



**FCC PART 15
TEST REPORT
No. I15Z42269-EMC01**

for

Huawei Technologies Co., Ltd.

LTE/WCDMA/GSM Smart Phone

Model name: H1511

With

FCC ID: QISH1511

Hardware Version: HL1 NINAMH

Software Version: User release M MDA

Issued Date: 2015-09-15



Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

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1. TEST LATORATORY

1.1. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China 100191

1.2. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2015-09-08

Testing End Date: 2015-09-12

1.4. Signature

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2. CLIENT INFORMATION

2.1. Applicant Information

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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	LTE/WCDMA/GSM Smart Phone
Model name	H1511
FCC ID	QISH1511
WLAN Frequency Range	ISM Bands: 5150MHz~5250MHz, 5250MHz~5350MHz, 5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	S/N	HW Version	SW Version
EUT2	867982020003605	HL1 NINAMH	User release M MDA

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Dummy battery	/	/
AE2	USB Cable	/	/
AE3	Travel Charger	HW-050300E00	K71804F7300274
AE4	Travel Charger	HW-050300B00	K72004F7L00262
AE5	Travel Charger	HW-050300U00	K71704F6V00574
AE6	Travel Charger	HW-050300A00	K72145F7Y00141

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment Under Test (EUT) is a model of LTE/WCDMA/GSM Smart Phone with integrated antenna. It consists of normal options: lithium battery, charger and USB cable. Manual and specifications of the EUT were provided to fulfil the test.

4. REFERENCE DOCUMENTS

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

	FCC CFR 47, Part 15, Subpart C:	
	15.205 Restricted bands of operation;	
FCC Part15	15.209 Radiated emission limits, general requirements;	2014
	15.247 Operation within the bands 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz.	
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
KDB 789033 D02	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E	June 2014

5. LABORATORY ENVIRONMENT

Semi/full-anechoic chamber SAC-1 (23 meters × 17meters × 10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3m/10m distance, from 30 to 1000 MHz
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Sub-clause of IC	Verdict
Band edge compliance	15.209	/	P
Transmitter spurious emissions radiated	15.407	/	P
Spurious emissions radiated < 30 MHz	15.407	/	P

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	15°C~35°C
Voltage	3.8V
Humidity	15%~75%



7. TEST EQUIPMENTS UTILIZED

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100235	R&S	2016-03-02	1 Year
2	Test Receiver	FSV40	101047	R&S	2016-07-02	1 Year
3	Loop Antenna	HFH2-Z2	829324/007	R&S	2017-12-16	3 Years
4	EMI Antenna	VULB9163	9163-301	Schwarzbeck	2017-12-16	3 Years
5	EMI Antenna	3115	6914	ETS-Lindgren	2017-12-15	3 Years
6	EMI Antenna	3116	2661	ETS-Lindgren	2017-06-17	3 Years

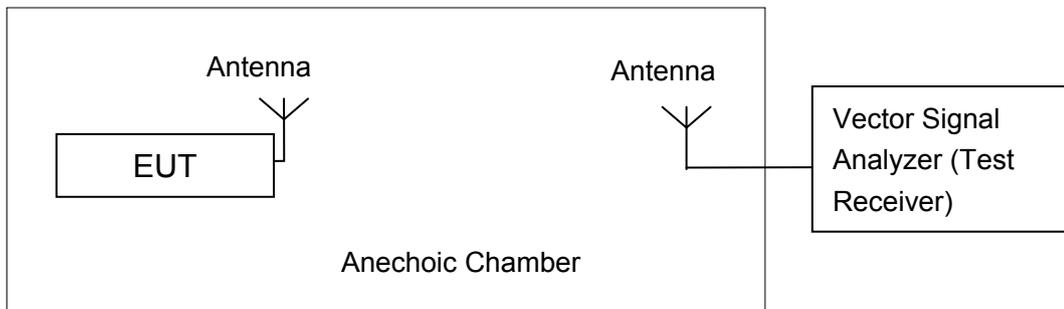
ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to KDB 789033

For emissions testing at or below 1 GHz, the table height shall be 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m.

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m or 10m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

A.2. Band Edges Compliance

Measurement Limit:

Standard	Limit (dB μ V/m)	
	FCC 47 CFR Part 15.209	Peak
Average		54

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Result:

5GHz U-NII 1

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.1	P
802.11n-HT20	5180 MHz	Fig.2	P
802.11n-HT40	5190 MHz	Fig.3	P
802.11ac-HT20	5180 MHz	Fig.4	P
802.11ac-HT40	5190 MHz	Fig.5	P

5GHz U-NII 2A

Mode	Channel	Test Results	Conclusion
802.11a	5230 MHz	Fig.6	P
802.11n-HT20	5230 MHz	Fig.7	P
802.11n-HT40	5310 MHz	Fig.8	P
802.11ac-HT20	5230 MHz	Fig.9	P
802.11ac-HT40	5310 MHz	Fig.10	P

5GHz U-NII 2C

Mode	Channel	Test Results	Conclusion
802.11a	5500 MHz	Fig.11	P
802.11a	5700 MHz	Fig.12	P
802.11n-HT20	5500 MHz	Fig.13	P
802.11n-HT20	5700 MHz	Fig.14	P
802.11n-HT40	5510 MHz	Fig.15	P
802.11n-HT40	5670 MHz	Fig.16	P
802.11ac-HT20	5500 MHz	Fig.17	P
802.11ac-HT20	5700 MHz	Fig.18	P
802.11ac-HT40	5510 MHz	Fig.19	P
802.11ac-HT40	5670 MHz	Fig.20	P

5GHz 802.11ac 80MHz

Mode	Channel	Test Results	Conclusion
802.11ac-HT80	5210 MHz	Fig.21	P
802.11ac-HT80	5290 MHz	Fig.22	P
802.11ac-HT80	5530 MHz	Fig.23	P

Conclusion: PASS

Test graphs as below:

RE-Power_5.125G-5.175GHz

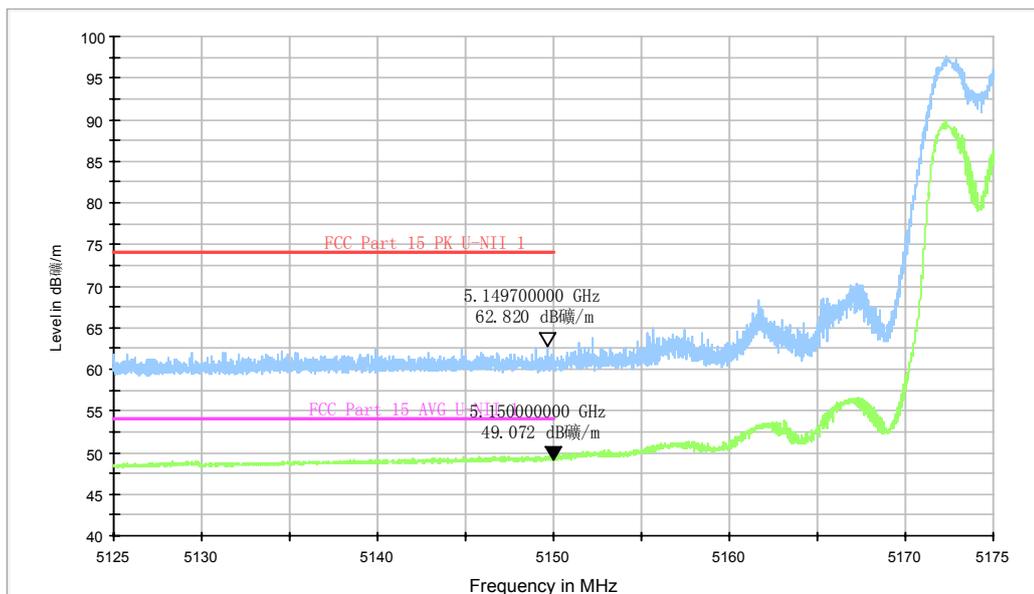


Fig. 1 Band Edges (802.11a, 5180MHz)

RE-Power_5.125G-5.175GHz

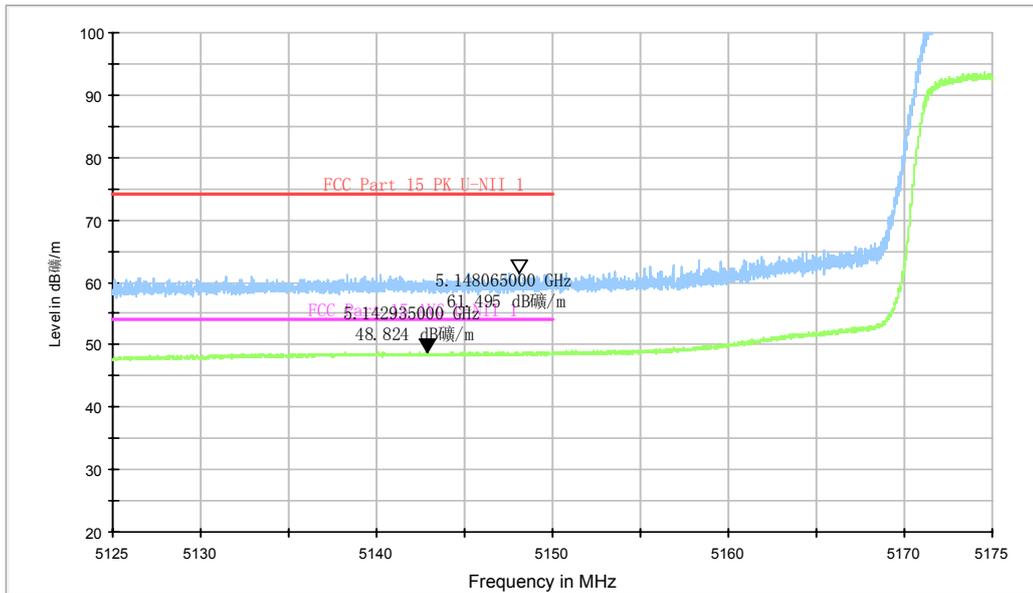


Fig. 2 Band Edges (802.11n-HT20, 5180MHz)

RE-Power_5.125G-5.175GHz

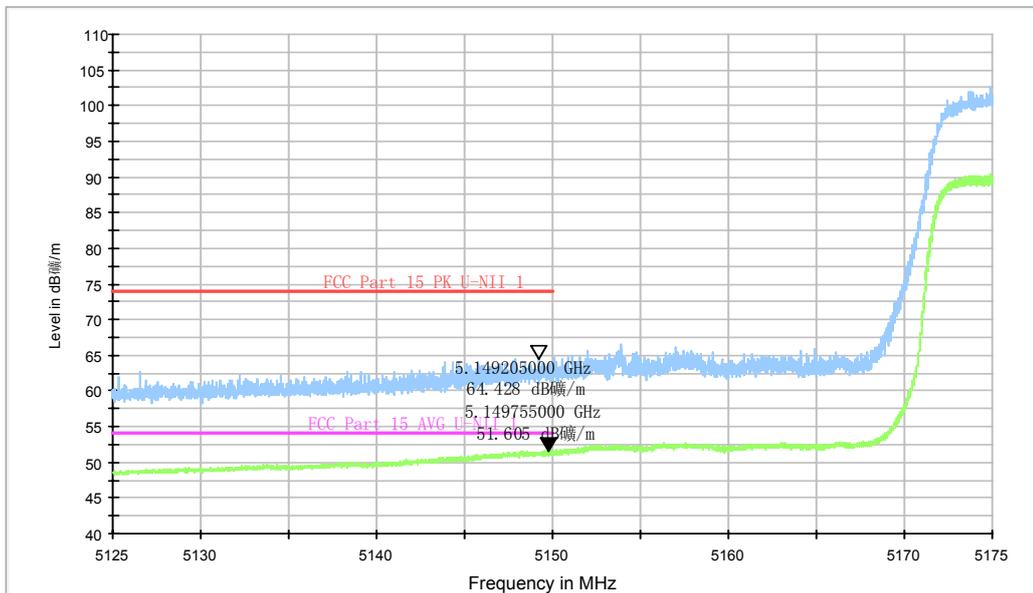


Fig. 3 Band Edges (802.11n-HT40, 5190MHz)

RE-Power_5.125G-5.175GHz

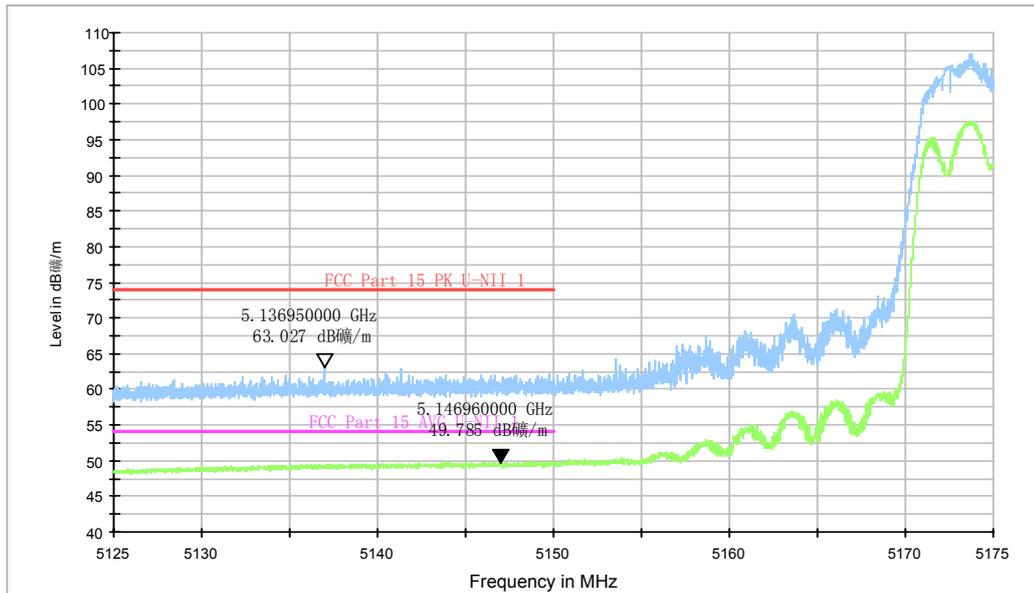


Fig. 4 Band Edges (802.11ac-HT20, 5180MHz)

RE-Power_5.125G-5.175GHz

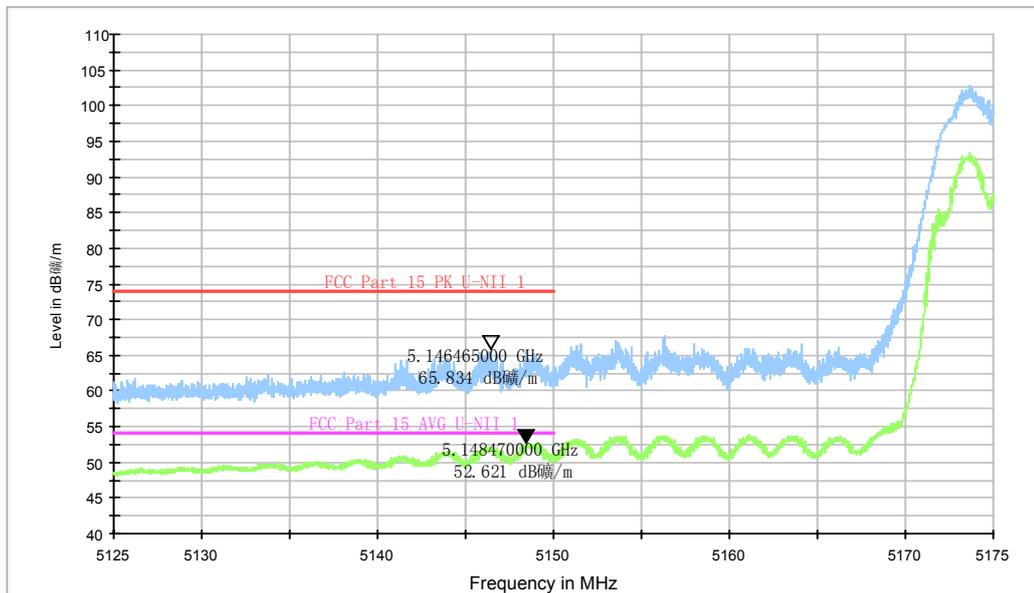


Fig. 5 Band Edges (802.11ac-HT40, 5190MHz)

RE-Power_5.325G-5.375GHz

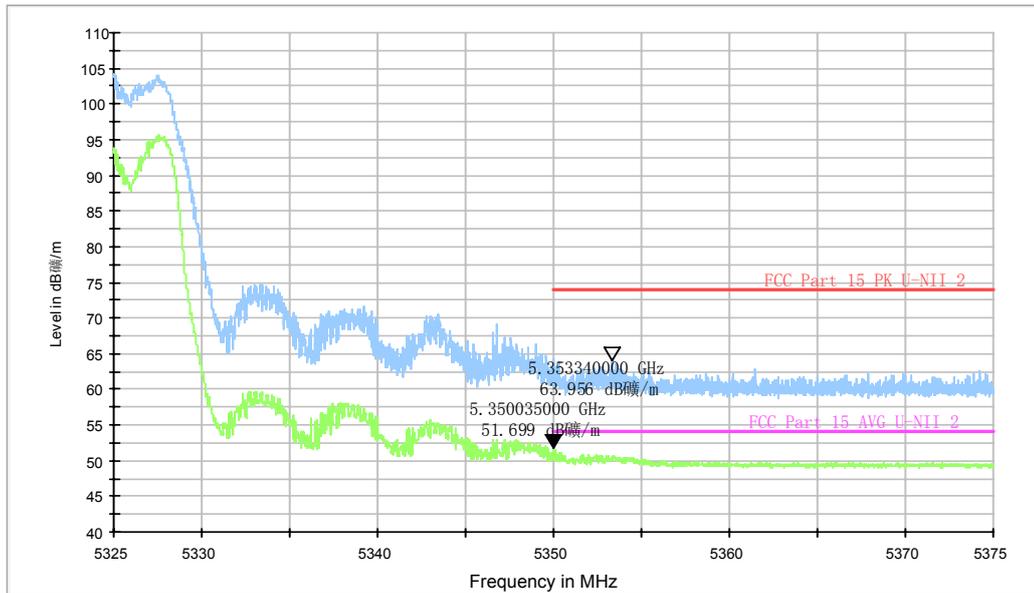


Fig. 6 Band Edges (802.11a, 5320MHz)

RE-Power_5.325G-5.375GHz

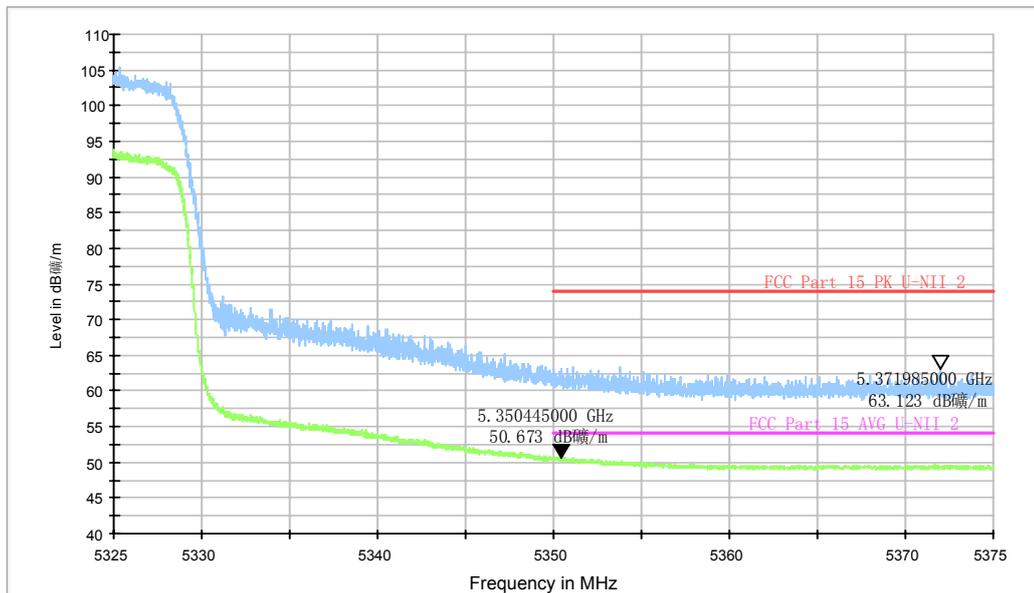


Fig. 7 Band Edges (802.11n-HT20, 5320MHz)

RE-Power_5.325G-5.375GHz

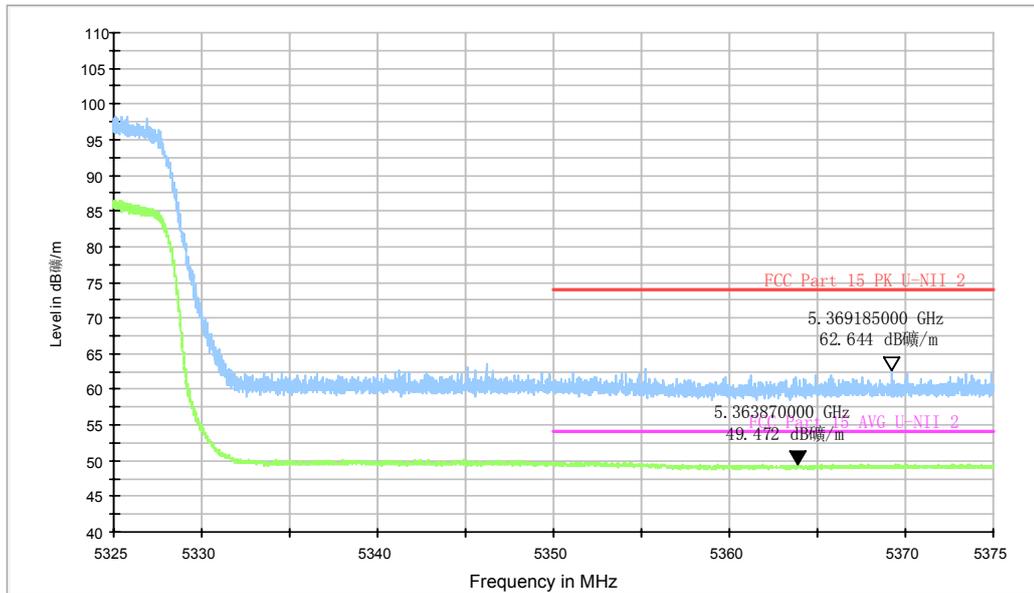


Fig. 8 Band Edges (802.11n-HT40, 5310MHz)

RE-Power_5.325G-5.375GHz

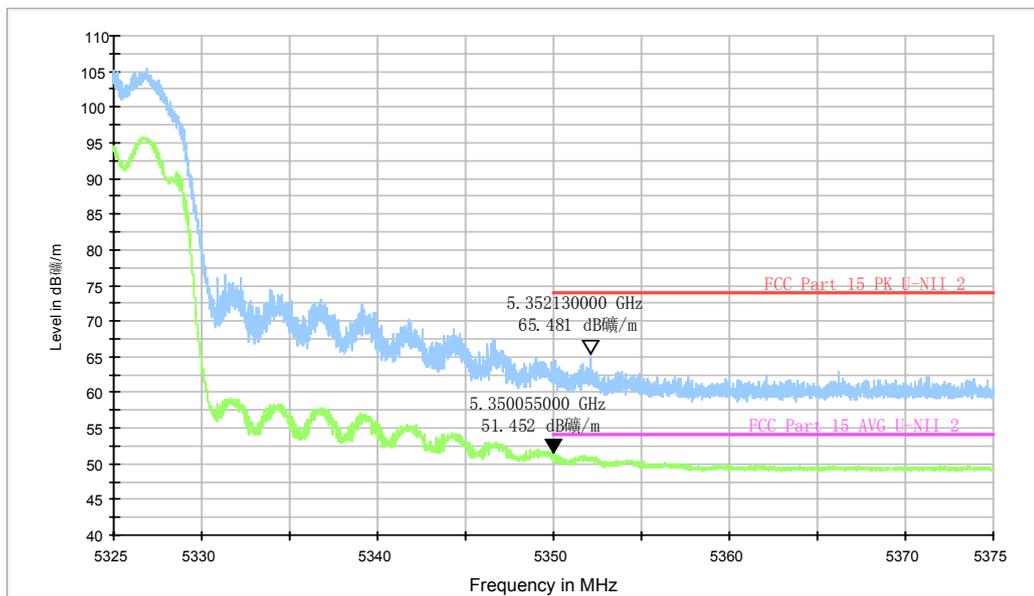


Fig. 9 Band Edges (802.11ac-HT20, 5320MHz)

RE-Power_5.325G-5.375GHz

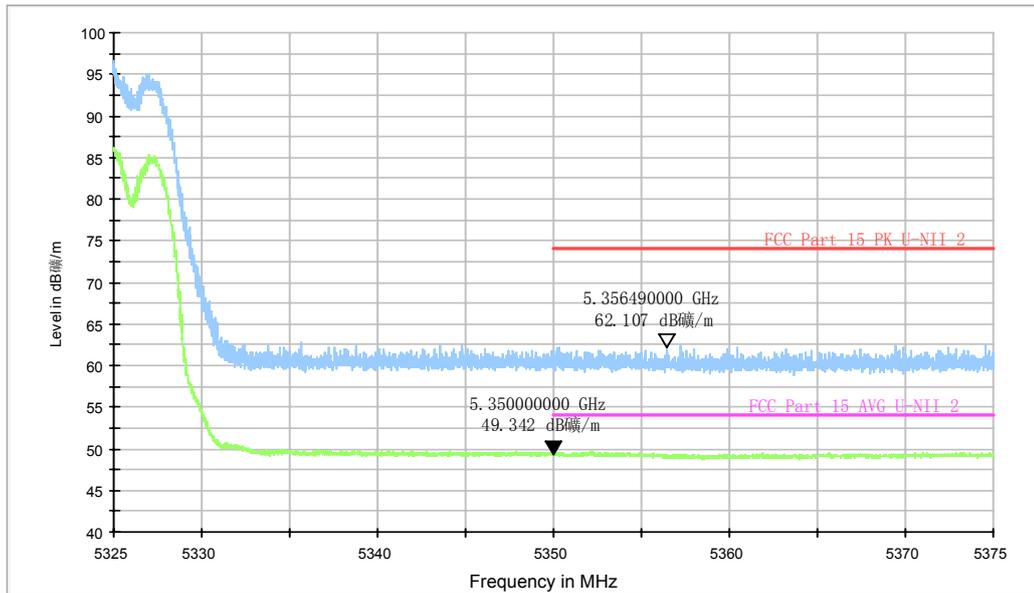


Fig. 10 Band Edges (802.11ac-HT40, 5310MHz)

RE-Power_5.45G-5.5GHz

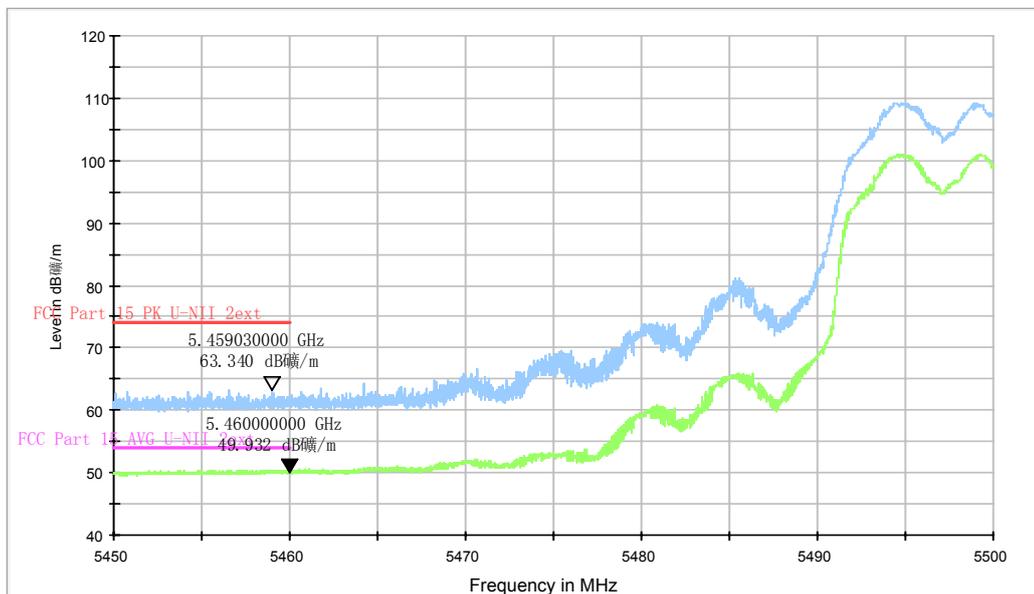


Fig. 11 Band Edges (802.11a, 5500MHz)

RE-Power_5.7G-5.750GHz

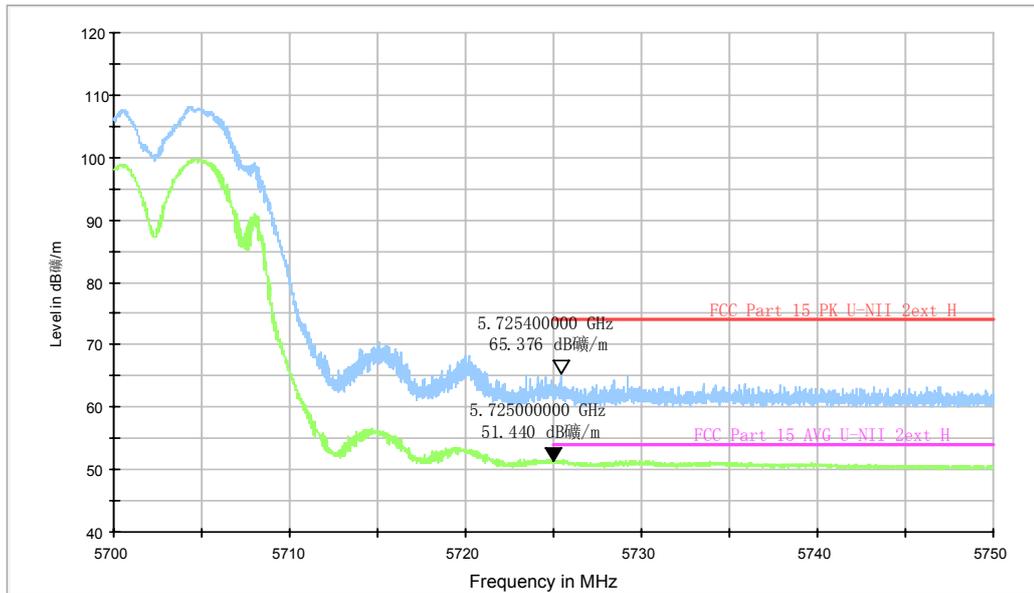


Fig. 12 Band Edges (802.11a, 5700MHz)

RE-Power_5.45G-5.5GHz

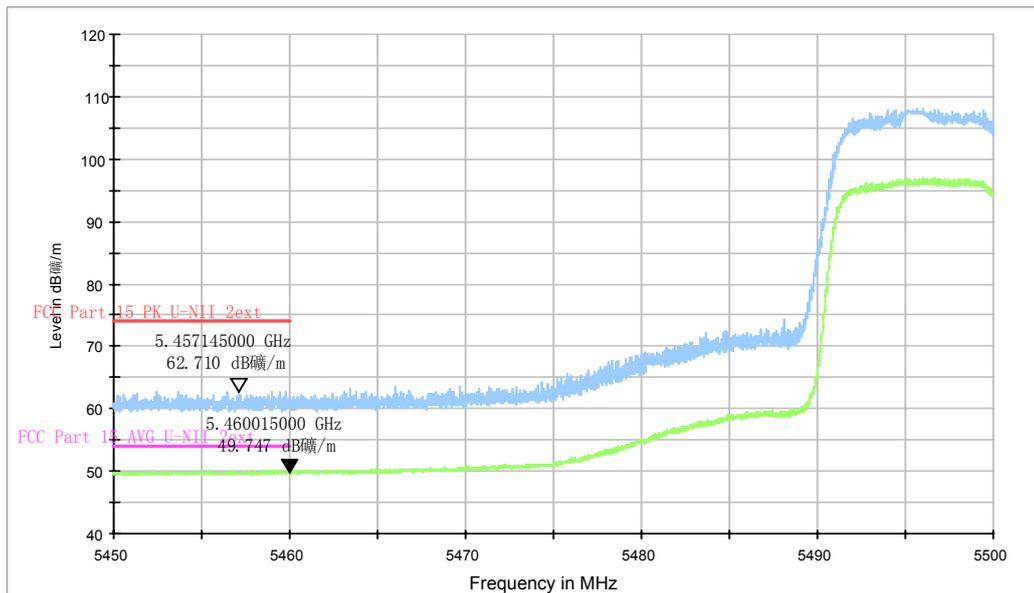


Fig. 13 Band Edges (802.11n-HT20, 5500MHz)

RE-Power_5.7G-5.750GHz

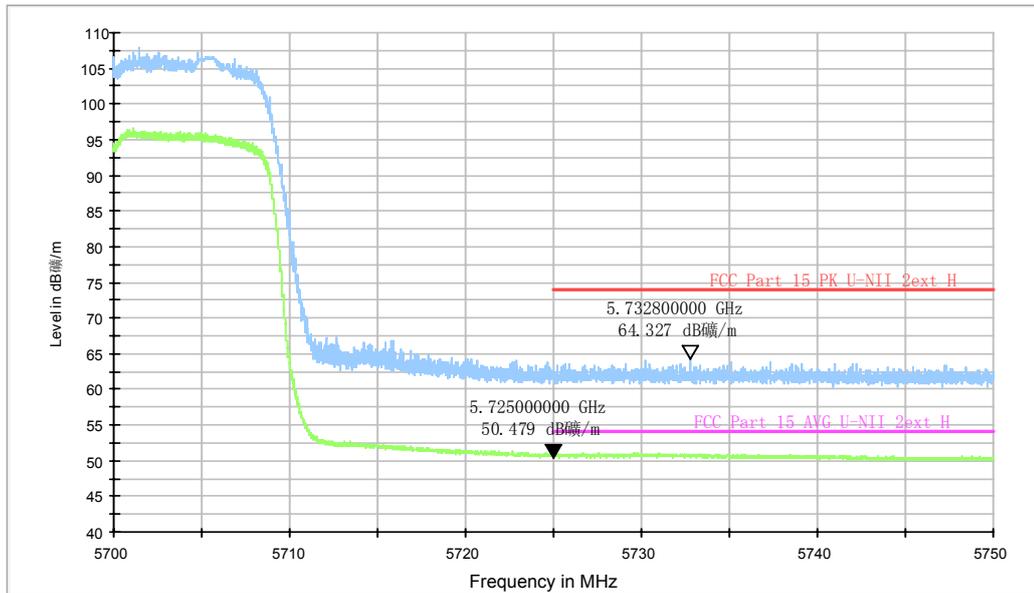


Fig. 14 Band Edges (802.11n-HT20, 5700MHz)

RE-Power_5.45G-5.5GHz

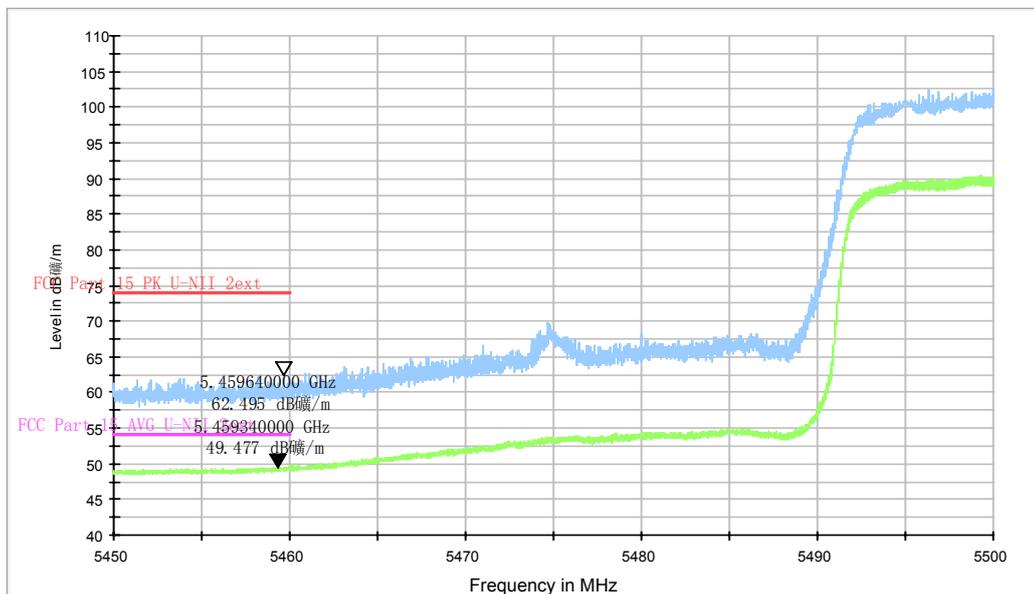


Fig. 15 Band Edges (802.11n-HT40, 5510MHz)

RE-Power_5.7G-5.750GHz

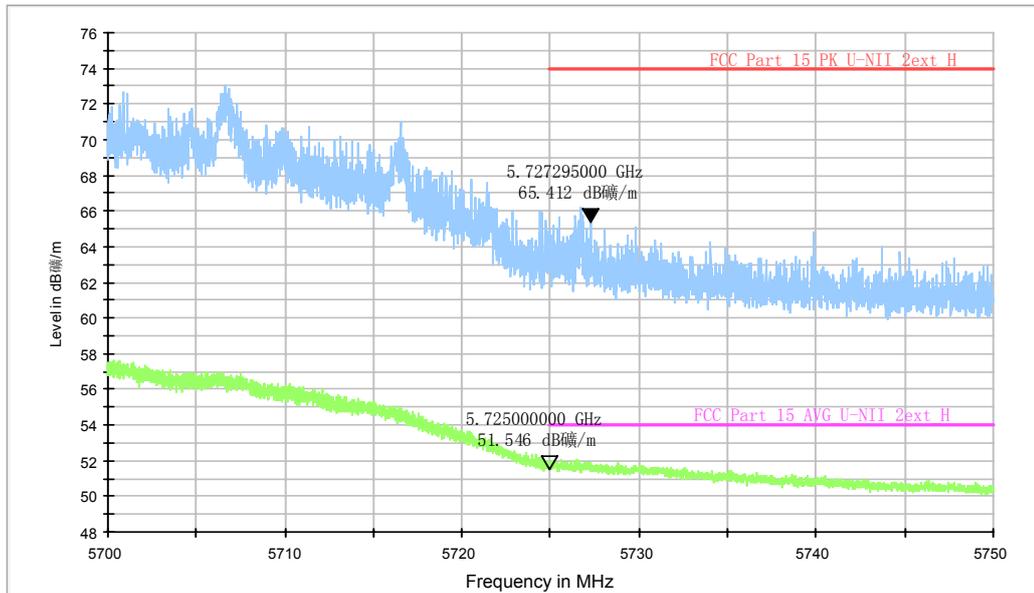


Fig. 16 Band Edges (802.11n-HT40, 5670MHz)

RE-Power_5.45G-5.5GHz

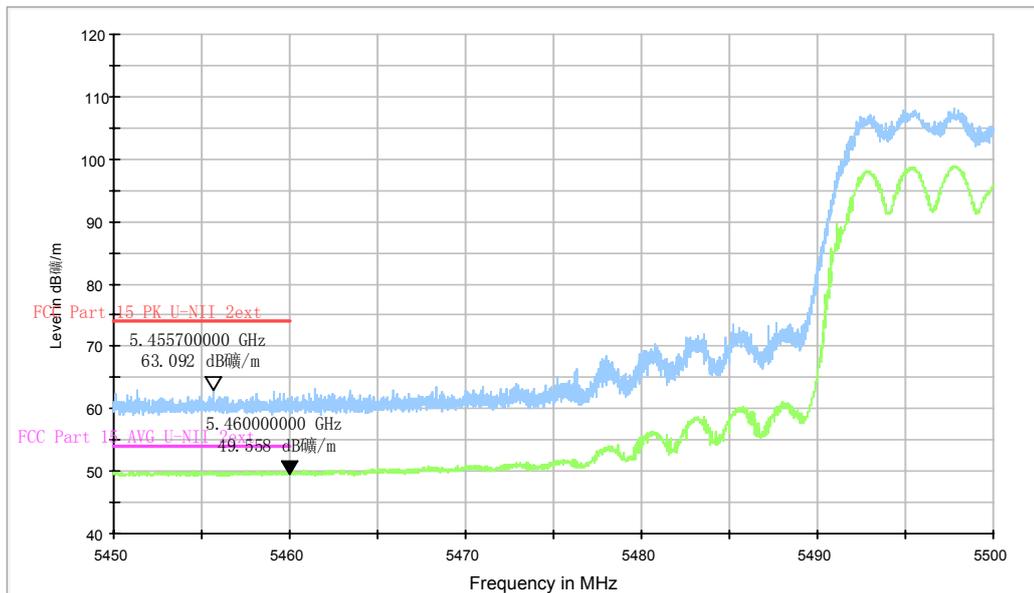


Fig. 17 Band Edges (802.11ac-HT20, 5500MHz)

RE-Power_5.7G-5.750GHz

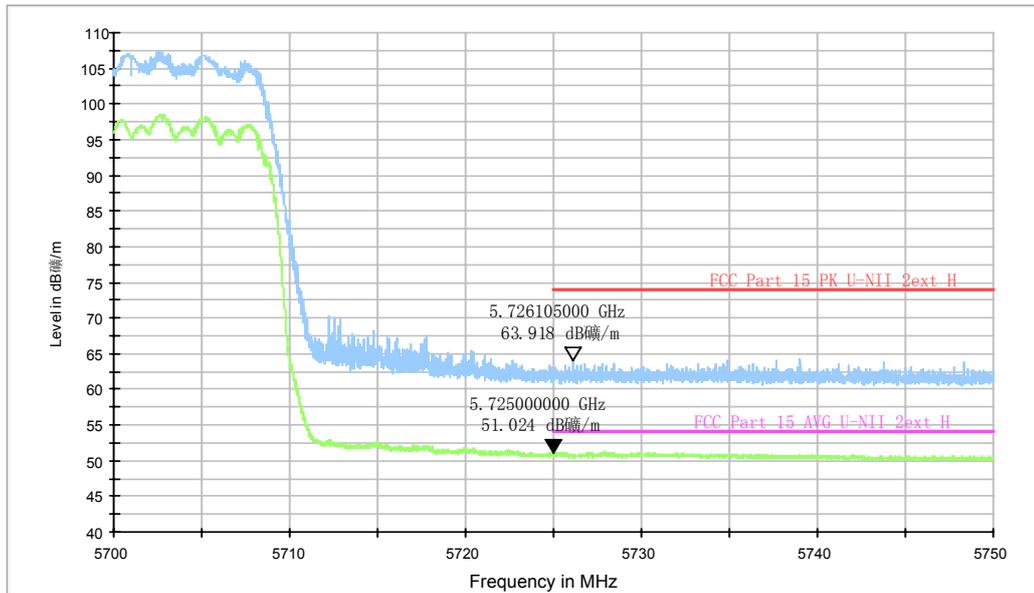


Fig. 18 Band Edges (802.11ac-HT20, 5700MHz)

RE-Power_5.45G-5.5GHz

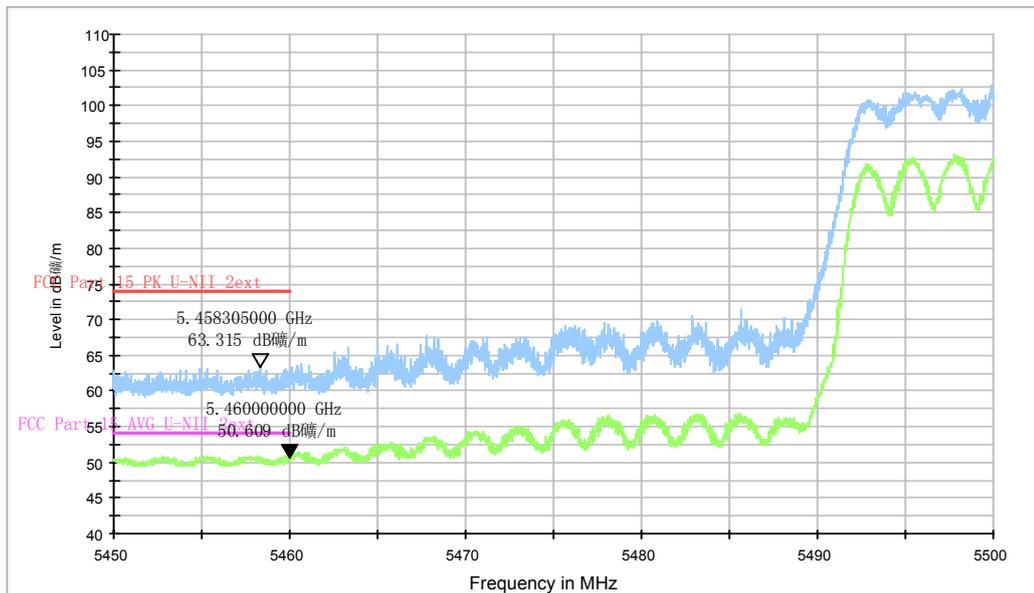


Fig. 19 Band Edges (802.11ac-HT40, 5510MHz)

RE-Power_5.7G-5.750GHz

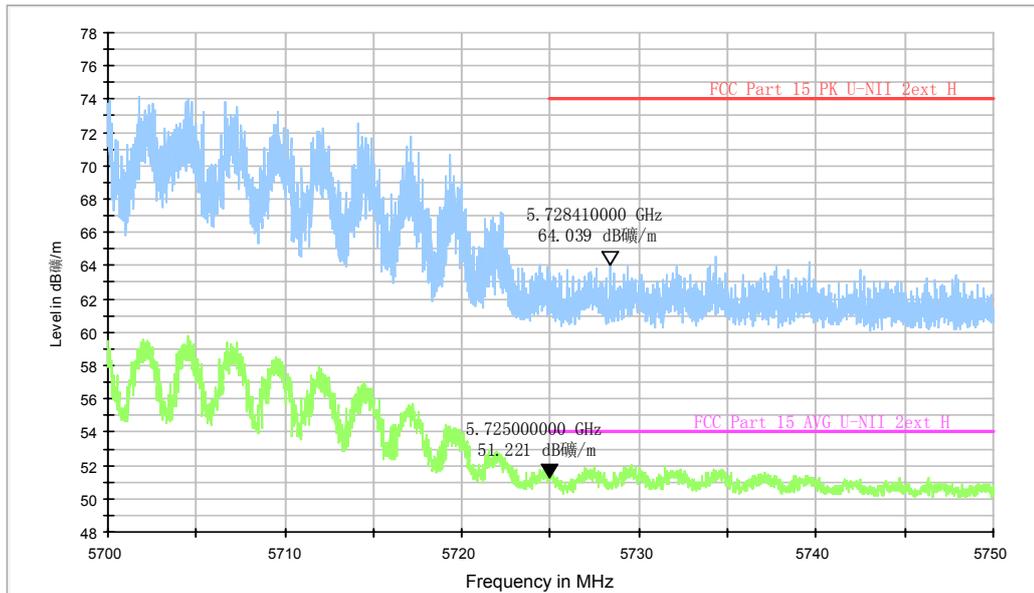


Fig. 20 Band Edges (802.11ac-HT40, 5670MHz)

RE-Power_5.125G-5.175GHz

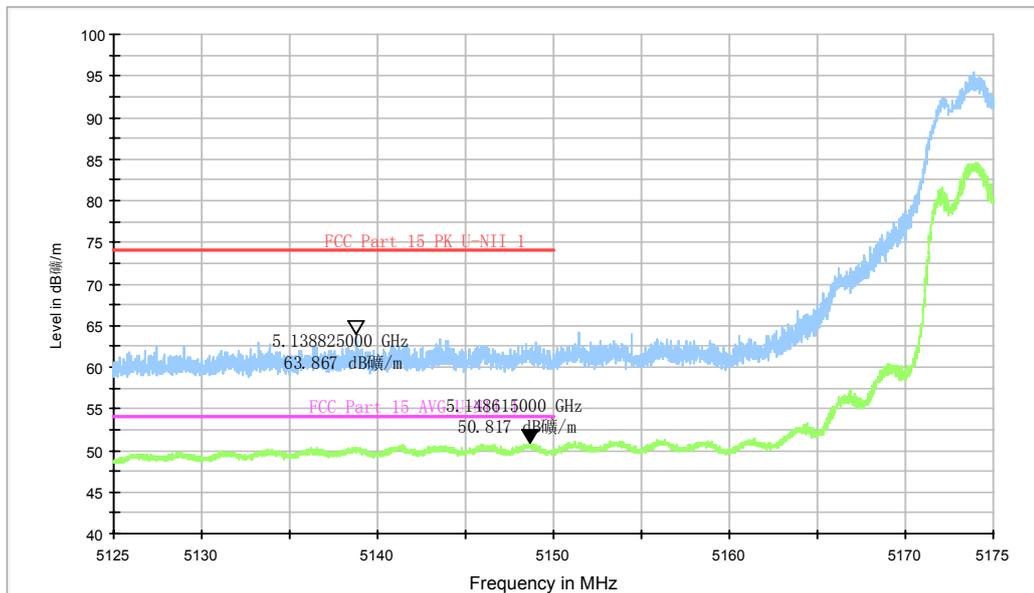


Fig. 21 Band Edges (802.11ac-HT80, 5210MHz)

RE-Power_5.325G-5.375GHz

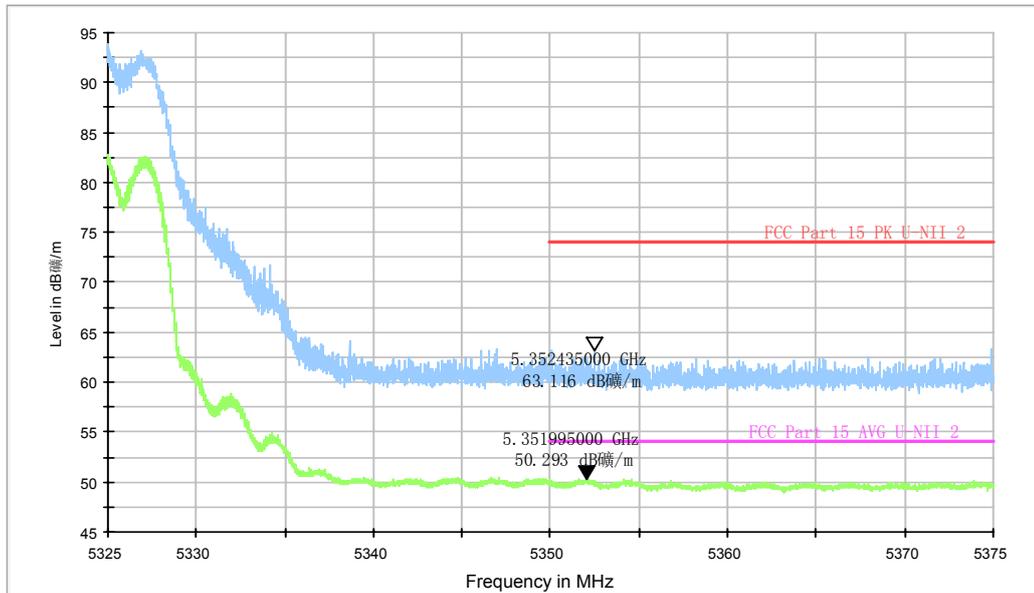


Fig. 22 Band Edges (802.11ac-HT80, 5290MHz)

RE-Power_5.45G-5.5GHz

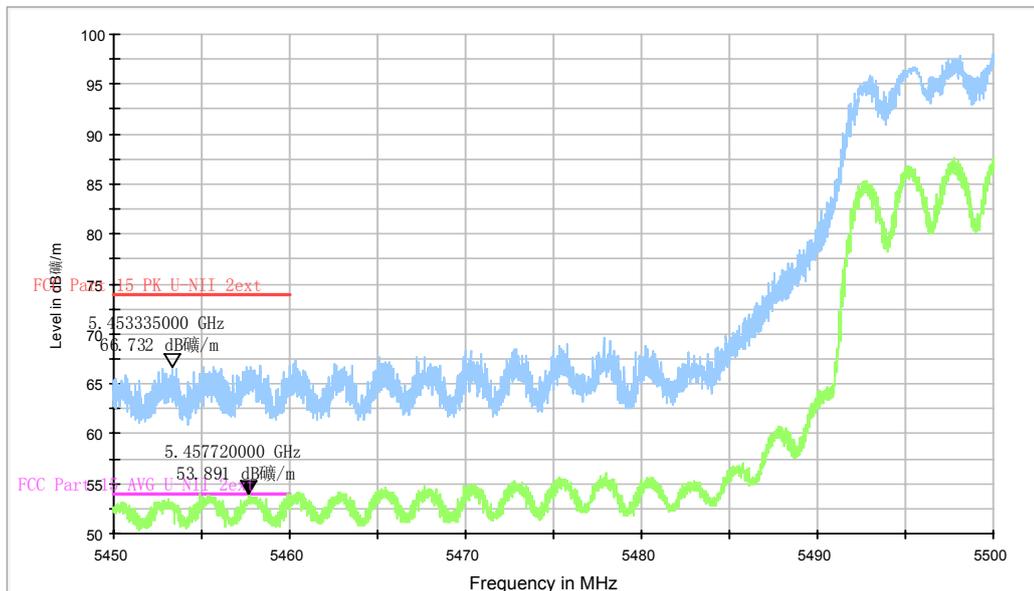


Fig. 23 Band Edges (802.11ac-HT80, 5530MHz)

A.6. Transmitter Spurious Emission

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.407	-27 dBm/MHz

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(dBμV/m)	Measurement distance(m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Note: for frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U =3.9 dB, k=2.

