

Page 1 of 34

# APPLICATION CERTIFICATION FCC Part 15C On Behalf of China Industries Ltd T/A Wow! Stuff

RFX Racing system Model No.: FX-1001

FCC ID: YCR-RFX-1001

Prepared for : China Industries Ltd T/A Wow! Stuff

Address : Creative Industries Centre, Wolverhampton Science

Park, Wolverhampton, WV10 9TG UK

Prepared by : ACCURATE TECHNOLOGY CO., LTD

Address : F1, Bldg. A, Chan Yuan New Material Port, Keyuan

Rd. Science & Industry Park, Nan Shan, Shenzhen,

Guangdong P.R. China

Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number : ATE20150918

Date of Test : Apr 29-May 11, 2015

Date of Report: May 12, 2015





#### TABLE OF CONTENTS

Descri	ption	Page
Test R	Leport Certification	
	-	4
	ENERAL INFORMATION	
1.1.	Description of Device (EUT)	
1.2.	Special Accessory and Auxiliary Equipment	
1.3.	Description of Test Facility	
1.4.	•	
2. M	EASURING DEVICE AND TEST EQUIPMENT	6
3. OF	PERATION OF EUT DURING TESTING	7
3.1.	Operating Mode	7
3.2.	Configuration and peripherals	
4. TE	EST PROCEDURES AND RESULTS	8
5. 20	DB BANDWIDTH MEASUREMENT	9
5.1.	Block Diagram of Test Setup	9
5.2.	The Requirement For Section 15.215(c)	9
5.3.	Operating Condition of EUT	
5.4.	Test Procedure	9
5.5.	Test Result	10
6. BA	AND EDGE COMPLIANCE TEST	12
6.1.	Block Diagram of Test Setup	12
6.2.	The Requirement For Section 15.249	
6.3.	EUT Configuration on Measurement	12
6.4.	Operating Condition of EUT	13

Test Result 13

Operating Condition of EUT ......20

Antenna Construction 34

ANTENNA REQUIREMENT......34

RADIATED SPURIOUS EMISSION TEST ......18 

6.5.

6.6.

7.1.

7.2.

7.3.

7.4.

7.5.

7.6.

7.7.

8.1.

8.2.

8.

7.



Page 3 of 34

# **Test Report Certification**

Applicant : China Industries Ltd T/A Wow! Stuff

Address : Creative Industries Centre, Wolverhampton Science Park,

Wolverhampton, WV10 9TG UK

Manufacturer: China Industries Ltd T/A Wow! Stuff

Address : Creative Industries Centre, Wolverhampton Science Park,

Wolverhampton, WV10 9TG UK

Product : RFX Racing system

Model No. : FX-1001

Trade Name: Wow! Stuff

Measurement Procedure Used:

# FCC Rules and Regulations Part 15 Subpart C Section 15.249 ANSI C63.10: 2013

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.249 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test :	Apr 29-May 11, 2015
Date of Report:	May 12, 2015
Prepared by :	Zzzhang
	(Eric Zhang, Engineer)
Approved & Authorized Signer :_	Lemil
	( Sean Liu. Manager)



Page 4 of 34

## 1. GENERAL INFORMATION

# 1.1. Description of Device (EUT)

EUT : RFX Racing system

Model Number : FX-1001

Power Supply : 4.5V DC (batteries  $3\times$ )

Operate Frequency : 2405-2463.5MHz

Antenna Gain : 0dBi

Antenna type : PCB Antenna

Applicant : China Industries Ltd T/A Wow! Stuff

Address : Creative Industries Centre, Wolverhampton Science Park,

Wolverhampton, WV10 9TG UK

Manufacturer : China Industries Ltd T/A Wow! Stuff

Address : Creative Industries Centre, Wolverhampton Science Park,

Wolverhampton, WV10 9TG UK

Date of sample received: Apr 29, 2015

Date of Test : Apr 29-May 11, 2015

# 1.2. Special Accessory and Auxiliary Equipment

N/A



Page 5 of 34

# 1.3.Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC

The Registration Number is 752051

Listed by Industry Canada

The Registration Number is 5077A-2

Accredited by China National Accreditation Committee

for Laboratories

The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.

