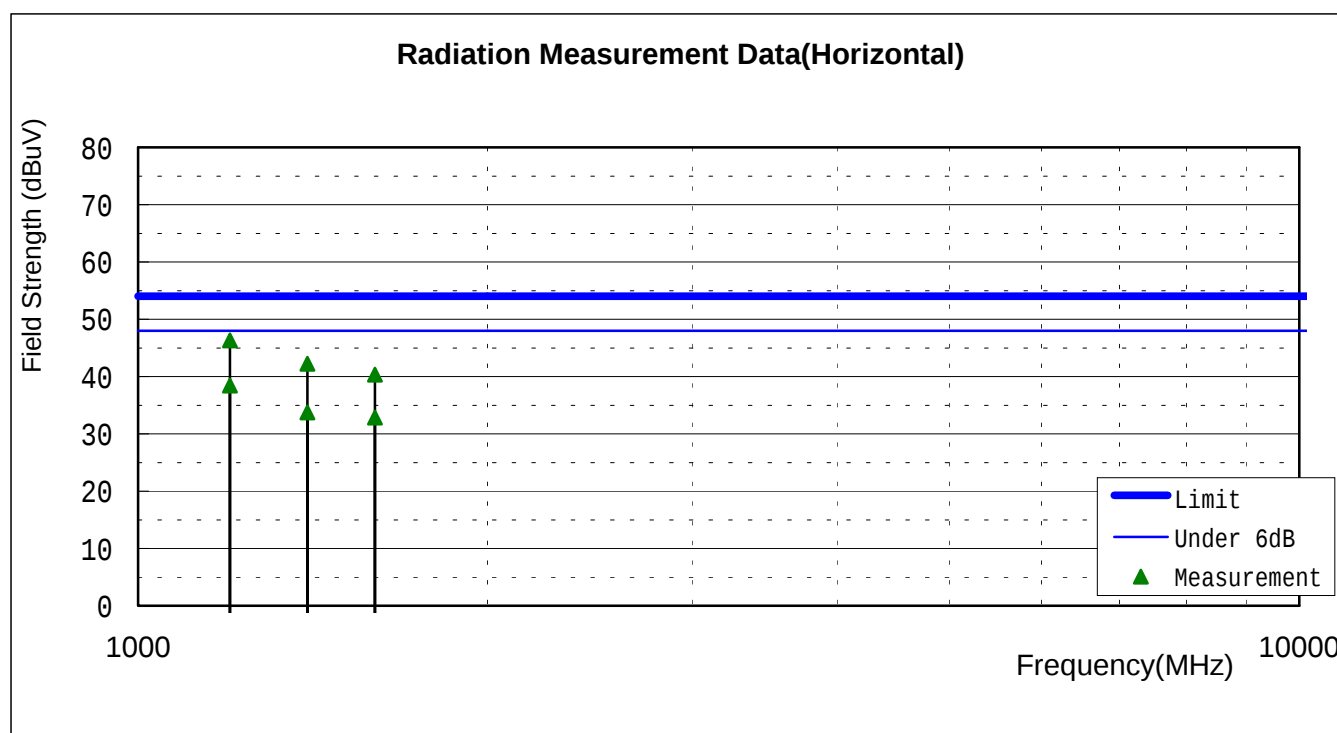


Date of Test	March 07, 2002	Temperature	26 deg/C
EUT	Notebook	Humidity	52 %RH
Working Cond.	Mode 1	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	1GHz~2GHz

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	1199.560	2.19	25.61	56.20	46.32	207.01	37.67	54.00	500(PK)
2	1199.560	2.19	25.61	48.30	38.42	83.37	37.67	54.00	500(AV)
3	1398.970	2.45	25.98	51.20	42.26	129.72	37.37	54.00	500(PK)
4	1398.970	2.45	25.98	42.70	33.76	48.75	37.37	54.00	500(AV)
5	1599.070	2.68	26.53	48.30	40.35	104.11	37.16	54.00	500(PK)
6	1599.070	2.68	26.53	40.80	32.85	43.90	37.19	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 ± 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.

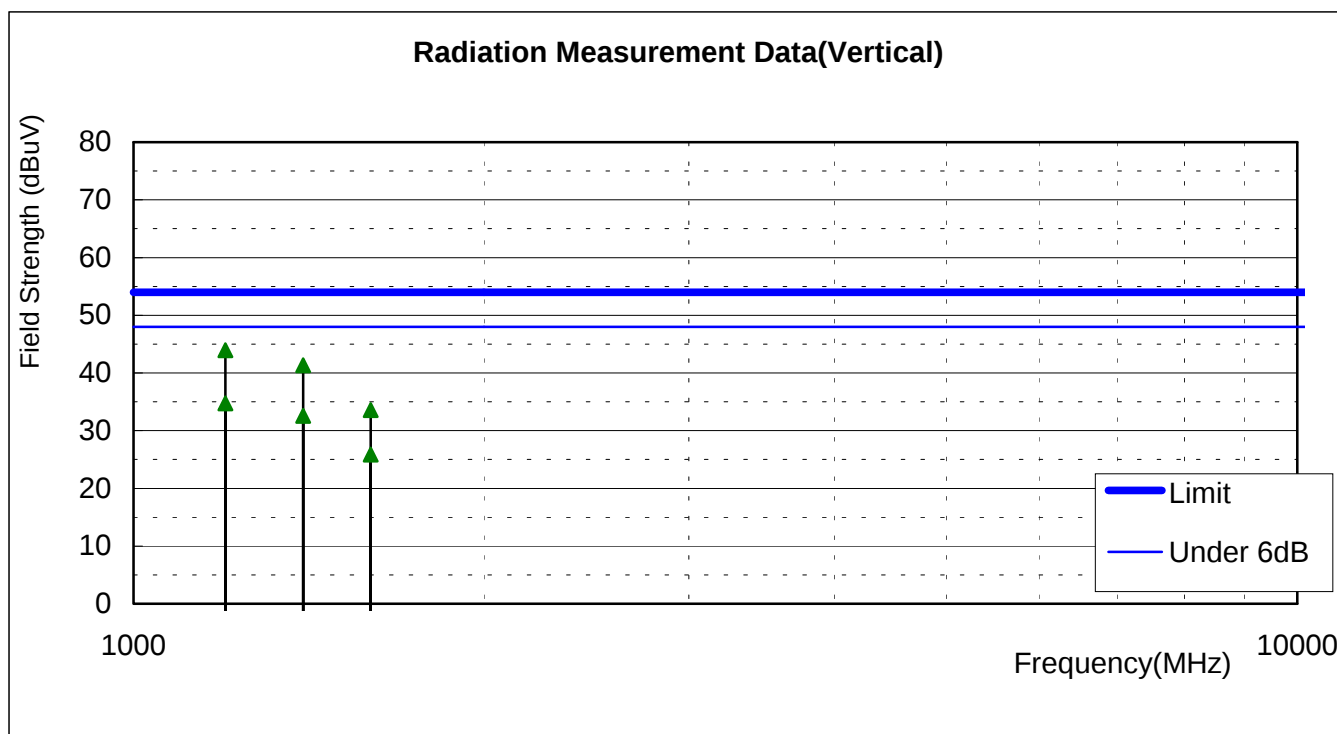


Date of Test	March 07, 2002	Temperature	26 deg/C
EUT	Notebook	Humidity	52 %RH
Working Cond.	Mode 1	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	1GHz~2GHz

