



FCC CFR47 PART 15 DIGITAL DEVICE

TEST REPORT

FOR

USB 2.0 PCI CARD(5 PORTS)

MODEL: UT-20NC01

FCC ID: NUOUT-20NC01

REPORT NUMBER: 01E9589

ISSUE DATE: July 13, 2001

Prepared for

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Prepared by

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**FCC, VCCI, CISPR, CE
UL, CSA, TÜV, VDE**

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1. VERIFICATION OF COMPLIANCE

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-20NC01

SERIAL NO: N/A

DATE TESTED: July 6 and July 10, 2001

TYPE OF EQUIPMENT:	INFORMATION TECHNOLOGY EQUIPMENT (ITE)
MEASUREMENT DISTANCE:	() 3 METER (x) 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	-3.20dB @ 149.978MHz / VERTICAL
CONDUCTED EMISSION TEST RESULT	-11.04dB @ 0.157MHz / L1

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

Acknowledged By



RICK YEO / EMC MANAGER
COMPLIANCE ENGINEERING SERVICES

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

2. PRODUCT DESCRIPTION

CHASSIS TYPE	N/A
LIST OF EACH OSC. OR XTAL. FREQ. (FREQ.>=1 MHz)	Y1 = 30 MHz
POWER REQUIREMENTS	DC 3.3/5/12V
INTERFACE	PCI

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
HOST COMPUTER	VIVA	VIVA 686-350	HS-14	DoC
KEYBOARD	ACER	6311-TW4C/6	N/A	DoC
MONITOR	COMPAQ	MV925	940GA23TA097	DoC
MODEM	HAYES	231AA	A25331083841	BFJ9D9308US
MOUSE	LOGITECH	M-S34	LZE02353706	DZL211029
MOUSE	LOGITECH	M-BE58	LZA10752862	DoC
MOUSE	LOGITECH	M-BE58	LZA10752880	DoC
MOUSE	LOGITECH	M-BE58	LZA10752499	DoC
MOUSE	LOGITECH	M-BE58	LZA10752403	DoC
PRINTER	HP	2225C	2550540697	BS46XU2225C

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:

$$FS = RA + AF + CF - AG$$

Where FS = 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.

$$FS = 52.5 + 7.4 + 1.1 - 29 = 32 \text{ dBuV/m}$$

$$\text{Level in uV/m} = \text{Common Antilogarithm} [(32 \text{ dBuV/m})/20] = 39.8 \text{ uV/m}$$

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

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.

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	30 °C	29 °C
Humidity	68 %	68 %

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 2000
File Name	EMCTEST.EXE
Program Sequence	1. WINDOWS 2000 BOOTS SYSTEM. 2. RUN EMCTEST.EXE TO ACTIVATE ALL PERIPHERALS AND DISPLAY "H" PATTERN ON MONITOR SCREEN.

17. EQUIPMENT MODIFICATIONS

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

NOT APPLICABLE

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	HP	8447D A	2727A05764	D	05/01	05/02
ANTENNA	SCHWARZBECK	VULB 9160	3104	D	05/01	05/02
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	05/01	05/02
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	1435	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

