



FCC Test Report

FCC ID: 2A7Z7YS-HPC03

Applicant: Shenzhen zhonganshi Technology Co., Ltd

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Manufacturer: Shenzhen zhonganshi Technology Co., Ltd

Address: 602, 6th floor, building a, Sanzhi industrial building, No. 95, Gushu 1st Road, Xixiang street, Bao'an District, Shenzhen, China

Product Name: Yoosee AI Camera

Trade Mark: N/A

Model Number: YS-HPC03, YS-HPC01, YS-HPC05, YS-HPC07, YS-HPC09, YS-HPD01

Date of Receipt: Mar. 06, 2026

Test Date: Mar. 06, 2026 ~ Mar. 19, 2026

Date of Report: Mar. 19, 2026

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

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC PART 15 E 15.407
ANSI C63.10:2020

Test Result: Pass

Report Number: DLE-260313024R

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	Mar. 19, 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($<1\text{G}$)	$\pm 3.65\text{dB}$
5	All emissions, radiated($>1\text{G}$)	$\pm 4.89\text{dB}$
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:	Yoosee AI Camera
Model Name:	YS-HPC03
Series Model(s):	YS-HPC01, YS-HPC05, YS-HPC07, YS-HPC09, YS-HPD01
Model Difference:	All model's the function, software and electric circuit are the same, only with product model named different. Test sample model: YS-HPC03.
Operation Frequency:	IEEE 802.11a/n(HT20)5.745GHz-5.825GHz IEEE 802.11n(HT40)5.755GHz-5.795GHz
Modulation Technology:	IEEE 802.11a/n
Modulation Type:	64QAM,16QAM, QPSK, BPSK for OFDM
Antenna Type:	External Antenna
Antenna Gain:	2.13dBi
Power Source:	DC5V From Type-C
Power Supply:	DC5V From Type-C
Hardware Version:	V3
Software Version:	V3
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)		802.11n(HT40)	
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

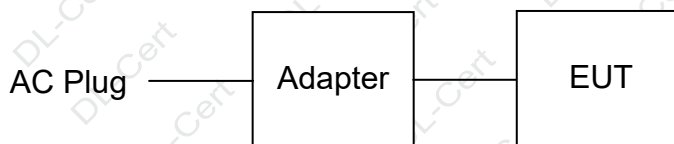
Band IV (5725 - 5850MHz)		
For 802.11a/n (HT20)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

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

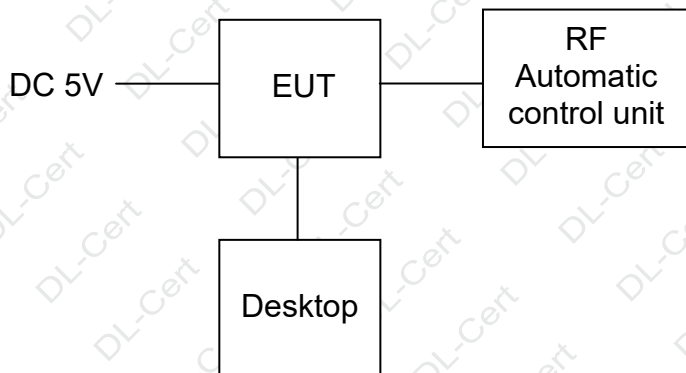


2.4 Description of Test Setup

Operation of EUT during AC Conducted 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 emissions worst-case are shown in Test Results of the following pages. 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	Yoosee AI Camera	N/A	YS-HPC03	N/A	EUT
2	USB Cable	N/A	N/A	Length: 1.5m	
3	Adapter	N/A	MDY-08-EH	Input: 100-240V, 50/60Hz, 0.5A Output: 5V, 2.5A/9V, 2A/12V, 1.5A	
4	Adapter	N/A	N/A	Input: 100-240V, 50/60Hz, 0.75A Output: 5V, 2A/9V, 2A/10V, 2.25A MAX	

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 Equipments List for All Test Items

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 25, 2025	Oct. 24, 2026
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 25, 2025	Oct. 24, 2026
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
16	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	ChengYu	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
3	LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
4	843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ EMC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ EMC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0



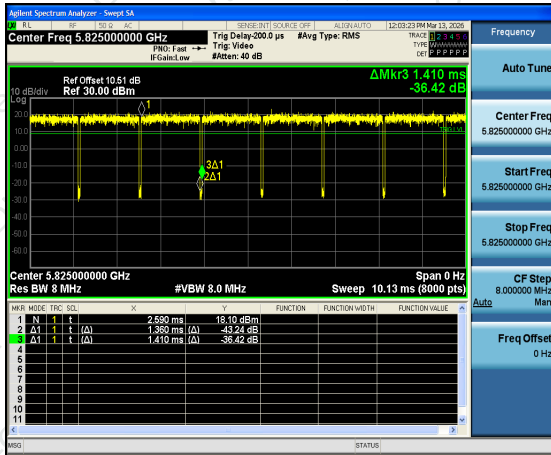
3. General Information

3.1 Test Environment and Mode

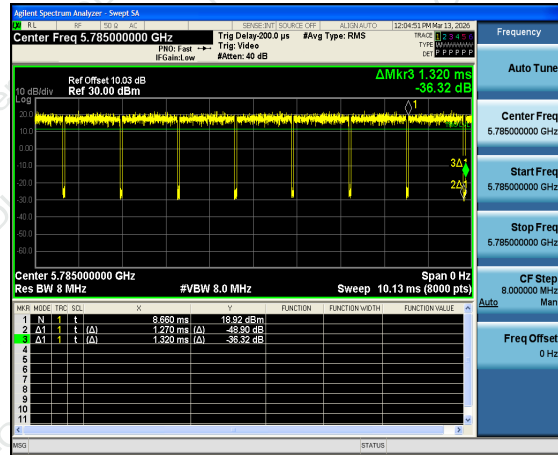
Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering Mode:	Keep the EUT in continuous transmitting by select channel and modulations
We have verified the construction and function in typical operation. All the test modes were carried out 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
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
Test plots as follows:	



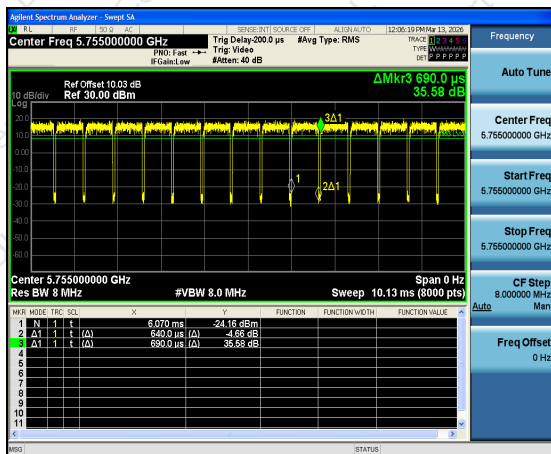
802.11a



802.11n(HT20)



802.11n(HT40)





4. Test Results and Measurement Data

4.1 AC Conducted Emission

4.1.1. Test Specification

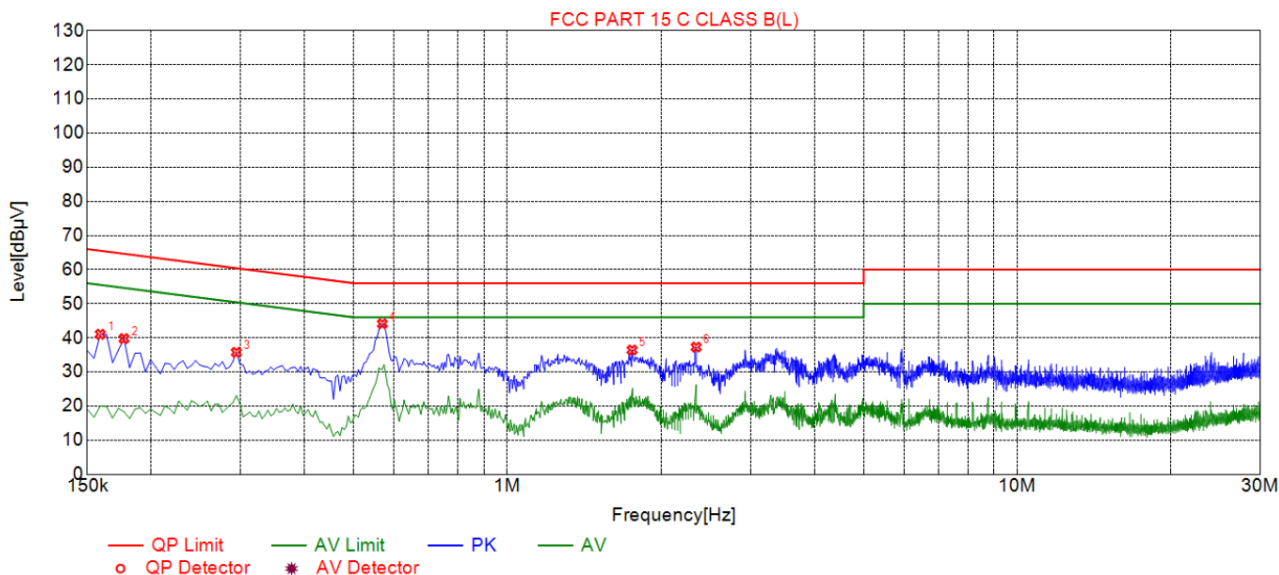
Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10: 2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver Setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (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 EMI Receiver Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.6m														
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 result was reported as below:

Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1590	41.04	19.83	65.52	24.48	21.21	PK	L
2	0.1770	39.78	19.80	64.63	24.85	19.98	PK	L
3	0.2940	35.76	19.78	60.41	24.65	15.98	PK	L
4	0.5685	44.14	19.88	56.00	11.86	24.26	PK	L
5	1.7565	36.44	20.02	56.00	19.56	16.42	PK	L
6	2.3460	37.29	20.09	56.00	18.71	17.20	PK	L