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	1199.540	2.19	25.61	53.80	43.92	157.04	37.67	54.00	500(PK)
2	1199.540	2.19	25.61	44.60	34.72	54.45	37.67	54.00	500(AV)
3	1398.890	2.45	25.98	50.30	41.35	116.82	37.37	54.00	500(PK)
4	1398.890	2.45	25.98	41.50	32.56	42.46	37.37	54.00	500(AV)
5	1599.100	2.68	26.53	41.50	33.55	47.59	37.16	54.00	500(PK)
6	1599.100	2.68	26.53	33.80	25.85	19.61	37.16	54.00	500(AV)

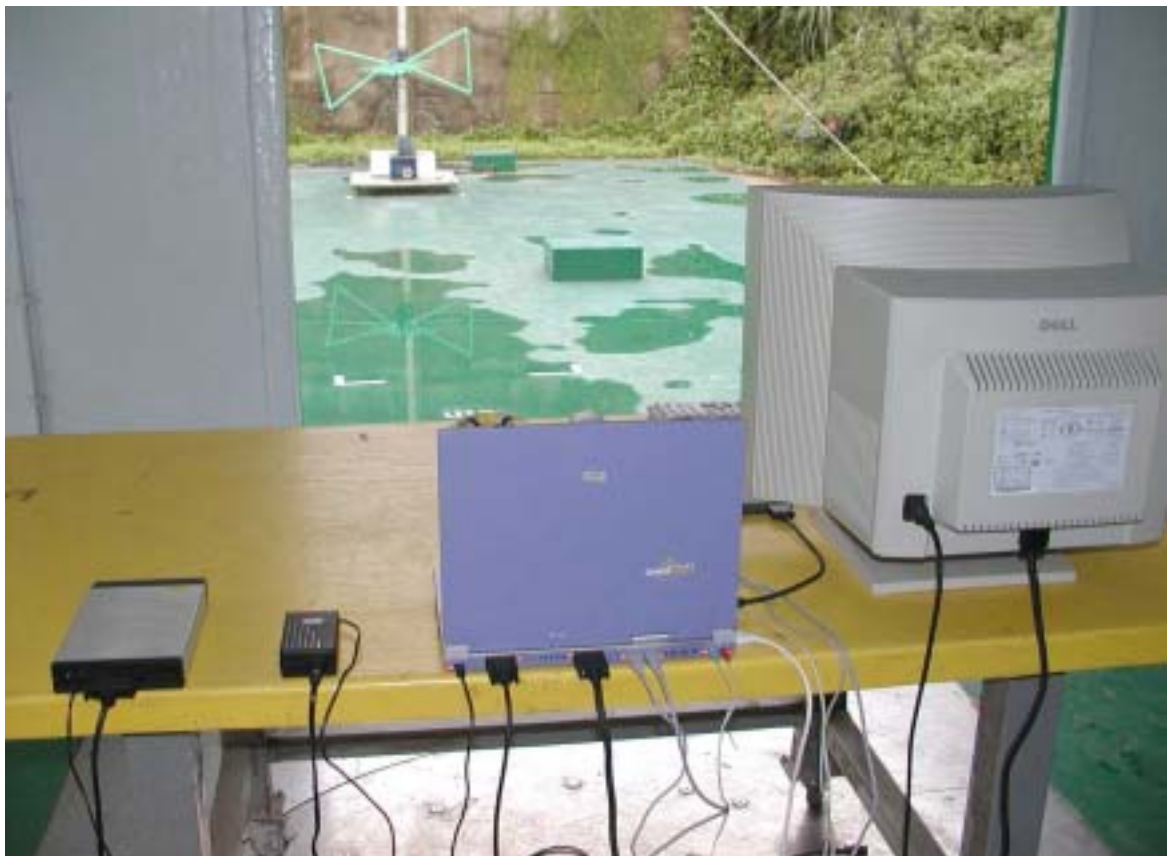
Remarks:

1. All Readings are Peak and Average value.
2. Emission Level = Reading Level + Antenna Factor + Cable loss–Amp Factor (Could have ± 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. Front 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)

