

1. Frequency Error

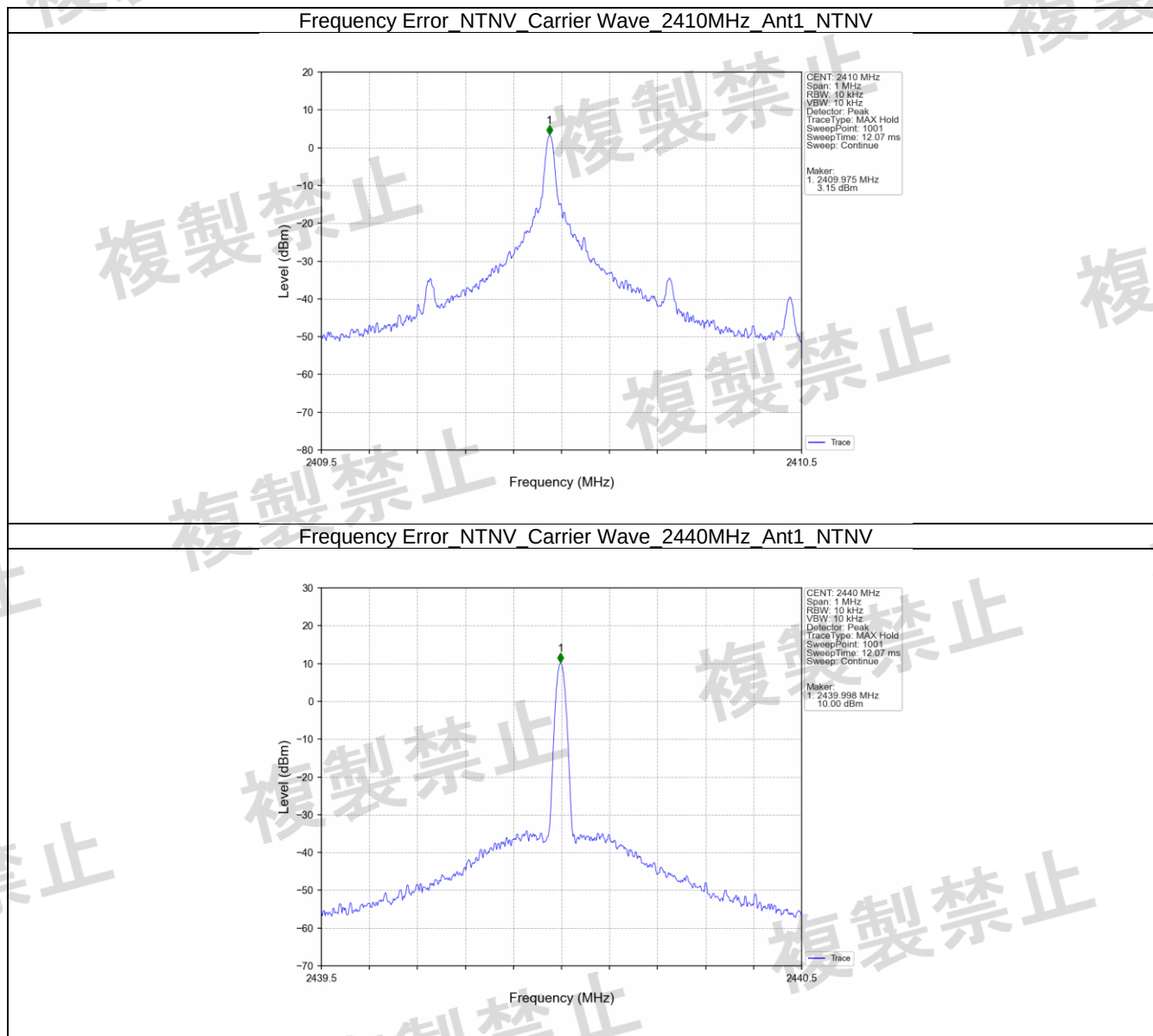
1.1 Test Result

1.1.1 Ant1

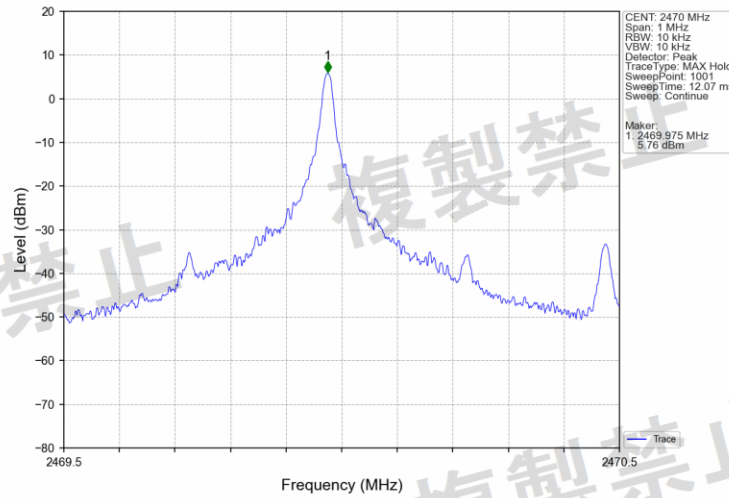
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2410	2409.975	-10.37	-50 to 50	Pass
			2440	2439.998	-0.82	-50 to 50	Pass
			2470	2469.975	-10.12	-50 to 50	Pass
NTLV	Carrier Wave	SISO	2410	2409.976	-9.96	-50 to 50	Pass
			2440	2439.998	-0.82	-50 to 50	Pass
			2470	2469.975	-10.12	-50 to 50	Pass
NTHV	Carrier Wave	SISO	2410	2409.975	-10.37	-50 to 50	Pass
			2440	2439.998	-0.82	-50 to 50	Pass
			2470	2469.974	-10.53	-50 to 50	Pass

1.2 Test Graph

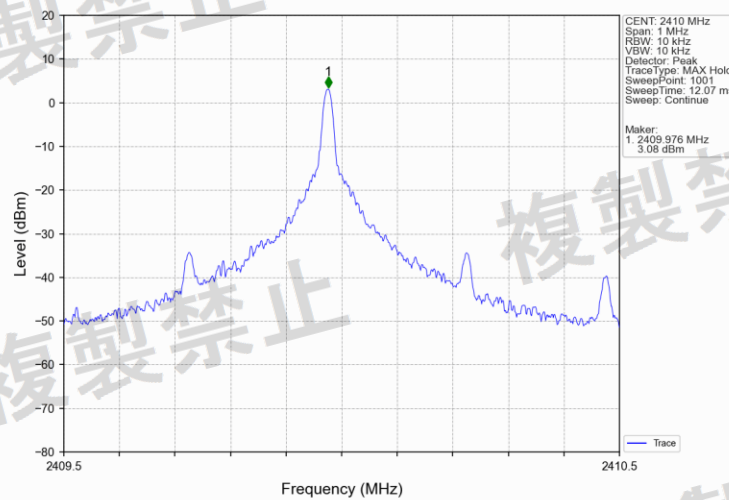
1.2.1 Ant1



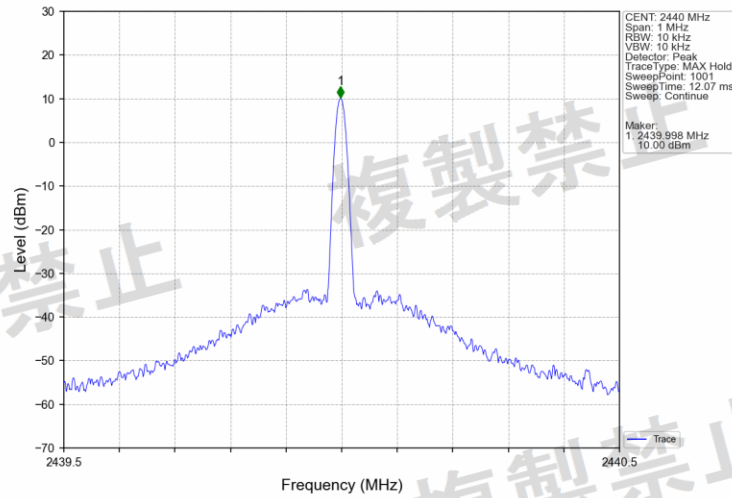
Frequency Error NTVN Carrier Wave 2470MHz Ant1 NTVN



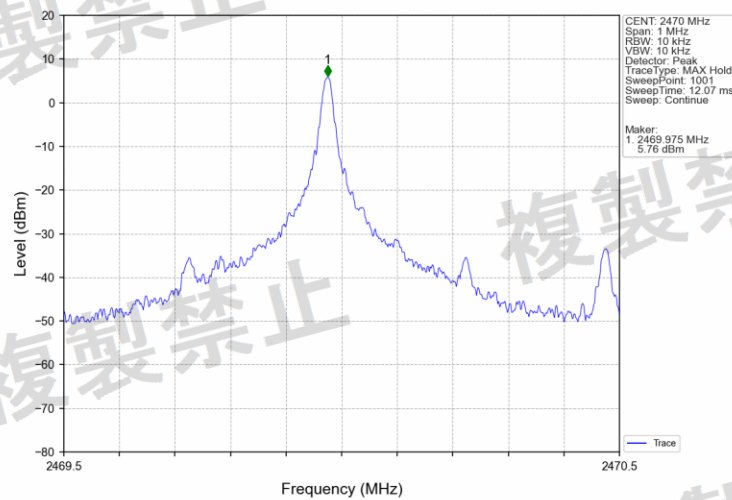
Frequency Error NTLV Carrier Wave 2410MHz Ant1 NTLV



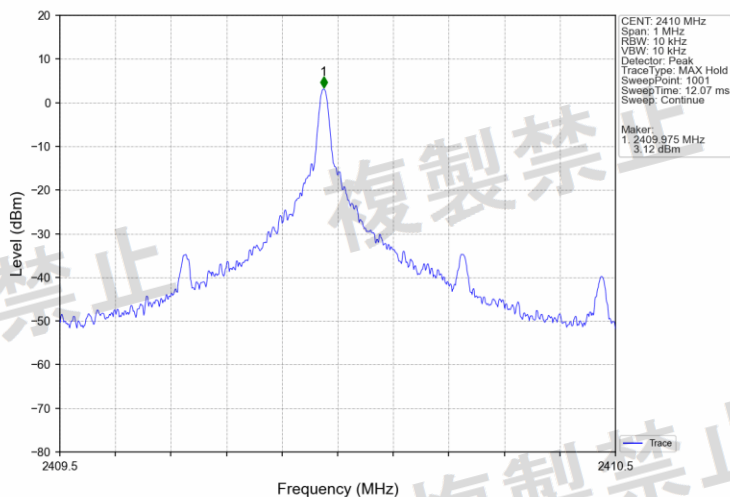
Frequency Error NTLV Carrier Wave 2440MHz Ant1 NTLV



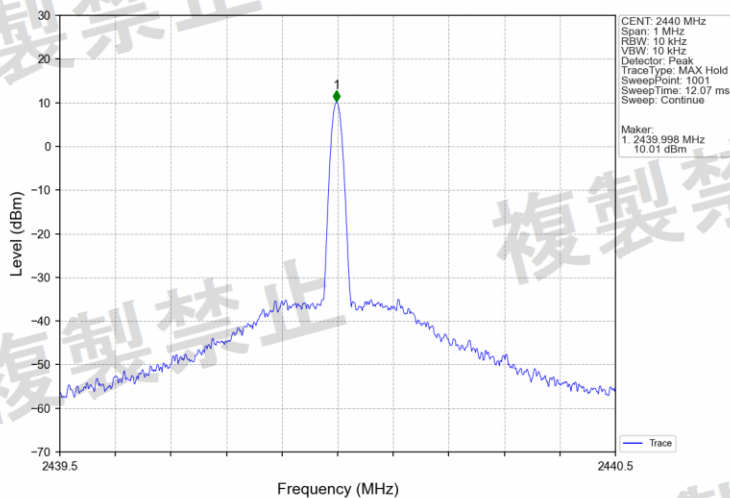
Frequency Error NTLV Carrier Wave 2470MHz Ant1 NTLV



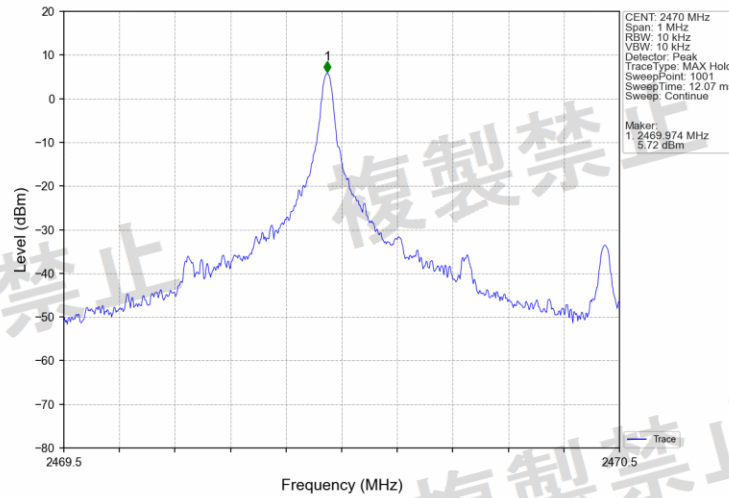
Frequency Error NTHV Carrier Wave 2410MHz Ant1 NTHV



Frequency Error NTHV Carrier Wave 2440MHz Ant1 NTHV



Frequency Error NTHV Carrier Wave 2470MHz Ant1 NTHV



2. Occupied Bandwidth

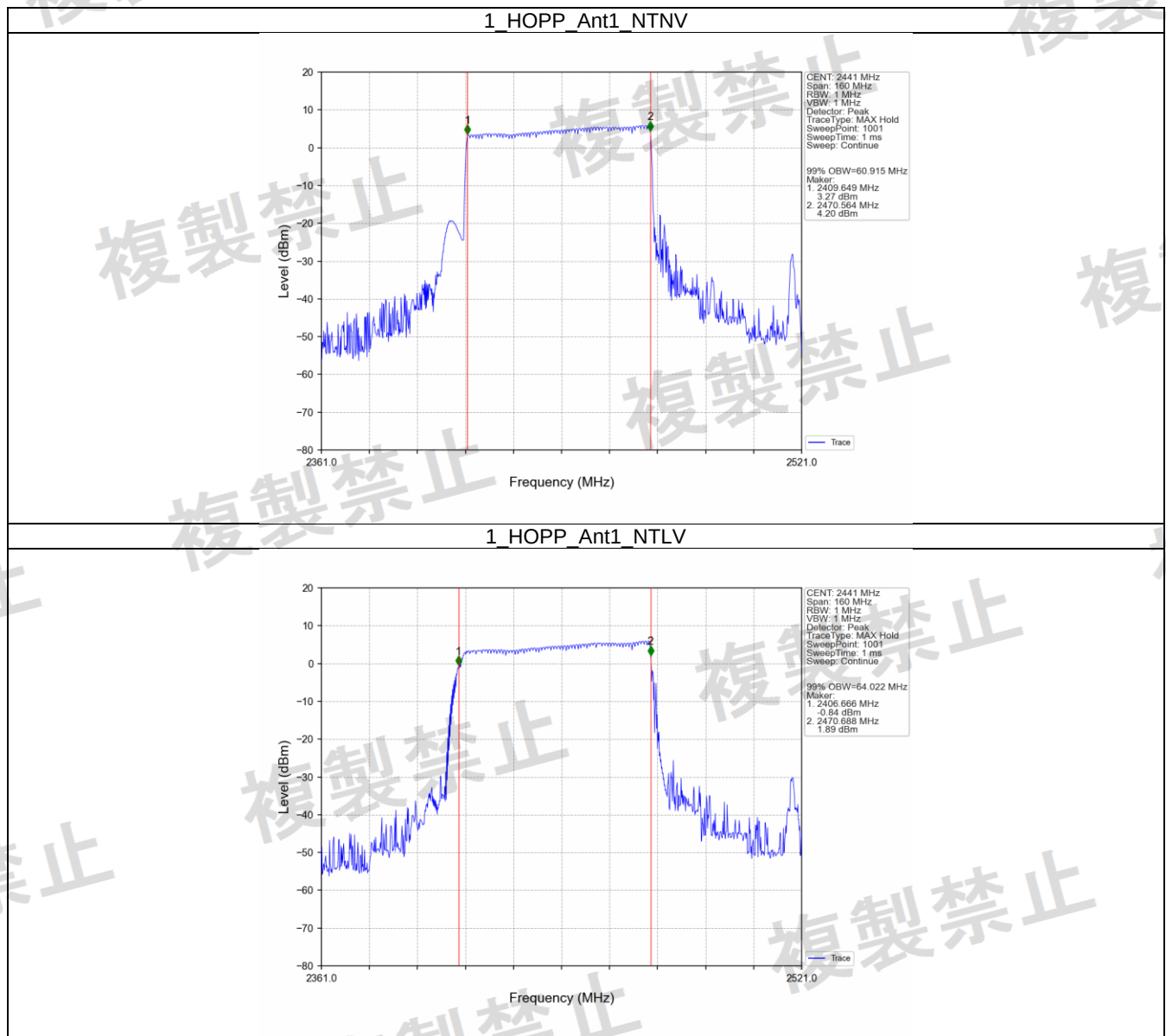
2.1 Test Result

2.1.1 OBW

ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1	SISO	HOPP	60.915	≤ 83.5	Pass
NTLV	1	SISO	HOPP	64.022	≤ 83.5	Pass
NTHV	1	SISO	HOPP	63.920	≤ 83.5	Pass

2.2 Test Graph

2.2.1 OBW





3. Spread Bandwidth

3.1 Test Result

3.1.1 SPBW

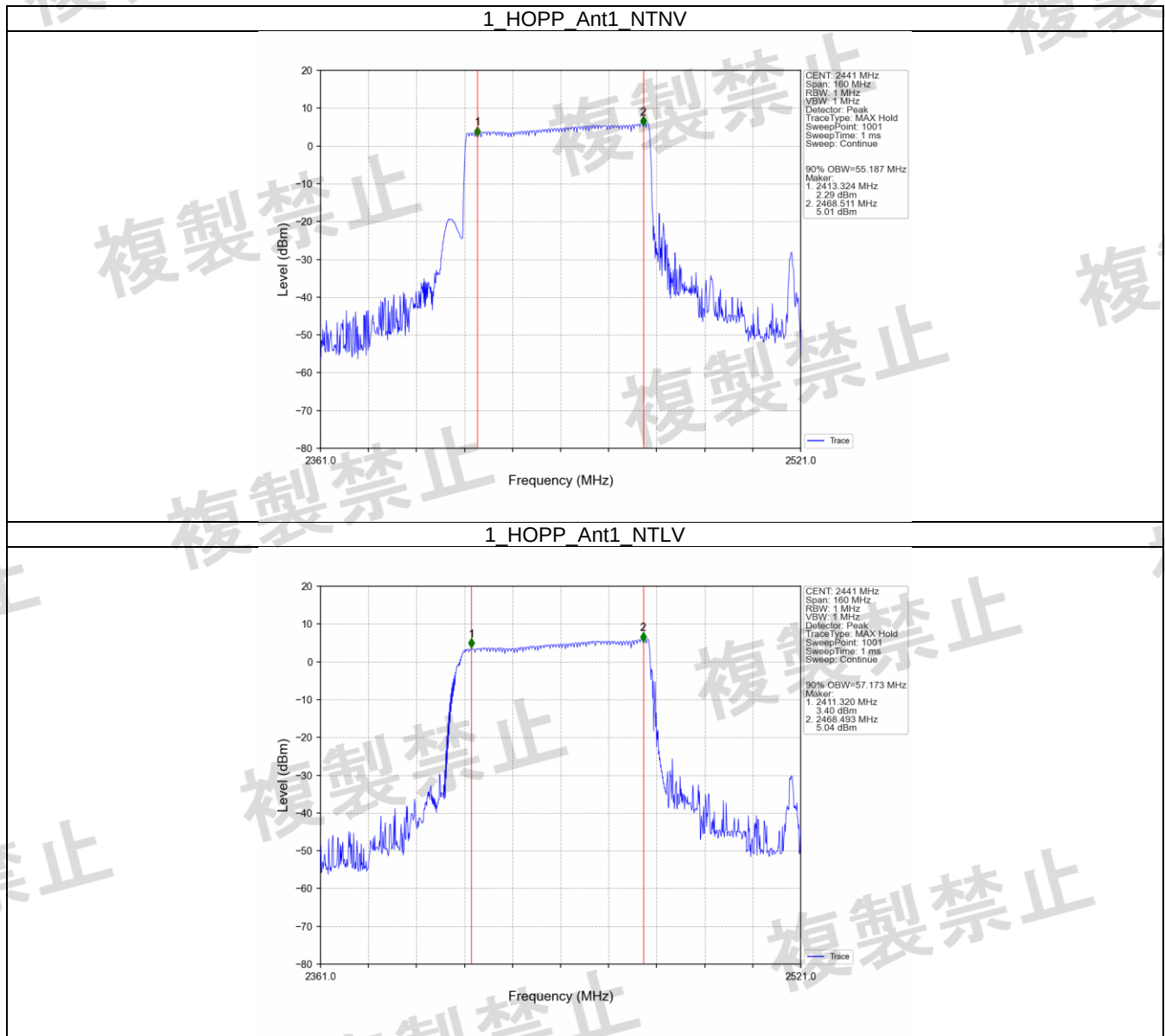
ENV	Mode	TX Type	Frequency (MHz)	Spread Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1	SISO	HOPP	55.187	≥ 0.5	Pass
NTLV	1	SISO	HOPP	57.173	≥ 0.5	Pass
NTHV	1	SISO	HOPP	56.511	≥ 0.5	Pass

3.1.2 SpreadFactor

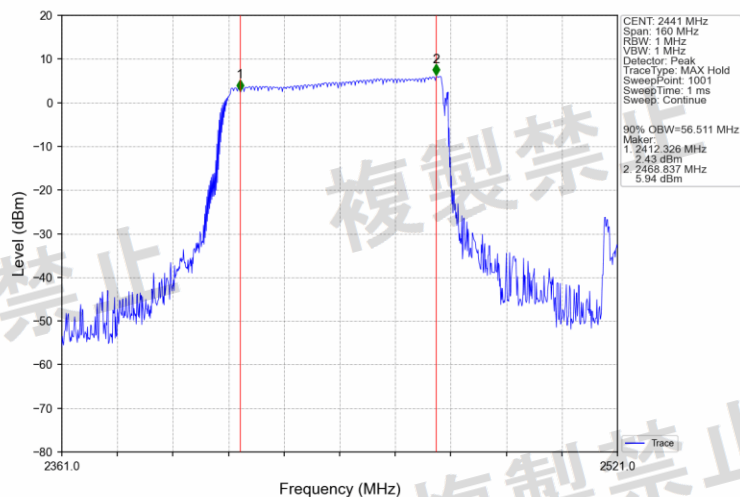
ENV	Mode	TX Type	Frequency (MHz)	Spread Factor		Verdict
				ANT1	Limit	
NTNV	1	SISO	HOPP	55.190	≥ 5	Pass
NTLV	1	SISO	HOPP	57.170	≥ 5	Pass
NTHV	1	SISO	HOPP	56.510	≥ 5	Pass

3.2 Test Graph

3.2.1 SPBW



1 HOPP_Ant1_NTHV



4. Antenna Power

4.1 Test Result

4.1.1 Power

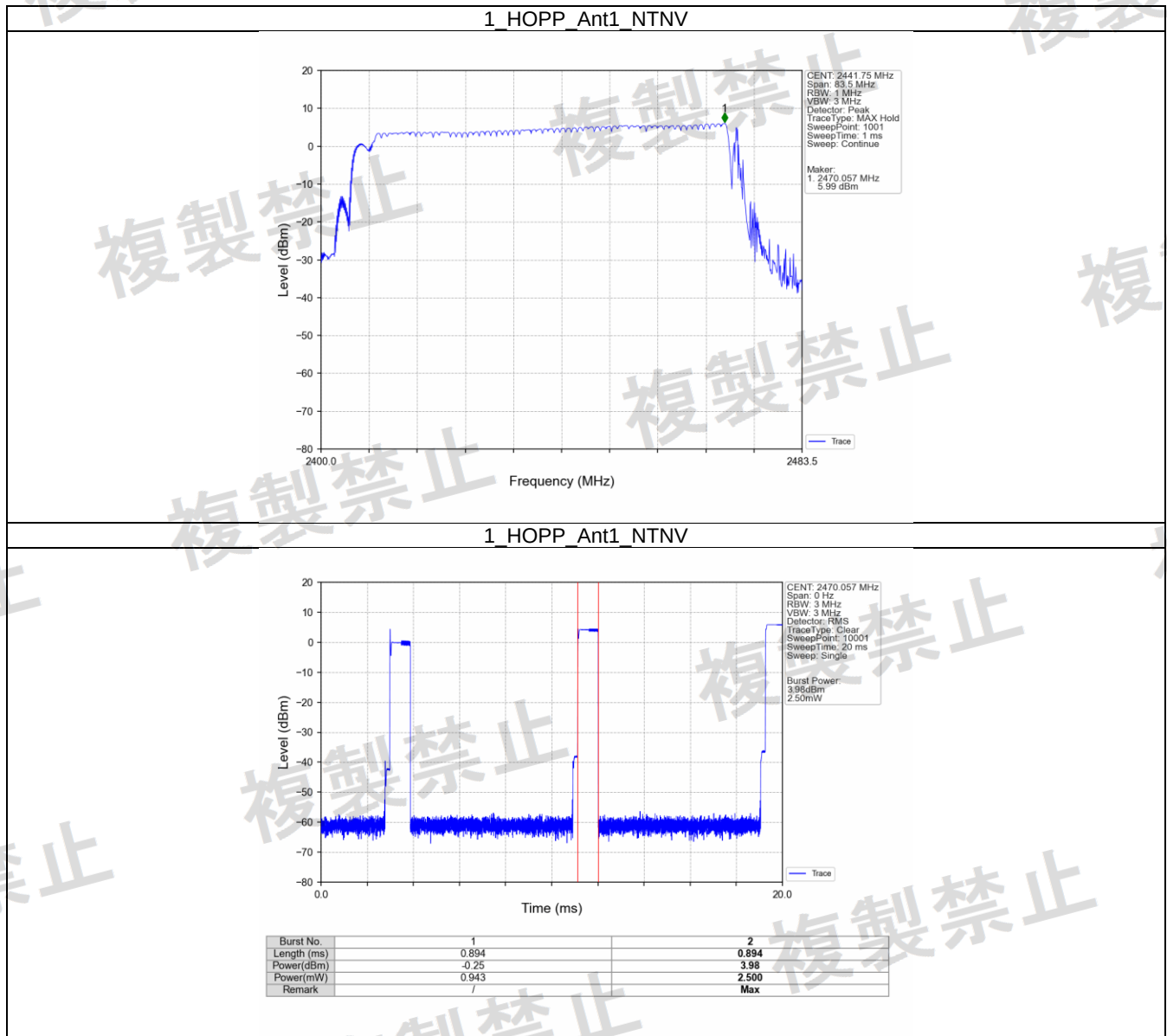
ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (mW/MHz)		Nominal Power (mW/MHz)	Tolerance (%)		Verdict
					Measured	Limit		Measured	Limit	
NTNV	1	SISO	HOPP	1	0.045	≤ 3.00	0.055	-18.18	≤ 20	Pass
NTLV	1	SISO	HOPP	1	0.055	≤ 3.00	0.055	0.00	≤ 20	Pass
NTHV	1	SISO	HOPP	1	0.038	≤ 3.00	0.055	-30.91	≤ 20	Pass

4.1.2 EIRP

ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	EIRP (dBm/MHz)		Verdict
						Result	Limit	
NTNV	1	SISO	HOPP	1	0.56	-13.44	≤ 6.91	Pass
NTLV	1	SISO	HOPP	1	0.56	-12.63	≤ 6.91	Pass
NTHV	1	SISO	HOPP	1	0.56	-14.19	≤ 6.91	Pass

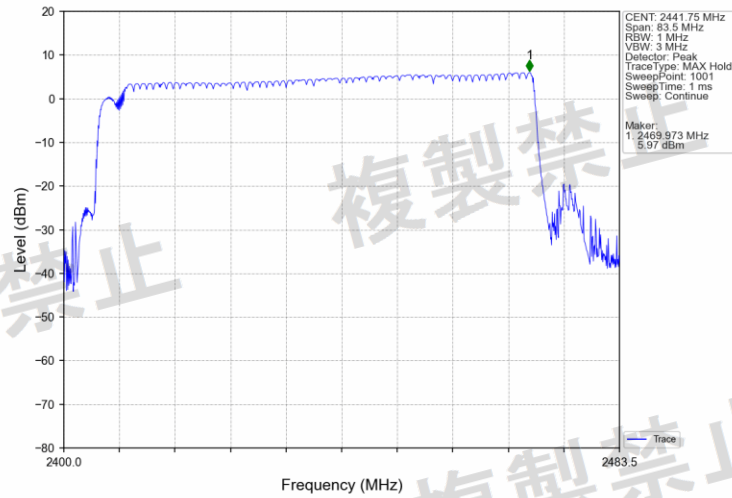
4.2 Test Graph

4.2.1 Power

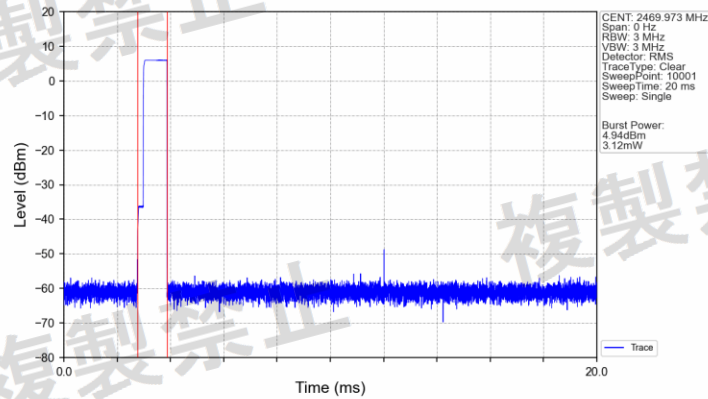




1 HOPP_Ant1_NTLV

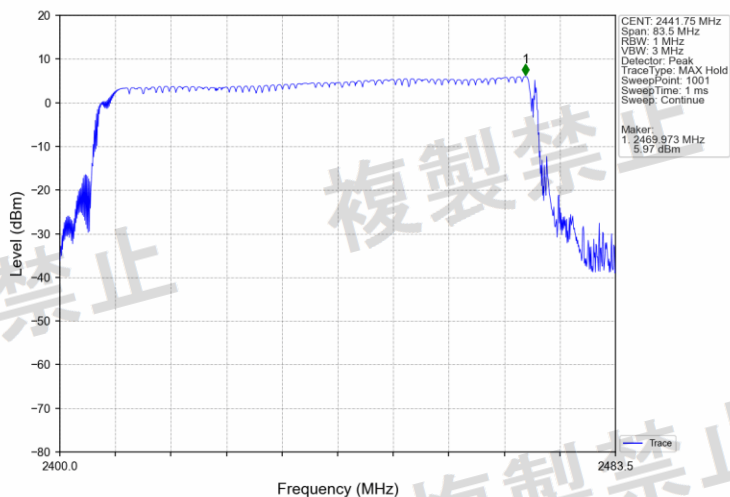


1 HOPP_Ant1_NTLV

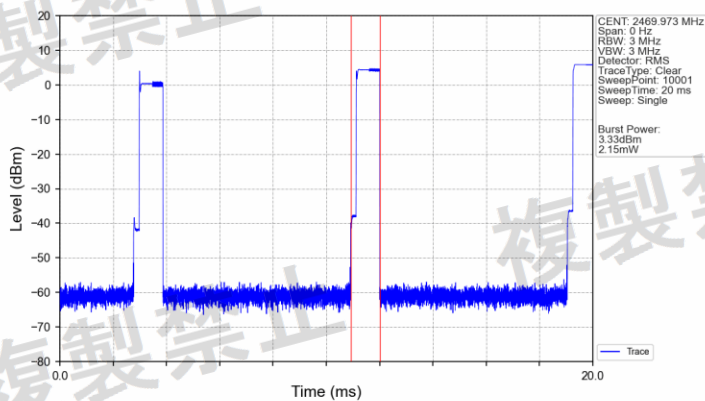


Burst No	1
Length (ms)	1.106
Power(dBm)	4.94
Power(mW)	3.117
Remark	Max

1 HOPP_Ant1_NTHV



1 HOPP_Ant1_NTHV



Burst No	1	2
Length (ms)	1.106	1.096
Power(dBm)	-0.69	3.33
Power(mW)	0.853	2.153
Remark	/	Max

5. Dwell Time

5.1 Test Result

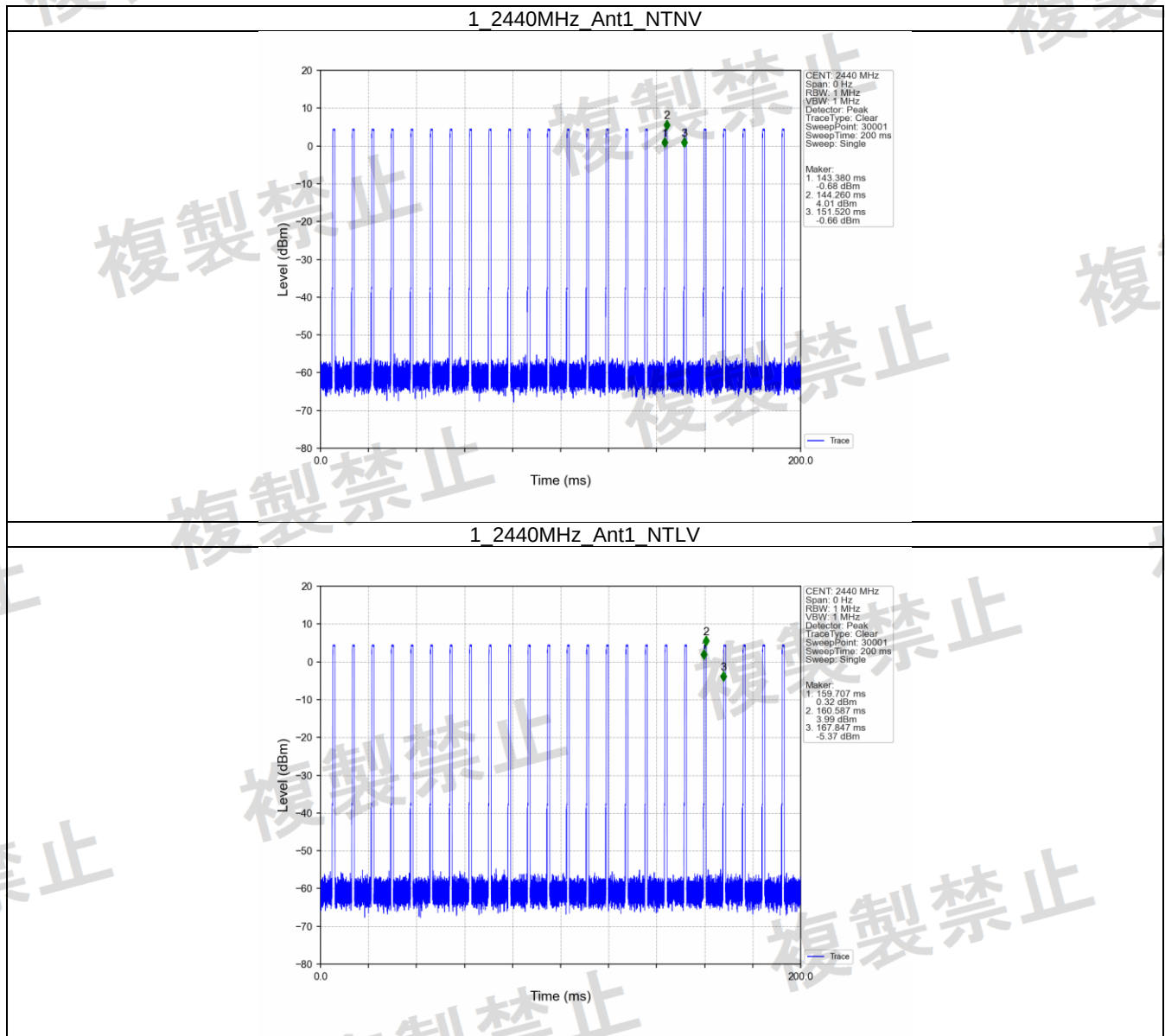
5.1.1 Ant1

Ant1										
ENV	Mode	TX Type	Frequency (MHz)	Spreading Rate	T_on (ms)	Period (ms)	Hopp Number	Dwell Time (ms)		Verdict
								Result	Limit	
NTNV	1	SISO	2440	55.187	0.880	8.140	60	39.774	<=400	Pass
NTLV	1	SISO	2440	57.173	0.880	8.140	60	41.206	<=400	Pass
NTHV	1	SISO	2440	56.511	0.880	8.140	60	40.729	<=400	Pass

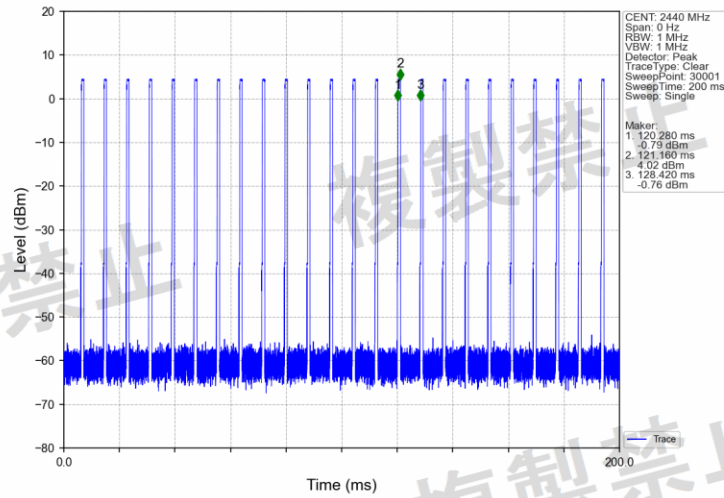
Note: Dwell Time = 90% spreading factor / total number of channels * duty cycle * 400ms

5.2 Test Graph

5.2.1 Ant1



1 2440MHz_Ant1_NTHV



6. Spurious Emission Intensity

6.1 Test Result

6.1.1 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)		
1	SISO	2410	1	30	2387	2377	-42.38	0.058	/	/	2.5	Pass
				2387	2400	2399.883	-27.79	1.663	/	/	25	Pass
				2483.5	2496.5	2485.216	-50.59	0.009	/	/	25	Pass
				2496.5	12500	2634	-23.30	4.677	-28.38	1.452	2.5	Pass
		2440	1	30	2387	1754	-31.31	0.740	/	/	2.5	Pass
				2387	2400	2398.544	-57.67	0.002	/	/	25	Pass
				2483.5	2496.5	2483.578	-58.89	0.001	/	/	25	Pass
				2496.5	12500	3254	-38.31	0.148	/	/	2.5	Pass
		2470	1	30	2387	1831.5	-62.21	0.001	/	/	2.5	Pass
				2387	2400	2394.137	-63.96	0.000	/	/	25	Pass
				2483.5	2496.5	2484.163	-62.36	0.001	/	/	25	Pass
				2496.5	12500	4941	-49.88	0.010	/	/	2.5	Pass

6.1.2 TxSe_NTLV

NTLV												
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)		
1	SISO	2410	1	30	2387	1764	-29.24	1.191	/	/	2.5	Pass
				2387	2400	2399.831	-27.83	1.648	/	/	25	Pass
				2483.5	2496.5	2485.099	-50.08	0.010	/	/	25	Pass
				2496.5	12500	7230	-29.20	1.202	/	/	2.5	Pass
		2440	1	30	2387	1755.5	-31.72	0.673	/	/	2.5	Pass
				2387	2400	2398.674	-57.57	0.002	/	/	25	Pass
				2483.5	2496.5	2485.333	-58.73	0.001	/	/	25	Pass
				2496.5	12500	3254	-38.31	0.148	/	/	2.5	Pass
		2470	1	30	2387	2325	-63.79	0.000	/	/	2.5	Pass
				2387	2400	2391.16	-63.95	0.000	/	/	25	Pass
				2483.5	2496.5	2489.558	-62.32	0.001	/	/	25	Pass
				2496.5	12500	4941	-49.59	0.011	/	/	2.5	Pass

6.1.3 TxSe_NTHV

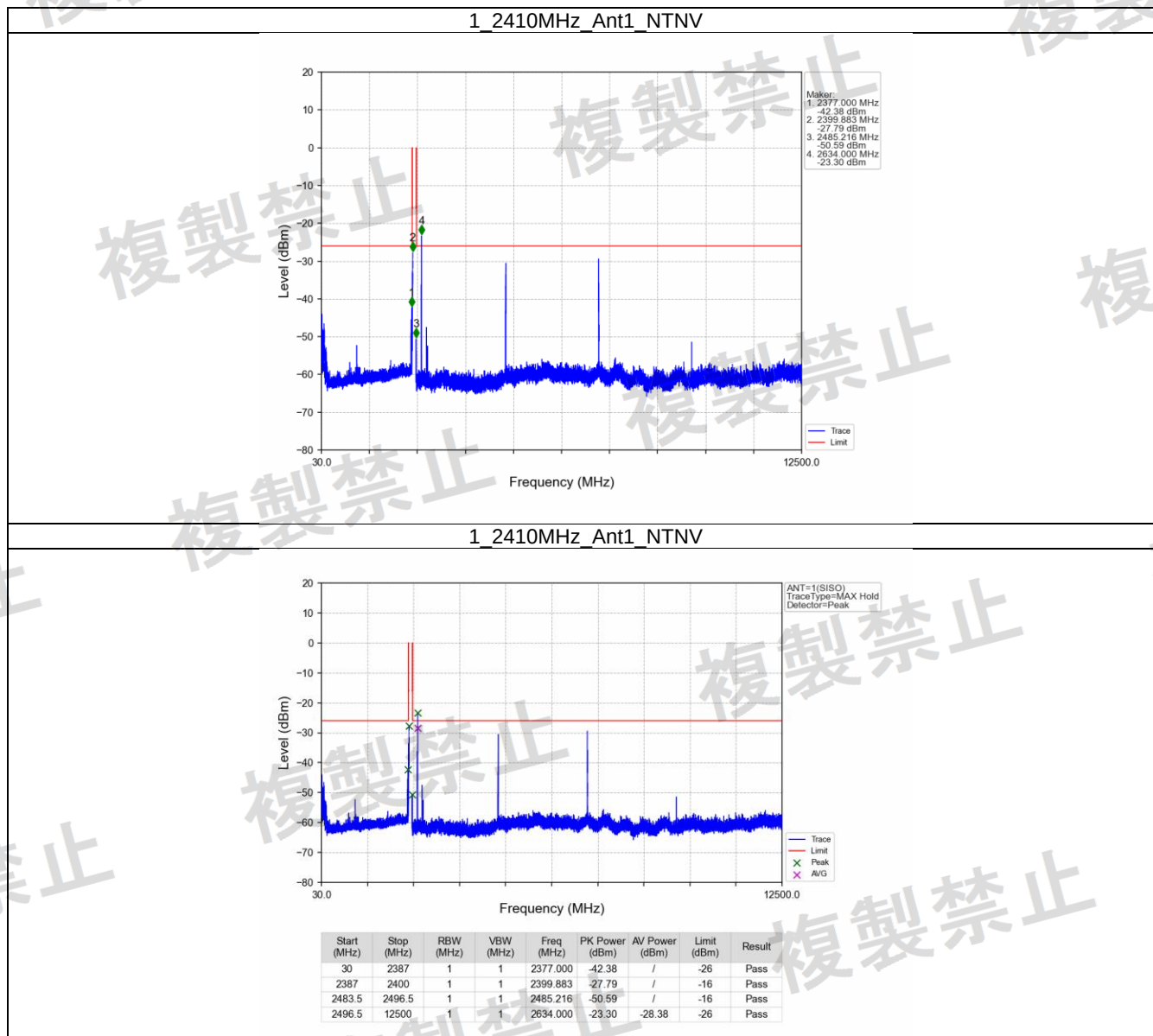
NTHV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
1	SISO	2410	1	30	2387	2385.5	-39.36	0.116	/	/	2.5	Pass
				2387	2400	2399.727	-28.09	1.552	/	/	25	Pass
				2483.5	2496.5	2486.399	-50.60	0.009	/	/	25	Pass



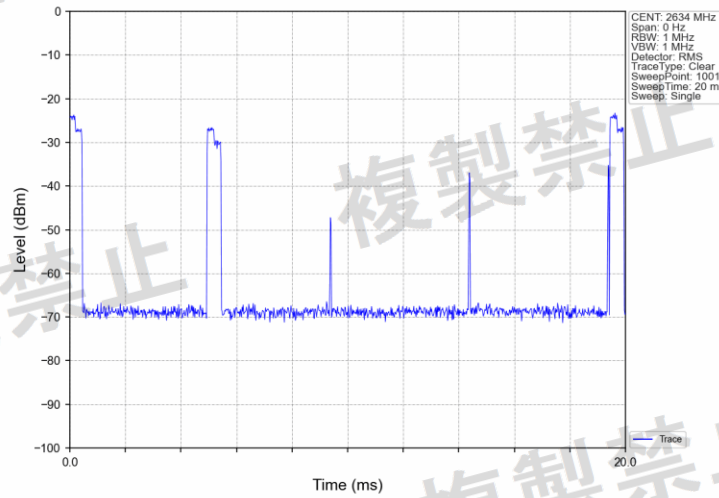
		2440	1	2496.5	12500	7230	-29.36	1.159	/	/	2.5	Pass
				30	2387	1747.5	-34.77	0.333	/	/	2.5	Pass
				2387	2400	2398.7	-57.95	0.002	/	/	25	Pass
				2483.5	2496.5	2486.061	-58.52	0.001	/	/	25	Pass
				2496.5	12500	3254	-38.30	0.148	/	/	2.5	Pass
		2470	1	30	2387	2377.5	-63.62	0.000	/	/	2.5	Pass
				2387	2400	2397.712	-64.28	0.000	/	/	25	Pass
				2483.5	2496.5	2483.643	-62.60	0.001	/	/	25	Pass
				2496.5	12500	4940.5	-50.02	0.010	/	/	2.5	Pass

6.2 Test Graph

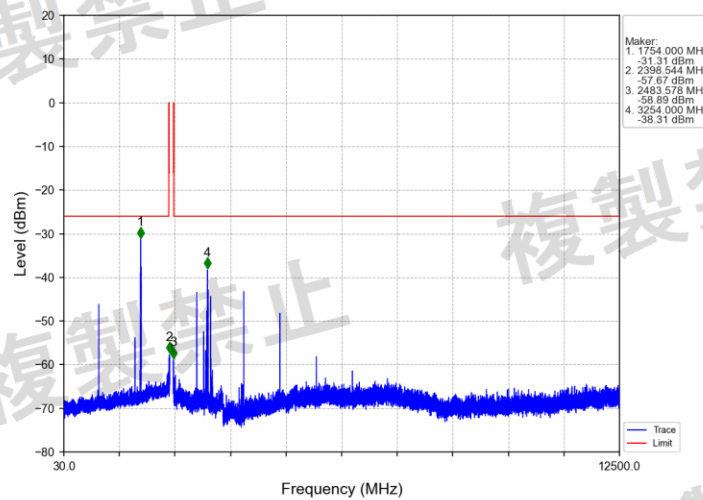
6.2.1 TxSe_NTNV



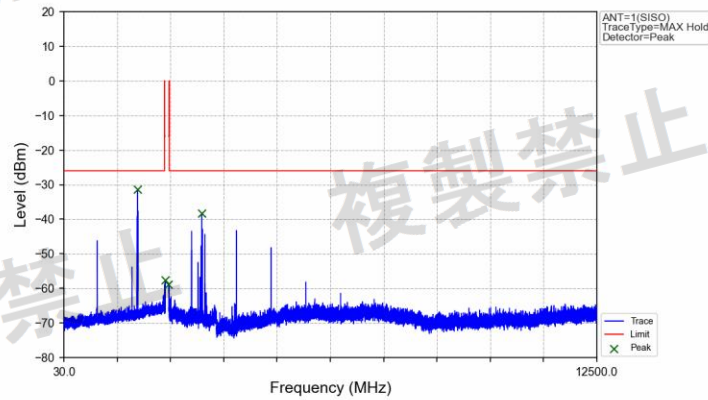
1 2410MHz Ant1 NTV



1 2440MHz Ant1 NTV

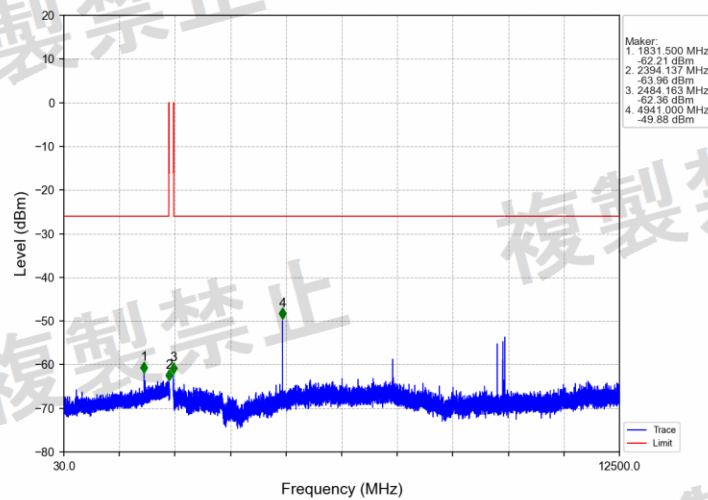


1 2440MHz Ant1 NTV

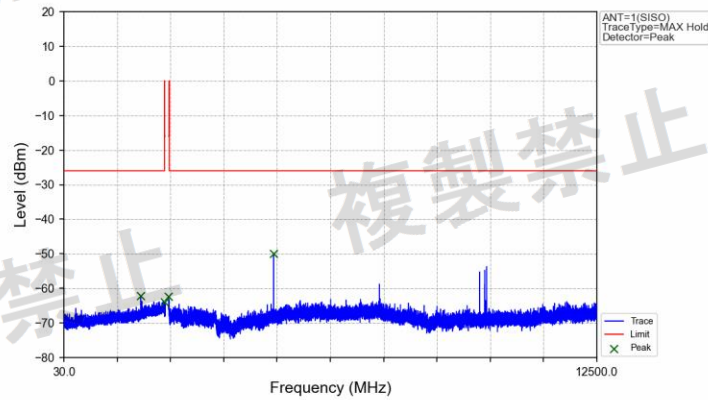


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	A/V Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1754.000	-31.31	/	-26	Pass
2387	2400	1	1	2398.544	-57.67	/	-16	Pass
2483.5	2496.5	1	1	2483.578	-58.89	/	-16	Pass
2496.5	12500	1	1	3254.000	-38.31	/	-26	Pass

1 2470MHz Ant1 NTV



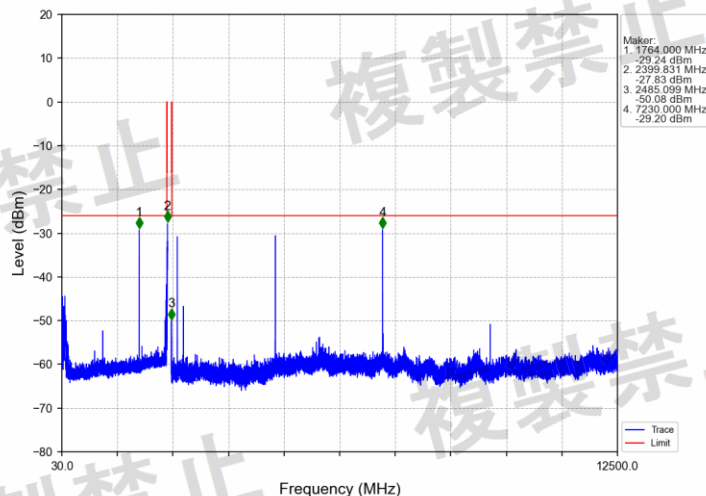
1 2470MHz_Ant1_NTNV



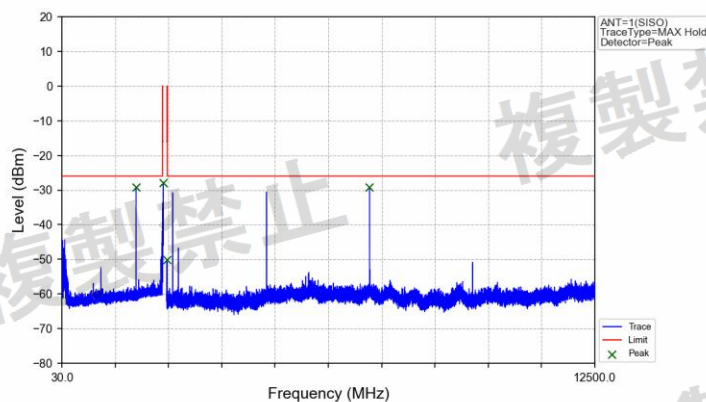
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	A/V Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1831.500	-62.21	/	-26	Pass
2387	2400	1	1	2394.137	-63.96	/	-16	Pass
2483.5	2496.5	1	1	2484.163	-62.36	/	-16	Pass
2496.5	12500	1	1	4941.000	-49.88	/	-26	Pass

6.2.2 TxSe_NTLV

1_2410MHz_Ant1_NTLV

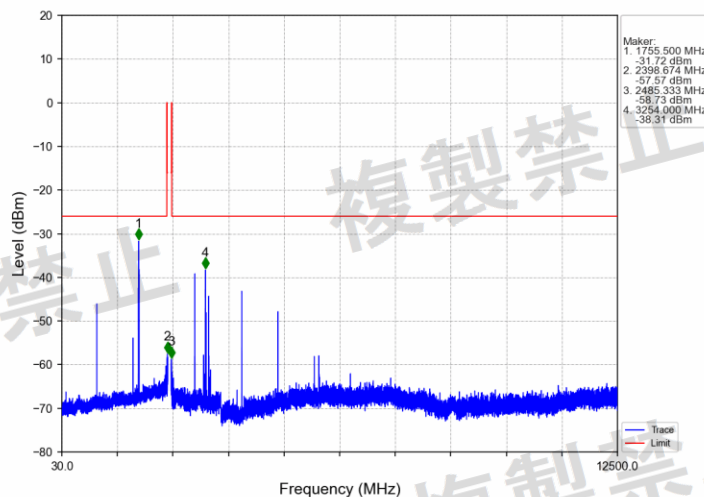


1_2410MHz_Ant1_NTLV

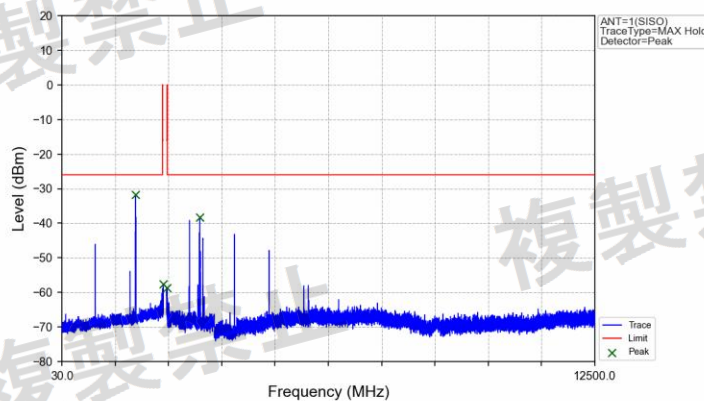


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1764.000	-29.24	/	-26	Pass
2387	2400	1	1	2399.831	-27.83	/	-16	Pass
2483.5	2496.5	1	1	2485.099	-50.08	/	-16	Pass
2496.5	12500	1	1	7230.000	-29.20	/	-26	Pass

1 2440MHz Ant1 NTLV

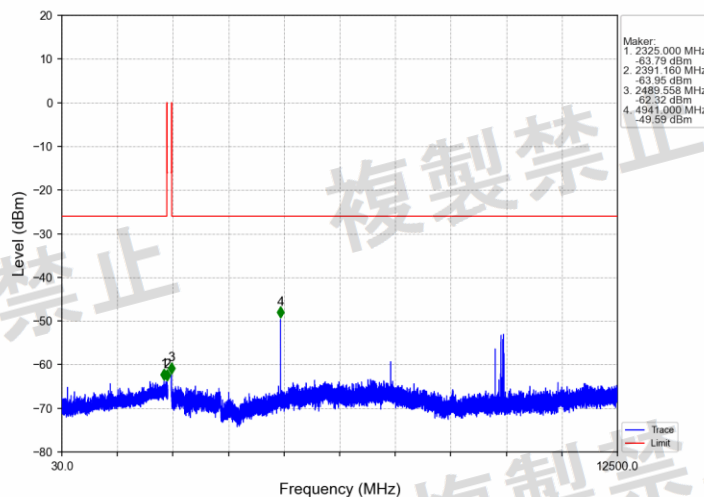


1 2440MHz Ant1 NTLV

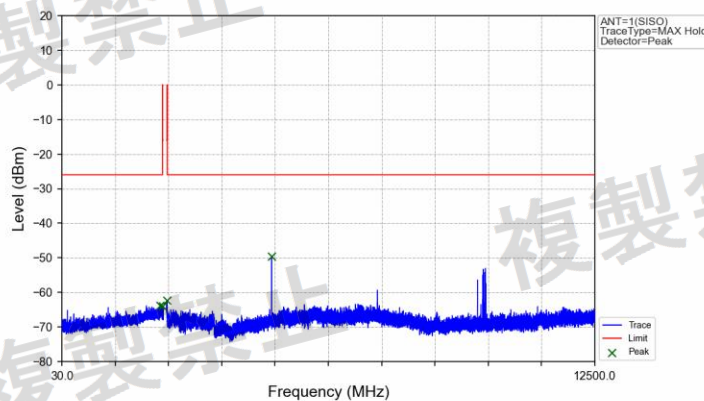


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1755.500	-31.72	/	-26	Pass
2387	2400	1	1	2398.674	-57.57	/	-16	Pass
2483.5	2496.5	1	1	2485.333	-58.73	/	-16	Pass
2496.5	12500	1	1	3254.000	-38.31	/	-26	Pass

1 2470MHz Ant1 NTLV



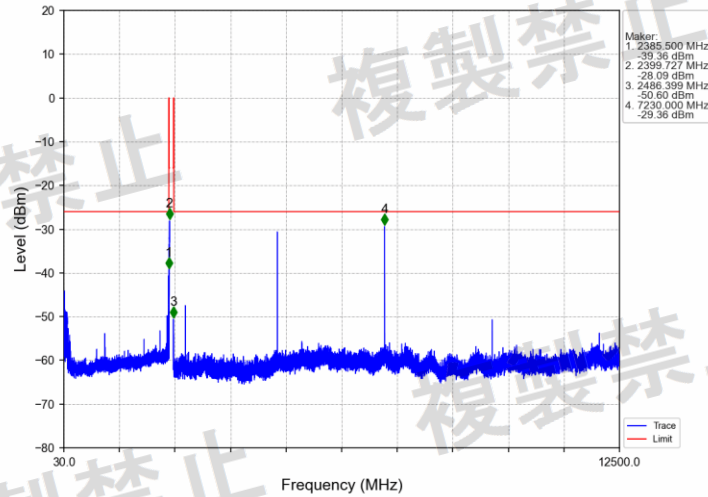
1 2470MHz Ant1 NTLV



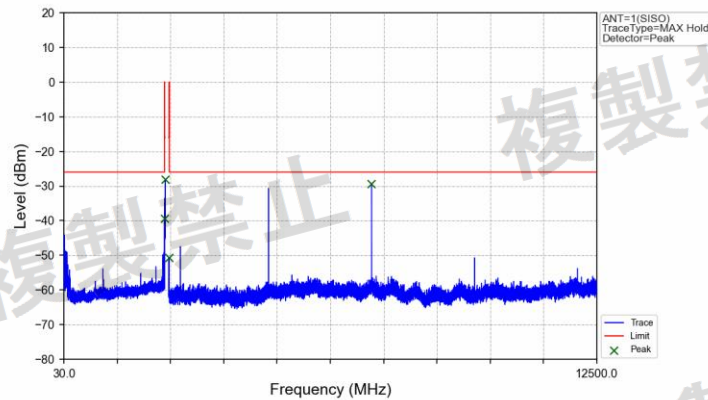
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2325.000	-63.79	/	-26	Pass
2387	2400	1	1	2391.160	-63.95	/	-16	Pass
2483.5	2496.5	1	1	2489.558	-62.32	/	-16	Pass
2496.5	12500	1	1	4941.000	-49.59	/	-26	Pass

6.2.3 TxSe_NTHV

1_2410MHz_Ant1_NTHV

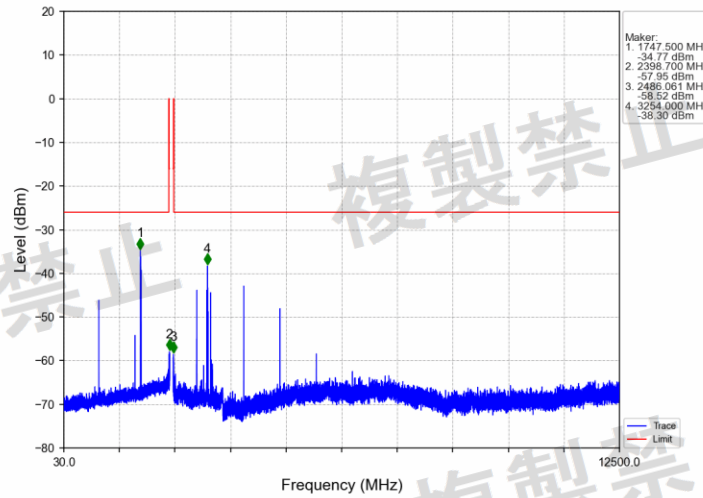


1_2410MHz_Ant1_NTHV

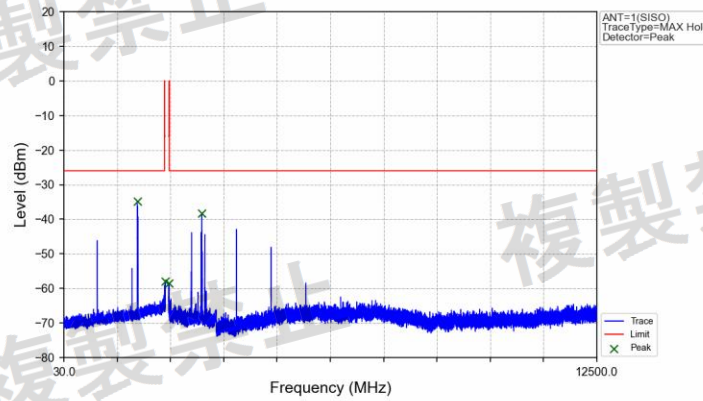


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2385.500	-39.36	/	-26	Pass
2387	2400	1	1	2399.727	-28.09	/	-16	Pass
2483.5	2496.5	1	1	2486.399	-50.60	/	-16	Pass
2496.5	12500	1	1	7230.000	-29.36	/	-26	Pass

1 2440MHz Ant1 NTHV

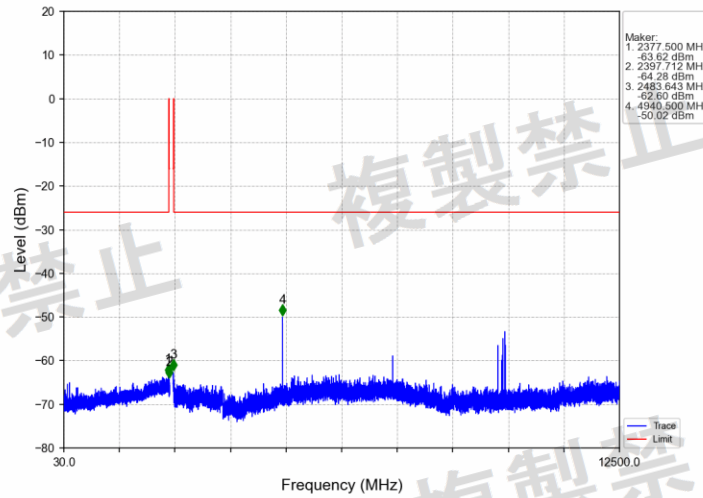


1 2440MHz Ant1 NTHV

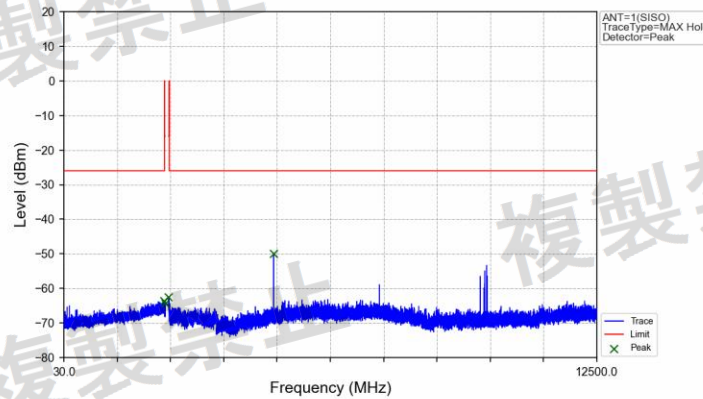


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1747.500	-34.77	/	-26	Pass
2387	2400	1	1	2398.700	-57.95	/	-16	Pass
2483.5	2496.5	1	1	2486.051	-58.52	/	-16	Pass
2496.5	12500	1	1	3254.000	-38.30	/	-26	Pass

1 2470MHz Ant1 NTHV



1 2470MHz Ant1 NTHV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2377.500	-63.62	/	-26	Pass
2387	2400	1	1	2397.712	-64.28	/	-16	Pass
2483.5	2496.5	1	1	2483.643	-62.60	/	-16	Pass
2496.5	12500	1	1	4940.500	-50.02	/	-26	Pass

7. Secondary Radiated Emission

7.1 Test Result

7.1.1 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)		
1	SISO	2410	1	30	1000	999.4	-75.99	0.025	/	/	4	Pass
				1000	12500	5554	-62.34	0.583	/	/	20	Pass
		2440	1	30	1000	902.3	-76.04	0.025	/	/	4	Pass
				1000	12500	2439	-56.83	2.075	/	/	20	Pass
		2470	1	30	1000	737	-74.18	0.038	/	/	4	Pass
				1000	12500	7216	-61.07	0.782	/	/	20	Pass

7.1.2 RxSe_NTLV

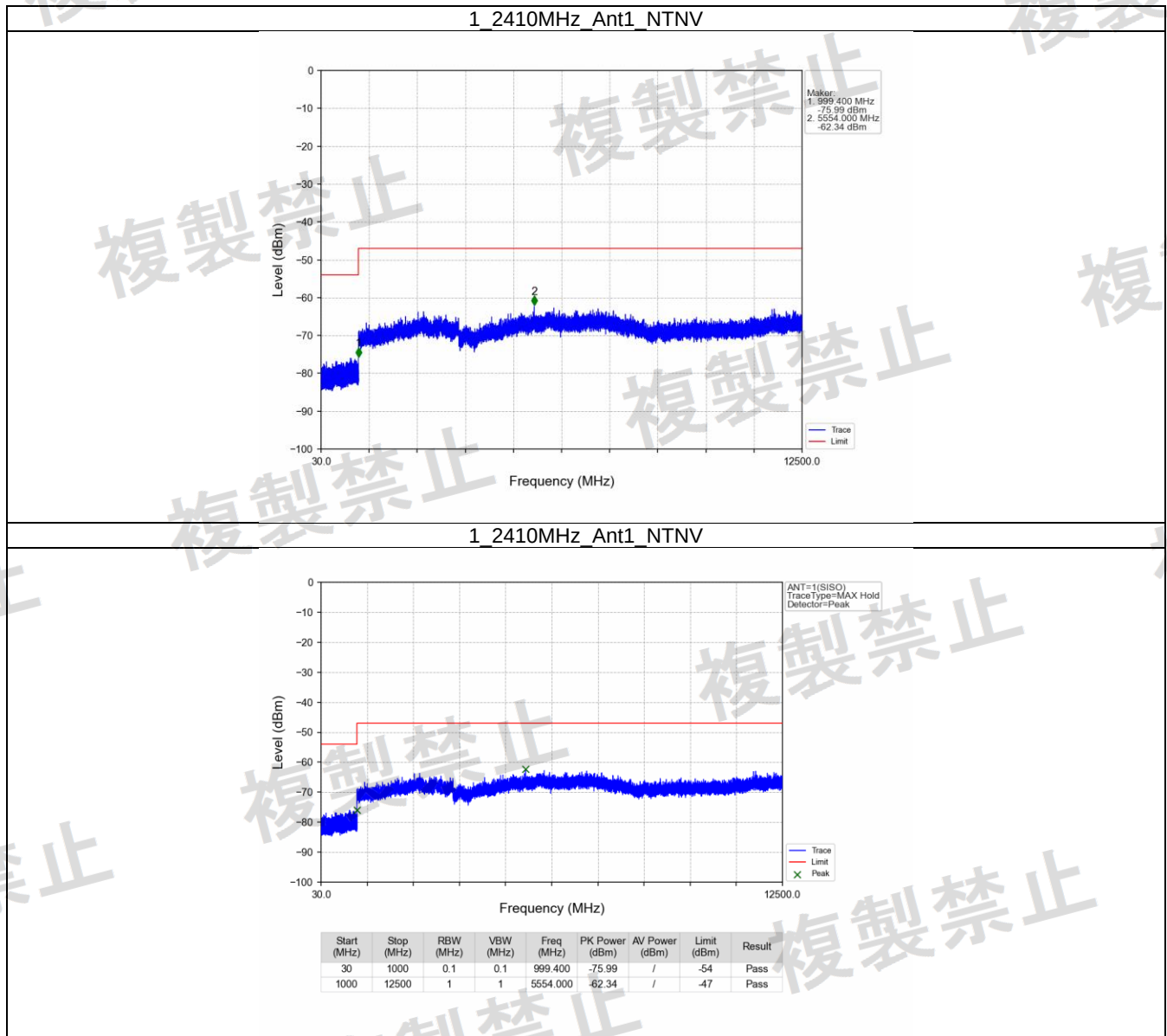
NTLV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
1	SISO	2410	1	30	1000	918.3	-76.01	0.025	/	/	4	Pass
				1000	12500	6908.5	-62.90	0.513	/	/	20	Pass
		2440	1	30	1000	412.9	-76.17	0.024	/	/	4	Pass
				1000	12500	1747	-49.13	12.218	-77.75	0.017	20	Pass
		2470	1	30	1000	785.75	-73.70	0.043	/	/	4	Pass
				1000	12500	12013	-61.50	0.708	/	/	20	Pass

7.1.3 RxSe_NTHV

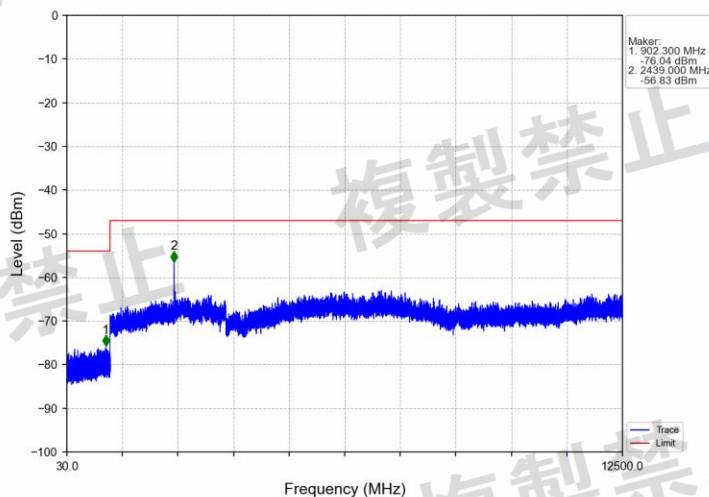
NTHV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
1	SISO	2410	1	30	1000	902.05	-76.18	0.024	/	/	4	Pass
				1000	12500	7328	-62.51	0.561	/	/	20	Pass
		2440	1	30	1000	783.3	-75.53	0.028	/	/	4	Pass
				1000	12500	1764.5	-61.89	0.647	/	/	20	Pass
		2470	1	30	1000	633.9	-73.78	0.042	/	/	4	Pass
				1000	12500	7740.5	-61.54	0.701	/	/	20	Pass

7.2 Test Graph

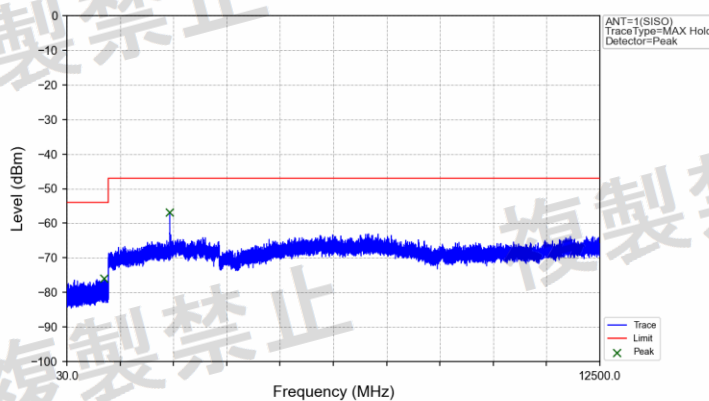
7.2.1 RxSe_NTNV



1 2440MHz Ant1 NTV

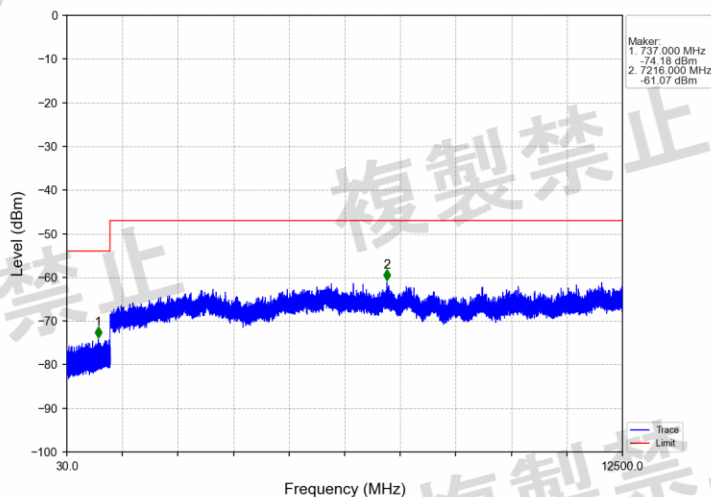


1 2440MHz Ant1 NTV

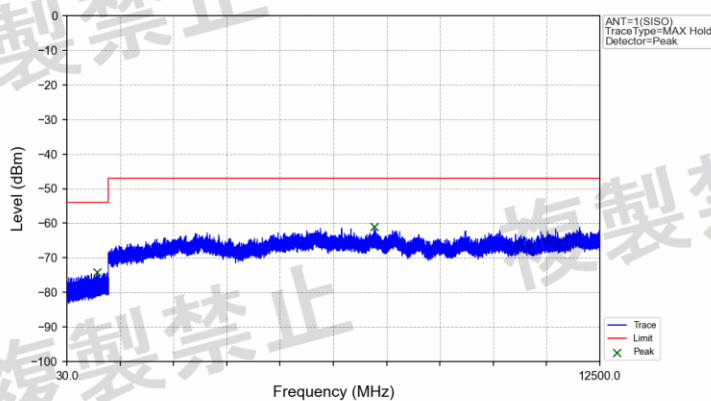


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	902.300	-76.04	/	-54	Pass
1000	12500	1	1	2439.000	-56.83	/	-47	Pass

1 2470MHz Ant1 NTV



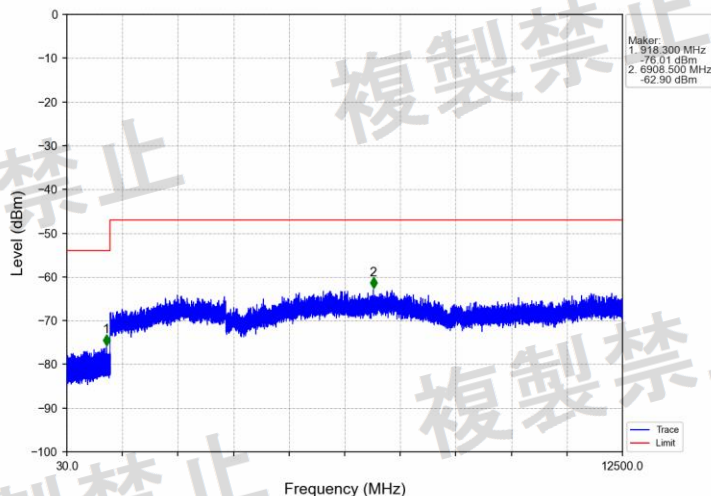
1 2470MHz Ant1 NTV



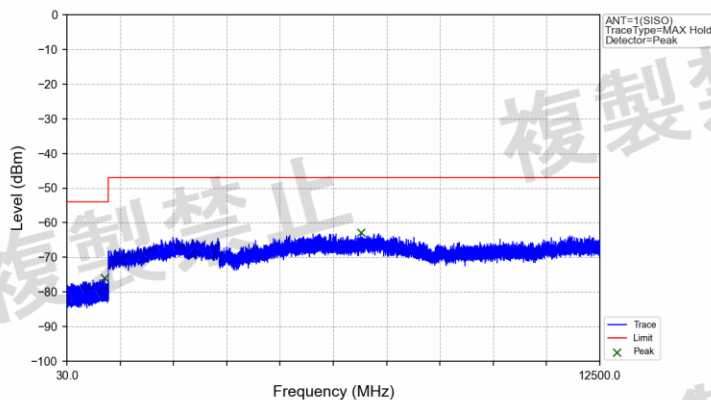
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	737.000	-74.18	/	-54	Pass
1000	12500	1	1	7216.000	-61.07	/	-47	Pass

7.2.2 RxSe_NTLV

1_2410MHz_Ant1_NTLV

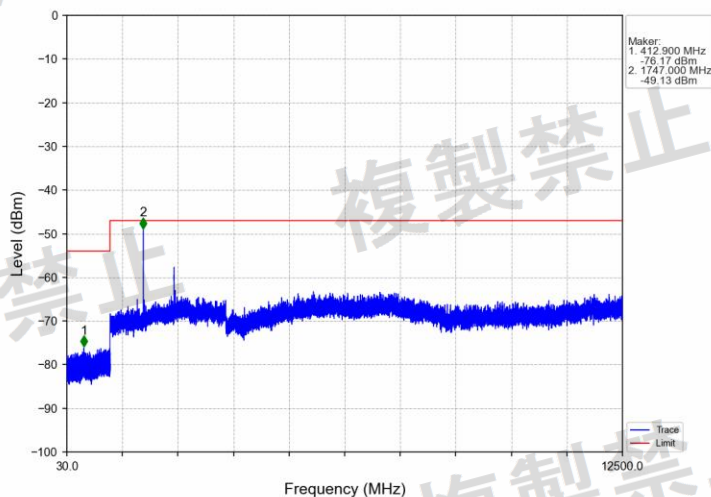


1_2410MHz_Ant1_NTLV

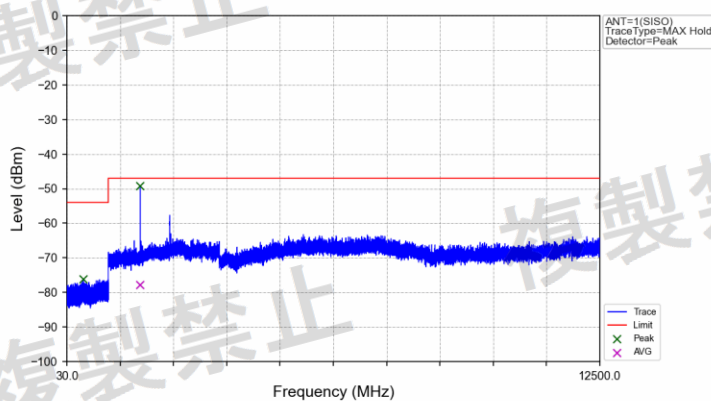


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	918.300	-76.01	/	-54	Pass
1000	12500	1	1	6908.500	-62.90	/	-47	Pass

1 2440MHz Ant1 NTLV



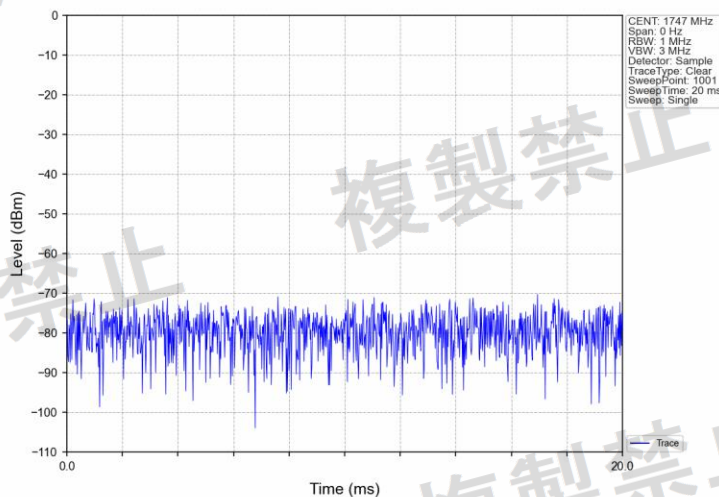
1 2440MHz Ant1 NTLV



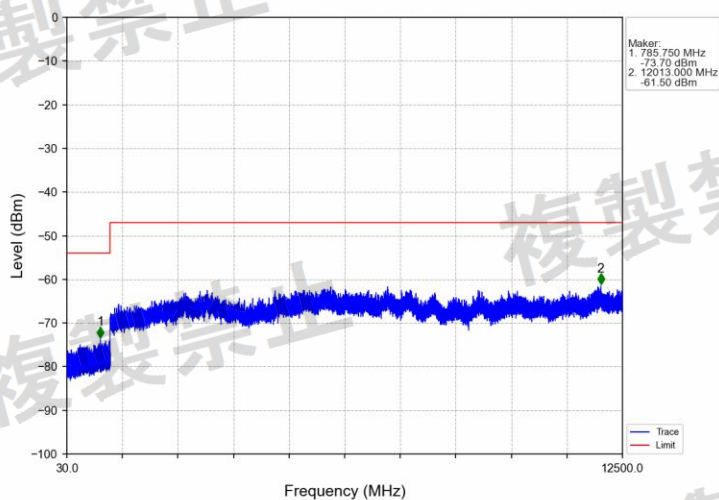
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	412.900	-76.17	/	-54	Pass
1000	12500	1	1	1747.000	-49.13	-77.75	-47	Pass



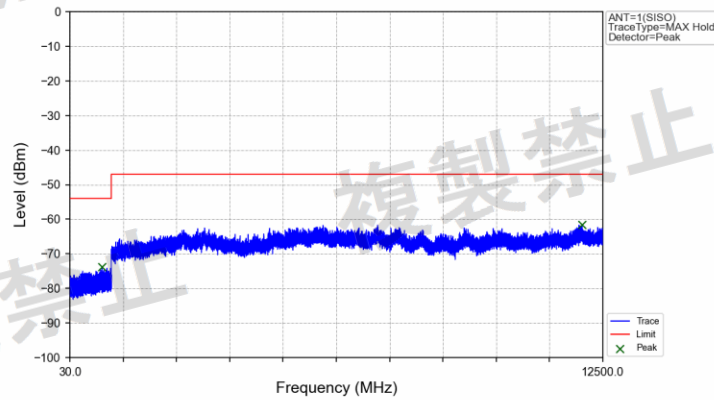
1 2440MHz Ant1 NTLV



1 2470MHz Ant1 NTLV

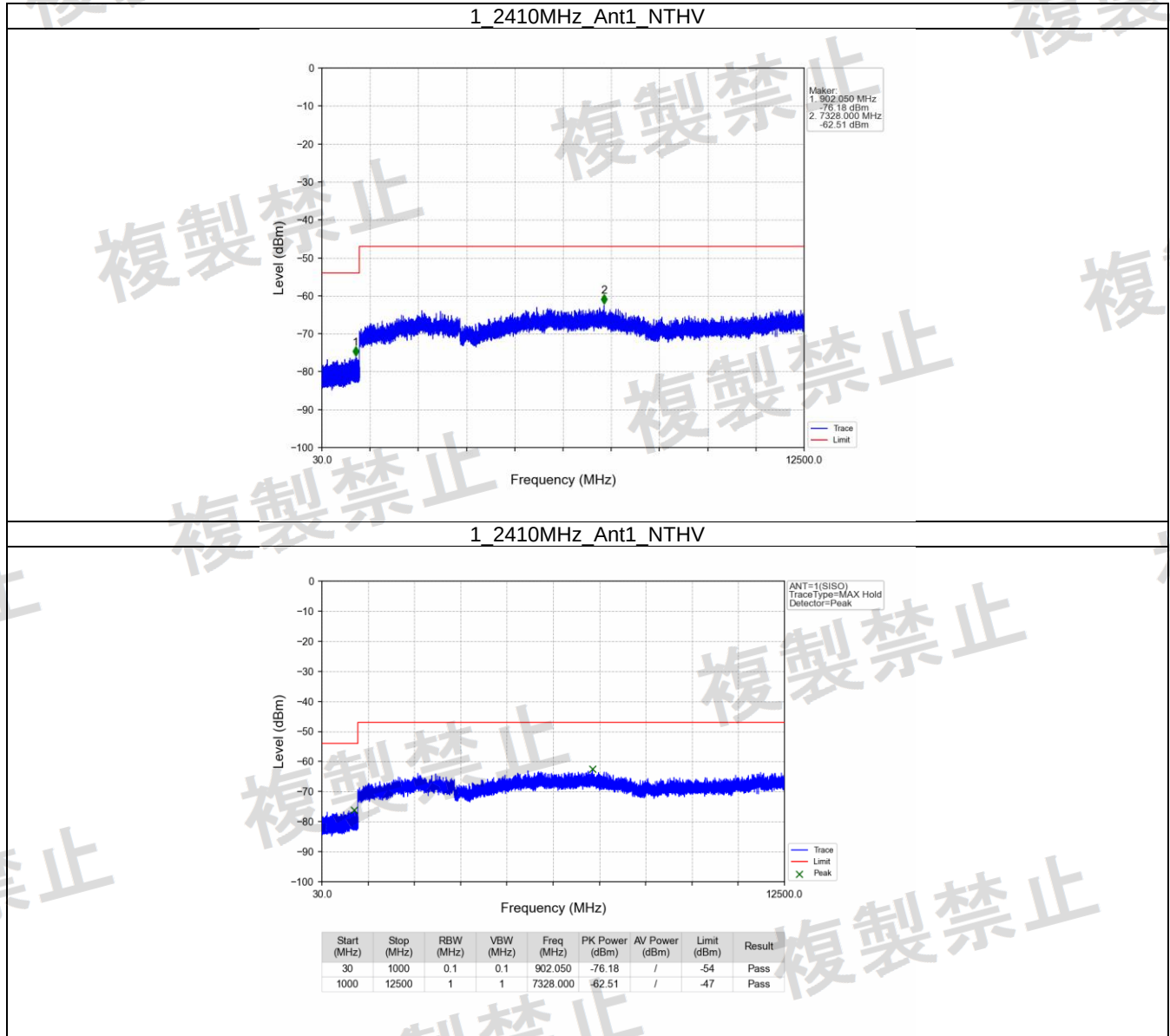


1_ 2470MHz_Ant1_NTLV

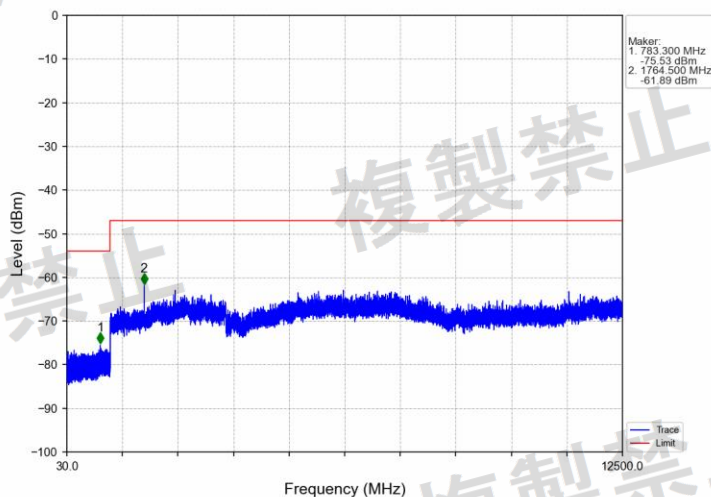


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	785.750	-73.70	/	-54	Pass
1000	12500	1	1	12013.000	-61.50	/	-47	Pass

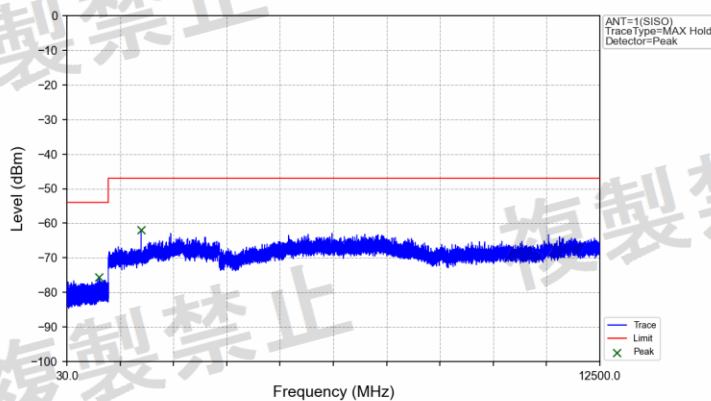
7.2.3 RxSe_NTHV



1 2440MHz Ant1 NTHV

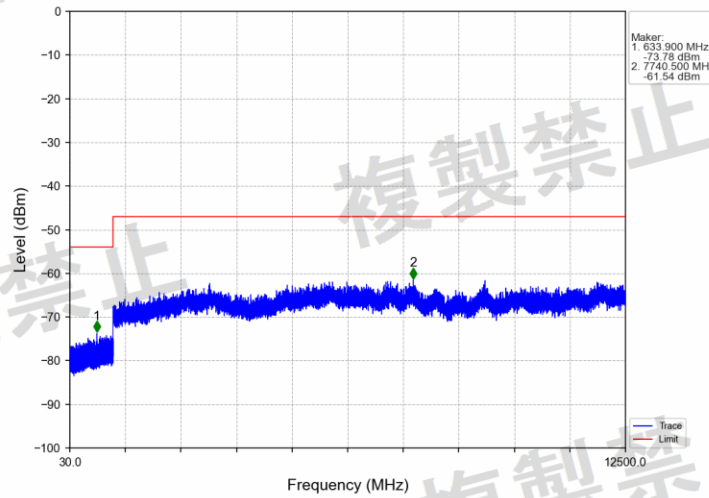


1 2440MHz Ant1 NTHV

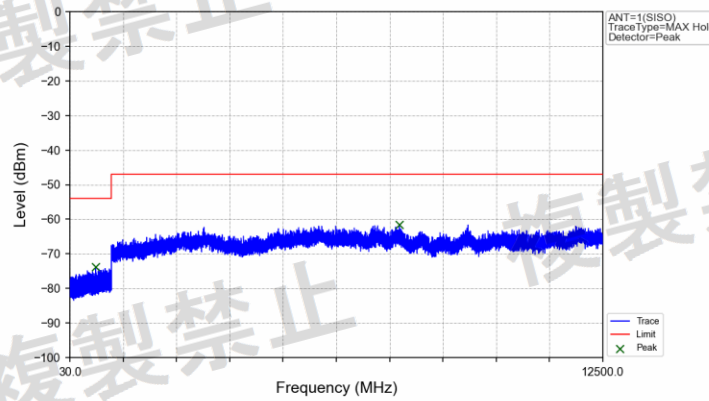


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	783.300	-75.53	/	-54	Pass
1000	12500	1	1	1764.500	-61.89	/	-47	Pass

1 2470MHz Ant1 NTHV



1 2470MHz Ant1 NTHV



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	633.900	-73.78	/	-54	Pass
1000	12500	1	1	7740.500	-61.54	/	-47	Pass