

**FCC PART 15.109**  
**MEASUREMENT AND TEST REPORT**  
For

EUT Name: Wireless Flash Trigger  
Item No.: Aster/PT-V4RX  
FCC ID: XBYASTERRX  
Serial No.: Not supplied by client



Prepared for : Shenzhen Fudasi Technology Co., Ltd.  
B Building, Shengde Industrial Park, DaLang, Longhua Town,  
Baoan District, Shenzhen City, China  
Prepared By : Shenzhen Toby Technology Co., Ltd.  
10/F., A Block, Jiada R & D Bldg., No.5 Songpingshan Road,  
Science & Technology Park, Nanshan District, Shenzhen, China  
TEL : +86-18925263335

Report Number : **TB-F106302**  
Date of Test : Jan. 19-21, 2010  
Date of Report : Jan. 22-25, 2010

## TABLE OF CONTENTS

<b>TEST REPORT DECLARATION.....</b>	<b>3</b>
<b>1. GENERAL INFORMATION .....</b>	<b>4</b>
1.1. Product Description for Equipment Under Test (EUT).....	4
1.2. Test Standards.....	4
1.3. Related Submittal(s)/Grant(s).....	5
1.4. Test Methodology .....	5
1.5. Accessories Equipment List and Details .....	5
1.6. EUT Cable List and Details .....	5
1.7. Test Location .....	5
<b>2. SUMMARY OF TEST RESULTS .....</b>	<b>6</b>
<b>3. §15.109(A) - RADIATED EMISSION .....</b>	<b>7</b>
3.1. Measurement Uncertainty.....	7
3.2. Test Equipment List and Details.....	7
3.3. Test Procedure .....	7
3.4. Corrected Amplitude & Margin Calculation .....	8
3.5. Environmental Conditions .....	8
3.6. Test Receiver Setup .....	8

**TEST REPORT DECLARATION**

Applicant : Shenzhen Fudasi Technology Co., Ltd.  
Manufacturer : Shenzhen Fudasi Technology Co., Ltd.  
EUT Description : Wireless Flash Trigger  
Model No. : Aster/PT-V4RX

The device described above is tested by SEM. Test Compliance Service Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B limits for both radiation and conduction emissions.

The measurement results are contained in this test report and Shenzhen Toby Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Toby Technology Co., Ltd.

Tested by: Jacky Wang Date: Jan. 25, 2010  
Jacky Wang

Reviewed by: Benny Xu Date: Jan. 26, 2010  
Benny Xu

Approved by: Justin Zhang Date: Jan. 27, 2010  
Justin Zhang

## 1. GENERAL INFORMATION

### 1.1. Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Shenzhen Fudasi Technology Co., Ltd.  
 Address of applicant : B Building, Shengde Industrial Park, DaLang, Longhua Town,  
 Baoan District, Shenzhen City, China

Manufacturer: Shenzhen Fudasi Technology Co., Ltd.  
 Address of manufacturer: B Building, Shengde Industrial Park, DaLang, Longhua Town,  
 Baoan District, Shenzhen City, China

#### General Description of E.U.T

Items	Description
EUT Description:	Wireless Flash Trigger
Trade Name:	/
Model No.:	Aster/PT-V4RX
Rated Voltage:	DC 3V CR2-Size Lithium Battery X 1 pc
Frequency Range:	433.92 MHz
Tape of Antenna:	Integral Antenna
Size:	5.5cm x 5.2cm x 2.7cm
For more information refer to the circuit diagram form and the user's manual.	

The test data is gathered from a production sample, provided by the manufacturer.

### 1.2. Test Standards

The following report is prepared on behalf of the Shenzhen Fudasi Technology Co., Ltd. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.109, 15.205 and 15.107 of the FCC Rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission/immunity, should be checked to ensure compliance has been maintained.

**1.3. Related Submittal(s)/Grant(s)**

No Related Submittal(s).

**1.4. Test Methodology**

All measurements contained in this report were conducted with ANSI C63.4-2009, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible immunity level. Test is carried with playing mode which worst case has been showed. Test setup was adapted accordingly in reference to the Operating Instructions.

**1.5. Accessories Equipment List and Details**

Manufacturer	Description	Model	Serial Number
IBM	Notebook	T22	LV14893
TP-LINK Modem	/	TM-EC5658V	KT99CTQC-508
Lenovo	Printer	3110	OD65133711480

**1.6. EUT Cable List and Details**

Cable Description	Length (M)	Shielded/ Unshielded	With Core/ Without Core
/	/	/	/

**1.7. Test Location****FCC – Registration No.: 994117**

SEM. Test Compliance Service Co., Ltd. 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 and the Registration is 994117. SEM. Test Compliance Service Co., Ltd. Lab.

