TECHNICAL REPORT

ISO/IEC17025 Accredited Lab.

Report No: FCC 1406138
File reference No: 2014-07-14

Applicant:	ShenZhen YuXinXin Electronics Co., Ltd.
Product:	Wireless Transmitter
Model No:	YU-FM1108, YU-FM8899，YU-FM1101，YU-FM8898
Trademark:	N/A
Test Standards:	FCC Part 15 Subpart C, Paragraph 15.239
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 Subpart C, Paragraph 15.239 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung
Manager

Dated: July 14,2014

Results appearing herein relate only to the sample tested
The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

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Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timewaytech.com

Special Statement:

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

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

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

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

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

IC- Registration No.: IC5205A-02

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration No.: IC 5205A-02.

Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

Address: 5/F,Block 4, Anhua Industrial Zone.,No.8 TaiRan Rd.CheGongMiao,FuTian District, Shenzhen,CHINA.

Telephone: (755) 83448688

Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-01

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: ShenZhen YuXinXin Electronics Co., Ltd.

Address: Buiding7, Xinxing Industrial Park ,Fu Yong Town Bao'An District, Shenzhen City, Guang Dong, Chian

Telephone: +86-755-89482494

Fax: +86-755-29441291

1.3 Description of EUT

Product:	Wireless Transmitter
Brand Name:	N/A
Model Number:	YU-FM1108
Additional Model Name	YU-FM8899,YU-FM1101,YU-FM8898
Rating:	DC3V (Powered by 2 pcs AAA batteries or an adaptor. an adaptor was used for full test because it was the worse case)
Operation Frequency	88.9MHz
Frequency Tuning	Only one frequency provided to the EUT
Type of Modulation	FM
Antenna Designation	A permanent fixed antenna, which is built-in, designed as an indispensable part of the EUT. The antenna gain is 0dBi

1.4 Submitted Sample: 2Sample

1.5 Test Duration

2014-06-28 to 2014-07-14

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

The sample tested by Terry Tang

Print Name: Terry Tang

2.0	**Test Equipments**				
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2013-08-23	2014-08-22
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2013-08-23	2014-08-22
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2013-08-23	2014-08-22
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2013-08-25	2014-08-24
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2013-08-23	2014-08-22
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2013-08-24	2014-08-23
System Controller	CT	SC100	-	--	--
Loop Antenna	EMCO	6502	00042960	2013-08-23	2014-08-22
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2013-08-23	2014-08-22
LISN	AFJ	LS16C	10010947251	2013-08-21	2014-08-20
LISN (Three Phase)	Schwarebeck	NSLK 8126	8126453	2013-08-23	2014-08-22
9*6*6 Anechoic	--	--	N/A	2013-08-22	2014-08-21
EMI Test Receiver	RS	ESCS30	100139	2013-08-23	2014-08-22

3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	**PASS**	Complies
FCC Part 15 Subpart C Paragraph 15.239 Limit	Field Strength of Fundamental	**PASS**	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	**PASS**	Meets Class B Limit
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) (see Section 15.205(c)).	Band Edge Test	**PASS**	The field strength of any Emissions, which appear Outside of this band, shall not exceed the general Radiated emission limits in Section 15.209.

