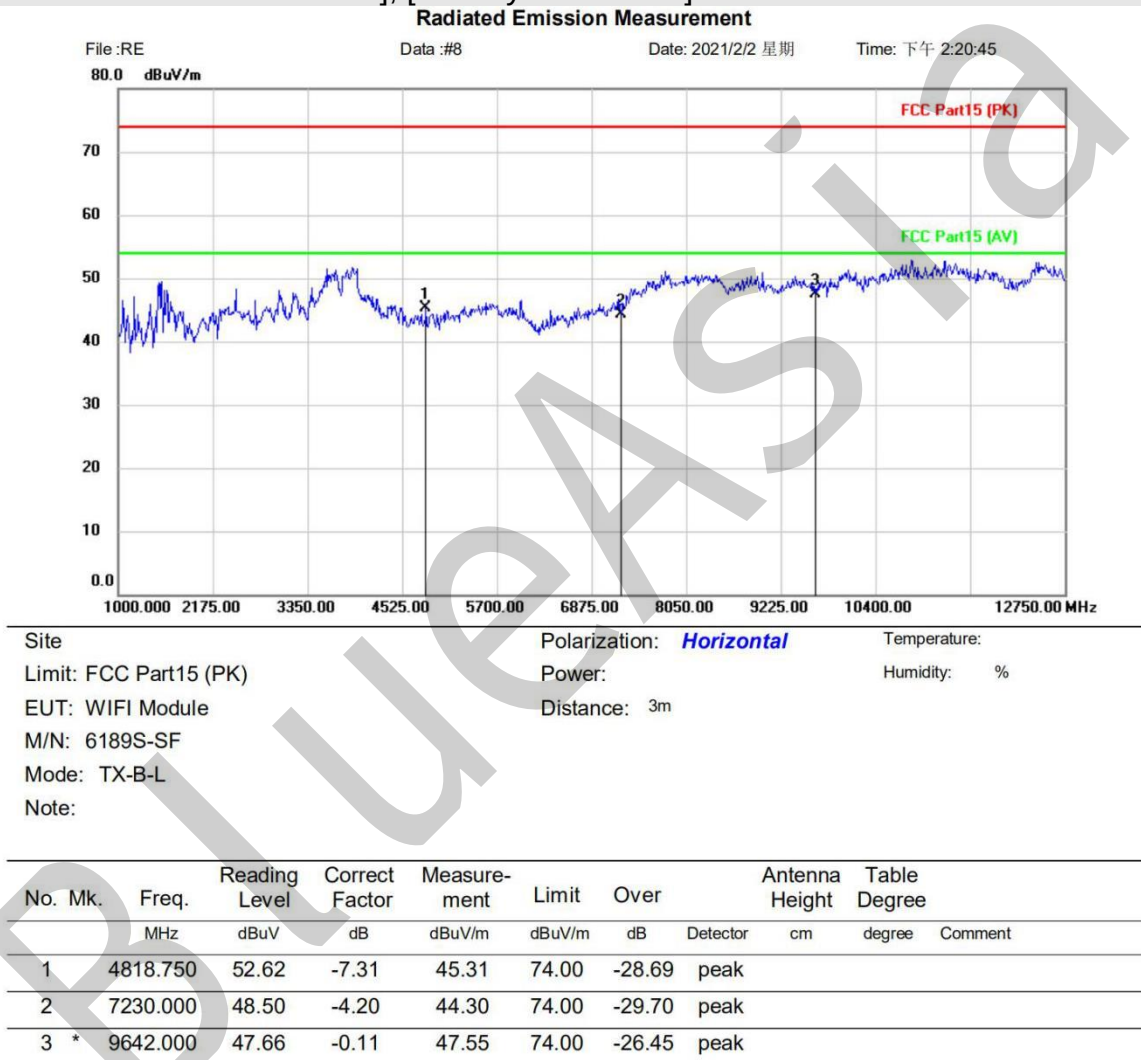


[Test Mode: 802.11b]

Remark: During the test, pre-scan the 802.11b/g/nH20/nH40 mode, and found the 802.11b mode which it is worse case.

[TestMode: Test channel:lowest]; [Polarity: Horizontal]



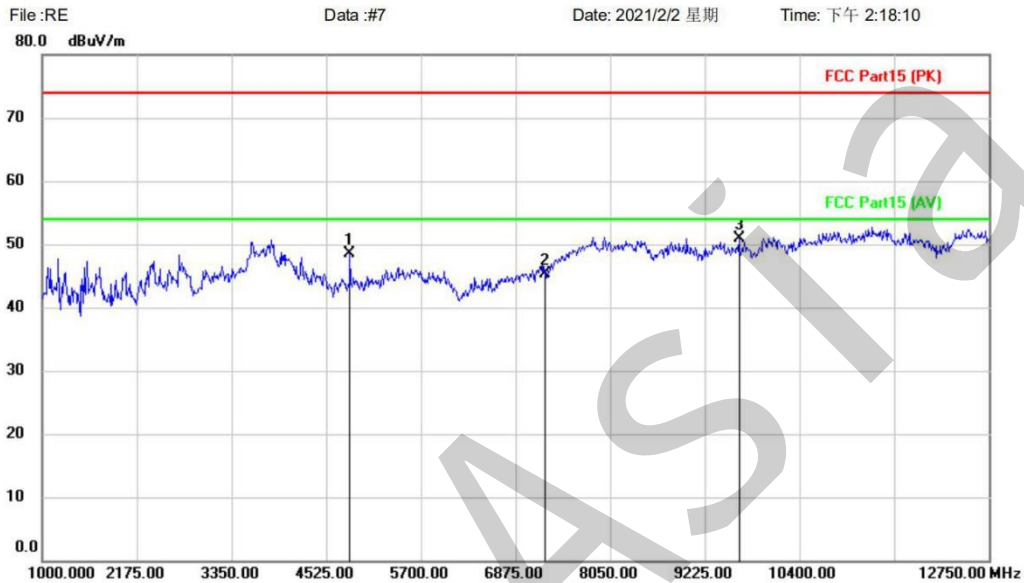
*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: Test channel:lowest]; [Polarity: Vertical]

