

## CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

TC	CT	D			Т
	O I	$\boldsymbol{L}$		אי	

Report No....: CTC20210023E13

FCC ID-----: 2APPZ-I56A

Applicant....:: Fanvil Technology Co., Ltd

10/F Block A, Dualshine Global Science Innovation Center, Address.....

Honglang North 2nd Road, Bao'an District, Shenzhen, China

Manufacturer..... Fanvil Technology Co., Ltd

10/F Block A, Dualshine Global Science Innovation Center, Address.....:

Honglang North 2nd Road, Bao'an District, Shenzhen, China

Product Name .....: **Indoor Station** 

Trade Mark....:: Fanvil **Fanvil** 

Model/Type reference .....:

Listed Model(s) .....: NA

Standard .....:: FCC Part 15, Subpart E 15. 407

Date of receipt of test sample...: Jan. 15, 2021

Date of testing..... Jan. 16, 2021 to Jan. 30, 2021

Date of issue..... Feb. 3, 2021

Result....: **PASS** 

Compiled by:

(Printed name+signature) Lucy Lan

Supervised by:

(Printed name+signature) Miller Ma Incry Iom Miller Ma

Approved by:

(Printed name+signature) Walter Chen

Testing Laboratory Name....:: CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Address....:

Shenzhen, Guangdong, China

This test report may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CTC. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver. Any objections must be raised to CTC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit. The test report merely correspond to the test sample.

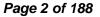
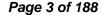




	Table of Contents	гауе
1.	TEST SUMMARY	
1.1	.1. Test Standards	
1.2		
1.3	.3. Test Description	
1.4	.4. Test Facility	
1.5	.5. Measurement Uncertainty	
1.6	.6. Environmental conditions	6
2.	GENERAL INFORMATION	
2.1	1. CLIENT INFORMATION	
2.2	.2. GENERAL DESCRIPTION OF EUT	
2.3	.3. OPERATION STATE	
2.4	4. MEASUREMENT INSTRUMENTS LIST	10
3.	TEST ITEM AND RESULTS	12
3.1	1. CONDUCTED EMISSION	12
3.2	.2. RADIATED EMISSION	1
3.3		
3.4		
3.5		
3.6		
3.7	.7. Frequency Stability Measurement	126
3.8		
3.9		
Apr	PPENDIX A1: EMISSION BANDWIDTH	
Apr	PPENDIX A2: OCCUPIED CHANNEL BANDWIDTH	145
Apr	PPENDIX A3: MIN EMISSION BANDWIDTH	156
Apr	PPENDIX B: MAXIMUM CONDUCTED OUTPUT POWER	162
Apr	PPENDIX C: MAXIMUM POWER SPECTRAL DENSITY	163
Apr	PPENDIX D: FREQUENCY STABILITY	174
Λрг	DDENIDIX F. DUTY CYCLE	179





## 1. TEST SUMMARY

## 1.1. Test Standards

The tests were performed according to following standards:

<u>FCC Part 15, Subpart E(15.407)</u> — for 802.11a/n/ac, the test procedure follows the FCC KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

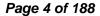
RSS-Gen — General Requirements for Compliance of Radio Apparatus

## 1.2. Report version

Revised No.	Date of issue	Description
01	Feb. 3, 2021	Original



For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: <a href="mailto:yz.cnca.cn">yz.cnca.cn</a>





1.3. Test Description

FCC Part 15 Subpart E (15.407)							
Took Itom	Test require	Result	Test Engineer				
Test Item	FCC	Result					
Antenna Requirement	15.203	Pass	Lucy Lan				
Conducted Emission	15.207	Pass	Jon Huang				
Band Edge Emissions	15.407(b)	Pass	Lucy Lan				
26dB Bandwidth & 99% Bandwidth	15.407(a) (5)	Pass	Lucy Lan				
6dB Bandwidth (only for UNII-3)	15.407(e)	Pass	Lucy Lan				
Peak Output Power	15.407(a)	Pass	Lucy Lan				
Power Spectral Density	15.407(a)	Pass	Lucy Lan				
Transmitter Radiated Spurious Emission	15.407(b) &15.209	Pass	Lucy Lan				
Frequency Stability	15.407(g)	Pass	Lucy Lan				
Dynamic Frequency Selection(DFS)	15.407(h)	N/A	N/A				

Note: "N/A" is not applicable.

The measurement uncertainty is not included in the test result.

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: <a href="mailto:yz.cnca.cn">yz.cnca.cn</a>





## 1.4. Test Facility

#### CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

#### Laboratory accreditation

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

#### CNAS-Lab Code: L5365

CTC Laboratories, Inc. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation. Crit eria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the C ompetence of Testing and Calibration Laboratories.

#### A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry C anada for the performance of with Registration NO.: 9783A on Jan, 2016.

#### FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. 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 inour files. Registrati on 951311, Aug 26, 2017.

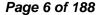
## 1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.

CTC Laboratories, Inc.

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: <a href="mailto:yz.cnca.cn">yz.cnca.cn</a>





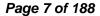
**Test Items Measurement Uncertainty Notes** Transmitter power conducted 0.42 dB (1) 2.14 dB (1) Transmitter power Radiated Conducted spurious emissions 9kHz~40GHz 1.60 dB (1) (1) Radiated spurious emissions 9kHz~40GHz 2.20 dB Conducted Emissions 9kHz~30MHz 3.20 dB (1) Radiated Emissions 30~1000MHz 4.70 dB (1) Radiated Emissions 1~18GHz 5.00 dB (1) Radiated Emissions 18~40GHz 5.54 dB (1) Occupied Bandwidth (1)

**Note (1):** This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

#### 1.6. Environmental conditions

	Temperature	25 °C
Normal Condition	Relative humidity	55 %
	Voltage	The equipment shall be the nominal voltage for which the equipment was designed.
		Measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer
Condition	Voltage	Measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer

Normal Condition	T <sub>N</sub> =Normal Temperature	25 °C
Extreme Condition	T <sub>L</sub> =Lower Temperature	0 °C
Extreme Condition	T <sub>H</sub> =Higher Temperature	45 °C





2. GENERAL INFORMATION

## 2.1. Client Information

Applicant:	Fanvil Technology Co., Ltd
Address:	10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China
Manufacturer:	Fanvil Technology Co., Ltd
Address:	10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, China





2.2. General Description of EUT

Product Name:	Indoor Station
Trade Mark:	Fanvil Fanvil
Model/Type reference:	i56A
Listed Model(s):	NA
Power supply:	12Vdc, 1A (optional) or 48Vdc, 0.3A (POE)
Hardware version:	N/A
Software version:	N/A
Antenna type:	FPC Antenna
Antenna gain:	5.5dBi

Technical index for 5G WIFI							
Operation Band:	⊠U-NII-1	□U-NII-2A	□U-NII-2A		□U-NII-2C		-NII-3
Operation Frequency Range:	U-NII-1:	5180MHz~5240MHz					
Operation requeitly realige.	U-NII-3:	5745MHz~582	5MH	Z			
	802.11a	⊠ 20MHz					
Support bandwidth:	802.11n	⊠ 20MHz		40MHz			
	802.11ac	⊠ 20MHz		40MHz	⊠ 80M	1Hz	☐ 160MHz
Modulation:	802.11a: OFDM (BIT/SK, QPSK, BPSK, 16QAM) 802.11n: OFDM (BIT/SK, QPSK, BPSK, 16QAM, 64QAM) 802.11ac: OFDM (BIT/SK, QPSK, BPSK, 16QAM, 64QAM, 256QAM)						
Bit Rate of Transmitter:	802.11a: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 300Mbps 802.11ac: at most 866.7 Mbps						



## 2.3. Operation state

#### Operation Frequency List:

	20MHz E	20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
Band (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
	36	5180	20	F100			
U-NII-1	40	5200	38	5190	42	5210	
	44	5220	46	5230			
	48	5240	40				
	149	5745	151	5755			
	153	5765	151	3733			
U-NII-3	157	5785			155 5795	5775	
	161	5805	159	5795			
	165	5825					

#### Test channel is below:

Operating	Test	20MHz		4(	40MHz		80MHz	
Operating Band	Channel	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
	CH∟	36	5180	38	5190	/	/	
U-NII-1	CH <sub>M</sub>	40	5200	/	/	42	5210	
	СНн	48	5240	46	5230	/	/	
	CH∟	149	5745	151	5755	/	/	
U-NII-3	CH <sub>M</sub>	157	5785	/	/	155	5775	
	CH <sub>H</sub>	165	5825	159	5795	/	/	

#### **Data Rated**

Preliminary tests were performed in different data rate, and found which the below bit rate is worst case mode, so only show data which it is a worst case mode.

Mode	Data rate (worst mode)
802.11a	6Mbps
802.11n(HT20)/ 802.11n(HT40)	HT-MCS0
802.11ac(VHT20)/ 802.11ac(VHT40)/ 802.11ac(VHT80)	VHT-MCS0

#### Test mode

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions:

The EUT was set to connect with the WLAN AP under large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data Recorded in the report.



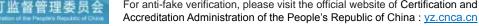
## 2.4. Measurement Instruments List

Tonscer	nd JS0806-2 Test system				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Rohde & Schwarz	FSU26	100105	Dec. 25, 2021
2	Spectrum Analyzer	Rohde & Schwarz	FUV40-N	101331	Mar. 15, 2021
3	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 25, 2021
4	Signal Generator	Agilent	E8257D	MY46521908	Dec. 25, 2021
5	Power Sensor	Agilent	U2021XA	MY5365004	Dec. 25, 2021
6	Power Sensor	Agilent	U2021XA	MY5365006	Dec. 25, 2021
7	Simultaneous Sampling DAQ	Agilent	U2531A	TW54493510	Dec. 25, 2021
8	Climate Chamber	TABAI	PR-4G	A8708055	Dec. 25, 2021
9	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	116410	Dec. 25, 2021
10	Climate Chamber	ESPEC	MT3065	/	Dec. 25, 2021
11	300328 v2.1.1 test system	TONSCEND	v2.6	/	/

Radiate	d Emission and Transmitte	er spurious emissions			
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	EMI Test Receiver	Rohde & Schwarz	ESCI	100658	Dec. 25, 2021
2	High pass filter	micro-tranics	HPM50111	142	Dec. 25, 2021
3	Log-Bicon Antenna	Schwarzbeck	CBL6141A	4180	Dec. 25, 2021
4	Ultra-Broadband Antenna	ShwarzBeck	BBHA9170	25841	Dec. 25, 2021
5	Loop Antenna	LAPLAC	RF300	9138	Dec. 25, 2021
6	Spectrum Analyzer	Rohde & Schwarz	FSU26	100105	Dec. 25, 2021
7	Horn Antenna	Schwarzbeck	BBHA 9120D	647	Dec. 25, 2021
8	Pre-Amplifier	HP	8447D	1937A03050	Dec. 25, 2021
9	Pre-Amplifier	EMCI	EMC051835	980075	Dec. 25, 2021
10	Antenna Mast	UC	UC3000	N/A	N/A
11	Turn Table	UC	UC3000	N/A	N/A
12	Cable Below 1GHz	Schwarzbeck	AK9515E	33155	Dec. 25, 2021
13	Cable Above 1GHz	Hubersuhner	SUCOFLEX1 02	DA1580	Dec. 25, 2021
14	Splitter	Mini-Circuit	ZAPD-4	400059	Dec. 25, 2021
15	RF Connection Cable	HUBER+SUHNER	RE-7-FL	N/A	Dec. 25, 2021
16	RF Connection Cable	Chengdu E-Microwave			Dec. 25, 2021
17	High pass filter	Compliance Direction systems	BSU-6	34202	Dec. 25, 2021

CTC Laboratories, Inc.