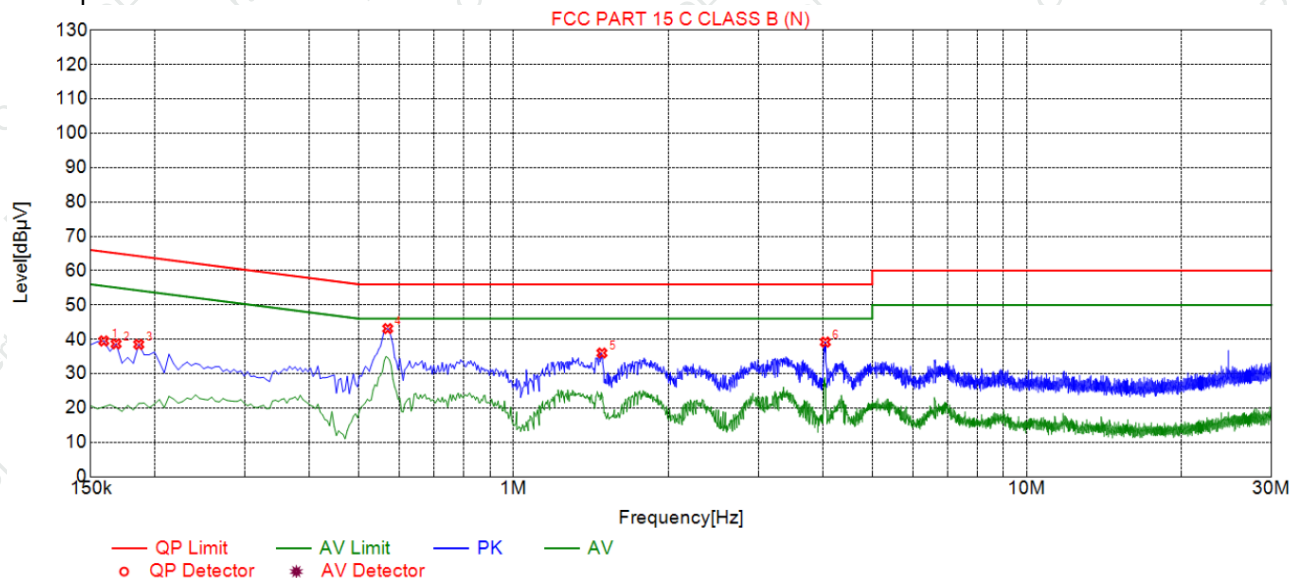
Remark: Margin = Limit – Level

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	0.1590	39.52	19.91	65.52	26.00	19.61	PK	N
2	0.1680	38.68	19.88	65.06	26.38	18.80	PK	N
3	0.1860	38.52	19.81	64.21	25.69	18.71	PK	N
4	0.5685	43.12	19.95	56.00	12.88	23.17	PK	N
5	1.4865	36.01	20.07	56.00	19.99	15.94	PK	N
6	4.0515	39.20	20.20	56.00	16.80	19.00	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.	



4.2.2. Test Data

Configuration Band IV (5745 - 5825 MHz)				
Mode	Test Channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
802.11a	CH149	7.09	30	PASS
802.11a	CH157	6.39	30	PASS
802.11a	CH165	6.58	30	PASS
802.11n(HT20)	CH149	7.02	30	PASS
802.11n(HT20)	CH157	6.36	30	PASS
802.11n(HT20)	CH165	6.55	30	PASS
802.11n(HT40)	CH151	7.41	30	PASS
802.11n(HT40)	CH159	6.56	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:	 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) = 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

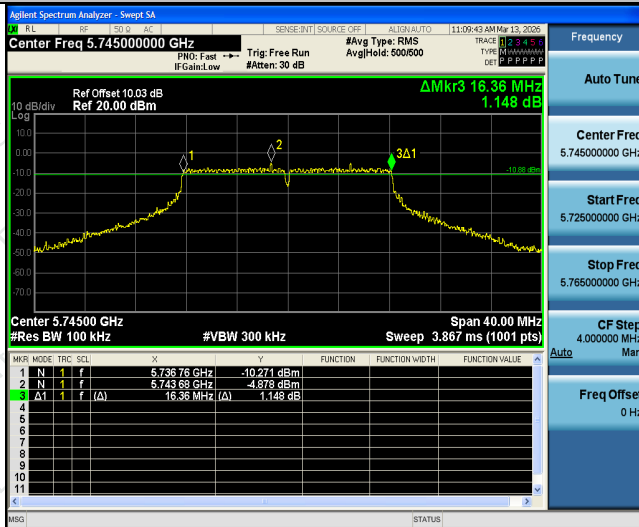
Band IV (5745 - 5825 MHz)					
Mode	Test channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11a	CH149	5745	16.36	0.5	PASS
802.11a	CH157	5785	16.36	0.5	PASS
802.11a	CH165	5825	16.40	0.5	PASS
802.11n(HT20)	CH149	5745	17.64	0.5	PASS
802.11n(HT20)	CH157	5785	17.64	0.5	PASS
802.11n(HT20)	CH165	5825	17.60	0.5	PASS
802.11n(HT40)	CH151	5755	36.32	0.5	PASS
802.11n(HT40)	CH159	5795	36.32	0.5	PASS

Test plots as follows:

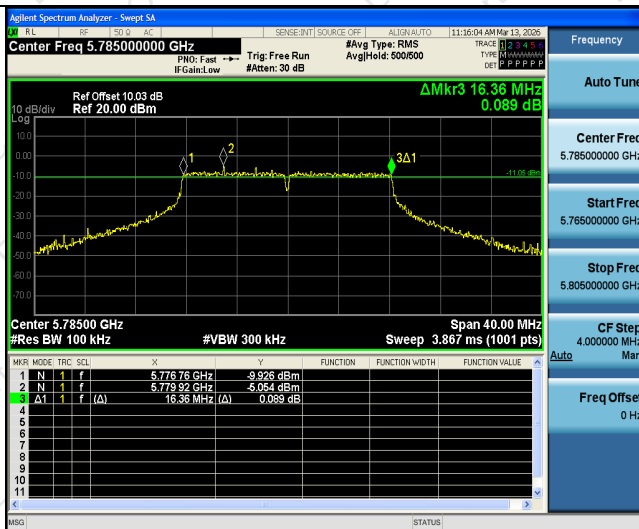


Band IV (5725 – 5850MHz)

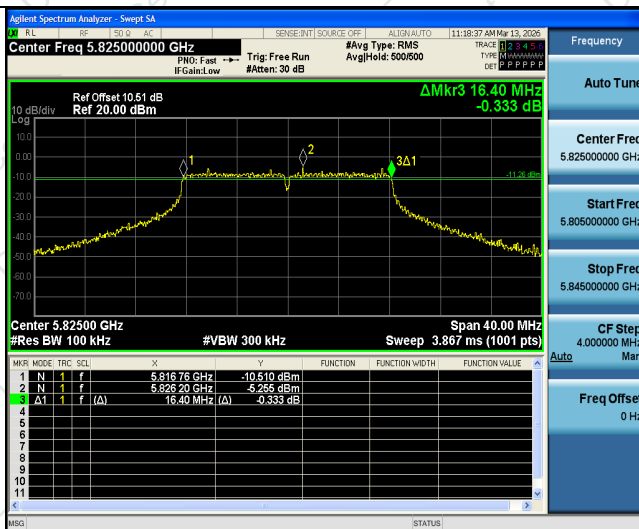
802.11a



Low



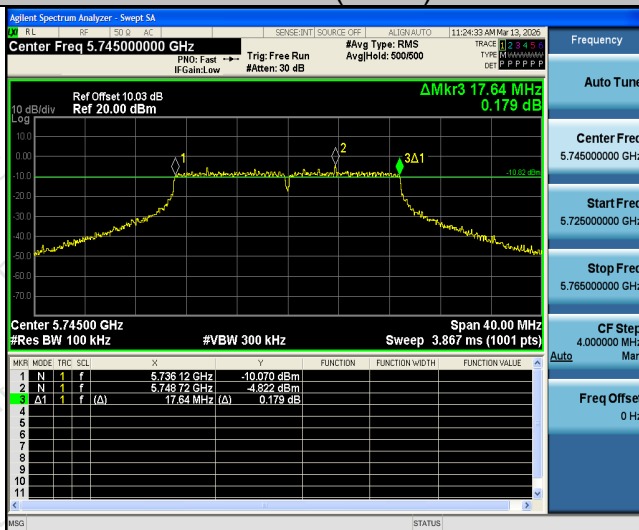
Mid



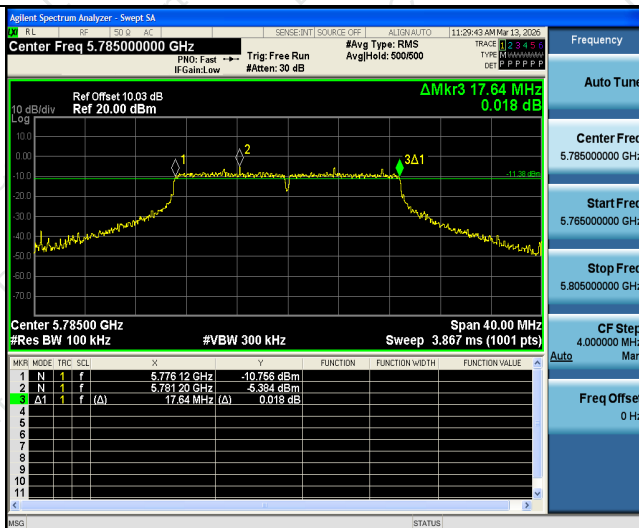
High



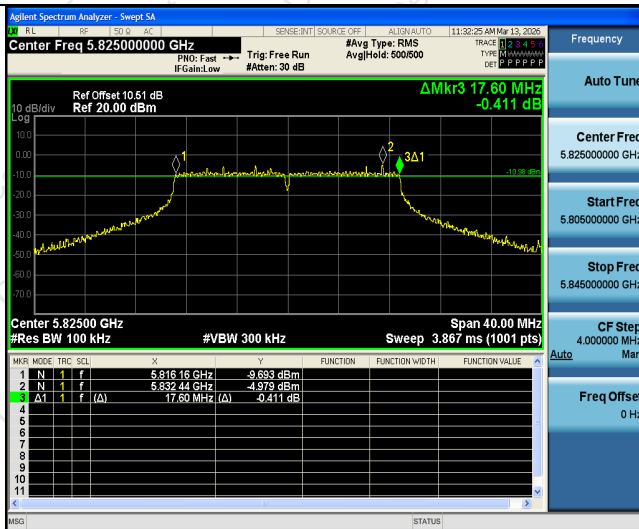
802.11n(HT20)