Measurement Results:

5GHz U-NII 1

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	36(5180MHz)	1 GHz ~6 GHz	Fig.24	P
		6 GHz ~ 18 GHz	Fig.25	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.26	P
		30 MHz ~1 GHz	Fig.27	P
		30 MHz ~1 GHz	Fig.28	P
		30 MHz ~1 GHz	Fig.29	P
		1 GHz ~ 6 GHz	Fig.30	P
		6 GHz ~ 18 GHz	Fig.31	P
		18 GHz ~ 26.5 GHz	Fig.32	P
		26.5 GHz ~ 40 GHz	Fig.33	P
	48(5240MHz)	1 GHz ~ 6 GHz	Fig.34	P
		6 GHz ~ 18 GHz	Fig.35	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	1 GHz ~ 6 GHz	Fig.36	P
		6 GHz ~ 18 GHz	Fig.37	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.38	P
		1 GHz ~ 6 GHz	Fig.39	P
		6 GHz ~ 18 GHz	Fig.40	P
		18 GHz ~ 26.5 GHz	Fig.41	P
	48(5240MHz)	26.5 GHz ~ 40 GHz	Fig.42	P
		1 GHz ~ 6 GHz	Fig.43	P
		6 GHz ~ 18 GHz	Fig.44	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.45	P
		1 GHz ~ 6 GHz	Fig.46	P
		6 GHz ~ 18 GHz	Fig.47	P
		18 GHz ~ 26.5 GHz	Fig.48	P
		26.5 GHz ~ 40 GHz	Fig.49	P
	46(5230MHz)	1 GHz ~ 6 GHz	Fig.50	P
		6 GHz ~ 18 GHz	Fig.51	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	1 GHz ~ 6 GHz	Fig.52	P
		6 GHz ~ 18 GHz	Fig.53	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.54	P
		1 GHz ~ 6 GHz	Fig.55	P
		6 GHz ~ 18 GHz	Fig.56	P
		18 GHz ~ 26.5 GHz	Fig.57	P
	48(5240MHz)	26.5 GHz ~ 40 GHz	Fig.58	P
		1 GHz ~ 6 GHz	Fig.59	P
		6 GHz ~ 18 GHz	Fig.60	P

802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.61	P
		1 GHz ~ 6 GHz	Fig.62	P
		6 GHz ~ 18 GHz	Fig.63	P
		18 GHz ~ 26.5 GHz	Fig.64	P
		26.5 GHz ~ 40 GHz	Fig.65	P
	46(5230MHz)	1 GHz ~ 6 GHz	Fig.66	P
		6 GHz ~ 18 GHz	Fig.67	P

Conclusion: PASS



Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

5GHz U-NII 1

802.11a

Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5150.000	49.1	-35.1	34.6	49.600	H
17991.600	43.6	-17.7	45.6	15.700	H
17986.000	43.6	-17.7	45.6	15.700	V
17987.200	43.5	-17.7	45.6	15.600	H
17998.000	43.5	-17.7	45.6	15.600	H
17976.800	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5149.700	62.8	-35.1	34.6	63.300	H
17960.400	54.8	-17.7	45.6	26.900	H
17953.600	54.5	-17.7	45.6	26.600	V
17980.800	54.3	-17.7	45.6	26.400	H
17932.400	54.2	-17.7	45.6	26.300	H
17738.000	54.2	-18.5	45.6	27.100	H

Channel 40

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17993.200	43.7	-17.7	45.6	15.800	H
17992.800	43.6	-17.7	45.6	15.700	H
17980.800	43.6	-17.7	45.6	15.700	V
17994.400	43.6	-17.7	45.6	15.700	H
17996.400	43.6	-17.7	45.6	15.700	H
17997.600	43.5	-17.7	45.6	15.600	H



Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17981.600	54.7	-17.7	45.6	26.800	H
17998.800	54.7	-17.7	45.6	26.800	H
17890.000	54.7	-18.5	45.6	27.600	V
17990.400	54.6	-17.7	45.6	26.700	H
17985.600	54.3	-17.7	45.6	26.400	H
17999.600	54.3	-17.7	45.6	26.400	H

Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17975.600	43.8	-17.7	45.6	15.900	H
17996.000	43.7	-17.7	45.6	15.800	H
17986.000	43.6	-17.7	45.6	15.700	V
17982.400	43.6	-17.7	45.6	15.700	H
17992.400	43.6	-17.7	45.6	15.700	H
17960.000	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17843.200	55.0	-18.5	45.6	27.900	H
17960.000	54.7	-17.7	45.6	26.800	H
17989.600	54.3	-17.7	45.6	26.400	V
17907.200	54.3	-18.5	45.6	27.200	H
17964.000	54.2	-17.7	45.6	26.300	H
17755.600	54.1	-18.5	45.6	27.000	H



802.11n-HT20

Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5142.935	48.8	-35.1	34.6	49.300	H
17984.400	43.5	-17.7	45.6	15.600	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5148.065	61.5	-35.1	34.6	62.000	H
17984.400	55.4	-17.7	45.6	27.500	H
17998.000	55.1	-17.7	45.6	27.200	V
17989.600	54.5	-18.5	45.6	27.400	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.3	-18.9	45.6	27.600	H

Channel 40

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17982.400	43.8	-17.7	45.6	15.900	H
17984.400	43.7	-17.7	45.6	15.800	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17841.600	54.8	-18.5	45.6	27.700	H
17984.400	54.6	-17.7	45.6	26.700	H
17998.000	54.5	-18.5	45.6	27.400	V
17989.600	54.5	-17.7	45.6	26.600	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.2	-18.5	45.6	27.100	H



Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17980.000	43.7	-17.7	45.6	15.800	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17938.800	54.7	-17.7	45.6	26.800	H
17984.400	54.7	-17.7	45.6	26.800	H
17998.000	54.3	-18.5	45.6	27.200	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.1	-17.7	45.6	26.200	H

802.11n-HT40

Channel 38

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5149.755	51.6	-35.1	34.6	52.100	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.6	-17.7	45.6	15.700	H
17986.000	43.6	-17.7	45.6	15.700	H
17996.400	43.6	-17.7	45.6	15.700	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5149.205	64.4	-35.1	34.6	64.900	H
17984.400	54.7	-17.7	45.6	26.800	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.4	-17.7	45.6	26.500	H



Channel 46

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17997.600	43.8	-17.7	45.6	15.900	H
17984.400	43.5	-17.7	45.6	15.600	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17993.200	55.0	-17.7	45.6	27.100	H
17984.400	54.8	-18.5	45.6	27.700	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.2	-17.7	45.6	26.300	H

802.11ac-HT20

Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5146.960	49.8	-35.1	34.6	50.300	H
17982.400	43.6	-17.7	45.6	15.700	H
17996.400	43.5	-17.7	45.6	15.600	V
17983.200	43.5	-17.7	45.6	15.600	H
17984.000	43.4	-17.7	45.6	15.500	H
17974.800	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5136.950	63.0	-35.1	34.6	63.500	H
17972.400	55.5	-17.7	45.6	27.600	H
17965.600	54.9	-17.7	45.6	27.000	V
17991.600	54.4	-17.7	45.6	26.500	H
17966.800	54.4	-17.7	45.6	26.500	H
17914.800	54.2	-17.7	45.6	26.300	H



Channel 40

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17996.00	43.80	-17.70	45.60	15.90	H
17984.40	43.70	-17.70	45.60	15.80	H
17998.00	43.60	-17.70	45.60	15.70	V
17989.60	43.50	-17.70	45.60	15.60	H
17986.00	43.40	-17.70	45.60	15.50	H
17996.40	43.40	-17.70	45.60	15.50	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17947.200	54.6	-17.7	45.6	26.700	H
17984.400	54.5	-17.7	45.6	26.600	H
17998.000	54.4	-17.7	45.6	26.500	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.2	-18.5	45.6	27.100	H
17996.400	54.2	-17.7	45.6	26.300	H

Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17988.800	43.8	-17.7	45.6	15.900	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17900.000	54.5	-18.5	45.6	27.400	H
17947.600	54.3	-17.7	45.6	26.400	H
17915.600	54.3	-17.7	45.6	26.400	V
17992.800	54.3	-17.7	45.6	26.400	H
17981.600	54.3	-17.7	45.6	26.400	H
17875.600	54.3	-18.5	45.6	27.200	H



802.11ac-HT40

Channel 38

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5148.470	52.6	-35.1	34.6	53.100	H
17984.400	43.7	-17.7	45.6	15.800	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.7	-17.7	45.6	15.800	H
17986.000	43.6	-17.7	45.6	15.700	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5146.465	65.8	-35.1	34.6	66.300	H
17958.400	56.1	-17.7	45.6	28.200	H
17985.600	55.0	-17.7	45.6	27.100	V
17996.400	54.6	-17.7	45.6	26.700	H
17950.800	54.3	-17.7	45.6	26.400	H
17948.400	54.2	-17.7	45.6	26.300	H

Channel 46

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17993.200	43.7	-17.7	45.6	15.800	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17952.400	55.1	-17.7	45.6	27.200	H
17984.400	54.7	-17.7	45.6	26.800	H
17998.000	54.5	-18.5	45.6	27.400	V
17989.600	54.4	-18.5	45.6	27.300	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.3	-18.5	45.6	27.200	H

Test graphs as below:

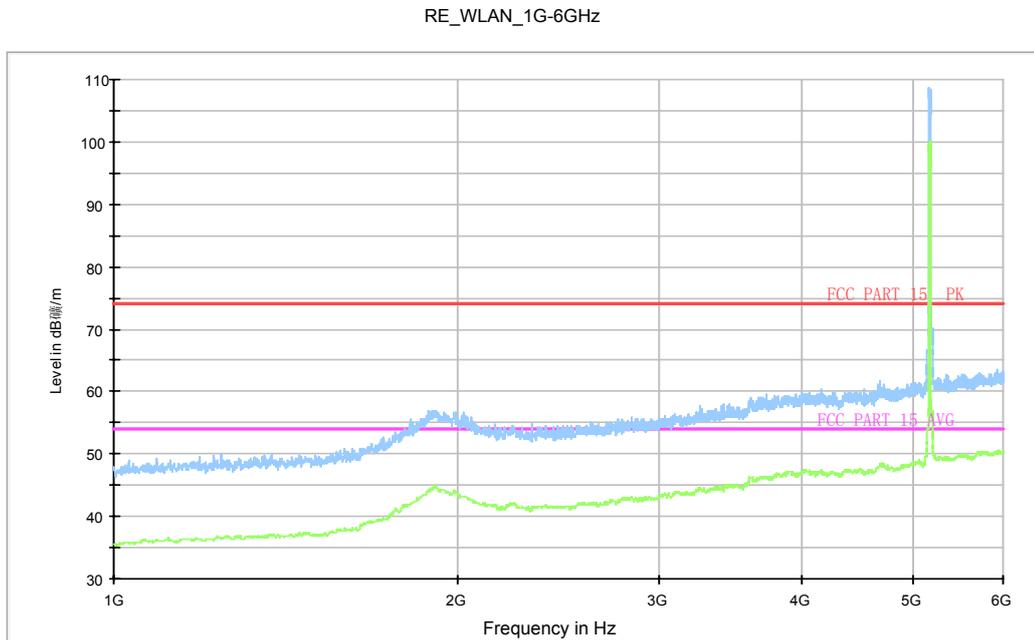


Fig. 24 Radiated Spurious Emission (802.11a, ch36, 1 GHz-6 GHz)

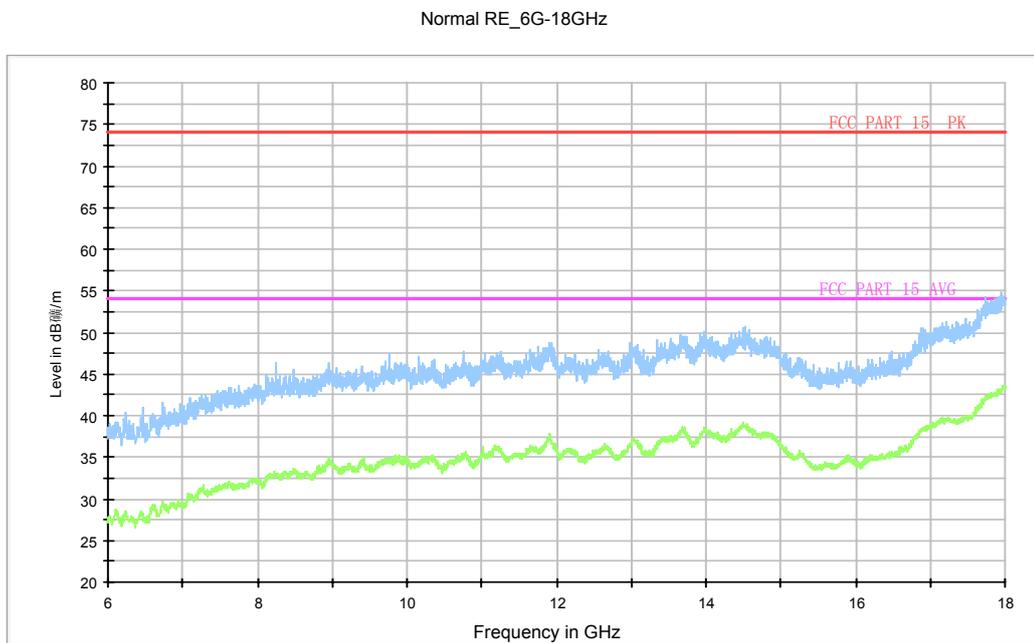
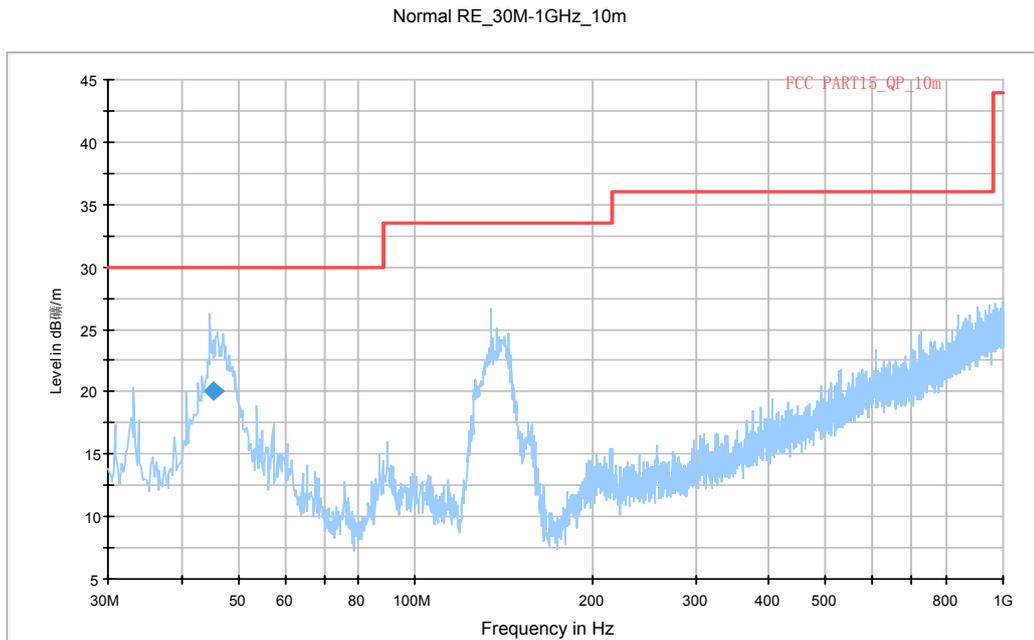


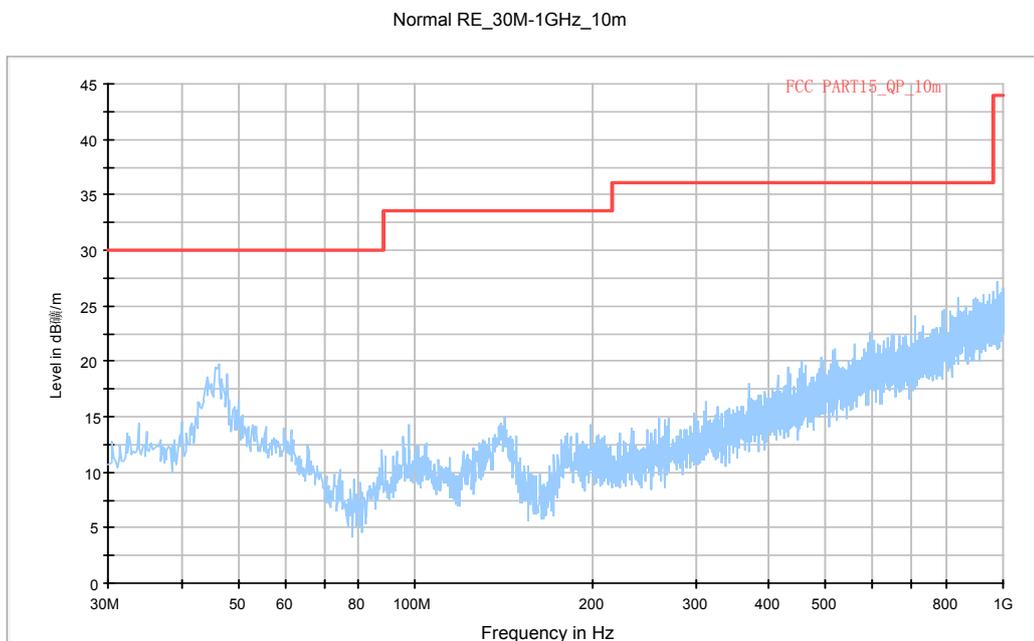
Fig. 25 Radiated Spurious Emission (802.11a, ch36, 6 GHz-18 GHz)



**Fig. 26 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz charger:
HW-050300E00)**

Final Result 1

Frequency (MHz)	QuasiPeak (dB 磁/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB 磁/m)
45.332500	20.1	175.0	V	181.0	-11.7	9.9	30.0



**Fig. 27 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz charger:
HW-050300B00)**

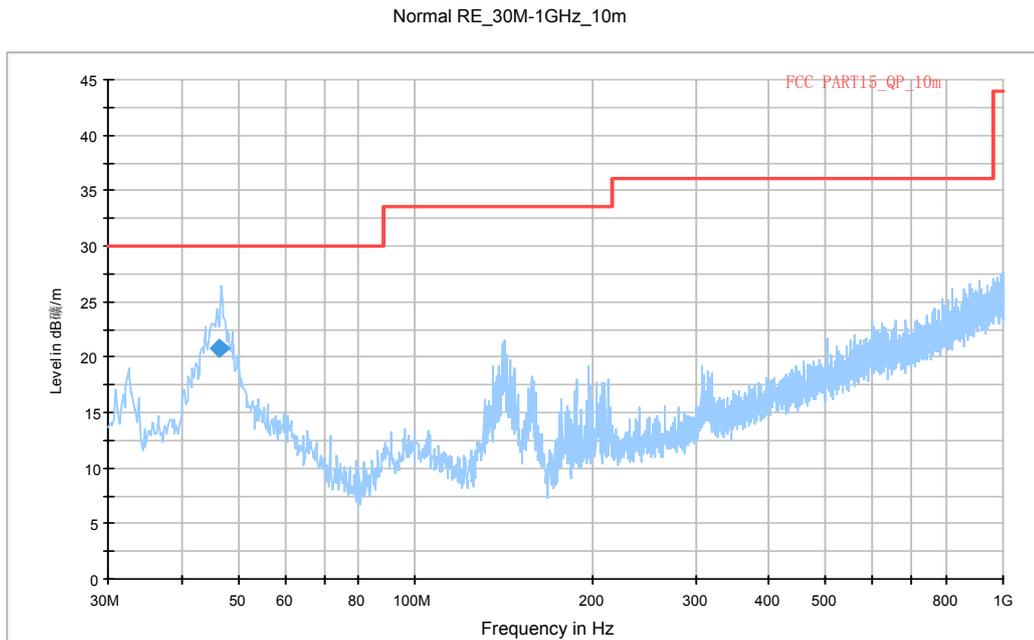


Fig. 28 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz charger: HW-050300U00)

Final Result 1

Frequency (MHz)	QuasiPeak (dB 磁/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB 磁/m)
46.458000	20.7	288.0	V	22.0	-11.6	9.3	30.0

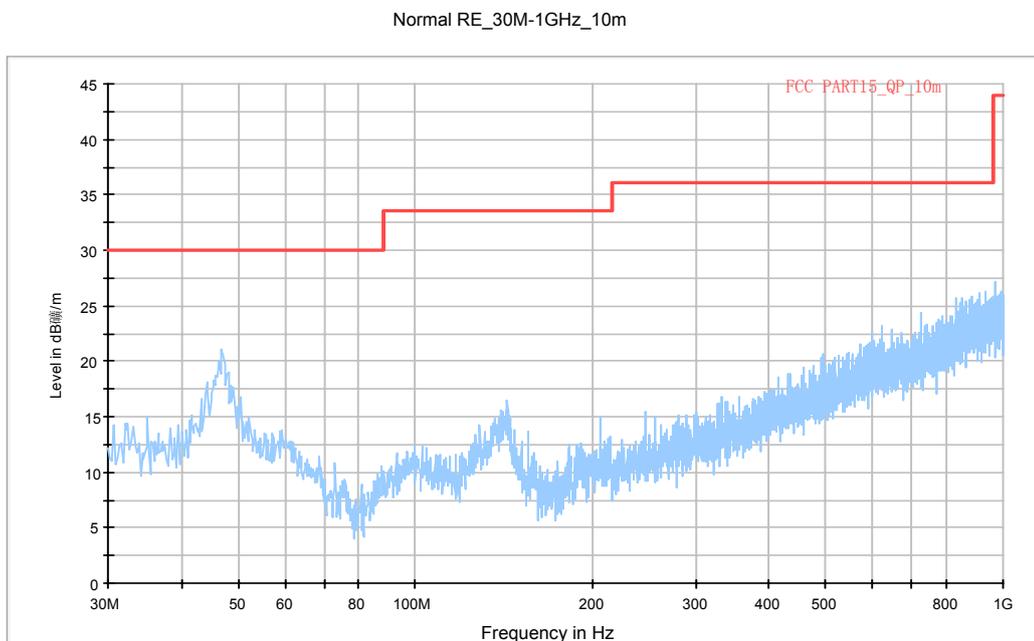


Fig. 29 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz charger: HW-050300A00)

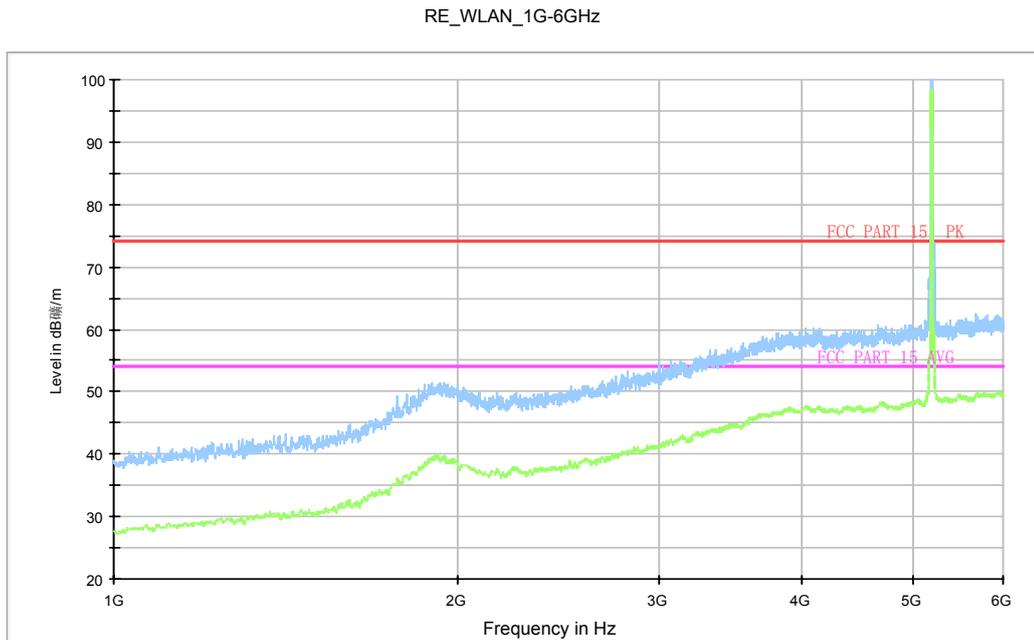


Fig. 30 Radiated Spurious Emission (802.11a, ch40, 1 GHz-6 GHz)

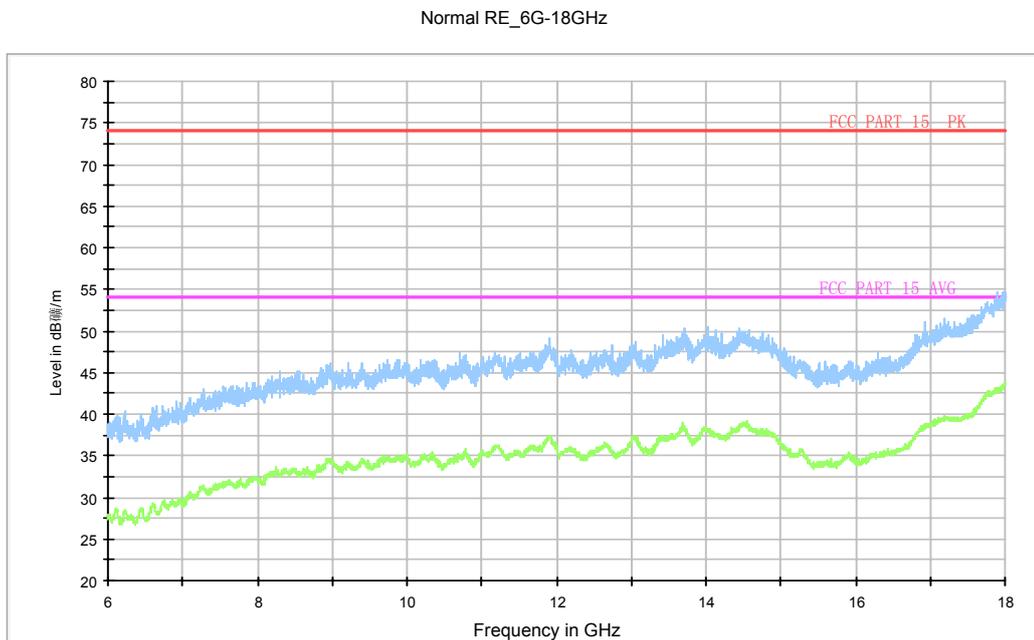


Fig. 31 Radiated Spurious Emission (802.11a, ch40, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

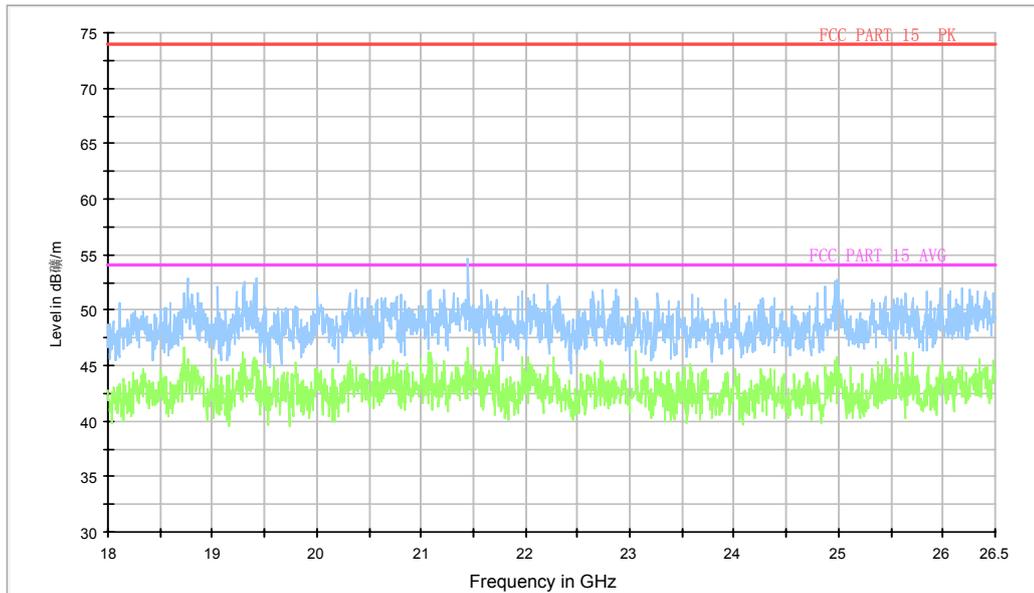


Fig. 32 Radiated Spurious Emission (802.11a, ch40, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

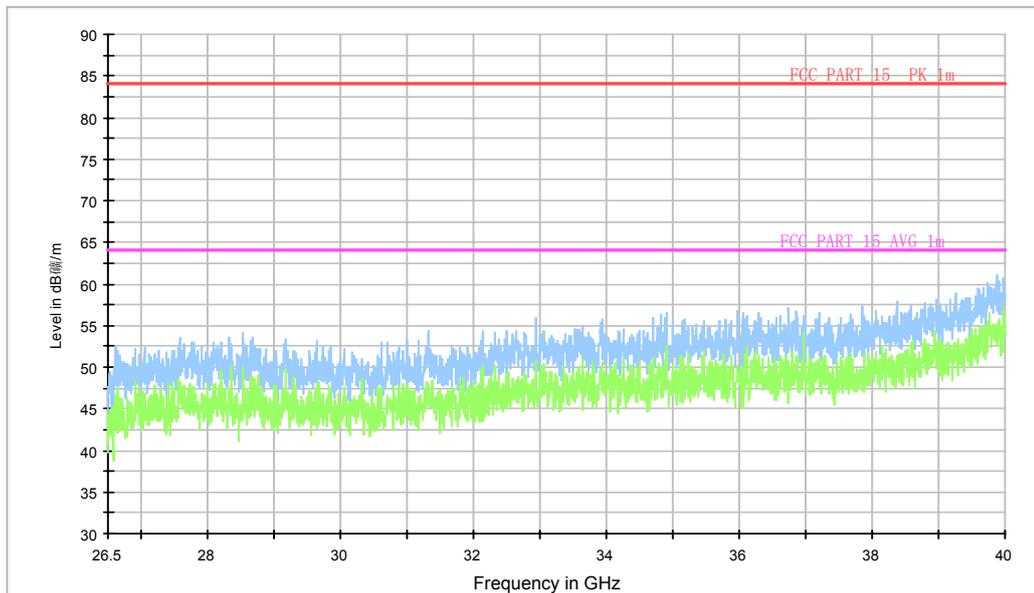


Fig. 33 Radiated Spurious Emission (802.11a, ch40, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

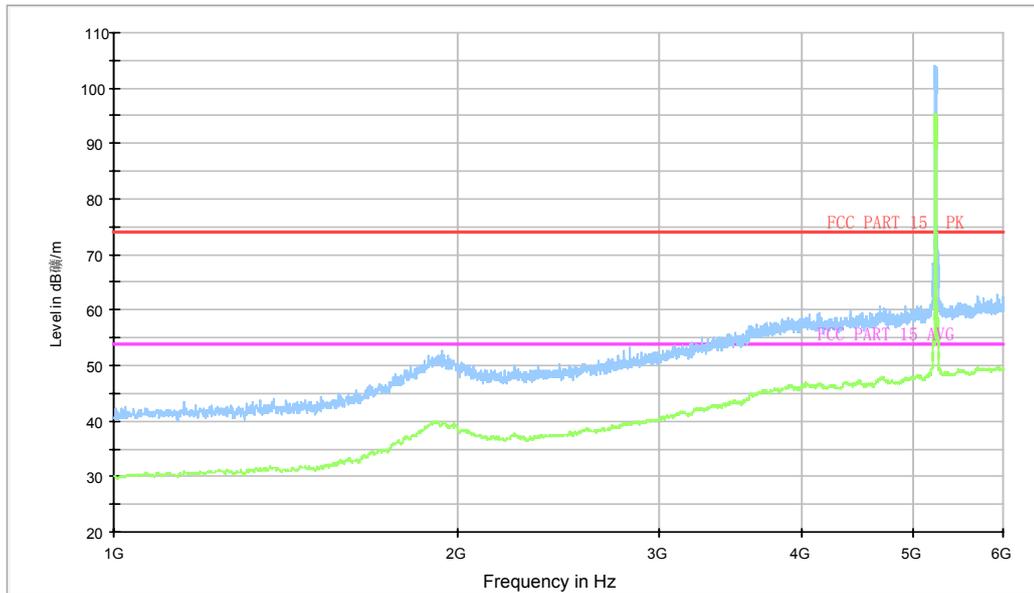


Fig. 34 Radiated Spurious Emission (802.11a, ch48, 1 GHz-6 GHz)

Normal RE_6G-18GHz

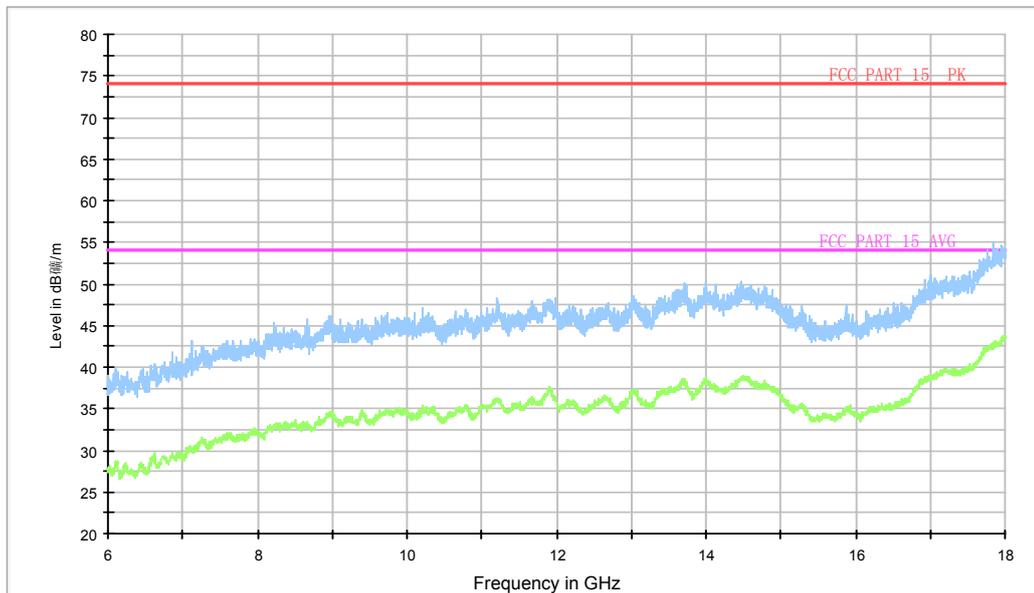


Fig. 35 Radiated Spurious Emission (802.11a, ch48, 6 GHz-18GHz)

RE_WLAN_1G-6GHz

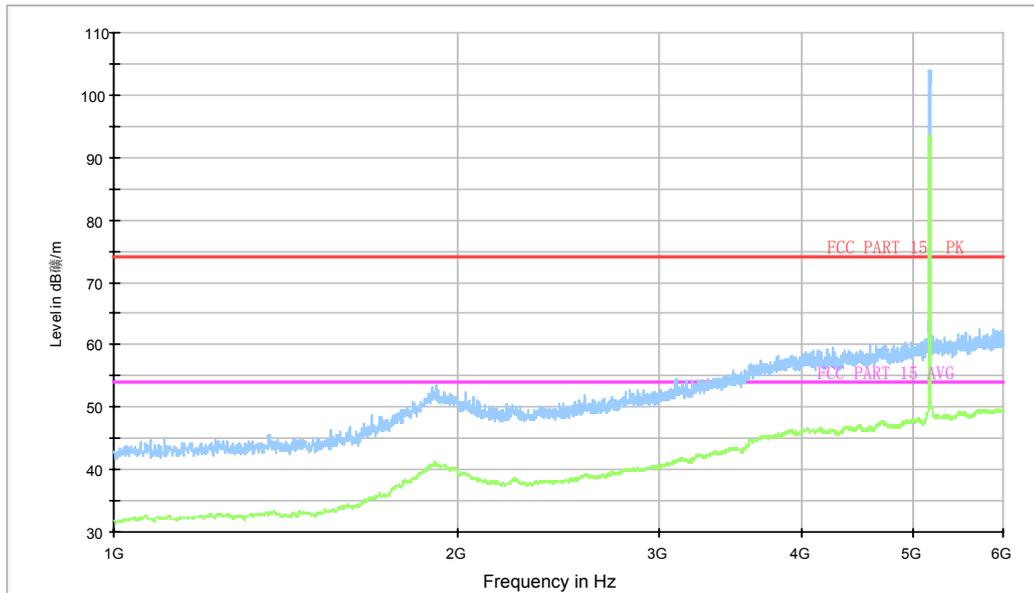


Fig. 36 Radiated Spurious Emission (802.11n-HT20, ch36, 1 GHz-6 GHz)

Normal RE_6G-18GHz

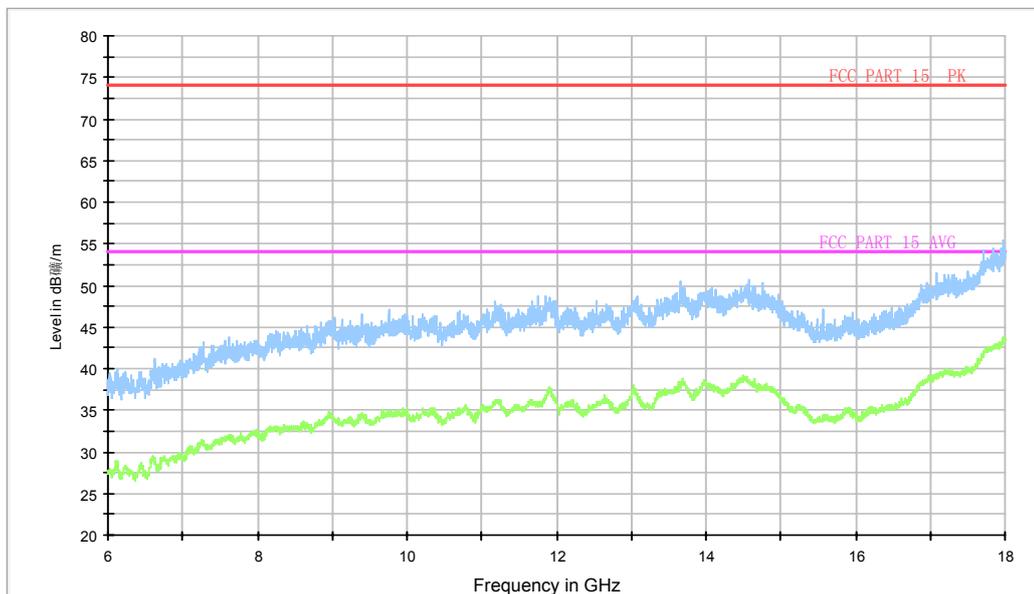


Fig. 37 Radiated Spurious Emission (802.11n-HT20, ch36, 6 GHz-18GHz)

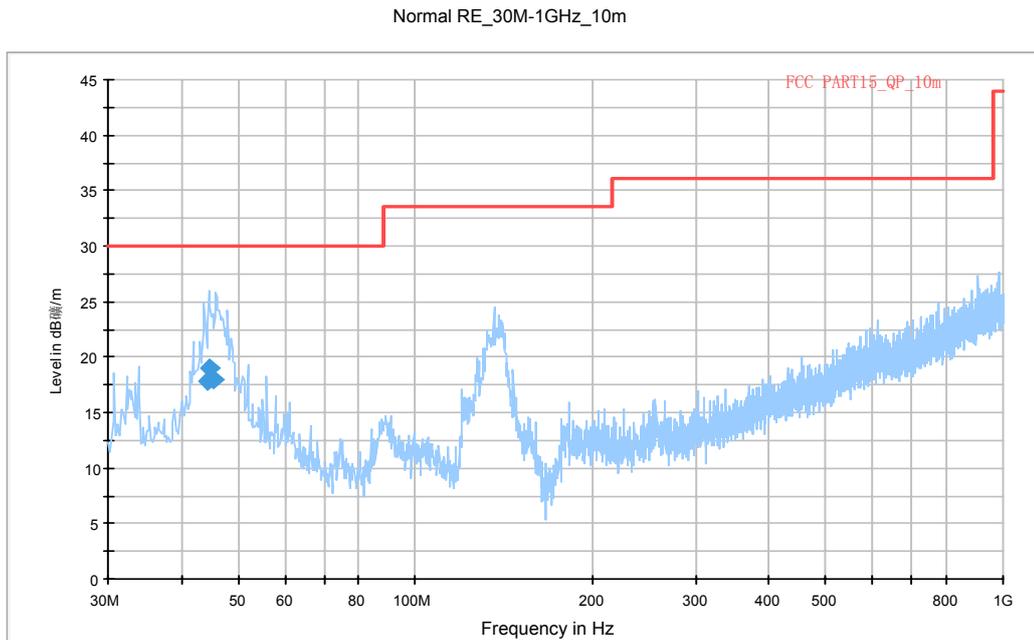


Fig. 38 Radiated Spurious Emission (802.11n-HT20, ch40, 30 MHz-1 GHz)