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-L
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4818.750	55.79	-7.31	48.48	74.00	-25.52	peak		
2		7230.000	49.44	-4.20	45.24	74.00	-28.76	peak		
3	*	9642.000	50.95	-0.11	50.84	74.00	-23.16	peak		

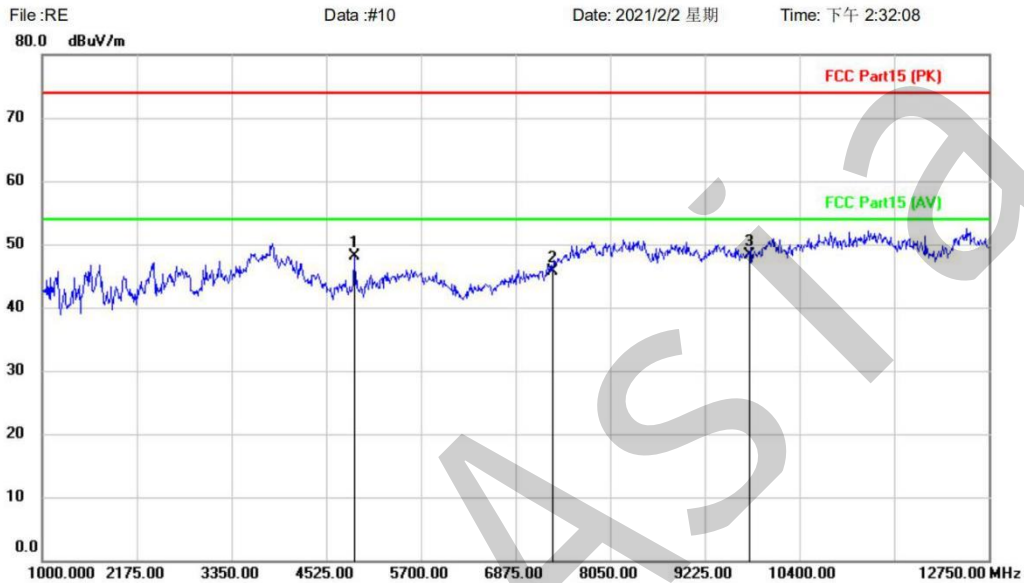
*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: Test channel:Middle]; [Polarity: Horizontal]

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Horizontal** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-M
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4877.500	55.67	-7.50	48.17	74.00	-25.83	peak		
2		7329.000	48.99	-3.31	45.68	74.00	-28.32	peak		
3	*	9771.000	47.63	0.59	48.22	74.00	-25.78	peak		

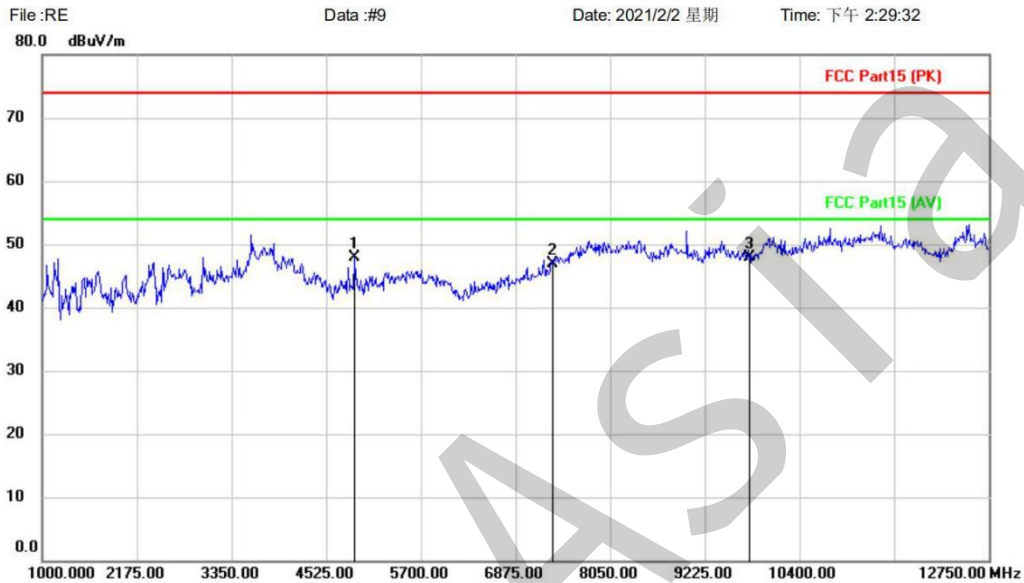
*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: Test channel:Middle]; [Polarity: Vertical]

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-M
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4877.500	55.32	-7.50	47.82	74.00	-26.18	peak		
2		7329.000	50.29	-3.31	46.98	74.00	-27.02	peak		
3	*	9771.000	47.29	0.59	47.88	74.00	-26.12	peak		

