



FCC RF Test Report

APPLICANT : BYD Precision Manufacture Co.,Ltd.
EQUIPMENT : Trident
BRAND NAME : iRobot
MODEL NAME : AXC-Y1
FCC ID : ZW9AXCY1
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on May 29, 2018 and testing was completed on Jun. 16, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

**No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335
China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR852902D	Rev. 01	Initial issue of report	Jun. 22, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Not Required	-
-	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Not Required	-
-	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Not Required	-
3.1	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) $\leq -17, -27$ dBm/MHz &15.209(a)	Pass	Under limit 14.34 dB at 35.82 MHz
-	15.207	AC Conducted Emission	15.207(a)	Not Required	-
-	15.407(g)	Frequency Stability	Within Operation Band	Not Required	-
-	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Not Required	-
-	15.203 & 15.407(a)	Antenna Requirement	N/A	Not Required	-

Remark: Not required means the change does not affected the test result.

1 General Description

1.1 Applicant

BYD Precision Manufacture Co.,Ltd.

No.3001, Bao He Road, Baolong Industry Zone, Longgang, Shenzhen, Guangdong Province, P.R.China

1.2 Manufacturer

Huizhou BYD Electronic Co.,Ltd.

Xiangshui River, Economic Development Zone, Daya Bay, Huizhou, Guangdong Province, P.R.China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Trident
Brand Name	iRobot
Model Name	AXC-Y1
FCC ID	ZW9AXCY1
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40/ Bluetooth v4.0 LE /Bluetooth v4.2 LE
HW Version	Trident LV
SW Version	Trident_00.00.29_20180208
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for AXC-Y1. The product equality declaration could be referred to Appendix D. Based on the similarity between current and previous project, only the worst case of Radiated Emission from original test report (Sporton Report Number FR792901-03D) were verified for the differences.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
Antenna Type/Gain	Please see Remark 1

Remark:

1. The antenna provided to the EUT, please refer to the following table:
2. We only evaluate the Antenna of max Gain to test.

Antenna No.	Brand	Model	Gain(dBi)	Antenna Type	Frequency range (GHz to GHz)	Cable length (mm)
1(External)	Laird	EMN2449A 2S-25UFL	3.50	PCB dipole antenna	2.4-2.4835	250
1(External)	Laird	EMN2449A 2S-25UFL	5.75	PCB dipole antenna	5.15-5.25	250
1(External)	Laird	EMN2449A 2S-25UFL	6.26	PCB dipole antenna	5.25-5.35	250
1(External)	Laird	EMN2449A 2S-25UFL	6.24	PCB dipole antenna	5.47-5.725	250
1(External)	Laird	EMN2449A 2S-25UFL	5.18	PCB dipole antenna	5.725-5.85	250

Antenna No.	Brand	Model	Gain(dBi)	Antenna Type	Frequency range (GHz to GHz)	Cable length (mm)
2(External)	Laird	MAF94264	3.33	PCB dipole antenna	2.4-2.4835	80
2(External)	Laird	MAF94264	5.52	PCB dipole antenna	5.15-5.25	80
2(External)	Laird	MAF94264	6.14	PCB dipole antenna	5.25-5.35	80
2(External)	Laird	MAF94264	6.06	PCB dipole antenna	5.47-5.725	80
2(External)	Laird	MAF94264	5.33	PCB dipole antenna	5.725-5.85	80

1.5 Modification of EUT

No modifications are made to the EUT during all test items.



1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No is CN5013.

Test Site	Sporton International (Kunshan) Inc.	
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	Sporton Site No.	FCC Test Firm Registration No.
	03CH02-KS	630927

Note: The test site complies with ANSI C63.4 2014 requirement.

1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
- ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the worst cases were recorded in this report.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5745-5825 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	-	5775	165	5825

Note: The above Frequency and Channel in "*" was 802.11n HT40.

