TEST REPORT

Product Name	:	Wi-Fi/BT Module
Brand Mark	:	HUNAN FN-LINK
Model No.	:	6223N-SRD
FCC ID	:	2AATL-6223N-SRD
Report Number	:	BLA-EMC-202102-A4204
Date of Sample Receipt	:	2021/2/23
Date of Test	:	2021/2/23 to 2021/3/10
Date of Issue	:	2021/3/10
Test Standard	:	47 CFR Part 15, Subpart C 15.247
Test Result	:	Pass

Prepared for:

HUNAN FN-LINK TECHNOLOGY LIMITED
No.8, Litong Road, Liuyang Economic & Technical Development Zone, Changsha, Hunan, CHINA

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
TEL: +86-755-23059481

Compiled by: Jozu.

Review by: Sweet. Liang

Approved by: Kmen Li

Date: 2021/3/11

BlueAsia of Technical Services(Shenzhen) Co., Ltd. BLA

REPORT REVISE RECORD

Version No.	Date	Description
00	2021/3/11	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass

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2 GENERAL INFORMATION

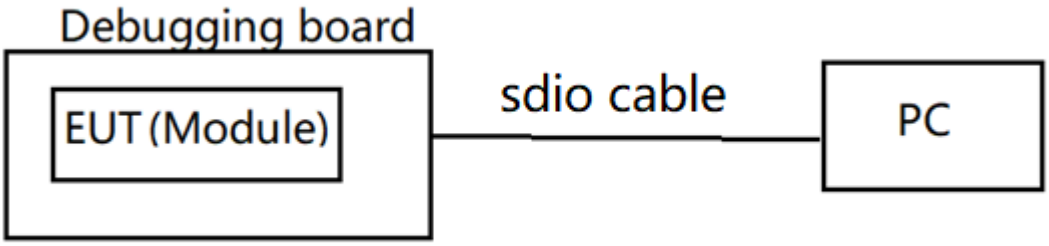
Applicant	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No.8, Litong Road, Liuyang Economic & Technical Development Zone, Changsha, Hunan, CHINA
Manufacturer	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No.8, Litong Road, Liuyang Economic & Technical Development Zone, Changsha, Hunan, CHINA
Factory	HUNAN FN-LINK TECHNOLOGY LIMITED
Address	No.8, Litong Road, Liuyang Economic & Technical Development Zone, Changsha, Hunan, CHINA
Product Name	Wi-Fi/BT Module
Test Model No.	6223N-SRD

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	1.0
Software Version	1.0

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Antenna Type:	Internal Antenna
Antenna Gain:	1.2 dBi(Provided by customer)

4 BLOCK DIAGRAM OF EUT CONNECTION



5 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25℃	3.3Vdc

6 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
TX	Keep the EUT in transmitting mode with modulation(Duty cycle>=98%)
Remark:Only the data of the worst mode would be recorded in this report.	

7 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

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8 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	HASEE	K610D	--	--
Note: "--" means no any support device during testing.				

9 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

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10 TEST INSTRUMENTS LIST

Test Equipment Of Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Radiated Spurious Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**

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Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Conducted Spurious Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Band Edges Measurement					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11

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Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Minimum 6dB Bandwidth					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2020/10/12	2021/10/11
LISN	R&S	ENV216	3560.6550.15	2020/10/12	2021/10/11
LISN	AT	AT166-2	AKK1806000003	2020/10/12	2021/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of Power Spectrum Density					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

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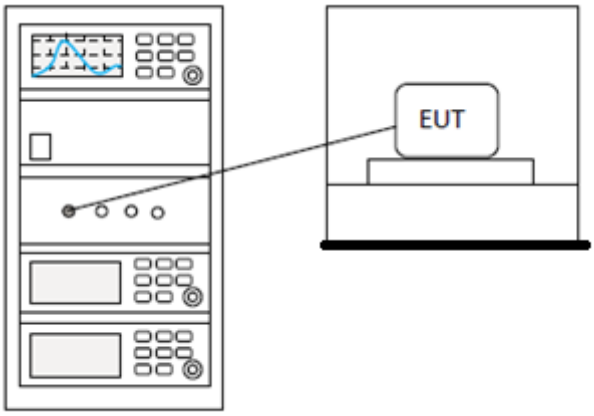
1 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

1.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

1.2 BLOCK DIAGRAM OF TEST SETUP



1.3 EST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

2 RADIATED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX mode (SE) below 1G;TX mode (SE) Above 1G
Test Mode (Final Test)	TX mode (SE) below 1G;TX mode (SE) Above 1G
Tester	Jozu
Temperature	25℃
Humidity	60%

2.1 LIMITS

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

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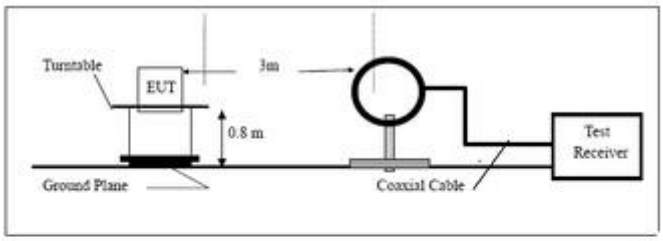
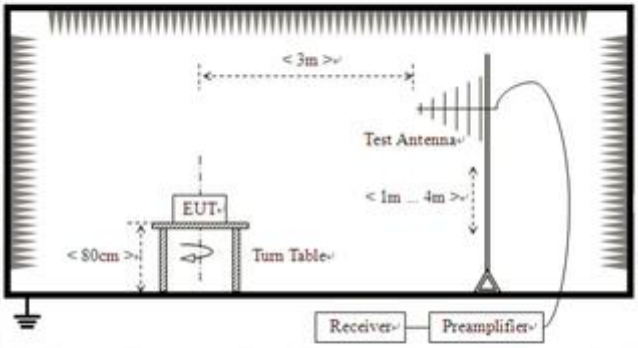
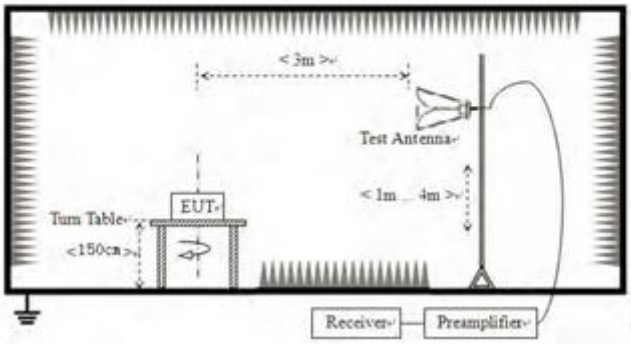
2.2 BLOCK DIAGRAM OF TEST SETUP







2.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.