Final Result 1

Frequency (MHz)	QuasiPeak (dB 磁/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB 磁/m)
44.302500	17.8	100.0	V	90.0	-11.7	12.2	30.0
44.790000	19.0	318.0	V	120.0	-11.7	11.0	30.0
45.319500	18.0	299.0	V	106.0	-11.7	12.0	30.0

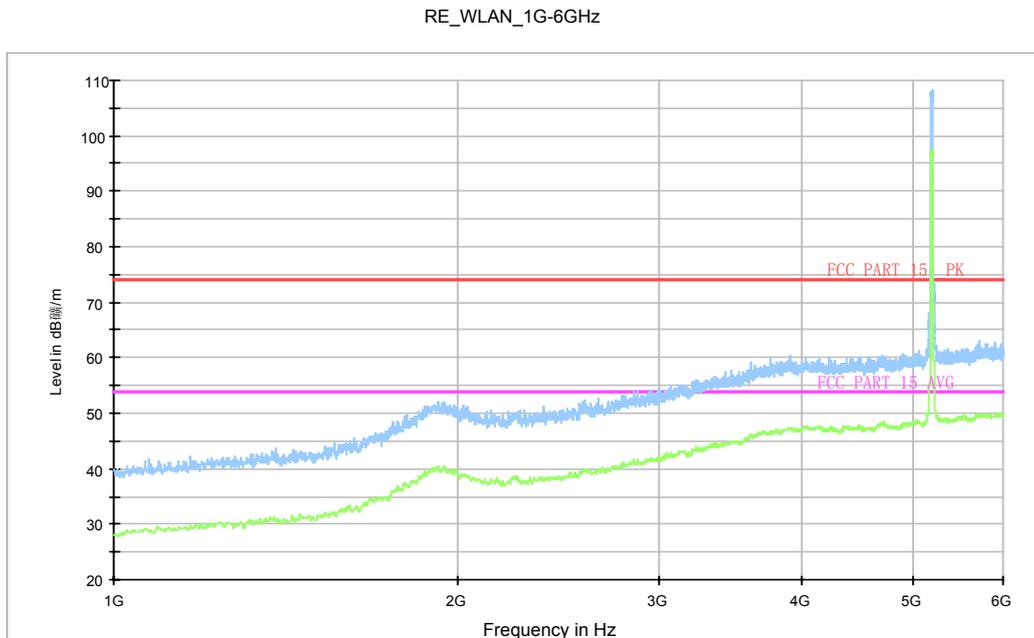


Fig. 39 Radiated Spurious Emission (802.11n-HT20, ch40, 1 GHz-6 GHz)

Normal RE_6G-18GHz

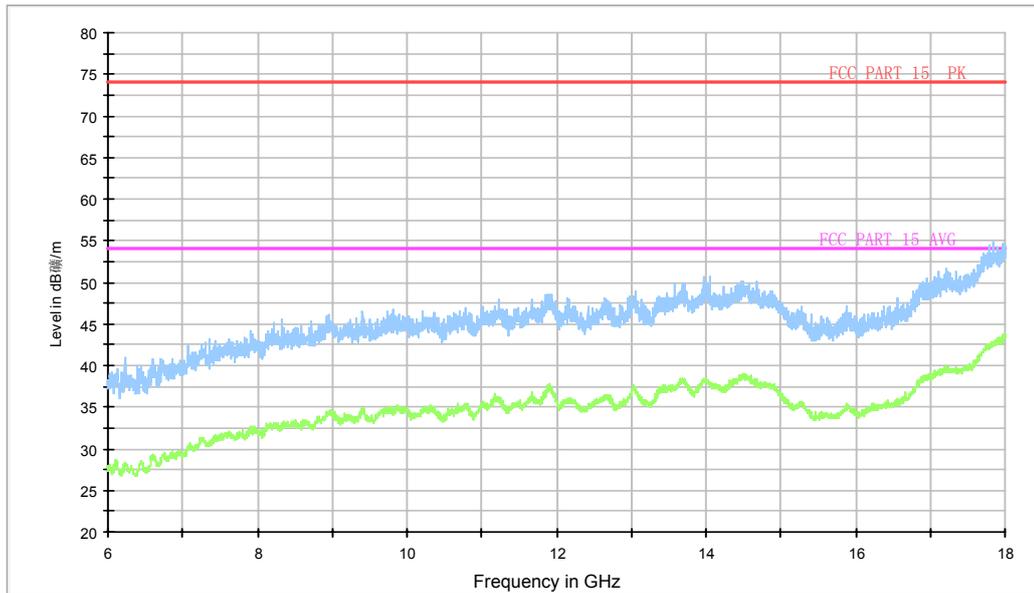


Fig. 40 Radiated Spurious Emission (802.11n-HT20, ch40, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

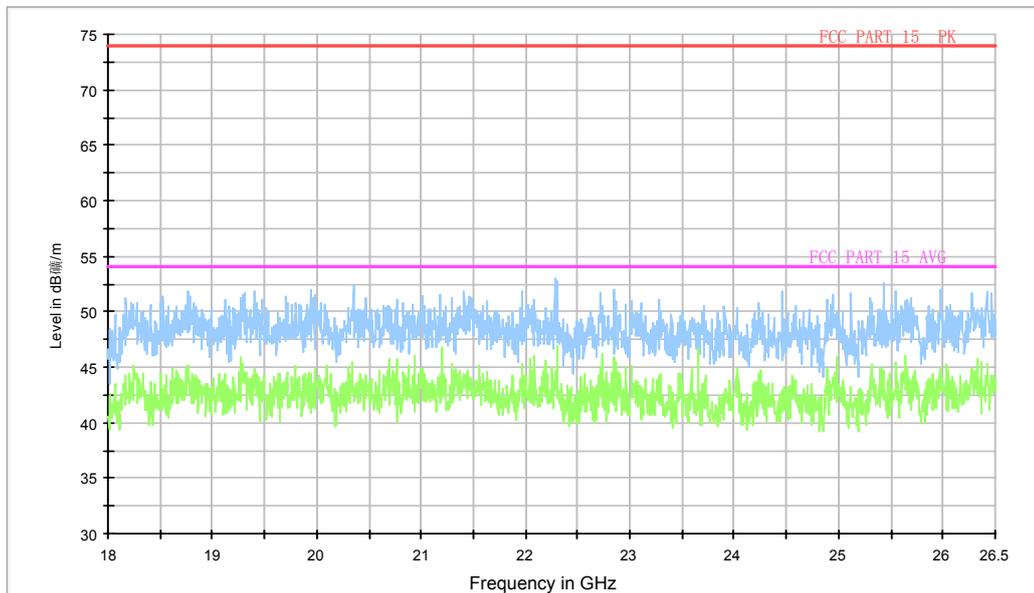


Fig. 41 Radiated Spurious Emission (802.11n-HT20, ch40, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

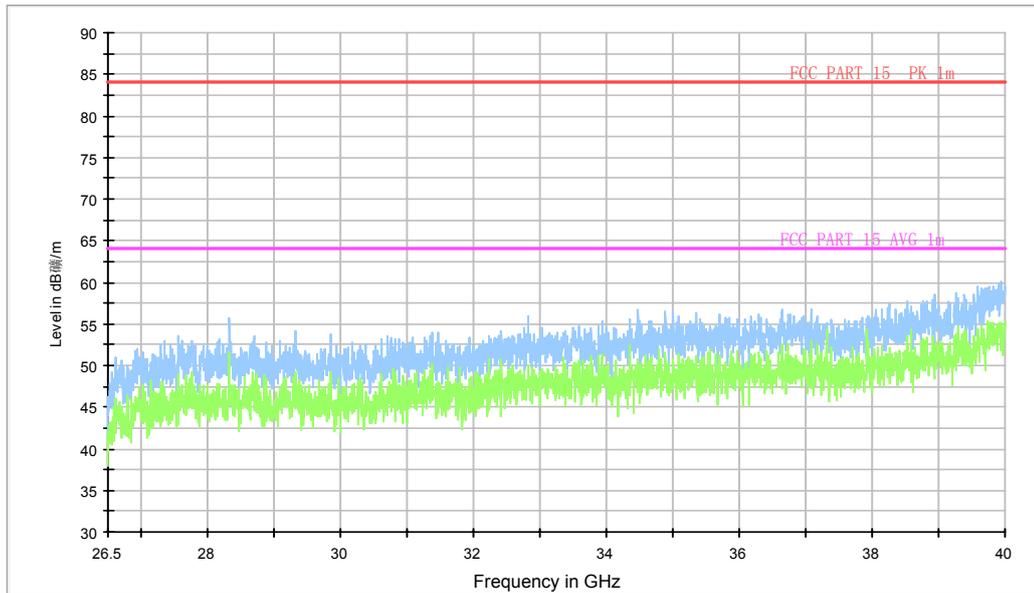


Fig. 42 Radiated Spurious Emission (802.11n-HT20, ch40, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

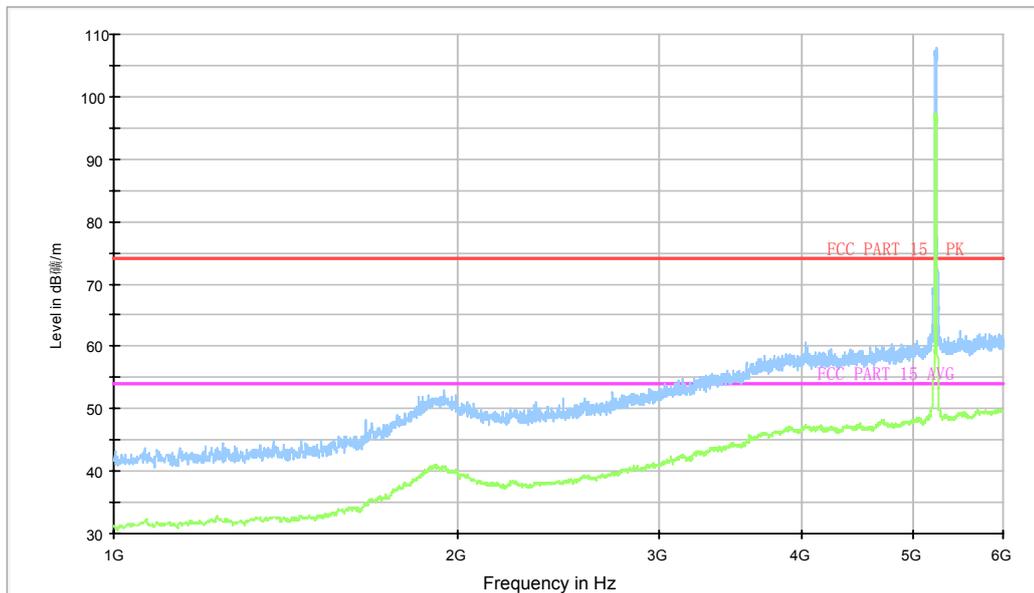


Fig. 43 Radiated Spurious Emission (802.11n-HT20, ch48, 1 GHz-6GHz)

Normal RE_6G-18GHz

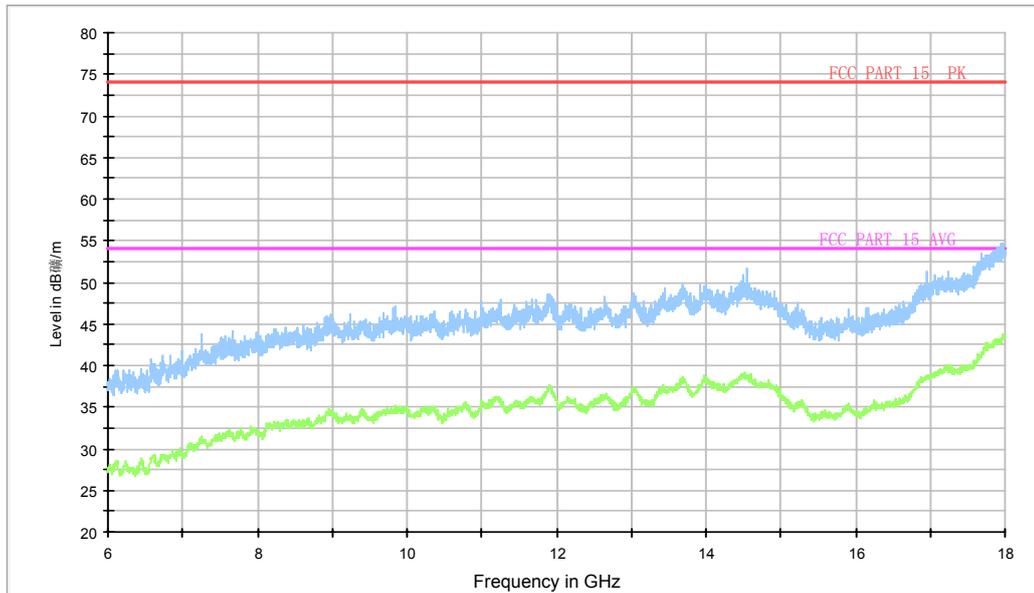


Fig. 44 Radiated Spurious Emission (802.11n-HT20, ch48, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

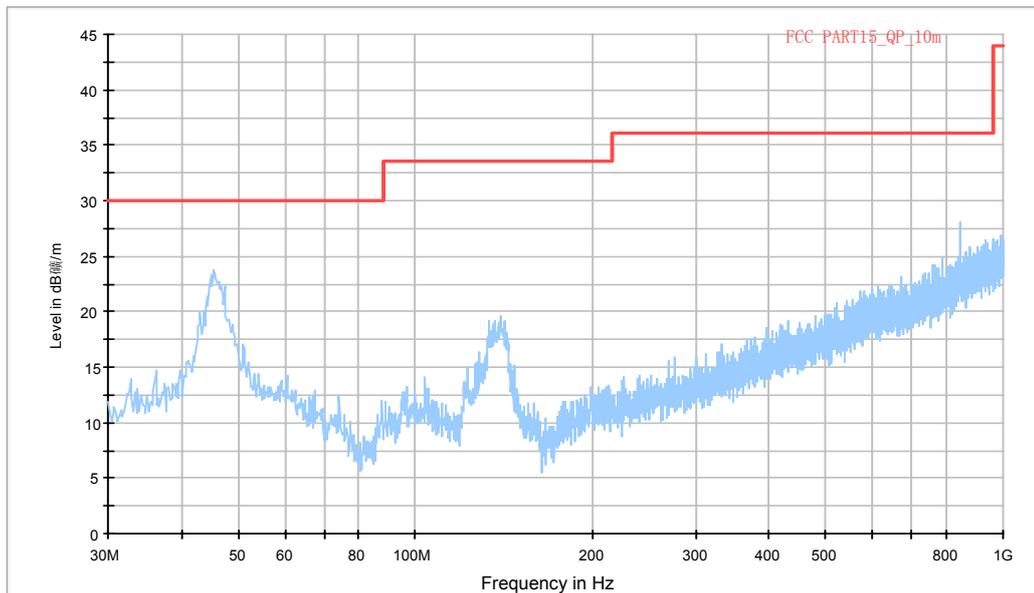


Fig. 45 Radiated Spurious Emission (802.11n-HT40, ch38, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

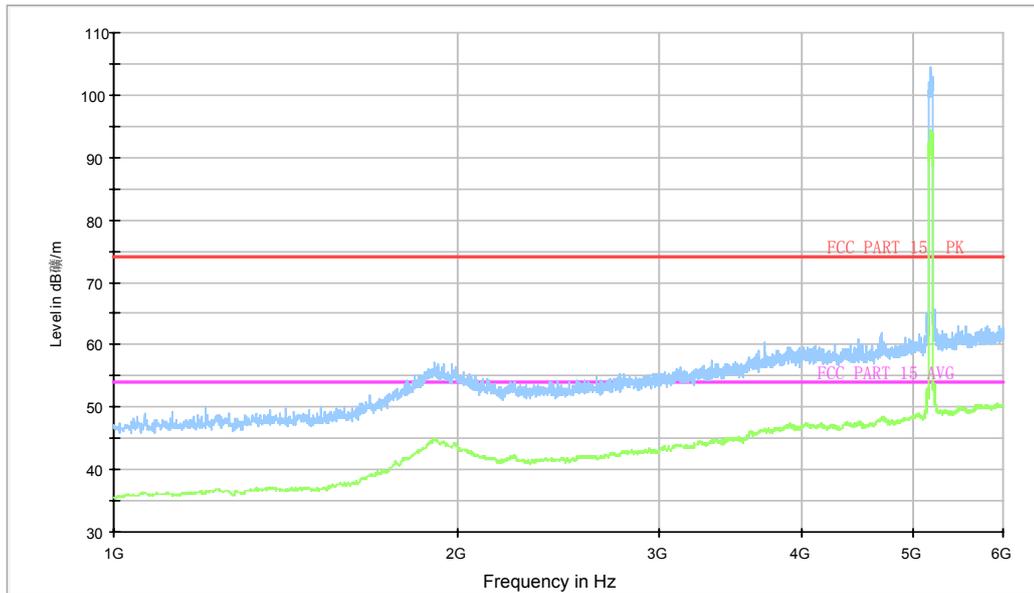


Fig. 46 Radiated Spurious Emission (802.11n-HT40, ch38, 1 GHz-6 GHz)

Normal RE_6G-18GHz

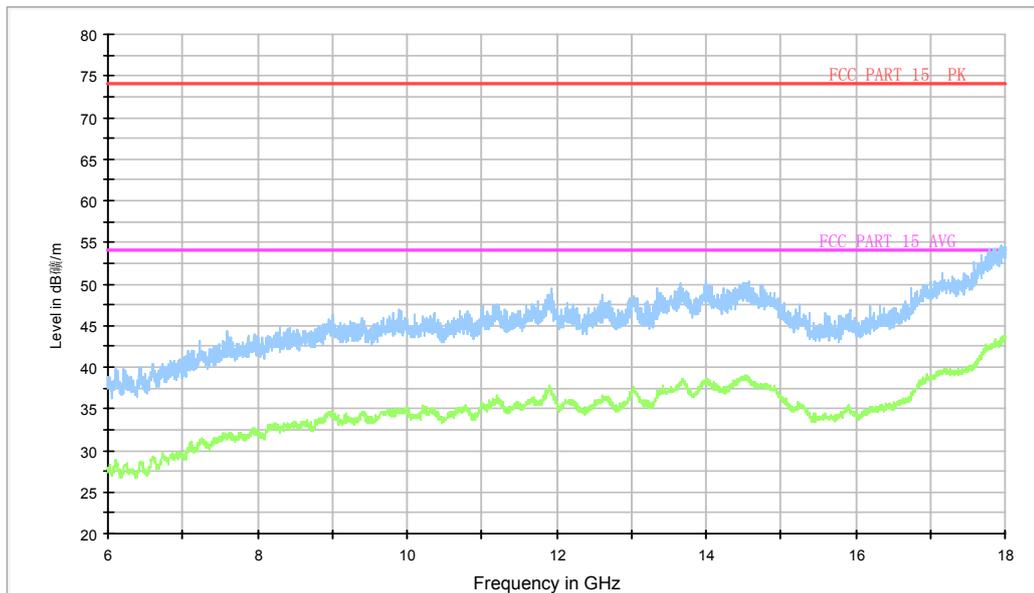


Fig. 47 Radiated Spurious Emission (802.11n-HT40, ch38, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

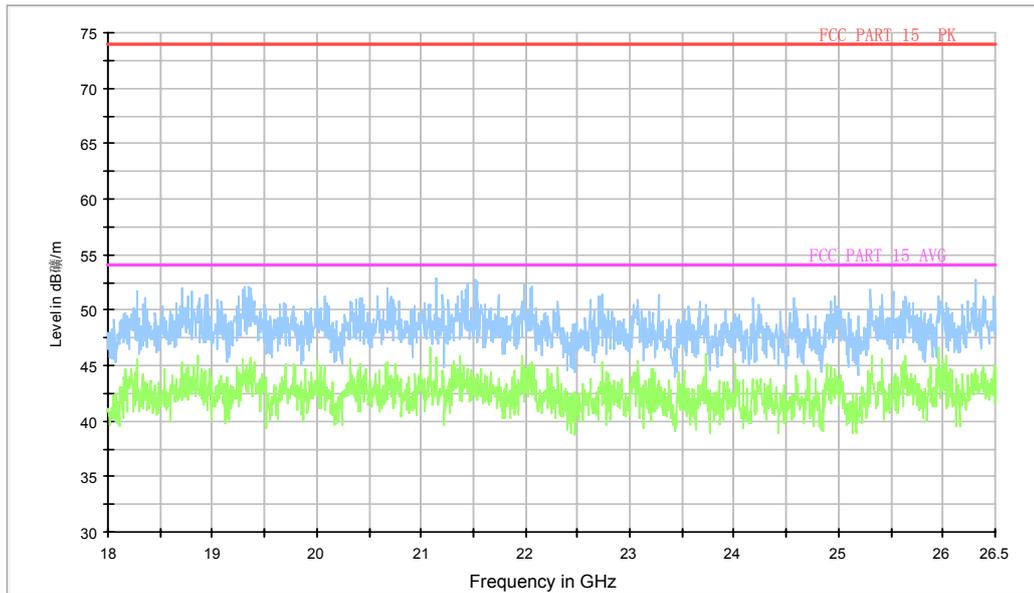


Fig. 48 Radiated Spurious Emission (802.11n-HT40, ch38, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

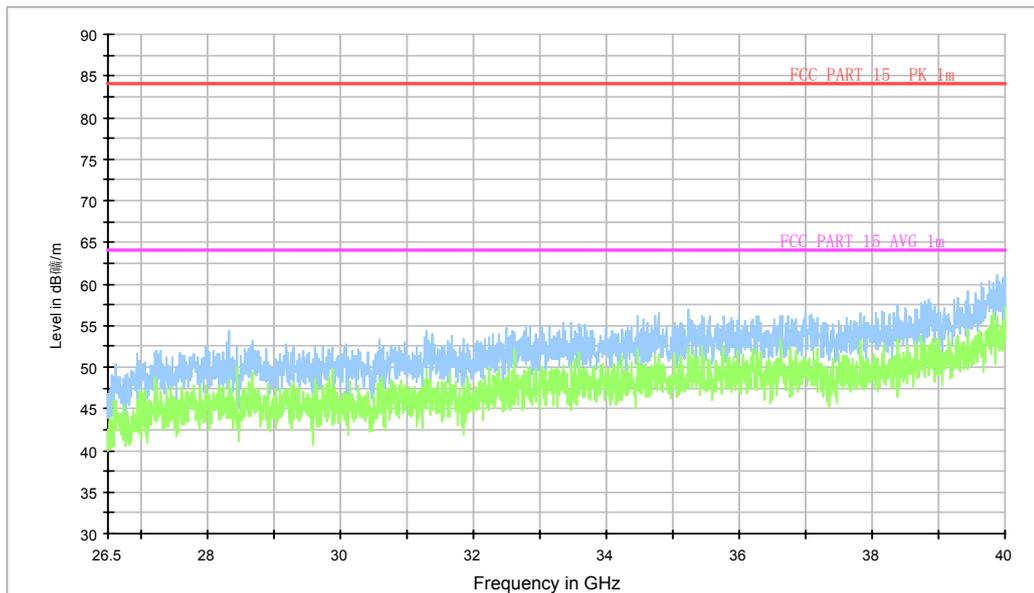


Fig. 49 Radiated Spurious Emission (802.11n-HT40, ch38, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

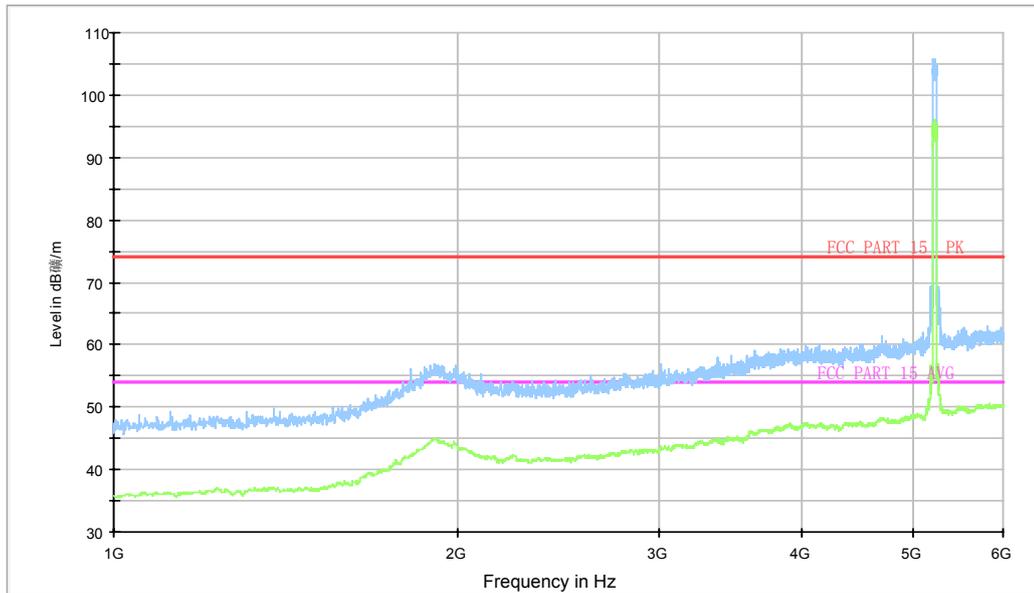


Fig. 50 Radiated Spurious Emission (802.11n-HT40, ch46, 1 GHz-6 GHz)

Normal RE_6G-18GHz

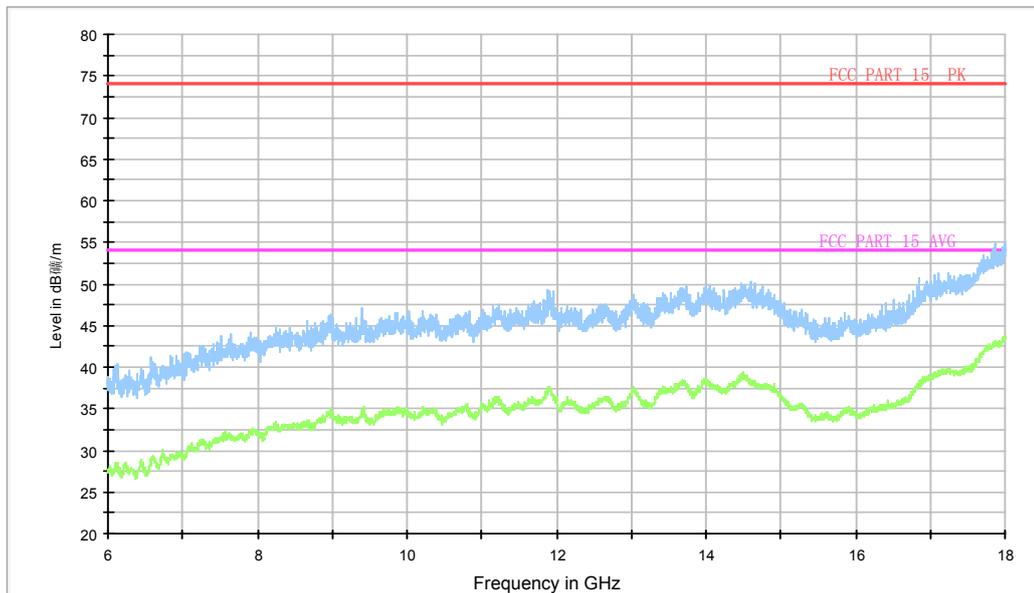


Fig. 51 Radiated Spurious Emission (802.11n-HT40, ch46, 6 GHz-18 GHz)

RE_WLAN_1G-6GHz

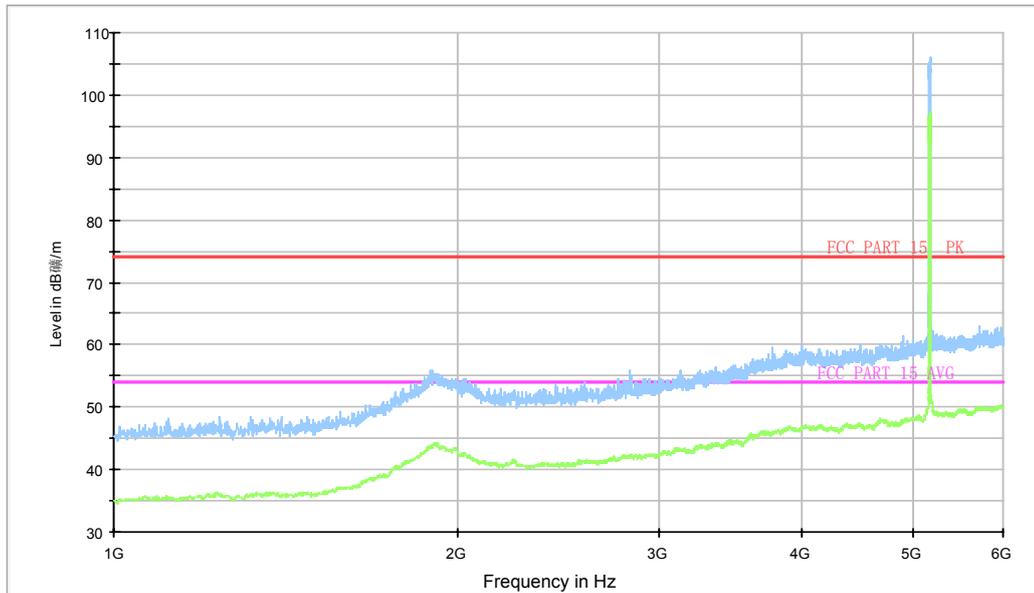


Fig. 52 Radiated Spurious Emission (802.11ac-HT20, ch36, 1 GHz-6 GHz)

Normal RE_6G-18GHz

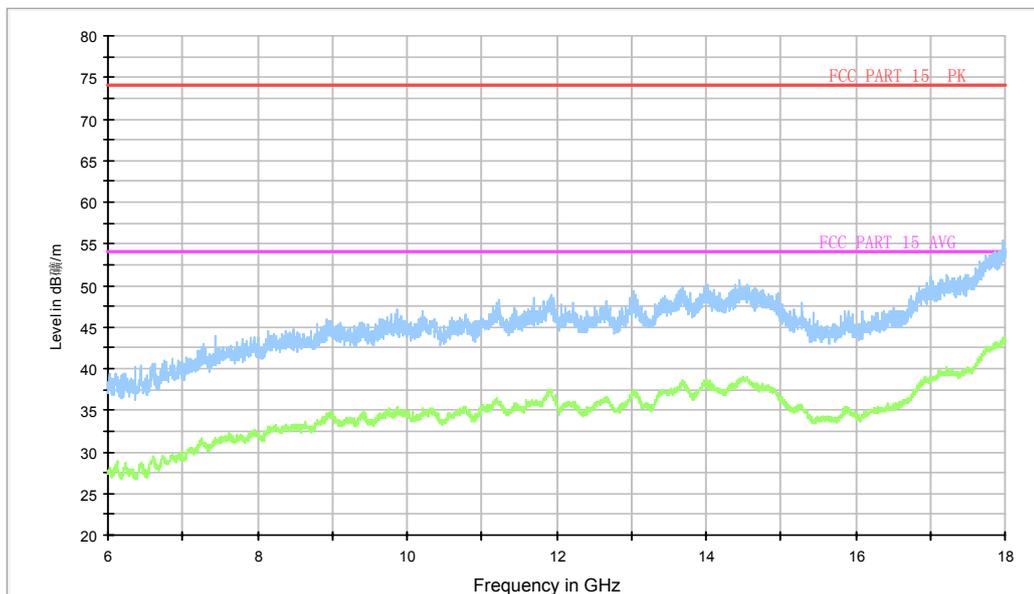


Fig. 53 Radiated Spurious Emission (802.11ac-HT20, ch36, 6 GHz-18GHz)

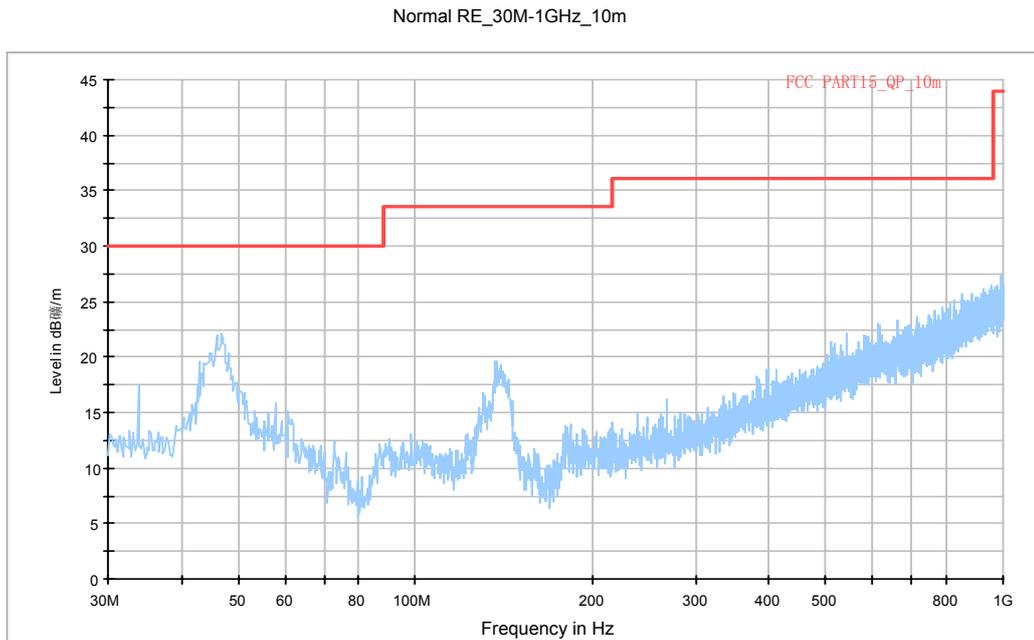


Fig. 54 Radiated Spurious Emission (802.11ac-HT20, ch40, 30 MHz-1 GHz)

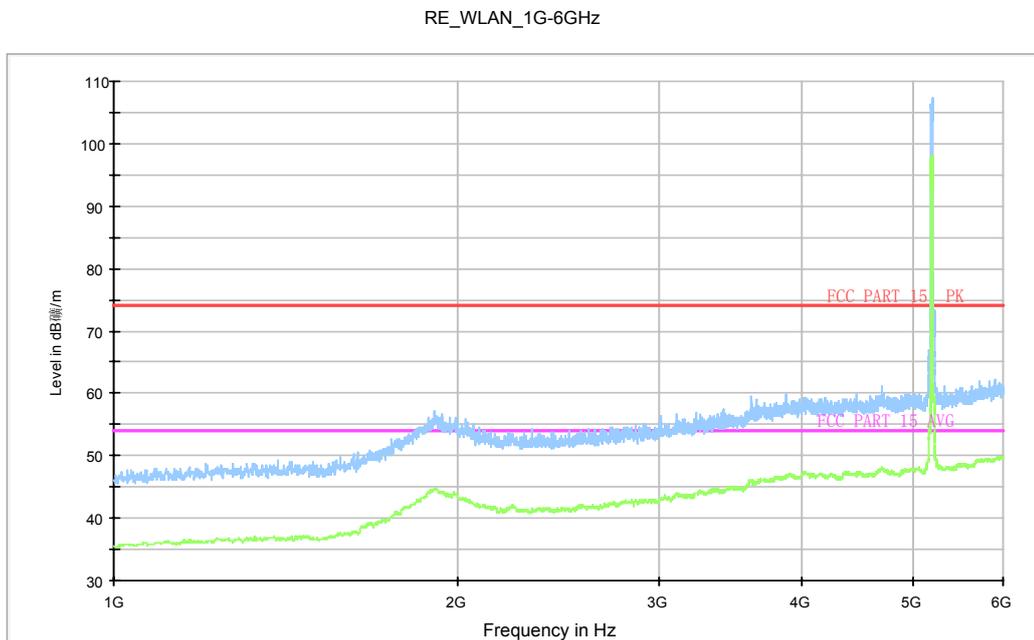


Fig. 55 Radiated Spurious Emission (802.11ac-HT20, ch40, 1 GHz-6 GHz)

Normal RE_6G-18GHz

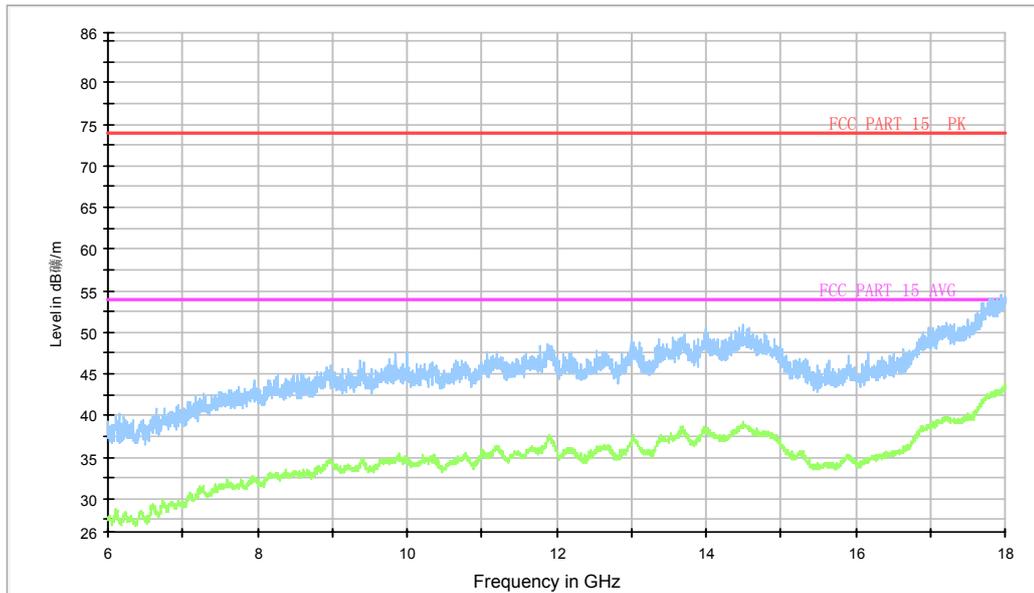


Fig. 56 Radiated Spurious Emission (802.11ac-HT20, ch40, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

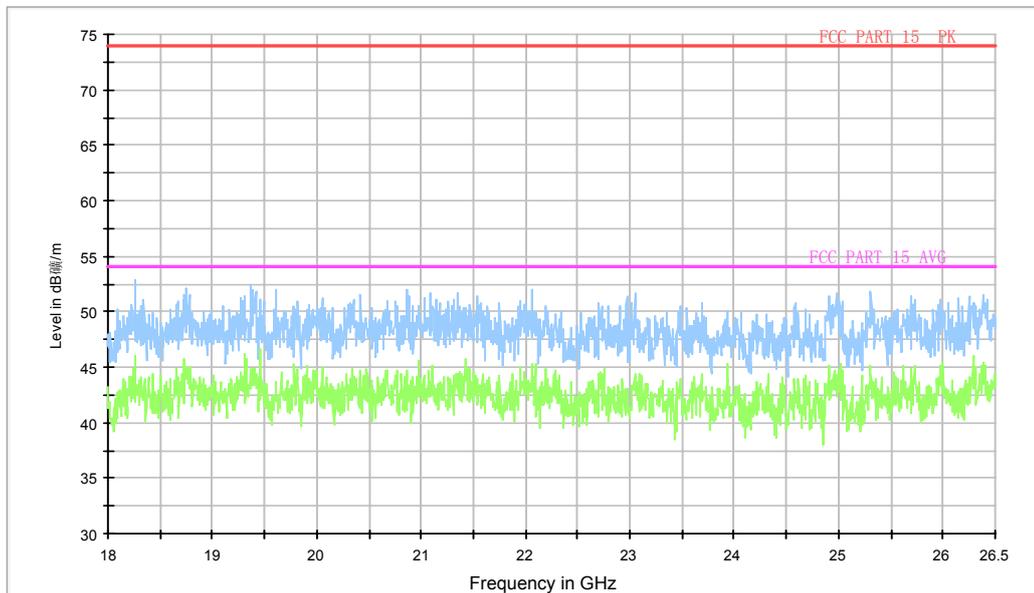


Fig. 57 Radiated Spurious Emission (802.11ac-HT20, ch40, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

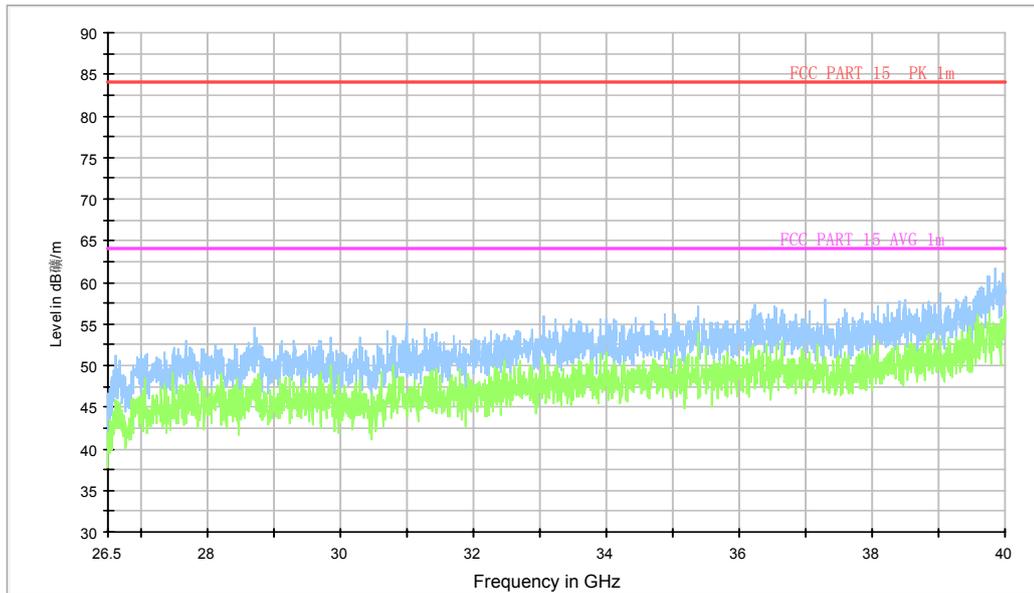


Fig. 58 Radiated Spurious Emission (802.11ac-HT20, ch40, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

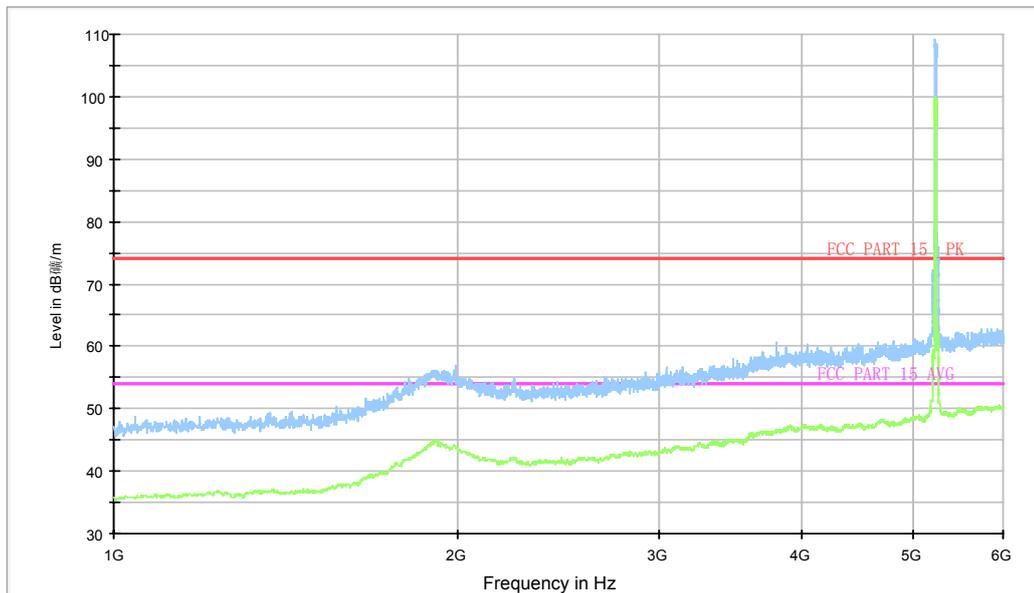


Fig. 59 Radiated Spurious Emission (802.11ac-HT20, ch48, 1 GHz-6GHz)

Normal RE_6G-18GHz

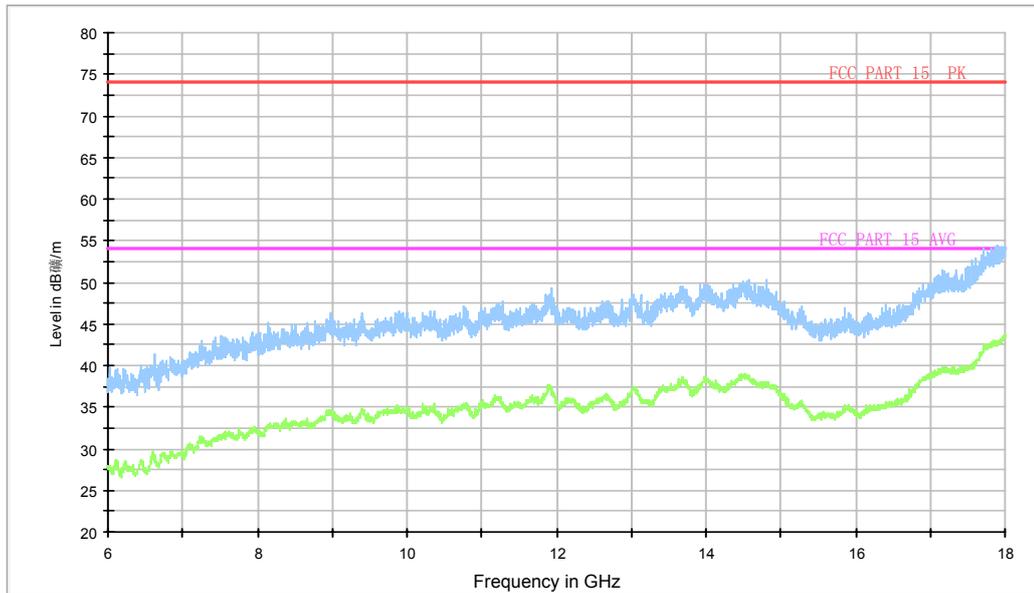


Fig. 60 Radiated Spurious Emission (802.11ac-HT20, ch48, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

