

Exhibit C - Measurement Report



## ELECTROMAGNETIC INTERFERENCE TEST REPORT

Company : Unex Technology Corporation.  
 Address : 8F-5, No.130, Sze Wei Rd. Hsinchu, Taiwan, R.O.C.  
 Sample Name : NexIP IS020  
 Model : IS020  
 Date Received : JUN. 18, 1998  
 Date Tested : JUL. 10, 1998

MEASUREMENT PROCEDURE USED :  
 CISPR 22, CLASS B, 1996  
 FCC RULE PART 15, 1996

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

	Name	Signature	Date
Testing Engineer	C.F. Wu/NVLAP		
Approving Manager	Paul Y. Liao/NVLAP	Paul Y. Liao	Jul. 28, 1998

Notes :

1. This report will be invalid if duplicated or photocopied in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid as separately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) will be preserved for thirty days from the date issued.
5. This is a NIST/NVLAP accredited report but not constituted and endorsed by US government.



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Report No. : 500-8706-065

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## **1. GENERAL INFORMATION**

### **1.1 DESCRIPTION OF EUT & POWER**

MANUFACTURER : Unex Technology Corporation.

SAMPLE NAME : NexIP IS020

MODEL NUMBER : IS020

POWER SUPPLY : 120VAC/60Hz



## 1.2 DESCRIPTION OF PERIPHERALS

### (1) PC

PRODUCT NUMBER : NetServer LDpro 6/180  
SERIAL NUMBER : SG70100107  
MANUFACTURER : HP CORP.  
F.C.C. ID : B94HPLS107  
POWER CORD : Unshielded , Detachable , 1.8m

### (2) MONITOR

MODEL NUMBER : JC-1571VMA-2  
SERIAL NUMBER : 6Z01162EA  
MANUFACTURER : NEC CORP.  
F.C.C. ID : A3DJC-1571VMA-2  
POWER CORD : Unshielded , Detachable , 1.8m

### (3) KEYBOARD

MODEL NUMBER : E03633WLTW-C  
SERIAL NUMBER : -----  
MANUFACTURER : HP CORP.  
F.C.C. ID : CIGE03633

### (4) PC

PRODUCT NUMBER : Vectra VE5/133 series 3  
SERIAL NUMBER : SG72200556  
MANUFACTURER : HP CORP.  
F.C.C. ID : B94VECTRAVE53  
POWER CORD : Unshielded , Detachable , 1.8m

### (5) MONITOR

MODEL NUMBER : JC-1404HMA  
SERIAL NUMBER : 08D00346  
MANUFACTURER : NEC CORP.  
F.C.C. ID : A3D5YRJC-1404HMA  
POWER CORD : Unshielded , Detachable , 1.8m



**(6) KEYBOARD**

PRODUCT NUMBER : E03633WLTW-C  
PART NUMBER : -----  
MANUFACTURER : HP CORP.  
F.C.C. ID : CIGE03633

**(7) East Ether Pair**

MODEL NUMBER : EN1660  
SERIAL NUMBER : -----  
MANUFACTURER : ACCTON CORP.