Remark:
1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor ¨C Preamplifier Factor
3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

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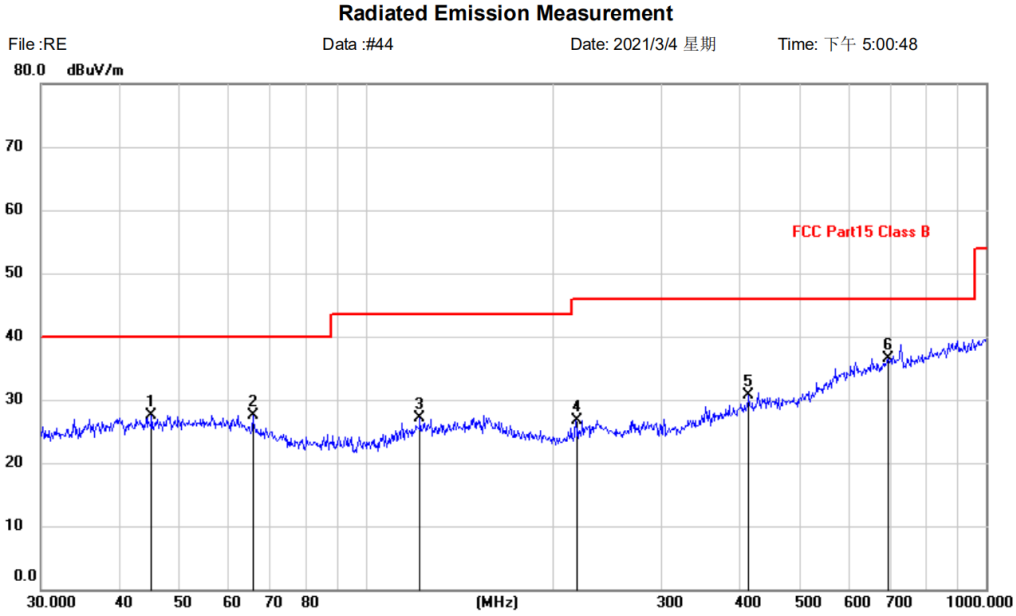
2.4 TEST DAT

[Test Mode: TX mode (SE) below 1G] [Polarity: Horizontal]



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 Class B	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: wifi mode		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		45.2166	13.52	13.89	27.41	40.00	-12.59	QP			
2		65.8031	15.32	12.20	27.52	40.00	-12.48	QP			
3		122.4040	14.50	12.61	27.11	43.50	-16.39	QP			
4		218.3085	15.07	11.71	26.78	46.00	-19.22	QP			
5		414.7223	13.11	17.50	30.61	46.00	-15.39	QP			
6	*	694.4174	14.55	22.04	36.59	46.00	-9.41	QP			

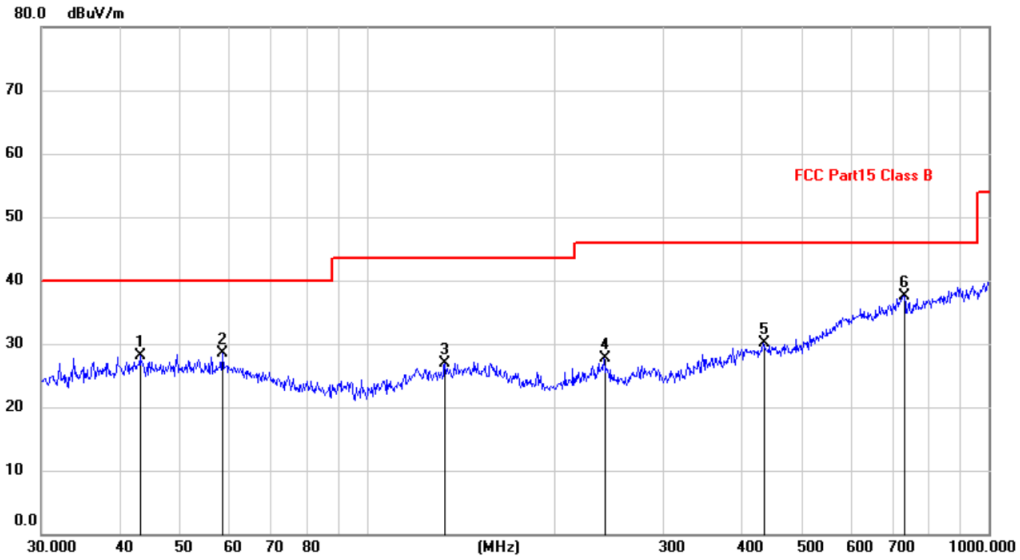
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX mode (SE) below 1G] [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#43 Date: 2021/3/4 星期 Time: 下午 4:58:59



Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 Class B	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: wifi mode		
Note:		

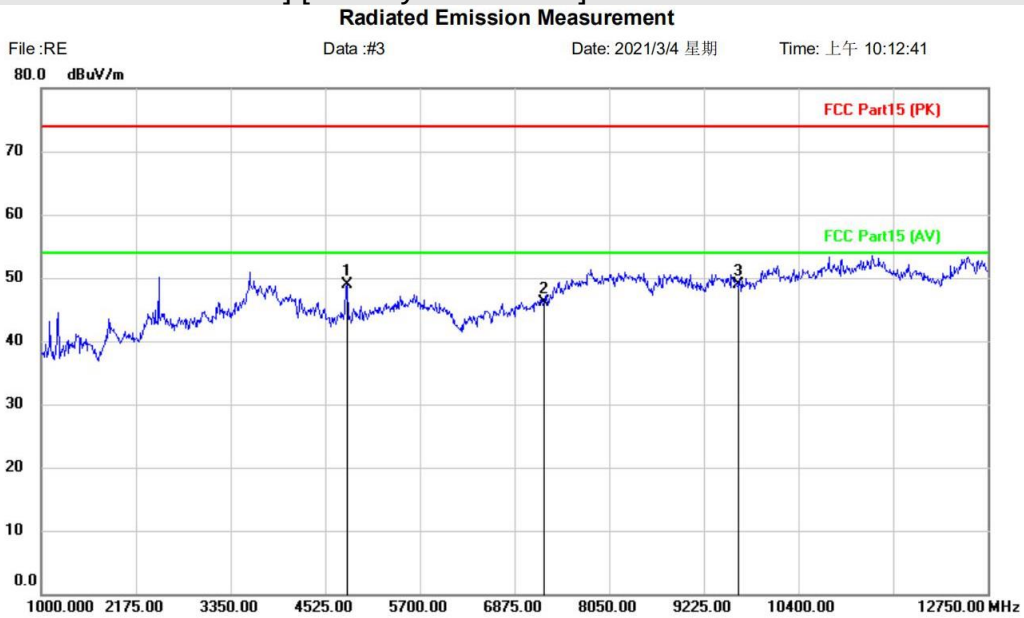
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		43.2017	14.07	13.94	28.01	40.00	-11.99	QP			
2		58.6126	15.05	13.48	28.53	40.00	-11.47	QP			
3		133.6188	13.96	13.04	27.00	43.50	-16.50	QP			
4		240.8304	15.01	12.74	27.75	46.00	-18.25	QP			
5		434.0651	12.46	17.70	30.16	46.00	-15.84	QP			
6	*	729.3583	14.74	22.76	37.50	46.00	-8.50	QP			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11b mode which it is worse case.

