FCC PART 15C
TEST REPORT
No. I15Z42269-EMC02

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: 2015-09-14

TESTING
CNAS L0570

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℃

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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2.2. Manufacturer 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 Band: 5725MHz~5850MHz
Type of modulation	OFDM

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*	IMEI	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	/	/
AE6	Travel Charger	HW-050300A00	K72145F7Y00141

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

3.4. General Description

Equipment Under Test (EUT) is model of LTE/WCDMA/GSM Smart Phone with integrated antenna and inbuilt battery.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the Client.

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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 Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz.	2013
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
KDB558074	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247	2013
KDB644545	Guidance for IEEE 802.11ac and Pre-ac Device Emissions Testing	2013

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 ℃, Max. = 35 ℃
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

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6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Band Edges Compliance	15.209 (b)	/	**P**
Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.209	/	**P**
Transmitter Spurious Emission - Radiated < 30MHz	15.247, 15.209	/	**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℃~35℃

Voltage 3.8V

Humidity 15%~75%

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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

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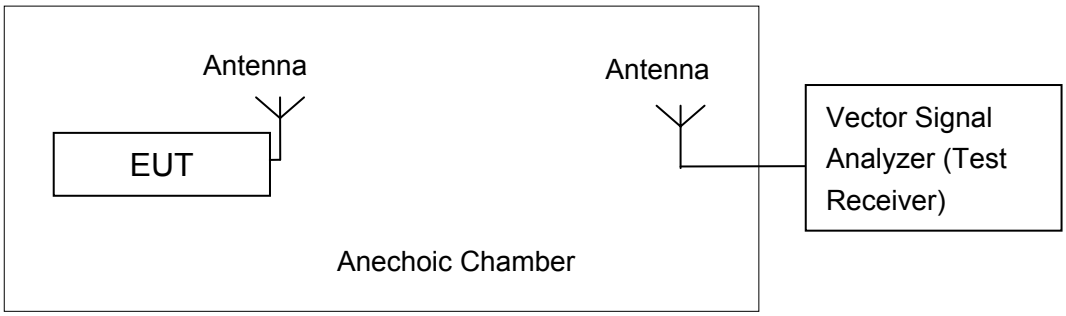
ANNEX A: MEASUREMENT RESULTS

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 ANSI C63.10.
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.

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A.2. Transmitter Spurious Emission

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC 47 CFR Part 15.407	5725MHz~5850MHz	< -27

The measurement is made according to ANSI C63.10 .

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)).

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Measurement Uncertainty:

Frequency Range	Uncertainty(dB)
f ≤ 1GHz	3.9
f>1GHz	4.3

Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	149	1 GHz ~ 6 GHz	Fig.1	P
		6 GHz ~ 18 GHz	Fig.2	P
	157	30 MHz ~1 GHz	Fig.3	P
		1 GHz ~ 6 GHz	Fig.4	P
		6 GHz ~ 18 GHz	Fig.5	P
		18 GHz ~ 26.5 GHz	Fig.6	P
		26.5 GHz~ 40 GHz	Fig.7	P
	165	1 GHz ~ 6 GHz	Fig.8	P
		6 GHz ~ 18 GHz	Fig.9	P

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802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	149	1 GHz ~ 6 GHz	Fig.10	P
		6 GHz ~ 18 GHz	Fig.11	P
	157	30 MHz ~1 GHz	Fig.12	P
		1 GHz ~ 6 GHz	Fig.13	P
		6 GHz ~ 18 GHz	Fig.14	P
		18 GHz ~ 26.5 GHz	Fig.15	P
		26.5 GHz~ 40 GHz	Fig.16	P
	165	1 GHz ~ 6 GHz	Fig.17	P
		6 GHz ~ 18 GHz	Fig.18	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	151	30 MHz ~1 GHz	Fig.19	P
		1 GHz ~ 6 GHz	Fig.20	P
		6 GHz ~ 18 GHz	Fig.21	P
		18 GHz ~ 26.5 GHz	Fig.22	P
		26.5 GHz~ 40 GHz	Fig.23	P
	159	1 GHz ~ 6 GHz	Fig.24	P
		6 GHz ~ 18 GHz	Fig.25	P

802.11ac-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT20)	149	1 GHz ~ 6 GHz	Fig.26	P
		6 GHz ~ 18 GHz	Fig.27	P
	157	30 MHz ~1 GHz	Fig.28	P
		1 GHz ~ 6 GHz	Fig.29	P
		6 GHz ~ 18 GHz	Fig.30	P
		18 GHz ~ 26.5 GHz	Fig.31	P
		26.5 GHz~ 40 GHz	Fig.32	P
	165	1 GHz ~ 6 GHz	Fig.33	P
		6 GHz ~ 18 GHz	Fig.34	P

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802.11ac-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT40)	151	30 MHz ~1 GHz	Fig.35	P
		1 GHz ~6 GHz	Fig.36	P
		6 GHz ~ 18 GHz	Fig.37	P
		18 GHz ~ 26.5 GHz	Fig.38	P
		26.5 GHz~ 40 GHz	Fig.39	P
	159	1 GHz ~ 6 GHz	Fig.40	P
		6 GHz ~ 18 GHz	Fig.41	P

802.11ac-HT80 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11ac (HT80)	155	30 MHz ~1 GHz	Fig.42	P
		1 GHz ~ 6 GHz	Fig.43	P
		6 GHz ~ 18 GHz	Fig.44	P
		18 GHz ~ 26.5 GHz	Fig.45	P
		26.5 GHz~ 40 GHz	Fig.46	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.

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802.11a

Ch149

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5724.720	50.3	-33.8	35.1	49.000	H
17980.400	43.8	-17.7	45.6	15.900	H
17989.600	43.5	-17.7	45.6	15.600	V
17985.600	43.5	-17.7	45.6	15.600	H
17978.400	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(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5720.680	62.8	-33.8	35.1	61.500	H
18000.000	54.8	-45.6	44.5	55.866	H
17975.200	54.5	-17.7	45.6	26.600	V
17994.400	54.5	-17.7	45.6	26.600	H
17976.000	54.4	-17.7	45.6	26.500	H
17972.000	54.2	-17.7	45.6	26.300	H

Ch157

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17992.800	43.5	-17.7	45.6	15.600	H
17986.400	43.5	-17.7	45.6	15.600	H
17994.800	43.5	-17.7	45.6	15.600	V
17991.600	43.4	-17.7	45.6	15.500	H
17967.200	43.4	-17.7	45.6	15.500	H
17985.600	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17872.000	54.8	-18.5	45.6	27.700	H
17892.800	54.7	-18.5	45.6	27.600	H
17924.800	54.6	-17.7	45.6	26.700	V
17904.800	54.6	-18.5	45.6	27.500	H
17968.400	54.4	-17.7	45.6	26.500	H
17935.600	54.4	-17.7	45.6	26.500	H

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Ch165

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5854.072	50.1	-33.8	35.1	48.800	H
17994.400	43.6	-17.7	45.6	15.700	H
17991.200	43.6	-17.7	45.6	15.700	V
17996.400	43.5	-17.7	45.6	15.600	H
17988.400	43.5	-17.7	45.6	15.600	H
17993.600	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5854.040	64.0	-33.8	35.1	62.700	H
17966.800	54.9	-17.7	45.6	27.000	H
17966.400	54.8	-17.7	45.6	26.900	V
17983.600	54.6	-17.7	45.6	26.700	H
17992.800	54.2	-17.7	45.6	26.300	H
17854.000	54.1	-18.5	45.6	27.000	H

802.11n-HT20

Ch149

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5723.296	50.2	-33.8	35.1	48.900	H
17989.600	43.7	-17.7	45.6	15.800	H
17991.600	43.6	-17.7	45.6	15.700	V
17990.800	43.6	-17.7	45.6	15.700	H
17980.800	43.5	-17.7	45.6	15.600	H
17916.800	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5723.880	63.4	-33.8	35.1	62.100	H
17972.400	55.0	-17.7	45.6	27.100	H
17849.600	54.9	-18.5	45.6	27.800	V
17982.400	54.9	-17.7	45.6	27.000	H
17995.600	54.8	-17.7	45.6	26.900	H
17954.400	54.5	-17.7	45.6	26.600	H

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Ch157

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17981.600	43.6	-17.7	45.6	15.700	H
17991.200	43.6	-17.7	45.6	15.700	H
17972.400	43.6	-17.7	45.6	15.700	V
17981.200	43.6	-17.7	45.6	15.700	H
17990.800	43.5	-17.7	45.6	15.600	H
17996.800	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17983.600	54.7	-17.7	45.6	26.800	H
17983.200	54.6	-17.7	45.6	26.700	H
17907.200	54.4	-18.5	45.6	27.300	V
17911.600	54.4	-18.5	45.6	27.300	H
17991.600	54.3	-17.7	45.6	26.400	H
17863.200	54.3	-18.5	45.6	27.200	H

Ch165

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5850.224	52.7	-33.8	35.1	51.400	H
17974.800	43.8	-17.7	45.6	15.900	H
17972.000	43.7	-17.7	45.6	15.800	V
17992.400	43.5	-17.7	45.6	15.600	H
17986.400	43.5	-17.7	45.6	15.600	H
17990.800	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5850.128	66.2	-33.8	35.1	64.900	H
17859.200	54.6	-18.5	45.6	27.500	H
17979.200	54.5	-17.7	45.6	26.600	V
17949.200	54.4	-17.7	45.6	26.500	H
17884.400	54.4	-18.5	45.6	27.300	H
17972.800	54.3	-17.7	45.6	26.400	H

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802.11n-HT40

Ch151

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5712.856	50.6	-33.8	35.1	49.300	H
17999.600	43.6	-17.7	45.6	15.700	H
17982.000	43.5	-17.7	45.6	15.600	V
17994.800	43.5	-17.7	45.6	15.600	H
17968.400	43.3	-17.7	45.6	15.400	H
17999.200	43.3	-17.7	45.6	15.400	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5707.816	63.4	-33.8	35.1	62.100	H
17893.200	54.7	-18.5	45.6	27.600	H
17972.000	54.2	-17.7	45.6	26.300	V
17977.600	54.1	-17.7	45.6	26.200	H
17932.400	54.1	-17.7	45.6	26.200	H
17875.600	54.1	-18.5	45.6	27.000	H

Ch159

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5853.880	50.6	-33.8	35.1	49.300	H
11590.000	51.1	-22.7	39.6	34.200	H
11589.600	50.6	-22.7	39.6	33.700	V
11592.800	50.5	-22.7	39.6	33.600	H
11588.400	50.3	-22.7	39.6	33.400	H
11590.400	50.2	-22.7	39.6	33.300	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5862.008	62.9	-33.8	35.1	61.600	H
11590.000	65.2	-22.7	39.6	48.300	H
11583.600	63.1	-22.7	39.6	46.200	V
11589.600	62.9	-22.7	39.6	46.000	H
11584.000	61.4	-22.7	39.6	44.500	H
11598.800	61.4	-22.7	39.6	44.500	H

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802.11ac-HT20

Ch149

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5724.880	50.5	-33.8	35.1	49.200	H
17999.200	43.9	-17.7	45.6	16.000	H
17956.400	43.6	-17.7	45.6	15.700	V
17994.400	43.6	-17.7	45.6	15.700	H
17991.600	43.5	-17.7	45.6	15.600	H
17987.200	43.5	-17.7	45.6	15.600	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5711.608	63.0	-33.8	35.1	61.700	H
17996.800	54.9	-17.7	45.6	27.000	H
17971.200	54.6	-17.7	45.6	26.700	V
17957.200	54.4	-17.7	45.6	26.500	H
17989.200	54.4	-17.7	45.6	26.500	H
17986.400	54.3	-17.7	45.6	26.400	H

Ch157

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	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

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17838.000	54.7	-18.5	45.6	27.600	H
17873.600	54.4	-18.5	45.6	27.300	H
17971.200	54.3	-17.7	45.6	26.400	V
17988.800	54.3	-17.7	45.6	26.400	H
17795.600	54.3	-18.5	45.6	27.200	H
17982.800	54.3	-17.7	45.6	26.400	H

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Ch165

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5850.688	51.8	-33.8	35.1	50.500	H
17994.800	43.5	-17.7	45.6	15.600	H
17979.200	43.5	-17.7	45.6	15.600	V
17961.600	43.4	-17.7	45.6	15.500	H
17988.000	43.4	-17.7	45.6	15.500	H
17968.800	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5850.020	65.5	-33.8	35.1	64.200	H
17992.800	54.9	-17.7	45.6	27.000	H
17992.400	54.8	-17.7	45.6	26.900	V
17965.600	54.6	-17.7	45.6	26.700	H
17996.400	54.5	-17.7	45.6	26.600	H
17982.800	54.4	-17.7	45.6	26.500	H

802.11ac-HT40

Ch151

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5714.800	50.7	-33.8	35.1	49.400	H
17996.800	43.4	-17.7	45.6	15.500	H
17980.400	43.4	-17.7	45.6	15.500	V
17999.200	43.4	-17.7	45.6	15.500	H
17988.800	43.4	-17.7	45.6	15.500	H
17981.200	43.4	-17.7	45.6	15.500	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5689.480	63.1	-34.2	35.1	62.200	H
17852.000	54.7	-18.5	45.6	27.600	H
17988.000	54.5	-17.7	45.6	26.600	V
17832.000	54.3	-18.5	45.6	27.200	H
17991.200	54.2	-17.7	45.6	26.300	H
17985.600	54.1	-17.7	45.6	26.200	H

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Ch159

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5852.768	50.8	-33.8	35.1	49.500	H
11591.600	51.3	-22.7	39.6	34.400	H
11594.400	51.2	-22.7	39.6	34.300	V
11592.000	51.1	-22.7	39.6	34.200	H
11594.800	51.0	-22.7	39.6	34.100	H
11587.200	51.0	-22.7	39.6	34.100	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5868.832	63.3	-33.8	35.1	62.000	H
11604.000	63.2	-22.7	39.6	46.300	H
11604.400	63.0	-22.7	39.6	46.100	V
11601.600	62.6	-22.7	39.6	45.700	H
11585.200	62.5	-22.7	39.6	45.600	H
11594.000	62.0	-22.7	39.6	45.100	H

802.11ac-HT80

Ch155

Average

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
11566.400	48.4	-22.7	39.6	31.500	H
11561.600	48.3	-22.7	39.6	31.400	H
11579.200	48.1	-22.7	39.6	31.200	V
11566.800	48.0	-22.7	39.6	31.100	H
11576.800	47.9	-22.7	39.6	31.000	H
11589.600	47.9	-22.7	39.6	31.000	H

Peak

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
11570.400	62.1	-22.7	39.6	45.200	H
11582.000	61.1	-22.7	39.6	44.200	H
11564.800	60.9	-22.7	39.6	44.000	V
11592.000	60.8	-22.7	39.6	43.900	H
11589.600	60.1	-22.7	39.6	43.200	H
11566.800	60.1	-22.7	39.6	43.200	H

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Test graphs as below:

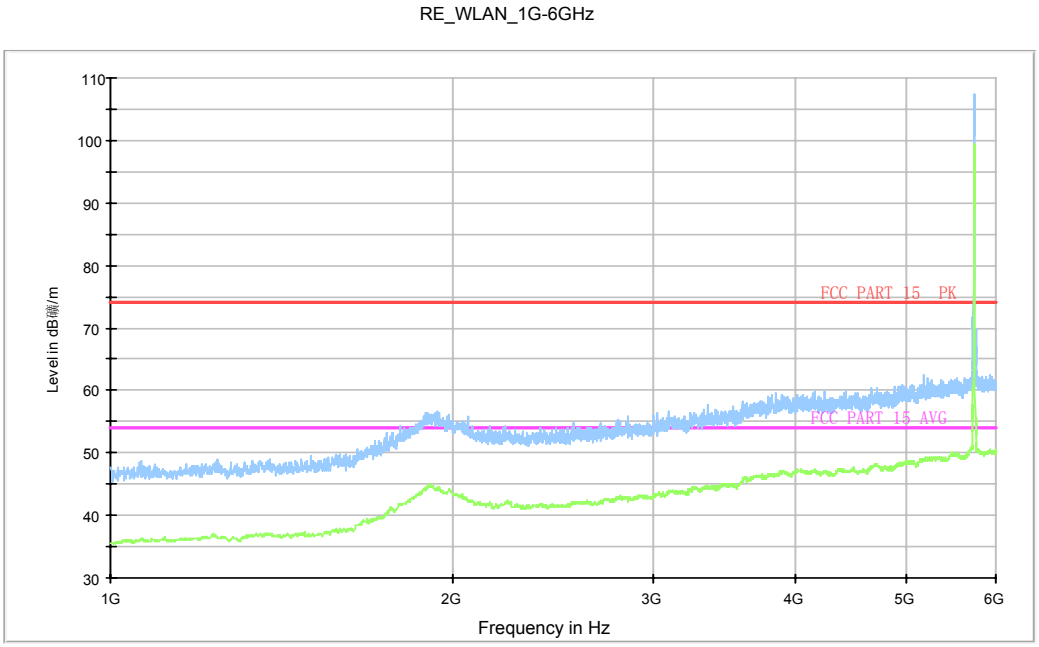

Fig. 1 Radiated Spurious Emission (802.11a, Ch149, 1 GHz-6 GHz)

