FCC PART 15
TEST REPORT
No.I19Z61094-IOT03

for

TCL Communication Ltd.

Smart Phone

5032W

With

FCC ID:2ACCJB111

Hardware Version:06

Software Version:3E5H

Issued Date: 2019-09-10

TESTING
NVLAP LAB CODE 600118-0

Note:

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The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

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Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19Z61094-IOT03	Rev.0	1st edition	2019-09-10

CONTENTS

1. TEST LATORATORY

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Conducted testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

Radiated testing Location: CTTL(BDA)

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

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project data

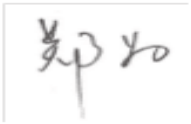
Testing Start Date: 2019-07-23

Testing End Date: 2019-08-30

1.5. Signature

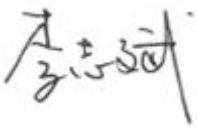
Xie Fangfang

(Prepared this test report)



Zheng Wei

(Reviewed this test report)



Li Zhibin

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address:	7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
City:	Shenzhen
Postal Code:	/
Country:	China
Telephone:	0086-755-36611722
Fax:	/

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address:	7/F, Block F4, TCL Communication Technology Building, TCL International E City, Zhong Shan Yuan Road, Nanshan District, Shenzhen, Guangdong, P.R. China 518052
City:	Shenzhen
Postal Code:	/
Country:	China
Telephone:	0086-755-36611722
Fax:	/

3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARYEQUIPMENT(AE)

3.1. About EUT

Description	Smart Phone
Model name	5032W
FCC ID	2ACCJB111
WLAN Frequency Range	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Voltage	3.8V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT01	015552000001506	06	3E5H
EUT02	015552000001696	06	3E5H

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

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Battery	/	/
AE2	Charger	/	/
AE3	USB	/	/

AE1

Model	CAC3860001C1
Manufacturer	BYD
Capacitance	4000mAh
Nominal voltage	3.85V

AE2

Model	CBA0064AGDC1
Manufacturer	BYD
Length of cable	/

AE3

Model	CDA0000123C2
Manufacturer	SHENGHUA
Length of cable	98cm

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

3.4. General Description

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

It has Bluetooth (EDR)function.

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

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

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. REFERENCE DOCUMENTS

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

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

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2018
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. Summary of Test Results

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**
Band edge compliance	15.209	/	**P**
Transmitter spurious emissions radiated	15.407	/	**P**
Spurious emissions radiated < 30 MHz	15.407	/	**P**
Spurious emissions conducted < 30 MHz	15.407	/	**P**
Frequency Stability	15.407	/	**P**
Transmit Power Control	15.407	/	**NA**

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26℃
Voltage	3.8V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2020-05-15
2	Test Receiver	ESCI	100344	Rohde & Schwarz	1 year	2020-02-14
3	LISN	ENV216	101200	Rohde & Schwarz	1 year	2020-03-14
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100235	Rohde & Schwarz	1 year	2020-02-27
2	BiLog Antenna	VULB9163	514	Schwarzbeck	1 year	2020-01-27
3	Dual-Ridge Waveguide Horn Antenna	3115	6914	ETS-Lindgren	1 year	2020-01-02
4	EMI Antenna	3117	00139065	ETS-Lindgren	1 Year	2019-10-15
5	EMI Antenna	3116	2661	ETS-Lindgren	1 Year	2019-10-16
6	Vector Signal Analyzer	FSV40	101047	Rohde & Schwarz	1 year	2020-05-16

8. Measurement Uncertainty

8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3 Occupied Channel Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5 Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
30MHz ≤ f ≤ 2GHz	1.22
2GHz ≤ f ≤3.6GHz	1.22
3.6GHz ≤ f ≤8GHz	1.22
8GHz ≤ f ≤12.75GHz	1.51
12.75GHz ≤ f ≤26GHz	1.51
26GHz ≤ f ≤40GHz	1.59

Radiated (k=2)

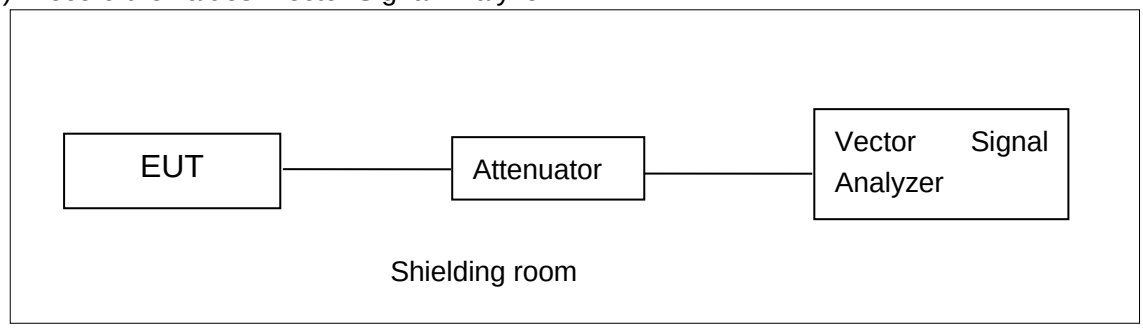
Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.40
1GHz ≤ f ≤18GHz	4.32
18GHz ≤ f ≤40GHz	5.26

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

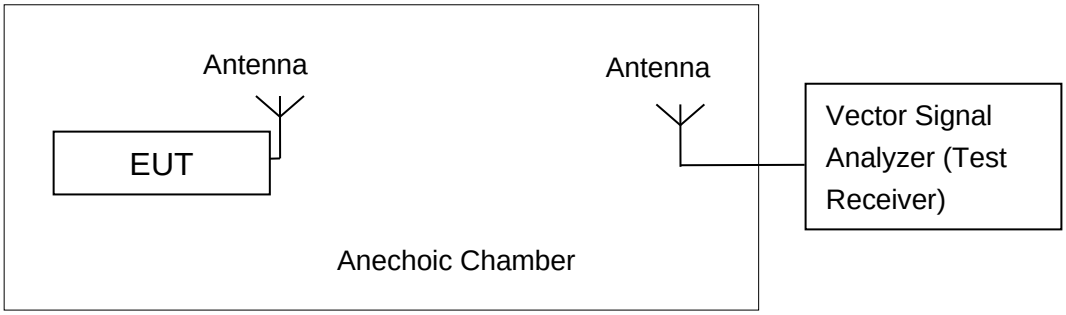
A.1.1. Conducted Measurements

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



A.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.

A.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 measurementmethod SA-1 is made according to KDB 789033

Measurement Results:

802.11a mode

Mode	Channel	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	18.04	15.96	14.80	13.62	12.63	11.39	11.41	11.45
	5200MHz	17.93	/	/	/	/	/	/	/
	5240MHz	18.21	/	/	/	/	/	/	/
	5260MHz	18.35	/	/	/	/	/	/	/
	5280MHz	18.00	/	/	/	/	/	/	/
	5320MHz	18.10	/	/	/	/	/	/	/

The data rate 6Mbps is selected as worse condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Channel	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz	18.73	/	/	/	/	/	/	/
	5200MHz	18.76	/	/	/	/	/	/	/
	5240MHz	18.70	/	/	/	/	/	/	/
	5260MHz	18.58	/	/	/	/	/	/	/
	5280MHz	18.37	16.65	14.22	13.02	12.00	11.03	10.96	10.94
	5320MHz	18.28	/	/	/	/	/	/	/

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

802.11ac-HT20 mode

Mode	Channel	Test Result (dBm)								
		Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
802.11ac (HT20)	5180MHz	18.11	16.49	14.09	12.90	11.91	10.69	10.68	10.69	10.69
	5200MHz	18.14	/	/	/	/	/	/	/	/
	5240MHz	18.27	/	/	/	/	/	/	/	/
	5260MHz	18.49	/	/	/	/	/	/	/	/
	5280MHz	18.20	/	/	/	/	/	/	/	/
	5320MHz	17.99	/	/	/	/	/	/	/	/

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

802.11n-HT40 mode

Mode	Channel	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz	11.65	11.51	11.24	11.47	11.42	10.23	10.25	10.28
	5230MHz	11.71	/	/	/	/	/	/	/
	5270MHz	12.12	/	/	/	/	/	/	/
	5310MHz	11.83	/	/	/	/	/	/	/

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

802.11ac-HT40 mode

Mode	Channel	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (HT40)	5190MHz	12.28	12.11	12.13	12.11	12.10	10.93	10.90	10.90	10.88	10.90
	5230MHz	11.66	/	/	/	/	/	/	/	/	/
	5270MHz	12.03	/	/	/	/	/	/	/	/	/
	5310MHz	11.98	/	/	/	/	/	/	/	/	/

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

802.11ac-HT80 mode

Mode	Channel	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (HT80)	5210MHz	11.59	11.59	11.38	11.59	11.39	10.40	10.37	10.35	10.36	10.34
	5290MHz	11.80	/	/	/	/	/	/	/	/	/

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

A.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	9.15	P
	5200 MHz	8.92	P
	5240 MHz	8.91	P
	5260 MHz	9.15	P
	5280 MHz	8.99	P
	5320 MHz	9.28	P
802.11n HT20	5180 MHz	9.16	P
	5200 MHz	8.92	P
	5240 MHz	8.72	P
	5260 MHz	8.98	P
	5280 MHz	8.77	P
	5320 MHz	8.84	P
802.11ac HT20	5180 MHz	8.71	P
	5200 MHz	8.89	P
	5240 MHz	9.21	P
	5260 MHz	9.49	P
	5280 MHz	8.89	P
	5320 MHz	9.09	P
802.11n HT40	5190 MHz	-0.38	P
	5230 MHz	-0.68	P
	5270 MHz	-0.29	P
	5310 MHz	-0.62	P
802.11ac HT40	5190 MHz	-0.25	P
	5230 MHz	-0.45	P
	5270 MHz	0.01	P
	5310 MHz	0.21	P
802.11ac HT80	5210MHz	-3.50	P
	5290MHz	-3.60	P

Conclusion: PASS

A.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 (MHz)		conclusion
802.11a	5180 MHz	Fig.1	38.55	P
	5200 MHz	Fig.2	37.85	P
	5240 MHz	Fig.3	37.05	P
	5260 MHz	Fig.4	39.80	P
	5280 MHz	Fig.5	37.80	P
	5320 MHz	Fig.6	37.40	P
802.11n HT20	5180 MHz	Fig.7	38.70	P
	5200 MHz	Fig.8	37.20	P
	5240 MHz	Fig.9	38.50	P
	5260 MHz	Fig.10	37.95	P
	5280 MHz	Fig.11	38.00	P
	5320 MHz	Fig.12	38.50	P
802.11ac HT20	5180 MHz	Fig.13	37.45	P
	5200 MHz	Fig.14	38.60	P
	5240 MHz	Fig.15	38.40	P
	5260 MHz	Fig.16	39.10	P
	5280 MHz	Fig.17	39.25	P
	5320 MHz	Fig.18	39.50	P
802.11n HT40	5190 MHz	Fig.19	41.20	P
	5230 MHz	Fig.20	40.88	P
	5270 MHz	Fig.21	41.12	P
	5310 MHz	Fig.22	40.96	P
802.11ac HT40	5190 MHz	Fig.23	41.20	P
	5230 MHz	Fig.24	40.88	P
	5270 MHz	Fig.25	41.12	P
	5310 MHz	Fig.26	40.96	P
802.11ac HT80	5210MHz	Fig.27	81.28	P
	5290MHz	Fig.28	81.28	P

Conclusion: PASS

Test graphs as below:

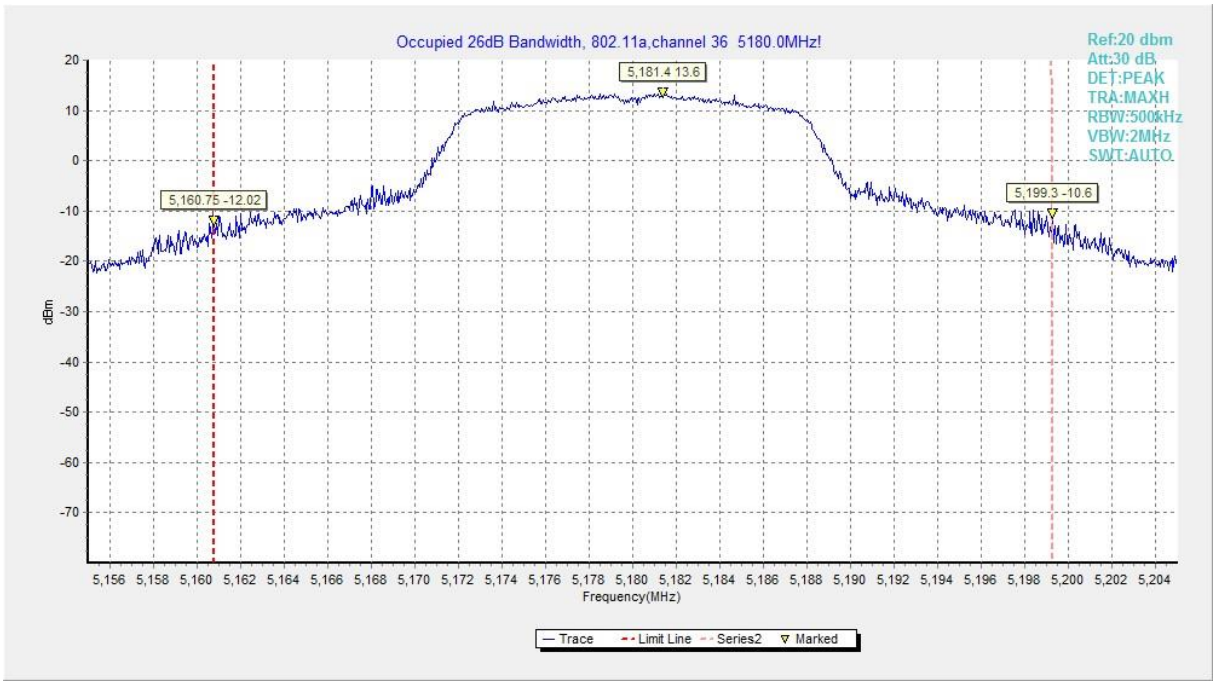


Fig.1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

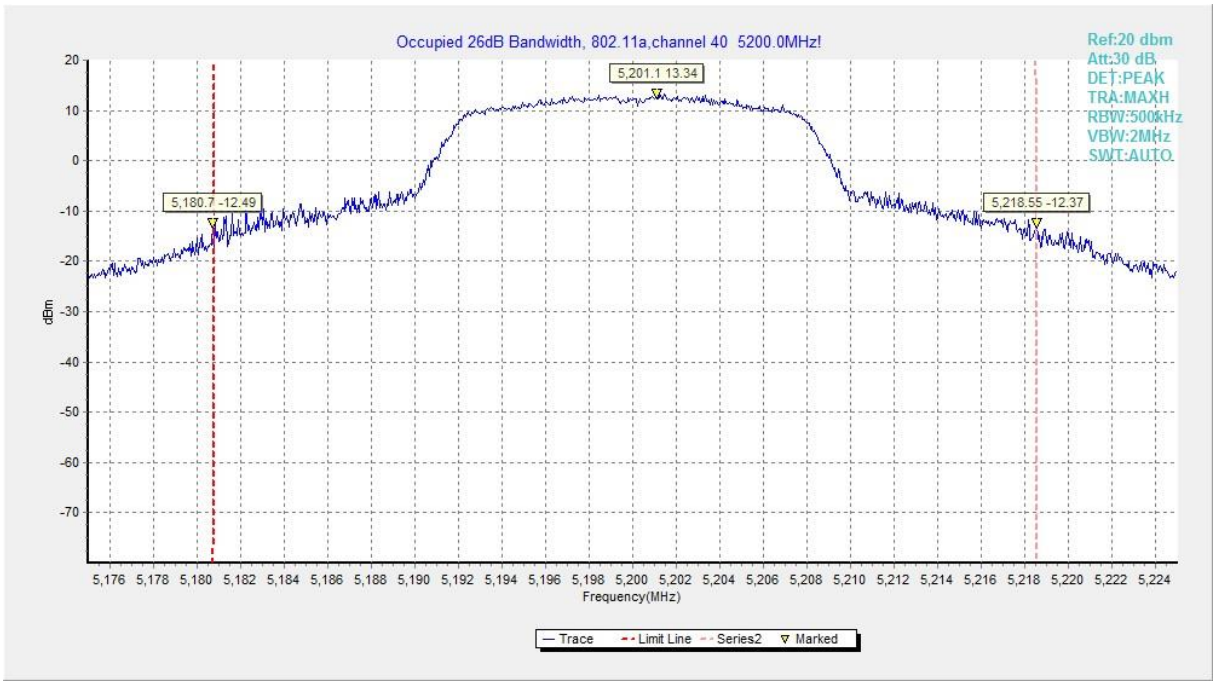


Fig.2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

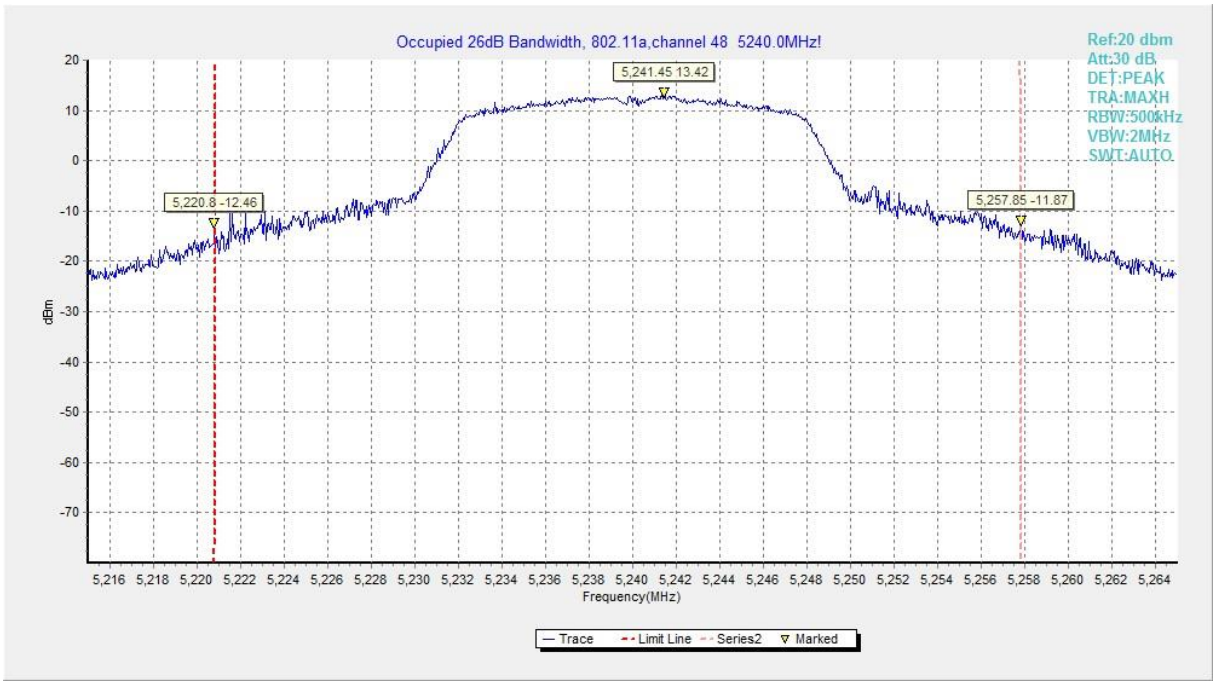


Fig.3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

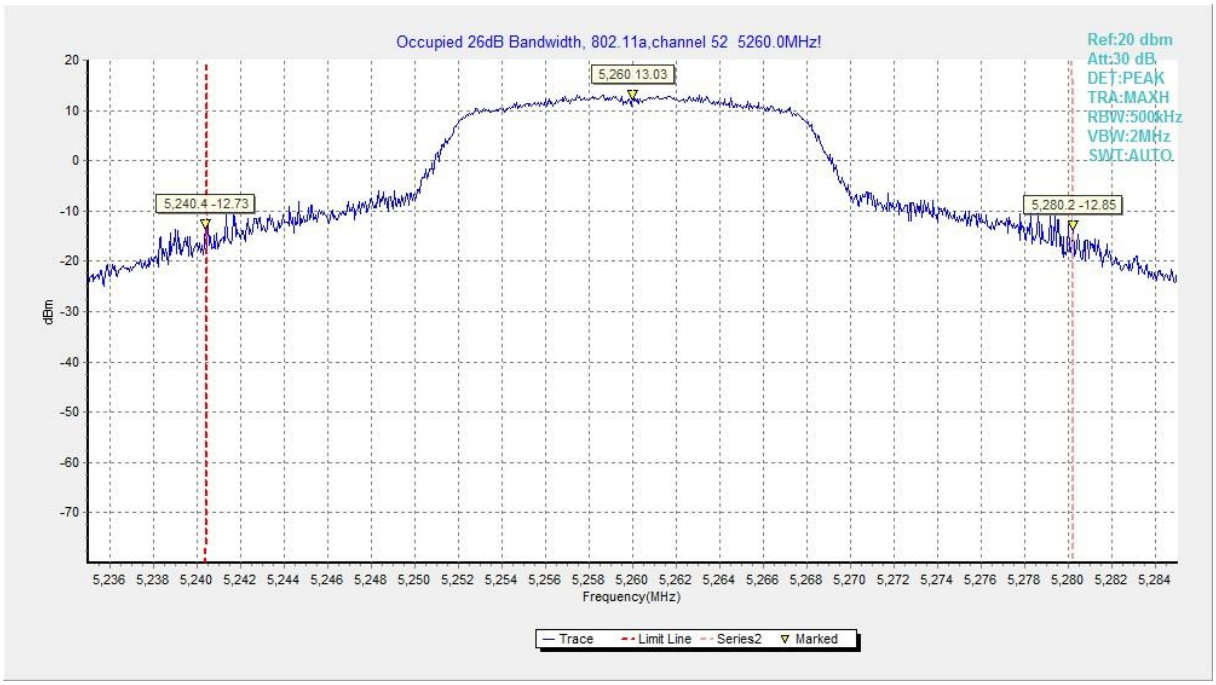


Fig.4 Occupied 26dB Bandwidth (802.11a, 5260MHz)

