



**FCC PART 15
TEST REPORT
No.I16Z41860-EMC12**

for

OnePlusTechnology(Shenzhen) Co., Ltd.

Mobile Phone

Model Name: ONEPLUS A3000

With

Hardware Version: 28

Software Version:oxygen 3.5.1

FCC ID: 2ABZ2-A3000

Issued Date: 2016-11-17

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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FCC 2.948 Listed: No.525429

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1. TEST LATORATORY

1.1. Testing Location

CTTL(BDA)

Address No.18A, Kangding Street, Beijing Economic-Technology
Development Area, Beijing, P. R. China 100176

1.2. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2016-11-02

Testing End Date: 2016-11-13

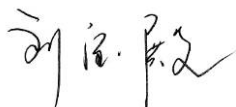
1.4. Signature



Zhang Ying
(Prepared this test report)



QuPengfei
(Reviewed this test report)



Liu Baodian
(Approved this test report)



2. CLIENT INFORMATION

2.1. Applicant Information

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2.2. Manufacturer Information

Company Name: OnePlus Technology(Shenzhen) Co., Ltd.
Address: 18/F, Tower C, Tai Ran Building, No.8 Tai Ran Road, Shenzhen, China
City: Shenzhen
Postal Code: /
Country: China
Telephone: 0755 61898696 EXT 7023
Fax: /

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

3.1. About EUT

Description	Mobile Phone
Model Name	ONEPLUS A3000
Market Name	/
FCC ID	2ABZ2-A3000
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
EUT10	860046039213550	28	oxygen 3.5.1

*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 Mobile 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 Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2015
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
KDB789033 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-2(10 meters × 6.7meters × 6.1meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30°C
Relative humidity	Min. = 15 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	>2 MΩ
Ground system resistance	<1Ω
Normalised site attenuation (NSA)	<±4 dB, 3m 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

Shielded room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35°C
Relative humidity	Min. =20 %, Max. =75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-1000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω

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	2017-03-02	1 year
2	Loop antenna	HFH2-Z2	829324/007	R&S	2017-12-16	3 year
3	EMI Antenna	VULB 9163	9163-514	R&S	2017-12-24	3 year
4	Dual-Ridge Waveguide Horn Antenna	3115	6914	Schwarzbeck	2017-12-15	3 year
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	2017-06-17	3 year
6	Vector Signal Analyzer	FSV40	101047	ETS-Lindgren	2017-07-02	1 year
7	Semi/full-anechoic chamber	/	CT000332- 1074	ETS-Lindgren	/	/

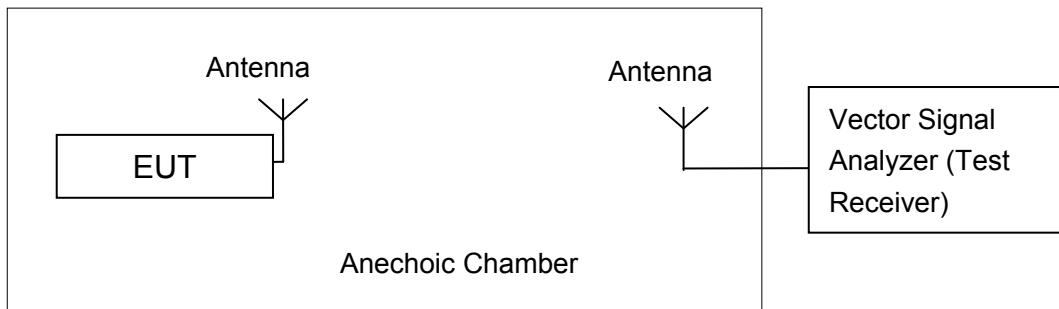
ANNEX A: MEASUREMENT RESULTS

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

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	U=5.12 dB, k=2
-------------------------	----------------

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-5.125GHz-5.175GHz

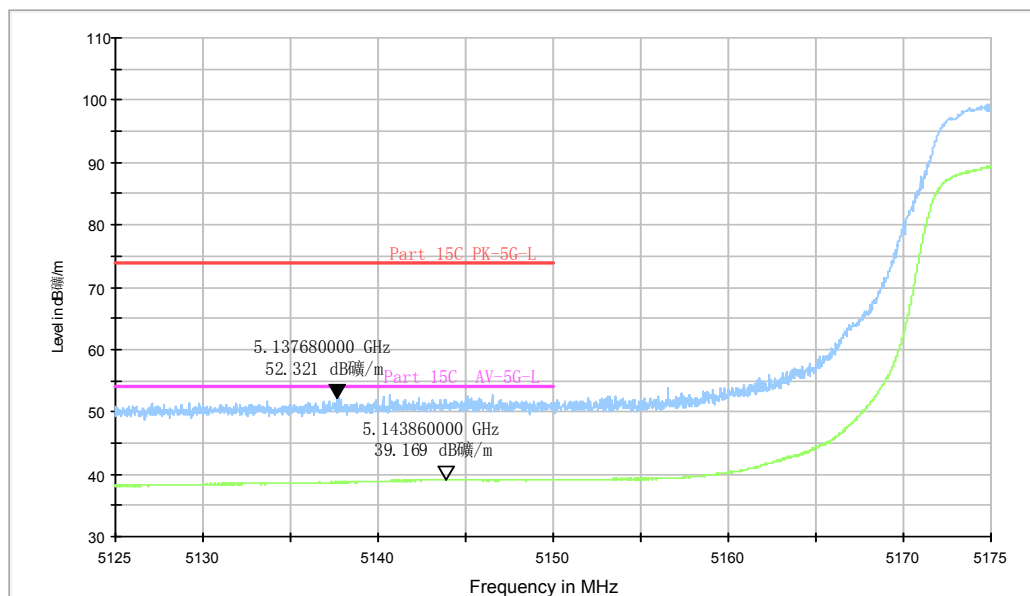


Fig. 1 Band Edges (802.11a, 5180MHz)

RE - Power-5.125GHz-5.175GHz

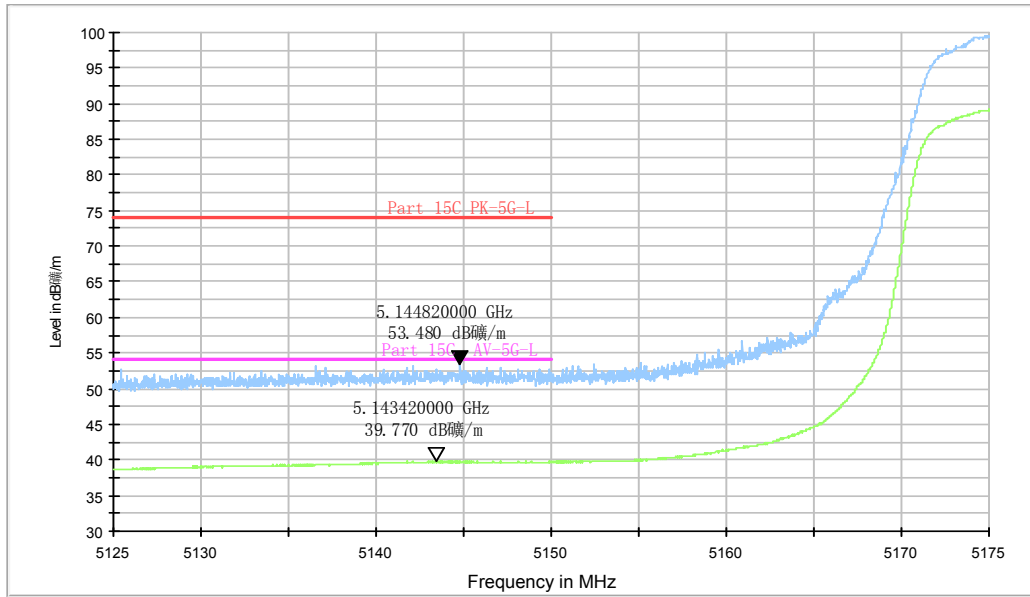


Fig. 2 Band Edges (802.11n-HT20, 5180MHz)

RE - Power-5.125GHz-5.175GHz

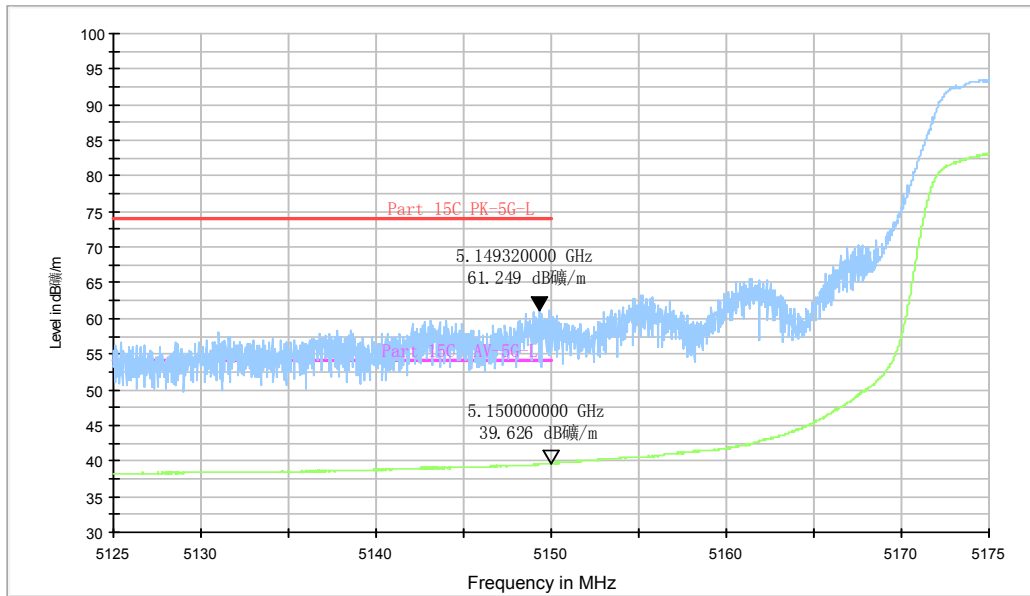


Fig. 3 Band Edges (802.11n-HT40, 5190MHz)

RE - Power-5.125GHz-5.175GHz

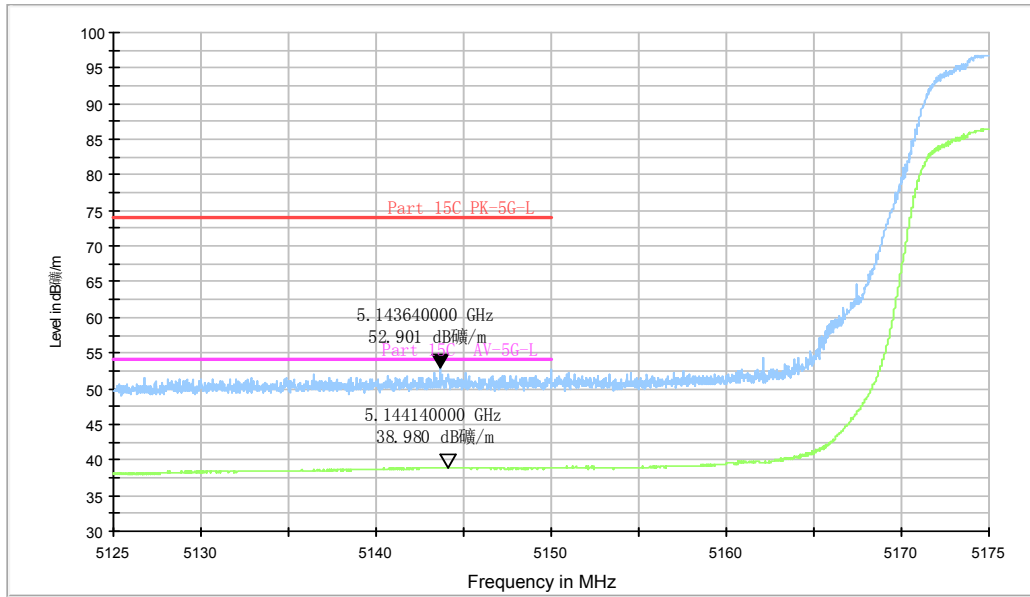


Fig. 4 Band Edges (802.11ac-HT20, 5180MHz)

RE - Power-5.125GHz-5.175GHz

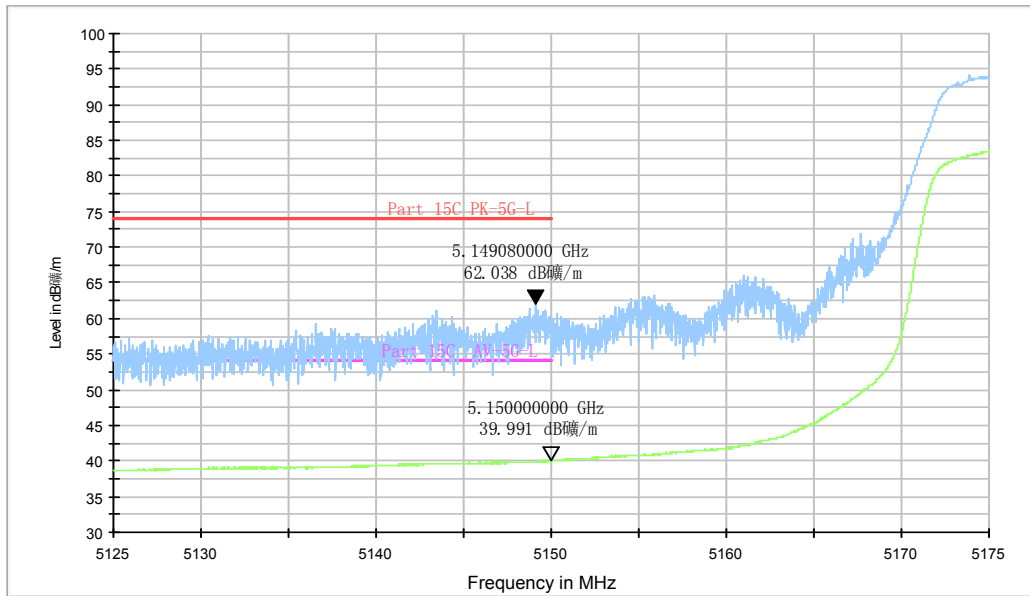


Fig. 5 Band Edges (802.11ac-HT40, 5190MHz)