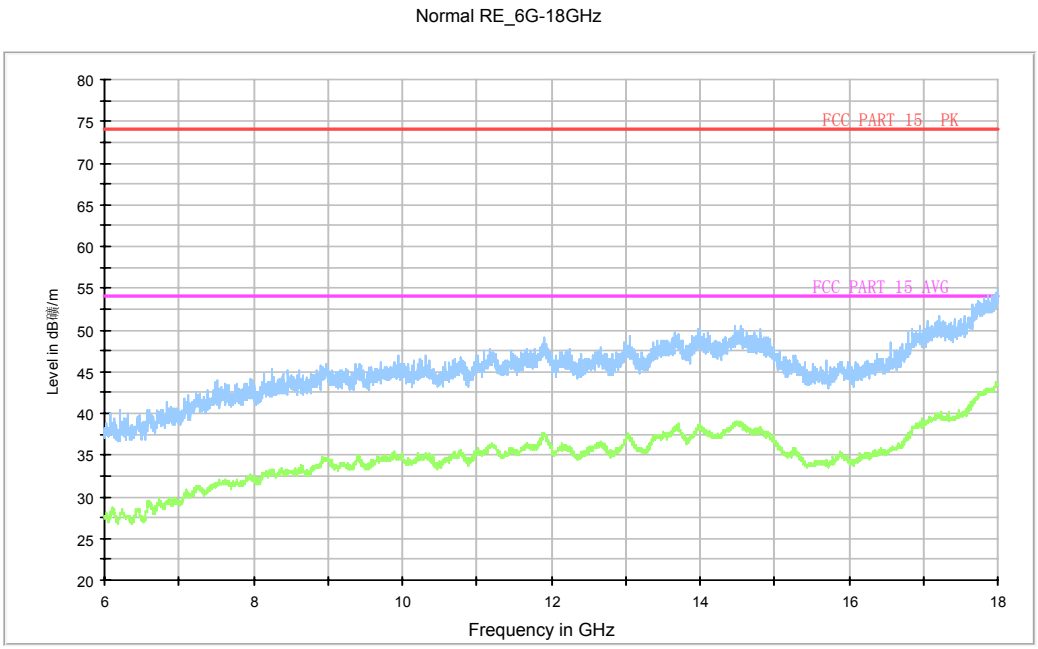

Fig. 2 Radiated Spurious Emission (802.11a, Ch149, 6 GHz-18 GHz)

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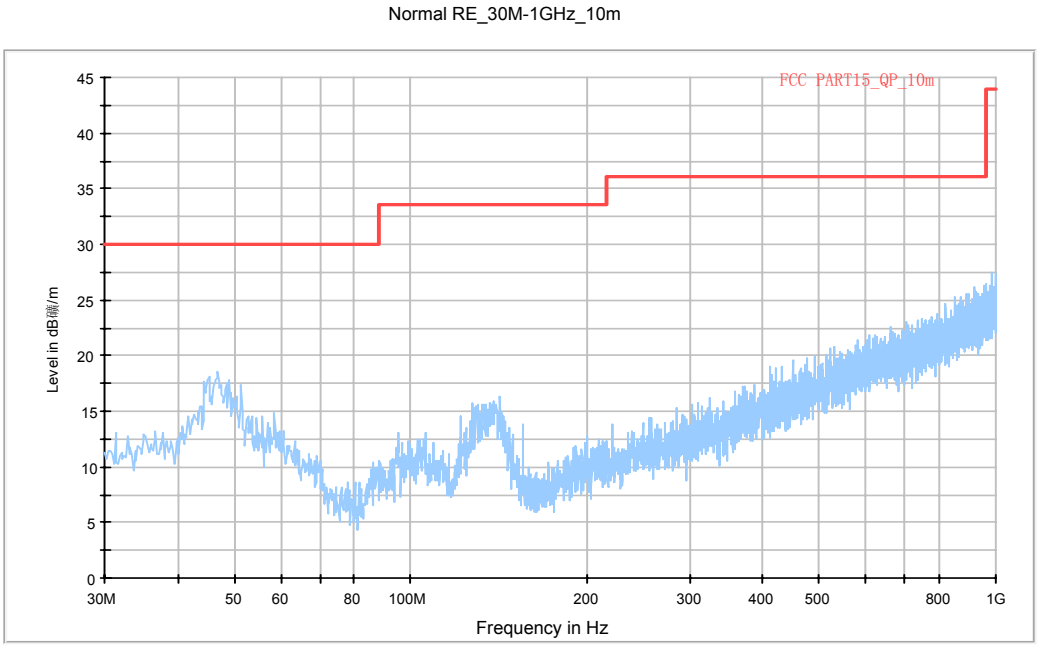

Fig. 3 Radiated Spurious Emission (802.11a, Ch157, 30 MHz-1 GHz)

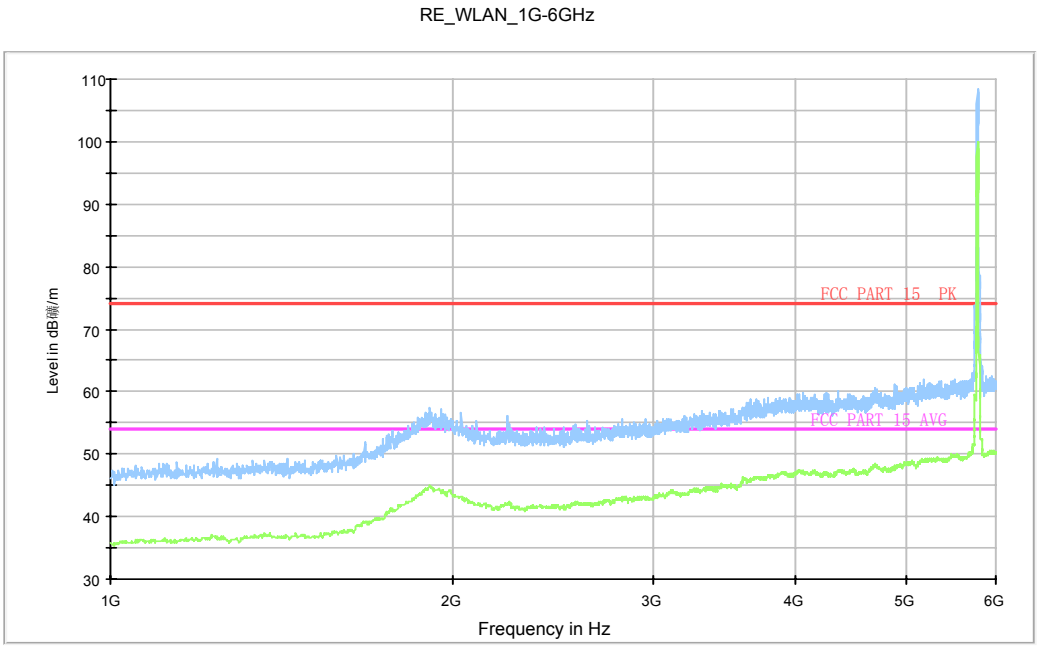

Fig. 4 Radiated Spurious Emission (802.11a, Ch157, 1 GHz-6 GHz)

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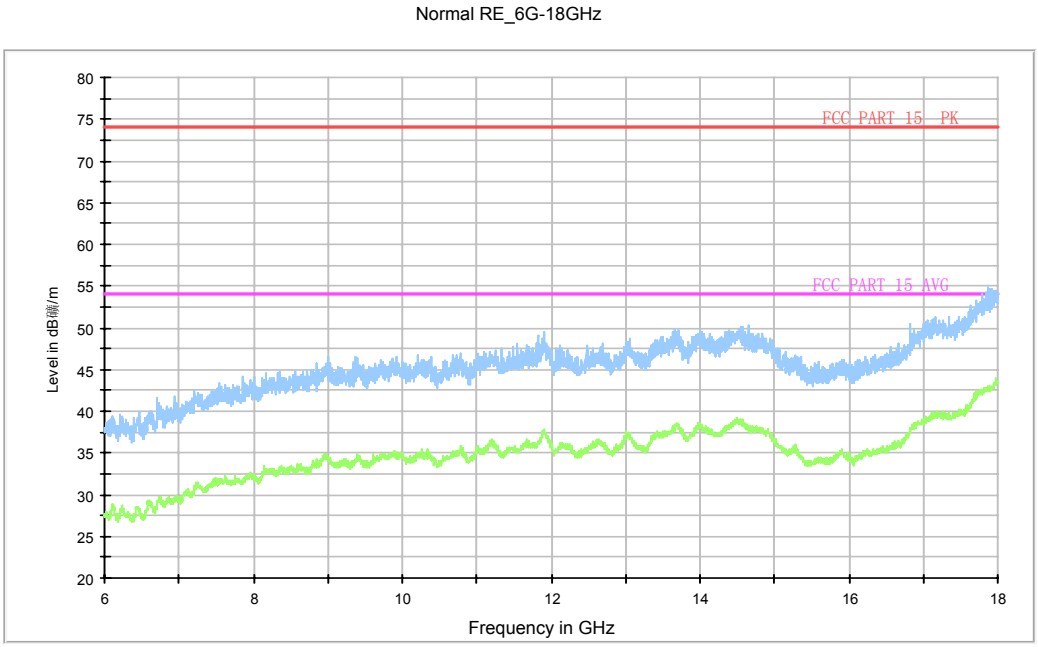

Fig. 5 Radiated Spurious Emission (802.11a, Ch157, 6 GHz-18GHz)

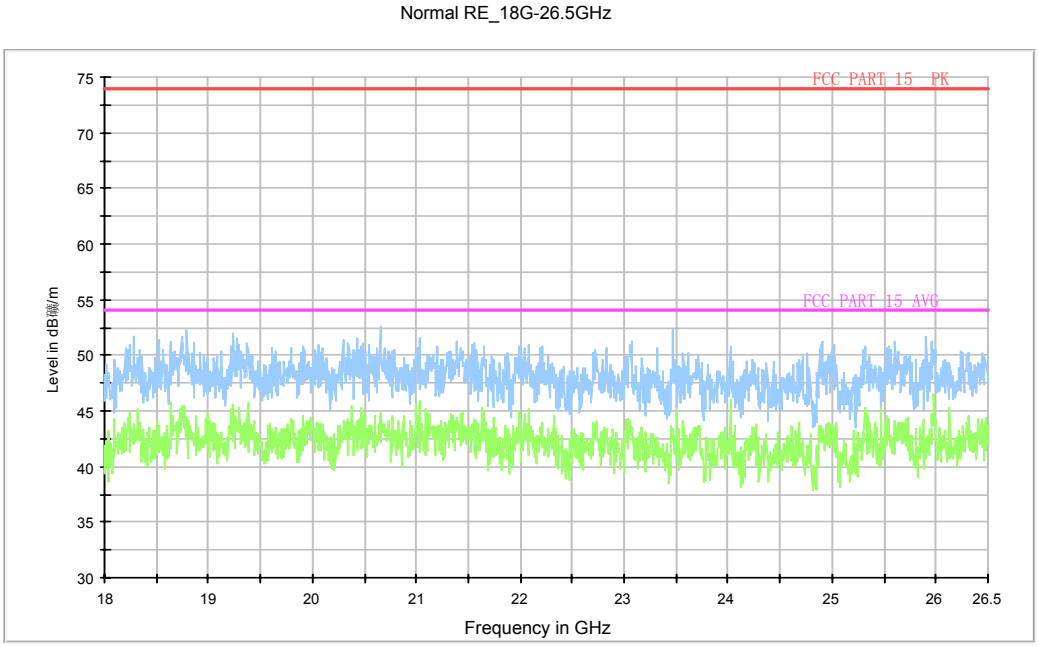

Fig. 6 Radiated Spurious Emission (802.11a, Ch157, 18 GHz-26.5 GHz)

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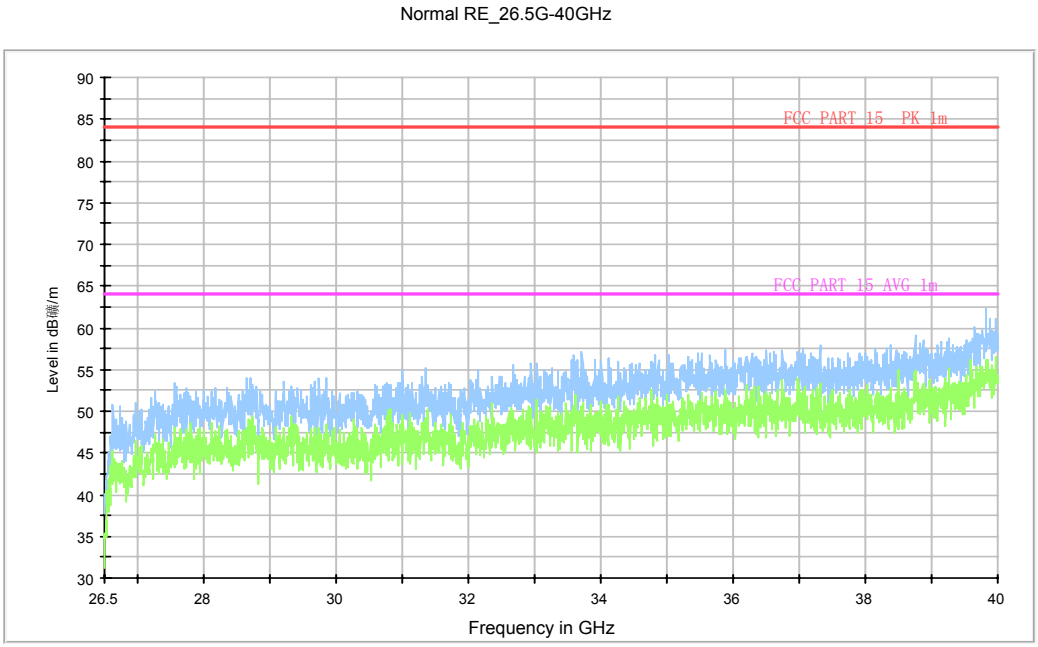

Fig. 7 Radiated emission: 802.11n, (802.11a, Ch157, 26.5 GHz - 40 GHz)

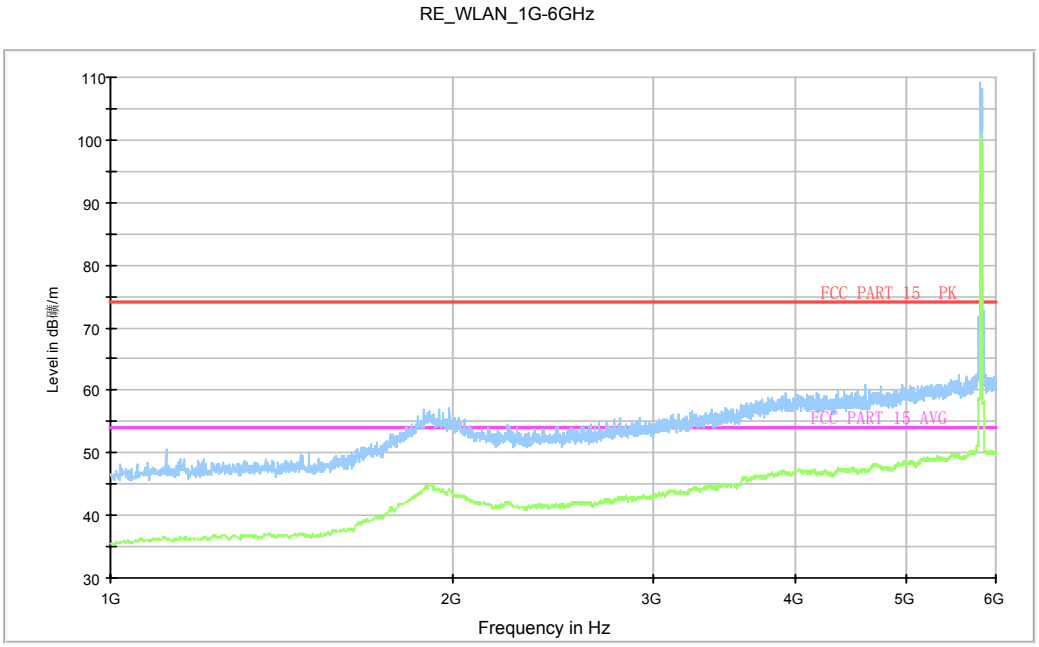

Fig. 8 Radiated Spurious Emission (802.11a, Ch165, 1 GHz-6 GHz)

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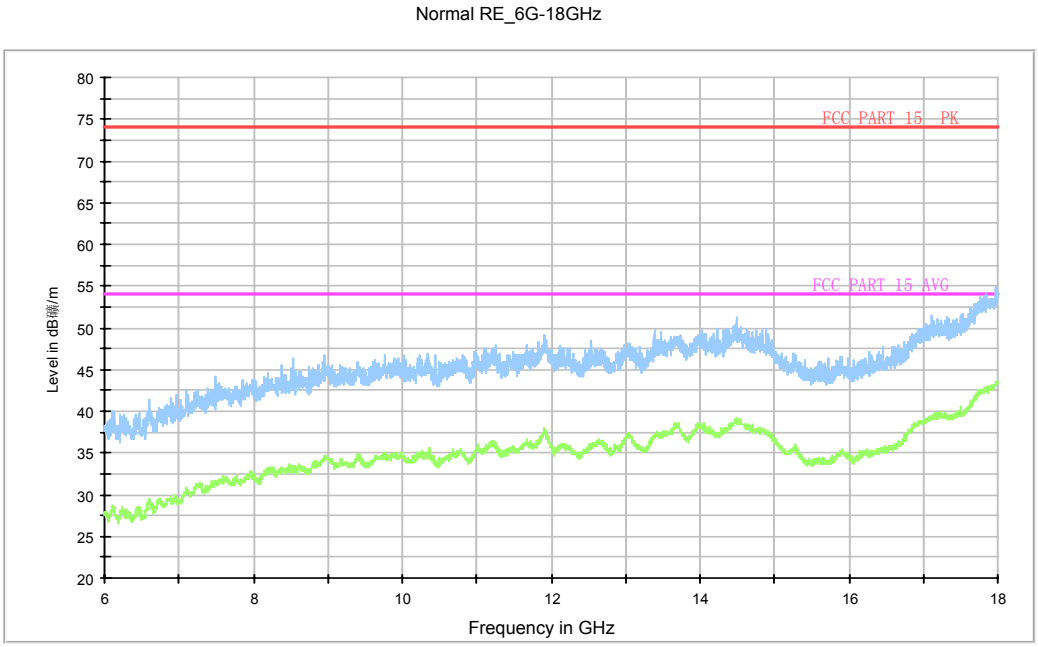

Fig. 9 Radiated Spurious Emission (802.11a, Ch165, 6 GHz-18 GHz)

