



FCC PART 15E & RSS 247 TEST REPORT

No. I18N00939-RLAN

for

Spectralink Corp

Wifi/BT handset

9540

with

Hardware Version: PIO

Software Version: vF03

FCC ID: IYG95XX

IC: 2128B-95XX

Issued Date: 2018-09-20

Designation Number: CN1210

ISED Assigned Code: 23289

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 SAICT.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I18N00939-RLAN	Rev.0	1st edition	2018-09-20

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1. TEST LATORATORY

1.1. Testing Location

Location: Shenzhen Academy of Information and Communications Technology
Address: Building G, Shenzhen International Innovation Center, No.1006
Shennan Road, Futian District, Shenzhen, Guangdong Province ,China
Postal Code: 518026
Telephone: +86(0)755-33322000
Fax: +86(0)755-33322001

1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2018-08-29
Testing End Date: 2018-09-12

1.4. Signature



An Ran

(Prepared this test report)



Tang Weisheng

(Reviewed this test report)



Zhang Bojun

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name: Spectralink Corp
Address: 2560 55th Street Boulder, CO 80301 USA
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Telephone: +1 720-925-0480
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2.2. Manufacturer Information

Company Name: Spectralink Corp
Address: 2560 55th Street Boulder, CO 80301 USA
Contact Person Andrew Duncan
E-Mail Andrew.duncan@spectralink.com
Telephone: +1 720-925-0480
Fax: /

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

3.1. About EUT

Description	Wifi/BT handset
Model Name	9540
Market Name	Versity
RLAN Frequency Range	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz(FCC)/ 5470 MHz ~5600MHz and 5650 MHz ~5725MHz(IC) -5725MHz~5850MHz
RLAN Protocol	IEEE 802.11a,802.11n-HT20/40,802.11ac-VHT20/40/80
Type of modulation	OFDM
Antenna Type	Integrated
Antenna Gain	0.7dBi(ANT0),0.8dBi(ANT1)
Power Supply	3.7V DC by Battery
FCC ID	IYG95XX
IC number	2128B-95XX
Condition of EUT as received	No abnormality in appearance

Note: Devices subject to this RSS-247 shall not be capable of transmitting in the band 5600-5650 MHz. Components list, please refer to documents of the manufacturer

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	357023090001067	PIO	VF03	2018-08-09

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

3.3. Internal Identification of AE

AE ID*	Description	Mode	Manufacturer
AE1	Switching Adapter	ASUC71w-050912300	Aquil Star Precision Industrial (ShenZhen) Co., Ltd

*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 Wifi/BT handset with integrated antenna.

It consists of normal options: travel charger, USB cable.

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

Samples undergoing test were selected by the client.

Note: The Wifi/BT handset 9540 manufactured by Spectralink Corp. According to the declaration of changes, Radiated Emissions and Band edge compliance test needs to be performed. else results are cited from the initial model. The report number for initial model is I18N00940-RLAN

4. REFERENCE DOCUMENTS

4.1. Reference Documents for testing

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

Reference	Title	Version
FCC Part15	FCC CFR 47,Part 15,Subpart C FCC CFR 47,Part 15,Subpart E	2017
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
RSS-247	Spectrum Management and Telecommunications Radio Standards Specification Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices	Issue 2 February, 2017
RSS-Gen	Spectrum Management and Telecommunications Radio Standards Specification General Requirements for Compliance of Radio Apparatus	Issue 5 April, 2018
KDB 662911	D01 Multiple Transmitter Output	v02r01

Note: DFS is a separate report.

5. SUMMARY OF TEST RESULTS

5.1. Summary of Test Results

No.	Test cases	Sub-clause of Part15E	Sub-clause of IC	Verdict
1	Band edge compliance	15.407	RSS-247 section 6.2	P
2	Radiated Spurious Emissions	15.407	RSS-GEN 8.9	P

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

5.2. Laboratory Environment

Semi-anechoic Chamber did not exceed following limits along the EMC testing

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ±4dB, 3m/10m distance, from 30 to 1000 MHz
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. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

Fully-anechoic Chamber did not exceed following limits along the EMC testing

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Voltage Standing Wave Ratio (VSWR)	≤6dB, from 1 to 18 GHz, 3m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

6. TEST EQUIPMENTS UTILIZED

Radiated test system

NO.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Loop Antenna	HLA6120	35779	TESEQ	2019-05-02	3 years
2	BiLog Antenna	3142E	00224831	ETS-Lindgren	2021-05-17	3 years
3	Horn Antenna	3117	00066577	ETS-Lindgren	2019-04-05	3 years
4	Test Receiver	ESR7	101676	Rohde & Schwarz	2018-11-29	1 year
5	Spectrum Analyser	FSV40	101192	Rohde & Schwarz	2019-05-21	1 year
6	Chamber	FACT3-2.0	1285	ETS-Lindgren	2020-07-20	3 years
7	Antenna	QSH-SL-18-26-S-20	17013	Q-par	2020-01-15	3 years
8	Antenna	QSH-SL-26-40-K-20	17014	Q-par	2020-01-11	3 years

Test software

No.	Equipment	Manufacturer	Version
1	EMC32	Rohde & Schwarz	10.01.00

EUT is Qualcomm engineering software provided by the customer to control the transmitting signal.

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren

7. Measurement Uncertainty

Test Name	Uncertainty	
1. Transmitter Spurious Emission - Radiated	9kHz≤f≤30MHz	±1.84dB
	30MHz≤f≤1GHz	±4.90dB
	1GHz≤f≤18GHz	±5.12dB
	18GHz≤f≤40GHz	±4.66dB

ANNEX A: MEASUREMENT RESULTS

A.1. Band Edges Compliance

Measurement Limit:

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

The measurement is made according to KDB 789033

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz(CH36)	Fig.1	P
	5320 MHz(CH64)	Fig.2	P
	5500 MHz(CH100)	Fig.3	P
	5700 MHz(CH140)	Fig.4	P
	5745 MHz(CH149)	Fig.5	P
	5825 MHz(CH165)	Fig.6	P
802.11n HT40	5190 MHz(CH38)	Fig.7	P
	5310 MHz(CH62)	Fig.8	P
	5510 MHz(CH102)	Fig.9	P
	5670 MHz(CH134)	Fig.10	P
	5755 MHz(CH151)	Fig.11	P
	5795 MHz(CH159)	Fig.12	P
802.11ac VHT80	5210 MHz(CH42)	Fig.13	P
	5290 MHz(CH58)	Fig.14	P
	5530 MHz(CH106)	Fig.15	P
	5775 MHz(CH155)	Fig.16	P

NOTE: The measurement results include the horizontal polarization and vertical polarization measurements.

NOTE: The test cases are selected as the worst cases for every conditions.

Conclusion: PASS

Test graphs as below:

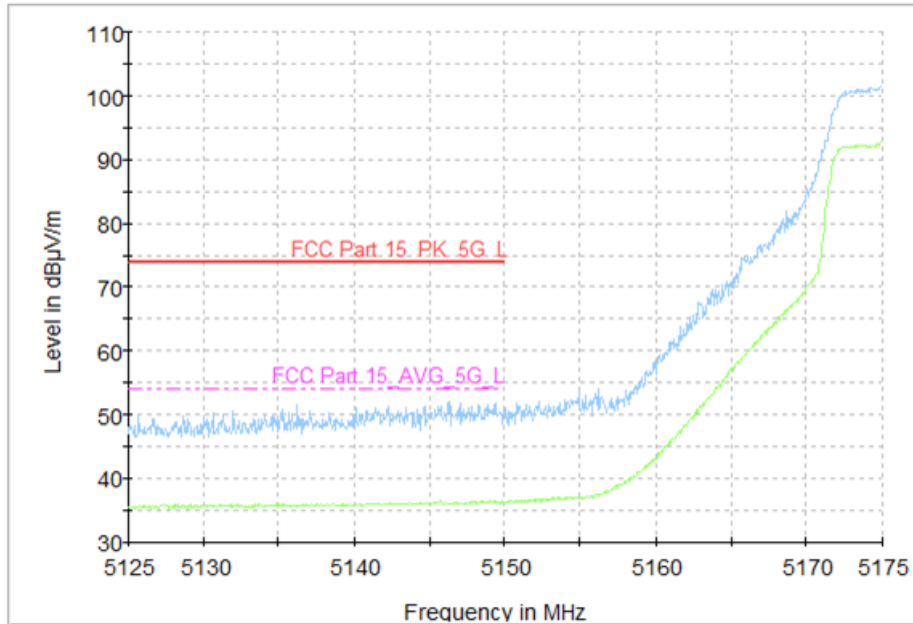


Fig. 1 Band Edges (802.11a, CH36 5180MHz)

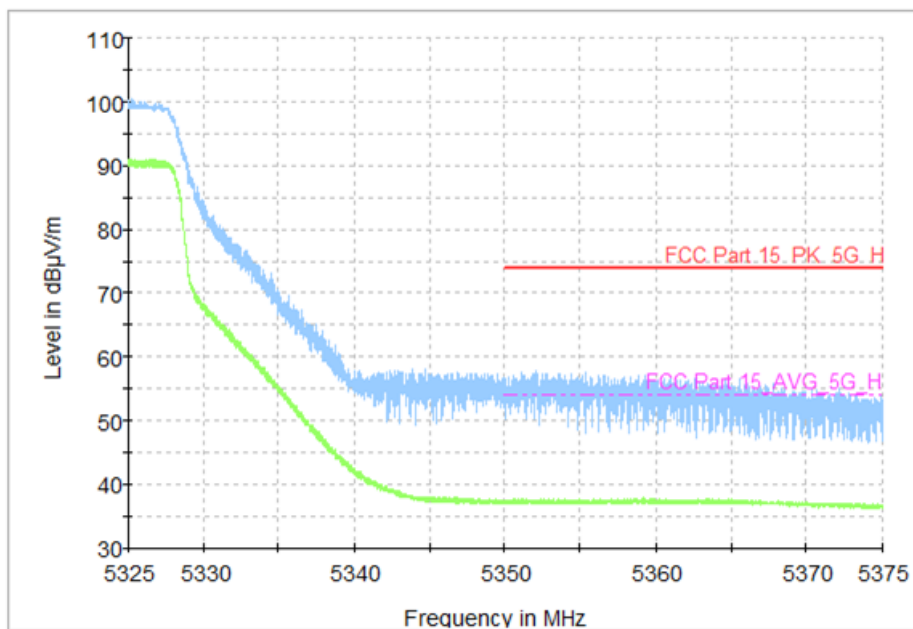


Fig. 2 Band Edges (802.11a, CH64 5320MHz)

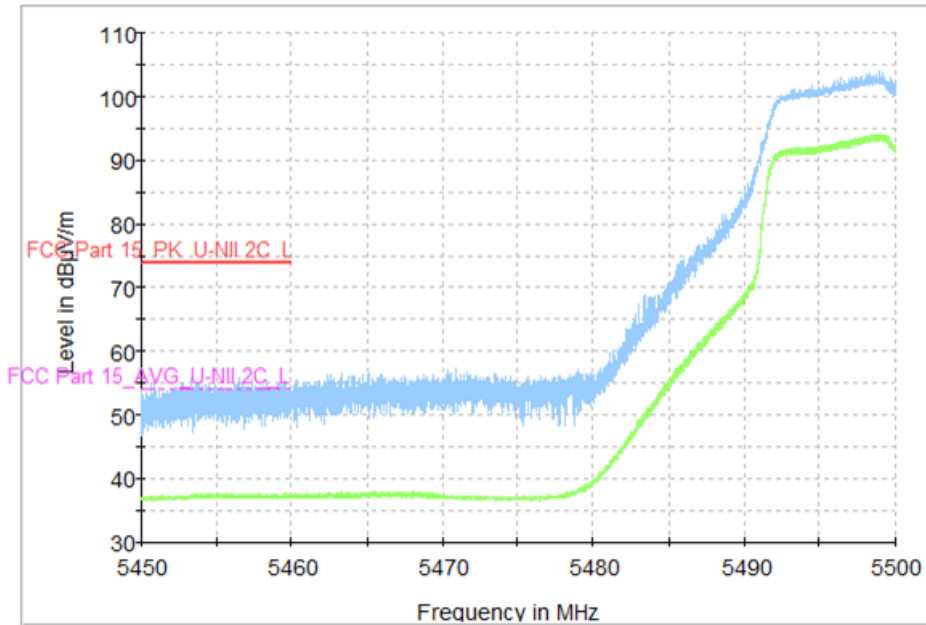


Fig. 3 Band Edges (802.11a, CH100 5500MHz)

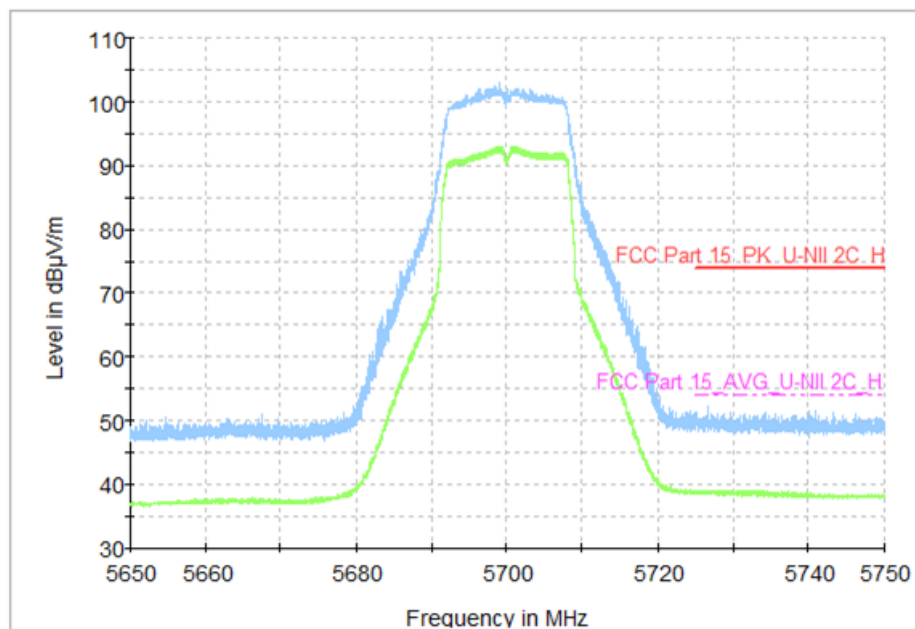


Fig. 4 Band Edges (802.11a, CH140 5700MHz)

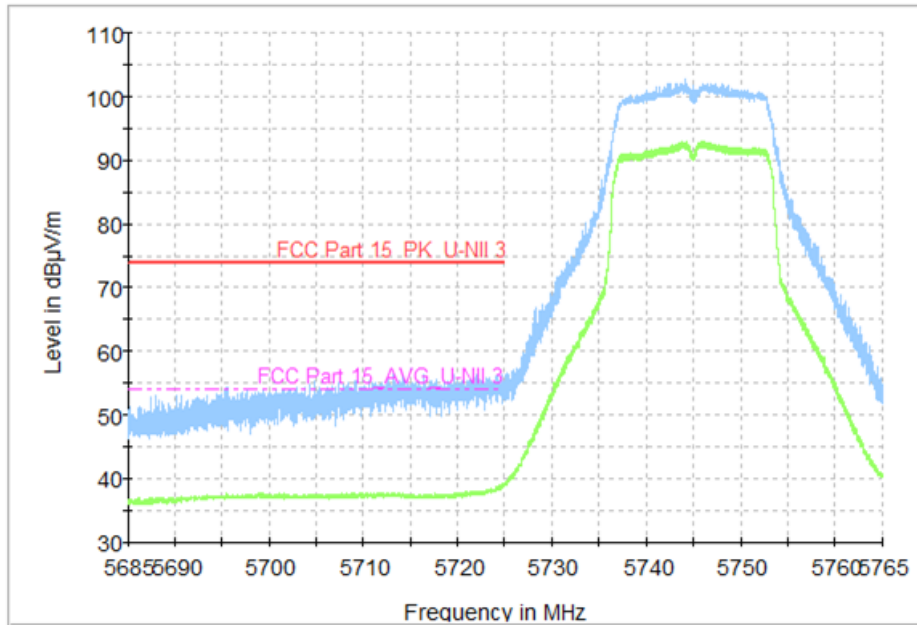


Fig. 5 Band Edges (802.11a, CH149 5745MHz)

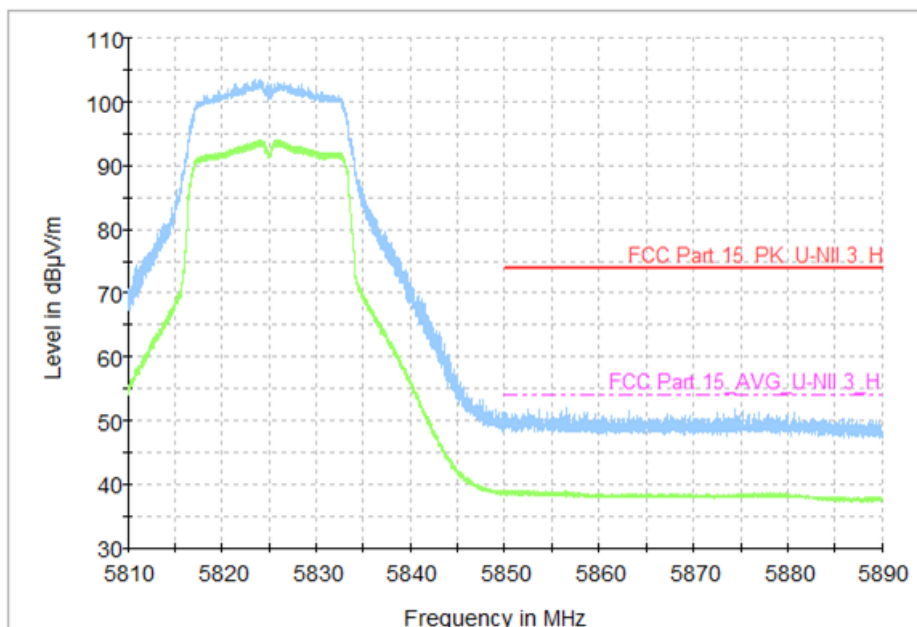


Fig. 6 Band Edges (802.11a, CH165 5825MHz)

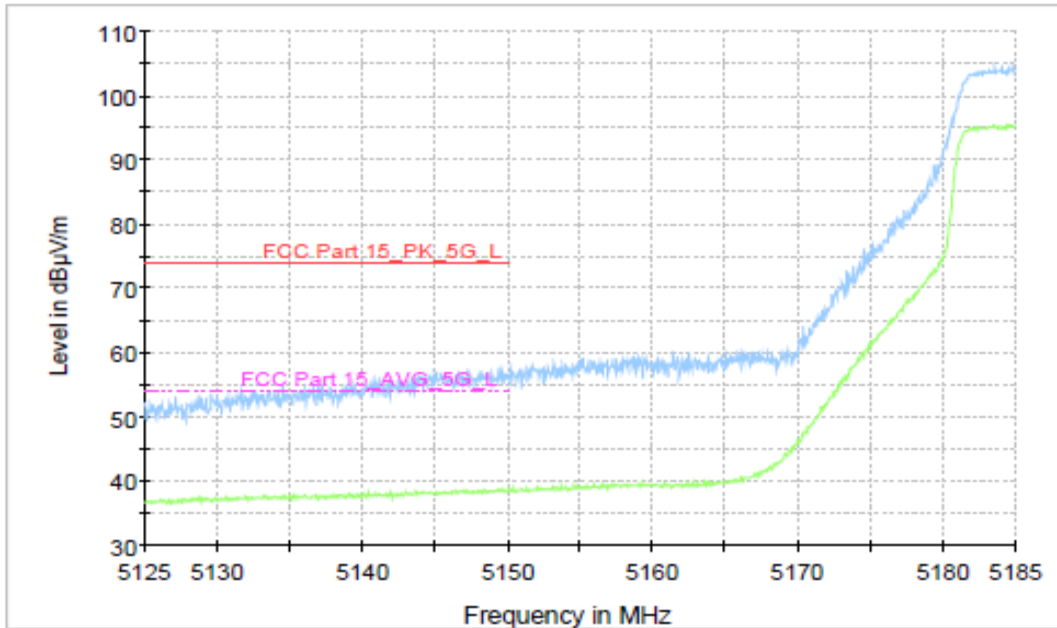


Fig. 7 Band Edges (802.11n-HT40, CH38 5190MHz)

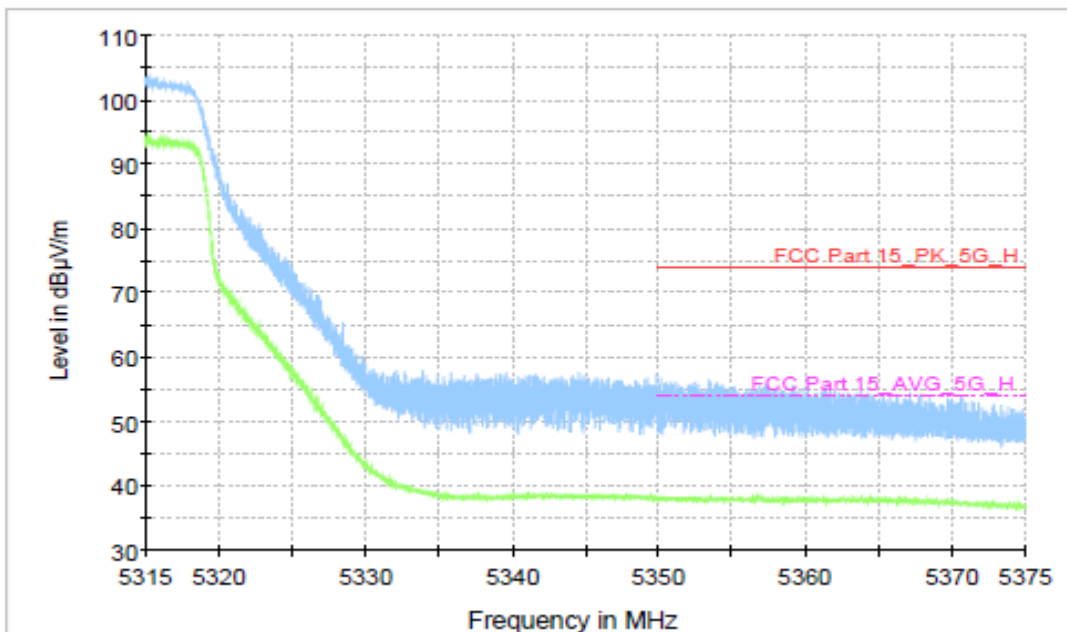


Fig. 8 Band Edges (802.11n-HT40, CH62 5310MHz)

