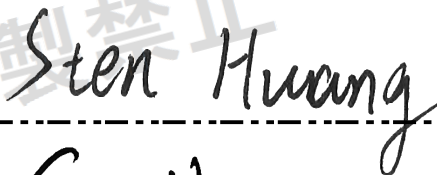


TEST REPORT

Applicant : Shenzhen Canjing Electronics Co., Ltd.
Address : Block 2, Zhipeng Ind. Park, Heping Village, Fuyong Town, Bao'an District, Shenzhen 518103, China
Manufacturer : Shenzhen Canjing Electronics Co., Ltd.
Address : Block 2, Zhipeng Ind. Park, Heping Village, Fuyong Town, Bao'an District, Shenzhen 518103, China
Product Name : CD player
Model Number : CD525B, CD526B, CD527B, CD528B, CD529B, CD530B, CD531B, CD532B, CD531W, CD532W
Trademark : N/A
Date of Receipt : Jan. 13, 2025
Test Date : Jan. 13, 2025 to Jan. 17, 2025
Date of Report : Jan. 17, 2025
Test Result : This device described above has been tested by BKC, and the test results show that the equipment under test (EUT) is in compliance with the Article 2 Paragraph 1 of Item 19 requirements. And it is applicable only to the tested sample identified in the report.
Test Procedure Used:
Standards : Article 2 Paragraph 1 of Item 19
MIC Notice No.88 Appendix No.43

Prepared by(Test Engineer):
Sten Huang



Approved(Manager):
Casey Wang



Approved(Manager):
Levi Xiao



TABLE OF CONTENT

1. General Information	4
1.1. Description of Device (EUT)	4
1.2. Channel List	4
1.3. Summary of test result	5
1.4. Test mode	5
1.5. Test Conditions	6
1.6. Measurement Uncertainty (95% confidence levels, k=2)	6
1.7. Special Accessories and Auxiliary Equipment	6
1.8. Test Facility	6
1.9. Test Equipment	7
2. Frequency Tolerance	8
2.1. Limit	8
2.2. Test Setup	8
2.3. Test Procedure	8
2. Set RBW = 10 kHz.	8
2.4. Test Result	8
3. Antenna Power Error Measurement	11
3.1. Limit	11
3.2. Test Setup	11
3.3. Test Procedure	11
3.4. Test Result	11
4. Occupied Frequency Bandwidth(99% and 90%)	12
4.1. Limit	12
4.2. Test Setup	12
4.3. Test Procedure	12
4.4. Test Result	12
5. Unwanted Emission Intensity Measurement	16
5.1. Limit	16
5.2. Test setup	16
5.3. Test Procedure	16
5.4. Test Result	17
6. Dwell Time	41
6.1. Limit	41
6.2. Test Setup	41
6.3. Test Procedure	41
6.4. Test Result	41
7. Secondary Radiated Emissions	45
7.1. Limit	45
7.2. Test Setup	45
7.3. Test Procedure	45
7.4. Test Result	45
8. Interference prevention function	55
8.1. Limit	55
8.2. Test Setup	55
8.3. Test Procedure	55
8.4. Test Result	55
9. Test Photographs	57
10. Photos of the EUT	58

[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name : CD player

Model No. : CD525B, CD526B, CD527B, CD528B, CD529B, CD530B, CD531B, CD532B, CD531W, CD532W

Model Difference : Only the model names are different.(Main test model: CD525B)

Power supply : DC 3.7V From the battery or DC5V from USB port

Operation frequency : 2.402-2.480GHz

Max. RF output power: : 2mw/Mhz

Modulation : GFSK, Pi/4 DQPSK, 8DPSK

Antenna Type : PCB antenna, Maximum Gain is -0.58dBi

Intend use environment : Residential, commercial and light industrial environment

Adapter Information : N/A

Software version : V1.0

Hardware version : V1.0

1.2. Channel List

BT mode

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2403	2	2404	3	2405
4	2406	5	2407	6	2408	7	2409
8	2410	9	2411	10	2412	11	2413
12	2414	13	2415	14	2416	15	2417
16	2418	17	2419	18	2420	19	2421
20	2422	21	2423	22	2424	23	2425
24	2426	25	2427	26	2428	27	2429
28	2430	29	2431	30	2432	31	2433
32	2434	33	2435	34	2436	35	2437
36	2438	37	2439	38	2440	39	2441
40	2442	41	2443	42	2444	43	2445
44	2446	45	2447	46	2448	47	2449
48	2450	49	2451	50	2452	51	2453
52	2454	53	2455	54	2456	55	2457
56	2458	57	2459	58	2460	59	2461
60	2462	61	2463	62	2464	63	2465
64	2466	65	2467	66	2468	67	2469
68	2470	69	2471	70	2472	71	2473
72	2474	73	2475	74	2476	75	2477
76	2478	77	2479	78	2480	-	-

1.3. Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna Power and Antenna Power Tolerance	Article 2 Paragraph 1 of Item 19	PASS
Frequency Tolerance	Article 2 Paragraph 1 of Item 19	PASS
Transmission Rate	Article 2 Paragraph 1 of Item 19	PASS
Occupied Frequency Bandwidth	Article 2 Paragraph 1 of Item 19	PASS
Spread Bandwidth	Article 2 Paragraph 1 of Item 19	PASS
Process Gain	Article 2 Paragraph 1 of Item 19	PASS
Number of Carriers	Article 2 Paragraph 1 of Item 19	N/A
Dwell Time	Article 2 Paragraph 1 of Item 19	PASS
Spurious emission intensity	Article 2 Paragraph 1 of Item 19	PASS
Half-power beam width	Article 2 Paragraph 1 of Item 19	Note1
Secondary Radiated Emissions	Article 2 Paragraph 1 of Item 19	PASS
Interference prevention function	Article 2 Paragraph 1 of Item 19	PASS
Remark: N/A is an abbreviation for Not Applicable. Note1 means the Max EIRP Power(-0.13dBm/MHz) is less than 6.91dBm/MHz, , the test is not applicable.		

1.4. Test mode

The special RF test software was used to control EUT work in Continuous Bluetooth TX mode, and select test channel, wireless mode.

Test mode	Low channel	Middle channel	High channel
GFSK TX	2402MHz	2441MHz	2480MHz
GFSK RX	2402MHz	2441MHz	2480MHz
Pi/4DQPSK TX	2402MHz	2441MHz	2480MHz
Pi/4DQPSK RX	2402MHz	2441MHz	2480MHz
8DPSK TX	2402MHz	2441MHz	2480MHz
8DPSK RX	2402MHz	2441MHz	2480MHz

Test mode	channel	/	/
GFSK TX	Hopping	/	/
Pi/4DQPSK TX	Hopping	/	/
8DPSK TX	Hopping	/	/
Note: Only the worst Data DH5/2DH5/3DH5 Record in the report			

1.5. Test Conditions

Supply Voltage			
	Input Voltage (Vac)	Voltage at the input of the RF Circuit (Vdc)	Tolerance (%)
Normal	3.7	3.3	
+10%	4.07	3.3	0
-10%	3.33	3.3	0
Others			
Temperature (° C)		22.5	
Relative humidity		51%.	
ATM Pressure:		1019 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.			

1.6. Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for radio frequency	1×10^{-9}	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	1%	

1.7. Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Hardware Version	Software Version
/	/	/	/	/

1.8. Test Facility

Site Description	
Name of Firm	: Shenzhen BKC Testing Co., Ltd.
Site Location	: Room103, 1/F, Huaya Building, Huaya Industrial Park, Yousong Community, Longhua Subdistrict, Longhua District, Shenzhen, Guangdong, China

1.9. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
For radiated (Below 1G) emission test					
EMI Test Receiver	Rohde & Schwarz	ESRP	101478	Mar .14, 2024	1 Year
Bilog Antenna	Schwarzbeck	VULB 9168	01321	Apr .01 .2022	3 Year
Signal Amplifier	HP	8447D	2727A05345	Mar .14, 2024	1 Year
EMI Test Software	EZ	EZ-EMC	EMEC-3A1+	/	/
For radiated (Above 1G) emission test					
Spectrum analyzer	KEYSIGHT	N9020A	MY50510311	Mar .14, 2024	1 Year
Double Ridged Broadband	SCHWARZBECK	BBHA 9120D	02621	May 18. 2022	3 Year
Preamplifier	Schwarzbeck	BBV 9718D	00041	Mar .14, 2024	1 Year
EMI Test Software	EZ	EZ-EMC	EMEC-3A1+	/	/
For RF test system					
Spectrum	Agilent	N9020A	MY50510311	Mar .14, 2024	1 Year
Vector source	Agilent	N5182A	MY47420223	Mar .14, 2024	1 Year
All instrument	Rohde & Schwarz	CMW 500	101131	Mar .14, 2024	1 Year
control unit	MW	MW100-RFCB	MW200411BK-34	Mar .14, 2024	1 Year
Testing software	MW	MTS 8310	/	/	/

Remark:

(a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.

(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992) .

(c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).

(d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (C) From JRL Article 24-2, paragraph 4, Item 2

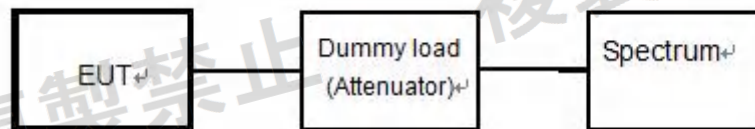
2. Frequency Tolerance

2.1. Limit

According to Radio Law of Japan item 19 of Article 2 Paragraph 1, Clause 3.2 (4), the Tolerance of frequency: $\pm 50 \times 10^{-6}$.

Limit
50ppm

2.2. Test Setup



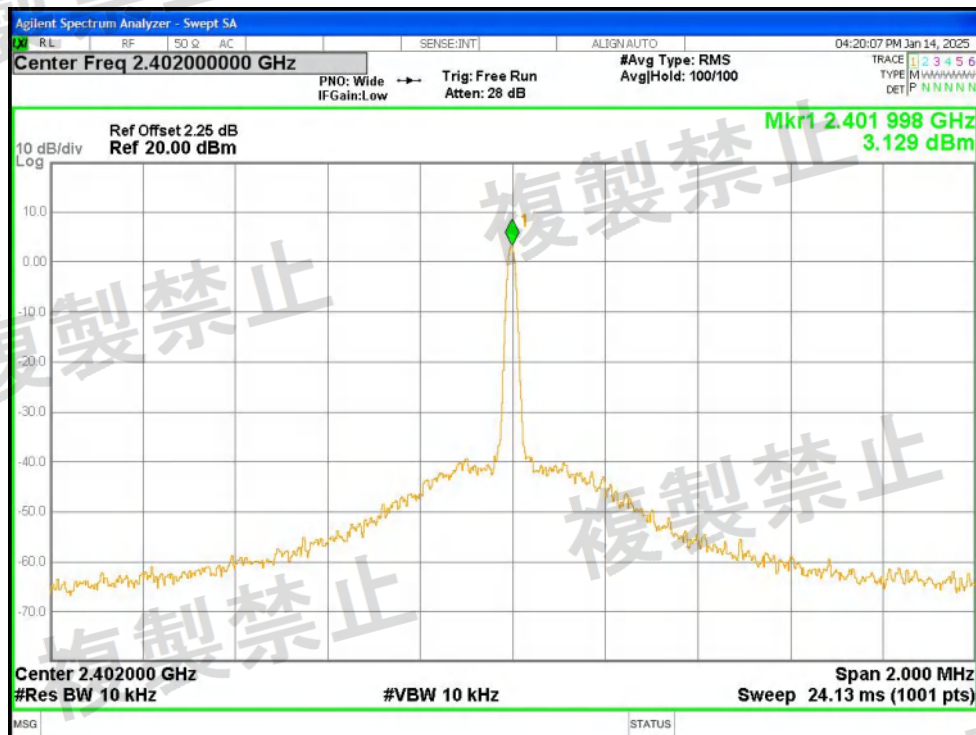
2.3. Test Procedure

1. In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a Spectrum.
2. Set RBW = 10 kHz.
3. Set the video bandwidth (VBW) = RBW.
4. SPAN=2MHz
5. Detector = Peak.
6. Trace mode = max hold.
7. Sweep = auto couple.

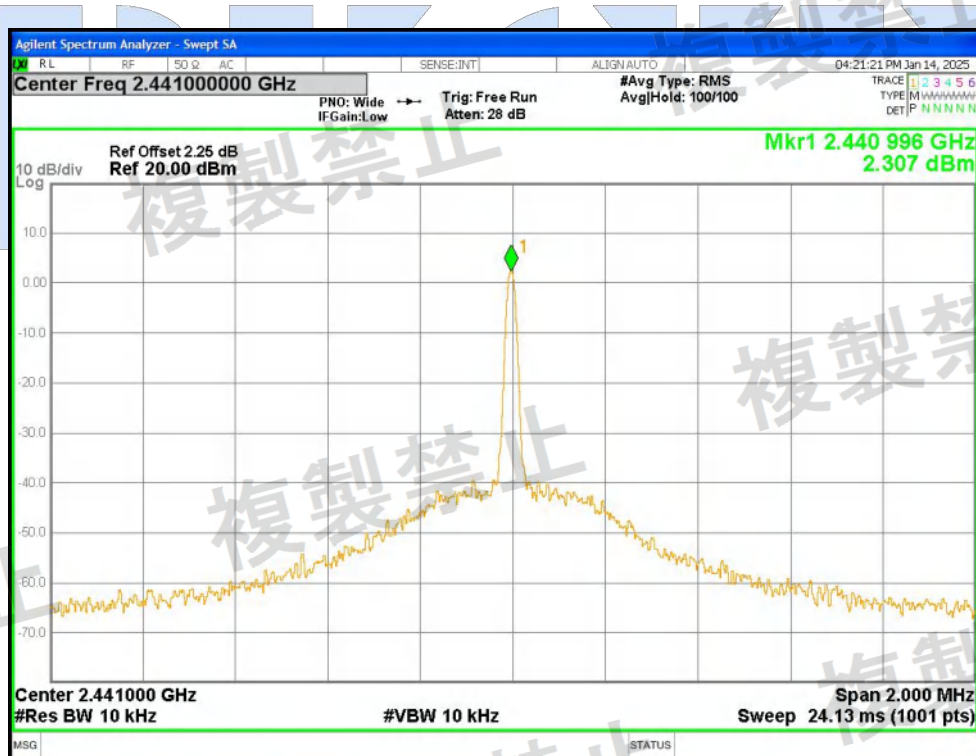
2.4. Test Result

Test mode	Test voltage	Frequency (MHz)	Read (MHz)	Deviation (Hz)	Tolerance (ppm)	Limit (ppm)	Result
Un-modulation mode	Normal	2402	2401.998	-2000	-0.83	± 50.00	Pass
		2441	2440.996	-4000	-1.64		
		2480	2479.996	-4000	-1.61		

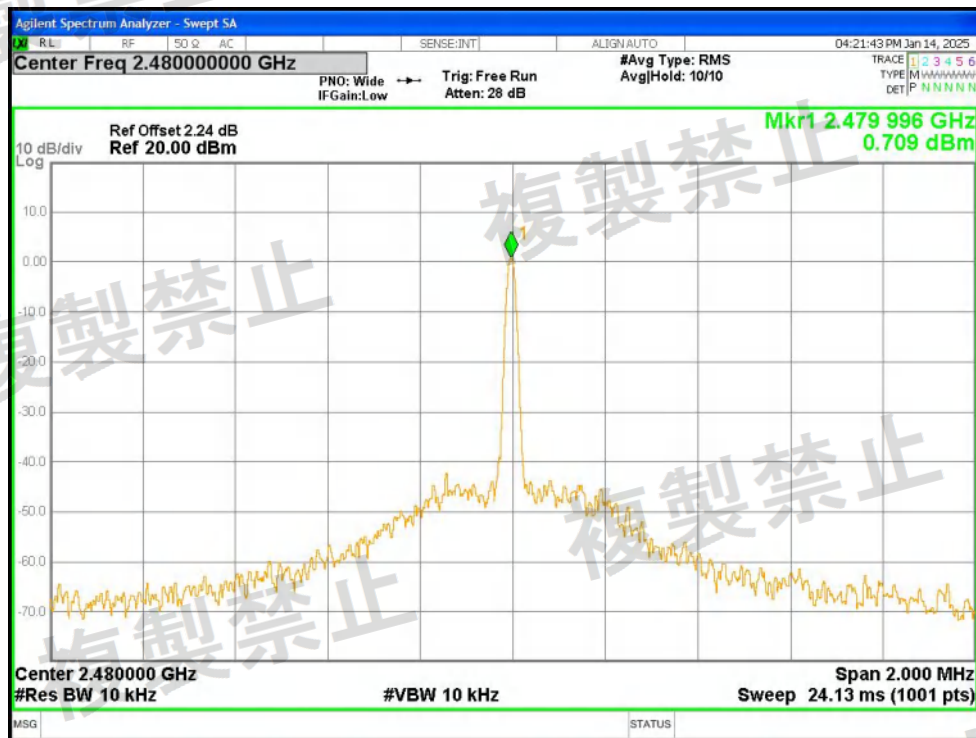
Note: Tolerance (ppm)=Deviation (Hz)/Frequency (MHz)



Freq. Error NVNT 1-DH5 2402MHz Ant1



Freq. Error NVNT 1-DH5 2441MHz Ant1



Freq. Error NVNT 1-DH5 2480MHz Ant1

3. Antenna Power Error Measurement

3.1. Limit

Item	Limits
Antenna Power Density	$\leq 3\text{mW/MHz}$
EIRP Power Density	$\leq 6.91\text{dBm/MHz}$
Antenna Power Error	+20% No lower limit

3.2. Test Setup



3.3. Test Procedure

For FHSS UUT

Measure the total power by the Power Meter in a state of hopping mode.

