

# **FCC DoC TEST REPORT**

**REPORT NO.:** FD961025H01

MODEL NO.: GA-1325E, WFN-49, LCS-8037TXR2,

ENLGA-1320T

**RECEIVED:** Oct. 25, 2007

**TESTED:** Nov. 01, 2007

**ISSUED:** Nov 05, 2007

**APPLICANT:** NETRONIX, INC.

ADDRESS: No. 945, Boai St., Jubei City,

Hsin-Chu,302, Taiwan, R.O.C.

**ISSUED BY:** Advance Data Technology Corporation

LAB LOCATION: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen,

Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan.

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No.: 2177-01



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#### 1 CERTIFICATION

PRODUCT: Gigabit Ethernet PCI Adapter

**BRAND NAME:** NETRONIX, ViSTOR, Longshine, Encore

MODEL NO.: GA-1325E, WFN-49, LCS-8037TXR2, ENLGA-1320T

**TESTED:** Nov. 01, 2007

**TEST SAMPLE: MASS-PRODUCTION** 

**APPLICANT: NETRONIX, INC.** 

STANDARDS: FCC Part 15: 2007, Subpart B, Class B

(section 15.31, 15.107 and 15.109) ANSI C63.4-2003 (section 7 and 8)

ICES-003: 2004, Class B (section 4 and 5)

The above equipment (Model: GA-1325E) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY: , DATE: Nov 05, 2007

( Midoli Peng, Specialist )

ACCEPTANCE: DATE: Nov

Responsible for RF (Ivan Peng, Deputy Manager)

**APPROVED BY:** , **DATE**: Nov 05, 2007

( May Chen, Deputy Manager )



# 2 SUMMARY OF TEST RESULTS

Standard	Test Type	Result	Remarks
FCC Part 15,	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is -15.78 dB at 0.202 MHz
Subpart B, Class B ICES-003, Class B	Radiated Test	PASS	Meets Class B Limit Minimum passing margin is -0.70 dB at 250.01 MHz

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.41 dB
Radiated emissions(30MHz-1GHz)	3.36 dB
Radiated emissions(1GHz-18GHz)	2.25 dB



#### 3 GENERAL INFORMATION

# 3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Gigabit Ethernet PCI Adapter
MODEL NO.	GA-1325E, WFN-49, LCS-8037TXR2, ENLGA-1320T
POWER SUPPLY	DC 5V from host equipment
POWER CORD	NA
DATA CABLE	NIA
SUPPLIED	NA
I/O PORTS	RJ-45 port x 1

#### NOTE:

1. The EUT has four brand names and two model names, which are identical to each other in all aspects except for the followings:

Brand	Model Name	Difference
NETRONIX	GA-1325E	
ViSTOR	WFN-49	For different brands (madels)
Longshine	LCS-8037TXR2	For different brands (models)
Encore	ENLGA-1320T	

From the above models, model: **GA-1325E** was selected as representative model for the test and its data was recorded in this report.

2. The EUT was pre-tested under the following modes:

Mode C	1000 Mbps
Mode B	100 Mbps
Mode A	10 Mbps
Pre-test Mode	Communication speed

From the above modes, the worst cases were found in **Mode C**. Therefore only the test data of the modes were recorded in this report.

3. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

#### 3.2 GENERAL DESCRIPTION OF TEST MODE

The EUT was tested under following test mode:

Test Mode	Communication speed
Mode 1	1000 Mbps



## 3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

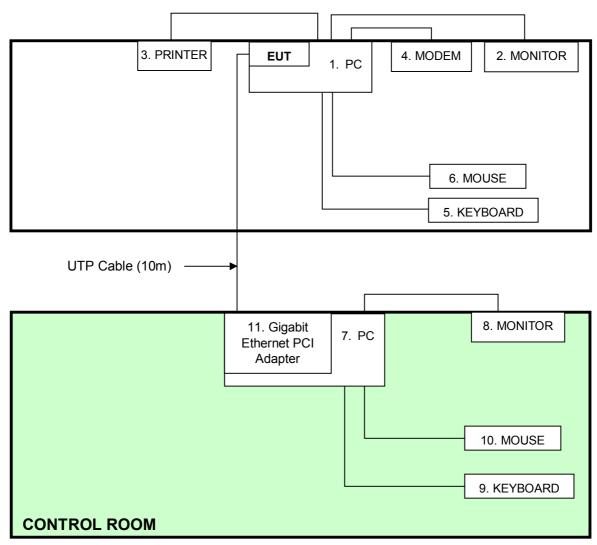
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	PERSONAL COMPUTER	DELL	DCSM	294QL1S	FCC DoC
2	LCD MONITOR	DELL	2007FPb	CN-0DC2144663363V-12W S	FCC DoC
3	PRINTER	EPSON	LQ-300+	DCGY017097	FCC DoC
4	MODEM	ACEEX	1414	980020560	IFAXDM1414
5	KEYBOARD	DELL	SK-8115	MY-0J4635-71619-67V-0349	FCC DoC
6	MOUSE	DELL	M056UOA	FOROOSNB	FCC DoC
7	PERSONAL COMPUTER	DELL	DCSM	G84QL1S	FCC DoC
8	LCD MONITOR	ADI	CM100	026058T10200636 A	FCC DoC
9	KEYBOARD	DELL	SK-8115	MY-0J4635-71619-67V-0113	FCC DoC
10	MOUSE	DELL	M056UOA	FOROOBSN	FCC DoC
11	Gigabit Ethernet PCI Adapter	NETRONIX	GA-1325E	NA	NA

No.	Signal cable description
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame.
3	1.8 m braid shielded wire, terminated with DB25 connector via metallic frame, w/o core.
4	1.0 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.2 m shielded cable, terminated with PS2 connector, w/o core.
6	1.2 m shielded cable, terminated with PS2 connector, w/o core.
7	NA
8	1.8 m braid shielded wire, terminated with VGA connector via metallic frame.
9	1.2 m shielded cable, terminated with PS2 connector, w/o core.
10	1.2 m shielded cable, terminated with PS2 connector, w/o core.
11	NA

Note: 1. The power cords of the above support units were unshielded (1.8m).



# 3.4 CONFIGURATION OF SYSTEM UNDER TEST



**NOTE:** 1. Support units  $7 \sim 11$  were kept in the control room during the test.



#### **4 EMISSION TEST**

#### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

**TEST STANDARD:** 

FCC Part 15: 2007, Subpart B (Section: 15.107)

ICES-003: 2004 (Class A: section 5.2) (Class B: section 5.3)

FREQUENCY	Class A (dBuV)		Class B	(dBuV)
(MHz)	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

**NOTE:** (1) The lower limit shall apply at the transition frequencies.

- (2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### **4.1.2 TEST INSTRUMENTS**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 06, 2008
Line-Impedance Stabilization Network(for EUT)	ENV-216	100072	Oct. 20, 2008
Line-Impedance Stabilization Network(for Peripheral)	KNW-407	8-1395-12	Aug. 19, 2008
RF Cable (JETBAO)	RG5B/U-6m	COACAB-9KHz-3 0MHz	Aug. 15, 2008
Terminator	50	1	Oct. 30, 2008
Software	ADT_Cond_V7.3.2	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in ADT Shielded Room No. A.
- 3. The VCCI Con A Registration No. is C-817.



#### 4.1.3 TEST PROCEDURE

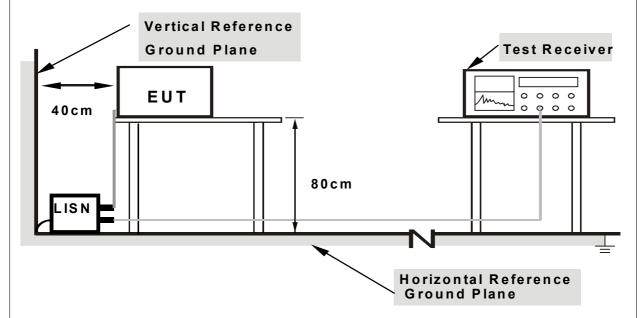
The basic test procedure was in accordance with ANSI C63.4-2003 (section 7), CISPR 22 (section 9) and ICES-003: 2004 (section 4).

