



FCC TEST REPORT

Test report

On Behalf of

Shenzhen Vitek Electronics Co., Ltd

For

11.6inch Netbook, Notebook, Laptop

**Model No.: VK116, VK1160, VK116X, VK116Y (X stands for 0 to 9,
Y stands for A to Z)**

FCC ID: 2AUIK-VK116V2

Prepared for : Shenzhen Vitek Electronics Co., Ltd

**Room 801-805, Jiangnan Building, Yongxiang Road, Bantian, Longgang,
Shenzhen, Guangdong, China**

Prepared By : Shenzhen HUAKE Testing Technology Co., Ltd.

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Date of Test: Jul. 12, 2021 ~ Aug. 27, 2021

Date of Report: Aug. 27, 2021

Report Number: HK2107122302-4E



TEST RESULT CERTIFICATION

Applicant's name: Shenzhen Vitek Electronics Co., Ltd

Address: Room 801-805, Jiangnan Building, Yongxiang Road, Bantian,
Longgang, Shenzhen, Guangdong, China

Manufacture's Name.....: Shenzhen Vitek Electronics Co., Ltd

Address: Taijiale Technology Industrial Park, Tianliao Community,
Guangming New District, Shenzhen, China

Product description

Trade Mark: VTEX,VTEX by Vitek

Product name.....: 11.6inch Netbook,Notebook,Laptop

Model and/or type reference : VK116, VK1160, VK116X, VK116Y (X stands for 0 to 9, Y stands
for A to Z)

Standards: FCC Rules and Regulations Part 15 Subpart E Section 15.407

Standards: ANSI C63.10: 2013

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Date of Test:

Date (s) of performance of tests: Jul. 12, 2021 ~ Aug. 27, 2021

Date of Issue.....: Aug. 27, 2021

Test Result.....: Pass

Prepared by:

Project Engineer

Reviewed by:

Project Supervisor

Approved by:

Technical Director



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**** Modified History ****

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Aug. 27, 2021	Jason Zhou



1. TEST RESULT SUMMARY

1.1. TEST PROCEDURES AND RESULTS

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(e)	N/A
26dB Emission Bandwidth & 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Band edge	§15.407(b)/15.209/15.205	PASS
Radiated Emission	§15.407(b)/15.209/15.205	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

1.2. TEST FACILITY

Test Firm : Shenzhen HUAKE Testing Technology Co., Ltd.

Address : 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



1.3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 2.71\text{dB}$
2	RF power, conducted	$\pm 0.37\text{dB}$
3	Spurious emissions, conducted	$\pm 0.11\text{dB}$
4	All emissions, radiated(<1G)	$\pm 3.90\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^{\circ}\text{C}$
7	Humidity	$\pm 1.0\%$



2. EUT DESCRIPTION

2.1. GENERAL DESCRIPTION OF EUT

Equipment	11.6inch Netbook,Notebook,Laptop
Model Name	VK116
Serial No.	VK1160, VK116X, VK116Y (X stands for 0 to 9, Y stands for A to Z)
Trade Mark	VTEX,VTEX by Vitek
Model Difference	All model's the function, software and electric circuit are the same, only with a product color, appearance, brand name and model named different. Test sample model: VK116.
FCC ID	2AUIK-VK116V2
Operation Frequency:	IEEE 802.11a/n/ac(HT20) 5.180GHz-5.240GHz IEEE 802.11n/ac(HT40) 5.190GHz-5.230GHz IEEE 802.11ac(HT80) 5.210GHz
Modulation Technology:	IEEE 802.11a/n/ac
Modulation Type	OFDM
Antenna Type	Internal Antenna
Antenna Gain	Antenna 1:1dBi Antenna 2:1dBi MIMO: 4.01dBi
Power Source	DC 8.7V from battery or DC 12V 2A from Adapter with AC100-240V 50/60Hz, 0.8A
Power Supply:	DC 8.7V from battery or DC 12V 2A from Adapter with AC100-240V 50/60Hz, 0.8A
Note: The EUT incorporates a MIMO function. Physically, it provides two completed transmitters and receivers(2T2R), two transmit signals are completely correlated, then, Direction gain= GANT + Array Gain(Array Gain=10 log(2) dB for power spectral density; Array Gain=0 for power measurement)	



2.2. OPERATION FREQUENCY EACH OF CHANNEL

802.11a/802.11n(HT20) 802.11ac(HT20)		802.11n(HT40)/ 802.11ac(HT40)		802.11ac(HT80)	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

2.3. OPERATION OF EUT DURING TESTING

For 802.11a/n (HT20)/ac(HT20)

Band I (5150 - 5250 MHz)		
Channel Number	Channel	Frequency (MHz)
36	Low	5180
40	Mid	5200
48	High	5240

For 802.11n (HT40)/ ac(HT40)

Band I (5150 - 5250 MHz)		
Channel Number	Channel	Frequency (MHz)
38	Low	5190
46	High	5230

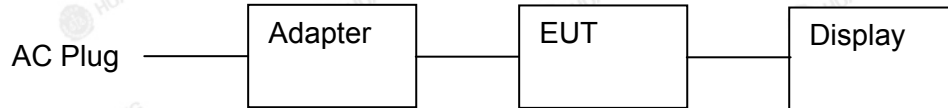
For 802.11ac(HT80)

Band I (5150 - 5250 MHz)	
Channel Number	Frequency (MHz)
42	5210

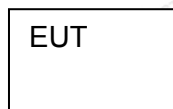


2.4. DESCRIPTION OF TEST SETUP

Operation of EUT during conducted testing and radiation below 1GHz testing:



Operation of EUT during radiation above 1GHz testing:



Adapter information

Model: HTY36-1202000U

Input: 100-240V, 50/60Hz, 0.8A

Output: 12VDC, 2A

Display information

Model: 24PFF3661/T3

Input: AC 120V/60Hz

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.



3. GENERAL INFORMATION

3.1. TEST ENVIRONMENT AND MODE

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 100%)
The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a	6 Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
802.11ac(HT20)/ac(HT40)/ac(HT80)	MCS0

Final Test Mode:

Operation mode:	Keep the EUT in continuous transmitting with modulation
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3.2. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



4. TEST RESULTS AND MEASUREMENT DATA

4.1. CONDUCTED EMISSION

4.1.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane 40cm 80cm E.U.T AC power LISN Filter AC power EMI Receiver Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Tx Mode														
Test Procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

**4.1.2. Test Instruments****Conducted Emission Shielding Room Test Site (843)**

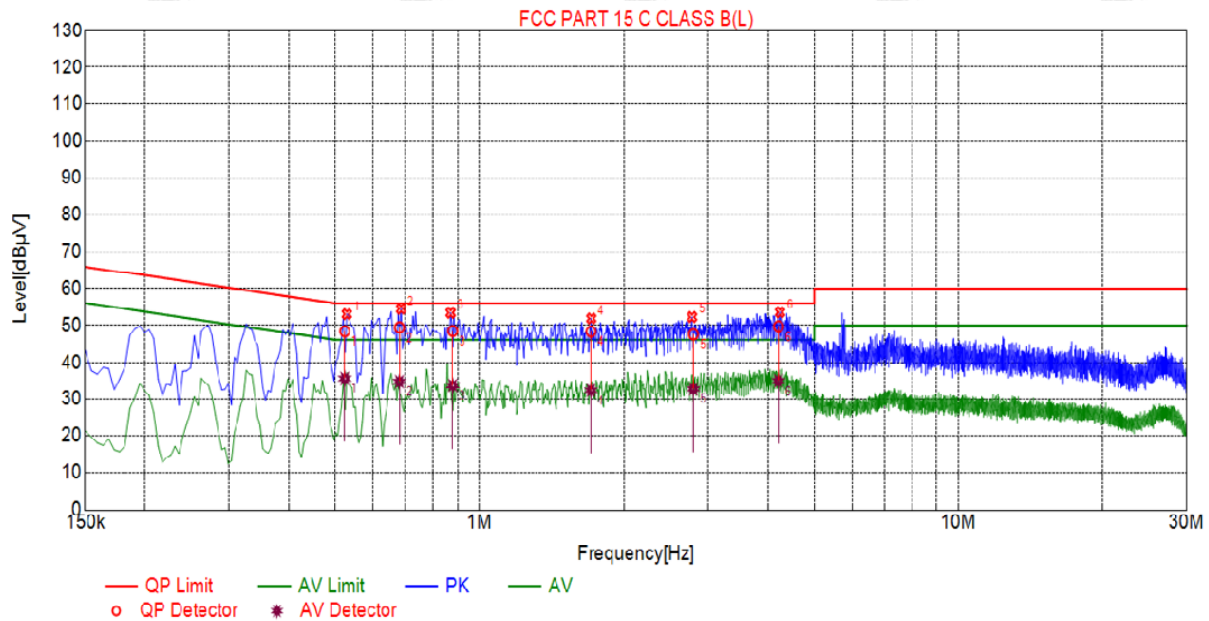
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	R&S	ESCI 7	HKE-010	Dec. 10, 2020	Dec. 09, 2021
LISN	R&S	ENV216	HKE-002	Dec. 10, 2020	Dec. 09, 2021
Coax cable (9KHz-30MHz)	Times	381806-002	N/A	Dec. 10, 2020	Dec. 09, 2021
Conducted test software	Tonscend	TS+ Rev 2.5.0.0	HKE-081	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



4.1.3. Test data

All the test modes completed for test. only the worst result was reported as below:
Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.5280	52.99	20.04	56.00	3.01	32.95	PK	L
2	0.6855	54.41	20.05	56.00	1.59	34.36	PK	L
3	0.8700	53.35	20.06	56.00	2.65	33.29	PK	L
4	1.7115	51.83	20.13	56.00	4.17	31.70	PK	L
5	2.7780	52.22	20.21	56.00	3.78	32.01	PK	L
6	4.2405	53.47	20.25	56.00	2.53	33.22	PK	L

Final Data List

NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	QP Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	AV Reading [dBμV]	Type
1	0.5227	20.04	48.35	56.00	7.65	28.31	35.67	46.00	10.33	15.63	L
2	0.6799	20.05	49.40	56.00	6.60	29.35	34.83	46.00	11.17	14.78	L
3	0.8787	20.06	48.44	56.00	7.56	28.38	33.79	46.00	12.21	13.73	L
4	1.7085	20.13	48.29	56.00	7.71	28.16	32.48	46.00	13.52	12.35	L
5	2.7964	20.21	47.56	56.00	8.44	27.35	32.84	46.00	13.16	12.63	L
6	4.2087	20.25	49.69	56.00	6.31	29.44	35.04	46.00	10.96	14.79	L

