

Appendix RF test data for WIFI 2.4G

1. Frequency Error

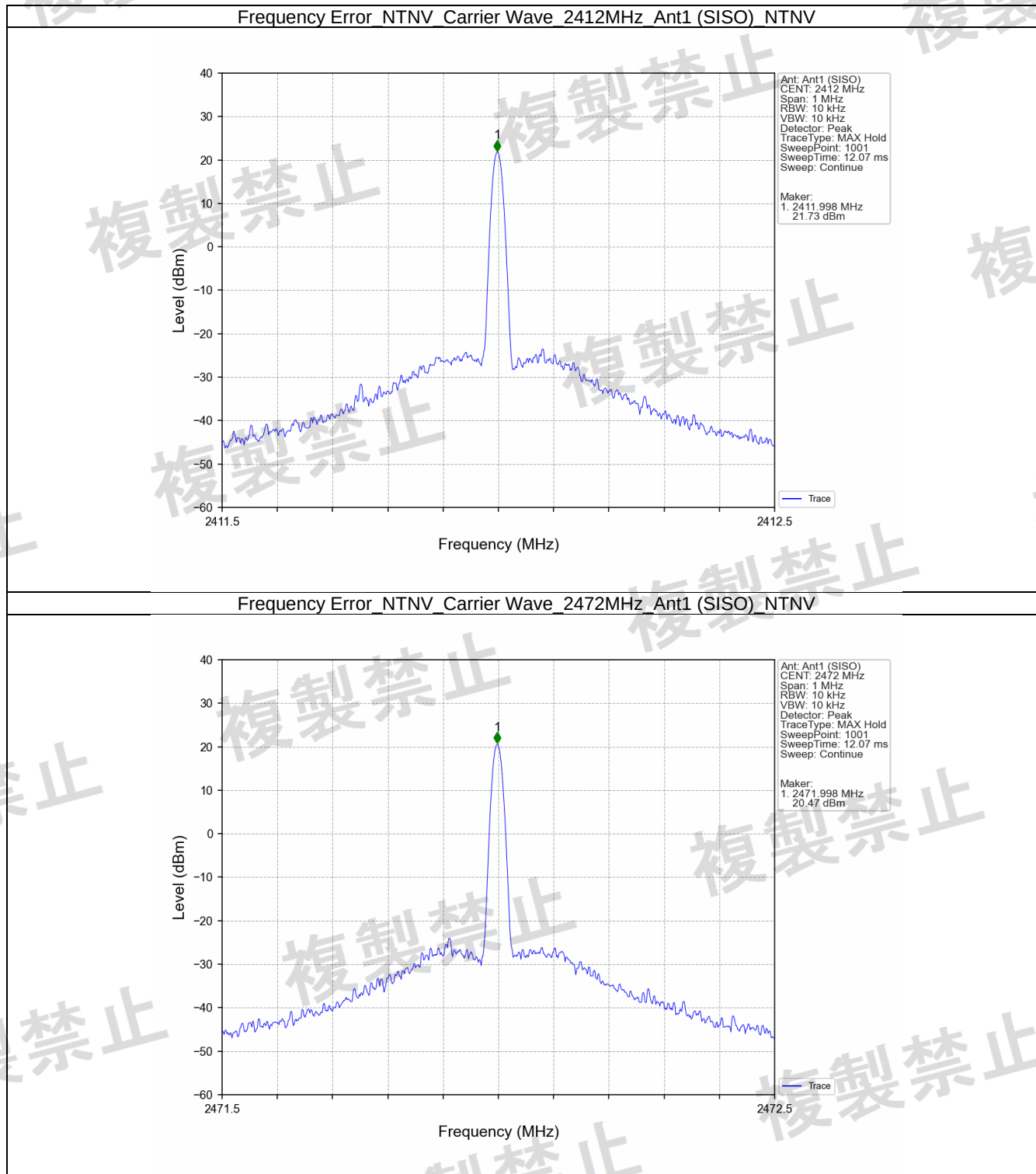
1.1 Test Result

1.1.1 Ant1

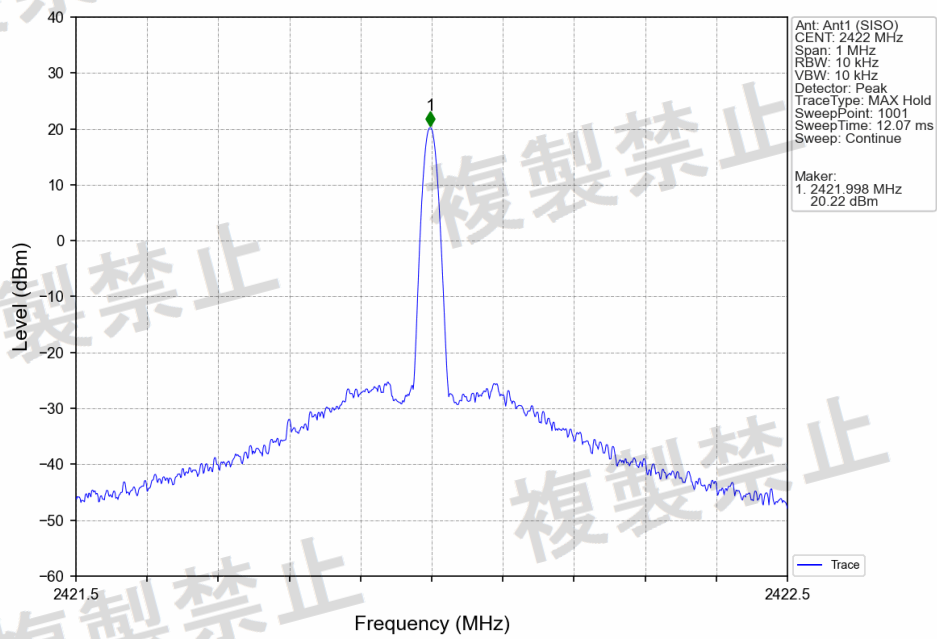
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2412	2411.998	-0.83	-50 to 50	Pass
			2472	2471.998	-0.81	-50 to 50	Pass
			2422	2421.998	-0.83	-50 to 50	Pass
			2462	2461.998	-0.81	-50 to 50	Pass

