Full

TEST REPORT

No. I18D00082-SRD07

For

Client :	**Shanghai Sunmi Technology Co.,Ltd.**
Production :	**Smart POS system**
Model Name :	**W6900**
FCC ID :	**2AH25W6900**
Hardware Version:	**V1.1**
Software Version:	**B0451_C1BOM_SMT_V1.0.1_20171225**
Issued date:	**2018-06-21**

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 ECIT Shanghai.

Test Laboratory:

ECIT Shanghai, East China Institute of Telecommunications

Add: 7-8F, G Area, No.668, Beijing East Road, Huangpu District, Shanghai, P. R. China

Tel: (+86)-021-63843300, E-Mail: welcome@ecit.org.cn

Revision Version

Report Number	Revision	Date	Memo
I18D00082-SRD07	00	2018-06-06	Initial creation of test report
I18D00082-SRD07	01	2018-06-21	Initial creation of test report

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1. Test Laboratory

1.1. Testing Location

Company Name:	ECIT Shanghai, East China Institute of Telecommunications
Address:	7-8F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai, P. R. China
Postal Code:	200001
Telephone:	(+86)-021-63843300
Fax:	(+86)-021-63843301

1.2. Testing Environment

Normal Temperature:	15-35℃
Extreme Temperature:	-10/+55℃
Relative Humidity:	20-75%

1.3. Project data

Project Leader:	Yu Anlu
Testing Start Date:	2018-05-14
Testing End Date:	2018-06-06

1.4. Signature

Yang Dejun
(Prepared this test report)

Shi Hongqi
(Reviewed this test report)

Zheng Zhongbin
Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Shanghai Sunmi Technology Co.,Ltd.
Address:	Room 505, KIC Plaza, No.388 Song Hu Road, Yang Pu District, Shanghai, China
Postcode:	200433
Telephone:	18721763396

2.2. Manufacturer Information

Company Name:	Shanghai Sunmi Technology Co.,Ltd.
Address:	Room 505, KIC Plaza, No.388 Song Hu Road, Yang Pu District, Shanghai, China
Postcode:	200433
Telephone:	18721763396

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

3.1. About EUT

EUT Description	Smart POS system
Model name	W6900
WLAN Frequency Range	ISM Bands: 5150MHz~5350MHz 5725MHz~5850MHz
WLAN type of modulation	OFDM
Extreme Temperature	-10/+55℃
Nominal Voltage	3.8V
Extreme High Voltage	4.2V
Extreme Low Voltage	3.5V

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Internal Identification of EUT used during the test

First Supply

EUT ID*	Model Name	SN or IMEI	HW Version	SW Version	Date of receipt
N05	W6900	N/A	V1.1	B0451_C1BOM_SMT_V1.0.1_20171225	2018-05-07
N04	W6900	N/A	V1.1	B0451_C1BOM_SMT_V1.0.1_20171225	2018-05-07

*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	SN
AE1	RF cable	---
AE2	---	---

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

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	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2017
ANSI 63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033	Information Infrastructure (U-NII) Devices - Part 15, Subpart E	2017
KDB905462	COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION	2016

5. Summary of Test Results

A brief summary of the tests carried out is shown as following.

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	**P**
Power Spectral Density	15.407	/	**P**
Occupied 26dB Bandwidth	15.403	/	**P**
99% Occupied Bandwidth	15.407	/	**P**
Band edge compliance	15.407	/	**P**
Transmitter spurious emissions radiated	15.407	/	**P**
Conducted Emission	15.407	/	**P**
Frequency Stability	15.407	/	**NA**
Transmit Power Control	15.407	/	**NA**

Please refer to section 6 for detail.

Terms used in Verdict column

P	Pass, the EUT complies with the essential requirements in the standard.
NP	Not Perform, the test was not performed by ECIT.
NA	Not Applicable, the test was not applicable.
F	Fail, the EUT does not comply with the essential requirements in the standard.

Test Conditions

Tnom	Normal temperature
Tmin	Low Temperature
Tmax	High Temperature
Vnom	Normal Voltage
Vmin	Low Voltage
Vmax	High Voltage
Hnom	Norm Humidity
Anom	Norm Air Pressure

For this report, all the test case listed above are tested under Normal Temperature and Normal Voltage, and also under norm humidity, the specific conditions as following:

Temperature	Tnom	25℃
Voltage	Vnom	3.8V
Humidity	Hnom	47%

5.1. Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with section 3.

The test results of this test report relate exclusively to the item(s) tested as specified in section 5.

5.2. Statements

The W6900, supporting GPRS/EDGE/CDMA/WCDMA/LTE/BT/BLE/WLAN/NFC, manufactured by Shanghai Sunmi Technology Co.,Ltd.,which is a new product for testing.

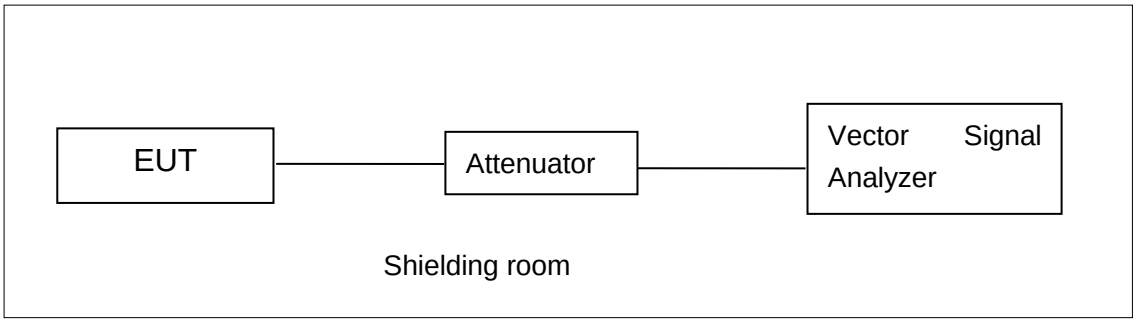
ECIT has verified that the compliance of the tested device specified in section 5 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 5 of this test report.

6. Test result

6.1. Measurement Method

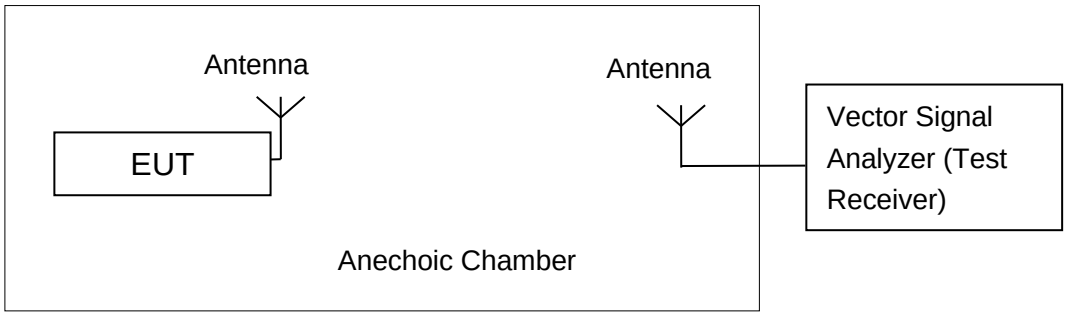
6.1.1. Conducted Measurements

1). Connect the EUT to the test system correctly.
2). Set the EUT to the required work mode.
3). Set the EUT to the required channel.
4). Set the spectrum analyzer to start measurement.
5). Record the values. Vector Signal Analyzer



6.1.2. Radiated Emission Measurements

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. 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.

6.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-1 is made according to KDB 789033

Measurement Results:

802.11a mode

U-NII-1

Mode	Data Rate(Mbps)	Teat Result(dBm)		
		5180MHz	5200MHz	5240MHz
802.11a	6	17.81	17.39	17.45

U-NII-2

Mode	Data Rate(Mbps)	Teat Result(dBm)		
		5260MHz	5300MHz	5320MHz
802.11a	6	16.66	15.30	16.32

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT20 mode

U-NII-1

Mode	Data Rate(Index)	Teat Result(dBm)		
		5180MHz	5200MHz	5240MHz
802.11n(20MHz)	MCS0	17.98	17.50	17.64

U-NII-2A

Mode	Data Rate(Index)	Teat Result(dBm)		
		5260MHz	5300MHz	5320MHz
802.11n(20MHz)	MCS0	16.82	16.09	16.37

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT40 mode

U-NII-1

Mode	Data Rate(Index)	Teat Result(dBm)		
		5190MHz	/	5230MHz
802.11n(40MHz)	MCS0	18.09	/	17.74

U-NII-2A

Mode	Data Rate(Index)	Teat Result(dBm)		
		5270MHz	/	5310MHz
802.11n(40MHz)	MCS0	17.21	/	16.64

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

6.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11

The output power measurement method SA-1 is made according to KDB 789033

Measurement Results:

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	4.214	P
	5200 MHz	3.926	P
	5240 MHz	4.140	P
	5260 MHz	3.951	P
	5280 MHz	3.579	P
	5320 MHz	3.705	P
802.11n HT20	5180 MHz	4.197	P
	5200 MHz	3.743	P
	5240 MHz	3.852	P
	5260 MHz	1.827	P
	5280 MHz	1.995	P
	5320 MHz	2.221	P
802.11n HT40	5190 MHz	0.699	P
	5230 MHz	0.351	P
	5270 MHz	-1.249	P
	5310 MHz	-1.091	P

Conclusion: PASS

6.4. Occupied 26dB Bandwidth(conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Channel	Occupied 26dB Bandwidth (kHz)		conclusion
802.11a	5180 MHz	Fig.1	26.04	P
	5200 MHz	Fig.2	27.80	P
	5240 MHz	Fig.3	26.04	P
	5260 MHz	Fig.4	27.16	P
	5280 MHz	Fig.5	24.92	P
	5320 MHz	Fig.6	23.96	P
802.11n HT20	5180 MHz	Fig.7	26.52	P
	5200 MHz	Fig.8	27.40	P
	5240 MHz	Fig.9	27.96	P
	5260 MHz	Fig.10	30.53	P
	5280 MHz	Fig.11	27.40	P
	5320 MHz	Fig.12	26.52	P
802.11n HT40	5190 MHz	Fig.13	49.04	P
	5230 MHz	Fig.14	53.85	P
	5270 MHz	Fig.15	46.15	P
	5310 MHz	Fig.16	46.39	P

Conclusion: PASS

Test graphs as below:

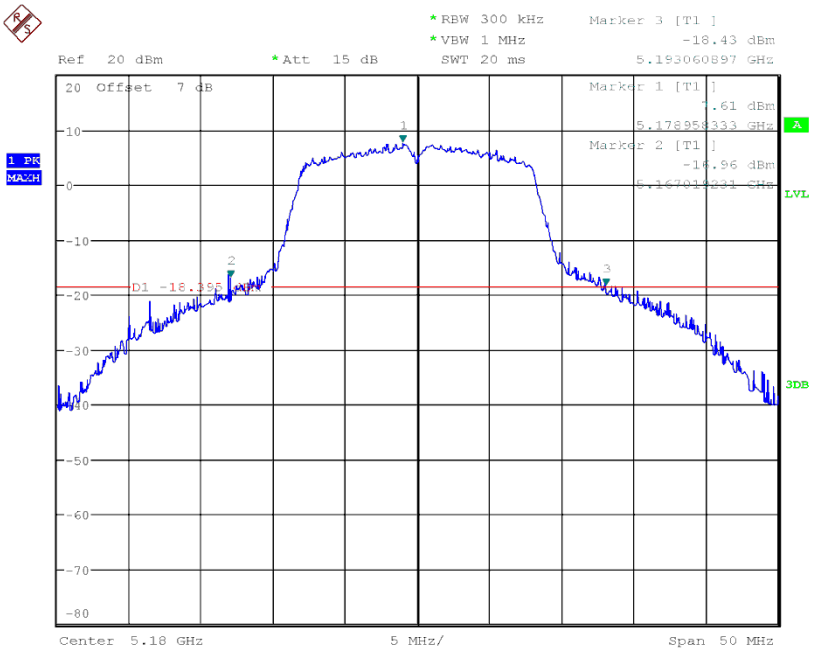


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

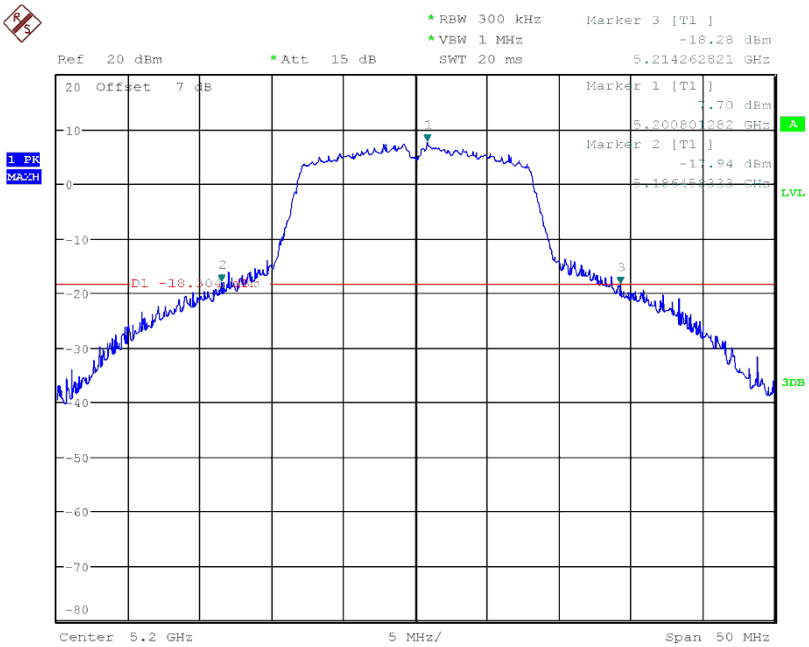


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

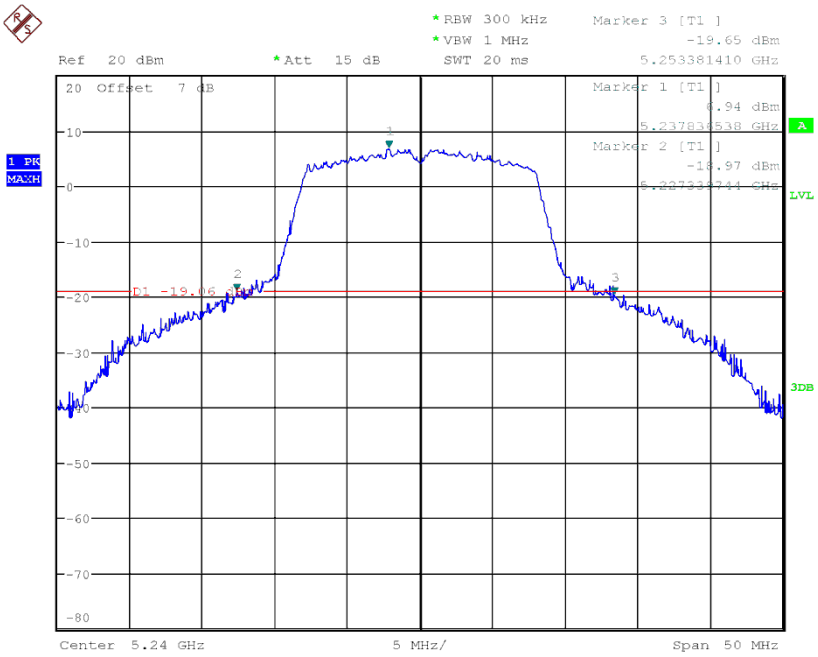


Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

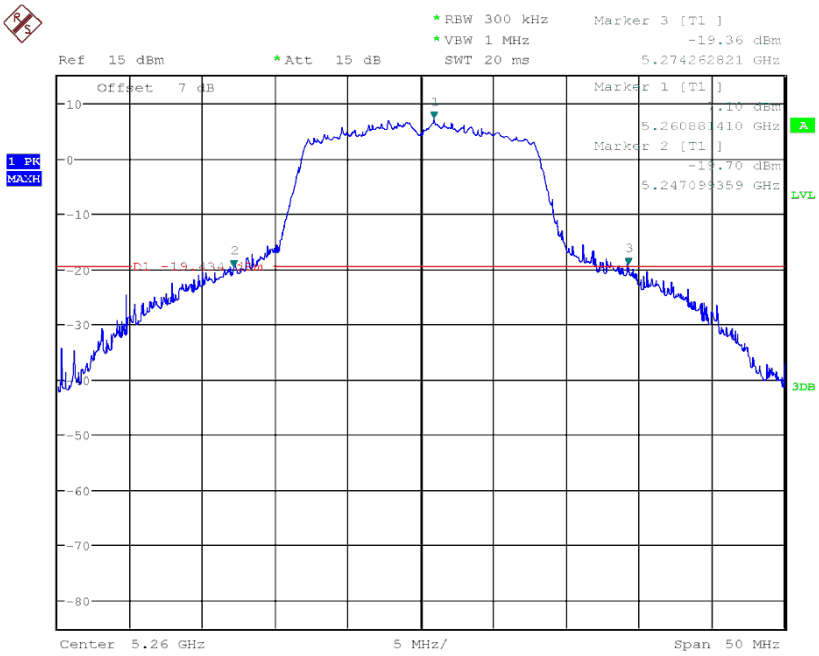


Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

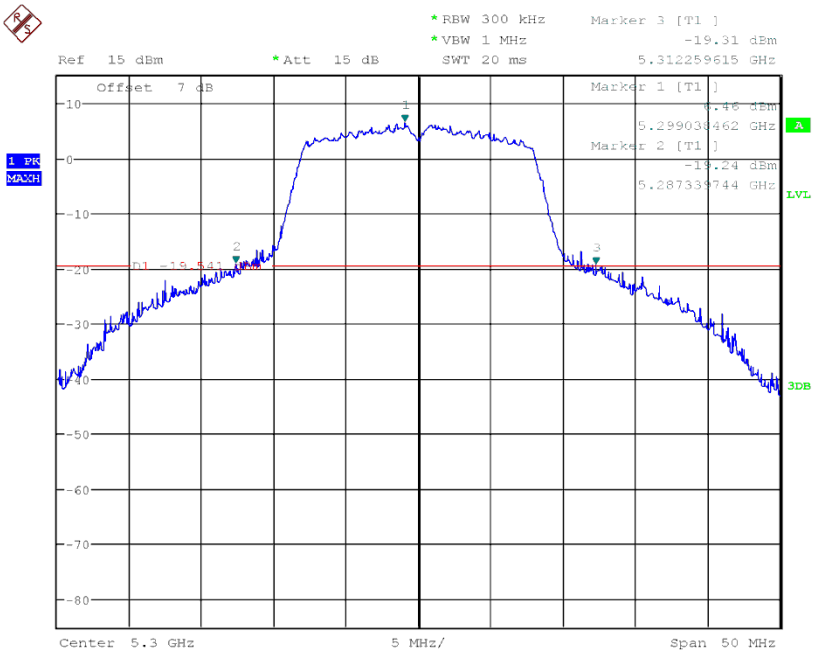


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

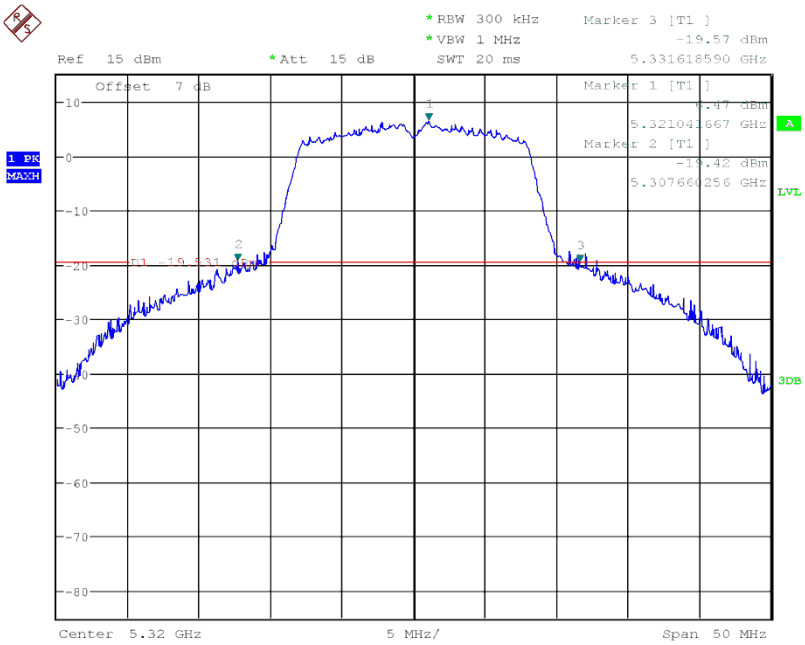


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

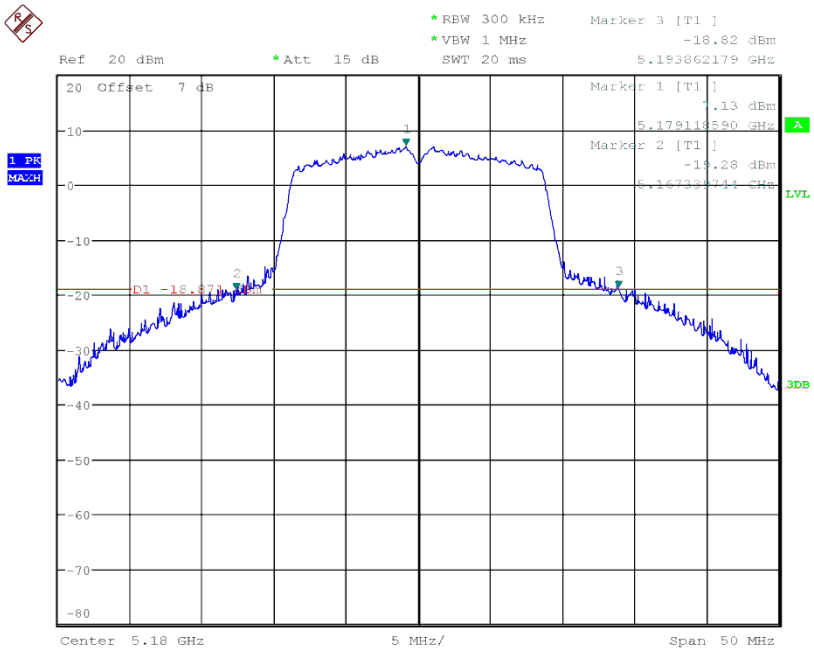


Fig. 7 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)