#### Page 11 of 188

Report No.: 0	CTC20210023E13
---------------	----------------

18	Attenuator	Chengdu E-Microwave	EMCAXX-10 RNZ-3		Dec. 25, 2021
19	High and low temperature box	ESPEC	MT3065	12114019	Dec. 25, 2021

Conduc	Conducted Emission								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until				
1	LISN	R&S	ENV216	101112	Dec. 25, 2021				
2	LISN	R&S	ENV216	101113	Dec. 25, 2021				
3	EMI Test Receiver	R&S	ESCI	100658	Dec. 25, 2021				

Note: 1. The Cal. Interval was one year.

2. The cable loss has calculated in test result which connection between each test instruments.



## 3. TEST ITEM AND RESULTS

#### 3.1. Conducted Emission

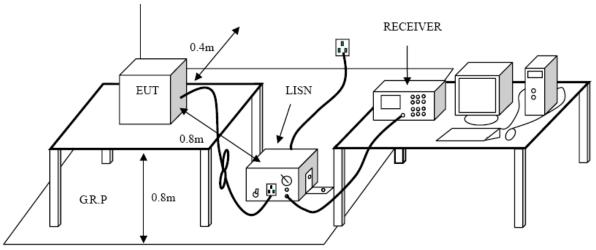
#### Limit

#### FCC CFR Title 47 Part 15 Subpart C Section 15.207

Fraguesov rango (MHz)	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			

<sup>\*</sup> Decreases with the logarithm of the frequency.

#### **Test Configuration**



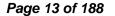
#### **Test Procedure**

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.

  The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.

#### **Test Mode**

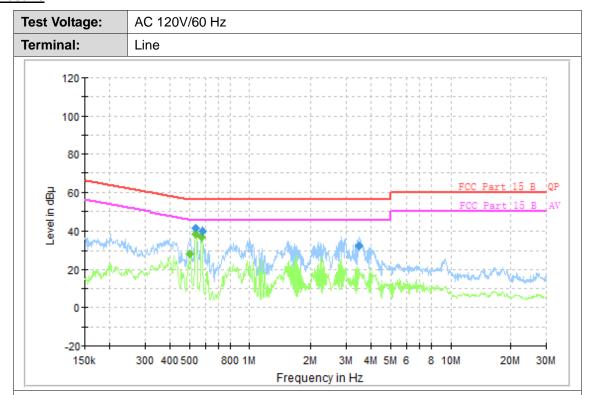
Please refer to the clause 2.3







#### **Test Results**



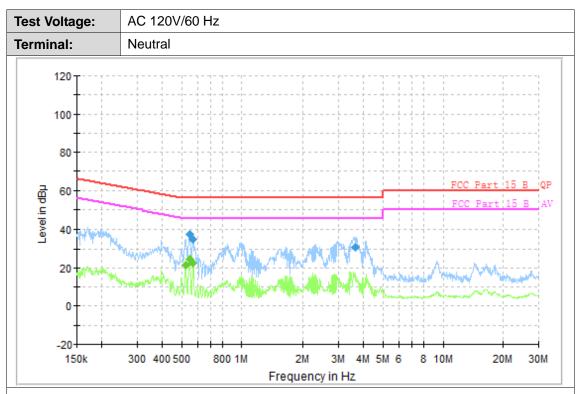
## Final Measurement Detector 1-

•	Frequency ↓ (MHz).1	QuasiPeak↓ (dB µ V).₁	Meas. Time ↓ (ms).₁	Bandwidth ↓ (kHz).₁	Filter.	Line.	Corr.↓ (dB).₁	Margin ↓ (dB).₁	Limit↓ (dB μ V).₁	Comment.
•	0.535980.1	41.8.1	1000.00	9.000.1	On.	L1. <sub>3</sub>	10.4.1	14.2.	56.0.	a
E	0.580520.1	40.4.1	1000.00	9.000.1	On.	L1. <sub>1</sub>	10.4.	15.6.	56.0.1	a
•	3.499380.	32.3.1	1000.00	9.000.1	On. <sub>1</sub>	L1. <sub>1</sub>	10.5.1	23.7.1	56.0.1	a

## Final Measurement Detector 2

•	Frequency ↓ (MHz).,	Average ↓ (dB µ V).₁	Meas. Time↓ (ms).₁	Bandwidth ↓ (kHz).₁	Filter.	Line.	Corr.↓ (dB).₁	Margin ↓ (dB).₁	Limit↓ (dB μ V).	Comment.
F	0.502810.	28.4.	1000.00	9.000.1	On.	L1.1	10.4.	17.6.	46.0.	.1
F	0.538120.	38.5.1	1000.00	9.000.1	On.1	L1. <sub>1</sub>	10.4.	7.5.1	46.0.1	a
E	0.575910.1	37.3.1	1000.00	9.000.1	On.	L1. <sub>1</sub>	10.4.	8.7.1	46.0.1	a



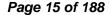


## Final Measurement Detector 1-

-	Frequency 4	QuasiPeak↓	Meas.	Bandwidth ↓	Filter.	Line.	Corr. ↓	Margin ↓	Limit ↓	Comment.
1	(MHz). <sub>1</sub>	(dB µ V).	Time ↓	(kHz).1			(dB)	(dB).,	(dB µ	
1			(ms).1						V).1	
•	0.546780.1	37.4.1	1000.00	9.000.1	On.1	N <sub>-1</sub>	10.7.1	18.6.1	56.0.1	a
•	0.571330.1	35.1.1	1000.00	9.000.1	On.1	N.1	10.7.1	20.9.1	56.0.1	а
•	3.627390.1	30.9.1	1000.00	9.000.1	On.1	N.1	10.7.1	25.1.1	56.0.1	a

## Final Measurement Detector 2

■ Frequency ↓ (MHz).₁	Average ↓ (dB μ V).,	Meas. Time ↓ (ms).	Bandwidth ↓ (kHz).₁	Filter.	Line.1	Corr. ↓ (dB).₁	Margin ↓ (dB).₁	Limit↓ (dB μ V).₁	Comment. <sub>1</sub>
<ul> <li>0.523290.</li> </ul>	21.5.	1000.00	9.000.1	On.	N.a	10.7.1	24.5.1	46.0.1	a
<ul> <li>0.546780.</li> </ul>	24.7.1	1000.00	9.000.1	On.	N.a	10.7.1	21.3.1	46.0.1	a
<ul> <li>0.571330.</li> </ul>	22.4.1	1000.00	9.000.1	On.	N.1	10.7.1	23.6.1	46.0.1	.1





### 3.2. Radiated Emission

#### **Limit**

#### FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency	Limit (dBuV/m @3m)	Value
30 MHz ~ 88 MHz	40.00	Quasi-peak
88 MHz ~ 216 MHz	43.50	Quasi-peak
216 MHz ~ 960 MHz	46.00	Quasi-peak
960 MHz ~ 1 GHz	54.00	Quasi-peak
Above 4 CHz	54.00	Average
Above 1 GHz	74.00	Peak

#### Note:

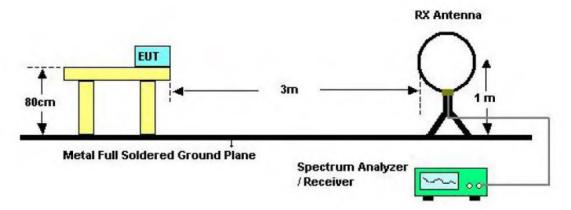
- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)= 20log Emission Level (uV/m).

# Limits of unwanted emission out of the restricted bands FCC CFR Title 47 Part 15 Subpart C Section 15.407(b)

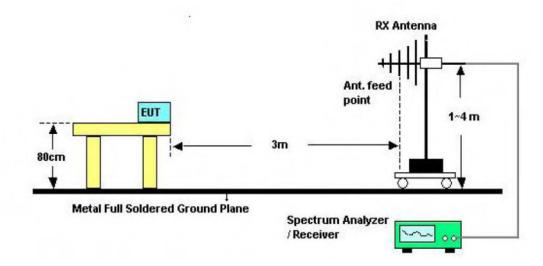
Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)
5150~5250	-27	68.2
5250~5350	-27	68.2
5470~5725	-27	68.2
	-27(Note 2)	68.2
5725~5825	10(Note 2)	105.2
0120~0020	15.6(Note 2)	110.8
	27(Note 2)	122.2

Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:  $E = \frac{1000000\sqrt{30P}}{3}$  uV/m, where P is the eirp (Watts)

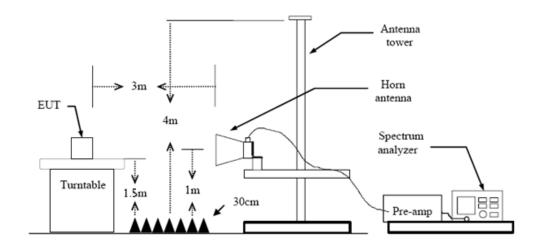
2. According to FCC 16-24, All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

#### **Test Procedure**

1. The EUT was setup and tested according to ANSI C63.10:2013

可监督管理委员会

2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.





- The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- 6. Use the following spectrum analyzer settings
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Below 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(3) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW=3MHz RMS detector for Average value.

#### **Test Mode**

Please refer to the clause 2.3

#### **Test Result**

#### 9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

CTC Laboratories, Inc.



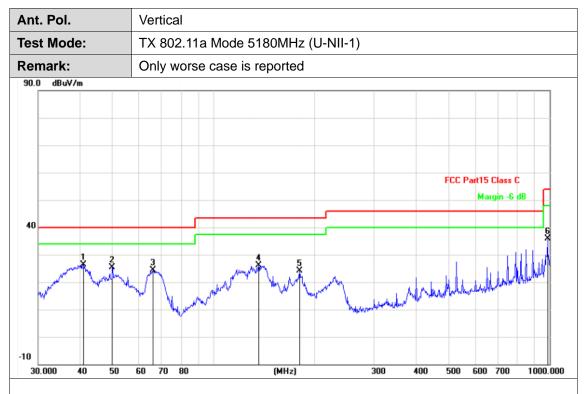
Ant. Pol.	Horizontal								
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1)								
Remark:	Only worse case is reported								
90.0 dBuV/m									
	FCC Part15 Class C								
	Margin -6 dB								
40	4 × 6								
	3 1 1								
makery a make white here we have no	My Mary Mary Mary Mary Mary Mary Mary Ma								
No.									
0									
30.000 40 50	60 70 80 (MHz) 300 400 500 600 700 1000.00								

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	68.8721	-20.19	37.06	16.87	40.00	-23.13	QP
2	163.7550	-17.93	38.52	20.59	43.50	-22.91	QP
3	228.4904	-19.91	41.52	21.61	46.00	-24.39	QP
4	327.8873	-17.26	52.64	35.38	46.00	-10.62	QP
5	400.4319	-15.77	45.83	30.06	46.00	-15.94	QP
6	821.7103	-9.23	41.80	32.57	46.00	-13.43	QP

#### Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level	Limit (dBuV/m)	Margin (dB)	Detector
1	40.8445	-17.36	43.81	26.45	40.00	-13.55	QP
2	49.8814	-17.77	43.26	25.49	40.00	-14.51	QP
3	66.0342	-19.65	43.97	24.32	40.00	-15.68	QP
4	135.9821	-18.00	44.12	26.12	43.50	-17.38	QP
5	180.0164	-19.25	43.49	24.24	43.50	-19.26	QP
6	986.0716	-6.97	42.83	35.86	54.00	-18.14	QP