Low



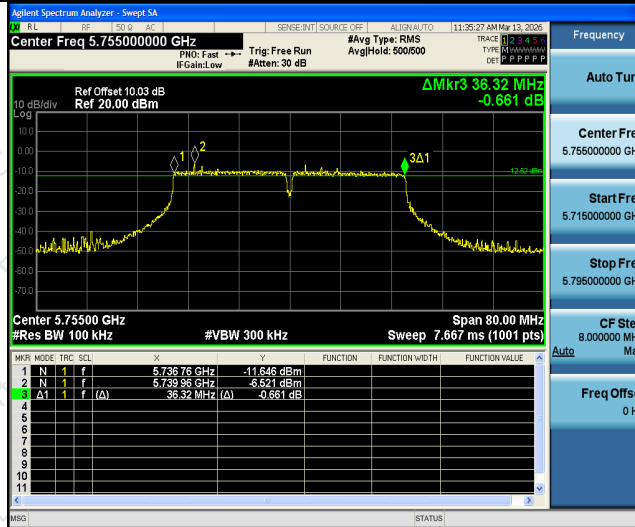
Mid



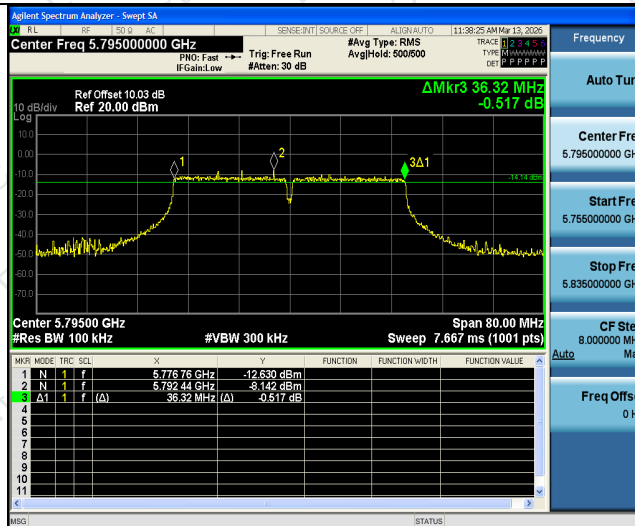
High



802.11n(HT40)



Low



High



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:	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:	≤30.00dBm/500KHz 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 ≥ 3*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

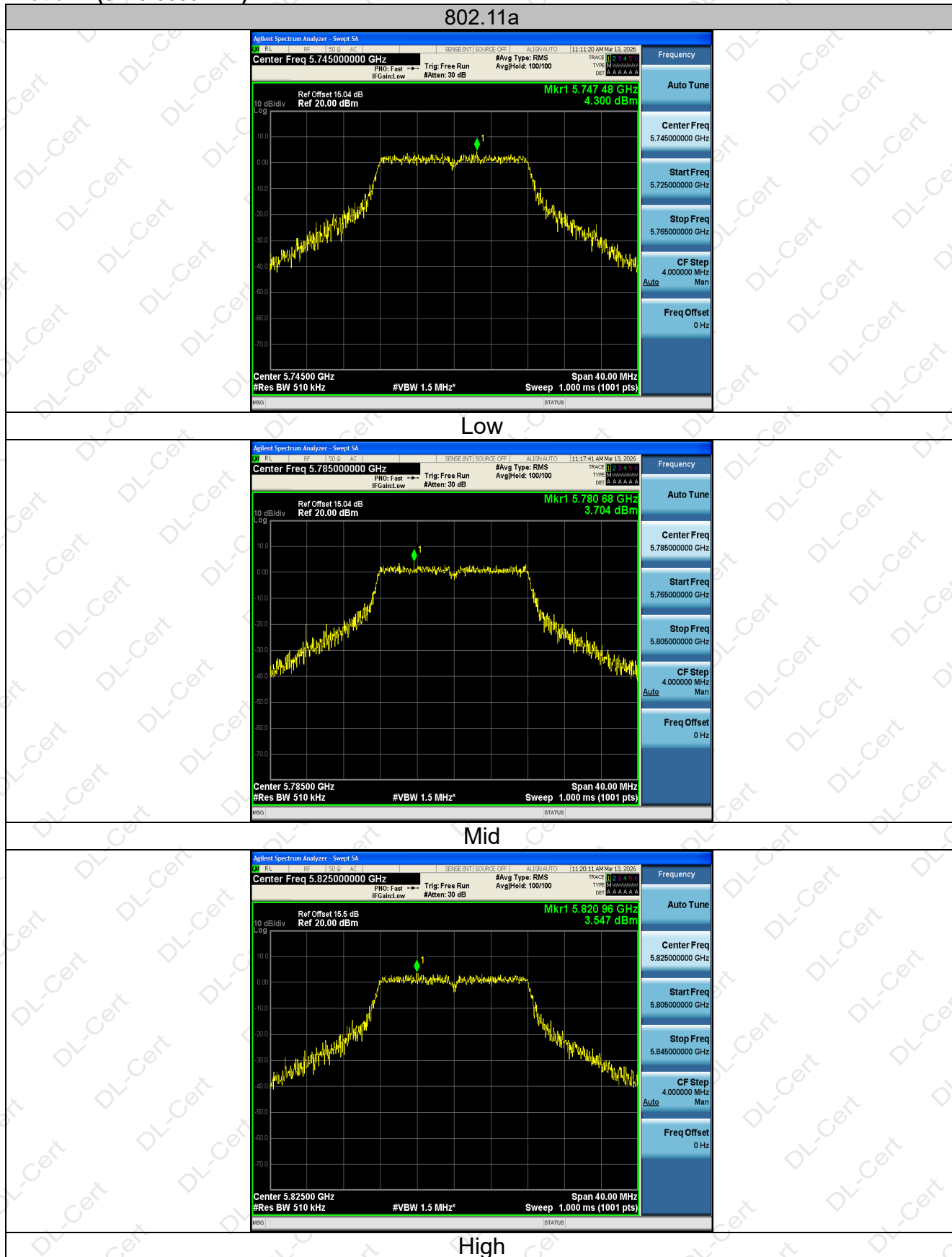
Configuration Band IV (5745 - 5825 MHz)						
Mode	Test channel	Level [dBm/510kHz]	10log (500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
802.11a	CH149	4.30	-0.086	4.214	30	PASS
802.11a	CH157	3.70	-0.086	3.614	30	PASS
802.11a	CH165	3.55	-0.086	3.464	30	PASS
802.11n(HT20)	CH149	3.99	-0.086	3.904	30	PASS
802.11n(HT20)	CH157	3.43	-0.086	3.344	30	PASS
802.11n(HT20)	CH165	3.37	-0.086	3.284	30	PASS
802.11n(HT40)	CH151	1.32	-0.086	1.234	30	PASS
802.11n(HT40)	CH159	0.45	-0.086	0.364	30	PASS

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

Test plots as follows:

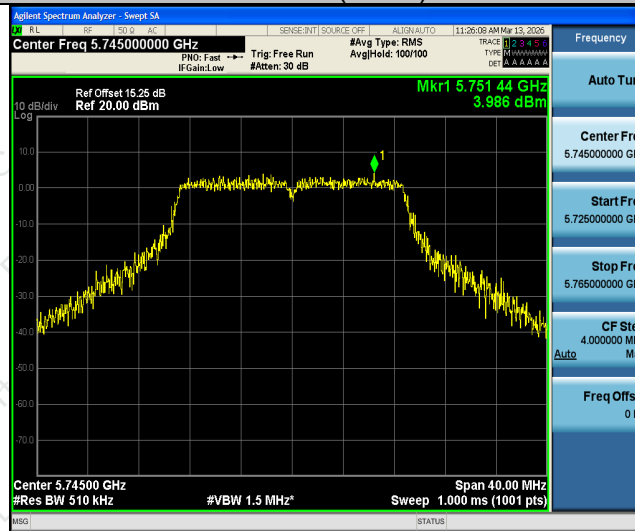


Band IV (5725-5850MHz)





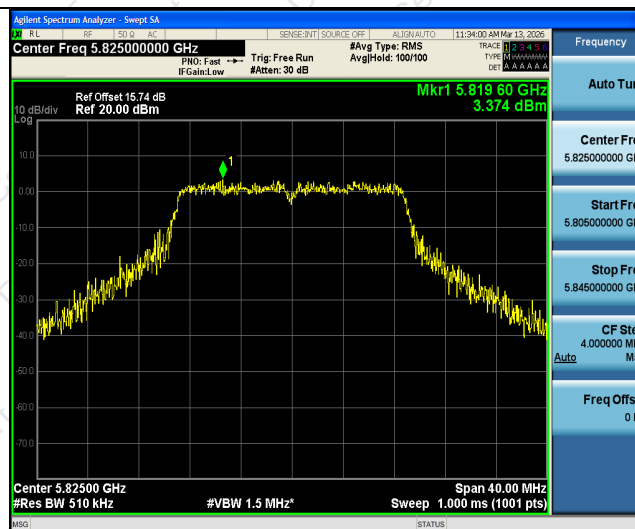
802.11n(HT20)