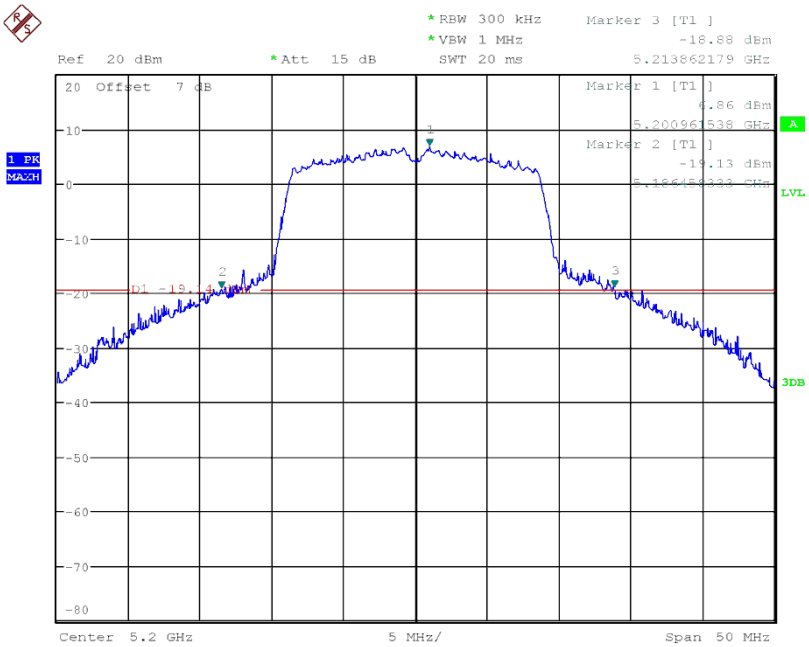


Fig. 8 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

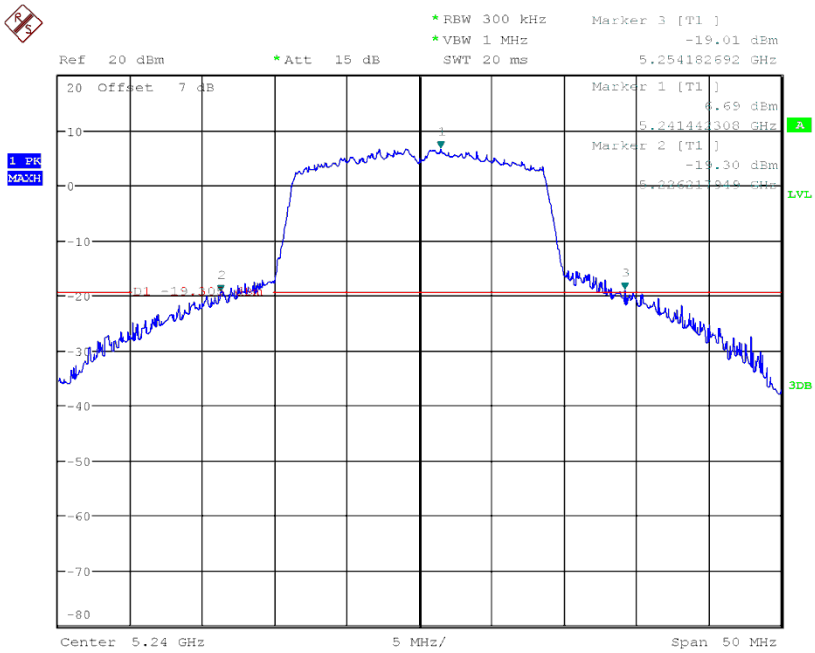


Fig. 9 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

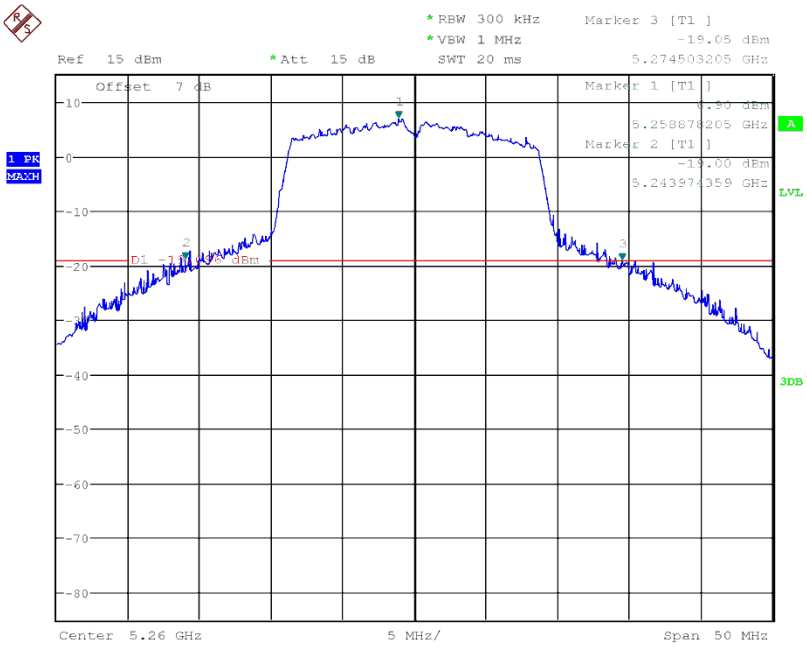


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

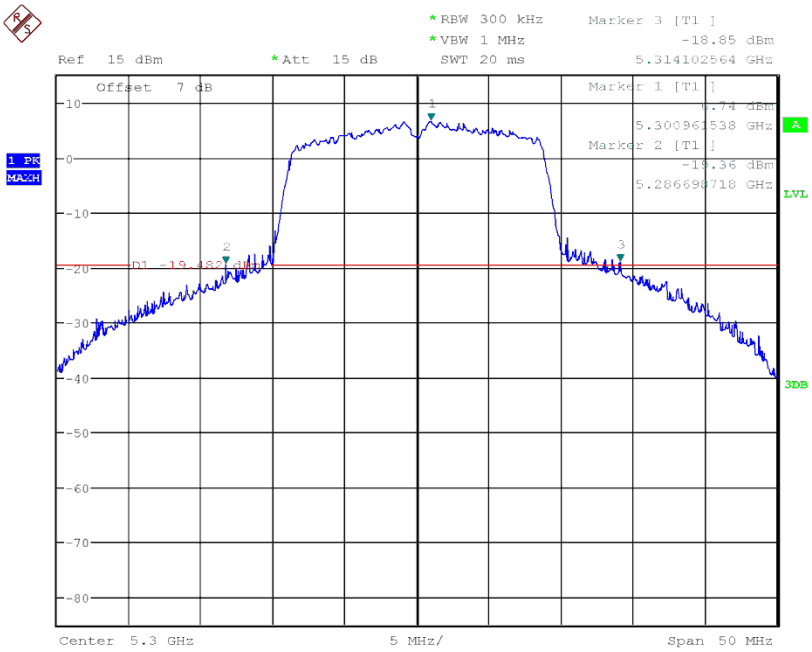


Fig. 11 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

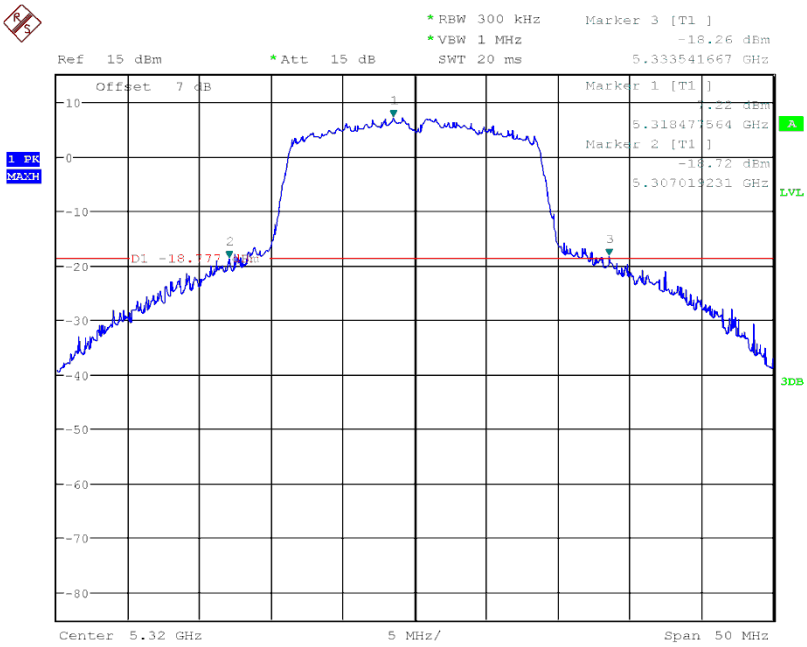


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

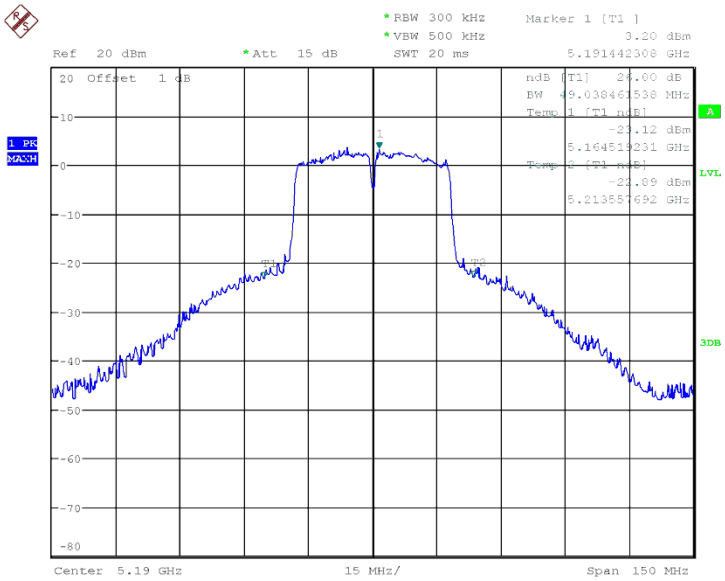


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

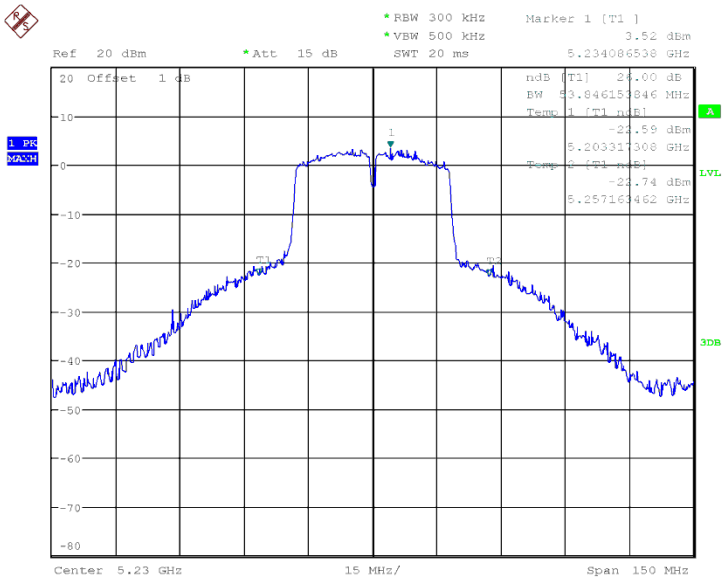


Fig. 14 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

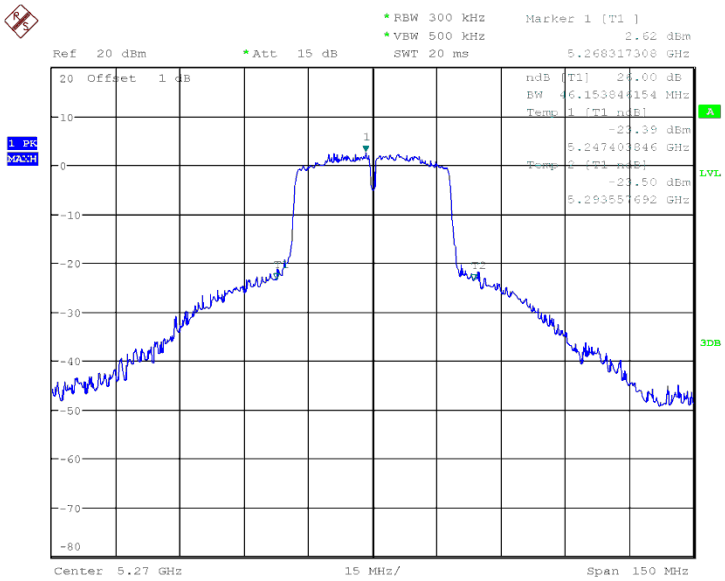


Fig. 15 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

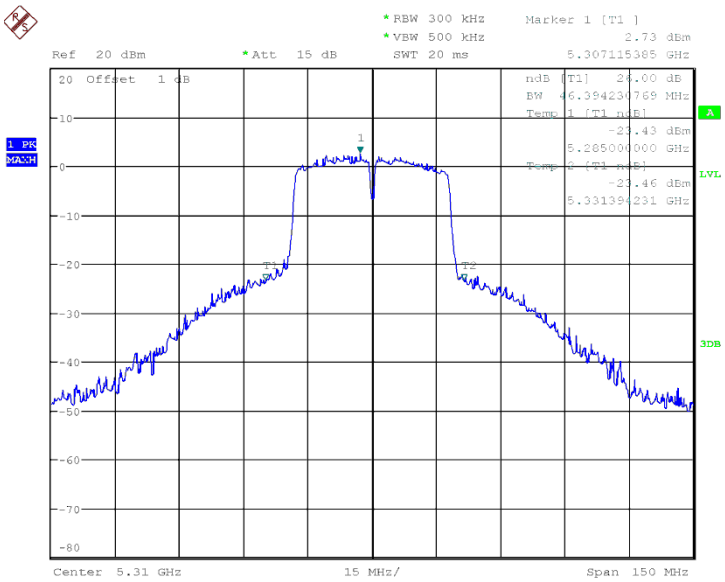


Fig. 16 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

6.5. 99% Occupied Bandwidth(conducted)

Measurement Limit:

Standard	Limit (MHz)
FCC 47 CFR Part 15.407 (e)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Channel	99%Occupied Bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.17	17.228	P
	5200 MHz	Fig.18	17.468	P
	5240 MHz	Fig.19	17.228	P
	5260 MHz	Fig.20	17.228	P
	5300 MHz	Fig.21	17.228	P
	5320 MHz	Fig.22	17.147	P
802.11n HT20	5180 MHz	Fig.23	18.029	P
	5200 MHz	Fig.24	18.189	P
	5240 MHz	Fig.25	18.109	P
	5260 MHz	Fig.26	18.109	P
	5300 MHz	Fig.27	18.029	P
	5320 MHz	Fig.28	17.869	P
802.11n HT40	5190 MHz	Fig.29	36.058	P
	5230 MHz	Fig.30	36.138	P
	5270 MHz	Fig.31	36.138	P
	5310 MHz	Fig.32	36.138	P

Conclusion: PASS

Test graphs as below:

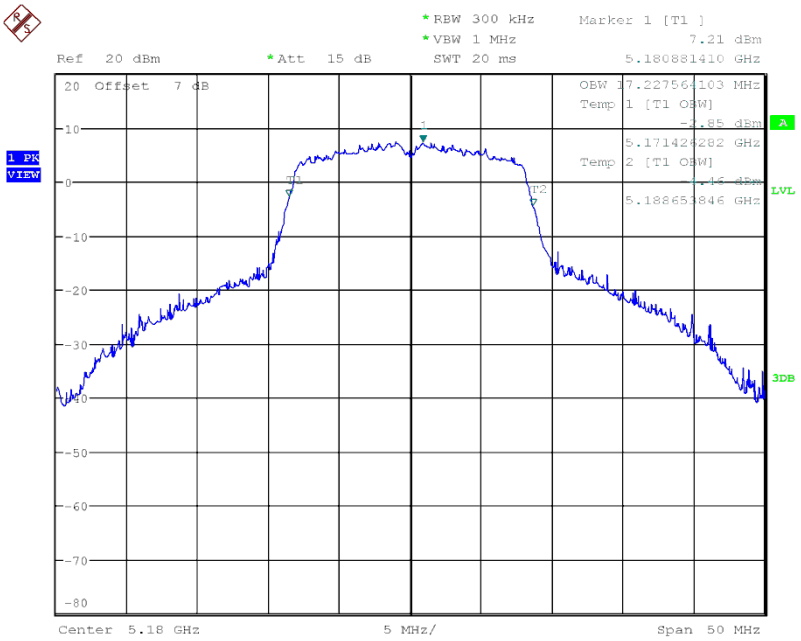


Fig. 17 99% Occupied Bandwidth (802.11a, 5180MHz)

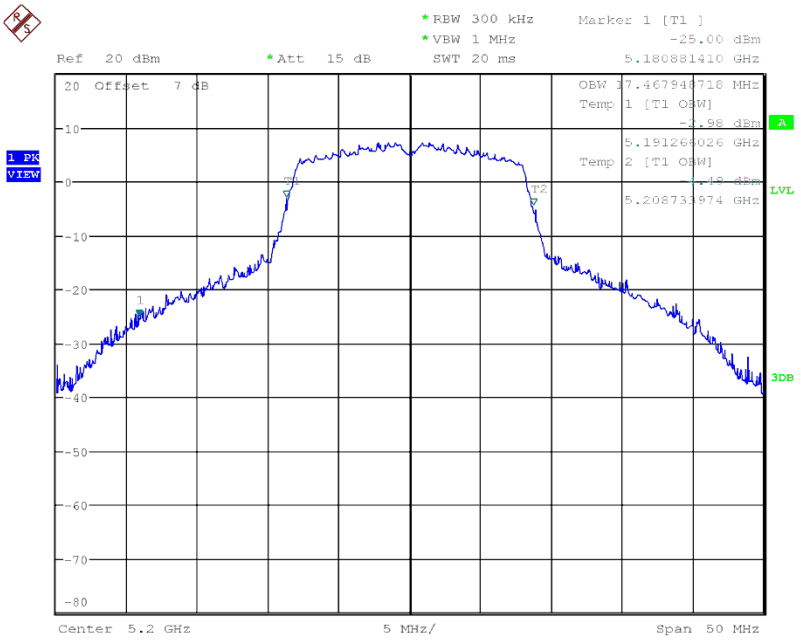


Fig. 18 99% Occupied Bandwidth (802.11a, 5200MHz)

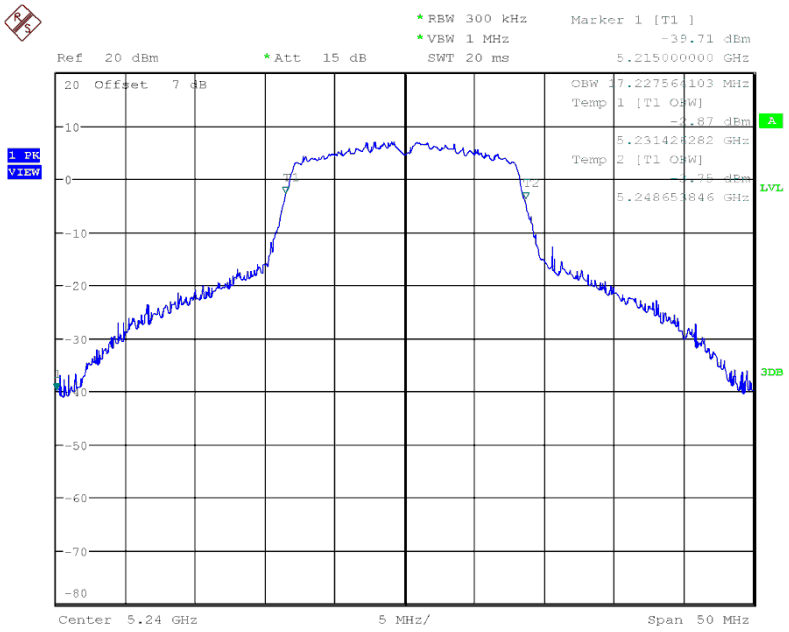


Fig. 19 99% Occupied Bandwidth (802.11a, 5240MHz)

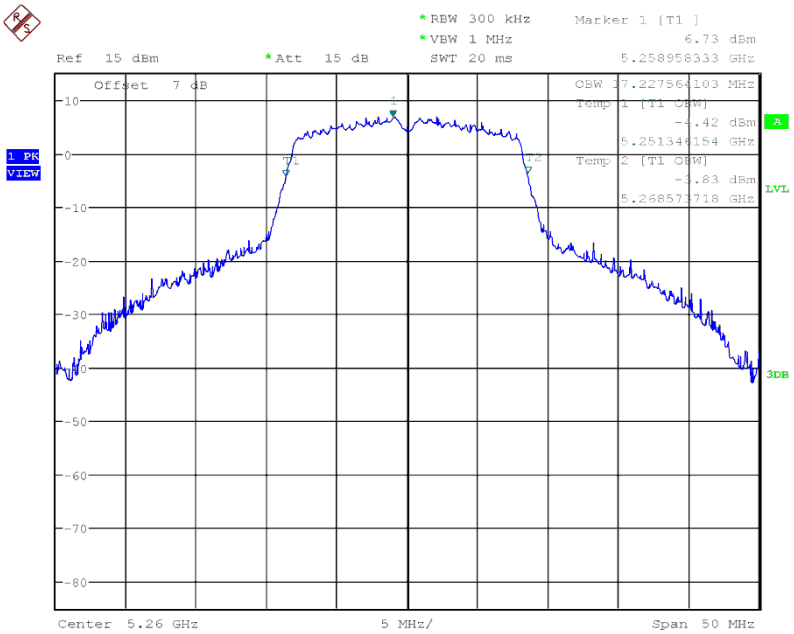


Fig. 20 99% Occupied Bandwidth (802.11a, 5260MHz)

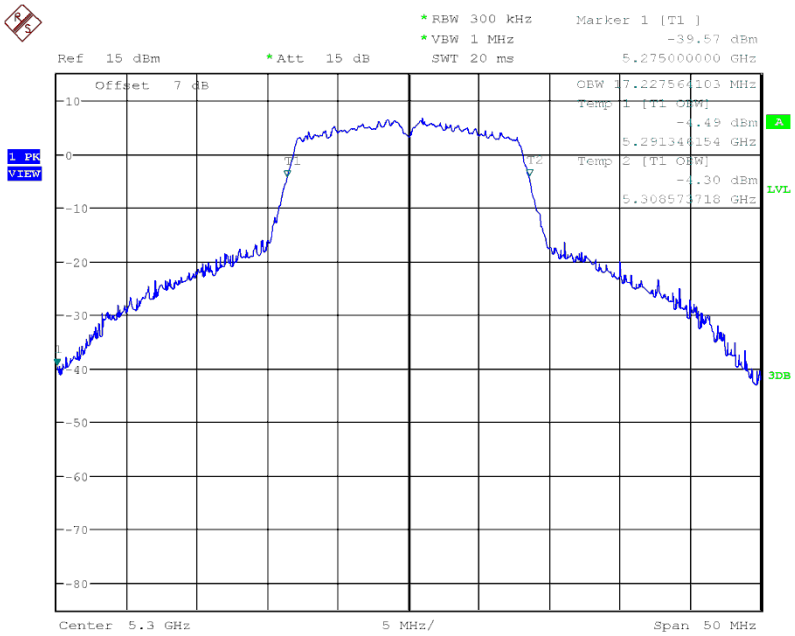


Fig. 21 99% Occupied Bandwidth (802.11a, 5300MHz)

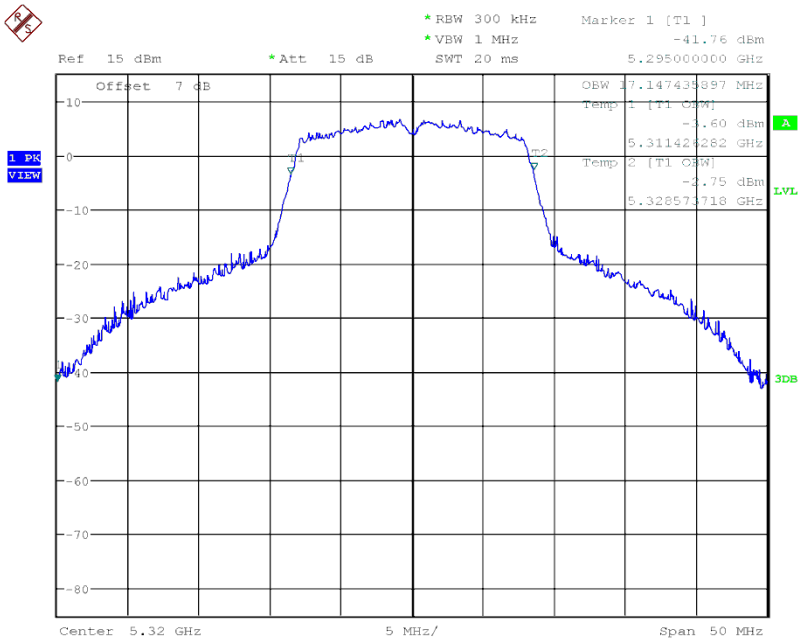


Fig. 22 99% Occupied Bandwidth (802.11a, 5320MHz)

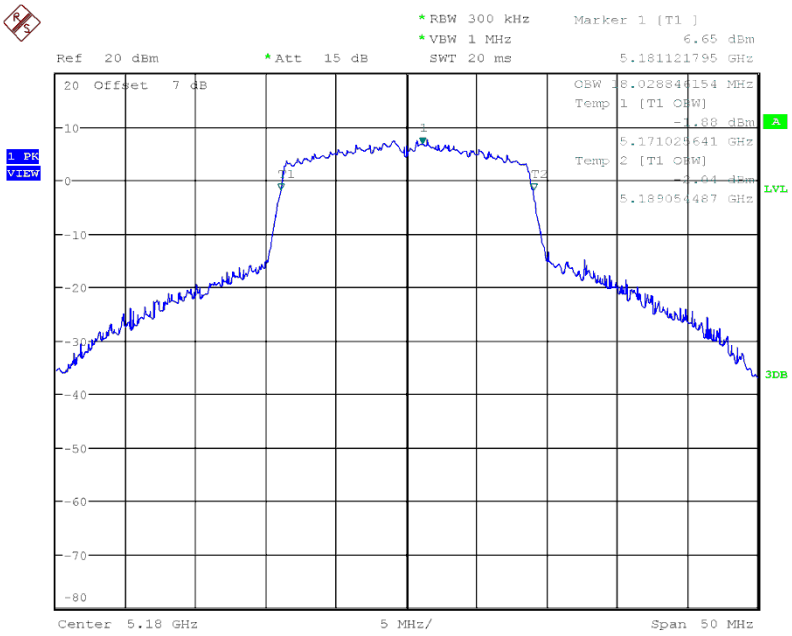


Fig. 23 99% Occupied Bandwidth (802.11n-HT20, 5180MHz)