3.2 Test Standards

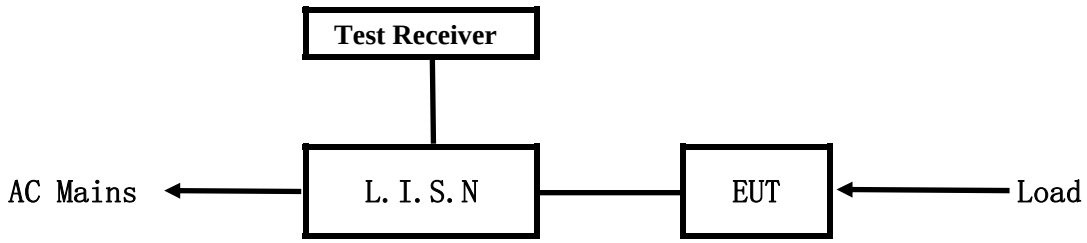
FCC Part 15 Subpart C, Paragraph 15.239

4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

5. Power Line Conducted Emission Test

5.1 Schematics of the test

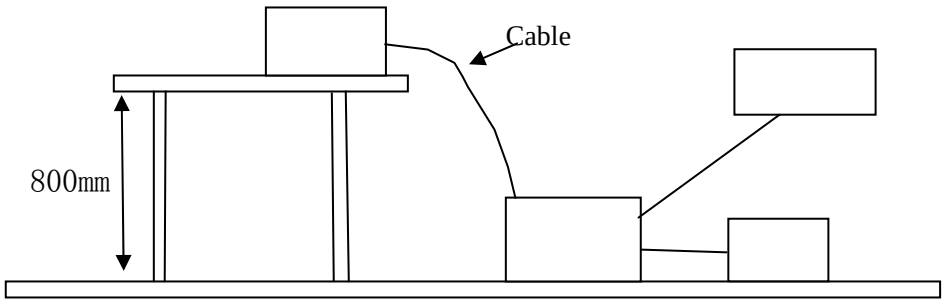


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.

Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the Appropriate peripherals. All peripherals and cables are listed below.

Note: EUT can be powered by vehicle with 12V electrical system or batteries. During radiated emission test, EUT power by a regulated DC power supply because it produced more emission at this time.

A. EUT

Device	Manufacturer	Model	FCC ID
Wireless Transmitter	ShenZhen YuXinXin Electronics Co., Ltd.	YU-FM1108,YU-FM8899, YU-FM1101, YU-FM8898	ZRH-20140618108A

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Rating
Adaptor	Dongguan GaoYi Electronic Ltd	RSS1002-05030	VOC	100-240V~, 50/60Hz, 0.2A; Output: DC3V, 0.5A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003.

A Setup the EUT and simulators as shown on follow

B A typical signal, but Not a 1kHz signal input to the EUT

C The frequency tuning controls have been manually adjusted to the highest and lowest TX frequency. The centre frequencies of the tuning range are within 88.1MHz to 107.9MHz. EUT only has a one frequency.

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency (MHz)	Class A Limits (dBμV)		Class B Limits (dBμV)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ～ 0.50	79.0	66.0	66.0～56.0*	56.0～46.0*
0.50 ～ 5.00	73.0	60.0	56.0	46.0
5.00 ～ 30.00	73.0	60.0	60.0	50.0

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

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

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

EUT Operating Environment

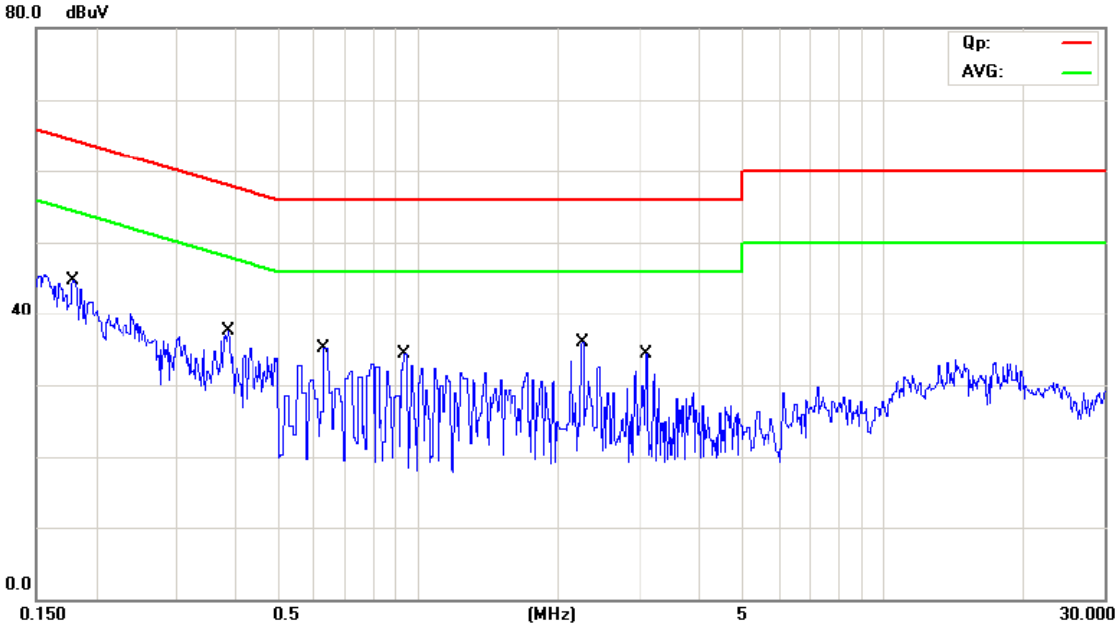
Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1790	24.80	11.03	35.83	64.53	-28.70	QP
2		0.1790	16.30	11.03	27.33	54.53	-27.20	AVG
3		0.3851	21.80	11.25	33.05	58.17	-25.12	QP
4		0.3851	20.50	11.25	31.75	48.17	-16.42	AVG
5		0.6240	16.90	11.50	28.40	56.00	-27.60	QP
6	*	0.6240	18.90	11.50	30.40	46.00	-15.60	AVG
7		0.9358	18.30	11.83	30.13	56.00	-25.87	QP
8		0.9358	-12.90	11.83	-1.07	46.00	-47.07	AVG
9		2.2530	18.50	12.40	30.90	56.00	-25.10	QP
10		2.2530	14.60	12.40	27.00	46.00	-19.00	AVG
11		3.0861	19.40	12.73	32.13	56.00	-23.87	QP
12		3.0861	13.10	12.73	25.83	46.00	-20.17	AVG

