

Appendix C of data

C1.Maximum Peak conducted output power

Test Result

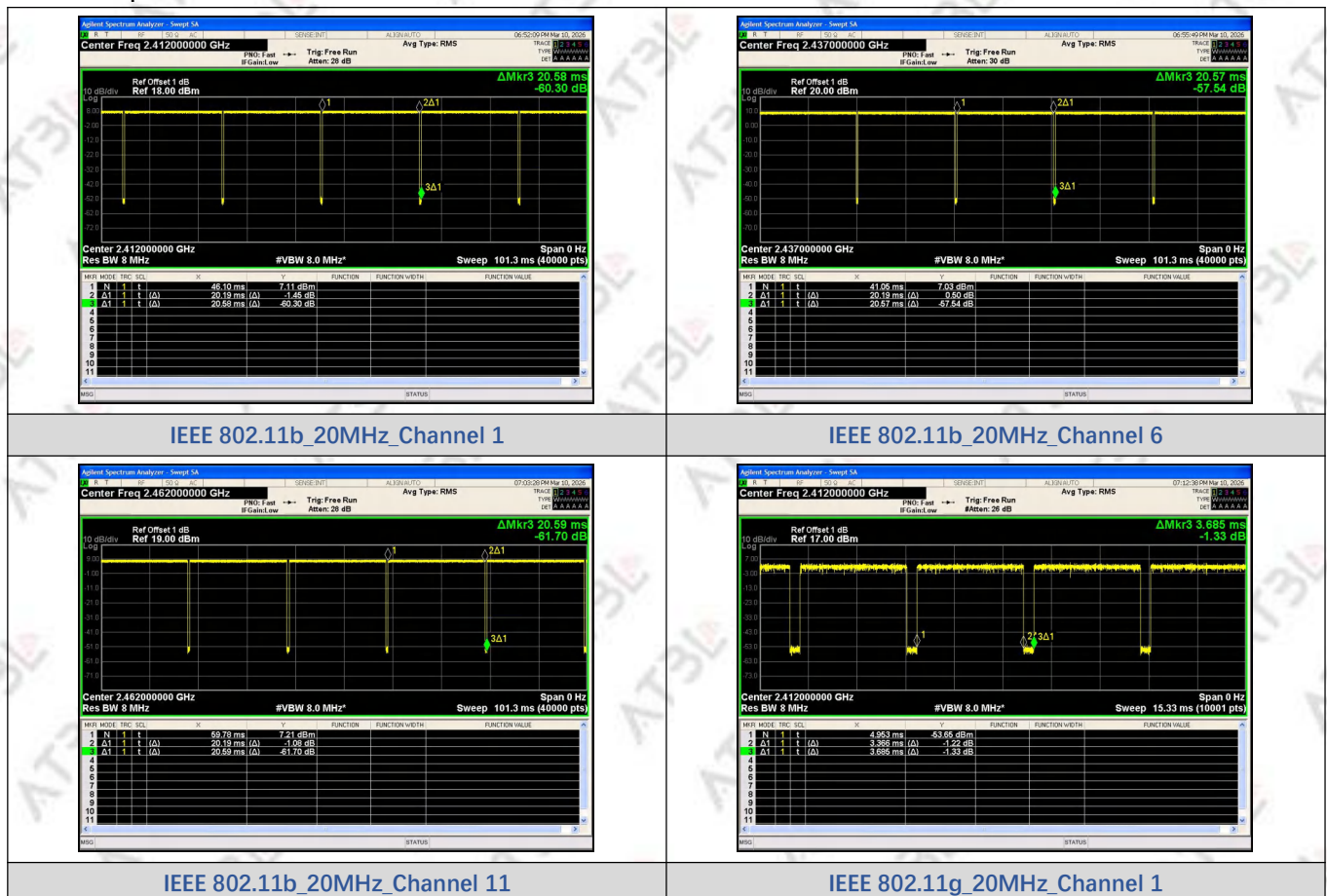
Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
IEEE 802.11b	1	12.69	≤30	PASS
	6	12.85	≤30	PASS
	11	11.73	≤30	PASS
IEEE 802.11g	1	12.65	≤30	PASS
	6	13.77	≤30	PASS
	11	12.94	≤30	PASS
IEEE 802.11n_20	1	13.82	≤30	PASS
	6	13.97	≤30	PASS
	11	14.00	≤30	PASS
IEEE 802.11n_40	3	14.04	≤30	PASS
	6	13.78	≤30	PASS
	9	13.47	≤30	PASS

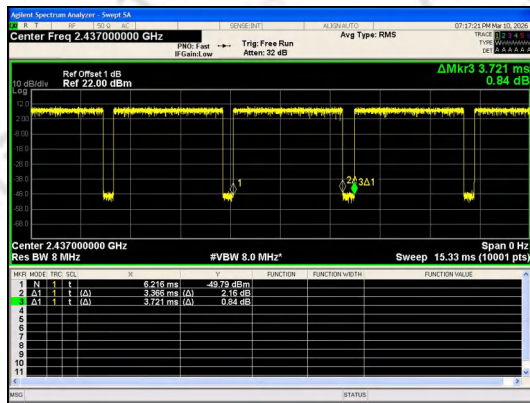
C2.Duty Cycle

Test Result

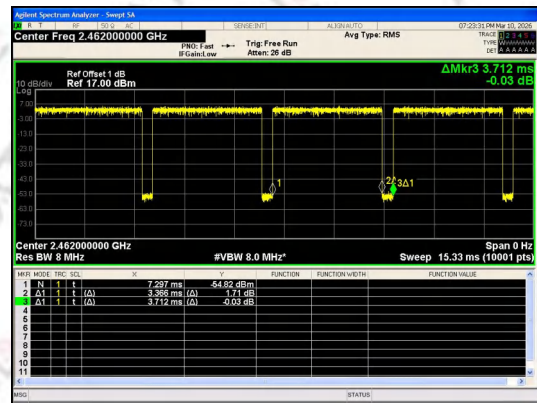
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
IEEE 802.11b	1	1	0	20.191	20.578	98.12	0.9812	0.0824
		6		20.191	20.571	98.15	0.9815	0.0811
		11		20.191	20.588	98.07	0.9807	0.0846
IEEE 802.11g	6	1		3.366	3.685	91.34	0.9134	0.3934
		6		3.366	3.721	90.44	0.9044	0.4364
		11		3.366	3.712	90.67	0.9067	0.4254
IEEE 802.11n_20	MCS 0	1		2.818	3.137	89.83	0.8983	0.4658
		6		2.818	3.137	89.83	0.8983	0.4658
		11		2.818	3.137	89.83	0.8983	0.4658
IEEE 802.11n_40		3		1.376	1.696	81.13	0.8113	0.9082
		6		1.375	1.696	81.07	0.8107	0.9114
		9		1.376	1.696	81.13	0.8113	0.9082

Test Graphs

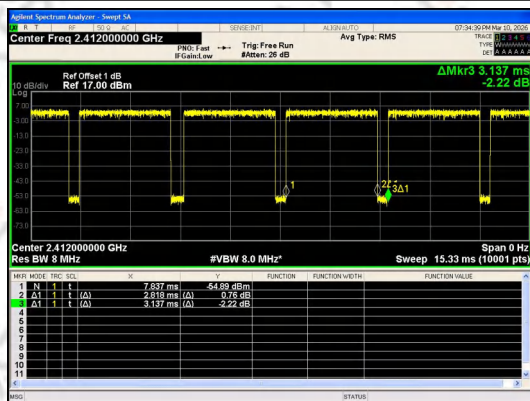




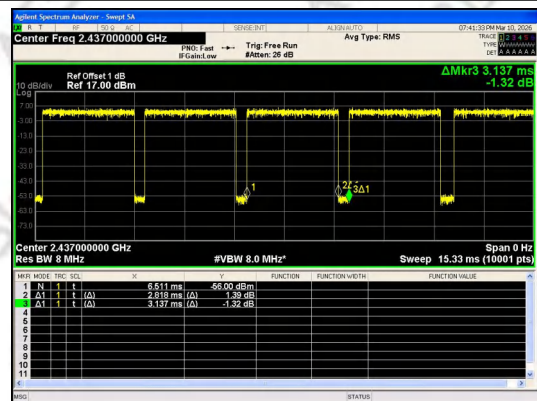
IEEE 802.11g 20MHz_Channel 6



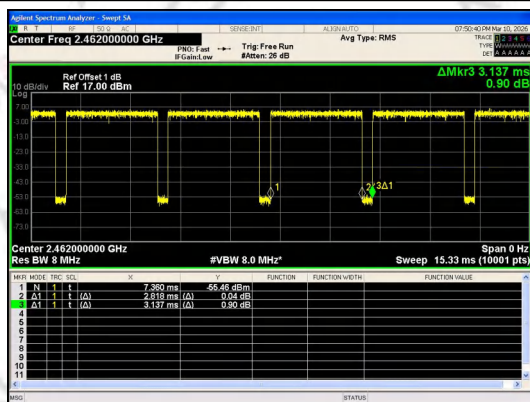
IEEE 802.11g 20MHz_Channel 11



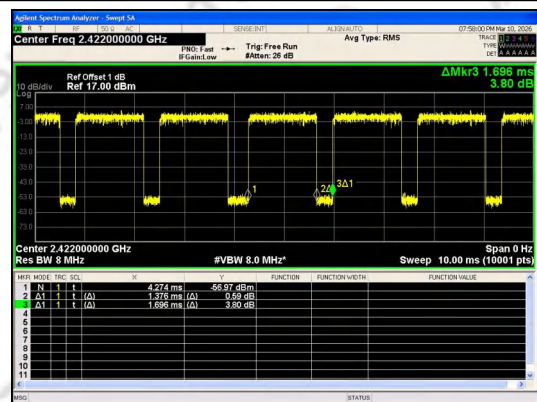
IEEE 802.11n 20MHz_Channel 1



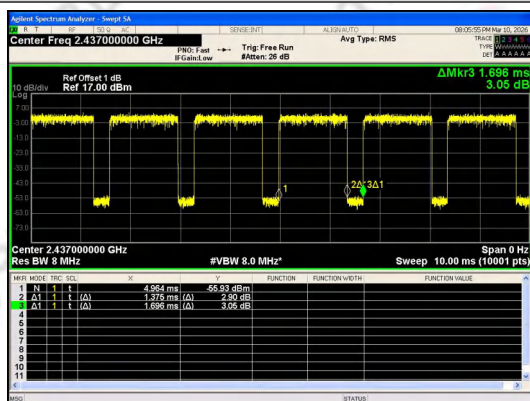
IEEE 802.11n 20MHz_Channel 6



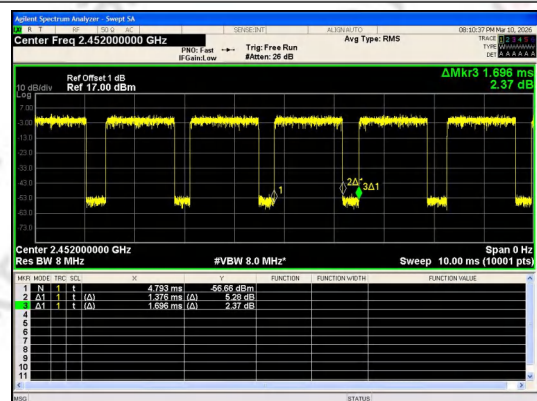
IEEE 802.11n 20MHz_Channel 11



IEEE 802.11n 40MHz_Channel 3



IEEE 802.11n 40MHz_Channel 6



IEEE 802.11n 40MHz_Channel 9

C3.6dB Bandwidth

Test Result

Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	9.680	≥0.5	PASS
	6		2437	9.670		PASS
	11		2462	9.700		PASS
IEEE 802.11g	1		2412	16.36		PASS
	6		2437	16.32		PASS
	11		2462	16.42		PASS
IEEE 802.11n_20	1		2412	17.27		PASS
	6		2437	17.43		PASS
	11		2462	17.33		PASS
IEEE 802.11n_40	3		2422	28.95		PASS
	6		2437	33.79		PASS
	9		2452	26.56		PASS