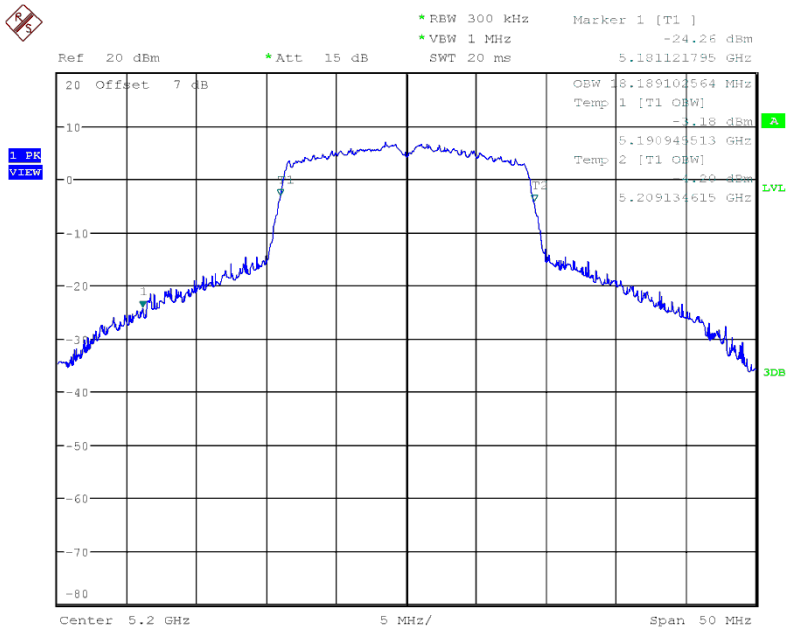


Fig. 24 99% Occupied Bandwidth (802.11n-HT20, 5200MHz)

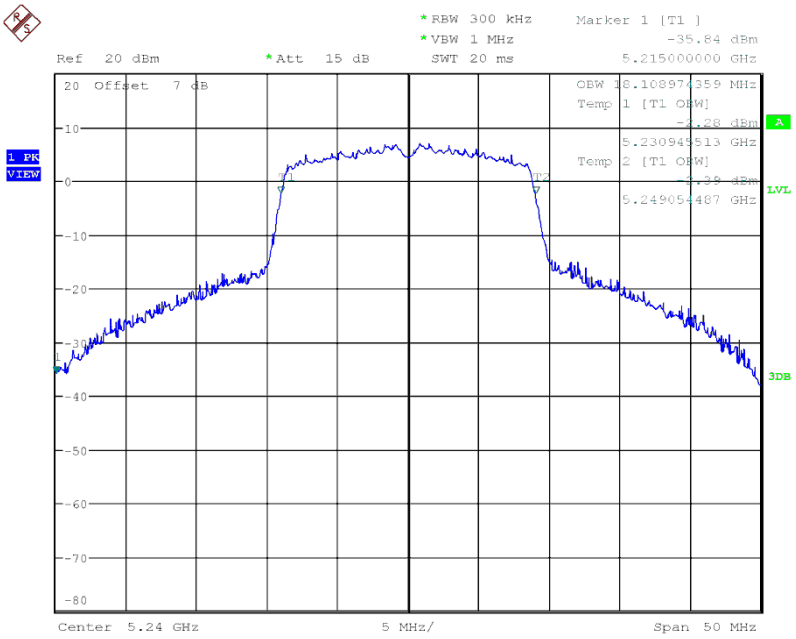


Fig. 25 99% Occupied Bandwidth (802.11n-HT20, 5240MHz)

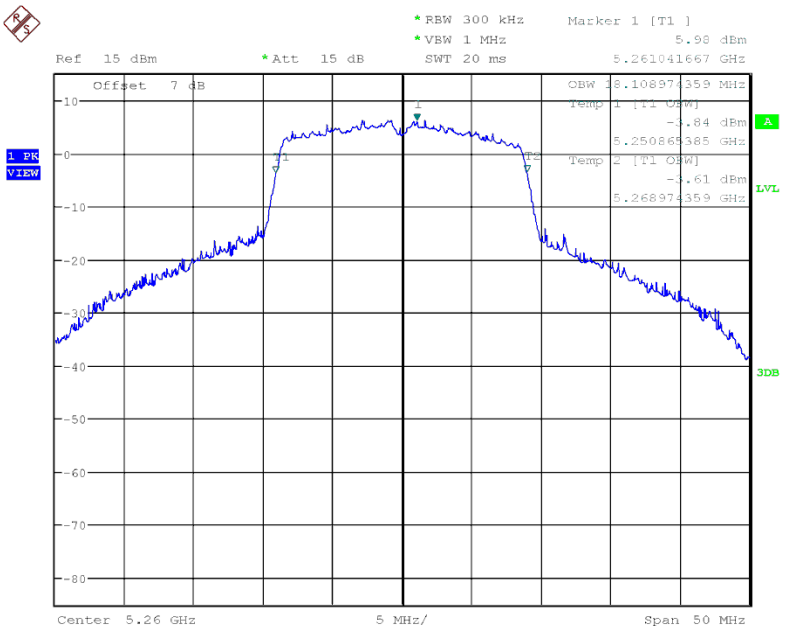


Fig. 26 99% Occupied Bandwidth (802.11n-HT20, 5260MHz)

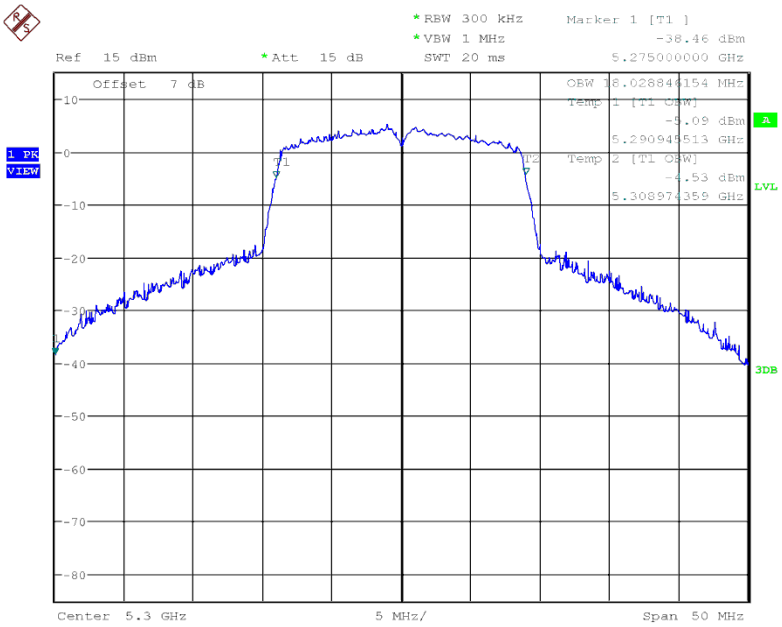


Fig. 27 99% Occupied Bandwidth (802.11n-HT20, 5300MHz)

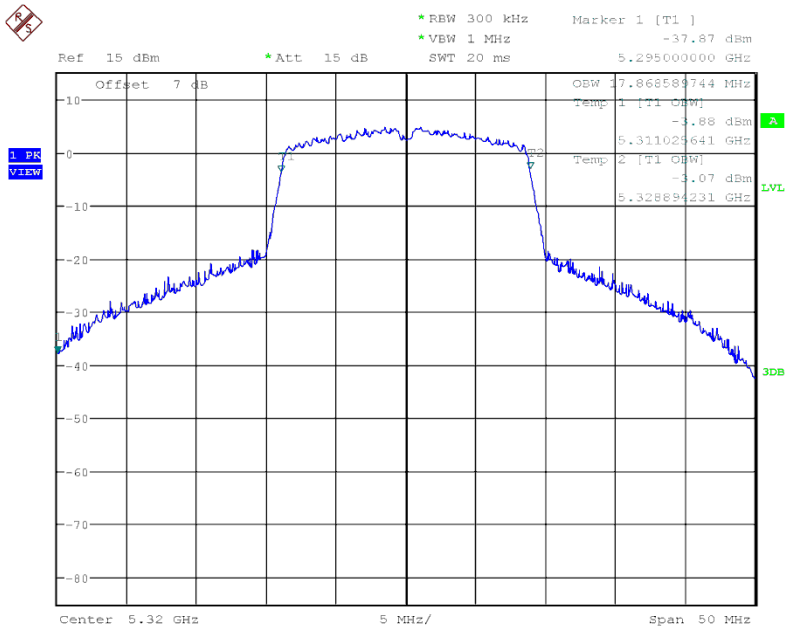


Fig. 28 99% Occupied Bandwidth (802.11n-HT20, 5320MHz)

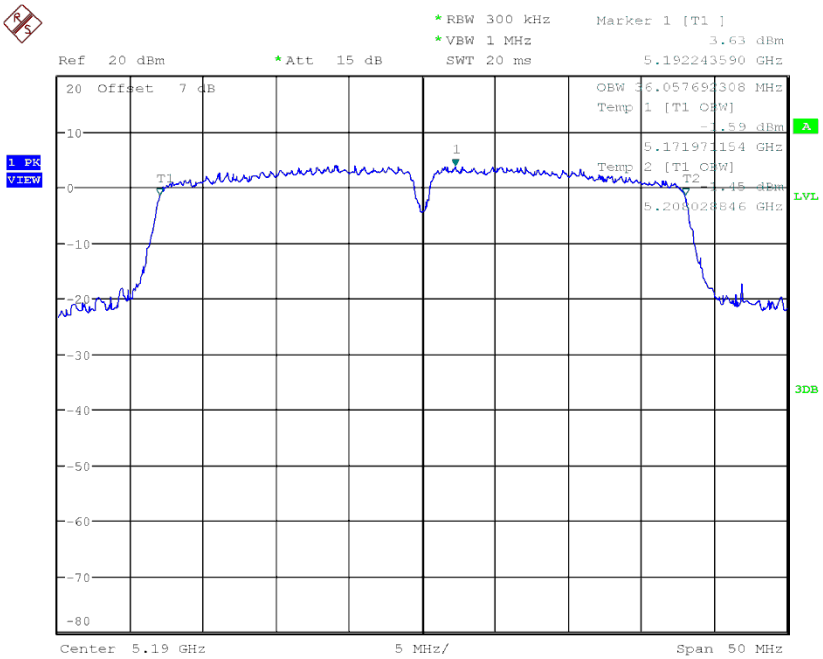


Fig. 29 99% Occupied Bandwidth (802.11n-HT40, 5190MHz)

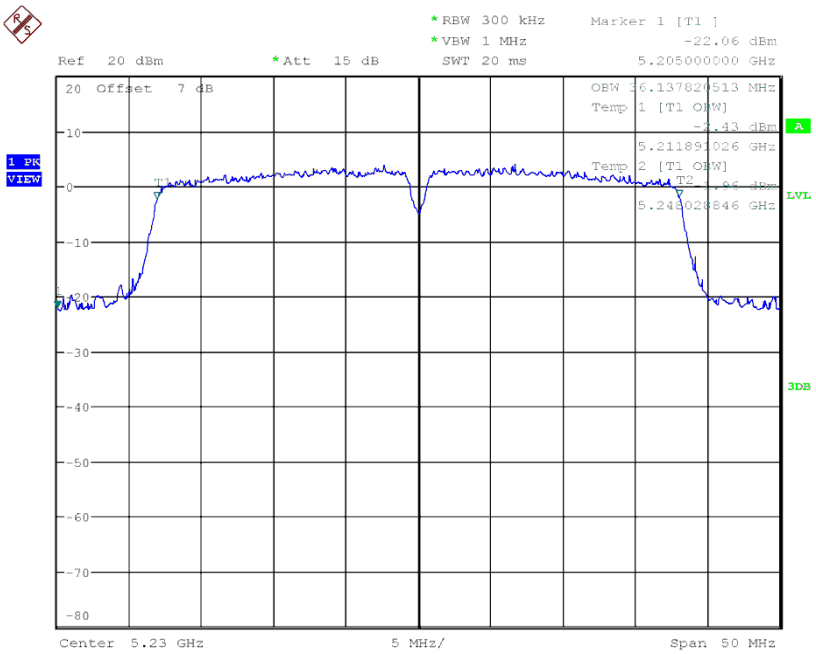


Fig. 30 99% Occupied Bandwidth (802.11n-HT40, 5230MHz)

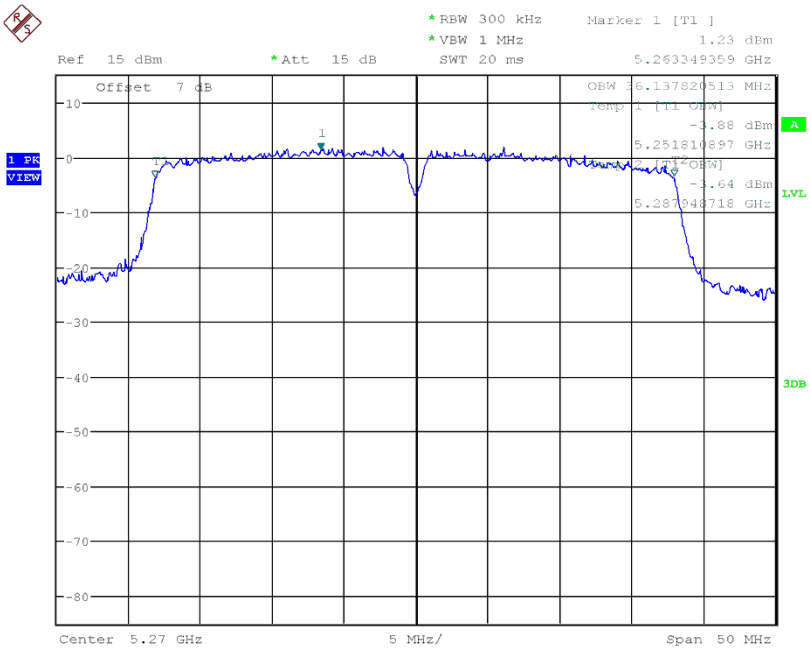


Fig. 31 99% Occupied Bandwidth (802.11n-HT40, 5270MHz)

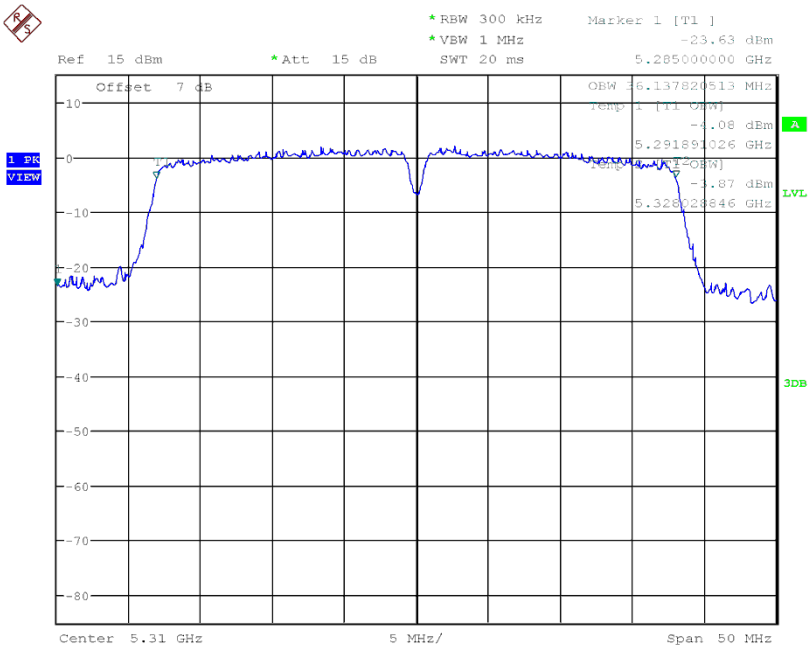


Fig. 32 99% Occupied Bandwidth (802.11n-HT40, 5310MHz)

6.6. Band Edges Compliance

6.6.1 Band Edges - conducted

Measurement Limit:

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

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.33	P
	5320 MHz	Fig.34	P
802.11n HT20	5180 MHz	Fig.35	P
	5320 MHz	Fig.36	P
802.11n HT40	5190 MHz	Fig.37	P
	5310 MHz	Fig.38	P

Conclusion: PASS

Test graphs as below:

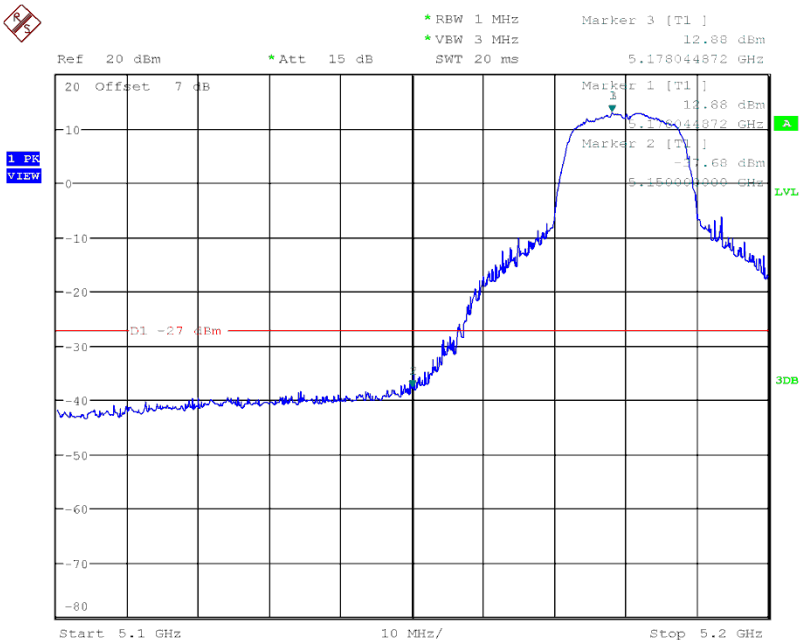


Fig. 33 Band Edges (802.11a, 5180MHz)

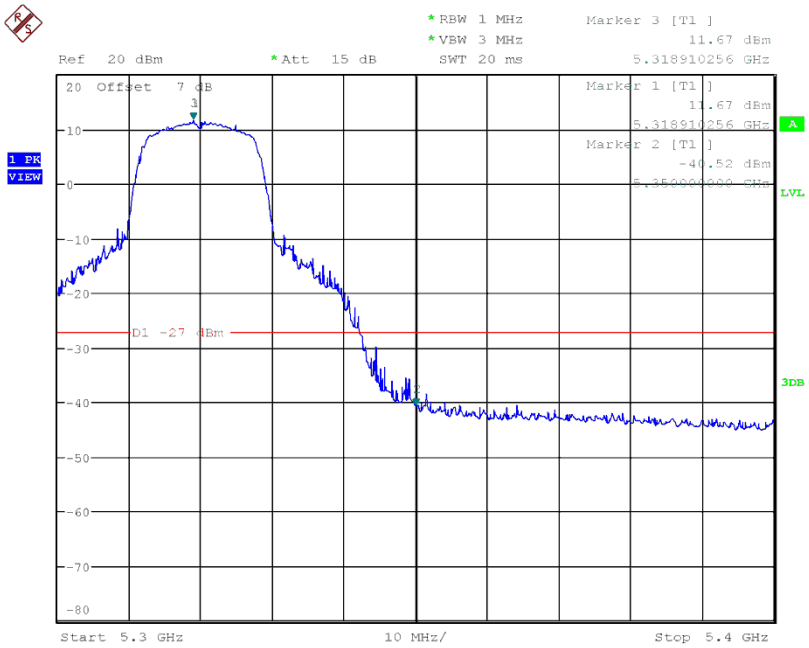


Fig. 34 Band Edges (802.11a, 5320MHz)

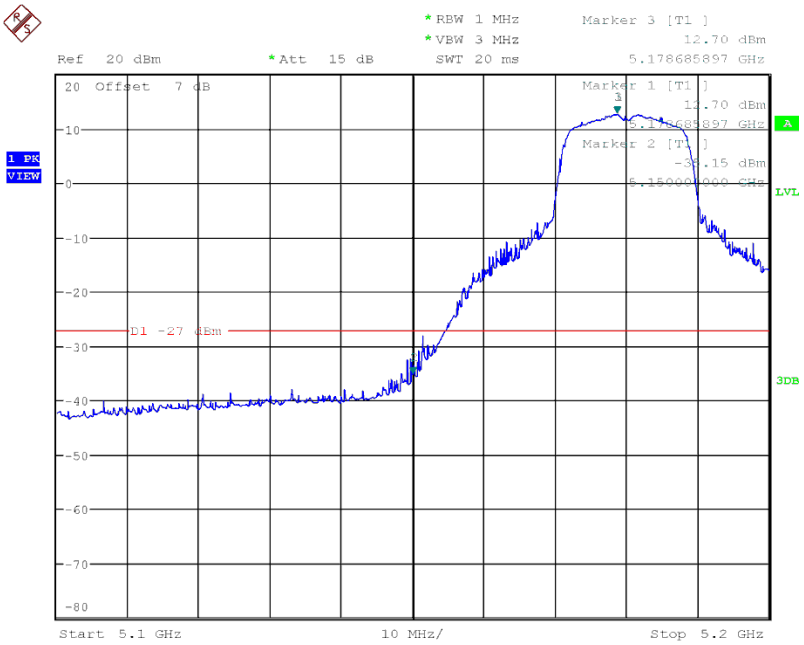


Fig. 35 Band Edges (802.11n-HT20, 5180MHz)

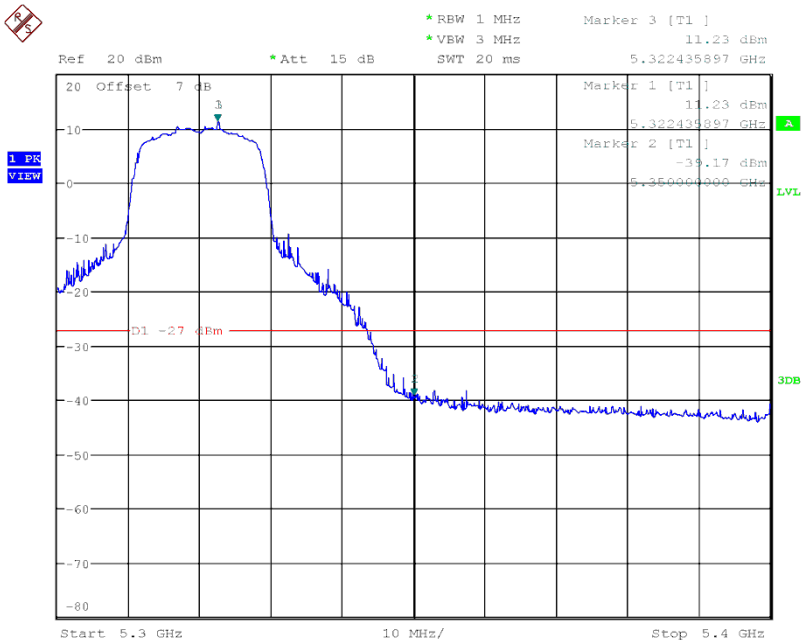


Fig. 36 Band Edges (802.11n-HT20, 5320MHz)

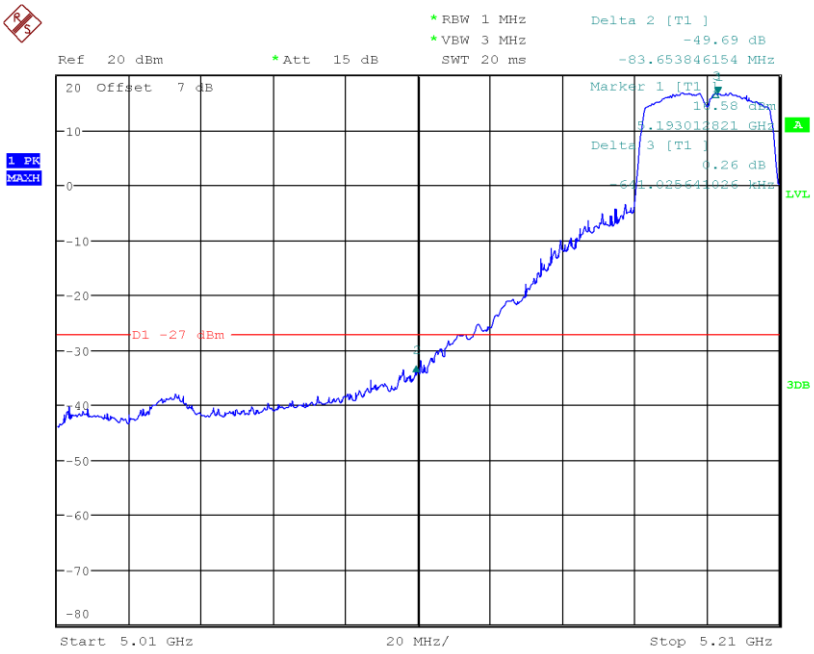


Fig. 37 Band Edges (802.11n-HT40, 5190MHz)