TOBY Tel: +86 0755 2804 5093 Fax: +86 0755 518055

**2. SUMMARY OF TEST RESULTS**

DESCRIPTION OF TEST	RESULT
§15.109(a) Radiated Emission	Compliant

### 3. §15.109(a) - RADIATED EMISSION

#### 3.1. Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is + 3.0 dB.

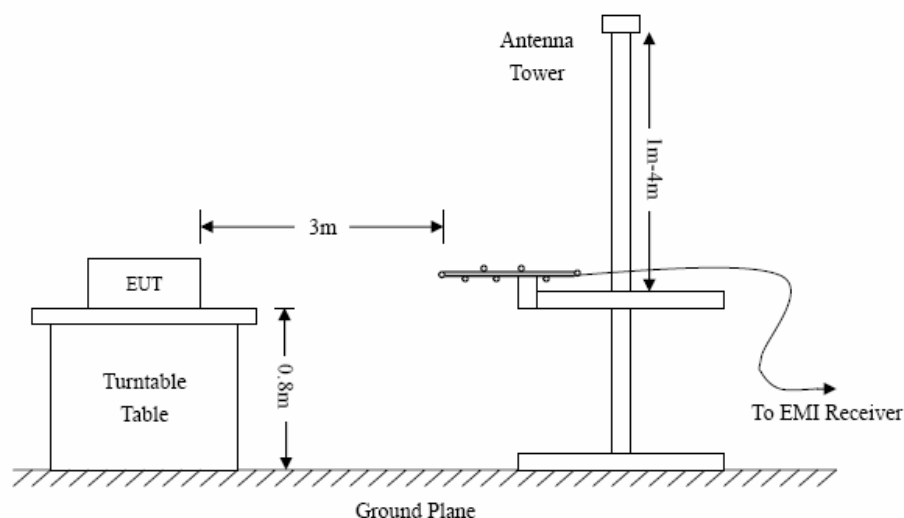
#### 3.2. Test Equipment List and Details

Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSEA20	DE25181	2009-08-12	2010-08-11
Positioning Controller	C&C	CC-C-1F	N/A	2009-08-12	2010-08-11
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2009-07-21	2010-07-20
Horn Antenna	SCHWARZBECK	BBHX 9120	9120-426	2009-07-21	2010-07-20
RF Switch	EM	EMSW18	SW060023	2009-08-12	2010-08-11
Amplifier	Agilent	8447F	3113A06717	2009-08-12	2010-08-11
Coaxial Cable	SCHWARZBECK	AK9513	9513-10	2009-08-12	2010-08-11
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	25498514	2009-08-12	2010-08-11

#### 3.3. Test Procedure

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.205 and FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.



### 3.4. Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15B Limit}$$

### 3.5. Environmental Conditions

Temperature:	21° C
Relative Humidity:	56 %
ATM Pressure:	1011 mbar

### 3.6. Test Receiver Setup

According to the data in section 4.6, the EUT complied with the FCC 15 Class B standards, and had the worst margin is:

-6.41 dB $\mu$ V at 315.8601 MHz in the Horizontal polarization, 30 MHz to 1 GHz, 3Meters



