



TEST REPORT

No. I22N02494-WLAN 5GHz

for

Honor Device Co., Ltd.

Smart Phone

Model Name: CRT-LX3

with

Hardware Version: HL3CRTM

Software Version: 6.1.0.90(C900E21R1P2)

FCC ID: 2AYGCCRT-LX3

Issued Date: 2022-12-09

Designation Number: CN1210

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:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen,
Guangdong, P. R. China 518000.

Tel:+86(0)755-33322000, Fax:+86(0)755-33322001

Email: yewu@caict.ac.cn. www.saict.ac.cn

©Copyright. All rights reserved by SAICT.



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22N02494-WLAN 5GHz	Rev.0	1st edition	2022-12-09

Note: the latest revision of the test report supersedes all previous versions.

CONTENTS

CONTENTS	3
1. SUMMARY OF TEST REPORT	4
1.1. TEST ITEMS	4
1.2. TEST STANDARDS	4
1.3. TEST RESULT	4
1.4. TESTING LOCATION	4
1.5. PROJECT DATA	4
1.6. SIGNATURE	4
2. CLIENT INFORMATION	5
2.1. APPLICANT INFORMATION	5
2.2. MANUFACTURER INFORMATION	5
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
3.1. ABOUT EUT	6
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	6
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	6
3.4. GENERAL DESCRIPTION	8
4. REFERENCE DOCUMENTS	9
4.1. DOCUMENTS SUPPLIED BY APPLICANT	9
4.2. REFERENCE DOCUMENTS FOR TESTING	9
5. TEST RESULTS	10
5.1. TESTING ENVIRONMENT	10
5.2. TEST RESULTS	10
5.3. STATEMENTS	10
7. LABORATORY ENVIRONMENT	12
8. MEASUREMENT UNCERTAINTY	13
ANNEX A: DETAILED TEST RESULTS	14
A.1. MEASUREMENT METHOD	14
A.1. BAND EDGES COMPLIANCE	17
A.2. TRANSMITTER SPURIOUS EMISSION	27
A.3. RADIATED SPURIOUS EMISSIONS < 30MHZ	45
A.4. AC POWER LINE CONDUCTED EMISSION	47



1. Summary of Test Report

1.1. Test Items

Description	Smart Phone
Model Name	CRT-LX3
Applicant's name	Honor Device Co., Ltd.
Manufacturer's Name	Honor Device Co., Ltd.

1.2. Test Standards

FCC Part15-2021; FCC 06-96-2006; ANSI C63.10-2013; KDB789033-V02r01; KDB 905462-D02.

1.3. Test Result

Pass

Please refer to "5.2. Test Results"

1.4. Testing Location

Address: EMC Laboratory, Building G, Shenzhen International Innovation Center, No.1006
Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China

1.5. Project data

Testing Start Date: 2022-12-01
Testing End Date: 2022-12-09

1.6. Signature

Liu Xiangzhou
(Prepared this test report)

Liang Yong
(Reviewed this test report)

Cao Junfei
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name:	Honor Device Co., Ltd.
Address:	Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, P.R.China
Contact Person	Li Ming
E-Mail	liming136@hihonor.com
Telephone:	0755-61886688
Fax:	/

2.2. Manufacturer Information

Company Name:	Honor Device Co., Ltd.
Address:	Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, P.R.China
Contact Person	Li Ming
E-Mail	liming136@hihonor.com
Telephone:	0755-61886688
Fax:	/



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

3.1. About EUT

Description	Smart Phone
Model Name	CRT-LX3
RF Protocol	IEEE 802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80
WLAN Frequency Range	ISM Bands: 5150MHz~5250MHz; 5250MHz~5350MHz; 5470MHz~5725MHz; 5725MHz~5850MHz.
Type of modulation	OFDM
Antenna Type	Integrated antenna
Power Supply	3.89V DC by Battery
FCC ID	2AYGCCRT-LX3
Device Type (DFS)	Client without radar detection(only support client mode)
Condition of EUT as received	No abnormality in appearance

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Shenzhen Academy of Information and Communications Technology.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of Receipt
UT04aa	866902060024650	HL3CRTM	6.1.0.90(C900E21R 1P2)	2022-12-01

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

UT02aa is used for conduction test, UT09aa is used for radiation test, and UT10aa is used for AC Power line Conducted Emission test.

3.3. Internal Identification of AE used during the test

AE No.	Description
AE1	Battery
AE2	Adapter
AE3	Data Cable
AE4	Headset
AE5	Earphone, USB Type-C to 3.5mm Adapter Assembly
AE1-1	
Model	HB416594EGW
Manufacturer	Honor Device Co., Ltd.(SCUD)
Capacity	4400mAh
Nominal Voltage	3.89 V
AE1-2	
Model	HB416594EGW
Manufacturer	Honor Device Co., Ltd.(Desay)



Capacity	4400mAh
Nominal Voltage	3.89 V
AE2-1	
Model	HN-100225E00
Manufacturer	Honor Device Co., Ltd. (Huntkey/Salcomp)
AE2-2	
Model	HN-100225U00
Manufacturer	Honor Device Co., Ltd. (Huntkey/Salcomp)
AE2-3	
Model	HW-100225E00
Manufacturer	Honor Device Co., Ltd. (Huntkey)
AE2-4	
Model	HW-100225U00
Manufacturer	Honor Device Co., Ltd. (Huntkey)
AE2-5	
Model	HW-100225B00
Manufacturer	Honor Device Co., Ltd. (Huntkey)
AE2-6	
Model	HN-100225B00
Manufacturer	Honor Device Co., Ltd. (Huntkey/Salcomp)
AE3-1	
Model	CUDU01B-HC451-EH
Manufacturer	04072295(FF)
AE3-2	
Model	AU2-CRO013HF
Manufacturer	04072295(LJ)
AE3-3	
Model	L125UC007-CS-H
Manufacturer	04072295(LX)
AE3-4	
Model	2120-00001-0
Manufacturer	04072295(MG)
AE3-5	
Model	RY0002
Manufacturer	04072295(NB)
AE4-1	
Model	1331-3301-6001-TC-347
Manufacturer	22070347 (QC)
AE4-2	
Model	MEND1532B528C00
Manufacturer	22040339 (LC)
AE4-3	
Model	1293-3283-3.5MM-339
Manufacturer	22040339 (QC)



AE5

Model	USB042020090AW7
Manufacturer	22040348(LC)

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

AE: ancillary equipment.

AE2: The circuit boards of AE2-2 and AE2-6 are the same, the circuit boards of AE2-4 and AE2-5 are the same

3.4. General Description

The Equipment under Test (EUT) is a model of Smart Phone with integrated antenna and battery.

It consists of normal options: Battery, Adapter, Data Cable, Headset.

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

Samples undergoing test were selected by the client.



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.

Reference	Title	Version
FCC Part15	FCC CFR 47,Part 15,Subpart C FCC CFR 47,Part 15,Subpart E	2021
FCC 06-96	Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) devices in the 5 GHz band	2006
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB 789033	GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E	V02r01
KDB 905462	Compliance Measurement Procedures for Unlicensed-national Information Infrastructure Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection	D02

5. Test Results

5.1. Testing Environment

Normal Temperature: 15~35°C

Relative Humidity: 20~75%

5.2. Test Results

No.	Test cases	Sub-clause of Part15E	Verdict
1	Band edge compliance	15.209	P
2	Transmitter Spurious Emission - Radiated	15.209	P
3	AC Power line Conducted	15.207	P

See **ANNEX A** for details.

Note: According to the definition of the application description, the device will automatically discontinue transmission in case of either absence of information to transmit or operational failure.

5.3. Statements

SAICT has evaluated the test cases requested by the applicant/manufacture as listed in section 5.2 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in section 4.2

Disclaimer:

A. After confirmation with the customer, the sample information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences arising therefrom shall be borne by the customer.

B. The samples in this report are provided by the customer, and the test results are only applicable to the samples received.

6. Measuring Apparatus Utilized

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Test Receiver	ESR7	101676	Rohde & Schwarz	2023-11-23	1 year
2	BiLog Antenna	3142E	0224831	ETS-Lindgren	2024-05-27	3 years
3	Horn Antenna	3117	00066577	ETS-Lindgren	2025-04-17	3 years
4	Horn Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2023-01-06	3 years
5	Horn Antenna	QSH-SL-1 8-40-K-SG	15979	Q-par	2023-01-06	3 years
6	Anechoic Chamber	FACT3-2.0	1285	ETS-Lindgren	2023-05-29	2 years
7	Spectrum Analyzer	FSV40	101192	Rohde & Schwarz	2023-01-12	1 year
8	Loop Antenna	HLA6120	35779	TESEQ	2025-05-10	3 years
9	Test Receiver	ESCI	100702	Rohde & Schwarz	2023-01-12	1 year
10	LISN	ENV216	102067	Rohde & Schwarz	2023-07-14	1 year

Test software

No.	Equipment	Manufacturer	Version
1	EMC32	Rohde & Schwarz	10.50.40

EUT is engineering software provided by the customer to control the transmitting signal.
The EUT was programmed to be in continuously transmitting mode.

7. Laboratory Environment

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 > 60 dB; 1MHz-18000MHz > 90 dB
Electrical insulation	> 2M Ω
Ground system resistance	< 4 Ω

Anechoic chamber (FACT3-2.0) did not exceed following limits along the EMC testing:

9.10m×6.10m×5.60m (L×W×H)

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz > 60 dB; 1MHz-18000MHz > 90 dB
Electrical insulation	> 2M Ω
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3 m distance, from 30 to 1000 MHz
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18 GHz, 3 m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

8. Measurement Uncertainty

Test Name	Uncertainty ($k=2$)	
Band Edges Compliance/ Transmitter Spurious Emission - Radiated	9kHz \leq f<30MHz	1.79dB
	30MHz \leq f<1GHz	4.86dB
	1GHz \leq f<18GHz	4.82dB
	18GHz \leq f \leq 40GHz	2.90dB
AC Power line Conducted Emission	150kHz \leq f \leq 30MHz	2.62dB

ANNEX A: Detailed Test Results

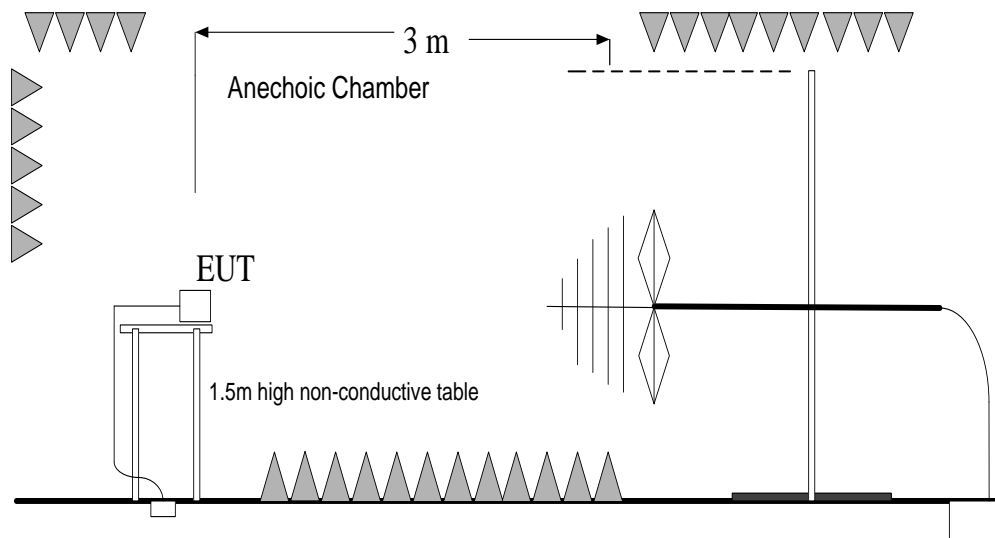
A.1. Measurement Method

Radiated Emission Measurements

Test setup:

9kHz-30MHz:

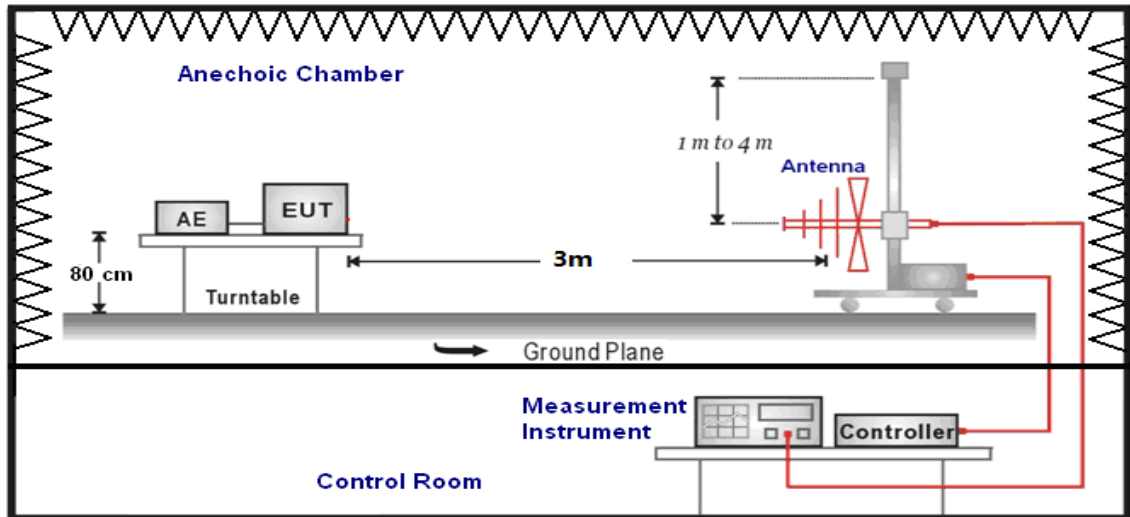
The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.



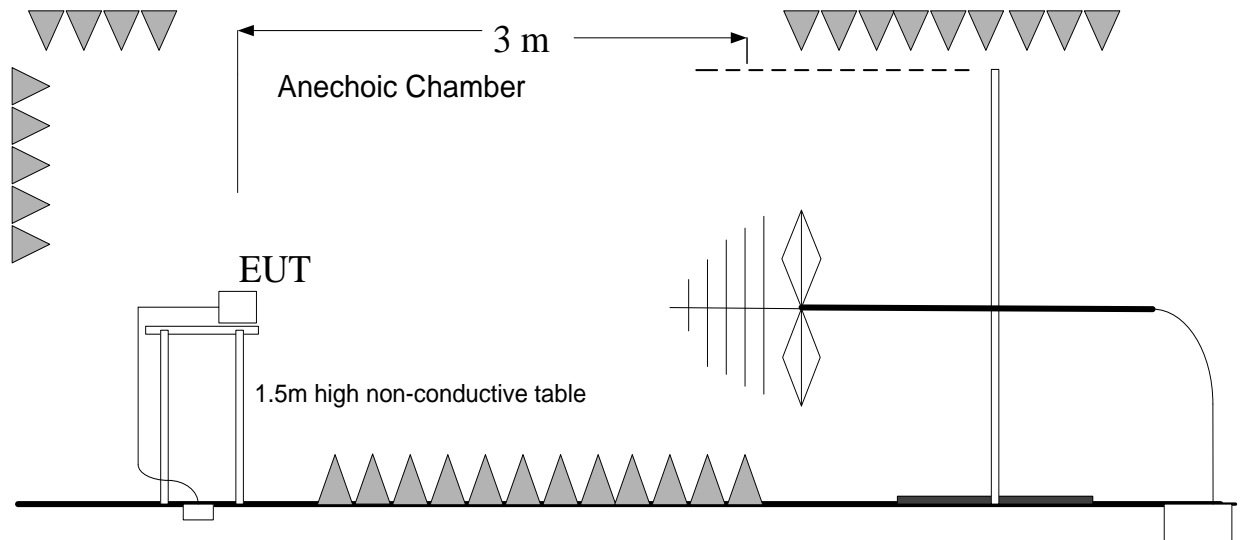
30MHz-40GHz:

The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1.0 meter to 4.0 meter above the ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.

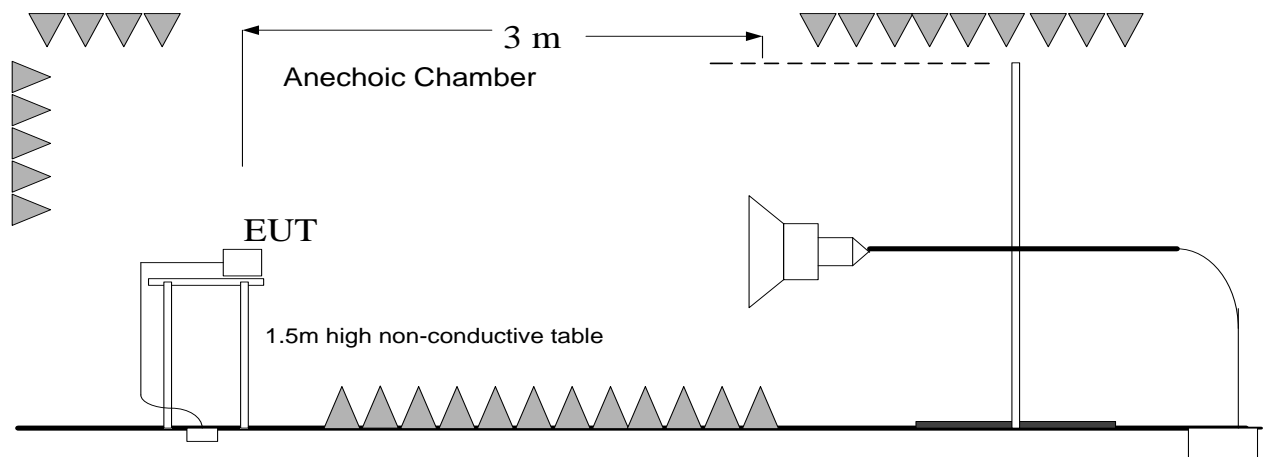
30MHz-1GHz:



1GHz-3GHz:

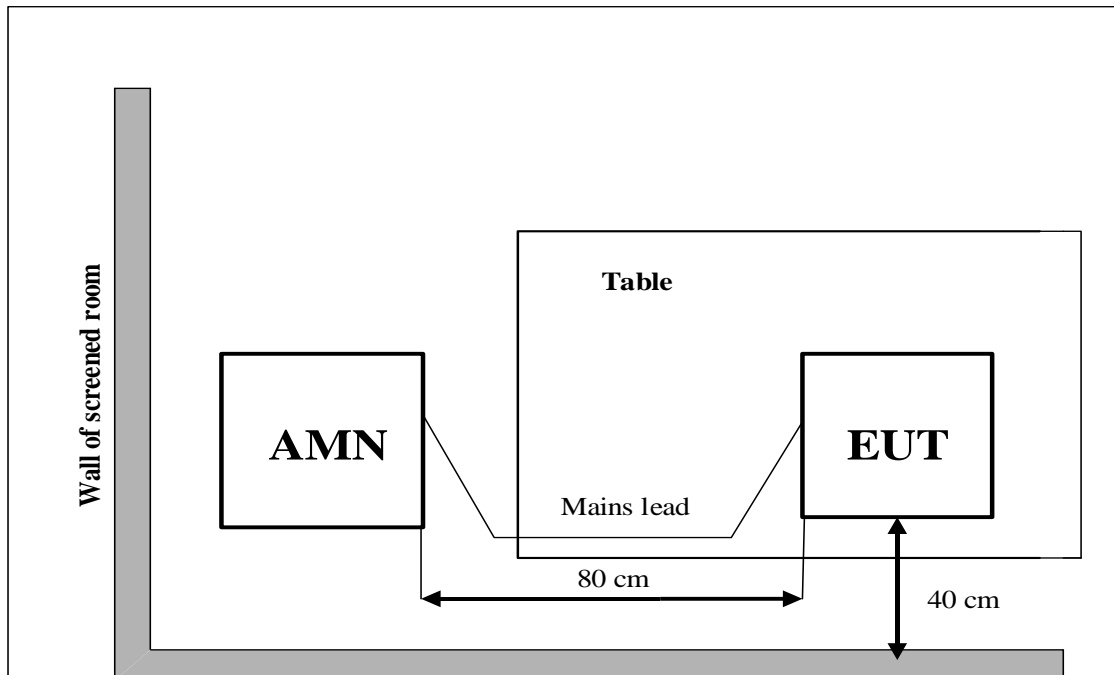


3GHz-40GHz:



AC Power line Conducted Emission Measurement

For WLAN, the EUT is working under test mode. The EUT is commanded to operate at maximum transmitting power.



A.1. Band Edges Compliance

Method of Measurement: See ANSI C63.10-clause 6.10.

Measurement Limit:

Standard	Limit (dBμV/m)	
FCC 47 CFR Part 15.209	Peak	74
	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 Result:

Mode	Frequency (MHz)	Test Results	Conclusion
802.11a	5180MHz(CH36)	Fig.1	P
	5320MHz(CH64)	Fig.2	P
	5500MHz(CH100)	Fig.3	P
	5700MHz(CH140)	Fig.4	P
	5745MHz(CH149)	Fig.5	P
	5825MHz(CH165)	Fig.6	P
802.11ac-VHT40	5190MHz(CH38)	Fig.7	P
	5310MHz(CH62)	Fig.8	P
	5510MHz(CH102)	Fig.9	P
	5670MHz(CH134)	Fig.10	P
	5755MHz(CH151)	Fig.11	P
	5795MHz(CH159)	Fig.12	P
802.11ac-VHT80	5210MHz(CH42)	Fig.13	P
	5290MHz(CH58)	Fig.14	P
	5530MHz(CH106)	Fig.15	P
	5610MHz(Ch122)	Fig.16	P
	5775MHz(CH155)	Fig.17	P

See below for test graphs.

Conclusion: PASS

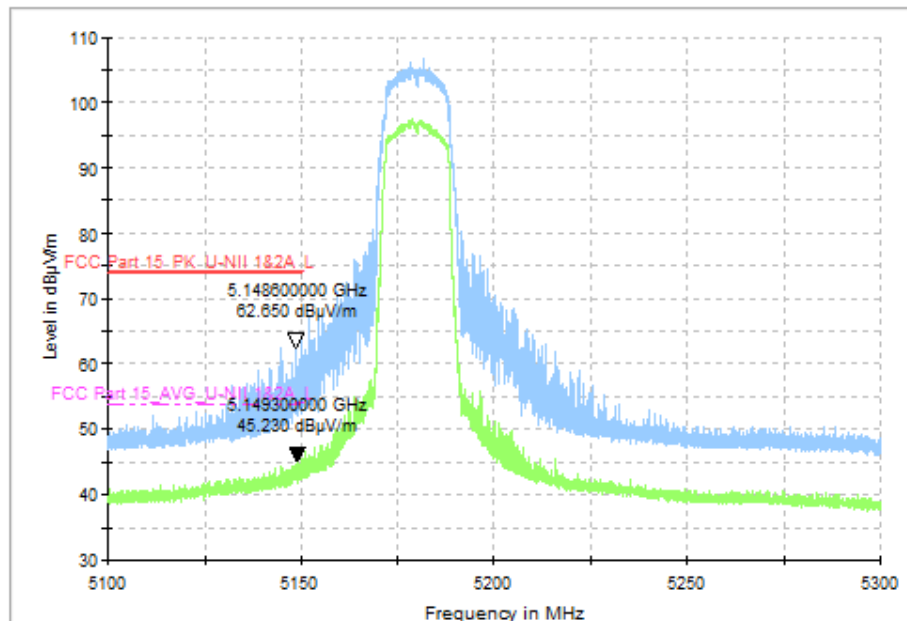


Fig. 1 Band Edges (802.11a, CH36 5180MHz)

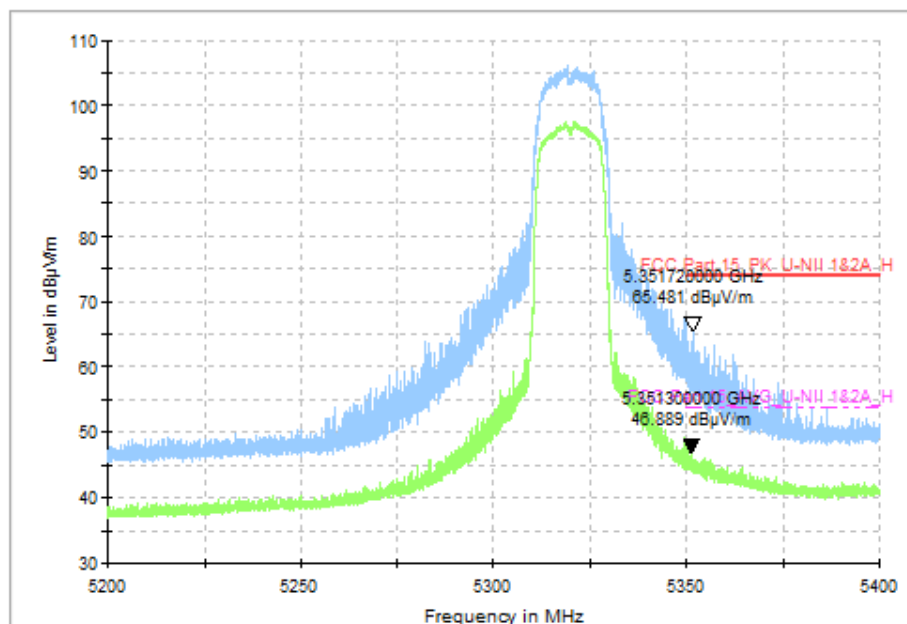


Fig. 2 Band Edges (802.11a, CH64 5320MHz)

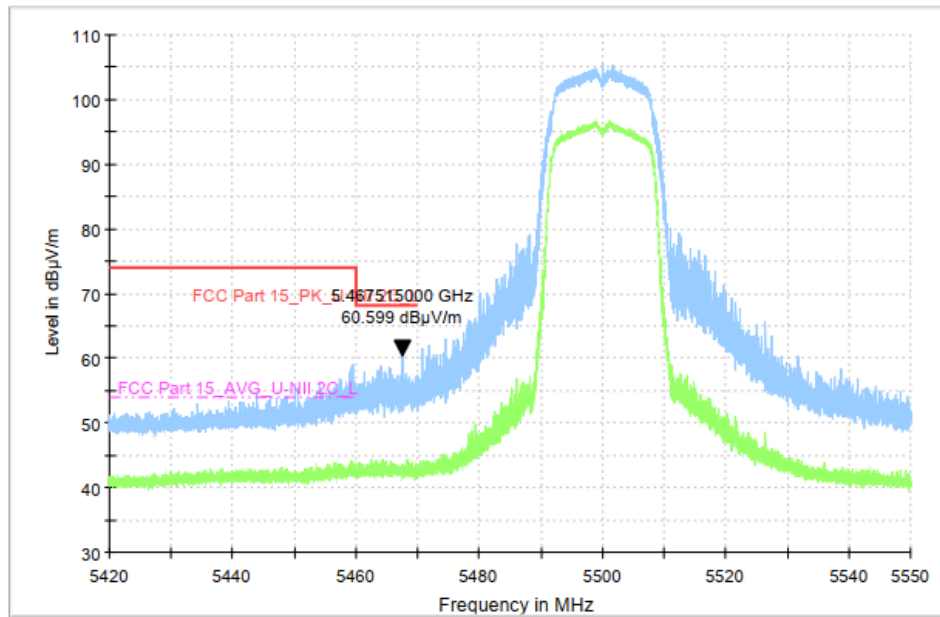


Fig. 3 Band Edges (802.11a, CH100 5500MHz)

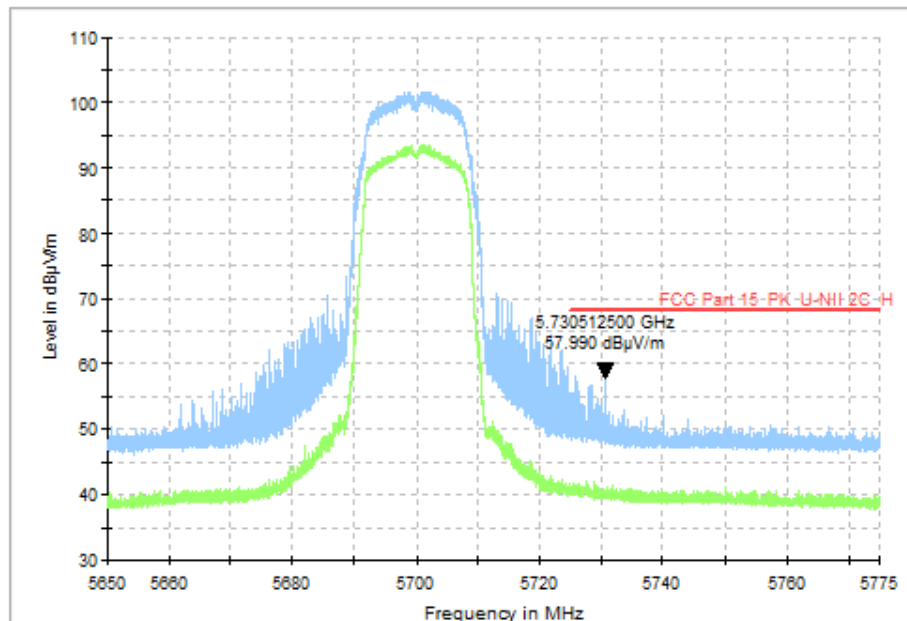


Fig. 4 Band Edges (802.11a, CH140 5700MHz)

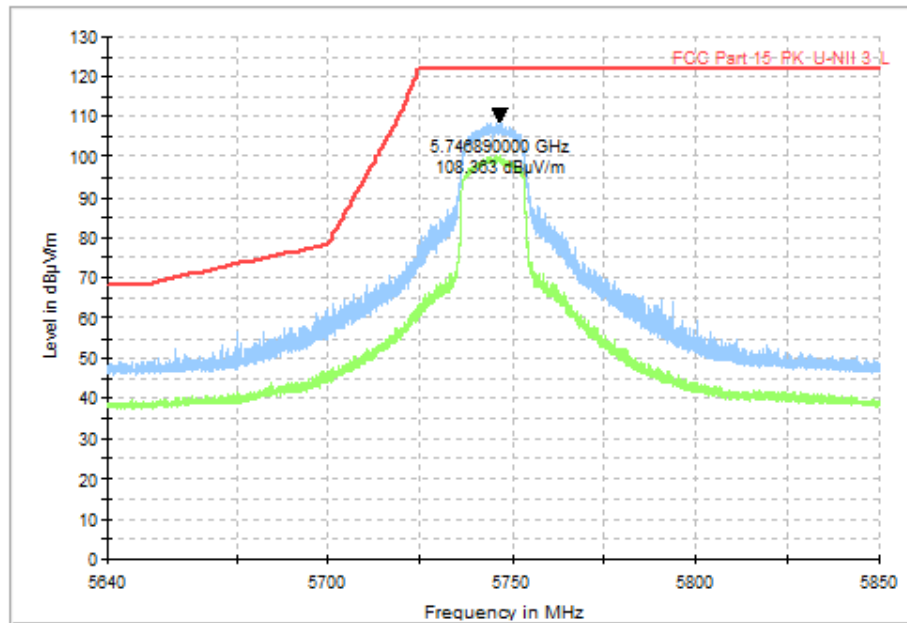


Fig. 5 Band Edges (802.11a, CH149 5745MHz)

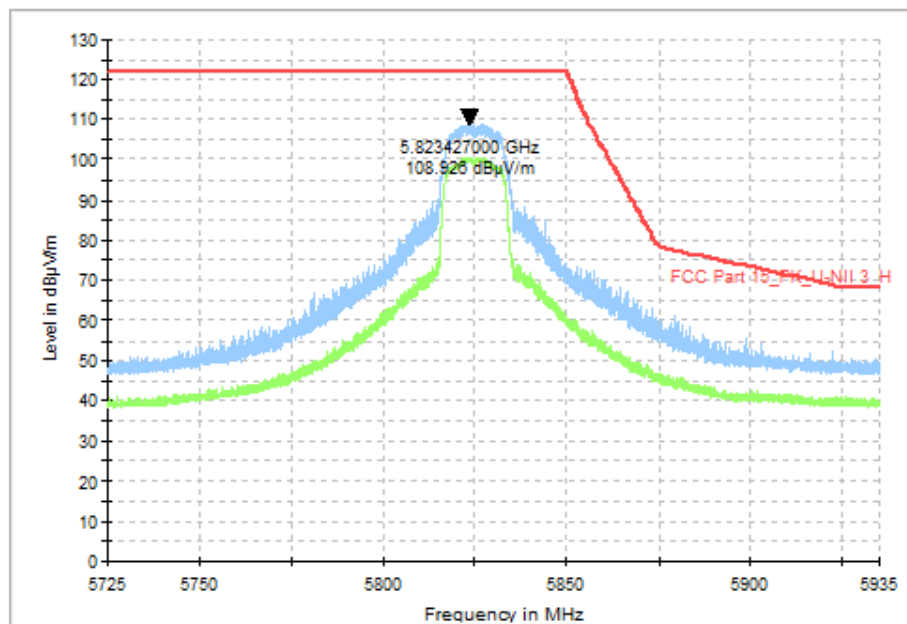


Fig. 6 Band Edges (802.11a, CH165 5825MHz)

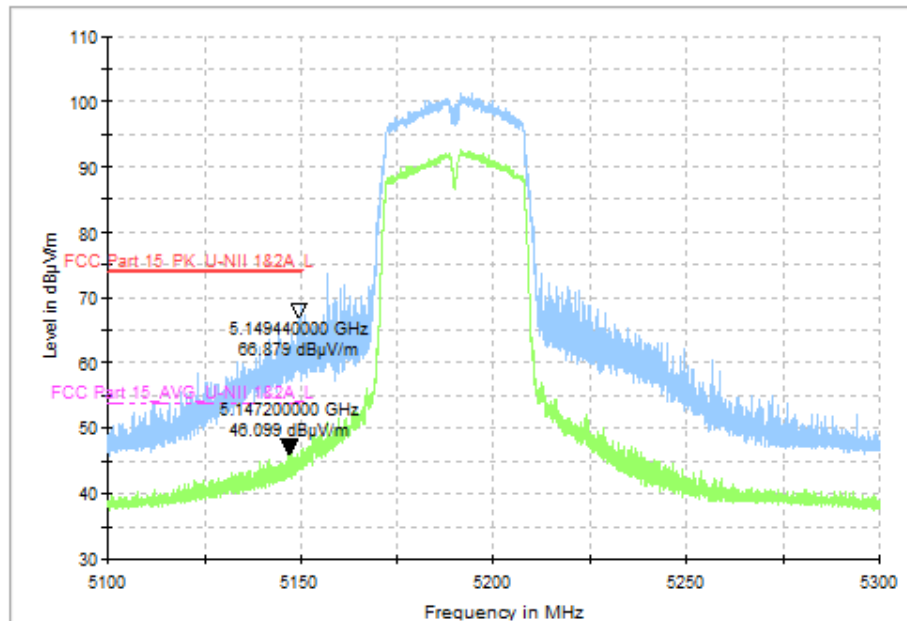


Fig. 7 Band Edges (802.11ac-VHT40, CH38 5190MHz)

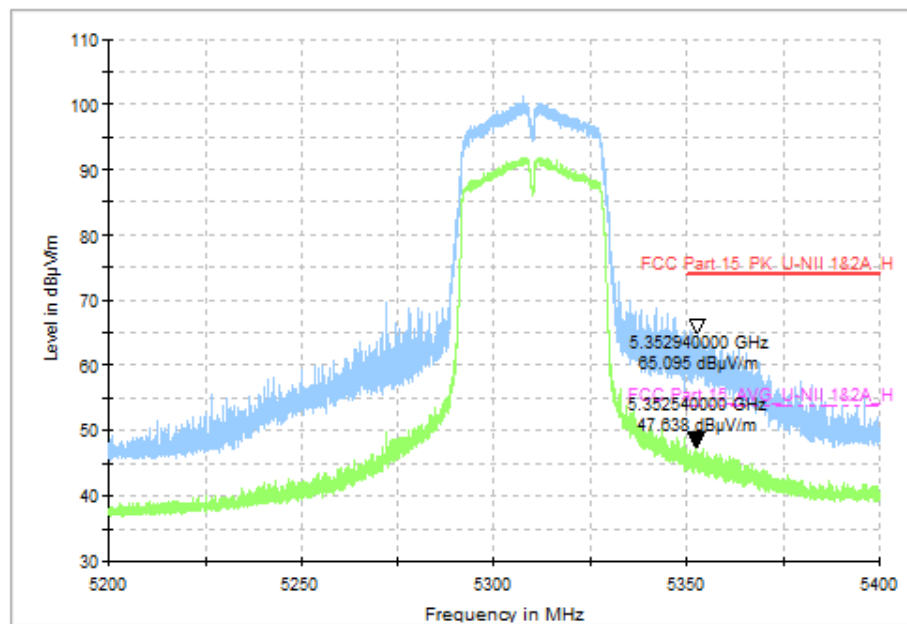


Fig. 8 Band Edges (802.11ac-VHT40, CH62 5310MHz)

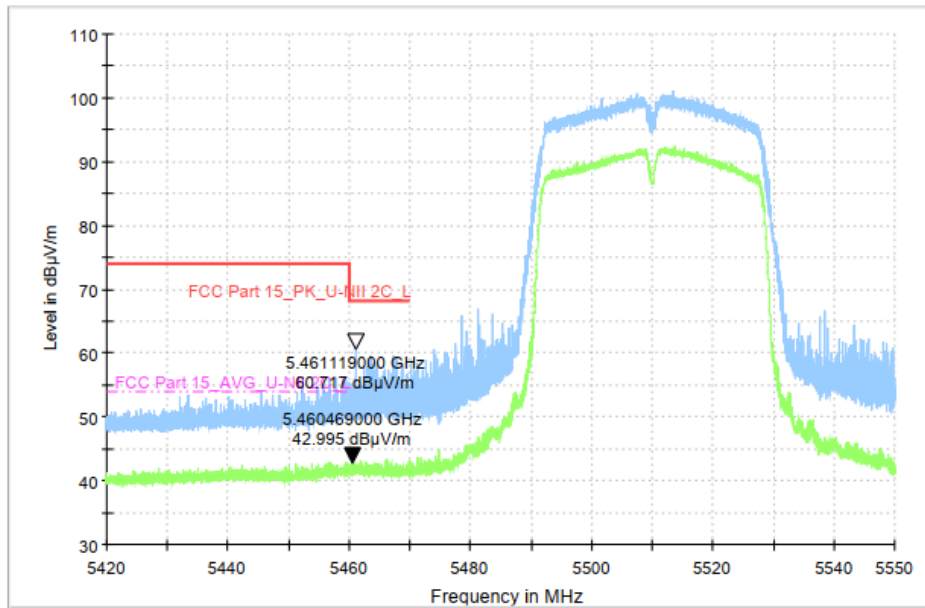


Fig. 9 Band Edges (802.11ac-VHT40, CH102 5510MHz)

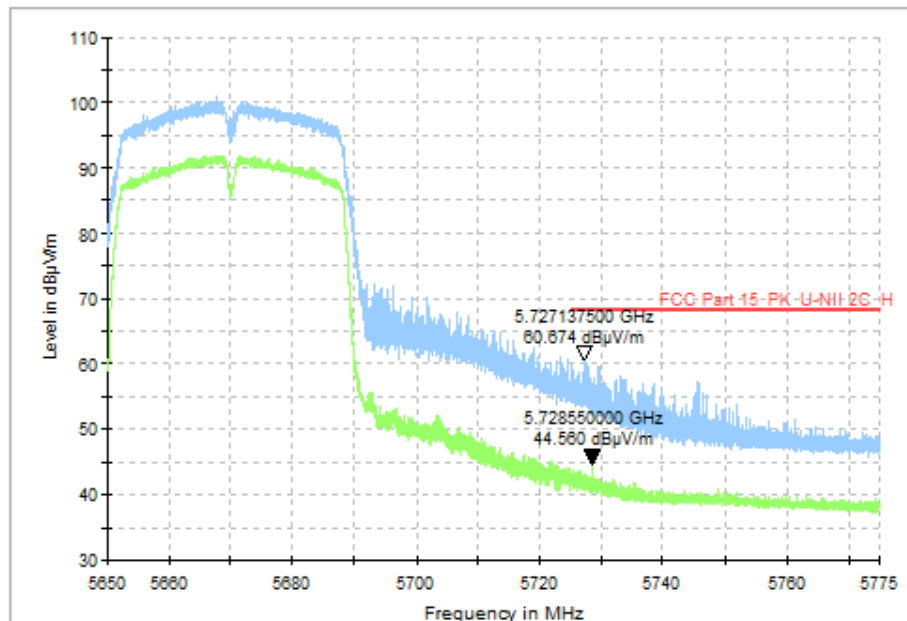


Fig. 10 Band Edges (802.11ac-VHT40, CH134 5670MHz)

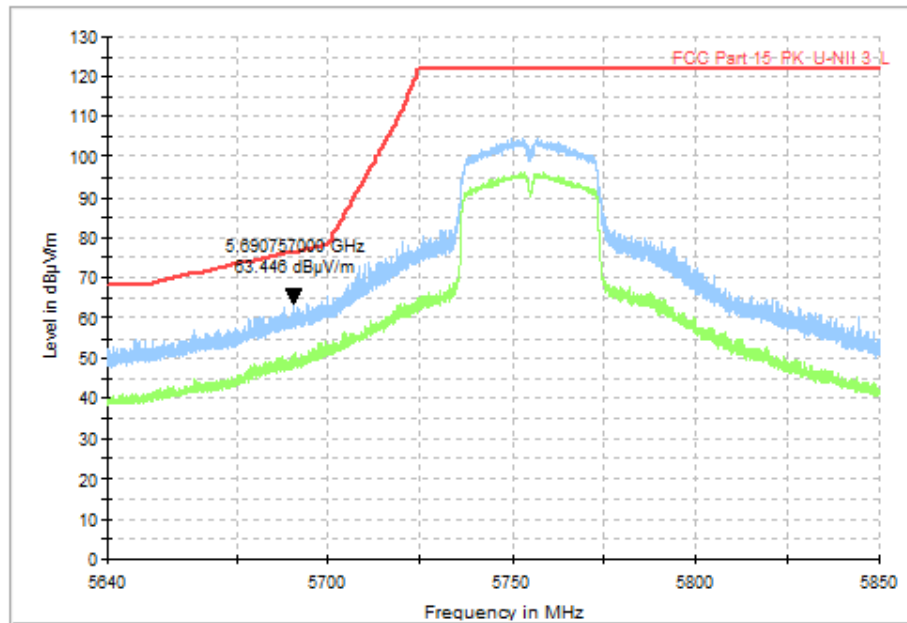


Fig. 11 Band Edges (802.11ac-VHT40, CH151 5755MHz)

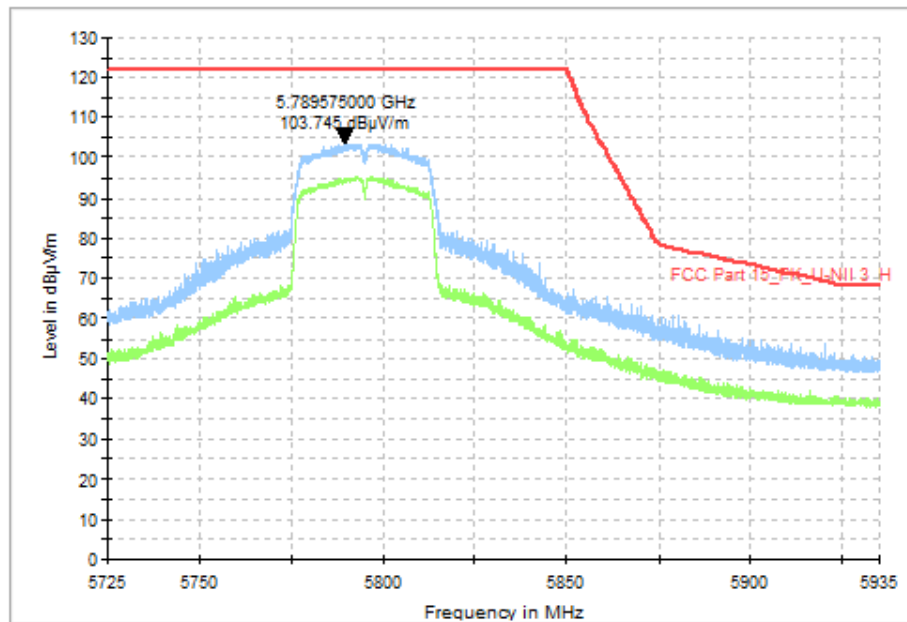


Fig. 12 Band Edges (802.11ac-VHT40, CH159 5795MHz)

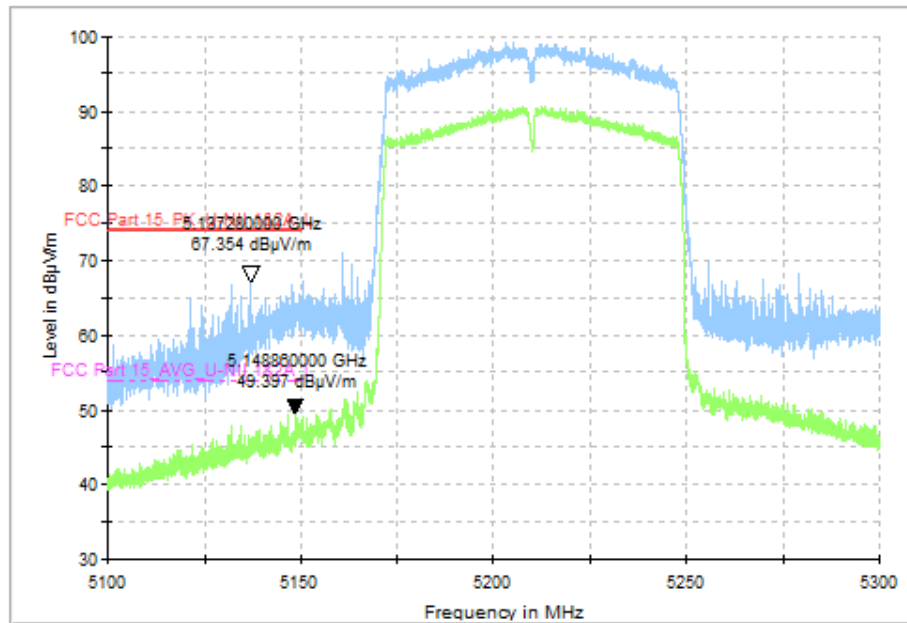


Fig. 13 Band Edges (802.11ac-VHT80, CH42 5210MHz)

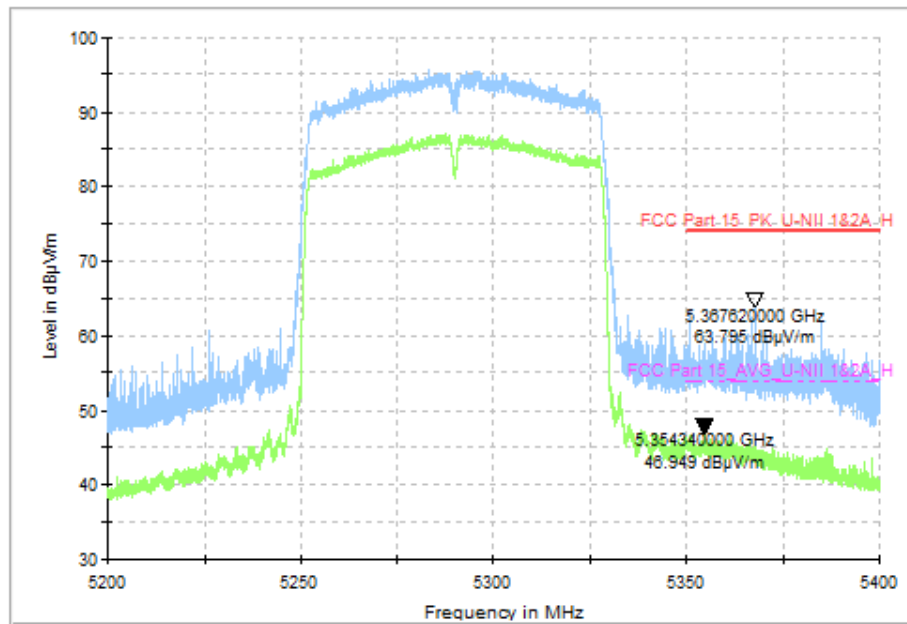


Fig. 14 Band Edges (802.11ac-VHT80, CH58 5290MHz)

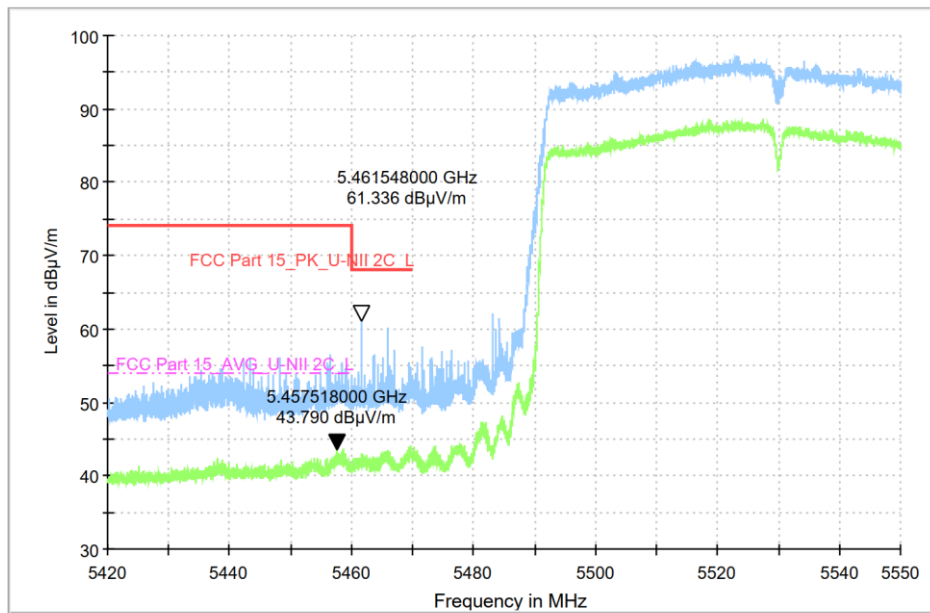


Fig. 15 Band Edges (802.11ac-VHT80, CH106 5530MHz)

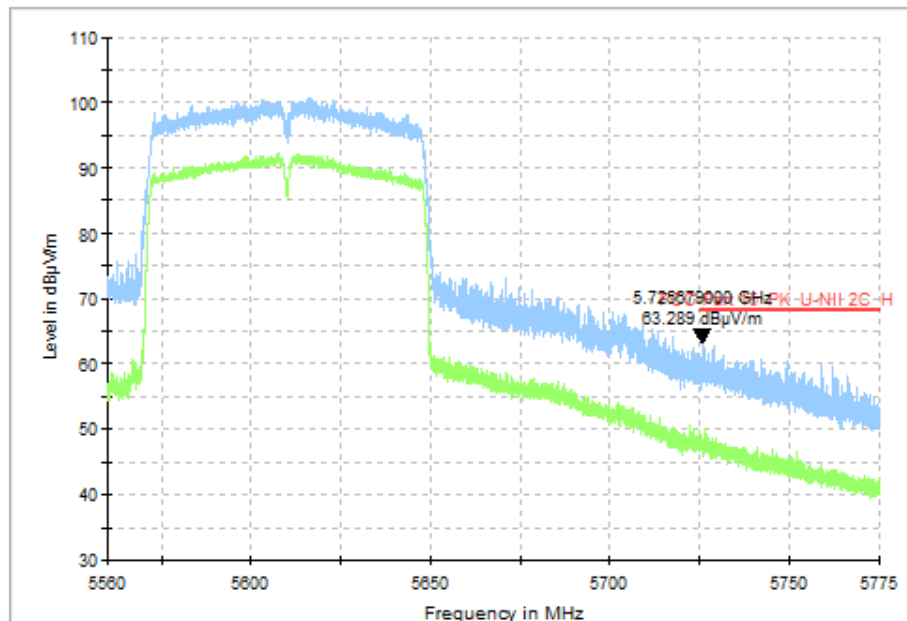


Fig. 16 Band Edges (802.11ac-VHT80, CH122 5610MHz)

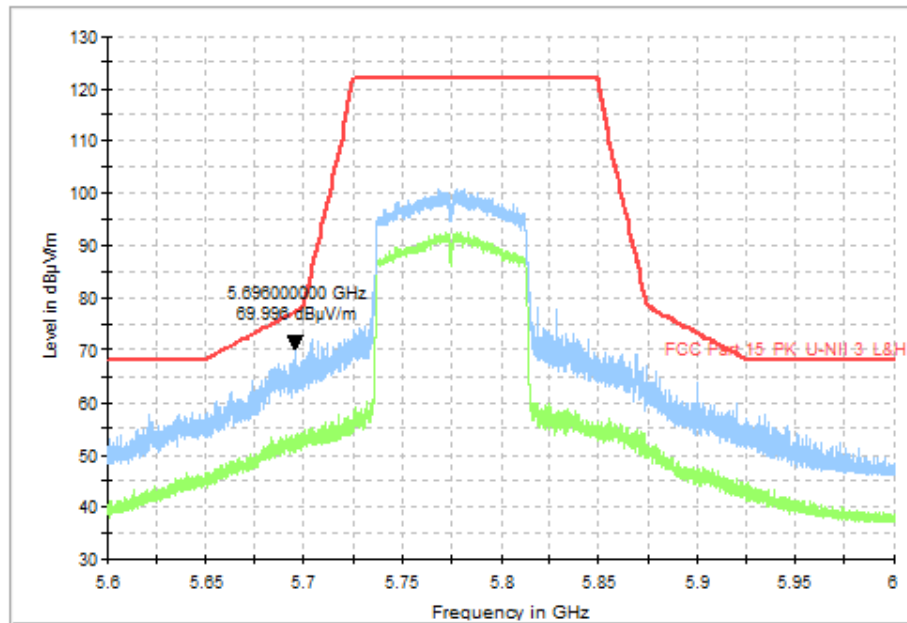


Fig. 17 Band Edges (802.11ac-VHT80, CH155 5775MHz)

A.2. Transmitter Spurious Emission

Measurement of method: See KDB 789033 D02 v02r01, Section G.3, G.4, G.5 and G.6.

Measurement Limit:

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

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.

The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

Measurement Result:

Mode	Frequency (MHz)	Frequency Range	Test Results	Conclusion
802.11a	5180MHz(Ch36)	1 GHz ~18 GHz	Fig.18	P
	5200MHz(Ch40)	1 GHz ~18 GHz	Fig.19	P
	5240MHz(Ch48)	1 GHz ~18 GHz	Fig.20	P
	5260MHz(Ch52)	1 GHz ~18 GHz	Fig.21	P
	5280MHz(Ch56)	1 GHz ~18 GHz	Fig.22	P
	5320MHz(Ch64)	1 GHz ~18 GHz	Fig.23	P
	5500MHz(Ch100)	1 GHz ~18 GHz	Fig.24	P
	5600MHz(Ch120)	1 GHz ~18 GHz	Fig.25	P
	5700MHz(Ch140)	1 GHz ~18 GHz	Fig.26	P
	5745MHz(Ch149)	1 GHz ~18 GHz	Fig.27	P
	5785MHz(Ch157)	1 GHz ~18 GHz	Fig.28	P
	5825MHz(Ch165)	1 GHz ~18 GHz	Fig.29	P
802.11ac -VHT40	5190MHz(Ch38)	1 GHz ~18 GHz	Fig.30	P
	5230MHz(Ch46)	1 GHz ~18 GHz	Fig.31	P
	5270MHz(Ch54)	1 GHz ~18 GHz	Fig.32	P
	5310MHz(Ch62)	1 GHz ~18 GHz	Fig.33	P

	5510MHz(Ch102)	1 GHz ~18 GHz	Fig.34	P
	5580MHz(Ch118)	1 GHz ~18 GHz	Fig.35	P
	5670MHz(Ch134)	1 GHz ~18 GHz	Fig.36	P
	5755MHz(Ch151)	1 GHz ~18 GHz	Fig.37	P
	5795MHz(Ch159)	1 GHz ~18 GHz	Fig.38	P
802.11ac -VHT80	5210MHz(Ch42)	1 GHz ~18 GHz	Fig.39	P
	5290MHz(Ch58)	1 GHz ~18 GHz	Fig.40	P
	5530MHz(Ch106)	1 GHz ~18 GHz	Fig.41	P
	5610MHz(Ch122)	1 GHz ~18 GHz	Fig.42	P
	5775MHz(Ch155)	1 GHz ~18 GHz	Fig.43	P
All channels		30 MHz ~1 GHz	Fig.44	P
		18 GHz ~26.5 GHz	Fig.45	P
		26.5GHz~40GHz	Fig.46	P

Worst Case Result:

802.11a CH165

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8248.615385	44.16	74.00	29.84	V	5.9
10888.615385	45.94	74.00	28.06	V	9.3
11647.846154	55.81	74.00	18.19	H	9.9
12421.846154	46.82	74.00	27.18	V	11.4
15911.076923	52.72	74.00	21.28	H	14.1
17922.461539	54.08	74.00	19.92	V	18.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8248.615385	33.98	54.00	20.02	V	5.9
10888.615385	35.73	54.00	18.27	V	9.3
11647.846154	44.59	54.00	9.41	H	9.9
12421.846154	36.52	54.00	17.48	V	11.4
15911.076923	40.62	54.00	13.38	H	14.1
17922.461539	43.27	54.00	10.73	V	18.9

802.11ac-VHT40 CH118

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
7500.000000	43.35	74.00	30.65	V	5.7
8268.923077	44.24	74.00	29.76	V	5.9
11183.076923	50.72	74.00	23.28	V	9.7
12265.384615	48.42	74.00	25.58	V	11.0
15902.307692	50.74	74.00	23.26	V	14.1
17905.846154	53.48	74.00	20.52	V	18.8

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
7500.000000	33.26	54.00	20.74	V	5.7
8268.923077	33.74	54.00	20.26	V	5.9
11183.076923	40.44	54.00	13.56	V	9.7
12265.384615	36.33	54.00	17.67	V	11.0
15902.307692	40.46	54.00	13.54	V	14.1
17905.846154	42.79	54.00	11.21	V	18.8

802.11ac-VHT80 CH155

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8272.615385	44.78	74.00	29.22	H	6.0
10897.384615	46.56	74.00	27.44	V	9.4
11566.615385	50.04	74.00	23.96	H	10.0
12426.000000	46.41	74.00	27.59	H	11.4
15890.769231	50.73	74.00	23.27	H	14.0
17971.384615	54.17	74.00	19.83	H	19.1

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
8272.615385	33.59	54.00	20.41	H	6.0
10897.384615	35.62	54.00	18.38	V	9.4
11566.615385	38.56	54.00	15.44	H	10.0
12426.000000	36.73	54.00	17.27	H	11.4
15890.769231	40.20	54.00	13.80	H	14.0
17971.384615	43.45	54.00	10.55	H	19.1

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

See below for test graphs.

Conclusion: PASS

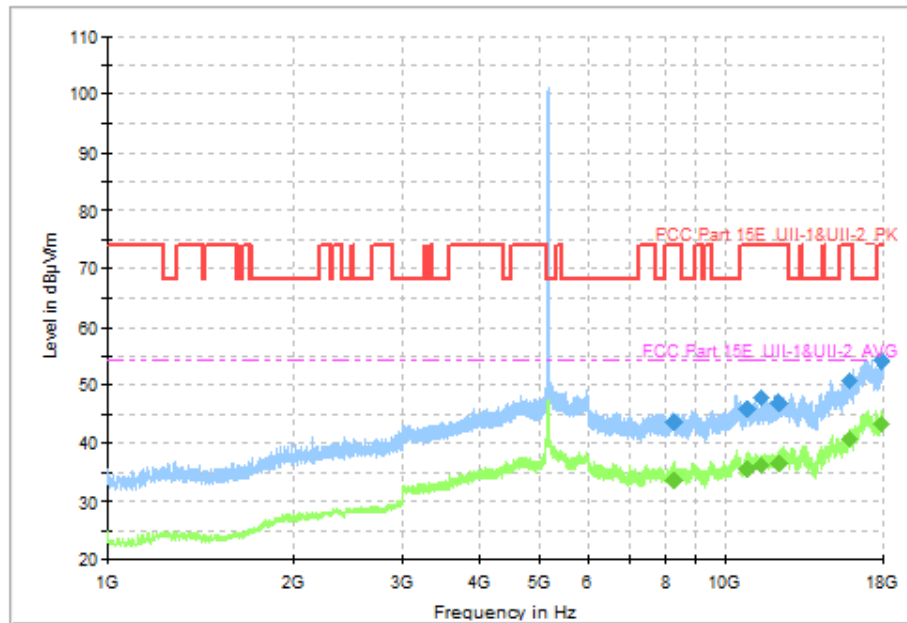


Fig. 18 Transmitter Spurious Emission (802.11a, CH36 5180MHz, 1GHz-18GHz)

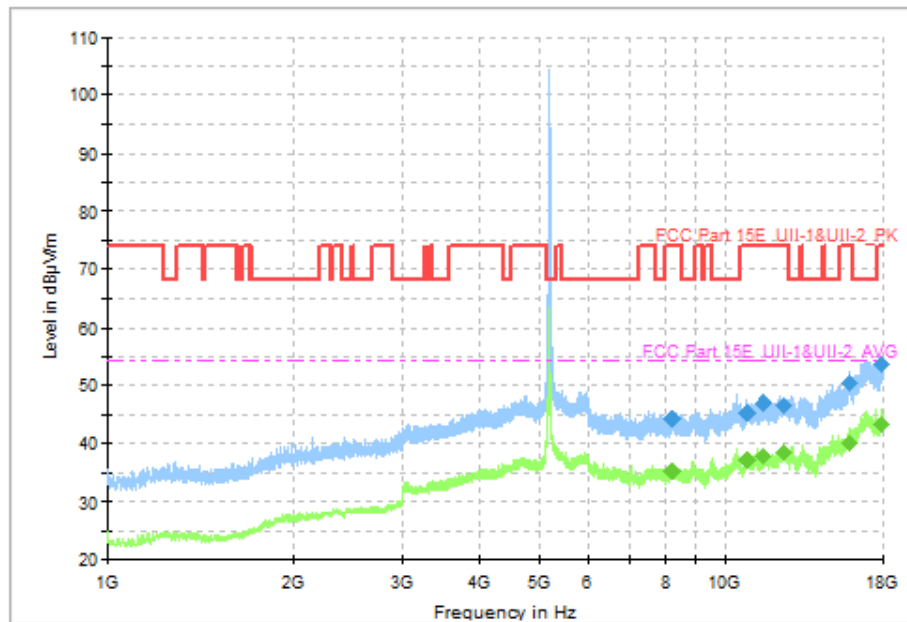


Fig. 19 Transmitter Spurious Emission (802.11a, CH40 5200MHz, 1GHz-18GHz)

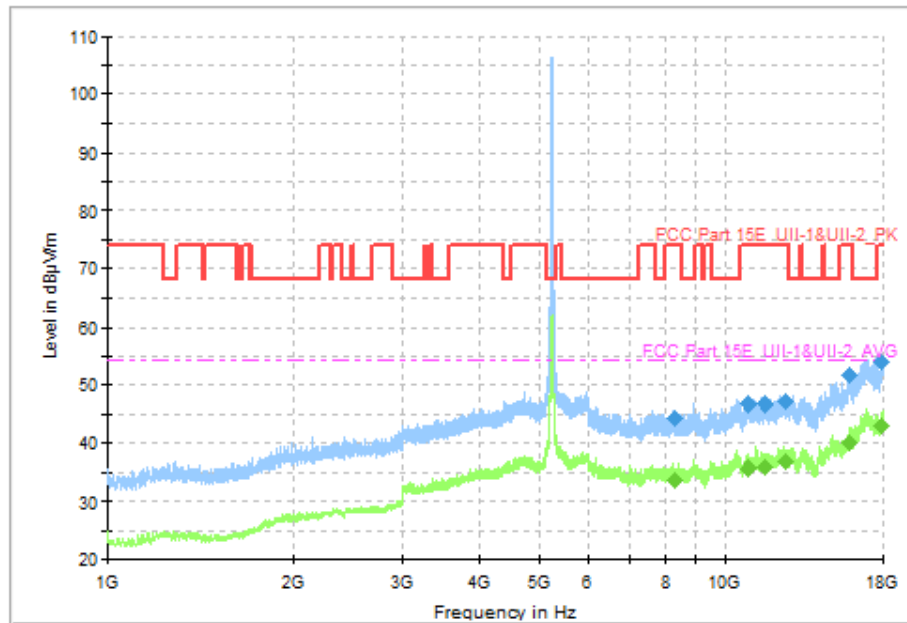


Fig. 20 Transmitter Spurious Emission (802.11a, CH48 5240MHz, 1GHz-18GHz)

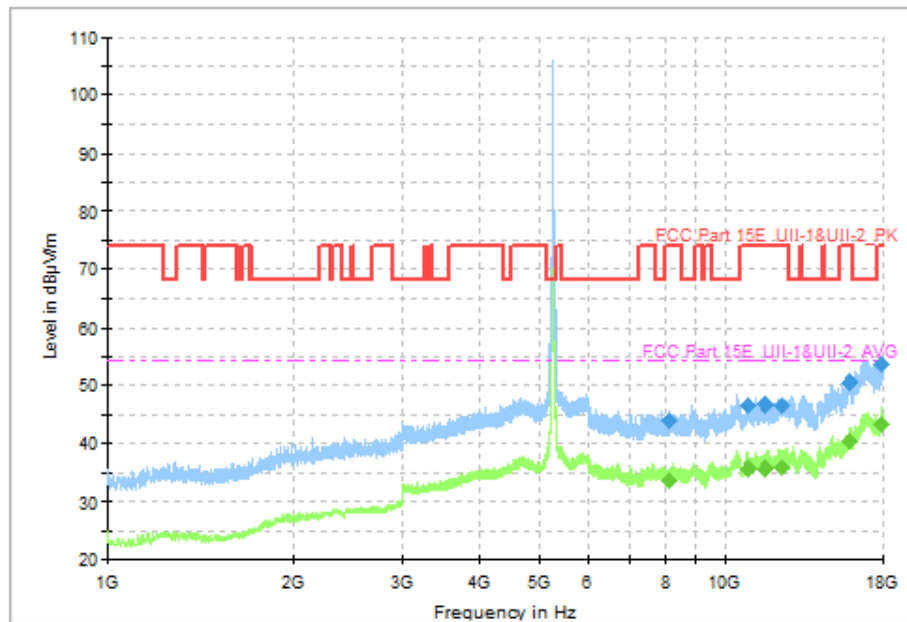


Fig. 21 Transmitter Spurious Emission (802.11a, CH52 5260MHz, 1GHz-18GHz)

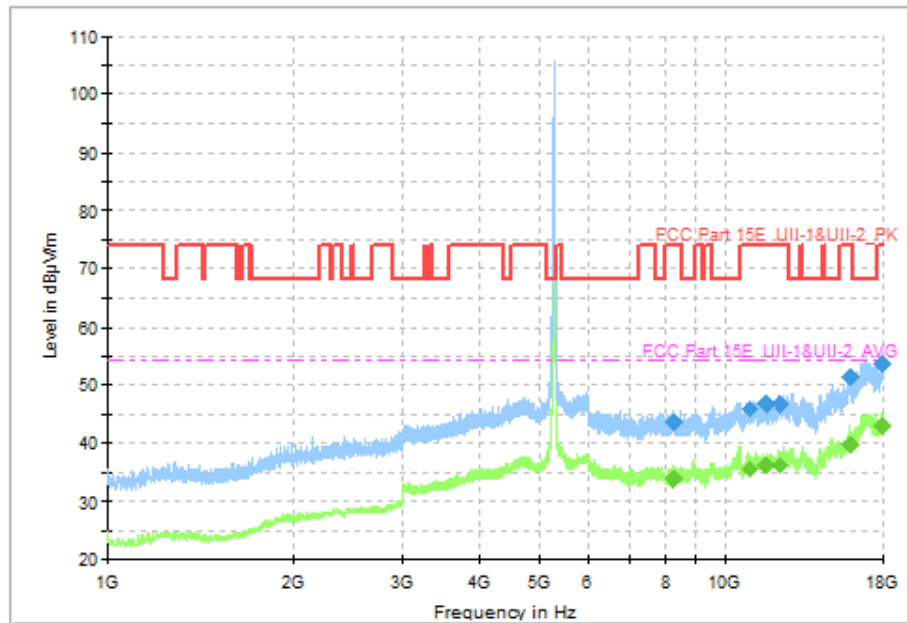


Fig. 22 Transmitter Spurious Emission (802.11a, CH56 5280MHz, 1GHz-18GHz)

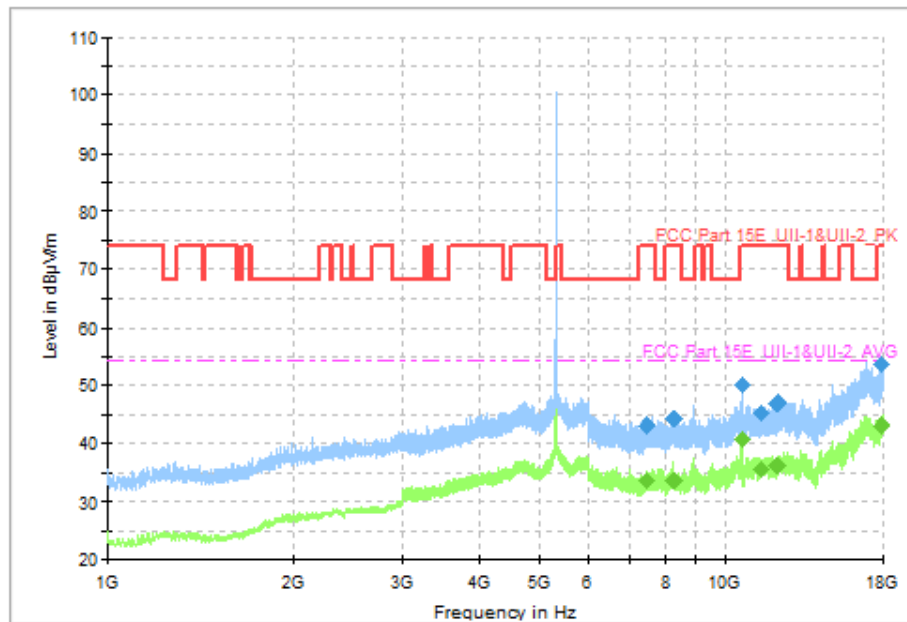


Fig. 23 Transmitter Spurious Emission (802.11a, CH64 5320MHz, 1GHz-18GHz)

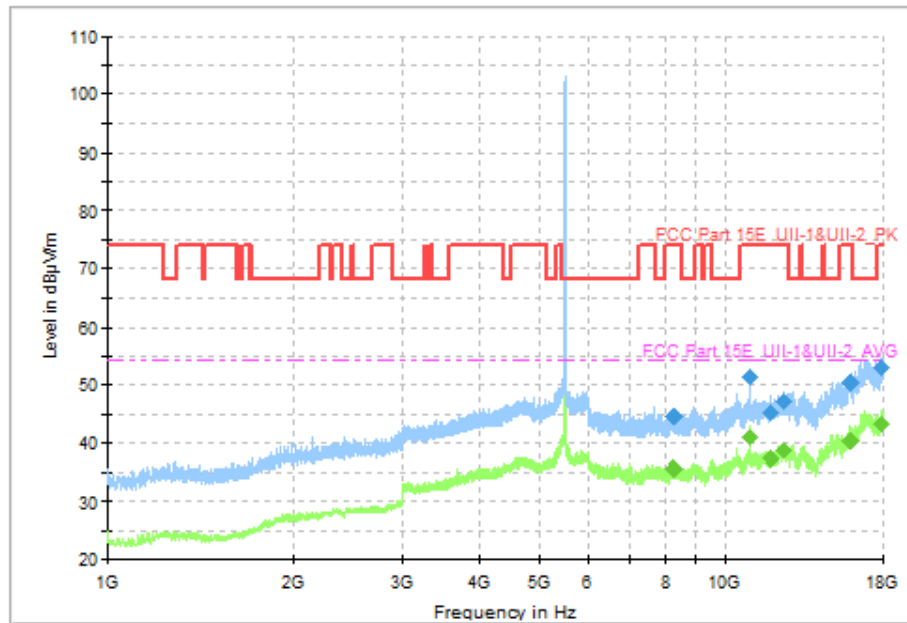


Fig. 24 Transmitter Spurious Emission (802.11a, CH100 5500MHz, 1GHz-18GHz)

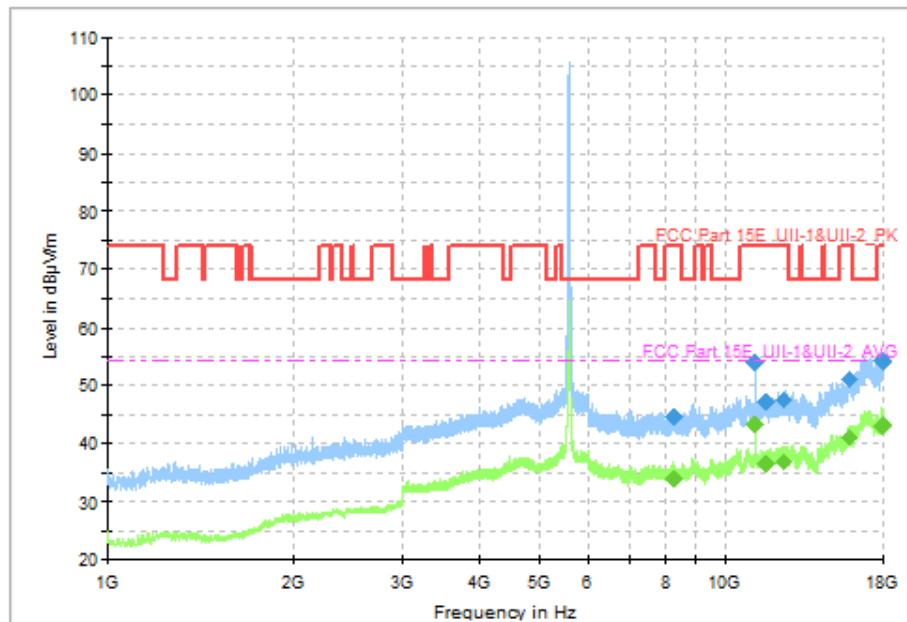


Fig. 25 Transmitter Spurious Emission (802.11a, CH120 5600MHz, 1GHz-18GHz)

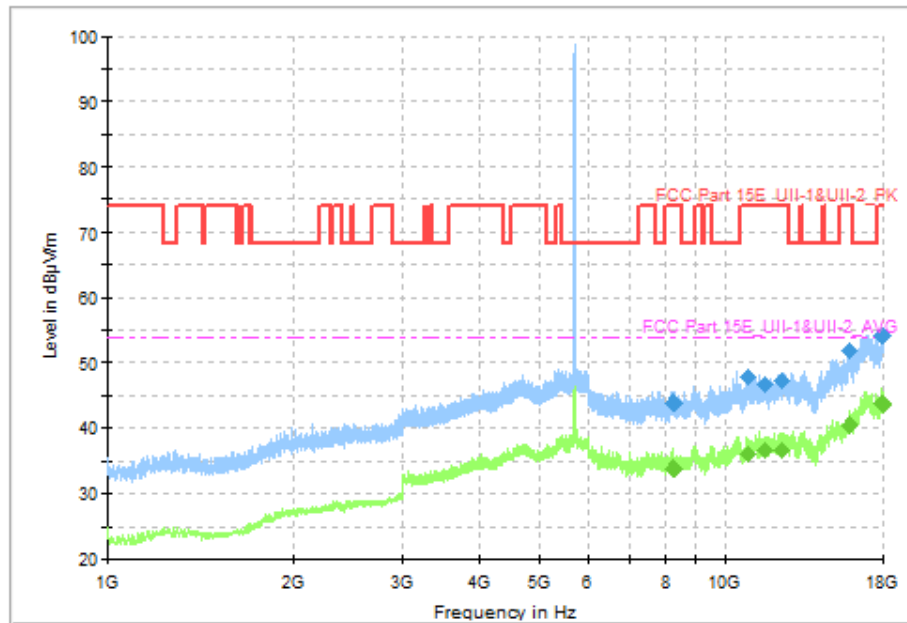


Fig. 26 Transmitter Spurious Emission (802.11a, CH140 5700MHz, 1GHz-18GHz)

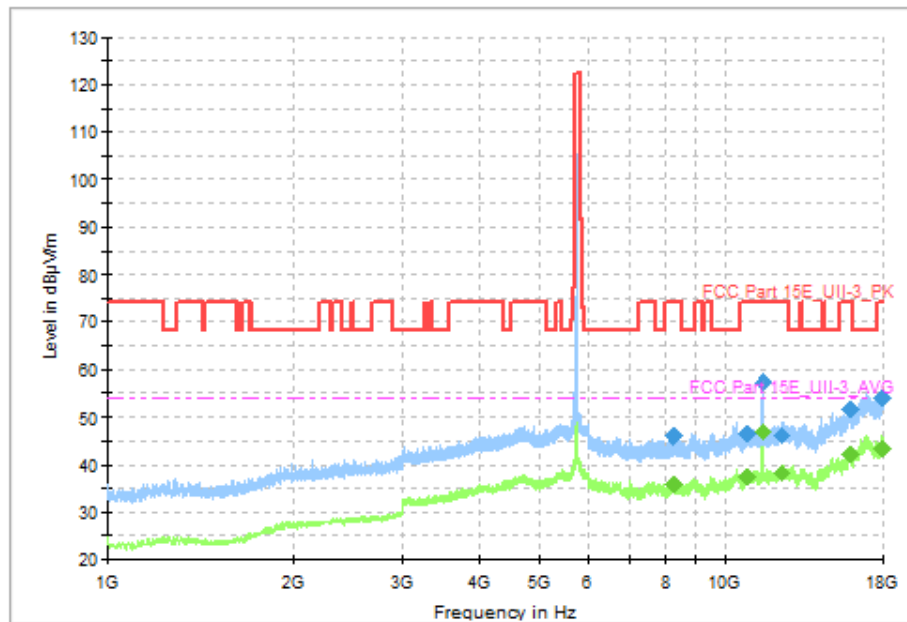


Fig. 27 Transmitter Spurious Emission (802.11a, CH149 5745MHz, 1GHz-18GHz)

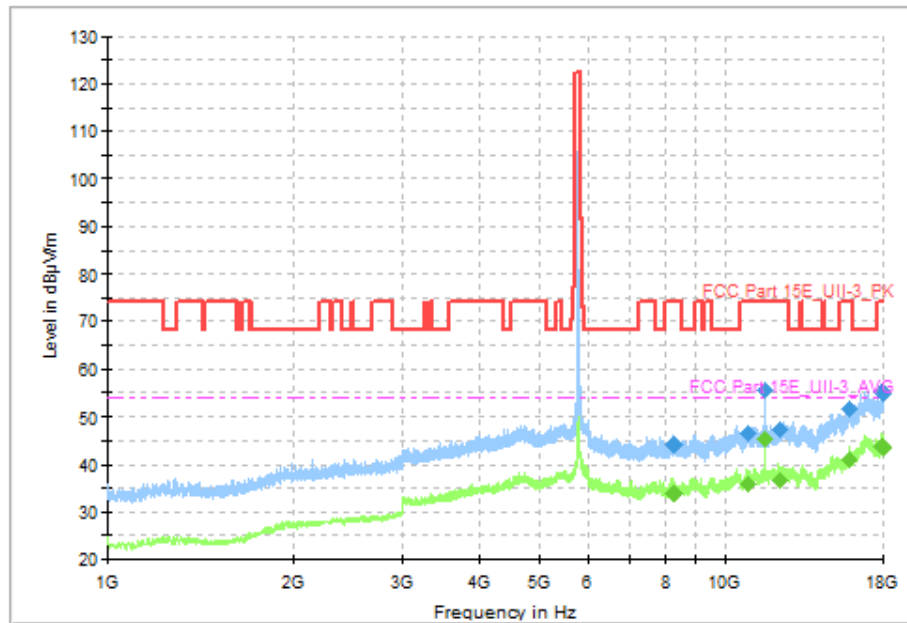


Fig. 28 Transmitter Spurious Emission (802.11a, CH157 5785MHz, 1GHz-18GHz)

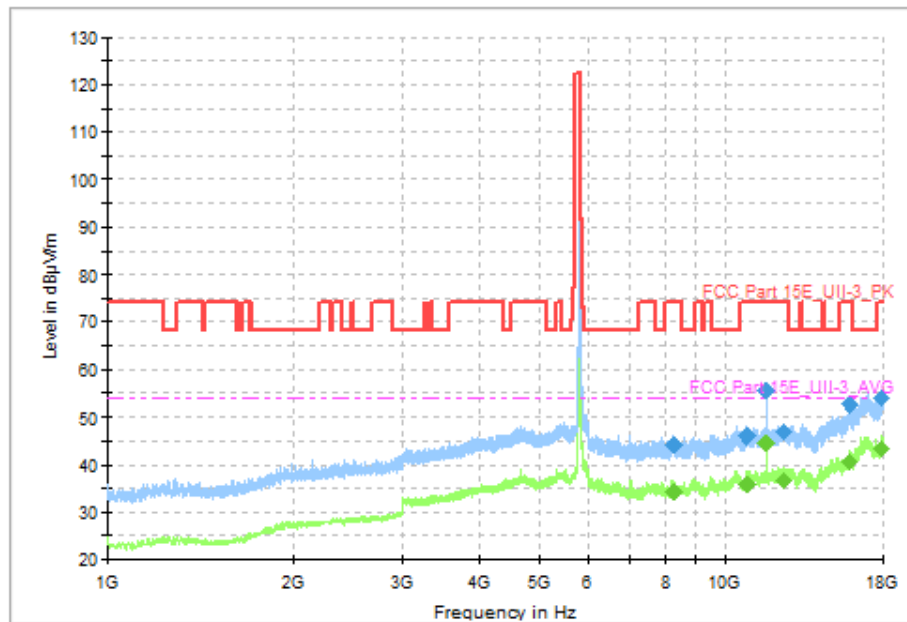


Fig. 29 Transmitter Spurious Emission (802.11a, CH165 5825MHz, 1GHz-18GHz)

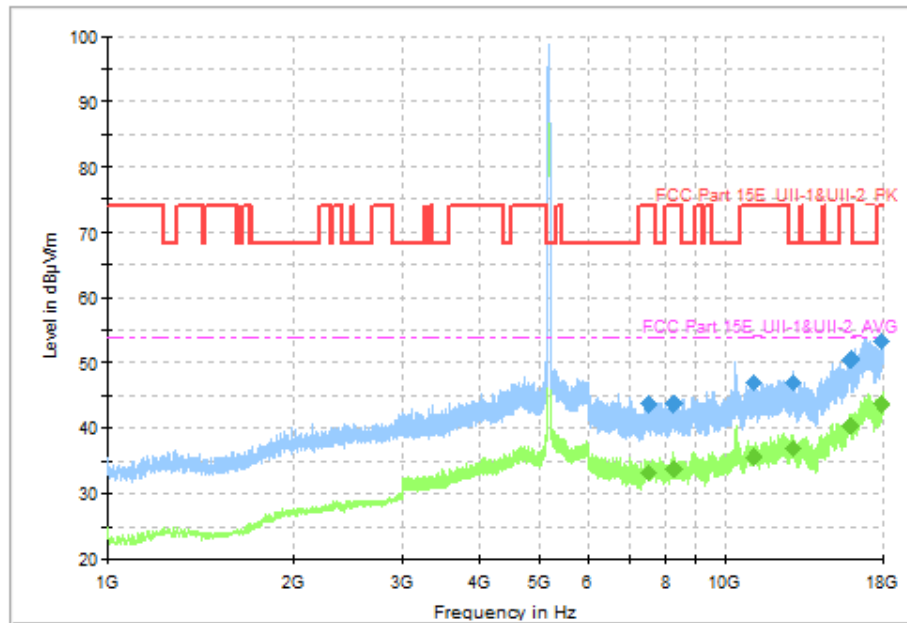


Fig. 30 Transmitter Spurious Emission (802.11ac-VHT40, CH38 5190MHz, 1GHz-18GHz)

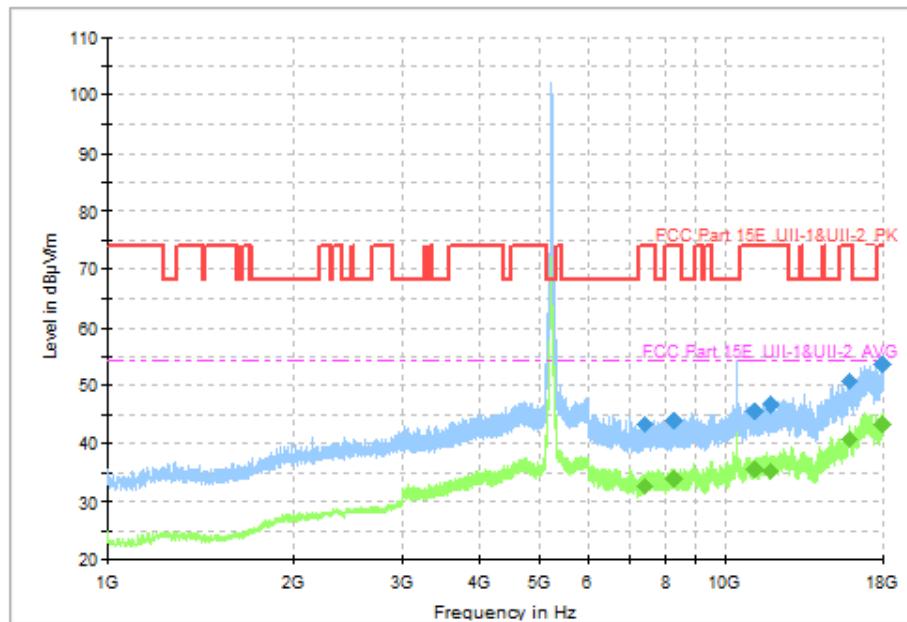


Fig. 31 Transmitter Spurious Emission (802.11ac-VHT40, CH46 5230MHz, 1GHz-18GHz)

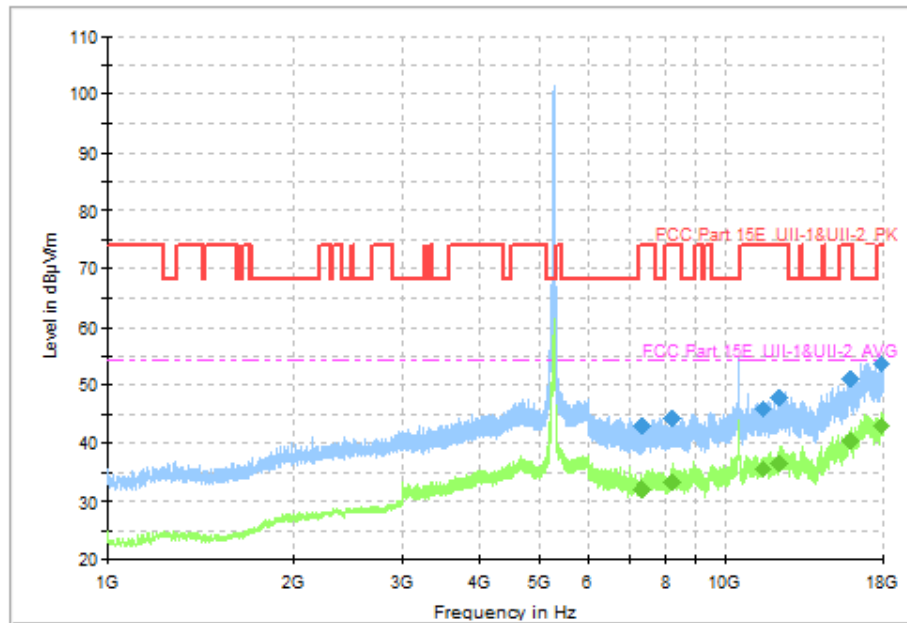


Fig. 32 Transmitter Spurious Emission (802.11ac-VHT40, CH54 5270MHz, 1GHz-18GHz)

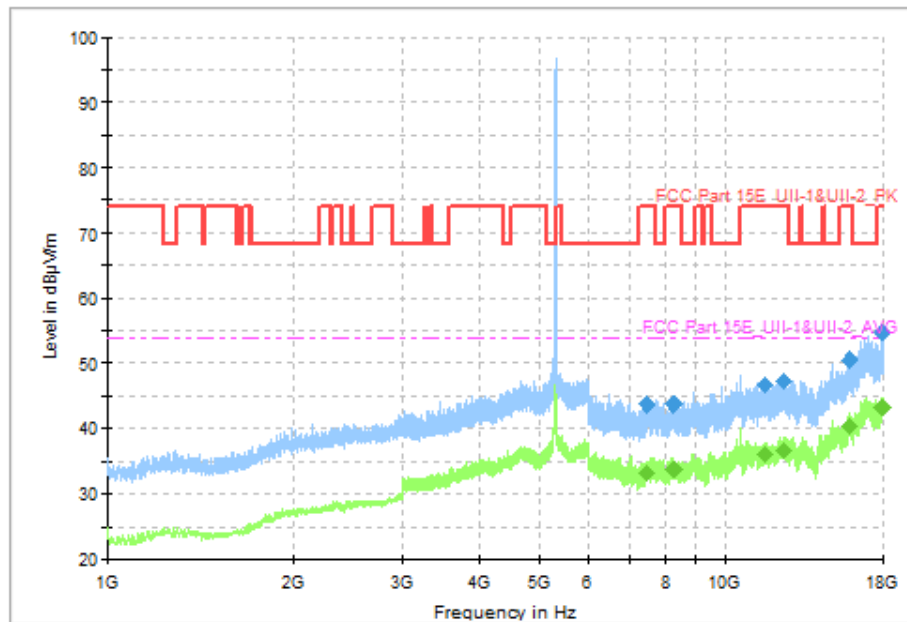


Fig. 33 Transmitter Spurious Emission (802.11ac-VHT40, CH62 5310MHz, 1GHz-18GHz)

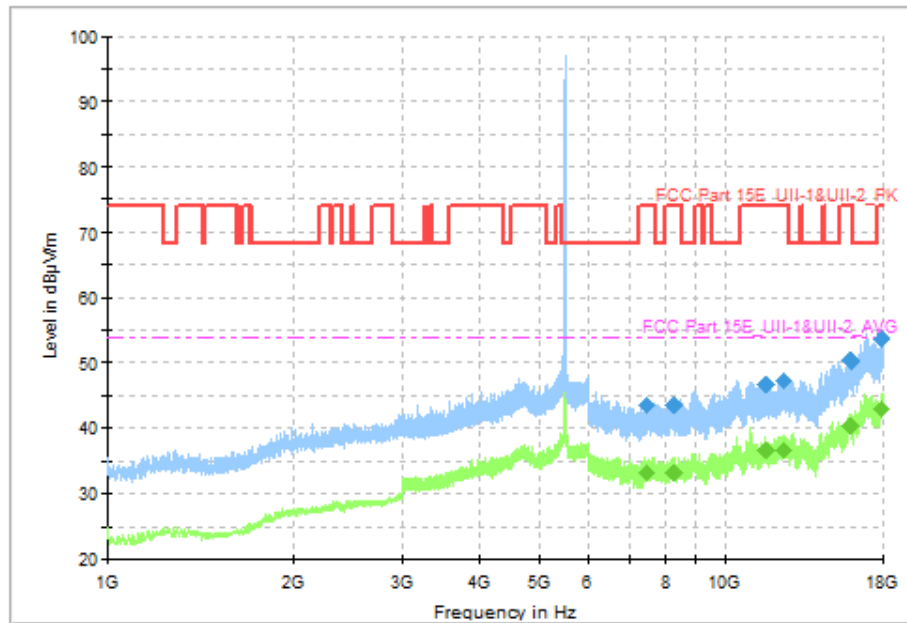


Fig. 34 Transmitter Spurious Emission (802.11ac-VHT40, CH102 5510MHz, 1GHz-18GHz)

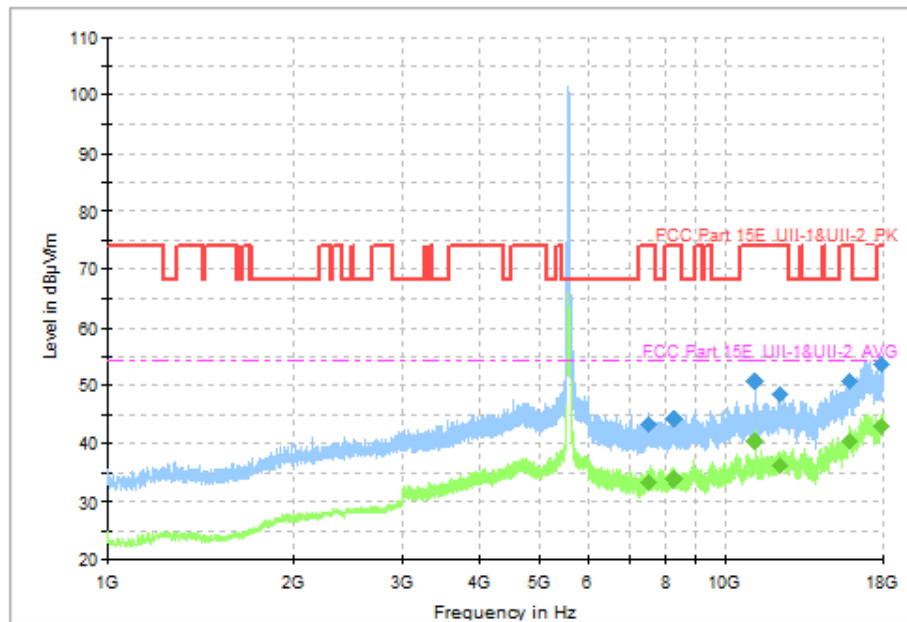


Fig. 35 Transmitter Spurious Emission (802.11ac-VHT40, CH118 5580MHz, 1GHz-18GHz)

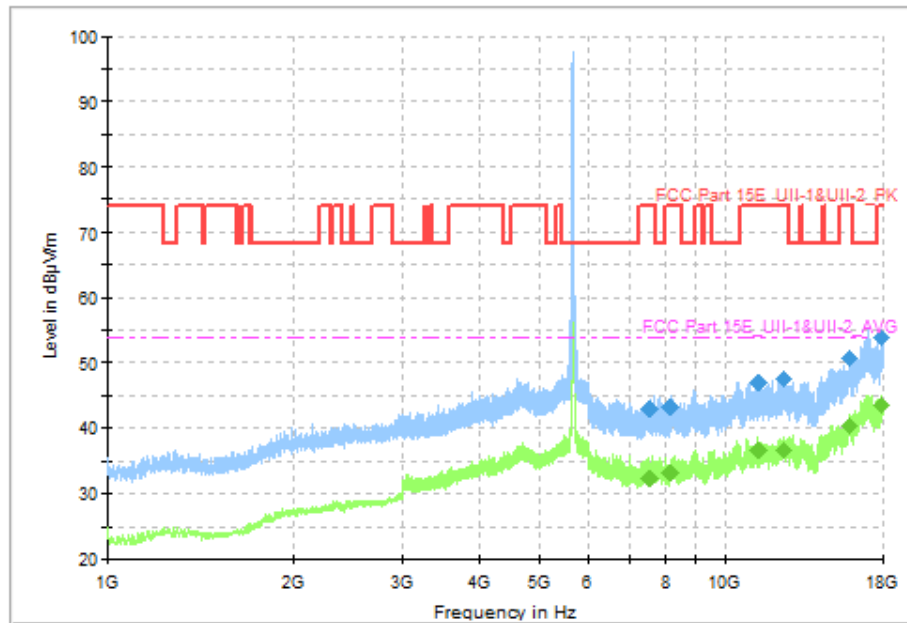


Fig. 36 Transmitter Spurious Emission (802.11ac-VHT40, CH134 5670MHz, 1GHz-18GHz)

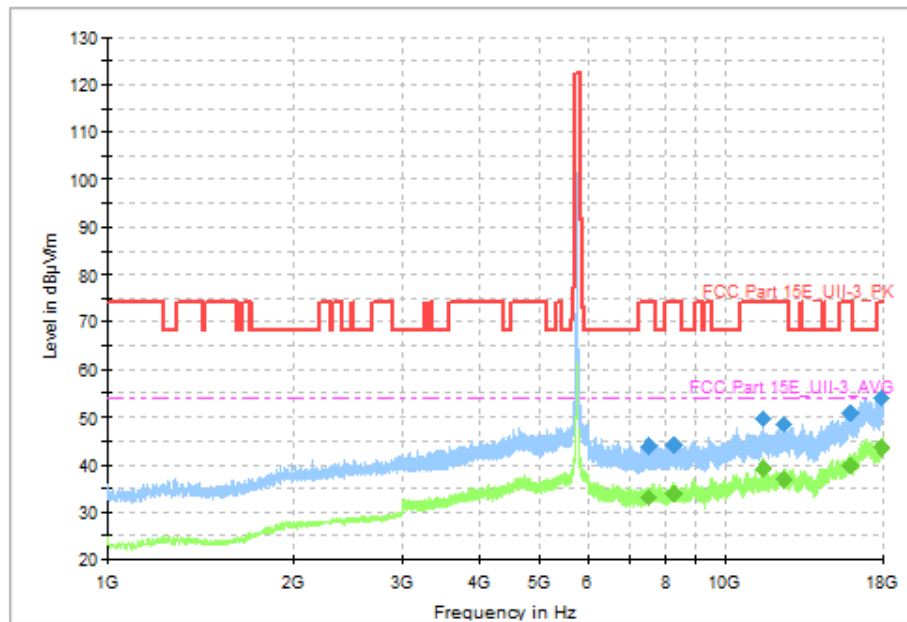


Fig. 37 Transmitter Spurious Emission (802.11ac-VHT40, CH151 5755MHz, 1GHz-18GHz)

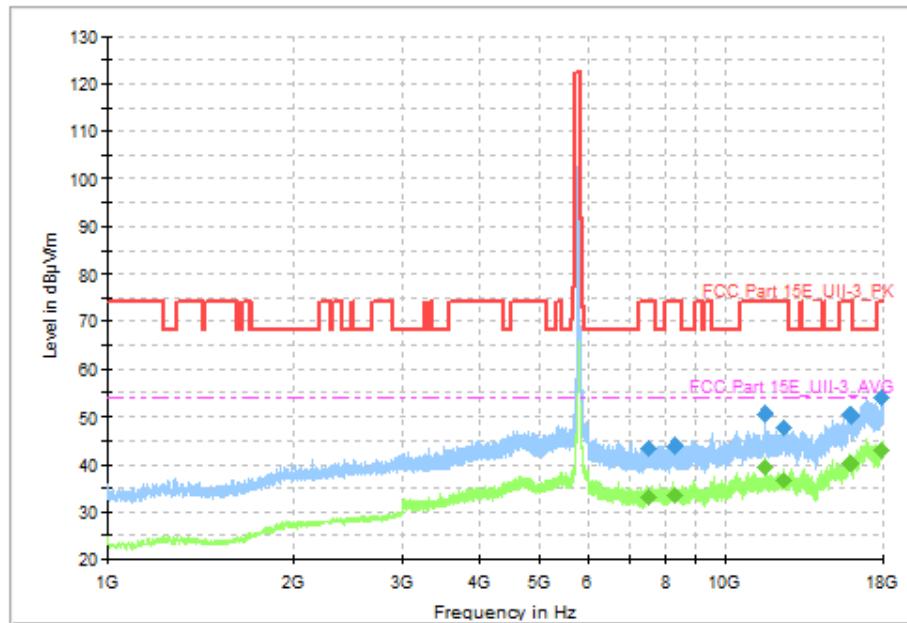


Fig. 38 Transmitter Spurious Emission (802.11ac-VHT40, CH159 5795MHz, 1GHz-18GHz)

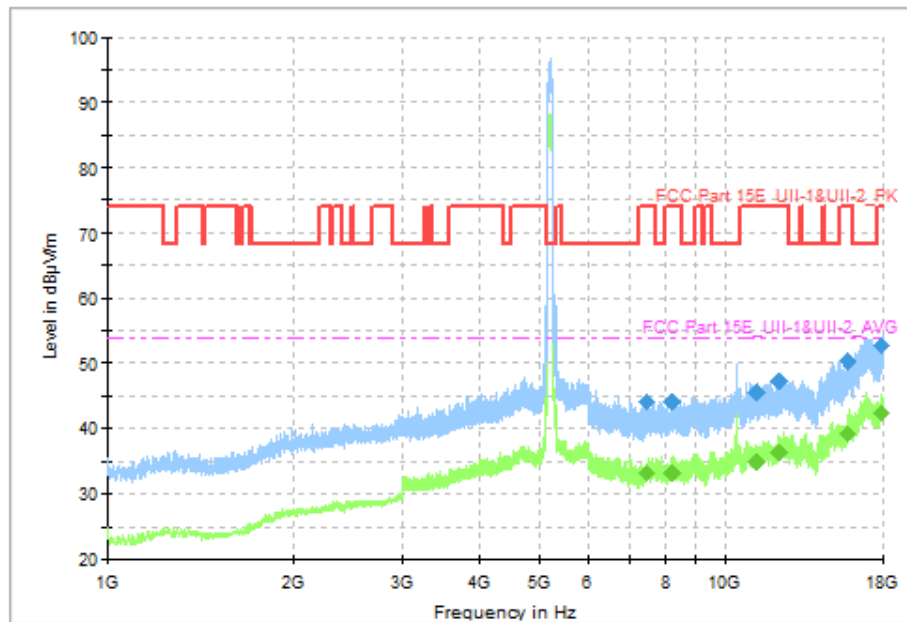


Fig. 39 Transmitter Spurious Emission (802.11ac-VHT80, CH42 5210MHz, 1GHz-18GHz)

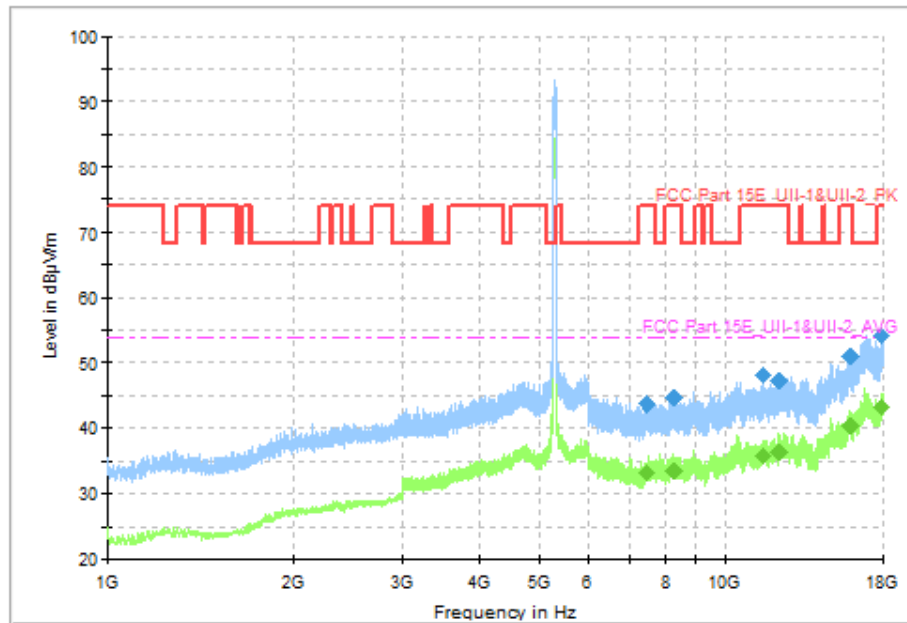


Fig. 40 Transmitter Spurious Emission (802.11ac-VHT80, CH58 5290MHz, 1GHz-18GHz)

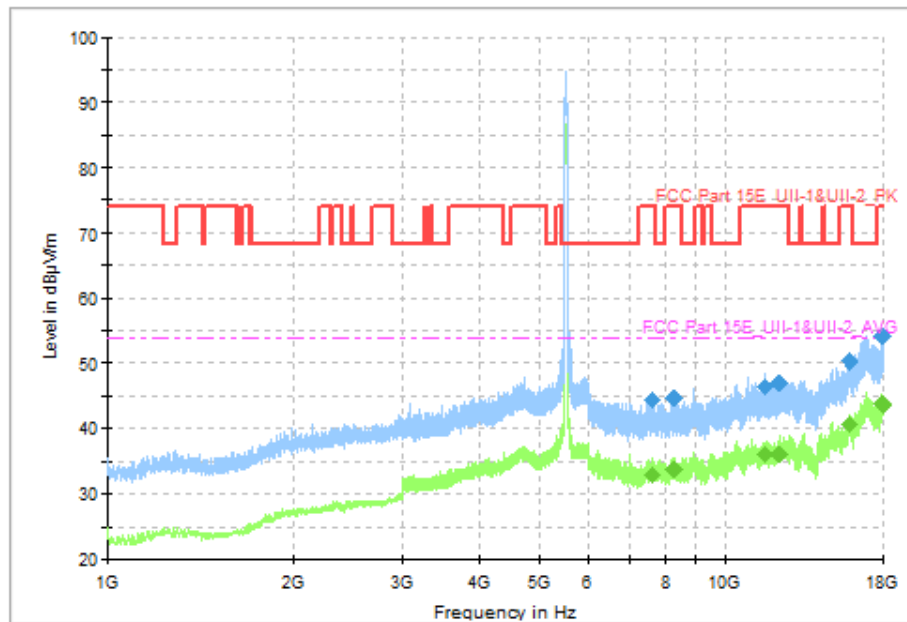


Fig. 41 Transmitter Spurious Emission (802.11ac-VHT80, CH106 5530MHz, 1GHz-18GHz)

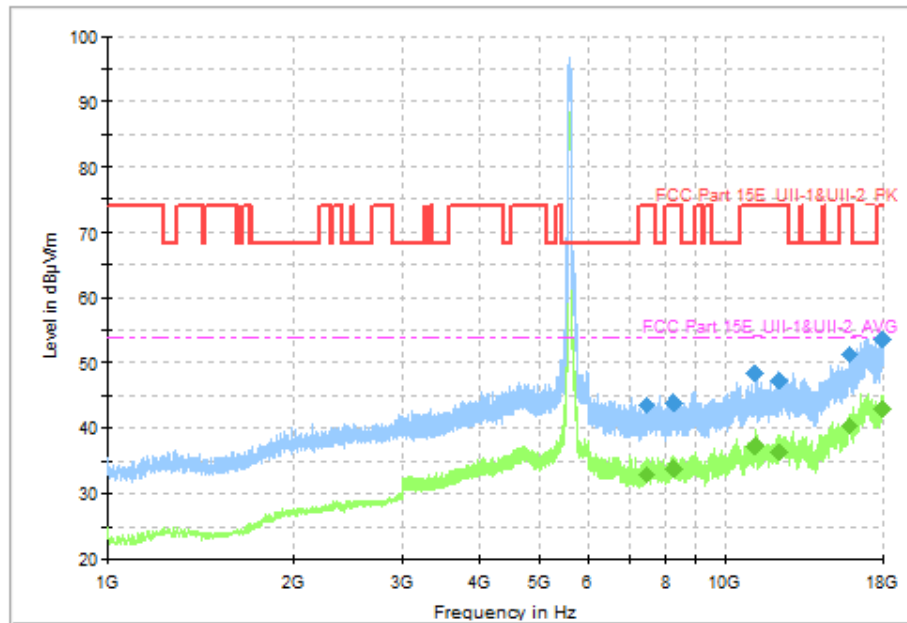


Fig. 42 Transmitter Spurious Emission (802.11ac-VHT80, CH122 5610MHz, 1GHz-18GHz)

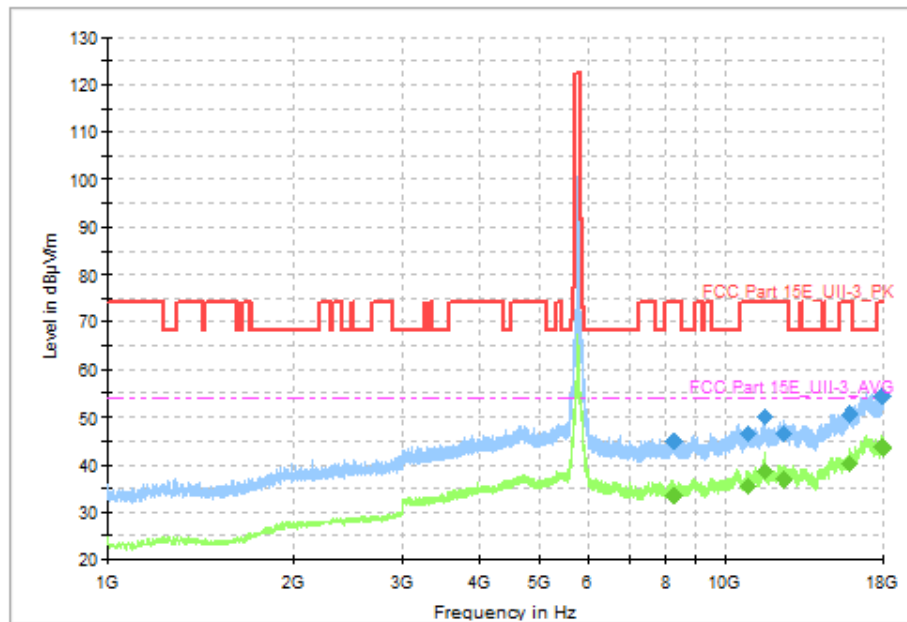


Fig. 43 Transmitter Spurious Emission (802.11ac-VHT80, CH155 5775MHz, 1GHz-18GHz)

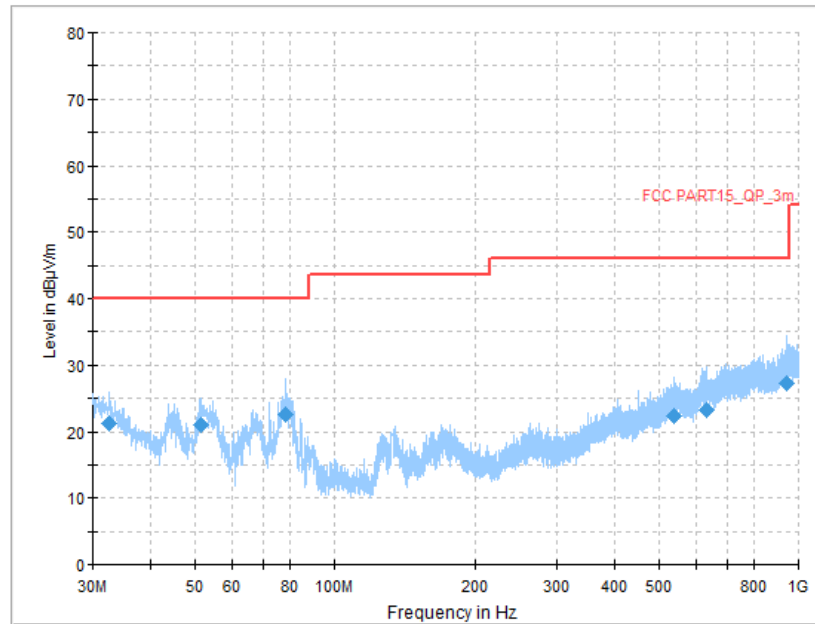


Fig. 44 Transmitter Spurious Emission (All channel, 30MHz~1GHz)

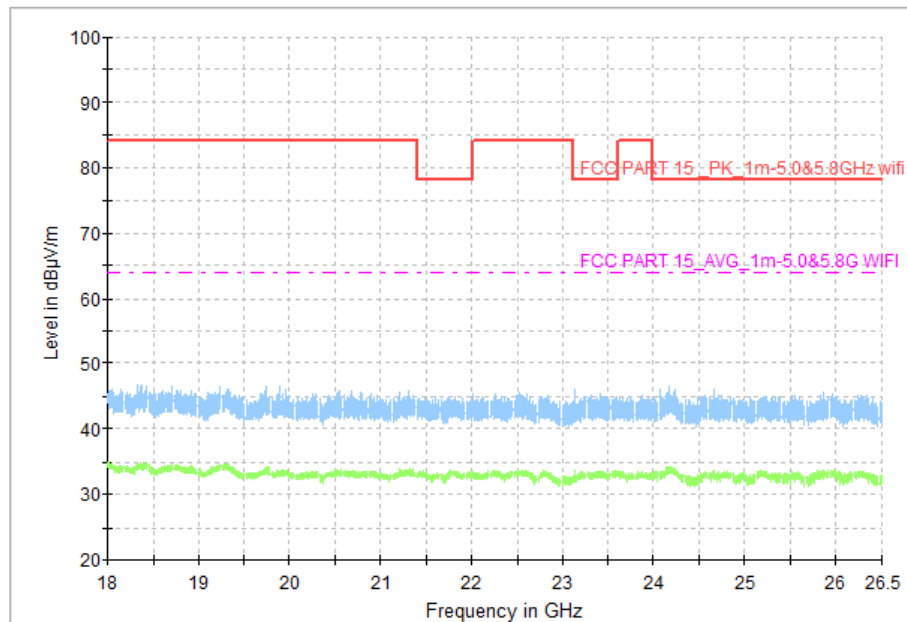


Fig. 45 Transmitter Spurious Emission (All channel, 18GHz~26.5GHz)

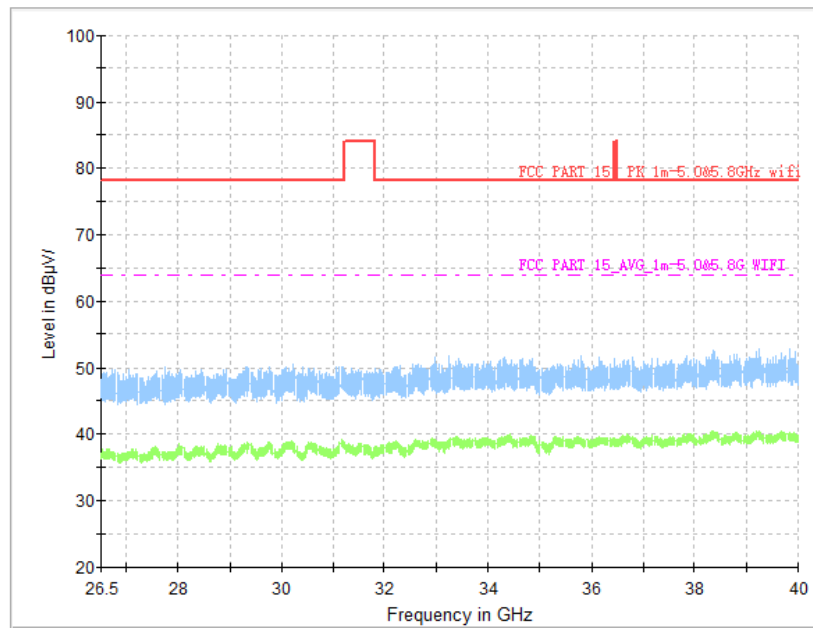


Fig. 46 Transmitter Spurious Emission (All channel, 26.5GHz~40GHz)

A.3. Radiated Spurious Emissions < 30MHz

Method of Measurement: See ANSI C63.10-clause 6.4.

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.47	P

See below for test graphs.

Conclusion: PASS

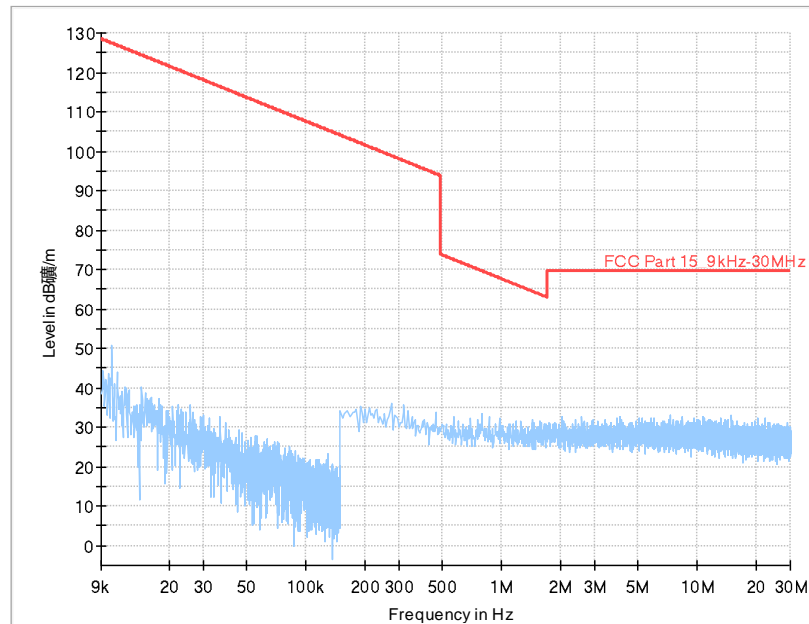


Fig. 47 Radiated Spurious Emission (All Channel, 9 kHz ~30 MHz)

**A.4. AC Power Line Conducted Emission**

Method of Measurement: See ANSI C63.10-clause 6.2.

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN 5GHz - AE2, AE3

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
			Traffic	Idle	
0.15 to 0.5	66 to 56	56 to 46	Fig.48	Fig.49	P
0.5 to 5	56	46			
5 to 30	60	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note: The measurement results include the L1 and N measurements.

See below for test graphs.

Conclusion: PASS

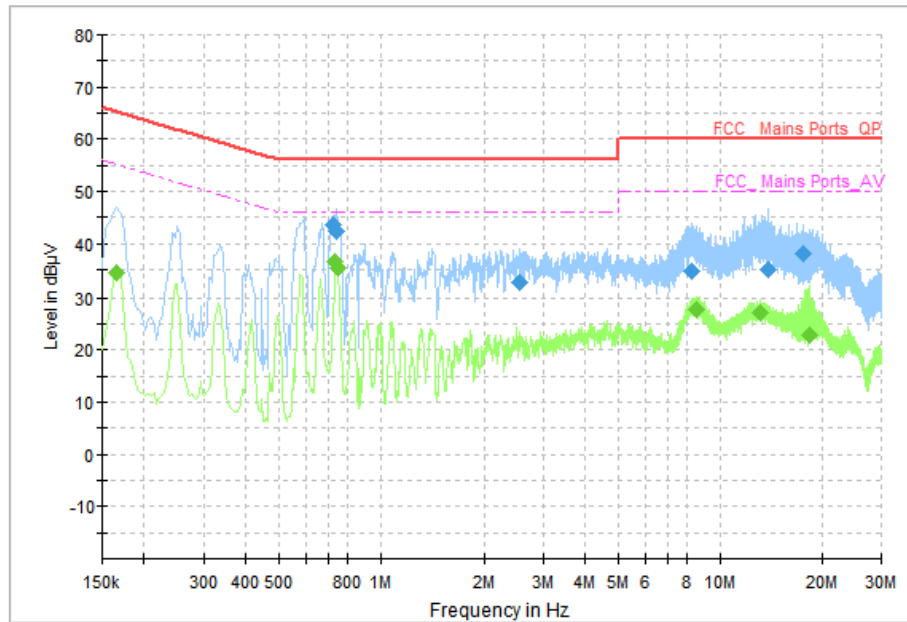


Fig. 48 AC Power line Conducted Emission (Traffic)

Measurement Result: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.722000	43.47	56.00	12.53	L1	ON	10
0.738000	42.34	56.00	13.66	L1	ON	10
2.562000	32.53	56.00	23.47	L1	ON	10
8.230000	34.80	60.00	25.20	L1	ON	10
13.930000	35.08	60.00	24.92	L1	ON	11
17.718000	38.10	60.00	21.90	N	ON	11

Measurement Result: Average

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.166000	34.36	55.16	20.80	L1	ON	10
0.734000	36.49	46.00	9.51	L1	ON	10
0.746000	35.20	46.00	10.80	L1	ON	10
8.482000	27.71	50.00	22.29	L1	ON	10
13.142000	26.99	50.00	23.01	L1	ON	10
18.374000	22.96	50.00	27.04	L1	ON	10

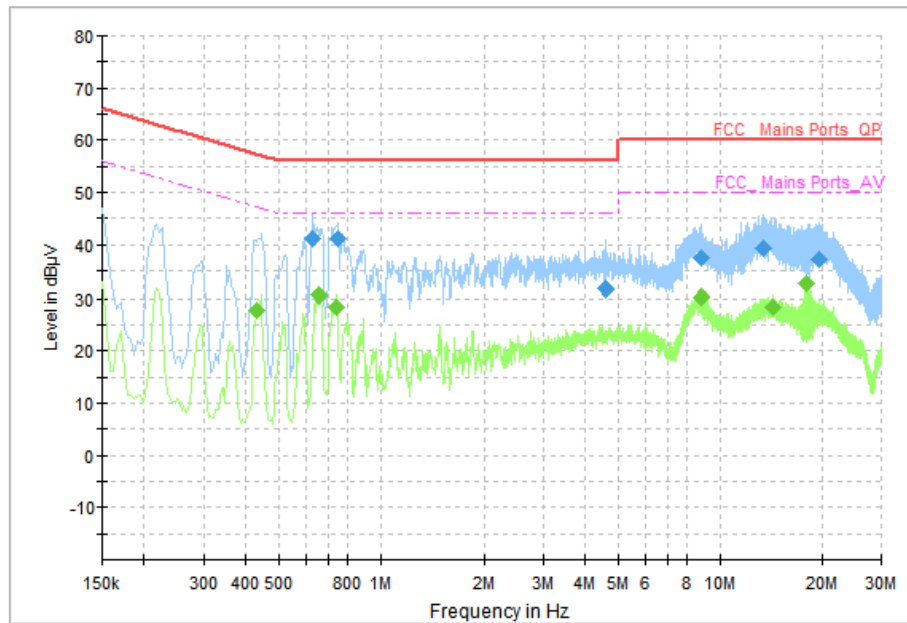


Fig. 49 AC Power line Conducted Emission (Idle)

Measurement Result: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.626000	41.23	56.00	14.77	L1	ON	10
0.750000	41.19	56.00	14.81	L1	ON	10
4.610000	31.71	56.00	24.29	L1	ON	10
8.830000	37.54	60.00	22.46	L1	ON	10
13.394000	39.18	60.00	20.82	L1	ON	10
19.642000	37.27	60.00	22.73	L1	ON	10

Measurement Result: Average

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	27.68	47.25	19.57	L1	ON	10
0.654000	30.32	46.00	15.68	L1	ON	10
0.742000	28.34	46.00	17.66	L1	ON	10
8.798000	30.19	50.00	19.81	L1	ON	10
14.290000	28.17	50.00	21.83	L1	ON	11
17.954000	32.47	50.00	17.53	L1	ON	10

*****END OF REPORT*****