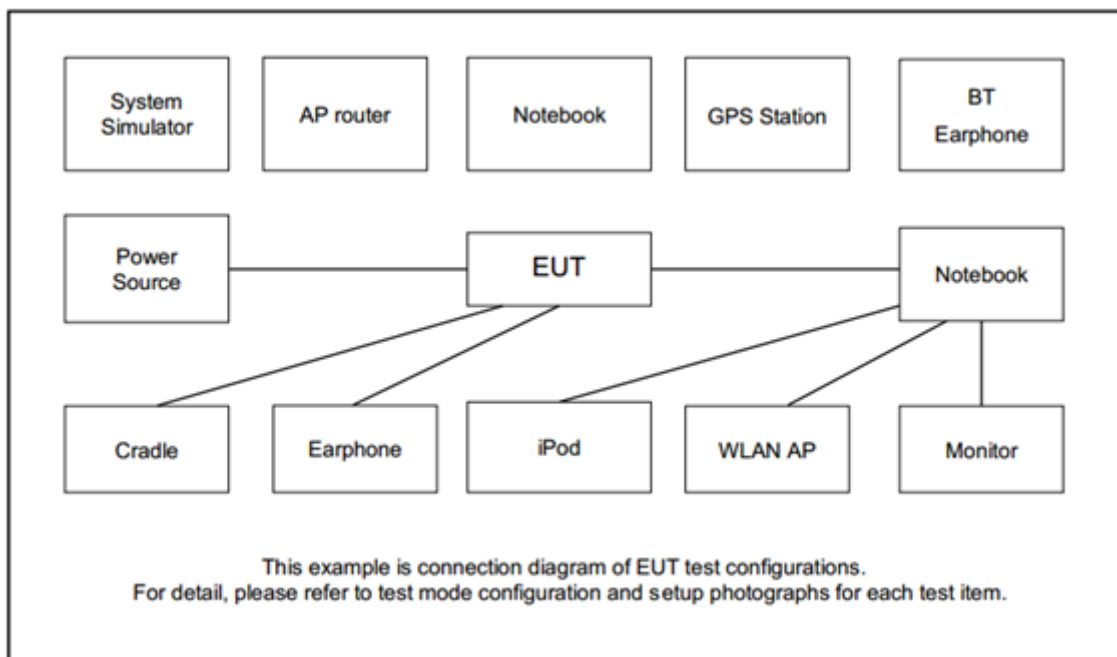
2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

Ch. #		Band IV : 5745-5825 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	149	149	151
M	Middle	157	157	-
H	High	165	165	159

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Battery	N/A	N/A	N/A	N/A	N/A
2.	Notebook	Dell	Latitude3440	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
3.	USB Cable	N/A	N/A	N/A	Unshielded, 1.2m	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuously transmit/receive.

3 Test Result

3.1 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.1.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:
15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3



EIRP (dBm)	Field Strength at 3m (dB μ V/m)
- 27	68.3

Note: The following formula is used to convert the EIRP to field strength.

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dB μ V/m

d_{Meas} is the measurement distance, in m

3.1.2 Measuring Instruments

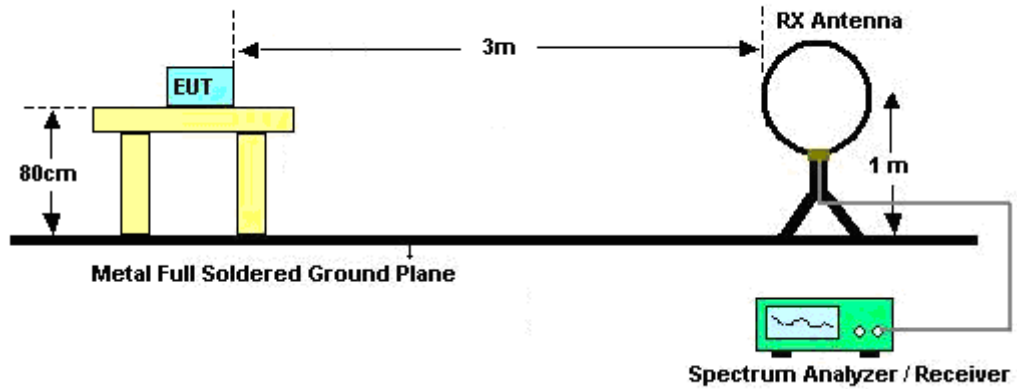
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