**Plot of Radiation Emissions & Test Data**

Radiated Disturbance

EUT: Wireless Flash Trigger

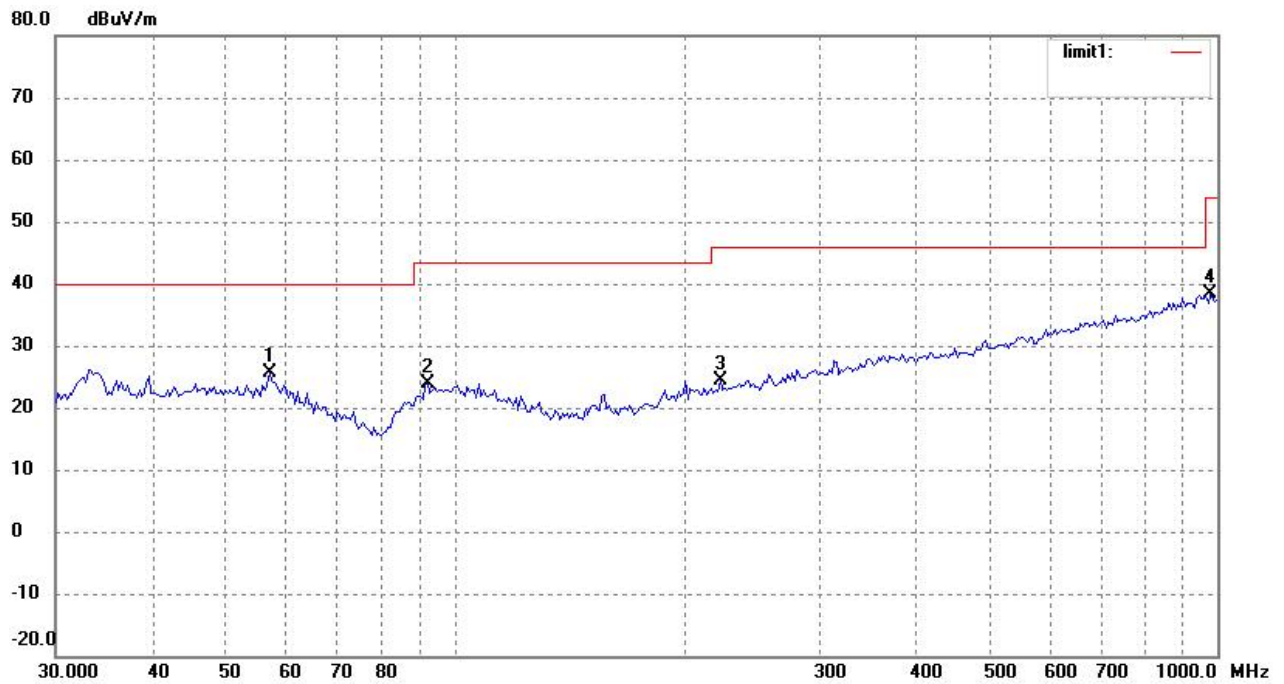
M/N: Aster/PT-V4RX

Operating Condition: ON

Test Specification: Horizontal &amp; Vertical

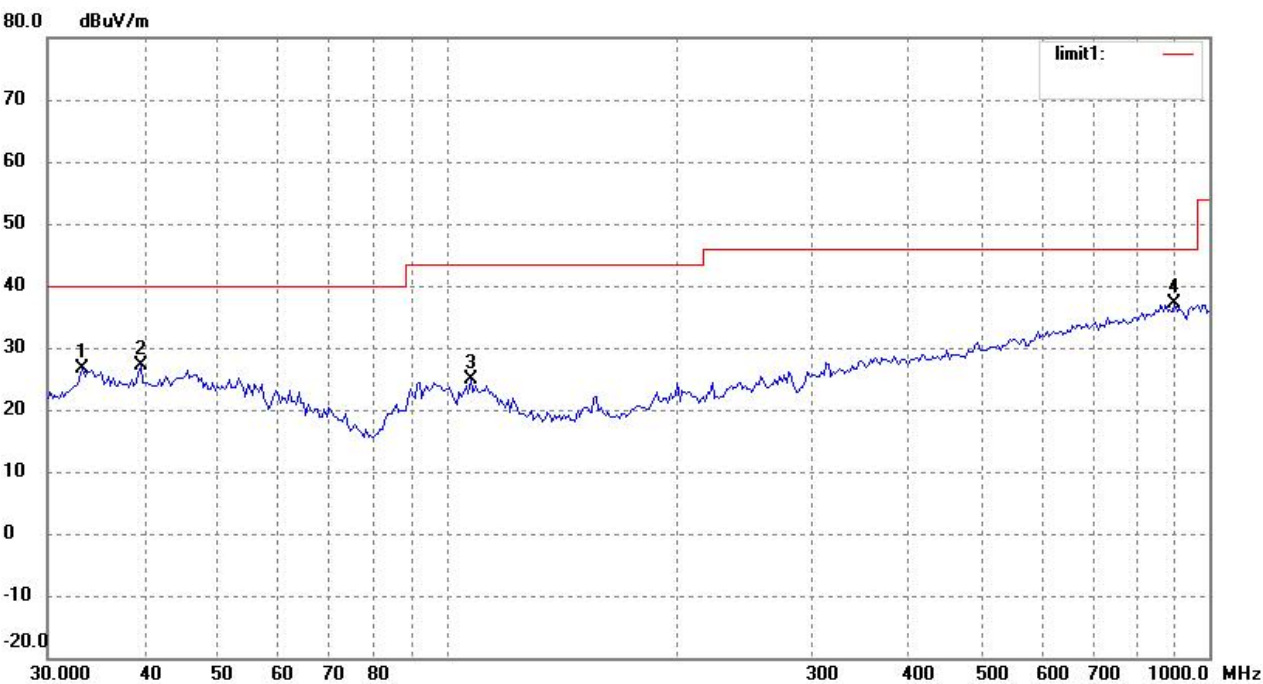
Comment: DC 3V

Horizontal



No.	Frequency (MHz)	Reading (dBuV/ m)	Correct Factor (dB)	Dutycycle Factor (dB)	Result (dBuV/ m)	Limit (dBuV m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	57.1914	18.02	7.66	N/A	25.68	40.00	-14.32	142	100	peak
2	92.1388	16.43	7.50	N/A	23.93	43.50	-19.57	178	100	peak
3	222.9501	16.43	7.86	N/A	24.29	46.00	-21.71	211	100	peak
4	979.1803	17.13	21.31	N/A	38.44	54.00	-15.56	56	100	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV/ m)	Correct Factor (dB)	Dutycycle Factor (dB)	Result (dBuV/ m)	Limit (dBuV m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	33.3278	19.68	6.87	N/A	26.55	40.00	-13.45	72	100	peak
2	39.7147	20.28	6.86	N/A	27.14	40.00	-12.86	136	100	peak
3	107.5100	17.20	7.80	N/A	25.00	43.50	-18.50	158	100	peak
4	900.1473	16.43	20.70	N/A	37.13	46.00	-8.87	204	100	peak