20. CORRECTION FACTOR**OATS NO. D**

FREQ (MHZ)	ANTENNA 3 METER			ANTENNA 10 METER			SITE D
	HORI.	VERT.	CABLE LOSS (dB)	HORI.	VERT.	CABLE LOSS (dB)	AMP GAIN (dB)
30	12.24	12.24	0.99	11.51	11.51	0.99	28.48
35	12.40	12.40	1.04	11.67	11.67	1.04	28.51
40	12.71	12.71	1.12	11.98	11.98	1.12	28.45
45	12.75	12.75	1.12	12.02	12.02	1.12	28.49
50	12.57	12.57	1.22	11.84	11.84	1.22	28.43
60	12.67	12.67	1.24	11.95	11.95	1.24	28.41
70	10.99	10.99	1.32	10.26	10.26	1.32	28.33
80	8.77	8.77	1.42	8.04	8.04	1.42	28.30
90	9.30	9.30	1.52	8.57	8.57	1.52	28.22
100	10.24	10.24	1.57	9.51	9.51	1.57	28.15
120	12.03	12.03	1.70	11.30	11.30	1.70	28.03
125	12.03	12.03	1.715	11.30	11.30	1.715	28.02
140	13.36	13.36	1.80	12.63	12.63	1.80	27.92
150	13.90	13.90	1.88	13.17	13.17	1.88	27.90
160	13.88	13.88	1.96	13.15	13.15	1.96	27.87
175	12.44	12.44	2.055	11.71	11.71	2.055	27.82
180	12.44	12.44	2.08	11.71	11.71	2.08	27.77
200	10.38	10.38	2.14	9.80	9.80	2.14	27.67
250	11.71	11.71	2.54	11.35	11.35	2.54	26.30
300	13.19	13.19	2.75	13.07	13.07	2.75	26.25
400	15.32	15.32	3.07	15.45	15.45	3.07	26.93
500	17.06	17.06	3.35	17.34	17.34	3.35	27.24
600	19.16	19.16	3.76	19.55	19.55	3.76	27.31
700	20.14	20.14	3.88	20.61	20.61	3.88	27.34
800	21.76	21.76	4.24	22.29	22.29	4.24	27.01
900	22.58	22.58	4.39	23.16	23.16	4.39	26.55
1000	23.44	23.44	4.62	24.06	24.06	4.62	25.99
1100	24.97	24.97	4.87	25.62	25.62	4.87	25.51
1200	25.93	25.93	4.79	26.60	26.60	4.79	
1300	26.33	26.33	5.25	27.03	27.03	5.25	
1400	28.42	28.42	5.49	29.13	29.13	5.49	
1500	28.14	28.14	5.99	28.88	28.88	5.99	
1600	30.34	30.34	6.40	31.08	31.08	6.40	
1700	32.44	32.44	6.45	33.19	33.19	6.45	
1800	31.93	31.93	6.78	32.70	32.70	6.78	
1900	31.87	31.87	7.67	32.65	32.65	7.67	
2000	35.37	35.37	7.44	36.16	36.16	7.44	

	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							

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	07/06/01	8320D# (13, 14)	☒

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

OATS No: D / 10 M		Data Report No. 8320D# (13, 14)		Date 07/06/01		Tested By: JAMES LIAO	
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
118.678	31.84	-9.15	22.69	30.00	-7.31	P	V
149.978	33.65	-6.85	26.80	30.00	-3.20	P	V
189.989	34.94	-9.01	25.93	30.00	-4.07	P	V
133.728	31.92	-8.02	23.90	30.00	-6.10	P	H
150.017	31.87	-6.85	25.02	30.00	-4.98	P	H
190.722	30.77	-9.11	21.66	30.00	-8.34	P	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

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	07/10/01	9589E# (8/18, 16/17)	☒

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

Conducted Room		Data Report No. 9589E# (8, 16)		Date 07/10/01		Tested By: JAMES LIAO	
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)
0.158	49.15	0.02	49.17	65.56	-16.39	P	L2
10.452	40.94	0.35	41.29	60.00	-18.71	P	L2
0.157	54.54	0.02	54.56	65.60	-11.04	P	L1
9.913	40.67	0.34	41.01	60.00	-18.99	P	L1
13.695	42.09	0.39	42.48	60.00	-17.52	P	L1
17.109	41.65	0.42	42.07	60.00	-17.93	P	L1

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**

APPENDICES

EXTERNAL I/O CABLE CONSTRUCTION DESCRIPTION

CONFIGURATION BLOCK DIAGRAM

CONDUCTED EMISSION PLOT

RADIATED EMISSION DATA

External I/O Cable Construction Description

NO:1 ~ 4	CABLE Name: DME 02,03;EME 03,04	Number of I/O ports of this type: 4
I/O Port: USB 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: 5	CABLE Name: EME-06	Number of I/O ports of this type: 1
I/O Port: PS/2 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		