Science & Industry Park, Nanshan, Shenzhen, Guangdong

P.R. China

#### 1.4. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty = 3.08dB, k=2

(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2

(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2

(Above 1GHz)

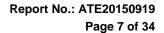


Report No.: ATE20150919 Page 6 of 34

# 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment** 

Kind of equipment	Manufacturer	Туре	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2015	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2015	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2015	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2015	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2015	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2015	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2015	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2015	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2015	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 11, 2015	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 11, 2015	One Year





3. OPERATION OF EUT DURING TESTING

# 3.1. Operating Mode

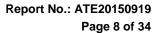
The mode is used: **Transmitting mode** 

Low Channel: 2405MHz Middle Channel: 2433.5MHz High Channel: 2463.5MHz

# 3.2. Configuration and peripherals

**EUT** 

Figure 1 Setup: Transmitting mode





4. TEST PROCEDURES AND RESULTS

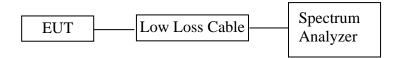
FCC Rules	Description of Test	Result		
Section 15.215(c)	20dB Bandwidth	Compliant		
Section 15.249(d)	Compliant			
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant		
Section 15.207	AC Power Line Conducted Emission Test	N/A		
Section 15.203	Antenna Requirement	Compliant		





5. 20DB BANDWIDTH MEASUREMENT

## 5.1.Block Diagram of Test Setup



#### 5.2. The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

#### 5.3. Operating Condition of EUT

- 5.3.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.3.2. Turn on the power of all equipment.
- 5.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 2405, 2433.5, 2463.5 MHz.

#### 5.4. Test Procedure

- 5.4.1. Place the EUT on the table and set it in transmitting mode.
- 5.4.2.Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 5.4.3.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.
- 5.4.4.Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

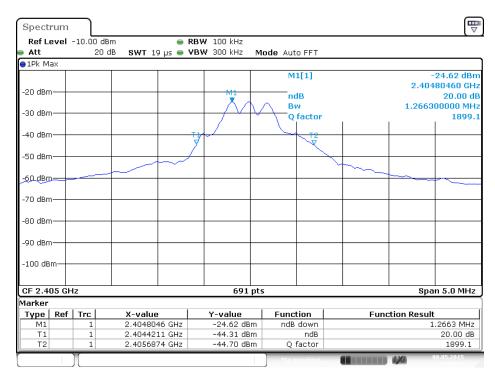


#### 5.5.Test Result

Channel	Frequency(MHz)	20 dB Bandwidth(MHz)				
Low	2405	1.266				
Middle	2433.5	1.310				
High	2463.5	1.397				

The spectrum analyzer plots are attached as below.

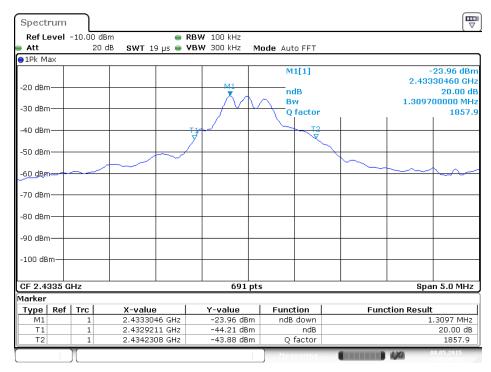
#### Low channel



Date: 8.MAY.2015 19:03:53

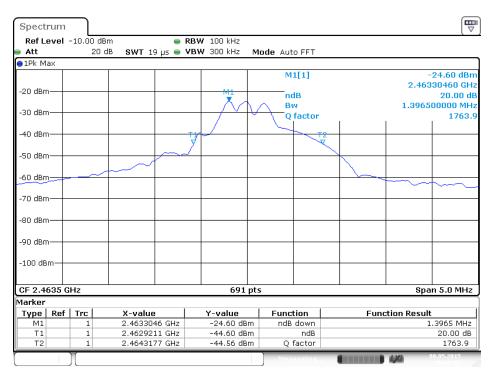


#### Middle channel



Date: 8.MAY.2015 19:06:53

#### High channel



Date: 8.MAY.2015 19:08:16

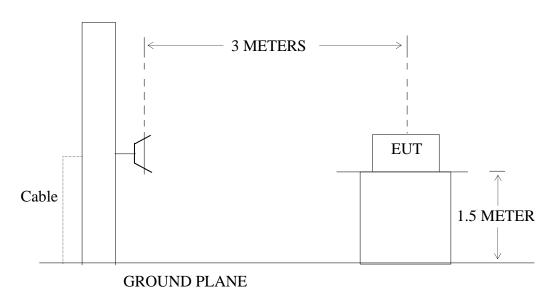


Page 12 of 34

#### 6. BAND EDGE COMPLIANCE TEST

#### 6.1.Block Diagram of Test Setup

#### ANTENNA ELEVATION VARIES FROM 1 TO 4 METERS



# 6.2. The Requirement For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

#### 6.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.



Page 13 of 34

# 6.4. Operating Condition of EUT

- 6.4.1. Setup the EUT and simulator as shown as Section 6.1.
- 6.4.2. Turn on the power of all equipment.
- 6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 2405, 2463.5 MHz..