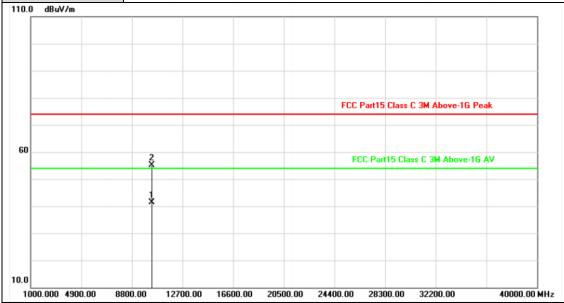
#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



#### **Above 1GHz**

Ant. Pol.	Horizontal
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1)
Remark:	No report for the emission which more than 10 dB below the prescribed limit.
110.0 dBuV/m	

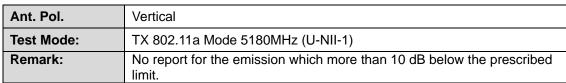


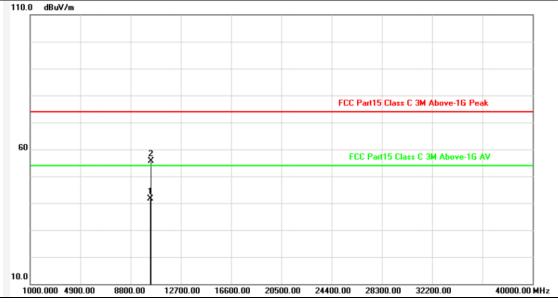
No.	Frequency (MHz)	Factor (dB/m)	_	Level (dBuV/m)		Margin (dB)	Detector
1	10343.013	6.59	34.82	41.41	54.00	-12.59	AVG
2	10358.397	6.64	48.54	55.18	74.00	-18.82	peak

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10359.514	6.64	35.04	41.68	54.00	-12.32	AVG
2	10361.337	6.64	49.05	55.69	74.00	-18.31	peak

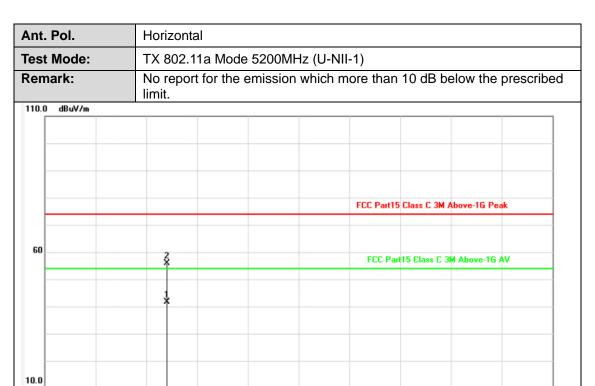
#### Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

32200.00

40000.00 MHz





No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)			Detector
1	10400.423	6.76	34.81	41.57	54.00	-12.43	AVG
2	10400.784	6.76	49.13	55.89	74.00	-18.11	peak

20500.00

24400.00

28300.00

#### Remarks:

1000.000 4900.00

8800.00

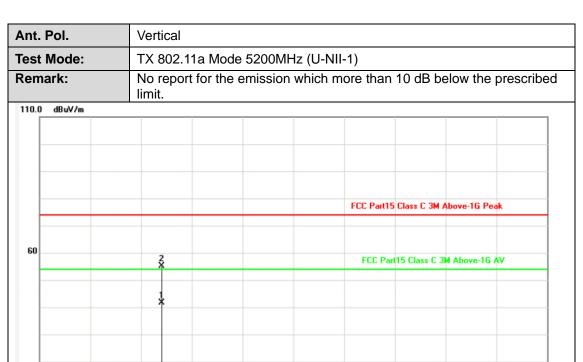
12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

40000.00 MHz





No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10399.240	6.75	34.90	41.65	54.00	-12.35	AVG
2	10400.918	6.76	48.37	55.13	74.00	-18.87	peak

#### Remarks:

10.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00

16600.00

2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn

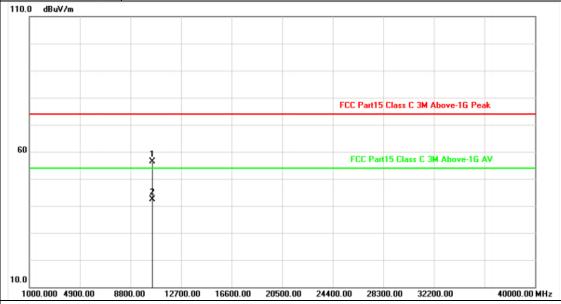




Ant. Pol. Horizontal

Test Mode: TX 802.11a Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.



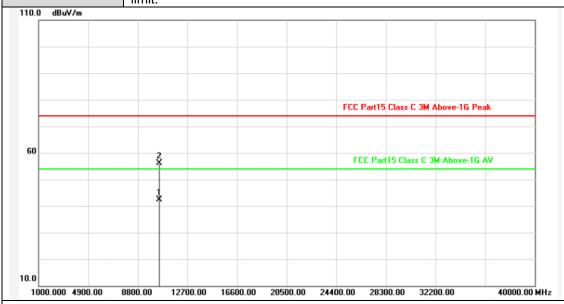
1	No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
	1	10478.663	6.99	49.47	56.46	74.00	-17.54	peak
	2	10480.125	6.99	35.47	42.46	54.00	-11.54	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical Test Mode: TX 802.11a Mode 5240MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed limit.

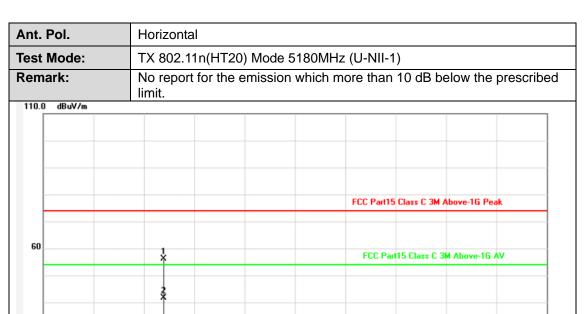


No.	Frequency (MHz)	1		Level (dBuV/m)		Margin (dB)	Detector
1	10480.072	6.99	35.49	42.48	54.00	-11.52	AVG
2	10481.120	7.00	49.16	56.16	74.00	-17.84	peak

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10358.563	6.64	49.43	56.07	74.00	-17.93	peak
2	10359.221	6.64	34.96	41.60	54.00	-12.40	AVG

20500.00

24400.00

28300.00

32200.00

40000.00 MHz

#### Remarks:

1000.000 4900.00

8800.00

12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn



32200.00

40000.00 MHz



Ant. Pol.

Test Mode:

TX 802.11n(HT20) Mode 5180MHz (U-NII-1)

Remark:

No report for the emission which more than 10 dB below the prescribed limit.

FCC Part15 Class C 3M Above-16 Peak

FCC Part15 Class C 3M Above-16 AV

No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10358.731	6.64	34.98	41.62	54.00	-12.38	AVG
2	10359.716	6.64	48.77	55.41	74.00	-18.59	peak

20500.00

24400.00

28300.00

#### Remarks:

1000.000 4900.00

8800.00

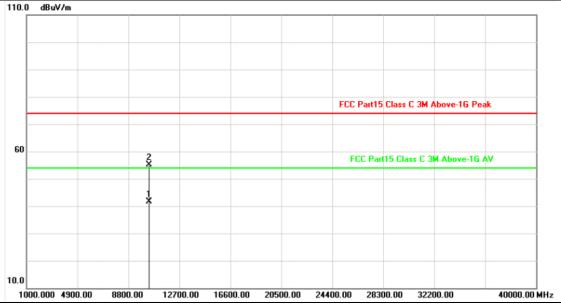
12700.00

16600.00

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant. Pol.	Horizontal							
Test Mode:	TX 802.11n(HT20) Mode 5200MHz (U-NII-1)							
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							
110.0 dBuV/m								

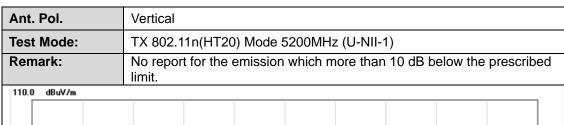


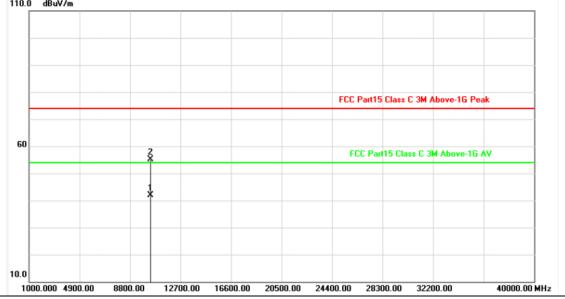
	No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
	1	10399.952	6.76	34.89	41.65	54.00	-12.35	AVG
Г	2	10400.837	6.76	48.41	55.17	74.00	-18.83	peak

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



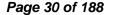




N	0.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
	1	10400.452	6.76	35.00	41.76	54.00	-12.24	AVG
	2	10401.332	6.76	48.27	55.03	74.00	-18.97	peak

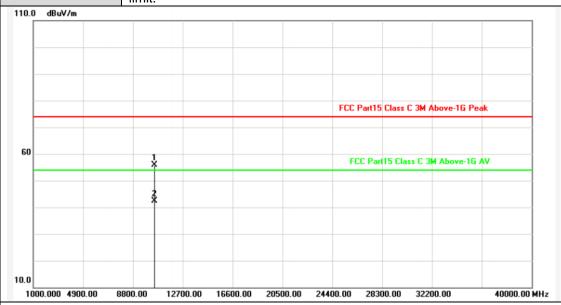
#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





Ant. Pol. Horizontal Test Mode: TX 802.11n(HT20) Mode 5240MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark:

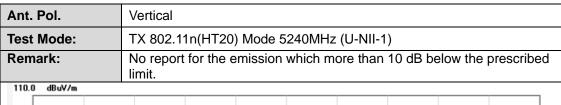


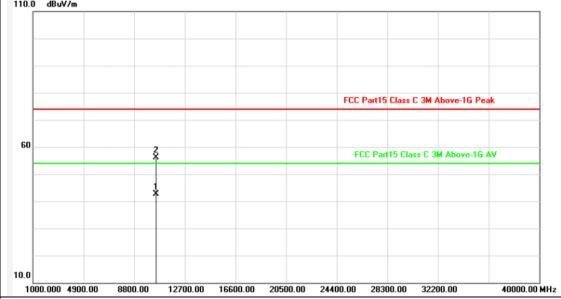
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10479.284	6.99	48.98	55.97	74.00	-18.03	peak
2	10481.447	7.00	35.44	42.44	54.00	-11.56	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10478.563	6.99	35.53	42.52	54.00	-11.48	AVG
2	10479.216	6.99	49.26	56.25	74.00	-17.75	peak

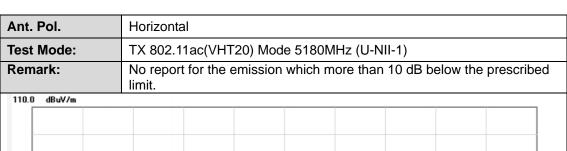
#### Remarks:

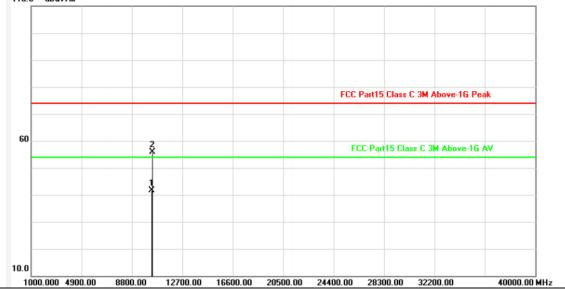
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会







No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10359.764	6.64	34.97	41.61	54.00	-12.39	AVG
2	10360.899	6.64	49.15	55.79	74.00	-18.21	peak

#### Remarks:

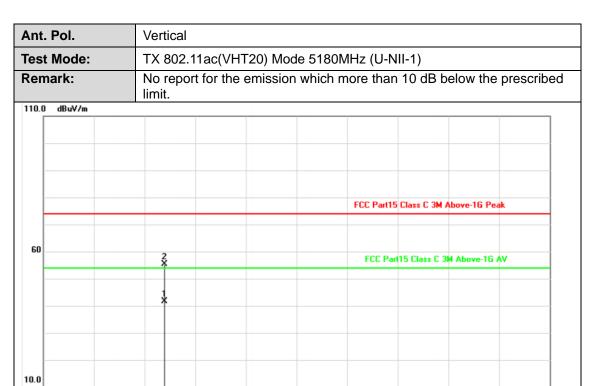
- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

32200.00

28300.00

40000.00 MHz





No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10358.851	6.64	34.97	41.61	54.00	-12.39	AVG
2	10359.365	6.64	48.65	55.29	74.00	-18.71	peak

20500.00

24400.00

#### Remarks:

1000.000 4900.00

8800.00

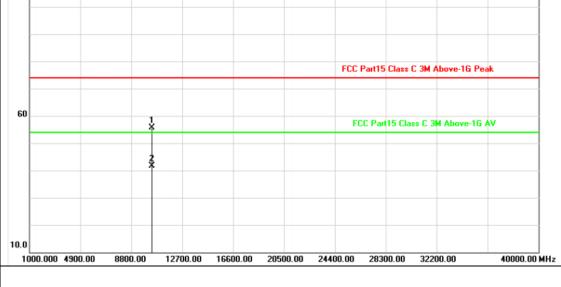
12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT20) Mode 5200MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m FCC Part15 Class C 3M Above-1G Peak

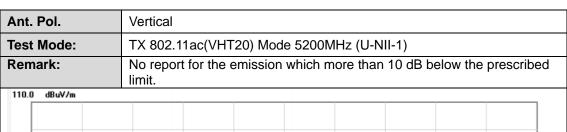


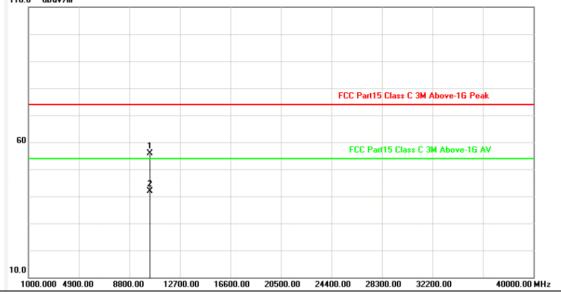
No.	Frequency (MHz)	1		Level (dBuV/m)		Margin (dB)	Detector
1	10398.832	6.75	48.85	55.60	74.00	-18.40	peak
2	10401.212	6.76	34.90	41.66	54.00	-12.34	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







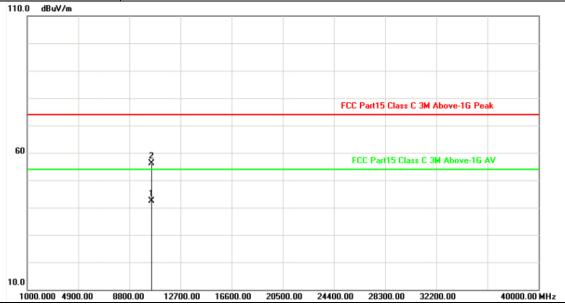
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10400.721	6.76	49.23	55.99	74.00	-18.01	peak
2	10401.409	6.76	35.06	41.82	54.00	-12.18	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark:



N	o.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
	1	10480.543	6.99	35.44	42.43	54.00	-11.57	AVG
	2	10481.284	7.00	49.16	56.16	74.00	-17.84	peak

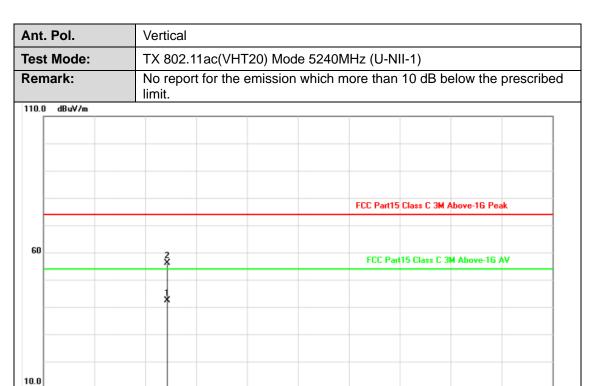
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



32200.00

40000.00 MHz





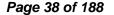
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10478.745	6.99	35.41	42.40	54.00	-11.60	AVG
2	10479.673	6.99	49.23	56.22	74.00	-17.78	peak

### Remarks:

1000.000 4900.00

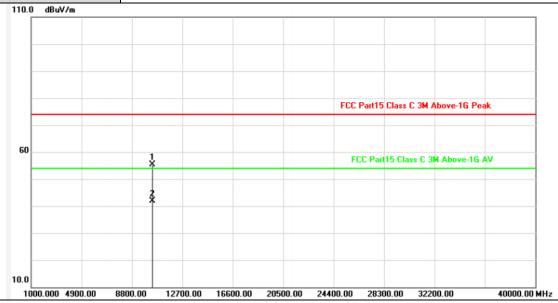
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00





Ant. Pol. Horizontal TX 802.11n(HT40) Mode 5190MHz (U-NII-1) Test Mode: No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m



No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10379.154	6.70	48.70	55.40	74.00	-18.60	peak
2	10380.591	6.70	35.15	41.85	54.00	-12.15	AVG

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





Ant. Pol.

Test Mode: TX 802.11n(HT40) Mode 5190MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

110.0 dBuV/m

FCC Part15 Class C 3M Above-16 Peak

FCC Part15 Class C 3M Above-16 AV

No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10379.538	6.70	48.90	55.60	74.00	-18.40	peak
2	10379.899	6.70	35.01	41.71	54.00	-12.29	AVG

20500.00 24400.00

28300.00

32200.00

40000.00 MHz

## Remarks:

10.0

1000.000 4900.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

12700.00

16600.00

8800.00

40000.00 MHz



Ant. Pol. Horizontal

Test Mode: TX 802.11n(HT40) Mode 5230MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

110.0 dBuV/m

FCC Part15 Class C 3M Above-16 Peak

FCC Part15 Class C 3M Above-16 AV

No.	Frequency (MHz)	l	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10460.197	6.94	34.73	41.67	54.00	-12.33	AVG
2	10461.462	6.95	48.83	55.78	74.00	-18.22	peak

20500.00

24400.00

28300.00

32200.00

# Remarks:

10.0

1000.000 4900.00

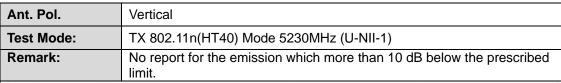
8800.00

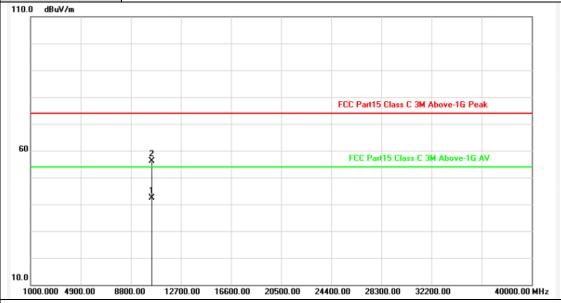
12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







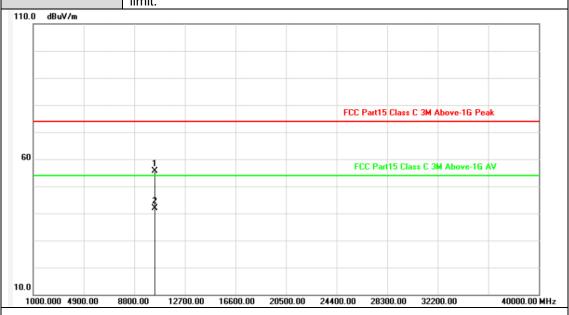
N	0.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
	1	10459.048	6.93	35.34	42.27	54.00	-11.73	AVG
	2	10461.413	6.95	49.19	56.14	74.00	-17.86	peak

## Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark:



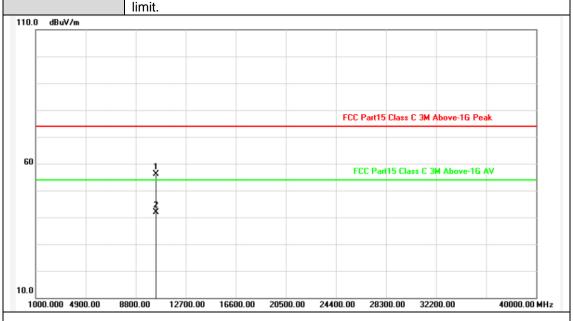
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10379.135	6.70	48.89	55.59	74.00	-18.41	peak
2	10380.808	6.70	35.24	41.94	54.00	-12.06	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical Test Mode: TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed



No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	10379.606	6.70	49.48	56.18	74.00	-17.82	peak
2	10380.139	6.70	35.19	41.89	54.00	-12.11	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

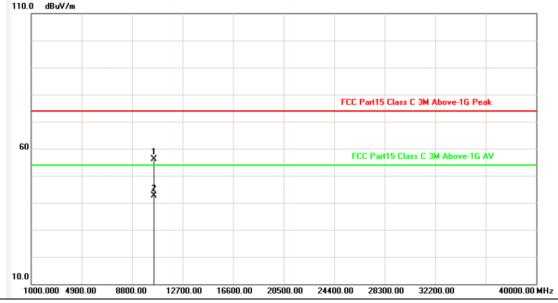
2.Margin value = Level -Limit value

Accreditation Administration of the People's Republic of China: yz.cnca.cn





Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m

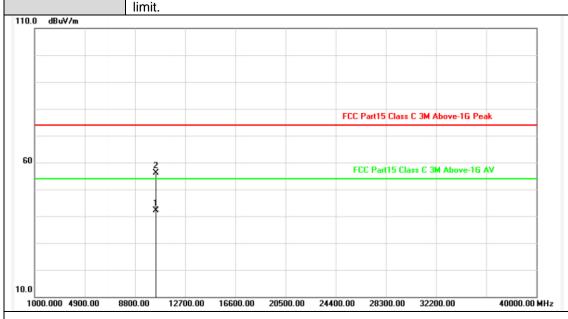


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10480.601	6.99	49.15	56.14	74.00	-17.86	peak
2	10481.014	6.99	35.56	42.55	54.00	-11.45	AVG

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical Test Mode: TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed



No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10461.375	6.95	35.27	42.22	54.00	-11.78	AVG
2	10461.481	6.95	49.29	56.24	74.00	-17.76	peak

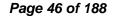
## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

