

Page 1 of 66

FCC RADIO TEST REPORT

FCC ID: ZUXIBB-H3

Product : Security Camera Trade Name : ZUX Model Name : H3 Serial Model : N/A Report No. : UNIA2018113008-1FR-01

Prepared for

iBaby Labs, Inc.

Room 601, 6/F, Block T2-B, Software Park, No.22, S . Gaoxin7th Ave., Nanshan District Shenzhen, Guangdong

Prepared by

Shenzhen United Testing Technology Co., Ltd.

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

TEST RESULT CERTIFICATION

Applicant's name:	iBaby Labs, Inc.				
Address:	Room 601, 6/F, Block T2-B, Software Park, No.22, S . Gaoxin7th Ave., Nanshan District Shenzhen, Guangdong				
Manufacture's Name:	iBaby Labs, Inc.				
Address:	Room 601, 6/F, Block T2-B, Software Park, No.22, S . Gaoxin7th Ave., Nanshan Shenzhen, Guangdong				
Product description					
Product name:	Security Camera				
Trade Mark:	ZUX				
Model and/or type reference :	H3				
Standards:	FCC Rules and Regulations Part 15 Subpart C Section 15.247 ANSI C63.10: 2013				

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of UNI, this document may be altered or revised by Shenzhen United Testing Technology Co., Ltd., personnel only, and shall be noted in the revision of the document.

Date of Test
Date (s) of performance of tests:
Date of Issue:
Test Result:

Nov. 27, 2018 ~ Dec. 6, 2018 Dec. 6, 2018 Pass

Prepared by:

Reviewer:

Approved & Authorized Signer:

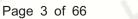
Sherwin Qian/Supervisor

Kahn yang/Editor

inte

Liuze/Manager

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



ų	N
	11. TEST

Table of Contents	Page
	F
11. TEST SUMMARY	5
22. GENERAL INFORMATION	6
2.1 2.1 GENERAL DESCRIPTION OF EUT	6
2.2	/
2.2 Carrier Frequency of Channels	/
2.3 2.3 Operation of EUT during testing 2.4 2.4 DESCRIPTION OF TEST SETUP	7
2.5 MEASUREMENT INSTRUMENTS LIST	8
33. CONDUCTED EMISSIONS TEST	-
3.1 Conducted Power Line Emission Limit	9
3.2 Test Setup	9
3.3 Test Procedure	9
3.4 Test Result	9
4. RADIATED EMISSION TEST	12
4.1 Radiation Limit	12
4.2 Test Setup	12
4.3 Test Procedure	13
4.4 Test Result	13
5. BAND EDGE	28
5.1 Limits	28
5.2 Test Procedure	28
5.3 Test Result	28
6. OCCUPIED BANDWIDTH MEASUREMENT	31
6.1 Test Limit	31
6.2 Test Procedure	31
6.3 Measurement Equipment Used	31
6.4 Test Result	31
7. POWER SPECTRAL DENSITY TEST	40
7.1 Test Limit	40
7.2 Test Procedure	40
7.3 Measurement Equipment Used	40
	40
8. PEAK OUTPUT POWER TEST	47
8.1 Test Limit	47

	Page 4 of 66	Pepert No - UN	IA2018113008-1FR
			A2010113000-1114
	Table of Contents		Page
8.2 Test Procedure			47
8.3 Measurement Equipm	nent Used		47
8.4 Test Result			47
9. OUT OF BAND EMISSI	ONS TEST		48
9.1 Test Limit			48
9.2 Test Procedure			48
9.3 Test Setup			48
9.4 Test Result			48
10. SPURIOUS RF COND	UCTED EMISSION		51
10.1 Test Limit			51
10.2 Test Procedure			51
10.3 Test Setup			51
10.4 Test Result			51
11. ANTENNA REQUIREM	IENT		64
12.PHOTOGRAPH OF TE	ST		65
12.1 Radiated Emission			65
12.2 Conducted Emission	1		66

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co., Ltd. United Testing Technology(Hong Kong) Limited

Report No.: UNIA2018113008-1FR-01



11. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST CONDUCTED EMISSIONS TEST RADIATED EMISSION TEST BAND EDGE OCCUPIED BANDWIDTH MEASUREMENT POWER SPECTRAL DENSITY PEAK OUTPUT POWER OUT OF BAND EMISSIONS ANTENNA REQUIREMENT RESULT COMPLIANT COMPLIANT COMPLIANT COMPLIANT COMPLIANT COMPLIANT COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address

Community, Xixiang Str, Bao'an District, Shenzhen, China

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang

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: L6494

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

Designation Number: CN1227

Test Firm Registration Number: 674885

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.

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

22. GENERAL INFORMATION

2.1 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Security Camera
Trade Mark	ZUX
Model Name	H3
Serial No.	
Model Difference	1
FCC ID	ZUXIBB-H3
Antenna Type	Internal Antenna
Antenna Gain	0.87dBi
Frequency Range	802.11b/g/n20/ n40: 2412~2462 MHz
Number of Channels	802.11b/g/n20/n40: 11CH
Modulation Type	CCK, OFDM, DBPSK, DAPSK
Battery	
Power Source	DC 5V from adapter with AC 120(240)V/60Hz
	M/N: HA-190501000UU
Adapter Model	Input: AC 100-240V, 50/60Hz, 0.25A
	Output: DC 5V, 1A

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited





2.2 Carrier Frequency of Channels

1	Channel List for 802.11b/g/n(20MHz/40MHz)						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452	5	

2.3 2.3 Operation of EUT during testing

Operating Mode

The mode is used: Transmitting mode for 802.11b/g/n (20MHz/20MHz)

Low Channel: 2412MHz/2422MHz Middle Channel: 2437MHz High Channel: 2462MHz/2452MHz Test SW Version:RtkWiFiTest 1.0.1 20131119.

2.4 2.4 DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:

AC Power		Adapter	EUT
poration of EUT d	uring Dadi	iation and Abov	Dadiation tacting:

Operation of EUT during Radiation and Above1GHz Radiation testing:

EUT

Table for auxiliary equipment:

Equipment Description	Manufacturer	Model	Calibration Due Date
Adapter	HONGGUANGDE	HA-19050100UU	N/A

2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated unt
		CONDUCTED	EMISSIONS TEST		S
1	AMN	Schwarzbeck	NNLK8121	8121370	2019.9.9
2	AMN	ETS	3810/2	00020199	2019.9.9
3	EMI TEST RECEIVER	Rohde&Schwarz	ESCI	101210	2019.9.9
4	AAN	TESEQ	T8-Cat6	38888	2019.9.9
4		RADIATED I	EMISSION TEST	1	5
1	Horn Antenna	Sunol	DRH-118	A101415	2019.9.29
2	BicoNILog Antenna	Sunol	JB1 Antenna	A090215	2019.9.29
3	PREAMP	HP	8449B	3008A00160	2019.9.9
4	PREAMP	HP	8447D	2944A07999	2019.9.9
5	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2019.9.9
6	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2019.9.28
7	Signal Generator	Agilent	E4421B	MY4335105	2019.9.28
8	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2019.9.28
9	MXA Signal Analyzer	Agilent	N9020A	MY51110104	2019.9.9
10	ANT Tower&Turn table Controller	Champro	EM 1000	60764	2019.9.28
11	Anechoic Chamber	Taihe Maorui	9m*6m*6m	966A0001	2019.9.9
12	Shielding Room	Taihe Maorui	6.4m*4m*3m	643A0001	2019.9.9
13	RF Power sensor	DARE	RPR3006W	15100041SNO88	2019.3.14
14	RF Power sensor	DARE	RPR3006W	15100041SNO89	2019.3.14
15	RF power divider	Anritsu	K241B	992289	2019.9.28
16	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2019.9.28
17	Biconical antenna	Schwarzbeck	VHA 9103	91032360	2019.9.8
18	Biconical antenna	Schwarzbeck	VHA 9103	91032361	2019.9.8
19	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2019.9.8
20	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2019.1.12
21	Active Receive Loop Antenna	Schwarzbeck	FMZB 1919B	00023	2019.9.8
22	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170651	2019.03.14
23	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2019.9.8
24	Active Loop Antenna	Com-Power	AL-130R	10160009	2019.05.10
25	Power Meter	KEYSIGHT	N1911A	MY50520168	2019.05.10
26	Frequency Meter	VICTOR	VC2000	997406086	2019.05.10
27	DC Power Source	HYELEC	HY5020E	055161818	2019.05.10
		Test	software	5-3	1
1	E3	XINHUA	6.101223a	N/A	N/A

深圳市优耐检测技术有限公司

Shenzhen United Testing Technology Co., Ltd. United Testing Technology(Hong Kong) Limited



33. CONDUCTED EMISSIONS TEST

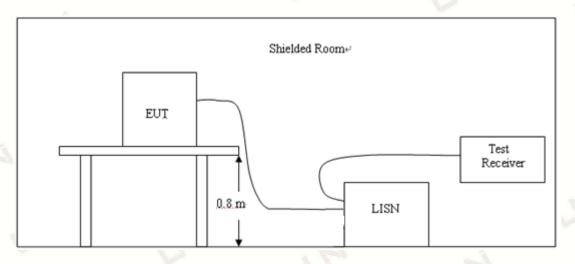
3.1 Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

	Maximum RF Line Voltage(dBµV)			
Frequency	CLASS A		CLASS B	
(MHz)	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. A wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

Pass

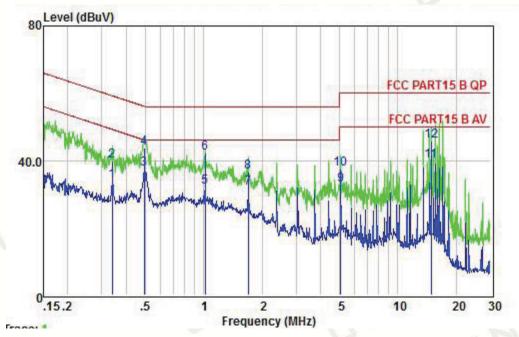
Remark:

All modes were tested at AC 120V and 240V, only the worst result of AC 120V was reported.
All modes were tested at Low, Middle, and High channel, only the worst result of 802.11b Low Channel was reported as below:

深圳市优耐检测技术有限公司	
Shenzhen United Testing Technology Co., Ltd.	2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China
United Testing Technology(Hong Kong) Limited	深圳市宝安区西乡街道铁岗社区宝田一路365号嘉皇源科技园附楼2楼 邮编:518102 Tel:+86-755-86180996 Fax:+86-755-86180156

Page 10 of 66

Temperature:	24°C	Relative Humidity:	48%					
Test Date:	Nov. 28, 2018	Pressure:	1010hPa					
Test Voltage:	AC 120V, 60Hz	Phase:	Line					
Test Mode:	Transmitting mode of 802.11b 2412MHz							