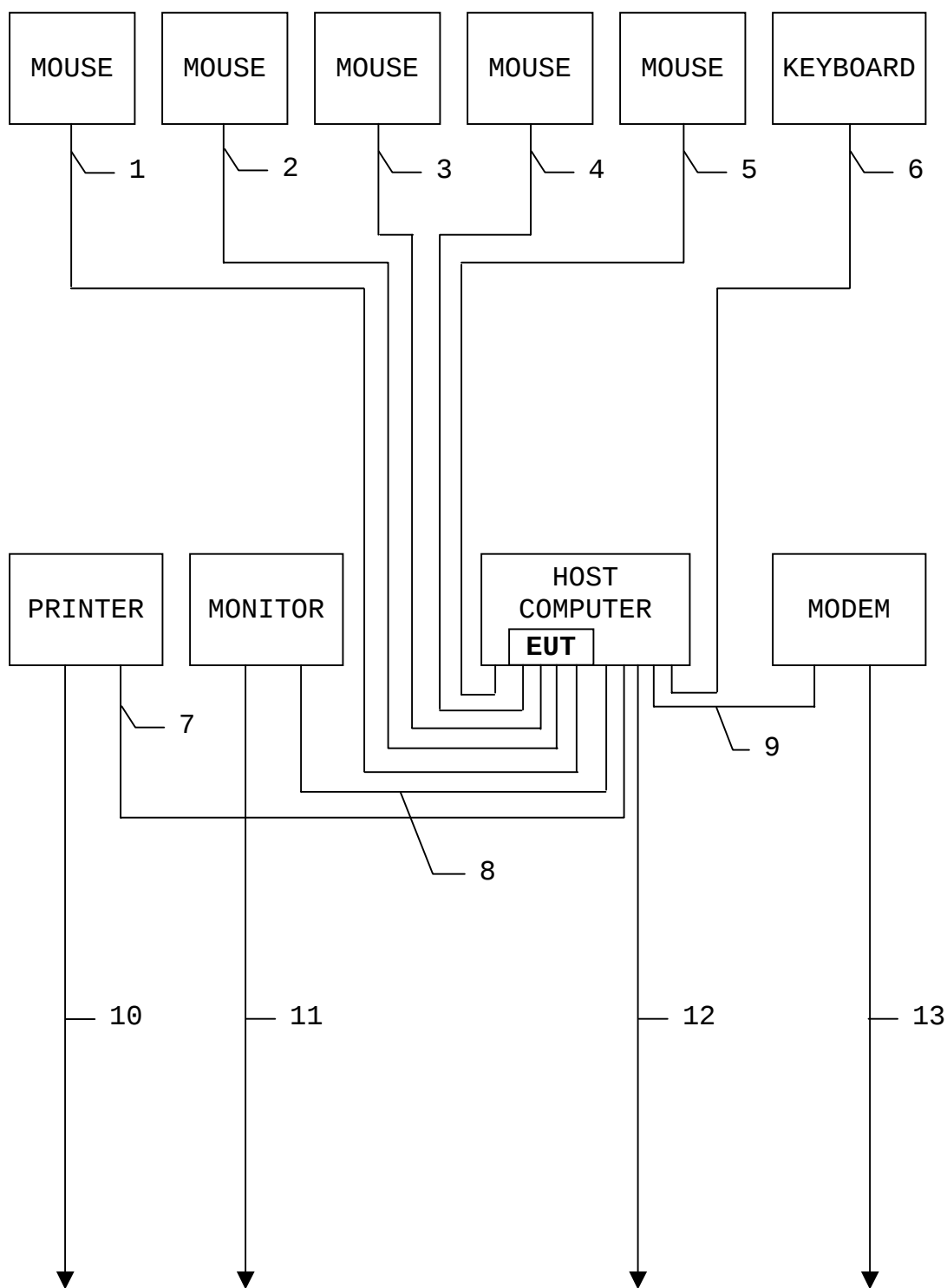
NO: 6	CABLE Name: DKB-01	Number of I/O ports of this type: 1
I/O Port: PS/2 KEYBOARD		Type of Cable used: Un-Shielded
Cable Connector Type: Molded		Data Traffic Generated: Yes
Bundled During Tests: No		Cable Length: 1.8 M
Remarks: N/A		