**(8) PRINTER**

MODEL NUMBER : 5152-002  
SERIAL NUMBER : 0754365  
MANUFACTURER : IBM CORP.  
F.C.C. ID : BKM9A85152002

**(9) MODEM**

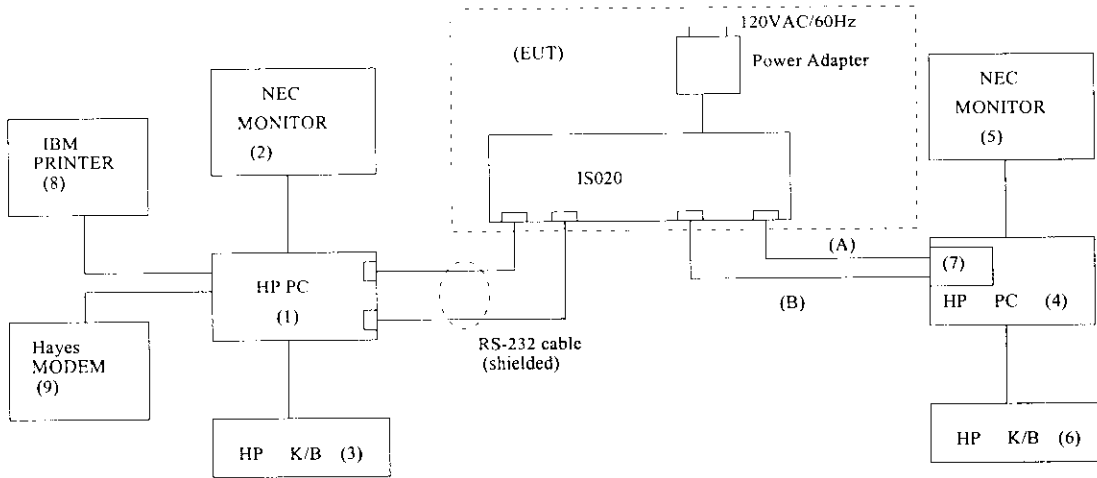
MODEL NUMBER : 4007AM  
SERIAL NUMBER : A10740073303  
MANUFACTURER : Hayes Corp.  
F.C.C. ID : BFJ4000AM

**(10) Cables**

	Type	Connector	Shielded	length
(A)	Cross-over Twisted-pair	RJ-45, plastic	No	15m
(B)	Coaxial cable	BNC, metal	Yes	15m



### 1.3 EUT & PERIPHERALS SETUP DIAGRAM



The indicated numbers (1)(2)(A)-----pleased refer to item 1.2.



## 1.4 EUT OPERATING CONDITION

1. According to set-up configuration to install.
2. Powered on all equipments.
3. Run software "Acctest.exe" back and forth to transmit for two PCS.
4. Repeated this procedure until test OK.

## 1.5 DESCRIPTION OF TEST SITE

SITE DESCRIPTION : FCC certificate NO. : 31040/SIT  
DNV certificate NO. : 510-96-1016  
TUV certificate NO. : I9664582-9610  
Lloyd's certificate NO. : LA003  
BCIQ certificate NO. : SL2-IN-E-02  
NVLAP Lab code : 200118-0  
CNLA certificate NO. : CNLA-ZL97018  
VCCI certificate NO. : R-706, C-650

NAME OF SITE : Electronics Research & Service Organization  
Industrial Technology Research Institute

SITE LOCATION : K500, 195-4, sec. 4, Chung Hsing Rd.,  
Chu-Tung Chen, Hsin-Chu, Taiwan 31015 R.O.C.





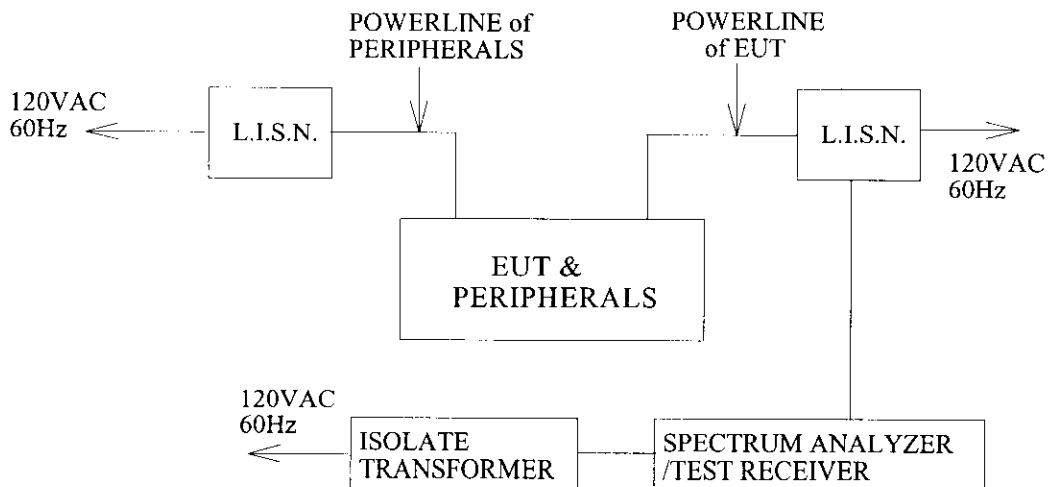
## 2. CONDUCTED POWERLINE TEST

### 2.1 TEST EQUIPMENTS

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

MANUFACTURER OR TYPE	MODEL No	SERIAL NO.	DATE OF CALIBRATION
SPECTRUM ANALYZER & DISPLAY	HP 8568A	2235A02320	MAR. 05, 1998
QUASI-PEAK ADAPTER	HP 85650 A	2341A00672	MAR. 05, 1998
ISOLATION TRANSFORMER	SOLAR 7032-1	N/A	N/A
L.I.S.N.	EMCO 3850/2	9311-1025 9401-1026	MAR. 25, 1997
TEST RECEIVER	R/S ESH3	8720791118	MAR. 13, 1998
SHIELDED ROOM	KEENE 5983	N/A	N/A

