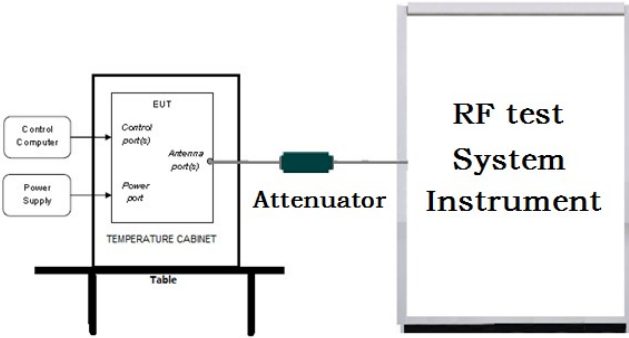
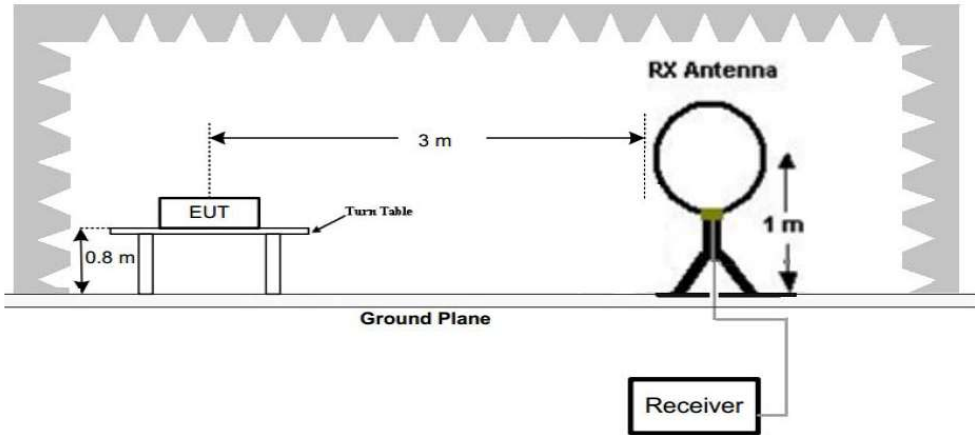


5.7 Frequency Stability

Test Requirement:	47 CFR Part 15C Section 15.407 (g)
Test Method:	ANSI C63.10-2020
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Test Procedure:	1.The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. 2. Turn the EUT on and couple its output to a spectrum analyzer. 3. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. 4. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. 5. 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.
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 45 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 Mode:	Transmitting mode with modulation
Test Results:	Refer to Appendix A

5.8 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.407 (b)																																	
Test Method:	ANSI C63.10-2020																																	
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																																	
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark																													
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak																													
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average																													
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak																													
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak																													
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average																													
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak																													
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak																													
	Above 1GHz	Peak	1MHz	3MHz	Peak																													
Peak		1MHz	10kHz	Average																														
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.																																	
	<table><tr><td>EIRP(dBm)</td><td>Field Strength at 3m (dBµV/m)</td></tr><tr><td>-27(RMS)</td><td>68.2</td></tr><tr><td>-7(Peak)</td><td>88.2</td></tr></table>					EIRP(dBm)	Field Strength at 3m (dBµV/m)	-27(RMS)	68.2	-7(Peak)	88.2																							
	EIRP(dBm)	Field Strength at 3m (dBµV/m)																																
	-27(RMS)	68.2																																
	-7(Peak)	88.2																																
	Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table:																																	
<table><tr><td>Frequency</td><td>Field strength (microvolt/meter)</td><td>Limit (dBuV/m)</td><td>Remark</td><td>Measurement distance (m)</td></tr><tr><td>0.009MHz-0.490MHz</td><td>2400/F(kHz)</td><td>-</td><td>-</td><td>300</td></tr><tr><td>0.490MHz-1.705MHz</td><td>24000/F(kHz)</td><td>-</td><td>-</td><td>30</td></tr><tr><td>1.705MHz-30MHz</td><td>30</td><td>-</td><td>-</td><td>30</td></tr><tr><td>30MHz-88MHz</td><td>100</td><td>40.0</td><td>Quasi-peak</td><td>3</td></tr><tr><td>88MHz-216MHz</td><td>150</td><td>43.5</td><td>Quasi-peak</td><td>3</td></tr></table>					Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30	1.705MHz-30MHz	30	-	-	30	30MHz-88MHz	100	40.0	Quasi-peak	3	88MHz-216MHz	150	43.5	Quasi-peak	3
Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)																														
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300																														
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30																														
1.705MHz-30MHz	30	-	-	30																														
30MHz-88MHz	100	40.0	Quasi-peak	3																														
88MHz-216MHz	150	43.5	Quasi-peak	3																														