Test Graphs



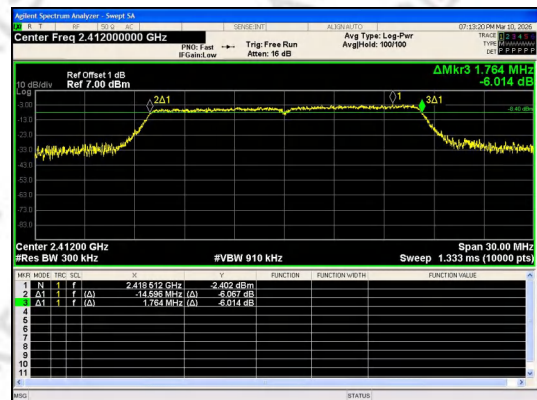
IEEE 802.11b_Channel 1_20MHz_Antenna 0



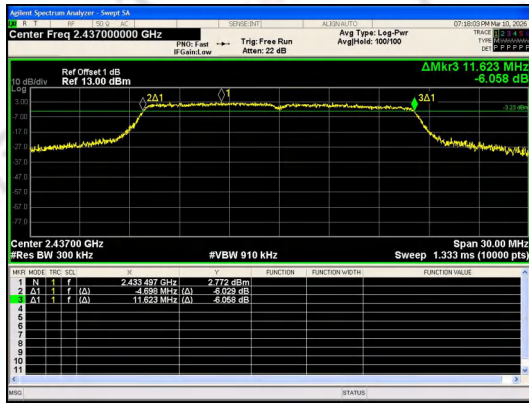
IEEE 802.11b_Channel 6_20MHz_Antenna 0



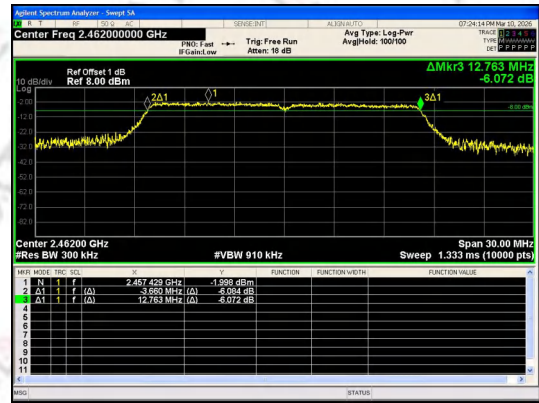
IEEE 802.11b_Channel 11_20MHz_Antenna 0



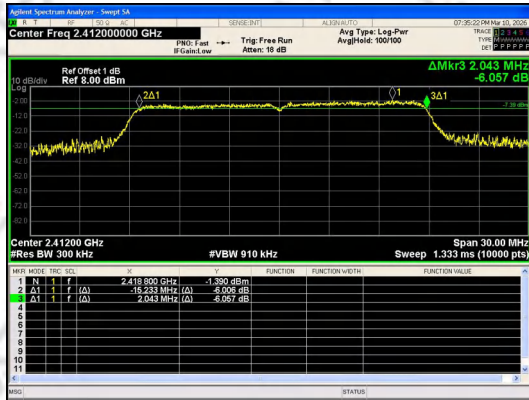
IEEE 802.11g_Channel 1_20MHz_Antenna 0



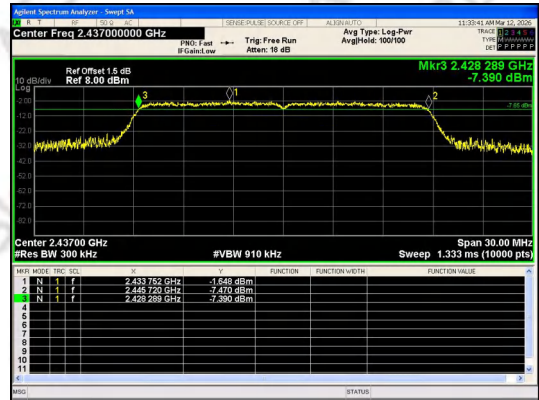
IEEE 802.11g_Channel 6_20MHz_Antenna 0



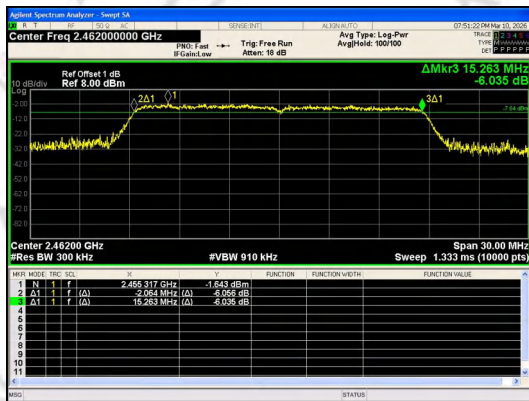
IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



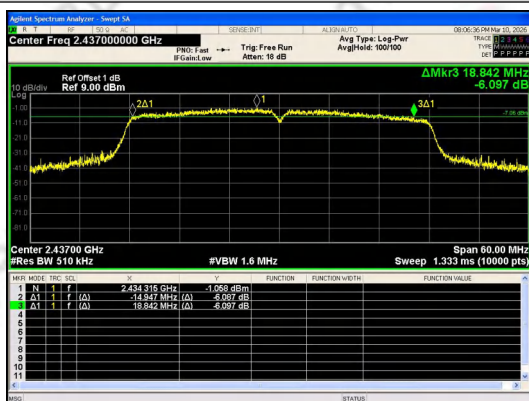
IEEE 802.11n_Channel 6_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



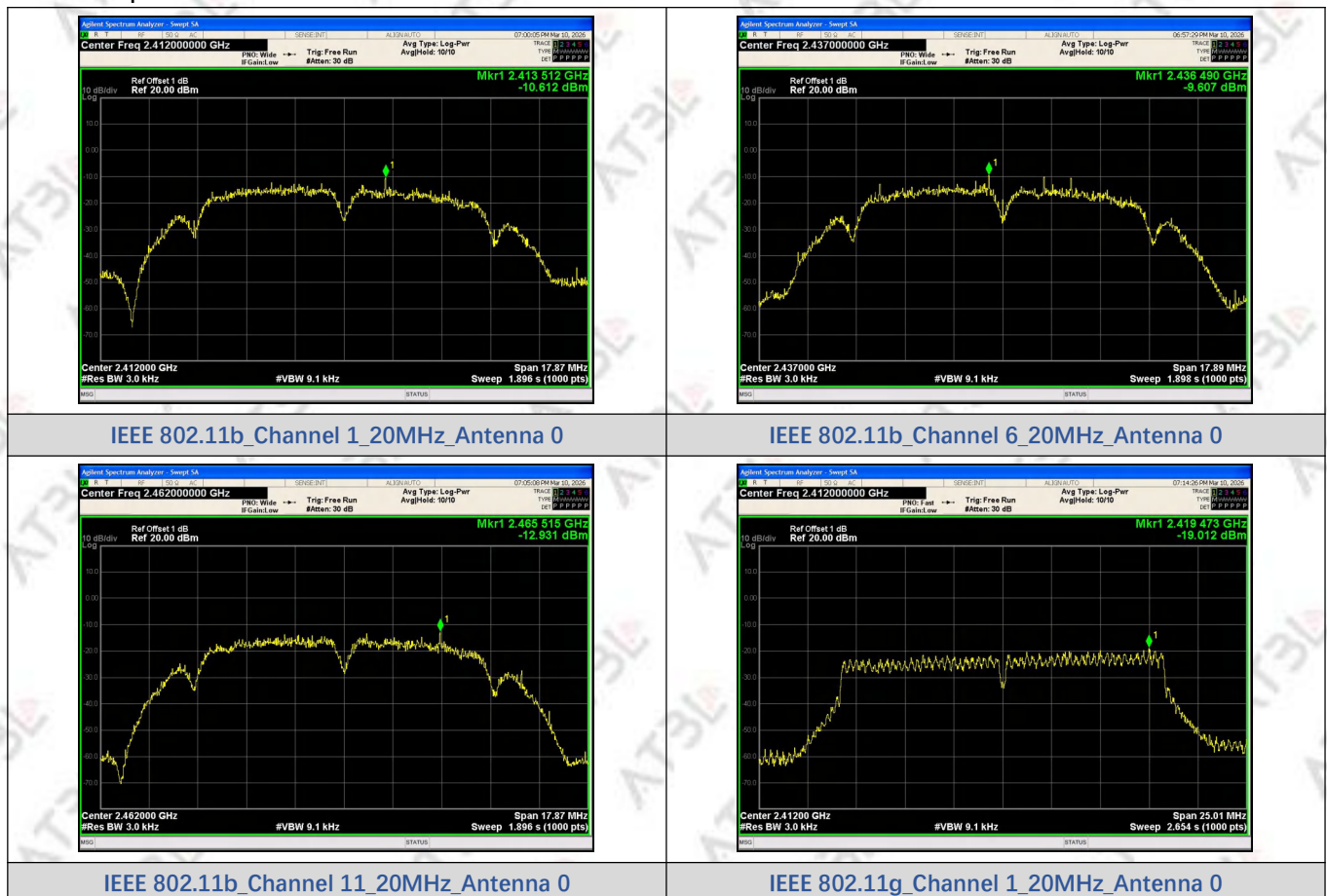
IEEE 802.11n_Channel 9_40MHz_Antenna 0

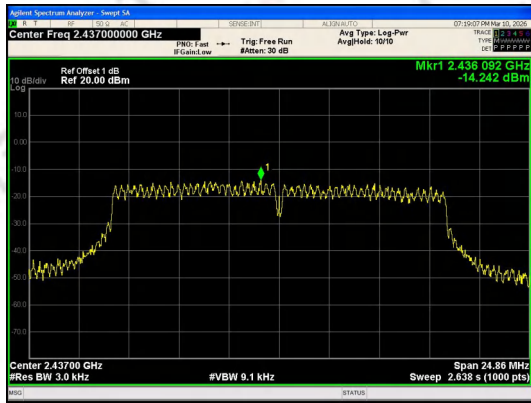
C4.Power Spectral Density

Test Result

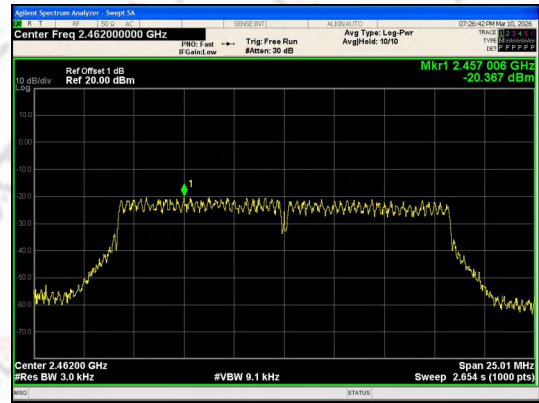
Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-10.61	≤8	PASS
	6	-9.61		PASS
	11	-12.93		PASS
IEEE 802.11g	1	-19.01		PASS
	6	-14.24		PASS
	11	-20.37		PASS
IEEE 802.11n_20	1	-18.47		PASS
	6	-18.29		PASS
	11	-18.79		PASS
IEEE 802.11n_40	3	-19.67		PASS
	6	-20.88		PASS
	9	-18.79		PASS

Test Graphs

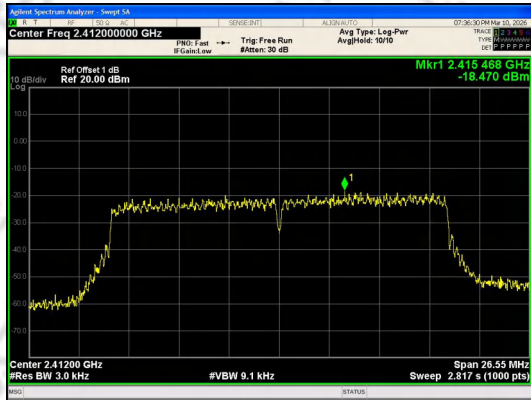




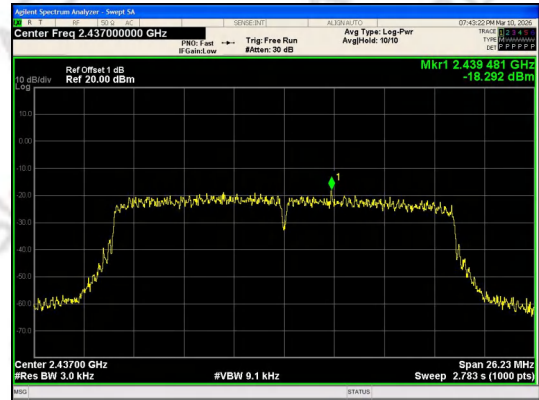
IEEE 802.11g_Channel 6_20MHz_Antenna 0



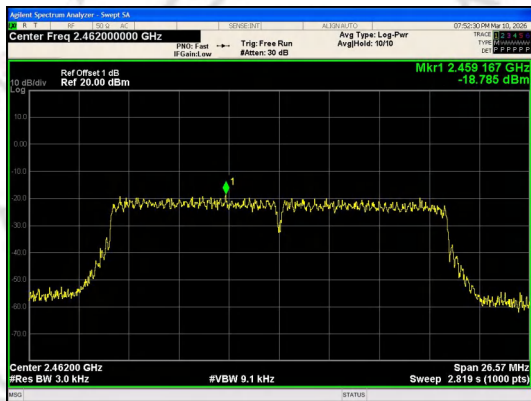
IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



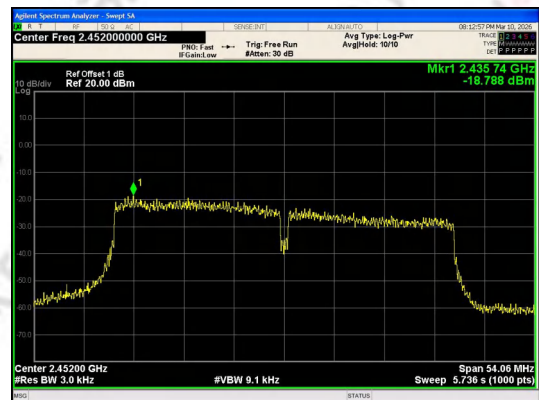
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