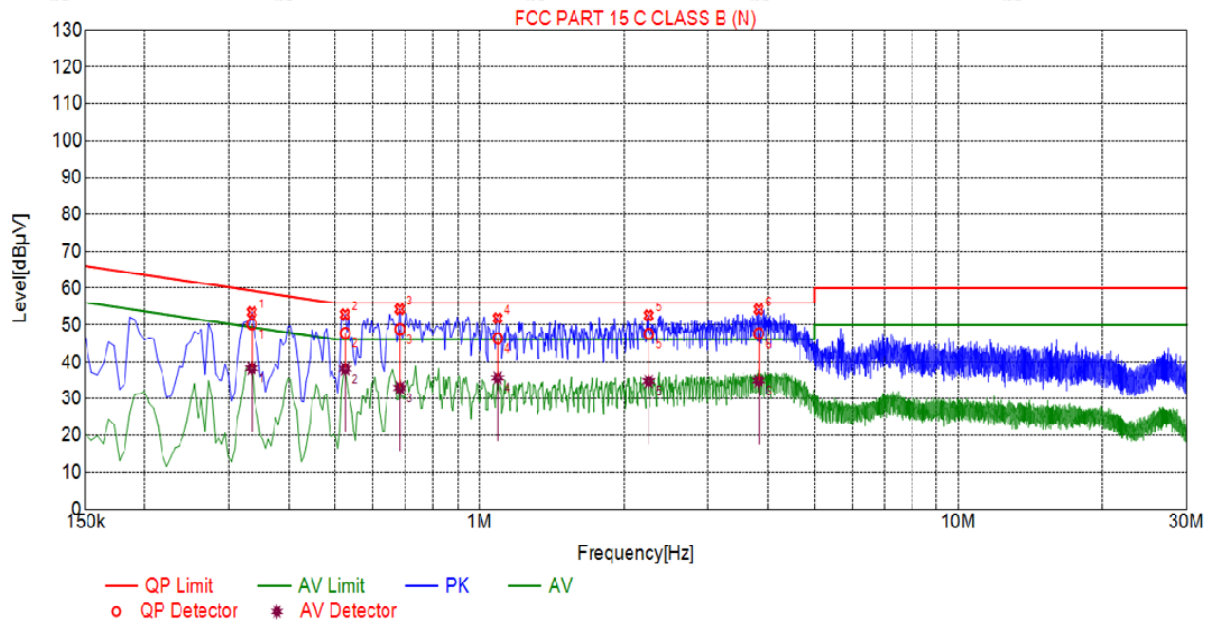
Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor



Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.3345	53.41	20.04	59.34	5.93	33.37	PK	N
2	0.5235	52.80	20.04	56.00	3.20	32.76	PK	N
3	0.6810	54.21	20.05	56.00	1.79	34.16	PK	N
4	1.0905	51.80	20.07	56.00	4.20	31.73	PK	N
5	2.2560	52.54	20.18	56.00	3.46	32.36	PK	N
6	3.8265	54.16	20.25	56.00	1.84	33.91	PK	N

Final Data List

NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	QP Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	AV Reading [dBμV]	Type
1	0.3342	20.04	50.20	59.35	9.15	30.15	38.35	49.35	11.00	18.30	N
2	0.5238	20.04	47.72	56.00	8.28	27.68	38.22	46.00	7.78	17.97	N
3	0.6818	20.05	48.78	56.00	7.22	28.73	33.06	46.00	12.94	13.01	N
4	1.0910	20.07	46.31	56.00	9.69	26.24	35.72	46.00	10.28	15.65	N
5	2.2563	20.18	47.52	56.00	8.48	27.34	34.81	46.00	11.19	14.63	N
6	3.8269	20.25	47.60	56.00	8.40	27.35	34.95	46.00	11.05	14.70	N

Remark: Margin = Limit – Level

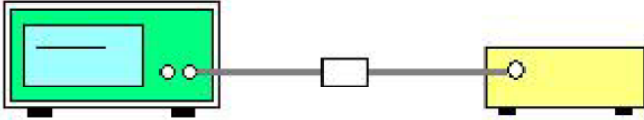
Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor



4.2. MAXIMUM CONDUCTED OUTPUT POWER

4.2.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407(a)	
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02.r01 Section E	
Limit:	Frequency Band (MHz)	Limit
	5150-5250	250mW for client devices
	5725-5850	1 W
Test Setup:	 Power meter EUT	
Test Mode:	Transmitting mode with modulation	
Test Procedure:	1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a . 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 5. Measure the conducted output power and record the results in the test report.	
Test Result:	PASS	
Remark:	Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power	



4.2.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	Dec. 09, 2021
Power meter	Agilent	E4419B	HKE-085	Dec. 10, 2020	Dec. 09, 2021
Power Sensor	Agilent	E9300A	HKE-086	Dec. 10, 2020	Dec. 09, 2021
RF cable	Times	1-40G	HKE-034	Dec. 10, 2020	Dec. 09, 2021
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	Dec. 09, 2021

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**4.2.3. Test Data**

Configuration Band I (5150 - 5250 MHz)						
Mode	Test channel	Maximum Conducted Output Power (dBm)			FCC Limit (dBm)	Result
		Antenna 1	Antenna 2	MIMO		
11a	CH36	4.07	3.28	/	24	PASS
11a	CH40	3.99	3.57	/	24	PASS
11a	CH48	3.95	4.06	/	24	PASS
11n(HT20)	CH36	3.18	3.38	6.29	24	PASS
11n(HT20)	CH40	3.04	2.45	5.77	24	PASS
11n(HT20)	CH48	2.92	2.82	5.88	24	PASS
11n(HT40)	CH38	2.29	3.28	5.82	24	PASS
11n(HT40)	CH46	3.05	2.77	5.92	24	PASS
11ac(HT20)	CH36	3.08	3.09	6.10	24	PASS
11ac(HT20)	CH40	3.12	3.18	6.16	24	PASS
11ac(HT20)	CH48	2.93	2.79	5.87	24	PASS
11ac(HT40)	CH38	3.07	3.45	6.27	24	PASS
11ac(HT40)	CH46	3.05	3.07	6.07	24	PASS
11ac(HT80)	CH42	3.20	3.47	6.35	24	PASS

Note: This product supports antenna 1 and antenna 2 launch, but only support 802.11 n/ac for MIMO mode, not support 802.11 a for MIMO mode.



4.3. 6DB EMISSION BANDWIDTH

4.3.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	>500kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v01r04 Section C. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	PASS

4.3.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	Dec. 09, 2021
RF cable	Times	1-40G	HKE-034	Dec. 10, 2020	Dec. 09, 2021
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	Dec. 09, 2021

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4.3.3. Test data

N/A



4.4. 26DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

4.4.1. Test Specification

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	No restriction limits
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth $RBW = 1\% \text{ EBW}$, $VBW \geq 3RBW$, In order to make an accurate measurement. 4. Measure and record the results in the test report.
Test Result:	PASS

4.4.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	Dec. 09, 2021
RF cable	Times	1-40G	HKE-034	Dec. 10, 2020	Dec. 09, 2021
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	Dec. 09, 2021

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**4.4.3. Test data****Band I****ANT 1**

Mode	Test channel	Frequency (MHz)	26 dB Bandwidth (MHz)	Verdict
11a	CH36	5180	20.040	PASS
11a	CH40	5200	20.080	PASS
11a	CH48	5240	20.120	PASS
11n(HT20)	CH36	5180	19.960	PASS
11n(HT20)	CH40	5200	19.960	PASS
11n(HT20)	CH48	5240	19.880	PASS
11n(HT40)	CH38	5190	40.320	PASS
11n(HT40)	CH46	5230	40.160	PASS
11ac(HT20)	CH36	5180	19.960	PASS
11ac(HT20)	CH40	5200	19.960	PASS
11ac(HT20)	CH48	5240	19.960	PASS
11ac(HT40)	CH38	5190	40.400	PASS
11ac(HT40)	CH46	5230	40.400	PASS
11ac(HT80)	CH42	5210	81.600	PASS

Test plots as follows:



Band I (5150 – 5250 MHz)

802.11a



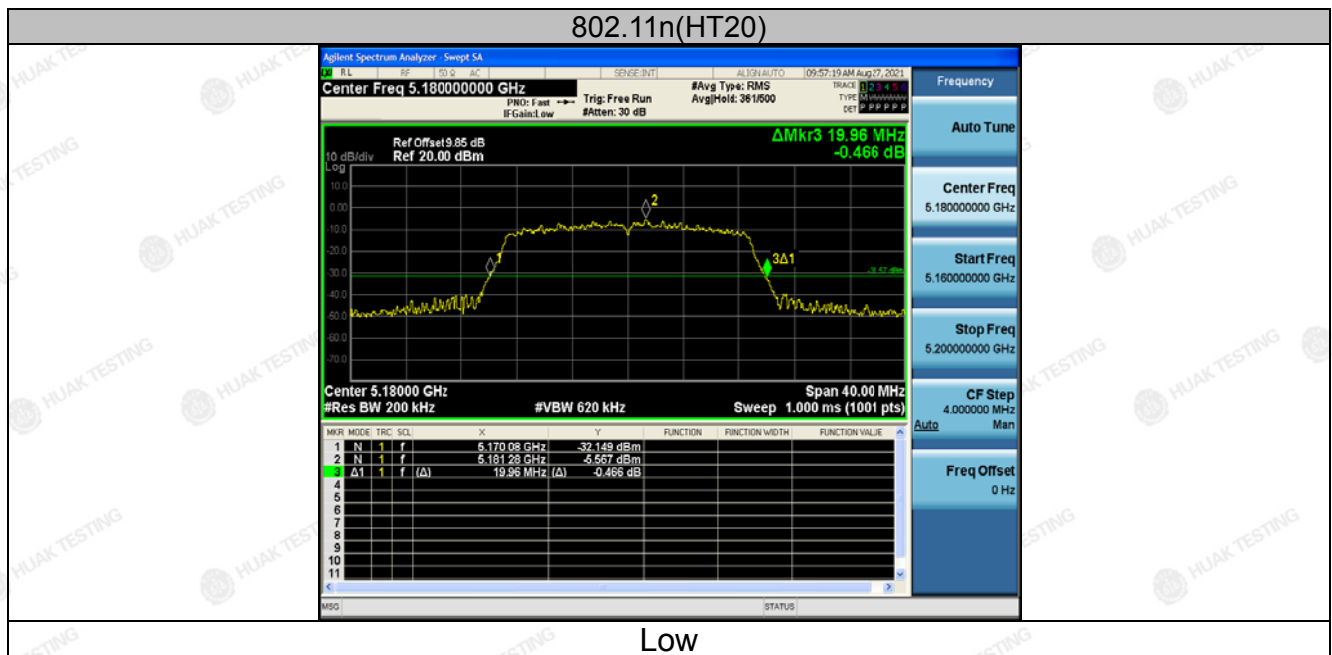
Low



Mid



High



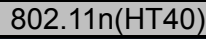
Low



Mid



High



Low

High

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802.11ac(HT20)



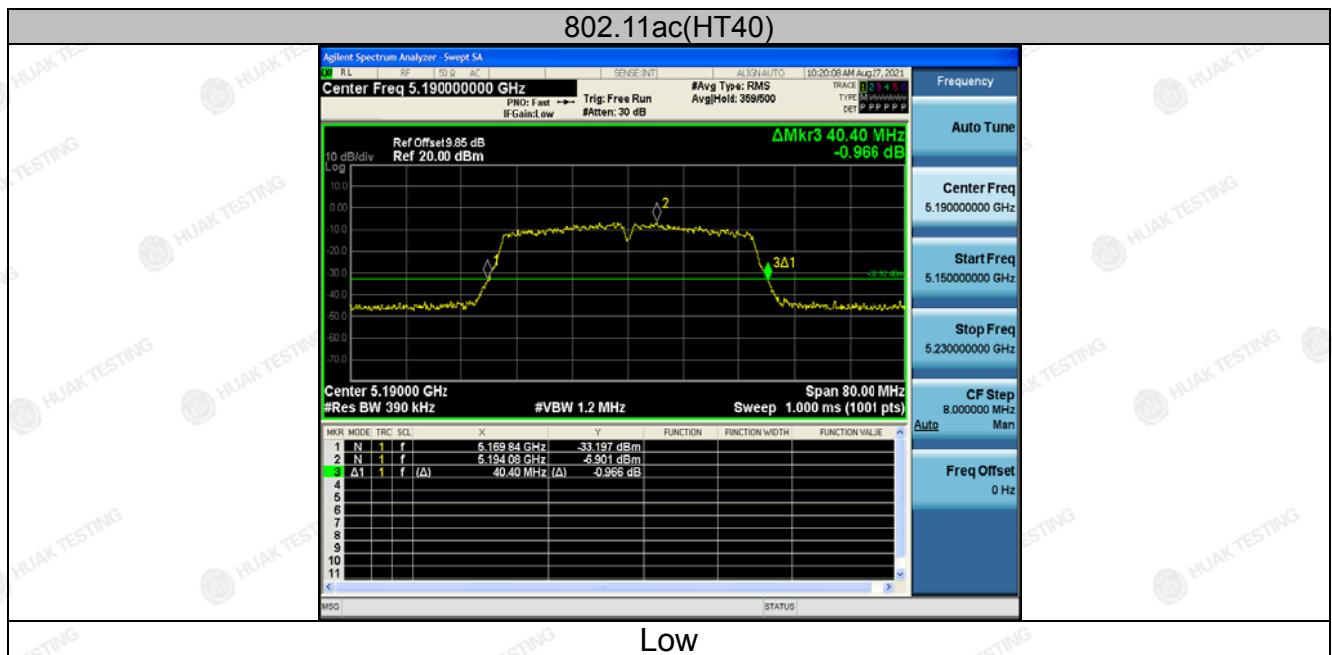
Low



Mid



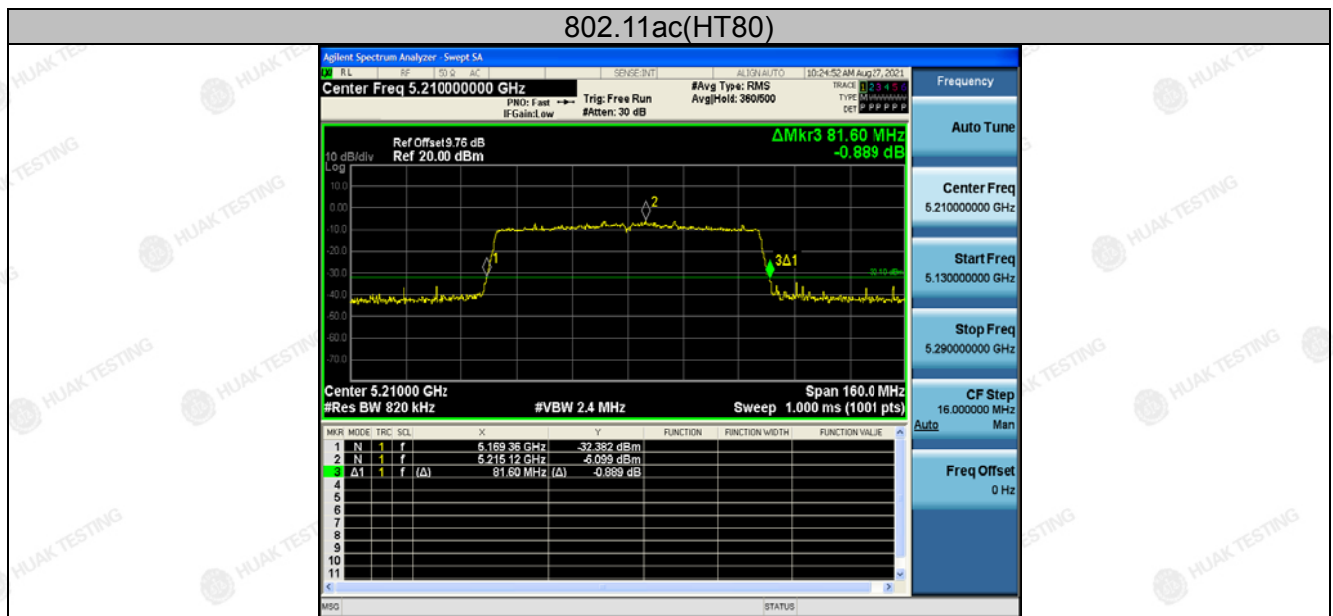
High



Low



High



802.11ac(HT80)

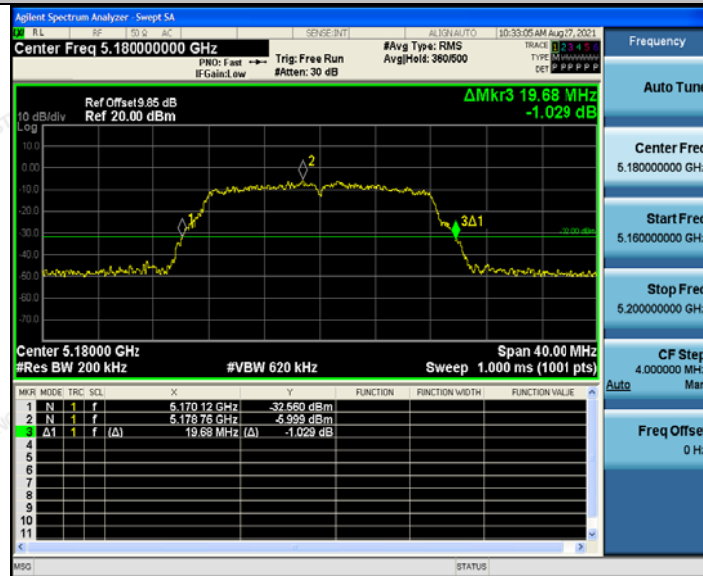
**ANT 2**

Mode	Test channel	Frequency (MHz)	26 dB Bandwidth (MHz)	Verdict
11a	CH36	5180	19.680	PASS
11a	CH40	5200	19.880	PASS
11a	CH48	5240	19.920	PASS
11n(HT20)	CH36	5180	19.840	PASS
11n(HT20)	CH40	5200	19.800	PASS
11n(HT20)	CH48	5240	20.040	PASS
11n(HT40)	CH38	5190	40.480	PASS
11n(HT40)	CH46	5230	40.400	PASS
11ac(HT20)	CH36	5180	19.960	PASS
11ac(HT20)	CH40	5200	19.800	PASS
11ac(HT20)	CH48	5240	19.760	PASS
11ac(HT40)	CH38	5190	40.480	PASS
11ac(HT40)	CH46	5230	40.400	PASS
11ac(HT80)	CH42	5210	81.920	PASS

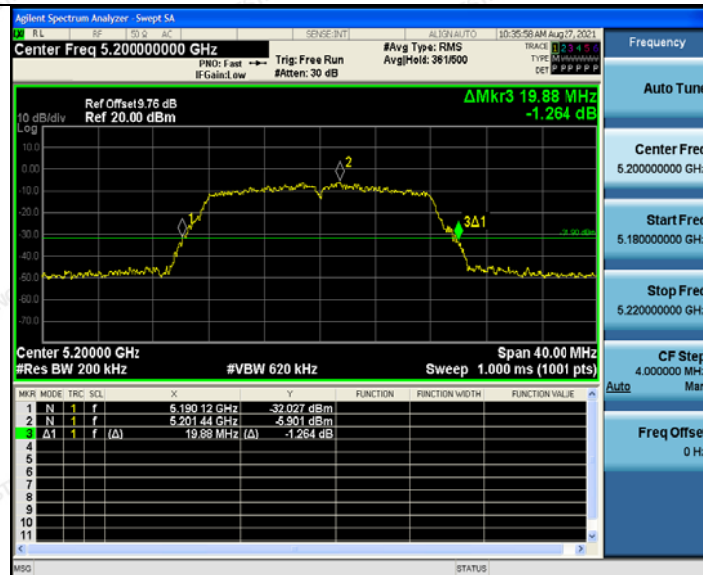
Test plots as follows:

**Band I (5150 – 5250 MHz)**

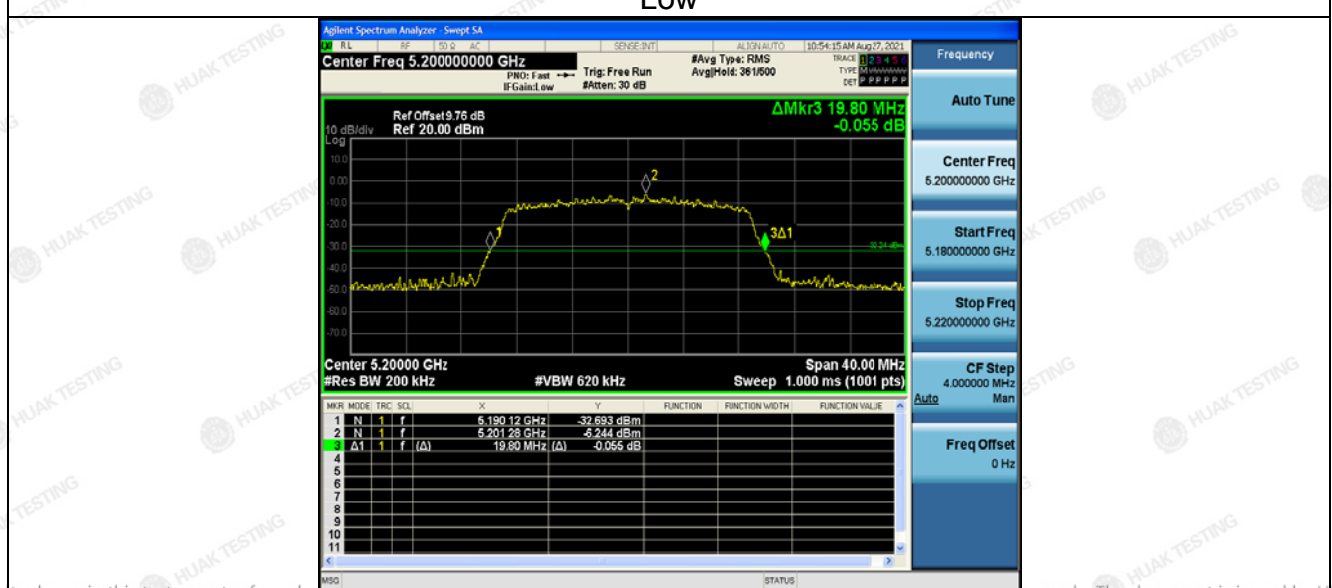
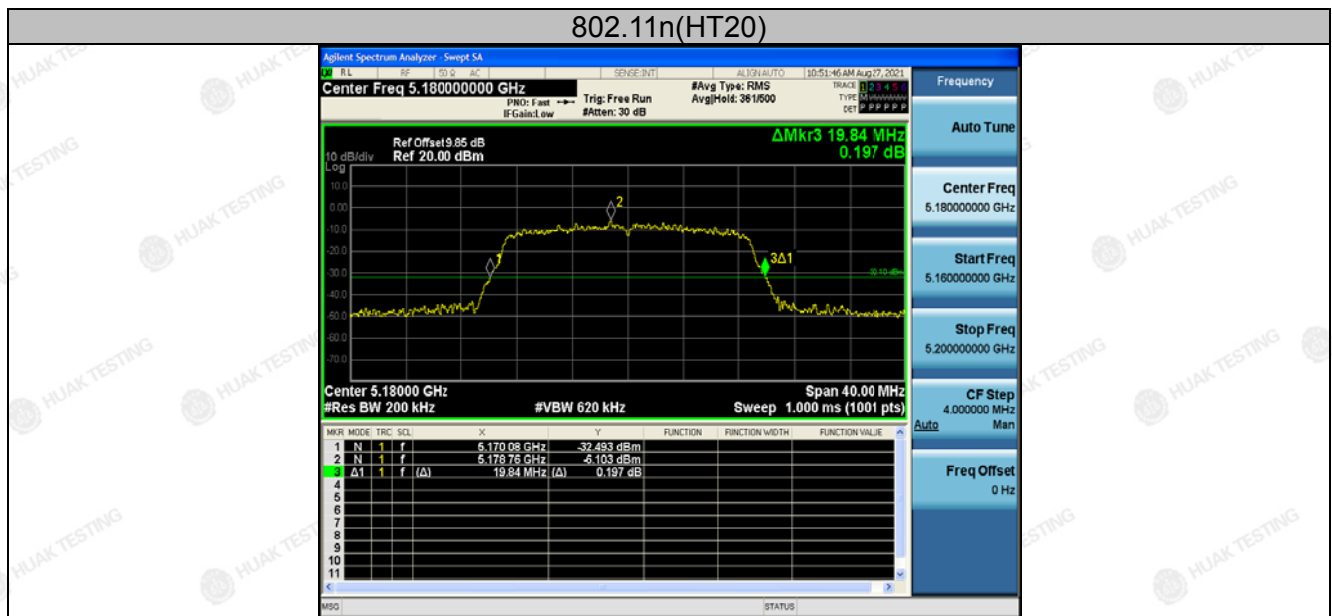
802.11a



Low



Mid

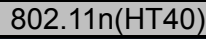




Mid



High



Low

High

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802.11ac(HT20)



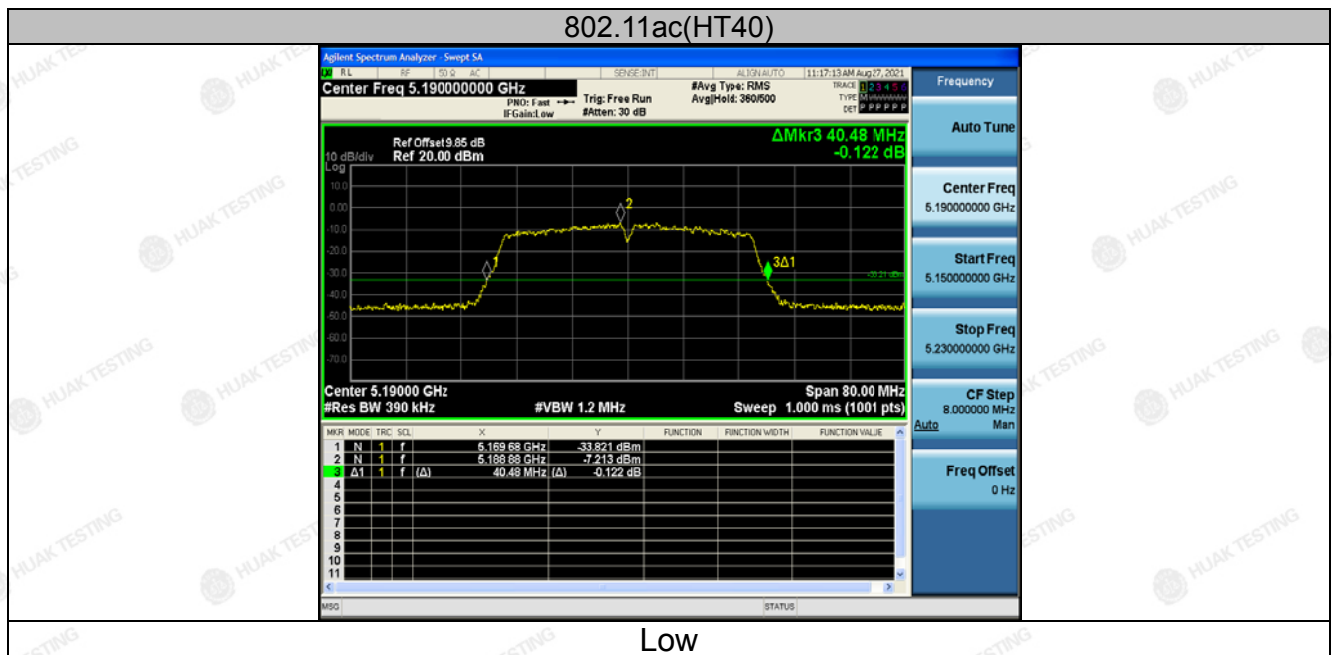
Low



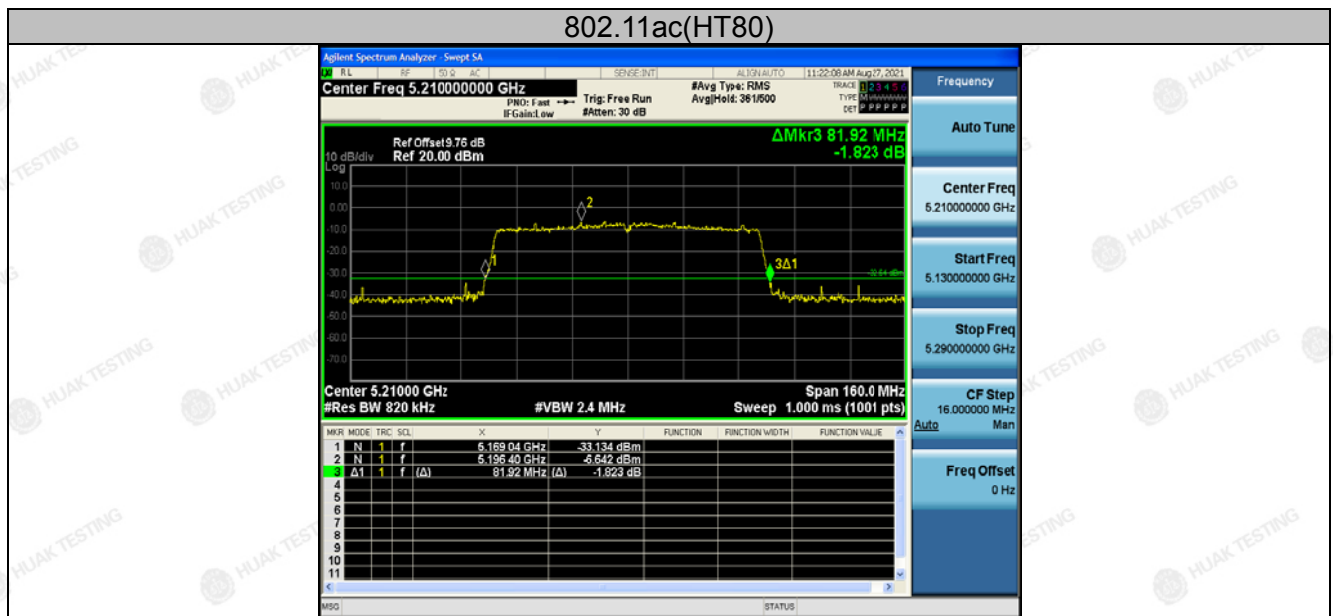
Mid



High



Low





4.5. POWER SPECTRAL DENSITY

4.5.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	$\leq 11.00\text{dBm/MHz}$ for Band I 5150MHz-5250MHz $\leq 17\text{dBm/MHz}$ for access device
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 1MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS. 2. Allow the sweeps to continue until the trace stabilizes. 3. Use the peak marker function to determine the maximum amplitude level. 4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

4.5.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	Dec. 09, 2021
RF cable	Times	1-40G	HKE-034	Dec. 10, 2020	Dec. 09, 2021
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	Dec. 09, 2021

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**4.5.3. Test data**

ANT 1

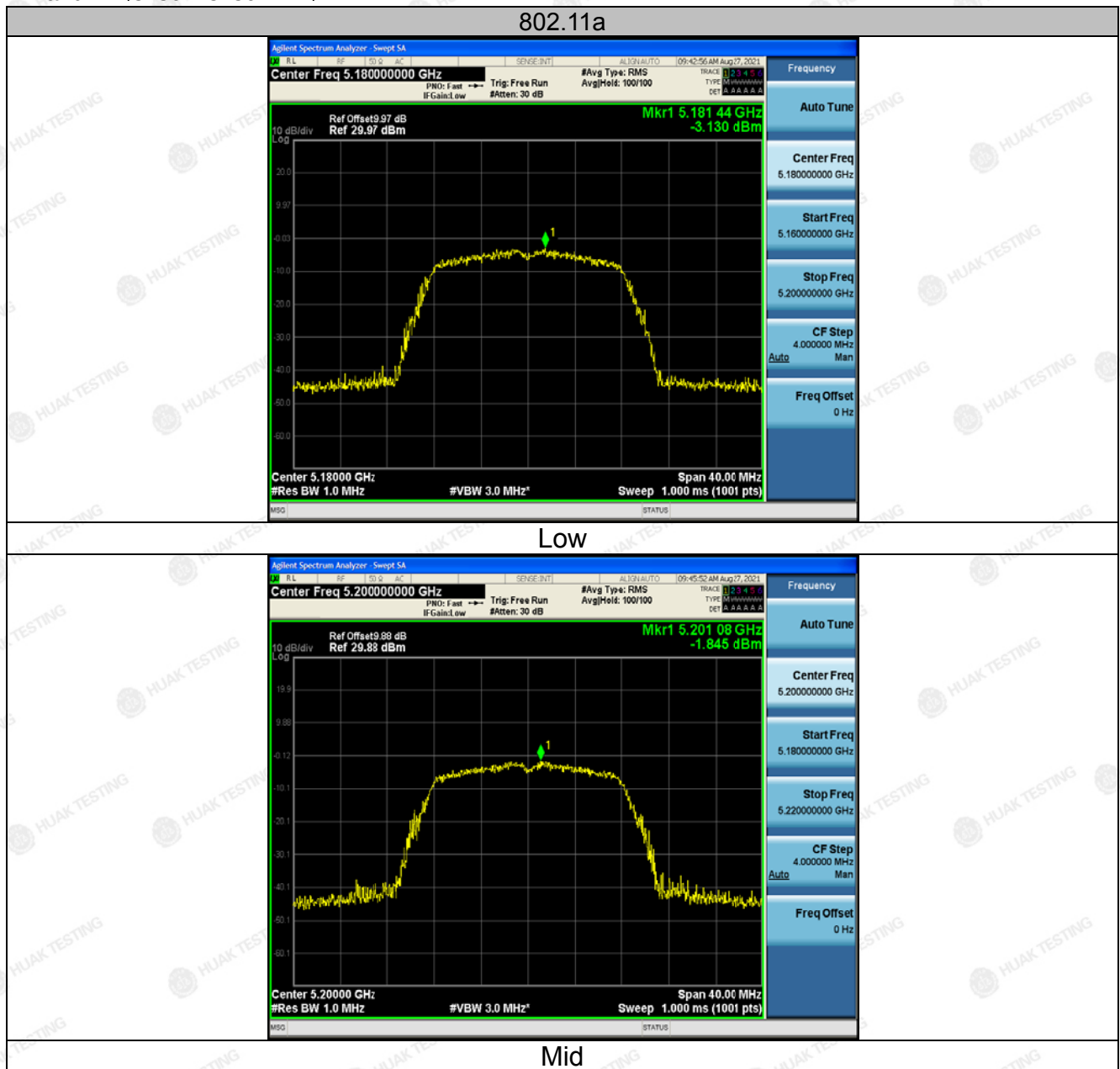
Configuration Band I (5150 - 5250 MHz)

Mode	Test channel	Level [dBm/MHz]	Limit (dBm/MHz)	Result
11a	CH36	-3.13	11	PASS
11a	CH40	-1.85	11	PASS
11a	CH48	-1.87	11	PASS
11n(HT20)	CH36	-2.21	11	PASS
11n(HT20)	CH40	-2.33	11	PASS
11n(HT20)	CH48	-2.53	11	PASS
11n(HT40)	CH38	-5.07	11	PASS
11n(HT40)	CH46	-5.35	11	PASS
11ac(HT20)	CH36	-1.74	11	PASS
11ac(HT20)	CH40	-2.25	11	PASS
11ac(HT20)	CH48	-2.01	11	PASS
11ac(HT40)	CH38	-4.93	11	PASS
11ac(HT40)	CH46	-5.21	11	PASS
11ac(HT80)	CH42	-7.39	11	PASS



Test plots as follows:

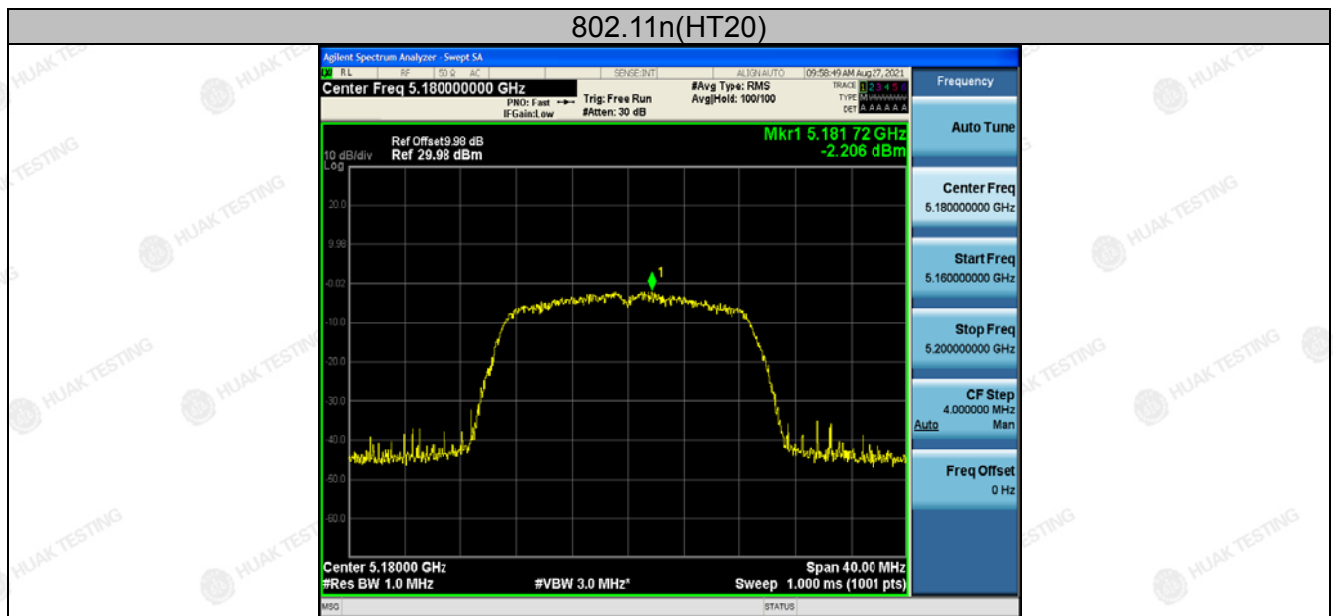
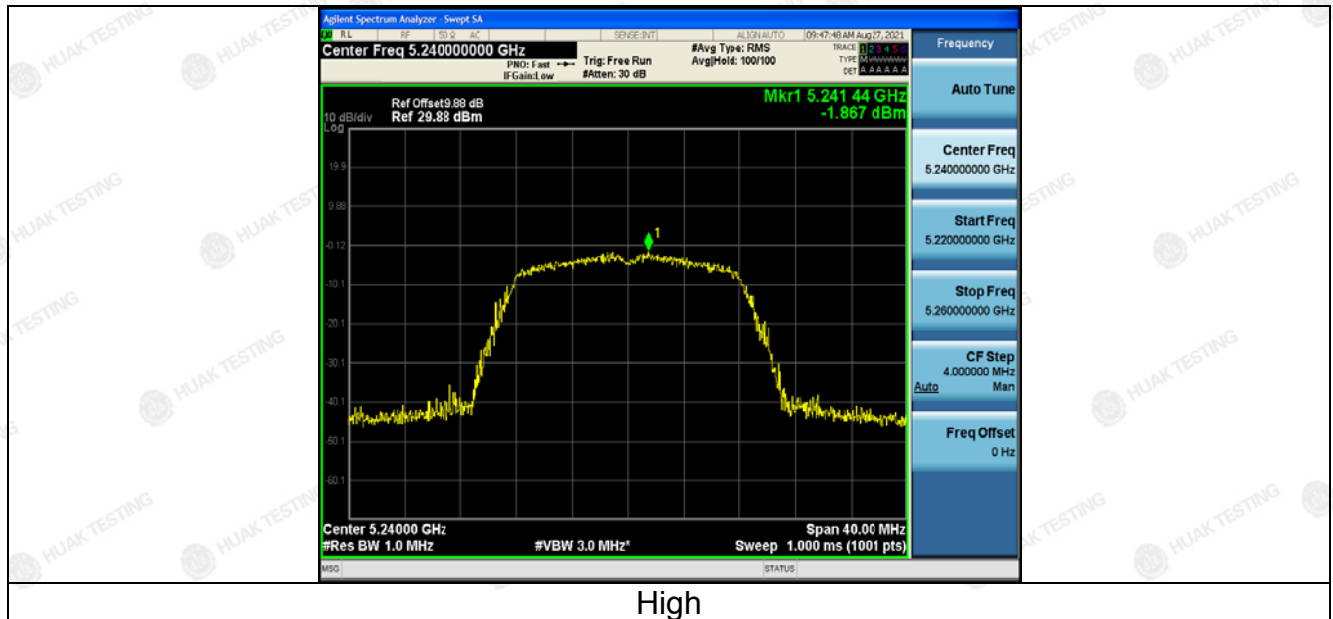
Band I (5150 – 5250 MHz)



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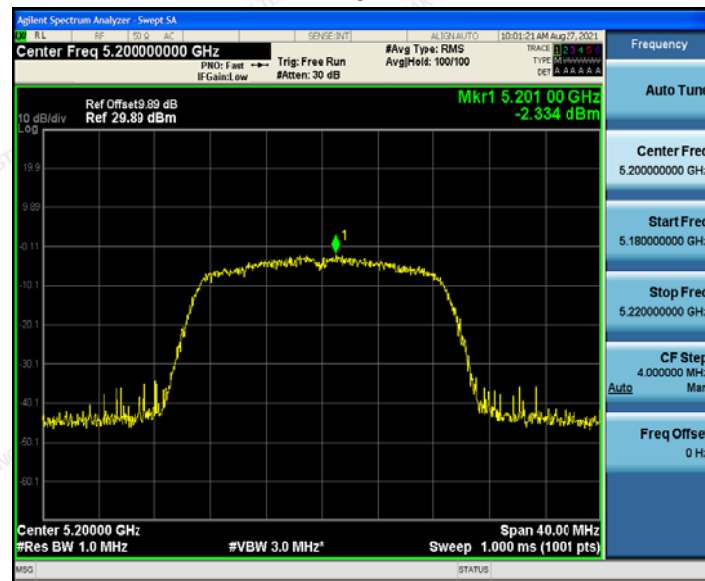
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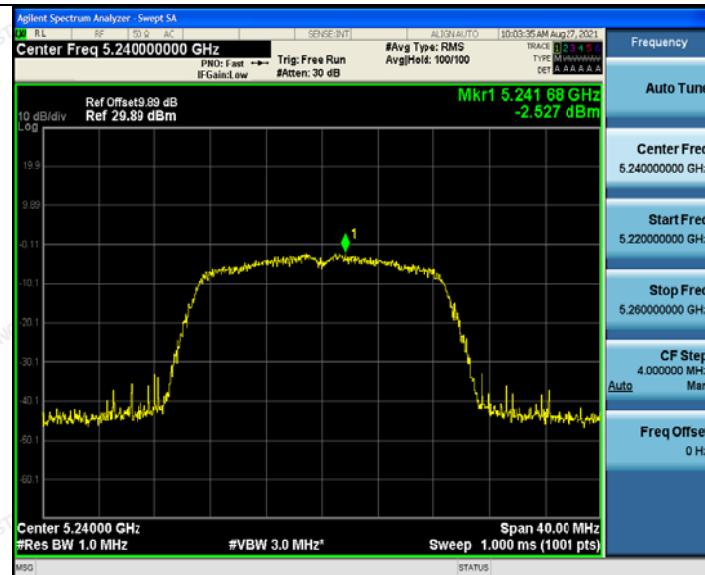




Low



Mid



High

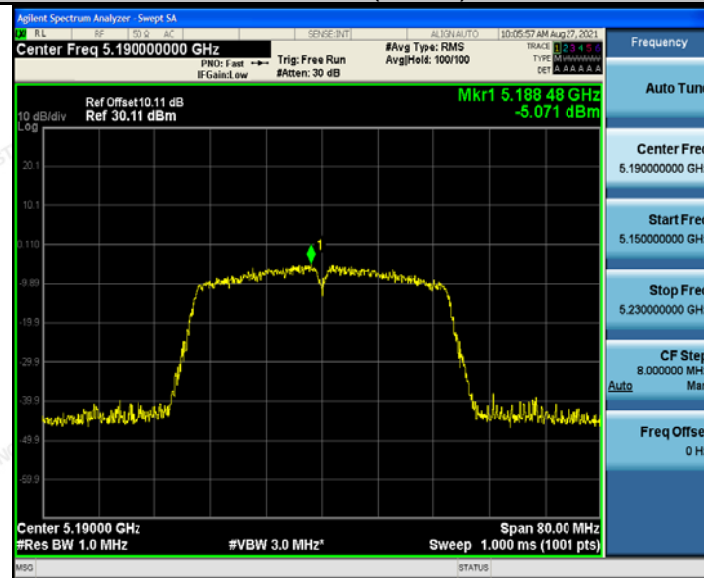
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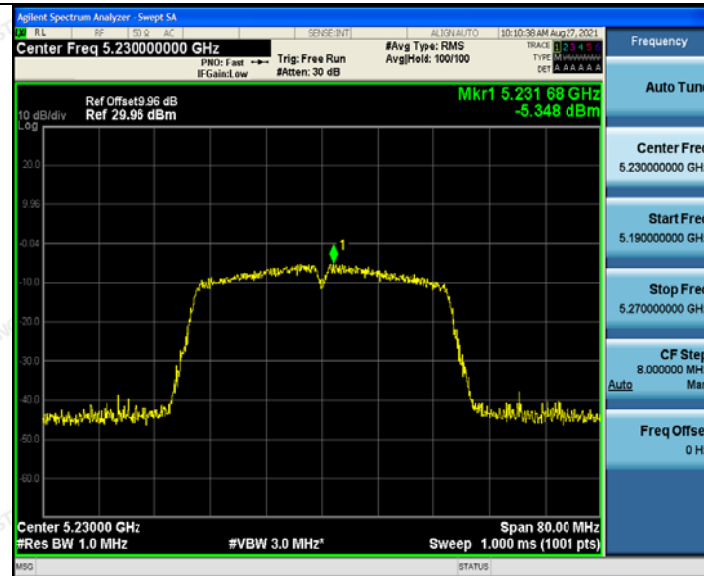
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802.11n(HT40)



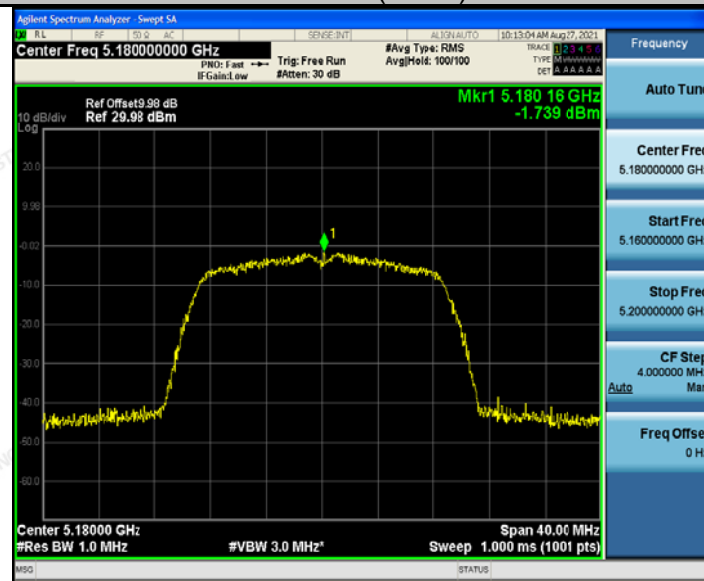
Low



High



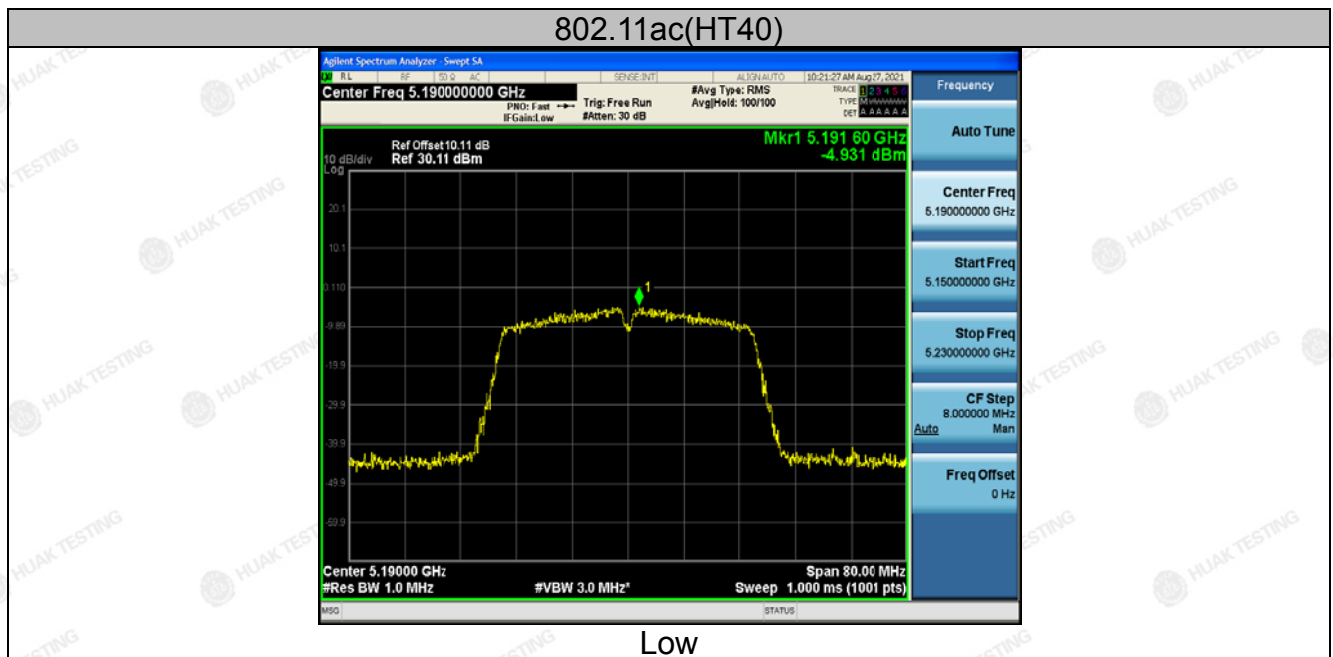
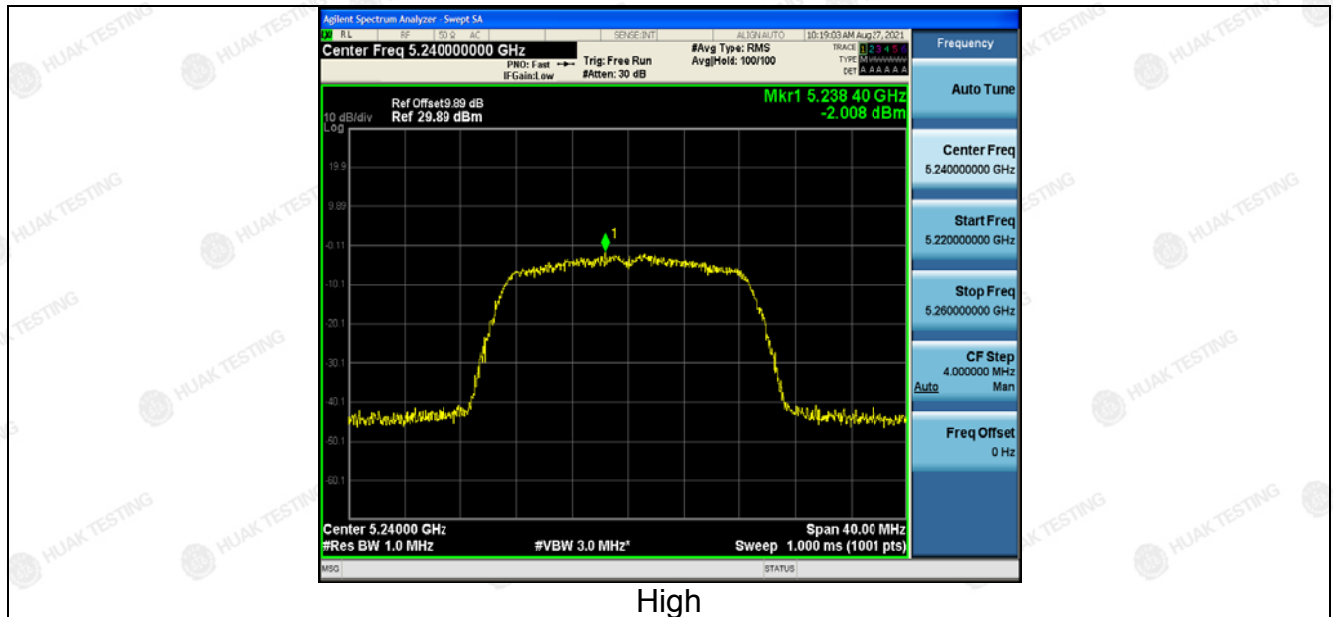
802.11ac(HT20)

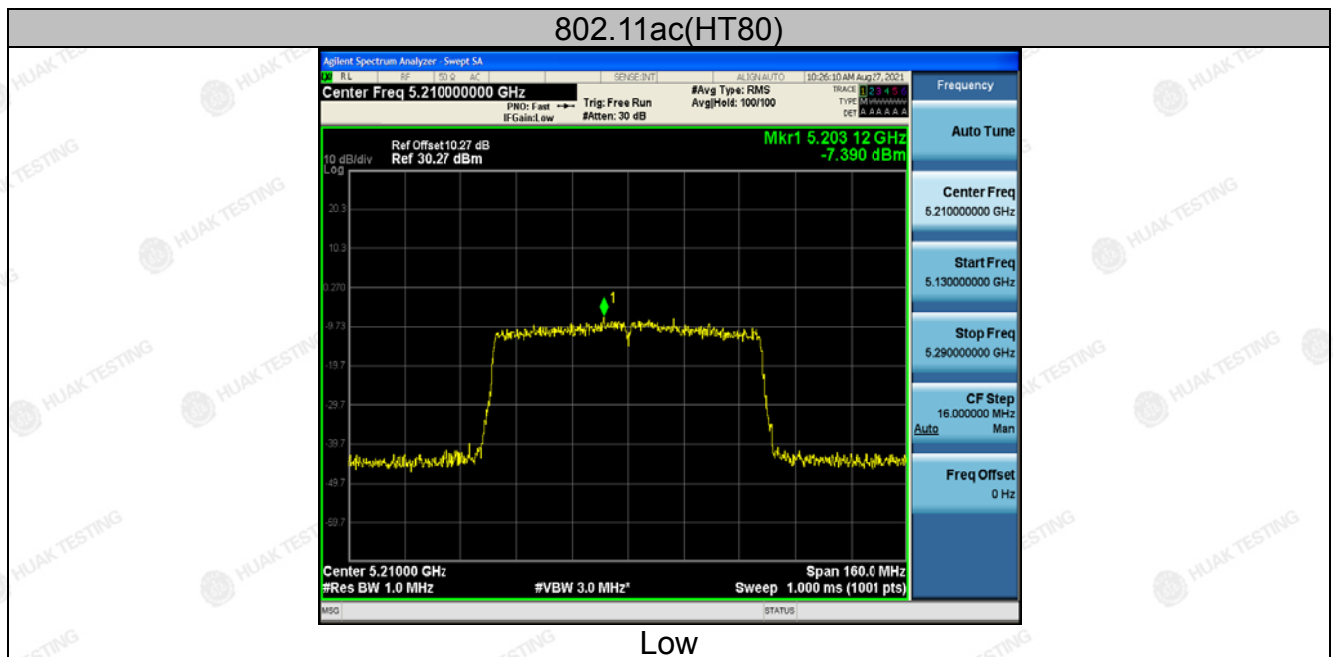
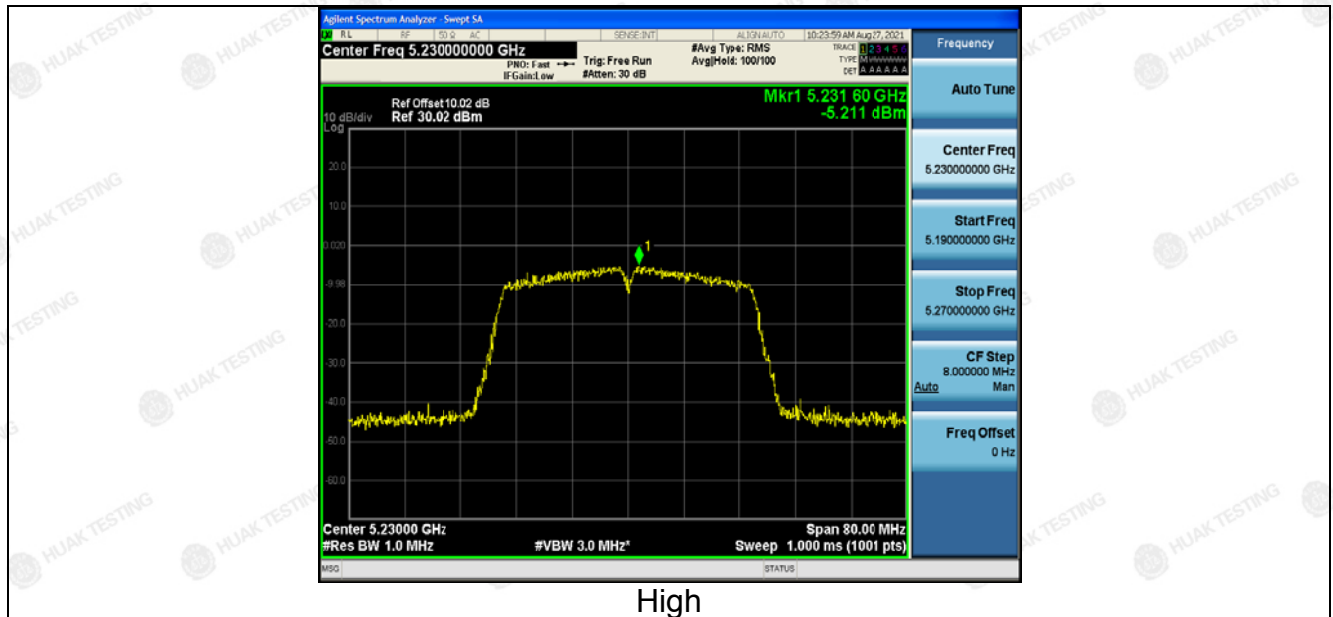


Low



Mid







ANT 2

Configuration Band I (5150 - 5250 MHz)

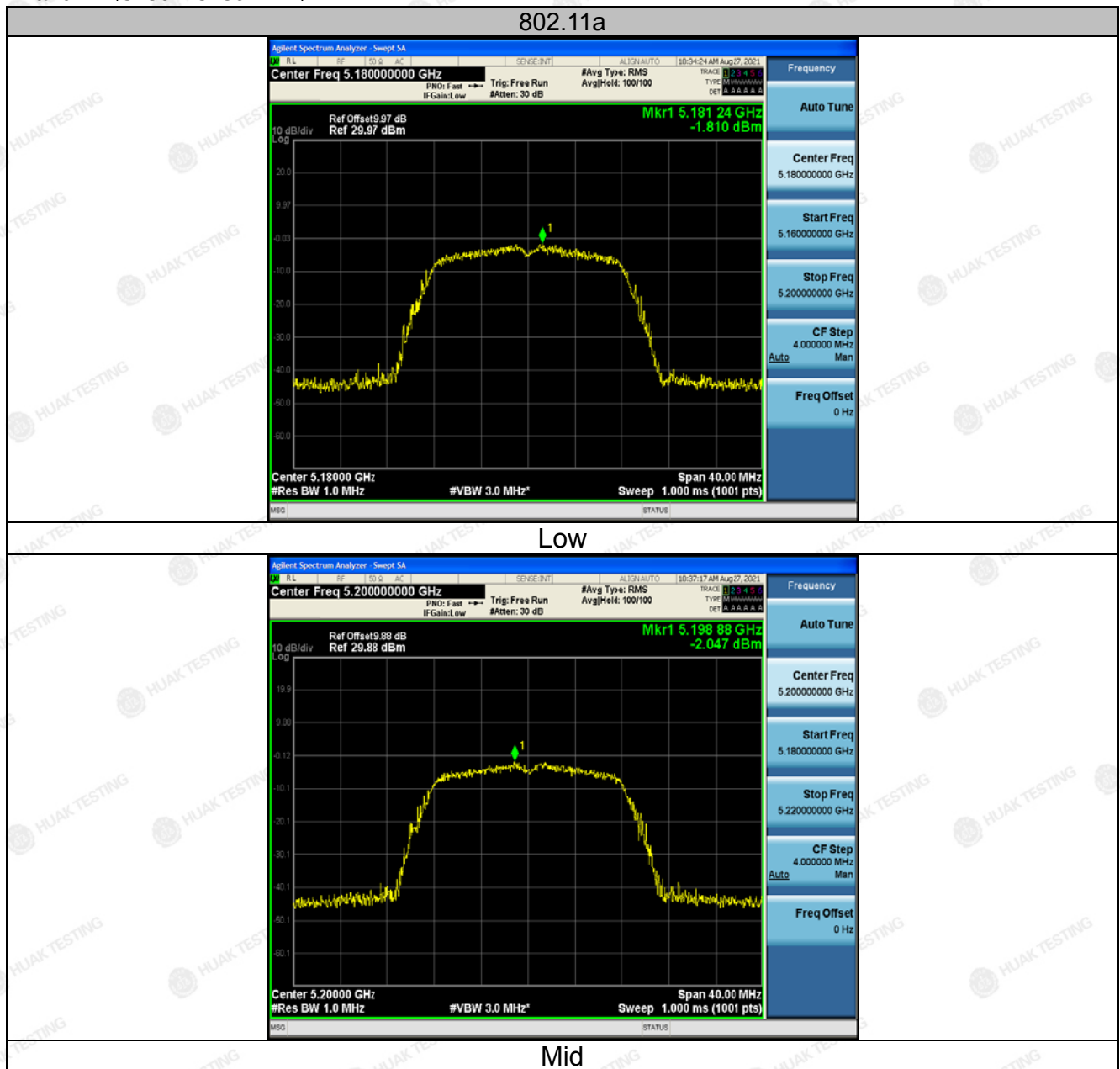
Mode	Test channel	Level [dBm/MHz]	Limit (dBm/MHz)	Result
11a	CH36	-1.81	11	PASS
11a	CH40	-2.05	11	PASS
11a	CH48	-1.84	11	PASS
11n(HT20)	CH36	-2.31	11	PASS
11n(HT20)	CH40	-2.08	11	PASS
11n(HT20)	CH48	-2.33	11	PASS
11n(HT40)	CH38	-4.63	11	PASS
11n(HT40)	CH46	-5.35	11	PASS
11ac(HT20)	CH36	-2.16	11	PASS
11ac(HT20)	CH40	-2.38	11	PASS
11ac(HT20)	CH48	-2.15	11	PASS
11ac(HT40)	CH38	-5.67	11	PASS
11ac(HT40)	CH46	-5.54	11	PASS
11ac(HT80)	CH42	-7.84	11	PASS

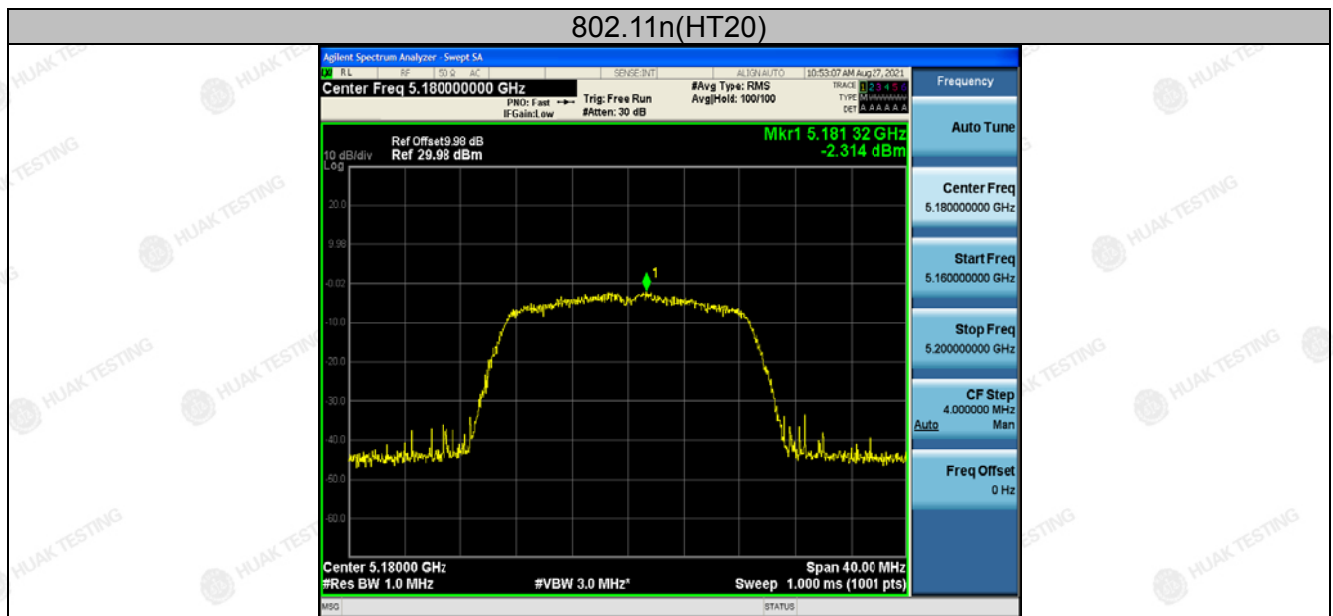
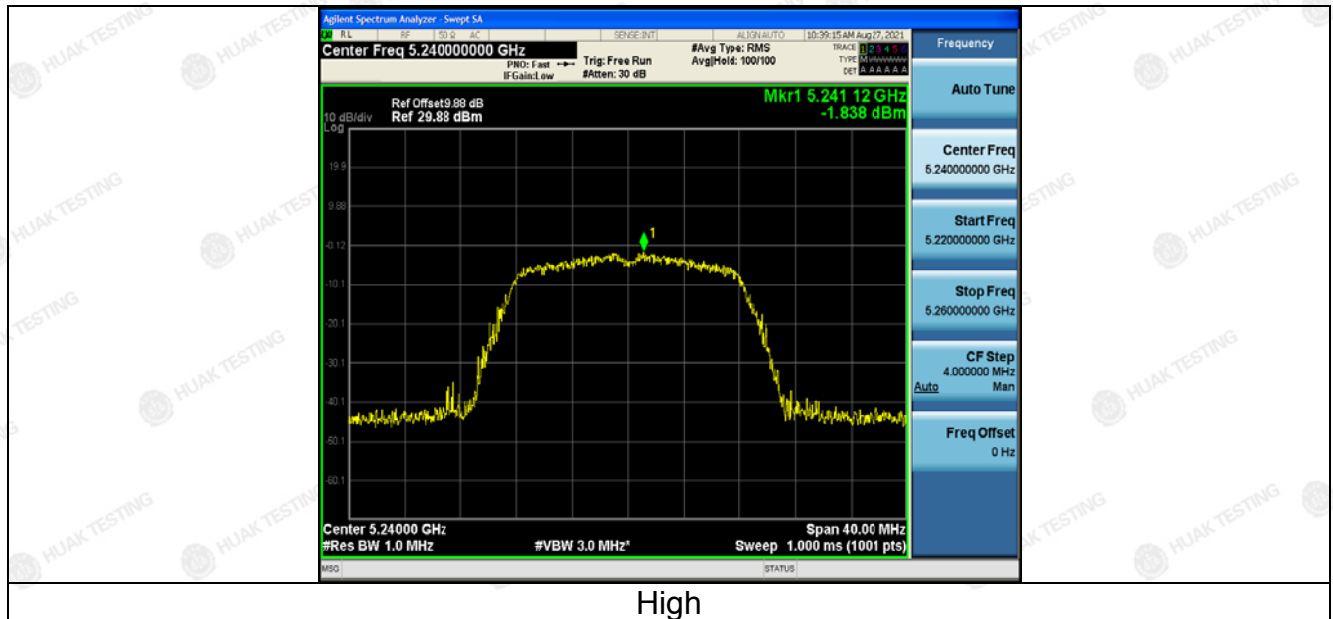
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Test plots as follows:

Band I (5150 – 5250 MHz)



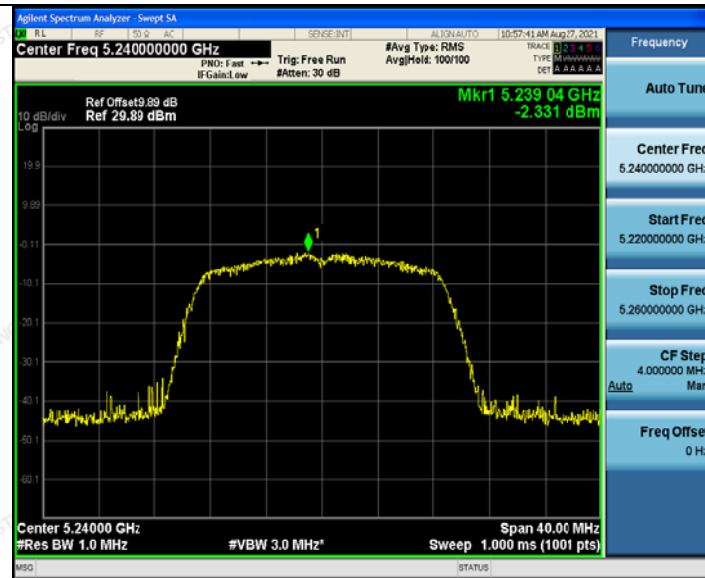




Low



Mid



High

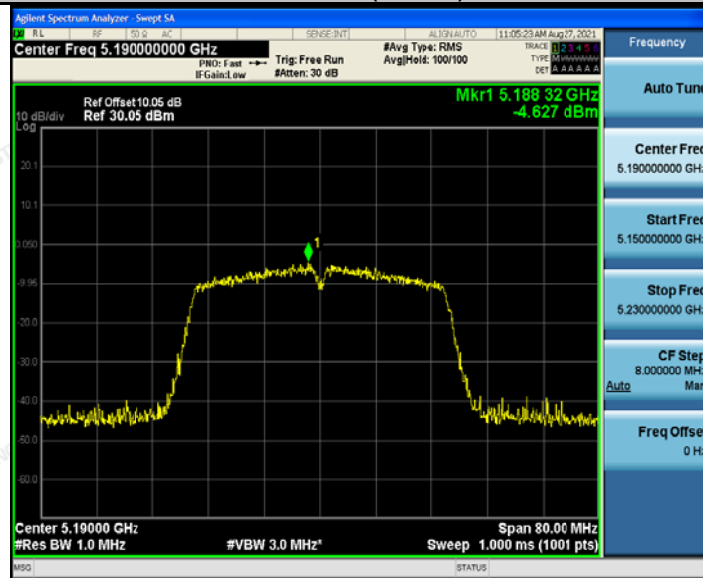
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802.11n(HT40)



Low



High