	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. When the peak radio frequency emissions exceed the maximum permitted average limits specified above by less than 20 dB, the average radio frequency emissions will be recorded whether it meets the limit requirements. Note: (i) $EIRP = ((E \cdot d)^2) / 30$ where: • E is the field strength in V/m; • d is the measurement distance in meters; • EIRP is the equivalent isotropically radiated power in watts. (ii) Working in dB units, the above equation is equivalent to: $EIRP[dBm] = E[dB\mu V/m] + 20 \log(d[meters]) - 104.77$ (iii) Or, if d is 3 meters: $EIRP[dBm] = E[dB\mu V/m] - 95.2$				
Test Setup:		 Figure 1. Below 30MHz			

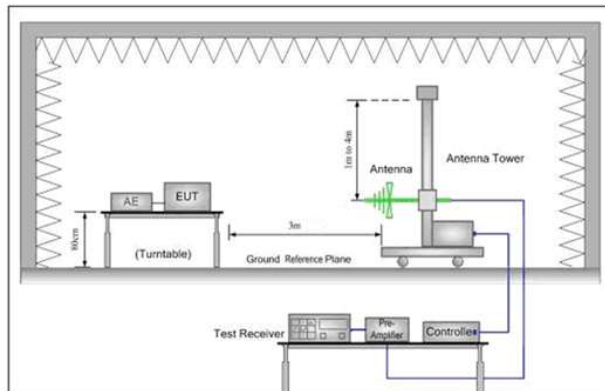


Figure 2. 30MHz to 1GHz

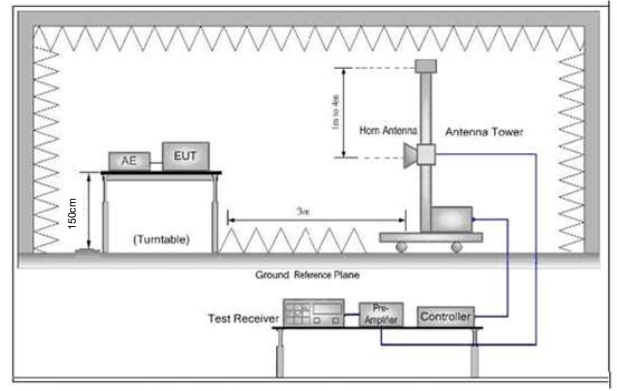


Figure 3. Above 1 GHz

Test Procedure:

- a. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
Note: For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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.
- g. Test the EUT in the lowest channel, the middle channel and the highest