#### 6.5. Test Procedure

#### Radiate Band Edge:

- 6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.
- 6.5.2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
- 6.5.3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 6.5.4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

6.5.5. The band edges was measured and recorded.

#### 6.6.Test Result



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Fax:+86-0755-26503396

Report No.: ATE20150919

Page 14 of 34

Job No.: ricky 2015 #373
Standard: FCC PK
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system

Mode: TX 2405MHz

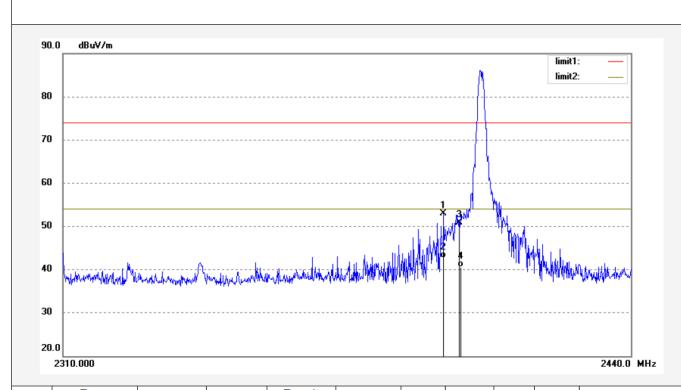
Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/08/
Time: 9/24/29
Engineer Signature:
Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2396.356	60.55	-7.52	53.03	74.00	-20.97	peak			
2	2396.356	50.21	-7.52	42.69	54.00	-11.31	AVG			
3	2400.000	58.42	-7.50	50.92	74.00	-23.08	peak			
4	2400.000	48.10	-7.50	40.60	54.00	-13.40	AVG			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 15 of 34

Site: 1# Chamber

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Fax:+86-0755-26503396

Report No.: ATE20150919

Polarization: Horizontal Power Source: DC 4.5V

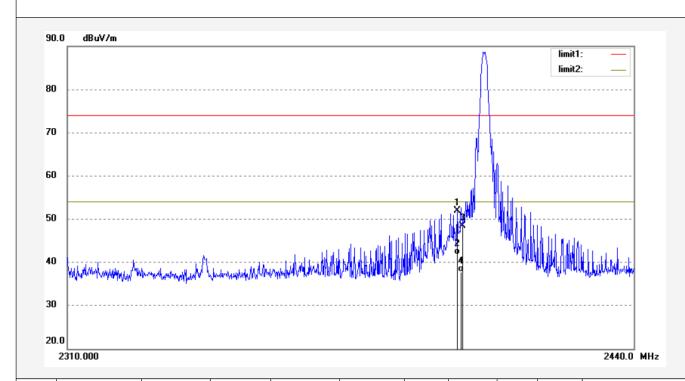
Date: 15/05/08/
Time: 9/20/29
Engineer Signature:
Distance: 3m

Job No.: ricky 2015 #372 Standard: FCC PK Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %
EUT: RFX Raing system
Mode: TX 2405MHz

Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.723	59.52	-7.51	52.01	74.00	-21.99	peak			
2	2398.723	49.35	-7.51	41.84	54.00	-12.16	AVG			
3	2400.000	55.88	-7.50	48.38	74.00	-25.62	peak			
4	2400.000	45.21	-7.50	37.71	54.00	-16.29	AVG			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

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Report No.: ATE20150919

Page 16 of 34

Job No.: ricky 2015 #370
Standard: FCC PK
Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system

Mode: TX 2463.5MHz

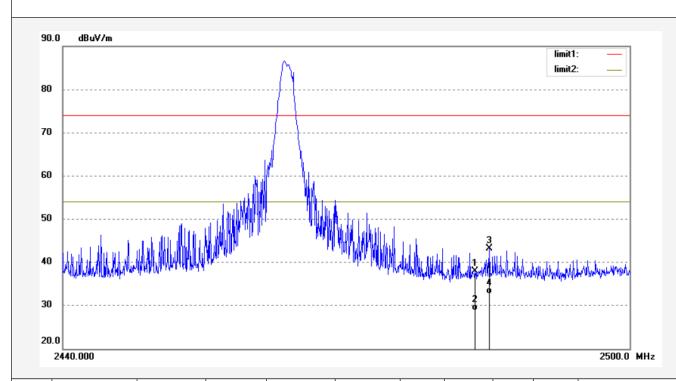
Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/08/ Time: 9/15/55 Engineer Signature: Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.37	-7.38	37.99	74.00	-36.01	peak			
2	2483.500	36.25	-7.38	28.87	54.00	-25.13	AVG			
3	2485.014	50.62	-7.39	43.23	74.00	-30.77	peak			
4	2485.014	40.01	-7.39	32.62	54.00	-21.38	AVG			



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Site: 1# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Report No.: ATE20150919

Page 17 of 34

Job No.: ricky 2015 #371 Standard: FCC PK

Radiation Test Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system Mode: TX 2463.5MHz

