

T
R
O
U
R
C
A
L
I
Z
I
C
U
T



卓時檢測
TIMEWAY TESTING LABORATORY



ISO/IEC17025 Accredited Lab.

Report No: FCC 1008124-01

File reference No: 2010-10-8

Applicant: SHANGHAI ZICOX PRINT TECHNOLOGY CO.,LTD

Product: Portable Printer

Brand Name: N/A

Model No: HDT312

Test Standards: FCC Part 15 Subpart B: 2008

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: October 8,2010

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen,
CHINA.

Tel (755) 83448688 Fax (755) 83442996



Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

IC- Registration No.: IC5205A-01

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.

VCCI- Registration No.: R-3015 and C-3332

The EMC Laboratory has been registered and fully described in a report filed with the (VCCI) Voluntary Control Council for Interference. The acceptance letter from the VCCI is maintained in our files. Registration IC No.: R-3015 and C-3332



Test Report Conclusion

Content

1.0	General Details	4
1.1	Test Lab Details	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Test Uncertainty	4
1.5	Submitted Sample	4
1.6	Test Duration	4
2.0	List of Measurement Equipment	5
2.1	Conducted Emission Test	5
2.2	Radiated electromagnetic disturbance test	5
2.3	Auxiliary Equipment	5
2.4	I/O Cable	5
3.0	Technical Details	6
3.1	Investigations Requested	6
3.2	Test Standards	6
4.0	Power line Conducted Emission Test	7
5.0	Radiated Disturbance Test	10
6.0	FCC Label	15
7.0	Photo of testing	16

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



1.0 General Details

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD
Address: East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.
Telephone: (755) 83448688
Fax: (755) 83442996

1.2 Applicant Details

Applicant: SHANGHAI ZICOX PRINT TECHNOLOGY CO.,LTD
Address: 2nd floor, 2#, No.258, Jinzang Road, Shanghai, China

Telephone: 021-61645760-8015
Fax: 021-68763148

1.3 Description of EUT

Product: Portable Printer
Manufacturer: SHANGHAI ZICOX PRINT TECHNOLOGY CO.,LTD
Address: 2nd floor, 2#, No.258, Jinzang Road, Shanghai, China

Brand Name: N/A
Model Number: HDT312
Additional Model --
Number:
Rating: Input: 12VDC, 1A
Power Supply: Model: P-050B-120100; Input: 100-240V~, 50/60Hz, 0.3A; Output: DC12V, 1A

1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2010-08-13 to 2010-10-11

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB
Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

The sample tested by

Print Name: Terry Tang

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer. Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report. In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



2.0 List of Measurement Equipment

2.1 Conducted Emission Test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESH3	860905/006	RS	2010.5.14	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2010.5.14	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2010.5.14	1Year
LISN	ESH3-Z5	100294	RS	2010.5.14	1Year
LISN	ESH3-Z5	100253	RS	2010.5.14	1Year

2.2 Radiated electromagnetic disturbance test

Name	Model No.	Serial No.	Manufacturer	Calibration Date	Calibration Cycle
EMI Test Receiver	ESVD	100008	RS	2010.5.14	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer	8595E	3441A00893	HP	2010.5.14	1Year
Amplifier	8447D	2727A05017	HP	2010.5.14	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2010.5.14	1Year
Horn Antenna	BBHA9120D	1201	Schwarebeck	2010-5-14	1Year

2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Cable	FCC ID/DOC
PC	R400	--	IBM	--	--
Monitor	FP51G	ET47604175CLO	BENQ	Data cable of 1.5m length unshielded and 1.8m length AC Mains cable	FCC DOC
Mouse	M-F105	--	L.SEletron	Data cable of 1.5m length	FCC DOC