C5.Conducted Spurious & Band Edge Emission

Mode	Channel	Ant	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	-40.976	N/A	-40.976	-19.78	-21.196	PASS	
			2400.00	-41.119	N/A	-41.119	-19.78	-21.339	PASS	
			24958.2	-41.083	1.36	-39.723	-19.78	-21.303	PASS	
	6		24897.0	-40.559	1.36	-39.199	-18.53	-22.029	PASS	
			11	2483.50	-48.798	N/A	-48.798	-19.86	-28.938	PASS
				24894.5	-40.439	1.36	-39.079	-19.86	-20.579	PASS
IEEE 802.11g	1		2398.92	-36.860	N/A	-36.860	-24.87	-11.990	PASS	
			2400.00	-38.211	N/A	-38.211	-24.87	-13.341	PASS	
			24934.5	-40.208	1.36	-38.848	-24.87	-15.338	PASS	
	6		24902.0	-40.781	1.36	-39.421	-19.23	-21.551	PASS	
			11	2483.50	-46.584	N/A	-46.584	-25.14	-21.444	PASS
				24835.2	-40.834	1.36	-39.474	-25.14	-15.694	PASS
IEEE 802.11n_20	1		2396.06	-36.079	N/A	-36.079	-24.33	-11.749	PASS	
			2400.00	-37.101	N/A	-37.101	-24.33	-12.771	PASS	
			24845.8	-40.576	1.36	-39.216	-24.33	-16.246	PASS	
	6		24898.2	-39.957	1.36	-38.597	-24.28	-15.677	PASS	
			11	2483.50	-45.576	N/A	-45.576	-24.68	-20.896	PASS
				24860.8	-40.715	1.36	-39.355	-24.68	-16.035	PASS

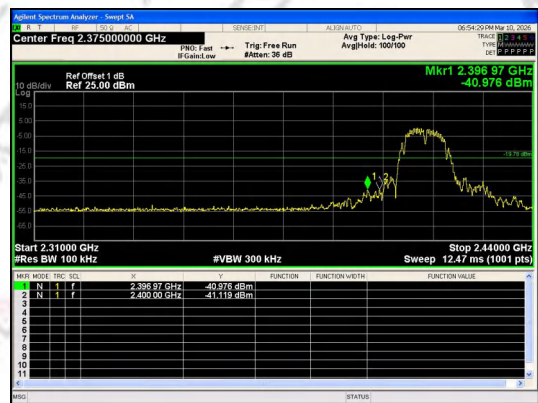
IEEE 802.11n_4 0	3		2398.53	-39.616	N/A	-39.616	-24.5 4	-15.07 6	PASS
			2400.00	-41.450	N/A	-41.450	-24.5 4	-16.91 0	PASS
			24832.1	-40.884	1.36	-39.524	-24.5 4	-16.34 4	PASS
	6		24857.7	-40.928	1.36	-39.568	-25.9 6	-14.96 8	PASS
		9		2483.50	-44.484	N/A	-44.484	-24.1 9	-20.29 4
			24906.4	-40.640	1.36	-39.28	-24.1 9	-16.45 0	PASS
Note: 1. input compensation coefficient (dB)= Cable Loss (dB) 2. 2.30MHz~25GHz OOB Emission Level final resulut cable loss was added. maximum cable Loss is 2.36 dB (When the frequency reaches 25GHz, add an additional compensation of 1.36dB for Cable Loss.)									3.

Test Graphs



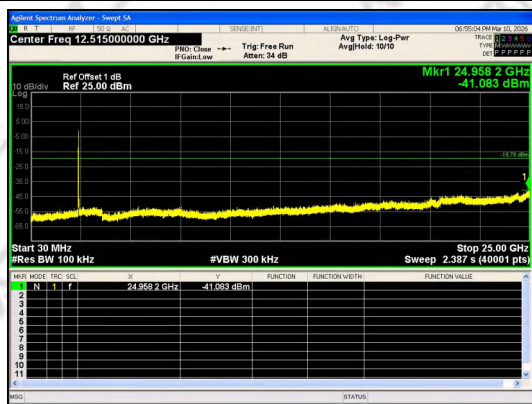
In-Band Reference Level

IEEE 802.11b_Channel 1_20MHz_Antenna 0



Out Of Band Emission

IEEE 802.11b_Channel 1_20MHz_Antenna 0



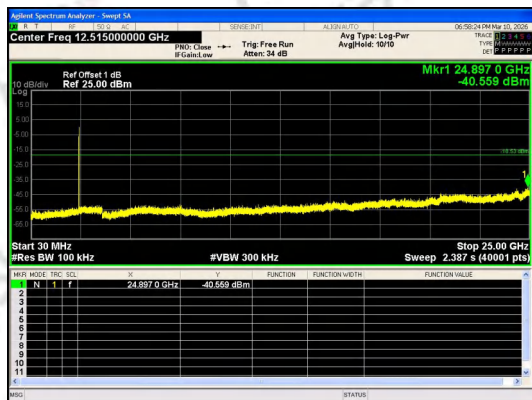
30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 1_20MHz_Antenna 0



In-Band Reference Level

IEEE 802.11b_Channel 6_20MHz_Antenna 0



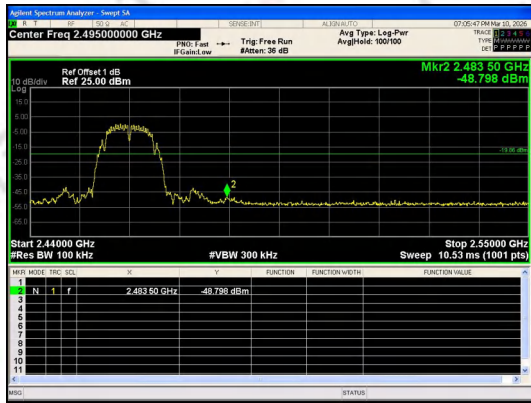
30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 6_20MHz_Antenna 0



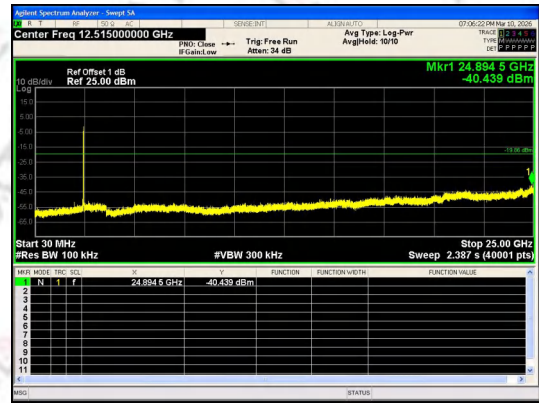
In-Band Reference Level

IEEE 802.11b_Channel 11_20MHz_Antenna 0



Out Of Band Emission

IEEE 802.11b_Channel 11_20MHz_Antenna 0



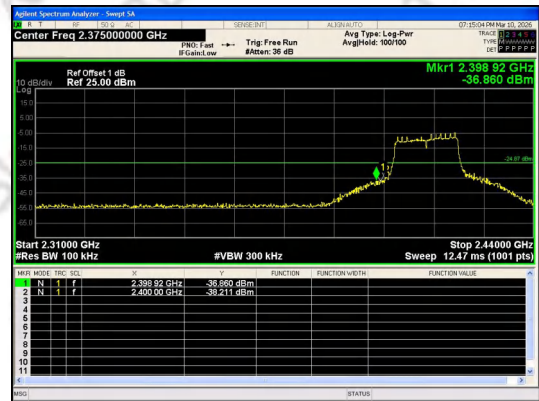
30.0 MHz - 25000.0 MHz

IEEE 802.11b_Channel 11_20MHz_Antenna 0



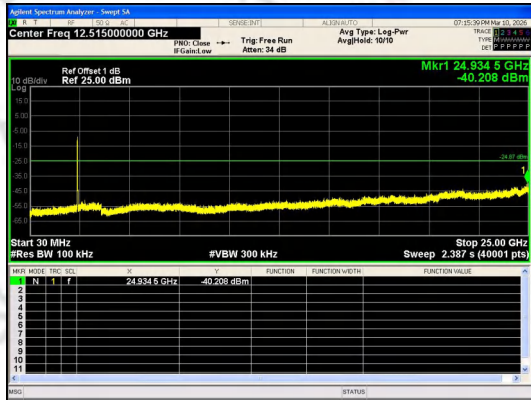
In-Band Reference Level

IEEE 802.11g_Channel 1_20MHz_Antenna 0



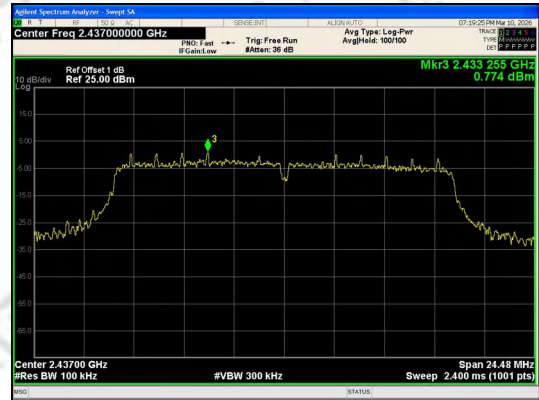
Out Of Band Emission

IEEE 802.11g_Channel 1_20MHz_Antenna 0



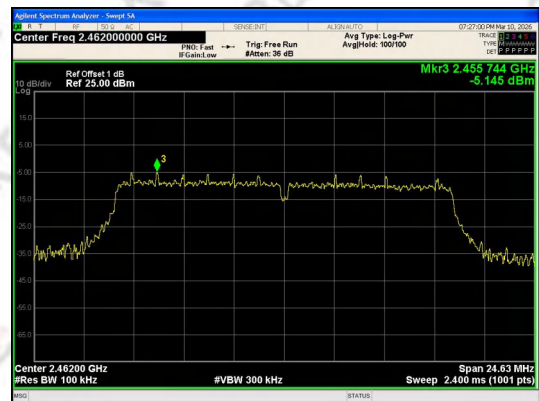
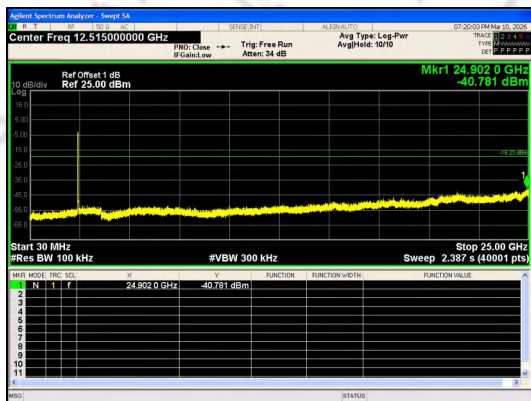
30.0 MHz - 25000.0 MHz

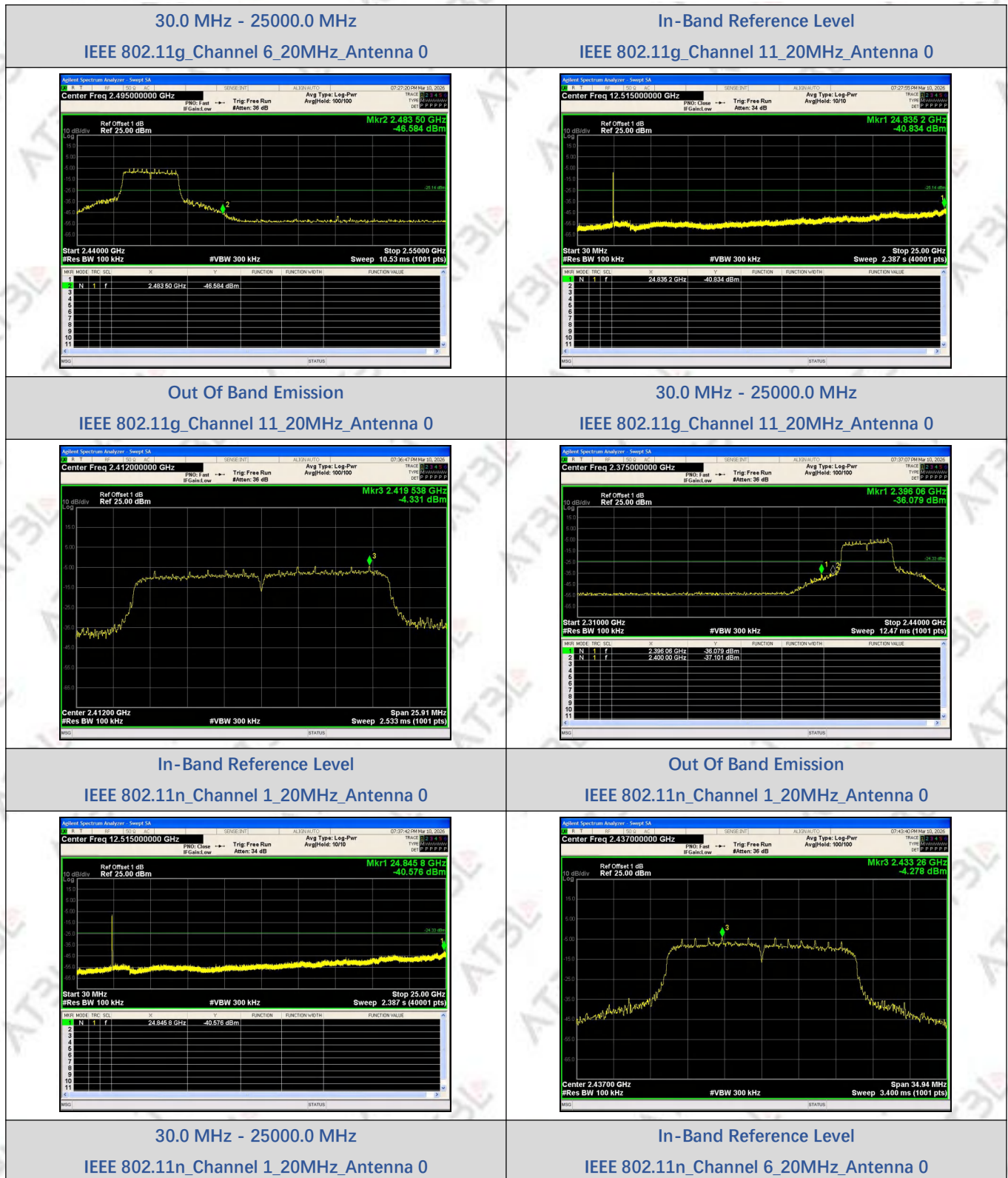
IEEE 802.11g_Channel 1_20MHz_Antenna 0

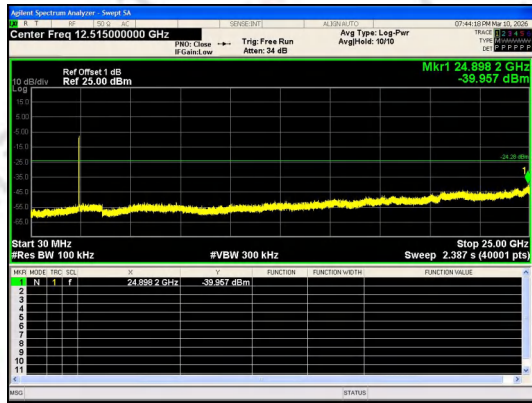


In-Band Reference Level

IEEE 802.11g_Channel 6_20MHz_Antenna 0







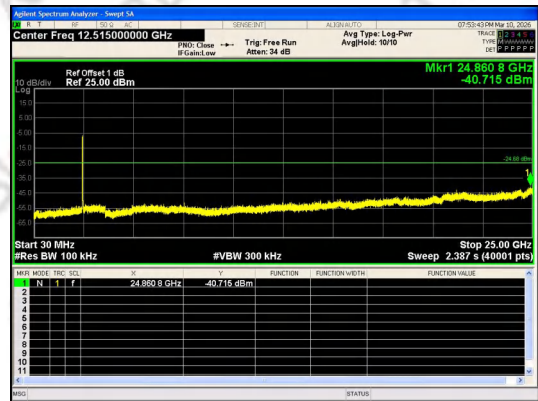
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