RE - Power-5.325GHz-5.375GHz

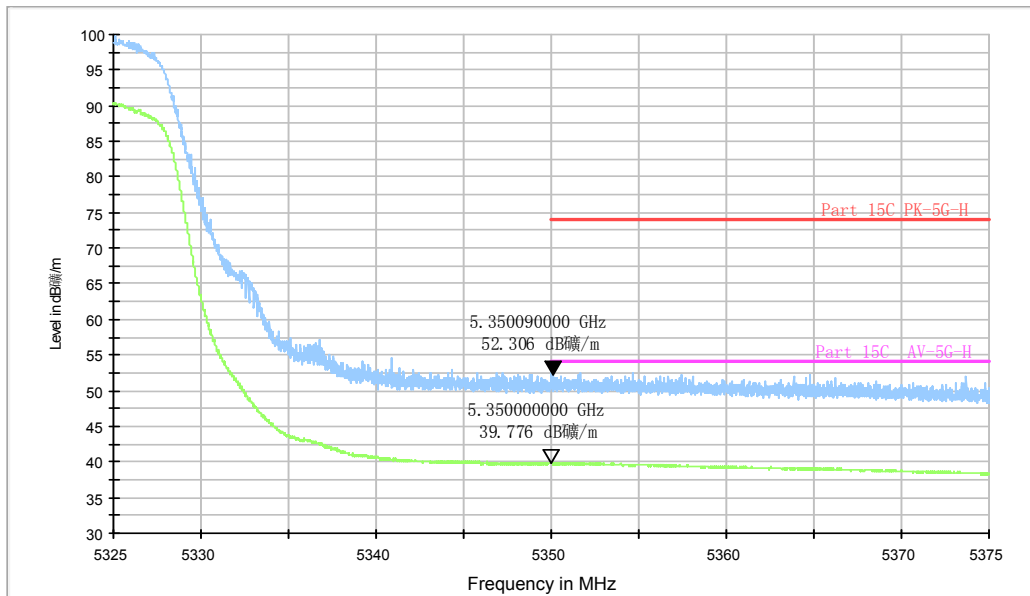


Fig. 6 Band Edges (802.11a, 5320MHz)

RE - Power-5.325GHz-5.375GHz

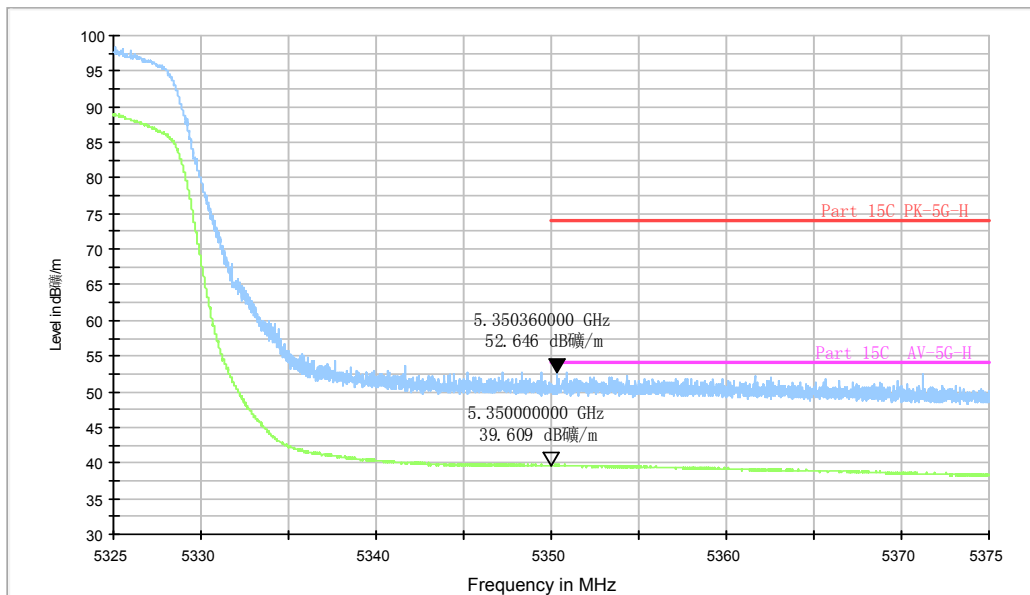


Fig. 7 Band Edges (802.11n-HT20, 5320MHz)

RE - Power-5.325GHz-5.375GHz

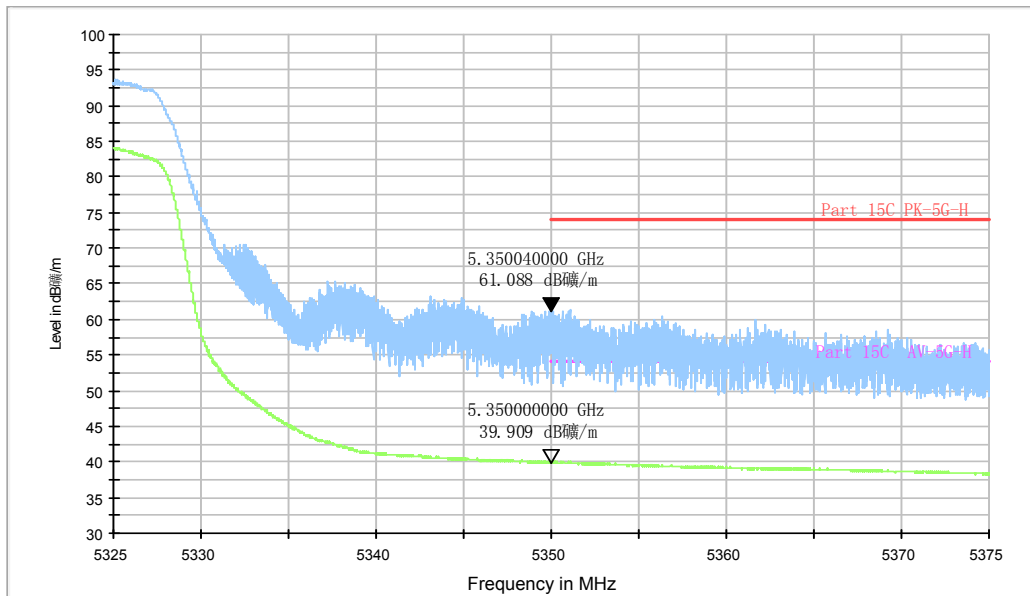


Fig. 8 Band Edges (802.11n-HT40, 5310MHz)

RE - Power-5.325GHz-5.375GHz

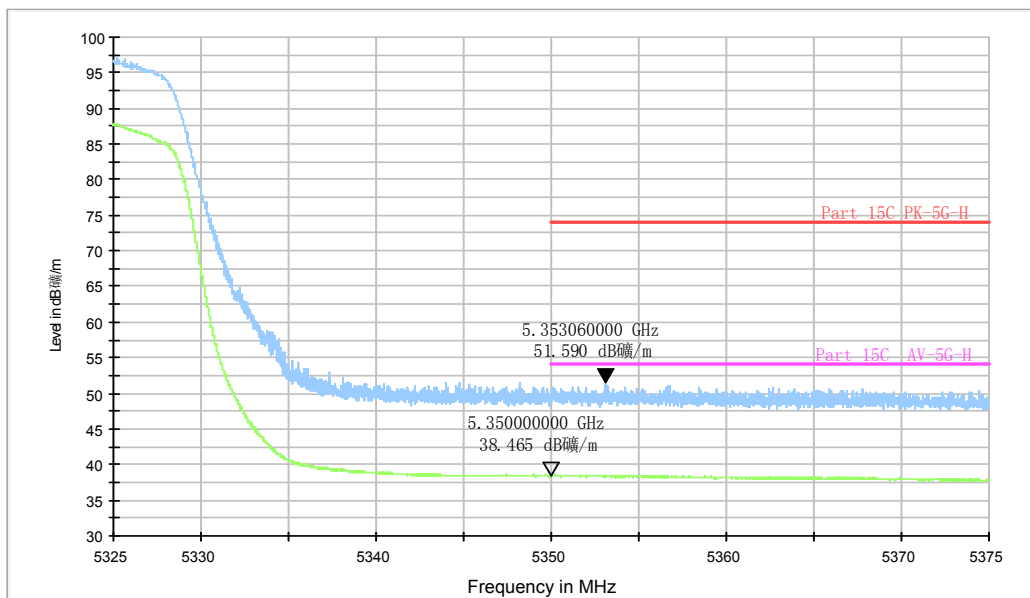


Fig. 9 Band Edges (802.11ac-HT20, 5320MHz)

RE - Power-5.325GHz-5.375GHz

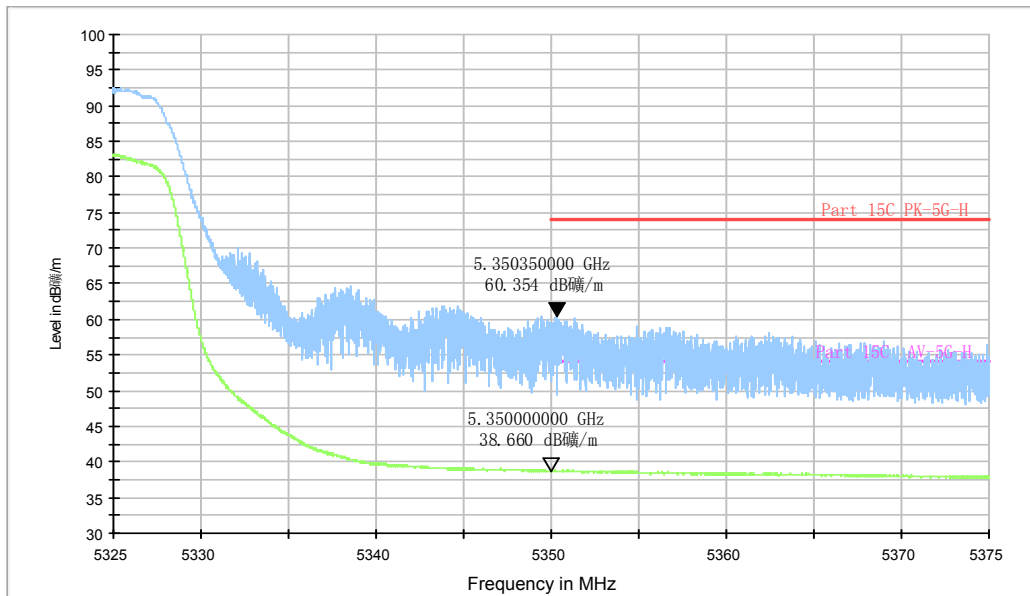


Fig. 10 Band Edges (802.11ac-HT40, 5310MHz)

RE - Power-5.45GHz-5.50GHz

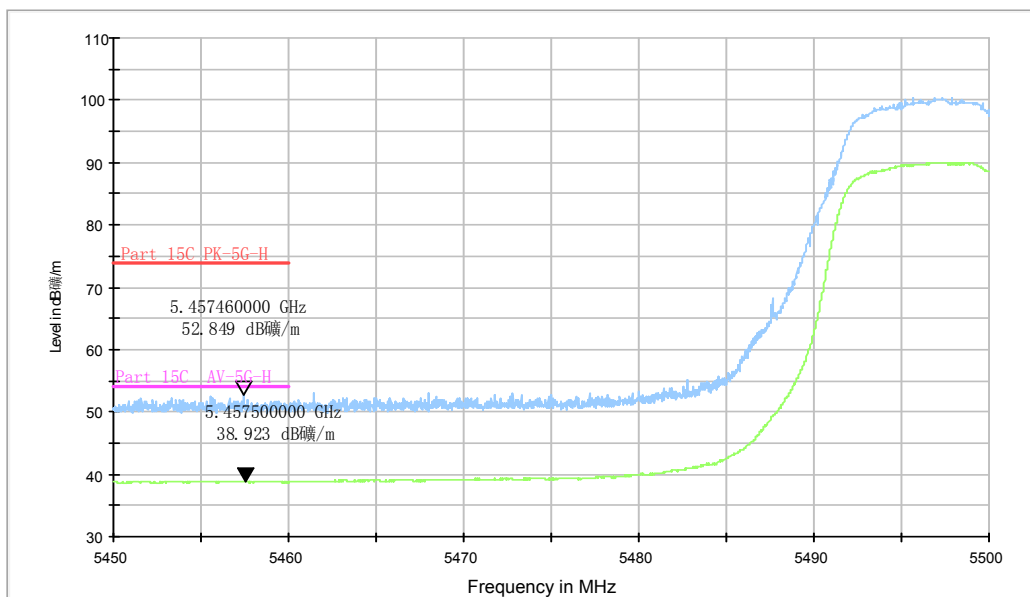


Fig. 11 Band Edges (802.11a, 5500MHz)

RE - Power-5.70GHz-5.75GHz

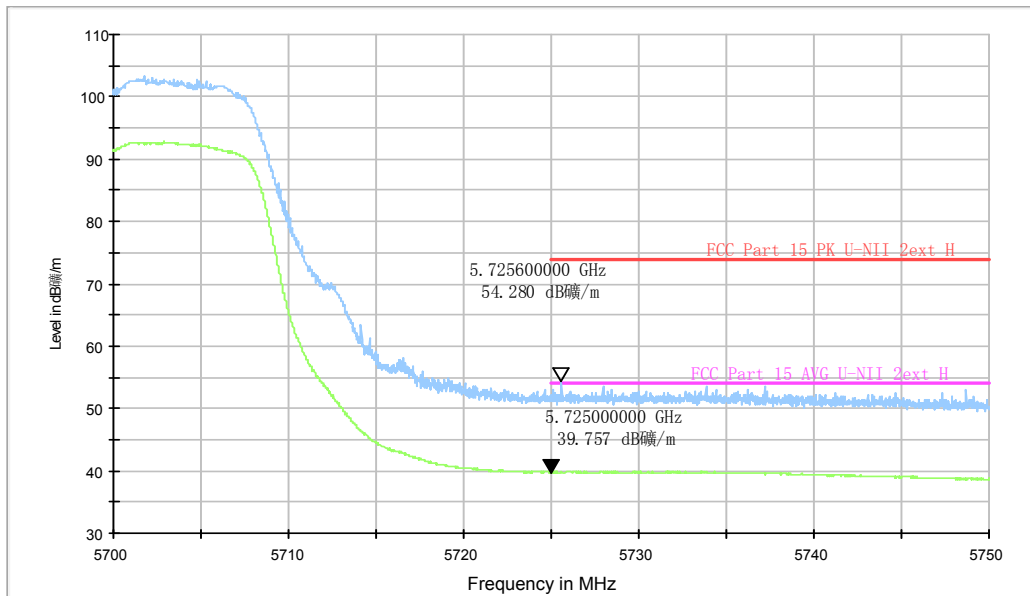


Fig. 12 Band Edges (802.11a, 5700MHz)

RE - Power-5.45GHz-5.50GHz

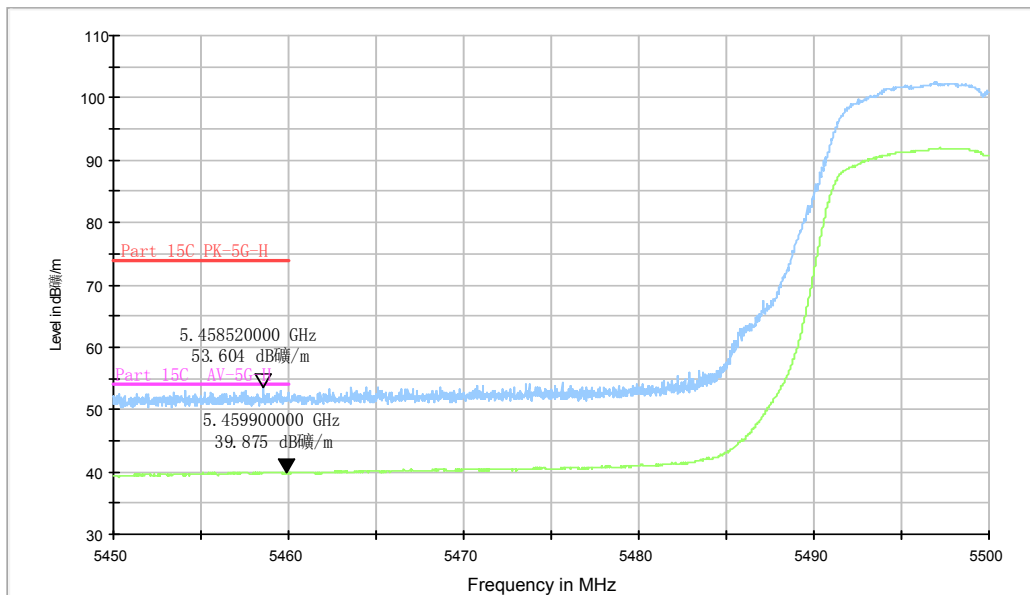


Fig. 13 Band Edges (802.11n-HT20, 5500MHz)

