FCC CFR47 PART 15 DIGITAL DEVICE

TEST REPORT

FOR

IEEE 1394 CARD BUS INTO PCMCIA SLOT

MODEL: UT-T2PC

FCC ID: NUOUT-T2PC

REPORT NUMBER: 01E9257

ISSUE DATE: April 19, 2001

Prepared for

UNIXTAR TECHNOLOGY, INC.
3F, NO. 3, LANE 538, CHUNG CHENG RD.,
HSIN TIEN, TAIPEI, TAIWAN, R. O. C.

Prepared by

COMPLIANCE ENGINEERING SERVICES, INC.
No. 199, CHUNG SHENG ROAD
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LAB CODE: SL2-IN-E-0005

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NO.199, CHUNG SHENG ROAD, HSIN TIEN, TAIPEI, TAIWAN R.O.C. TEL:(02)2217-0894/FAX:2217-1254

1. VERIFICATION OF COMPLIANCE

NVLAP LAB CODE: SL2-IN-E-0005

COMPANY NAME: UNIXTAR TECHNOLOGY, INC.
3F, NO. 3, LANE 538, CHUNG CHENG RD., HSIN TIEN,
TAIPEI, TAIWAN, R. O. C.

CONTACT PERSON: DIVI YANG / R&D DEPT. CHIF

TELEPHONE NO: (02)2218-2100

MODEL NO/NAME: UT-T2PC

SERIAL NO: N/A

DATE TESTED: April 16 and April 17, 2001

TYPE OF EQUIPMENT:	INFORMATION TECHNOLOGY EQUIPMENT (ITE)
MEASUREMENT DISTANCE:	( ) 3 METER (×) 10 METER
TECHNICAL LIMIT:	CLASS B
FCC RULES:	PART 15
MEASUREMENT PROCEDURE	ANSI C63.4:92 / EN55022
EQUIPMENT AUTHORIZATION PROCEDURE	CERTIFICATION
MODIFICATION MADE ON EUT	☒ YES ☐ NO
DEVIATIONS FROM MEASUREMENT PROCEDURE	☐ YES (refer to section 21 for comments) ☒ NO
RADIATED EMISSION TEST RESULT	-1.09dB @ 132.654MHz / VERTICAL
CONDUCTED EMISSION TEST RESULT	-10.07dB @ 0.150MHz / L2

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in the FCC CFR 47, PART 15. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By

Rick Yeo

RICK YEO / EMC MANAGER
COMPLIANCE ENGINEERING SERVICES

Acknowledged By

DIVI YANG / R&D DEPT. CHIF
UNIXTAR TECHNOLOGY, INC.

2. PRODUCT DESCRIPTION

CHASSIS TYPE	METAL
LIST OF EACH OSC. OR XTAL. FREQ. (FREQ.>=1 MHz)	X1 = 24.576 MHz
POWER REQUIREMENTS	DC 3V
INTERFACE	PCMCIA type II

3. TESTED SYSTEM DETAILS

The Model names for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

External Peripheral Devices

Device Type	**Manufacturer**	**Model Number**	**Serial No.**	**FCC ID / DoC**
MOUSE	LOGITECH	M-S34	LZE01308155	DZL211029
PRINTER	OKIDATA	GE5253A	010C0400535	B2K9F2320
NOTEBOOK	TOSHIBA	PS285L	31012396J	DoC
IEEE 1394 MO	FUJITSU	MDF3064EE	05003225	DoC
IEEE 1394 D8	SONY	DCR-TRV103	N/A	DoC

4. TEST FACILITY

The open area test sites and conducted measurement facilities used to collect the radiated data are located at No. 199, Chung Sheng Road, Hsin Tien City, Taipei, Taiwan R.O.C. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5. ACCREDITATION AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code:SL2-IN-E-0005 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by BSMI or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (reference no: 31040/SIT(1300F2))

6. MEASUREMENT INSTRUMENTATION

Radiated emissions were measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, ridged waveguide, liner horn. EMI receivers were used for line conducted readings, spectrum analyzers with pre-selectors and quasi-peak detectors were used to perform radiated measurements. Receiving equipment (i.e., receiver, analyzer, quasi-peak adapter, pre-selector) and LISNs conform to CISPR specification for "Radio Interference Measuring Apparatus and Measurement Methods," Publication 16.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

7. MEASURING INSTRUMENT CALIBRATION

The measuring equipment which was utilized in performing the tests documented herein has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment which is traceable to recognized national standards.

8. UNITS OF MEASUREMENT

Measurements of radiated interference are reported in terms of dB(uV/m) at a specified distance. The indicated readings on the spectrum analyzer were converted to dB(uV/m) by use of appropriate conversion factors. Measurements of conducted interference are reported in terms of dB(uV).

The field strength is calculated by adding the Antenna Factor and Cable Factors, then by subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

WhereFS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain

Assume a receiver reading of 52.5 dBuV is obtained. The Antenna Factor of 7.4dB/m and a Cable Factor of 1.1dB is added. The Amplifier Gain of 29 dB is subtracted, giving a field strength of 32 dBuV/m. The 32 dBuV/m value was mathematically converted to its corresponding level in uV/m.

FS = 52.5 + 7.4 + 1.1 - 29 = 32 dBuV/m

Level in uV/m = Common Antilogarithm [(32 dBuV/m)/20] = 39.8 uV/m

9. ANTENNAS

The calibrated antennas used to sample the radiated field strength are mounted on a non-conductive, motorized antenna mast 10 meters from the leading edge of the turn table.

10. CLASSIFICATION OF DIGITAL DEVICE

Class A includes digital devices that are marketed for use in commercial, industrial or business environments, excluding devices which are marketed for use by the general public or are intended to be used in the home.