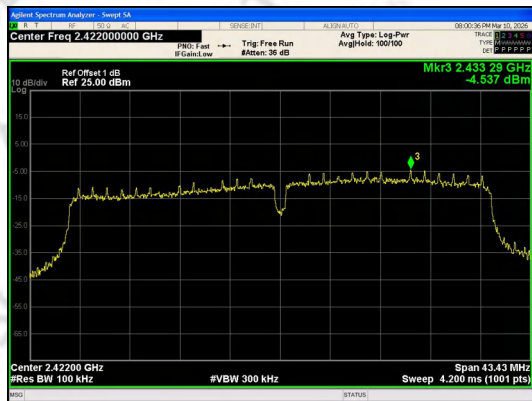
In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



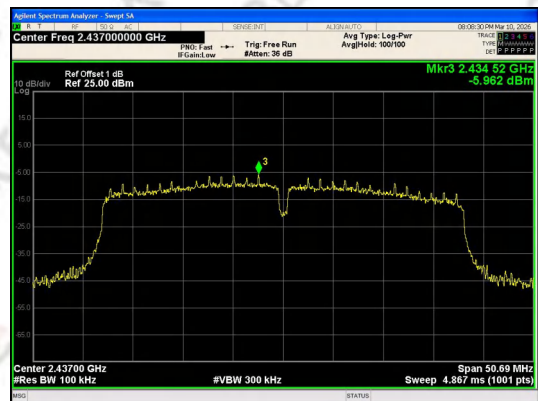
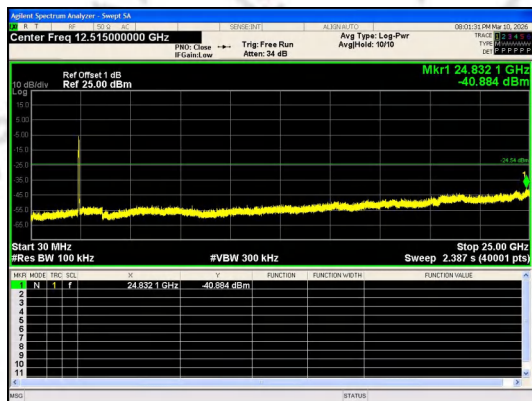
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0

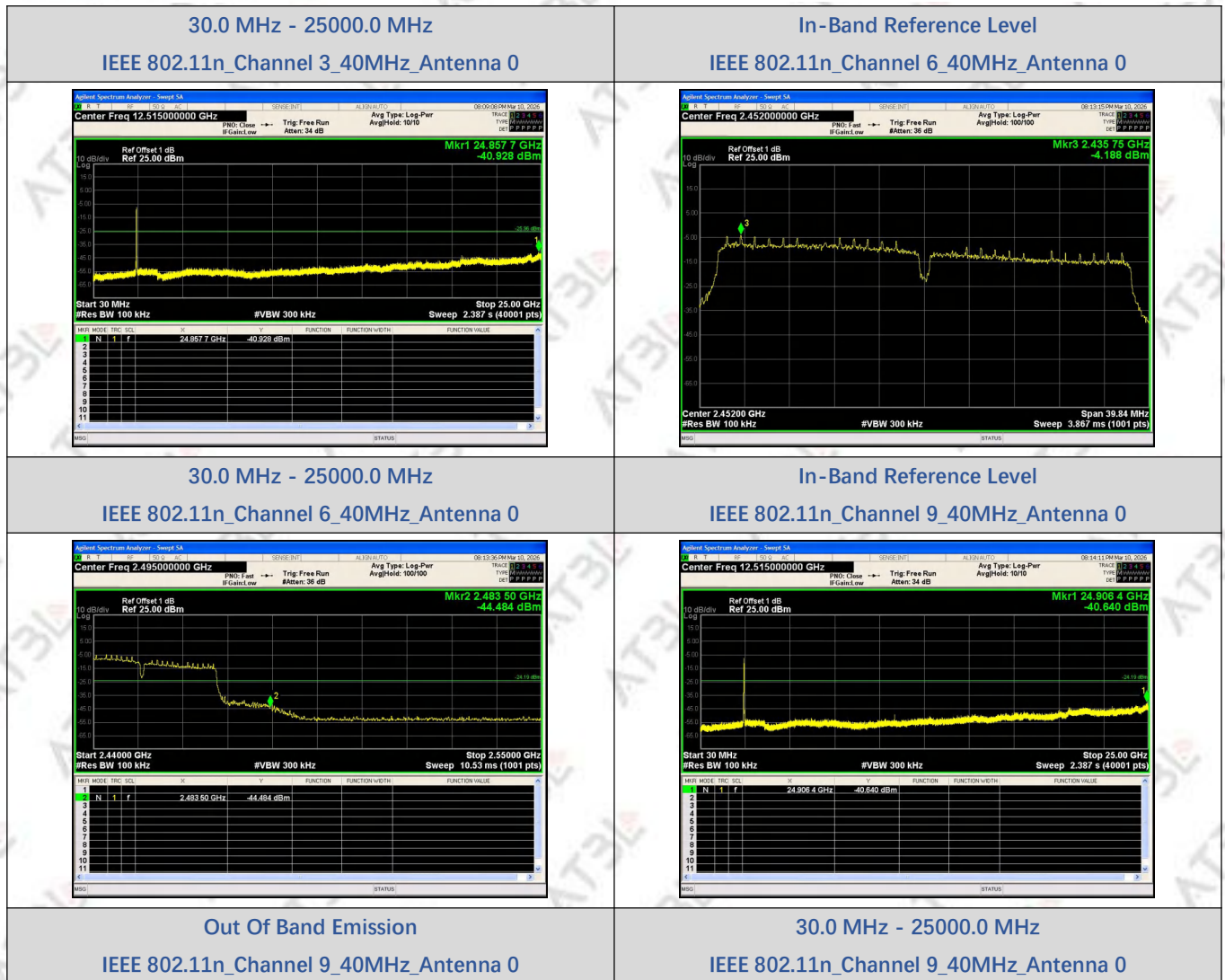


In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0





C5.Radiated Spurious Emission and Restricted Band

For 9 kHz ~ 30 MHz

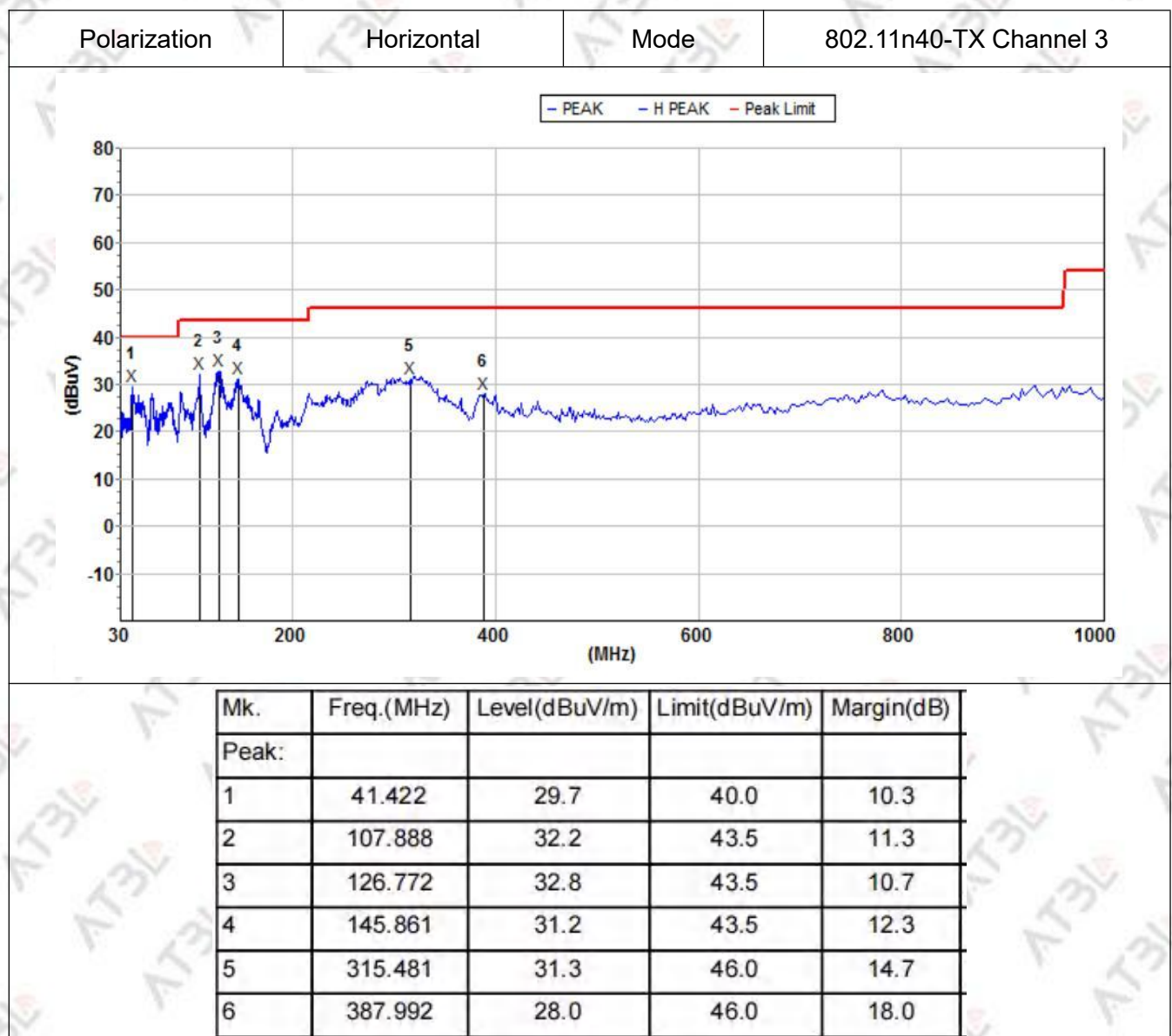
Note:

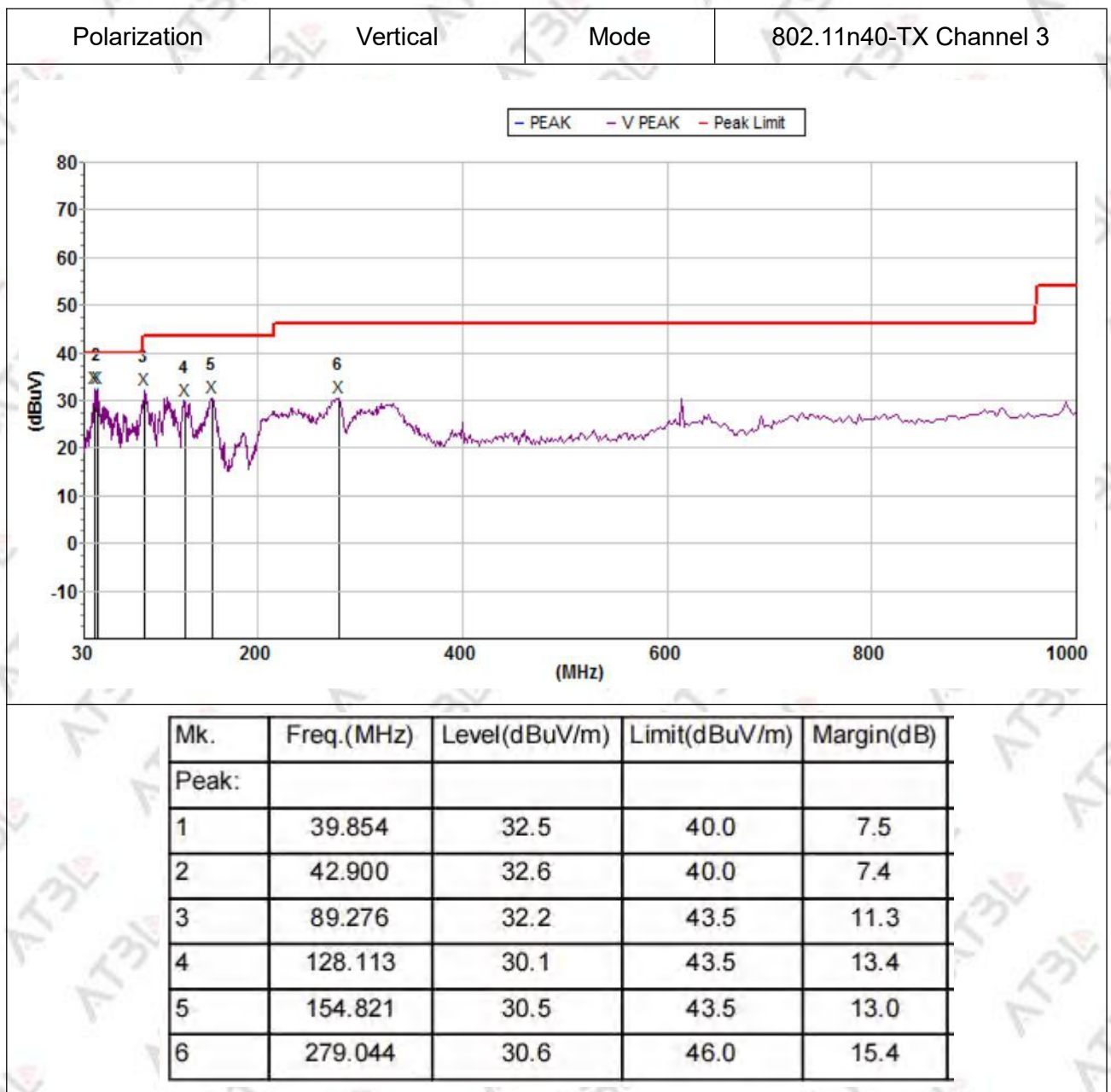
- 1.The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.
- 2.The all data rate modes had been test, but only worse test data was recorded in the test report.

Below 1GHz:

Note:

- 1.All modes have been tested, only worst (802.11n40-TX Channel 3)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.

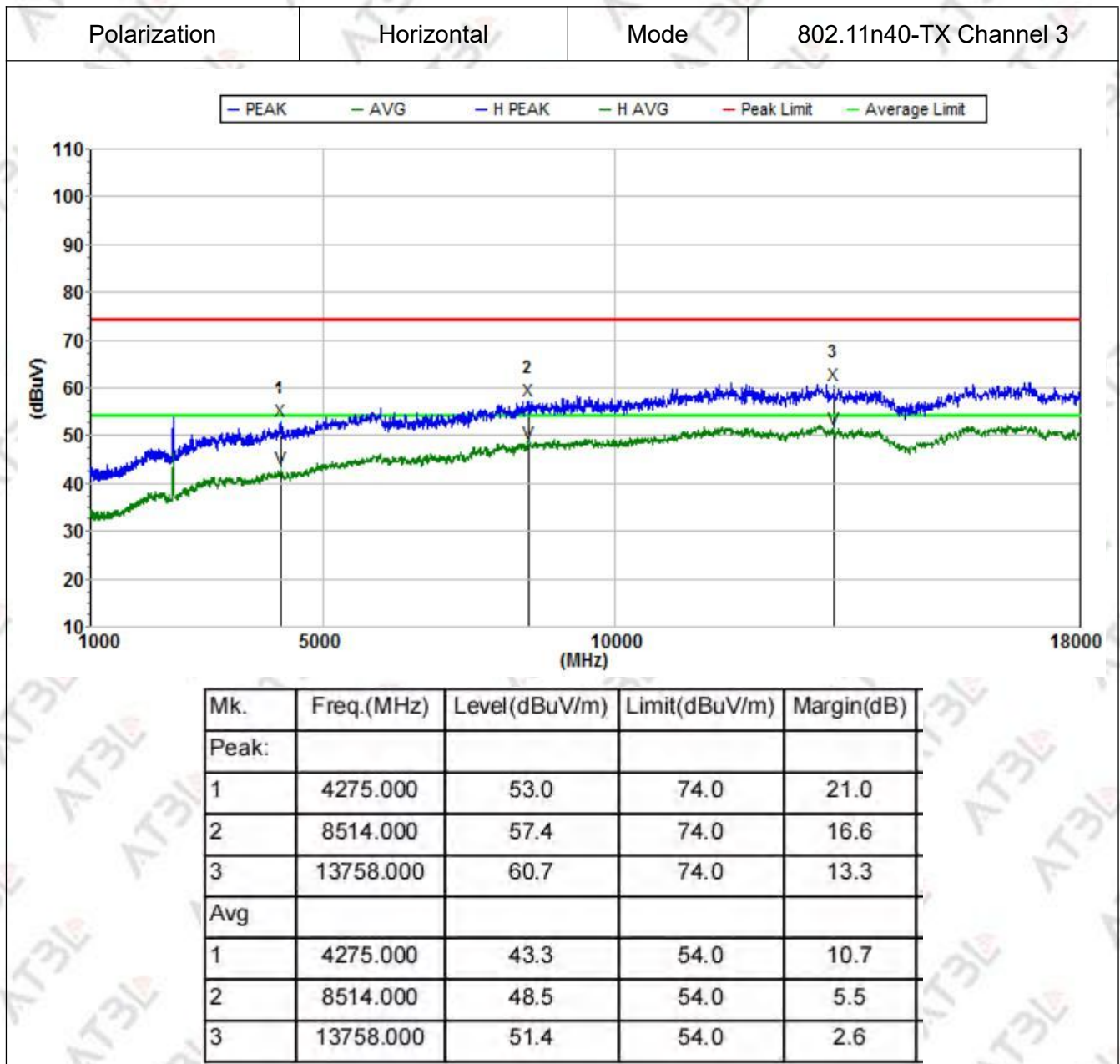


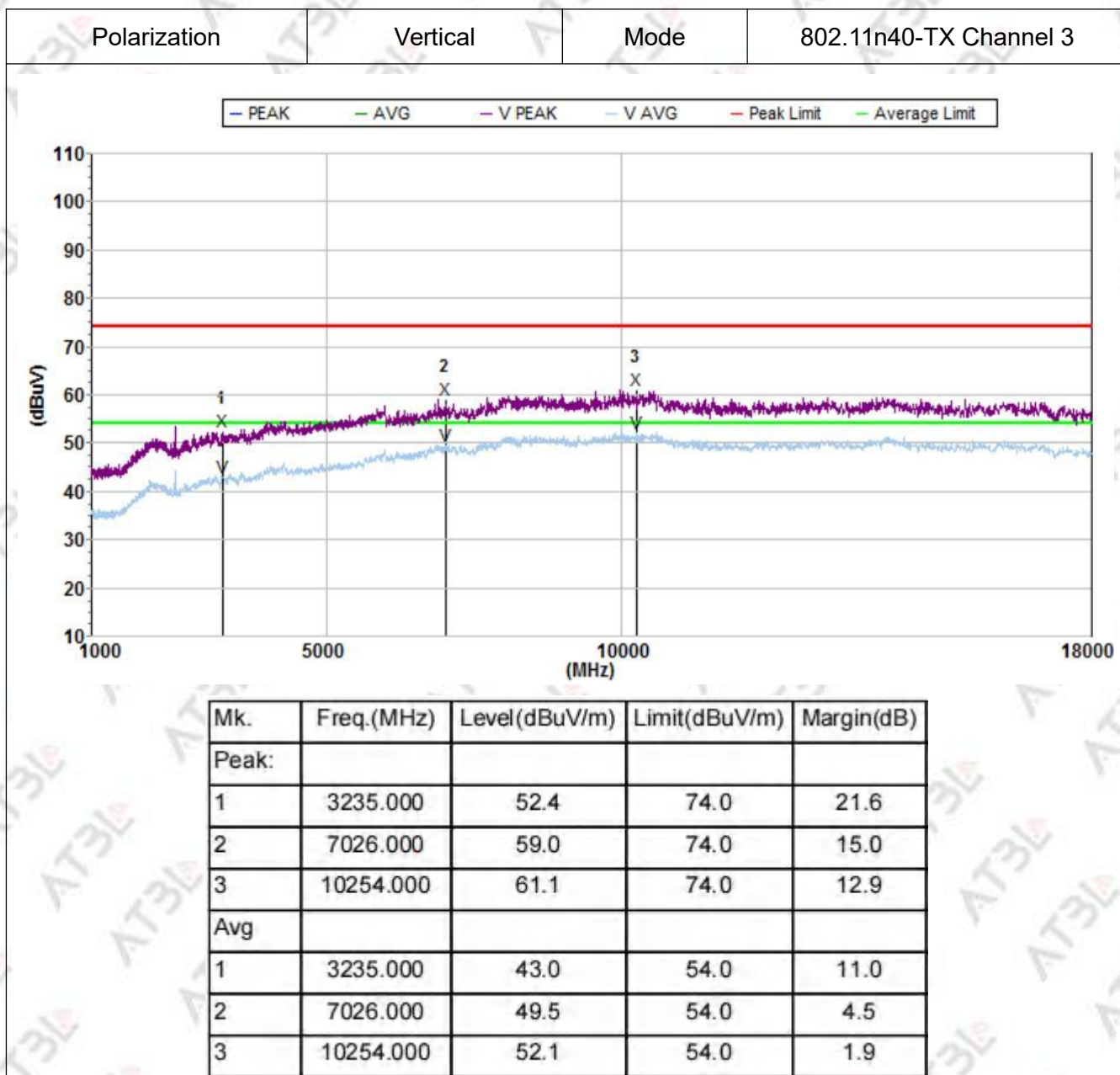


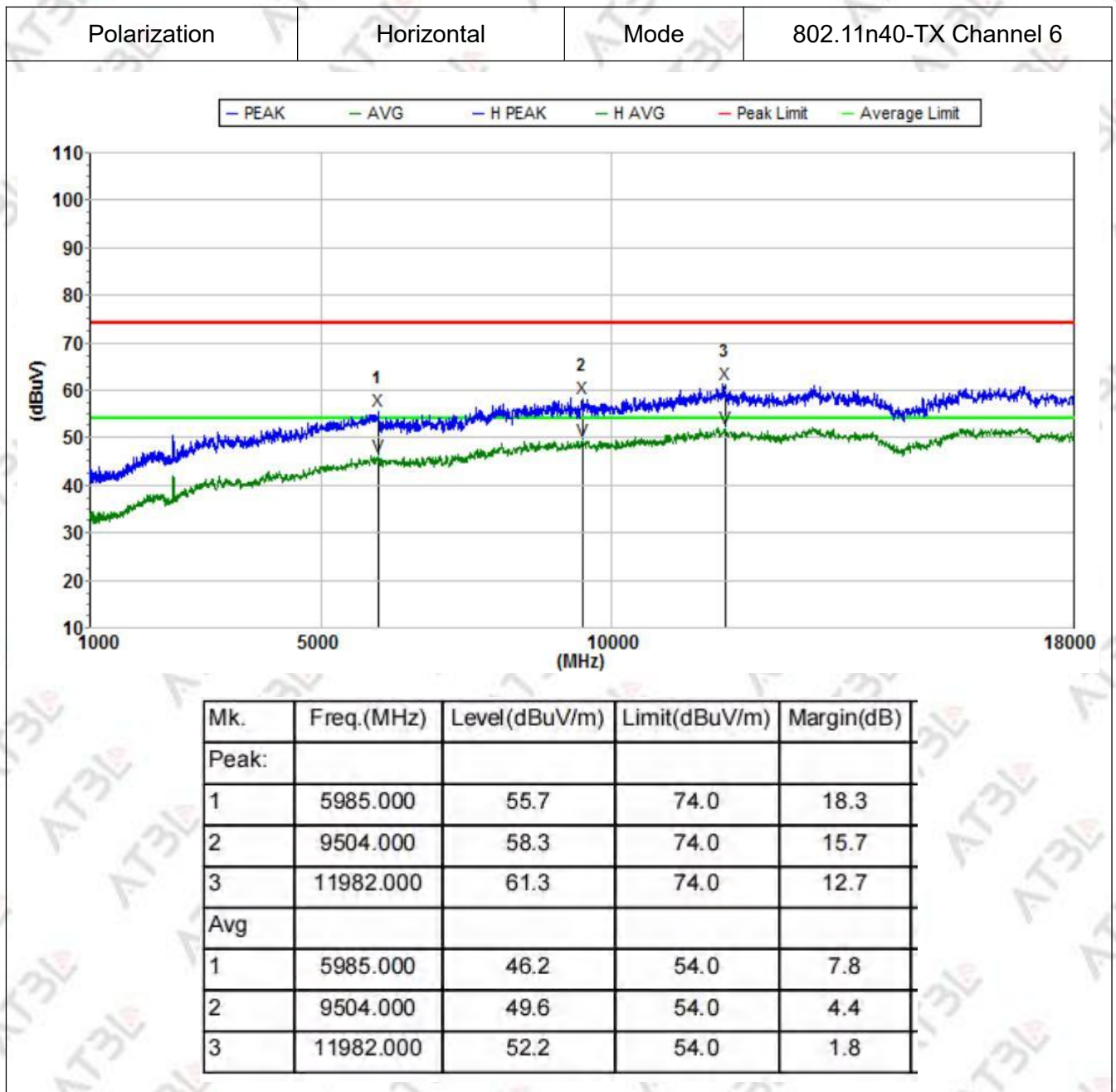
Above 1GHz:

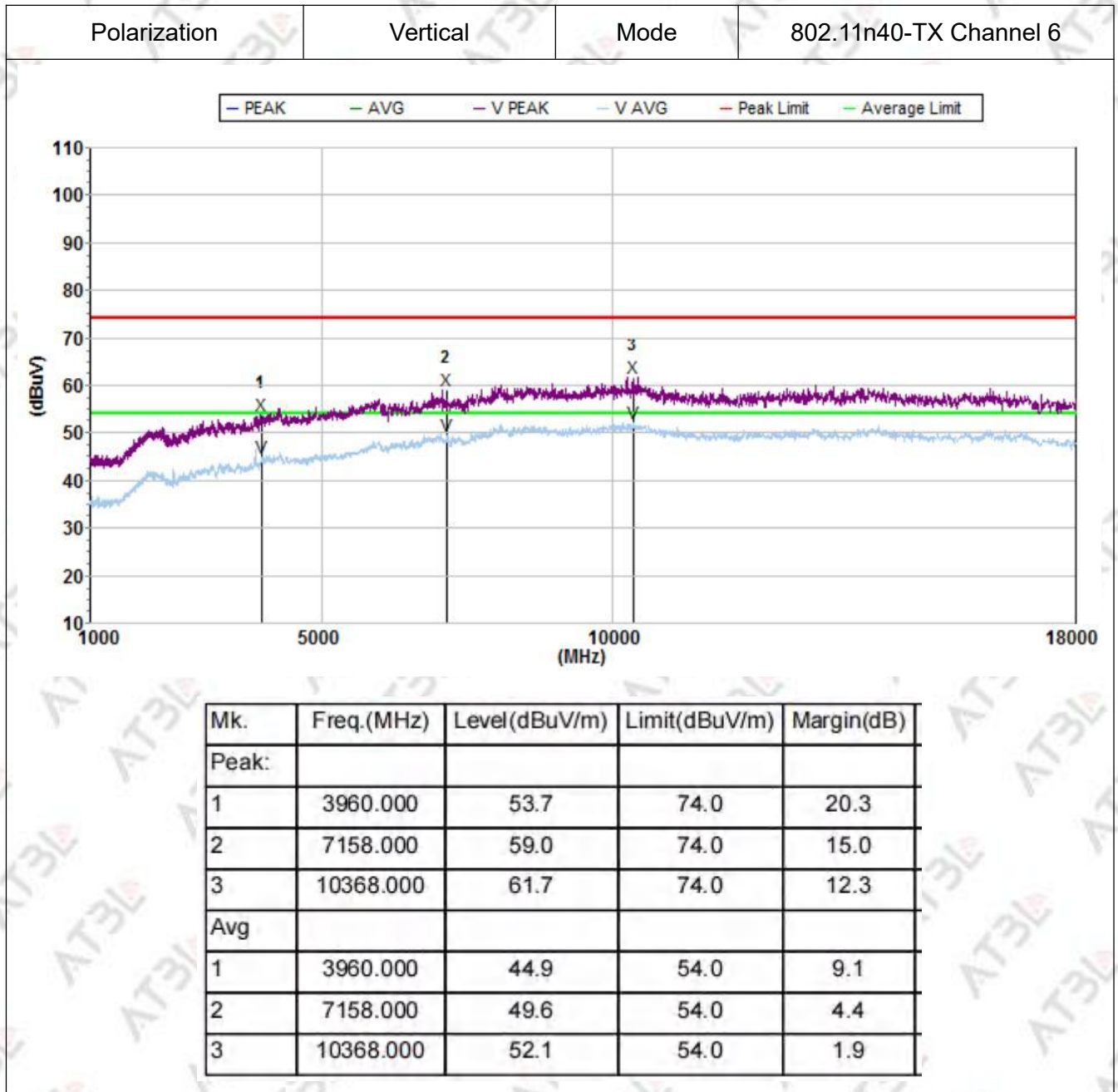
Note:

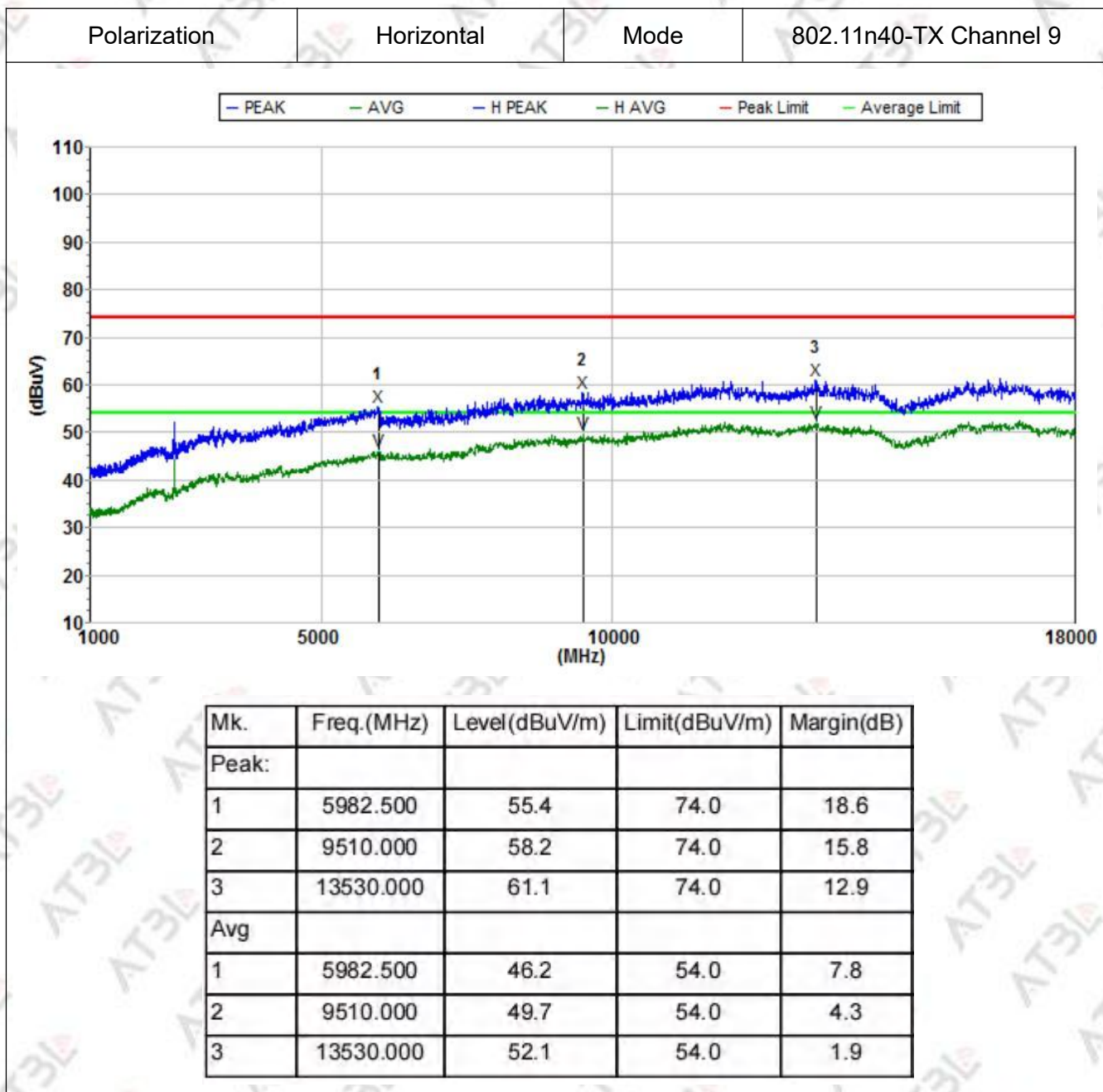
- 1.All modes have been tested, only worst (802.11n40)mode was recorded in the test report.
- 2.In frequency ranges 18 ~40GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less 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.

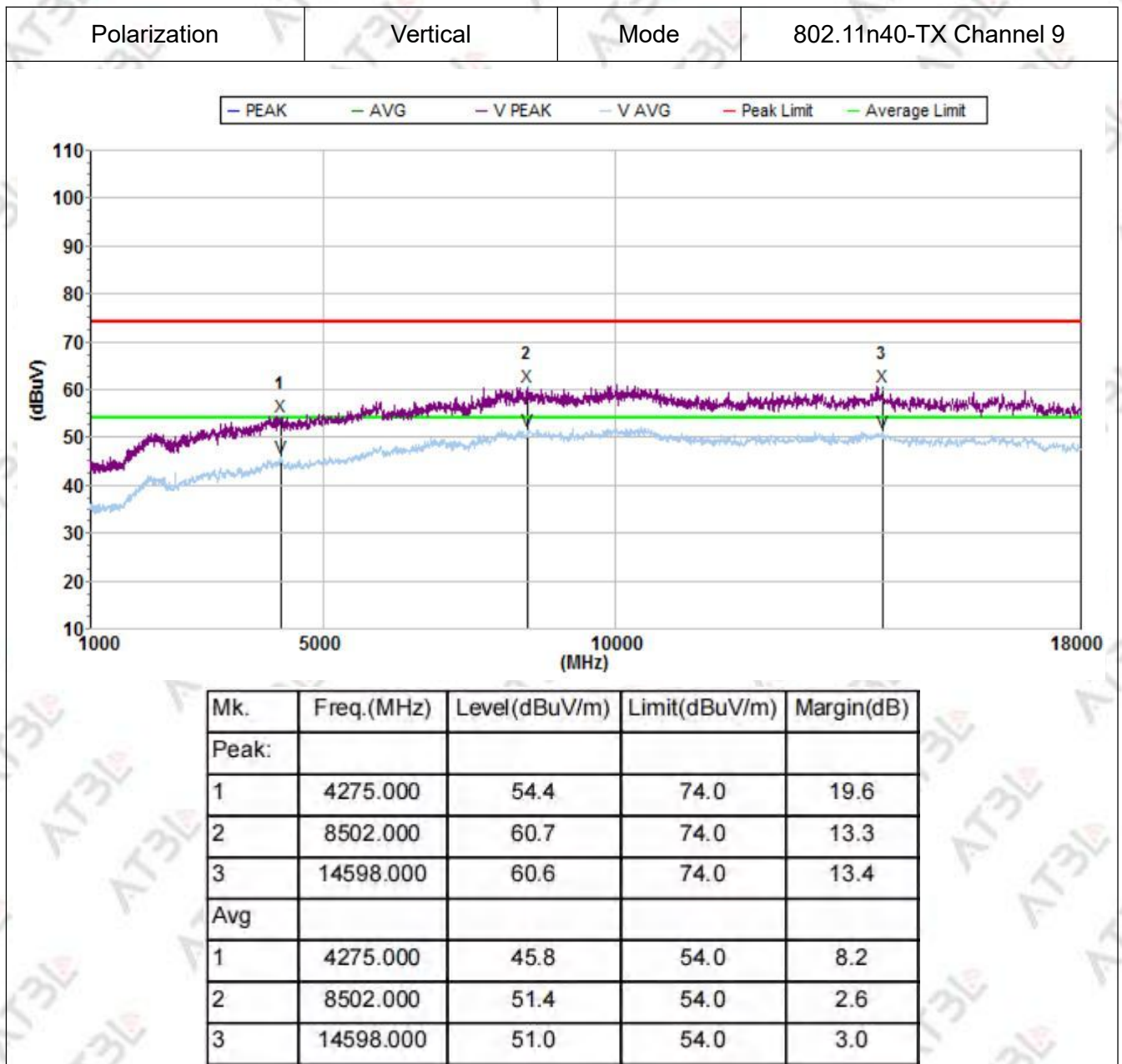




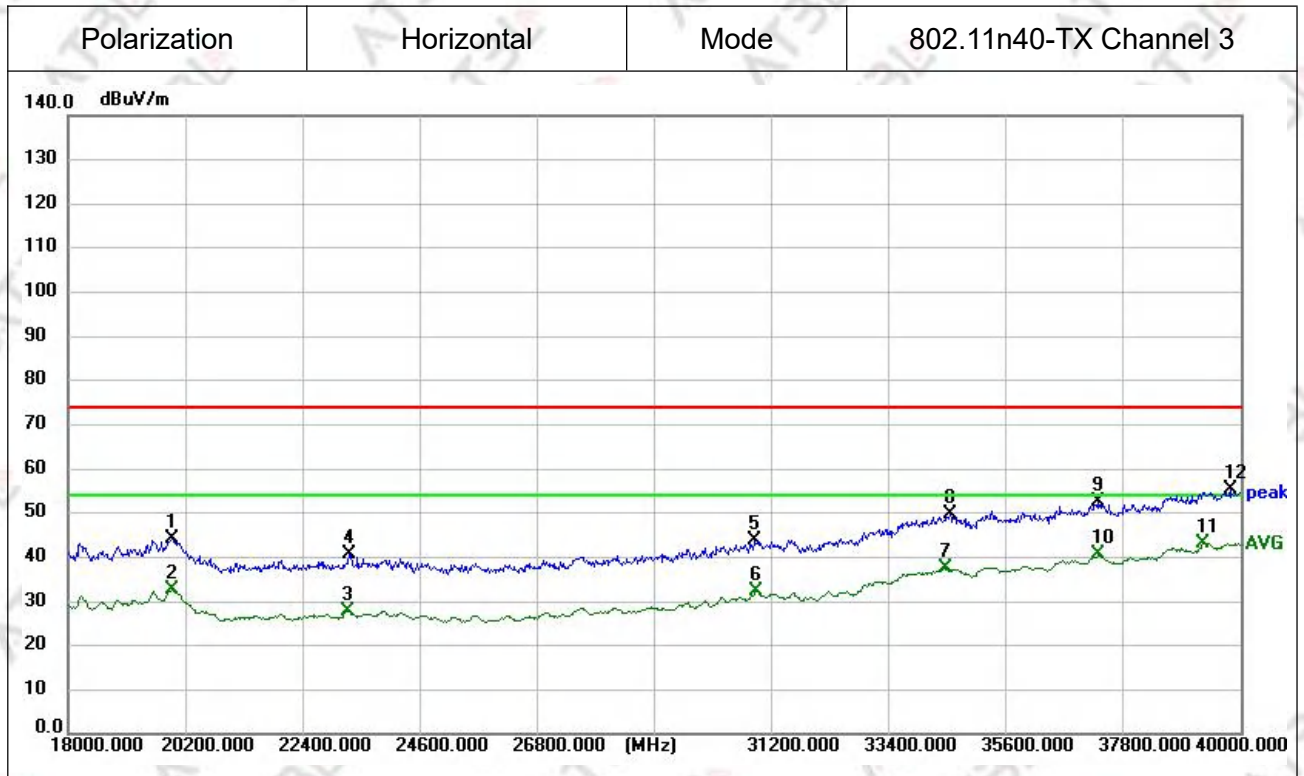








Note:All modes have been tested, only worst (802.11n40-TX Channel 3)mode was recorded in the test report.