1.2 Test Graph

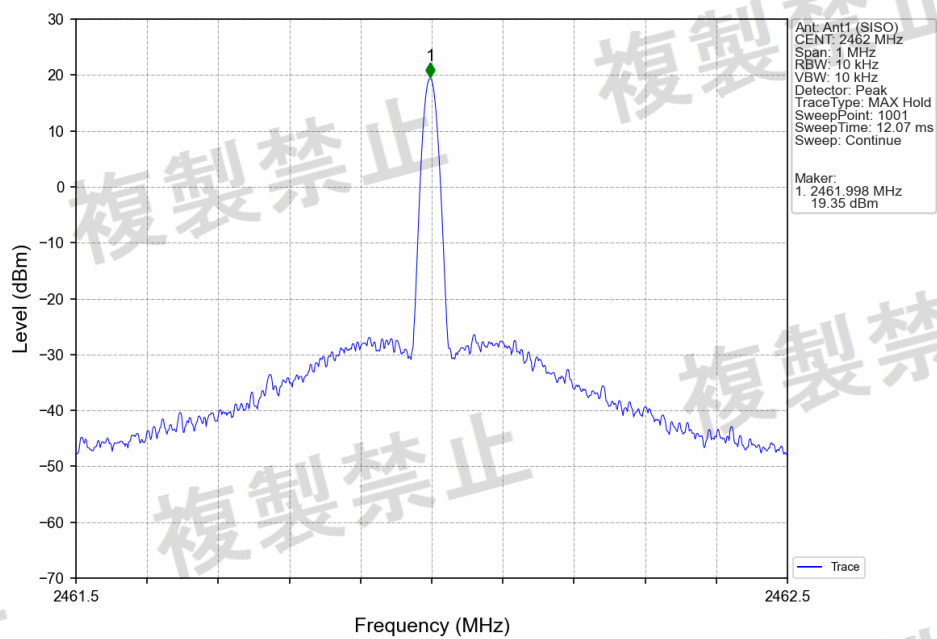
1.2.1 Ant1



Frequency Error_NTNV_Carrier Wave_2422MHz_Ant1 (SISO)_NTNV



Frequency Error_NTNV_Carrier Wave_2462MHz_Ant1 (SISO)_NTNV



2. Occupied Bandwidth

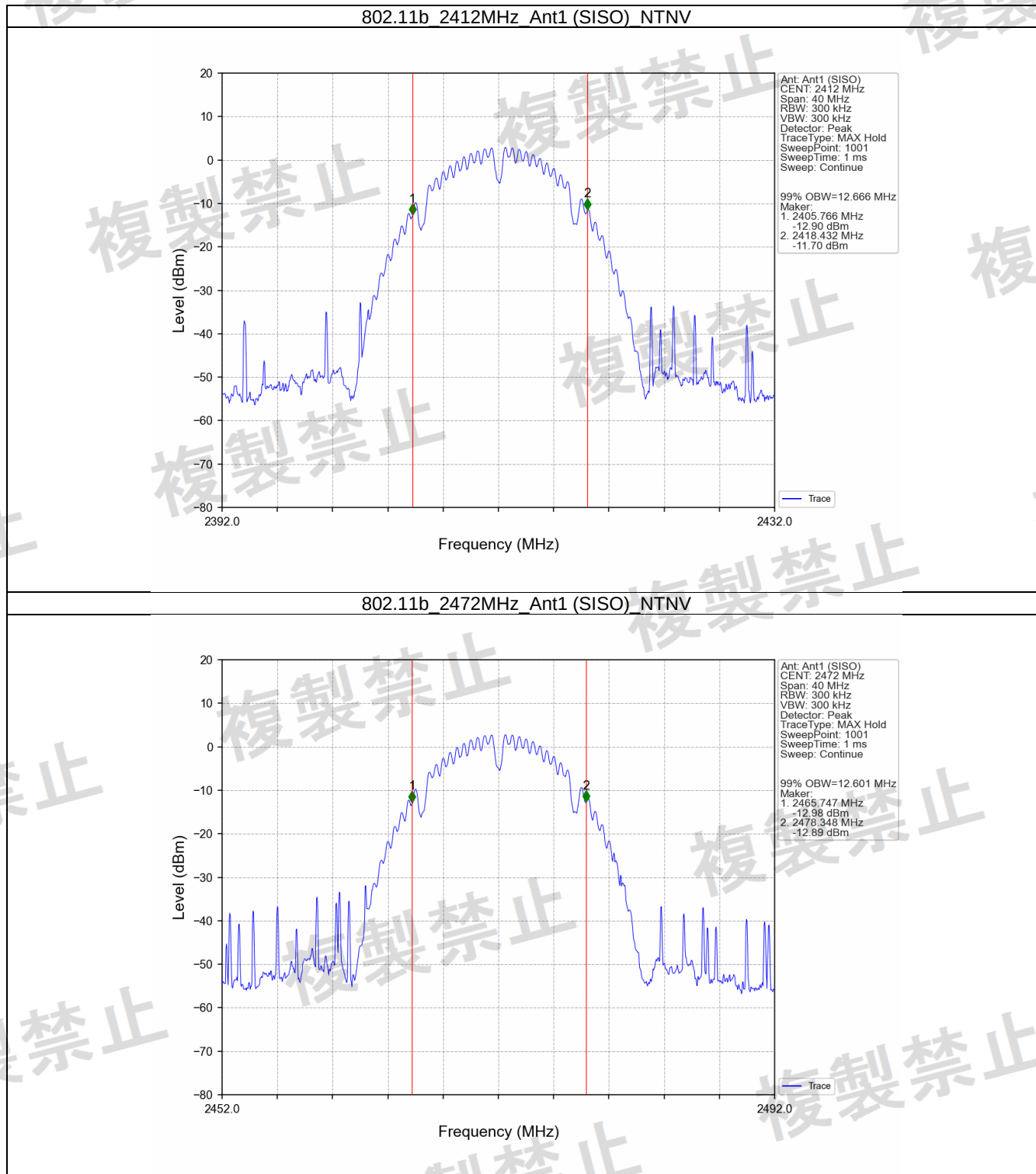
2.1 Test Result

2.1.1 OBW

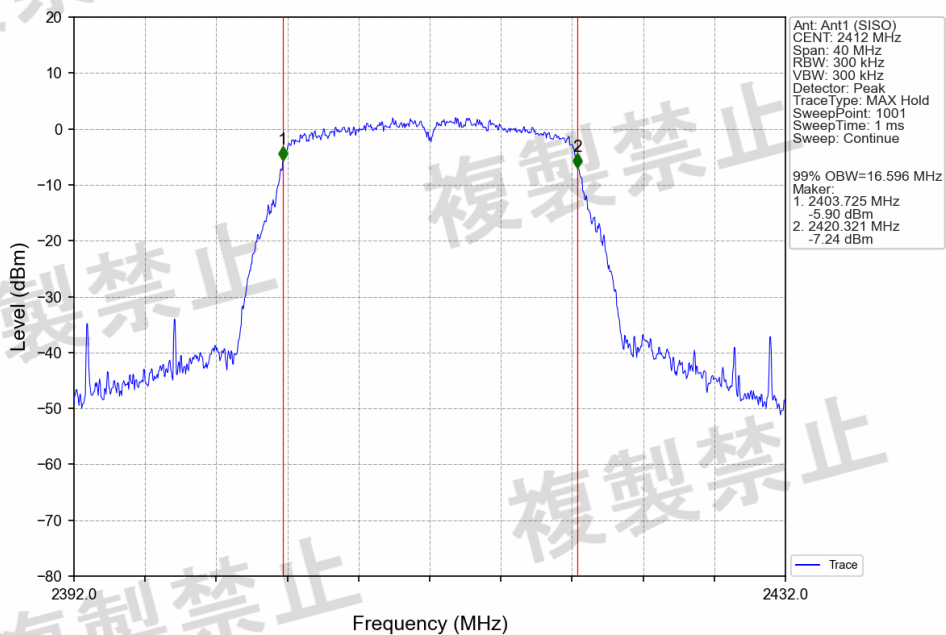
ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	12.666	<=26	Pass
			2472	12.601	<=26	Pass
	802.11g	SISO	2412	16.596	<=26	Pass
			2472	16.508	<=26	Pass
	802.11n (HT20)	SISO	2412	17.670	<=26	Pass
			2472	17.586	<=26	Pass
	802.11n (HT40)	SISO	2422	35.702	<=40	Pass
			2462	35.862	<=40	Pass

2.2 Test Graph

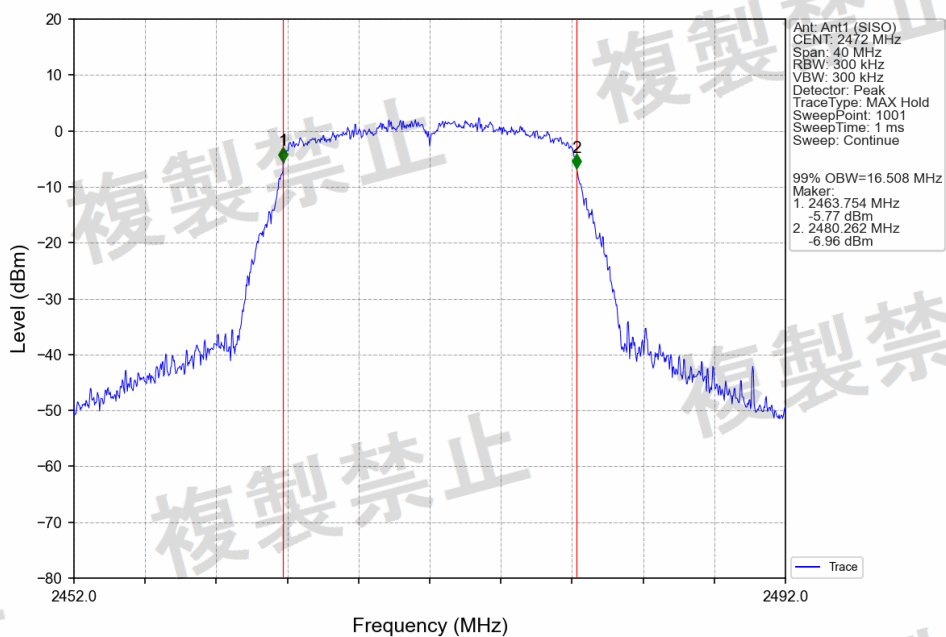
2.2.1 OBW



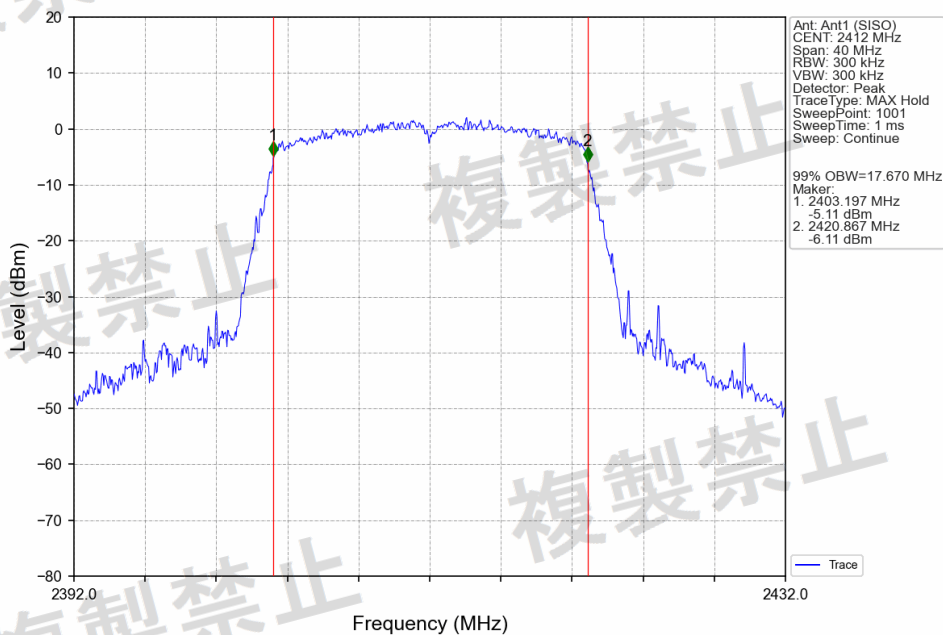
802.11g 2412MHz_Ant1 (SISO)_NTNV



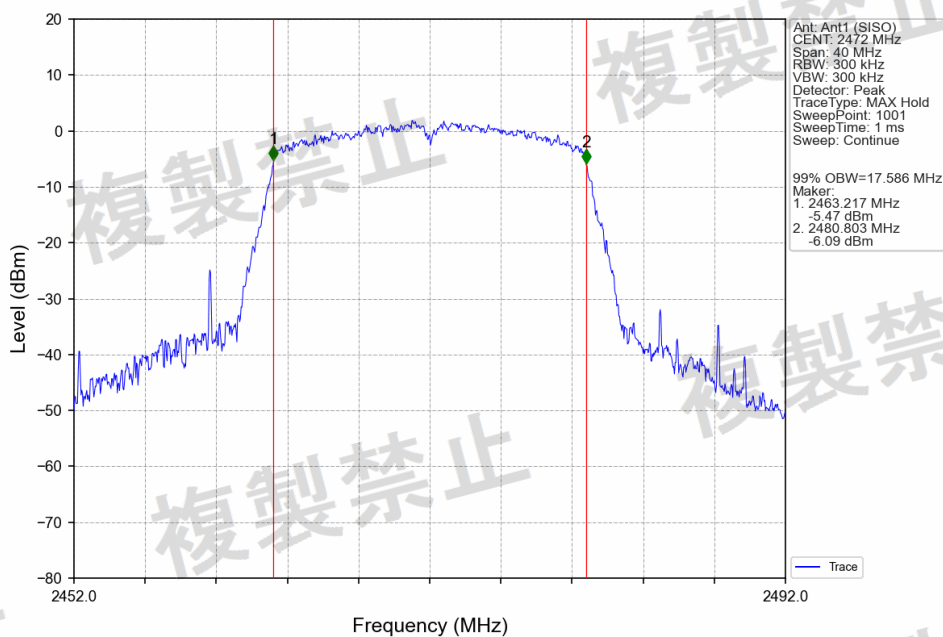
802.11g 2472MHz_Ant1 (SISO)_NTNV



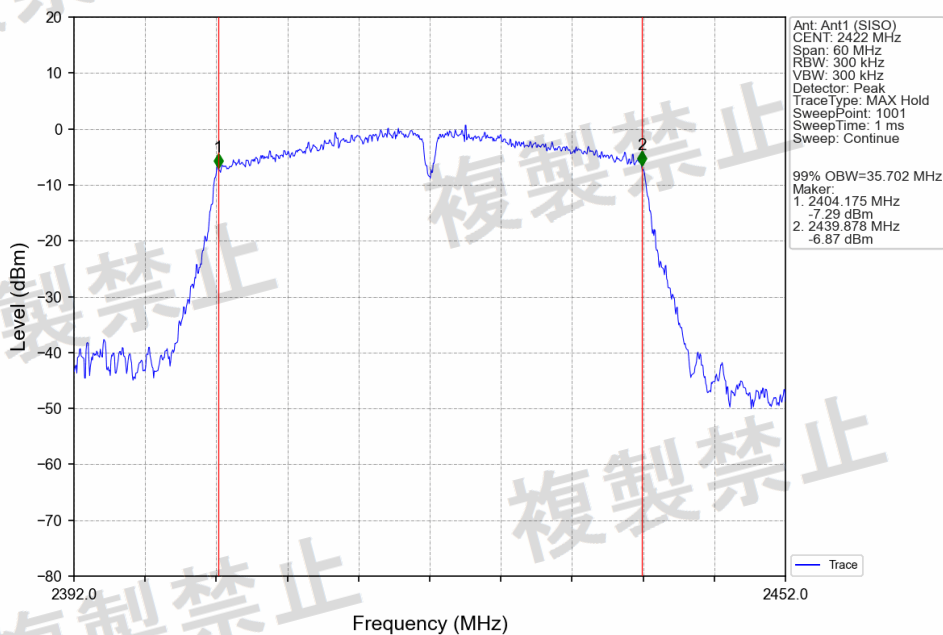
802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV



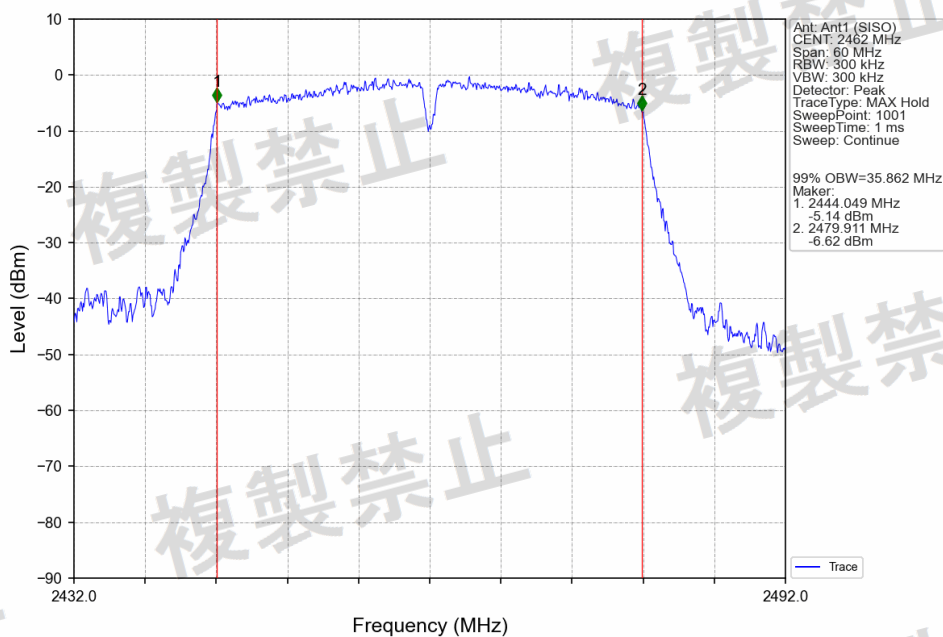
802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



