



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Solar Emergency Radio

Trade Mark: N/A

Test Model: H27

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung
Test date:	2024-10-11



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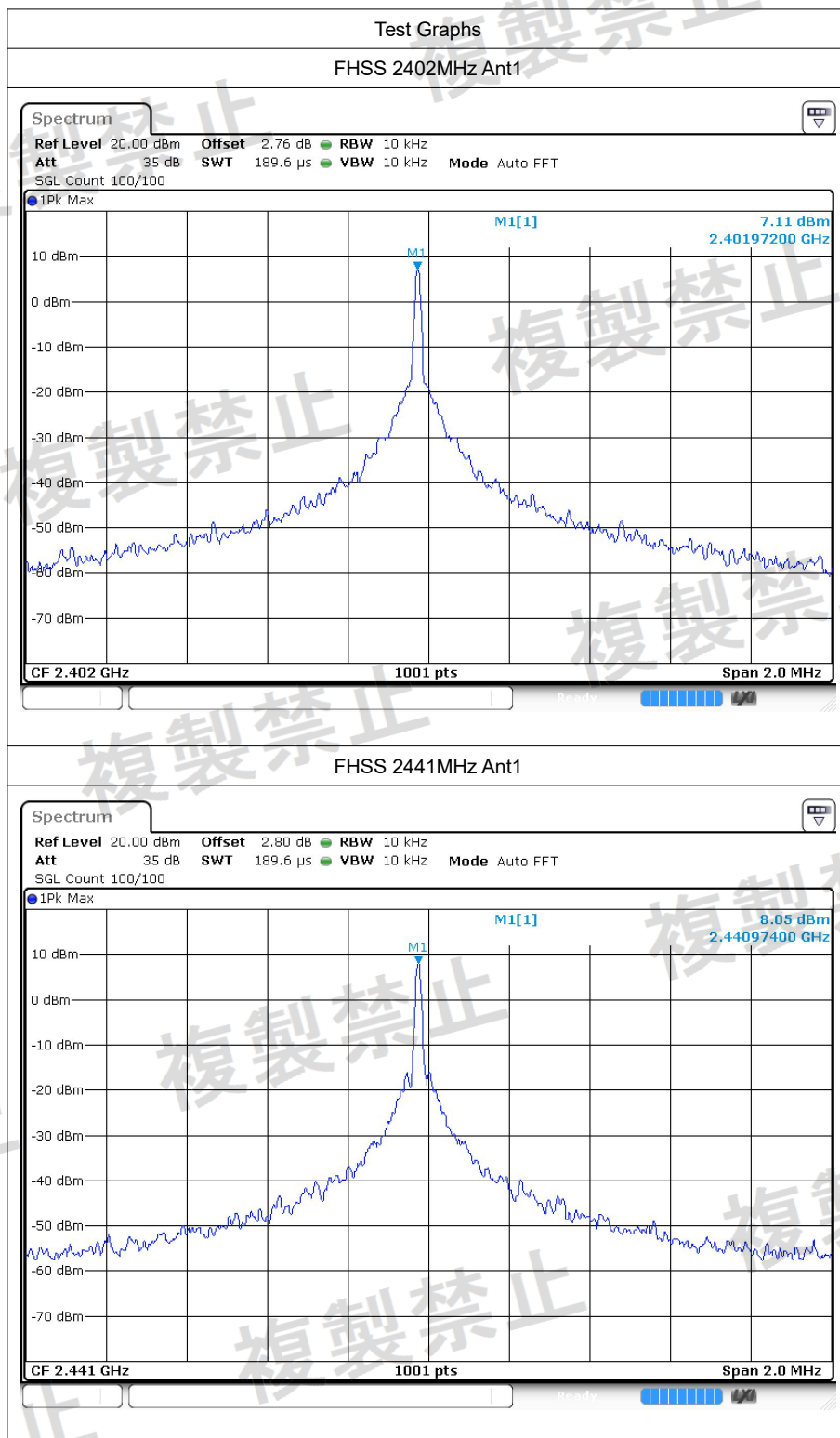


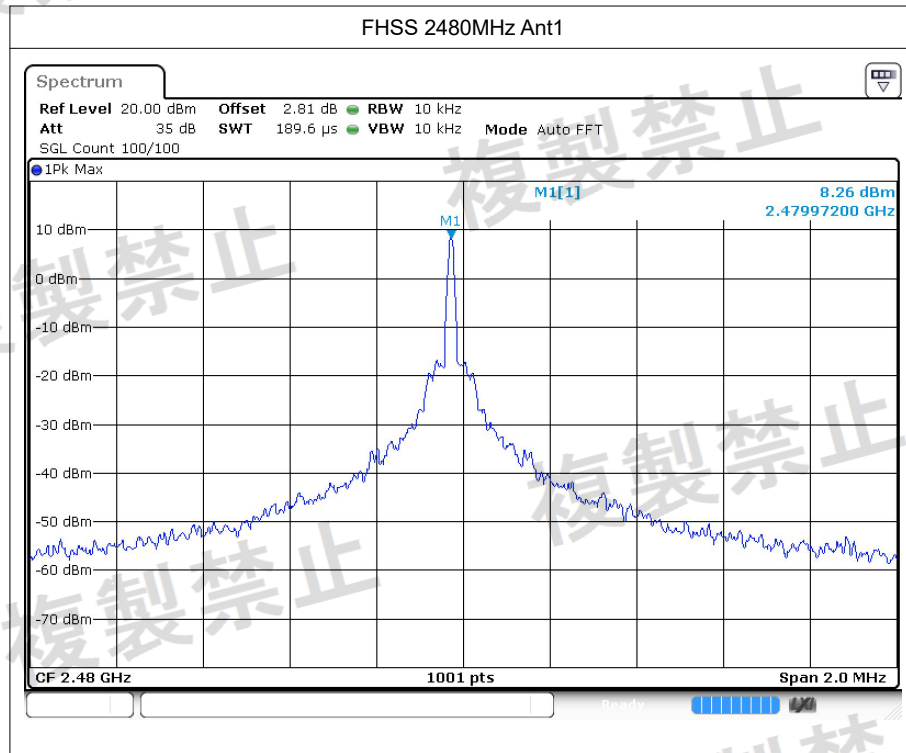
1 Frequency Error

1.1 Test Result

Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
FHSS	2402	Ant1	2401.972	-28000	-11.66	50	Pass
FHSS	2441	Ant1	2440.974	-26000	-10.65	50	Pass
FHSS	2480	Ant1	2479.972	-28000	-11.29	50	Pass

1.2 Test Graphs





2 Antenna and EIRP Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Power (dBm)	Power (dBm/MHz)	Antenna Power (mW/MHz)	Declared Power (mW/MHz)	Tolerance (%)	Upper Limit (%)	Verdict
1-DH5	2402	Ant1	-1.51	-19.97	0.01	0.02	-50	20	Pass
1-DH5	2441	Ant1	-0.24	-18.7	0.01	0.02	-50	20	Pass
1-DH5	2480	Ant1	-0.73	-19.19	0.01	0.02	-50	20	Pass
2-DH5	2402	Ant1	-2.32	-20.82	0.01	0.02	-50	20	Pass
2-DH5	2441	Ant1	-0.94	-19.44	0.01	0.02	-50	20	Pass
2-DH5	2480	Ant1	-1.45	-19.95	0.01	0.02	-50	20	Pass
3-DH5	2402	Ant1	-2.22	-20.72	0.01	0.02	-50	20	Pass
3-DH5	2441	Ant1	-1.04	-19.54	0.01	0.02	-50	20	Pass
3-DH5	2480	Ant1	-1.48	-19.98	0.01	0.02	-50	20	Pass



3 EIRP Power

3.1 Test Result

Mode	Frequency (MHz)	Antenna	Power (dBm/MHz)	Gain (dBi)	EIRP Power (dbm/MHz)	Limit (mW/MHz)	Verdict
1-DH5	2402	Ant1	-19.97	-0.58	-20.55	6.91	Pass
1-DH5	2441	Ant1	-18.7	-0.58	-19.28	6.91	Pass
1-DH5	2480	Ant1	-19.19	-0.58	-19.77	6.91	Pass
2-DH5	2402	Ant1	-20.82	-0.58	-21.4	6.91	Pass
2-DH5	2441	Ant1	-19.44	-0.58	-20.02	6.91	Pass
2-DH5	2480	Ant1	-19.95	-0.58	-20.53	6.91	Pass
3-DH5	2402	Ant1	-20.72	-0.58	-21.3	6.91	Pass
3-DH5	2441	Ant1	-19.54	-0.58	-20.12	6.91	Pass
3-DH5	2480	Ant1	-19.98	-0.58	-20.56	6.91	Pass

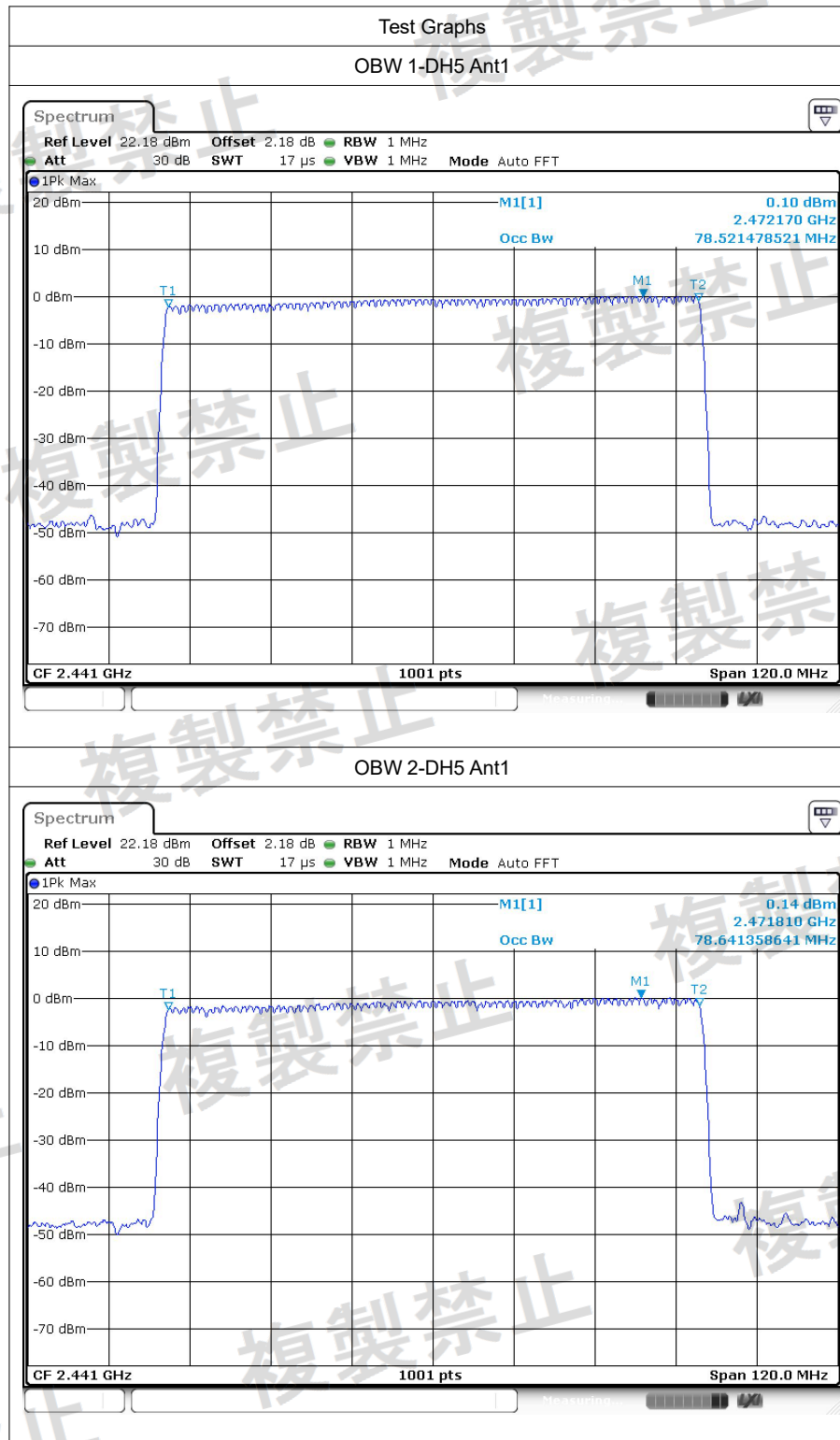


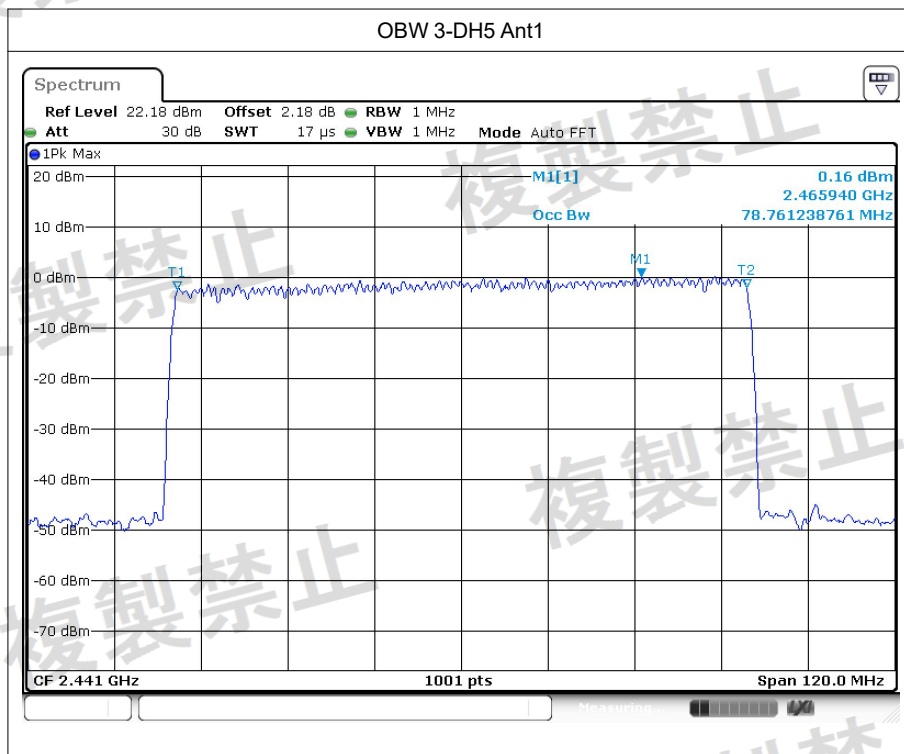
4 Occupied Channel Bandwidth

4.1 Test Result

Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
1-DH5	79 channels(2402~2480 MHz)	Ant1	78.521
2-DH5	79 channels(2402~2480 MHz)	Ant1	78.641
3-DH5	79 channels(2402~2480 MHz)	Ant1	78.761

4.2 Test Graphs





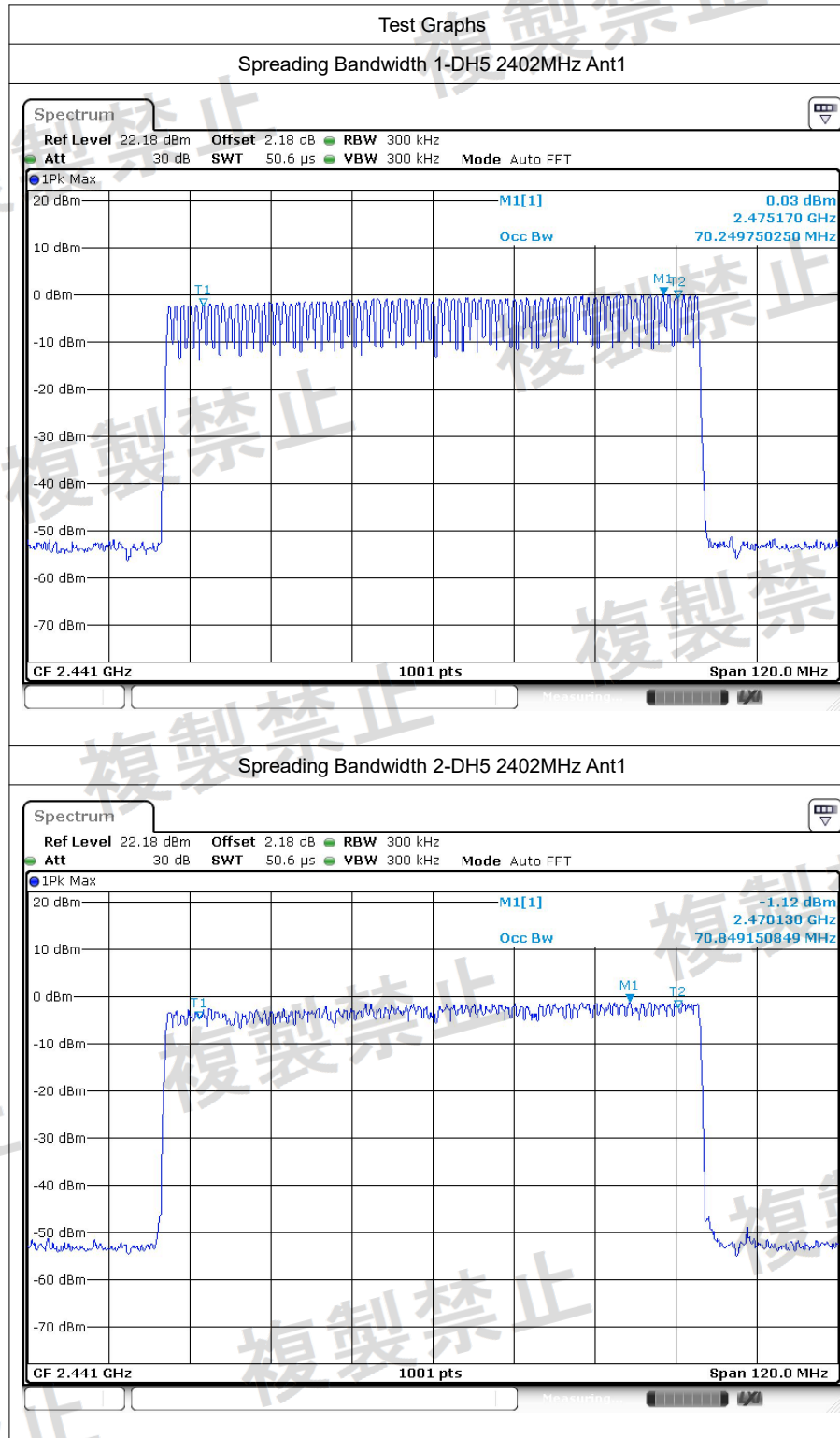


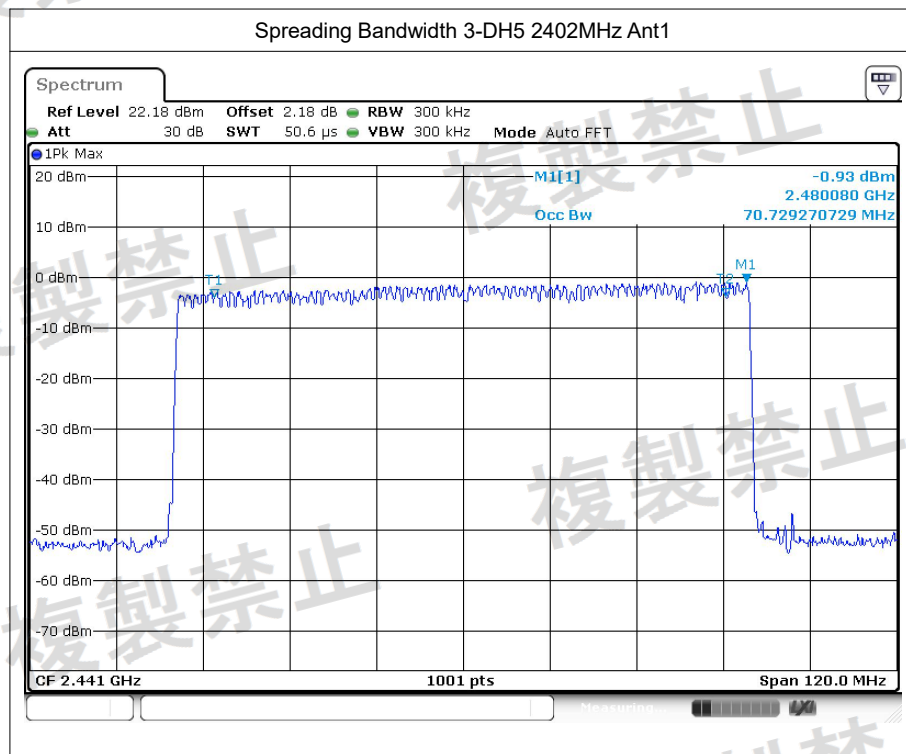
5 Spread Spectrum Bandwidth (90%)

5.1 Test Result

Mode	Frequency (MHz)	Antenna	90% OBW (MHz)	Limit (MHz)	Verdict
1-DH5	79 channels(2402~2480 MHz)	Ant1	70.13	0.5	Pass
2-DH5	79 channels(2402~2480 MHz)	Ant1	70.849	0.5	Pass
3-DH5	79 channels(2402~2480 MHz)	Ant1	70.729	0.5	Pass

5.2 Test Graphs







6 Tx Spurious Emission

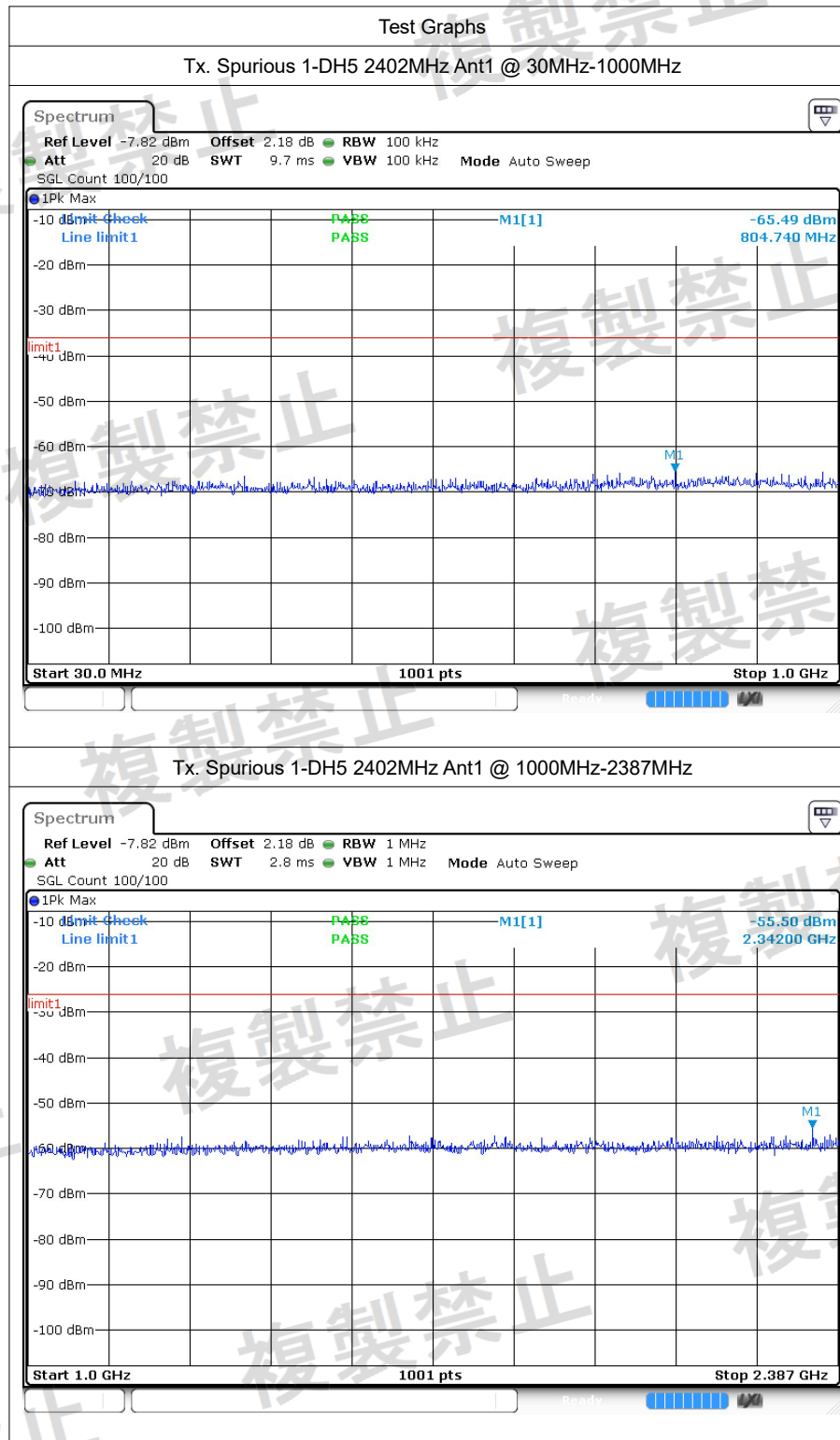
6.1 Test Result

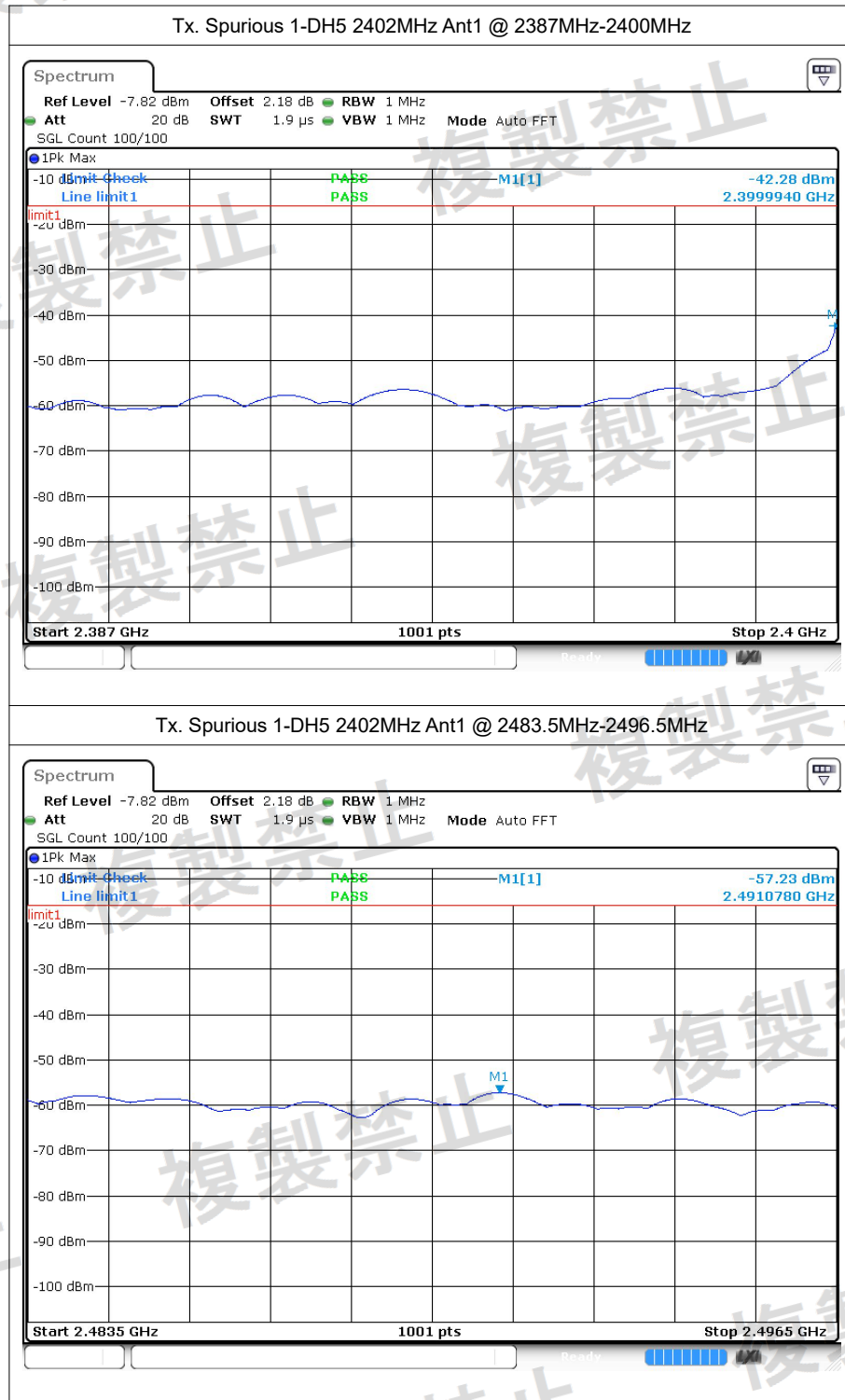
Mode	Frequency (MHz)	Antenna	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit Start(dBm)	Limit Stop (dBm)	Verdict
1-DH5	2402	Ant1	30-1000	804.74	-55.49	-36	-36	Pass
1-DH5	2402	Ant1	1000-2387	2342	-55.5	-26	-26	Pass
1-DH5	2402	Ant1	2387-2400	2399.99	-42.28	-16	-16	Pass
1-DH5	2402	Ant1	2483.5-2496.5	2491.08	-57.23	-16	-16	Pass
1-DH5	2402	Ant1	2496.5-13000	7003.5	-48.13	-26	-26	Pass
1-DH5	2441	Ant1	30-1000	767.92	-55.33	-36	-36	Pass
1-DH5	2441	Ant1	1000-2387	2380.8	-55.49	-26	-26	Pass
1-DH5	2441	Ant1	2387-2400	2388.16	-57.49	-16	-16	Pass
1-DH5	2441	Ant1	2483.5-2496.5	2493.87	-56.75	-16	-16	Pass
1-DH5	2441	Ant1	2496.5-13000	6992.5	-47.12	-26	-26	Pass
1-DH5	2480	Ant1	30-1000	791.17	-55.57	-36	-36	Pass
1-DH5	2480	Ant1	1000-2387	1769.7	-56.55	-26	-26	Pass
1-DH5	2480	Ant1	2387-2400	2387.08	-57.39	-16	-16	Pass
1-DH5	2480	Ant1	2483.5-2496.5	2483.51	-54.08	-16	-16	Pass
1-DH5	2480	Ant1	2496.5-13000	11231.5	-47.09	-26	-26	Pass
2-DH5	2402	Ant1	30-1000	921.99	-55.87	-36	-36	Pass
2-DH5	2402	Ant1	1000-2387	1801.6	-56.07	-26	-26	Pass
2-DH5	2402	Ant1	2387-2400	2399.99	-33.89	-16	-16	Pass
2-DH5	2402	Ant1	2483.5-2496.5	2494.56	-55.58	-16	-16	Pass
2-DH5	2402	Ant1	2496.5-13000	12637.5	-48.19	-26	-26	Pass
2-DH5	2441	Ant1	30-1000	930.71	-55.77	-36	-36	Pass
2-DH5	2441	Ant1	1000-2387	2380.8	-56.61	-26	-26	Pass
2-DH5	2441	Ant1	2387-2400	2399.99	-59.45	-16	-16	Pass
2-DH5	2441	Ant1	2483.5-2496.5	2493.69	-56.42	-16	-16	Pass
2-DH5	2441	Ant1	2496.5-13000	10214.5	-48.23	-26	-26	Pass
2-DH5	2480	Ant1	30-1000	988.86	-55.7	-36	-36	Pass
2-DH5	2480	Ant1	1000-2387	2161.8	-56.71	-26	-26	Pass
2-DH5	2480	Ant1	2387-2400	2394.6	-58.35	-16	-16	Pass
2-DH5	2480	Ant1	2483.5-2496.5	2484.05	-51.32	-16	-16	Pass
2-DH5	2480	Ant1	2496.5-13000	10224.5	-47.57	-26	-26	Pass
3-DH5	2402	Ant1	30-1000	769.86	-55.21	-36	-36	Pass
3-DH5	2402	Ant1	1000-2387	1753.1	-50.46	-26	-26	Pass
3-DH5	2402	Ant1	2387-2400	2399.99	-32.97	-16	-16	Pass

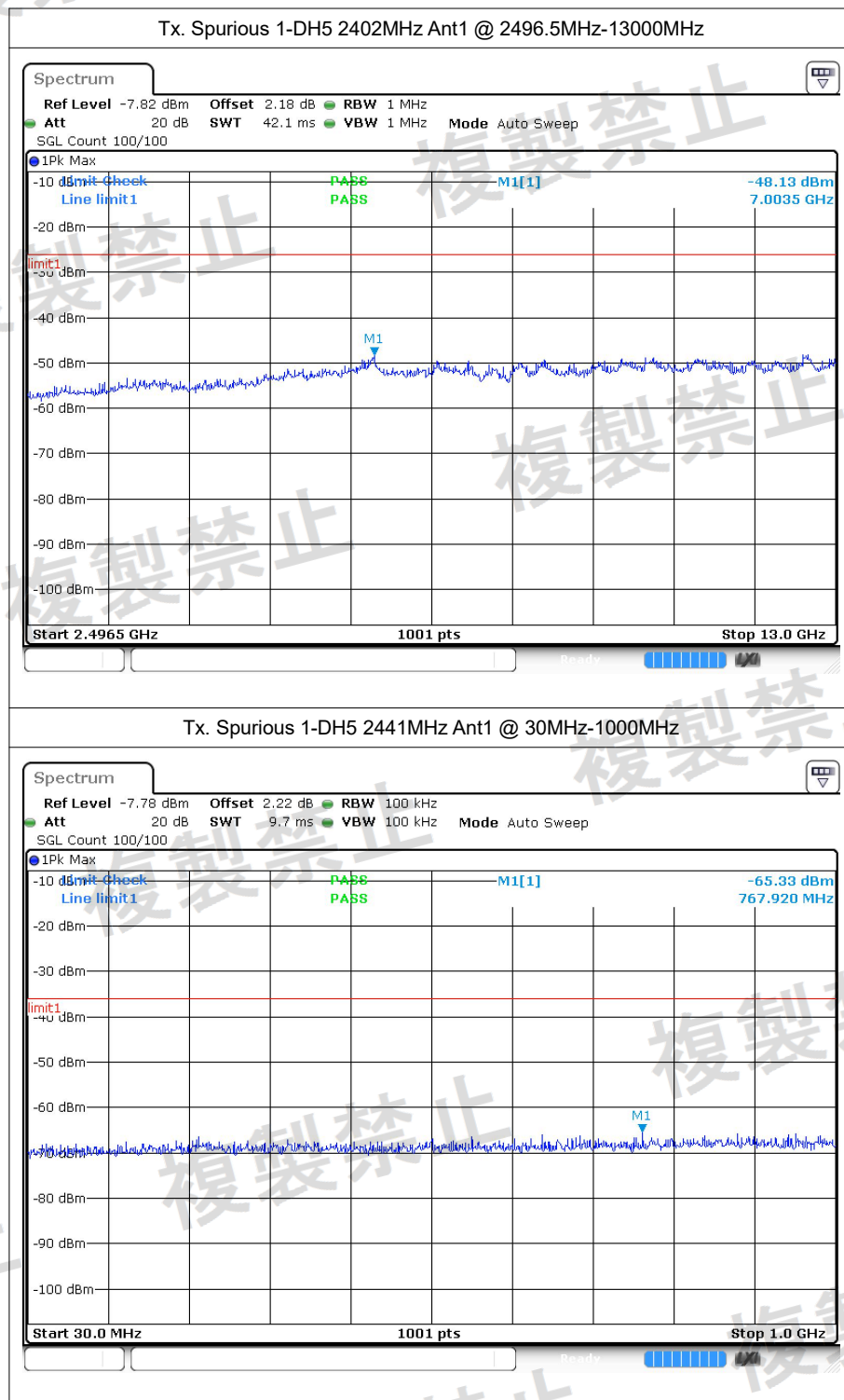


3-DH5	2402	Ant1	2483.5-2496.5	2488.3	-57.76	-16	-16	Pass
3-DH5	2402	Ant1	2496.5-13000	10560.5	-48.18	-26	-26	Pass
3-DH5	2441	Ant1	30-1000	861.91	-55.42	-36	-36	Pass
3-DH5	2441	Ant1	1000-2387	2380.8	-56.13	-26	-26	Pass
3-DH5	2441	Ant1	2387-2400	2394.64	-57.96	-16	-16	Pass
3-DH5	2441	Ant1	2483.5-2496.5	2487.19	-58.04	-16	-16	Pass
3-DH5	2441	Ant1	2496.5-13000	12637.5	-48.25	-26	-26	Pass
3-DH5	2480	Ant1	30-1000	546.98	-54.92	-36	-36	Pass
3-DH5	2480	Ant1	1000-2387	2303.2	-55.39	-26	-26	Pass
3-DH5	2480	Ant1	2387-2400	2396.4	-58.7	-16	-16	Pass
3-DH5	2480	Ant1	2483.5-2496.5	2487.43	-46.48	-16	-16	Pass
3-DH5	2480	Ant1	2496.5-13000	11179.5	-48.05	-26	-26	Pass

6.2 Test Graphs

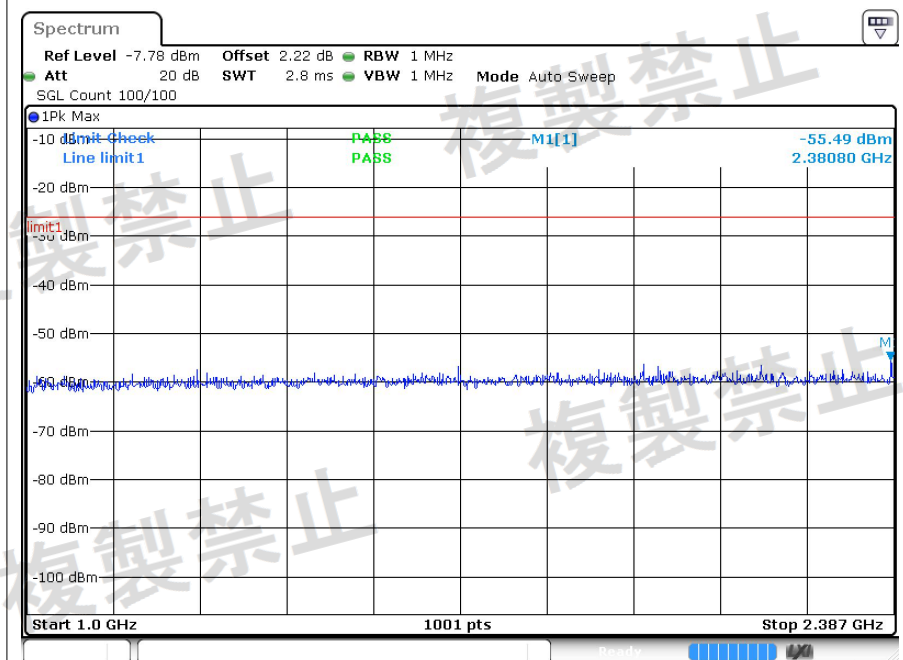




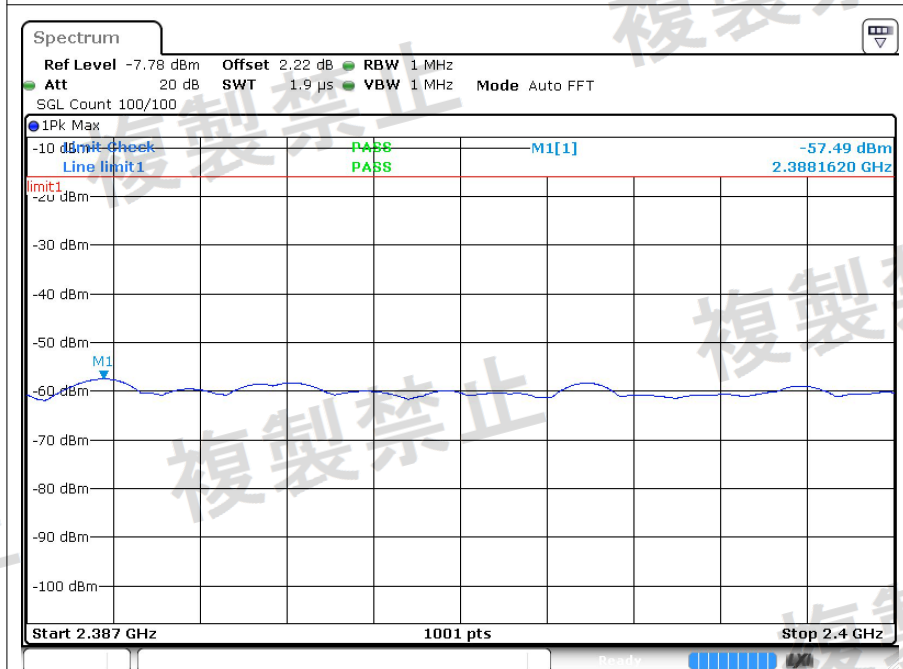


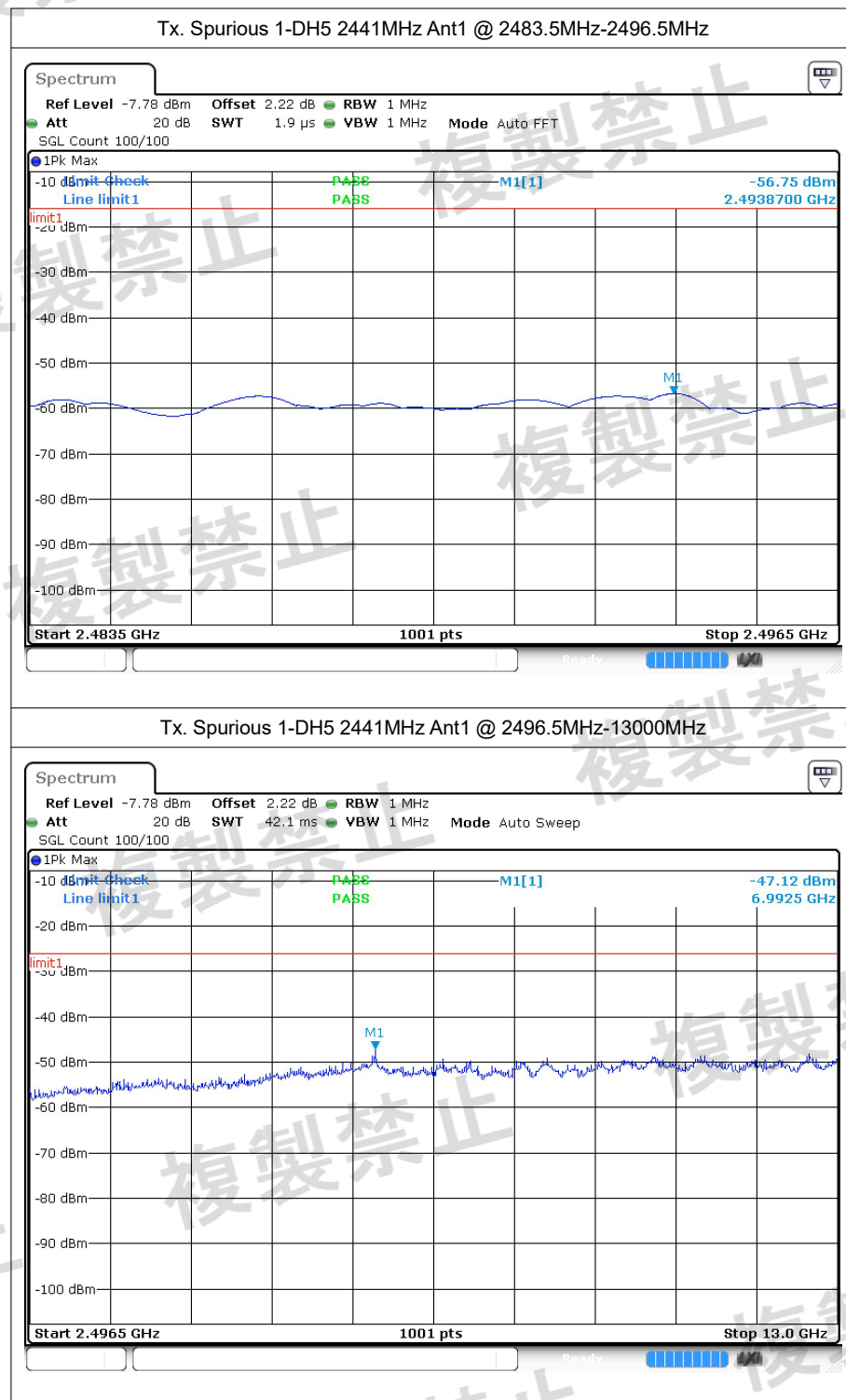


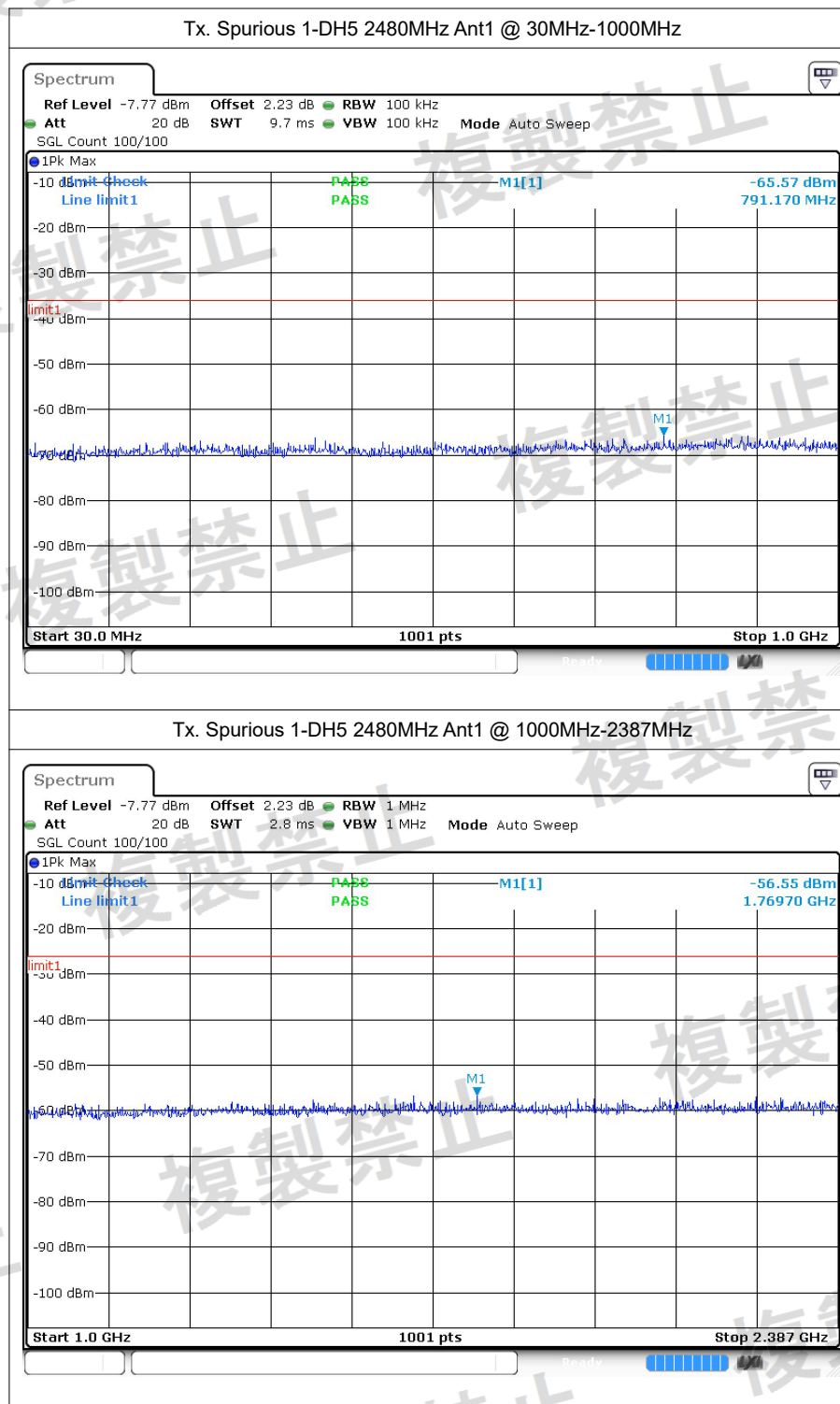
Tx. Spurious 1-DH5 2441MHz Ant1 @ 1000MHz-2387MHz

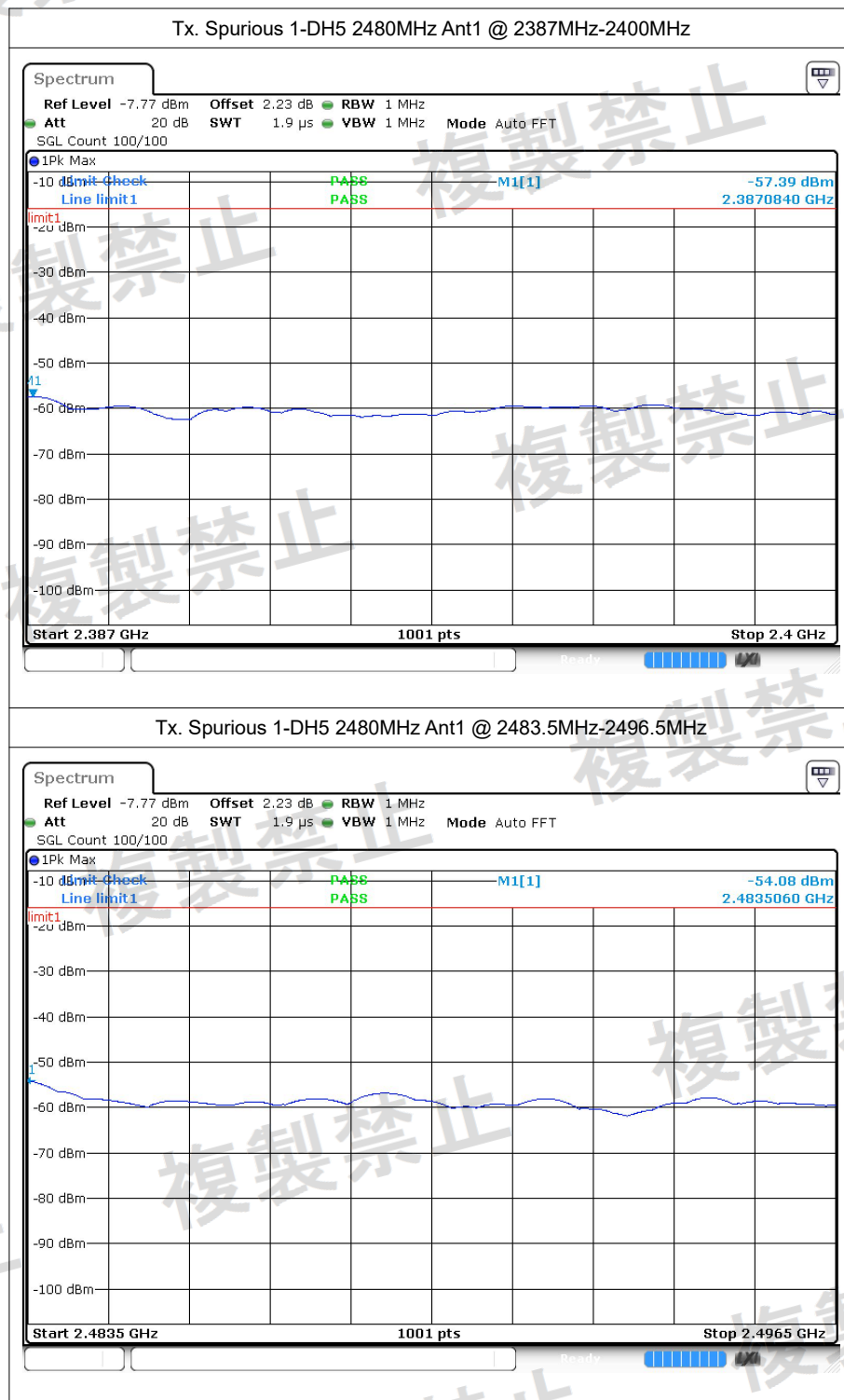


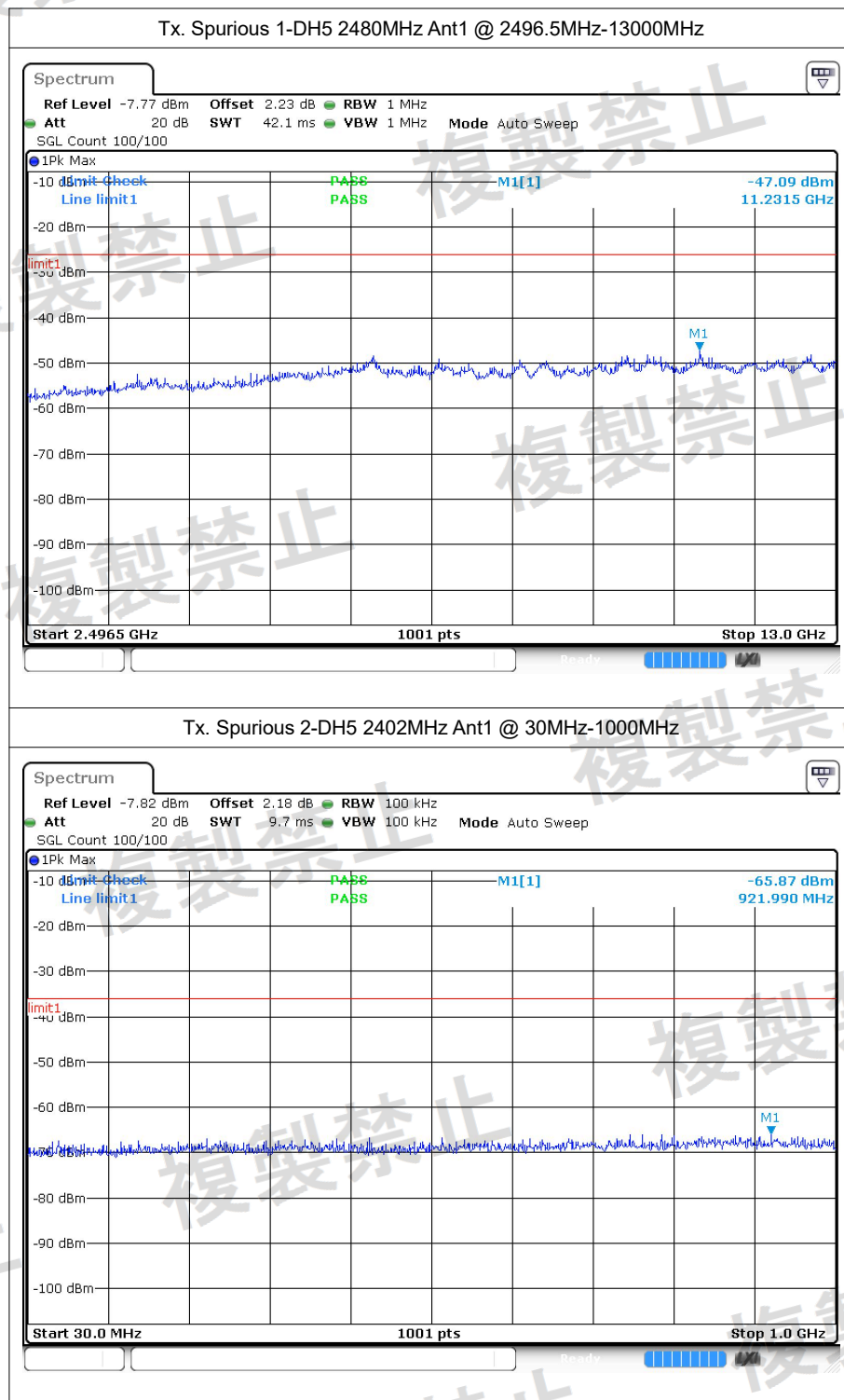
Tx. Spurious 1-DH5 2441MHz Ant1 @ 2387MHz-2400MHz





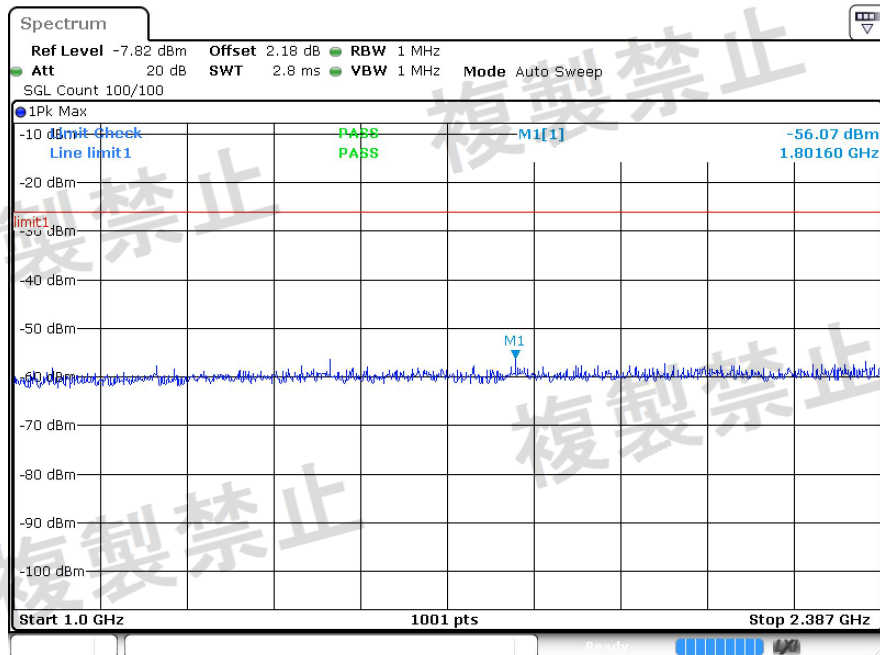




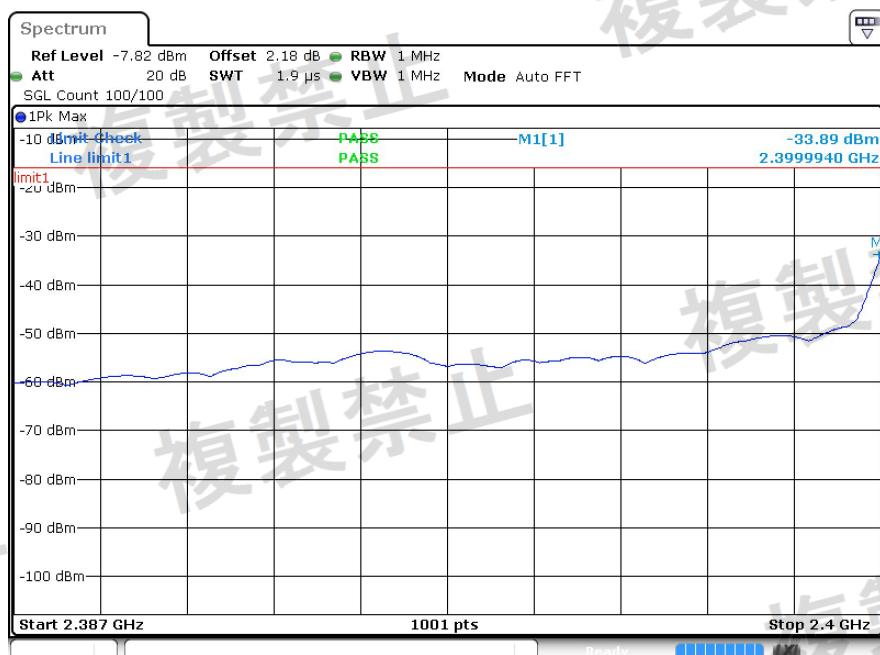


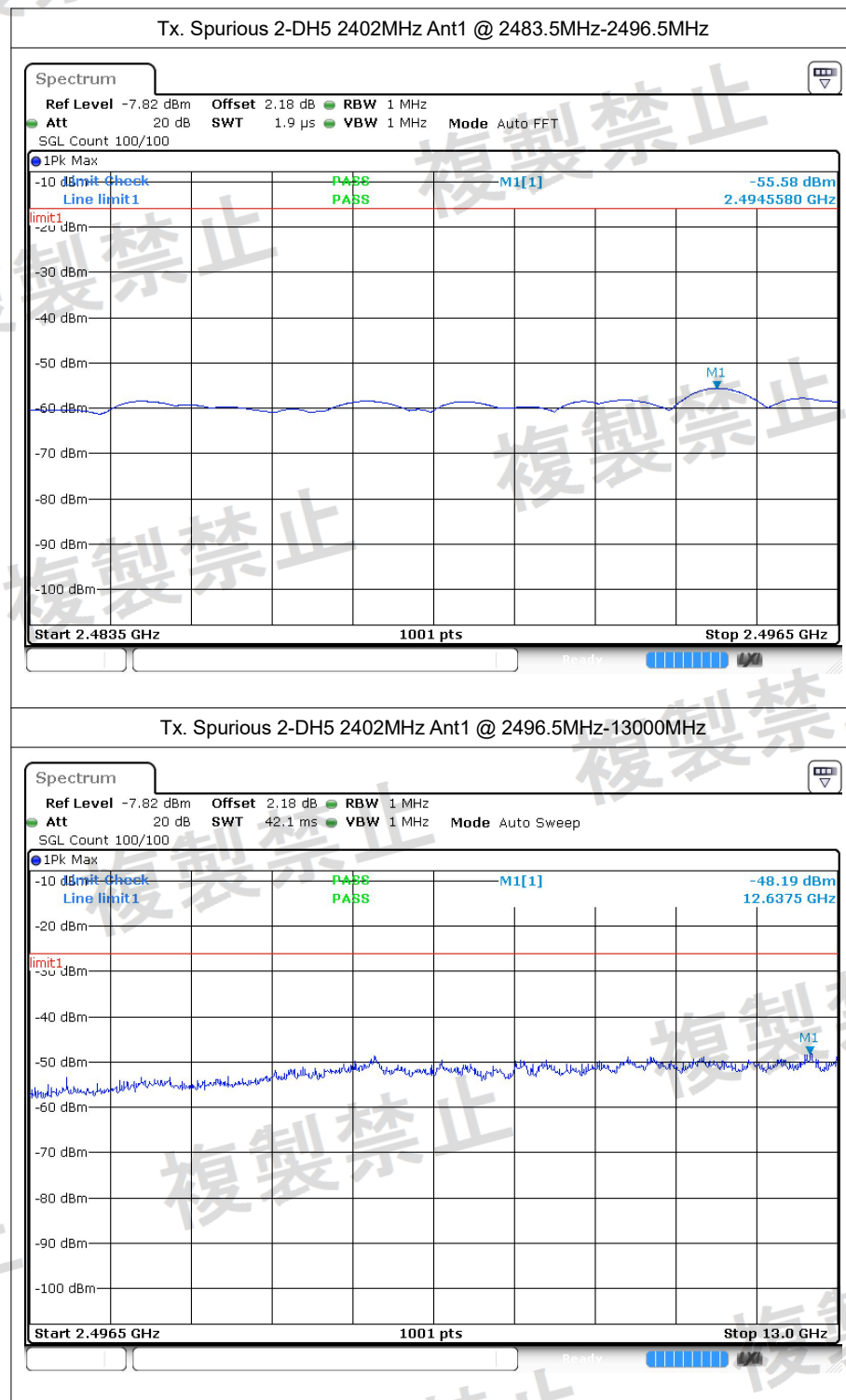


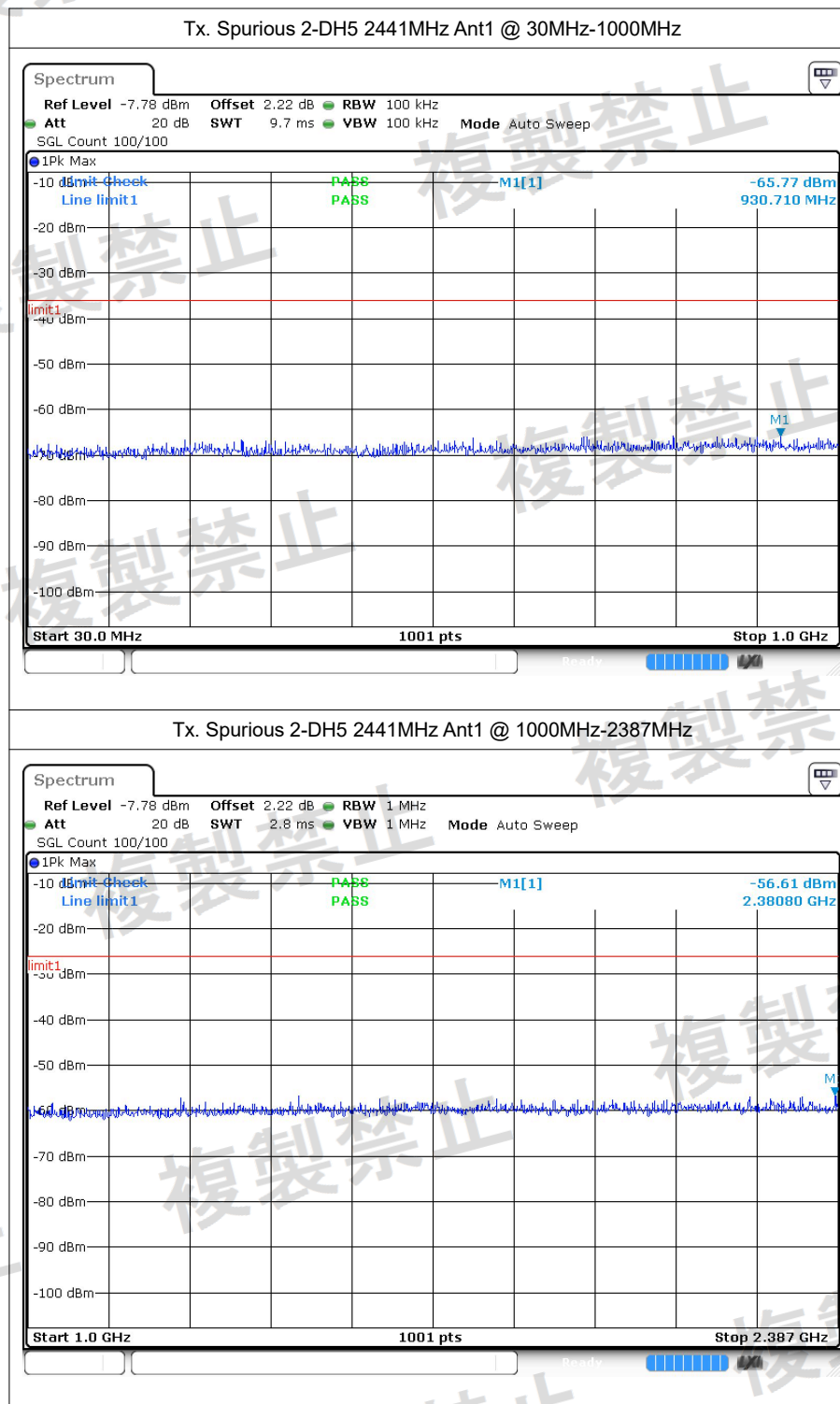
Tx. Spurious 2-DH5 2402MHz Ant1 @ 1000MHz-2387MHz

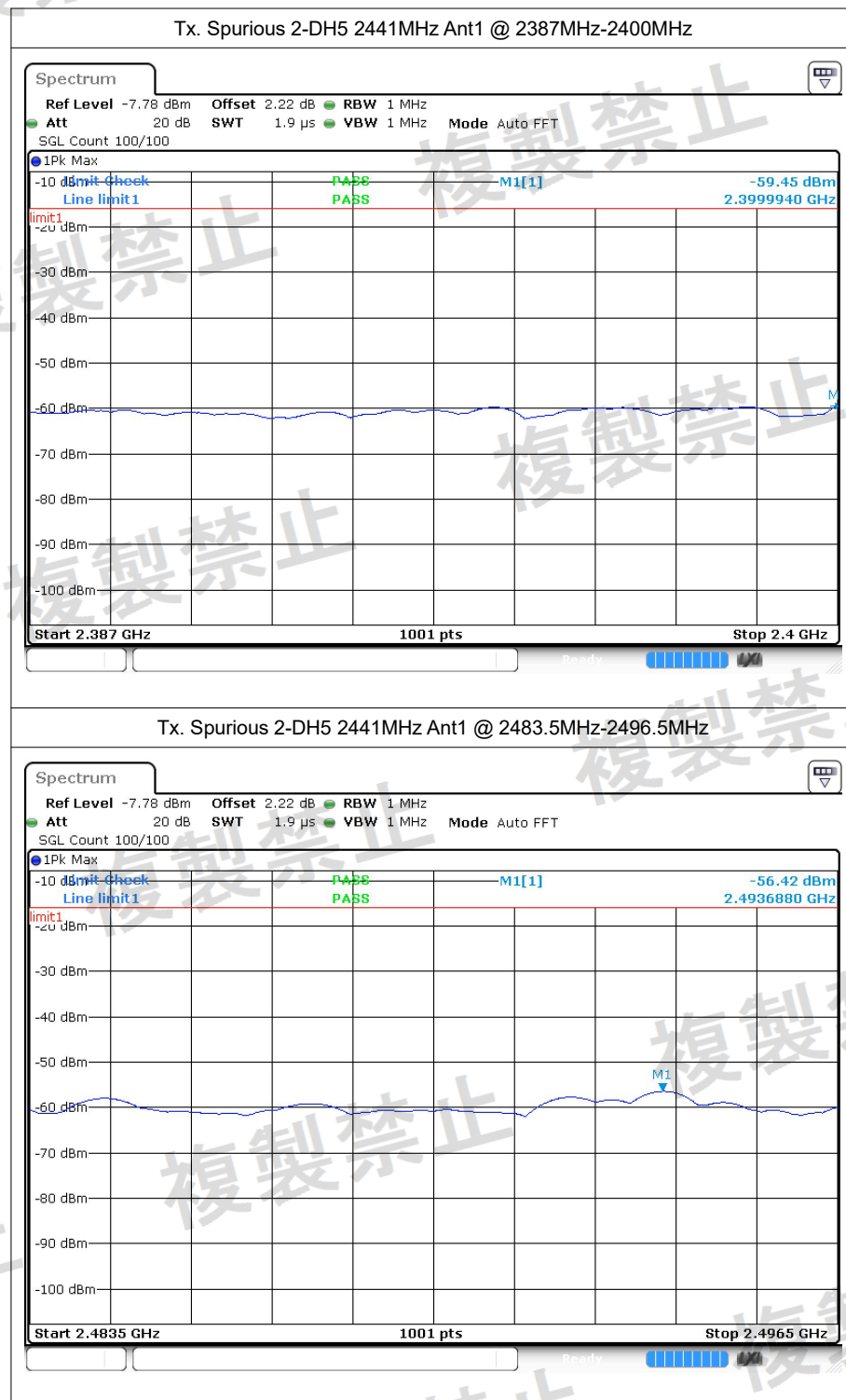


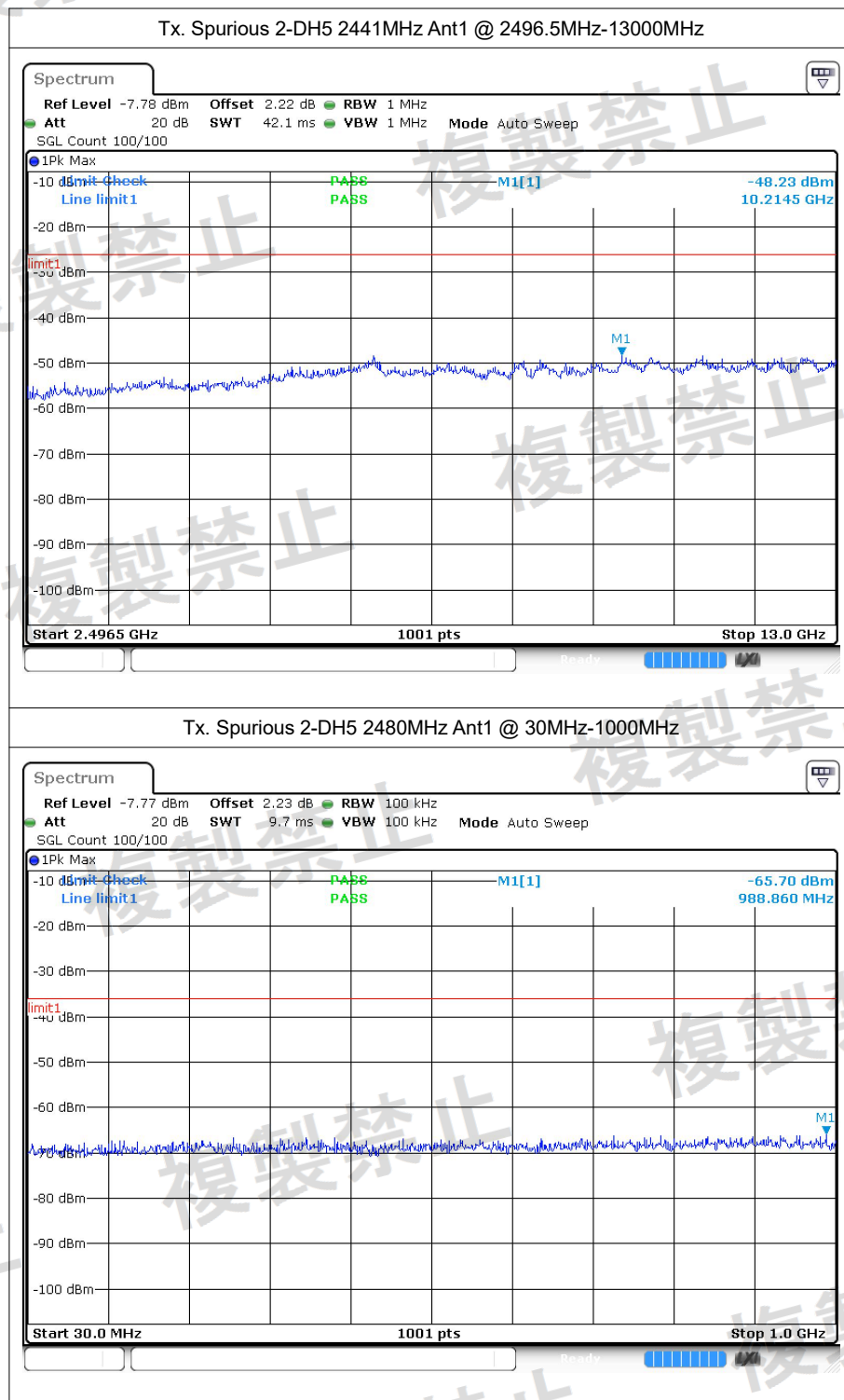
Tx. Spurious 2-DH5 2402MHz Ant1 @ 2387MHz-2400MHz





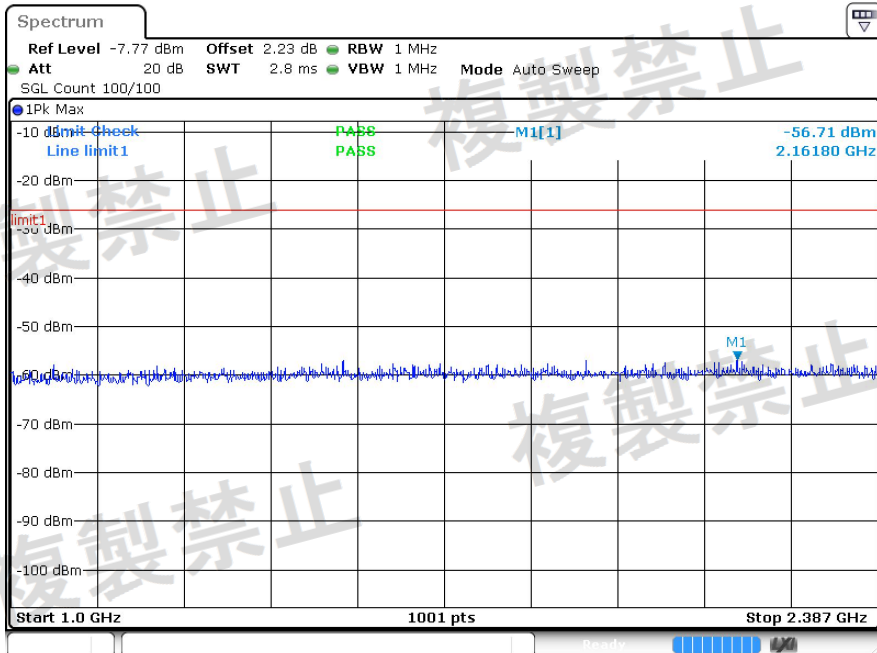




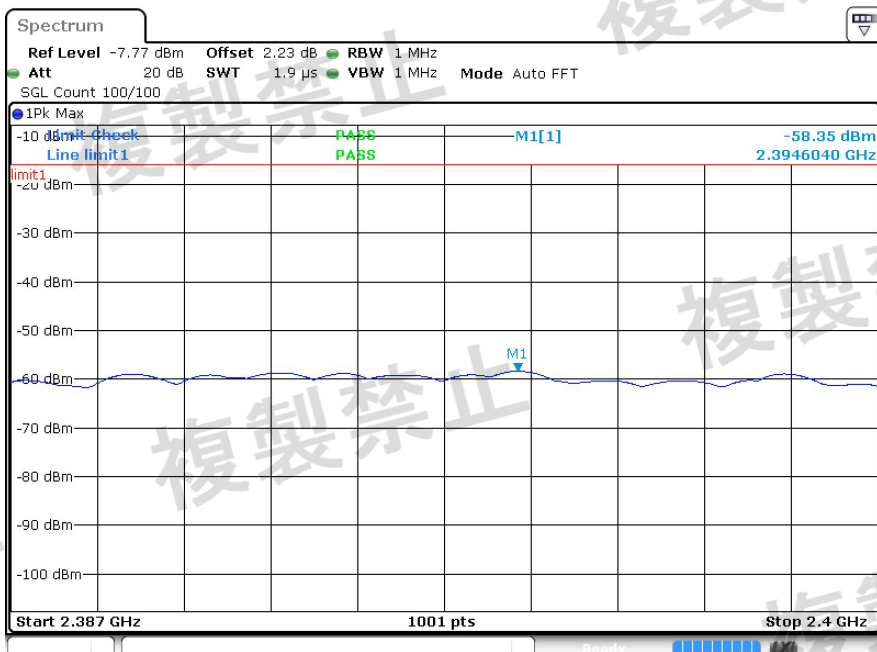


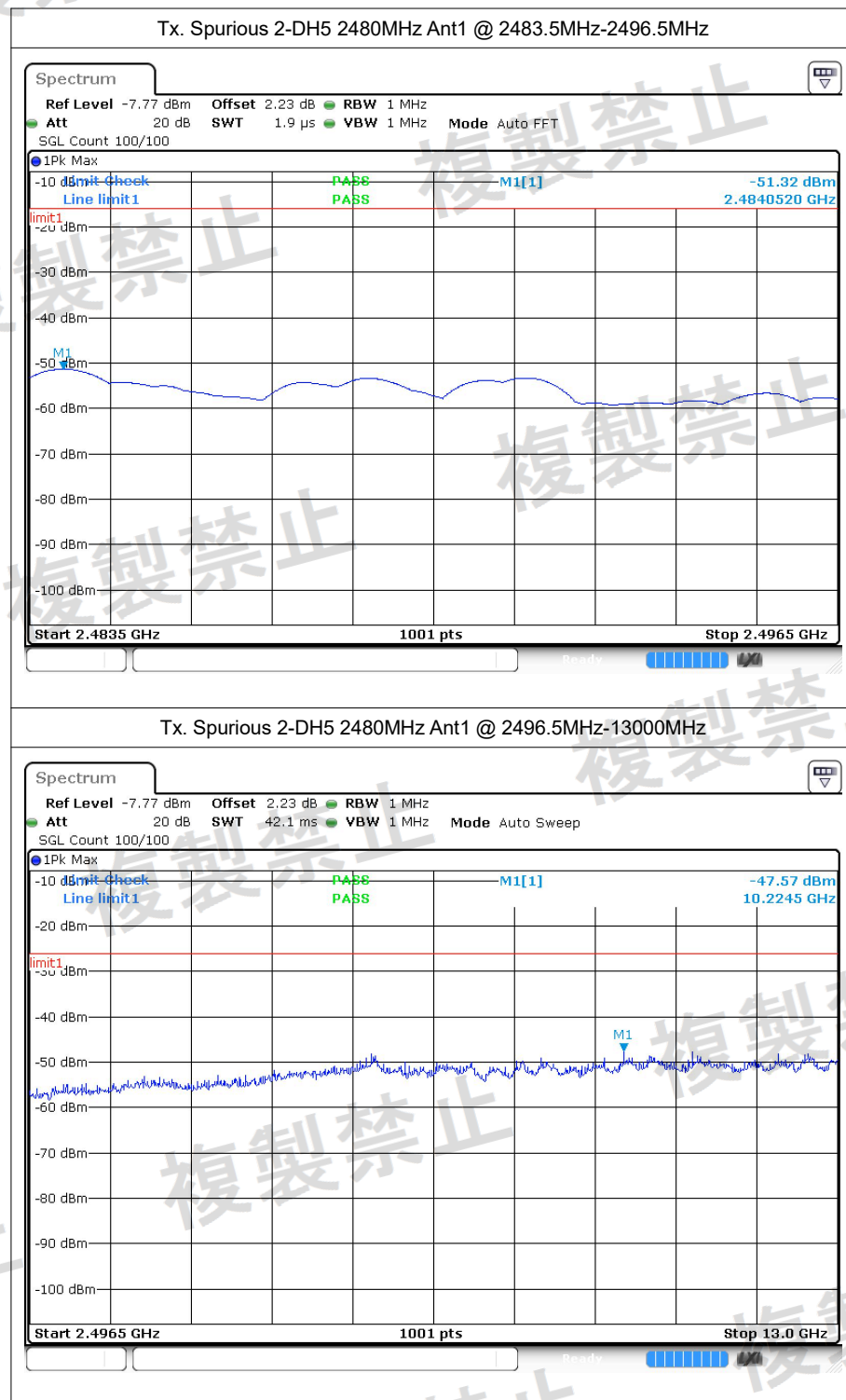


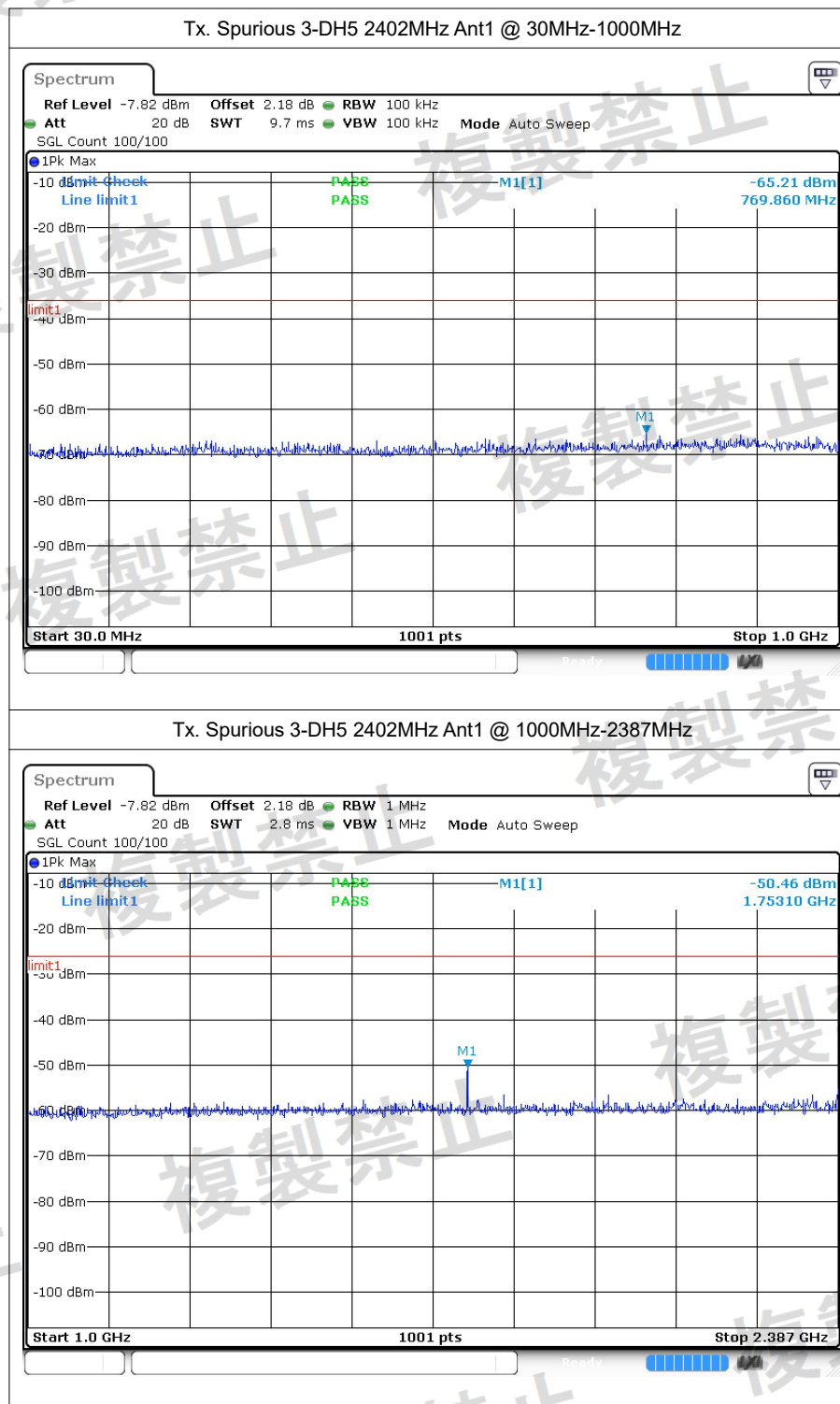
Tx. Spurious 2-DH5 2480MHz Ant1 @ 1000MHz-2387MHz



Tx. Spurious 2-DH5 2480MHz Ant1 @ 2387MHz-2400MHz

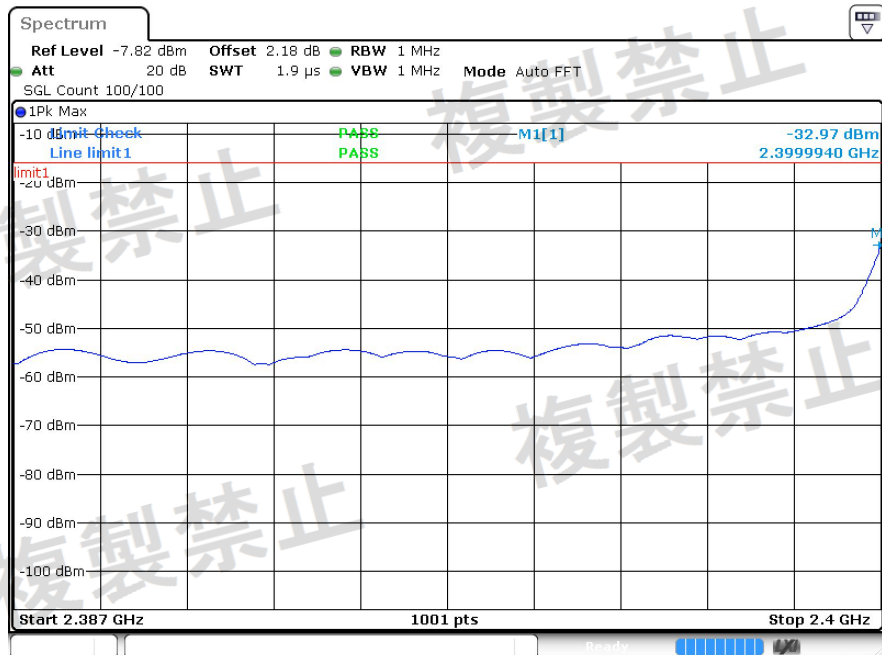




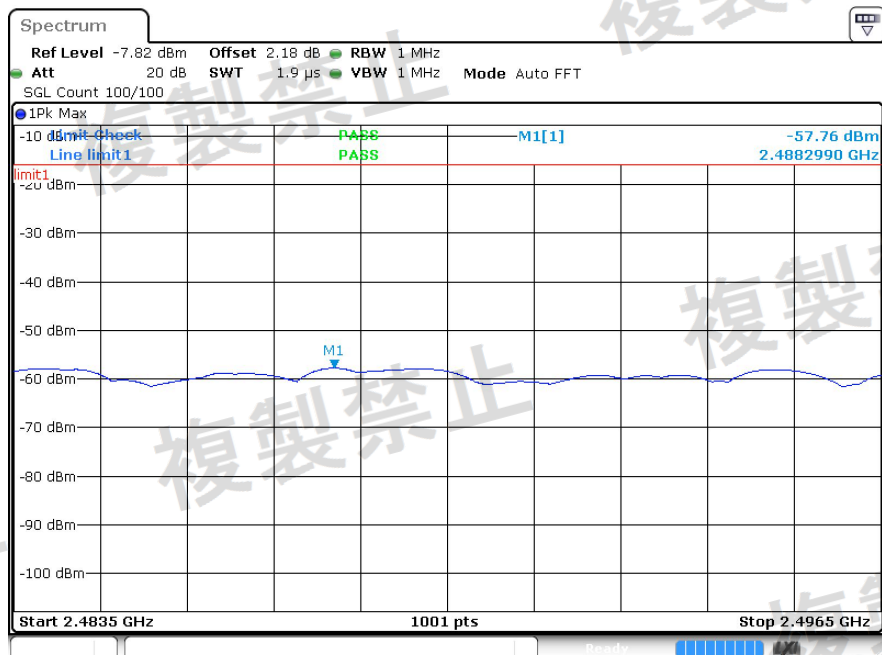


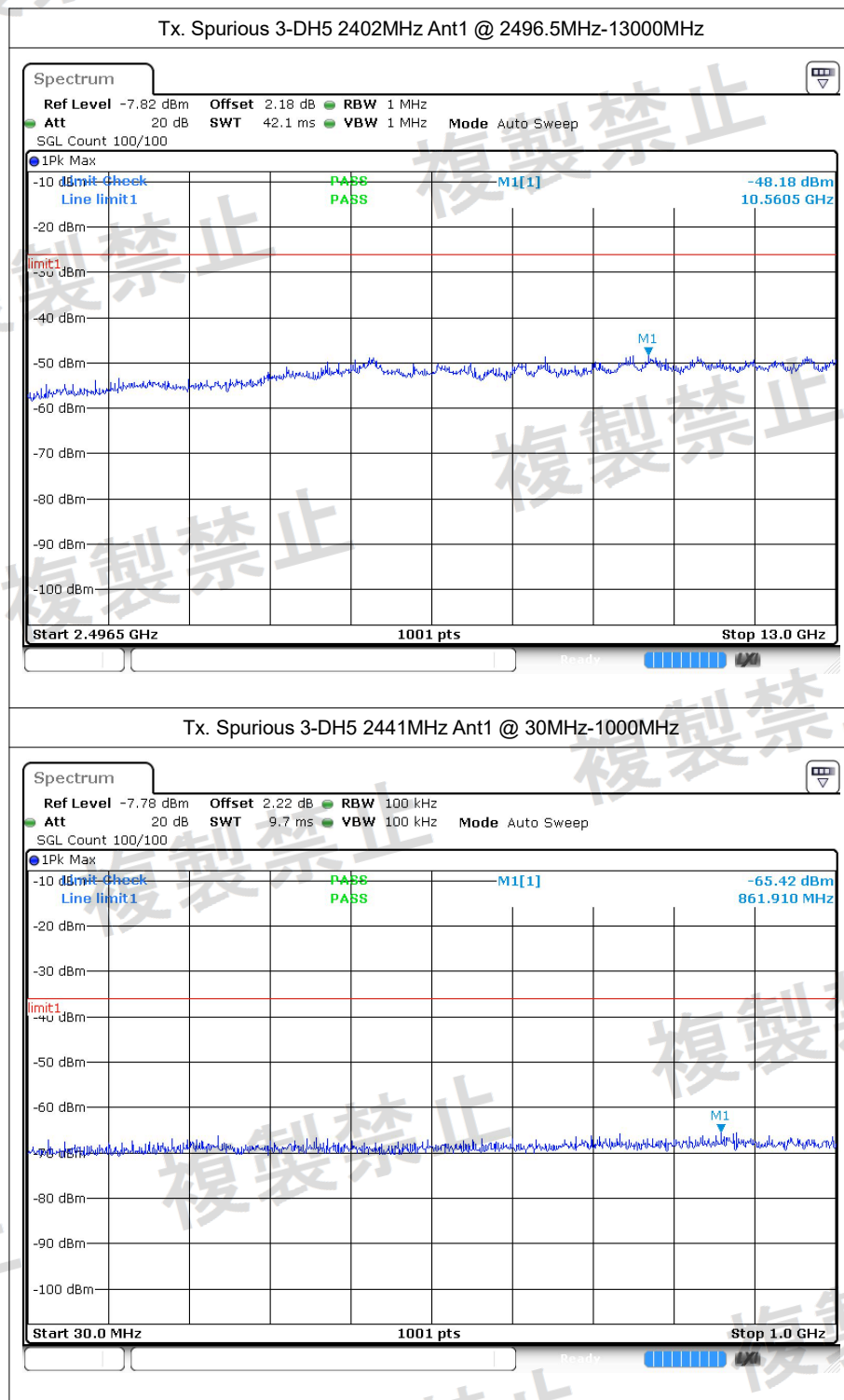


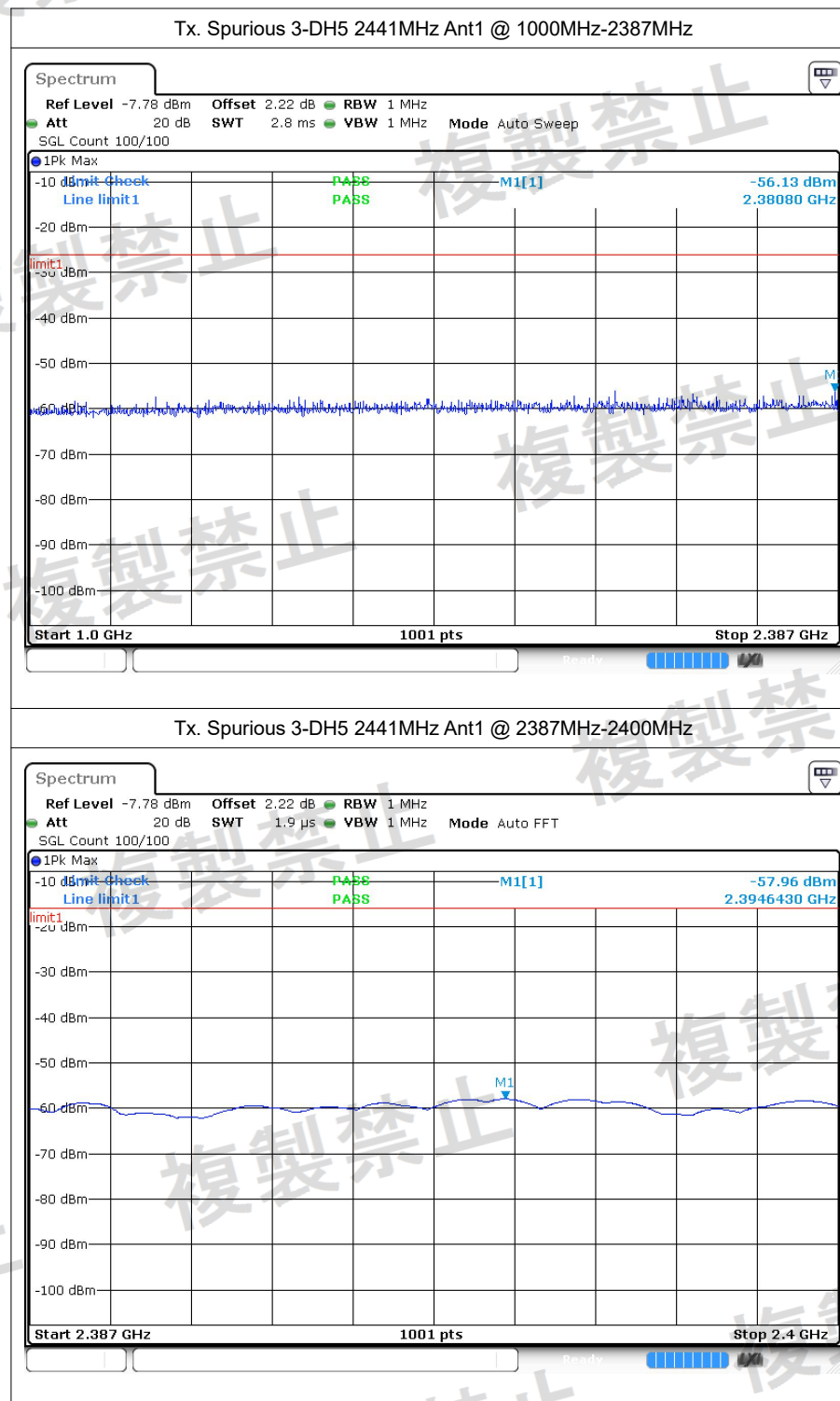
Tx. Spurious 3-DH5 2402MHz Ant1 @ 2387MHz-2400MHz

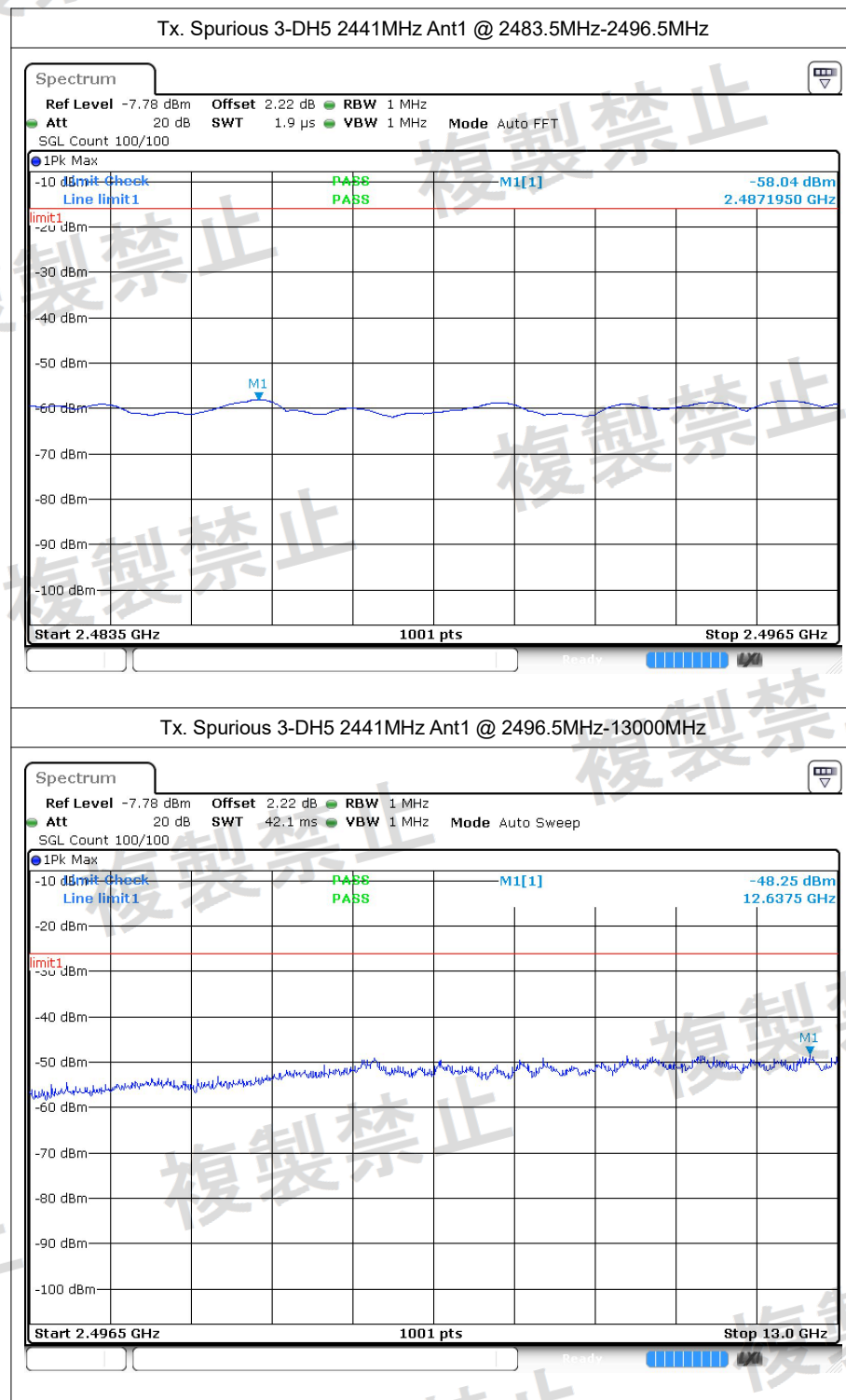


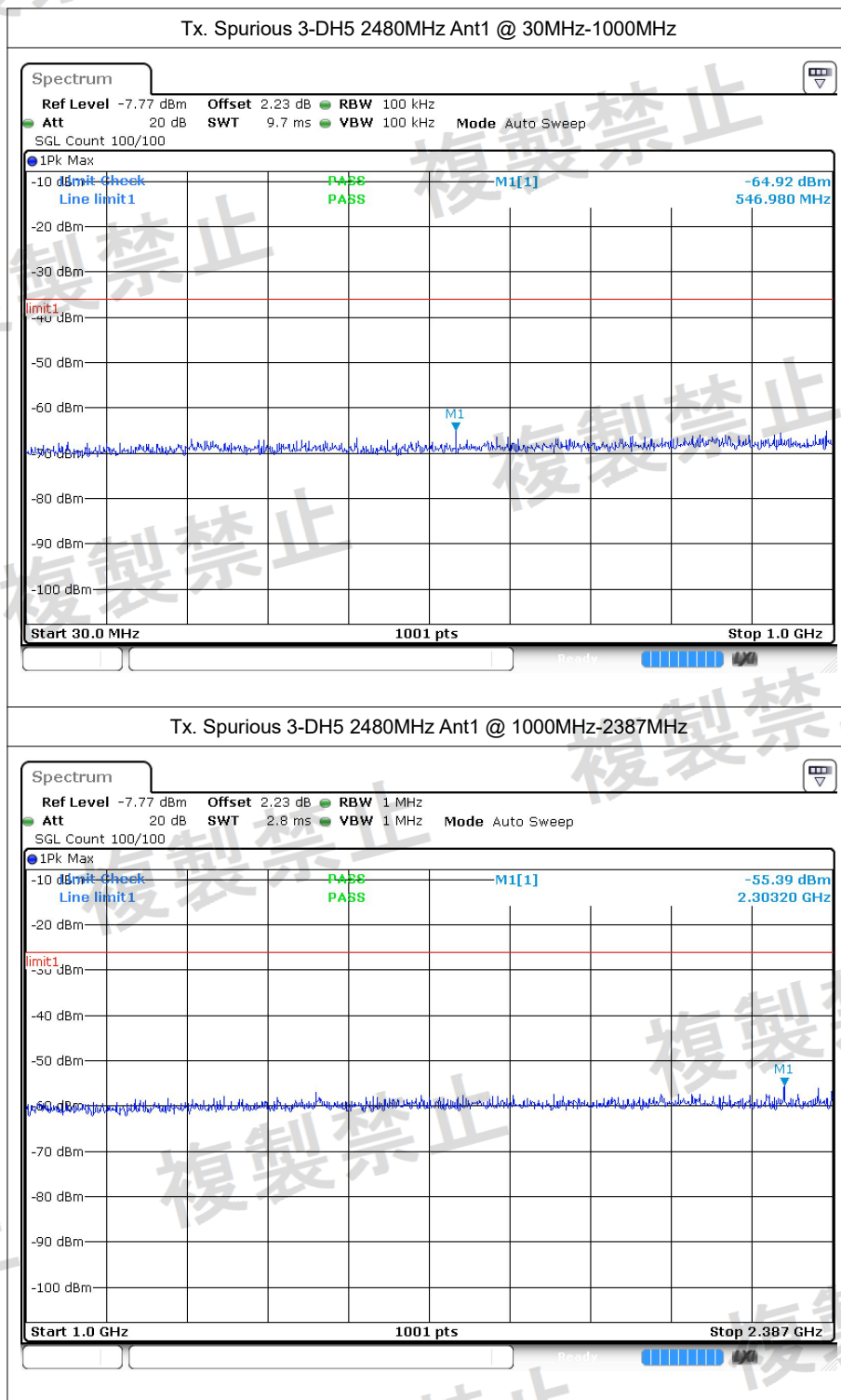
Tx. Spurious 3-DH5 2402MHz Ant1 @ 2483.5MHz-2496.5MHz

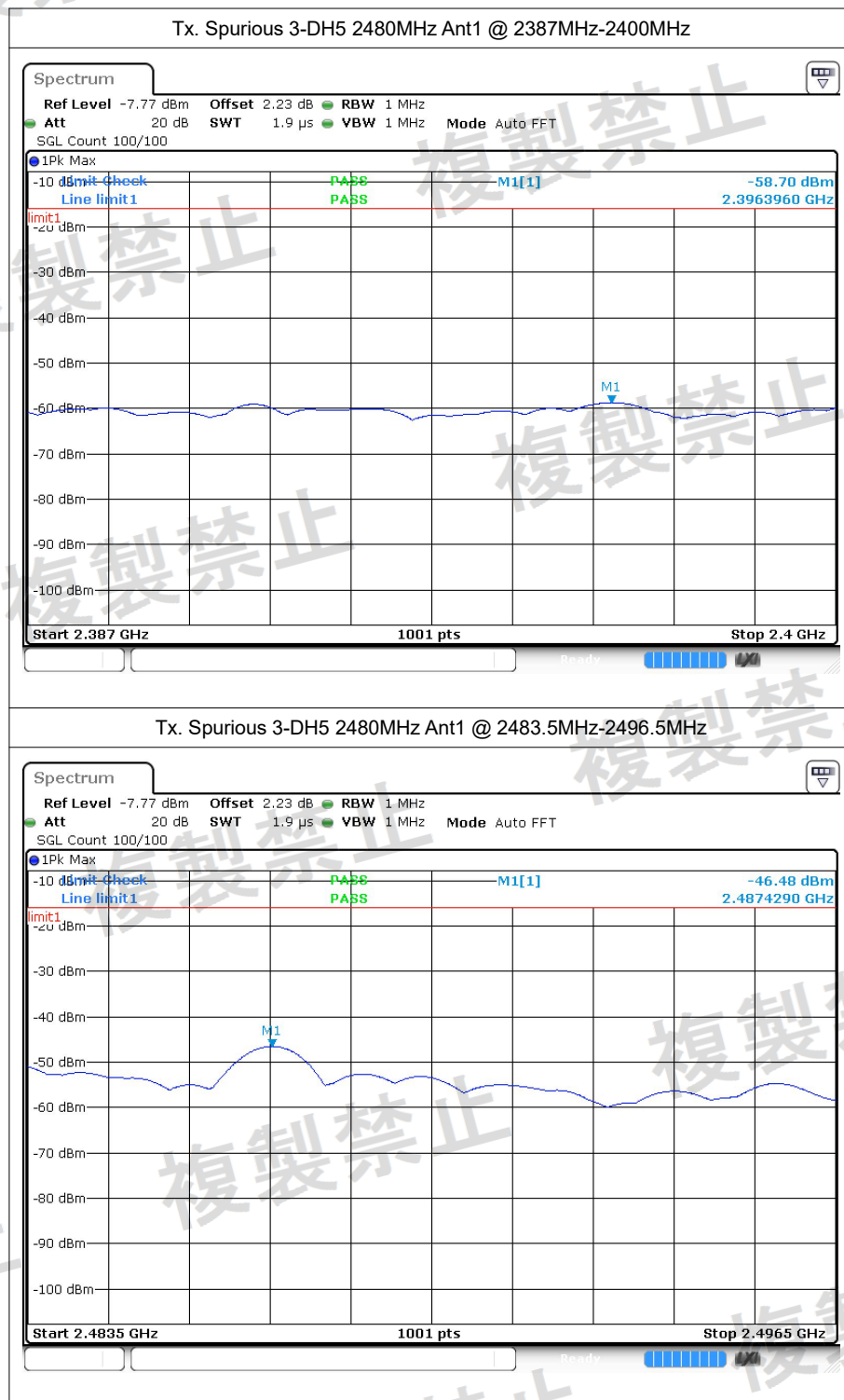


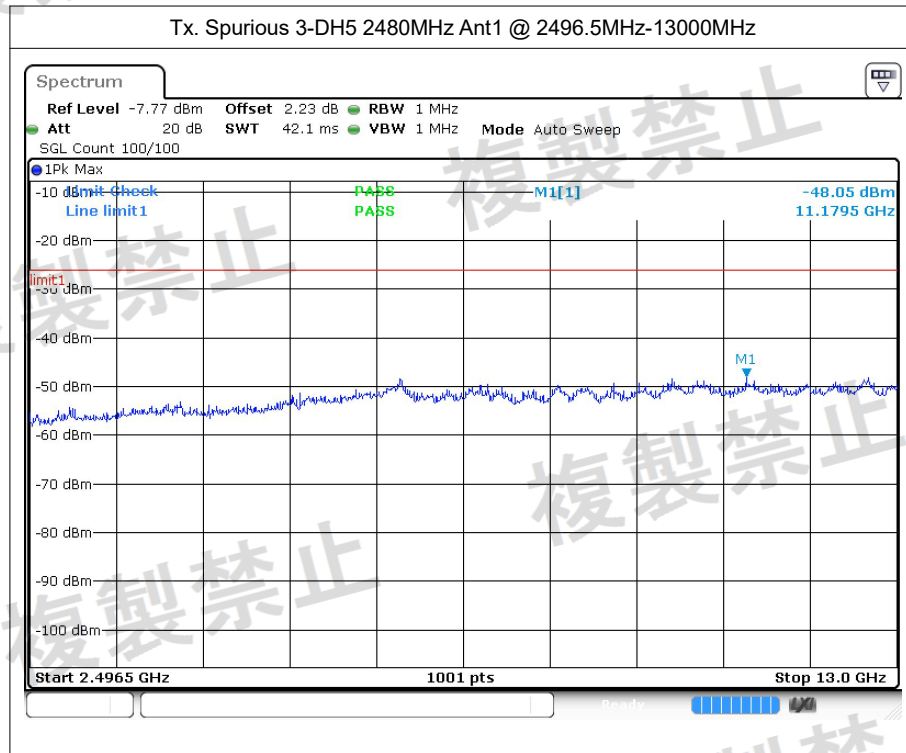












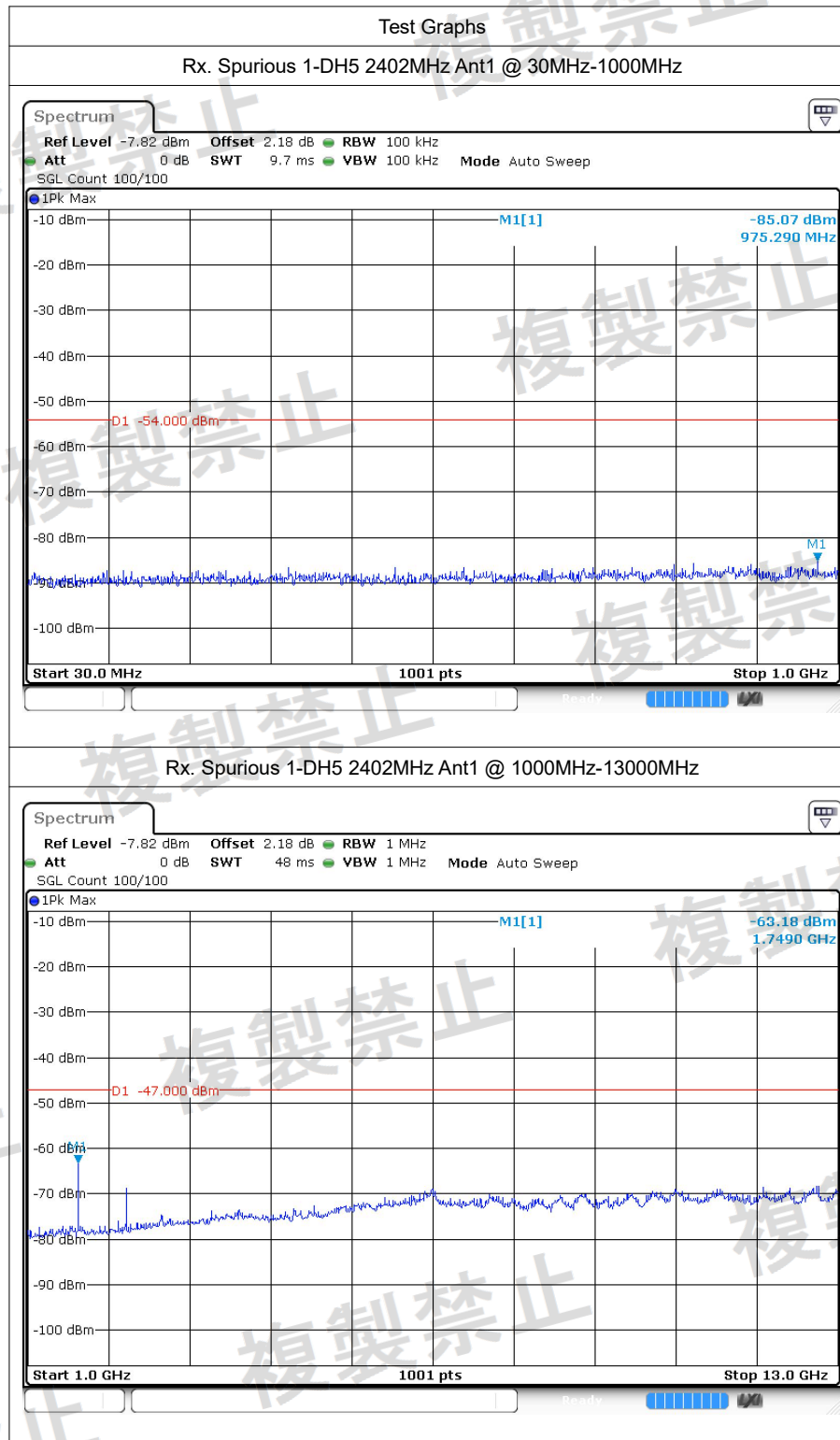
7 Rx Spurious Emission

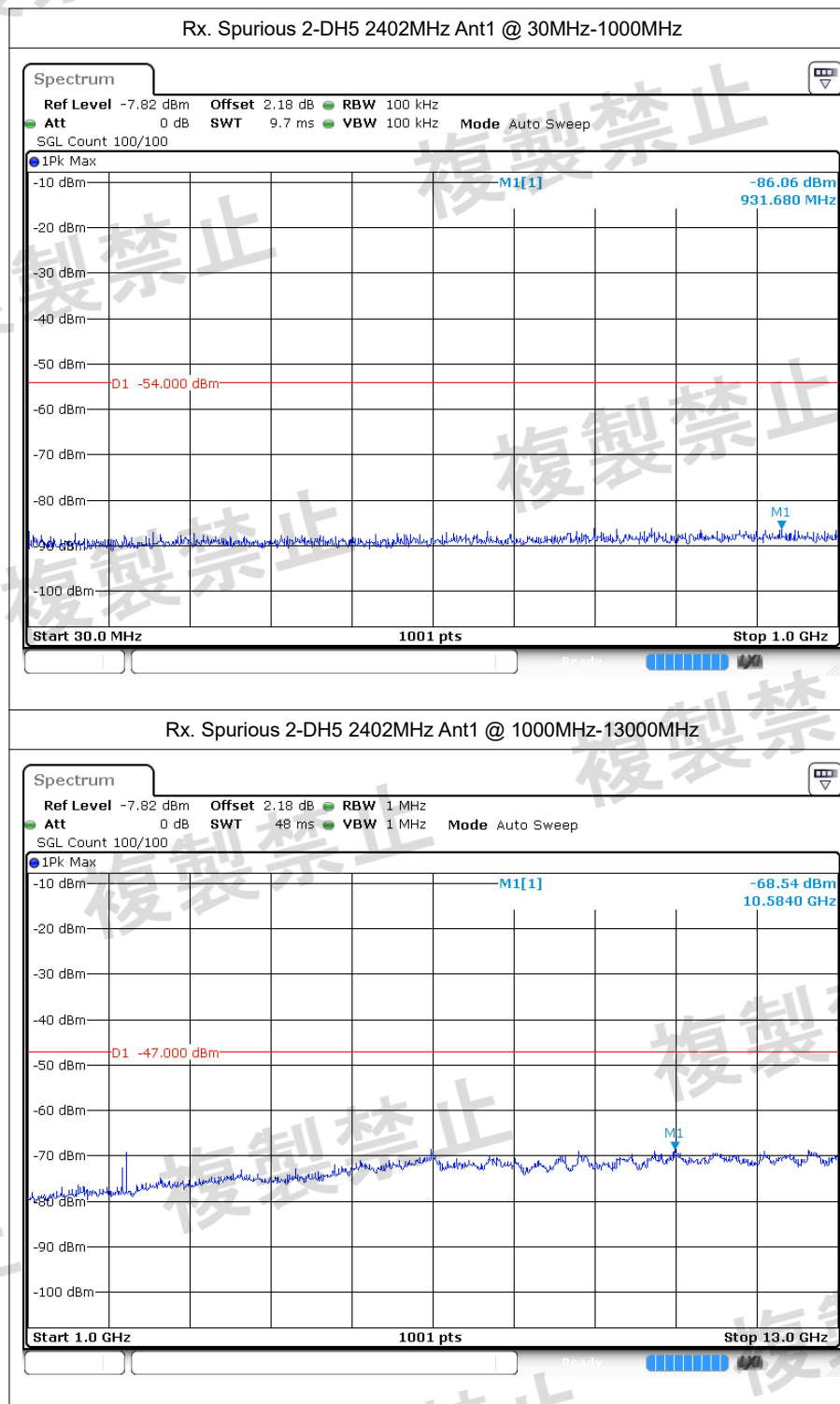
7.1 Test Result

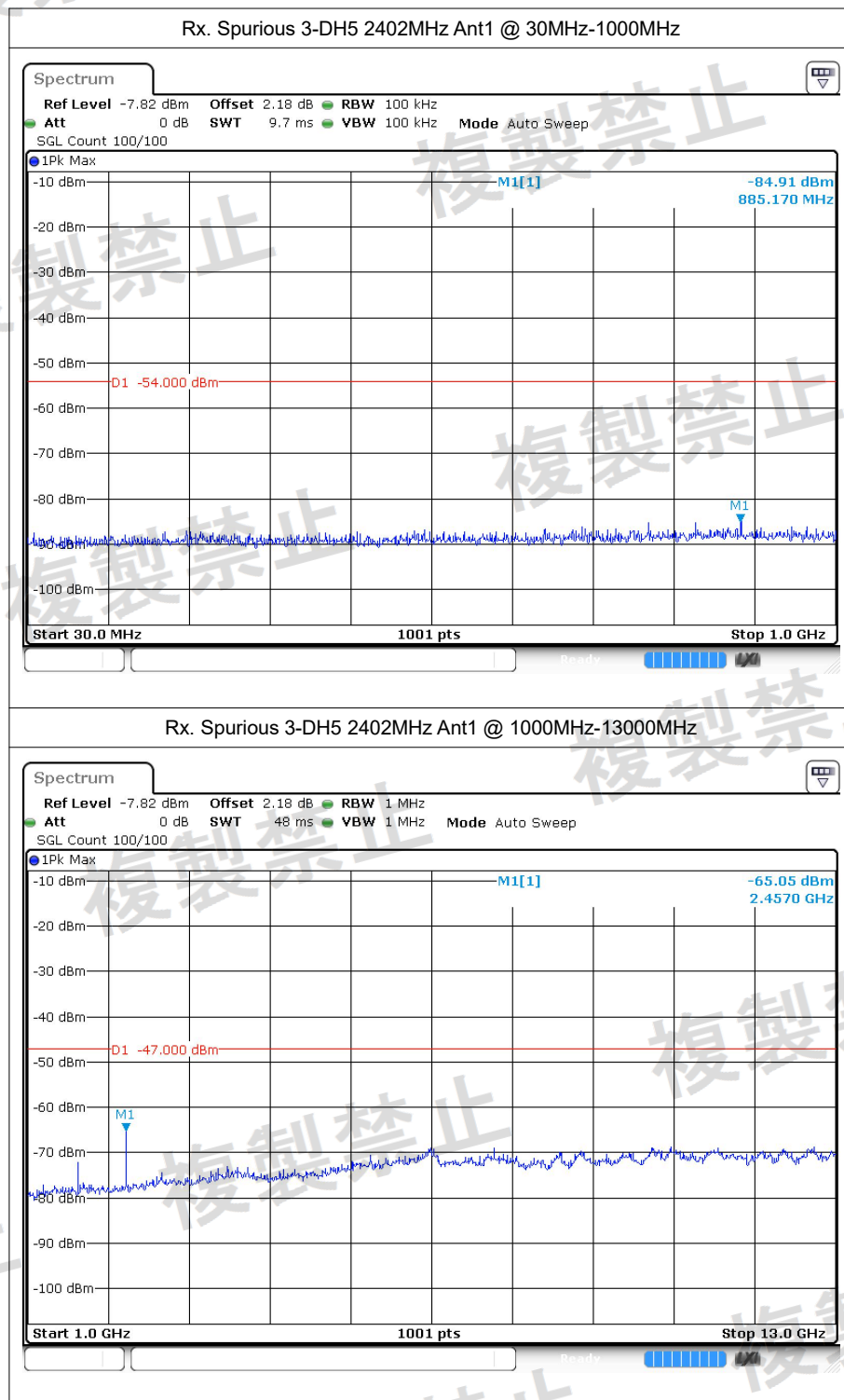
Mode	Antenna	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
1-DH5	Ant1	30-1000	975.29	-85.07	-54	Pass
1-DH5	Ant1	1000-13000	1749	-63.18	-47	Pass
2-DH5	Ant1	30-1000	931.68	-86.06	-54	Pass
2-DH5	Ant1	1000-13000	10584	-68.54	-47	Pass
3-DH5	Ant1	30-1000	885.17	-84.91	-54	Pass
3-DH5	Ant1	1000-13000	2457	-65.05	-47	Pass



7.2 Test Graphs









8 Dwell Time

8.1 Test Result

Mode	Frequency (MHz)	Antenna	Pulse Time (s)	Total Dwell Time (s)	Burst Count	Period Time (s)	Limit (s)	Verdict
1-DH5	2402	Ant1	0.002885	0.26542	92	31.6	0.4	Pass
1-DH5	2441	Ant1	0.002884	0.33166	115	31.6	0.4	Pass
1-DH5	2480	Ant1	0.002885	0.337545	117	31.6	0.4	Pass
2-DH5	2402	Ant1	0.002889	0.31779	110	31.6	0.4	Pass
2-DH5	2441	Ant1	0.002889	0.300456	104	31.6	0.4	Pass
2-DH5	2480	Ant1	0.002889	0.314901	109	31.6	0.4	Pass
3-DH5	2402	Ant1	0.002891	0.265972	92	31.6	0.4	Pass
3-DH5	2441	Ant1	0.002891	0.274645	95	31.6	0.4	Pass
3-DH5	2480	Ant1	0.002891	0.326683	113	31.6	0.4	Pass

8.2 Test Graphs