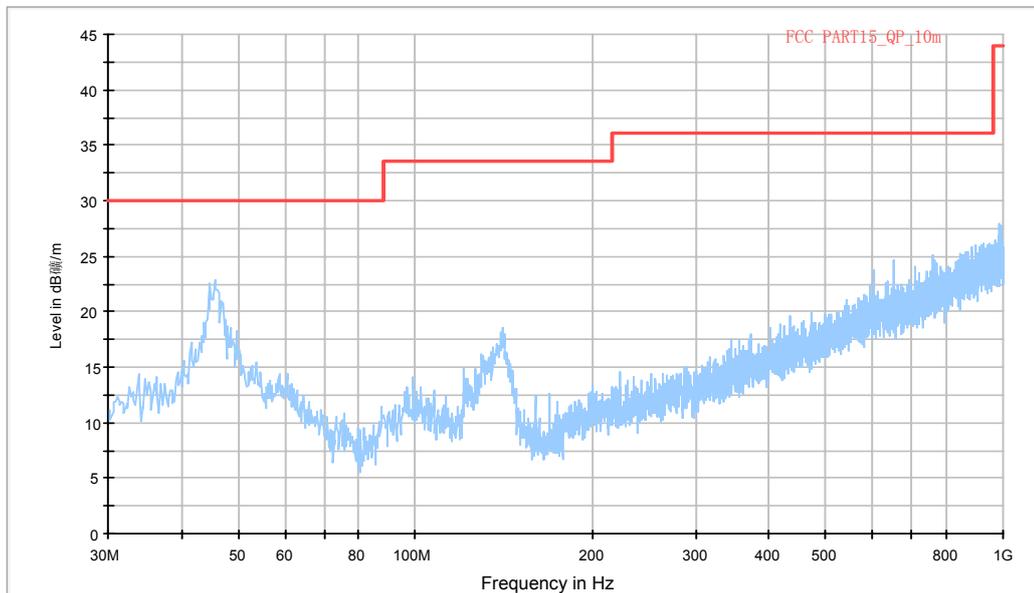


Fig. 61 Radiated Spurious Emission (802.11ac-HT40, ch38, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

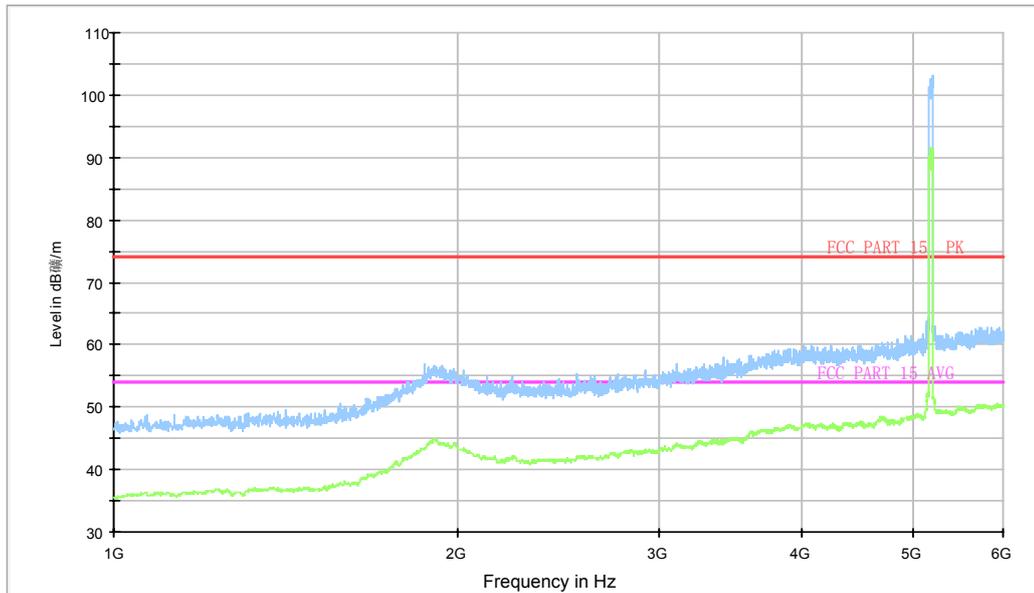


Fig. 62 Radiated Spurious Emission (802.11ac-HT40, ch38, 1 GHz-6 GHz)

Normal RE_6G-18GHz

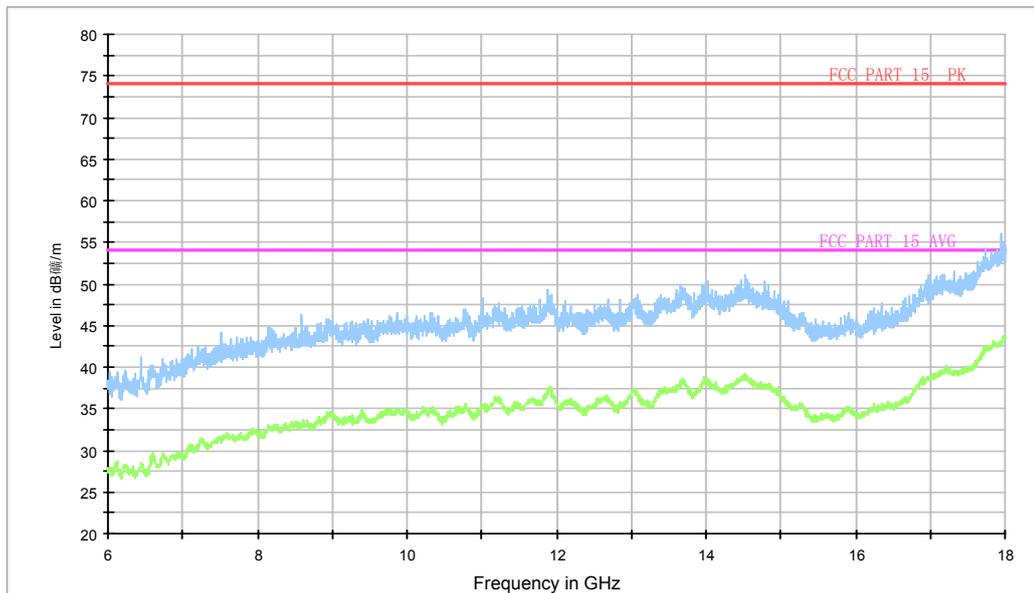


Fig. 63 Radiated Spurious Emission (802.11ac-HT40, ch38, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

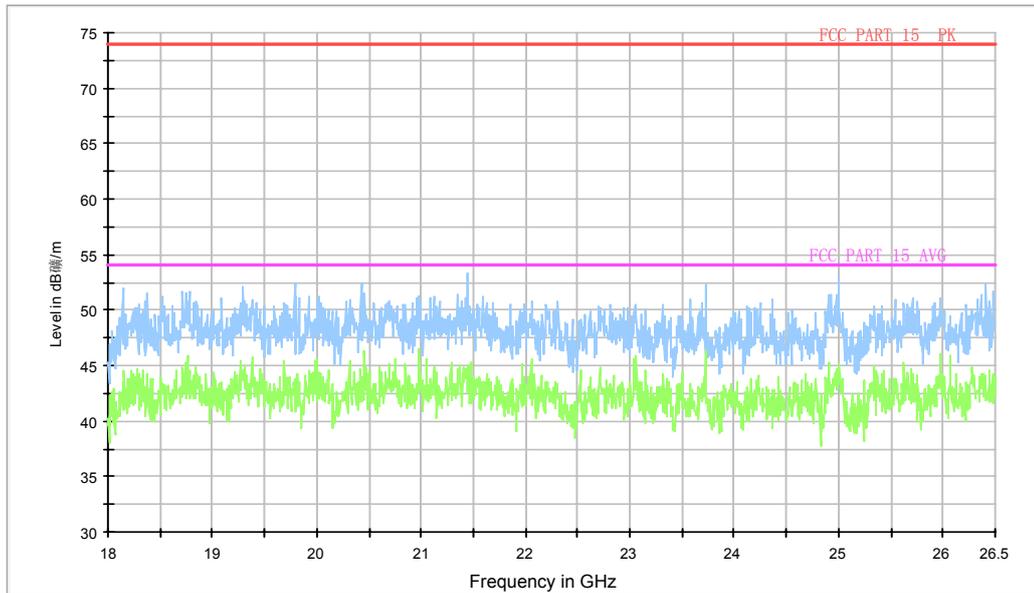


Fig. 64 Radiated Spurious Emission (802.11ac-HT40, ch38, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

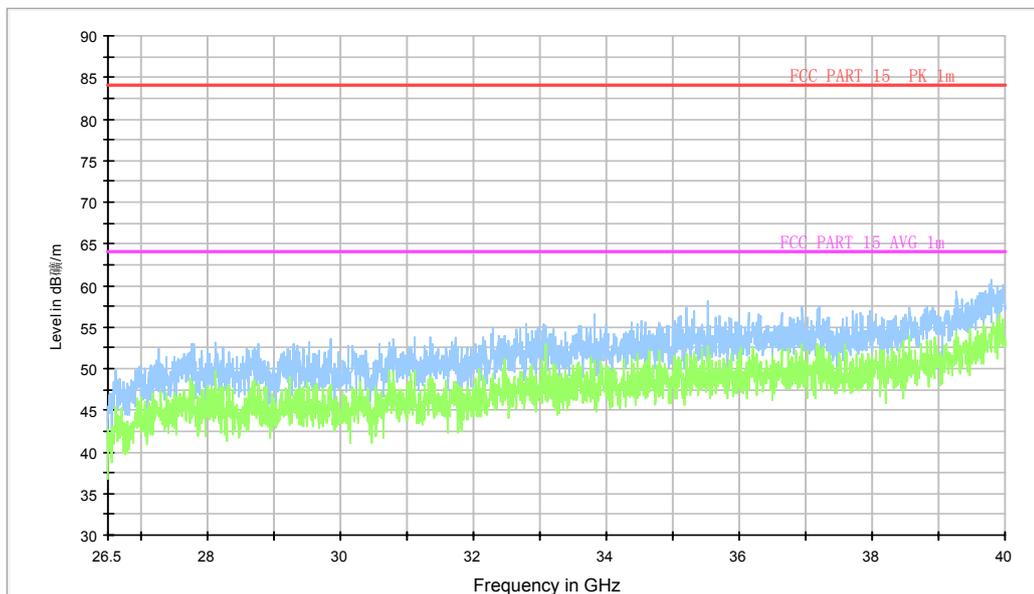


Fig. 65 Radiated Spurious Emission (802.11ac-HT40, ch38, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

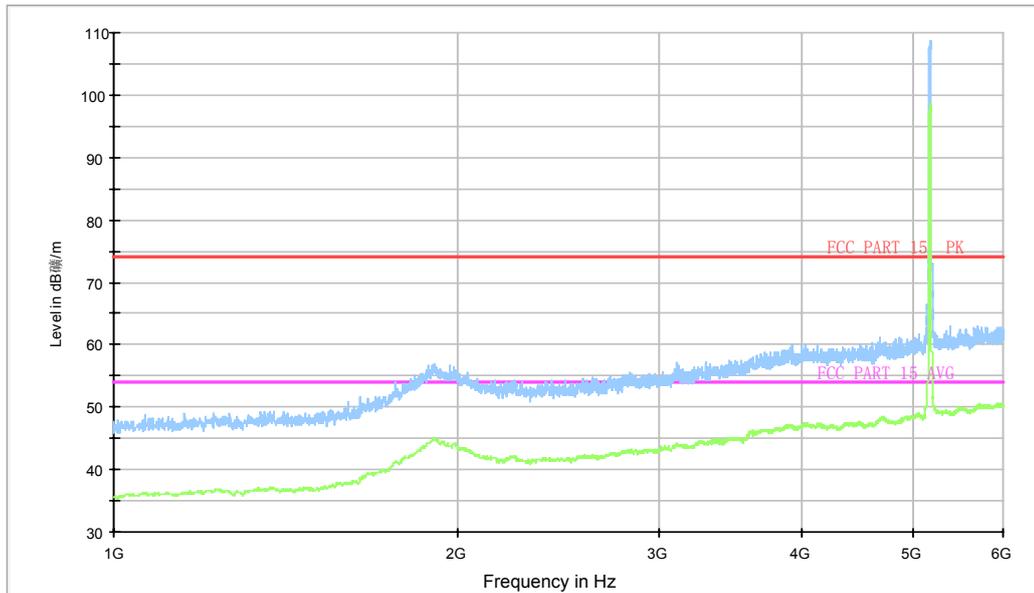


Fig. 66 Radiated Spurious Emission (802.11ac-HT40, ch46, 1 GHz-6 GHz)

Normal RE_6G-18GHz

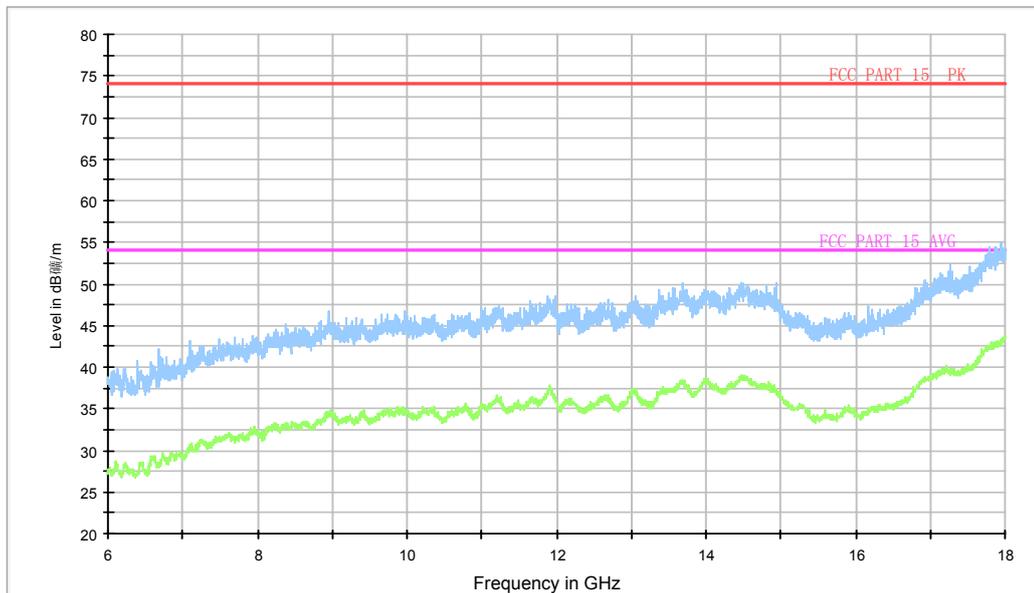


Fig. 67 Radiated Spurious Emission (802.11ac-HT40, ch46, 6 GHz-18 GHz)

5GHz U-NII 2A

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	52(5160MHz)	1 GHz ~ 6 GHz	Fig.68	P
		6 GHz ~ 18 GHz	Fig.69	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.70	P
		1 GHz ~ 6 GHz	Fig.71	P
		6 GHz ~ 18 GHz	Fig.72	P
		18 GHz ~ 26.5 GHz	Fig.73	P
	64(5320MHz)	26.5 GHz ~ 40 GHz	Fig.74	P
		1 GHz ~ 6 GHz	Fig.75	P
		6 GHz ~ 18 GHz	Fig.76	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	52(5160MHz)	1 GHz ~ 6 GHz	Fig.77	P
		6 GHz ~ 18 GHz	Fig.78	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.79	P
		1 GHz ~ 6 GHz	Fig.80	P
		6 GHz ~ 18 GHz	Fig.81	P
		18 GHz ~ 26.5 GHz	Fig.82	P
	64(5320MHz)	26.5 GHz ~ 40 GHz	Fig.83	P
		1 GHz ~ 6 GHz	Fig.84	P
		6 GHz ~ 18 GHz	Fig.85	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	54(5270MHz)	30 MHz ~1 GHz	Fig.86	P
		1 GHz ~ 6 GHz	Fig.87	P
		6 GHz ~ 18 GHz	Fig.88	P
		18 GHz ~ 26.5 GHz	Fig.89	P
		26.5 GHz ~ 40 GHz	Fig.90	P
	62(6310MHz)	1 GHz ~ 6 GHz	Fig.91	P
		6 GHz ~ 18 GHz	Fig.92	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	52(5160MHz)	1 GHz ~ 6 GHz	Fig.93	P
		6 GHz ~ 18 GHz	Fig.94	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.95	P
		1 GHz ~ 6 GHz	Fig.96	P
		6 GHz ~ 18 GHz	Fig.97	P
		18 GHz ~ 26.5 GHz	Fig.98	P
	64(5320MHz)	26.5 GHz ~ 40 GHz	Fig.99	P
		1 GHz ~ 6 GHz	Fig.100	P
		6 GHz ~ 18 GHz	Fig.101	P

802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	54(5270MHz)	30 MHz ~1 GHz	Fig.102	P
		1 GHz ~ 6 GHz	Fig.103	P
		6 GHz ~ 18 GHz	Fig.104	P
		18 GHz ~ 26.5 GHz	Fig.105	P
		26.5 GHz ~ 40 GHz	Fig.106	P
	62(6310MHz)	1 GHz ~ 6 GHz	Fig.107	P
		6 GHz ~ 18 GHz	Fig.108	P

Conclusion: PASS



Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

5GHz U-NII 2A

802.11a

Channel 52

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17989.600	43.8	-17.7	45.6	15.900	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.6	-17.7	45.6	15.700	H
17986.000	43.6	-17.7	45.6	15.700	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17907.200	54.1	-18.5	45.6	27.000	H
17984.400	54.0	-17.7	45.6	26.100	H
17998.000	54.0	-17.7	45.6	26.100	V
17989.600	54.0	-17.7	45.6	26.100	H
17986.000	53.9	-17.7	45.6	26.000	H
17996.400	53.9	-17.7	45.6	26.000	H

Channel 56

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17989.600	44.0	-17.7	45.6	16.100	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.7	-17.7	45.6	15.800	H
17986.000	43.6	-18.5	45.6	16.500	H
17996.400	43.5	-17.7	45.6	15.600	H



Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17981.600	54.9	-17.7	45.6	27.000	H
17984.400	54.5	-18.5	45.6	27.400	H
17998.000	54.3	-17.7	45.6	26.400	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.2	-17.7	45.6	26.300	H
17996.400	54.2	-18.5	45.6	27.100	H

Channel 64

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5350.035	51.7	-34.8	34.6	51.900	H
17984.400	43.7	-17.7	45.6	15.800	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5353.334	64.0	-34.8	34.6	64.200	H
17984.400	54.8	-17.7	45.6	26.900	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.7	-17.7	45.6	26.800	H
17986.000	54.7	-17.7	45.6	26.800	H
17996.400	54.2	-17.7	45.6	26.300	H



802.11n-HT20

Channel 52

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17993.20	43.80	-17.70	45.60	15.90	H
17984.40	43.70	-17.70	45.60	15.80	H
17998.00	43.60	-17.70	45.60	15.70	V
17989.60	43.50	-17.70	45.60	15.60	H
17986.00	43.50	-17.70	45.60	15.60	H
17996.40	43.30	-17.70	45.60	15.40	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17994.400	55.3	-17.7	45.6	27.400	H
17938.400	54.5	-17.7	45.6	26.600	H
17763.600	54.4	-18.5	45.6	27.300	V
17983.200	54.4	-17.7	45.6	26.500	H
17944.000	54.3	-17.7	45.6	26.400	H
17990.800	54.2	-17.7	45.6	26.300	H

Channel 56

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17986.400	43.5	-17.7	45.6	15.600	H
17984.400	43.5	-17.7	45.6	15.600	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.4	-17.7	45.6	15.500	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17992.000	55.1	-17.7	45.6	27.200	H
17984.400	54.5	-17.7	45.6	26.600	H
17998.000	54.3	-17.7	45.6	26.400	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.1	-17.7	45.6	26.200	H
17996.400	54.1	-18.5	45.6	27.000	H



Channel 64

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5350.445	50.7	-34.8	34.6	50.900	H
17984.400	43.9	-17.7	45.6	16.000	H
17998.000	43.8	-17.7	45.6	15.900	V
17989.600	43.6	-17.7	45.6	15.700	H
17986.000	43.6	-17.7	45.6	15.700	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5371.985	63.1	-34.8	34.6	63.300	H
17984.400	55.1	-18.5	45.6	28.000	H
17998.000	54.9	-18.5	45.6	27.800	V
17989.600	54.6	-18.5	45.6	27.500	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.4	-17.7	45.6	26.500	H

802.11n-HT40

Channel 54

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17978.400	43.8	-17.7	45.6	15.900	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17991.200	54.5	-17.7	45.6	26.600	H
17984.400	54.5	-17.7	45.6	26.600	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.4	-18.5	45.6	27.300	H
17996.400	54.3	-17.7	45.6	26.400	H



Channel 62

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17993.200	43.8	-17.7	45.6	15.900	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17986.400	55.0	-17.7	45.6	27.100	H
17984.400	54.6	-17.7	45.6	26.700	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-18.5	45.6	27.300	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.3	-17.7	45.6	26.400	H

802.11ac-HT20

Channel 52

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17982.400	43.7	-17.7	45.6	15.800	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17974.000	55.4	-17.7	45.6	27.500	H
17984.400	54.4	-17.7	45.6	26.500	H
17998.000	54.3	-17.7	45.6	26.400	V
17989.600	54.1	-17.7	45.6	26.200	H
17986.000	54.1	-17.7	45.6	26.200	H
17996.400	54.1	-17.7	45.6	26.200	H



Channel 56

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17986.000	43.8	-17.7	45.6	15.900	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17872.000	55.1	-18.5	45.6	28.000	H
17984.400	55.0	-17.7	45.6	27.100	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.5	-17.7	45.6	26.600	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.3	-17.7	45.6	26.400	H

Channel 64

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5350.055	51.5	-34.8	34.6	51.700	H
17984.400	44.0	-17.7	45.6	16.100	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.7	-17.7	45.6	15.800	H
17986.000	43.6	-17.7	45.6	15.700	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5352.130	65.5	-34.8	34.6	65.700	H
17984.400	55.1	-17.7	45.6	27.200	H
17998.000	54.3	-17.7	45.6	26.400	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.2	-17.7	45.6	26.300	H
17996.400	54.1	-17.7	45.6	26.200	H



802.11ac-HT40

Channel 54

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17950.800	43.7	-17.7	45.6	15.800	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-45.6	44.5	44.566	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17974.800	55.0	-17.7	45.6	27.100	H
17984.400	54.8	-17.7	45.6	26.900	H
17998.000	54.8	-17.7	45.6	26.900	V
17989.600	54.4	-18.5	45.6	27.300	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.3	-17.7	45.6	26.400	H

Channel 62

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5350.000	49.3	-34.8	34.6	49.500	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-45.6	44.5	44.566	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17986.400	55.0	-17.7	45.6	27.100	H
17976.400	54.6	-17.7	45.6	26.700	H
17966.000	54.5	-17.7	45.6	26.600	V
17868.800	54.4	-18.5	45.6	27.300	H
17932.400	54.3	-17.7	45.6	26.400	H
17980.800	54.3	-17.7	45.6	26.400	H

Test graphs as below:

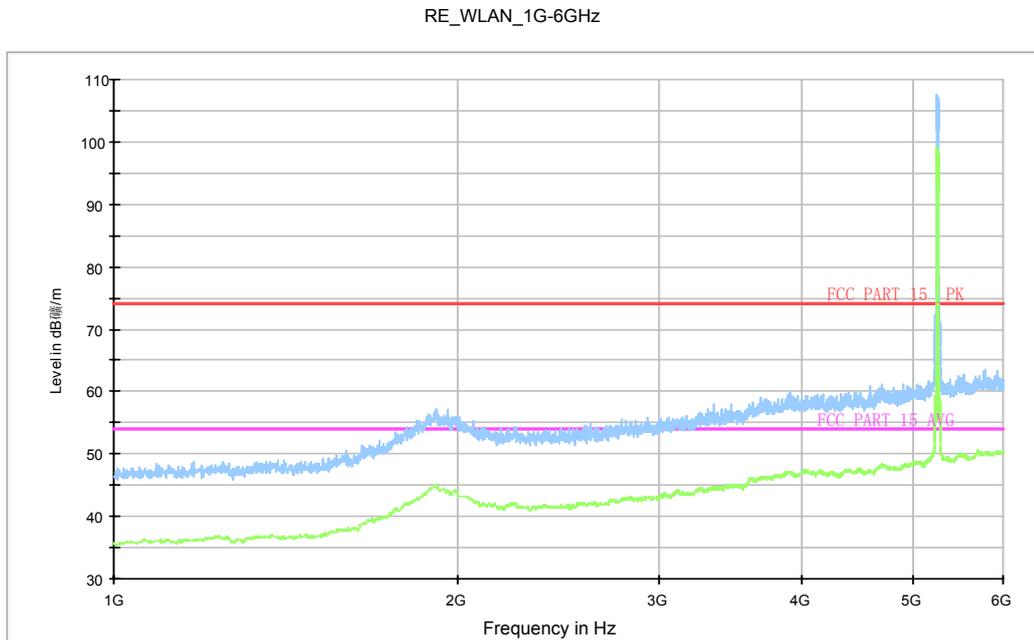


Fig. 68 Radiated Spurious Emission (802.11a, ch52, 1 GHz-6 GHz)

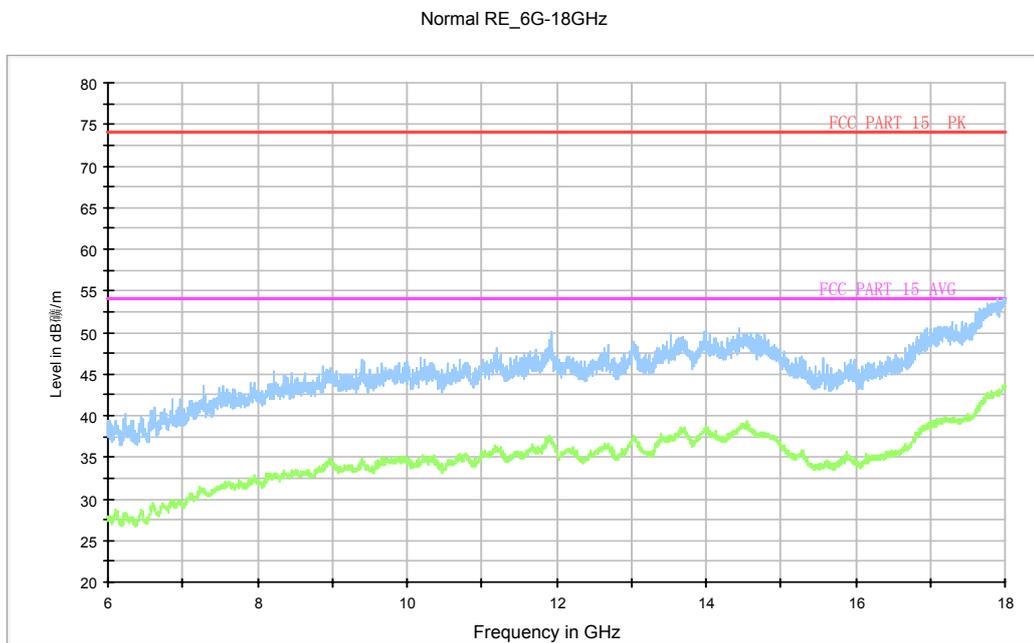


Fig. 69 Radiated Spurious Emission (802.11a, ch52, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

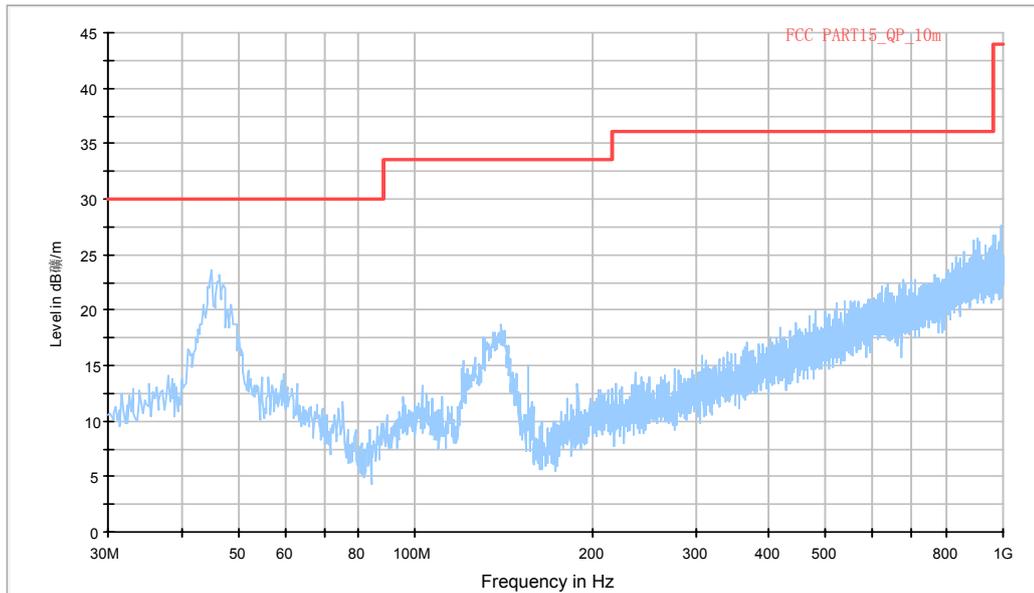


Fig. 70 Radiated Spurious Emission (802.11a, ch56, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

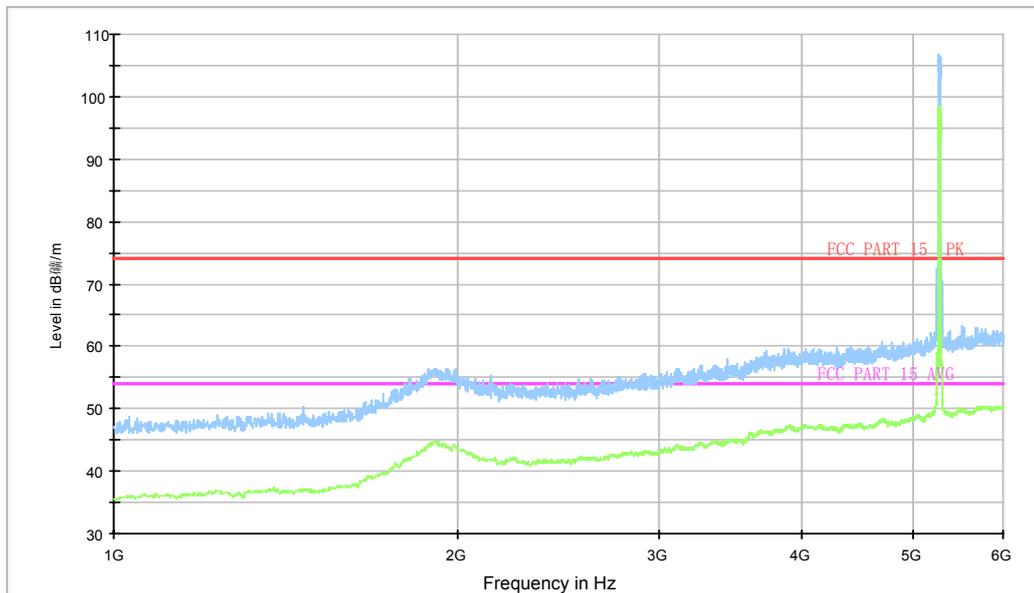


Fig. 71 Radiated Spurious Emission (802.11a, ch56, 1 GHz-6 GHz)

Normal RE_6G-18GHz

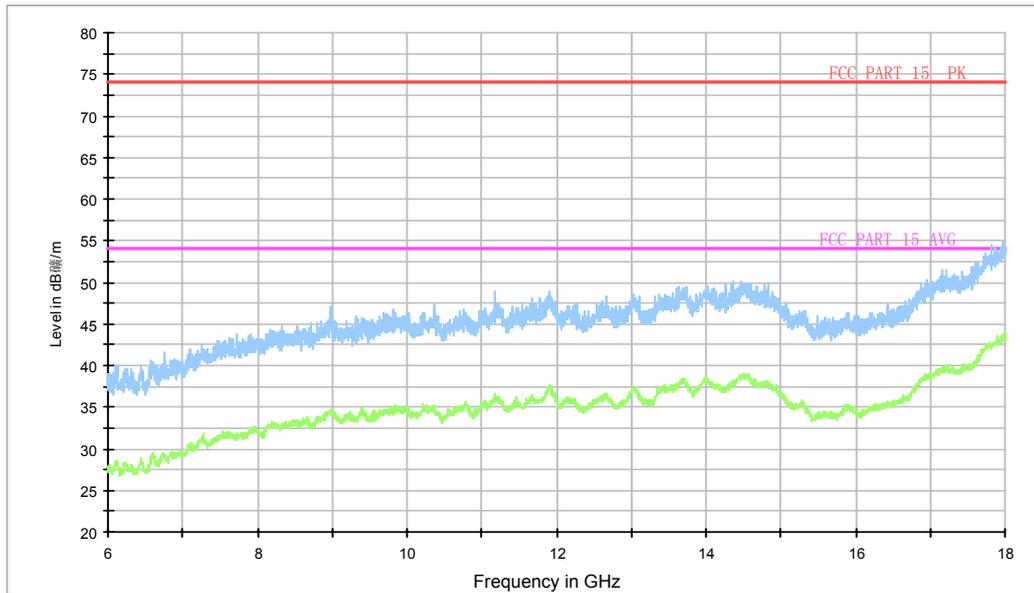


Fig. 72 Radiated Spurious Emission (802.11a, ch56, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

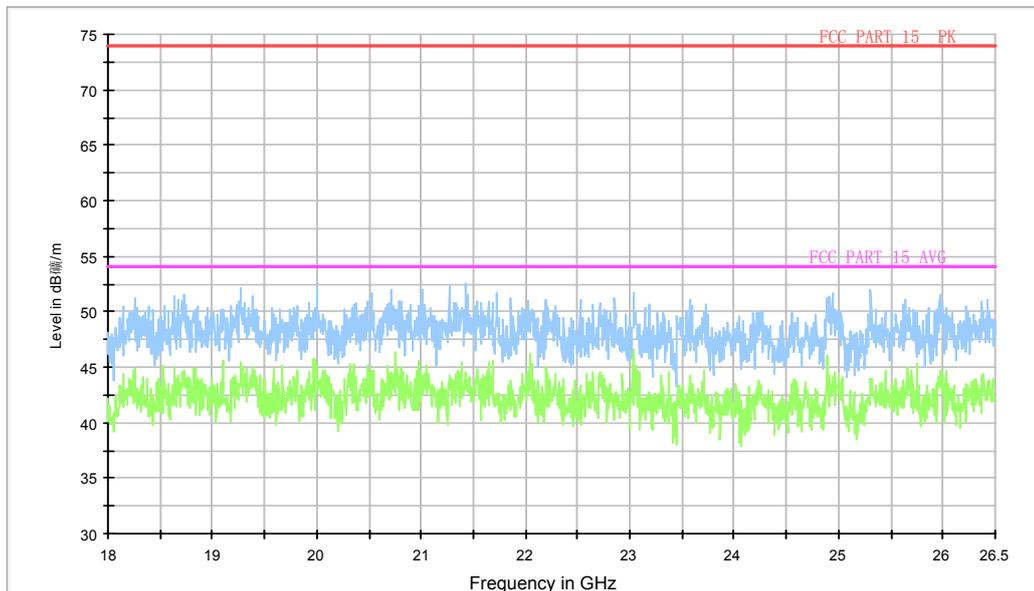


Fig. 73 Radiated Spurious Emission (802.11a, ch56, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

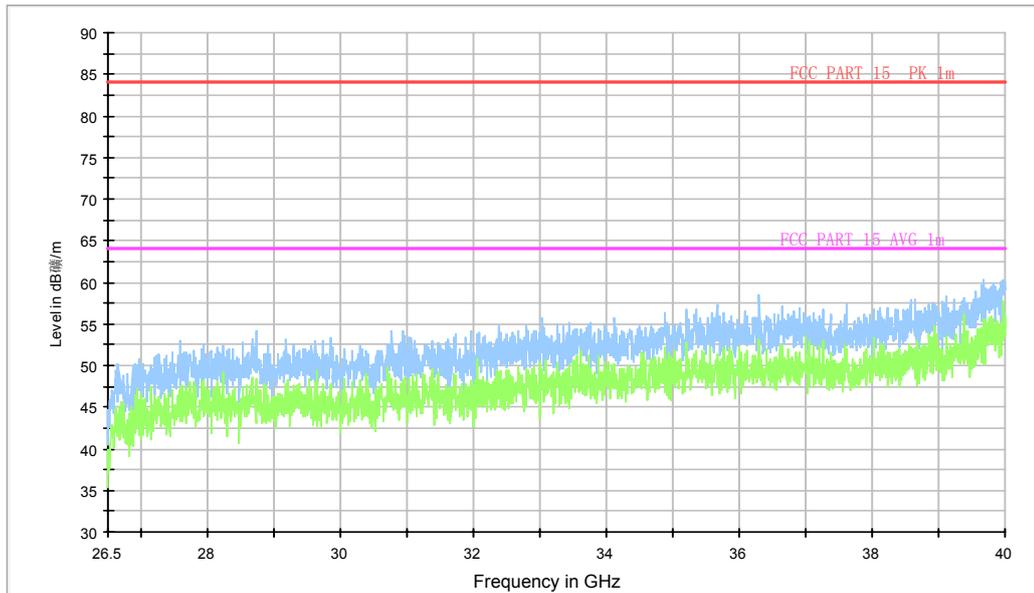


Fig. 74 Radiated Spurious Emission (802.11a, ch56, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

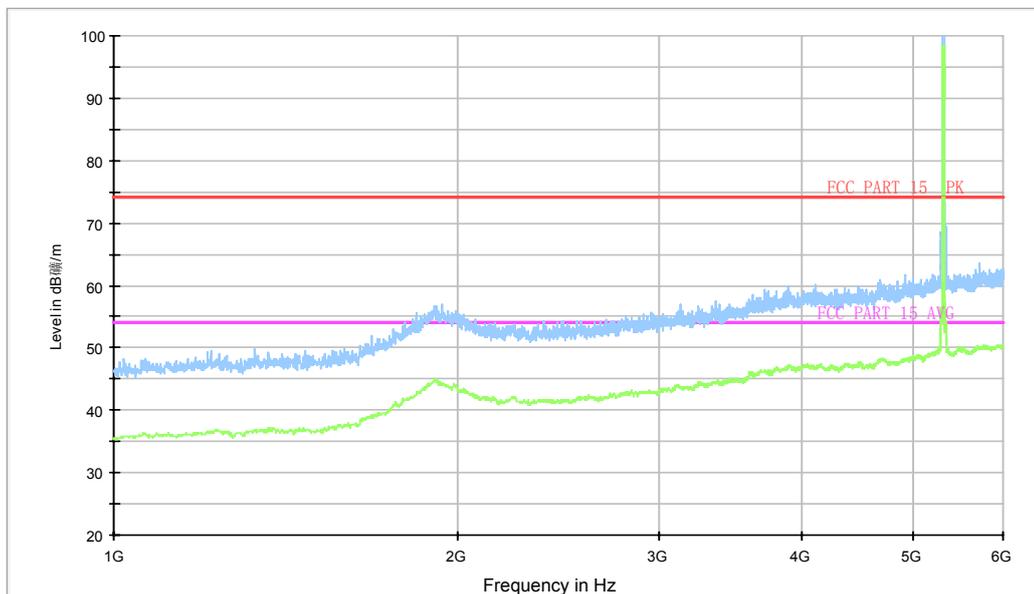


Fig. 75 Radiated Spurious Emission (802.11a, ch64, 1 GHz-6 GHz)

Normal RE_6G-18GHz

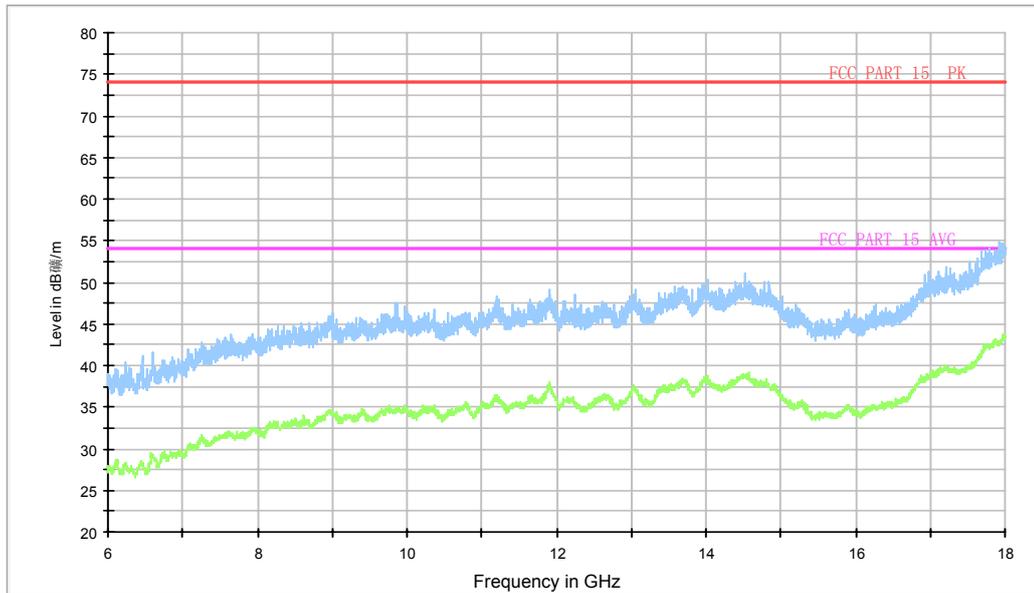


Fig. 76 Radiated Spurious Emission (802.11a, ch64, 6 GHz-18GHz)

RE_WLAN_1G-6GHz

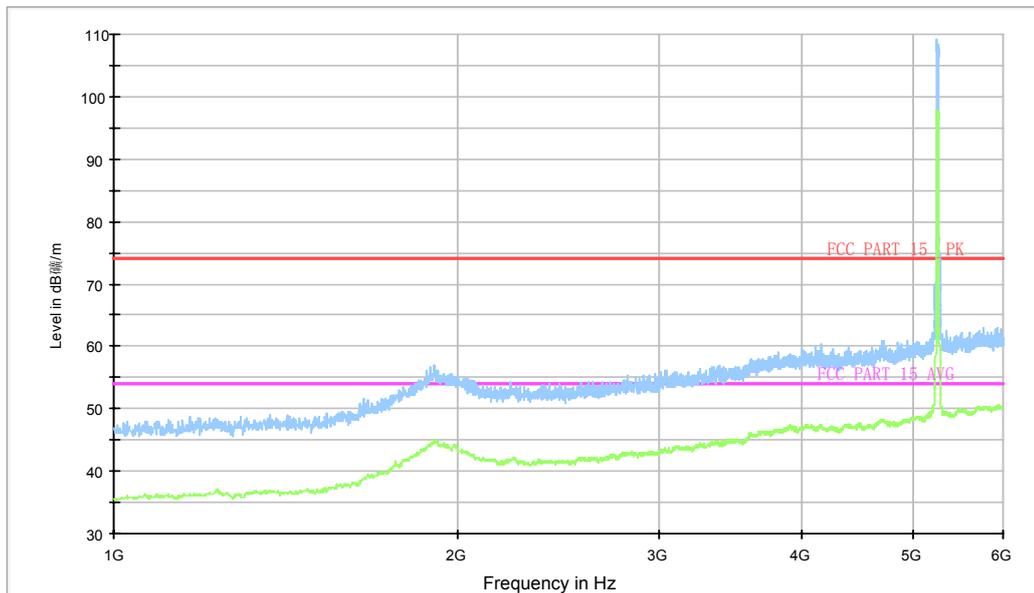


Fig. 77 Radiated Spurious Emission (802.11n-HT20, ch52, 1 GHz-6 GHz)

Normal RE_6G-18GHz

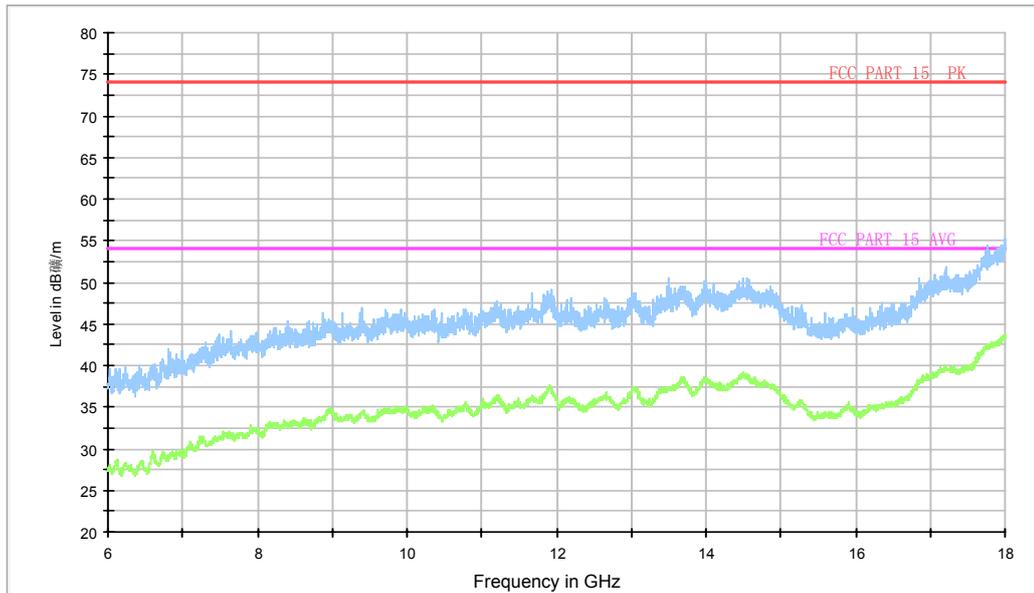


Fig. 78 Radiated Spurious Emission (802.11n-HT20, ch52, 6 GHz-18GHz)

Normal RE_30M-1GHz_10m

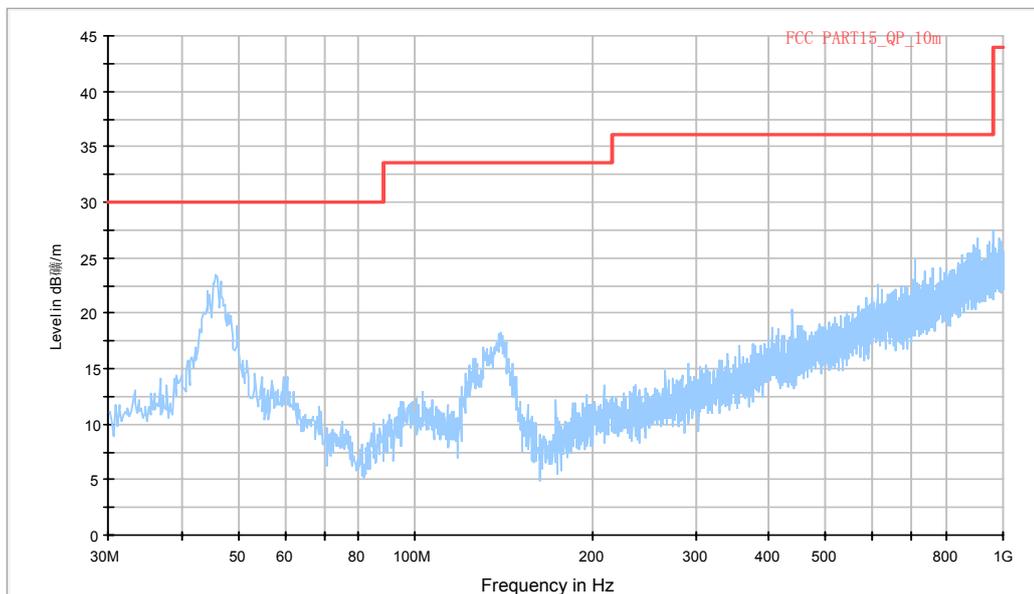


Fig. 79 Radiated Spurious Emission (802.11n-HT20, ch56, 30 MHz-1 GHz)