Class B includes digital devices that are marketed for use in residential environments, notwithstanding use in commercial, business and industrial environments.

Note: The responsible party may also qualify a device intended to be marketed in a commercial, business or industrial environment as Class B device, and in fact is encouraged to do so provided the device complies with the technical specifications for a Class B digital device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B digital device, regardless of its intended use.

11. RADIATED EMISSION LIMITS

FCC PART 15 CLASS B

MEASURING DISTANCE OF 3 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

FCC CLASS B ALTERNATIVE DISTANCE (CISPR 22:1993)

MEASURING DISTANCE OF 10 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	30	29.5
88-216	45	33.0
216-960	60	35.6
960-1000	150	43.5
ABOVE 1000	150	43.5

Note: Limits extrapolated 20dB/decade

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FCC PART 15 CLASS A

MEASURING DISTANCE OF 10 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	90	39.1
88-216	150	43.5
216-960	210	46.4
Above 960	300	49.5

12. CONDUCTED EMISSION LIMITS

CLASS B

FREQUENCY RANGE	FIELD STRENGTH (Microvolts)	FIELD STRENGTH (dBuV)
450kHz-30MHz	250	48

CLASS A

FREQUENCY RANGE	FIELD STRENGTH (Microvolts)	FIELD STRENGTH (dBuV)
450kHz-1.705MHz	1000	60
1.705MHz - 30MHz	3000	69.54

13. CONDUCTED EMISSION TEST PROCEDURE

The EUT is located so that the distance between the boundary of the EUT and the closest surface to the LISN is 0.8m.

EUT test configuration is according to Section 7 of ANSI C63.4/1992.

Conducted disturbance shall be measured between the phase lead and the ground, and between the neutral lead and the ground. The frequency 0.450 - 30 MHz shall be investigated.

Set the EMI receiver to PEAK detector setting and sweep continuously over the frequency range to be investigated. Set resolution bandwidth to 9kHz minimum. Connect EMI receiver input cable to LINE 1 RF measurement connection on the LISN. Connect a 50ohm terminator to the unused RF connection on the LISN. For each mode of EUT operation, maximize emissions readings by manipulating cable and wire positions. Record the configuration for each EUT power cord which produces emissions closest to the limit. Repeat the same procedure for LINE 2 of each EUT power cord.

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14. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80 cm above the ground screen. Antenna to EUT distance is either 3 meters or 10 meters (Class B or Class A). During the test, the table is rotated 360 degrees to maximize emissions, and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

EUT test configuration is according to Section 8 of ANSI C63.4/1992.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

15. AMBIENT CONDITIONS

The ambient conditions at the time of final tests were as follows:

	Radiated Emission	Conducted Emission
Temperature	**20** ℃	**21** ℃
Humidity	**85** %	**85** %

16. SYSTEM TEST CONFIGURATION

The equipment under test was configured and operated in a manner which tended to maximize its emission characteristics in a typical application. Power and signal distribution, ground, interconnecting cabling and physical placement of equipment simulated the typical application and usage insofar as practicable.

SOFTWARE USED DURING THE TESTS	
Operating System	WINDOWS ME
File Name	WINEMC.EXE; VIDEOWAV.EXE
Program Sequence	1. WINDOWS ME BOOTS SYSTEM. 2. RUN WINEMC.EXE AND VIDEOWAV.EXE TO ACTIVATE EUT AND ALL PERIPHERALS AND DISPLAY “H” PATTERN ON MONITOR SCREEN.