RE - Power-5.70GHz-5.75GHz

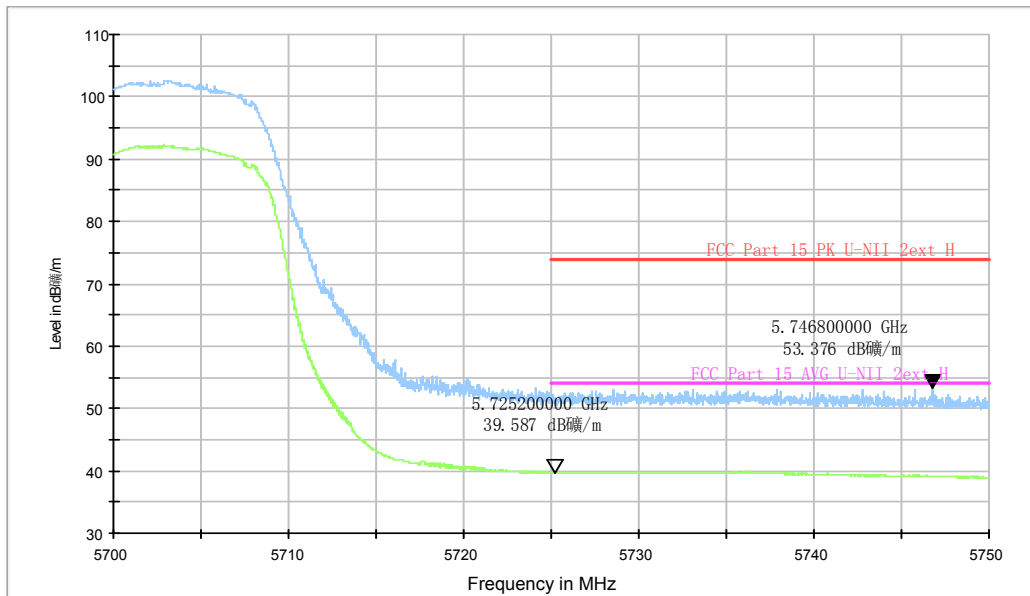


Fig. 14 Band Edges (802.11n-HT20, 5700MHz)

RE - Power-5.45GHz-5.50GHz

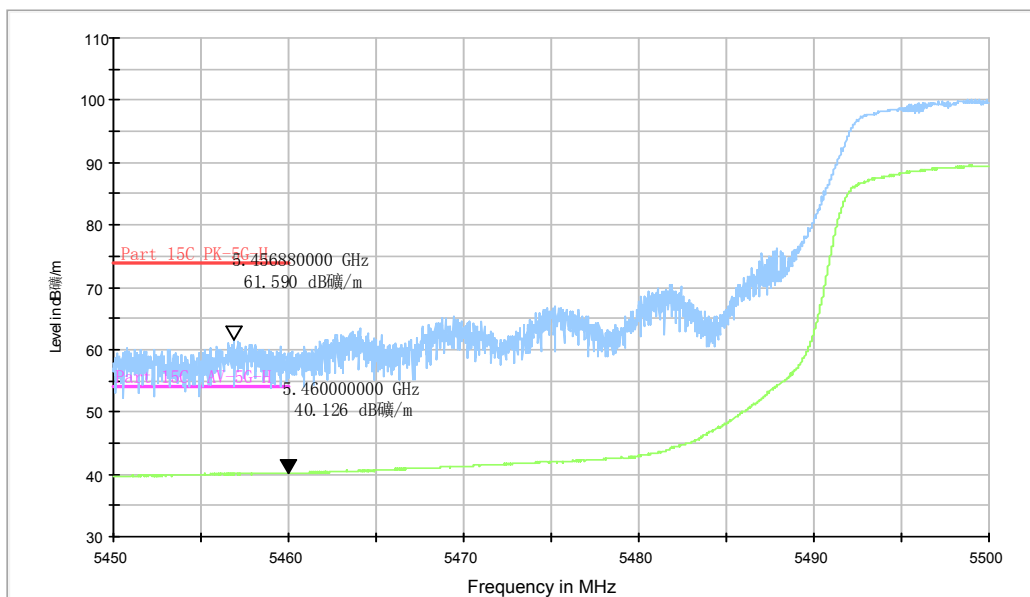


Fig. 15 Band Edges (802.11n-HT40, 5510MHz)

RE - Power-5.70GHz-5.75GHz

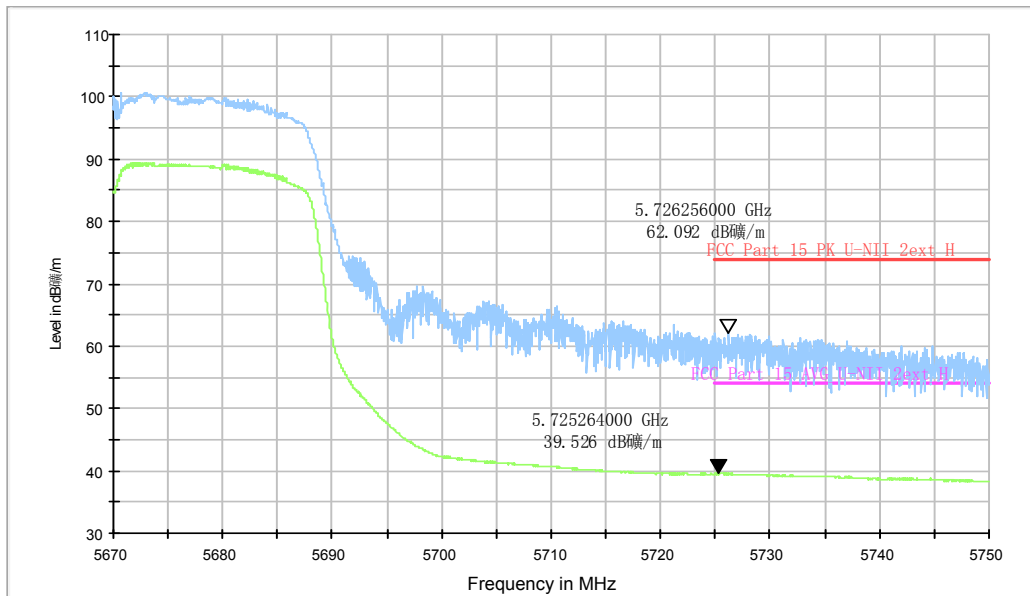


Fig. 16 Band Edges (802.11n-HT40, 5670MHz)

RE - Power-5.45GHz-5.50GHz

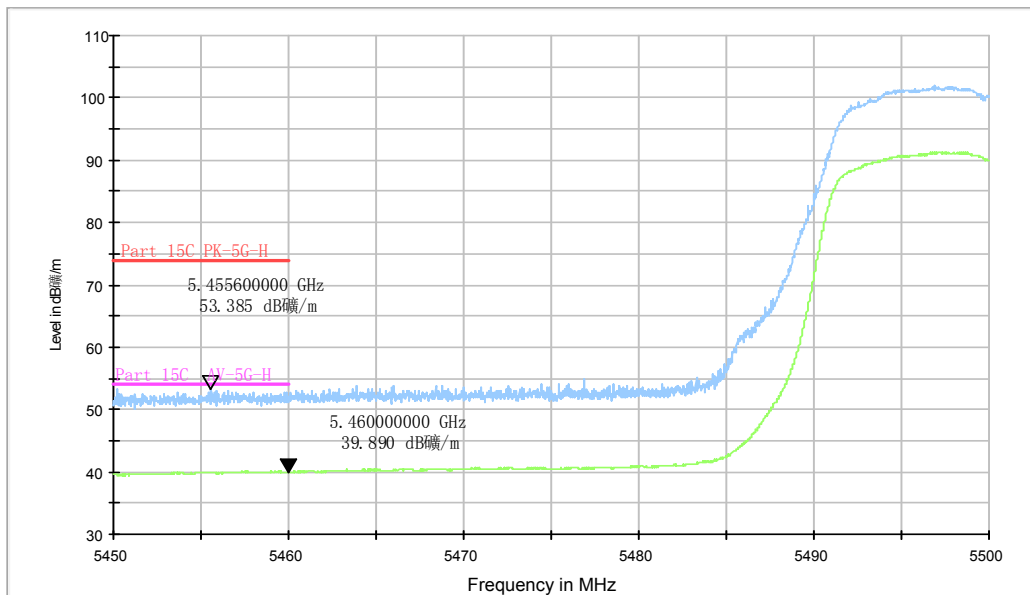


Fig. 17 Band Edges (802.11ac-HT20, 5500MHz)

RE - Power-5.70GHz-5.75GHz

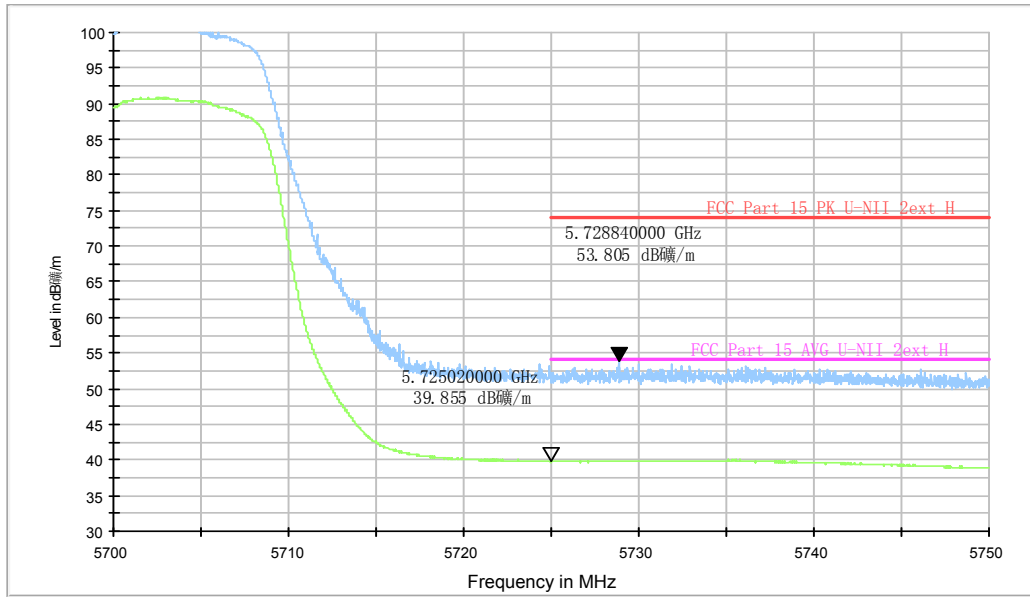


Fig. 18 Band Edges (802.11ac-HT20, 5700MHz)

RE - Power-5.45GHz-5.50GHz

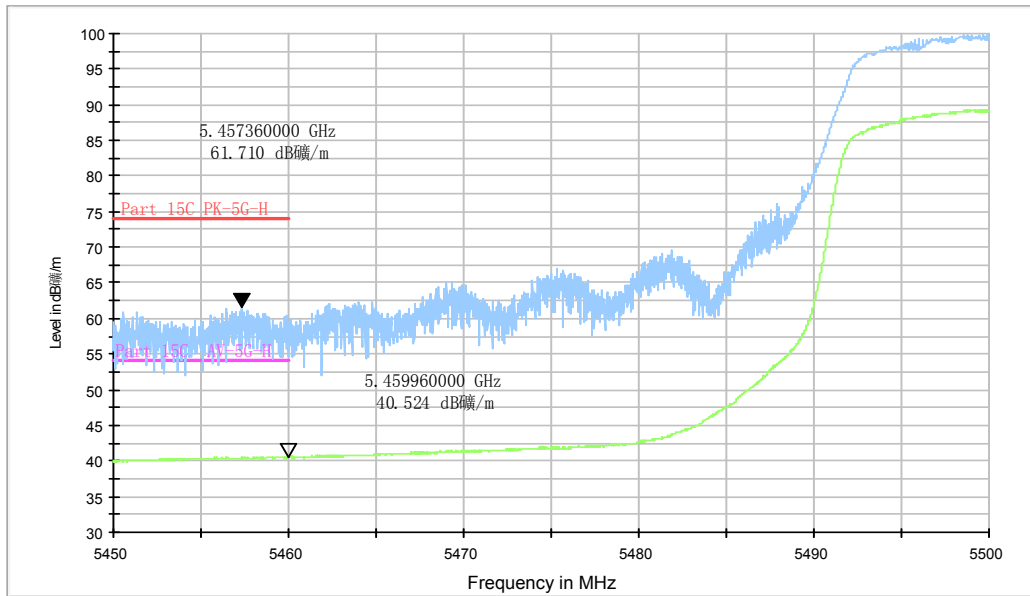


Fig. 19 Band Edges (802.11ac-HT40, 5510MHz)

RE - Power-5.70GHz-5.75GHz

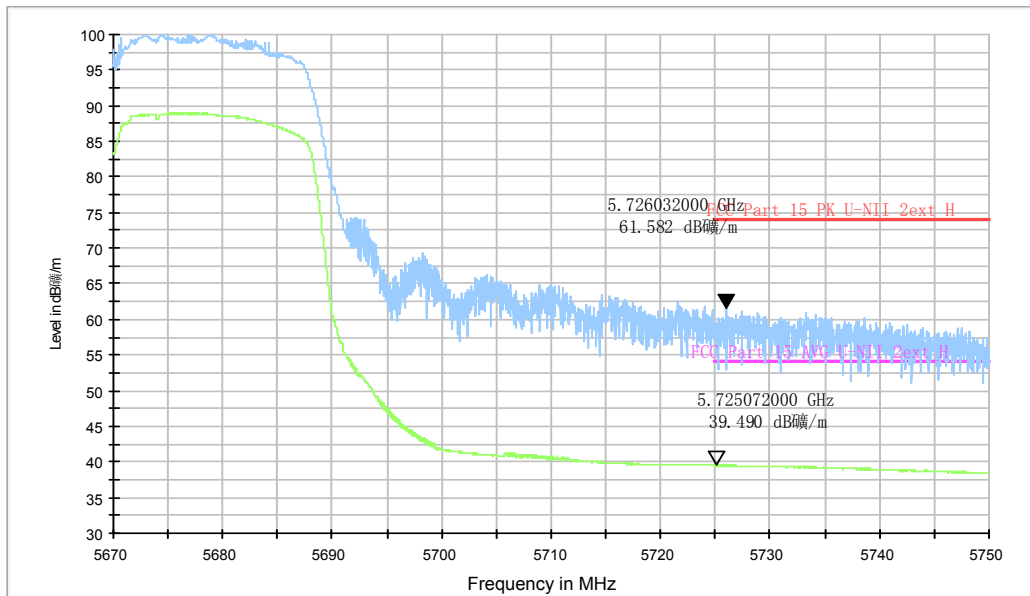


Fig. 20 Band Edges (802.11ac-HT40, 5670MHz)