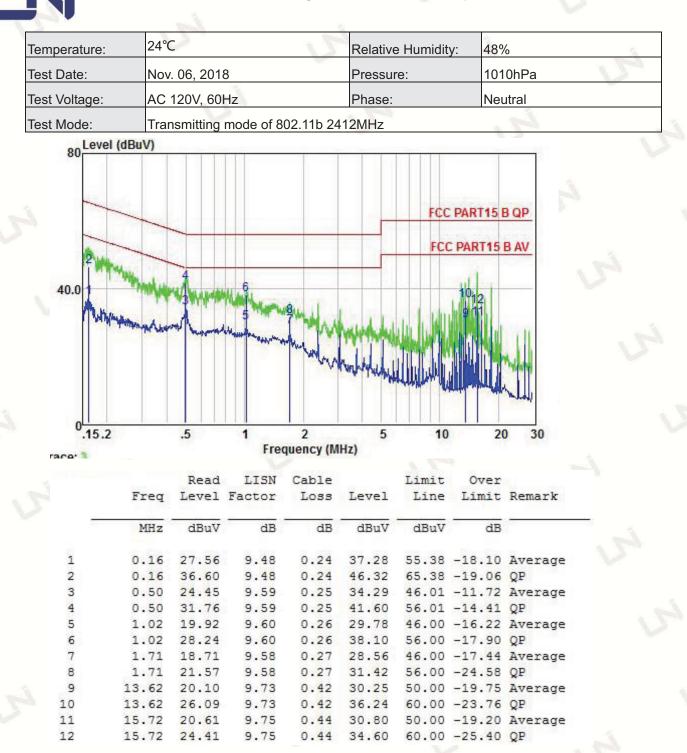


		Read	LISN	Cable		Limit	Over	
	Freq	Level	Factor	Loss	Level	Line	Limit	Remark
1	MHz	dBuV	dB	dB	dBuV	dBuV	dB	12
1	0.34	24.13	9.61	0.25	33.99	49.22	-15.23	Average
2	0.34	29.96	9.61	0.25	39.82	59.22	-19.40	QP
з	0.49	27.51	9.58	0.25	37.34	46.10	-8.76	Average
4	0.49	33.77	9.58	0.25	43.60	56.10	-12.50	QP
5	1.02	22.35	9.59	0.26	32.20	46.00	-13.80	Average
6	1.02	32.45	9.59	0.26	42.30	56.00	-13.70	QP
7	1.70	22.08	9.61	0.27	31.96	46.00	-14.04	Average
8	1.70	26.74	9.61	0.27	36.62	56.00	-19.38	QP
9	5.08	22.91	9.64	0.31	32.86	50.00	-17.14	Average
10	5.08	27.46	9.64	0.31	37.41	60.00	-22.59	QP
11	14.91	29.63	9.71	0.43	39.77	50.00	-10.23	Average
12	14.91	35.56	9.71	0.43	45.70	60.00	-14.30	QP

Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

Page 11 of 66



Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result - Limit.

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



4. RADIATED EMISSION TEST

4.1 Radiation Limit

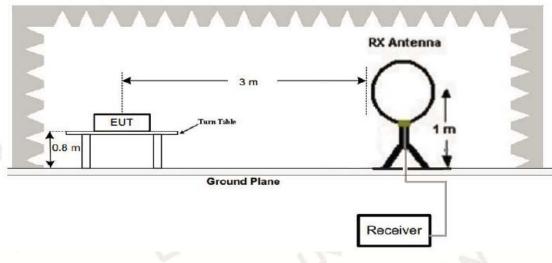
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960 👘	3	54	500

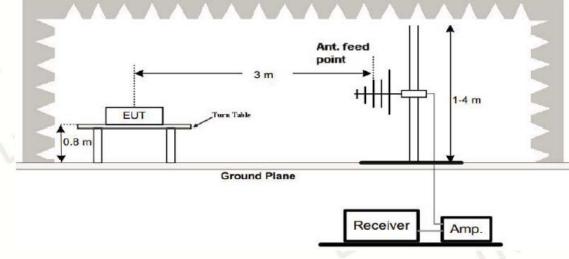
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

1. Radiated Emission Test-Up Frequency Below 30MHz



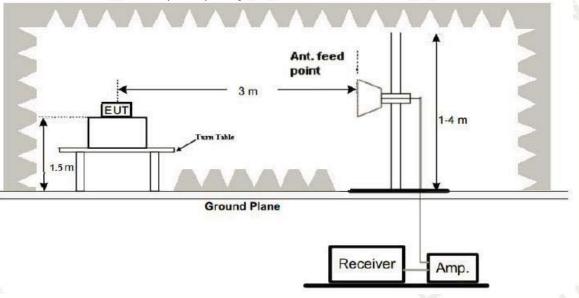
2. Radiated Emission Test-Up Frequency 30MHz~1GHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



3. Radiated Emission Test-Up Frequency Above 1GHz



- 4.3 Test Procedure
 - 1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
 - 2. The turntable shall be 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 emissions.
 - 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
 - 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
 - 6. Repeat above procedures until the measurements for all frequencies are complete.
 - 7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).
 - 8. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 Test Result

PASS

Remark:

1. All modes of 802.11b/g/n20 were test at Low, Middle, and High channel, only the worst result of 802.11b Low Channel was reported for below 1GHz test.

2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, and test data recorded in this report.

Below 1GHz Test Results:

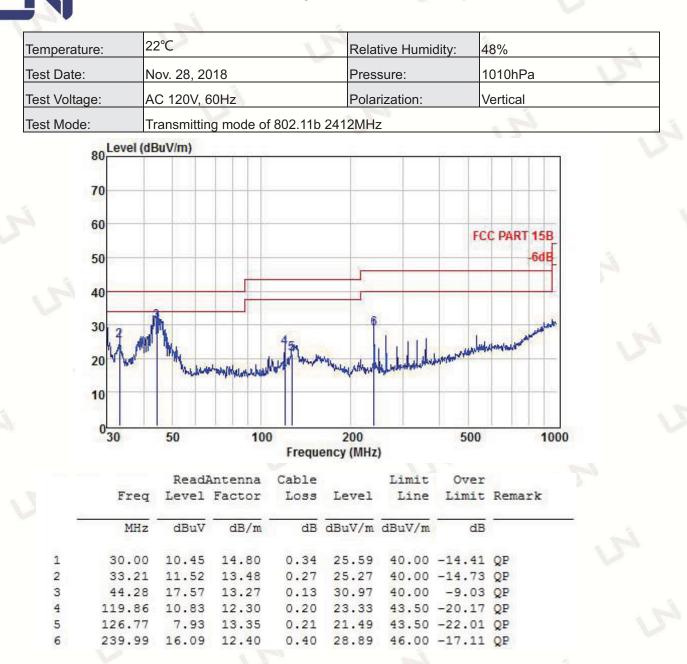
P

emperature	e:	22°C	18		R	elative Hu	midity:	48%	~
est Date:		Nov. 28, 2018			Pi	ressure: 101		1010hPa	
est Voltage	:	AC 120\	/, 60Hz		P	plarization: Hori		Horizontal	
est Mode:		Transmi	tting mode	e of 802.1	1b 2412N	/IHz			
80 Leve	l (dBuV/	m)							
80								5	
70									
60							-		
							FCC PA	RT 15B	
50					-			-6dB	
					1				
40					-				
30			2	Autor	56	11 June	al addet and mark	and the second se	
		r-ywydrastiedy)	100	Frequency	5 6 200 ((MHz)	When	500	1000	
30 20 - UM	50			Frequency	the second se	Limit			
30 20 - UM		Read	1	Frequency Cable	the second se	Limit	500 Over		
30 20 MM		Read	 Antenna	Frequency Cable Loss	(MHz) Level	Limit	500 Over	1000	
30 20 - Um	Freq	Read Level dBuV	Antenna Factor 	Frequency Cable Loss dB	(MHz) Level dBuV/m	Limit Line dBuV/m	500 Over Limit dB	1000 Remark	
	Freq MHz	Read/ Level	Antenna Factor	Frequency Cable Loss	(MHz) Level	Limit Line dBuV/m 40.00	500 Over Limit	1000 Remark	
	Freq MHz 44.59	Read Level dBuV 5.07	Antenna Factor dB/m 13.26	Frequency Cable Loss dB 0.13	(MHz) Level dBuV/m 18.46 21.67	Limit Line dBuV/m 40.00	500 Over Limit dB -21.54 -21.83	1000 Remark	
30 20 10 0 30 1 2 10 30	Freq MHz 44.59 19.86	Read Level dBuV 5.07 9.17	Antenna Factor dB/m 13.26 12.30	Cable Loss dB 0.13 0.20	(MHz) Level dBuV/m 18.46 21.67 21.40	Limit Line dBuV/m 40.00 43.50	500 Over Limit dB -21.54 -21.83 -22.10	1000 Remark QP QP QP QP	
30 20 10 0 30 10 0 30	Freq MHz 44.59 19.86 29.01	Read/ Level dBuV 5.07 9.17 7.50	Antenna Factor dB/m 13.26 12.30 13.68	Cable Loss dB 0.13 0.20 0.22	(MHz) Level dBuV/m 18.46 21.67 21.40	Limit Line dBuV/m 40.00 43.50 43.50 43.50 43.50 46.00	500 Over Limit dB -21.54 -21.83 -22.10	1000 Remark QP QP QP QP QP QP QP	

Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit Factor = Ant. Factor + Cable Loss – Pre-amplifier

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

Page 15 of 66



Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China 深圳市宝安区西乡街道铁岗社区宝田一路365号嘉皇源科技园附楼2楼 邮编: 518102 Tel: +86-755-86180996 Fax: +86-755 Fax: +86-755-86180996 Fax: +86-756 Fax

Above 1 GHz Test Results:

CH Low of 802.11b Mode (2412MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	63.54	-3.51	60.03	74	-13.97	PK
4824	51.74	-3.51	48.23	54	-5.77	AV
7236	58.23	-0.82	57.41	74	-16.59	PK
7236	47.54	-0.82	46.72	54	-7.28	AV
Remark: Fact	or = Antenna I	Factor + Cabl	e Loss – Pre-ampli	ifier. Margin =	Absolute Le	vel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	62.51	-3.64	58.87	74	-15.13	PK
4824	50.37	-3.64	46.73	54	-7.27	AV
7236	58.72	-0.95	57.77	74	-16.23	PK
7236	47.56	-0.95	46.61	54	-7.39	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

CH Middle of 802.11b Mode (2437MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	62.54	-3.51	59.03	74	-14.97	PK
4874	50.91	-3.51	47.4	54	-6.6	AV
7311	58.22	-0.82	57.4	74	-16.6	PK
7311	47.35	-0.82	46.53	54	-7.47	AV
Remark: Fact	tor = Antenna	Factor + Cabl	e Loss – Pre-ampli	ifier. Margin =	Absolute Le	evel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	61.67	-3.51	58.16	74	-15.84	PK
4874	50.55	-3.51	47.04	54	-6.96	AV
7311	58.48	-0.82	57.66	74	-16.34	PK
7311	47.19	-0.82	46.37	54	-7.63	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

CH High of 802.11b Mode (2462MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.42	-3.43	58.99	74	-15.01	PK
4924	50.64	-3.43	47.21	54	-6.79	AV
7386	58.52	-0.75	57.77	74	-16.23	PK
7386	47.43	-0.75	46.68	54	-7.32	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	evel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.46	-3.43	59.03	74	-14.97	PK
4924	50.84	-3.43	47.41	54	-6.59	AV
7386	58.34	-0.75	57.59	74	-16.41	PK
7386	47.57	-0.75	46.82	54	-7.18	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Remark :

