

Appendix A. Test Result of Antenna Power, Antenna Power Tolerance and E.I.R.P

Antenna Power

Test Conditions	Modulation	Frequency (MHz)	Reading Value (dBm)	Antenna Power (mW/MHz)	Limit (mW/MHz)	Result
V _{nom}	GFSK (2 Mbps)	Hopping	5.68	0.09	3.0000	Pass
	GFSK (2 Mbps)-AFH		5.55	0.67	3.0000	Pass

Antenna Power (mW/MHz) = $10^{(\text{Reading value (dBm)}/10)}$ / Burst Ratio / Spread bandwidth (MHz).

Antenna Power Tolerance

Test Conditions	Modulation	Frequency (MHz)	Declared Antenna Power (mW/MHz)	Antenna Power (mW/MHz)	Antenna Power Tolerance (%)	Limit (%)	Result
V _{nom}	GFSK (2 Mbps)	Hopping	0.09	0.09	0.00	+20	Pass
	GFSK (2 Mbps)-AFH		0.67	0.67	0.00	+20	Pass

Note: Antenna Power Tolerance (%) = $(\text{Antenna Power (mW/MHz)} - \text{Declared Antenna Power (mW/MHz)}) / \text{Declared Antenna Power (mW/MHz)} * 100\%$.

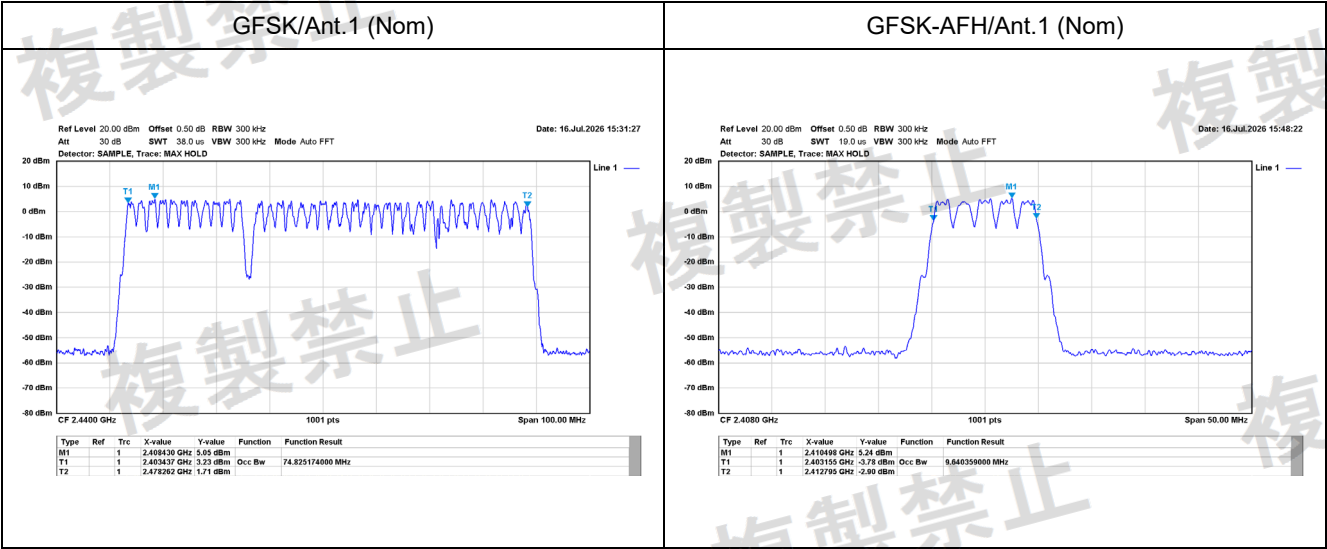
E.I.R.P.

Test Conditions	Modulation	Frequency (MHz)	Antenna Power (dBm/MHz)	Maximum Antenna Gain (dBi)	E.I.R.P. (dBm/MHz)	Limit (dBm/MHz)	Result
V _{nom}	GFSK (2 Mbps)	Hopping	-10.55	3.24	-7.31	6.91	Pass
	GFSK (2 Mbps)-AFH		-1.76	3.24	1.48	6.91	Pass

Note: E.I.R.P. (dBm/MHz) = Antenna Power (dBm/MHz) + Maximum Antenna Gain (dBi).