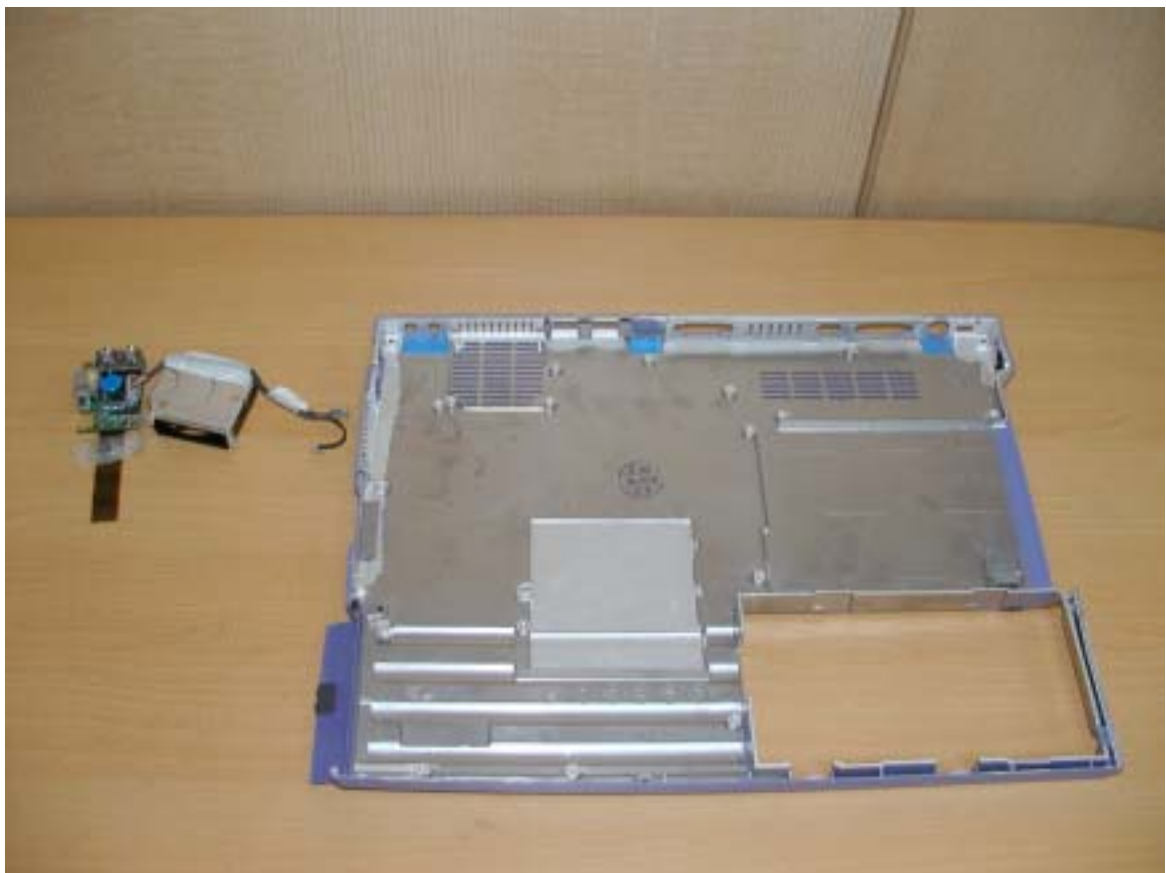


8. Inner View Of Notebook (EUT)
9. Inner View Of Notebook (EUT)



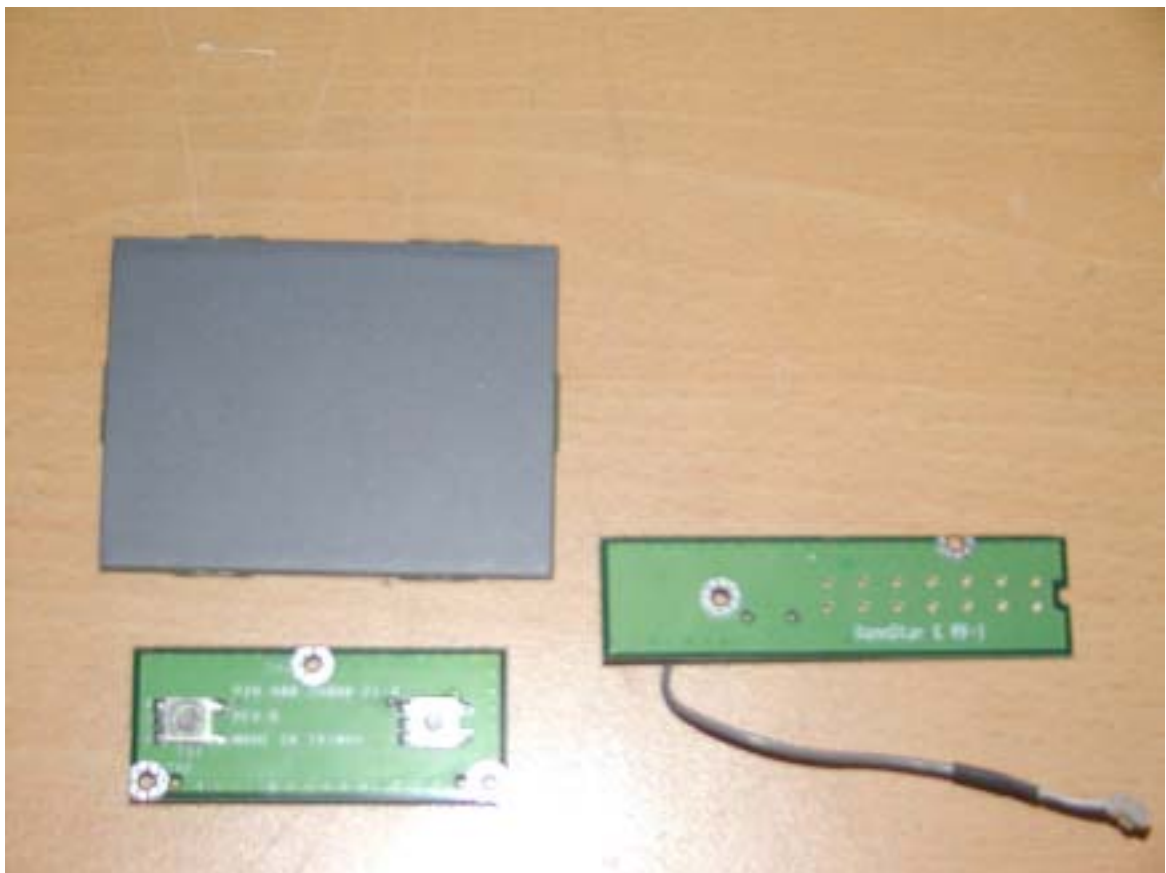
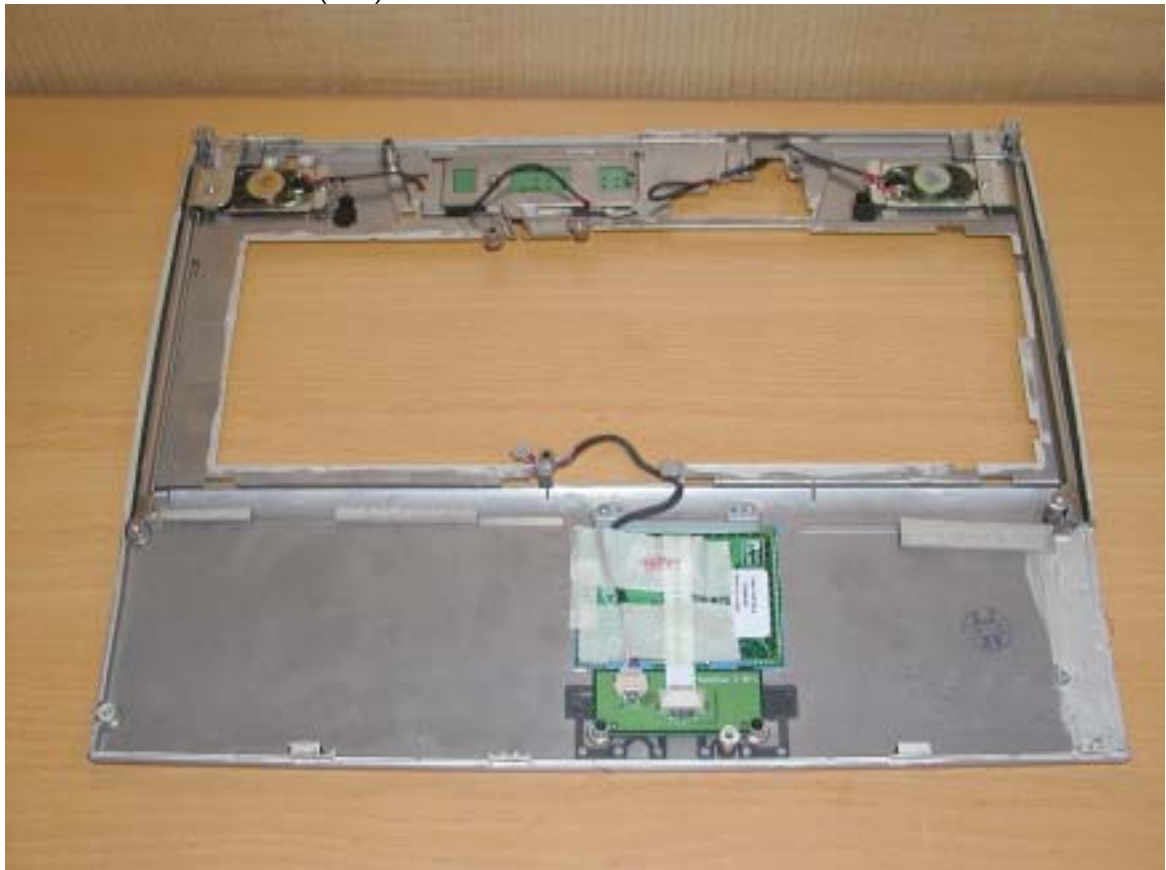
10. Inner View Of Notebook (EUT)