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



CH Low of 802.11g Mode (2412MHz)

Horizontal:

A					1924				
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре			
4824	62.44	-3.51	58.93	74	-15.07	PK			
4824	50.42	-3.51	46.91	54	-7.09	AV			
7236	58.38	-0.82	57.56	74	-16.44	PK			
7236	47.47	-0.82	46.65	54	-7.35	AV			
Remark: Fact	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit								

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	61.68	-3.51	58.17	74	-15.83	PK
4824	50.69	-3.51	47.18	54	-6.82	AV
7236	58.51	-0.82	57.69	74	-16.31	PK
7236	47.26	-0.82	46.44	54	-7.56	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

CH Middle of 802.11g Mode (2437MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	62.83	-3.51	59.32	74	-14.68	PK
4874	50.35	-3.51	46.84	54	-7.16	AV
7311	58.42	-0.82	57.6	74	-16.4	PK
7311	47.34	-0.82	46.52	54	-7.48	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	61.42	-3.51	57.91	74	-16.09	PK
4874	50.21	-3.51	46.7	54	-7.3	AV
7311	58.34	-0.82	57.52	74	-16.48	PK
7311	47.27	-0.82	46.45	54	-7.55	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

CH High of 802.11g Mode (2462MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.41	-3.51	58.9	74	-15.1	PK
4924	50.33	-3.51	46.82	54	-7.18	AV
7386	58.47	-0.82	57.65	74	-16.35	PK
7386	47.61	-0.82	46.79	54	-7.21	AV
Remark: Fact	tor = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	61.23	-3.51	57.72	74	-16.28	PK
4924	50.14	-3.51	46.63	54	-7.37	AV
7386	58.53	-0.82	57.71	74	-16.29	PK
7386	47.57	-0.82	46.75	54	-7.25	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Remark :

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



CH Low of 802.11n/H20 Mode (2412MHz)

Horizontal:

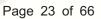
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4824	62.43	-3.43	59	74	-15	PK		
4824	50.74	-3.43	47.31	54	-6.69	AV		
7236	58.93	-0.75	58.18	74	-15.82	PK		
7236	47.37	-0.75	46.62	54	-7.38	AV		
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit								

Vertical:

	Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
	4824	62.94	-3.43	59.51	74	-14.49	PK
1	4824	50.27	-3.43	46.84	54	-7.16	AV
1	7236	58.09	-0.75	57.34	74	-16.66	PK
	7236	47.18	-0.75	46.43	54	-7.57	AV
- E	and the second se		1. A.				

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH Middle of 802.11n/H20 Mode (2437MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	62.75	-3.43	59.32	74	-14.68	PK		
4874	50.16	-3.43	46.73	54	-7.27	AV		
7311	58.33	-0.75	57.58	74	-16.42	PK		
7311	47.09	-0.75	46.34	54	-7.66	AV		
Remark: Fac	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	62.38	-3.43	58.95	74	-15.05	PK
4874	50.16	-3.43	46.73	54	-7.27	AV
7311	58.04	-0.75	57.29	74	-16.71	PK
7311	47.23	-0.75	46.48	54	-7.52	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

CH High of 802.11n/H20 Mode (2462MHz)

Horizontal:

		and the second se	10.			
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.94	-3.43	59.51	74	-14.49	PK
4924	50.17	-3.43	46.74	54	-7.26	AV
7386	58.22	-0.75	57.47	74	-16.53	PK
7386	47.34	-0.75	46.59	54	-7.41	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.88	-3.43	59.45	74	-14.55	PK
4924	50.34	-3.43	46.91	54	-7.09	AV
7386	58.61	-0.75	57.86	74	-16.14	PK
7386	47.84	-0.75	47.09	54	-6.91	AV
Remark: Fact	or = Antenna I	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	evel – Limit

Remark :

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



CH Low of 802.11n/H40 Mode (2422MHz)

Horizontal:

	14					
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	62.49	-3.43	59.06	74	-14.94	PK
4824	50.72	-3.43	47.29	54	-6.71	AV
7236	58.95	-0.75	58.2	74	-15.8	PK
7236	47.37	-0.75	46.62	54	-7.38	AV
Remark: Fact	tor = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	62.94	-3.43	59.51	74	-14.49	РК
4824	50.22	-3.43	46.79	54	-7.21	AV
7236	58.04	-0.75	57.29	74	-16.71	PK
7236	47.17	-0.75	46.42	54	-7.58	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH Middle of 802.11n/H40 Mode (2437MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	62.73	-3.43	59.3	74	-14.7	PK
4874	50.16	-3.43	46.73	54	-7.27	AV
7311	58.35	-0.75	57.6	74	-16.4	PK
7311	47.07	-0.75	46.32	54	-7.68	AV
Remark: Fact	or = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	evel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	62.34	-3.43	58.91	74	-15.09	PK
4874	50.18	-3.43	46.75	54	-7.25	AV
7311	58.04	-0.75	57.29	74	-16.71	PK
7311	47.27	-0.75	46.52	54	-7.48	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

CH High of 802.11n/H40 Mode (2452MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.90	-3.43	59.47	74	-14.53	PK
4924	50.13	-3.43	46.70	54	-7.30	AV
7386	57.26	-0.75	56.51	74	-17.49	PK
7386	47.36	-0.75	46.61	54	-7.39	AV
Remark: Fact	tor = Antenna	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	evel – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	62.82	-3.43	59.39	74	-14.61	PK
4924	50.31	-3.43	46.88	54	-7.12	AV
7386	58.57	-0.75	57.82	74	-16.18	PK
7386	47.84	-0.75	47.09	54	-6.91	AV
Remark: Fact	or = Antenna I	Factor + Cabl	e Loss – Pre-ampli	fier. Margin =	Absolute Le	vel – Limit

Remark :

(1) Measuring frequencies from 1 GHz to the 25 GHz.

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.1 Limits

FCC PART 15.247 Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 1MHz and VBM to 3MHz to measure the peak field strength and set RBW to 1MHz and VBW to 10kHz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS

We tested at 802.11b/802.11g/802.11n HT20/40 mode at the antenna single and recored the worst data 802.11b mode in report.

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

Horizontal:						100
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	57.23	-5.81	51.42	74	-22.58	PK
2310	1	-5.81	/	54	/	AV
2390	63.44	-5.84	57.6	74	-16.4	PK
2390		-5.84	1	54	/	AV
2400	65.31	-5.84	59.47	74	-14.53	PK
2400	1	-5.84	1	54	/	AV
V	U U		5		C I	
	6					

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	56.74	-5.81	50.93	74	-23.07	PK
2310	1	-5.81	· · ·	54	1	AV
2390	65.54	-5.84	59.7	74	-14.3	PK
2390	1	-5.84	15	54	1	AV
2400	65.92	-5.84	60.08	74	-13.92	PK
2400	1	-5.84	/	54	/	AV
E.					5	
	47.		1			

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

Operation Mode: TX CH High (2480MHz)

llowizontol	
Horizontal	
110112011001	

TIONZONIAL.						
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2483.5	55.43	-5.65	49.78	74	-24.22	PK
2483.5		-5.65	1	54	/	AV
2500	56.29	-5.72	50.57	74	-23.43	N PK
2500		-5.72	1	54	1	AV
Remark: Fac	tor = Antenna Facto	or + Cable Lo	oss – Pre-amplifier	· · · ·		

Vertical:	5	<u> </u>	E, E		1	
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2483.5	56.74	-5.65	51.09	74	-22.81	PK
2483.5		-5.65	1	54	1	AV
2500	56.72	-5.72	51.00	74	-23.00	PK
2500	/	-5.72	/	54	1	AV
			1. No.			

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

6. OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test Limit

FCC Part15(15.247), Subpart C				
Section	Test Item	Limit Frequency Range (MHz)		Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.

- 2. Set EUT as normal operation.
- 3. Based on FCC Part15 C Section 15.247: RBW=100KHz, VBW=300KHz.
- 4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.
- 6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

6.4 Test Result

PASS

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

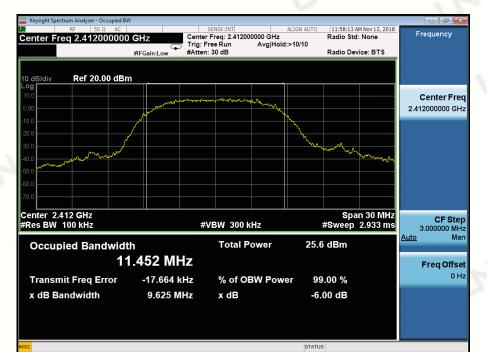


Page 32 of 66

Report No.: UNIA2018113008-1FR-01

TX 802.11b Mode					
Frequency (MHz)	6dB Bandwidth (MHz) (MHz) (MHz)		Result		
2412	9.625	>=500KHz	PASS		
2437	9.623	>=500KHz	PASS		
2462	10.03	>=500KHz	PASS		

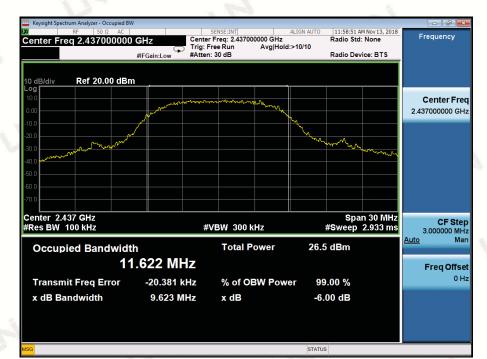
CH: 2412MHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH: 2437MHz



CH: 2462MHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



Page 34 of 66

Report No.: UNIA2018113008-1FR-01

TX 802.11g Mode					
Frequency (MHz)	6dB Bandwidth (MHz) (MHz)		Result		
2412	16.5	>=500KHz	PASS		
2437	16.53	>=500KHz	PASS		
2462	16.51	>=500KHz	PASS		

CH: 2412MHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH: 2437MHz

Keysight Spectrum Analyzer - Oc	cupied BW				
	AC	SENSE:INT	ALIGN AUTO	12:04:01 PM Nov 13, 2018	Frequency
Center Freq 2.43700		Center Freq: 2.4370000 Trig: Free Run	00 GHz Avg Hold:>10/10	Radio Std: None	Frequency
	#IFGain:Low	#Atten: 30 dB	svg Hold.>10/10	Radio Device: BTS	
	#IT Gall.20W				
10 dB/div Ref 20.0	0 dBm				
Log					
10.0	www.how	want manne anthrow than	mmmm		Center Fr
0.00		and a free state			2.437000000 G
10.0	/				
				Martin Marting	
20.0 www.www.www.				- V VWVVVVV-AAAAAAAAAAAAAAAAAAAAAAAAAAAA	
30.0					
40.0					
50.0					
50.0					
70.0					
Center 2.437 GHz				Span 30 MHz	05.05
#Res BW 100 kHz		#VBW 300 kH;	#VBW 300 kHz		CF St 3.000000 M
					Auto N
Occupied Band	lwidth	Total Pov	ver 28.	3 dBm	
	40 477 1				
	16.477 N	INZ			Freq Offs
Transmit Freq Er	ror 4.724	kHz % of OBV	Bower 0	9.00 %	0
riansinit Frey Er	4.724		Fower 3	9.00 %	
x dB Bandwidth	16.53	MHz xdB	-6	.00 dB	
sg			STATU	s	
			01110	-	