3. Antenna Power

3.1 Test Result

3.1.1 Power

ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (dBm/MHz)	Antenna Power (mW/MHz)		Nominal Power (mW/MHz)	Tolerance (%)		Verdict
						Measured	Limit		Measured	Limit	
NTNV	802.11b	SISO	2412	1	2.735	1.877	<=10.00	2	-6.15%	<=20	Pass
			2472	1	2.565	1.805	<=10.00	2	-9.75%	<=20	Pass
	802.11g	SISO	2412	1	-0.146	0.967	<=10.00	1	-3.30%	<=20	Pass
			2472	1	-0.511	0.889	<=10.00	1	-11.10%	<=20	Pass
	802.11n (HT20)	SISO	2412	1	-1.096	0.777	<=10.00	1	-22.30%	<=20	Pass
			2472	1	-0.306	0.932	<=10.00	1	-6.80%	<=20	Pass
	802.11n (HT40)	SISO	2422	1	-2.790	0.526	<=5.00	1	-47.40%	<=20	Pass
			2462	1	-3.002	0.501	<=5.00	1	-49.90%	<=20	Pass

3.1.2 EIRP

ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (dBm/MHz)	Gain (dBi)	EIRP (dBm/MHz)		Verdict
							Result	Limit	
NTNV	802.11b	SISO	2412	1	2.735	2.48	5.215	<=12.14	Pass
			2472	1	2.565	2.48	5.045	<=12.14	Pass
	802.11g	SISO	2412	1	-0.146	2.48	2.334	<=12.14	Pass
			2472	1	-0.511	2.48	1.969	<=12.14	Pass
	802.11n (HT20)	SISO	2412	1	-1.096	2.48	1.384	<=12.14	Pass
			2472	1	-0.306	2.48	2.174	<=12.14	Pass
	802.11n (HT40)	SISO	2422	1	-2.790	2.48	-0.310	<=9.13	Pass
			2462	1	-3.002	2.48	-0.522	<=9.13	Pass

4. Spurious Emission Intensity

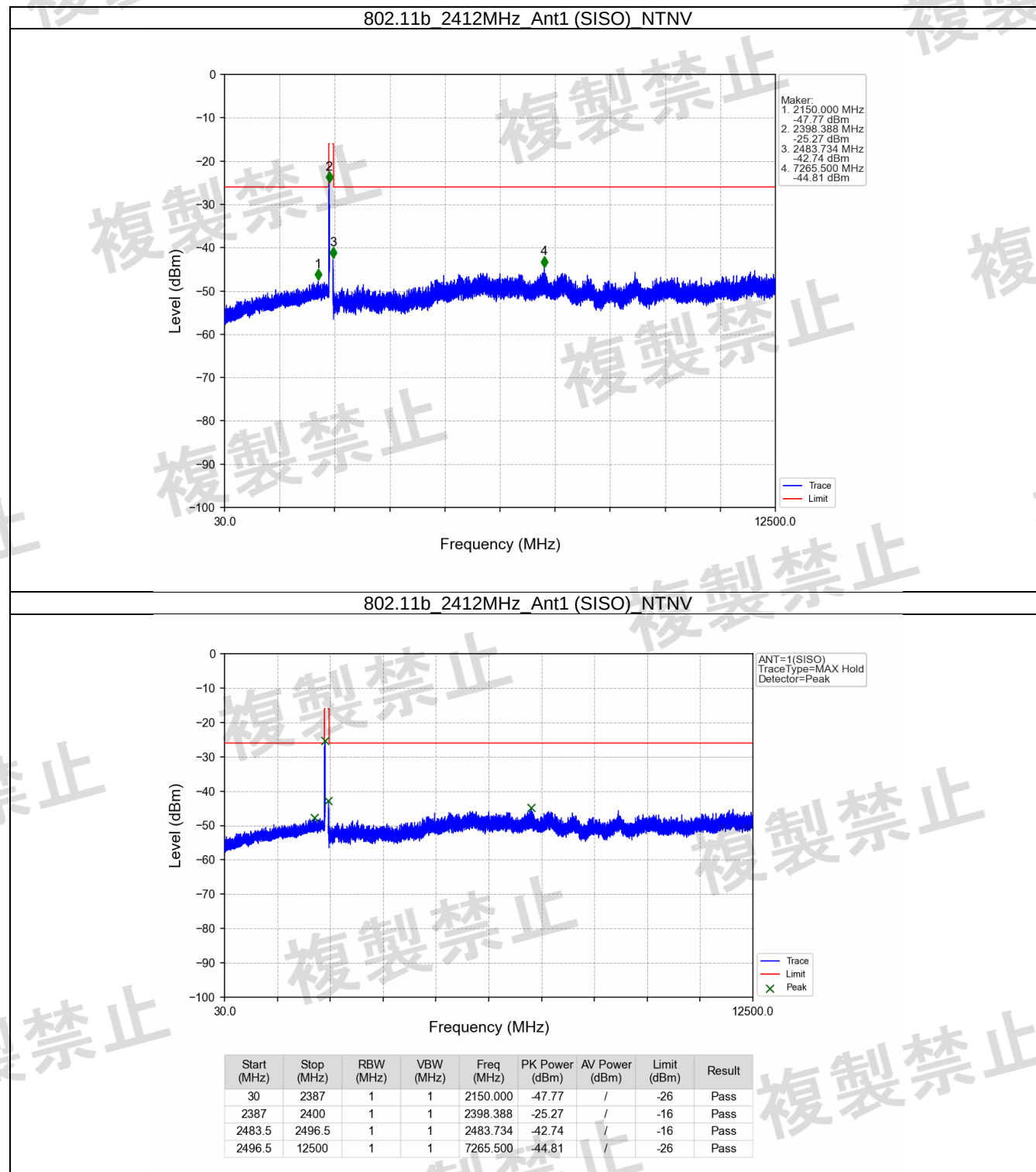
4.1 Test Result

4.1.1 TxSe_NTNV

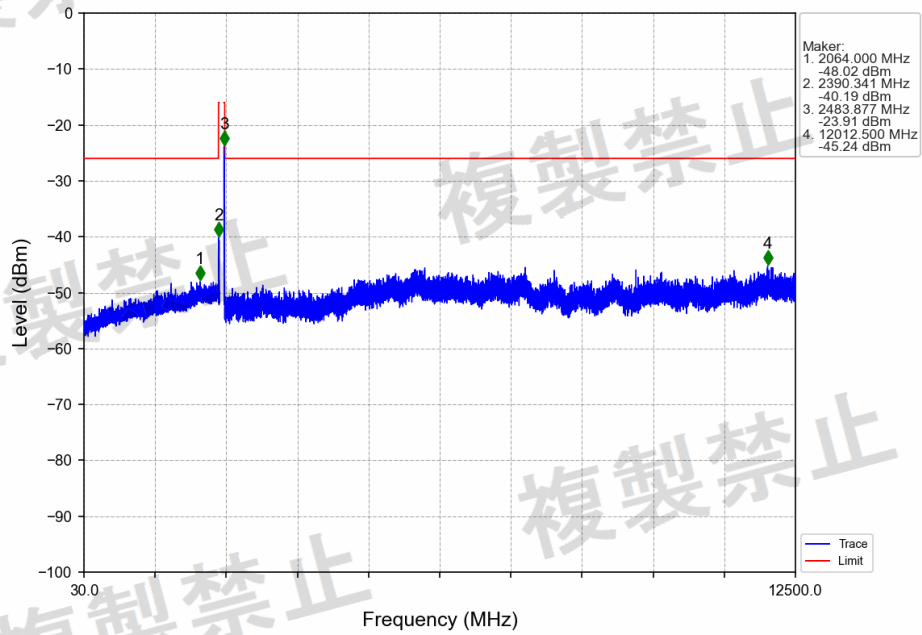
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
802.11b	SISO	2412	1	30	2387	2150	-47.77	0.017	/	/	2.5	Pass
				2387	2400	2398.388	-25.27	2.972	/	/	25	Pass
				2483.5	2496.5	2483.734	-42.74	0.053	/	/	25	Pass
				2496.5	12500	7265.5	-44.81	0.033	/	/	2.5	Pass
		2472	1	30	2387	2064	-48.02	0.016	/	/	2.5	Pass
				2387	2400	2390.341	-40.19	0.096	/	/	25	Pass
				2483.5	2496.5	2483.877	-23.91	4.064	/	/	25	Pass
				2496.5	12500	12012.5	-45.24	0.030	/	/	2.5	Pass
802.11g	SISO	2412	1	30	2387	2385	-43.54	0.044	/	/	2.5	Pass
				2387	2400	2397.959	-25.49	2.825	/	/	25	Pass
				2483.5	2496.5	2483.864	-44.24	0.038	/	/	25	Pass
				2496.5	12500	12141.5	-41.11	0.077	/	/	2.5	Pass
		2472	1	30	2387	2347.5	-44.40	0.036	/	/	2.5	Pass
				2387	2400	2388.365	-38.77	0.133	/	/	25	Pass
				2483.5	2496.5	2486.659	-23.71	4.256	/	/	25	Pass
				2496.5	12500	7222	-40.55	0.088	/	/	2.5	Pass
802.11n (HT20)	SISO	2412	1	30	2387	2180.5	-43.63	0.043	/	/	2.5	Pass
				2387	2400	2399.038	-21.10	7.762	/	/	25	Pass
				2483.5	2496.5	2490.26	-40.98	0.080	/	/	25	Pass
				2496.5	12500	9983	-41.30	0.074	/	/	2.5	Pass
		2472	1	30	2387	2299	-44.23	0.038	/	/	2.5	Pass
				2387	2400	2390.718	-37.63	0.173	/	/	25	Pass
				2483.5	2496.5	2484.618	-20.84	8.241	/	/	25	Pass
				2496.5	12500	11943.5	-41.56	0.070	/	/	2.5	Pass
802.11n (HT40)	SISO	2422	1	30	2387	2385.5	-37.61	0.173	/	/	2.5	Pass
				2387	2400	2392.98	-30.64	0.863	/	/	25	Pass
				2483.5	2496.5	2483.994	-44.50	0.035	/	/	25	Pass
				2496.5	12500	5995.5	-41.18	0.076	/	/	2.5	Pass
		2462	1	30	2387	2264	-43.44	0.045	/	/	2.5	Pass
				2387	2400	2392.577	-43.75	0.042	/	/	25	Pass
				2483.5	2496.5	2483.526	-28.14	1.535	/	/	25	Pass
				2496.5	12500	11197.5	-41.11	0.077	/	/	2.5	Pass

