

Appendix B of data

B1.Maximum Peak conducted output power

Test Result

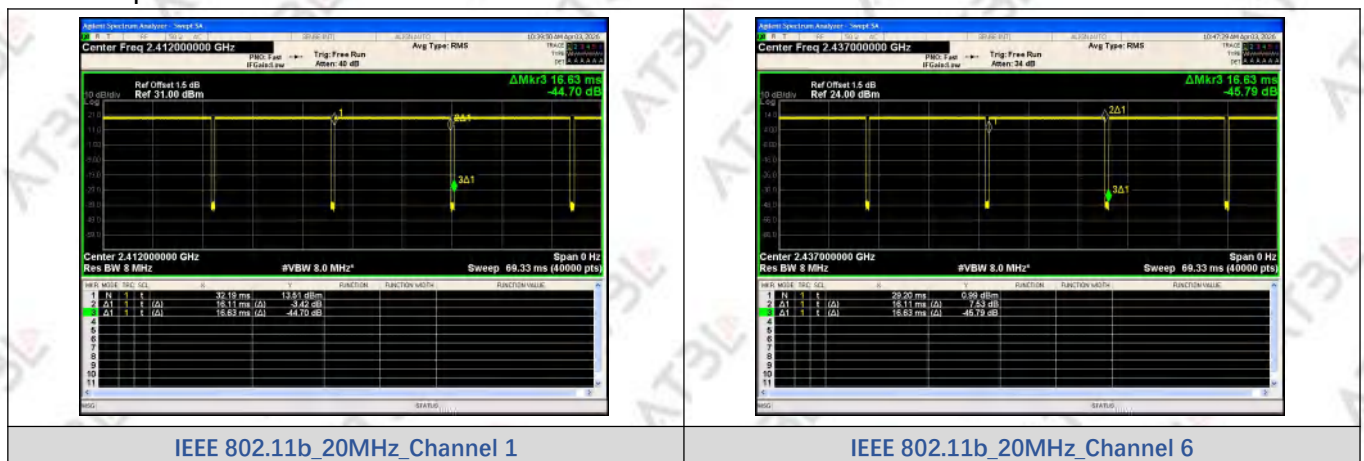
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	16.17	≤30	PASS
	6	16.76	≤30	PASS
	11	15.54	≤30	PASS
IEEE 802.11g	1	19.54	≤30	PASS
	6	20.04	≤30	PASS
	11	19.15	≤30	PASS
IEEE 802.11n_20	1	20.36	≤30	PASS
	6	20.93	≤30	PASS
	11	19.72	≤30	PASS
IEEE 802.11n_40	3	20.31	≤30	PASS
	6	20.91	≤30	PASS
	9	19.60	≤30	PASS
IEEE 802.11ax_20	1	20.31	≤30	PASS
	6	20.99	≤30	PASS
	11	20.78	≤30	PASS
IEEE 802.11ax_40	3	20.29	≤30	PASS
	6	20.87	≤30	PASS
	9	21.30	≤30	PASS

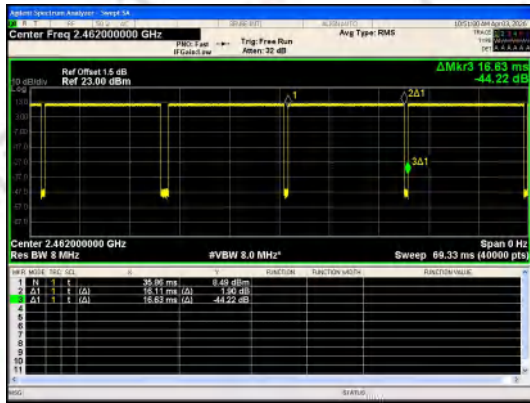
B2.Duty Cycle

Test Result

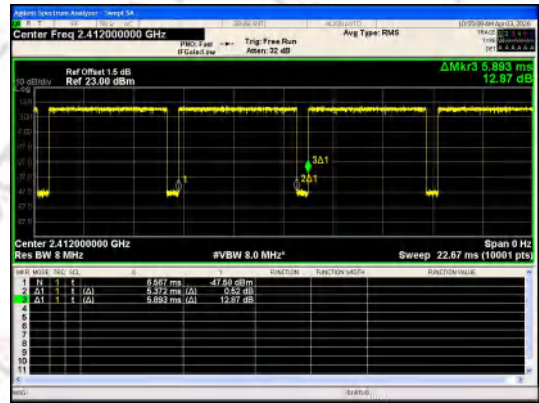
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
IEEE 802.11b	1	1	1	16.113	16.630	96.89	0.9689	0.1372
		6		16.113	16.630	96.89	0.9689	0.1372
		11		16.111	16.635	96.85	0.9685	0.139
IEEE 802.11g	6	1		5.372	5.893	91.15	0.9115	0.4024
		6		5.372	5.891	91.19	0.9119	0.4005
		11		5.374	5.893	91.19	0.9119	0.4005
IEEE 802.11n_20		1		4.978	5.499	90.52	0.9052	0.4326
		6		4.978	5.497	90.56	0.9056	0.4306
		11		4.975	5.494	90.55	0.9055	0.4311
IEEE 802.11n_40		3		4.794	5.322	90.08	0.9008	0.4537
		6		4.794	5.318	90.15	0.9015	0.4503
		9		4.792	5.320	90.07	0.9007	0.4542
IEEE 802.11ax_20	MCS 0	1		3.790	4.319	87.75	0.8775	0.5675
		6		3.789	4.316	87.78	0.8778	0.566
		11		3.790	4.313	87.88	0.8788	0.5611
IEEE 802.11ax_40		3		3.787	4.313	87.81	0.8781	0.5646
		6		3.792	4.309	88.01	0.8801	0.5547
		9		3.792	4.309	88.01	0.8801	0.5547

Test Graphs

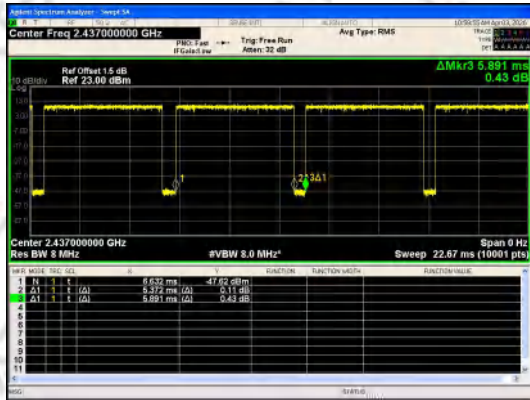




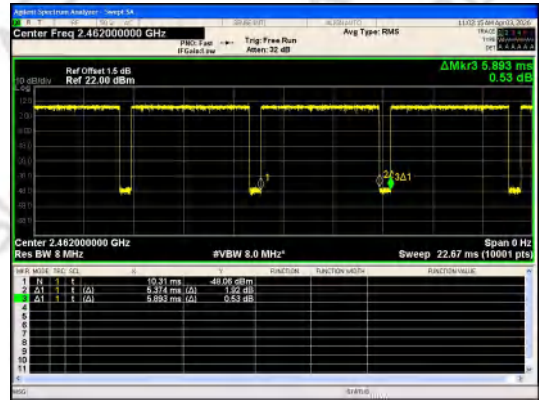
IEEE 802.11b_20MHz_Channel 11



IEEE 802.11g_20MHz_Channel 1



IEEE 802.11g_20MHz_Channel 6



IEEE 802.11g_20MHz_Channel 11



IEEE 802.11n_20MHz_Channel 1



IEEE 802.11n_20MHz_Channel 6



IEEE 802.11n_20MHz_Channel 11



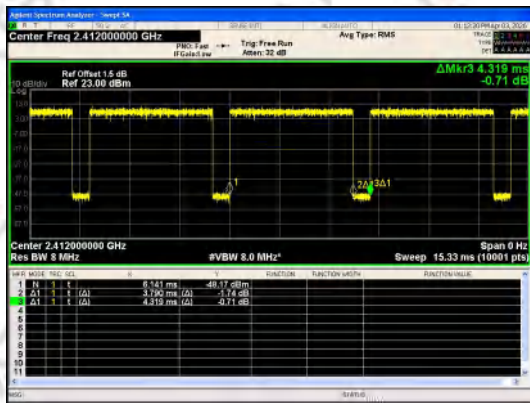
IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



IEEE 802.11n_40MHz_Channel 9



IEEE 802.11ax_20MHz_Channel 1



B3.6dB Bandwidth

Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	9.180	≥0.5	PASS
	6		2437	9.170		PASS
	11		2462	9.180		PASS
IEEE 802.11g	1		2412	16.36		PASS
	6		2437	16.27		PASS
	11		2462	16.42		PASS
IEEE 802.11n_20	1		2412	17.58		PASS
	6		2437	17.51		PASS
	11		2462	17.59		PASS
IEEE 802.11n_40	3		2422	36.29		PASS
	6		2437	36.12		PASS
	9		2452	36.35		PASS
IEEE 802.11ax_20	1		2412	18.80		PASS
	6		2437	18.81		PASS
	11		2462	18.90		PASS
IEEE 802.11ax_40	3	2422	37.69	PASS		
	6	2437	37.70	PASS		
	9	2452	37.76	PASS		

Test Graphs



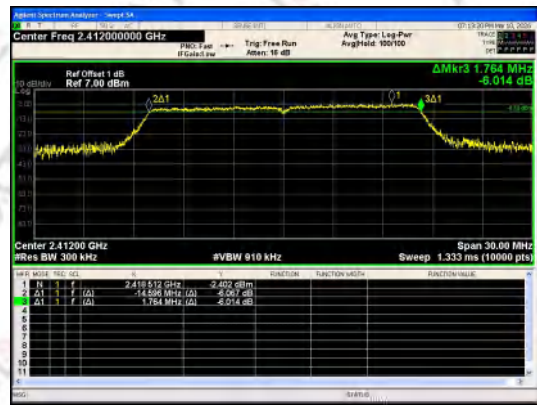
IEEE 802.11b Channel 1 20MHz Antenna 0



IEEE 802.11b Channel 6 20MHz Antenna 0



IEEE 802.11b_Channel 11_20MHz_Antenna 0



IEEE 802.11g_Channel 1_20MHz_Antenna 0



IEEE 802.11g_Channel 6_20MHz_Antenna 0



IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0



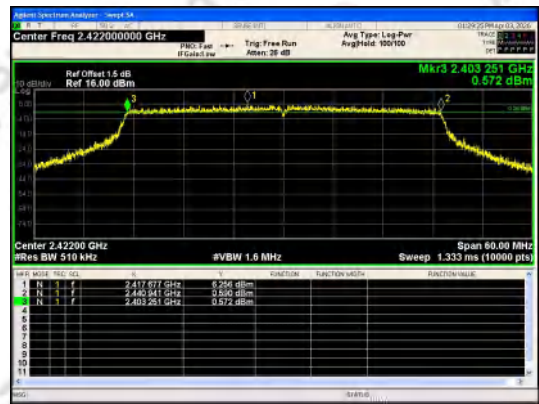
IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 6_20MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 6_40MHz_Antenna 0_RU&Index SU

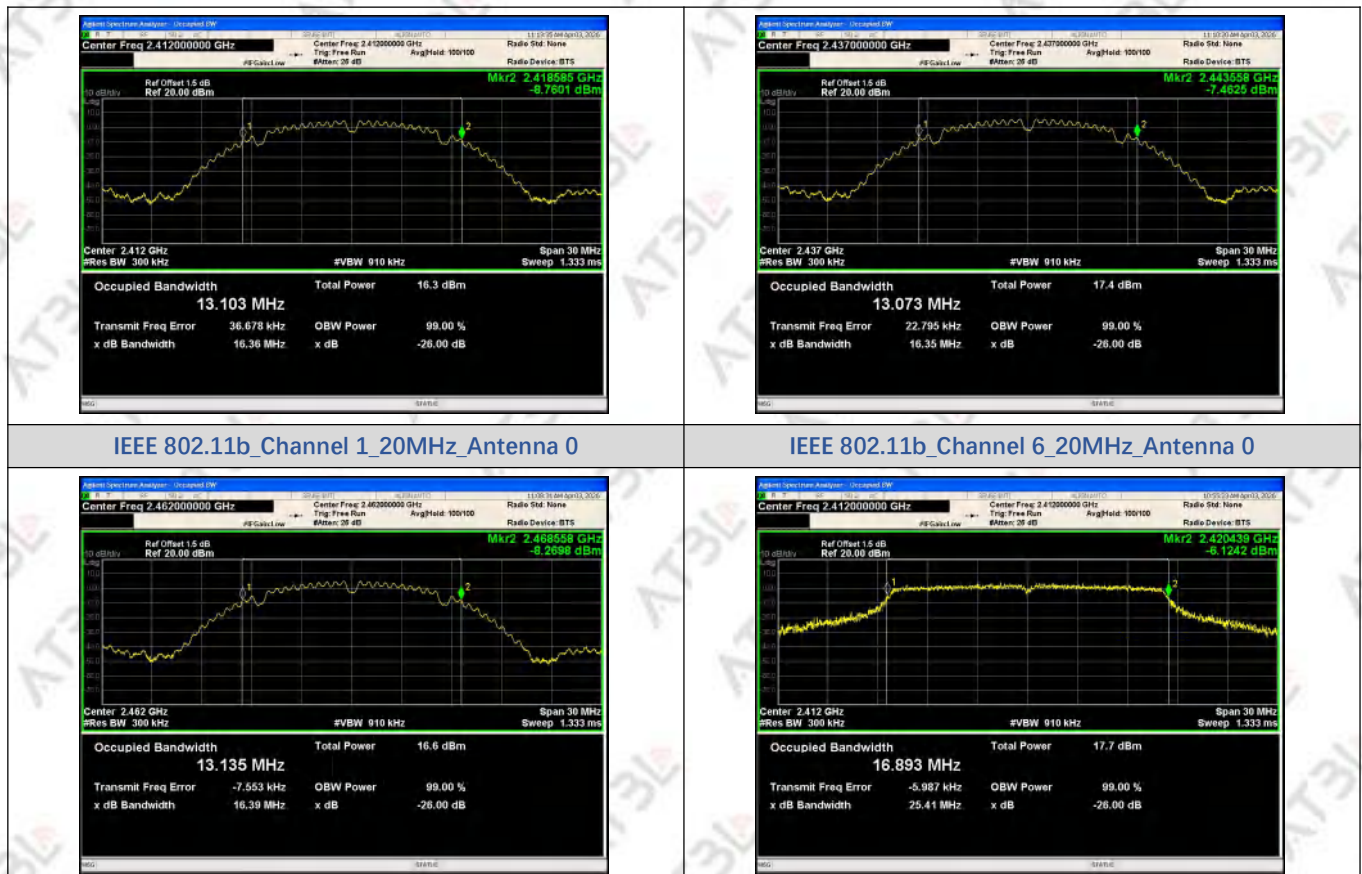


IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU

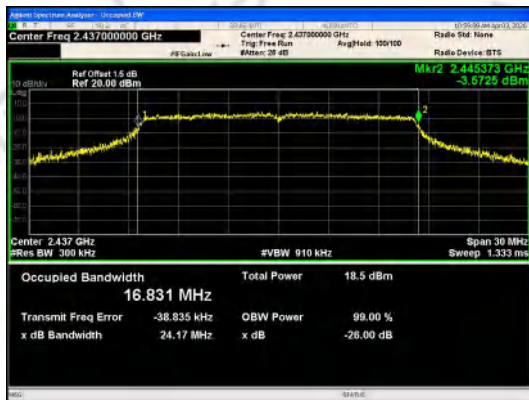
99% Bandwidth

Mode	Channel	RU & Index	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	N/A	0	2412	13.103
	6			2437	13.073
	11			2462	13.135
IEEE 802.11g	1			2412	16.893
	6			2437	16.831
	11			2462	16.887
IEEE 802.11n_20	1			2412	17.977
	6			2437	17.961
	11			2462	18.004
IEEE 802.11n_40	3			2422	36.362
	6			2437	36.276
	9			2452	36.355
IEEE 802.11ax_20	1	SU		2412	19.035
	6			2437	19.038
	11			2462	19.063
IEEE 802.11ax_40	3			2422	37.764
	6			2437	37.692
	9			2452	37.873