RE - Power-5.125GHz-5.175GHz

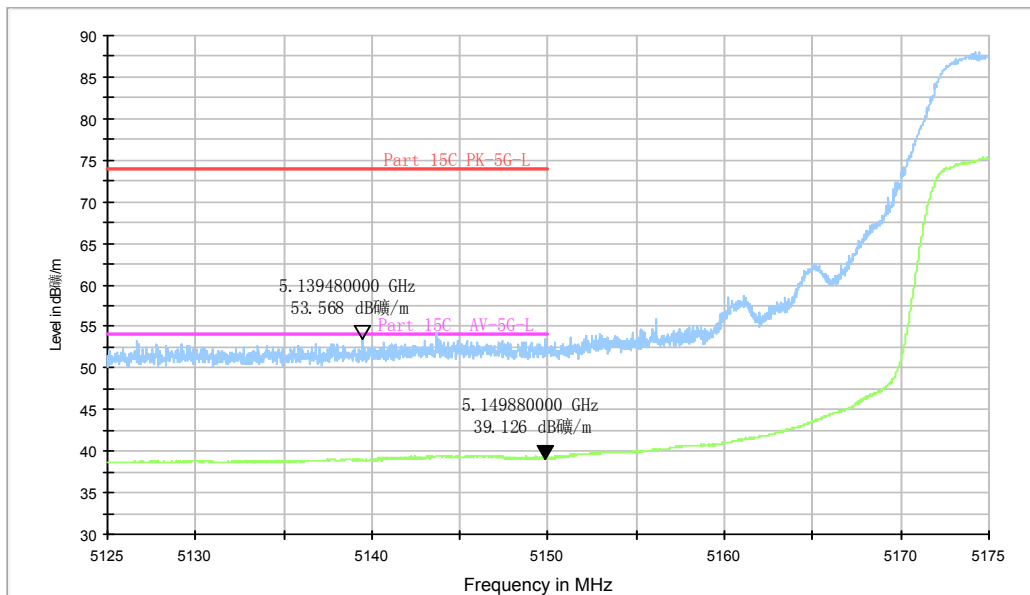


Fig. 21 Band Edges (802.11ac-HT80, 5210MHz)

RE - Power-5.325GHz-5.375GHz

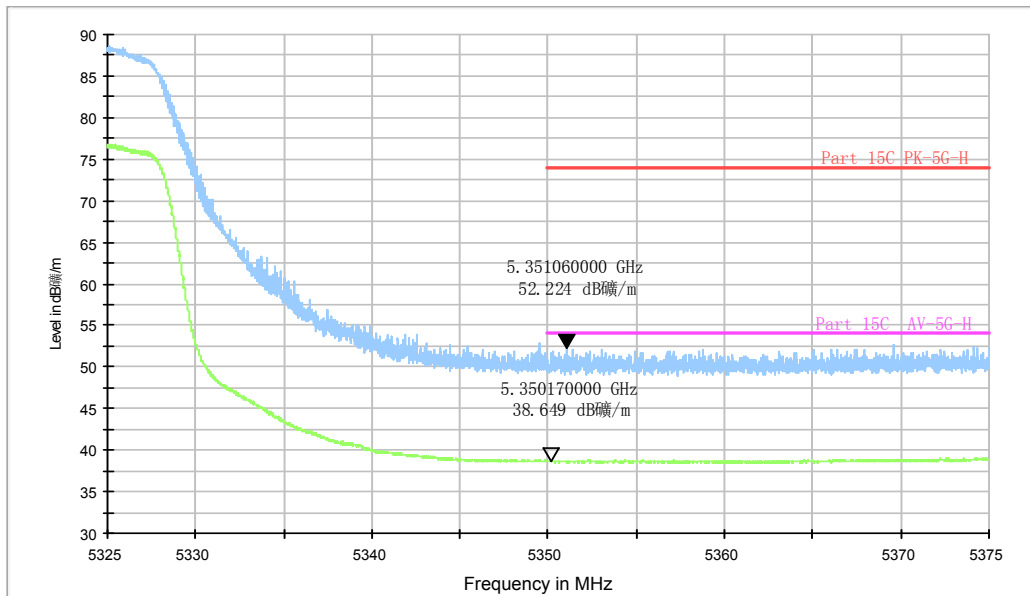


Fig. 22 Band Edges (802.11ac-HT80, 5290MHz)

RE - Power-5.45GHz-5.50GHz

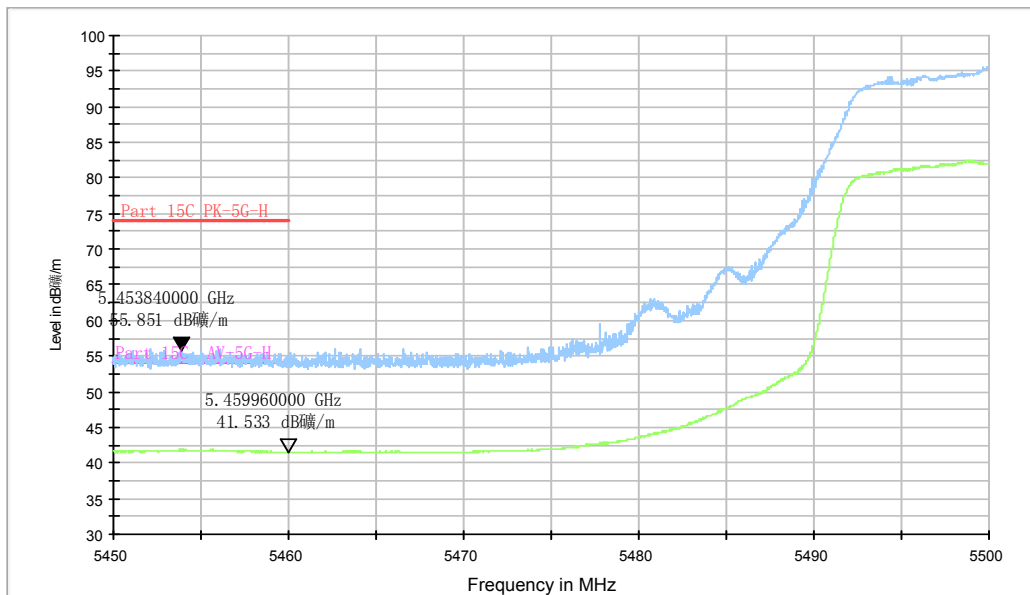


Fig. 23 Band Edges (802.11ac-HT80, 5530MHz)

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 =5.12 dB, k=2.

Measurement Results:

5GHz U-NII 1

802.11a mode

Mode	Channel	FrequencyRange	Test Results	Conclusion
802.11a	36(5180MHz)	1 GHz ~3 GHz	Fig.24	P
		3 GHz ~6 GHz	Fig.25	P
		6 GHz ~ 18 GHz	Fig.26	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.27	P
		1 GHz ~3 GHz	Fig.28	P
		3 GHz ~6 GHz	Fig.29	P
		6 GHz ~ 18 GHz	Fig.30	P
		18 GHz ~ 26.5 GHz	Fig.31	P
	48(5240MHz)	26.5 GHz ~ 40 GHz	Fig.32	P
		1 GHz ~3 GHz	Fig.33	P
		3 GHz ~6 GHz	Fig.34	P
		6 GHz ~ 18 GHz	Fig.35	P

802.11n-HT20 mode

Mode	Channel	FrequencyRange	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	1 GHz ~3 GHz	Fig.36	P
		3 GHz ~6 GHz	Fig.37	P
		6 GHz ~ 18 GHz	Fig.38	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.39	P
		1 GHz ~3 GHz	Fig.40	P
		3 GHz ~6 GHz	Fig.41	P
		6 GHz ~ 18 GHz	Fig.42	P
		18 GHz ~ 26.5 GHz	Fig.43	P
	48(5240MHz)	26.5 GHz ~ 40 GHz	Fig.44	P
		1 GHz ~3 GHz	Fig.45	P
		3 GHz ~6 GHz	Fig.46	P
		6 GHz ~ 18 GHz	Fig.47	P

802.11n-HT40 mode

Mode	Channel	FrequencyRange	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.48	P
		1 GHz ~3 GHz	Fig.49	P
		3 GHz ~6 GHz	Fig.50	P
		6 GHz ~ 18 GHz	Fig.51	P
		18 GHz ~ 26.5 GHz	Fig.52	P
		26.5 GHz ~ 40 GHz	Fig.53	P
	46(5230MHz)	1 GHz ~3 GHz	Fig.54	P
		3 GHz ~6 GHz	Fig.55	P
		6 GHz ~ 18 GHz	Fig.56	P

802.11ac-HT20 mode

Mode	Channel	FrequencyRange	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	1 GHz ~3 GHz	Fig.57	P
		3 GHz ~6 GHz	Fig.58	P
		6 GHz ~ 18 GHz	Fig.59	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.60	P
		1 GHz ~3 GHz	Fig.61	P
		3 GHz ~6 GHz	Fig.62	P
		6 GHz ~ 18 GHz	Fig.63	P
		18 GHz ~ 26.5 GHz	Fig.64	P
	48(5240MHz)	26.5 GHz ~ 40 GHz	Fig.65	P
		1 GHz ~3 GHz	Fig.66	P
		3 GHz ~6 GHz	Fig.67	P
		6 GHz ~ 18 GHz	Fig.68	P

802.11ac-HT40 mode

Mode	Channel	FrequencyRange	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.69	P
		1 GHz ~3 GHz	Fig.70	P
		3 GHz ~6 GHz	Fig.71	P
		6 GHz ~ 18 GHz	Fig.72	P
		18 GHz ~ 26.5 GHz	Fig.73	P
		26.5 GHz ~ 40 GHz	Fig.74	P
	46(5230MHz)	1 GHz ~3 GHz	Fig.75	P
		3 GHz ~6 GHz	Fig.76	P
		6 GHz ~ 18 GHz	Fig.77	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:

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

5GHz U-NII 1

802.11a

Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5143.860	38.5	-19.4	34.4	23.54	H
5150.000	38.5	-19.4	34.4	23.40	H
10350.000	39.7	-17.6	37.9	19.36	H
10720.200	42.8	-14.6	38.2	19.26	H
15525.000	41.6	-17.4	40.1	18.92	H
17269.600	46.0	-14.0	41.2	18.83	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
5129.240	51.4	-19.4	34.4	36.39	H
5137.680	52.3	-19.5	34.4	37.38	V
17688.600	60.1	-13.1	41.0	32.20	V
17700.000	59.9	-13.2	41.0	32.02	V
17712.600	59.9	-13.2	41.0	32.03	V
17728.200	59.8	-13.3	41.0	32.08	V

Channel 40

Average:



Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5180.000	39.3	-19.0	34.4	23.91	H
5220.600	39.8	-18.5	34.4	23.85	H
10402.000	40.5	-16.6	38.0	19.10	H
15603.000	41.1	-17.6	40.1	18.52	H
17287.200	46.0	-13.9	41.2	18.73	H
17633.700	46.0	-13.0	41.1	17.91	H



Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5143.500	51.2	-19.4	34.4	36.18	H
5234.850	51.7	-18.3	34.4	35.63	H
17704.800	59.8	-13.2	41.0	31.99	V
17292.600	59.8	-14.0	41.2	32.52	V
17699.400	59.7	-13.2	41.0	31.83	H
17862.000	59.6	-13.5	40.9	32.18	H

Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5220.000	40.3	-18.5	34.4	24.35	H
5280.000	39.3	-18.6	34.4	23.53	H
10474.000	39.6	-17.4	38.1	18.89	H
15711.000	41.4	-17.4	40.2	18.57	H
17285.000	46.0	-13.9	41.2	18.73	H
17640.300	46.0	-13.0	41.1	17.94	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5043.600	51.2	-18.0	34.5	34.69	H
5477.550	51.9	-16.9	34.8	34.04	V
17272.200	60.7	-14.0	41.2	33.53	H
17678.400	59.9	-13.1	41.1	31.93	H
17508.000	59.8	-14.4	41.2	32.94	H
17286.000	59.7	-13.9	41.2	32.39	H



802.11n-HT20

Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5143.420	38.8	-19.4	34.4	23.80	H
5150.000	38.6	-19.4	34.4	23.56	H
10354.000	39.6	-17.5	37.9	19.18	H
15531.000	41.5	-17.4	40.1	18.83	H
17244.300	46.0	-14.2	41.2	19.00	H
17619.400	46.0	-13.2	41.1	18.05	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5143.640	52.9	-19.4	34.4	37.89	H
5149.980	52.6	-19.4	34.4	37.56	H
17233.200	59.7	-14.3	41.2	32.82	V
17908.200	59.5	-13.6	40.9	32.23	V
17321.400	59.5	-14.1	41.2	32.43	V
17193.600	59.5	-14.5	41.2	32.80	V

Channel 40

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5163.600	38.2	-19.2	34.4	22.99	H
5280.000	38.6	-18.6	34.4	22.81	H
10406.000	40.5	-16.5	38.0	19.02	H
15609.000	41.0	-17.6	40.1	18.43	H
17285.000	45.9	-13.9	41.2	18.63	H
17674.400	45.9	-13.1	41.1	17.95	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5231.400	52.3	-18.3	34.4	36.24	H
5154.750	51.3	-19.3	34.4	36.13	H
17731.800	60.3	-13.3	41.0	32.51	H
17618.400	59.7	-13.2	41.1	31.77	H
17302.800	59.6	-14.0	41.2	32.45	H
17595.600	59.4	-13.4	41.1	31.69	V



Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5220.000	39.6	-18.5	34.4	23.70	H
5280.300	39.1	-18.7	34.4	23.28	H
10474.000	39.5	-17.4	38.1	18.79	H
15711.000	41.4	-17.4	40.2	18.57	H
17282.800	45.9	-13.9	41.2	18.64	H
17674.400	45.9	-13.1	41.1	17.95	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5204.250	51.7	-18.7	34.4	35.97	H
5266.200	52.2	-18.5	34.4	36.30	H
17998.800	59.5	-13.5	40.8	32.23	V
17961.000	59.2	-13.6	40.8	32.01	V
17285.400	59.2	-13.9	41.2	31.94	V
17635.200	59.2	-13.0	41.1	31.10	V

802.11n-HT40

Channel 38

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5142.500	38.1	-19.4	34.4	23.14	H
5150.000	38.6	-19.4	34.4	23.56	H
10388.000	40.3	-16.9	38.0	19.19	H
15582.000	41.2	-17.5	40.1	18.59	H
17282.800	46.0	-13.9	41.2	18.74	H
17682.100	46.1	-13.1	41.1	18.18	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5148.500	60.8	-19.4	34.4	45.72	H
5149.320	61.2	-19.4	34.4	46.17	H
17495.400	59.5	-14.5	41.2	32.83	V
17635.200	59.2	-13.0	41.1	31.15	H
17555.400	59.1	-13.9	41.2	31.81	H
17239.200	59.1	-14.2	41.2	32.14	V