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels over

10dB under the prescribed limits could not be reported.
4.1.4 DEVIATION FROM TEST STANDARD
No deviation



### 4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



### **4.1.6 EUT OPERATING CONDITIONS**

- 1. Turn on the power of all equipment.
- 2. The EUT is installed in support unit 1 (PC).
- 3. PC ran a test program "Tfgen .exe" and "Ping .exe "to enable EUT under transmission condition continuously via UTP cable..
- 4. PC sends "H" messages to monitor. Monitor scrolling "H" patterns on its screen.
- 5. PC sends "H" messages to printer, and the printer prints them on paper.
- 6. PC sends "H" messages to modem.
- 7. Repeat steps 2-6.



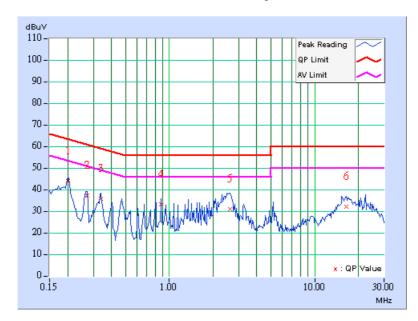
### 4.1.7 TEST RESULTS

TEST MODE	Mode 1	6dB BANDWIDTH	9 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 966 hPa	TESTED BY	Eagle Chen

	Freq.	Corr.	Readin	g Value	Emis Le	sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.40	43.14	-	43.54	-	63.58	53.58	-20.04	-
2	0.271	0.36	36.69	-	37.05	-	61.08	51.08	-24.03	-
3	0.338	0.33	35.07	-	35.40	-	59.26	49.26	-23.86	-
4	0.877	0.30	32.43	-	32.73	-	56.00	46.00	-23.27	-
5	2.611	0.33	30.38	-	30.71	ı	56.00	46.00	-25.29	_
6	16.496	0.83	31.27	-	32.10	-	60.00	50.00	-27.90	-

**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. Emission Level = Correction Factor + Reading Value.



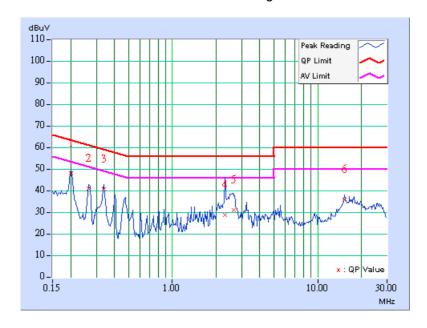


TEST MODE	Mode 1	6dB BANDWIDTH	9 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 966 hPa	TESTED BY	Eagle Chen

	Freq.	Corr.	Readin	g Value		sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.202	0.40	47.37	-	47.77	-	63.55	53.55	-15.78	-
2	0.267	0.37	40.23	-	40.60	-	61.20	51.20	-20.61	-
3	0.338	0.33	39.82	-	40.15	-	59.26	49.26	-19.11	-
4	2.310	0.40	27.91	-	28.31	-	56.00	46.00	-27.69	-
5	2.658	0.40	30.34	-	30.74	-	56.00	46.00	-25.26	-
6	15.359	0.81	35.15	-	35.96	-	60.00	50.00	-24.04	-

**REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. Emission Level = Correction Factor + Reading Value.





## 4.2 RADIATED EMISSION MEASUREMENT

# 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

**TEST STANDARD:** 

FCC Part 15: 2007, Subpart B (Section: 15.109)

ICES-003: 2004 (Class A: Section 5.4/Class B: Section 5.5)

FOR FREQUENCY BELOW 1000 MHz (47 CFR Part 15 Subpart B)