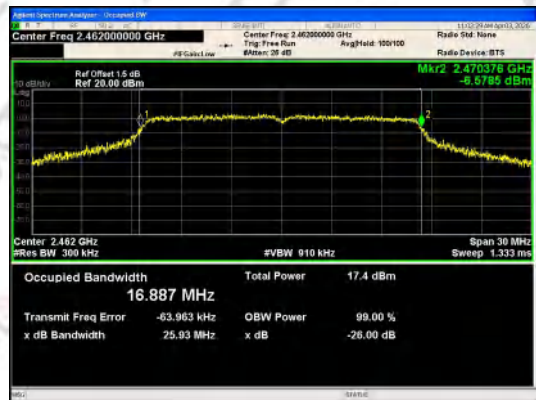
Test Graphs



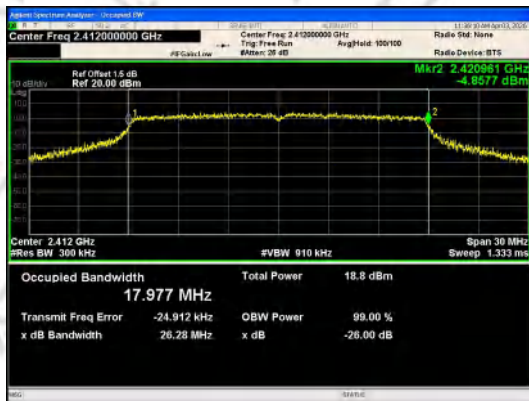
IEEE 802.11b_Channel 11_20MHz_Antenna 0



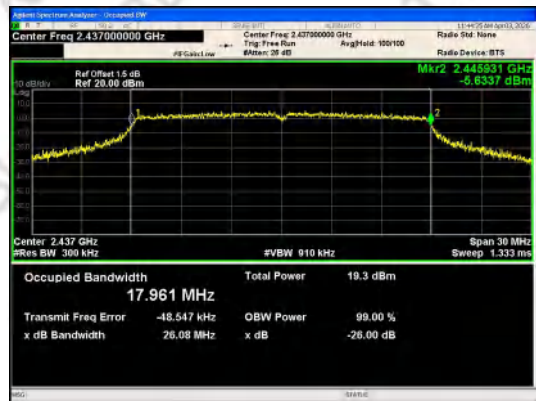
IEEE 802.11g_Channel 1_20MHz_Antenna 0



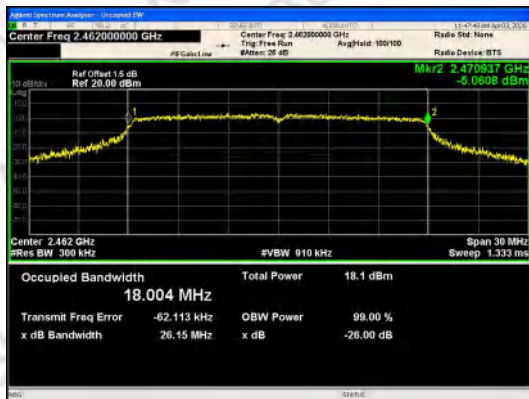
IEEE 802.11g_Channel 6_20MHz_Antenna 0



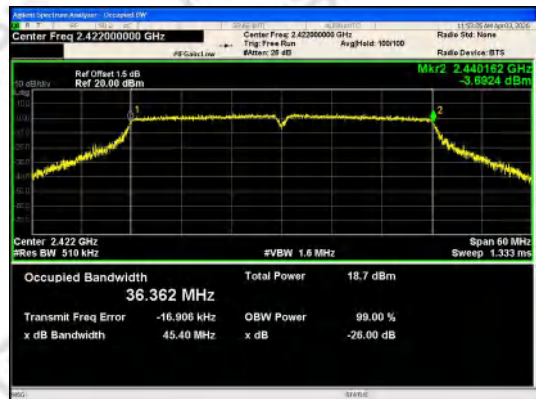
IEEE 802.11g_Channel 11_20MHz_Antenna 0



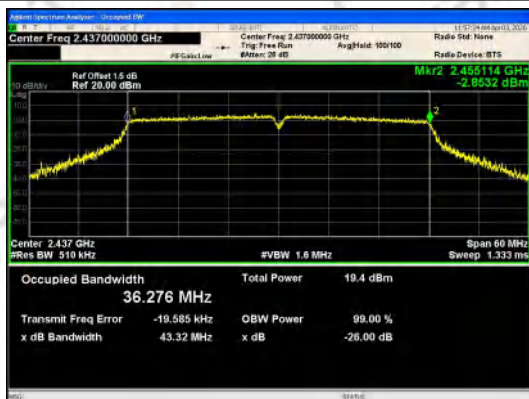
IEEE 802.11n_Channel 1_20MHz_Antenna 0



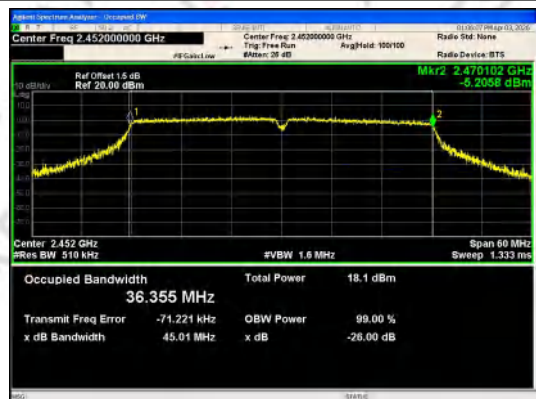
IEEE 802.11n_Channel 6_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0

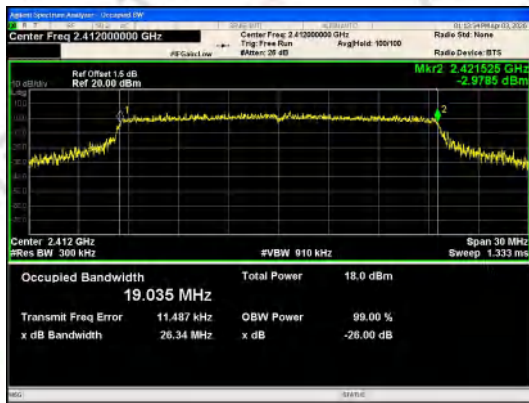


IEEE 802.11n_Channel 3_40MHz_Antenna 0

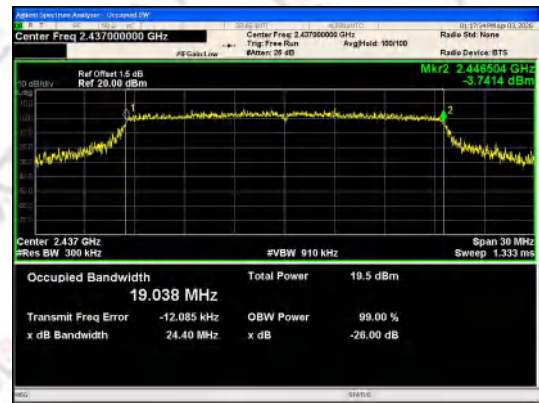


IEEE 802.11n_Channel 6_40MHz_Antenna 0

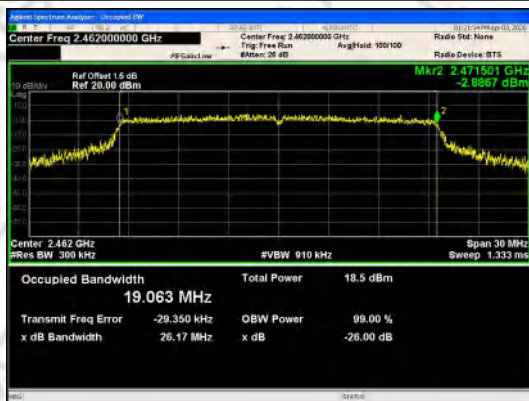
IEEE 802.11n_Channel 9_40MHz_Antenna 0



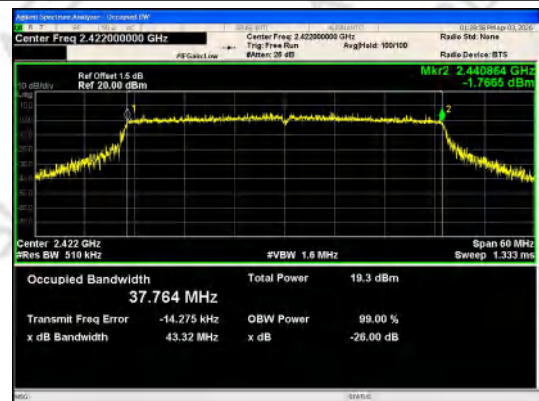
IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU



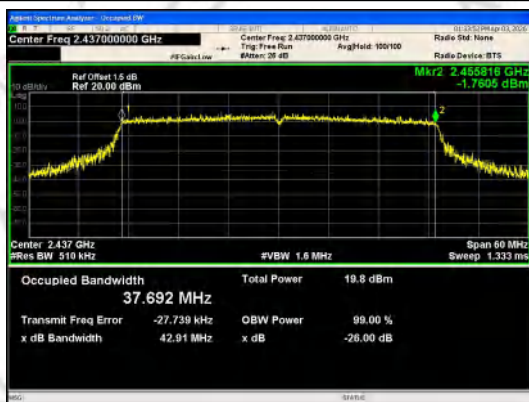
IEEE 802.11ax_Channel 6_20MHz_Antenna 0_RU&Index SU



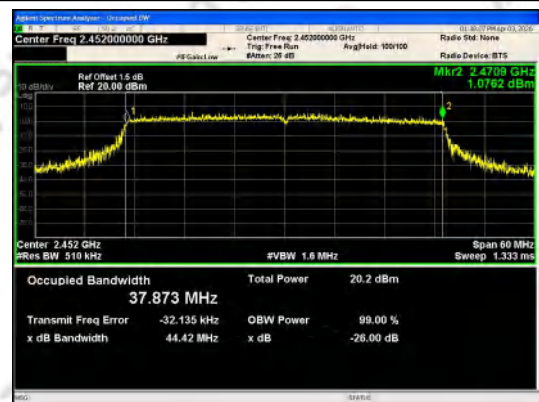
IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 6_40MHz_Antenna 0_RU&Index SU



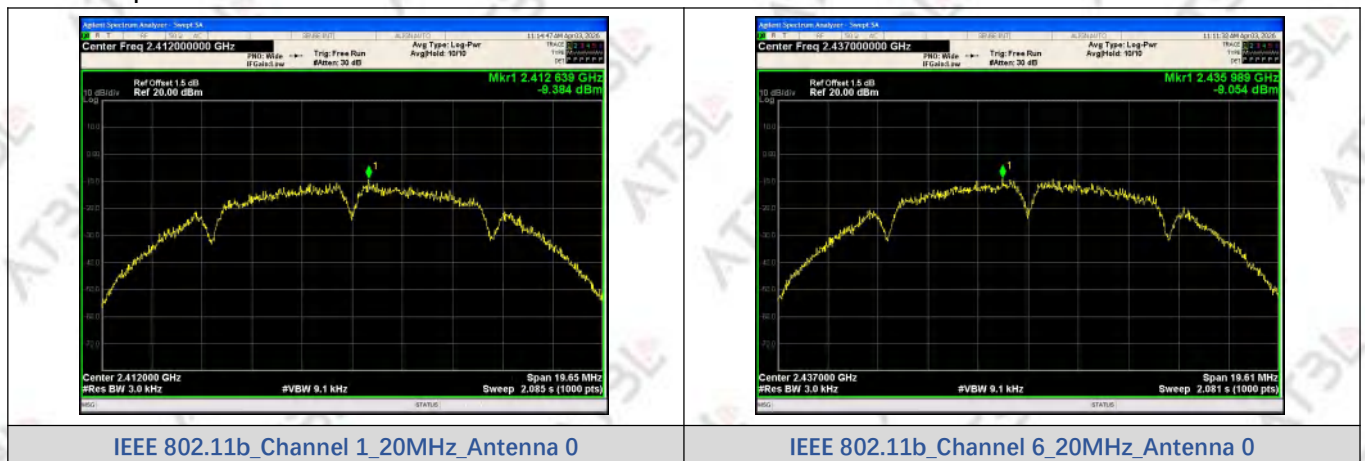
IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU

B4.Power Spectral Density

Test Result

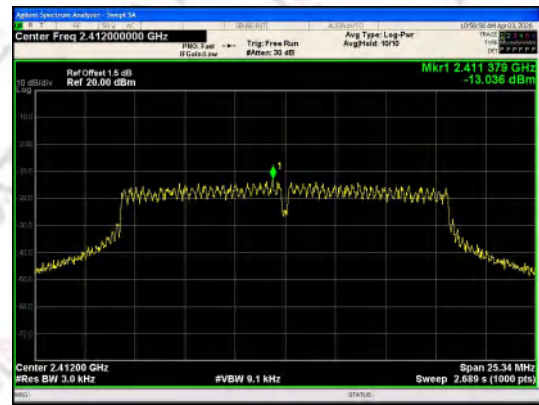
Mode	Channel	RU & Index	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	N/A	-9.380	≤ 8	PASS
	6		-9.050		PASS
	11		-9.090		PASS
IEEE 802.11g	1		-13.040		PASS
	6		-12.870		PASS
	11		-13.130		PASS
IEEE 802.11n_20	1		-12.480		PASS
	6		-11.920		PASS
	11		-12.570		PASS
IEEE 802.11n_40	3		-14.910		PASS
	6		-14.030		PASS
	9		-14.550		PASS
IEEE 802.11ax_20	1	SU	-12.970	≤ 8	PASS
	6		-12.520		PASS
	11		-12.610		PASS
IEEE 802.11ax_40	3		-15.910		PASS
	6		-14.560		PASS
	9		-13.890		PASS