11. Inner View Of Notebook (EUT)



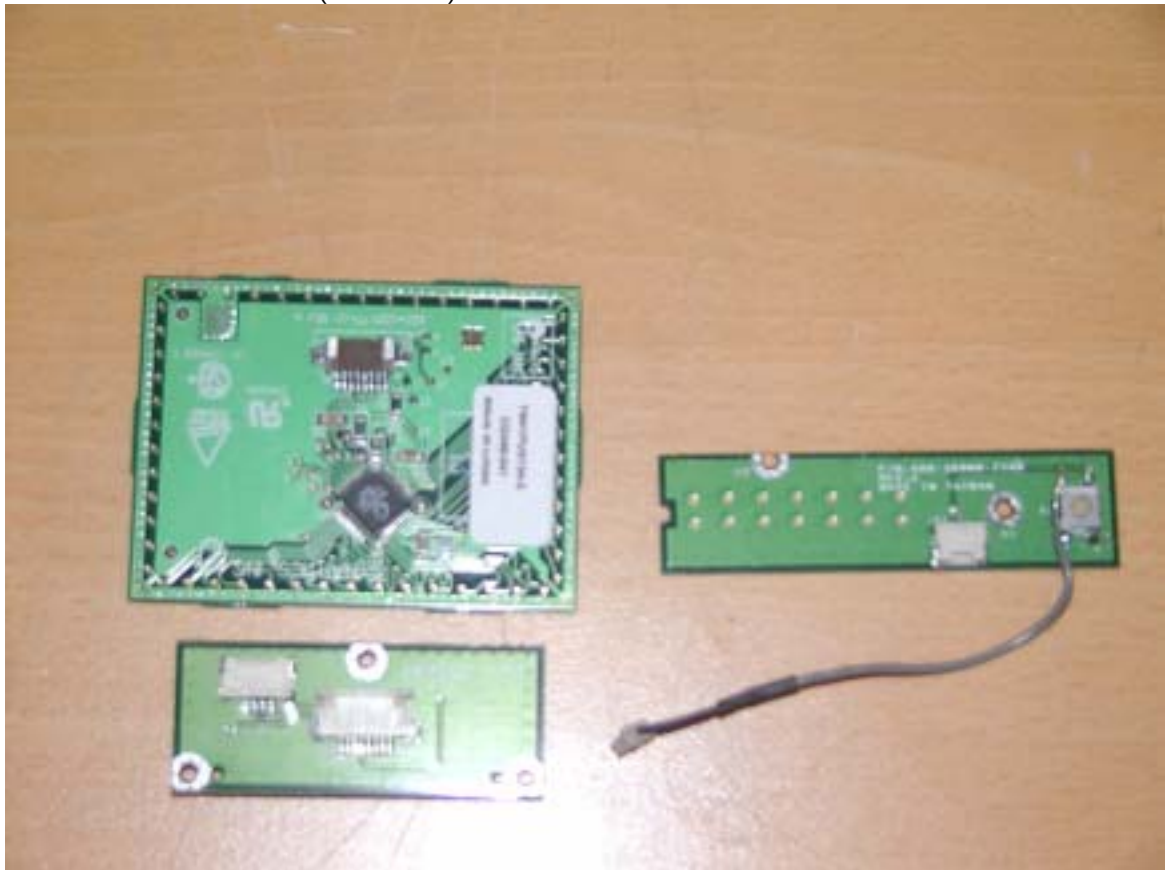
12. Inner View Of Notebook (EUT)

13. Inner View Of Notebook (EUT)



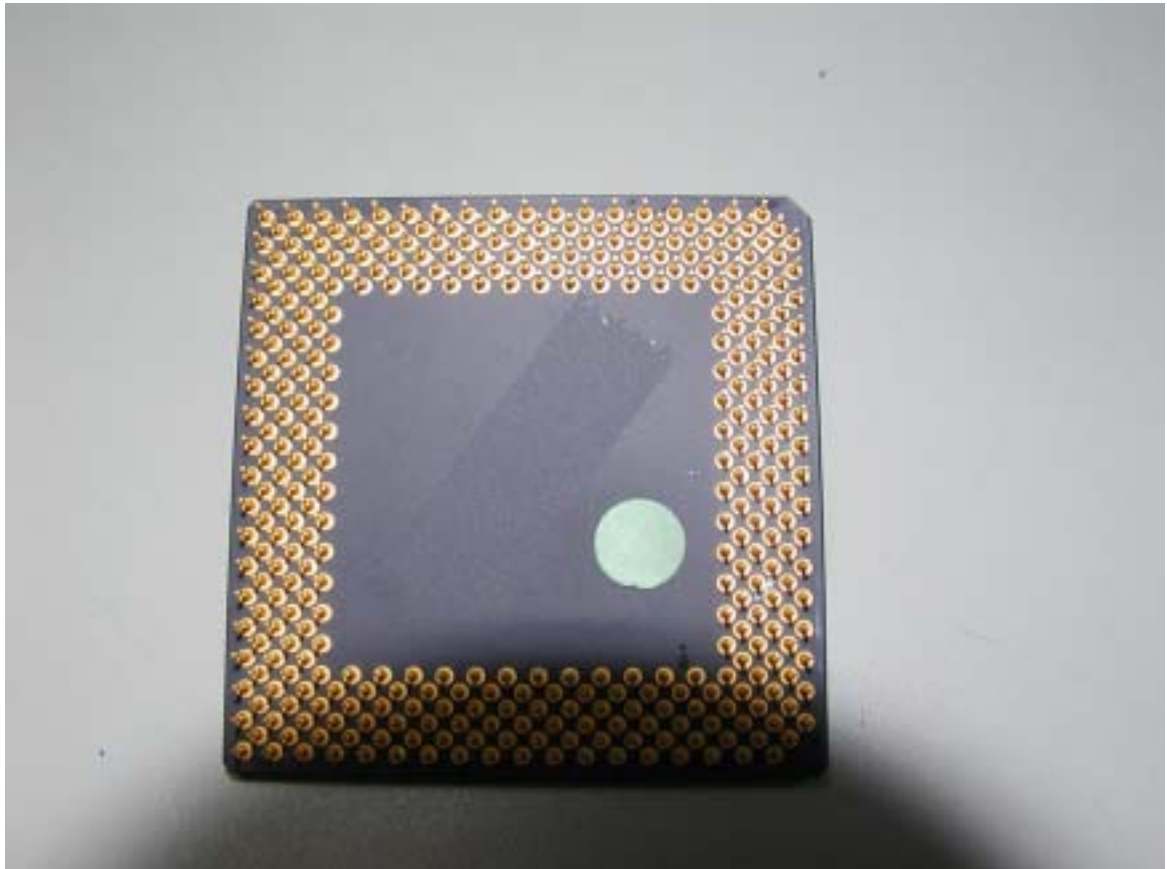
14. Inner View Of Notebook (Mouse Pad)

15. Inner View Of Notebook (Mouse Pad)



16. Front View Of CPU

17. Back View Of CPU



18. Front View Of H.D.D. & DVD-ROM & Battery Pack
19. Back View Of H.D.D. & DVD-ROM & Battery Pack



20. Front View Of Adaptor

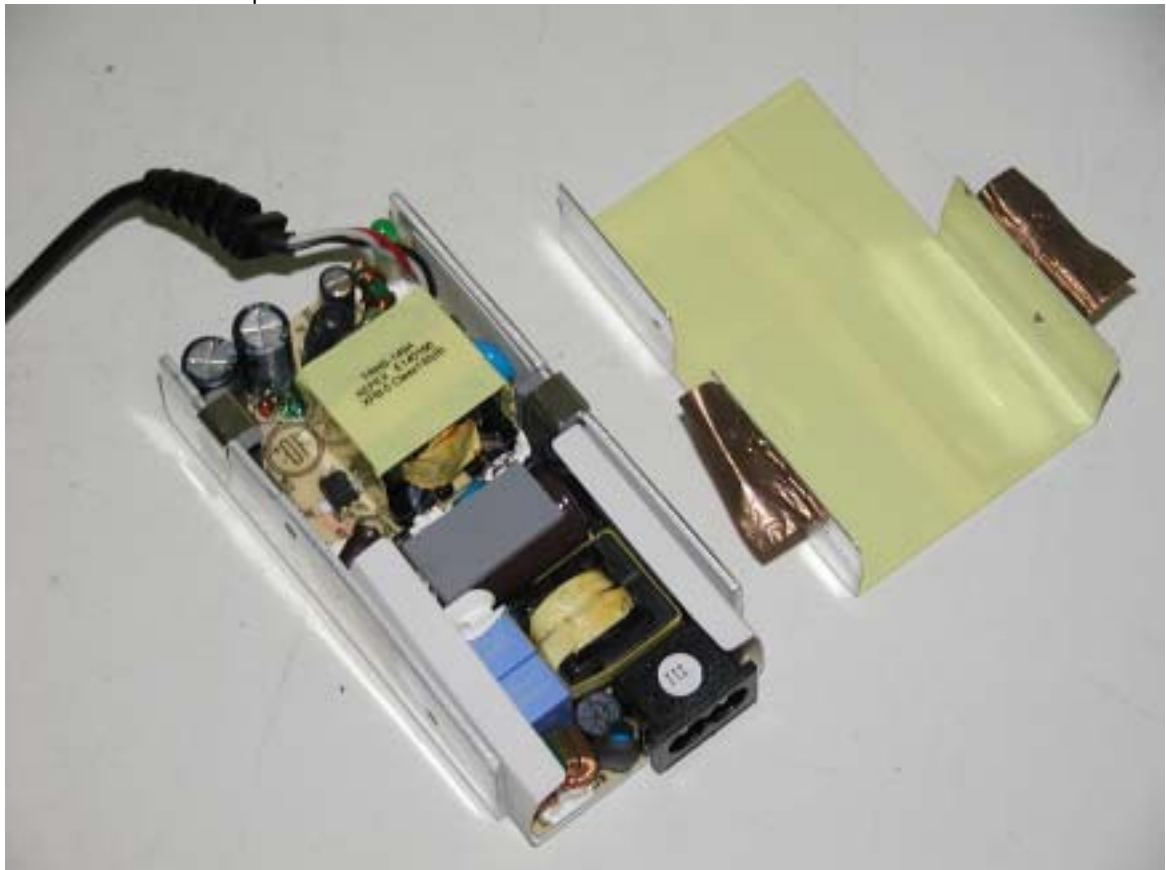
21. Back View Of Adaptor



- 22. Inner View Of Adaptor
- 23. Inner View Of Adaptor

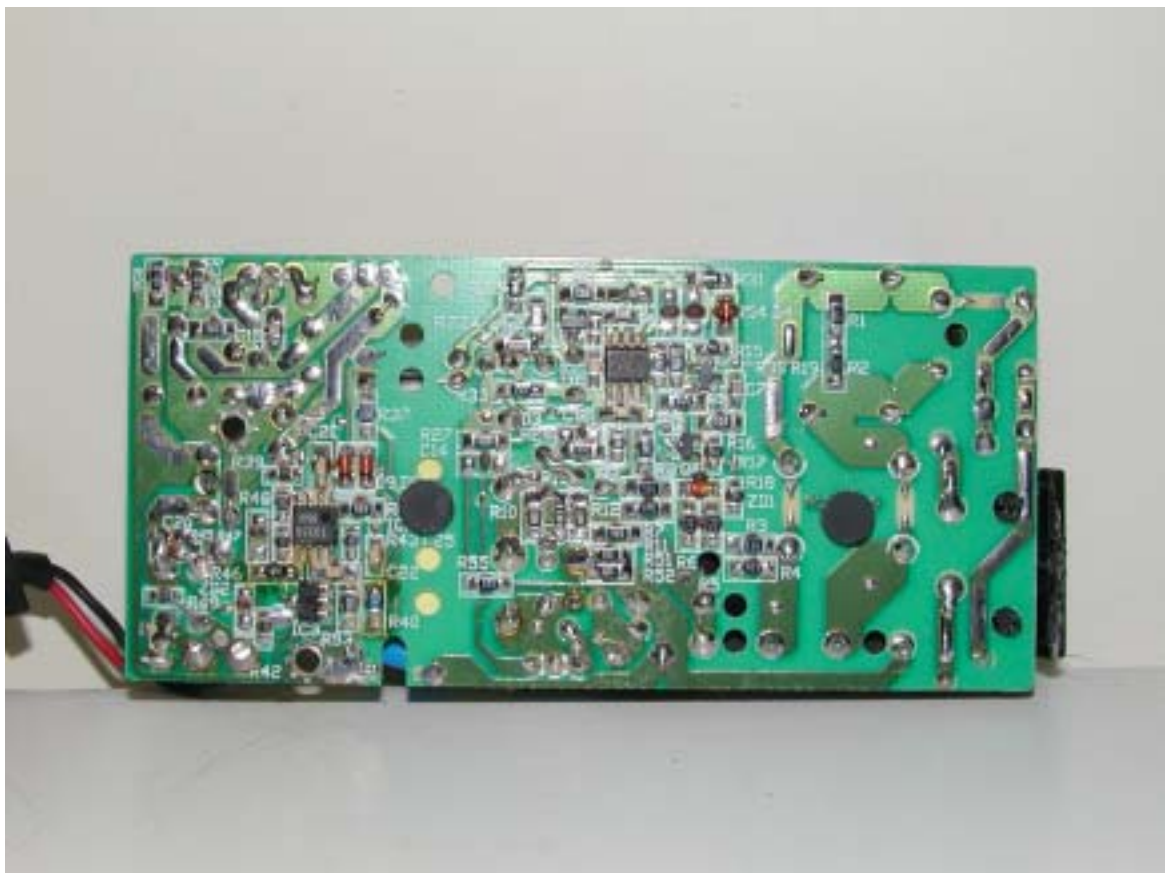


- 24. Inner View Of Adaptor
- 25. Inner View Of Adaptor



26. Component Side Of Mother Board (Adaptor)

27. Solder Side Of Mother Board (Adaptor)



28. Front View Of External F.D.D.

29. Back View Of External F.D.D.



30. Front View Of External F.D.D.