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



3.0 Technical Details

3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

FCC Part 15 Subpart B: 2008

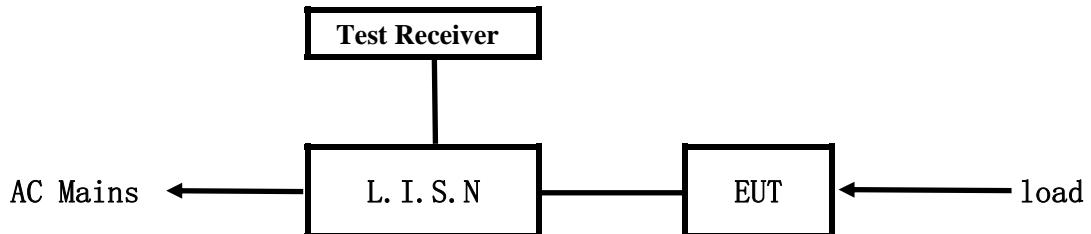
"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer. Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report. In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



4.0 Conducted Power line Test

4.1 Schematics of the test



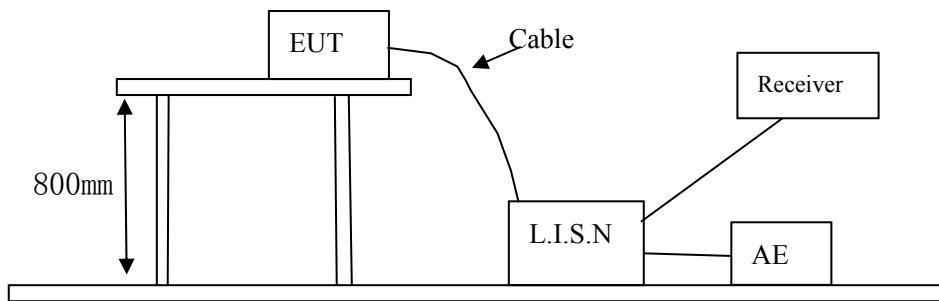
EUT: Equipment Under Test

4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 -2003. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



4.3 Power line conducted Emission Limit

Frequency(MHz)	Class A Limits dB(μV)		Class B Limits dB(μV)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*
0.50 ~ 5.00	73.00	60.00	56.00	46.00
5.00 ~ 30.00	73.00	60.00	60.00	50.00

Notes: 1. *decreasing linearly with logarithm of frequency.
2. The tighter limit shall apply at the transition frequencies

4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



A: Conducted Emission on Live Terminal (150kHz to 30MHz)

EUT Operating Environment

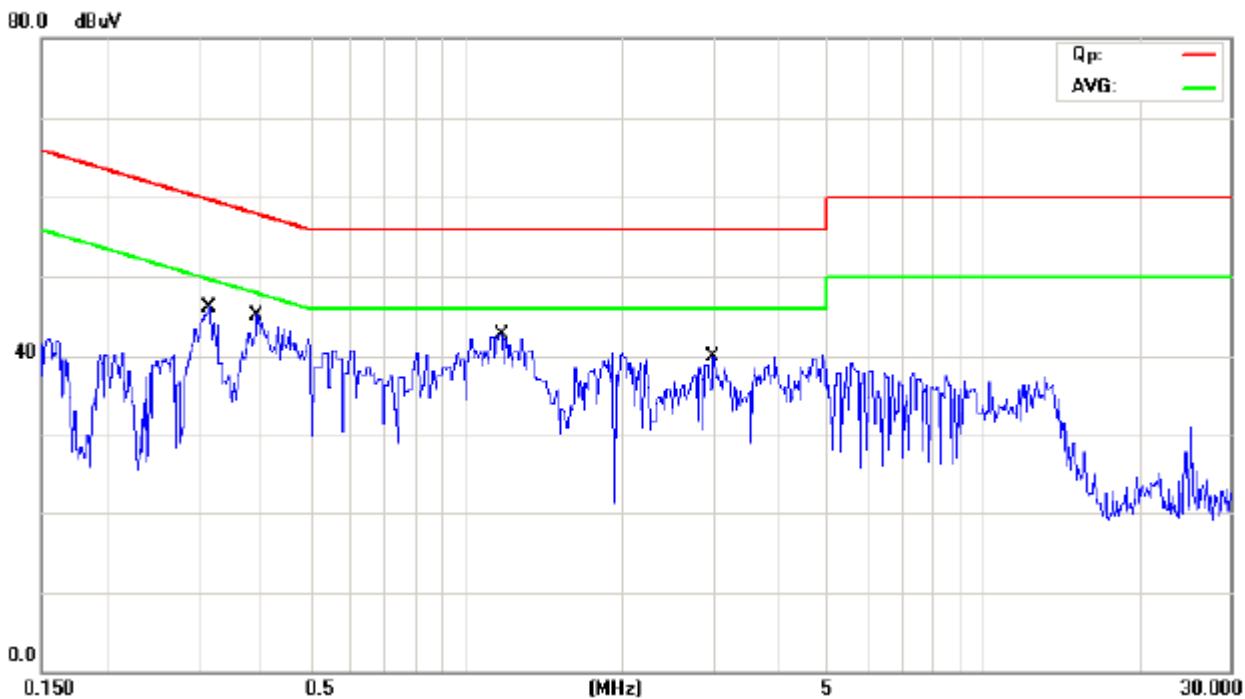
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Line	Reading(dB μ V)		Limit(dB μ V)	
		Quasi-peak	Average	Quasi-peak	Average
0.389	Live	28.65	26.35	58.08	48.08
0.315	Live	34.98	30.40	59.82	49.82
1.157	Live	36.46	25.56	56.00	46.00
2.990	Live	28.90	25.80	56.00	46.00