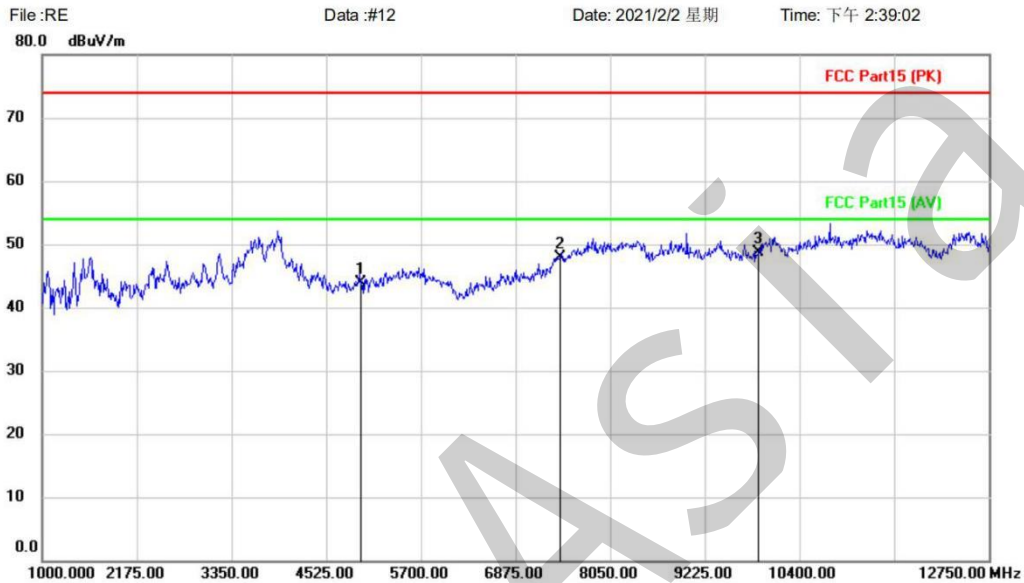
*:Maximum data x:Over limit !:over margin

〈Reference Only

Test Result: Pass

[TestMode: Test channel:Highest]; [Polarity: Horizontal]

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Horizontal** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-H
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4944.000	50.97	-7.15	43.82	74.00	-30.18	peak		
2		7416.000	50.56	-2.57	47.99	74.00	-26.01	peak		
3	*	9888.000	47.35	1.40	48.75	74.00	-25.25	peak		

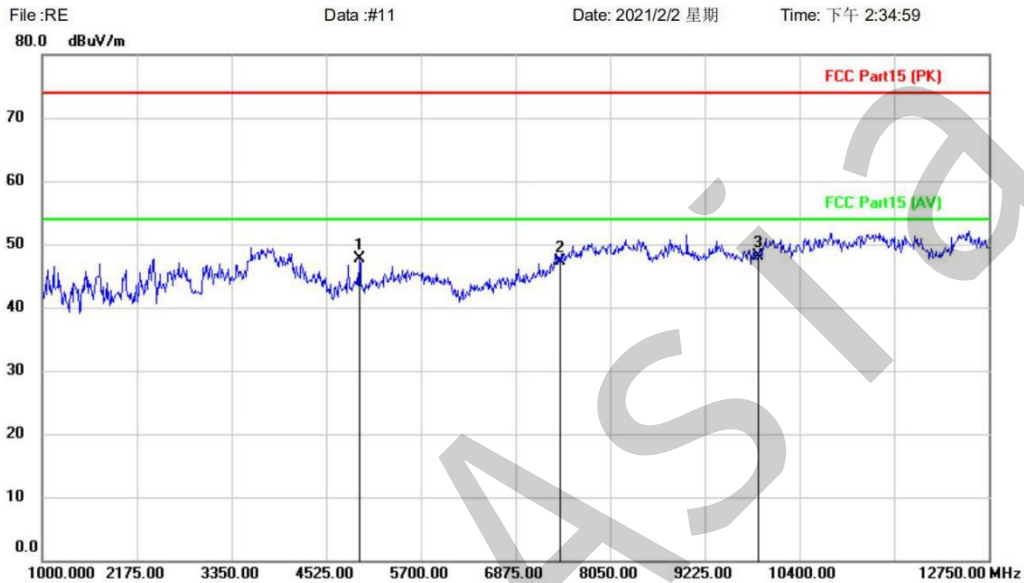
*:Maximum data x:Over limit !:over margin

〈Reference Only

Test Result: Pass

[TestMode: Test channel:Highest]; [Polarity: Vertical]

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-H
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		4936.250	54.93	-7.22	47.71	74.00	-26.29	peak		
2		7416.000	49.94	-2.57	47.37	74.00	-26.63	peak		
3	*	9888.000	46.80	1.40	48.20	74.00	-25.80	peak		

*:Maximum data x:Over limit !:over margin

〈Reference Only

Test Result: Pass

9 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

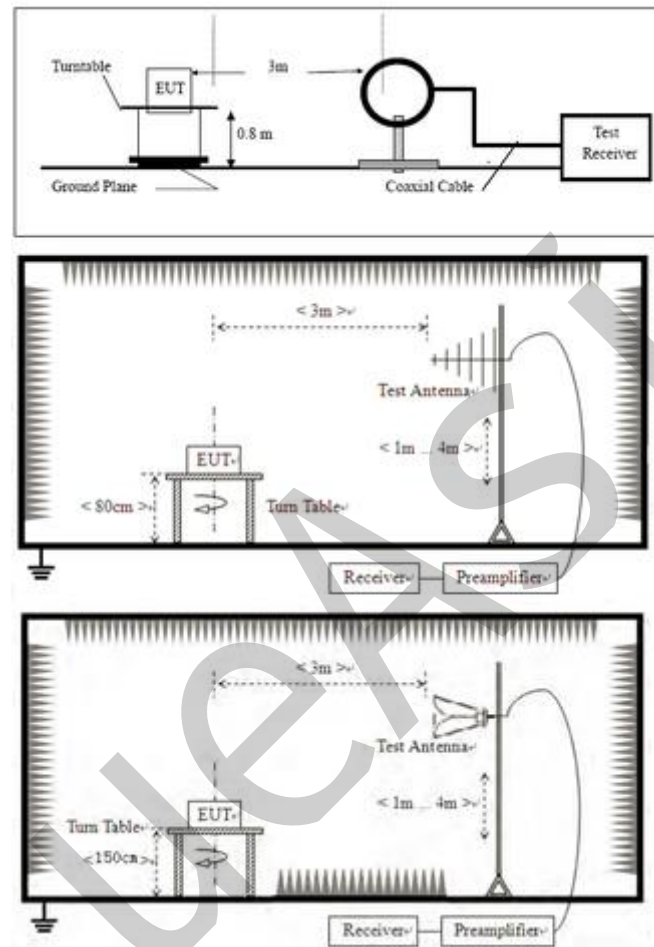
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

9.1 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.