Calculate the mean power per 1MHz by dividing the reading level by spread bandwidth.

Output power Density (Mw/MHz) = Total power (mW) / spread bandwidth(MHz)

3.4. Test Result

Test Mode	Channel	Total Output Power (dBm)	Total Output Power (mW)	Spread Band Width (MHz)	Test Result for Antenna Power (mw/MHz)	Declared Antenna Power (mw/MHz)	Tolerance (%)
GFSK	Hopping	17.98	62.81	70.206	0.89	2	-56
$\pi/4$ DQPSK	Hopping	18.94	78.34	70.359	1.11	2	-45
8DPSK	Hopping	18.94	78.34	70.44	1.11	2	-45

Antenna Power (mw/MHz)= antenna burst power(mW)/ Spread Bandwidth(MHz)

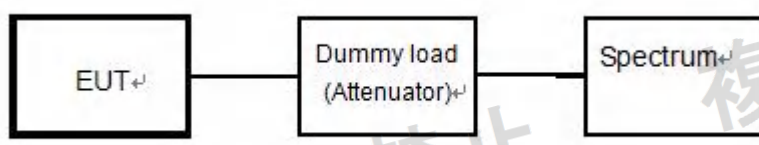
Note: The max EIRP power is -0.13dBm/MHz (0.45dBm/MHz + -0.58dBi) that is less 6.91dBm/MHz.

4. Occupied Frequency Bandwidth(99% and 90%)

4.1. Limit

Item	Limits
Occupied Band Width(99%):	$\leq 83.5\text{MHz}$
Spreading Bandwidth(90%):	$\geq 500\text{ kHz}$

4.2. Test Setup



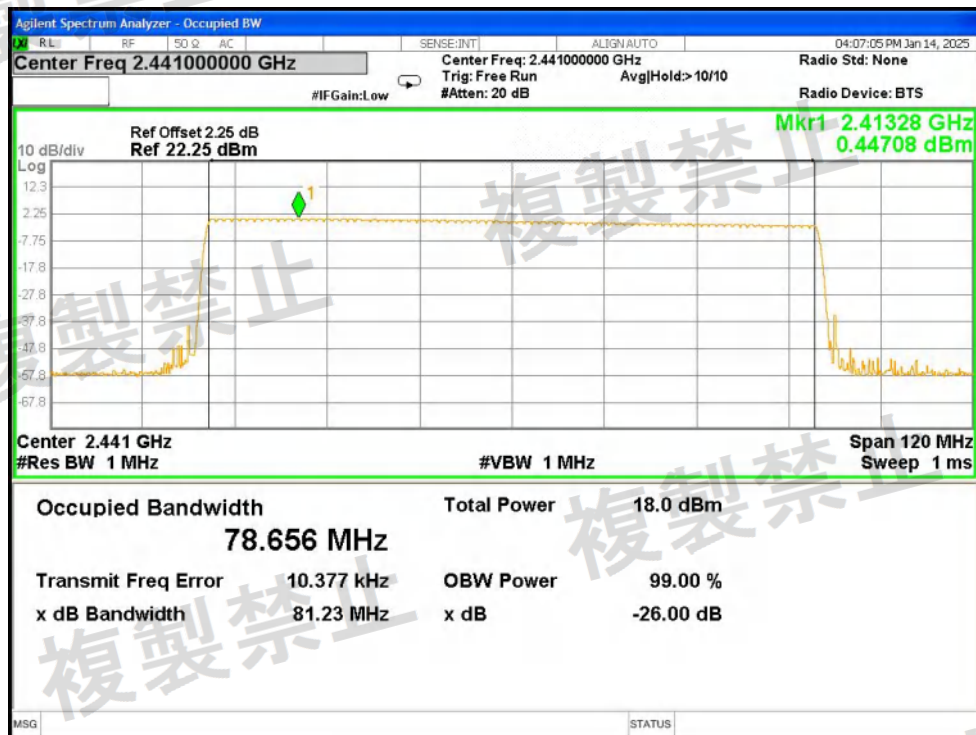
4.3. Test Procedure

- Setting of SA is following as: RB: 1MHz / VB:1MHz / SPAN: 120MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- 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).
- SA set to 90% of occupied bandwidth to measure Spread Spectrum Bandwidth and must greater than 500kHz.
- Spread Spectrum Factor = Spread Spectrum Bandwidth / modulation rate of EUT.
- Spread Spectrum Factor limit is greater than 5
- Spread spectrum factor= Spread bandwidth/ Transmission rate

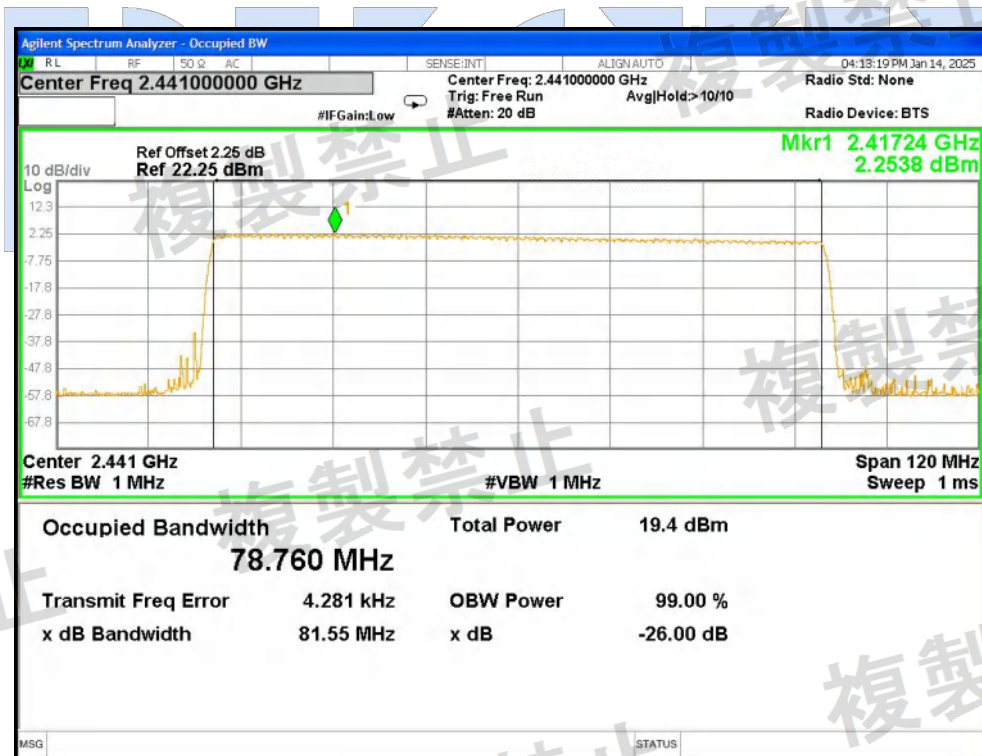
4.4. Test Result

Test Mode	Test Channel	99%Hopping Mode(Occupied bandwidth) MHz	90%Hopping Mode(Occupied bandwidth) MHz	Spread spectrum factor	Result
GFSK	Hopping	78.656	70.206	70.206	PASS
Pi/4 DQPSK	Hopping	78.76	70.359	70.359	PASS
8-DPSK	Hopping	78.765	70.44	70.44	PASS

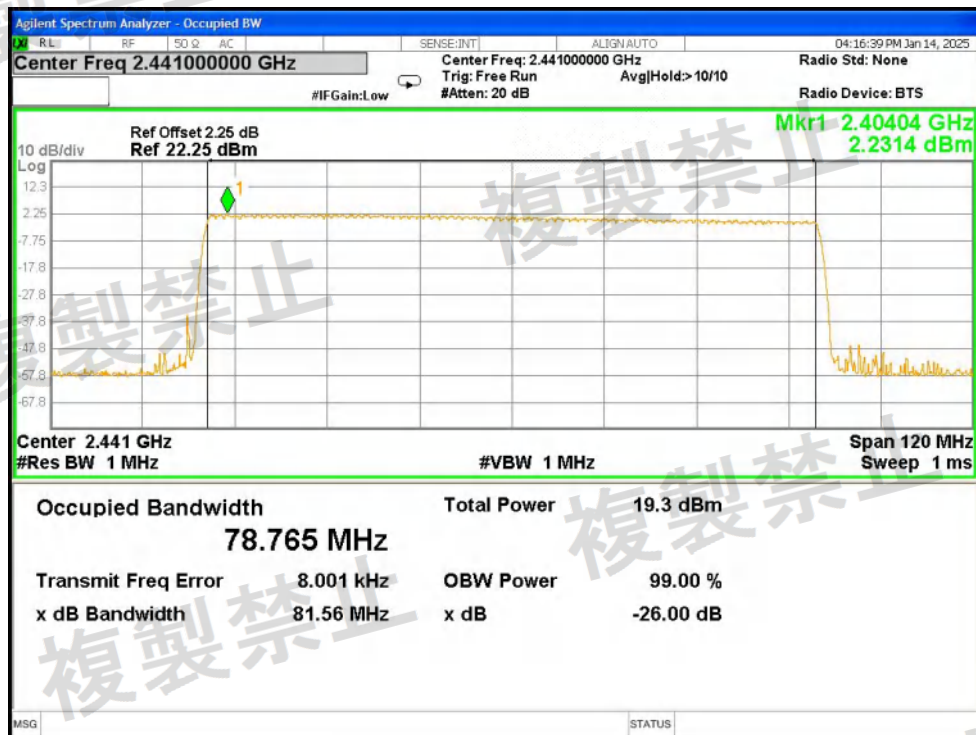
Note: GFSK mode data rate is 1Mbits/s; Pi/4 DQPSK mode data rate is 1Mbits/s; 8-DPSK mode data rate is 1Mbits/s