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

EUT Operating Environment

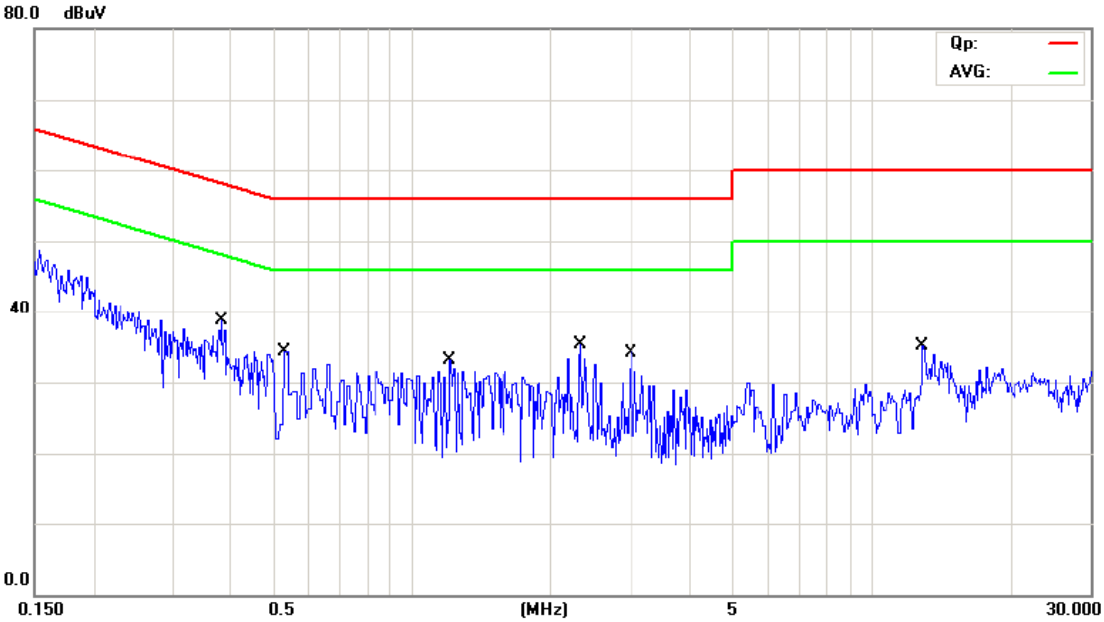
Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep Transmitting