9.2 BLOCK DIAGRAM OF TEST SETUP



9.3 PROCEDURE

- 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.
- 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.
- 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.
- 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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.

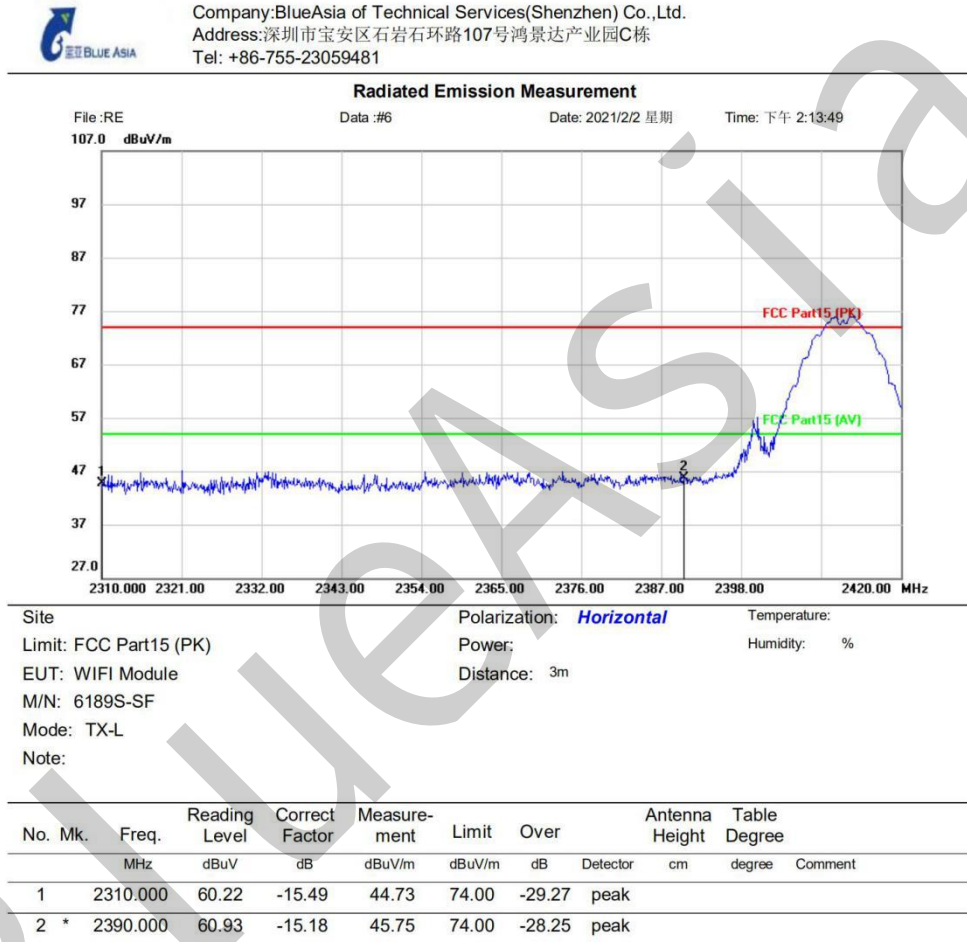
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was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

Remark 1: $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$

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.

9.4 TEST DATA

[TestMode: 802.11b]; [Polarity: Horizontal]



*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data :#6

Page: 1

Engineer Signature:

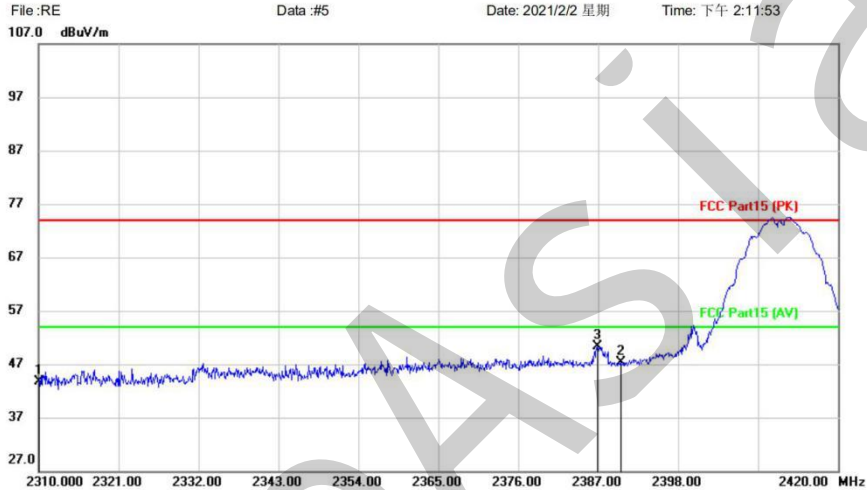
Test Result: Pass

[TestMode: 802.11b]; [Polarity: Vertical]



Company: BlueAsia of Technical Services (Shenzhen) Co., Ltd.
Address: 深圳市宝安区石岩石环路107号鸿景达产业园C栋
Tel: +86-755-23059481

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature: Humidity: %
EUT: WIFI Module Power: Distance: 3m
M/N: 6189S-SF
Mode: TX-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2310.000	59.20	-15.49	43.71	74.00	-30.29	peak		
2		2390.000	62.56	-15.18	47.38	74.00	-26.62	peak		
3	*	2386.890	65.45	-15.19	50.26	74.00	-23.74	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #5

Page: 1

Engineer Signature:

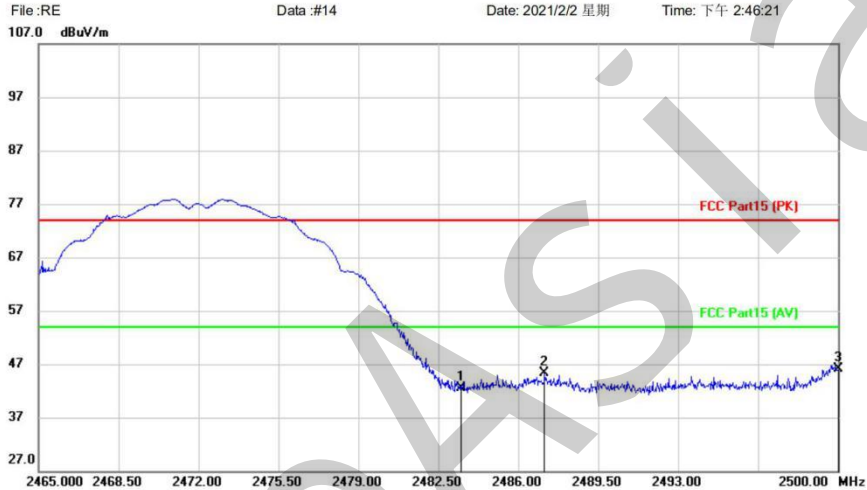
Test Result: Pass

[TestMode: 802.11b]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Horizontal** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-B-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		2483.500	57.32	-14.79	42.53	74.00	-31.47	peak	
2		2487.155	60.17	-14.78	45.39	74.00	-28.61	peak	
3	*	2500.000	60.81	-14.72	46.09	74.00	-27.91	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File: RE\Data: #14

Page: 1

Engineer Signature:

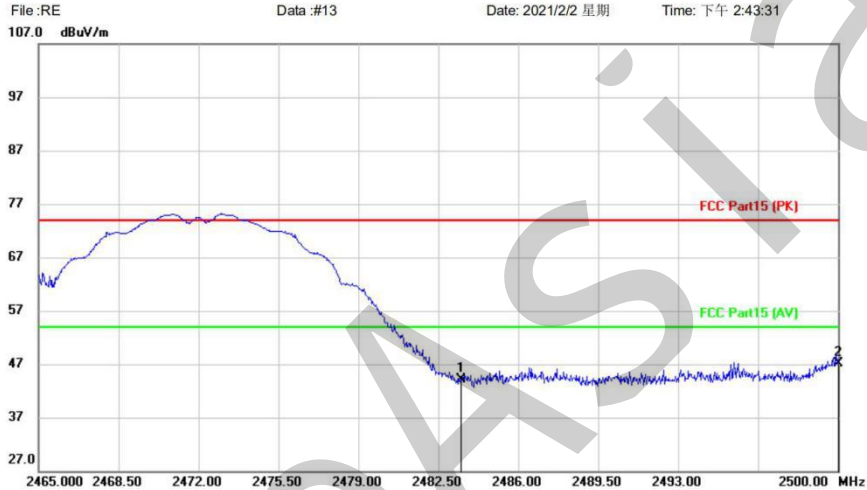
Test Result: Pass

[TestMode: 802.11b]; [Polarity: Vertical]



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Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature: Humidity: %
EUT: WIFI Module Power: Distance: 3m
M/N: 6189S-SF
Mode: TX-B-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		2483.500	58.88	-14.79	44.09	74.00	-29.91	peak	
2	*	2500.000	61.89	-14.72	47.17	74.00	-26.83	peak	

!:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #13

Page: 1

Engineer Signature:

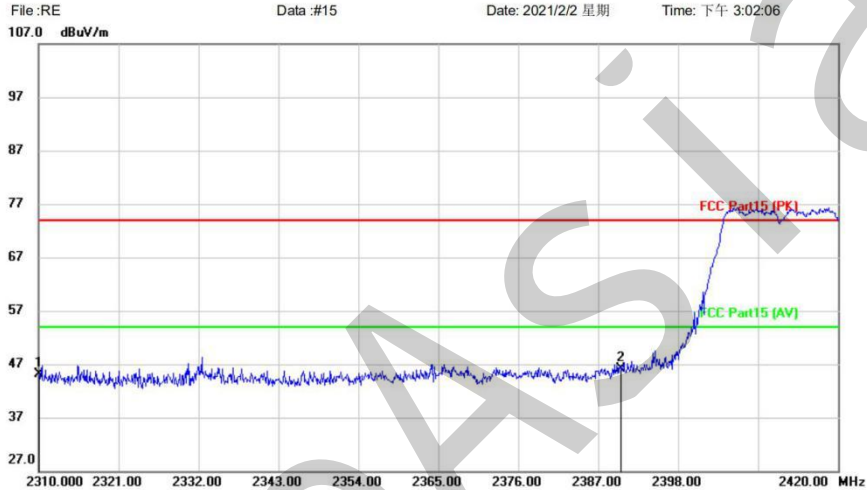
Test Result: Pass

[TestMode: 802.11g]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Horizontal** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-G-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2310.000	60.57	-15.49	45.08	74.00	-28.92	peak		
2	*	2390.000	61.19	-15.18	46.01	74.00	-27.99	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #15

Page: 1

Engineer Signature:

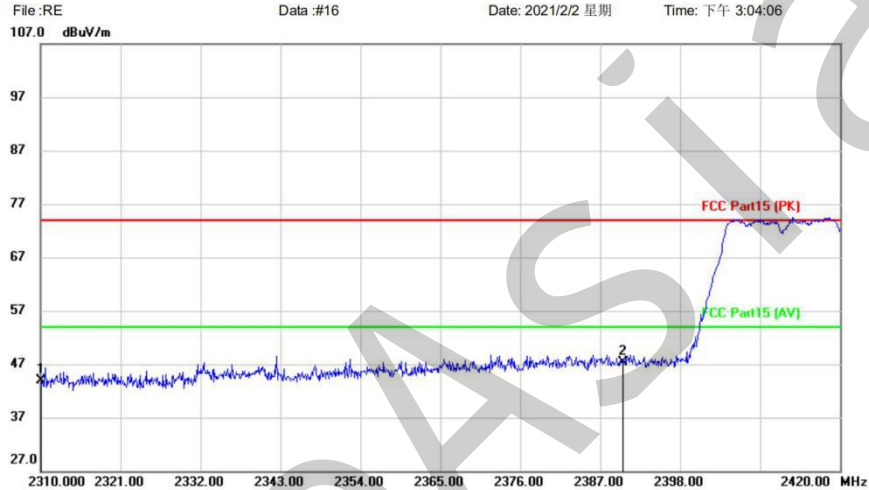
Test Result: Pass

[TestMode: 802.11g]; [Polarity: Vertical]



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Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-G-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2310.000	59.40	-15.49	43.91	74.00	-30.09	peak		
2	*	2390.000	62.39	-15.18	47.21	74.00	-26.79	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #16

Page: 1

Engineer Signature:

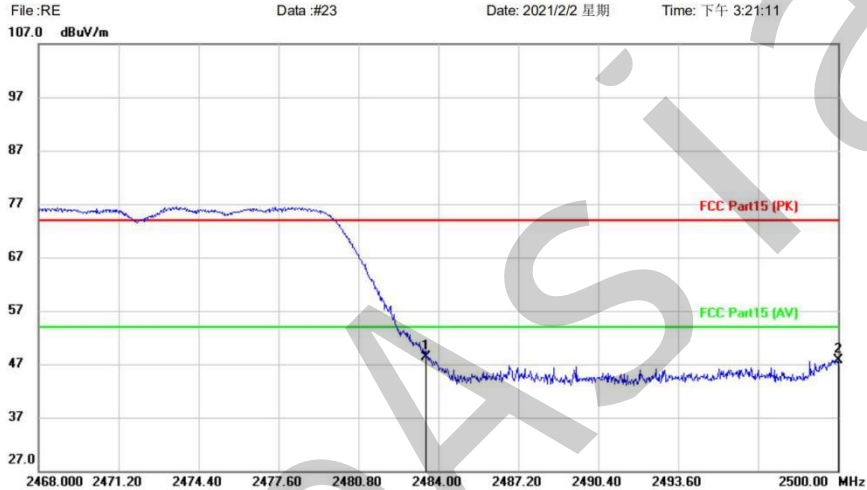
Test Result: Pass

[TestMode: 802.11g]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site: Polarization: **Horizontal** Temperature:
Limit: FCC Part 15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
Mode: TX-G-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	2483.500	63.05	-14.79	48.26	74.00	-25.74	peak		
2		2500.000	62.38	-14.72	47.66	74.00	-26.34	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #23

Page: 1

Engineer Signature:

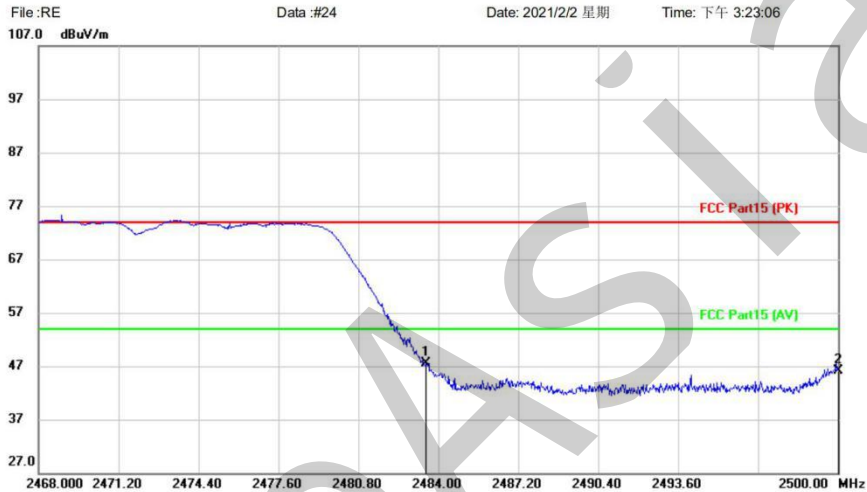
Test Result: Pass

[TestMode: 802.11g]; [Polarity: Vertical]



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Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	2483.500	62.31	-14.79	47.52	74.00	-26.48	peak	
2		2500.000	60.80	-14.72	46.08	74.00	-27.92	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

File: RE\Data: #24

Page: 1

Engineer Signature:

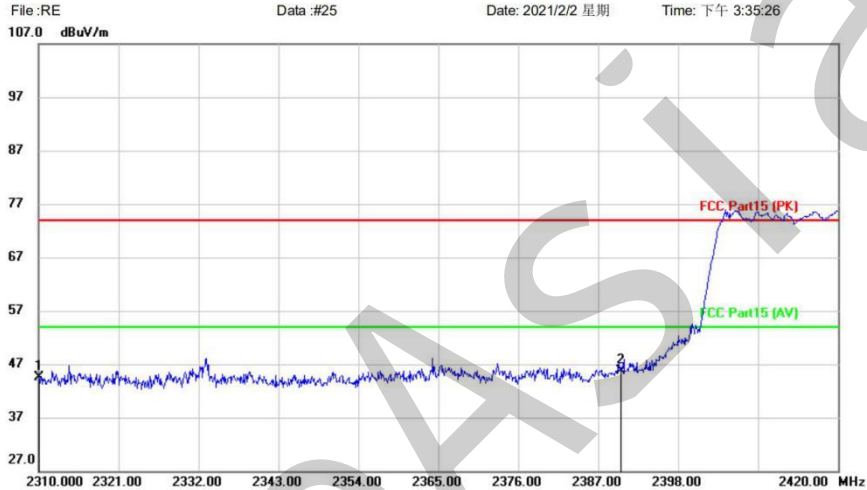
Test Result: Pass

[TestMode: 802.11n20]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site Polarization: **Horizontal** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
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
1		2310.000	60.04	-15.49	44.55	74.00	-29.45	peak		
2	*	2390.000	60.96	-15.18	45.78	74.00	-28.22	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File :RE\Data :#25