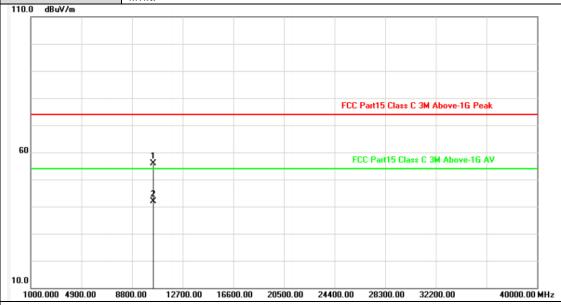
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn

中国国家认证认可监督管理委员会





Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	10419.298	6.82	49.18	56.00	74.00	-18.00	peak
2	10420.548	6.82	35.03	41.85	54.00	-12.15	AVG

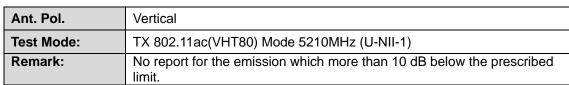
### Remarks:

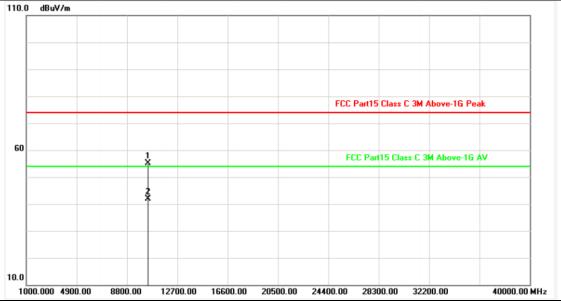
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会







No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	10418.870	6.82	48.40	55.22	74.00	-18.78	peak
2	10421.106	6.82	35.04	41.86	54.00	-12.14	AVG

### Remarks:

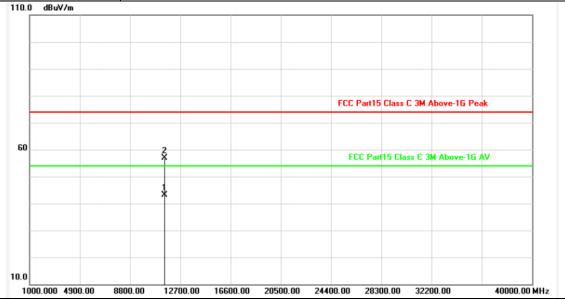
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal

Test Mode: TX 802.11a Mode 5745MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.



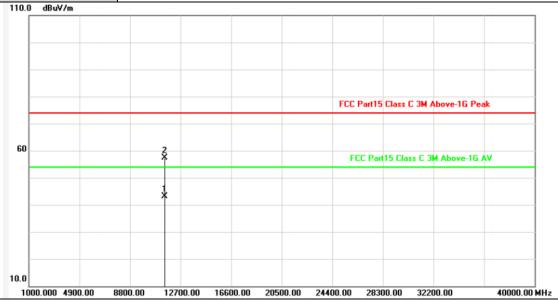
N	lo.	Frequency (MHz)	Factor (dB/m)	_	Level (dBuV/m)		Margin (dB)	Detector
	1	11490.399	7.44	35.81	43.25	54.00	-10.75	AVG
	2	11490.668	7.44	49.42	56.86	74.00	-17.14	peak

### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical Test Mode: TX 802.11a Mode 5745MHz (U-NII-3) Remark: No report for the emission which more than 10 dB below the prescribed limit.



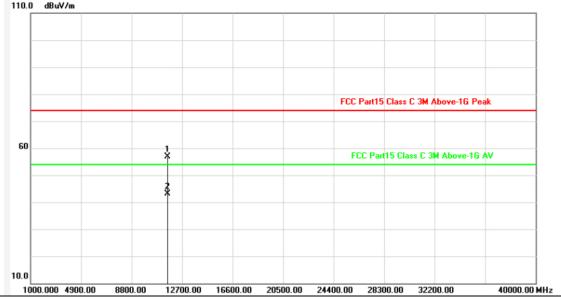
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	11489.615	7.44	35.67	43.11	54.00	-10.89	AVG
2	11491.053	7.44	49.90	57.34	74.00	-16.66	peak

## Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant. Pol. Horizontal TX 802.11a Mode 5785MHz (U-NII-3) Test Mode: No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m



No.	Frequency (MHz)	1		Level (dBuV/m)		Margin (dB)	Detector
1	11569.788	7.39	49.54	56.93	74.00	-17.07	peak
2	11571.481	7.39	35.69	43.08	54.00	-10.92	AVG

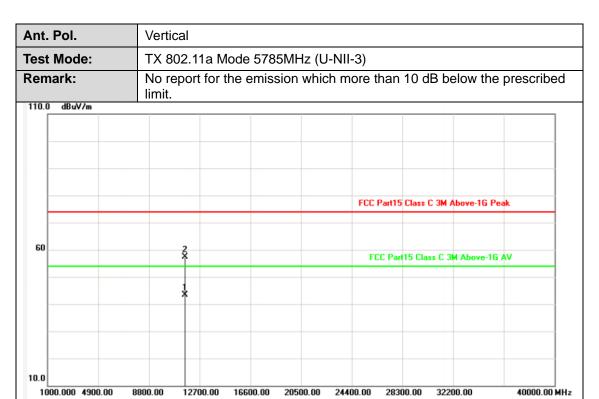
# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会





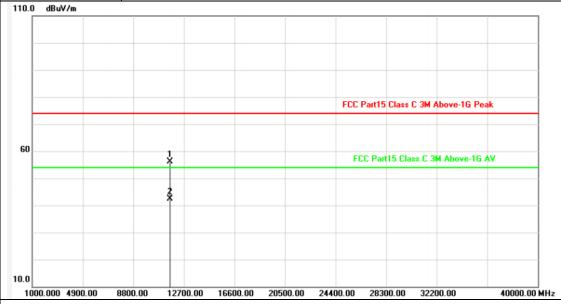
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	11569.029	7.39	35.88	43.27	54.00	-10.73	AVG
2	11569.981	7.39	49.92	57.31	74.00	-16.69	peak

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal TX 802.11a Mode 5825MHz (U-NII-3) Test Mode: No report for the emission which more than 10 dB below the prescribed Remark:

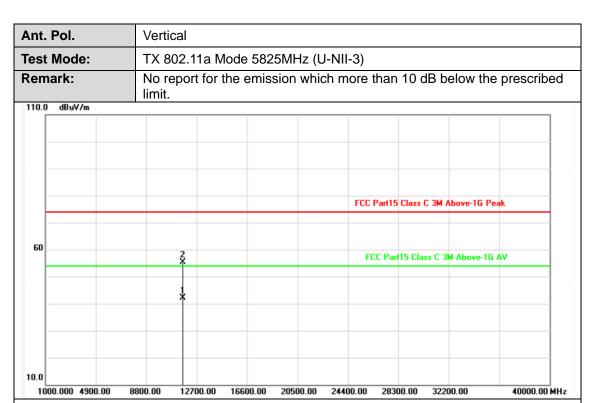


No.	Frequency (MHz)	1	_	Level (dBuV/m)		Margin (dB)	Detector
1	11648.803	7.34	48.73	56.07	74.00	-17.93	peak
2	11649.034	7.34	35.01	42.35	54.00	-11.65	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





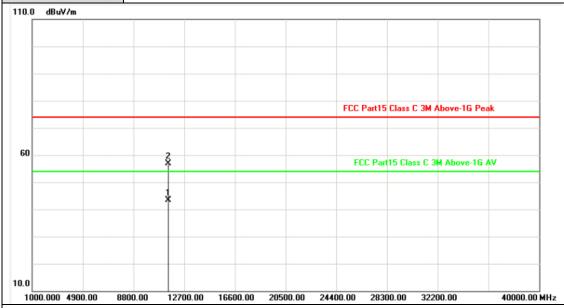
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11649.192	7.34	34.68	42.02	54.00	-11.98	AVG
2	11650.413	7.33	48.01	55.34	74.00	-18.66	peak

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal TX 802.11n(HT20) Mode 5745MHz (U-NII-3) Test Mode: No report for the emission which more than 10 dB below the prescribed Remark:

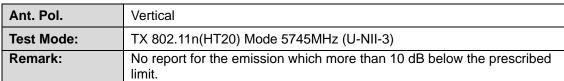


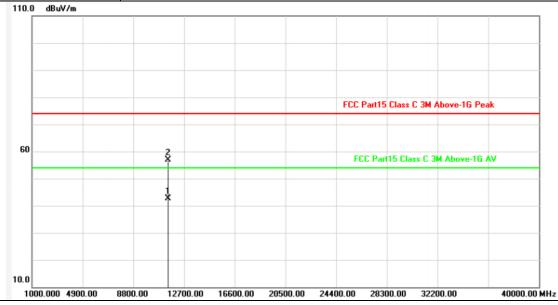
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11489.014	7.44	35.86	43.30	54.00	-10.70	AVG
2	11489.159	7.44	49.44	56.88	74.00	-17.12	peak

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







No.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11489.101	7.44	35.16	42.60	54.00	-11.40	AVG
2	11489.904	7.44	49.36	56.80	74.00	-17.20	peak

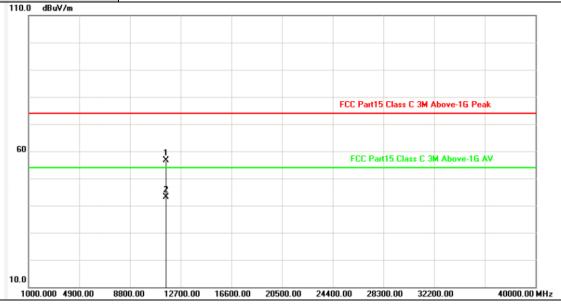
# Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value





Ant. Pol. Horizontal Test Mode: TX 802.11n(HT20) Mode 5785MHz (U-NII-3) No report for the emission which more than 10 dB below the prescribed Remark:

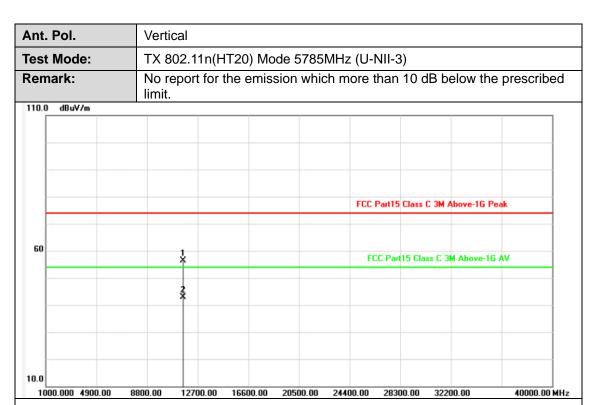


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11568.880	7.39	49.22	56.61	74.00	-17.39	peak
2	11569.548	7.39	35.69	43.08	54.00	-10.92	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





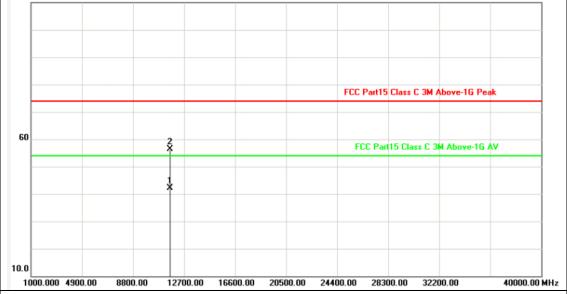
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	11569.822	7.39	49.09	56.48	74.00	-17.52	peak
2	11570.500	7.39	35.50	42.89	54.00	-11.11	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal TX 802.11n(HT20) Mode 5825MHz (U-NII-3) Test Mode: No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m