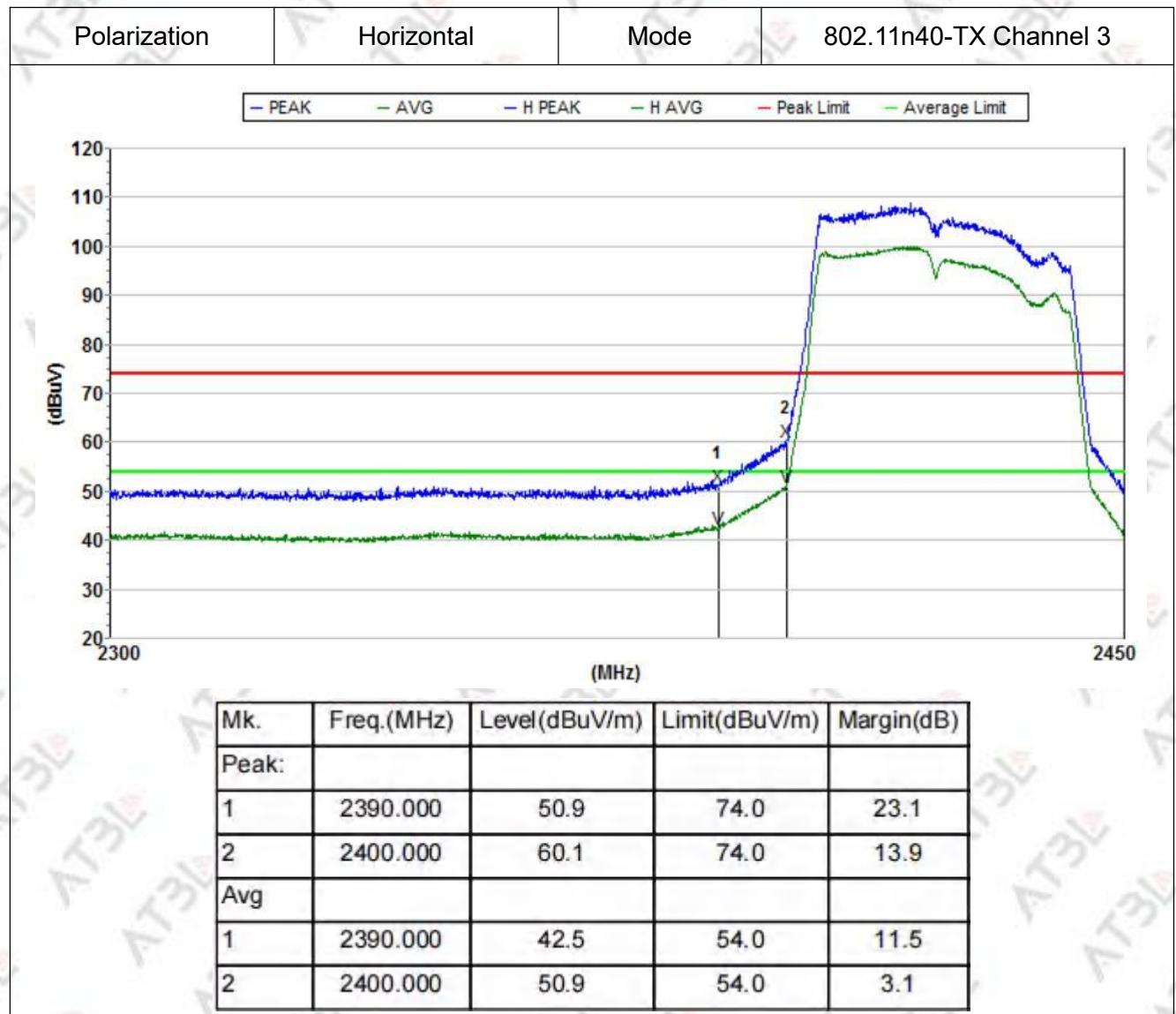
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	19958.000	43.89	0.21	44.10	74.00	-29.90	peak
2	19958.000	32.41	0.21	32.62	54.00	-21.38	AVG
3	23258.000	30.14	-2.32	27.82	54.00	-26.18	AVG
4	23280.000	42.80	-2.30	40.50	74.00	-33.50	peak
5	30892.000	42.76	1.00	43.76	74.00	-30.24	peak
6	30914.000	31.37	1.04	32.41	54.00	-21.59	AVG
7	34456.000	33.66	3.85	37.51	54.00	-16.49	AVG
8	34544.000	45.87	3.95	49.82	74.00	-24.18	peak
9	37338.000	47.07	5.53	52.60	74.00	-21.40	peak
10	37338.000	34.97	5.53	40.50	54.00	-13.50	AVG
11	39296.000	35.67	7.40	43.07	54.00	-10.93	AVG
*							
12	39802.000	47.81	7.39	55.20	74.00	-18.80	peak

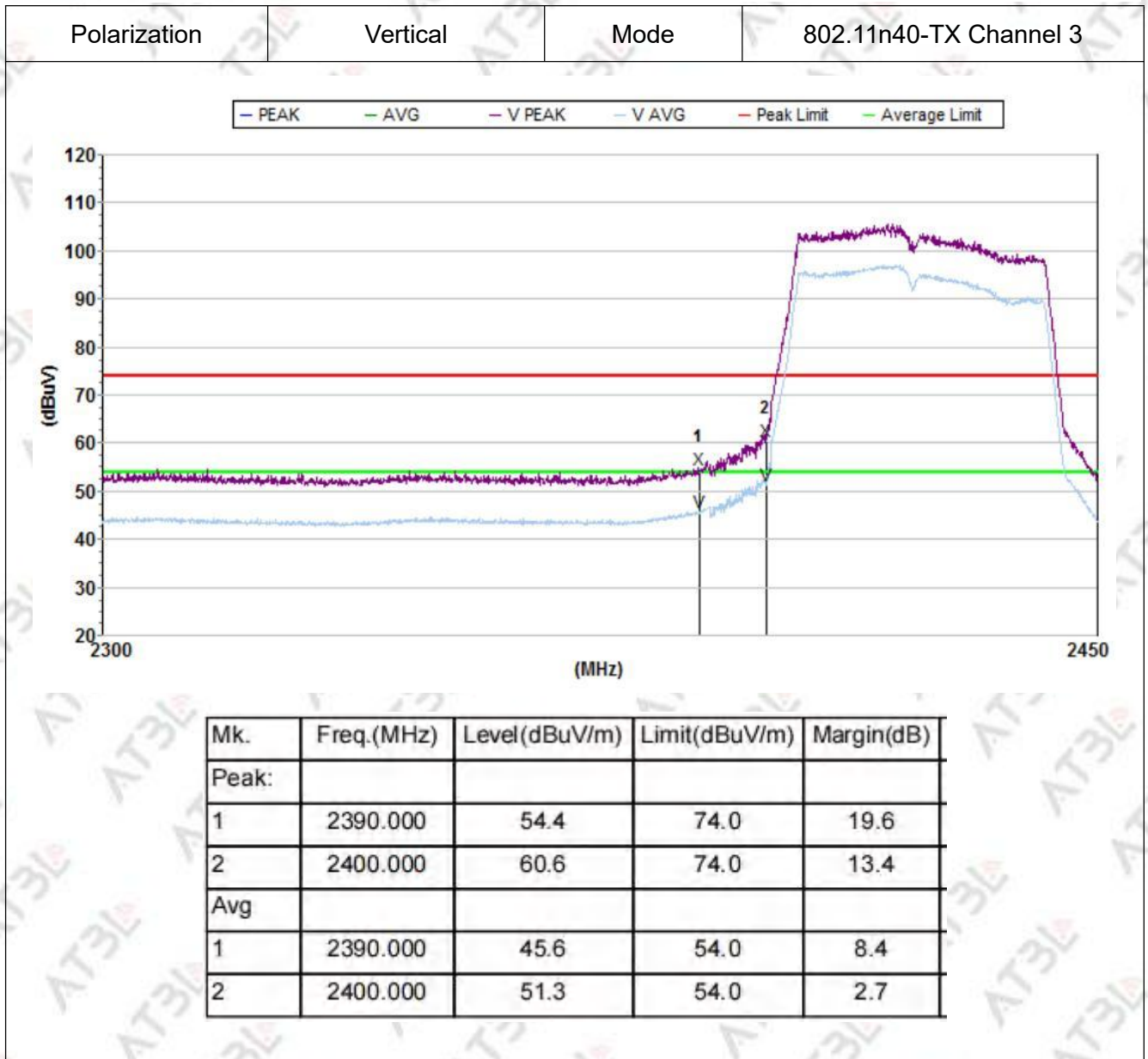


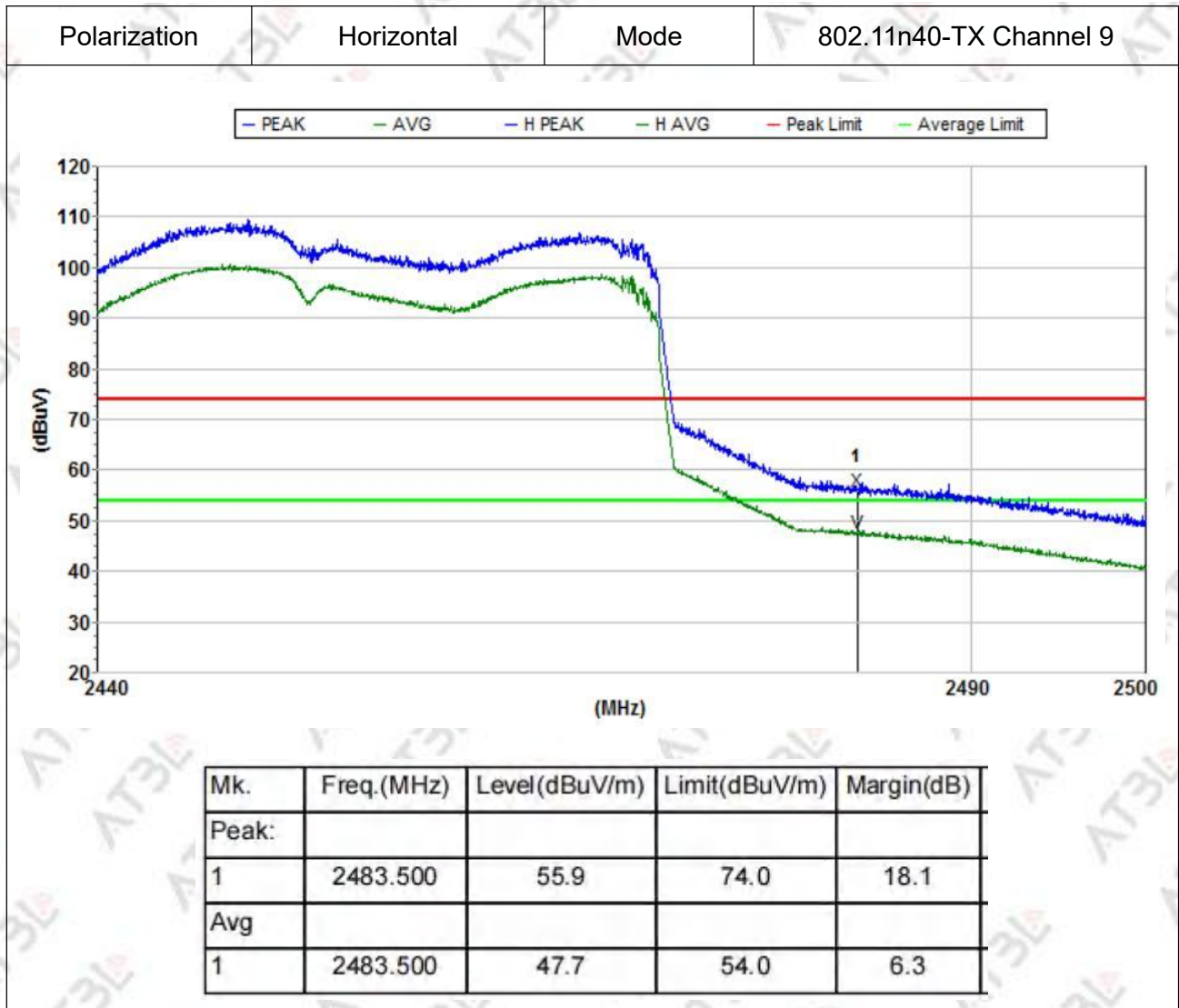
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	19892.000	44.16	-0.12	44.04	74.00	-29.96	peak
2	19980.000	32.33	-0.06	32.27	54.00	-21.73	AVG
3	23258.000	30.17	-2.50	27.67	54.00	-26.33	AVG
4	23940.000	41.85	-2.09	39.76	74.00	-34.24	peak
5	28252.000	30.23	-1.36	28.87	54.00	-25.13	AVG
6	28802.000	42.74	-1.65	41.09	74.00	-32.91	peak
7	30936.000	31.30	0.67	31.97	54.00	-22.03	AVG
8	31596.000	43.19	0.45	43.64	74.00	-30.36	peak
9	35226.000	45.63	4.48	50.11	74.00	-23.89	peak
10	35908.000	32.68	4.99	37.67	54.00	-16.33	AVG
11	39362.000	47.28	6.94	54.22	74.00	-19.78	peak
12	39362.000	35.71	6.94	42.65	54.00	-11.35	AVG
*							