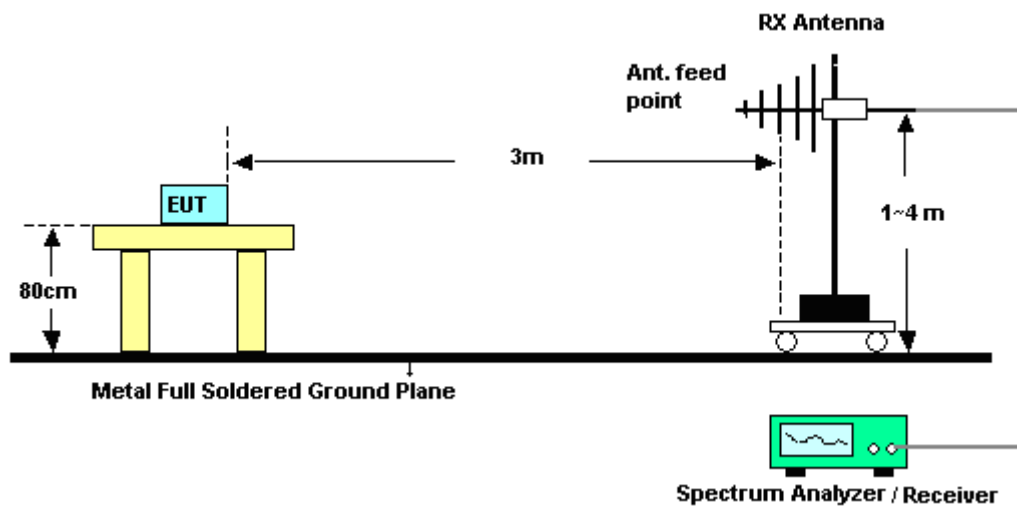
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ $1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.1.4 Test Setup

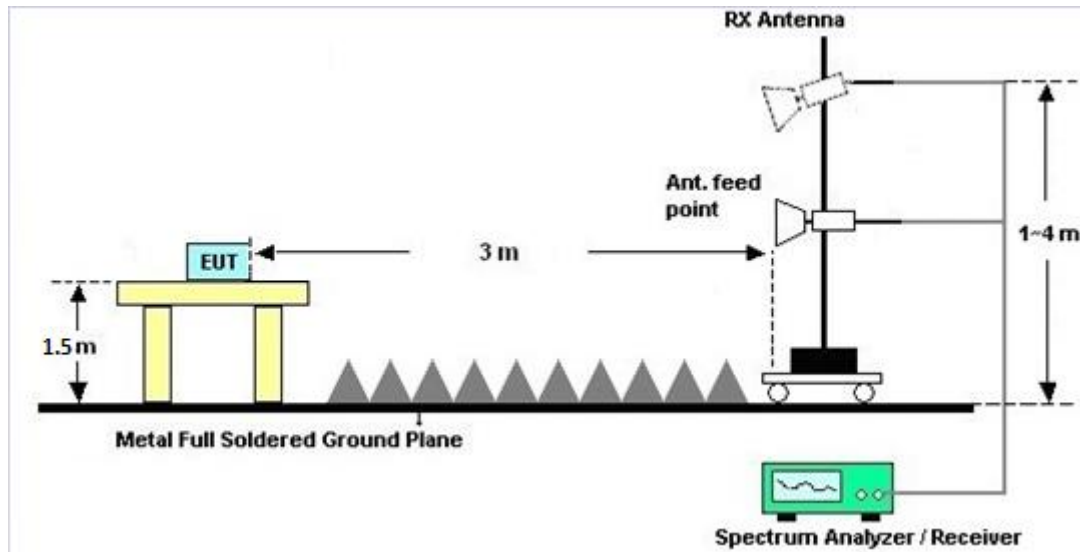
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



**3.1.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A.

3.1.7 Duty Cycle

Please refer to Appendix B.

3.1.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix A.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Ma x 30dBm	Aug. 08, 2017	Jun. 16, 2018	Aug. 07, 2018	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY551502 08	10Hz-44G,MAX 30dB	Apr. 17, 2018	Jun. 16, 2018	Apr. 16, 2019	Radiation (03CH02-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 22, 2017	Jun. 16, 2018	Oct. 21, 2018	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	30MHz-2GHz	Jan. 29, 2018	Jun. 16, 2018	Jan. 28, 2019	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 21, 2017	Jun. 16, 2018	Oct. 20, 2018	Radiation (03CH02-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	100MHz-18GHz	Apr. 17, 2018	Jun. 16, 2018	Apr. 16, 2019	Radiation (03CH02-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA1702 49	15GHz~40GHz	Feb. 07, 2018	Jun. 16, 2018	Feb. 06, 2019	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Aug. 07, 2017	Jun. 16, 2018	Aug. 06, 2018	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A023 84	1GHz~26.5GHz	Oct. 12, 2017	Jun. 16, 2018	Oct. 11, 2018	Radiation (03CH02-KS)
Amplifier	MITEQ	TTA1840-35- HG	1887435	18~40GHz	Oct. 12, 2017	Jun. 16, 2018	Oct. 11, 2018	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002 473	N/A	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required