Test Graphs

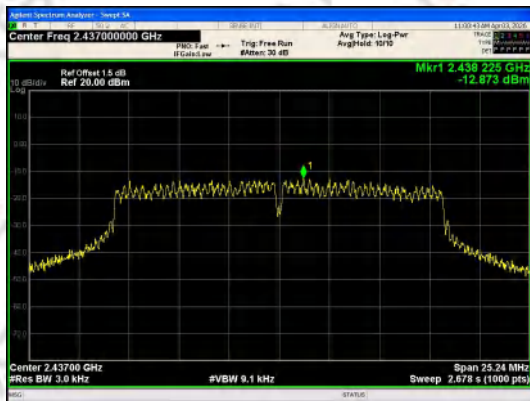




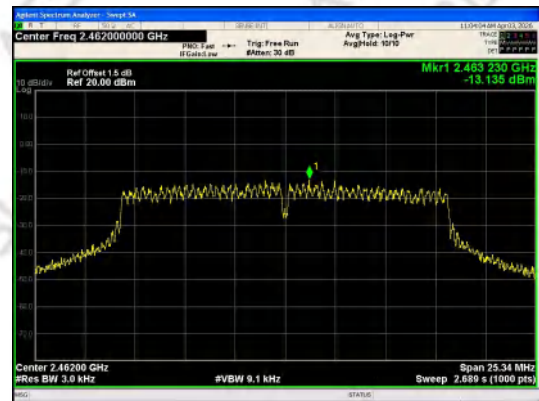
IEEE 802.11b_Channel 11_20MHz_Antenna 0



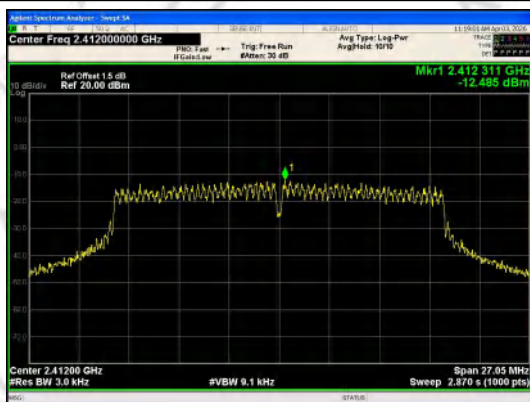
IEEE 802.11g_Channel 1_20MHz_Antenna 0



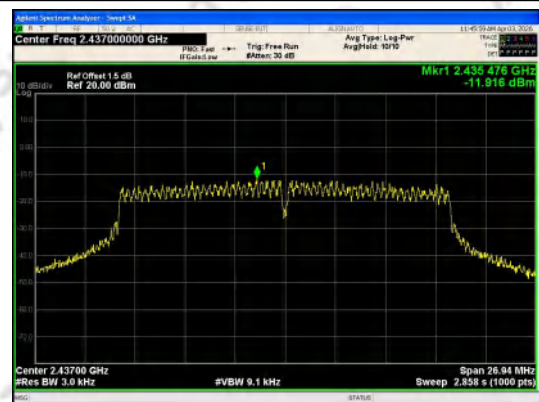
IEEE 802.11g_Channel 6_20MHz_Antenna 0



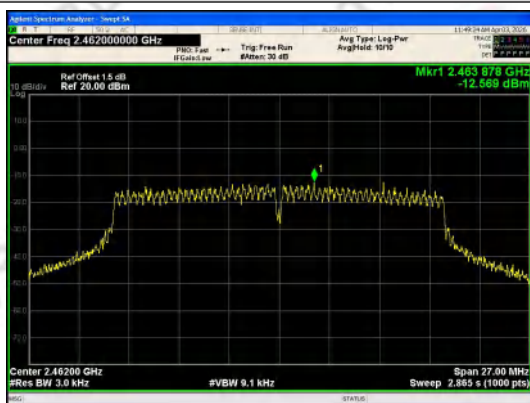
IEEE 802.11g_Channel 11_20MHz_Antenna 0



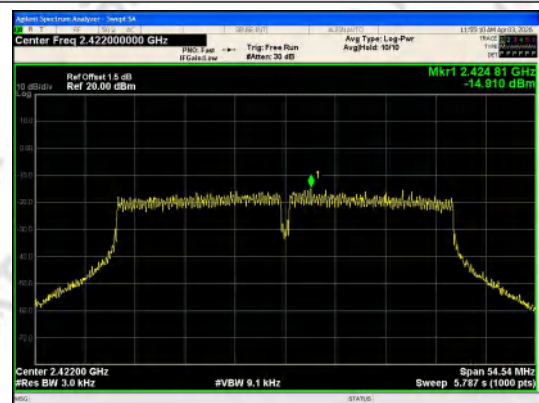
IEEE 802.11n_Channel 1_20MHz_Antenna 0



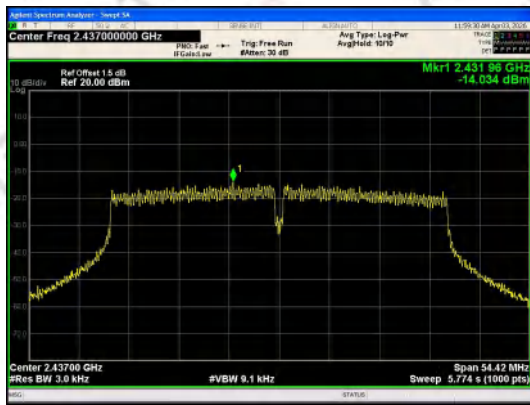
IEEE 802.11n_Channel 6_20MHz_Antenna 0



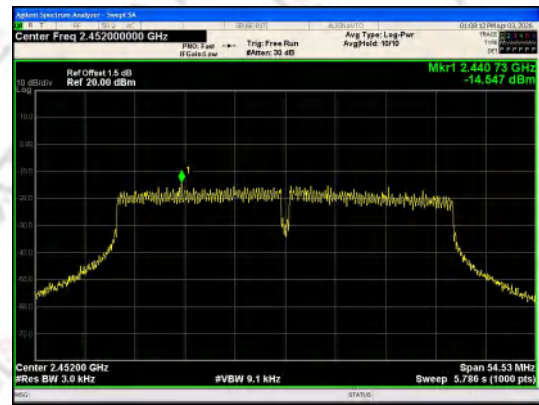
IEEE 802.11n_Channel 11_20MHz_Antenna 0



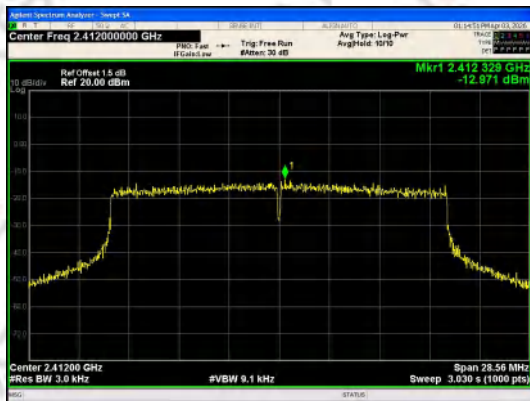
IEEE 802.11n_Channel 3_40MHz_Antenna 0



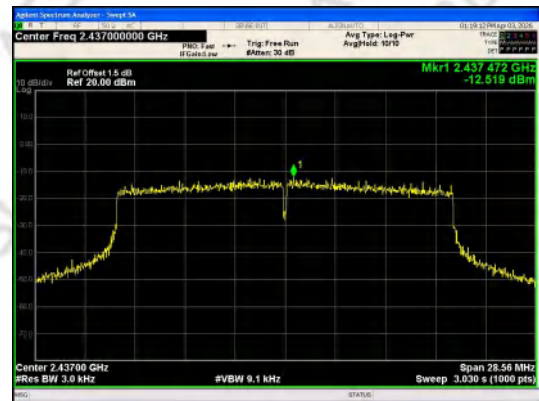
IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0



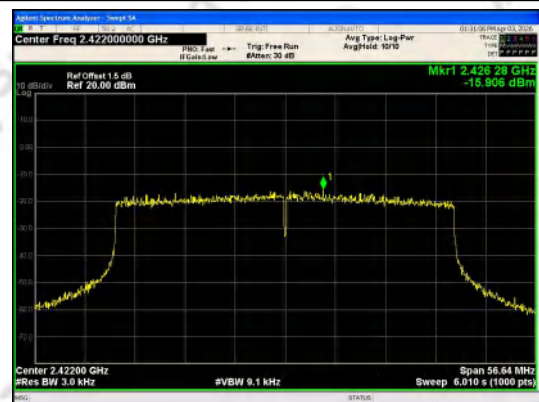
IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU



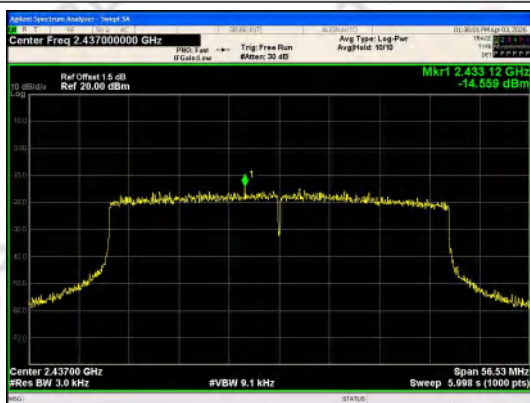
IEEE 802.11ax_Channel 6_20MHz_Antenna 0_RU&Index SU



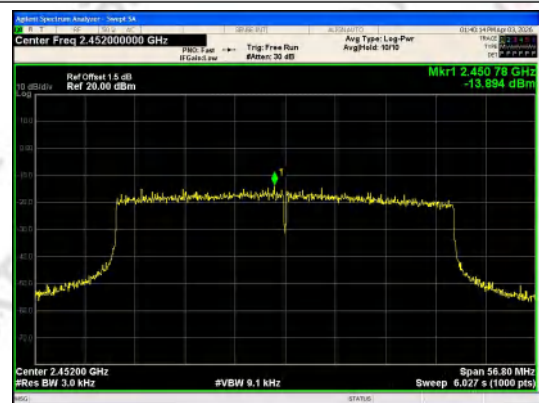
IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 6_40MHz_Antenna 0_RU&Index SU



IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU

B5.Conducted Spurious & Band Edge Emission

Mode	Channel	Antenna	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Cable Loss(dB)	OOB Emission Level Final Measurement (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2396.97	-43.117	N/A	-43.117	-15.95	-27.168	PASS
			2400.00	-50.453	N/A	-50.453	-15.95	-34.503	PASS
			24833.9	-38.472	1.36	-37.112	-15.95	-22.522	PASS
	6		24943.8	-39.546	1.36	-38.186	-14.8	-24.746	PASS
	11		2483.50	-49.529	N/A	-49.529	-15.57	-33.959	PASS
			4924.12	-39.177	1.36	-37.817	-15.57	-23.607	PASS
IEEE 802.11g	1		2400.00	-29.110	N/A	-29.11	-19.32	-9.790	PASS
			24877.0	-38.507	1.36	-37.147	-19.32	-19.187	PASS
	6		24877.6	-38.978	1.36	-37.618	-18.24	-20.738	PASS
	11		2483.50	-47.677	N/A	-47.677	-19.9	-27.777	PASS
			24930.7	-38.614	1.36	-37.254	-19.9	-18.714	PASS
IEEE 802.11n_20	1		2400.00	-26.666	N/A	-26.666	-17.85	-8.816	PASS
			24885.8	-37.109	1.36	-35.749	-17.85	-19.259	PASS
	6		24862.7	-38.842	1.36	-37.482	-17.64	-21.202	PASS
	11		2483.50	-46.567	N/A	-46.567	-18.35	-28.217	PASS
			24312.1	-38.729	1.36	-37.369	-18.35	-20.379	PASS
IEEE 802.11n_40	3		2398.92	-31.689	N/A	-31.689	-20.99	-10.699	PASS
			2400.00	-31.825	N/A	-31.825	-20.99	-10.835	PASS

		24910.7	-39.117	1.36	-37.757	-20.9 9	-18.12 7	PASS
	6	24869.5	-38.127	1.36	-36.767	-20.2	-17.92 7	PASS
	9	2483.50	-44.429	N/A	-44.429	-21.1 3	-23.29 9	PASS
		24939.4	-40.006	1.36	-38.646	-21.1 3	-18.87 6	PASS
IEEE 802.11ax_2 0	1	2400.00	-27.312	N/A	-27.312	-19.0 2	-8.292	PASS
		24950.7	-39.457	1.36	-38.097	-19.0 2	-20.43 7	PASS
	6	24942.6	-39.738	1.36	-38.378	-17.5 5	-22.18 8	PASS
	11	2483.50	-41.986	N/A	-41.986	-17.3 3	-24.65 6	PASS
		24855.2	-38.878	1.36	-37.518	-17.3 3	-21.54 8	PASS
IEEE 802.11ax_4 0	3	2400.00	-31.463	N/A	-31.463	-21.2 1	-10.25 3	PASS
		24852.7	-39.781	1.36	-38.421	-21.2 1	-18.57 1	PASS
	6	24917.0	-39.432	1.36	-38.072	-20.5 8	-18.85 2	PASS
	9	2483.50	-40.485	N/A	-40.485	-20.2 8	-20.20 5	PASS
		24882.6	-39.179	1.36	-37.819	-20.2 8	-18.89 9	PASS

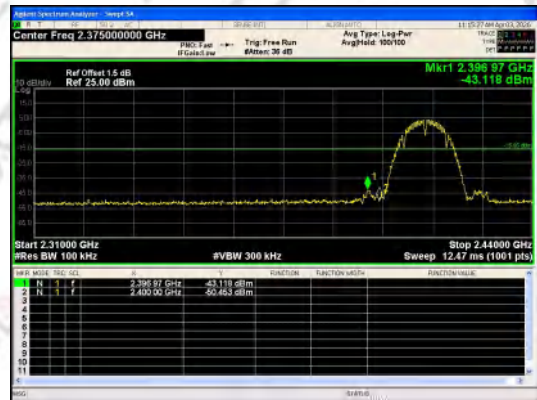
- Note:
- input compensation coefficient (dB)= Cable Loss (dB)
- 2.30MHz~25GHz OOB Emission Level final result cable loss was added. maximum cable Loss is 2.86 dB (When the frequency reaches 25GHz, add an additional compensation of 1.36dB for Cable Loss.)

Test Graphs



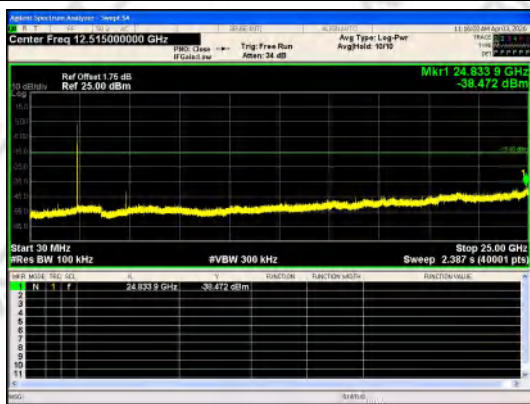
In-Band Reference Level

IEEE 802.11b_Channel 1_20MHz_Antenna 0



Out Of Band Emission

IEEE 802.11b_Channel 1_20MHz_Antenna 0



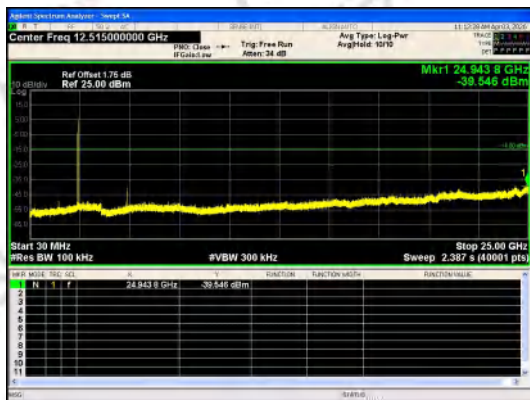
30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 1_20MHz_Antenna 0



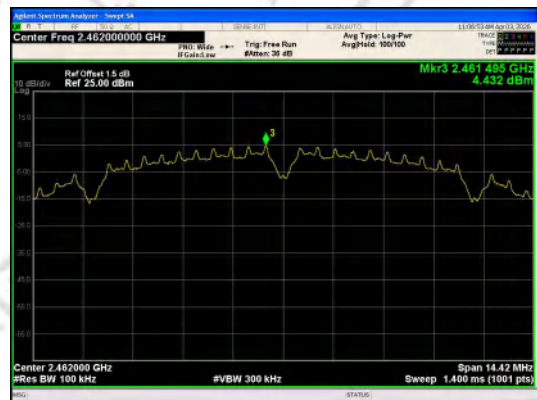
In-Band Reference Level

IEEE 802.11b_Channel 6_20MHz_Antenna 0



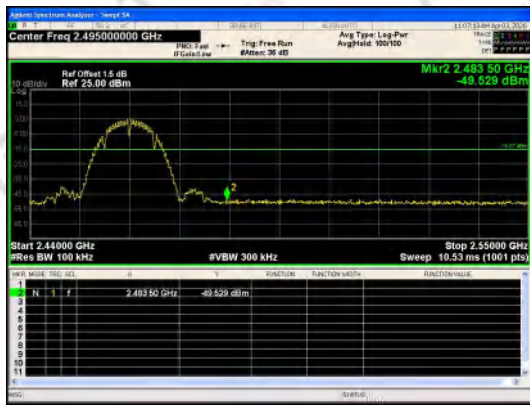
30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 6_20MHz_Antenna 0

