

FCC CERTIFICATION  
On Behalf of  
Interactive Toy Concepts Limited

2.4G Flier  
Model No.: 22033V2RX

FCC ID: RSD-22033V2RX

Prepared for : Interactive Toy Concepts Limited  
Address : Unit 709, 7/F., Tower 2, Cheung Sha Wan Plaza, No.833  
Cheung Sha Wan Rd., Kowloon, Hong Kong

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Report Number : ATE20140652  
Date of Test : April 29, 2014  
Date of Report : May 6, 2014

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APPENDIX I ( TEST CURVES) (27 pages)

## Test Report Certification

Applicant : Interactive Toy Concepts Limited  
Manufacturer : Interactive Toy Concepts Limited  
EUT Description : 2.4G Flier  
(A) MODEL NO.: 22033V2RX  
(B) POWER SUPPLY: 3.7V DC (Power by Li-Ion battery ) and  
AC120V/60Hz (Power by USB Port)

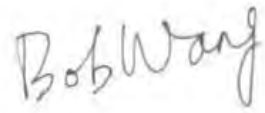
Measurement Procedure Used:


**FCC Rules and Regulations Part 15 Subpart C Section 15.249**  
**ANSI C63.4: 2009**

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 : April 29, 2014

Prepared by :   
(Engineer)

Approved & Authorized Signer :   
(Manager)

# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

EUT	:	2.4G Flier
Model Number	:	22033V2RX
Power Supply	:	3.7V DC (Power by Li-Ion battery ) and AC120V/60Hz (Power by USB Port)
Operate Frequency	:	2414.000-2473.000MHz
Applicant	:	Interactive Toy Concepts Limited
Address	:	Unit 709, 7/F., Tower 2, Cheung Sha Wan Plaza, No.833 Cheung Sha Wan Rd., Kowloon, Hong Kong
Manufacturer	:	Interactive Toy Concepts Limited
Address	:	Unit 709, 7/F., Tower 2, Cheung Sha Wan Plaza, No.833 Cheung Sha Wan Rd., Kowloon, Hong Kong
Date of sample received	:	April 29, 2014
Date of Test	:	April 29, 2014

## 1.2. 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

### 1.3.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)

## 2. MEASURING DEVICE AND TEST EQUIPMENT

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

Kind of equipment	Manufacturer	Type	S/N	Calibrated date	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2014	Jan. 10, 2015
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2014	Jan. 10, 2015
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2014	Jan. 10, 2015
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2014	Jan. 10, 2015
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2014	Jan. 14, 2015
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 15, 2014	Jan. 14, 2015
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2014	Jan. 10, 2015
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2014	Jan. 10, 2015

### 3. SUMMARY OF TEST RESULTS

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
Section 15.207	Conducted Emission	Compliant
Section 15.249(a)	Fundamental and Harmonics Radiated Emission	Compliant
Section 15.249(d)	Spurious Radiated Emission	Compliant
Section 15.249(d)	Band Edge	Compliant
Section 15.203	Antenna Requirement	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant

Remark: "N/A" means "Not applicable".

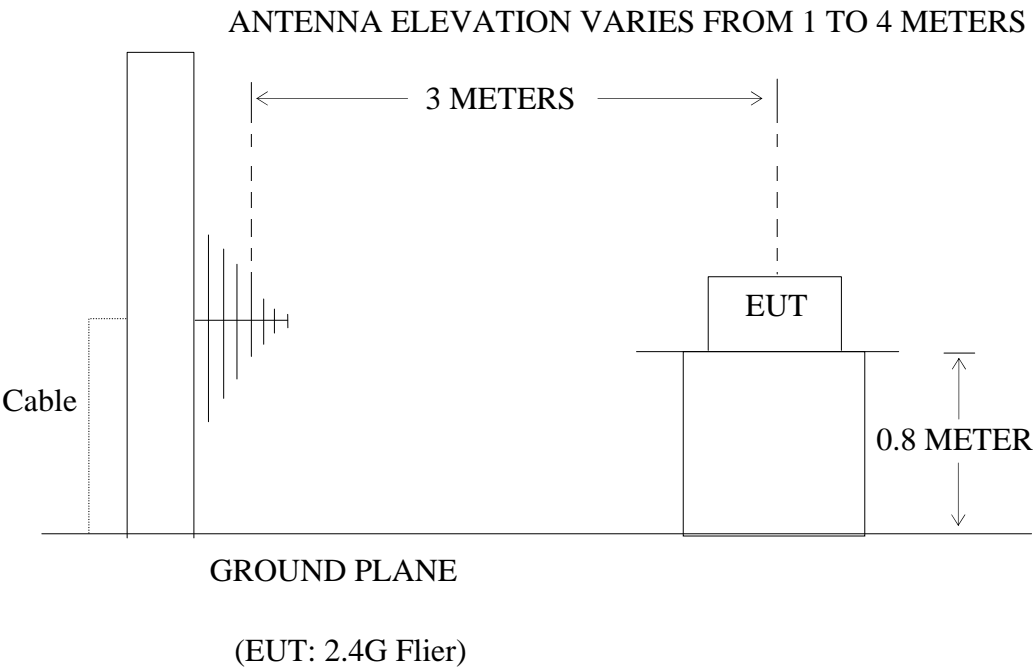
# 4. FUNDAMENTAL AND HARMONICS RADIATED EMISSION FOR SECTION 15.249(A)

## 4.1. Block Diagram of Test Setup

### 4.1.1. Block diagram of connection between the EUT and simulators



### 4.1.2. Semi-Anechoic Chamber Test Setup Diagram



## 4.2.The Emission Limit

4.2.1.For intentional radiators, According to section 15.249(a), Operation within the frequency band of 2.4 to 2.4835GHz, The fundamental field strength shall not exceed 94 dB $\mu$ V/m and the harmonics shall not exceed 54 dB $\mu$ V/m.

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of harmonics (microvolts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

4.2.2.According to section 15.249(e), as shown in section 15.35(b), the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 4.3.Configuration of EUT on Measurement

The following 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.

### 4.3.1. 2.4G Flier (EUT)

Model Number : 22033V2RX  
 Serial Number : N/A  
 Manufacturer : Interactive Toy Concepts Limited

## 4.4.Operating Condition of EUT

4.4.1.Setup the EUT and simulator as shown as Section 4.1.

4.4.2.Turn on the power of all equipment.

4.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2414.000 - 2473.000 MHz. We are select 2414.000MHz, 2447.000MHz, 2473.000MHz TX frequency to transmit.

#### 4.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter 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 bi-log 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 C63.4: 2009 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

The frequency range from 30MHz to 25000MHz is checked.

## 4.6. The Field Strength of Radiation Emission Measurement Results

### PASS.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2414.000MHz	Test Engineer:	Pei

### Fundamental Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2414.000	80.11	88.68	-6.71	73.40	81.97	94.00	114.00	-20.60	-32.03	Vertical
2414.000	78.14	86.85	-6.71	71.43	80.14	94.00	114.00	-22.57	-33.86	Horizontal

### Harmonics Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
4828.000	47.36	52.67	-1.51	45.85	51.16	54.00	74.00	-8.15	-22.84	Vertical
7242.000	44.51	50.91	1.33	45.84	52.24	54.00	74.00	-8.16	-21.76	Vertical
4828.000	44.10	50.36	-1.51	42.59	48.85	54.00	74.00	-11.41	-25.15	Horizontal
7242.000	43.96	50.62	1.32	42.28	51.94	54.00	74.00	-8.72	-22.06	Horizontal

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2447.000MHz	Test Engineer:	Pei

### Fundamental Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2447.000	80.41	87.37	-6.63	73.78	80.74	94.00	114.00	-20.22	-33.26	Vertical
2447.000	76.52	84.96	-6.63	69.89	78.33	94.00	114.00	-24.11	-35.67	Horizontal

### Harmonics Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
4894.000	45.90	51.65	-1.34	44.56	50.31	54.00	74.00	-9.44	-23.69	Vertical
7341.000	42.20	48.68	1.42	43.62	50.10	54.00	74.00	-10.38	-23.90	Vertical
4894.000	45.22	51.89	-1.34	43.88	50.55	54.00	74.00	-10.12	-23.45	Horizontal
7341.000	44.25	50.11	1.42	45.67	51.53	54.00	74.00	-8.33	-22.47	Horizontal

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2473.000MHz	Test Engineer:	Pei

### Fundamental Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2473.000	76.22	84.92	-6.56	-69.66	78.36	94.00	114.00	-24.34	-35.64	Vertical
2473.000	81.75	88.16	-6.56	75.19	81.60	94.00	114.00	-18.81	-32.40	Horizontal

### Harmonics Radiated Emissions

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
4946.000	49.99	56.37	-1.15	48.84	55.22	54.00	74.00	-5.16	-18.78	Vertical
7419.000	45.10	50.93	1.47	46.57	52.40	54.00	74.00	-7.43	-21.60	Vertical
4946.000	43.21	49.34	-1.15	42.06	48.19	54.00	74.00	-11.94	-25.81	Horizontal
7419.000	44.25	50.71	1.49	45.74	52.20	54.00	74.00	-8.26	-21.80	Horizontal

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

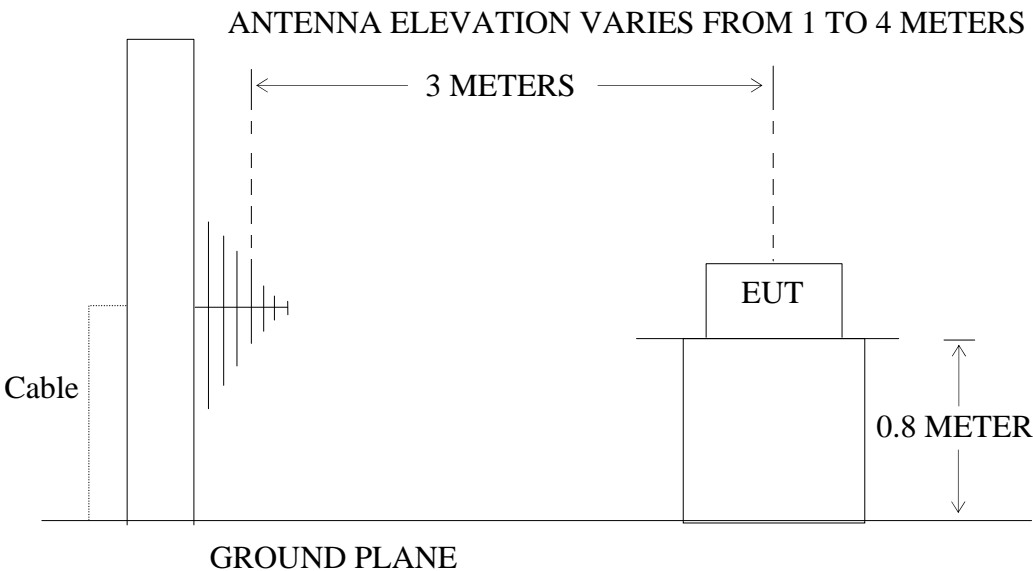
# 5. SPURIOUS RADIATED EMISSION FOR SECTION 15.249(D)

## 5.1. Block Diagram of Test Setup

### 5.1.1. Block diagram of connection between the EUT and simulators



### 5.1.2. Semi-Anechoic Chamber Test Setup Diagram



(EUT: 2.4G Flier)

## 5.2. The Emission Limit For Section 15.249(d)

5.2.1. Emission radiated outside of the specified frequency bands, except for harmonics, shall be comply with the general radiated emission limits in Section 15.209.

Radiation Emission Measurement Limits According to Section 15.209

Frequency (MHz)	Limit		The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector.
	Field Strength (microvolts/meter)	Measurement Distance (meters)	
0.009 – 0.490	2400/F(kHz)	300	

0.490 – 1.705	24000/F(kHz)	30	Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
1.705 – 30.0	30	30	
30 - 88	100	3	
88 - 216	150	3	
216 - 960	200	3	
Above 960	500	3	

### 5.3.EUT Configuration on Measurement

The following 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.

#### 5.3.1. 2.4G Flier (EUT)

Model Number : 22033V2RX  
 Serial Number : N/A  
 Manufacturer : Interactive Toy Concepts Limited

### 5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2414.000 - 2473.000 MHz. We are select 2414.000MHz, 2447.000MHz, 2473.000MHz TX frequency to transmit.

## 5.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter 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 C63.4: 2009 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

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

The final measurement in band 9-90kHz, 110-490kHz 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.

## 5.6.The Emission Measurement Result

**PASS.**

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2414.000MHz	Test Engineer:	Pei

30MHz-25GHz

Frequency (MHz)	Reading (dBμV/m)	Factor(dB) Corr.	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
372.0045	37.31	-15.84	21.47	46.00	-24.53	Vertical
396.2414	42.15	-15.67	26.48	46.00	-19.52	
444.8514	37.45	-14.78	22.67	46.00	-23.33	
348.0274	48.29	-16.31	31.98	46.00	-14.02	Horizontal
372.0045	50.67	-15.84	34.83	46.00	-11.17	
396.2414	52.17	-15.67	36.50	46.00	-9.50	

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2447.000MHz	Test Engineer:	Pei

## 30MHz-25GH

Frequency (MHz)	Reading (dBμV/m)	Factor(dB) Corr.	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
396.2414	37.48	-15.67	21.81	46.00	-24.19	Vertical
444.8514	36.08	-14.78	21.30	46.00	-24.70	
550.9479	37.03	-12.82	24.21	46.00	-21.79	
372.0045	50.09	-15.84	34.25	46.00	-11.75	Horizontal
396.2415	51.91	-15.67	36.24	46.00	-9.76	
420.5803	46.71	-15.36	31.35	46.00	-14.65	

## 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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2473.000MHz	Test Engineer:	Pei

## 30MHz-25GH

Frequency (MHz)	Reading (dBμV/m)	Factor(dB) Corr.	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
280.0237	38.21	-18.28	19.93	46.00	-26.07	Vertical
372.0045	36.90	-15.84	21.06	46.00	-24.94	
396.2415	37.14	-15.67	21.47	46.00	-24.53	
372.0045	50.03	-15.84	34.19	46.00	-11.81	Horizontal
396.2414	52.22	-15.67	36.55	46.00	-9.45	
420.5803	47.39	-15.36	32.03	46.00	-13.97	

## 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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

## 6. BAND EDGES

### 6.1.The Requirement

6.1.1.Band Edge from 2400MHz to 2483.5MHz. Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

### 6.2.EUT Configuration on Measurement

The following 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.

#### 6.2.1. 2.4G Flier (EUT)

Model Number : 22033V2RX  
 Serial Number : N/A  
 Manufacturer : Interactive Toy Concepts Limited

### 6.3.Operating Condition of EUT

6.3.1.Setup the EUT and simulator as shown as Section 4.1.

6.3.2.Turn on the power of all equipment.

6.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 2414.000-2473.000MHz MHz. We are select 2414.000MHz, 2473.000MHz TX frequency to transmit.

### 6.4.Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
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.The Measurement Result

**Pass.**

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2414.000MHz	Test Engineer:	Pei

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2310.000	33.55	43.95	-6.99	26.56	36.96	54.00	74.00	-27.44	-37.04	Vertical
2390.000	32.47	43.40	-6.78	25.69	36.62	54.00	74.00	-28.31	-37.38	Vertical
2310.000	31.97	43.76	-6.99	24.98	36.77	54.00	74.00	-29.02	-37.23	Horizontal
2390.000	32.58	44.28	-6.78	25.80	37.50	54.00	74.00	-28.20	-36.50	Horizontal

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	April 29, 2014	Temperature:	25°C
EUT:	2.4G Flier	Humidity:	50%
Model No.:	22033V2RX	Power Supply:	DC 3.7V
Test Mode:	TX 2473.000MHz	Test Engineer:	Pei

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	35.25	44.60	-6.54	28.71	38.06	54.00	74.00	-25.29	-35.94	Vertical
2500.000	32.93	43.32	-6.50	26.43	36.82	54.00	74.00	-27.57	-37.18	Vertical
2483.500	33.21	44.74	-6.54	26.67	38.20	54.00	74.00	-27.33	-35.80	Horizontal
2500.000	32.90	44.07	-6.50	26.40	37.57	54.00	74.00	-27.60	-36.43	Horizontal

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

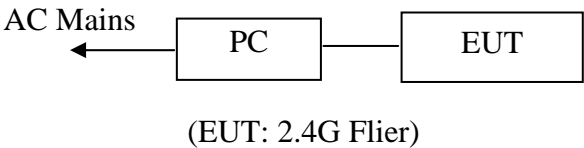
$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

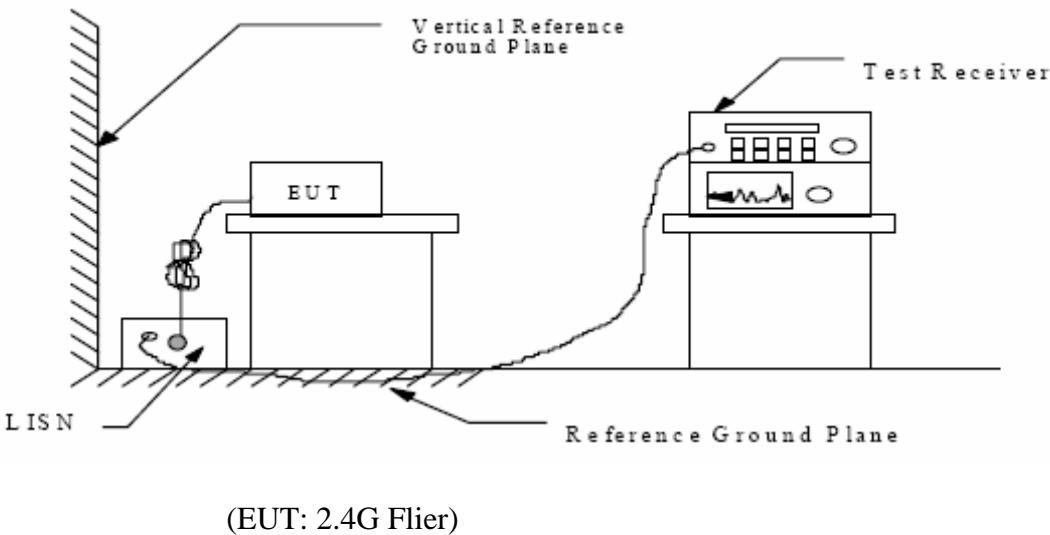
# 7. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

## 7.1. Block Diagram of Test Setup

### 7.1.1. Block diagram of connection between the EUT and simulators



### 7.1.2. Shielding Room Test Setup Diagram



## 7.2. The Emission Limit

### 7.2.1. Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

\* Decreases with the logarithm of the frequency.

### 7.3.Configuration of EUT on Measurement

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

#### 7.3.1.2.4G Flier (EUT)

Model Number : 22033V2RX  
Serial Number : N/A  
Manufacturer : Interactive Toy Concepts Limited

### 7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3. Let the EUT work in charging mode measure it.

### 7.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

## 7.6.Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150kHz to 30MHz is checked.

Date of Test:	<u>April 29, 2014</u>	Temperature:	<u>25°C</u>
EUT:	<u>2.4G Flier</u>	Humidity:	<u>50%</u>
Model No.:	<u>22033V2RX</u>	Power Supply:	<u>AC 120/60Hz</u>
Test Mode:	<u>Charging</u>	Test Engineer:	<u>Pei</u>

Frequency (MHz)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector	Line
0.177396	58.60	65	-6.0	QP	Neutral
0.234385	52.10	65	-10.2	QP	
0.289065	45.90	61	-14.7	QP	
0.174759	42.10	55	-12.6	AV	
0.233684	34.80	52	-17.5	AV	
0.290802	29.50	51	-21.0	AV	
0.183889	57.00	64	-7.3	QP	Live
0.235794	49.30	62	-12.9	QP	
0.289932	36.50	61	-24.0	QP	
0.183889	41.80	54	-12.5	AV	
0.235794	28.70	52	-23.5	AV	
0.294307	22.50	50	-27.9	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported.  
The spectral diagrams are attached as below.

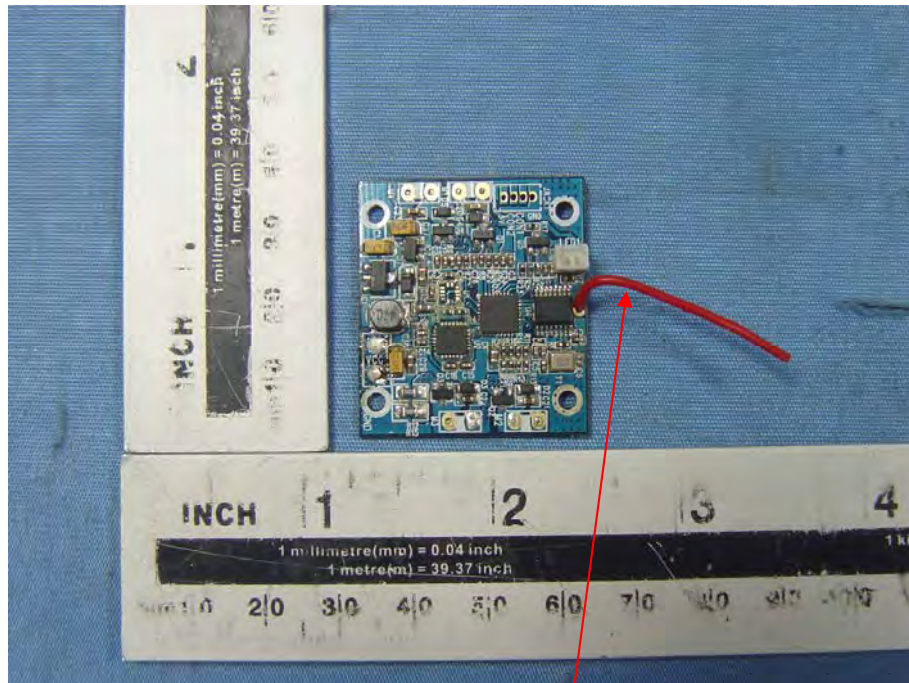
## 8. ANTENNA REQUIREMENT

### 8.1.The Requirement

8.1.1.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**

# APPENDIX I (Test Curves)



# ACCURATE TECHNOLOGY CO., LTD.

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #123

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2414MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

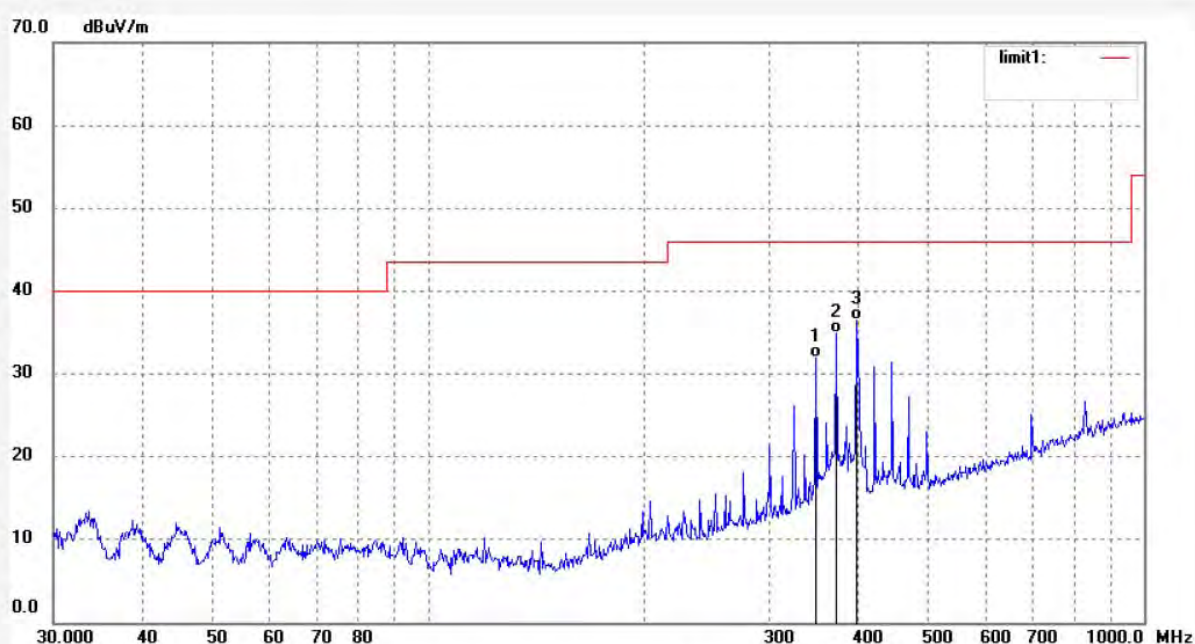
Date: 14/04/29/

Time: 14/42/39

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	348.0274	48.29	-16.31	31.98	46.00	-14.02	QP			
2	372.0045	50.67	-15.84	34.83	46.00	-11.17	QP			
3	396.2414	52.17	-15.67	36.50	46.00	-9.50	QP			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #124

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2414MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

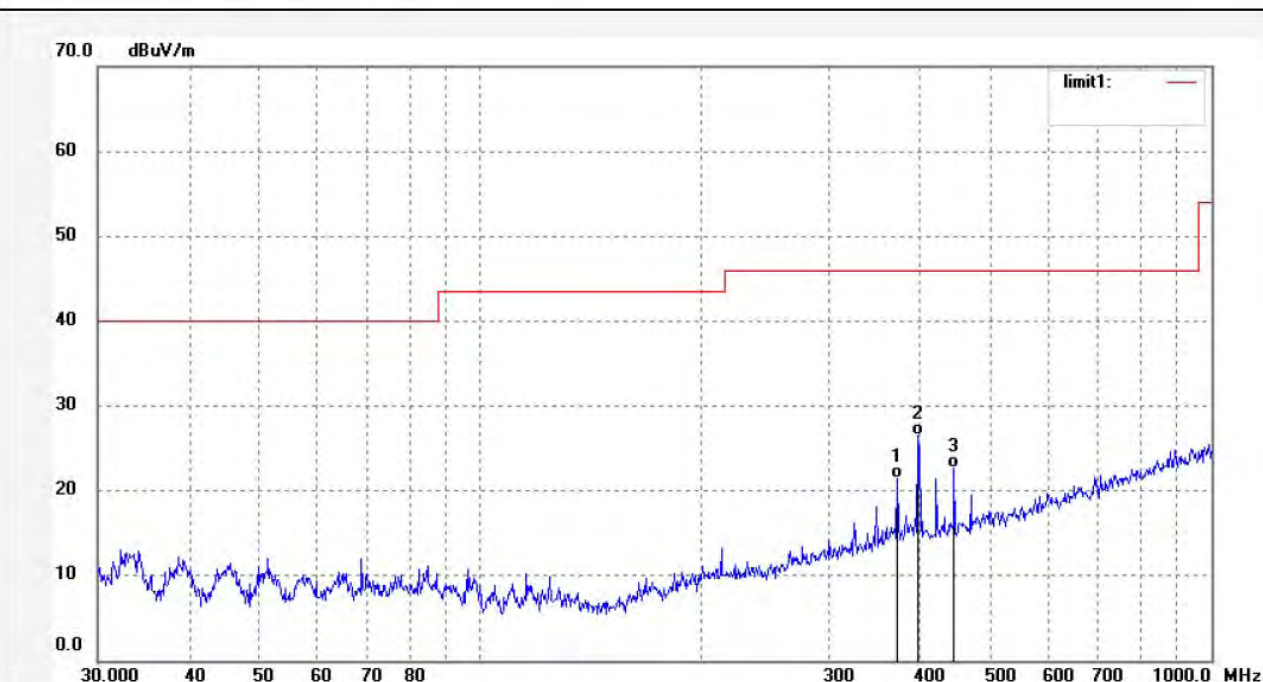
Date: 14/04/29/

Time: 14/46/39

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	372.0045	37.31	-15.84	21.47	46.00	-24.53	QP			
2	396.2414	42.15	-15.67	26.48	46.00	-19.52	QP			
3	444.8514	37.45	-14.78	22.67	46.00	-23.33	QP			



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Site: 1# Chamber

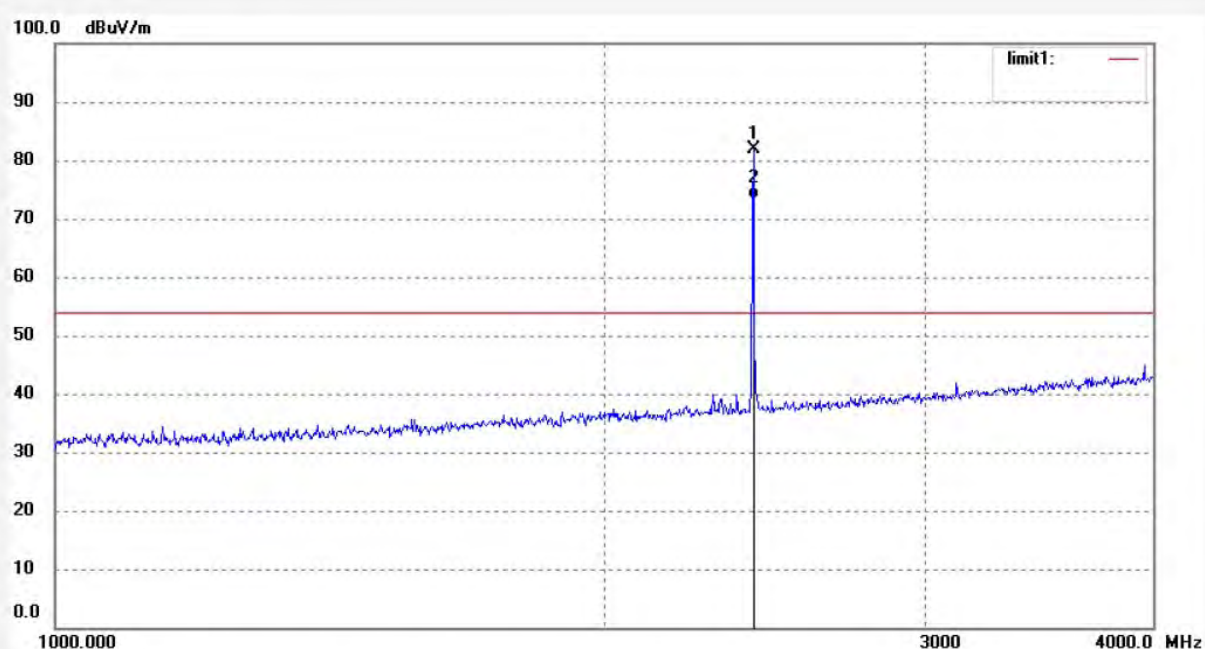
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #153  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2414MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/02/16  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2414.000	88.68	-6.71	81.97	114.00	-32.03	peak			
2	2414.000	80.11	-6.71	73.40	94.00	-20.60	AVG			



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Site: 1# Chamber

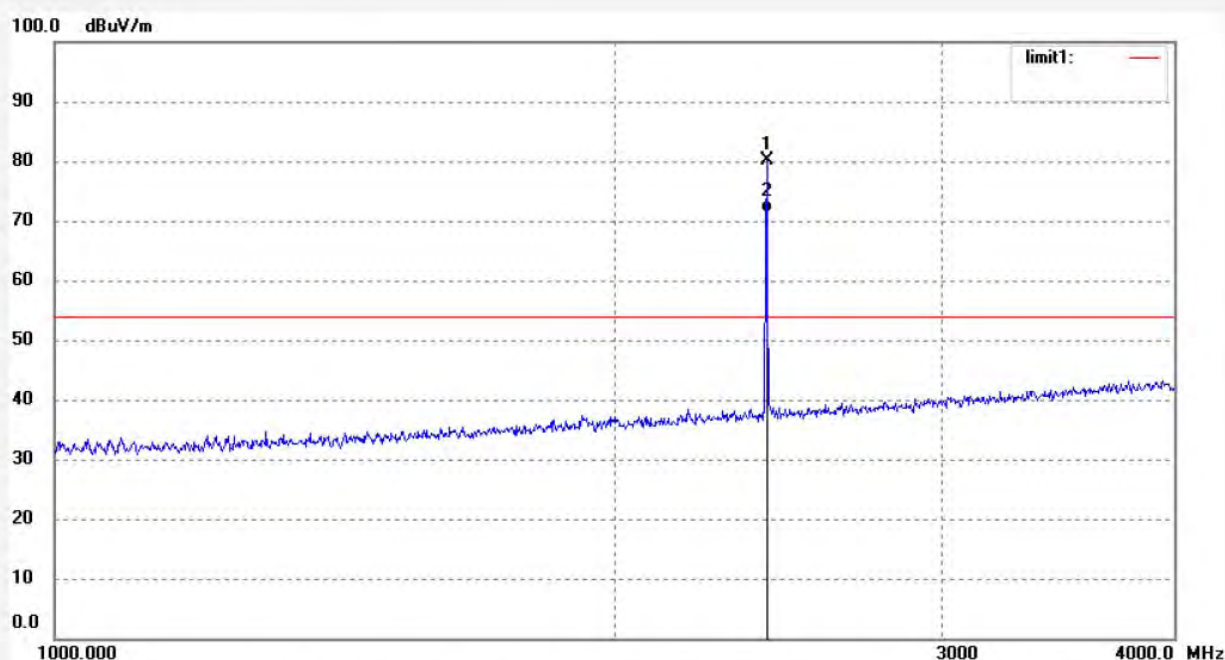
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #154  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2414MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/06/17  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2414.000	86.85	-6.71	80.14	114.00	-33.86	peak			
2	2414.000	78.14	-6.71	71.43	94.00	-22.57	AVG			



# **ACCURATE TECHNOLOGY CO., LTD.**

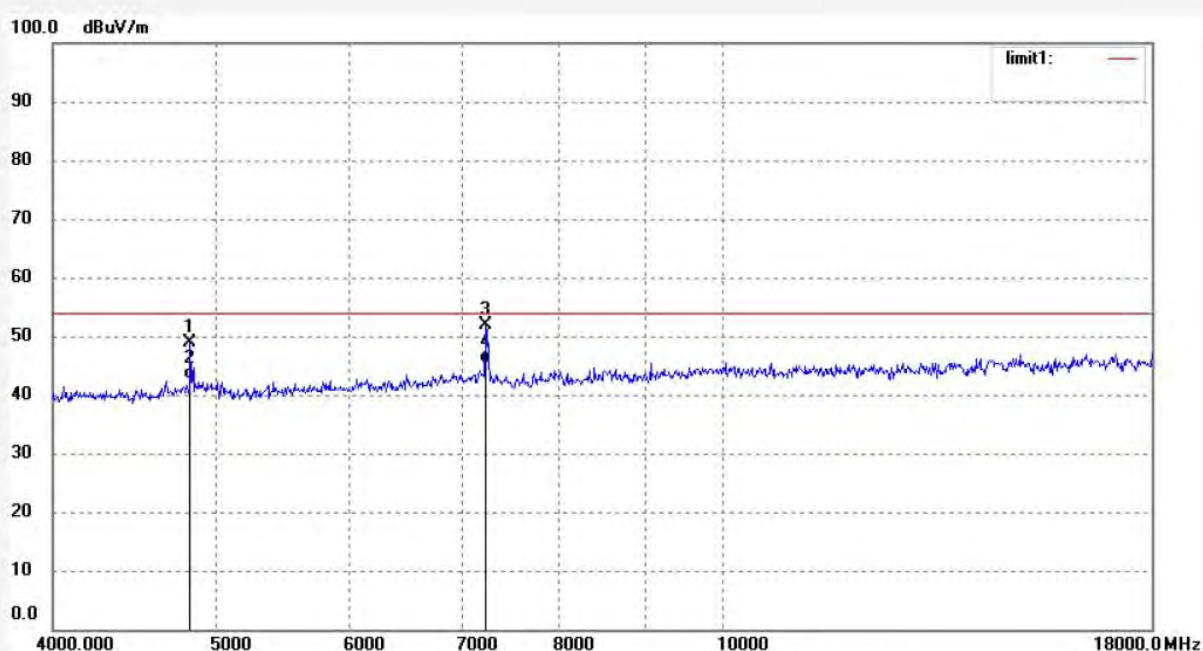
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star2014 #159  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2414MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/25/48  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4828.000	50.36	-1.51	48.85	74.00	-25.15	peak			
2	4828.000	44.10	-1.51	42.59	54.00	-11.41	AVG			
3	7242.000	50.62	1.32	51.94	74.00	-22.06	peak			
4	7242.000	43.96	1.32	45.28	54.00	-8.72	AVG			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #160

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2414MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

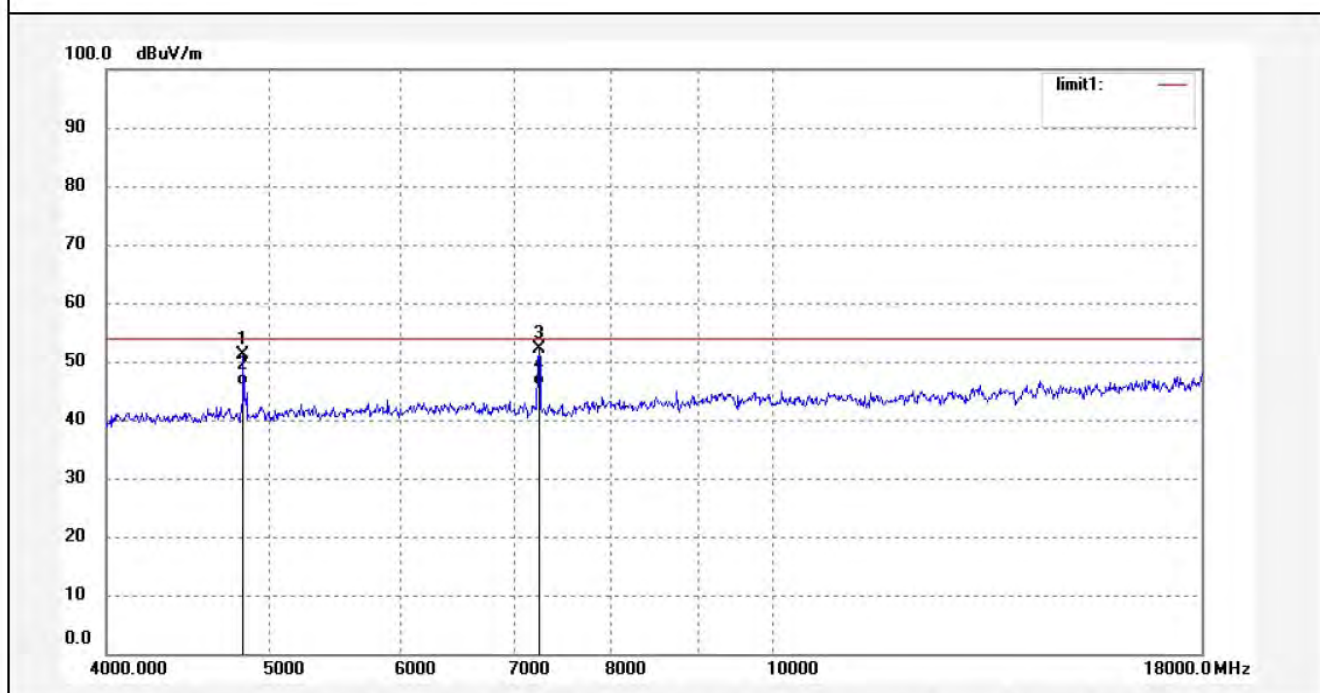
Date: 14/04/29/

Time: 17/28/10

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4828.000	52.67	-1.51	51.16	74.00	-22.84	peak			
2	4828.000	47.36	-1.51	45.85	54.00	-8.15	AVG			
3	7242.000	50.91	1.33	52.24	74.00	-21.76	peak			
4	7242.000	44.51	1.33	45.84	54.00	-8.16	AVG			


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Site: 1# Chamber

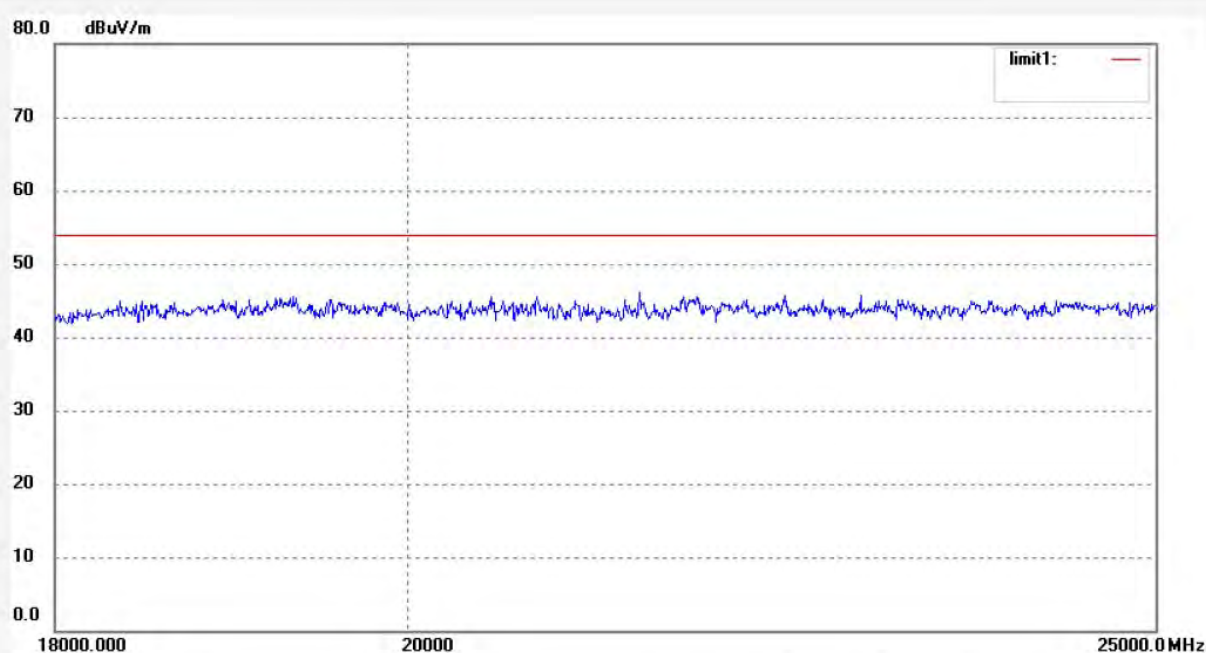
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #147  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2414MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 16/38/25  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

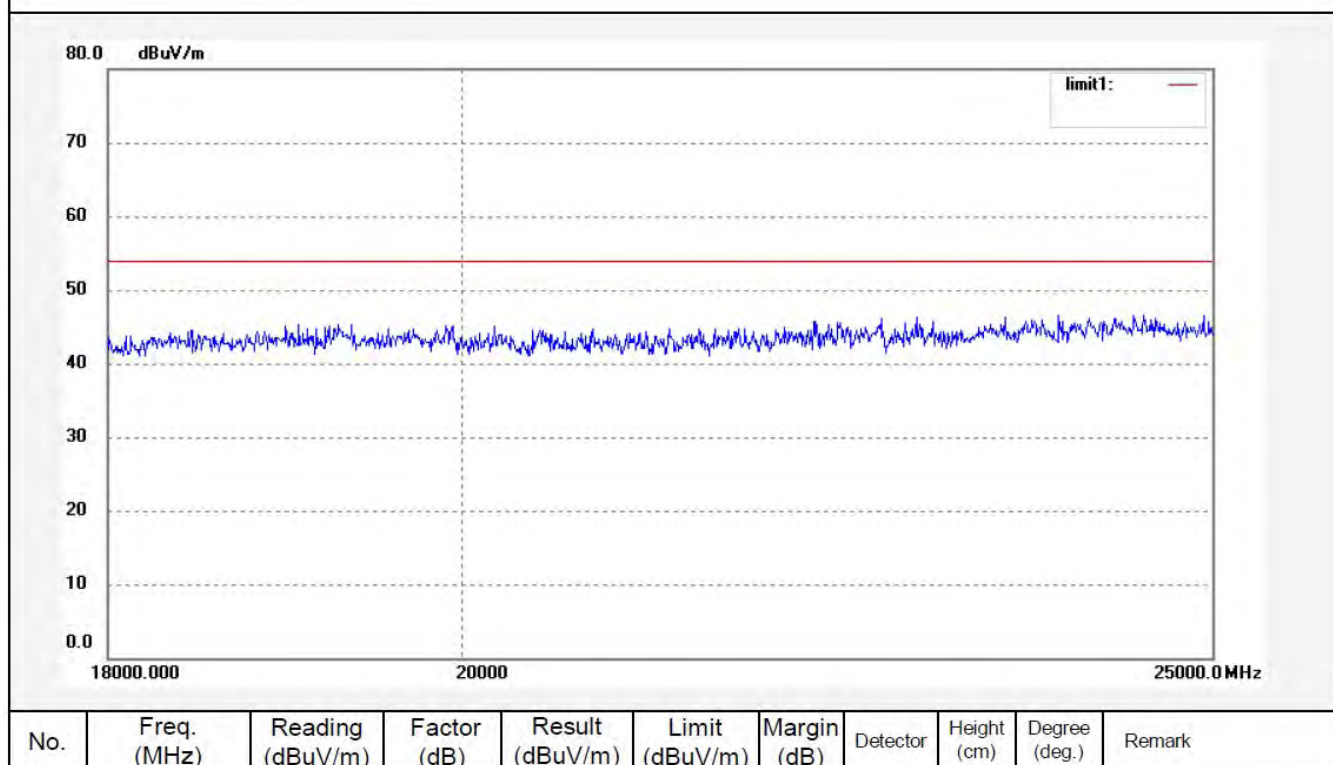
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #148  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2414MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 16/42/59  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652





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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #125

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2447MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

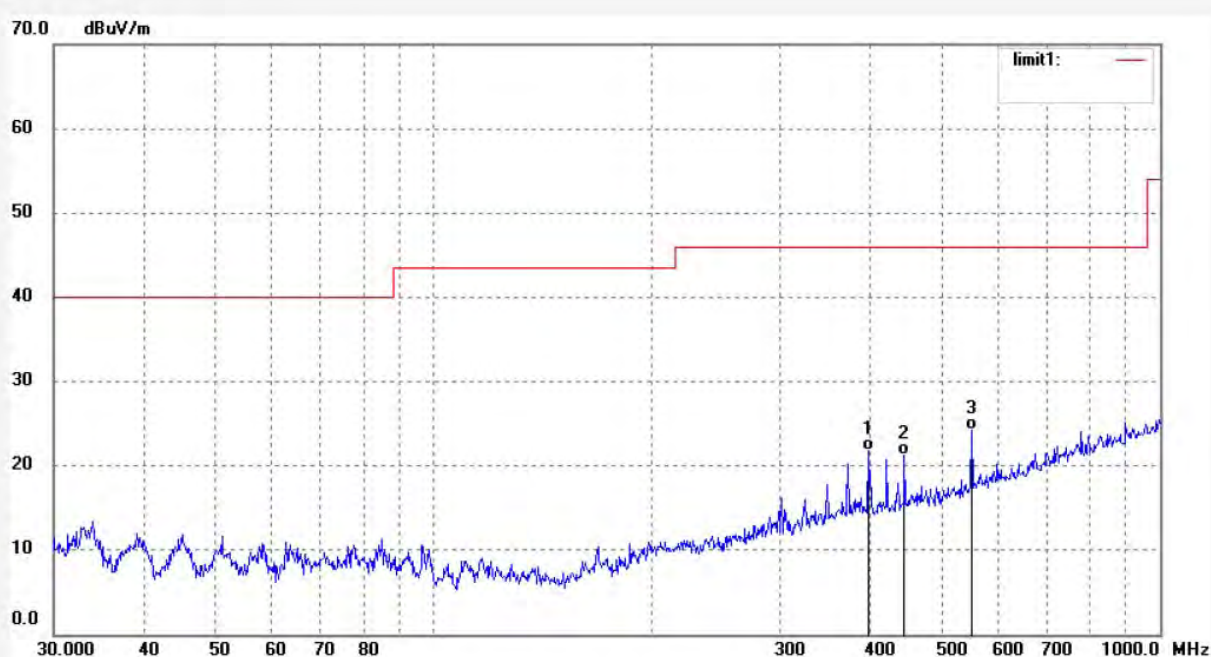
Date: 14/04/29/

Time: 14/49/41

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	396.2414	37.48	-15.67	21.81	46.00	-24.19	QP			
2	444.8514	36.08	-14.78	21.30	46.00	-24.70	QP			
3	550.9479	37.03	-12.82	24.21	46.00	-21.79	QP			


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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #126

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2447MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

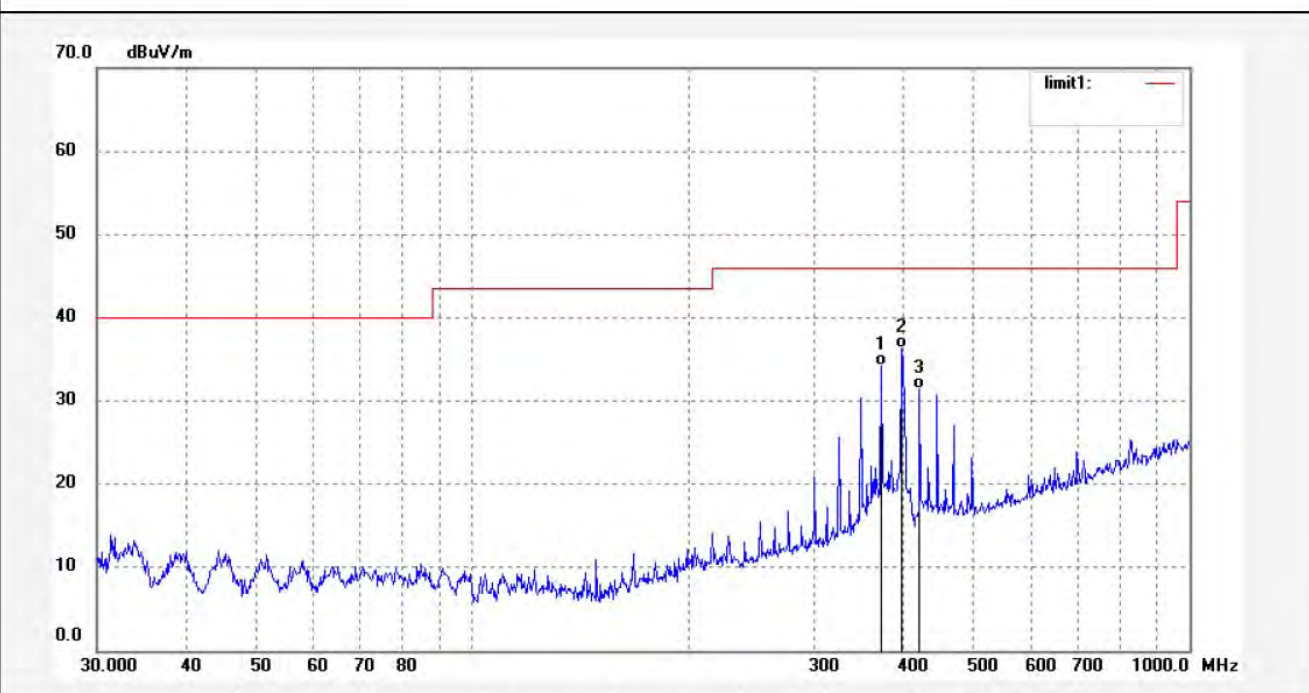
Date: 14/04/29/

Time: 14/53/30

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	372.0045	50.09	-15.84	34.25	46.00	-11.75	QP			
2	396.2415	51.91	-15.67	36.24	46.00	-9.76	QP			
3	420.5803	46.71	-15.36	31.35	46.00	-14.65	QP			



# **ACCURATE TECHNOLOGY CO., LTD.**

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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

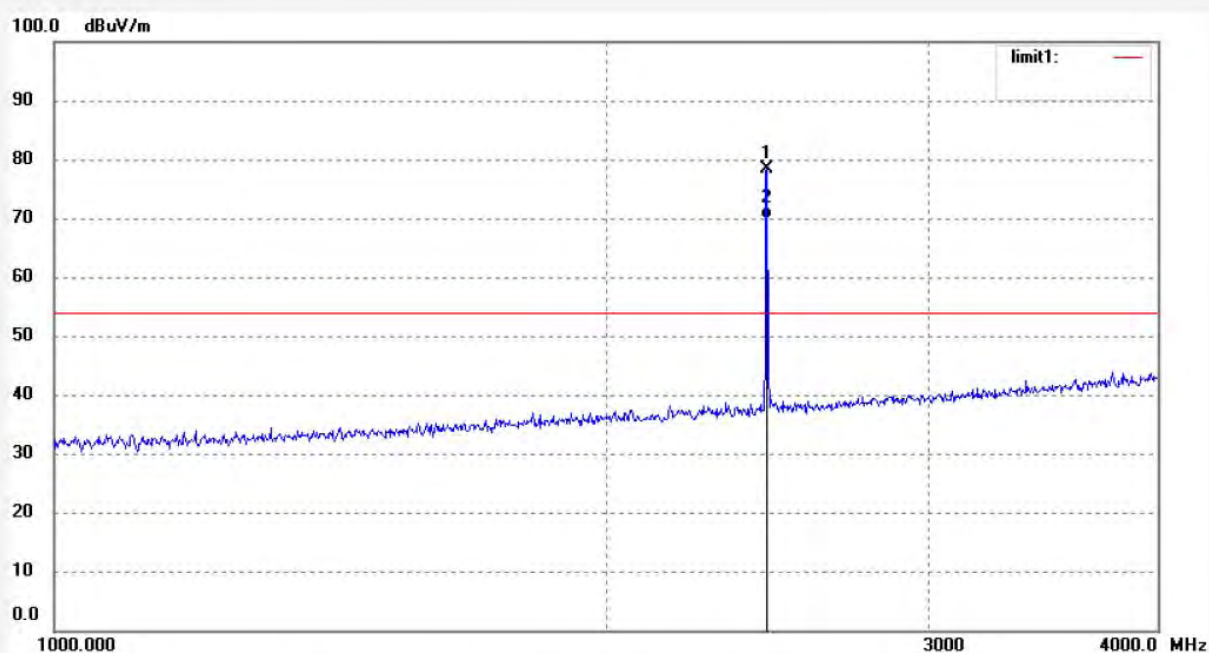
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #155  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2447MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/10/12  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2447.000	84.96	-6.63	78.33	114.00	-35.67	peak			
2	2447.000	76.52	-6.63	69.89	94.00	-24.11	AVG			



# ACCURATE TECHNOLOGY CO., LTD.

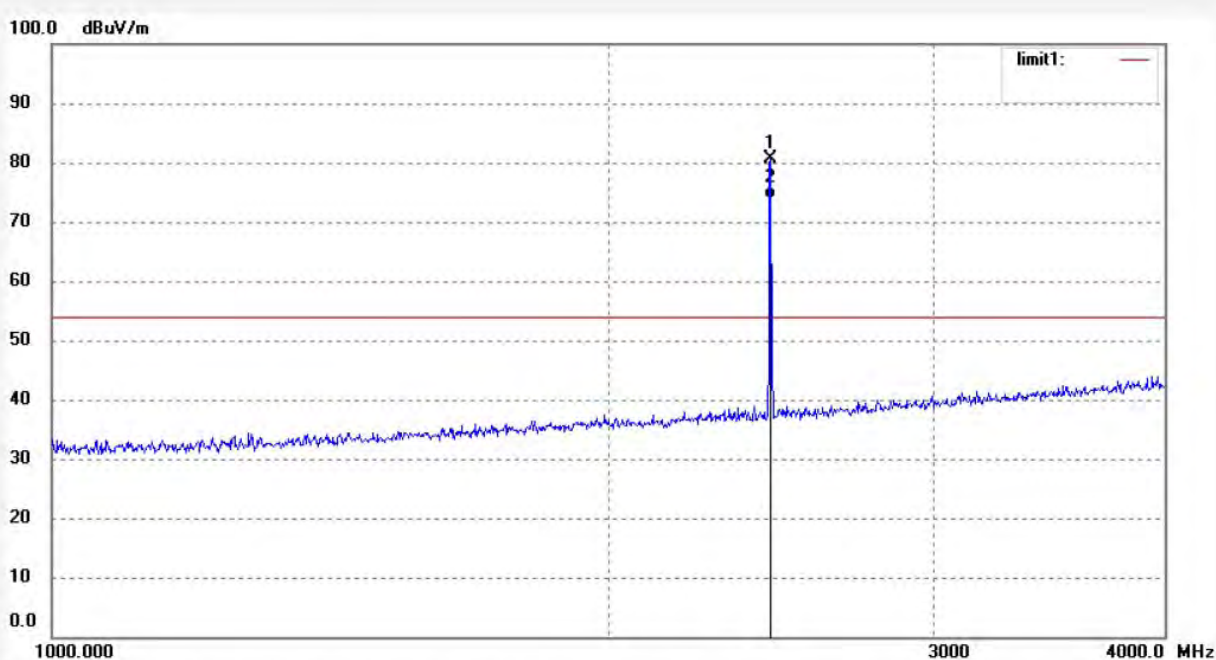
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star2014 #156  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2447MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/14/07  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.: ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2447.000	87.37	-6.63	80.74	114.00	-33.26	peak			
2	2447.000	80.41	-6.63	73.78	94.00	-20.22	AVG			



# **ACCURATE TECHNOLOGY CO., LTD.**

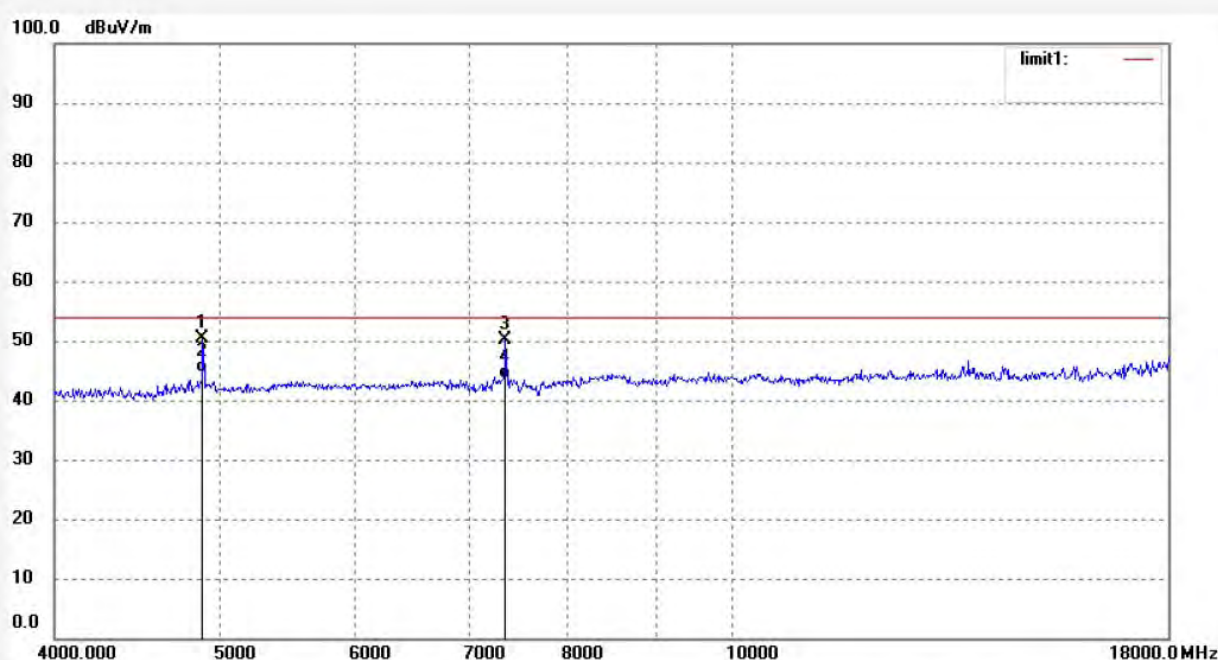
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star2014 #161  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2447MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/31/53  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4894.000	51.65	-1.34	50.31	74.00	-23.69	peak			
2	4894.000	45.90	-1.34	44.56	54.00	-9.44	AVG			
3	7341.000	48.68	1.42	50.10	74.00	-23.90	peak			
4	7341.000	42.20	1.42	43.62	54.00	-10.38	AVG			



# ACCURATE TECHNOLOGY CO., LTD.

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #162

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2447MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

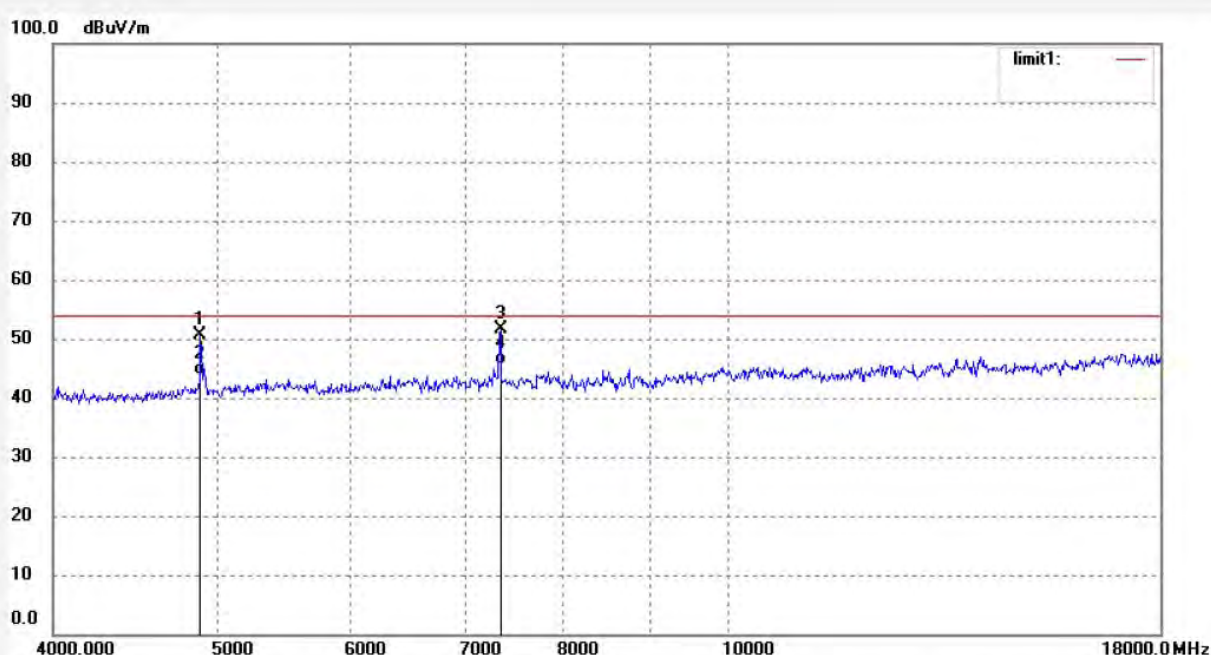
Date: 14/04/29/

Time: 17/35/48

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4894.000	51.89	-1.34	50.55	74.00	-23.45	peak			
2	4894.000	45.22	-1.34	43.88	54.00	-10.12	AVG			
3	7341.000	50.11	1.42	51.53	74.00	-22.47	peak			
4	7341.000	44.25	1.42	45.67	54.00	-8.33	AVG			


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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #149

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2447MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

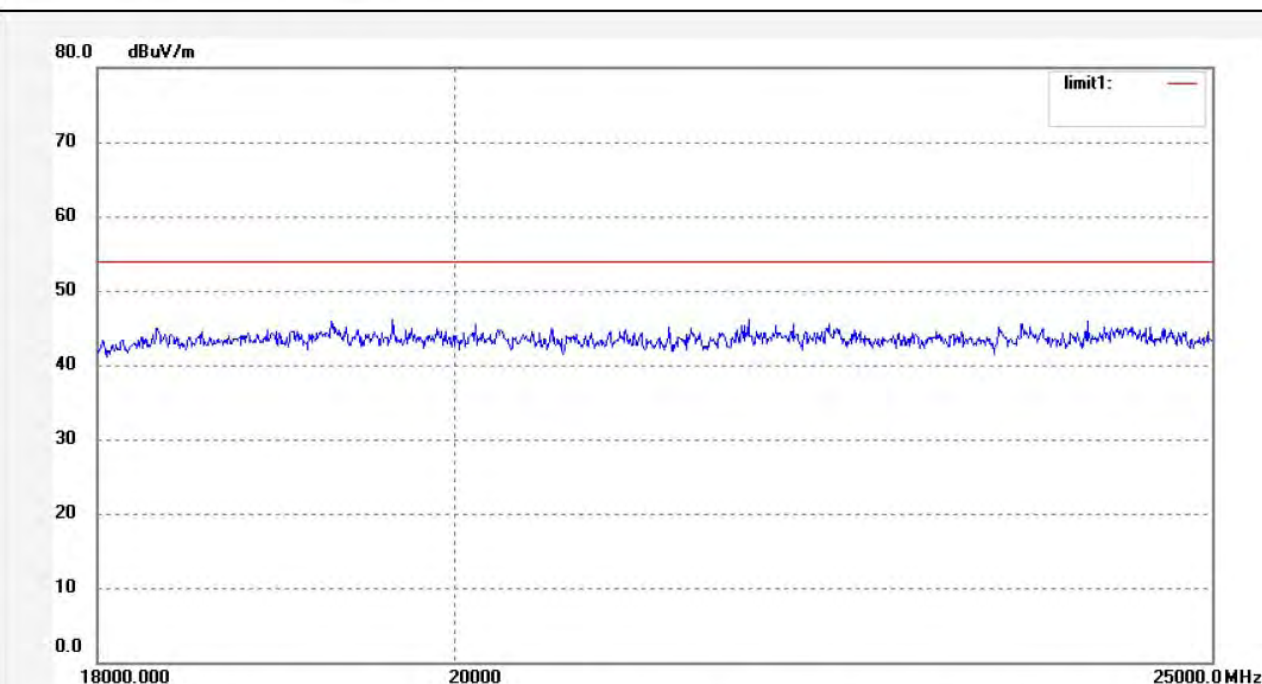
Date: 14/04/29/

Time: 16/46/43

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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**ACCURATE TECHNOLOGY CO., LTD.**

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #150

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2447MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

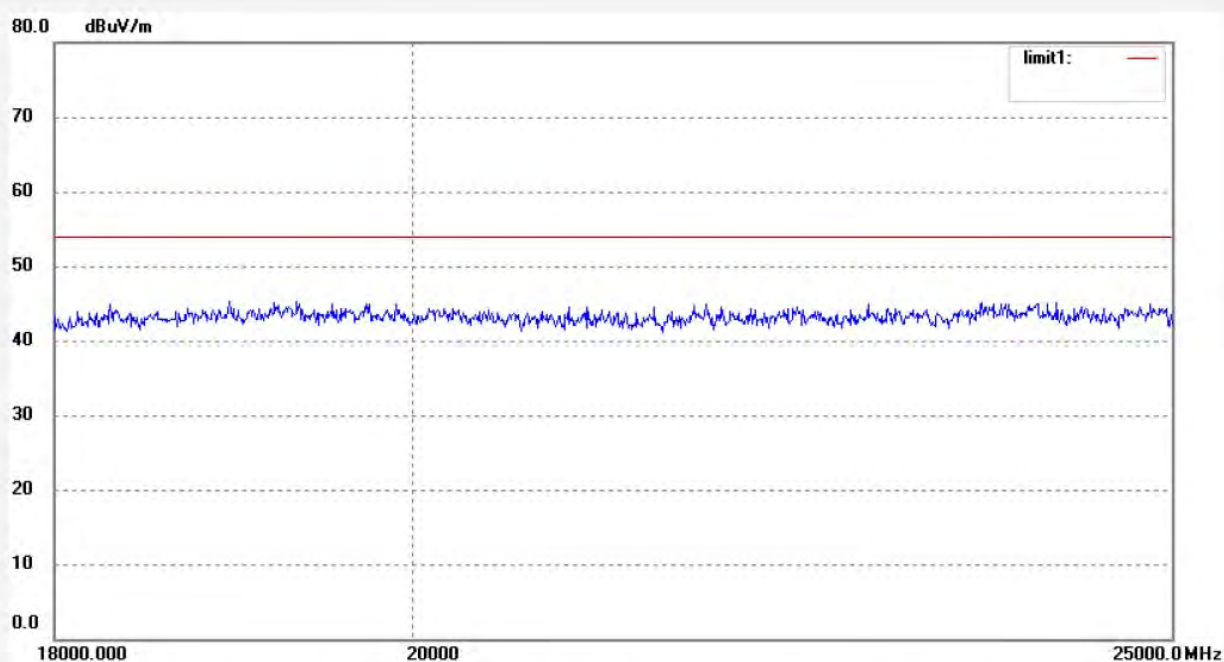
Date: 14/04/29/

Time: 16/50/21

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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# ACCURATE TECHNOLOGY CO., LTD.

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #127

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

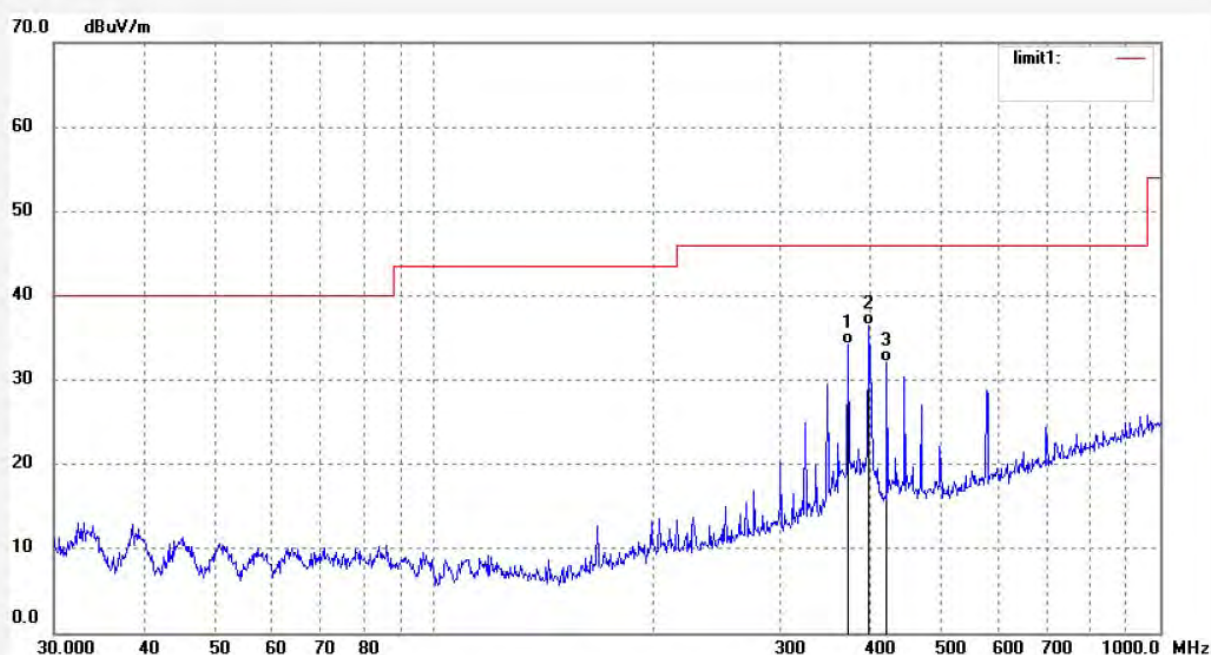
Date: 14/04/29/

Time: 14/57/42

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	372.0045	50.03	-15.84	34.19	46.00	-11.81	QP			
2	396.2414	52.22	-15.67	36.55	46.00	-9.45	QP			
3	420.5803	47.39	-15.36	32.03	46.00	-13.97	QP			



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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #128

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

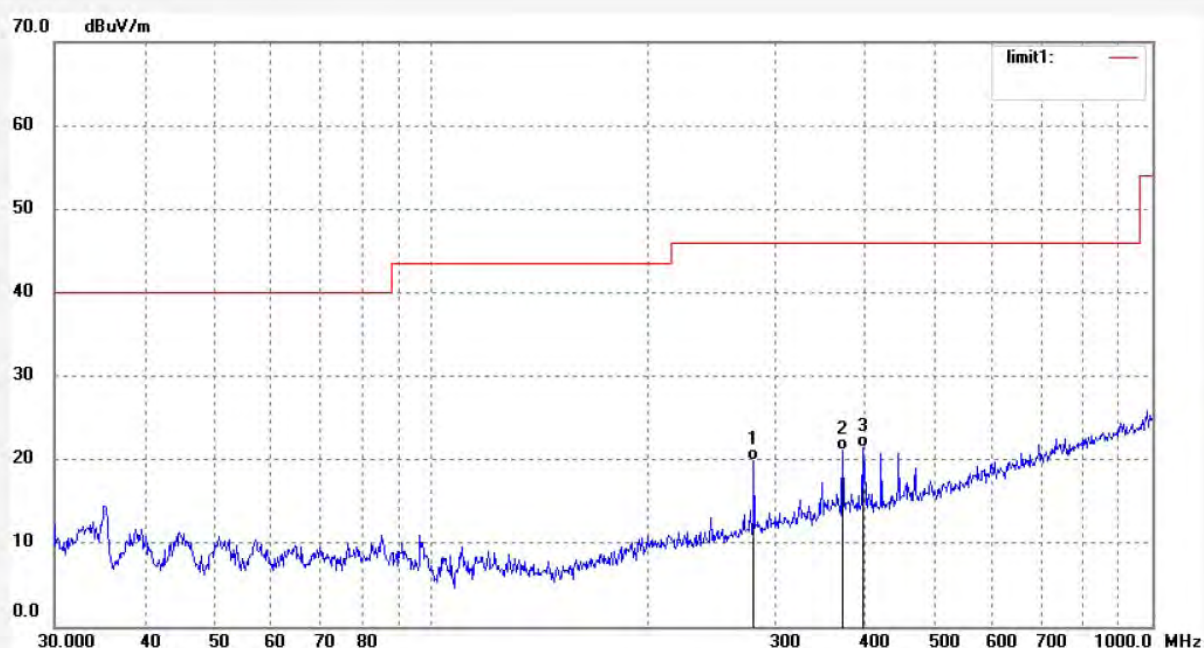
Date: 14/04/29/

Time: 15/01/30

Engineer Signature: STAR

Distance: 3m

Note: Report No.: ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	280.0237	38.21	-18.28	19.93	46.00	-26.07	QP			
2	372.0045	36.90	-15.84	21.06	46.00	-24.94	QP			
3	396.2415	37.14	-15.67	21.47	46.00	-24.53	QP			



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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

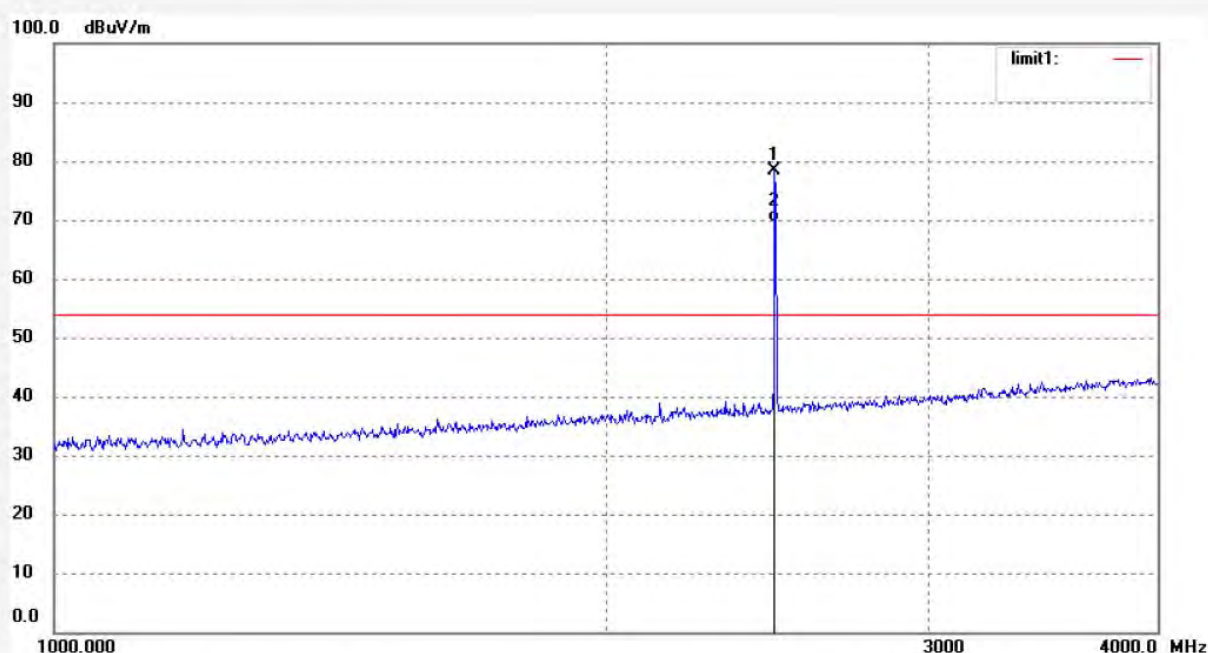
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #157  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2473MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/18/39  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.000	84.92	-6.56	78.36	114.00	-35.64	peak			
2	2473.000	76.22	-6.56	69.66	94.00	-24.34	AVG			


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Site: 1# Chamber

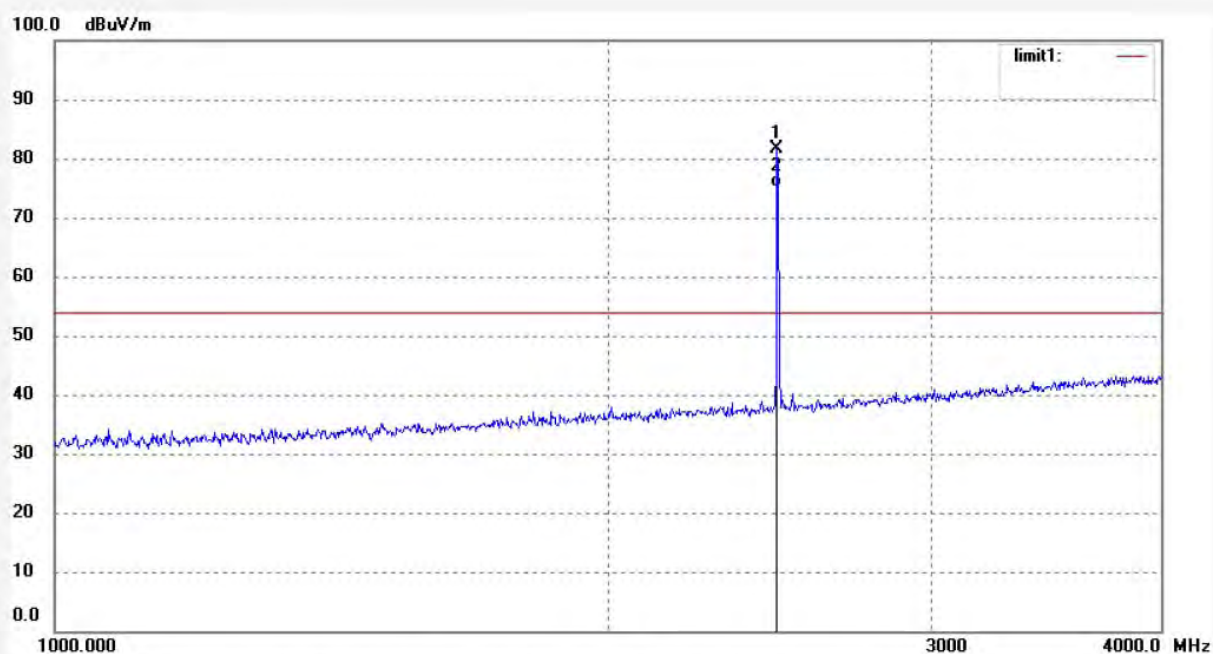
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #158  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2473MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/22/11  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2473.000	88.16	-6.56	81.60	114.00	-32.40	peak			
2	2473.000	81.75	-6.56	75.19	94.00	-18.81	AVG			



# ACCURATE TECHNOLOGY CO., LTD.

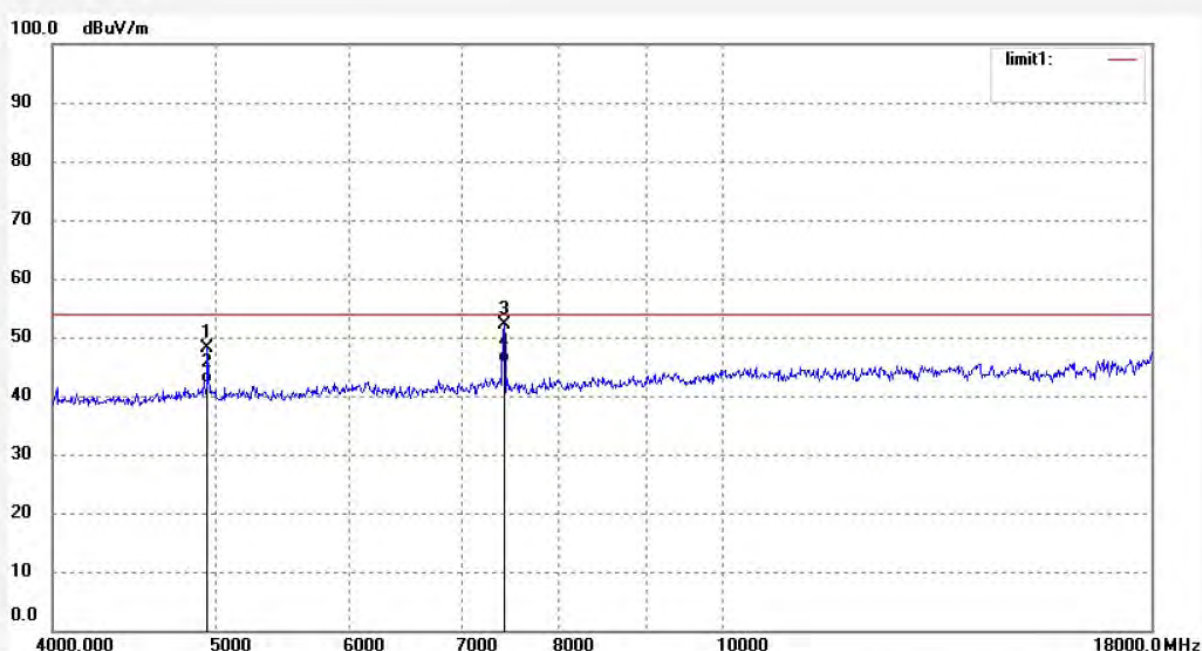
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star2014 #163  
Standard: FCC PART 15B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: 2.4G Flier  
Mode: TX 2473MHz  
Model: 22033V2RX  
Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 14/04/29/  
Time: 17/38/47  
Engineer Signature: STAR  
Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4946.000	49.34	-1.15	48.19	74.00	-25.81	peak			
2	4946.000	43.21	-1.15	42.06	54.00	-11.94	AVG			
3	7419.000	50.71	1.49	52.20	74.00	-21.80	peak			
4	7419.000	44.25	1.49	45.74	54.00	-8.26	AVG			



# ACCURATE TECHNOLOGY CO., LTD.

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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star2014 #164

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

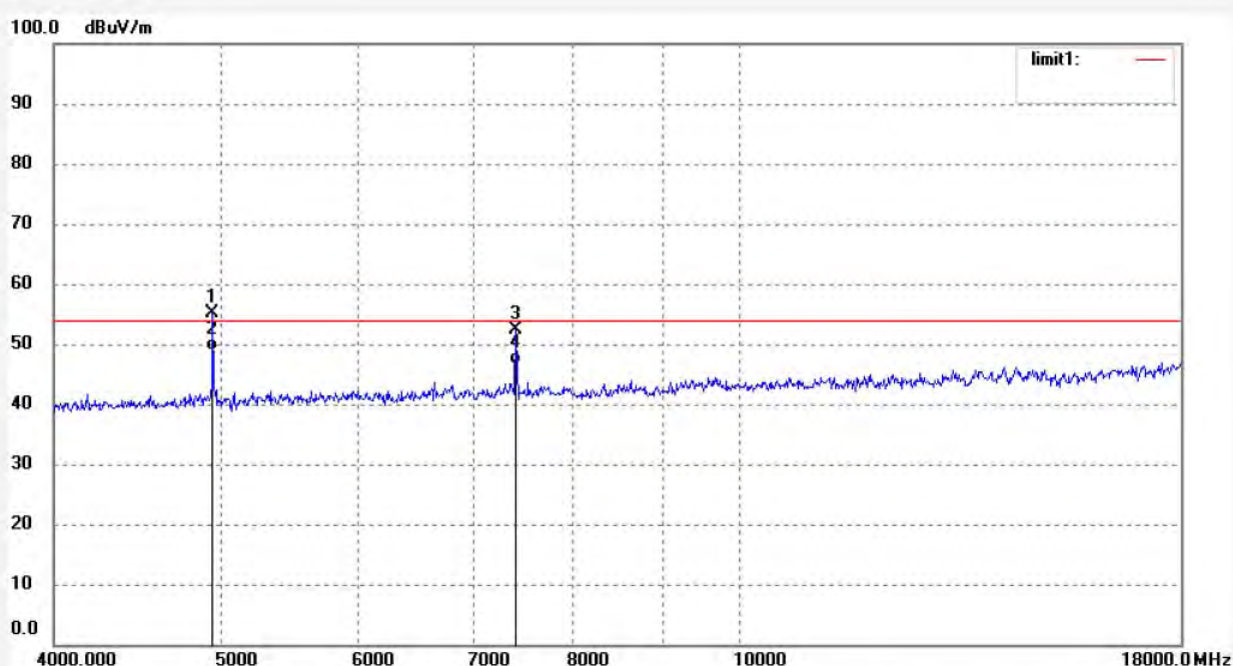
Date: 14/04/29/

Time: 17/42/33

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4946.000	56.37	-1.15	55.22	74.00	-18.78	peak			
2	4946.000	49.99	-1.15	48.84	54.00	-5.16	AVG			
3	7419.000	50.93	1.47	52.40	74.00	-21.60	peak			
4	7419.000	45.10	1.47	46.57	54.00	-7.43	AVG			


**ACCURATE TECHNOLOGY CO., LTD.**

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Science & Industry Park,Nanshan Shenzhen,P.R.China

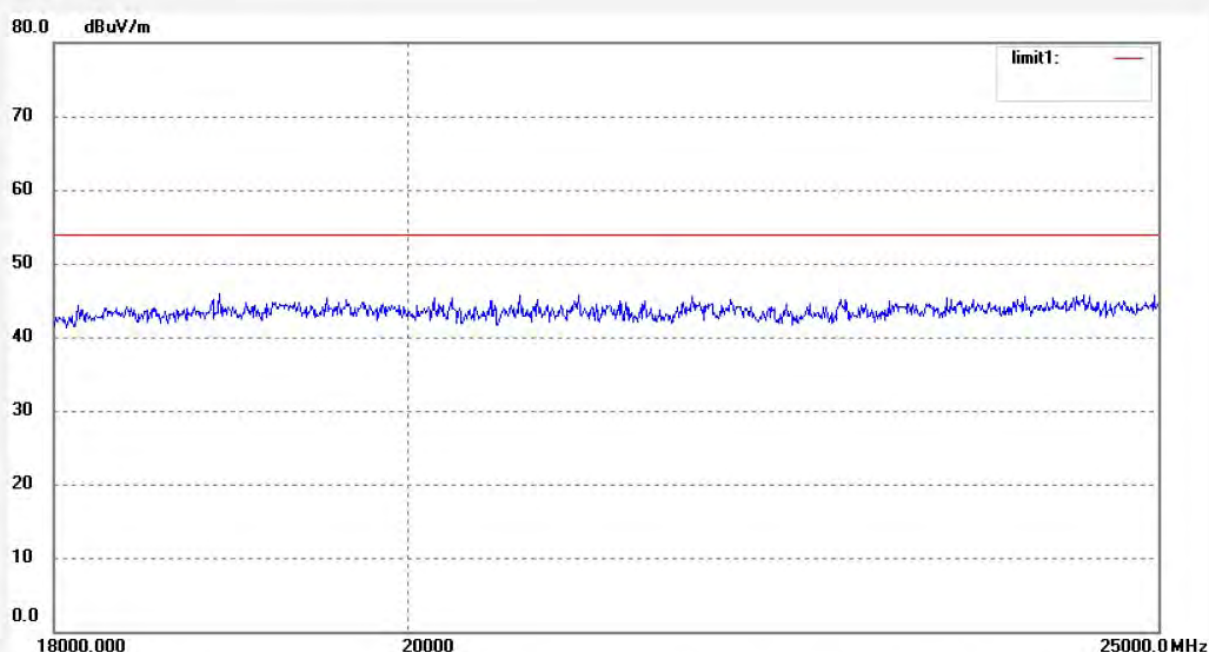
Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #151	Polarization: Horizontal
Standard: FCC PART 15B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 14/04/29/
Temp.( C)/Hum.(%) 25 C / 55 %	Time: 16/53/06
EUT: 2.4G Flier	Engineer Signature: STAR
Mode: TX 2473MHz	Distance: 3m
Model: 22033V2RX	
Manufacturer: Interactive Toy Concepts Limited	

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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# **ACCURATE TECHNOLOGY CO., LTD.**

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #152

Standard: FCC PART 15B 3M Radiated

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

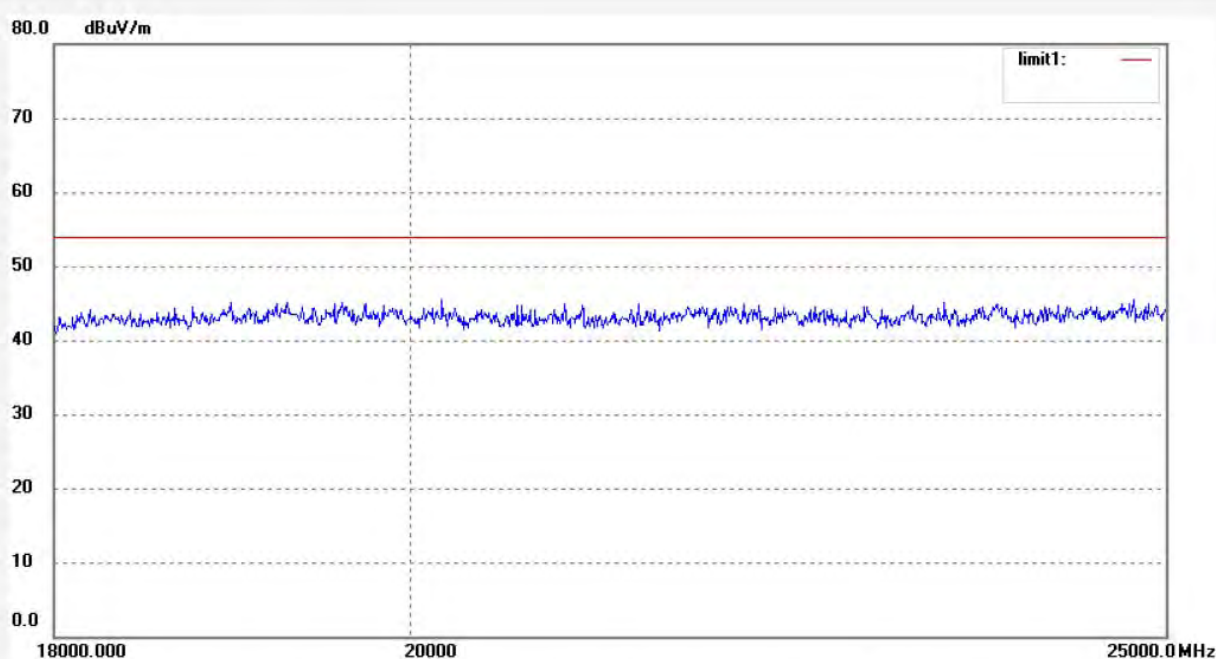
Date: 14/04/29/

Time: 16/57/44

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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**ACCURATE TECHNOLOGY CO., LTD.**

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #168

Standard: FCC PK

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2414MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

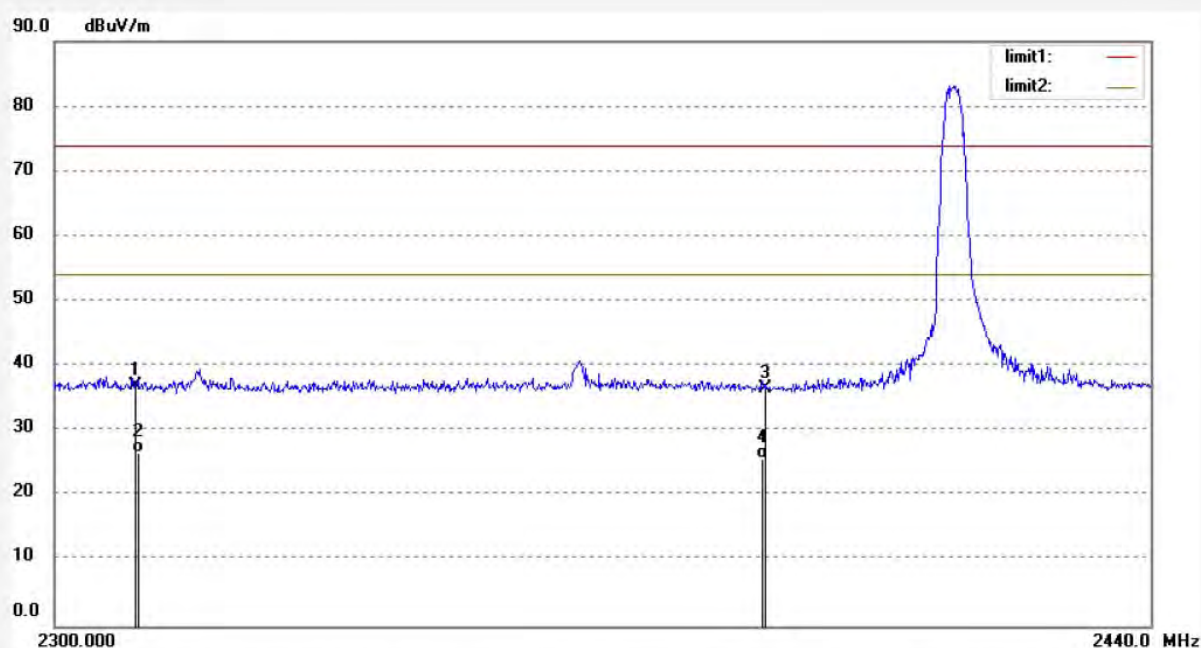
Date: 14/04/29/

Time: 17/07/28

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.95	-6.99	36.96	74.00	-37.04	peak			
2	2310.000	33.55	-6.99	26.56	54.00	-27.44	AVG			
3	2390.000	43.40	-6.78	36.62	74.00	-37.38	peak			
4	2390.000	32.47	-6.78	25.69	54.00	-28.31	AVG			



# **ACCURATE TECHNOLOGY CO., LTD.**

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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #167

Standard: FCC PK

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2414MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

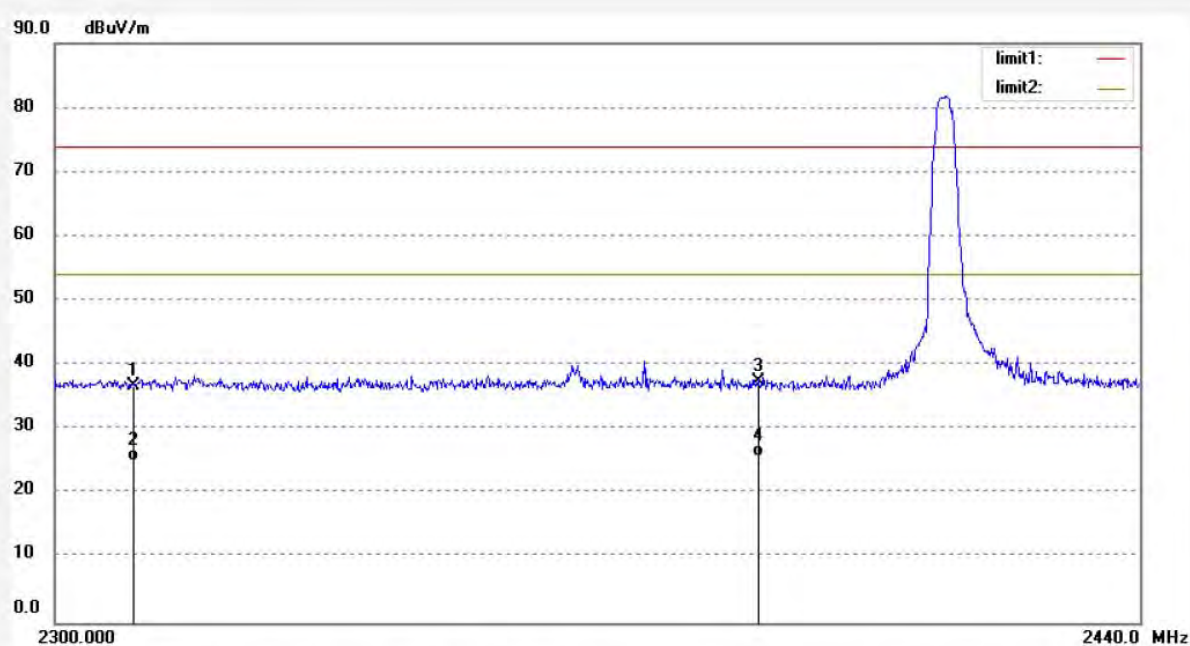
Date: 14/04/29/

Time: 17/06/28

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.76	-6.99	36.77	74.00	-37.23	peak			
2	2310.000	31.97	-6.99	24.98	54.00	-29.02	AVG			
3	2390.000	44.28	-6.78	37.50	74.00	-36.50	peak			
4	2390.000	32.58	-6.78	25.80	54.00	-28.20	AVG			


**ACCURATE TECHNOLOGY CO., LTD.**

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #166

Standard: FCC PK

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Horizontal

Power Source: DC 3.7V

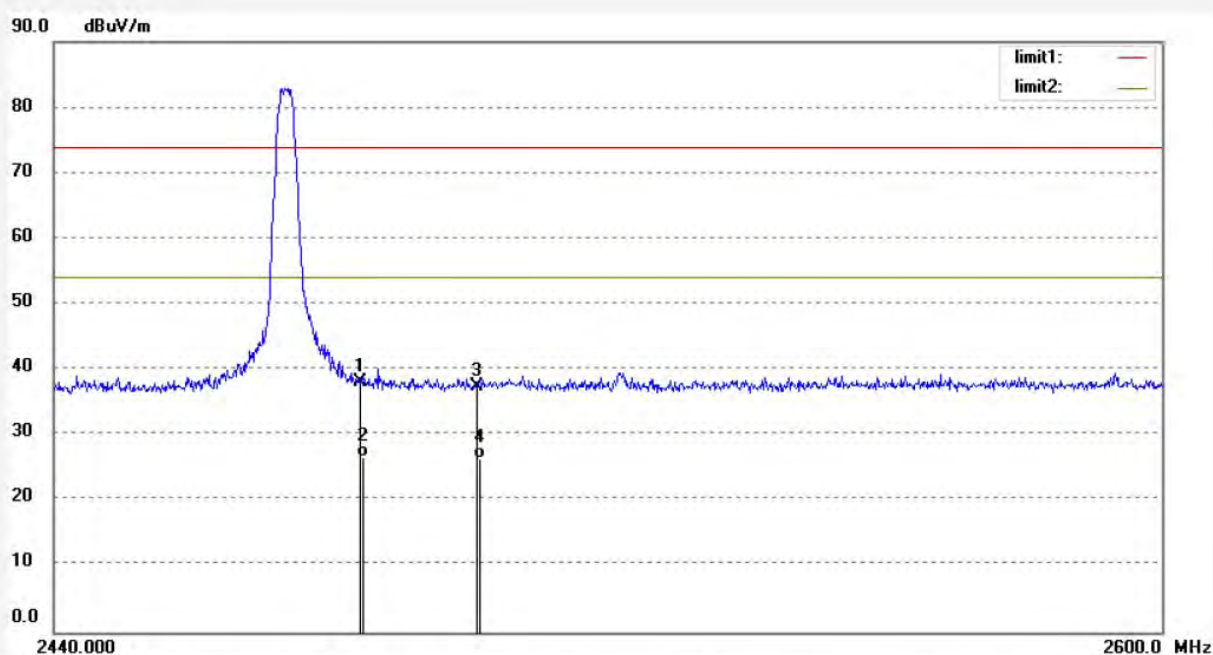
Date: 14/04/29/

Time: 17/04/54

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



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	44.74	-6.54	38.20	74.00	-35.80	peak			
2	2483.500	33.21	-6.54	26.67	54.00	-27.33	AVG			
3	2500.000	44.07	-6.50	37.57	74.00	-36.43	peak			
4	2500.000	32.90	-6.50	26.40	54.00	-27.60	AVG			


**ACCURATE TECHNOLOGY CO., LTD.**

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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: star2014 #165

Standard: FCC PK

Test item: Radiation Test

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

EUT: 2.4G Flier

Mode: TX 2473MHz

Model: 22033V2RX

Manufacturer: Interactive Toy Concepts Limited

Polarization: Vertical

Power Source: DC 3.7V

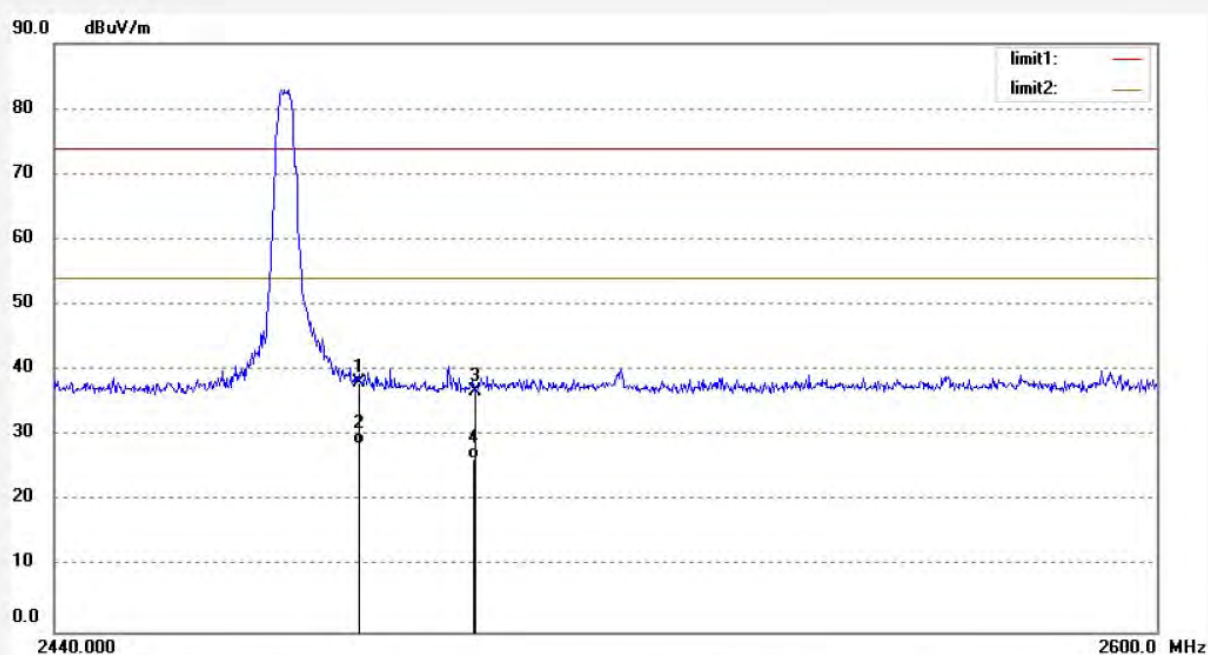
Date: 14/04/29/

Time: 17/03/45

Engineer Signature: STAR

Distance: 3m

Note: Report No.:ATE20140652



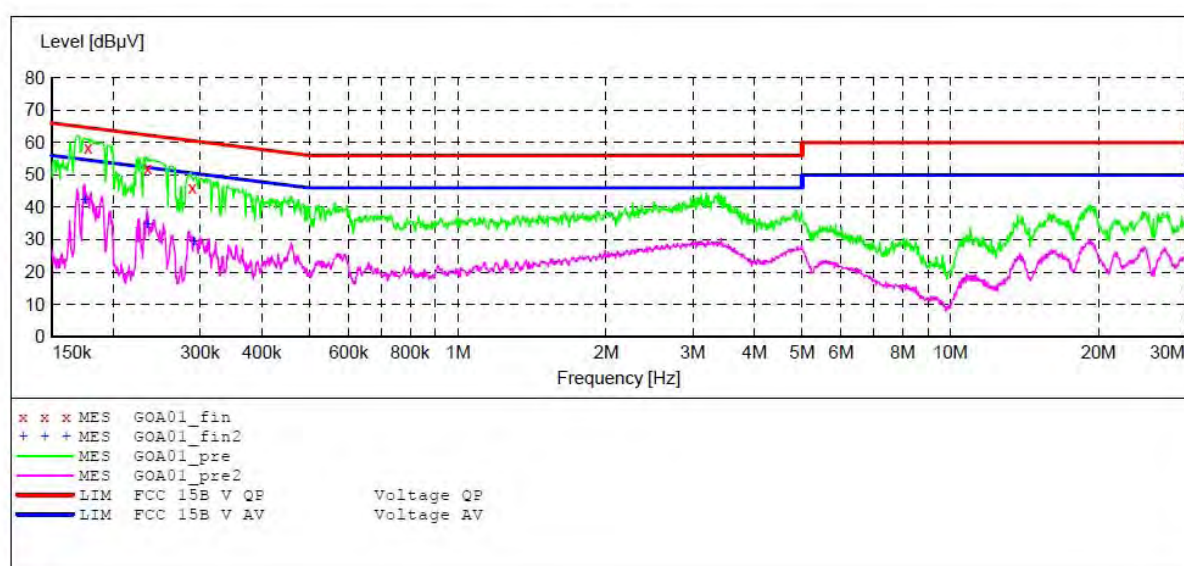
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	44.60	-6.54	38.06	74.00	-35.94	peak			
2	2483.500	35.25	-6.54	28.71	54.00	-25.29	AVG			
3	2500.000	43.32	-6.50	36.82	74.00	-37.18	peak			
4	2500.000	32.93	-6.50	26.43	54.00	-27.57	AVG			

**ACCURATE TECHNOLOGY CO.,LTD****CONDUCTED EMISSION STANDARD FCC PART15B**

EUT: 2.4G Flier M/N:22033V2RX  
 Manufacturer: Interactive Toy Concepts Limited  
 Operating Condition: Charging  
 Test Site: 2#Shielding Room  
 Operator: STAR  
 Test Specification: N 120V/60Hz  
 Comment: Report No.:ATE20140652  
 Start of Test: 2014-4-29 / 17:16:24

**SCAN TABLE: "V 150K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70  
 Start Stop Step Detector Meas. IF Transducer  
 Frequency Frequency Width Time Bandw.  
 150.0 kHz 30.0 MHz 0.4 % QuasiPeak 1.0 s 9 kHz LISN(ESH3-Z5)  
 Average

**MEASUREMENT RESULT: "GOA01\_fin"**

2014-4-29 17:18

Frequency MHz	Level dB-X	Transd dB	Limit dB-X	Margin dB	Detector	Line	PE
0.177396	58.60	10.6	65	6.0	QP	N	GND
0.234385	52.10	11.1	62	10.2	QP	N	GND
0.289065	45.90	11.5	61	14.7	QP	N	GND

**MEASUREMENT RESULT: "GOA01\_fin2"**

2014-4-29 17:18

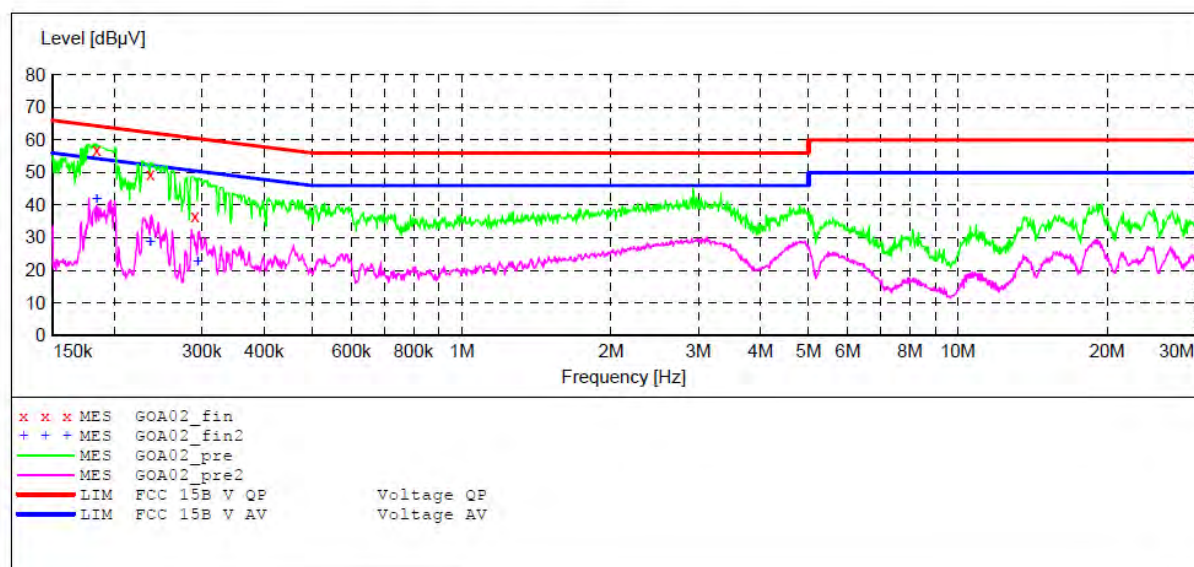
Frequency MHz	Level dBμV	Transd dB	Limit dB-X	Margin dB	Detector	Line	PE
0.174759	42.10	10.6	55	12.6	AV	N	GND
0.233684	34.80	11.1	52	17.5	AV	N	GND
0.290802	29.50	11.5	51	21.0	AV	N	GND

**ACCURATE TECHNOLOGY CO.,LTD****CONDUCTED EMISSION STANDARD FCC PART15B**

EUT: 2.4G Flier M/N:22033V2RX  
 Manufacturer: Interactive Toy Concepts Limited  
 Operating Condition: Charging  
 Test Site: 2#Shielding Room  
 Operator: STAR  
 Test Specification: L 120V/60Hz  
 Comment: Report No.:ATE20140652  
 Start of Test: 2014-4-29 / 17:18:42

**SCAN TABLE: "V 150K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70  
 Start Stop Step Detector Meas. IF Transducer  
 Frequency Frequency Width Time Bandw.  
 150.0 kHz 30.0 MHz 0.4 % QuasiPeak 1.0 s 9 kHz LISN (ESH3-Z5)  
 Average

**MEASUREMENT RESULT: "GOA02\_fin"**

2014-4-29 17:20

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.183889	57.00	10.7	64	7.3	QP	L1	GND
0.235794	49.30	11.2	62	12.9	QP	L1	GND
0.289932	36.50	11.5	61	24.0	QP	L1	GND

**MEASUREMENT RESULT: "GOA02\_fin2"**

2014-4-29 17:20

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.183889	41.80	10.7	54	12.5	AV	L1	GND
0.235794	28.70	11.2	52	23.5	AV	L1	GND
0.294307	22.50	11.5	50	27.9	AV	L1	GND