4.2 Test Graph

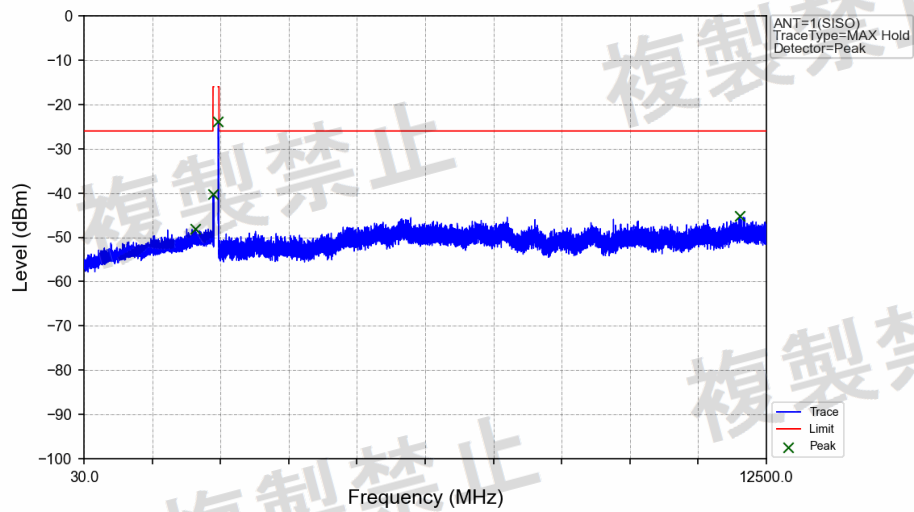
4.2.1 TxSe_NTNV



802.11b 2472MHz_Ant1 (SISO)_NTNV

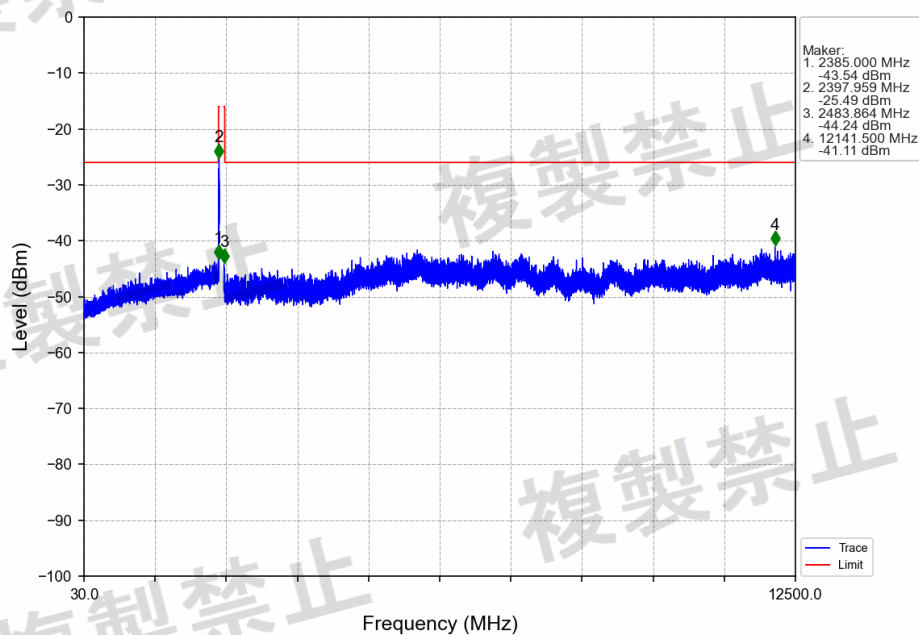


802.11b 2472MHz_Ant1 (SISO)_NTNV

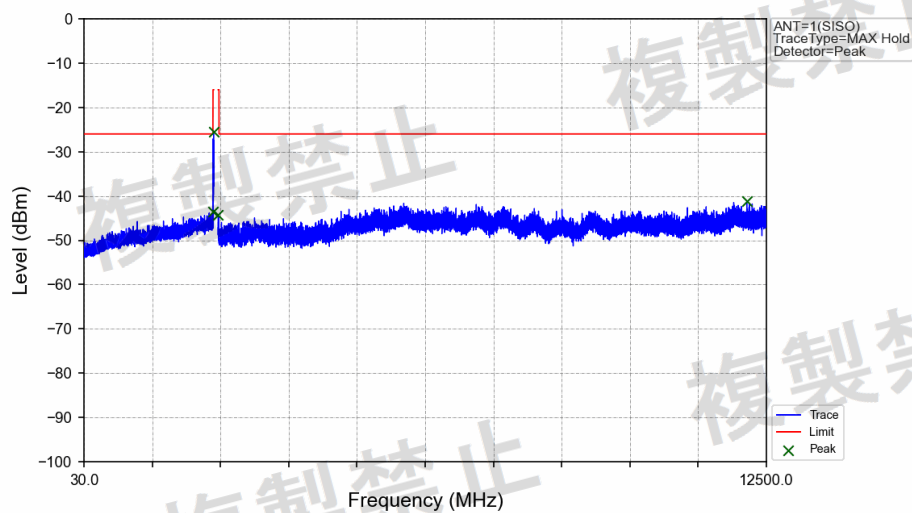


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2064.000	-48.02	/	-26	Pass
2387	2400	1	1	2390.341	-40.19	/	-16	Pass
2483.5	2496.5	1	1	2483.877	-23.91	/	-16	Pass
2496.5	12500	1	1	12012.500	-45.24	/	-26	Pass

802.11g 2412MHz_Ant1 (SISO)_NTNV

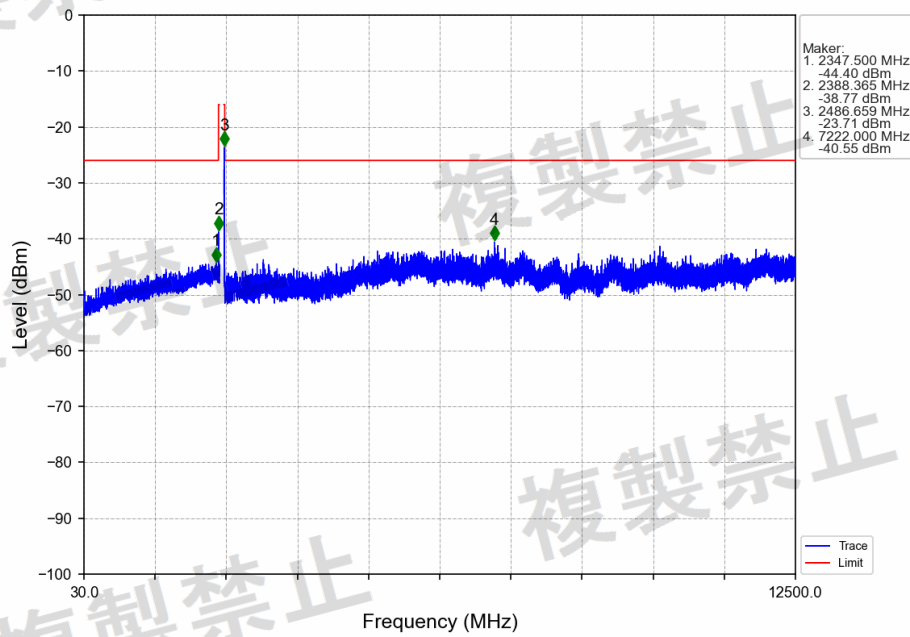


802.11g 2412MHz_Ant1 (SISO)_NTNV

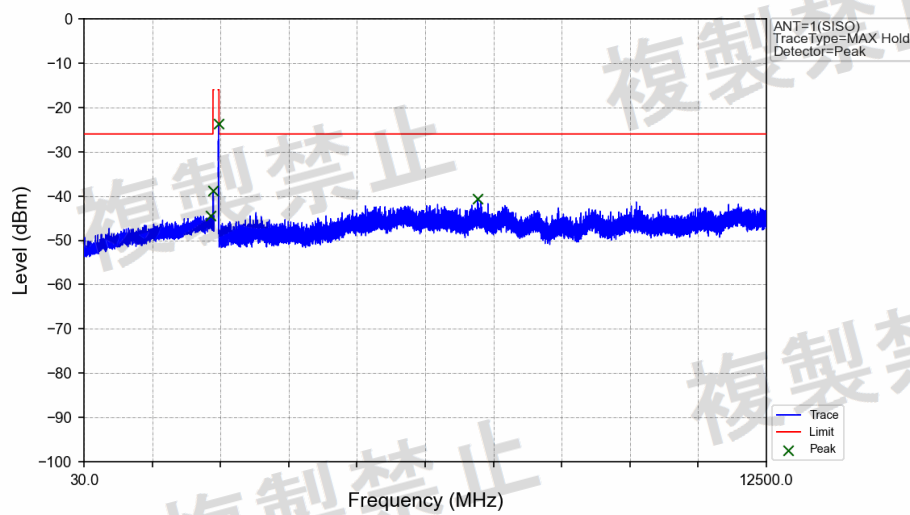


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2385.000	-43.54	/	-26	Pass
2387	2400	1	1	2397.959	-25.49	/	-16	Pass
2483.5	2496.5	1	1	2483.864	-44.24	/	-16	Pass
2496.5	12500	1	1	12141.500	-41.11	/	-26	Pass

802.11g 2472MHz_Ant1 (SISO)_NTNV

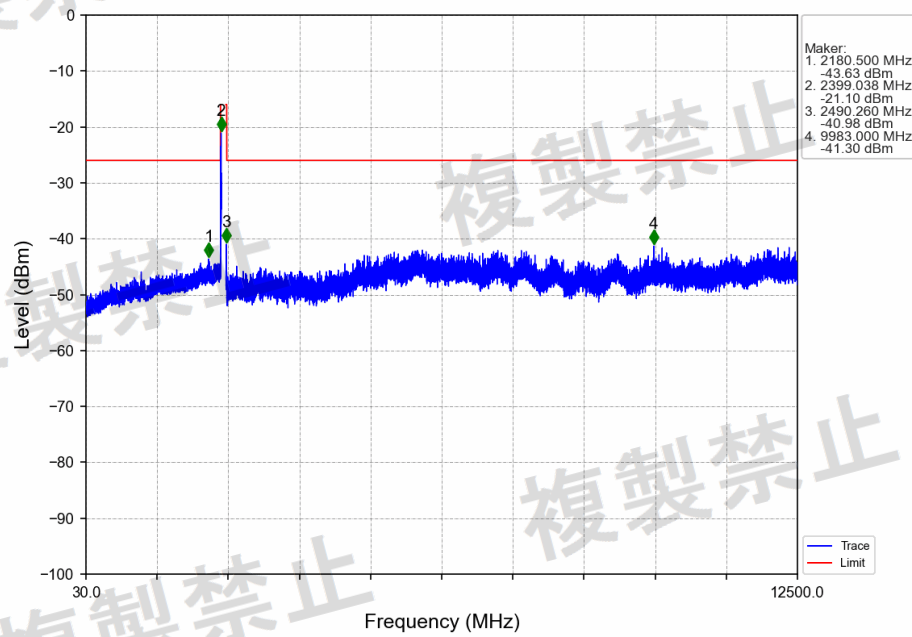


802.11g 2472MHz_Ant1 (SISO)_NTNV

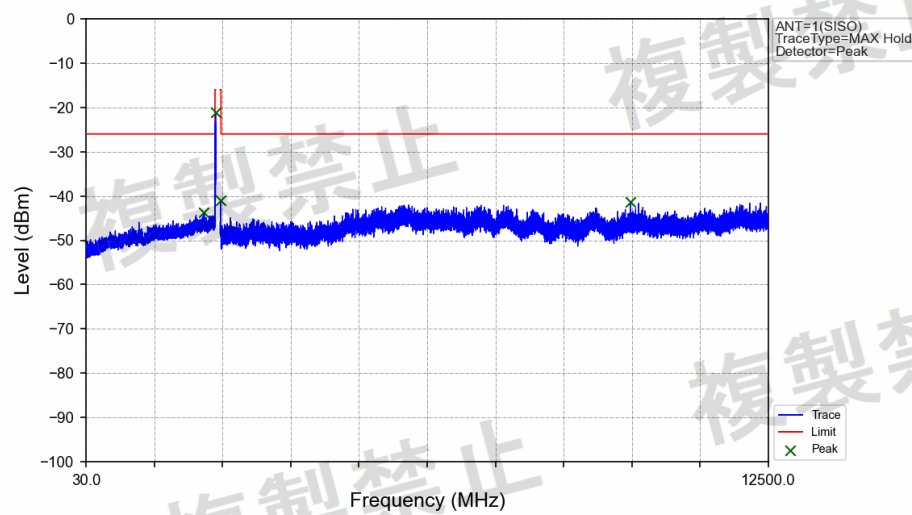


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2347.500	-44.40	/	-26	Pass
2387	2400	1	1	2388.365	-38.77	/	-16	Pass
2483.5	2496.5	1	1	2486.659	-23.71	/	-16	Pass
2496.5	12500	1	1	7222.000	-40.55	/	-26	Pass