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

EUT Operating Environment

Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Line	Reading(dB μ V)		Limit(dB μ V)	
		Quasi-peak	Average	Quasi-peak	Average
0.321	Neutral	33.98	26.28	59.68	49.68
0.473	Neutral	32.24	24.65	56.46	46.46
0.623	Neutral	36.40	27.60	56.00	46.00
1.155	Neutral	33.56	25.19	56.00	46.00

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



5.0 Radiated Disturbance Test

5.1 Schematics of the test

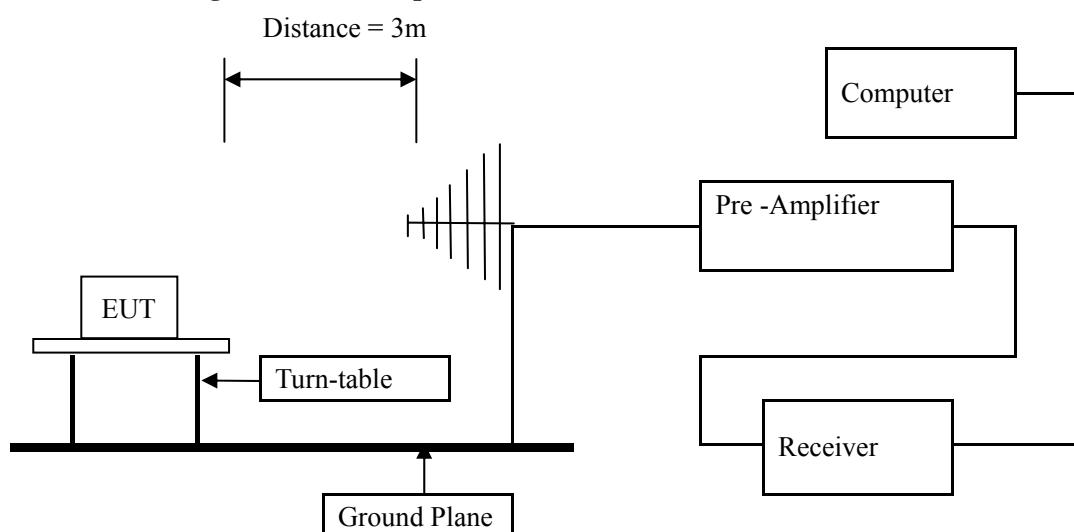


5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003, The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak 0values with a resolution bandwidth of 120KHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

5.4 Test result

The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



A: Radiated Disturbance (30MHz----1000MHz)