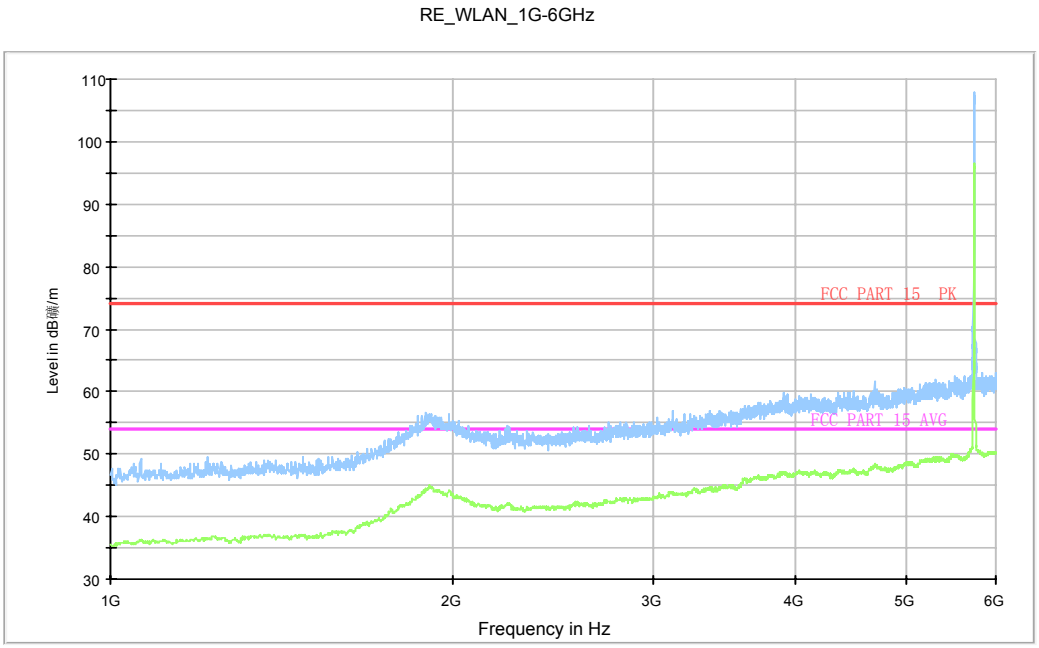

Fig. 10 Radiated Spurious Emission (802.11n-HT20, Ch149, 1 GHz-6 GHz)

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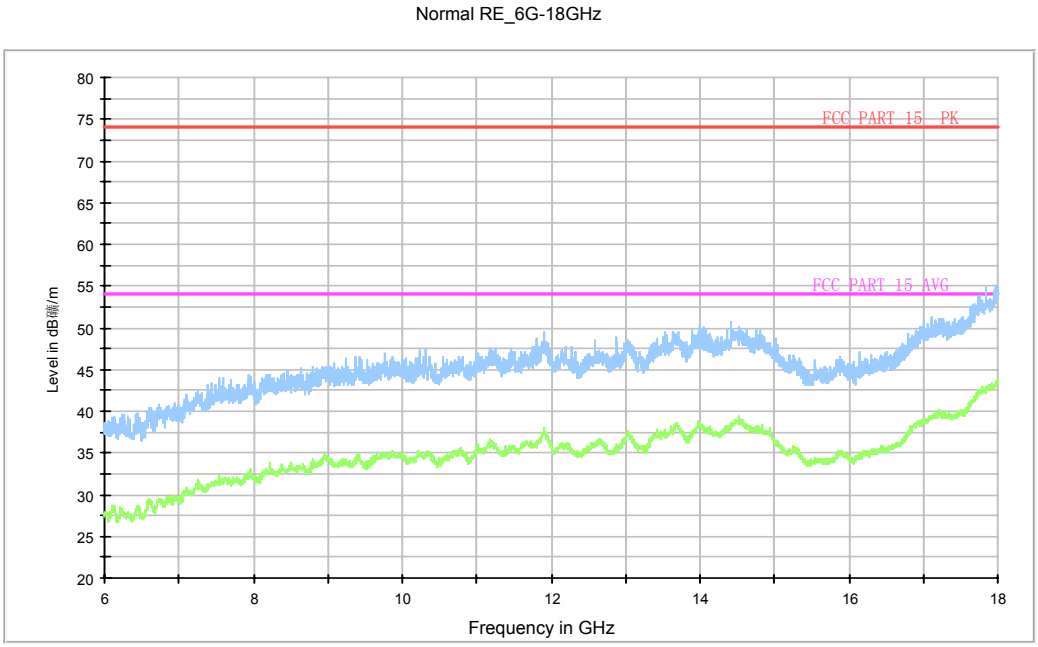

Fig. 11 Radiated Spurious Emission (802.11n-HT20, Ch149, 6 GHz-18 GHz)

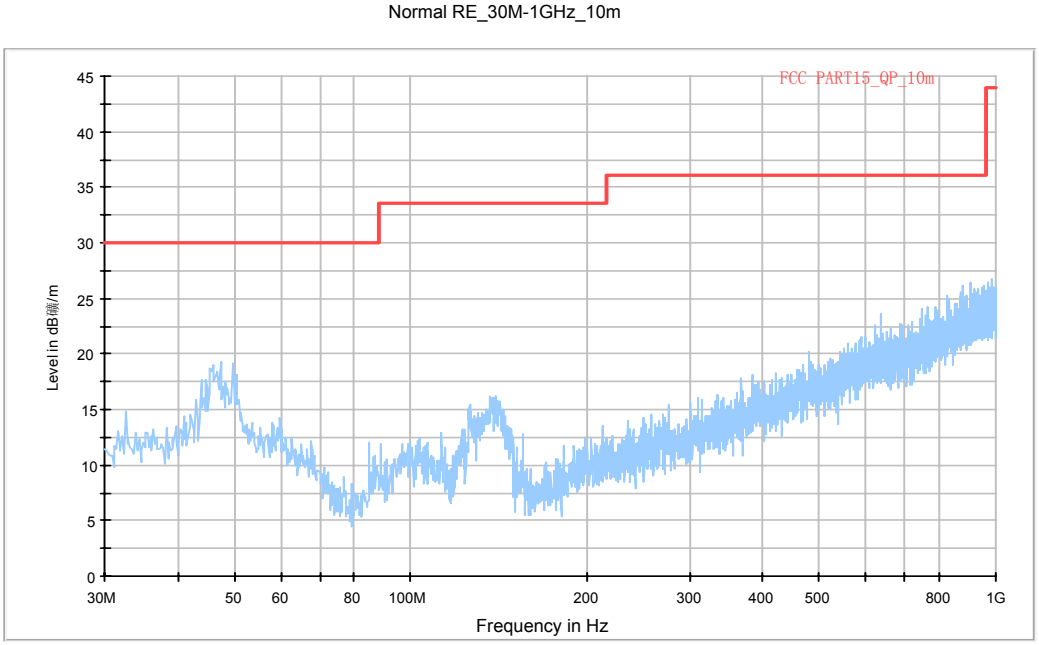

Fig. 12 Radiated Spurious Emission (802.11n-HT20, Ch157, 30 MHz-1 GHz)

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RE_WLAN_1G-6GHz

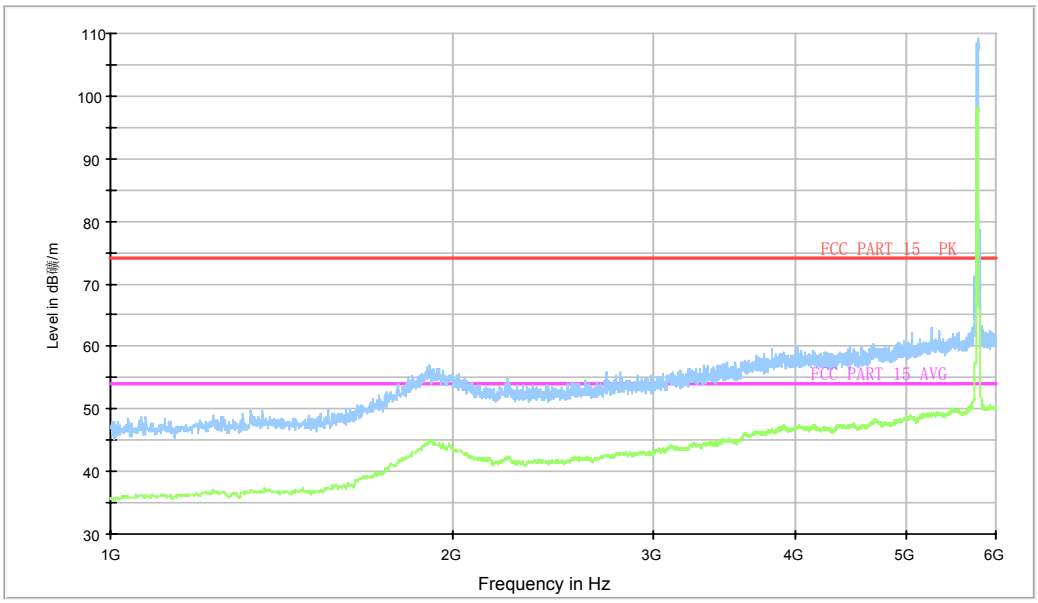

Fig. 13 Radiated Spurious Emission (802.11n-HT20, Ch157, 1 GHz-6 GHz)

Normal RE_6G-18GHz

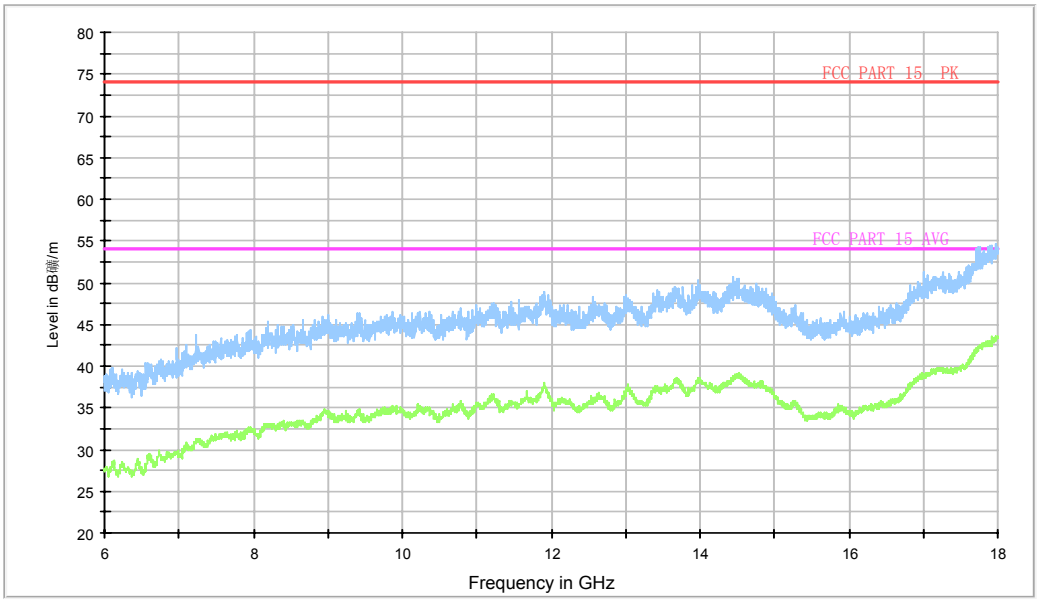

Fig. 14 Radiated Spurious Emission (802.11n-HT20, Ch157, 6 GHz-18 GHz)

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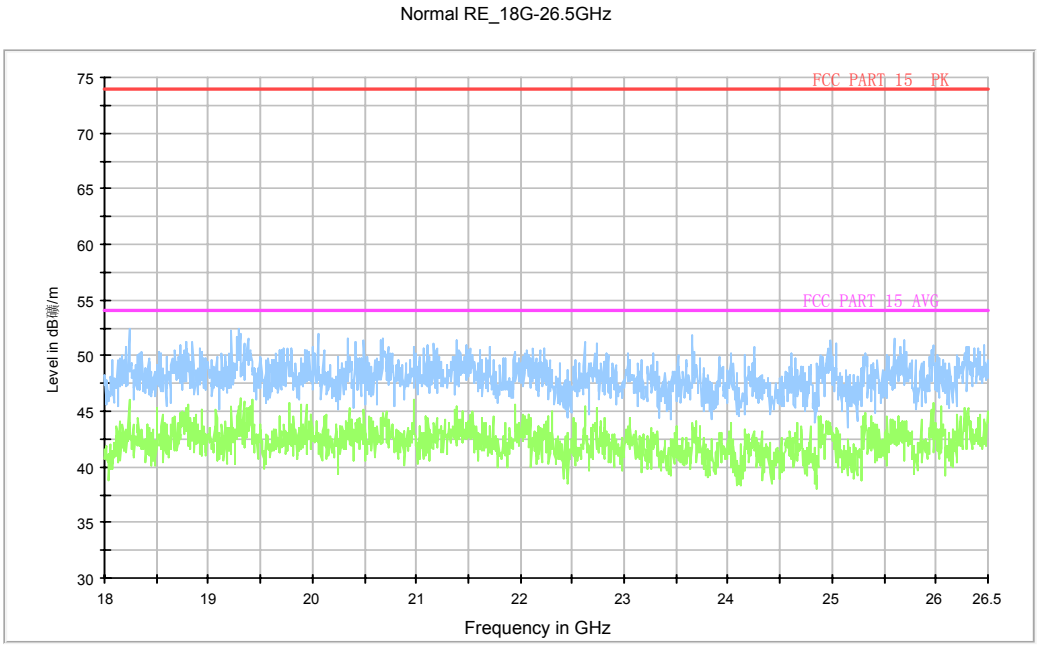

Fig. 15 Radiated Spurious Emission (802.11n-HT20, Ch157, 18 GHz-26.5 GHz)

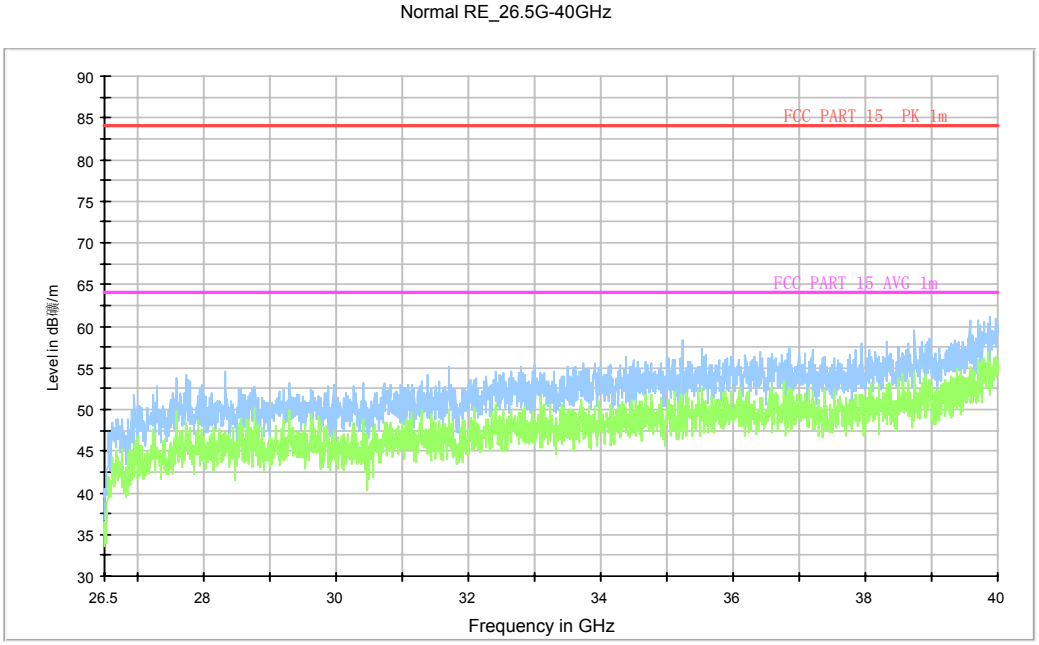

Fig. 16 Radiated emission: 802.11n, (802.11n-HT20, Ch157, 26.5 GHz - 40 GHz)

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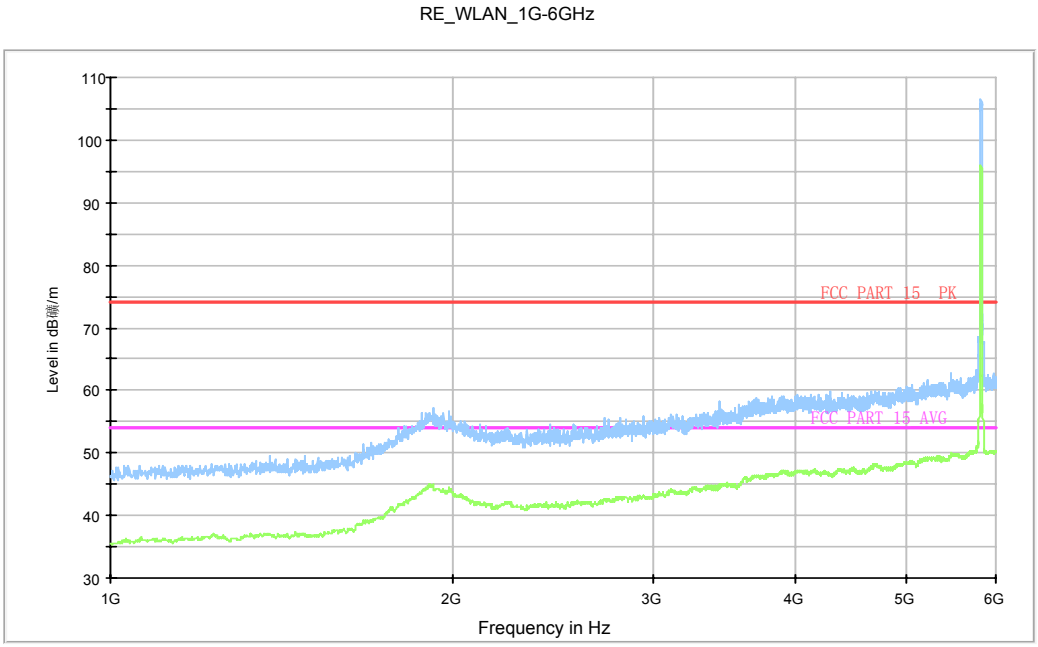

Fig. 17 Radiated Spurious Emission (802.11n-HT20, Ch165, 1 GHz-6 GHz)