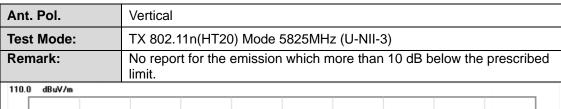


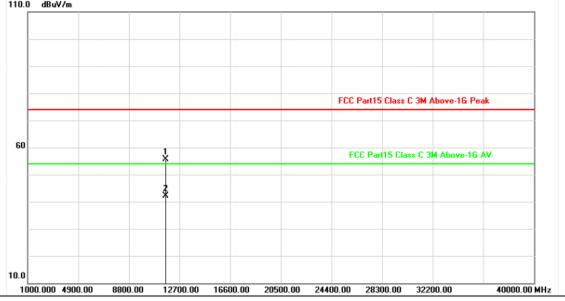
No.	Frequency (MHz)	I		Level (dBuV/m)		Margin (dB)	Detector
1	11649.481	7.34	34.90	42.24	54.00	-11.76	AVG
2	11650.798	7.33	48.97	56.30	74.00	-17.70	peak

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







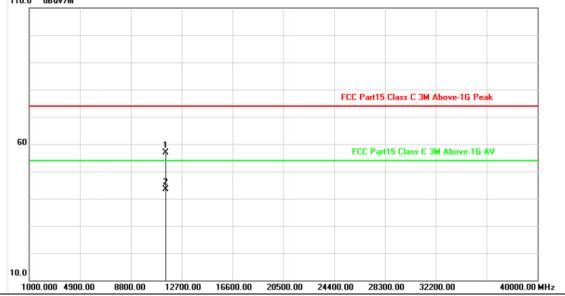
	No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
	1	11649.082	7.34	48.24	55.58	74.00	-18.42	peak
ſ	2	11651.255	7.33	34.89	42.22	54.00	-11.78	AVG

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



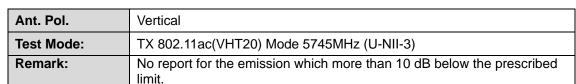
Ant. Pol. Horizontal					
Test Mode:	ode: TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3)				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.				
110.0 dBuV/m					

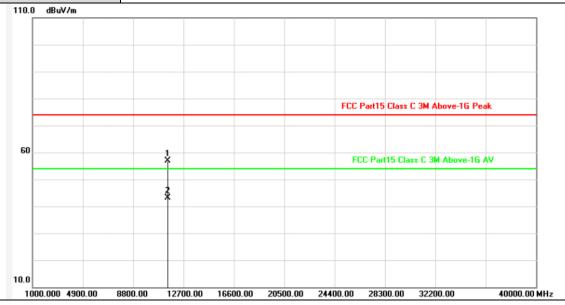


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11489.495	7.44	49.42	56.86	74.00	-17.14	peak
2	11490.880	7.44	35.88	43.32	54.00	-10.68	AVG

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







N	0.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
	1	11488.962	7.44	49.44	56.88	74.00	-17.12	peak
	2	11489.212	7.44	35.62	43.06	54.00	-10.94	AVG

## Remarks:

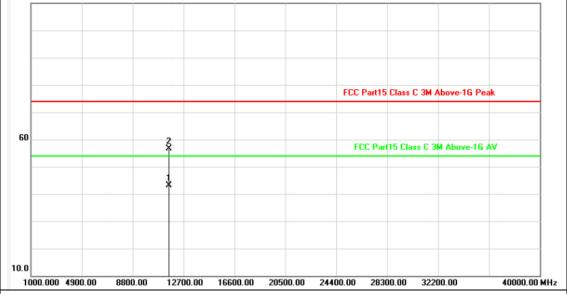
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会



Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT20) Mode 5785MHz (U-NII-3) No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m



No.	Frequency (MHz)	Factor (dB/m)	_	Level (dBuV/m)		Margin (dB)	Detector
1	11569.399	7.39	35.70	43.09	54.00	-10.91	AVG
2	11569.567	7.39	49.19	56.58	74.00	-17.42	peak

# Remarks:

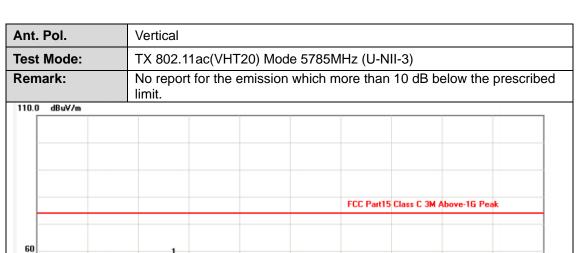
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

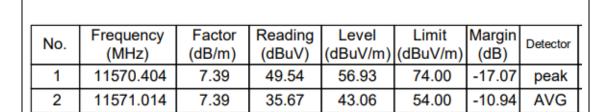
FCC Part15 Class C 3M Above-1G AV

32200.00

40000.00 MHz







20500.00

24400.00

28300.00

# Remarks:

10.0

1000.000 4900.00

8800.00

12700.00

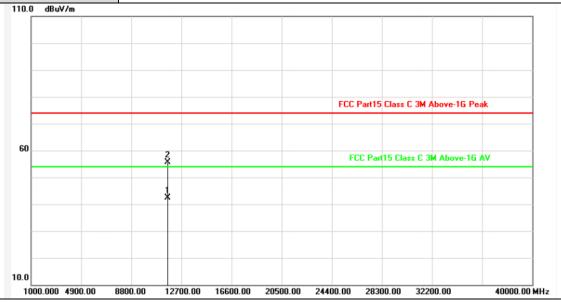
16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3) No report for the emission which more than 10 dB below the prescribed Remark:

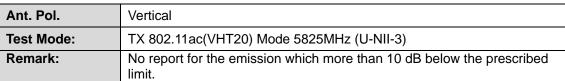


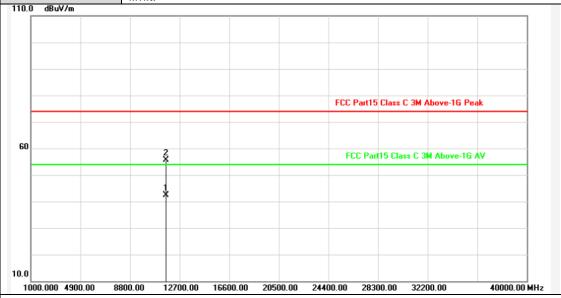
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	11649.226	7.34	35.05	42.39	54.00	-11.61	AVG
2	11650.971	7.33	48.25	55.58	74.00	-18.42	peak

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11649.356	7.34	35.05	42.39	54.00	-11.61	AVG
2	11650.759	7.33	48.25	55.58	74.00	-18.42	peak

# Remarks:

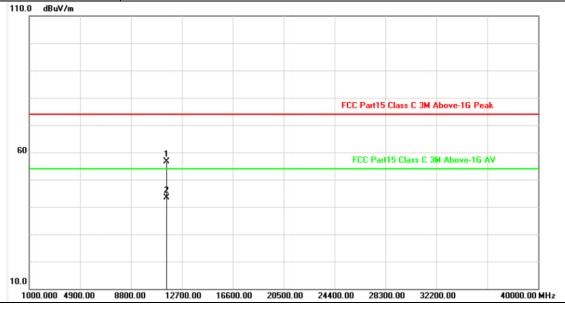
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal

Test Mode: TX 802.11n(HT40) Mode 5755MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

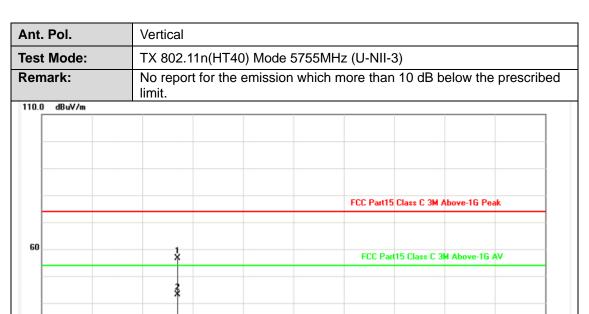


No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	11510.214	7.43	46.44	53.87	74.00	-20.13	peak
2	11510.685	7.43	31.66	39.09	54.00	-14.91	AVG

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11509.274	7.42	49.12	56.54	74.00	-17.46	peak
2	11510.635	7.43	35.67	43.10	54.00	-10.90	AVG

20500.00 24400.00

32200.00

40000.00 MHz

## Remarks:

1000.000 4900.00

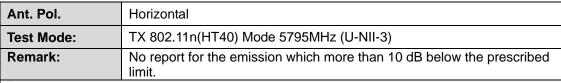
8800.00

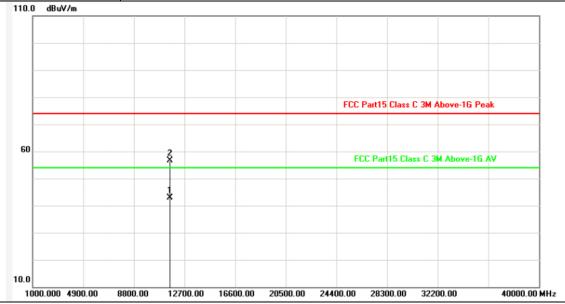
12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





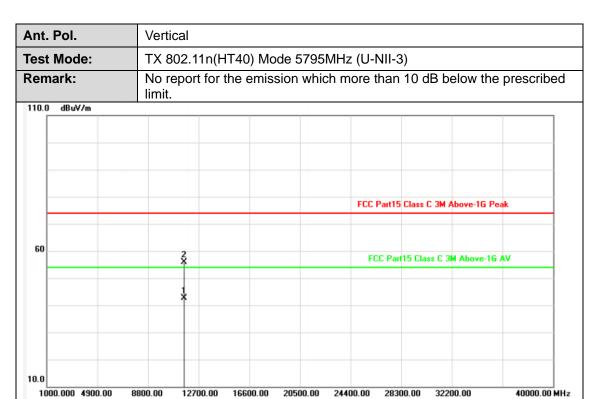


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11588.745	7.37	35.41	42.78	54.00	-11.22	AVG
2	11590.678	7.37	49.21	56.58	74.00	-17.42	peak

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



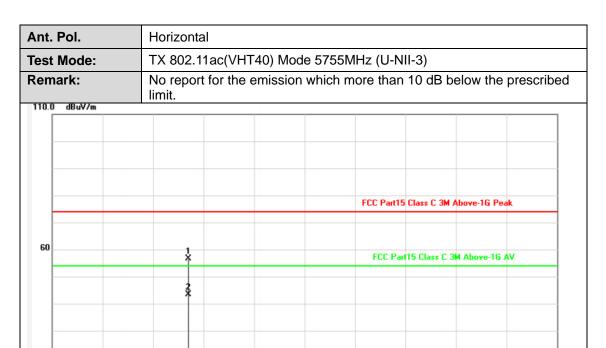


No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	11589.832	7.37	35.23	42.60	54.00	-11.40	AVG
2	11590.962	7.37	48.49	55.86	74.00	-18.14	peak

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)			Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	11510.361	7.43	49.30	56.73	74.00	-17.27	peak
2	11511.183	7.43	35.93	43.36	54.00	-10.64	AVG