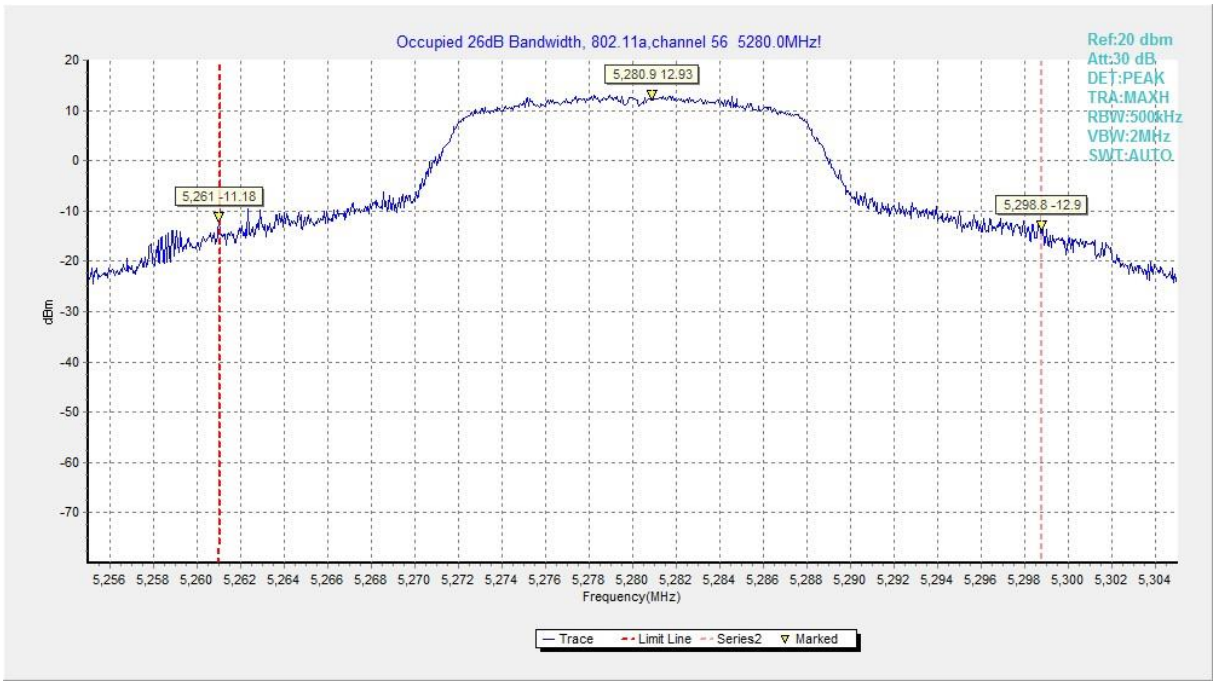


Fig.5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

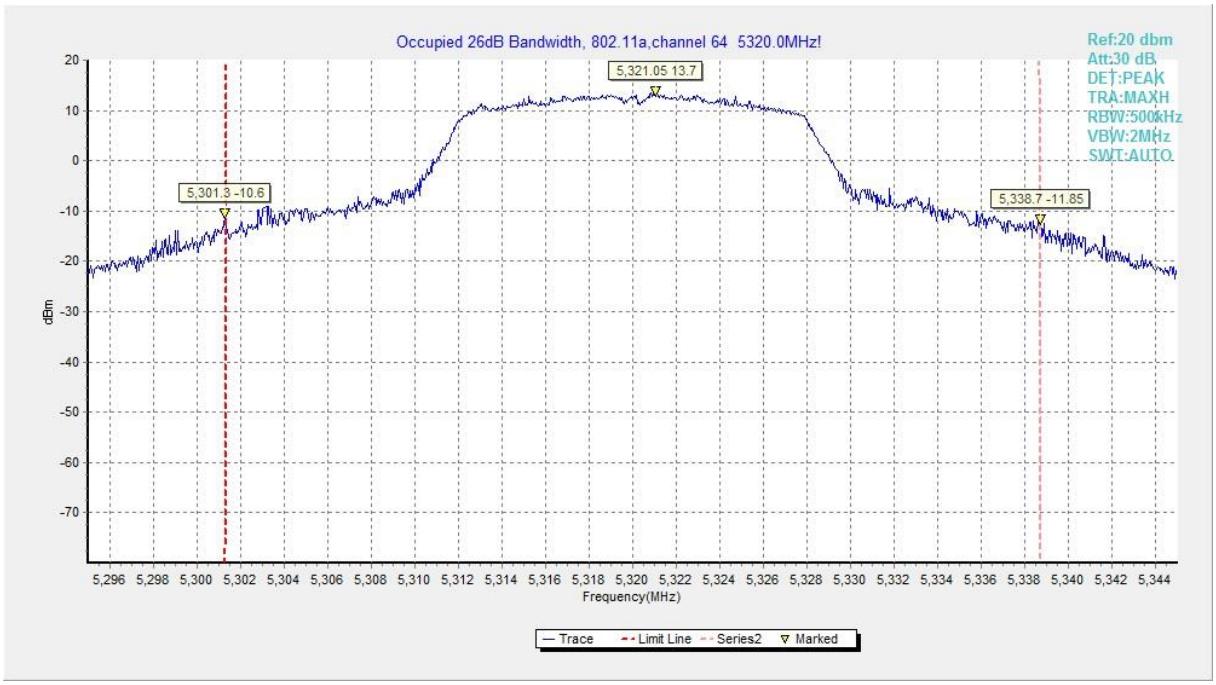


Fig.6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

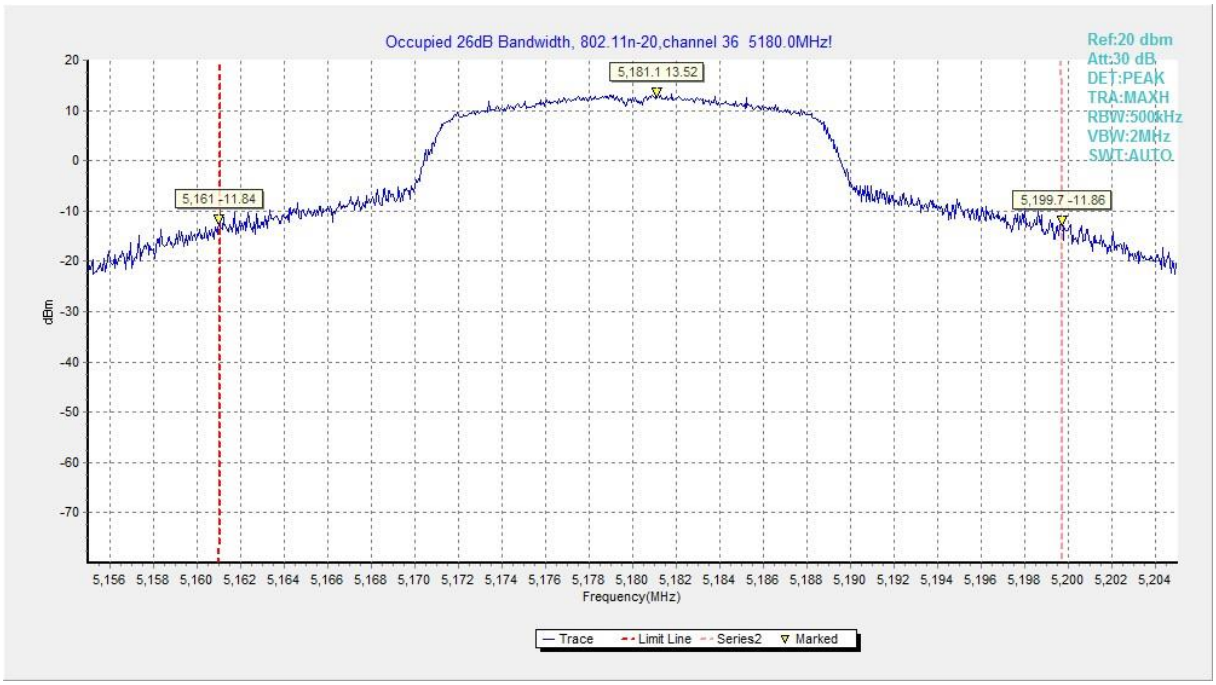


Fig.7 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)

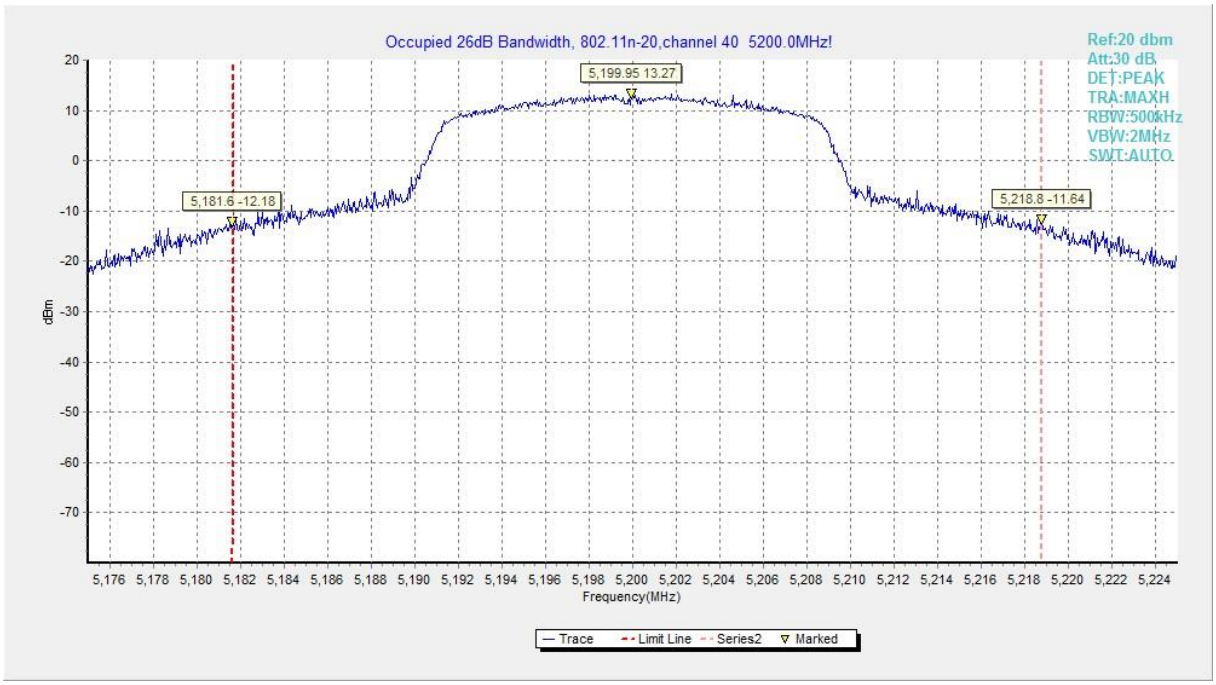


Fig.8 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

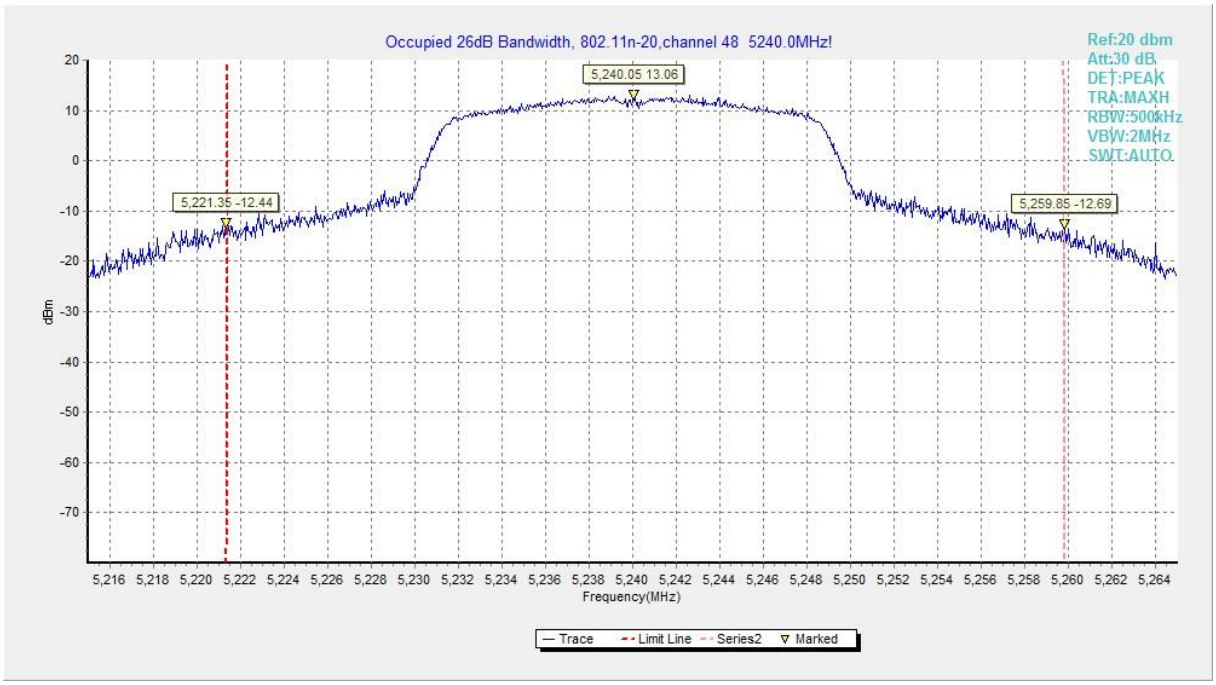


Fig.9 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

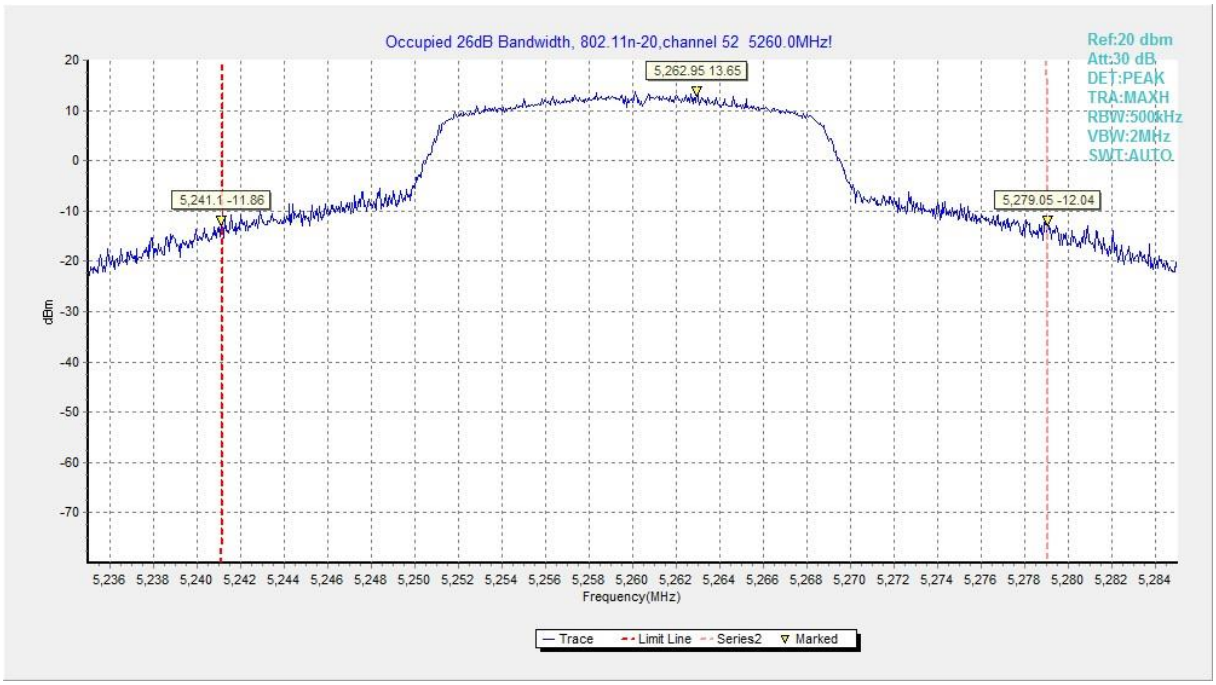


Fig.10 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

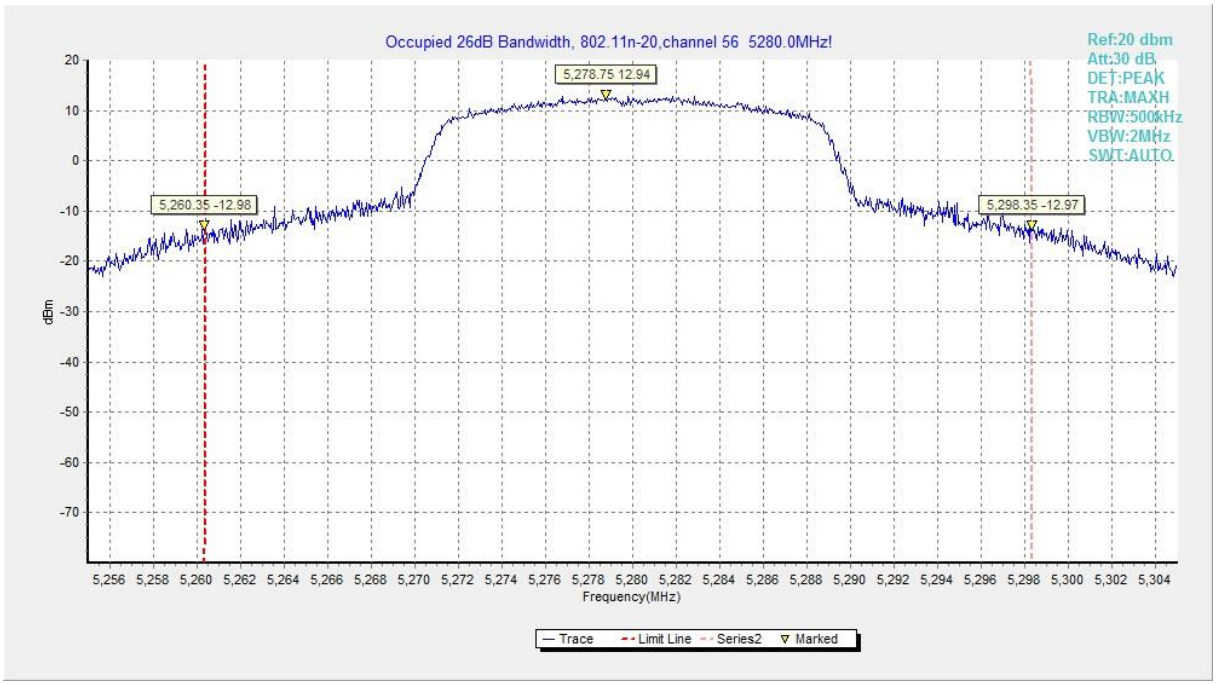


Fig.11 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)