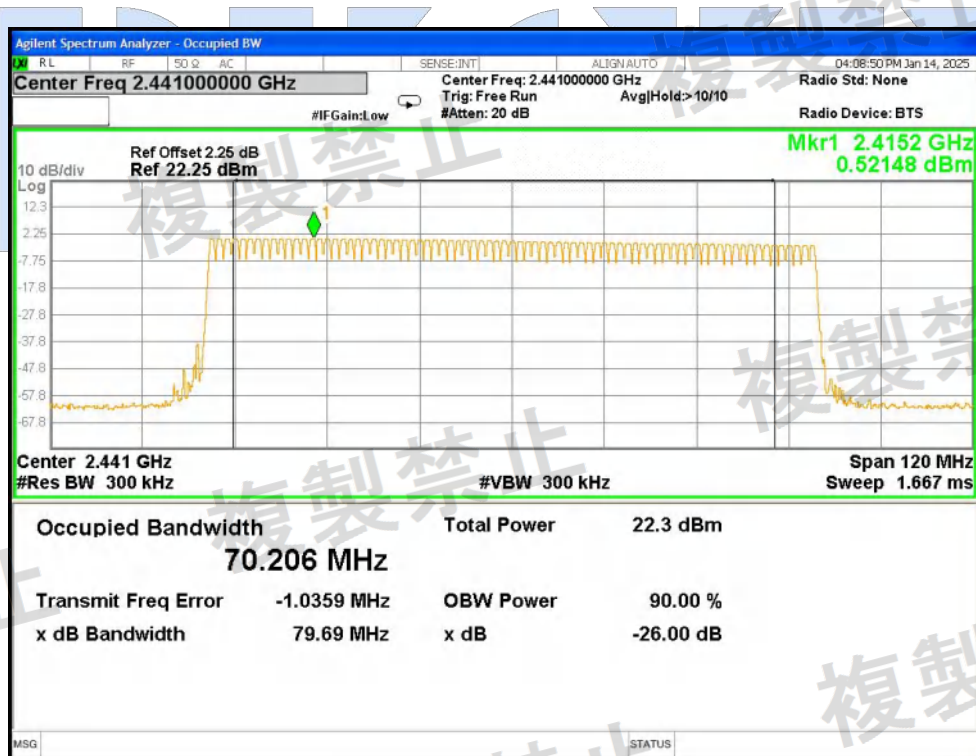
OBW (Hopping) NVNT 1-DH5 2402MHz Ant1



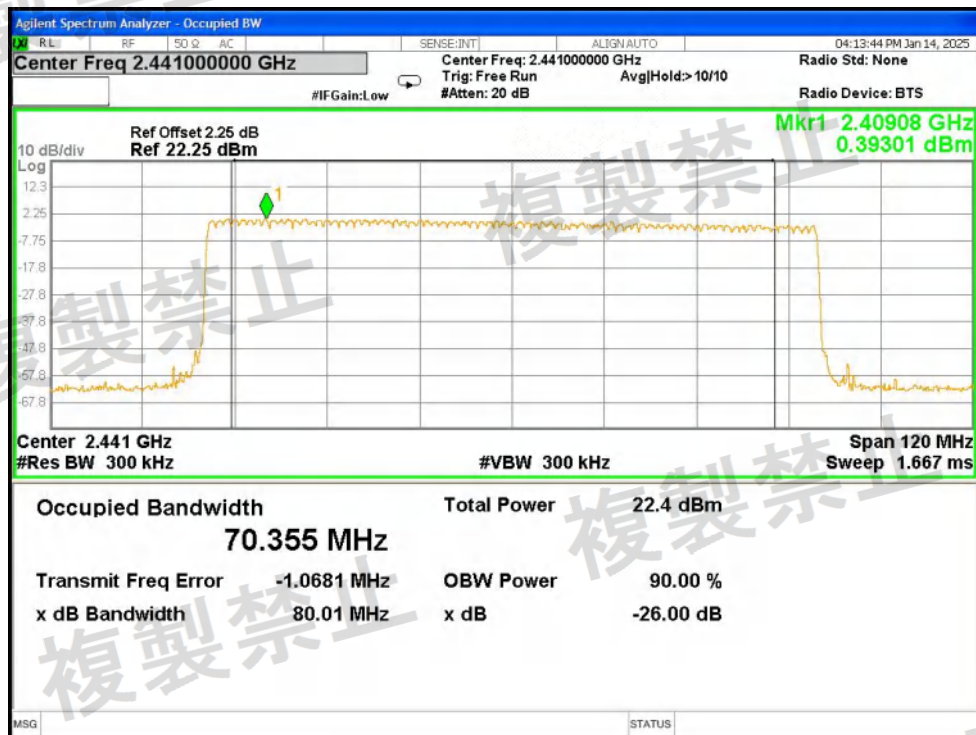
OBW (Hopping) NVNT 2-DH5 2402MHz Ant1



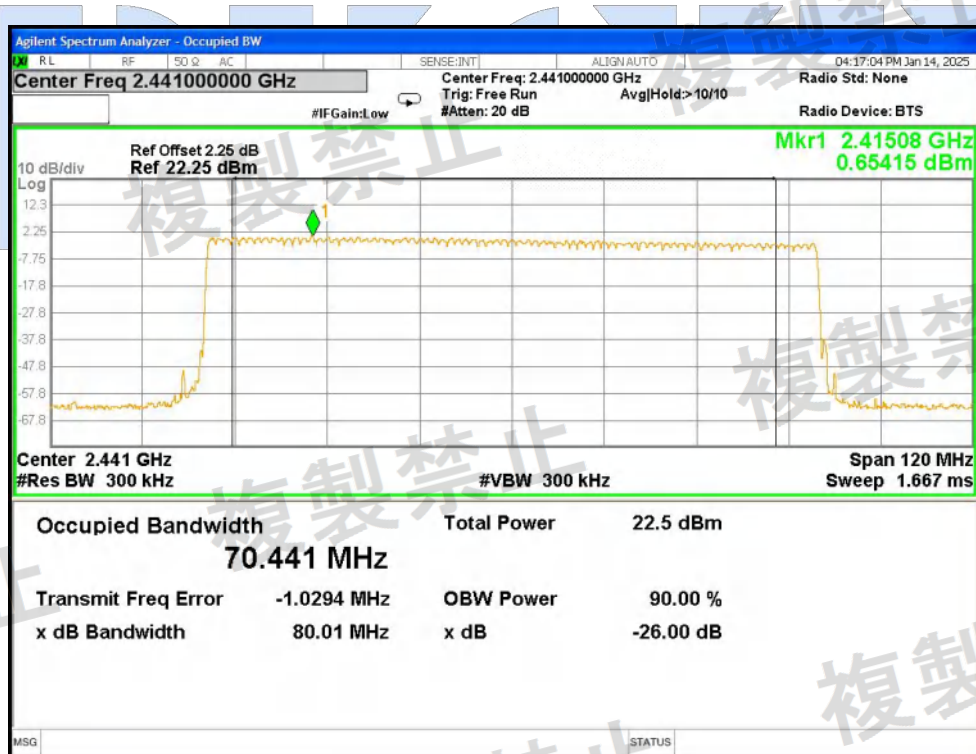
OBW (Hopping) NVNT 3-DH5 2402MHz Ant1



Spreading Bandwidth NVNT 1-DH5 2440MHz Ant1



Spreading Bandwidth NVNT 2-DH5 2402MHz Ant1



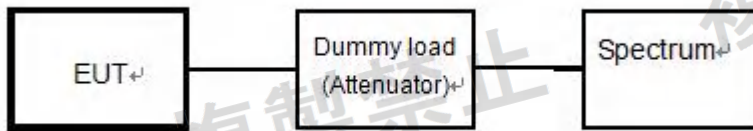
Spreading Bandwidth NVNT 3-DH5 2402MHz Ant1

5. Unwanted Emission Intensity Measurement

5.1. Limit

Item	Limit
TX Spurious Emission	30MHz - 2387MHz; 2.5 μ W/MHz or less
	2387MHz – 2400MHz; 25 μ W/MHz or less
	2483.5MHz – 2496.5MHz; 25 μ W/MHz or less
	2496.5MHz – 12.5GHz; 2.5 μ W/MHz or less

5.2. Test setup



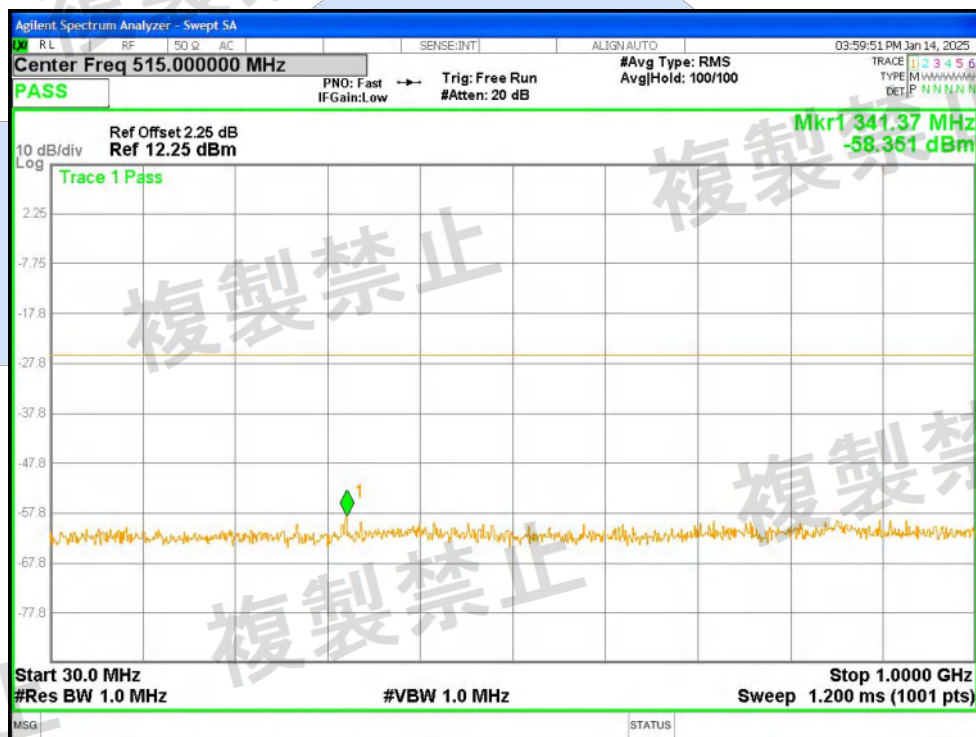
5.3. Test Procedure

- EUT have transmitted the maximum modulation signal and fixed channelize.
- Setting of SA is following as: Below 1GHz RB:1MHz / VB:1MHz
Above 1GHz RB:1MHz / VB:1MHz / AT: 10dB Ref: 0dBm / 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 2.5 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 side band spurious as follows: For 2.4GHz band: 2374MHz~2400MHz and 2483.5MHz~2509.5MHz RBW = VBW = 30kHz, Result_Value = Measured_Value + 15.2 [dBm]
- 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.

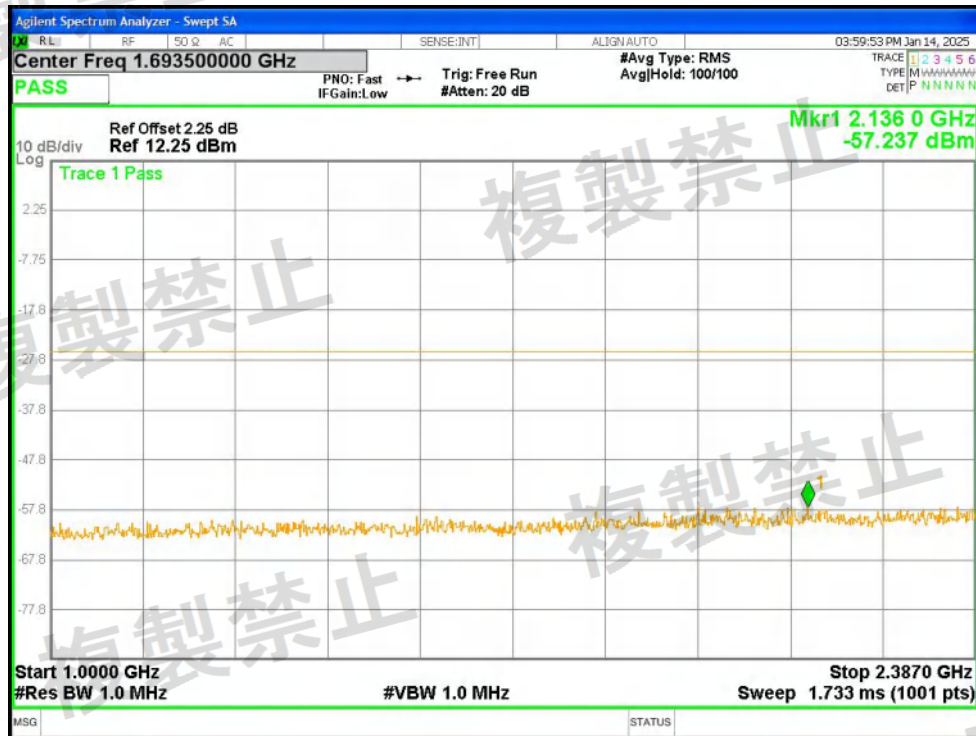
5.4. Test Result

Mode	Frequency (MHz)	Antenna	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Limit Start(dBm/MHz)	Limit Stop (dBm/MHz)	Verdict
1-DH5	2402	Ant1	30-1000	341.37	-58.35	-26	-26	Pass
1-DH5	2402	Ant1	1000-2387	2135.95	-57.24	-26	-26	Pass
1-DH5	2402	Ant1	2387-2400	2399.95	-28.54	-16	-16	Pass
1-DH5	2402	Ant1	2483.5-2496.5	2487.35	-55.72	-16	-16	Pass
1-DH5	2402	Ant1	2496.5-13000	4807.27	-29.94	-26	-26	Pass
1-DH5	2441	Ant1	30-1000	806	-58.51	-26	-26	Pass
1-DH5	2441	Ant1	1000-2387	2153.98	-56.55	-26	-26	Pass
1-DH5	2441	Ant1	2387-2400	2387.12	-56.52	-16	-16	Pass
1-DH5	2441	Ant1	2483.5-2496.5	2495.3	-56.95	-16	-16	Pass
1-DH5	2441	Ant1	2496.5-13000	4880.79	-29.95	-26	-26	Pass
1-DH5	2480	Ant1	30-1000	798.24	-58.89	-26	-26	Pass
1-DH5	2480	Ant1	1000-2387	2144.28	-56.5	-26	-26	Pass
1-DH5	2480	Ant1	2387-2400	2397.97	-56.56	-16	-16	Pass
1-DH5	2480	Ant1	2483.5-2496.5	2484.01	-41.17	-16	-16	Pass
1-DH5	2480	Ant1	2496.5-13000	4964.82	-32.75	-26	-26	Pass
2-DH5	2402	Ant1	30-1000	288.99	-57.95	-26	-26	Pass
2-DH5	2402	Ant1	1000-2387	1970.9	-56.51	-26	-26	Pass
2-DH5	2402	Ant1	2387-2400	2399.14	-33.79	-16	-16	Pass
2-DH5	2402	Ant1	2483.5-2496.5	2495.4	-56.82	-16	-16	Pass
2-DH5	2402	Ant1	2496.5-13000	4807.27	-27.67	-26	-26	Pass
2-DH5	2441	Ant1	30-1000	496.57	-58.59	-26	-26	Pass
2-DH5	2441	Ant1	1000-2387	2153.98	-55.8	-26	-26	Pass
2-DH5	2441	Ant1	2387-2400	2396.71	-56.44	-16	-16	Pass
2-DH5	2441	Ant1	2483.5-2496.5	2487.59	-56.34	-16	-16	Pass
2-DH5	2441	Ant1	2496.5-13000	4880.79	-27.58	-26	-26	Pass
2-DH5	2480	Ant1	30-1000	288.99	-58.36	-26	-26	Pass
2-DH5	2480	Ant1	1000-2387	2144.28	-56.65	-26	-26	Pass
2-DH5	2480	Ant1	2387-2400	2392.75	-56.53	-16	-16	Pass
2-DH5	2480	Ant1	2483.5-2496.5	2483.73	-39.45	-16	-16	Pass
2-DH5	2480	Ant1	2496.5-13000	4964.82	-29.88	-26	-26	Pass
3-DH5	2402	Ant1	30-1000	336.52	-58.19	-26	-26	Pass
3-DH5	2402	Ant1	1000-2387	2104.05	-55.66	-26	-26	Pass

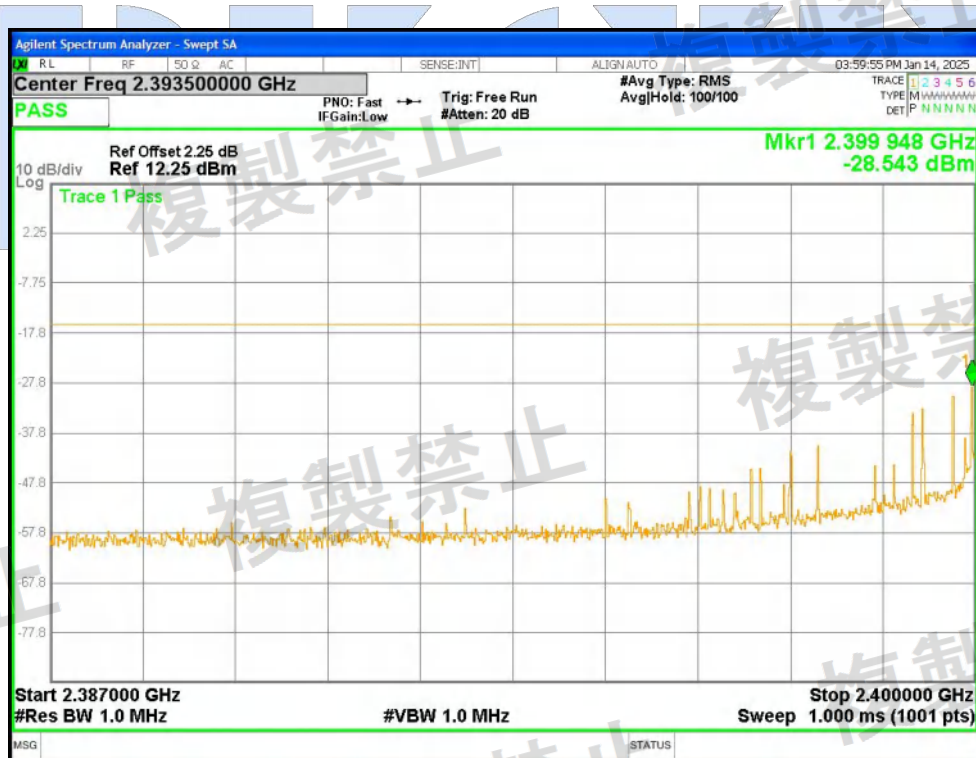
3-DH5	2402	Ant1	2387-2400	2399.48	-31.64	-16	-16	Pass
3-DH5	2402	Ant1	2483.5-2496.5	2489.43	-57.03	-16	-16	Pass
3-DH5	2402	Ant1	2496.5-13000	4807.27	-27.19	-26	-26	Pass
3-DH5	2441	Ant1	30-1000	983.51	-61.4	-26	-26	Pass
3-DH5	2441	Ant1	1000-2387	2009.74	-59.48	-26	-26	Pass
3-DH5	2441	Ant1	2387-2400	2391.06	-58.15	-16	-16	Pass
3-DH5	2441	Ant1	2483.5-2496.5	2495.49	-57.96	-16	-16	Pass
3-DH5	2441	Ant1	2496.5-13000	4880.79	-38.29	-26	-26	Pass
3-DH5	2480	Ant1	30-1000	711.91	-57.98	-26	-26	Pass
3-DH5	2480	Ant1	1000-2387	2192.82	-56.62	-26	-26	Pass
3-DH5	2480	Ant1	2387-2400	2396.13	-56.28	-16	-16	Pass
3-DH5	2480	Ant1	2483.5-2496.5	2483.79	-42.69	-16	-16	Pass
3-DH5	2480	Ant1	2496.5-13000	4964.82	-30.15	-26	-26	Pass