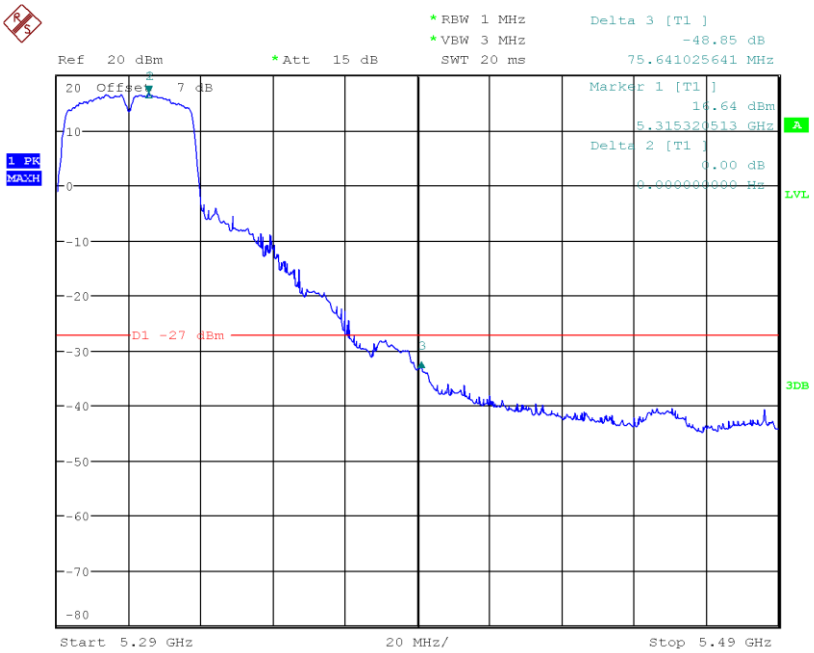


Fig. 38 Band Edges (802.11n-HT40, 5310MHz)

6.6.2 Band Edges - Radiated

Measurement Limit:

Standard	Limit (dB μ V/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 Uncertainty:

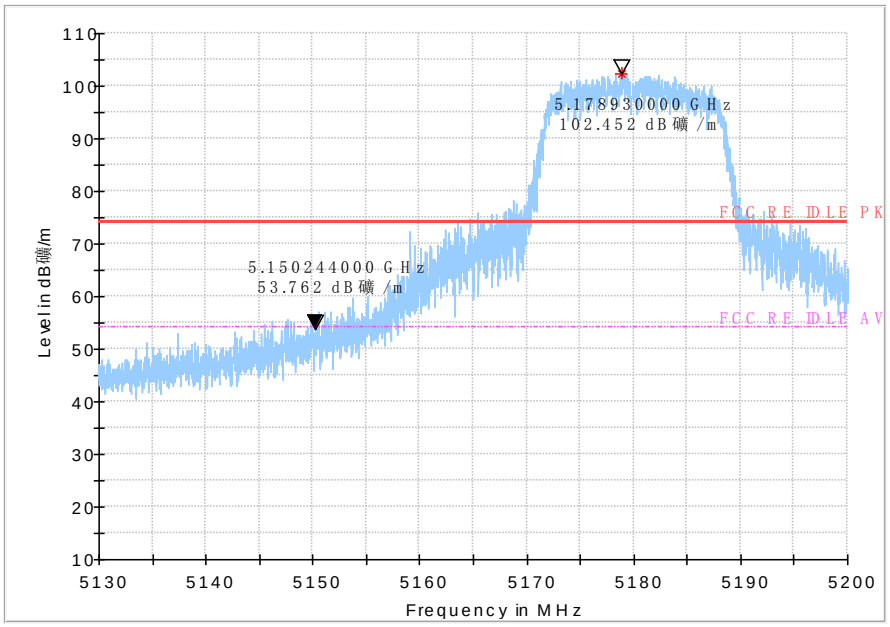
Measurement Uncertainty	0.75dB

Measurement Result:

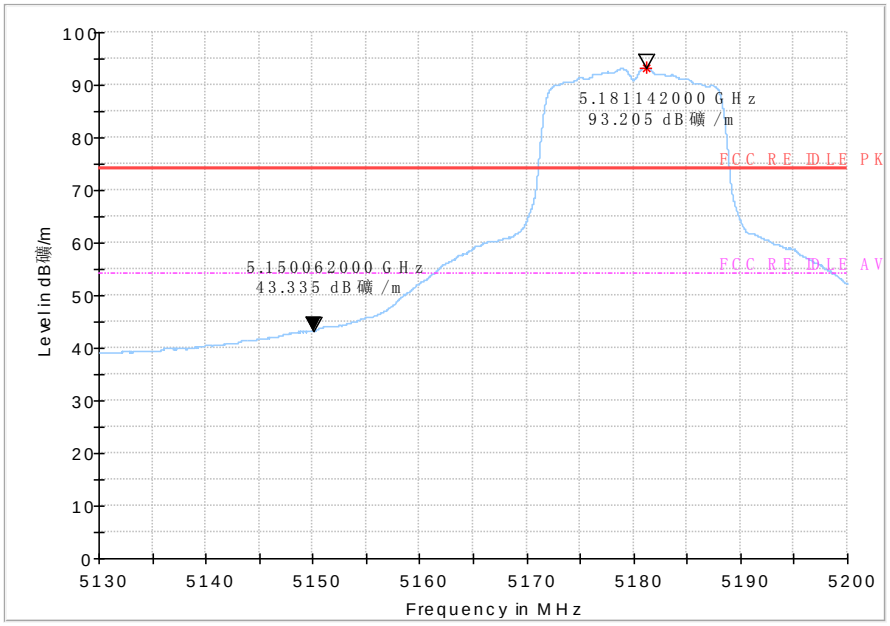
Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.39	P
	5320 MHz	Fig.40	P
802.11n HT20	5180 MHz	Fig.41	P
	5320 MHz	Fig.42	P
802.11n HT40	5190 MHz	Fig.43	P
	5310 MHz	Fig.44	P

Conclusion: PASS

Test graphs as below:

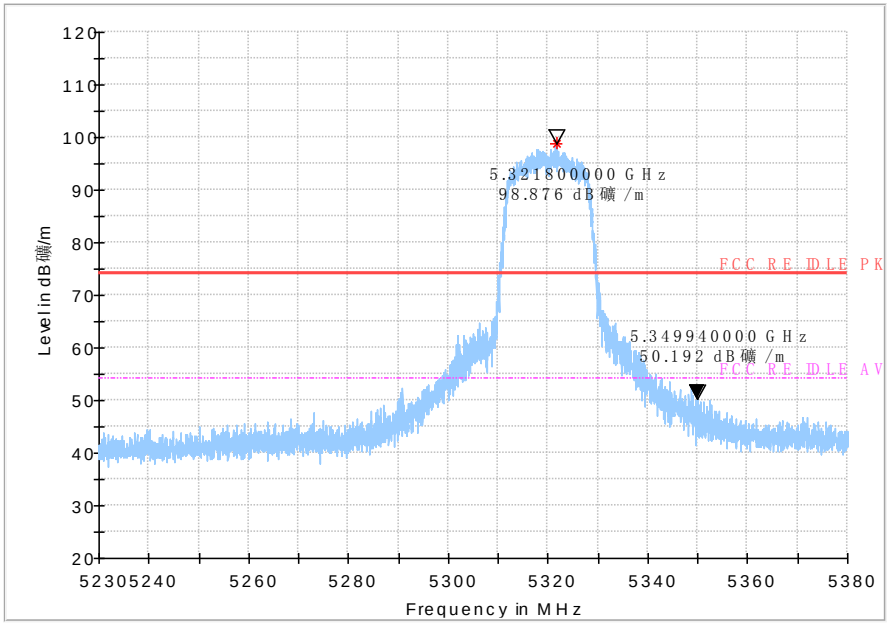


Peak

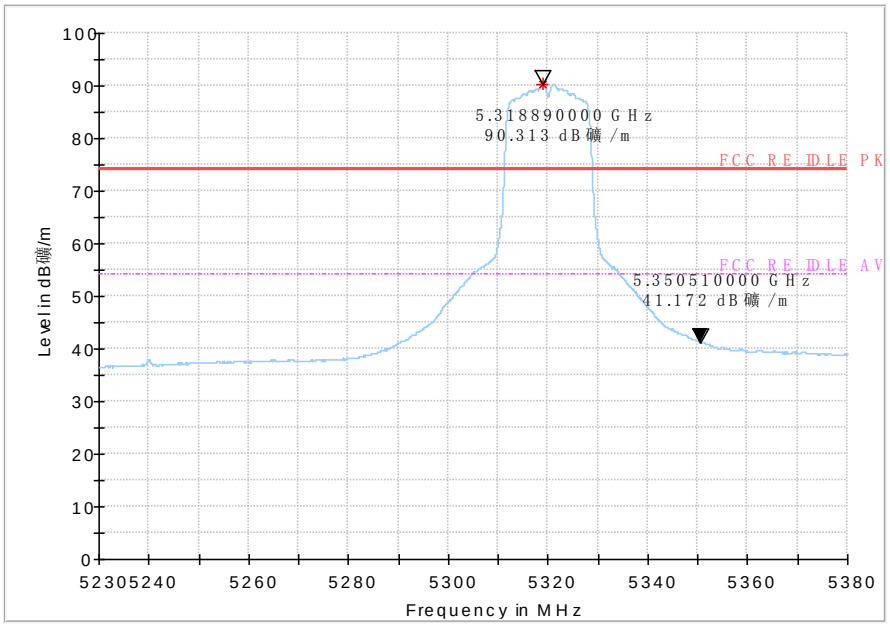


Average

Fig. 39 Band Edges (802.11a, 5180MHz)

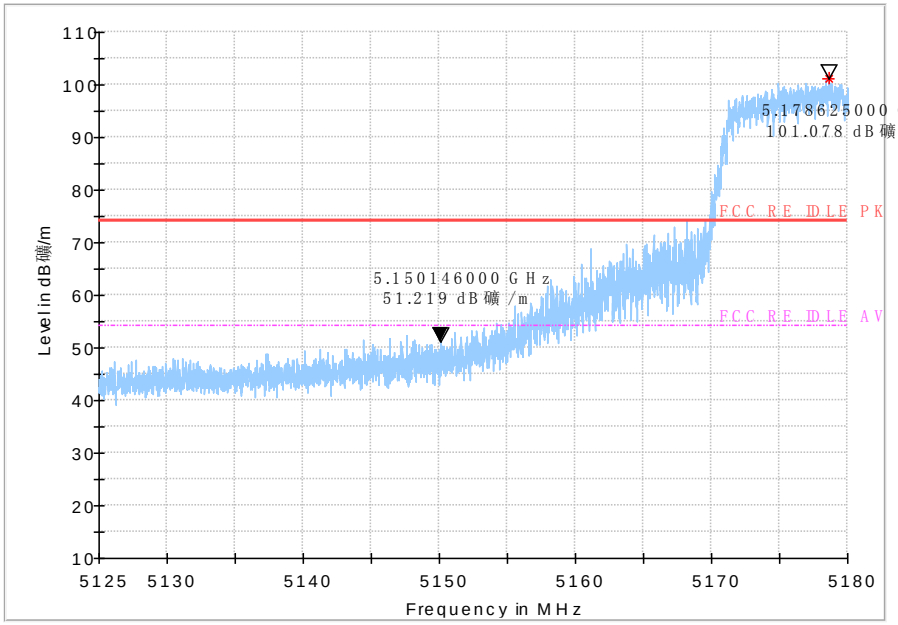


Peak

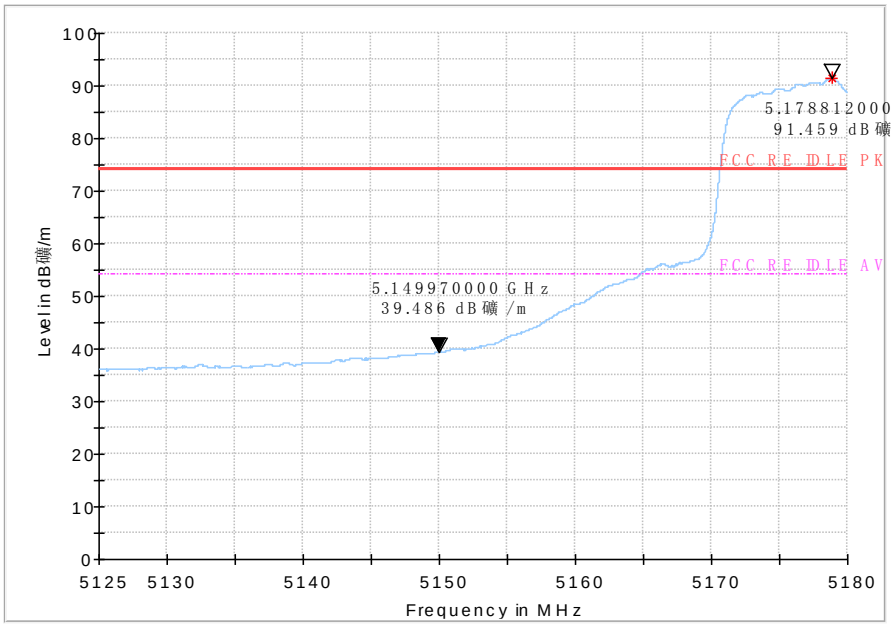


Average

Fig. 40 Band Edges (802.11a, 5320MHz)

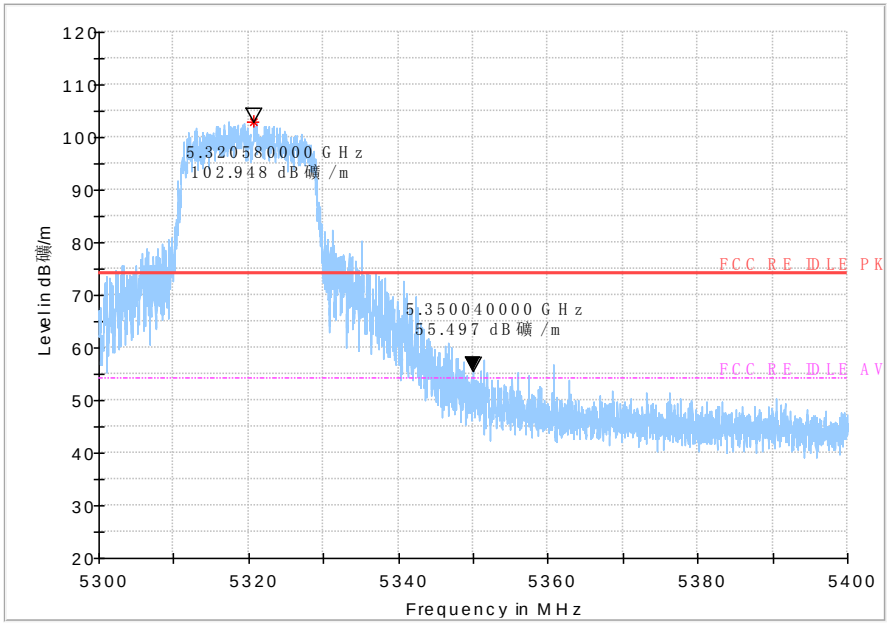


Peak

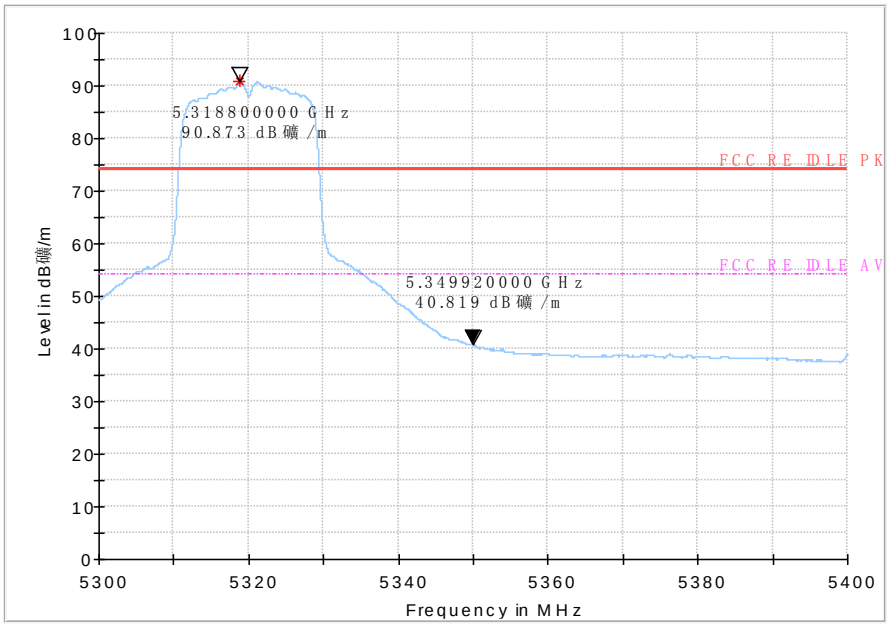


Average

Fig. 41 Band Edges (802.11n-HT20, 5180MHz)

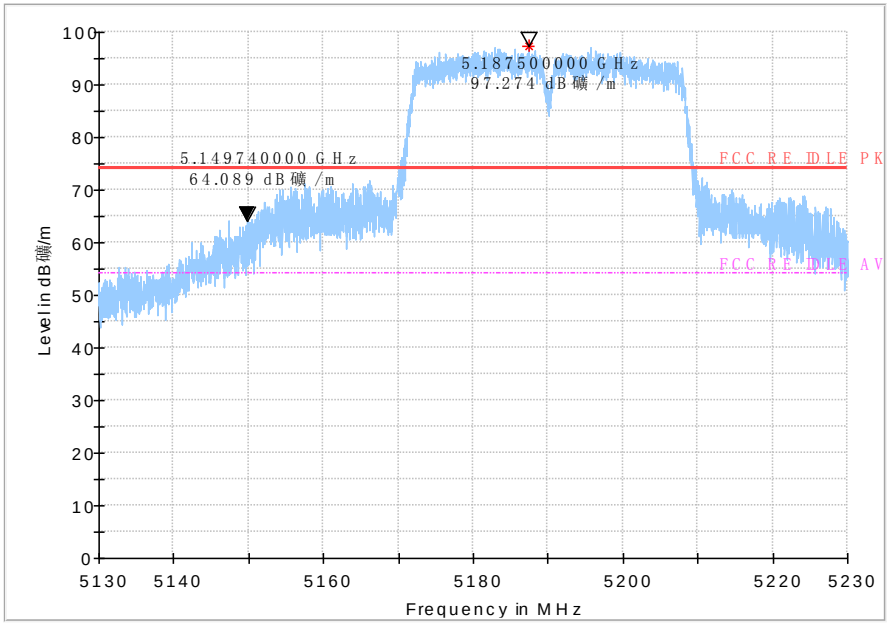


Peak

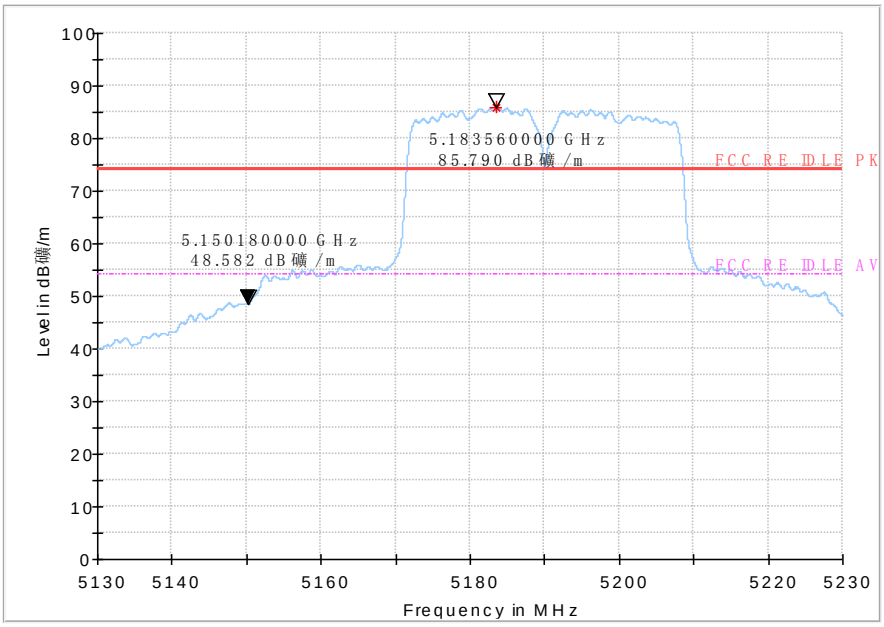


Average

Fig. 42 Band Edges (802.11n-HT20, 5320MHz)

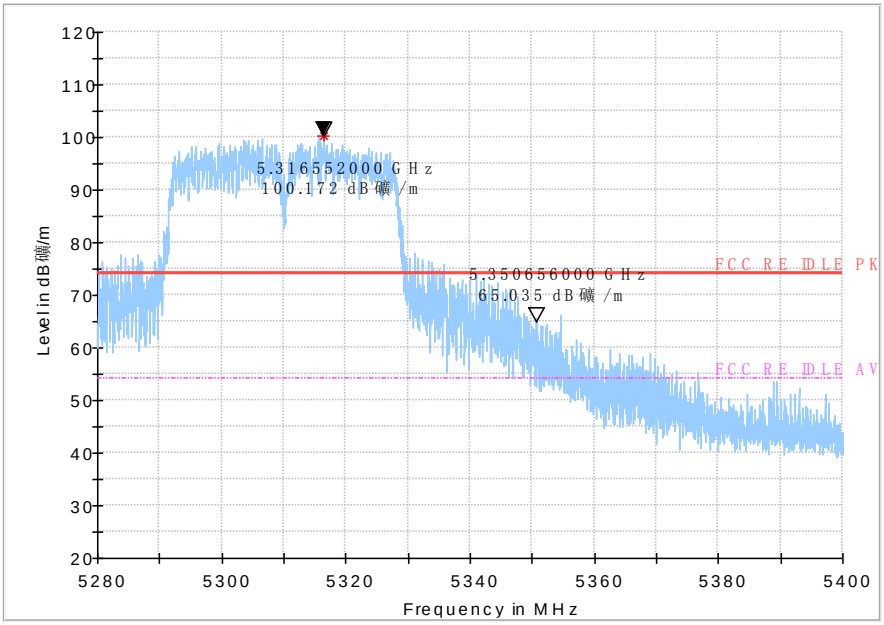


Peak

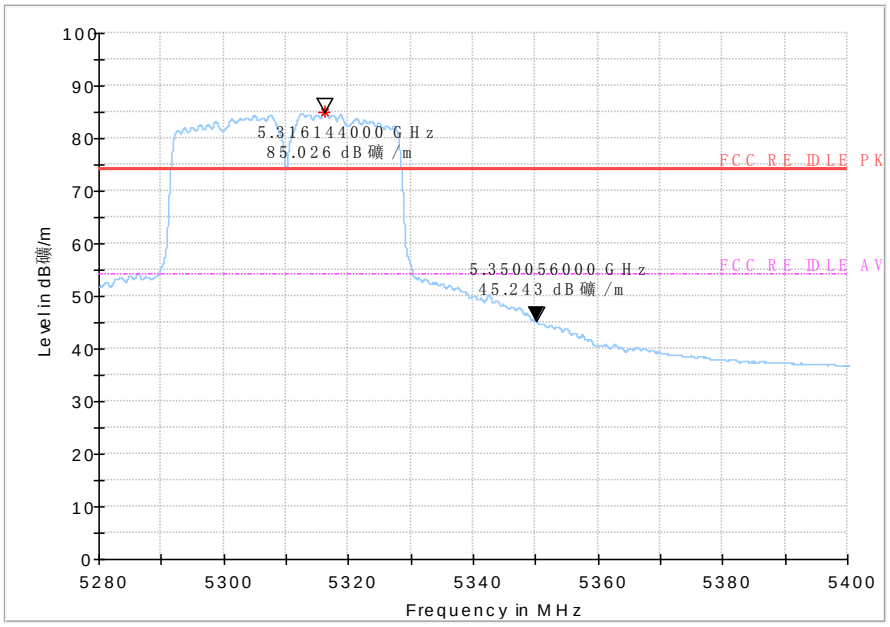


Average

Fig. 43 Band Edges (802.11n-HT40, 5190MHz)



Peak



Average

Fig. 44 Band Edges (802.11n-HT40, 5310MHz)

6.7. Transmitter Spurious Emission

Measurement Limit:

Standard	Limit

FCC 47 CFR Part 15.407	-27 dBm/MHz

The measurement is made according to KDB 789033
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

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

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

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

Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	36(5180MHz)	30 MHz ~ 1 GHz	Fig.45	P
		1 GHz ~ 8 GHz	Fig.46	P
		8 GHz ~ 18 GHz	Fig.47	P
		18 GHz ~ 26.5 GHz	Fig.48	P
		26.5 GHz ~ 40 GHz	Fig.49	P
	40(5200MHz)	30 MHz ~ 1 GHz	Fig.50	P
		1 GHz ~ 8 GHz	Fig.51	P
		8 GHz ~ 18 GHz	Fig.52	P
		18 GHz ~ 26.5 GHz	Fig.53	P
		26.5 GHz ~ 40 GHz	Fig.54	P
	48(5240MHz)	30 MHz ~ 1 GHz	Fig.55	P
		1 GHz ~ 8 GHz	Fig.56	P
		8 GHz ~ 18 GHz	Fig.57	P
		18 GHz ~ 26.5 GHz	Fig.58	P
		26.5 GHz ~ 40 GHz	Fig.59	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	30 MHz ~ 1 GHz	Fig.60	P
		1 GHz ~ 8 GHz	Fig.61	P
		8 GHz ~ 18 GHz	Fig.62	P
		18 GHz ~ 26.5 GHz	Fig.63	P
		26.5 GHz ~ 40 GHz	Fig.64	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.65	P
		1 GHz ~ 6 GHz	Fig.66	P
		6 GHz ~ 18 GHz	Fig.67	P
		18 GHz ~ 26.5 GHz	Fig.68	P
		26.5 GHz ~ 40 GHz	Fig.69	P
	48(5240MHz)	30 MHz ~ 1 GHz	Fig.70	P
		1 GHz ~ 8 GHz	Fig.71	P
		8 GHz ~ 18 GHz	Fig.72	P
		18 GHz ~ 26.5 GHz	Fig.73	P
		26.5 GHz ~ 40 GHz	Fig.74	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~ 1 GHz	Fig.75	P
		1 GHz ~ 8 GHz	Fig.76	P
		8 GHz ~ 18 GHz	Fig.77	P
		18 GHz ~ 26.5 GHz	Fig.78	P
		26.5 GHz ~ 40 GHz	Fig.79	P
	46(5230MHz)	30 MHz ~ 1 GHz	Fig.80	P
		1 GHz ~ 8 GHz	Fig.81	P
		8 GHz ~ 18 GHz	Fig.82	P
		18 GHz ~ 26.5 GHz	Fig.83	P
		26.5 GHz ~ 40 GHz	Fig.84	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:

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

802.11a

Channel 36 (30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
31.9	26.48	-22	48.48	V
34.7	24.86	-22	46.86	V
36.9	29.15	-21.4	50.55	V
49.2	21.39	-19.9	41.29	V
53.5	18.76	-20.7	39.46	V
74.0	11.71	-26	37.71	V

Channel 36 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3546.4	42.2	-0.1	42.3	H
3867.8	41.97	0.3	41.67	H
4254.8	43.57	1.5	42.07	V
5700.6	45.1	4.7	40.4	H
6617.8	45.96	6.4	39.56	V
7122.0	46.07	7.3	38.77	H

Channel 36 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
9009.8	49.82	10.3	39.52	H
10366.2	52.45	12.5	39.95	H
12604.2	52.23	16.7	35.53	V
14011.4	53.87	19.1	34.77	V
16311.0	57.37	22.7	34.67	V
17416.6	55.48	24.2	31.28	V

Channel 36 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
16311.0	44.61	22.7	21.91	V
17416.6	44.43	24.2	20.23	V

Channel 36 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
18972.4	39.53	-5.4	44.93	V
20325.6	40.47	-4.7	45.17	V
21222.4	42.07	-3.9	45.97	V
23041.4	44.32	-3	47.32	V
24068.2	44.64	-2.8	47.44	V
25991.7	46.77	-2	48.77	H

Channel 36 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
28429.2	43.4	-1.2	44.6	V
30830.8	44.67	0.3	44.37	H
33381.0	44.63	1.1	43.53	V
34984.8	44.69	-0.3	44.99	H
36954.4	46.67	1.6	45.07	H
39788.0	52.2	5.3	46.9	H

Channel 40(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
34.8	24.58	-21.9	46.48	V
37.2	27.34	-21.4	48.74	V
40.3	23.94	-20.7	44.64	V
49.8	19.97	-19.9	39.87	V
84.6	13.95	-26.3	40.25	H
100.5	8.75	-23.5	32.25	V

Channel 40 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3502.4	41.8	-0.1	41.9	V
4512.8	44.16	2.4	41.76	H

5696.8	44.96	4.7	40.26	V
6442.4	45.17	5.8	39.37	V
7193.8	46.29	7.3	38.99	H
7760.4	47.32	8.5	38.82	H

Channel 40 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10406.2	54.09	12.8	41.29	H
11643.4	52.22	15.2	37.02	V
12558.2	52.77	16.7	36.07	H
13693.8	53.87	18.8	35.07	H
15581.0	56.15	21.2	34.95	V
17191.8	56.98	24.1	32.88	V

Channel 40 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10406.2	41.39	12.8	28.59	H
15581.0	43.32	21.2	22.12	V
17191.8	44.76	24.1	20.66	V

Channel 40 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
19864.9	41.31	-5.1	46.41	V
21153.5	42.14	-4.1	46.24	H
22256.0	43.35	-3.1	46.45	V
23539.4	44.06	-2.8	46.86	H
24789.8	44.67	-2.2	46.87	H
26041.0	46.26	-2	48.26	H

Channel 40 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
27841.9	44.73	-0.4	45.13	V
30722.8	45.51	0.1	45.41	V

32132.2	44.71	0.4	44.31	V
34447.4	45.95	1.2	44.75	H
36905.8	46.87	1.8	45.07	H
39889.3	52.14	5.6	46.54	H

Channel 48(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
33.5	25.18	-22	47.18	V
34.9	24.78	-21.9	46.68	V
35.9	28.93	-21.7	50.63	V
49.6	20.8	-19.9	40.7	V
58.2	15.69	-21.7	37.39	V
84.3	13.11	-26.4	39.51	H

Channel 48 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3330.0	42.01	-0.6	42.61	V
3505.4	42.03	-0.1	42.13	H
4611.8	43.89	2.5	41.39	H
5759.6	44.89	4.7	40.19	V
5976.0	44.33	4.6	39.73	H
6491.0	45.28	6	39.28	H

Channel 48 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10480.2	58.71	13.1	45.61	V
12544.2	51.82	16.6	35.22	V
14011.0	53.31	19.1	34.21	V
15715.0	63.54	21.9	41.64	V
16991.0	56.24	23.7	32.54	V
17609.0	56.54	24.5	32.04	H

Channel 48 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10480.2	44.93	13.1	31.83	V
15715.0	49.15	21.9	27.25	V
16991.0	43.73	23.7	20.03	V
17609.0	45.31	24.5	20.81	H

Channel 48 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
20119.9	40.77	-4.8	45.57	V
21451.0	42.8	-3.5	46.3	H
22505.0	44.28	-3.1	47.38	H
23539.4	43.48	-2.8	46.28	H
24668.2	45.12	-2.3	47.42	H
26045.2	47.04	-2	49.04	V

Channel 48 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
28433.2	43.15	-1.2	44.35	V
31790.6	43.54	0.5	43.04	V
33964.2	46.14	1.5	44.64	H
36940.9	45.84	1.7	44.14	H
38459.6	46.92	2.5	44.42	V
39547.8	49.42	4.3	45.12	H

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Channel 36(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
33.8	25.68	-22	47.68	V
35.1	26.95	-21.9	48.85	V
35.5	27.49	-21.8	49.29	V
49.7	20.48	-19.9	40.38	V

195.0	13.62	-24.5	38.12	H
232.4	13.03	-23.3	36.33	V

Channel 36 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
2897.8	41.3	-1.4	42.7	H
3513.4	42.06	-0.1	42.16	V
4530.4	44.7	2.5	42.2	V
5730.4	44.83	4.7	40.13	H
6384.2	44.53	5.6	38.93	H
6920.4	46.45	7	39.45	V

Channel 36 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10358.6	55.66	12.5	43.16	H
11687.0	51.74	15.1	36.64	V
14059.4	53.44	19.2	34.24	H
15498.2	54.59	21.2	33.39	H
16089.4	55.69	22.5	33.19	H
17131.0	56.72	24	32.72	V

Channel 36 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10358.6	41.94	12.5	29.44	H
15498.2	42.57	21.2	21.37	H
16089.4	43.83	22.5	21.33	H
17131.0	44.68	24	20.68	V

Channel 36 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
19989.8	41.99	-4.9	46.89	H
21248.7	42.69	-3.8	46.49	V
22252.6	44.16	-3	47.16	H

23587.0	44.9	-2.8	47.7	H
24369.9	45.16	-2.8	47.96	V
26024.0	46.46	-2	48.46	H

Channel 36 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
27928.6	45.46	-0.3	45.76	H
30839.4	46.19	0.3	45.89	V
33493.9	45.56	1.2	44.36	H
35469.4	46.44	1.5	44.94	H
37846.8	45.44	1.2	44.24	H
39068.5	50.73	4.3	46.43	V

Channel 40(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
33.4	25.86	-22	47.86	V
35.4	26.01	-21.8	47.81	V
44.1	14.32	-20.3	34.62	V
49.6	20.57	-19.9	40.47	V
65.9	12.82	-23.8	36.62	V
85.2	10.58	-26.2	36.78	H

Channel 40 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3906.0	41.95	0.7	41.25	H
4219.4	43.94	1.5	42.44	H
4543.6	44.25	2.5	41.75	H
4675.6	44.09	2.5	41.59	H
6302.8	45.61	5.6	40.01	V
6770.2	46.2	6.7	39.5	V

Channel 40 (8GHz ~ 18GHz)(Peak)

Frequency	Result	ARpl (dB)	PMea	Polarity

(MHz)	(dBμV/m)		(dBμV/m)	
10397.0	53.9	12.7	41.2	H
12011.0	50.56	15	35.56	V
12503.8	52.09	16.5	35.59	V
15596.2	59.4	21.3	38.1	H
17116.6	55.58	24	31.58	V
17511.8	57.32	24.5	32.82	V

Channel 40 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
15596.2	46.46	21.3	25.16	H
17116.6	44.35	24	20.35	V
17511.8	45.01	24.5	20.51	V

Channel 40 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
20811.0	41.06	-4.2	45.26	V
21999.2	41.24	-3.4	44.64	H
22742.2	43.44	-2.9	46.34	H
23581.1	43.95	-2.8	46.75	H
24889.2	44.97	-2.3	47.27	H
26075.8	47.75	-2	49.75	V

Channel 40 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
28423.8	43.73	-1.2	44.93	V
30843.0	45.96	0.3	45.66	H
32298.2	42.9	0.5	42.4	H
34011.4	45.29	1.5	43.79	V
36849.1	46.11	2.1	44.01	H
38860.6	50.34	3.6	46.74	H

Channel 48(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
33.1	25.05	-22	47.05	V
35.0	25.35	-21.9	47.25	V
35.3	27.2	-21.9	49.1	V
49.9	20.53	-19.9	40.43	V
53.9	17.9	-20.8	38.7	V
57.7	16.11	-21.6	37.71	V

Channel 48 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3574.0	41.99	-0.1	42.09	H
4299.4	42.86	1.7	41.16	V
4571.6	43.88	2.4	41.48	V
5755.0	45.4	4.7	40.7	H
5899.2	44.87	4.6	40.27	V
7289.8	46.88	7.4	39.48	H

Channel 48 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10481.0	57.35	13.1	44.25	H
13689.0	53.25	18.8	34.45	V
16301.8	56.45	22.7	33.75	H
16733.4	57.16	23.5	33.66	V
17221.4	56.92	24.2	32.72	V
17511.0	57.65	24.5	33.15	H

Channel 48 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10481.0	43.91	13.1	30.81	H
16301.8	44.58	22.7	21.88	H
16733.4	45	23.5	21.5	V
17221.4	44.8	24.2	20.6	V

17511.0	45.08	24.5	20.58	H

Channel 48 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
20811.0	41.06	-4.2	45.26	V
21999.2	41.24	-3.4	44.64	H
22742.2	43.44	-2.9	46.34	H
23581.1	43.95	-2.8	46.75	H
24889.2	44.97	-2.3	47.27	H
26075.8	47.75	-2	49.75	V

Channel 48 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
27818.9	45.5	-0.4	45.9	H
30770.5	47.5	0.2	47.3	V
33534.0	45.62	1.3	44.32	H
35536.0	47.96	1.5	46.46	V
36878.8	45.82	2	43.82	V
38968.6	49.13	4	45.13	V

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Channel 38(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
37.5	27.56	-21.4	48.96	V
51.4	17.84	-20.3	38.14	V
85.1	10.3	-26.2	36.5	H
122.1	6.22	-26.1	32.32	V
733.1	20.2	-12.4	32.6	H
926.8	22.92	-9.5	32.42	H

Channel 38 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3771.6	42.46	0.3	42.16	V

4169.0	42.31	1.3	41.01	V
4517.0	44.45	2.4	42.05	V
5906.0	44.44	4.6	39.84	V
6498.4	45.94	6	39.94	V
7746.0	47.26	8.4	38.86	H

Channel 38 (8GHz ~ 18GHz)(Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10363.4	49.83	12.5	37.33	V
12098.2	51.47	15.2	36.27	V
13714.2	53.88	18.8	35.08	H
14009.0	53.39	19.1	34.29	V
14479.4	53.22	19.1	34.12	H
16072.2	55.22	22.5	32.72	H

Channel 38 (8GHz ~ 18GHz)(Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
16072.2	43.72	22.5	21.22	H

Channel 38 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
20301.8	40.23	-4.8	45.03	H
21242.8	42.19	-3.8	45.99	H
22261.0	44.24	-3.1	47.34	V
23574.3	43.71	-2.8	46.51	V
24862.0	45.81	-2.3	48.11	V
26028.2	46.67	-2	48.67	V

Channel 38 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
30641.8	45.19	-0.1	45.29	H
32319.8	43.8	0.5	43.3	H
33966.8	46.02	1.5	44.52	H

36869.4	45.81	2	43.81	H
39078.0	49.58	4.3	45.28	H
39534.2	49.54	4.2	45.34	V

Channel 46(30MHz ~ 1GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
38.1	27.96	-21.3	49.26	V
51.3	15.58	-20.3	35.88	V
86.6	10.32	-25.9	36.22	H
135.1	7.82	-27.7	35.52	H
780.0	28.03	-11.9	39.93	H
897.1	22.59	-9.8	32.39	H

Channel 46 (1GHz ~ 8GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
3770.6	42.17	0.3	41.87	H
4214.4	44.06	1.5	42.56	H
4756.2	43.69	2.4	41.29	H
5771.2	45.05	4.7	40.35	H
6982.2	47.07	7.2	39.87	H
7804.0	47.92	8.5	39.42	H

Channel 46 (8GHz ~ 18GHz) (Peak)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10466.6	54.76	13.1	41.66	H
13681.0	53.32	18.7	34.62	H
14486.2	52.65	19.1	33.55	H
15109.0	54.28	20.6	33.68	H
16059.4	55.98	22.5	33.48	H
17594.2	57.18	24.6	32.58	V

Channel 46 (8GHz ~ 18GHz) (Average)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
10466.6	41.21	13.1	28.11	H
15109.0	42.4	20.6	21.8	H
16059.4	43.68	22.5	21.18	H
17594.2	45.09	24.6	20.49	V

Channel 46 (18GHz ~ 26.5GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
20536.4	39.89	-4.3	44.19	H
21363.4	42.07	-3.5	45.57	H
22153.1	43.78	-3	46.78	H
23575.2	44.25	-2.8	47.05	H
24611.3	45.85	-2.4	48.25	H
26029.1	47.05	-2	49.05	V

Channel 46 (26.5GHz ~ 40GHz)

Frequency (MHz)	Result (dBμV/m)	ARpl (dB)	PMea (dBμV/m)	Polarity
27780.0	45.6	-0.5	46.1	H
30774.0	46.08	0.2	45.88	H
33659.7	44.64	1.4	43.24	V
35325.7	46.7	1.5	45.2	V
36854.4	47.4	2.1	45.3	H
39118.0	49.96	4.2	45.76	H

Test graphs as below:

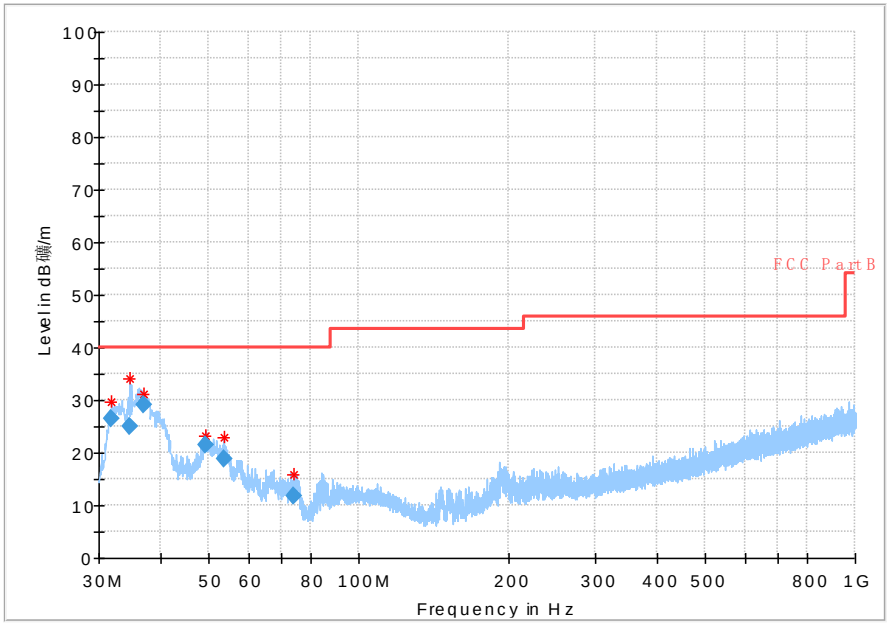

Fig. 45 Radiated Spurious Emission (802.11a, ch36, 30 MHz-1 GHz)

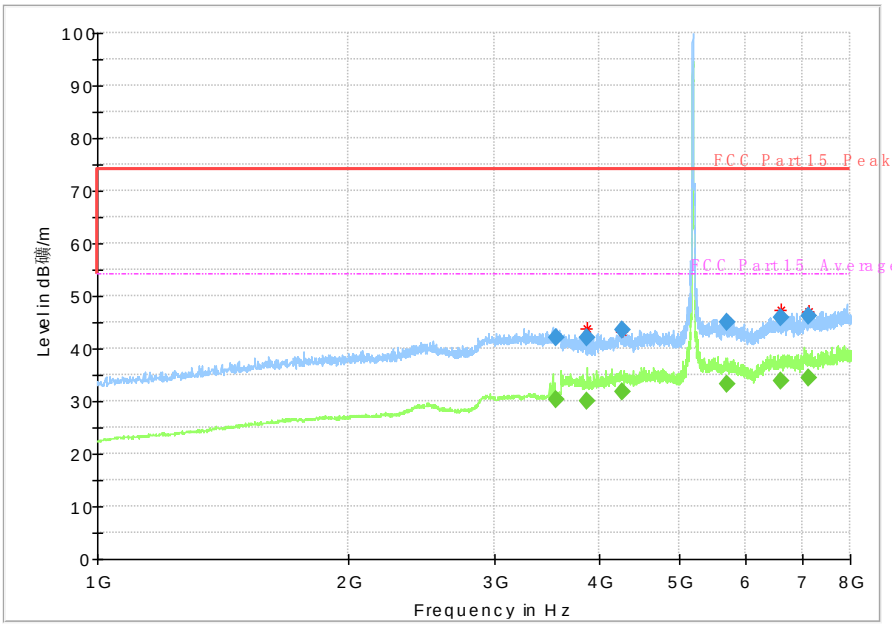

Fig. 46 Radiated Spurious Emission (802.11a, ch36, 1 GHz-8 GHz)

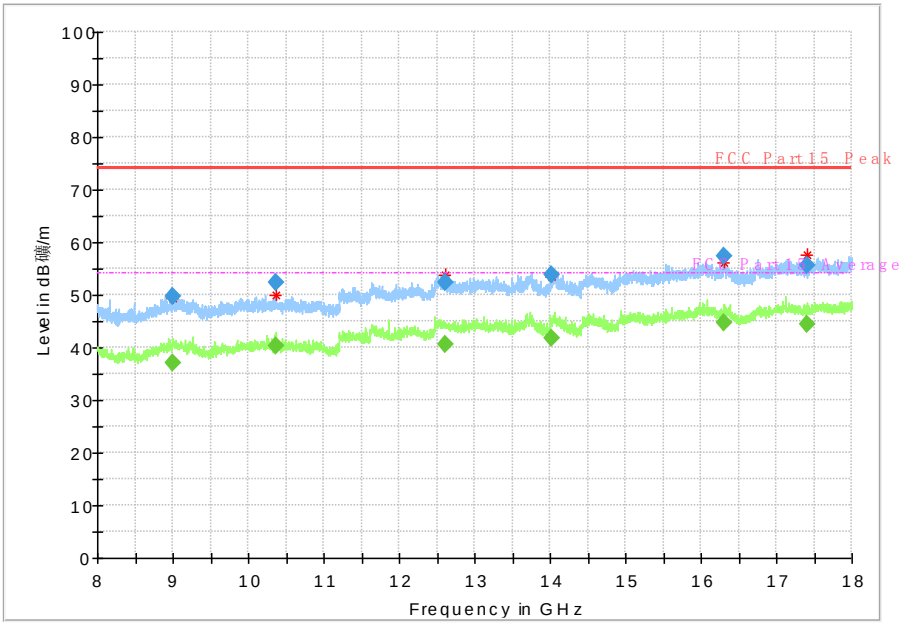

Fig. 47 Radiated Spurious Emission (802.11a, ch36, 8 GHz-18 GHz)

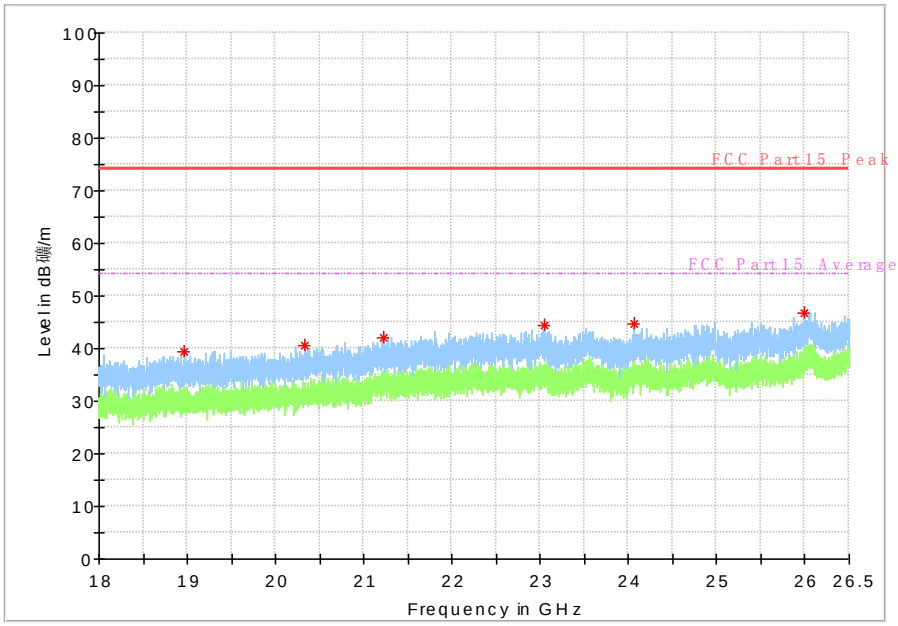

Fig. 48 Radiated Spurious Emission (802.11a, ch36, 18 GHz-26.5 GHz)

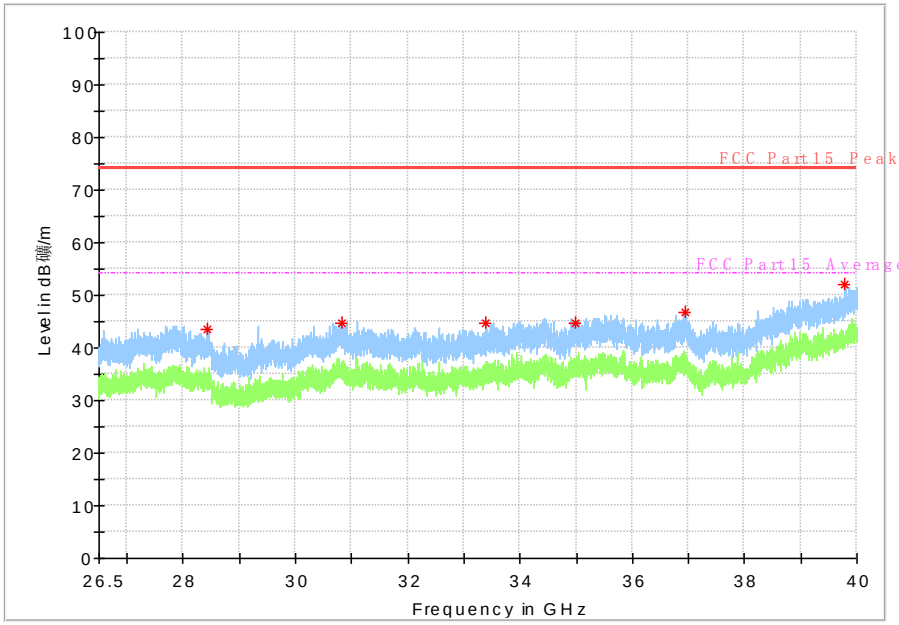

Fig. 49 Radiated Spurious Emission (802.11a, ch36, 26.5 GHz-40 GHz)

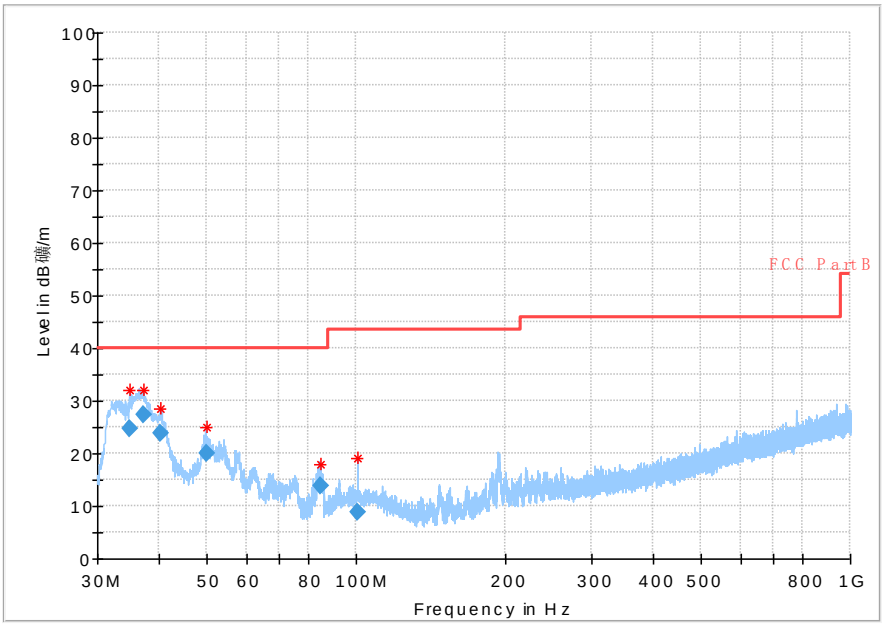

Fig. 50 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz)

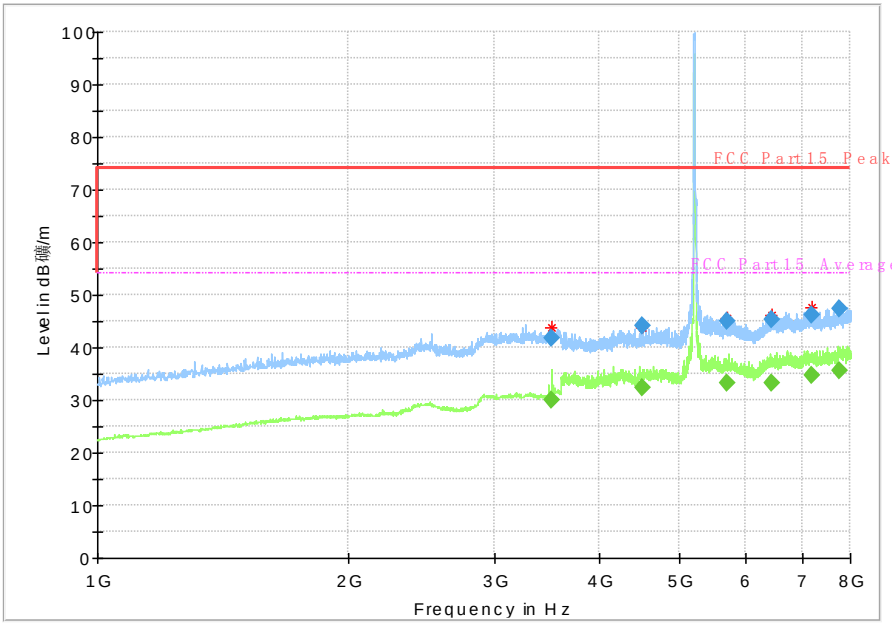

Fig. 51 Radiated Spurious Emission (802.11a, ch40, 1 GHz-8 GHz)

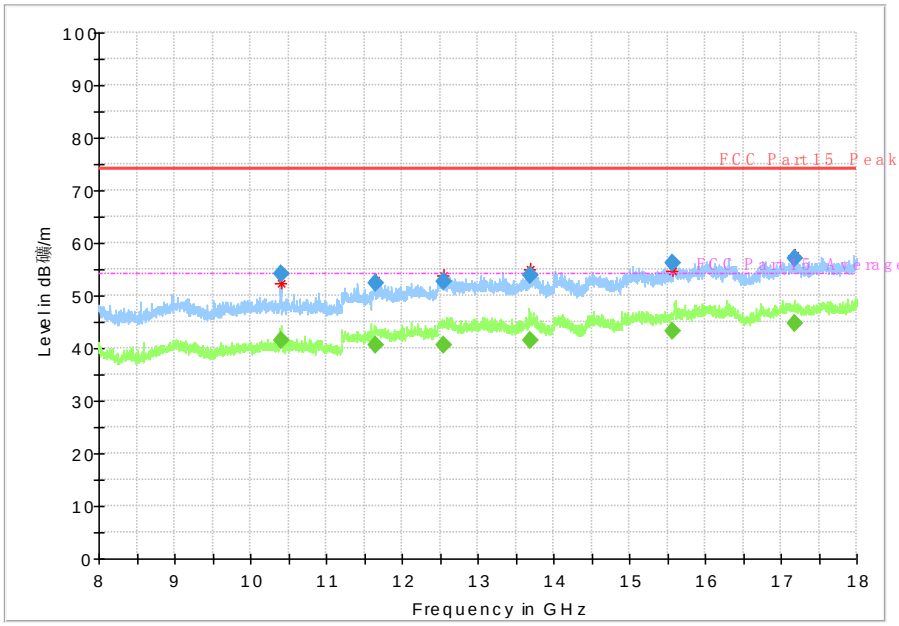

Fig. 52 Radiated Spurious Emission (802.11a, ch40, 8 GHz-18 GHz)

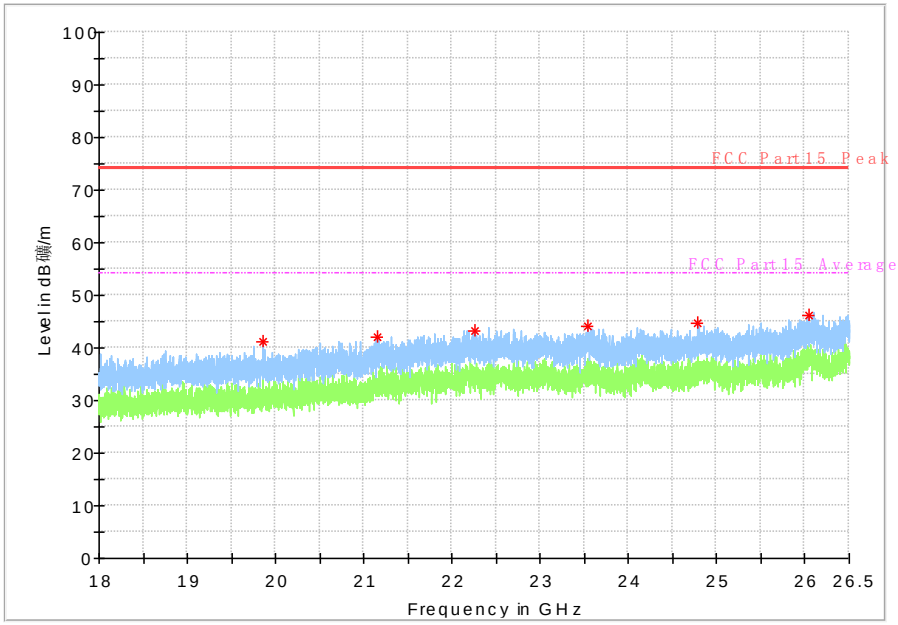

Fig. 53 Radiated Spurious Emission (802.11a, ch40, 18 GHz-26.5 GHz)

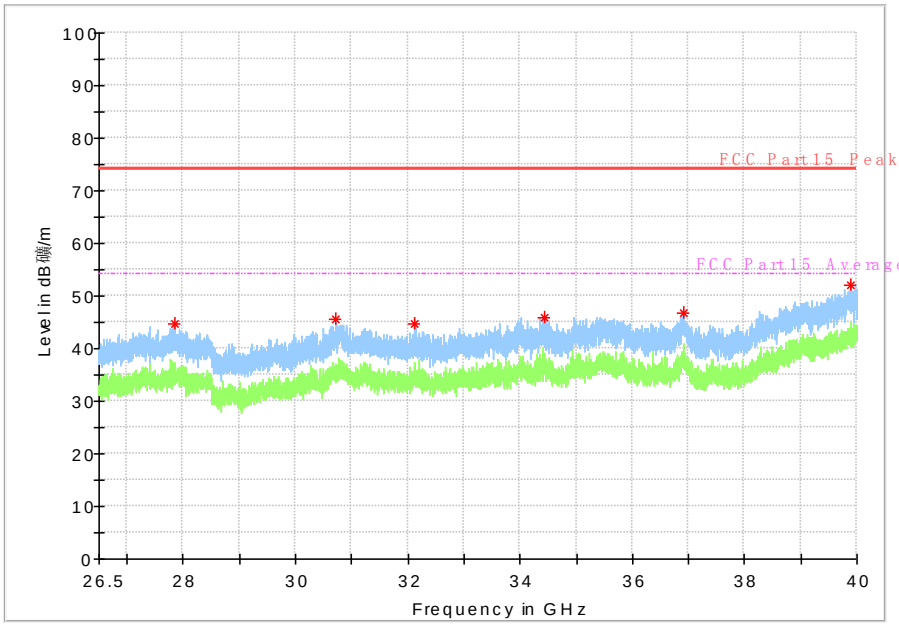

Fig. 54 Radiated Spurious Emission (802.11a, ch40, 26.5 GHz-40 GHz)

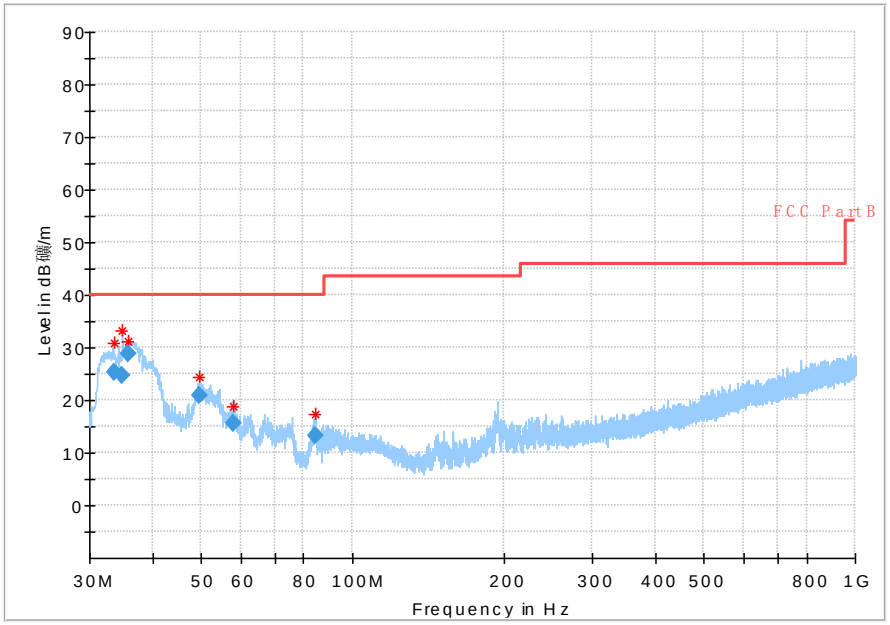

Fig. 55 Radiated Spurious Emission (802.11a, ch48, 30 MHz-1 GHz)

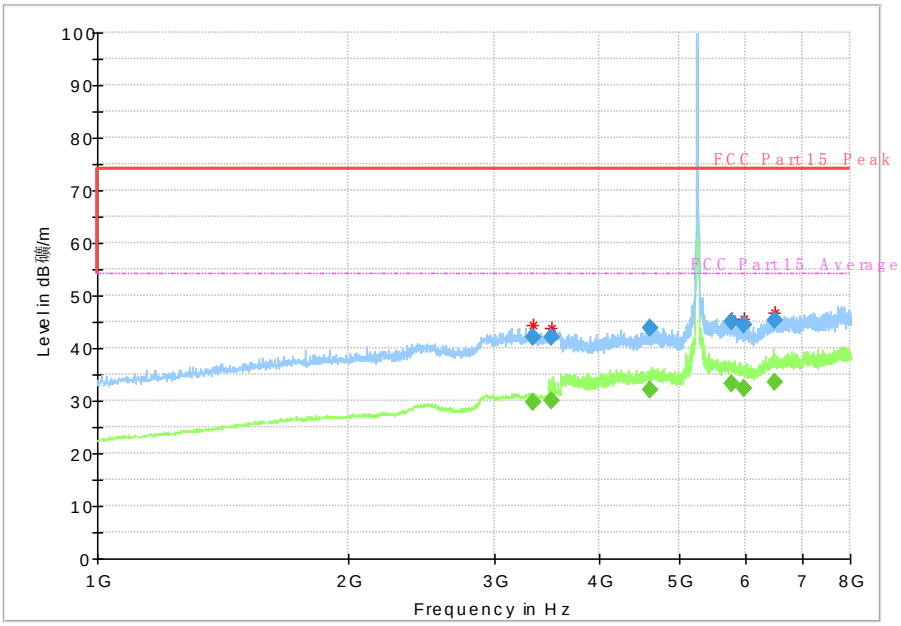

Fig. 56 Radiated Spurious Emission (802.11a, ch48, 1 GHz-8 GHz)

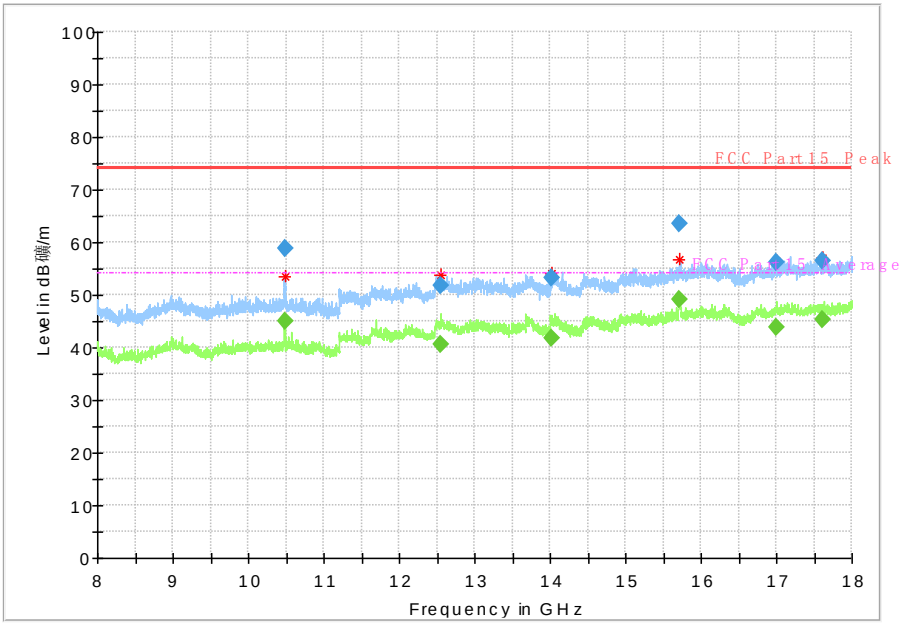

Fig. 57 Radiated Spurious Emission (802.11a, ch48, 8 GHz-18 GHz)

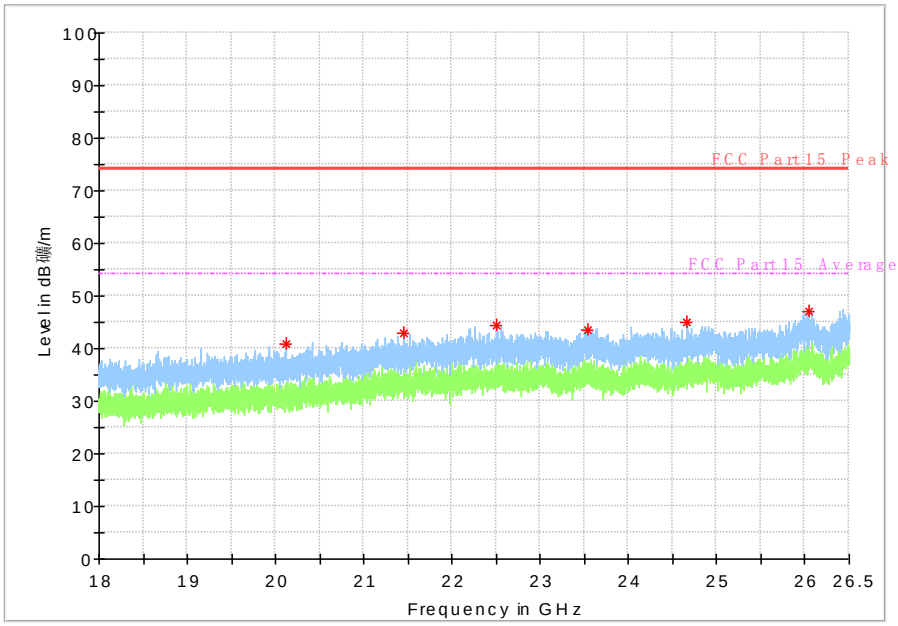

Fig. 58 Radiated Spurious Emission (802.11a, ch48, 18 GHz-26.5 GHz)

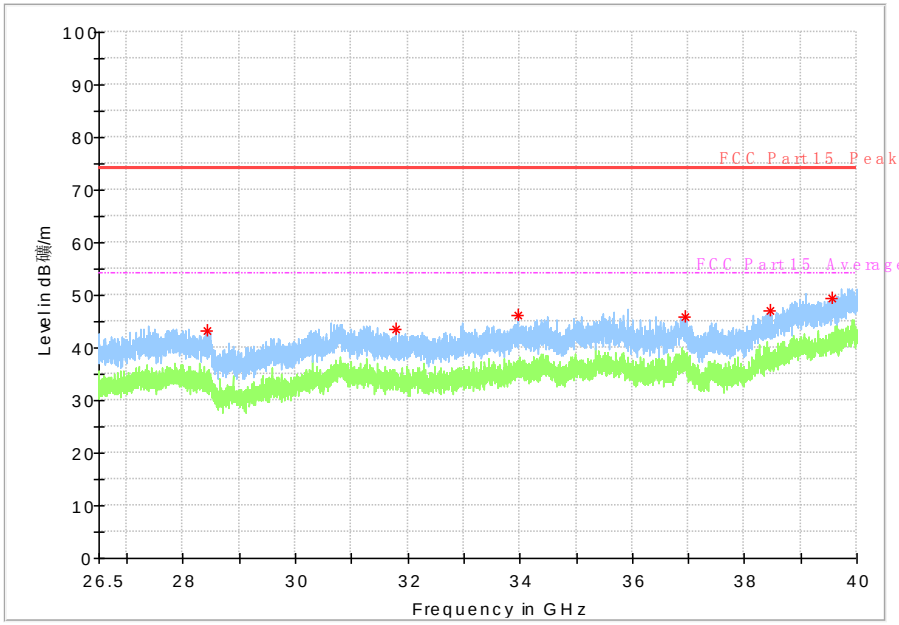

Fig. 59 Radiated Spurious Emission (802.11a, ch48, 26.5 GHz-40 GHz)

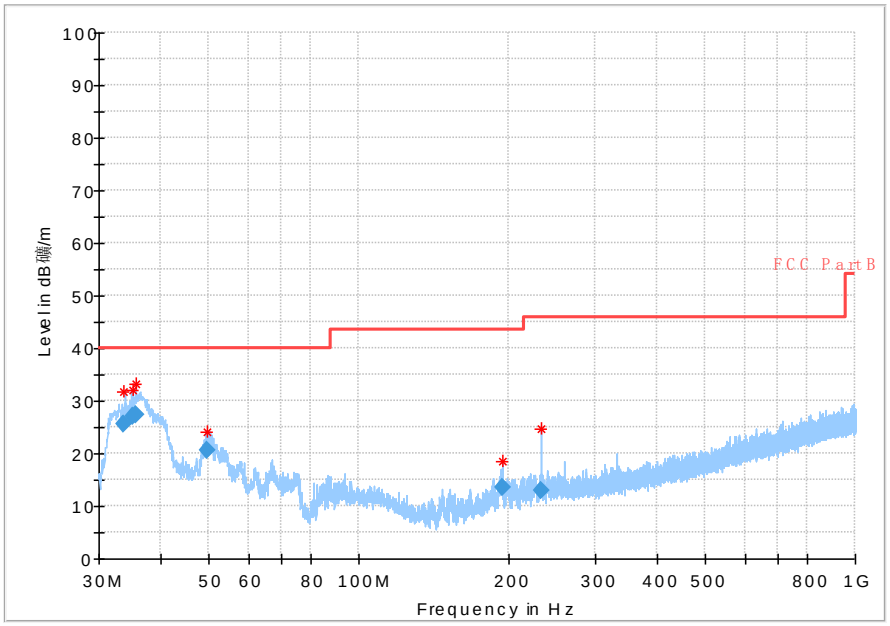

Fig. 60 Radiated Spurious Emission (802.11 n-HT20, ch36, 30 MHz-1 GHz)

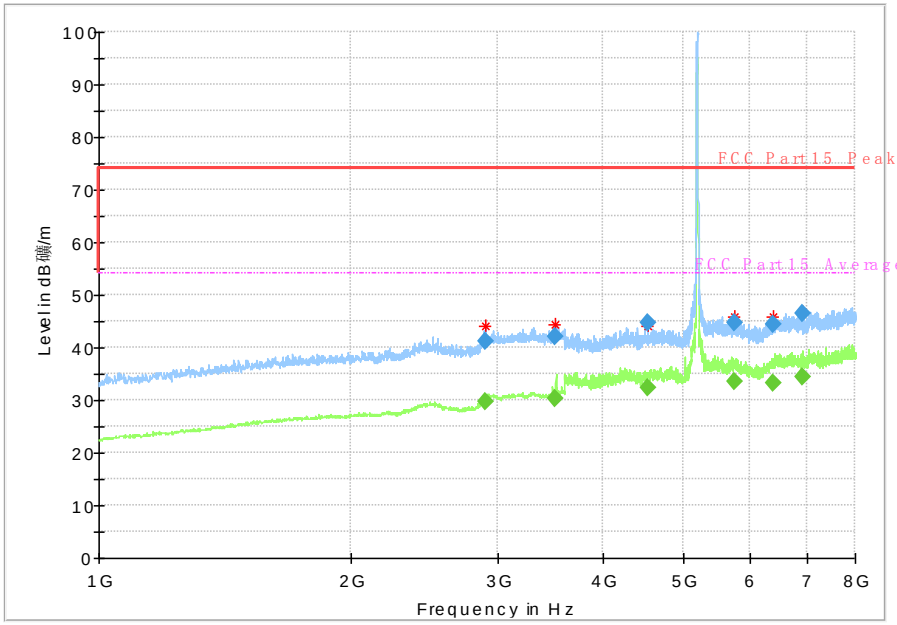

Fig. 61 Radiated Spurious Emission (802.11 n-HT20, ch36, 1 GHz-8 GHz)