Equipment Level: Class B

Results: PASS

Please refer to following diagram for individual



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.3800	20.10	11.24	31.34	58.28	-26.94	QP
2	*	0.3800	18.70	11.24	29.94	48.28	-18.34	AVG
3		0.5266	18.99	11.40	30.39	56.00	-25.61	QP
4		0.5266	12.79	11.40	24.19	46.00	-21.81	AVG
5		1.2061	18.00	11.98	29.98	56.00	-26.02	QP
6		1.2061	12.90	11.98	24.88	46.00	-21.12	AVG
7		2.3212	18.80	12.43	31.23	56.00	-24.77	QP
8		2.3212	12.00	12.43	24.43	46.00	-21.57	AVG
9		2.9718	24.80	12.69	37.49	56.00	-18.51	QP
10		2.9718	13.80	12.69	26.49	46.00	-19.51	AVG
11		13.0628	23.00	11.34	34.34	60.00	-25.66	QP
12		13.0628	18.60	11.34	29.94	50.00	-20.06	AVG

6 Radiated Emission Test

6.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988

(2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.

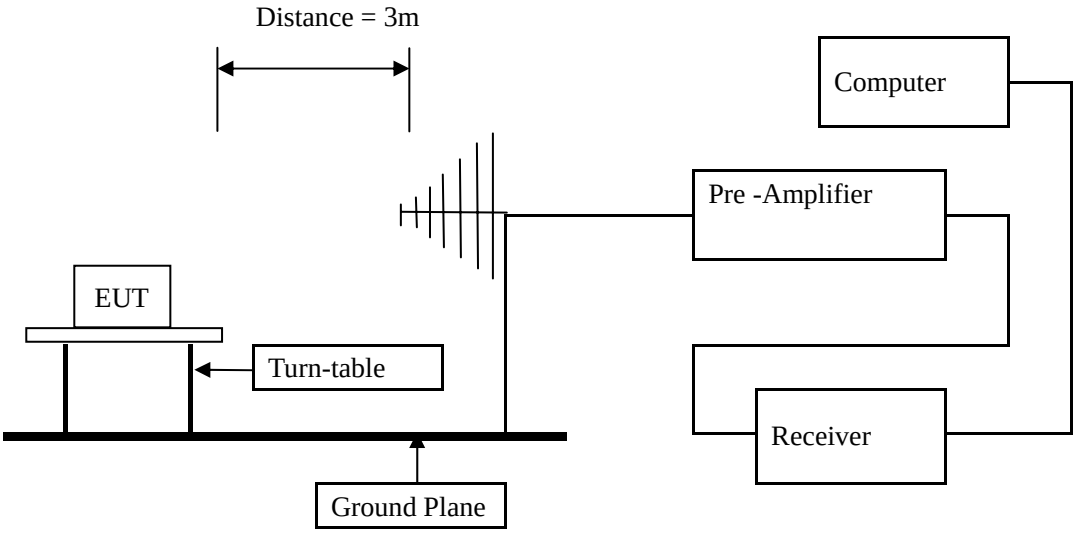
(3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.

(4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

(5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

(6) The antenna polarization : Vertical polarization and Horizontal polarization.

Block diagram of Test setup



6.2 Configuration of The EUT

Same as section 5.3 of this report

6.3 EUT Operating Condition

Same as section 5.4 of this report.

6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subpart C Paragraph 15.239 Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)	
	uV/m	**dBuV/m**
88 to 108	250	47.96

Note: 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)

2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

6.5 Test result

A Fundamental Radiated Emission Data

Product:	Wireless Transmitter	Test Mode:	Keep Transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25℃
Test Voltage:	DC3V	Humidity:	56%
Test Result:	Pass		

Frequency (MHz)	**Emission PK/AV (dBuV/m)**	**Horiz / Vert**	**Limits PK/AV (dBuV/m)**	**Margin (dB)**
88.9	46.75(PK)	Vertical	67.96/47.96	-1.21
88.9	42.93(PK)	Horizontal	67.96/47.96	-5.03

Note: the final Peak Reading Value less than the AV limit value. No necessary to take down the final AV Reading Value.