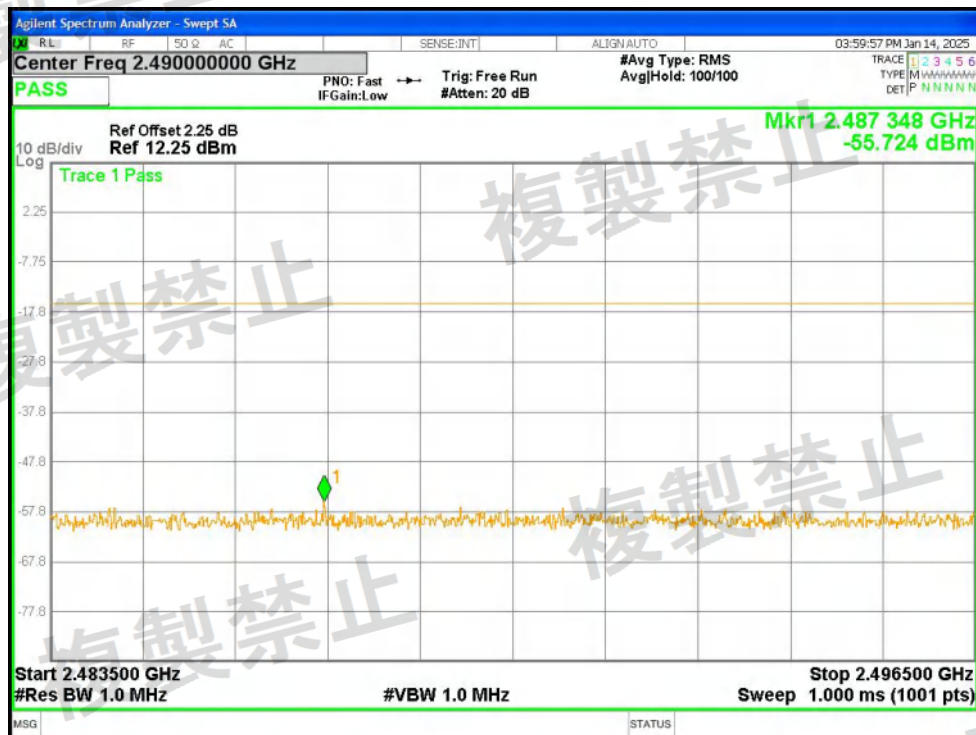
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 30MHz-1000MHz



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



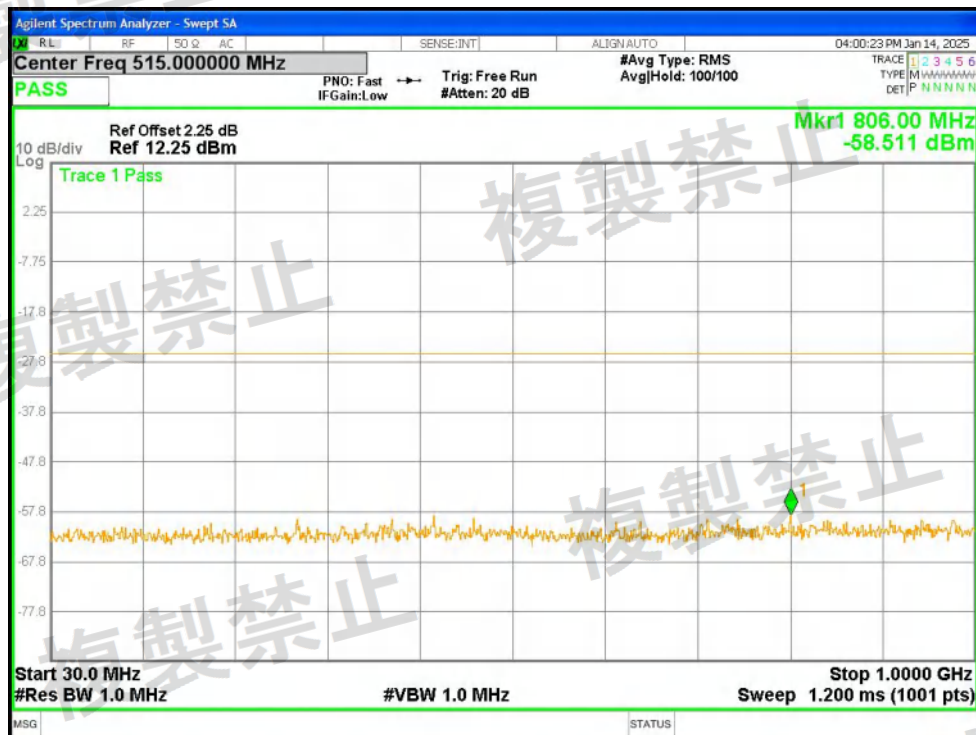
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 2387MHz-2400MHz



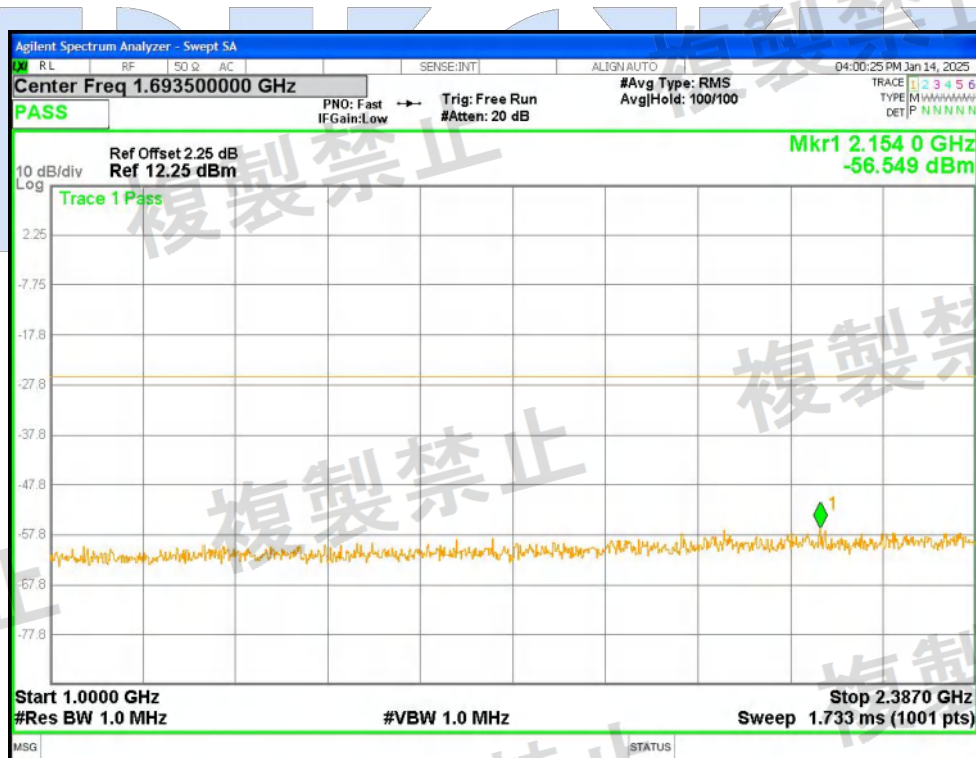
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 2483.5MHz-2496.5MHz



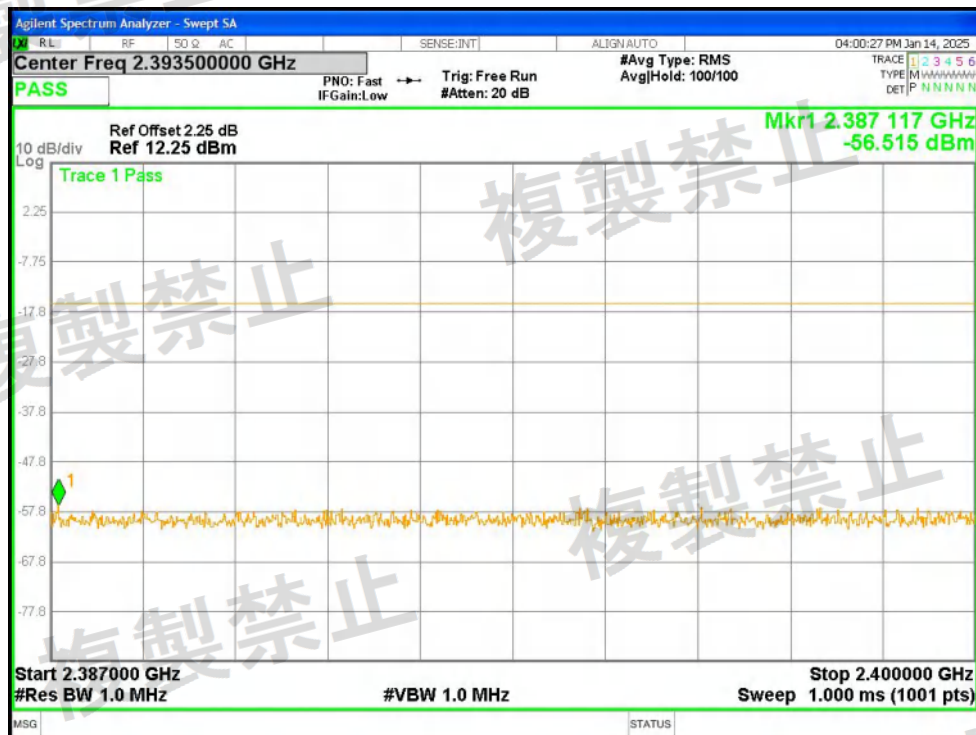
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 2496.5MHz-13000MHz



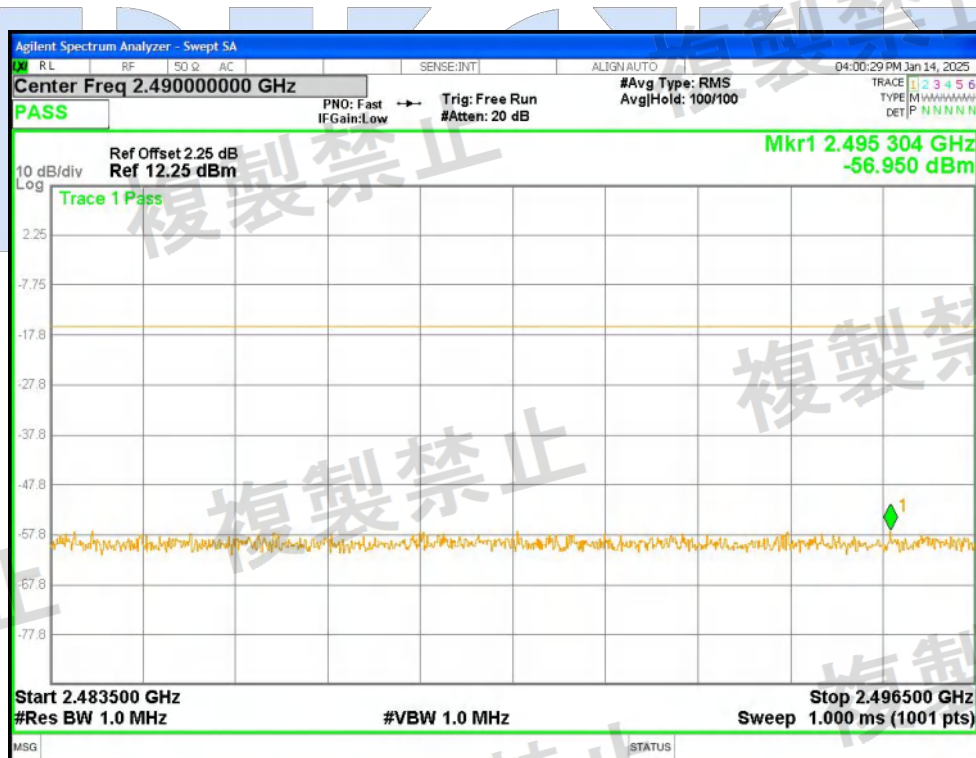
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 30MHz-1000MHz



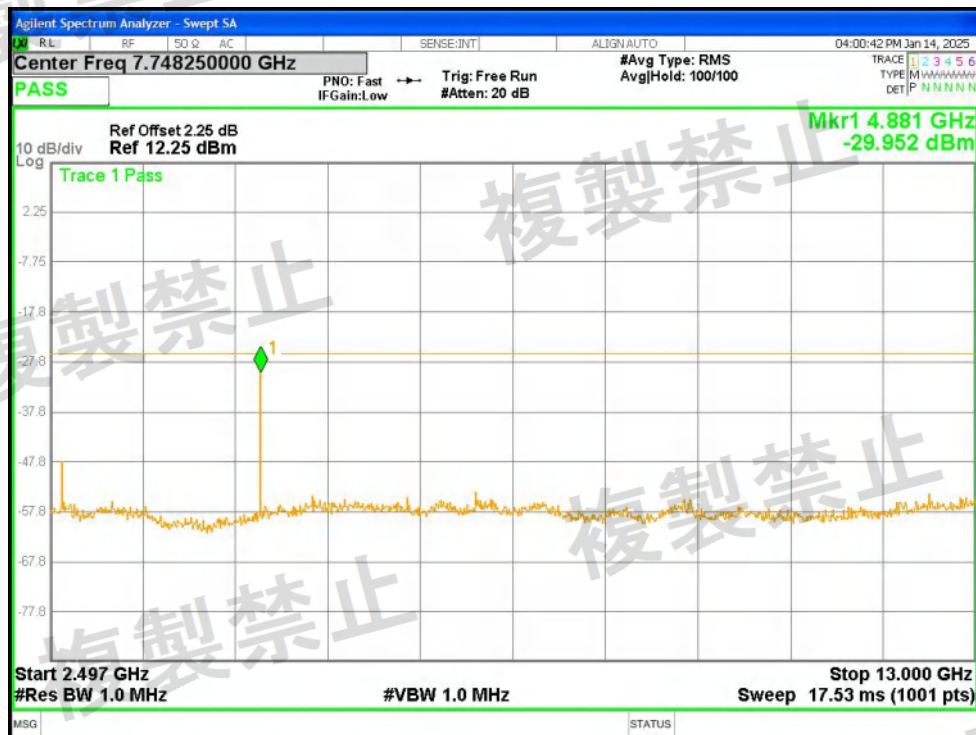
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 1000MHz-2387MHz



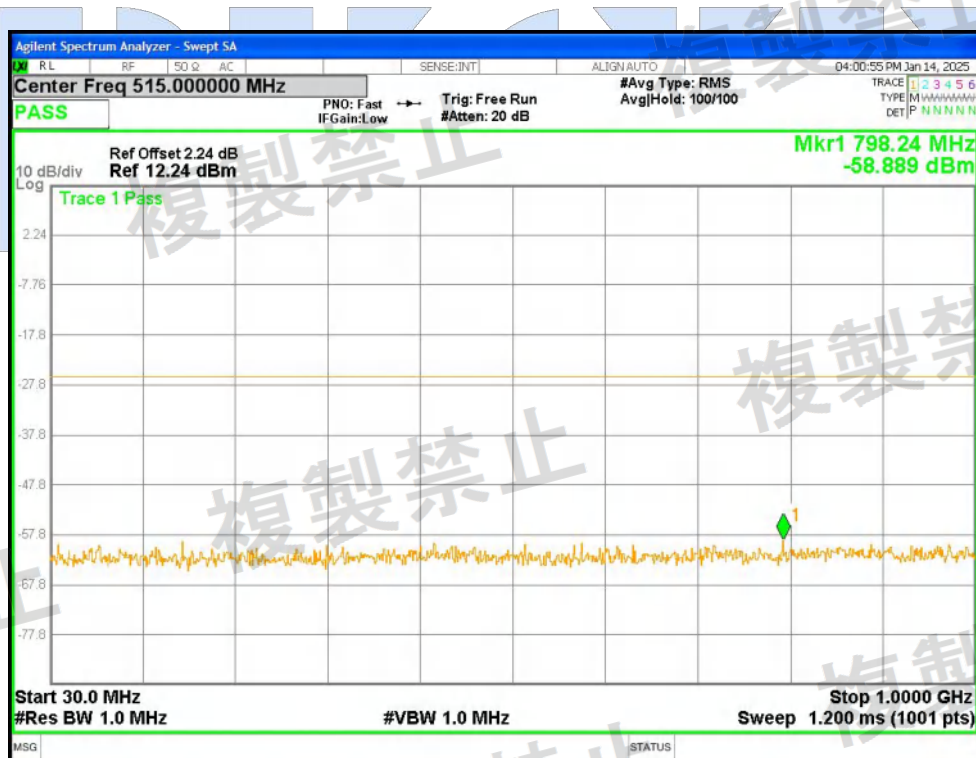
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 2387MHz-2400MHz