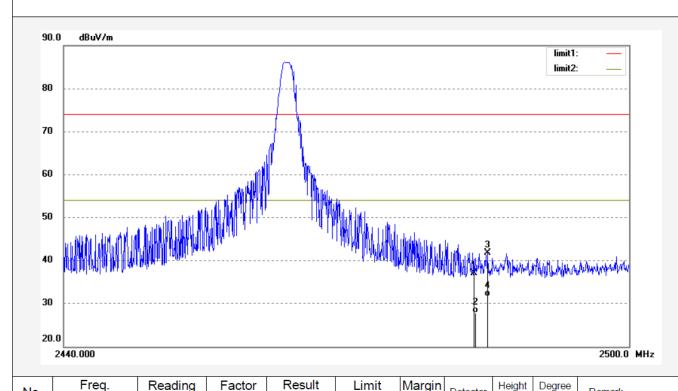
Model: FX-1001

Test item:

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919 Polarization: Horizontal DC 4.5V Power Source:

Date: 15/05/08/ Time: 9/18/27 Engineer Signature: Distance: 3m



#### Detector No. Remark (cm) (deg.) (MHz) (dBuV/m) (dB) (dBuV/m) (dBuV/m) (dB) 2483.500 44.40 -7.38 37.02 74.00 1 -36.98 peak 35.10 -7.38 27.72 AVG 2 2483,500 54.00 -26.283 2484.893 49.25 -7.39 41.86 74.00 -32.14peak 4 2484.893 39.06 -7.39 31.67 54.00 -22.33 AVG

#### Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

- 3. Display the measurement of peak values.
- 4. The average measurement was not performed when peak measured data under the limit of average detection.



# 7. RADIATED SPURIOUS EMISSION TEST

# 7.1.Block Diagram of Test Setup

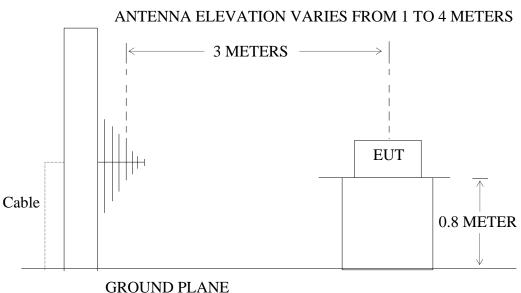
7.1.1.Block diagram of connection between the EUT and peripherals

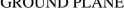


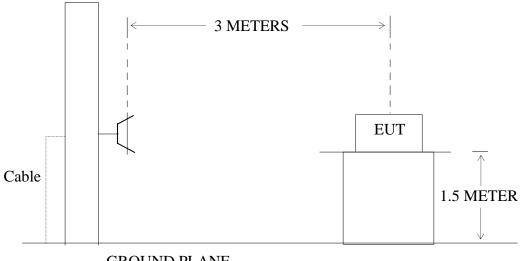
Setup: Transmitting mode

(EUT: FX-1001)

## 7.1.2.Semi-Anechoic Chamber Test Setup Diagram







**GROUND PLANE** 



Report No.: ATE20150919 Page 19 of 34

#### 7.2. The Limit For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

#### 7.3. Restricted bands of operation

#### 7.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

pern	nitted in any of the freque	ncy bands listed below:	
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	$\binom{2}{}$
13.36-13.41			

<sup>&</sup>lt;sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section

<sup>&</sup>lt;sup>2</sup>Above 38.6



15.35 apply to these measurements.

Report No.: ATE20150919 Page 20 of 34

#### 7.4. Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 7.5. Operating Condition of EUT

- 7.5.1. Setup the EUT and simulator as shown as Section 7.1.
- 7.5.2. Turn on the power of all equipment.
- 7.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 2405, 2433.5, 2463.5MHz.

#### 7.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter(Below 1GHz) and 1.5m(above 1GHz) high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain



Page 21 of 34

# 7.7. The Field Strength of Radiation Emission Measurement Results **PASS.**

#### **Fundamental Radiated Emissions**

Frequency	Reading(	dBμV/m)	Factor(dB)	Result(dBµV/m)		Limit(dBµV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2405.00	81.95	93.62	-7.49	74.46	86.13	94.00	114.00	-19.54	-27.87	Vertical
2405.00	85.34	96.65	-7.49	77.85	89.16	94.00	114.00	-16.15	-24.84	Horizontal
2433.50	80.21	90.52	-7.40	72.81	83.12	94.00	114.00	-21.19	-30.88	Vertical
2433.50	81.56	92.40	-7.40	74.16	85.00	94.00	114.00	-19.84	-29.00	Horizontal
2463.50	82.45	93.49	-7.36	75.09	86.13	94.00	114.00	-18.91	-27.87	Vertical
2463.50	82.65	93.66	-7.36	75.29	86.30	94.00	114.00	-18.71	-27.70	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