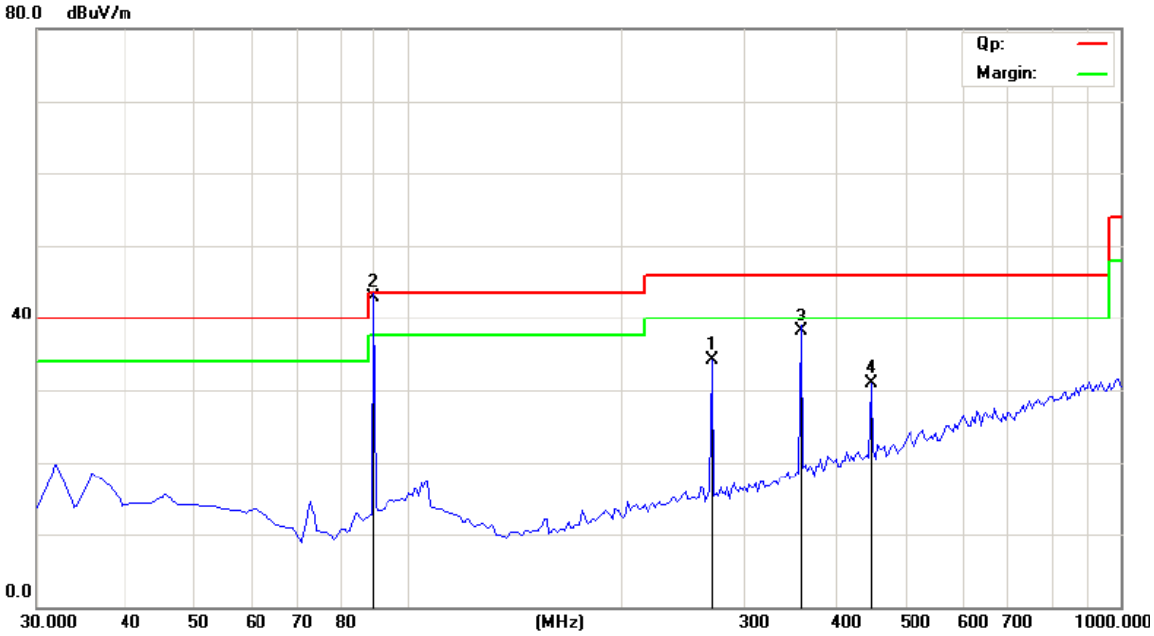
A. **General Radiated Emission Data and Harmonics Radiated Emission Data**

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: **Pass**

Please refer to following diagram for individual



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		266.7600	43.23	-9.15	34.08	46.00	-11.92	peak
2	*	88.9200	55.76	-12.83	42.93	43.50	-0.57	peak
3		355.6800	44.37	-6.33	38.04	46.00	-7.96	peak
4		444.6400	35.48	-4.55	30.93	46.00	-15.07	peak

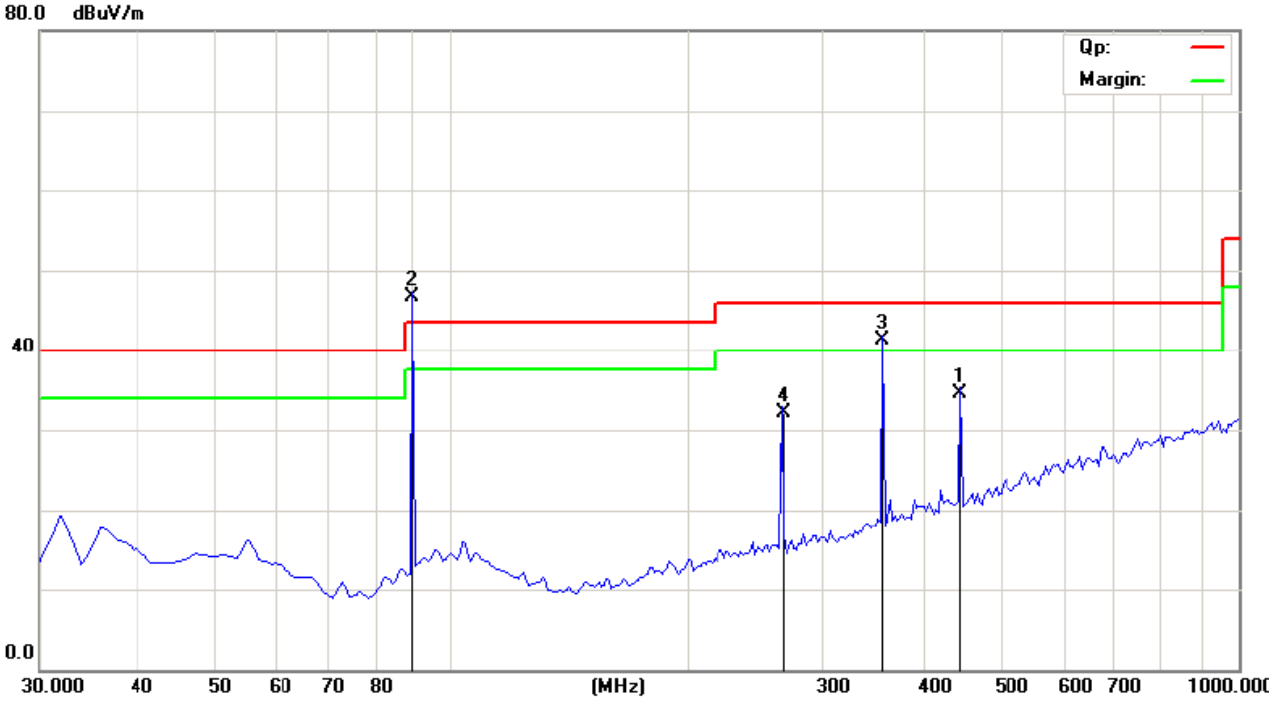
B. **General Radiated Emission Data and Harmonics Radiated Emission Data**