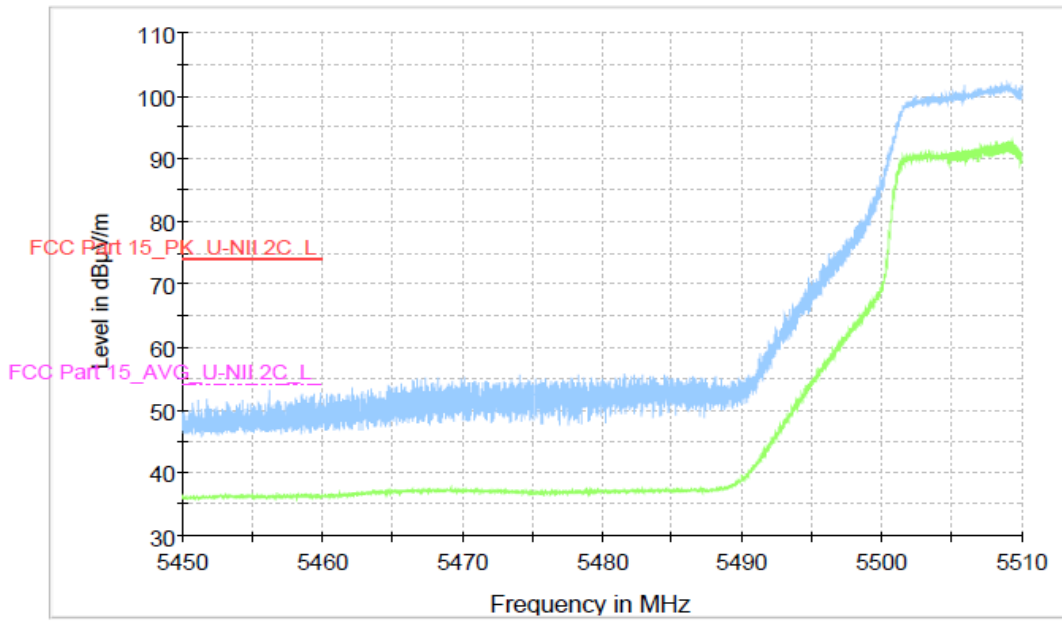


Fig. 9 Band Edges (802.11n-HT40, CH102 5510MHz)

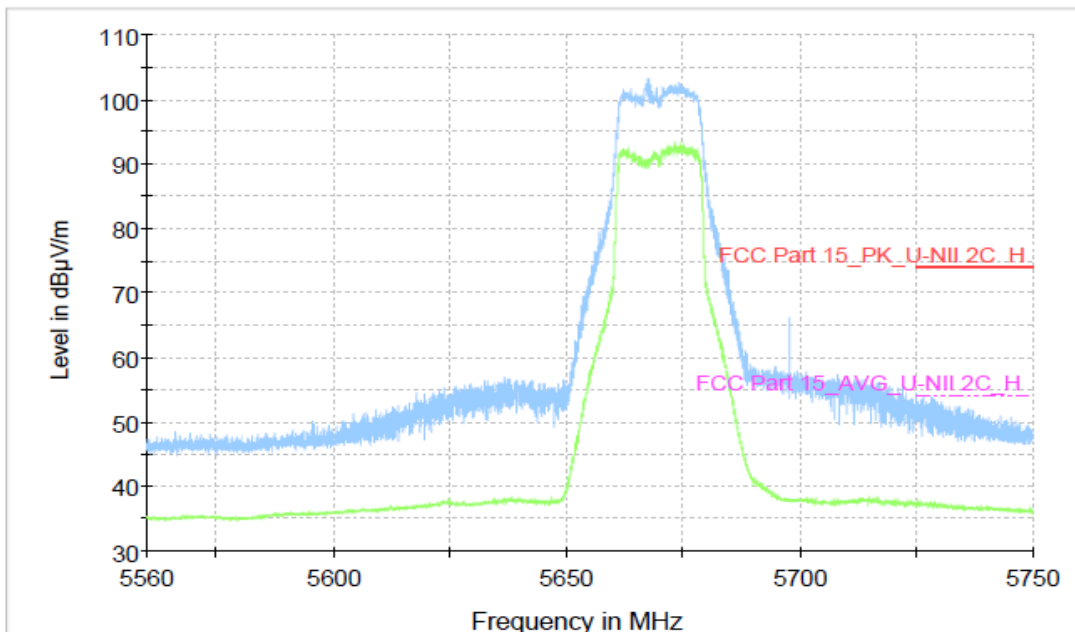


Fig. 10 Band Edges (802.11n-HT40, CH134 5670MHz)

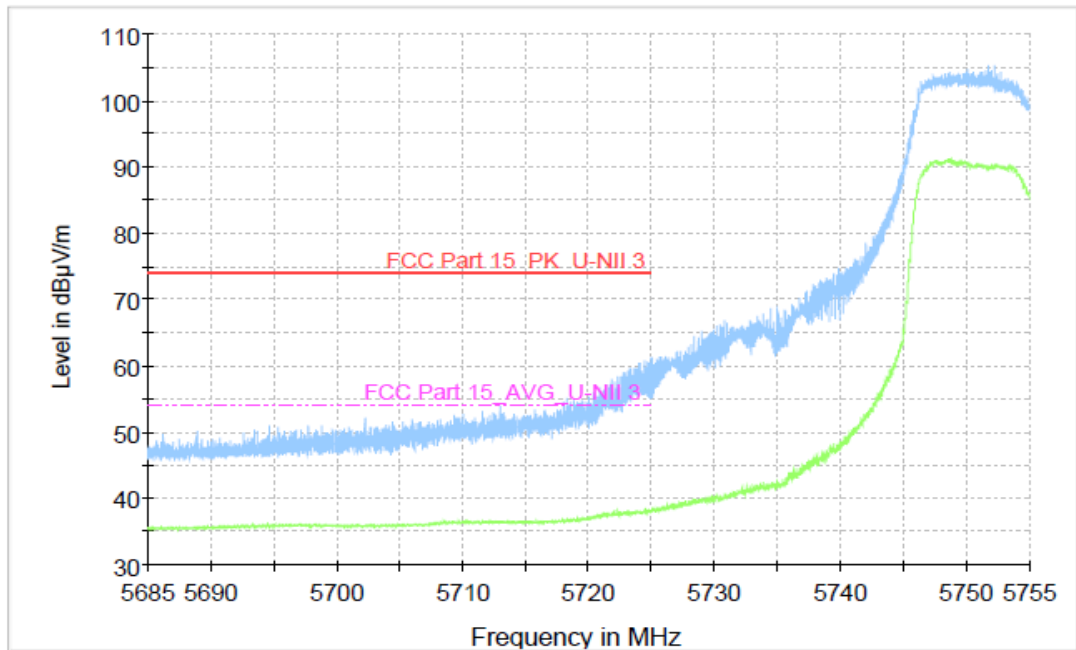


Fig. 11 Band Edges (802.11n-HT40, CH151 5755MHz)

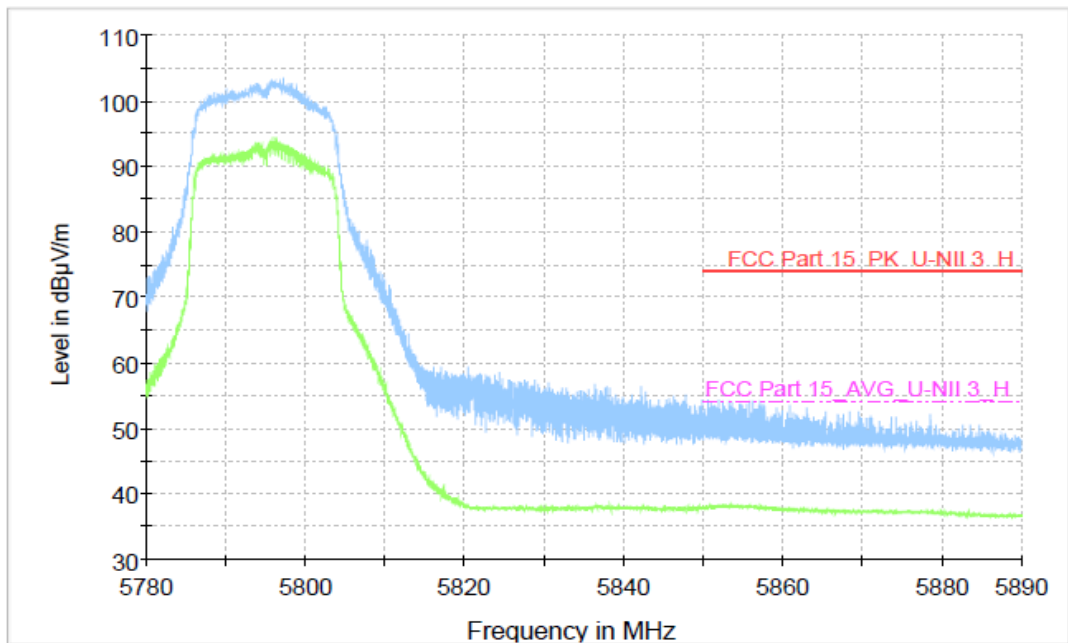


Fig. 12 Band Edges (802.11n-HT40, CH159 5795MHz)

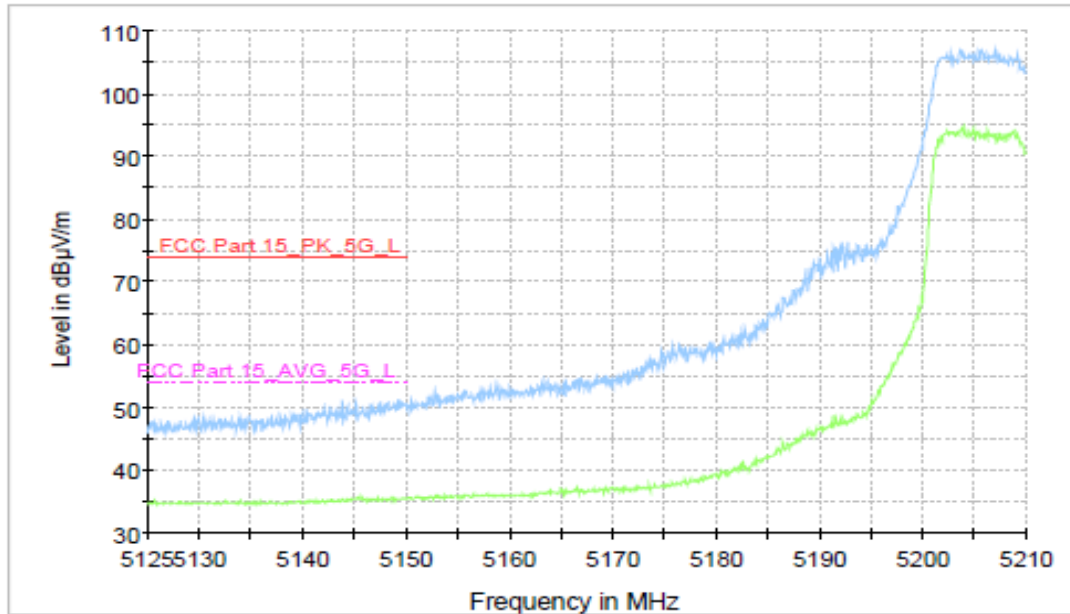


Fig. 13 Band Edges (802.11ac-VHT80, CH42 5210MHz)

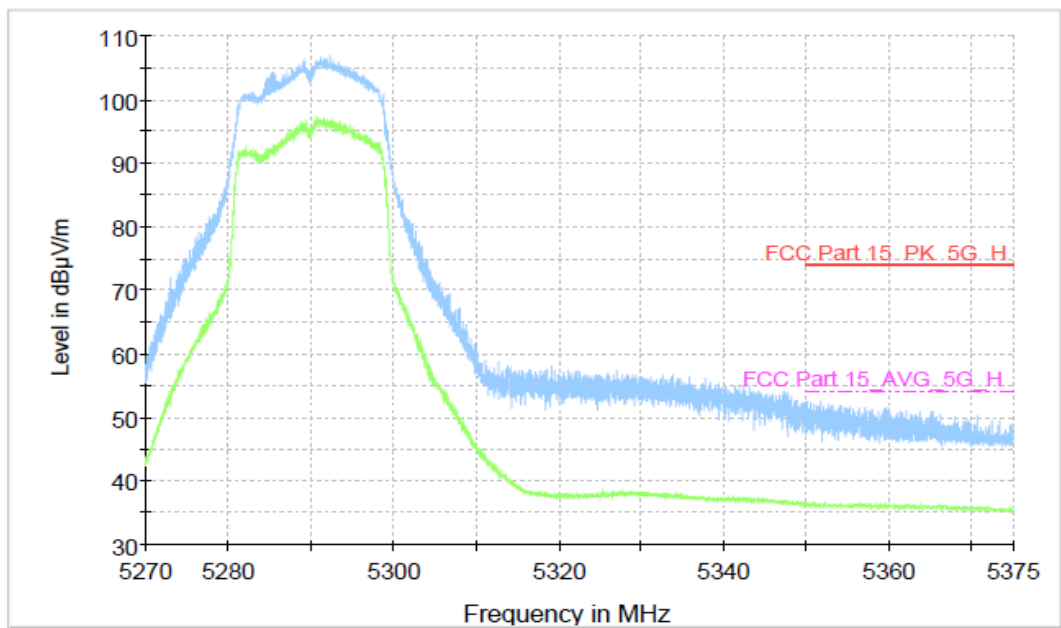


Fig. 14 Band Edges (802.11ac-VHT80, CH58 5290MHz)

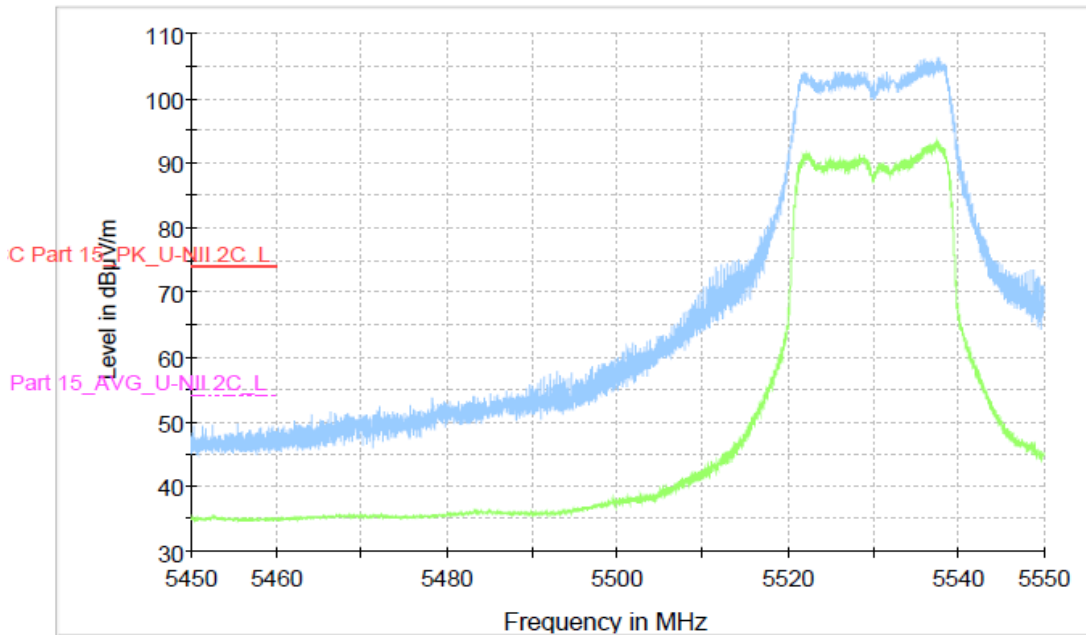


Fig. 15 Band Edges (802.11ac-VHT80, CH106 5530MHz)

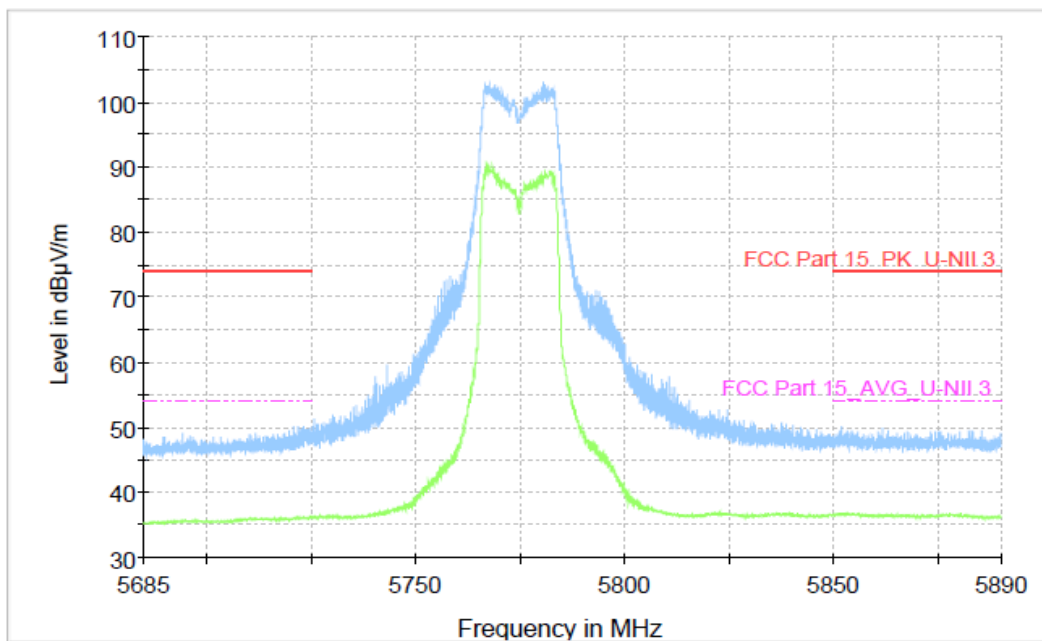


Fig. 16 Band Edges (802.11ac-VHT80, 5775MHz)

A.8. Transmitter Spurious Emission

Measurement Limit:

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

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 (dB μ V/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 Result:

SISO (Antenna 1):

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	5180MHz(Ch36)	1 GHz ~18 GHz	Fig.17	P
	5200MHz(Ch40)	1 GHz ~18 GHz	Fig.18	P
	5240MHz(Ch48)	1 GHz ~18 GHz	Fig.19	P
	5260MHz(Ch52)	1 GHz ~18 GHz	Fig.20	P
	5280MHz(Ch56)	1 GHz ~18 GHz	Fig.21	P
	5320MHz(Ch64)	1 GHz ~18 GHz	Fig.22	P
	5500MHz(Ch100)	1 GHz ~18 GHz	Fig.23	P
	5600MHz(Ch120)	1 GHz ~18 GHz	Fig.24	P
	5700MHz(Ch140)	1 GHz ~18 GHz	Fig.25	P
	5745MHz(Ch149)	1 GHz ~18 GHz	Fig.26	P
	5785MHz(Ch157)	1 GHz ~18 GHz	Fig.27	P
5825MHz(Ch165)	1 GHz ~18 GHz	Fig.28	P	
802.11n HT40	5190MHz(Ch38)	1 GHz ~18 GHz	Fig.29	P
	5230MHz(Ch46)	1 GHz ~18 GHz	Fig.30	P
	5270MHz(Ch54)	1 GHz ~18 GHz	Fig.31	P
	5310MHz(Ch62)	1 GHz ~18 GHz	Fig.32	P
	5510MHz(Ch102)	1 GHz ~18 GHz	Fig.33	P
	5590MHz(Ch118)	1 GHz ~18 GHz	Fig.34	P
	5670MHz(Ch134)	1 GHz ~18 GHz	Fig.35	P
	5755MHz(Ch151)	1 GHz ~18 GHz	Fig.36	P
5795MHz(Ch159)	1 GHz ~18 GHz	Fig.37	P	

802.11ac VHT80	5210MHz(Ch42)	1 GHz ~18 GHz	Fig.38	P
	5290MHz(Ch58)	1 GHz ~18 GHz	Fig.39	P
	5530MHz(Ch106)	1 GHz ~18 GHz	Fig.40	P
	5610MHz(Ch122)	1 GHz ~18 GHz	Fig.41	P
	5775MHz(Ch155)	1 GHz ~18 GHz	Fig.42	P
All channels		30 MHz ~1 GHz	Fig.43	P
		18 GHz ~26.5 GHz	Fig.44	P
		26.5GHz~40GHz	Fig.45	P

MIMO:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	5180MHz(Ch36)	1 GHz ~18 GHz	Fig.46	P
	5200MHz(Ch40)	1 GHz ~18 GHz	Fig.47	P
	5240MHz(Ch48)	1 GHz ~18 GHz	Fig.48	P
	5260MHz(Ch52)	1 GHz ~18 GHz	Fig.49	P
	5280MHz(Ch56)	1 GHz ~18 GHz	Fig.50	P
	5320MHz(Ch64)	1 GHz ~18 GHz	Fig.51	P
	5500MHz(Ch100)	1 GHz ~18 GHz	Fig.52	P
	5600MHz(Ch120)	1 GHz ~18 GHz	Fig.53	P
	5700MHz(Ch140)	1 GHz ~18 GHz	Fig.54	P
	5745MHz(Ch149)	1 GHz ~18 GHz	Fig.55	P
	5785MHz(Ch157)	1 GHz ~18 GHz	Fig.56	P
5825MHz(Ch165)	1 GHz ~18 GHz	Fig.57	P	
802.11n HT40	5190MHz(Ch38)	1 GHz ~18 GHz	Fig.58	P
	5230MHz(Ch46)	1 GHz ~18 GHz	Fig.59	P
	5270MHz(Ch54)	1 GHz ~18 GHz	Fig.60	P
	5310MHz(Ch62)	1 GHz ~18 GHz	Fig.61	P
	5510MHz(Ch102)	1 GHz ~18 GHz	Fig.62	P
	5590MHz(Ch118)	1 GHz ~18 GHz	Fig.63	P
	5670MHz(Ch134)	1 GHz ~18 GHz	Fig.64	P
	5755MHz(Ch151)	1 GHz ~18 GHz	Fig.65	P
	5795MHz(Ch159)	1 GHz ~18 GHz	Fig.66	P
802.11ac VHT80	5210MHz(Ch42)	1 GHz ~18 GHz	Fig.67	P
	5290MHz(Ch58)	1 GHz ~18 GHz	Fig.68	P
	5530MHz(Ch106)	1 GHz ~18 GHz	Fig.69	P
	5610MHz(Ch122)	1 GHz ~18 GHz	Fig.70	P
	5775MHz(Ch155)	1 GHz ~18 GHz	Fig.71	P
All channels		30 MHz ~1 GHz	Fig.72	P
		18 GHz ~26.5 GHz	Fig.73	P
		26.5GHz~40GHz	Fig.74	P

NOTE: The measurement results include the horizontal polarization and vertical polarization measurements. The test cases are selected as the worst cases for every conditions.