### 2.2 TEST SETUP





## 2.3 CONDUCTED POWER LINE EMISSION LIMIT

FREQUENCY (MHz)	MAXIMUM RF LINE VOLTAGE (dB $\mu$ V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56	56-46
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

## 2.4 TEST PROCEDURE

The test procedure is performed in a 12ft  $\times$  12ft  $\times$  8ft(L  $\times$  W  $\times$  H) shielded room. The EUT along with its peripherals were placed on a 1.0m(W)  $\times$  1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

## 2.5 UNCERTAINTY OF CONDUCTED EMISSION

The uncertainty of conducted emission is  $\pm 1.36$ dB.



## 2.6 LINE CONDUCTED RF VOLTAGE MEASUREMENT

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are Quasi-peak values.

Temperature : 22%

Humidity : 55 % RH

FREQUENCY (MHz)	READING(dB $\mu$ V)				LIMITS (dB $\mu$ V)	
	ONE END & GRD'D		THE OTHER END & GRD'D		Q.P.	Ave.
	Q.P.	Ave.	Q.P.	Ave.		
0.150	50.30	*	49.60	*	66.00	56.00
0.187	*	*	48.80	*	64.15	54.15
0.200	49.90	*	*	*	63.62	53.62
0.244	*	*	48.00	*	61.95	51.95
0.292	49.60	*	*	*	60.46	50.46
0.296	*	*	46.90	*	60.37	50.37
0.345	*	*	45.70	*	59.09	49.09
0.391	49.50	20.90	*	*	58.03	48.03
0.440	50.00	37.80	45.50	40.10	57.07	47.07
0.500	48.40	40.80	*	*	56.00	46.00
12.516	41.16	*	44.76	*	60.00	50.00
14.440	41.36	*	45.16	*	60.00	50.00
15.066	41.47	*	*	*	60.00	50.00
15.146	*	*	45.67	*	60.00	50.00
30.000	*	*	*	*	60.00	50.00

REMARKS : 1. \* Undetectable or the Q.P.values is lower than the limits of Ave  
2. For RJ-45 mode with Power Adapter model : MW48-0901000



## 2.6 LINE CONDUCTED RF VOLTAGE MEASUREMENT

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are Quasi-peak values.

Temperature : 22%

Humidity : 55 % RH

FREQUENCY (MHz)	READING(dB $\mu$ V)				LIMITS (dB $\mu$ V)	
	ONE END & GRD'D		THE OTHER END & GRD'D		Q.P.	Ave.
	Q.P.	Ave.	Q.P.	Ave.		
0.150	*	*	*	*	66.00	56.00
0.152	50.30	*	50.30	*	65.91	55.91
0.187	49.90	*	*	*	64.15	54.15
0.198	*	*	49.80	*	63.71	53.71
0.233	*	*	49.30	*	62.35	52.35
0.248	49.90	*	*	*	61.82	51.82
0.348	49.90	26.30	47.20	27.90	59.00	49.00
0.447	49.80	29.10	44.50	33.40	56.93	46.93
0.500	47.10	39.60	45.70	38.30	56.00	46.00
10.676	39.75	*	*	*	60.00	50.00
11.317	45.45	*	44.35	*	60.00	50.00
11.933	41.85	*	46.95	*	60.00	50.00
12.516	*	*	47.76		60.00	50.00
30.000	*	*	*	*	60.00	50.00

REMARKS : 1. \* Undetectable or the Q.P.values is lower than the limits of Ave  
2. For BNC mode with Power Adapter model : MW48-0901000



### 2.6 LINE CONDUCTED RF VOLTAGE MEASUREMENT

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are Quasi-peak values.