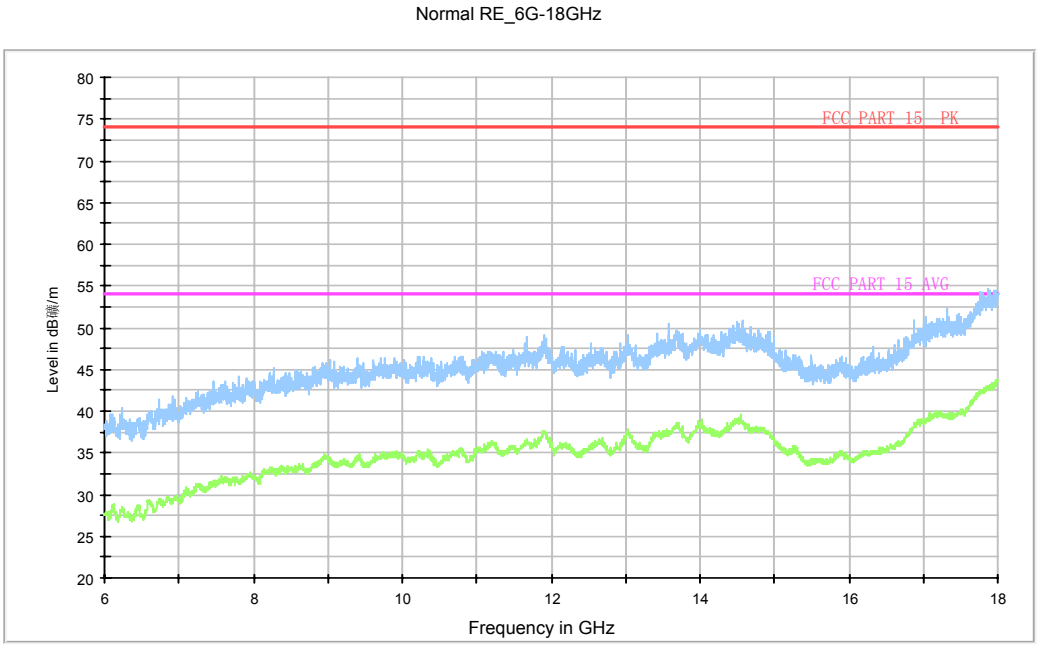

Fig. 18 Radiated Spurious Emission (802.11n-HT20, Ch165, 6 GHz-18 GHz)

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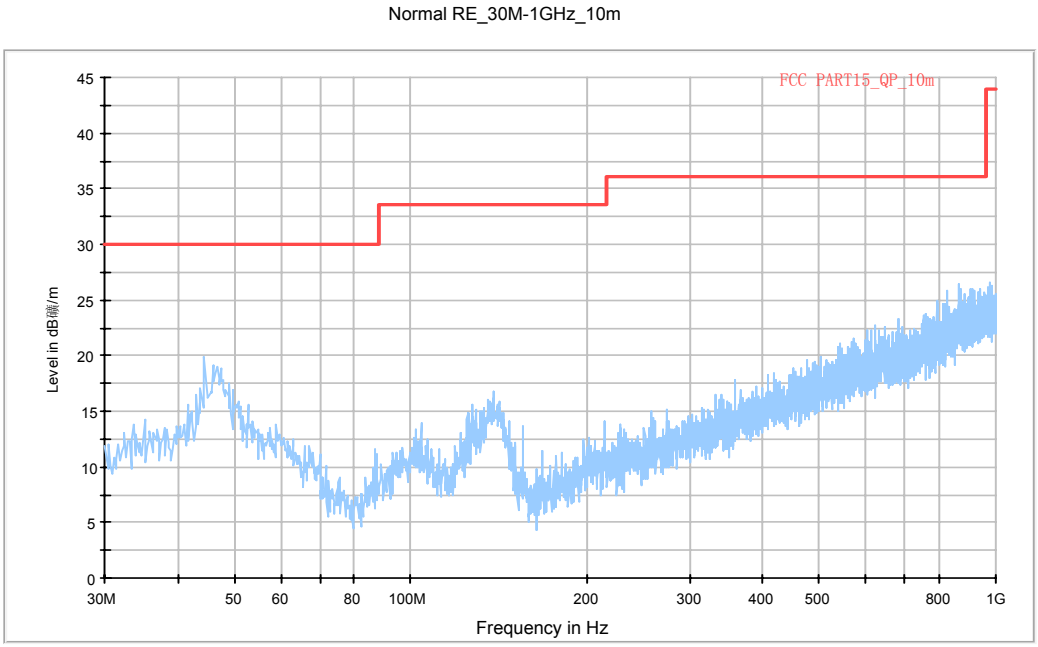

Fig. 19 Radiated Spurious Emission (802.11n-HT40, Ch151, 30 MHz-1 GHz)

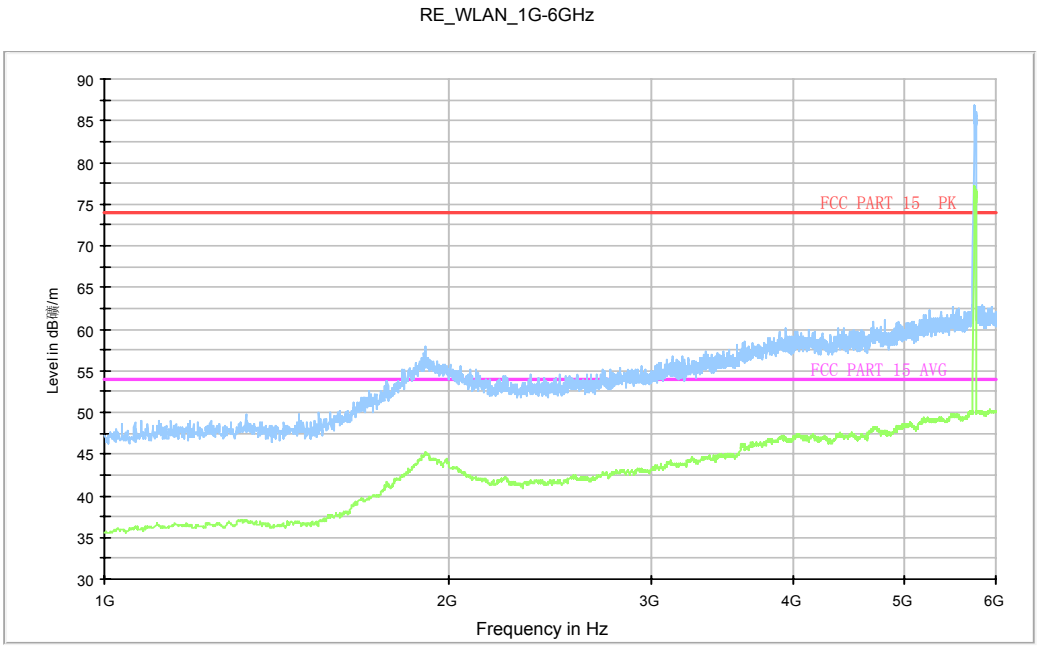

Fig. 20 Radiated Spurious Emission (802.11n-HT40, Ch151, 1 GHz-6GHz)

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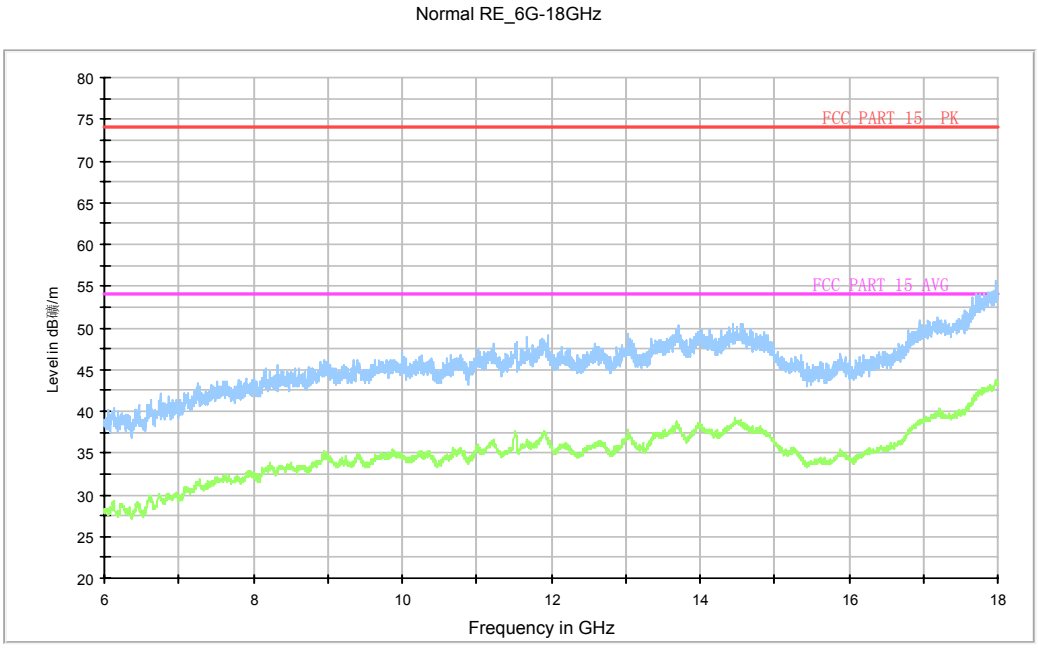

Fig. 21 Radiated Spurious Emission (802.11n-HT40, Ch151, 6 GHz-18 GHz)

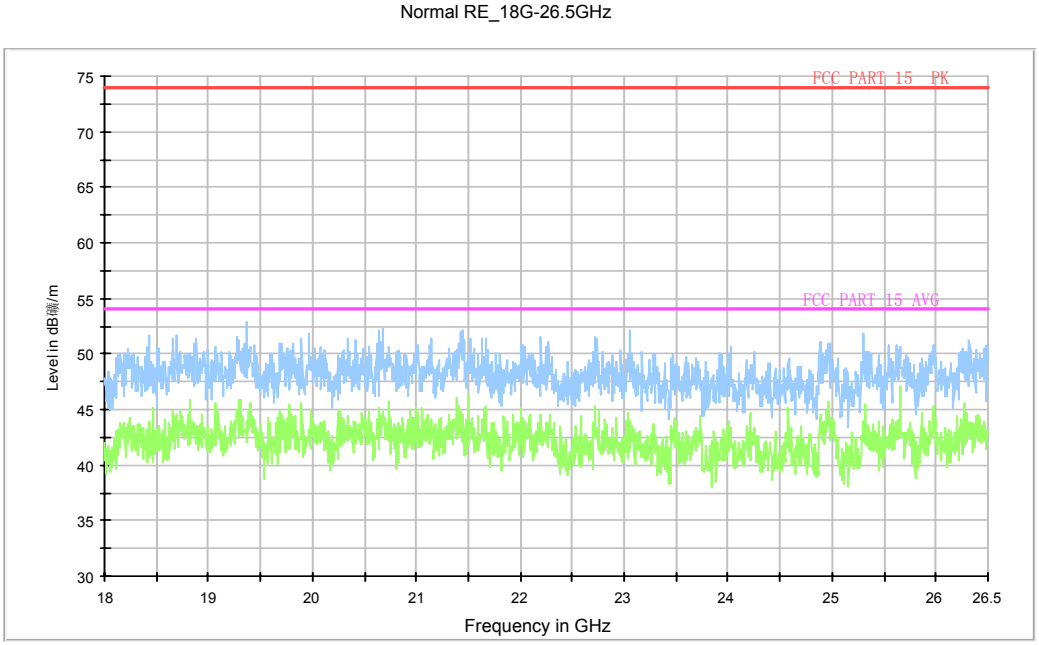

Fig. 22 Radiated Spurious Emission (802.11n-HT40, Ch151, 18 GHz-26.5 GHz)

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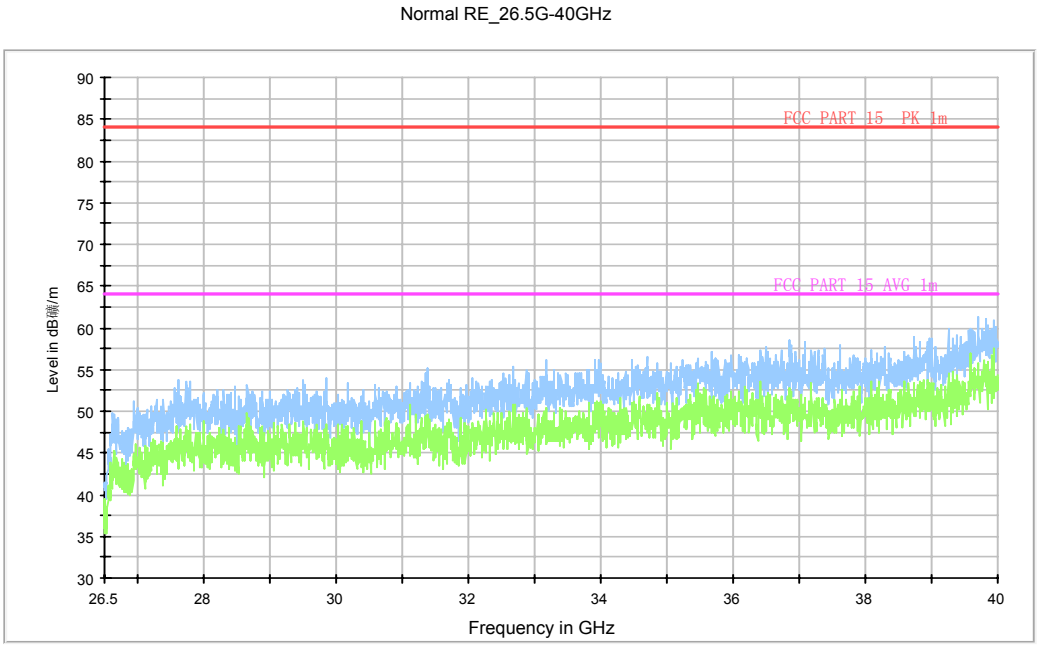

Fig. 23 Radiated emission: 802.11n, (802.11n-HT40, Ch151, 26.5 GHz - 40 GHz)

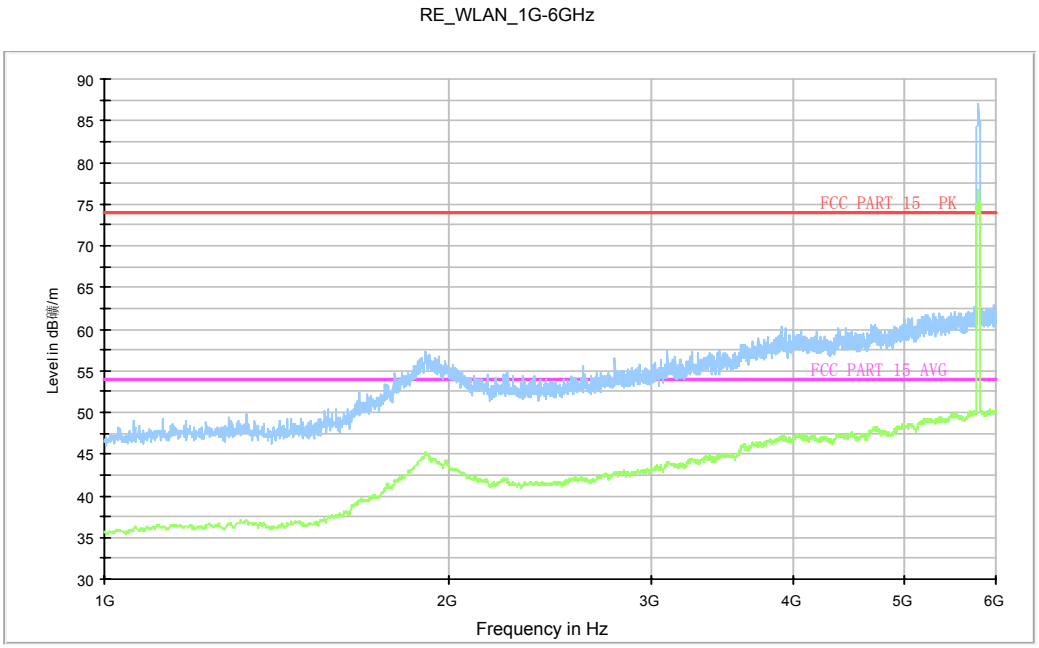

Fig. 24 Radiated Spurious Emission (802.11n-HT40, Ch159 1 GHz-6GHz)

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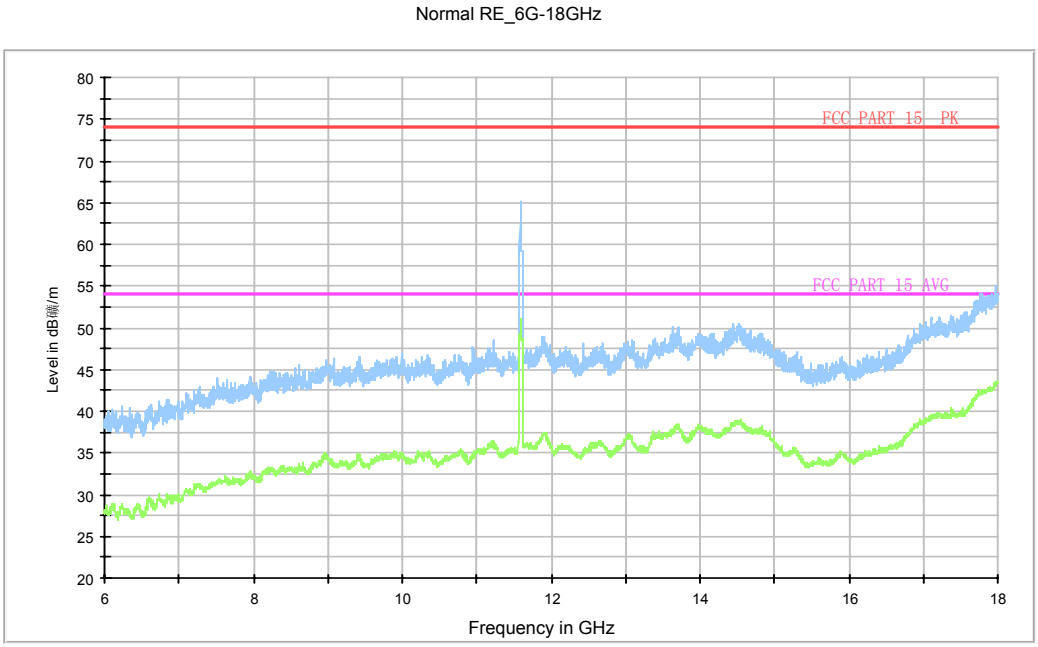

Fig. 25 Radiated Spurious Emission (802.11n-HT40, Ch159, 6 GHz-18 GHz)