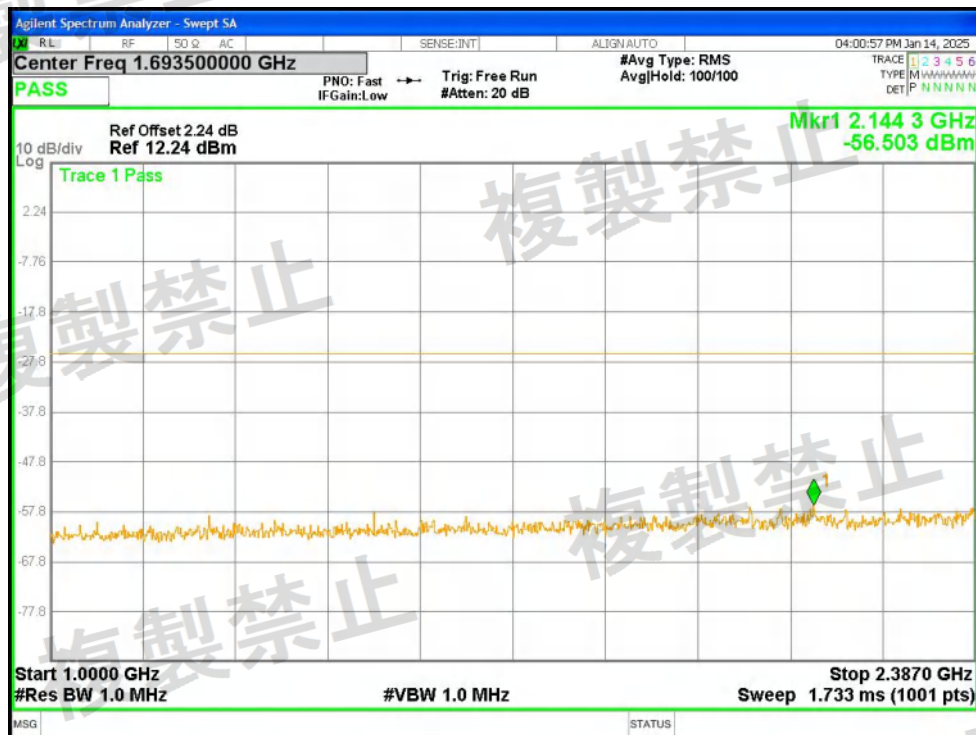
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 2483.5MHz-2496.5MHz



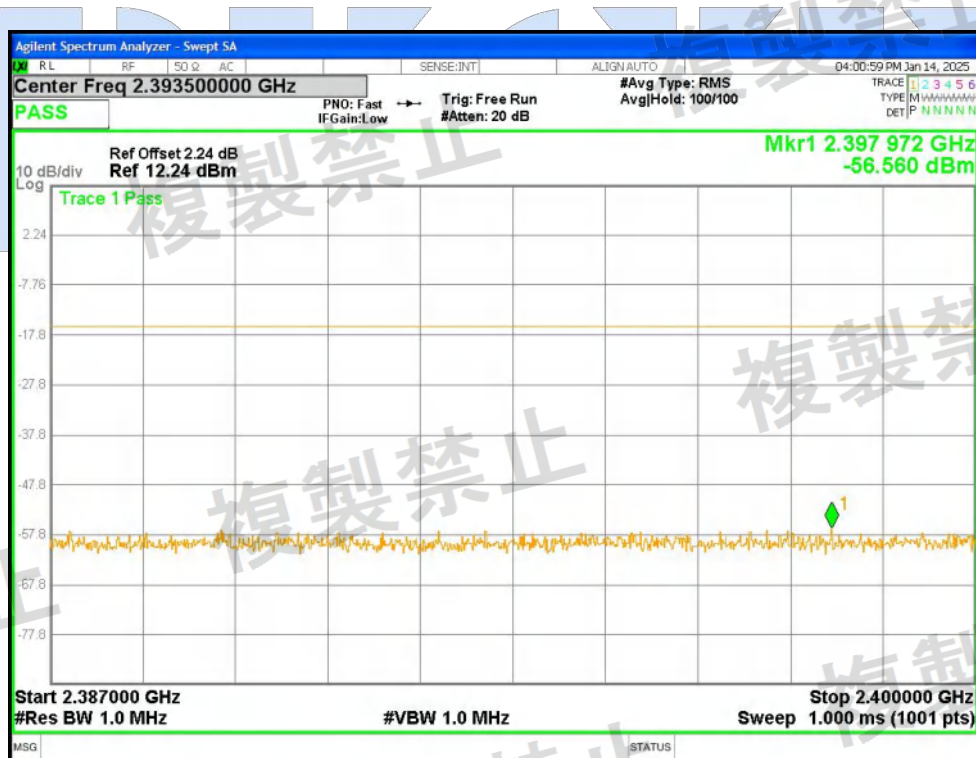
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 2496.5MHz-13000MHz



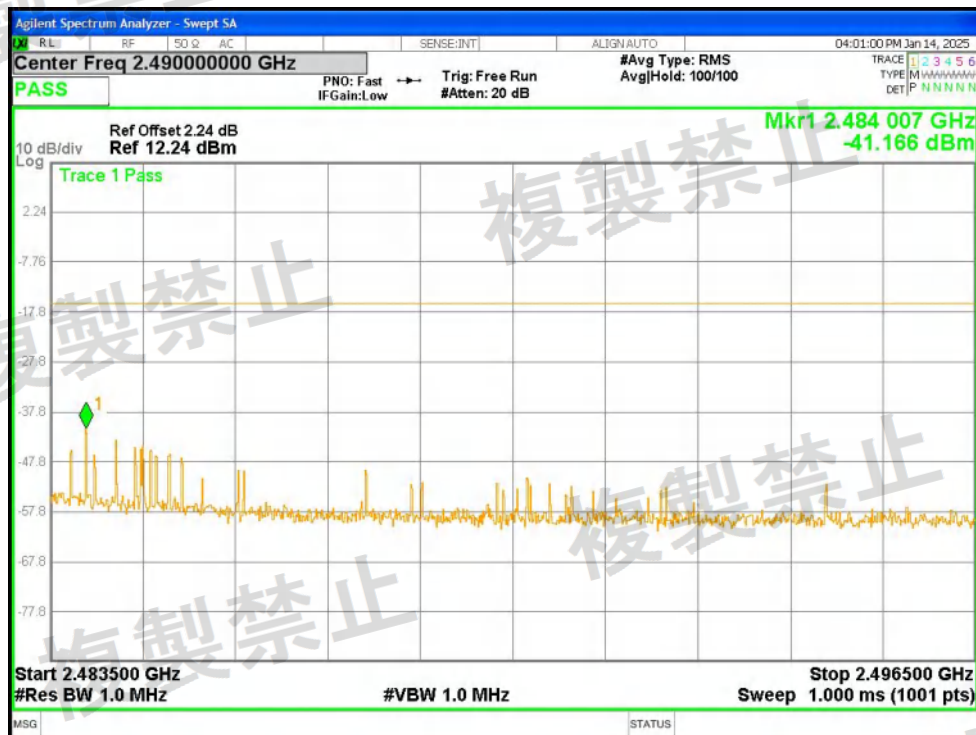
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 30MHz-1000MHz



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 1000MHz-2387MHz



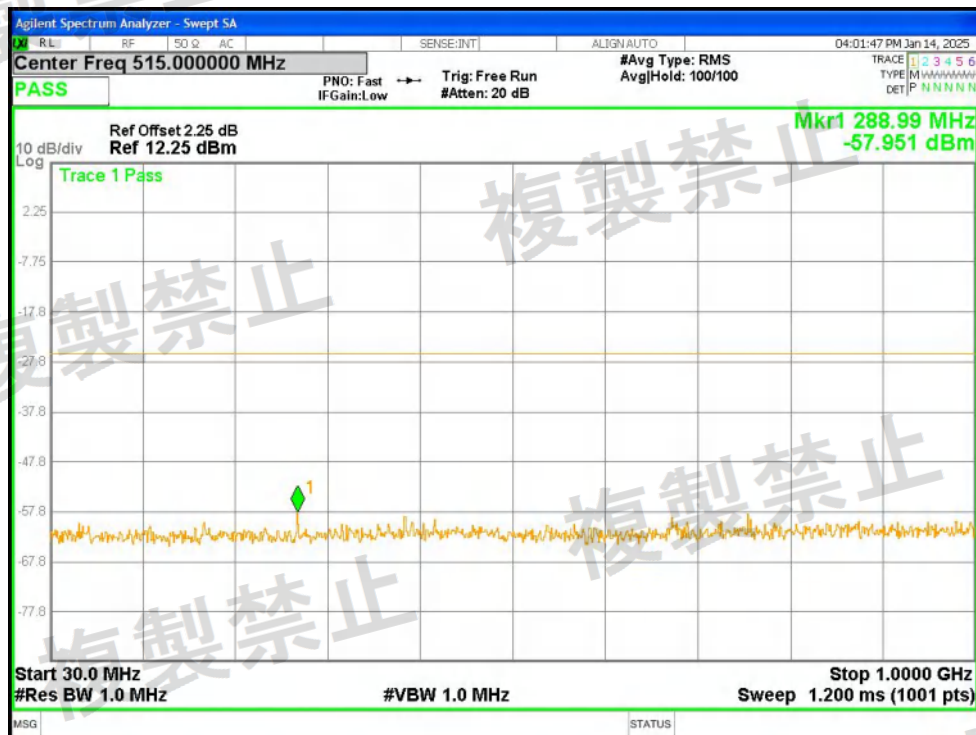
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 2387MHz-2400MHz



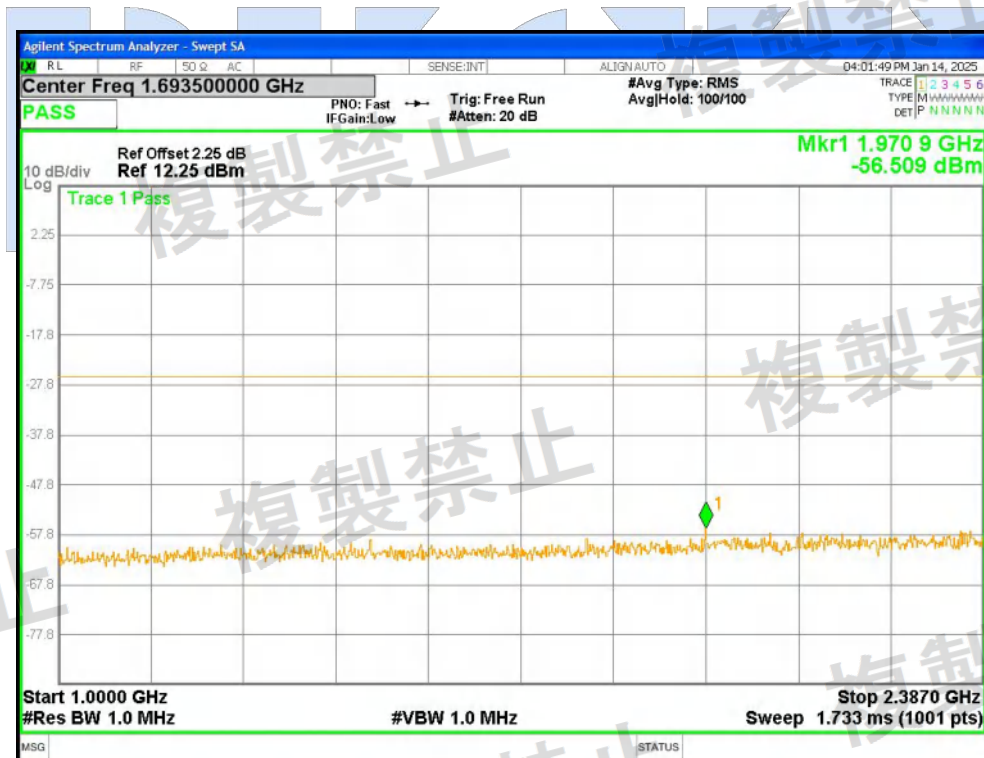
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 2483.5MHz-2496.5MHz



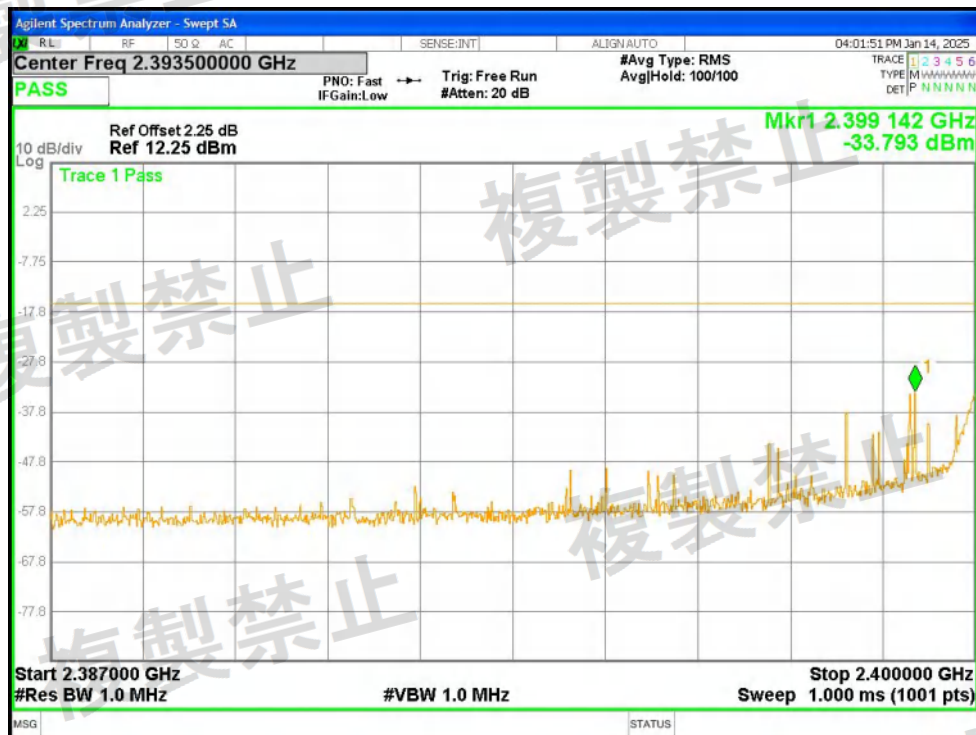
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 2496.5MHz-13000MHz



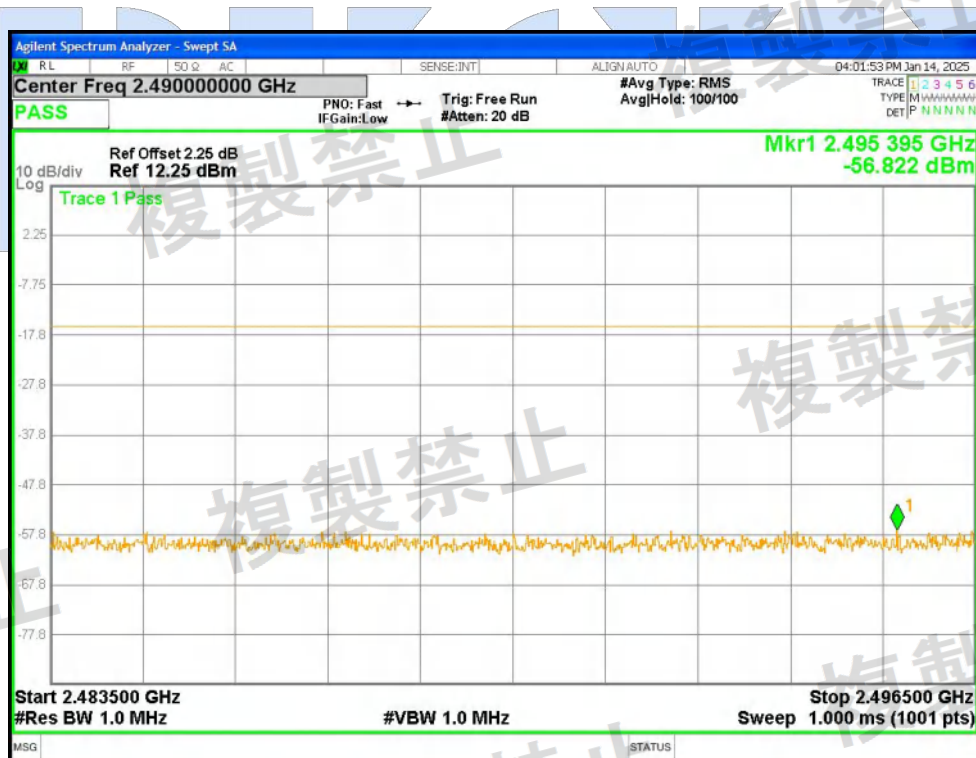
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 30MHz-1000MHz