Channel 46

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5200.200	42.4	-18.7	34.4	26.68	H
5280.000	39.9	-18.6	34.4	24.13	H
10468.000	39.6	-17.3	38.1	18.82	H
15702.000	41.3	-17.4	40.2	18.52	H
17271.800	45.9	-14.0	41.2	18.72	H
17651.300	46.1	-13.1	41.1	18.07	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5182.350	58.3	-19.0	34.4	42.84	H
5287.950	58.8	-18.7	34.5	43.09	H
17498.400	60.4	-14.5	41.2	33.65	V
17619.600	59.5	-13.2	41.1	31.51	V
17613.000	59.4	-13.2	41.1	31.48	H
17950.800	59.1	-13.6	40.8	31.90	H

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Channel 36

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5144.140	38.0	-19.4	34.4	22.97	H
5150.000	38.0	-19.4	34.4	22.94	H
10354.000	39.8	-17.5	37.9	19.38	H
15531.000	41.5	-17.4	40.1	18.83	H
17272.900	46.0	-14.0	41.2	18.81	H
17671.100	46.0	-13.1	41.1	18.04	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5143.640	52.9	-19.4	34.4	37.89	H
5149.998	52.6	-19.4	34.4	37.56	H
17552.400	59.9	-13.9	41.2	32.66	V
17292.600	59.7	-14.0	41.2	32.45	H
17633.400	59.3	-13.0	41.1	31.24	H
17458.200	59.3	-14.9	41.2	33.02	H



Channel 40

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5163.900	38.2	-19.2	34.4	22.96	H
5280.000	38.5	-18.6	34.4	22.73	H
10406.000	40.5	-16.5	38.0	19.02	H
15609.000	41.1	-17.6	40.1	18.53	H
17280.600	45.9	-14.0	41.2	18.66	H
17659.000	46.1	-13.1	41.1	18.10	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5232.600	51.9	-18.3	34.4	35.85	H
5164.500	52.8	-19.2	34.4	37.60	H
17622.000	59.7	-13.1	41.1	31.68	V
17223.000	59.5	-14.3	41.2	32.65	H
17665.800	59.5	-13.1	41.1	31.48	V
17951.400	59.4	-13.6	40.8	32.19	V

Channel 48

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5220.000	39.4	-18.5	34.4	23.43	H
5280.000	39.3	-18.6	34.4	23.53	H
10474.000	39.8	-17.4	38.1	19.09	H
15711.000	41.2	-17.4	40.2	18.37	H
17286.100	45.9	-13.9	41.2	18.63	H
17635.900	46.1	-13.0	41.1	18.02	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5203.500	51.8	-18.7	34.4	36.11	H
5280.150	50.8	-18.7	34.4	35.04	H
17704.800	59.5	-13.2	41.0	31.64	H
17665.800	59.4	-13.1	41.1	31.38	V
17665.200	59.3	-13.1	41.1	31.37	V
17625.600	59.3	-13.1	41.1	31.28	V



802.11ac-HT40

Channel 38

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5146.140	38.8	-19.4	34.4	23.79	H
5150.000	39.1	-19.4	34.4	24.01	H
10388.000	40.2	-16.9	38.0	19.09	H
15582.000	41.3	-17.5	40.1	18.69	H
17277.300	46.0	-14.0	41.2	18.78	H
17649.100	46.1	-13.0	41.1	18.07	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5143.420	61.0	-19.4	34.4	46.02	H
5149.080	62.0	-19.4	34.4	46.97	V
17759.400	59.6	-13.3	41.0	31.91	H
17627.400	59.4	-13.1	41.1	31.36	H
17901.600	59.3	-13.6	40.9	32.01	V
17271.000	59.1	-14.0	41.2	31.96	V

Channel 46

Average:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5200.200	41.0	-18.7	34.4	25.31	H
5280.000	39.7	-18.6	34.4	23.92	H
10468.000	39.6	-17.3	38.1	18.82	H
15702.000	41.3	-17.4	40.2	18.52	H
17283.900	46.1	-13.9	41.2	18.83	H
17649.100	46.1	-13.0	41.1	18.07	H

Peak:

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
5182.350	58.3	-19.0	34.4	42.84	H
5287.950	58.8	-18.7	34.5	43.09	V
17730.000	60.1	-13.3	41.0	32.39	H
17652.000	59.9	-13.1	41.1	31.84	H
17533.800	59.4	-14.1	41.2	32.35	H
17630.400	59.3	-13.0	41.1	31.22	V

Test graphs as below:

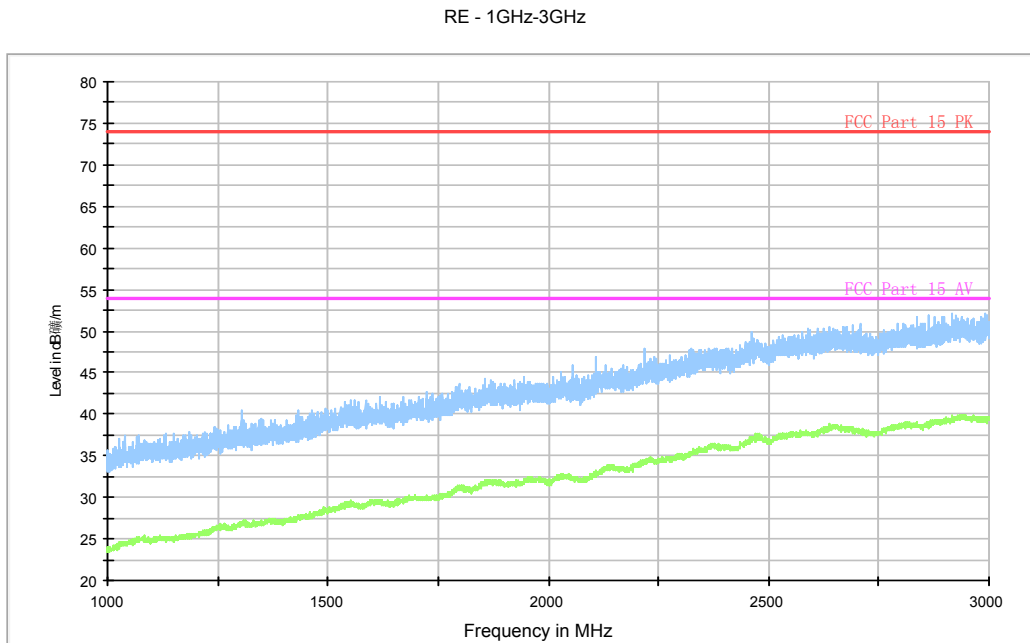


Fig. 24 Radiated Spurious Emission (802.11a, ch36, 1GHz-3GHz)

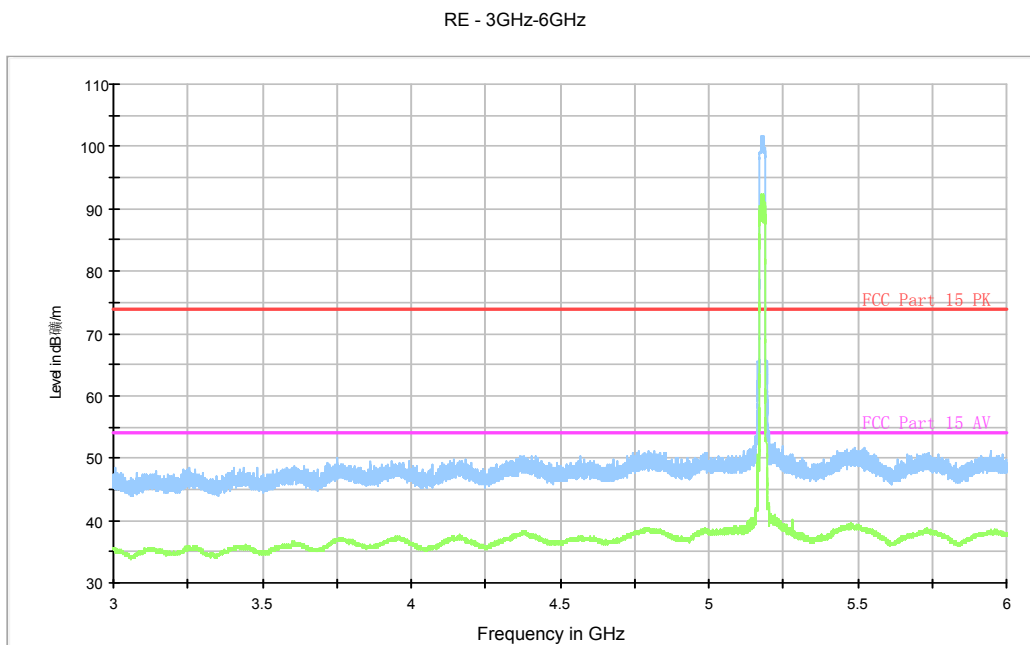


Fig. 25 Radiated Spurious Emission (802.11a, ch36, 3 GHz-6 GHz)

RE - 6GHz-18GHz

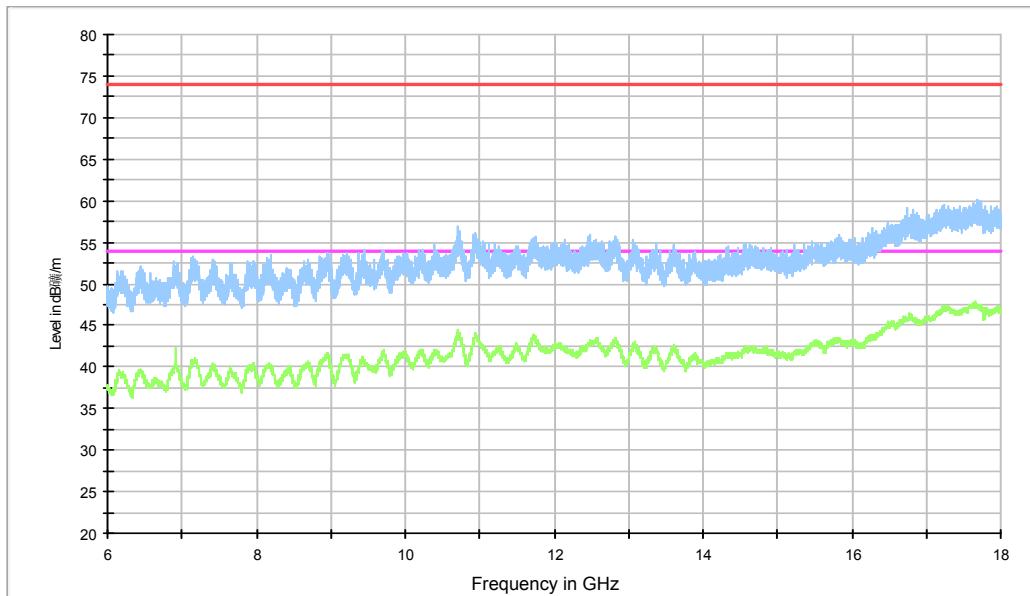


Fig. 26 Radiated Spurious Emission (802.11a, ch36, 6 GHz-18 GHz)

RE 30MHz-1GHz

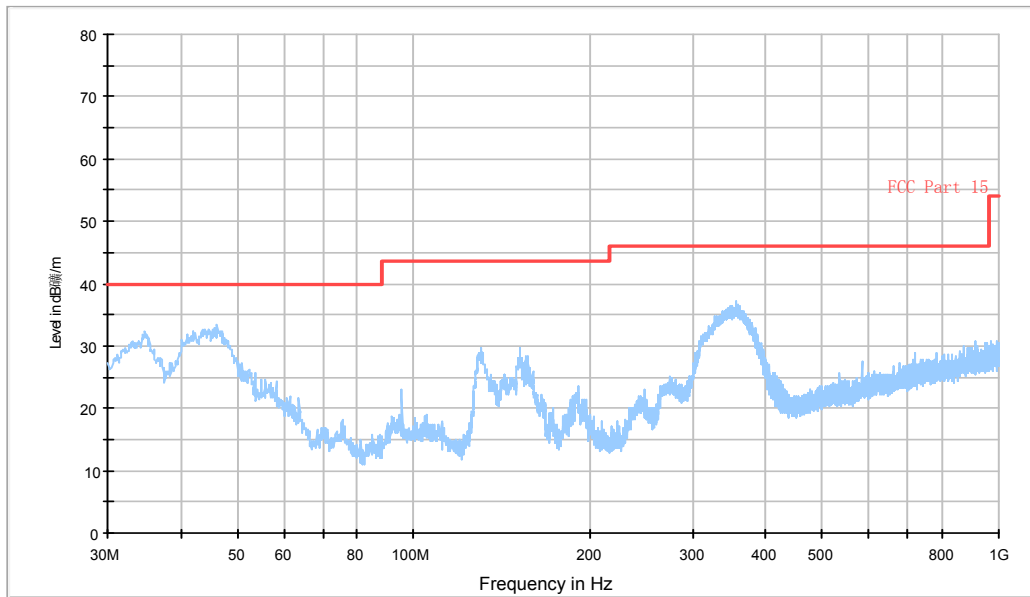


Fig. 27 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz)

RE - 1GHz-3GHz

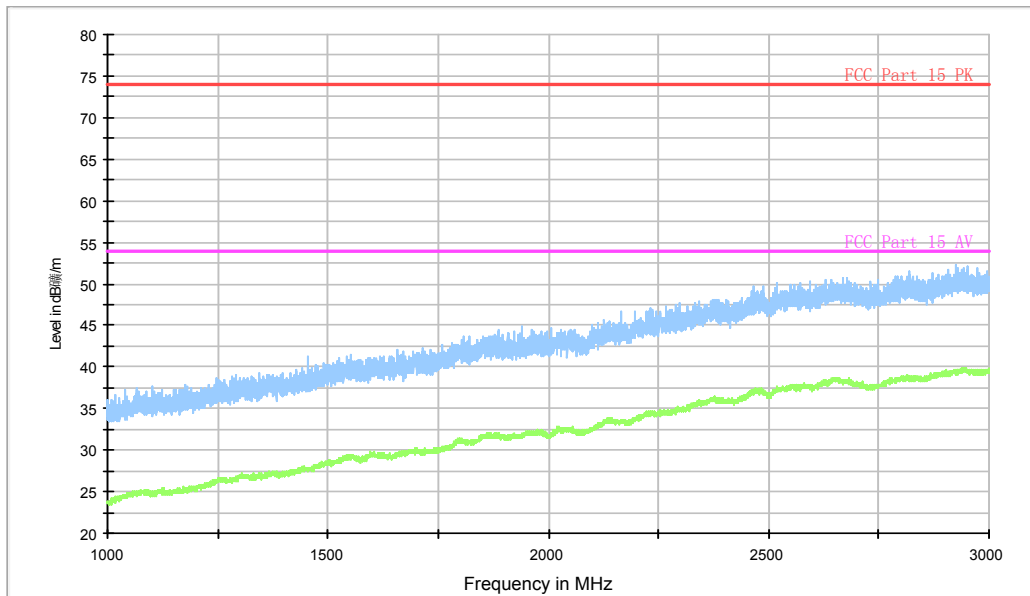


Fig. 28 Radiated Spurious Emission (802.11a, ch40, 1 GHz-3 GHz)