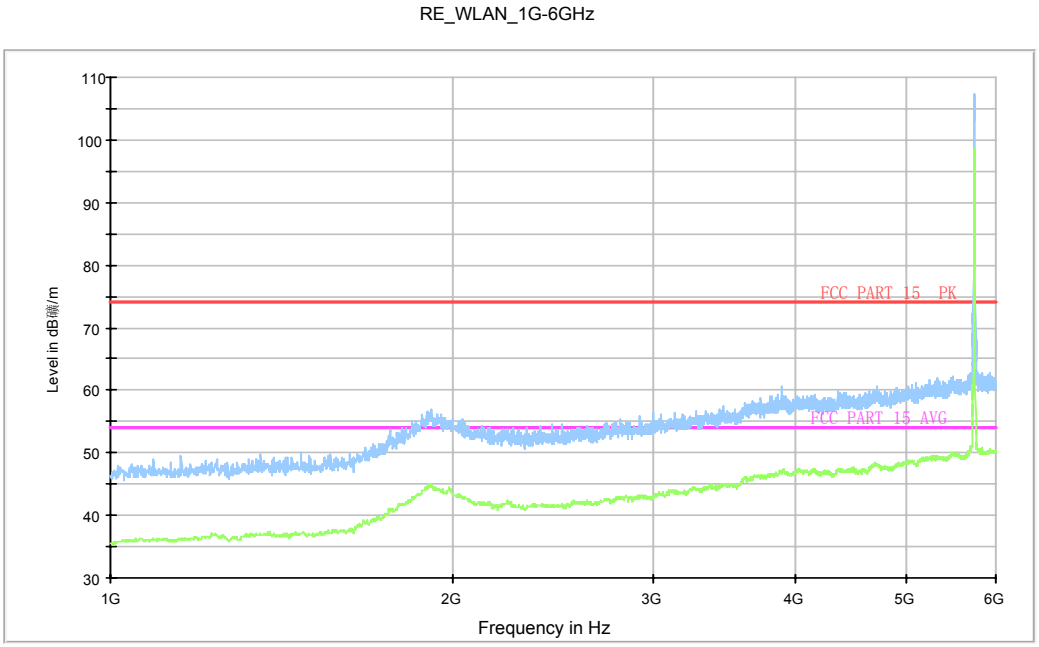

Fig. 26 Radiated Spurious Emission (802.11ac-HT20, Ch149, 1 GHz-6 GHz)

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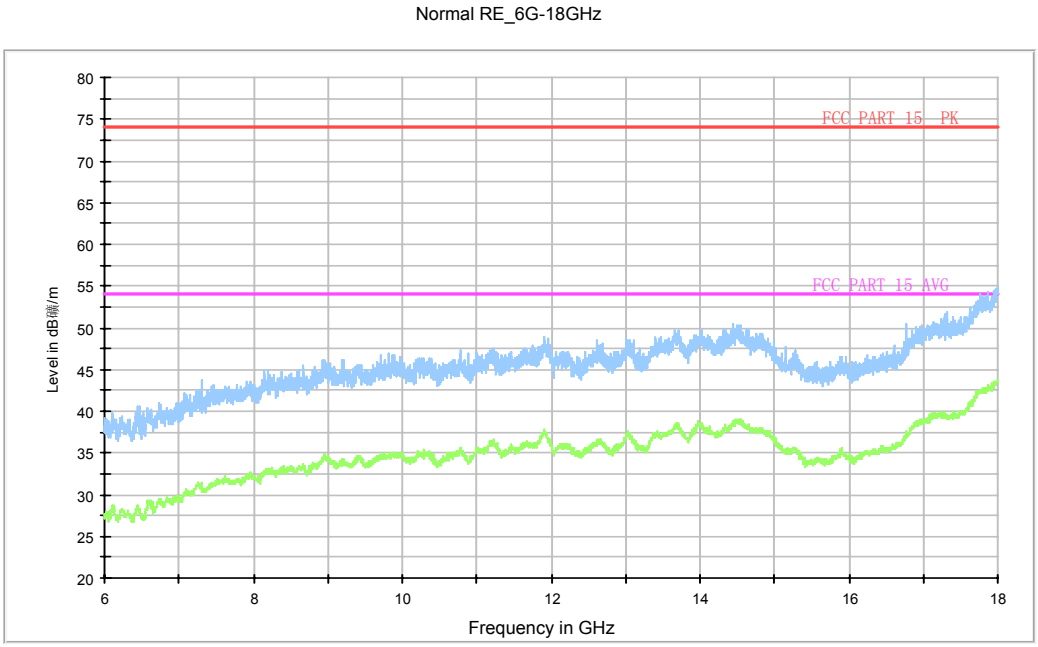

Fig. 27 Radiated Spurious Emission (802.11ac-HT20, Ch149, 6 GHz-18 GHz)

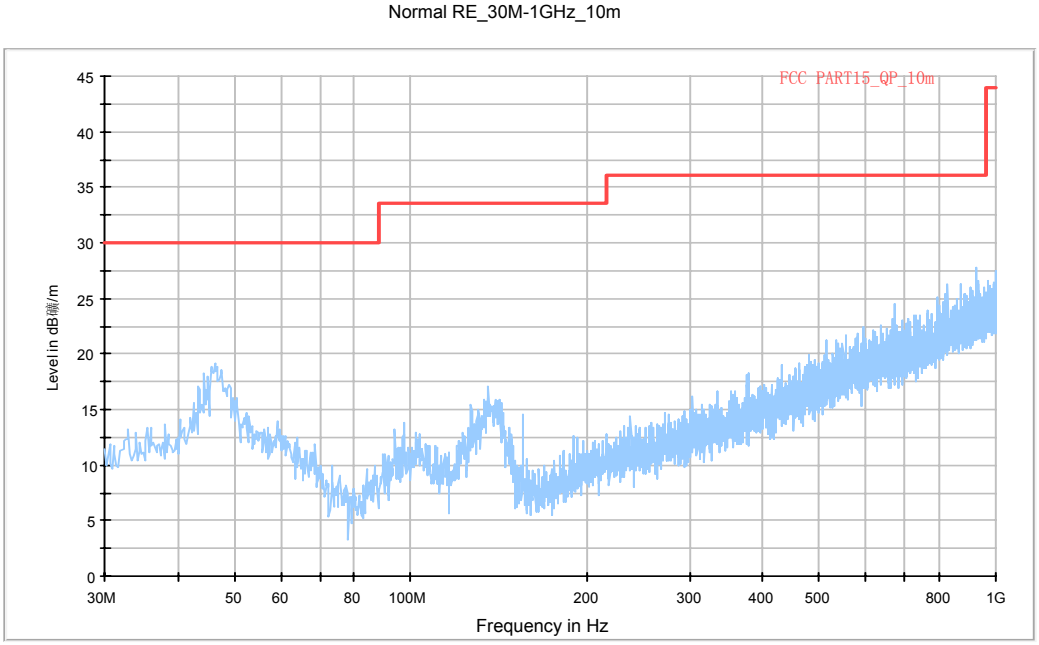

Fig. 28 Radiated Spurious Emission (802.11ac-HT20, Ch157, 30 MHz-1 GHz)

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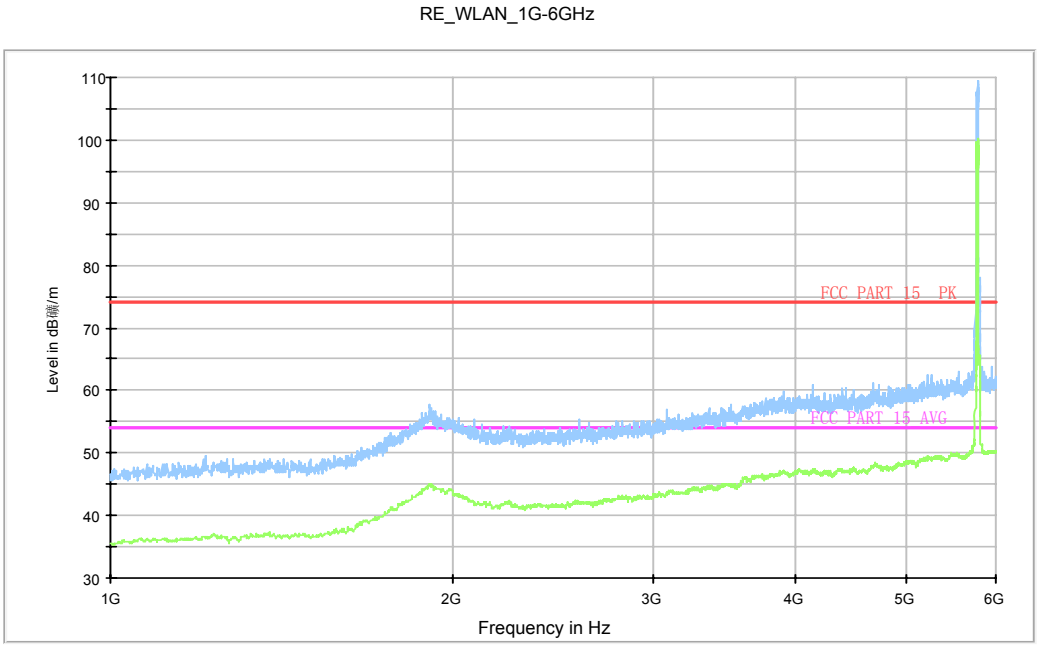

Fig. 29 Radiated Spurious Emission (802.11ac-HT20, Ch157, 1 GHz-6 GHz)

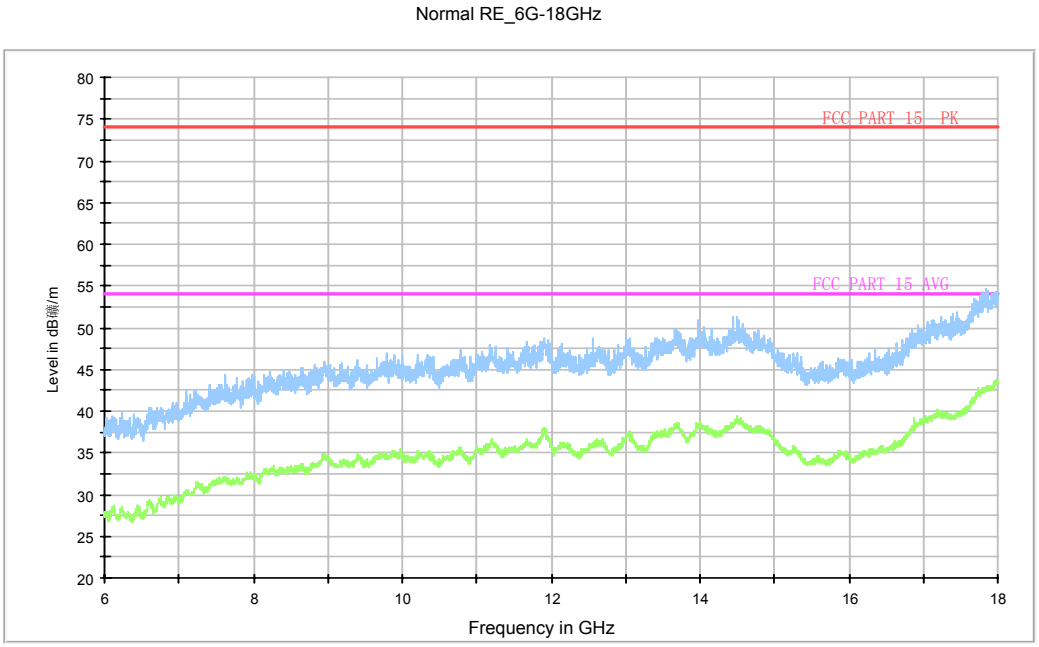

Fig. 30 Radiated Spurious Emission (802.11ac-HT20, Ch157, 6 GHz-18 GHz)

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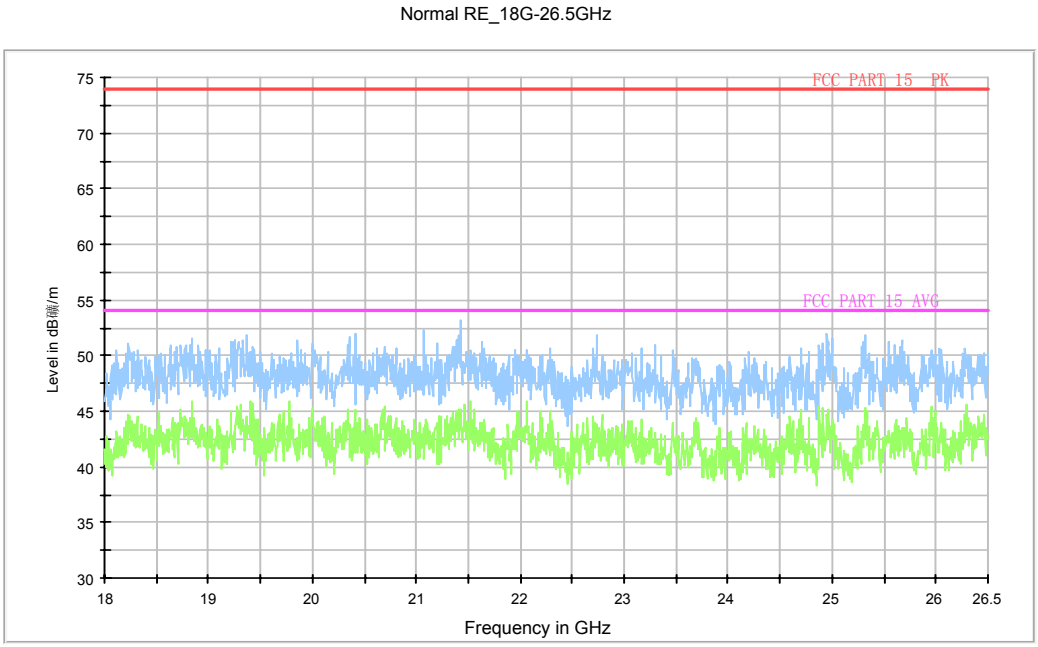

Fig. 31 Radiated Spurious Emission (802.11ac-HT20, Ch157, 18 GHz-26.5 GHz)

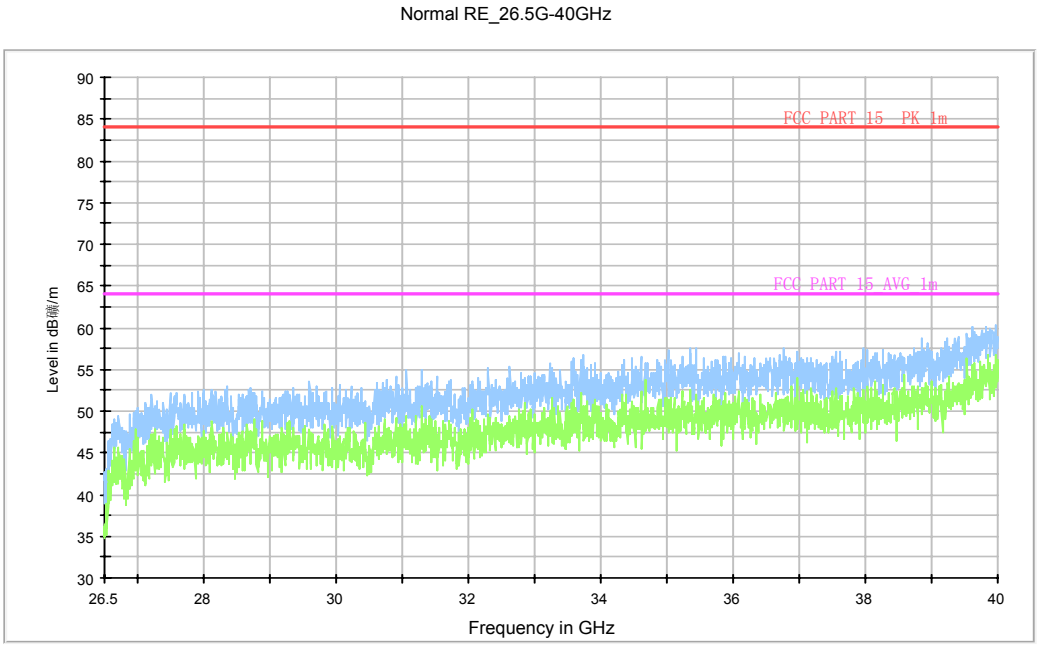

Fig. 32 Radiated emission: 802.11n, (802.11ac-HT20, Ch157, 26.5 GHz - 40 GHz)

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RE_WLAN_1G-6GHz

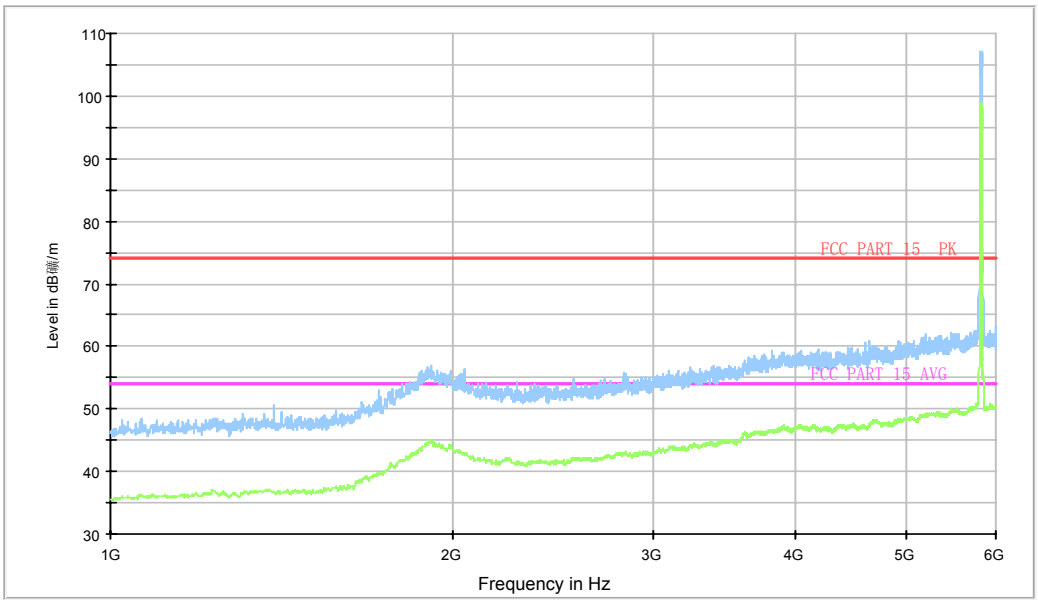

Fig. 33 Radiated Spurious Emission (802.11ac-HT20, Ch165, 1 GHz-6 GHz)