- 2. \*: Denotes restricted band of operation.
- 3. The EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.
- 4. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.
- 5. The average measurement was not performed when peak measured data under the limit of average detection.
- 6. The 18-25GHz emissions are not reported, because the levels are too low against the limit



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 22 of 34
Site: 1# Chamber

Report No.: ATE20150919

Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: ricky 2015 #424

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system

Mode: TX 2405MHz Model: FX-1001

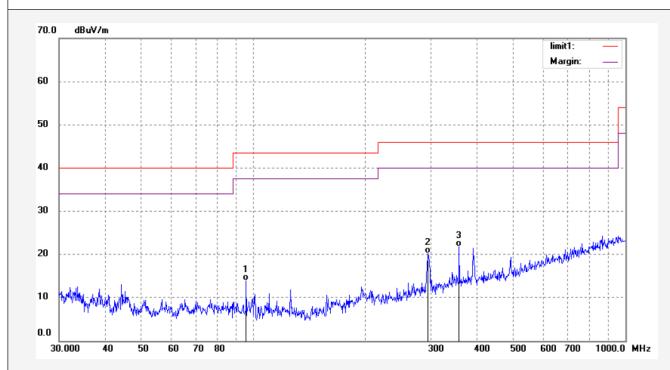
Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/09/ Time: 9/47/25 Engineer Signature:

Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	95.6484	35.89	-21.94	13.95	43.50	-29.55	QP			
2	294.4259	38.22	-17.96	20.26	46.00	-25.74	QP			
3	357.1923	37.80	-16.02	21.78	46.00	-24.22	QP			



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Report No.: ATE20150919

Page 23 of 34

Job No.: ricky 2015 #425 Polarization: Horizontal Standard: FCC Class B 3M Radiated Power Source: DC 4.5V

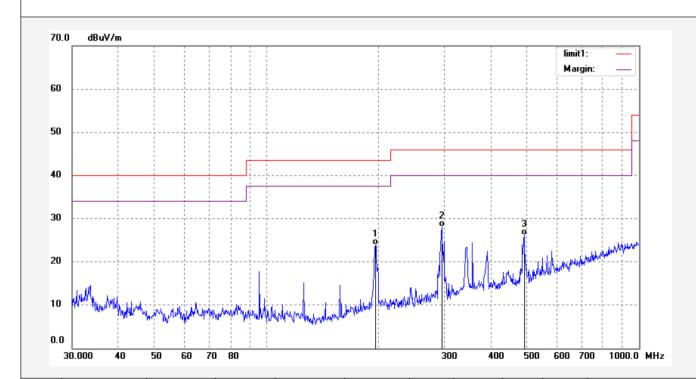
Standard: FCC Class B 3M Radiated Power Source: DC 4.5'
Test item: Radiation Test Date: 15/05/09/
Temp.( C)/Hum.(%) 25 C / 55 %
Time: 9/48/00

EUT: RFX Raing system Engineer Signature:

Mode: TX 2405MHz Distance: 3m

Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	195.8701	44.38	-20.46	23.92	43.50	-19.58	QP			
2	295.4623	46.02	-17.94	28.08	46.00	-17.92	QP			
3	491.7699	40.16	-14.03	26.13	46.00	-19.87	QP			



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Report No.: ATE20150919

Page 24 of 34

Job No.: ricky 2015 #426

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system Mode: TX 2433.5MHz

Model: FX-1001

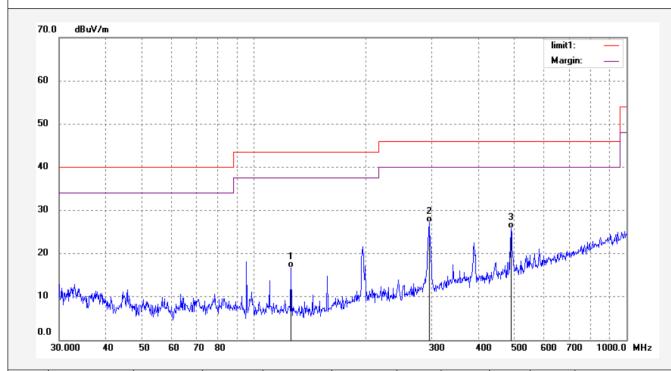
Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Horizontal Power Source: DC 4.5V

Date: 15/05/09/ Time: 9/48/30

Engineer Signature: Distance: 3m



No	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	125.8058	39.55	-22.83	16.72	43.50	-26.78	QP			
2	295.4623	45.22	-17.94	27.28	46.00	-18.72	QP			
3	490.0450	39.94	-14.05	25.89	46.00	-20.11	QP			