[Test Mode: TX Low channel] [Polarity: Horizontal]



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4795.250	56.25	-7.33	48.92	74.00	-25.08	peak			
2		7236.000	50.17	-4.16	46.01	74.00	-27.99	peak			
3	*	9648.000	49.07	-0.07	49.00	74.00	-25.00	peak			

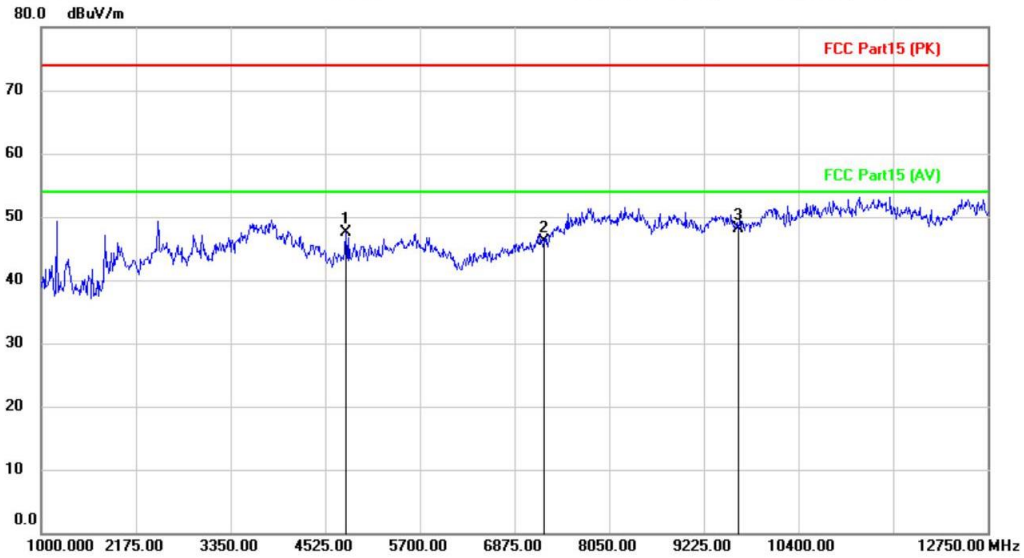
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX Low channel] [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#4 Date: 2021/3/4 星期 Time: 上午 10:15:03



Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4783.500	54.97	-7.48	47.49	74.00	-26.51	peak			
2		7236.000	50.18	-4.16	46.02	74.00	-27.98	peak			
3	*	9648.000	48.23	-0.07	48.16	74.00	-25.84	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX middle channel] [Polarity: Horizontal]

Radiated Emission Measurement

File :RE Data :#5 Date: 2021/3/4 星期 Time: 上午 10:30:00

Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-M		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4877.500	55.28	-7.50	47.78	74.00	-26.22	peak			
2		7311.000	50.88	-3.48	47.40	74.00	-26.60	peak			
3	*	9748.000	48.09	0.47	48.56	74.00	-25.44	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX middle channel] [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#6 Date: 2021/3/4 星期 Time: 上午 10:33:33

Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-M		
Note:		

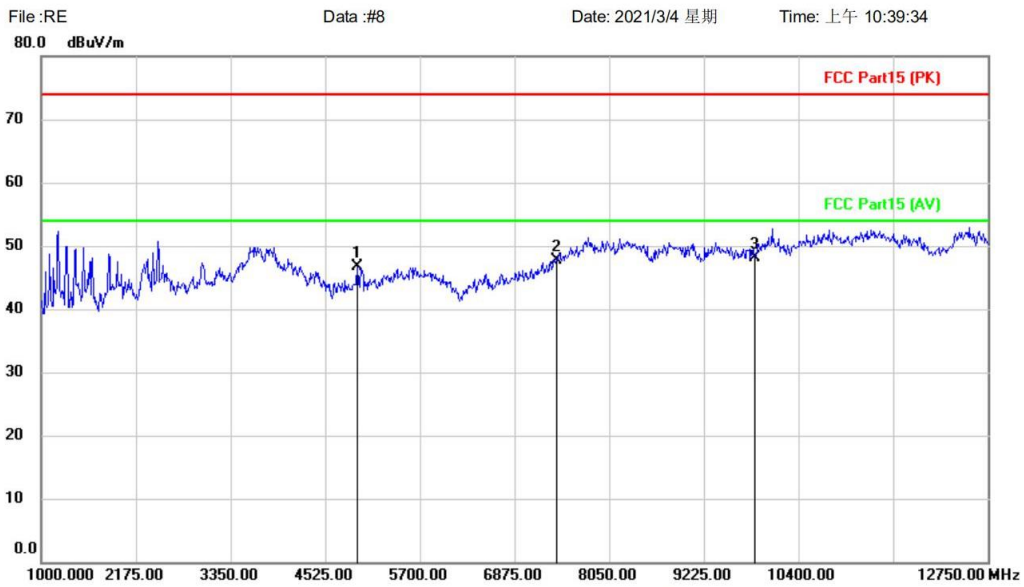
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	4795.250	57.41	-7.33	50.08	74.00	-23.92	peak			
2		7311.000	51.24	-3.48	47.76	74.00	-26.24	peak			
3		9748.000	48.97	0.47	49.44	74.00	-24.56	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX high channel] [Polarity: Horizontal]

Radiated Emission Measurement



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4924.500	54.03	-7.32	46.71	74.00	-27.29	peak			
2		7386.000	50.57	-2.79	47.78	74.00	-26.22	peak			
3	*	9848.000	47.06	1.10	48.16	74.00	-25.84	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[Test Mode: TX high channel] [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#7 Date: 2021/3/4 星期 Time: 上午 10:36:37

Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	4783.500	56.57	-7.48	49.09	74.00	-24.91	peak			
2		7386.000	50.71	-2.79	47.92	74.00	-26.08	peak			
3		9848.000	47.29	1.10	48.39	74.00	-25.61	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