Conclusion: PASS

Test graphs as below:

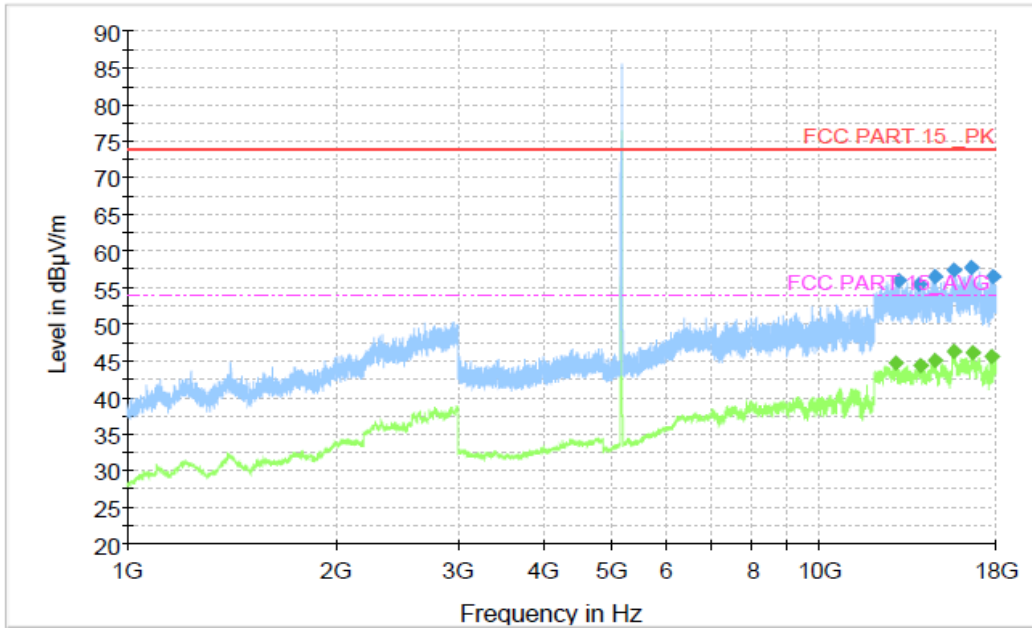


Fig. 17 Transmitter Spurious Emission (802.11a 5180MHz)

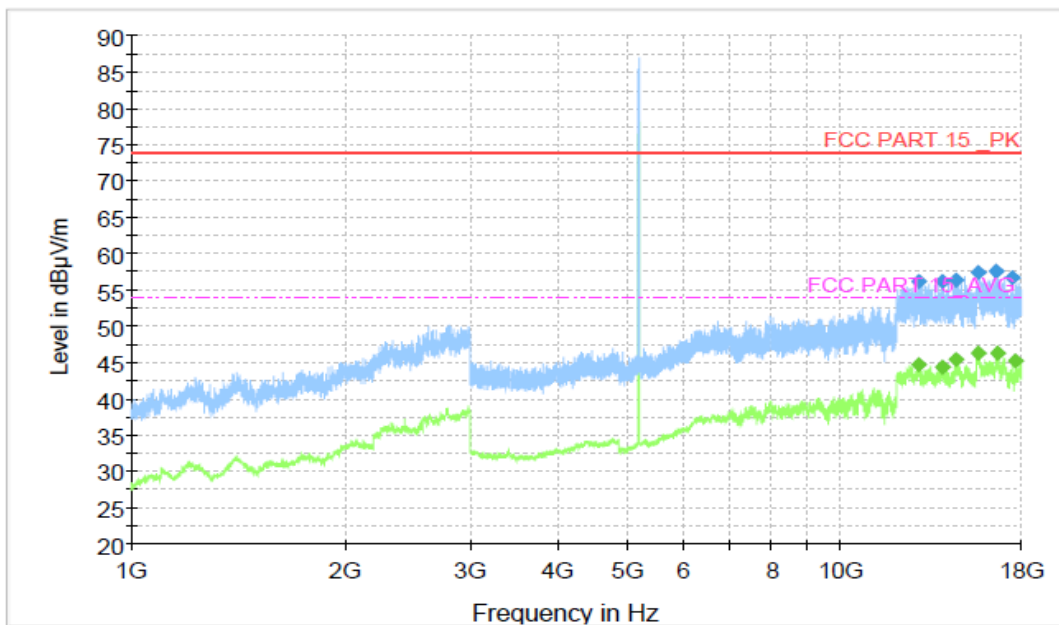


Fig. 18 Transmitter Spurious Emission (802.11a 5200MHz)

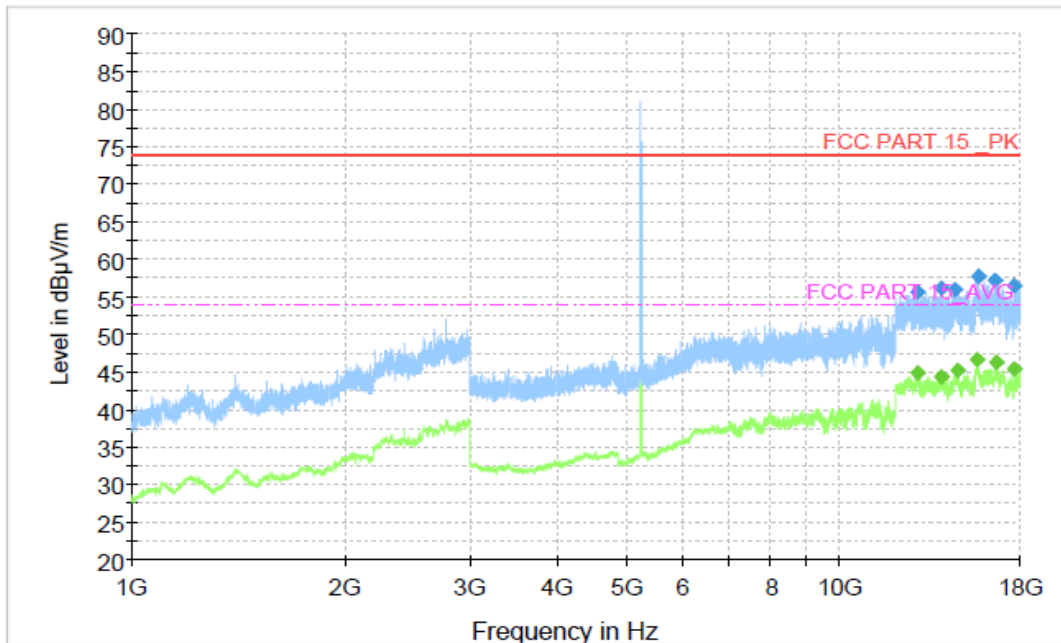


Fig. 19 Transmitter Spurious Emission (802.11a 5240MHz)

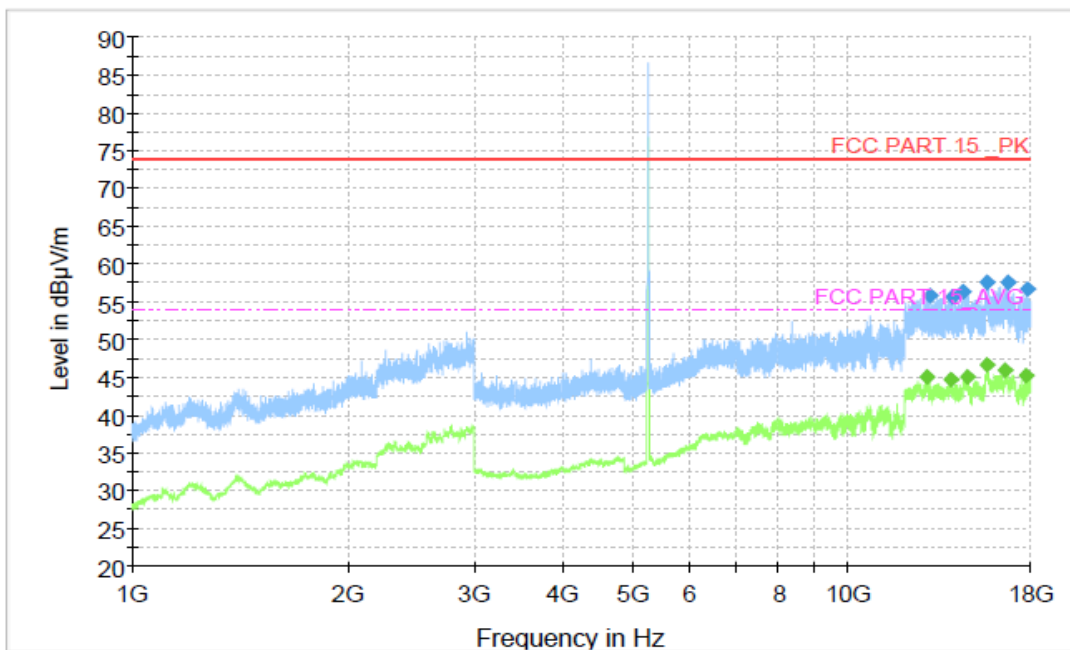


Fig. 20 Transmitter Spurious Emission (802.11a 5260MHz)

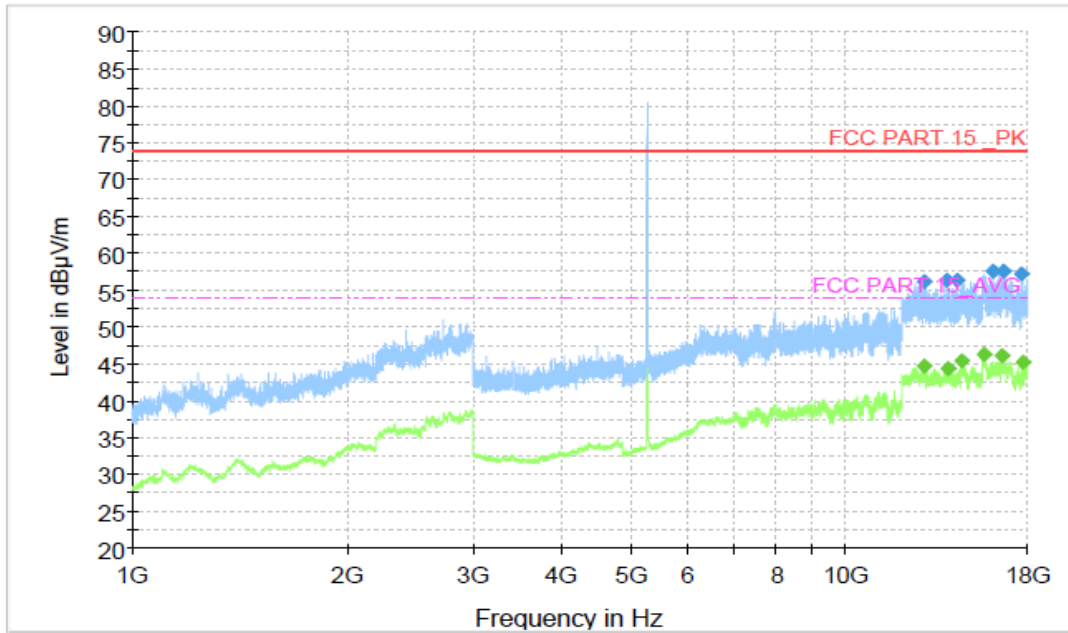


Fig. 21 Transmitter Spurious Emission (802.11a 5280MHz)

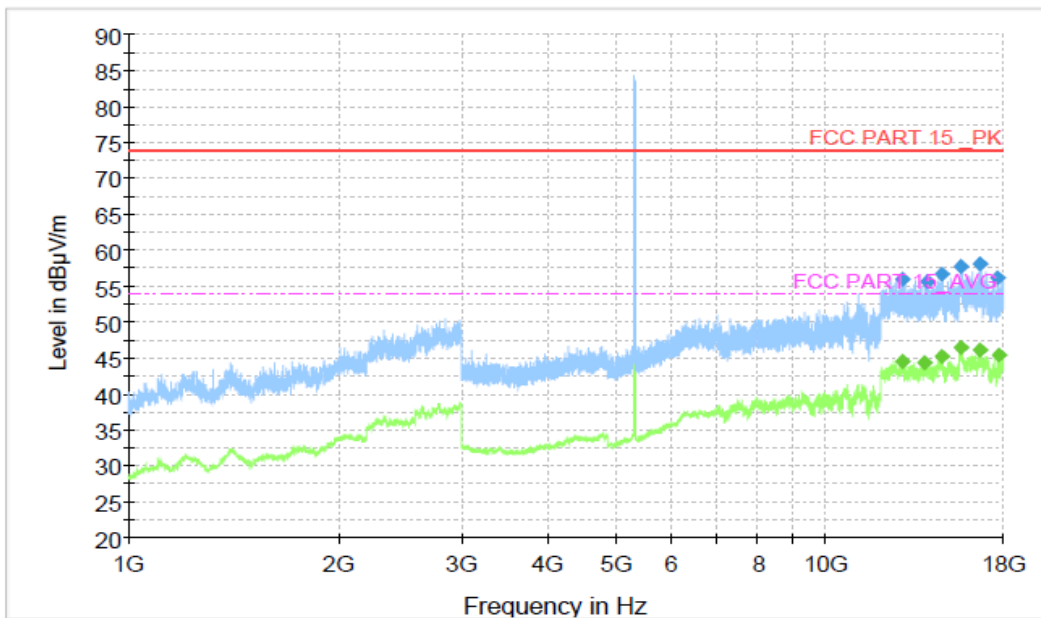


Fig. 22 Transmitter Spurious Emission (802.11a 5320MHz)

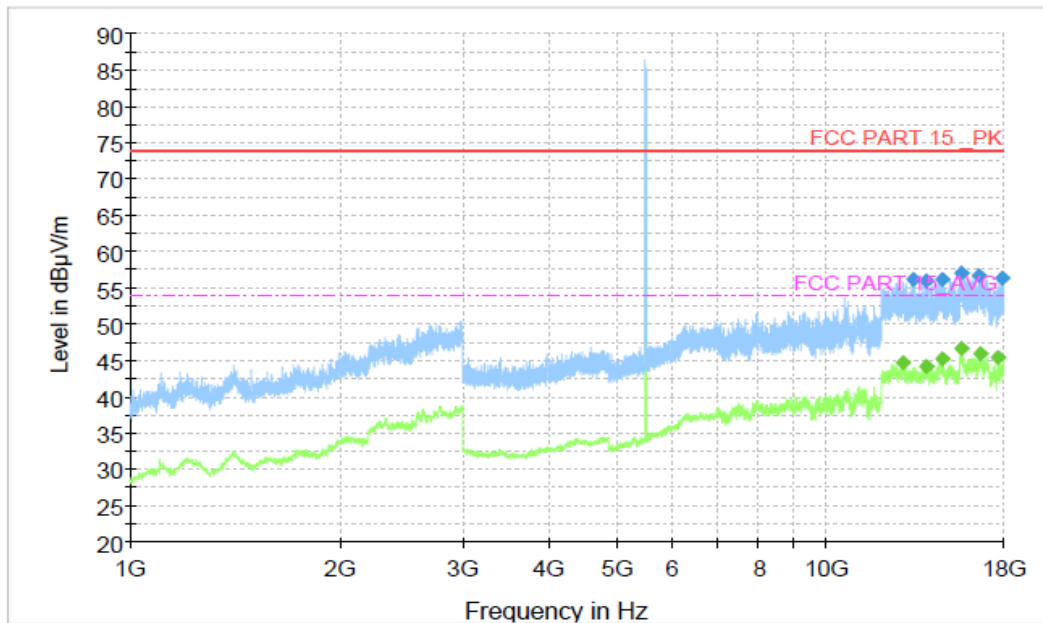


Fig. 23 Transmitter Spurious Emission (802. 11a 5500MHz)

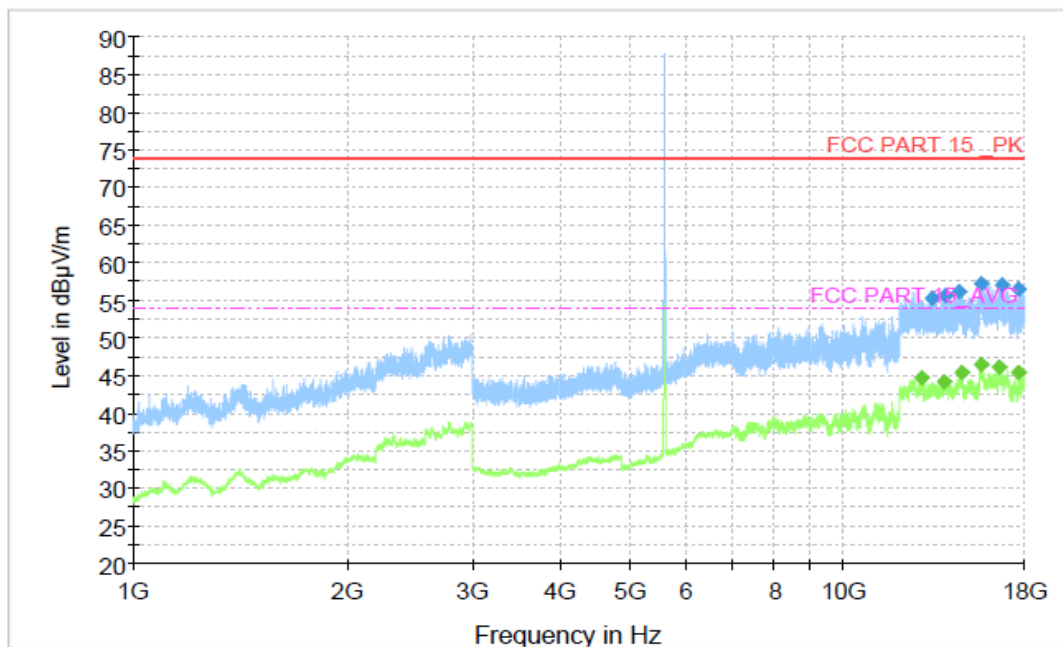


Fig. 24 Transmitter Spurious Emission (802. 11a 5600MHz)

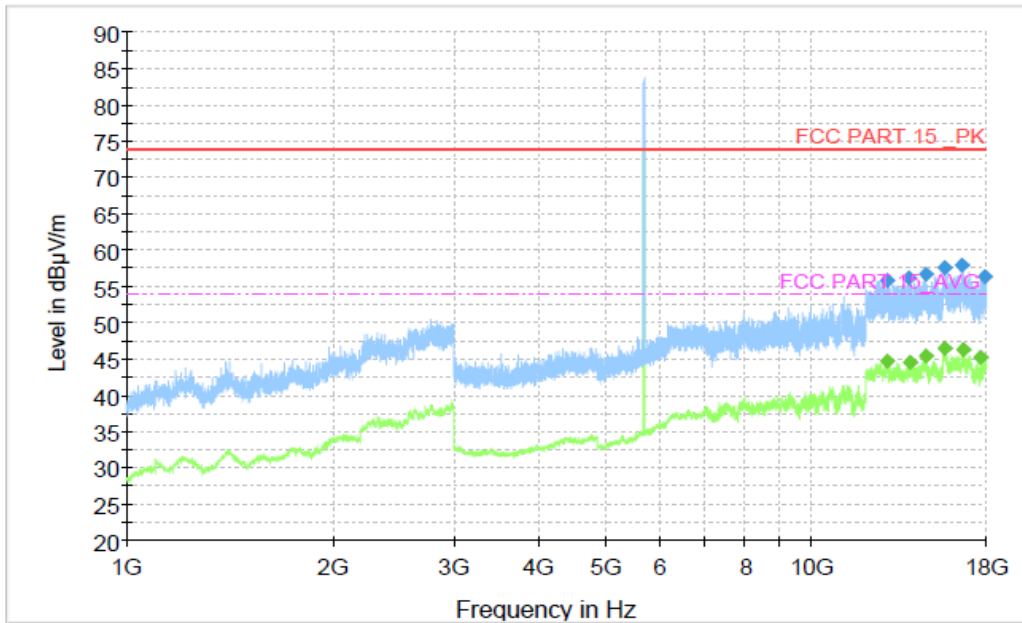


Fig. 25 Transmitter Spurious Emission (802. 11a 5700MHz)

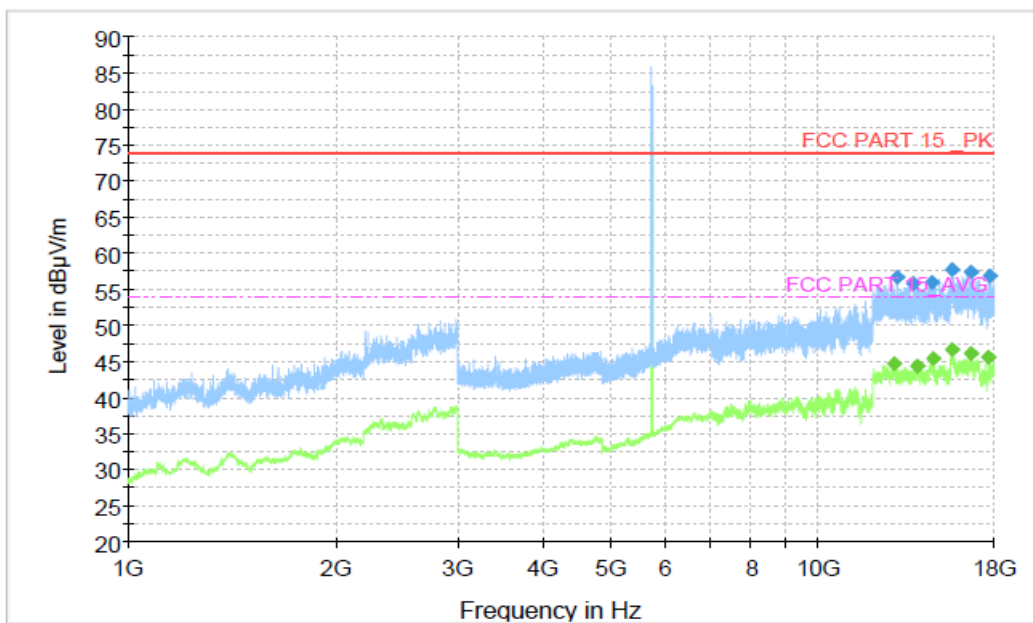


Fig. 26 Transmitter Spurious Emission (802. 11a 5745MHz)

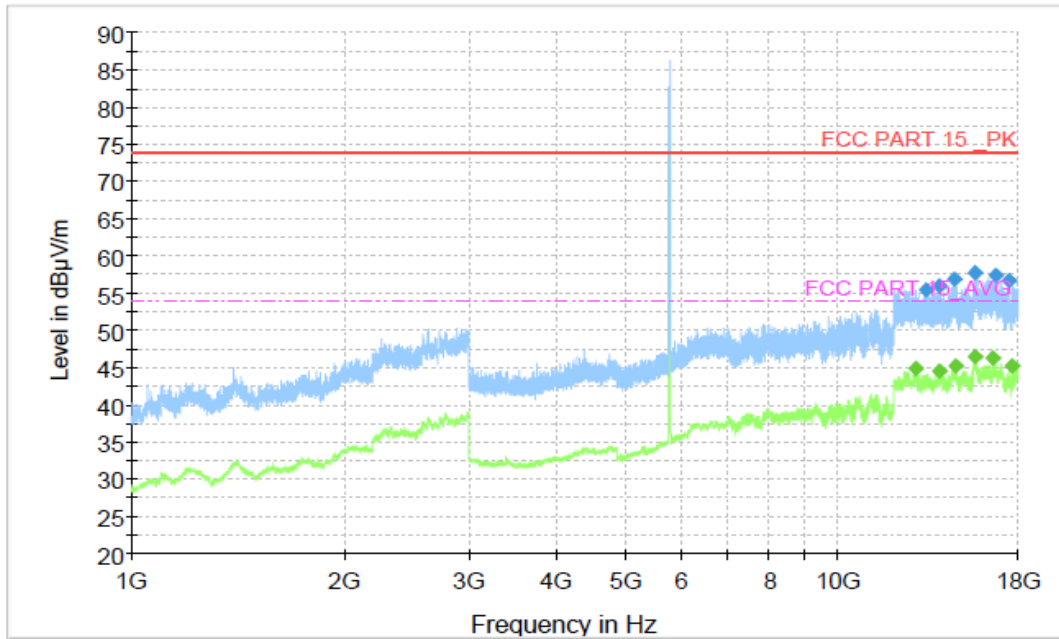


Fig. 27 Transmitter Spurious Emission (802. 11a 5785MHz)