Normal RE_6G-18GHz

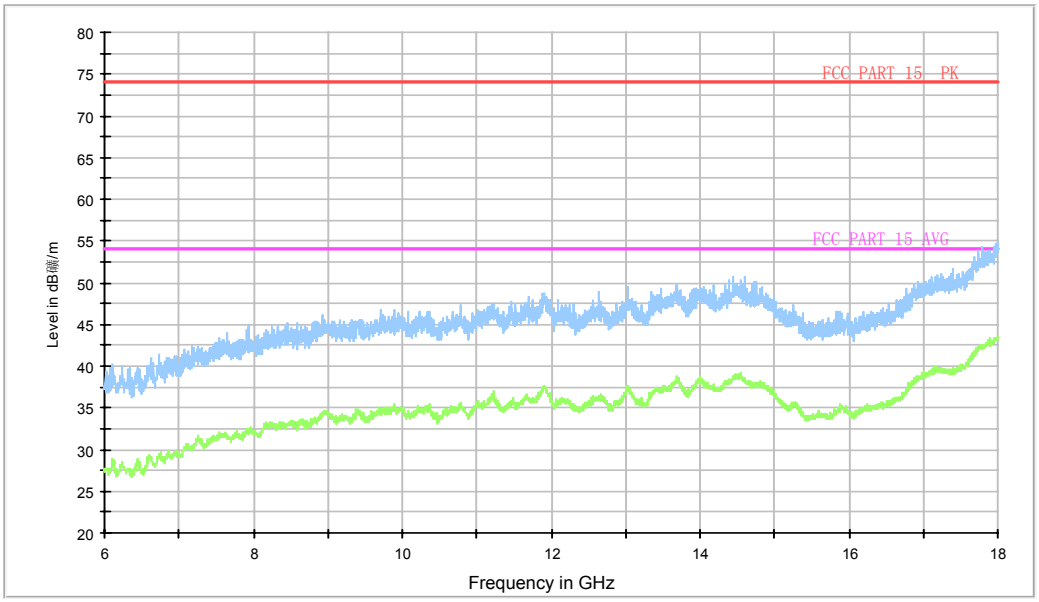

Fig. 34 Radiated Spurious Emission (802.11ac-HT20, Ch165, 6 GHz-18 GHz)

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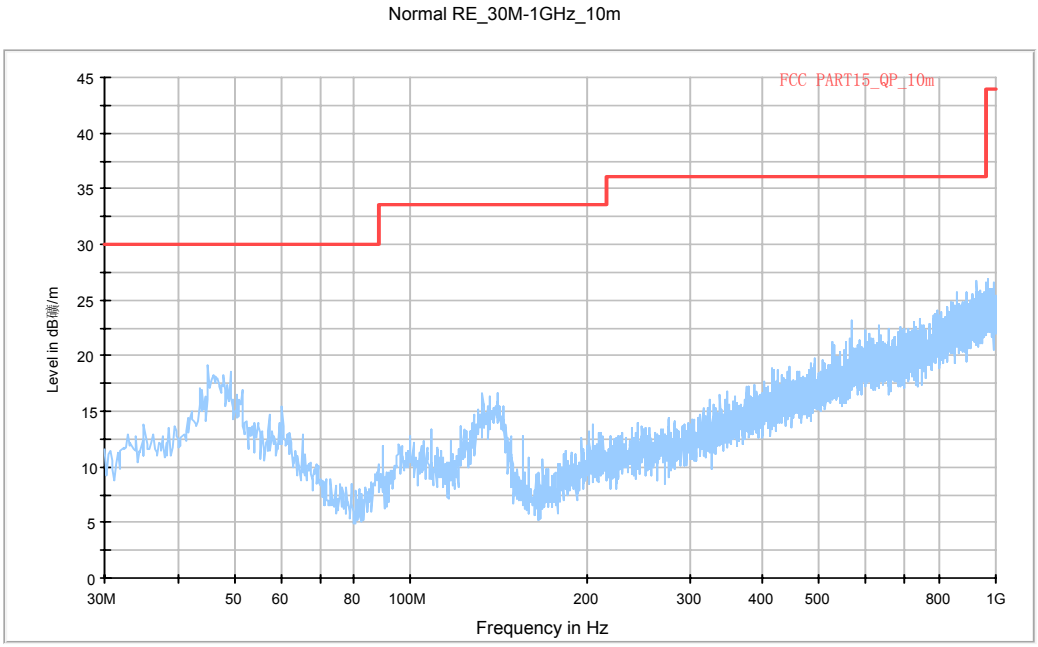

Fig. 35 Radiated Spurious Emission (802.11ac-HT40, Ch151, 30 MHz-1 GHz)

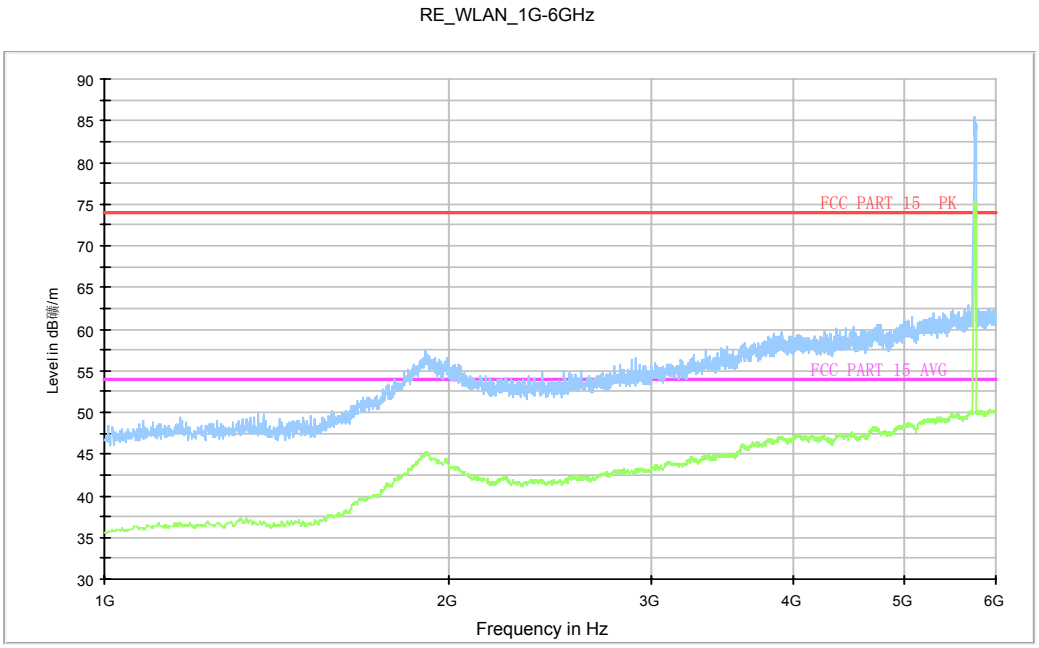

Fig. 36 Radiated Spurious Emission (802.11ac-HT40, Ch151, 1 GHz-6GHz)

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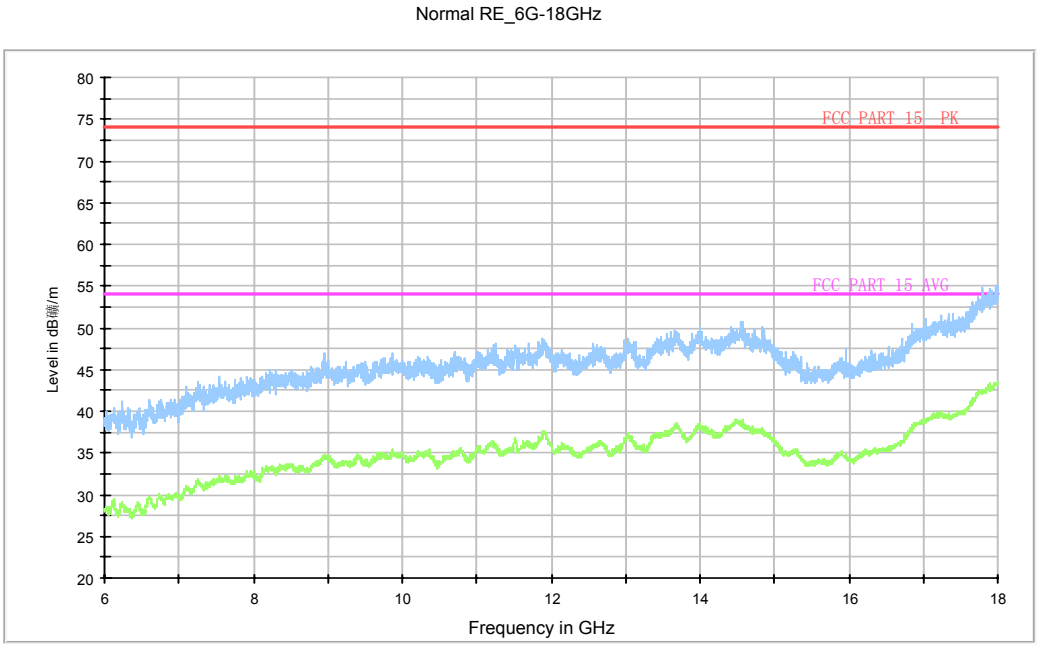

Fig. 37 Radiated Spurious Emission (802.11ac-HT40, Ch151, 6 GHz-18 GHz)

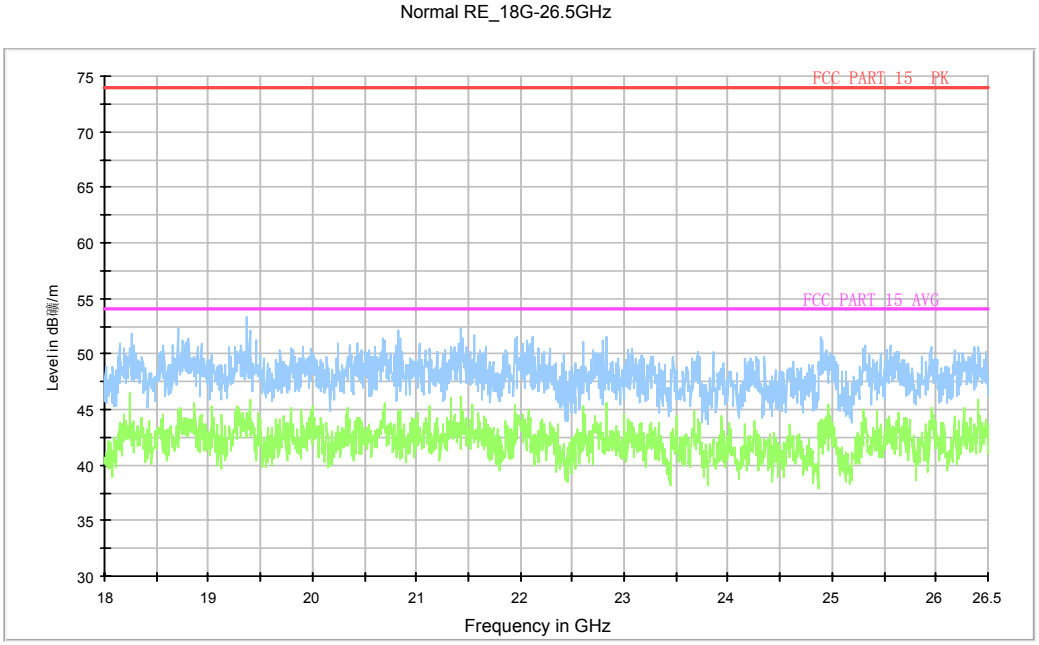

Fig. 38 Radiated Spurious Emission (802.11ac-HT40, Ch151, 18 GHz-26.5 GHz)

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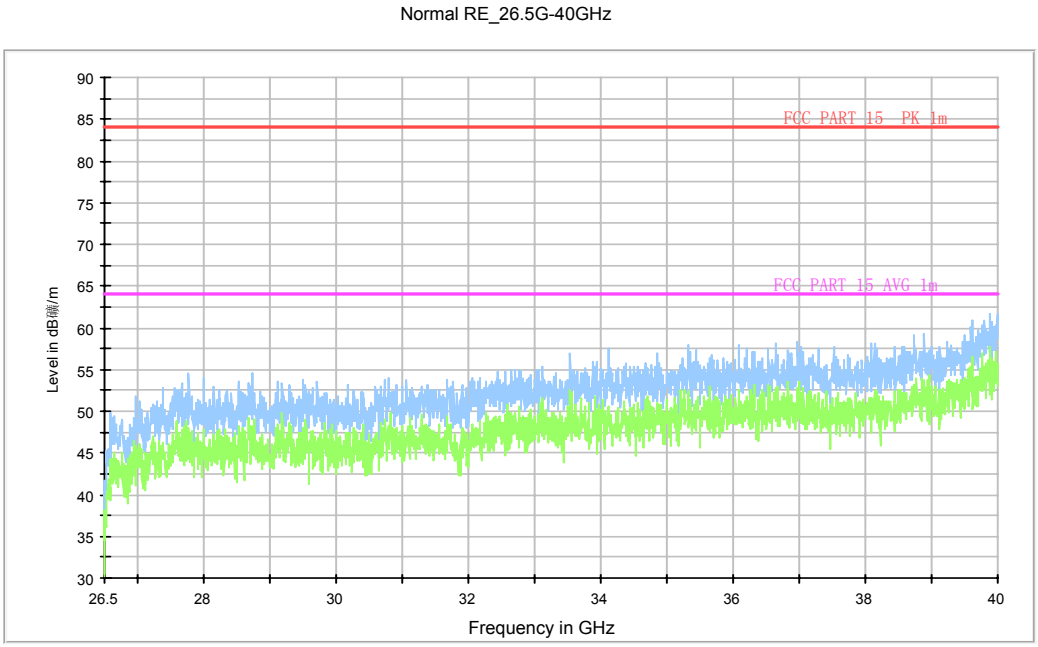

Fig. 39 Radiated emission: 802.11n, (802.11ac-HT40, Ch151, 26.5 GHz - 40 GHz)

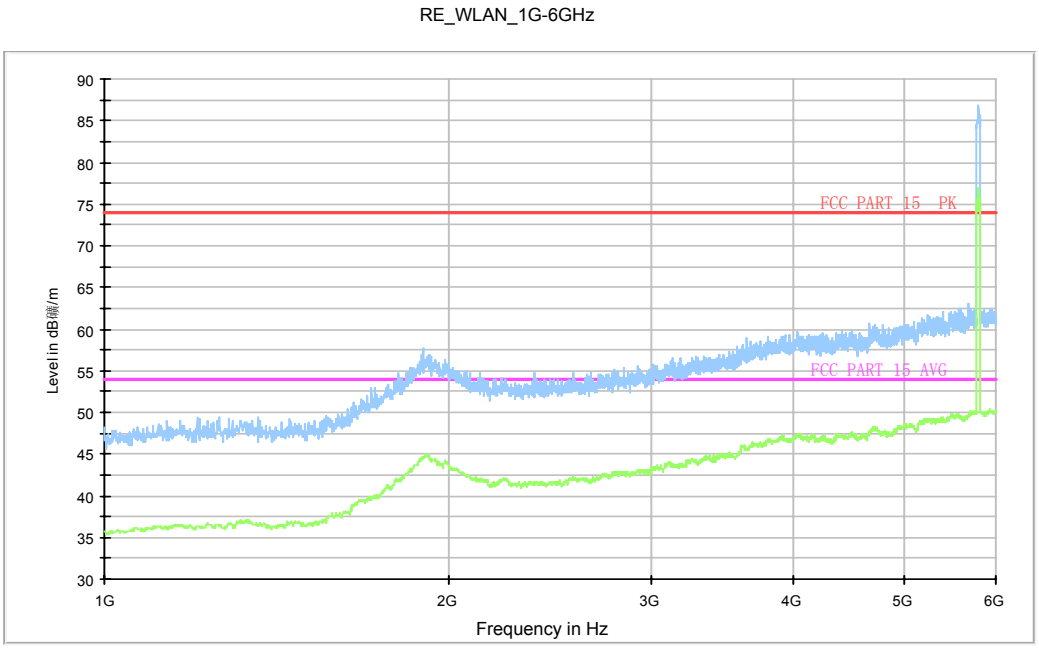

Fig. 40 Radiated Spurious Emission (802.11ac-HT40, Ch159 1 GHz-6GHz)

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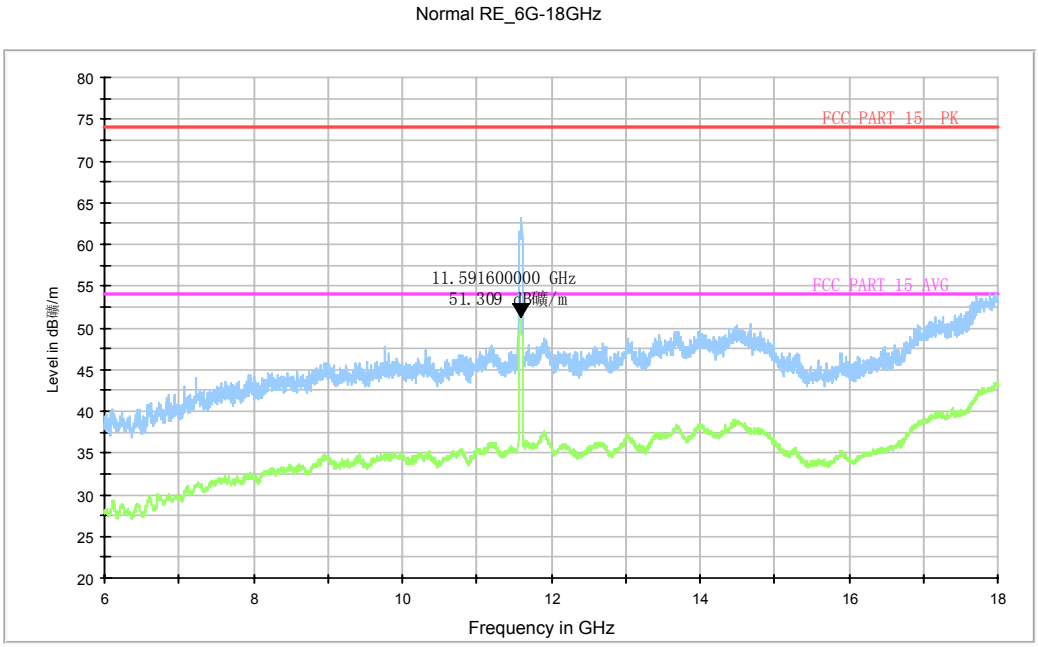