Page: 1

Engineer Signature:

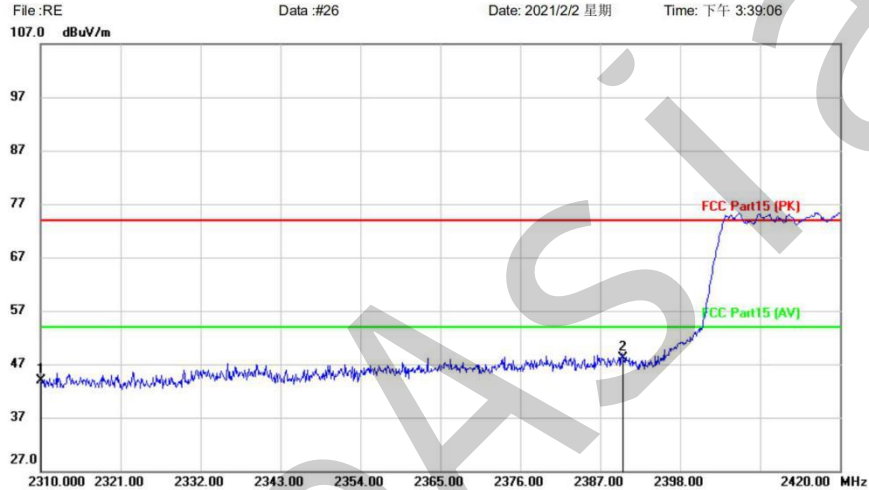
Test Result: Pass

[TestMode: 802.11n20]; [Polarity: Vertical]



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Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2310.000	59.49	-15.49	44.00	74.00	-30.00	peak		
2	*	2390.000	63.35	-15.18	48.17	74.00	-25.83	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #26

Page: 1

Engineer Signature:

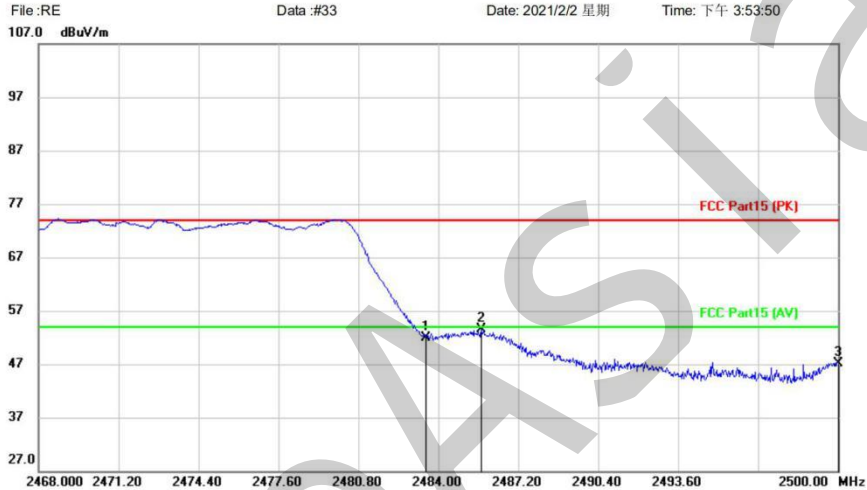
Test Result: Pass

[TestMode: 802.11n20]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site: Polarization: **Horizontal** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
Mode: TX-N20-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2483.500	66.66	-14.79	51.87	74.00	-22.13	peak		
2	*	2485.728	68.31	-14.78	53.53	74.00	-20.47	peak		
3		2500.000	61.73	-14.72	47.01	74.00	-26.99	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #33

Page: 1

Engineer Signature:

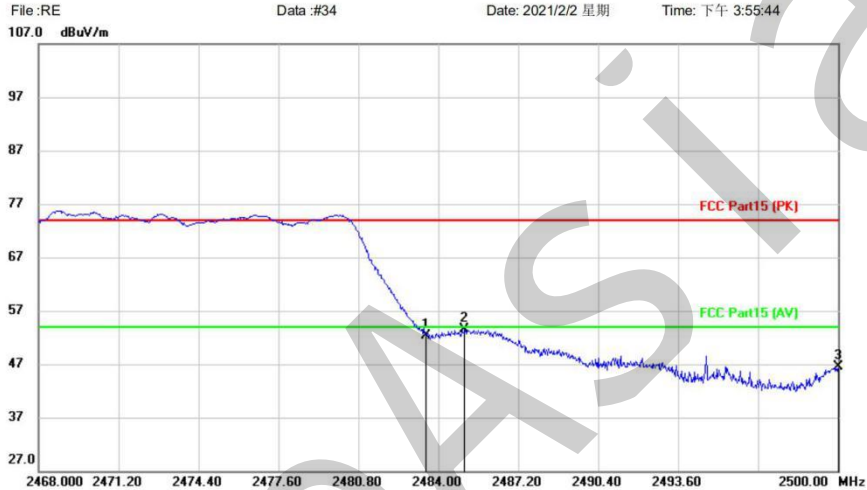
Test Result: Pass

[TestMode: 802.11n20]; [Polarity: Vertical]



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Radiated Emission Measurement