31. Inner View Of External F.D.D.
32. Inner View Of External F.D.D.



33. Inner View Of External F.D.D.



34. Front View Of LCD Panel

35. Back View Of LCD Panel



36. Inner View Of LCD Panel

37. Inner View Of LCD Panel



38. Inner View Of LCD Panel

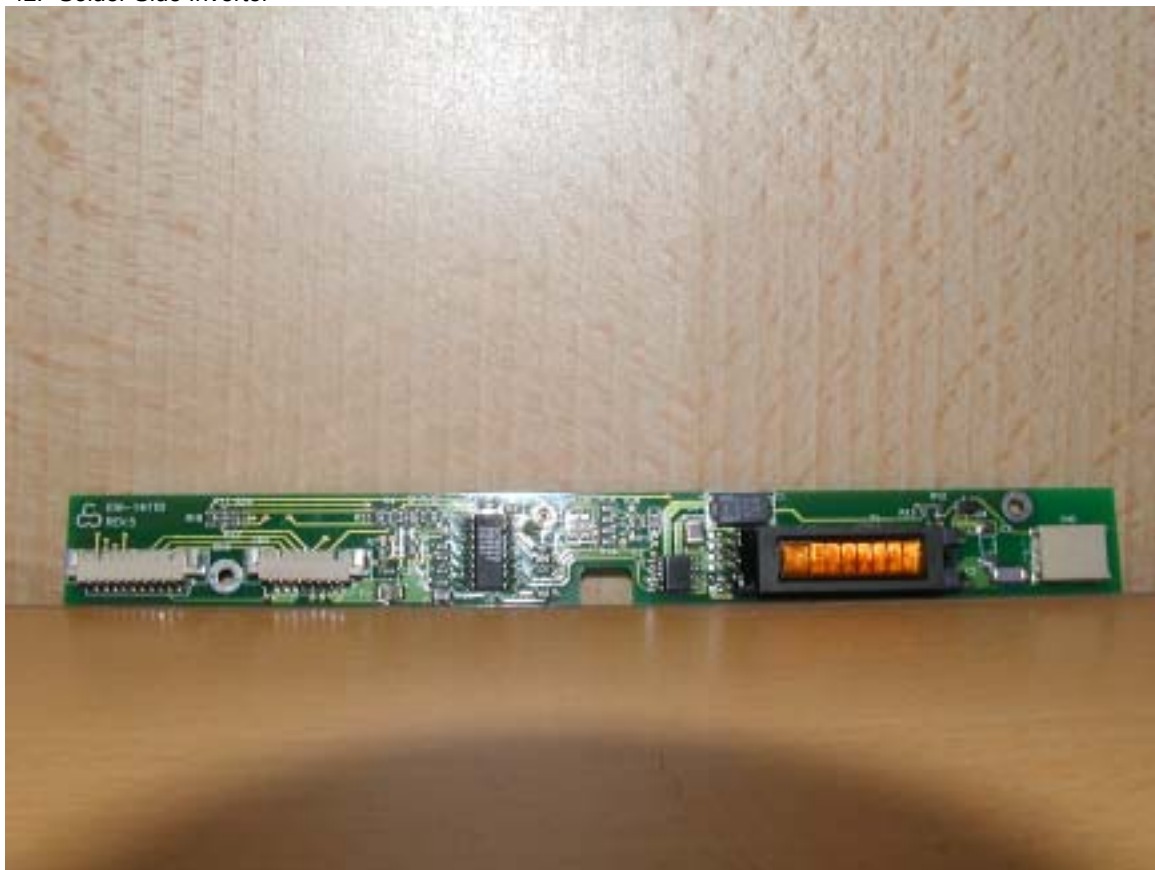
39. Inner View Of LCD Panel



40. Inner View Of LCD Panel



41. Component Side Invertor
42. Solder Side Invertor



- 43. Component Side Mother Board
- 44. Solder Side Mother Board



45. Component Side SDRAM

46. Solder Side SDRAM

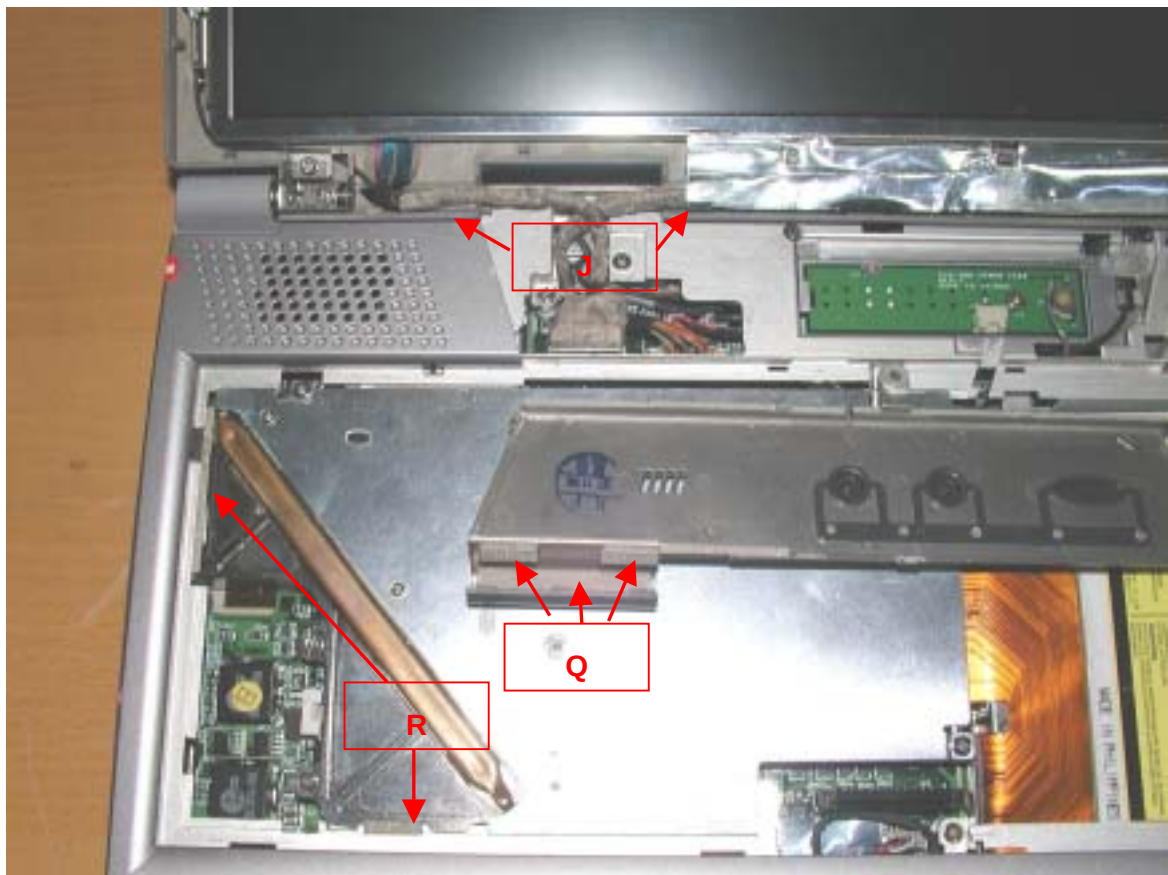
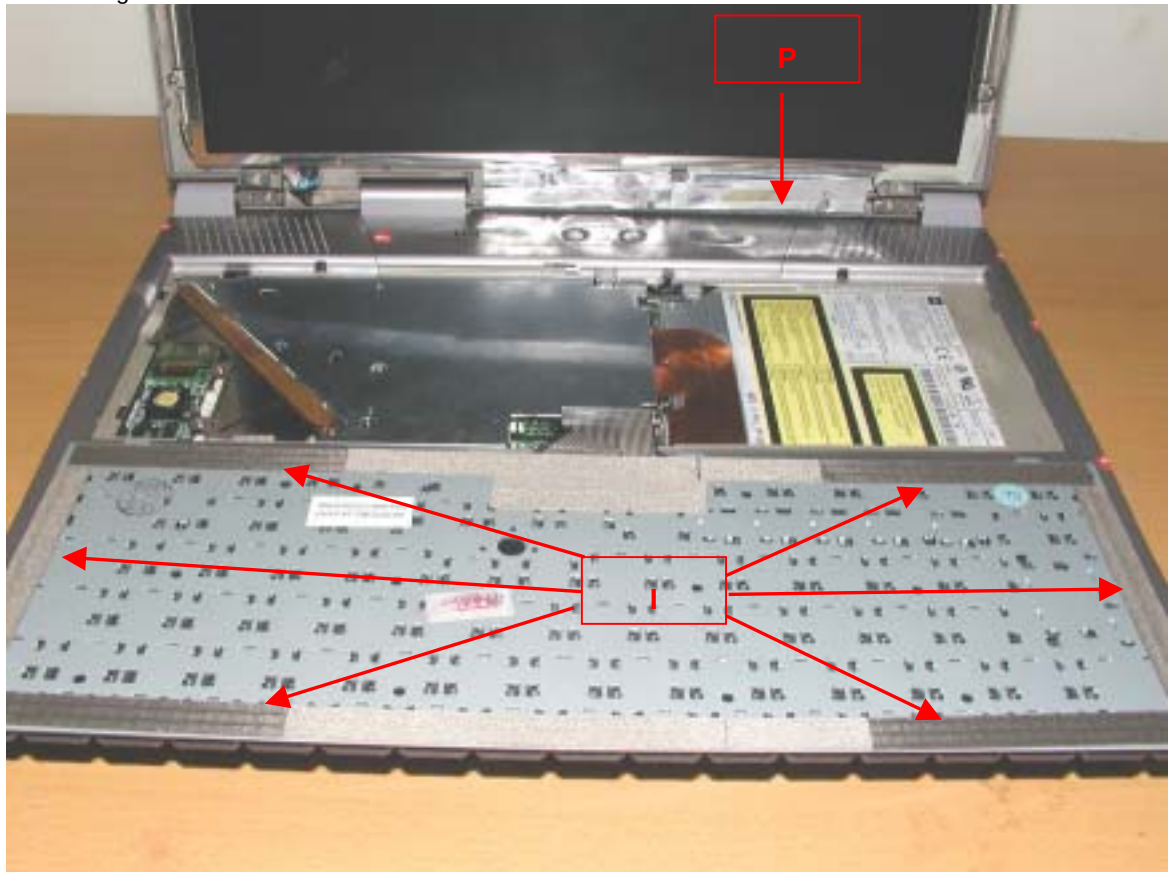