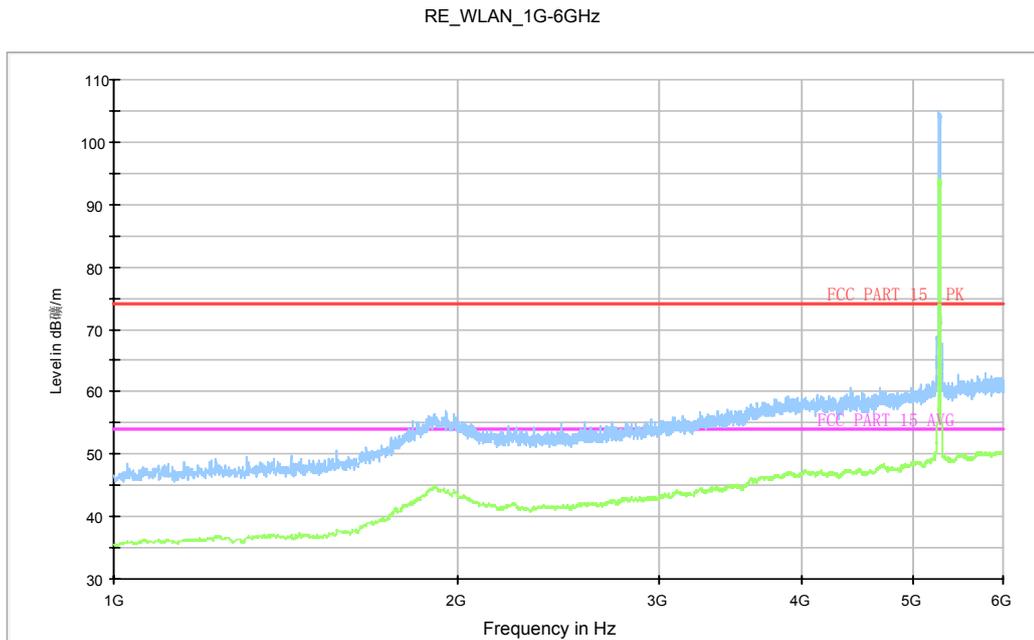


Fig. 80 Radiated Spurious Emission (802.11n-HT20, ch56, 1 GHz-6 GHz)

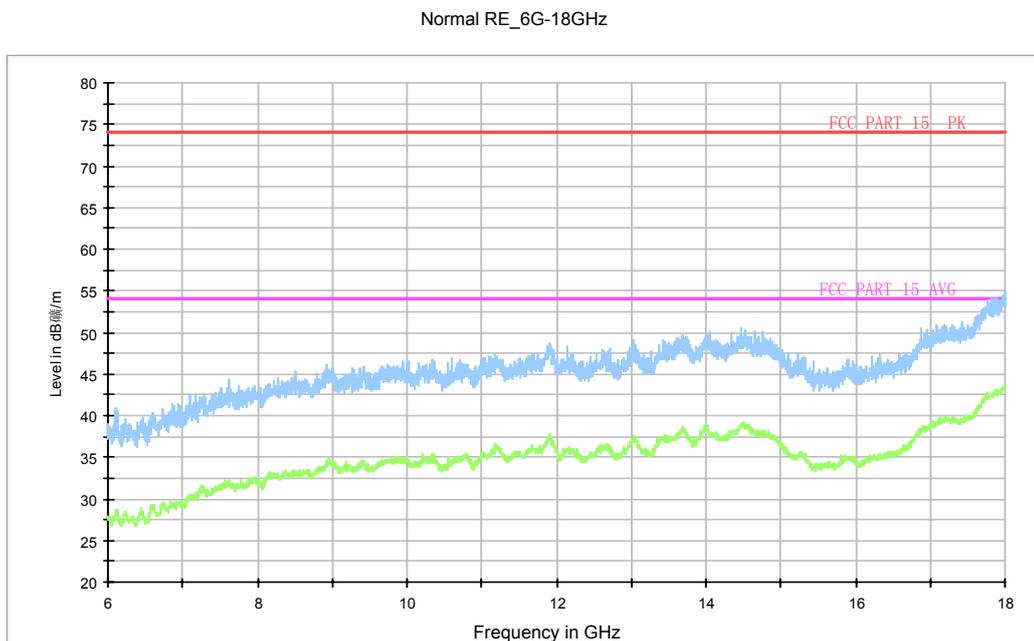


Fig. 81 Radiated Spurious Emission (802.11n-HT20, ch56, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

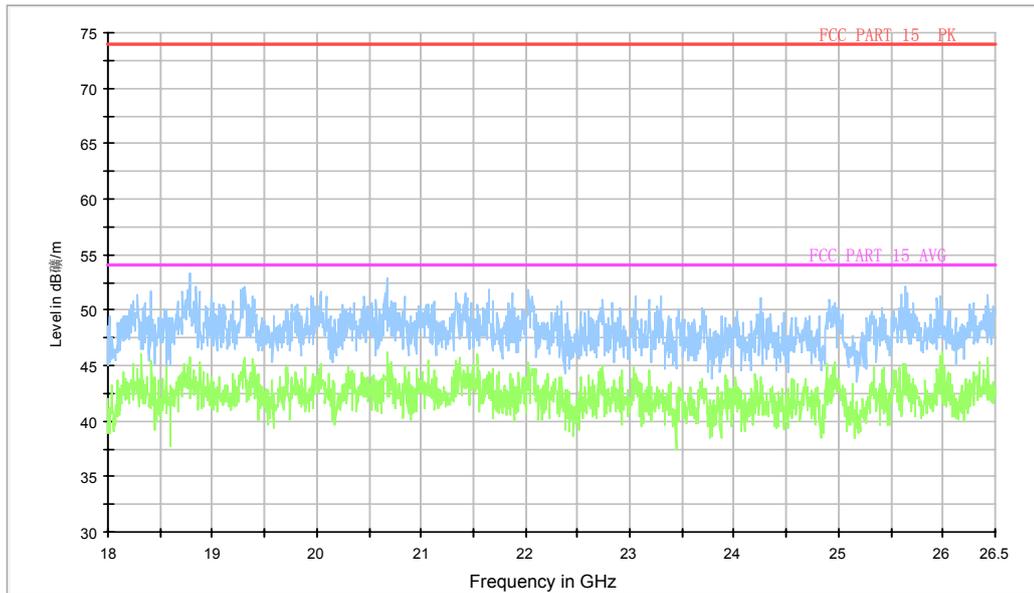


Fig. 82 Radiated Spurious Emission (802.11n-HT20, ch56, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

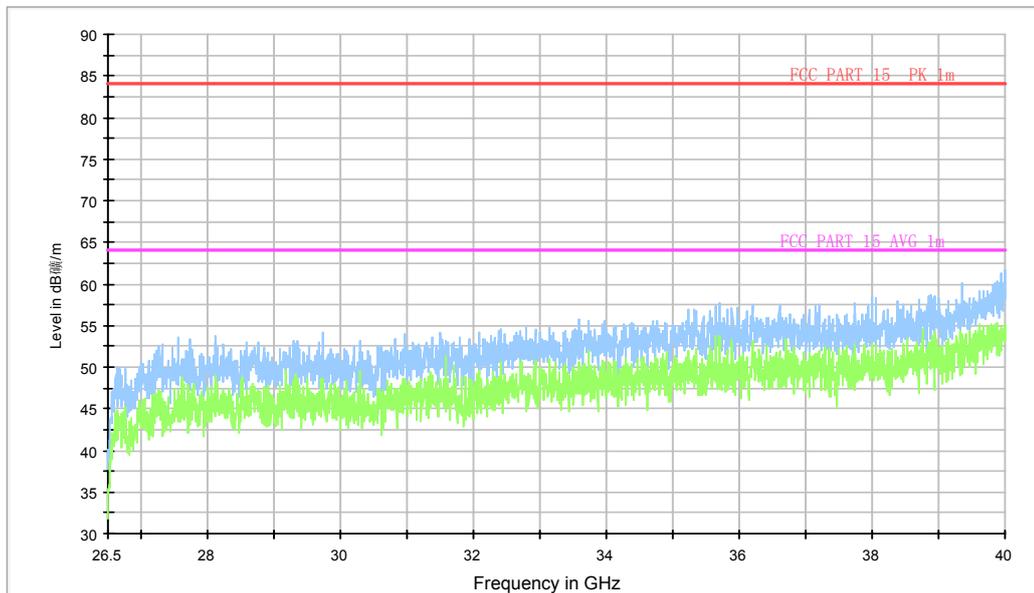


Fig. 83 Radiated Spurious Emission (802.11n-HT20, ch56, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

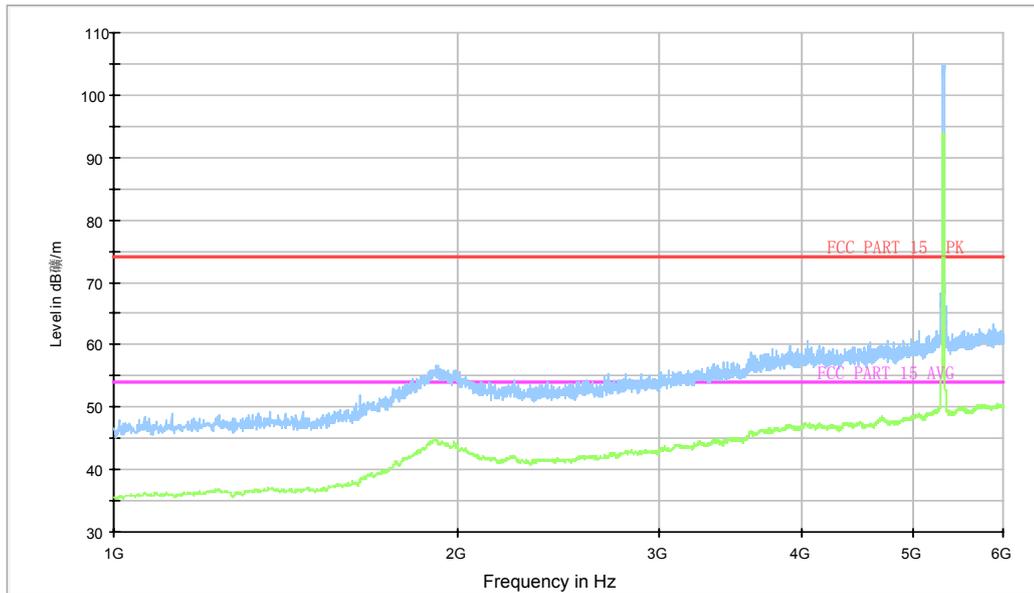


Fig. 84 Radiated Spurious Emission (802.11n-HT20, ch64, 1 GHz-6GHz)

Normal RE_6G-18GHz

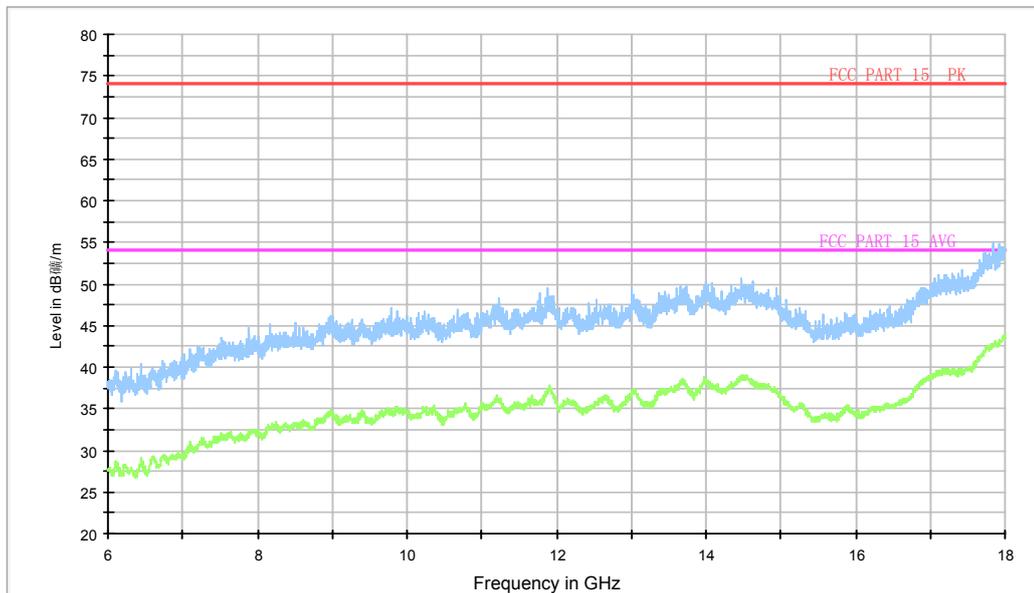


Fig. 85 Radiated Spurious Emission (802.11n-HT20, ch64, 6 GHz-18 GHz)

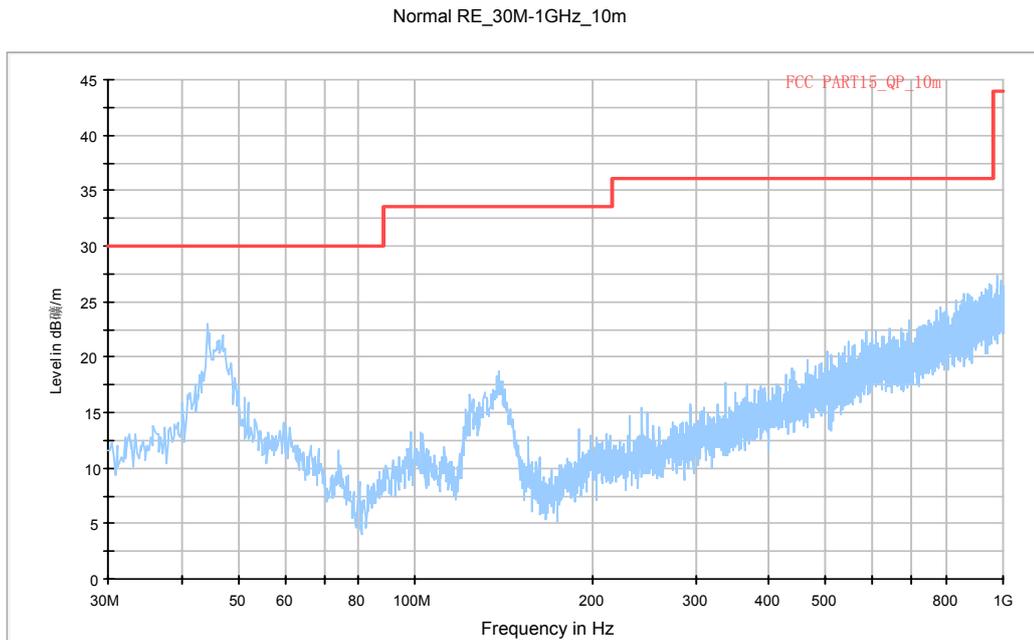


Fig. 86 Radiated Spurious Emission (802.11n-HT40, ch54, 30 MHz-1 GHz)

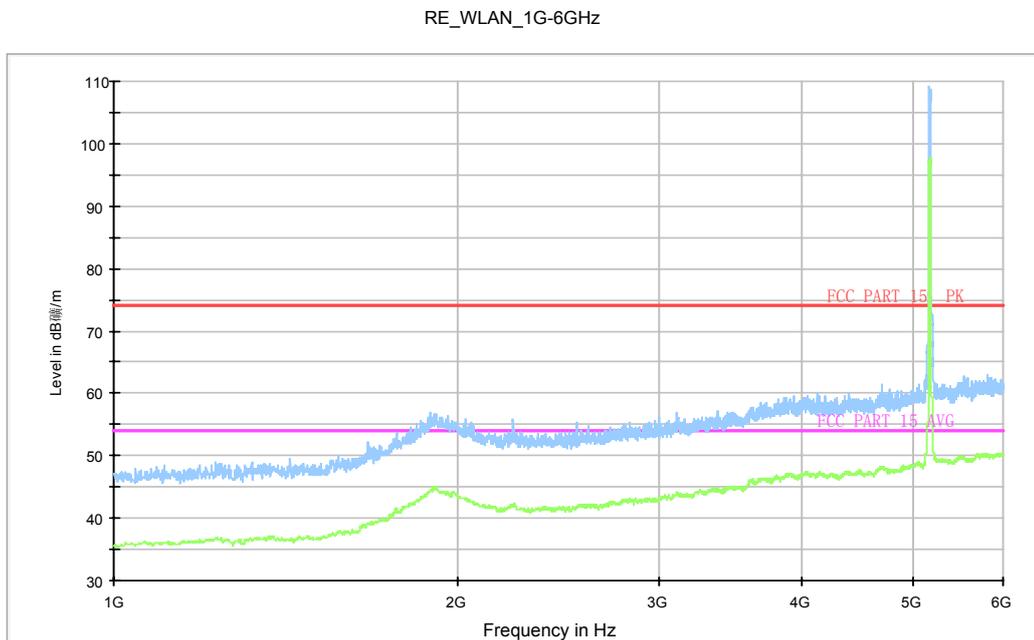


Fig. 87 Radiated Spurious Emission (802.11n-HT40, ch54, 1 GHz-6 GHz)

Normal RE_6G-18GHz

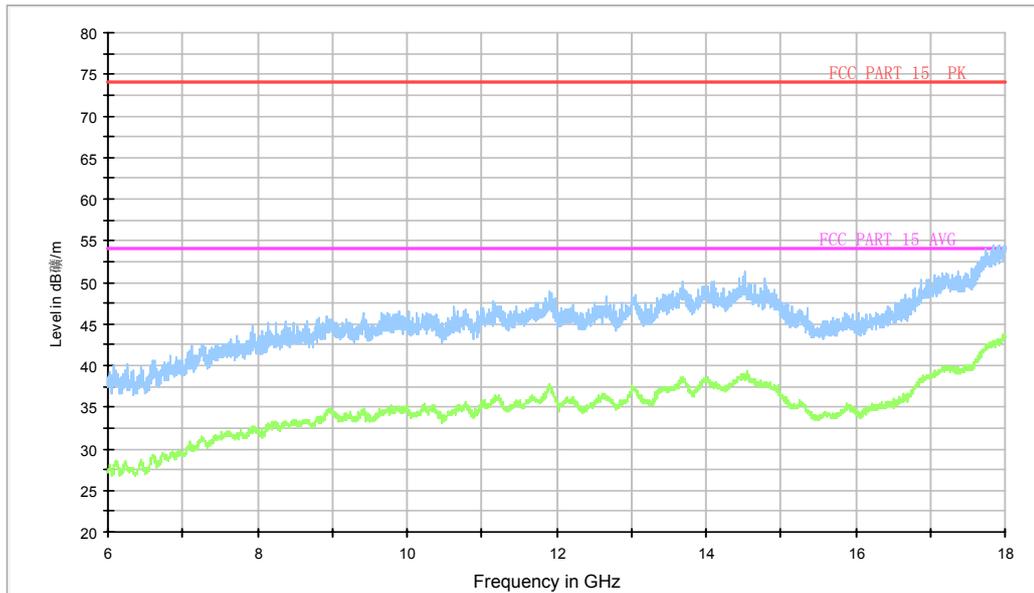


Fig. 88 Radiated Spurious Emission (802.11n-HT40, ch54, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

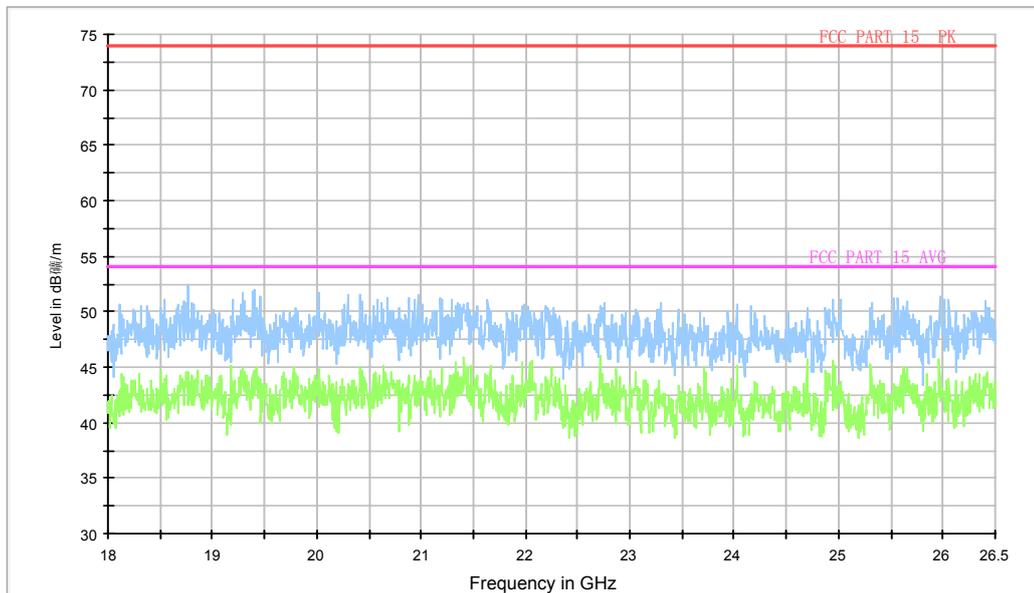


Fig. 89 Radiated Spurious Emission (802.11n-HT40, ch54, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

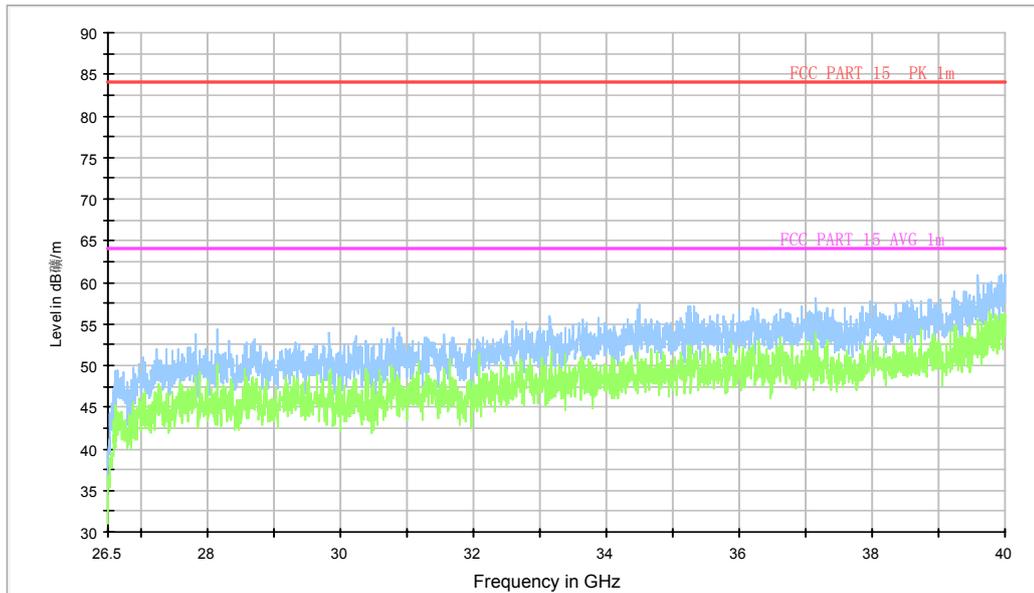


Fig. 90 Radiated Spurious Emission (802.11n-HT40, ch54, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

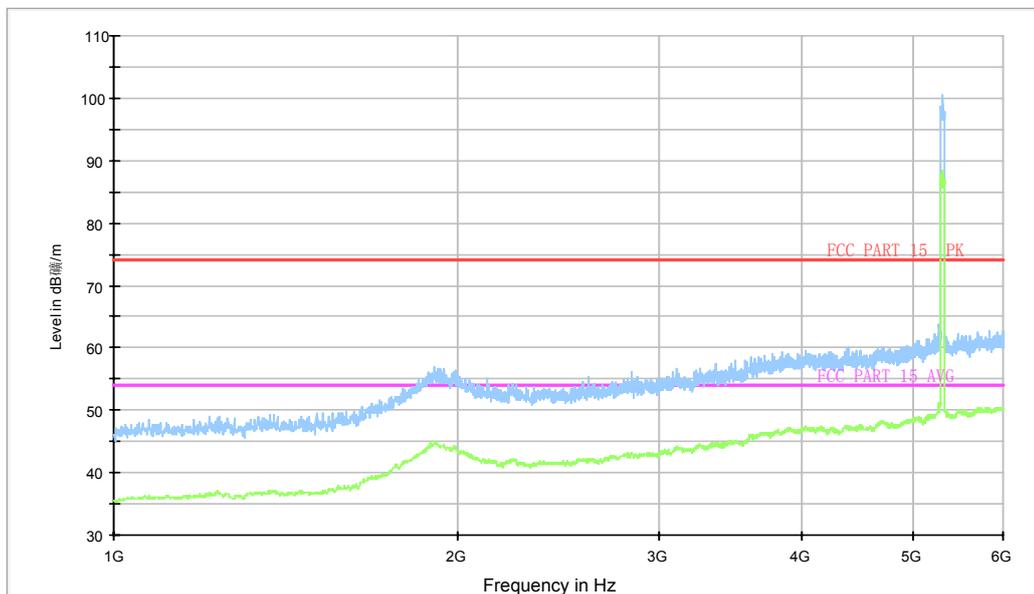


Fig. 91 Radiated Spurious Emission (802.11n-HT40, ch62, 1 GHz-6 GHz)

Normal RE_6G-18GHz

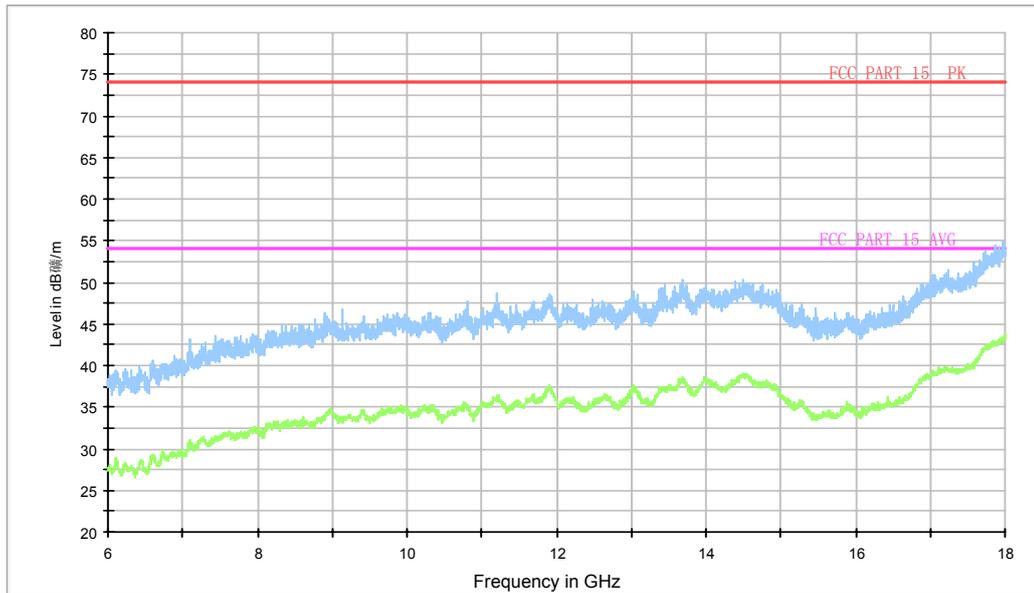


Fig. 92 Radiated Spurious Emission (802.11n-HT40, ch62, 6 GHz-18 GHz)

RE_WLAN_1G-6GHz

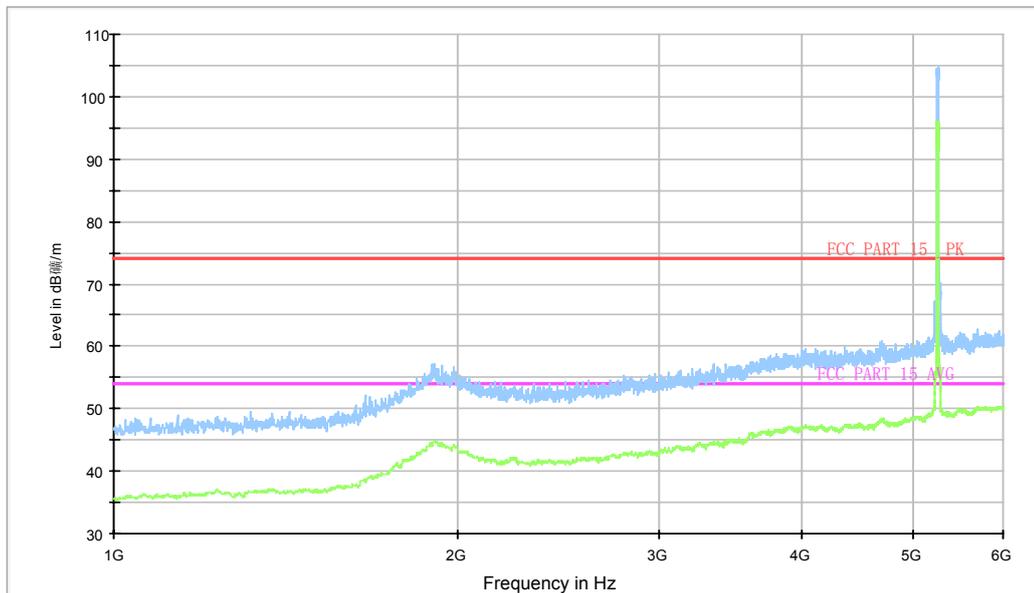


Fig. 93 Radiated Spurious Emission (802.11ac-HT20, ch52, 1 GHz-6 GHz)

Normal RE_6G-18GHz

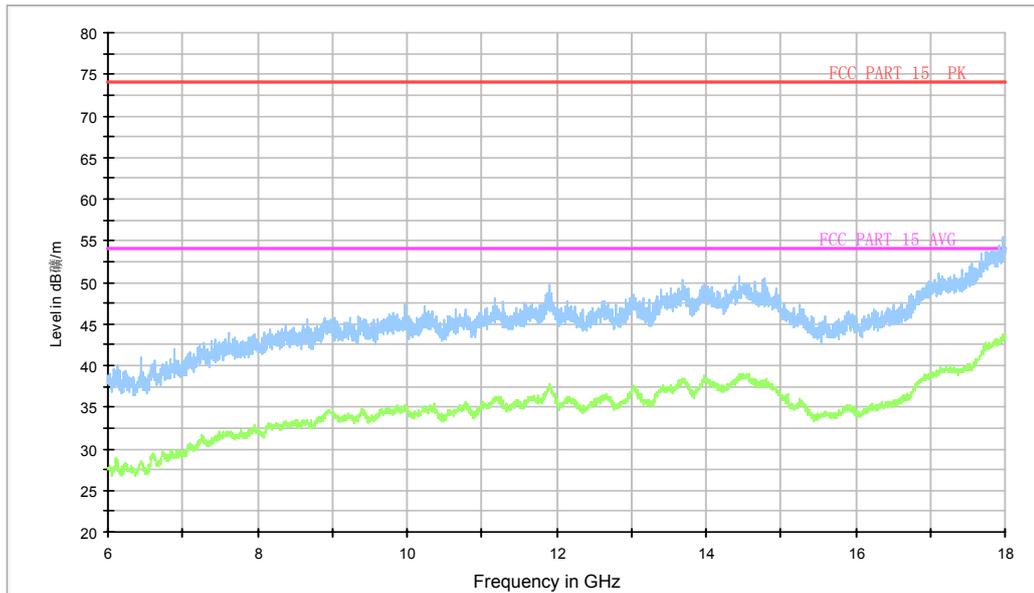


Fig. 94 Radiated Spurious Emission (802.11ac-HT20, ch52, 6 GHz-18GHz)

Normal RE_30M-1GHz_10m

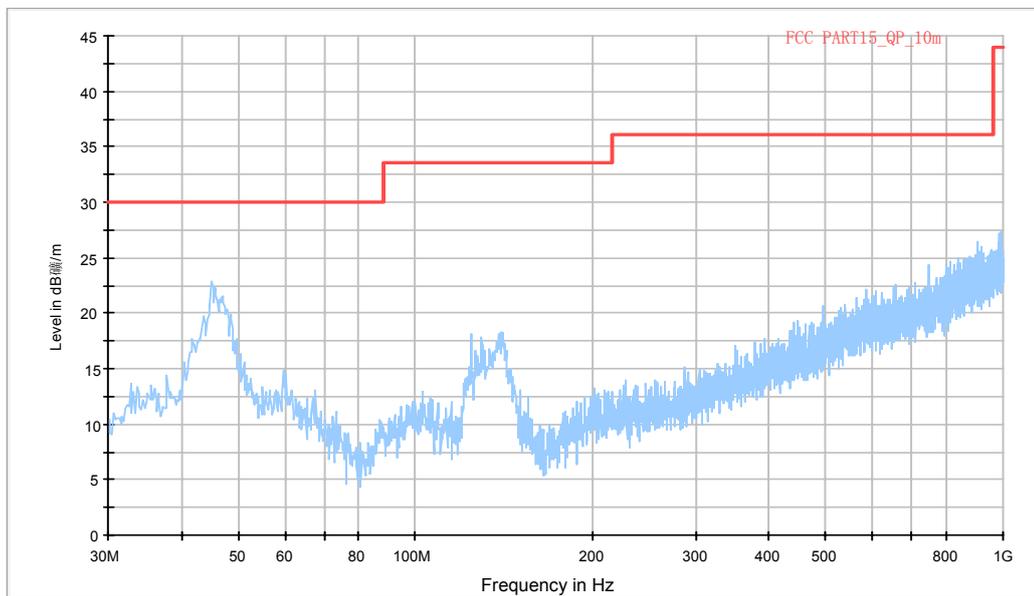


Fig. 95 Radiated Spurious Emission (802.11ac-HT20, ch56, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

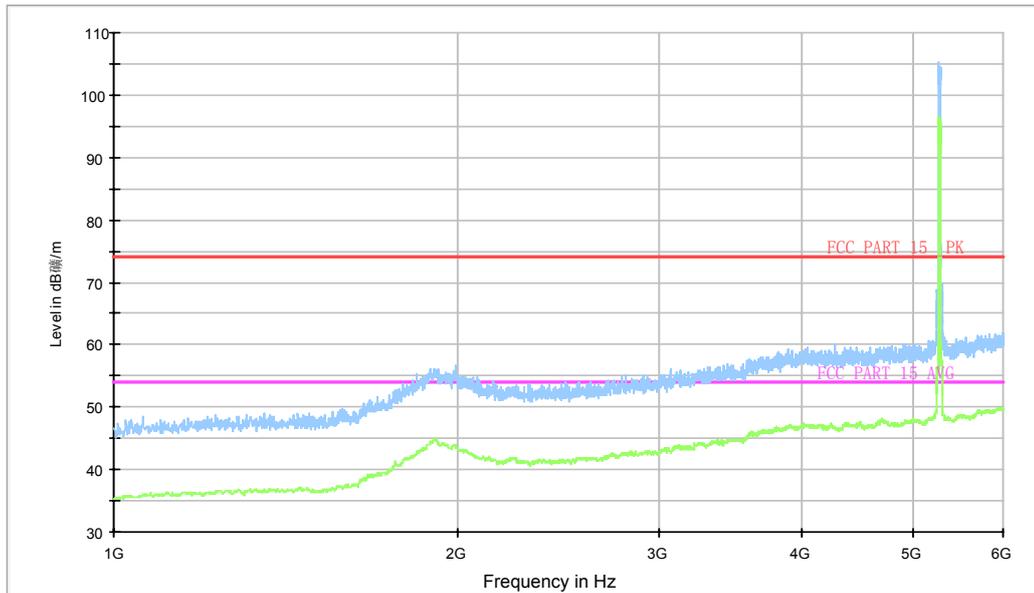


Fig. 96 Radiated Spurious Emission (802.11ac-HT20, ch56, 1 GHz-6 GHz)

Normal RE_6G-18GHz

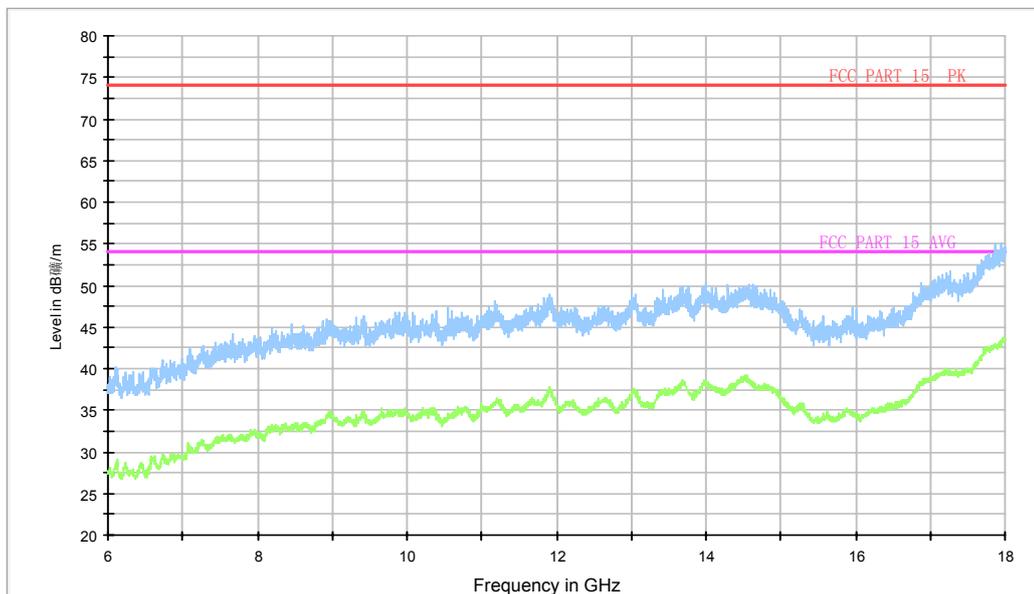


Fig. 97 Radiated Spurious Emission (802.11ac-HT20, ch56, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

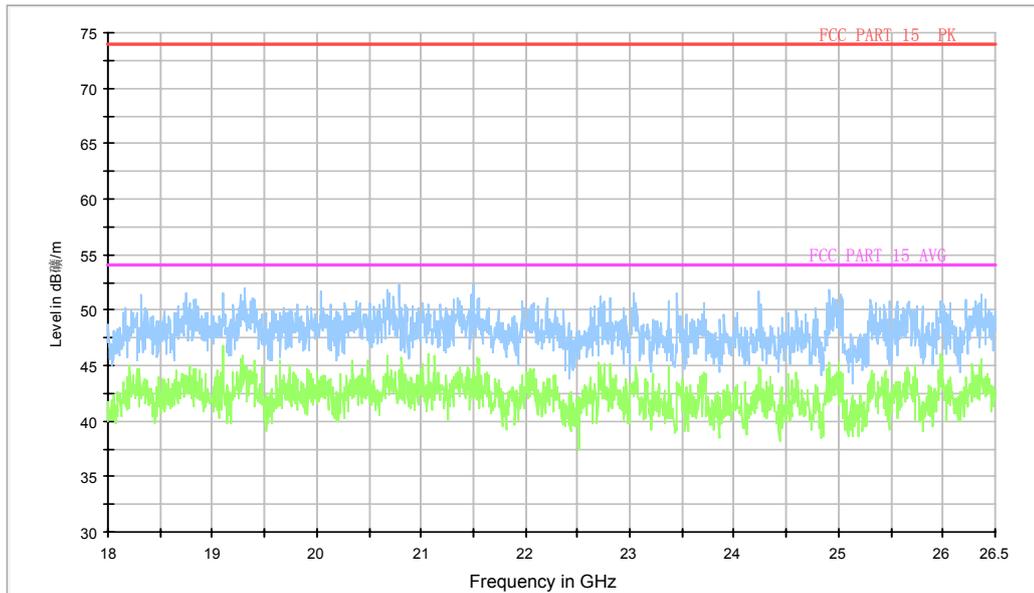


Fig. 98 Radiated Spurious Emission (802.11ac-HT20, ch56, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

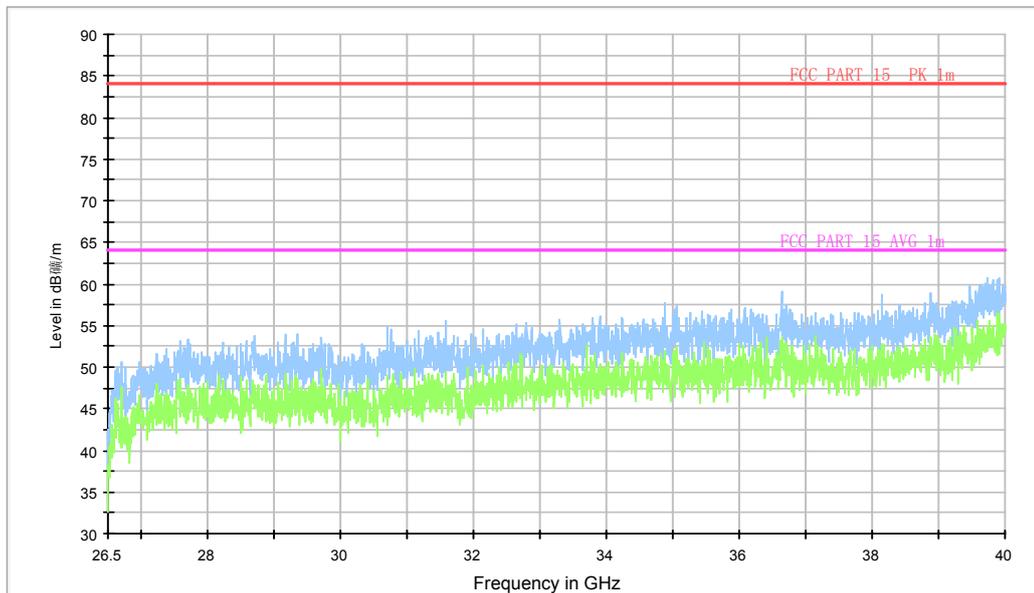


Fig. 99 Radiated Spurious Emission (802.11ac-HT20, ch56, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

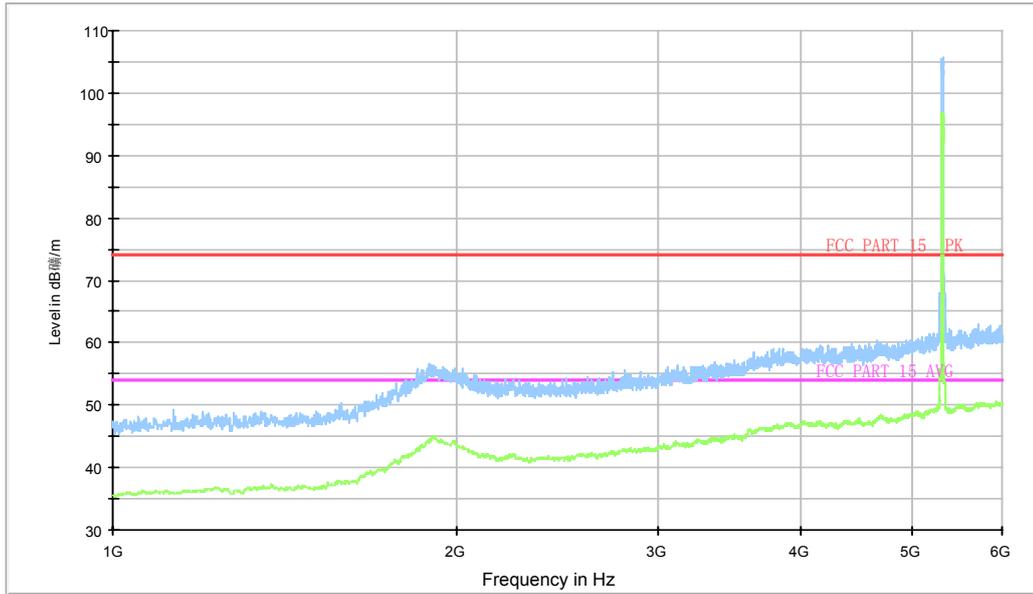


Fig. 100 Radiated Spurious Emission (802.11ac-HT20, ch64, 1 GHz-6GHz)

Normal RE_6G-18GHz

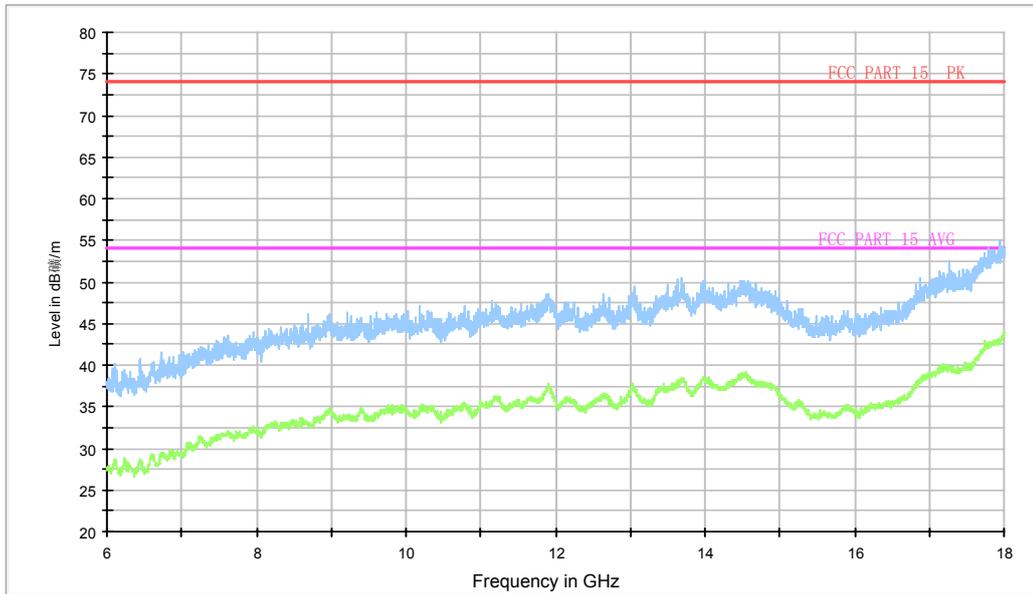


Fig. 101 Radiated Spurious Emission (802.11ac-HT20, ch64, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

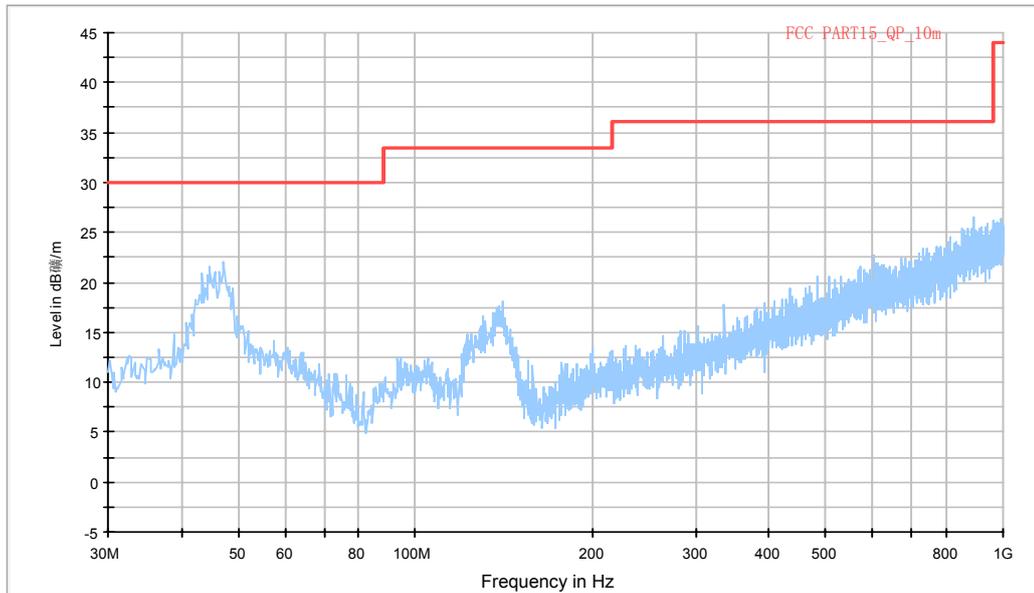


Fig. 102 Radiated Spurious Emission (802.11ac-HT40, ch54, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

