

Appendix RF test data for WIFI 2.4G

1. Frequency Error

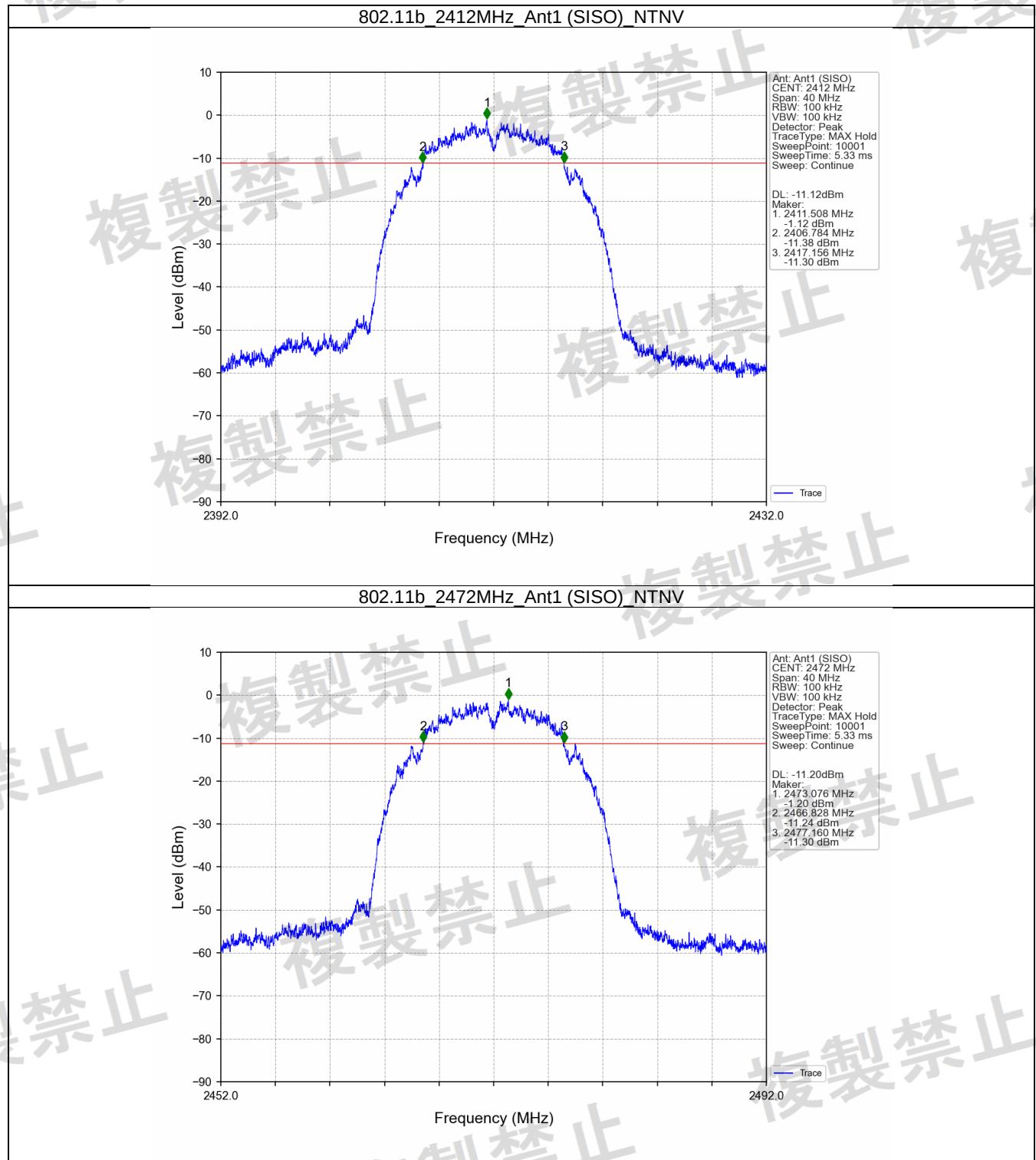
1.1 Test Result

1.1.1 Ant1

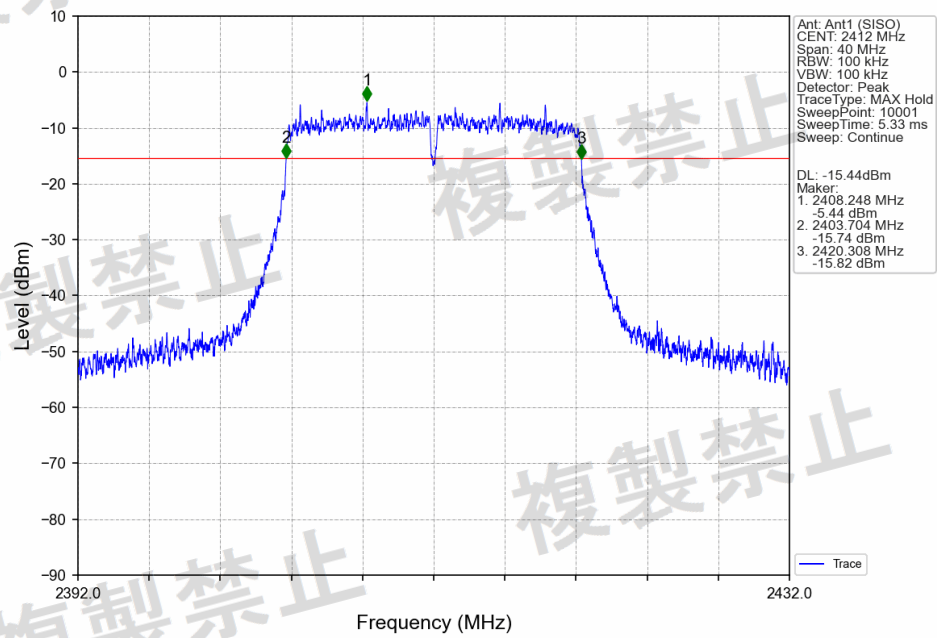
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	802.11b	SISO	2412	2411.970	-12.44	-50 to 50	Pass
			2472	2471.994	-2.43	-50 to 50	Pass
	802.11g	SISO	2412	2412.006	2.49	-50 to 50	Pass
			2472	2472.010	4.05	-50 to 50	Pass
	802.11n (HT20)	SISO	2412	2412.002	0.83	-50 to 50	Pass
			2472	2471.996	-1.62	-50 to 50	Pass
	802.11n (HT40)	SISO	2422	2421.996	-1.65	-50 to 50	Pass
			2462	2462.004	1.62	-50 to 50	Pass

1.2 Test Graph

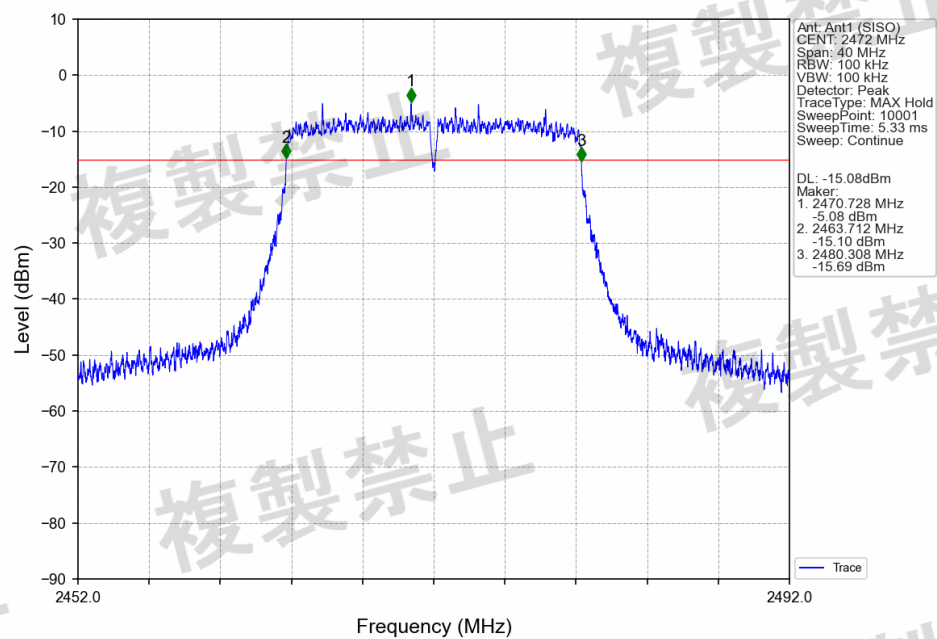
1.2.1 Ant1



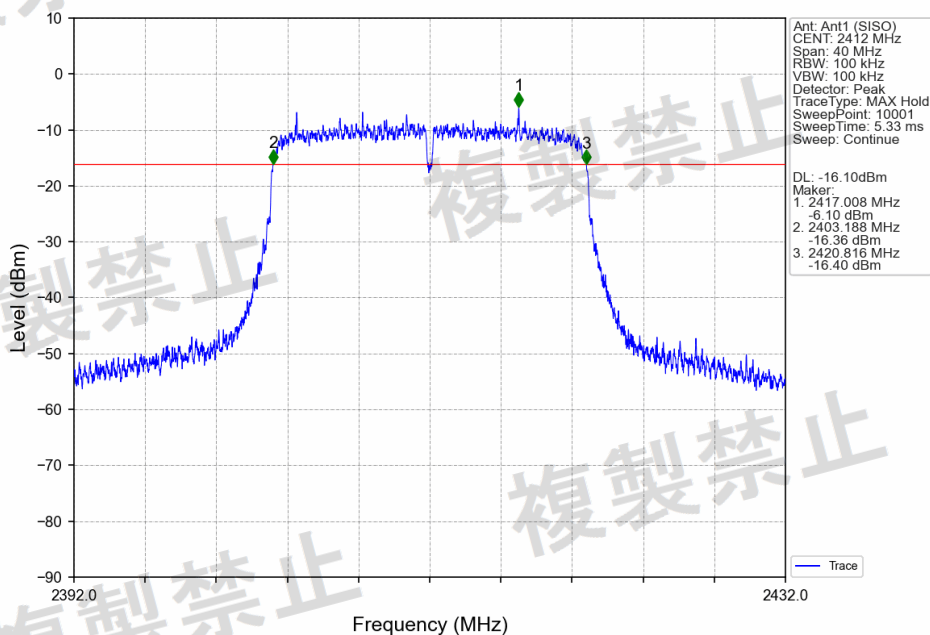
802.11g 2412MHz_Ant1 (SISO)_NTNV



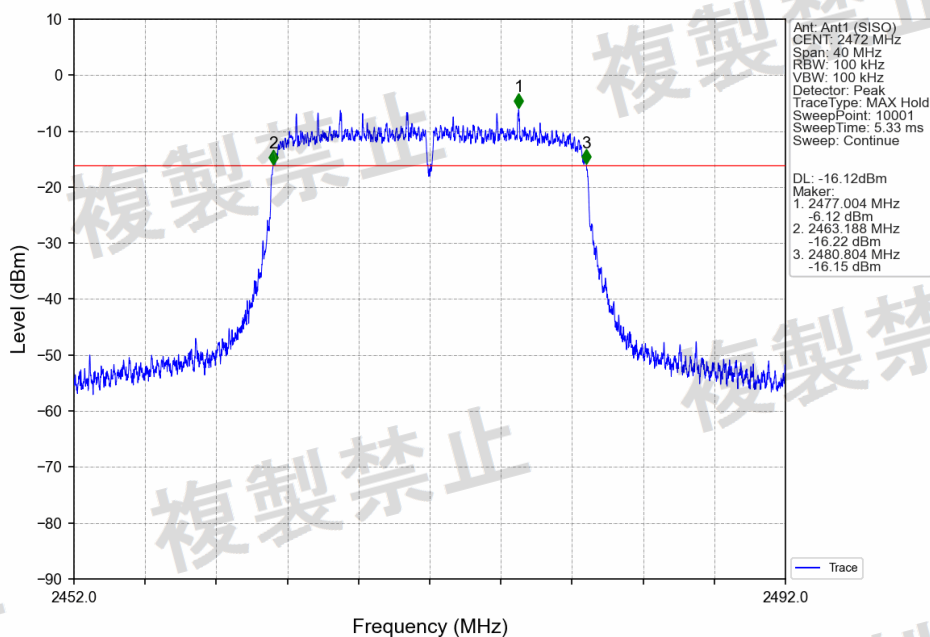
802.11g 2472MHz_Ant1 (SISO)_NTNV



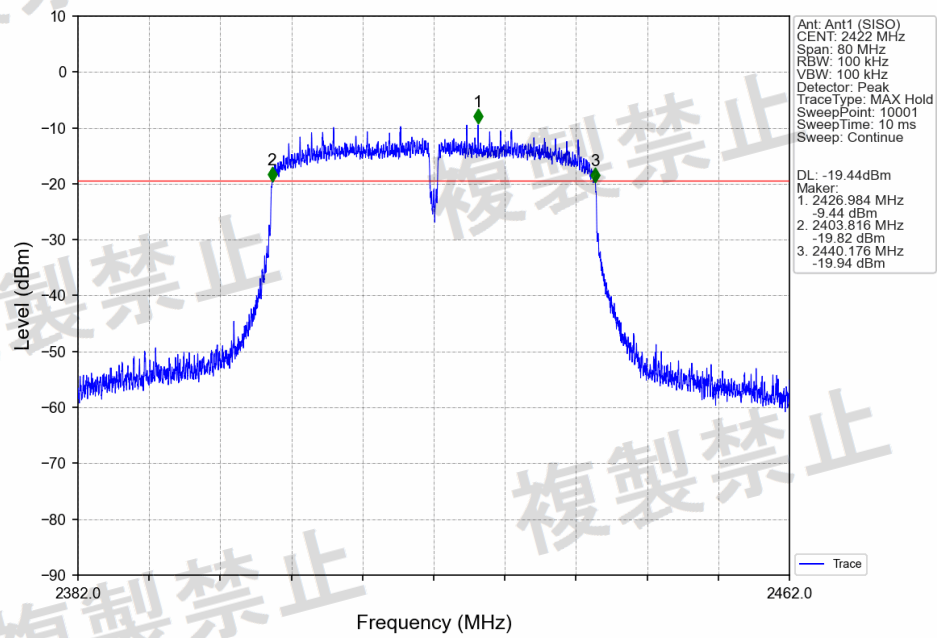
802.11n(HT20) 2412MHz Ant1 (SISO) NTVN



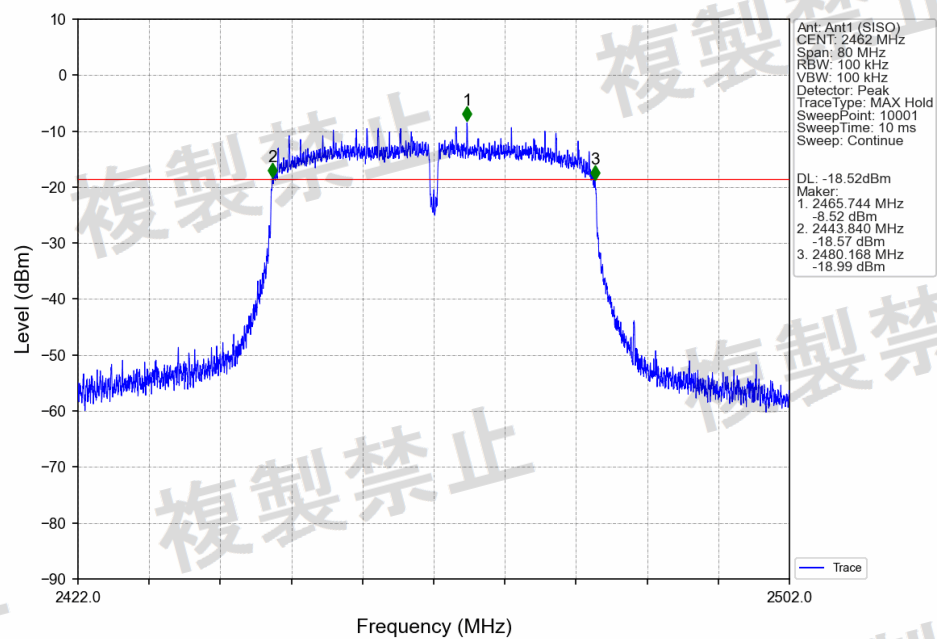
802.11n(HT20) 2472MHz Ant1 (SISO) NTVN



802.11n(HT40) 2422MHz Ant1 (SISO) NTVN



802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



2. Occupied Bandwidth

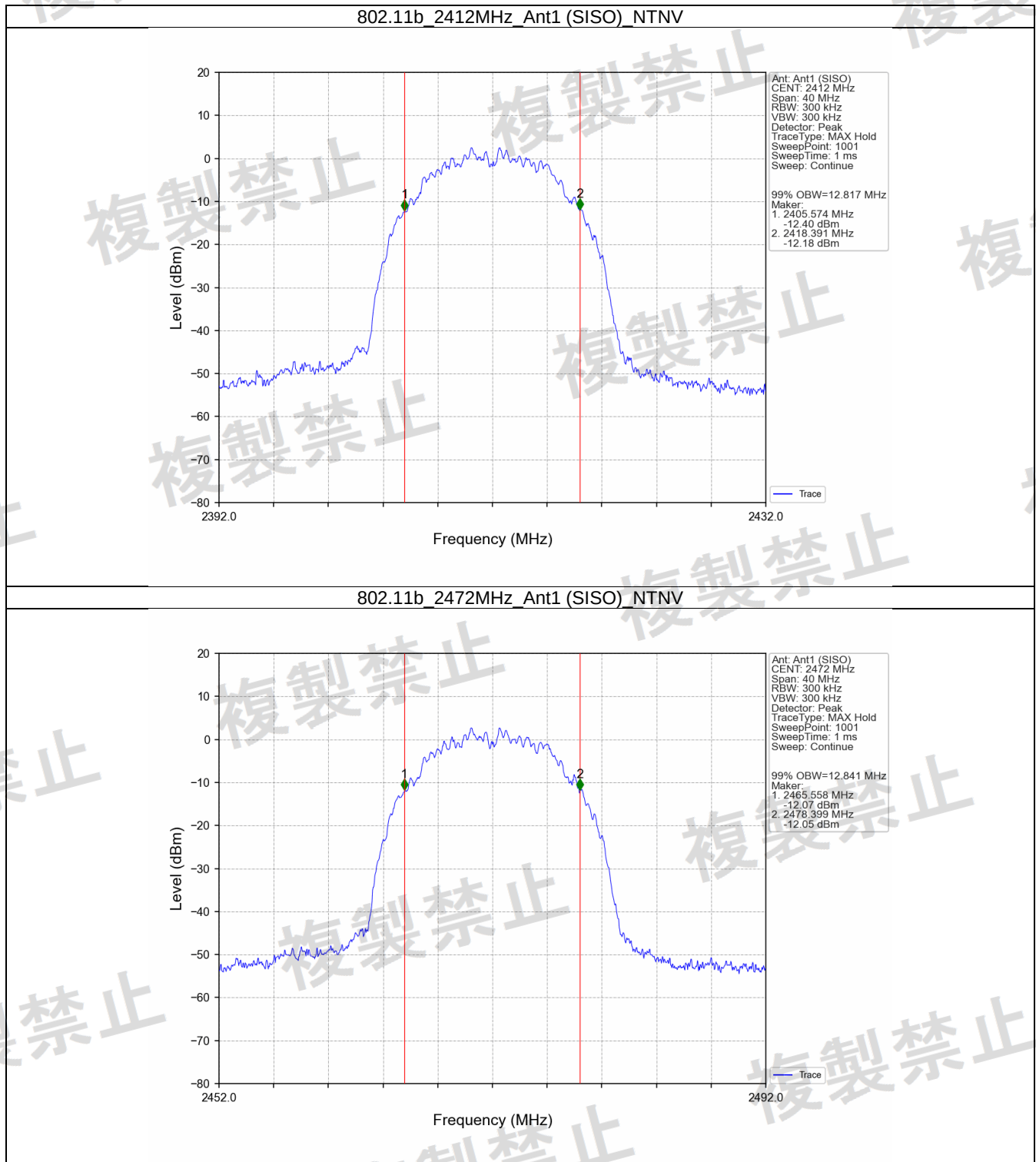
2.1 Test Result

2.1.1 OBW

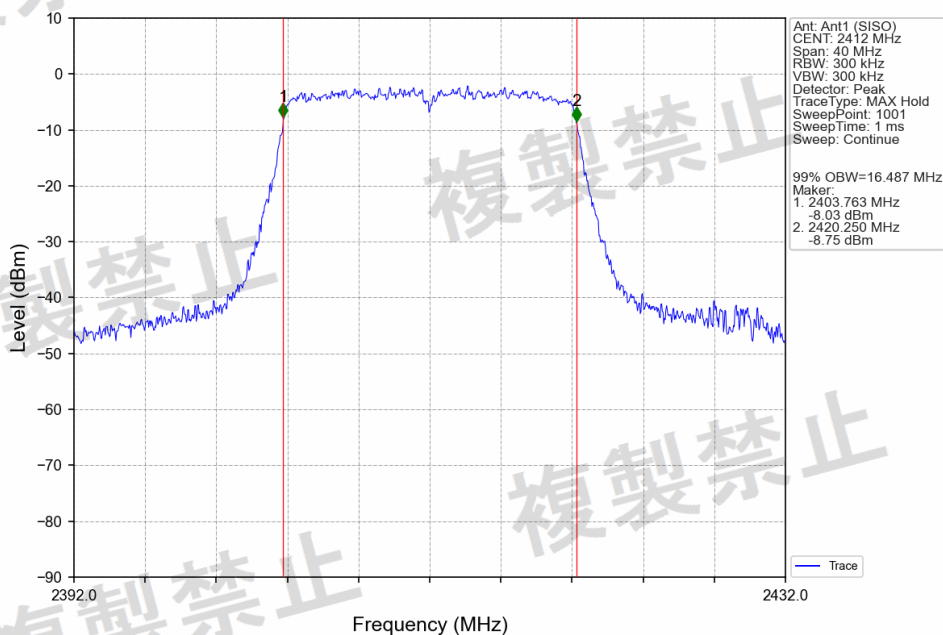
ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	12.817	<=26	Pass
			2472	12.841	<=26	Pass
	802.11g	SISO	2412	16.487	<=26	Pass
			2472	16.497	<=26	Pass
	802.11n (HT20)	SISO	2412	17.351	<=26	Pass
			2472	17.355	<=26	Pass
	802.11n (HT40)	SISO	2422	35.702	<=40	Pass
			2462	35.703	<=40	Pass

2.2 Test Graph

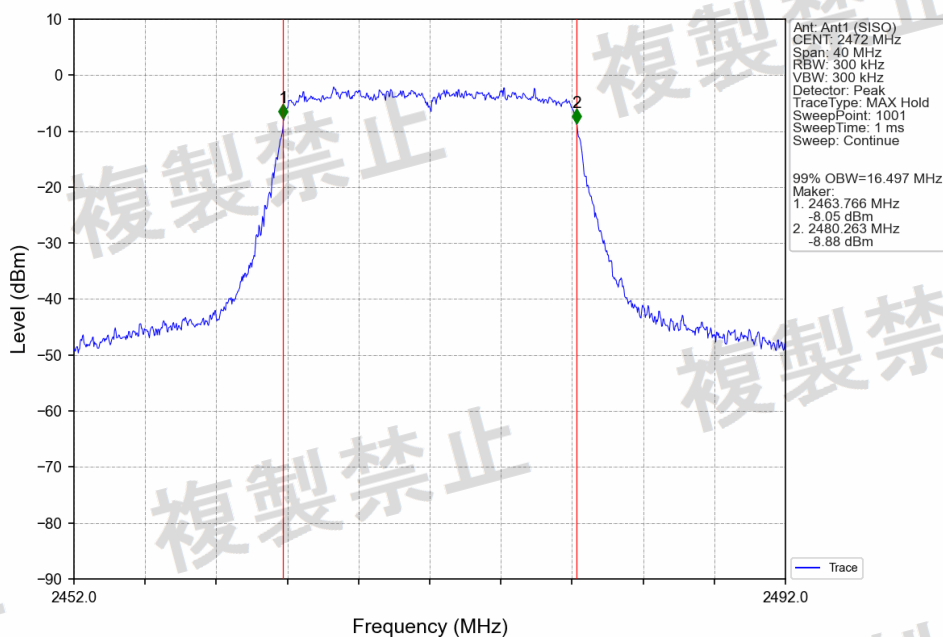
2.2.1 OBW



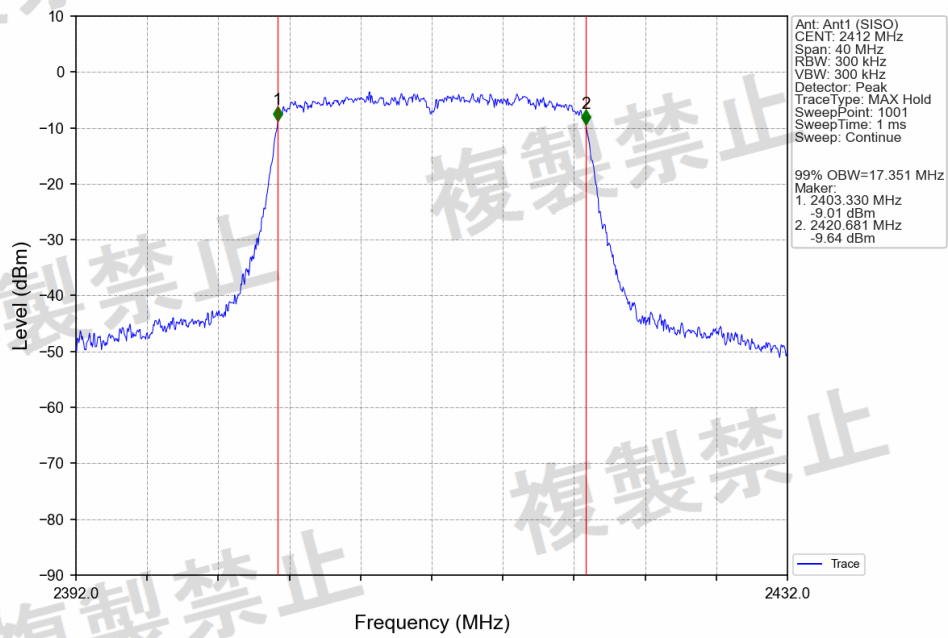
802.11g 2412MHz_Ant1 (SISO)_NTNV



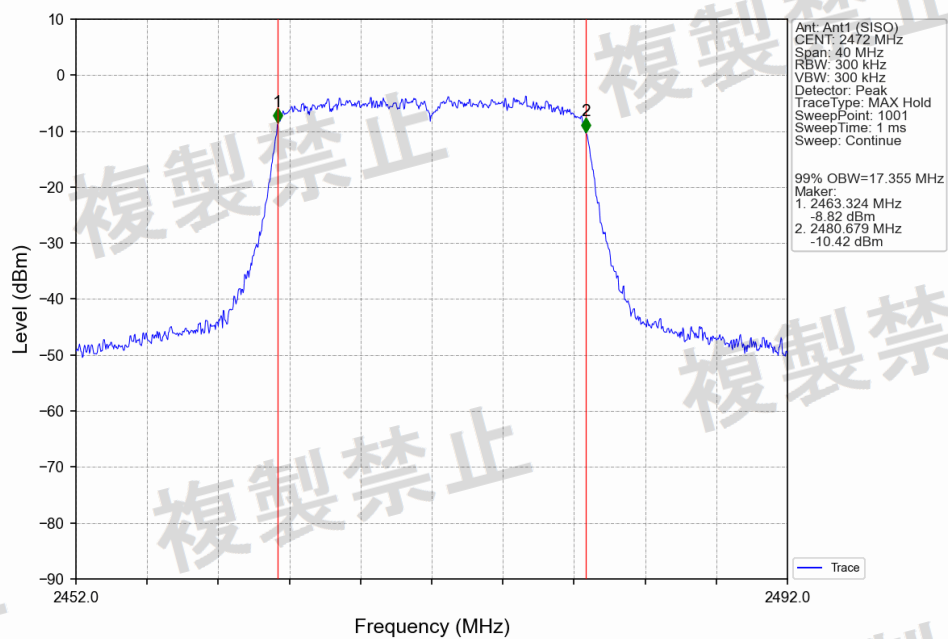
802.11g 2472MHz_Ant1 (SISO)_NTNV



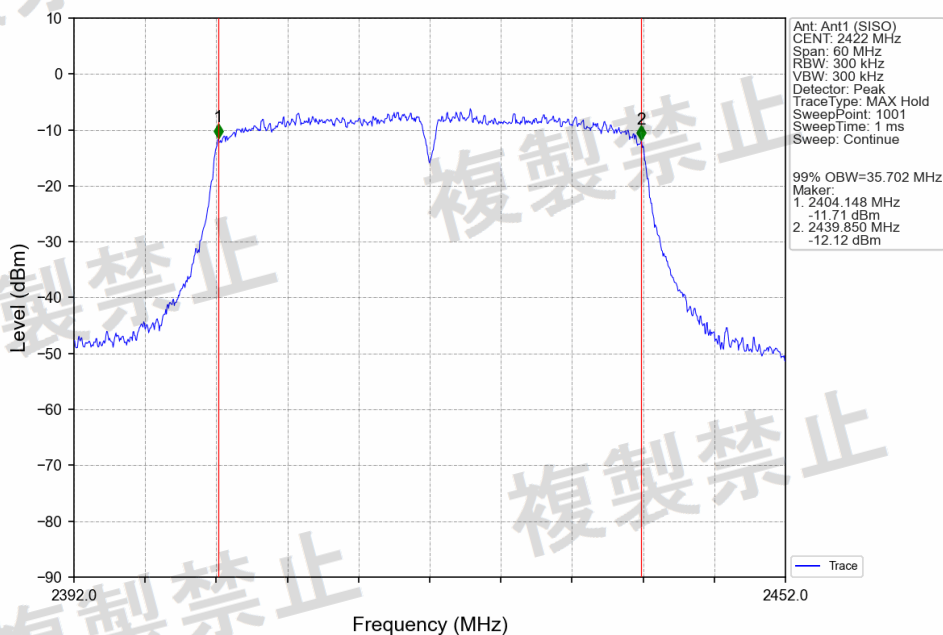
802.11n(HT20) 2412MHz Ant1 (SISO) NTVN



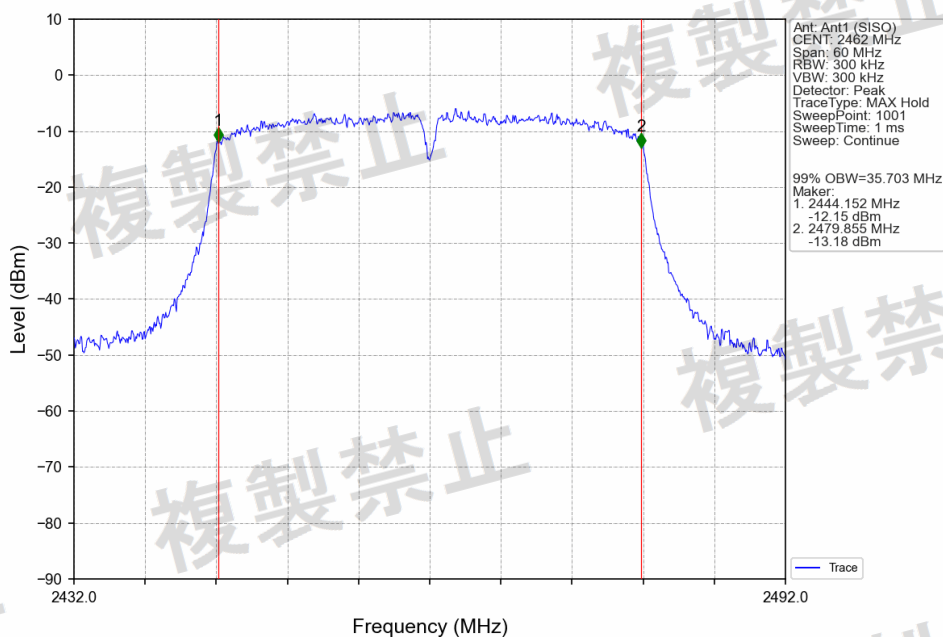
802.11n(HT20) 2472MHz Ant1 (SISO) NTVN



802.11n(HT40) 2422MHz Ant1 (SISO) NTVN



802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



3. Antenna Power

3.1 Test Result

3.1.1 Power

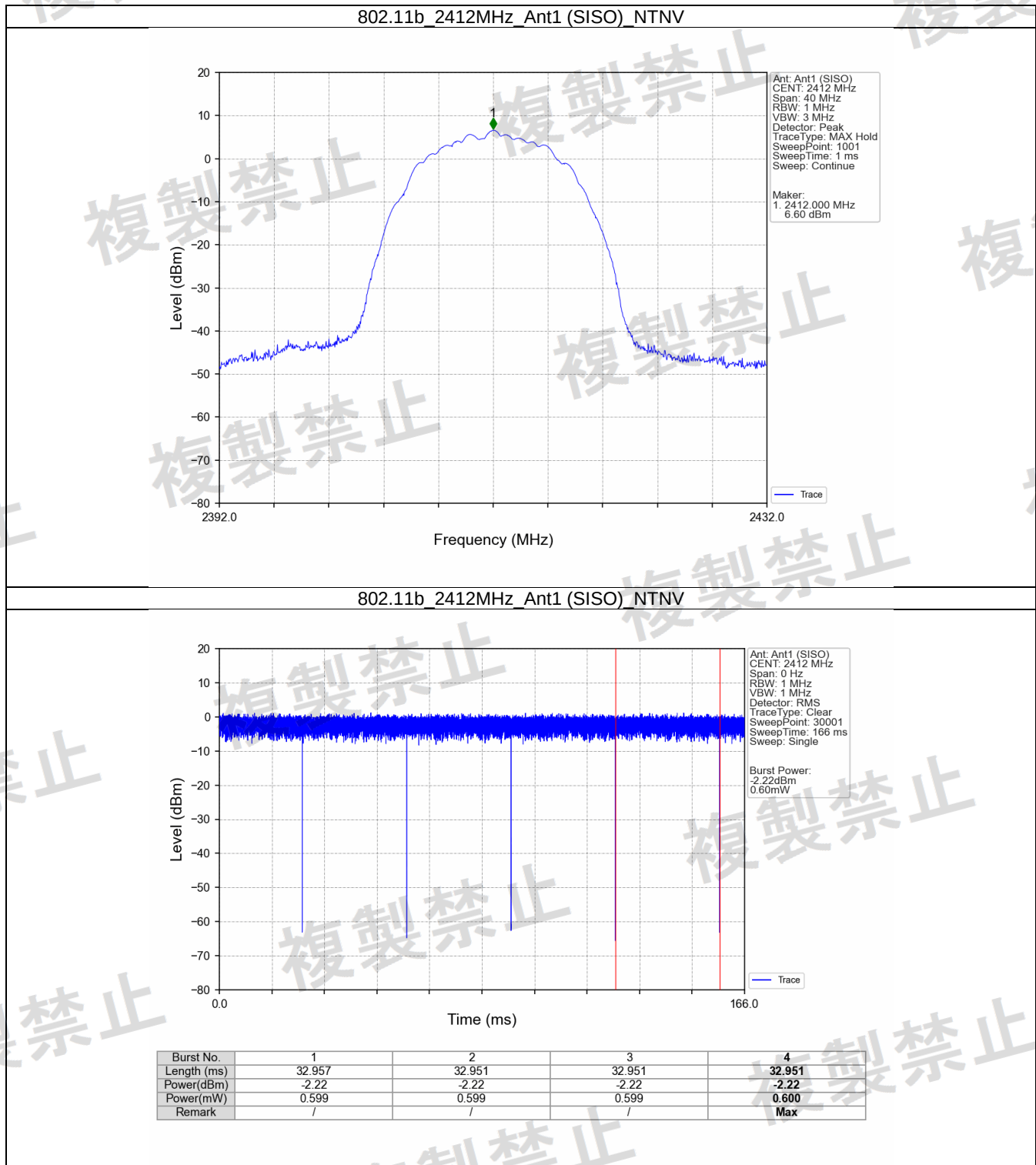
ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (mW/MHz)		Nominal Power (mW/MHz)	Tolerance (%)		Verdict
					Measured	Limit		Measured	Limit	
NTNV	802.11b	SISO	2412	1	0.600	≤ 10.00	0.630	-4.76	≤ 20	Pass
			2472	1	0.630	≤ 10.00	0.630	0	≤ 20	Pass
	802.11g	SISO	2412	1	0.319	≤ 10.00	0.320	-0.31	≤ 20	Pass
			2472	1	0.322	≤ 10.00	0.320	0.63	≤ 20	Pass
	802.11n (HT20)	SISO	2412	1	0.230	≤ 10.00	0.230	0	≤ 20	Pass
			2472	1	0.222	≤ 10.00	0.230	-3.49	≤ 20	Pass
	802.11n (HT40)	SISO	2422	1	0.111	≤ 5.00	0.110	0.91	≤ 20	Pass
			2462	1	0.112	≤ 5.00	0.110	1.82	≤ 20	Pass

3.1.2 EIRP

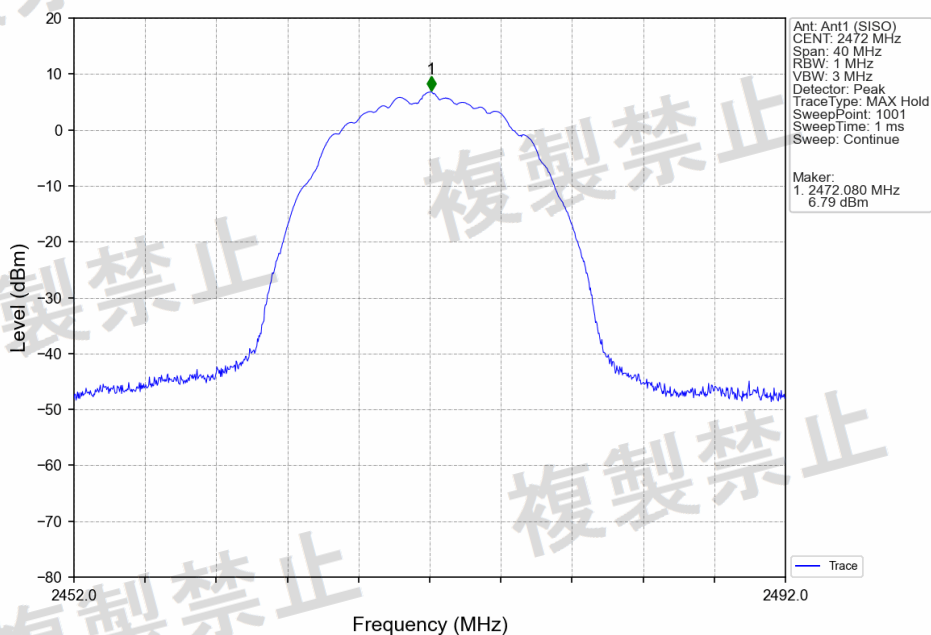
ENV	Mode	TX Type	Frequency (MHz)	ANT	Burst power (dBm/MHz)	Gain (dBi)	EIRP (dBm/MHz)		Verdict
							Result	Limit	
NTNV	802.11b	SISO	2412	1	-2.22	3.98	1.76	≤ 12.14	Pass
			2472	1	-2.01	3.98	1.97	≤ 12.14	Pass
	802.11g	SISO	2412	1	-4.96	3.98	-0.98	≤ 12.14	Pass
			2472	1	-4.92	3.98	-0.94	≤ 12.14	Pass
	802.11n (HT20)	SISO	2412	1	-6.38	3.98	-2.4	≤ 12.14	Pass
			2472	1	-6.54	3.98	-2.56	≤ 12.14	Pass
	802.11n (HT40)	SISO	2422	1	-9.55	3.98	-5.57	≤ 9.13	Pass
			2462	1	-9.51	3.98	-5.53	≤ 9.13	Pass

3.2 Test Graph

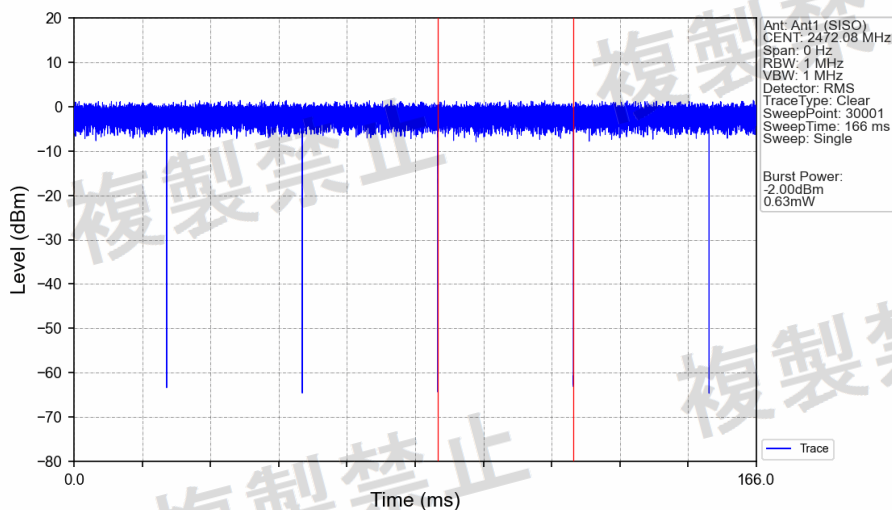
3.2.1 Power



802.11b 2472MHz_Ant1 (SISO)_NTNV

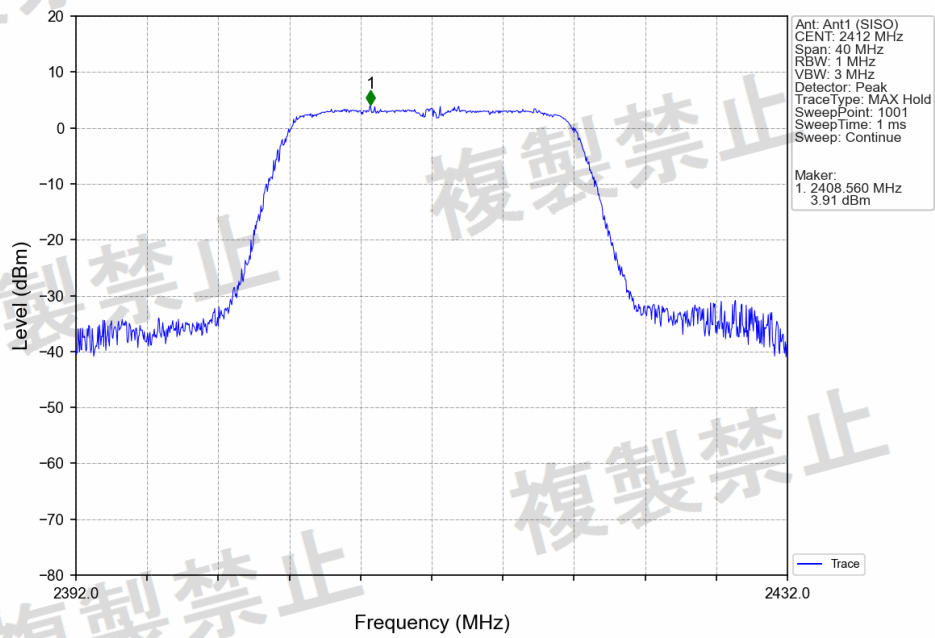


802.11b 2472MHz_Ant1 (SISO)_NTNV

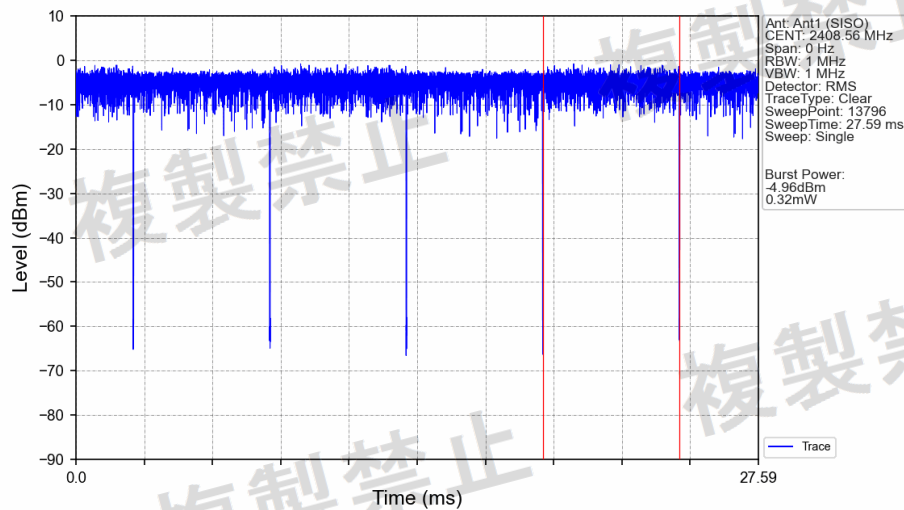


Burst No.	1	2	3	4
Length (ms)	32.951	32.957	32.951	32.951
Power(dBm)	-2.00	-2.00	-2.00	-2.00
Power(mW)	0.630	0.630	0.630	0.630
Remark	/	/	Max	/

802.11g 2412MHz_Ant1 (SISO)_NTNV

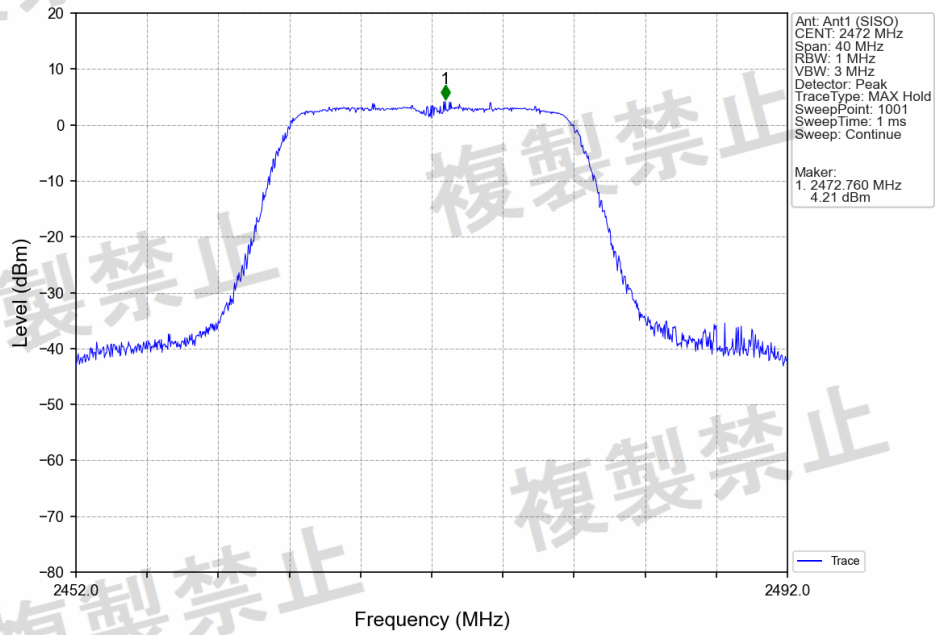


802.11g 2412MHz_Ant1 (SISO)_NTNV

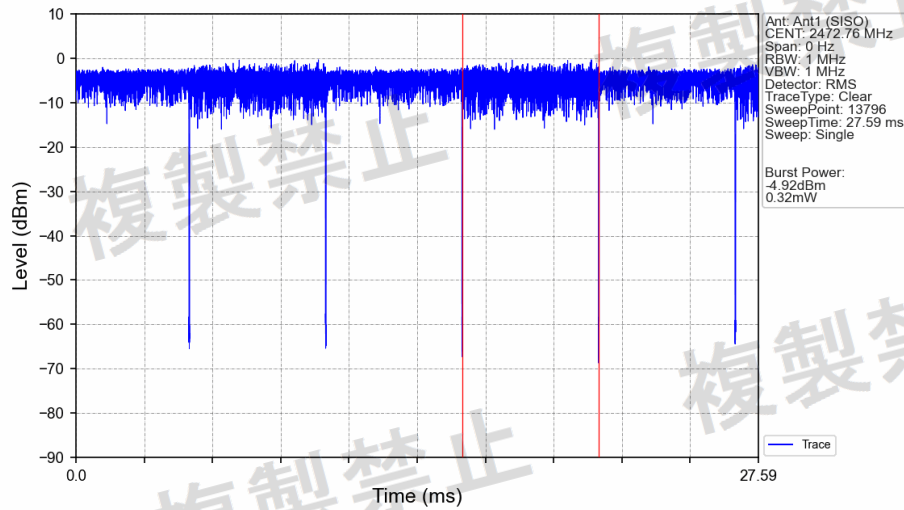


Burst No.	1	2	3	4
Length (ms)	5.486	5.484	5.486	5.484
Power(dBm)	-4.96	-4.97	-4.96	-4.96
Power(mW)	0.319	0.319	0.319	0.319
Remark	/	/	/	Max

802.11g 2472MHz_Ant1 (SISO)_NTNV

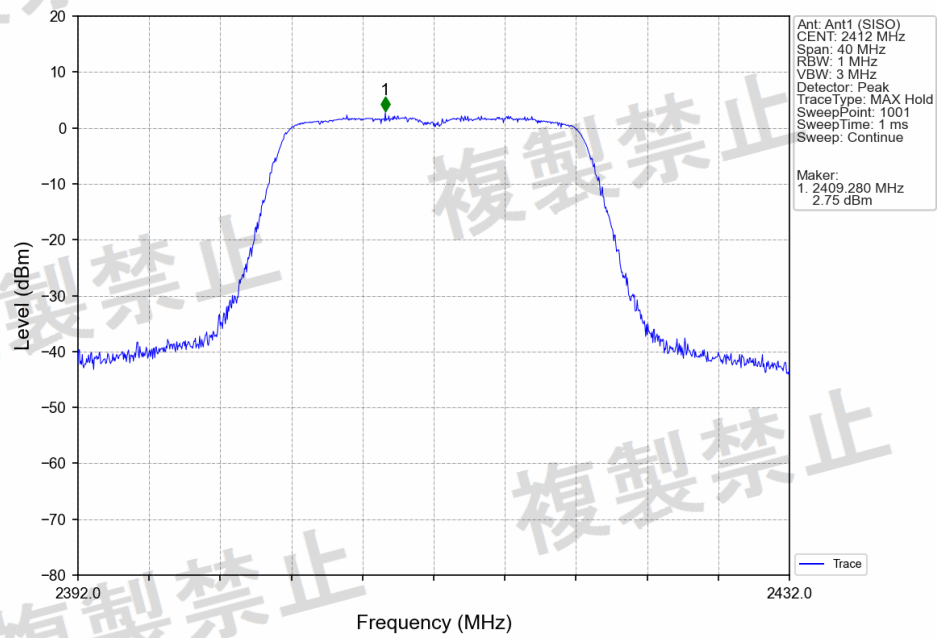


802.11g 2472MHz_Ant1 (SISO)_NTNV

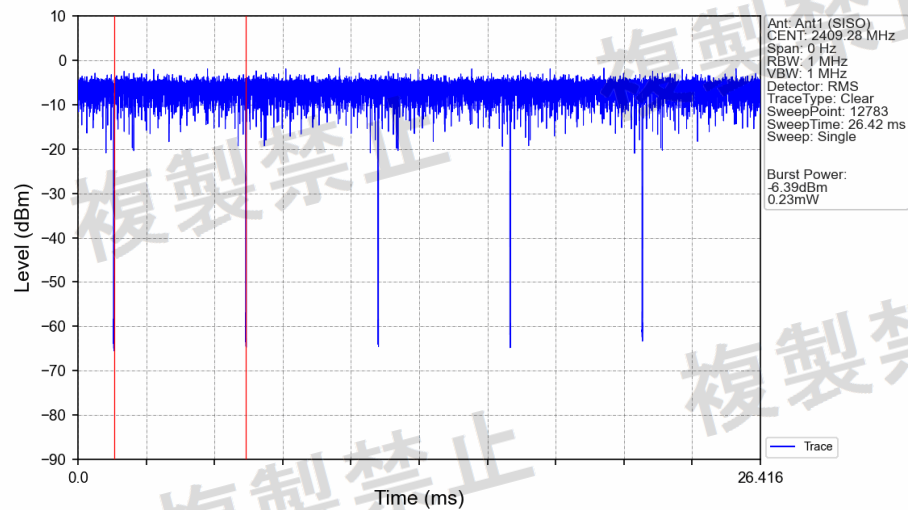


Burst No.	1	2	3	4
Length (ms)	5.484	5.486	5.484	5.486
Power(dBm)	-4.92	-4.92	-4.92	-4.92
Power(mW)	0.322	0.322	0.322	0.322
Remark	/	/	Max	/

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

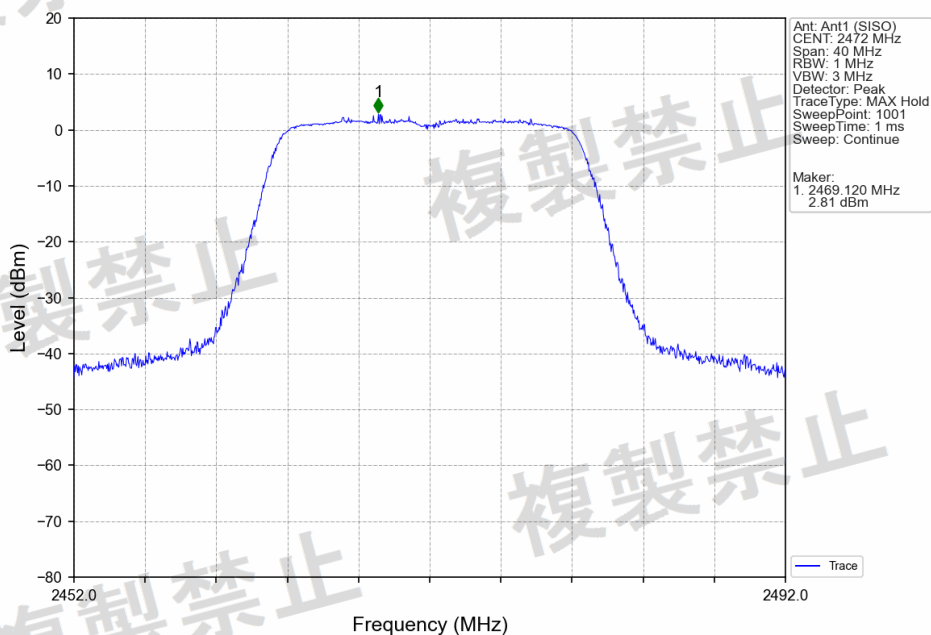


802.11n(HT20) 2412MHz Ant1 (SISO) NTVN

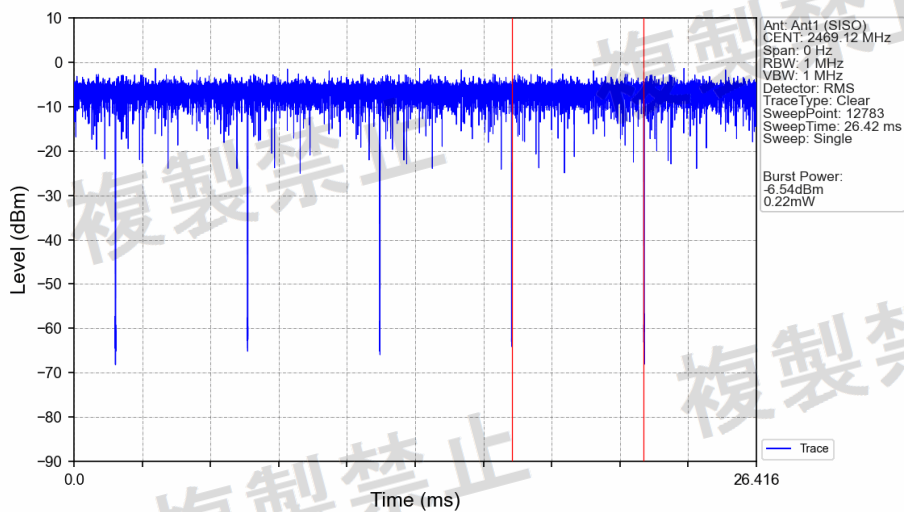


Burst No.	1	2	3	4
Length (ms)	5.080	5.080	5.080	5.080
Power(dBm)	-6.39	-6.40	-6.39	-6.39
Power(mW)	0.230	0.229	0.229	0.229
Remark	Max	/	/	/

802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

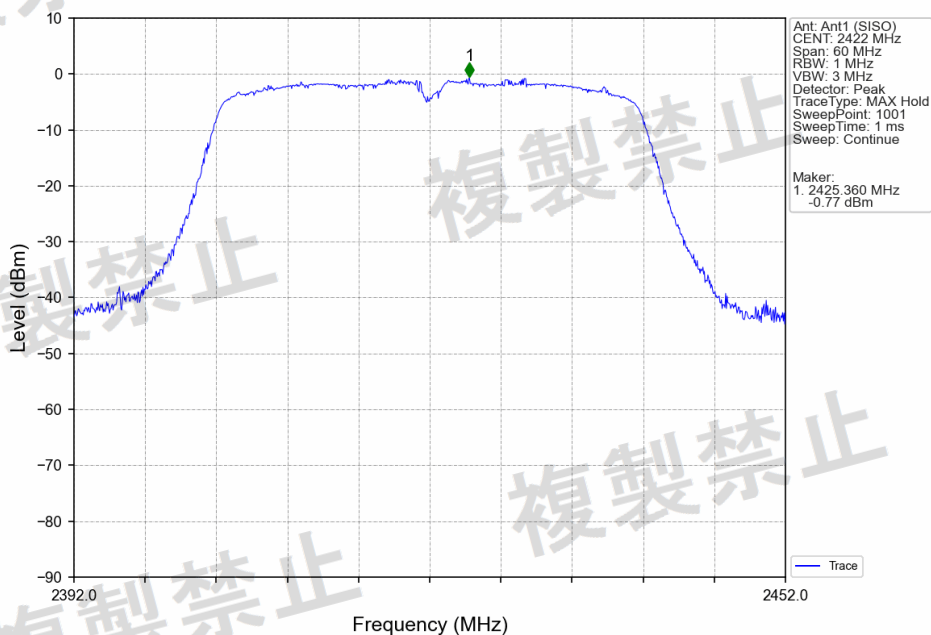


802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

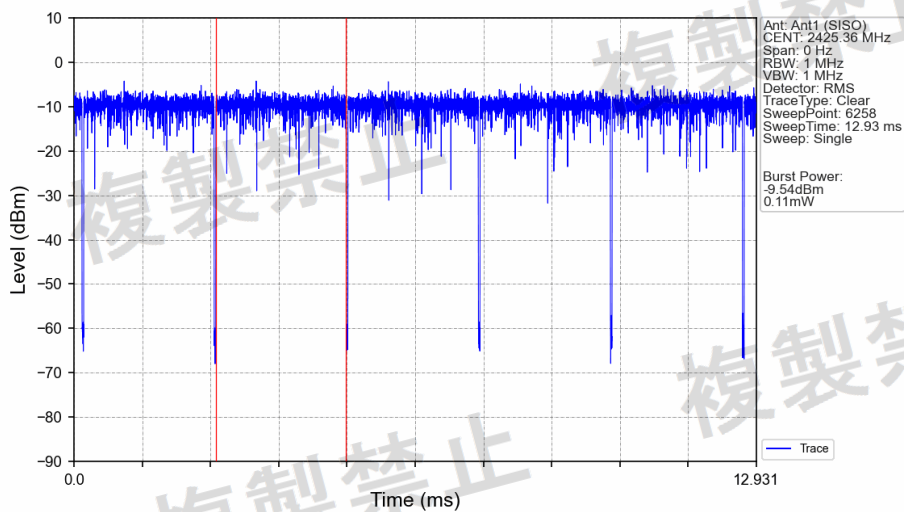


Burst No.	1	2	3	4
Length (ms)	5.082	5.082	5.082	5.082
Power(dBm)	-6.54	-6.54	-6.54	-6.54
Power(mW)	0.222	0.222	0.222	0.222
Remark	/	/	/	Max

802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

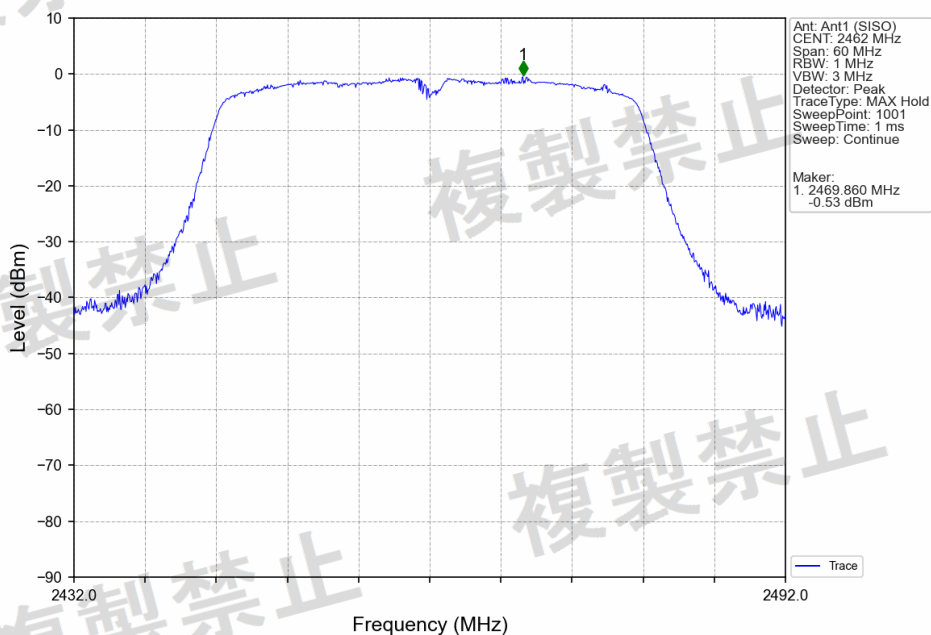


802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

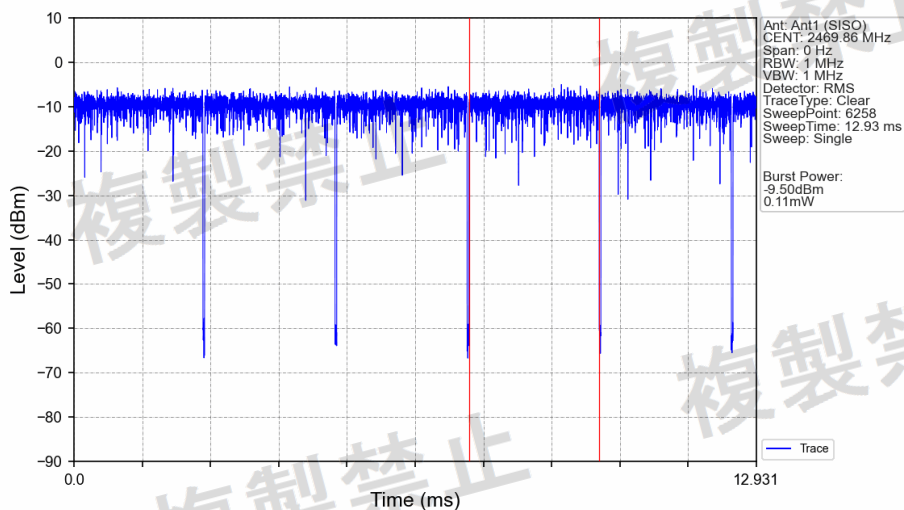


Burst No.	1	2	3	4	5
Length (ms)	2.468	2.470	2.470	2.470	2.470
Power(dBm)	-9.55	-9.54	-9.54	-9.54	-9.54
Power(mW)	0.111	0.111	0.111	0.111	0.111
Remark	/	Max	/	/	/

802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



Burst No.	1	2	3	4
Length (ms)	2.470	2.468	2.468	2.468
Power(dBm)	-9.51	-9.50	-9.50	-9.50
Power(mW)	0.112	0.112	0.112	0.112
Remark	/	/	Max	/

4. Spurious Emission Intensity

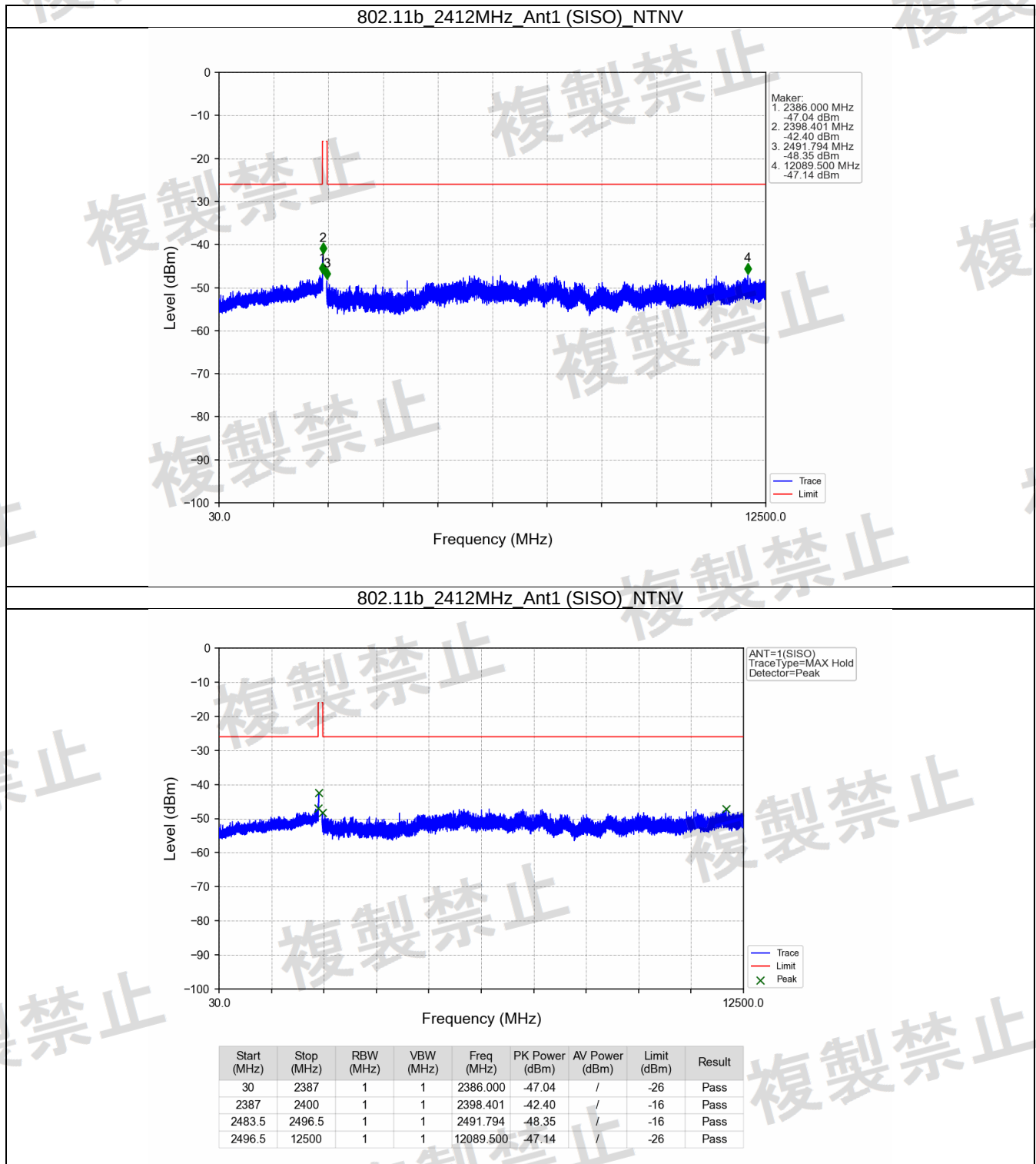
4.1 Test Result

4.1.1 TxSe_NTNV

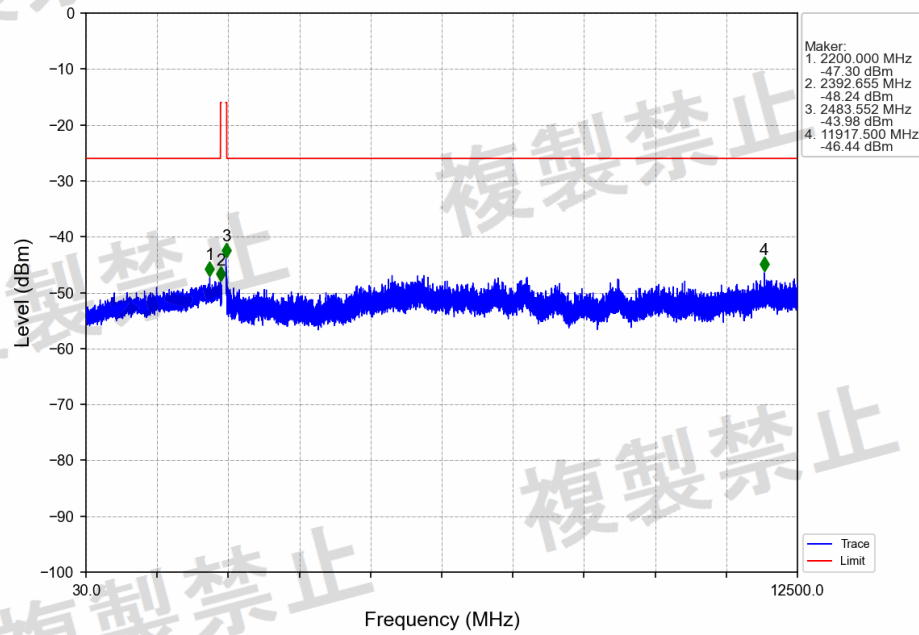
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
802.11b	SISO	2412	1	30	2387	2386	-47.04	0.020	/	/	2.5	Pass
				2387	2400	2398.401	-42.40	0.058	/	/	25	Pass
				2483.5	2496.5	2491.794	-48.35	0.015	/	/	25	Pass
				2496.5	12500	12089.5	-47.14	0.019	/	/	2.5	Pass
		2472	1	30	2387	2200	-47.30	0.019	/	/	2.5	Pass
				2387	2400	2392.655	-48.24	0.015	/	/	25	Pass
				2483.5	2496.5	2483.552	-43.98	0.040	/	/	25	Pass
				2496.5	12500	11917.5	-46.44	0.023	/	/	2.5	Pass
802.11g	SISO	2412	1	30	2387	2380.5	-44.86	0.033	/	/	2.5	Pass
				2387	2400	2399.688	-32.72	0.535	/	/	25	Pass
				2483.5	2496.5	2489.714	-48.24	0.015	/	/	25	Pass
				2496.5	12500	5762	-46.99	0.020	/	/	2.5	Pass
		2472	1	30	2387	2374	-47.19	0.019	/	/	2.5	Pass
				2387	2400	2392.603	-47.64	0.017	/	/	25	Pass
				2483.5	2496.5	2483.539	-32.40	0.575	/	/	25	Pass
				2496.5	12500	2497	-46.04	0.025	/	/	2.5	Pass
802.11n (HT20)	SISO	2412	1	30	2387	2384.5	-45.05	0.031	/	/	2.5	Pass
				2387	2400	2399.974	-34.91	0.323	/	/	25	Pass
				2483.5	2496.5	2487.179	-47.88	0.016	/	/	25	Pass
				2496.5	12500	11832	-46.55	0.022	/	/	2.5	Pass
		2472	1	30	2387	2363	-46.38	0.023	/	/	2.5	Pass
				2387	2400	2399.987	-48.31	0.015	/	/	25	Pass
				2483.5	2496.5	2483.539	-33.29	0.469	/	/	25	Pass
				2496.5	12500	5828.5	-46.82	0.021	/	/	2.5	Pass
802.11n (HT40)	SISO	2422	1	30	2387	2386.5	-42.62	0.055	/	/	2.5	Pass
				2387	2400	2399.909	-32.63	0.546	/	/	25	Pass
				2483.5	2496.5	2485.983	-47.79	0.017	/	/	25	Pass
				2496.5	12500	7713.5	-46.63	0.022	/	/	2.5	Pass
		2462	1	30	2387	2300.5	-47.83	0.016	/	/	2.5	Pass
				2387	2400	2396.594	-47.22	0.019	/	/	25	Pass
				2483.5	2496.5	2483.513	-30.03	0.993	/	/	25	Pass
				2496.5	12500	2497.5	-45.49	0.028	/	/	2.5	Pass

4.2 Test Graph

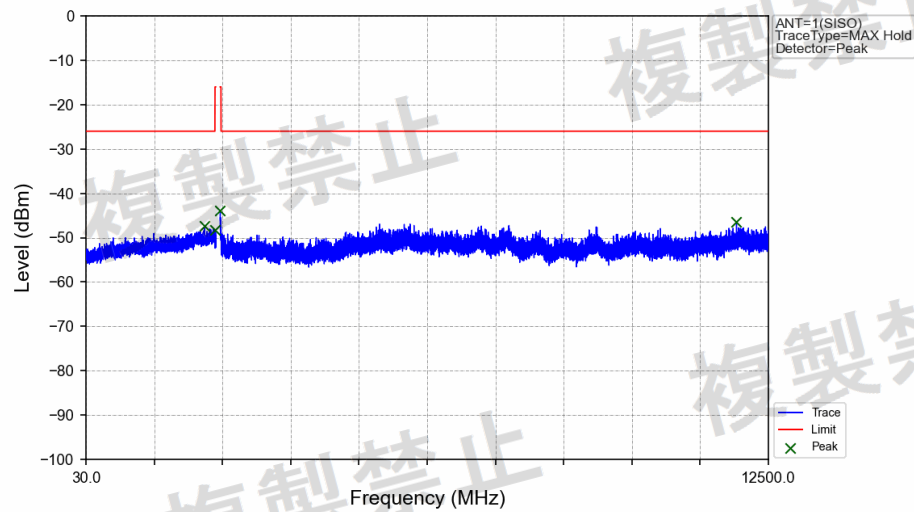
4.2.1 TxSe_NTNV



802.11b 2472MHz_Ant1 (SISO)_NTNV

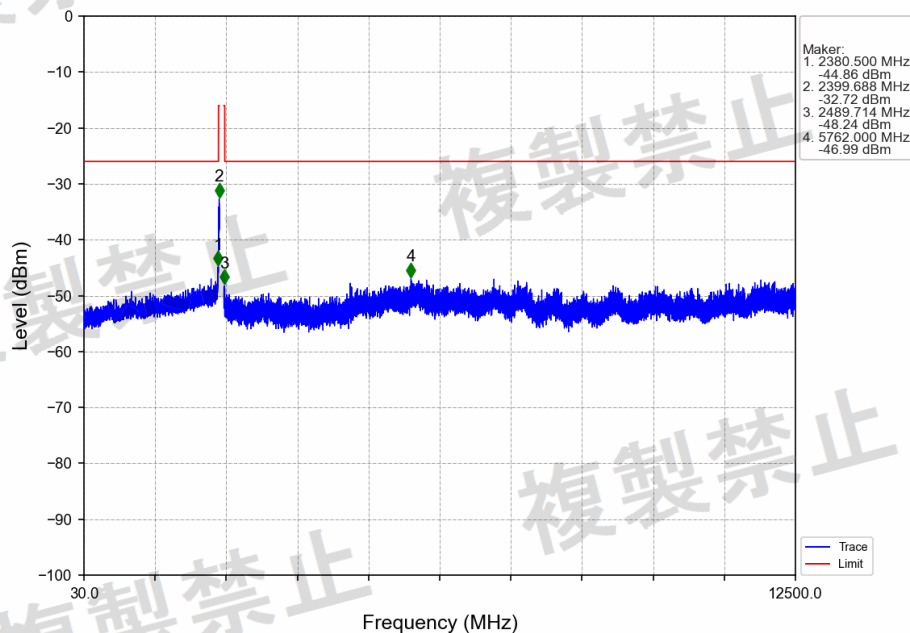


802.11b 2472MHz_Ant1 (SISO)_NTNV

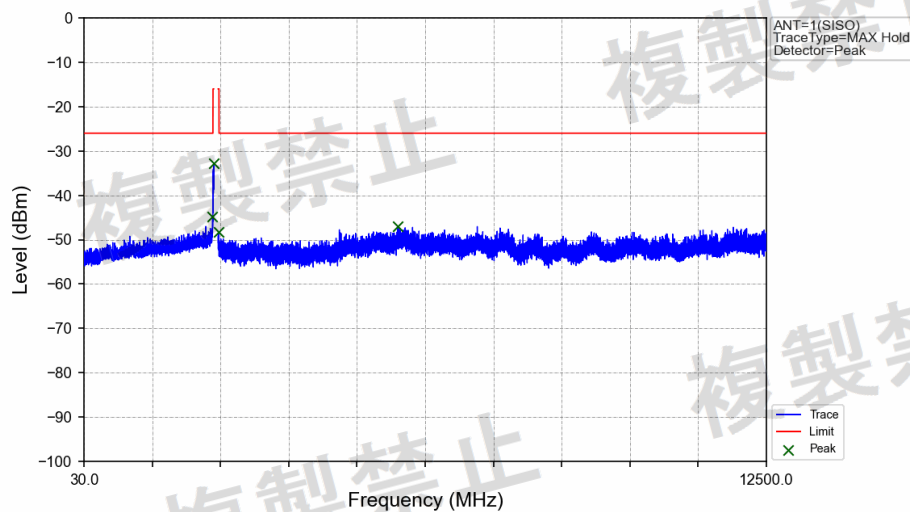


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2200.000	-47.30	/	-26	Pass
2387	2400	1	1	2392.655	-48.24	/	-16	Pass
2483.5	2496.5	1	1	2483.552	-43.98	/	-16	Pass
2496.5	12500	1	1	11917.500	-46.44	/	-26	Pass

802.11g 2412MHz_Ant1 (SISO)_NTNV

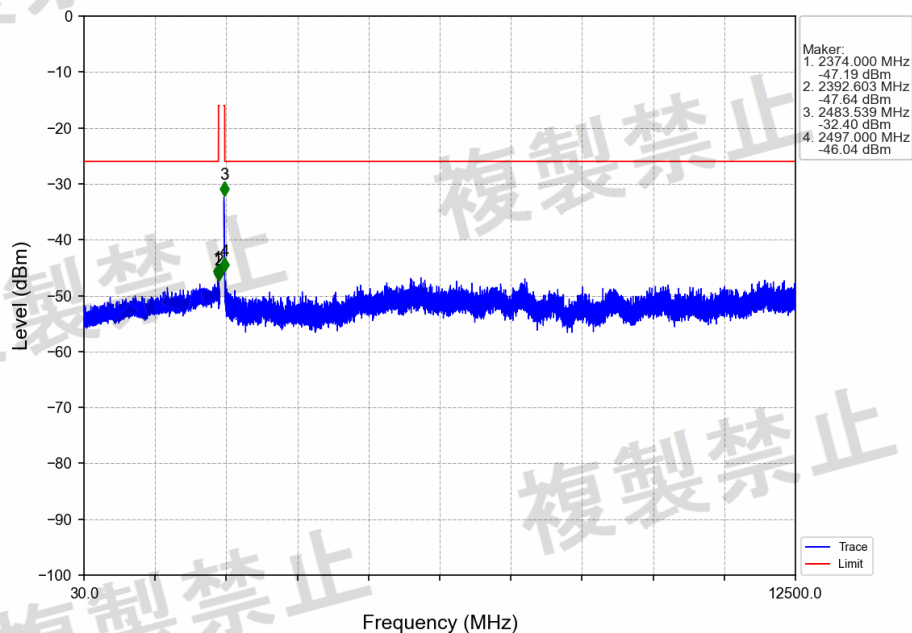


802.11g 2412MHz_Ant1 (SISO)_NTNV

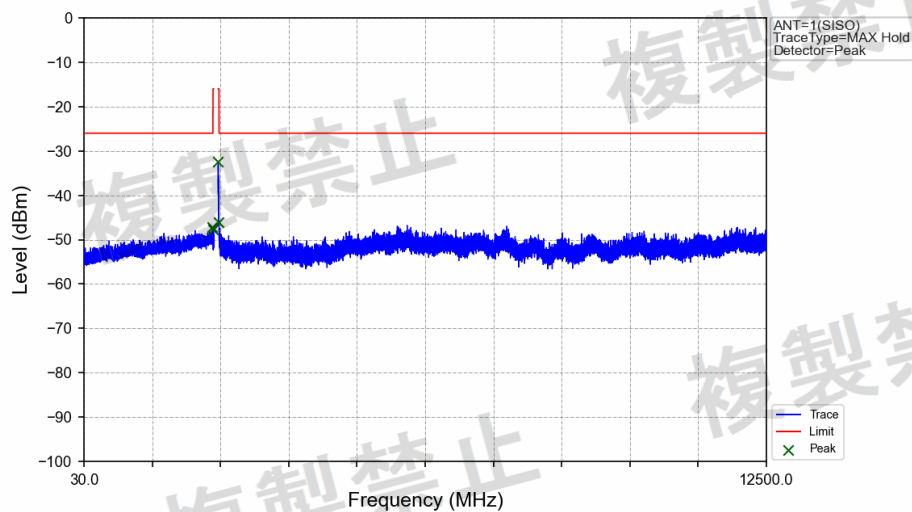


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2380.500	-44.86	/	-26	Pass
2387	2400	1	1	2399.688	-32.72	/	-16	Pass
2483.5	2496.5	1	1	2489.714	-48.24	/	-16	Pass
2496.5	12500	1	1	5762.000	-46.99	/	-26	Pass

802.11g 2472MHz_Ant1 (SISO) NTN

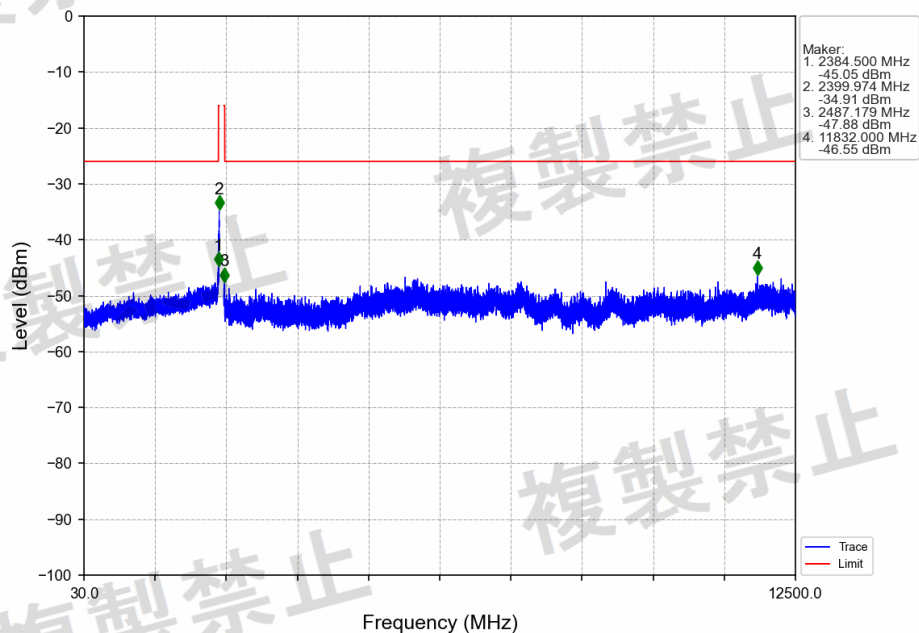


802.11g 2472MHz_Ant1 (SISO) NTN

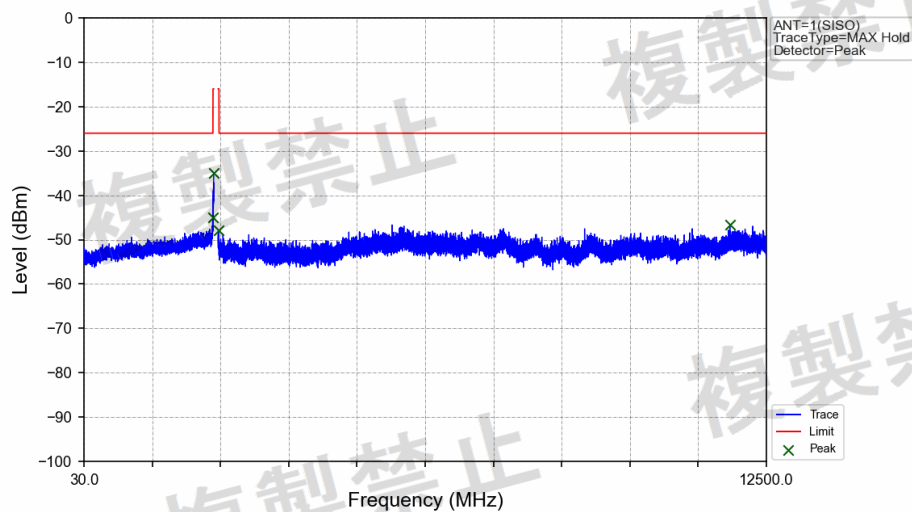


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2374.000	-47.19	/	-26	Pass
2387	2400	1	1	2392.603	-47.64	/	-16	Pass
2483.5	2496.5	1	1	2483.539	-32.40	/	-16	Pass
2496.5	12500	1	1	2497.000	-46.04	/	-26	Pass

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

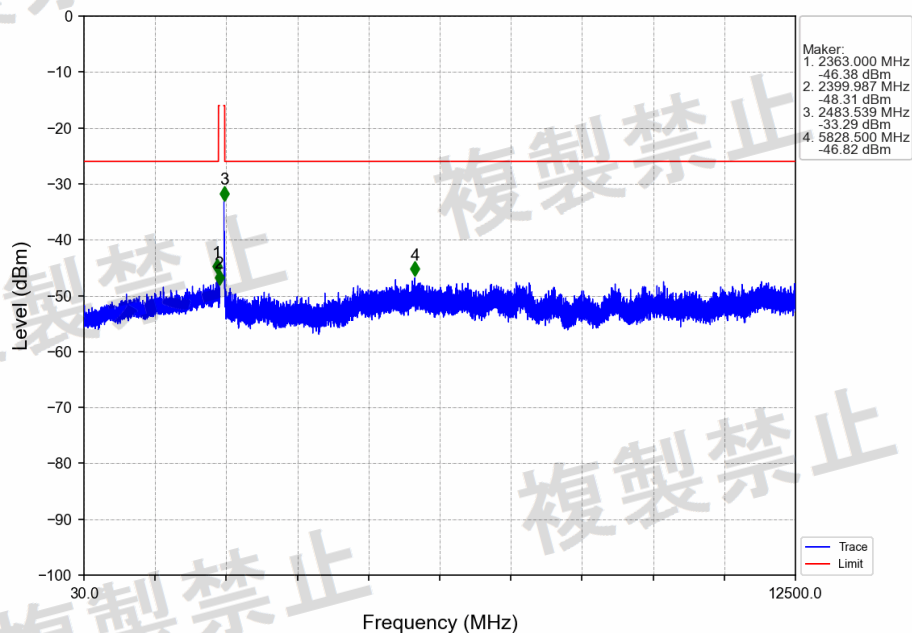


802.11n(HT20) 2412MHz Ant1 (SISO) NTVN

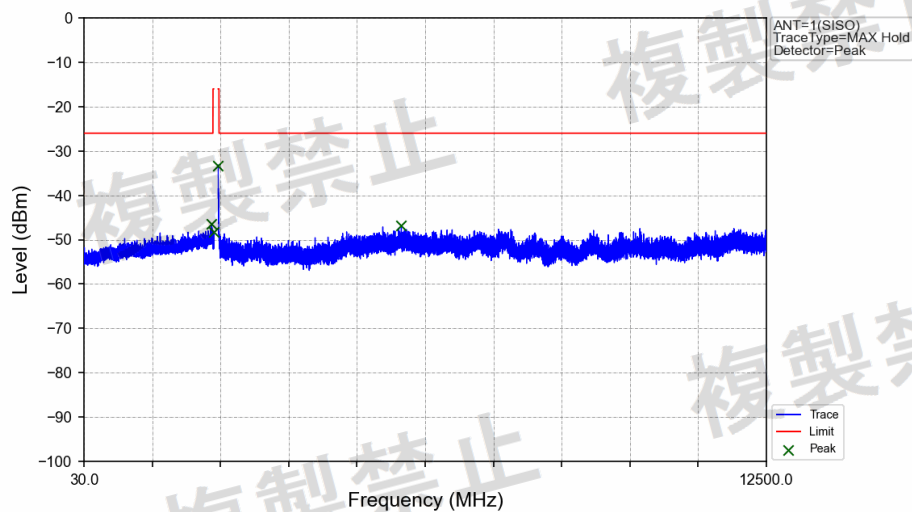


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2384.500	-45.05	/	-26	Pass
2387	2400	1	1	2399.974	-34.91	/	-16	Pass
2483.5	2496.5	1	1	2487.179	-47.88	/	-16	Pass
2496.5	12500	1	1	11832.000	-46.55	/	-26	Pass

802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

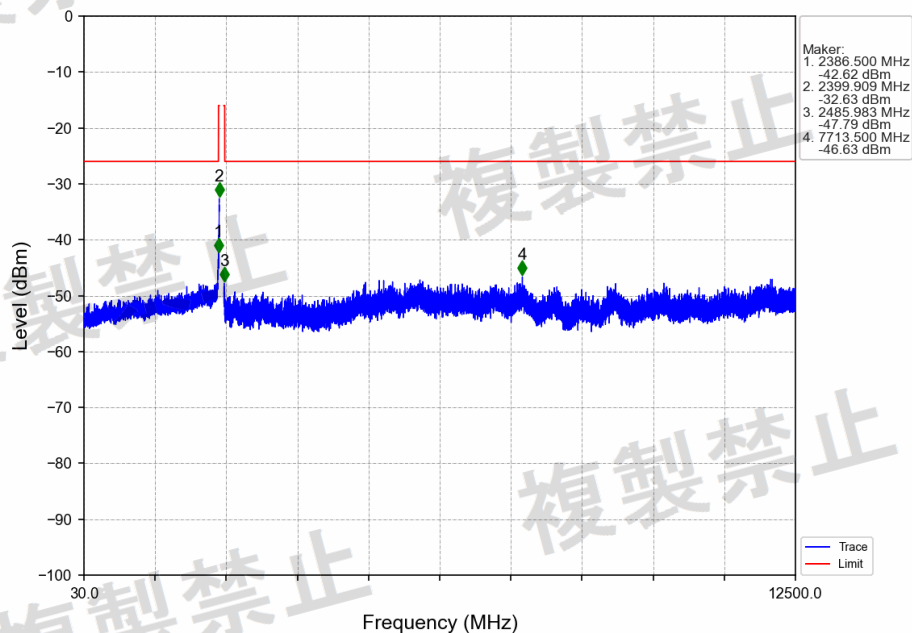


802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

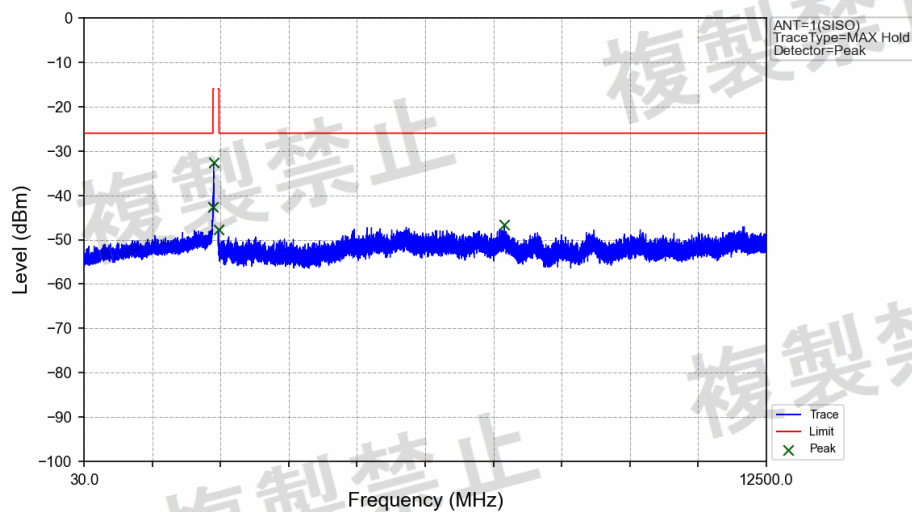


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2363.000	-46.38	/	-26	Pass
2387	2400	1	1	2399.987	-48.31	/	-16	Pass
2483.5	2496.5	1	1	2483.539	-33.29	/	-16	Pass
2496.5	12500	1	1	5828.500	-46.82	/	-26	Pass

802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

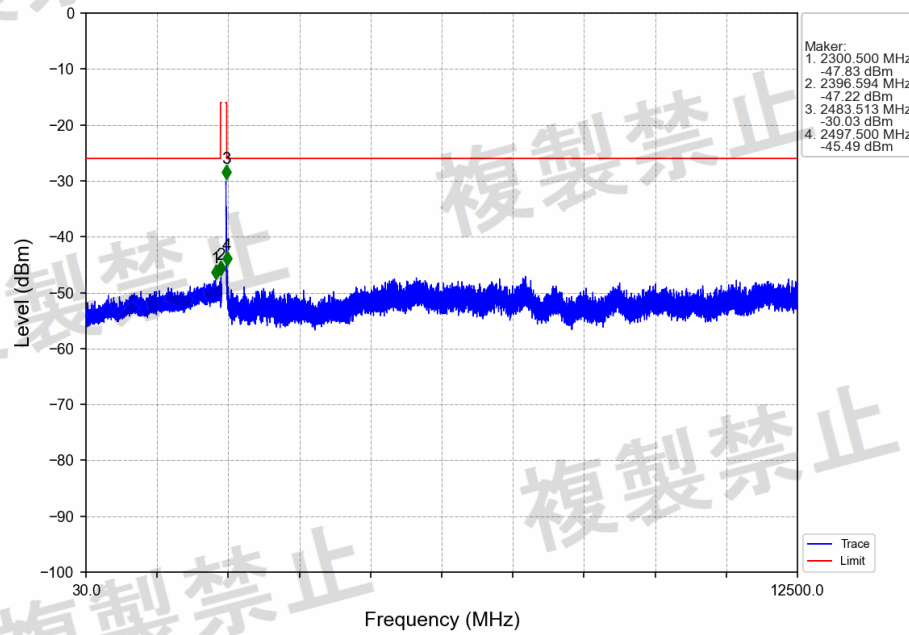


802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

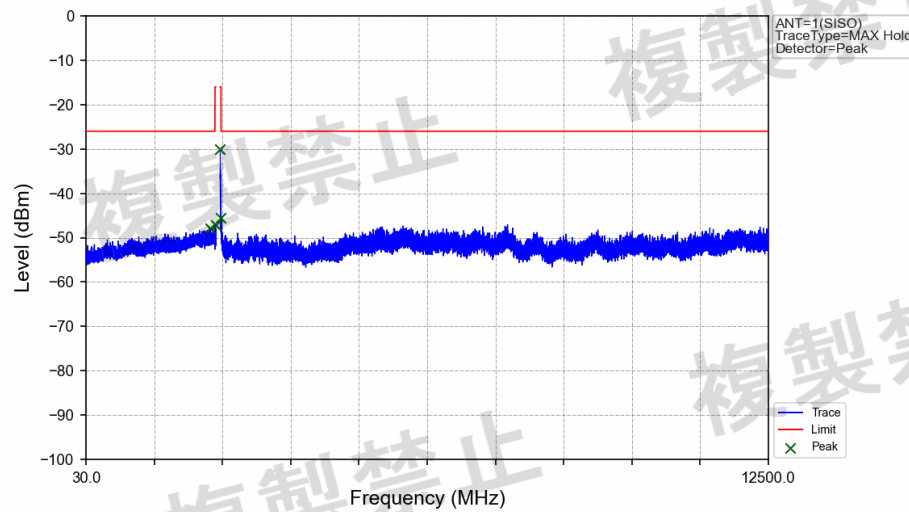


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2386.500	-42.62	/	-26	Pass
2387	2400	1	1	2399.909	-32.63	/	-16	Pass
2483.5	2496.5	1	1	2485.983	-47.79	/	-16	Pass
2496.5	12500	1	1	7713.500	-46.63	/	-26	Pass

802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2300.500	-47.83	/	-26	Pass
2387	2400	1	1	2396.594	-47.22	/	-16	Pass
2483.5	2496.5	1	1	2483.513	-30.03	/	-16	Pass
2496.5	12500	1	1	2497.500	-45.49	/	-26	Pass

5. Secondary Radiated Emission

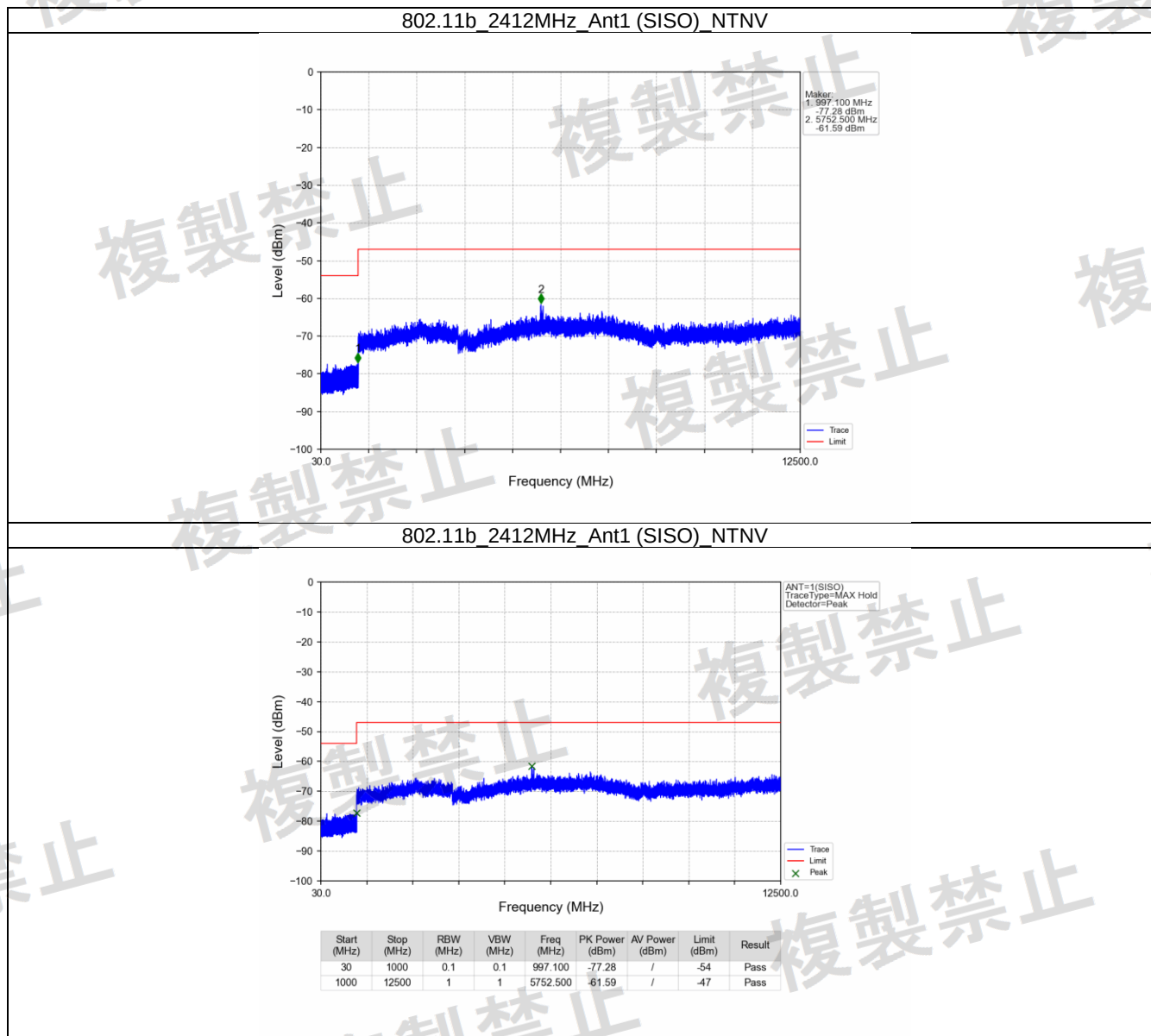
5.1 Test Result

5.1.1 RxSe_NTNV

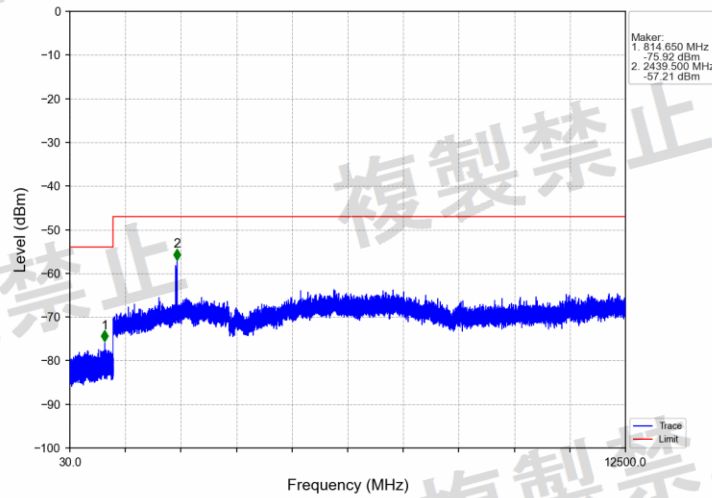
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
802.11b	SISO	2412	1	30	1000	997.1	-77.28	0.019	/	/	4	Pass
				1000	12500	5752.5	-61.59	0.693	/	/	20	Pass
		2472	1	30	1000	814.65	-75.92	0.026	/	/	4	Pass
				1000	12500	2439.5	-57.21	1.901	/	/	20	Pass
802.11g	SISO	2412	1	30	1000	664.65	-76.64	0.022	/	/	4	Pass
				1000	12500	7398	-62.81	0.524	/	/	20	Pass
		2472	1	30	1000	792.85	-76.22	0.024	/	/	4	Pass
				1000	12500	2481	-62.97	0.505	/	/	20	Pass
				30	1000	765.3	-77.33	0.018	/	/	4	Pass
				1000	12500	7036	-63.57	0.440	/	/	20	Pass
802.11n (HT20)	SISO	2412	1	30	1000	782.05	-76.81	0.021	/	/	4	Pass
				1000	12500	5933.5	-63.15	0.484	/	/	20	Pass
		2472	1	30	1000	807.1	-76.22	0.024	/	/	4	Pass
				1000	12500	6245	-63.69	0.428	/	/	20	Pass
802.11n (HT40)	SISO	2422	1	30	1000	997.05	-76.79	0.021	/	/	4	Pass
				1000	12500	2633.5	-52.65	5.433	-74.73	0.034	20	Pass
		2462	1	30	1000	997.05	-76.79	0.021	/	/	4	Pass
				1000	12500	2633.5	-52.65	5.433	-74.73	0.034	20	Pass

5.2 Test Graph

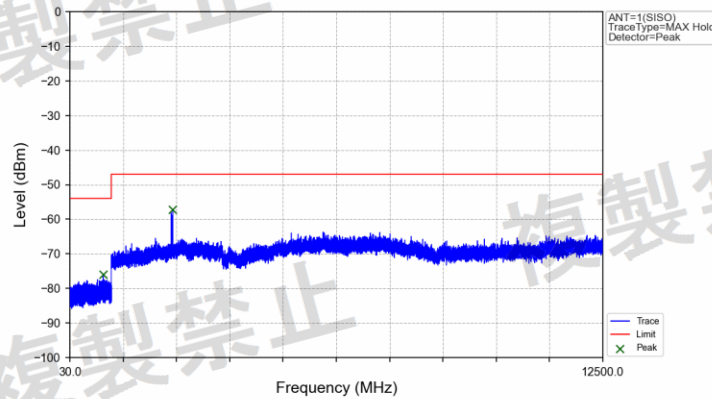
5.2.1 RxSe_NTNV



802.11b 2472MHz Ant1 (SISO) NTN

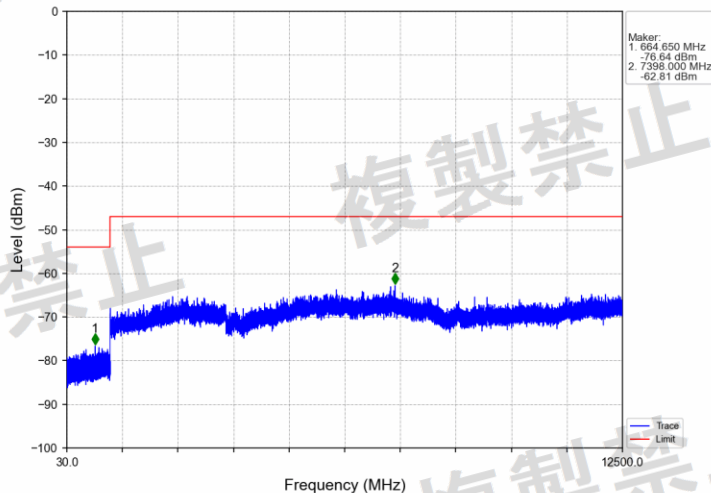


802.11b 2472MHz Ant1 (SISO) NTN

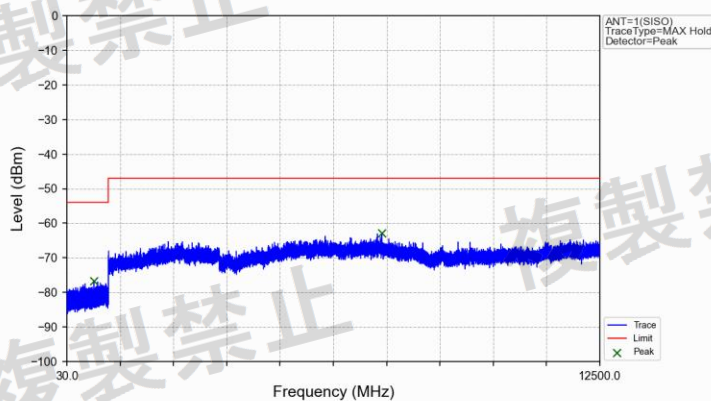


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	814.650	-75.92	/	-54	Pass
1000	12500	1	1	2439.500	-57.21	/	-47	Pass

802.11g 2412MHz Ant1 (SISO) NTN

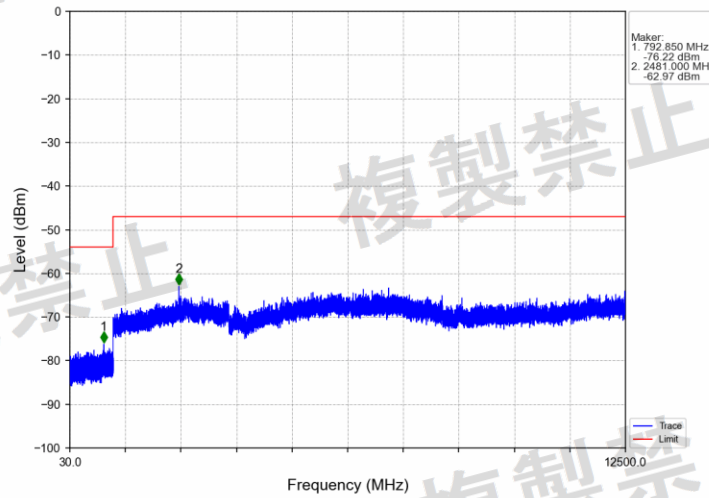


802.11g 2412MHz Ant1 (SISO) NTN

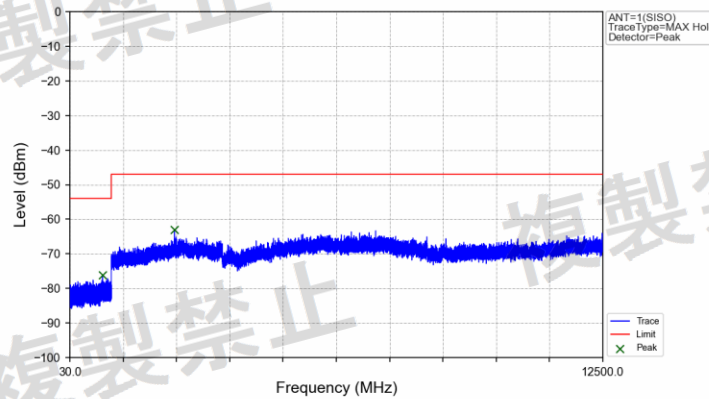


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	664.650	-76.64	/	-54	Pass
1000	12500	1	1	7398.000	-62.81	/	-47	Pass

802.11g 2472MHz Ant1 (SISO) NTN

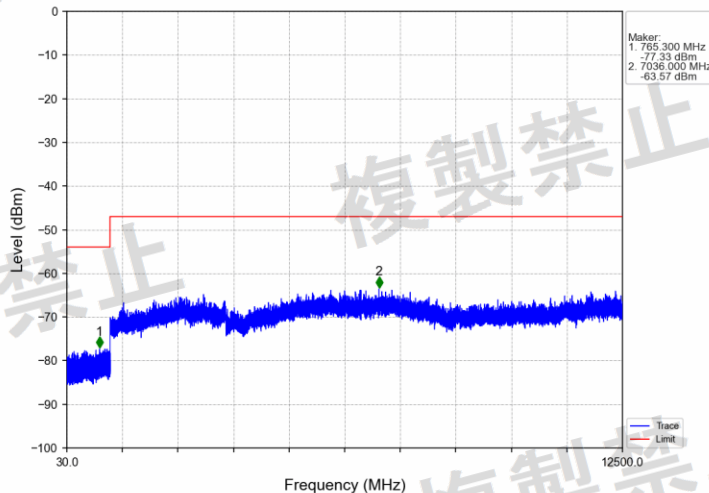


802.11g 2472MHz Ant1 (SISO) NTN

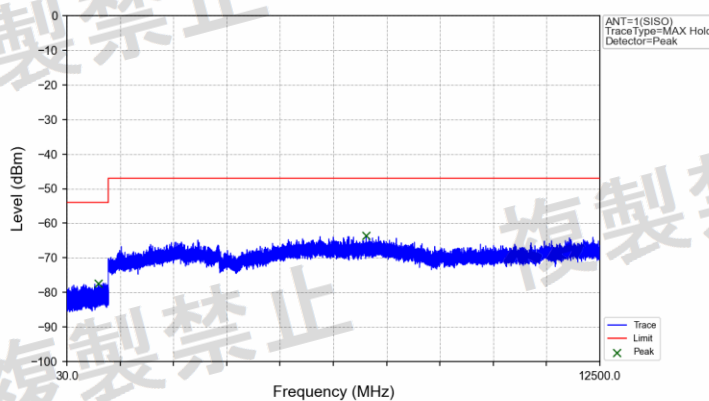


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	792.850	-76.22	/	-54	Pass
1000	12500	1	1	2481.000	-62.97	/	-47	Pass

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

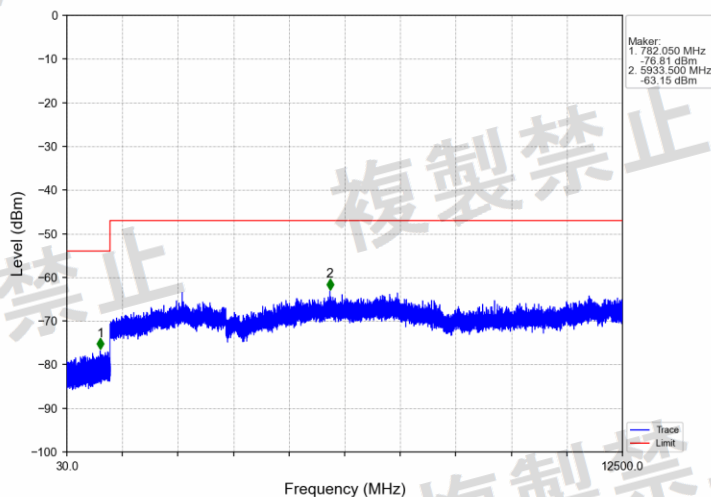


802.11n(HT20) 2412MHz Ant1 (SISO) NTVN

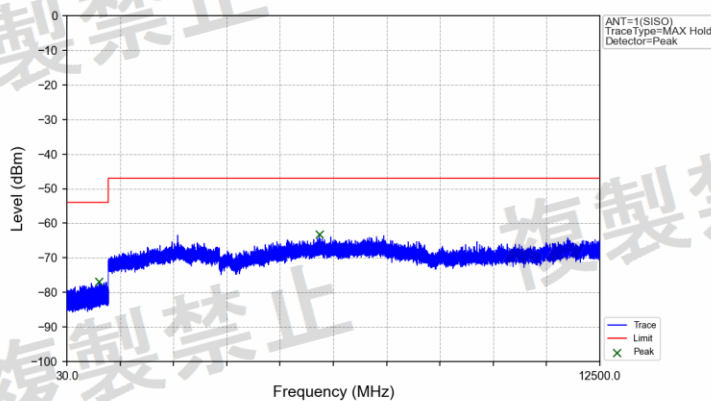


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	765.300	-77.33	/	-54	Pass
1000	12500	1	1	7036.000	-63.57	/	-47	Pass

802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

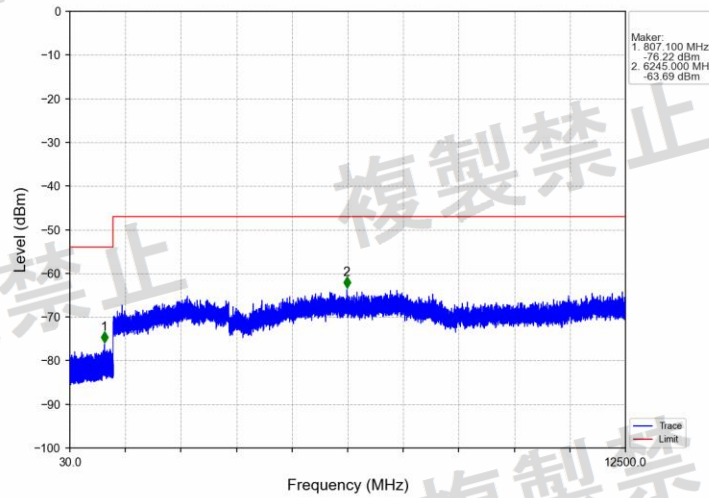


802.11n(HT20) 2472MHz Ant1 (SISO) NTVN

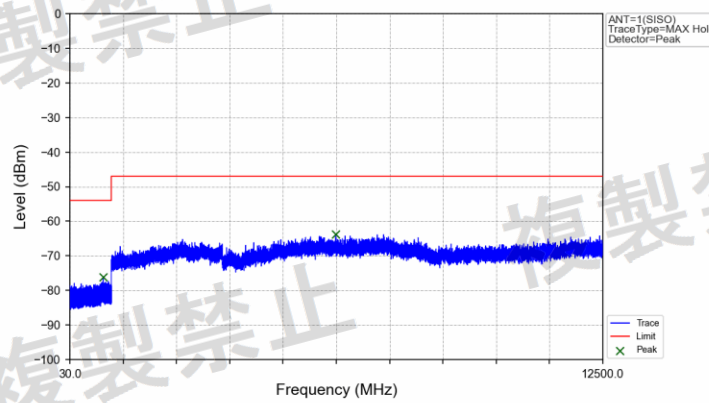


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	782.050	-76.81	/	-54	Pass
1000	12500	1	1	5933.500	-63.15	/	-47	Pass

802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

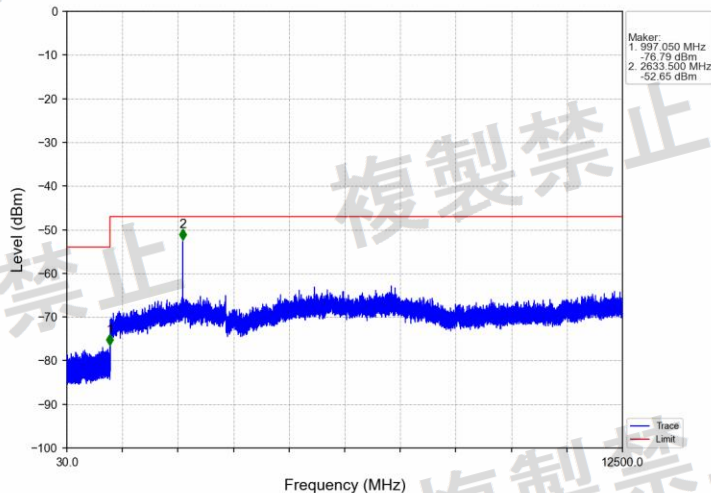


802.11n(HT40) 2422MHz Ant1 (SISO) NTVN

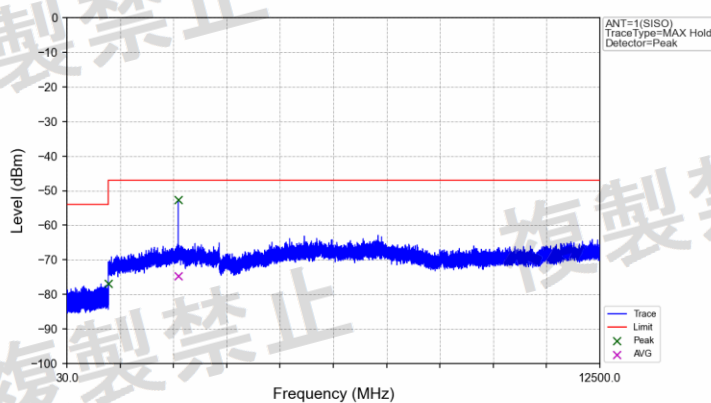


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	807.100	-76.22	/	-54	Pass
1000	12500	1	1	6245.000	-63.69	/	-47	Pass

802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



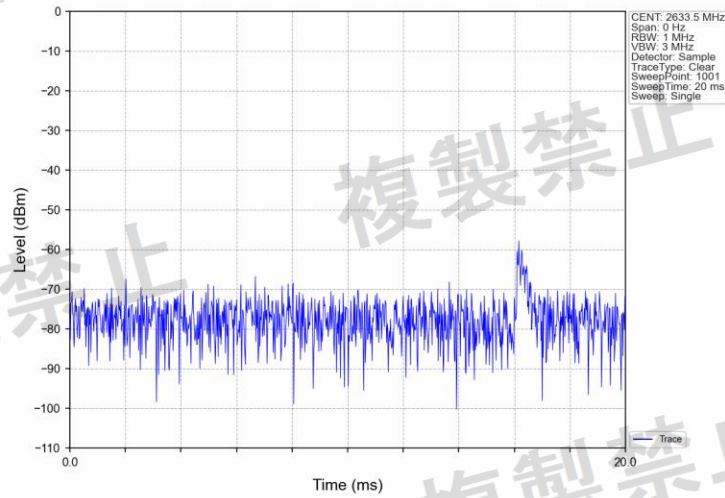
802.11n(HT40) 2462MHz Ant1 (SISO) NTVN



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	997.050	-76.79	/	-54	Pass
1000	12500	1	1	2633.500	-52.65	-74.73	-47	Pass



802.11n(HT40) 2462MHz Ant1 (SISO) NTNV



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