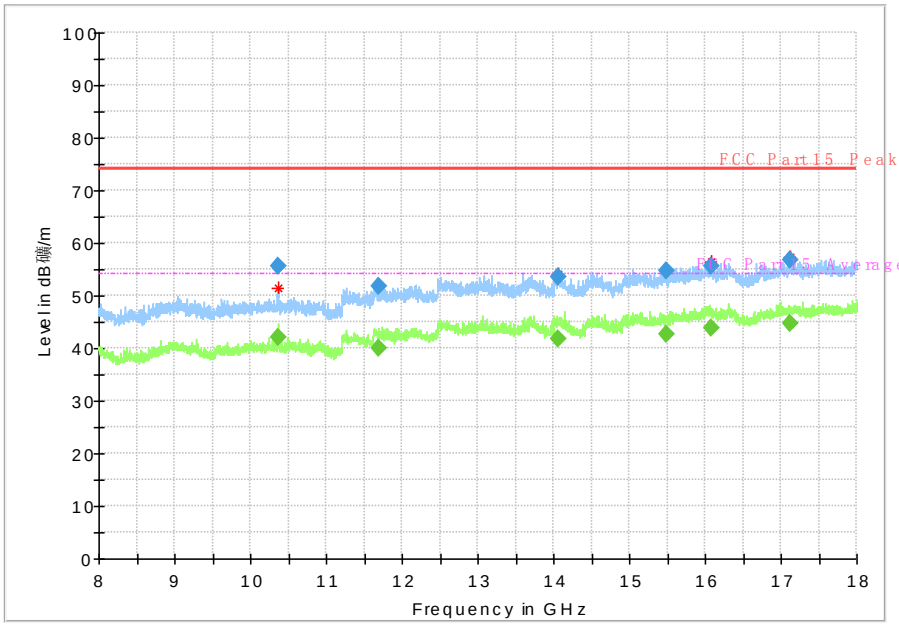

Fig. 62 Radiated Spurious Emission (802.11 n-HT20, ch36, 8 GHz-18 GHz)

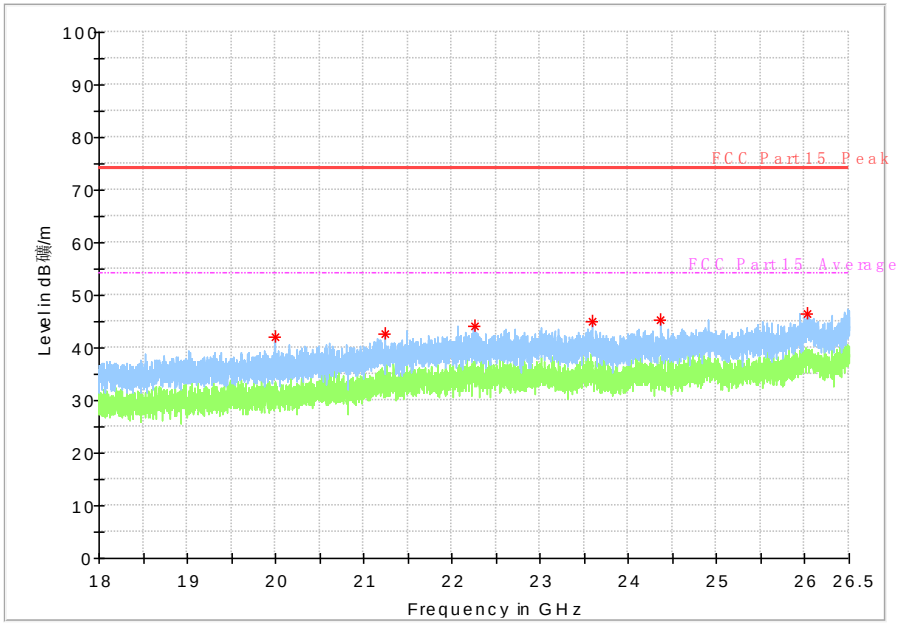

Fig. 63 Radiated Spurious Emission (802.11 n-HT20, ch36, 18 GHz-26.5 GHz)

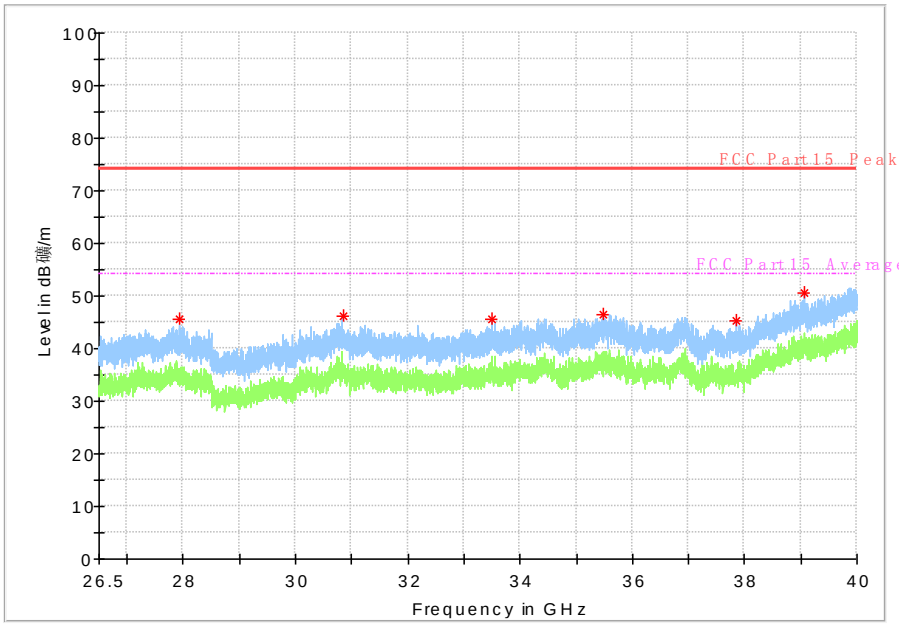

Fig. 64 Radiated Spurious Emission (802.11 n-HT20, ch36, 26.5 GHz-40 GHz)

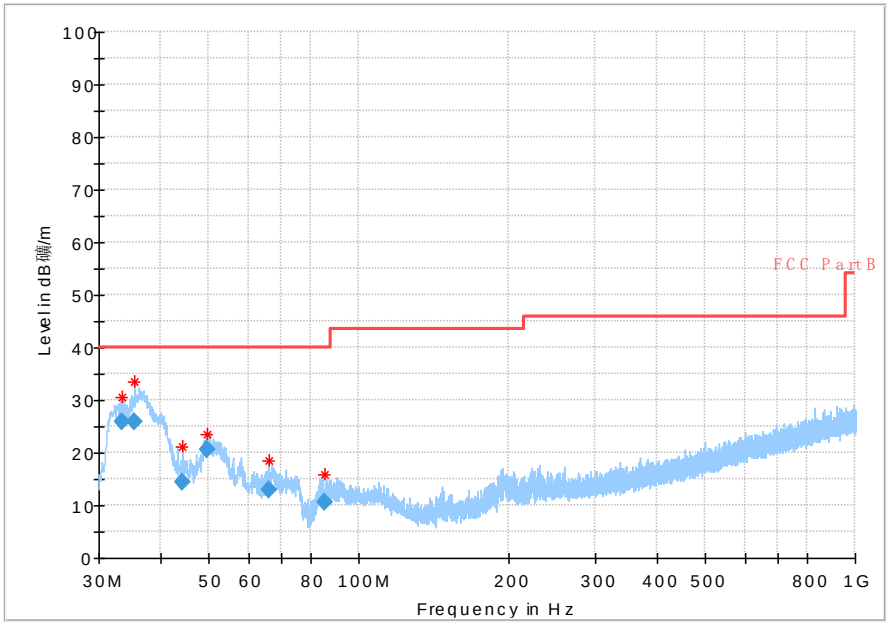

Fig. 65 Radiated Spurious Emission (802.11 n-HT20, ch40, 30 MHz-1 GHz)

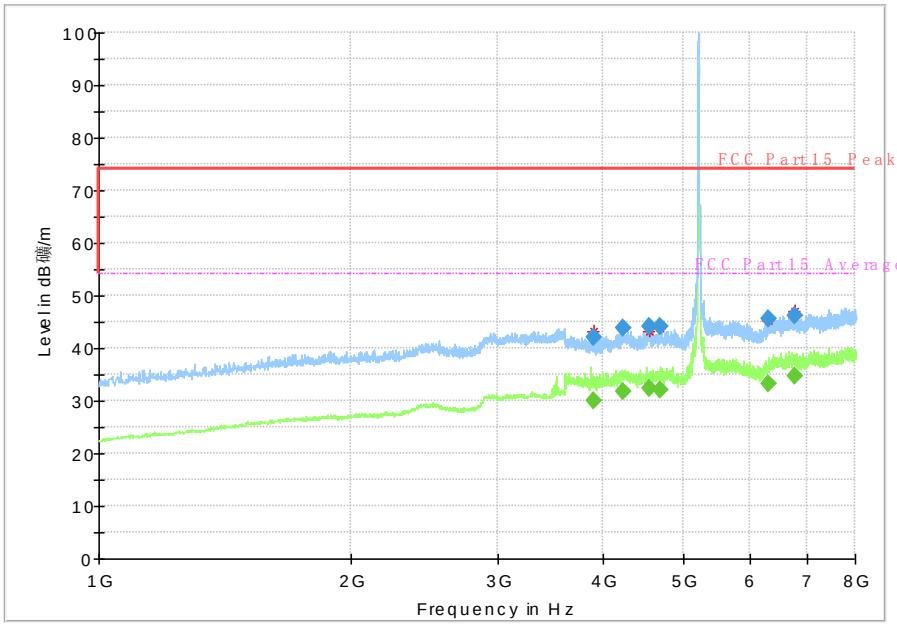

Fig. 66 Radiated Spurious Emission (802.11 n-HT20, ch40, 1 GHz-8 GHz)

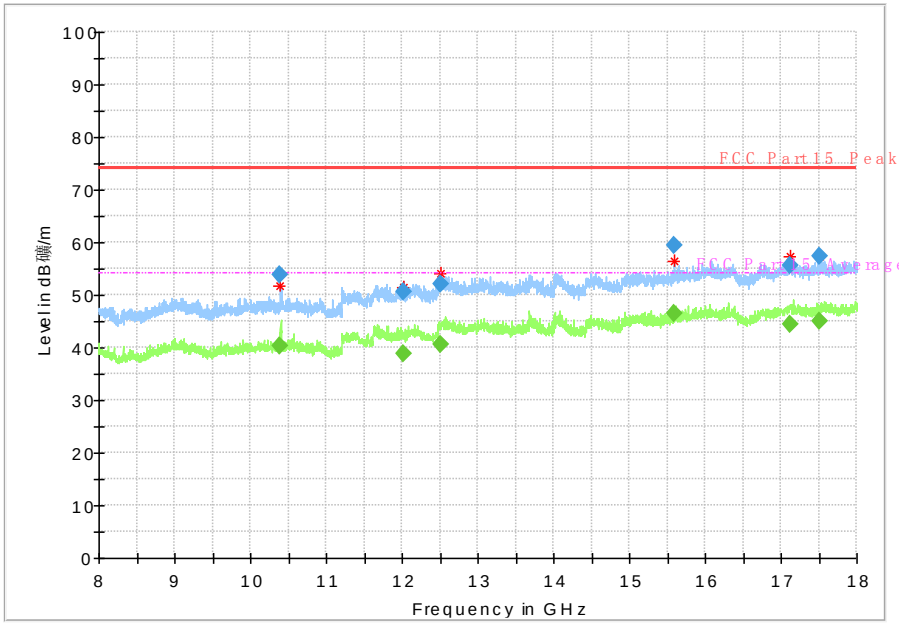

Fig. 67 Radiated Spurious Emission (802.11 n-HT20, ch40, 8 GHz-18 GHz)

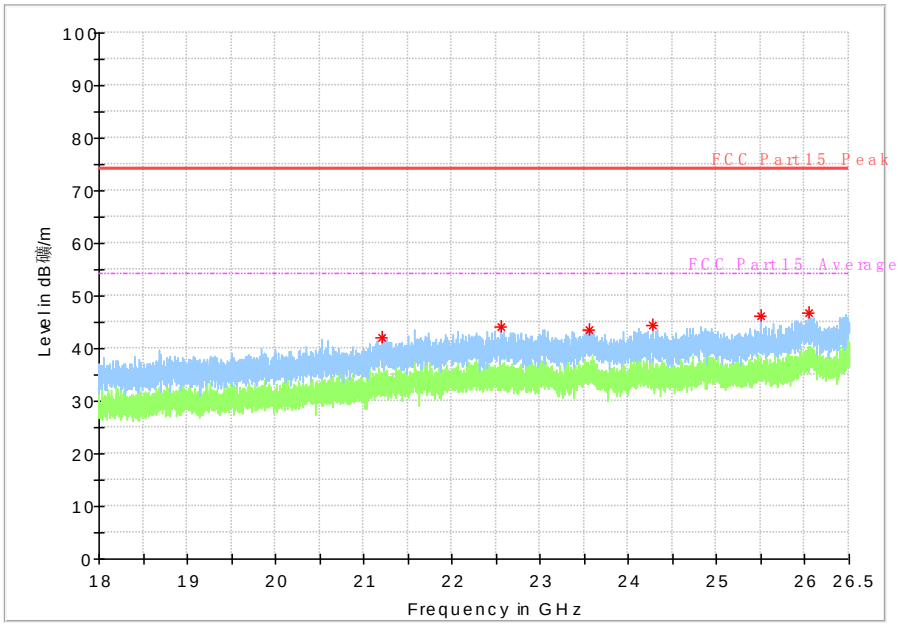

Fig. 68 Radiated Spurious Emission (802.11 n-HT20, ch40, 18 GHz-26.5 GHz)

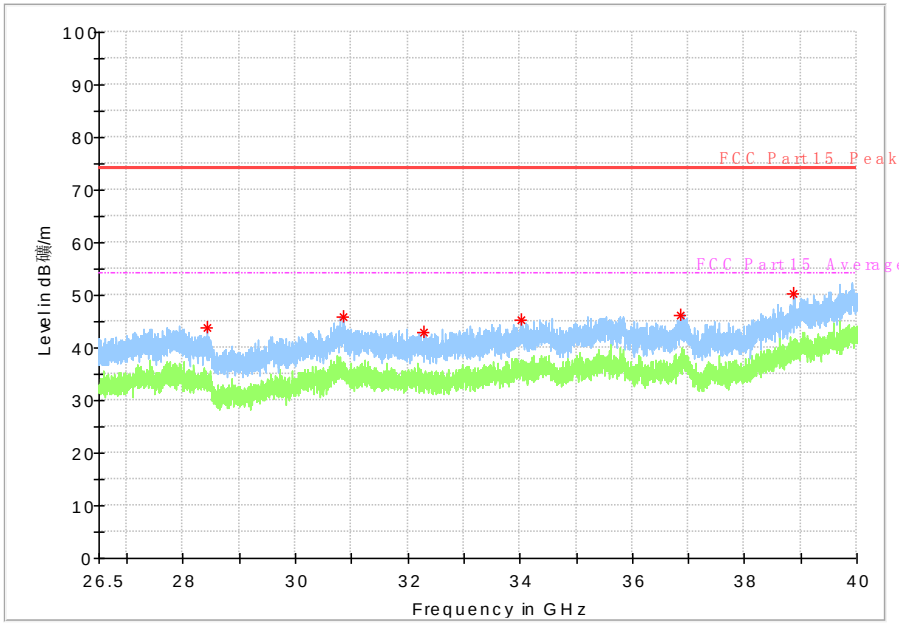

Fig. 69 Radiated Spurious Emission (802.11 n-HT20, ch40, 26.5 GHz-40 GHz)

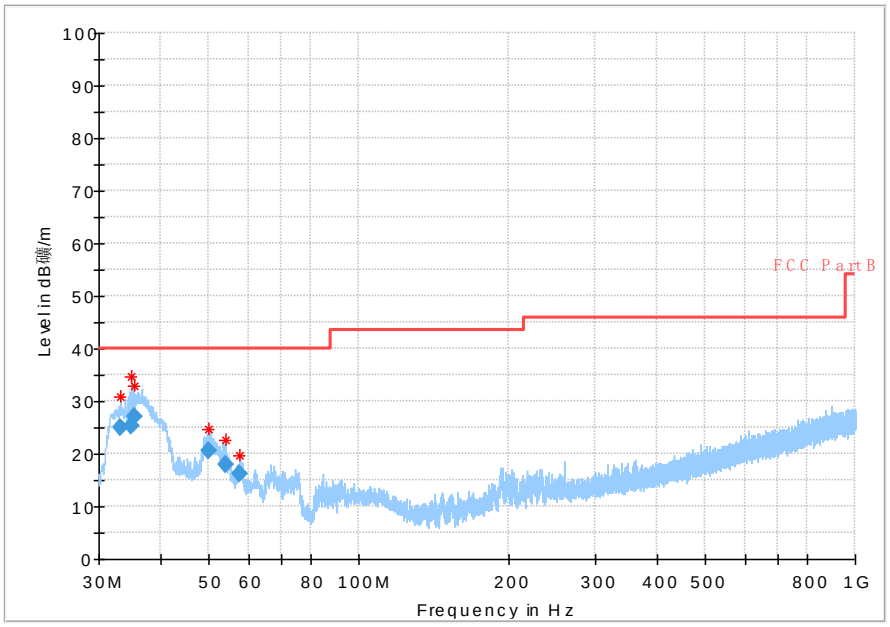

Fig. 70 Radiated Spurious Emission (802.11 n-HT20, ch48, 30 MHz-1 GHz)

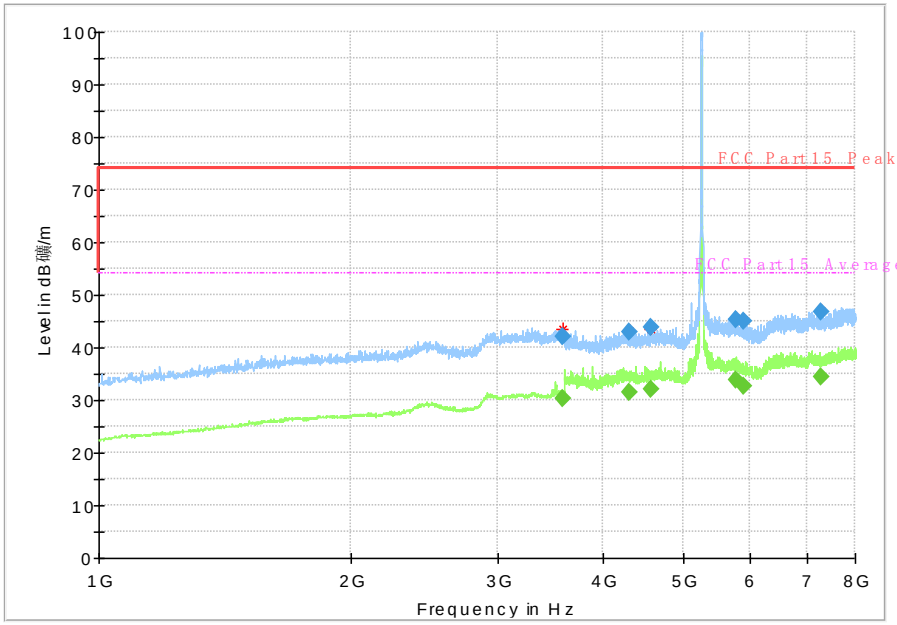

Fig. 71 Radiated Spurious Emission (802.11 n-HT20, ch48, 1 GHz-8 GHz)

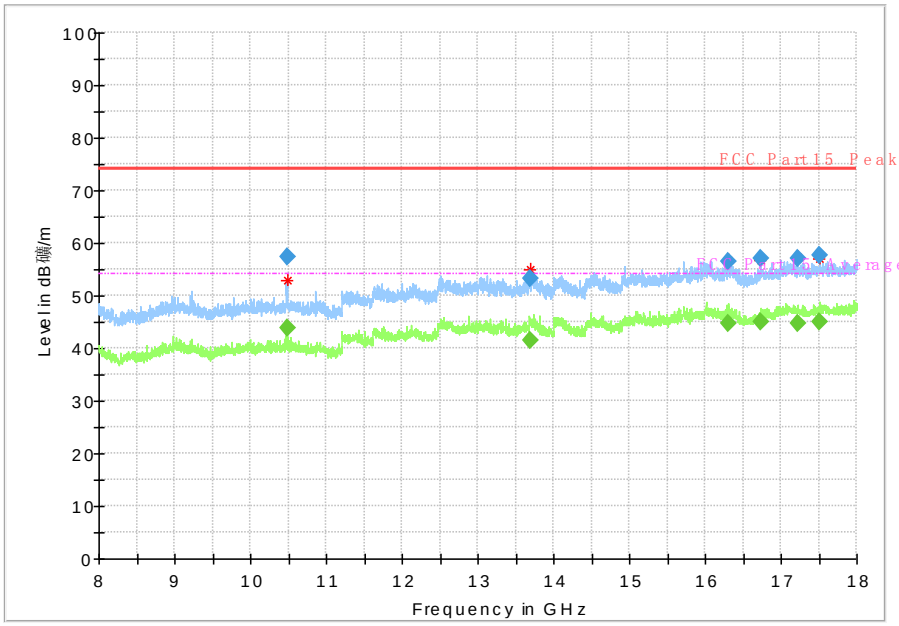

Fig. 72 Radiated Spurious Emission (802.11 n-HT20, ch48, 8 GHz-18 GHz)

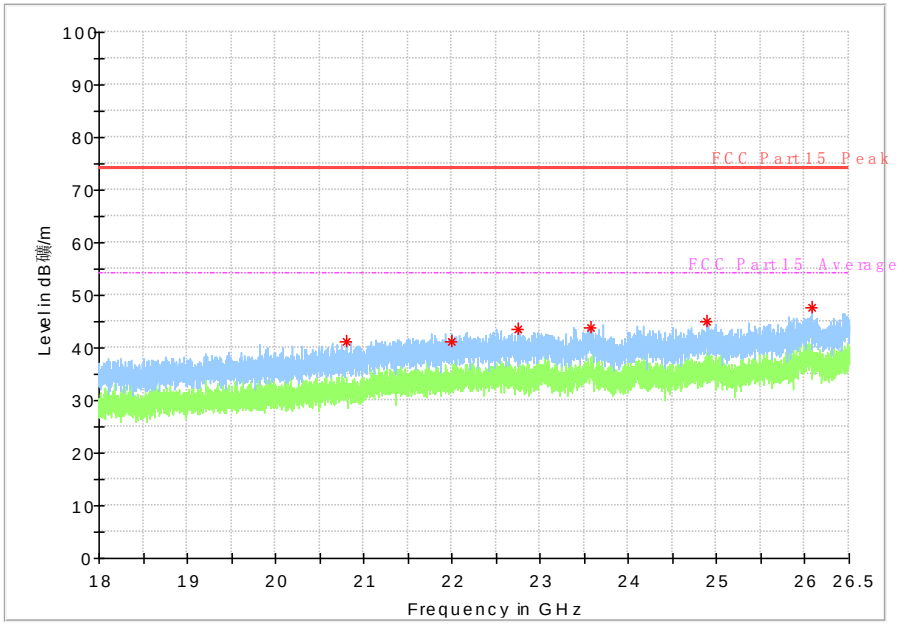

Fig. 73 Radiated Spurious Emission (802.11 n-HT20, ch48, 18 GHz-26.5 GHz)

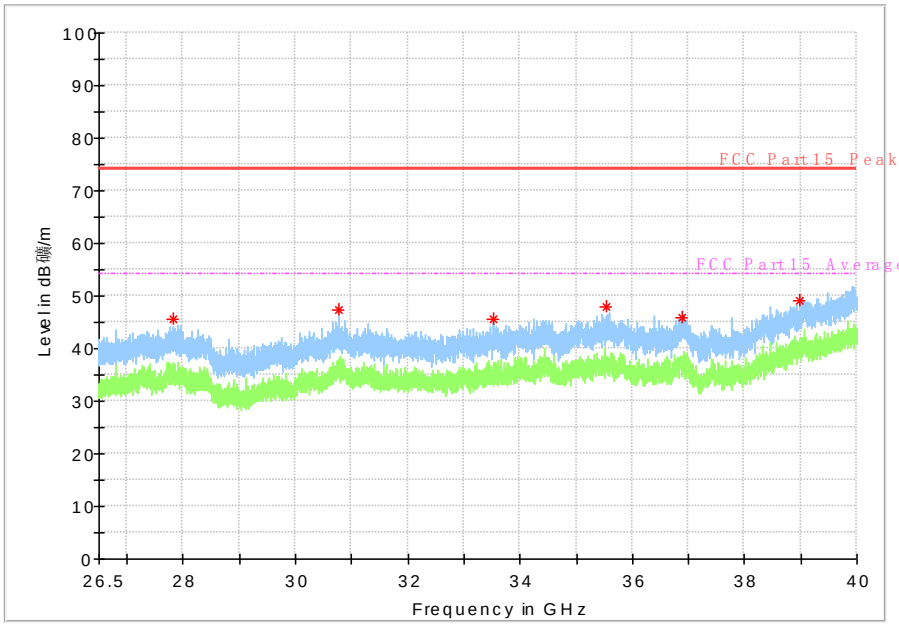

Fig. 74 Radiated Spurious Emission (802.11 n-HT20, ch48, 26.5 GHz-40 GHz)

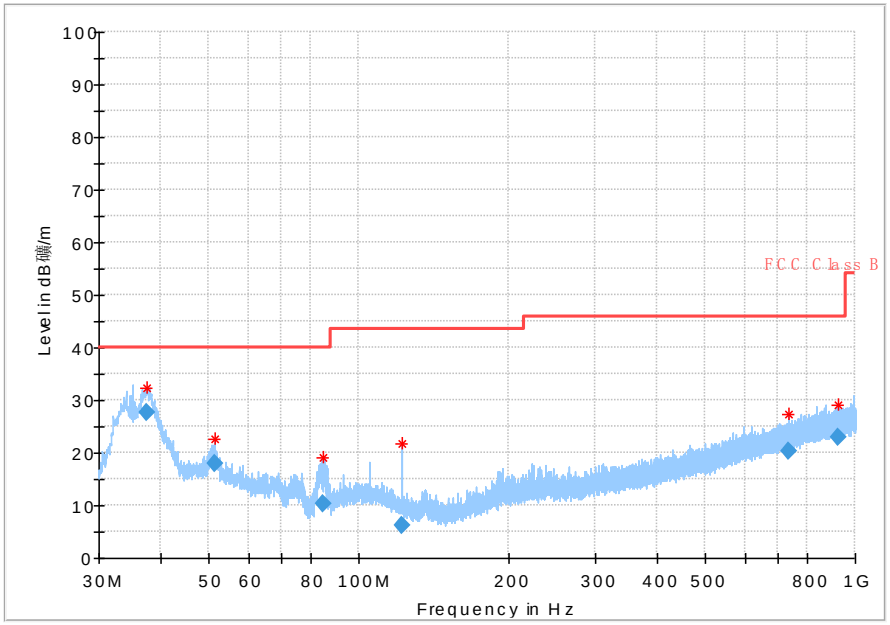

Fig. 75 Radiated Spurious Emission (802.11 n-HT40, ch38, 30 MHz-1 GHz)

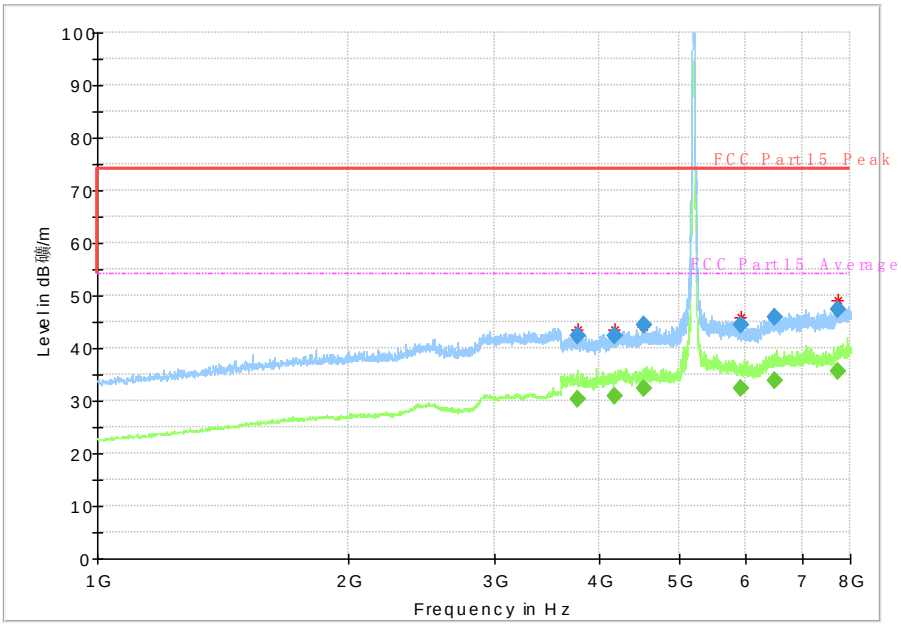

Fig. 76 Radiated Spurious Emission (802.11 n-HT40, ch38, 1 GHz-8 GHz)

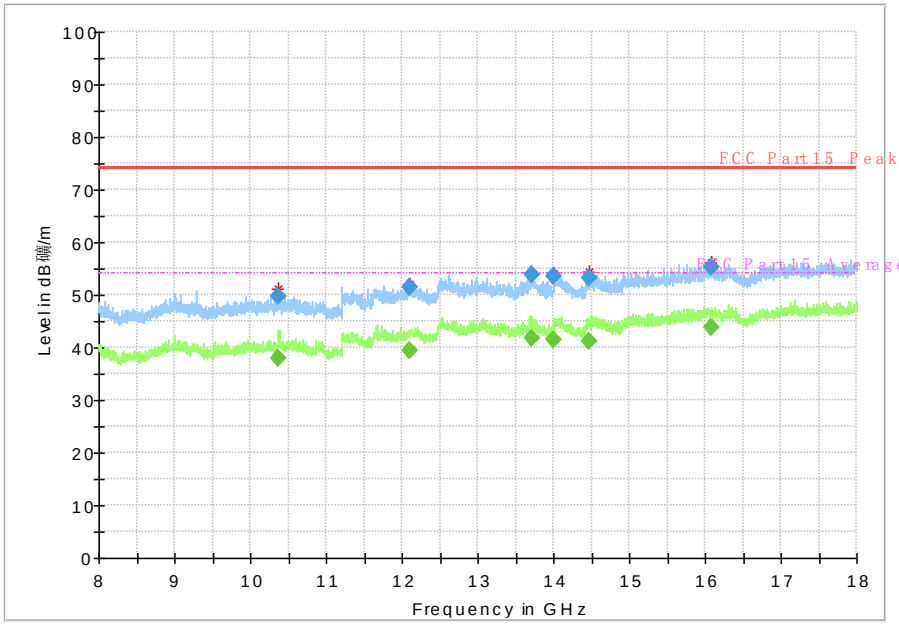

Fig. 77 Radiated Spurious Emission (802.11 n-HT40, ch38, 8 GHz-18 GHz)

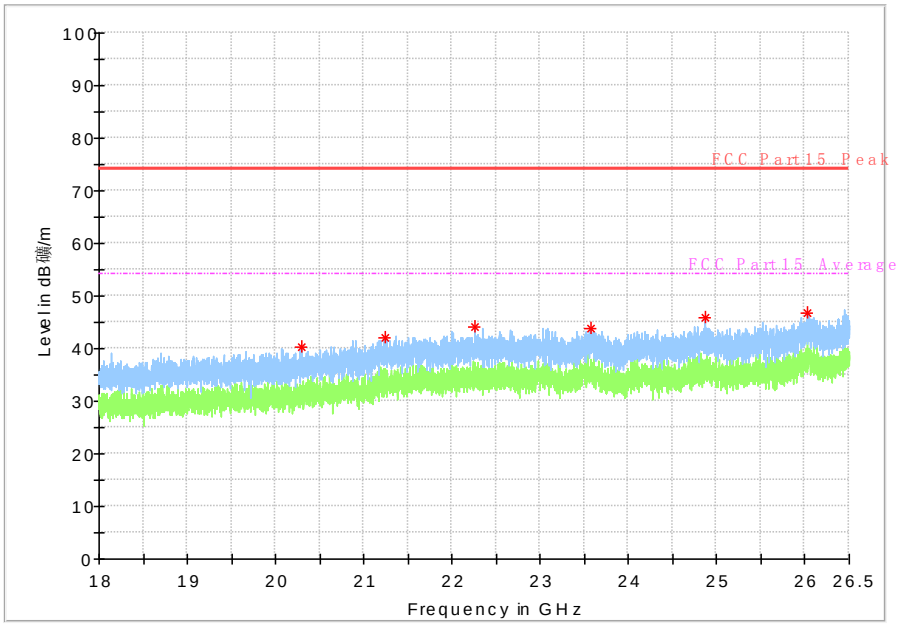

Fig. 78 Radiated Spurious Emission (802.11 n-HT40, ch38, 18 GHz-26.5 GHz)

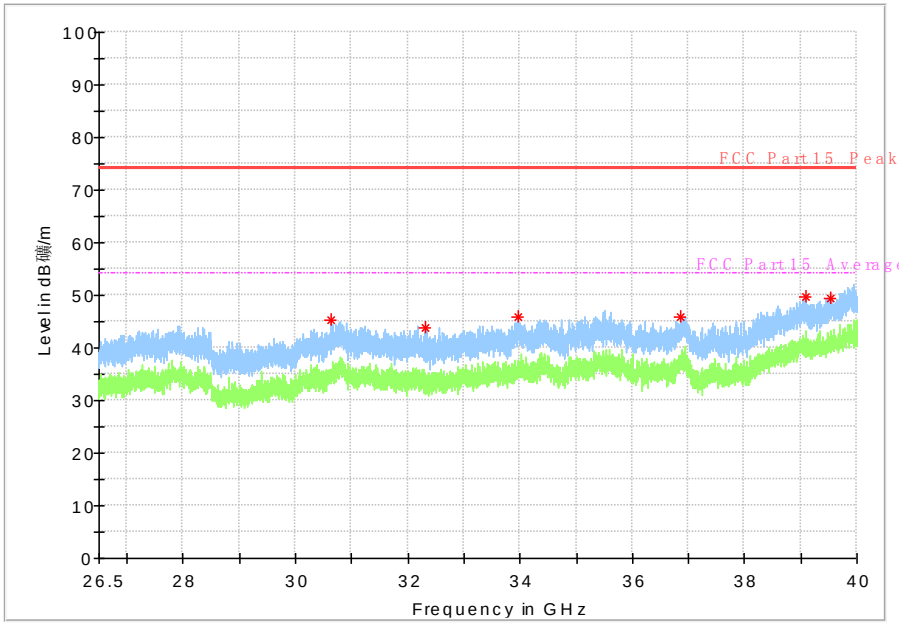

Fig. 79 Radiated Spurious Emission (802.11 n-HT40, ch38, 26.5 GHz-40 GHz)

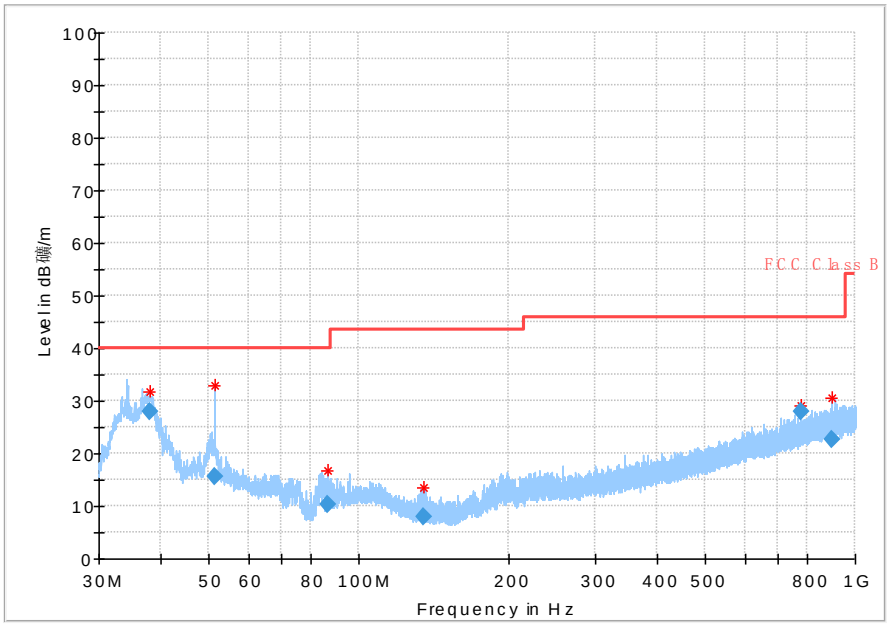

Fig. 80 Radiated Spurious Emission (802.11 n-HT40, ch46, 30 MHz-1 GHz)

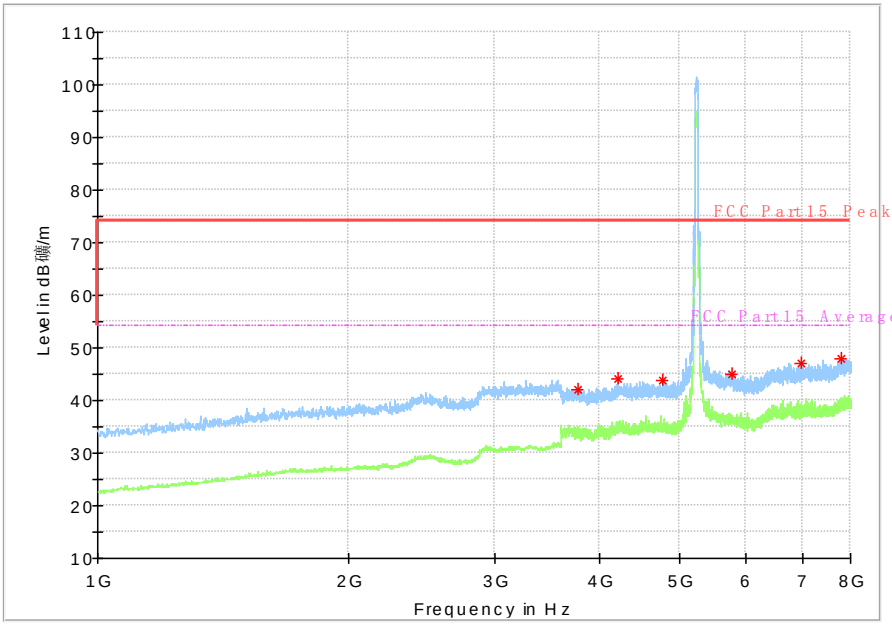

Fig. 81 Radiated Spurious Emission (802.11 n-HT40, ch46, 1 GHz-8 GHz)

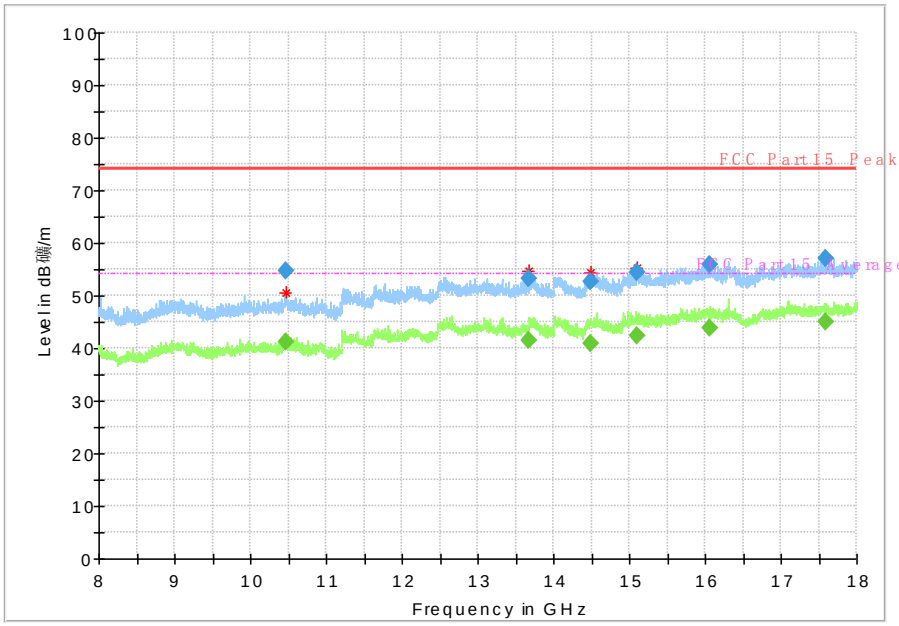

Fig. 82 Radiated Spurious Emission (802.11 n-HT40, ch46, 8 GHz-18 GHz)

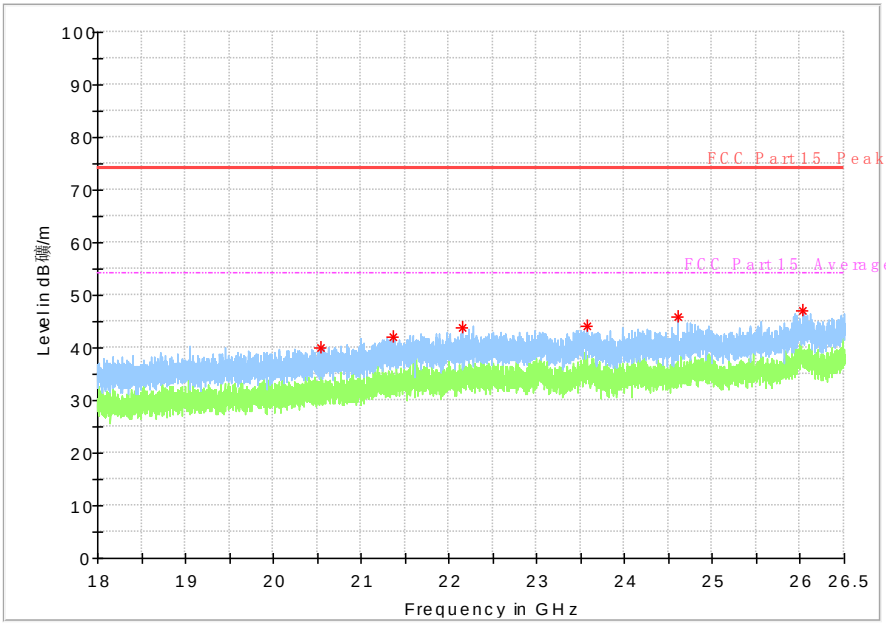

Fig. 83 Radiated Spurious Emission (802.11 n-HT40, ch46, 18 GHz-26.5 GHz)

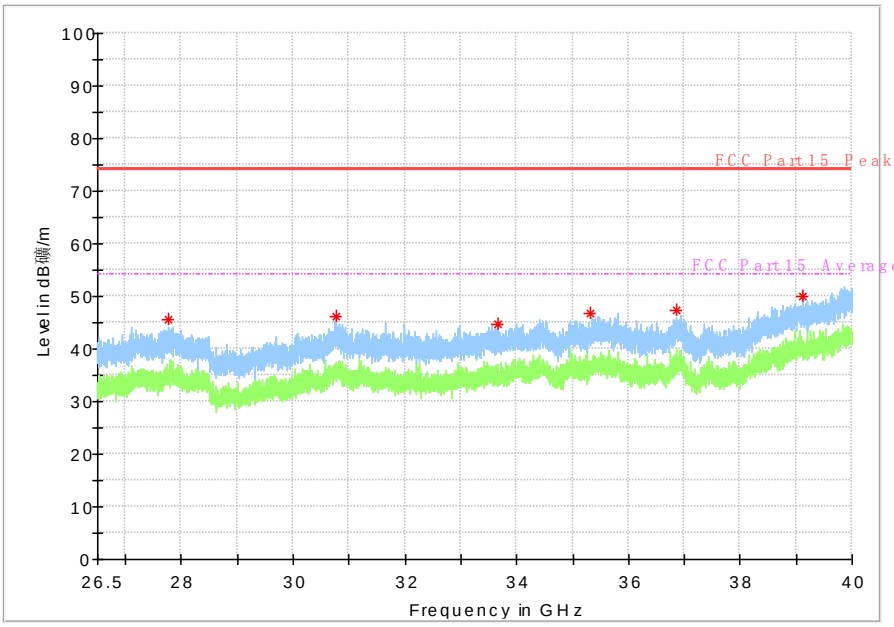

Fig. 84 Radiated Spurious Emission (802.11 n-HT40, ch46, 26.5 GHz-40 GHz)

6.8. Conducted Emission (150kHz- 30MHz)

Test Condition:

Voltage（V）	Frequency（Hz）
110	60

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U =3.2dB, k=2.

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.86		P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.86		P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: PASS

Test graphs as below:

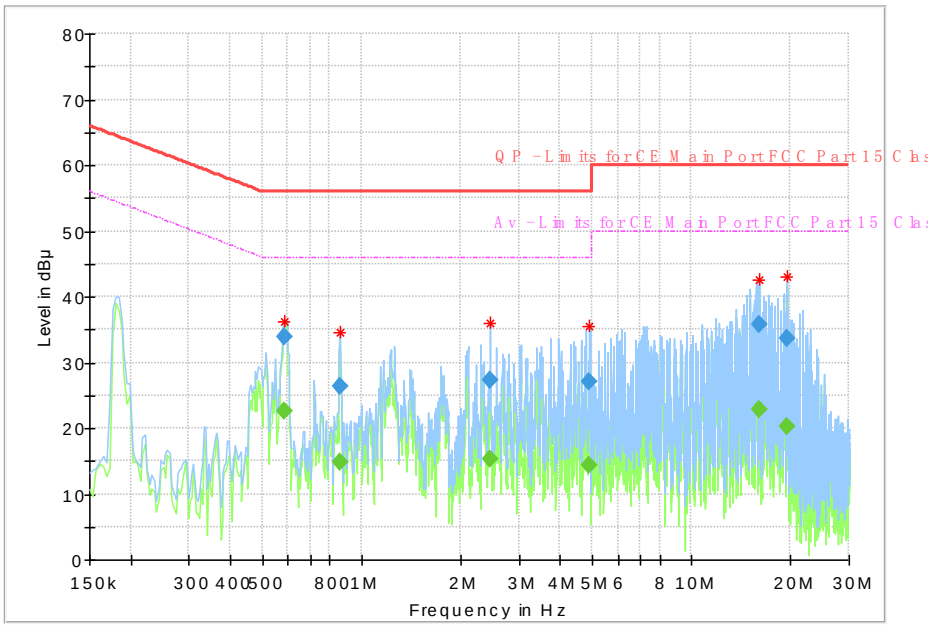

Fig. 85 Conducted Emission(802.11a, TX)

Measurement Result:

Frequency (MHz)	Quasi Peak (dBµV	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.582825	---	22.67	46.00	23.3	1000.0	9.000	L1	ON	9.6
0.582825	33.92	---	56.00	22.0	1000.0	9.000	L1	ON	9.6
0.858938	---	14.74	46.00	31.2	1000.0	9.000	L1	ON	9.7
0.858938	26.47	---	56.00	29.5	1000.0	9.000	L1	ON	9.7
2.459644	---	15.33	46.00	30.6	1000.0	9.000	L1	ON	9.7
2.459644	27.25	---	56.00	28.7	1000.0	9.000	L1	ON	9.7
4.918538	---	14.40	46.00	31.6	1000.0	9.000	L1	ON	9.7
4.918538	27.08	---	56.00	28.9	1000.0	9.000	L1	ON	9.7
16.026469	---	22.93	50.00	27.0	1000.0	9.000	N	ON	9.9
16.026469	35.66	---	60.00	24.3	1000.0	9.000	N	ON	9.9
19.410712	---	20.17	50.00	29.8	1000.0	9.000	N	ON	10.0
19.410712	33.74	---	60.00	26.2	1000.0	9.000	N	ON	10.0

6.9. Frequency Stability

Manufacturers ensured the EUT meet the requirement of frequency stability, such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

6.10. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

7. Test Equipment and Ancillaries Used For Tests

The test equipment and ancillaries used are as follows.

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Cal.interval
1	Vector Signal Analyzer	FSQ40	200063	Rohde&Schwarz	2017-12-17	1 Year
2	DC Power Supply	ZUP60-14	LOC-220Z006	TDL-Lambda	2018-05-11	1 Year
3	Universal Radio Communication Tester	CMW50	104178	R&S	2018-05-11	1 Year

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Cal.interval
1	Universal Radio Communication Tester	CMU200	123123	R&S	2018-05-11	1 Year
2	EMI Test Receiver	ESU40	100307	R&S	2018-05-11	1 Year
3	TRILOG Broadband Antenna	VULB9163	VULB9163-515	Schwarzbeck	2017-02-25	3 Year
4	Double-ridged Waveguide Antenna	ETS-3117	00135890	ETS	2017-01-11	3 Year
5	2-Line V-Network	ENV216	101380	R&S	2018-05-11	1 Year

Anechoic chamber

Fully anechoic chamber by Frankonia German.

8. Test Environment

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Ground system resistance	< 0.5 Ω

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

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. =25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber1 (6.9 meters×10.9 meters×5.4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 1GHz to 18GHz
Site Attenuation Deviation	Between -4 and 4 dB,30MHz to 1GHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

ANNEX A. Accreditation Certificate

Accredited Laboratory

A2LA has accredited

EAST CHINA INSTITUTE OF TELECOMMUNICATIONS

Shanghai, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 15th day of March 2017.

President and CEO
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2019

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

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