

Appendix A for BT Test Data

Product Name: FUNLOGY Earbuds SE
Test Model: FLU01

Environmental Conditions

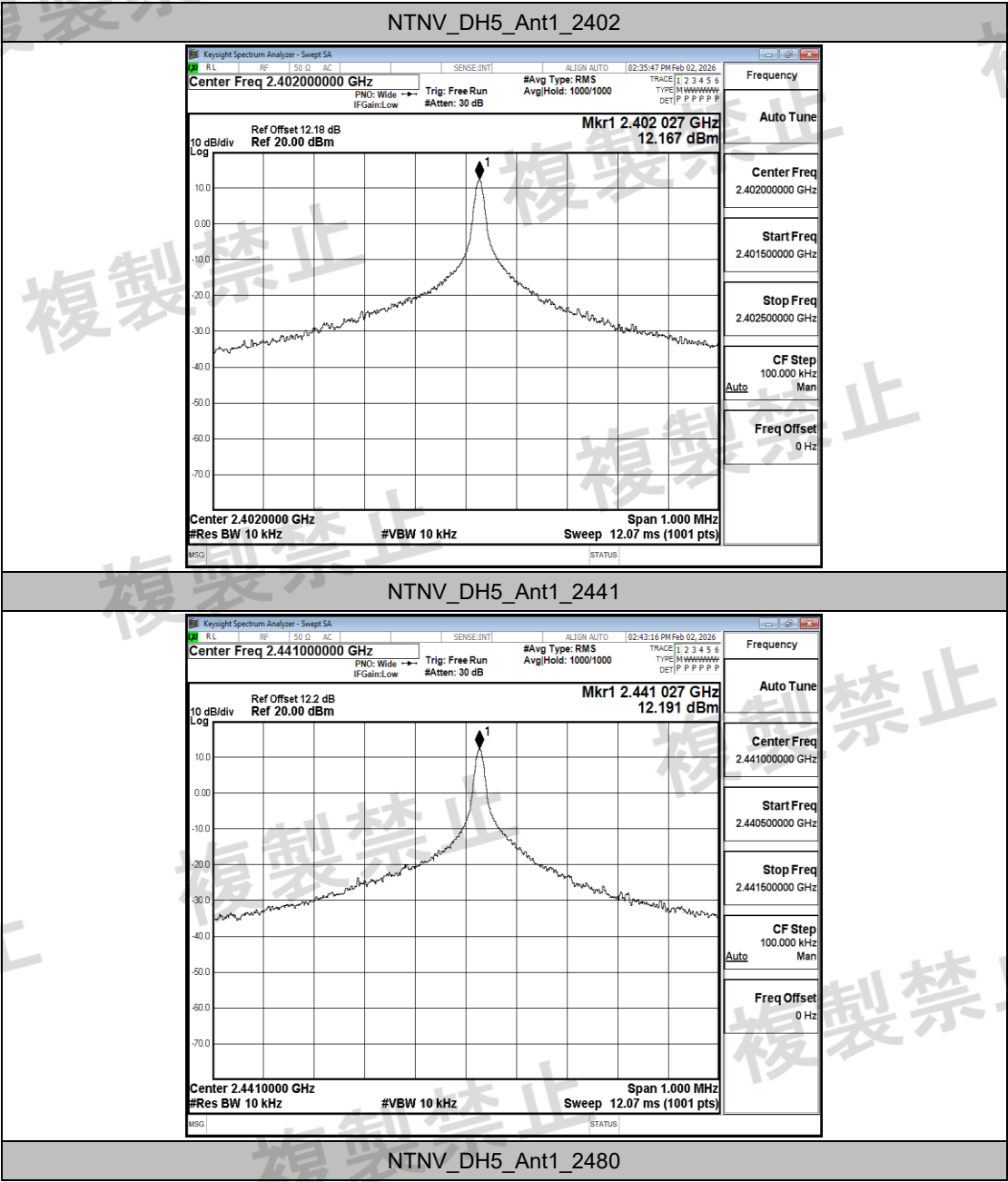
Temperature:	23.6° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Yan Chen
Supervised by:	Fengliu Tang

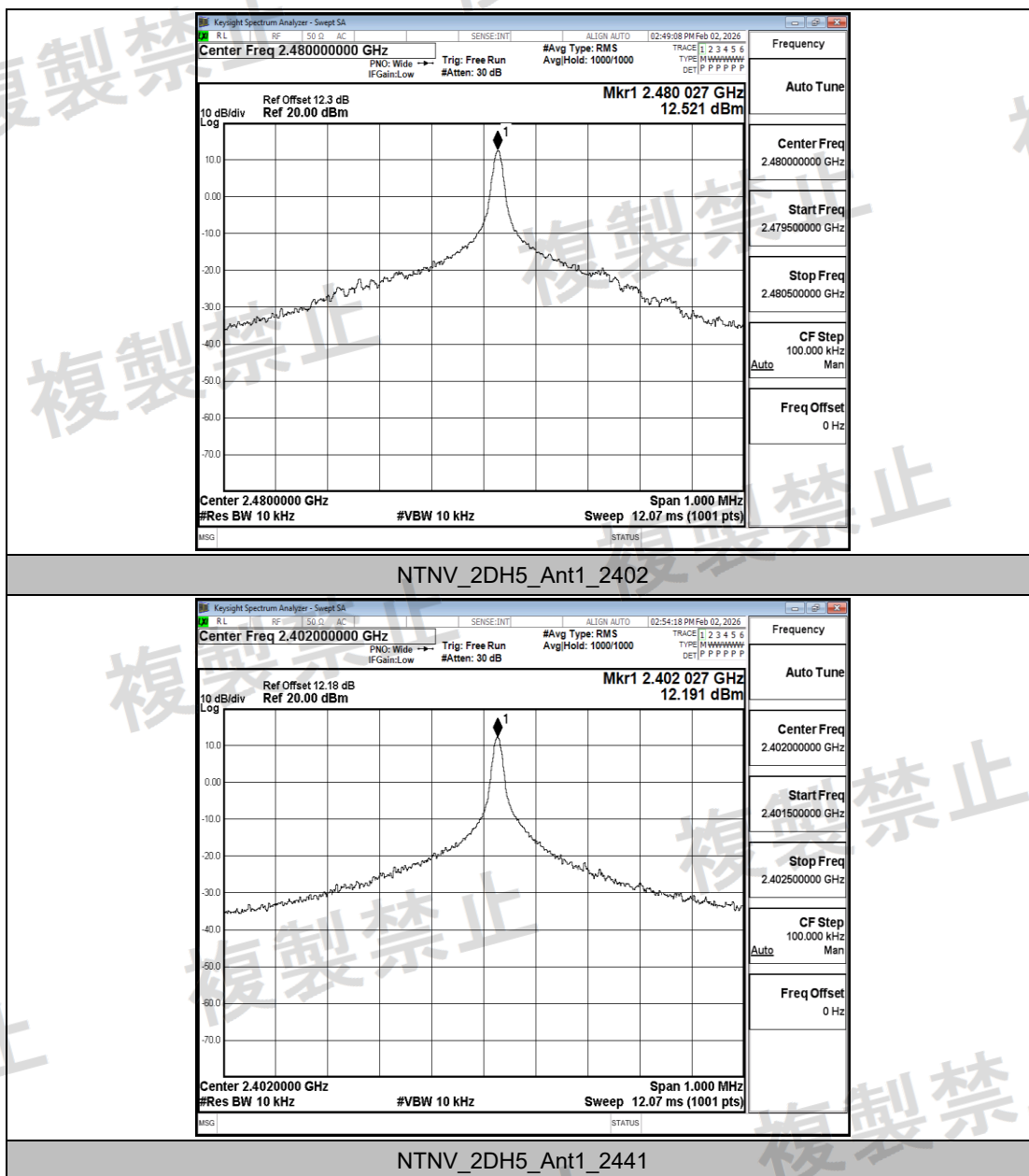
A.1 Frequency_Error

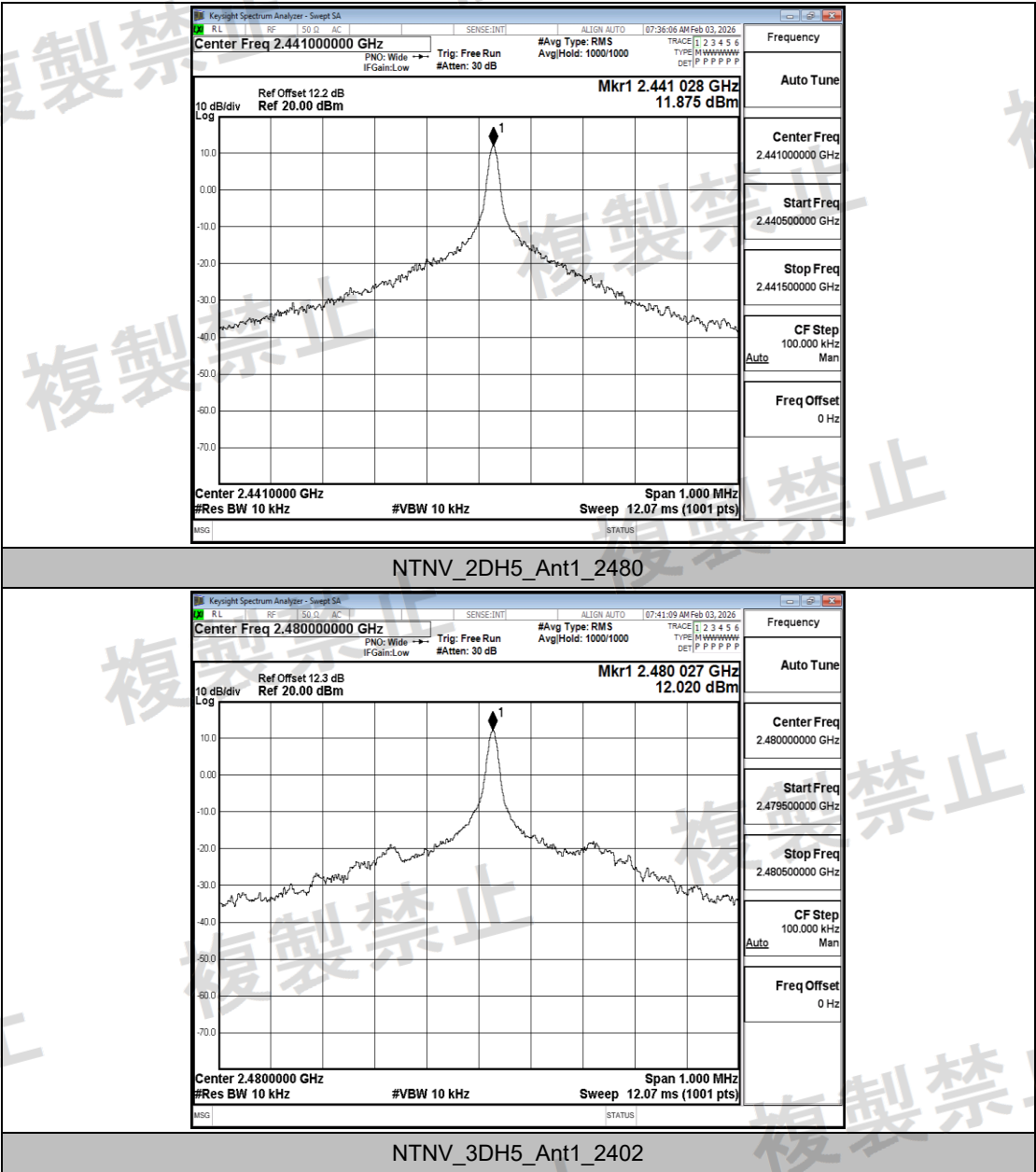
Test Result

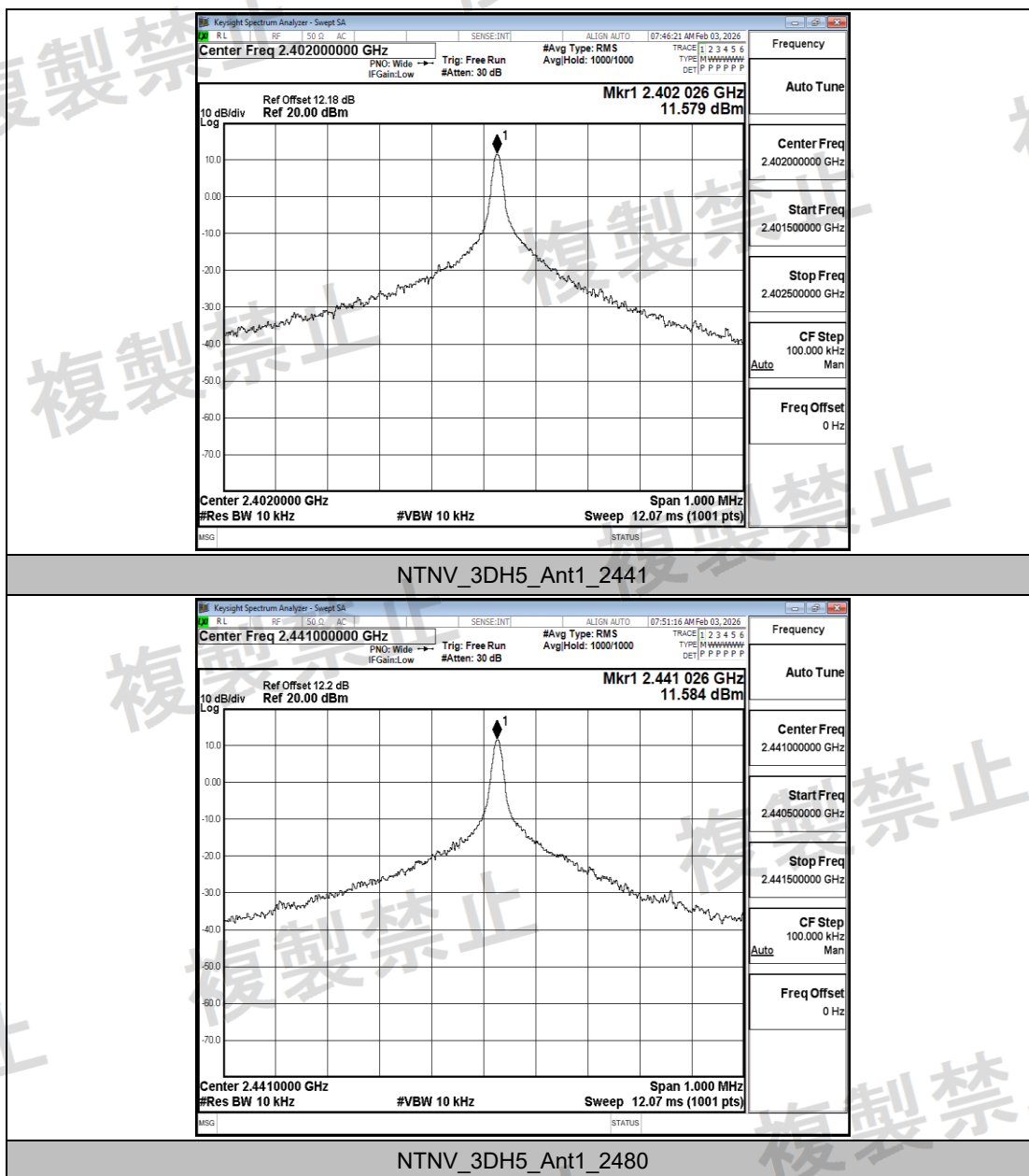
Test Condition	Test Mode	Antenna	Freq(MHz)	Result[ppm]	Limit[ppm]	Verdict
NTNV	DH5	Ant1	2402	11.24063	±50	PASS
			2441	11.06104	±50	PASS
			2480	10.88710	±50	PASS
	2DH5	Ant1	2402	11.24063	±50	PASS
			2441	11.47071	±50	PASS
			2480	10.88710	±50	PASS
	3DH5	Ant1	2402	10.82431	±50	PASS
			2441	10.65137	±50	PASS
			2480	10.88710	±50	PASS

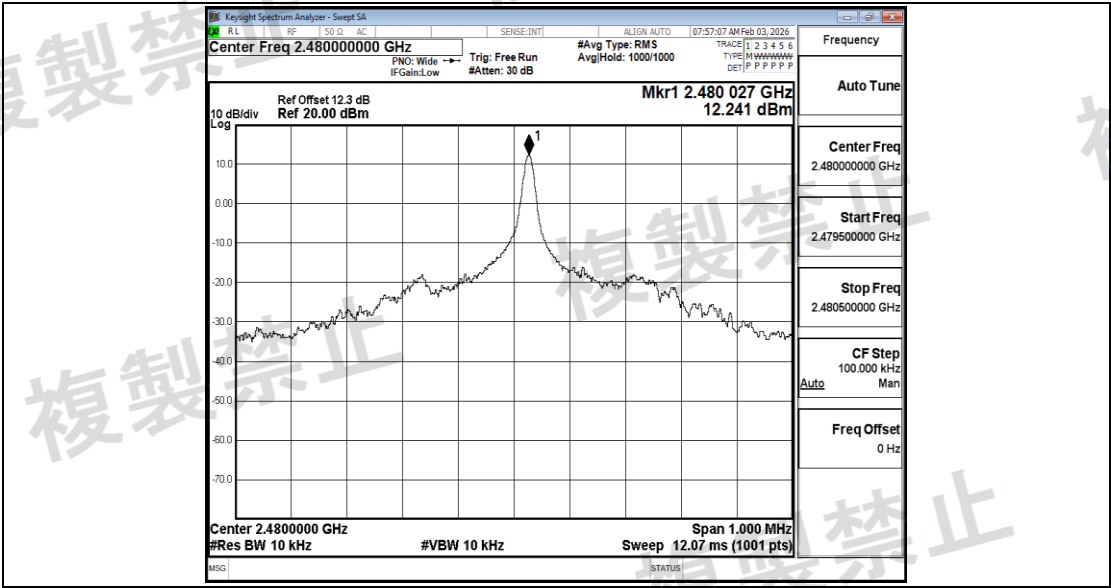
Test Graphs











A.2 Antenna Power & EIRP

Test Result

Test Voltage				Normal Voltage			
Mode	Declared power	Average Result	Average Result	Result	Limit	Tolerance	Limit
	(mW/MHz)	(dBm)	(mW)	(mW/MHz)	(mW/MHz)	/	/
Hopping-Tx (1Mbps)	0.1	6.44	4.406	0.080	3	-20.0%	+20%
Hopping-Tx (2Mbps)	0.1	6.15	4.121	0.076	3	-24.0%	+20%
Hopping-Tx (3Mbps)	0.1	5.56	3.597	0.066	3	-34.0%	+20%
Conclusion: PASS							

Result power= Average value / (Duty Cycle * Spreading bandwidth)

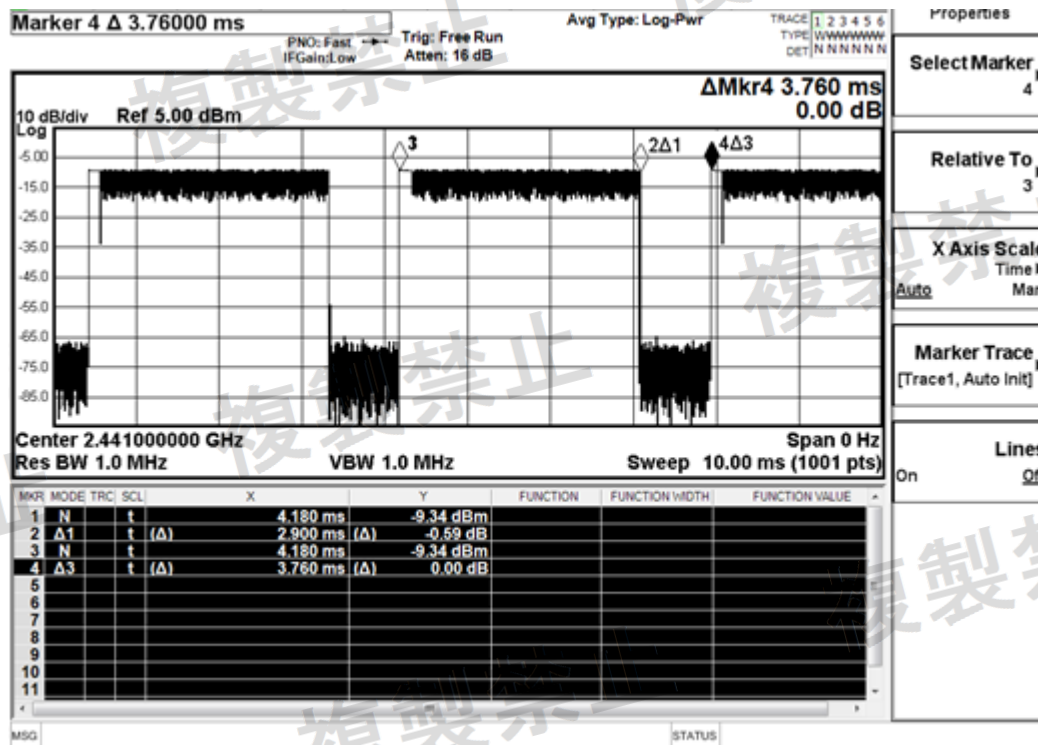
BT ANTenna power Result = Measured Power / Spreading bandwidth