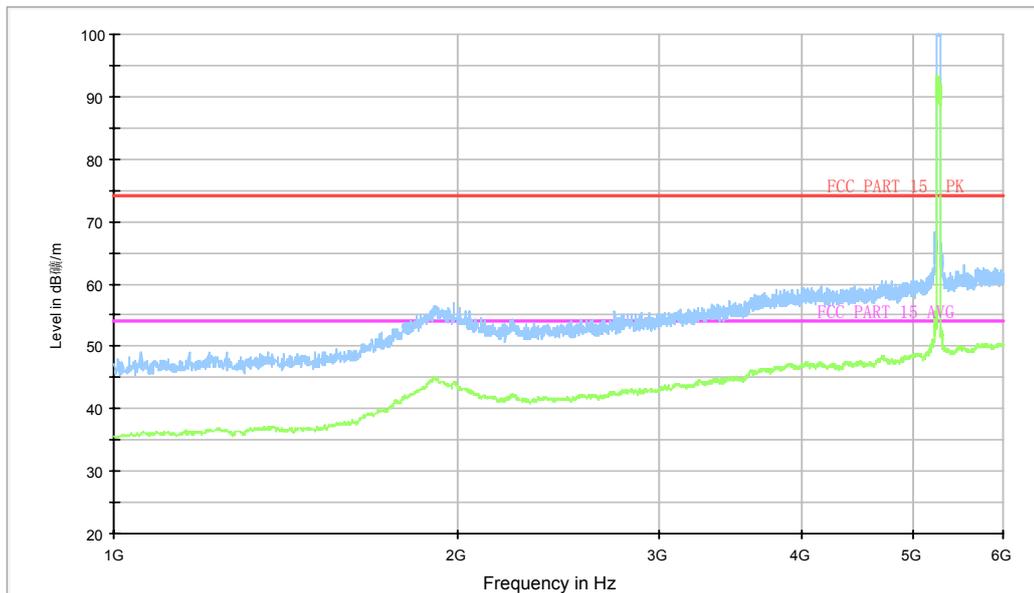


Fig. 103 Radiated Spurious Emission (802.11ac-HT40, ch54, 1 GHz-6 GHz)

Normal RE_6G-18GHz

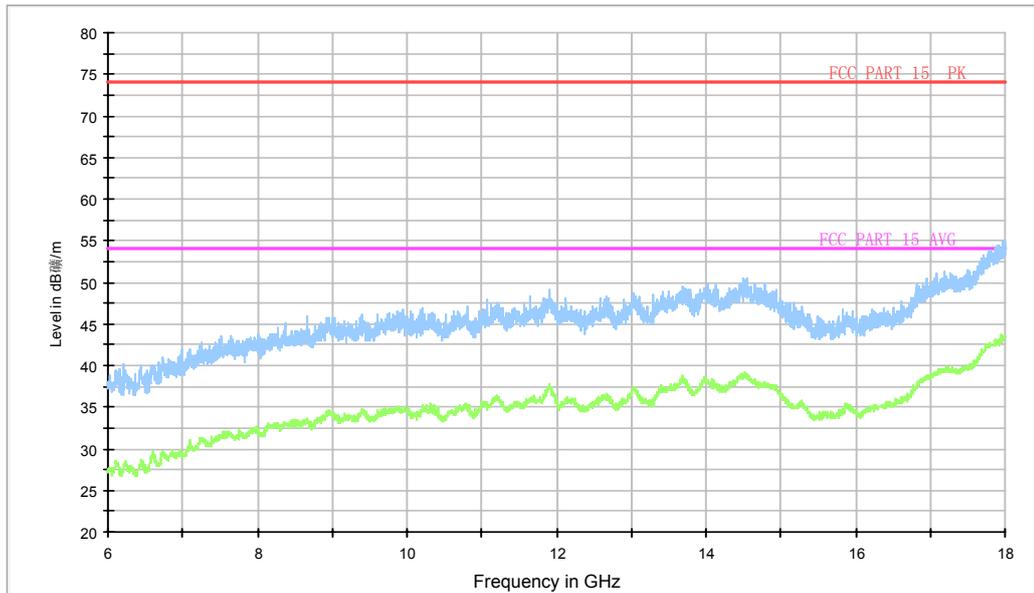


Fig. 104 Radiated Spurious Emission (802.11ac-HT40, ch54, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

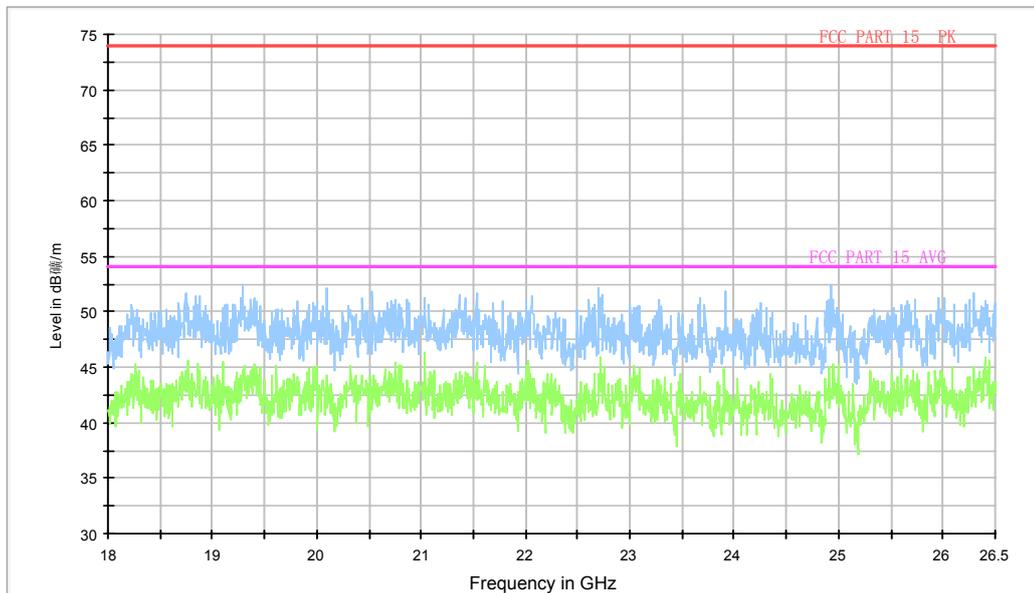


Fig. 105 Radiated Spurious Emission (802.11ac-HT40, ch54, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

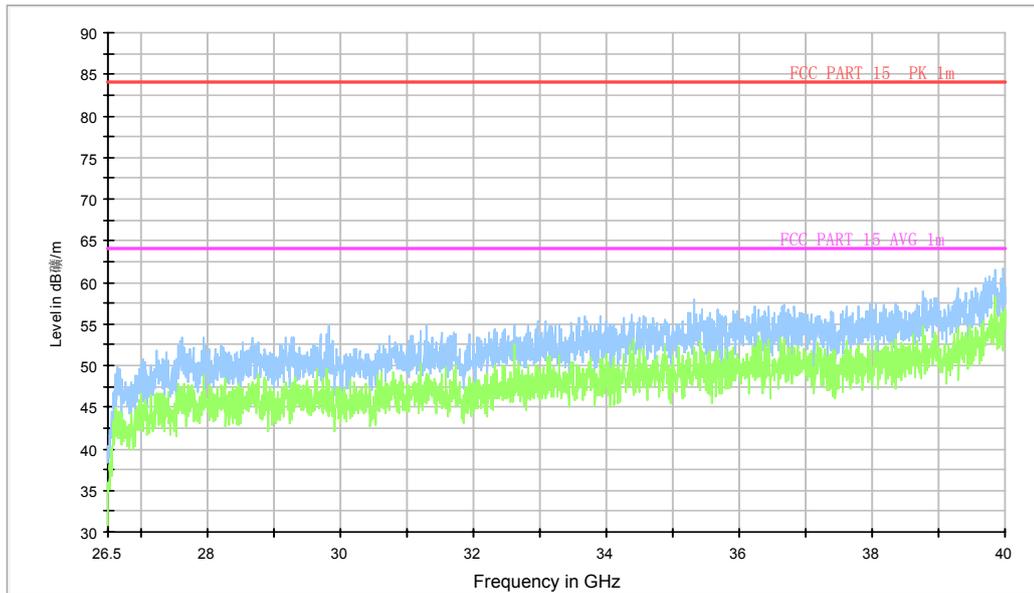


Fig. 106 Radiated Spurious Emission (802.11ac-HT40, ch54, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

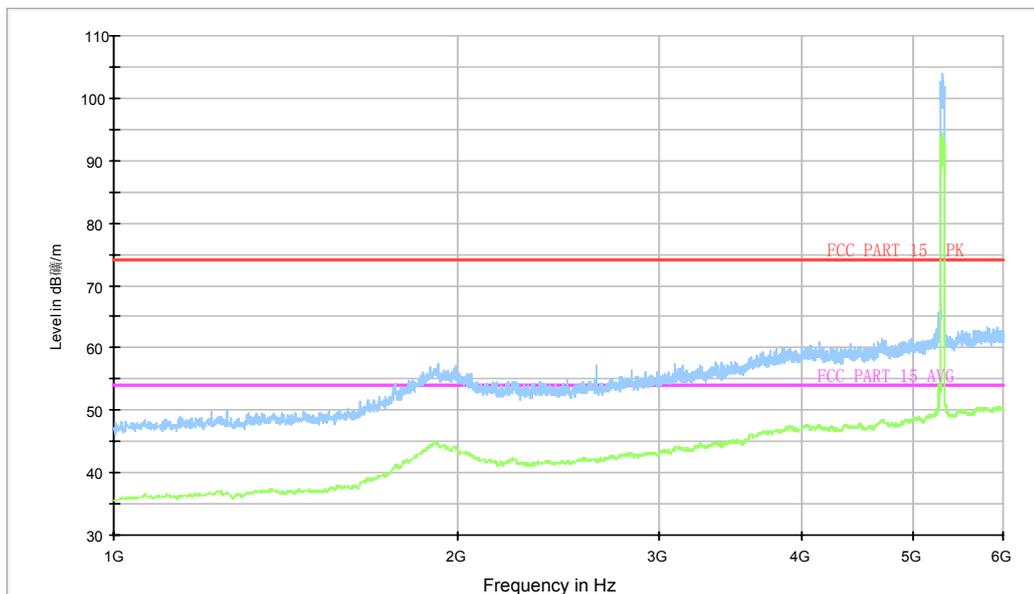


Fig. 107 Radiated Spurious Emission (802.11ac-HT40, ch62, 1 GHz-6 GHz)

Normal RE_6G-18GHz

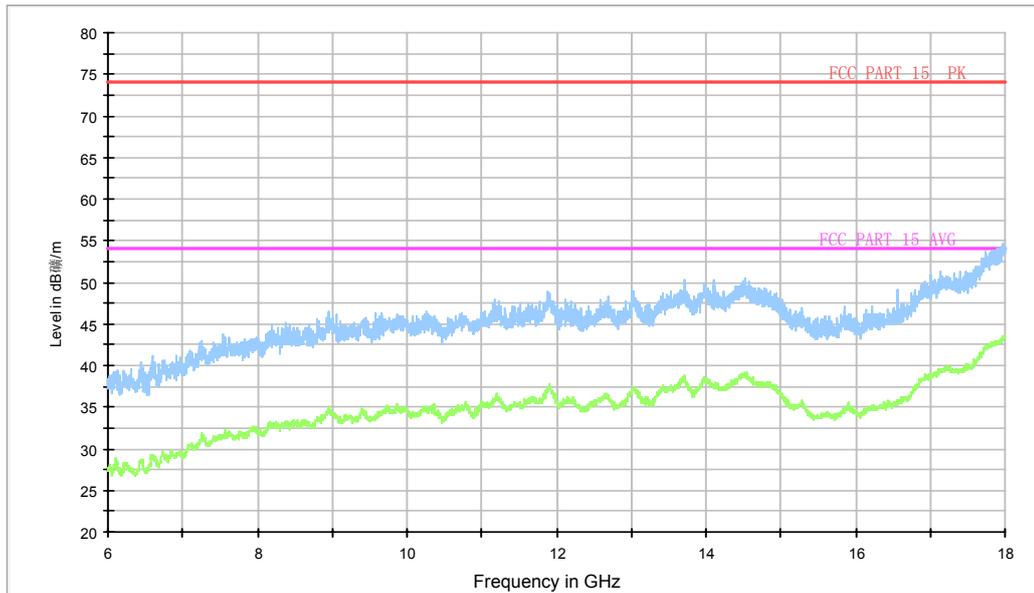


Fig. 108 Radiated Spurious Emission (802.11ac-HT40, ch62, 6 GHz-18 GHz)



5GHz U-NII 2C

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	100(5500MHz)	1 GHz ~ 6 GHz	Fig.109	P
		6 GHz ~ 18 GHz	Fig.110	P
	120(5600MHz)	30 MHz ~1 GHz	Fig.111	P
		1 GHz ~ 6 GHz	Fig.112	P
		6 GHz ~ 18 GHz	Fig.113	P
		18 GHz ~ 26.5 GHz	Fig.114	P
		26.5 GHz ~ 40 GHz	Fig.115	P
	140(5700MHz)	1 GHz ~ 6 GHz	Fig.116	P
		6 GHz ~ 18 GHz	Fig.117	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	100(5500MHz)	1 GHz ~ 6 GHz	Fig.118	P
		6 GHz ~ 18 GHz	Fig.119	P
	120(5600MHz)	30 MHz ~1 GHz	Fig.120	P
		1 GHz ~ 6 GHz	Fig.121	P
		6 GHz ~ 18 GHz	Fig.122	P
		18 GHz ~ 26.5 GHz	Fig.123	P
		26.5 GHz ~ 40 GHz	Fig.124	P
	140(5700MHz)	1 GHz ~ 6 GHz	Fig.125	P
		6 GHz ~ 18 GHz	Fig.126	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	102(5510MHz)	1 GHz ~ 6 GHz	Fig.127	P
		6 GHz ~ 18 GHz	Fig.128	P
	118(5590MHz)	30 MHz ~1 GHz	Fig.129	P
		1 GHz ~ 6 GHz	Fig.130	P
		6 GHz ~ 18 GHz	Fig.131	P
		18 GHz ~ 26.5 GHz	Fig.132	P
		26.5 GHz ~ 40 GHz	Fig.133	P
	124(5670MHz)	1 GHz ~ 6 GHz	Fig.134	P
		6 GHz ~ 18 GHz	Fig.135	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac -HT20	100(5500MHz)	1 GHz ~ 6 GHz	Fig.136	P
		6 GHz ~ 18 GHz	Fig.137	P
	120(5600MHz)	30 MHz ~1 GHz	Fig.138	P
		1 GHz ~ 6 GHz	Fig.139	P
		6 GHz ~ 18 GHz	Fig.140	P
		18 GHz ~ 26.5 GHz	Fig.141	P
		26.5 GHz ~ 40 GHz	Fig.142	P
	140(5700MHz)	1 GHz ~ 6 GHz	Fig.143	P
		6 GHz ~ 18 GHz	Fig.144	P

802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac HT40	102(5510MHz)	1 GHz ~ 6 GHz	Fig.145	P
		6 GHz ~ 18 GHz	Fig.146	P
	118(5590MHz)	30 MHz ~1 GHz	Fig.147	P
		1 GHz ~ 6 GHz	Fig.148	P
		6 GHz ~ 18 GHz	Fig.149	P
		18 GHz ~ 26.5 GHz	Fig.150	P
		26.5 GHz ~ 40 GHz	Fig.151	P
	124(5670MHz)	1 GHz ~ 6 GHz	Fig.152	P
		6 GHz ~ 18 GHz	Fig.153	P

Conclusion: PASS



Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

5GHz U-NII 2C

802.11a

Channel 100

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5460.000	49.9	-34.9	34.6	50.200	H
17984.400	43.9	-17.7	45.6	16.000	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5459.030	63.3	-34.9	34.6	63.600	H
17984.400	54.9	-17.7	45.6	27.000	H
17998.000	54.8	-17.7	45.6	26.900	V
17989.600	54.7	-17.7	45.6	26.800	H
17986.000	54.6	-17.7	45.6	26.700	H
17996.400	54.6	-17.7	45.6	26.700	H

Channel 120

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17997.600	43.6	-17.7	45.6	15.700	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H



Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17770.800	54.7	-18.5	45.6	27.600	H
17984.400	54.5	-18.5	45.6	27.400	H
17998.000	54.4	-17.7	45.6	26.500	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.2	-17.7	45.6	26.300	H

Channel 140

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5725.000	51.4	-33.8	35.1	50.100	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5725.400	65.4	-33.8	35.1	64.100	H
17984.400	55.2	-17.7	45.6	27.300	H
17998.000	54.6	-17.7	45.6	26.700	V
17989.600	54.5	-18.5	45.6	27.400	H
17986.000	54.5	-18.5	45.6	27.400	H
17996.400	54.4	-17.7	45.6	26.500	H



802.11n-HT20

Channel 100

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5460.015	49.7	-34.9	34.6	50.000	H
17984.400	43.9	-17.7	45.6	16.000	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.6	-17.7	45.6	15.700	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5457.145	62.7	-34.9	34.6	63.000	H
17984.400	55.2	-17.7	45.6	27.300	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.7	-17.7	45.6	26.800	H
17986.000	54.6	-18.5	45.6	27.500	H
17996.400	54.4	-17.7	45.6	26.500	H

Channel 120

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17971.200	43.6	-17.7	45.6	15.700	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17935.200	55.0	-17.7	45.6	27.100	H
17984.400	54.5	-17.7	45.6	26.600	H
17998.000	54.4	-18.5	45.6	27.300	V
17989.600	54.3	-17.7	45.6	26.400	H
17986.000	54.2	-17.7	45.6	26.300	H
17996.400	54.2	-17.7	45.6	26.300	H



Channel 140

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5725.000	50.5	-33.8	35.1	49.200	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.3	-17.7	45.6	15.400	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5732.800	64.3	-33.8	35.1	63.000	H
17984.400	55.1	-17.7	45.6	27.200	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.2	-17.7	45.6	26.300	H

802.11n-HT40

Channel 102

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5459.340	49.5	-34.9	34.6	49.800	H
17984.400	43.9	-17.7	45.6	16.000	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.6	-17.7	45.6	15.700	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5459.640	62.5	-34.9	34.6	62.800	H
17984.400	55.1	-17.7	45.6	27.200	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.4	-18.5	45.6	27.300	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.3	-17.7	45.6	26.400	H



Channel 118

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17991.20	43.90	-17.70	45.60	16.00	H
17984.40	43.70	-17.70	45.60	15.80	H
17998.00	43.60	-17.70	45.60	15.70	V
17989.60	43.40	-17.70	45.60	15.50	H
17986.00	43.40	-17.70	45.60	15.50	H
17996.40	43.40	-17.70	45.60	15.50	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17990.80	55.10	-17.70	45.60	27.20	H
17984.40	54.70	-17.70	45.60	26.80	H
17998.00	54.40	-18.50	45.60	27.30	V
17989.60	54.30	-17.70	45.60	26.40	H
17986.00	54.30	-17.70	45.60	26.40	H
17996.40	54.20	-17.70	45.60	26.30	H

Channel 134

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17990.000	43.7	-17.7	45.6	15.800	H
17984.400	43.4	-17.7	45.6	15.500	H
17998.000	43.4	-17.7	45.6	15.500	V
17989.600	43.4	-17.7	45.6	15.500	H
17986.000	43.4	-17.7	45.6	15.500	H
17996.400	43.3	-17.7	45.6	15.400	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17994.000	54.4	-17.7	45.6	26.500	H
17984.400	54.3	-18.5	45.6	27.200	H
17998.000	54.2	-17.7	45.6	26.300	V
17989.600	54.2	-17.7	45.6	26.300	H
17986.000	54.1	-17.7	45.6	26.200	H
17996.400	54.0	-17.7	45.6	26.100	H



802.11ac-HT20

Channel 100

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5460.000	49.6	-34.9	34.6	49.900	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5455.700	63.1	-34.9	34.6	63.400	H
17984.400	54.8	-17.7	45.6	26.900	H
17998.000	54.6	-17.7	45.6	26.700	V
17989.600	54.5	-17.7	45.6	26.600	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.4	-17.7	45.6	26.500	H

Channel 120

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17990.400	43.8	-17.7	45.6	15.900	H
17984.400	43.8	-17.7	45.6	15.900	H
17998.000	43.7	-17.7	45.6	15.800	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17995.200	55.4	-17.7	45.6	27.500	H
17984.400	54.9	-17.7	45.6	27.000	H
17998.000	54.9	-17.7	45.6	27.000	V
17989.600	54.7	-17.7	45.6	26.800	H
17986.000	54.5	-18.5	45.6	27.400	H
17996.400	54.4	-17.7	45.6	26.500	H



Channel 140

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5725.000	51.0	-33.8	35.1	49.700	H
17984.400	43.7	-17.7	45.6	15.800	H
17998.000	43.6	-17.7	45.6	15.700	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5726.105	63.9	-33.8	35.1	62.600	H
17984.400	55.8	-17.7	45.6	27.900	H
17998.000	55.3	-17.7	45.6	27.400	V
17989.600	54.6	-17.7	45.6	26.700	H
17986.000	54.5	-17.7	45.6	26.600	H
17996.400	54.5	-18.5	45.6	27.400	H

802.11ac-HT40

Channel 102

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5460.000	50.6	-34.9	34.6	50.900	H
17984.400	43.7	-17.7	45.6	15.800	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5458.305	63.3	-34.9	34.6	63.600	H
17984.400	54.9	-17.7	45.6	27.000	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.5	-17.7	45.6	26.600	H
17986.000	54.4	-17.7	45.6	26.500	H
17996.400	54.3	-17.7	45.6	26.400	H



Channel 118

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17996.800	43.7	-17.7	45.6	15.800	H
17984.400	43.5	-17.7	45.6	15.600	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17986.800	54.9	-17.7	45.6	27.000	H
17984.400	54.7	-17.7	45.6	26.800	H
17998.000	54.5	-17.7	45.6	26.600	V
17989.600	54.4	-17.7	45.6	26.500	H
17986.000	54.3	-17.7	45.6	26.400	H
17996.400	54.3	-17.7	45.6	26.400	H

Channel 134

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5725.000	51.2	-33.8	35.1	49.900	H
17984.400	43.6	-17.7	45.6	15.700	H
17998.000	43.5	-17.7	45.6	15.600	V
17989.600	43.5	-17.7	45.6	15.600	H
17986.000	43.5	-17.7	45.6	15.600	H
17996.400	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5728.410	64.0	-33.8	35.1	62.700	H
17984.400	55.1	-17.7	45.6	27.200	H
17998.000	54.7	-17.7	45.6	26.800	V
17989.600	54.4	-18.5	45.6	27.300	H
17986.000	54.4	-18.5	45.6	27.300	H
17996.400	54.2	-17.7	45.6	26.300	H

Test graphs as below:

RE_WLAN_1G-6GHz

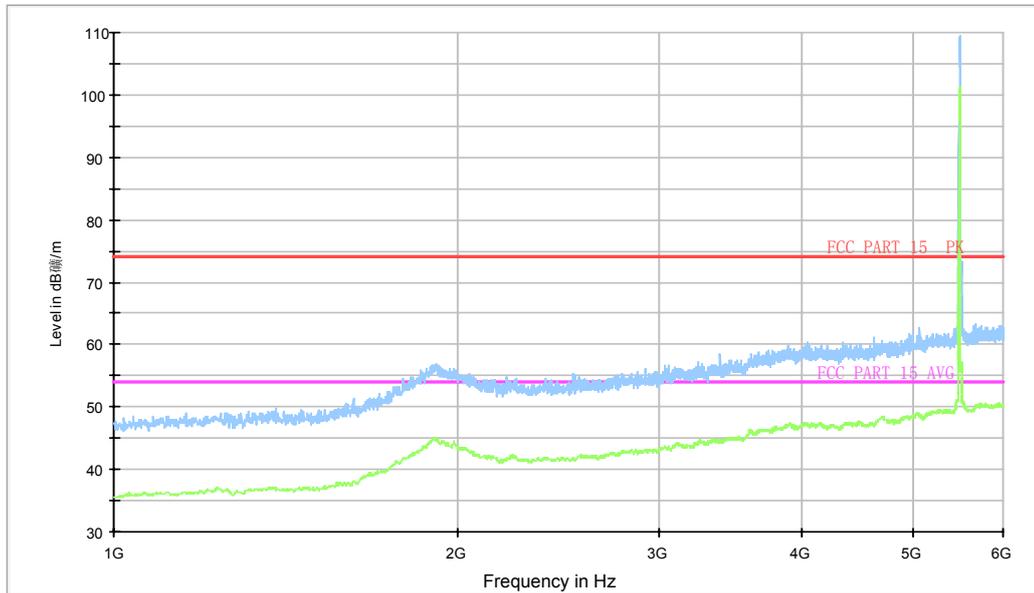


Fig. 109 Radiated Spurious Emission (802.11a, ch100, 1 GHz-6 GHz)

Normal RE_6G-18GHz

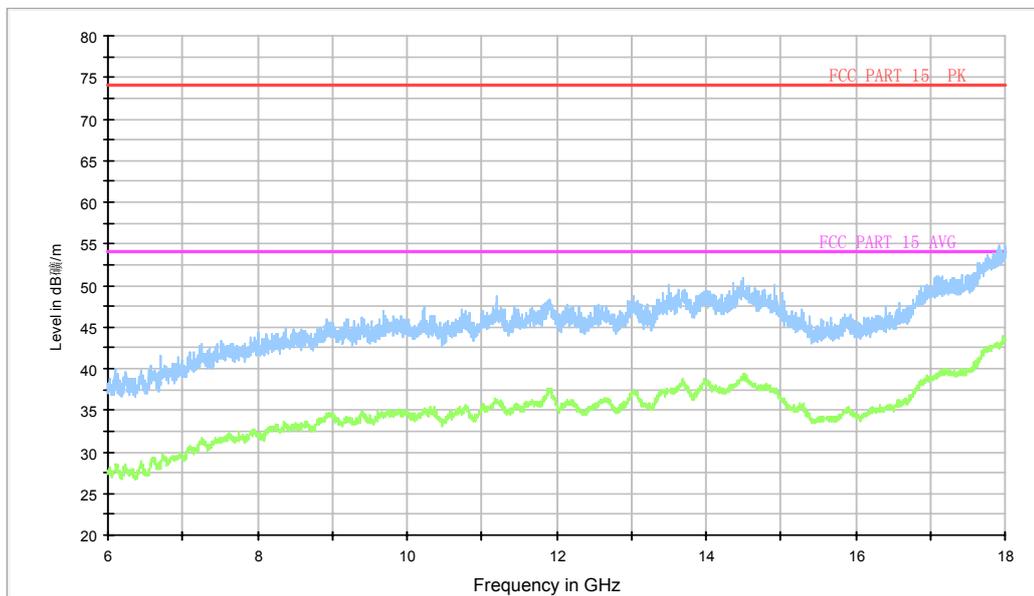


Fig. 110 Radiated Spurious Emission (802.11a, ch100, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

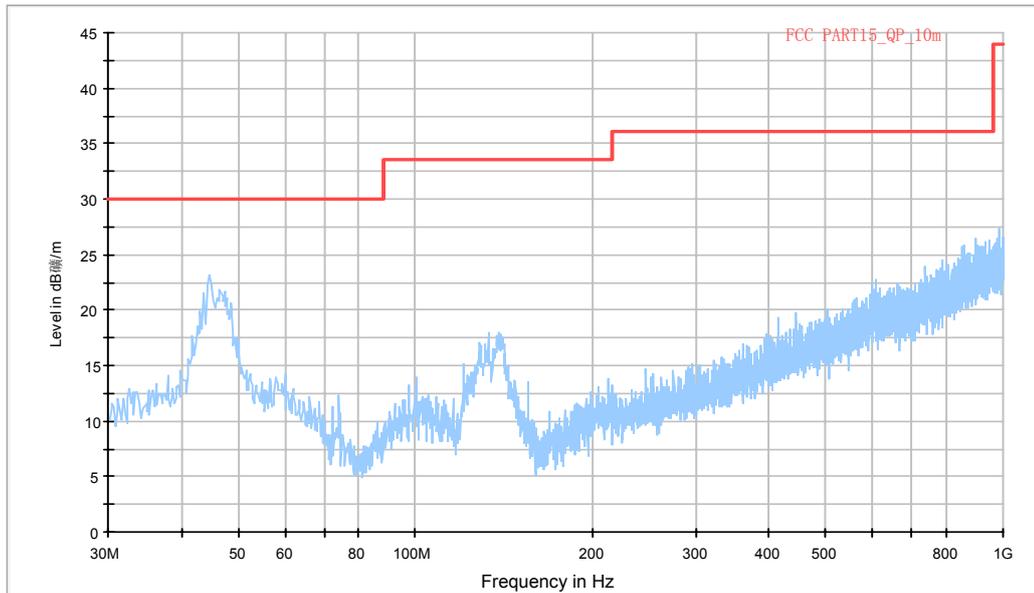


Fig. 111 Radiated Spurious Emission (802.11a, ch120, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

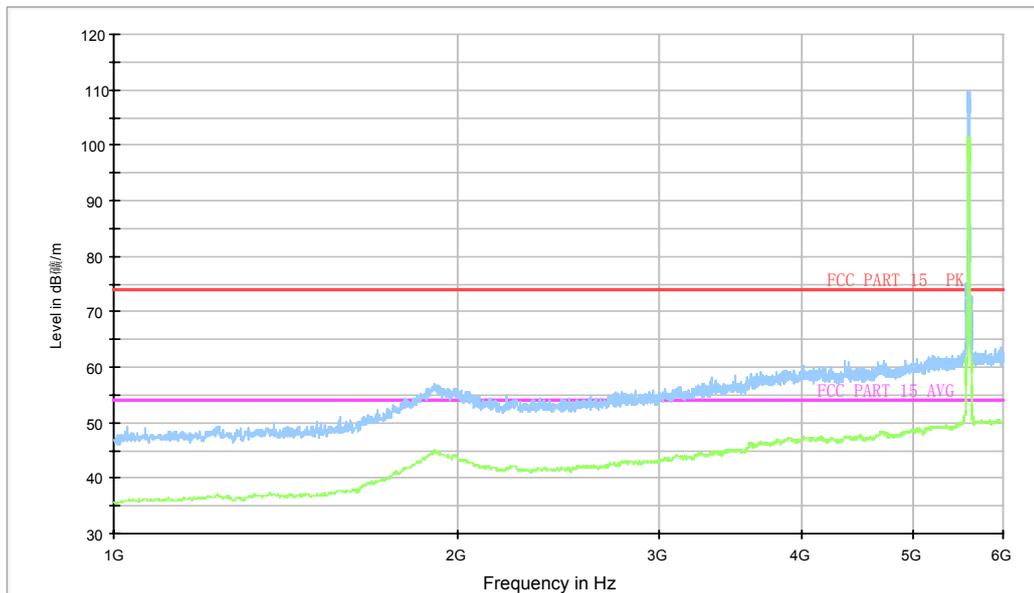


Fig. 112 Radiated Spurious Emission (802.11a, ch120, 1 GHz-6 GHz)

Normal RE_6G-18GHz

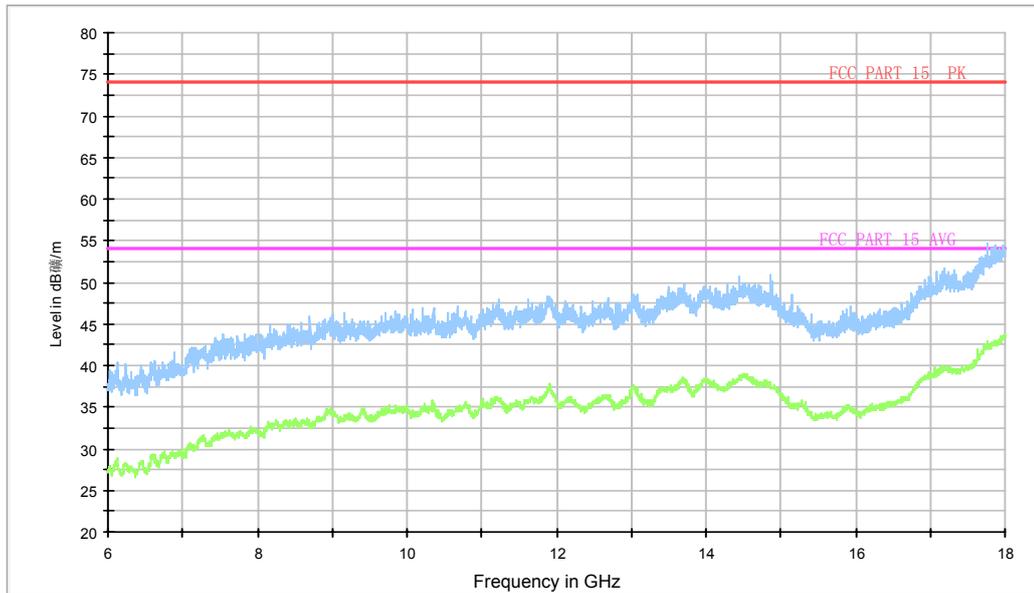


Fig. 113 Radiated Spurious Emission (802.11a, ch120, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

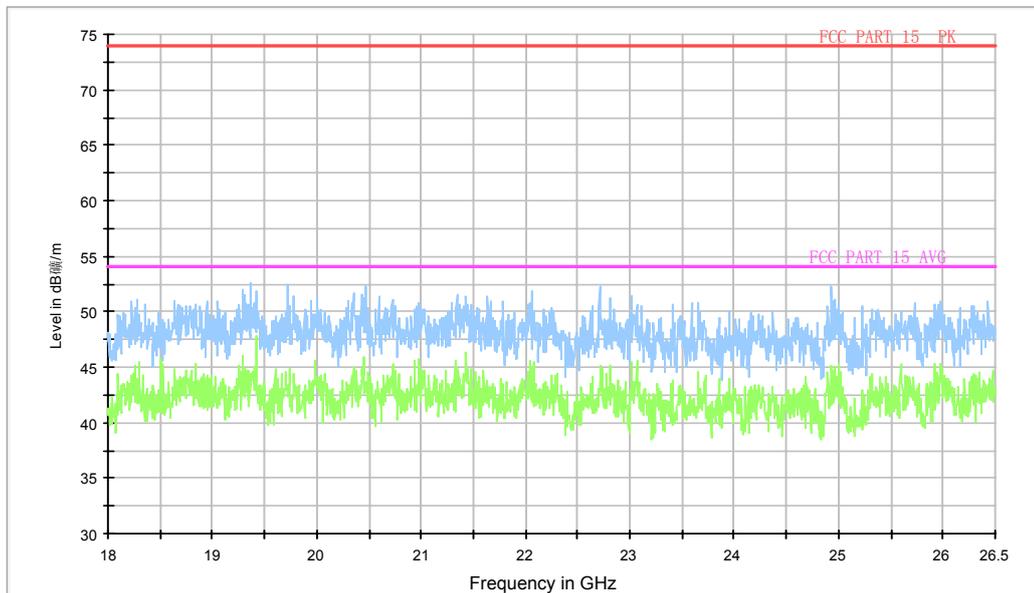


Fig. 114 Radiated Spurious Emission (802.11a, ch120, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

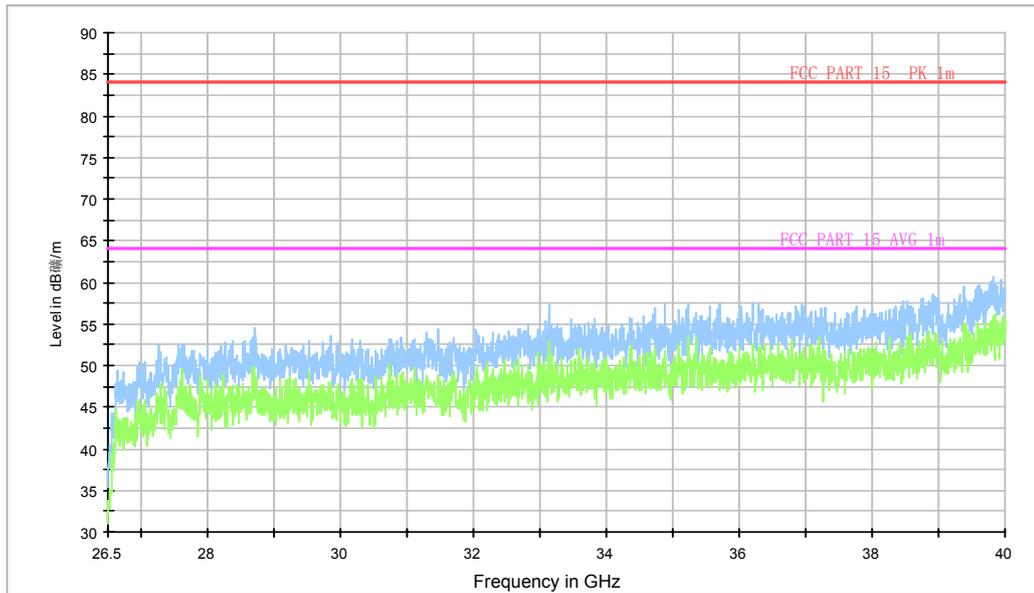


Fig. 115 Radiated Spurious Emission (802.11a, ch120, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

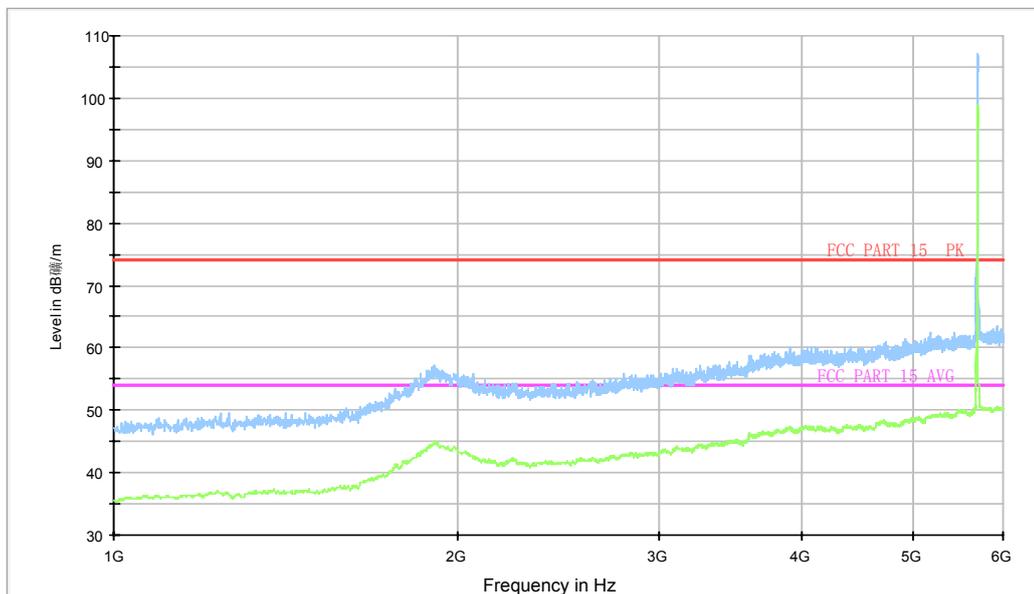


Fig. 116 Radiated Spurious Emission (802.11a, ch140, 1 GHz-6 GHz)

Normal RE_6G-18GHz

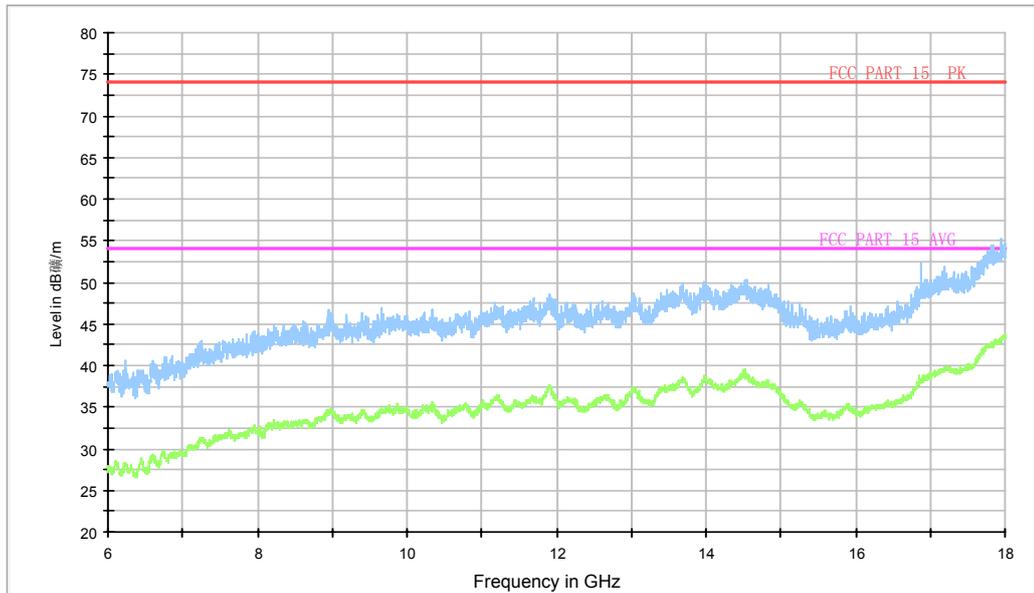


Fig. 117 Radiated Spurious Emission (802.11a, ch140, 6 GHz-18GHz)

RE_WLAN_1G-6GHz

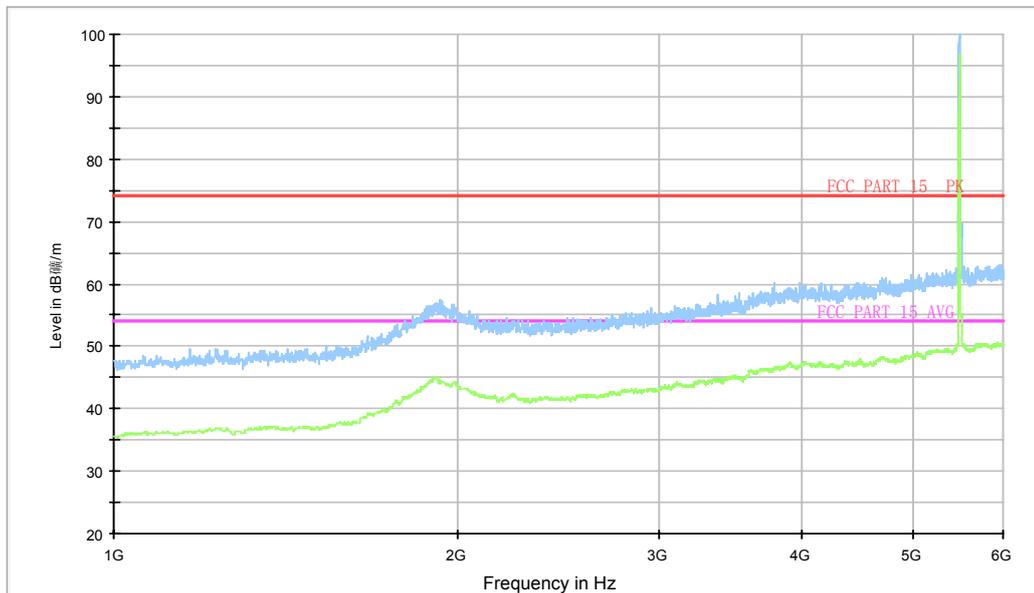


Fig. 118 Radiated Spurious Emission (802.11n-HT20, ch100, 1 GHz-6 GHz)

Normal RE_6G-18GHz

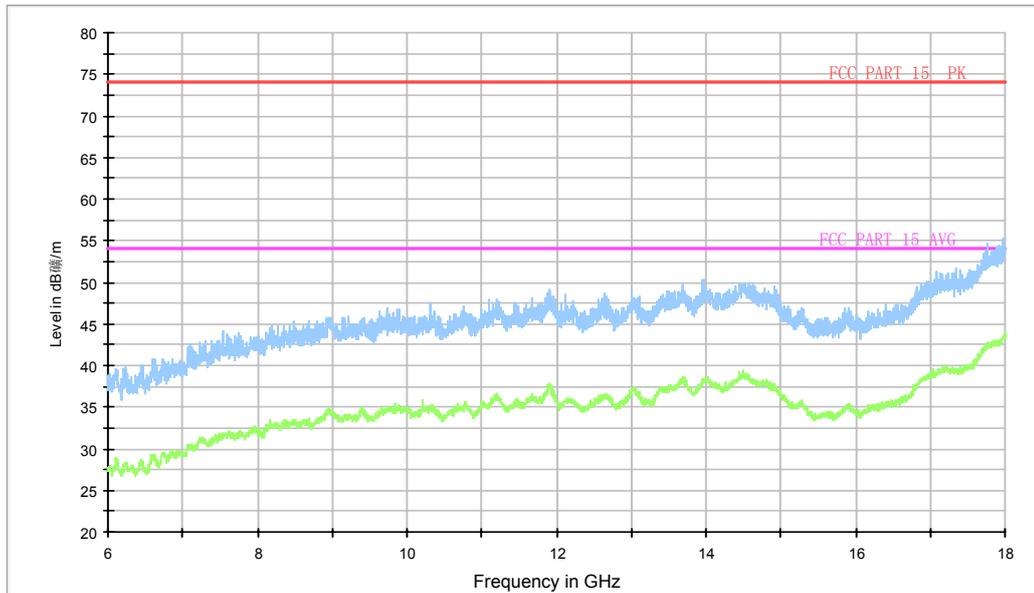


Fig. 119 Radiated Spurious Emission (802.11n-HT20, ch100, 6 GHz-18GHz)

Normal RE_30M-1GHz_10m

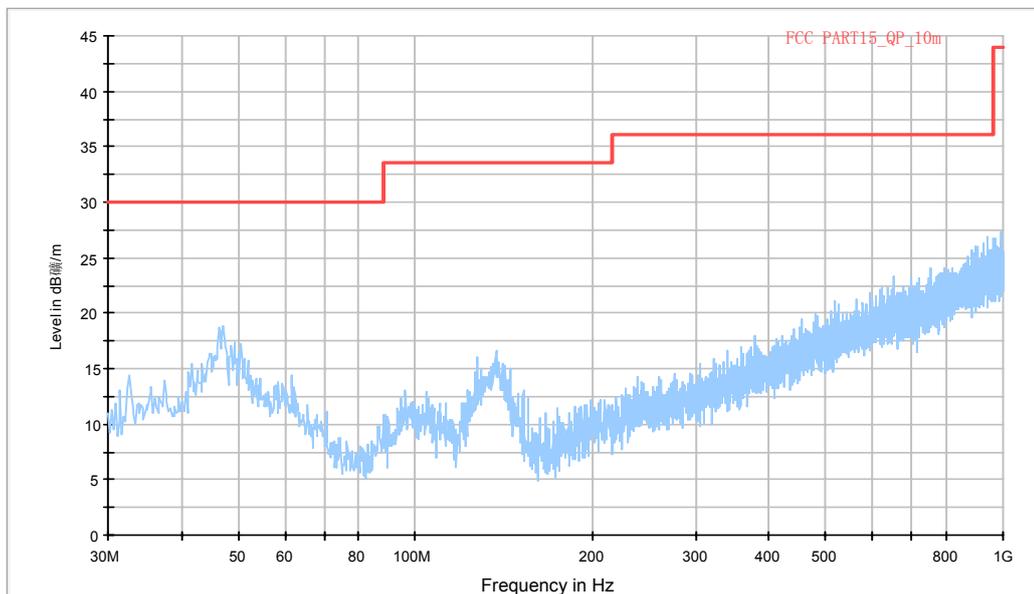


Fig. 120 Radiated Spurious Emission (802.11n-HT20, ch120, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