5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.2dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.2dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.7dB
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Appendix A. Radiated Spurious Emission

Band 4 - 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 159 5795MHz		5618.8	52.65	-15.65	68.3	42.26	35.01	8.56	33.18	394	246	P	H
		5676.4	52.26	-35.62	87.88	41.89	34.97	8.57	33.17	394	246	P	H
		5716.4	51.71	-58.18	109.89	41.36	34.94	8.58	33.17	394	246	P	H
		5722.4	52.27	-64.1	116.37	41.94	34.92	8.58	33.17	394	246	P	H
		5852.4	50.97	-65.86	116.83	40.71	34.82	8.61	33.17	394	246	P	H
		5871.6	51.77	-54.48	106.25	41.53	34.8	8.62	33.18	394	246	P	H
		5901.2	52	-33.87	85.87	41.75	34.8	8.63	33.18	394	246	P	H
		5929.6	52.96	-15.34	68.3	42.71	34.81	8.64	33.2	394	246	P	H
		5806	91.45	-	-	81.17	34.85	8.6	33.17	394	246	P	H
		5806	83.95	-	-	73.67	34.85	8.6	33.17	394	246	A	H
		5622	51.46	-16.84	68.3	41.07	35.01	8.56	33.18	106	289	P	V
		5653.2	52.94	-17.74	70.68	42.56	34.98	8.57	33.17	106	289	P	V
		5704.4	51.86	-54.67	106.53	41.51	34.94	8.58	33.17	106	289	P	V
		5720.8	50.67	-62.05	112.72	40.34	34.92	8.58	33.17	106	289	P	V
		5852	50.73	-67.01	117.74	40.47	34.82	8.61	33.17	106	289	P	V
		5855.6	51.61	-59.12	110.73	41.36	34.8	8.62	33.17	106	289	P	V
		5886.8	52.66	-43.88	96.54	42.42	34.8	8.62	33.18	106	289	P	V
		5944.8	52.56	-15.74	68.3	42.32	34.81	8.64	33.21	106	289	P	V
		5808	98.34	-	-	88.06	34.85	8.6	33.17	106	289	P	V
		5808	90.8	-	-	80.52	34.85	8.6	33.17	106	289	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40		11590	44.15	-29.85	74	57.41	39.39	12.82	65.47	100	360	P	H
CH 159 5795MHz		11590	46.44	-27.56	74	59.7	39.39	12.82	65.47	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11n HT40 LF		31.94	22.27	-17.73	40	28.47	25.23	0.6	32.03	100	12	P	H
		107.6	15.66	-27.84	43.5	28.68	17.85	1.05	31.92	-	-	P	H
		402.48	24.1	-21.9	46	27.06	25.66	2.08	30.7	-	-	P	H
		625.58	24.83	-21.17	46	26.66	25	2.66	29.49	-	-	P	H
		719.67	25.92	-20.08	46	25.41	26.52	2.78	28.79	-	-	P	H
		974.78	28.97	-25.03	54	23.74	29.02	3.22	27.01	-	-	P	H
		35.82	25.66	-14.34	40	32.56	24.5	0.64	32.04	100	26	P	V
		406.36	24.48	-21.52	46	27.51	25.57	2.09	30.69	-	-	P	V
		500.45	30.43	-15.57	46	35.46	22.9	2.38	30.31	-	-	P	V
		747.8	26.66	-19.34	46	25.82	26.69	2.82	28.67	-	-	P	V
		885.54	27.6	-18.4	46	24.77	27.38	3.08	27.63	-	-	P	V
		965.08	29.16	-24.84	54	24.18	28.82	3.22	27.06	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