RE - 3GHz-6GHz

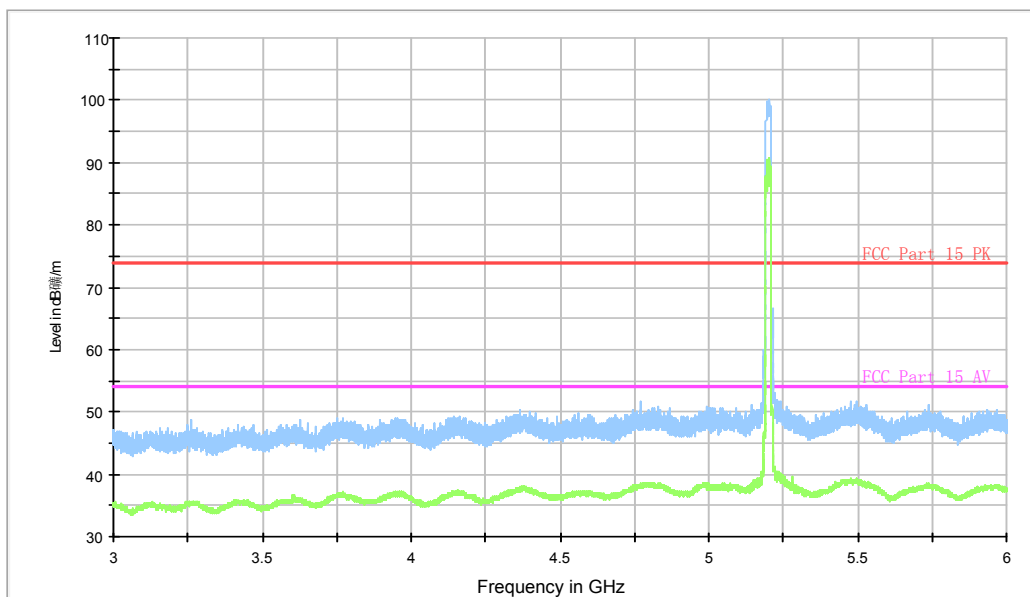


Fig. 29 Radiated Spurious Emission (802.11a, ch40, 3 GHz-6 GHz)

RE - 6GHz-18GHz

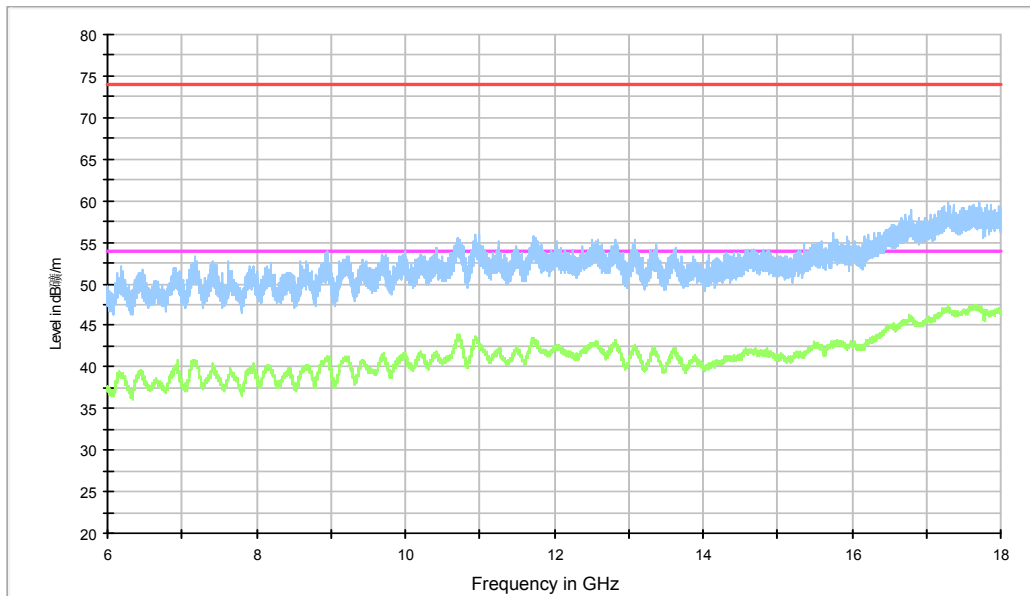


Fig. 30 Radiated Spurious Emission (802.11a, ch40, 6 GHz-18 GHz)

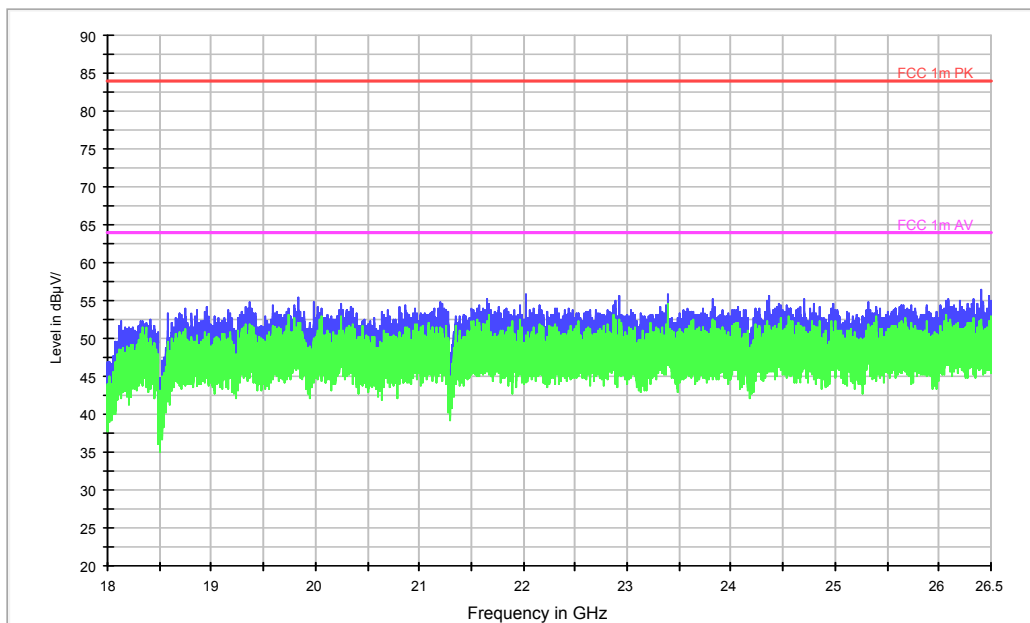


Fig. 31 Radiated Spurious Emission (802.11a, ch40, 18 GHz-26.5 GHz)

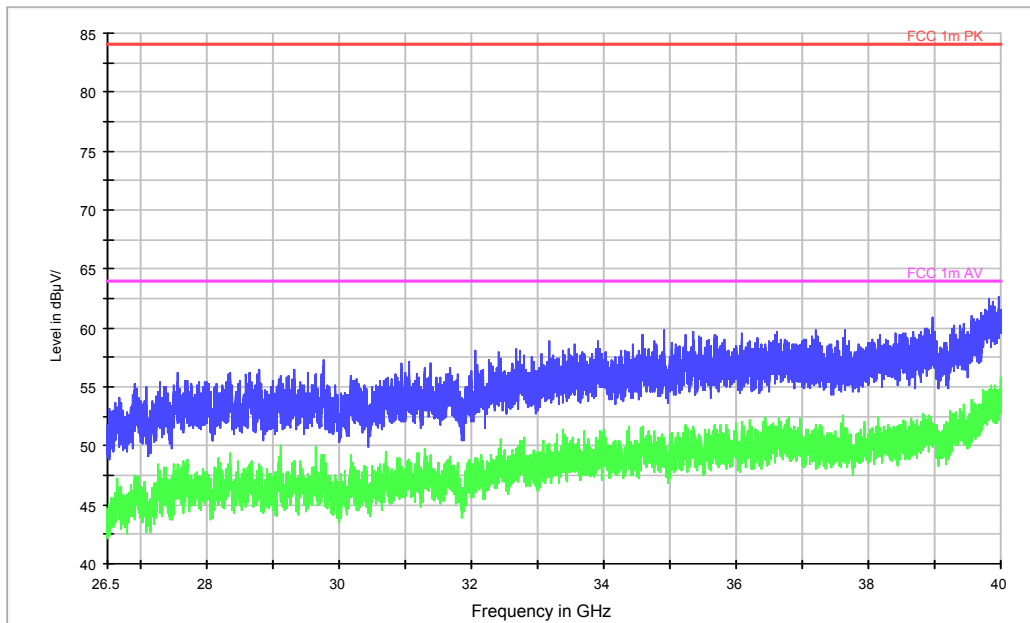


Fig. 32 Radiated Spurious Emission (802.11a, ch40, 26.5 GHz-40 GHz)

RE - 1GHz-3GHz

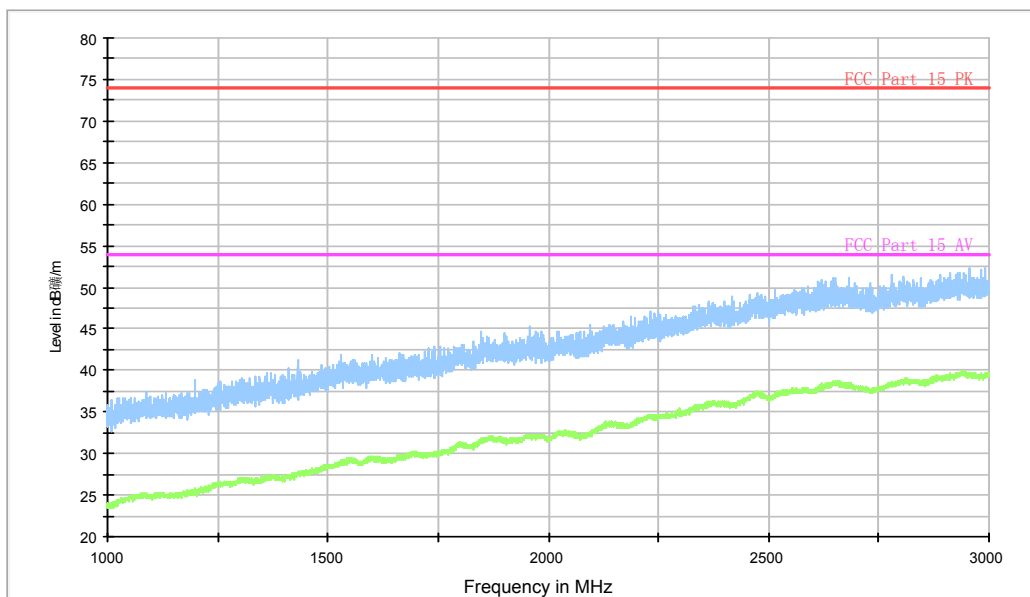


Fig. 33 Radiated Spurious Emission (802.11a, ch48, 1 GHz-3 GHz)

RE - 3GHz-6GHz

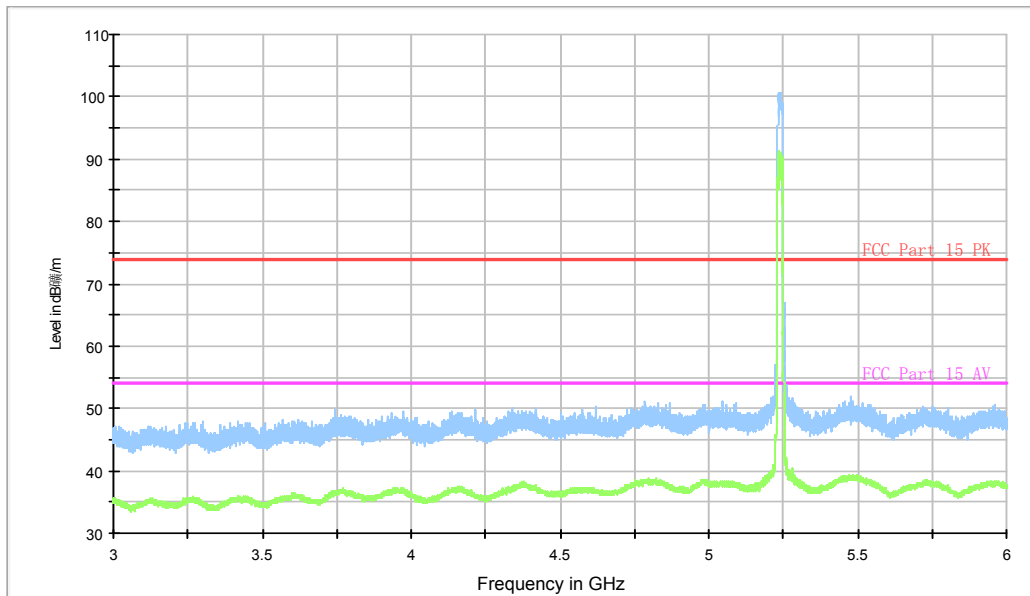


Fig. 34 Radiated Spurious Emission (802.11a, ch48, 3 GHz-6 GHz)

RE - 6GHz-18GHz

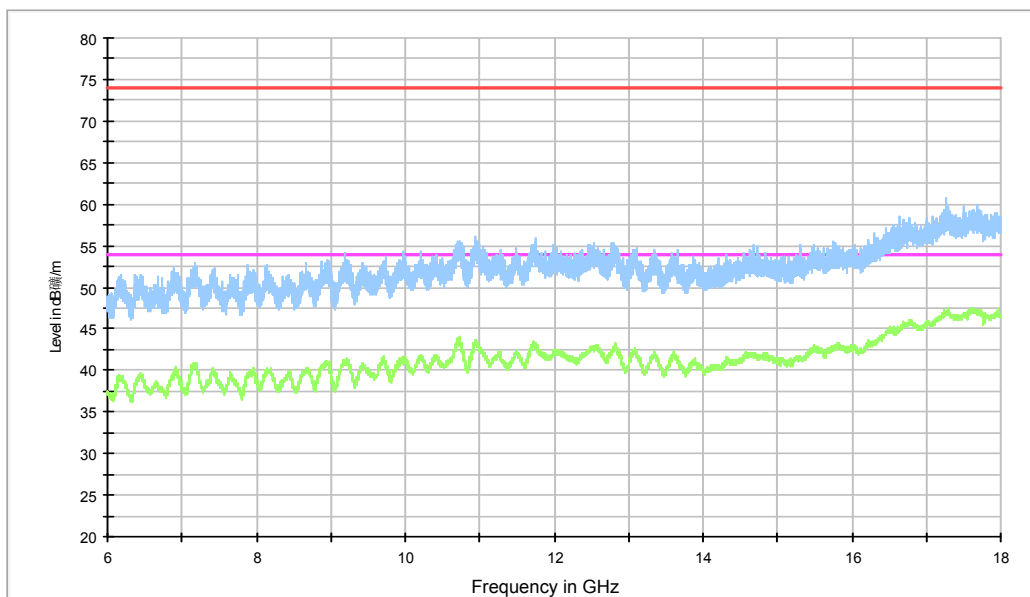


Fig. 35 Radiated Spurious Emission (802.11a, ch48, 6 GHz-18GHz)