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Report No.: ATE20150919

Page 25 of 34

Job No.: ricky 2015 #427

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system

Mode: TX 2433.5MHz

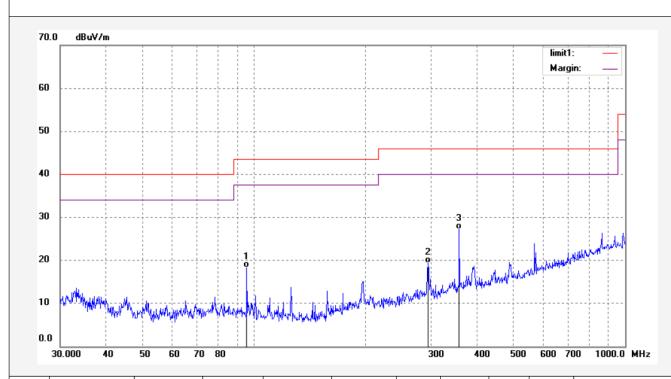
Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/09/
Time: 9/49/04
Engineer Signature:
Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	95.6484	40.20	-21.94	18.26	43.50	-25.24	QP			
2	294.4259	37.28	-17.96	19.32	46.00	-26.68	QP			
3	357.1923	43.22	-16.02	27.20	46.00	-18.80	QP			



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Report No.: ATE20150919

Page 26 of 34

Job No.: ricky 2015 #428

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system
Mode: TX 2463.5MHz

Model: FX-1001

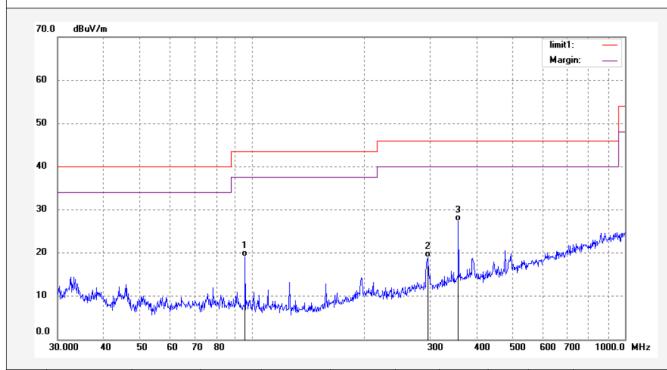
Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical
Power Source: DC 4.5V

Date: 15/05/09/ Time: 9/49/45 Engineer Signature:

Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	95.6484	41.02	-21.94	19.08	43.50	-24.42	QP			
2	295.4623	36.95	-17.94	19.01	46.00	-26.99	QP			
3	357.1923	43.37	-16.02	27.35	46.00	-18.65	QP			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 27 of 34

Site: 1# Chamber

Tel:+86-0755-26503290

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Report No.: ATE20150919

Polarization: Horizontal Power Source: DC 4.5V

Date: 15/05/09/
Time: 9/50/17
Engineer Signature:
Distance: 3m

Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 55 %

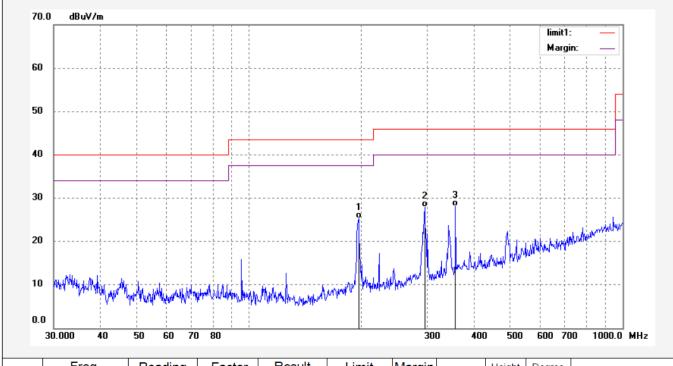
Mode: TX 2463.5MHz Model: FX-1001

EUT:

Job No.: ricky 2015 #429

Manufacturer: China Industries Ltd T/A Wow Stuff

RFX Raing system



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)		Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	196.5595	45.77	-20.42	25.35	43.50	-18.15	QP			
2	295.4623	45.85	-17.94	27.91	46.00	-18.09	QP			
3	357.1923	44.14	-16.02	28.12	46.00	-17.88	QP			