Temperature : 22%

Humidity : 55 % RH

FREQUENCY (MHz)	READING(dB $\mu$ V)				LIMITS (dB $\mu$ V)	
	ONE END & GRD'D		THE OTHER END & GRD'D		Q.P.	Ave.
	Q.P.	Ave.	Q.P.	Ave.		
0.150	51.94	*	52.44	*	66.00	56.00
0.294	46.07	*	48.97	*	60.46	50.46
0.393	41.69	*	44.39	*	57.99	47.99
0.694	*	*	41.22	*	56.00	46.00
0.747	37.72	*	*	*	56.00	46.00
7.566	37.03	*	*	*	60.00	50.00
11.933	42.95	*	*	*	60.00	50.00
12.516	*	*	45.16	*	60.00	50.00
13.841	47.96	*	46.56	*	60.00	50.00
14.440	45.06	*	44.86	*	60.00	50.00
15.066	44.37	*	45.17	*	60.00	50.00
30.000	*	*	*	*	60.00	50.00

REMARKS : 1. \* Undetectable or the Q.P.values is lower than the limits of Ave  
2. For RJ-45 mode with Power Adapter model : SLD80910



### 2.6 LINE CONDUCTED RF VOLTAGE MEASUREMENT

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are Quasi-peak values.

Temperature : 22%

Humidity : 55 % RH

FREQUENCY (MHz)	READING(dB $\mu$ V)				LIMITS (dB $\mu$ V)	
	ONE END & GRD'D		THE OTHER END & GRD'D		Q.P.	Ave.
	Q.P.	Ave.	Q.P.	Ave.		
0.150	*	*	*	*	66.00	56.00
0.151	52.44	*	54.24	*	65.96	55.96
0.191	51.05	*	52.85	*	63.89	53.89
0.296	47.67	*	49.77	*	60.37	50.37
0.697	40.02	*	*	*	56.00	46.00
0.914	*	*	38.93	*	56.00	46.00
7.566	37.43	*	*	*	60.00	50.00
11.317	41.45	*	38.55	*	60.00	50.00
11.933	42.25	*	39.85	*	60.00	50.00
13.841	43.36	*	40.26	*	60.00	50.00
15.066	*	*	38.17	*	60.00	50.00
30.000	*	*	*	*	60.00	50.00

REMARKS : 1. \* Undetectable or the Q.P.values is lower than the limits of Ave  
2. For BNC mode with Power Adapter model : SLD80910



### 3. RADIATED EMISSION TEST

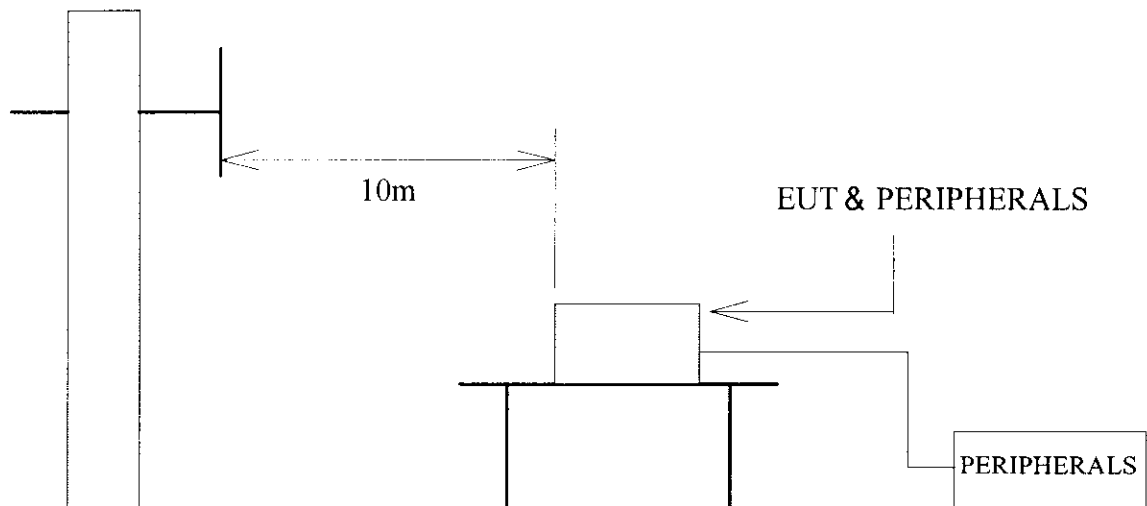
#### 3.1 TEST EQUIPMENTS

The following test equipment is utilized in making the measurements contained in this report.