802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV

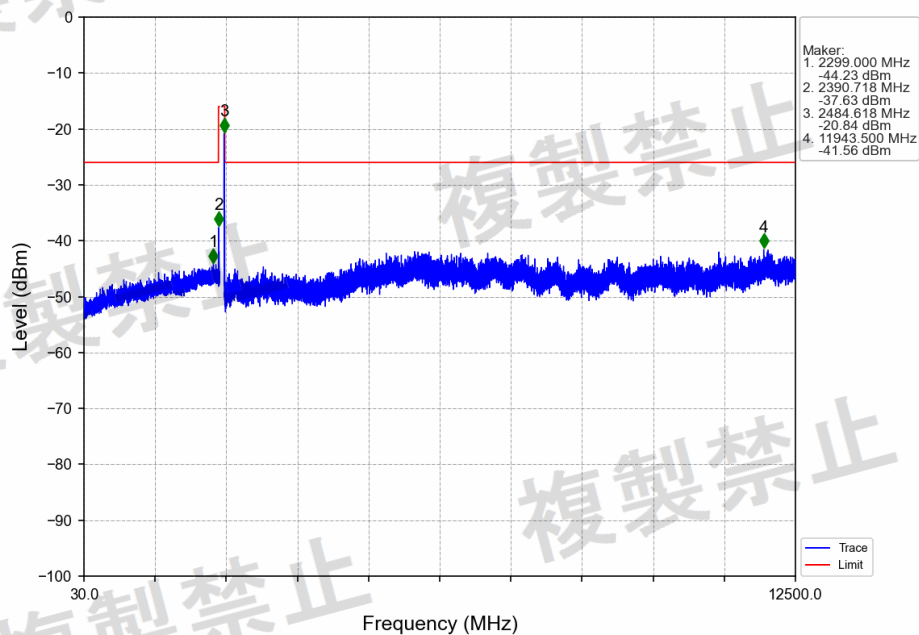


802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV

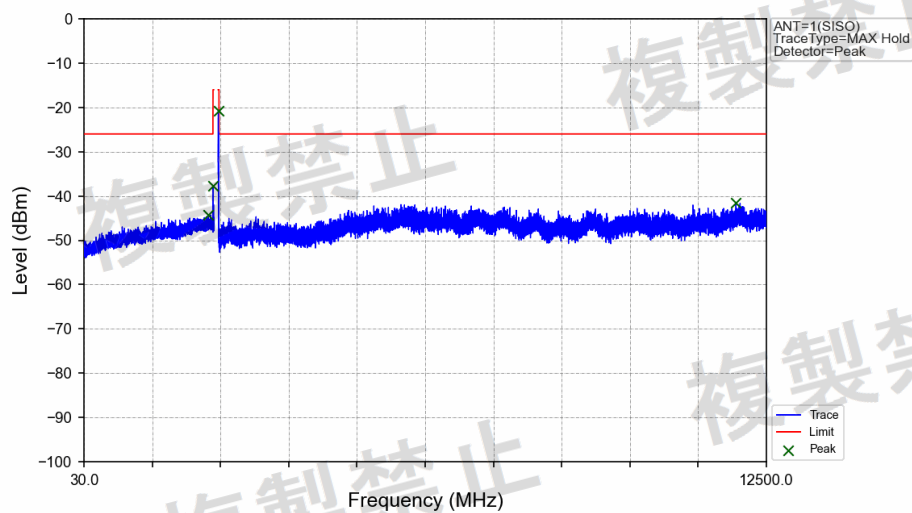


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2180.500	-43.63	/	-26	Pass
2387	2400	1	1	2399.038	-21.10	/	-16	Pass
2483.5	2496.5	1	1	2490.260	-40.98	/	-16	Pass
2496.5	12500	1	1	9983.000	-41.30	/	-26	Pass

802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

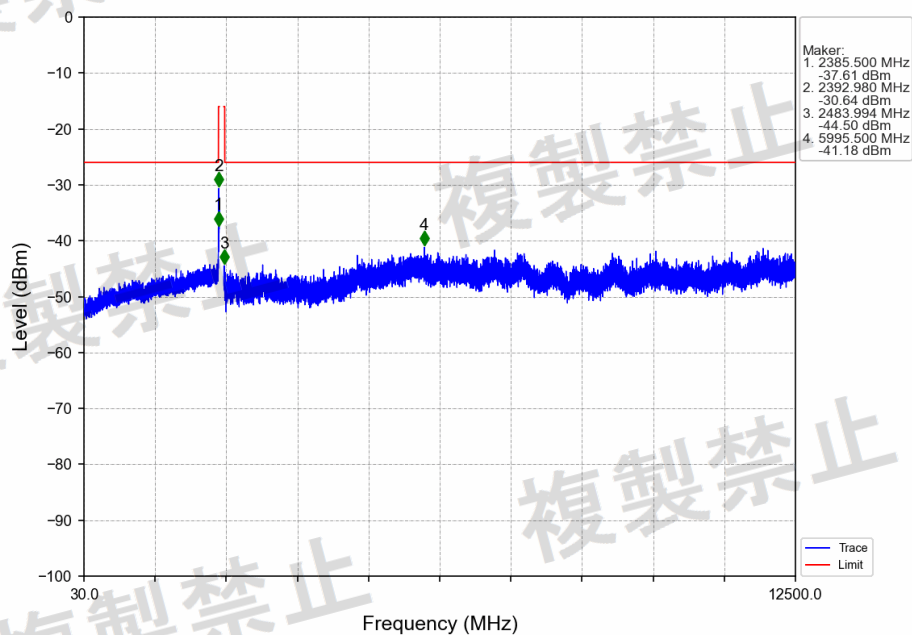


802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

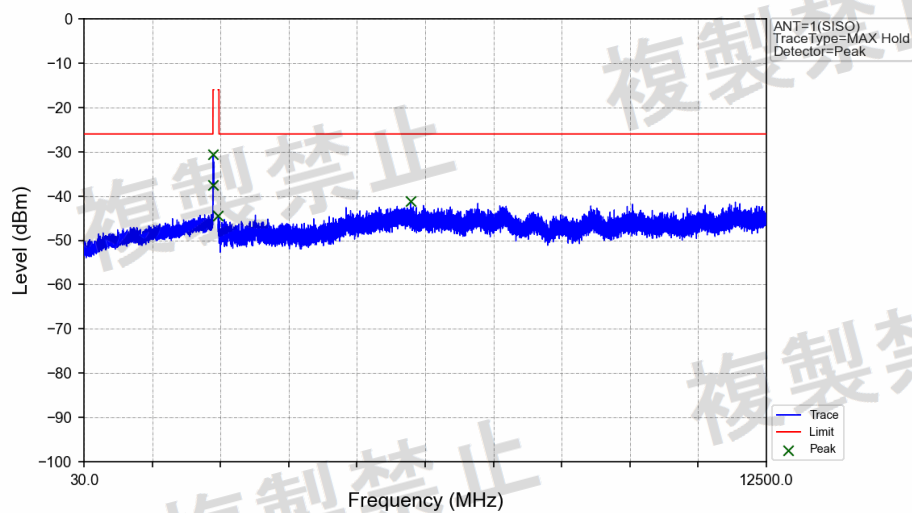


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2299.000	-44.23	/	-26	Pass
2387	2400	1	1	2390.718	-37.63	/	-16	Pass
2483.5	2496.5	1	1	2484.618	-20.84	/	-16	Pass
2496.5	12500	1	1	11943.500	-41.56	/	-26	Pass

802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV

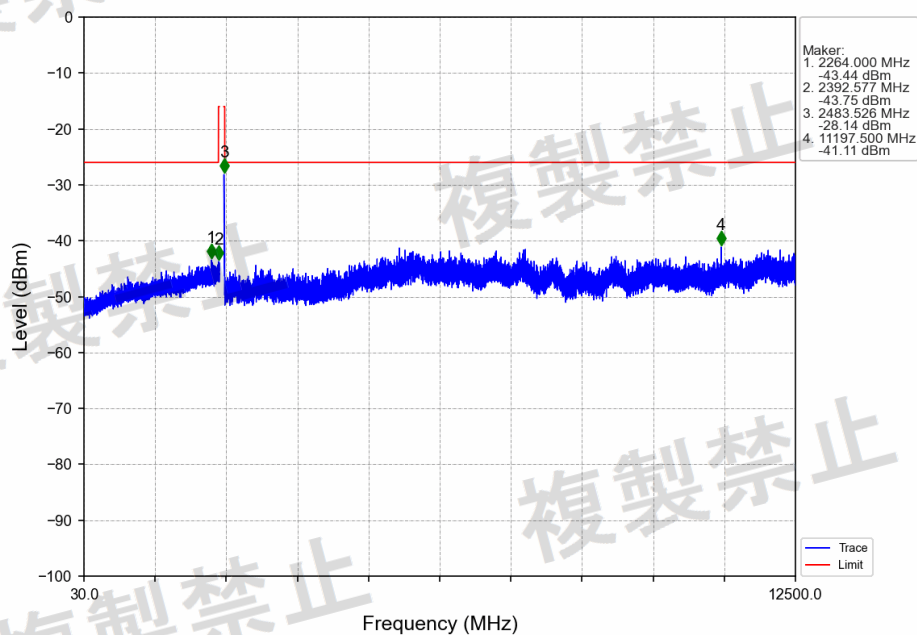


802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV

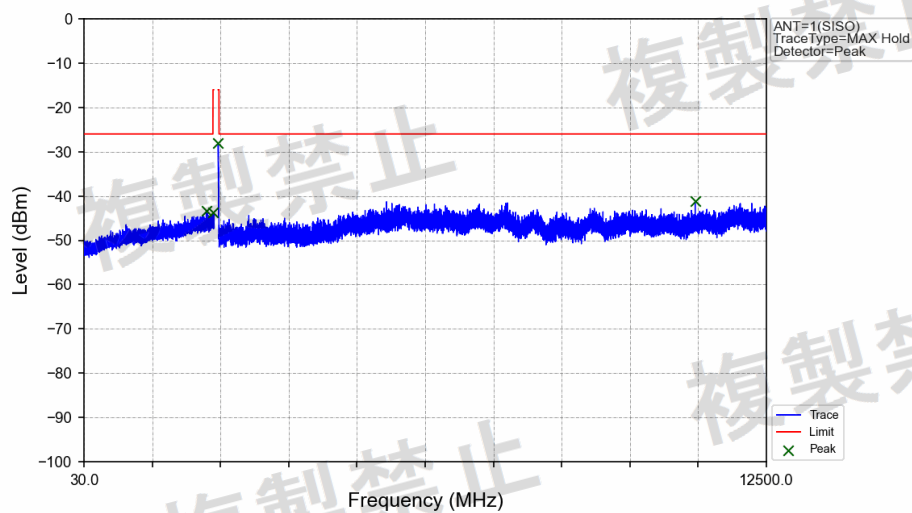


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2385.500	-37.61	/	-26	Pass
2387	2400	1	1	2392.980	-30.64	/	-16	Pass
2483.5	2496.5	1	1	2483.994	-44.50	/	-16	Pass
2496.5	12500	1	1	5995.500	-41.18	/	-26	Pass