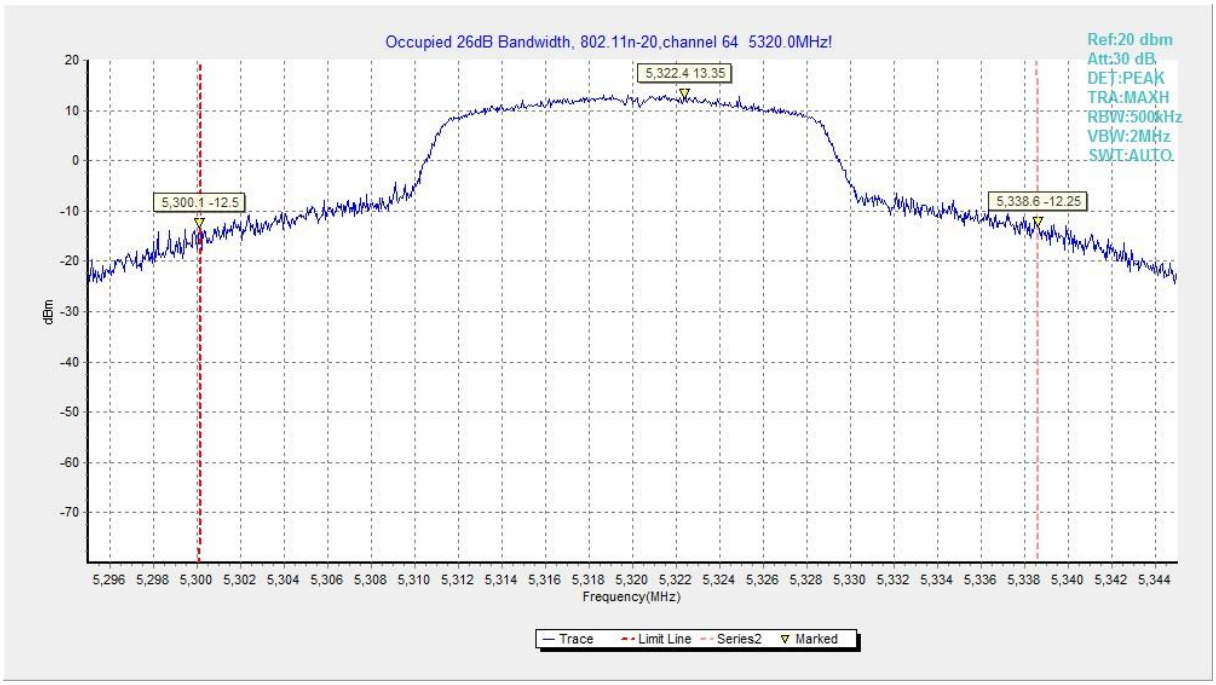


Fig.12 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

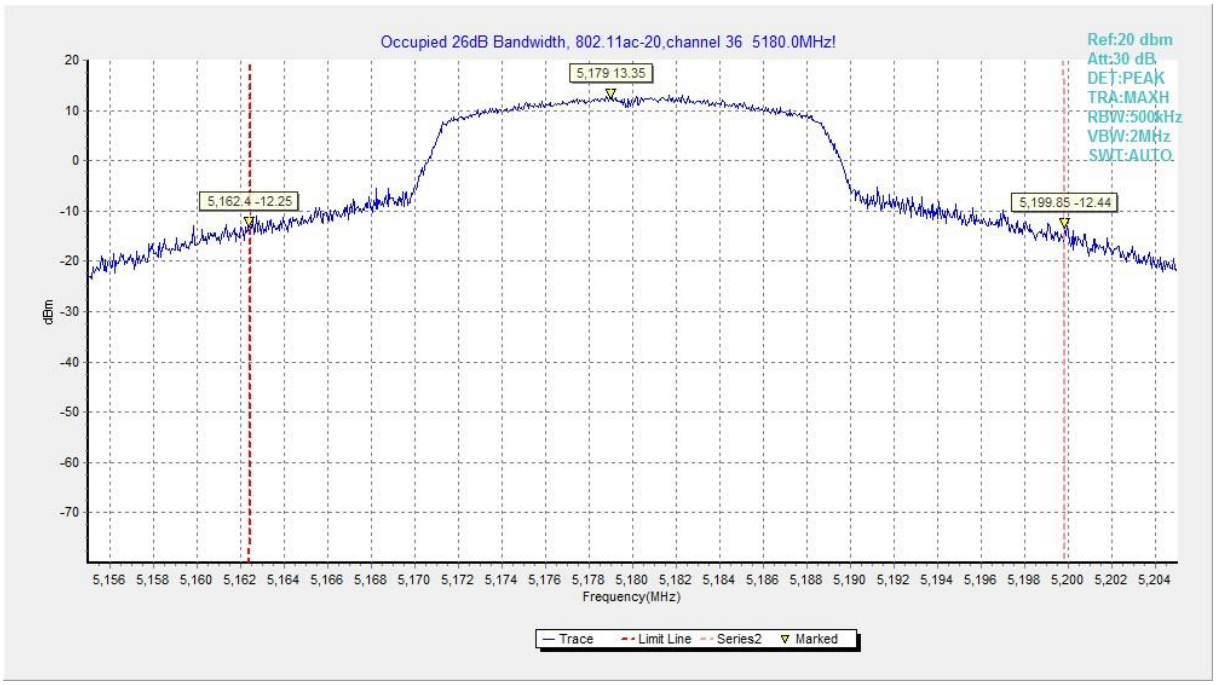


Fig.13 Occupied 26dB Bandwidth (802.11ac-HT20, 5180MHz)

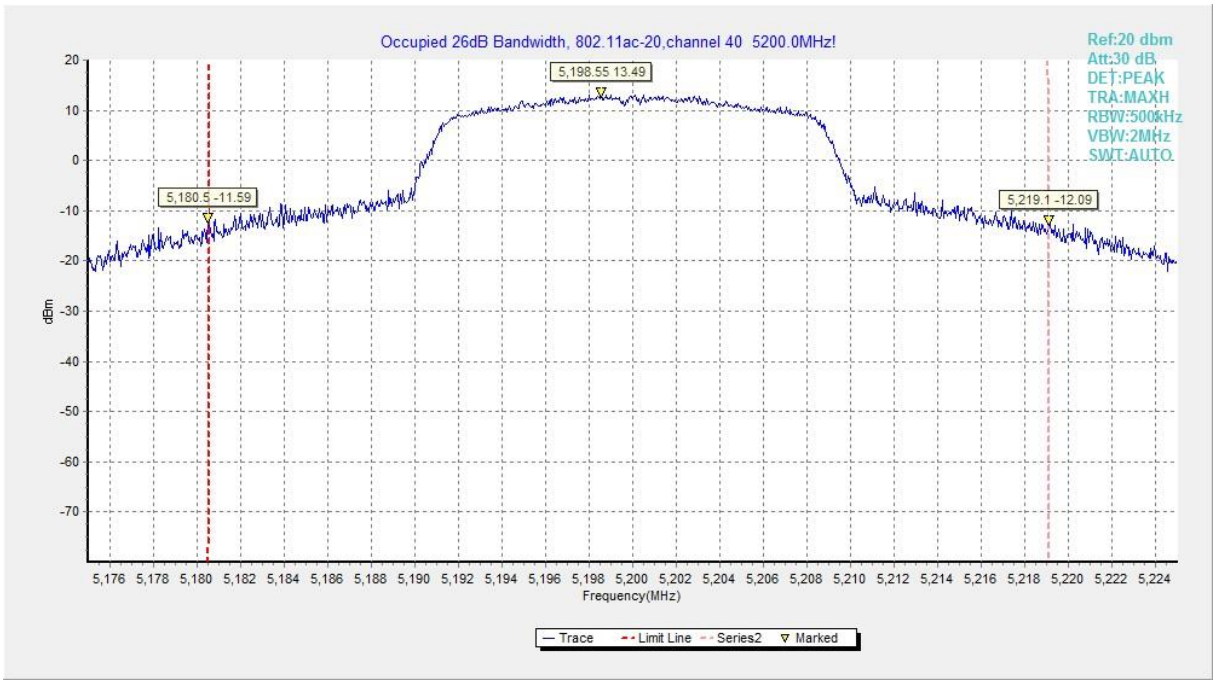


Fig.14 Occupied 26dB Bandwidth (802.11ac-HT20, 5200MHz)

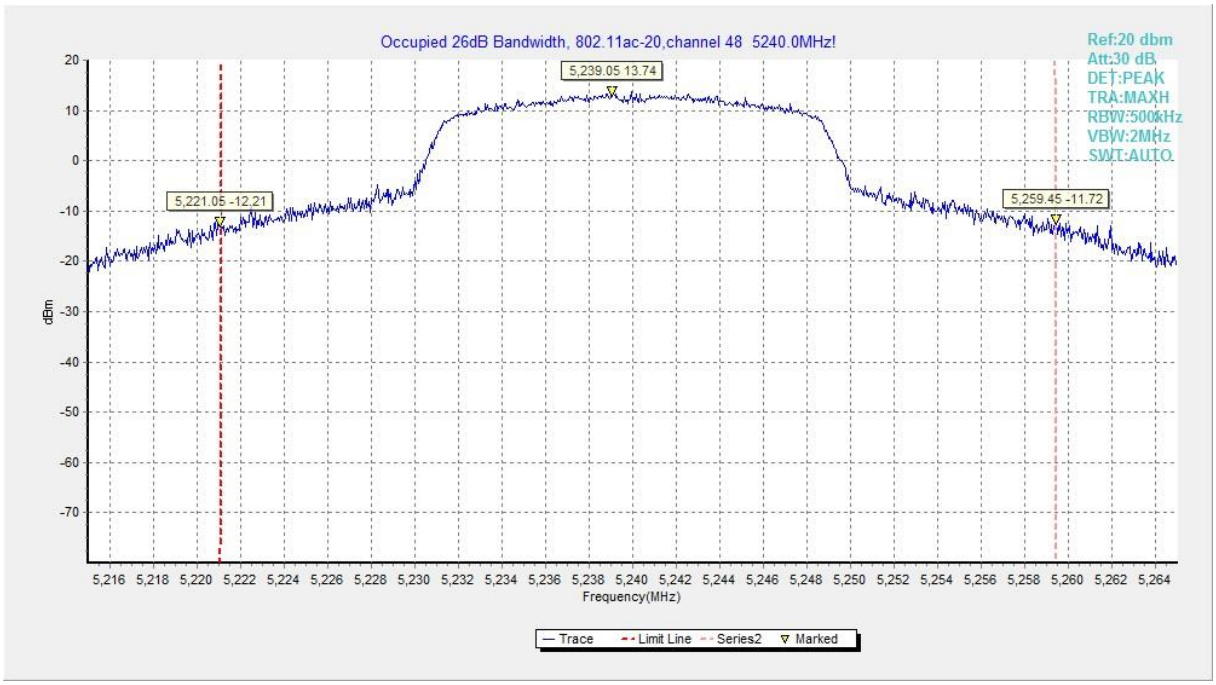


Fig.15 Occupied 26dB Bandwidth (802.11ac-HT20, 5240MHz)

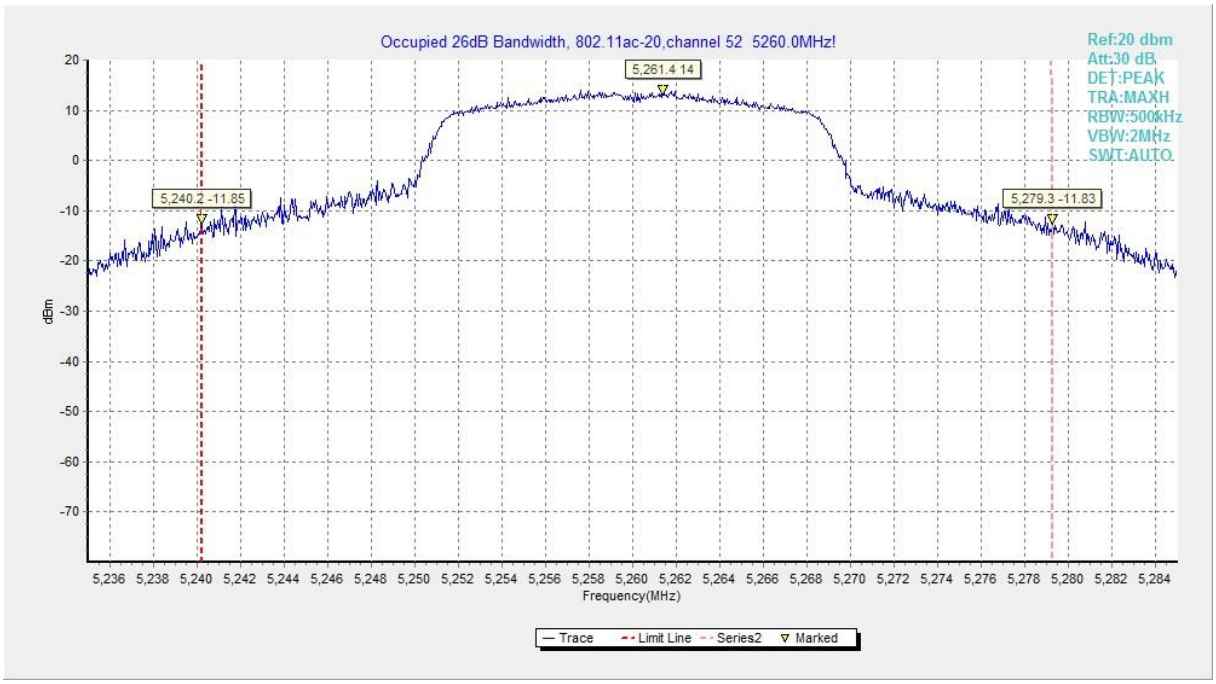


Fig.16 Occupied 26dB Bandwidth (802.11ac-HT20, 5260MHz)

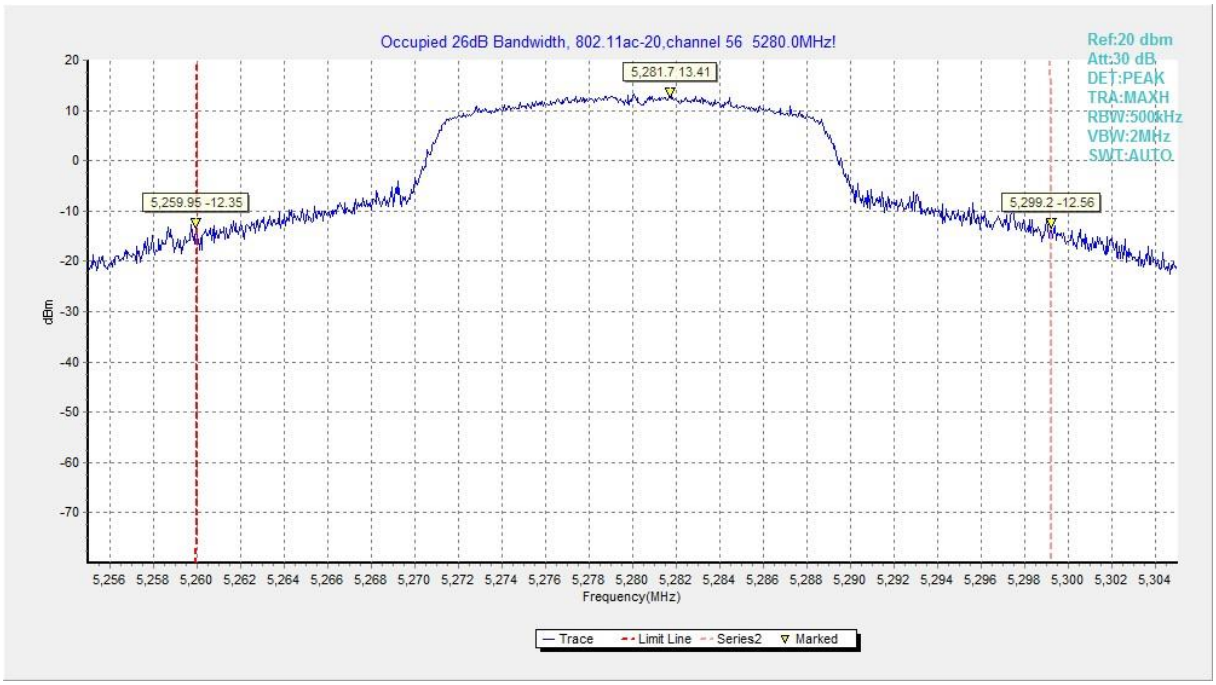


Fig.17 Occupied 26dB Bandwidth (802.11ac-HT20, 5280MHz)

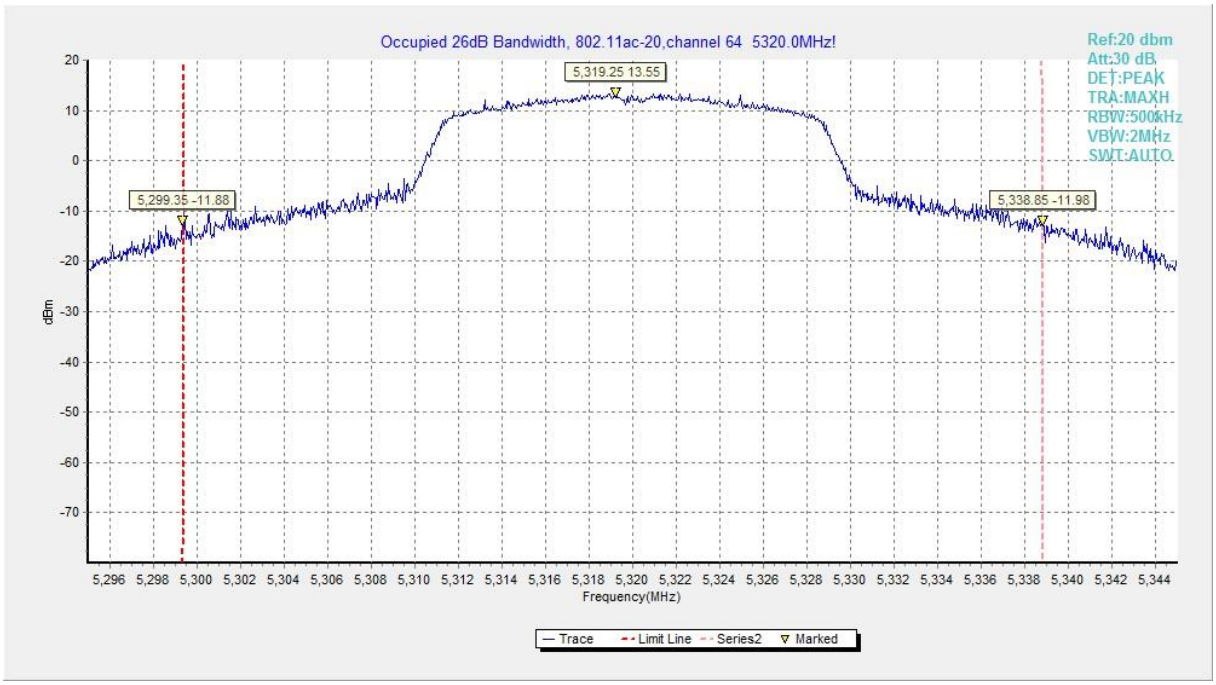


Fig.18 Occupied 26dB Bandwidth (802.11ac-HT20, 5320MHz)

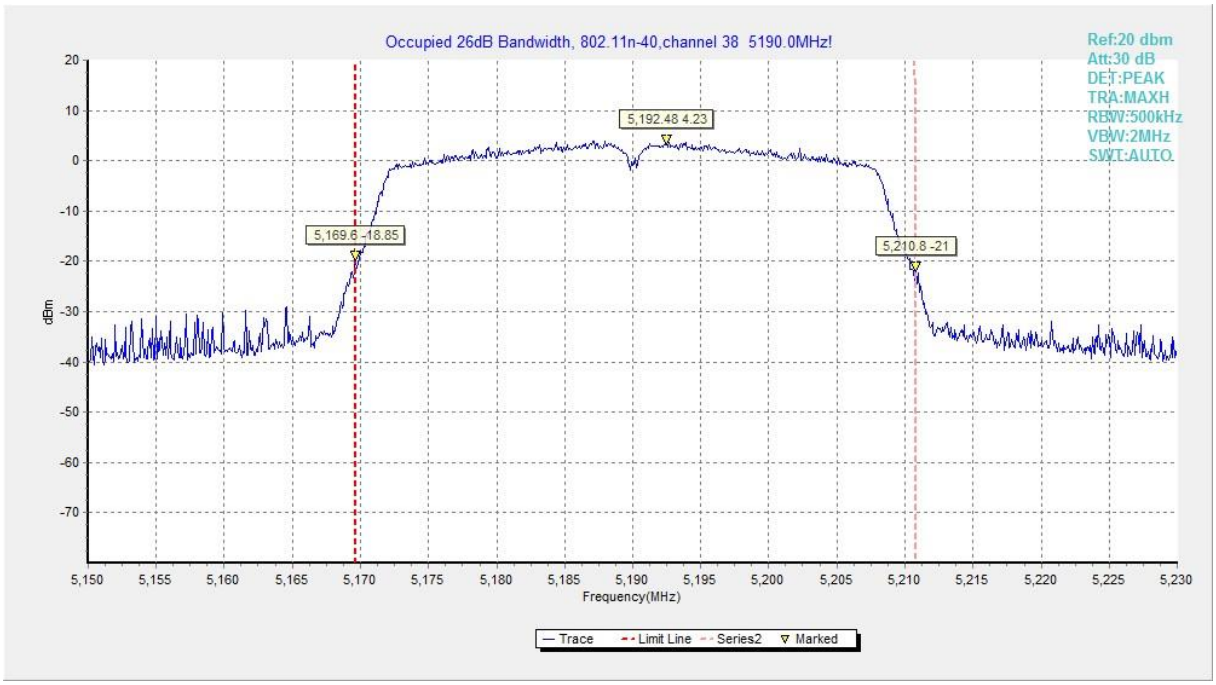


Fig.19 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

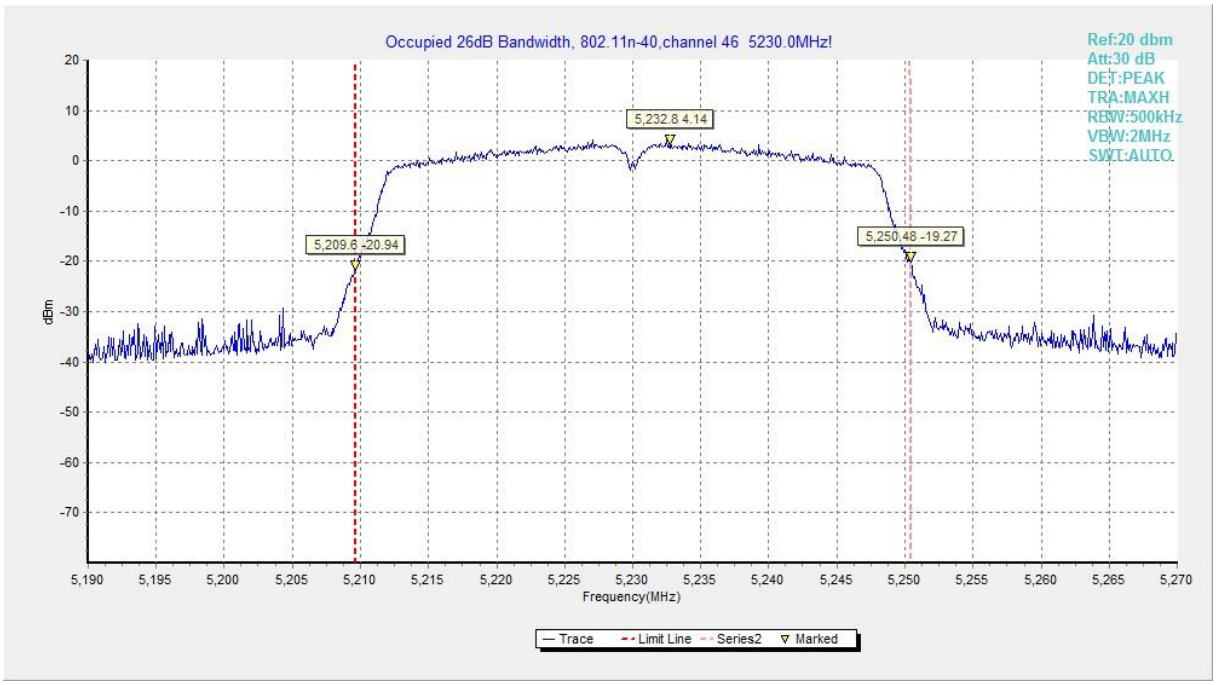


Fig.20 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)

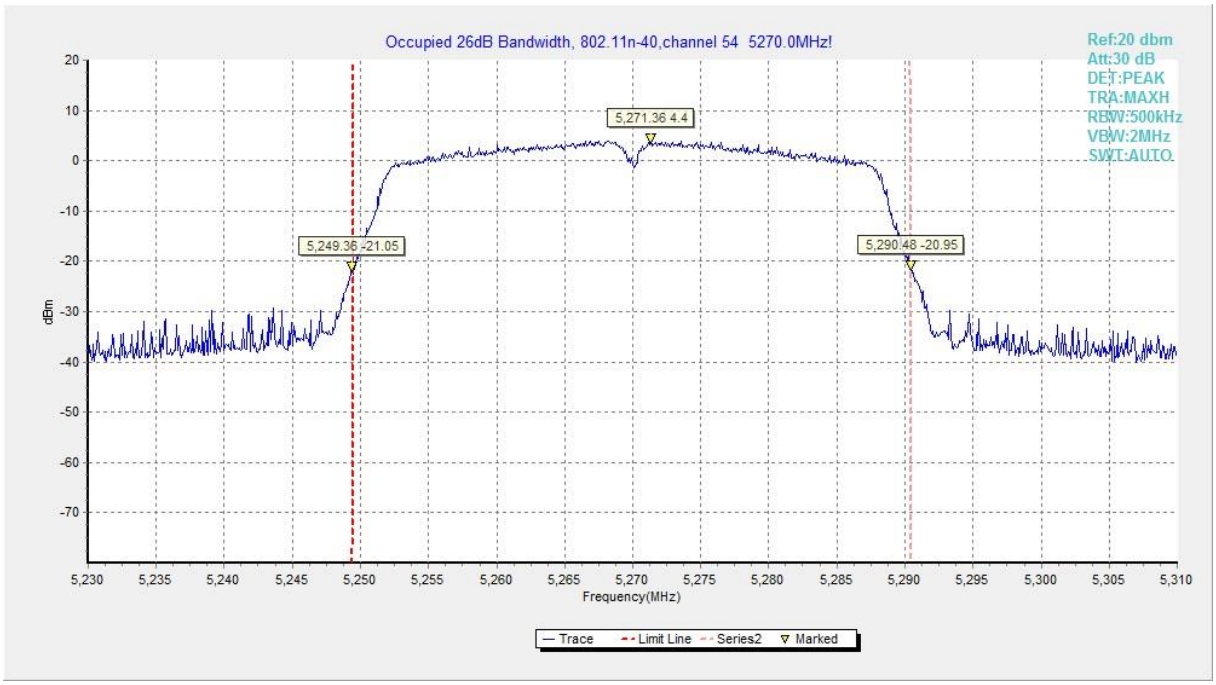


Fig.21 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

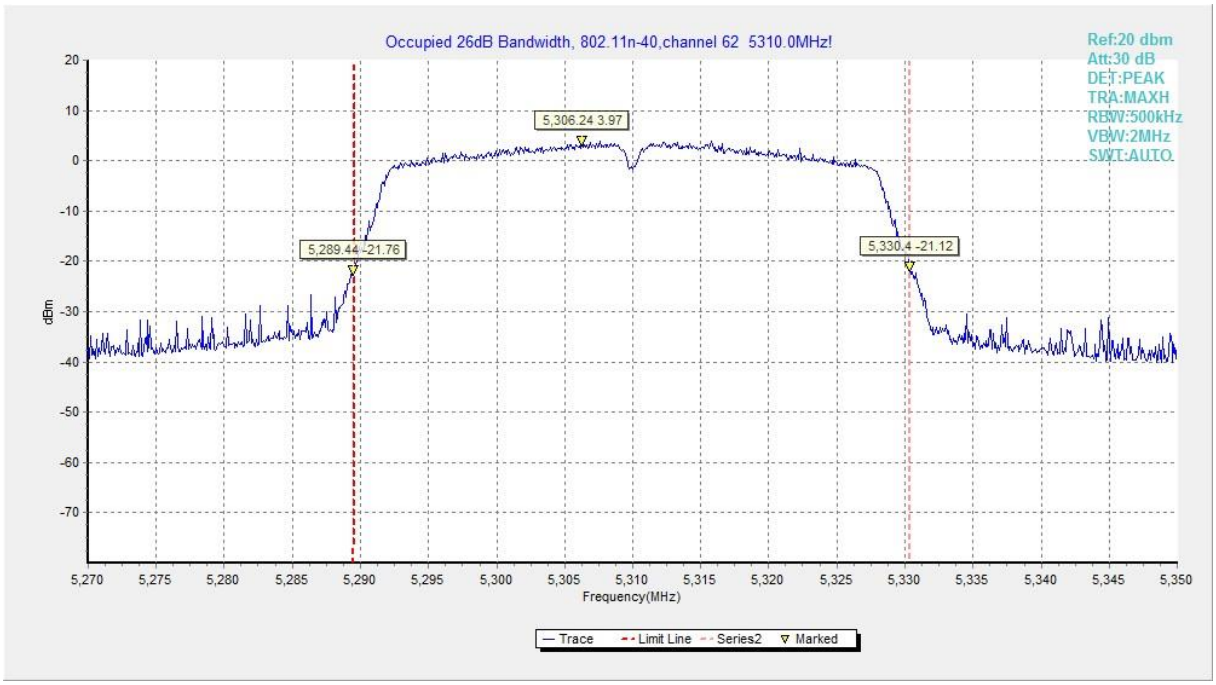


Fig.22 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

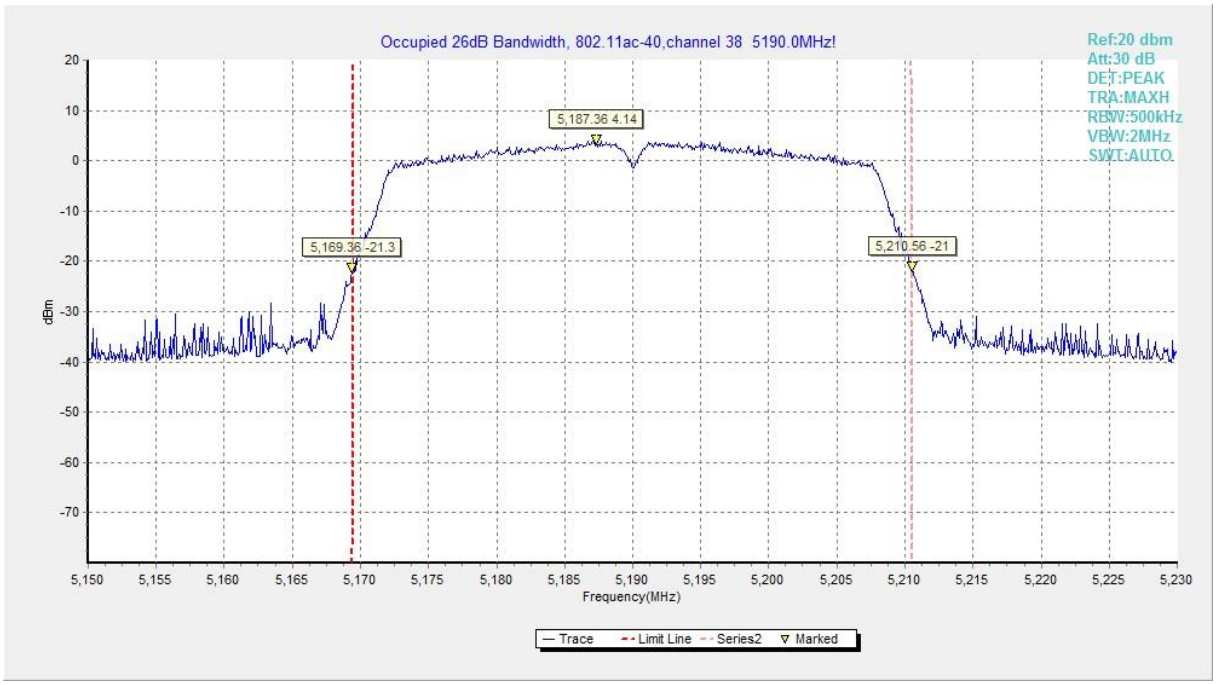


Fig.23 Occupied 26dB Bandwidth (802.11ac-HT40, 5190MHz)

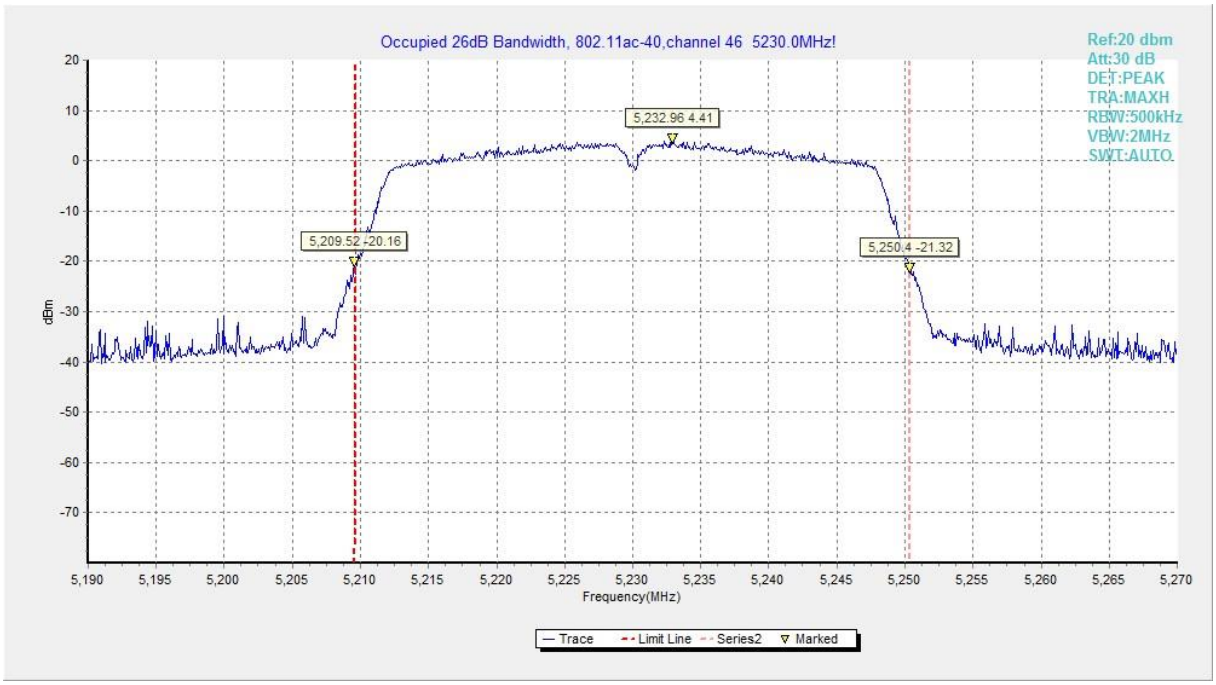


Fig.24 Occupied 26dB Bandwidth (802.11ac-HT40, 5230MHz)

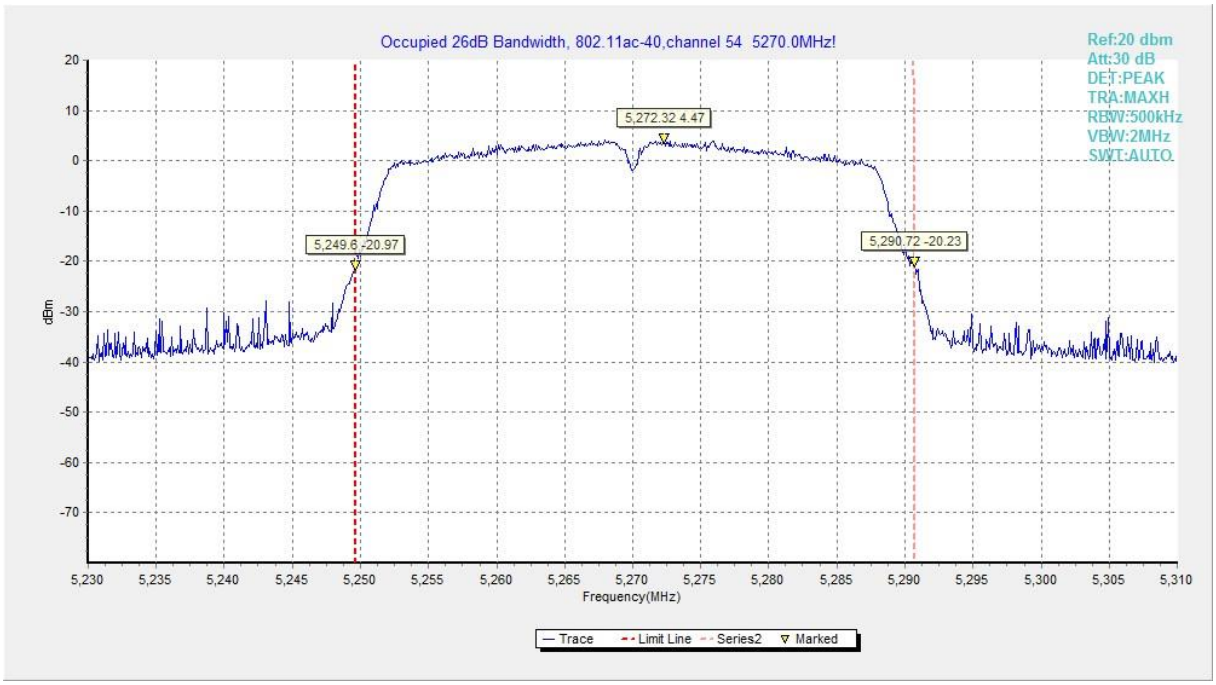


Fig.25 Occupied 26dB Bandwidth (802.11ac-HT40, 5270MHz)

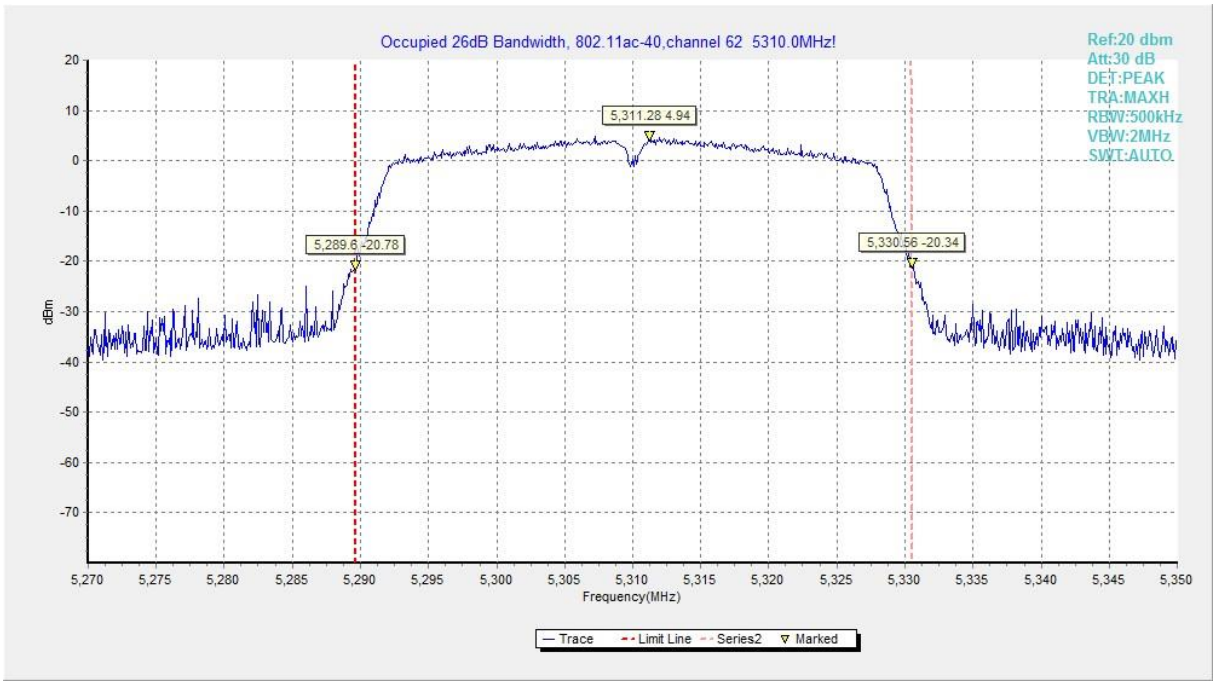


Fig.26 Occupied 26dB Bandwidth (802.11ac-HT40, 5310MHz)

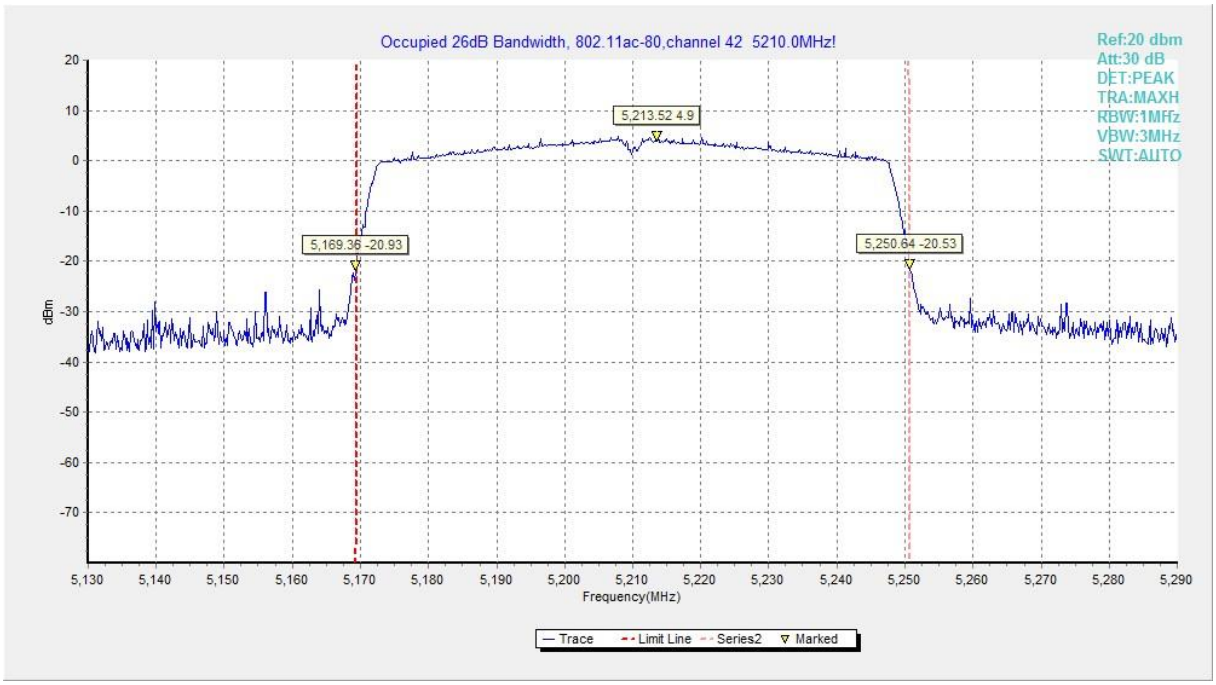


Fig.27 Occupied 26dB Bandwidth (802. 11ac-HT80, 5210MHz)

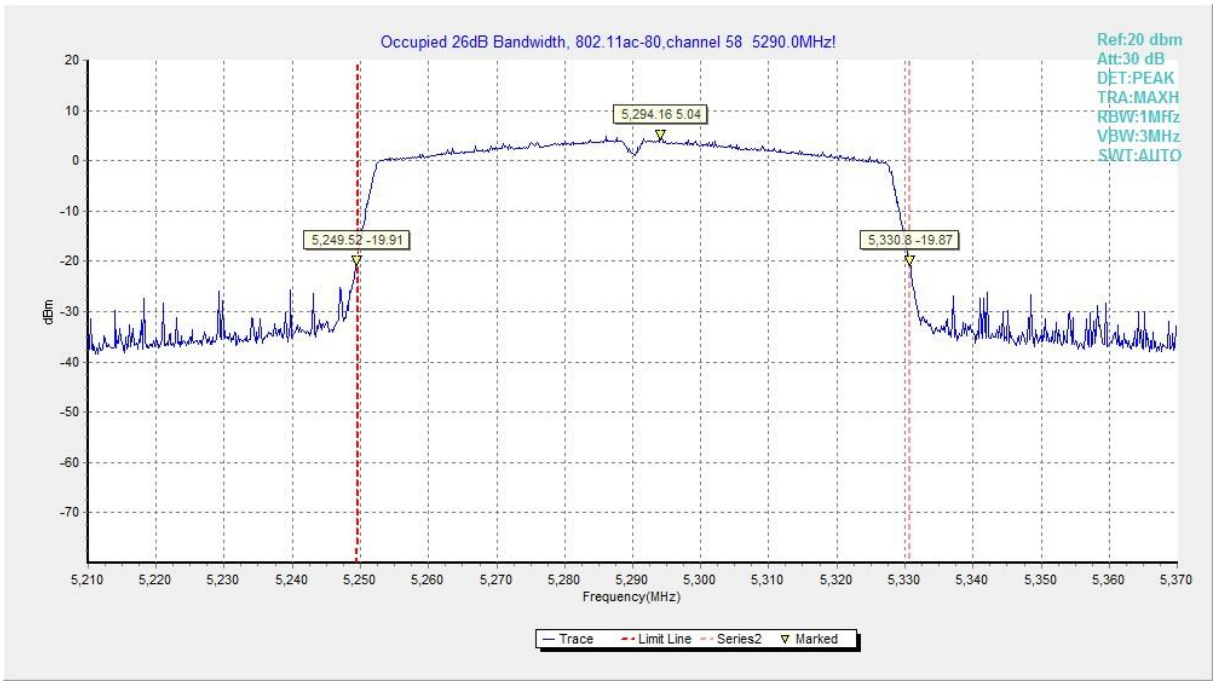


Fig.28 Occupied 26dB Bandwidth (802. 11ac-HT80, 5290MHz)