Spread Bandwidth (DH5) = 71.371MHz, Spread Bandwidth (2DH5) = 70.281MHz,

Spread Bandwidth (3DH5) = 70.703 MHz

Duty cycle=77.1%

Duty cycle= [Ton/ (Ton+Toff)]*100%=2.900/3.760*100%=77.1%



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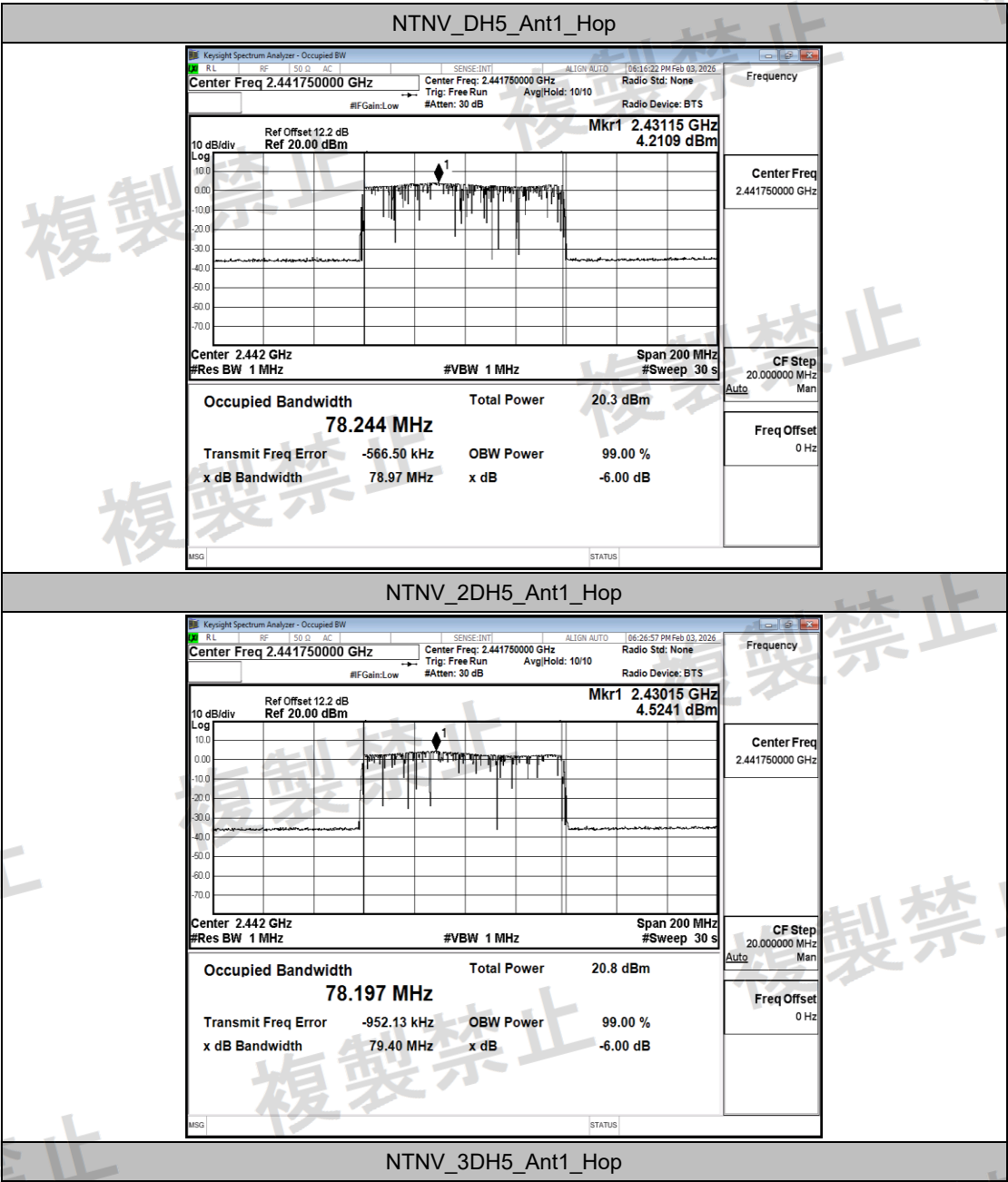
EIRP								
Test Condition	Antenna	Mode	Measured Power (mW/MHz)	Measured Power (dBm/MHz)	Antenna gain (dBi)	EIRP (dBm/MHz)	Limit (dBm/MHz)	Verdict
NTNV	Ant1	Hopping-Tx (1Mbps)	0.080	-10.97	2.69	-8.28	≤6.91	PASS
		Hopping-Tx (2Mbps)	0.076	-11.19	2.69	-8.5	≤6.91	PASS
		Hopping-Tx (3Mbps)	0.066	-11.80	2.69	-9.11	≤6.91	PASS

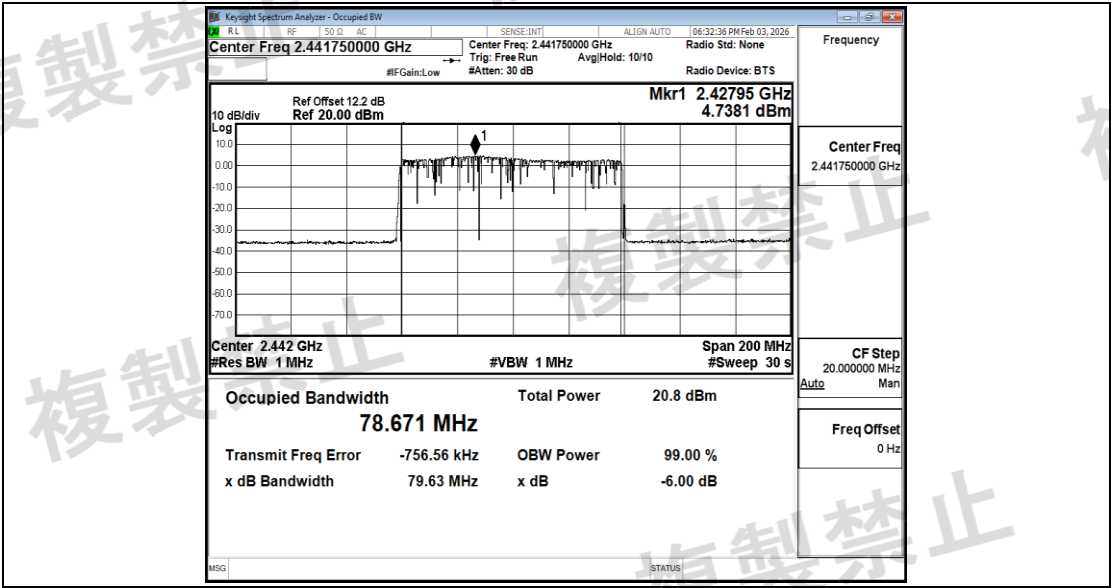
A.3 Occupied Bandwidth

Test Result

Test Condition	Test Mode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	DH5	Ant1	Hop	78.244	≤83.5	PASS
	2DH5	Ant1	Hop	78.197	≤83.5	PASS
	3DH5	Ant1	Hop	78.671	≤83.5	PASS

Test Graphs



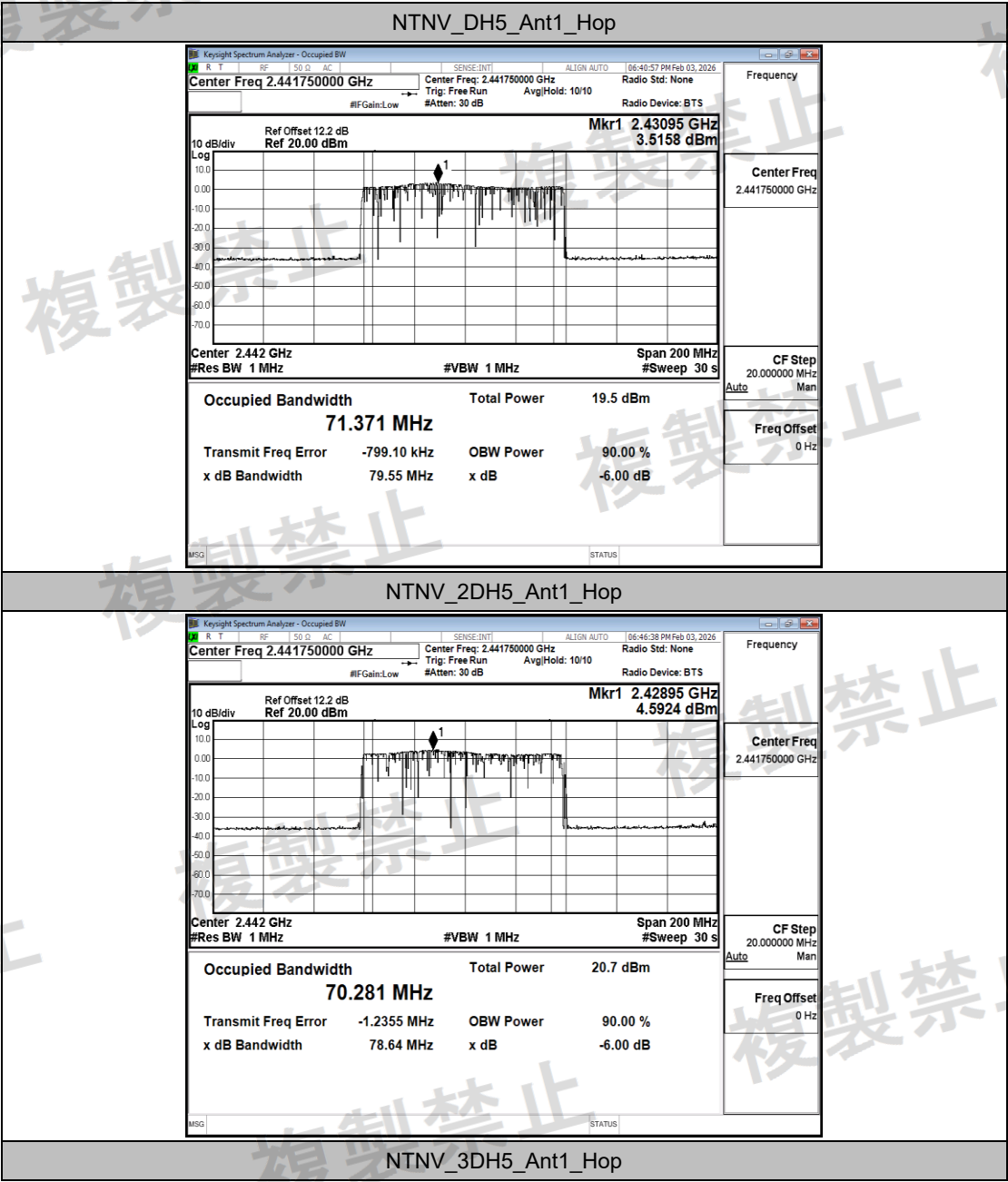


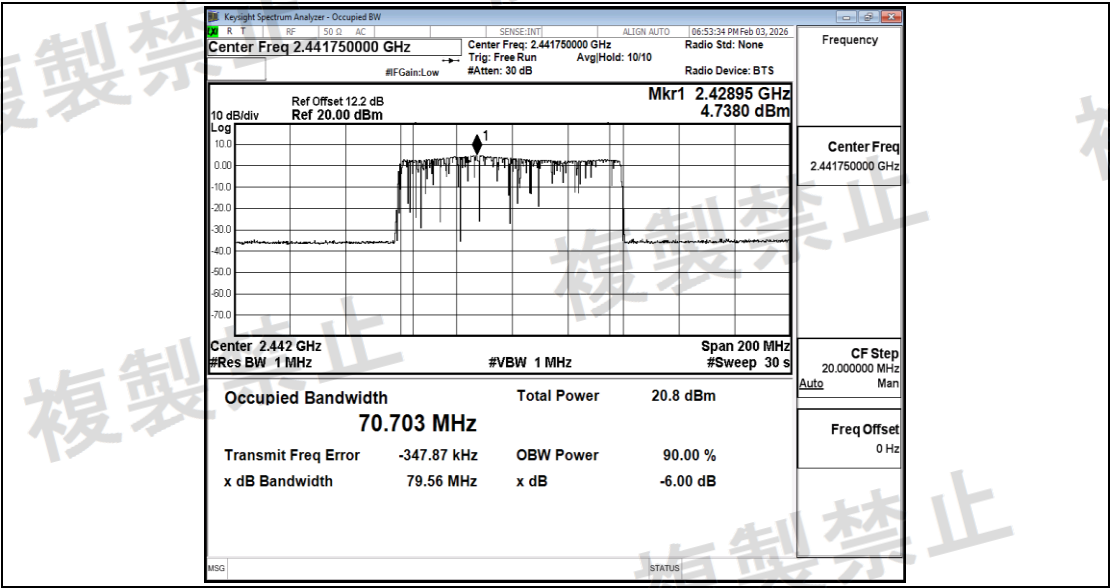
A.4 Spread Bandwidth

Test Result

Test Condition	Test Mode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Spread Factor	Limit	Verdict
NTNV	DH5	Ant1	Hop	71.371	---	---	---	PASS
	2DH5	Ant1	Hop	70.281	---	---	---	PASS
	3DH5	Ant1	Hop	70.703	---	---	---	PASS

Test Graphs





A.5 Spurious Emission of TX

Test Result

Test Condition	Test Mode	Antenna	Freq(M Hz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	DH5	Ant1	2402	30~1000	788.78	-46.36	≤-26	0.02312	≤2.5	PASS
				1000~2387	2387.00	-42.18	≤-26	0.06053	≤2.5	PASS
				2387~2400	2399.98	-18.78	≤-16	13.2434 2	≤25	See table below
				2483.5~2496.5	2483.96	-34.32	≤-16	0.36983	≤25	PASS
				2496.5~13000	4959.05	-28.44	≤-26	1.43219	≤2.5	See table below
			2441	30~1000	797.27	-46.18	≤-26	0.02410	≤2.5	PASS
				1000~2387	2042.68	-45.33	≤-26	0.02931	≤2.5	PASS
				2387~2400	2397.54	-34.71	≤-16	0.33806	≤25	PASS
				2483.5~2496.5	2485.14	-34.90	≤-16	0.32359	≤25	PASS
				2496.5~13000	4960.1	-28.20	≤-26	1.51356	≤2.5	See table below
		2480		30~1000	871.23	-46.15	≤-26	0.02427	≤2.5	PASS
				1000~2387	2191.09	-45.03	≤-26	0.03141	≤2.5	PASS
				2387~2400	2392.18	-34.30	≤-16	0.37154	≤25	PASS
				2483.5~2496.5	2483.57	-23.42	≤-16	4.54988	≤25	PASS
				2496.5~13000	4960.62	-28.10	≤-26	1.54882	≤2.5	See table below
	2DH5	Ant1	2402	30~1000	767.93	-46.50	≤-26	0.02239	≤2.5	PASS
				1000~2387	2387.00	-43.13	≤-26	0.04864	≤2.5	PASS
				2387~2400	2399.99	-18.43	≤-16	14.3548 9	≤25	See table below
				2483.5~2496.5	2486.30	-34.91	≤-16	0.32285	≤25	PASS
				2496.5~13000	4959.05	-28.29	≤-26	1.48252	≤2.5	See table below
			2441	30~1000	951.02	-46.91	≤-26	0.02037	≤2.5	PASS
				1000~2387	2034.36	-45.88	≤-26	0.02582	≤2.5	PASS
				2387~2400	2389.50	-35.37	≤-16	0.29040	≤25	PASS
				2483.5~2496.5	2488.32	-34.32	≤-16	0.36983	≤25	PASS