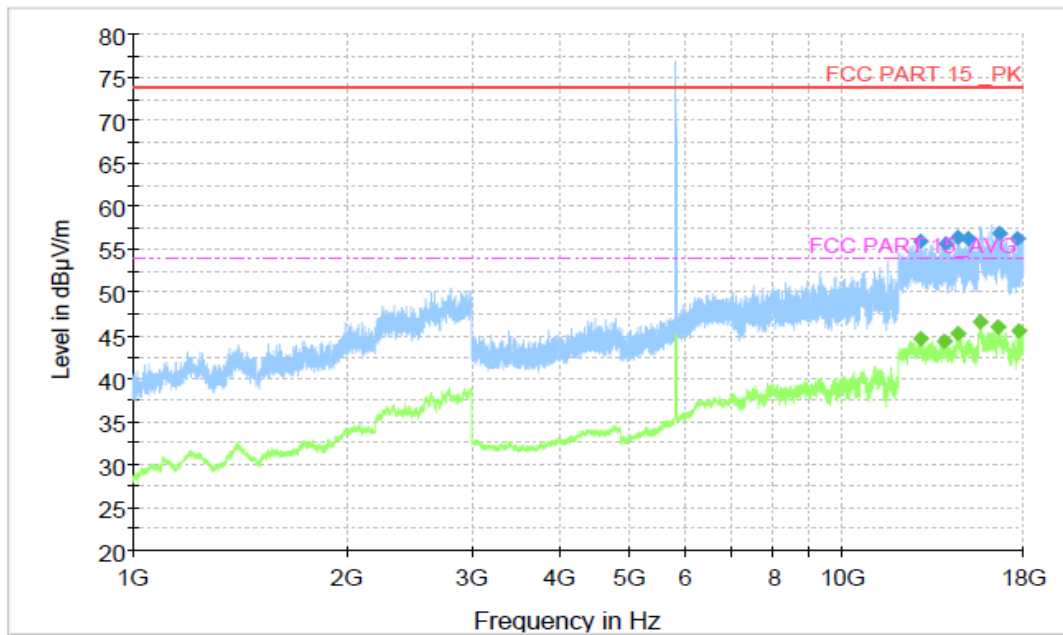


Fig. 28 Transmitter Spurious Emission (802. 11a 5825MHz)

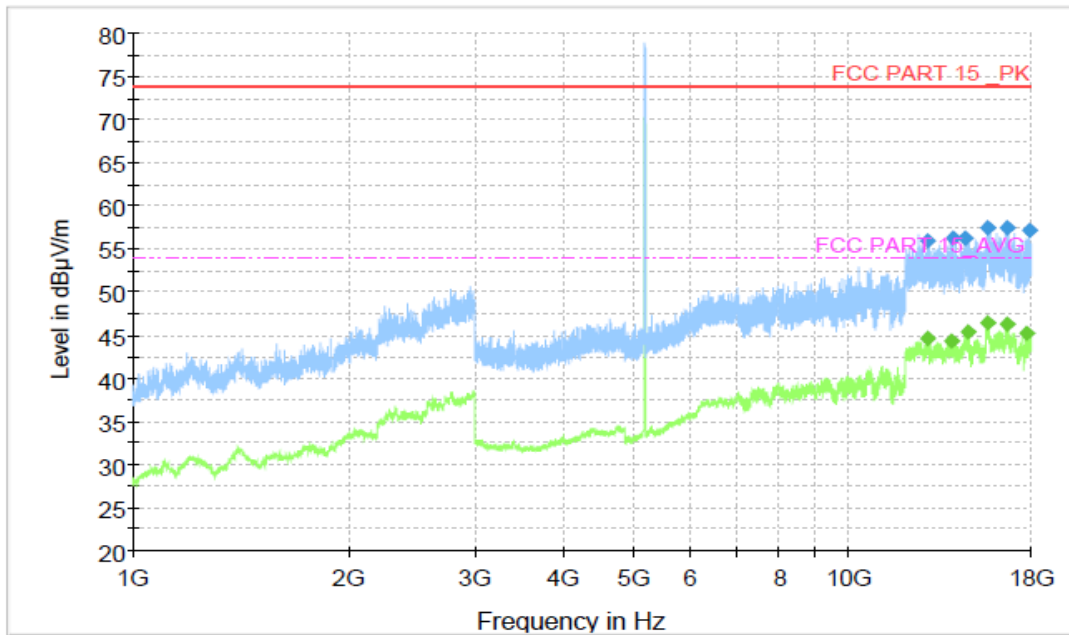


Fig. 29 Transmitter Spurious Emission (802.11n-HT40, 5190MHz)

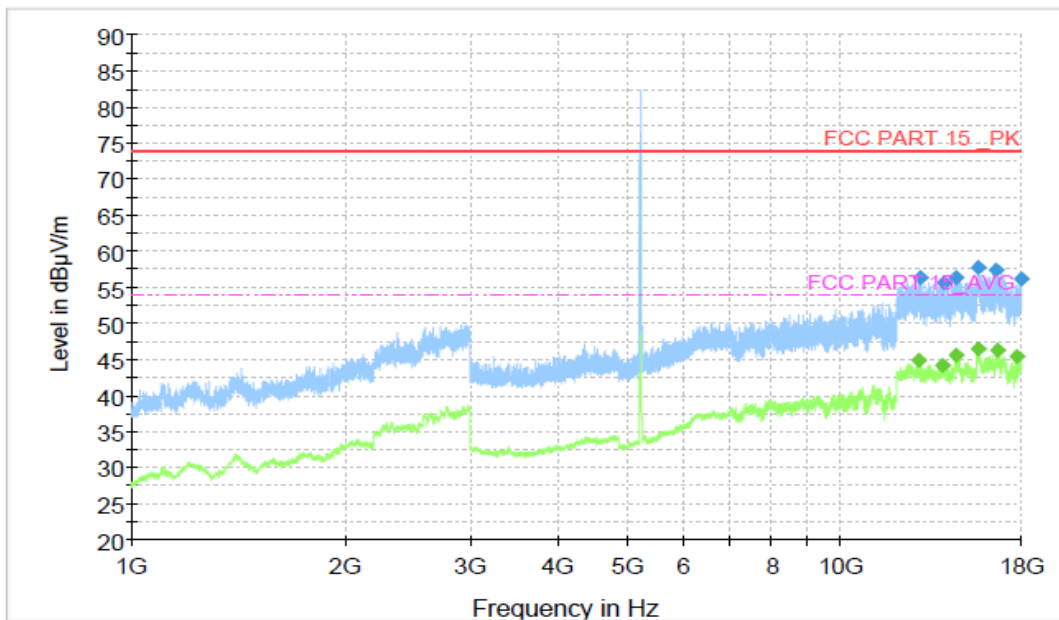


Fig. 30 Transmitter Spurious Emission (802.11n-HT40, 5230MHz)

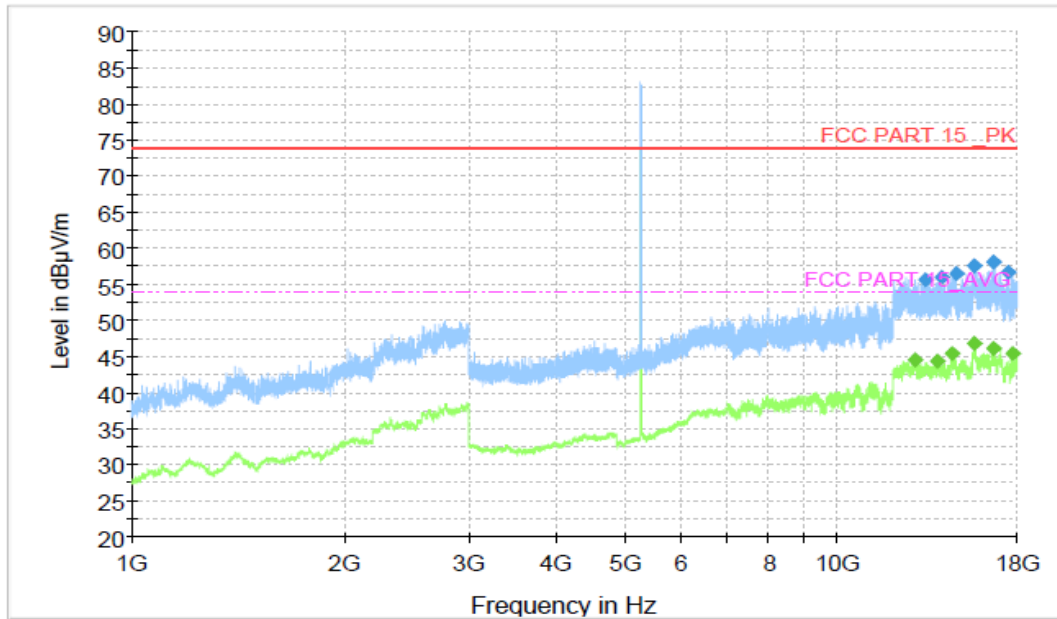


Fig. 31 Transmitter Spurious Emission (802.11n-HT40, 5270MHz)

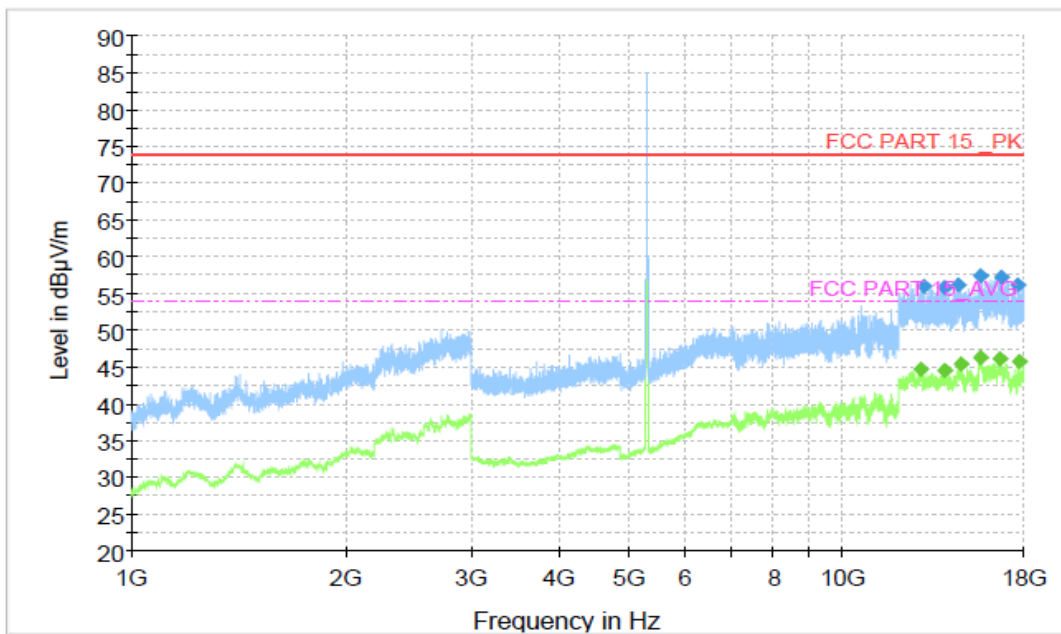


Fig. 32 Transmitter Spurious Emission (802.11n-HT40, 5310MHz)

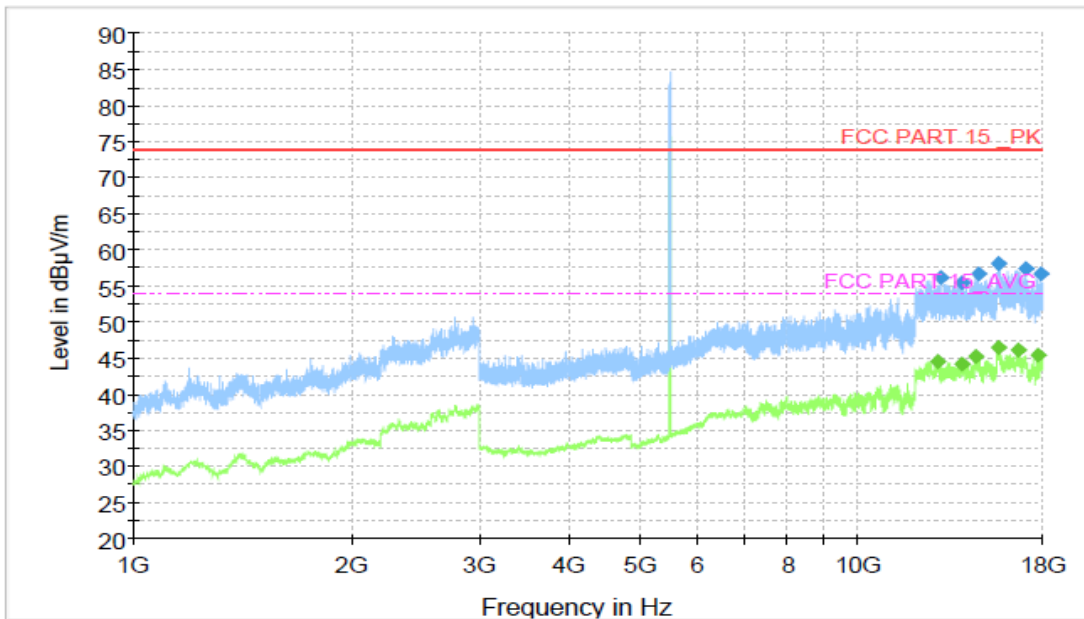


Fig. 33 Transmitter Spurious Emission (802. 11n-HT40, 5510MHz)

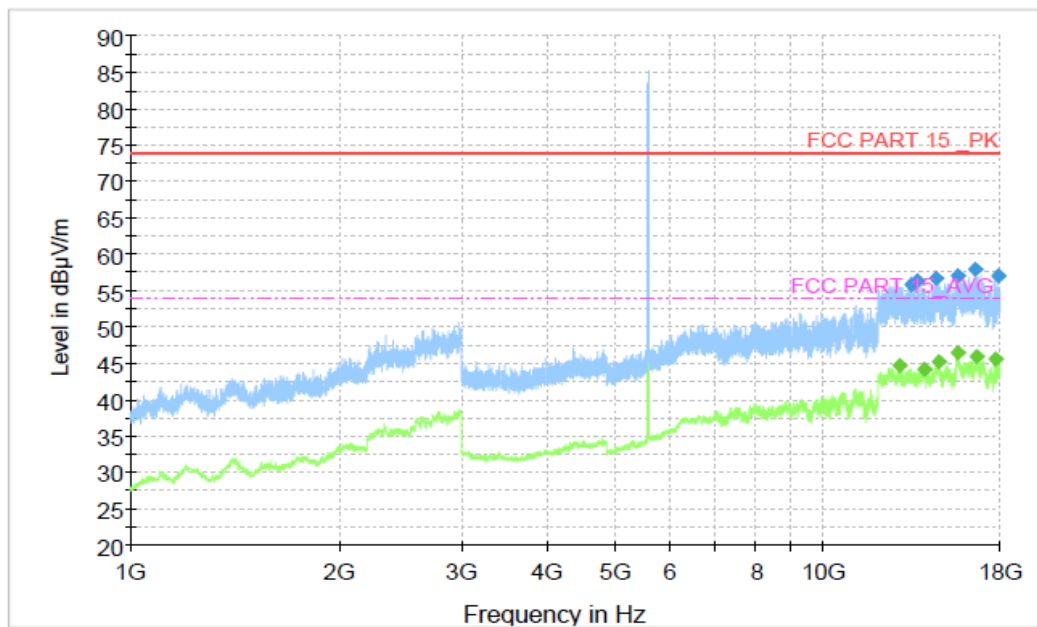


Fig. 34 Transmitter Spurious Emission (802. 11n-HT40, 5590MHz)

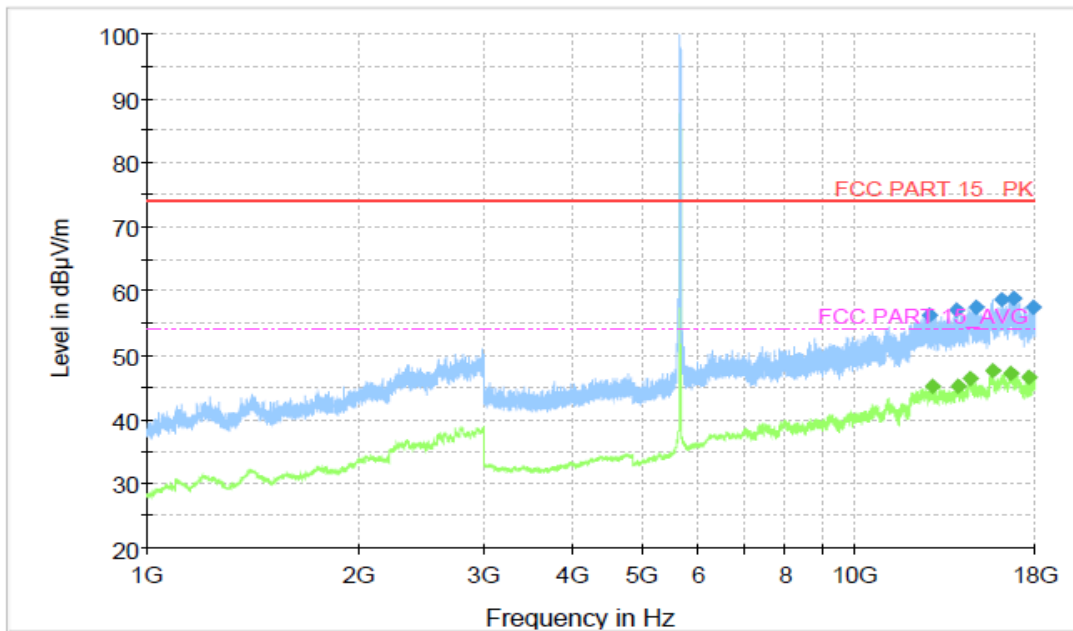


Fig. 35 Transmitter Spurious Emission (802. 11n-HT40, 5670MHz)

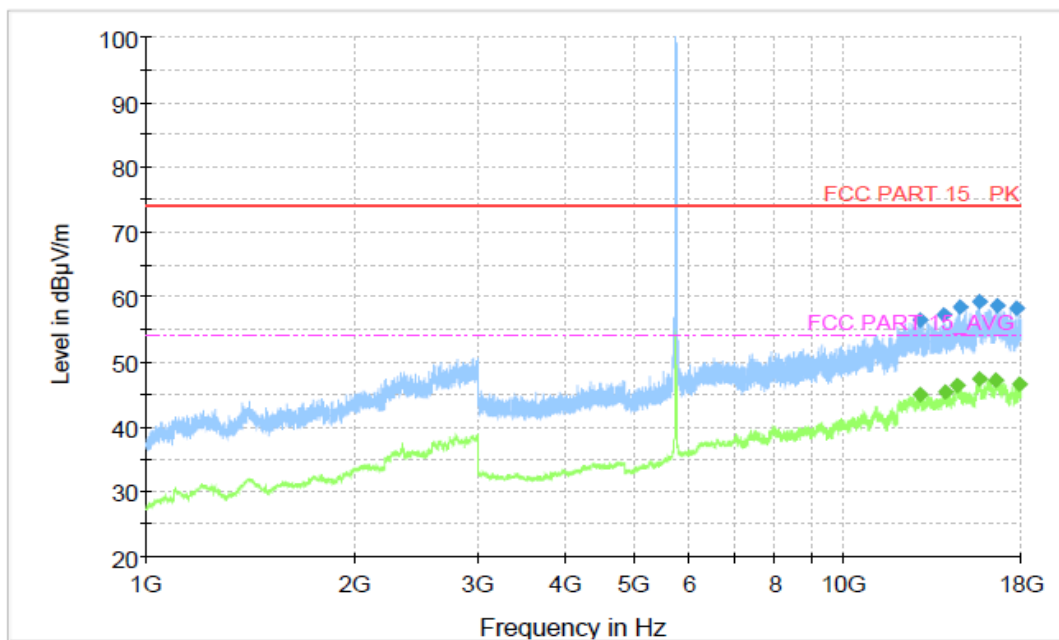


Fig. 36 Transmitter Spurious Emission (802. 11n-HT40, 5755MHz)

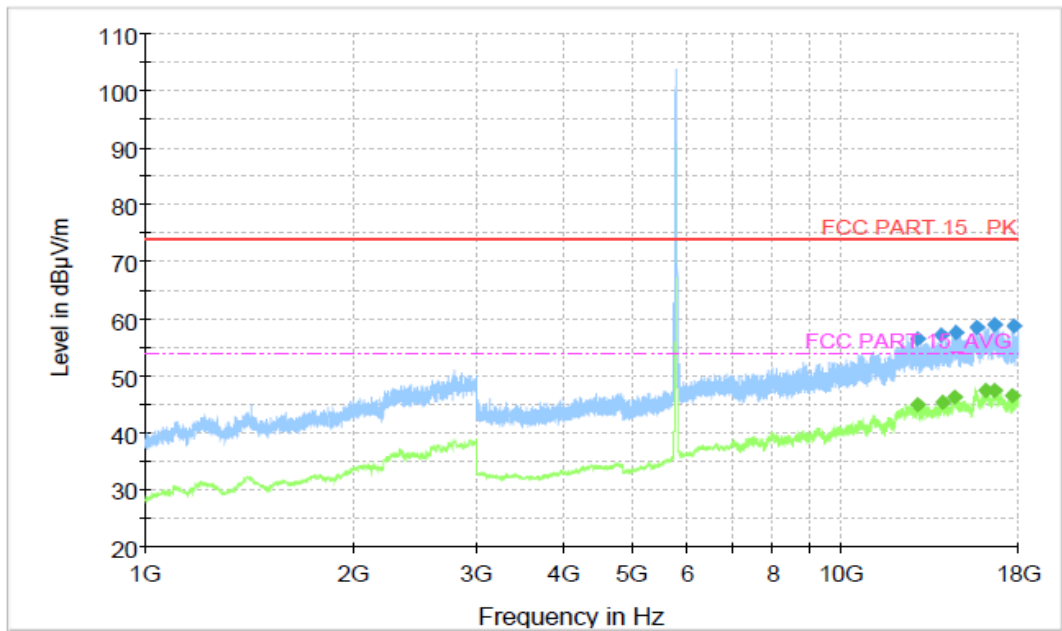


Fig. 37 Transmitter Spurious Emission (802. 11n-HT40, 5795MHz)