Appendix B. Test Result of Occupied Bandwidth

Test Conditions	Modulation	Frequency (MHz)	Occupied Bandwidth (MHz)	Limit (MHz)	Result
V _{nom}	GFSK (2 Mbps)	Hopping	74.83	≤ 83.50	Pass
	GFSK (2 Mbps)-AFH		9.64	≤ 83.50	Pass



Appendix C. Test Result of Frequency Tolerance

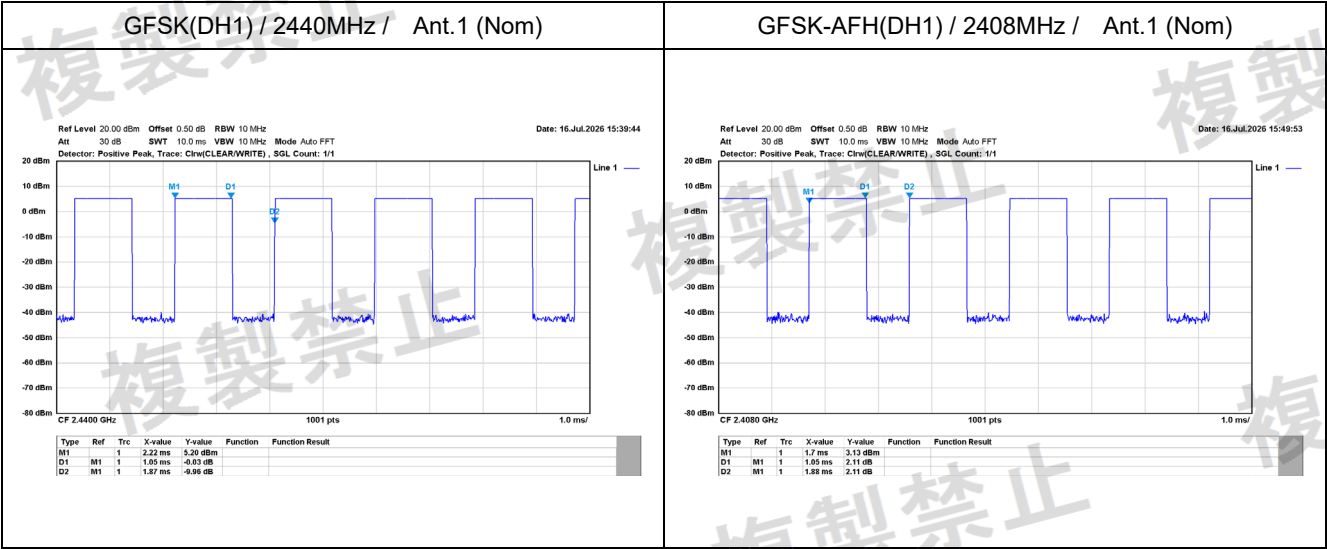
Test Conditions	Modulation	Frequency (MHz)	Reading Value (MHz)	Frequency Tolerance (ppm)	Limit (ppm)	Result
V _{nom}	GFSK (2 Mbps)	2404	2403.9970	-1.25	± 50	Pass
		2440	2439.9970	-1.23	± 50	Pass
		2478	2477.9970	-1.21	± 50	Pass
	GFSK (2 Mbps)-AFH	2404	2403.9970	-1.25	± 50	Pass
		2408	2407.9970	-1.25	± 50	Pass
		2412	2411.9970	-1.24	± 50	Pass

Appendix D. Test Result of Dwell Time

Test Conditions	Modulation	Frequency (MHz)	ON Time (ms)	OFF Time (ms)	Burst Ratio	Dwell Time (sec)	Limit (sec)	Result
V _{nom}	GFSK (2 Mbps)	2440	1.05	0.82	0.56	0.21	0.40	Pass
	GFSK (2 Mbps)-AFH	2408	1.05	0.83	0.56	0.20	0.40	Pass

Note:

1. Burst Ratio = ON Time (ms) / (ON Time (ms) + OFF Time (ms))
2. Dwell Time = (spreading rate * 0.4) * (Burst Ratio / Channel Number)



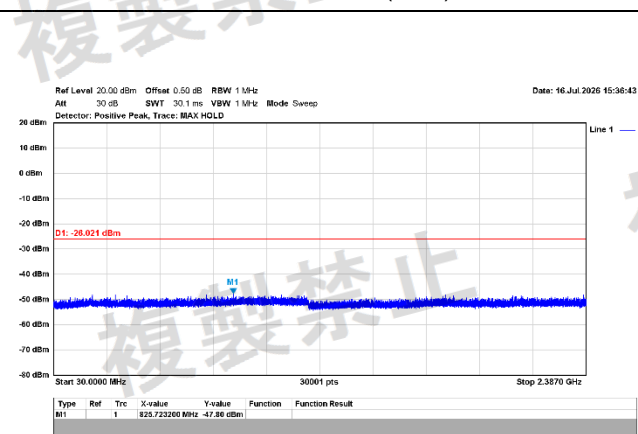
Appendix E. Test Result of Unwanted Emission Strength