3 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

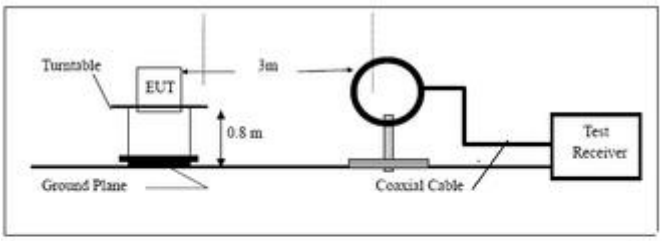
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX Low channel;TX high channel
Test Mode (Final Test)	TX Low channel;TX high channel
Tester	Jozu
Temperature	25℃
Humidity	60%

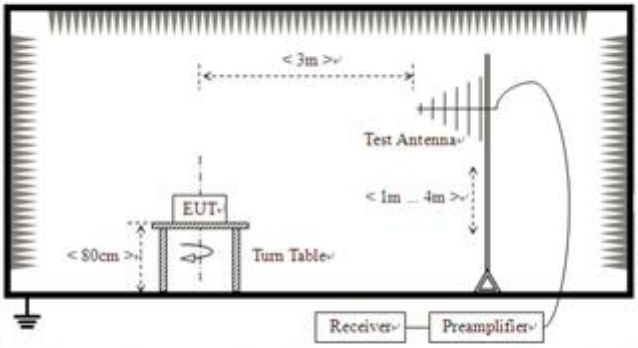
3.1 LIMITS

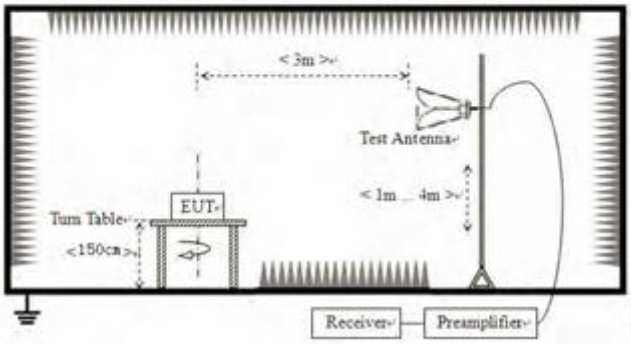
Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

BlueAsia

3.2 BLOCK DIAGRAM OF TEST SETUP







3.3 PROCEDURE

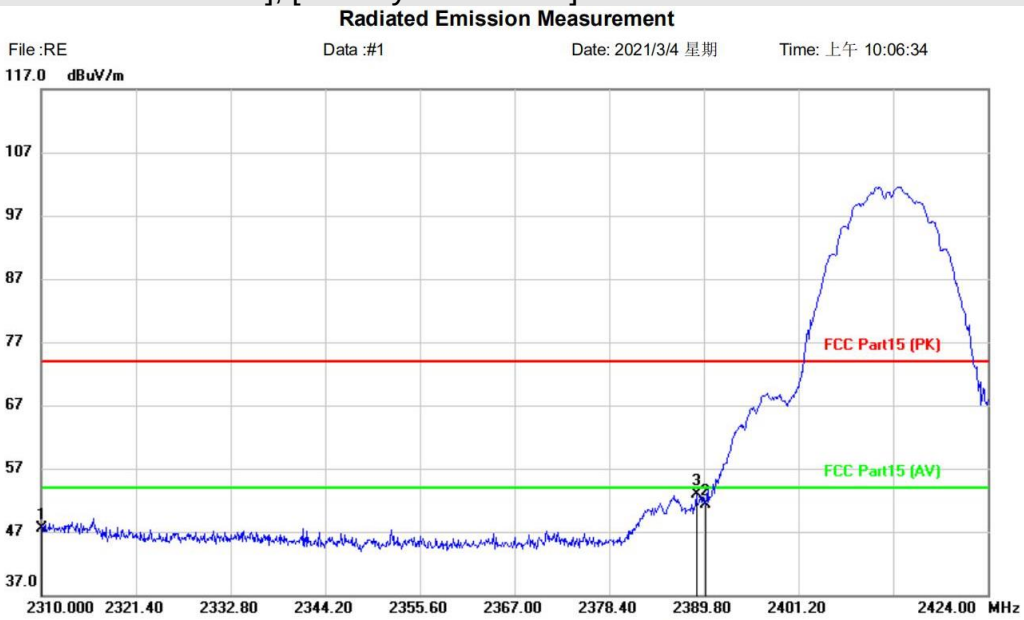
a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

BlueAsia

3.4 TEST DATA

[TestMode: TX Low channel]; [Polarity: Horizontal]



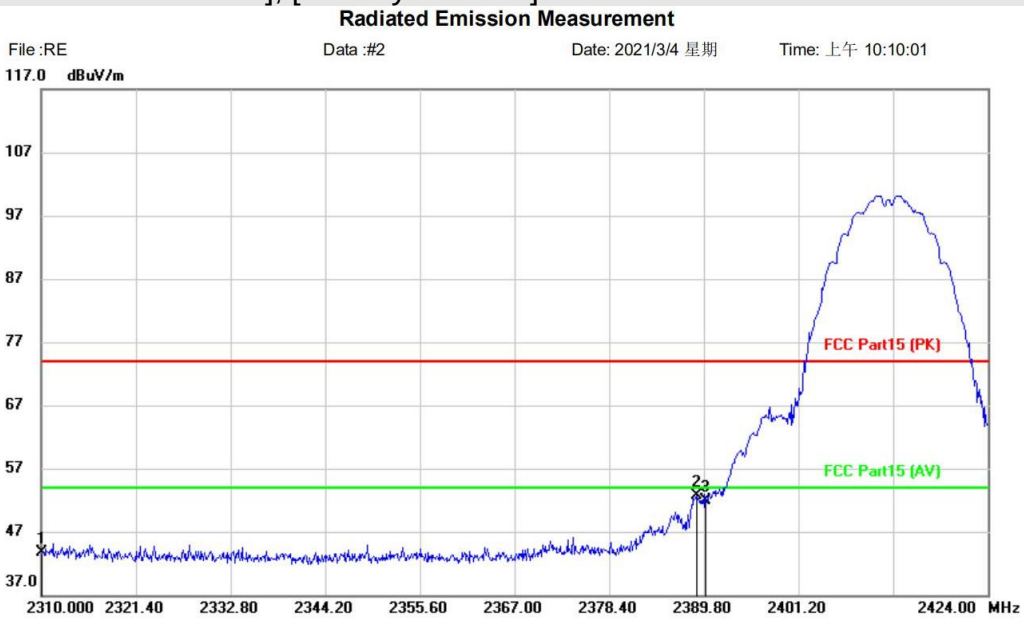
Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	63.02	-15.49	47.53	74.00	-26.47	peak			
2		2390.000	66.49	-15.18	51.31	74.00	-22.69	peak			
3	*	2388.888	68.06	-15.19	52.87	74.00	-21.13	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Vertical]