EUT Operating Environment

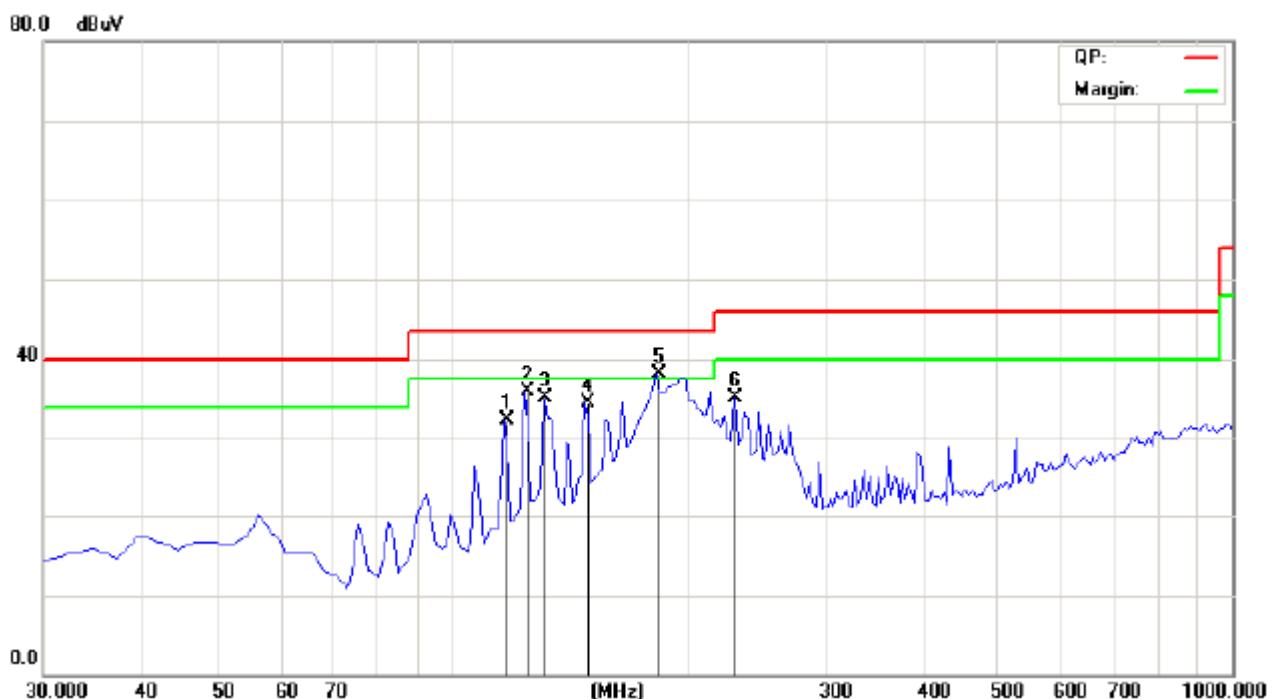
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
117.300	32.29	H	43.50
124.575	35.94	H	43.50
131.850	35.15	H	43.50
148.825	34.59	H	43.50
182.775	38.16	H	43.50
231.275	35.09	H	46.00

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



A1: Radiated Disturbance (1000MHz----2000MHz)