MANUFACTURER OR TYPE	MODEL NO	SERIAL NO	DATE OF CALIBRATION
CHASE BI-LOG ANTENNA	CBL6111A	1546	MAY.23, 1998
R/S TEST RECEIVER	ESMI	842088/005 841978/008	MAY.29, 1998
OPEN SITE	-----	No.2	AUG. 23, 1997

#### 3.2 TEST SETUP

The diagram below shows the test setup, which is utilized to make these measurements.



Antenna Elevation Variable



### 3.3 RADIATION LIMIT

All emanation from a class B computing device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below :

FREQUENCY (MHz)	DISTANCE (METERS)	FIELD STRENGTHS(dB $\mu$ V/M)	
		CLASS A	CLASS B
30—230	10	40	30
230—1000	10	47	37

- Note : (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 closest point of any part of the device or system.

### 3.4 TEST PROCEDURE

The devices under test were placed on a ratable tabletop 0.8-meter above ground. The table was rotated 360 degrees to determine the position of the highest radiation. EUT is set 10 meters from the interference-receiving antenna, which is mounted on the top of a variable height mast. The antenna height is varied between one meter and four meters above ground to find the maximum value of the field strength Both horizontal polarization and vertical polarization of the antenna are set to make the measurement.  
The bandwidth setting on the E.M.I. meter (R/S TEST RECEIVER ESMI) is 120 KHz.  
The levels are quasi peak value readings. The frequency spectrum from 30MHz to 1000MHz was investigated.

### 3.5 UNCERTAINTY OF RADIATED EMISSION

The uncertainty of radiated emission is  $\pm 2.72$ dB.





### 3.6 RADIATED RF NOISE MEASUREMENT

The frequency spectrum from 30 MHz to 1000 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are quasi-peak values.

Temperature : 28°C

Humidity : 70% RH

FREQ- UENCY  (MHz)	ANTENNA FACTOR  (dB)	CABLE LOSS  (dB)	METER READING AT10m(dB μ V/M)		LIMITS  (dB μ V/M)	EMISSION LEVEL AT10m(dB μ V/M)	
			HORIZON- TAL	VERTICAL		HORIZON- TAL	VERTICAL
30.00	*	*	*	*	30.00	*	*
200.16	9.20	3.40	*	2.60	30.00	*	15.20
210.17	9.75	3.48	*	6.24	30.00	*	19.47
220.18	10.31	3.56	*	5.96	30.00	*	19.83
440.36	16.34	5.04	*	7.64	37.00	*	29.02
1000.00	*	*	*	*	37.00	*	*

REMARKS : 1. \* Undetectable

2. Emission level (dB μ V/M) = Antenna Factor (dB) + Cable loss (dB)  
+ Meter Reading (dB μ V/M).

3. For RJ-45 mode



### 3.6 RADIATED RF NOISE MEASUREMENT

The frequency spectrum from 30 MHz to 1000 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

All readings are quasi-peak values.

Temperature : 28°C

Humidity : 70% RH

FREQ- UENCY  (MHz)	ANTENNA FACTOR  (dB)	CABLE LOSS  (dB)	METER READING AT10m(dB μ V/M)		LIMITS  (dB μ V/M)	EMISSION LEVEL AT10m(dB μ V/M)	
			HORIZON- TAL	VERTICAL		HORIZON- TAL	VERTICAL
			30.00	*		*	*
41.03	12.27	1.52	*	11.56	30.00	*	25.35
60.84	5.14	1.82	*	9.04	30.00	*	16.00
210.00	9.75	3.48	*	0.64	30.00	*	13.87
220.18	10.31	3.56	8.48	6.24	30.00	22.35	20.11
280.00	12.77	4.04	5.96	*	37.00	22.77	*
320.01	13.79	4.32	*	3.44	37.00	*	21.55
1000.00	*	*	*	*	37.00	*	*

REMARKS : 1. \*Undetectable

2. Emission level (dB μ V/M) =Antenna Factor (dB) + Cable loss (dB)  
+ Meter Reading (dB μ V/M).

3. For BNC mode