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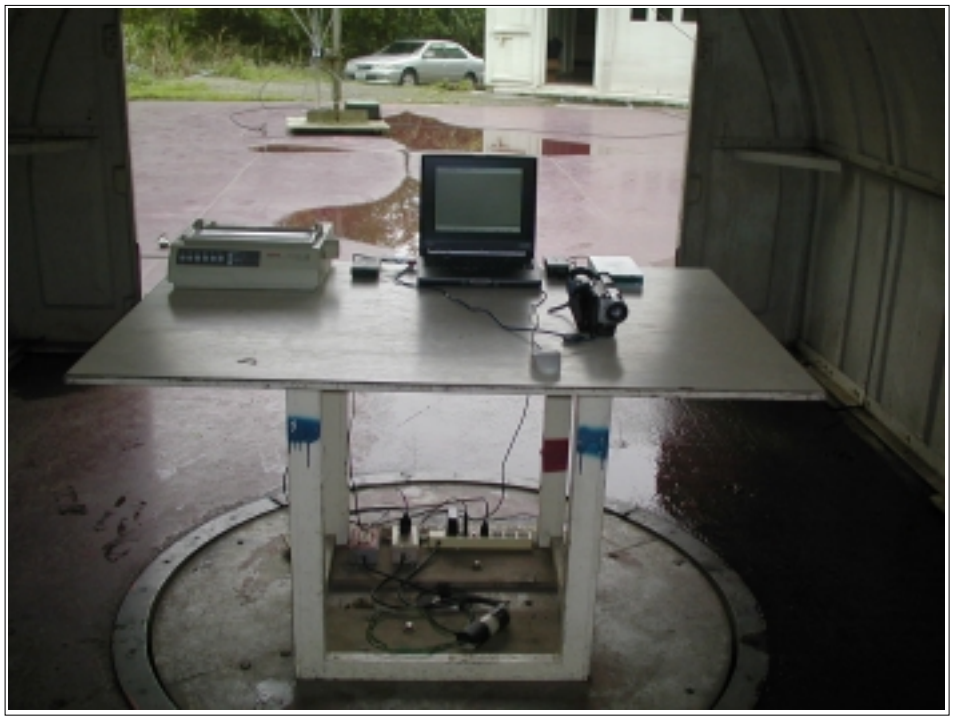
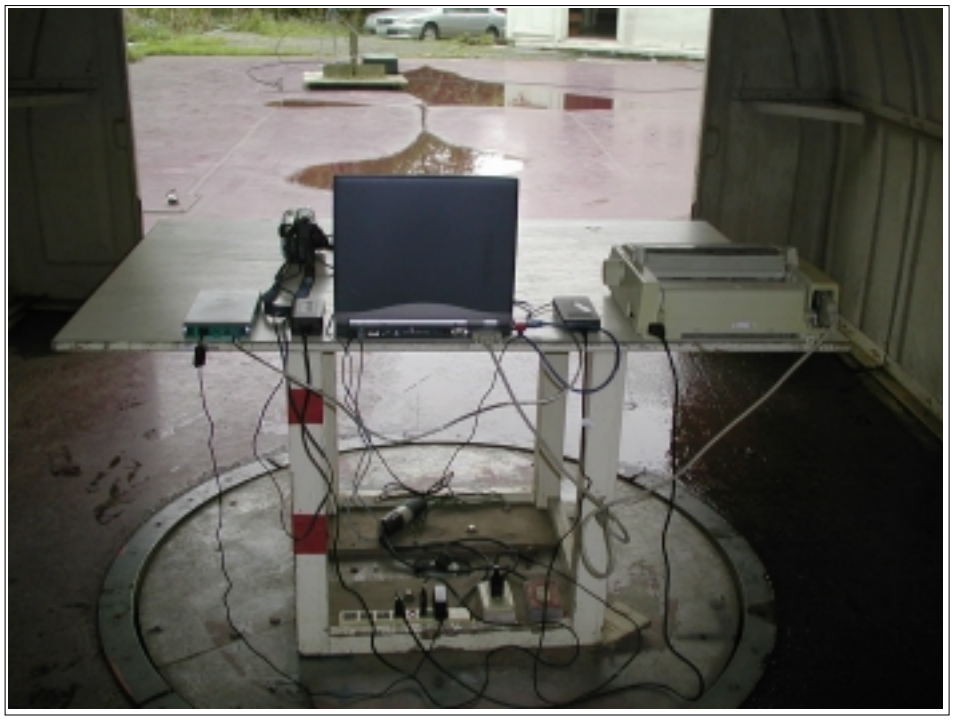
17. EQUIPMENT MODIFICATIONS

To achieve compliance to CLASS B levels, the following change(s) were made during compliance testing:

Mod.#1. Added Conductive Tape (15mm x 40mm x 2mm) and 4pcs gasket (8mm x 5mm x 2mm) to connect 1394 connector.
Mod.#2 Connected Chassis & Digital GND.
Mod.#3 Connected PCMCIA Card Bus Connector to GND.
Mod.#4 Added a low pass filter (R: 47Ω C; 33pf) on 19th pin of (Card Bus connector.
Mod.#5 Replaced a wire on CCLK.

18. EUT SETUP PHOTOS





Radiated Emission Setup Photos (Worst Emission Position)

Conducted Emission Setup Photos (Worst Emission Position)

19. TEST EQUIPMENT LIST

Equipment	Manuf.	Model No.	Serial No.	Site	Cal Date	Due Date
EMI TEST DISPLAY	**ROHDE & SCHWARZ**	**DSAI-D 804.8932.52**	**827832/001**	**D**	**11/00**	**11/01**
EMI TEST RF UNIT	**ROHDE & SCHWARZ**	**ESBI-RF/1005.4300.52**	**827832/003**	**D**	**11/00**	**11/01**
AMPLIFIER	**T.E.C.**	**PA-102**	**43685**	**D**	**05/00**	**05/01**
ANTENNA	**EMCO**	**3142**	**1310**	**D**	**06/00**	**06/01**
LISN	**FISHER CUSTOM**	**FCC-LISN-50/250-25-2**	**107**	**D**	**07/00**	**07/01**
LISN(EUT)	**EMCO**	**3825/2**	**1435**	**D**	**01/01**	**01/02**
CABLE	**TIME MICROWAVE**	**LMR-400**	**N-TYPE02**	**D**	**12/00**	**12/01**
SPECTRUM ANALYZER	**H.P.**	**8566B**	**2937A06102**	**E**	**12/00**	**12/01**
SPECTRUM DISPLAY	**H.P.**	**85662A**	**2848A18276**	**E**	**12/00**	**12/01**
QUASI-PEAK DETECTOR	**H.P.**	**85650A**	**2811A01439**	**E**	**12/00**	**12/01**
AMPLIFIER	**H.P.**	**8447D B**	**1644A02328**	**E**	**05/00**	**05/01**
ANTENNA	**EMCO**	**3142**	**1212**	**E**	**09/00**	**09/01**
TEST RECEIVER	**ROHDE & SCHWARZ**	**ESHS20**	**840455/006**	**E**	**03/01**	**03/02**
LISN	**SOLAR**	**8012-50-R-24-BNC**	**8305114**	**E**	**07/00**	**07/01**
LISN(EUT)	**EMCO**	**3825/2**	**1842**	**E**	**01/01**	**01/02**
CABLE	**TIME MICROWAVE**	**LMR-400**	**N-TYPE01**	**E**	**12/00**	**12/01**
ANTENNA (1-18GHz)	**EMCO**	**3115**	**5761**	**D/E**	**02/01**	**02/02**
AMPLIFIER (1-26GHz)	**MITEQ**	**NSP2600-44**	**646455**	**D/E**	**02/01**	**02/02**
CABLE (1-26.5G)	**FLEXCO**	**FC195**	**N/A**	**D/E**	**02/01**	**02/02**