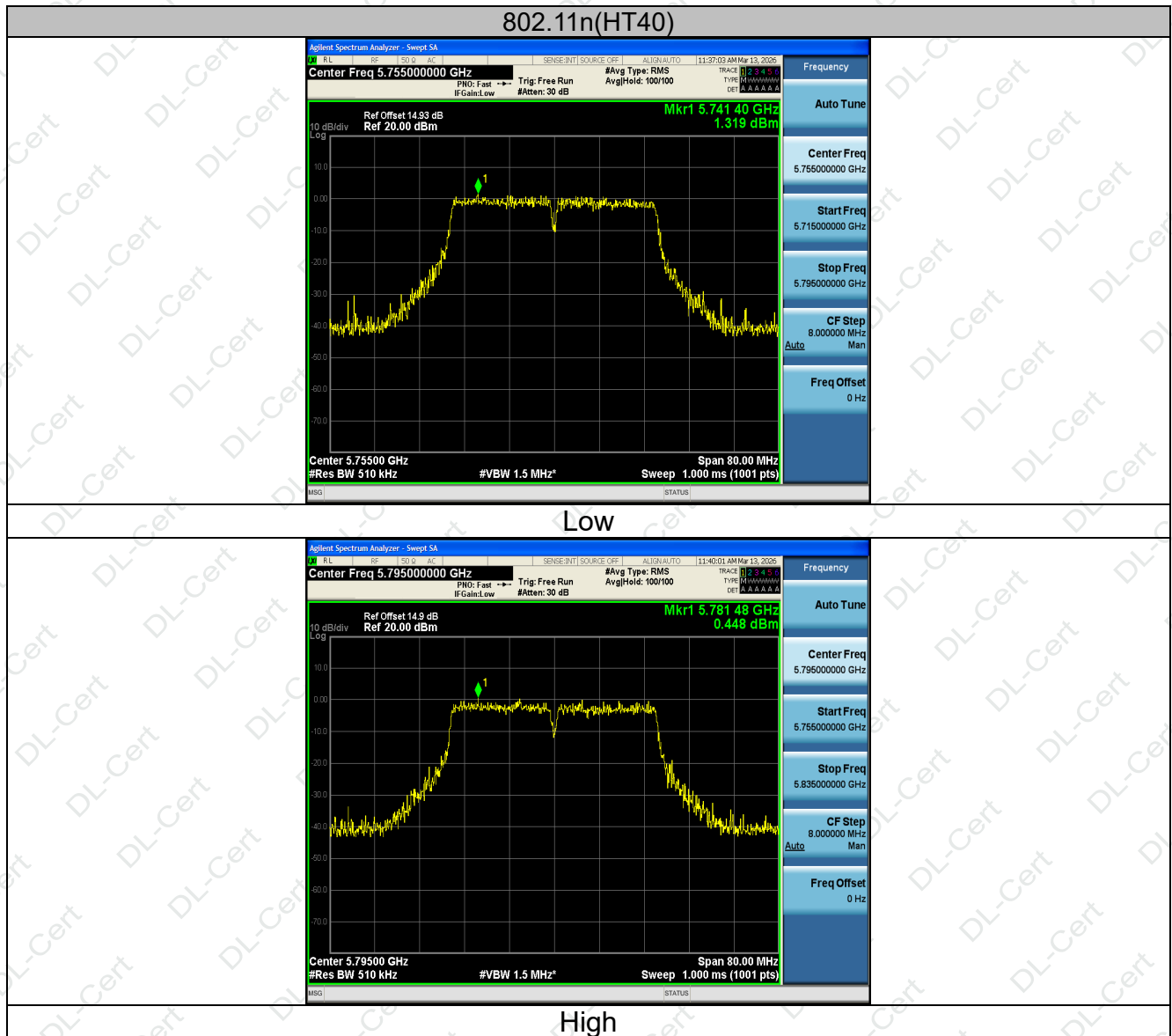
Low



Mid



High





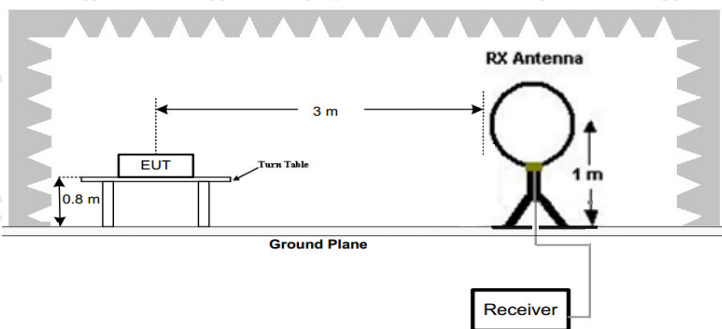
4.6 Spurious Emission

4.6.1. Test Specification

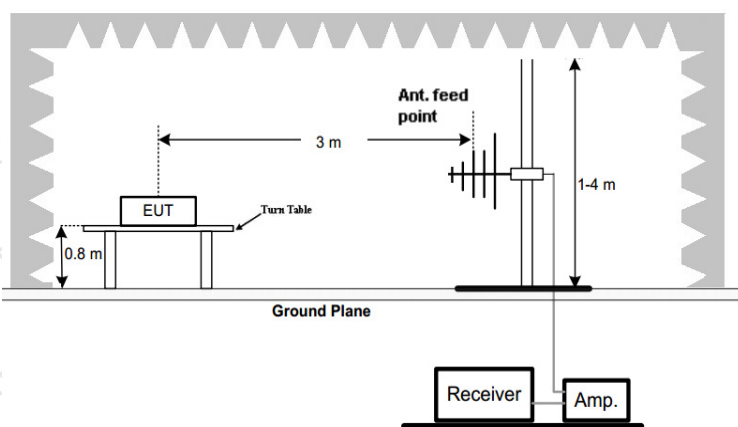
Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	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:**

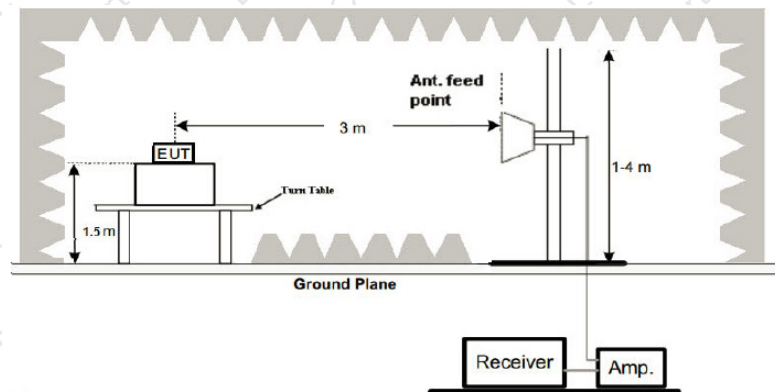
For radiated emissions below 30MHz



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

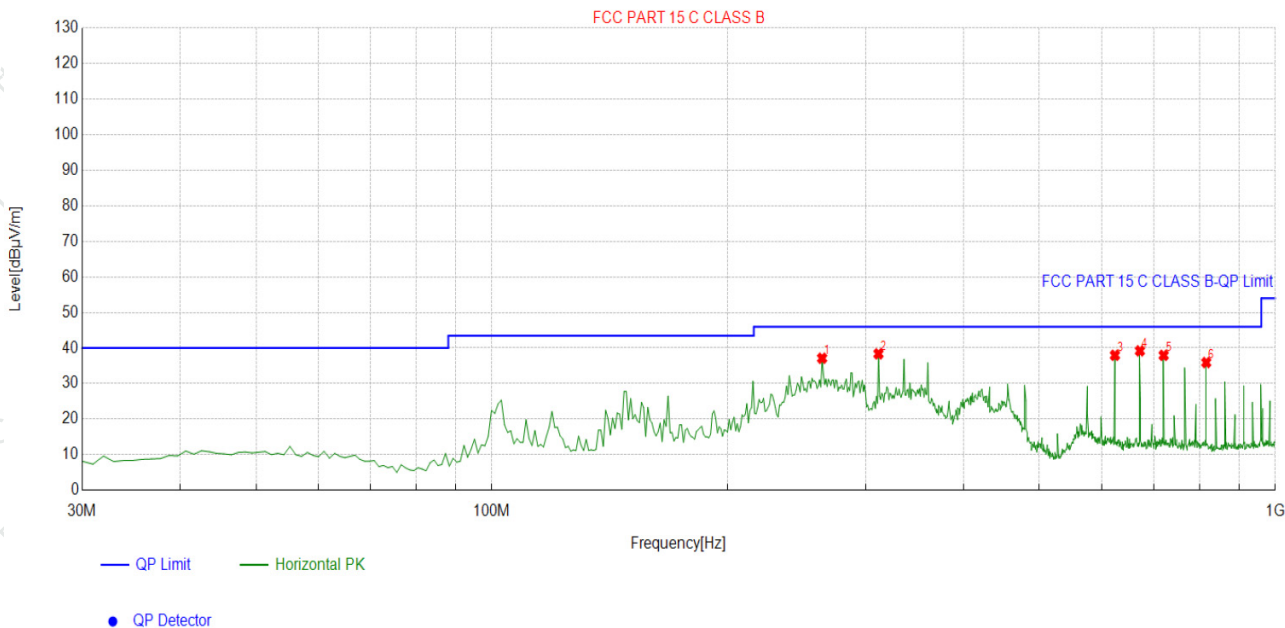


4.6.2. Test Data

Below 1GHz Test Results

All the test modes completed for test. Only the worst result was reported as below:

Antenna polarity: Horizontal

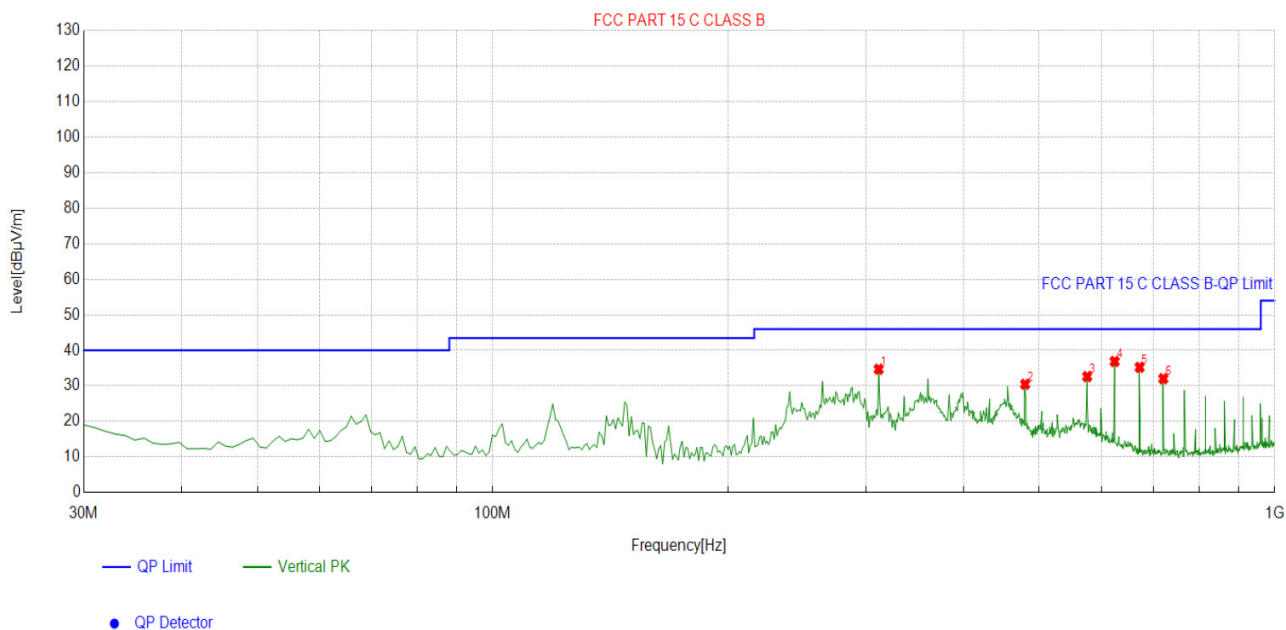


Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	264.004	-12.71	49.85	37.14	46.00	8.86	100	67	Horizontal
2	311.582	-11.80	50.18	38.38	46.00	7.62	100	329	Horizontal
3	624.234	-5.19	43.16	37.97	46.00	8.03	100	118	Horizontal
4	671.812	-4.45	43.65	39.20	46.00	6.80	100	131	Horizontal
5	720.360	-3.96	41.91	37.95	46.00	8.05	100	123	Horizontal
6	816.486	-2.25	38.18	35.93	46.00	10.07	100	160	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	311.582	-11.80	46.51	34.71	46.00	11.29	100	11	Vertical
2	479.560	-8.19	38.66	30.47	46.00	15.53	100	271	Vertical
3	575.686	-6.25	38.88	32.63	46.00	13.37	100	321	Vertical
4	624.234	-5.19	42.08	36.89	46.00	9.11	100	304	Vertical
5	671.812	-4.45	39.69	35.24	46.00	10.76	100	15	Vertical
6	720.360	-3.96	36.00	32.04	46.00	13.96	100	318	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

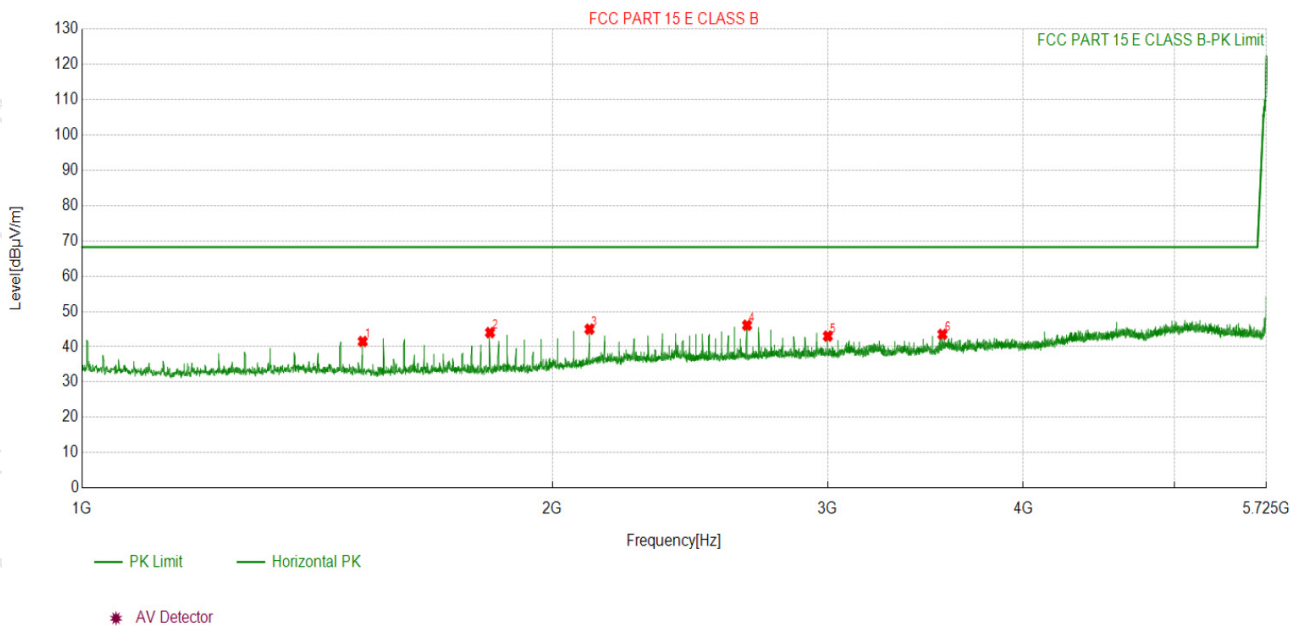


Above 1GHz Test Results

All the test modes completed for test. Only the worst result was reported as below:

For 1GHz to 5.725GHz

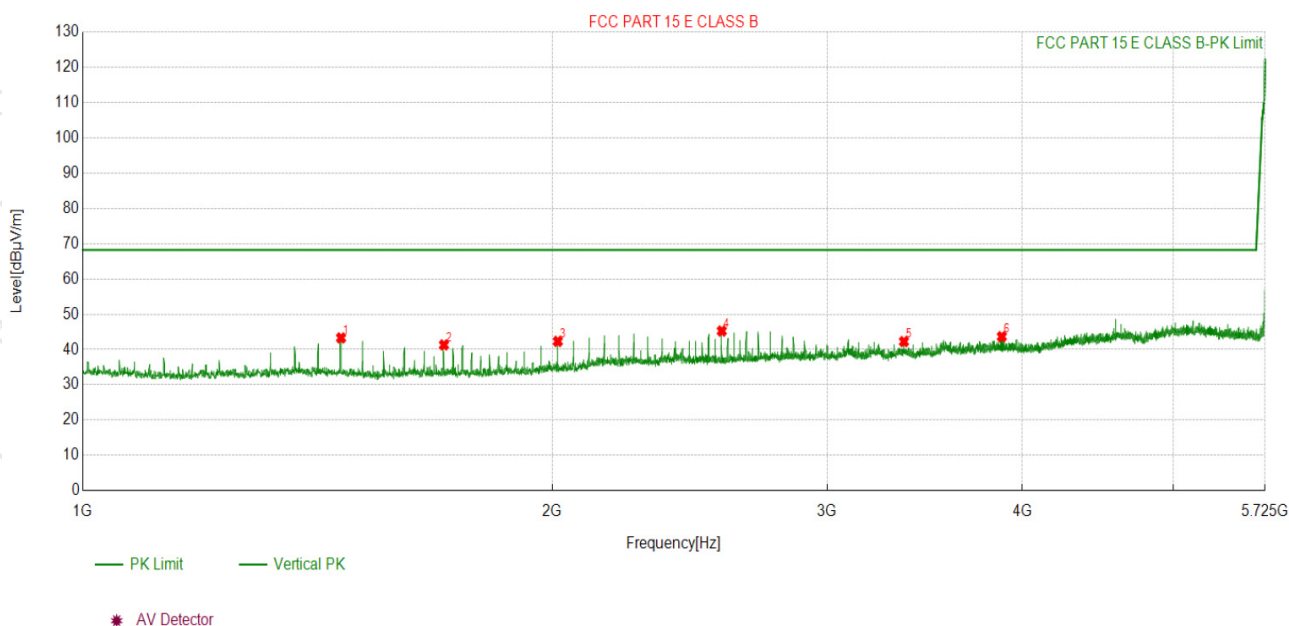
Antenna polarity: Horizontal



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	1512.241	60.02	41.51	-18.51	68.20	26.69	150	237	Horizontal
2	1824.122	61.85	44.02	-17.83	68.20	24.18	150	105	Horizontal
3	2111.904	60.82	44.99	-15.83	68.20	23.21	150	232	Horizontal
4	2663.839	60.29	46.10	-14.19	68.20	22.10	150	51	Horizontal
5	3000.293	55.74	43.02	-12.72	68.20	25.18	150	73	Horizontal
6	3552.228	54.83	43.53	-11.30	68.20	24.67	150	321	Horizontal

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

Antenna polarity: Vertical



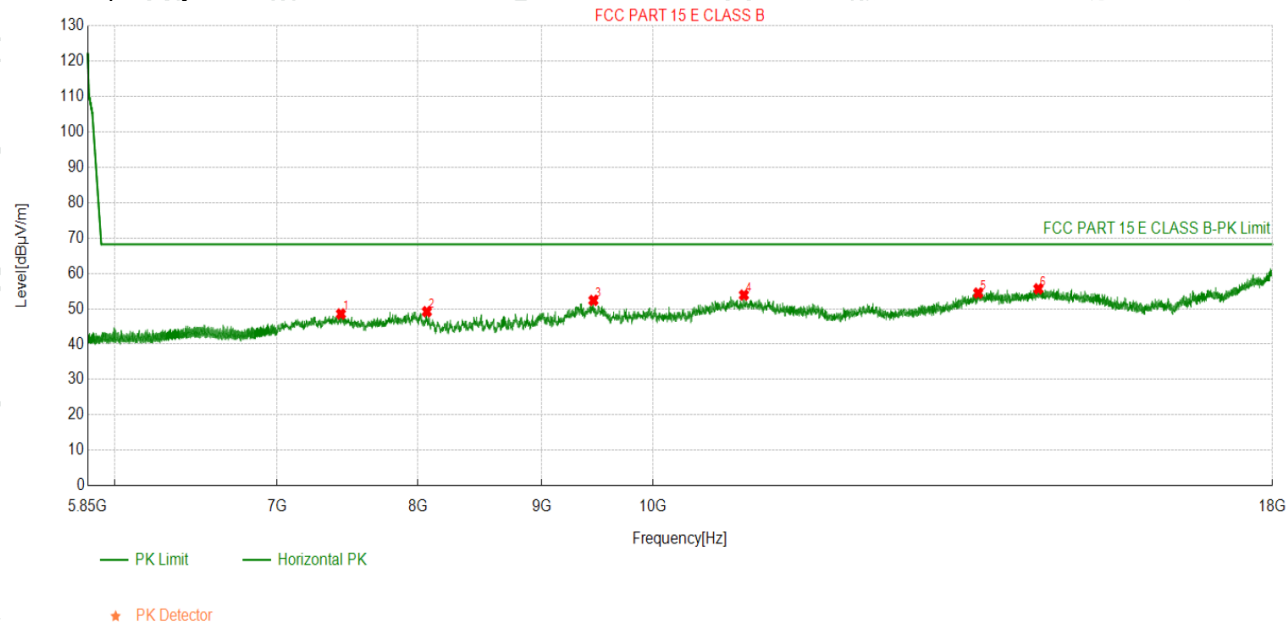
Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1464.041	61.60	43.30	-18.30	68.20	24.90	150	26	Vertical
2	1704.095	59.62	41.31	-18.31	68.20	26.89	150	77	Vertical
3	2015.977	59.11	42.32	-16.79	68.20	25.88	150	198	Vertical
4	2567.912	59.77	45.26	-14.51	68.20	22.94	150	245	Vertical
5	3359.901	54.57	42.26	-12.31	68.20	25.94	150	2	Vertical
6	3882.066	53.52	43.66	-9.86	68.20	24.54	150	121	Vertical