Test Conditions	Modulation	Frequency Range (MHz)	Measurement Frequency (MHz)
V _{nom}	GFSK (2 Mbps)	30 ~ 2387	825.723200
		2387 ~ 2400	2399.773800
		2483.5 ~ 2496.5	2494.104533
		2496.5 ~ 12500	6739.984700
	GFSK (2 Mbps)-AFH	30 ~ 2387	965.179033
		2387 ~ 2400	2398.682233
		2483.5 ~ 2496.5	2484.326800
		2496.5 ~ 12500	6943.722650

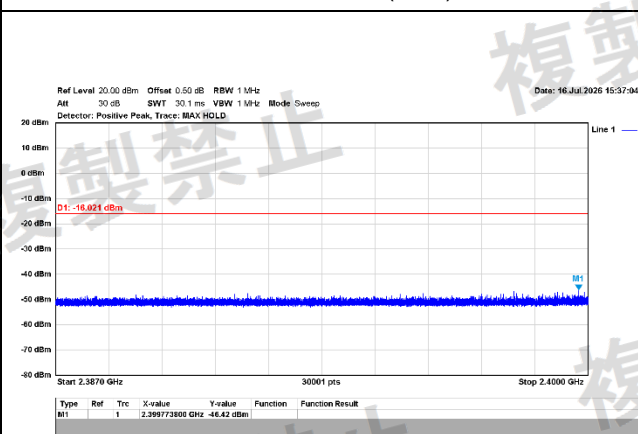
Test Conditions	Modulation	Frequency Range (MHz)	Measurement Value (μW/MHz)	Limit (μW/MHz)	Result
V _{nom}	GFSK (2 Mbps)	30 ~ 2387	0.01660	2.50000	Pass
		2387 ~ 2400	0.02280	25.00000	Pass
		2483.5 ~ 2496.5	0.01919	25.00000	Pass
		2496.5 ~ 12500	0.04519	2.50000	Pass
	GFSK (2 Mbps)-AFH	30 ~ 2387	0.01603	2.50000	Pass
		2387 ~ 2400	0.02742	25.00000	Pass
		2483.5 ~ 2496.5	0.01714	25.00000	Pass
		2496.5 ~ 12500	0.04808	2.50000	Pass

Measurement Value = (Worst value) x (Number of antenna ports).

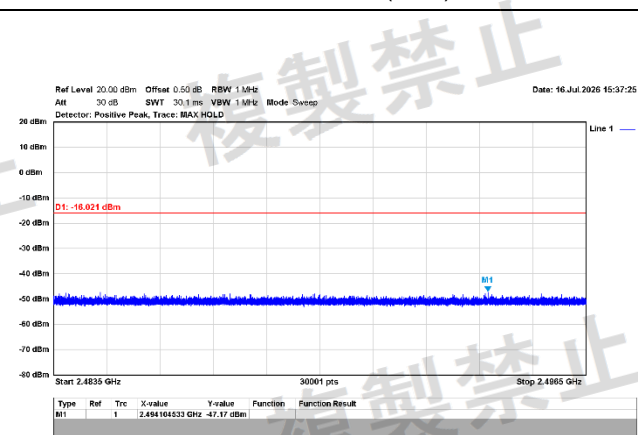
GFSK/Ant.1/1-4 (Nom)



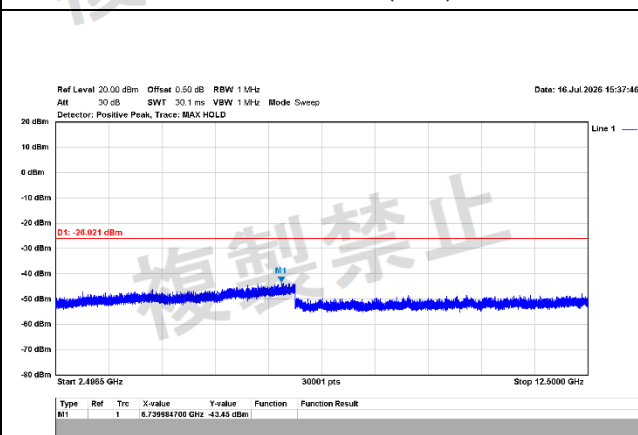
GFSK/Ant.1/2-4 (Nom)