- 47. Component Side LAN, Audio Board
- 48. Solder Side LAN, Audio Board



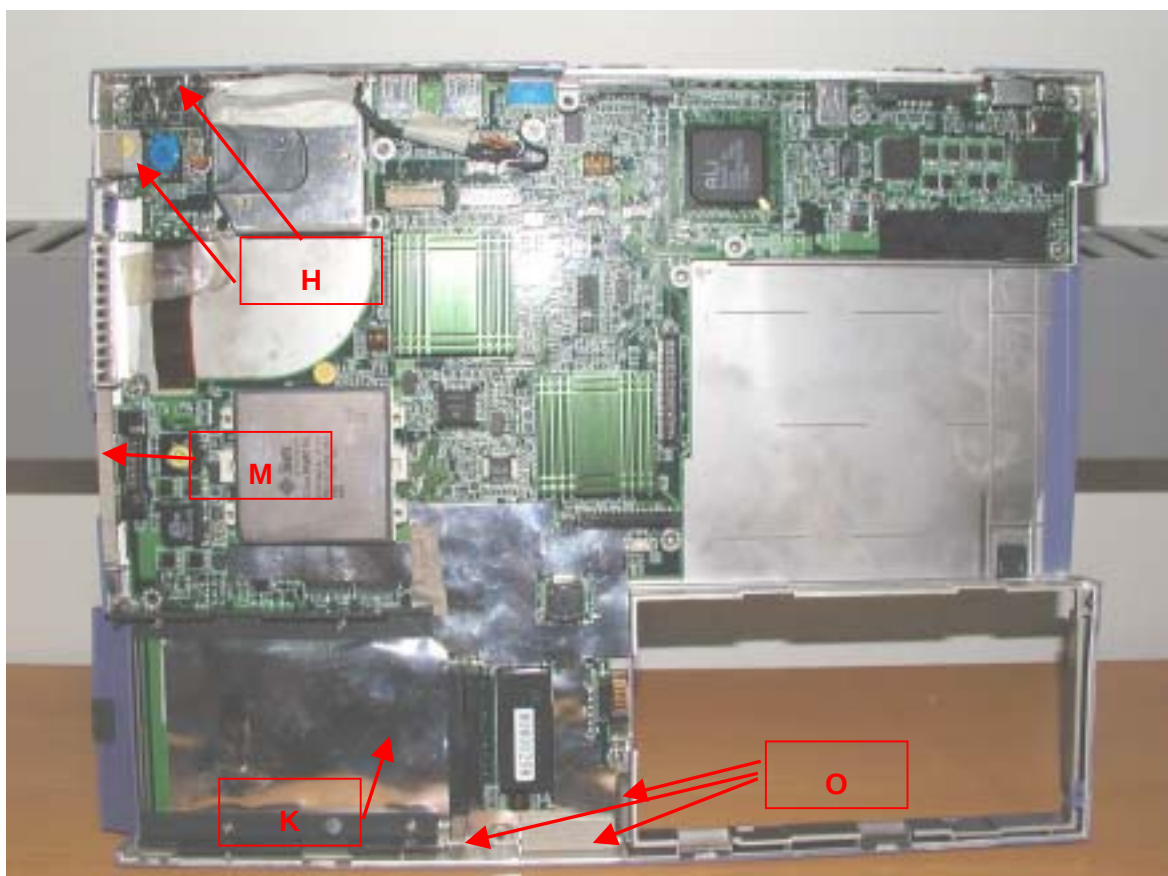
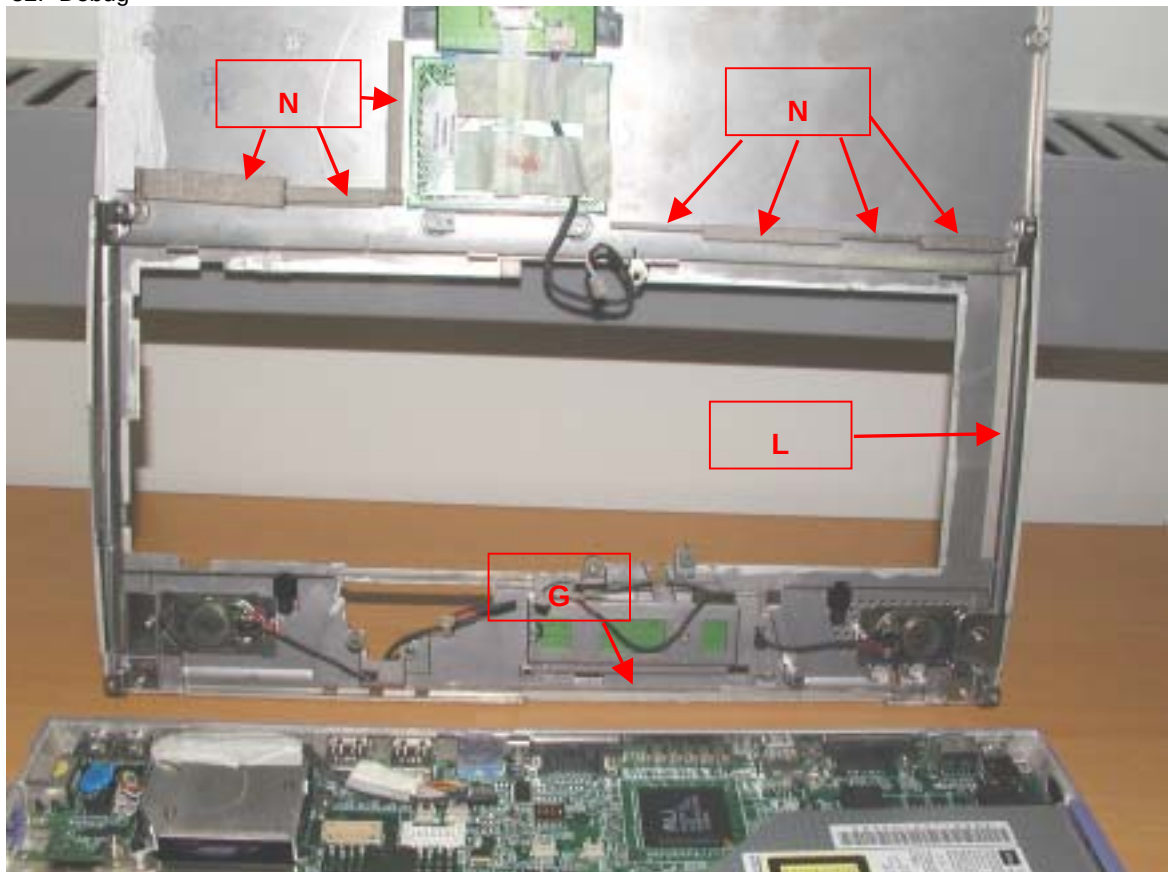
49. Debug