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



For 5.85GHz to 18GHz

Antenna polarity: Horizontal

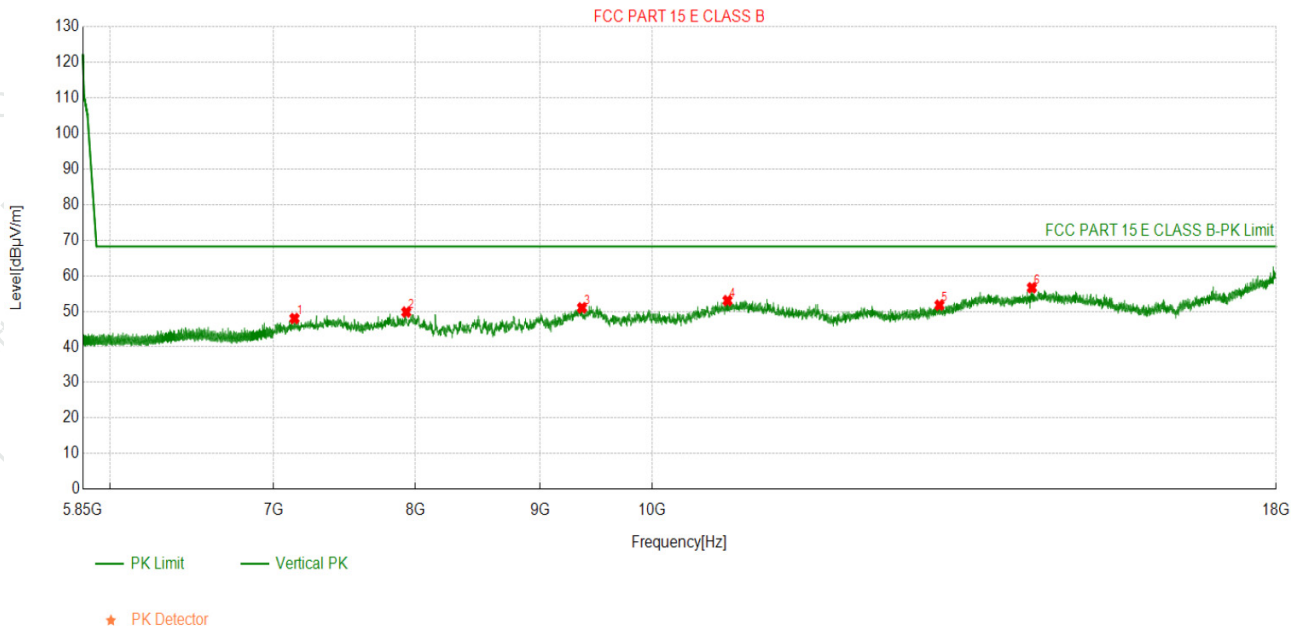


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	7437.844	51.58	48.55	-3.03	68.20	19.65	150	110	Horizontal
2	8069.307	51.29	49.20	-2.09	68.20	19.00	150	224	Horizontal
3	9451.045	52.14	52.37	0.23	68.20	15.83	150	220	Horizontal
4	10900.990	51.38	53.89	2.51	68.20	14.31	150	151	Horizontal
5	13614.961	48.92	54.44	5.52	68.20	13.76	150	49	Horizontal
6	14414.741	48.24	55.65	7.41	68.20	12.55	150	238	Horizontal

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



Antenna polarity: Vertical



Suspected Data List

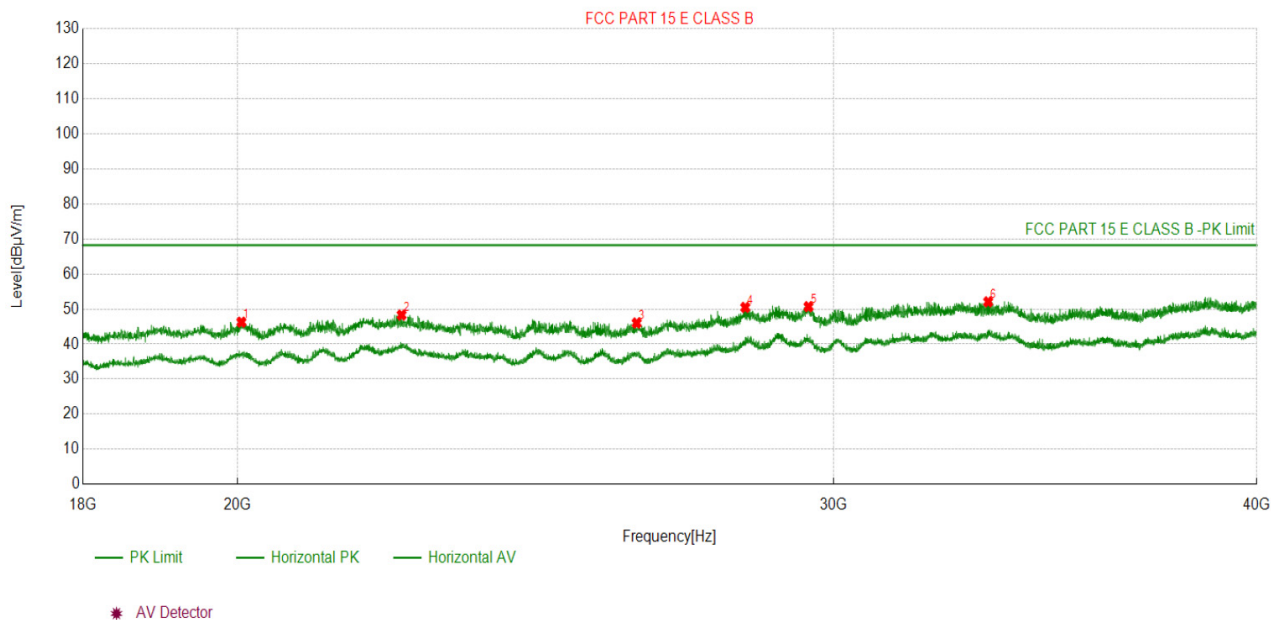
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	7139.714	51.45	47.99	-3.46	68.20	20.21	150	79	Vertical
2	7932.893	52.25	49.78	-2.47	68.20	18.42	150	360	Vertical
3	9360.836	51.18	50.98	-0.20	68.20	17.22	150	271	Vertical
4	10735.974	51.01	53.01	2.00	68.20	15.19	150	248	Vertical
5	13107.811	48.22	51.73	3.51	68.20	16.47	150	7	Vertical
6	14300.330	49.60	56.62	7.02	68.20	11.58	150	295	Vertical

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



For 18GHz to 40GHz

Antenna polarity: Horizontal



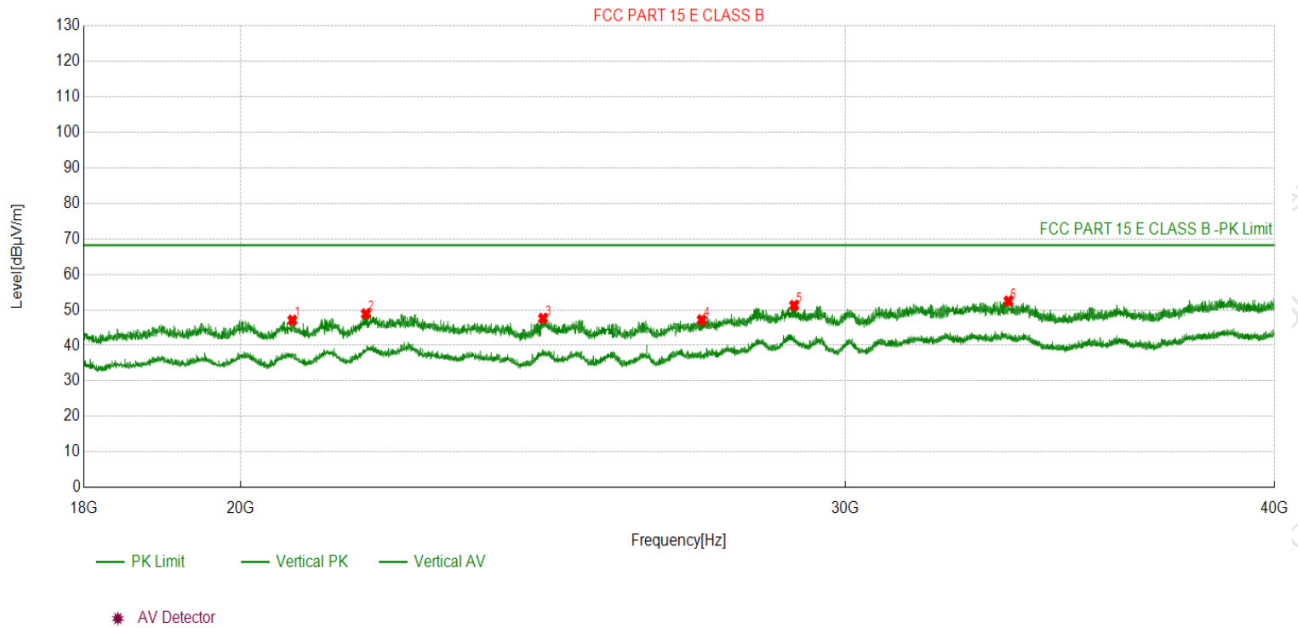
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	20050.605	40.09	46.27	6.18	68.20	21.93	150	170	Horizontal
2	22358.636	42.61	48.31	5.70	68.20	19.89	150	180	Horizontal
3	26235.424	39.23	46.01	6.78	68.20	22.19	150	30	Horizontal
4	28246.425	41.84	50.46	8.62	68.20	17.74	150	120	Horizontal
5	29487.349	41.76	50.68	8.92	68.20	17.52	150	80	Horizontal
6	33320.132	41.14	52.07	10.93	68.20	16.13	150	240	Horizontal