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20. CORRECTION FACTOR

OATS NO. E

	ANTENNA 3 METER			ANTENNA 10 METER			SITE E
FREQ (MHZ)	HORI.	VERT.	CABLE LOSS (dB)	HORI.	VERT.	CABLE LOSS (dB)	AMP GAIN (dB)
30	19.01	19.01	0.92	**17.9**	**17.9**	0.92	**27.41**
35	15.92	15.92	0.94	**14.6**	**14.6**	0.94	**27.42**
40	12.70	12.70	1.04	**12.0**	**12.0**	1.04	**27.36**
45	10.20	10.20	1.06	**9.9**	**9.9**	1.06	**27.36**
50	8.70	8.70	1.08	**8.5**	**8.5**	1.08	**27.39**
60	7.20	7.20	1.15	**7.4**	**7.4**	1.15	**27.36**
70	6.95	6.95	1.22	**5.9**	**5.9**	1.22	**27.34**
80	7.63	7.63	1.31	**4.6**	**4.6**	1.31	**27.34**
90	8.52	8.52	1.45	**5.8**	**5.8**	1.45	**27.28**
100	9.05	9.05	1.50	**8.5**	**8.5**	1.50	**27.42**
120	7.65	7.65	1.69	**7.3**	**7.3**	1.69	**27.26**
125	7.70	7.70	1.70	**6.9**	**6.9**	1.70	**27.31**
140	8.32	8.32	1.82	**6.9**	**6.9**	1.82	**27.21**
150	9.21	9.21	1.84	**8.6**	**8.6**	1.84	**27.24**
160	9.65	9.65	1.92	**9.9**	**9.9**	1.92	**27.08**
175	9.86	9.86	2.02	**11.1**	**11.1**	2.02	**27.00**
180	10.10	10.10	2.04	**11.3**	**11.3**	2.04	**27.04**
200	10.30	10.30	2.22	**11.0**	**11.0**	2.22	**26.93**
250	12.85	12.85	2.51	**12.3**	**12.3**	2.51	**26.94**
300	14.10	14.10	2.72	**13.1**	**13.1**	2.72	**26.85**
400	16.55	16.55	3.29	**15.5**	**15.5**	3.29	**27.26**
500	18.75	18.75	3.85	**18.1**	**18.1**	3.85	**27.34**
600	20.85	20.85	4.32	**20.4**	**20.4**	4.32	**27.23**
700	22.86	22.86	4.73	**21.6**	**21.6**	4.73	**26.83**
800	23.10	23.10	5.10	**21.9**	**21.9**	5.10	**26.58**
900	24.31	24.31	5.58	**23.2**	**23.2**	5.58	**26.55**
1000	25.01	25.01	5.74	**23.9**	**23.9**	5.74	**26.85**
1100	25.64	25.64		**25.0**	**25.0**		**27.82**
1200	26.56	26.56		**26.3**	**26.3**		**27.70**
1300	26.75	26.75		**26.3**	**26.3**		
1400	27.85	27.85		**27.4**	**27.4**		
1500	28.12	28.12		**27.6**	**27.6**		
1600	29.25	29.25		**28.7**	**28.7**		
1700	29.75	29.75		**28.3**	**28.3**		
1800	29.90	29.90		**29.7**	**29.7**		
1900	29.95	29.95		**29.0**	**29.0**		
2000	31.52	31.52		**30.8**	**30.8**		

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	ANTENNA 1 METER			ANTENNA 3 METER			
FREQ (MHZ)	**HORI. (dB)**	**VERT. (dB)**	**CABLE LOSS (dB)**	**HORI. (dB)**	**VERT. (dB)**	**CABLE LOSS (dB)**	**AMP GAIN (dB)**
1000	**24.20**	**24.20**	2.50	**24.10**	**24.10**	2.50	**38.00**
1500	**25.70**	**25.70**	3.00	**25.40**	**25.40**	3.00	**38.00**
2000	**27.70**	**27.70**	3.60	**27.30**	**27.30**	3.60	**37.90**
2500	**28.80**	**28.80**	4.00	**28.40**	**28.40**	4.00	**37.70**
3000	**30.80**	**30.80**	4.50	**30.20**	**30.20**	4.50	**36.80**
3500	**31.90**	**31.90**	4.70	**31.20**	**31.20**	4.70	**36.90**
4000	**33.20**	**33.20**	5.20	**32.70**	**32.70**	5.20	**36.70**
4500	**33.00**	**33.00**	5.50	**32.40**	**32.40**	5.50	**36.50**
5000	**34.30**	**34.30**	5.90	**33.50**	**33.50**	5.90	**36.60**
5500	**34.80**	**34.80**	6.20	**34.20**	**34.20**	6.20	**36.80**
6000	**35.10**	**35.10**	6.70	**34.40**	**34.40**	6.70	**36.90**
6500	**35.30**	**35.30**	7.00	**34.40**	**34.40**	7.00	**36.90**
7000	**36.30**	**36.30**	7.20	**35.40**	**35.40**	7.20	**36.60**
7500	**37.50**	**37.50**	7.60	**36.70**	**36.70**	7.60	**36.00**
8000	**38.00**	**38.00**	7.80	**37.20**	**37.20**	7.80	**35.70**
8500	**38.60**	**38.60**	8.10	**37.90**	**37.90**	8.10	**36.00**
9000	**38.70**	**38.70**	8.30	**38.20**	**38.20**	8.30	**35.00**
9500	**38.20**	**38.20**	8.70	**37.70**	**37.70**	8.70	**33.90**
10000	**38.60**	**38.60**	8.90	**37.90**	**37.90**	8.90	**33.40**
10500	**38.60**	**38.60**	9.00	**38.00**	**38.00**	9.00	**33.70**
11000	**38.90**	**38.90**	9.40	**38.30**	**38.30**	9.40	**34.10**
11500	**39.30**	**39.30**	9.70	**38.70**	**38.70**	9.70	**34.30**
12000	**39.20**	**39.20**	9.80	**39.20**	**39.20**	9.80	**34.20**
12500	**39.30**	**39.30**	10.10	**38.90**	**38.90**	10.10	**34.80**
13000	**40.10**	**40.10**	10.40	**39.30**	**39.30**	10.40	**34.40**
13500	**41.20**	**41.20**	10.80	**40.50**	**40.50**	10.80	**36.20**
14000	**42.20**	**42.20**	11.00	**41.90**	**41.90**	11.00	**36.40**
14500	**41.40**	**41.40**	11.10	**42.30**	**42.30**	11.10	**36.50**
15000	**39.70**	**39.70**	11.50	**40.50**	**40.50**	11.50	**36.80**
15500	**38.40**	**38.40**	11.70	**38.30**	**38.30**	11.70	**37.30**
16000	**38.30**	**38.30**	11.80	**37.80**	**37.80**	11.80	**37.50**
16500	**39.60**	**39.60**	12.00	**38.50**	**38.50**	12.00	**37.60**
17000	**42.50**	**42.50**	12.40	**41.40**	**41.40**	12.40	**37.30**
17500	**45.60**	**45.60**	12.70	**44.00**	**44.00**	12.70	**36.60**
18000	**46.20**	**46.20**	12.80	**45.70**	**45.70**	12.80	**36.40**
19000							
21000							
24000							
26000							