CH: 2462MHz

				1.00	
Keysight Spectrum Analyzer - Occup					- 5 💌
Center Freq 2.462000	000 GHz	SENSE:INT Center Freq: 2.46200000 G Trig: Free Run Avg	ALIGN AUTO Hz Hold:>10/10	12:04:24 PM Nov 13, 2018 Radio Std: None	Frequency
		#Atten: 30 dB		Radio Device: BTS	-
0 dB/div Ref 20.00	dBm				
10.0	man	man mana	Arnaha		Center Freq
0.00					2.462000000 GHz
10.0			}	What .	
20.0 march 2				Wyrman the way war	
30.0					
40.0					
60.0					
70.0					
Center 2.462 GHz #Res BW 100 kHz		#VBW 300 kHz	-	Span 30 MHz \$	Cr Step
				•	3.000000 MHz <u>Auto</u> Man
Occupied Bandw		Total Power	28.2	dBm	
	16.498 MH	Z			Freq Offset
Transmit Freq Erro	-6.294 kH	Iz % of OBW P	ower 99	.00 %	0 Hz
x dB Bandwidth	16.51 MH	z xdB	-6.0	00 dB	
ISG			STATUS		

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

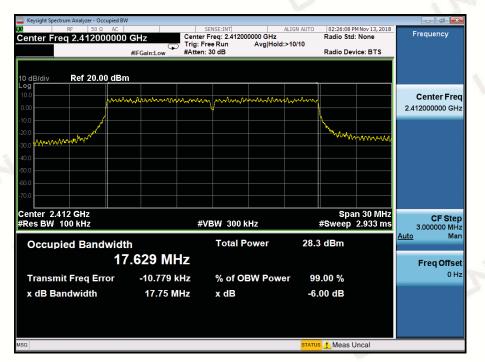


Page 36 of 66

Report No.: UNIA2018113008-1FR-01

TX 802.11n/HT20 Mode					
Frequency (MHz)	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result		
2412	17.75	>=500KHz	PASS		
2437	17.74	>=500KHz	PASS		
2462	17.73	>=500KHz	PASS		

CH: 2412MHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH: 2437MHz

Keysight Spectrum Analyzer - Occ	upied BW				- 6
৫ Center Freq 2.43700		SENSE:INT Center Freq: 2.43700 Trig: Free Run	ALIGN AUTO 0000 GHz Avg Hold:>10/10	02:25:22 PM Nov 13, 2018 Radio Std: None	Frequency
	#IFGain:Low	#Atten: 30 dB	Avg Hold.>10/10	Radio Device: BTS	
					•
0 dB/div Ref 20.00	U dBm				
0.0					Center Fr
.00	mann	money mon	mmmmm		2.437000000 G
		, v			2.437000000 G
0.0				1	
mmmmm				Martin Martin	
D.O					
0.0					
0.0					
0.0					
enter 2.437 GHz				Span 30 MHz	CF St
Res BW 100 kHz		#VBW 300 k	Hz	#Sweep 2.933 ms	3.000000 M
0		Total P	20) dBm	<u>Auto</u> N
Occupied Band			ower 20.	J abm	
	17.633 M	Hz			Freq Offs
					0
Transmit Freq Err	or -12.495	kHz % of OE	3W Power 99	9.00 %	0
x dB Bandwidth	17.74	MHz xdB	-6	00 dB	
x ab Banamaan			0		
G				s / Meas Uncal	

CH: 2462MHz

				1.00	
Keysight Spectrum Analyzer - Occupied RF 50 Ω AC enter Freq 2.4620000	00 GHz C	SENSE:INT enter Freq: 2.4620000		02:26:38 PM Nov Radio Std: Non	
		rig: Free Run Atten: 30 dB	Avg Hold:>10/10	Radio Device: E	BTS
dB/div Ref 20.00 dl	Bm			1	
	nn hullen hen her	mymm	www.www.		Center Free 2.462000000 GH:
Mannan				Contraction of the	^~~ <u>↓</u>
o o					
o					
nter 2.462 GHz es BW 100 kHz		#VBW 300 kH:	Z	Span 30 #Sweep 2.93	3 ms 3.000000 MH
Occupied Bandwi		Total Pov	wer 27.0) dBm	Auto Ma
Transmit Freq Error	17.637 MHz -17.499 kHz		V Power 90	9.00 %	Freq Offse 0 H
x dB Bandwidth	17.73 MHz			.00 dB	
			STATU	s 🦺 Meas Uncal	

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

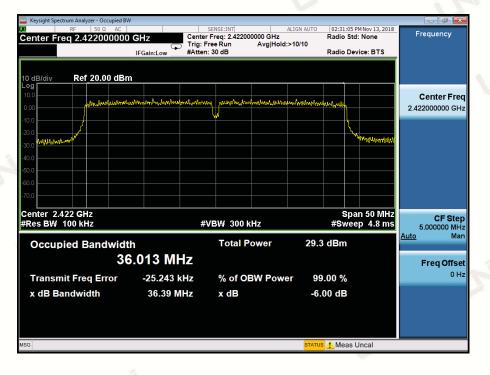


Page 38 of 66

Report No.: UNIA2018113008-1FR-01

17	TX 802.11n/H	T40 Mode	
Frequency (MHz)	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2422	36.39	>=500KHz	PASS
2437	36.39	>=500KHz	PASS
2452	36.36	>=500KHz	PASS

CH: 2422MHz



CH: 2437MHz

Keysight Spectrum Analyzer - Occupied BW						
Center Freq 2.437000000	GHz Center		ALIGN AUTO z old:>10/10	02:31:45 PM Radio Std: Radio Devi		Frequency
0 dB/div Ref 20.00 dBm						
.00	mmulmaleetheedevelevelevelevelevelevelevelevelevele	n numberlander	marshallan	hnhasta		Center Fre 2.437000000 GF
0.0 0.0 0.0 Myrusouwywyw				h h	munnun	
0.0						
D.0						
enter 2.437 GHz				Spar	50 MHz	
Res BW 100 kHz	#\	/BW 300 kHz		#Sweep	o 4.8 ms	CF Ste 5.000000 Mł Auto Mi
Occupied Bandwidt	.013 MHz	Total Power	29.0) dBm		Freq Offs
Transmit Freq Error	-32.760 kHz	% of OBW Po	ower 99	.00 %		01
x dB Bandwidth	36.39 MHz	x dB	-6.	00 dB		
G			STATUS	🔥 Meas Ui	ncal	

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



CH: 2452MHz

occupied BW Ω AC D000000 GI IF .00 dBm	Gain:Low	Center Fr Trig: Free #Atten: 30	0 dB	0000 GHz Avg Hold	ALIGN AUTO :> 10/10	Radio S	2 PM Nov 13, 2018 Std: None Device: BTS	B Freq Ce	nter Fre
	atinhumhai	munning	nonstanjant	muthatalahan	molonianter	whate			
dti wikreiten	at Mindow board	whenn	nontheynant	mitterhitetere	unhanhan	wheeler			
		<u> </u>	<u> </u>						
							Munuhnummh	N	
		#VB	300 k	Hz				5.0	CF Ste 00000 M
			Total Po	ower	28.3	dBm		<u>Auto</u>	Ma
36.0)44 MI	Ηz						Fr	eq Offs
rror	-35.743	kHz	% of OE	BW Powe	er 99	.00 %			01
	36.36 N	IHz	x dB		-6.	00 dB			
		36.044 MI	dwidth 36.044 MHz irror -35.743 kHz	dwidth Total Po 36.044 MHz irror -35.743 kHz % of OE	36.044 MHz Fror -35.743 kHz % of OBW Powe	ndwidth Total Power 28.3 36.044 MHz irror -35.743 kHz % of OBW Power 99	#VBW 300 kHz #Switch Idwidth Total Power 28.3 dBm 36.044 MHz Simon State 99.00 %	#VBW 300 kHz #Sweep 4.8 ms Idwidth Total Power 28.3 dBm 36.044 MHz Stror -35.743 kHz % of OBW Power 99.00 %	Idwidth Total Power 28.3 dBm 36.044 MHz Stror -35.743 kHz % of OBW Power 99.00 %

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China 深圳市宝安区西乡街道铁岗社区宝田一路365号嘉皇源科技园附楼2楼 邮编:518102 Tel:+86-755-86180996 Fax:+86-755-86180156

Meas Uncal

7. POWER SPECTRAL DENSITY TEST

7.1 Test Limit

2	FCC I	Part15(15.247), S	ubpart C	
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

7.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.

2. Set EUT as normal operation.

- 3. Based on FCC Part15 C Section 15.247: RBW=3KHz, VBW=10KHz.
- 4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

7.3 Measurement Equipment Used

Same as Radiated Emission Measurement

7.4 Test Result

PASS

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

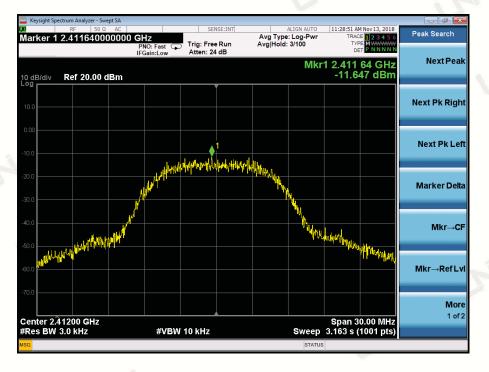


Page 41 of 66

Report No.: UNIA2018113008-1FR-01

17	TX 802.11b M	lode	
Frequency (MHz)	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412	-11.647	8	PASS
2437	-11.595	8	PASS
2462	-11.162	8	PASS

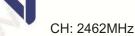
CH: 2412MHz

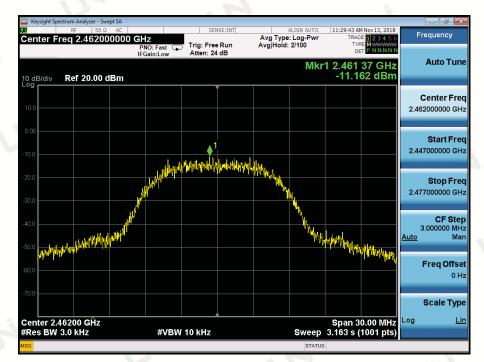


CH: 2437MHz



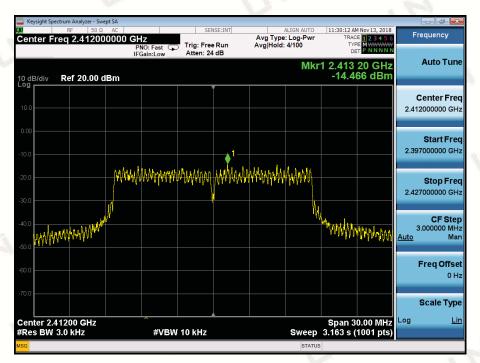
深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