NO: 7	CABLE Name: DPR-01	Number of I/O ports of this type: 1
I/O Port: PARALLEL PRINTER		Type of Cable used: Shielded
Cable Connector Type: Molded		Data Traffic Generated: Yes
Bundled During Tests: Yes		Cable Length: 2.0 M
Remarks: N/A		

NO: 8	CABLE Name: DMT-01	Number of I/O ports of this type: 1
I/O Port: MONITOR		Type of Cable used: Shielded
Cable Connector Type: Molded		Data Traffic Generated: Yes
Bundled During Tests: Yes		Cable Length: 1.8 M
Remarks: Ferrite bead loaded at both ends.		

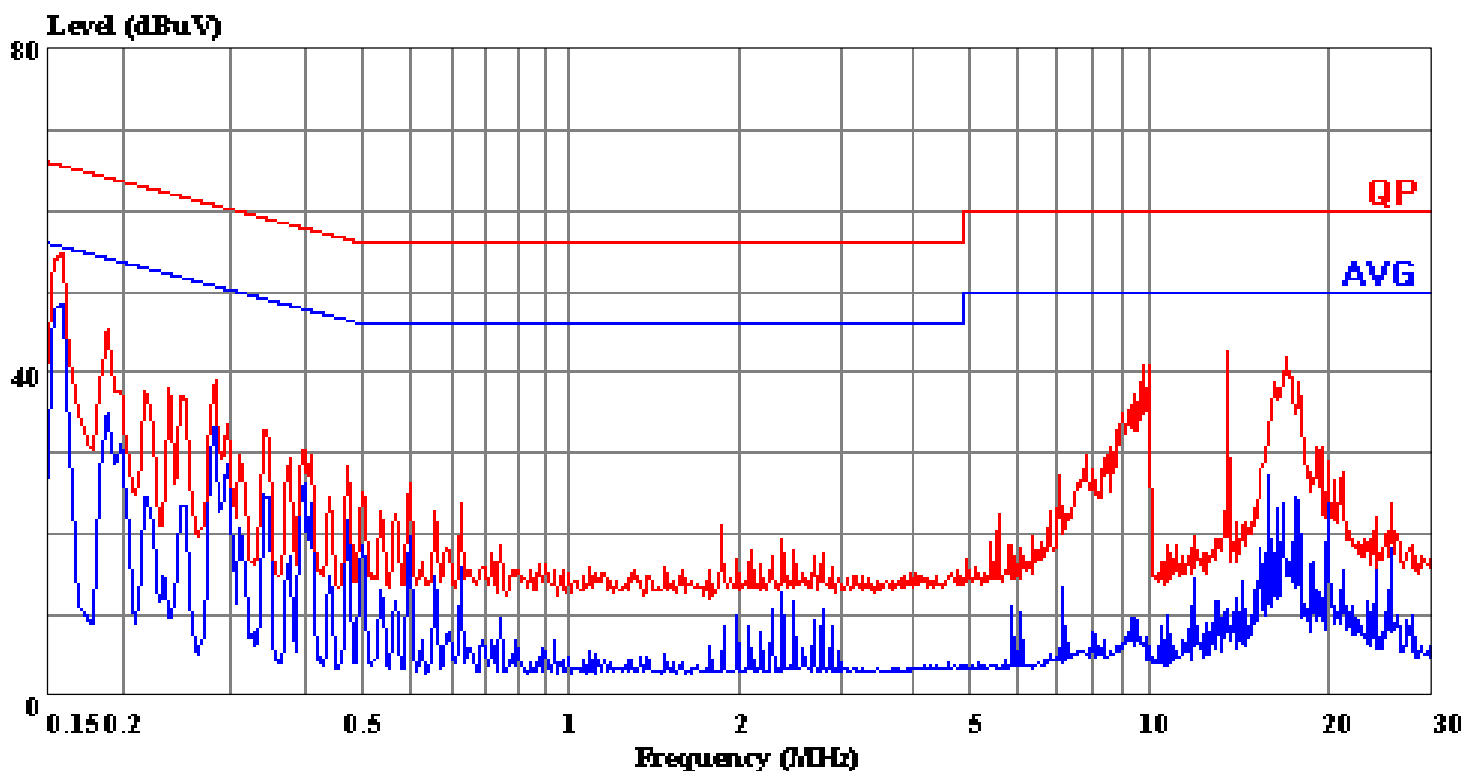
NO: 9	CABLE Name: EMD-02	Number of I/O ports of this type: 1
I/O Port: SERIAL MODEM		Type of Cable used: Shielded
Cable Connector Type: Metal		Data Traffic Generated: Yes
Bundled During Tests: No		Cable Length: 1 M
Remarks: N/A		