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: **Pass**

Please refer to following diagram for individual



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		444.6000	39.03	-4.55	34.48	46.00	-11.52	peak
2	*	88.9200	59.58	-12.83	46.75	43.50	3.25	peak
3	!	355.6800	47.65	-6.33	41.32	46.00	-4.68	peak
4		266.7600	41.34	-9.15	32.19	46.00	-13.81	peak

7. Band Edge

7.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988

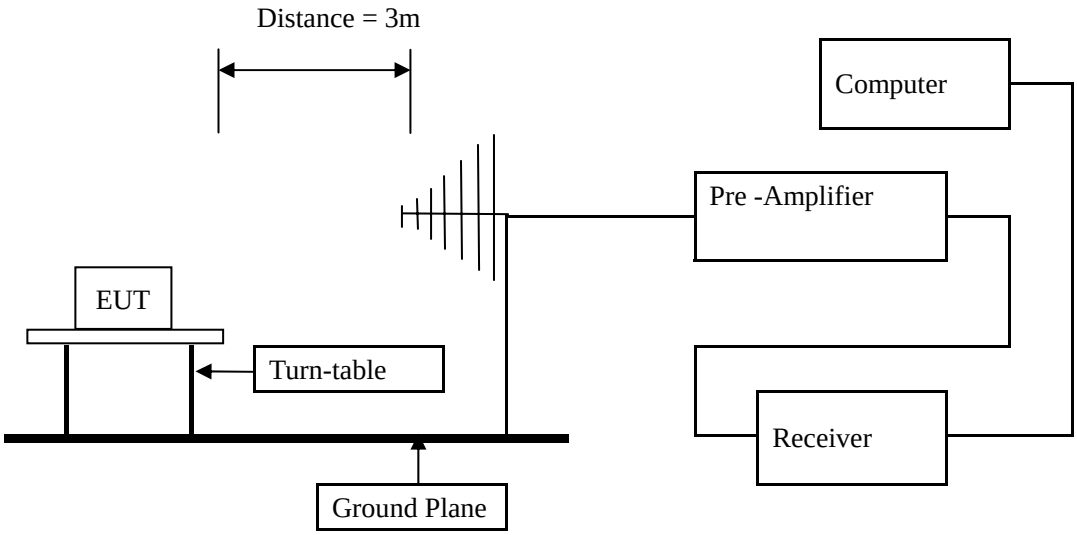
(2) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. Measurements were made at 3 meters.