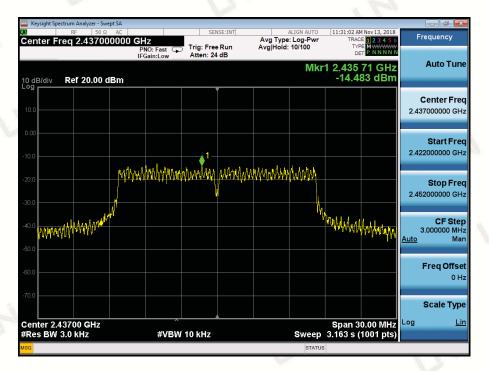


TX 802.11g N	lode	-
Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
-14.466	8	PASS
-14.483	8	PASS
-14.055	8	PASS
	Power Density (dBm/3KHz) -14.466 -14.483	(dBm/3KHz) (dBm/3KHz) -14.466 8 -14.483 8

CH: 2412MHz



CH: 2437MHz



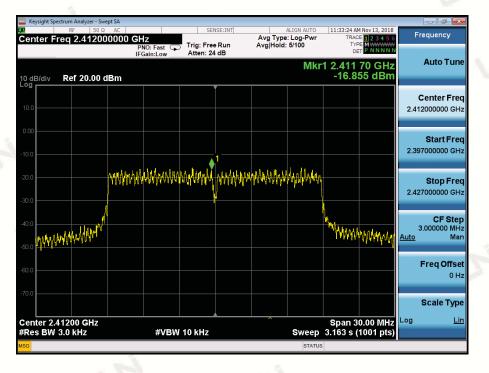
CH: 2462MHz



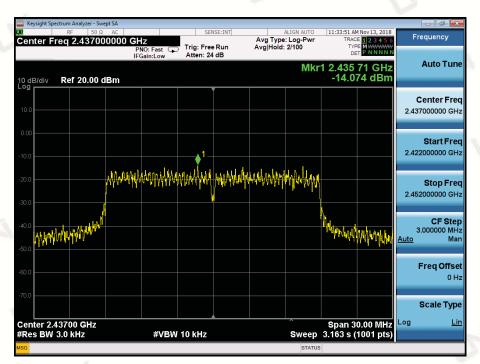
深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited

2	TX 802.11n/HT2	0 Mode	
Frequency (MHz)	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412	-16.855	8	PASS
2437	-14.074	8	PASS
2462	-16.527	8	PASS
	a second s	10	

CH: 2412MHz



CH: 2437MHz



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



Center Freq 2.462000000 GHz Avg Type: Log-Pwr Trace II 2.8454 II 2.8454		_	Nov 13, 2018	AMIN	11:34:36	-	N AUTO	AL			INT	NSE	SE		_			AC	- Swep 50 Ω	Analyzer	pectrum R	ysight !	u Ke U
Mill 72.40101 GHz C 0g -16.527 dBm 100 -16.527 dBm 101 -16.527 dBm 102 -16.527 dBm 103 -16.527 dBm 104 -16.527 dBm 105 -16.527 dBm 106 -16.527 dBm 107 <t< th=""><th>requency</th><th>Fr</th><th>1 2 3 4 5 6 MWWWWW</th><th>TYPE</th><th>TR T</th><th></th><th>g-Pwr</th><th>pe: l</th><th></th><th></th><th>un</th><th>e R</th><th>rig: Fre</th><th></th><th></th><th>NO: F</th><th>PI</th><th></th><th></th><th></th><th></th><th>ter</th><th>er</th></t<>	requency	Fr	1 2 3 4 5 6 MWWWWW	TYPE	TR T		g-Pwr	pe: l			un	e R	rig: Fre			NO: F	PI					ter	er
000 0	Auto Tur		1 GHz 7 dBm	16 52	2.46 [°] -16.	r 1	Mkı											Bm)0 d	f 20.0	Re	3/div	
2.447	Center Fre																						
	Start Fre	2.44								-		1	•										
	Stop Fre 7000000 GF	2.47					M/144	M	ψψ	Âγ	λ ⁴⁴ Λψ	ľ	y liyy	A	ψψγ	W	ηψ	444M					
	CF Ste 3.000000 MH Ma		MANAMAN	My	WW														Ň	n/₩ [₩]	WW	nj\∕'	
	Freq Offs 0 F																						
enter 2.46200 GHz ^{Cog} Span 30.00 MHz	Scale Typ	Log	.00 MHz	30	Snan														7	00 GH:	462	ter 2	
Res BW 3.0 kHz #VBW 10 kHz Sweep 3.163 s (1001 pts)			001 pts)	: (1	163 s	3	weep						kHz	1	VBW								

1	TX 802.11n/HT4	0 Mode	
Frequency (MHz)	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2422	-18.795	8	PASS
2437	-15.788	8	PASS
2452	-18.458	8	PASS

CH: 2422MHz

Keysight Spectrum Analyzer - Swe	pt SA						-	-	
RF 50 Ω enter Freq 2.42200		at 😱 Trig: Free			ALIGN AUTO : Log-Pwr 4/100	TRAC TYP	E 1 2 3 4 5 6 M WWWWW P N N N N N	Fr	equency
0 dB/div Ref 20.00 d		W Atten: 24	db		Mkr	1 2.424 -18.79	52 GHz 95 dBm		Auto Tun
0 .0									Center Fre 2000000 G⊦
00			<u> </u>					2.39	Start Fre 2000000 GF
0.0N	iyindadiyi Madadada	halfanfanfanfanfanfan	pol/Whith	WWWWW	an a			2.45	Stop Fre 2000000 GF
o.o NHHHHMMMMMMMMMMMMM		4				Manana and	Mandana	6 <u>Auto</u>	CF Ste 000000 MH Ma
								1	F req Offs 0 F
									Scale Typ
enter 2.42200 GHz Res BW 3.0 kHz	#	VBW 10 kHz			Sweep	Span 6 6.326 s (0.00 MHz 1001 pts)	Log	Ŀ
G					STATUS				

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



Keysight Spectrum											- 7
enter Freq	50 Ω 2.43700	PI	Z NO:Fast 🖵 Gain:Low				ALIGN AUTO : Log-Pwr : 4/100	TRAC TYP	M Nov 13, 2018 E 1 2 3 4 5 6 M WWWWW FT P N N N N N	Fr	equency
) dB/div Re	ef 20.00 di						Mkr		72 GHz 88 dBm		Auto Tun
0.0											Center Fre 7000000 GH
0.0					1 -					2.407	Start Fre 7000000 G⊦
0.0		iy (mitility)	n an	rikiliyya I	htmp://html/	i in the second se	All Malamayo			2.467	Stop Fre 7000000 G⊦
0.0 0.0 MWWMM	hrdenpopped							u. Wanayopp	uliti tutul	6 <u>Auto</u>	CF Ste .000000 MH Ma
0.0										i	Freq Offs 0 ⊦
0.0											Scale Typ
enter 2.437 Res BW 3.0			#VBW	10 kHz			Sweep	Span 6 6.326 s (0.00 MHz 1001 pts)	Log	L
G							STATUS				

CH: 2452MHz

				100	
Keysight Spectrum Analyzer - Sw	2 AC	SENSE:INT	ALIGN AUTO	11:38:14 AM Nov 13, 2018	Frequency
Center Freq 2.45200	PNO: Fast IFGain:Low	Trig: Free Run Atten: 24 dB	Avg Type: Log-Pwr Avg Hold: 3/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N	
10 dB/div Ref 20.00 d	dBm		Mkr	1 2.449 48 GHz -18.458 dBm	Auto Tune
10.0					Center Freq 2.452000000 GHz
-10.0					Start Freq 2.422000000 GHz
-20.0	unini janganan janganan janganan janganan janganan periodekan p	ninimitary photological	an a		Stop Freq 2.482000000 GHz
-40.0		bj			CF Step 6.000000 MHz
-60.0				""Poole of the particular of the second s	Auto Man Freq Offset
-70.0					0 Hz Scale Type
Center 2.45200 GHz #Res BW 3.0 kHz	#VBW	10 kHz	Sweep	Span 60.00 MHz 6.326 s (1001 pts)	Log <u>Lin</u>
MSG			STATUS		

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited





8.1 Test Limit

				5.44 C			
FCC Part15(15.247), Subpart C							
Section	Test Item	Limit	Frequency Range (MHz)	Result			
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS			

8.2 Test Procedure

1. The EUT was directly connected to the Power meter.

8.3 Measurement Equipment Used

Same as Radiated Emission Measurement

8.4 Test Result

PASS

All the test modes completed for test.

		TX 802.11b Mode	-1	
Test	Frequency Maximum Peak Conducted Output Pow		LIMIT	
Channel	(MHz)	(dBm)	(dBm)	
CH01	2412	17.332	30	
CH06	2437	16.981	30	
CH11	111 2462 16.652		30	
	, A	TX 802.11g Mode		
CH01	2412	18.169	30	
CH06	2437	18.246	30	
CH11	2462	17.811	30	
		TX 802.11n20 Mode	5	
CH01	2412	17.590	30	
CH06	2437	17.681	30	
CH11	2462	17.063	30	
	2	TX 802.11n40 Mode	-	
CH03	2422 17.465		30	
CH06	2437	17.739	30	
CH09	2452	16.852	30	

Note:

深圳市**化耐化 2018 UK CALE OF ALL AND ALL A**

9. OUT OF BAND EMISSIONS TEST

9.1 Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

9.2 Test Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. Set EUT as TX operation and connect directly to the spectrum analyzer.
- 3. Based on FCC Part15 C Section 15.247: RBW=100KHz, VBW=300KHz.
- 4. Set detected by the spectrum analyzer with peak detector.