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Report No.: ATE20150919

Page 28 of 34

Job No.: ricky 2015 #366

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 % EUT: RFX Raing system

Mode: TX 2405MHz

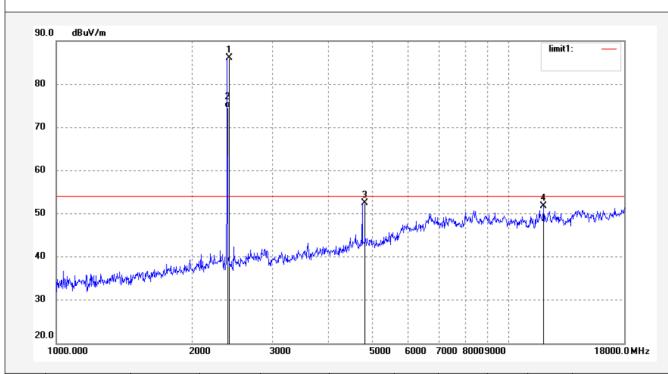
Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/08/
Time: 9/07/53
Engineer Signature:
Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2405.000	93.62	-7.49	86.13	114.00	-27.87	peak			
2	2405.000	81.95	-7.49	74.46	94.00	-19.54	AVG			
3	4810.000	52.10	0.31	52.41	54.00	-1.59	peak			
4	11940.744	39.41	12.32	51.73	54.00	-2.27	peak			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 29 of 34
Site: 1# Chamber

Report No.: ATE20150919

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Job No.: ricky 2015 #367 Polarization: Horizontal Standard: FCC Class B 3M Radiated Power Source: DC 4.5V

Standard: FCC Class B 3M Radiated Power Source: DC 4.5\\
Test item: Radiation Test Date: 15/05/08/

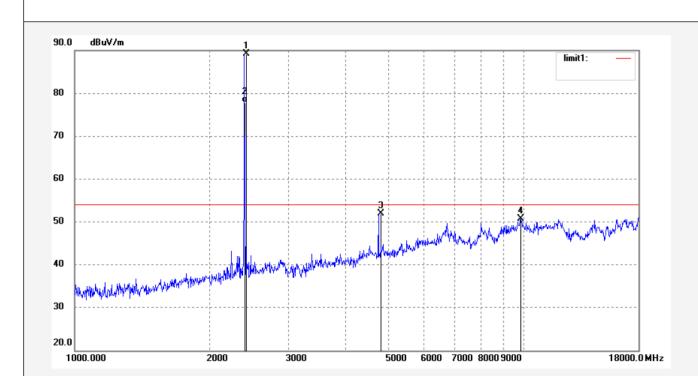
Temp.( C)/Hum.(%) 25 C / 55 % Time: 9/10/21

EUT: RFX Raing system Engineer Signature:

Mode: TX 2405MHz Distance: 3m

Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2405.000	96.65	-7.49	89.16	114.00	-24.84	peak			
2	2405.000	85.34	-7.49	77.85	94.00	-16.15	AVG			
3	4810.000	51.65	0.31	51.96	54.00	-2.04	peak			
4	9853.701	39.76	10.94	50.70	54.00	-3.30	peak			



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Report No.: ATE20150919

Page 30 of 34

Polarization: Horizontal Power Source: DC 4.5V

Date: 15/05/08/ Time: 8/56/20 Engineer Signature:

Date: Time:

Distance: 3m

Job No.: ricky 2015 #364

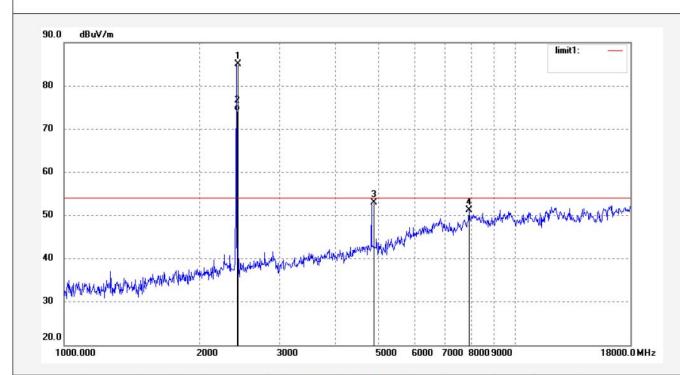
Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %
EUT: RFX Raing system
Mode: TX 2433.5MHz

Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2433.500	92.40	-7.40	85.00	114.00	-29.00	peak			
2	2433.500	81.56	-7.40	74.16	94.00	-19.84	AVG			
3	4866.000	52.22	0.77	52.99	54.00	-1.01	peak			
4	7898.164	43.85	7.45	51.30	54.00	-2.70	peak			



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Report No.: ATE20150919

Page 31 of 34

Job No.: ricky 2015 #365 Polarization: Vertical
Standard: FCC Class B 3M Radiated Power Source: DC 4.5V

Standard: FCC Class B 3M Radiated Power Source: DC 4.5
Test item: Radiation Test Date: 15/05/08/