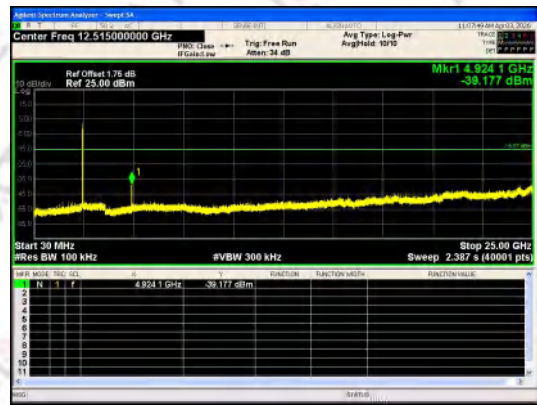


In-Band Reference Level

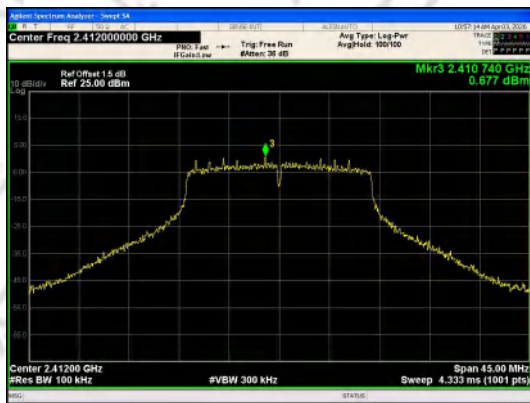
IEEE 802.11b_Channel 11_20MHz_Antenna 0



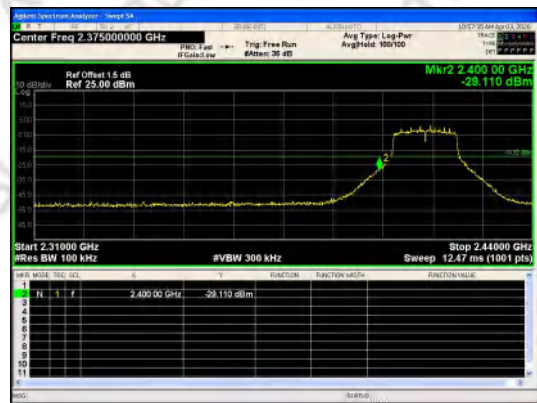
Out Of Band Emission
IEEE 802.11b_Channel 11_20MHz_Antenna 0



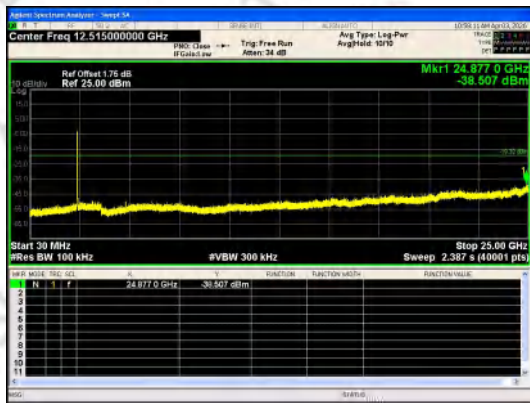
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



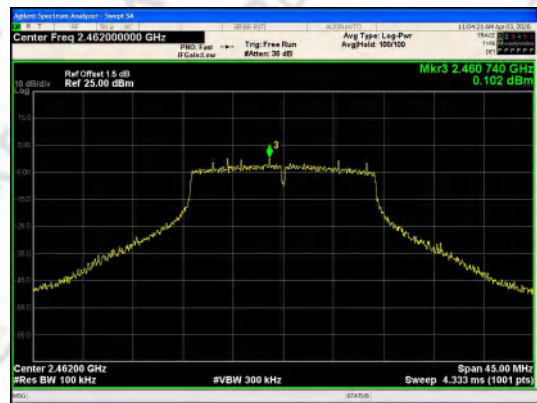
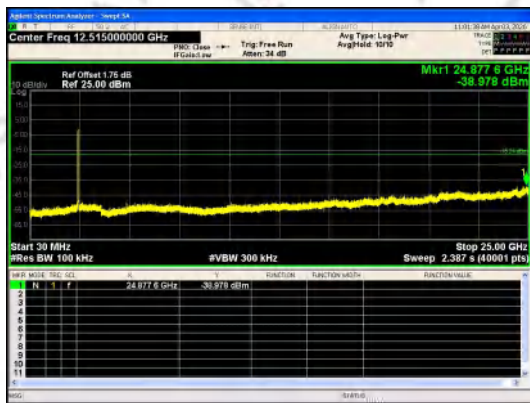
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0

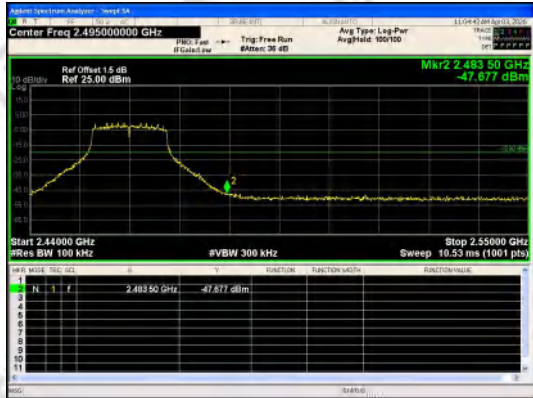
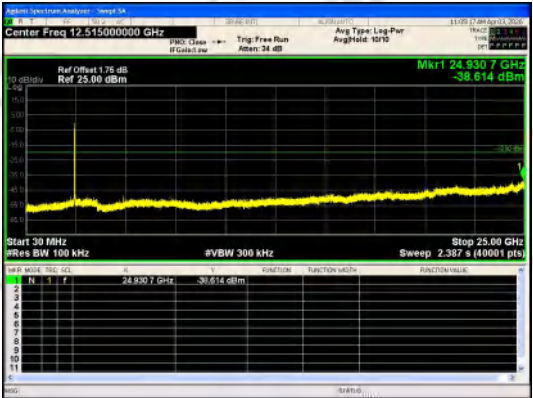
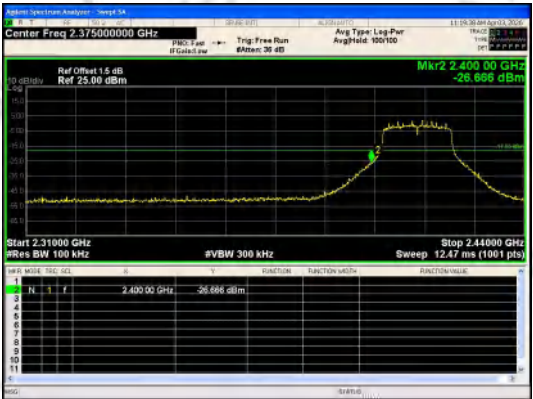
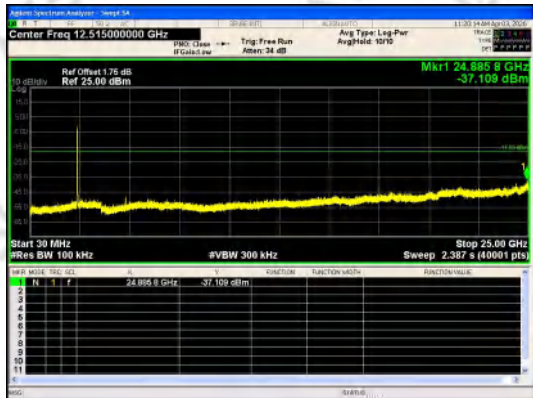


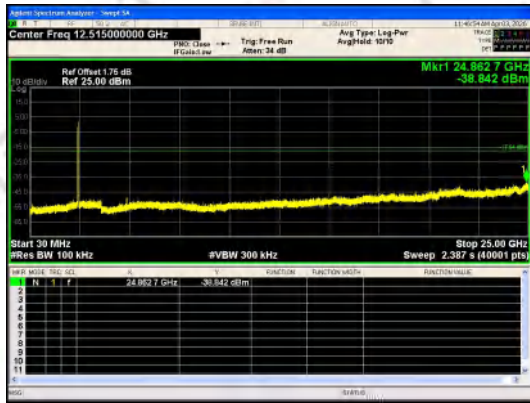
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz IEEE 802.11g_Channel 6_20MHz_Antenna 0 	In-Band Reference Level IEEE 802.11g_Channel 11_20MHz_Antenna 0 
Out Of Band Emission IEEE 802.11g_Channel 11_20MHz_Antenna 0 	30.0 MHz - 25000.0 MHz IEEE 802.11g_Channel 11_20MHz_Antenna 0 
In-Band Reference Level IEEE 802.11n_Channel 1_20MHz_Antenna 0 	Out Of Band Emission IEEE 802.11n_Channel 1_20MHz_Antenna 0 
30.0 MHz - 25000.0 MHz IEEE 802.11n_Channel 1_20MHz_Antenna 0	In-Band Reference Level IEEE 802.11n_Channel 6_20MHz_Antenna 0



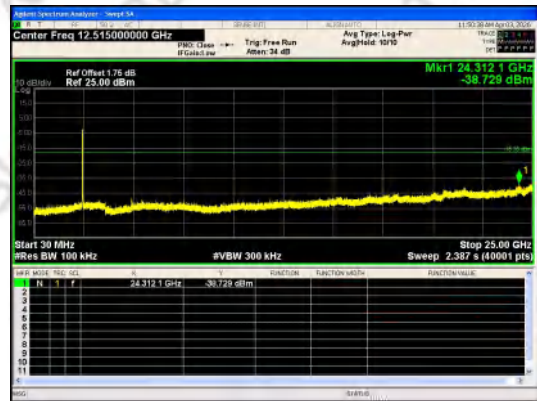
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



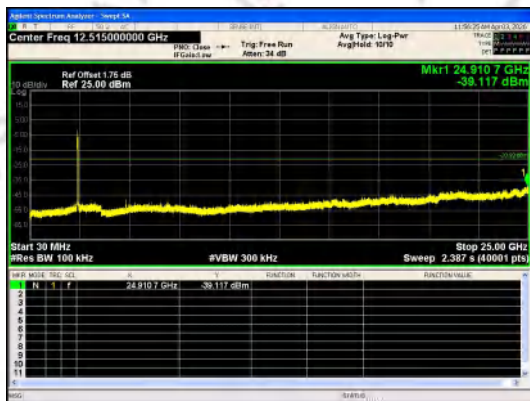
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0

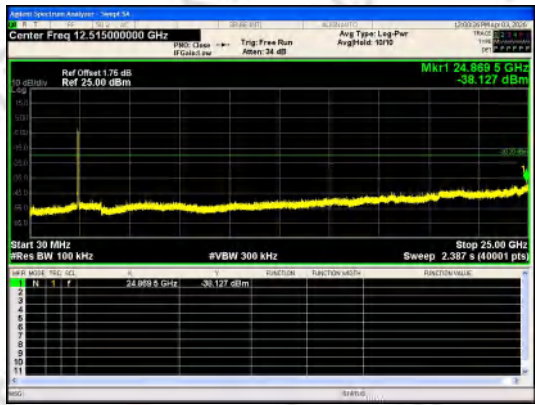
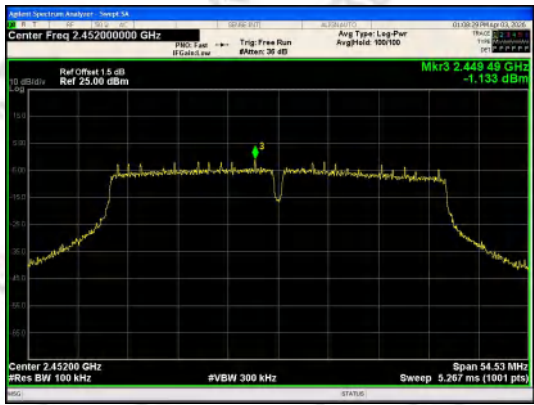
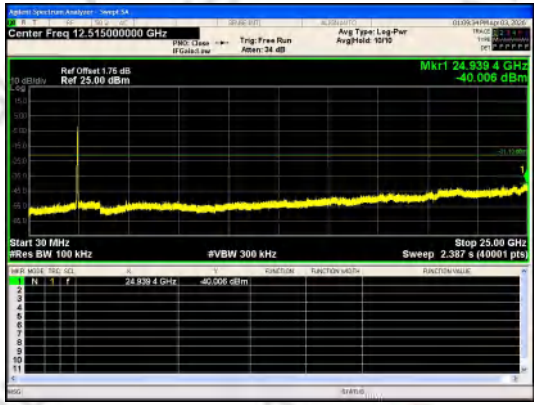


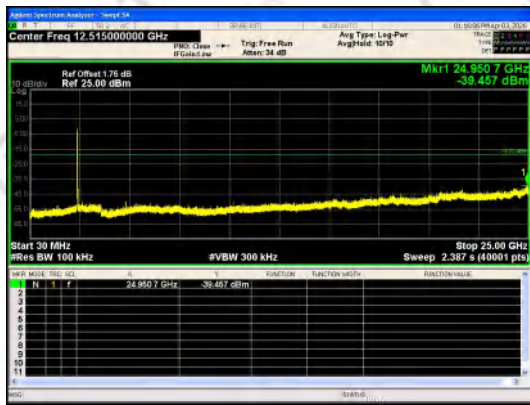
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



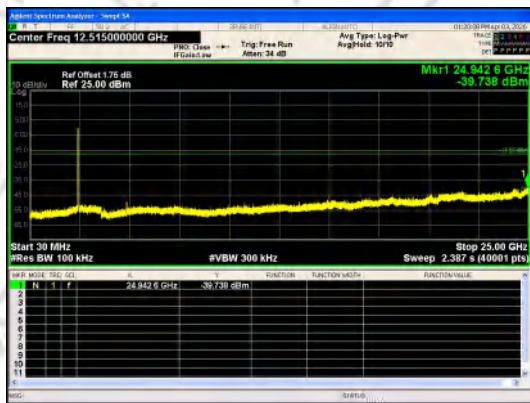
30.0 MHz - 25000.0 MHz IEEE 802.11n_Channel 3_40MHz_Antenna 0 	In-Band Reference Level IEEE 802.11n_Channel 6_40MHz_Antenna 0 
30.0 MHz - 25000.0 MHz IEEE 802.11n_Channel 6_40MHz_Antenna 0 	In-Band Reference Level IEEE 802.11n_Channel 9_40MHz_Antenna 0 
Out Of Band Emission IEEE 802.11n_Channel 9_40MHz_Antenna 0 	30.0 MHz - 25000.0 MHz IEEE 802.11n_Channel 9_40MHz_Antenna 0 
In-Band Reference Level IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU	Out Of Band Emission IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU



30.0 MHz - 25000.0 MHz
IEEE 802.11ax_Channel 1_20MHz_Antenna 0_RU&Index SU



In-Band Reference Level
IEEE 802.11ax_Channel 6_20MHz_Antenna 0_RU&Index SU



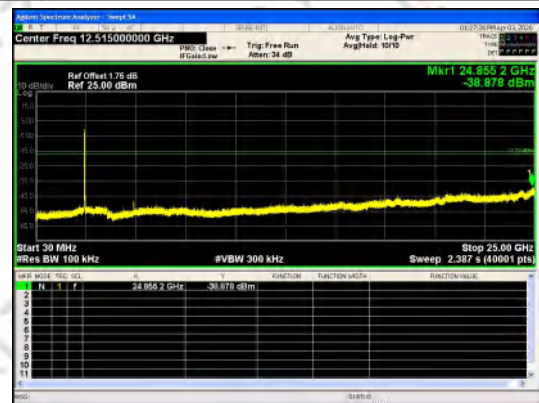
30.0 MHz - 25000.0 MHz
IEEE 802.11ax_Channel 6_20MHz_Antenna 0_RU&Index SU



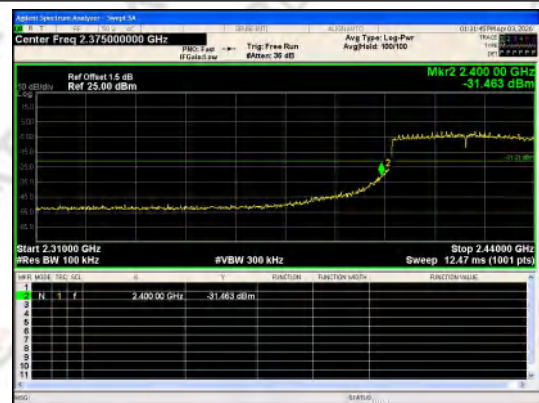
In-Band Reference Level
IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU

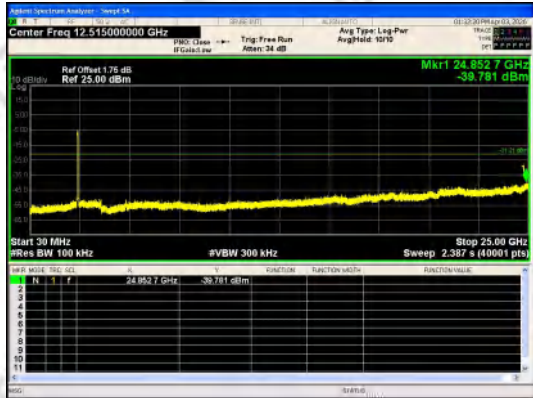
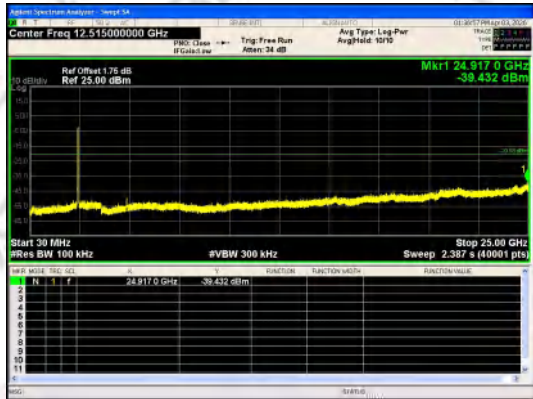
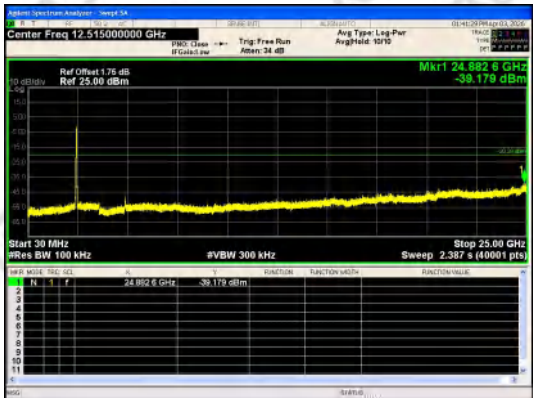


Out Of Band Emission
IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU



30.0 MHz - 25000.0 MHz
IEEE 802.11ax_Channel 11_20MHz_Antenna 0_RU&Index SU



In-Band Reference Level IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU 	Out Of Band Emission IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU 
30.0 MHz - 25000.0 MHz IEEE 802.11ax_Channel 3_40MHz_Antenna 0_RU&Index SU 	In-Band Reference Level IEEE 802.11ax_Channel 6_40MHz_Antenna 0_RU&Index SU 
30.0 MHz - 25000.0 MHz IEEE 802.11ax_Channel 6_40MHz_Antenna 0_RU&Index SU 	In-Band Reference Level IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU 
Out Of Band Emission IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU	30.0 MHz - 25000.0 MHz IEEE 802.11ax_Channel 9_40MHz_Antenna 0_RU&Index SU

B6.Radiated Spurious Emission and Restricted Band

For 9 kHz ~ 30 MHz

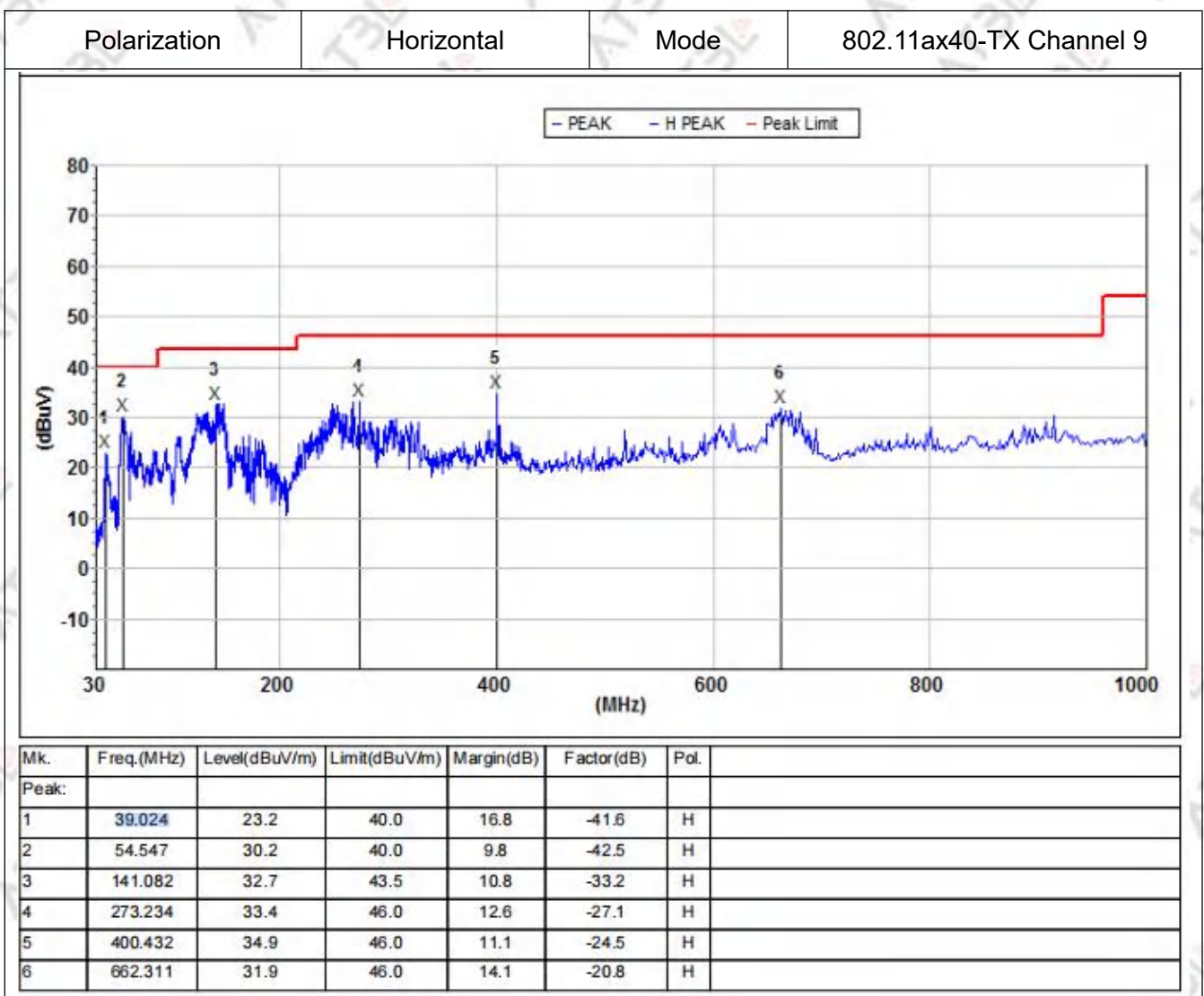
Note:

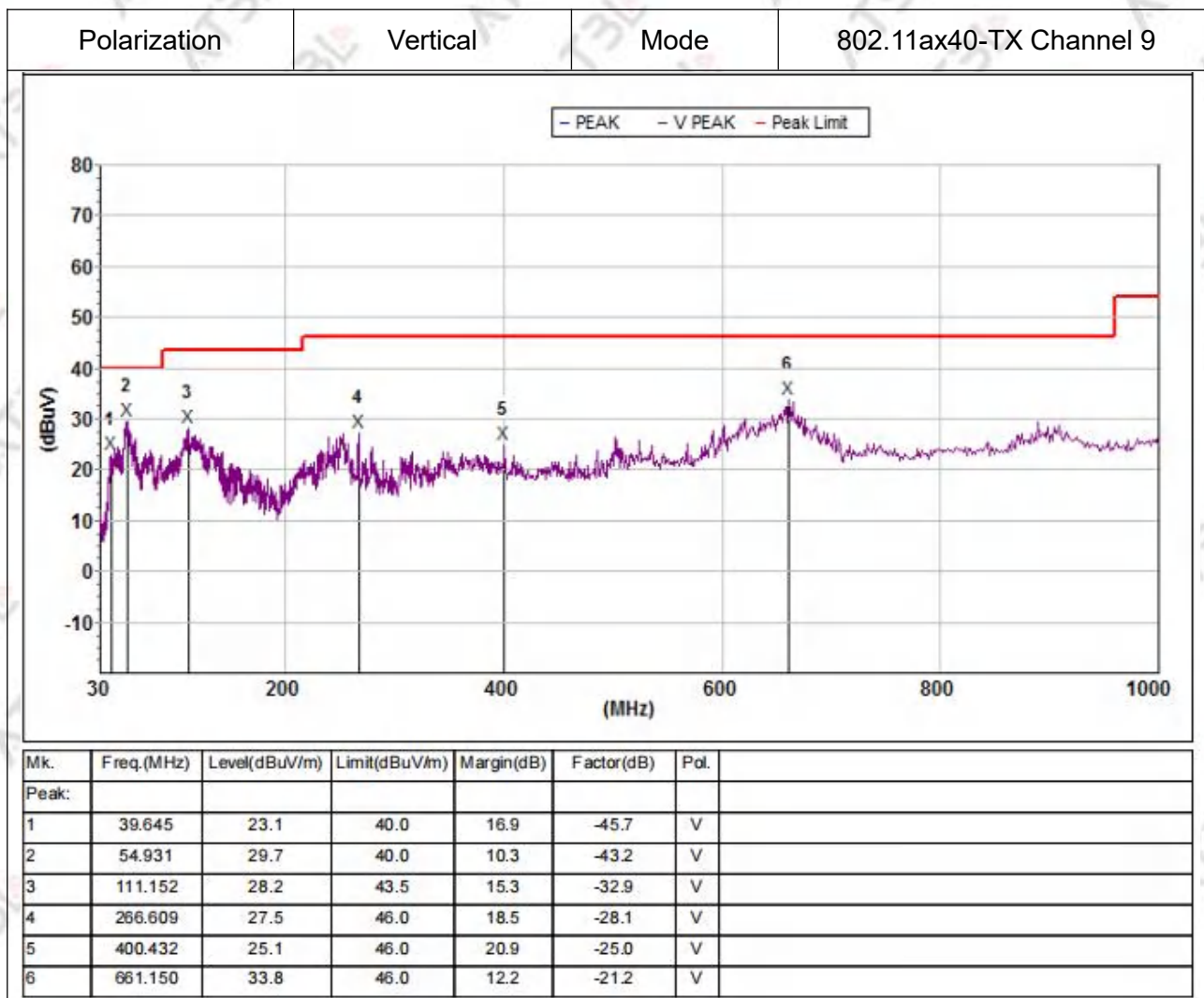
- 1.The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.
- 2.The all data rate modes had been test, but only worse test data was recorded in the test report.

Below 1GHz:

Note:

- 1.All modes have been tested, only worst (802.11ax40-TX Channel 9)mode was recorded in the test report.
- 2.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
- 3.Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
- 4.The emission levels of other frequencies were less than 20dB margin against the limit.
- 5.Margin value = Emission level-Limit value.