20500.00

24400.00 28300.00

32200.00

40000.00 MHz

### Remarks:

1000.000 4900.00

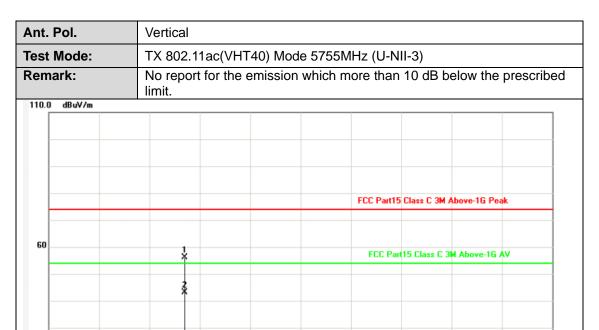
8800.00

12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	11510.063	7.43	48.64	56.07	74.00	-17.93	peak
2	11511.125	7.43	35.64	43.07	54.00	-10.93	AVG

20500.00

24400.00

28300.00

32200.00

40000.00 MHz

### Remarks:

1000.000 4900.00

8800.00

12700.00

16600.00

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

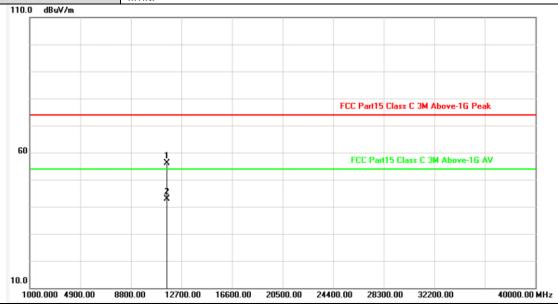
2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn





Ant. Pol. Horizontal Test Mode: TX 802.11ac(VHT40) Mode 5795MHz (U-NII-3) No report for the emission which more than 10 dB below the prescribed Remark:

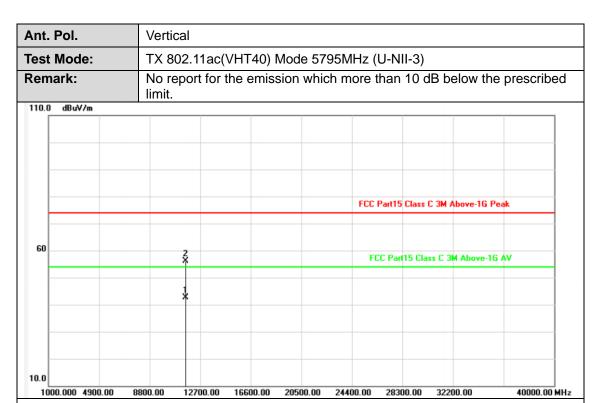


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Detector
1	11589.760	7.37	48.88	56.25	74.00	-17.75	peak
2	11590.250	7.37	35.48	42.85	54.00	-11.15	AVG

# Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	11589.582	7.37	35.26	42.63	54.00	-11.37	AVG
2	11590.519	7.37	48.71	56.08	74.00	-17.92	peak

#### Remarks:

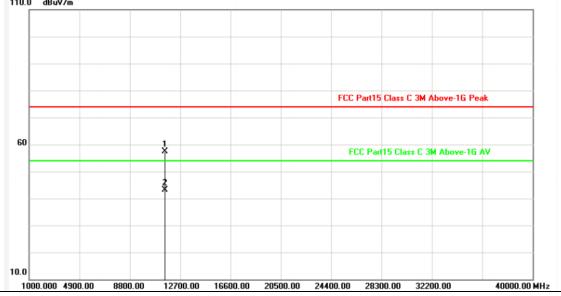
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Horizontal

Test Mode: TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3)

Remark: No report for the emission which more than 10 dB below the prescribed limit.

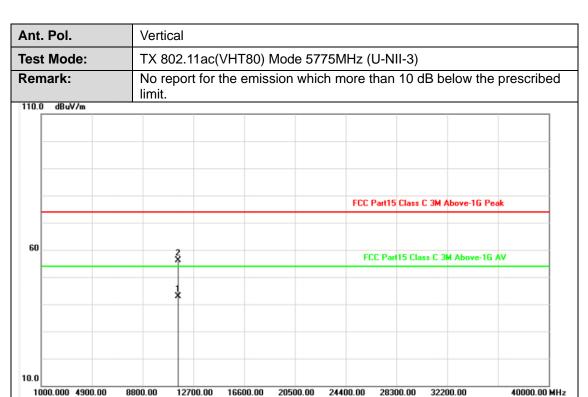


No.	Frequency (MHz)	1		Level (dBuV/m)		Margin (dB)	Detector
1	11550.288	7.39	49.93	57.32	74.00	-16.68	peak
2	11550.375	7.39	35.75	43.14	54.00	-10.86	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	11548.981	7.41	35.49	42.90	54.00	-11.10	AVG
2	11549.418	7.41	48.71	56.12	74.00	-17.88	peak

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



## 3.3. Band Edge Emissions

#### Limit

# Limits of unwanted emission out of the restricted bands FCC CFR Title 47 Part 15 Subpart C Section 15.407(b)

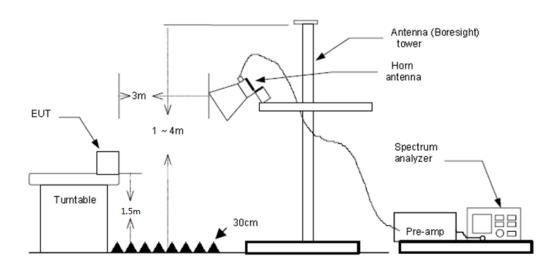
Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBuV/m)		
5150~5250	-27	68.2		
5250~5350	-27	68.2		
5470~5725	-27	68.2		
	-27(Note 2)	68.2		
E70E E00E	10(Note 2)	105.2		
5725~5825	15.6(Note 2)	110.8		
	27(Note 2)	122.2		

Note: 1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field

strength:  $E = \frac{1000000\sqrt{30P}}{3}$  uV/m, where P is the eirp (Watts)

2. According to FCC 16-24, 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 25MHz 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 27dBm/MHz at the band edge.

#### **Test Configuration**



#### **Test Procedure**

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- 2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- 5. The receiver set as follow:



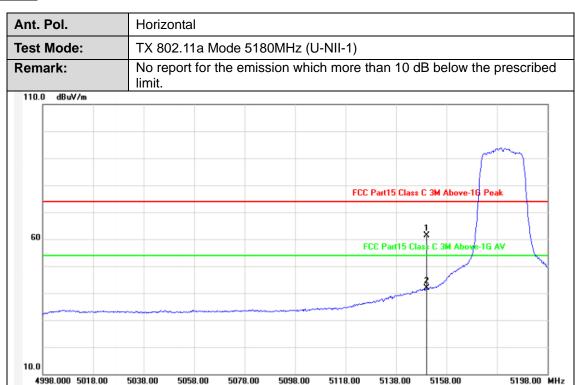


RBW=1MHz, VBW=3MHz PEAK detector for Peak value. RBW=1MHz, VBW=3MHz RMS detector for Average value.

## **Test Mode**

Please refer to the clause 2.3

#### **Test Results**



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)			Detector
1	5150.000	-1.92	63.31	61.39	74.00	-12.61	peak
2	5150.000	-1.92	43.80	41.88	54.00	-12.12	AVG

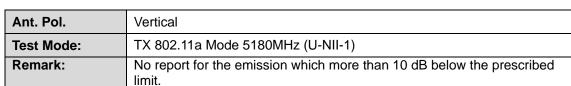
#### Remarks:

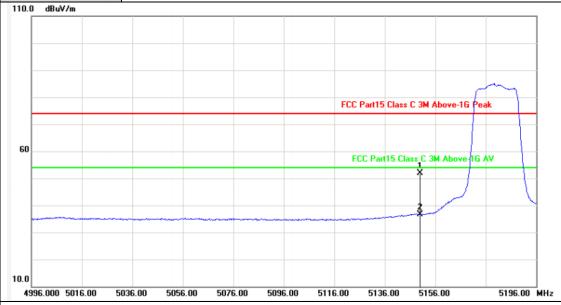
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn







No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	53.74	51.82	74.00	-22.18	peak
2	5150.000	-1.92	38.53	36.61	54.00	-17.39	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会

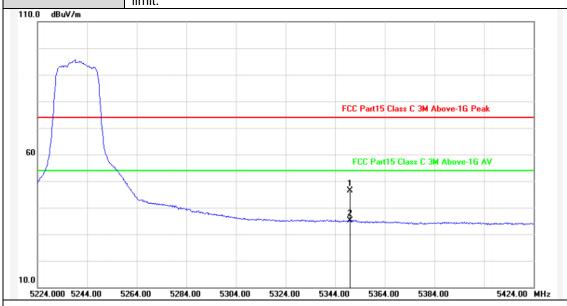
Accreditation Administration of the People's Republic of China: yz.cnca.cn



Ant. Pol. Horizontal

Test Mode: TX 802.11a Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed



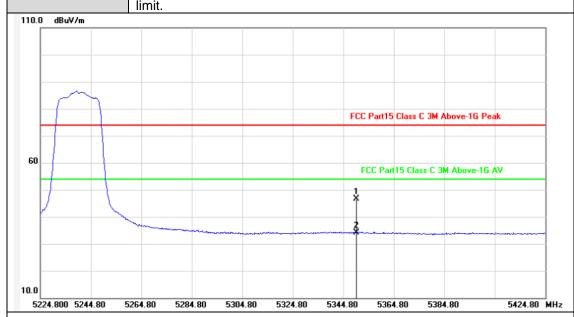
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	47.74	46.29	74.00	-27.71	peak
2	5350.000	-1.45	36.52	35.07	54.00	-18.93	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical Test Mode: TX 802.11a Mode 5240MHz (U-NII-1) Remark: No report for the emission which more than 10 dB below the prescribed



	No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
	1	5350.000	-1.45	48.19	46.74	74.00	-27.26	peak
ſ	2	5350.000	-1.45	35.59	34.14	54.00	-19.86	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

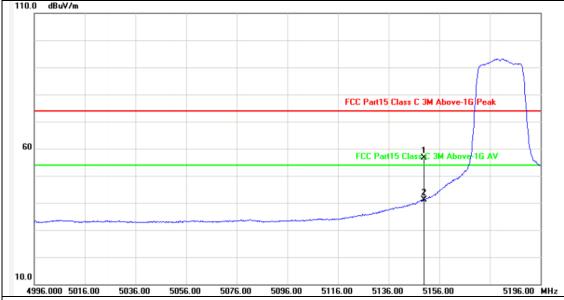
2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会

Accreditation Administration of the People's Republic of China: yz.cnca.cn



Ant. Pol. Horizontal Test Mode: TX 802.11n(HT20) Mode 5180MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark: 110.0 dBuV/m



No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	58.64	56.72	74.00	-17.28	peak
2	5150.000	-1.92	43.11	41.19	54.00	-12.81	AVG

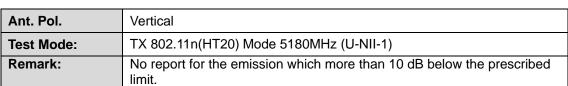
#### Remarks:

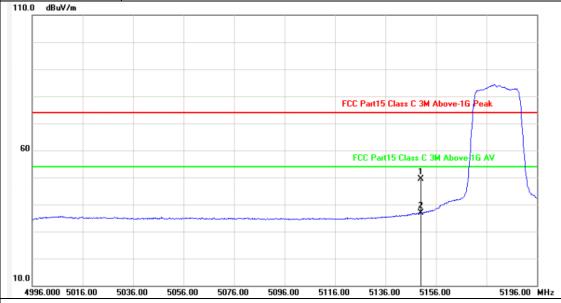
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会







No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	51.32	49.40	74.00	-24.60	peak
2	5150.000	-1.92	38.77	36.85	54.00	-17.15	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China: yz.cnca.cn