FREQUENCY	Class A	(at 10m)	Class B (at 3m)		
(MHz)	uV/m	dBuV/m	uV/m	dBuV/m	
30 – 88	90	39.1	100	40.0	
88 – 216	150	43.5	150	43.5	
216 - 960	210	46.4	200	46.0	
Above 960	300	49.5	500	54.0	

#### FOR FREQUENCY BELOW 1000 MHz (CISPR 22)

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
TREGOLIACT (IMITIZ)	dBuV/m	dBuV/m
30 – 230	40	30
230 - 1000	47	37

**Note**: The limit for radiated test was performed according to CISPR 22, which was specified in FCC PART 15 Subpart B 15.109(g) and ICES-003 clause 7.

# LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBu	ıV/m) (at 3m)	Class B (dBuV/m) (at 3m)		
I KLQOLIACT (IVII 12)	PEAK	AVERAGE	PEAK	AVERAGE	
Above 1000	80.0	60.0	74.0	54.0	

Note: (1) The lower limit shall apply at the transition frequencies.

- (2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



# FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

#### **4.2.2 TEST INSTRUMENTS**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
*ADVANTEST Spectrum Analyzer	R3271A	85060311	July 15, 2008
*HP Pre_Amplifier	8449B	3008A01922	Oct. 04, 2008
*ROHDE & SCHWARZ Test Receiver	ESCS 30	100027	Apr. 29, 2008
*CHASE Broadband Antenna	CBL6112B	2798	Aug. 10, 2008
*Schwarzbeck Horn_Antenna	BBHA9120	D123	Oct. 04, 2008
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 25, 2008
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 08, 2009
SCHWARZBECK Periodic Antenna	UPA6108	1148	Jun. 08, 2009
*RF Switches	MP59B	M50867	July 03, 2008
*RF Cable(JETBAO)	9913-30M N-N Cable	STACAB-30M-1G Hz	Aug. 10, 2008
*Software	ADT_Radiated_V 7.6.15.7	NA	NA
*EMCO Antenna Tower	2075-2	9712-2124	NA
*EMCO Turn Table	2081-1.53	9712-2030	NA
*CORCOM AC Filter	MRI2030	107/108	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Periodic Antenna) and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. \* = These equipment are used for the final measurement.
- 3. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: R3271A) are used only for the measurement of emission frequency above 1GHz if tested.
- 4. The test was performed in ADT Open Site No. A.
- 5. The VCCI Site Registration No. is R-782.
- 6. The FCC Site Registration No. is 91097.
- 7. The CANADA Site Registration No. is IC 4824A-1.



#### **4.2.3 TEST PROCEDURE**

The basic test procedure was in accordance with ANSI C63.4-2003 (section 8), CISPR 22 (section 10) and ICES-003: 2004 (section 4).

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10-meter open field site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 10 meters (3 meters above 1GHz) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### NOTE:

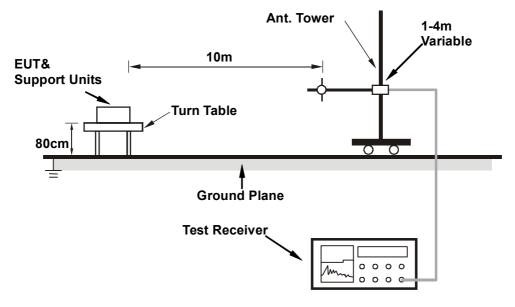
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
- 3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the interference-receiving antenna.