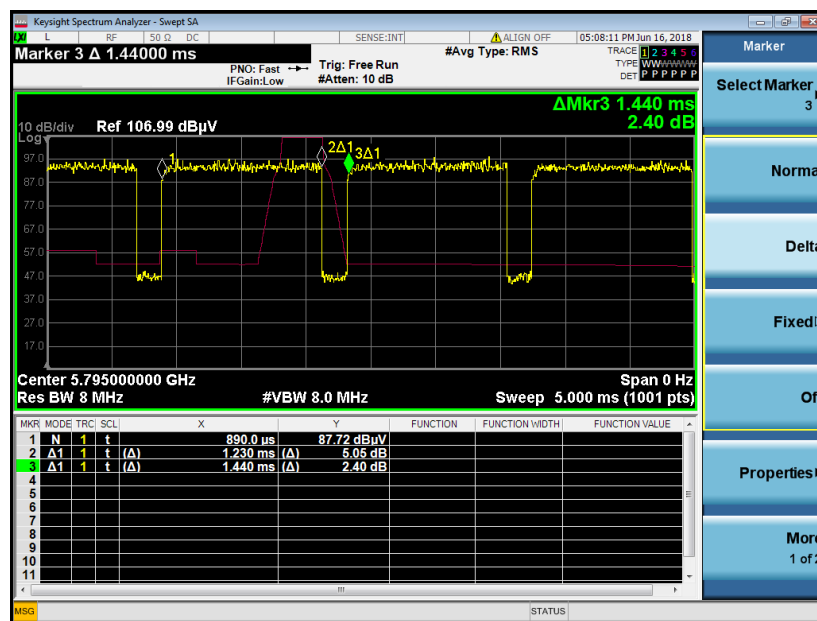
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix B. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11n HT40	85.42	1.230	0.813	1 kHz

802.11n HT40





Appendix D. Product Equality Declaration

BYD Precision Manufacture Co.,Ltd.

Add: No.3001,Bao He Road,Baolong Industry Zone,Longgang,Shenzhen,Guangdong Province,P.R.China

Product Equality Declaration

We, BYD Precision Manufacture Co.,Ltd. , declare on our sole responsibility for the product of AXC-Y1 as below:

The differences between AXC-Y1 B2.5 and LV are as below:

Category	First Supplier	Specification	Second Supplier	Specification
Crystal	KYOCERA	48MHz_±20PPM	TXC	48MHz_±20PPM
Capacitance	Eyang	10uF_±20%_10V_X5R	Murata	10uF_±20%_10V_X5R
Capacitance	TAIYO	22uF_±20%_6.3V_X5R	SAMSUNG	22uF_±20%_6.3V_X5R
Resistance	WALSIN	0Ω_±5%_1/20W	FENGHUA	0Ω_±5%_1/20W
Resistance	WALSIN	0Ω_Jumper_1/16W	FENGHUA	0Ω_±5%_1/16W
Resistance	WALSIN	0Ω_±1%_1/10W	FENGHUA	0Ω_Jumper_1/16W
Resistance	YAGEO	1Ω_±1%_1/16W	FENGHUA	1Ω_±1%_1/16W
Resistance	WALSIN	33Ω_±5%_1/20W	FENGHUA	33Ω_±5%_1/20W
Resistance	WALSIN	200Ω_±1%_1/20W	FENGHUA	200Ω_±1%_1/20W
Resistance	WALSIN	240Ω_±1%_1/20W	FENGHUA	240Ω_±1%_1/20W
Resistance	WALSIN	1KΩ_±5%_1/20W	FENGHUA	1KΩ_±5%_1/20W
Resistance	WALSIN	2.2KΩ_±1%_1/20W	FENGHUA	2.2KΩ_±1%_1/20W
Resistance	WALSIN	3.92KΩ_±1%_1/20W	FENGHUA	3.92KΩ_±1%_1/20W
Resistance	WALSIN	10KΩ_±5%_1/20W	FENGHUA	10KΩ_±5%_1/20W
Resistance	WALSIN	10KΩ_±5%_1/16W	FENGHUA	10KΩ_±5%_1/16W
Resistance	WALSIN	47KΩ_±5%_1/20W	FENGHUA	47kΩ_±5%_1/20W
Resistance	WALSIN	100KΩ_±5%_1/20W	FENGHUA	100kΩ_±5%_1/20W
Resistance	WALSIN	1MΩ_±5%_1/20W	FENGHUA	1MΩ_±5%_1/20W

Except listings above, the others are all the same as previous version.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,



Contact Person: Xu pengfei

Company: BYD Precision Manufacture Co.,Ltd.

Tel: +86-10-58018888-71323

Fax: +86-10-58018888-71323

E-Mail: Xu.pengfei2@byd.com