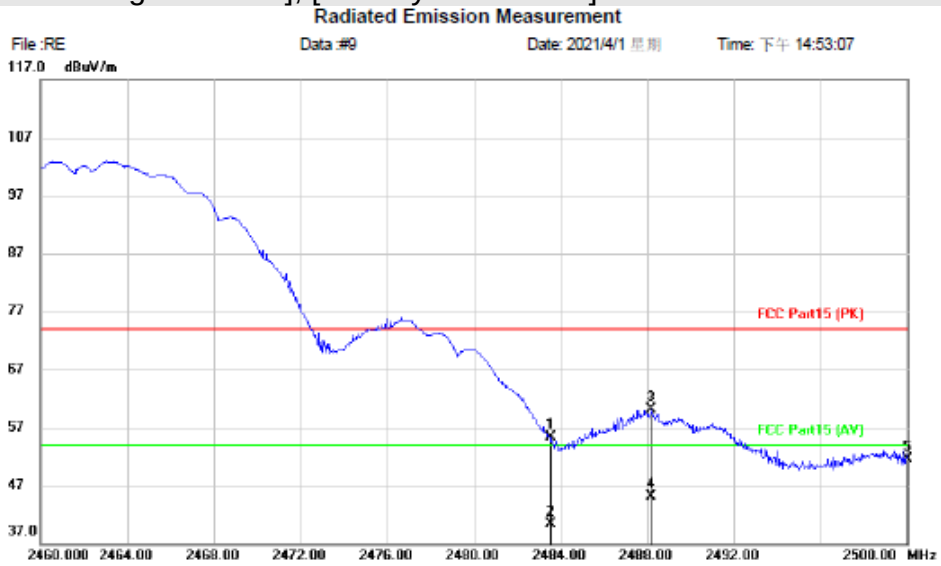
Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	59.17	-15.49	43.68	74.00	-30.32	peak			
2	*	2388.888	67.82	-15.19	52.63	74.00	-21.37	peak			
3		2390.000	67.03	-15.18	51.85	74.00	-22.15	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: WIFI/BT Model
M/N: 6223N-SRD
Mode: TX-B-H
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

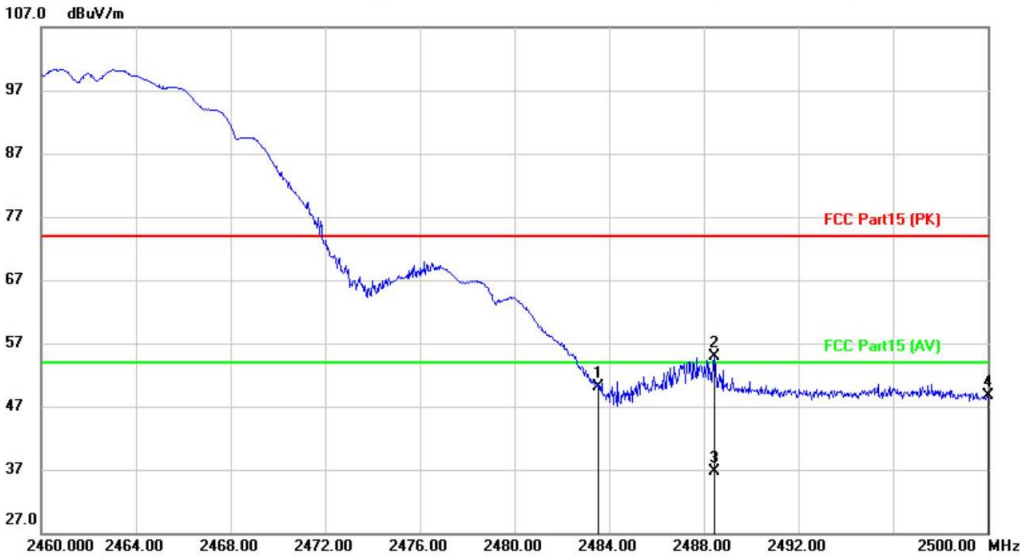
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	70.11	-14.79	55.32	74.00	-18.68	peak			
2		2483.500	55.16	-14.79	40.37	54.00	-13.63	AVG			
3		2488.200	74.90	-14.78	60.12	74.00	-13.88	peak			
4	*	2488.200	59.79	-14.78	45.01	54.00	-8.99	AVG			
5		2500.000	66.25	-14.72	51.53	74.00	-22.47	peak			

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#10 Date: 2021/3/4 星期 Time: 上午 10:56:49



Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-B-H		
Note:		

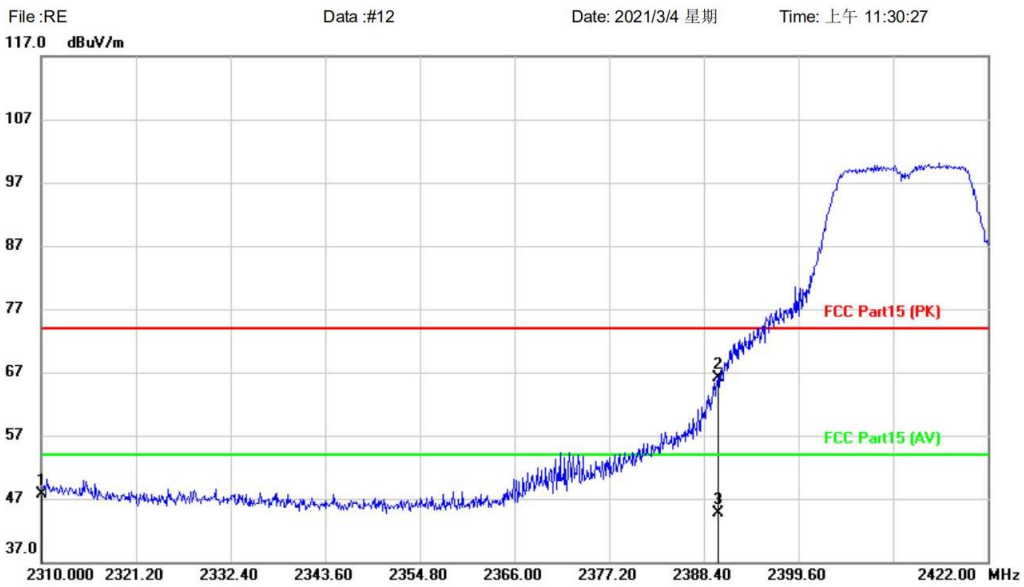
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	64.96	-14.79	50.17	74.00	-23.83	peak			
2		2488.440	69.76	-14.78	54.98	74.00	-19.02	peak			
3	*	2488.440	51.53	-14.78	36.75	54.00	-17.25	AVG			
4		2500.000	63.44	-14.72	48.72	74.00	-25.28	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Horizontal]