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21. TEST RESULT SUMMARY

Preliminary Radiated Emission Tests were performed at the 10 meter open area test site. CCS test procedure no:CCSUE2001B and the procedure listed in ANSI C63.4 /1992 section 8.3.1.1. were used. The following preliminary tests were conducted to determine the worst mode of operation and configuration.

Preliminary Radiated Emission Test			
Frequency Range Investigated		30 MHz TO 1000 MHz	
Mode of operation	Date	Data Report No.	Worst Mode
NORMAL MODE	04/16/01	9257F# (25, 29)	☒

Final Radiated Emission Test was conducted by operating the worst mode as indicated above.

OATS No: **E / 10 M**	Data Report No. **9257F# (25, 29)**	Date **04/16/01**	Tested By: **MICHAEL HUNG**

Six Highest Radiated Emission Readings

Frequency Range Investigated				30 MHz TO 1000 MHz			
Freq (MHz)	Meter Reading (dBuV)	C.F. (dB/m)	Corrected Reading (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading Type P/Q/A	Pol. H/V
33.240	**34.30**	**-7.23**	**27.07**	**30.00**	**-2.93**	**Q**	**V**
132.654	**44.55**	**-15.64**	**28.91**	**30.00**	**-1.09**	**Q**	**V**
186.613	**38.00**	**-10.68**	**27.32**	**30.00**	**-2.68**	**P**	**V**
497.102	**38.13**	**-2.49**	**35.64**	**37.00**	**-1.36**	**Q**	**V**
132.655	**43.49**	**-15.64**	**27.85**	**30.00**	**-2.15**	**Q**	**H**
199.920	**38.10**	**-10.69**	**27.41**	**30.00**	**-2.59**	**Q**	**H**

C.F.(Correction Factor)=Antenna Factor + Cable Loss + Attenuator(6dB) - Amplifier Gain
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading - Limits
P=Peak Reading H=Horizontal Polarization/Antenna
Q=Quasi-peak V=Vertical Polarization/Antenna
A=Average Reading

Comments: **N/A**

COMPLIANCE ENGINEERING SERVICES, INC. DOCUMENT NO:CCSTP4002B
NO.199, CHUNG SHENG ROAD, HSIN TIEN, TAIPEI, TAIWAN R.O.C. TEL:(02)2217-0894/FAX:2217-1254

Preliminary Conducted Emission Tests were performed according to CCS test procedure no:CCSUE2002B and ANSI C63.4/1992 section 7.2.3. The following preliminary tests were conducted to determine the worst mode of operation.

Preliminary Conducted Emission Test			
Frequency Range Investigated		150 kHz TO 30 MHz	
Mode of operation	Date	Data Report No.	Worst Mode
NORMAL MODE	04/17/01	9257E# (8/33, 16/34)	☒

Final Conducted Emission Test was conducted by operating the worst mode as indicated above.

Conducted Room	Data Report No. **9257E# (8, 16)**	Date **04/17/01**	Tested By: **MICHAEL HUNG**

Six Highest Conducted Emission Readings

Frequency Range Investigated				150 kHz TO 30 MHz			
Freq (MHz)	Meter Reading (dBuV)	C.F. (dB)	Corrected Reading (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading Type (P/Q/A)	Line (L1/L2)
0.150	**55.68**	**0.03**	**55.71**	**66.00**	**-10.29**	**P**	**L1**
0.181	**50.48**	**0.03**	**50.51**	**64.46**	**-13.95**	**P**	**L1**
3.881	**33.19**	**0.15**	**33.34**	**56.00**	**-22.66**	**P**	**L1**
0.150	**55.90**	**0.03**	**55.93**	**66.00**	**-10.07**	**P**	**L2**
4.136	**33.33**	**0.15**	**33.48**	**56.00**	**-22.52**	**P**	**L2**
4.269	**33.25**	**0.15**	**33.40**	**56.00**	**-22.60**	**P**	**L2**

C.F.(Correction Factor)=Insertion Loss + Cable Loss
Corrected Reading = Metering Reading + C.F.
Margin=Corrected Reading - Limits
P=Peak Reading L1=Hot
Q=Quasi-peak L2=Neutral
A=Average Reading