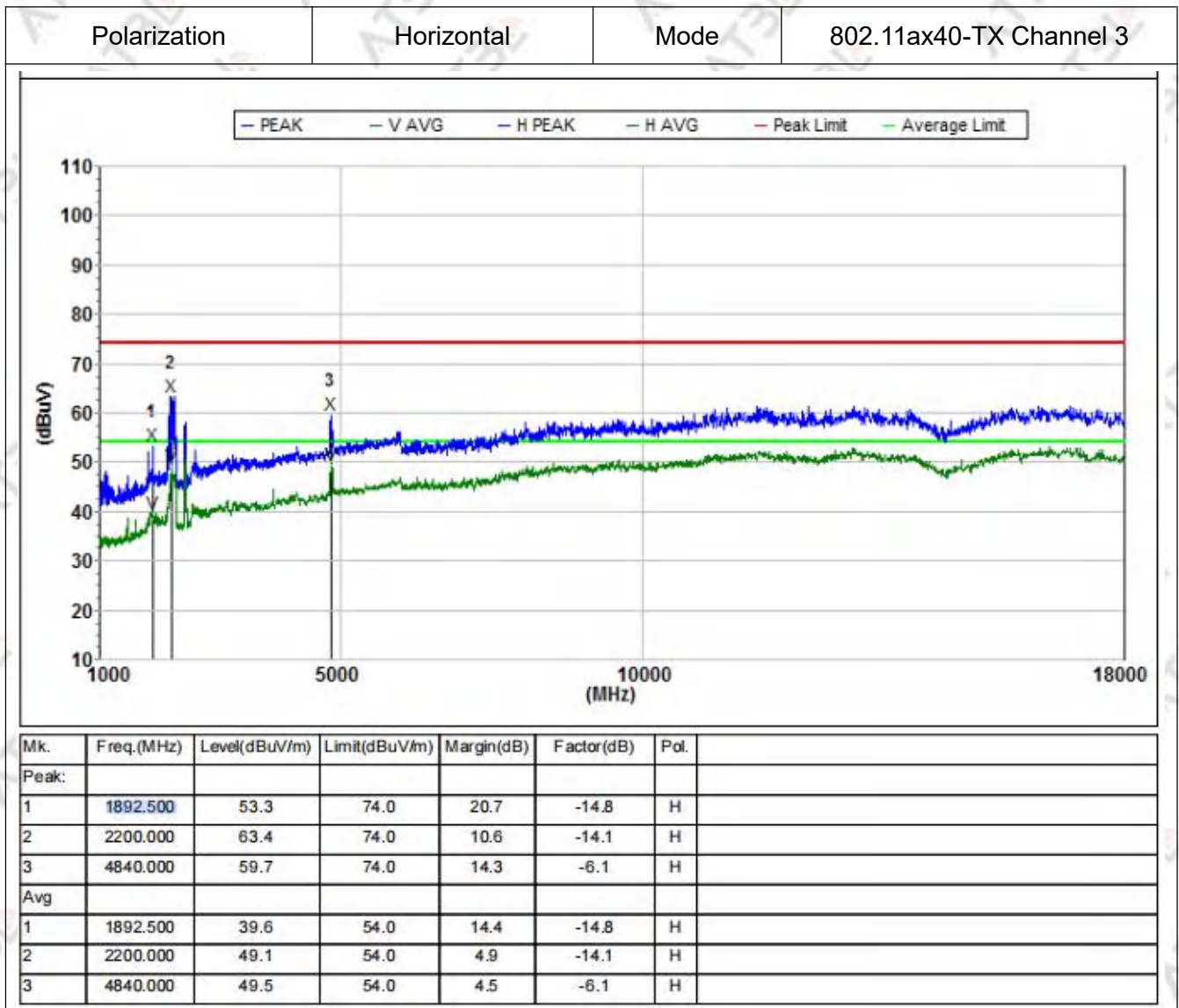


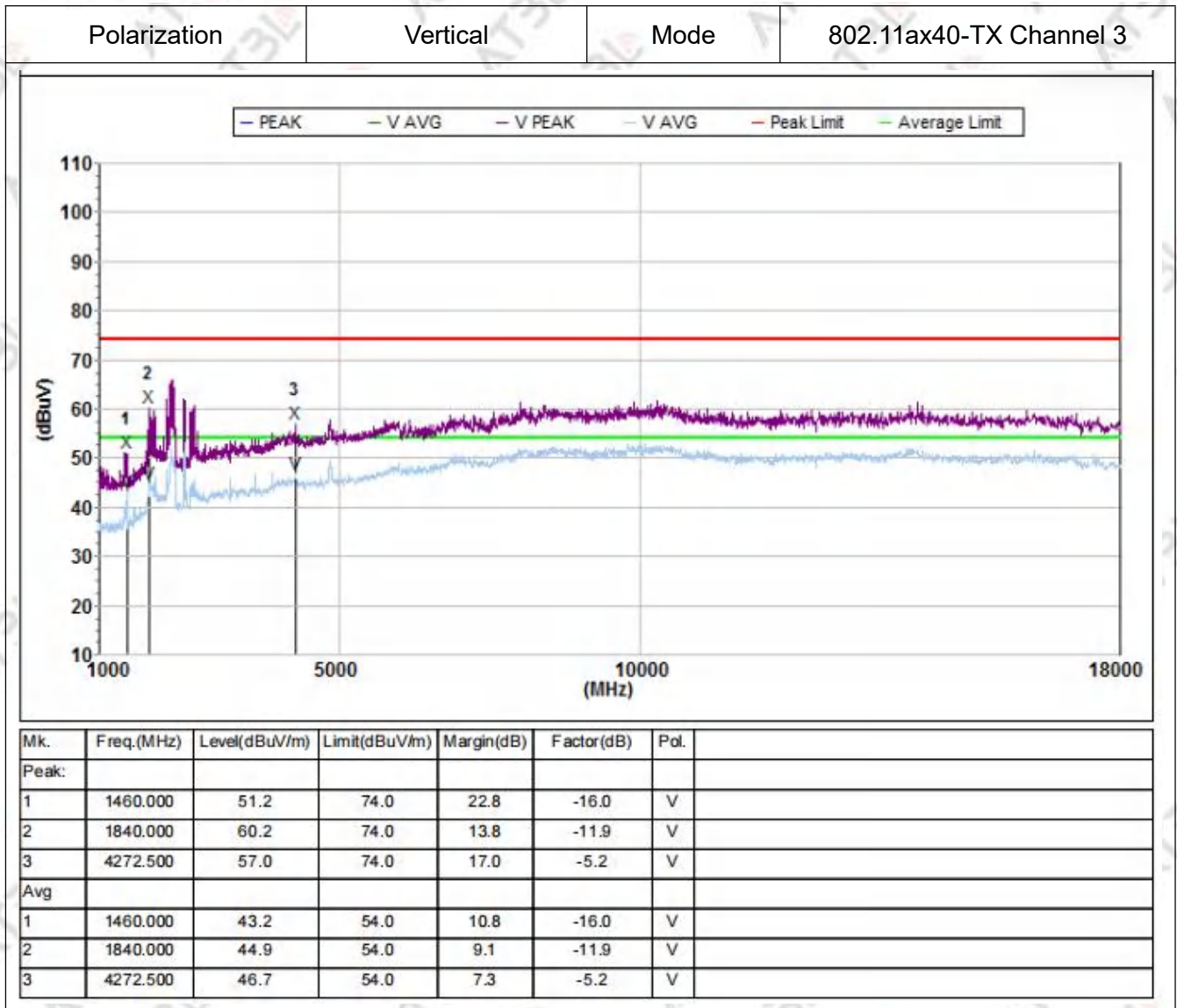


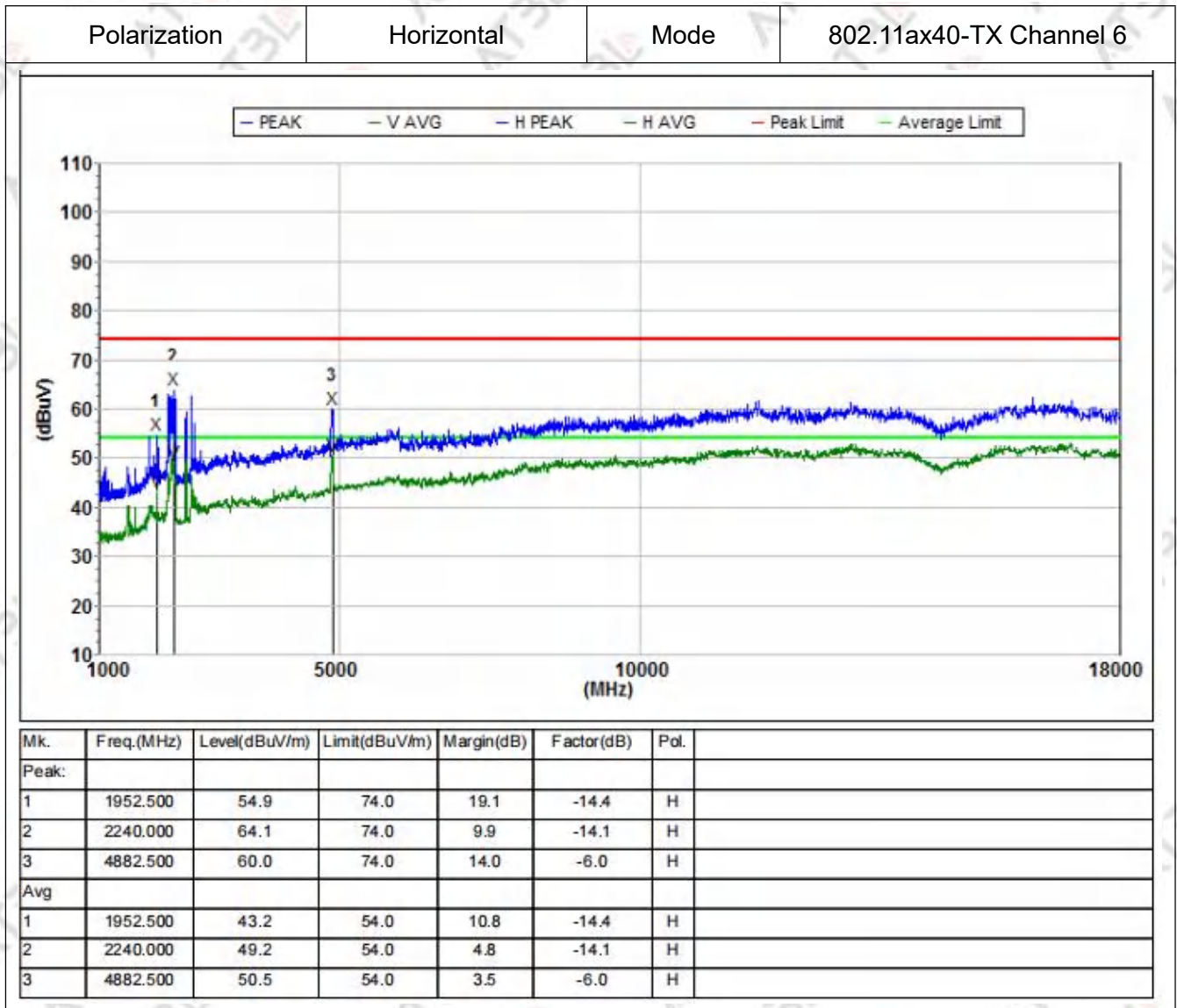
Above 1GHz:

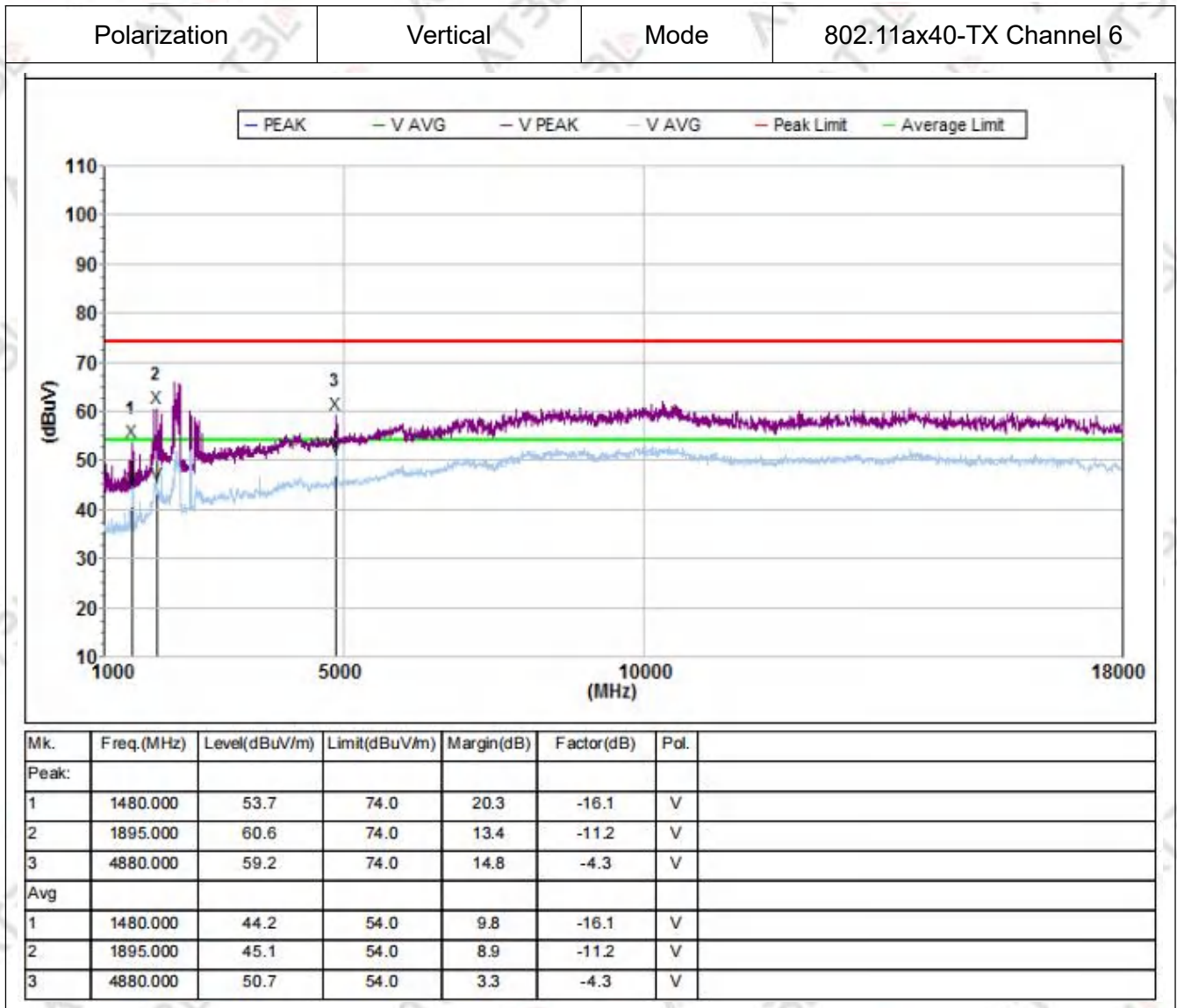
Note:

- 1.All modes have been tested, only worst (802.11ax40)mode was recorded in the test report.
- 2.In frequency ranges 18 ~40GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.
- 3.We used the filter to test and the main frequency was filtered out.
- 4.Emission Level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
5. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)-Amplifier Gain.
6. Margin value = Emission level-Limit value.