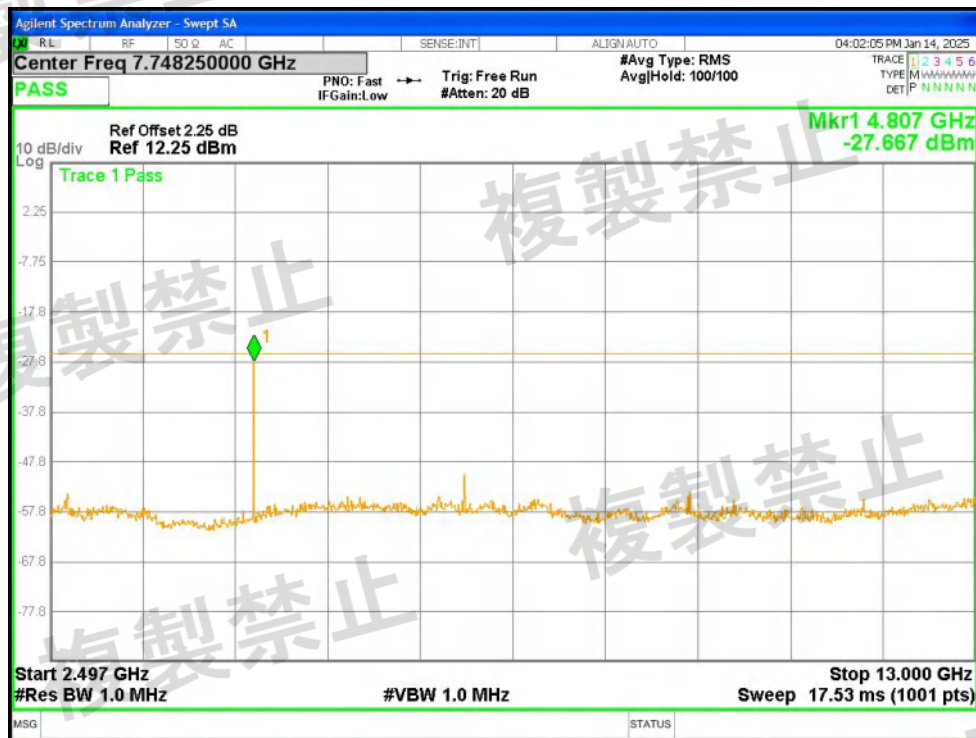
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 1000MHz-2387MHz



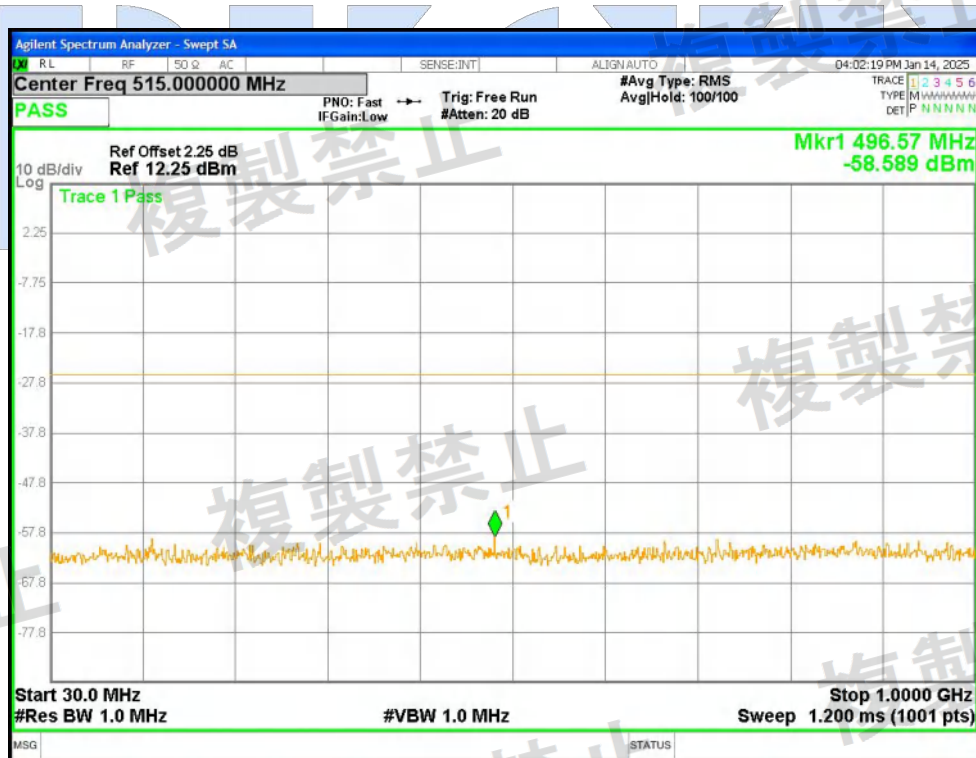
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 2387MHz-2400MHz



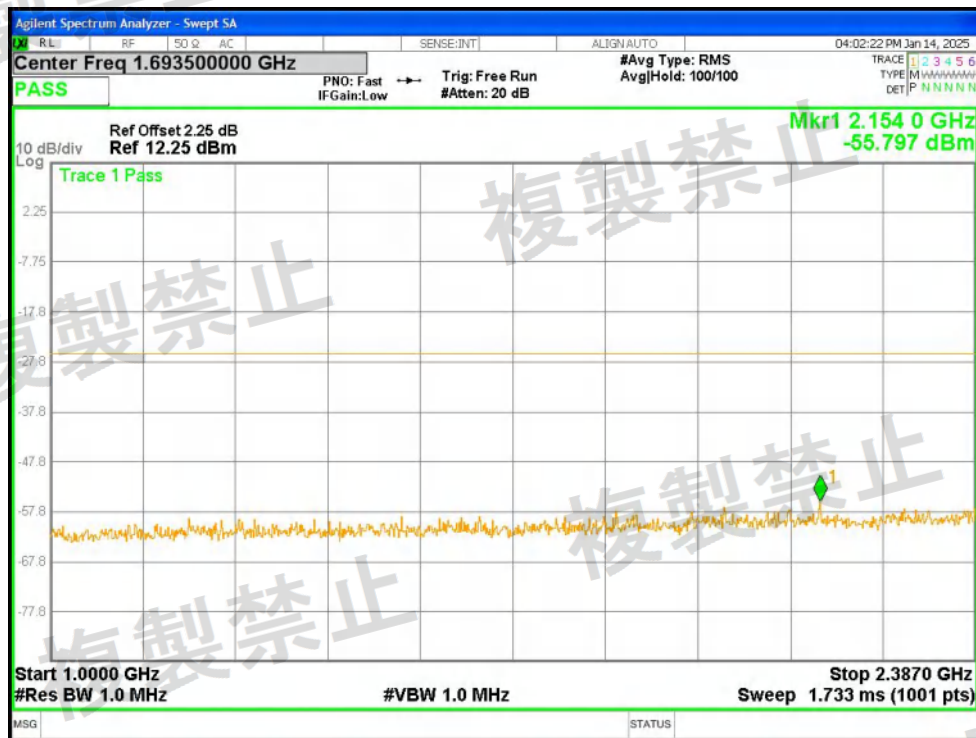
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 2483.5MHz-2496.5MHz



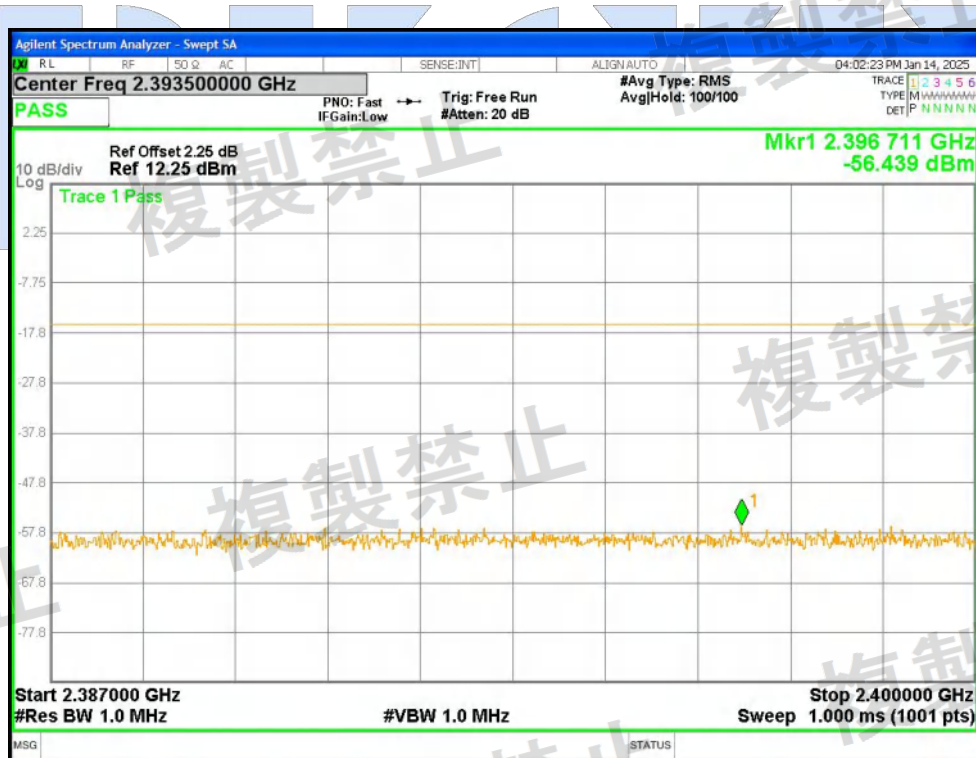
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 2496.5MHz-13000MHz



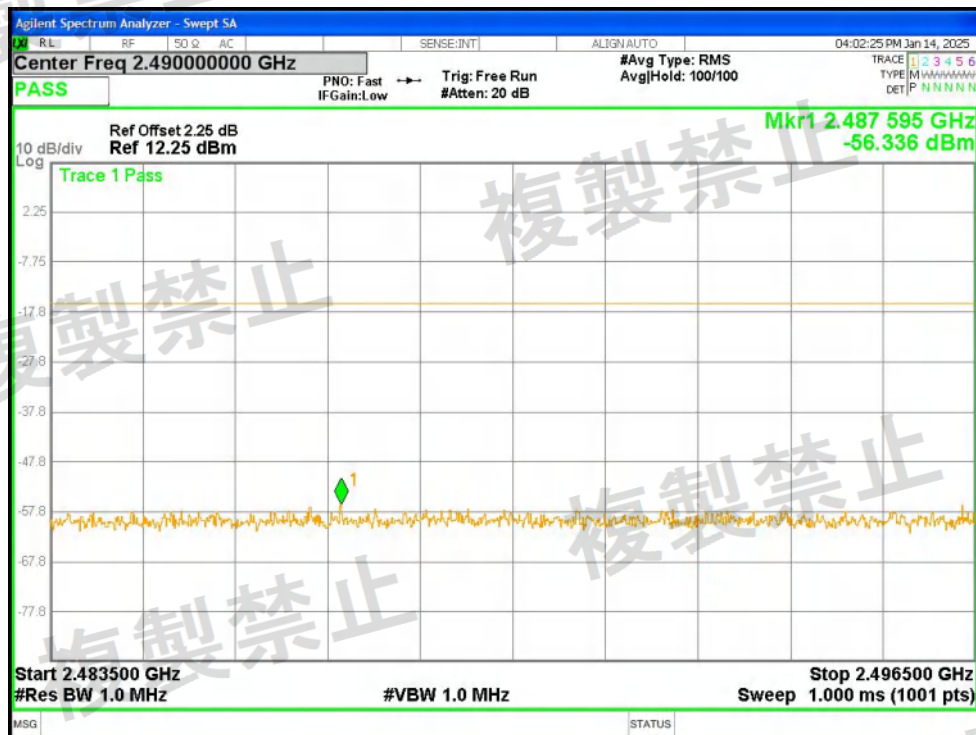
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 30MHz-1000MHz



Tx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 1000MHz-2387MHz



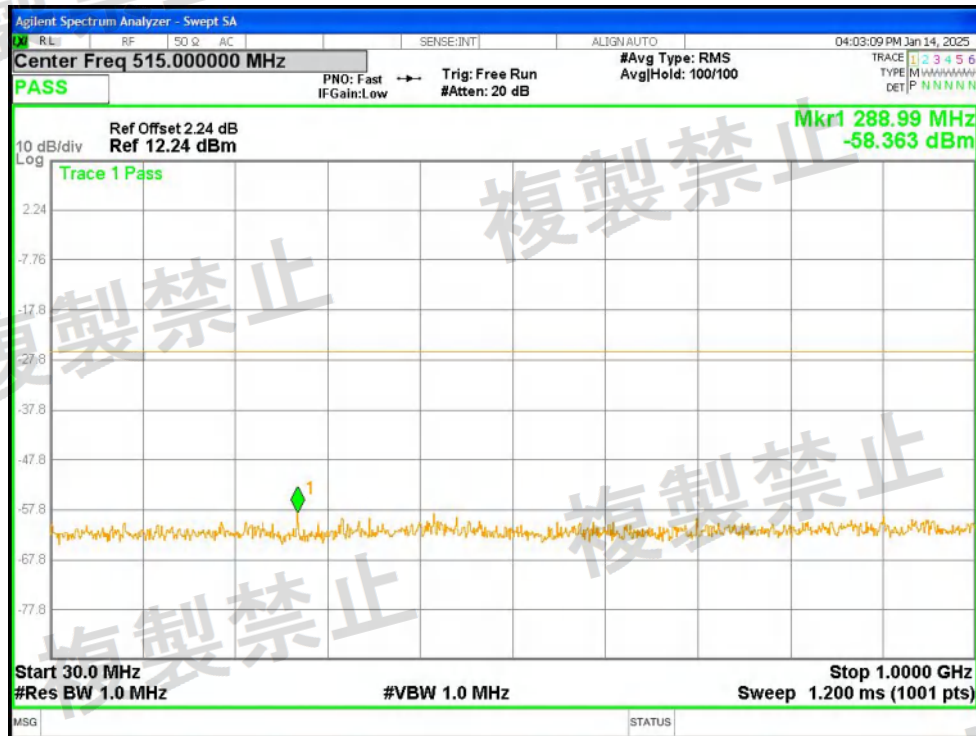
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 2387MHz-2400MHz