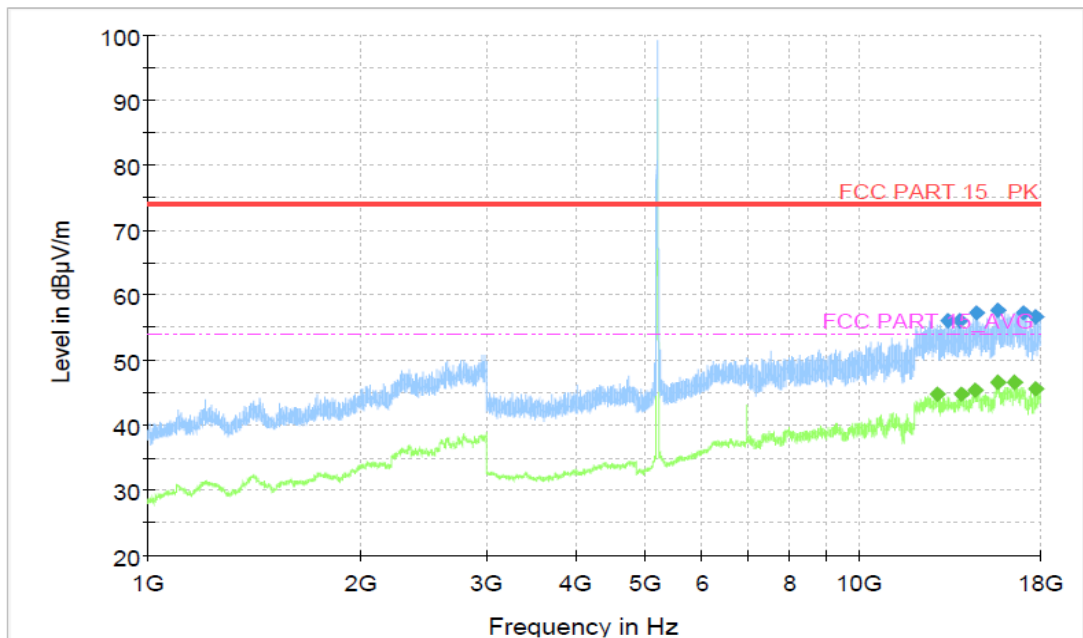


Fig. 38 Transmitter Spurious Emission (802. 11ac-VHT80, 5210MHz)

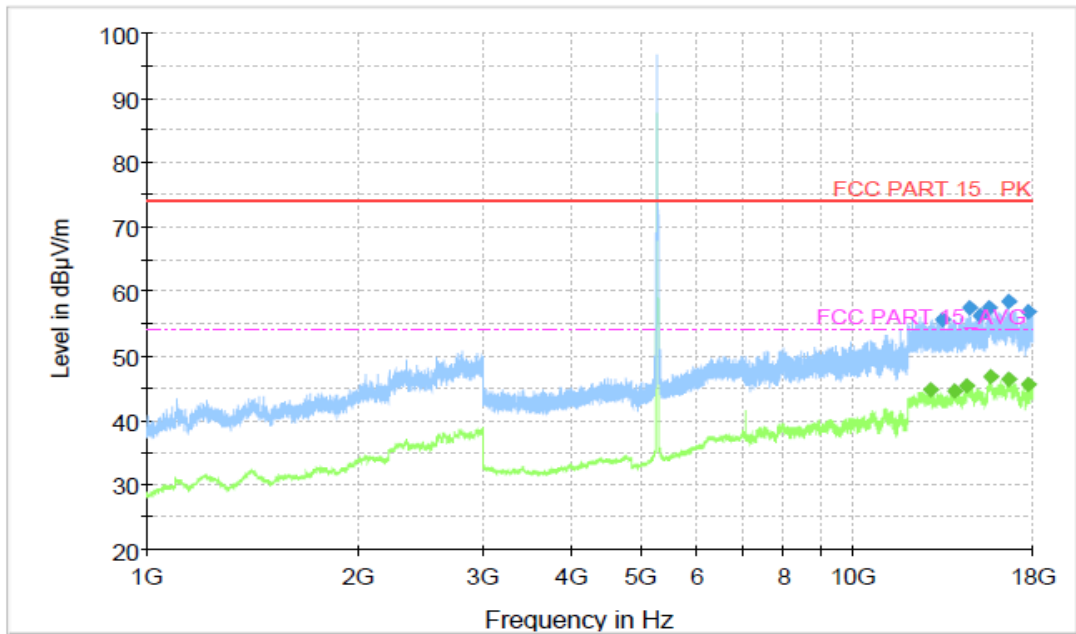


Fig. 39 Transmitter Spurious Emission (802. 11ac-VHT80, 5290MHz)

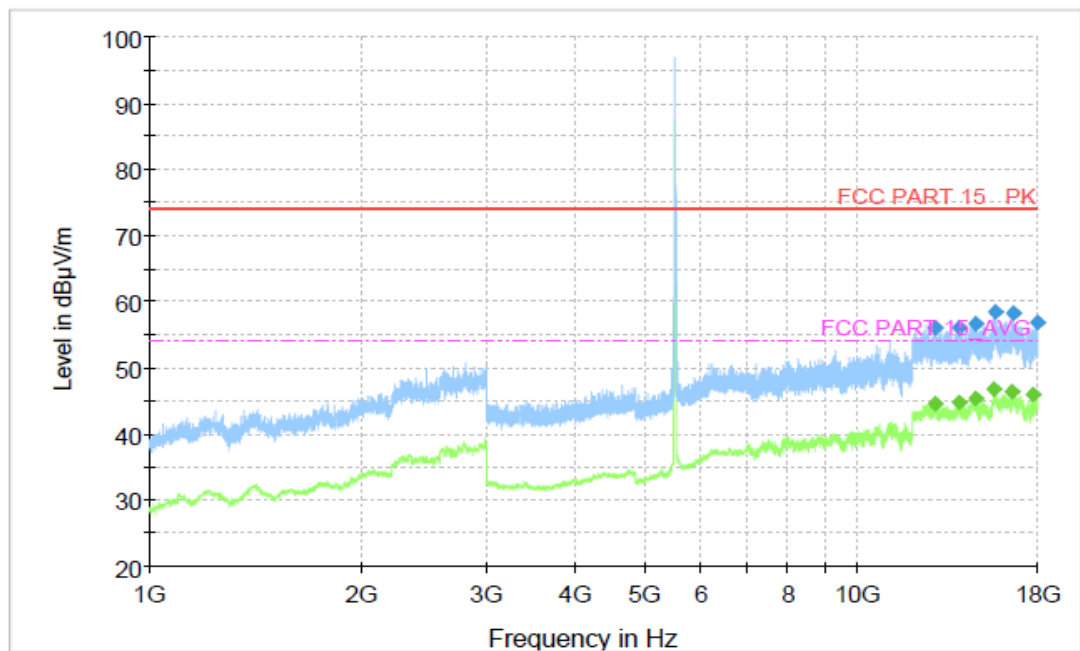


Fig. 40 Transmitter Spurious Emission (802. 11ac-VHT80, 5530MHz)

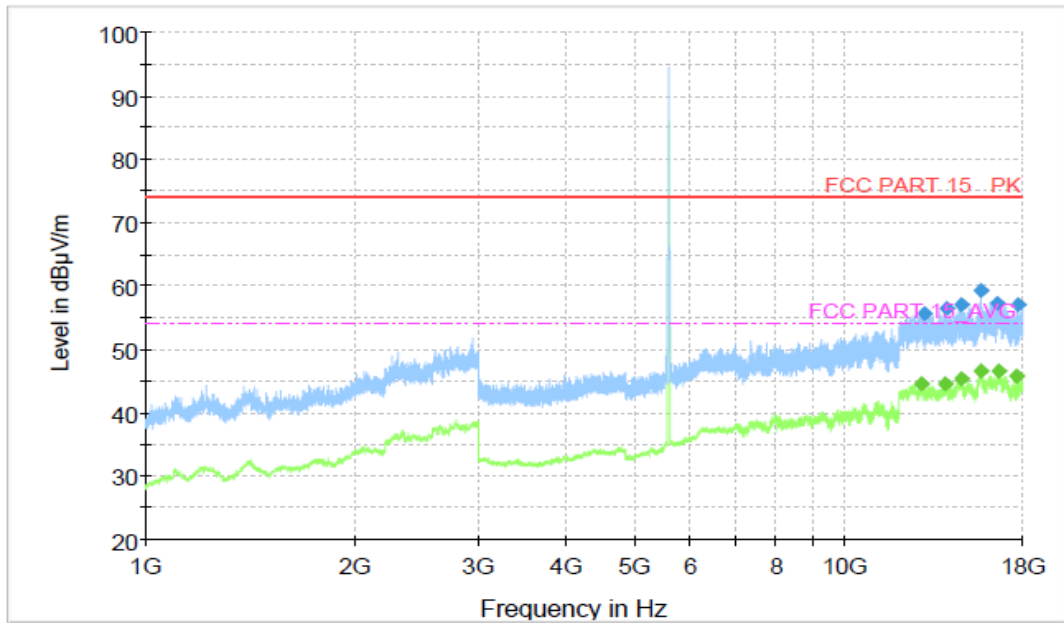


Fig. 41 Transmitter Spurious Emission (802. 11ac-VHT80, 5610MHz)

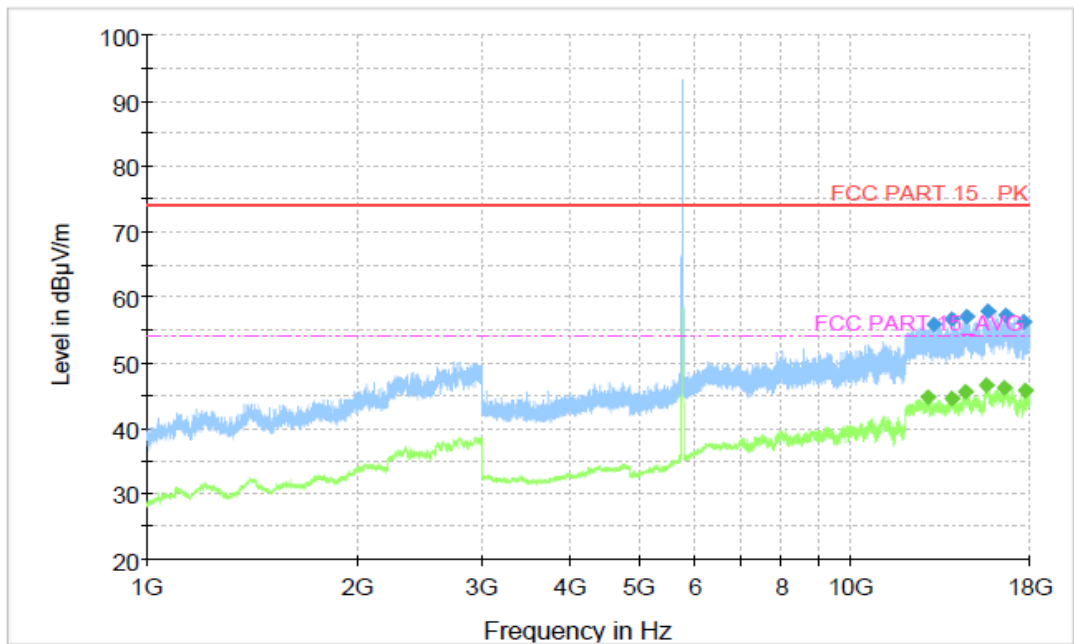


Fig. 42 Transmitter Spurious Emission (802. 11ac-VHT80, 5775MHz)

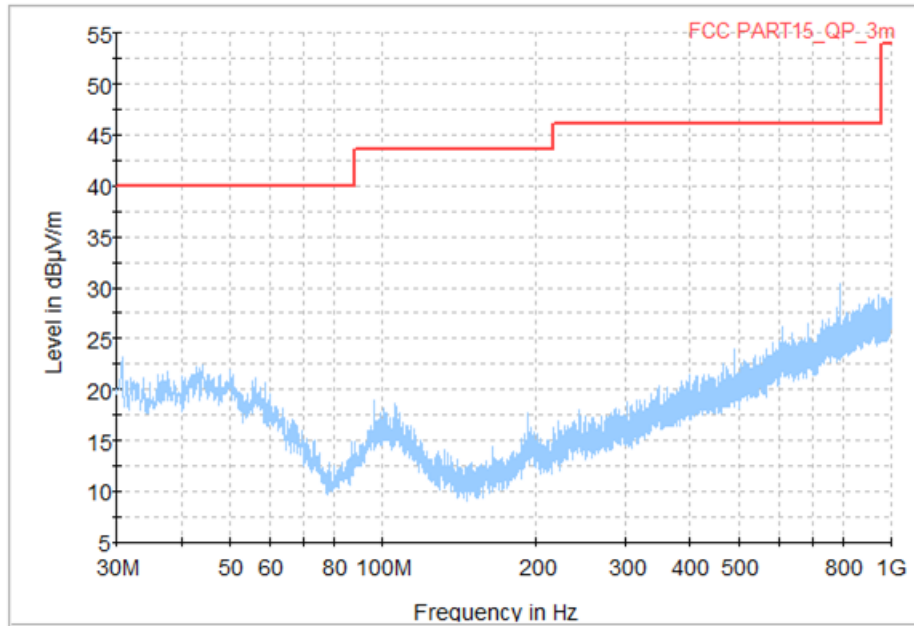


Fig. 43 Transmitter Spurious Emission (All channel, 30MHz~1GHz)

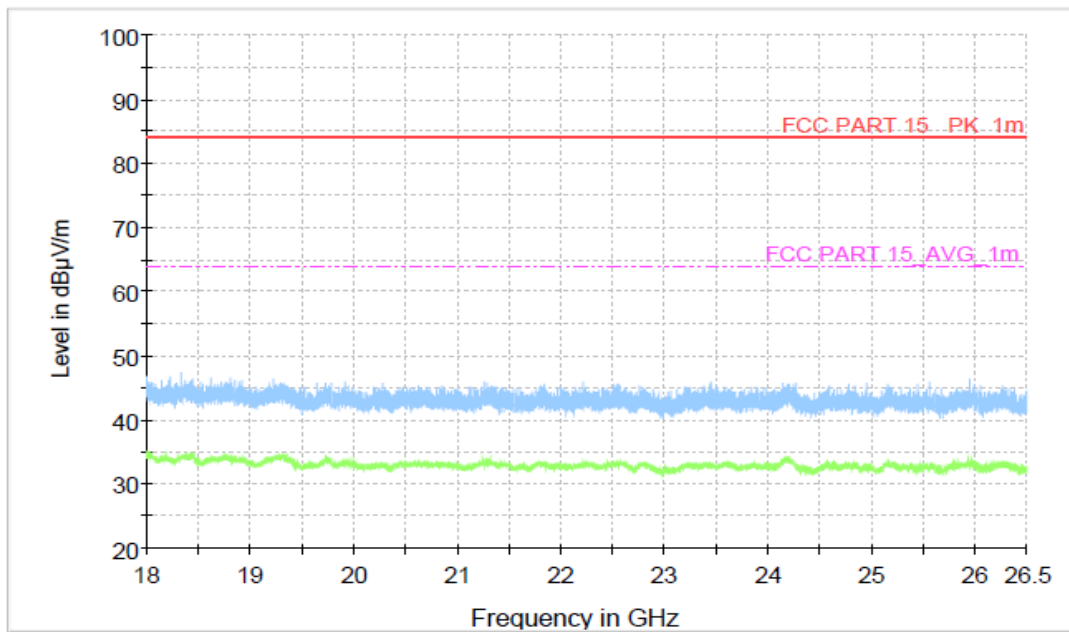


Fig. 44 Transmitter Spurious Emission (All channel, 18GHz~26.5GHz)

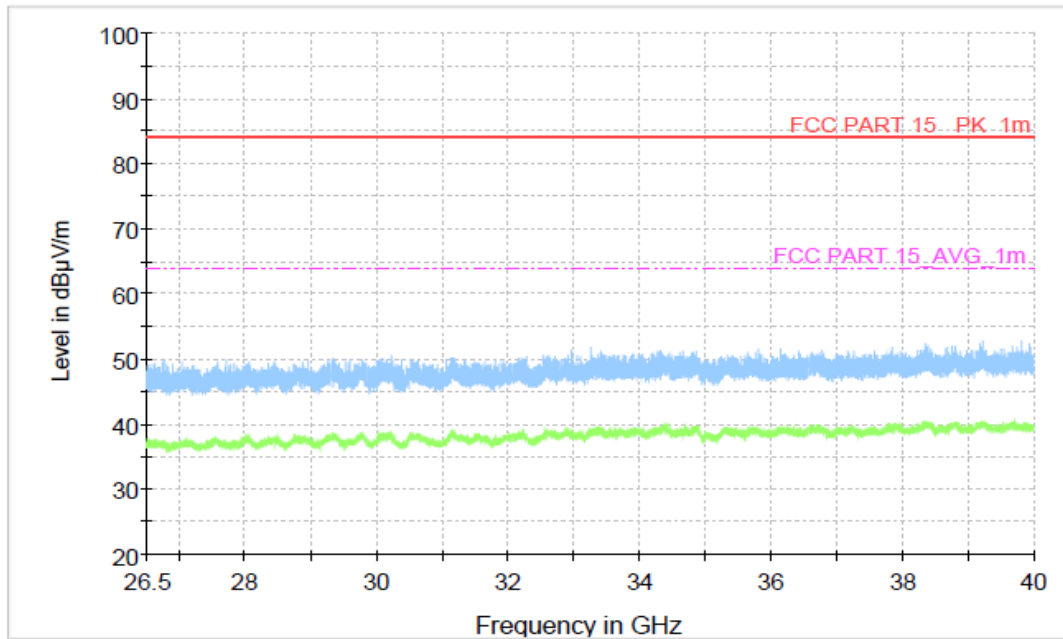


Fig. 45 Transmitter Spurious Emission (All channel, 26.5GHz~40GHz)

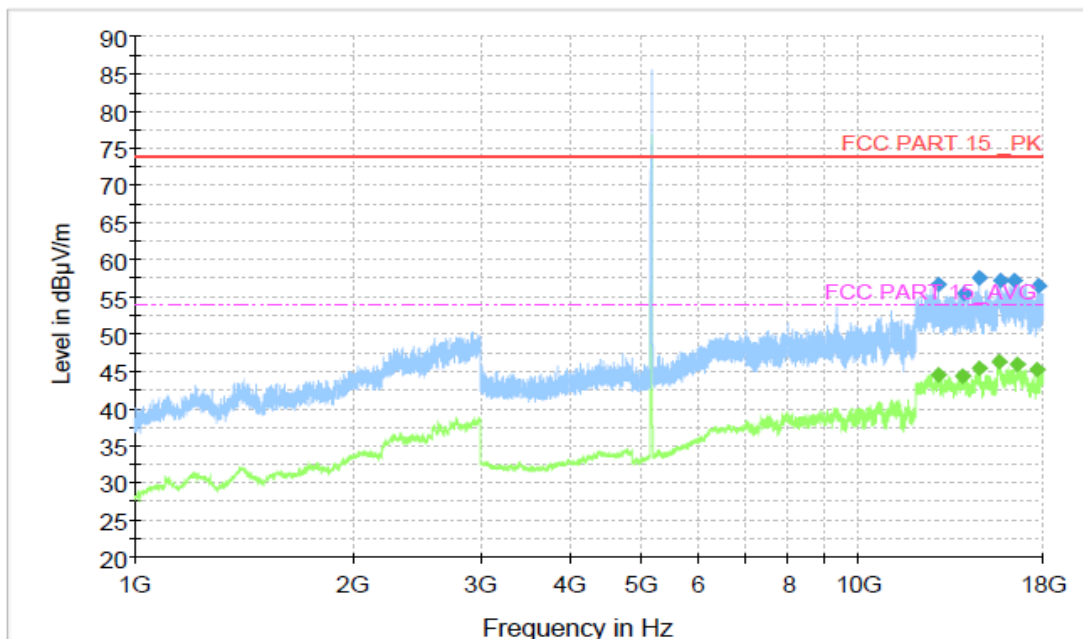


Fig. 46 Transmitter Spurious Emission (802.11a 5180MHz)

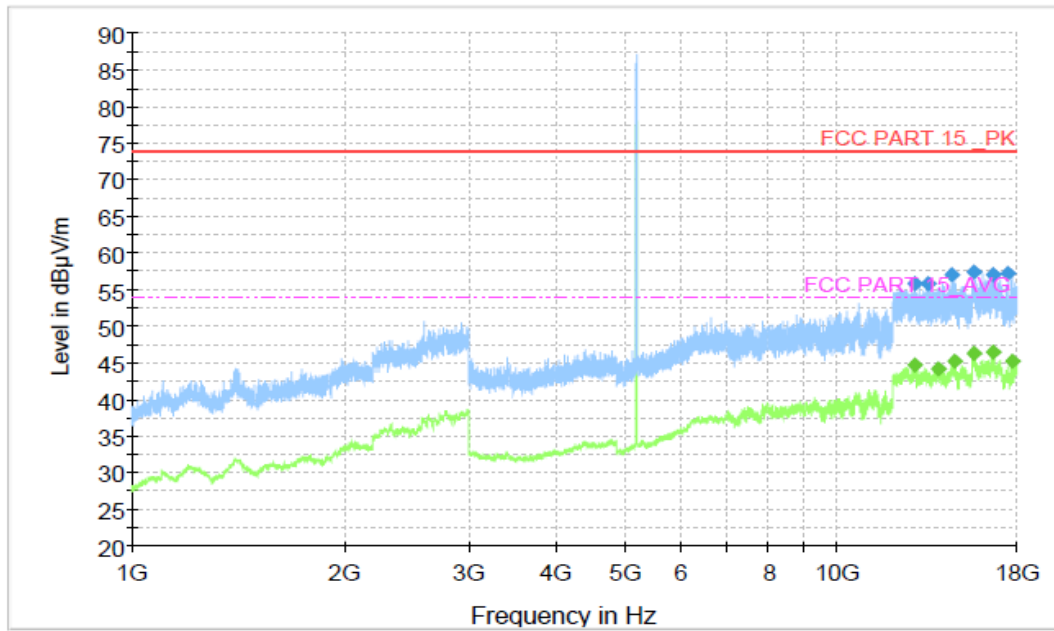


Fig. 47 Transmitter Spurious Emission (802.11a 5200MHz)

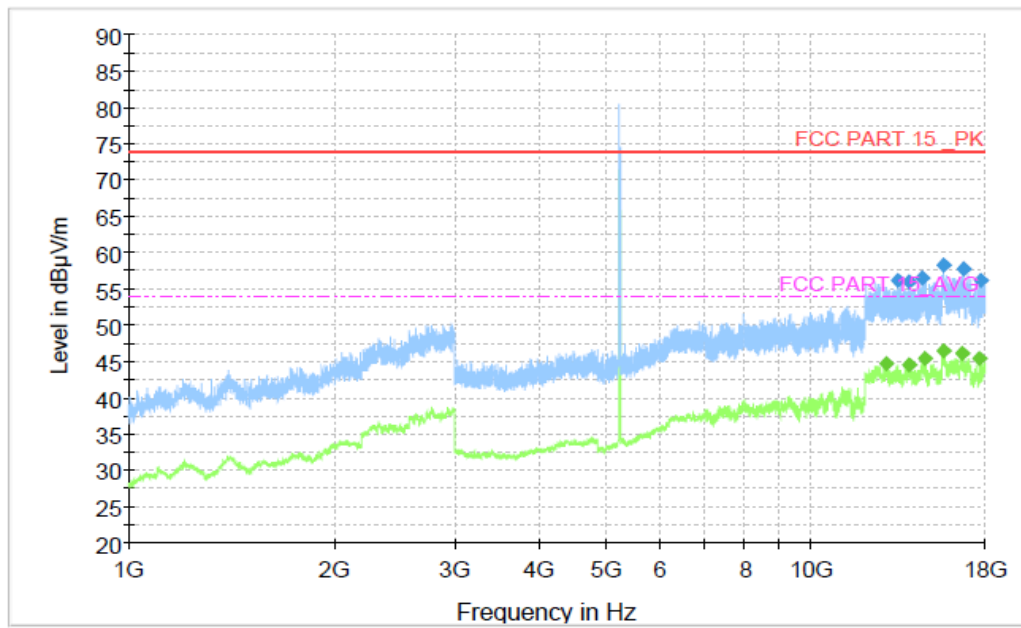


Fig. 48 Transmitter Spurious Emission (802.11a 5240MHz)

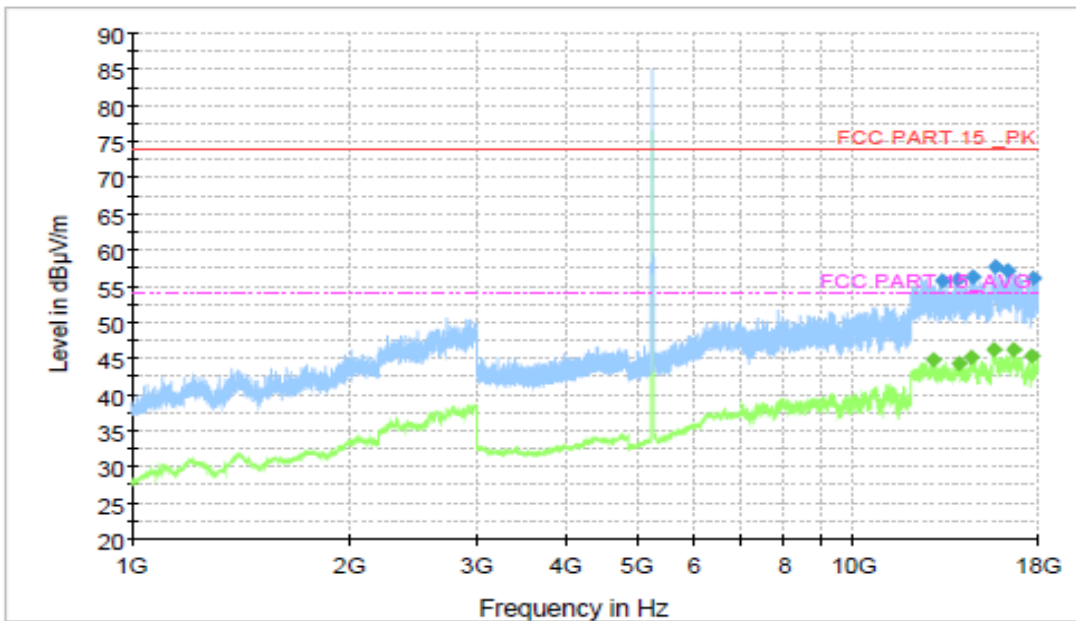


Fig. 49 Transmitter Spurious Emission (802.11a 5260MHz)

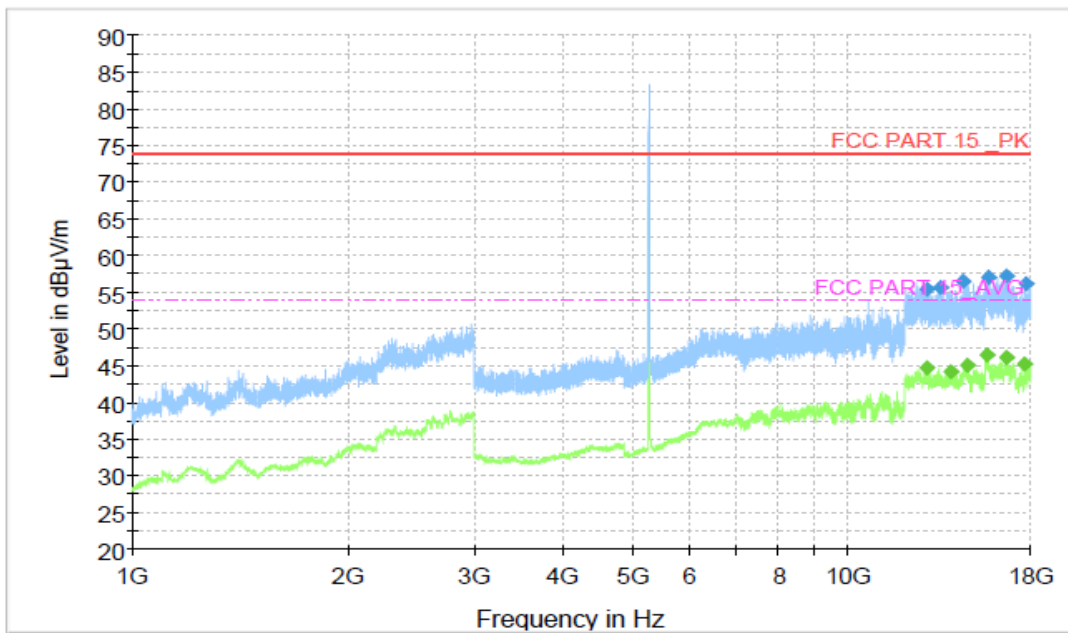


Fig. 50 Transmitter Spurious Emission (802.11a 5280MHz)

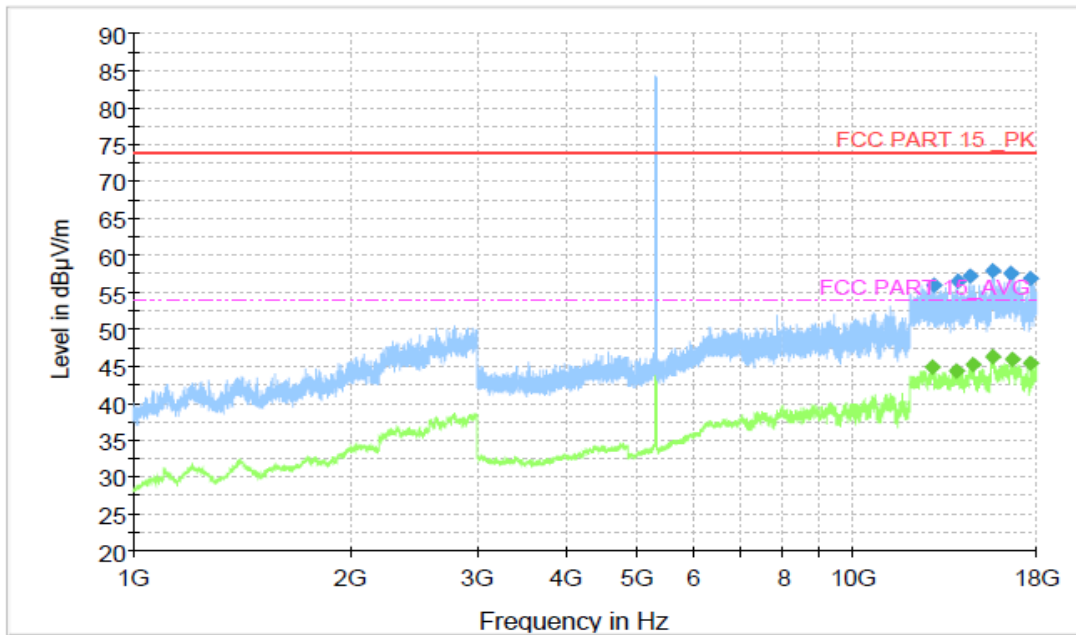


Fig. 51 Transmitter Spurious Emission (802.11a 5320MHz)

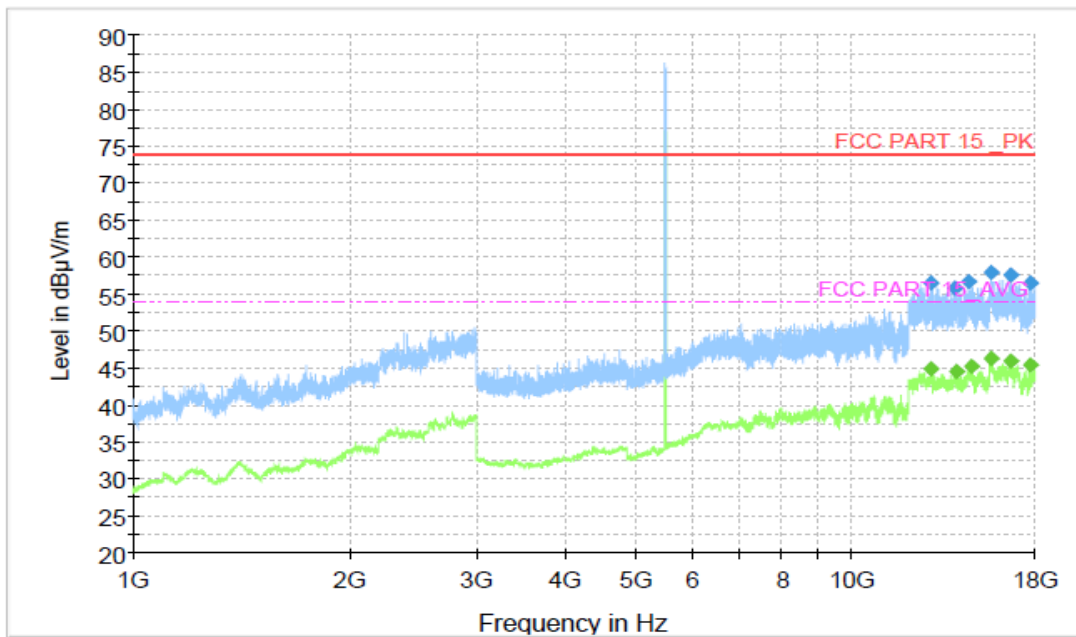


Fig. 52 Transmitter Spurious Emission (802.11a 5500MHz)

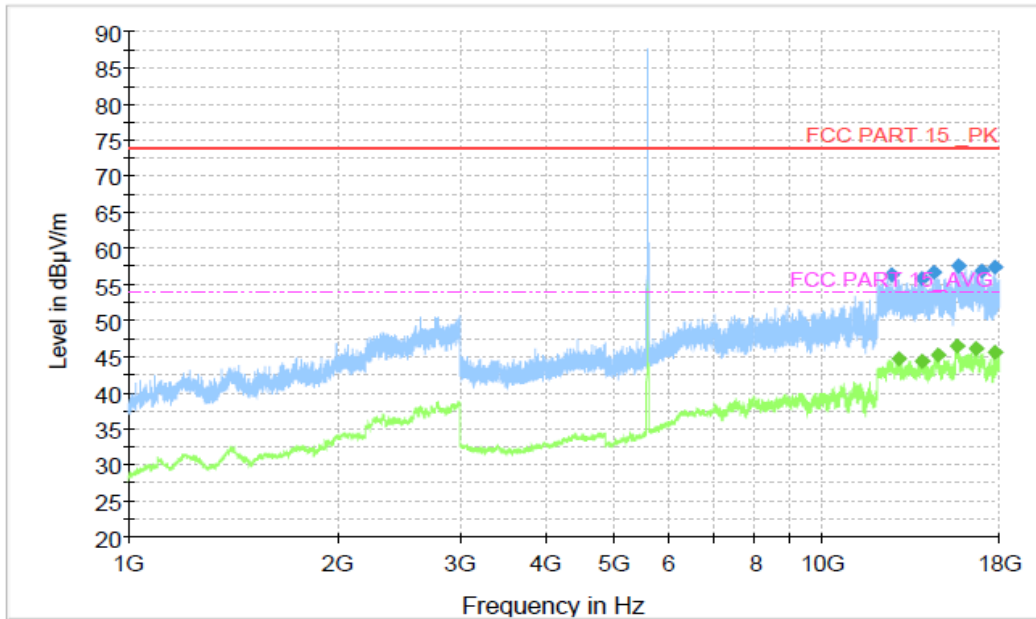


Fig. 53 Transmitter Spurious Emission (802. 11a 5600MHz)

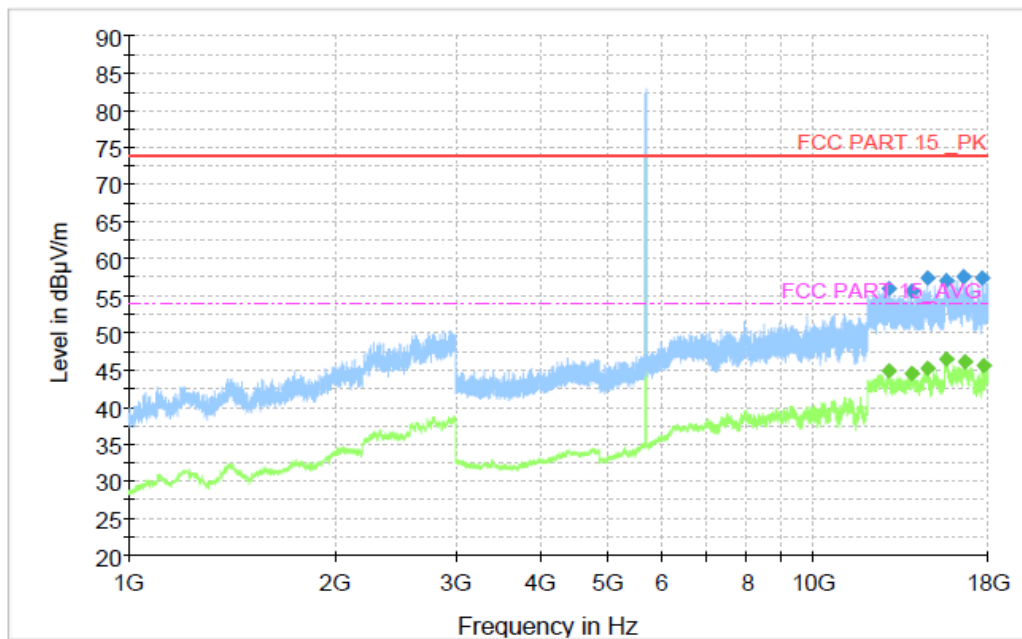


Fig. 54 Transmitter Spurious Emission (802. 11a 5700MHz)

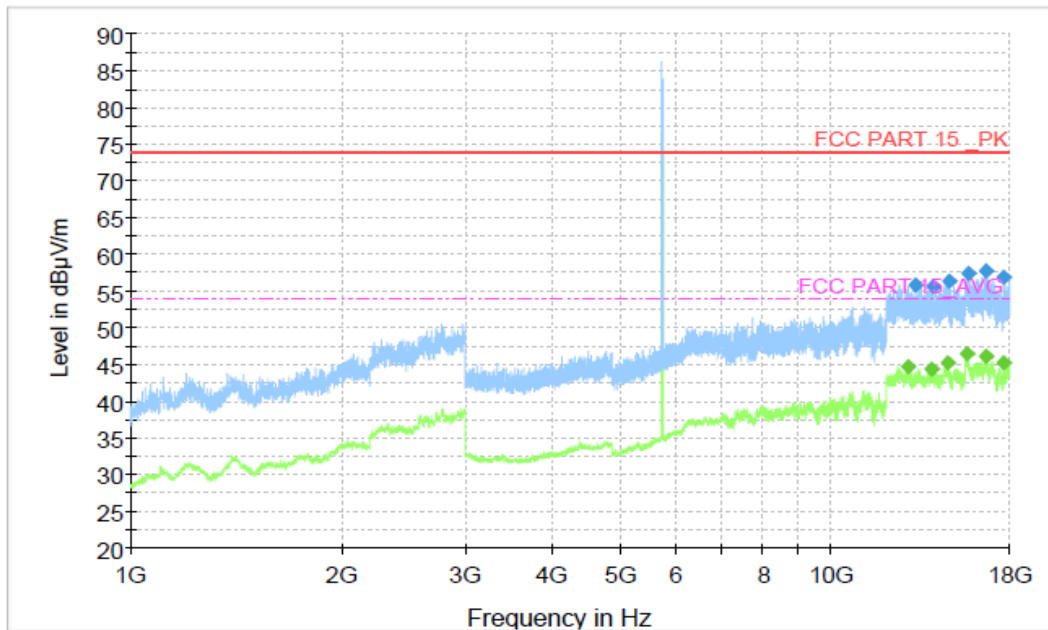


Fig. 55 Transmitter Spurious Emission (802. 11a 5745MHz)

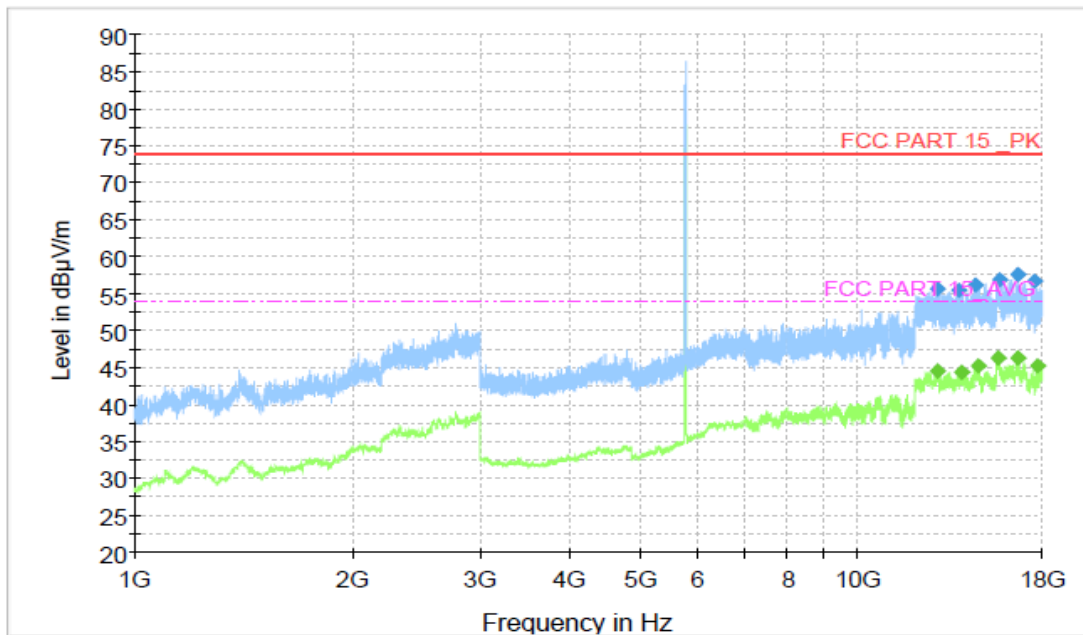


Fig. 56 Transmitter Spurious Emission (802. 11a 5785MHz)

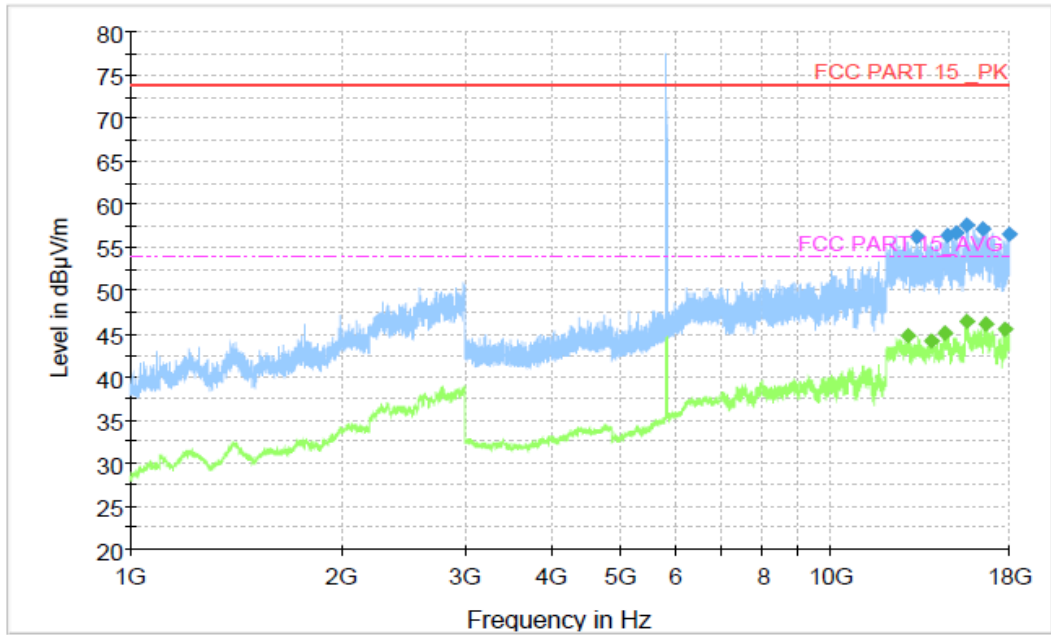


Fig. 57 Transmitter Spurious Emission (802.11a 5825MHz)

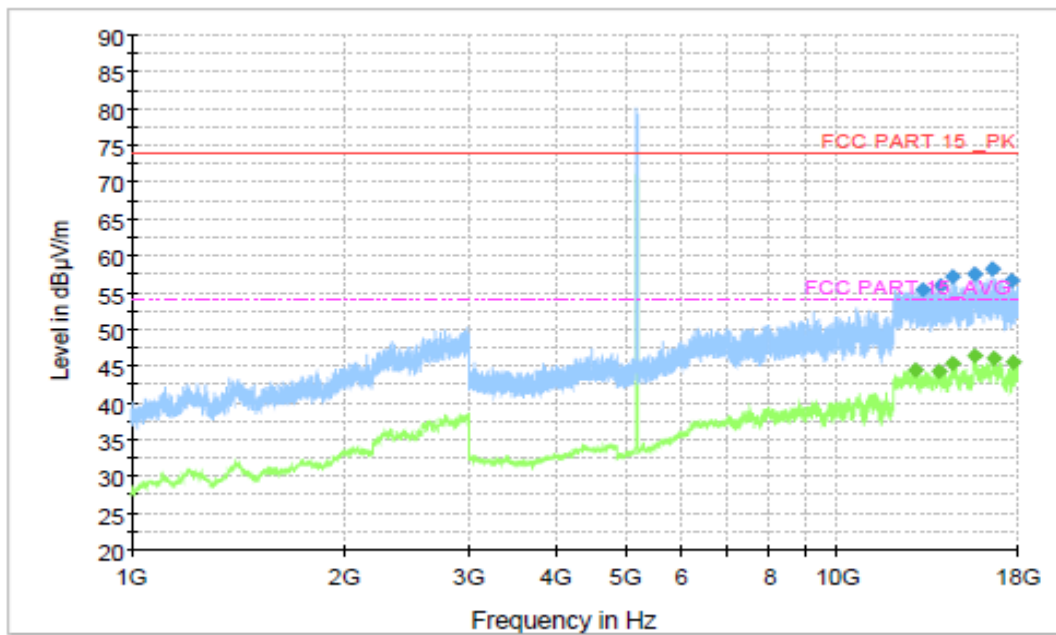


Fig. 58 Transmitter Spurious Emission (802.11n-HT40, 5190MHz)

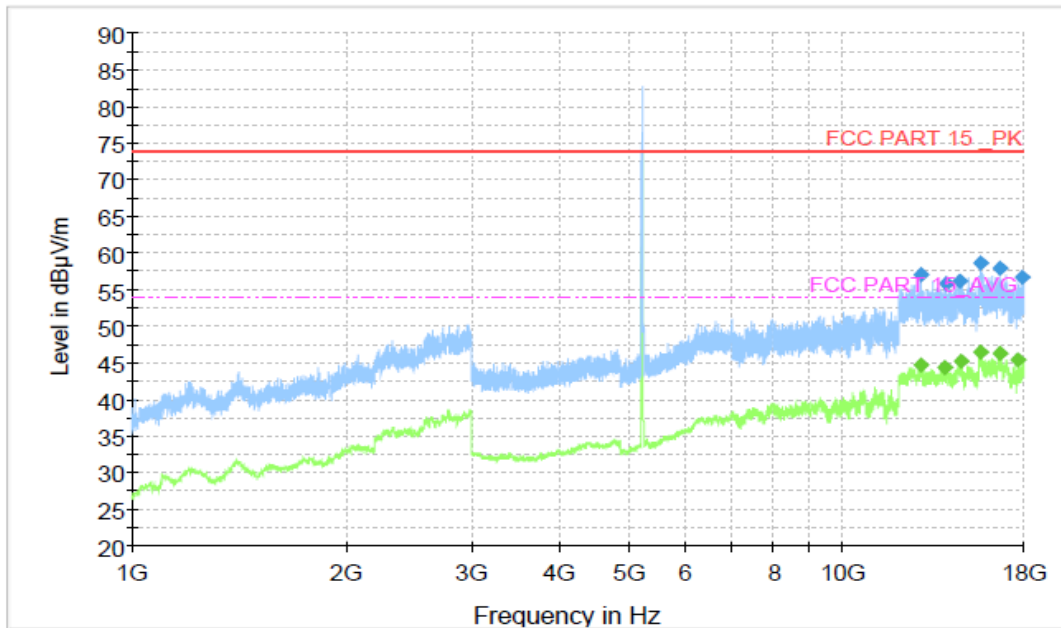


Fig. 59 Transmitter Spurious Emission (802.11n-HT40, 5230MHz)

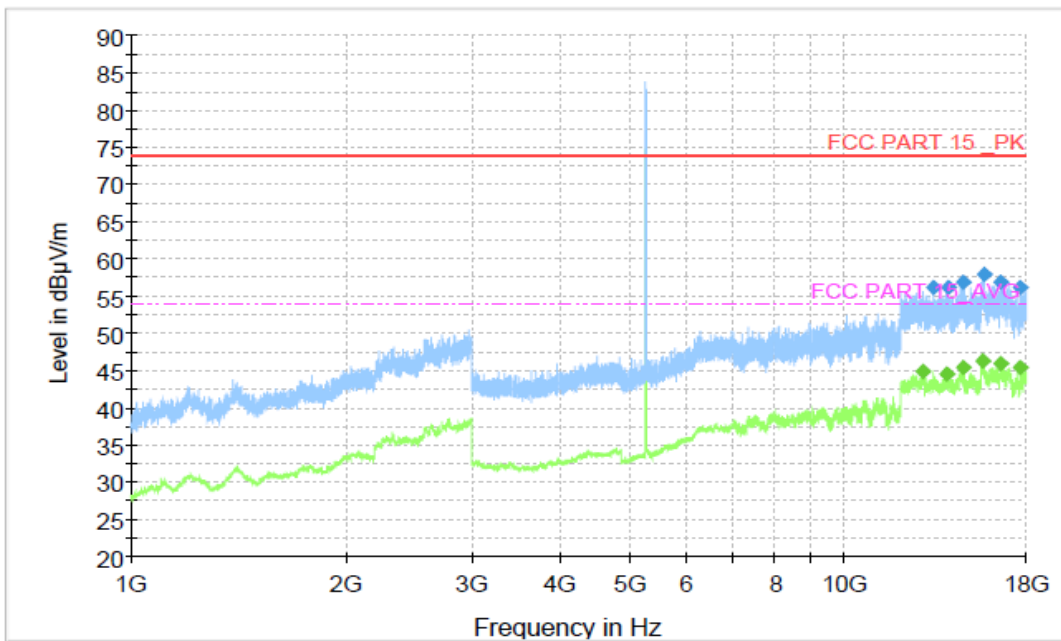


Fig. 60 Transmitter Spurious Emission (802.11n-HT40, 5270MHz)

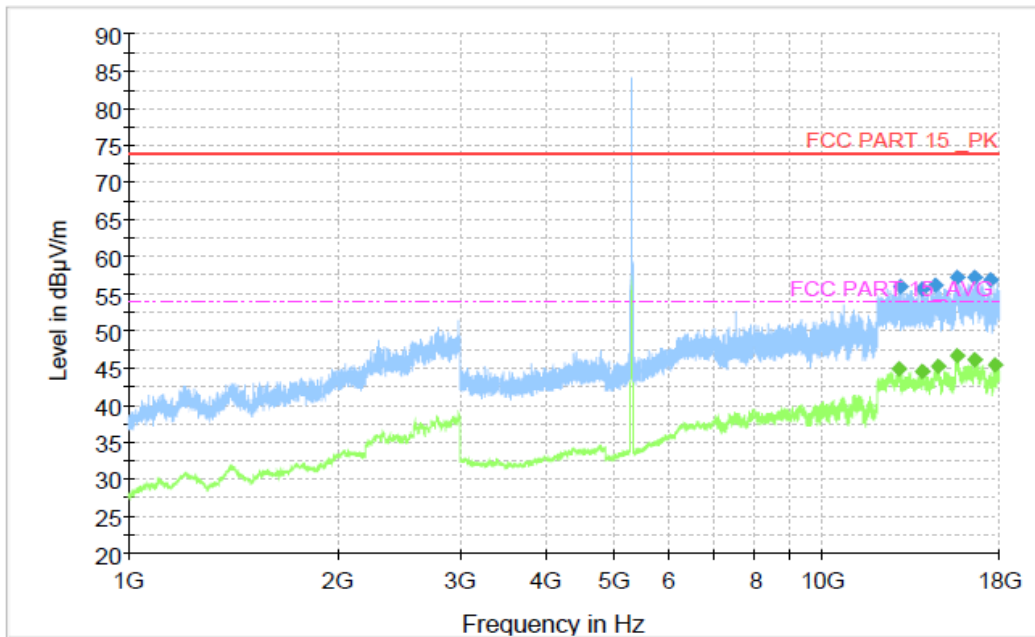


Fig. 61 Transmitter Spurious Emission (802.11n-HT40, 5310MHz)

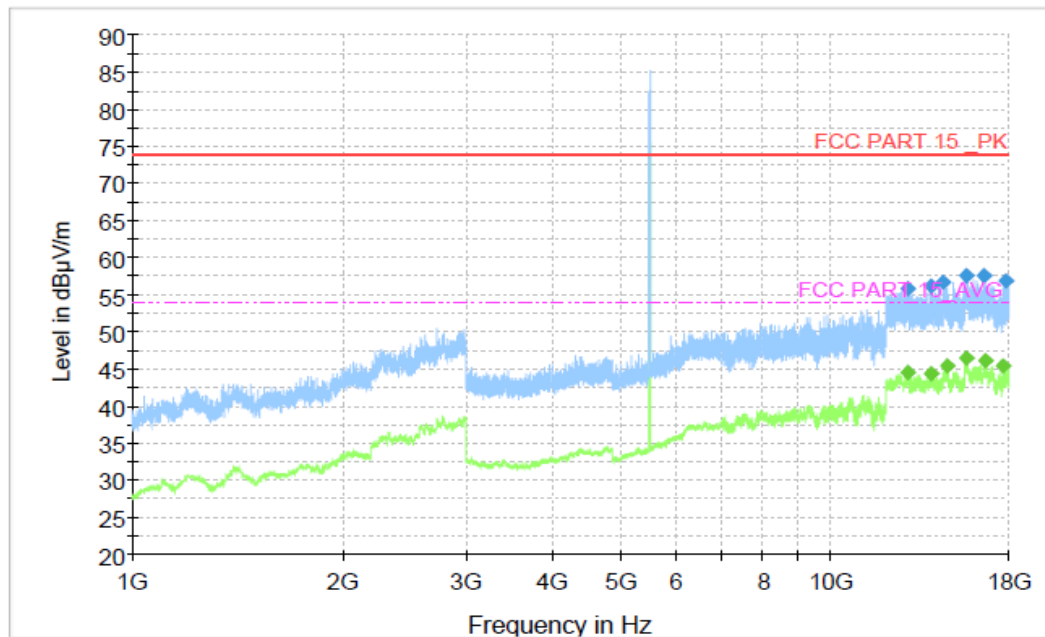


Fig. 62 Transmitter Spurious Emission (802. 11n-HT40, 5510MHz)

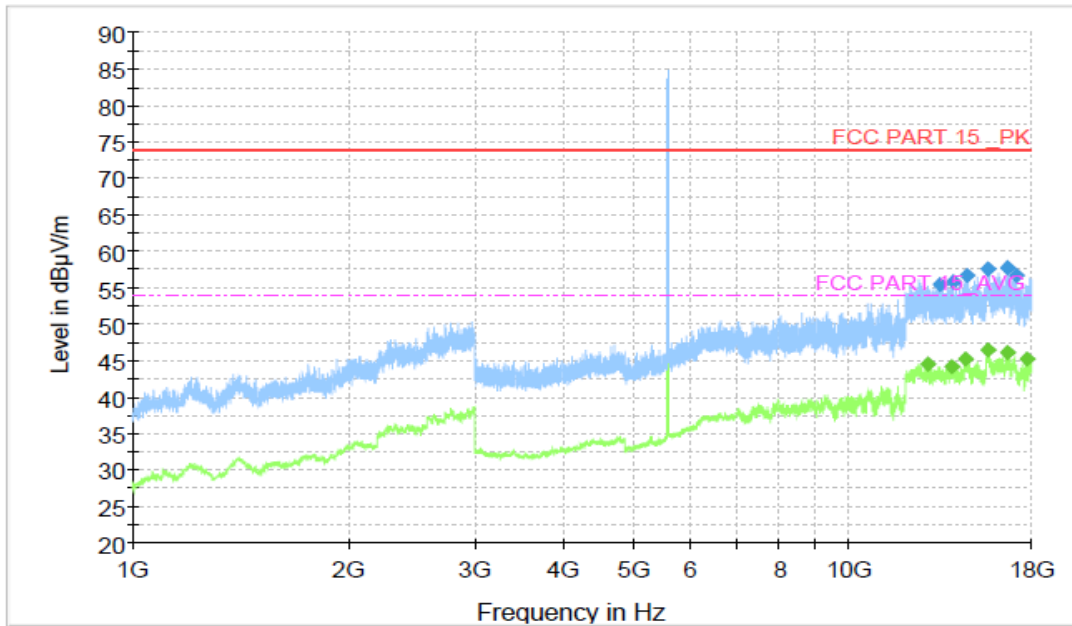


Fig. 63 Transmitter Spurious Emission (802. 11n-HT40, 5590MHz)

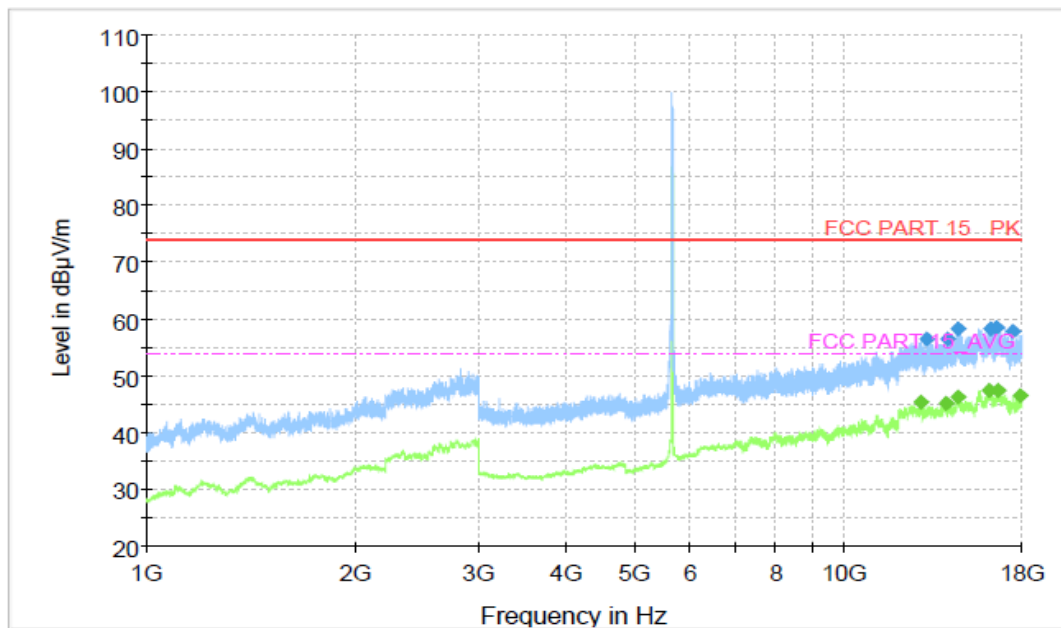


Fig. 64 Transmitter Spurious Emission (802. 11n-HT40, 5670MHz)

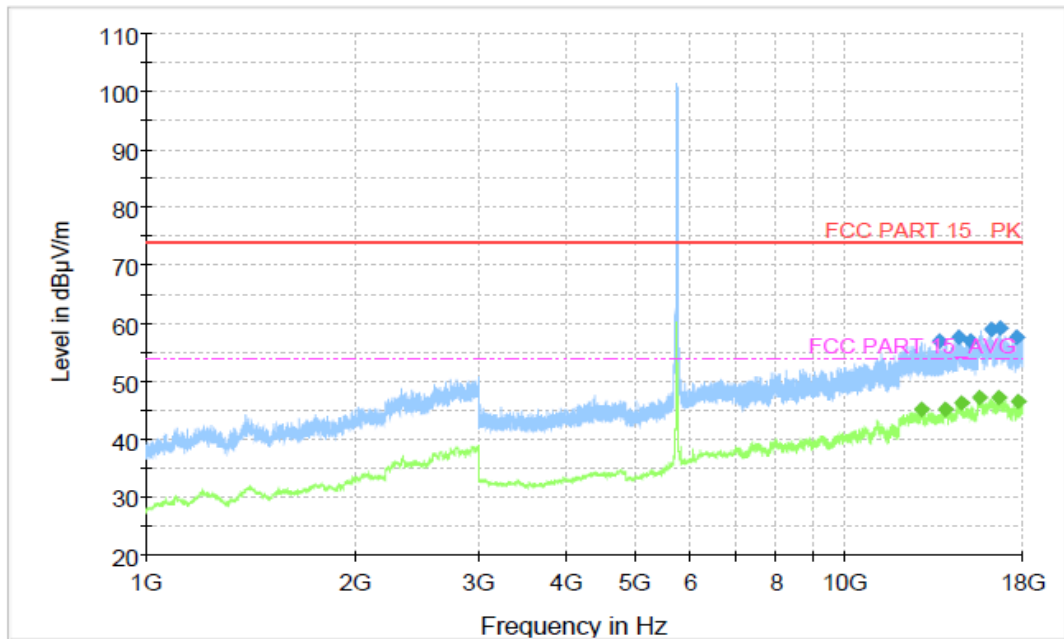


Fig. 65 Transmitter Spurious Emission (802. 11n-HT40, 5755MHz)

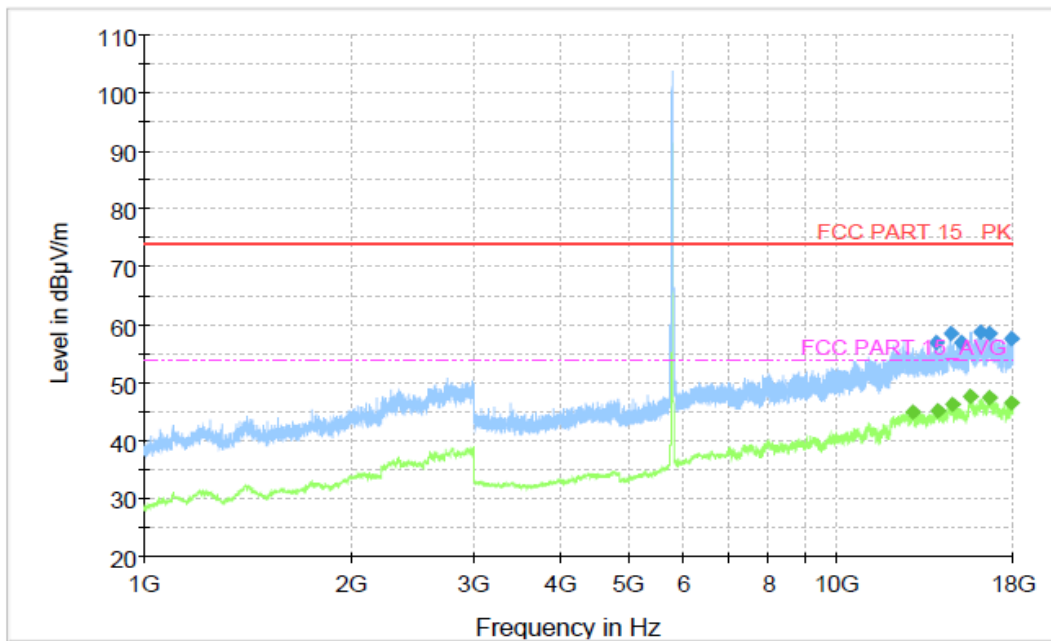


Fig. 66 Transmitter Spurious Emission (802. 11n-HT40, 5795MHz)

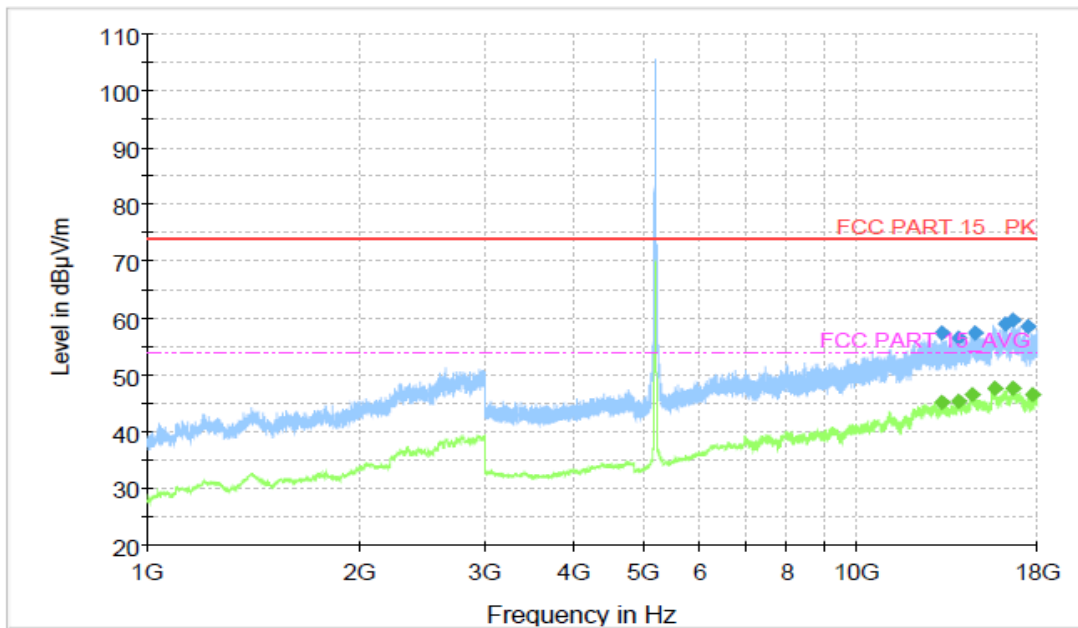


Fig. 67 Transmitter Spurious Emission (802.11ac-VHT80, 5210MHz)

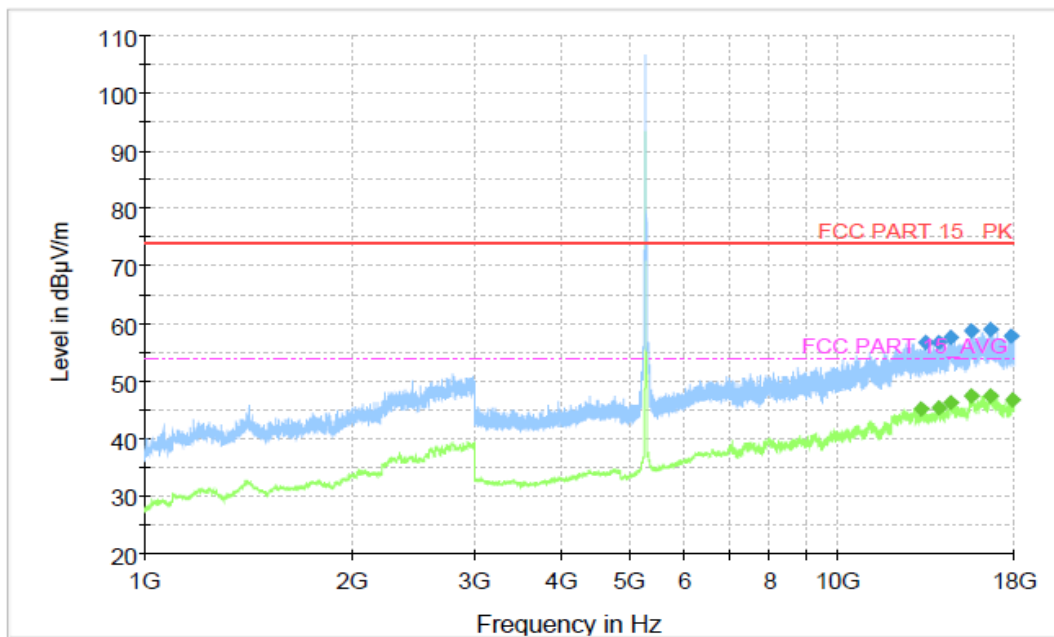


Fig. 68 Transmitter Spurious Emission (802.11ac-VHT80, 5290MHz)