9.3 Test Setup

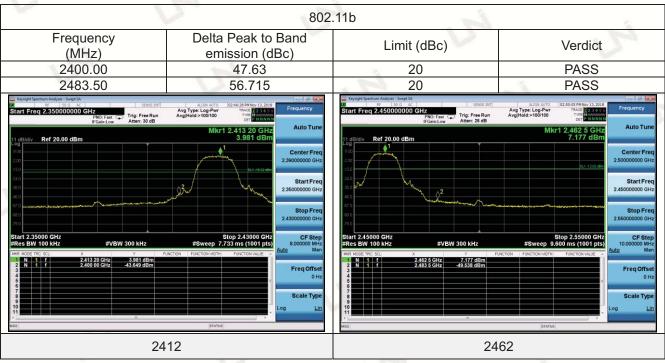


9.4 Test Result

PASS

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



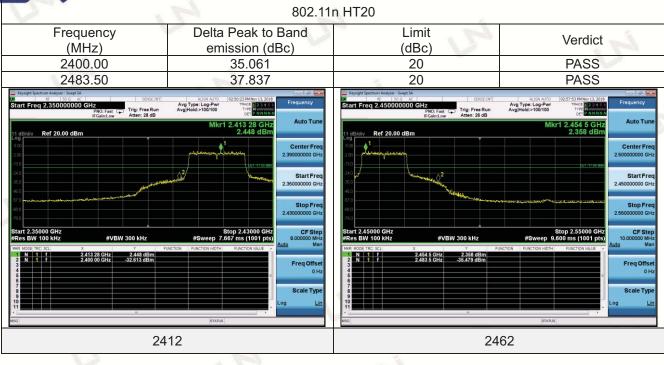


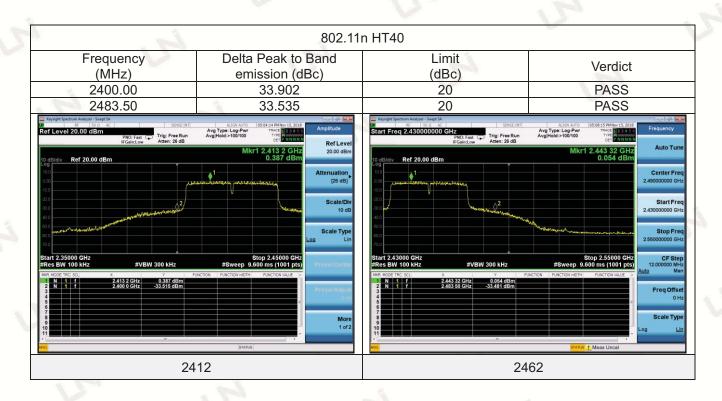
	802	.11g	in a	
Frequency (MHz)	Delta Peak to Band emission (dBc)	Limit (dBc)	Verdict	
2400.00	34.085	20	PASS	
2483.05	38.537	20	PASS	
Image: Section Adapter. Sequel Science Specific Start Freq 2.350000000 GHz PR0.Fact Trig: Free Run If Clair Low 11 dB3div Ref 20.00 dBm If Clair Low Trig: Free Run If Clair Low 11 dB3div Ref 20.00 dBm If Clair Low Trig: Free Run Atten: 28 dB 11 dB3div Ref 20.00 dBm If Clair Low If Clair Low 300 If Clair Low If Clair Low If Clair Low 310 If Clair Low If Clair Low If Clair Low 311 If Clair Low If Clair Low If Clair Low 312 If Clair Low If Clair Low If Clair Low 313 If Clair Low If Clair Low If Clair Low 314 If Clair Low If Clair Low If Clair Low 315 If Clair Low If Clair Low If Clair Low 316 If Clair Low If Clair Low If Clair Low 317 If Clair Low If Clair Low If Clair Low 318 If Clair Low If Clair Low If Clair Low 319 If Clair Low	Aughedid-reduced Avghedid-reduced Merit 2.413.286 GHz 3.255 GHz Mkr1 2.413.286 GHz 3.255 GHz Grant Freq 2.38000000 GHz Storp 2.43000 GHz Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Center Freq 2.38000000 GHz Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Auto Tune Center Freq 2.38000000 GHz Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Auto Tune Center Freq 2.38000000 GHz Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Auto Tune Storp 7.667 ms (1001 pts) Mkr1 0.413.286 GHz Auto Tune	Image: start in Adapting - Supply 10 Source - Supply 10 Trig: Free Run Attem: 28 dB 11 dB/du Ref 20.00 dBm	Avg Type Log-Pwr AvgHod:>10010 Thece I 2 3 as a Thece I 2 3 as a rest of the second of t	
24	12	2462		
			5	



Page 50 of 66

Report No.: UNIA2018113008-1FR-01





深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



10. SPURIOUS RF CONDUCTED EMISSION

- 10.1 Test Limit
 - 1. Below -20dB of the highest emission level in operating band.

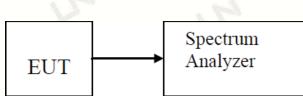
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

3.For below 30MHz,For 9KHz-150kHz,150K-10MHz,We use the RBW 1KHz,10KHz, So the limit need to calculated by "10lg(BW1/BW2)". for example For9KHz-150kHz,RBW 1KHz, The Limit= the highest emission level-20-10log(100/1)= the highest emission level-40.

10.2 Test Procedure

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013, For 9KHz-150kHz, Set RBW=1kHz and VBW= 3KHz; For 150KHz-10MHz, Set RBW=10kHz and VBW= 30KHz:For 10MHz-25GHz, Set RBW=100kHz and VBW= 300KHz in order to measure the peak field strength, and mwasure frequeny range from 9KHz to 25GHz.

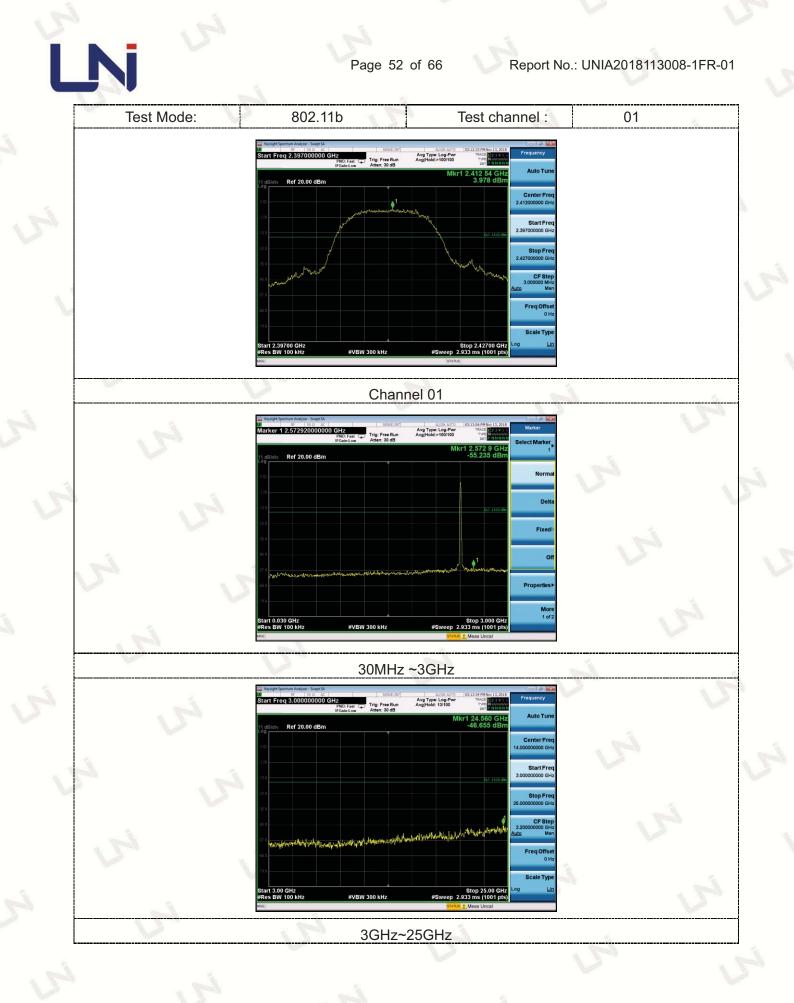
10.3 Test Setup

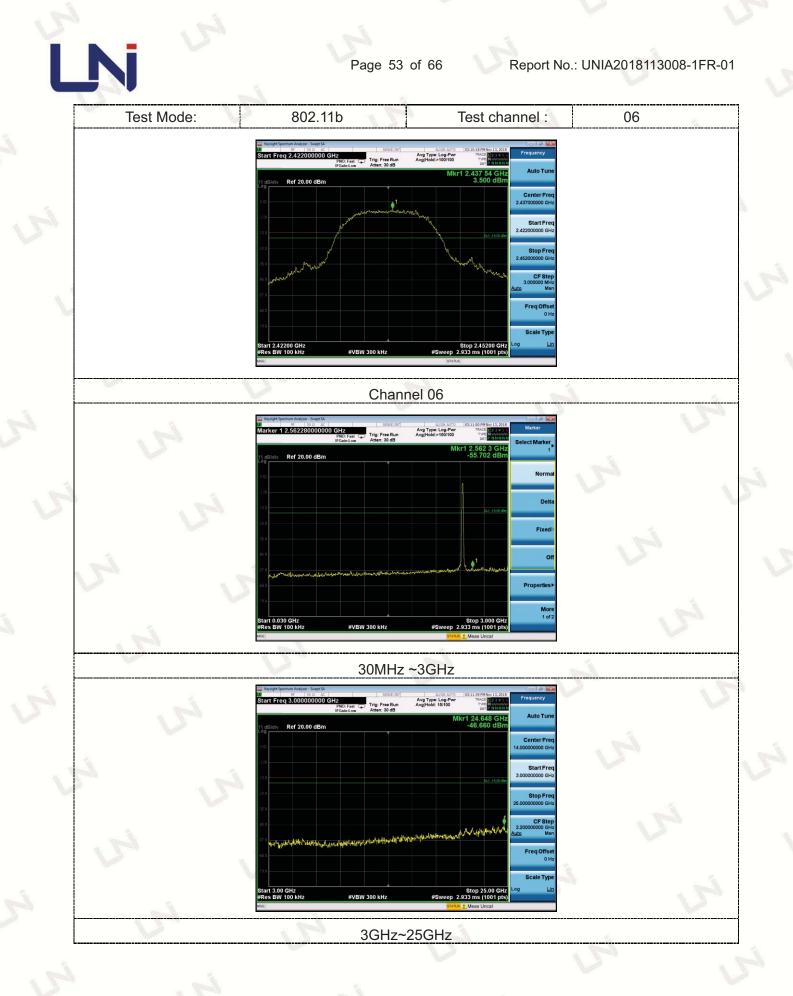


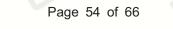
10.4 Test Result

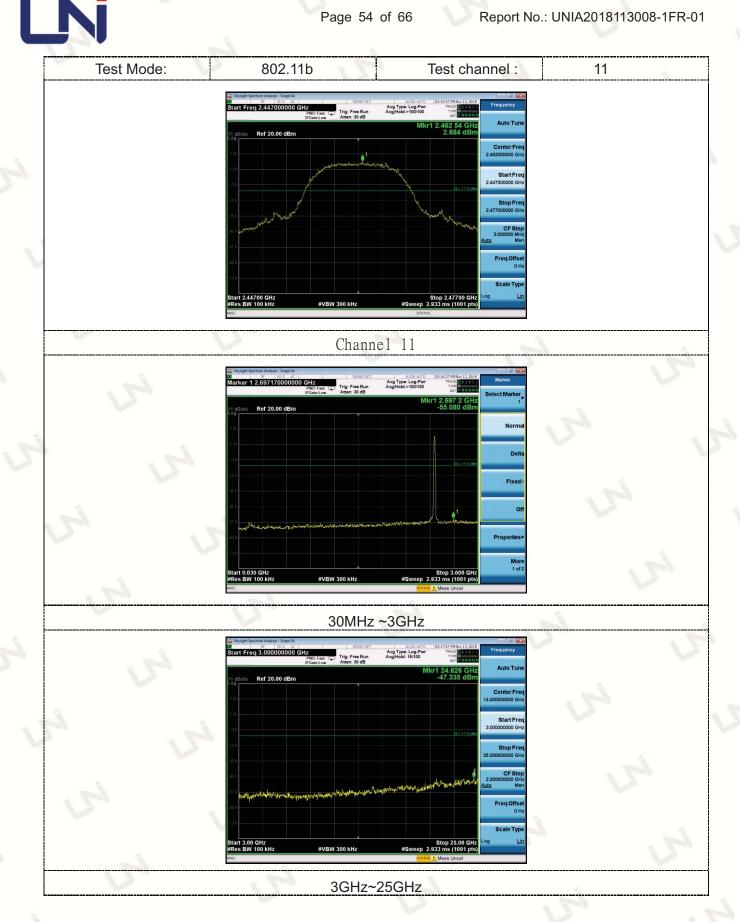
PASS

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.and record the worstest data for Antenna B in report.