RE - 1GHz-3GHz

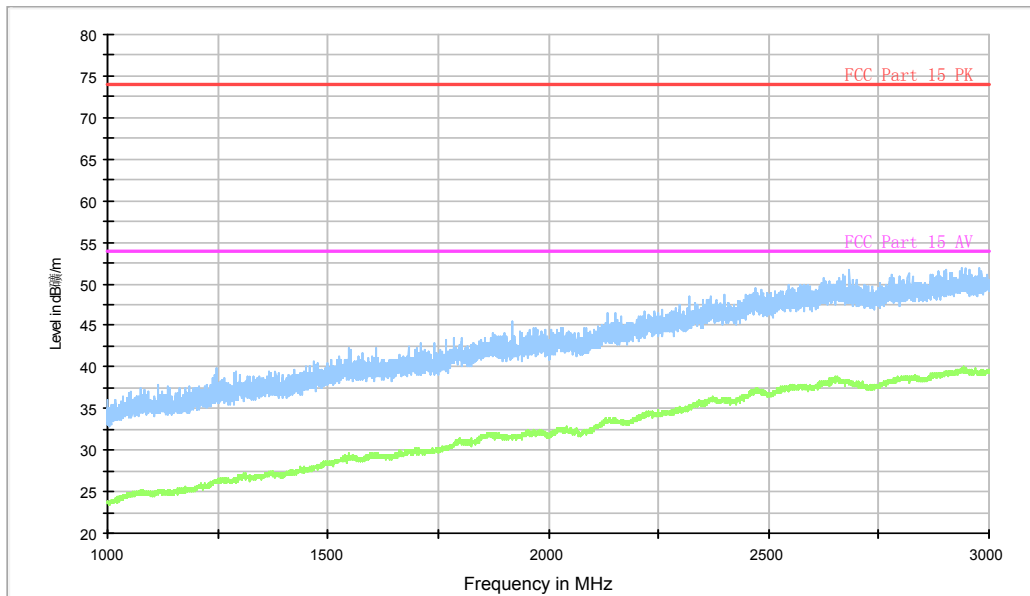


Fig. 36 Radiated Spurious Emission (802.11n-HT20, ch36, 1 GHz-3 GHz)

RE - 3GHz-6GHz

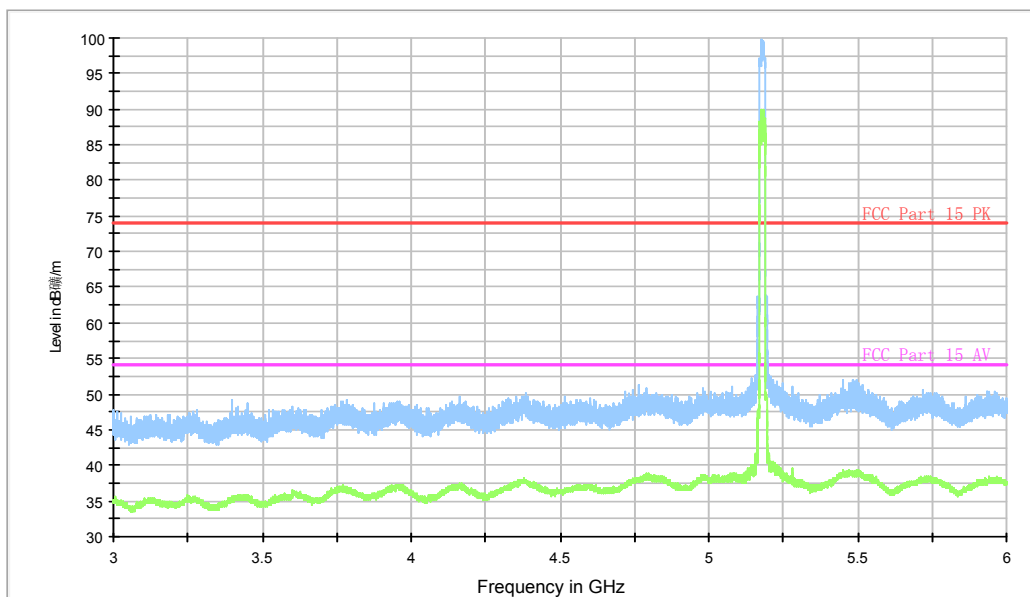


Fig. 37 Radiated Spurious Emission (802.11n-HT20, ch36, 3 GHz-6 GHz)

RE - 6GHz-18GHz

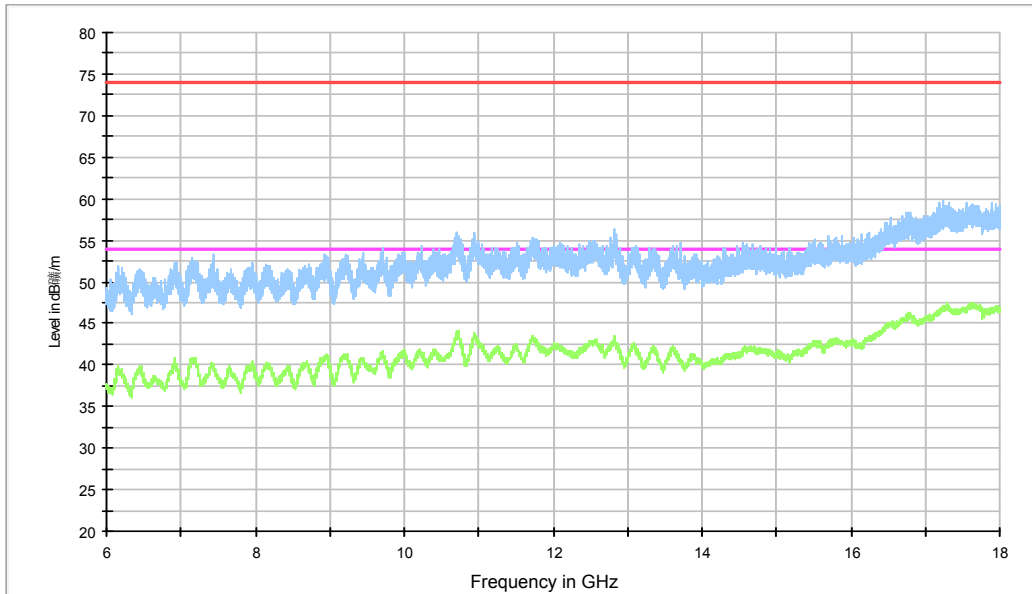


Fig. 38 Radiated Spurious Emission (802.11n-HT20, ch36, 6 GHz-18GHz)

RE 30MHz-1GHz

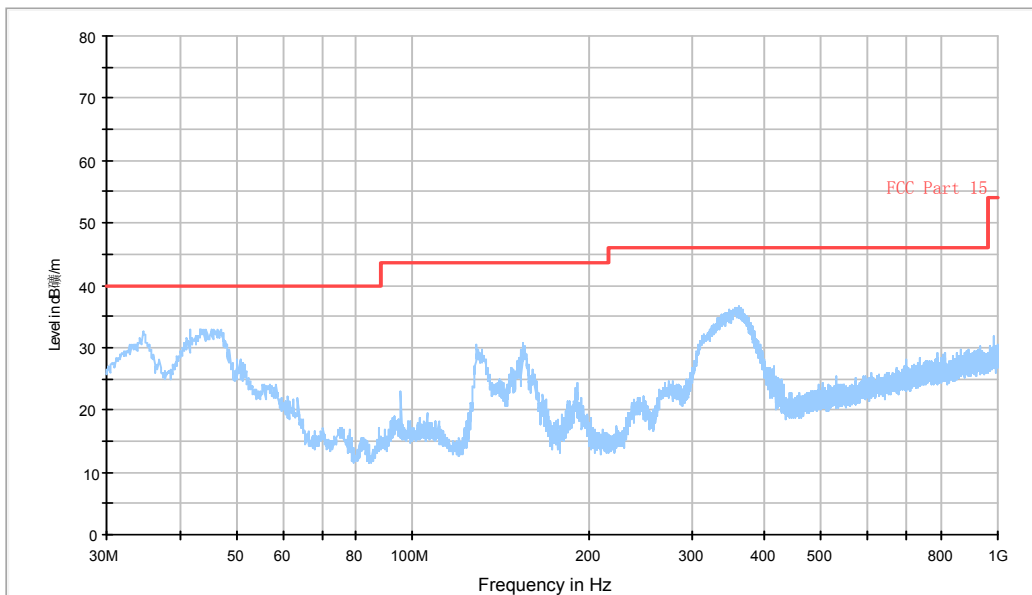


Fig. 39 Radiated Spurious Emission (802.11n-HT20, ch40, 30 MHz-1 GHz)

RE - 1GHz-3GHz

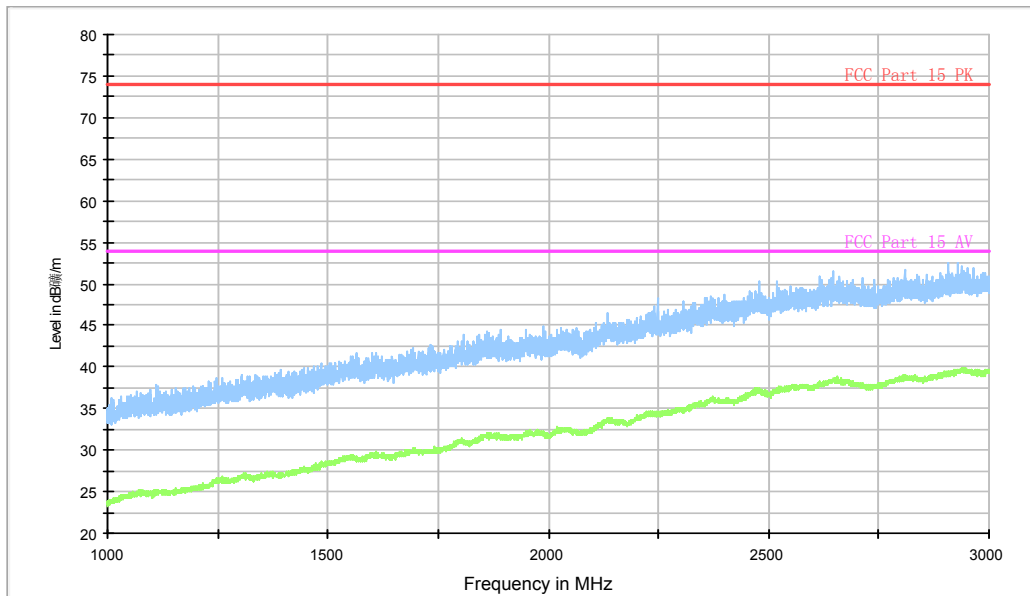


Fig. 40 Radiated Spurious Emission (802.11n-HT20, ch40, 1 GHz-3 GHz)

RE - 3GHz-6GHz

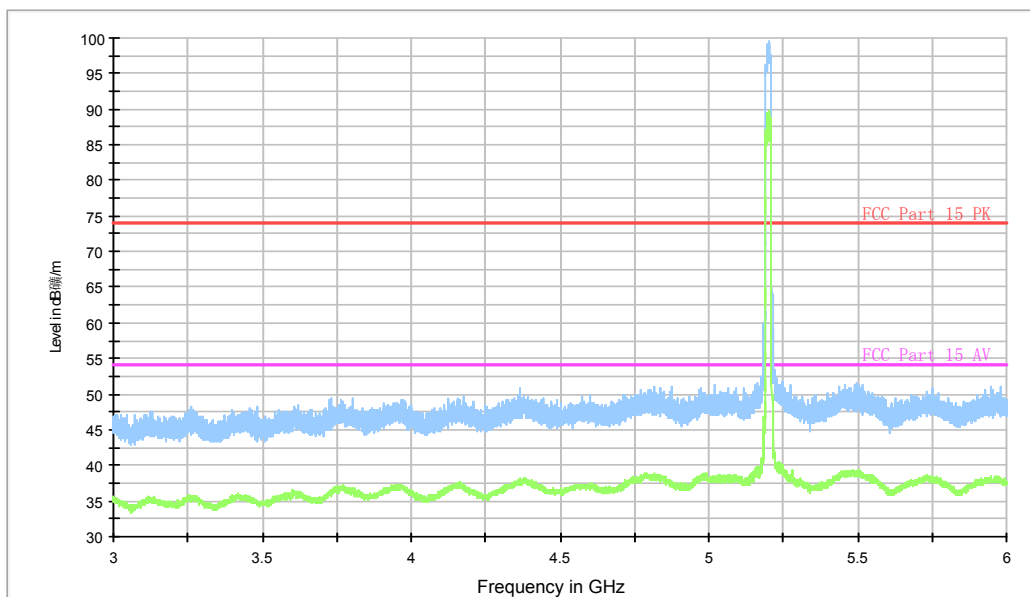


Fig. 41 Radiated Spurious Emission (802.11n-HT20, ch40, 3 GHz-6 GHz)

RE - 6GHz-18GHz

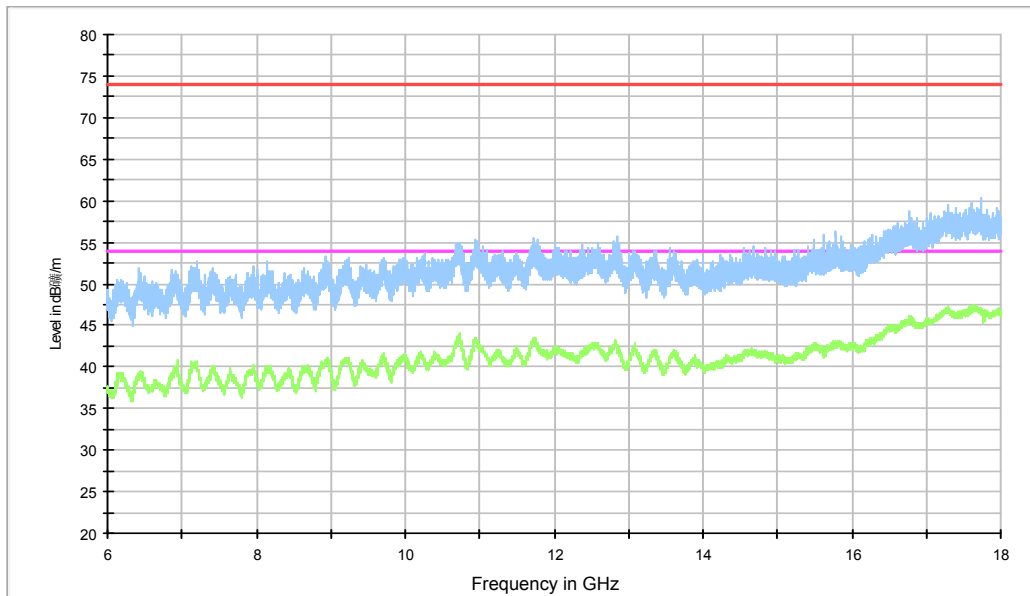


Fig. 42 Radiated Spurious Emission (802.11n-HT20, ch40, 6 GHz-18 GHz)