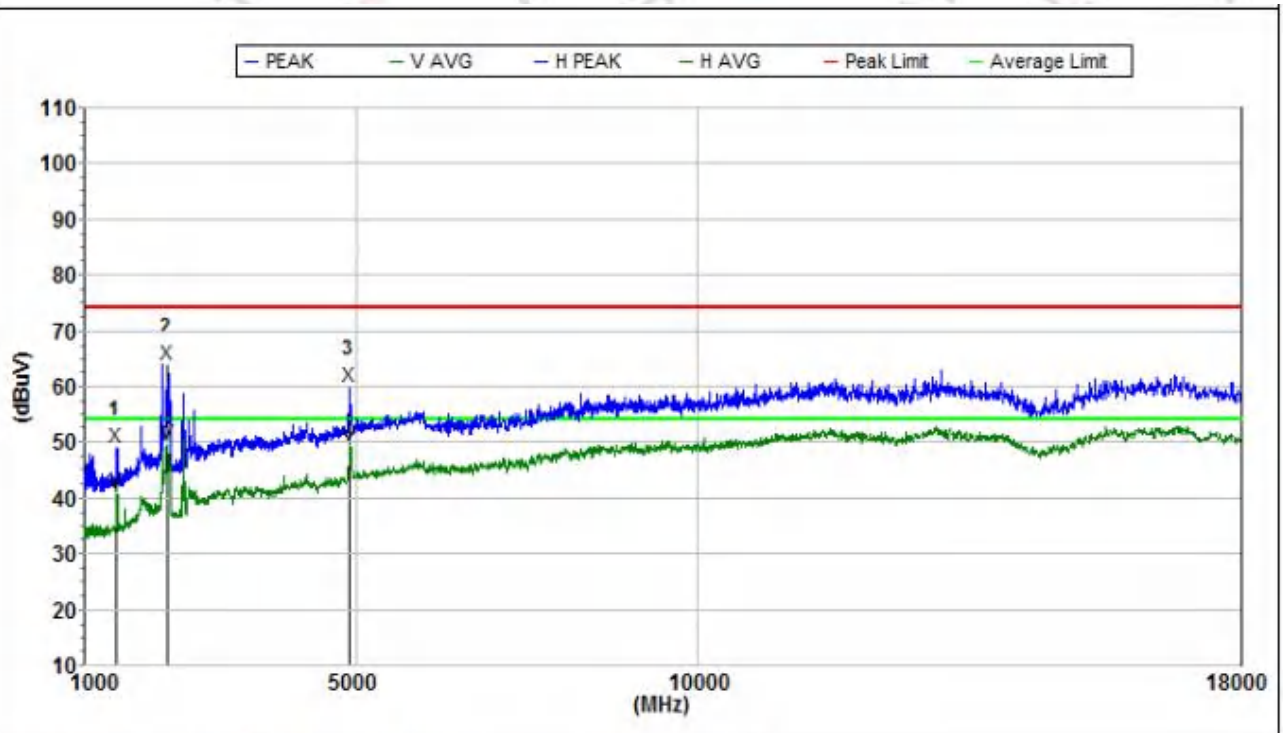


Polarization

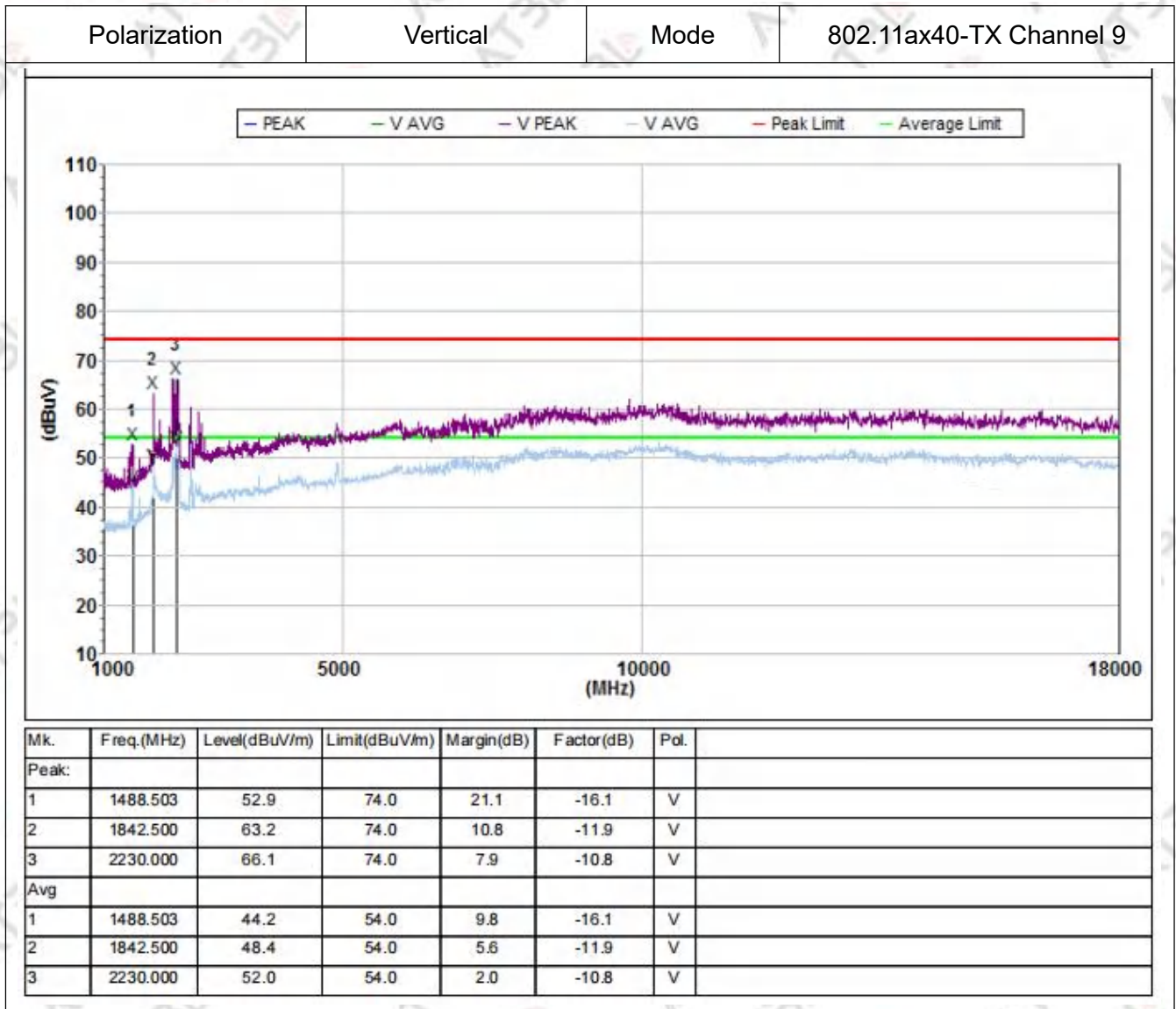
Horizontal

Mode

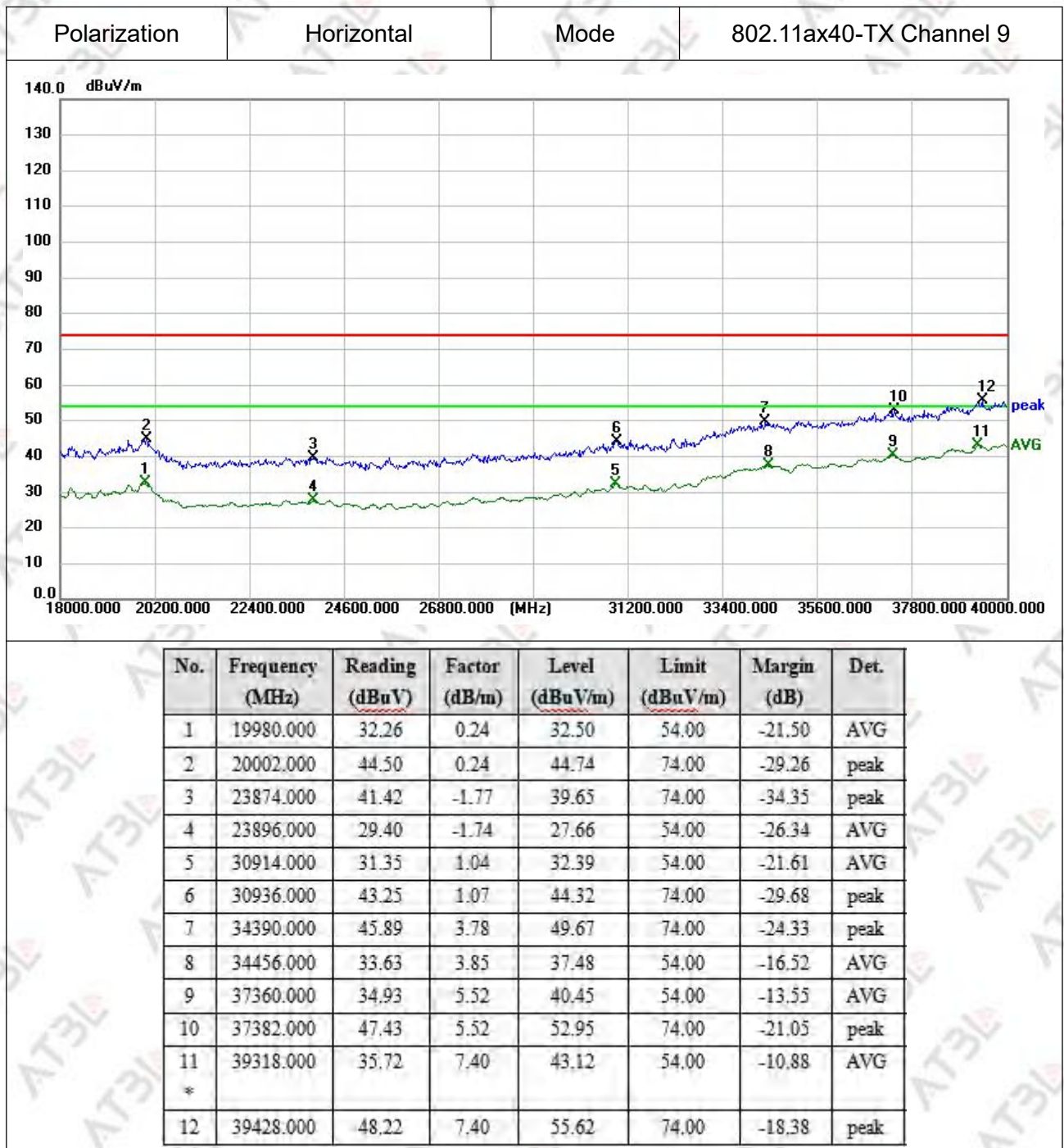
802.11ax40-TX Channel 9

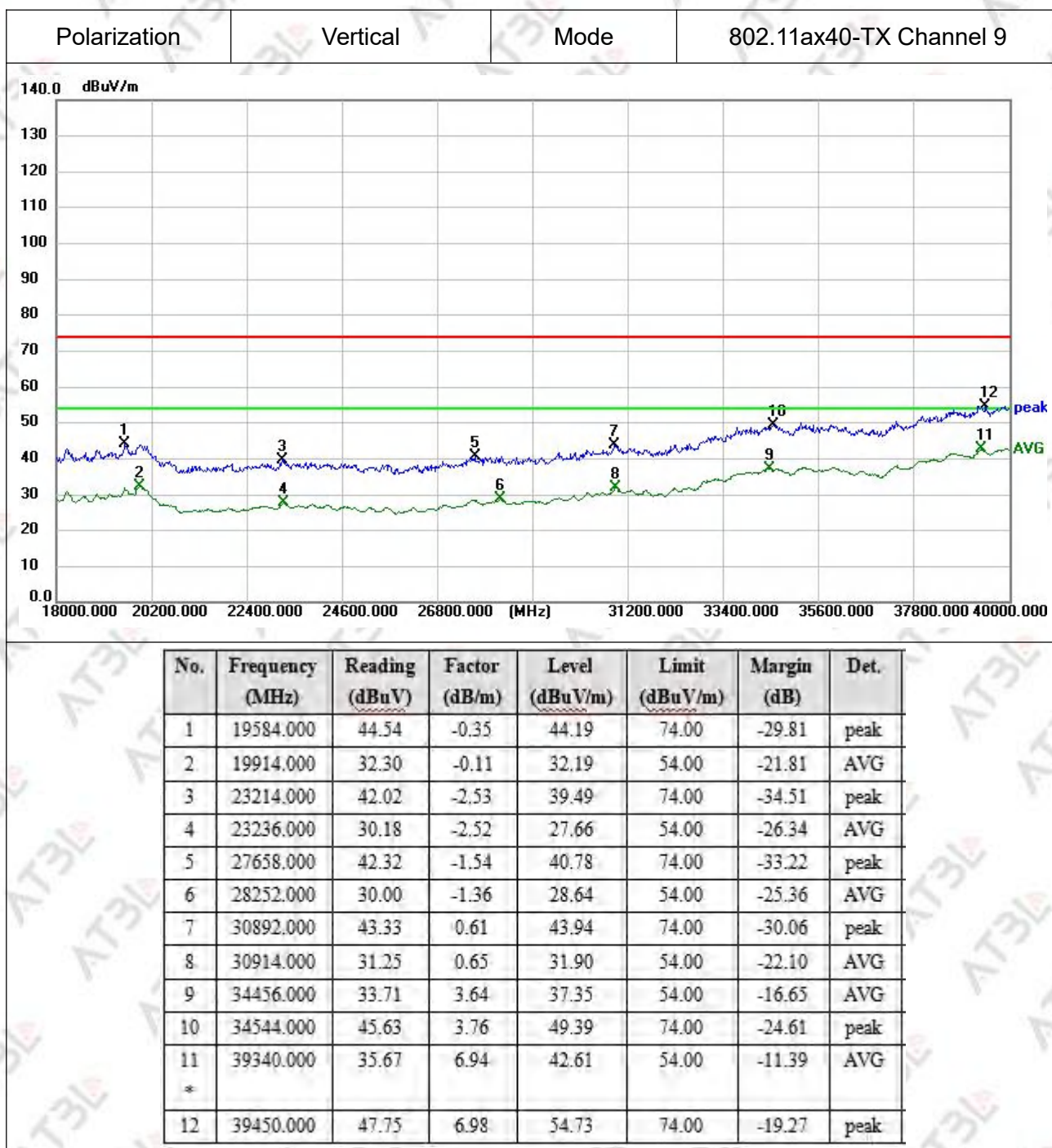


Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Pol.	
Peak:							
1	1477.500	49.1	74.0	24.9	-17.8	H	
2	2217.500	64.1	74.0	9.9	-14.1	H	
3	4902.500	59.9	74.0	14.1	-5.9	H	
Avg							
1	1477.500	40.8	54.0	13.2	-17.8	H	
2	2217.500	49.9	54.0	4.1	-14.1	H	
3	4902.500	49.4	54.0	4.6	-5.9	H	



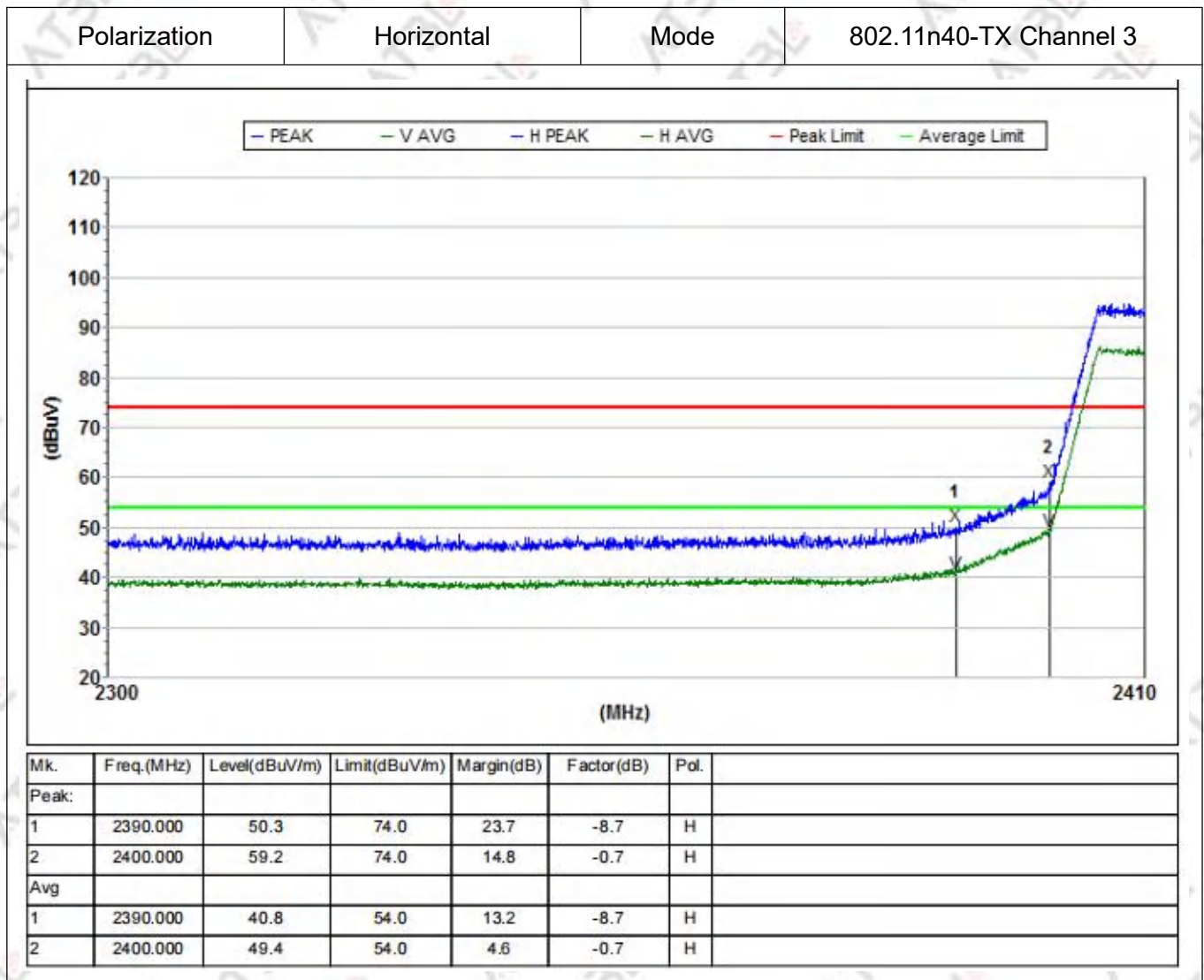
Note:All modes have been tested, only worst (802.11ax40-TX Channel 9)mode was recorded in the test report.





Test Result of Restricted Band

Note:All modes have been tested, only worst (802.11n40)mode was recorded in the test report.