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



Antenna polarity: Vertical



Suspected Data List

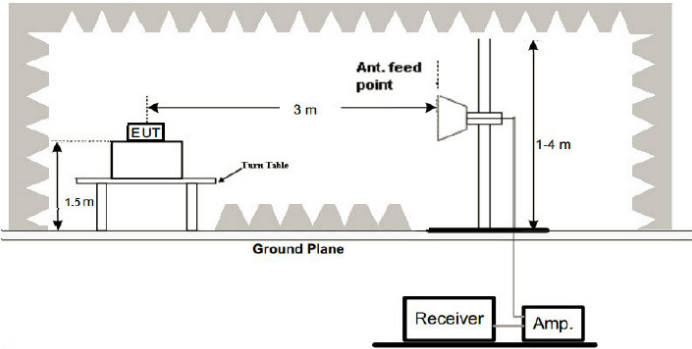
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	20704.070	41.33	47.10	5.77	68.20	21.10	150	10	Vertical
2	21749.175	43.37	48.89	5.52	68.20	19.31	150	120	Vertical
3	24492.849	41.88	47.60	5.72	68.20	20.60	150	200	Vertical
4	27243.124	39.48	47.19	7.71	68.20	21.01	150	40	Vertical
5	28983.498	42.24	51.26	9.02	68.20	16.94	150	70	Vertical
6	33463.146	41.58	52.50	10.92	68.20	15.70	150	320	Vertical

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



4.7 Band Edge

4.7.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407
Test Method:	ANSI C63.10: 2020
Limit:	(1) 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 complies 15.209.
Test Setup:	 The diagram illustrates the test setup. An EUT (Equipment Under Test) is placed on a turn table at a height of 1.5m. The turn table is rotated 360 degrees. The EUT is positioned 3m away from an antenna feed point. The antenna is mounted on a variable-height tower, with the height ranging from 1m to 4m. The antenna is connected to a receiver and an amplifier. The entire setup is on a ground plane.
Test Mode:	Transmitting mode with modulation
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 rota table 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 Result:	PASS

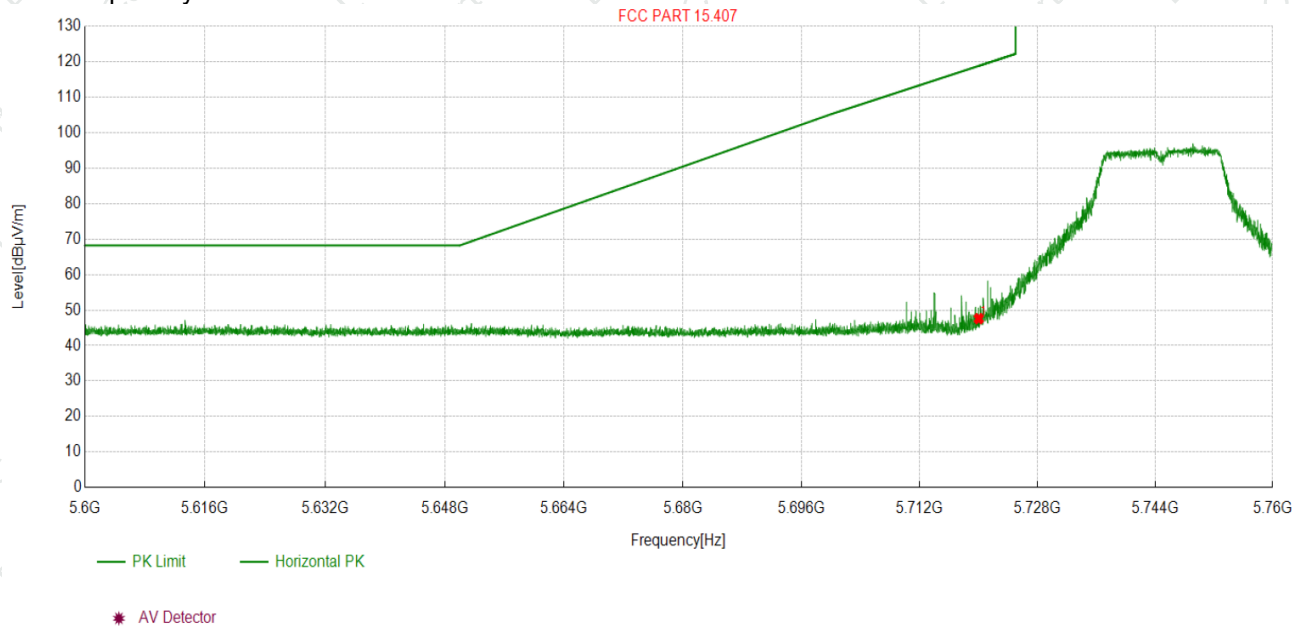


4.7.2. Test Data

All the test modes completed for test. Only the worst result was reported as below:

802.11n(HT20)-5745

Antenna polarity: Horizontal

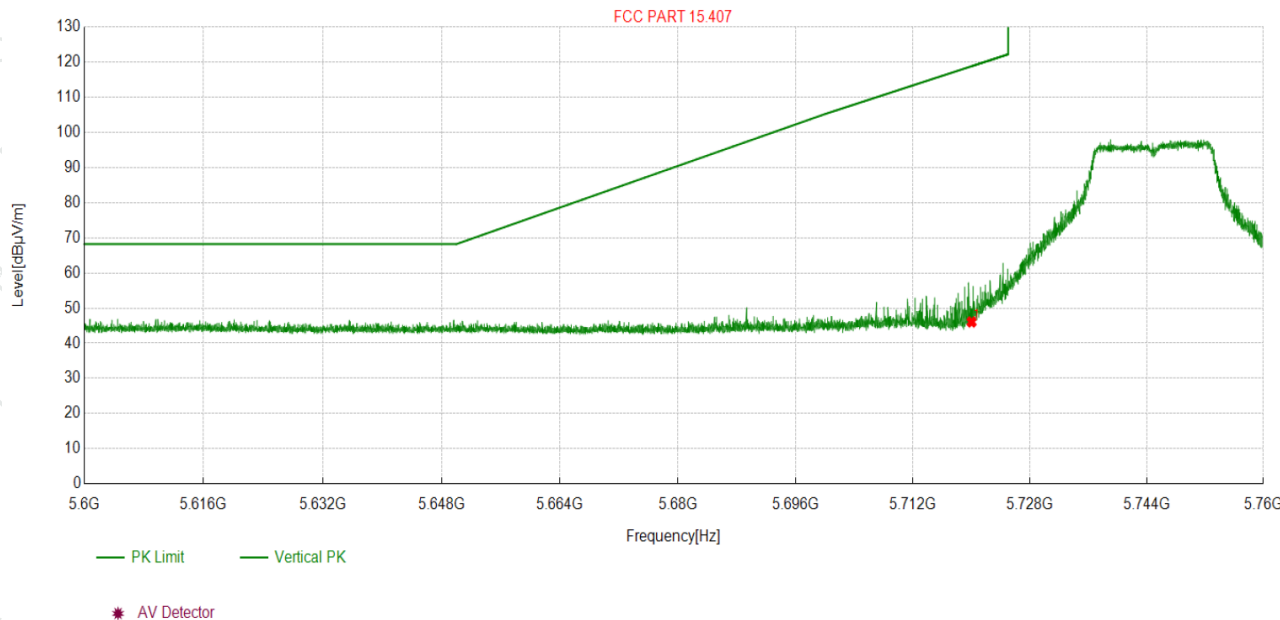


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5720.000	53.66	47.59	-6.07	118.81	71.22	150	120	Horizontal

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



Antenna polarity: Vertical

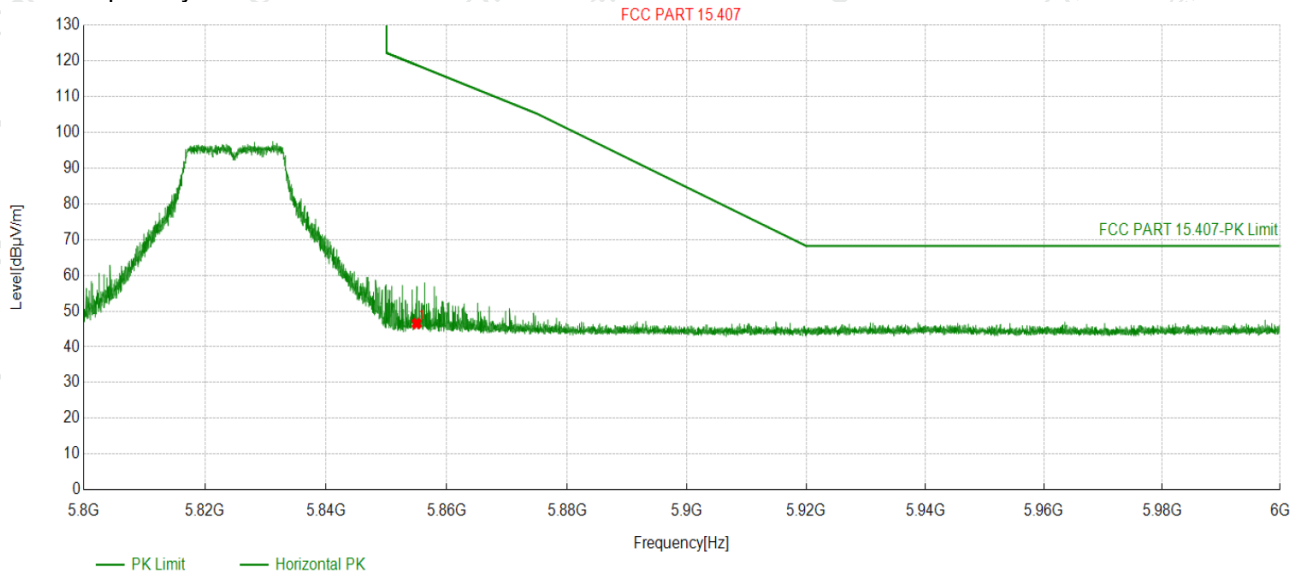


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5720.000	52.13	46.06	-6.07	118.81	72.75	150	108	Vertical