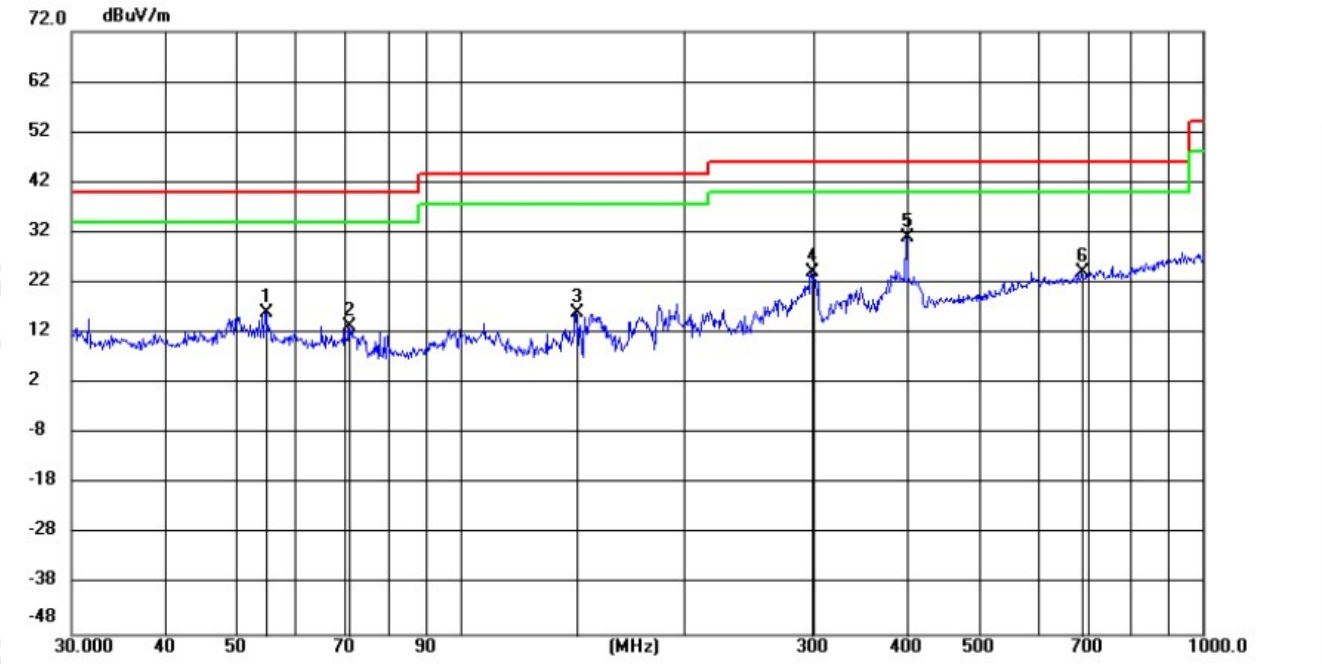
	channel h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.
Test Mode:	Transmitting mode with modulation
Test Results:	Pass

Radiated Spurious Emissions test Data:
Radiated Emission below 1GHz

Remark: During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes, only the worst case middle channel of 6Mbps for 802.11a was recorded in the report.

Test Graph

Horizontal:

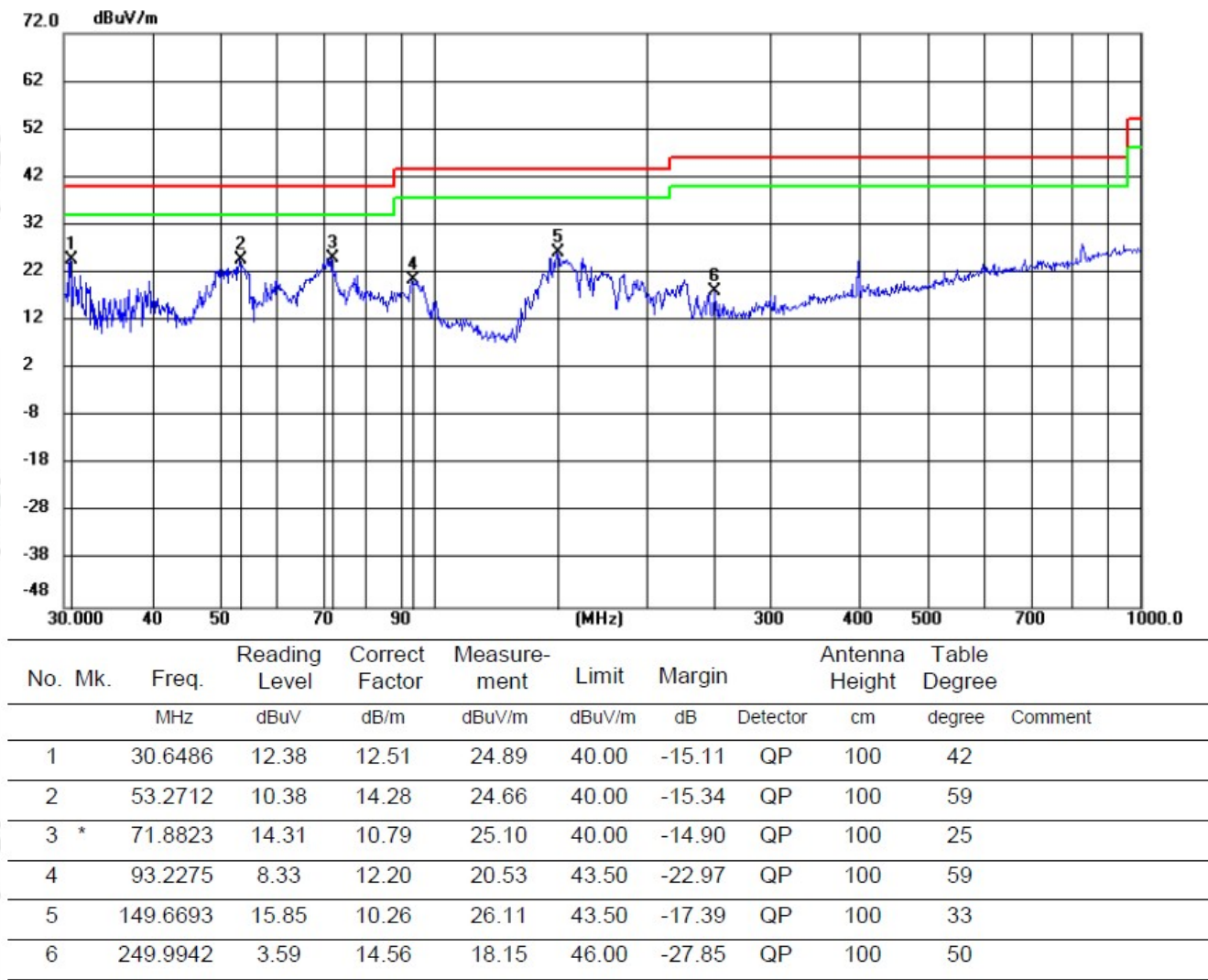


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		54.7195	1.86	14.11	15.97	40.00	-24.03	QP	100	214
2		70.8812	2.34	10.92	13.26	40.00	-26.74	QP	100	71
3		143.7286	5.71	10.34	16.05	43.50	-27.45	QP	100	30
4		298.0067	7.78	16.23	24.01	46.00	-21.99	QP	100	146
5	*	400.0108	11.61	19.49	31.10	46.00	-14.90	QP	100	88
6		687.2711	0.33	23.83	24.16	46.00	-21.84	QP	100	146

Remark:

1. $\text{Margin} = \text{Measurement}(\text{Level}) - \text{Limit}$.
2. $\text{Measurement}(\text{Level}) = \text{Reading Level} + \text{Correct Factor}$.
3. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit, an exclamation mark (!) indicates over -6dB margin Limit.

Vertical:



Remark:

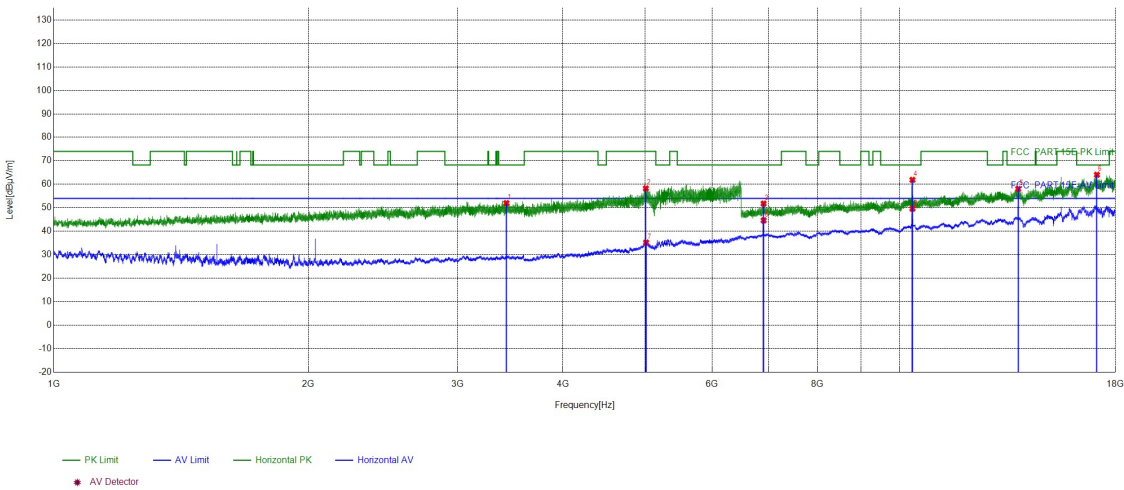
1. Margin=Measurement(Level)-Limit.
2. Measurement(Level)=Reading Level+Correct Factor.
3. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit, an exclamation mark (!) indicates over -6dB margin Limit.

Transmitter Emission above 1GHz

Remark: Through Pre-scan, for 20MHz Occupied Bandwidth, 802.11 a was the worst case; for 40MHz Occupied Bandwidth, 802.11 n(HT40) was the worst case; only the worst case was in the report.

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Tset_Engineer	\	Test_Date	2026/8/16

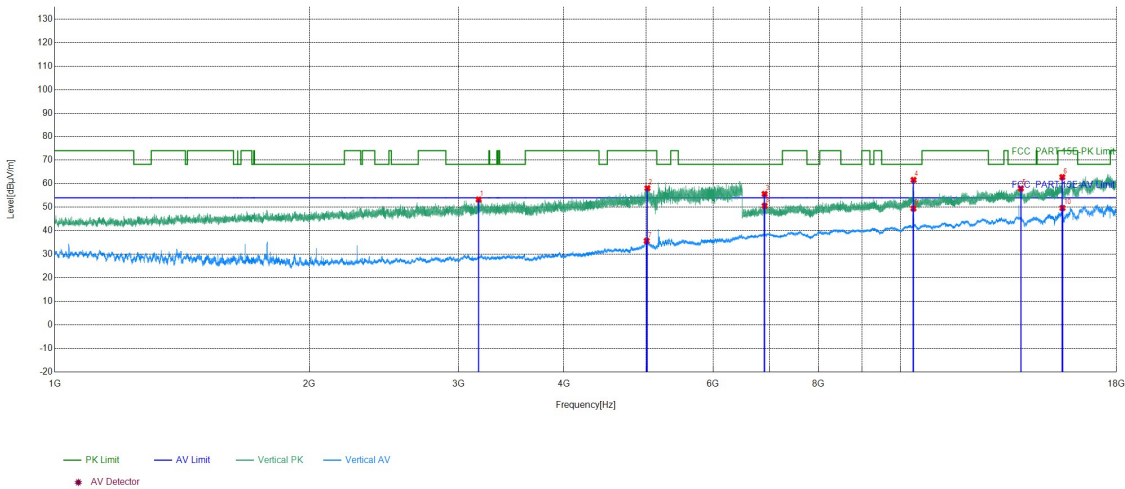
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	3428.6771	19.45	32.55	52.00	68.20	16.20	PASS	Horizontal	PK
2	5012.3005	25.17	33.04	58.21	74.00	15.79	PASS	Horizontal	PK
3	6906.6563	-3.31	55.11	51.80	68.20	16.40	PASS	Horizontal	PK
4	10358.1743	1.93	59.97	61.90	68.20	6.30	PASS	Horizontal	PK
5	13813.3725	7.08	50.99	58.07	68.20	10.13	PASS	Horizontal	PK
6	17116.3047	12.35	51.71	64.06	68.20	4.14	PASS	Horizontal	PK
7	5016.0406	25.12	10.08	35.20	54.00	18.80	PASS	Horizontal	AV
8	6907.1163	-3.30	47.94	44.64	54.00	9.36	PASS	Horizontal	AV
9	10358.1743	1.93	47.70	49.63	54.00	4.37	PASS	Horizontal	AV