Fig. 41 Radiated Spurious Emission (802.11ac-HT40, Ch159, 6 GHz-18 GHz)

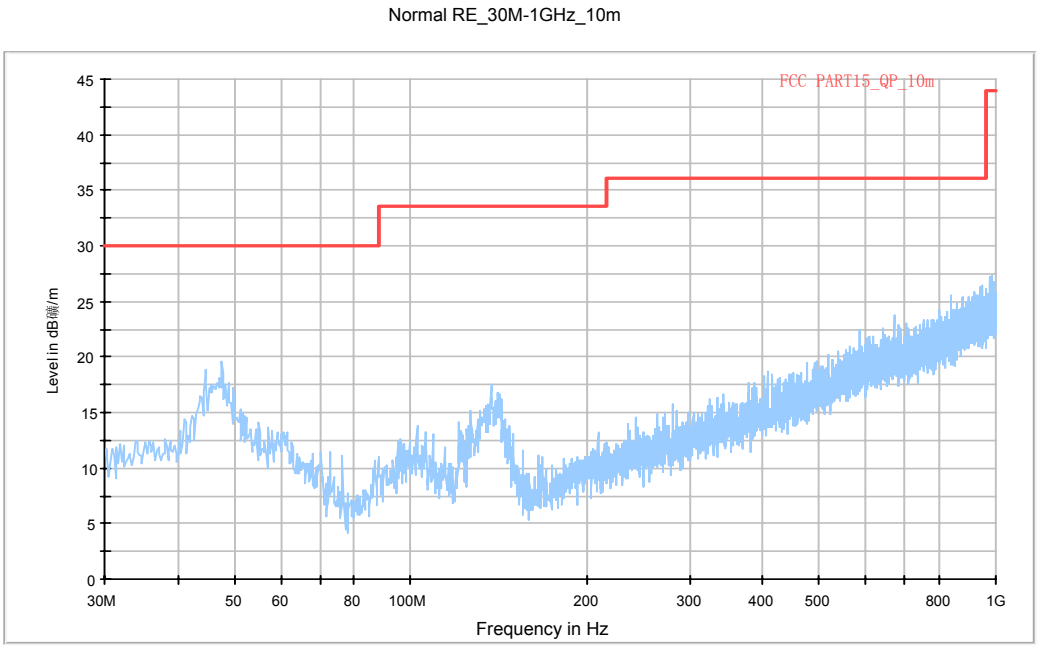

Fig. 42 Radiated Spurious Emission (802.11ac-HT80, Ch155, 30 MHz-1 GHz)

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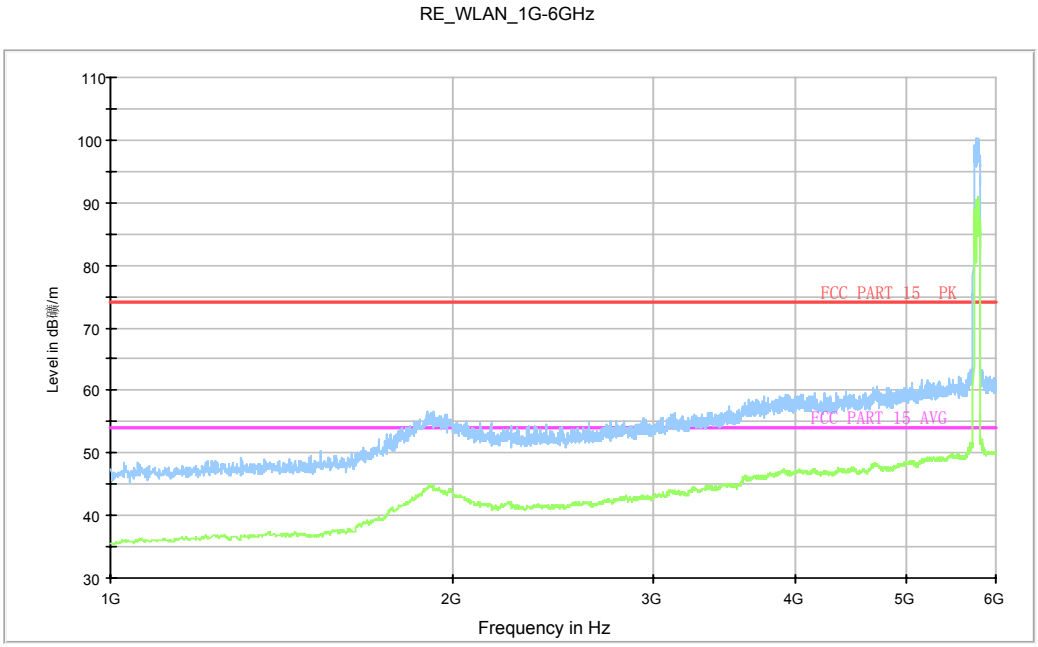

Fig. 43 Radiated Spurious Emission (802.11ac-HT80, Ch155, 1 GHz-6GHz)

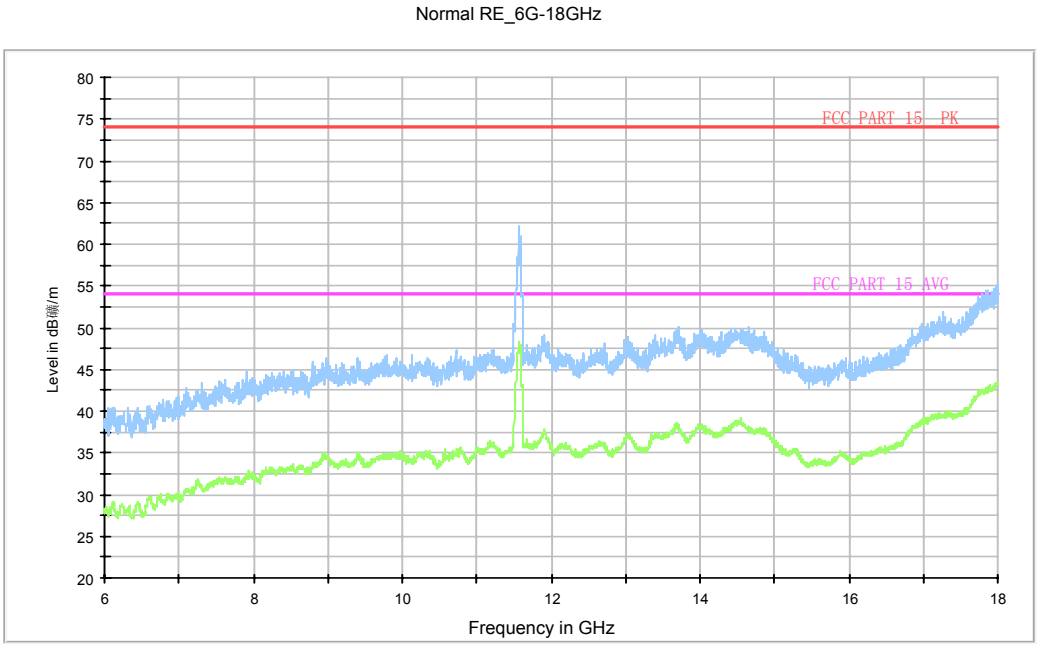

Fig. 44 Radiated Spurious Emission (802.11ac-HT80, Ch155, 6 GHz-18 GHz)

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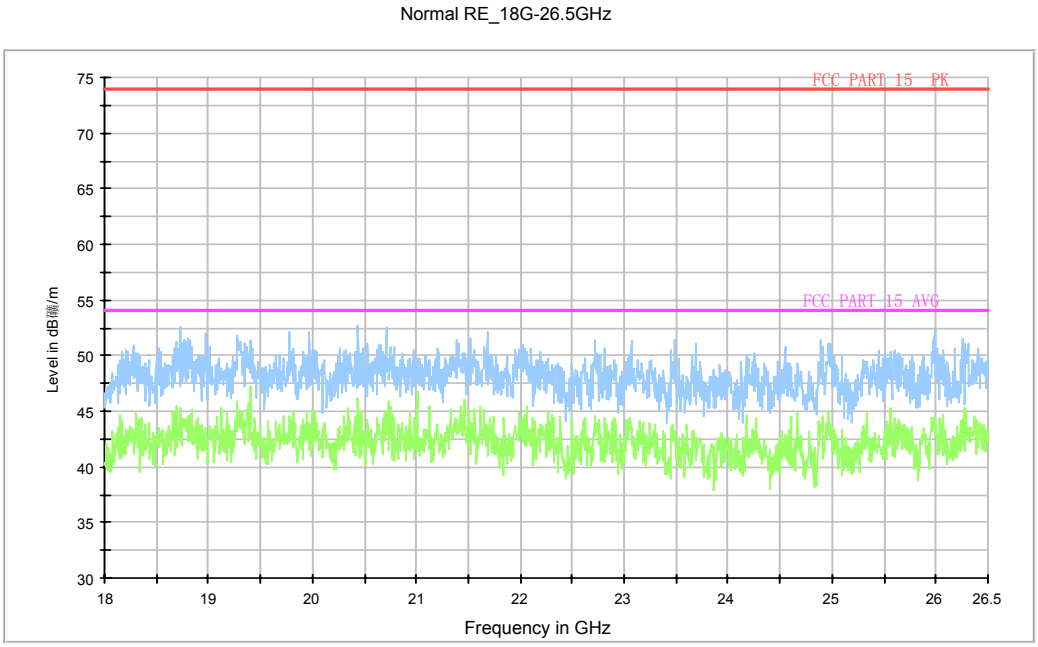

Fig. 45 Radiated Spurious Emission (802.11ac-HT80, Ch155, 18 GHz-26.5 GHz)

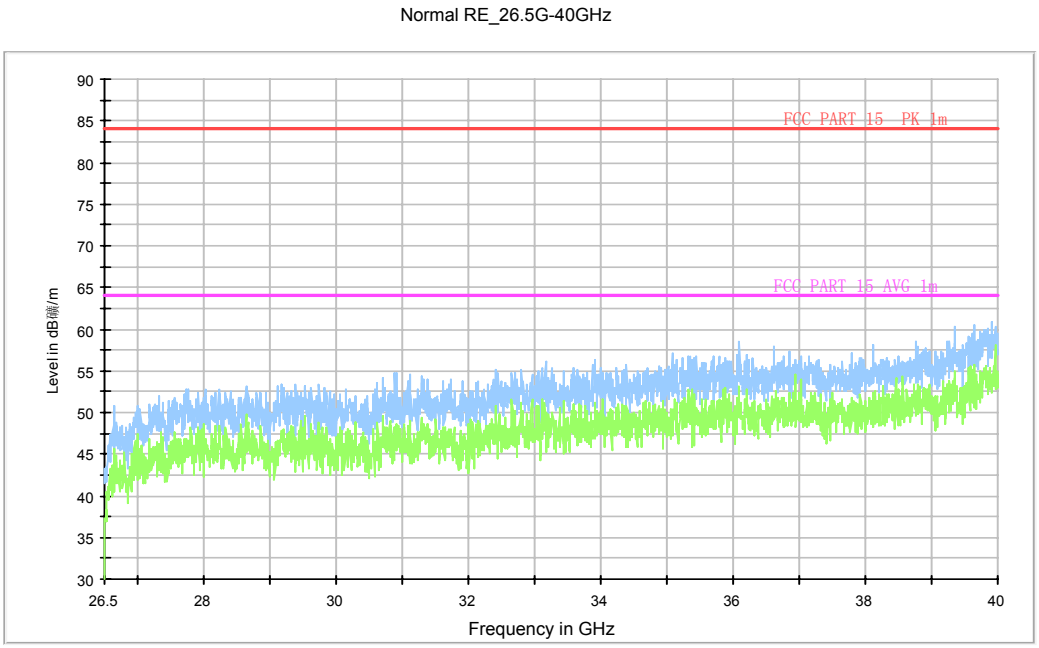

Fig. 46 Radiated emission: (802.11ac-HT80, Ch155, 26.5 GHz - 40 GHz)

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A.6. Band Edges Compliance

Measurement Limit:

Standard	Limit (dBμV/m)	
FCC 47 CFR Part 15.209	Peak	74
	Average	54

The measurement is made according to KDB 789033 D02

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 Result:

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.47	P
	5825 MHz	Fig.48	P
802.11n HT20	5745 MHz	Fig.49	P
	5825 MHz	Fig.50	P
802.11n HT40	5755 MHz	Fig.51	P
	5795 MHz	Fig.52	P
802.11ac HT20	5745 MHz	Fig.53	P
	5825 MHz	Fig.54	P
802.11ac HT40	5755 MHz	Fig.55	P
	5795 MHz	Fig.56	P

Conclusion: PASS

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Test graphs as below:

RE-Power_5.685G-5.765GHz

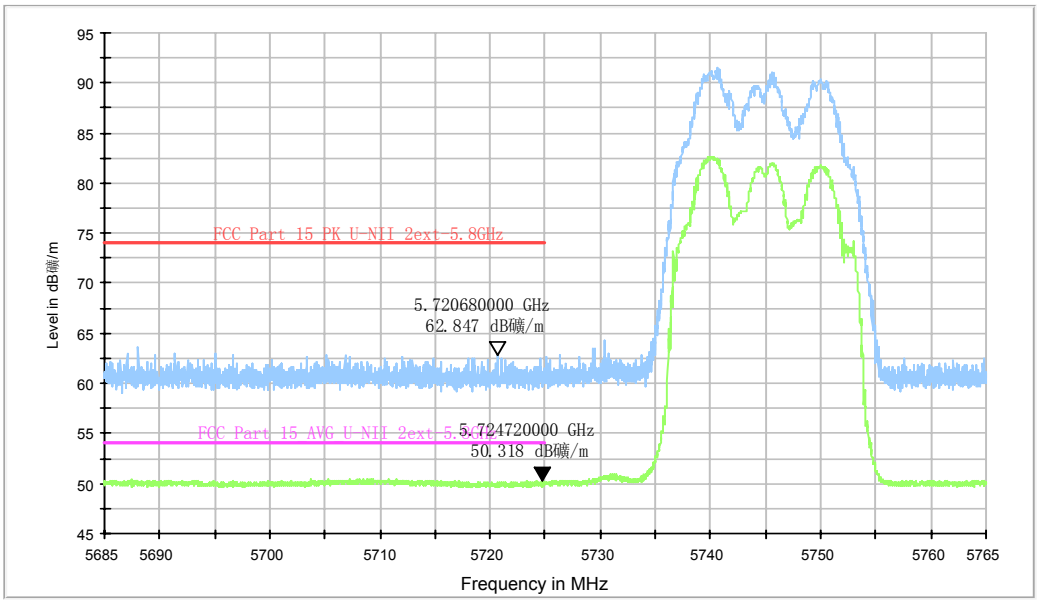

Fig. 47 Band Edges (802.11a, 5745MHz)

RE-Power_5.810G-5.890GHz

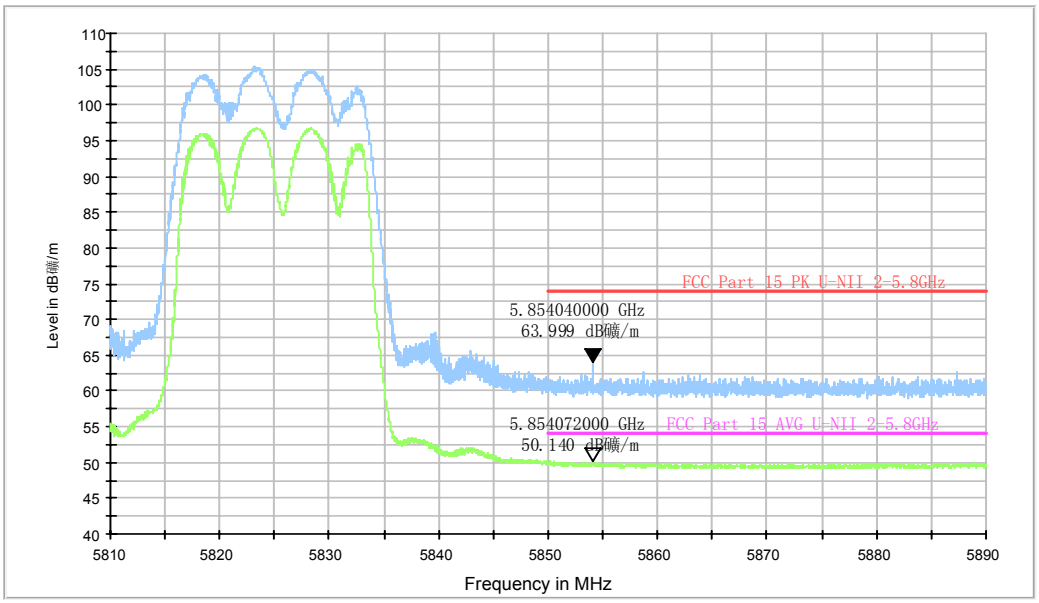

Fig. 48 Band Edges (802.11a, 5825MHz)

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RE-Power_5.685G-5.765GHz

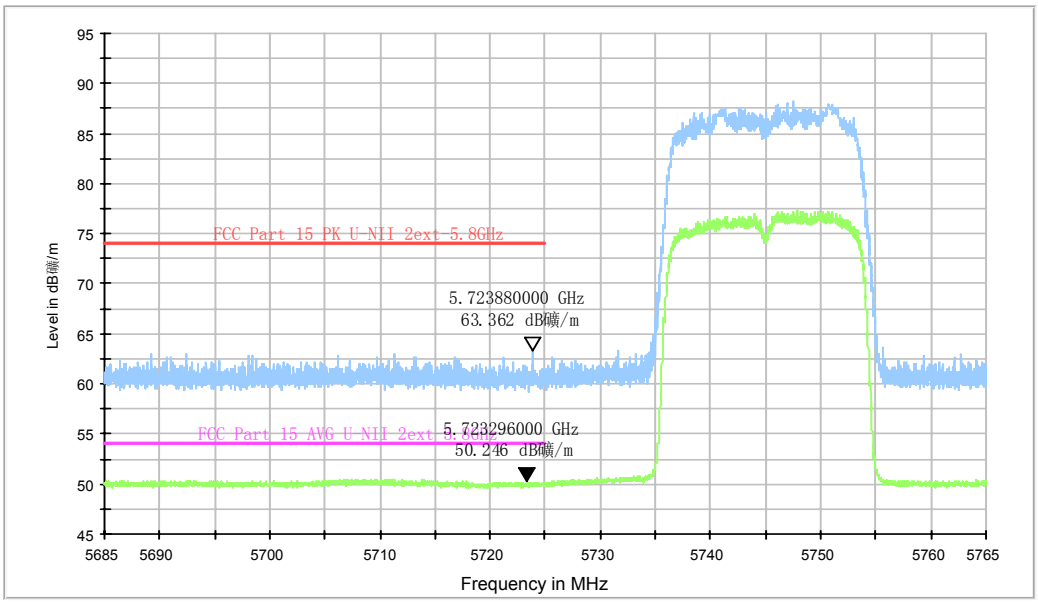

Fig. 49 Band Edges (802.11n-HT20, 5745MHz)