NO: 10~13	CABLE Name: N/A	Number of I/O ports of this type: 4
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		

Configuration Block Diagram

Data#: 16 File#: 9589e.EMI

Date: 2001-07-10 Time: 17:47:15



(CES Conducted)

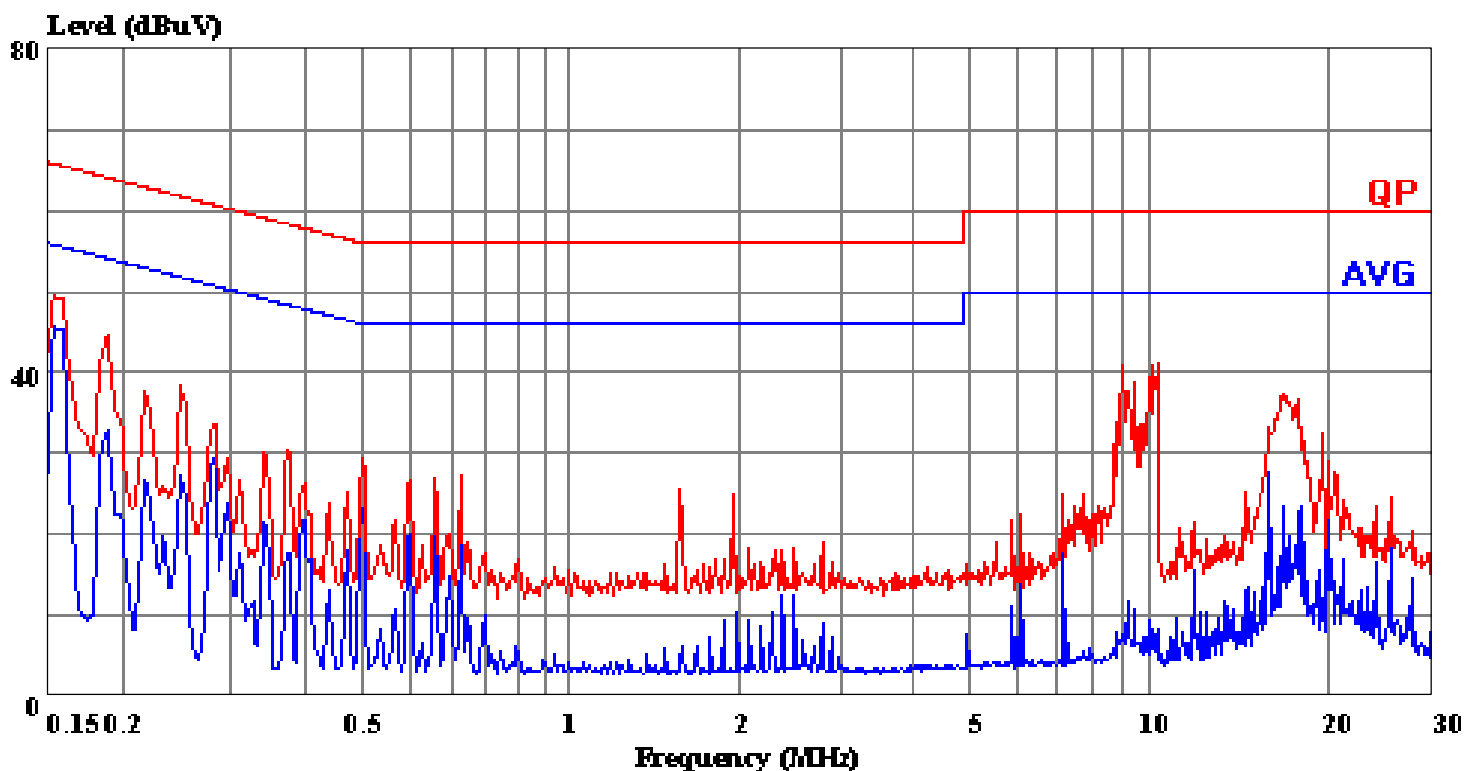
Trace: 15

Ref Trace:

Condition: LINE
Report No. : 01E9589
Test Engr. : JAMES LIAO
Company : UNIXSTAR TECHNOLOGY, INC.
EUT : UT-20NC01
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS B
Mode of Op. : NORMAL MODE

Data#: 8 File#: 9589e.EMI

Date: 2001-07-10 Time: 17:40:39



(CES Conducted)

Trace: 7

Ref Trace:

Condition: NEUTRAL
Report No. : 01E9589
Test Engr. : JAMES LIAO
Company : UNIXSTAR TECHNOLOGY, INC.
EUT : UT-20NC01
Test Config : EUT/ALL PERIPHERALS
Type of Test: EN 55022 CLASS B
Mode of Op. : NORMAL MODE

Data#: 13 File#: 8320d.EMI
CCS D-Site

Date: 2001-07-06 Time: 11:29:13

Condition: VERTICAL
Report No. : 01E9589
Test Engr. : JAMES LIAO
Company : UNIXSTAR TECHNOLOGY, INC.
EUT : UT-20NC01
Test Config : EUT / ALL PERIPHERALS
Type of Test: EN55022 CLASS B