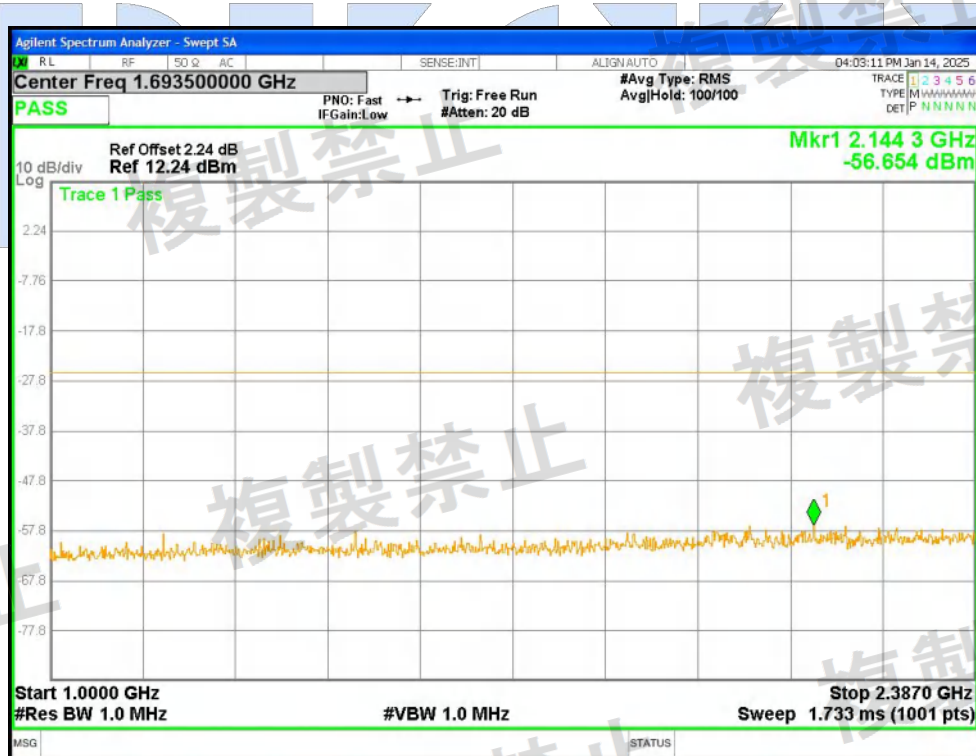
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 2483.5MHz-2496.5MHz



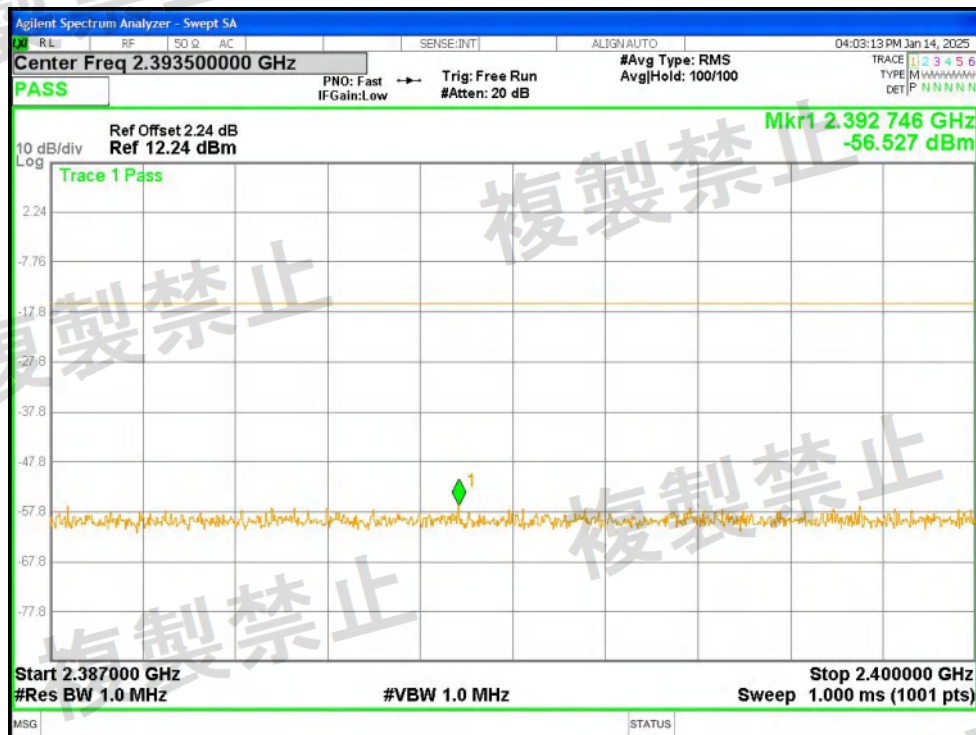
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 2496.5MHz-13000MHz



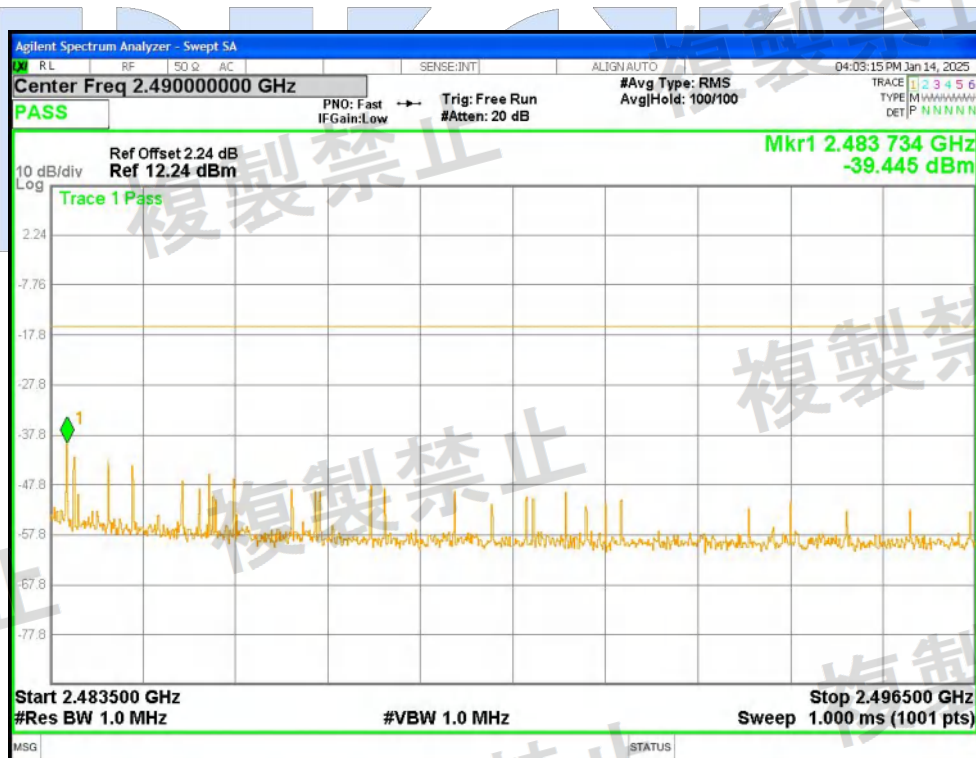
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 30MHz-1000MHz



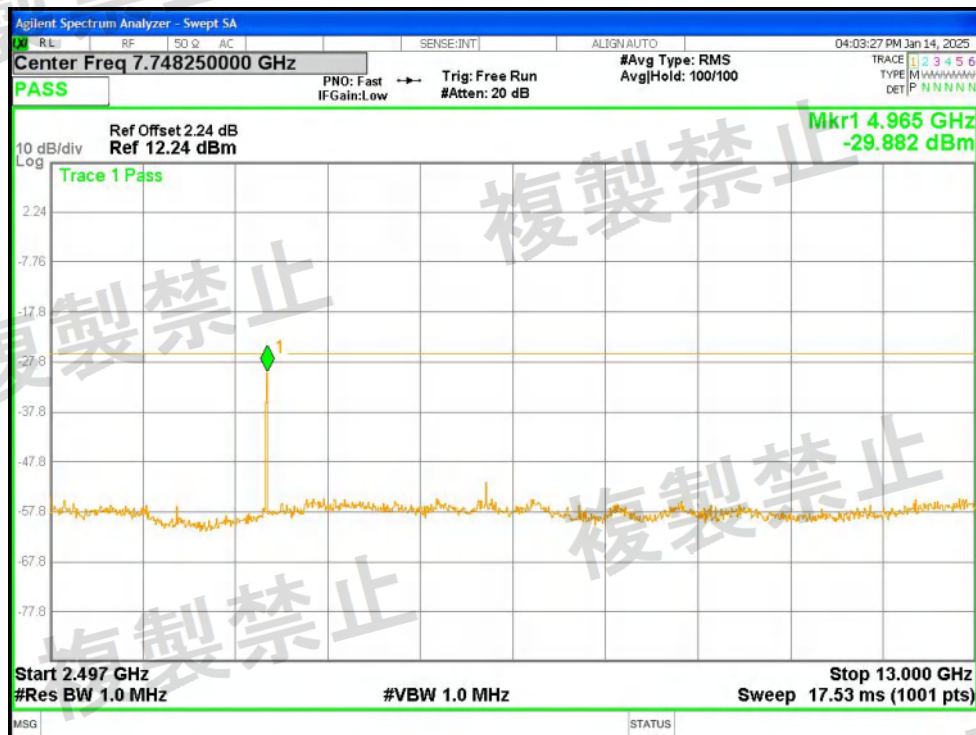
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 1000MHz-2387MHz



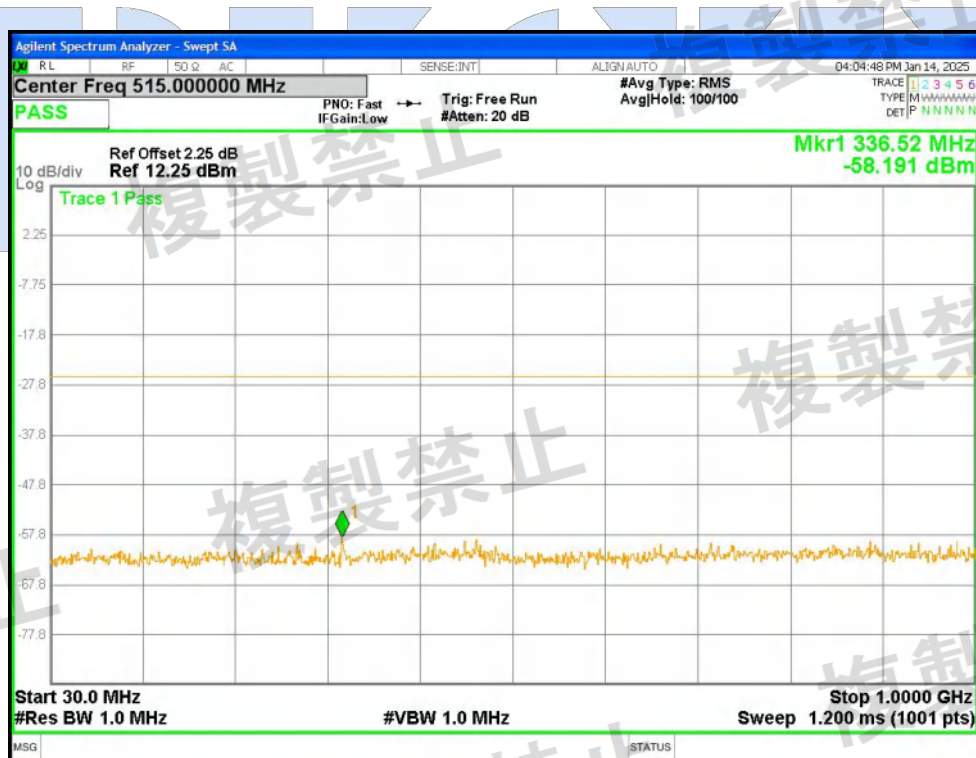
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 2387MHz-2400MHz



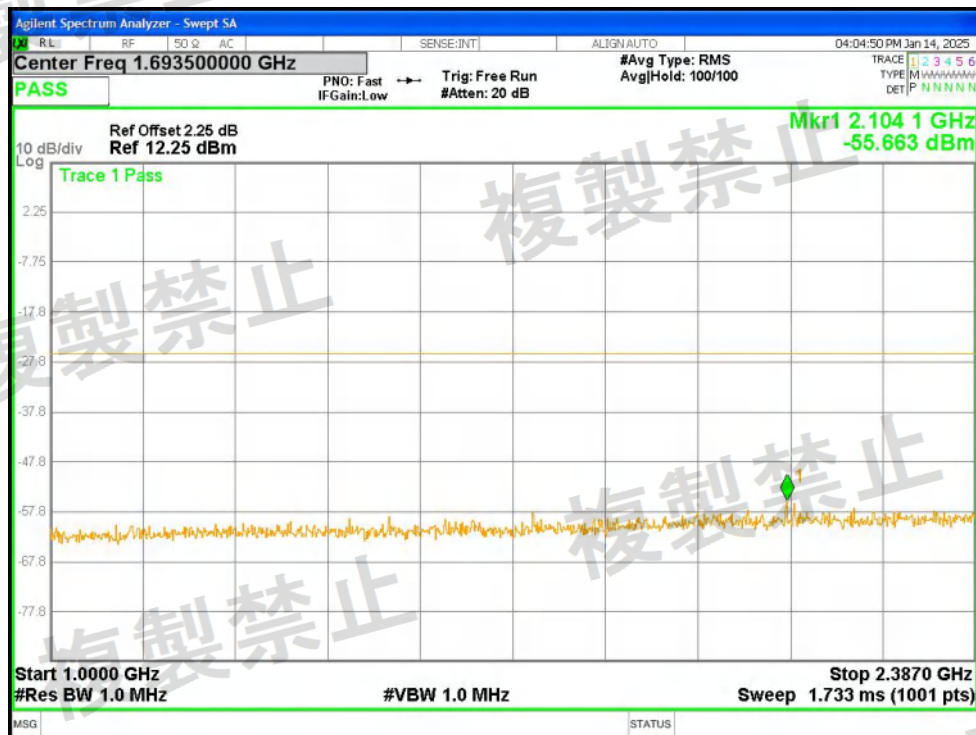
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 2483.5MHz-2496.5MHz



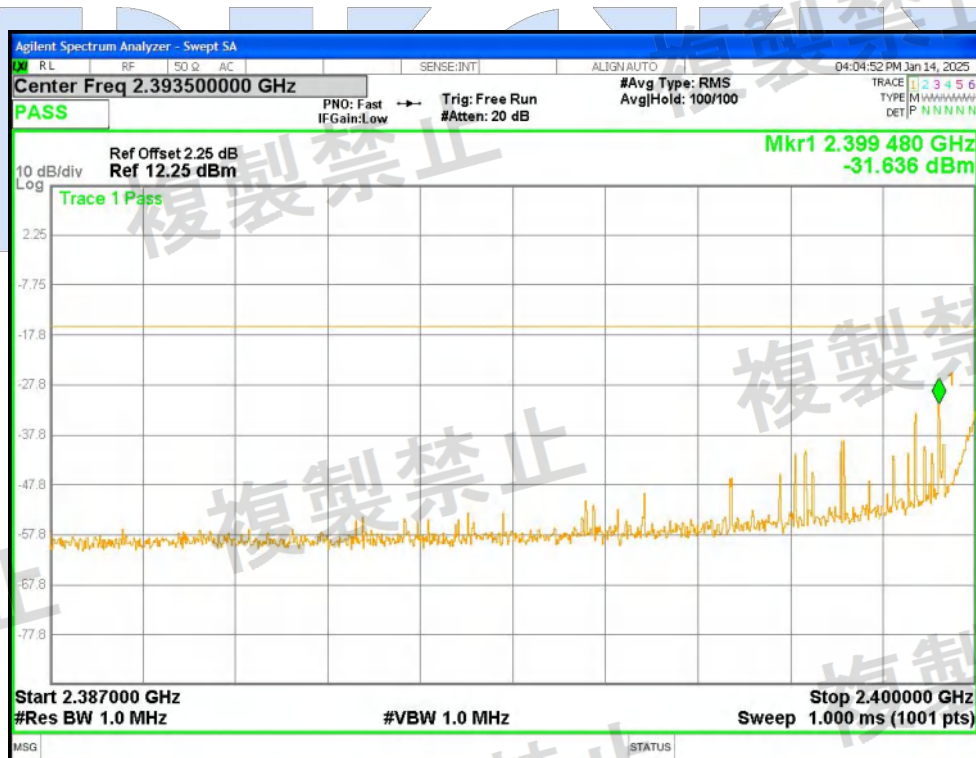
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 2496.5MHz-13000MHz