Radiated Emission Measurement



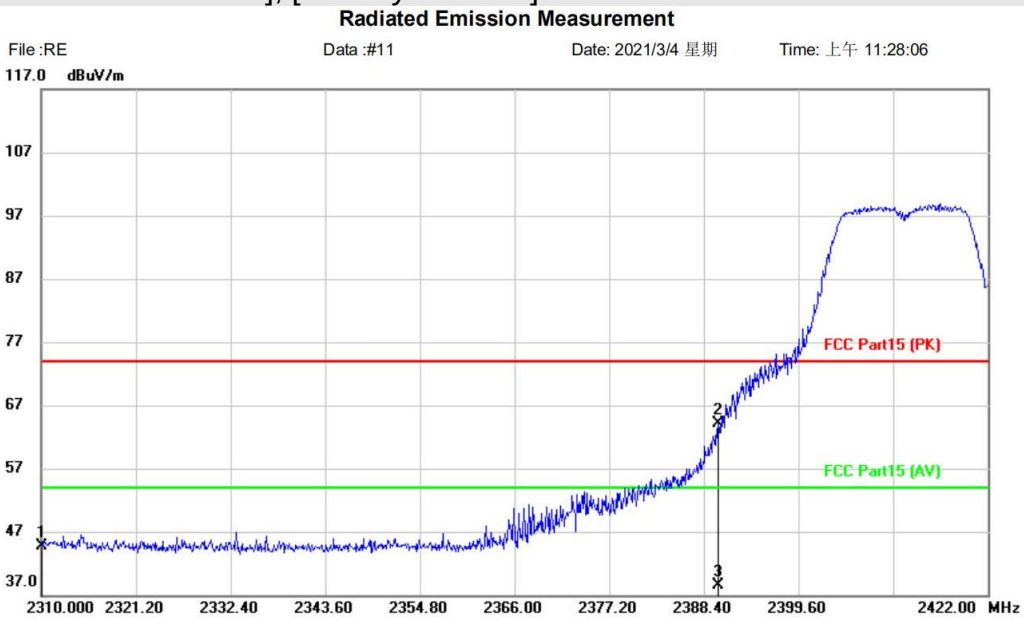
Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-G-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	63.24	-15.49	47.75	74.00	-26.25	peak			
2	*	2390.000	81.36	-15.18	66.18	74.00	-7.82	peak			
3		2390.000	59.81	-15.18	44.63	54.00	-9.37	AVG			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Vertical]



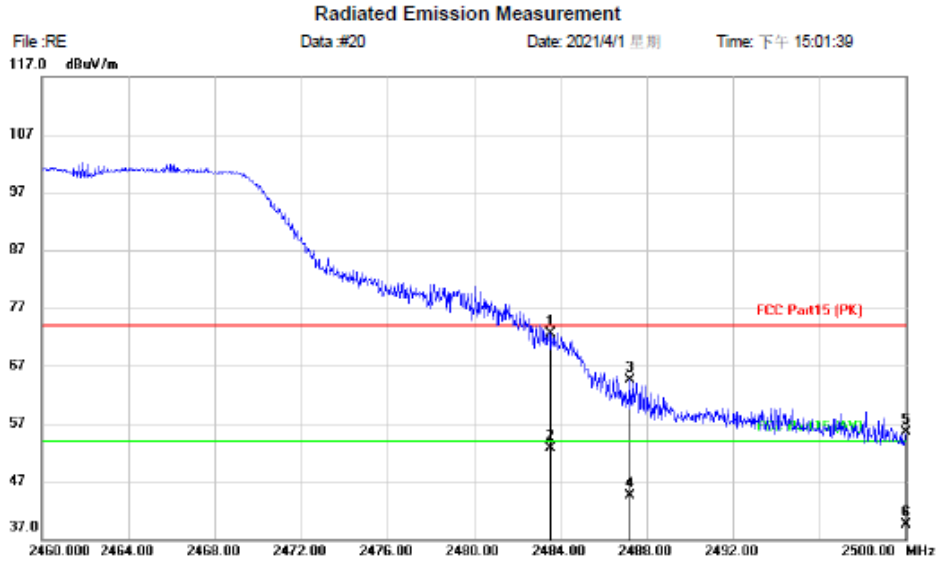
Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-G-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	60.27	-15.49	44.78	74.00	-29.22	peak			
2	*	2390.000	79.23	-15.18	64.05	74.00	-9.95	peak			
3		2390.000	53.69	-15.18	38.51	54.00	-15.49	AVG			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: WIFI/BT Model
M/N: 6223N-SRD
Mode: TX-G-H
Note:

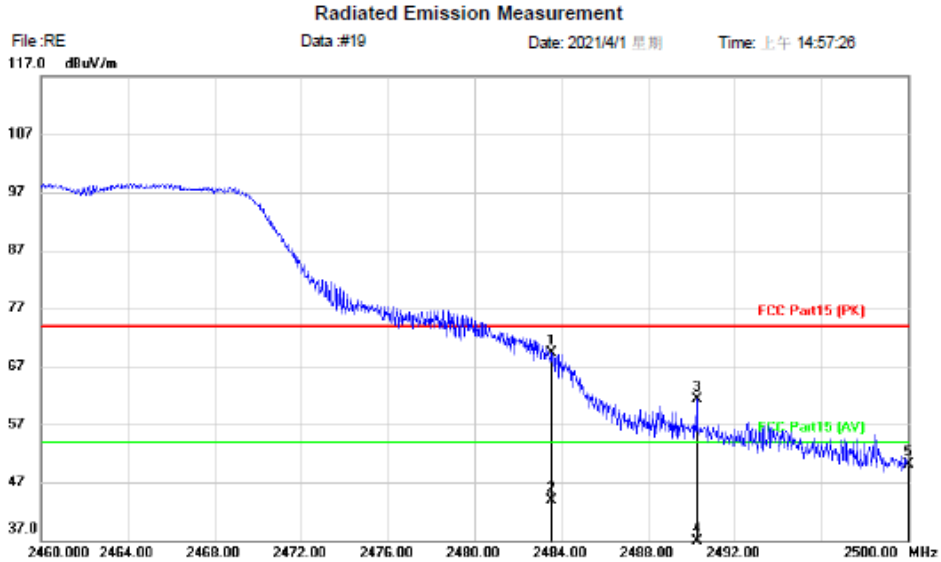
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2483.500	87.27	-14.79	72.48	74.00	-1.52	peak			
2	*	2483.500	67.43	-14.79	52.64	54.00	-1.36	AVG			
3		2487.200	79.35	-14.78	64.57	74.00	-9.43	peak			
4		2487.200	59.33	-14.78	44.55	54.00	-9.45	AVG			
5		2500.000	70.13	-14.72	55.41	74.00	-18.59	peak			
6		2500.000	54.19	-14.72	39.47	54.00	-14.53	AVG			