Mode of Op. : NORMAL MODE

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	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	118.678	31.84	-9.15	22.69	30.00	-7.31	Peak
2	133.211	29.08	-8.02	21.06	30.00	-8.94	Peak
3	149.978	33.65	-6.85	26.80	30.00	-3.20	Peak
4	189.989	34.94	-9.01	25.93	30.00	-4.07	Peak
5	240.033	34.96	-6.78	28.18	37.00	-8.82	Peak
6	300.511	32.63	-4.40	28.23	37.00	-8.77	Peak

Data#: 14 File#: 8320d.EMI
CCS D-Site

Date: 2001-07-06 Time: 11:44:34

Condition: HORIZONTAL
Report No. : 01E9589
Test Engr. : JAMES LIAO
Company : UNIXSTAR TECHNOLOGY, INC.
EUT : UT-20NC01
Test Config : EUT / ALL PERIPHERALS
Type of Test: EN 55022 CLASS B
Mode of Op. : NORMAL MODE

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	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	120.056	29.51	-9.04	20.47	30.00	-9.53	Peak
2	133.728	31.92	-8.02	23.90	30.00	-6.10	Peak
3	150.017	31.87	-6.85	25.02	30.00	-4.98	Peak
4	190.722	30.77	-9.11	21.66	30.00	-8.34	Peak
5	240.056	34.83	-6.78	28.05	37.00	-8.95	Peak
6	300.706	31.01	-4.38	26.62	37.00	-10.38	Peak