EUT Operating Environment

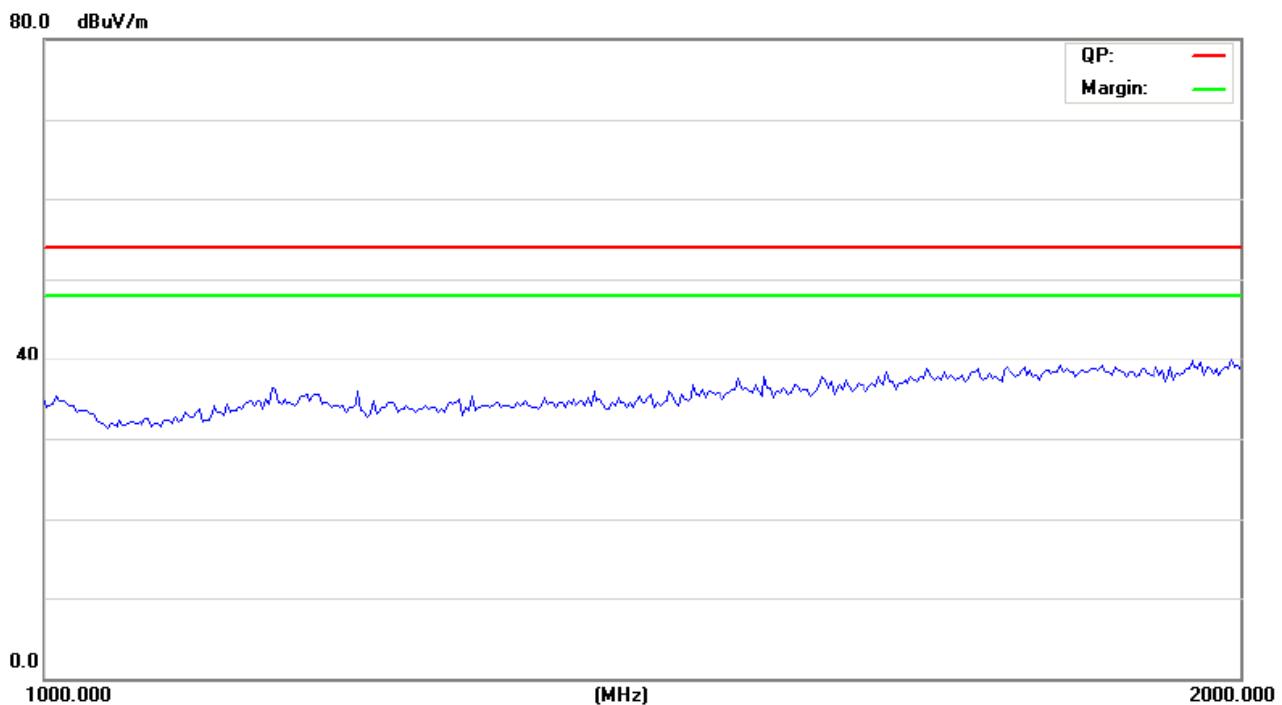
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
--	--	H	74(PK)/54 (AV)

-The test data shows much less than the limit, no necessary take down the records.



B: Radiated Disturbance (30MHz----1000MHz)

EUT Operating Environment

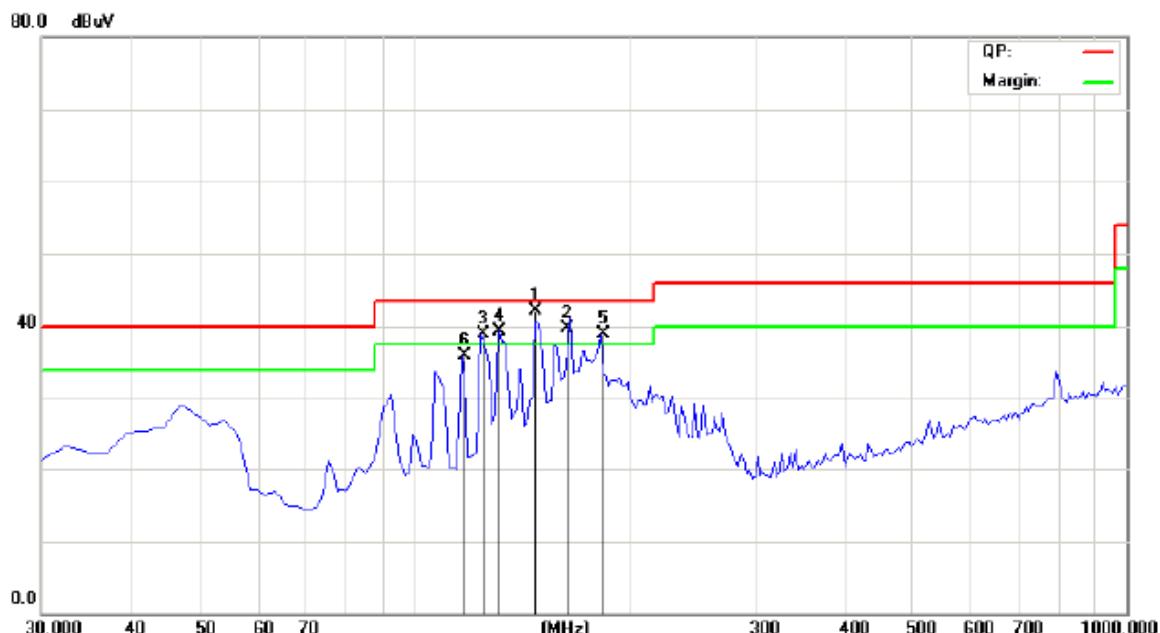
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
147.445	42.04	V	43.50
163.816	39.62	V	43.50
124.575	38.81	V	43.50
131.850	39.40	V	43.50
182.775	38.92	V	43.50
117.300	35.98	V	43.50