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Tset_Engineer	\	Test_Date	2026/8/16

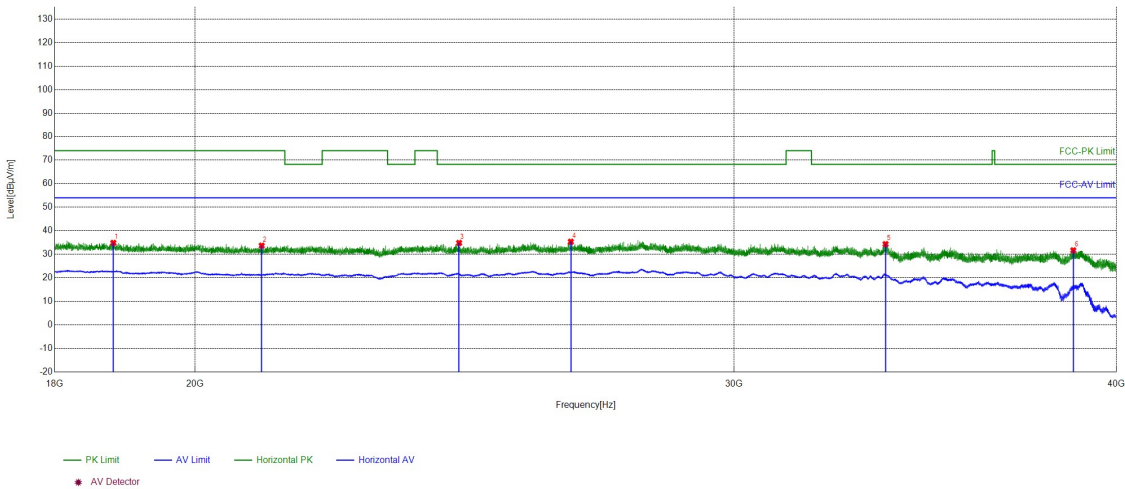
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	3170.6068	18.32	34.95	53.27	68.20	14.93	PASS	Vertical	PK
2	5020.6608	25.08	33.00	58.08	74.00	15.92	PASS	Vertical	PK
3	6906.6563	-3.31	58.94	55.63	68.20	12.57	PASS	Vertical	PK
4	10361.3945	1.92	59.69	61.61	68.20	6.59	PASS	Vertical	PK
5	13874.555	7.64	50.33	57.97	68.20	10.23	PASS	Vertical	PK
6	15534.7614	10.00	52.78	62.78	74.00	11.22	PASS	Vertical	PK
7	5009.8804	25.20	10.48	35.68	54.00	18.32	PASS	Vertical	AV
8	6907.1163	-3.30	53.88	50.58	54.00	3.42	PASS	Vertical	AV
9	10358.1743	1.93	47.53	49.46	54.00	4.04	PASS	Vertical	AV
10	15540.7416	9.99	39.67	49.66	54.00	4.34	PASS	Vertical	AV

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Tset_Engineer	\	Test_Date	2026/8/16

Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	18810.5124	-26.29	61.13	34.84	74.00	39.16	PASS	Horizontal	PK
2	21030.8412	-25.96	59.63	33.67	74.00	40.33	PASS	Horizontal	PK
3	24396.9759	-21.70	56.53	34.83	68.20	33.37	PASS	Horizontal	PK
4	26535.4614	-21.13	56.48	35.35	68.20	32.85	PASS	Horizontal	PK
5	33623.2649	-17.37	51.68	34.31	68.20	33.89	PASS	Horizontal	PK
6	38723.949	-13.52	45.19	31.67	68.20	36.53	PASS	Horizontal	PK