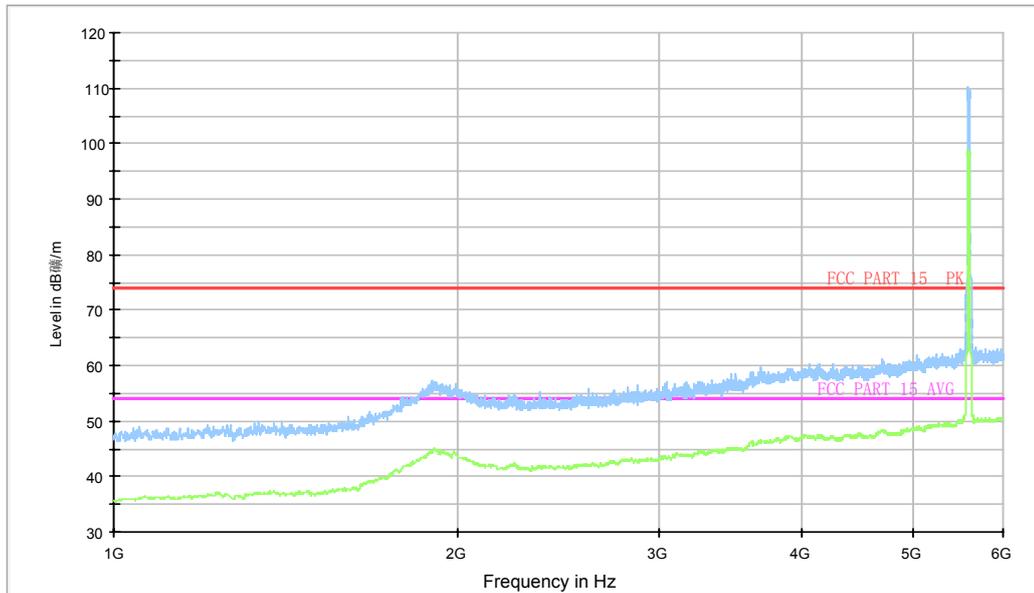


Fig. 121 Radiated Spurious Emission (802.11n-HT20, ch120 1 GHz-6 GHz)

Normal RE_6G-18GHz

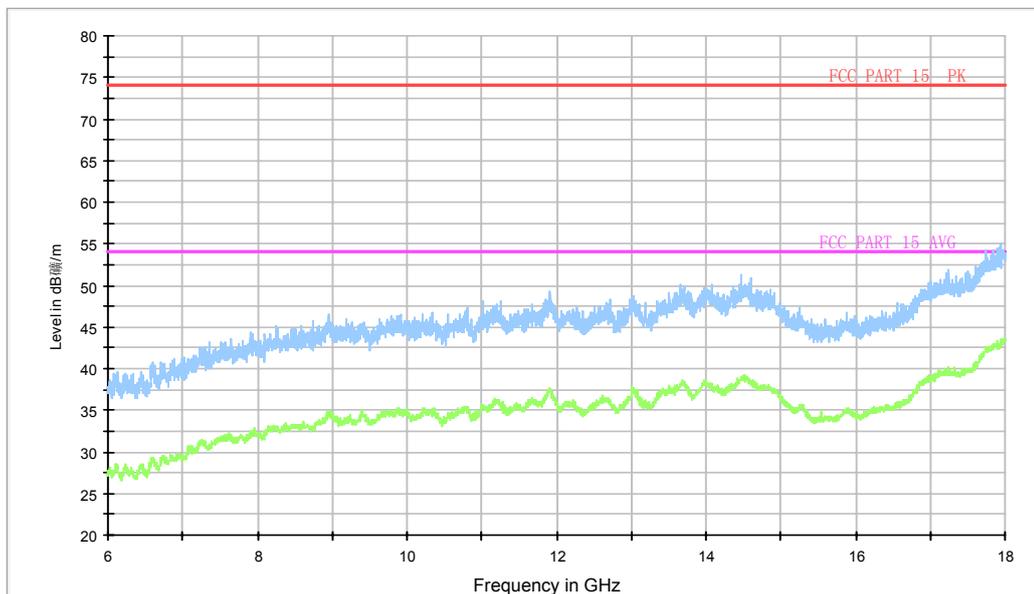


Fig. 122 Radiated Spurious Emission (802.11n-HT20, ch120, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

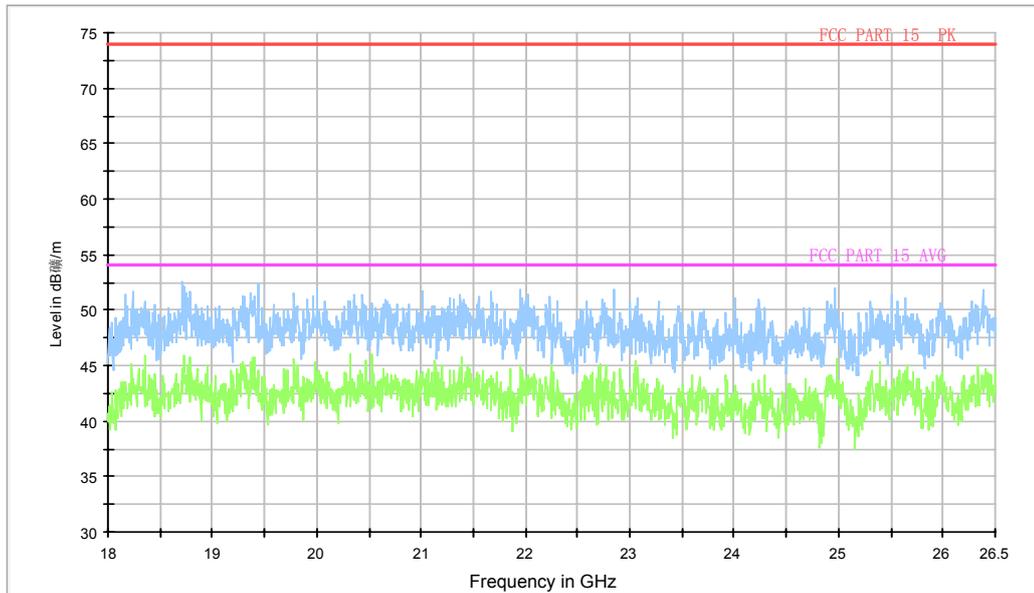


Fig. 123 Radiated Spurious Emission (802.11n-HT20, ch120, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

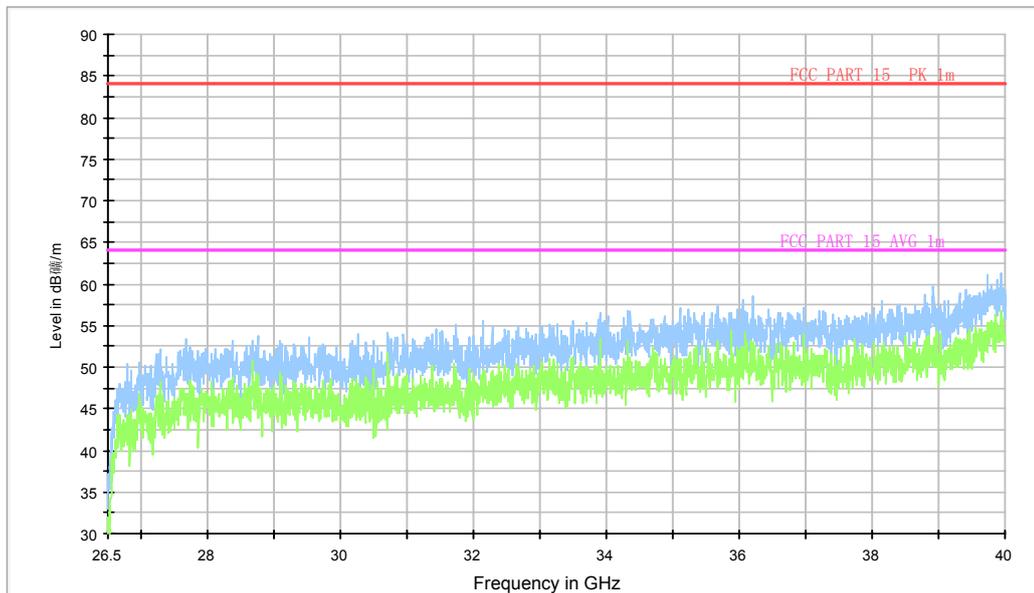


Fig. 124 Radiated Spurious Emission (802.11n-HT20, ch120, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

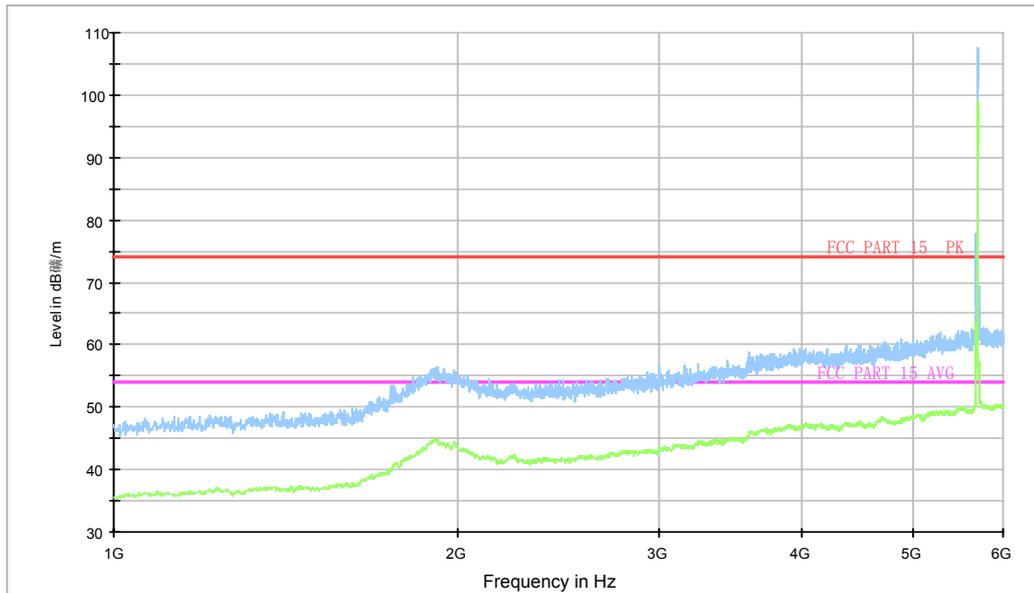


Fig. 125 Radiated Spurious Emission (802.11n-HT20, ch140, 1 GHz-6GHz)

Normal RE_6G-18GHz

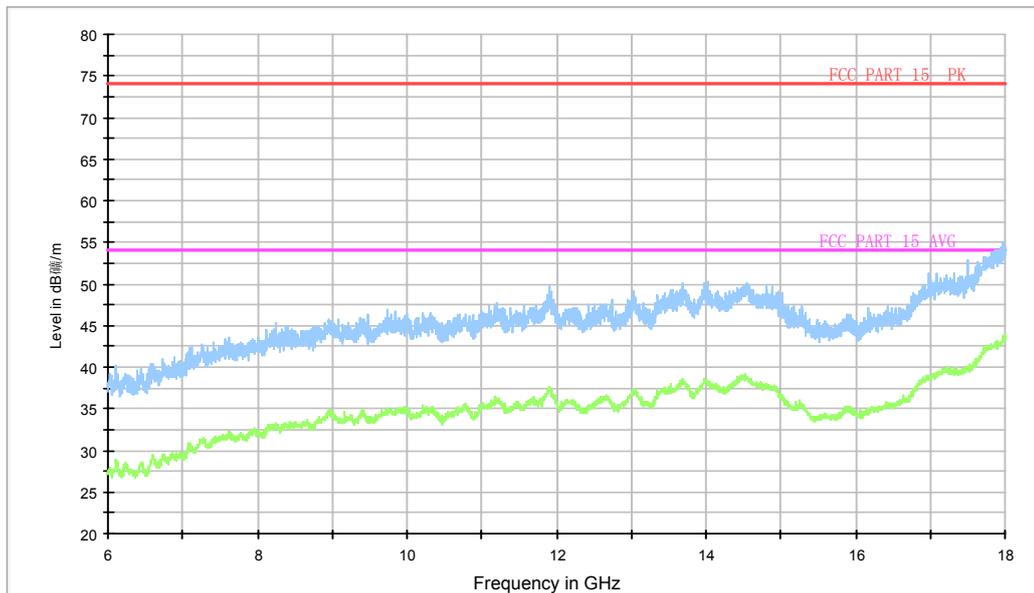


Fig. 126 Radiated Spurious Emission (802.11n-HT20, ch140, 6 GHz-18 GHz)

RE_WLAN_1G-6GHz

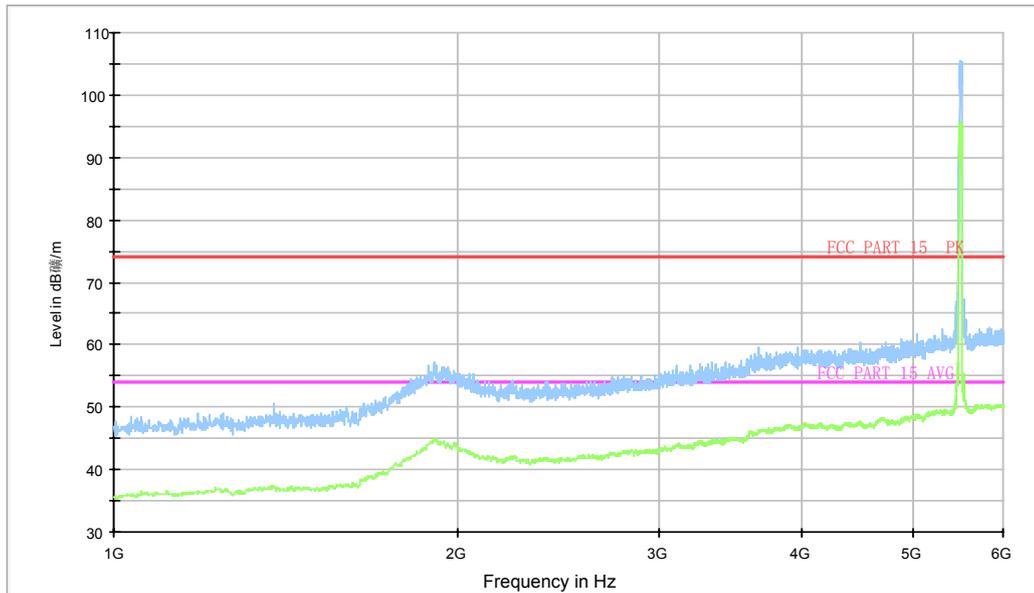


Fig. 127 Radiated Spurious Emission (802.11n-HT40, ch102, 1 GHz-6 GHz)

Normal RE_6G-18GHz

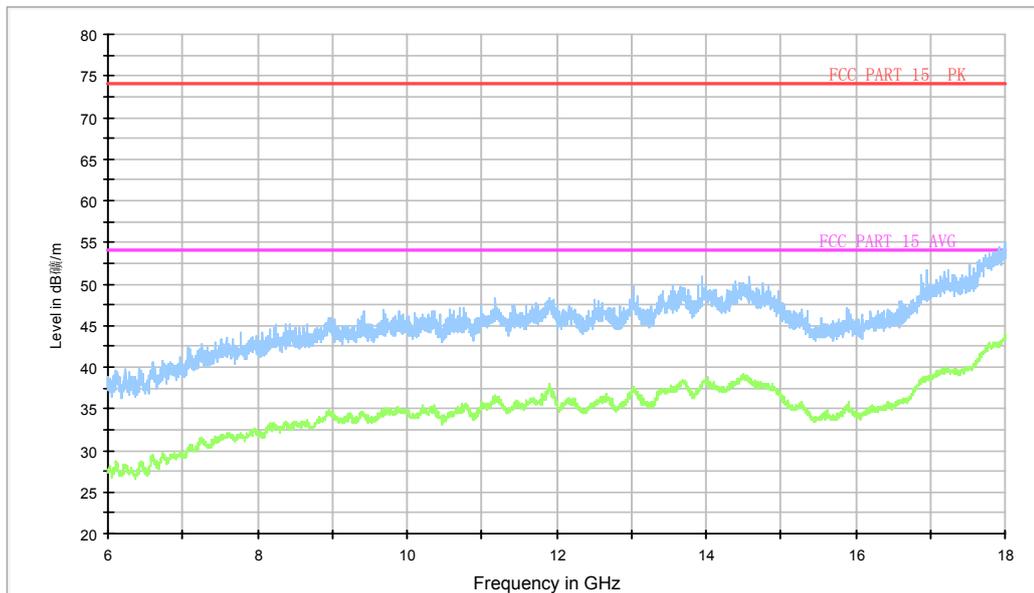


Fig. 128 Radiated Spurious Emission (802.11n-HT40, ch102, 6 GHz-18 GHz)

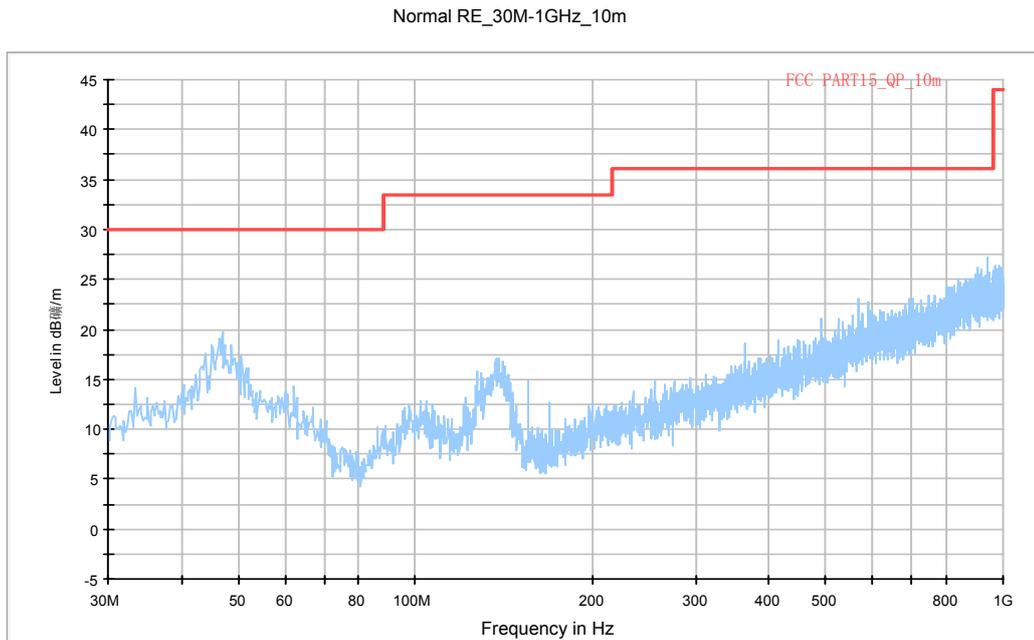


Fig. 129 Radiated Spurious Emission (802.11n-HT40, ch118, 30 MHz-1 GHz)

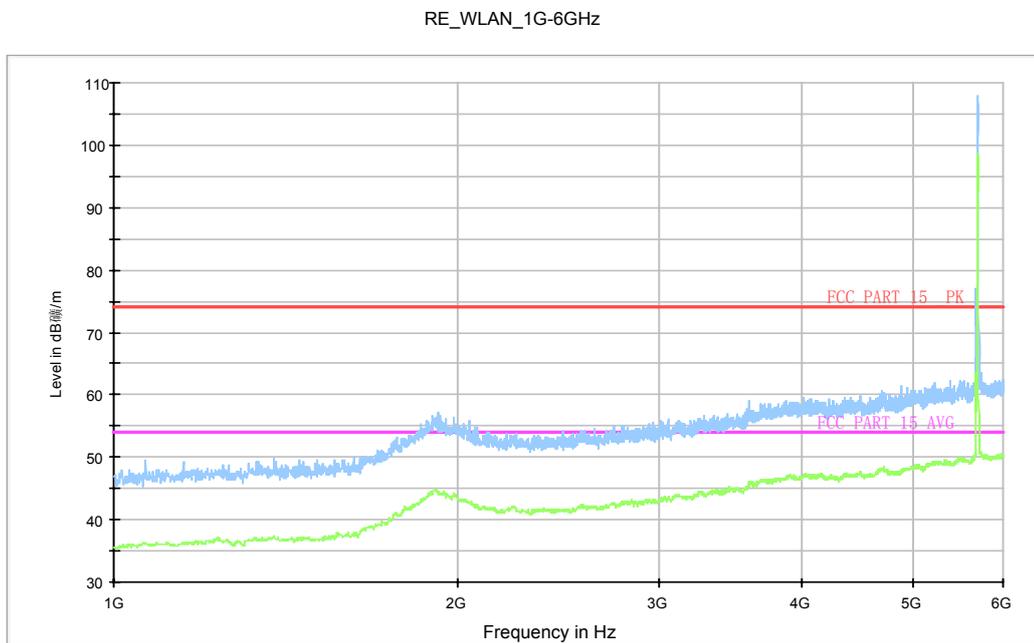


Fig. 130 Radiated Spurious Emission (802.11n-HT40, ch118, 1 GHz-6 GHz)

Normal RE_6G-18GHz

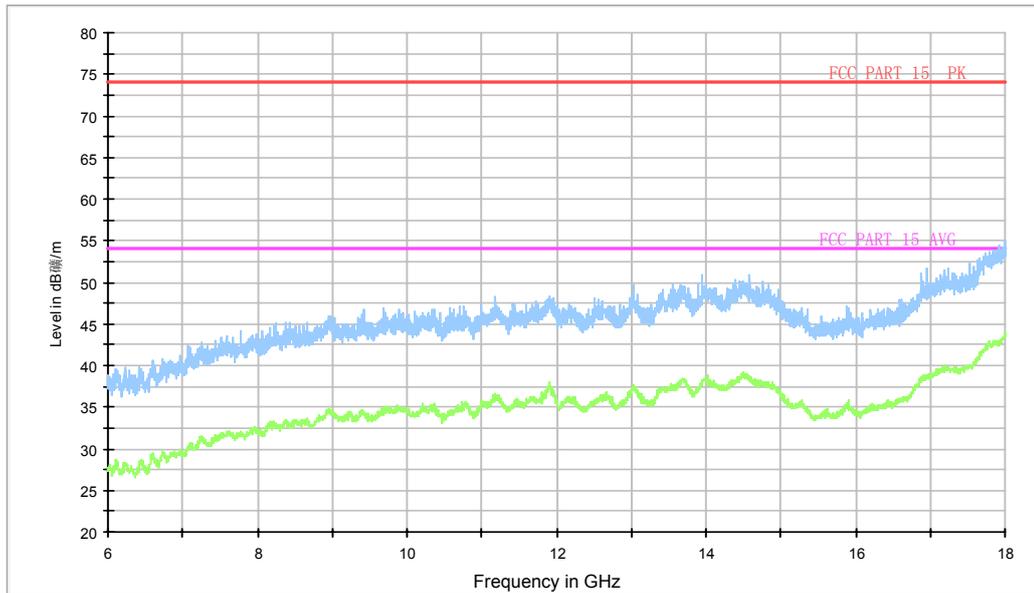


Fig. 131 Radiated Spurious Emission (802.11n-HT40, ch118, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

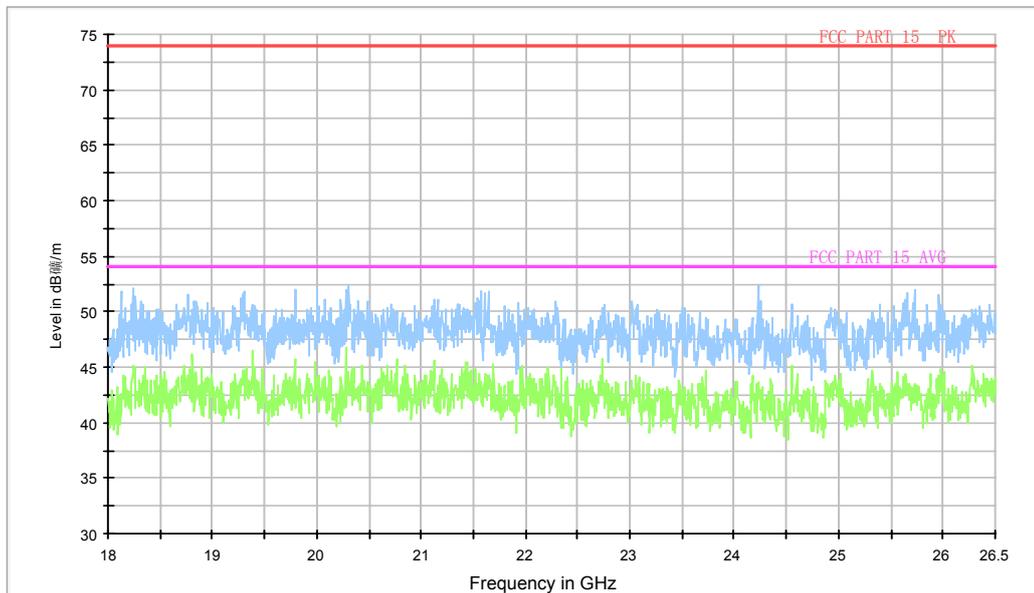


Fig. 132 Radiated Spurious Emission (802.11n-HT40, ch118, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

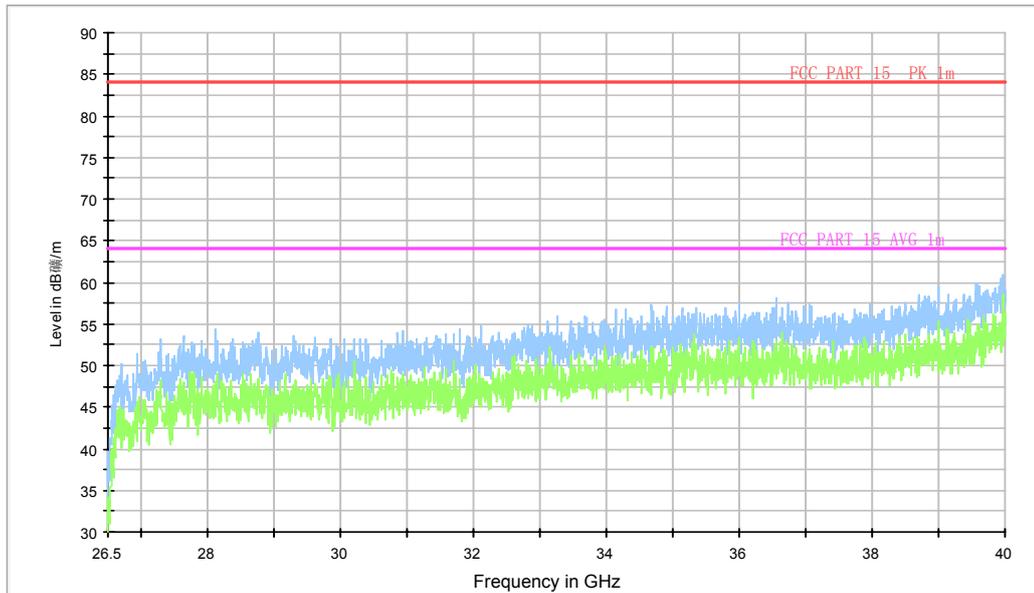


Fig. 133 Radiated Spurious Emission (802.11n-HT40, ch118, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

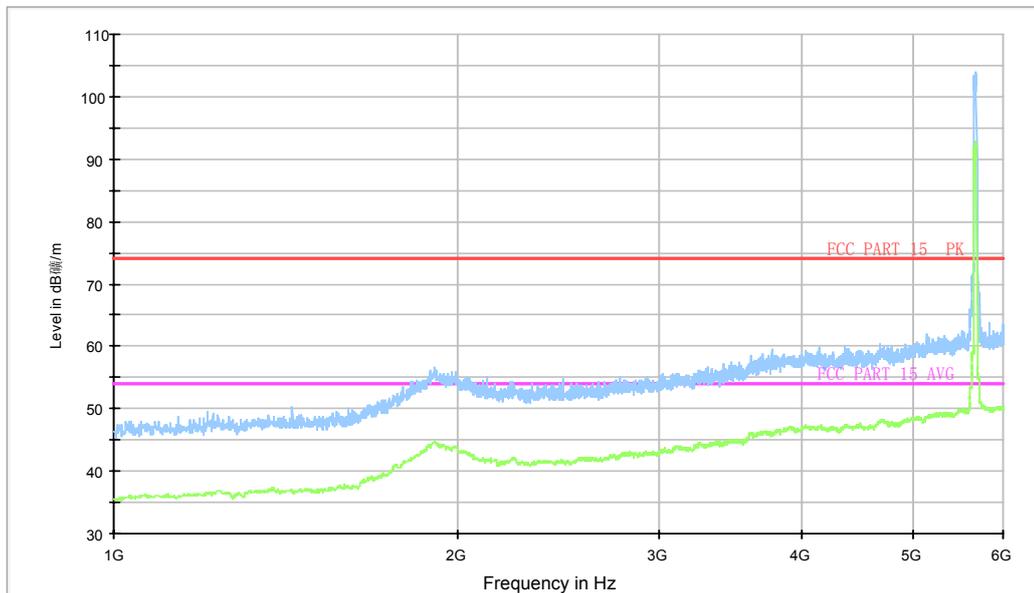


Fig. 134 Radiated Spurious Emission (802.11n-HT40, ch134, 1 GHz-6 GHz)

Normal RE_6G-18GHz

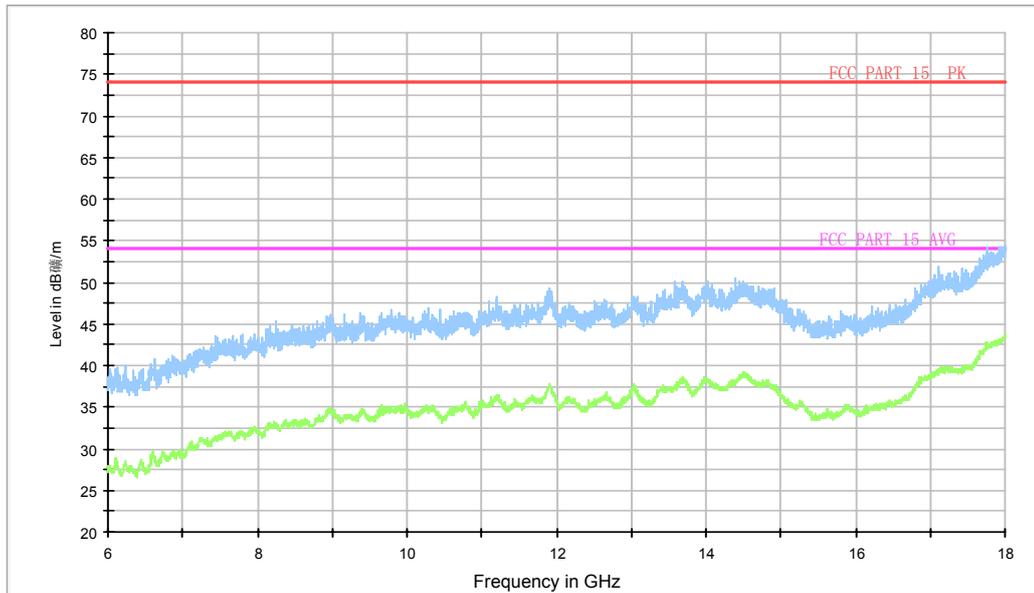


Fig. 135 Radiated Spurious Emission (802.11n-HT40, ch134, 6 GHz-18 GHz)

RE_WLAN_1G-6GHz

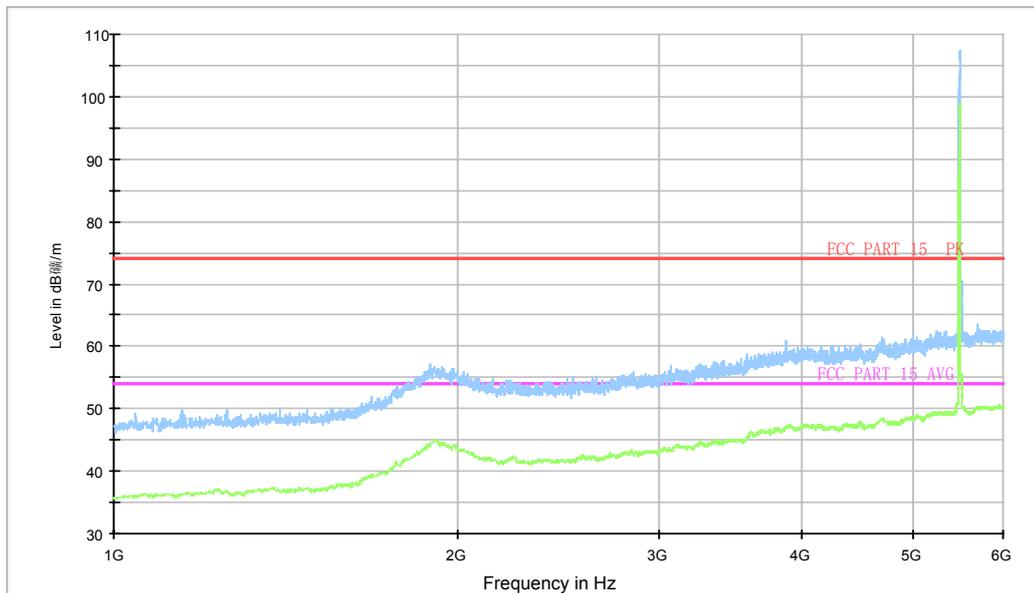


Fig. 136 Radiated Spurious Emission (802.11ac-HT20, ch100, 1 GHz-6 GHz)

Normal RE_6G-18GHz

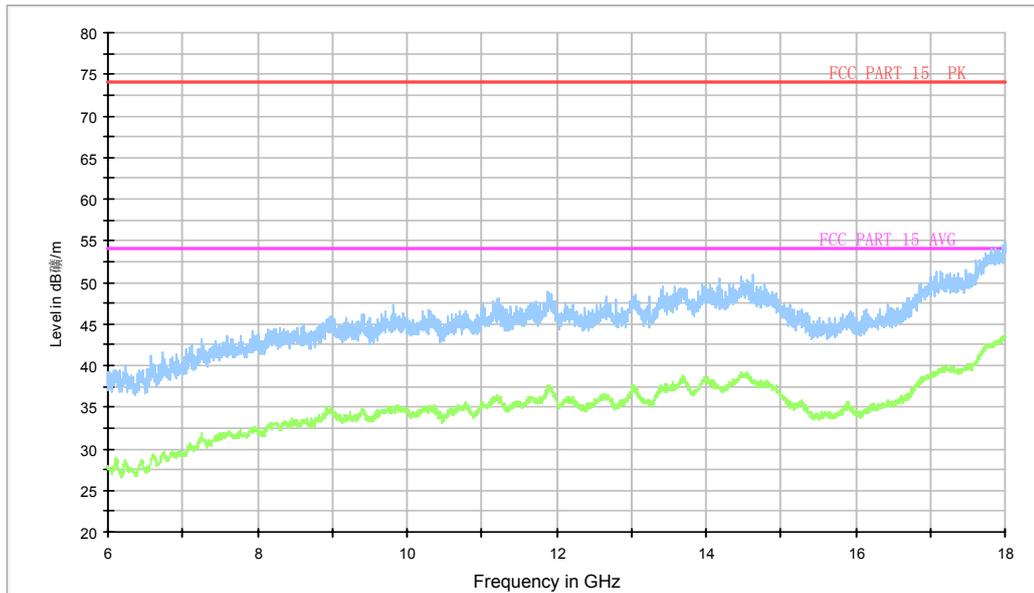


Fig. 137 Radiated Spurious Emission (802.11ac-HT20, ch100, 6 GHz-18GHz)

Normal RE_30M-1GHz_10m

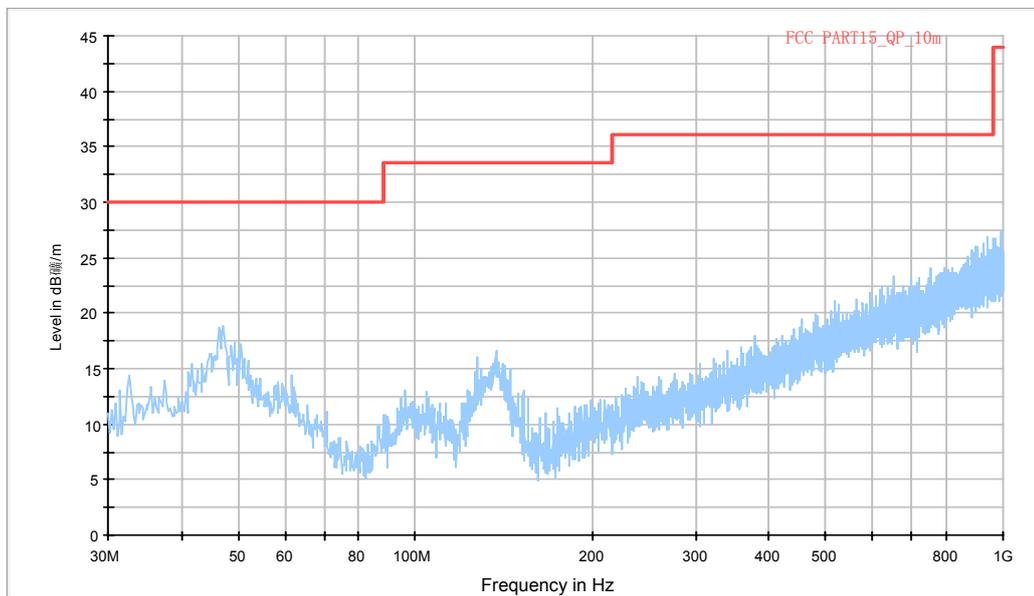


Fig. 138 Radiated Spurious Emission (802.11ac-HT20, ch120, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

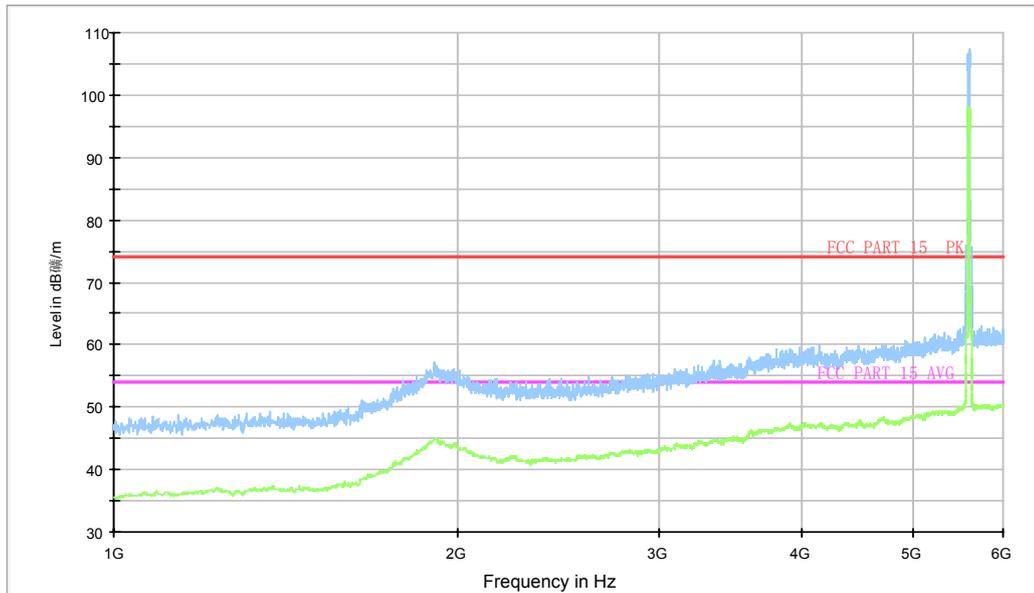


Fig. 139 Radiated Spurious Emission (802.11ac-HT20, ch120, 1 GHz-6 GHz)

Normal RE_6G-18GHz

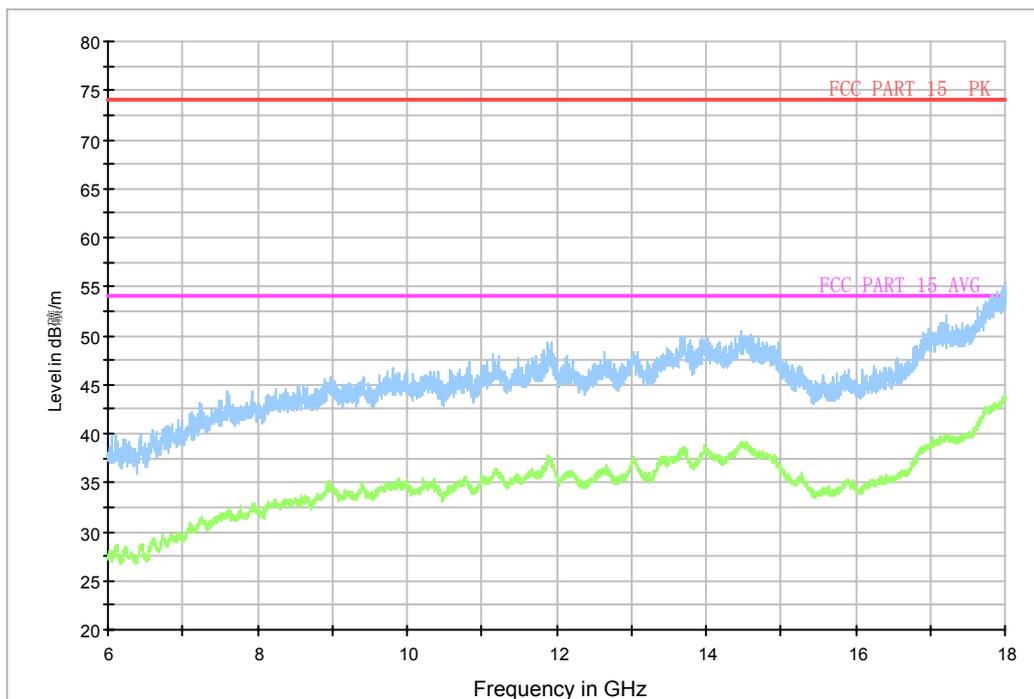


Fig. 140 Radiated Spurious Emission (802.11ac-HT20, ch120, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

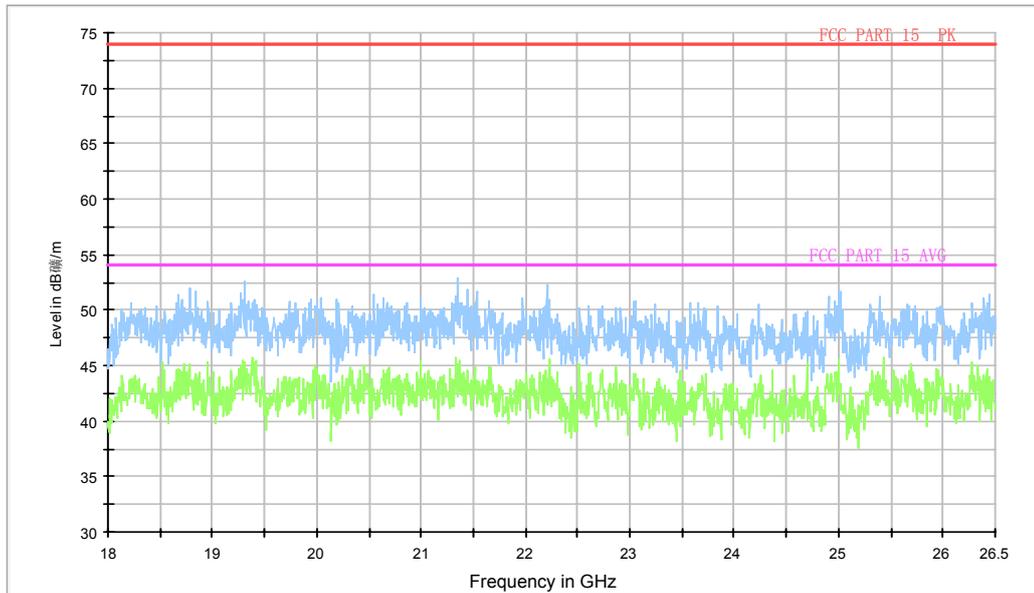


Fig. 141 Radiated Spurious Emission (802.11ac-HT20, ch120, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

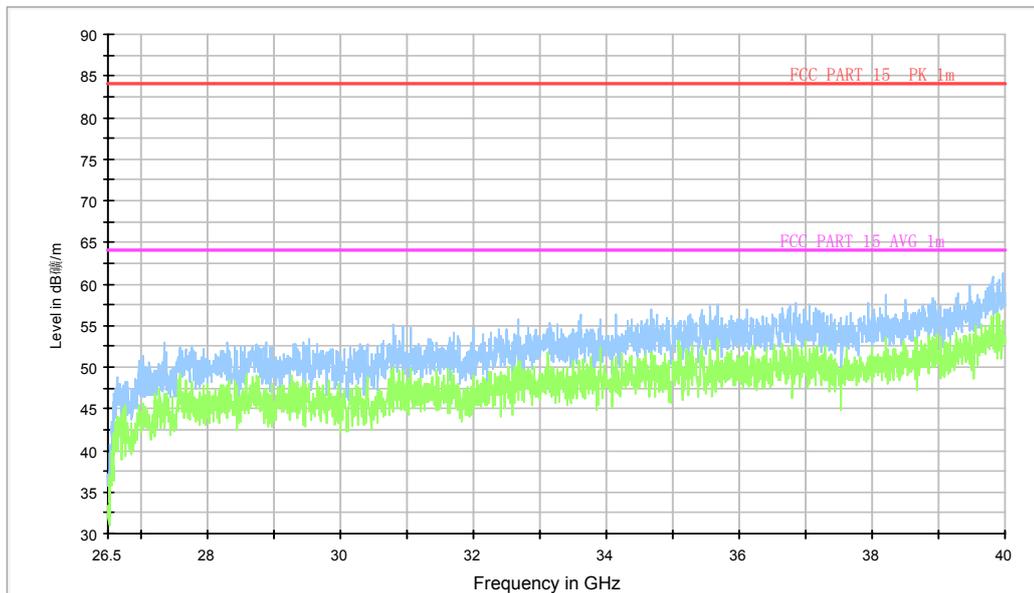


Fig. 142 Radiated Spurious Emission (802.11ac-HT20, ch120, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