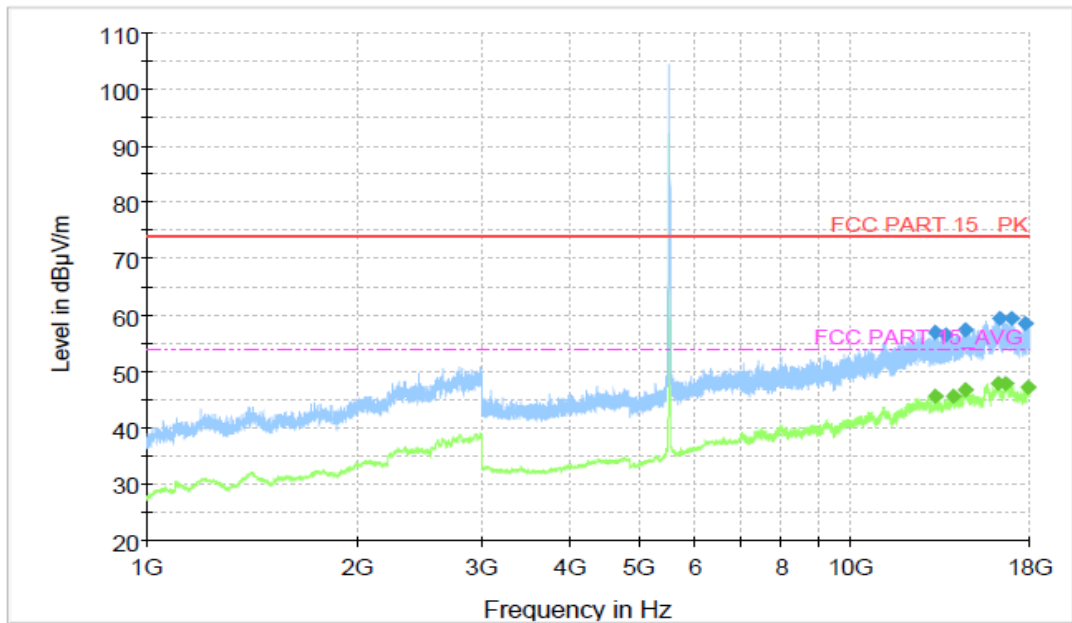


Fig. 69 Transmitter Spurious Emission (802. 11ac-VHT80, 5530MHz)

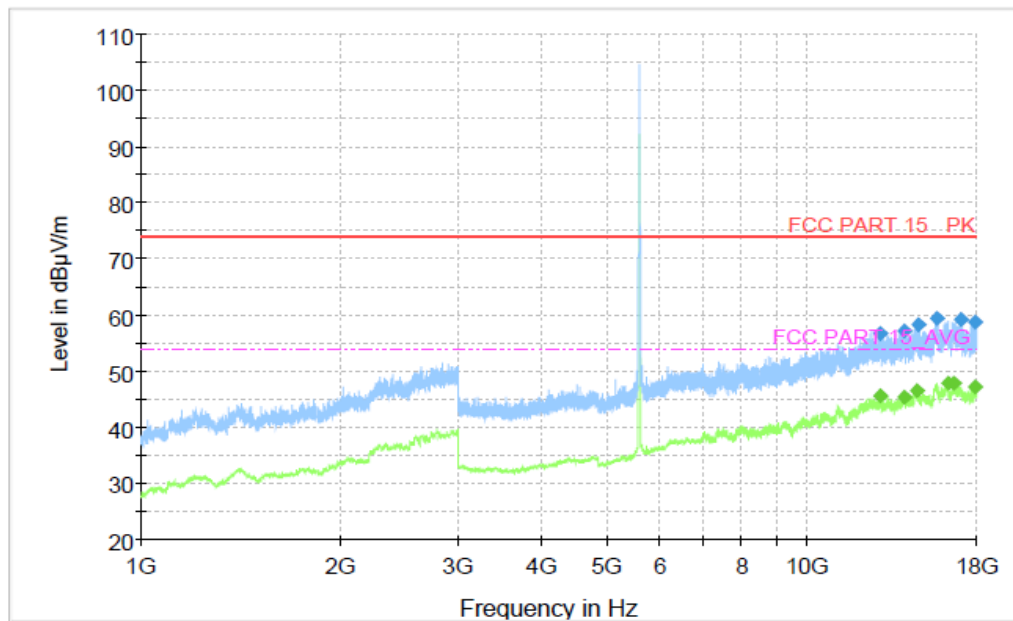


Fig. 70 Transmitter Spurious Emission (802. 11ac-VHT80, 5610MHz)

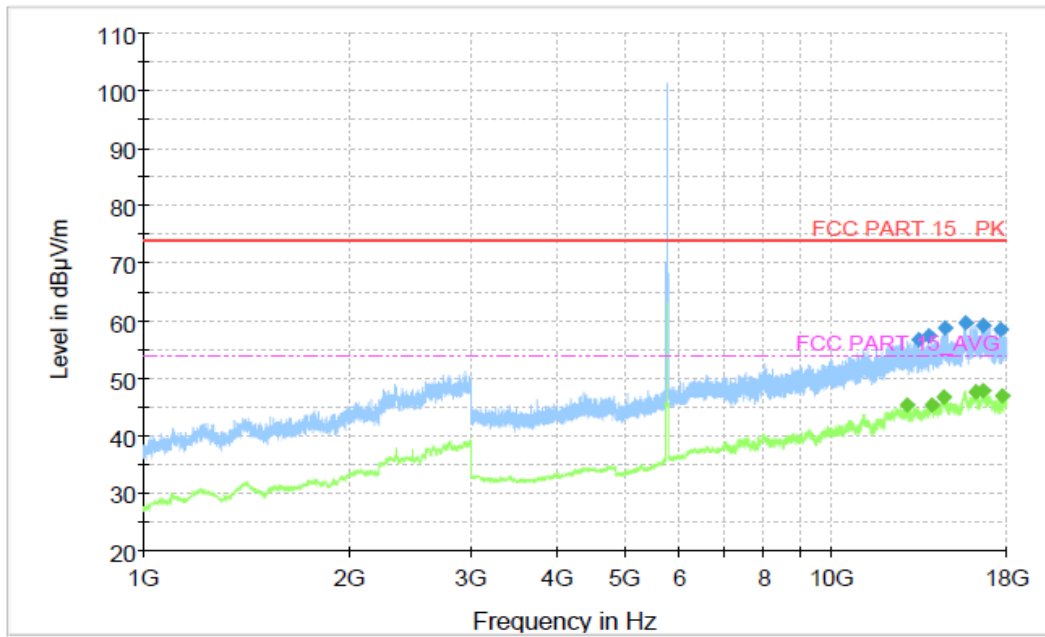


Fig. 71 Transmitter Spurious Emission (802.11ac-VHT80, 5775MHz)

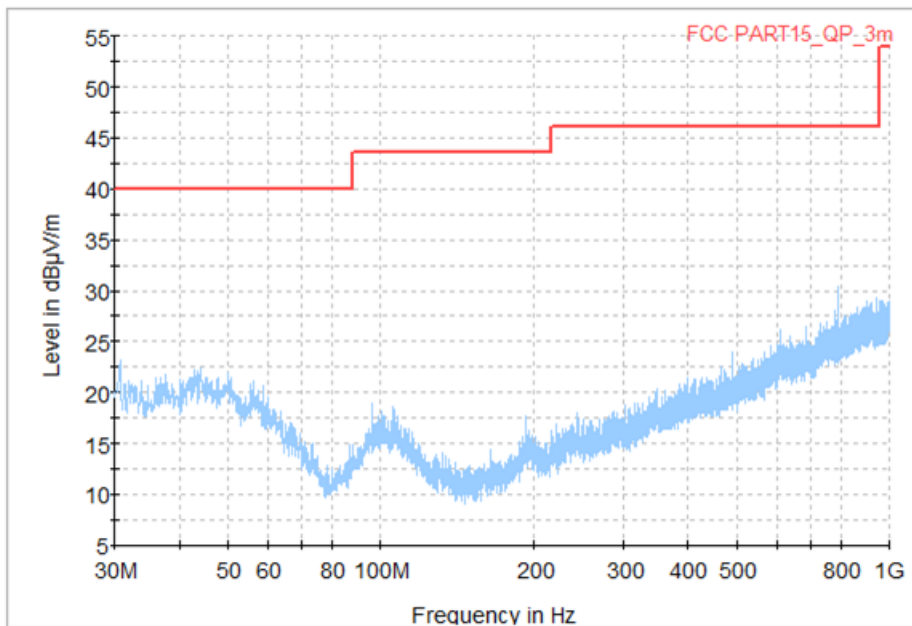


Fig. 72 Transmitter Spurious Emission (All channel, 30MHz~1GHz)

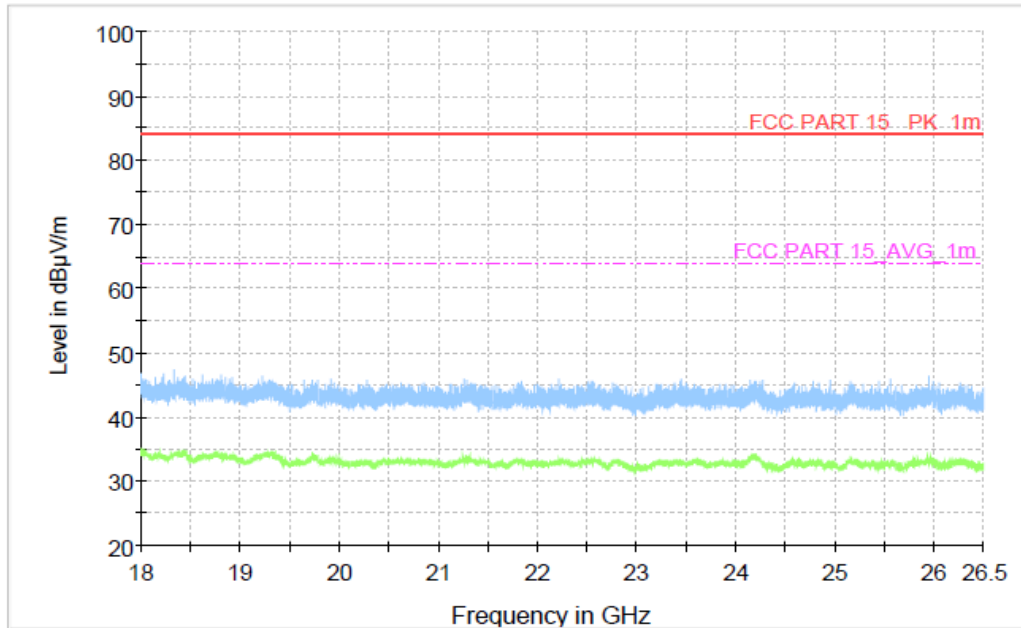


Fig. 73 Transmitter Spurious Emission (All channel, 18GHz~26.5GHz)

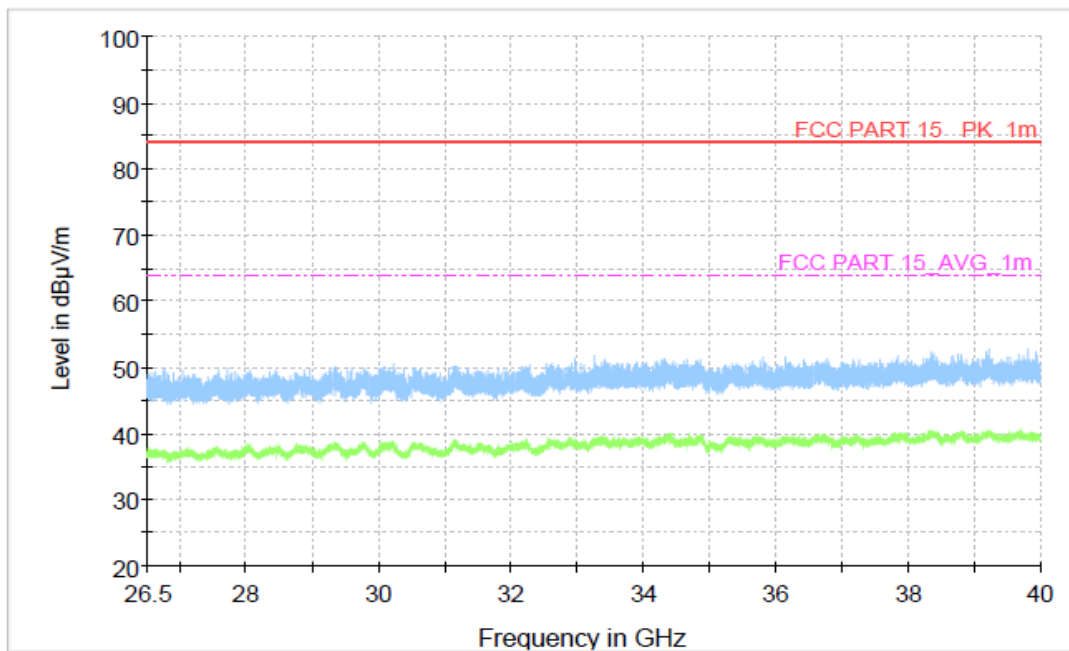


Fig. 74 Transmitter Spurious Emission (All channel, 26.5GHz~40GHz)

Worst Case Result

802.11a CH36

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12917.500000	56.60	74.00	17.40	H	20.0
13981.000000	55.40	74.00	18.60	H	19.6
14675.500000	57.62	74.00	16.38	H	20.7
15730.500000	57.14	74.00	16.86	H	21.1
16403.000000	57.25	74.00	16.75	H	21.7
17724.000000	56.44	74.00	17.56	H	22.9

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12889.500000	44.58	54.00	9.42	H	19.9
13939.000000	44.28	54.00	9.72	H	19.7
14690.000000	45.31	54.00	8.69	H	20.7
15652.000000	46.26	54.00	7.74	H	21.3
16586.000000	45.98	54.00	8.02	H	22.7
17686.000000	45.26	54.00	8.74	H	22.8

802.11a CH52

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
13297.500000	55.72	74.00	18.28	H	19.8
13932.500000	56.03	74.00	17.97	H	19.7
14662.000000	56.28	74.00	17.72	H	20.7
15718.000000	57.65	74.00	16.35	H	21.2
16383.000000	57.21	74.00	16.79	H	21.7
17719.000000	56.10	74.00	17.90	H	22.9

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12899.000000	44.80	54.00	9.20	H	20.0
13976.500000	44.36	54.00	9.64	H	19.6
14563.500000	45.16	54.00	8.84	H	20.4
15672.500000	46.28	54.00	7.72	H	21.3
16640.500000	46.33	54.00	7.67	H	22.5
17690.500000	45.44	54.00	8.56	H	22.8

802.11a CH100

Final_Result_PK+

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
12903.000000	56.50	74.00	17.50	H	20.0
13956.500000	55.78	74.00	18.22	H	19.7
14539.000000	56.73	74.00	17.27	H	20.4
15650.500000	57.96	74.00	16.04	H	21.3
16647.500000	57.48	74.00	16.52	H	22.4
17703.000000	56.45	74.00	17.55	H	22.9

Final_Result_AVG

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
12900.500000	44.91	54.00	9.09	H	20.0
13977.000000	44.50	54.00	9.50	H	19.6
14681.500000	45.30	54.00	8.70	H	20.7
15662.500000	46.34	54.00	7.66	H	21.3
16639.500000	46.01	54.00	7.99	H	22.5
17704.000000	45.33	54.00	8.67	H	22.9

802.11a CH157

Final_Result_PK+

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
12921.000000	55.69	74.00	18.31	H	20.0
13790.500000	55.45	74.00	18.55	H	19.2
14531.500000	56.20	74.00	17.80	H	20.3
15696.500000	56.92	74.00	17.08	H	21.3
16639.000000	57.60	74.00	16.40	H	22.5
17530.000000	56.73	74.00	17.27	H	22.0

Final_Result_AVG

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
12891.000000	44.52	54.00	9.48	H	19.9
13940.000000	44.38	54.00	9.62	H	19.7
14689.000000	45.20	54.00	8.80	H	20.7
15652.500000	46.32	54.00	7.68	H	21.3
16632.500000	46.24	54.00	7.76	H	22.5
17703.500000	45.30	54.00	8.70	H	22.9

802.11n HT40 CH38

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
13189.000000	55.52	74.00	18.48	H	20.1
14004.000000	56.00	74.00	18.00	H	19.5
14563.000000	57.17	74.00	16.83	H	20.4
15655.500000	57.54	74.00	16.46	H	21.3
16589.000000	58.18	74.00	15.82	H	22.8
17686.500000	56.70	74.00	17.30	H	22.8

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12897.000000	44.52	54.00	9.48	H	20.0
13933.500000	44.33	54.00	9.67	H	19.7
14563.000000	45.31	54.00	8.69	H	20.4
15657.000000	46.44	54.00	7.56	H	21.3
16643.500000	46.06	54.00	7.94	H	22.4
17703.000000	45.56	54.00	8.44	H	22.9

802.11n HT40 CH62

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12947.500000	55.89	74.00	18.11	H	20.0
13925.500000	55.62	74.00	18.38	H	19.8
14561.500000	56.07	74.00	17.93	H	20.4
15669.000000	57.26	74.00	16.74	H	21.3
16607.000000	57.26	74.00	16.74	H	22.8
17479.000000	56.87	74.00	17.13	H	22.1

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12890.000000	44.79	54.00	9.21	H	19.9
13952.500000	44.53	54.00	9.47	H	19.7
14701.500000	45.25	54.00	8.75	H	20.7
15643.000000	46.61	54.00	7.39	H	21.3
16618.500000	46.15	54.00	7.85	H	22.7
17701.500000	45.46	54.00	8.54	H	22.9

802.11n HT40 CH118

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
13381.000000	55.47	74.00	18.53	H	19.5
13977.500000	55.85	74.00	18.15	H	19.6
14641.500000	56.73	74.00	17.27	H	20.6
15649.000000	57.60	74.00	16.40	H	21.3
16664.000000	57.77	74.00	16.23	H	22.2
17170.500000	56.67	74.00	17.33	H	21.4

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12890.500000	44.51	54.00	9.49	H	19.9
13949.000000	44.24	54.00	9.76	H	19.7
14566.500000	45.17	54.00	8.83	H	20.4
15665.000000	46.41	54.00	7.59	H	21.3
16646.500000	46.11	54.00	7.89	H	22.4
17701.000000	45.28	54.00	8.72	H	22.9

802.11n HT40 CH151

Final_Result_PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
13686.500000	56.88	74.00	17.12	H	19.4
14555.000000	57.69	74.00	16.31	H	20.4
15131.000000	56.85	74.00	17.15	H	20.0
16265.500000	58.94	74.00	15.06	H	21.8
16693.500000	59.17	74.00	14.83	H	21.9
17686.500000	57.56	74.00	16.44	H	22.8

Final_Result_AVG

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
12902.500000	45.15	54.00	8.85	H	20.0
13956.500000	45.10	54.00	8.90	H	19.7
14692.000000	46.19	54.00	7.81	H	20.7
15654.000000	47.26	54.00	6.74	H	21.3
16625.000000	47.29	54.00	6.71	H	22.6
17704.500000	46.55	54.00	7.45	H	22.9

802.11ac VHT80 CH42

Final_Result_PK+

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
13233.500000	57.40	74.00	16.60	H	20.0
13980.000000	56.54	74.00	17.46	H	19.6
14689.500000	57.48	74.00	16.52	H	20.7
16252.000000	58.91	74.00	15.09	H	22.0
16624.000000	59.72	74.00	14.28	H	22.6
17470.000000	58.47	74.00	15.53	H	22.1

Final_Result_AVG

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
13248.500000	45.16	54.00	8.84	H	19.9
13945.000000	45.40	54.00	8.60	H	19.7
14561.500000	46.59	54.00	7.41	H	20.4
15657.000000	47.57	54.00	6.43	H	21.3
16644.000000	47.56	54.00	6.44	H	22.4
17702.000000	46.62	54.00	7.38	H	22.9

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Final_Result_PK+

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
13244.000000	56.88	74.00	17.12	H	19.9
13707.000000	56.61	74.00	17.39	H	19.5
14560.500000	57.47	74.00	16.53	H	20.4
16280.500000	59.43	74.00	14.57	H	21.7
16934.000000	59.47	74.00	14.53	H	22.6
17717.500000	58.49	74.00	15.51	H	22.9

Final_Result_AVG

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
13251.500000	45.55	54.00	8.45	H	19.9
13993.000000	45.64	54.00	8.36	H	19.6
14562.500000	46.81	54.00	7.19	H	20.4
16247.000000	47.99	54.00	6.01	H	22.1
16645.000000	47.77	54.00	6.23	H	22.4
17883.000000	47.23	54.00	6.77	H	23.8

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

A.9. Radiated Spurious Emissions < 30MHz

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

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	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 recalculated based on the extrapolation factor of 40 dB/decade.

Measurement Result(Worst case):

Mode	Frequency Range	Test Results	Conclusion
All Channel	9 kHz ~30 MHz	Fig.75	P

Conclusion: PASS

Test graphs as below:

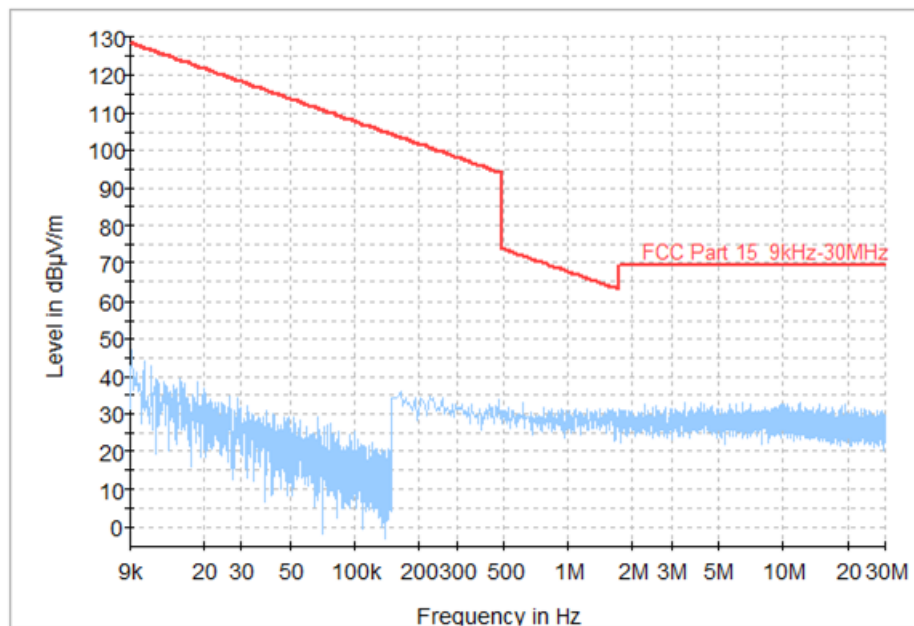


Fig. 75 Radiated Spurious Emission (All Channel, 9 kHz ~30 MHz)

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