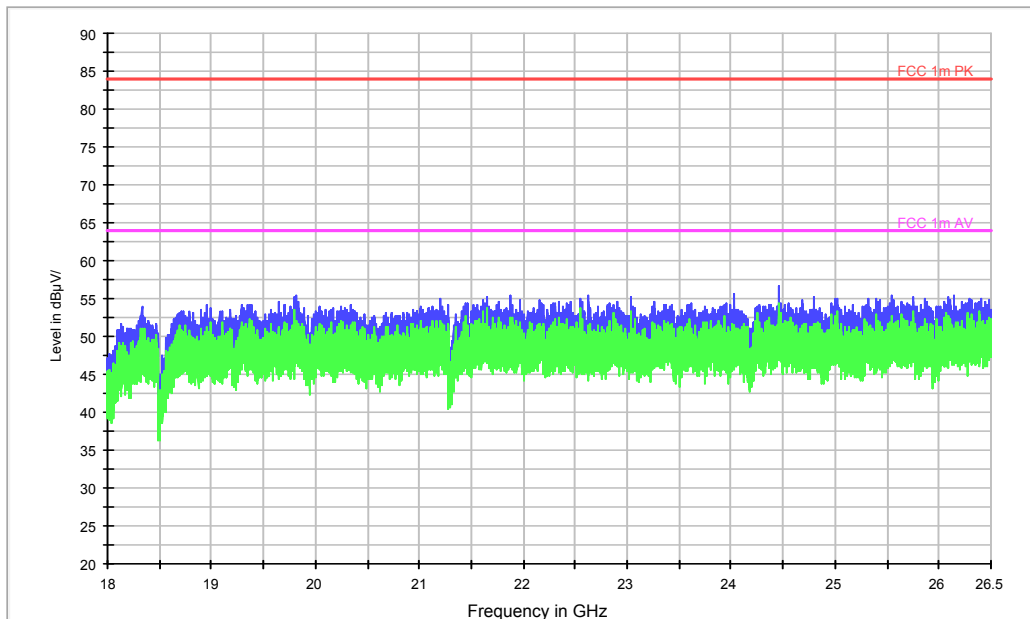


Fig. 43 Radiated Spurious Emission (802.11n-HT20, ch40, 18 GHz-26.5 GHz)

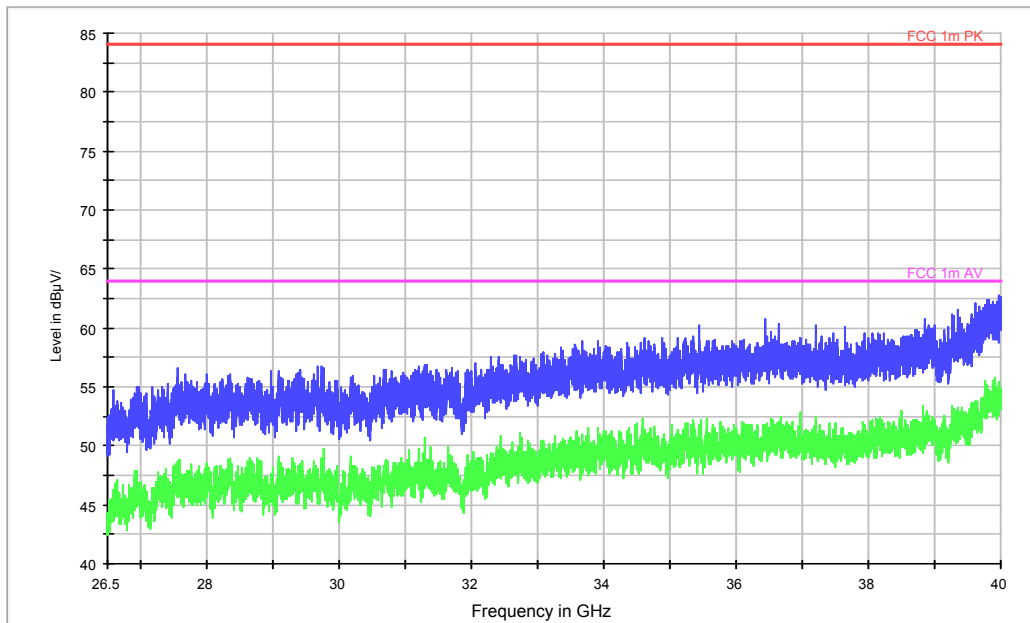


Fig. 44 Radiated Spurious Emission (802.11n-HT20, ch40, 26.5 GHz-40 GHz)

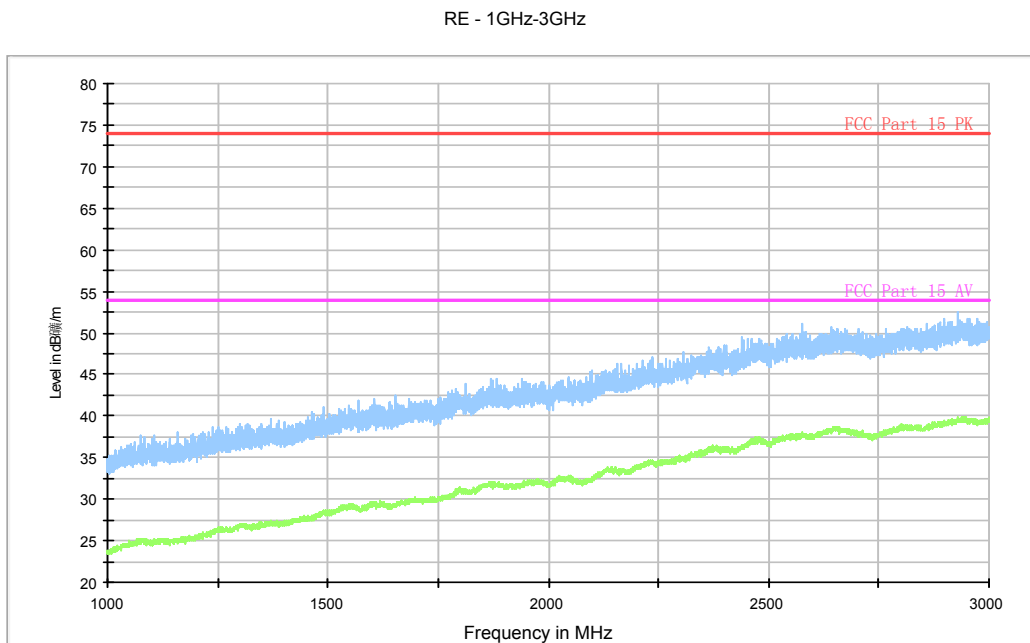


Fig. 45 Radiated Spurious Emission (802.11n-HT20, ch48, 1 GHz-3GHz)

RE - 3GHz-6GHz

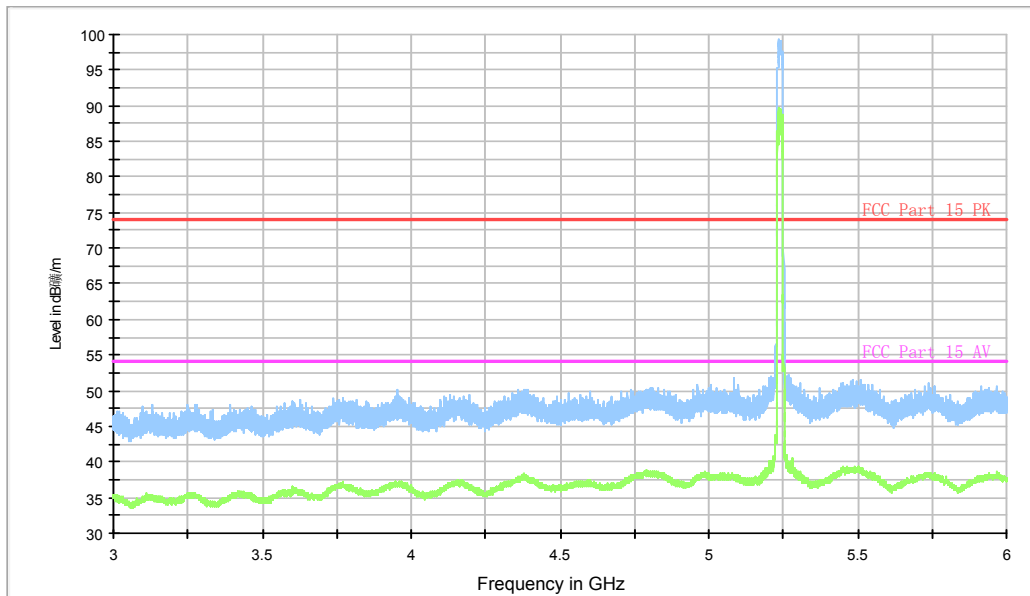


Fig. 46 Radiated Spurious Emission (802.11n-HT20, ch48, 3 GHz-6GHz)

RE - 6GHz-18GHz

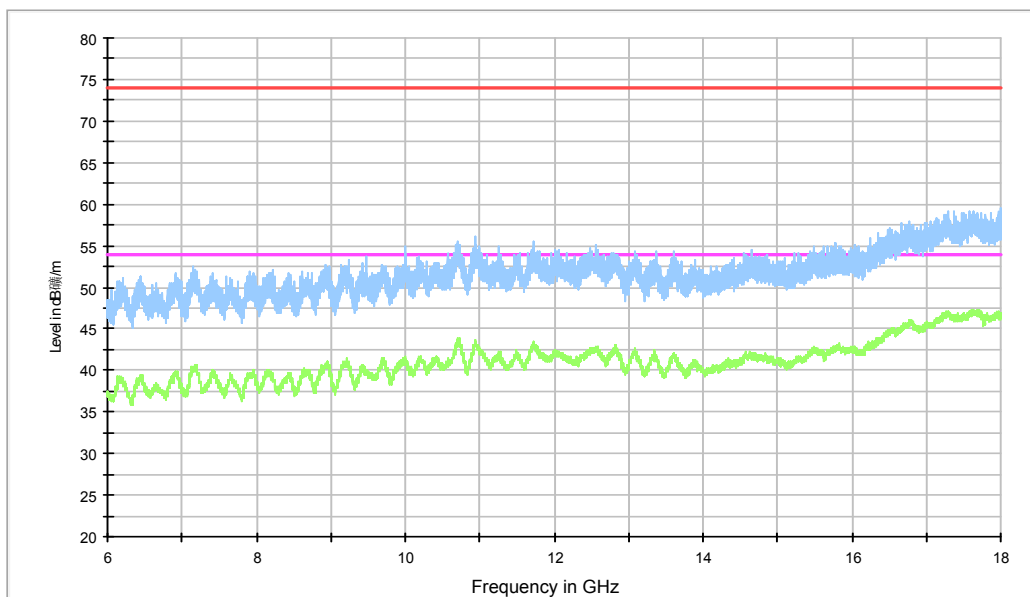


Fig. 47 Radiated Spurious Emission (802.11n-HT20, ch48, 6 GHz-18 GHz)

RE 30MHz-1GHz

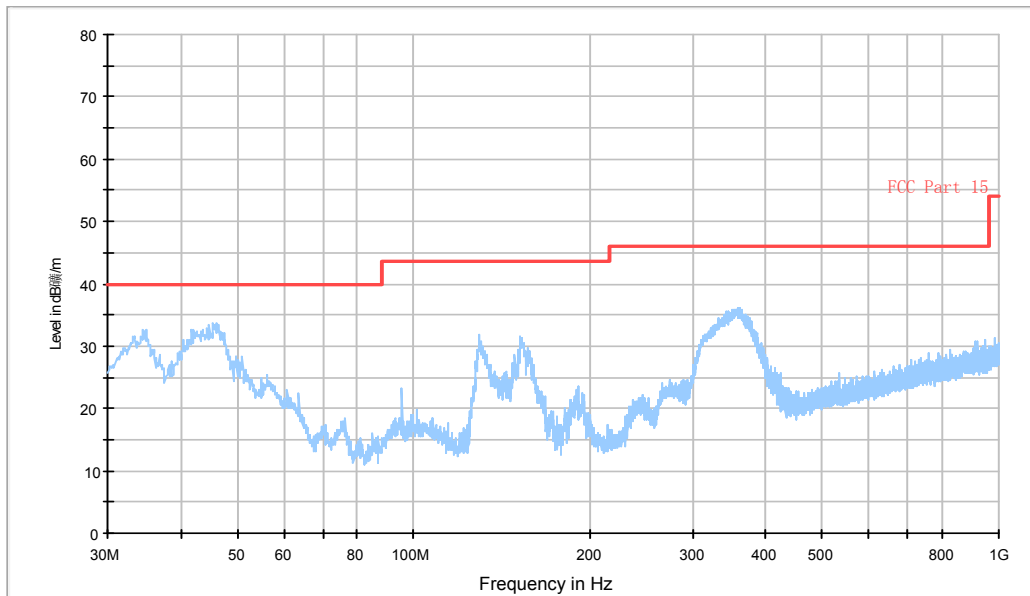


Fig. 48 Radiated Spurious Emission (802.11n-HT40, ch38, 30 MHz-1 GHz)

RE - 1GHz-3GHz

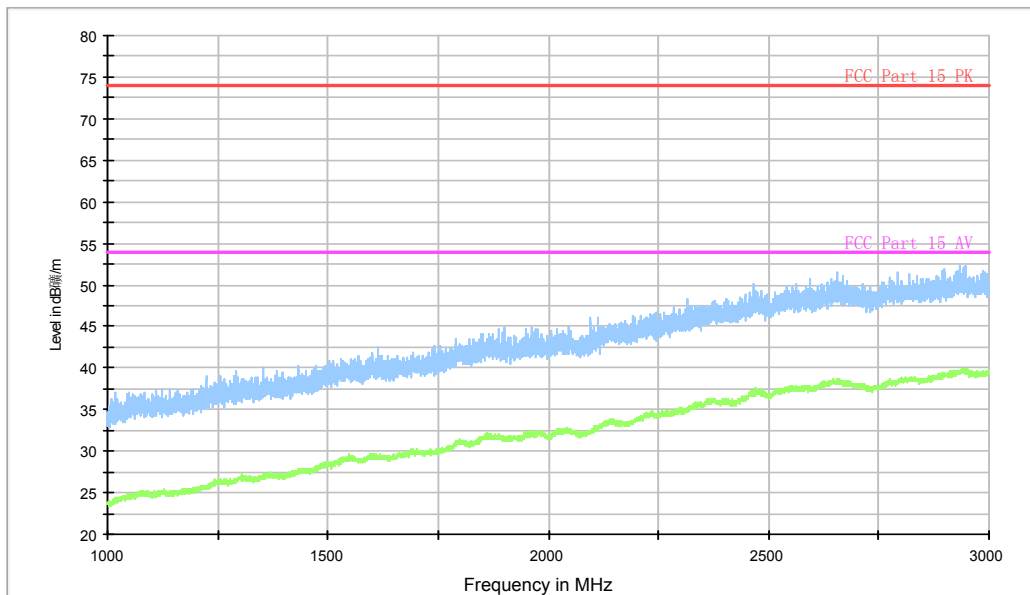


Fig. 49 Radiated Spurious Emission (802.11n-HT40, ch38, 1 GHz-3 GHz)