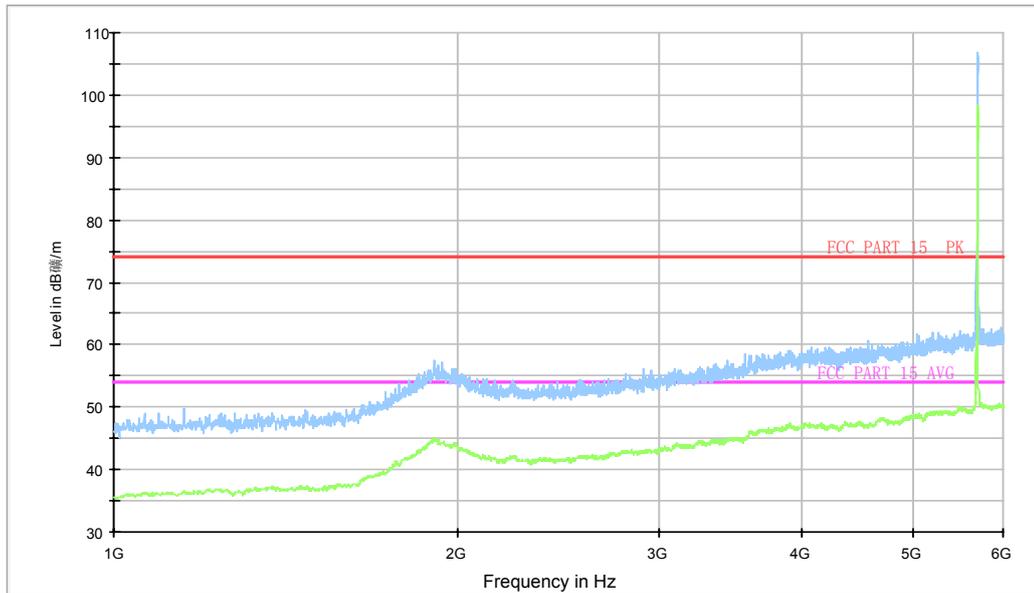


Fig. 143 Radiated Spurious Emission (802.11ac-HT20, ch140, 1 GHz-6GHz)

Normal RE_6G-18GHz

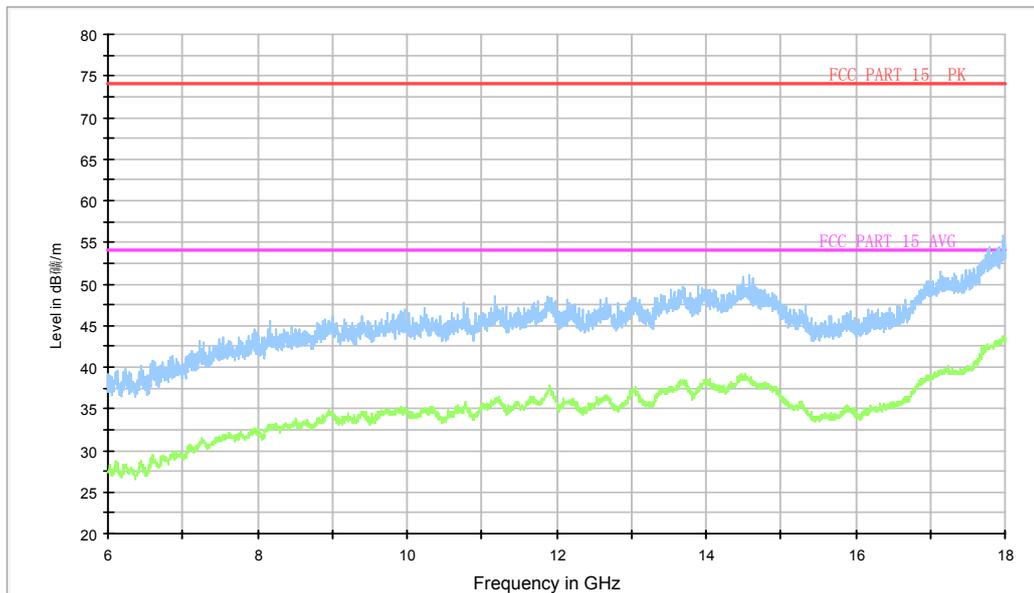


Fig. 144 Radiated Spurious Emission (802.11ac-HT20, ch140, 6 GHz-18 GHz)

RE_WLAN_1G-6GHz

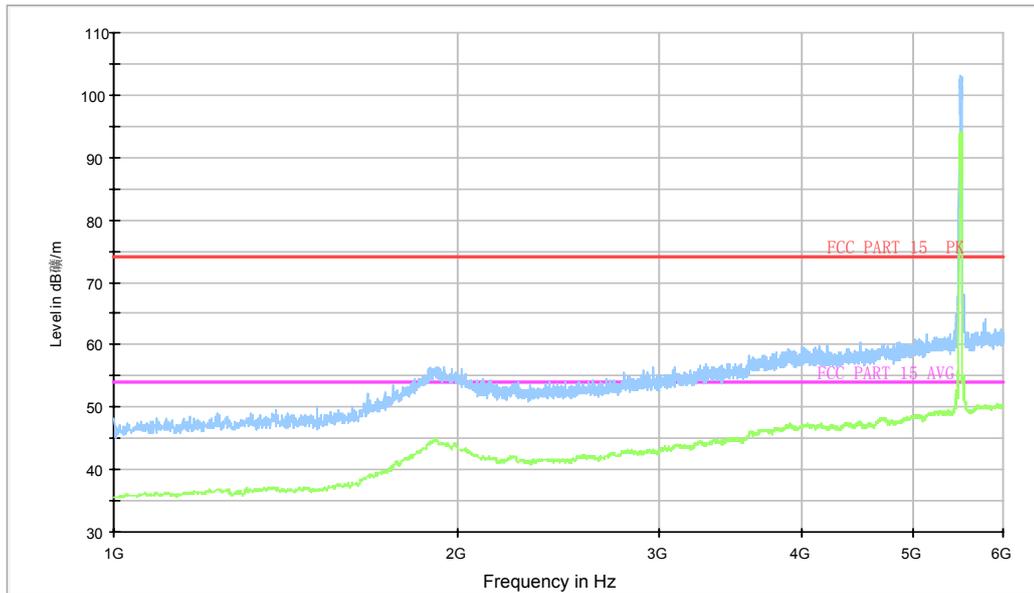


Fig. 145 Radiated Spurious Emission (802.11ac-HT40, ch102, 1 GHz-6 GHz)

Normal RE_6G-18GHz

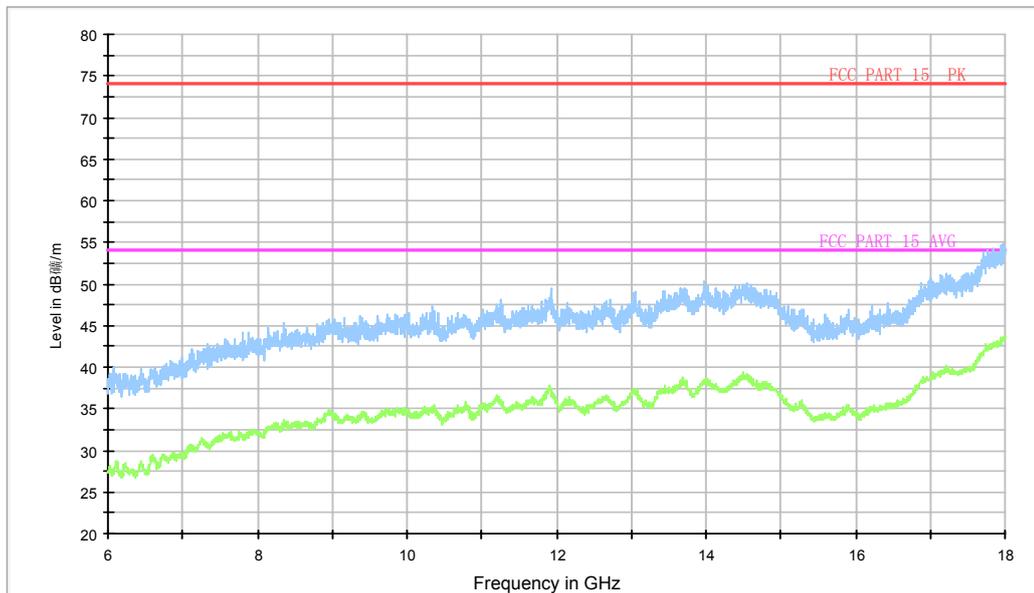


Fig. 146 Radiated Spurious Emission (802.11ac-HT40, ch102, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

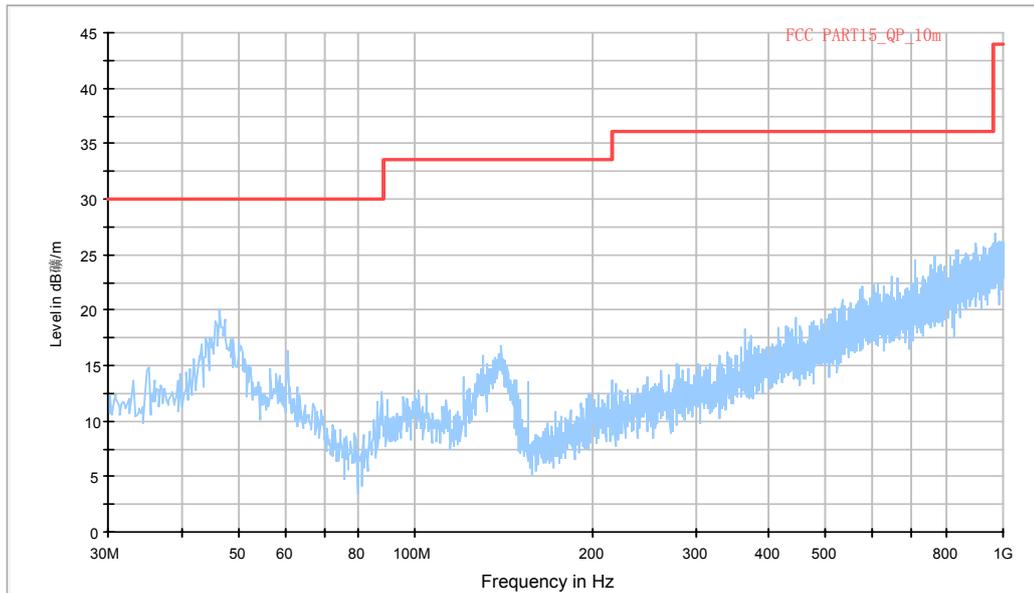


Fig. 147 Radiated Spurious Emission (802.11ac-HT40, ch118, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

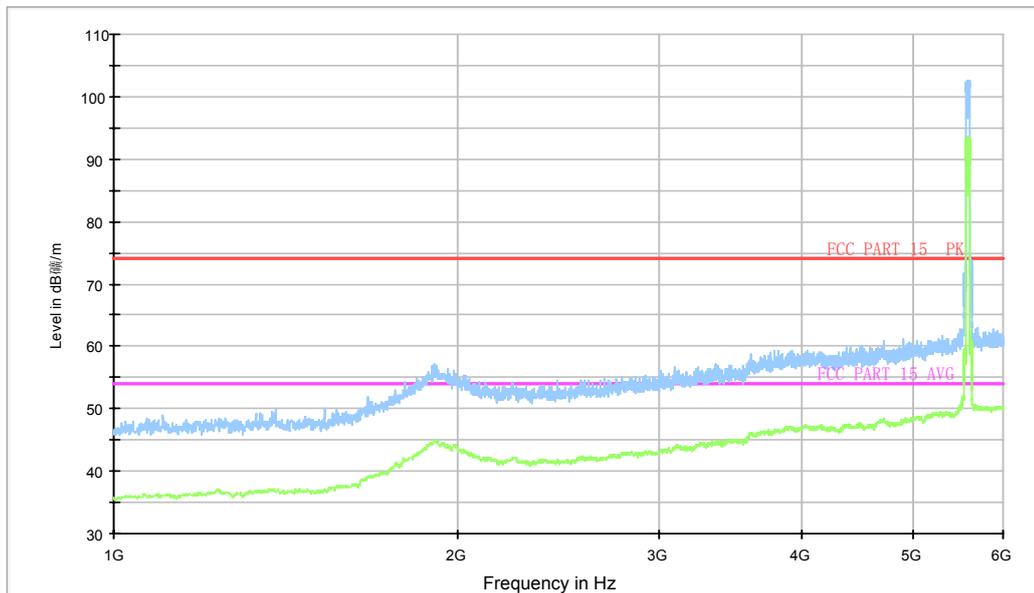


Fig. 148 Radiated Spurious Emission (802.11ac-HT40, ch118, 1 GHz-6 GHz)

Normal RE_6G-18GHz

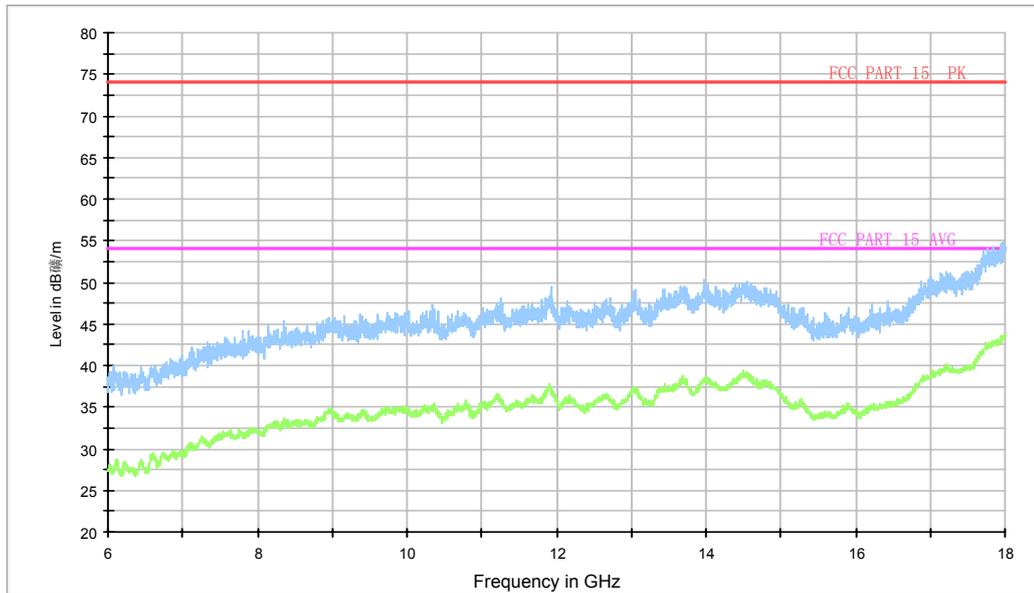


Fig. 149 Radiated Spurious Emission (802.11ac-HT40, ch118, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

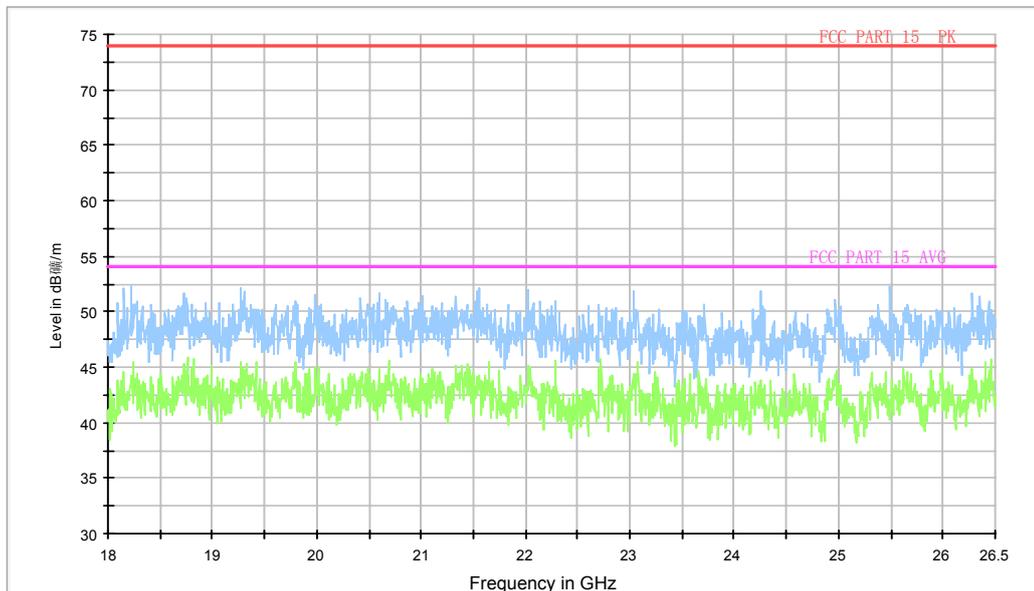


Fig. 150 Radiated Spurious Emission (802.11ac-HT40, ch118, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

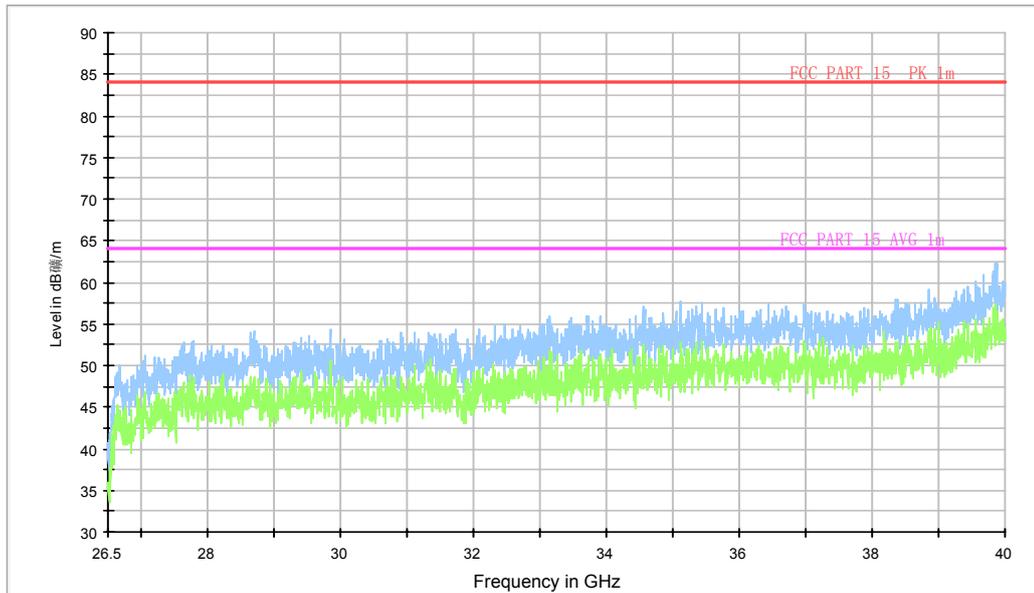


Fig. 151 Radiated Spurious Emission (802.11ac-HT40, ch118, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

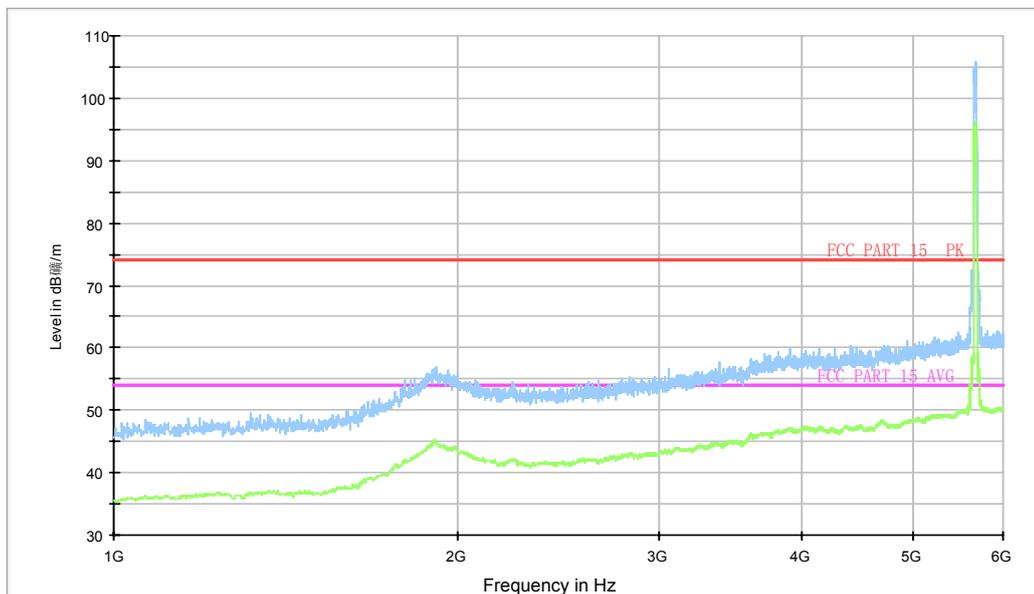


Fig. 152 Radiated Spurious Emission (802.11ac-HT40, ch134, 1 GHz-6 GHz)

Normal RE_6G-18GHz

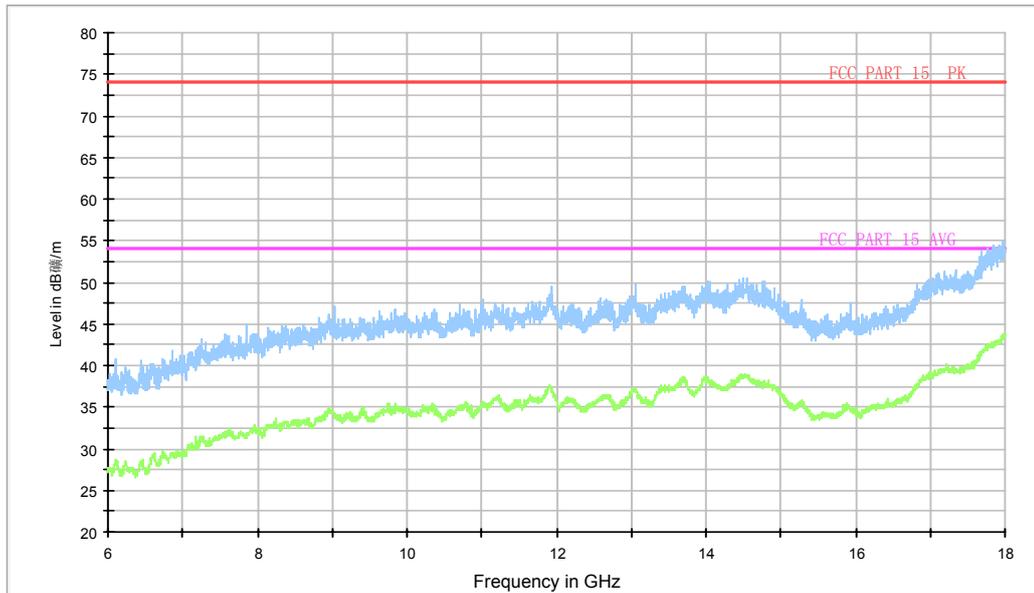


Fig. 153 Radiated Spurious Emission (802.11ac-HT40, ch134, 6 GHz-18 GHz)

802.11ac-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac -HT80	42(5210MHz)	1 GHz ~ 6 GHz	Fig.154	P
		6 GHz ~ 18 GHz	Fig.155	P
	58(5290MHz)	30 MHz ~1 GHz	Fig.156	P
		1 GHz ~ 6 GHz	Fig.157	P
		6 GHz ~ 18 GHz	Fig.158	P
		18 GHz ~ 26.5 GHz	Fig.159	P
	106(5530MHz)	26.5 GHz ~ 40 GHz	Fig.160	P
		1 GHz ~ 6 GHz	Fig.161	P
		6 GHz ~ 18 GHz	Fig.162	P

Conclusion: PASS

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

802.11ac-HT80

Channel 42

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5148.615	50.8	-35.1	34.6	51.300	H
17972.000	43.7	-17.7	45.6	15.800	H
17988.400	43.6	-17.7	45.6	15.700	V
17974.000	43.6	-17.7	45.6	15.700	H
17996.800	43.5	-17.7	45.6	15.600	H
17987.600	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5138.825	63.9	-35.1	34.6	64.400	H
17902.000	55.8	-18.5	45.6	28.700	H
17992.400	54.7	-17.7	45.6	26.800	V
17981.200	54.6	-17.7	45.6	26.700	H
17917.200	54.5	-17.7	45.6	26.600	H
17950.000	54.4	-17.7	45.6	26.500	H



Channel 58

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5351.995	50.3	-34.8	34.6	50.500	H
17992.400	43.7	-17.7	45.6	15.800	H
17972.000	43.7	-17.7	45.6	15.800	V
17990.400	43.6	-17.7	45.6	15.700	H
17994.800	43.6	-17.7	45.6	15.700	H
18000.000	43.5	-45.6	44.5	44.566	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5352.435	63.1	-34.8	34.6	63.300	H
17824.000	55.6	-18.5	45.6	28.500	H
17867.600	55.1	-18.5	45.6	28.000	V
17849.600	54.8	-18.5	45.6	27.700	H
17976.400	54.5	-17.7	45.6	26.600	H
17853.600	54.2	-18.5	45.6	27.100	H

Channel 106

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5457.720	53.9	-34.9	34.6	54.200	H
17994.800	44.0	-17.7	45.6	16.100	H
17993.600	43.7	-17.7	45.6	15.800	V
17994.000	43.5	-17.7	45.6	15.600	H
17980.400	43.5	-17.7	45.6	15.600	H
17993.200	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5453.335	66.7	-34.9	34.6	67.000	H
17889.600	54.8	-18.5	45.6	27.700	H
17960.400	54.4	-17.7	45.6	26.500	V
17804.000	54.3	-18.5	45.6	27.200	H
17892.000	54.2	-18.5	45.6	27.100	H
17759.600	54.1	-18.5	45.6	27.000	H

Test graphs as below:

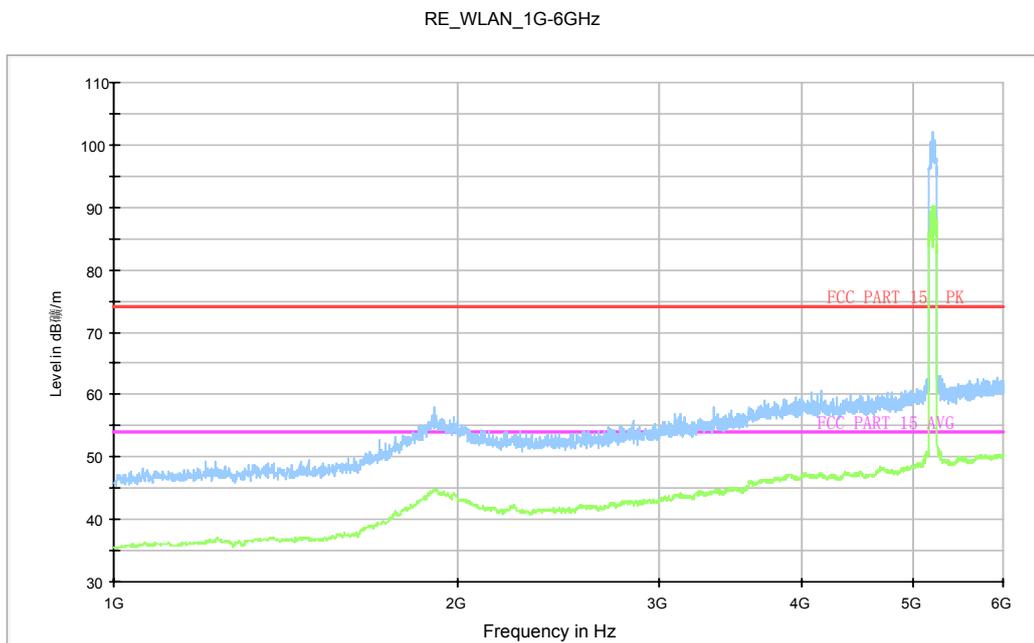


Fig. 154 Radiated Spurious Emission (802.11ac-HT80, ch42, 1 GHz-6 GHz)

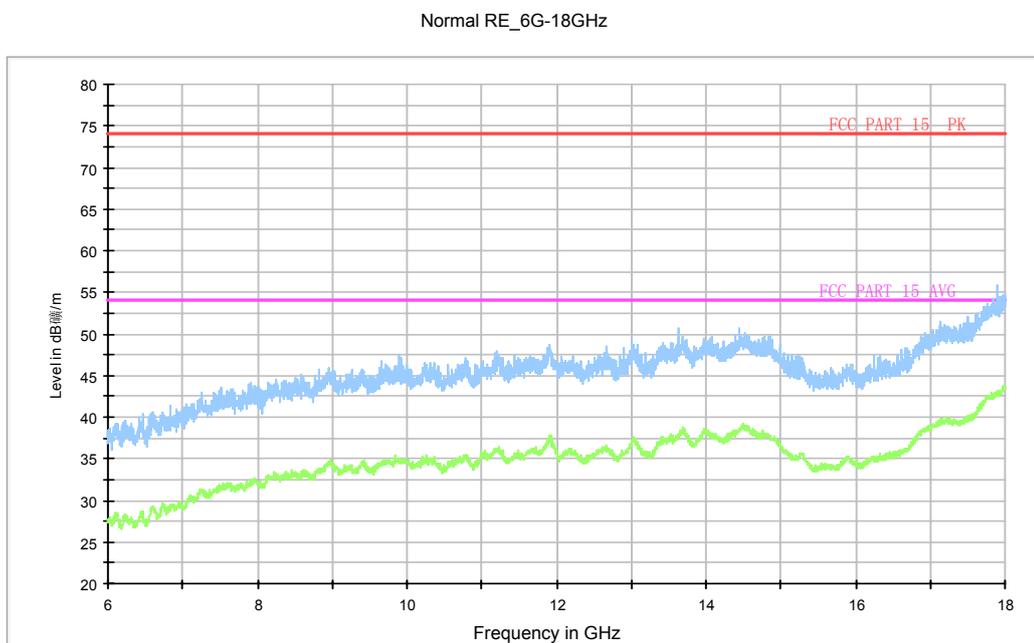


Fig. 155 Radiated Spurious Emission (802.11ac-HT80, ch42, 6 GHz-18 GHz)

Normal RE_30M-1GHz_10m

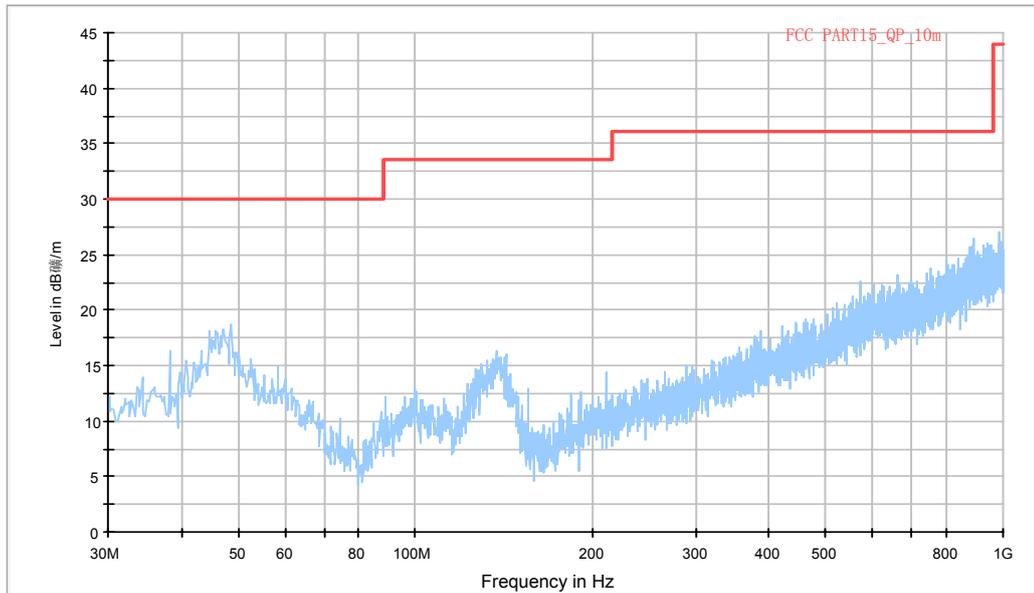


Fig. 156 Radiated Spurious Emission (802.11ac-HT80, ch58, 30 MHz-1 GHz)

RE_WLAN_1G-6GHz

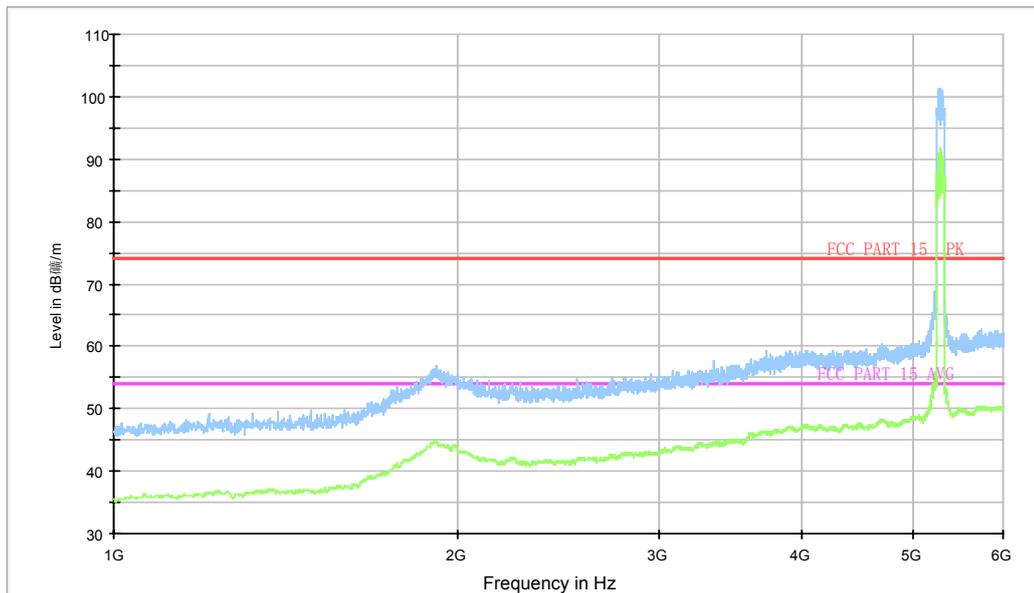


Fig. 157 Radiated Spurious Emission (802.11ac-HT80, ch58, 1 GHz-6 GHz)

Normal RE_6G-18GHz

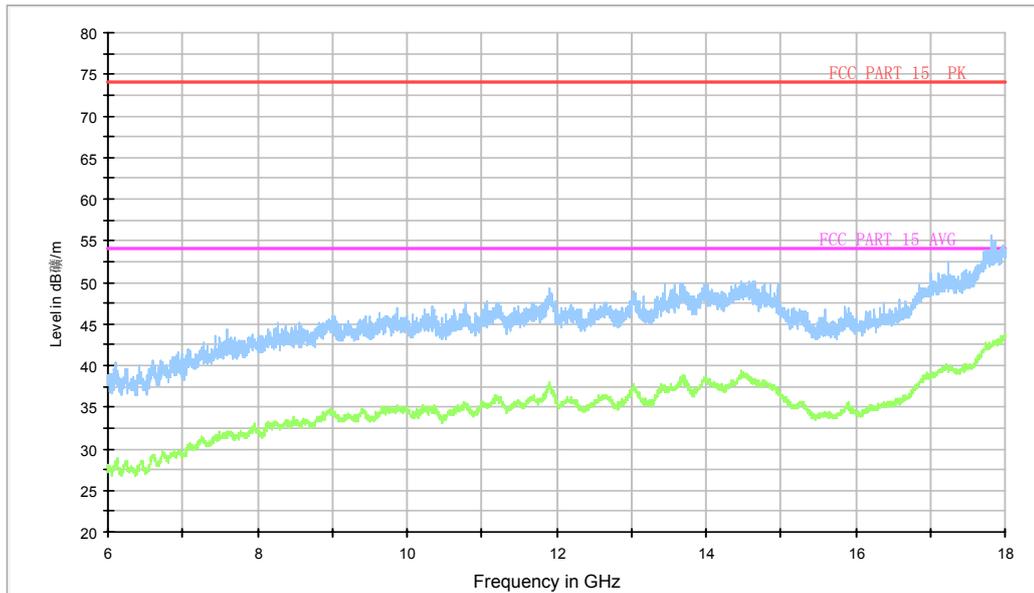


Fig. 158 Radiated Spurious Emission (802.11ac-HT80, ch58, 6 GHz-18 GHz)

Normal RE_18G-26.5GHz

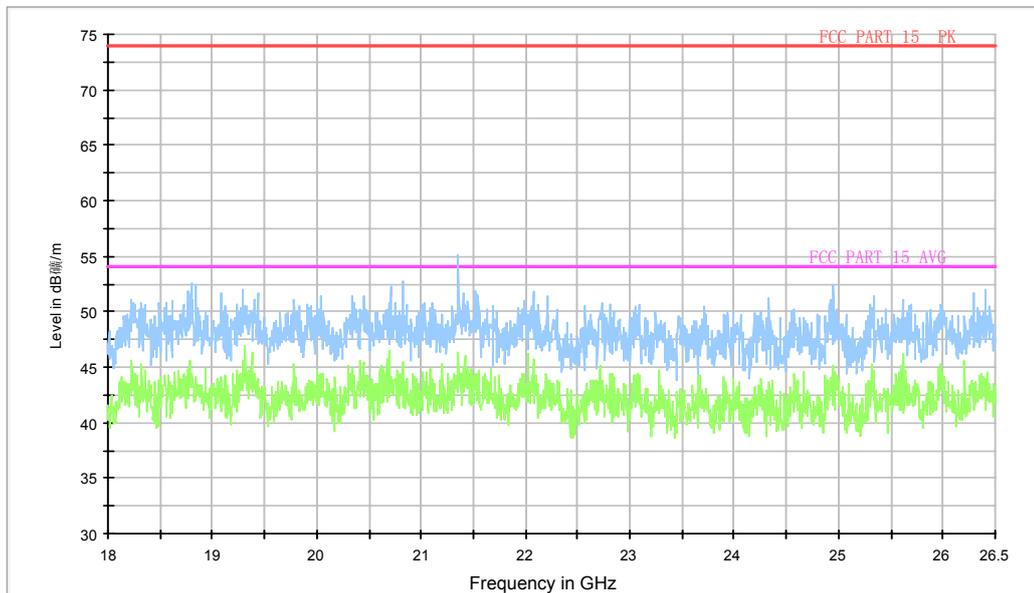


Fig. 159 Radiated Spurious Emission (802.11ac-HT80, ch58, 18 GHz-26.5 GHz)

Normal RE_26.5G-40GHz

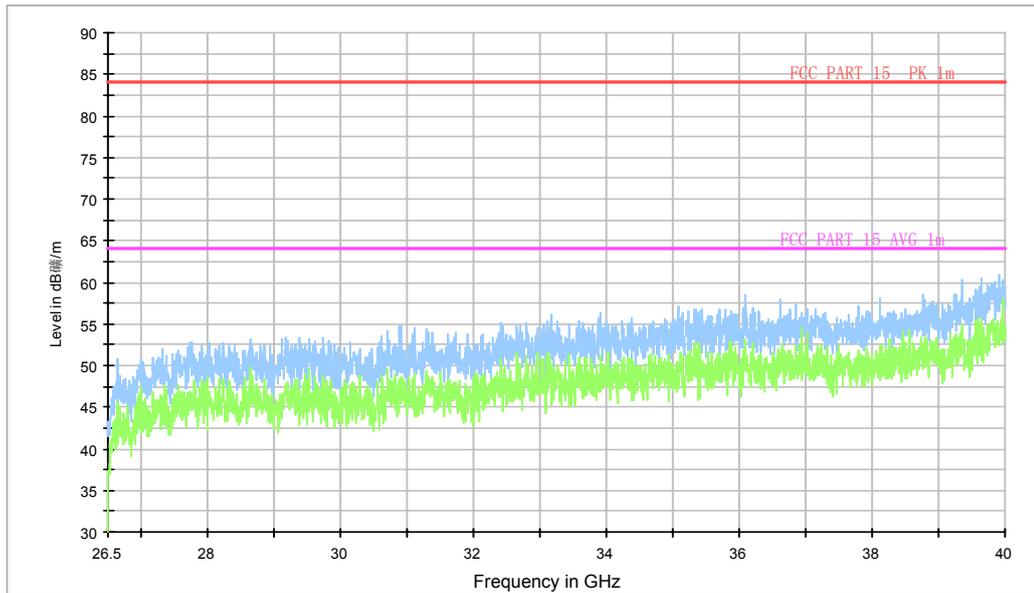


Fig. 160 Radiated Spurious Emission (802.11ac-HT80, ch58, 26.5 GHz-40 GHz)

RE_WLAN_1G-6GHz

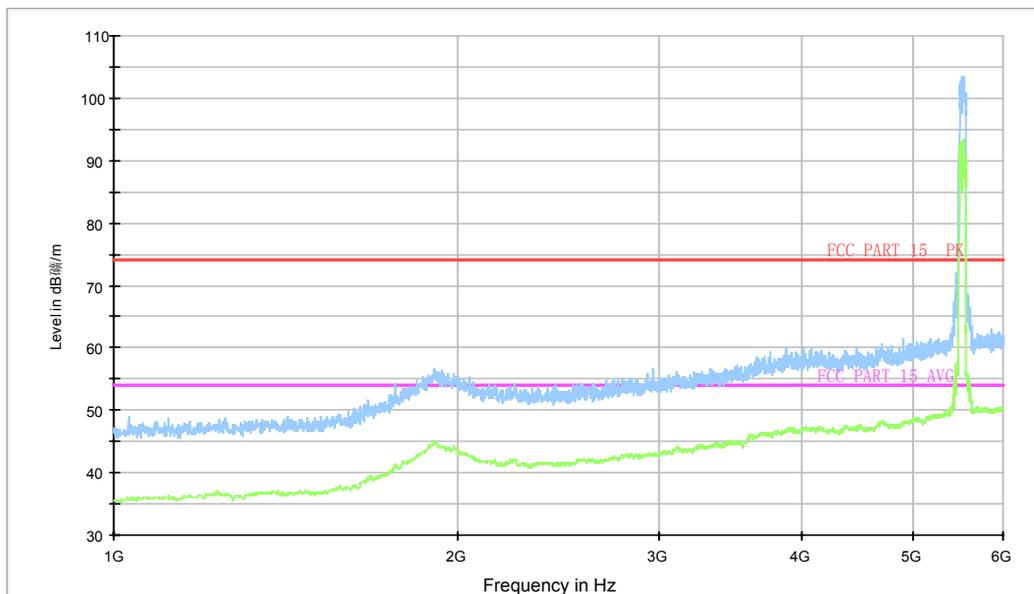


Fig. 161 Radiated Spurious Emission (802.11ac-HT80, ch106, 1 GHz-6 GHz)

Normal RE_6G-18GHz

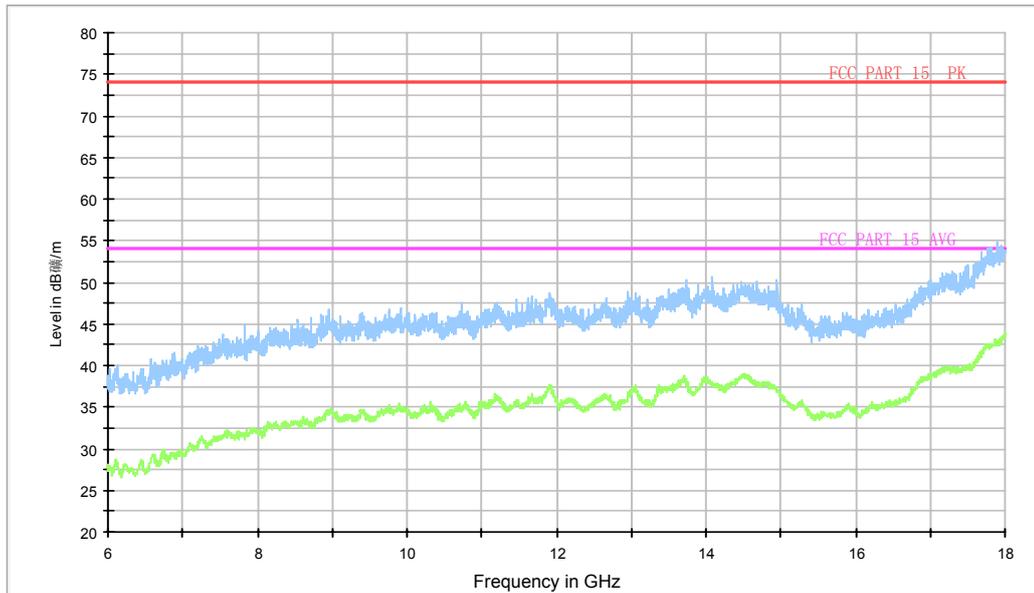


Fig. 162 Radiated Spurious Emission (802.11ac-HT80, ch106, 6 GHz-18 GHz)

A.7. Spurious Emissions Radiated < 30MHz

Measurement Limit(15.209, 9kHz-30MHz):

Frequency (MHz)	Field strength($\mu\text{V}/\text{m}$)	Measurement distance(m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

The measurement is made according to KDB 789033

Note: The measurement distance during the test is 3m. The limit used in plots is recalculated based on the extrapolation factor of 40 dB/decade.

Measurement uncertainty:

Expanded measurement uncertainty for this test item is $U = 2.6\text{dB}$, $k=2$.

Measurement Results:

Mode	Frequency Range	Test Results	Conclusion
802.11a	9 kHz ~30 MHz	Fig.163	P

Conclusion: PASS

Test graphs as below:

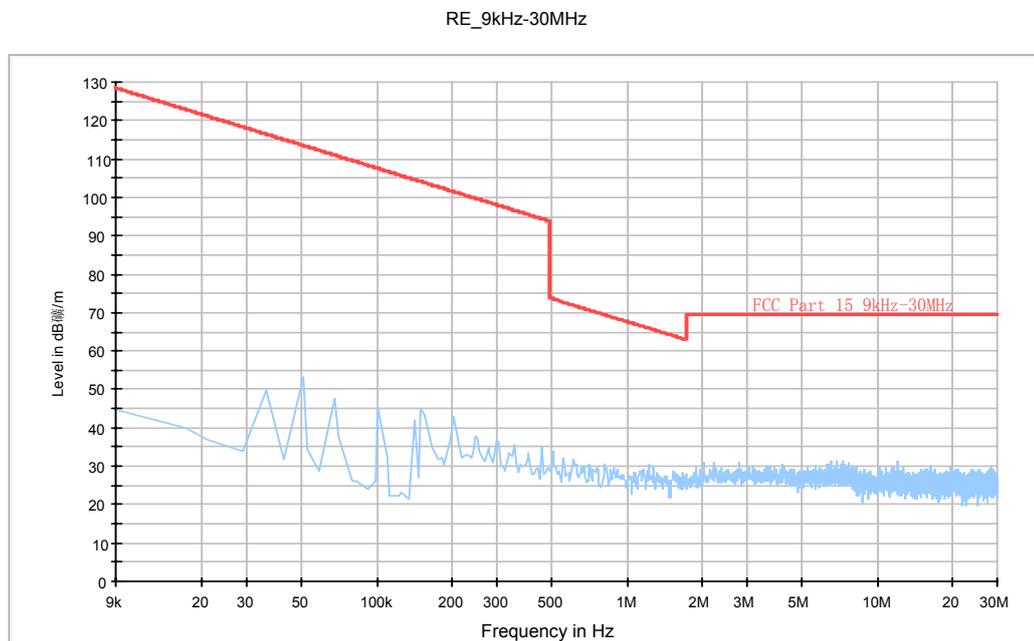


Fig. 163 Radiated Spurious Emission (802.11a, ch40, 9 kHz ~30 MHz)

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