802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2264.000	-43.44	/	-26	Pass
2387	2400	1	1	2392.577	-43.75	/	-16	Pass
2483.5	2496.5	1	1	2483.526	-28.14	/	-16	Pass
2496.5	12500	1	1	11197.500	-41.11	/	-26	Pass

5. Secondary Radiated Emission

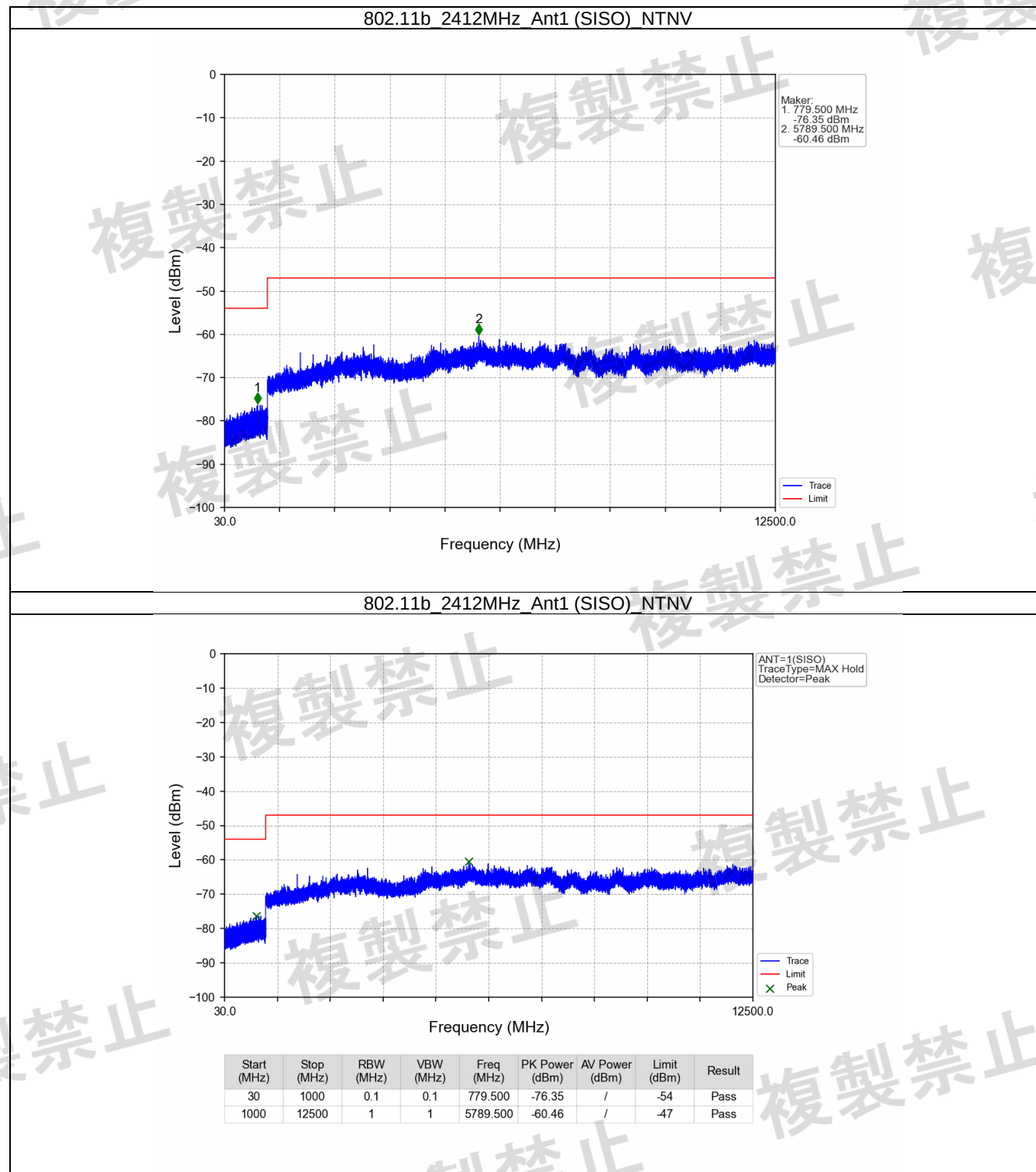
5.1 Test Result

5.1.1 RxSe_NTNV

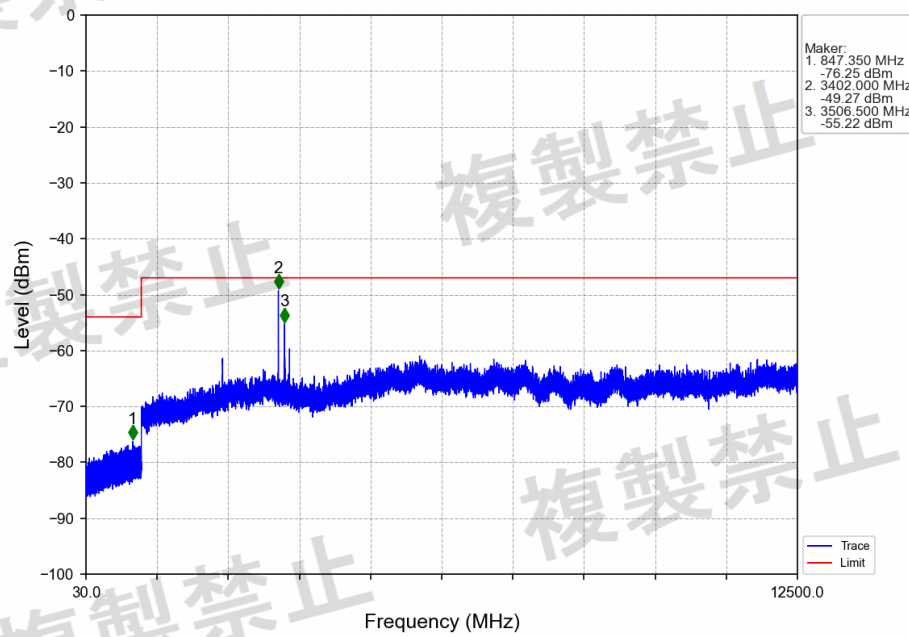
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
802.11b	SISO	2412	1	30	1000	779.5	-76.35	0.023	/	/	4	Pass
				1000	12500	5789.5	-60.46	0.899	/	/	20	Pass
		2472	1	30	1000	847.35	-76.25	0.024	/	/	4	Pass
				1000	12500	3402	-49.27	11.830	-78.43	0.014	20	Pass
802.11g	SISO	2412	1	30	1000	959.9	-76.15	0.024	/	/	4	Pass
				1000	12500	5781.5	-61.08	0.780	/	/	20	Pass
		2472	1	30	1000	965.1	-76.21	0.024	/	/	4	Pass
				1000	12500	5807	-60.77	0.838	/	/	20	Pass
802.11n (HT20)	SISO	2412	1	30	1000	818.4	-76.86	0.021	/	/	4	Pass
				1000	12500	12059.5	-60.83	0.826	/	/	20	Pass
		2472	1	30	1000	756.55	-76.23	0.024	/	/	4	Pass
				1000	12500	3498.5	-58.12	1.542	/	/	20	Pass
802.11n (HT40)	SISO	2422	1	30	1000	879.7	-76.75	0.021	/	/	4	Pass
				1000	12500	5851	-60.73	0.845	/	/	20	Pass
		2462	1	30	1000	829.25	-75.79	0.026	/	/	4	Pass
				1000	12500	6891.5	-61.08	0.780	/	/	20	Pass

5.2 Test Graph

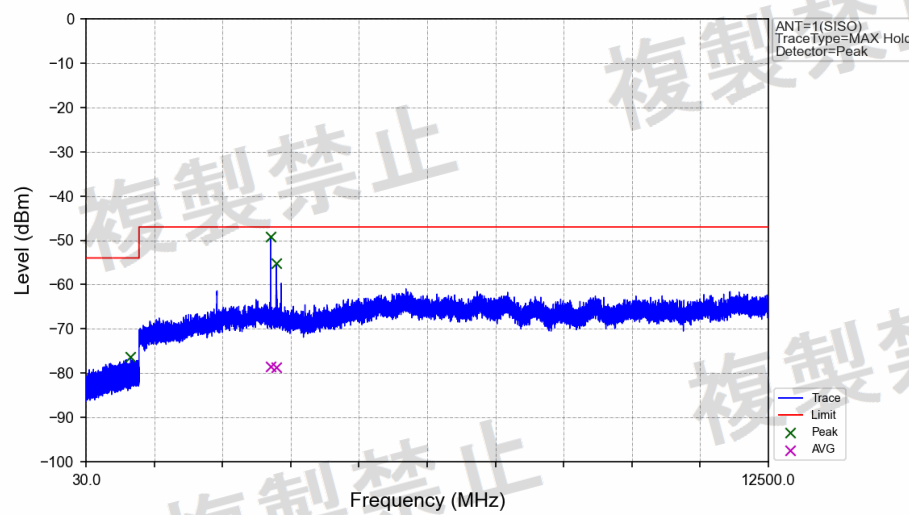
5.2.1 RxSe_NTNV



802.11b 2472MHz_Ant1 (SISO)_NTNV



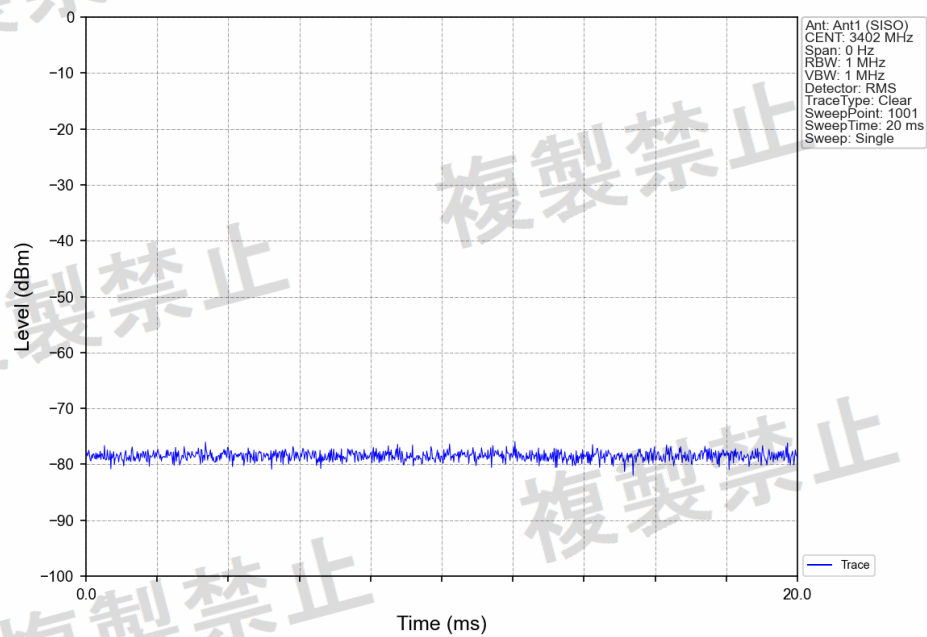
802.11b 2472MHz_Ant1 (SISO)_NTNV



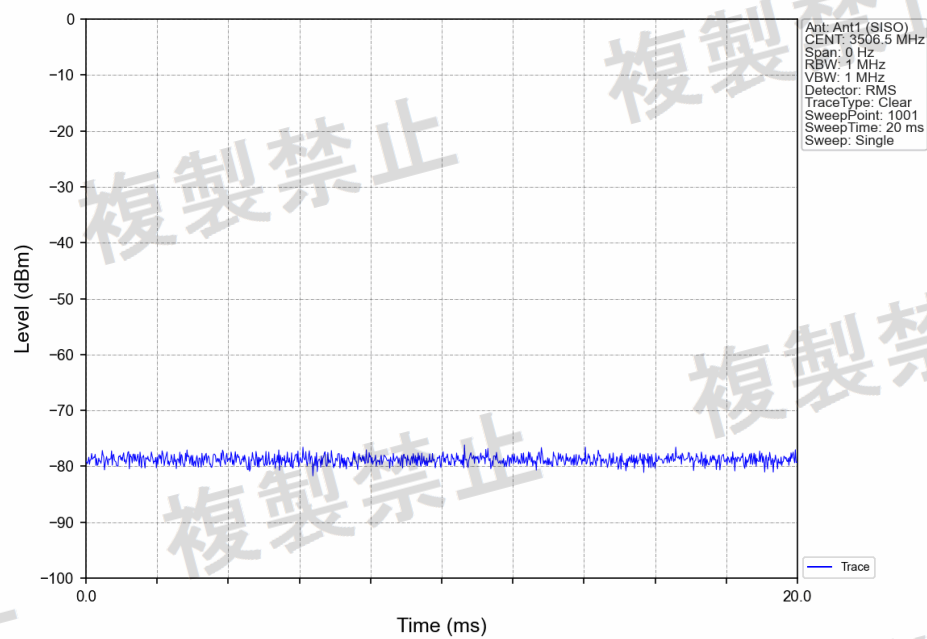
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	847.350	-76.25	/	-54	Pass
1000	12500	1	1	3402.000	-49.27	-78.43	-47	Pass
1000	12500	1	1	3506.500	-55.22	-78.76	-47	Pass



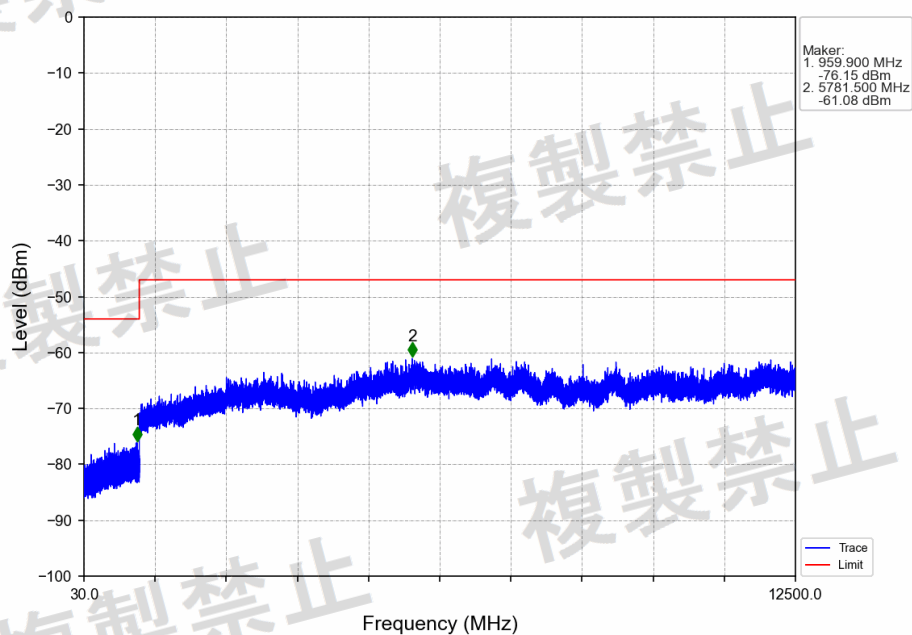
802.11b 2472MHz_Ant1 (SISO)_NTNV



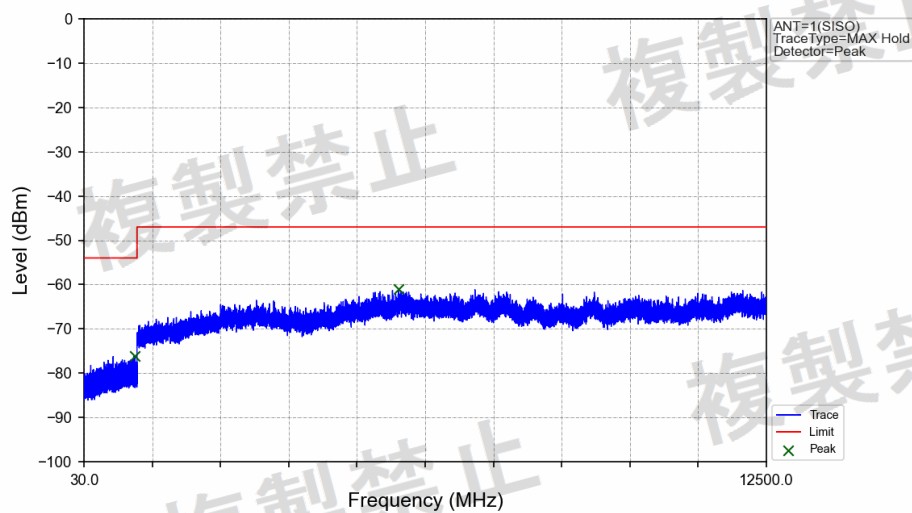
802.11b 2472MHz_Ant1 (SISO)_NTNV



802.11g 2412MHz_Ant1 (SISO)_NTNV

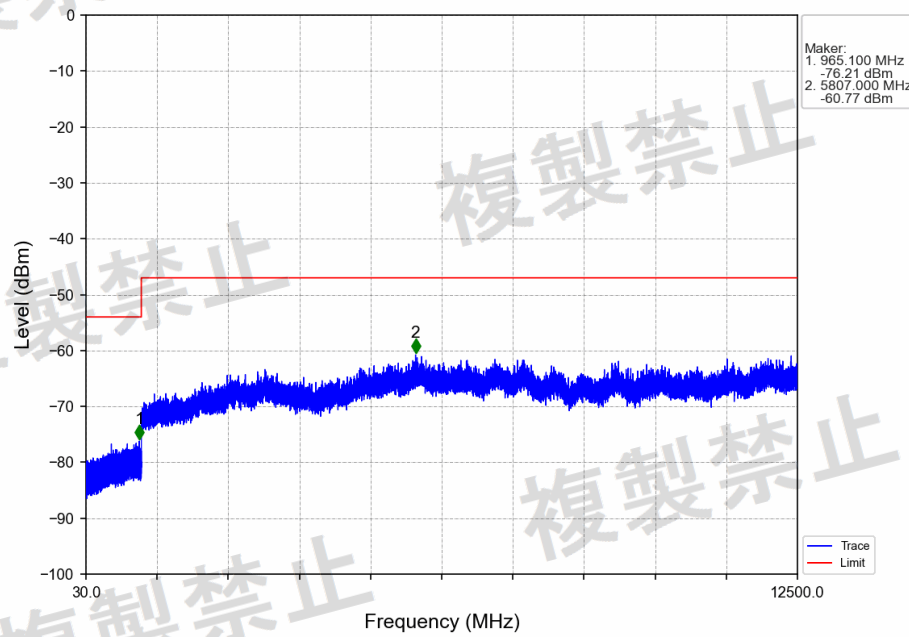


802.11g 2412MHz_Ant1 (SISO)_NTNV

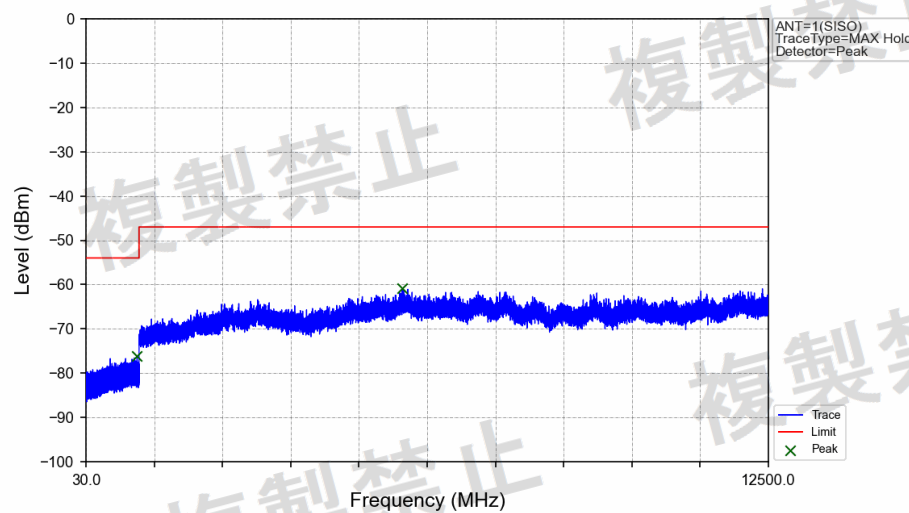


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	959.900	-76.15	/	-54	Pass
1000	12500	1	1	5781.500	-61.08	/	-47	Pass

802.11g 2472MHz_Ant1 (SISO)_NTNV

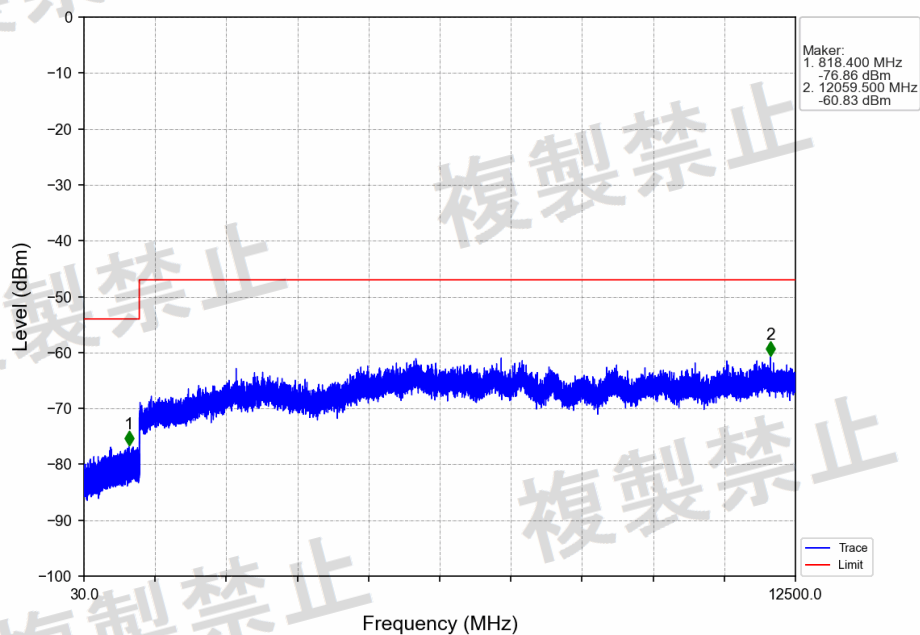


802.11g 2472MHz_Ant1 (SISO)_NTNV

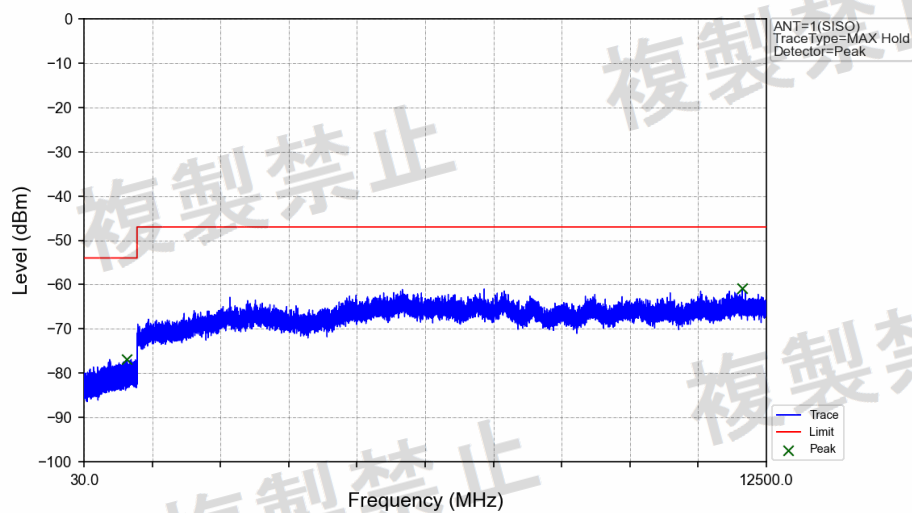


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	965.100	-76.21	/	-54	Pass
1000	12500	1	1	5807.000	-60.77	/	-47	Pass

802.11n(HT20) 2412MHz Ant1 (SISO) _NTNV

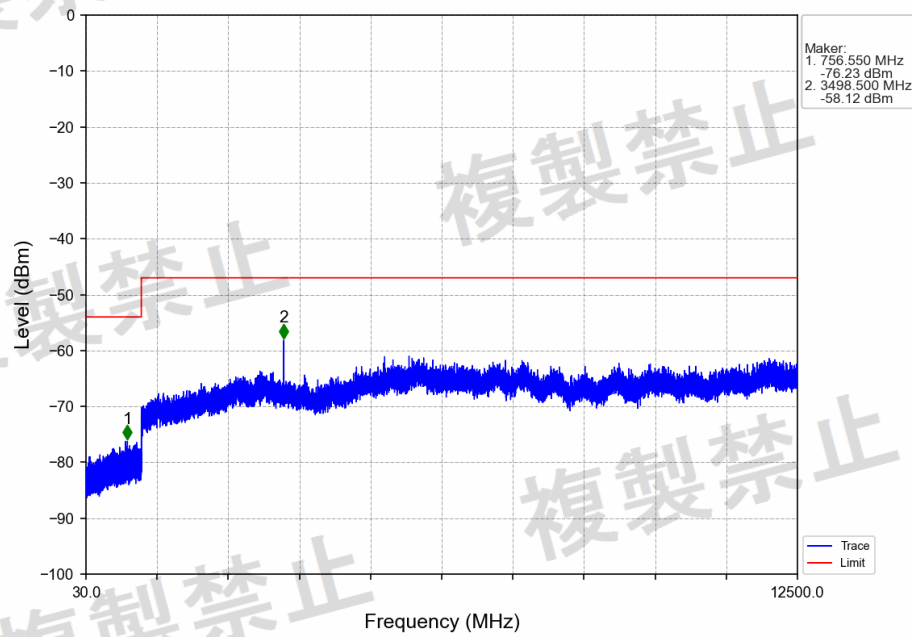


802.11n(HT20) 2412MHz Ant1 (SISO) _NTNV

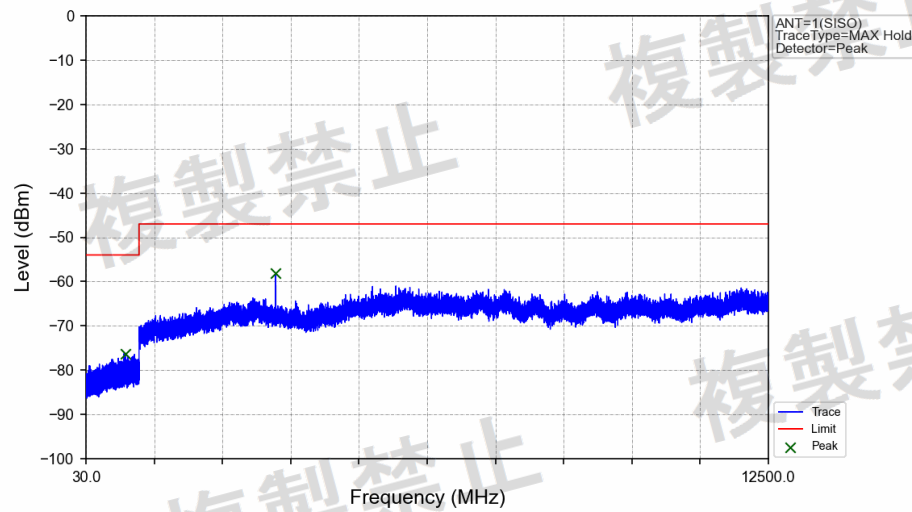


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	818.400	-76.86	/	-54	Pass
1000	12500	1	1	12059.500	-60.83	/	-47	Pass

802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

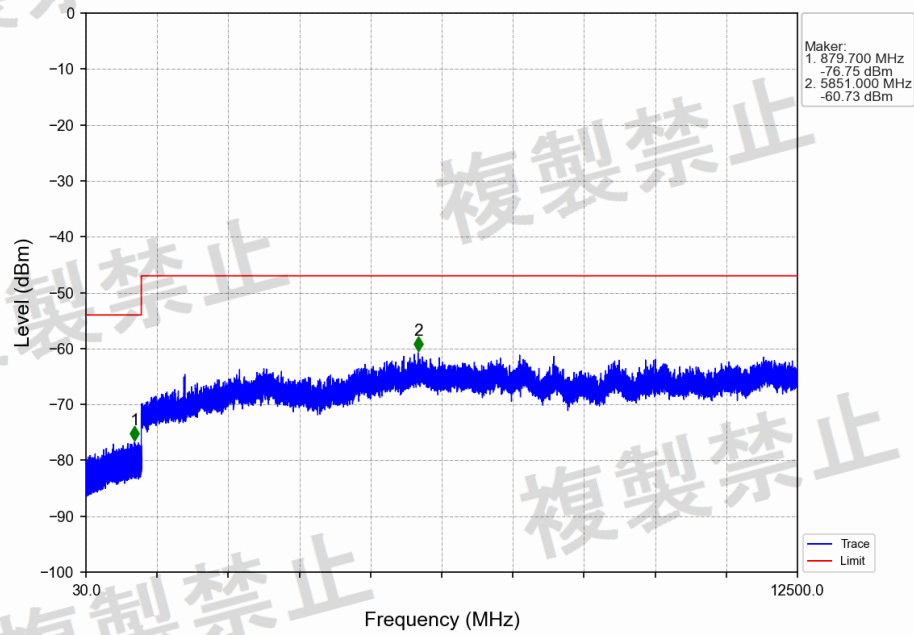


802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

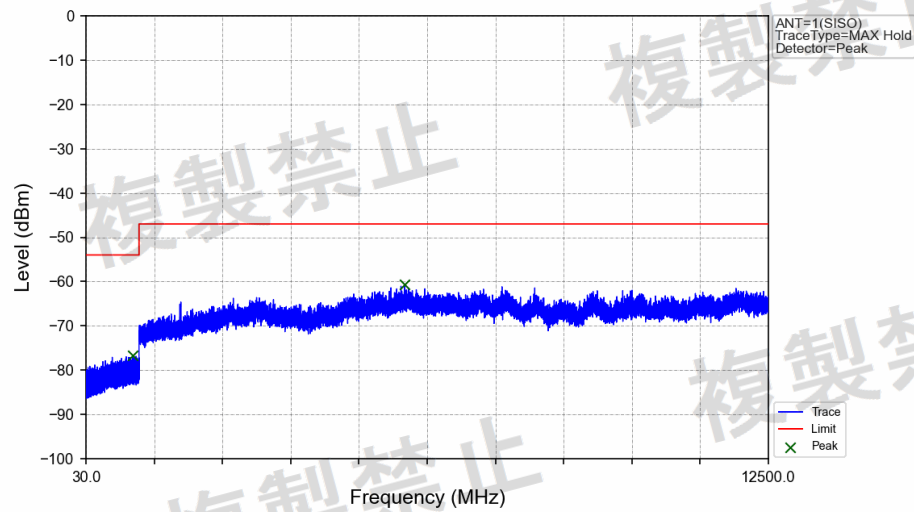


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	756.550	-76.23	/	-54	Pass
1000	12500	1	1	3498.500	-58.12	/	-47	Pass

802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



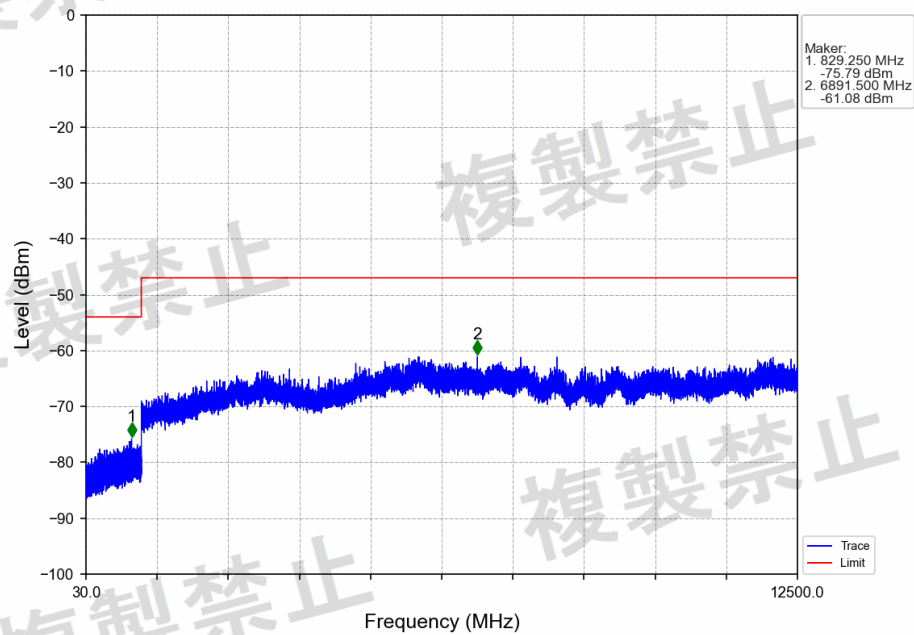
802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



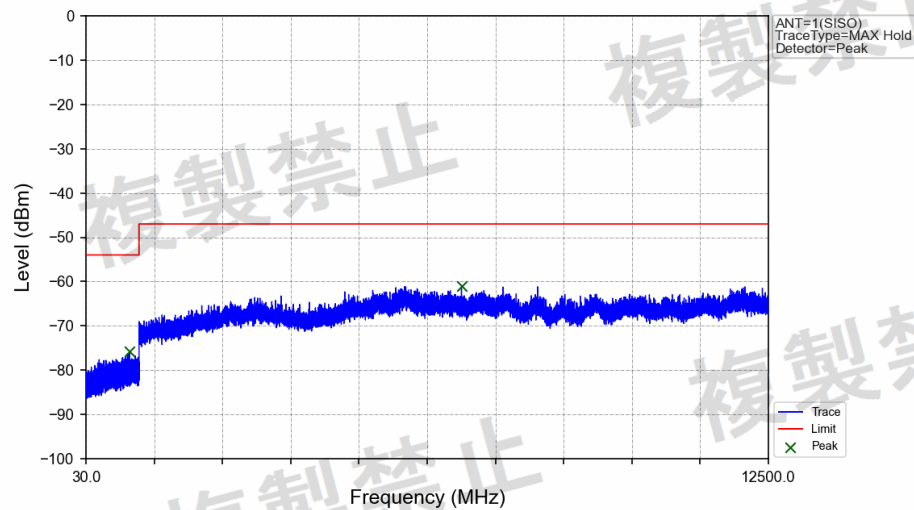
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	879.700	-76.75	/	-54	Pass
1000	12500	1	1	5851.000	-60.73	/	-47	Pass



802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	829.250	-75.79	/	-54	Pass
1000	12500	1	1	6891.500	-61.08	/	-47	Pass

***** End of Report *****