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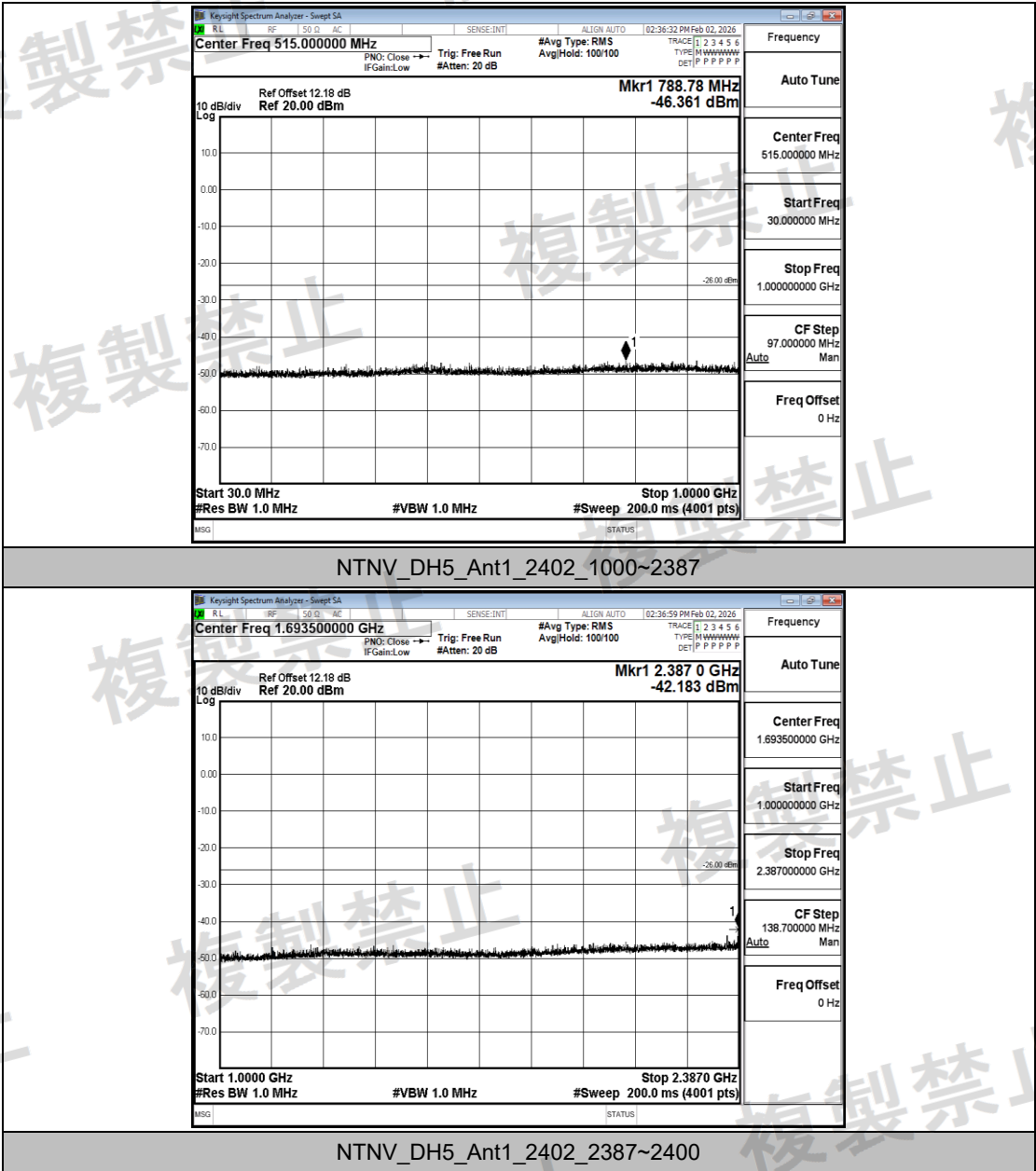
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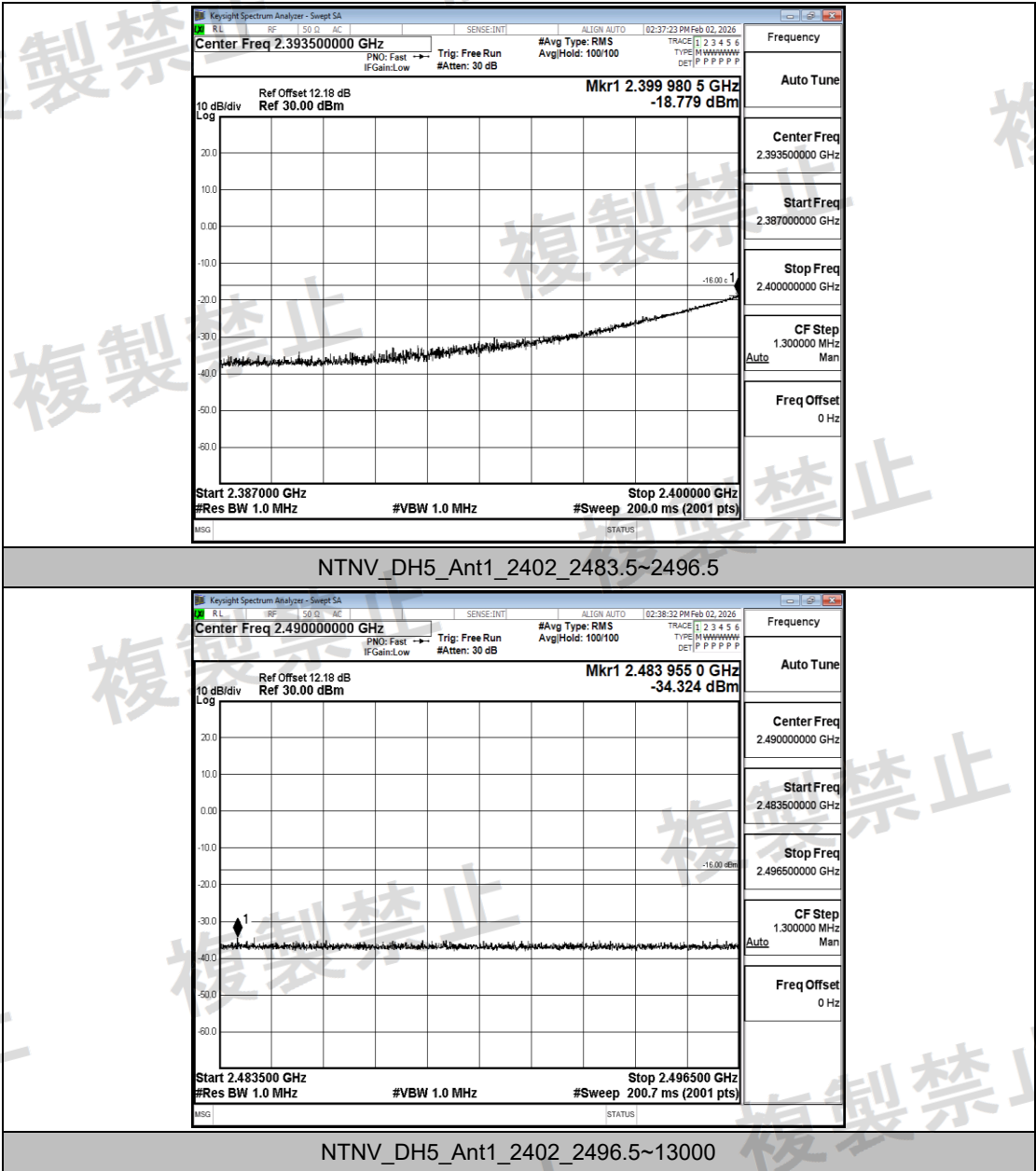
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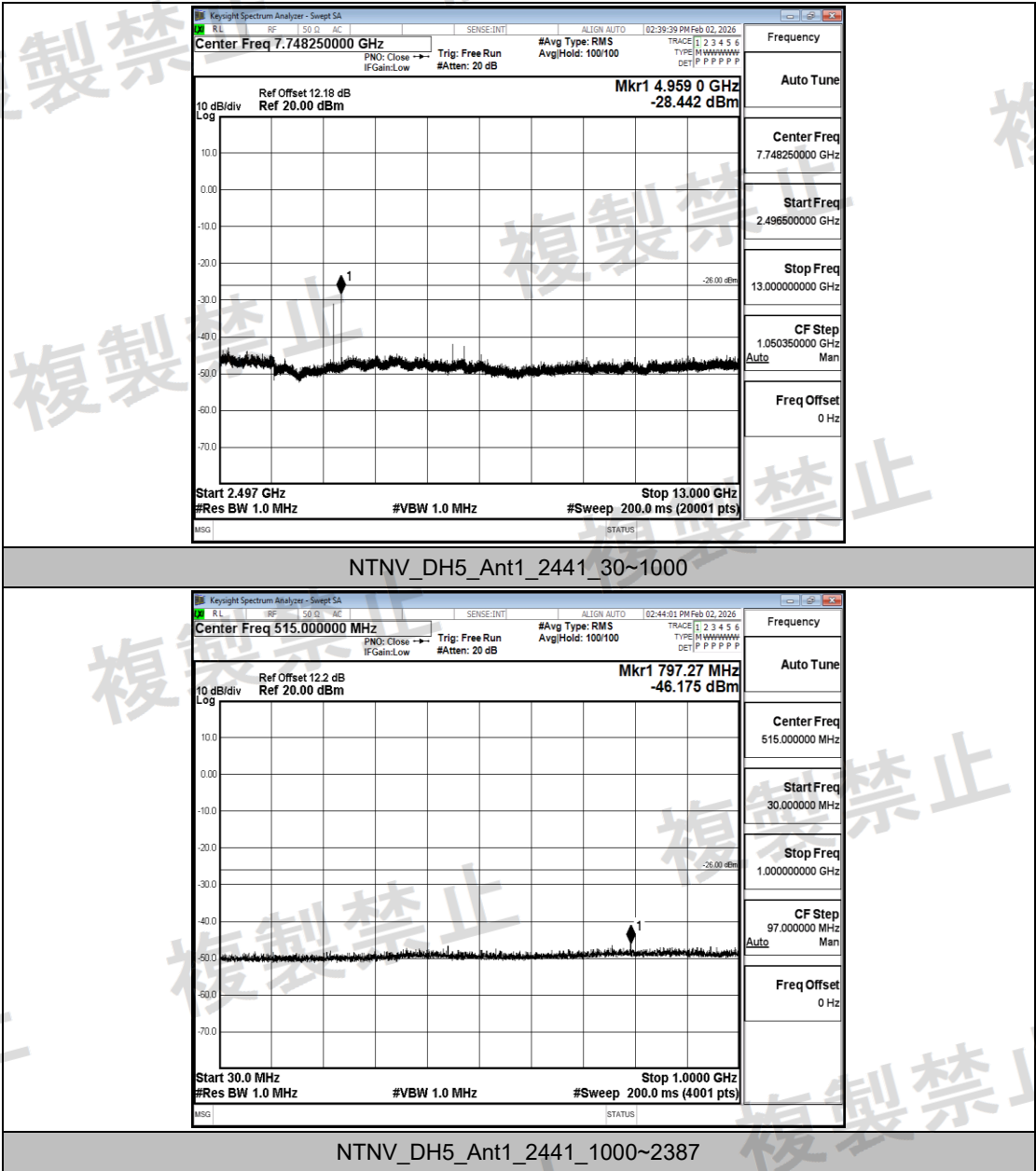
	3DH5	Ant1	2480	2496.5~13000	4882.37	-27.03	≤-26	1.98153	≤2.5	See table below
				30~1000	929.92	-46.65	≤-26	0.02163	≤2.5	PASS
				1000~2387	2342.96	-44.97	≤-26	0.03184	≤2.5	PASS
				2387~2400	2391.28	-35.34	≤-16	0.29242	≤25	PASS
				2483.5~2496.5	2487.46	-34.56	≤-16	0.34995	≤25	PASS
				2496.5~13000	4960.1	-25.39	≤-26	2.89068	≤2.5	See table below
			2402	30~1000	781.51	-46.74	≤-26	0.02118	≤2.5	PASS
				1000~2387	2343.66	-45.47	≤-26	0.02838	≤2.5	PASS
				2387~2400	2400.00	-27.17	≤-16	1.91867	≤25	PASS
				2483.5~2496.5	2488.84	-34.80	≤-16	0.33113	≤25	PASS
				2496.5~13000	4804.64	-28.91	≤-26	1.28529	≤2.5	See table below
			2441	30~1000	911.73	-47.28	≤-26	0.01871	≤2.5	PASS
				1000~2387	2163.00	-45.48	≤-26	0.02831	≤2.5	PASS
				2387~2400	2398.16	-35.34	≤-16	0.29242	≤25	PASS
				2483.5~2496.5	2493.09	-34.60	≤-16	0.34674	≤25	PASS
				2496.5~13000	4881.84	-26.46	≤-26	2.25944	≤2.5	See table below
				30~1000	878.51	-46.50	≤-26	0.02239	≤2.5	PASS
				1000~2387	2053.77	-45.23	≤-26	0.02999	≤2.5	PASS
				2387~2400	2399.29	-34.82	≤-16	0.32961	≤25	PASS
				2483.5~2496.5	2494.77	-34.76	≤-16	0.33420	≤25	PASS
				2496.5~13000	4960.1	-25.32	≤-26	2.93765	≤2.5	See table below

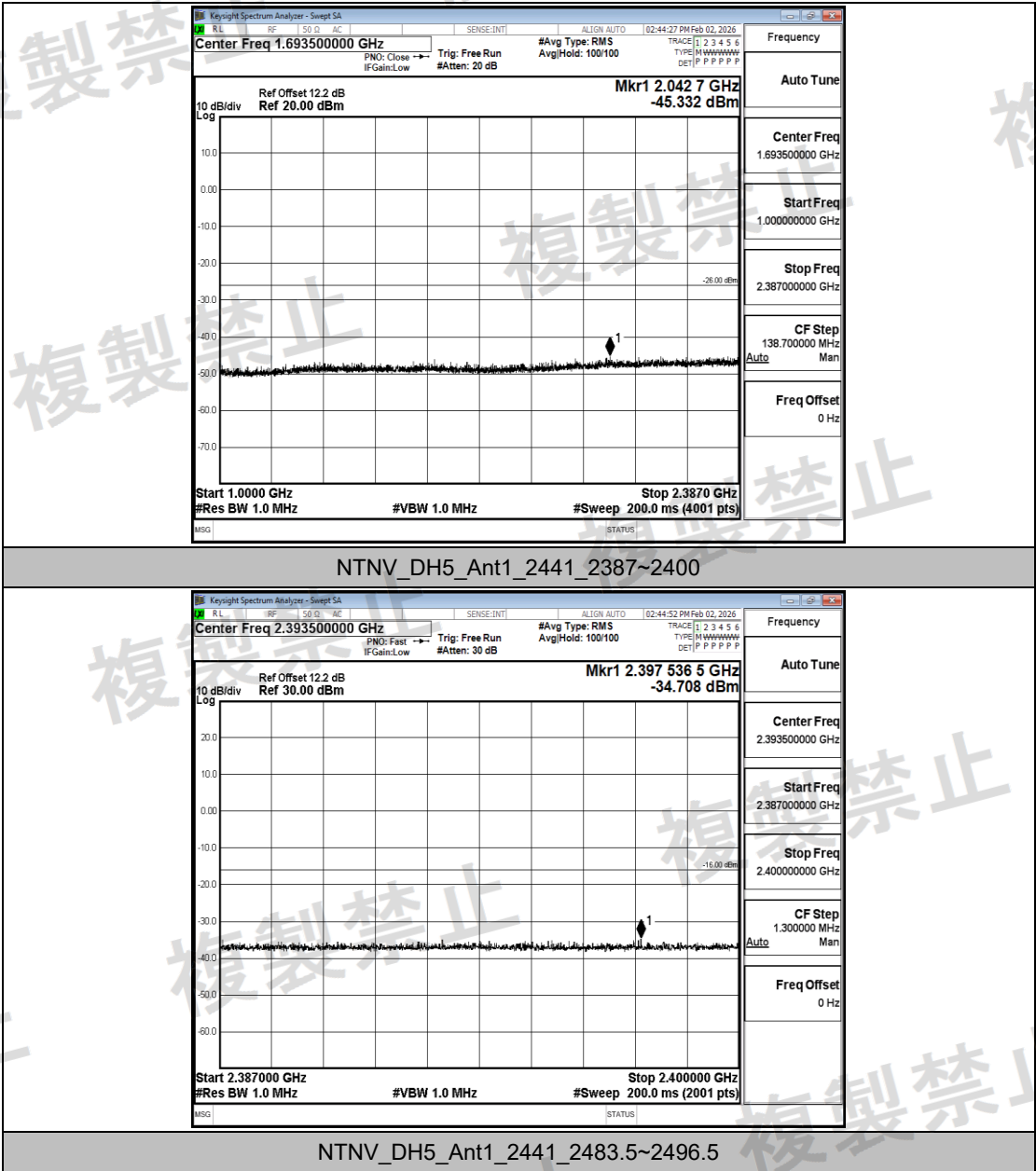
Test Graphs

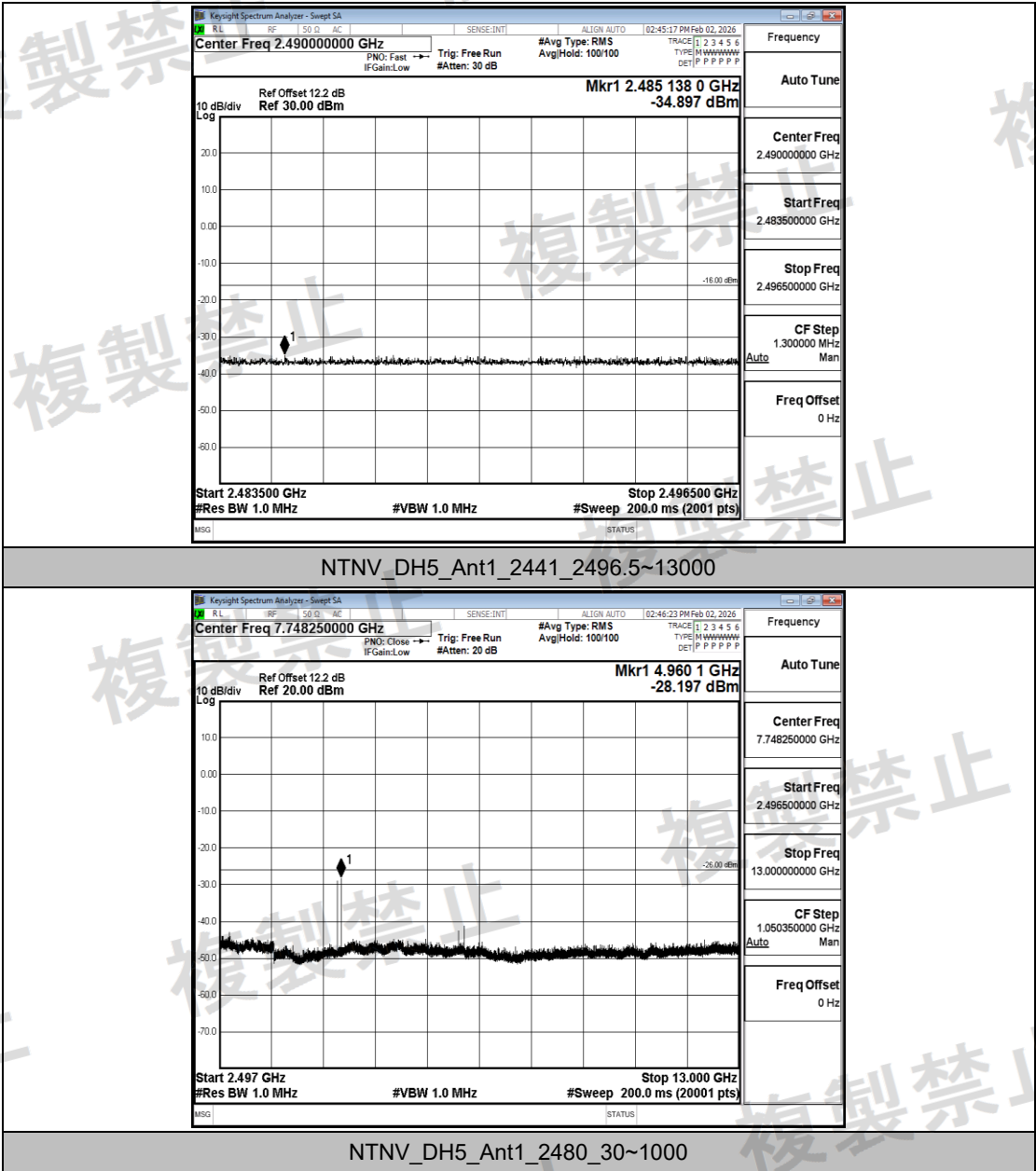
NTNV_DH5_Ant1_2402_30~1000

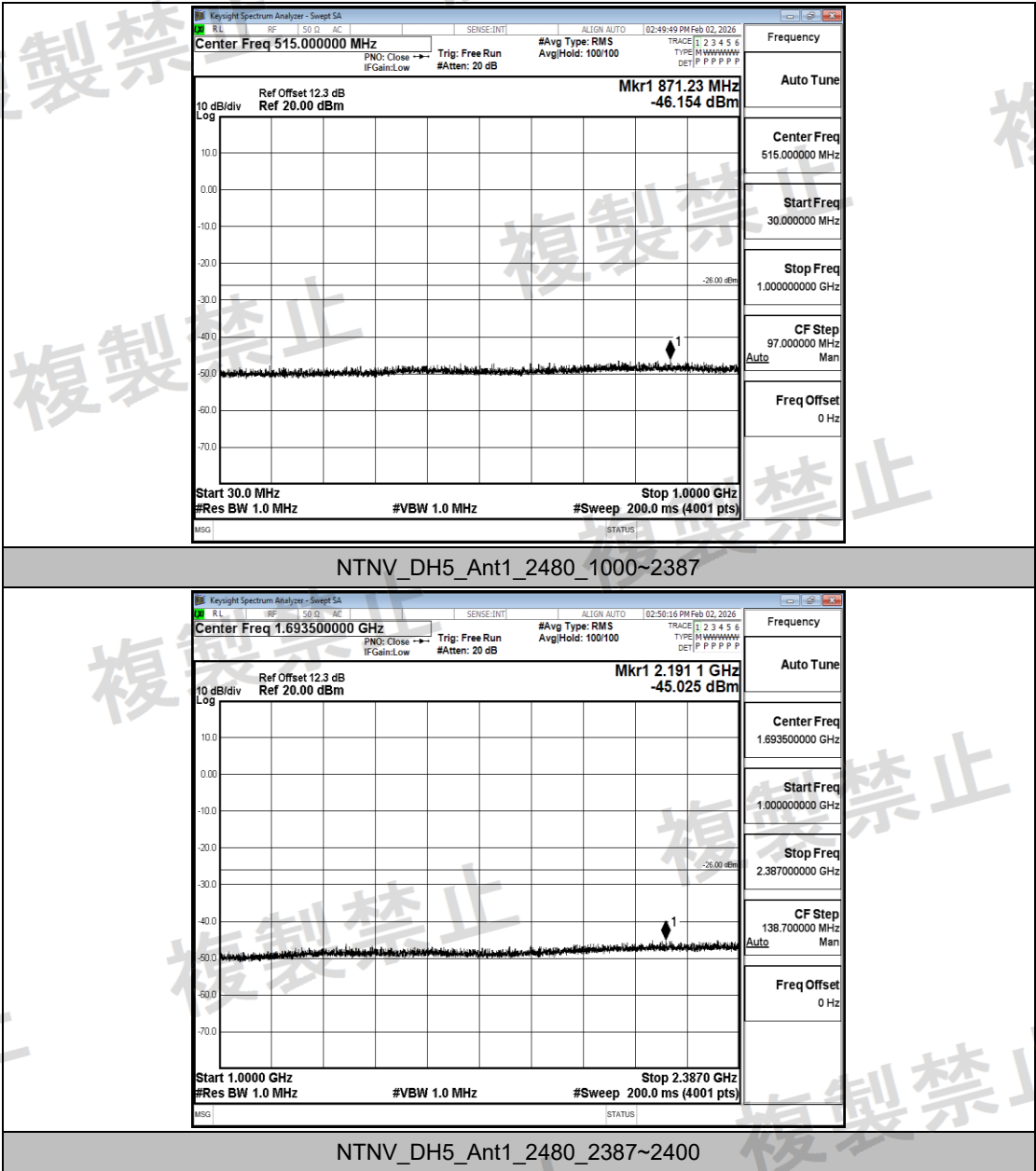


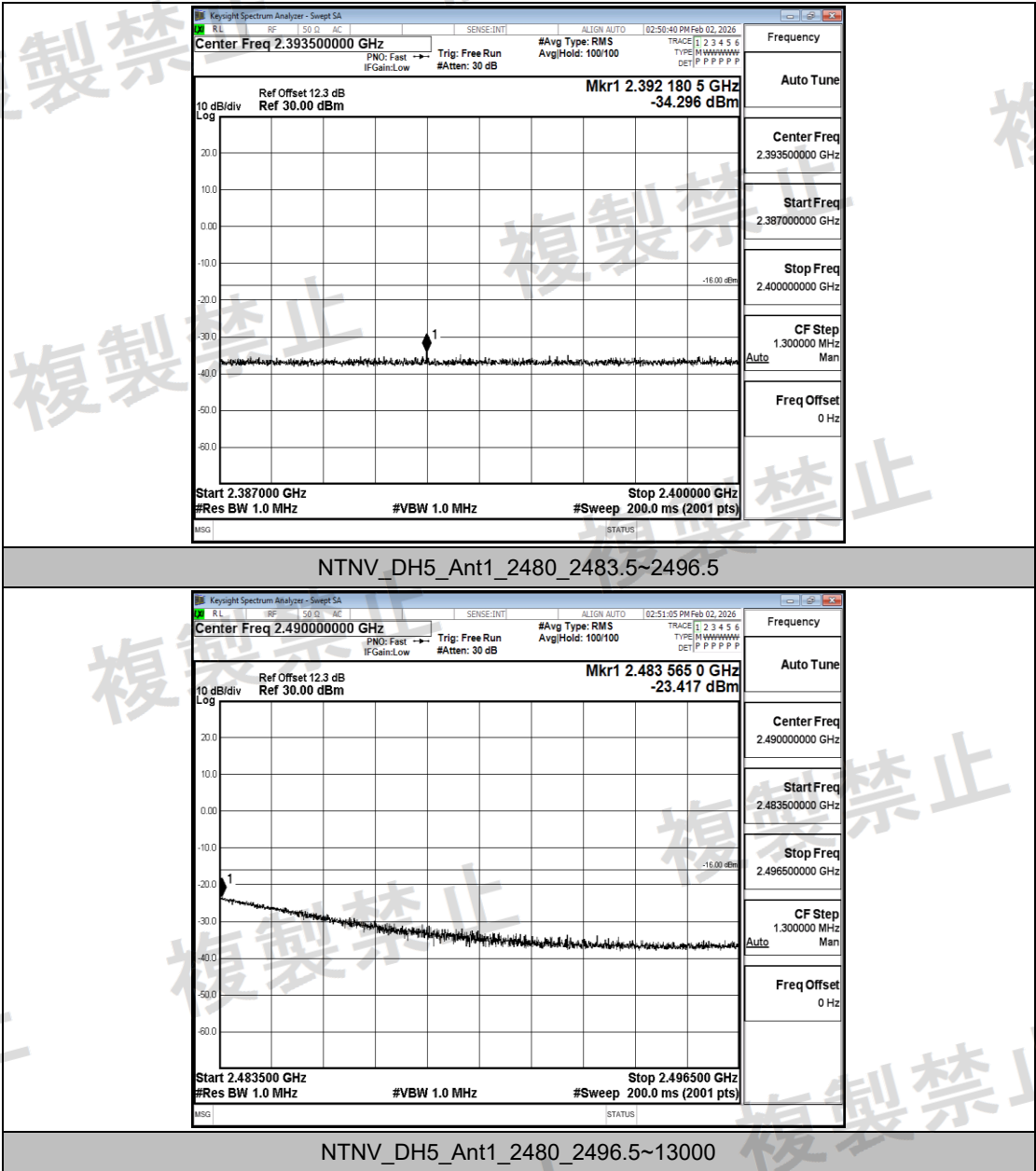


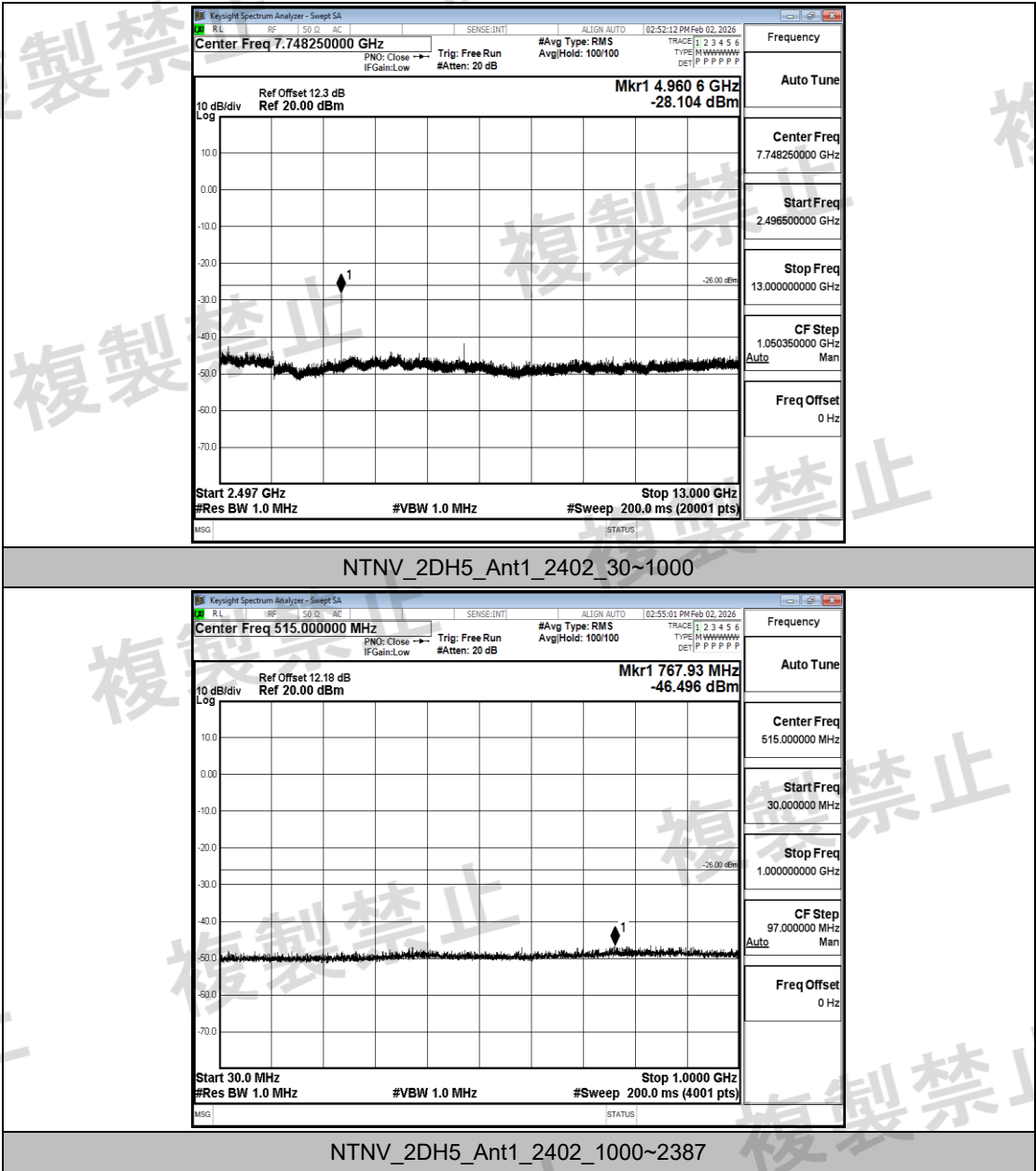


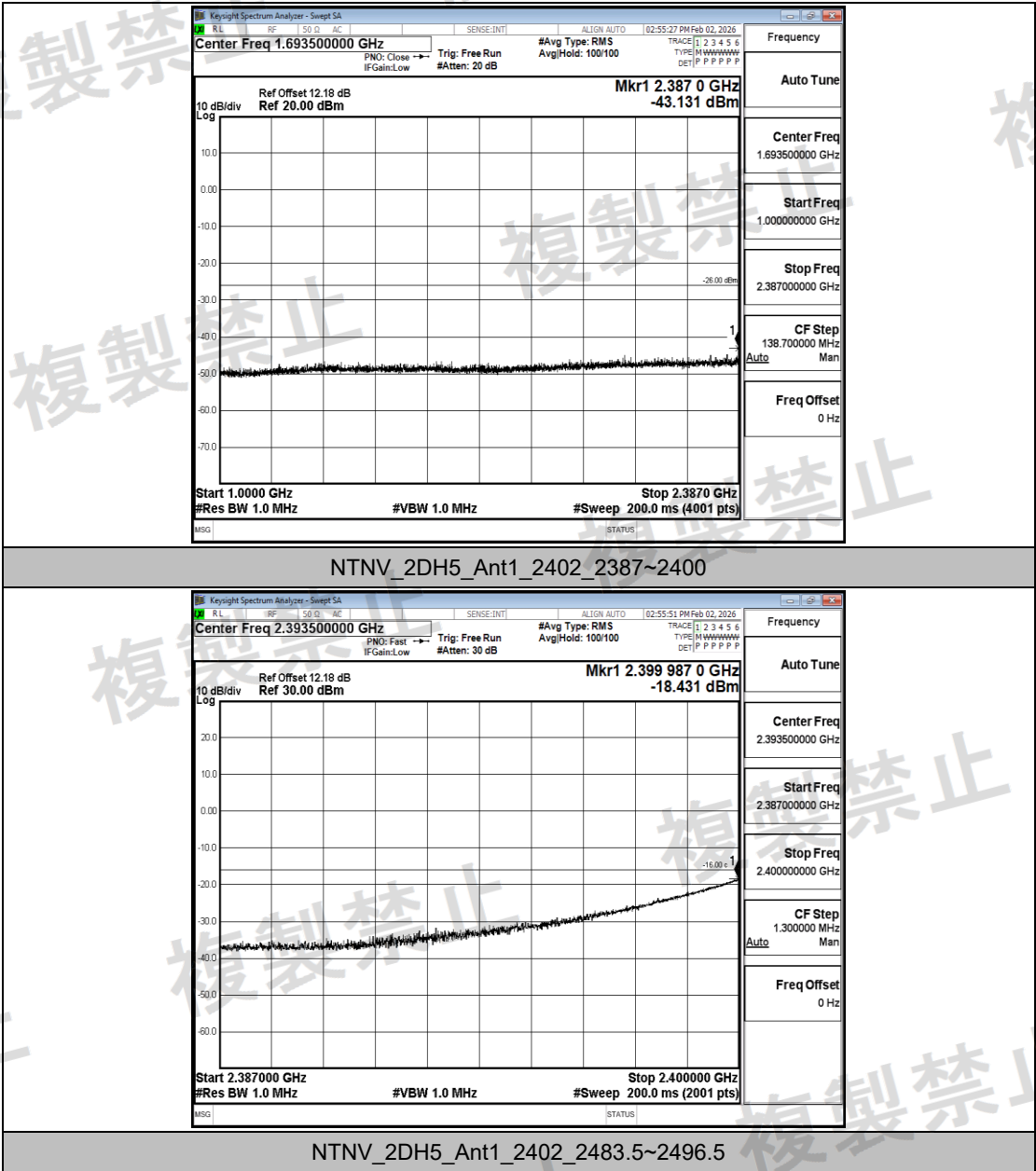


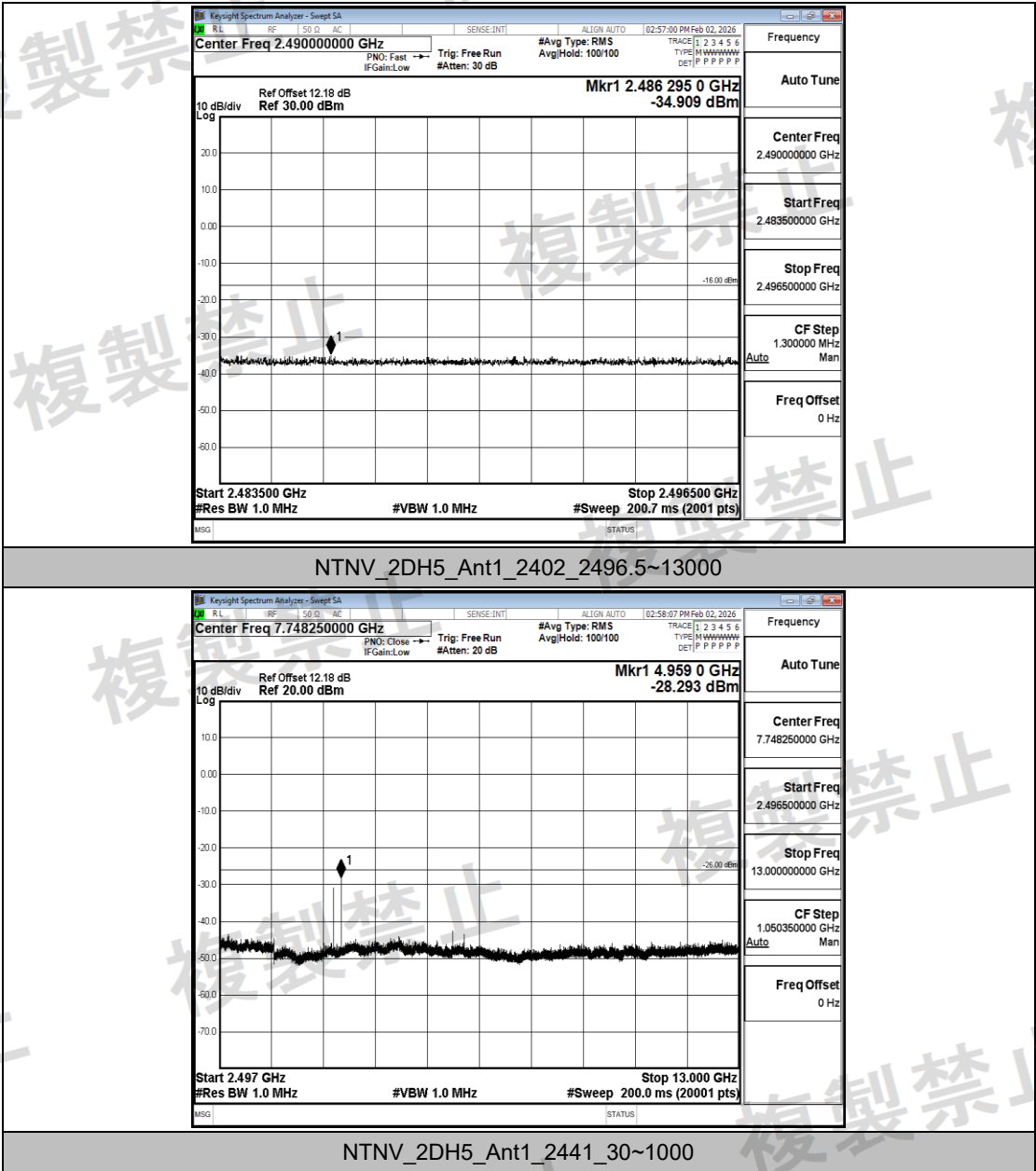


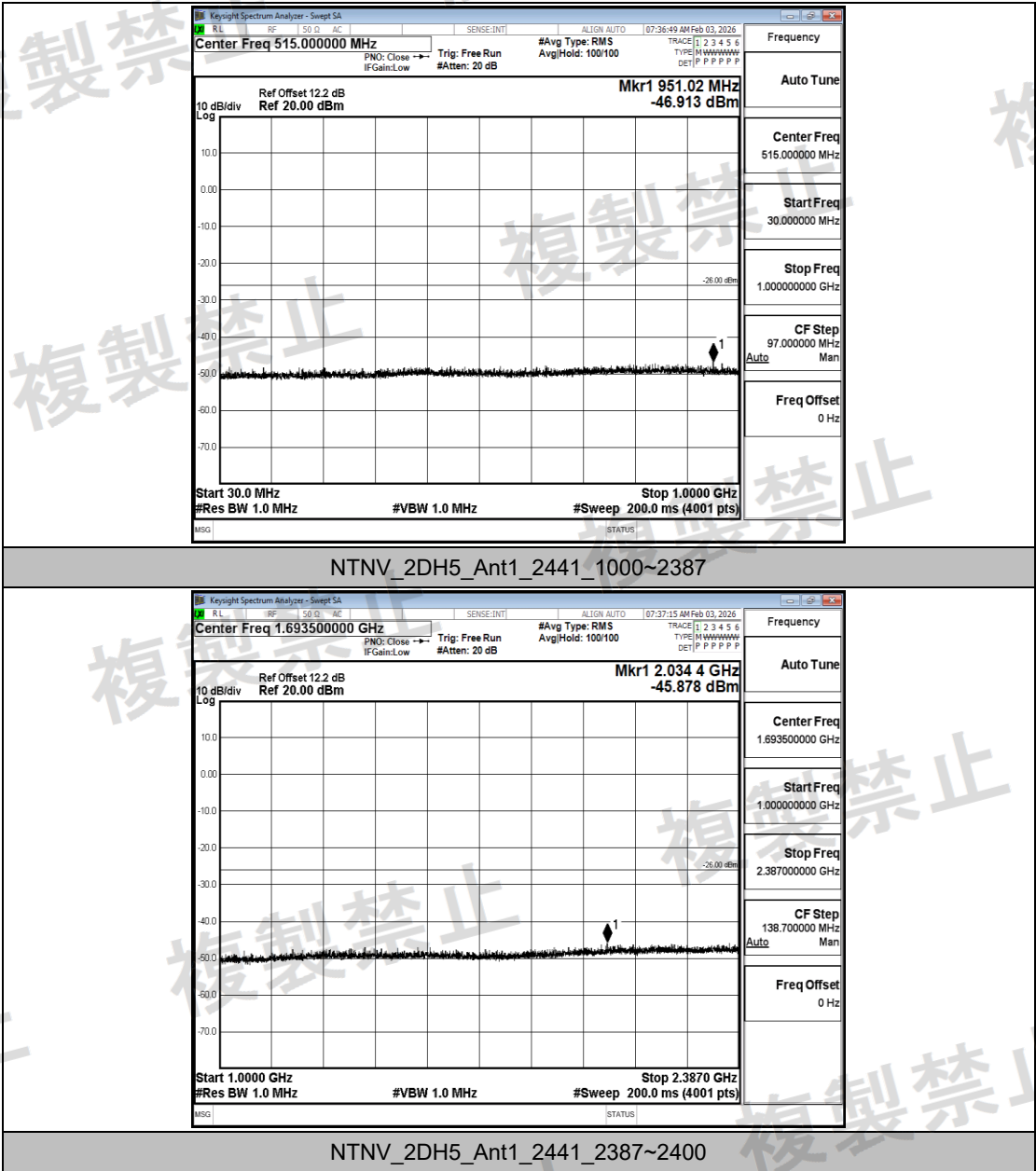


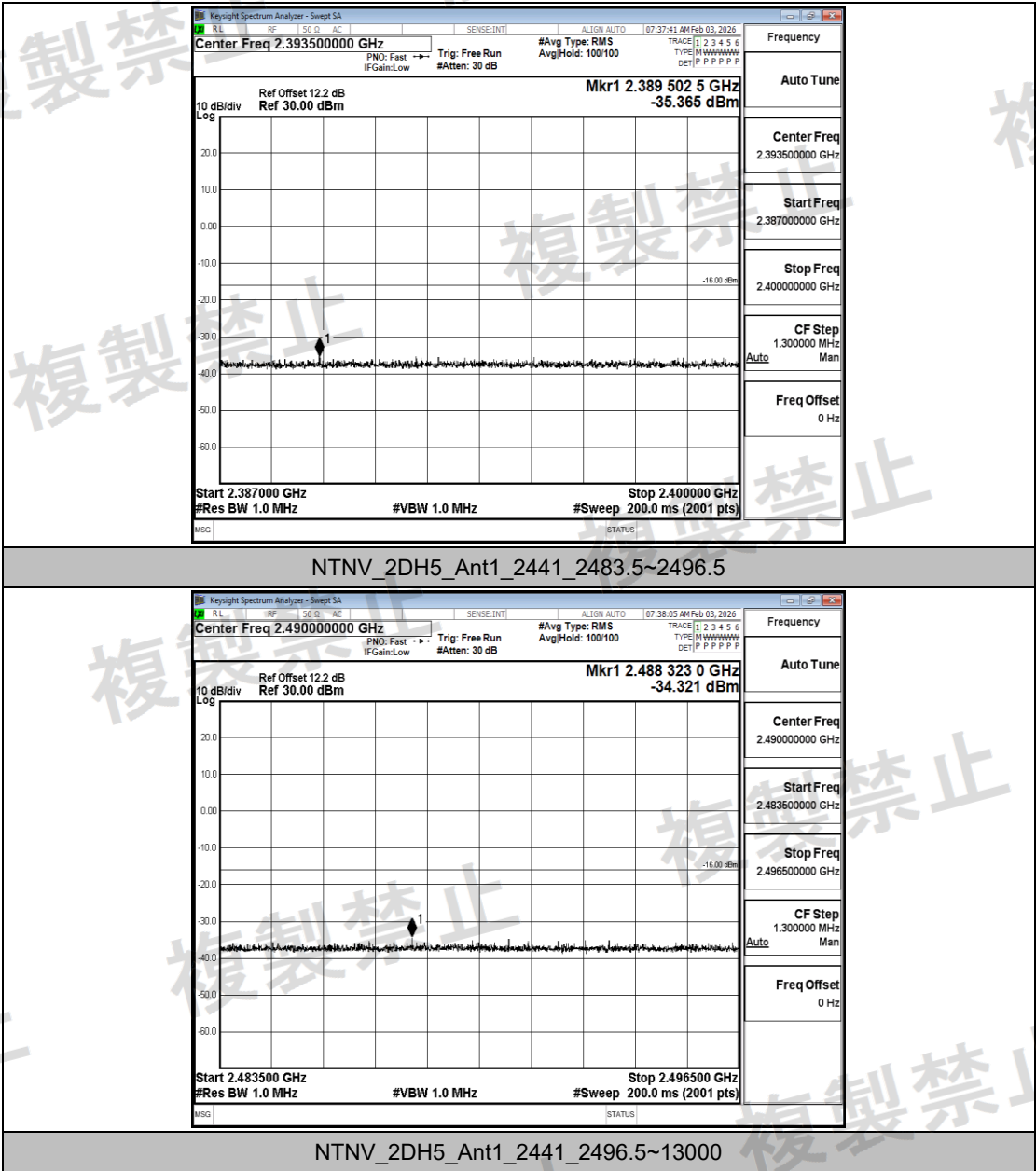


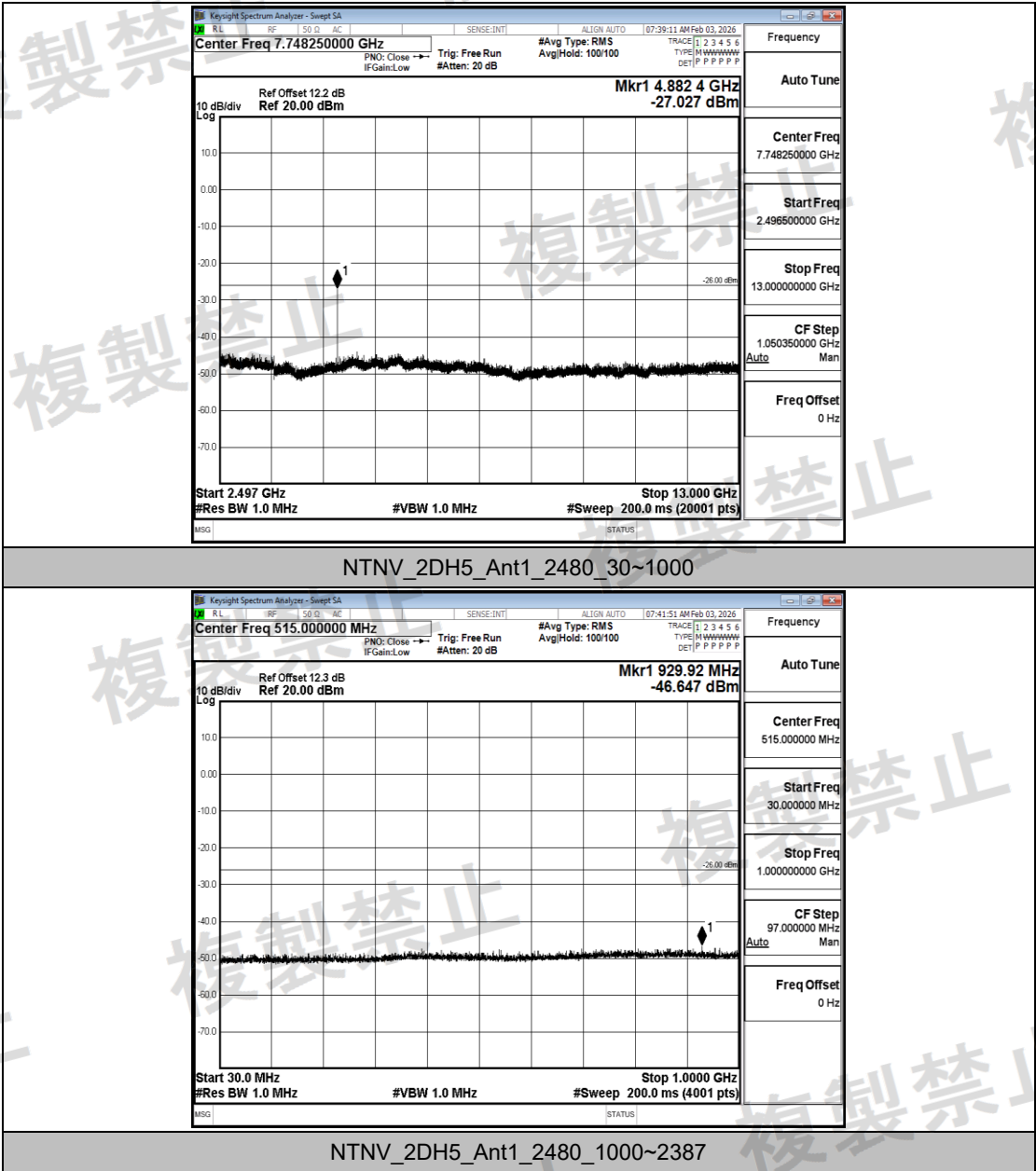


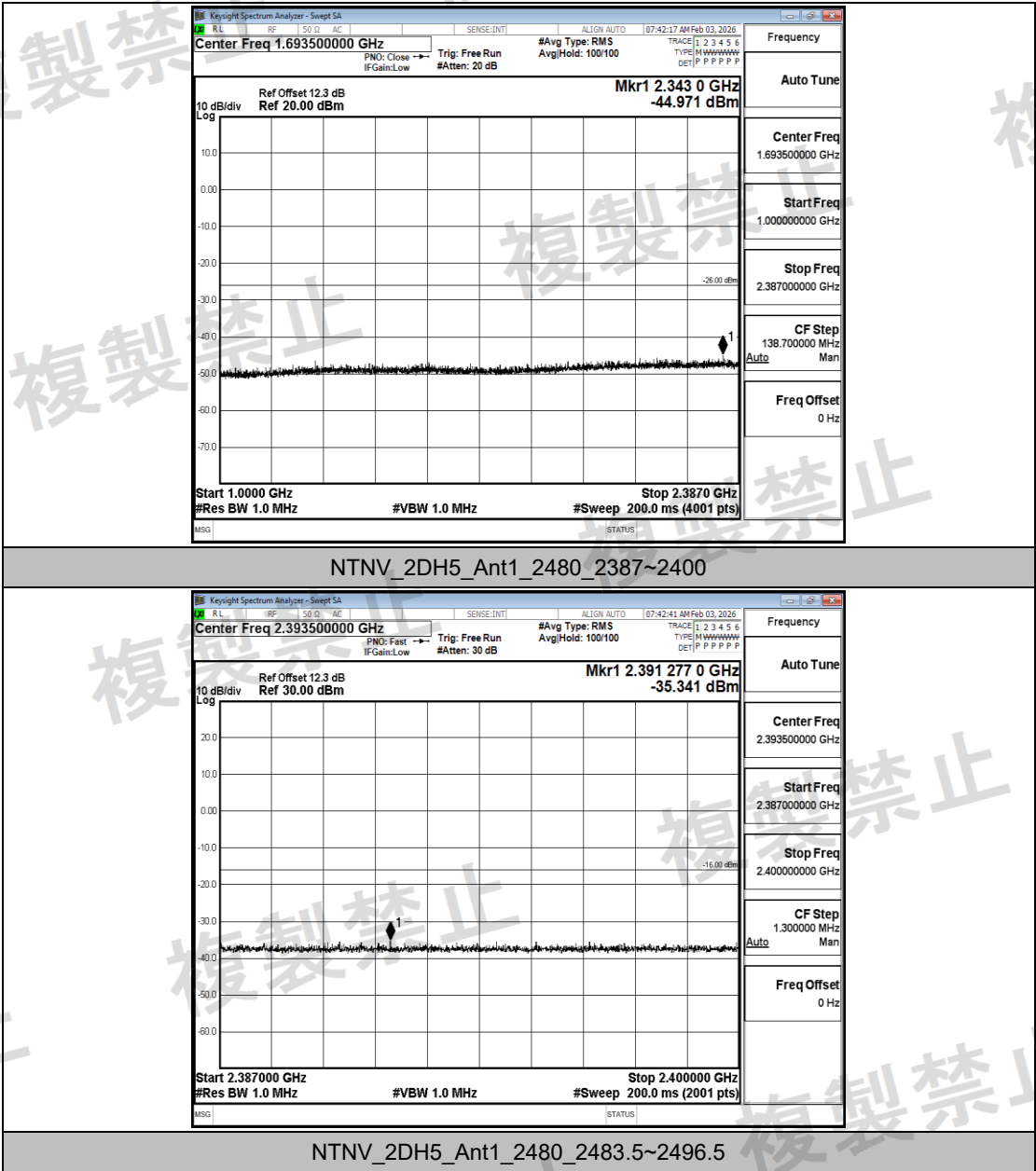


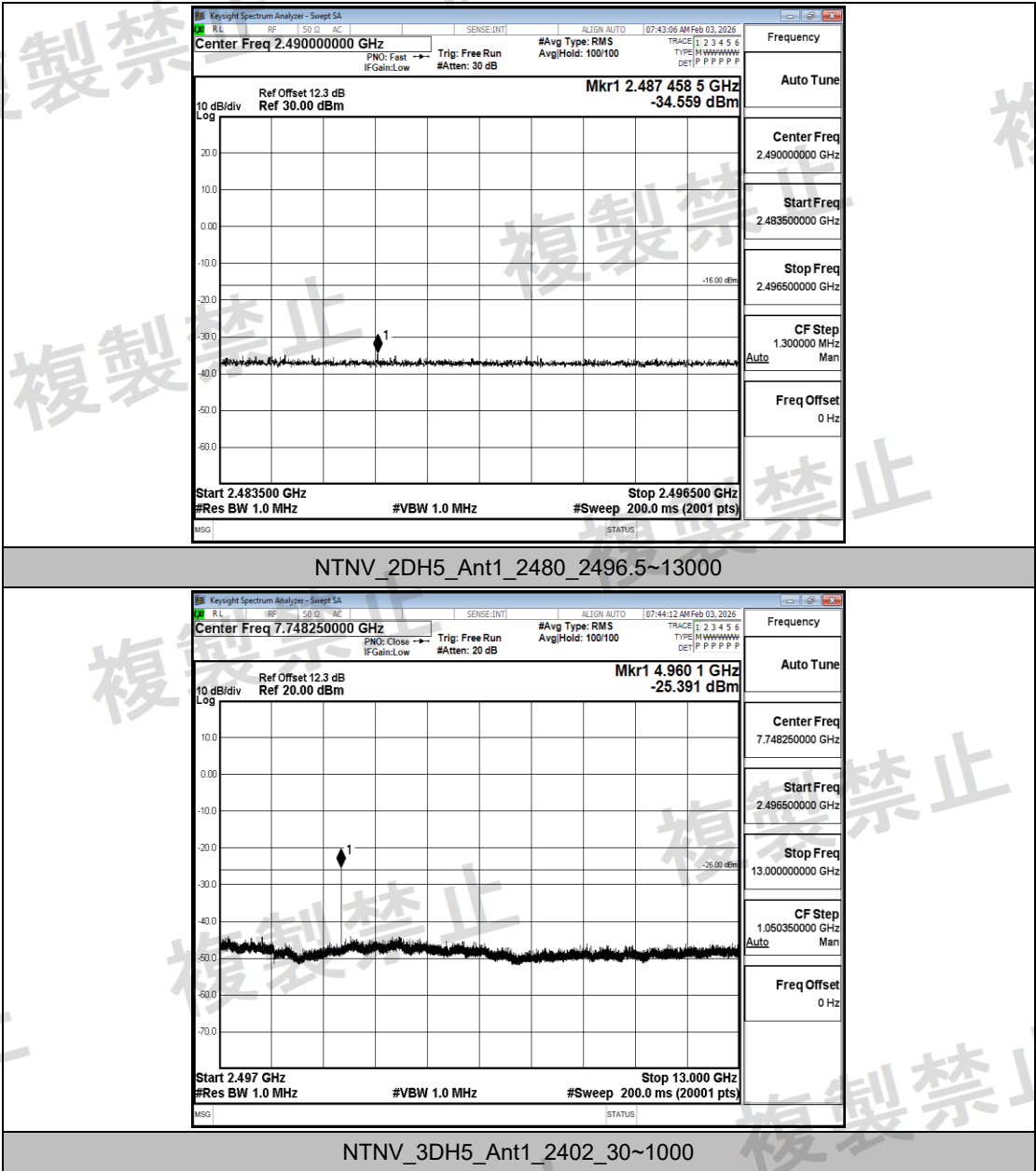


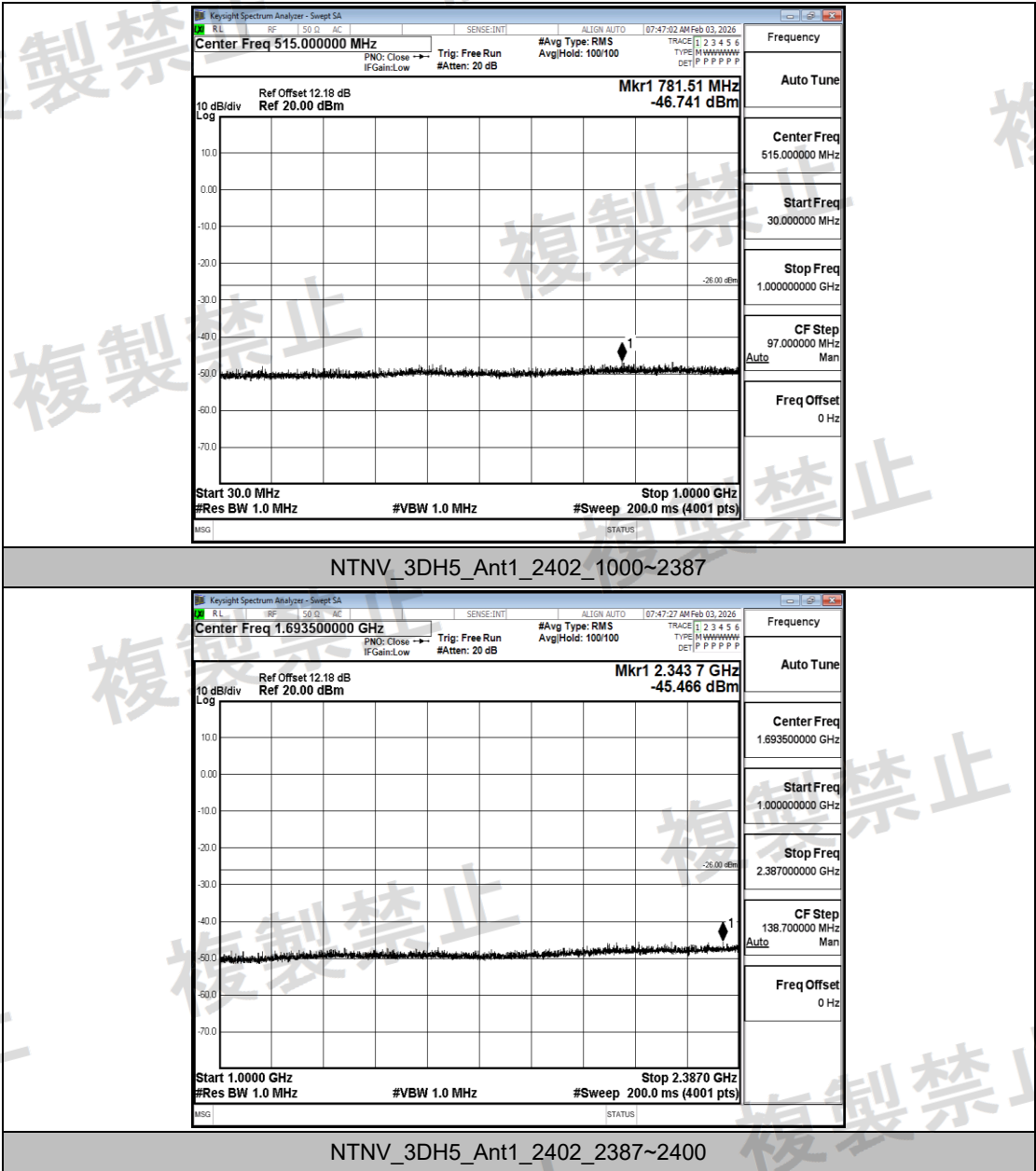


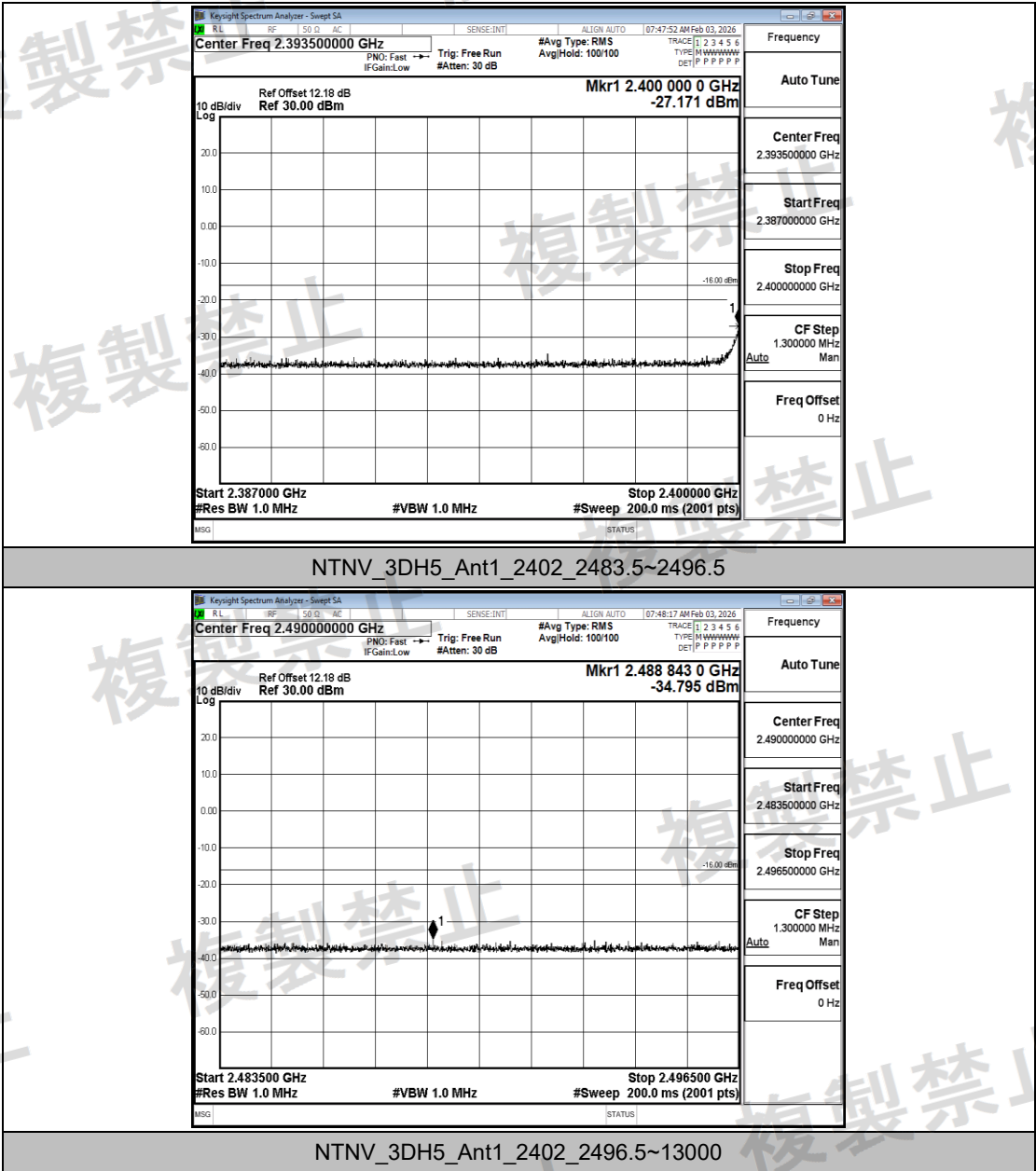


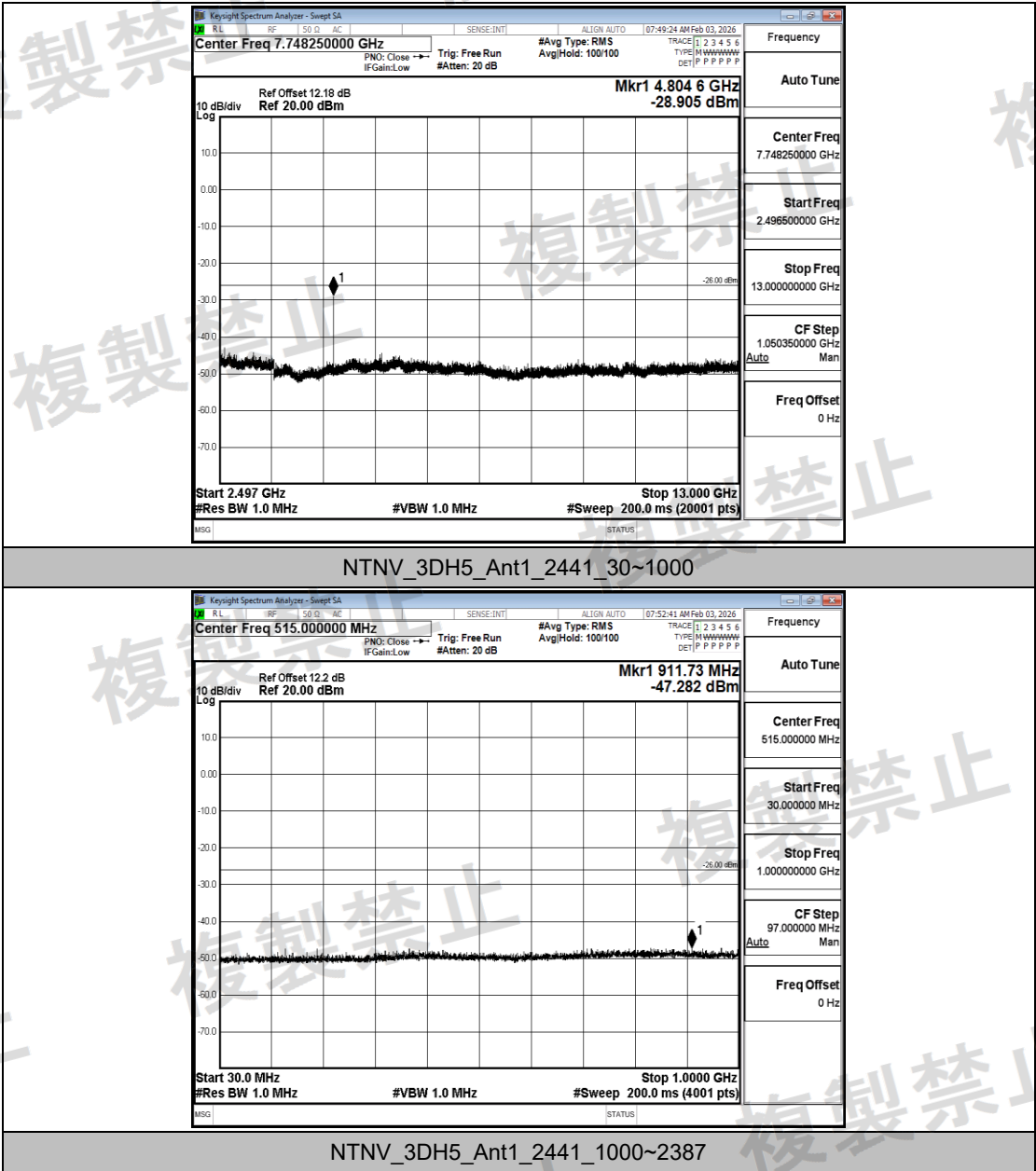


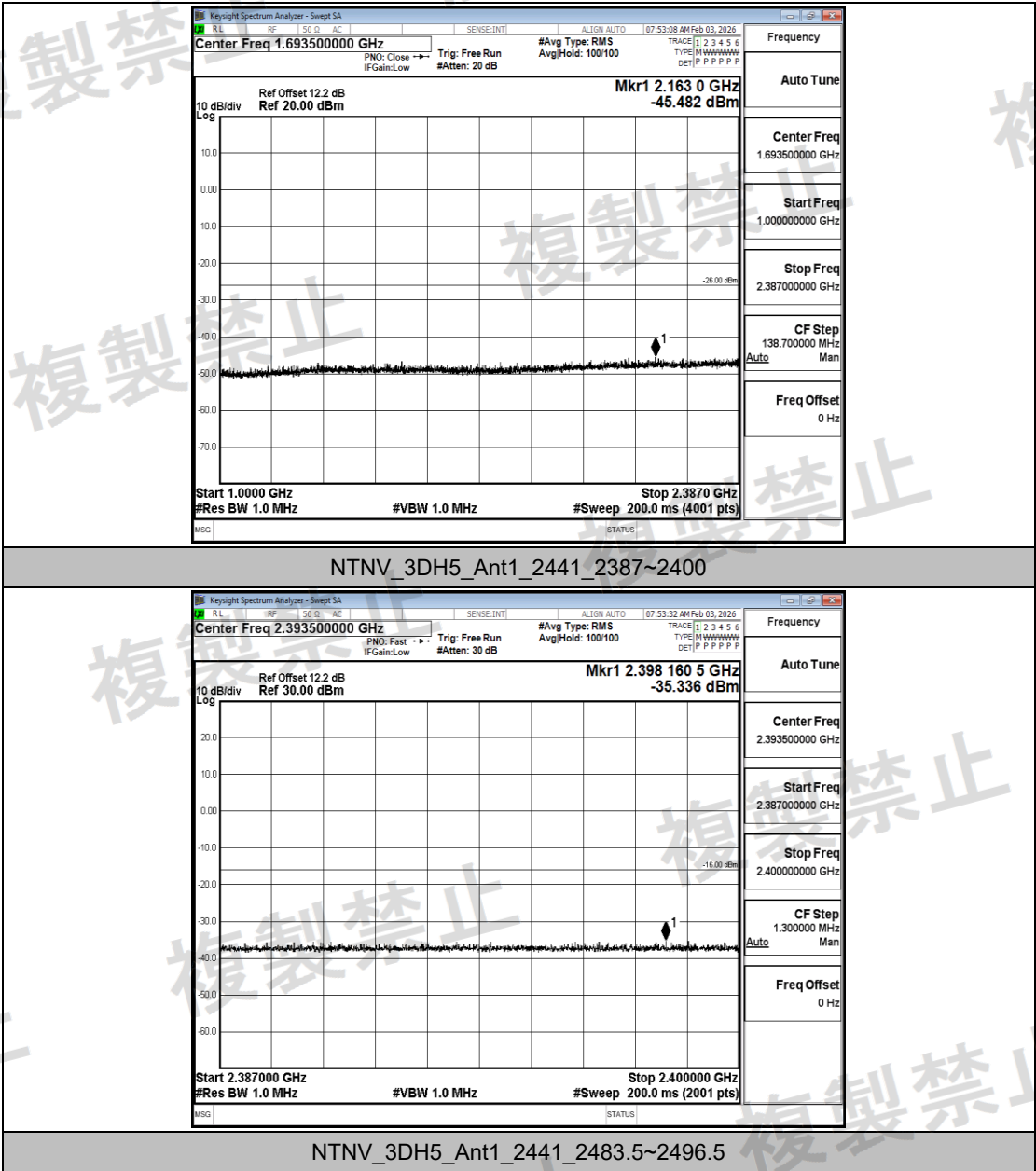


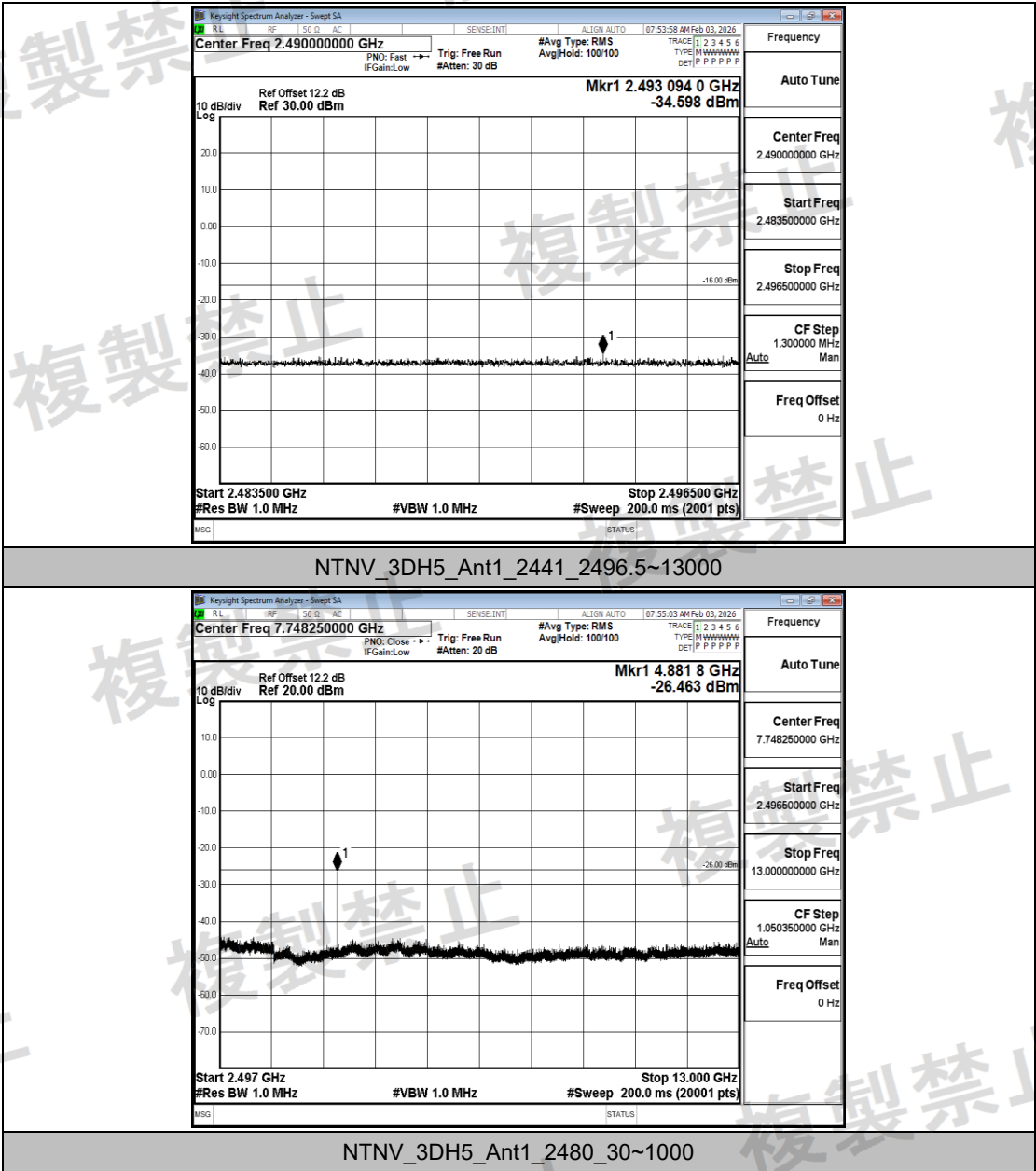


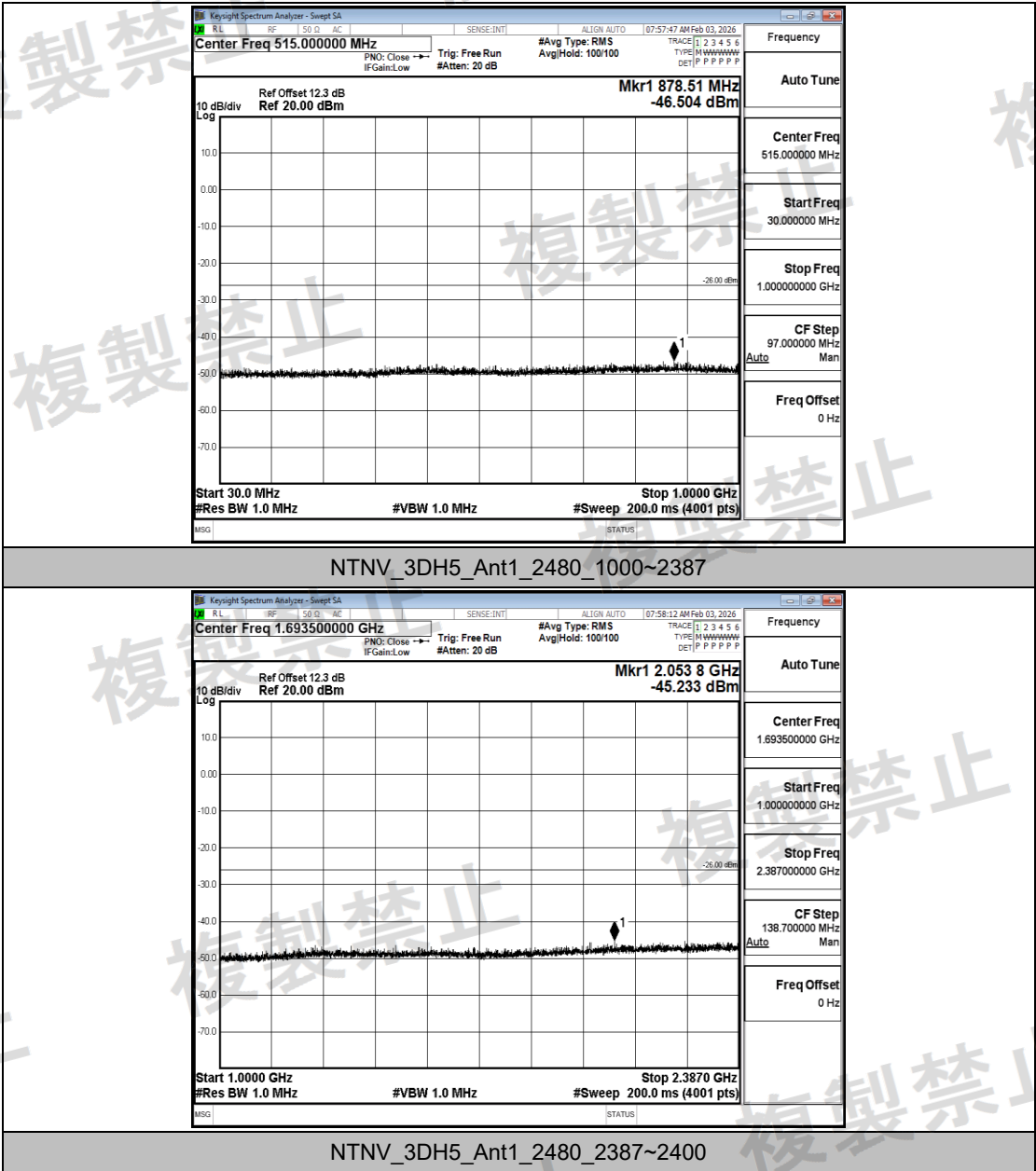


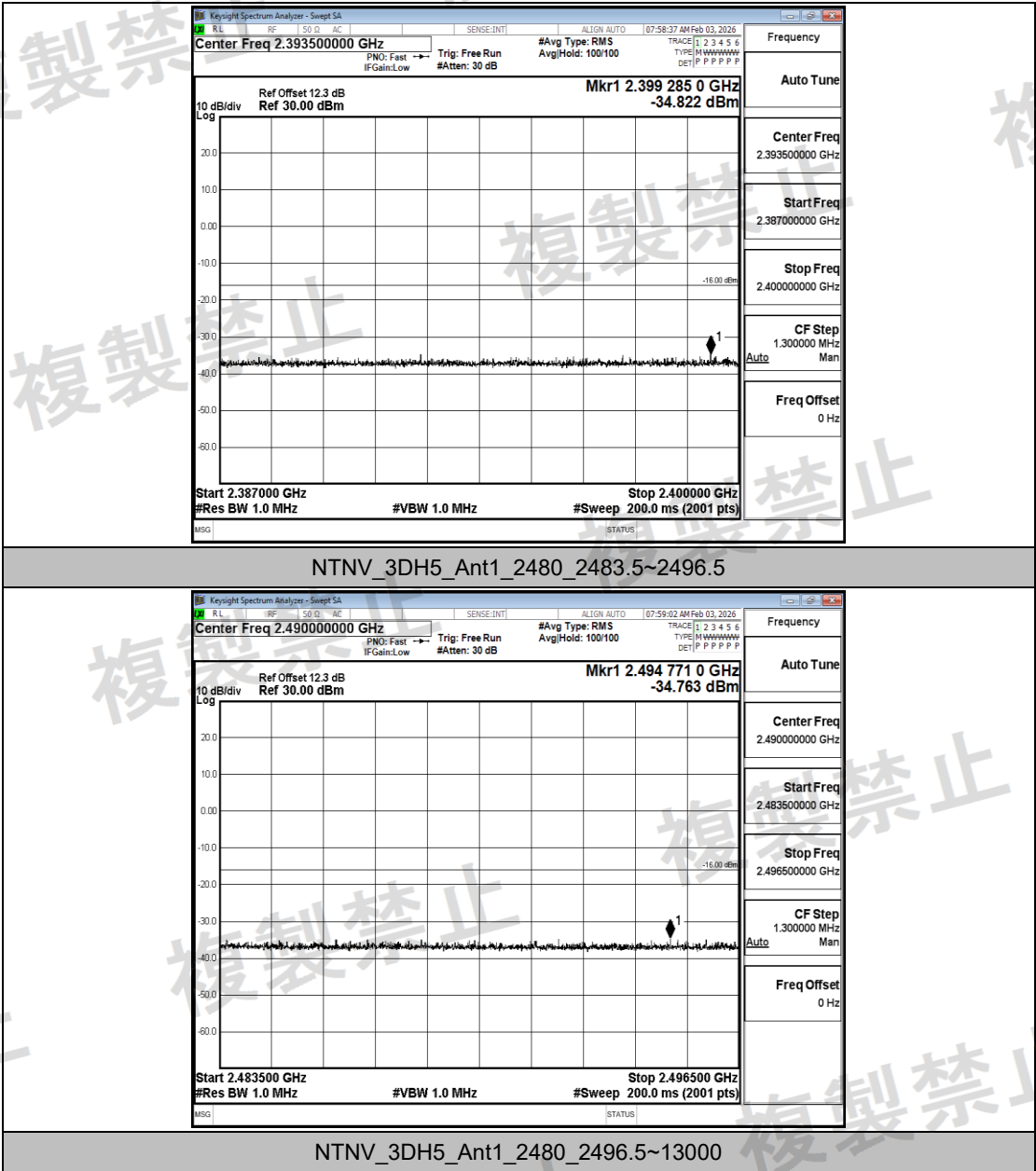


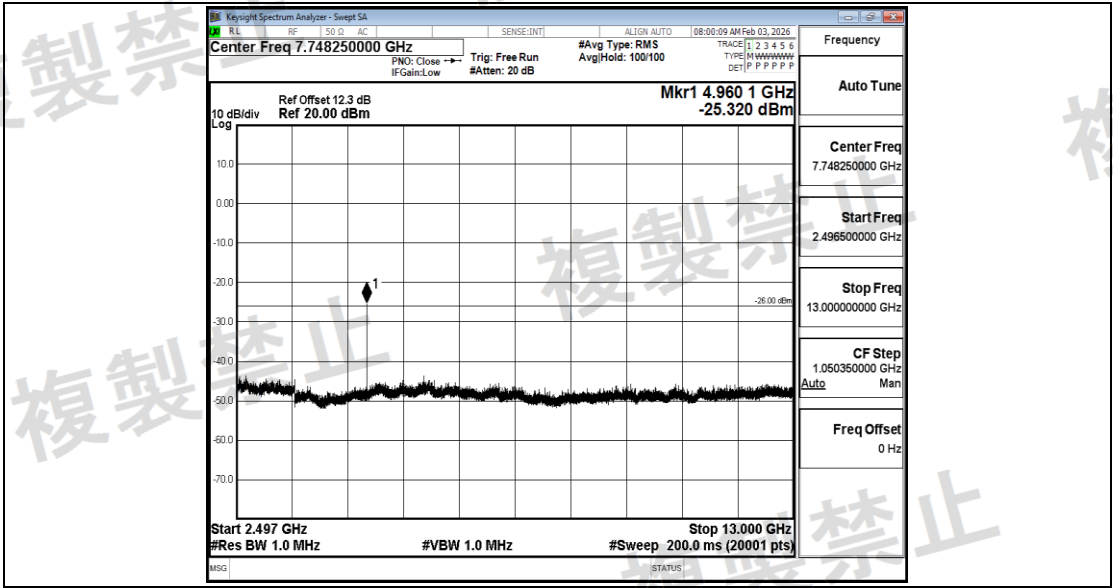












A.6 Spurious Emission of RX

Test Result

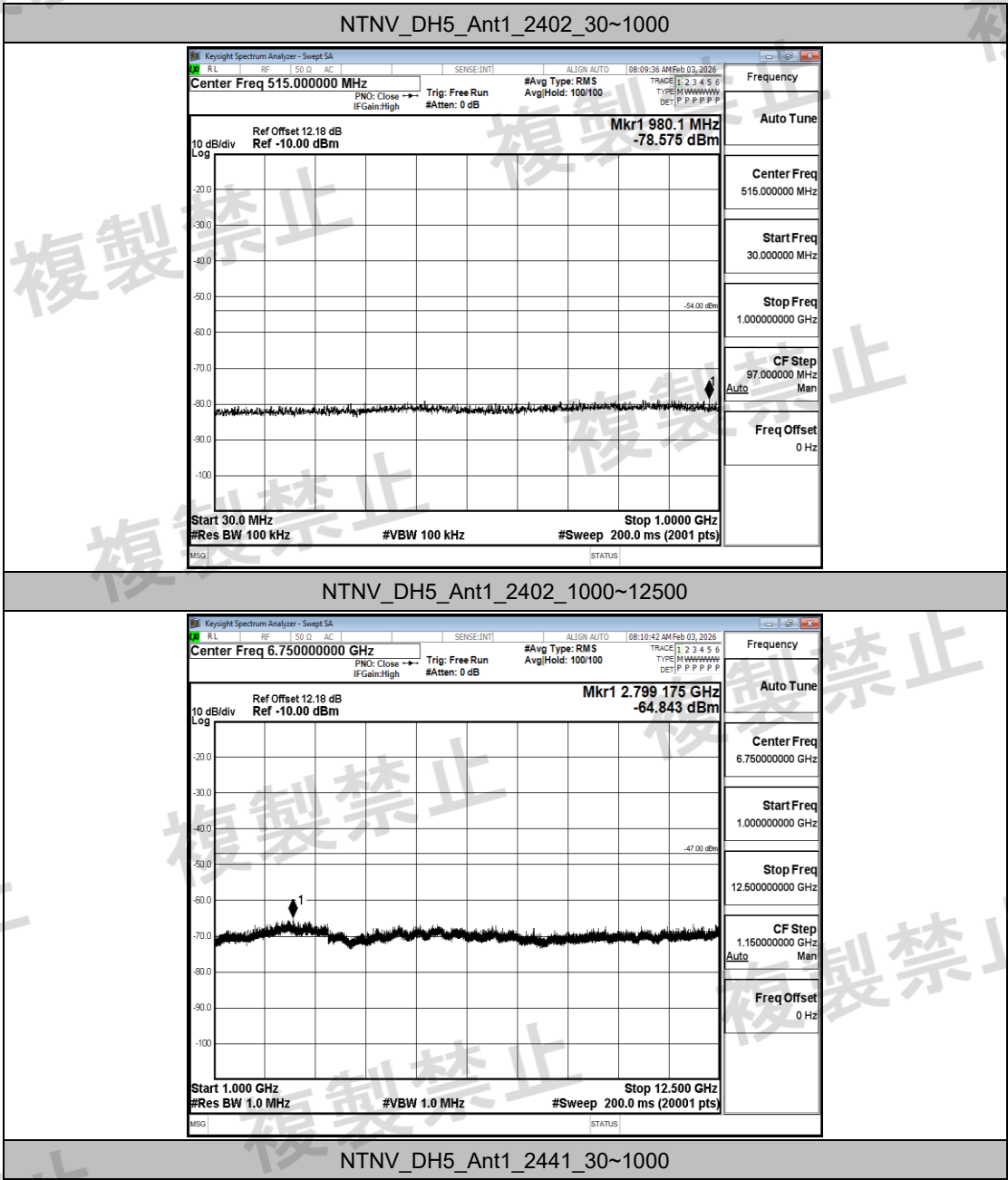
Test Condition	Test Mode	Antenna	Freq(M Hz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	DH5	Ant1	2402	30~1000	980.12	-78.58	≤-54	0.01387	≤4	PASS
				1000~12500	2799.18	-64.84	≤-47	0.32810	≤20	PASS
			2441	30~1000	776.90	-78.24	≤-54	0.01500	≤4	PASS
				1000~12500	3046.43	-64.30	≤-47	0.37154	≤20	PASS
			2480	30~1000	798.73	-77.68	≤-54	0.01706	≤4	PASS
				1000~12500	2691.08	-65.54	≤-47	0.27925	≤20	PASS
	2DH5	Ant1	2402	30~1000	827.83	-78.76	≤-54	0.01330	≤4	PASS
				1000~12500	2722.70	-64.97	≤-47	0.31842	≤20	PASS
			2441	30~1000	631.89	-78.63	≤-54	0.01371	≤4	PASS
				1000~12500	2704.30	-65.34	≤-47	0.29242	≤20	PASS
			2480	30~1000	903.97	-78.28	≤-54	0.01486	≤4	PASS
				1000~12500	2619.78	-64.50	≤-47	0.35481	≤20	PASS
	3DH5	Ant1	2402	30~1000	765.75	-78.51	≤-54	0.01409	≤4	PASS
				1000~12500	2707.18	-65.05	≤-47	0.31261	≤20	PASS
			2441	30~1000	390.36	-78.01	≤-54	0.01581	≤4	PASS
				1000~12500	2660.03	-65.34	≤-47	0.29242	≤20	PASS
			2480	30~1000	938.89	-78.60	≤-54	0.01380	≤4	PASS
				1000~12500	2648.53	-64.42	≤-47	0.36141	≤20	PASS

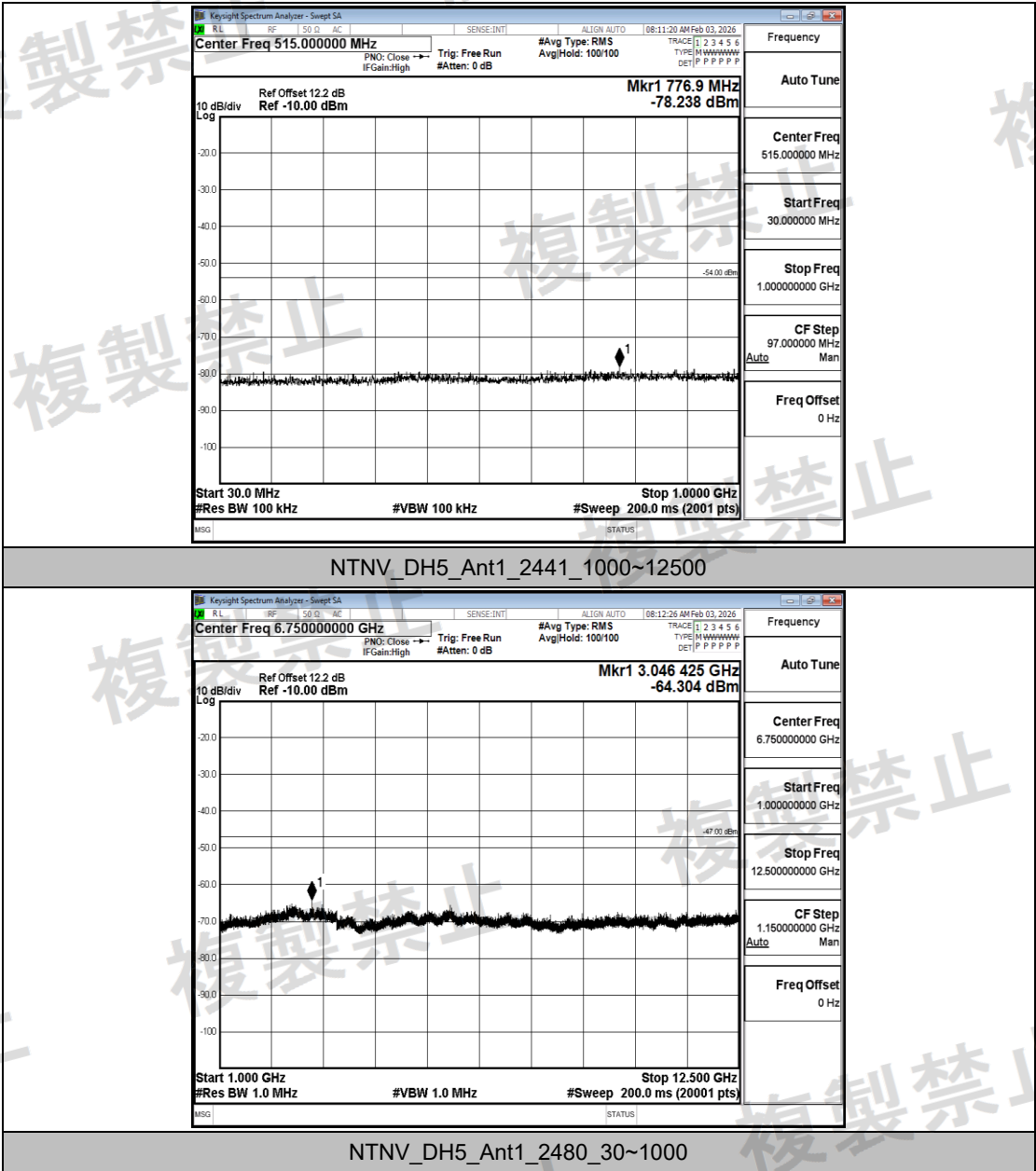
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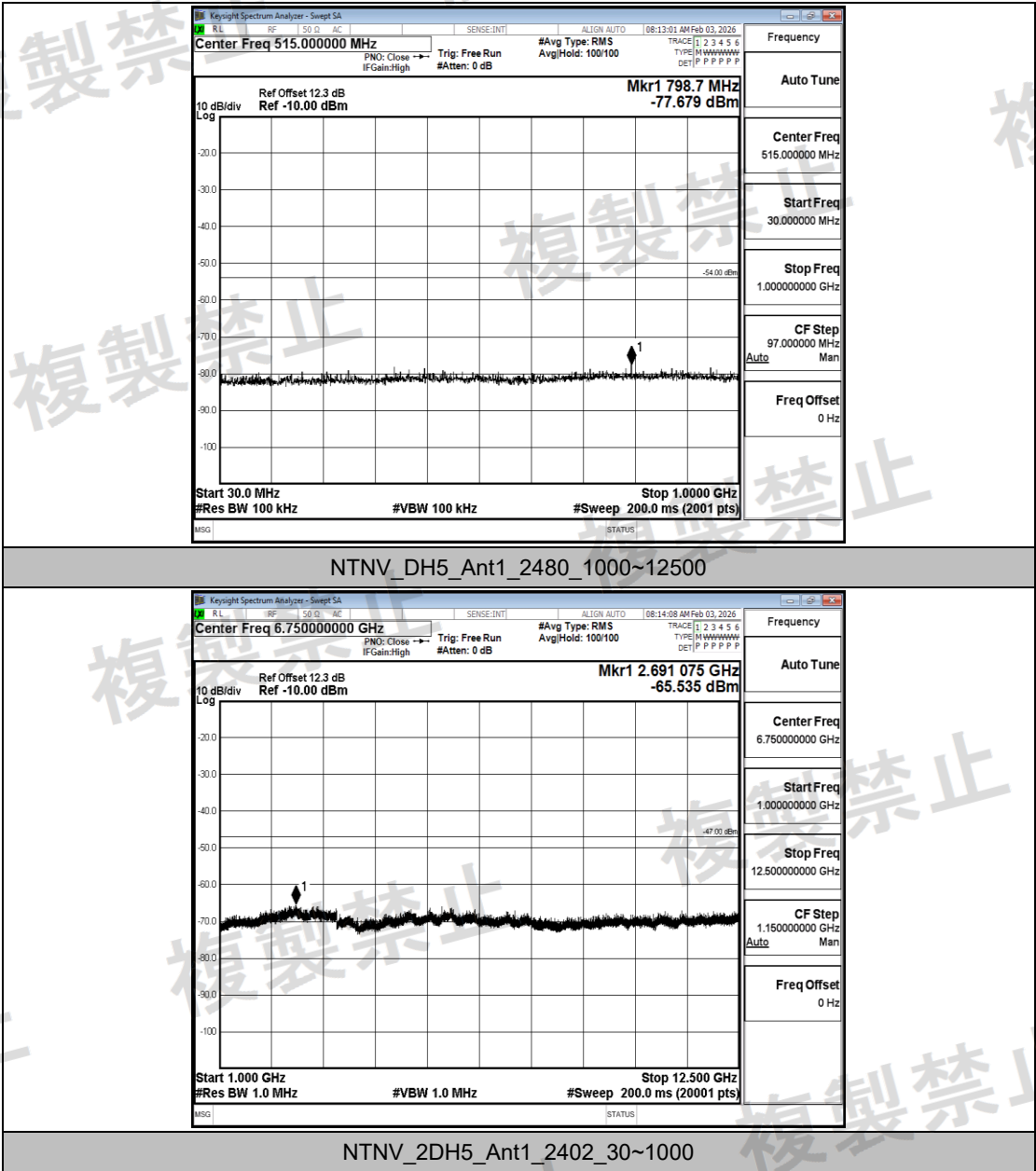
Add: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

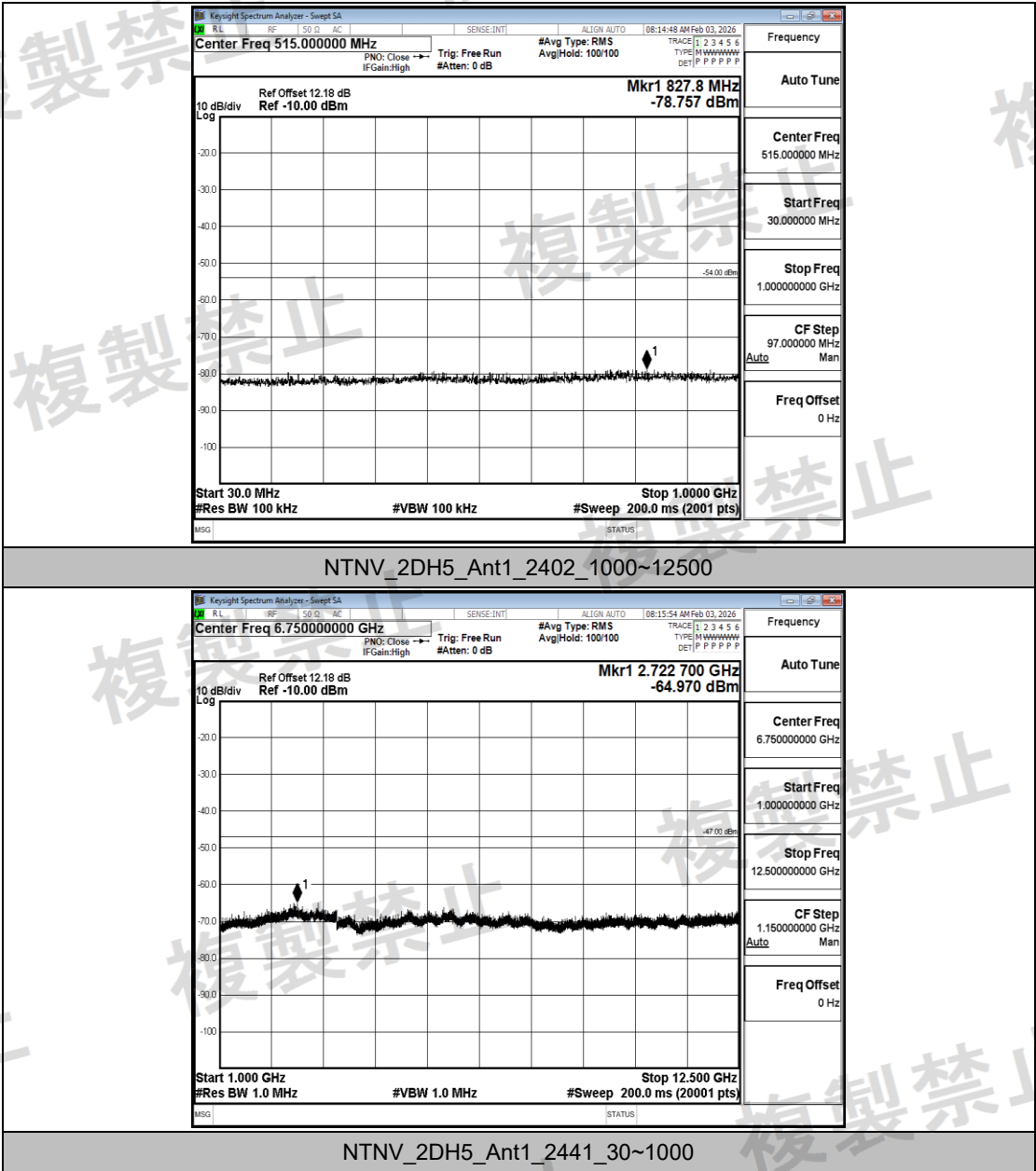
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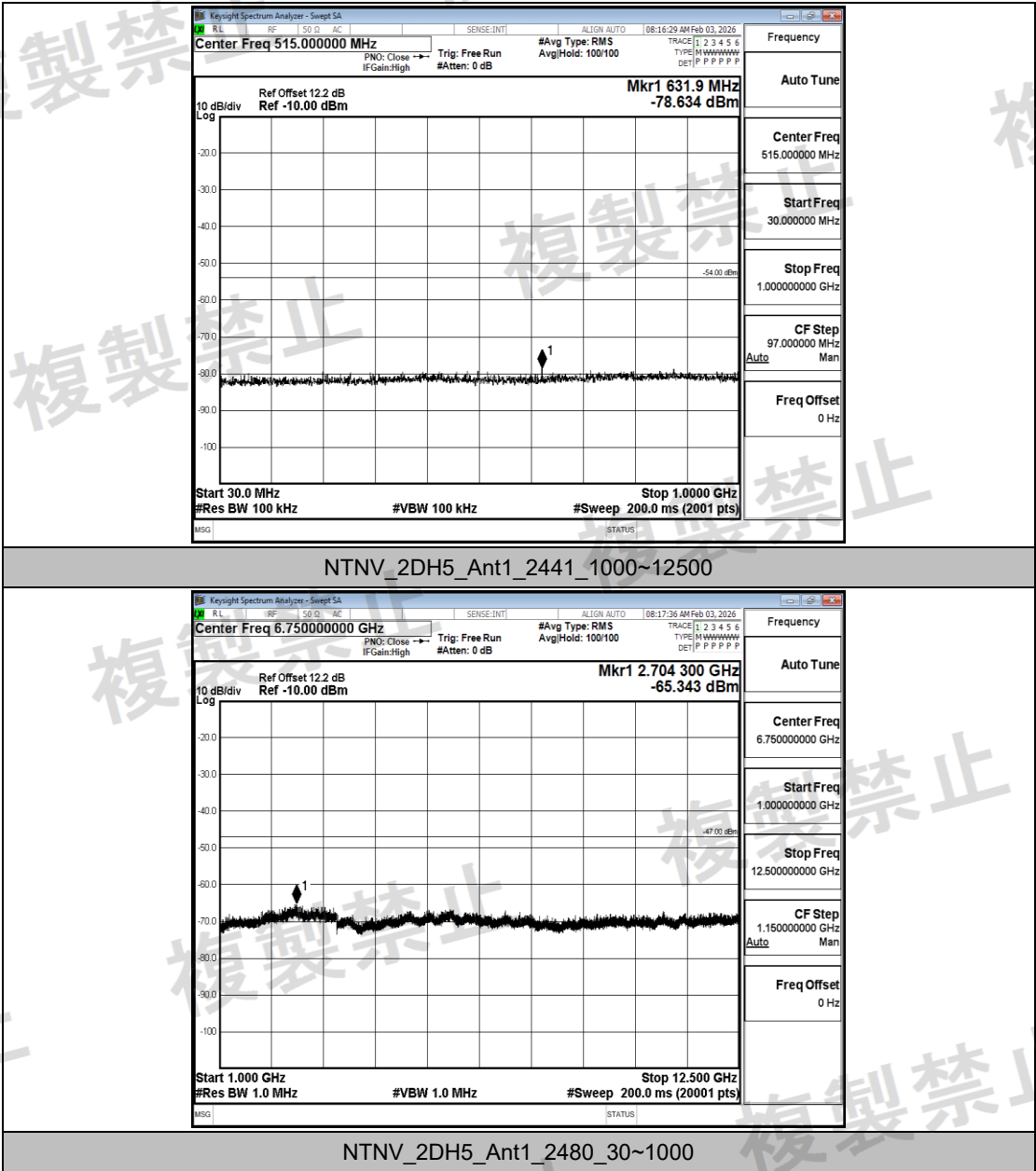
Test Graphs

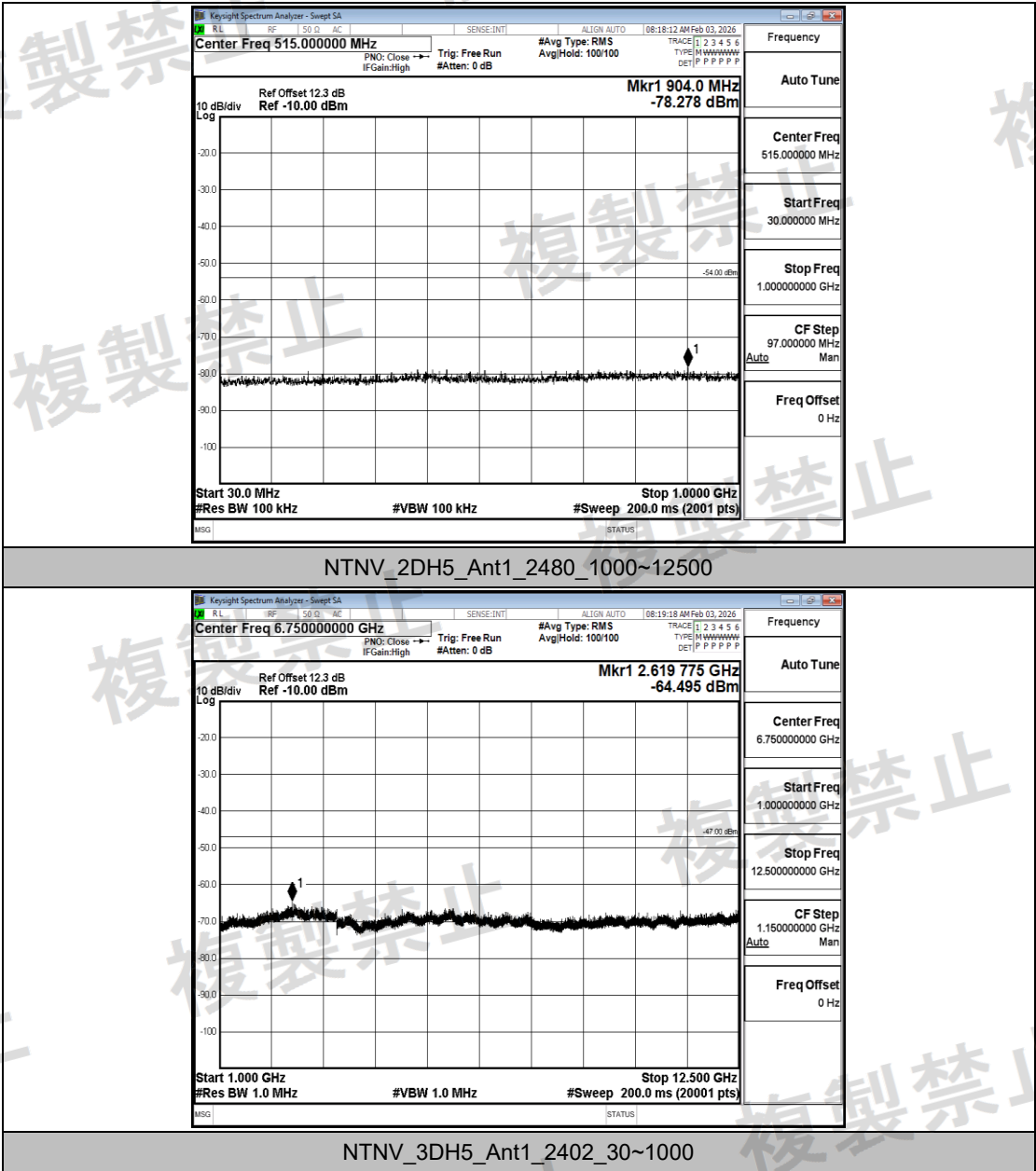


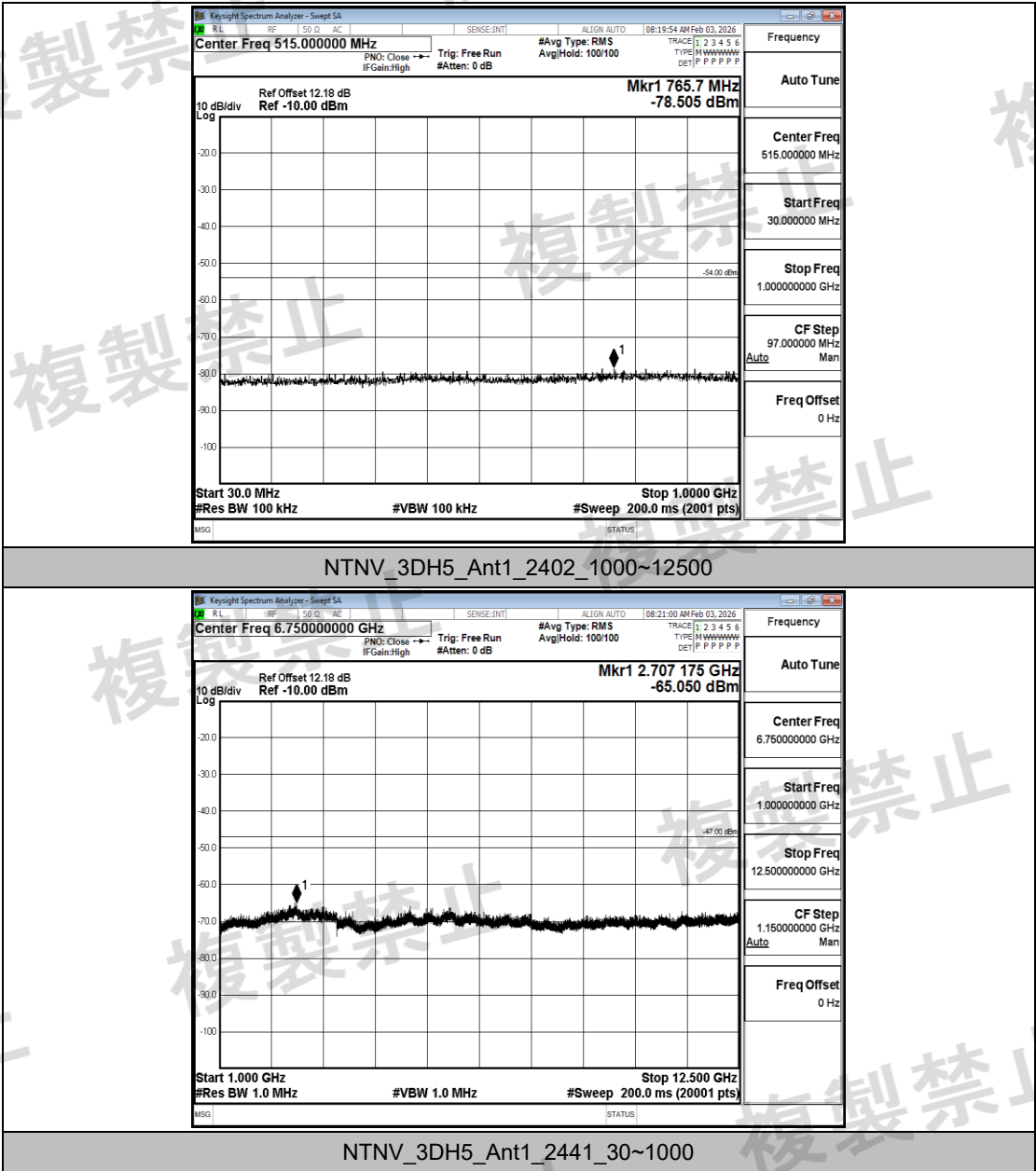


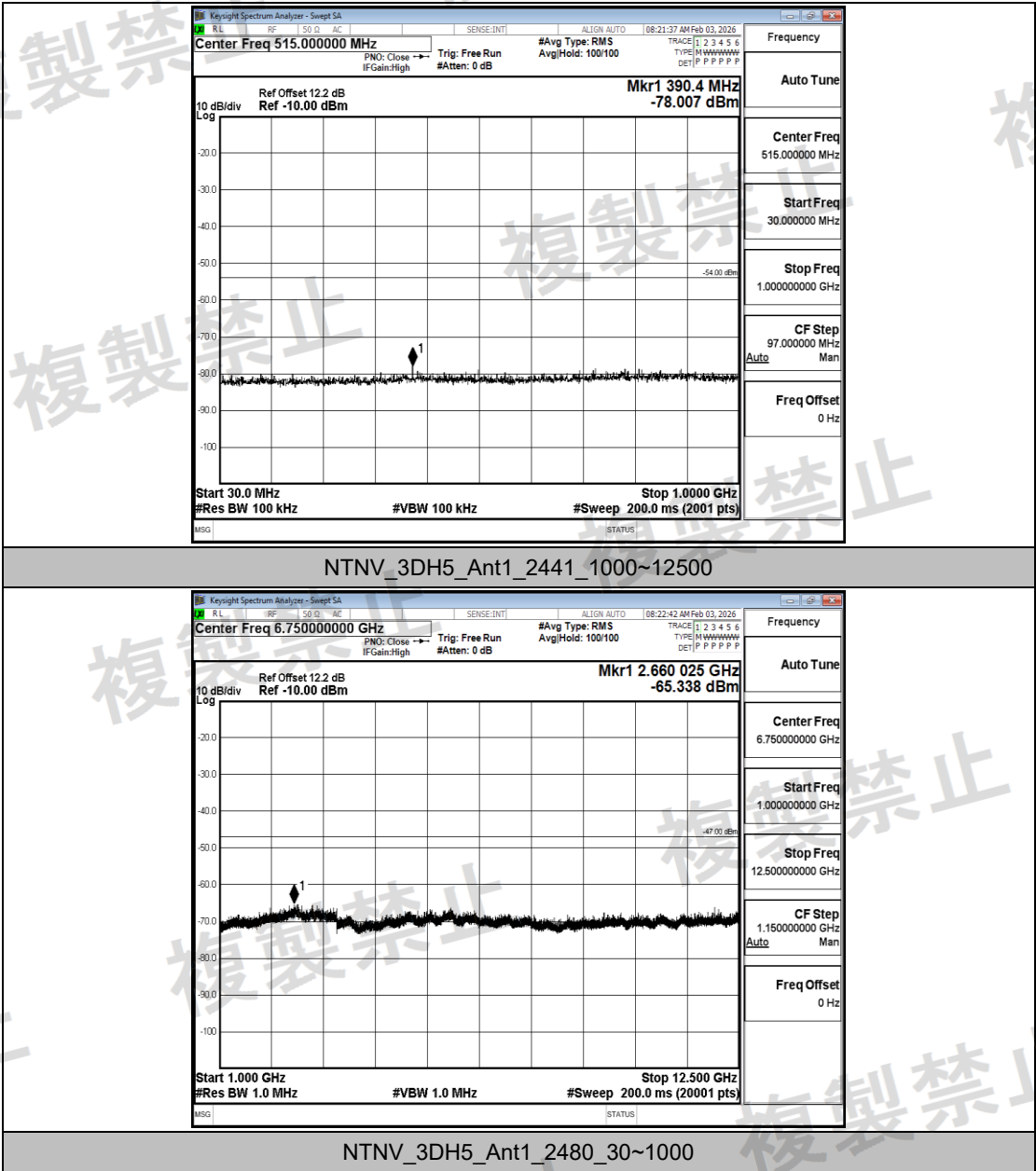


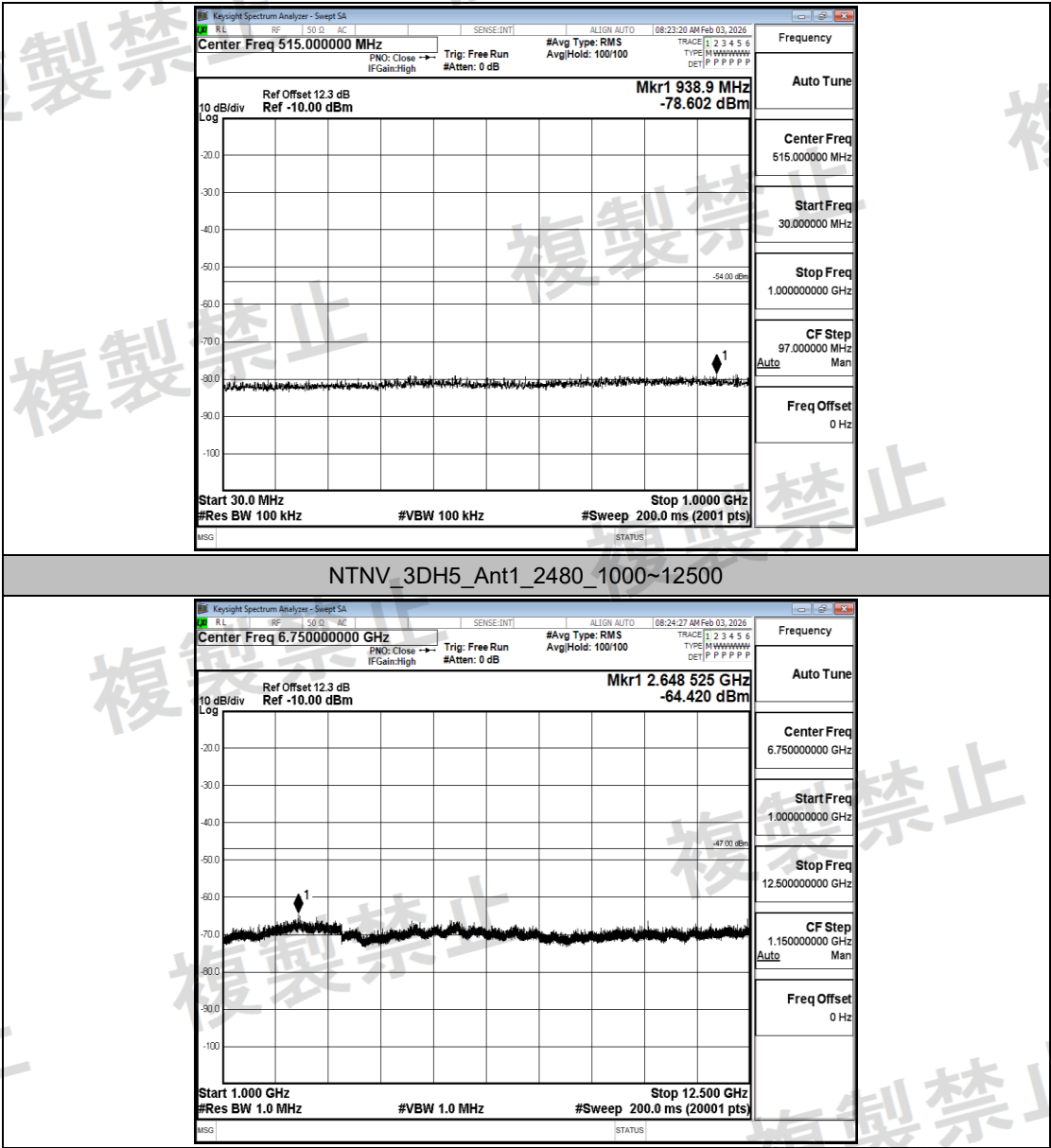












A.7 Dwell Time

Test Result

Test Condition	Test Mode	Antenna	Freq(M Hz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit [s]	Verdict
NTNV	DH5	Ant1	Hop	2.89	80	0.231	≤0.4	PASS
	2DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS
	3DH5	Ant1	Hop	2.89	90	0.26	≤0.4	PASS

Test Graphs