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



802.11n(HT20)-5825
Antenna polarity: Horizontal



* AV Detector

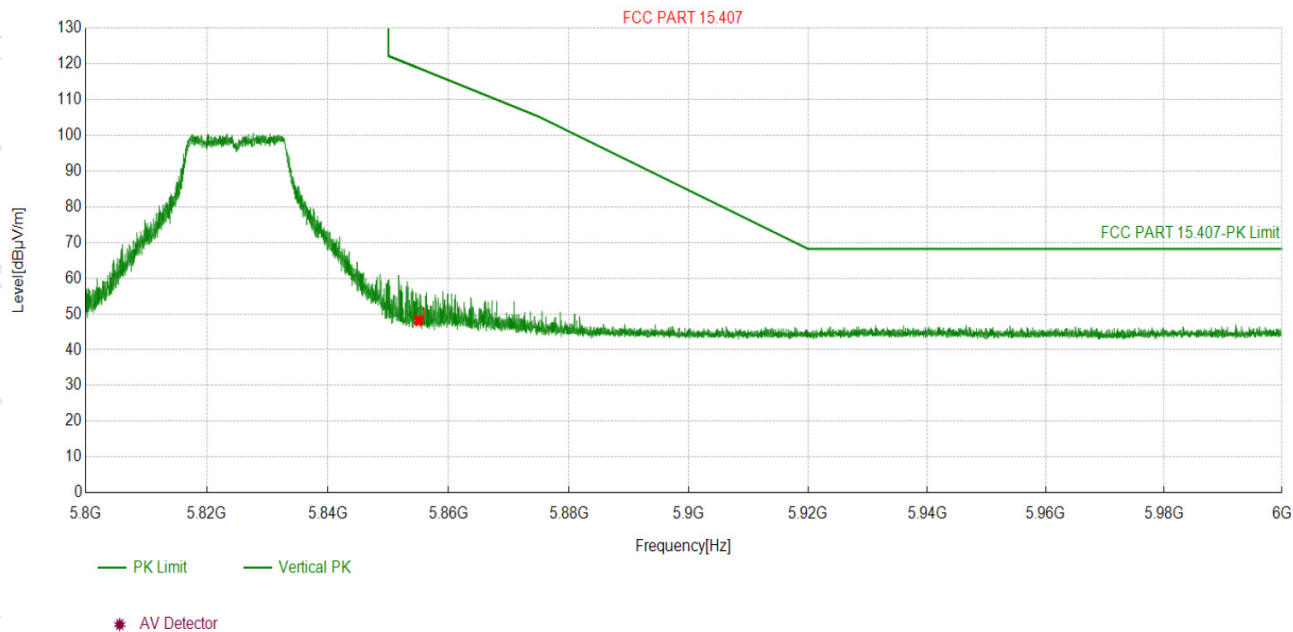
Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5855.000	52.31	46.52	-5.79	118.80	72.28	150	106	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	5855.000	53.94	48.15	-5.79	118.80	70.65	150	274	Vertical

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



4.8 Frequency Stability Measurement

4.8.1. Test Specification

Test Requirement:	FCC Part15 Section 15.407(g)
Test Method:	ANSI C63.10: 2020
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	<pre>graph LR; SA[Spectrum Analyzer] --- EUT[EUT]; EUT --- TCh[Temperature Chamber]; TCh --- P[AC/DC Power supply];</pre>
Test Procedure:	- The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. - Turn the EUT on and couple its output to a spectrum analyzer. - Turn the EUT off and set the chamber to the highest temperature specified. - Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. - Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. - The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	N/A



4.8.2. Test Result

Mode	Voltage (V)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	4.25V	5744.965	-35	5824.963	-37
	5.0V	5745.059	59	5825.075	75
	5.75V	5745.036	36	5824.965	-35

Mode	Temperature (°C)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	-30	5744.973	-27	5824.982	-18
	-20	5744.987	-13	5824.971	-29
	-10	5744.938	-62	5825.049	49
	0	5745.042	42	5825.032	32
	10	5744.957	-43	5825.075	75
	20	5745.041	41	5824.981	-19
	30	5744.963	-37	5825.048	48
	40	5744.971	-29	5825.037	37
	50	5745.036	36	5825.021	21



4.9 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a External Antenna, need professional installation, not easy to remove. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 2.13dBi.

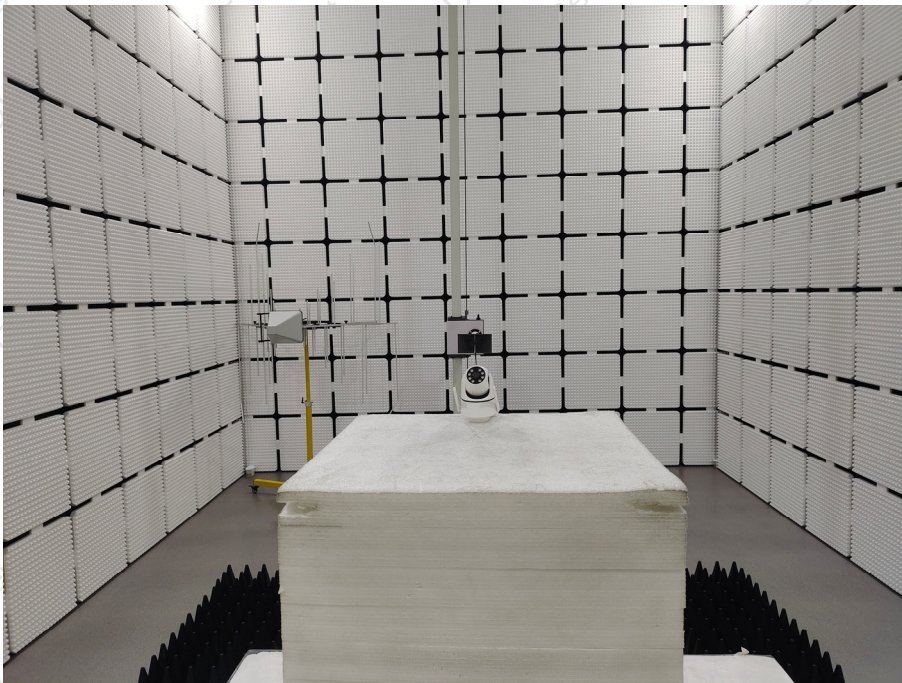
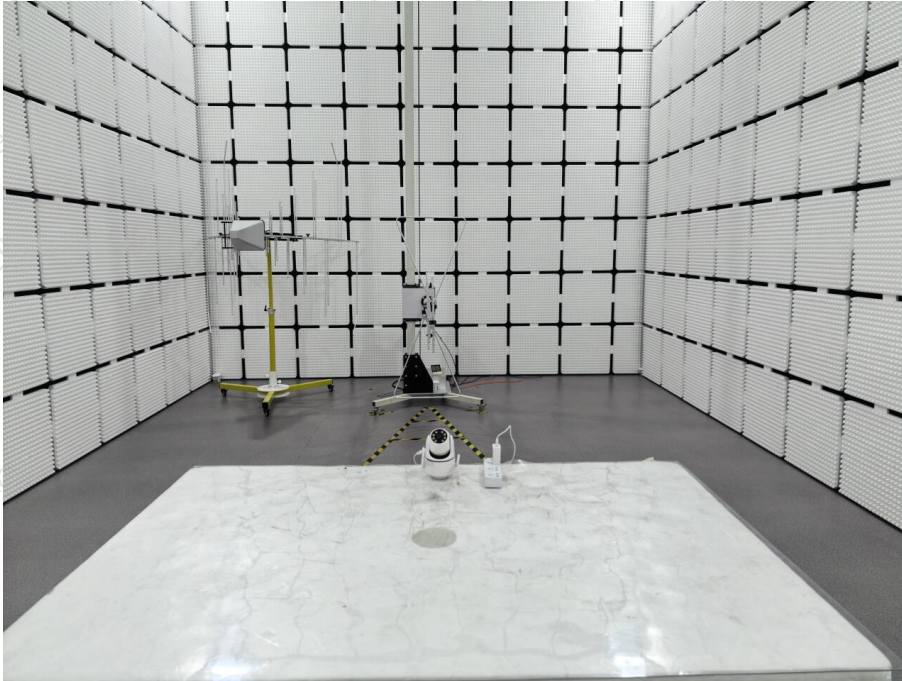
WIFI ANTENNA





5. Test Setup Photos of the EUT

Radiated Emission

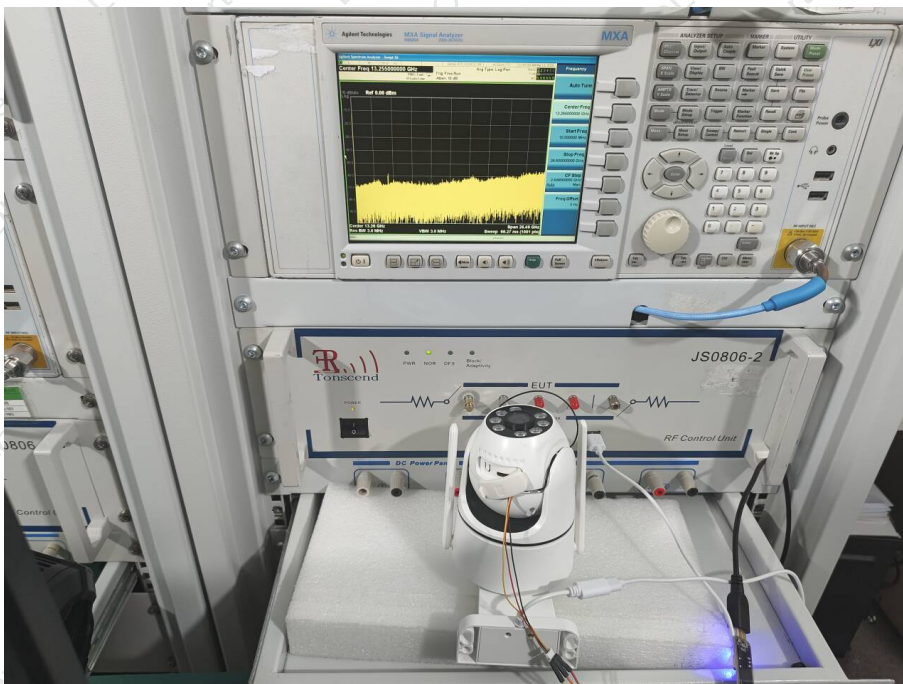




AC Conducted Emission



RF Conducted Emission





6. Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos

-----End of test report-----