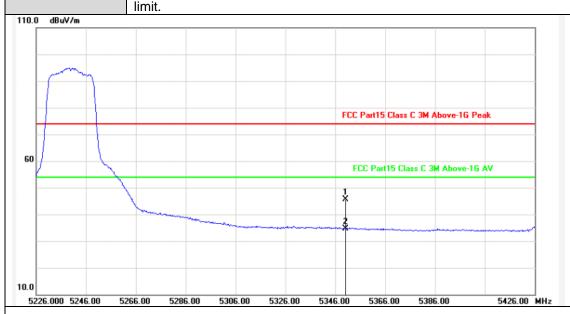




Ant. Pol. Horizontal

Test Mode: TX 802.11n(HT20) Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed



No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	47.16	45.71	74.00	-28.29	peak
2	5350.000	-1.45	36.19	34.74	54.00	-19.26	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



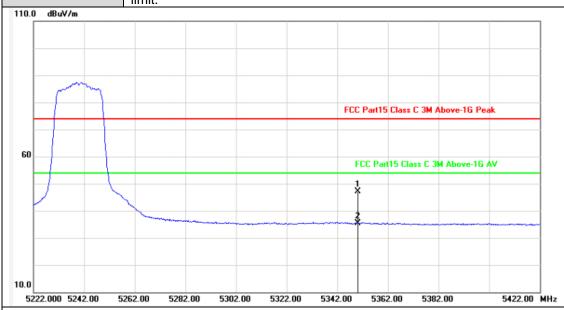
Remark:

 Ant. Pol.
 Vertical

 Test Mode:
 TX 802.11n(HT20) Mode 5240MHz (U-NII-1)

No report for the emission which more than 10 dB below the prescribed limit

Report No.: CTC20210023E13

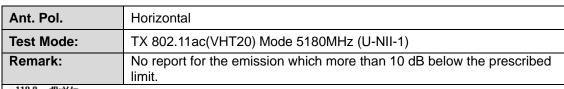


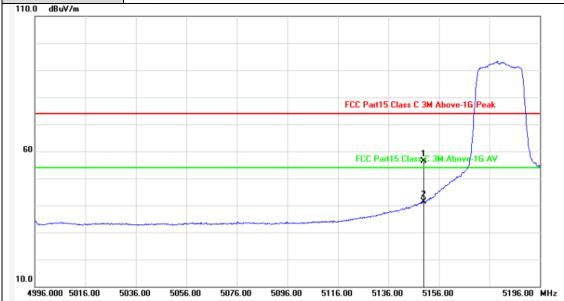
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	48.50	47.05	74.00	-26.95	peak
2	5350.000	-1.45	36.87	35.42	54.00	-18.58	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor





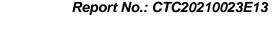


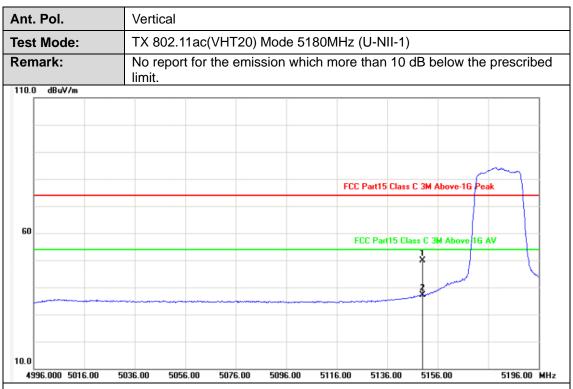
No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)			Detector
1	5150.000	-1.92	58.33	56.41	74.00	-17.59	peak
2	5150.000	-1.92	43.29	41.37	54.00	-12.63	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







	No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
	1	5150.000	-1.92	51.68	49.76	74.00	-24.24	peak
ſ	2	5150.000	-1.92	39.13	37.21	54.00	-16.79	AVG

#### Remarks:

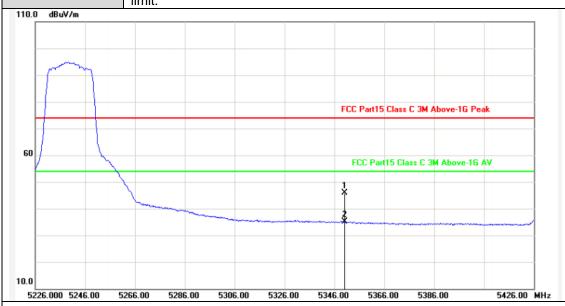
- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant. Pol. Horizontal

Test Mode: TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed



No.	Frequency (MHz)			Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5350.000	-1.45	47.23	45.78	74.00	-28.22	peak
2	5350.000	-1.45	36.60	35.15	54.00	-18.85	AVG

#### Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

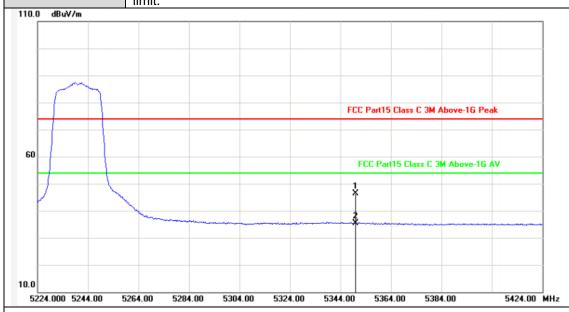
中国国家认证认可监督管理委员会



Ant. Pol. Vertical

Test Mode: TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed



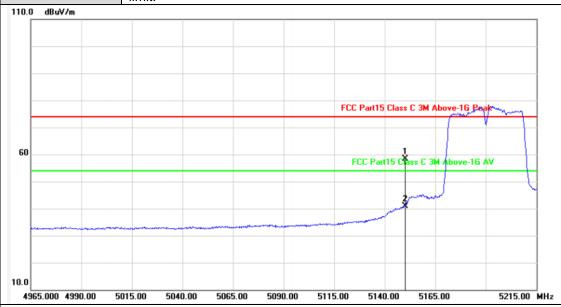
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	47.85	46.40	74.00	-27.60	peak
2	5350.000	-1.45	36.71	35.26	54.00	-18.74	AVG

#### Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant. Pol. Horizontal Test Mode: TX 802.11n(HT40) Mode 5190MHz (U-NII-1) No report for the emission which more than 10 dB below the prescribed Remark:



No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	60.23	58.31	74.00	-15.69	peak
2	5150.000	-1.92	42.88	40.96	54.00	-13.04	AVG

#### Remarks:

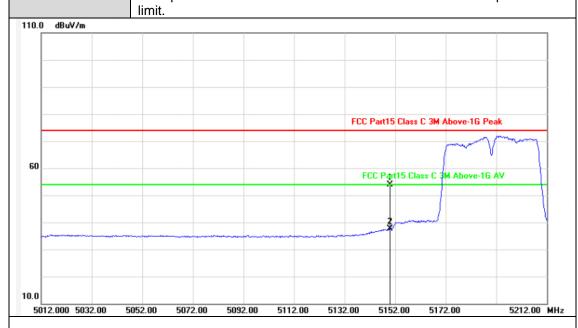
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor



Ant. Pol. Vertical

Test Mode: TX 802.11n(HT40) Mode 5190MHz (U-NII-1)

Remark: No report for the emission which more than 10 dB below the prescribed

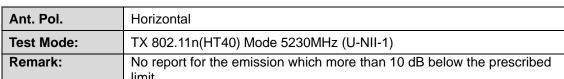


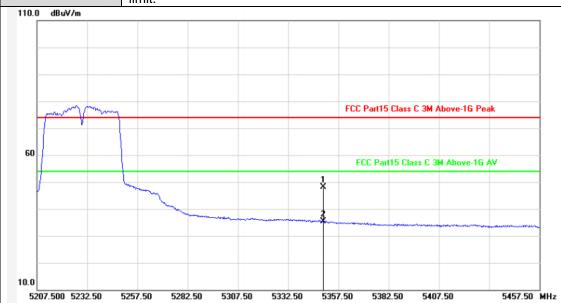
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	55.84	53.92	74.00	-20.08	peak
2	5150.000	-1.92	39.52	37.60	54.00	-16.40	AVG

#### Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value







No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	49.49	48.04	74.00	-25.96	peak
2	5350.000	-1.45	36.82	35.37	54.00	-18.63	AVG

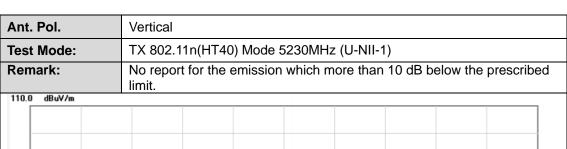
## Remarks:

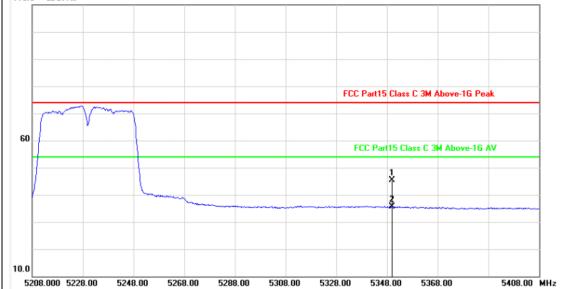
1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

For anti-fake verification, please visit the official website of Certification and 中国国家认证认可监督管理委员会 Accreditation Administration of the People's Republic of China: yz.cnca.cn





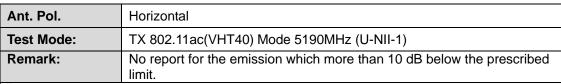


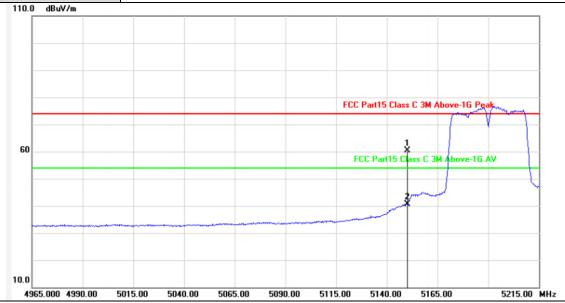
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5350.000	-1.45	46.88	45.43	74.00	-28.57	peak
2	5350.000	-1.45	37.19	35.74	54.00	-18.26	AVG

#### Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value





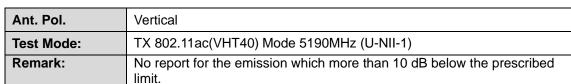


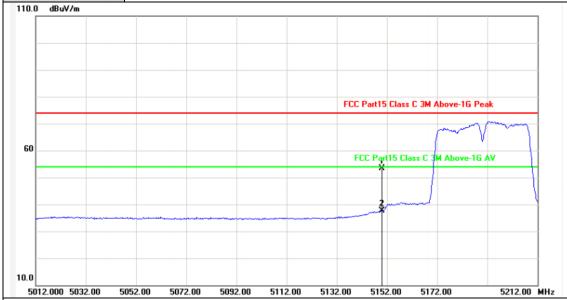
No.	Frequency (MHz)			Level (dBuV/m)		Margin (dB)	Detector
1	5150.000	-1.92	62.21	60.29	74.00	-13.71	peak
2	5150.000	-1.92	42.57	40.65	54.00	-13.35	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor







No.	Frequency (MHz)	Factor (dB/m)		Level (dBuV/m)			Detector
1	5150.000	-1.92	55.21	53.29	74.00	-20.71	peak
2	5150.000	-1.92	39.43	37.51	54.00	-16.49	AVG

## Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

中国国家认证认可监督管理委员会