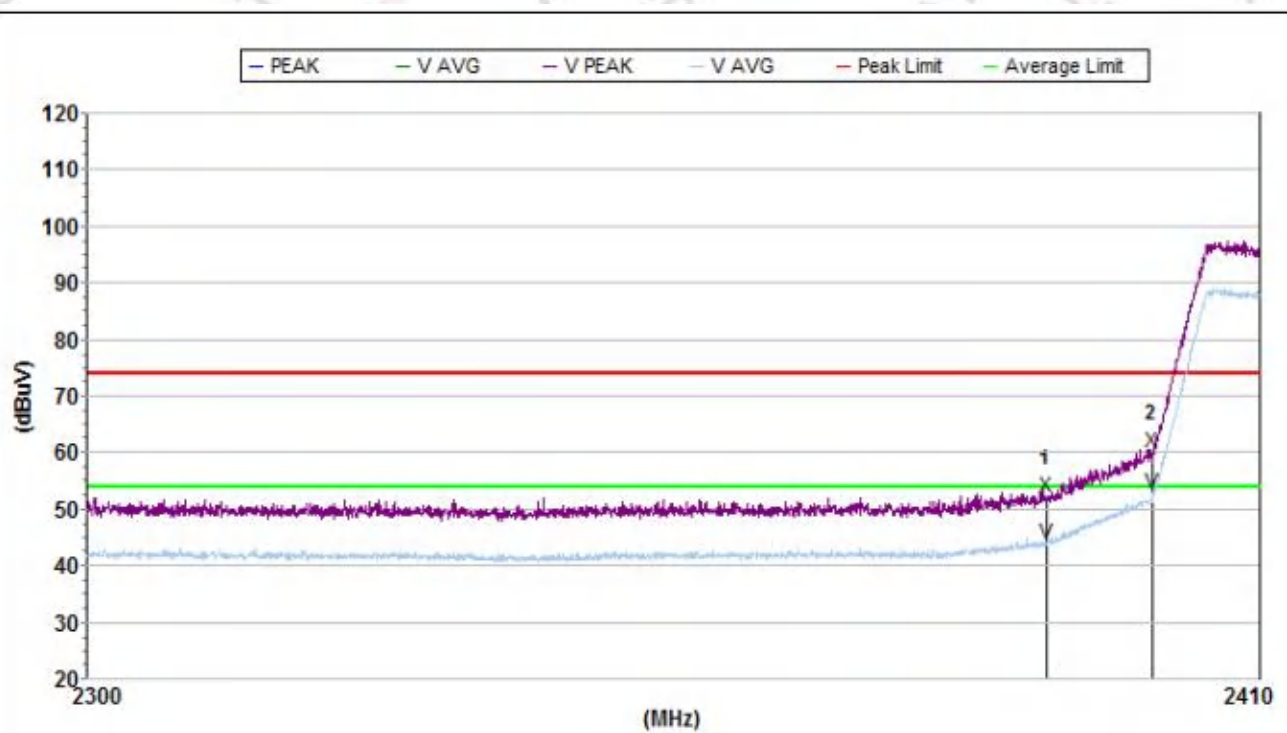


Polarization

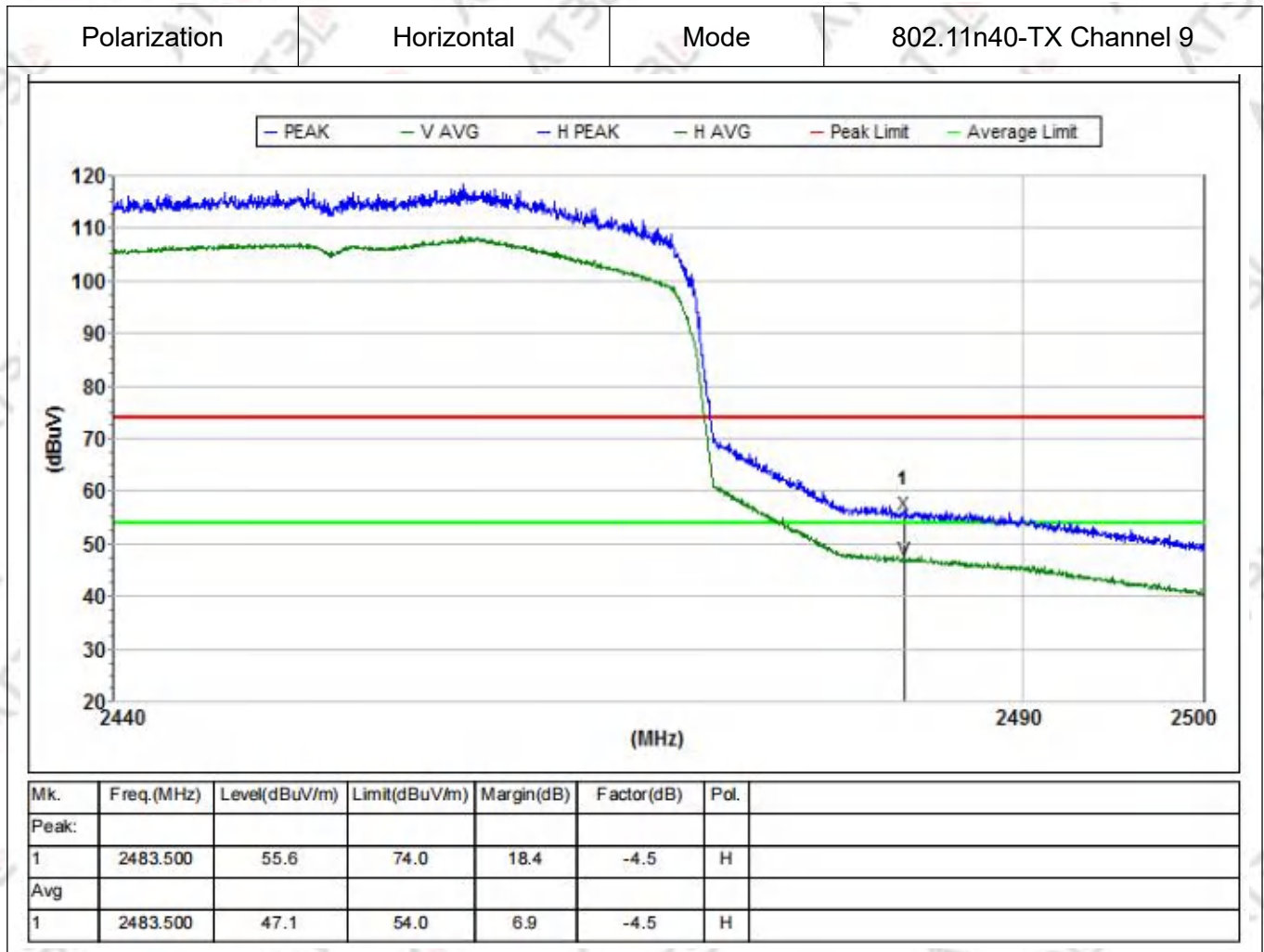
Vertical

Mode

802.11n40-TX Channel 3



Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Pol.	
Peak:							
1	2390.000	52.1	74.0	21.9	-5.8	V	
2	2400.000	60.1	74.0	13.9	2.1	V	
Avg							
1	2390.000	43.9	54.0	10.1	-5.8	V	
2	2400.000	52.9	54.0	1.1	2.1	V	

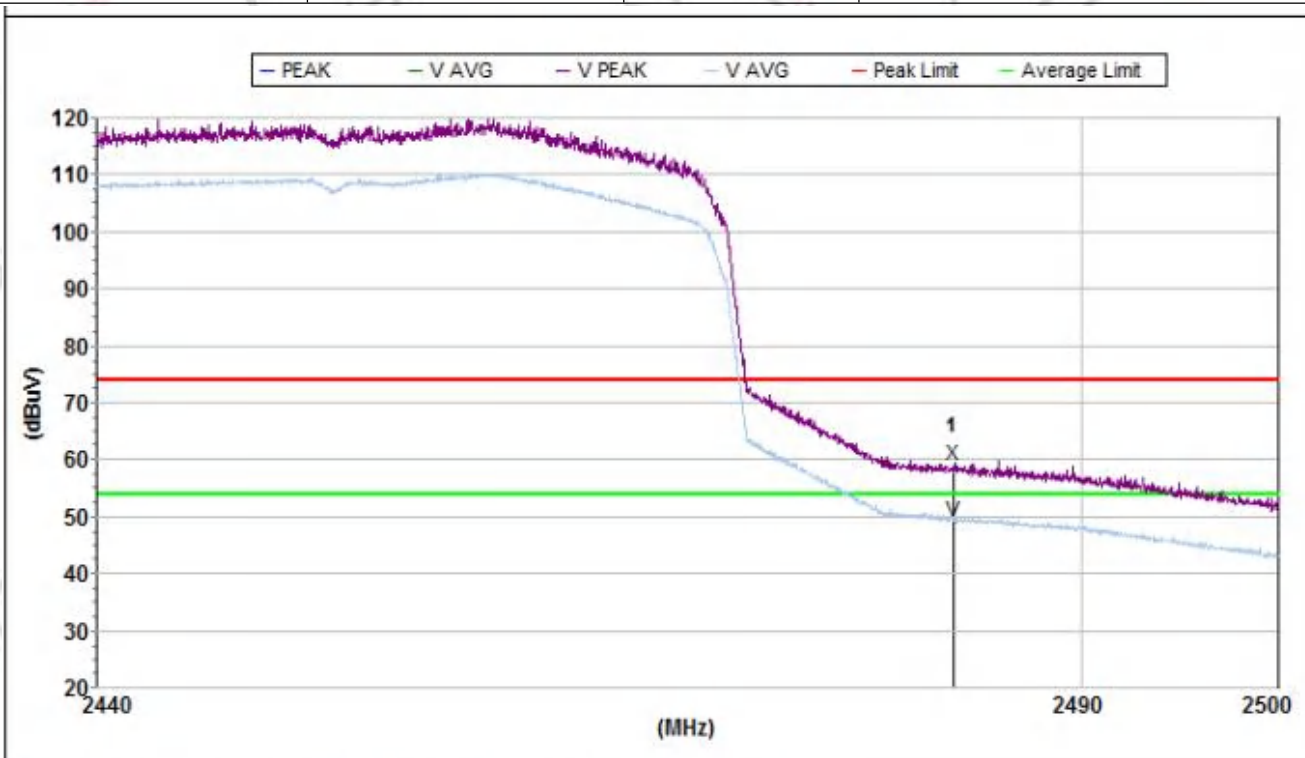


Polarization

Vertical

Mode

802.11n40-TX Channel 9

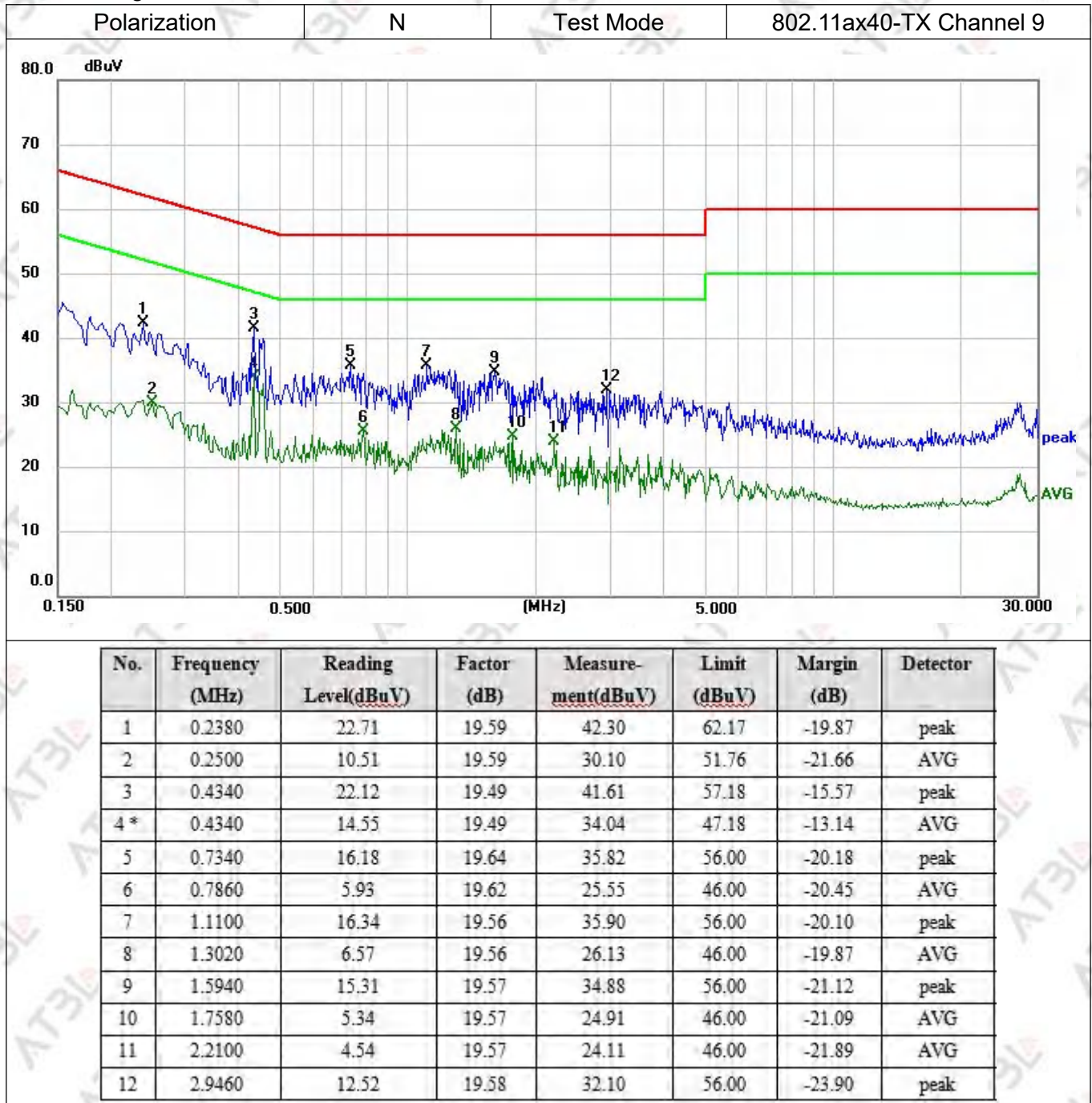


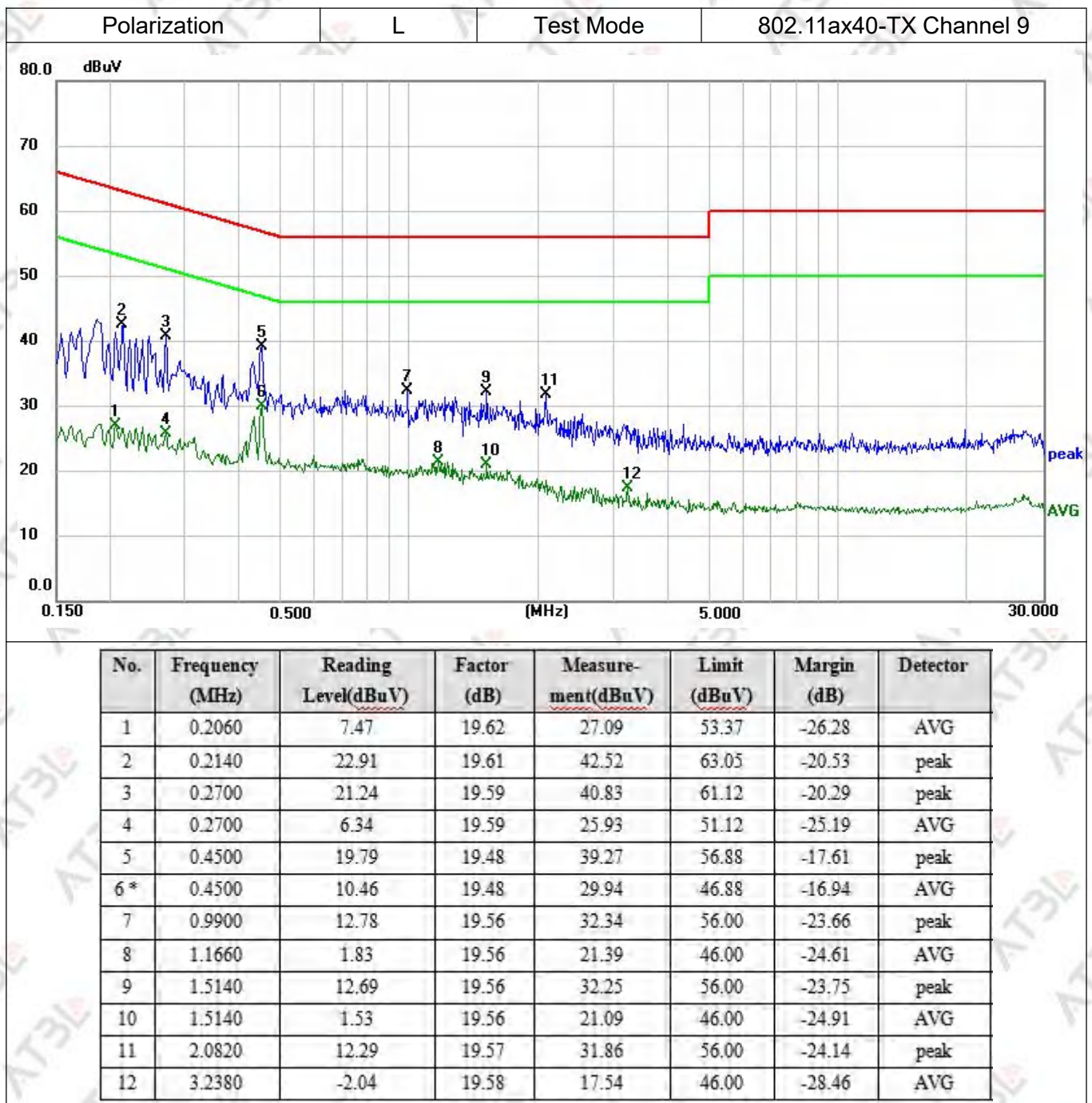
Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Pol.	
Peak:							
1	2483.500	59.2	74.0	14.8	-1.9	V	
Avg							
1	2483.500	49.3	54.0	4.7	-1.9	V	

B7.AC Power-Line Conducted Emission

Note:

- 1.All modes have been tested, only worst mode(802.11ax40-TX Channel 9) was recorded in the test report.
- 2.Emission Level = Reading Value + Correction Factor .
3. Correction Factor = Insertion loss + Cable loss.
4. The emission levels of other frequencies were less than 20dB margin against the limit.
5. Margin value = Emission level-Limit value.





*****END*****