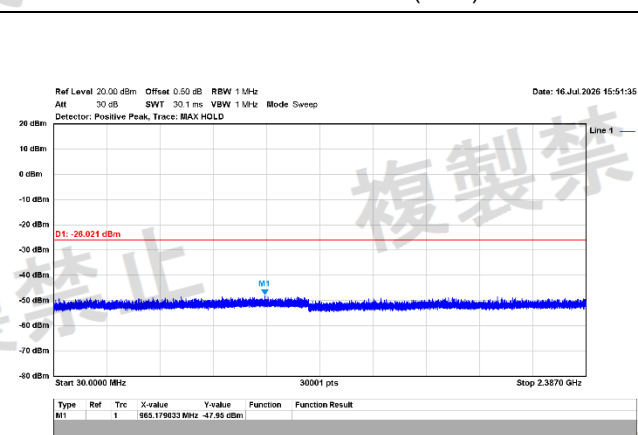
GFSK/Ant.1/3-4 (Nom)



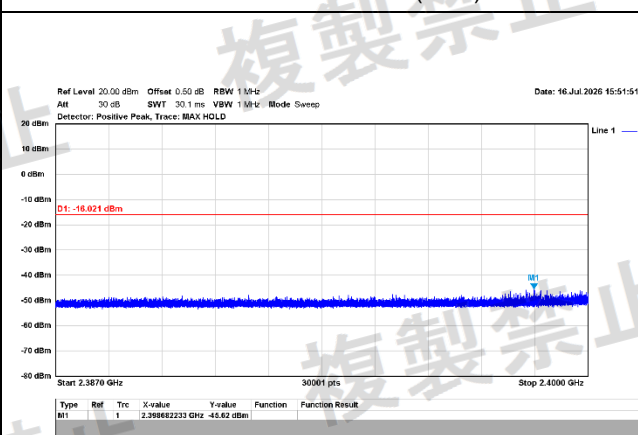
GFSK/Ant.1/4-4 (Nom)

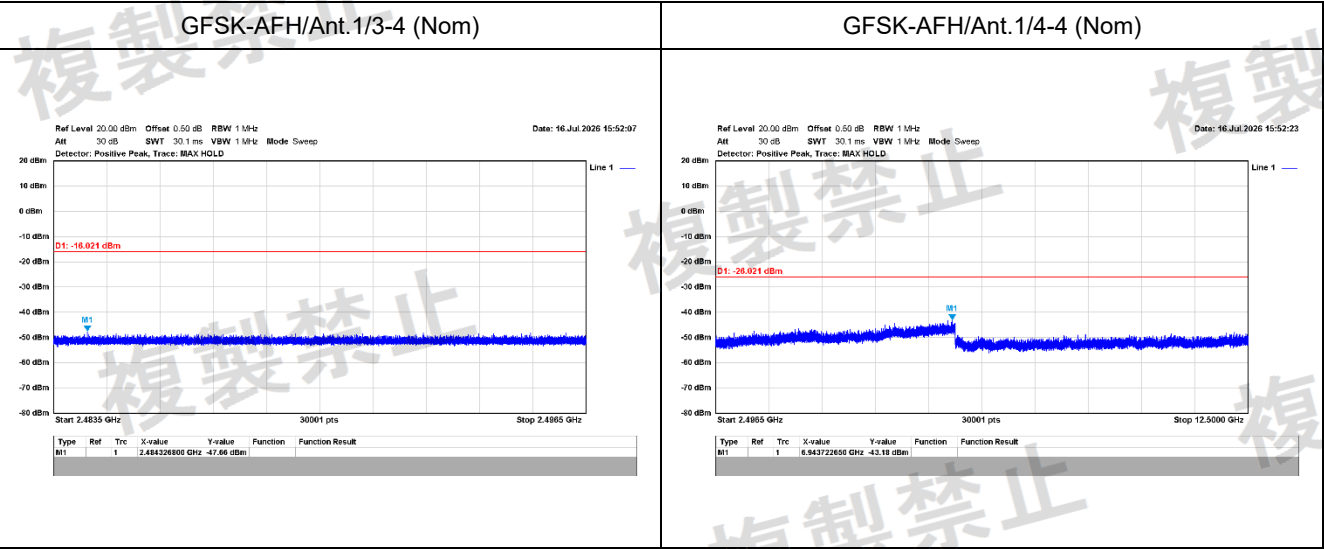


GFSK-AFH/Ant.1/1-4 (Nom)



GFSK-AFH/Ant.1/2-4 (Nom)



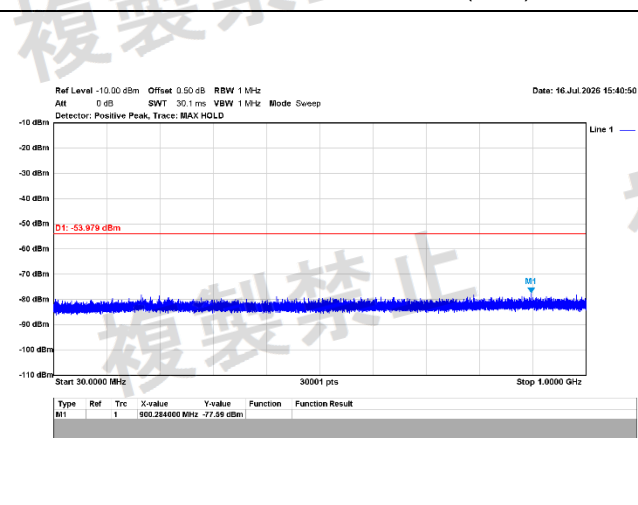


Appendix F. Test Result of Secondary Radiated Emission Strength

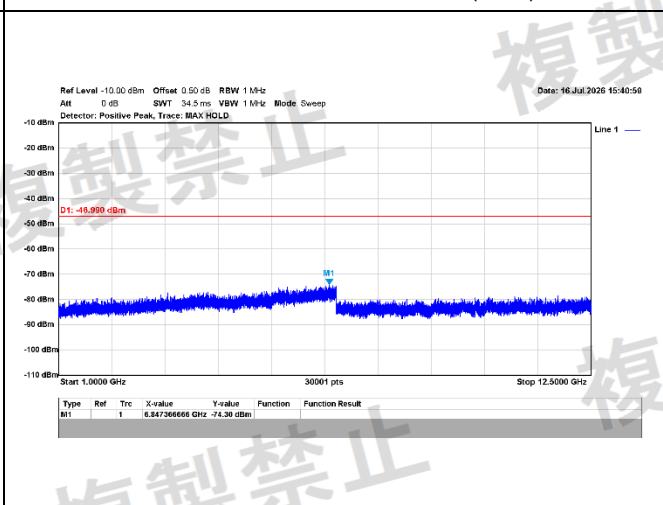
Test Conditions	Modulation	Frequency (MHz)	Frequency Range (MHz)	Measurement Frequency (MHz)
V _{nom}	GFSK (2 Mbps)	2404	30 ~ 1000	900.284000
			1000 ~ 12500	6847.366667
		2440	30 ~ 1000	997.348666
			1000 ~ 12500	6973.483333
		2478	30 ~ 1000	931.356333
			1000 ~ 12500	6982.300000
	GFSK (2 Mbps)-AFH	2404	30 ~ 1000	902.482666
			1000 ~ 12500	6873.816667
		2408	30 ~ 1000	569.675666
			1000 ~ 12500	6974.633333
		2412	30 ~ 1000	998.868333
			1000 ~ 12500	6959.300000

Test Conditions	Modulation	Frequency (MHz)	Frequency Range (MHz)	Measurement Value (nW)	Limit (nW)	Result
V _{nom}	GFSK (2 Mbps)	2404	30 ~ 1000	0.01742	4.00000	Pass
			1000 ~ 12500	0.03715	20.00000	Pass
		2440	30 ~ 1000	0.01535	4.00000	Pass
			1000 ~ 12500	0.03917	20.00000	Pass
		2478	30 ~ 1000	0.01718	4.00000	Pass
			1000 ~ 12500	0.03811	20.00000	Pass
	GFSK (2 Mbps)-AFH	2404	30 ~ 1000	0.01449	4.00000	Pass
			1000 ~ 12500	0.03793	20.00000	Pass
		2408	30 ~ 1000	0.01607	4.00000	Pass
			1000 ~ 12500	0.04140	20.00000	Pass
		2412	30 ~ 1000	0.01897	4.00000	Pass
			1000 ~ 12500	0.03581	20.00000	Pass

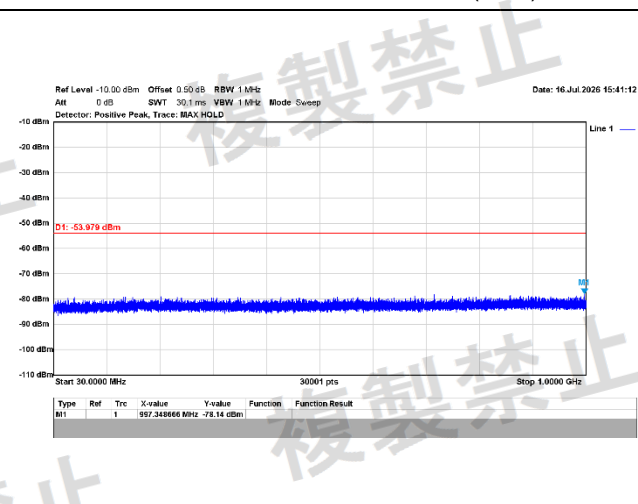
GFSK/2404MHz/Ch1/Ant.1/1-2 (Nom)



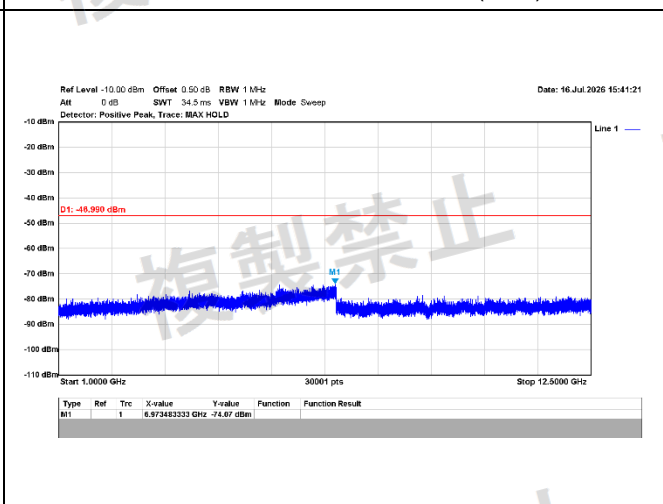
GFSK/2404MHz/Ch1/Ant.1/2-2 (Nom)



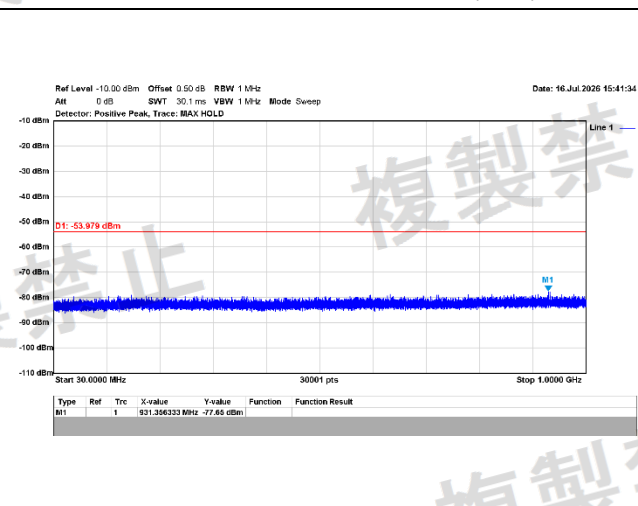
GFSK/2440MHz/Ch19/Ant.1/1-2 (Nom)



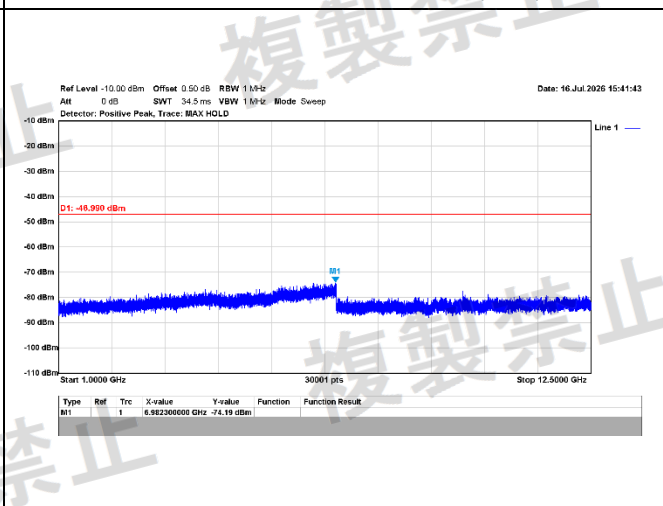
GFSK/2440MHz/Ch19/Ant.1/2-2 (Nom)

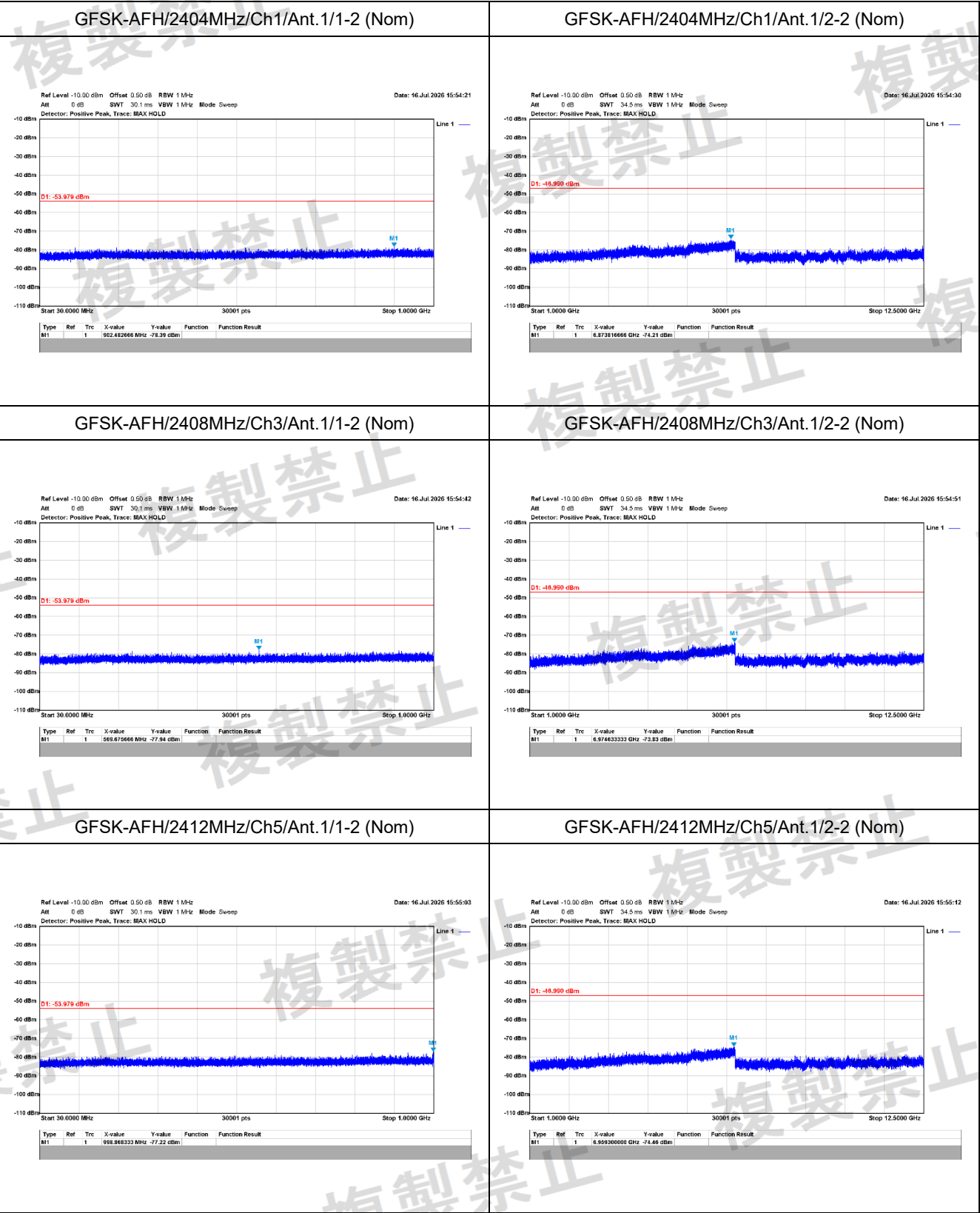


GFSK/2478MHz/Ch38/Ant.1/1-2 (Nom)



GFSK/2478MHz/Ch38/Ant.1/2-2 (Nom)



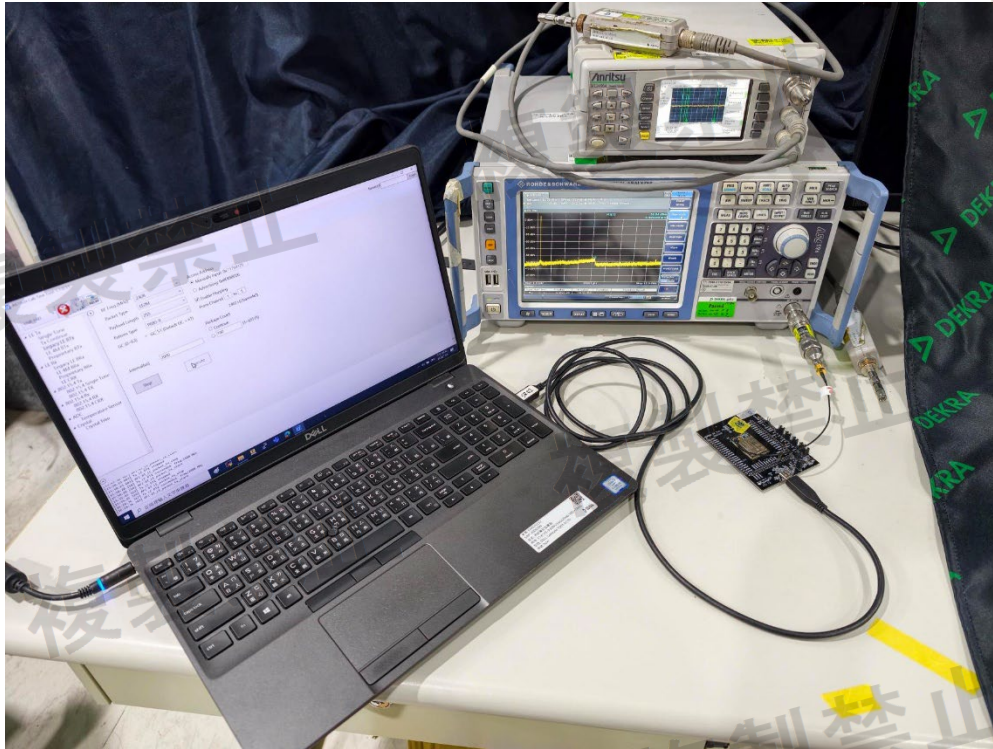


Appendix G. Test Result of Interference Prevention Function

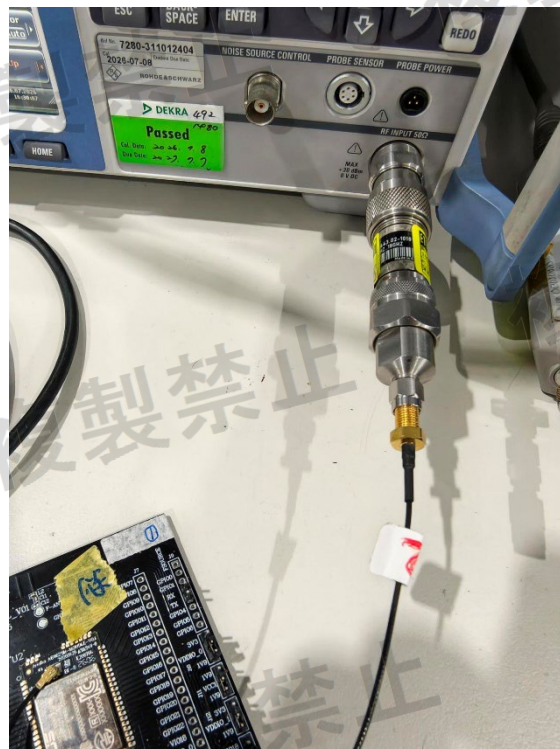
Test Mode	Test Result
Normal Link	Pass

Appendix H. Test Result of Test Setup Photograph

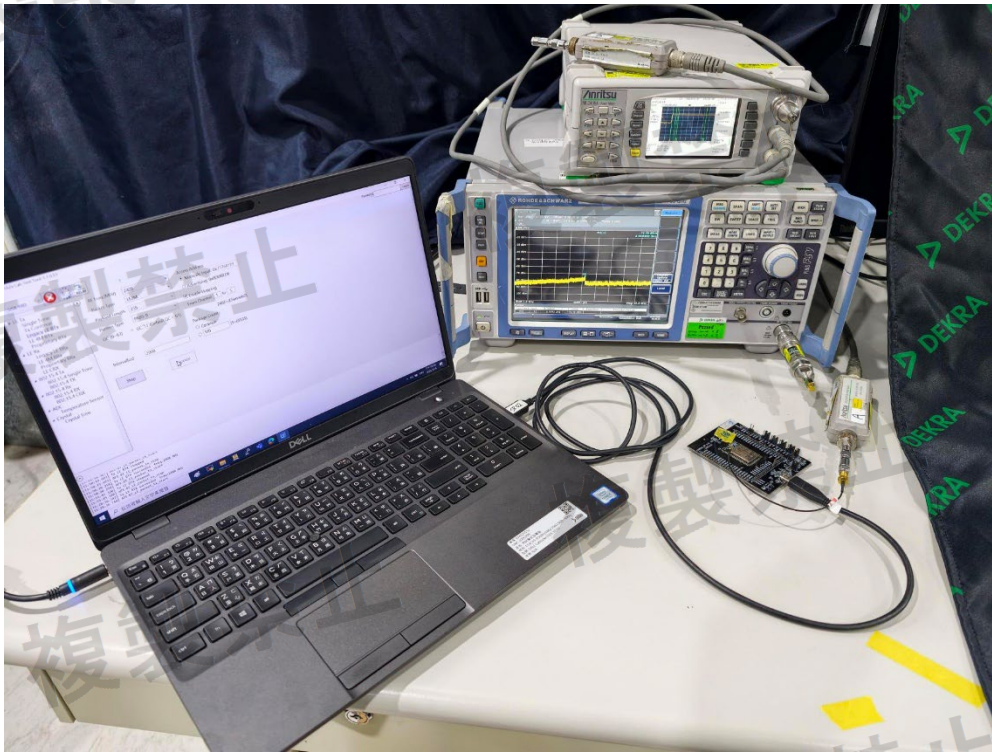
Description: Test Setup (Spectrum Analyzer)



Description: Test Setup (Spectrum Analyzer)



Description: Test Setup (Power Meter)



Description: Test Setup (Power Meter)