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site	Polarization: *Vertical*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-G-H		
Note:		

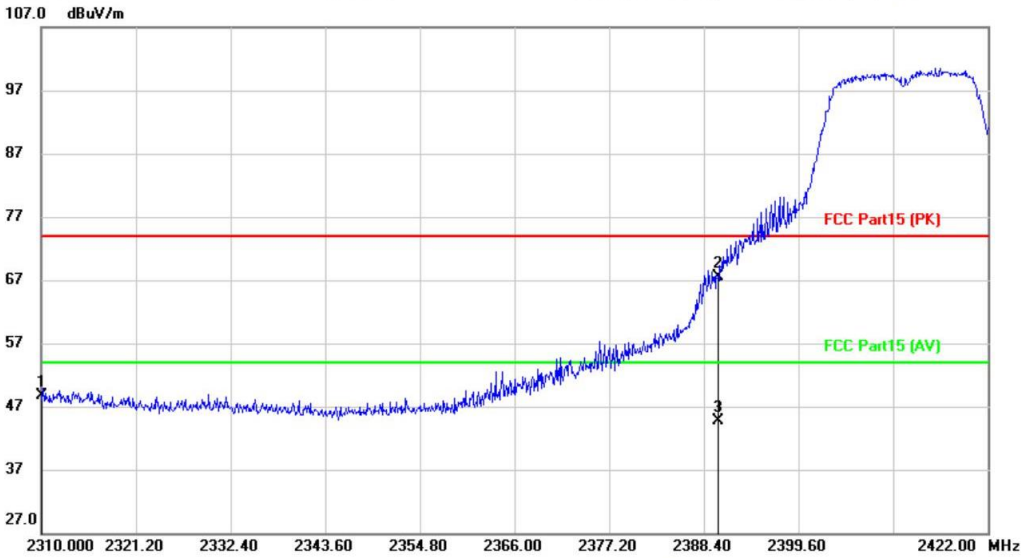
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	84.18	-14.79	69.39	74.00	-4.61	peak			
2		2483.500	58.75	-14.79	43.96	54.00	-10.04	AVG			
3		2490.240	76.02	-14.76	61.26	74.00	-12.74	peak			
4		2490.240	51.70	-14.76	36.94	54.00	-17.06	AVG			
5		2500.000	64.78	-14.72	50.06	74.00	-23.94	peak			

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Horizontal]

Radiated Emission Measurement

File :RE Data :#22 Date: 2021/3/4 星期 Time: 下午 1:50:01



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-N20-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	64.18	-15.49	48.69	74.00	-25.31	peak			
2	*	2390.000	82.72	-15.18	67.54	74.00	-6.46	peak			
3		2390.000	59.90	-15.18	44.72	54.00	-9.28	AVG			

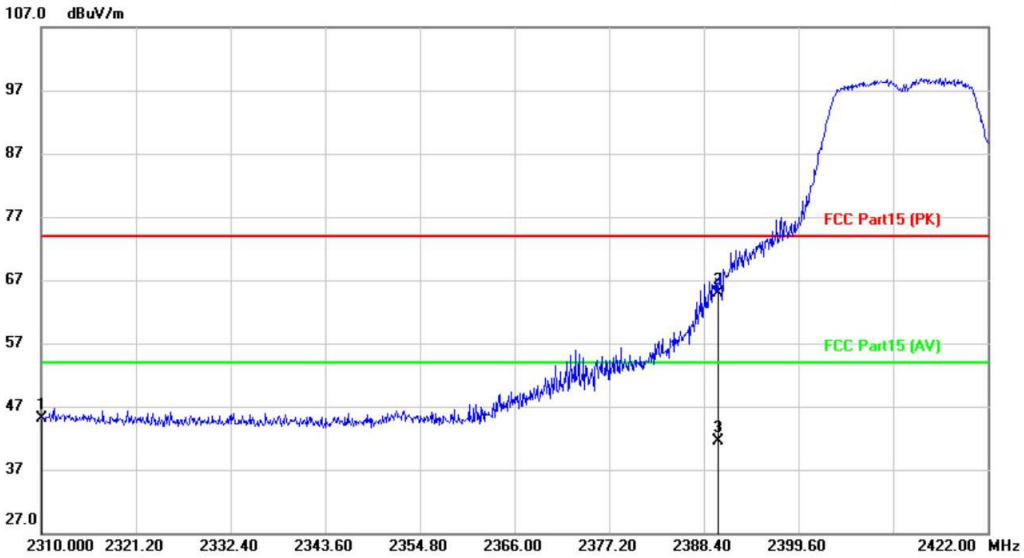
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#21 Date: 2021/3/4 星期 Time: 下午 1:45:38



Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-N20-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	60.59	-15.49	45.10	74.00	-28.90	peak			
2	*	2390.000	80.11	-15.18	64.93	74.00	-9.07	peak			
3		2390.000	56.74	-15.18	41.56	54.00	-12.44	AVG			

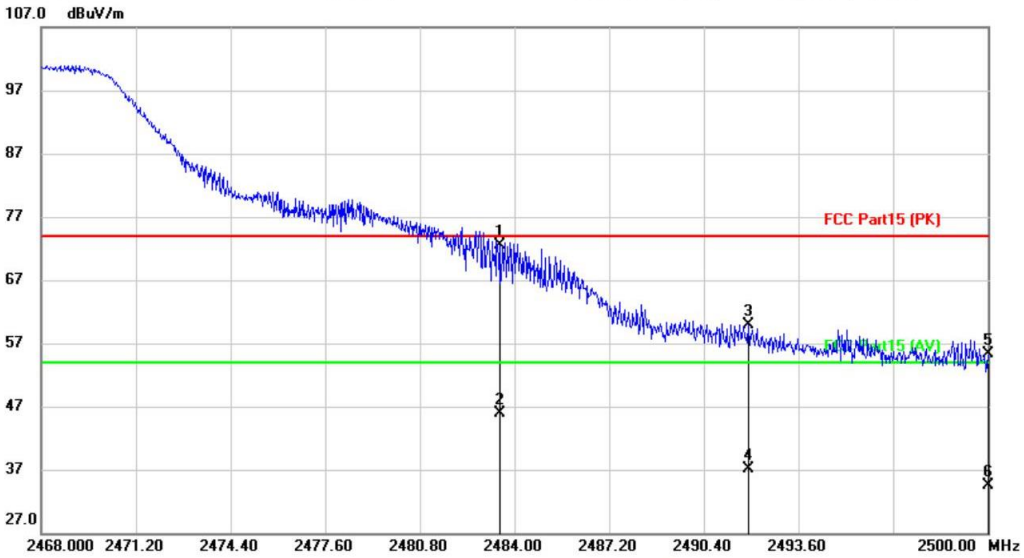
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]