(3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

(4) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

(5) The antenna polarization : Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

7.3 Configuration of The EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.3 of this report.

7.5 Band Edge Limit

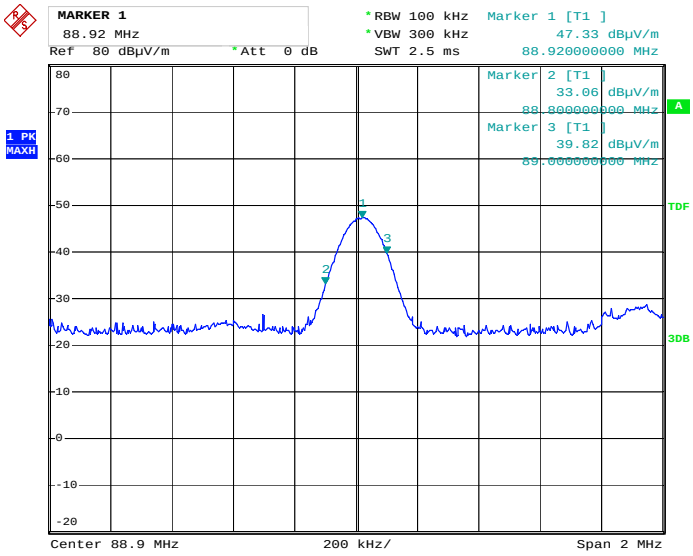
(1) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the Operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88-108 MHz.
(2) The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter At 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an Average detector. The provisions in Section 15.35 for limiting peak emissions apply.
(3) 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) (see Section 15.205(c)).

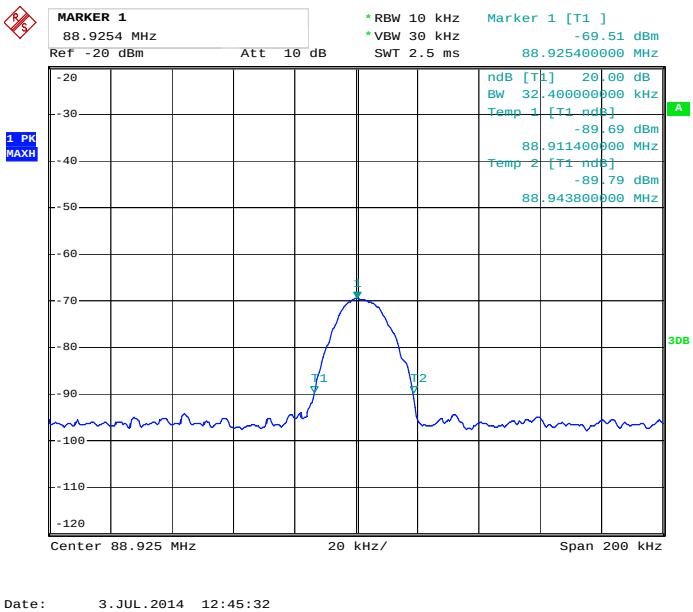
EUT Operating Condition
a typical signal, but not a 1kHz signal input to the EUT to make EUT transmitter with maximize emission. Operation Frequency is 88.9MHz，only this one channel, so The 200 kHz band is 88.8 to 89.0， and it is wholly within the frequency range of 88-108 MHz.

7.6 Band Edge Test Result

Product:	Wireless Transmitter	Test Mode:	Keep Transmitting
Test Item:		Temperature:	25℃
Test Voltage:	DC3V	Humidity:	56%
20dB Bandwidth	32.4kHz	Test Result:	Pass

Test Figure: Radiated emission at 3m distance
H and V all have been test， the worse case plot is as below：





Fundamental emission :
88.92MHz: 47.33dBuV/m(peak)
<47.96dBuV/m(AV limit)
Bandedge：
88.8MHz ：33.06dBuV/m(peak)
<43.5dBuV/m(QP limit)
89.0MHz：39.82dBuV/m(peak)
<43.5dBuV/m(QP limit)