Test Result of Restricted Band

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





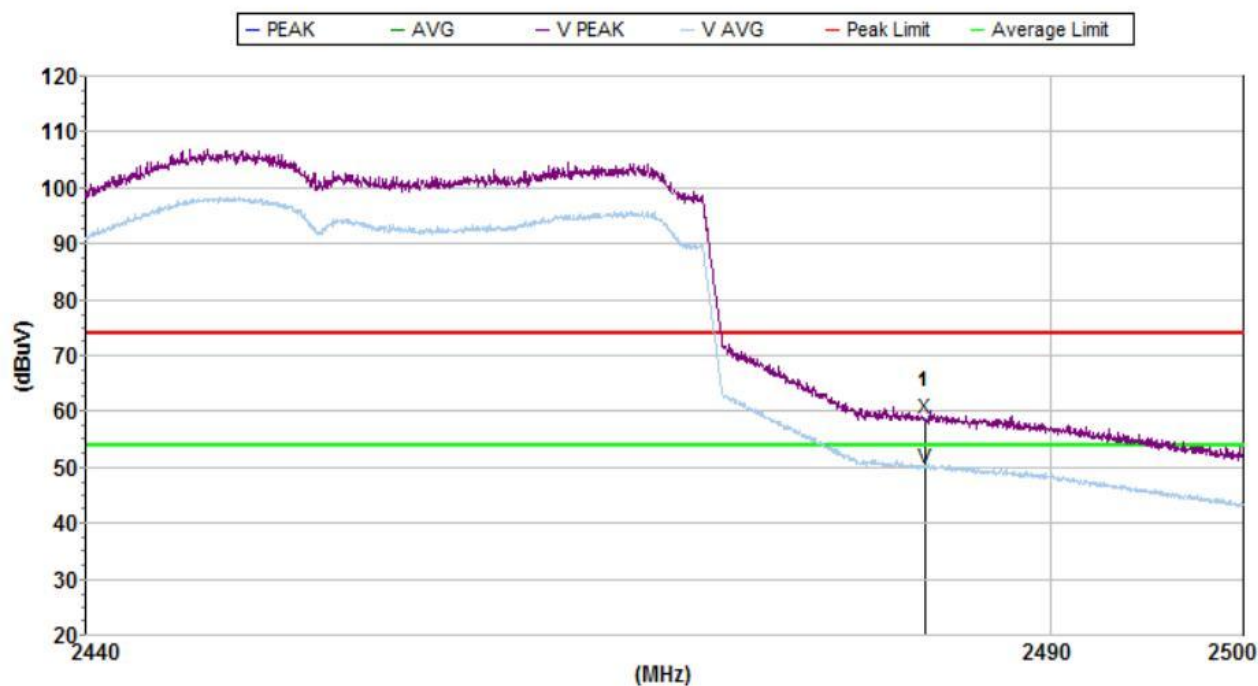


Polarization

Vertical

Mode

802.11n40-TX Channel 9

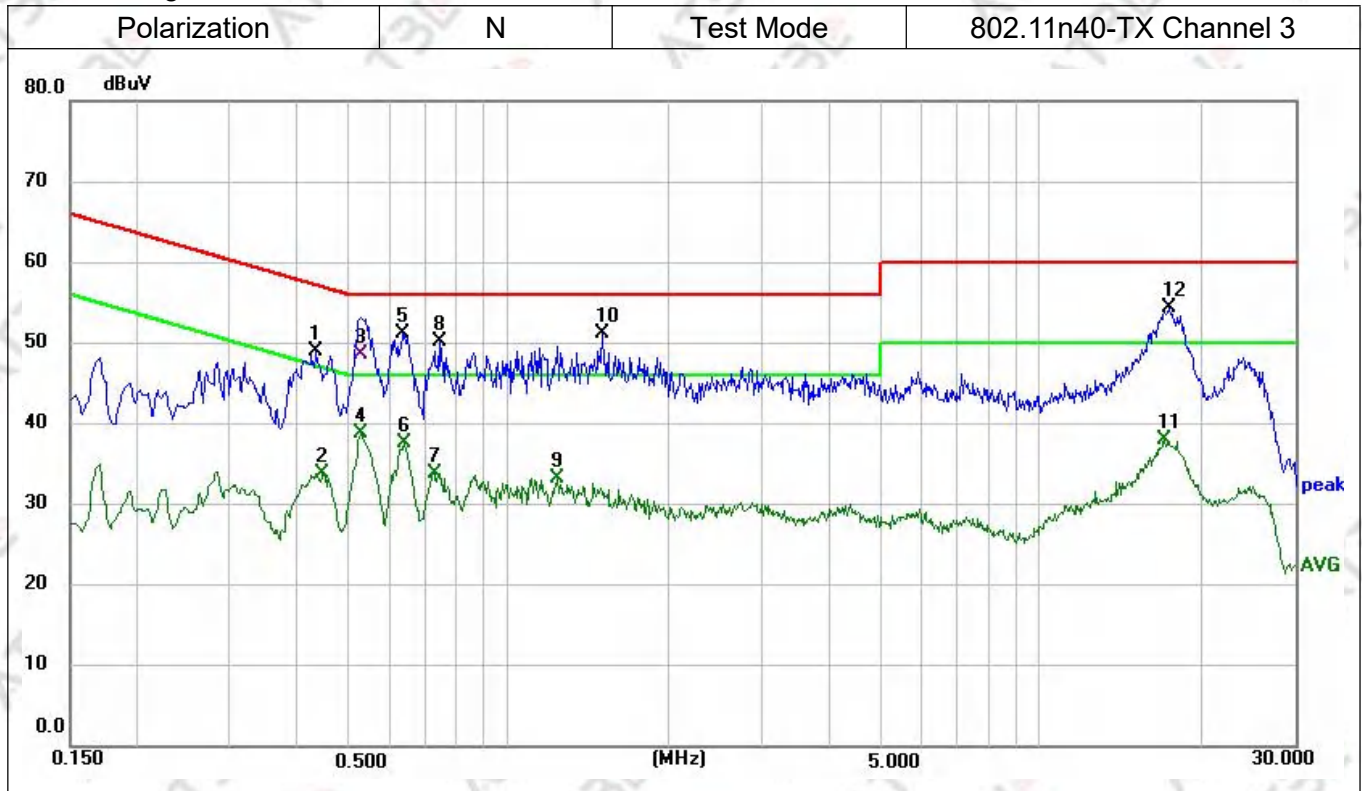


Mk.	Freq.(MHz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)
Peak:				
1	2483.500	58.9	74.0	15.1
Avg				
1	2483.500	49.8	54.0	4.2

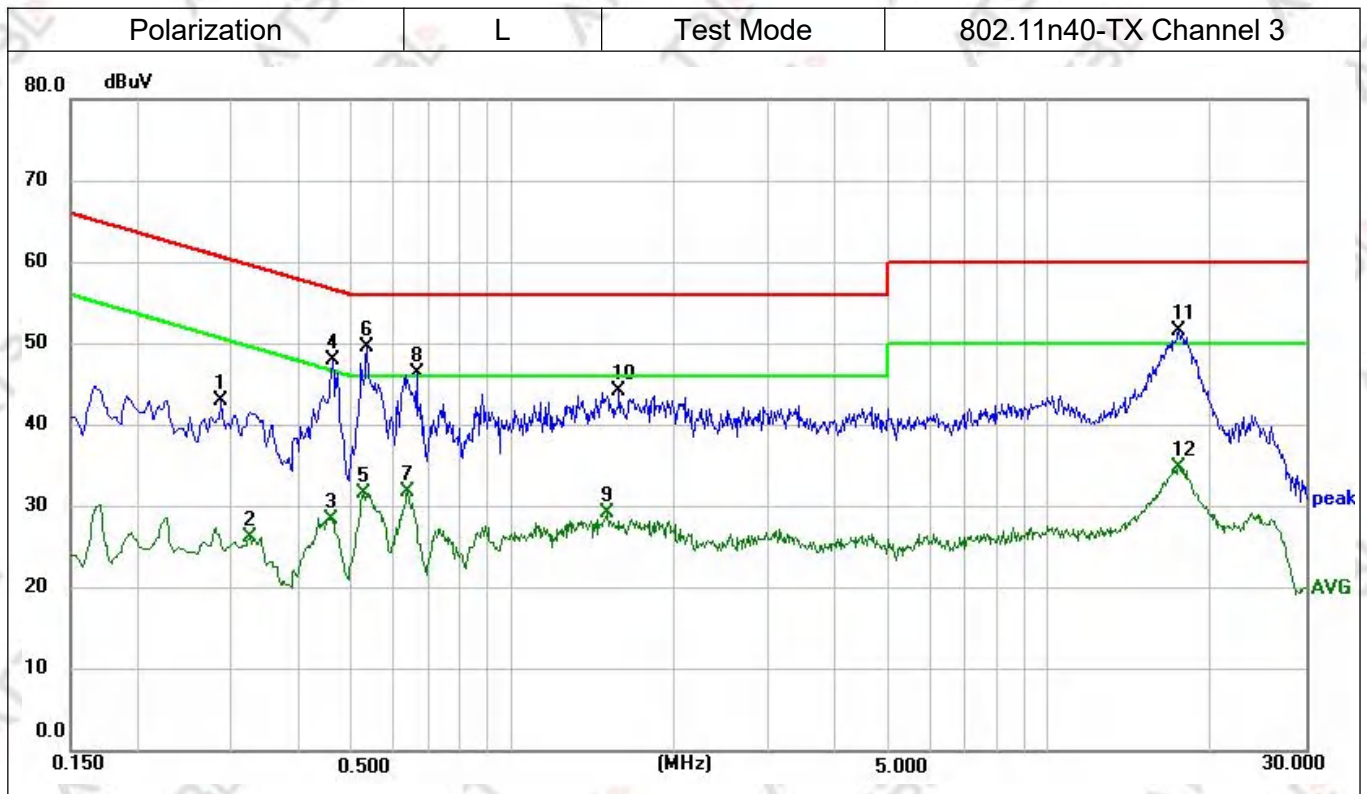
C6.AC Power-Line Conducted Emission

Note:

- 1.All modes have been tested, only worst mode(802.11n40-TX Channel 3) 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.



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4340	29.27	19.66	48.93	57.18	-8.25	peak
2	0.4460	14.18	19.64	33.82	46.95	-13.13	AVG
3	0.5260	28.91	19.58	48.49	56.00	-7.51	QP
4	0.5260	19.16	19.58	38.74	46.00	-7.26	AVG
5	0.6340	31.51	19.68	51.19	56.00	-4.81	peak
6	0.6380	17.83	19.69	37.52	46.00	-8.48	AVG
7	0.7260	14.16	19.75	33.91	46.00	-12.09	AVG
8	0.7420	30.44	19.75	50.19	56.00	-5.81	peak
9	1.2380	13.40	19.83	33.23	46.00	-12.77	AVG
10 *	1.4980	31.33	19.91	51.24	56.00	-4.76	peak
11	17.0980	15.85	22.25	38.10	50.00	-11.90	AVG
12	17.4020	32.00	22.36	54.36	60.00	-5.64	peak



No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measure-ment(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2860	23.30	19.78	43.08	60.64	-17.56	peak
2	0.3220	6.40	19.80	26.20	49.66	-23.46	AVG
3	0.4580	8.58	19.84	28.42	46.73	-18.31	AVG
4	0.4620	28.08	19.84	47.92	56.66	-8.74	peak
5	0.5260	11.85	19.86	31.71	46.00	-14.29	AVG
6 *	0.5340	29.71	19.87	49.58	56.00	-6.42	peak
7	0.6380	11.82	19.92	31.74	46.00	-14.26	AVG
8	0.6620	26.40	19.93	46.33	56.00	-9.67	peak
9	1.4980	9.24	19.96	29.20	46.00	-16.80	AVG
10	1.5820	24.15	20.00	44.15	56.00	-11.85	peak
11	17.4060	28.64	22.86	51.50	60.00	-8.50	peak
12	17.4060	12.03	22.86	34.89	50.00	-15.11	AVG

*****END*****