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



B1: Radiated Disturbance (1000MHz----2000MHz)

EUT Operating Environment

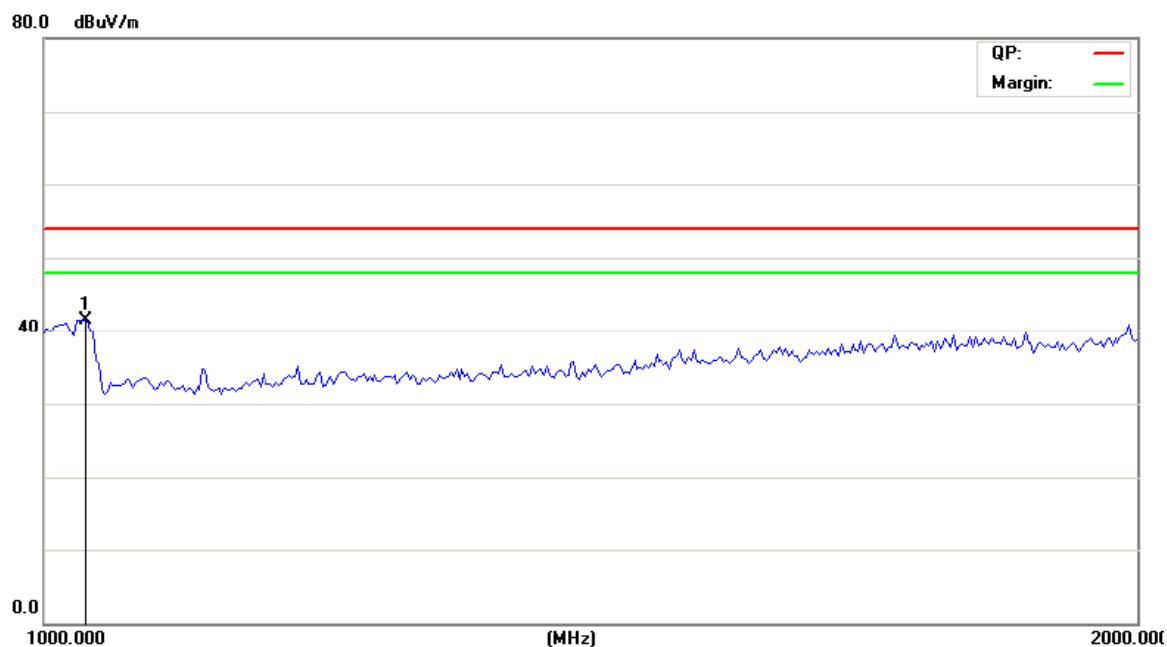
Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Connect to PC

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
1025.00	41.50(PK)	V	74(PK)/54 (AV)

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy thereof prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



6.0 FCC Label

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location: On the product body

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer. Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report. In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



7.0 Photo of testing

7.1 Conducted test View--



7.2 Radiated emission test view--



"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."



-End of the report-

"The report refers only to the sample tested and does not apply to the bulk production.

This report is issued in confidential to the client and it will be strictly treated as such by the Shenzhen Timeway Technology Consulting Co., Ltd. It may not be reproduced rather in its entirety or in part and it may not be used for illegal purpose. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Shenzhen Timeway Technology Consulting co., Ltd to his customer.

Supplier or others persons directly concerned. Shenzhen Timeway Technology Consulting co., Ltd will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Shenzhen Timeway Technology Consulting co., Ltd reserves the rights to withdraw it and to adopt any other remedies which may be appropriate."