EMC TEST REPORT

For

Card Reader

Model Number: Card Reader

Report Number : 130786-DZ/WT

Test Laboratory : Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory

Site Location : Bldg. of Metrology &Quality Inspection, Longzhu Road, Shenzhen, Guangdong, China

Tel : 0086-755-6941637

Fax : 0086-755-6941635

TABLE OF CONTENTS

Description Page

CERTIFICATION

Applicant	:	Elelux International Ltd.
Address	:	3F., No.103 Chow Tze Street(114), Net-Hu District, TaiPei, TaiWan, R.O.C
Manufacturer	:	Anson Factory
Address	:	Bldg.21, BaoYuan Ind. Park Xixiang Town, Shenzhen(518102), Guangdong, China
EUT Description	:	Card Reader
MODEL No	:	Card Reader
FCC ID	:	PY9Card Reader

Test Standards:

FCC RULES AND REGULATIONS PART 15 :2001

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. Also, this report shows that the EUT technically complies with FCC requirements.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Tested by : _____ Date : _____
(George Luo)

Checked by : _____ Date : _____
(Peter Lin)

Approved by : _____ Date : _____
(Wilson Huang)

1. TEST RESULTS

Table 1 Test Result

Test Item	Test Result
Conducted Disturbance	Pass
Radiated Disturbance	Pass

2. GENERAL INFORMATION

2.1. Description of EUT

Description : Card Reader

Model Number : Card Reader

Applicant : Elelux International Ltd.

Manufacturer : Anson Factory

Singal Line : 1.4m, shielding, Undetachable , USB port

2.2 Tested System Details

2.2.1 PERSONAL COMPUTER

Model Number: 6563 •
Serial Number: 99YD560 •
Manufacturer :•IBM
Power cord: • Unshielded, Undetachable, 1.9m

2.2.2 MONITOR

Model Number: 0180-05N •
Serial Number: 23-A5752 •
Manufacturer :•IBM
Power cord: • Unshielded, Undetachable, 1.9m
Signal Cable: • Shielded, Undetachable, 1.4m

2.2.3 KEYBOARD

Model Number: • KB-9910
Serial Number: • 0504729
Manufacturer : IBM
Date Cable: • Shielded, Undetachable, 1.8m

2.2.4 MOUSE

Model Number: N-SUA-IBM6 •
Serial Number: 23-185505 •
Manufacturer : IBM•
Date Cable: Shielded, Undetachable, 1.8m

2.3 Test Facility

Name of Facility : Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory

Site Location : Bldg. of Metrology &Quality Inspection, Longzhu Road, Shenzhen, Guangdong, China

Site Description • Apr. 17, 2000 file on Federal Communications Commission Registration Number: 97379

Aug. 11, 2000 certificated by TUV Rheinland, Shenzhen.

3 TEST EQUIPMENT

3.1 For Conducted Disturbance Test

Table 2 Conducted Disturbance Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HJ293Z	EMI Test Receiver	Rohde & Schwarz	ESCS30	Feb.28,01	1 Year
HJ294Z	AMN	Rohde & Schwarz	ESH3-Z5	Feb.24,01	1 Year
HJ285Z	L.I.S.N	KYROTISU	KNW-407	Feb.24,01	1 Year

3.2 For Radiated Disturbance Test

Table 3 Radiated Disturbance Test Equipment

NO.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
HJ293Z	EMI Test Receiver	Rohde & Schwarz	ESCS30	Feb. 28,2001	1 Year
HJ290Z	Spectrum analyzer	ANRITSU	MS2661C	Feb. 23,2001	1Year
HJ302Z	Amplifier	ANRITSU	MH648A	Jan. 11, 2001	1Year
HJ303Z	Bilog Antenna	Chase	CBL6111C	Feb. 28,2001	1 Year