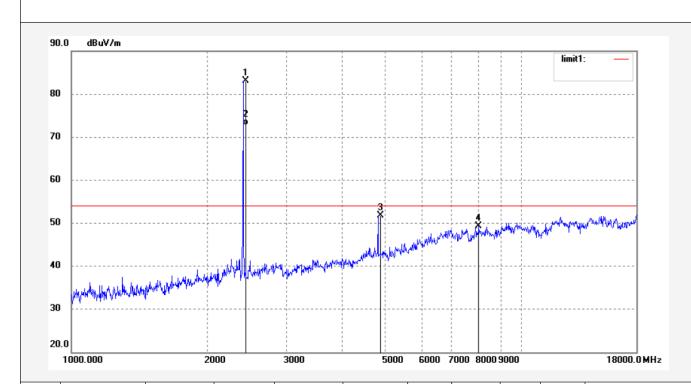
Temp.( C)/Hum.(%) 25 C / 55 % Time: 9/00/18

EUT: RFX Raing system Engineer Signature:

Mode: TX 2433.5MHz Distance: 3m

Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2433.500	90.52	-7.40	83.12	114.00	-30.88	peak			
2	2433.500	80.21	-7.40	72.81	94.00	-21.19	AVG			
3	4866.000	50.98	0.77	51.75	54.00	-2.25	peak			
4	8037.313	40.96	8.38	49.34	54.00	-4.66	peak			



Model:

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F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 32 of 34

Site: 1# Chamber

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Report No.: ATE20150919

Job No.: ricky 2015 #368 Polarization: Horizontal Standard: FCC Class B 3M Radiated Power Source: DC 4.5V

Test item: Radiation Test Power Source: DC 4.5\

Date: 15/05/08/

Temp.( C)/Hum.(%) 25 C / 55 % Time: 9/12/09

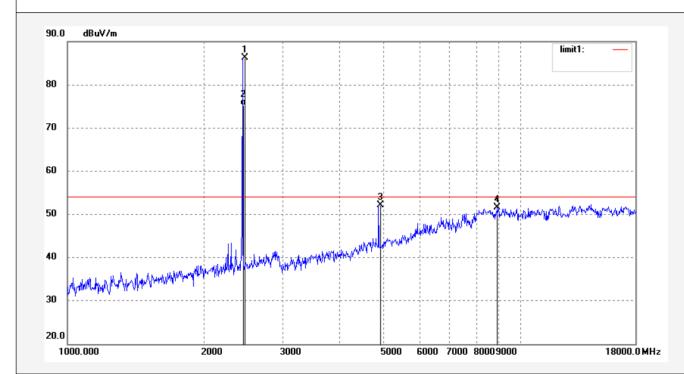
EUT: RFX Raing system Engineer Signature:

Mode: TX 2463.5MHz Distance: 3m

Manufacturer: China Industries Ltd T/A Wow Stuff

Note: Report NO.: ATE20150919

FX-1001



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2463.500	93.66	-7.36	86.30	114.00	-27.70	peak			
2	2463.500	82.65	-7.36	75.29	94.00	-18.71	AVG			
3	4926.000	50.94	1.18	52.12	54.00	-1.88	peak			
4	8925.227	42.67	8.84	51.51	54.00	-2.49	peak			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Page 33 of 34

Site: 1# Chamber

Report No.: ATE20150919

Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: ricky 2015 #369 Polarization:
Standard: FCC Class B 3M Radiated Power Source

Test item: Radiation Test

Temp.( C)/Hum.(%) 25 C / 55 %

EUT: RFX Raing system Mode: TX 2463.5MHz

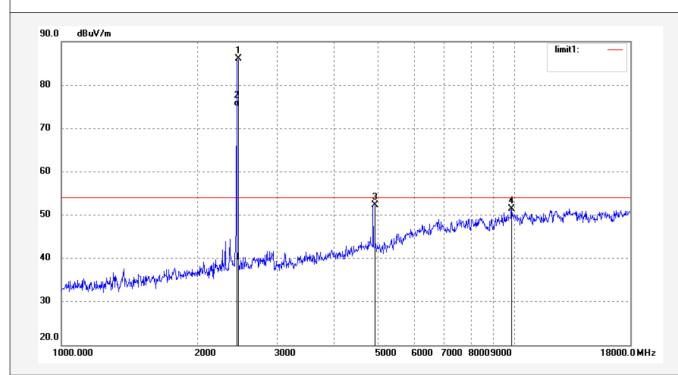
Model: FX-1001

Manufacturer: China Industries Ltd T/A Wow Stuff

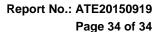
Note: Report NO.: ATE20150919

Polarization: Vertical Power Source: DC 4.5V

Date: 15/05/08/
Time: 9/14/30
Engineer Signature:
Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2463.500	93.49	-7.36	86.13	114.00	-27.87	peak			
2	2463.500	82.45	-7.36	75.09	94.00	-18.91	AVG			
3	4926.000	51.18	1.18	52.36	54.00	-1.64	peak			
4	9853.701	40.47	10.94	51.41	54.00	-2.59	peak			





# 8. ANTENNA REQUIREMENT

# 8.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

#### 8.2. Antenna Construction

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna