



FCC Part 15E Test Report

FCC ID: 2BWYG-F12H5SVXW2AS

Applicant: ESUNSTAR Technology Co., Ltd

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Manufacturer: ESUNSTAR Technology Co., Ltd

Address: A-507-508, YiyuanTong xuexiang Industrial Plant, Bantian Street, Longgang District, Shenzhen,Guangdong, China

Product Name: Wireless IP Camera

Trade Mark: ESUNSTAR, YUCHENG

Model Number: F12H5SVXW2AS, F12HXXX, F12M-XXX ("XXX" represents a different resolution)

Date of Receipt: May 19, 2026

Test Date: May 19, 2026 ~ Jul. 03, 2026

Date of Report: Jul. 03, 2026

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

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Applicable Standards: FCC Rules and Regulations Part 15 Subpart E Section 15.407
ANSI C63.10: 2020

Test Result: Pass

Report Number: DLE-260703016R

Prepared by(Engineer): Ken Tan

Reviewer(Supervisor): Jack Bu

Approved(Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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**** Issued history ****

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	Jul. 03, 2026	



1. 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)	PASS
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	N/A
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 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	Uncertainty
1	Conducted Emission Test	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.42\text{dB}$
3	Spurious emissions, conducted	$\pm 2.76\text{dB}$
4	All emissions, radiated (<1G)	$\pm 3.65\text{dB}$
5	All emissions, radiated (>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$
8	6dB Bandwidth	$\pm 0.2\text{MHz}$
9	Power Spectral Density	$\pm 0.3\text{dBm}$



2. EUT Description

2.1 General Description of EUT

Equipment:	Wireless IP Camera
Model Name:	F12H5SVXW2AS
Series Model(s):	F12HXXX, F12M-XXX ("XXX" represents a different resolution)
Model Difference:	All model's the function, software and electric circuit are the same, only with product model named and resolution different. Test sample model: F12H5SVXW2AS.
Operation Frequency:	IEEE 802.11a/n/ac/ax(HT20)5.745GHz-5.825GHz IEEE 802.11n/ac/ax(HT40)5.755GHz-5.795GHz
Modulation Technology:	IEEE 802.11a/n/ac/ax
Modulation Type:	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only
Antenna Type:	External Antenna
Antenna Gain:	3.39dBi
Power Source:	DC12V from Adapter
Power Supply:	DC12V from Adapter
Hardware Version:	V1.0
Software Version:	V1.0
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain Refer to the antenna specifications. 3. The cable loss data is obtained from the supplier. 4. The test results in the report only apply to the tested sample.	



2.2 Operation Frequency Each of Channel

802.11a/802.11n(HT20)/ 802.11ac(HT20)/ 802.11ax(HE20)		802.11n(HT40)/ 802.11ac(HT40)/ 802.11ax(HE40)	
Channel	Frequency	Channel	Frequency
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
165	5825		

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

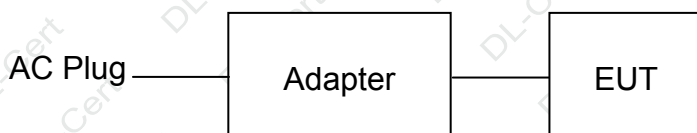
Band IV (5725 - 5850MHz)		
For 802.11a/n (HT20)/ac(HT20)/ax(HE20)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

For 802.11n(HT40)/ac(HT40)/ax(HE40)		
Channel Number	Channel	Frequency (MHz)
151	Low	5755
159	High	5795

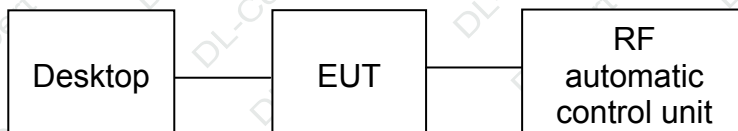


2.4 Description of Test Setup

Operation of EUT during AC Conducted testing and Radiation testing:



Operation of EUT during RF Conducted testing:



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 report only reflects the worst emission test results. The worst case is X position.



2.5 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.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Note
1	Wireless IP Camera	ESUNSTAR, YUCHENG	F12H5SVXW2AS	N/A	EUT
2	Adapter	N/A	MN012H-C120100	Input: AC100-240V, 50/60Hz, 0.3A max Output: DC12V/1A, 12W	

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, 6dB 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.

2.6 The Worse Case Power Setting Parameter

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Test Software Version		SecureCRT_x86_7.1.1.264_en
Modulation Type	Transmit Antenna Number	Test Software setting value
64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only	1	default



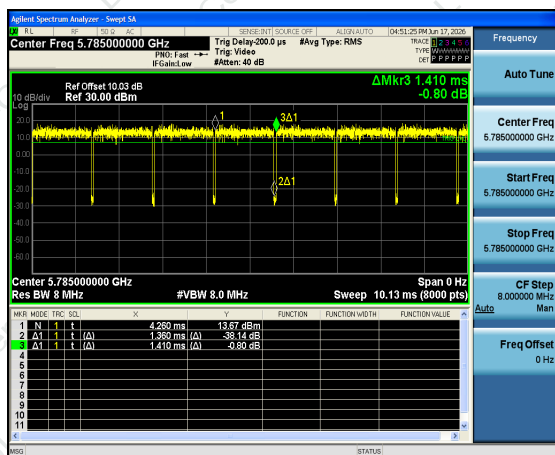
3. General Information

3.1 Test Environment and Mode

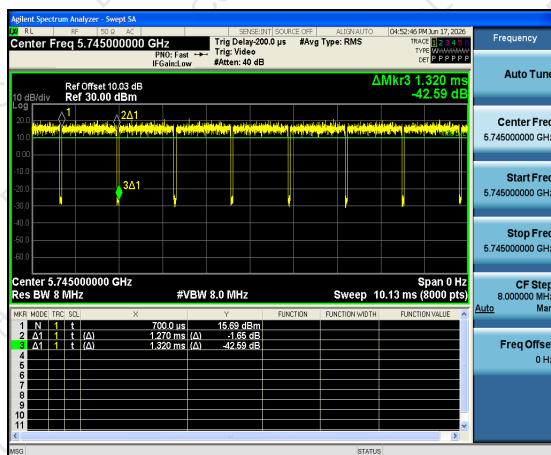
Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering Mode:	Keep the EUT in continuous transmitting by select channel and modulations
We have verified the construction and function in typical operation. All the test modes were carried out 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)	MCS0
802.11ax(HE20)/ax(HE40)	MCS0
Final Test Mode:	
Operation Mode:	Keep the EUT in continuous transmitting with modulation
Mode Test Duty Cycle:	
Mode	Duty Cycle
802.11a	0.9645
802.11n(HT20)	0.9621
802.11n(HT40)	0.9275
802.11ac(HT20)	0.9621
802.11ac(HT40)	0.9275
802.11ax(HE20)	0.9621
802.11ax(HE40)	0.9265
Test plots as follows:	



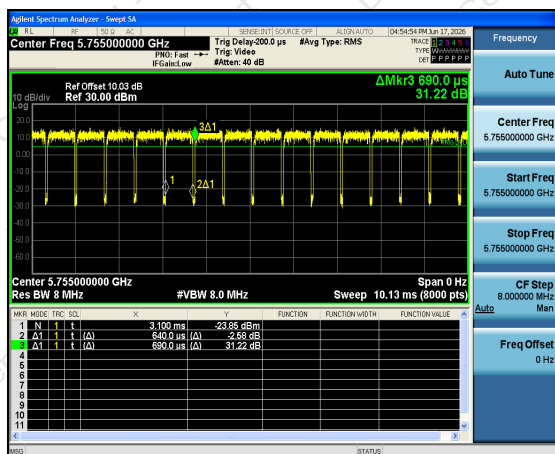
802.11a



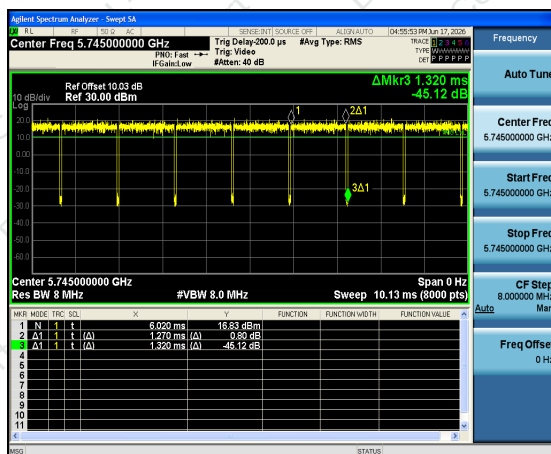
802.11n(HT20)



802.11n(HT40)



802.11ac(HT20)





4. Test Results and Measurement Data

4.1 AC Conducted Emission

4.1.1. Test Specification

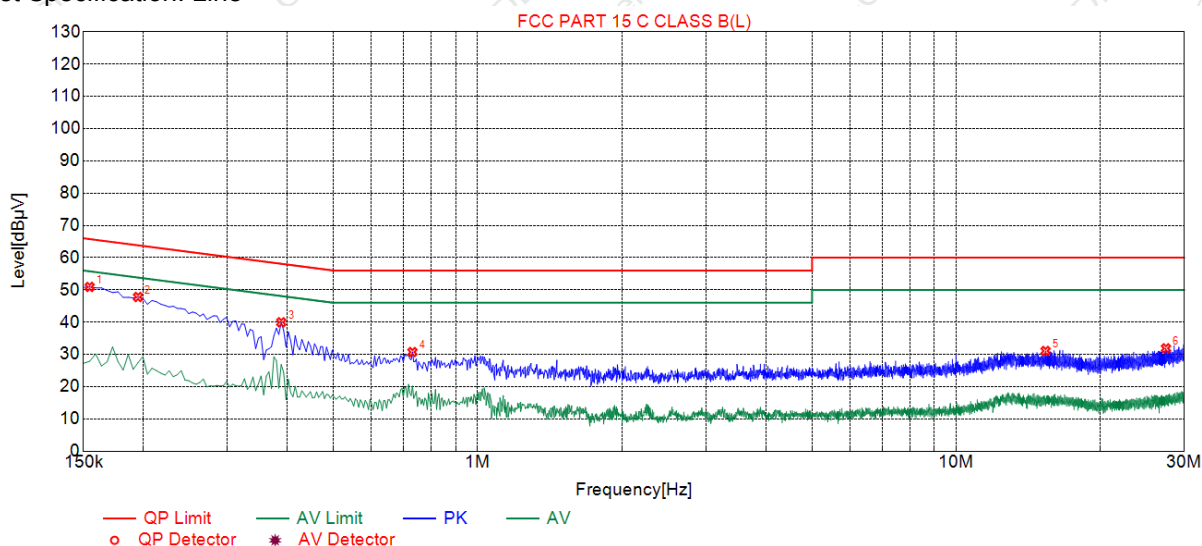
Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10: 2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver Setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (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 E.U.T. AC power 80cm LISN Filter AC power Test table/Insulation plane EMI Receiver Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Transmitting with modulation														
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: 2020 on conducted measurement.														
Test Result:	PASS														



4.1.2. Test Data

All the test modes completed for test. Only the worst mode of 802.11a low channel TX is reflected.

Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1545	50.92	19.84	65.75	14.83	31.08	PK	L
2	0.1950	47.80	19.76	63.82	16.02	28.04	PK	L
3	0.3885	39.96	19.81	58.10	18.14	20.15	PK	L
4	0.7305	30.73	19.94	56.00	25.27	10.79	PK	L
5	15.3870	31.07	22.13	60.00	28.93	8.94	PK	L
6	27.4695	31.89	24.87	60.00	28.11	7.02	PK	L

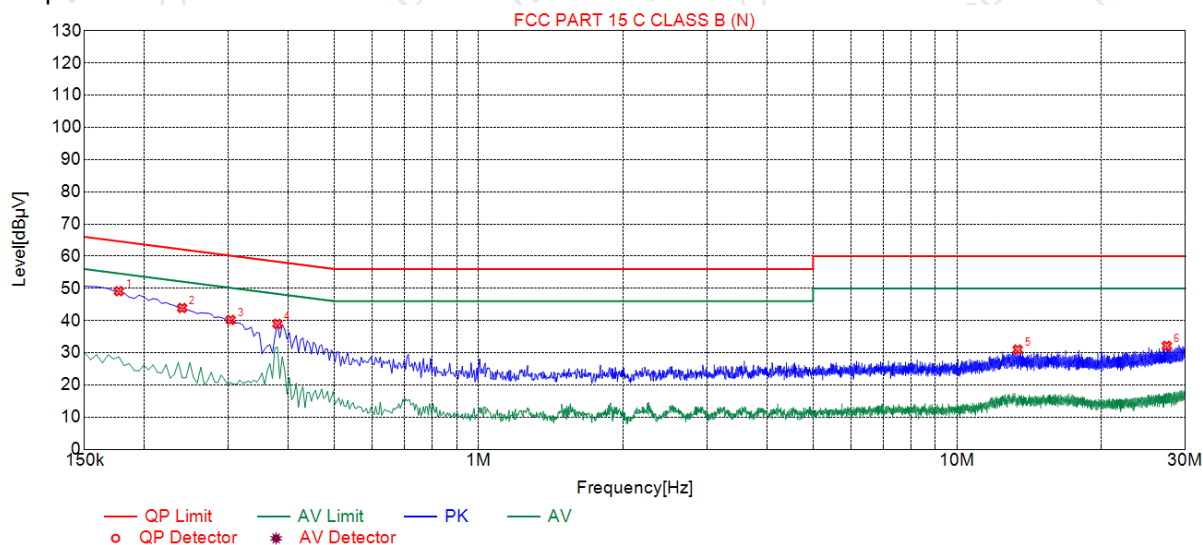
Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1770	49.13	19.84	64.63	15.50	29.29	PK	N
2	0.2400	43.91	19.78	62.10	18.19	24.13	PK	N
3	0.3030	40.22	19.82	60.16	19.94	20.40	PK	N
4	0.3795	38.99	19.87	58.29	19.30	19.12	PK	N
5	13.3890	31.00	21.65	60.00	29.00	9.35	PK	N
6	27.4470	32.16	24.71	60.00	27.84	7.45	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable loss + 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
	5725-5850	1 W
Test Setup:	 RF automatic control unit 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. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. 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. During the test, the "duty cycle factor" has already been added to the testing software.	

**Test Data**

Configuration Band IV (5745 - 5825 MHz)				
Mode	Test Channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
802.11a	CH149	6.85	30	PASS
802.11a	CH157	6.35	30	PASS
802.11a	CH165	6.57	30	PASS
802.11n(HT20)	CH149	6.75	30	PASS
802.11n(HT20)	CH157	6.31	30	PASS
802.11n(HT20)	CH165	6.37	30	PASS
802.11n(HT40)	CH151	7.52	30	PASS
802.11n(HT40)	CH159	6.34	30	PASS
802.11ac(HT20)	CH149	6.86	30	PASS
802.11ac(HT20)	CH157	6.45	30	PASS
802.11ac(HT20)	CH165	6.35	30	PASS
802.11ac(HT40)	CH151	6.90	30	PASS
802.11ac(HT40)	CH159	6.39	30	PASS
802.11ax(HE20)	CH149	7.10	30	PASS
802.11ax(HE20)	CH157	6.55	30	PASS
802.11ax(HE20)	CH165	6.41	30	PASS
802.11ax(HE40)	CH151	6.75	30	PASS
802.11ax(HE40)	CH159	6.49	30	PASS

Note: 1.The test results including the cable lose.



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 v01r04 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 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) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be at least 500 kHz. 4. Measure and record the results in the test report.
Test Result:	PASS



4.3.2. Test Data

Band IV (5745 - 5825 MHz)					
Mode	Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11a	CH149	5745	16.400	0.5	PASS
802.11a	CH157	5785	16.360	0.5	PASS
802.11a	CH165	5825	16.360	0.5	PASS
802.11n(HT20)	CH149	5745	17.560	0.5	PASS
802.11n(HT20)	CH157	5785	17.640	0.5	PASS
802.11n(HT20)	CH165	5825	17.600	0.5	PASS
802.11n(HT40)	CH151	5755	36.320	0.5	PASS
802.11n(HT40)	CH159	5795	36.320	0.5	PASS
802.11ac(HT20)	CH149	5745	17.640	0.5	PASS
802.11ac(HT20)	CH157	5785	17.560	0.5	PASS
802.11ac(HT20)	CH165	5825	17.640	0.5	PASS
802.11ac(HT40)	CH151	5755	36.320	0.5	PASS
802.11ac(HT40)	CH159	5795	36.320	0.5	PASS
802.11ax(HE20)	CH149	5745	18.960	0.5	PASS
802.11ax(HE20)	CH157	5785	19.120	0.5	PASS
802.11ax(HE20)	CH165	5825	18.960	0.5	PASS
802.11ax(HE40)	CH151	5755	38.080	0.5	PASS
802.11ax(HE40)	CH159	5795	37.920	0.5	PASS

Test plots as follows:



Band IV (5725 – 5850MHz)

802.11a



Low



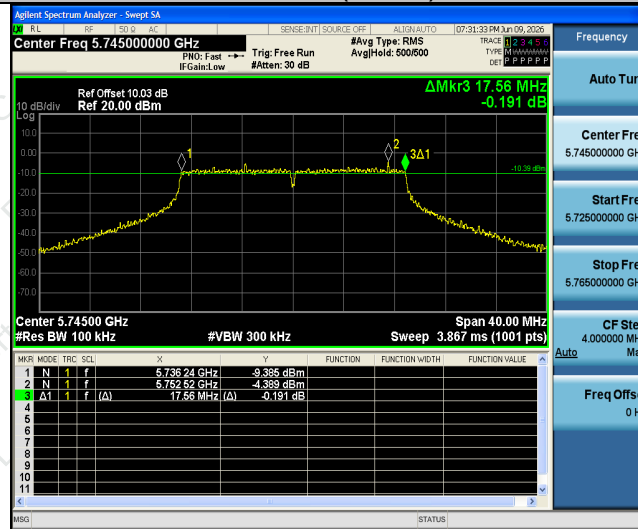
Mid



High



802.11n(HT20)



Low



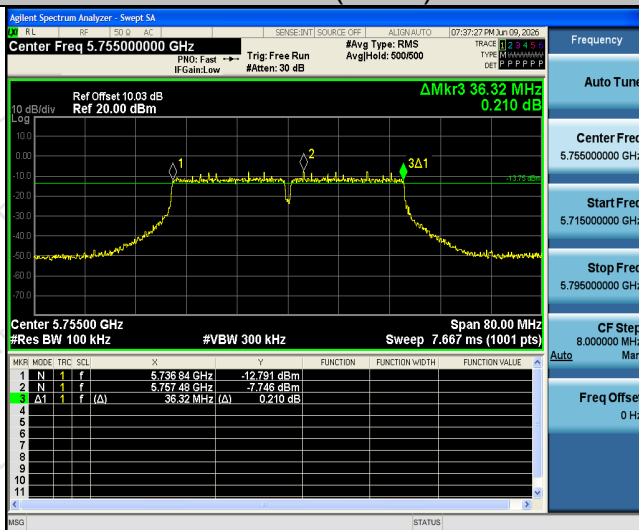
Mid



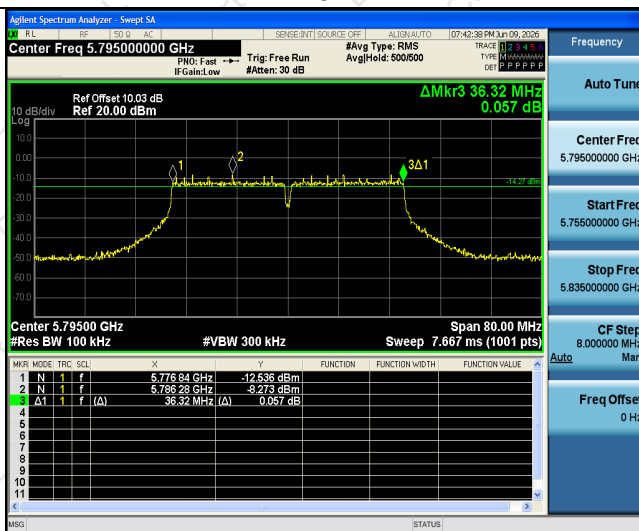
High



802.11n(HT40)



Low



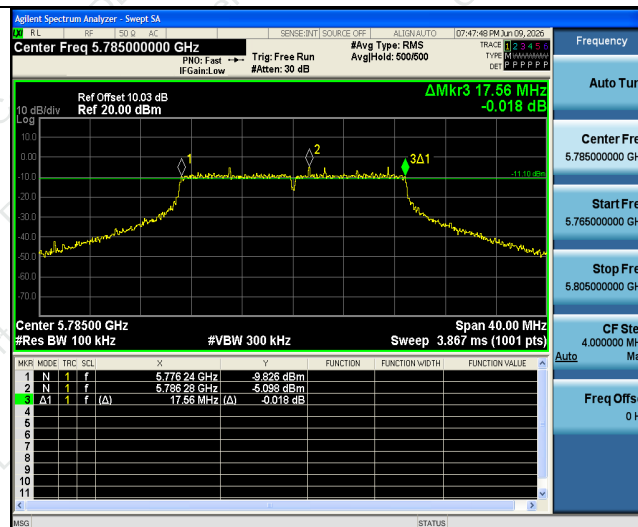
High



802.11ac(HT20)



Low



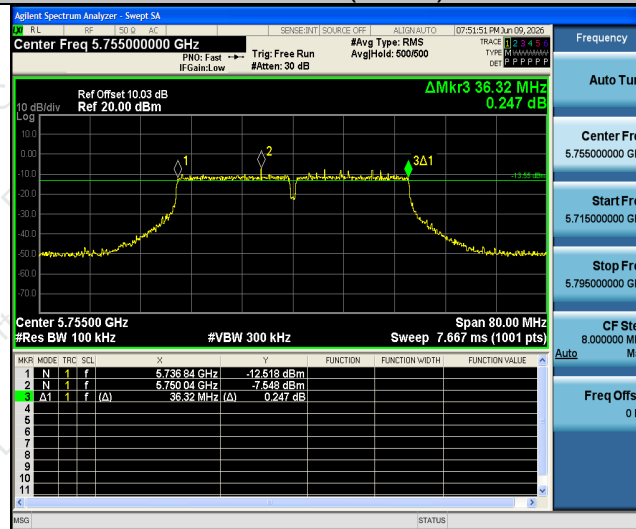
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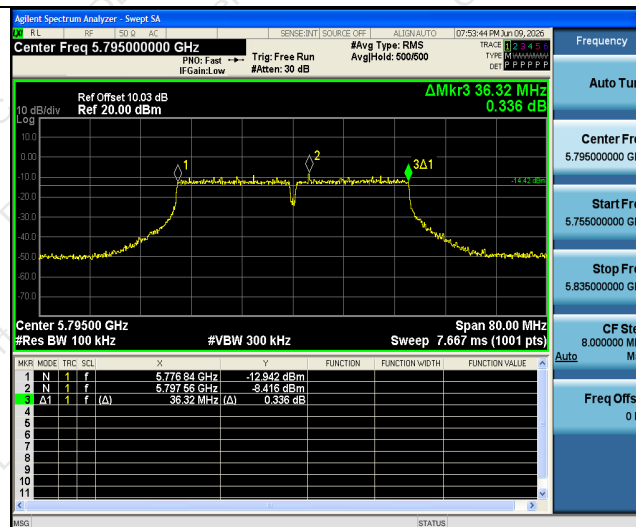
High



802.11ac(HT40)



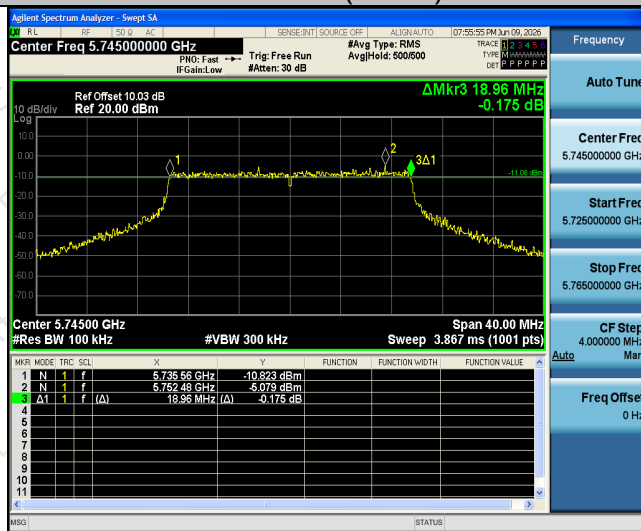
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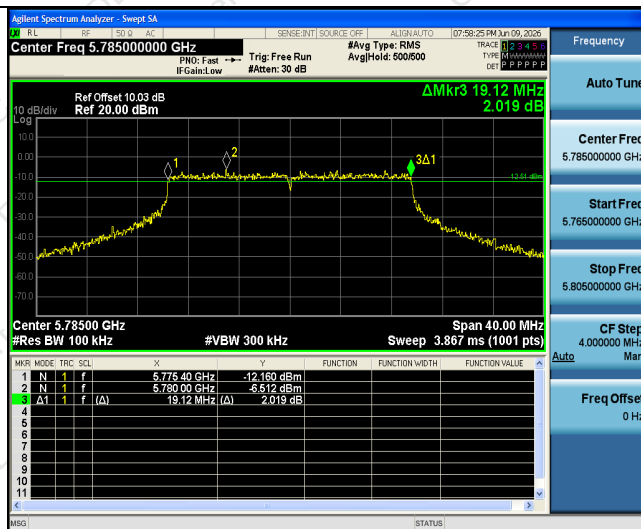
High



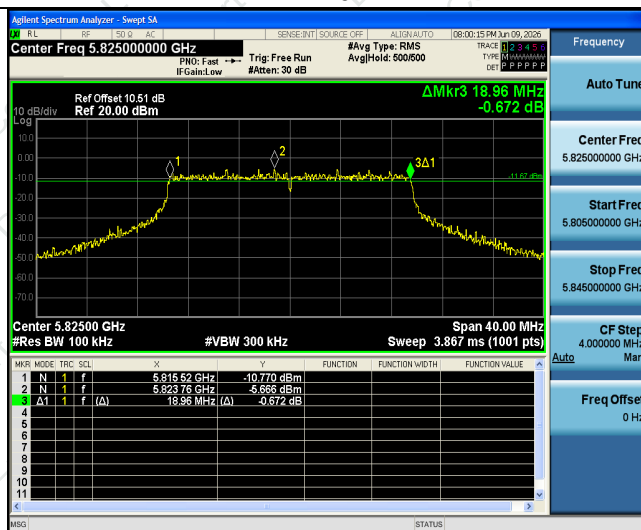
802.11ax(HE20)



Low



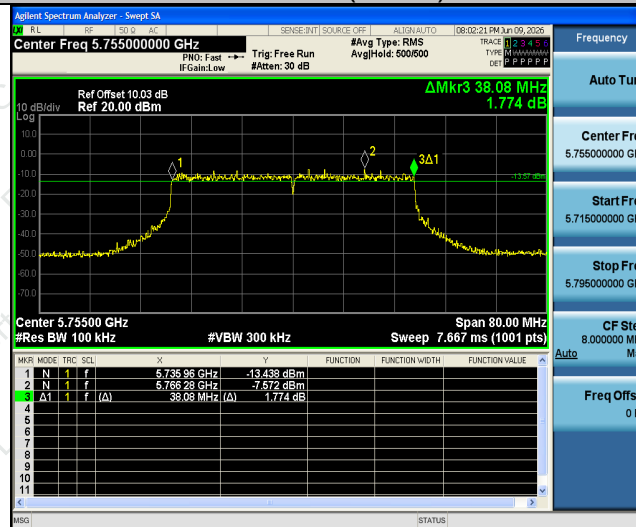
Mid



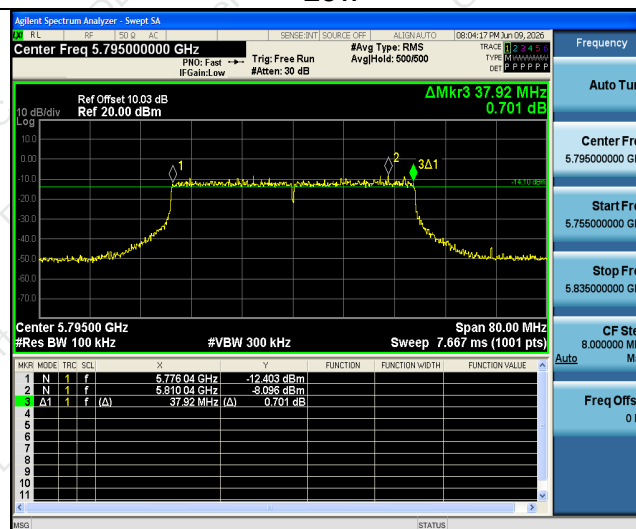
High



802.11ax(HE40)



Low



High



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:	 The diagram illustrates the test setup. On the left is a green rectangular box labeled 'Spectrum Analyzer'. A horizontal line connects it to a yellow rectangular box on the right labeled '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:	N/A

4.4.2. Test Result

N/A



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:	$\leq 30.00\text{dBm}/500\text{KHz}$ for Band IV 5725MHz-5850MHz
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. 2. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times \text{RBW}$, Sweep time = Auto, Detector = RMS. 3. Allow the sweeps to continue until the trace stabilizes. 4. Use the peak marker function to determine the maximum amplitude level. 5. 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
Remark:	During the test, the "duty cycle factor" has already been added to the testing software.



4.5.2. Test Data

Configuration Band IV (5745 - 5825 MHz)						
Mode	Test channel	Level [dBm/510kHz]	10log (500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
802.11a	CH149	3.79	-0.086	3.704	30	PASS
802.11a	CH157	3.69	-0.086	3.604	30	PASS
802.11a	CH165	3.59	-0.086	3.504	30	PASS
802.11n(HT20)	CH149	3.88	-0.086	3.794	30	PASS
802.11n(HT20)	CH157	3.15	-0.086	3.064	30	PASS
802.11n(HT20)	CH165	3.16	-0.086	3.074	30	PASS
802.11n(HT40)	CH151	3.16	-0.086	3.074	30	PASS
802.11n(HT40)	CH159	2.02	-0.086	1.934	30	PASS
802.11ac(HT20)	CH149	3.86	-0.086	3.774	30	PASS
802.11ac(HT20)	CH157	3.77	-0.086	3.684	30	PASS
802.11ac(HT20)	CH165	3.30	-0.086	3.214	30	PASS
802.11ac(HT40)	CH151	0.66	-0.086	0.574	30	PASS
802.11ac(HT40)	CH159	1.10	-0.086	1.014	30	PASS
802.11ax(HE20)	CH149	6.14	-0.086	6.054	30	PASS
802.11ax(HE20)	CH157	6.16	-0.086	6.074	30	PASS
802.11ax(HE20)	CH165	6.27	-0.086	6.184	30	PASS
802.11ax(HE40)	CH151	3.37	-0.086	3.284	30	PASS
802.11ax(HE40)	CH159	2.23	-0.086	2.144	30	PASS

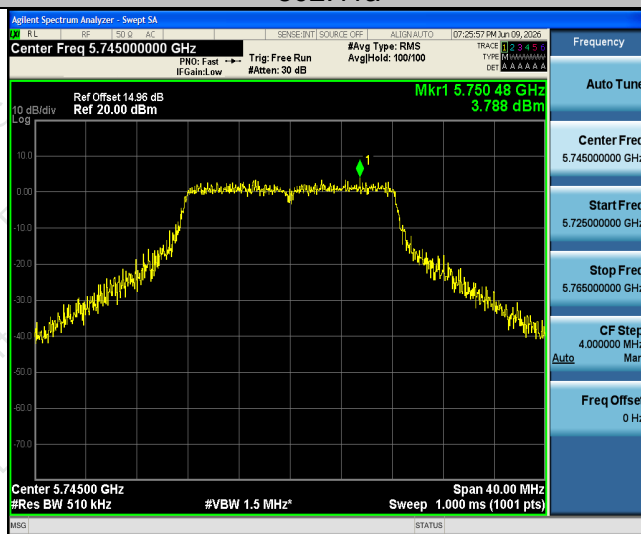
Note: Power Spectral Density= Level [dBm/510kHz]+(10log(Limit RBW/Test RBW))

Test plots as follows:

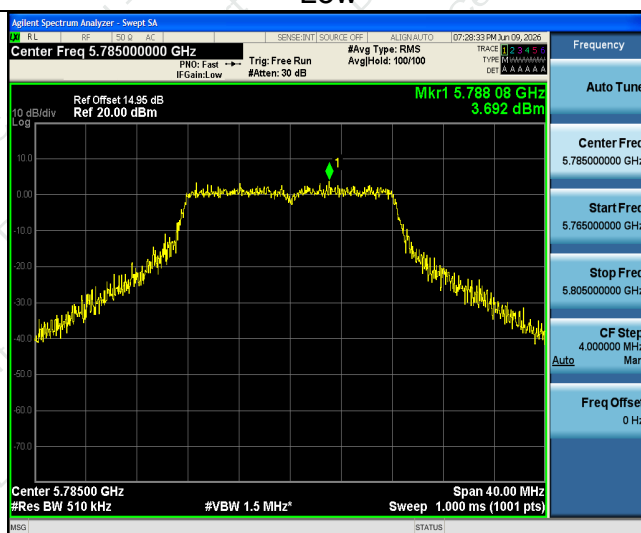


Band IV (5725-5850MHz)

802.11a



Low



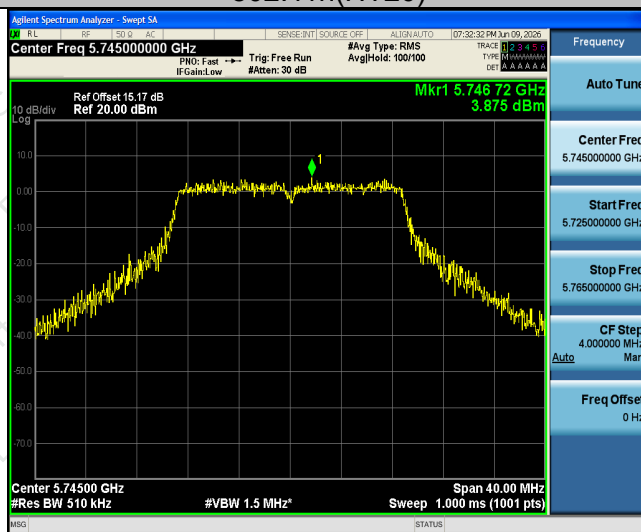
Mid



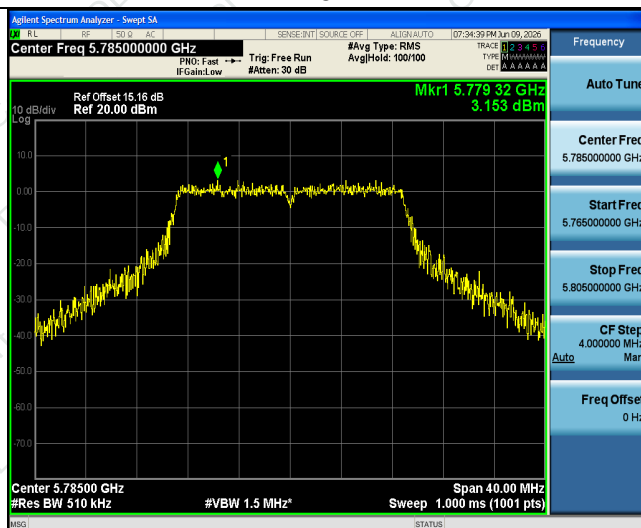
High



802.11n(HT20)



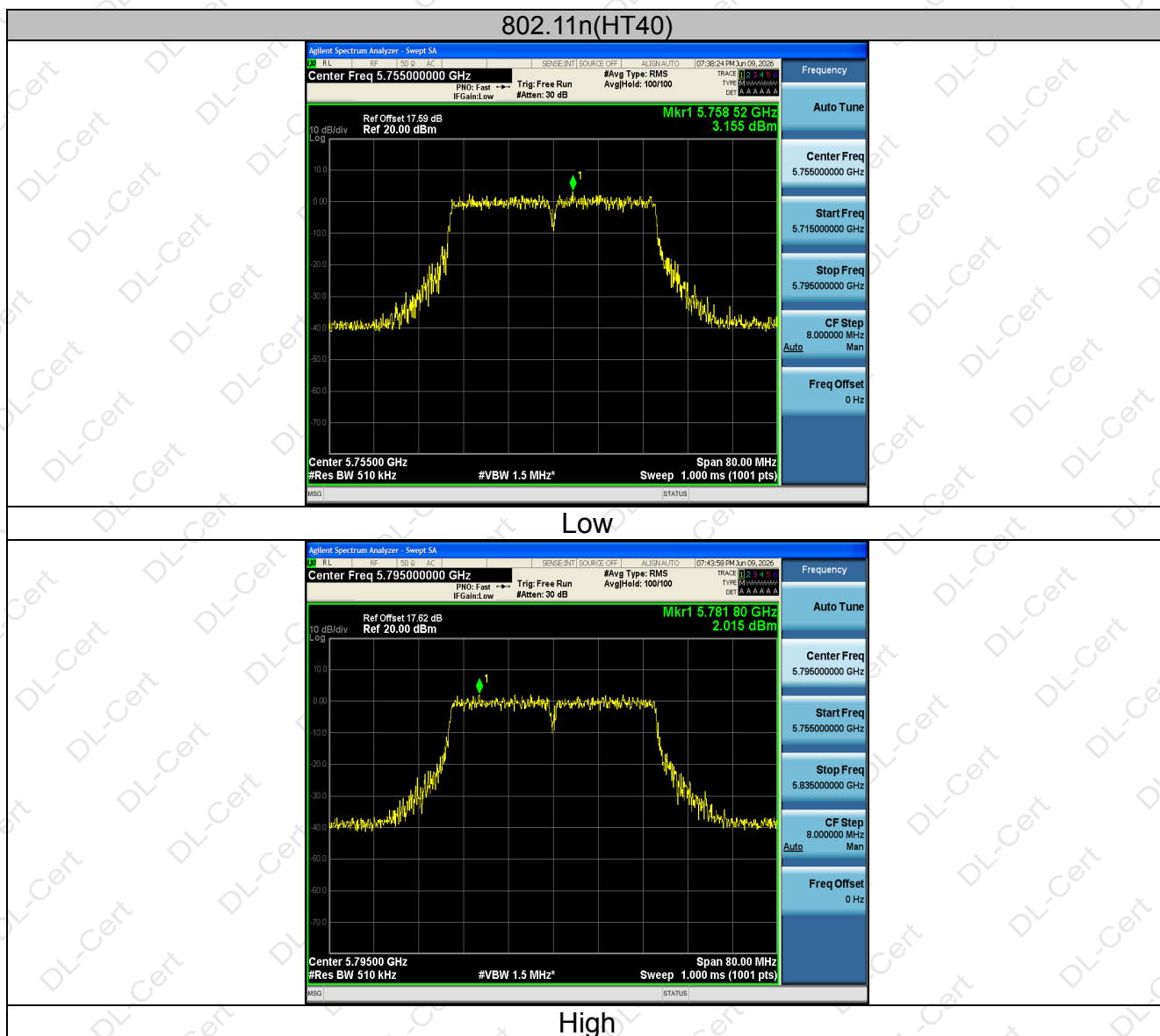
Low



Mid



High





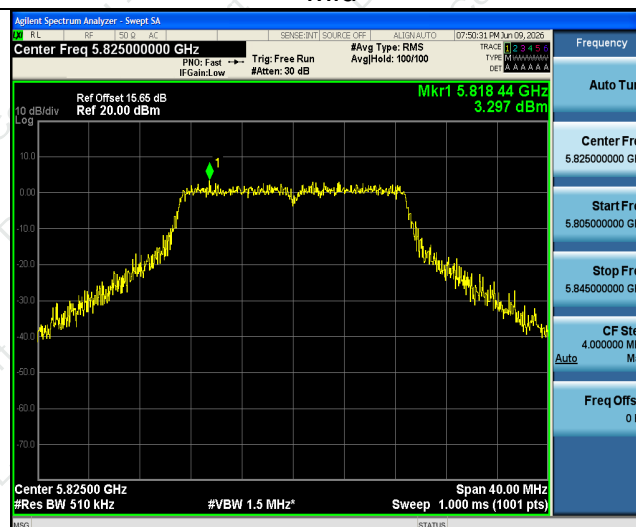
802.11ac(HT20)



Low



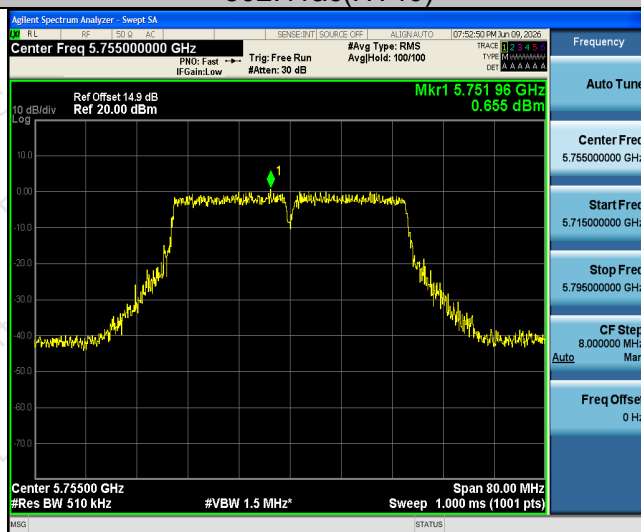
Mid



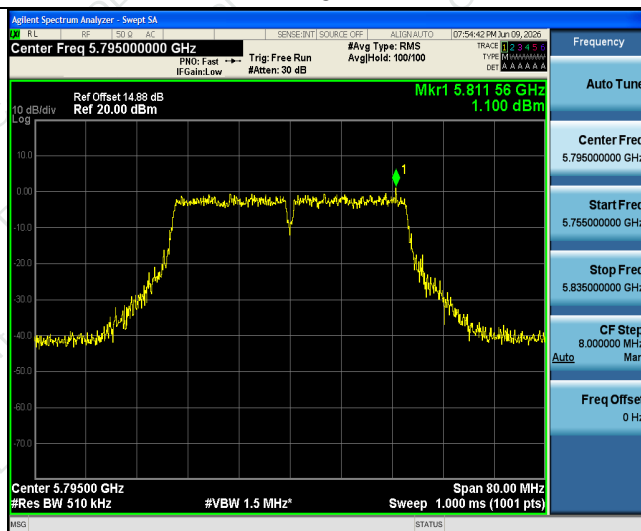
High



802.11ac(HT40)



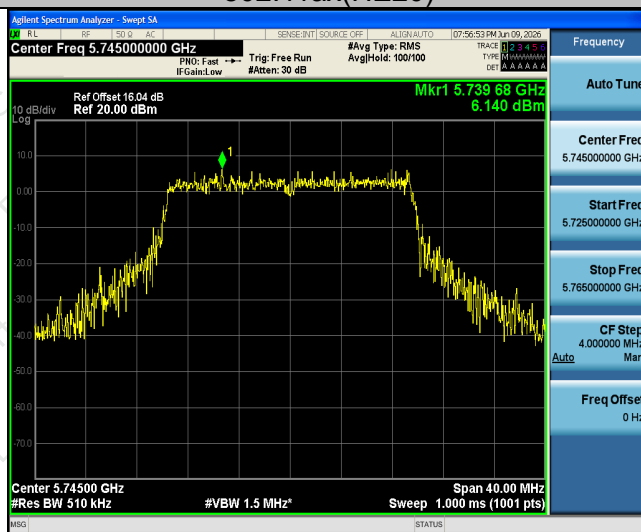
Low



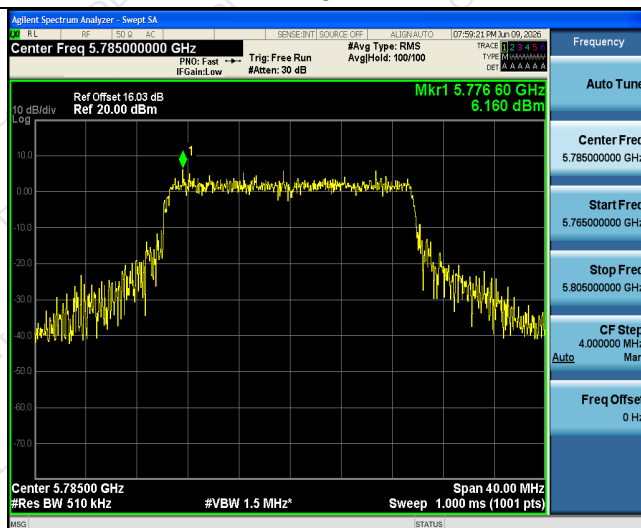
High



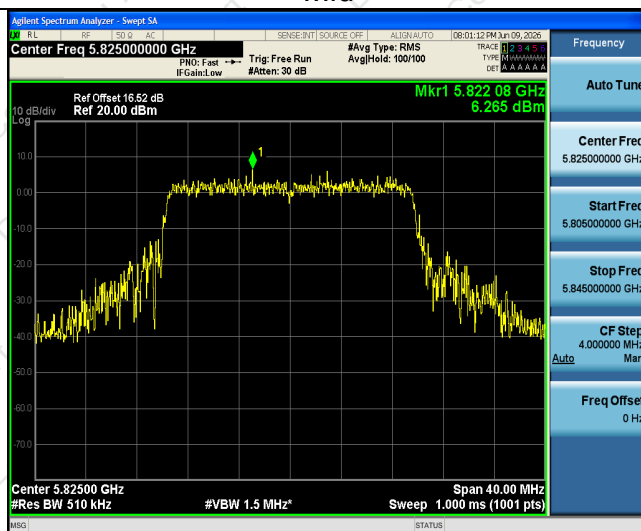
802.11ax(HE20)



Low



Mid



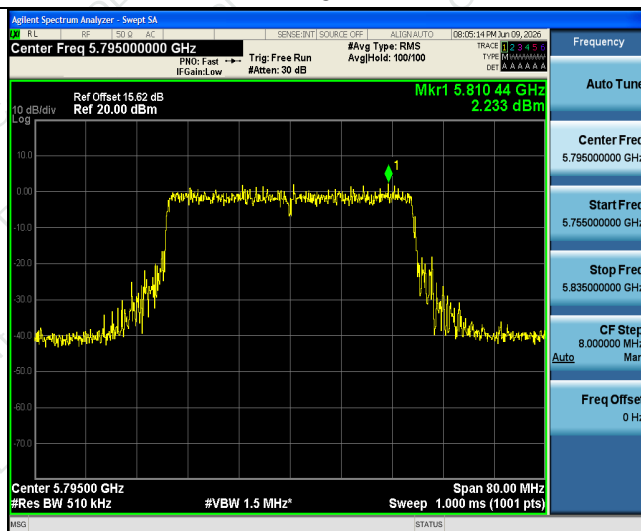
High



802.11ax(HE40)



Low



High



4.6 Spurious Emission

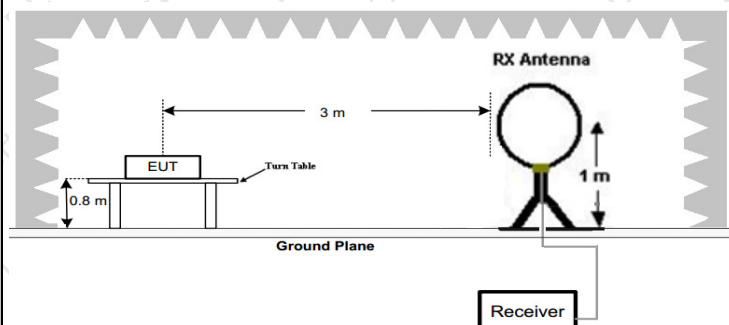
4.6.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. (4) For transmitters operating in the 5.725-5.85 GHz band: (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. The limit of frequency below 1GHz and which fall in restricted bands should comply 15.209.				

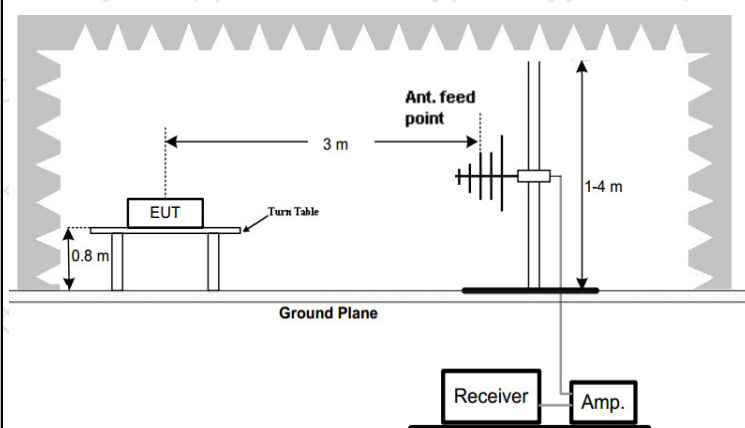


Test Setup:

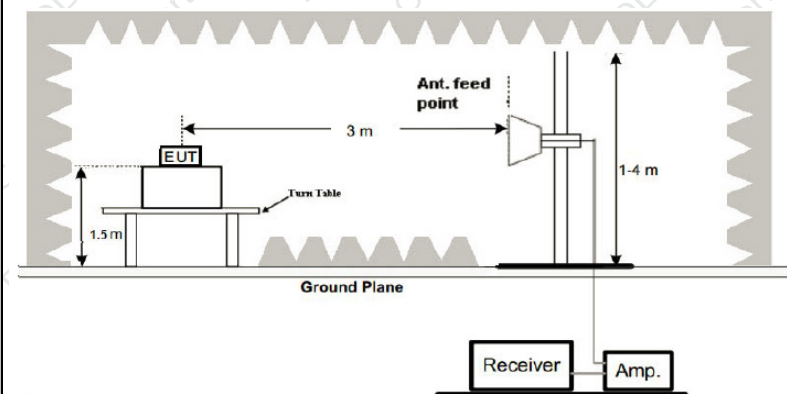
For radiated emissions below 30MHz



30MHz to 1GHz



Above 1GHz



**Test Procedure:**

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test Results:

PASS

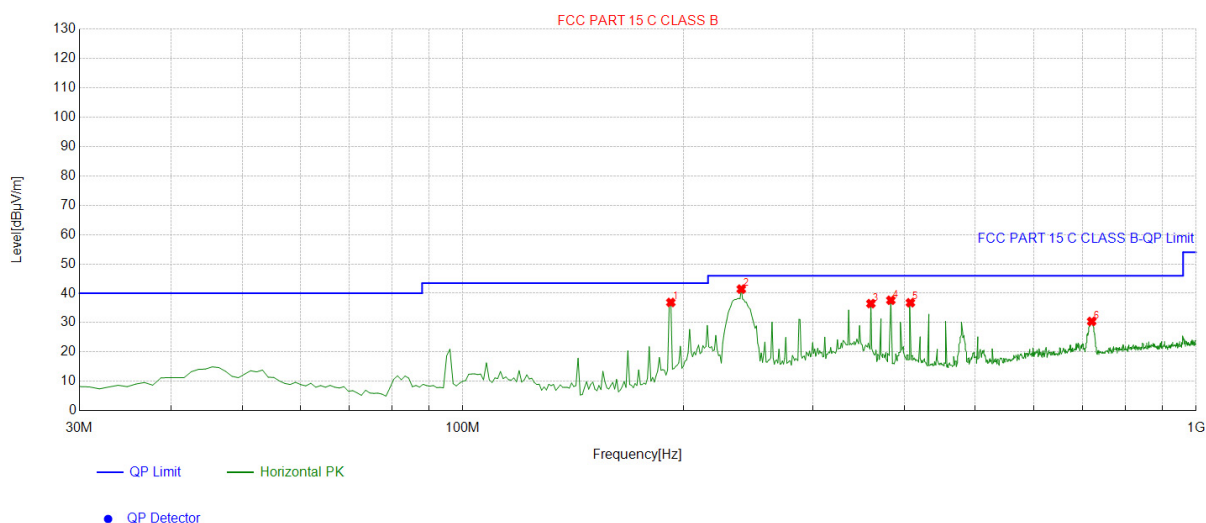


4.6.2. Test Data

Below 1GHz Test Results

All the test modes completed for test. Only the worst mode of 802.11a low channel TX is reflected.

Antenna polarity: Horizontal

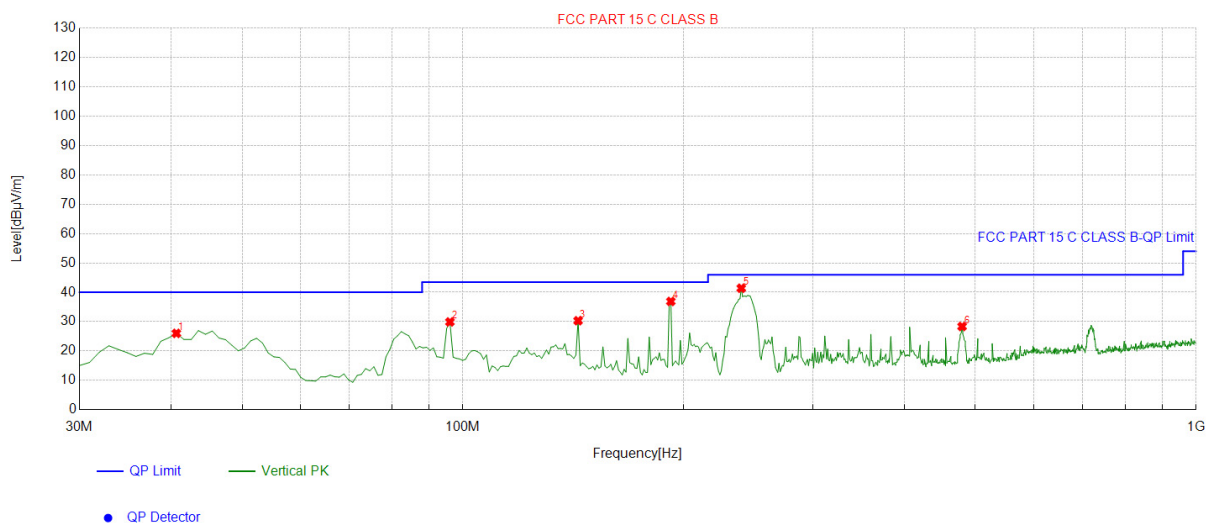


Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	192.152	-15.24	52.13	36.89	43.50	6.61	100	157	Horizontal
2	239.730	-13.51	54.94	41.43	46.00	4.57	100	178	Horizontal
3	360.130	-10.47	46.96	36.49	46.00	9.51	100	206	Horizontal
4	383.433	-10.18	47.82	37.64	46.00	8.36	100	188	Horizontal
5	407.708	-9.42	46.21	36.79	46.00	9.21	100	210	Horizontal
6	720.360	-3.96	34.39	30.43	46.00	15.57	100	69	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.681	-13.43	39.46	26.03	40.00	13.97	100	97	Vertical
2	96.026	-15.16	45.08	29.92	43.50	13.58	100	112	Vertical
3	143.604	-18.41	48.74	30.33	43.50	13.17	100	80	Vertical
4	192.152	-15.24	52.14	36.90	43.50	6.60	100	9	Vertical
5	239.730	-13.51	54.90	41.39	46.00	4.61	100	80	Vertical
6	479.560	-8.19	36.56	28.37	46.00	17.63	100	221	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Limit@3m (dBμV/m)
--	--	--
--	--	--
--	--	--
--	--	--

Note: 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement

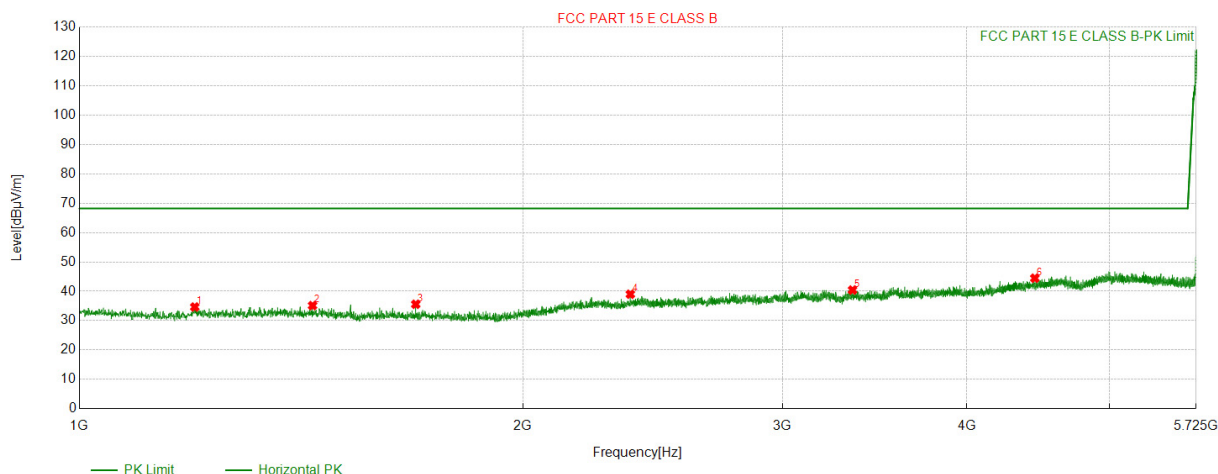


Above 1GHz Test Results

All the test modes completed for test. Only the worst mode of 802.11a low channel TX is reflected.

For 1GHz to 5.725GHz

Antenna polarity: Horizontal

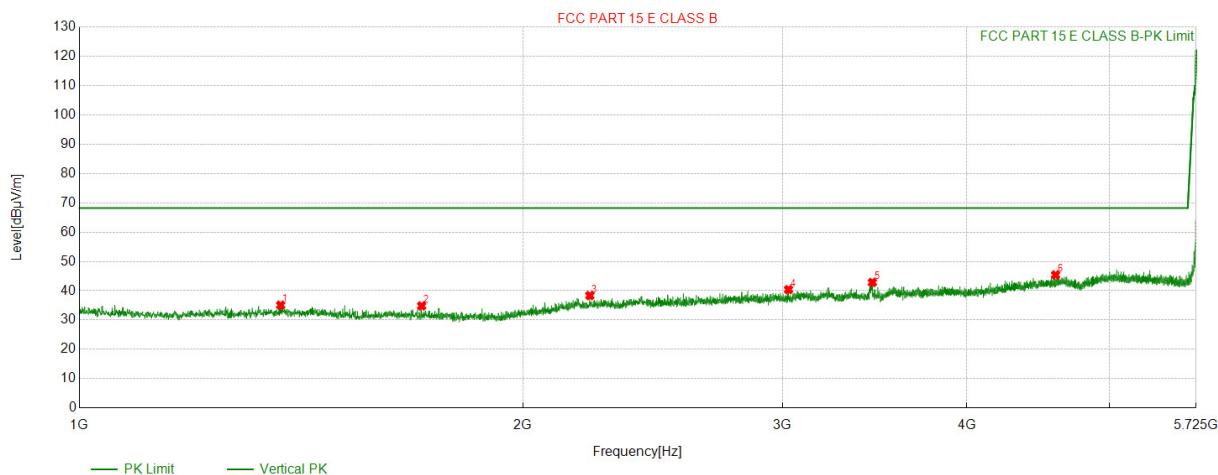


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1197.525	53.54	34.66	-18.88	68.20	33.54	150	40	Horizontal
2	1439.469	53.32	35.15	-18.17	68.20	33.05	150	130	Horizontal
3	1691.337	53.93	35.59	-18.34	68.20	32.61	150	280	Horizontal
4	2365.189	53.58	39.01	-14.57	68.20	29.19	150	140	Horizontal
5	3346.670	52.82	40.44	-12.38	68.20	27.76	150	120	Horizontal
6	4449.595	52.17	44.47	-7.70	68.20	23.73	150	300	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



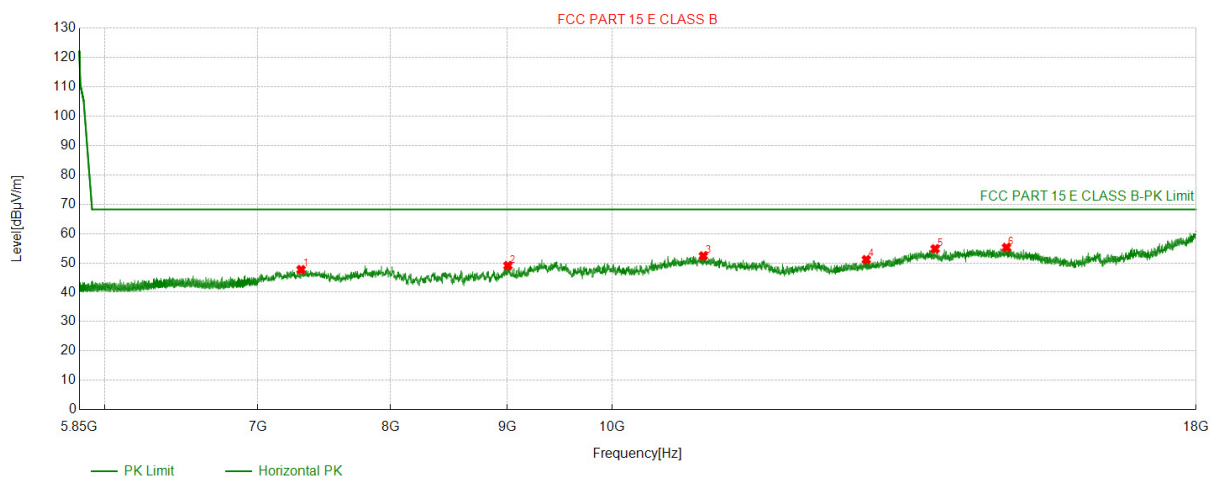
Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1369.532	53.24	35.10	-18.14	68.20	33.10	150	80	Vertical
2	1706.931	53.14	34.84	-18.30	68.20	33.36	150	240	Vertical
3	2220.117	53.09	38.37	-14.72	68.20	29.83	150	0	Vertical
4	3028.173	53.08	40.40	-12.68	68.20	27.80	150	0	Vertical
5	3452.048	54.85	42.85	-12.00	68.20	25.35	150	200	Vertical
6	4596.085	52.35	45.41	-6.94	68.20	22.79	150	100	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



For 5.85GHz to 18GHz

Antenna polarity: Horizontal

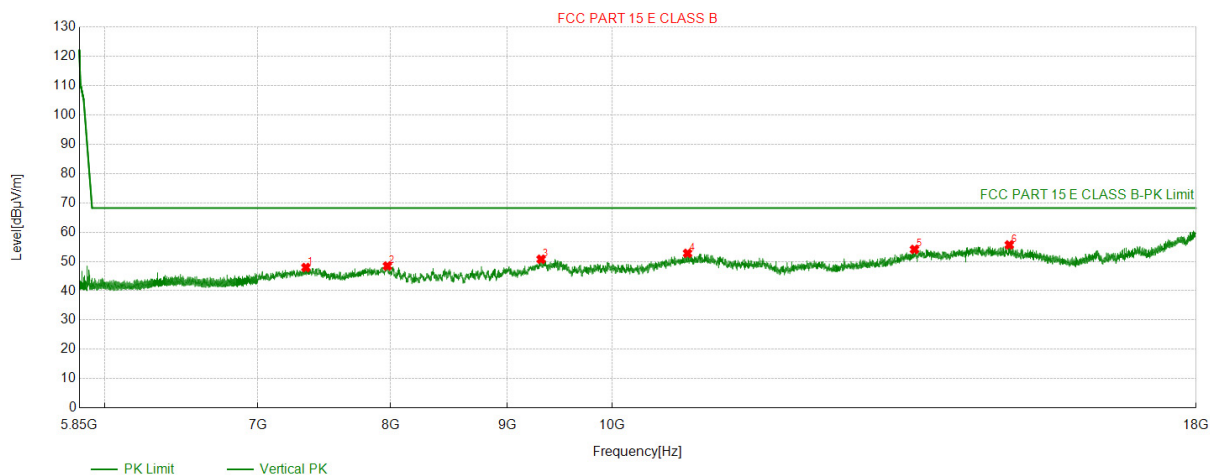


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	7312.431	51.02	47.73	-3.29	68.20	20.47	150	258	Horizontal
2	9004.400	50.35	49.07	-1.28	68.20	19.13	150	159	Horizontal
3	10961.496	49.69	52.38	2.69	68.20	15.82	150	240	Horizontal
4	12915.292	48.26	51.13	2.87	68.20	17.07	150	77	Horizontal
5	13841.584	48.88	54.79	5.91	68.20	13.41	150	359	Horizontal
6	14872.387	47.81	55.25	7.44	68.20	12.95	150	9	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



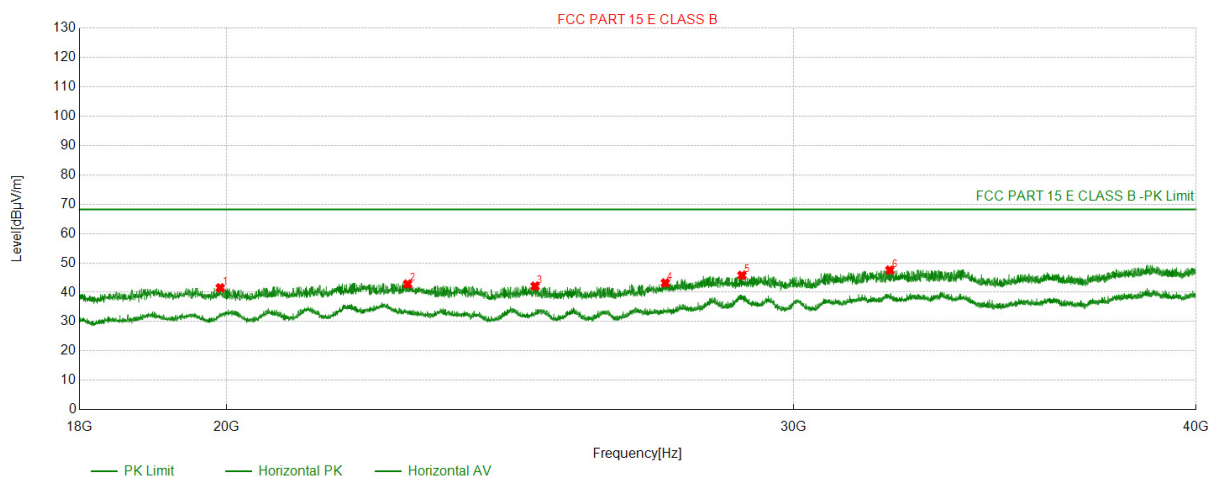
Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	7347.635	51.08	47.93	-3.15	68.20	20.27	150	182	Vertical
2	7975.798	50.41	48.44	-1.97	68.20	19.76	150	133	Vertical
3	9310.231	51.08	50.75	-0.33	68.20	17.45	150	357	Vertical
4	10788.779	50.72	52.78	2.06	68.20	15.42	150	286	Vertical
5	13556.656	48.58	54.09	5.51	68.20	14.11	150	236	Vertical
6	14914.191	48.31	55.64	7.33	68.20	12.56	150	295	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



For 18GHz to 40GHz

Antenna polarity: Horizontal

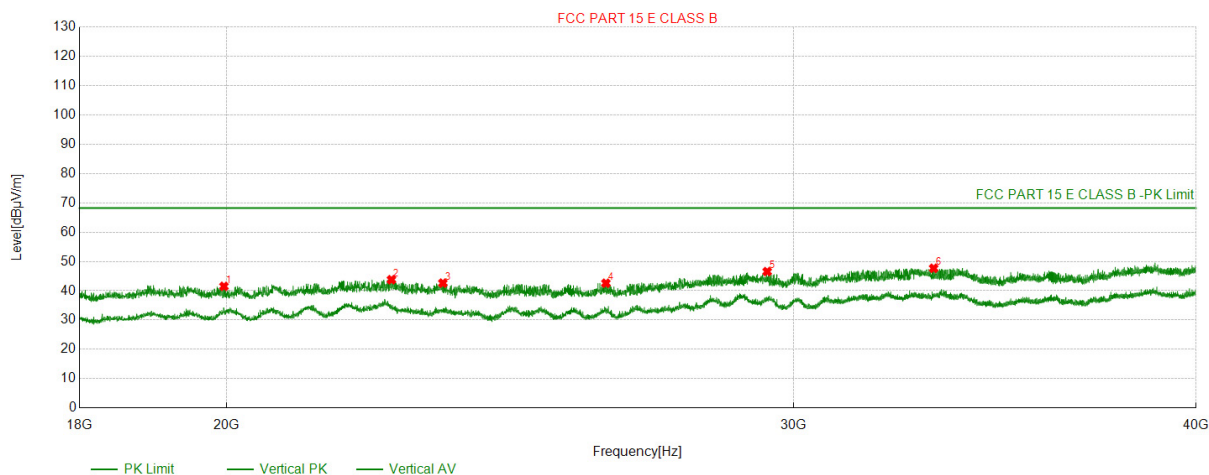


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19907.591	35.35	41.52	6.17	68.20	26.68	150	360	Horizontal
2	22761.276	37.26	42.80	5.54	68.20	25.40	150	110	Horizontal
3	24932.893	35.76	42.08	6.32	68.20	26.12	150	190	Horizontal
4	27368.537	35.26	43.19	7.93	68.20	25.01	150	360	Horizontal
5	28908.691	36.79	45.77	8.98	68.20	22.43	150	170	Horizontal
6	32132.013	37.65	47.57	9.92	68.20	20.63	150	130	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: Vertical



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19960.396	35.32	41.51	6.19	68.20	26.69	150	270	Vertical
2	22499.450	38.13	43.77	5.64	68.20	24.43	150	90	Vertical
3	23342.134	36.94	42.61	5.67	68.20	25.59	150	160	Vertical
4	26228.823	35.81	42.58	6.77	68.20	25.62	150	150	Vertical
5	29434.543	37.62	46.55	8.93	68.20	21.65	150	100	Vertical
6	33155.116	36.72	47.67	10.95	68.20	20.53	150	90	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level