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation



# 4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

# **4.2.6 EUT OPERATING CONDITIONS**

Same as 4.1.6

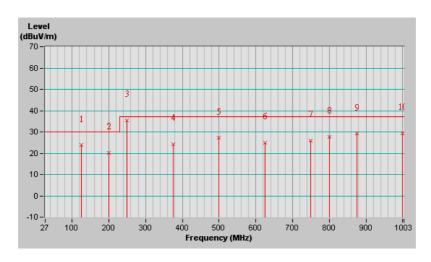


# **4.2.7 TEST RESULTS**

TEST MODE	Mode1	INPUT POWER	120Vac, 60Hz
FREQUENCY RANGE	30-1000 MHz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	23 deg. C, 71 % RH, 966 hPa	TESTED BY	Max Tseng

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M							
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor
	(1411 12)	(dBuV/m)	(dbd v/III)	(GD)	(m)	(Degree)	(dBuV)	(dB/m)
1	125.00	23.79 QP	30.00	-6.21	4.00 H	291	10.90	12.89
2	200.00	20.25 QP	30.00	-9.75	4.00 H	179	8.95	11.30
3	250.01	35.43 QP	37.00	-1.57	4.00 H	121	21.83	13.60
4	375.00	24.22 QP	37.00	-12.78	2.40 H	309	6.86	17.36
5	500.00	27.17 QP	37.00	-9.83	1.60 H	145	6.87	20.30
6	625.00	25.06 QP	37.00	-11.94	1.42 H	155	1.78	23.28
7	750.00	25.97 QP	37.00	-11.03	1.00 H	329	0.72	25.25
8	800.00	27.55 QP	37.00	-9.45	1.00 H	42	1.42	26.13
9	875.02	29.22 QP	37.00	-7.78	1.00 H	94	1.90	27.32
10	1000.00	29.32 QP	37.00	-7.68	1.00 H	346	0.98	28.34

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

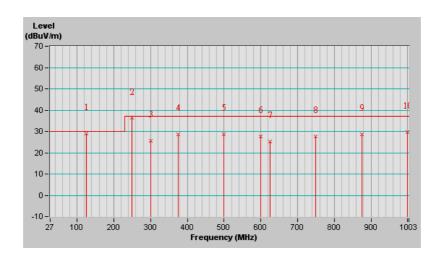




TEST MODE	Mode1	INPUT POWER	120Vac, 60Hz
FREQUENCY RANGE	30-1000 MHz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	23 deg. C, 71 % RH, 966 hPa	TESTED BY	Max Tseng

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
	Freq. (MHz)	Emission	Limit (dBuV/m)	Margin (dB)	Antenna	Table	Raw	Correction	
No.		Level			Height	Angle	Value	Factor	
		(dBuV/m)			(m)	(Degree)	(dBuV)	(dB/m)	
1	125.01	28.99 QP	30.00	-1.01	1.00 V	19	16.10	12.89	
2	250.01	36.30 QP	37.00	-0.70	1.00 V	329	22.70	13.60	
3	300.02	25.72 QP	37.00	-11.28	1.00 V	149	10.42	15.30	
4	375.02	28.70 QP	37.00	-8.30	1.00 V	60	11.33	17.37	
5	500.02	28.76 QP	37.00	-8.24	1.00 V	243	8.46	20.30	
6	600.00	27.75 QP	37.00	-9.25	2.58 V	19	4.86	22.89	
7	625.03	25.34 QP	37.00	-11.66	2.48 V	304	2.06	23.28	
8	750.00	27.74 QP	37.00	-9.26	2.15 V	196	2.49	25.25	
9	875.00	28.61 QP	37.00	-8.39	1.87 V	28	1.29	27.32	
10	1000.00	29.62 QP	37.00	-7.38	1.57 V	246	1.28	28.34	

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

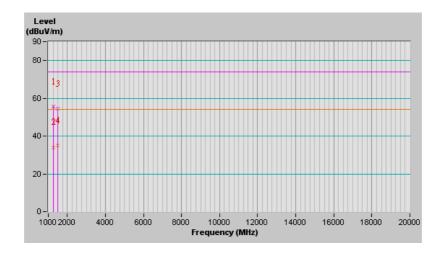




TEST MODE	Mode1	INPUT POWER	120Vac, 60Hz	
FREQUENCY RANGE	1000-2000 MHz	DETECTOR FUNCTION & BANDWIDTH	Peak(PK)/ Average(AV), 1 MHz	
ENVIRONMENTAL CONDITIONS	23 deg. C, 71 % RH, 966 hPa	TESTED BY	Max Tseng	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1250.00	55.80 PK	74.00	-18.20	1.00 H	241	25.68	30.12
2	1250.00	34.10 AV	54.00	-19.90	1.00 H	241	3.98	30.12
3	1500.00	54.60 PK	74.00	-19.40	1.46 H	344	23.39	31.21
4	1500.00	35.20 AV	54.00	-18.80	1.46 H	344	3.99	31.21

- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.