50. Debug



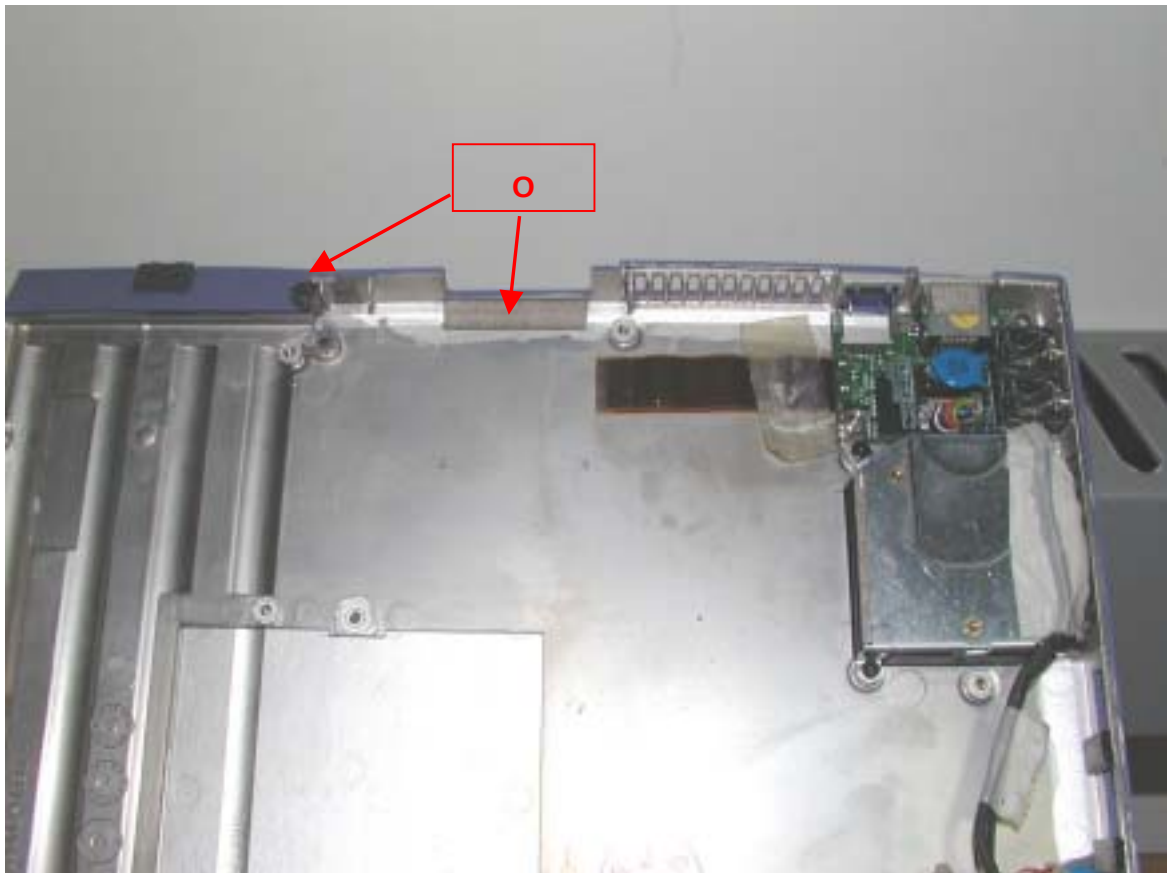
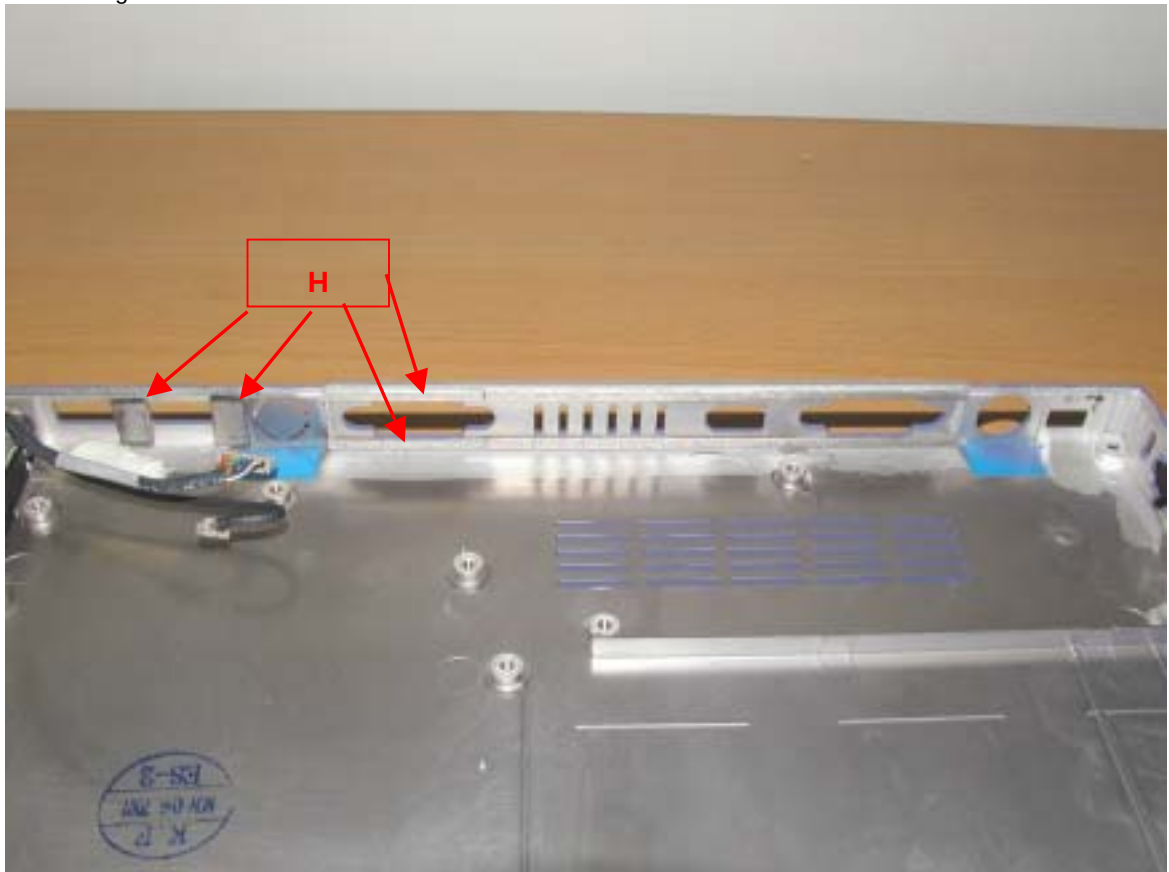
51. Debug

52. Debug



53. Debug

54. Debug



7. EMI REDUCTION METHOD DURING COMPLIANCE TESTING

A、LAN Port:

- (I). L8 change to BLM31B601S.
- (II). L4 ~ L7 change to BLM21B601S.

B、PLL:

- (I). FB41 ~ 44 change to BLM21B601S.
- (II). R232 // 12pF cap.

C、Serial Port:

- (I). FB2 change to BLM31B601S.

D、USB Port:

- (I). L2 ~ 5 change to BLM21B221SB.
- (II). FB58 change to BLM31B601S.

E、CPU clk gen:

- (I). U2 pin #23,24 added BLM11B220SB.
- (II). R229, C178 grounding point change to GND_CLK.
- (III). FB78 change to BLM31B601S.

F、CRT Port:

- (I). FB 3,4,5,6,56 change to BLM21B221S.
- (II). FB1 change to BLM31B601S.
- (III). C1 ~ 5 change to 68pF cap.

G、Added gasket between upper cover and bottom chassis on the I/O ports.

H、Added gasket between bottom chassis and I/O ports, USB audio and LAN connector.

I、Added gasket on the rear side around the keyboard.

J、Added gasket on the LCD cable and inverter cable import of the panel.

K、Added metal foil on the M/B where under the HDD.

L、Added gasket between the upper cover and DVD-ROM.

M、External FDD connector added gasket.

N、Upper cover added 7 gasket.

O、Bottom chassis added 5 gasket.

P、LCD panel inverter added metal foil shield.

Q、LCD cable cover added 3 gasket.

R、CPU heatsink added 2 gasket.

Appendix A

Circuit (Block) Diagram

(Shall be added by Applicant)

Appendix B

User Manual

(Shall be added by Applicant)