4 CONDUCTED DISTURBANCE TEST

4.1Block Diagram of Test Setup

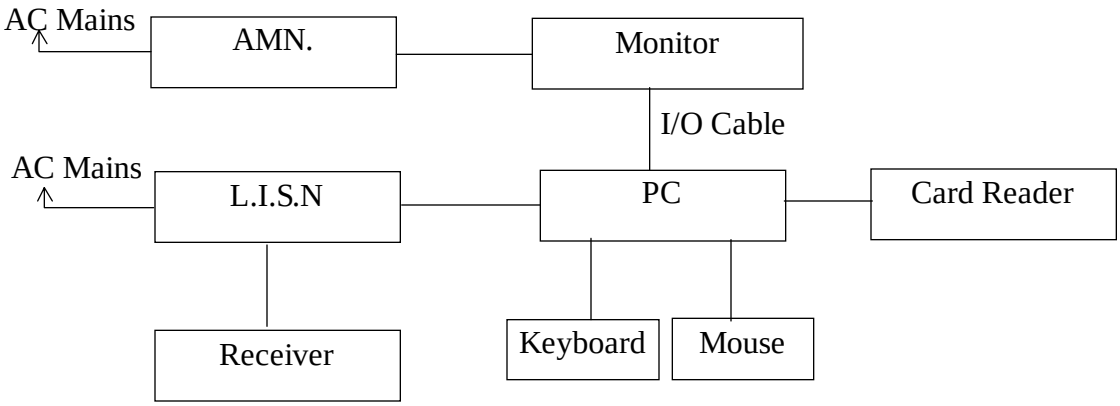

Figure 1 Conducted Disturbance Test Setup

4.2Conducted Disturbance Test Standard and Limit

4.2.1 Test Standard

FCC Part 15 :2001

4.2.2 Test Limit

Table 4 Conducted Disturbance Test Limit(Class B)

Frequency	Maximum RF Line VoltagedB(μV)
	Quasi-peak Level
450kHz ~ 30MHz	48.0

4.3Test Procedure

The EUT is put on a table of non-conducting material which is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a L.I.S.N. An EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions form both sides of AC line.

The bandwidth of EMI test receiver is set at 9kHz.

4.4Operating Condition of EUT

4.4.1 Setup the EUT and simulator as shown on section4.1.

4.4.2 Turn on the power of all equipments.

4.4.3 Personal Computer reads data from memory card.

4.5Test Data

The emissions don't show in below are too low against the limits, the test curves are shown in the APPENDIX •

Table 5 Conducted Disturbance Test Data

Date of Test:	2001.09.12	Temperature:	28••
EUT:	Card Reader	Humidity:	55•%
M/N:	Card Reader	Test Mode:	Reading

Line			Neutral		
Frequency (MHz)	Quasi-Peak		Frequency (MHz)	Quasi-Peak	
	Reading dB(μV)	Limits dB(μV)		Reading dB(μV)	Limits dB(μV)
0.480	34.4	48.0	0.480	33.8	48.0
0.720	38.3	48.0	0.720	38.1	48.0
0.840	39.9	48.0	0.840	39.6	48.0
1.320	37.5	48.0	0.960	37.0	48.0
4.450	29.8	48.0	1.320	37.3	48.0
16.640	36.6	48.0	16.320	35.8	48.0