RE-Power_5.810G-5.890GHz

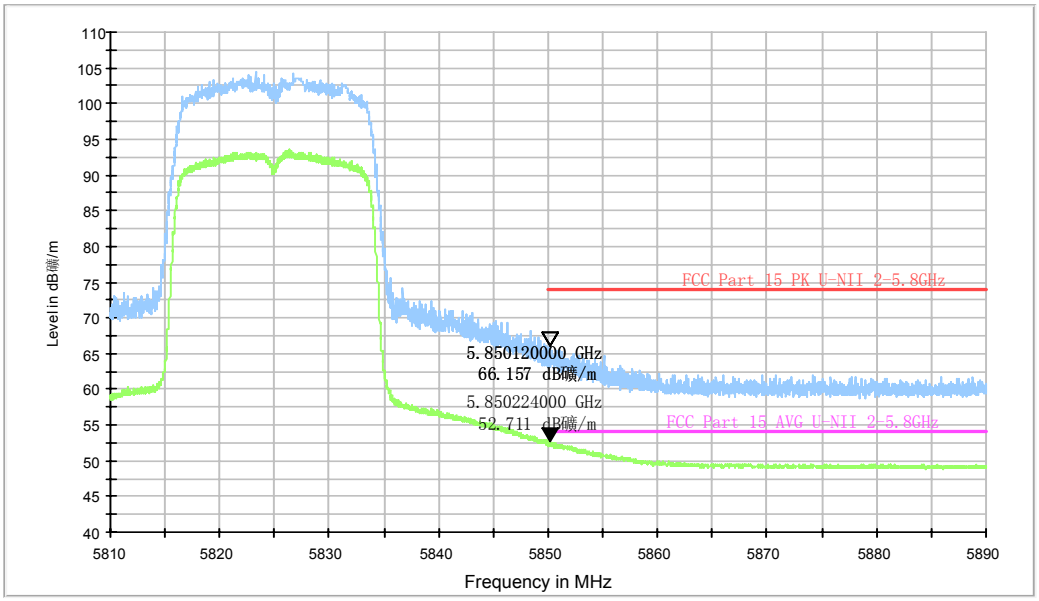

Fig. 50 Band Edges (802.11n-HT20, 5825MHz)

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RE-Power_5.685G-5.765GHz

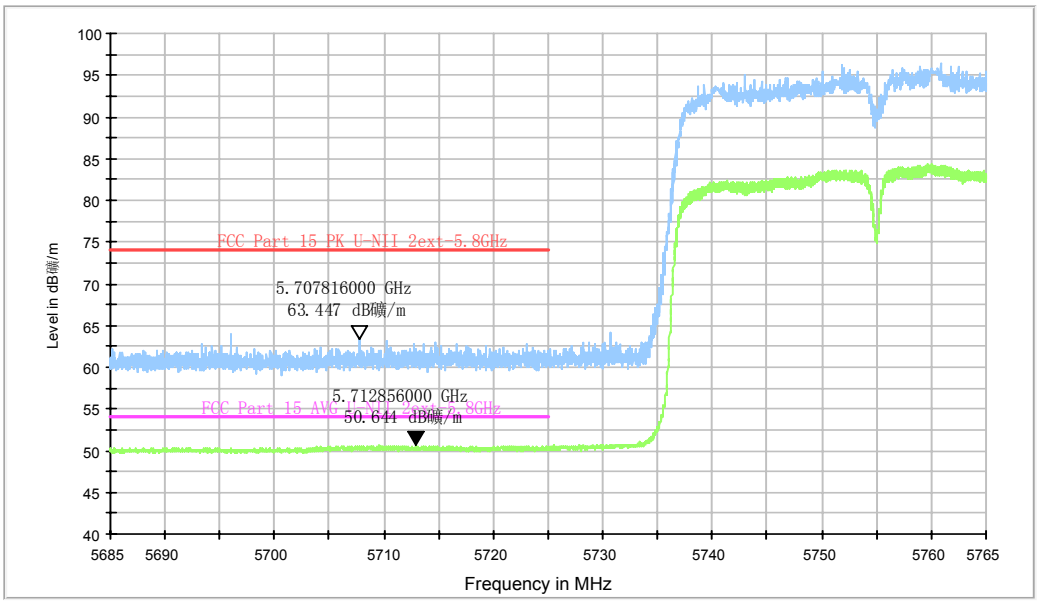

Fig. 51 Band Edges (802.11n-HT40, 5755MHz)

RE-Power_5.810G-5.890GHz

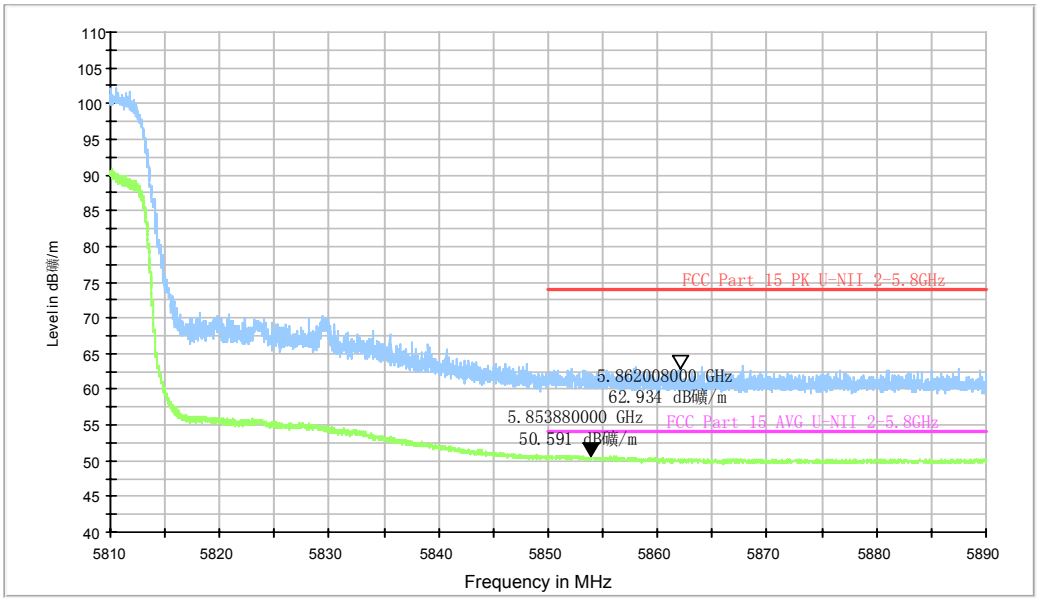

Fig. 52 Band Edges (802.11n-HT40, 5795MHz)

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RE-Power_5.685G-5.765GHz

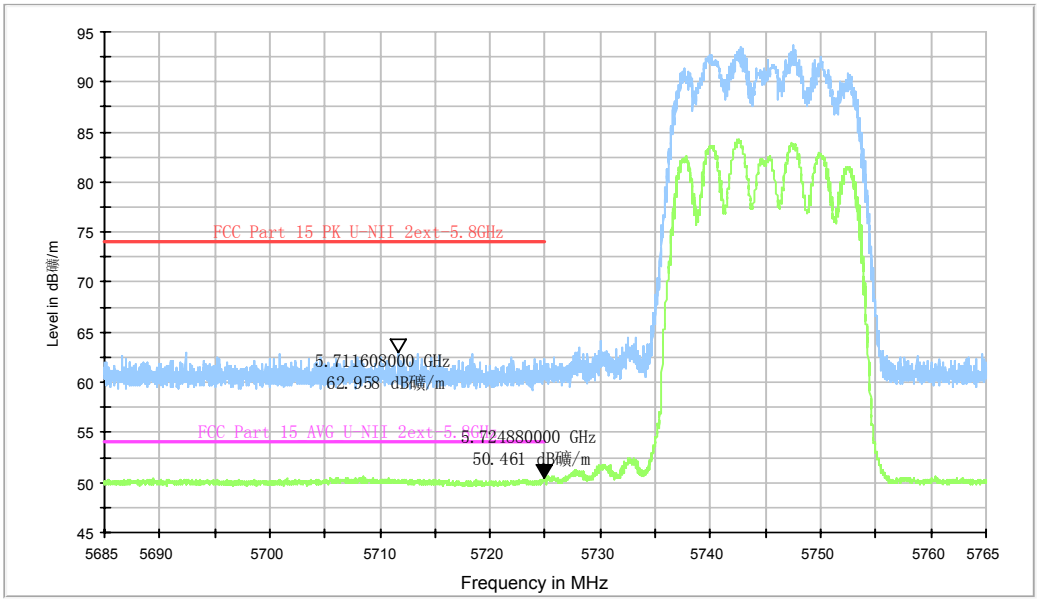

Fig. 53 Band Edges (802.11ac-HT20, 5745MHz)

RE-Power_5.810G-5.890GHz

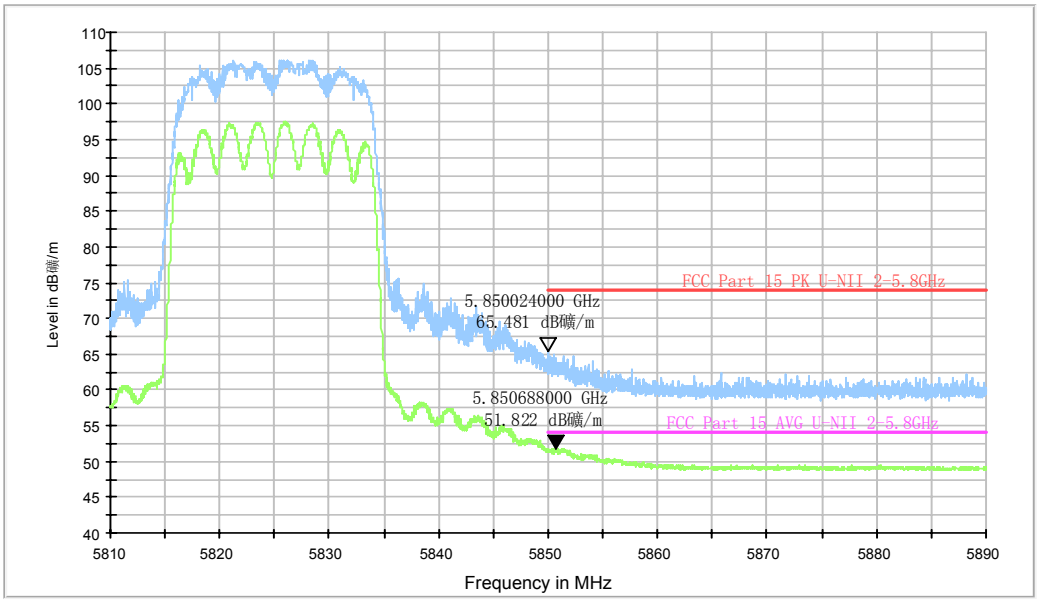

Fig. 54 Band Edges (802.11ac-HT20, 5825MHz)

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RE-Power_5.685G-5.765GHz

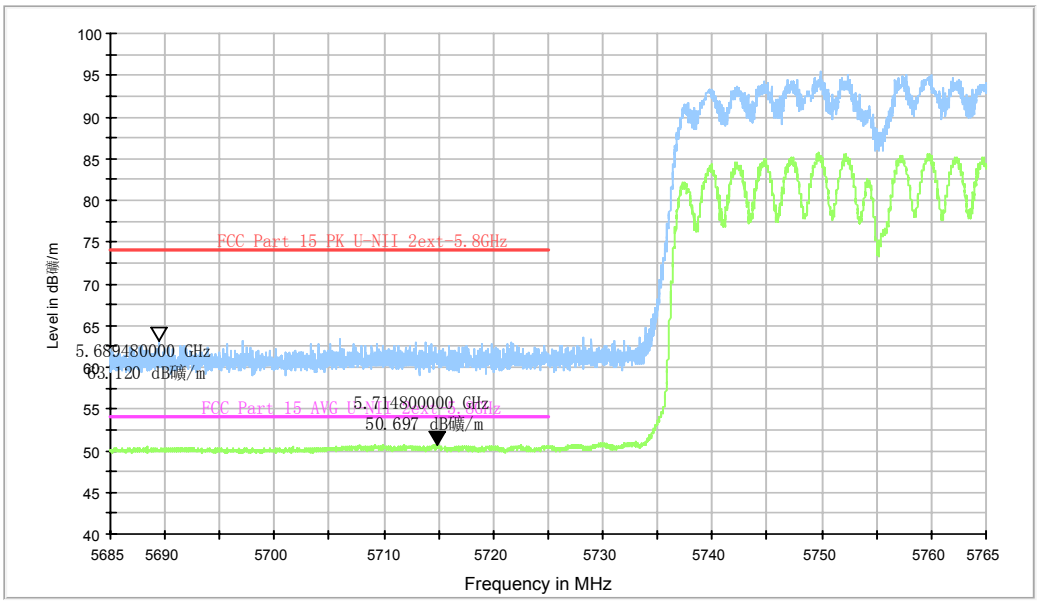

Fig. 55 Band Edges (802.11ac-HT40, 5755MHz)

RE-Power_5.810G-5.890GHz

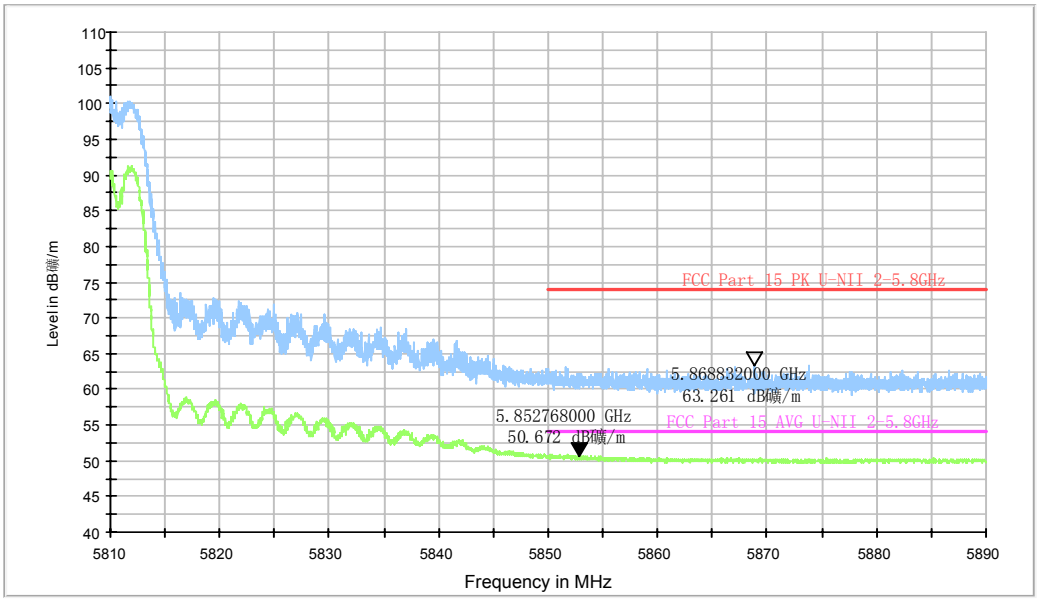

Fig. 56 Band Edges (802.11n-HT40, 5795MHz)

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A.3. Spurious Emissions Radiated < 30MHz

Measurement Limit:

Frequency (MHz)	Field strength(dBμV/m)	Measurement distance
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

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 Results:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	157(5785MHz)	9 kHz ~30 MHz	Fig.57	P

Conclusion: PASS

Test graphs as below:

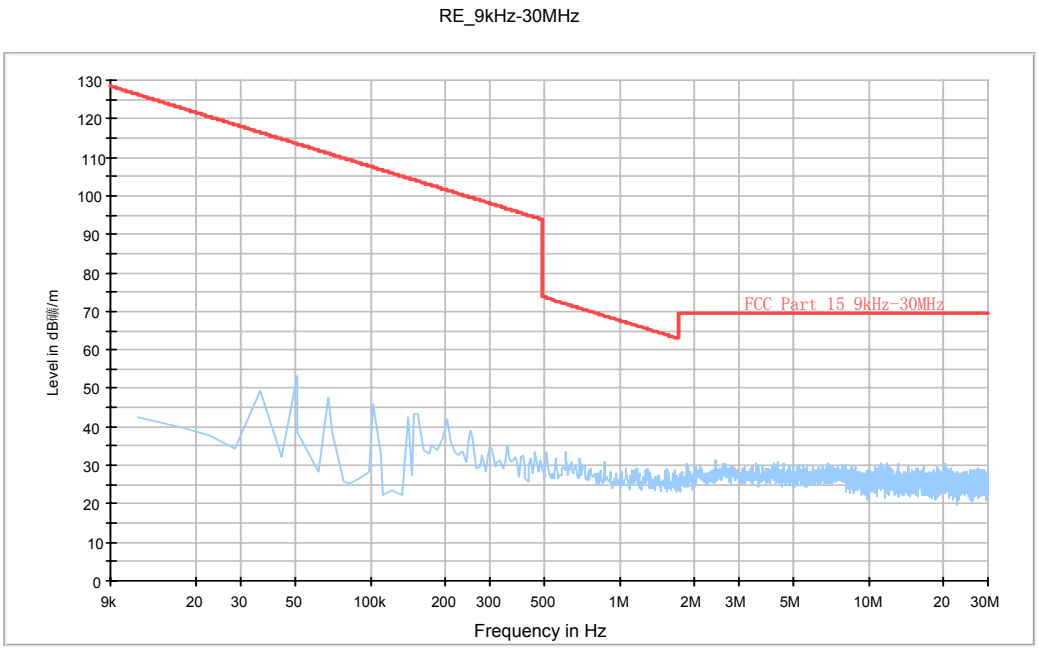

Fig. 57 Radiated Spurious Emission (802.11a, ch157, 9 kHz ~30 MHz)

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