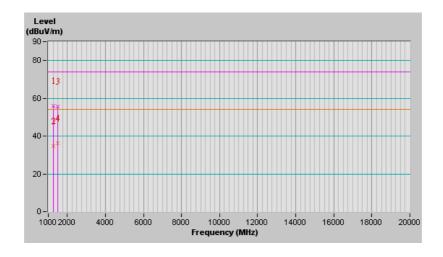




TEST MODE	Mode1	INPUT POWER	120Vac, 60Hz	
FREQUENCY RANGE	1000-2000 MHz	DETECTOR FUNCTION & BANDWIDTH	Peak(PK)/ Average(AV), 1 MHz	
ENVIRONMENTAL CONDITIONS	23 deg. C, 71 % RH, 966 hPa	TESTED BY	Max Tseng	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level	Limit (dBuV/m)	Margin (dB)	Antenna Height	Table Angle	Raw Value	Correction Factor
	(111112)	(dBuV/m)	(4247111)	(22)	(m)	(Degree)	(dBuV)	(dB/m)
1	1250.00	56.10 PK	74.00	-17.90	1.00 V	114	25.98	30.12
2	1250.00	34.80 AV	54.00	-19.20	1.00 V	114	4.68	30.12
3	1500.00	55.50 PK	74.00	-18.50	1.49 V	92	24.29	31.21
4	1500.00	36.30 AV	54.00	-17.70	1.49 V	92	5.09	31.21

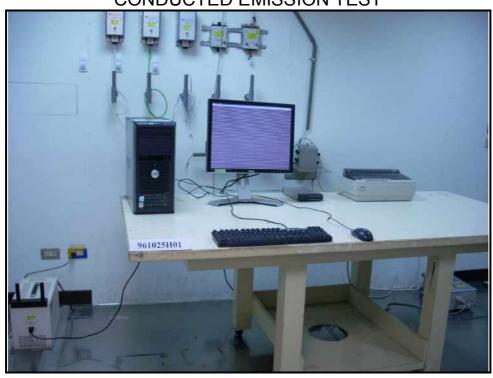
- 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.





# 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

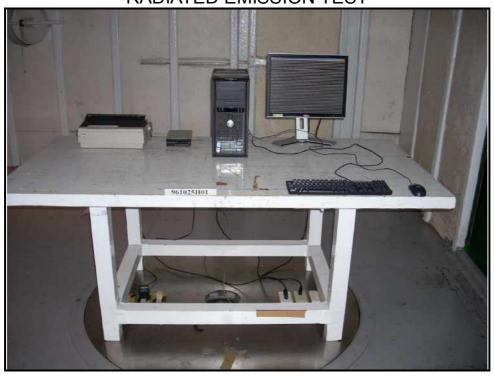








# RADIATED EMISSION TEST







#### **6 INFORMATION ON THE TESTING LABORATORIES**

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA FCC, UL, A2LA TUV Rheinland

Japan VCCI Norway NEMKO

Canada INDUSTRY CANADA, CSA

**R.O.C.** TAF, BSMI, NCC

Netherlands Telefication

Singapore GOST-ASIA (MOU)
Russia CERTIS (MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: <a href="www.adt.com.tw/index.5/phtml">www.adt.com.tw/index.5/phtml</a>. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab: Hsin Chu EMC/RF Lab:

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The address and road map of all our labs can be found in our web site also.



7 APPENDIX A - MODIFICATIONS RECORDERS FOR **ENGINEERING CHANGES TO THE EUT BY THE LAB** No any modifications are made to the EUT by the lab during the test.

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