5 RADIATED DISTURBANCE TEST

5.1Block Diagram of Test Setup

5.1.1 Block Diagram of the EUT

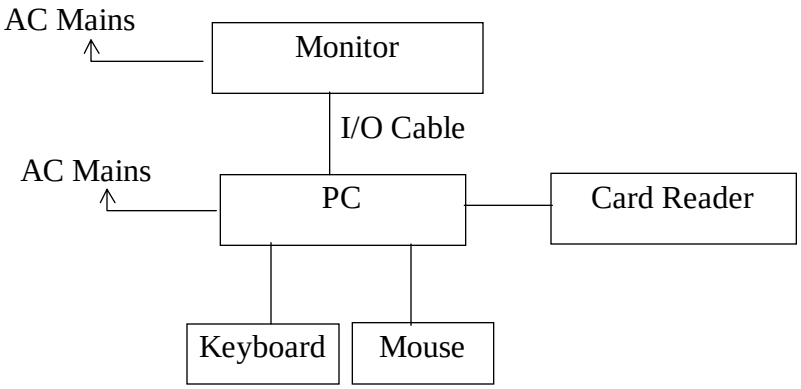

Figure 2 EUT Setup

5.1.2 Test setup of Open Site Test

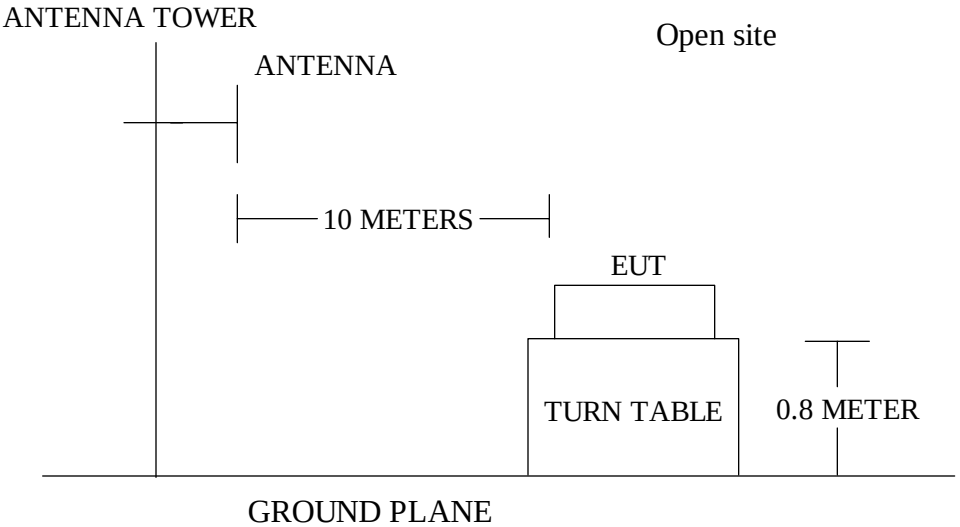

Figure 3 Test Setup(Open Site)

5.2Test Standard and Limit

5.2.1 Test Standard

FCC Part 15:2001/9/17

5.2.2 Test Limit

Table 6 Radiated Disturbance Test Limit(Class B)

FREQUENCY MHz	FIELD STRENGTHS LIMITS dB(μV/m)
30 ~ 88	40.0
88 ~ 216	43.5
216 ~ 960	46.0
>960	54.0

* The lower limit shall apply at the transition frequency.
* The test distance is 3m.

5.3Test Procedure

The EUT is placed on a turntable which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

5.4Operating Condition of EUT

5.4.1 Setup the EUT and simulator as shown on section4.1.

5.4.2 Turn on the power of all equipments.

5.4.3 Personal Computer reads data from memory card.

5.5Test Data

The emissions don't show in below are too low against the limits, the test curves are shown in the APPENDIX •

Table 7 Radiation Disturbance Test Data(Horizontal)

Date of Test•	2001.9.12	Temperature•	25
EUT •	Card Reader	Humidity•	45
Model Number•	Card Reader	Test Mode•	Reading

Frequency MHz	Horizontal dB(•V/m)	Limit dB(•V/m)
93.018	31.0	43.5
120.010	30.3	43.5
174.046	33.4	43.5
189.070	30.0	43.5
192.046	31.5	43.5
213.056	32.0	43.5
237.754	32.0	46.0
336.650	34.8	46.0
432.068	37.1	46.0
528.092	41.0	46.0
552.092	39.0	46.0

Table 8 Radiation Disturbance Test Data(Vertical)

Date of Test•	2001.09.12	Temperature•	25••
EUT •	Card Reader	Humidity•	45•%
Model Number•	Card Reader	Test Mode•	Reading

Frequency MHz	Vertical dB(•V/m)	Limit dB(•V/m)
85.210	29.2	40.0
120.160	32.9	43.5
135.430	30.0	43.5
189.376	32.9	43.5
198.190	29.2	43.5
216.266	28.9	46.0
300.038	34.2	46.0
336.260	32.8	46.0
576.080	39.0	46.0
624.080	40.6	46.0