A.5. Band Edges Compliance

A5.1 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.29	P
	5320 MHz	Fig.30	P
802.11n HT20	5180 MHz	Fig.31	P
	5320 MHz	Fig.32	P
802.11ac HT20	5180 MHz	Fig.33	P
	5320 MHz	Fig.34	P
802.11n HT40	5190 MHz	Fig.35	P
	5310 MHz	Fig.36	P
802.11ac HT40	5190 MHz	Fig.37	P
	5310 MHz	Fig.38	P
802.11ac HT80	5210MHz	Fig.39	P
	5290MHz	Fig.40	P

Conclusion: PASS

Test graphs as below:

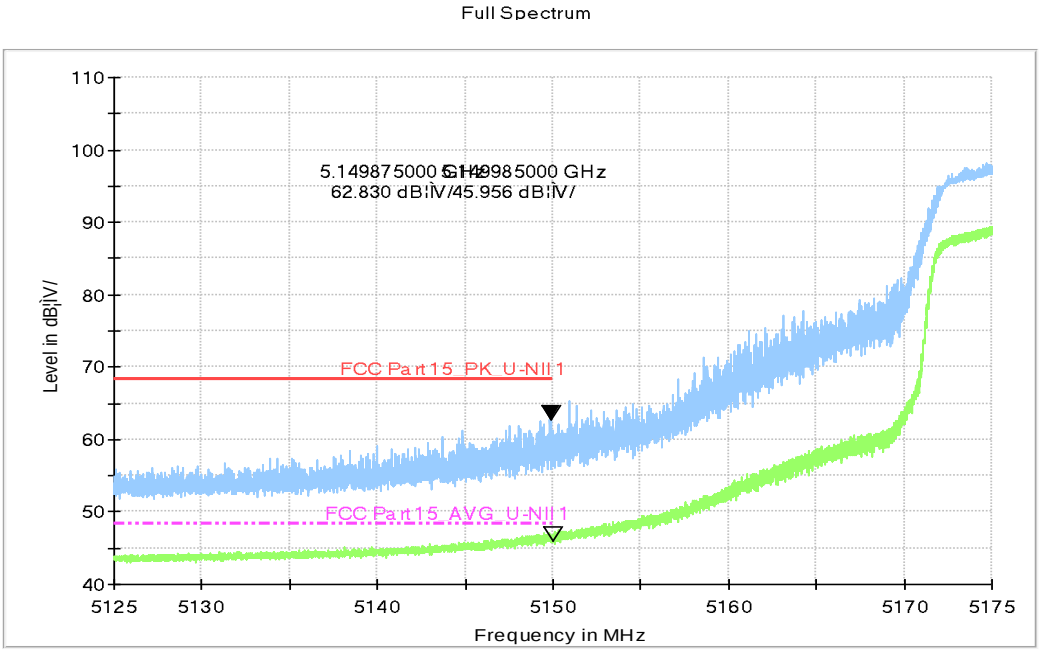


Fig.29 Band Edges (802.11a, 5180MHz)

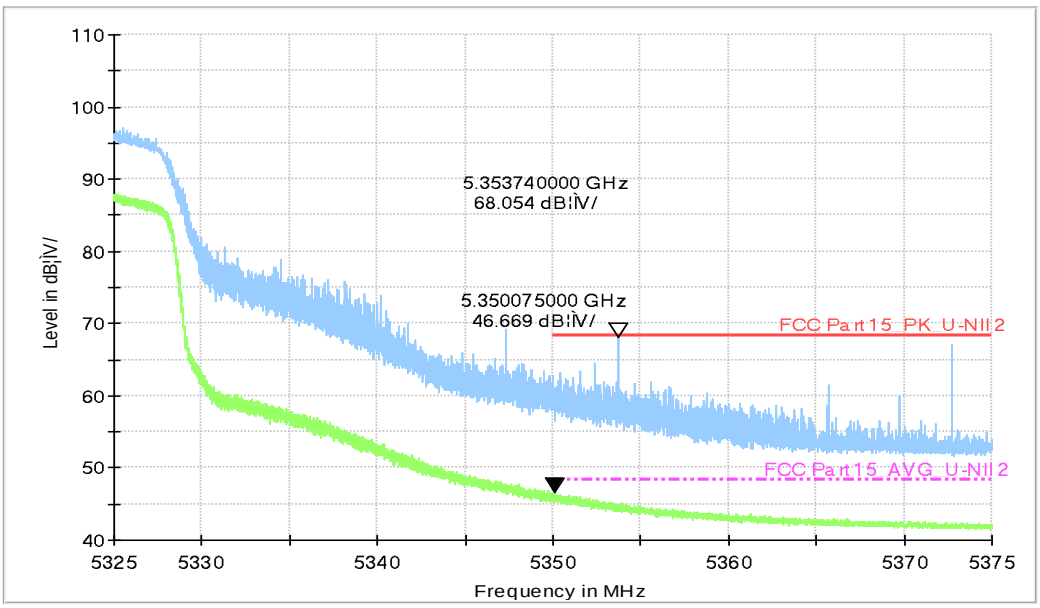


Fig.30 Band Edges (802.11a, 5320MHz)

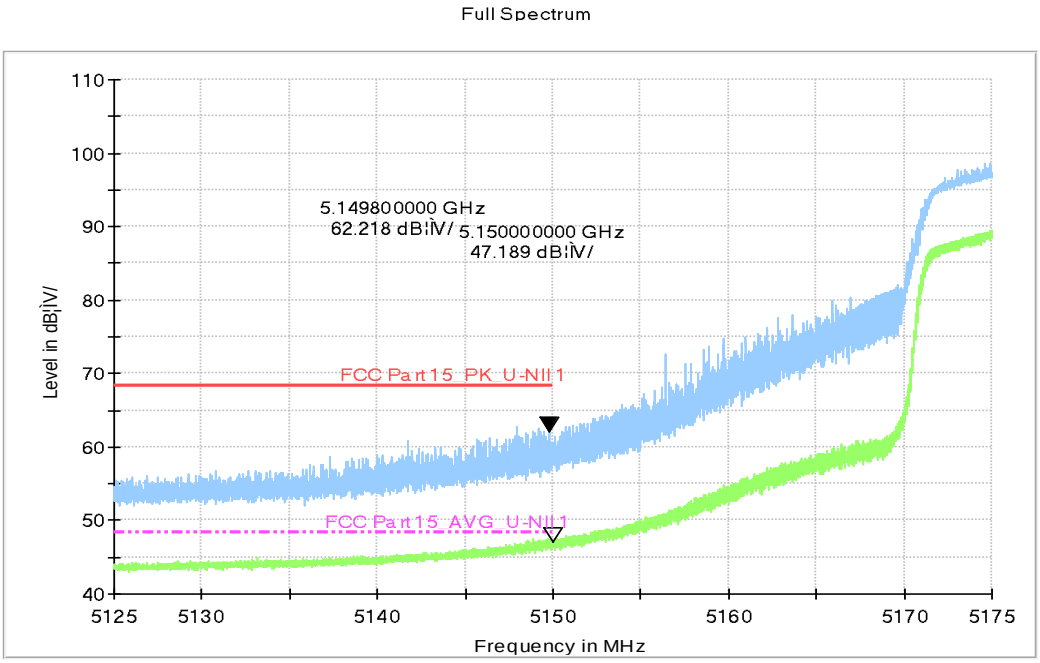


Fig.31 Band Edges (802.11n-HT20, 5180MHz)

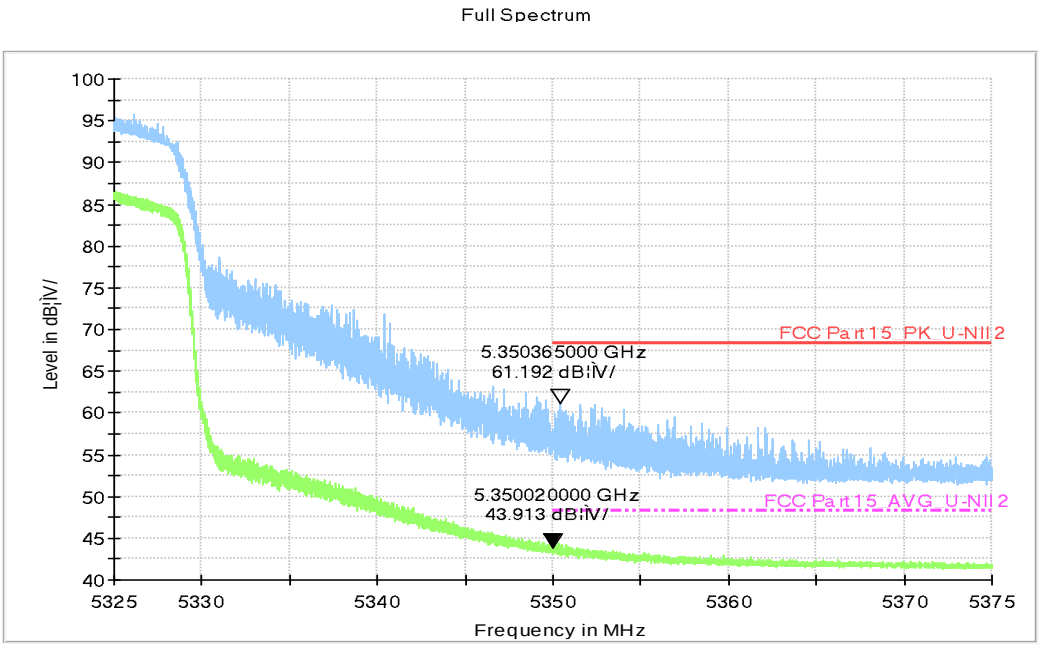


Fig.32 Band Edges (802.11n-HT20, 5320MHz)

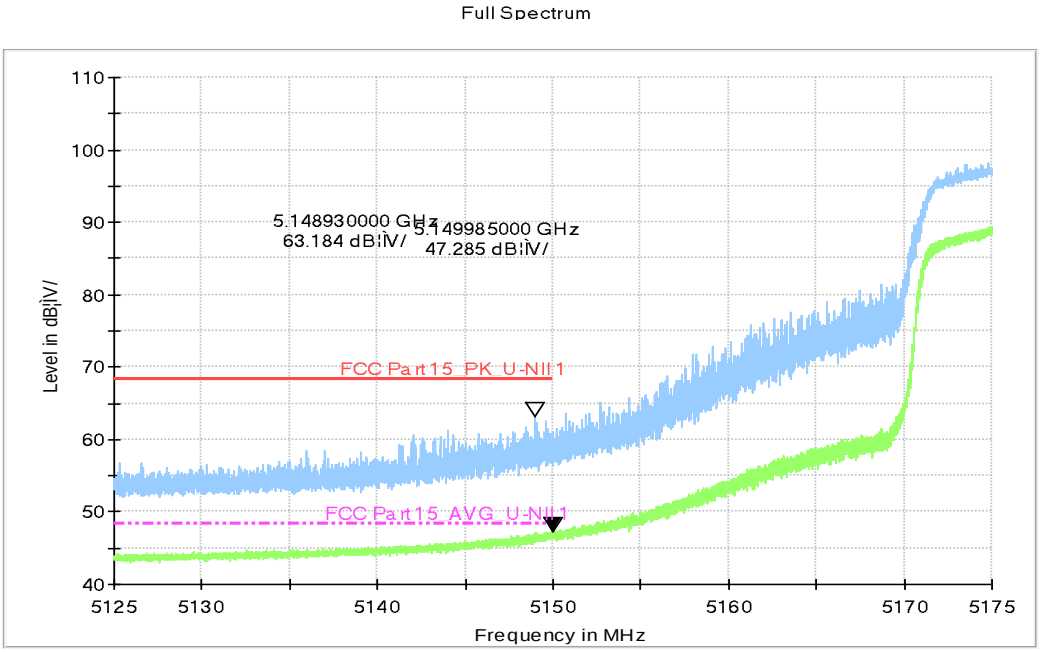


Fig.33 Band Edges (802.11ac-HT20, 5180MHz)

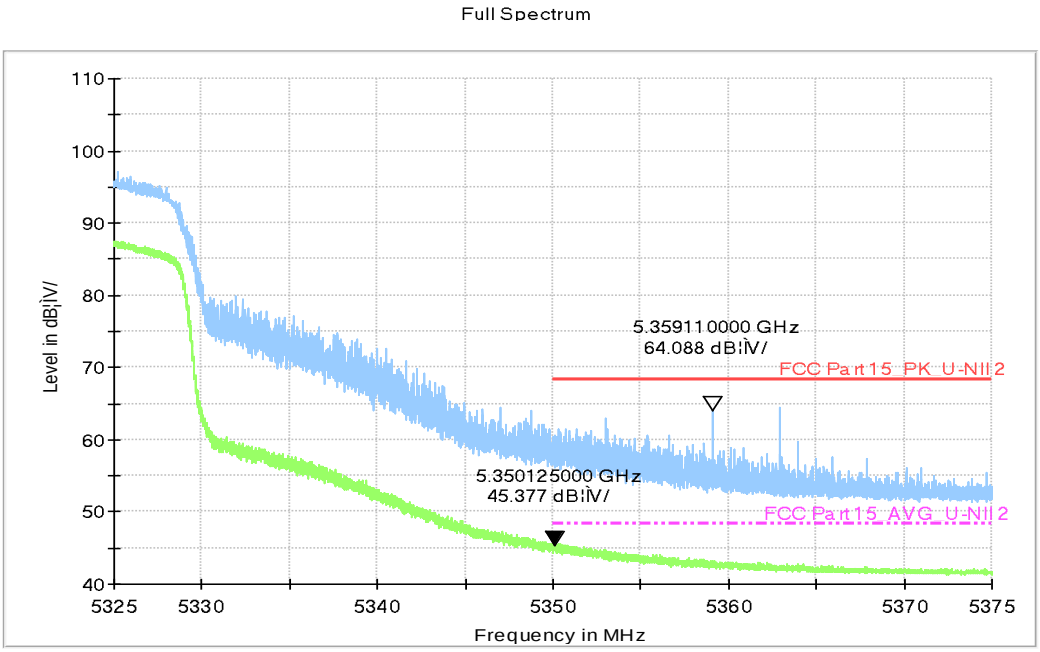


Fig.34 Band Edges (802.11ac-HT20, 5320MHz)

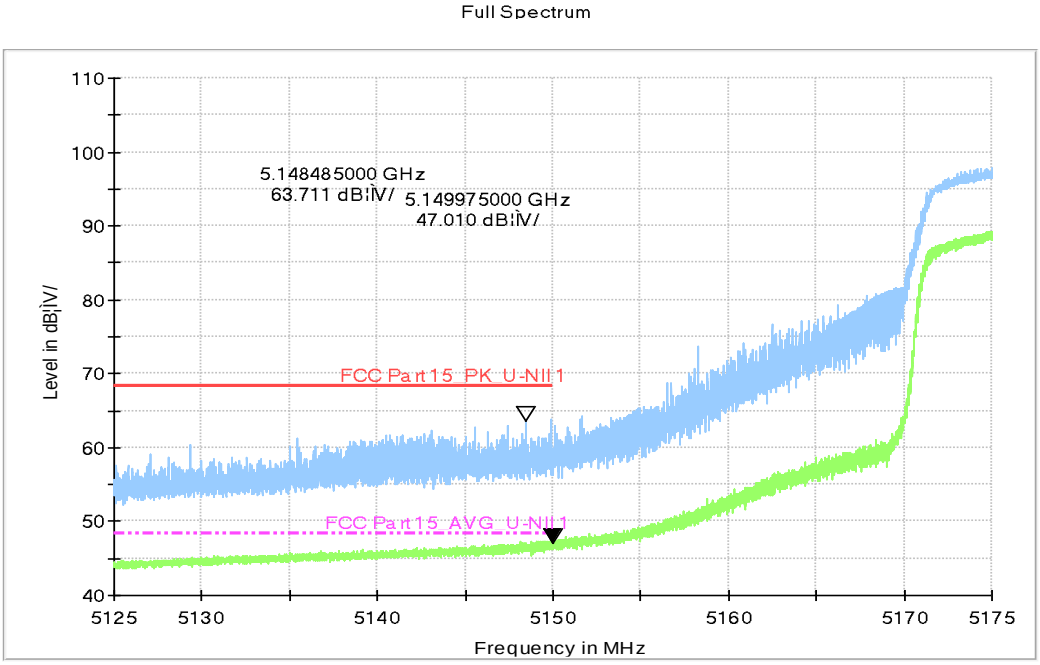


Fig.35 Band Edges (802.11n-HT40, 5190MHz)

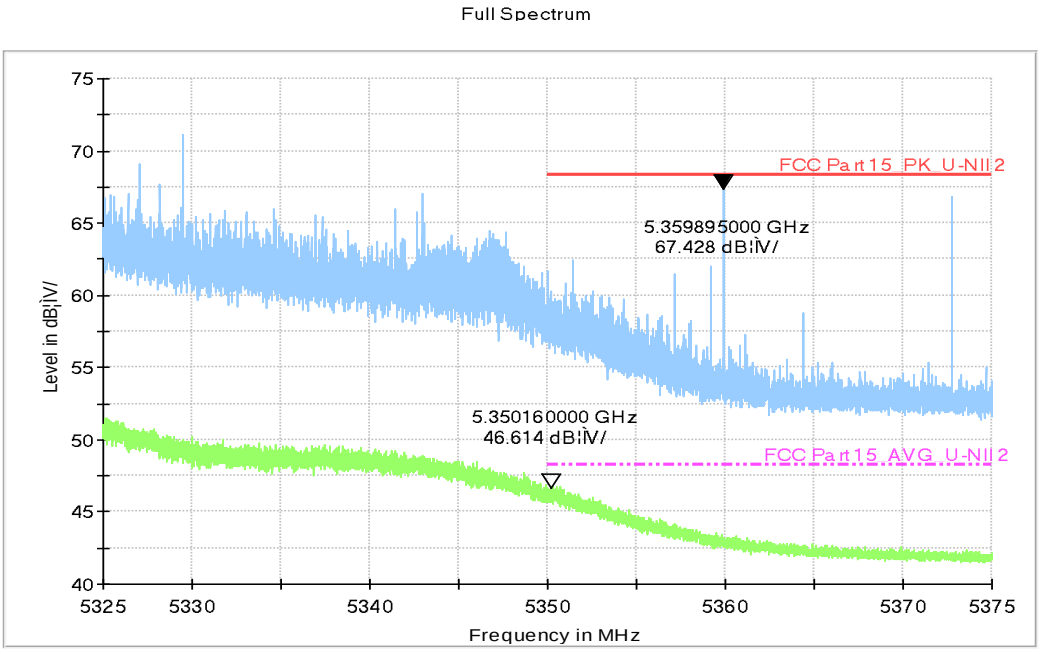


Fig.36 Band Edges (802.11n-HT40, 5310MHz)

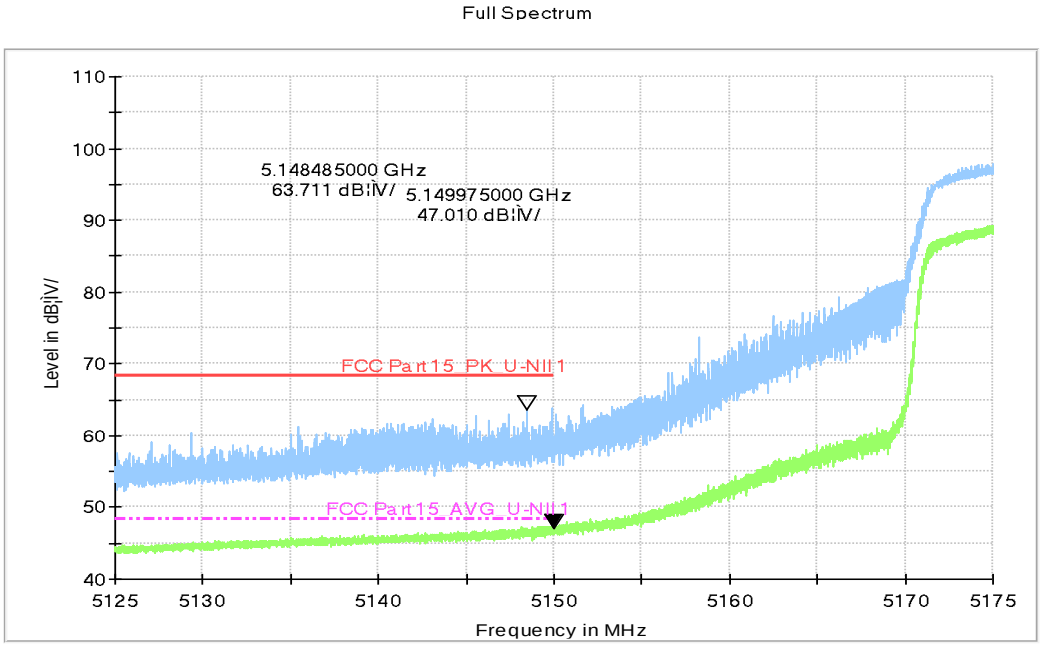


Fig.37 Band Edges (802.11ac-HT40, 5190MHz)

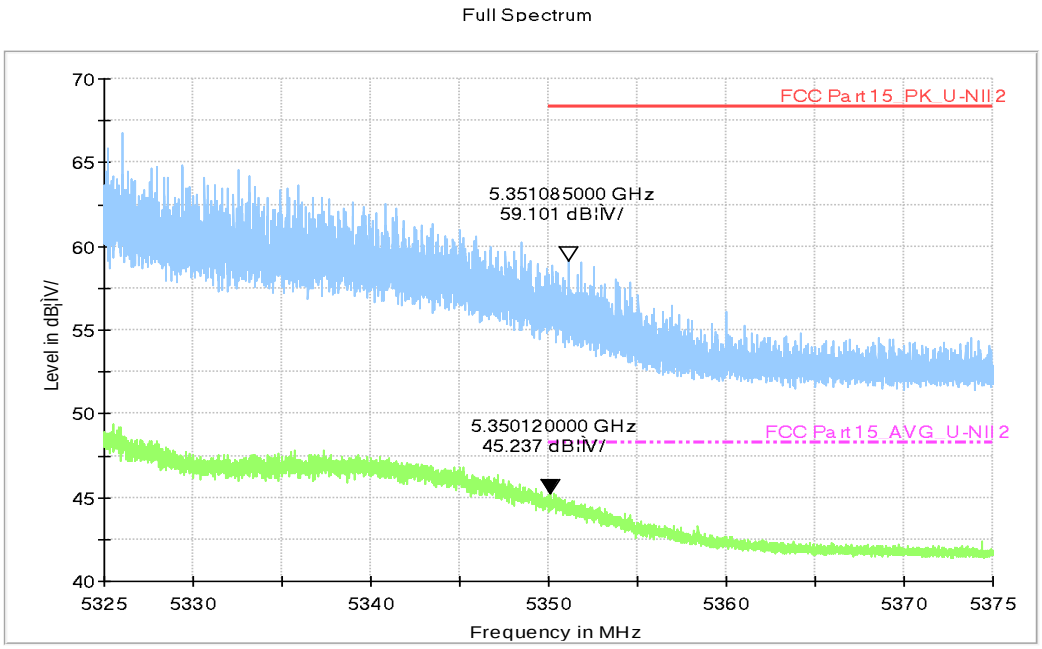


Fig.38 Band Edges (802.11ac-HT40, 5310MHz)

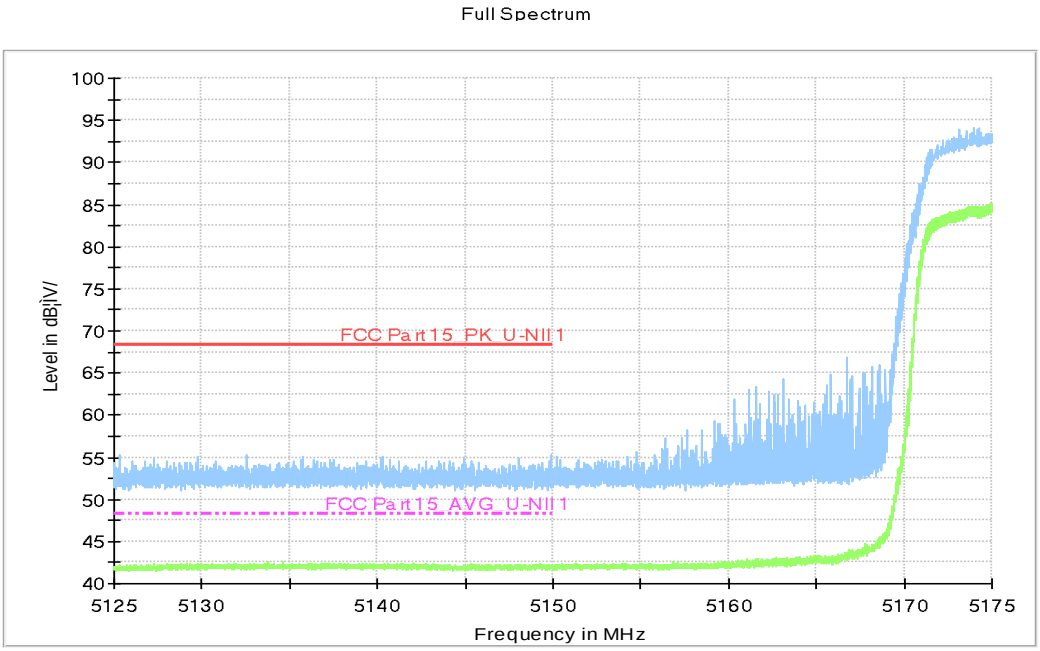


Fig.39 Band Edges (802.11ac-HT80, 5210MHz)

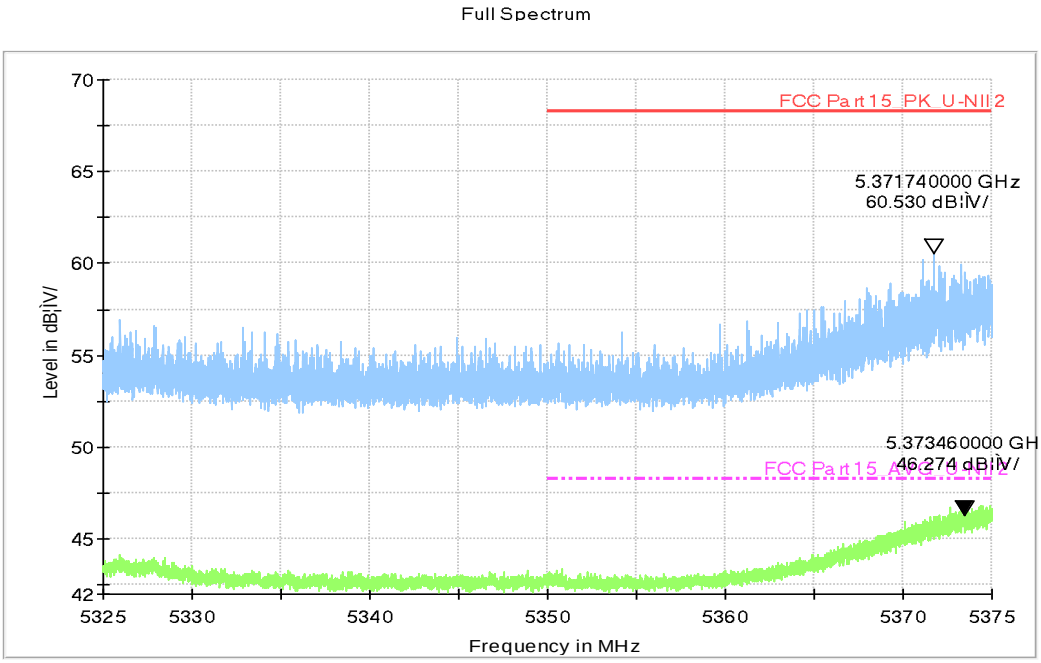


Fig.40 Band Edges (802.11ac-HT80, 5290MHz)

A.6. Transmitter Spurious Emission

Measurement Limit:

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

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

Limit in restricted band:

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

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

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

Measurement Results:

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

Average

82.11a

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17979.1	35.88	-25.50	43.40	17.98	V
17984.6	35.82	-25.50	43.40	17.92	H
17989	35.74	-25.50	43.40	17.84	V
17978	35.70	-25.50	43.40	17.80	H
17990.1	35.70	-25.50	43.40	17.80	V
5149.48	47.05	-17.01	33.40	30.66	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17981.3	35.90	-25.50	43.40	18.01	H
17979.1	35.90	-25.50	43.40	18.00	V
17984.6	35.86	-25.50	43.40	17.96	V
17965.9	35.73	-25.50	43.40	17.83	H
17992.3	35.68	-25.50	43.40	17.78	H
17973.6	35.68	-25.50	43.40	17.78	V

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17992.3	36.03	-25.50	43.40	18.13	V
17993.4	35.88	-25.50	43.40	17.98	V
17983.5	35.85	-25.50	43.40	17.96	H
17979.1	35.74	-25.50	43.40	17.84	H
17984.6	35.73	-25.50	43.40	17.84	V
17953.8	35.70	-25.50	43.40	17.80	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17986.8	36.22	-25.50	43.40	18.32	H
17982.4	36.15	-25.50	43.40	18.26	H
17994.5	36.13	-25.50	43.40	18.23	H
17991.2	36.12	-25.50	43.40	18.23	V
17983.5	36.08	-25.50	43.40	18.18	H
17989	36.04	-25.50	43.40	18.15	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17989	36.27	-25.50	43.40	18.37	V
17987.9	36.26	-25.50	43.40	18.36	V
17992.3	36.05	-25.50	43.40	18.15	V
17971.4	36.02	-25.50	43.40	18.12	H
17981.3	35.99	-25.50	43.40	18.09	H
17991.2	35.99	-25.50	43.40	18.09	H

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	36.24	-25.50	43.40	18.34	H
17986.8	36.21	-25.50	43.40	18.31	H
17973.6	36.16	-25.50	43.40	18.27	V
17980.2	36.12	-25.50	43.40	18.22	V
17982.4	36.11	-25.50	43.40	18.21	H
5350	46.39	-16.95	33.40	29.94	H

802.11n-HT20

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17951.6	47.98	-25.50	43.40	30.08	V
17963.7	47.96	-25.50	43.40	30.06	V
17830.6	47.83	-25.50	43.40	29.93	V
17985.7	47.48	-25.50	43.40	29.58	H
17907.6	47.24	-25.50	43.40	29.35	V
5147.895	62.87	-17.01	33.40	46.48	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17993.4	36.29	-25.50	43.40	18.39	V
17992.3	35.97	-25.50	43.40	18.08	H
17985.7	35.92	-25.50	43.40	18.03	H
17893.3	35.82	-25.50	43.40	17.92	V
17983.5	35.80	-25.50	43.40	17.90	H
17982.4	35.76	-25.50	43.40	17.86	V

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
3742.000	36.2	-34.7	33.3	37.68	H
3803.200	35.1	-35.2	33.3	36.99	H
10480.000	33.6	-31.5	37.6	27.51	H
15720.000	37.1	-27.5	40.4	24.22	H
16952.800	39.0	-27.0	41.7	24.38	H
17026.400	38.9	-26.5	41.7	23.77	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17985.7	36.45	-25.50	43.40	18.55	H
17994.5	36.25	-25.50	43.40	18.36	V
17992.3	36.24	-25.50	43.40	18.34	H
17990.1	36.22	-25.50	43.40	18.33	H
17995.6	36.12	-25.50	43.40	18.22	V
17986.8	36.06	-25.50	43.40	18.16	H

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17991.2	36.15	-25.50	43.40	18.25	H
17973.6	36.12	-25.50	43.40	18.22	V
17987.9	36.09	-25.50	43.40	18.19	V
17985.7	35.99	-25.50	43.40	18.09	V
17980.2	35.96	-25.50	43.40	18.06	V
17979.1	35.95	-25.50	43.40	18.05	V

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17992.3	36.13	-25.50	43.40	18.23	H
17985.7	36.12	-25.50	43.40	18.22	V
17983.5	36.11	-25.50	43.40	18.22	V
17994.5	36.09	-25.50	43.40	18.19	V
17996.7	36.09	-25.50	43.40	18.19	H
5350.07	46.83	-16.95	33.40	30.38	H

802.11n-HT40

Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17996.7	35.88	-25.50	43.40	17.99	H
17997.8	35.86	-25.50	43.40	17.96	H
17963.7	35.83	-25.50	43.40	17.93	V
17974.7	35.83	-25.50	43.40	17.93	V
17982.4	35.78	-25.50	43.40	17.88	H
5149.86	47.46	-17.01	33.40	31.08	H

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	36.41	-25.50	43.40	18.51	H
17982.4	36.10	-25.50	43.40	18.20	H
17985.7	35.89	-25.50	43.40	17.99	H
17979.1	35.89	-25.50	43.40	17.99	H
17893.3	35.85	-25.50	43.40	17.95	V
17992.3	35.82	-25.50	43.40	17.93	H

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17997.8	36.18	-25.50	43.40	18.28	V
17987.9	36.09	-25.50	43.40	18.19	V
17975.8	36.09	-25.50	43.40	18.19	V
17983.5	36.04	-25.50	43.40	18.14	H
17995.6	36.02	-25.50	43.40	18.12	H
17996.7	36.01	-25.50	43.40	18.11	V

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17984.6	36.13	-25.50	43.40	18.23	H
17983.5	36.12	-25.50	43.40	18.22	H
17979.1	36.05	-25.50	43.40	18.15	H
17950.5	35.98	-25.50	43.40	18.09	H
17996.7	35.97	-25.50	43.40	18.07	V
5350.175	46.72	-16.95	33.40	30.26	H

802.11ac-HT20

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	36.25	-25.50	43.40	18.35	H
17982.4	35.87	-25.50	43.40	17.97	V
17860.3	35.80	-25.50	43.40	17.91	V
17995.6	35.75	-25.50	43.40	17.85	H
17950.5	35.72	-25.50	43.40	17.82	H
5149.93	47.32	-17.01	33.40	30.94	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17971.4	36.10	-25.50	43.40	18.20	H
17980.2	35.91	-25.50	43.40	18.01	V
17967	35.88	-25.50	43.40	17.98	H
17990.1	35.88	-25.50	43.40	17.98	H
17993.4	35.88	-25.50	43.40	17.98	H
17985.7	35.85	-25.50	43.40	17.96	H

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17975.8	35.99	-25.50	43.40	18.09	V
17984.6	35.93	-25.50	43.40	18.03	V
17986.8	35.85	-25.50	43.40	17.95	H
17981.3	35.84	-25.50	43.40	17.95	H
17971.4	35.81	-25.50	43.40	17.91	V
17992.3	35.79	-25.50	43.40	17.89	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17610.6	48.68	-25.74	43.40	31.02	V
17982.4	48.81	-25.50	43.40	30.92	H
17887.8	48.32	-25.50	43.40	30.42	V
17835	48.30	-25.50	43.40	30.40	H
17997.8	48.28	-25.50	43.40	30.38	H
5149.89	55.36	-17.01	33.40	38.97	H

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	36.41	-25.50	43.40	18.51	H
17982.4	36.10	-25.50	43.40	18.20	H
17985.7	35.89	-25.50	43.40	17.99	H
17979.1	35.89	-25.50	43.40	17.99	H
17893.3	35.85	-25.50	43.40	17.95	V
17992.3	35.82	-25.50	43.40	17.93	H

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	36.24	-25.50	43.40	18.34	H
17986.8	36.21	-25.50	43.40	18.31	H
17973.6	36.16	-25.50	43.40	18.27	V
17980.2	36.12	-25.50	43.40	18.22	V
17982.4	36.11	-25.50	43.40	18.21	H
5350	46.39	-16.95	33.40	29.94	H

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Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17980.2	36.08	-25.50	43.40	18.18	H
17985.7	36.08	-25.50	43.40	18.18	V
17986.8	36.07	-25.50	43.40	18.17	V
17991.2	36.05	-25.50	43.40	18.15	V
17996.7	35.99	-25.50	43.40	18.09	H
5149.685	46.15	-17.01	33.40	29.77	H

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17993.4	36.09	-25.50	43.40	18.19	H
17990.1	36.07	-25.50	43.40	18.17	H
17989	36.04	-25.50	43.40	18.14	H
17983.5	36.04	-25.50	43.40	18.14	H
17985.7	36.03	-25.50	43.40	18.13	H
17981.3	35.99	-25.50	43.40	18.10	V

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17357.6	43.34	-25.95	40.10	29.18	V
17356.5	43.25	-25.95	40.10	29.09	V
17354.3	43.19	-25.95	40.10	29.03	V
17353.2	43.06	-25.95	40.10	28.91	V
17358.7	42.80	-25.95	40.10	28.65	V
17359.8	42.68	-25.95	40.10	28.53	V

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17984.6	36.13	-25.50	43.40	18.23	H
17983.5	36.12	-25.50	43.40	18.22	H
17979.1	36.05	-25.50	43.40	18.15	H
17950.5	35.98	-25.50	43.40	18.09	H
17996.7	35.97	-25.50	43.40	18.07	V
5350.175	46.72	-16.95	33.40	30.26	H

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Channel 42

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17986.8	36.08	-25.50	43.40	18.18	V
17990.1	36.05	-25.50	43.40	18.15	V
17996.7	36.03	-25.50	43.40	18.13	V
17991.2	36.02	-25.50	43.40	18.12	H
17983.5	36.01	-25.50	43.40	18.11	H
17980.2	36.00	-25.50	43.40	18.11	V

Channel 58

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17993.4	36.27	-25.50	43.40	18.37	V
17992.3	36.16	-25.50	43.40	18.26	V
17984.6	36.07	-25.50	43.40	18.17	V
17982.4	36.06	-25.50	43.40	18.16	H
17987.9	36.02	-25.50	43.40	18.12	V
17974.7	35.97	-25.50	43.40	18.07	V

Peak

802.11a

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17806.4	48.30	-25.50	43.40	30.40	V
17800.9	47.61	-25.50	43.40	29.71	V
17985.7	47.49	-25.50	43.40	29.59	H
17509.4	47.07	-26.85	43.40	30.52	V
17907.6	47.33	-25.50	43.40	29.43	H
5149.875	62.83	-17.01	33.40	46.44	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17822.9	48.42	-25.50	43.40	30.52	V
17609.5	47.68	-25.74	43.40	30.03	H
17919.7	47.79	-25.50	43.40	29.90	H
17949.4	47.60	-25.50	43.40	29.70	V
17965.9	47.52	-25.50	43.40	29.62	H
17996.7	47.46	-25.50	43.40	29.56	H

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17921.9	48.19	-25.50	43.40	30.29	V
17954.9	48.00	-25.50	43.40	30.10	V
17477.5	47.23	-26.85	43.40	30.69	H
17989	47.54	-25.50	43.40	29.64	H
17486.3	47.14	-26.85	43.40	30.59	H
17760.2	47.39	-25.50	43.40	29.49	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	49.24	-25.50	43.40	31.34	V
17996.7	48.38	-25.50	43.40	30.48	V
17784.4	48.32	-25.50	43.40	30.42	V
17829.5	48.13	-25.50	43.40	30.23	H
17598.5	47.70	-25.74	43.40	30.04	V
17457.7	47.52	-26.85	43.40	30.98	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17987.9	48.24	-25.50	43.40	30.34	V
17938.4	48.23	-25.50	43.40	30.34	V
17585.3	47.96	-25.74	43.40	30.30	V
17723.9	47.82	-25.74	43.40	30.16	V
17974.7	47.87	-25.50	43.40	29.97	H
17904.3	47.81	-25.50	43.40	29.92	V

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17935.1	48.15	-25.50	43.40	30.25	H
17697.5	47.79	-25.74	43.40	30.13	H
17596.3	47.72	-25.74	43.40	30.07	H
17683.2	47.60	-25.74	43.40	29.94	V
17473.1	47.48	-26.85	43.40	30.93	H
5353.74	69.05	-16.95	33.40	52.60	H

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Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17951.6	47.98	-25.50	43.40	30.08	V
17963.7	47.96	-25.50	43.40	30.06	V
17830.6	47.83	-25.50	43.40	29.93	V
17985.7	47.48	-25.50	43.40	29.58	H
17907.6	47.24	-25.50	43.40	29.35	V
5147.895	62.87	-17.01	33.40	46.48	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17387.3	48.38	-25.95	40.10	34.23	V
17924.1	47.94	-25.50	43.40	30.04	H
17549	47.53	-26.85	43.40	30.98	V
17479.7	47.51	-26.85	43.40	30.96	H
17825.1	47.68	-25.50	43.40	29.78	V
17992.3	47.63	-25.50	43.40	29.73	H

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17708.5	48.24	-25.74	43.40	30.58	V
17994.5	48.22	-25.50	43.40	30.32	H
17904.3	47.68	-25.50	43.40	29.78	H
17805.3	47.59	-25.50	43.40	29.69	H
17378.5	47.57	-25.95	40.10	33.41	V
17860.3	47.22	-25.50	43.40	29.33	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17924.1	48.71	-25.50	43.40	30.81	H
17580.9	48.10	-25.74	43.40	30.44	V
17991.2	48.24	-25.50	43.40	30.34	V
17958.2	48.21	-25.50	43.40	30.31	H
17897.7	48.01	-25.50	43.40	30.11	H
17389.5	47.47	-26.85	43.40	30.92	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17473.1	48.34	-26.85	43.40	31.79	H
17908.7	48.28	-25.50	43.40	30.38	H
17917.5	48.11	-25.50	43.40	30.21	V
17923	48.02	-25.50	43.40	30.12	H
17514.9	47.60	-26.85	43.40	31.05	V
17572.1	47.70	-25.74	43.40	30.04	V

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17986.8	48.10	-25.50	43.40	30.20	V
17898.8	47.92	-25.50	43.40	30.02	V
17984.6	47.85	-25.50	43.40	29.96	H
17973.6	47.84	-25.50	43.40	29.94	H
17976.9	47.81	-25.50	43.40	29.92	V
5362.315	65.31	-16.95	33.40	48.86	H

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Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17993.4	47.88	-25.50	43.40	29.98	V
17917.5	47.68	-25.50	43.40	29.78	V
17781.1	47.54	-25.50	43.40	29.65	H
17964.8	47.53	-25.50	43.40	29.63	H
17969.2	47.52	-25.50	43.40	29.62	V
5149.91	63.78	-17.01	33.40	47.39	H

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17849.3	47.83	-25.50	43.40	29.93	H
17986.8	47.75	-25.50	43.40	29.85	H
17995.6	47.60	-25.50	43.40	29.70	V
17978	47.58	-25.50	43.40	29.68	H
17981.3	47.47	-25.50	43.40	29.57	H
17836.1	47.34	-25.50	43.40	29.44	V

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17980.2	48.42	-25.50	43.40	30.52	V
17310.3	48.63	-25.95	40.10	34.48	V
17930.7	48.34	-25.50	43.40	30.44	H
17892.2	48.10	-25.50	43.40	30.20	H
17844.9	47.76	-25.50	43.40	29.86	H
17676.6	47.48	-25.74	43.40	29.82	V

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17797.6	48.86	-25.50	43.40	30.96	V
17853.7	48.78	-25.50	43.40	30.88	H
17858.1	48.54	-25.50	43.40	30.65	H
17909.8	48.34	-25.50	43.40	30.44	V
17820.7	48.20	-25.50	43.40	30.30	H
5359.895	69.43	-16.95	33.40	52.97	H

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Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17938.4	47.92	-25.50	43.40	30.02	V
17457.7	47.53	-26.85	43.40	30.98	V
17970.3	47.65	-25.50	43.40	29.75	V
17506.1	47.28	-26.85	43.40	30.73	H
17894.4	47.45	-25.50	43.40	29.55	H
5148.93	63.18	-17.01	33.40	46.80	H

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17888.9	48.28	-25.50	43.40	30.38	H
17882.3	47.89	-25.50	43.40	29.99	H
17973.6	47.81	-25.50	43.40	29.91	H
17855.9	47.66	-25.50	43.40	29.76	V
17486.3	47.23	-26.85	43.40	30.69	H
17477.5	47.15	-26.85	43.40	30.60	V

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17954.9	47.94	-25.50	43.40	30.04	H
17804.2	47.86	-25.50	43.40	29.96	V
17987.9	47.76	-25.50	43.40	29.86	H
17997.8	47.71	-25.50	43.40	29.81	V
17884.5	47.70	-25.50	43.40	29.80	H
17981.3	47.69	-25.50	43.40	29.79	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17924.1	48.71	-25.50	43.40	30.81	H
17580.9	48.10	-25.74	43.40	30.44	V
17991.2	48.24	-25.50	43.40	30.34	V
17958.2	48.21	-25.50	43.40	30.31	H
17897.7	48.01	-25.50	43.40	30.11	H
17389.5	47.47	-26.85	43.40	30.92	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17473.1	48.34	-26.85	43.40	31.79	H
17908.7	48.28	-25.50	43.40	30.38	H
17917.5	48.11	-25.50	43.40	30.21	V
17923	48.02	-25.50	43.40	30.12	H
17514.9	47.60	-26.85	43.40	31.05	V
17572.1	47.70	-25.74	43.40	30.04	V

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17986.8	48.10	-25.50	43.40	30.20	V
17898.8	47.92	-25.50	43.40	30.02	V
17984.6	47.85	-25.50	43.40	29.96	H
17973.6	47.84	-25.50	43.40	29.94	H
17976.9	47.81	-25.50	43.40	29.92	V
5362.315	65.31	-16.95	33.40	48.86	H

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Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17894.4	48.38	-25.50	43.40	30.48	H
17877.9	48.38	-25.50	43.40	30.48	V
17864.7	48.19	-25.50	43.40	30.29	V
17935.1	48.05	-25.50	43.40	30.15	H
17828.4	47.84	-25.50	43.40	29.94	H
5138.635	62.63	-17.01	33.40	46.24	H

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17983.5	47.93	-25.50	43.40	30.03	H
17437.9	47.51	-26.85	43.40	30.96	V
17697.5	47.61	-25.74	43.40	29.95	H
17881.2	47.59	-25.50	43.40	29.69	V
17890	47.56	-25.50	43.40	29.66	V
17747	47.48	-25.50	43.40	29.58	H

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17980.2	48.42	-25.50	43.40	30.52	V
17310.3	48.63	-25.95	40.10	34.48	V
17930.7	48.34	-25.50	43.40	30.44	H
17892.2	48.10	-25.50	43.40	30.20	H
17844.9	47.76	-25.50	43.40	29.86	H
17676.6	47.48	-25.74	43.40	29.82	V

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17797.6	48.86	-25.50	43.40	30.96	V
17853.7	48.78	-25.50	43.40	30.88	H
17858.1	48.54	-25.50	43.40	30.65	H
17909.8	48.34	-25.50	43.40	30.44	V
17820.7	48.20	-25.50	43.40	30.30	H
5359.895	69.43	-16.95	33.40	52.97	H

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Channel 42

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17976.9	48.71	-25.50	43.40	30.81	V
17690.9	48.14	-25.74	43.40	30.48	V
17367.5	48.61	-25.95	40.10	34.46	H
17989	48.25	-25.50	43.40	30.35	V
17981.3	48.20	-25.50	43.40	30.30	V
17926.3	48.18	-25.50	43.40	30.28	V

Channel 58

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17982.4	48.31	-25.50	43.40	30.41	H
17984.6	48.27	-25.50	43.40	30.37	H
17995.6	48.23	-25.50	43.40	30.33	H
17532.5	47.84	-26.85	43.40	31.29	V
17931.8	48.13	-25.50	43.40	30.23	H
17976.9	48.13	-25.50	43.40	30.23	H

Sample calculation: 802.11ac 80MHz CH106–Peak, 5455.200 MHz

Peak ERP(dBm) = P_{Mea}(47.1dBuV/m)+Cable Loss(-33.2) + Antenna Factor(34.5) = 48.4 dBuV/m

A.7. AC Powerline Conducted Emission (150kHz- 30MHz)

Test Condition:

Voltage（V）	Frequency（Hz）
110	60

Measurement uncertainty:

Expanded measurement uncertainty for this test item is U =3.08dB, 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.41	Fig.42	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.41	Fig.42	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:

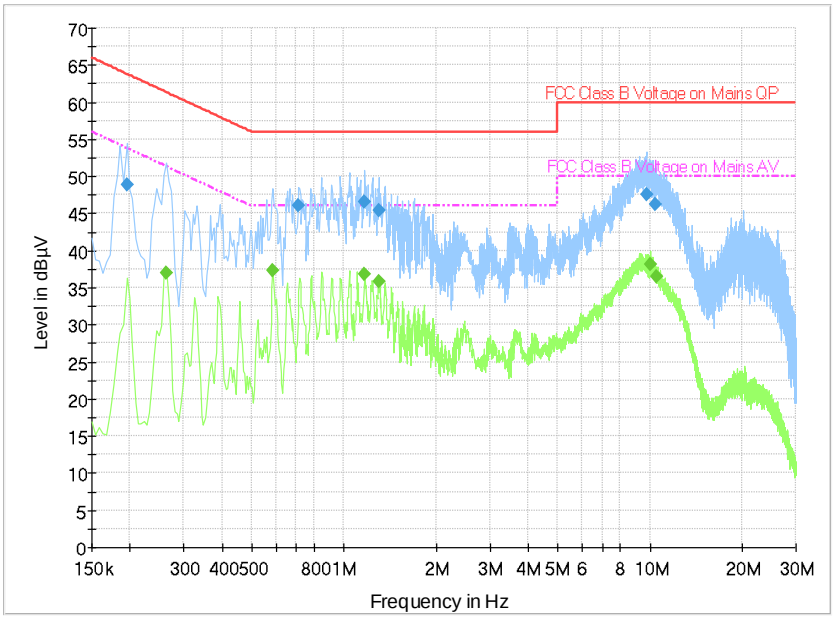

Fig. 41 Conducted Emission(802.11a, Ch40, TX)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.195000	48.9	2000.0	9.000	On	L1	19.8	14.9	63.8
0.712500	46.1	2000.0	9.000	On	L1	19.8	9.9	56.0
1.171500	46.5	2000.0	9.000	On	L1	19.6	9.5	56.0
1.302000	45.4	2000.0	9.000	On	L1	19.6	10.6	56.0
9.726000	47.6	2000.0	9.000	On	L1	19.8	12.4	60.0
10.441500	46.3	2000.0	9.000	On	L1	19.8	13.7	60.0

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262500	37.0	2000.0	9.000	On	N	19.8	14.3	51.4
0.586500	37.3	2000.0	9.000	On	N	19.9	8.7	46.0
1.171500	36.8	2000.0	9.000	On	L1	19.6	9.2	46.0
1.302000	35.9	2000.0	9.000	On	L1	19.6	10.1	46.0
10.050000	38.2	2000.0	9.000	On	L1	19.8	11.8	50.0
10.558500	36.4	2000.0	9.000	On	L1	19.8	13.6	50.0

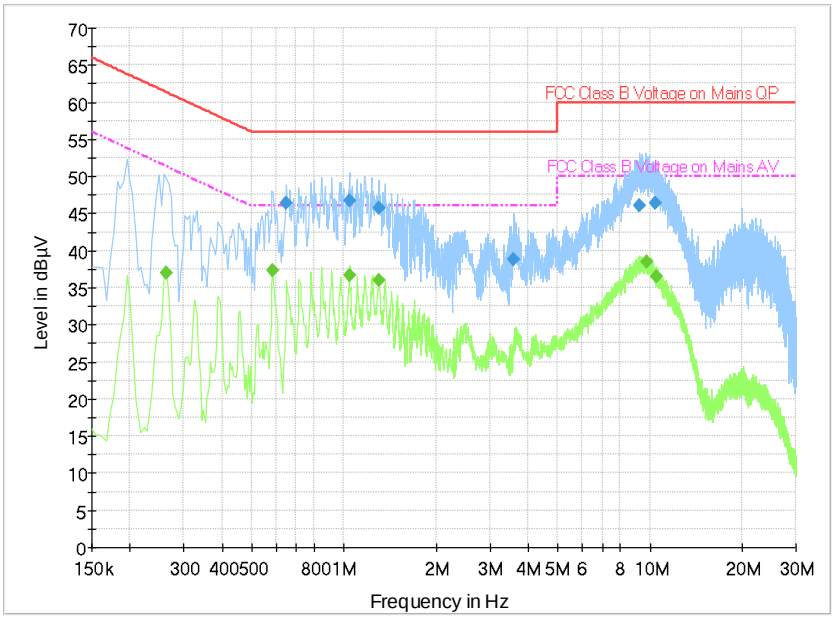

Fig. 42 Conducted Emission(802.11a, IDLE)

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.649500	46.4	2000.0	9.000	On	L1	19.8	9.6	56.0
1.041000	46.7	2000.0	9.000	On	L1	19.6	9.3	56.0
1.297500	45.8	2000.0	9.000	On	L1	19.6	10.2	56.0
3.597000	38.8	2000.0	9.000	On	L1	19.6	17.2	56.0
9.240000	46.1	2000.0	9.000	On	L1	19.8	13.9	60.0
10.428000	46.4	2000.0	9.000	On	L1	19.8	13.6	60.0

Measurement Result:

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262500	37.0	2000.0	9.000	On	N	19.8	14.3	51.4
0.586500	37.4	2000.0	9.000	On	N	19.9	8.6	46.0
1.041000	36.6	2000.0	9.000	On	L1	19.6	9.4	46.0
1.297500	36.0	2000.0	9.000	On	L1	19.6	10.0	46.0
9.726000	38.5	2000.0	9.000	On	L1	19.8	11.5	50.0
10.513500	36.6	2000.0	9.000	On	L1	19.8	13.5	50.0

A.8. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Measurement Result:

Mode	Channel	99% Occupied bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.43	19.12	P
	5200 MHz	Fig.44	18.60	P
	5240 MHz	Fig.45	18.48	P
802.11n HT20	5180 MHz	Fig.46	19.52	P
	5200 MHz	Fig.47	19.36	P
	5240 MHz	Fig.48	19.08	P
802.11ac HT20	5180 MHz	Fig.49	19.20	P
	5200 MHz	Fig.50	19.20	P
	5240 MHz	Fig.51	19.48	P

802.11n HT40	5190 MHz	Fig.52	36.16	P
	5230 MHz	Fig.53	36.24	P
802.11ac HT40	5190 MHz	Fig.54	36.24	P
	5230 MHz	Fig.55	36.24	P
802.11ac HT80	5210 MHz	Fig.56	75.36	P

Conclusion: PASS

Test graphs as below:

Fig.43 99% Occupied bandwidth (802.11a, 5180MHz)

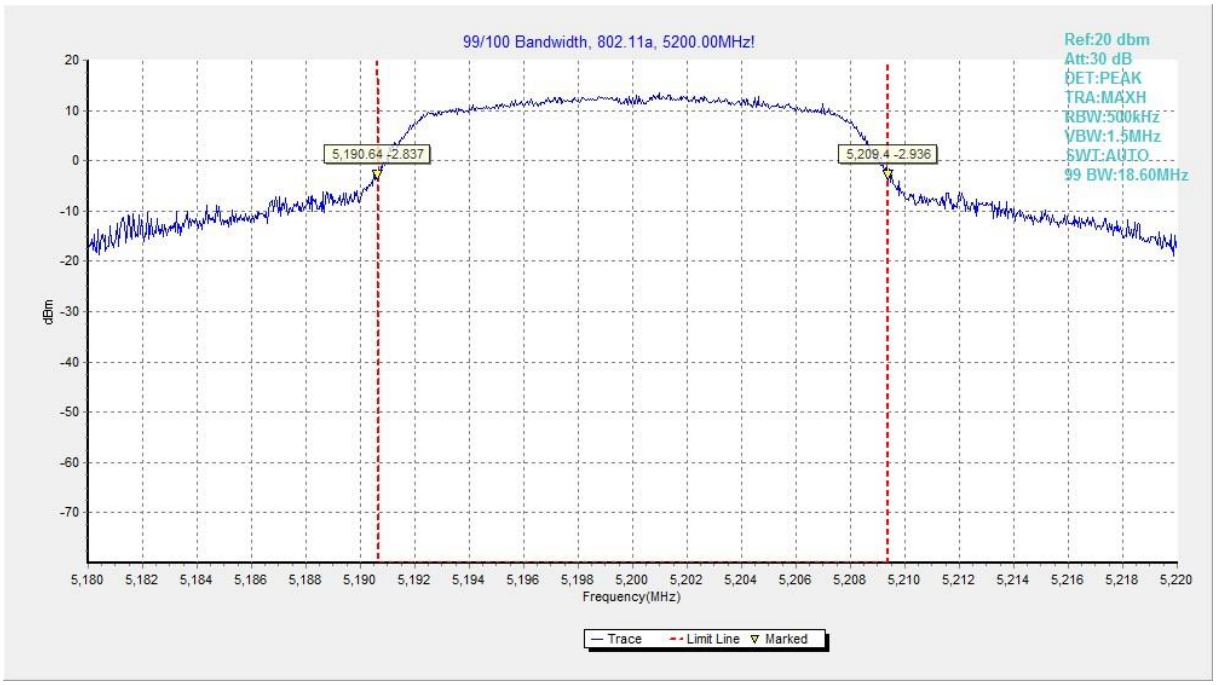

Fig.44 99% Occupied bandwidth (802.11a, 5200MHz)

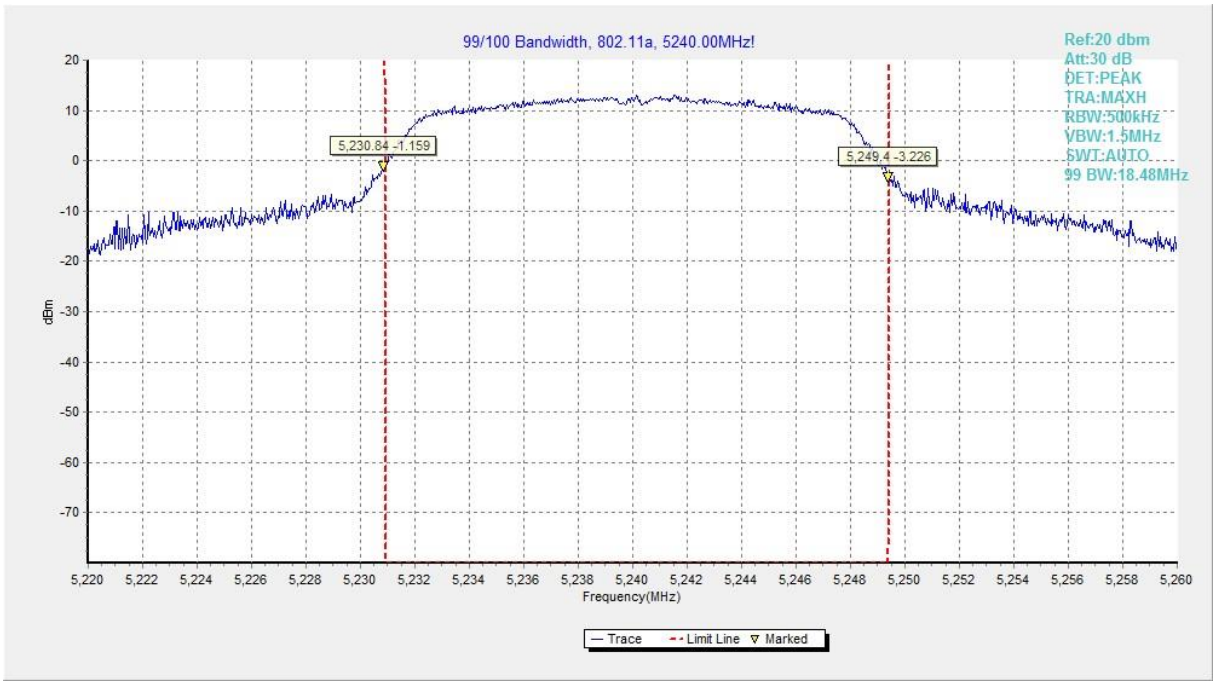

Fig.45 99% Occupied bandwidth (802.11a, 5240MHz)

Fig.46 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

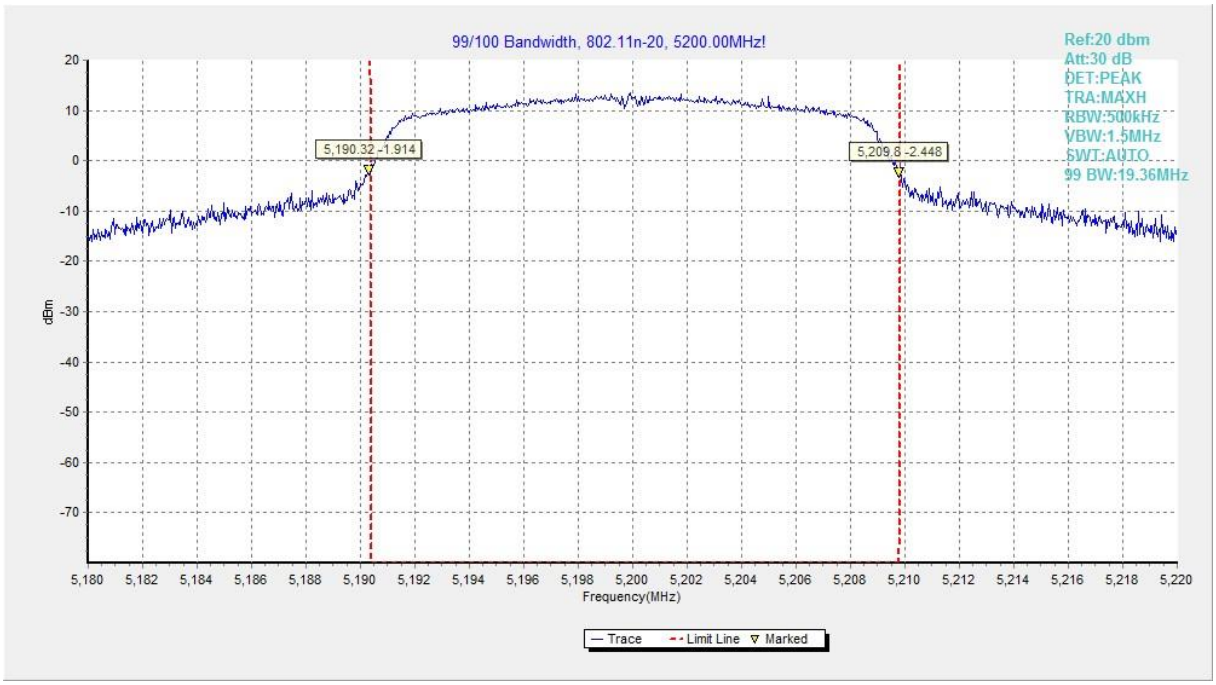

Fig.47 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

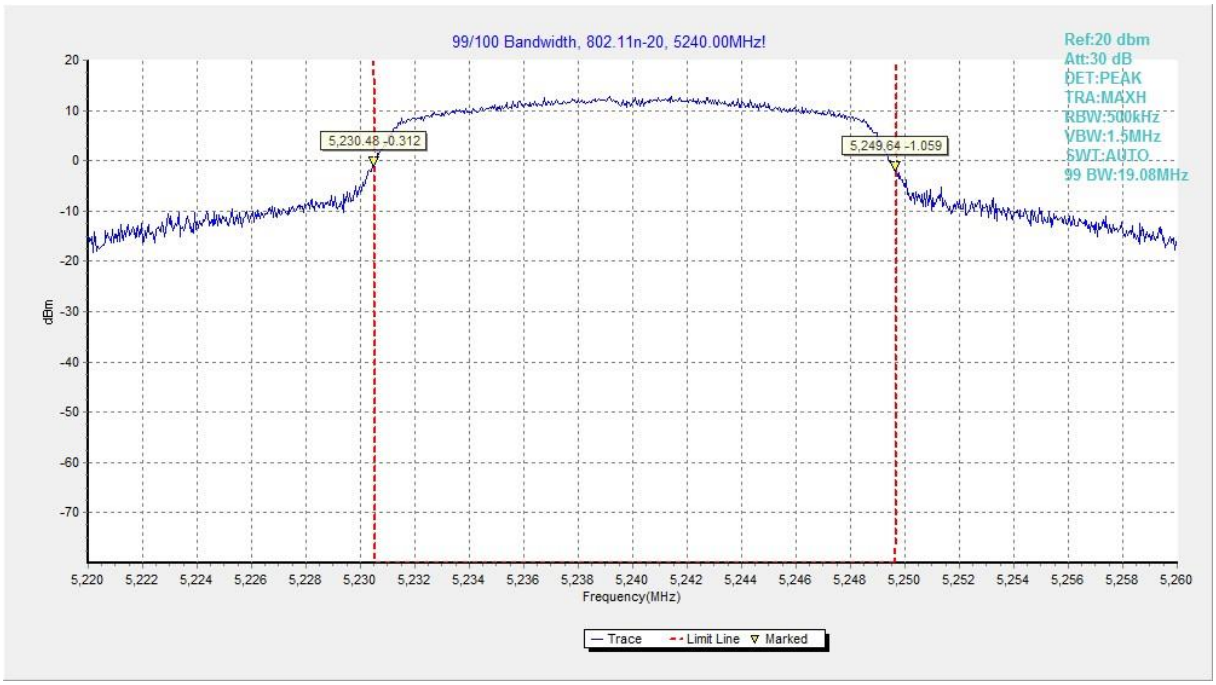

Fig.48 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

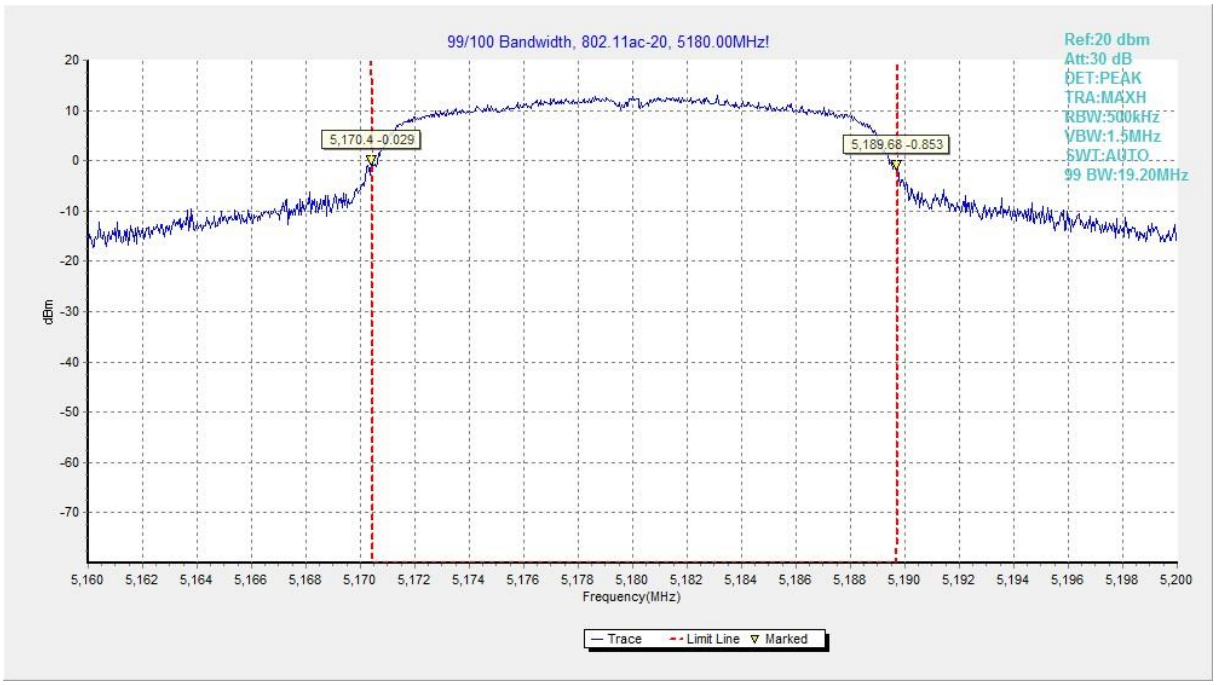

Fig.49 99% Occupied bandwidth (802.11ac-HT20, 5180MHz)

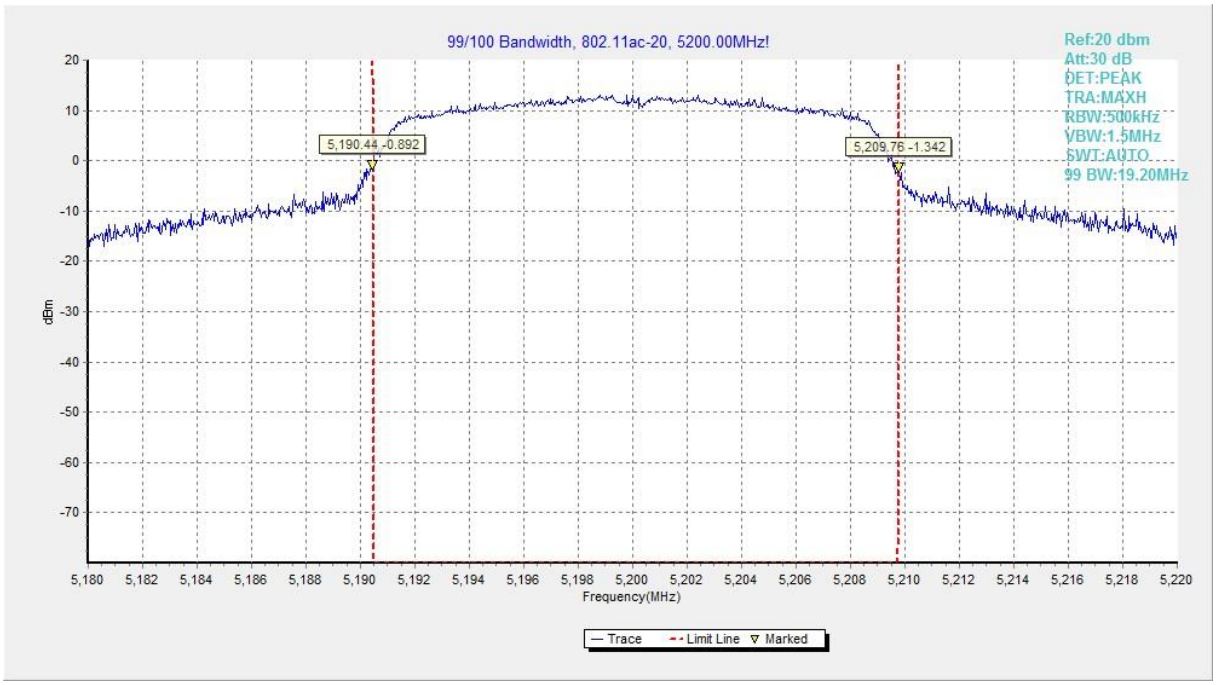

Fig.50 99% Occupied bandwidth (802.11ac-HT20, 5200MHz)

Fig.51 99% Occupied bandwidth (802.11ac-HT20, 5240MHz)

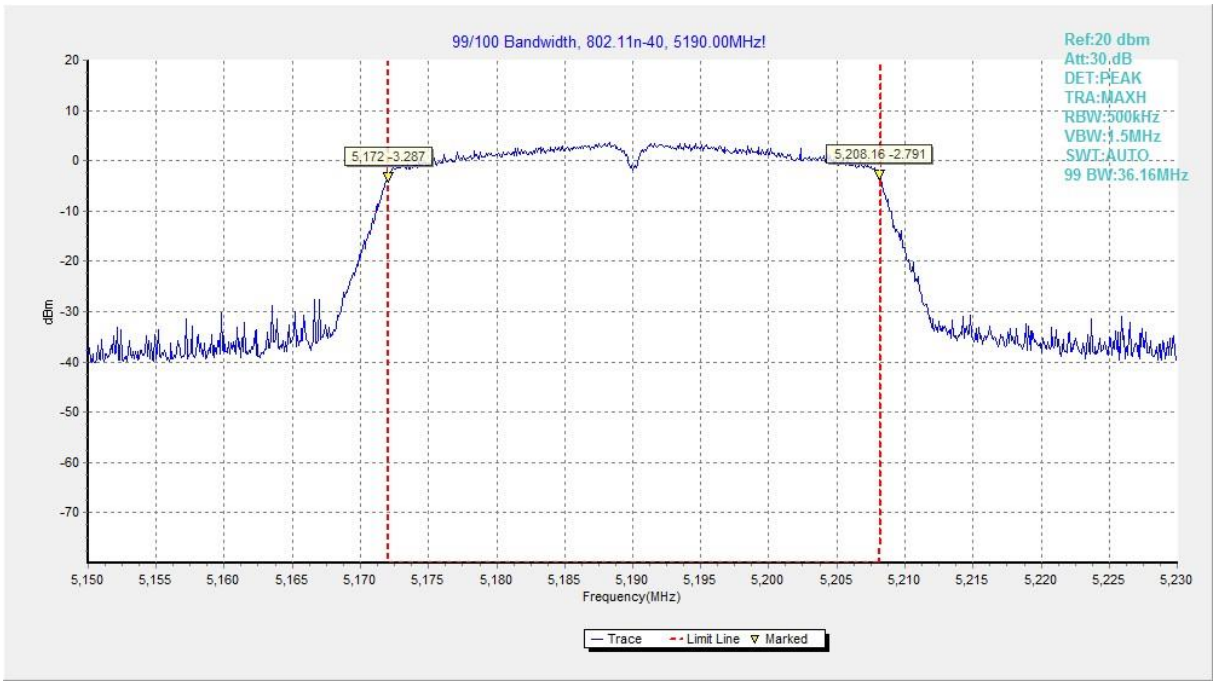

Fig.52 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

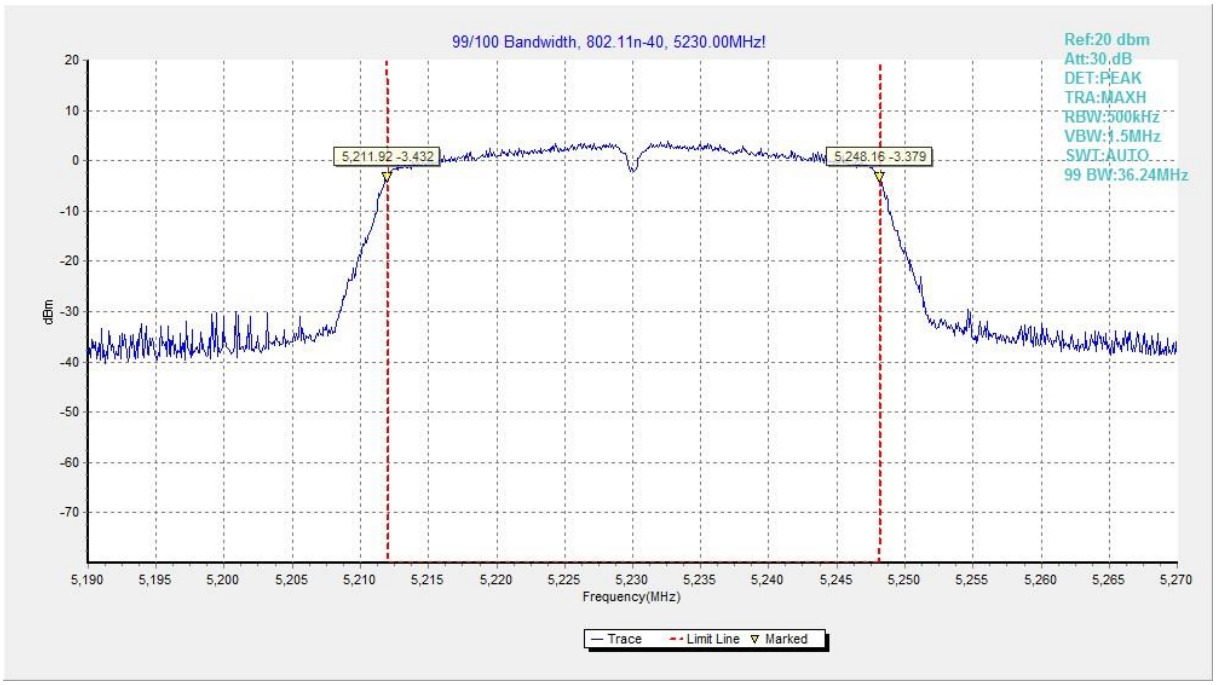

Fig.53 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

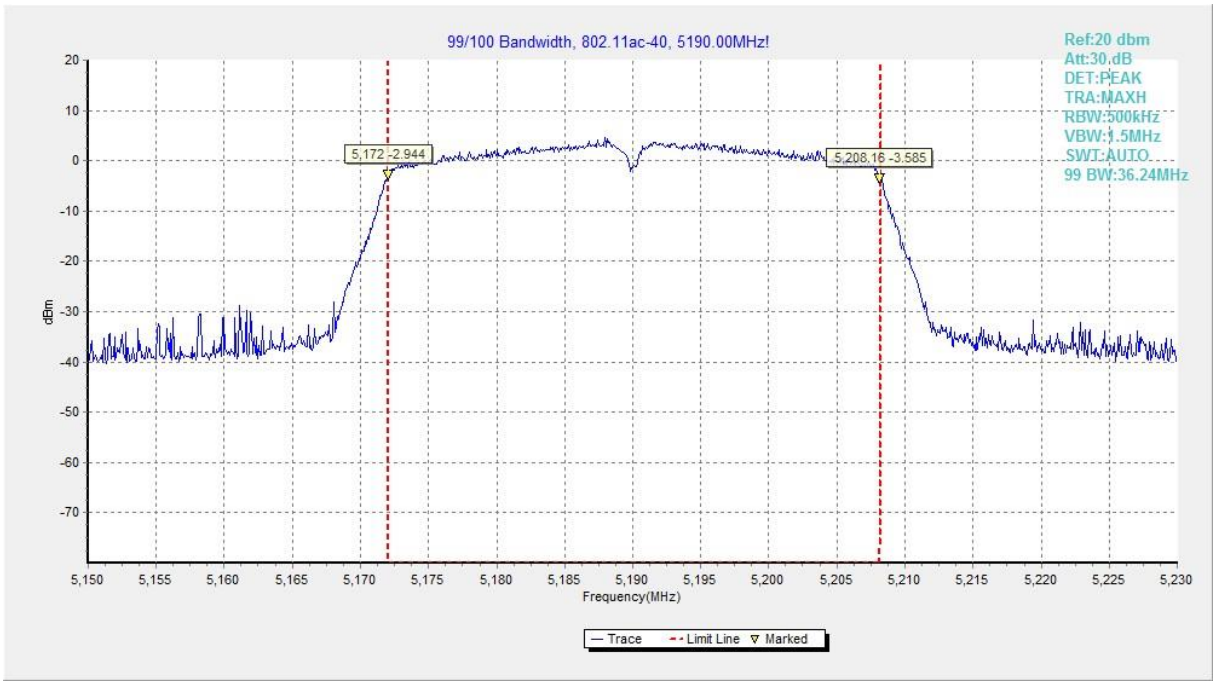

Fig.54 99% Occupied bandwidth (802.11ac-HT40, 5190MHz)

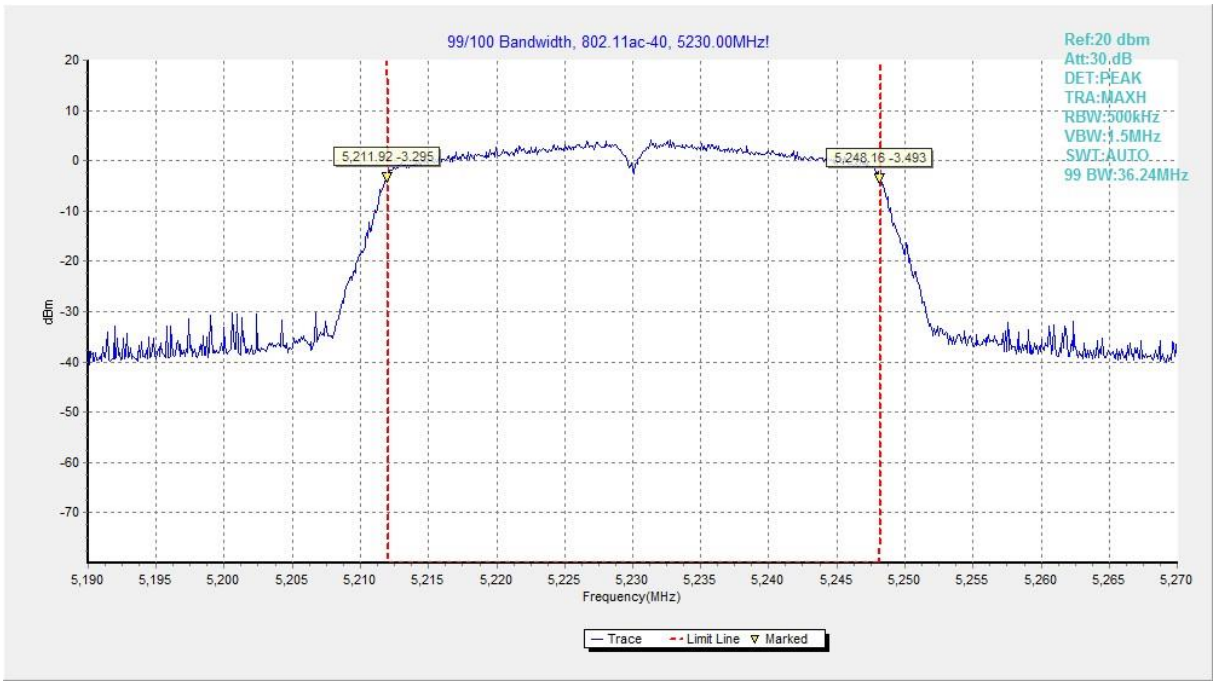

Fig.55 99% Occupied bandwidth (802.11ac-HT40, 5230MHz)

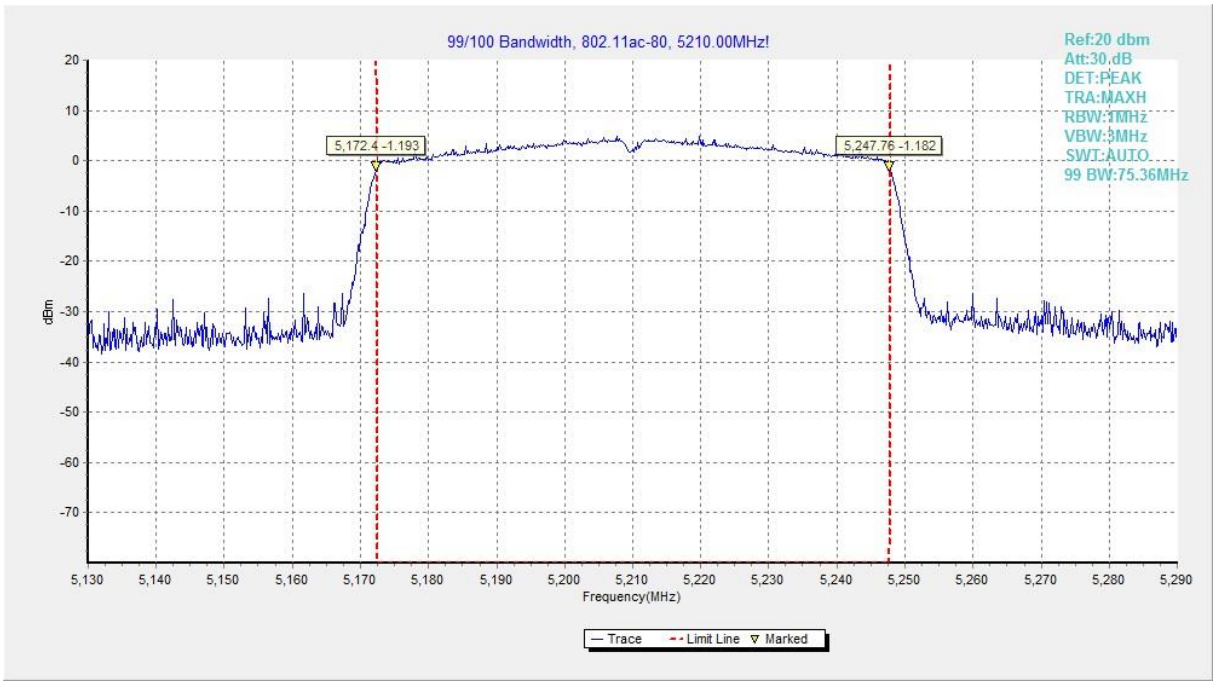

Fig.56 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)

A.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.

Measurement Result:

Mode	Channel	Test Condition		Result(MHz)
802.11ac-HT80	5210MHz	Tnom	Vnom	0.02
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	
802.11n-HT40	5310MHz	Tnom	Vnom	0.02
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	

A.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).

ANNEX B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

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

2018-09-28 through 2019-09-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program

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