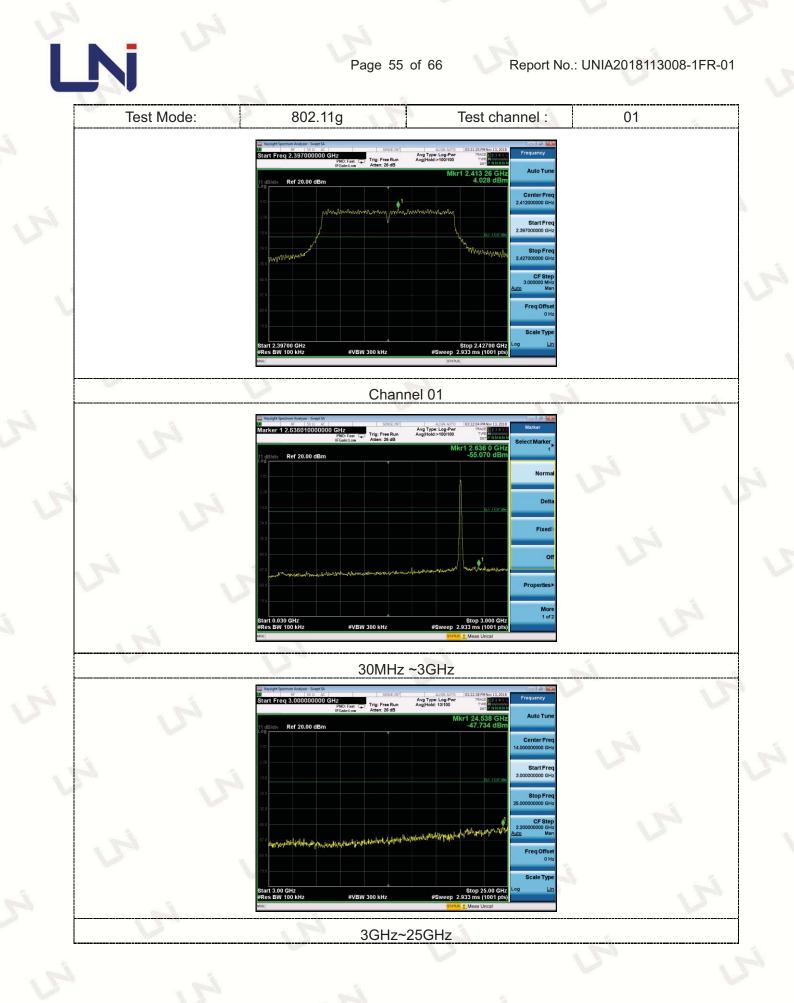


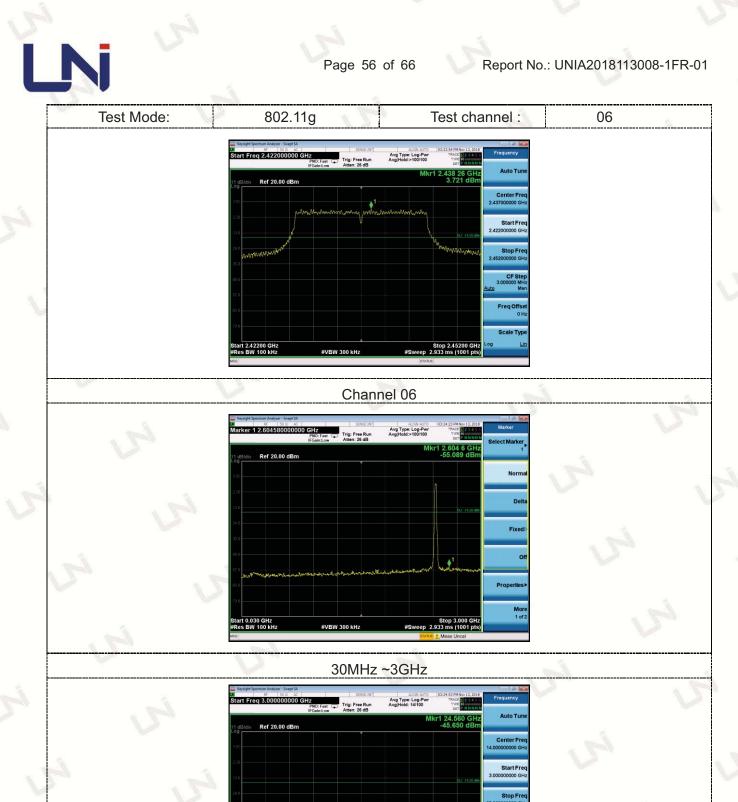




2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Baoʻan District, Shenzhen, China 深圳市宝安区西乡街道铁岗社区宝田一路365号嘉皇源科技园附楼2楼 邮编:518102 Tel:+86-755-86180996 Fax:+86-755-86180156

http://www.uni-lab.hk





es BW 100 kH

#VBW 300 kH

3GHz~25GHz

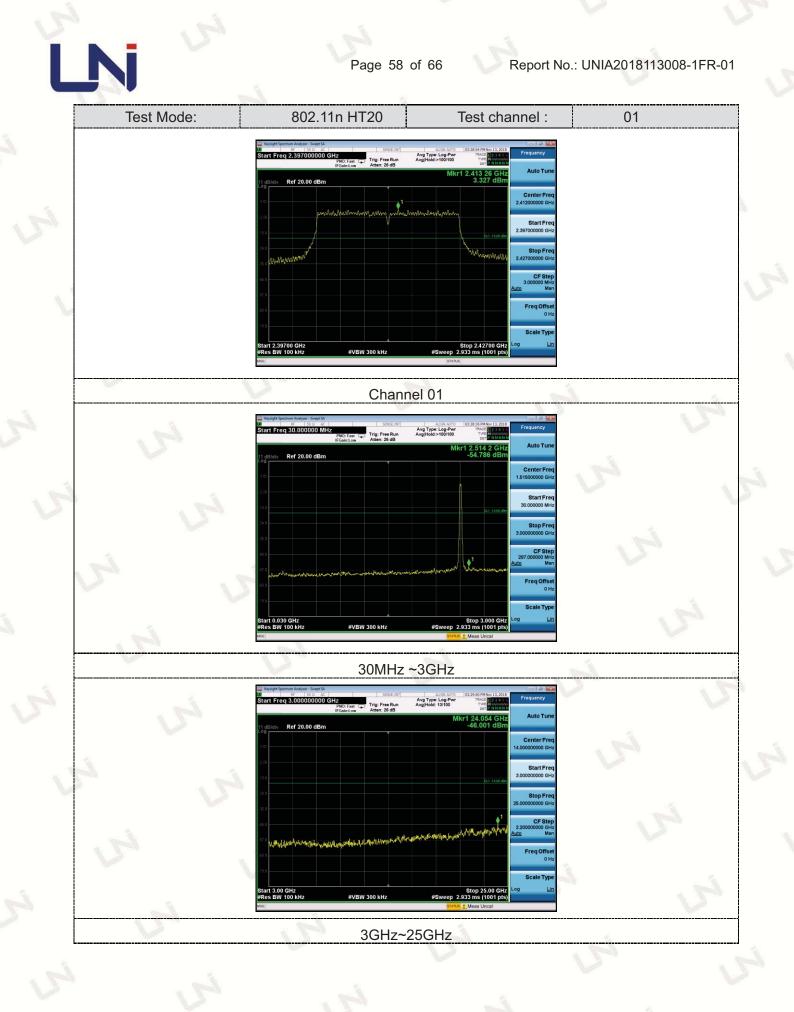
2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China 深圳市宝安区西乡街道铁岗社区宝田一路365号嘉皇源科技园附楼2楼 邮编:518102 Tel:+86-755-86180996 Fax:+86-755-86180156

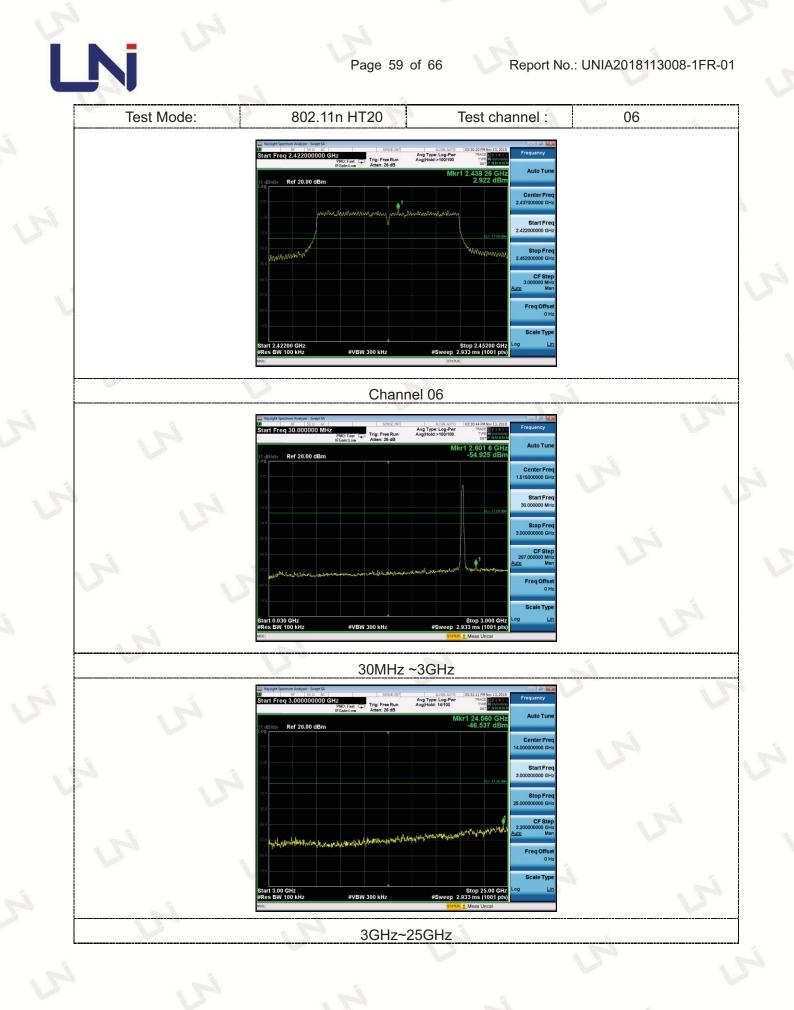
CF :