Radiated Emission Measurement

File :RE Data :#29 Date: 2021/3/4 星期 Time: 下午 2:31:24



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-N20-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	87.34	-14.79	72.55	74.00	-1.45	peak			
2		2483.500	60.61	-14.79	45.82	54.00	-8.18	AVG			
3		2491.904	74.75	-14.76	59.99	74.00	-14.01	peak			
4		2491.904	51.92	-14.76	37.16	54.00	-16.84	AVG			
5		2500.000	70.03	-14.72	55.31	74.00	-18.69	peak			
6		2500.000	49.28	-14.72	34.56	54.00	-19.44	AVG			

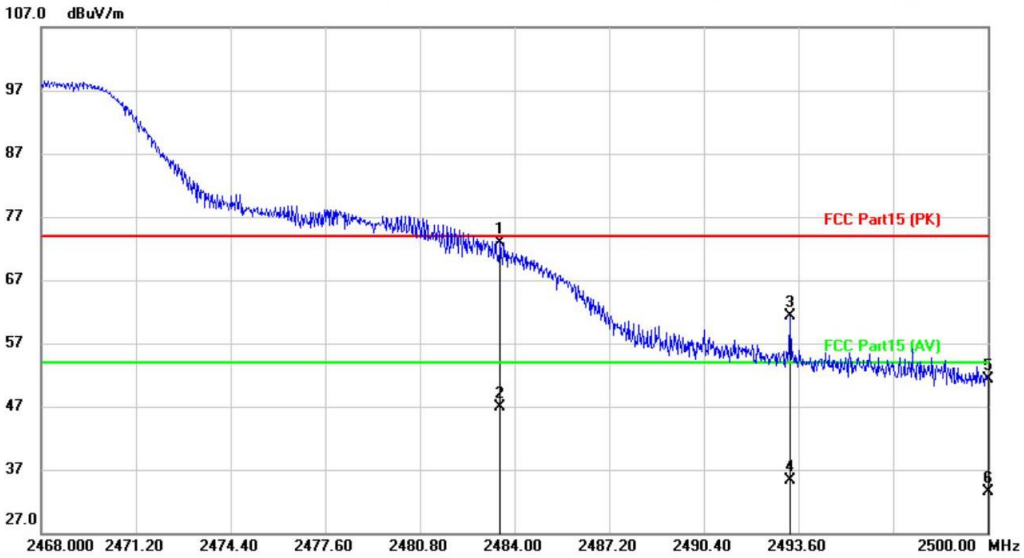
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]

Radiated Emission Measurement

File :RE Data :#30 Date: 2021/3/4 星期 Time: 下午 2:38:36



Site	Polarization: ***Vertical***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-N20-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	87.75	-14.79	72.96	74.00	-1.04	peak			
2		2483.500	61.64	-14.79	46.85	54.00	-7.15	AVG			
3		2493.312	76.14	-14.75	61.39	74.00	-12.61	peak			
4		2493.312	50.12	-14.75	35.37	54.00	-18.63	AVG			
5		2500.000	66.12	-14.72	51.40	74.00	-22.60	peak			
6		2500.000	48.24	-14.72	33.52	54.00	-20.48	AVG			

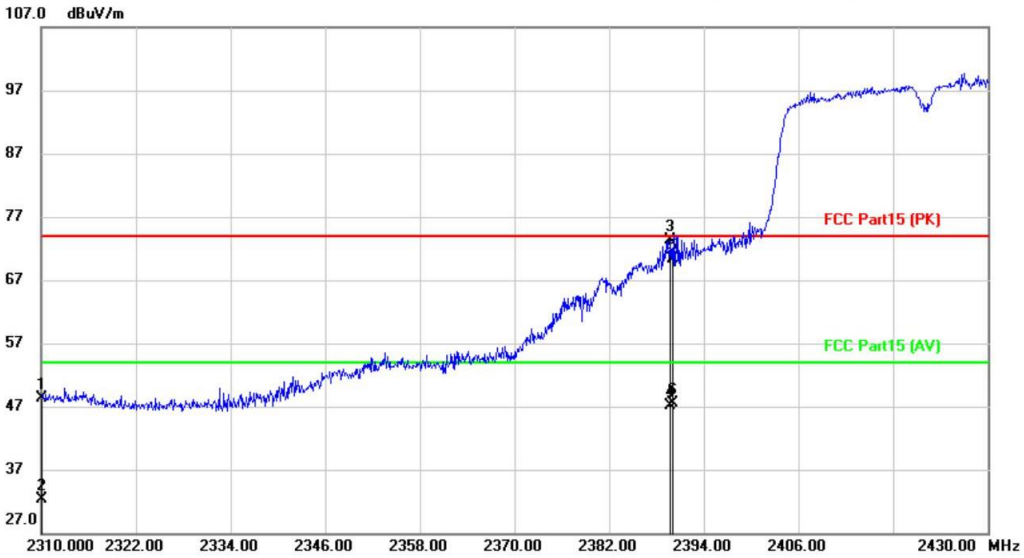
*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX Low channel]; [Polarity: Horizontal]

Radiated Emission Measurement

File :RE Data :#31 Date: 2021/3/4 星期 Time: 下午 2:57:46



Site	Polarization: ***Horizontal***	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: WIFI/BT Model	Distance: 3m	
M/N: 6223N-SRD		
Mode: TX-N40-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	63.76	-15.49	48.27	74.00	-25.73	peak			
2		2310.000	47.79	-15.49	32.30	54.00	-21.70	AVG			
3	*	2389.800	88.46	-15.18	73.28	74.00	-0.72	peak			
4		2389.800	62.26	-15.18	47.08	54.00	-6.92	AVG			
5		2390.000	85.49	-15.18	70.31	74.00	-3.69	peak			
6		2390.000	62.65	-15.18	47.47	54.00	-6.53	AVG			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass