

TEST REPORT

Applicant Name..... : BREAK CO.,LTD

Address..... : 1-4-4 Kanda-sudacho Chiyoda-ku Tokyo 101-0041 Japan

Manufacturer Name..... : BAO LAI COMPANY LIMITED

Address..... : NO.169 CHUNHUI ROAD, YINZHOU, NINGBO, CHINA

Product..... : Wireless Bluetooth Earphones

Model(s)..... : BRK-019L-01

Additional Model(s)..... : BRK-019L-02, BRK-019L-03, BRK-019L-04, BRK-019L-05, BRK-019L-06, BRK-019L-07, BRK-019L-08, BRK-019L-09, BRK-019L-10

Trademark..... : Break

Model Difference..... : BRK-019L-01 is tested model, other models are derivative models .The models are identical in circuit, only different on the model names. So the test data of BRK-019L-01 can represent the remaining models.

Prepared by..... : Guangdong Zhonghan Testing Technology Co., Ltd.

Address..... : Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Date of Receipt..... : July 13, 2026

Date of Test(s)..... : July 13, 2026 to July 22, 2026

Date of Issue..... : July 22, 2026

Test Requested..... : Select test(s) as requested by the client.

Test Standard(s)..... : Article 2 paragraph 1 of item 19
MIC Notice No.88 Annex 1
MIC Notice No.88 Annex 43

Test procedure..... : /

In the configuration tested, the EUT complied with the standards specified above.

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Note: The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report shall not be reproduced except in full, without prior written approval of ZHT. This document may be altered or revised by ZHT, personnel only, and shall be noted in the revision of the document.

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

No.	Test Item	Result
1	RF shielding method	Pass
2	Frequency Error	Pass
3	Antenna Power	Pass
4	99% Occupied bandwidth	Pass
5	Spread spectrum bandwidth	Only testing
6	Dwell time	Pass
7	Spurious Emissions Intensity	Pass
8	Limit of secondary radiated emissions	Pass
9	Interference suppression	Pass
10	Transmission Antenna Gain	Pass
11	Transmission Radiation Angle Width(3dB Beam width)	N/A

Remarks

1. Test method reference: MIC Notice No.88 Appendix No.43
2. N/A: EIRP does not exceed 6.91dBm/MHz



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	Wireless Bluetooth Earphones
Test Model No.:	BRK-019L-01
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation technology:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Rated power:	1mW/MHz
Antenna Specification:	PCB Antenna
Antenna Gain:	-1.2dBi
Power supply:	Input: DC 5 V or DC 3.7 V Rechargeable Li-ion battery
Sample Number:	260713139YP001
Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Guangdong Zhonghan Testing Technology Co., Ltd. does not assume any responsibility.	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. The RF chips and circuit routing of the left and right earphones are the same. The touch terminal T1 of the left ear component and the resistor T2 of the right ear component are located at different positions. Both left and right earphones have been tested. The report only reflects the worst-case data for the left ear.

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.

Final test channel as follow:					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	39	2441	78	2480



2.2 DESCRIPTION OF TEST MODES

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.		
The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels. test software BT test tool used for controlling the EUT. During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS		
Test Software: : bt_tool_v1.1.2		
Test Mode	Power Level	
GFSK	Default	
$\pi/4$ -DQPSK	Default	
8DPSK	Default	

2.3 TEST CONDITIONS

Supply Voltage			
	Input Voltage (Vdc)	Voltage at the input of the RF Circuit (Vdc)	Tolerance (%)
Normal	3.7	3.3	0
+10%	4.07	3.3	
-10%	3.33	3.3	
Others			
Temperature (°C)		24.3	
Relative humidity		52.6 %.	
ATM Pressure:		1014 mbar	
Note 1: When the input voltage is reduced or increased by 10%, the regulator voltage changes of less than 1%.So the following test items are conducted in the normal voltage.			

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

See test photographs attached in EUT TEST SETUP Photographs for the actual connections between Product and support equipment.



2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Regulated DC power supply	GUANHUA	PAB-3005D	ZH-E097	AE
E-2	Laptop	Lenovo (Beijing) Co., Ltd	ThinkPad E480	SL 10Q37382	AE

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".
- (4) The test software is the bt_tool_v1.1.2 which can set the EUT into the individual test modes.



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	Apr. 24, 2026	Apr. 23, 2027
2	WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW500	109863	Apr. 24, 2026	Apr. 23, 2027
3	Single Generator	Agilent	N5182A	MY48180575	Apr. 24, 2026	Apr. 23, 2027
4	Power Sensor	MWRFTest	MW100-RFCB	/	Apr. 24, 2026	Apr. 23, 2027
5	Single Generator	R&S	SMB100A	259098	Apr. 15, 2026	Apr. 14, 2027
6	Attenuator	HTEC	-10dB	/	Apr. 24, 2026	Apr. 23, 2027

Measuring Equipment Calibration Information		
Used	Calibration Company Abbreviation	Full Name of calibration company
☒	/	GUANGZHOU LISAI METROLOGY & TEST CO.,LTD.
☒	/	/
Calibration Information (Article 24-2, Paragraph 4 of the Radio Act)		
☐	a) Calibration Conducted by the National Institute of Information and Communications Technology (NICT) or a designated calibration agency under Article 102-18-1 of the Radio Act.	
☐	b) Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act.	
☒	(c) Calibration conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 of the Radio Act.	
☐	(d) Calibration, etc. conducted by using measuring instruments and other facilities listed at the bottom of appended table 3 of the Radio Act, which is to have been calibrated as described in (a) through (c) above.	

2.7 Testing software

Project	Software name	Edition
Radiated Emission	EZ-EMC	FA-03A2 RE+
RF Test	MTS 8310	4.0.0.0



2.8 TEST FACILITY

Guangdong Zhonghan Testing Technology Co., Ltd.

Add.: Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

China Registered No.: L15216

2.9 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	0.92dB
2	RF power conducted	0.16dB
3	Spurious emissions conducted	0.21dB
4	All radiated emissions (9k-30MHz)	4.68dB
5	All radiated emissions (30-1GHz)	5.1dB
6	All radiated emissions (1-6GHz)	3.9dB
7	All radiated emissions (6GHz-18GHz)	4.3dB
8	All radiated emissions (18-40GHz)	4.65dB
9	Temperature	0.5°C
10	Humidity	2%
11	frequency error ppm	0.5ppm
12	Occupied Bandwidth	4.96dB
13	Dwell time	0.94%

Decision Rule

- ☒ Uncertainty is not included
☐ Uncertainty is included



3. RF SHIELDING METHOD

All RF control circuits are integrated in the IC, which is a QFN package. The spacing between pins is less than 1mm.

Note:-Number of pins:20>10

-Spacing between pins:0.2mm<1mm





4. TEST RESULT FOR BLUETOOTH

4.1 FREQUENCY ERROR

4.1.1 LIMIT

Item	Limits
Frequency Error	±50ppm

4.1.2 MEASURING INSTRUMENTS AND SETTING

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	10KHz
Detector	Peak
Span	2MHz
Trace	Max Hold
Sweep Time	Auto

4.1.3 TEST PROCEDURES

- (1) In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a Spectrum Analyzer.
- (2) In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.
- (3) In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.
- (4) In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

4.1.4 TEST SETUP LAYOUT



4.1.5 EUT OPERATION DURING TEST

The EUT was placed on the test table and programmed in un-modulation function.

4.1.6 TEST RESULT

Please refer to APPENDIX A

4.2 ANTENNA POWER

4.2.1 LIMIT

Item	Limits
Antenna Power Density	$\leq 3\text{mW/MHz}$
Antenna Power Error	+20% (Base on manufacturer declare antenna power density)
EIRP Power	6.91dBm/MHz

4.2.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 3.6 in this report. The following table is the setting of power meter.

4.2.3 TEST PROCEDURES

1. A power meter is connected on the RF output port of the EUT.
2. EUT have transmitted continuous maximum power
3. Antenna Power Error is definition that actual measure antenna power tolerance
4. Antenna Power (dBm/MHz): It is measured directly by power meter, calculated and read out by software
Antenna Power (dBm/MHz)=Total antenna power/spreading bandwidth

4.2.4 TEST SETUP LAYOUT



4.2.5 TEST DEVIATION

There is no deviation with the original standard.

4.2.6 TEST RESULT

Please refer to APPENDIX A



4.3 OCCUPIED BANDWIDTH(99% AND 90%)

4.3.1 LIMIT

Item	Limits
Occupied Band Width:	83.5MHz or less

4.3.2 MEASURING INSTRUMENTS AND SETTING

4.3.3 TEST PROCEDURES

1. Setting of SA is following as: SPAN: Auto / AT: Auto Ref:

Auto / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold

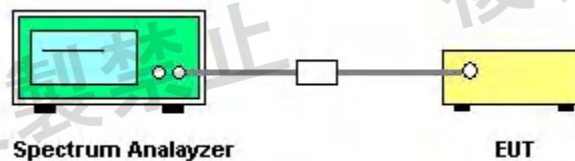
Occupied Band Width:	RB: 1MHz / VB:1MHz
Spreading Bandwidth	RB: 300kHz / VB:300kHz

2. EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode(For FHSS Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26MHz(For DSSS or OFDM Device) or 83.5MHz(For FHSS Device).

3. SA set to 90% of occupied bandwidth to measure Spread Spectrum Bandwidth

4. Spread Spectrum Factor = Spread Spectrum Bandwidth / modulation rate of EUT.

4.3.4 TEST SETUP LAYOUT



4.3.5 TEST DEVIATION

There is no deviation with the original standard.

4.3.6 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

4.3.7 TEST RESULT

Please refer to APPENDIX A

4.4 UNWANTED EMISSION INTENSITY MEASUREMENT

4.4.1 LIMIT

Item	Limits
TX Spurious Emission	Below 2387 MHz: 2.5μW/MHz or less 2387 to 2400 MHz: 25μW/MHz or less 2483.5 through 2496.5 MHz: 25μW/MHz or less Over 2496.5 MHz: 2.5μW/MHz or less Below 1000 MHz: -36dBm/MHz or less 1000 to 2387 MHz: -26dBm/MHz or less 2387 to 2400 MHz: -16dBm/MHz or less 2483.5 to 2496.5 MHz: -16dBm/MHz or less Over 2496.5 MHz: -26dBm/MHz or less

4.4.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 3.6 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

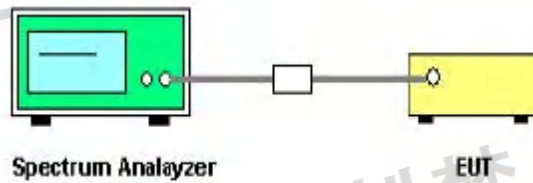
4.4.3 TEST PROCEDURES

- EUT have transmitted the maximum modulation signal and fixed channelize.
- Setting of SA is following as: Below 1GHz RB:100KHz / VB:100KHz, , Limit: -36dBm/100KHz
Above 1GHz RB:1MHz / VB:1MHz / AT: Auto Ref: Auto / Sweep time: Auto
Sweep Mode: Continuous sweep / Detect mode: Positive peak
Trace mode: Max hold
- Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 0.25 μ W.
- Setting of SA is following as 1000MHz and stop frequency 2387MHz Then to mark peak reading value + cable loss shall be less than 2.5 μ W.
- SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than 25 μ W.
- SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz Then to mark peak reading value + cable loss shall be less than 25 μ W
- SA adjusted to start frequency 2496.5MHz and stop frequency 12500MHz Then to mark peak reading value + cable loss shall be less than 2.5 μ W
- Measure spurious as follows: 30MHz~1000MHz .RBW = VBW = 100kHz, Result_Value = Measured_Value.
1000MHz~2387MHz, 2387MHz~2400MHz, 2483.5MHz~2496.5MHz and 2496.5MHz~13000MHz RBW = VBW = 1MHz, Result_Value = Measured_Value.
- If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.



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4.4.4 TEST SETUP LAYOUT



4.4.5 TEST DEVIATION

There is no deviation with the original standard.

4.4.6 TEST RESULT

Please refer to APPENDIX A



4.5 RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

4.5.1 LIMIT

Item	Limits
Identification code	≥ 48 bits

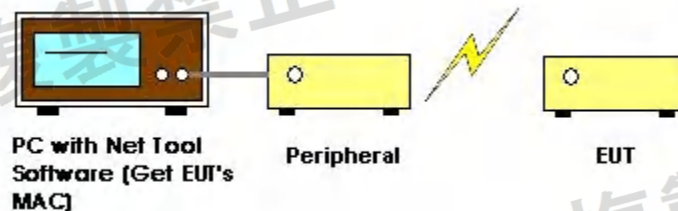
4.5.2 MEASURING ID CODE SOFTWARE

Item	Limits
MAC IP List	MAC Scan

4.5.3 TEST PROCEDURES

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes from EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification code: a. Transmit the predetermined identification codes from the counterpart. b. Check if communication is normal. c. Transmit the signals other than predetermined ID codes from the counterpart. d. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

4.5.4 TEST SETUP LAYOUT



4.5.5 TEST DEVIATION

There is no deviation with the original standard.

4.5.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

4.5.7 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILITY

Bluetooth Device Address: 28:34:22:38:C4:76



4.6 DWELL TIME

4.6.1 LIMIT

Item	Limits
Hopping Freq. Dwell Time	≤ 0.4 sec

4.6.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 3.6 in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 Hz
RB	1 MHz
VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep	Continuous

4.6.3 TEST PROCEDURES

- The transmitter output (antenna port) was connected to the spectrum analyzer
- Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- Use a video trigger with the trigger level set to enable triggering only on full pulses.
- Sweep Time is more than once pulse time.
- Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- Measure the maximum time duration of one single pulse.
- Set the EUT for DH5, DH3 and DH1 packet transmitting.
- Measure the maximum time duration of one single pulse.
- Dwell time= (One Pulse Time * (Burst Count in the specified period time))

4.6.4 TEST SETUP LAYOUT



4.6.5 TEST RESULT

Please refer to APPENDIX A



4.7 IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

4.7.1 LIMIT

Item	Limits	
RX Spurious Emission:	$\leq 4\text{nW}$ ($f < 1\text{GHz}$)	$\leq -54\text{ dBm}$
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$)	$\leq -47\text{ dBm}$

4.7.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 3.6 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.7.3 TEST PROCEDURES

1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / AT: Auto / Ref: Auto / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

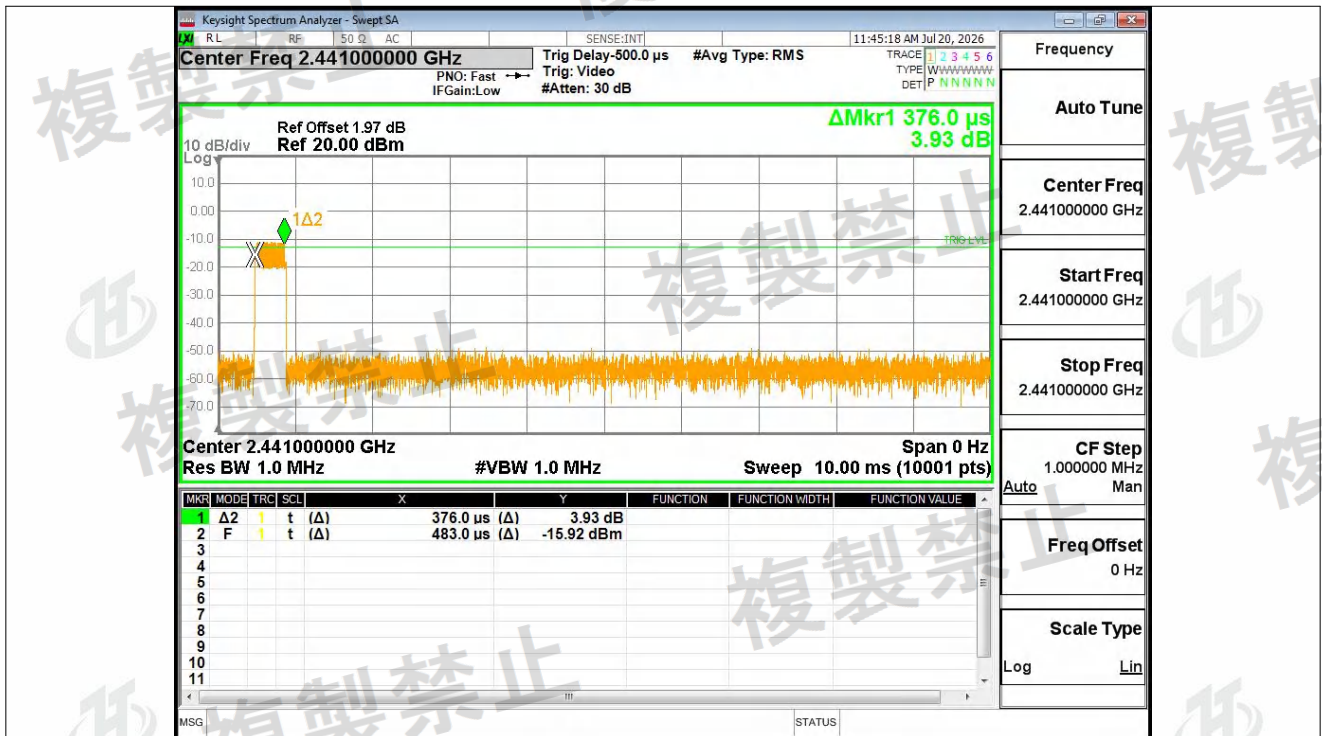
4.7.4 TEST RESULT

Please refer to APPENDIX A

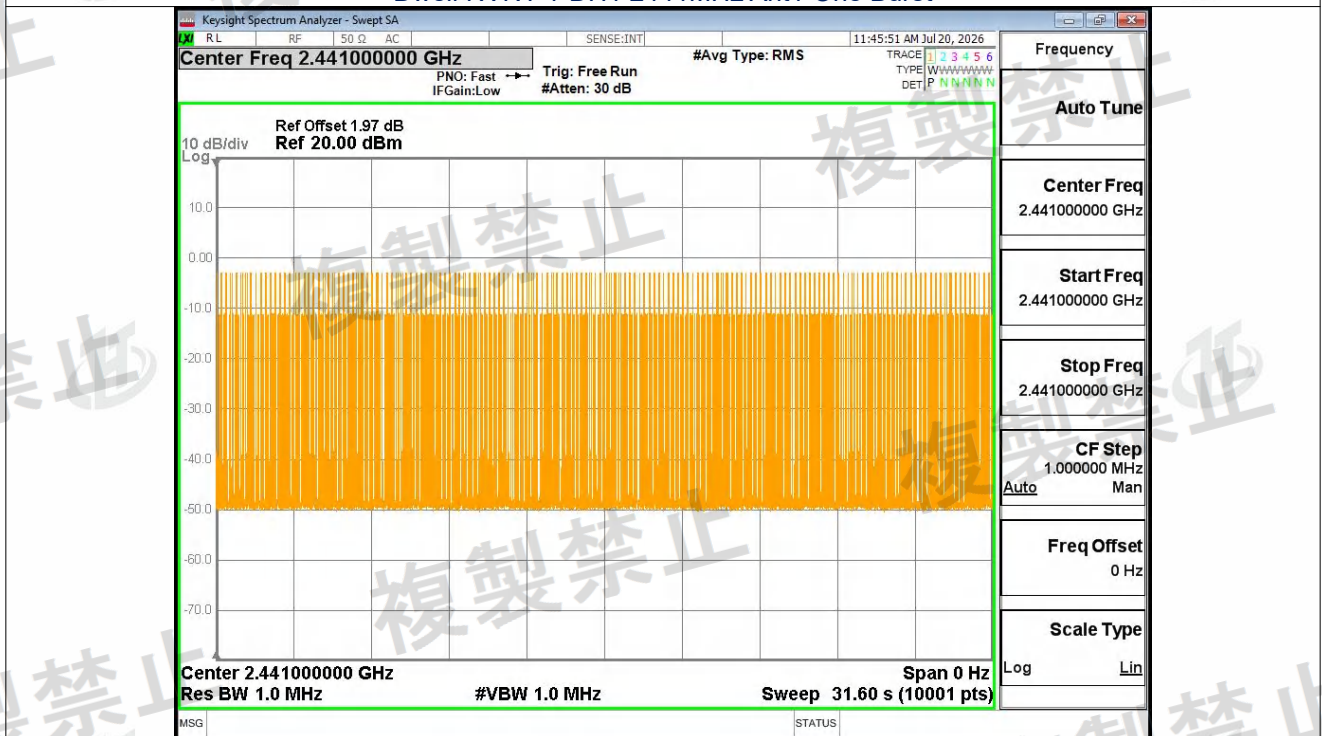
5. APPENDIX A

5.1 DWELL TIME

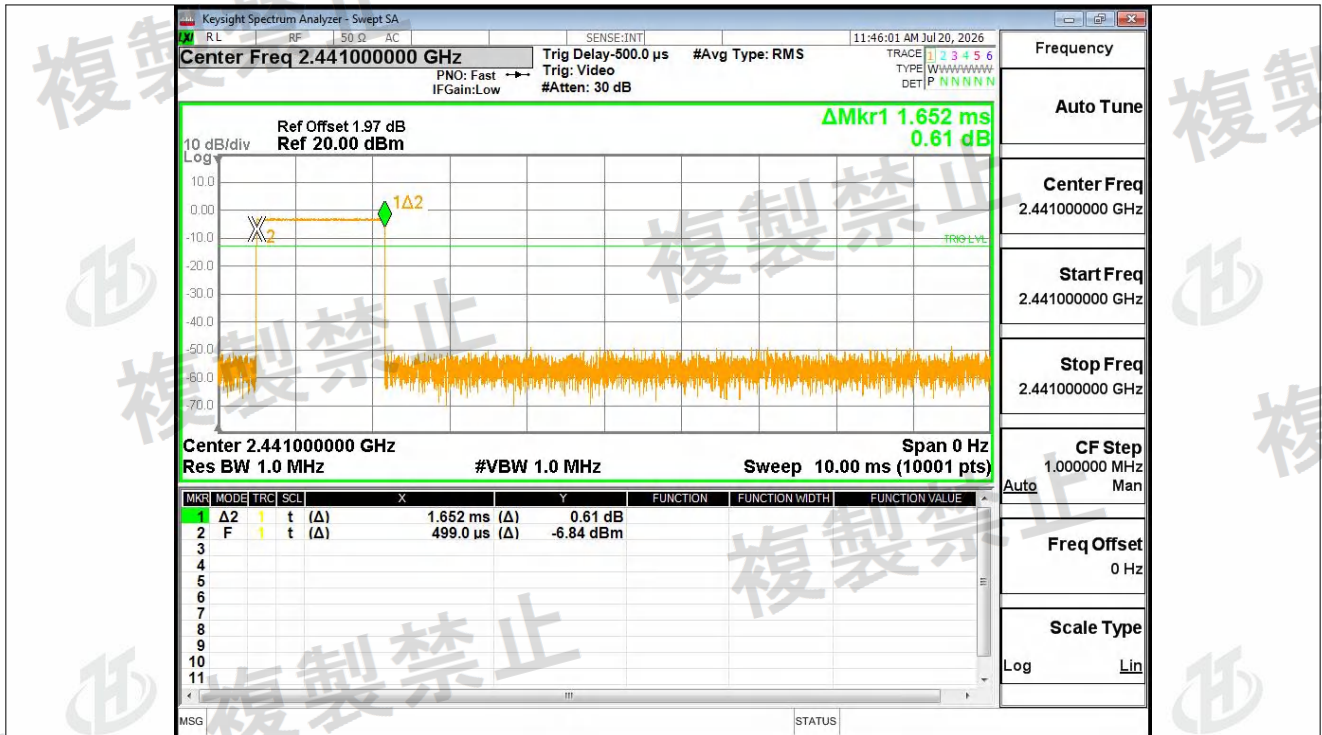
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.376	119.944	319	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.652	272.58	165	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.88	276.48	96	27852.4	400	Pass
NVNT	2-DH1	2441	Ant1	0.405	128.385	317	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.624	251.72	155	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.875	310.5	108	27832.8	400	Pass
NVNT	3-DH1	2441	Ant1	0.408	129.336	317	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.657	251.864	152	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.908	258.812	89	27876	400	Pass



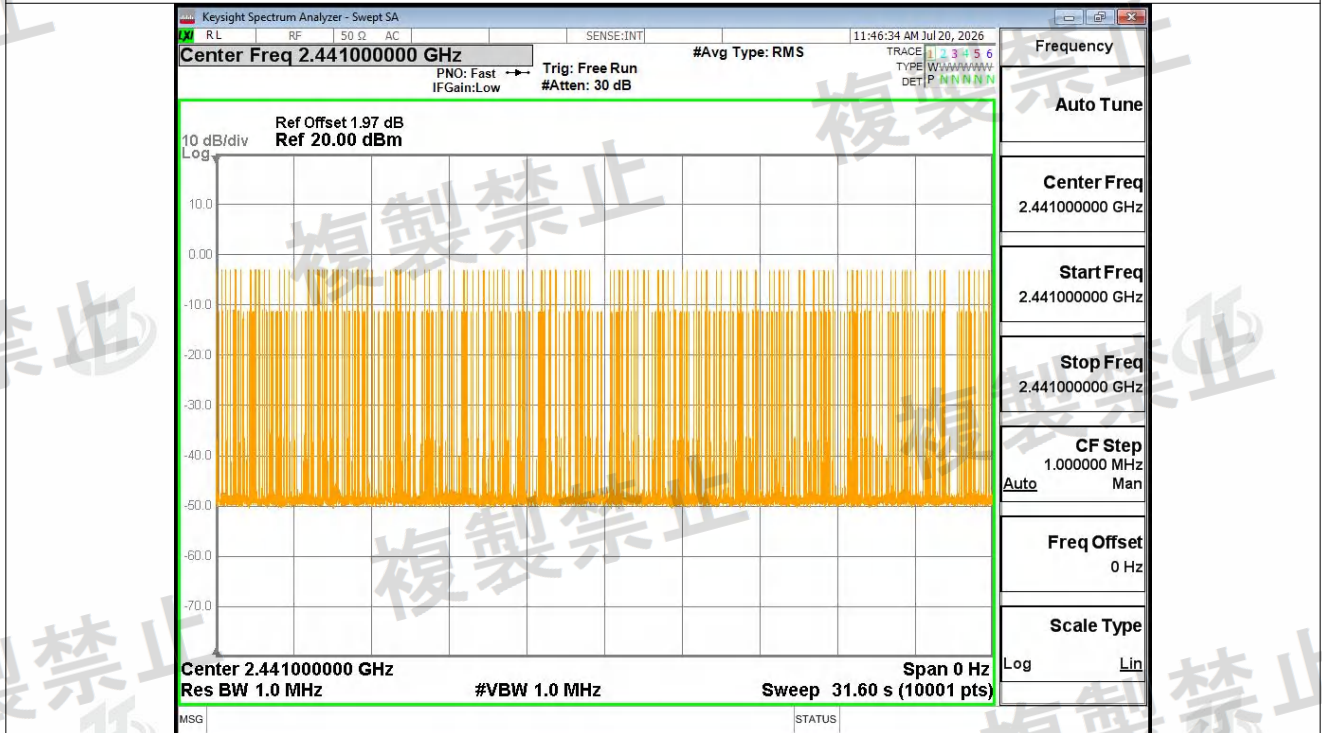
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



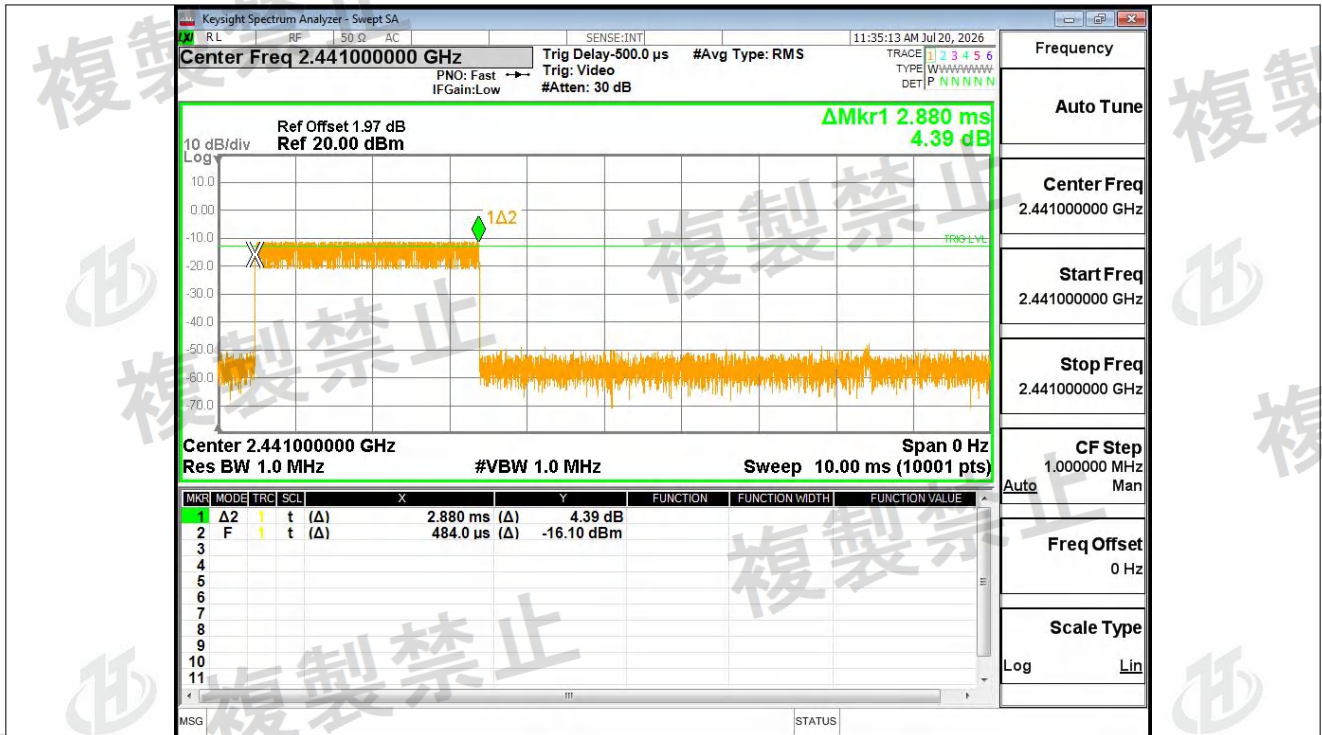
Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



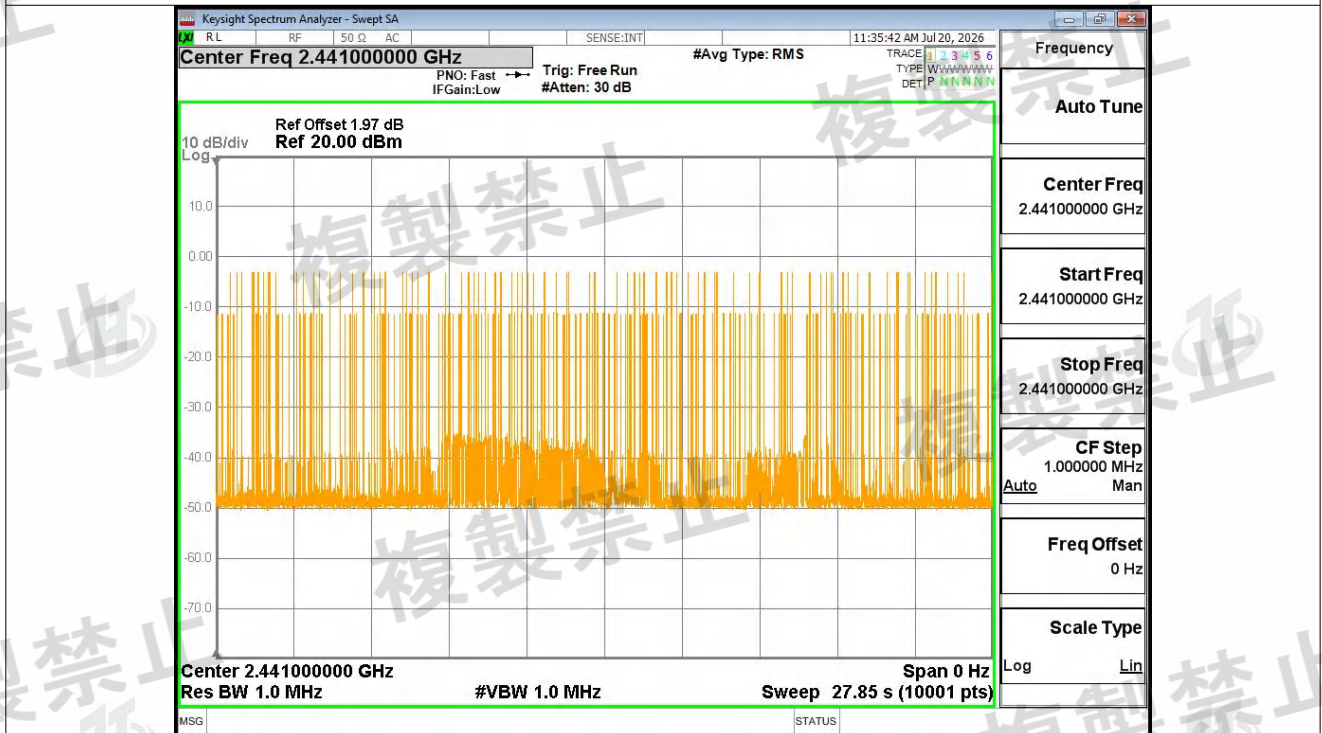
Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated



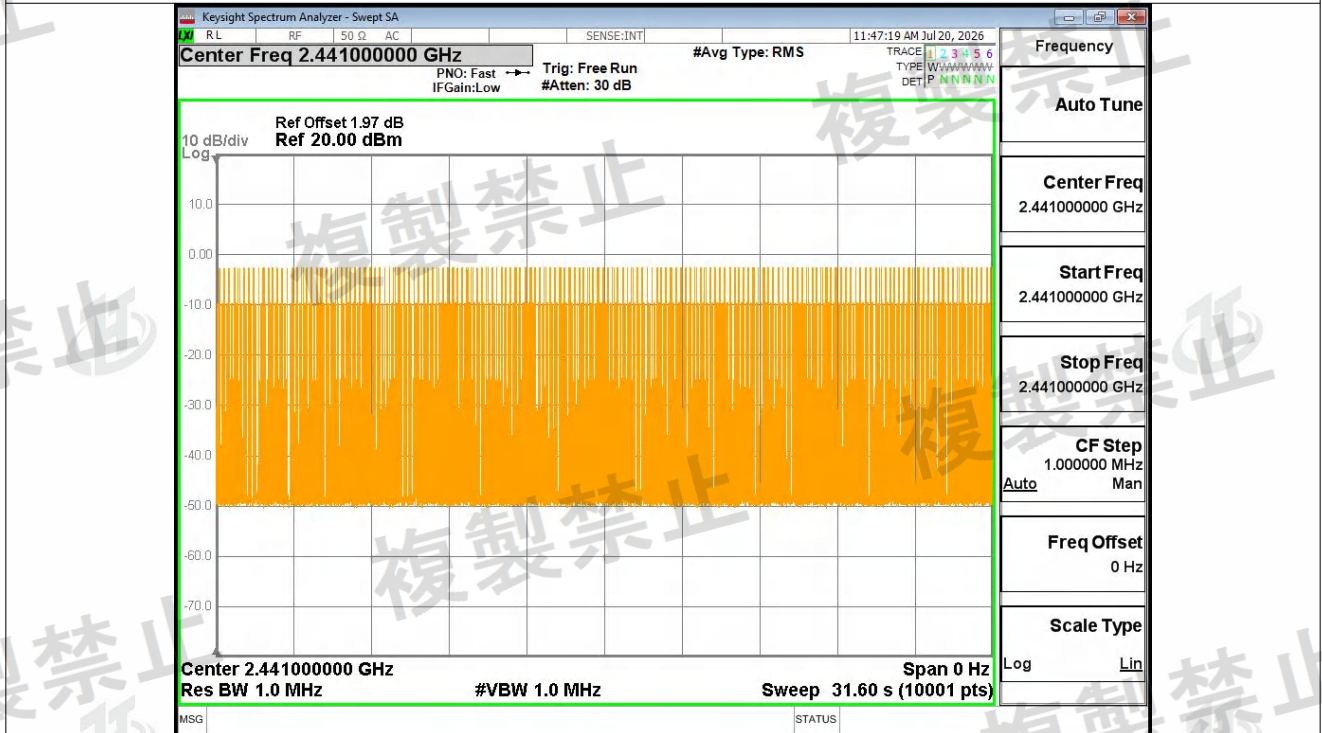
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



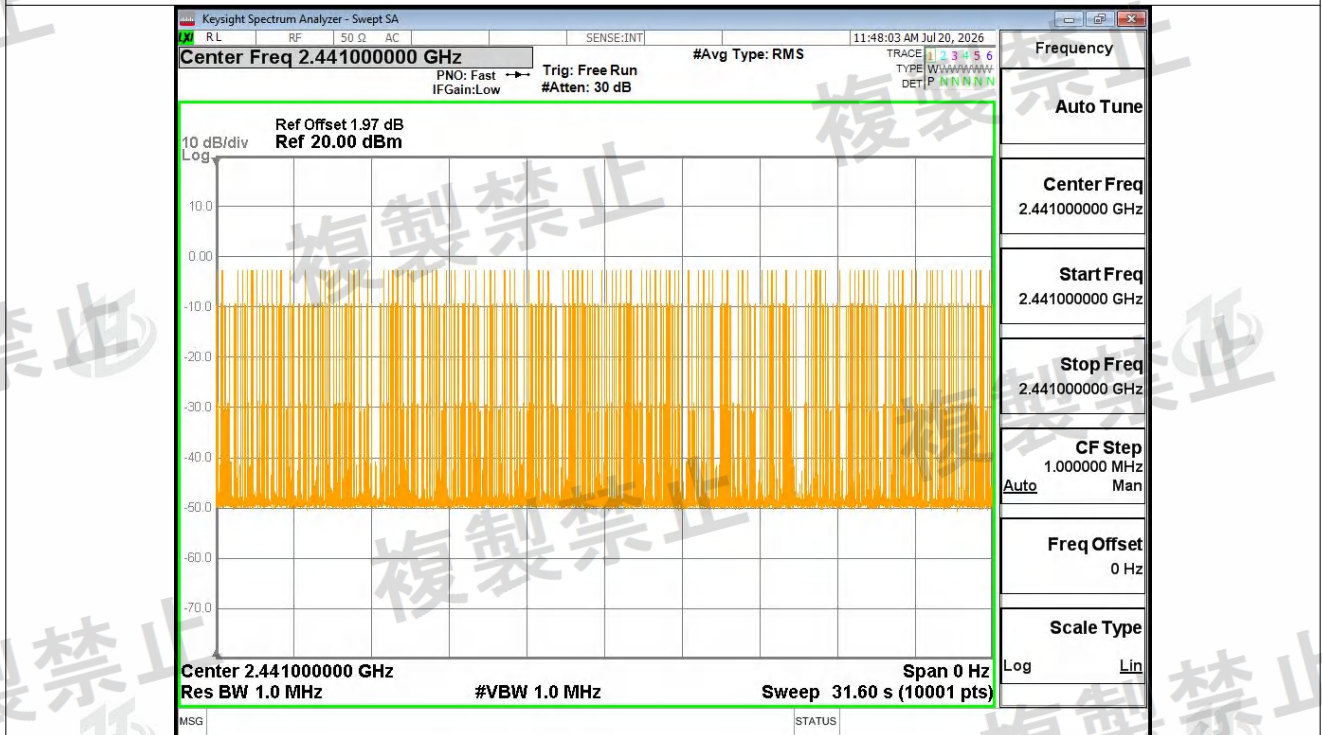
Dwell NVNT 2-DH1 2441MHz Ant1 One Burst



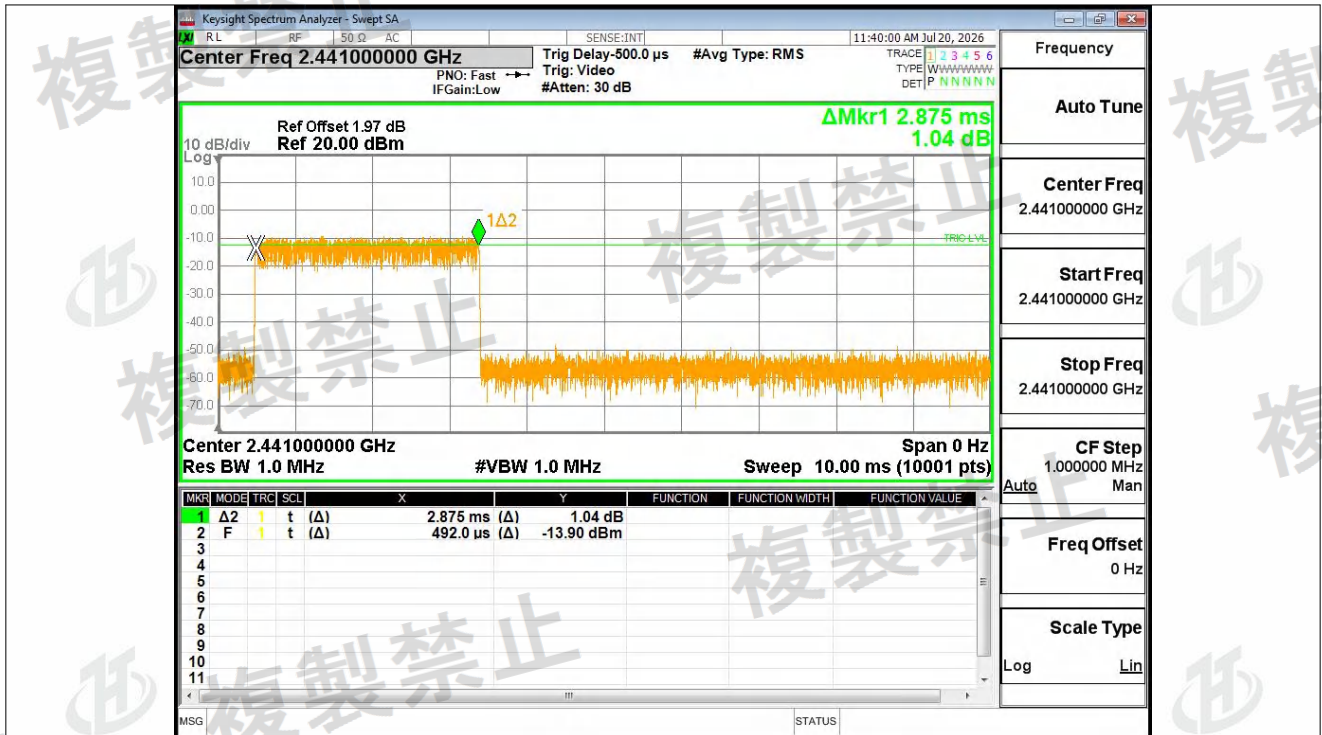
Dwell NVNT 2-DH1 2441MHz Ant1 Accumulated



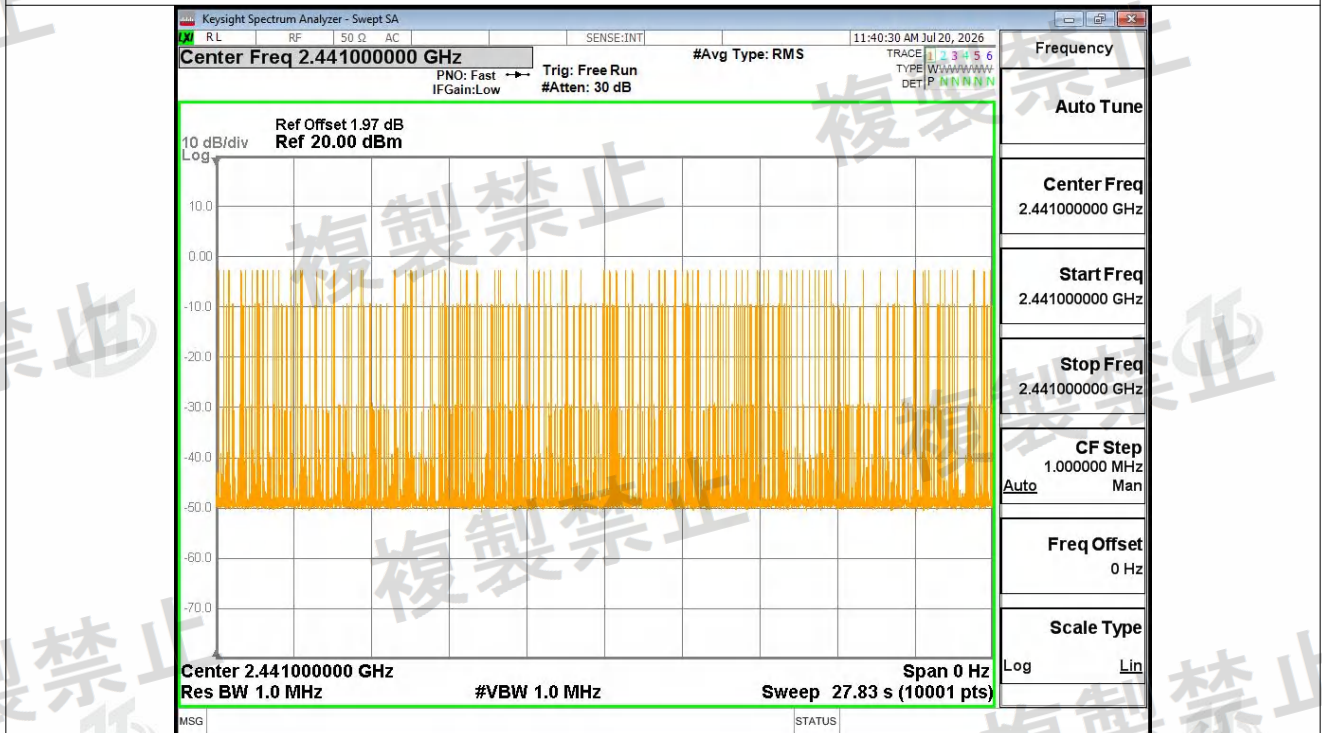
Dwell NVNT 2-DH3 2441MHz Ant1 One Burst



Dwell NVNT 2-DH3 2441MHz Ant1 Accumulated



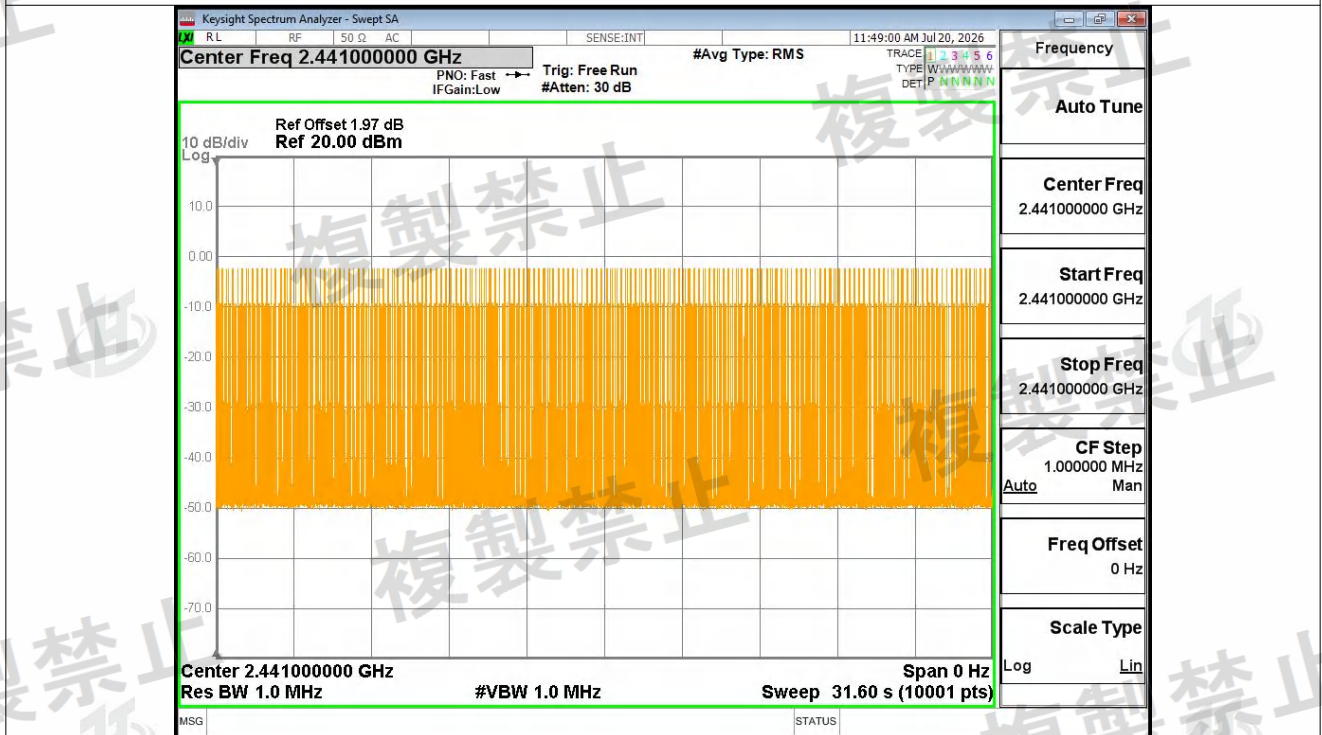
Dwell NVNT 2-DH5 2441MHz Ant1 One Burst



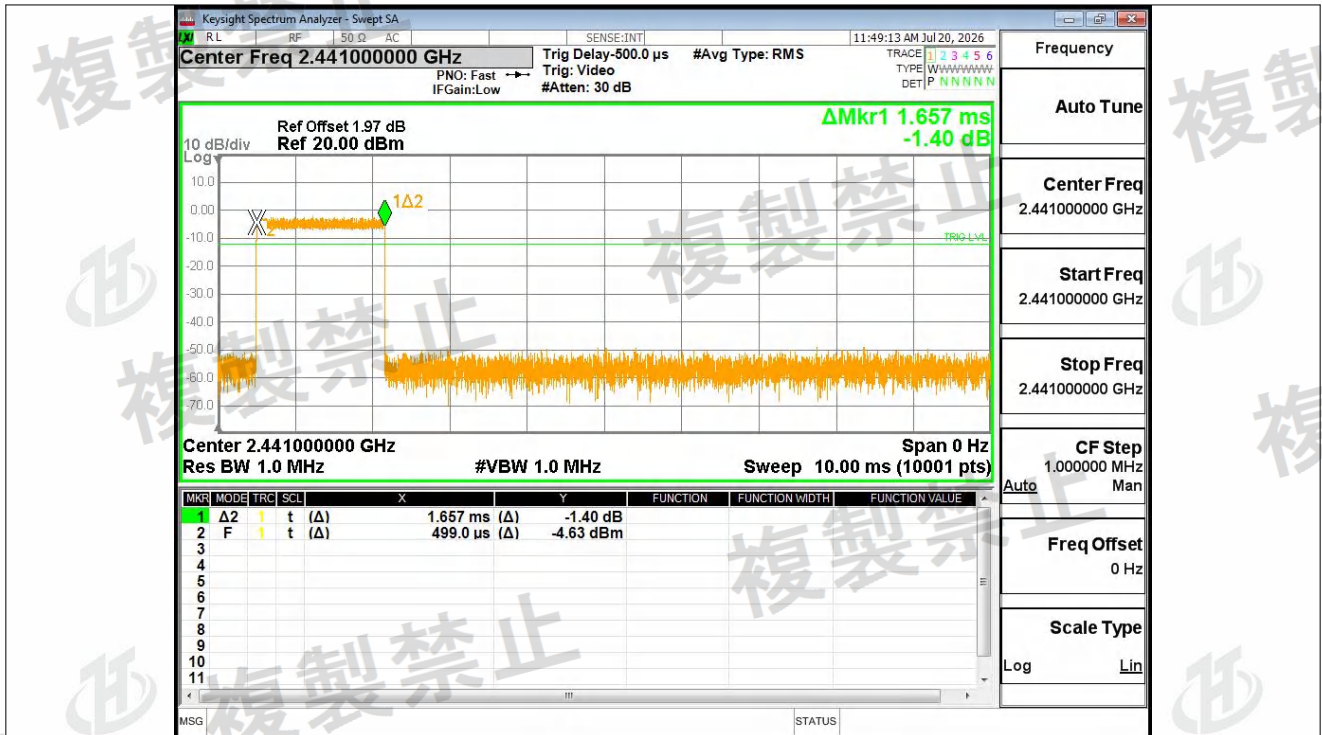
Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated



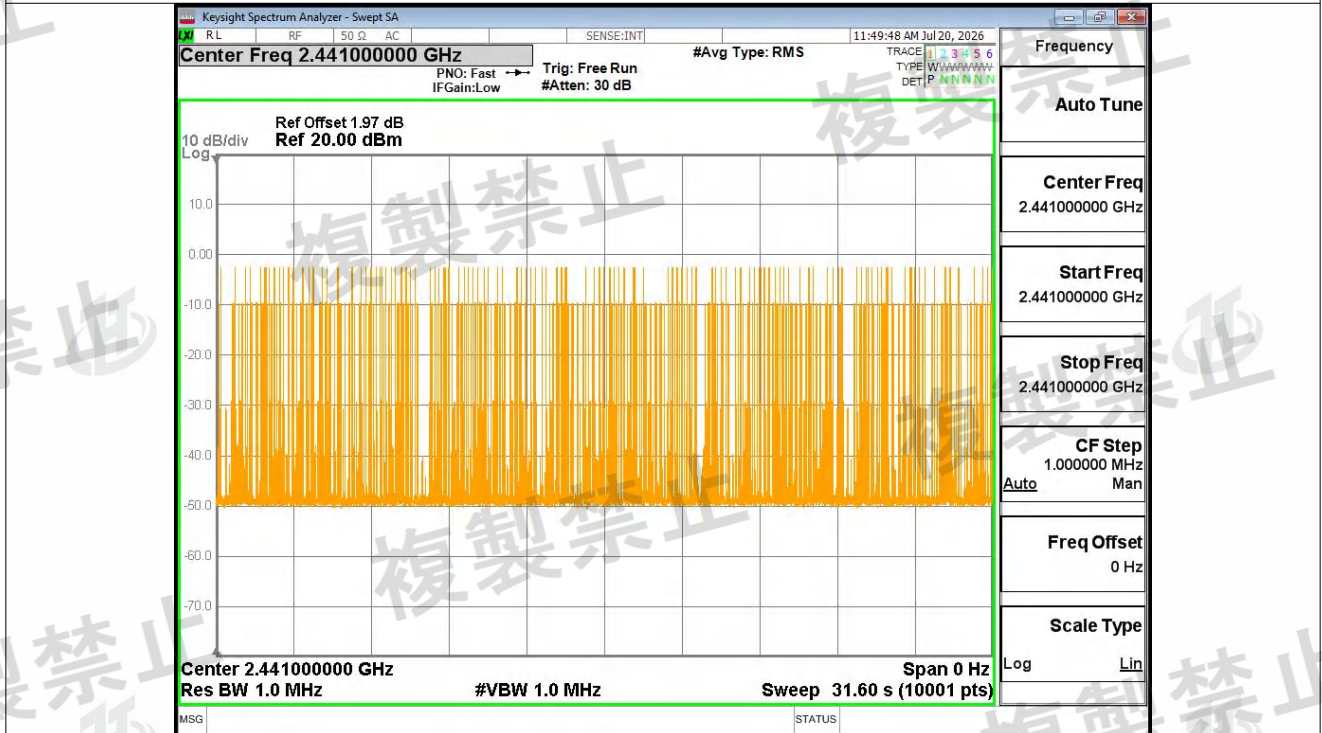
Dwell NVNT 3-DH1 2441MHz Ant1 One Burst



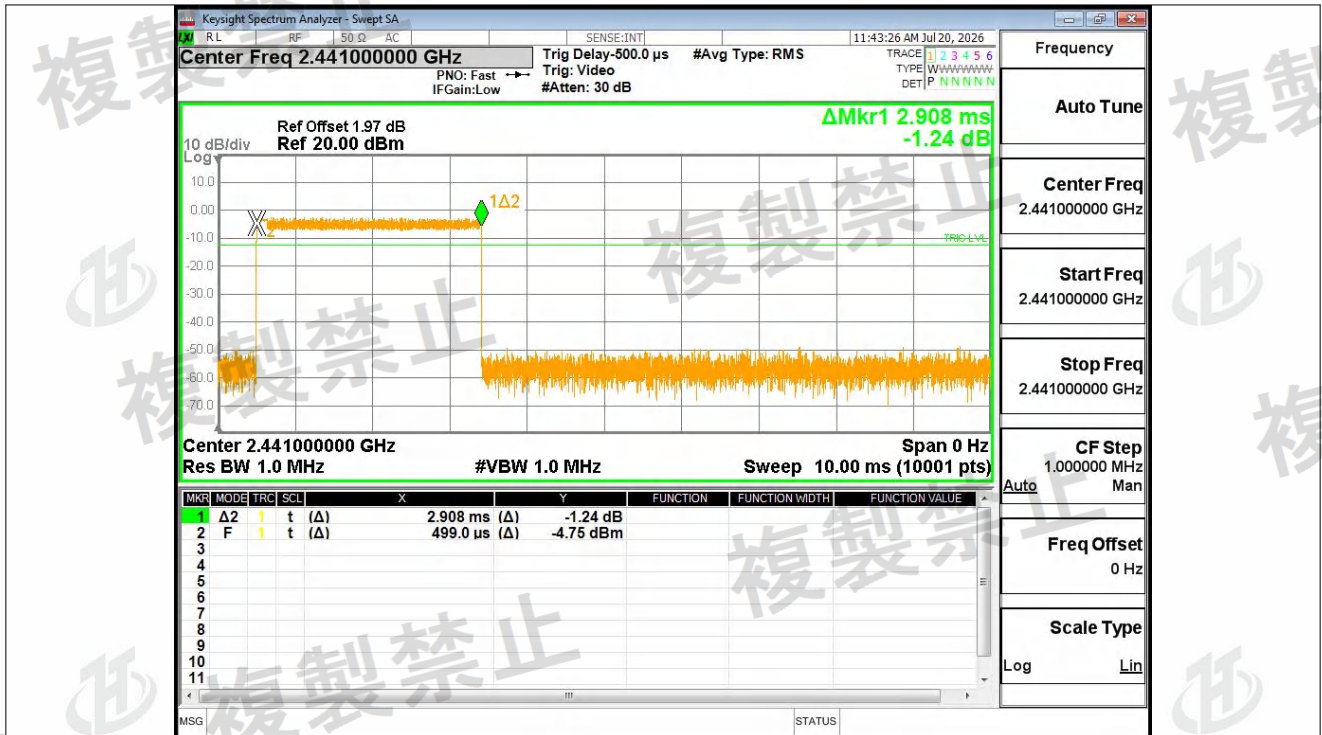
Dwell NVNT 3-DH1 2441MHz Ant1 Accumulated



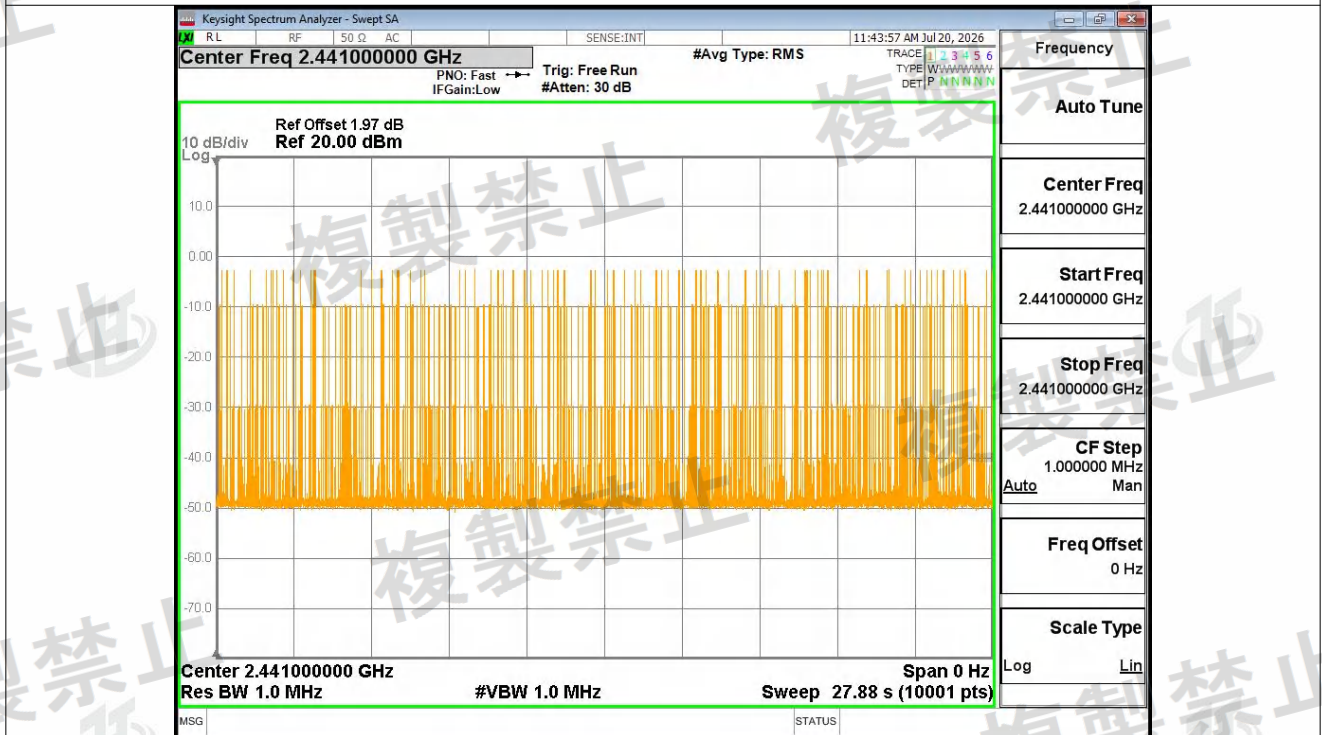
Dwell NVNT 3-DH3 2441MHz Ant1 One Burst



Dwell NVNT 3-DH3 2441MHz Ant1 Accumulated



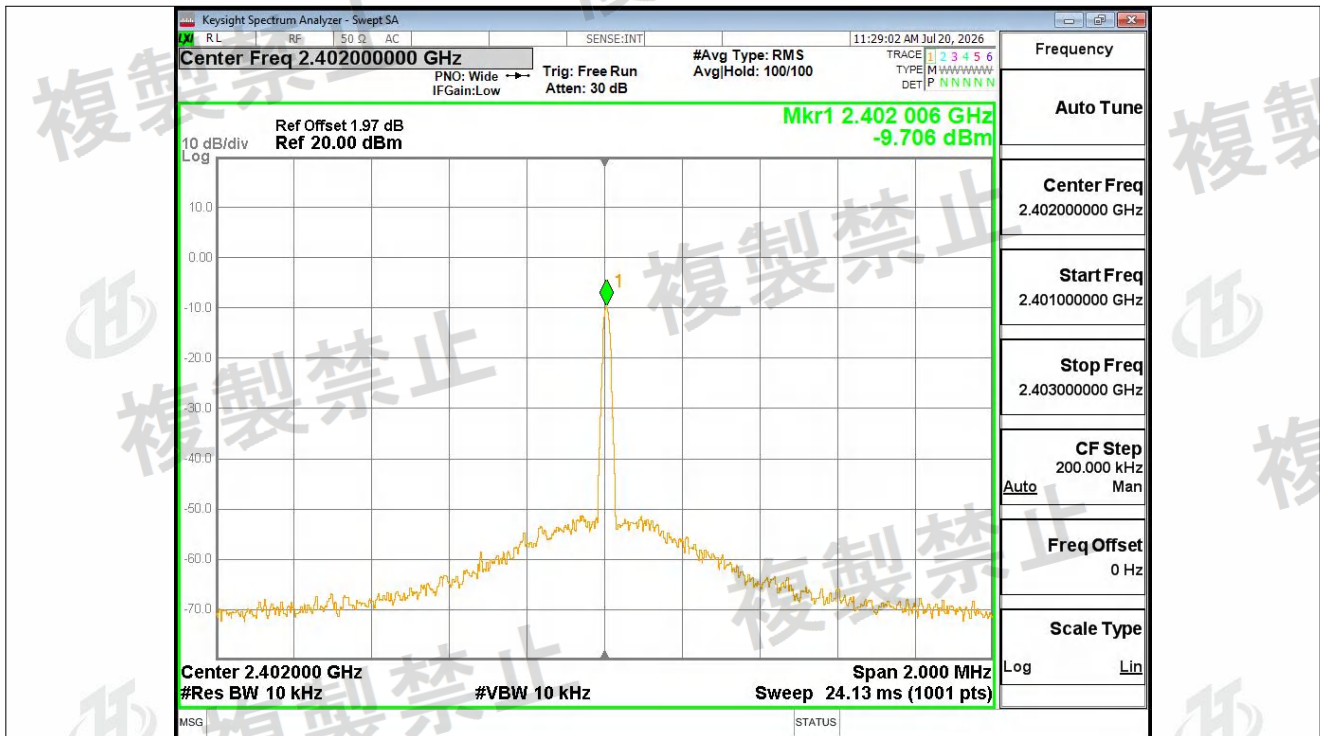
Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



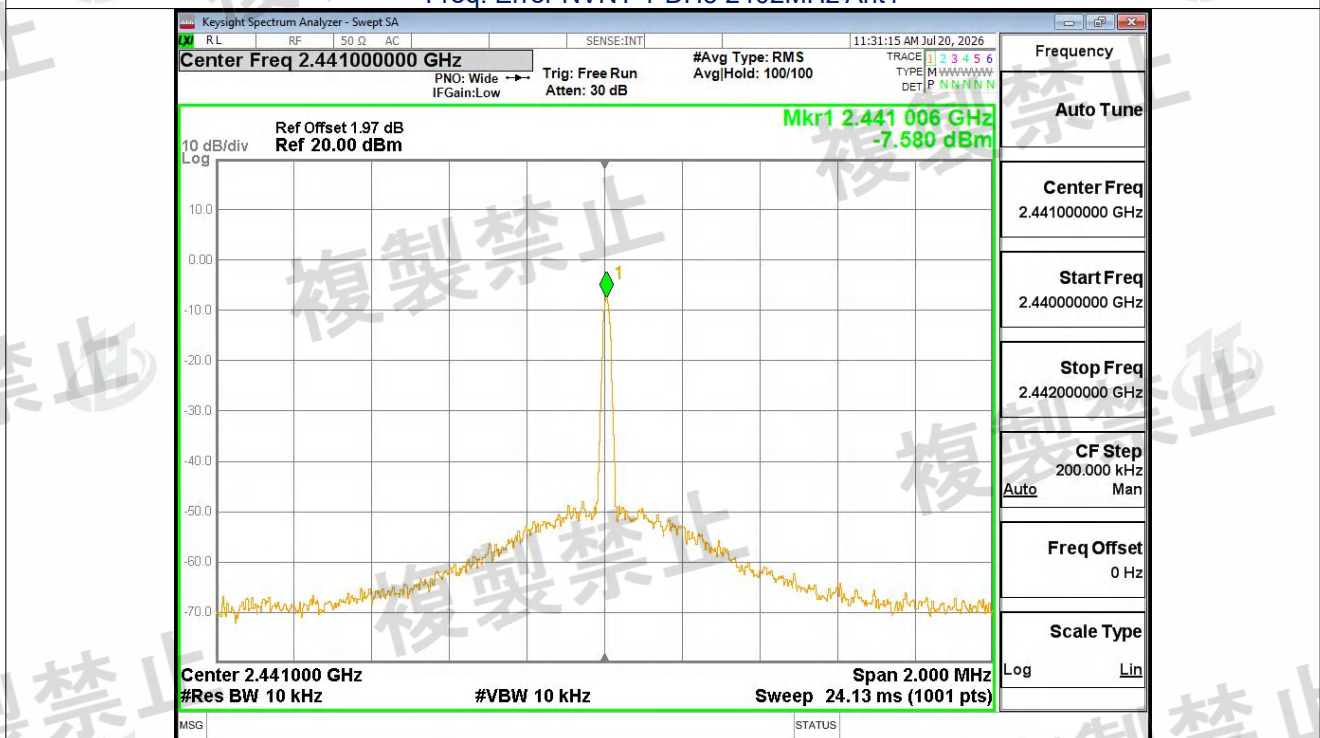
Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated

5.2 FREQUENCY ERROR

Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
2402	2402.006	6000	2.50	50	Pass
2441	2441.006	6000	2.46	50	Pass
2480	2480.006	6000	2.42	50	Pass



Freq. Error NVNT 1-DH5 2402MHz Ant1



Freq. Error NVNT 1-DH5 2441MHz Ant1



5.3 ANTENNA AND EIRP POWER

Mode	Power (dBm)	Power (mW)	Spread BW (MHz)	Power (mW/MHz)	Limit (mW/MHz)	Declared Power (mW/MHz)	Tolerance (%)	Upper Limit (%)	Verdict
1-DH5	-5.82	0.262	69.493	0.004	3	1	-99.6	20	Pass
1-DH5	-3.16	0.483	69.631	0.007	3	1	-99.3	20	Pass
1-DH5	-1.86	0.652	69.553	0.009	3	1	-99.1	20	Pass
2-DH5	-5.05	0.313	70.16	0.004	3	1	-99.6	20	Pass
2-DH5	-2.59	0.551	69.582	0.008	3	1	-99.2	20	Pass
2-DH5	-1.65	0.684	69.303	0.010	3	1	-99.0	20	Pass
3-DH5	-4.96	0.319	69.819	0.005	3	1	-99.5	20	Pass
3-DH5	-2.51	0.561	69.69	0.008	3	1	-99.2	20	Pass
3-DH5	-1.64	0.685	69.346	0.010	3	1	-99.0	20	Pass

Tolerance (%)= (Antenna Power-Declared power) /Declared power *100%

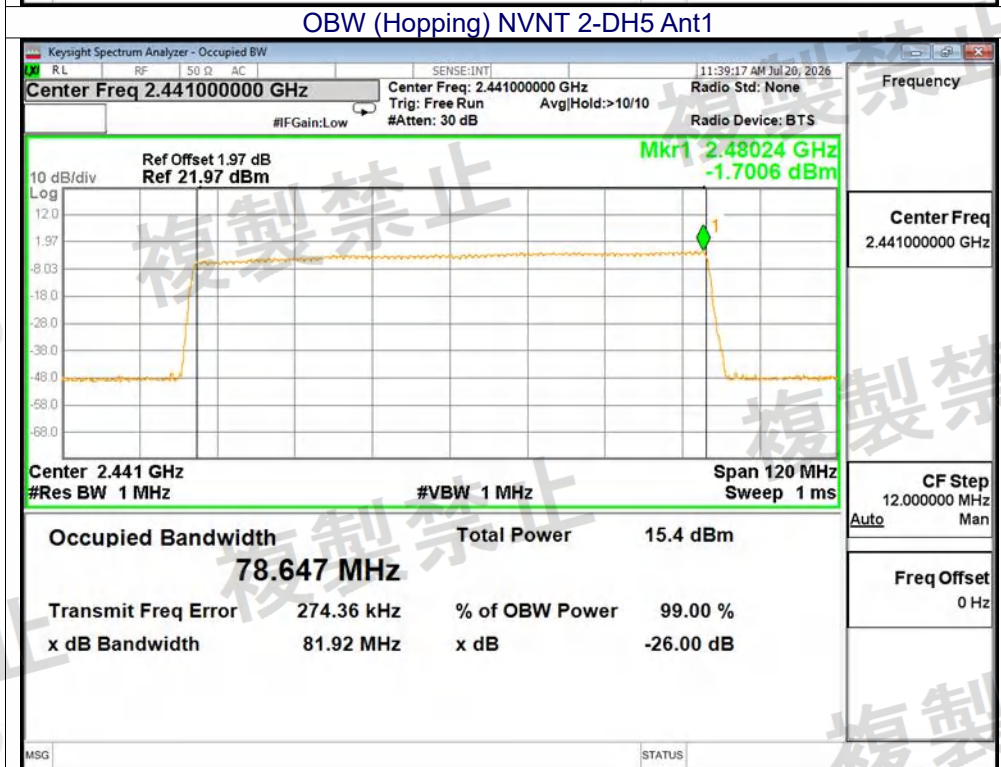
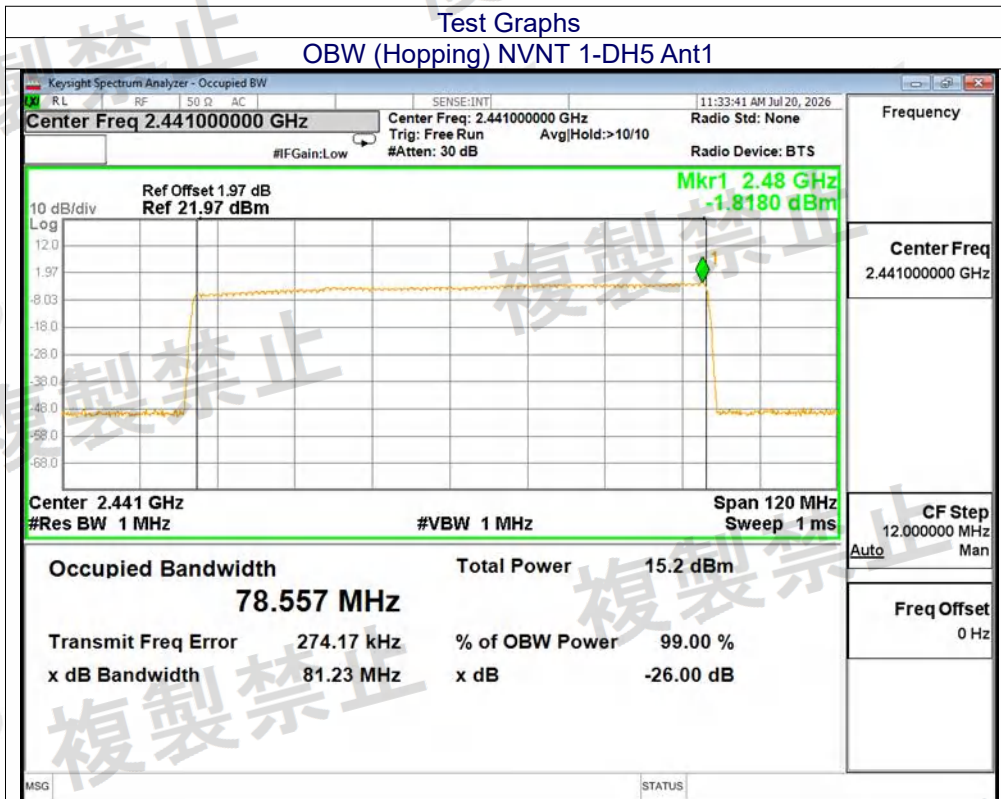
Mode	Antenna Power (mW/MHz)	Antenna Power (dBm/MHz)	Gain (dBi)	EIRP Power (dBm/MHz)	Limit (dBm/MHz)	Verdict
1-DH5	0.004	-23.98	-1.2	-25.18	6.91	Pass
1-DH5	0.007	-21.55	-1.2	-22.75	6.91	Pass
1-DH5	0.009	-20.46	-1.2	-21.66	6.91	Pass
2-DH5	0.004	-23.98	-1.2	-25.18	6.91	Pass
2-DH5	0.008	-20.97	-1.2	-22.17	6.91	Pass
2-DH5	0.010	-20.00	-1.2	-21.20	6.91	Pass
3-DH5	0.005	-23.01	-1.2	-24.21	6.91	Pass
3-DH5	0.008	-20.97	-1.2	-22.17	6.91	Pass
3-DH5	0.010	-20.00	-1.2	-21.20	6.91	Pass

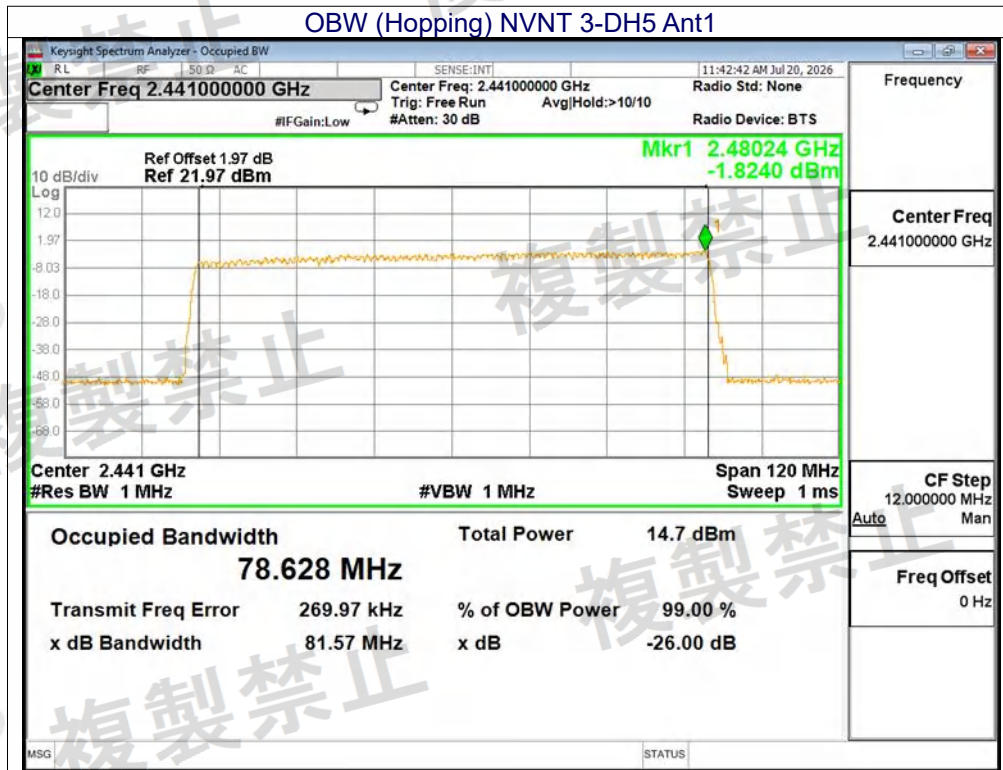
Note: Measured EIRP=Antenna power + Antenna Gain



5.4 OCCUPIED CHANNEL BANDWIDTH (HOPPING)

Mode	99% OBW (MHz)	Limit (MHz)	Verdict
1-DH5	78.557	83.5	Pass
2-DH5	78.647	83.5	Pass
3-DH5	78.628	83.5	Pass



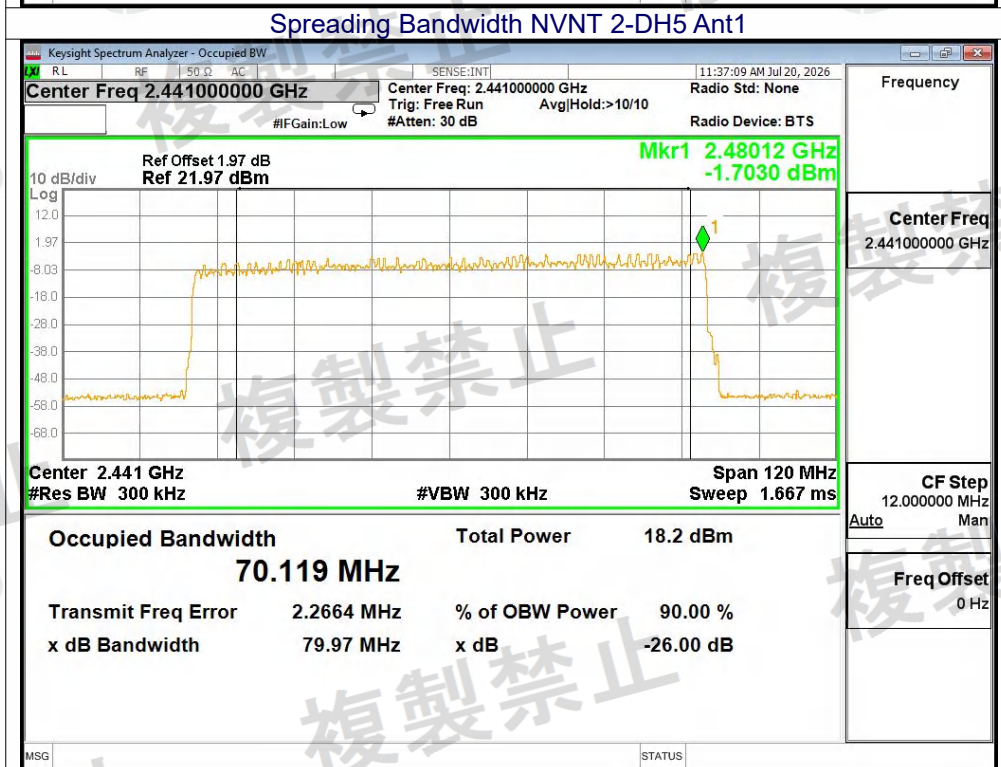
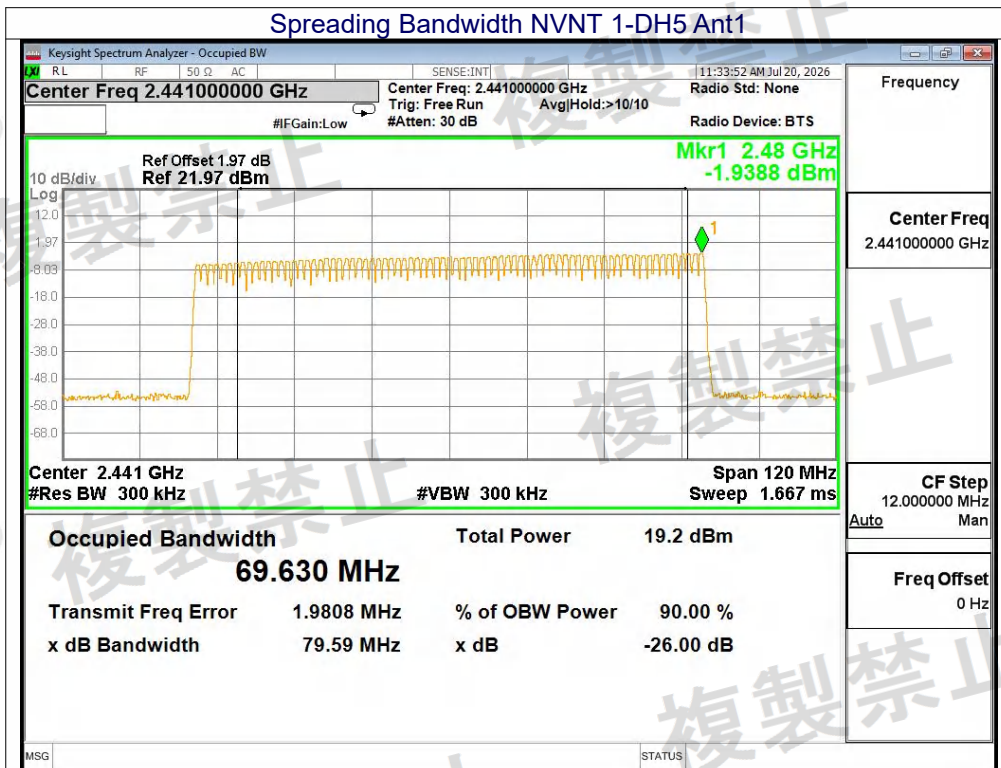


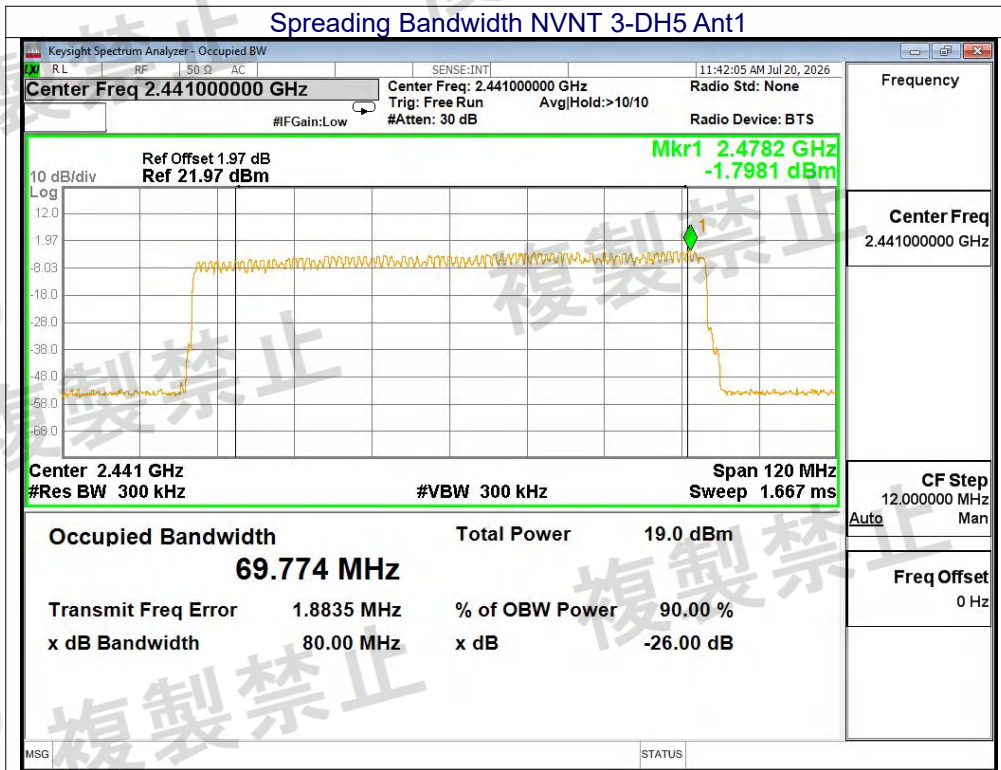


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5.5 SPREADING BANDWIDTH

Mode	90% OBW (MHz)
1-DH5	69.630
2-DH5	70.119
3-DH5	69.774



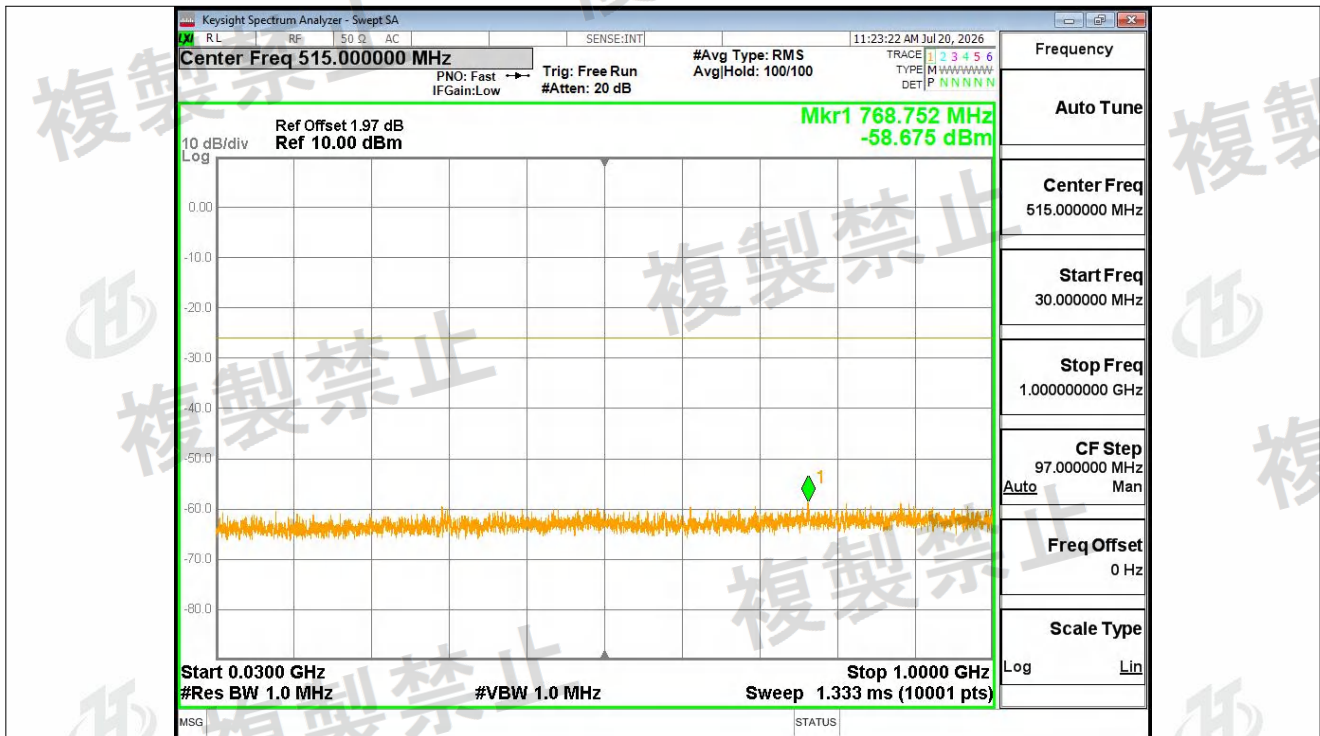


5.6 TX SPURIOUS EMISSION

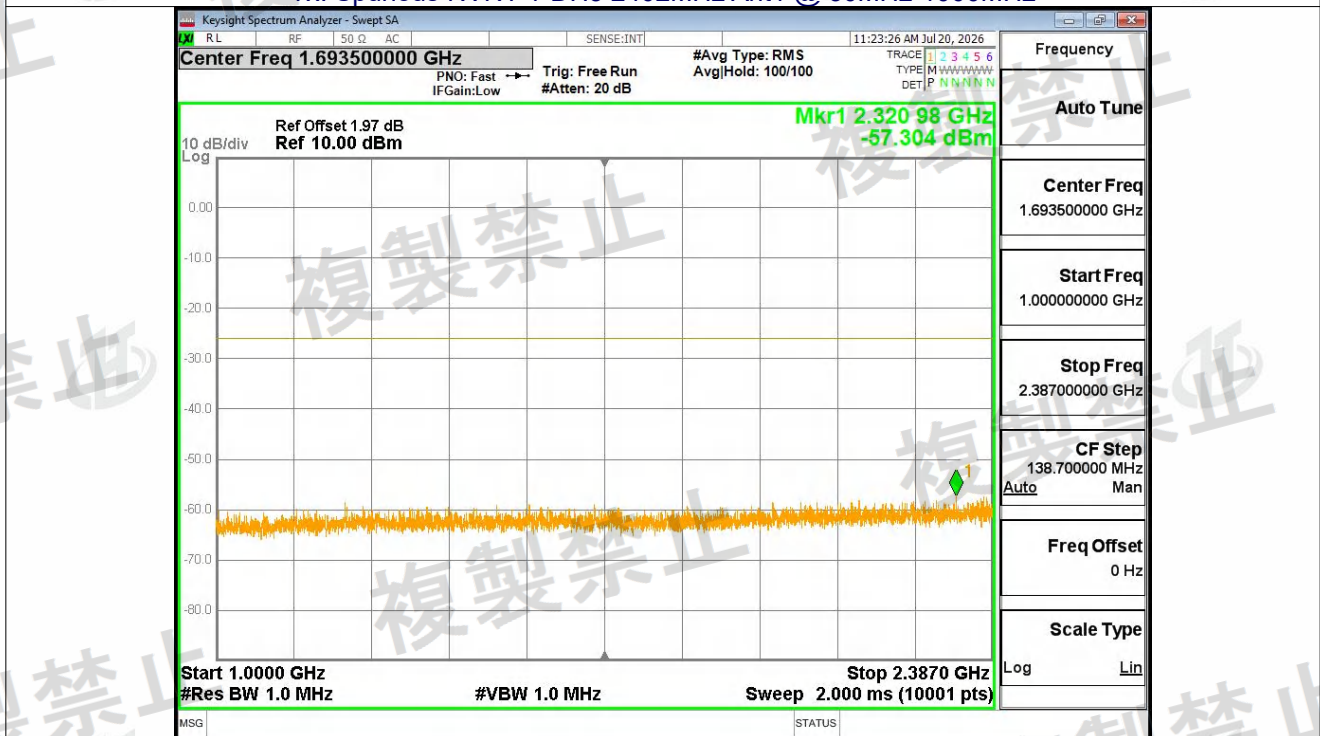
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Max Value (uW/MHz)	Limit Start (dBm/MHz)	Limit Start (uW/MHz)	Limit Stop (dBm/MHz)	Limit Stop (uW/MHz)	Verdict
1-DH5	2402	30-1000	768.75	-58.68	0.0014	-36	0.25	-36	0.25	Pass
1-DH5	2402	1000-2387	2320.98	-57.30	0.0019	-26	2.51	-26	2.51	Pass
1-DH5	2402	2387-2400	2399.99	-46.83	0.0207	-16	25.12	-16	25.12	Pass
1-DH5	2402	2483.5-2496.5	2486.91	-58.08	0.0016	-16	25.12	-16	25.12	Pass
1-DH5	2402	2496.5-13000	7206.27	-49.67	0.0108	-26	2.51	-26	2.51	Pass
1-DH5	2441	30-1000	514.71	-58.16	0.0015	-36	0.25	-36	0.25	Pass
1-DH5	2441	1000-2387	2131.65	-57.20	0.0019	-26	2.51	-26	2.51	Pass
1-DH5	2441	2387-2400	2391.92	-58.12	0.0015	-16	25.12	-16	25.12	Pass
1-DH5	2441	2483.5-2496.5	2486.08	-58.08	0.0016	-16	25.12	-16	25.12	Pass
1-DH5	2441	2496.5-13000	7322.86	-46.92	0.0203	-26	2.51	-26	2.51	Pass
1-DH5	2480	30-1000	874.68	-57.65	0.0017	-36	0.25	-36	0.25	Pass
1-DH5	2480	1000-2387	2351.35	-56.37	0.0023	-26	2.51	-26	2.51	Pass
1-DH5	2480	2387-2400	2395.89	-58.27	0.0015	-16	25.12	-16	25.12	Pass
1-DH5	2480	2483.5-2496.5	2484.71	-48.45	0.0143	-16	25.12	-16	25.12	Pass
1-DH5	2480	2496.5-13000	7440.50	-43.69	0.0428	-26	2.51	-26	2.51	Pass
2-DH5	2402	30-1000	999.22	-57.08	0.002	-36	0.25	-36	0.25	Pass
2-DH5	2402	1000-2387	1728.18	-57.60	0.0017	-26	2.51	-26	2.51	Pass
2-DH5	2402	2387-2400	2399.97	-35.76	0.2655	-16	25.12	-16	25.12	Pass
2-DH5	2402	2483.5-2496.5	2493.51	-57.67	0.0017	-16	25.12	-16	25.12	Pass
2-DH5	2402	2496.5-13000	7206.27	-50.91	0.0081	-26	2.51	-26	2.51	Pass
2-DH5	2441	30-1000	891.07	-57.78	0.0017	-36	0.25	-36	0.25	Pass
2-DH5	2441	1000-2387	2281.73	-57.18	0.0019	-26	2.51	-26	2.51	Pass
2-DH5	2441	2387-2400	2388.03	-58.10	0.0015	-16	25.12	-16	25.12	Pass
2-DH5	2441	2483.5-2496.5	2486.95	-57.29	0.0019	-16	25.12	-16	25.12	Pass
2-DH5	2441	2496.5-13000	9763.87	-47.51	0.0177	-26	2.51	-26	2.51	Pass
2-DH5	2480	30-1000	860.90	-58.60	0.0014	-36	0.25	-36	0.25	Pass
2-DH5	2480	1000-2387	1287.25	-57.10	0.0019	-26	2.51	-26	2.51	Pass



2-DH5	2480	2387-2400	2387.45	-57.71	0.0017	-16	25.12	-16	25.12	Pass
2-DH5	2480	2483.5-2496.5	2483.83	-43.17	0.0482	-16	25.12	-16	25.12	Pass
2-DH5	2480	2496.5-13000	7440.50	-43.91	0.0406	-26	2.51	-26	2.51	Pass
3-DH5	2402	30-1000	859.45	-58.13	0.0015	-36	0.25	-36	0.25	Pass
3-DH5	2402	1000-2387	2318.62	-56.51	0.0022	-26	2.51	-26	2.51	Pass
3-DH5	2402	2387-2400	2400.00	-35.45	0.2851	-16	25.12	-16	25.12	Pass
3-DH5	2402	2483.5-2496.5	2492.04	-57.86	0.0016	-16	25.12	-16	25.12	Pass
3-DH5	2402	2496.5-13000	7206.27	-51.05	0.0079	-26	2.51	-26	2.51	Pass
3-DH5	2441	30-1000	912.02	-58.75	0.0013	-36	0.25	-36	0.25	Pass
3-DH5	2441	1000-2387	2310.85	-57.75	0.0017	-26	2.51	-26	2.51	Pass
3-DH5	2441	2387-2400	2398.87	-57.80	0.0017	-16	25.12	-16	25.12	Pass
3-DH5	2441	2483.5-2496.5	2492.13	-56.85	0.0021	-16	25.12	-16	25.12	Pass
3-DH5	2441	2496.5-13000	7323.91	-46.84	0.0207	-26	2.51	-26	2.51	Pass
3-DH5	2480	30-1000	961.78	-58.34	0.0015	-36	0.25	-36	0.25	Pass
3-DH5	2480	1000-2387	1779.22	-52.73	0.0053	-26	2.51	-26	2.51	Pass
3-DH5	2480	2387-2400	2389.83	-57.91	0.0016	-16	25.12	-16	25.12	Pass
3-DH5	2480	2483.5-2496.5	2484.27	-43.94	0.0404	-16	25.12	-16	25.12	Pass
3-DH5	2480	2496.5-13000	7439.45	-42.42	0.0573	-26	2.51	-26	2.51	Pass

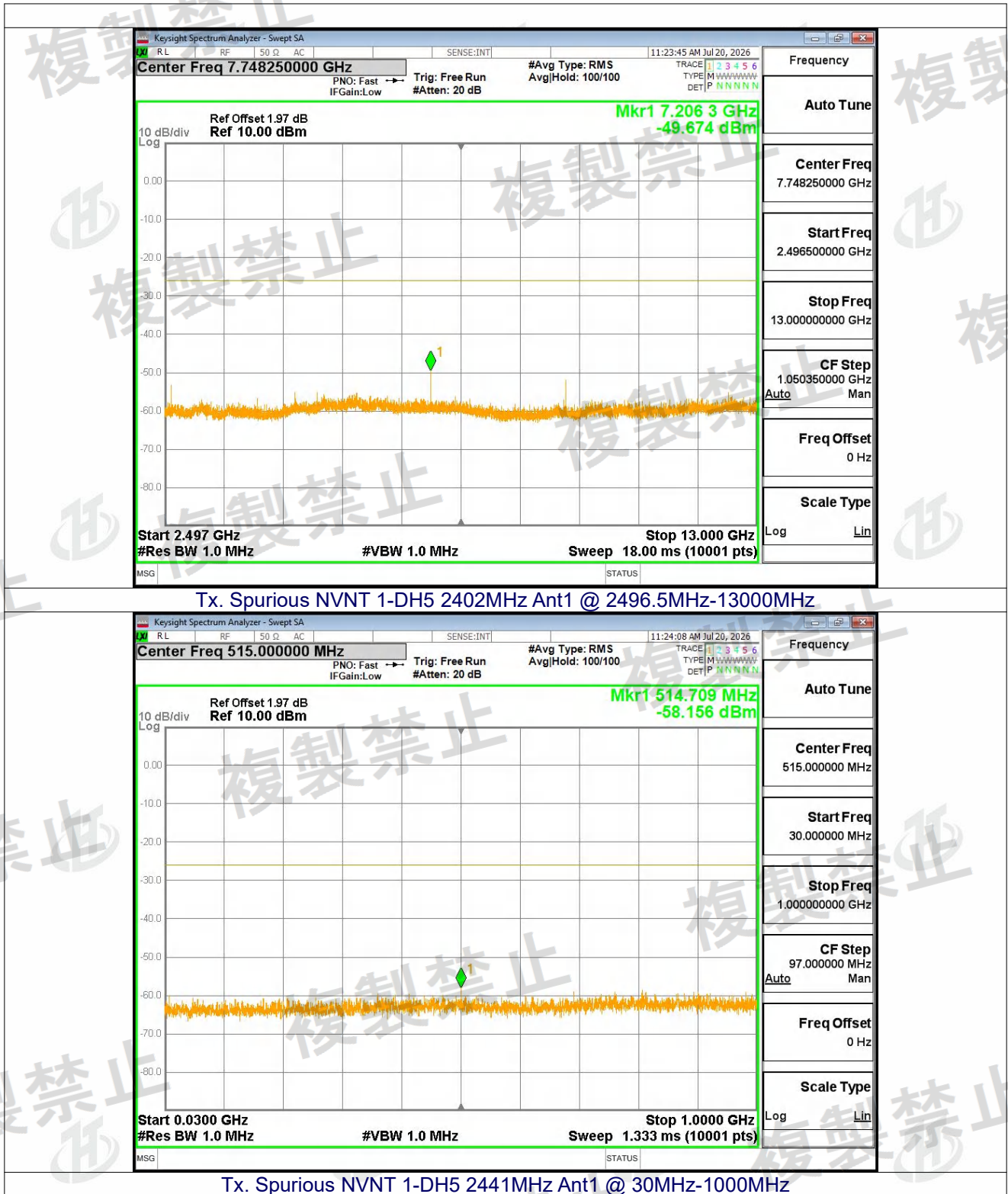


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 30MHz-1000MHz



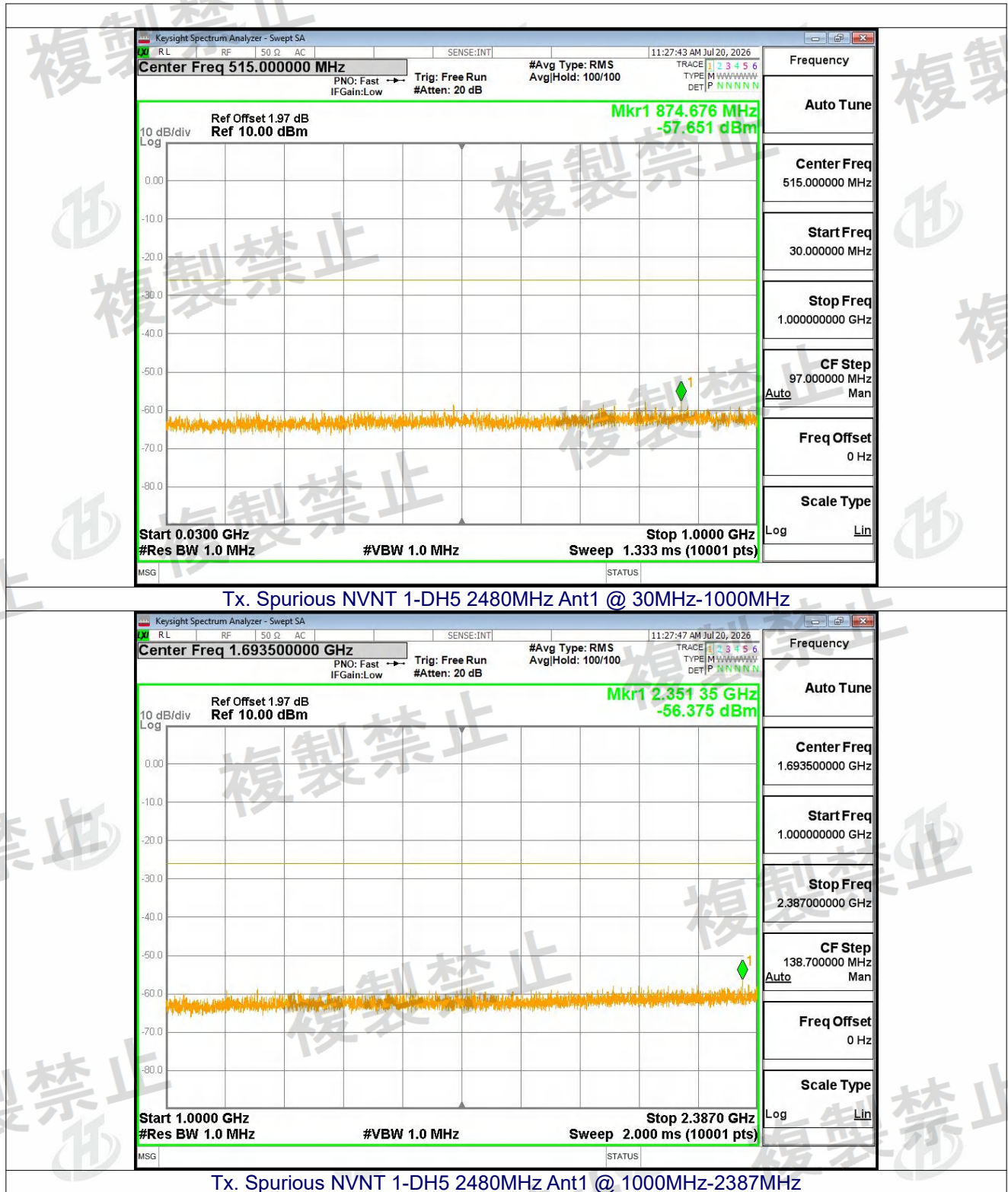
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 1000MHz-2387MHz

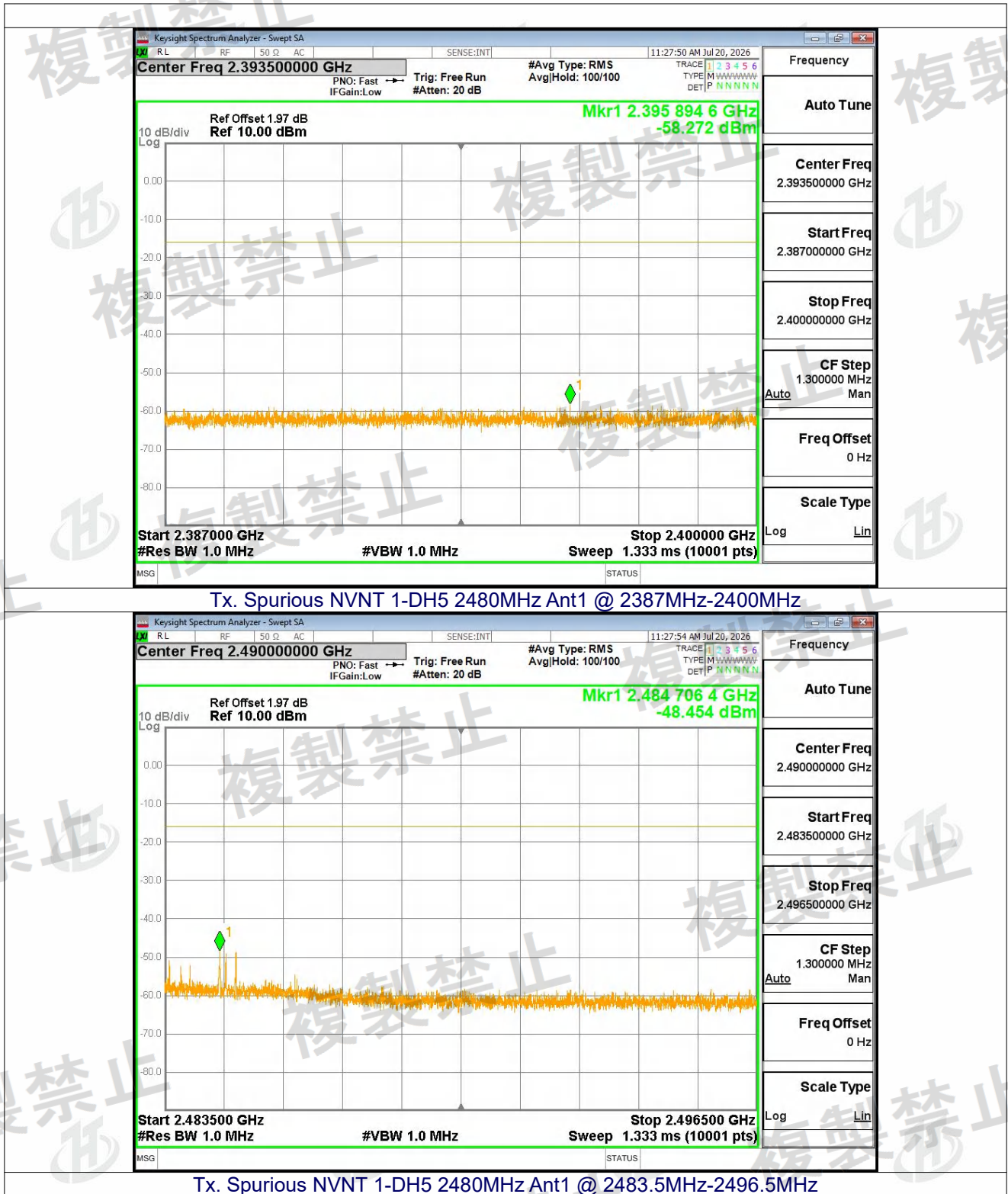




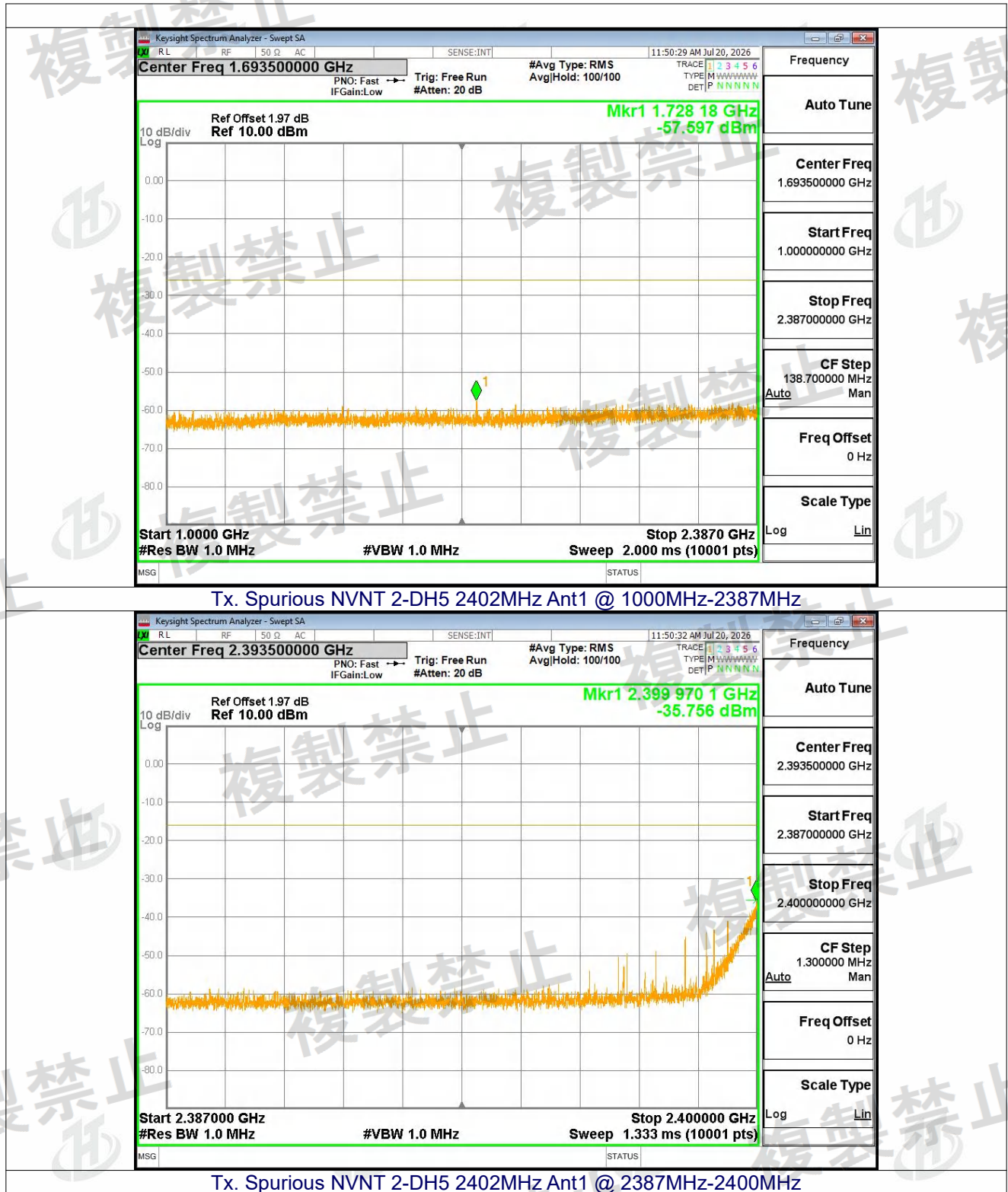




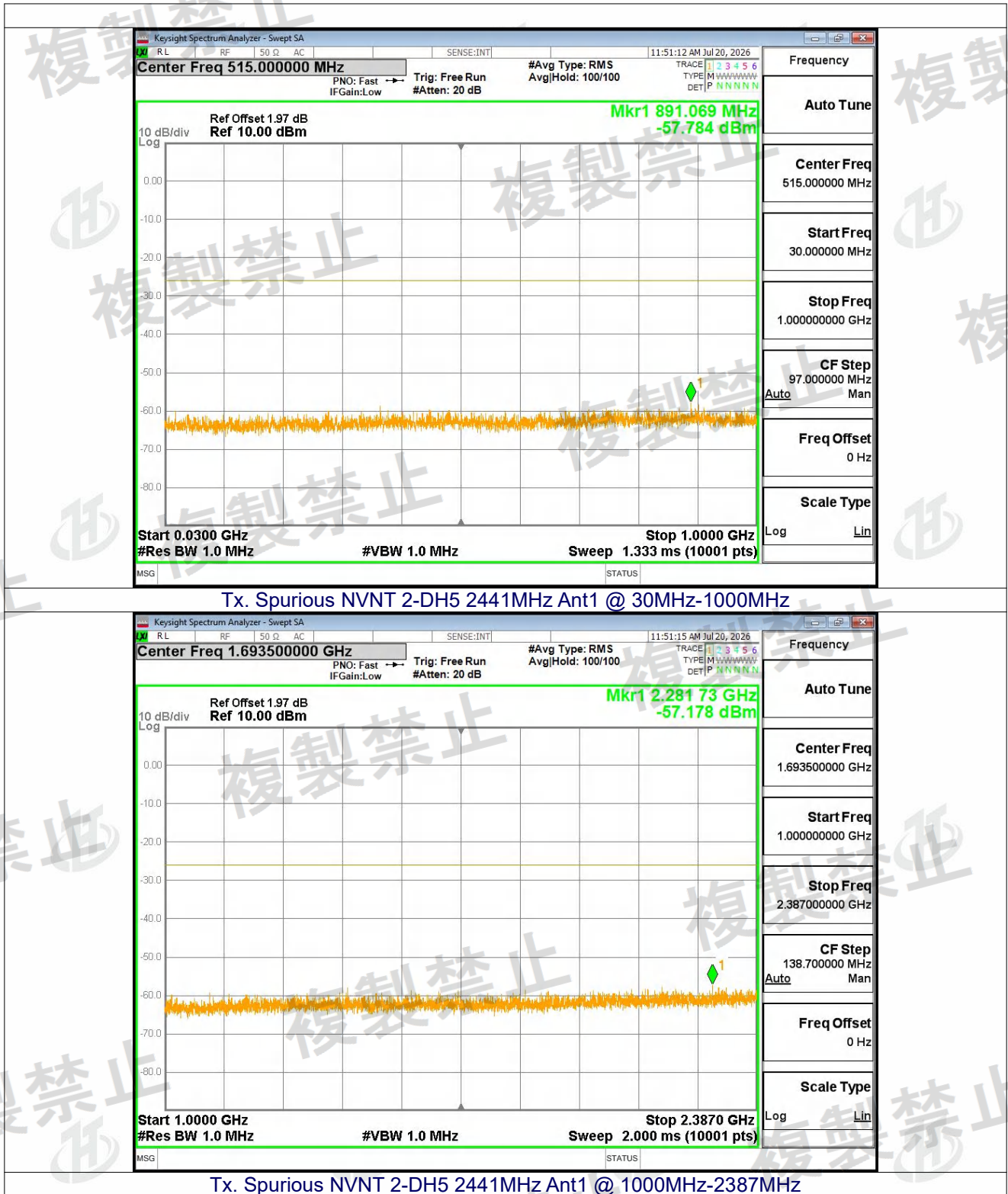


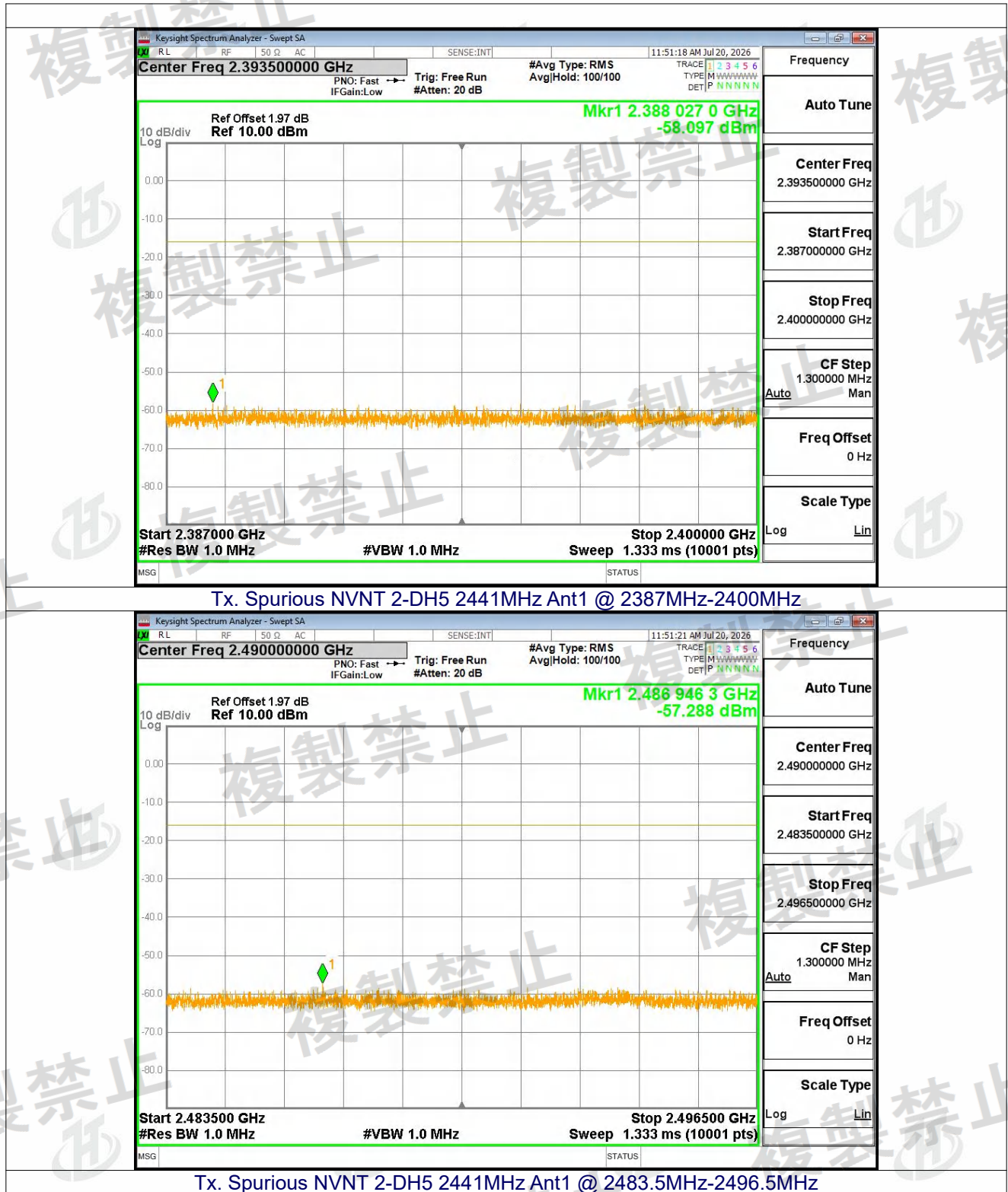


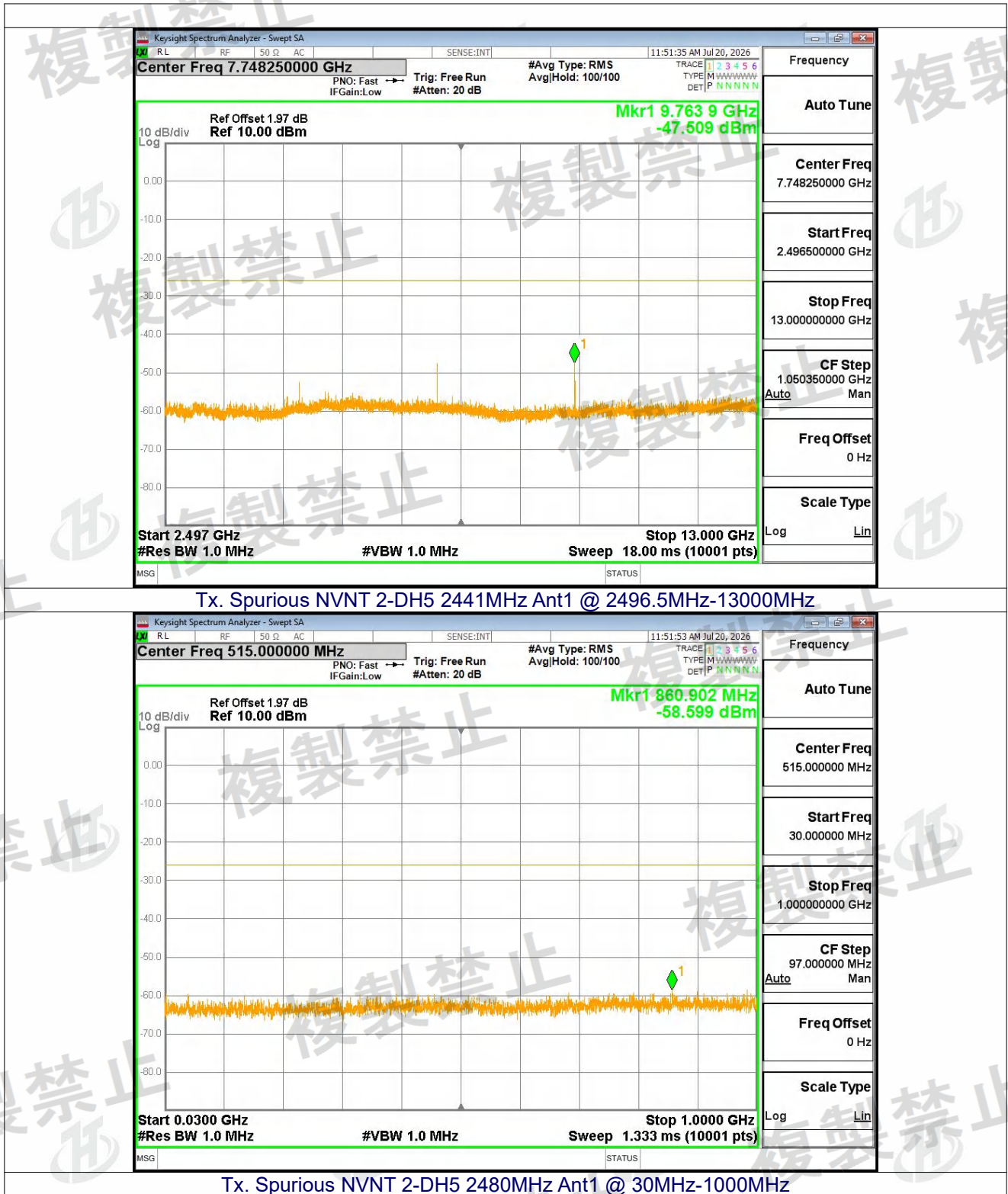


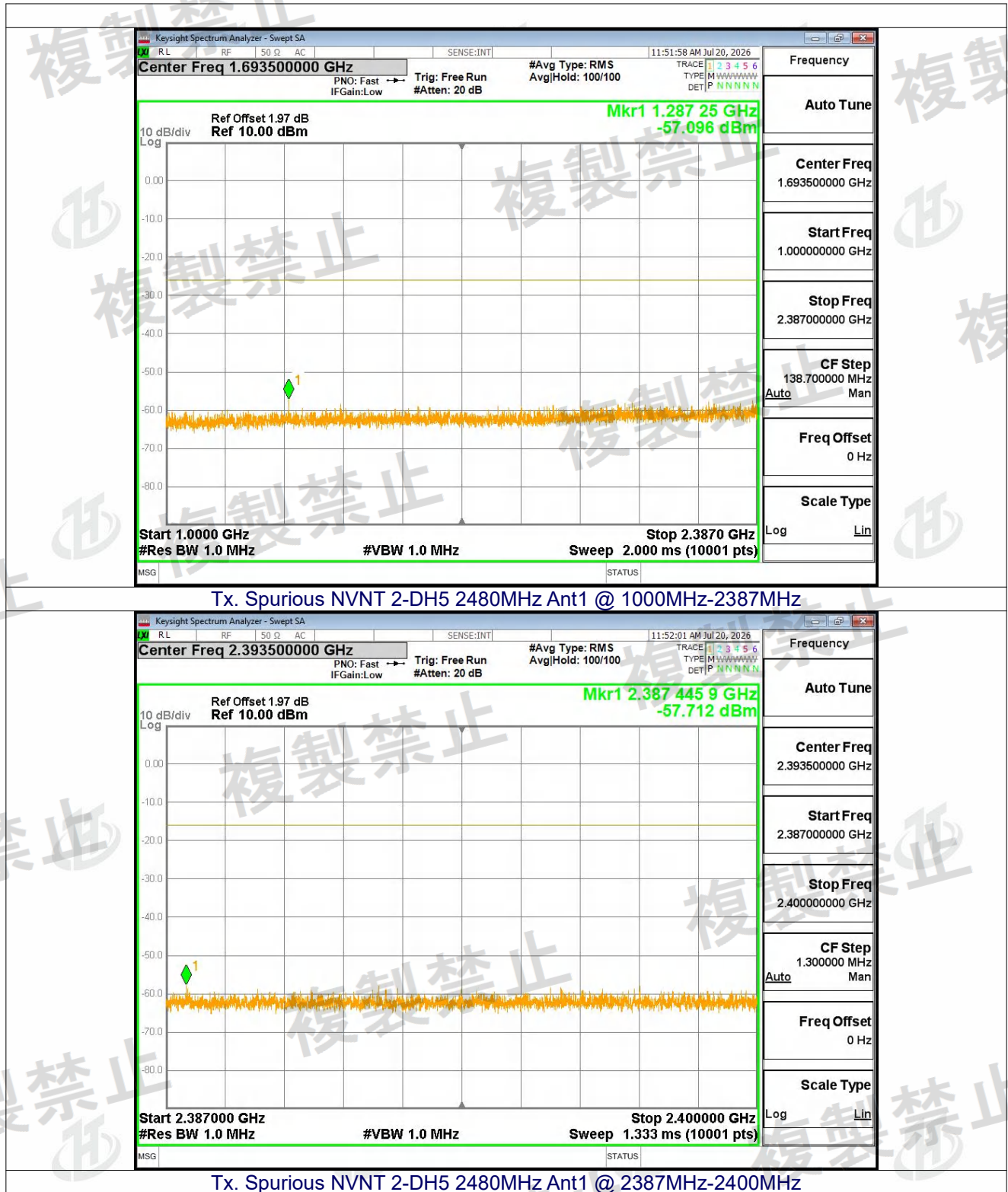


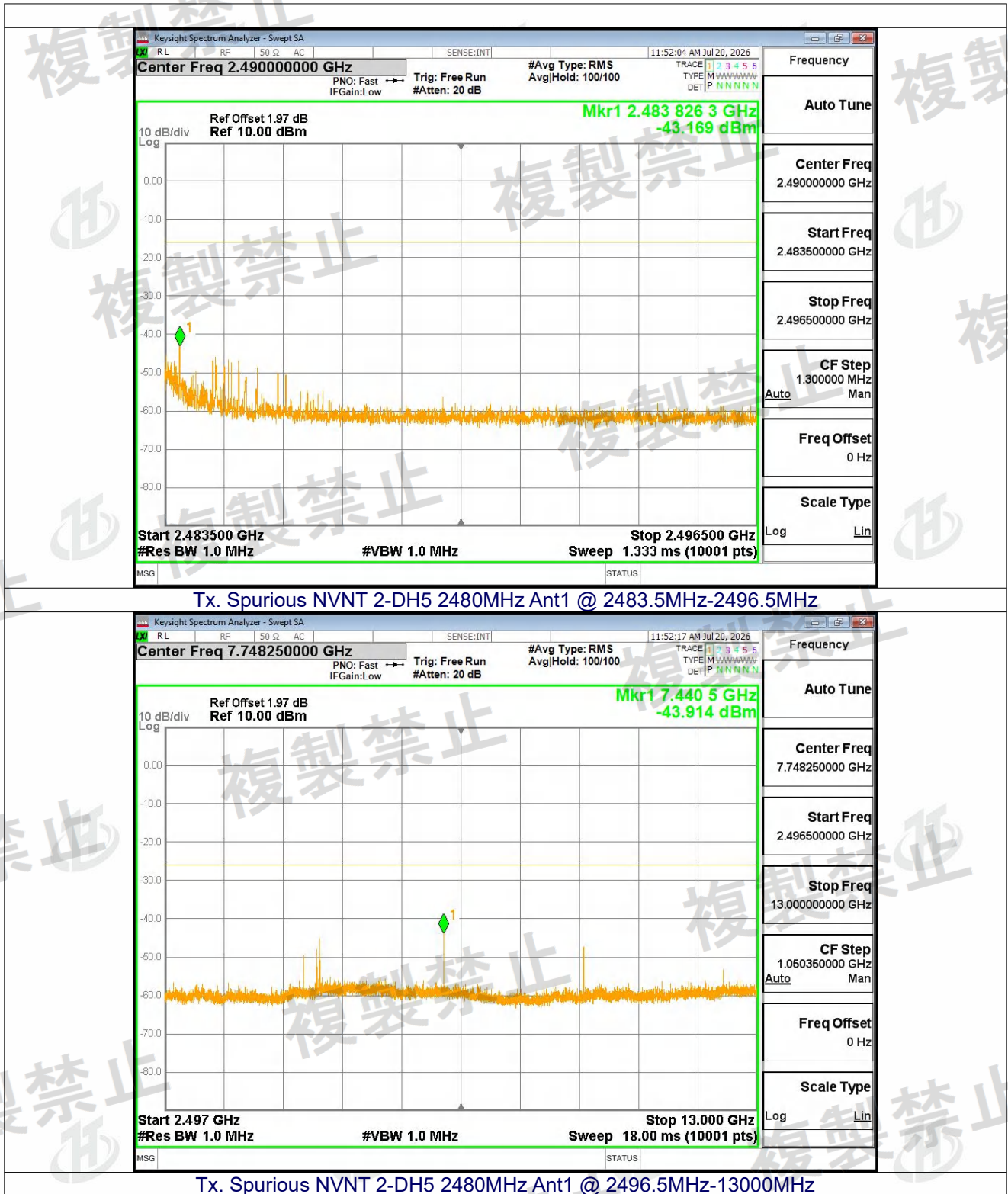


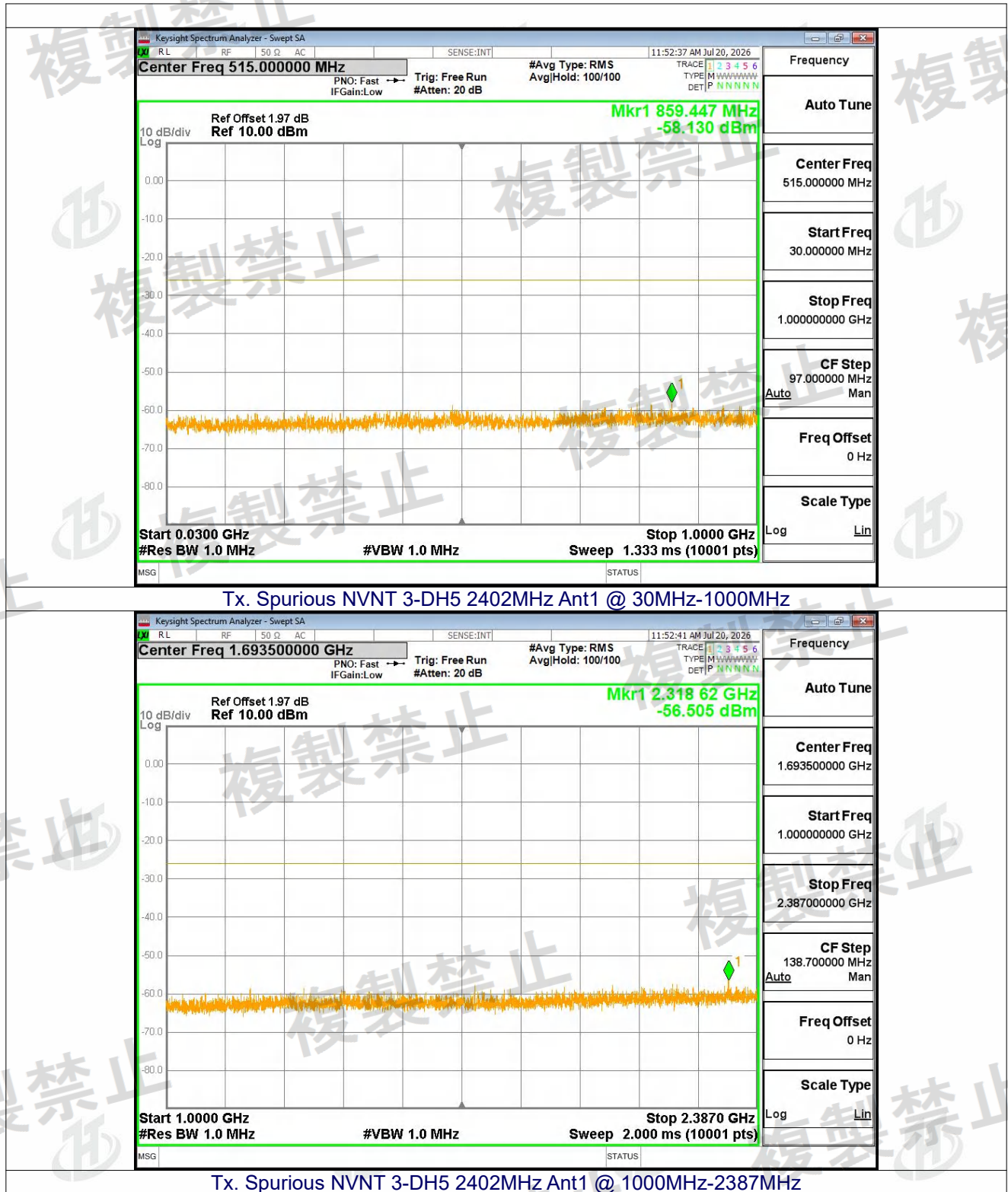








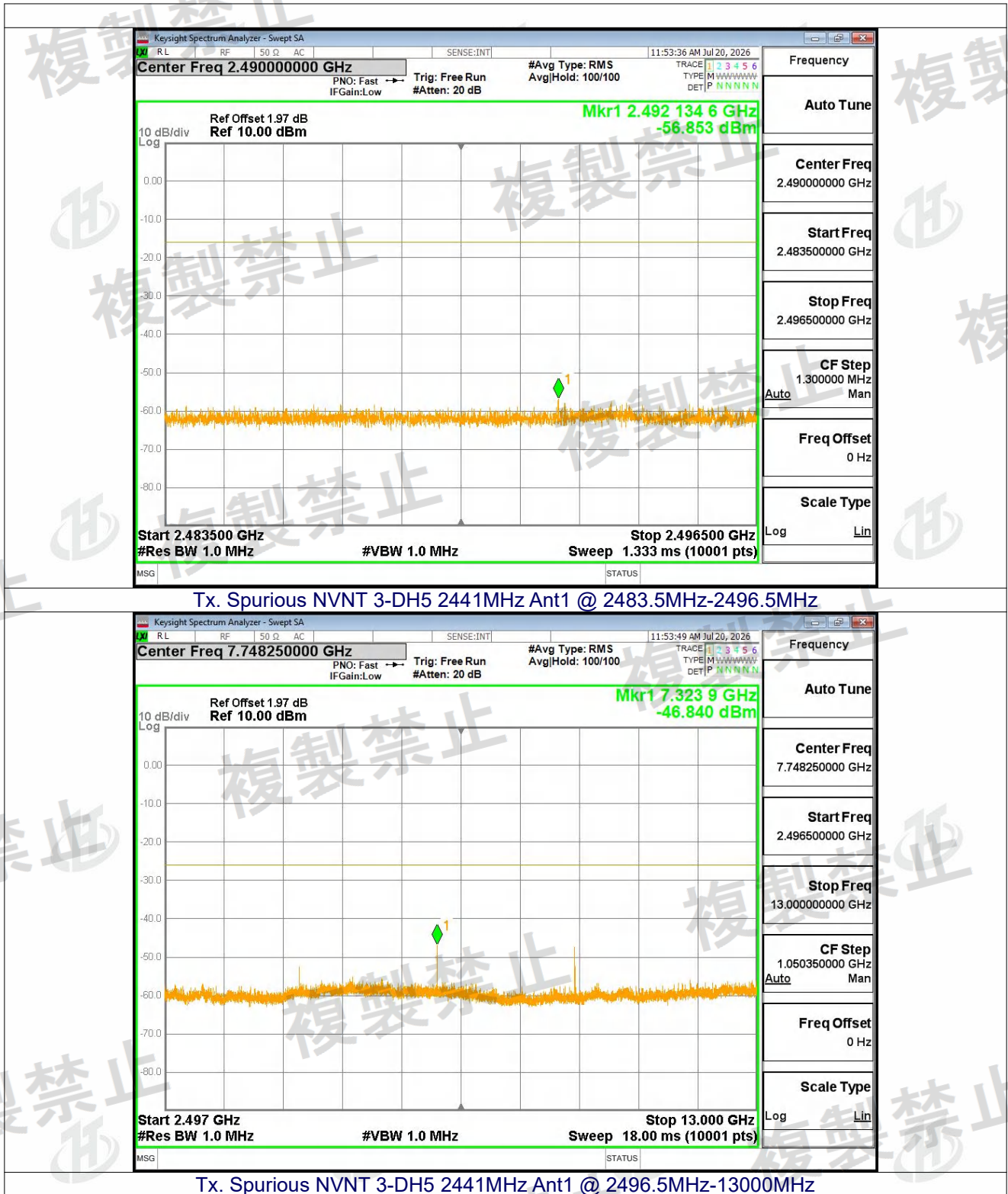


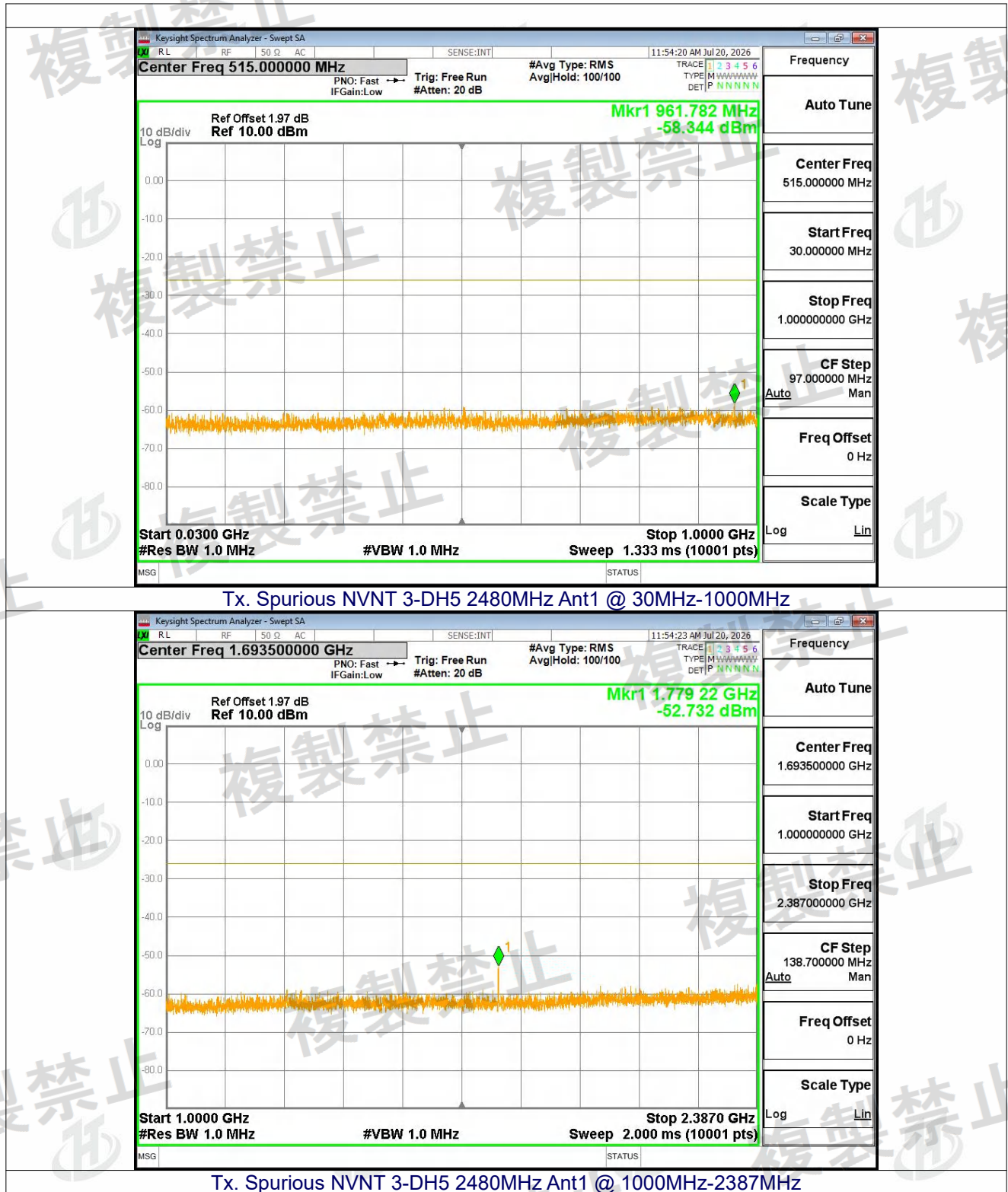


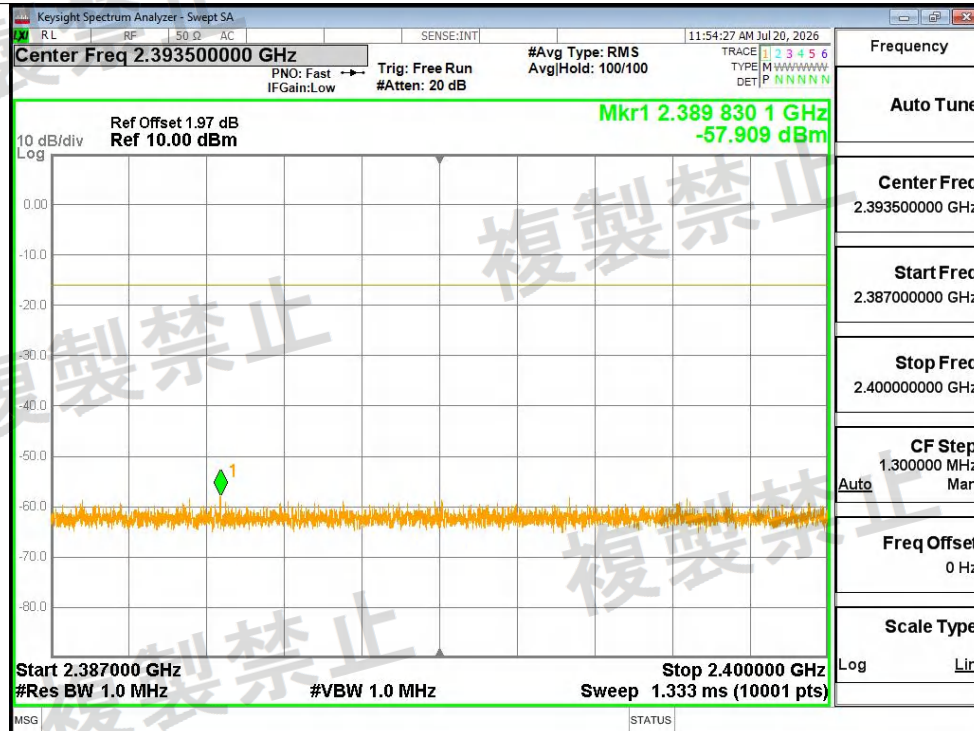




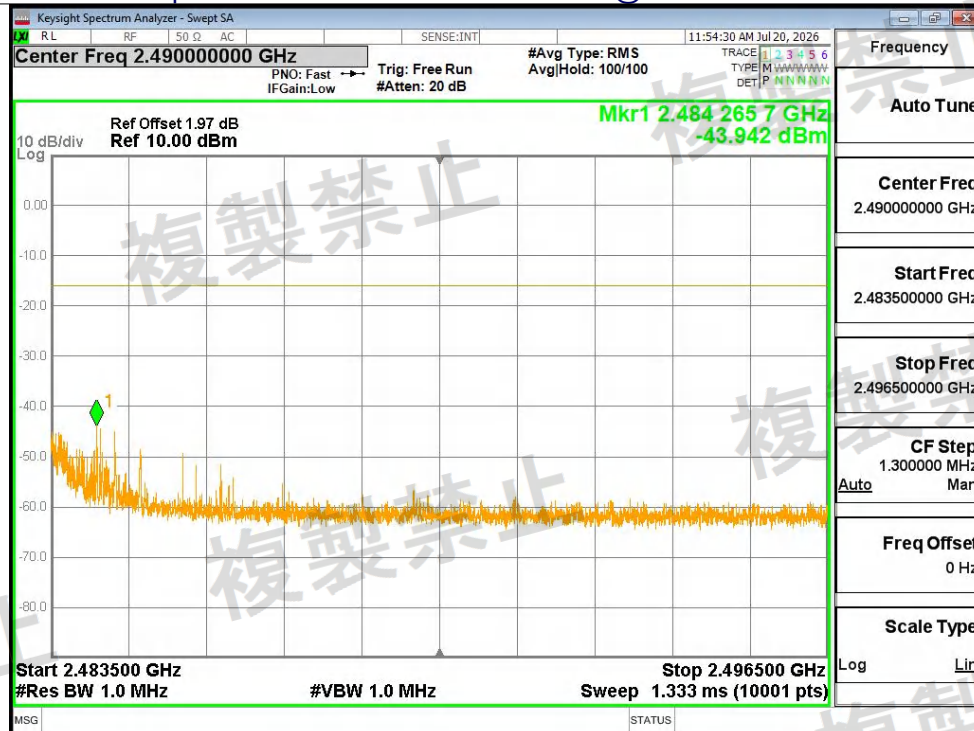




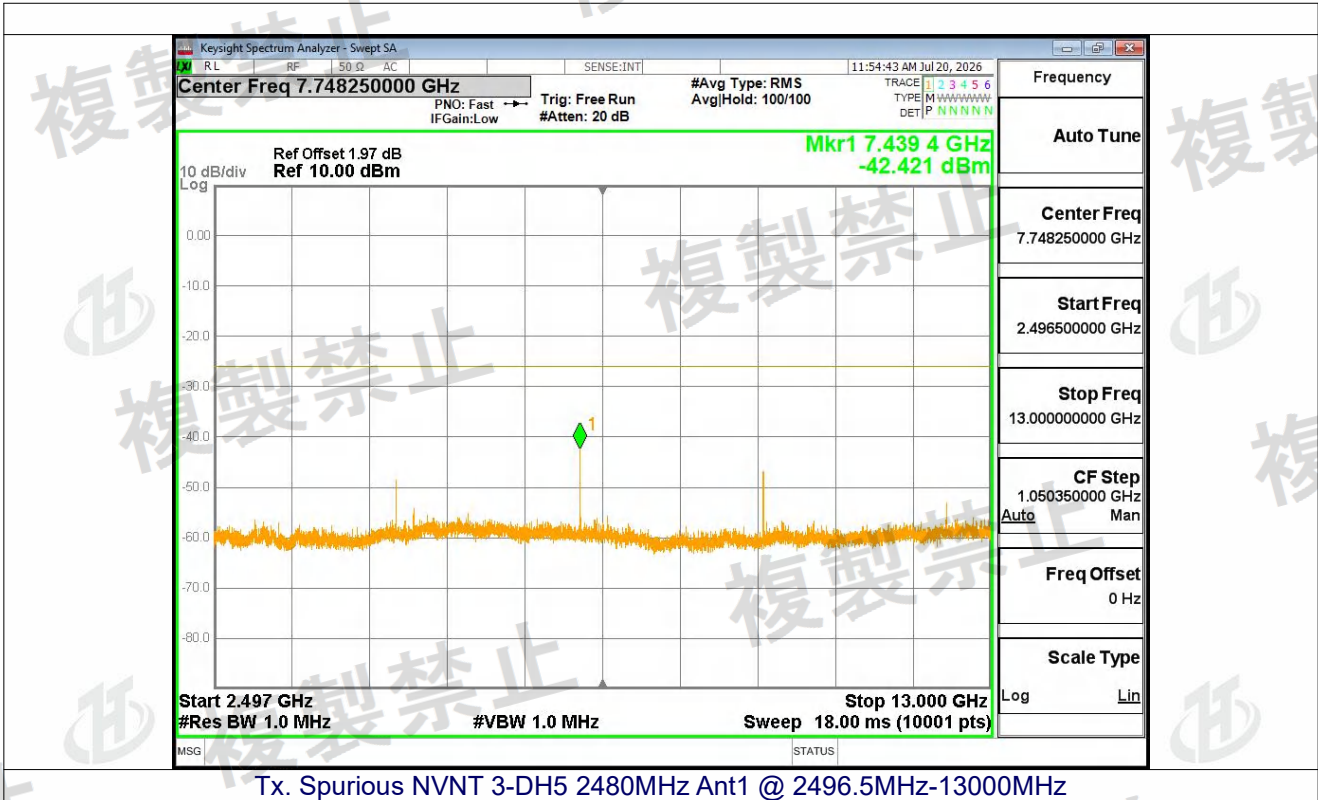




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 2387MHz-2400MHz



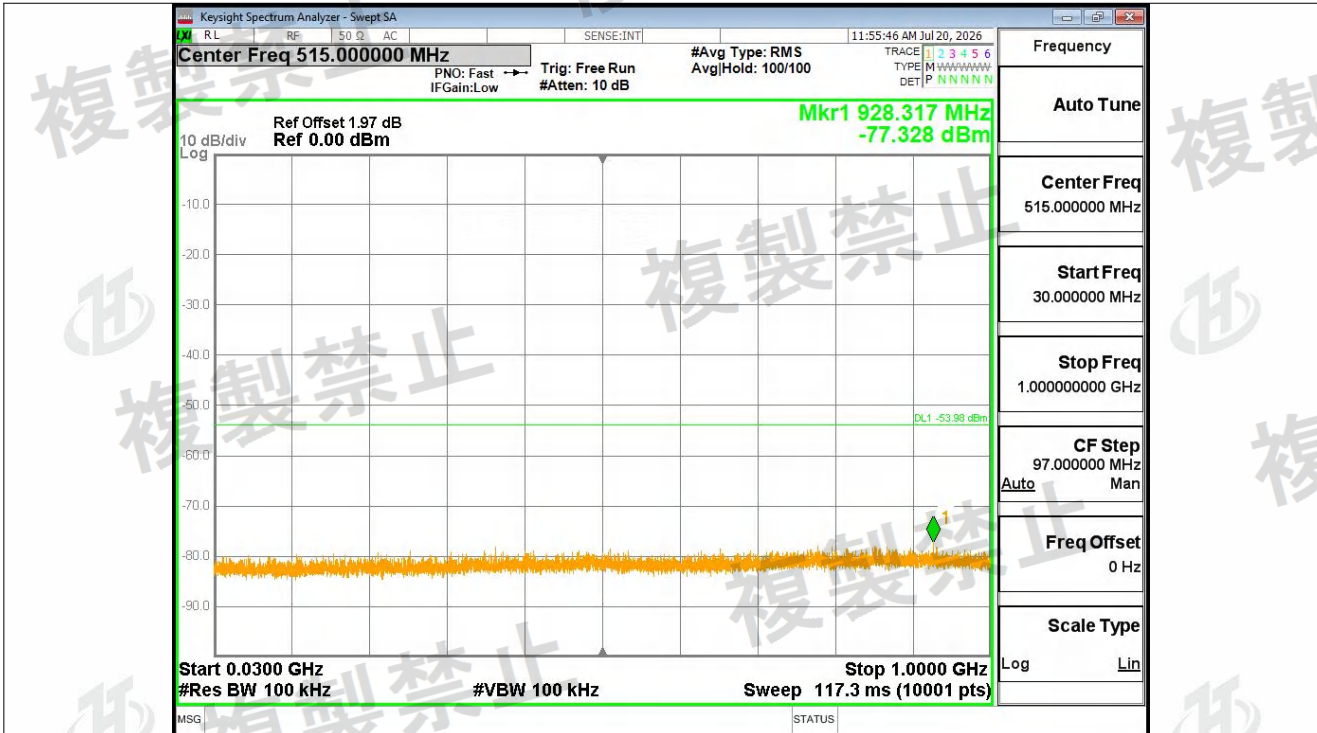
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 2483.5MHz-2496.5MHz



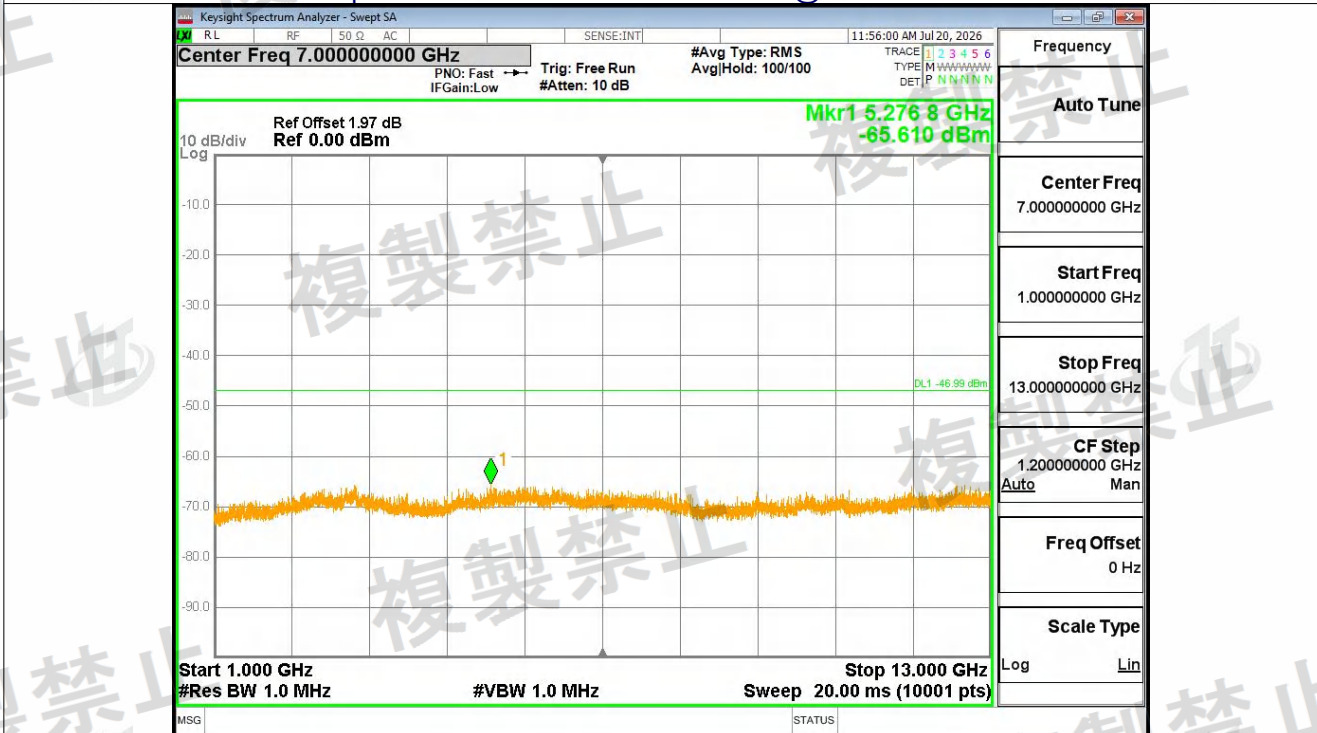


5.7 RX SPURIOUS EMISSION

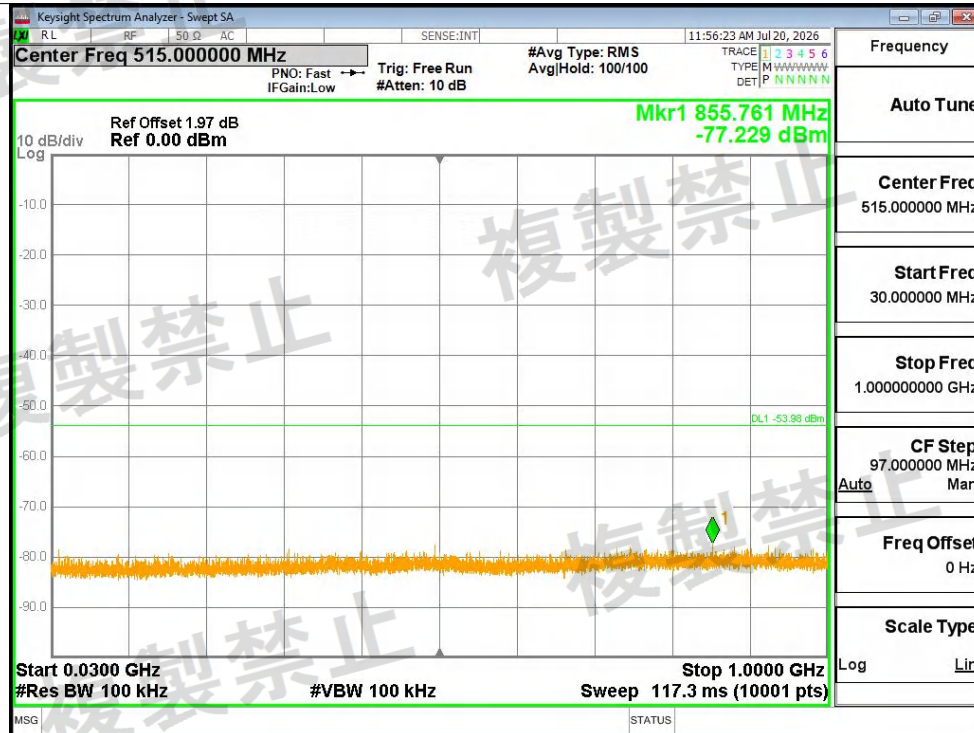
Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Max Value (nW)	Limit (dBm)	Limit (nW)	Verdict
1-DH5	2402	30-1000	928.32	-77.33	0.018	-54	3.98	Pass
1-DH5	2402	1000-13000	5276.80	-65.61	0.275	-47	19.95	Pass
1-DH5	2441	30-1000	855.76	-77.23	0.019	-54	3.98	Pass
1-DH5	2441	1000-13000	4934.80	-64.16	0.384	-47	19.95	Pass
1-DH5	2480	30-1000	768.75	-77.07	0.020	-54	3.98	Pass
1-DH5	2480	1000-13000	5906.80	-65.53	0.280	-47	19.95	Pass
2-DH5	2402	30-1000	925.31	-76.93	0.020	-54	3.98	Pass
2-DH5	2402	1000-13000	5285.20	-65.27	0.297	-47	19.95	Pass
2-DH5	2441	30-1000	726.07	-77.52	0.018	-54	3.98	Pass
2-DH5	2441	1000-13000	5933.20	-65.03	0.314	-47	19.95	Pass
2-DH5	2480	30-1000	850.04	-77.10	0.019	-54	3.98	Pass
2-DH5	2480	1000-13000	3055.60	-65.17	0.304	-47	19.95	Pass
3-DH5	2402	30-1000	824.62	-77.28	0.019	-54	3.98	Pass
3-DH5	2402	1000-13000	5328.40	-64.78	0.333	-47	19.95	Pass
3-DH5	2441	30-1000	926.18	-77.27	0.019	-54	3.98	Pass
3-DH5	2441	1000-13000	5874.40	-65.55	0.279	-47	19.95	Pass
3-DH5	2480	30-1000	803.09	-76.86	0.021	-54	3.98	Pass
3-DH5	2480	1000-13000	5360.80	-64.77	0.333	-47	19.95	Pass



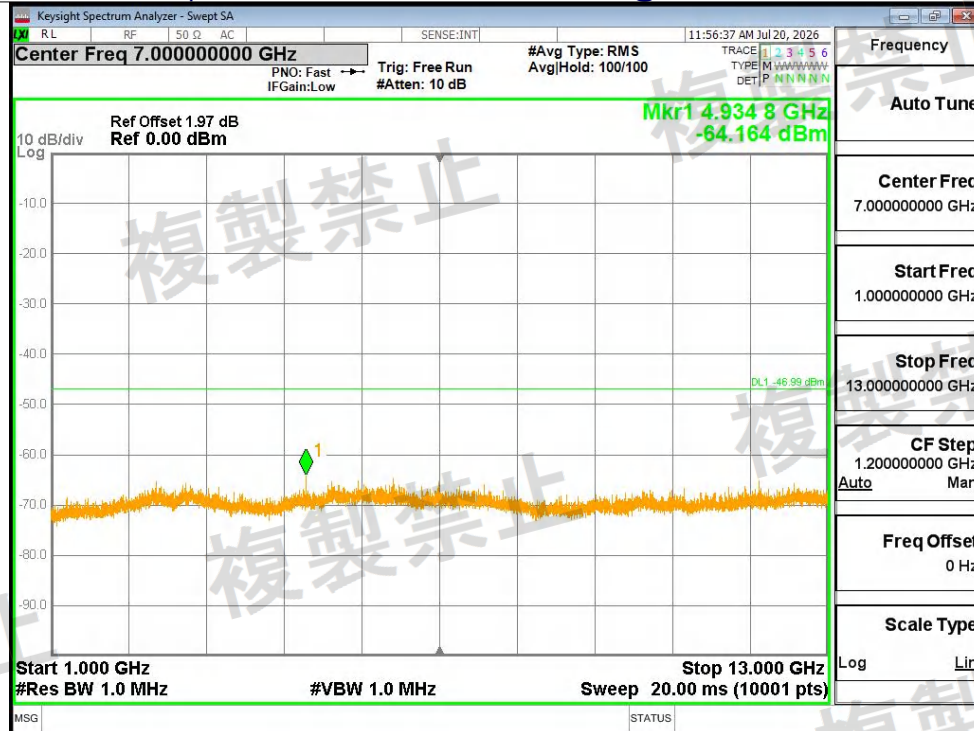
Rx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 30MHz-1000MHz



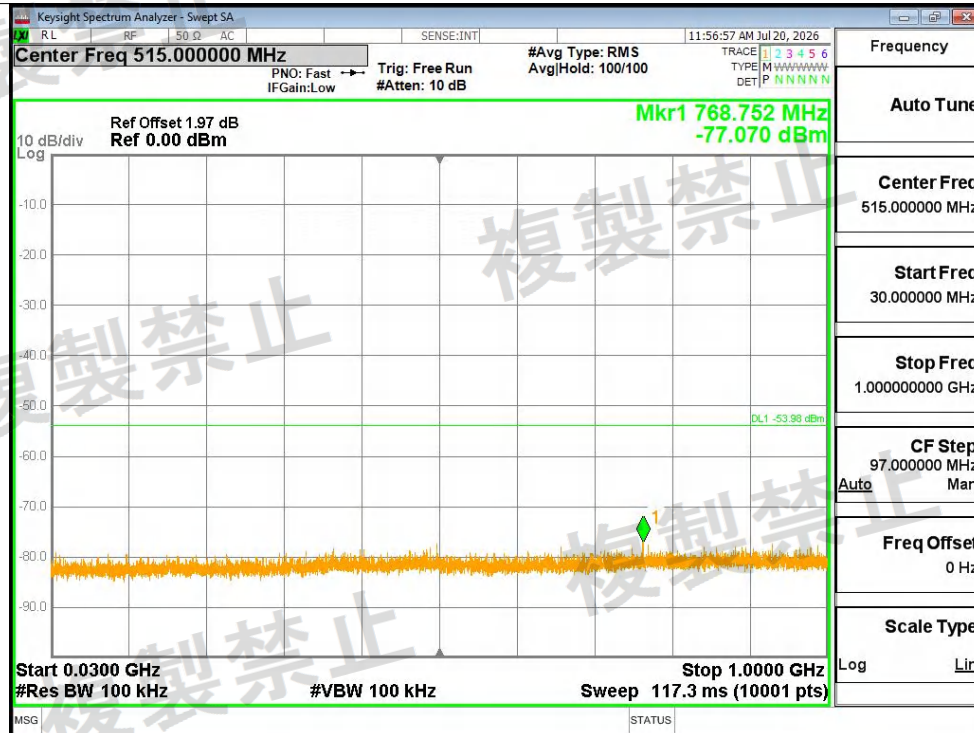
Rx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



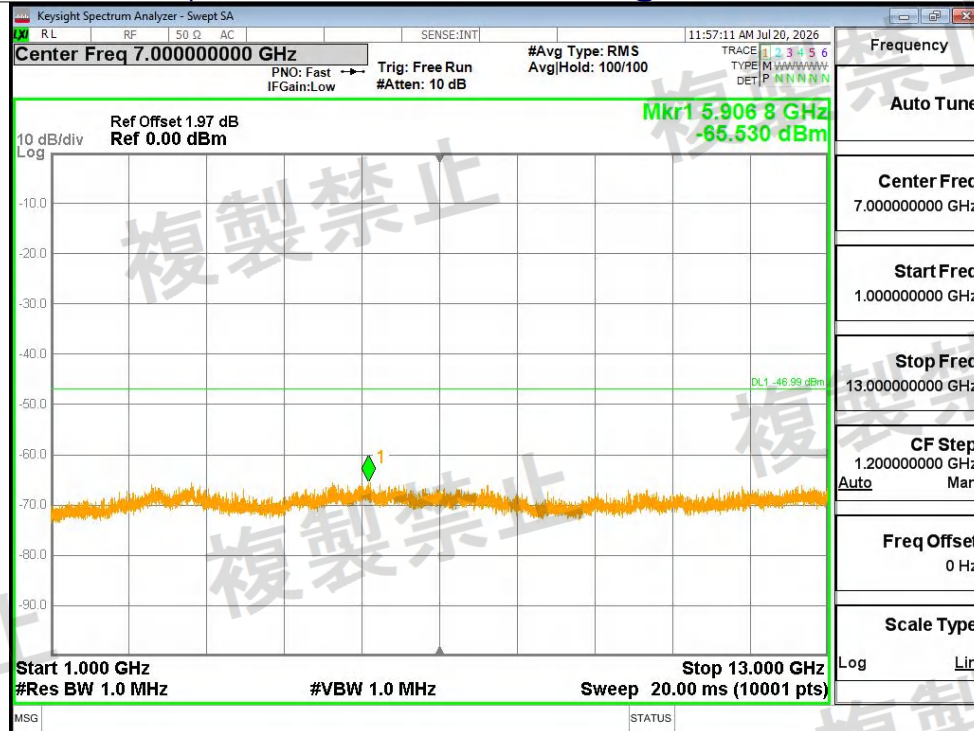
Rx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 30MHz-1000MHz



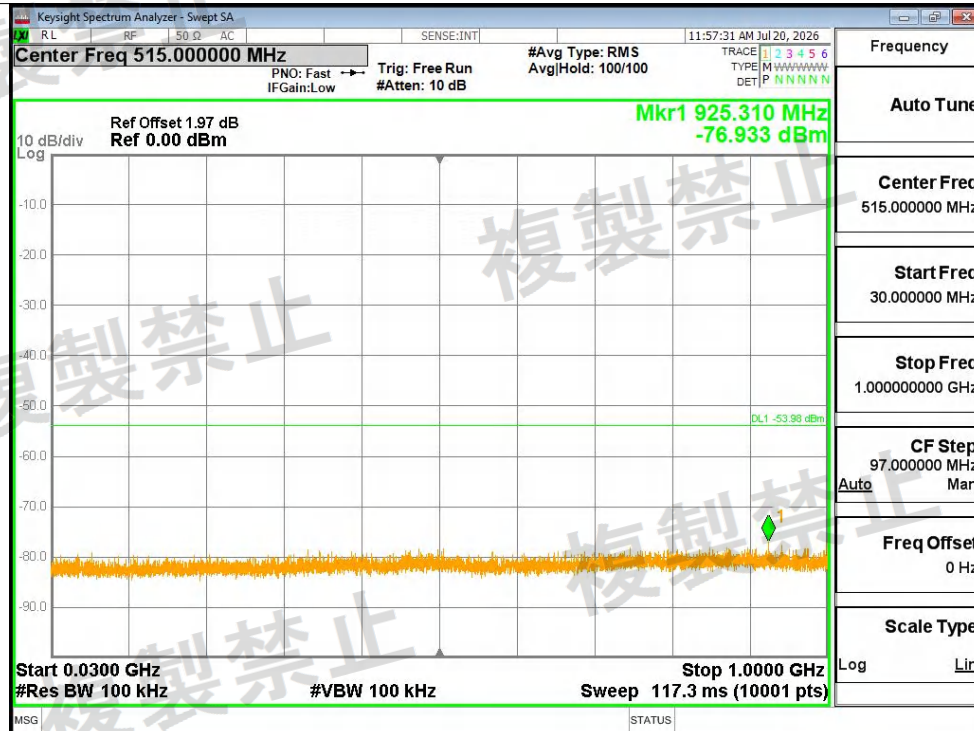
Rx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 1000MHz-13000MHz



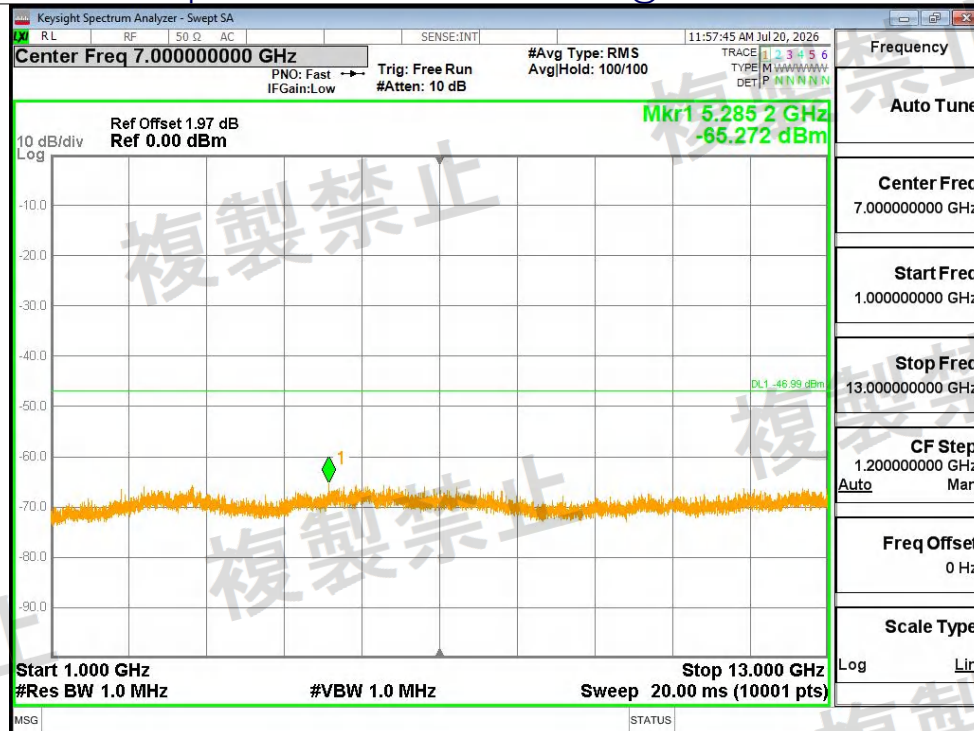
Rx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 30MHz-1000MHz



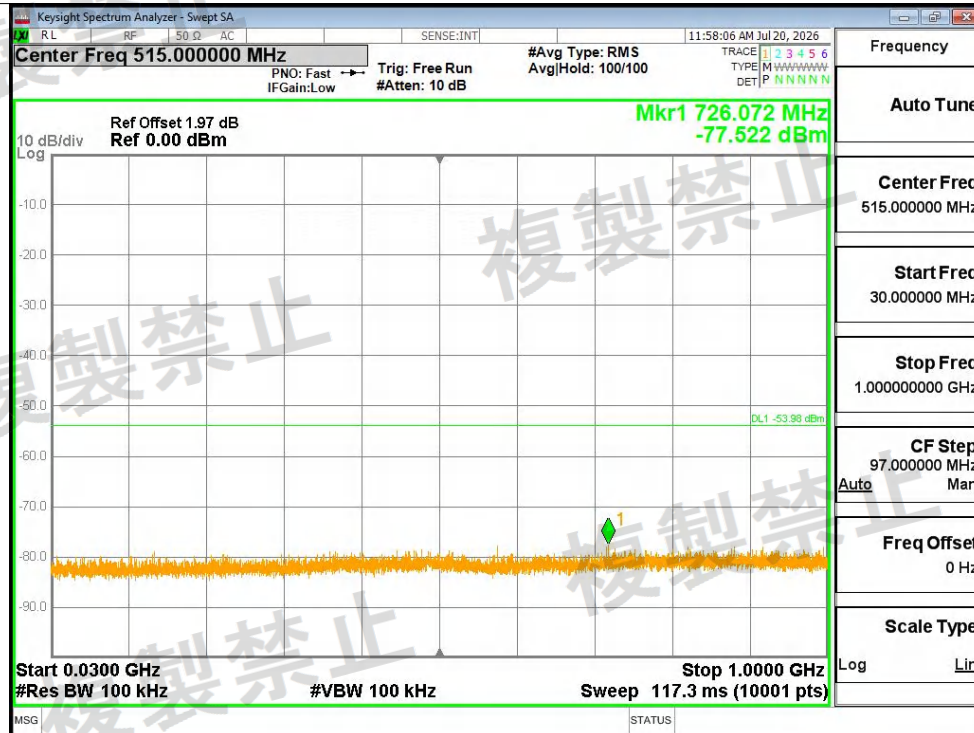
Rx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 1000MHz-13000MHz



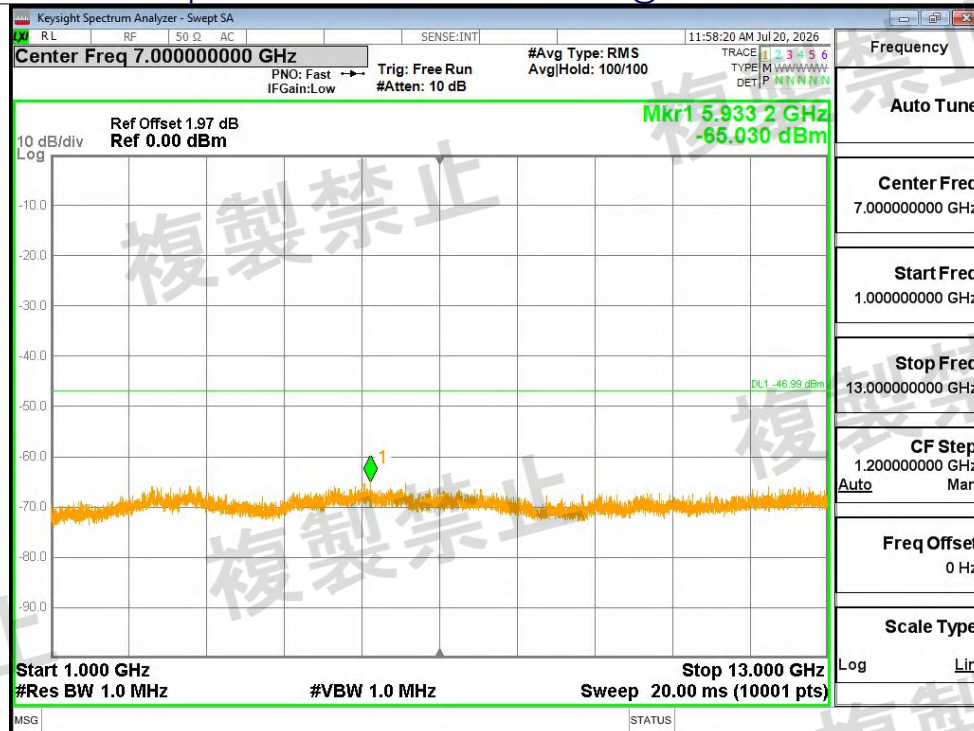
Rx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 30MHz-1000MHz



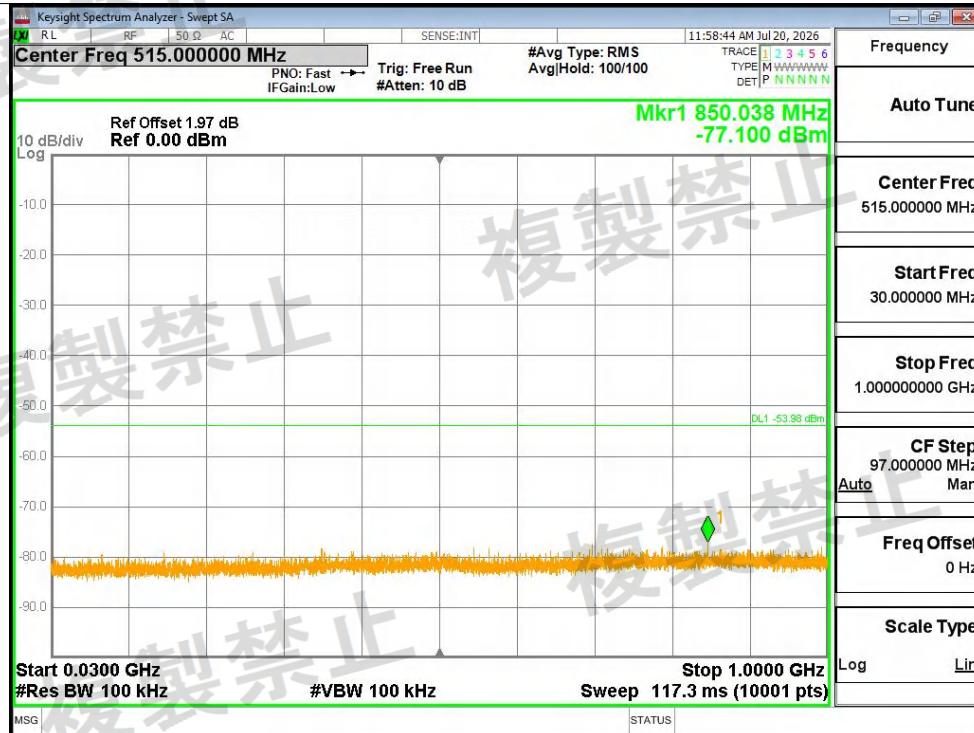
Rx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



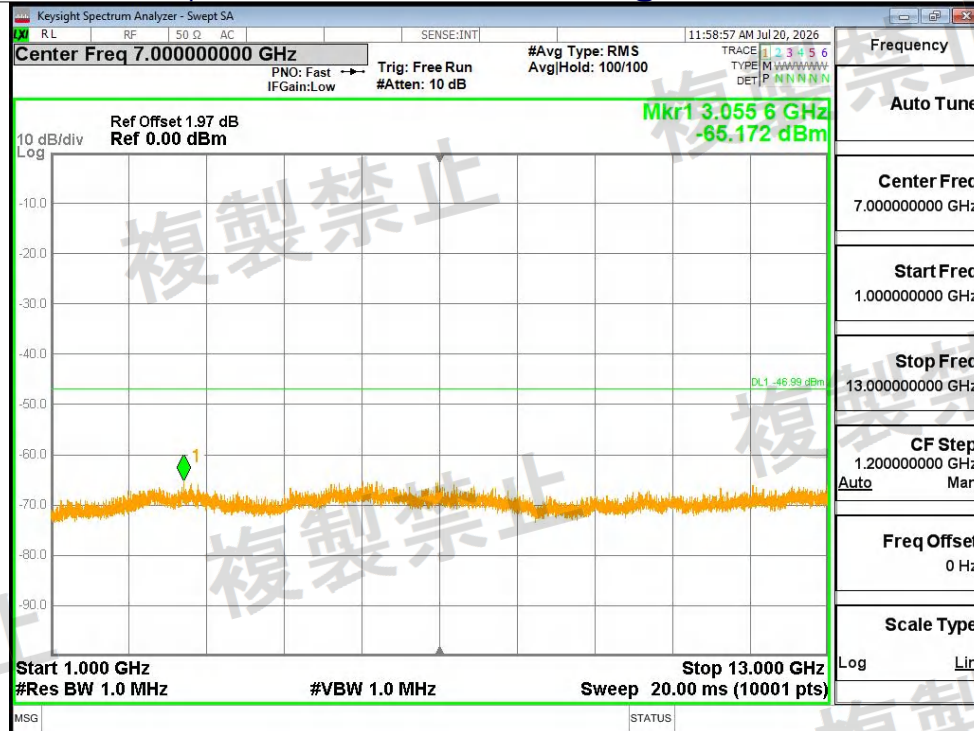
Rx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 30MHz-1000MHz



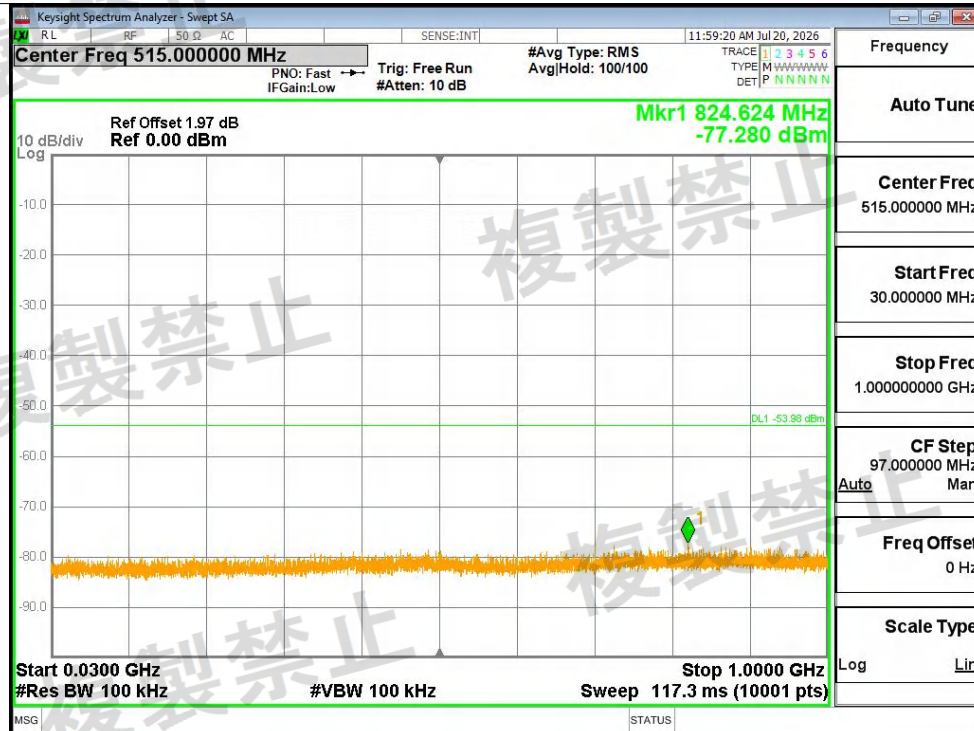
Rx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 1000MHz-13000MHz



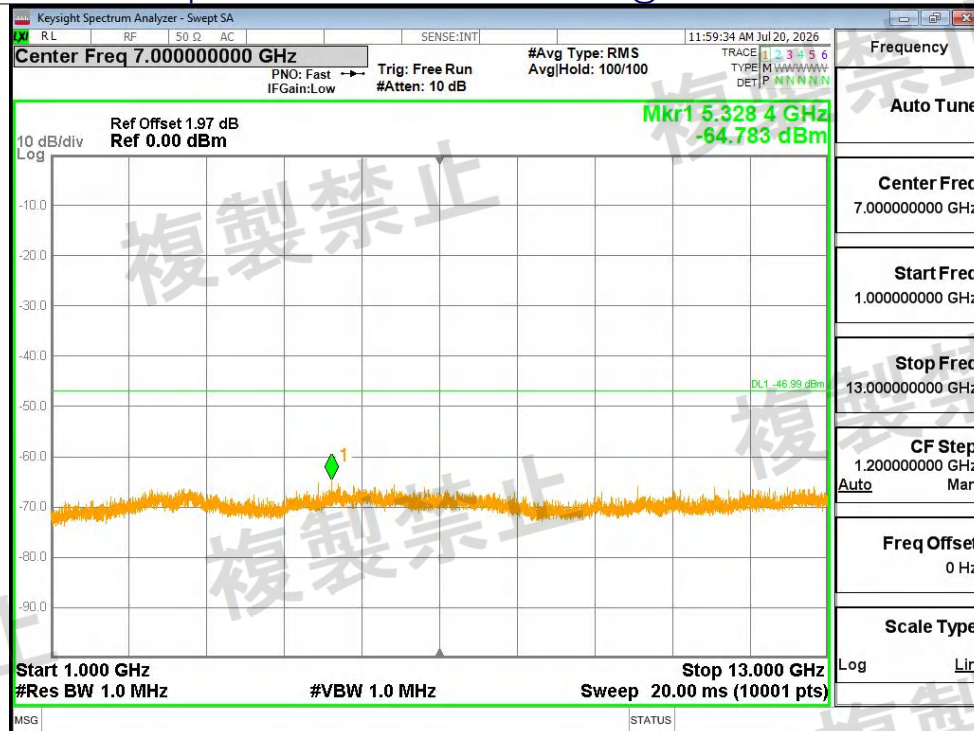
Rx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 30MHz-1000MHz



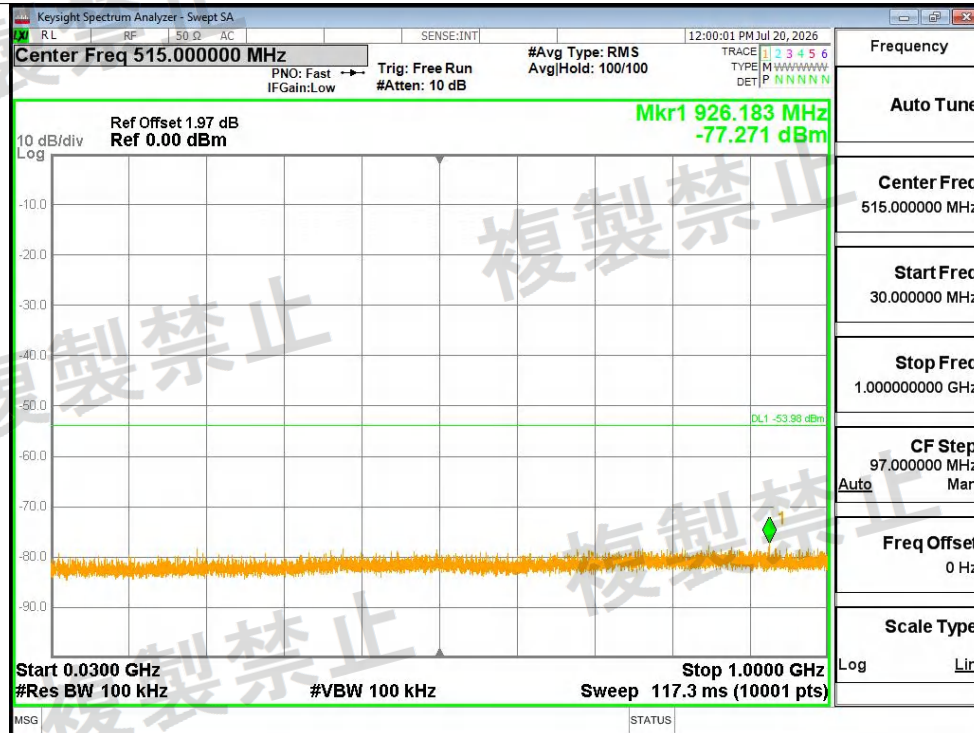
Rx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 1000MHz-13000MHz



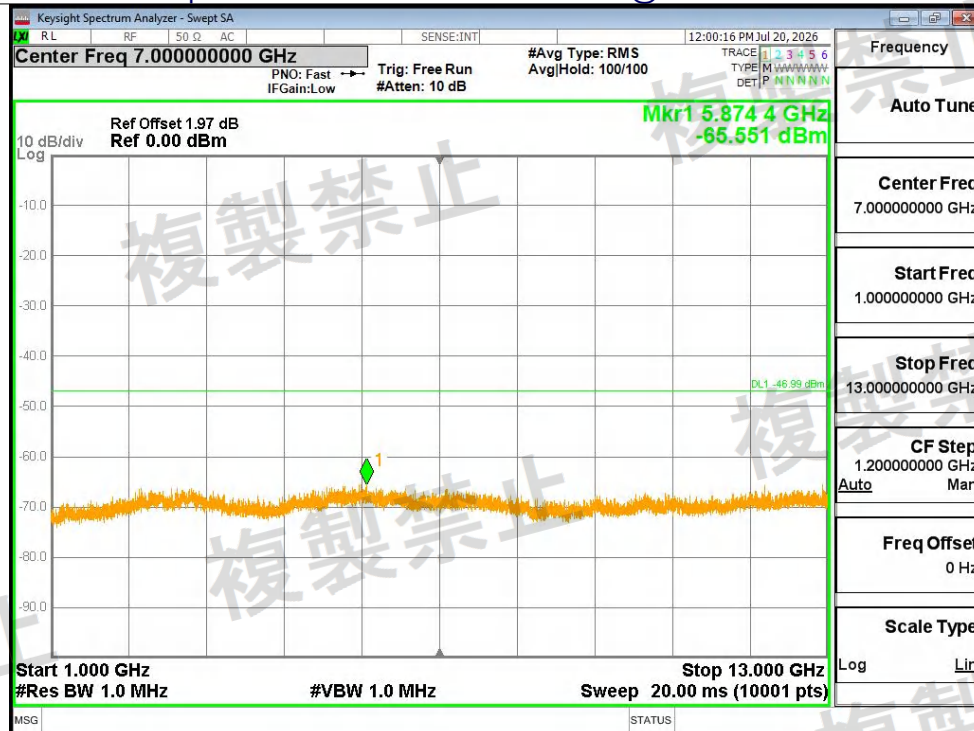
Rx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 30MHz-1000MHz



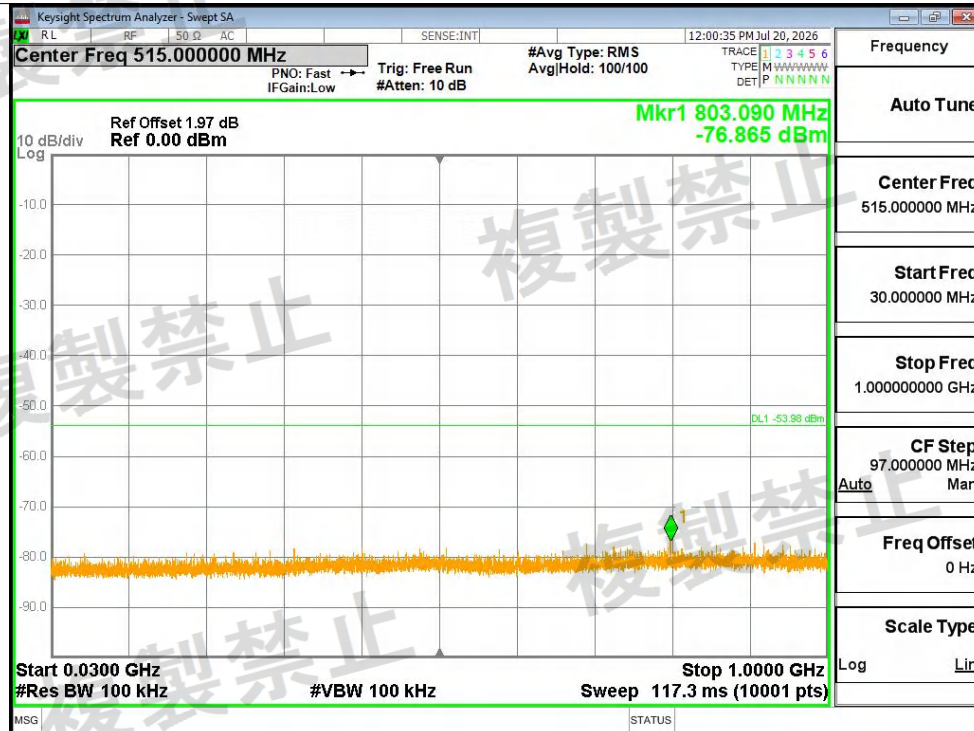
Rx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



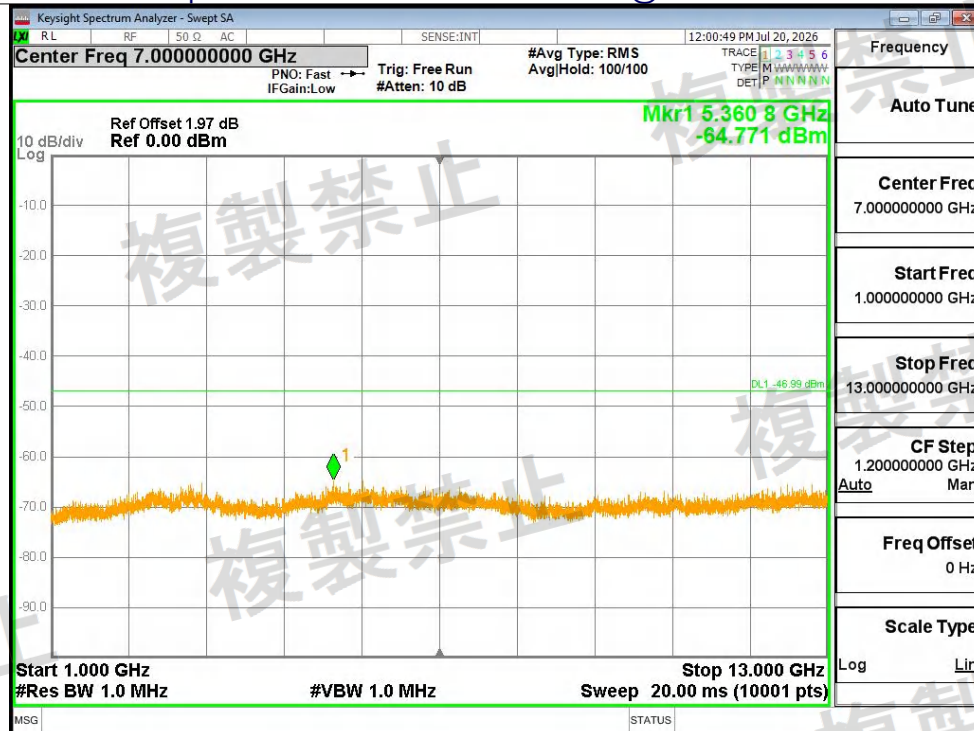
Rx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 30MHz-1000MHz



Rx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 1000MHz-13000MHz



Rx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 30MHz-1000MHz



Rx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 1000MHz-13000MHz



6. EUT TEST PHOTO

Reference to the appendix I for details.

7. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

***** END OF REPORT *****