Site Limit: FCC Part 15 (PK) Polarization: **Vertical** Temperature:
EUT: WIFI Module Power: Humidity: %
M/N: 6189S-SF Distance: 3m
Mode: TX-N20-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2483.500	67.12	-14.79	52.33	74.00	-21.67	peak		
2	*	2485.056	68.27	-14.78	53.49	74.00	-20.51	peak		
3		2500.000	61.15	-14.72	46.43	74.00	-27.57	peak		

*:Maximum data x:Over limit !:over margin

(Reference Only)

File: RE\Data: #34

Page: 1

Engineer Signature:

Test Result: Pass

[TestMode: 802.11n40]; [Polarity: Horizontal]



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Radiated Emission Measurement



Site Polarization: **Horizontal** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
Mode: TX-N40-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2310.000	59.12	-15.49	43.63	74.00	-30.37	peak		
2	*	2385.840	65.42	-15.19	50.23	74.00	-23.77	peak		
3		2390.000	63.89	-15.18	48.71	74.00	-25.29	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File :RE\Data :#35

Page: 1

Engineer Signature:

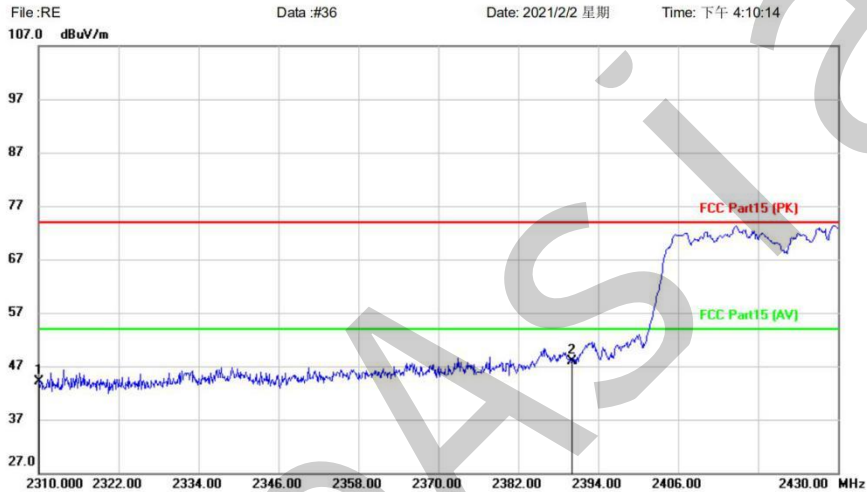
Test Result: Pass

[TestMode: 802.11n40]; [Polarity: Vertical]



Company: BlueAsia of Technical Services (Shenzhen) Co., Ltd.
Address: 深圳市宝安区石岩石环路107号鸿景达产业园C栋
Tel: +86-755-23059481

Radiated Emission Measurement



Site: Polarization: **Vertical** Temperature:
Limit: FCC Part 15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
Mode: TX-N40-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2310.000	59.60	-15.49	44.11	74.00	-29.89	peak		
2	*	2390.000	63.13	-15.18	47.95	74.00	-26.05	peak		

!:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #36

Page: 1

Engineer Signature:

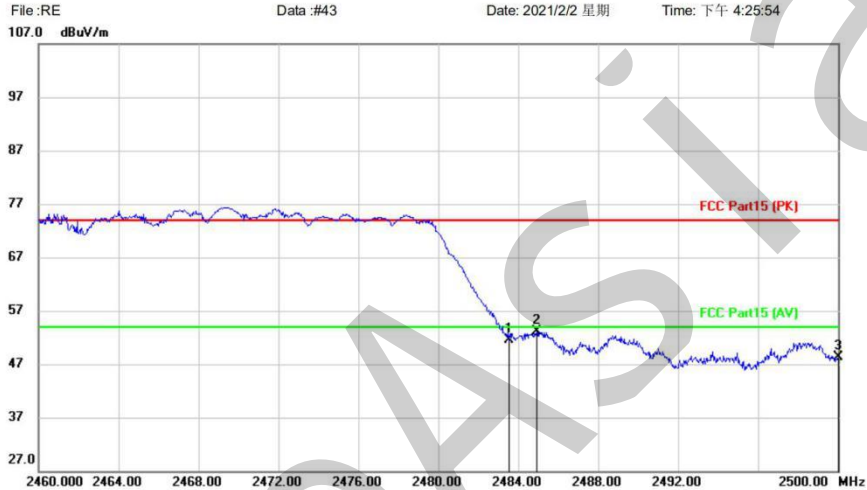
Test Result: Pass

[TestMode: 802.11n40]; [Polarity: Horizontal]



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Address: 深圳市宝安区石岩石环路107号鸿景达产业园C栋
Tel: +86-755-23059481

Radiated Emission Measurement



Site: Polarization: **Horizontal** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: WIFI Module Distance: 3m
M/N: 6189S-SF
Mode: TX-N40-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		2483.500	66.25	-14.79	51.46	74.00	-22.54	peak		
2	*	2484.920	67.95	-14.78	53.17	74.00	-20.83	peak		
3		2500.000	63.01	-14.72	48.29	74.00	-25.71	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #43

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Engineer Signature:

Test Result: Pass

[TestMode: 802.11n40]; [Polarity: Vertical]



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Tel: +86-755-23059481

Radiated Emission Measurement



Site Limit: FCC Part15 (PK) Polarization: **Vertical** Temperature: Humidity: %
EUT: WIFI Module Power: Distance: 3m
M/N: 6189S-SF
Mode: TX-N40-H
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2483.500	65.45	-14.79	50.66	74.00	-23.34	peak		
2	*	2488.880	67.51	-14.78	52.73	74.00	-21.27	peak		
3		2500.000	61.95	-14.72	47.23	74.00	-26.77	peak		

*:Maximum data x:Over limit !:over margin

<Reference Only

File: RE\Data: #44

Page: 1

Engineer Signature:

Test Result: Pass