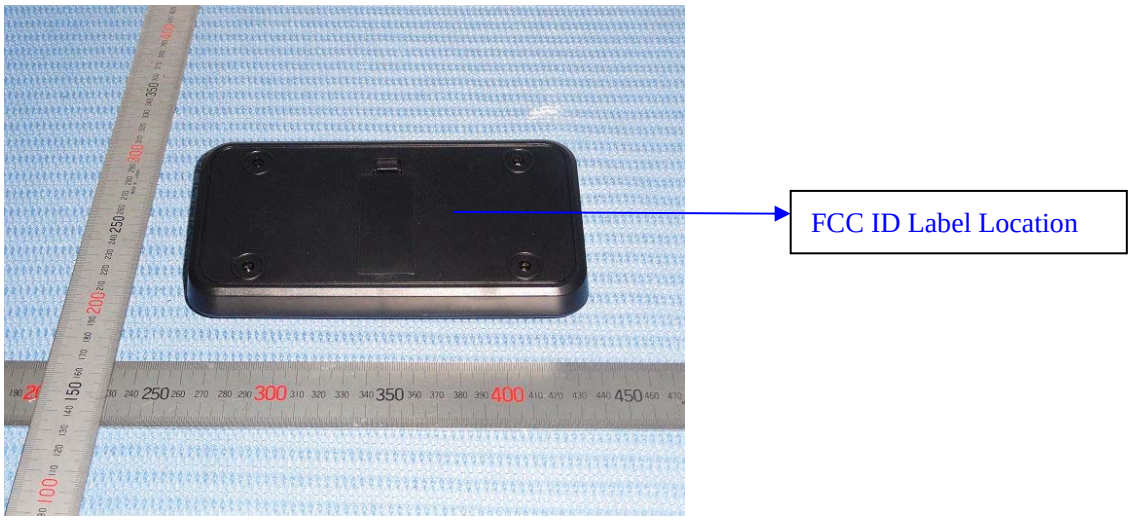
8.0 FCC ID Label

FCC ID: ZRH-20140618108A

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

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

Mark Location:



9.0 Photo of testing

9.1 Conducted test View

9.2 Radiated emission test view

9.3 Photo for the EUT

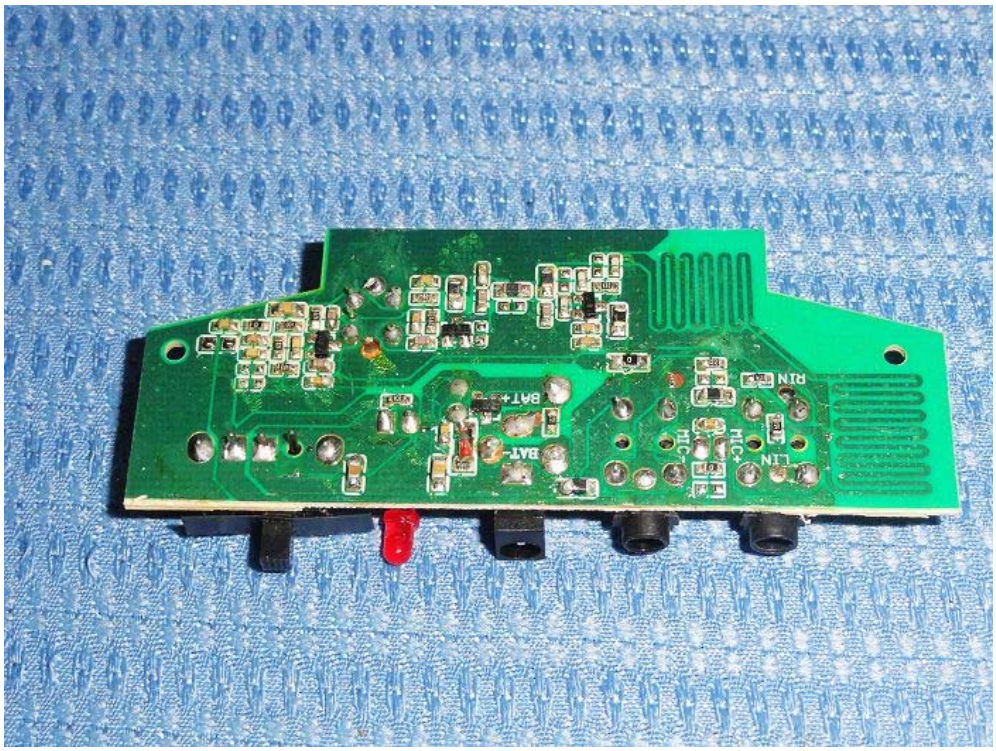
External View

External View

External View

Interior View

Interior View



End of the report