Comments: **N/A**

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APPENDICES

EXTERNAL I/O CABLE CONSTRUCTION DESCRIPTION

CONFIGURATION BLOCK DIAGRAM

CONDUCTED EMISSION PLOT

RADIATED EMISSION DATA

External I/O Cable Construction Description

NO: **1**	CABLE Name: **N/A**	Number of I/O ports of this type: **1**
I/O Port: **MOUSE**		Type of Cable used: **Un-Shielded**
Cable Connector Type: **Molded**		Data Traffic Generated: **Yes**
Bundled During Tests: **No**		Cable Length: **1.8 M**
Remarks: **N/A**		

NO: **2**	CABLE Name: **N/A**	Number of I/O ports of this type: **1**
I/O Port: **IEEE 1393 D8**		Type of Cable used: **Shielded**
Cable Connector Type: **Molded**		Data Traffic Generated: **Yes**
Bundled During Tests: **Yes**		Cable Length: **1.9 M**
Remarks: **N/A**		

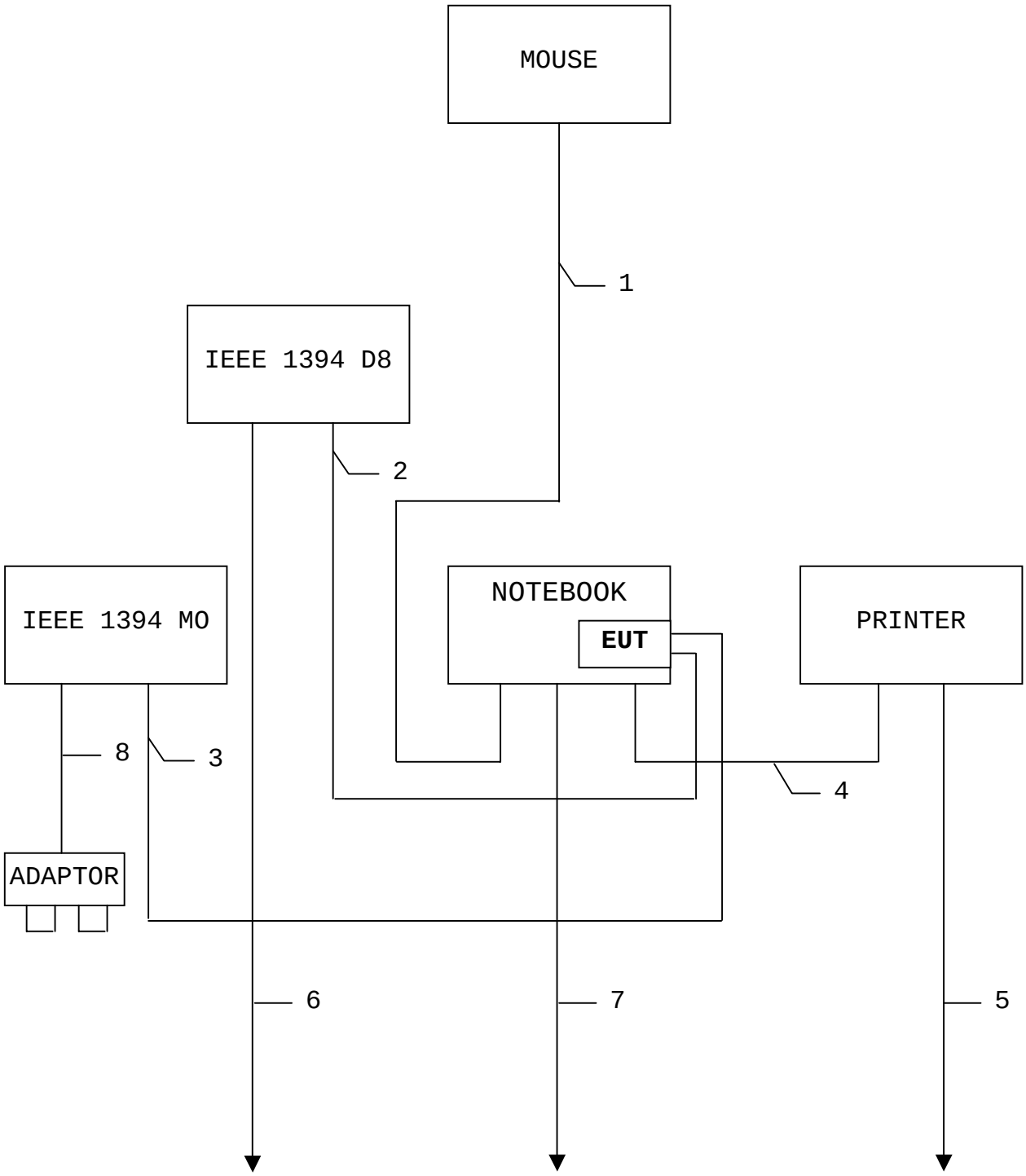
NO: **3**	CABLE Name: **N/A**	Number of I/O ports of this type: **1**
I/O Port: **IEEE 1394 MO**		Type of Cable used: **Shielded**
Cable Connector Type: **Molded**		Data Traffic Generated: **Yes**
Bundled During Tests: **No**		Cable Length: **1 M**
Remarks: **N/A**		

NO: **4**	CABLE Name: **N/A**	Number of I/O ports of this type: **1**
I/O Port: **printer**		Type of Cable used: **Shielded**
Cable Connector Type: **Molded**		Data Traffic Generated: **Yes**
Bundled During Tests: **Yes**		Cable Length: **2 M**
Remarks: **N/A**		

NO: **5~7**	CABLE Name: **N/A**	Number of I/O ports of this type: **3**
I/O Port: **AC Power Cord**		Type of Cable used: **Un-Shielded**
Cable Connector Type: **Molded**		Cable Length: **1.8 M**
Bundled During Tests: **No (Radiation), Yes (Line Conduction)**		
Remarks: **N/A**		

NO: **8**	CABLE Name: **N/A**	Number of I/O ports of this type: **1**
I/O Port: **DC Power Cord**		Type of Cable used: **Un-Shielded**
Cable Connector Type: **Molded**		Cable Length: **1.8 M**
Bundled During Tests: **No (Radiation), Yes (Line Conduction)**		
Remarks: **A Ferrite bead on the cable of MO end.**		

Configuration Block Diagram



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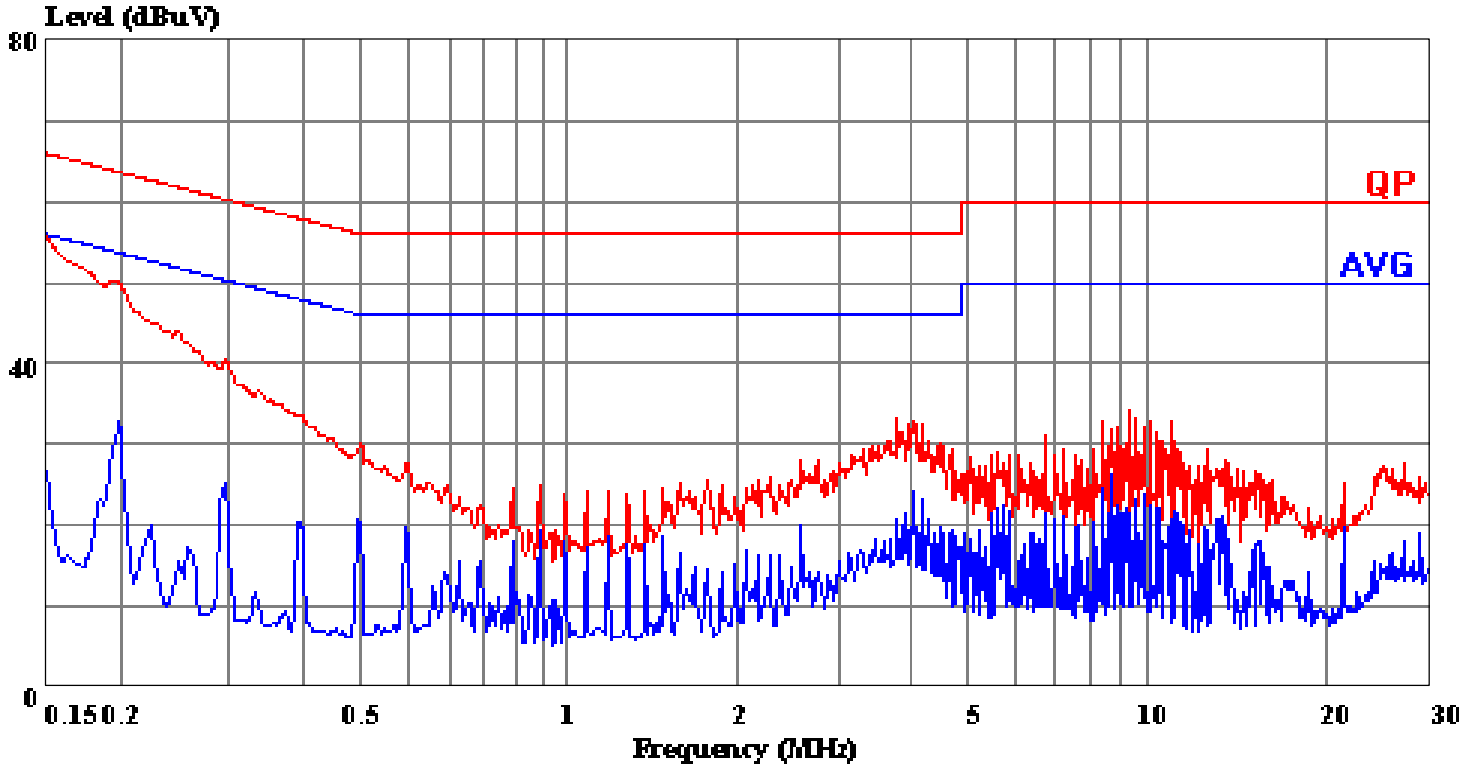
Data#: 8 File#: 9257e.emi Date: 04-17-2001 Time: 02:21:01



(CCS E-Site)

Trace: 7 Ref Trace:

Condition: LINE
Report No. : 01E9257
Test Engr. : MICHAEL HUNG
Company   : UNIXTAR TECHNOLOGY, INC.
EUT   : UT-T2PC
Test Config : EUT /ALL PERIPHERALS
Type of Test: EN55022 CLASS B
Mode of Op. : NORMAL MODE

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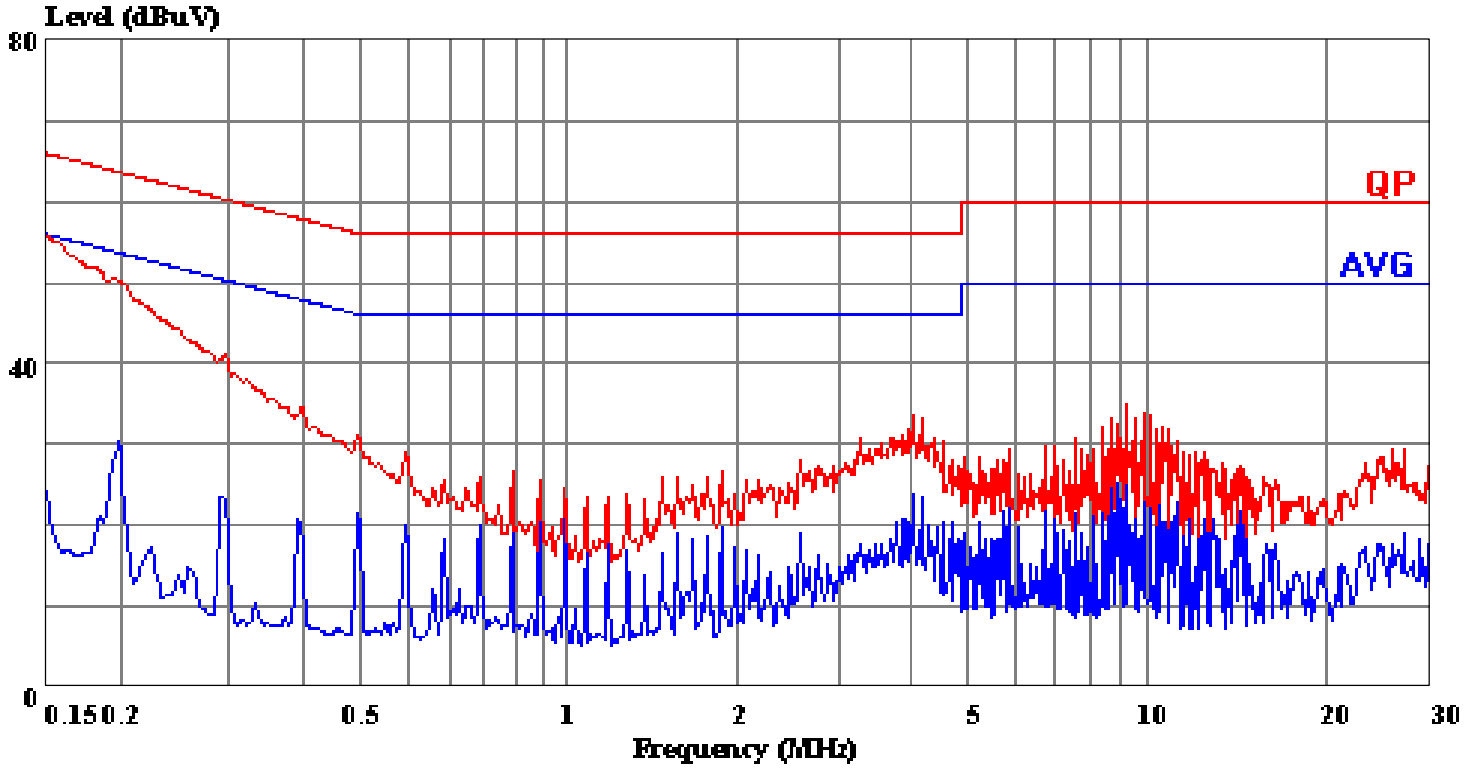
Data#: 16 File#: 9257e.emi Date: 04-17-2001 Time: 02:28:26



(CCS E-Site)

Trace: 15 Ref Trace:

Condition: NEUTRAL
Report No. : 01E9257
Test Engr. : MICHAEL HUNG
Company   : UNIXTAR TECHNOLOGY, INC.
EUT   : UT-T2PC
Test Config : EUT /ALL PERIPHERALS
Type of Test: EN55022 CLASS B
Mode of Op. : NORMAL MODE

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Tel:02-2217-0894 Fax:02-2217-1254

Data#: 25 File#: 9257f.emi Date: 2001-04-16 Time: 21:40:24
CCS E-Site

Condition: VERTICAL
Report No. : 01E9257
Test Engr. : MICHAEL HUNG
Company   : UNIXTAR TECHNOLOGY, INC.
EUT   : UT-T2PC
Test Config : EUT/ ALL PERIPHERALS
Type of Test: EN55022 CLASS B
Mode of Op. : NORMAL MODE

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	33.240	34.30	-7.23	27.07	30.00	-2.93	QP
2	36.459	33.80	-8.86	24.94	30.00	-5.06	Peak
3	43.770	39.40	-12.70	26.70	30.00	-3.30	Peak
4	68.050	40.50	-17.11	23.39	30.00	-6.61	Peak
5	132.654	44.55	-15.64	28.91	30.00	-1.09	QP
6	159.504	35.90	-12.36	23.54	30.00	-6.46	Peak
7	186.613	38.00	-10.68	27.32	30.00	-2.68	Peak
8	194.940	36.90	-10.74	26.17	30.00	-3.83	Peak
9	199.121	35.16	-10.73	24.43	30.00	-5.57	QP
10	399.900	36.80	-5.47	31.33	37.00	-5.67	Peak
11	497.102	38.13	-2.49	35.64	37.00	-1.36	QP

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Tel:02-2217-0894 Fax:02-2217-1254

Data#: 29 File#: 9257f.emi Date: 2001-04-16 Time: 23:02:29
CCS E-Site

Condition: HORIZONTAL
Report No. : 01E9257
Test Engr. : MICHAEL HUNG
Company   : UNIXTAR TECHNOLOGY, INC.
EUT   : UT-T2PC
Test Config : EUT/ ALL PERIPHERALS
Type of Test: EN55022 CLASS B
Mode of Op. : NORMAL MODE

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	33.280	33.90	-7.23	26.67	30.00	-3.33	Peak
2	66.280	37.30	-16.83	20.47	30.00	-9.53	Peak
3	132.655	43.49	-15.64	27.85	30.00	-2.15	QP
4	159.725	33.30	-12.36	20.94	30.00	-9.06	Peak
5	194.940	34.50	-10.74	23.77	30.00	-6.23	Peak
6	199.920	38.10	-10.69	27.41	30.00	-2.59	QP
7	397.620	39.60	-5.55	34.05	37.00	-2.95	Peak
8	497.020	35.40	-2.49	32.91	37.00	-4.09	Peak