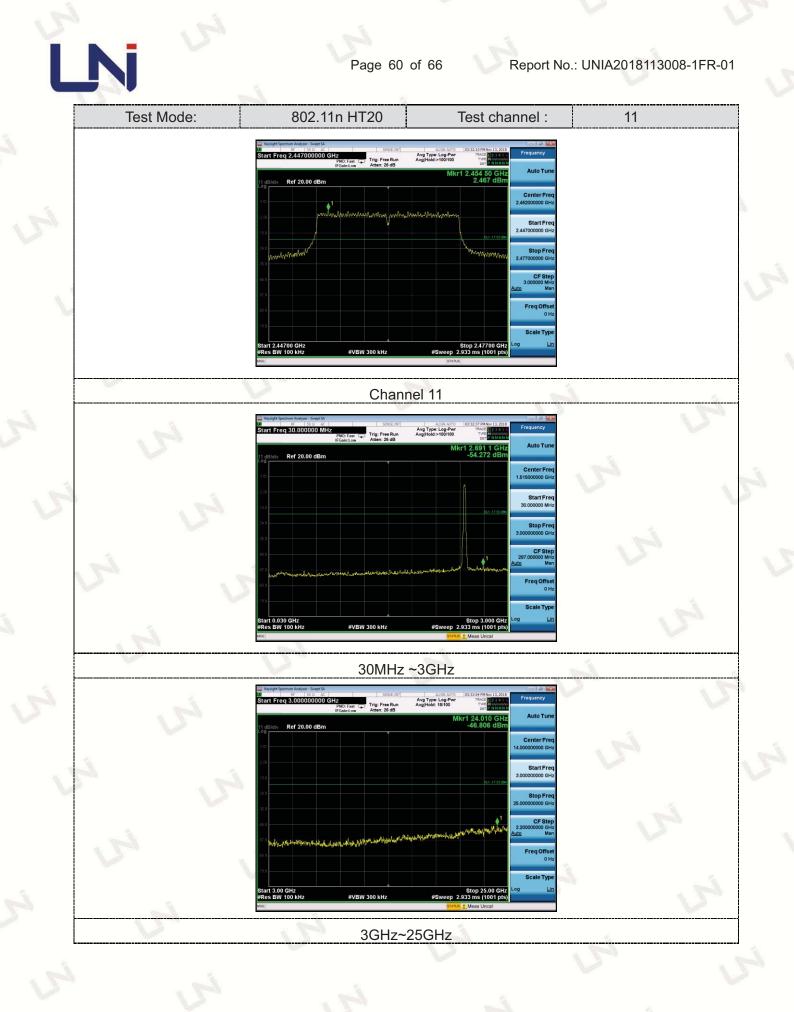
Scale Typ

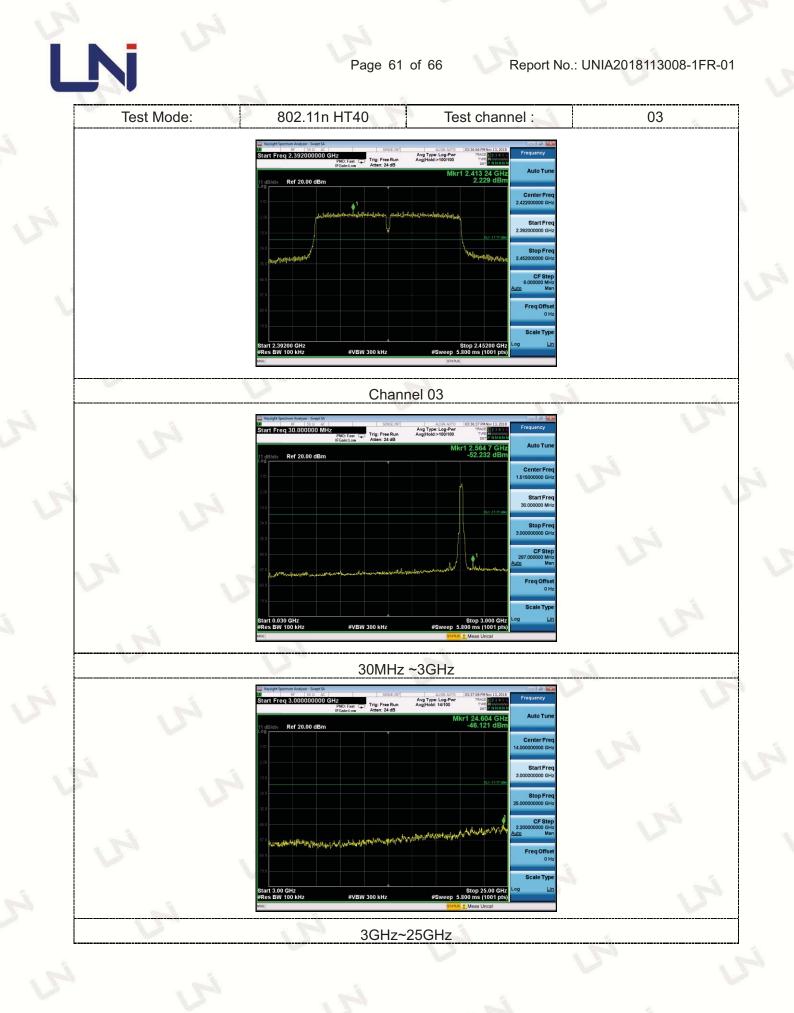
Stop 25.00 GH ep 2.933 ms (1001 pt

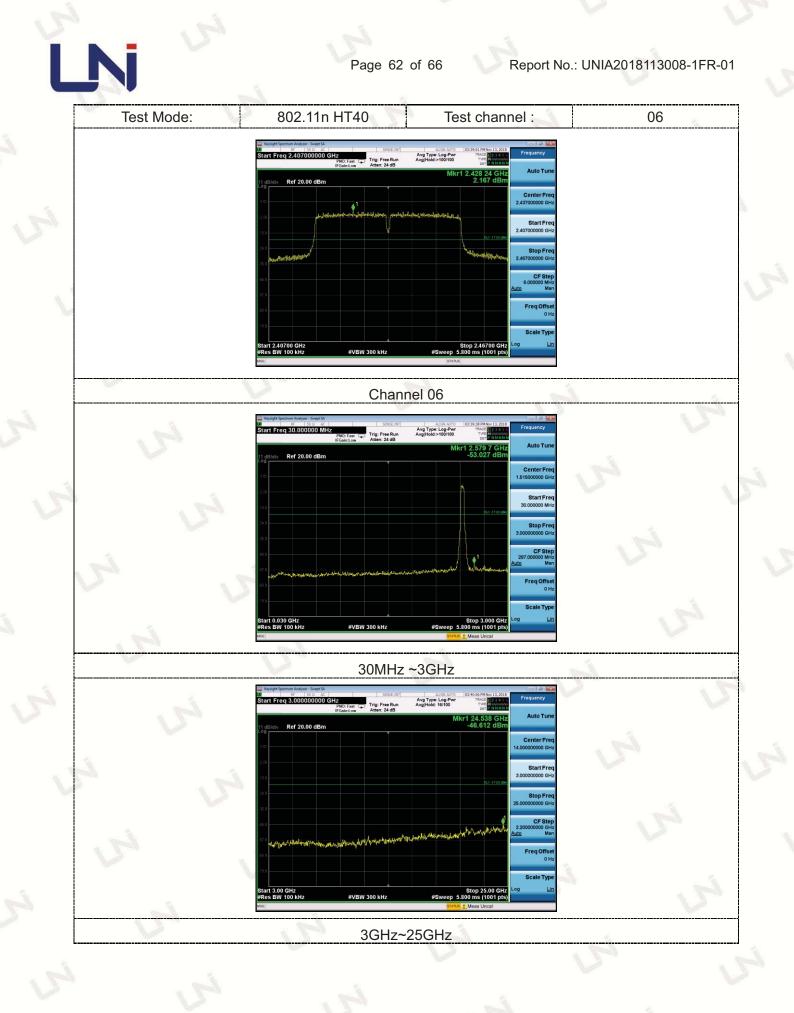


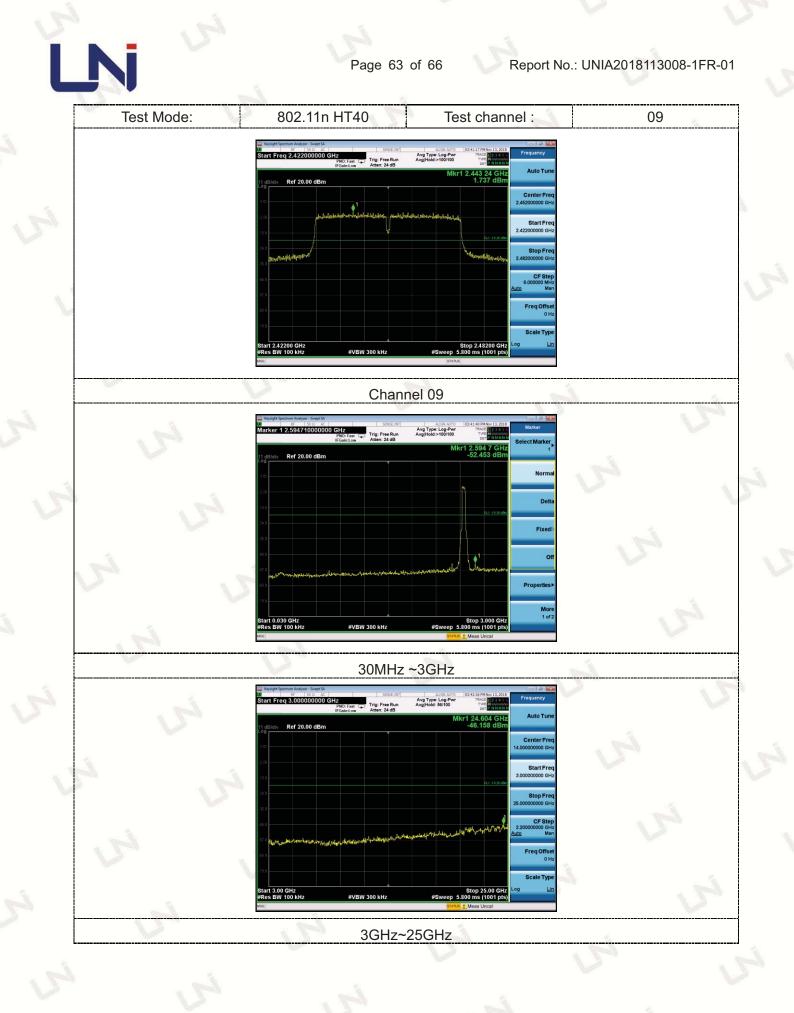












11. ANTENNA REQUIREMENT

Standard Applicable:

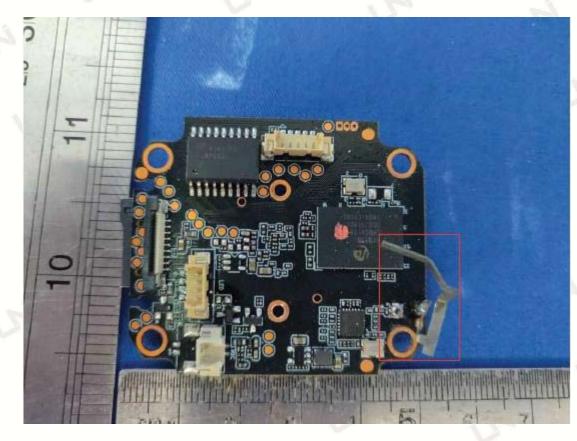
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used

with the device.

Antenna Connected Construction

The antenna used in this product is an Internal Antenna, The directional gains of antenna used for transmitting is 0.87dBi.

ANTENNA:



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



Page 65 of 66 Report

Report No.: UNIA2018113008-1FR-01

12.1 Radiated Emission



深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited



Report No.: UNIA2018113008-1FR-01 Page 66 of 66

12.2 Conducted Emission



End of Report

深圳市优耐检测技术有限公司 Shenzhen United Testing Technology Co.,Ltd. United Testing Technology(Hong Kong) Limited