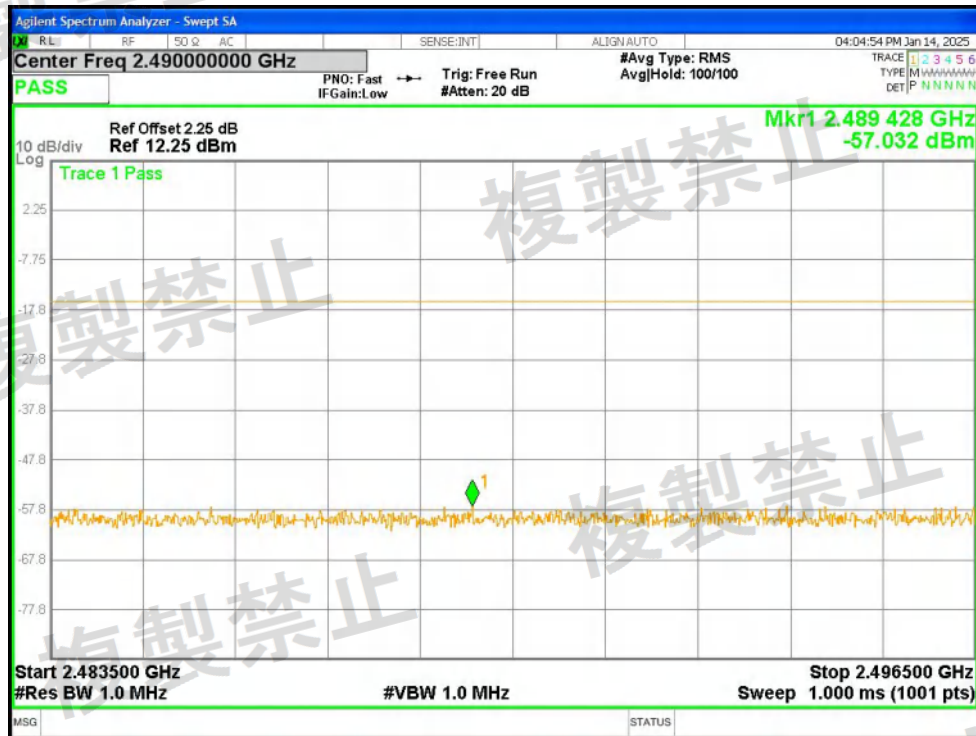
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 30MHz-1000MHz



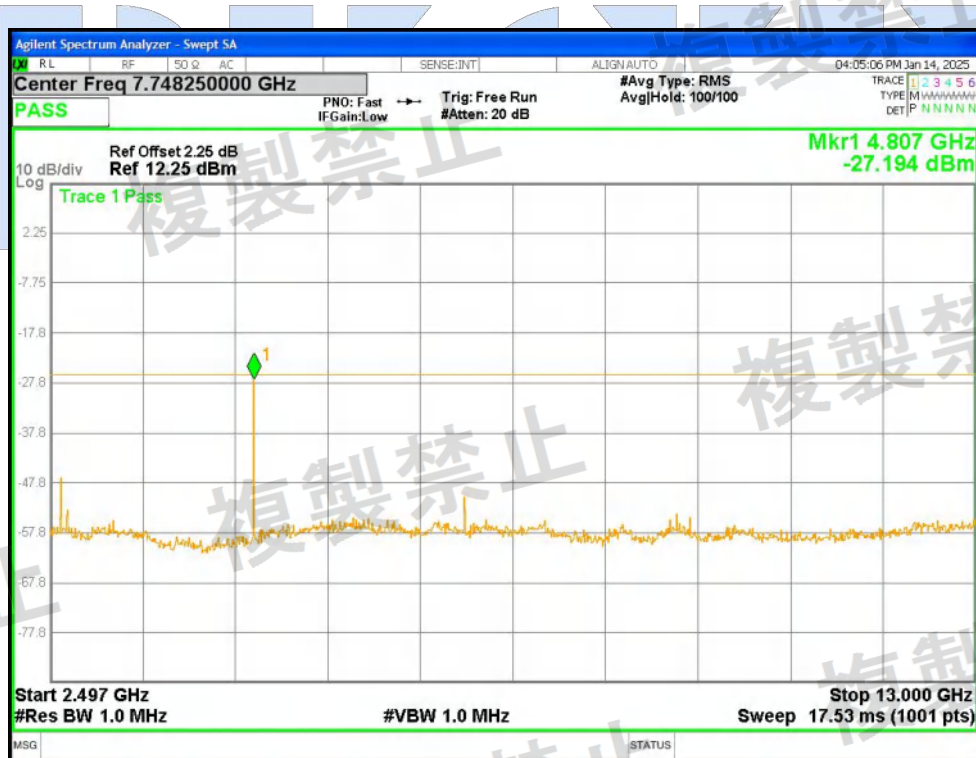
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 1000MHz-2387MHz



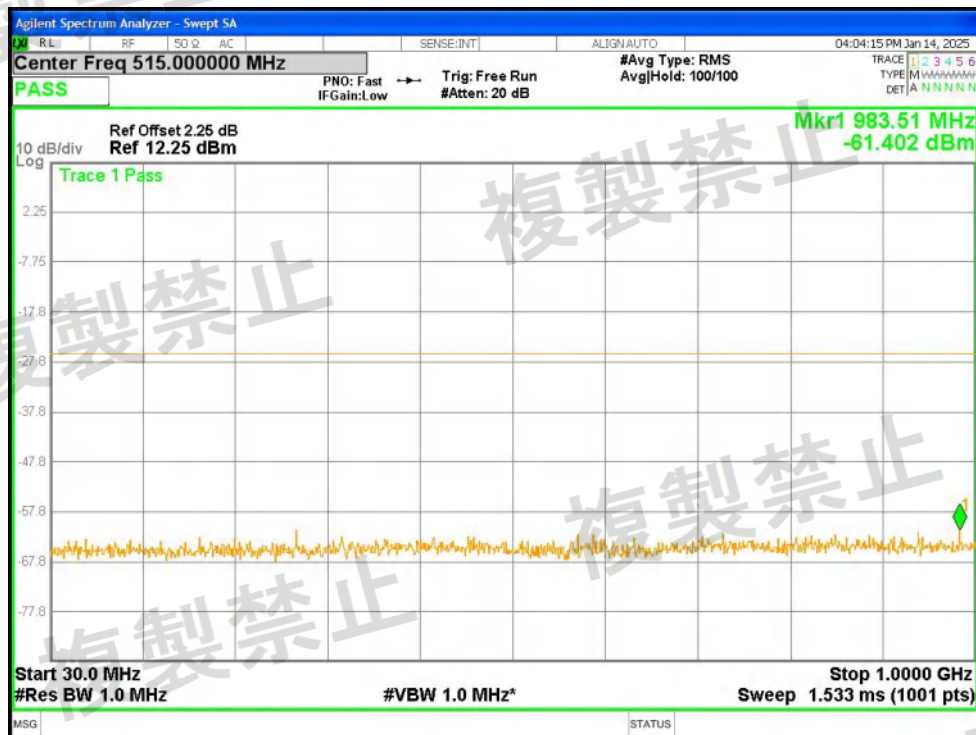
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 2387MHz-2400MHz



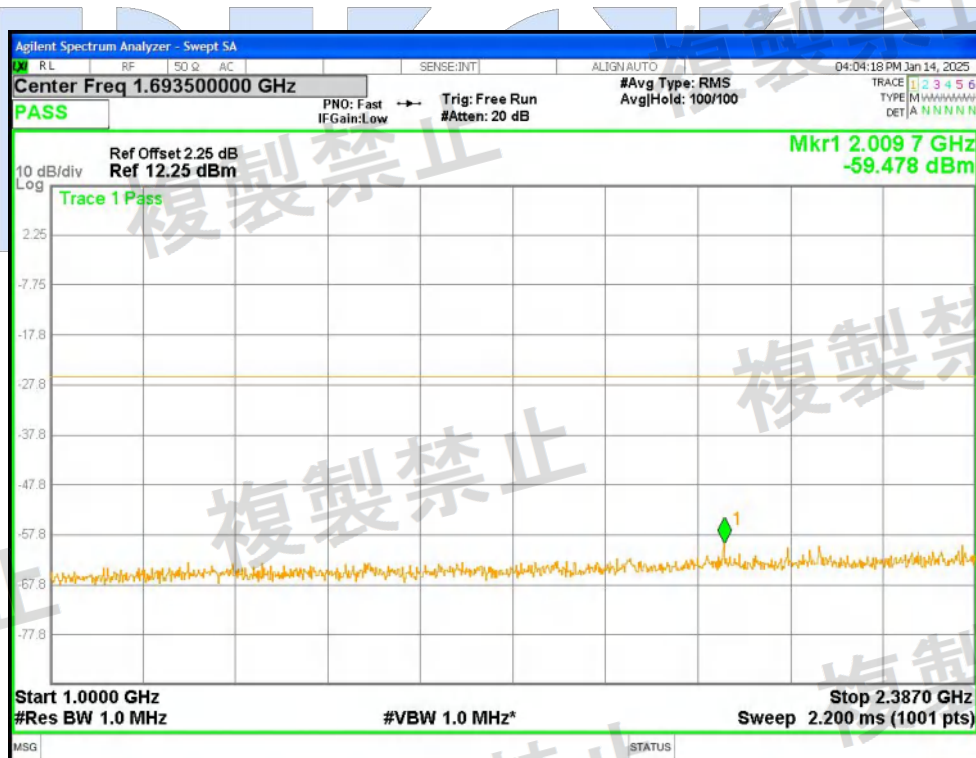
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 2483.5MHz-2496.5MHz



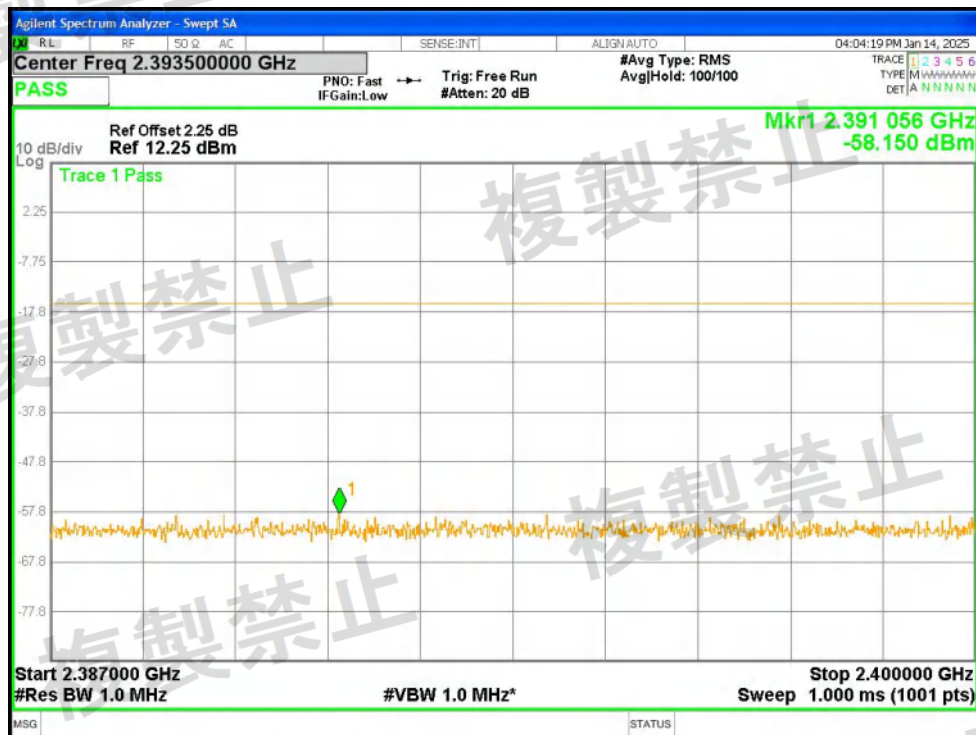
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 2496.5MHz-13000MHz



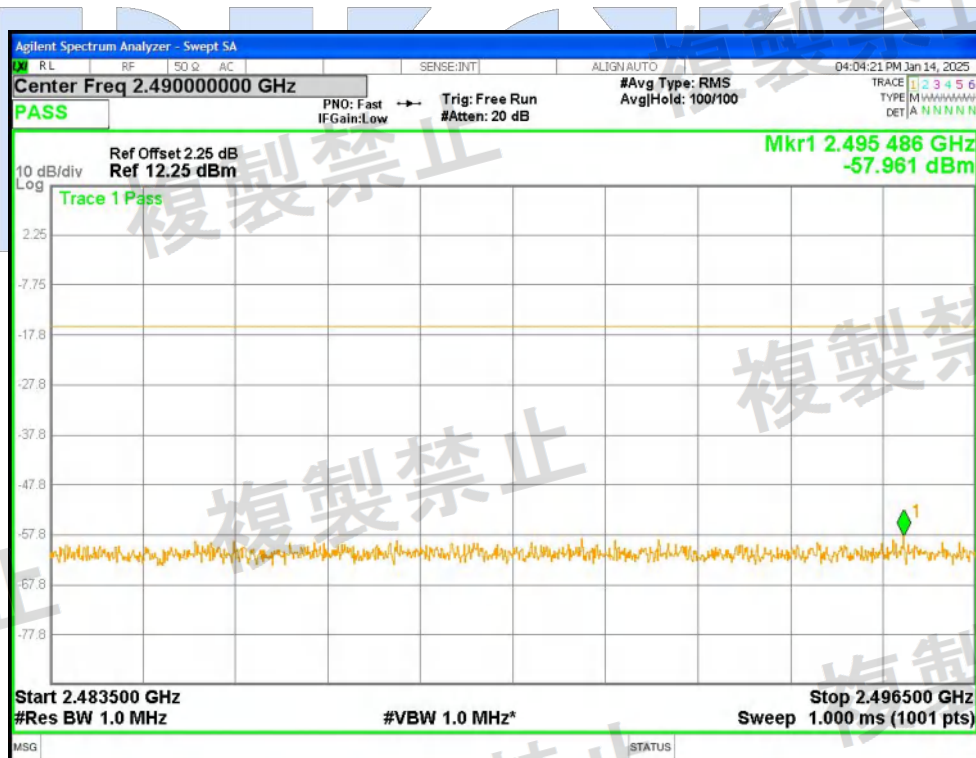
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 30MHz-1000MHz



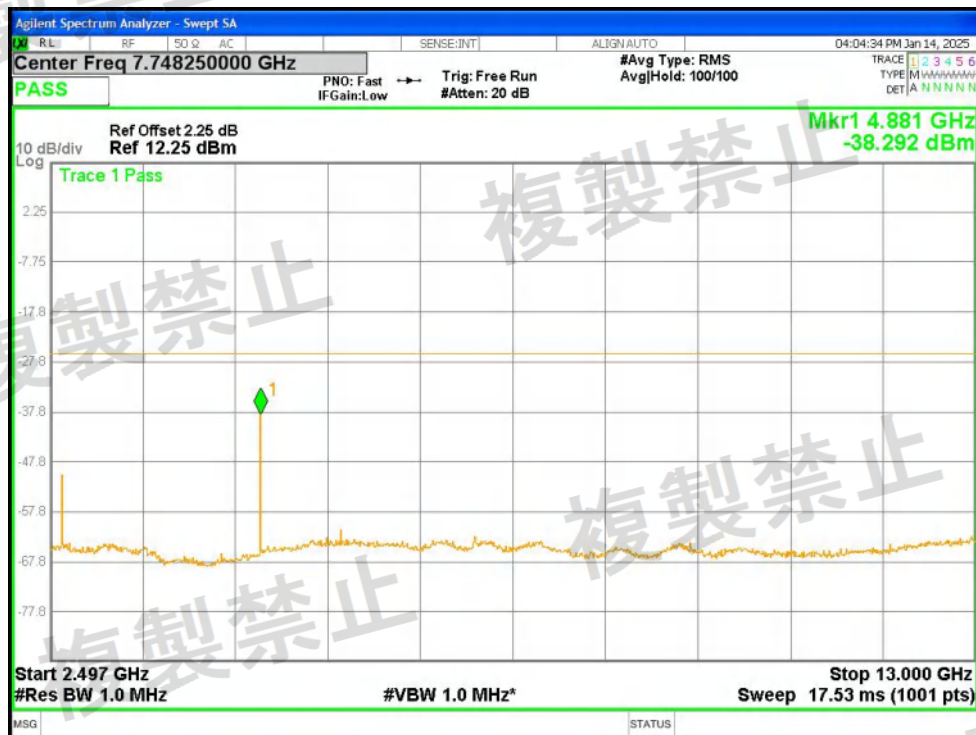
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 1000MHz-2387MHz



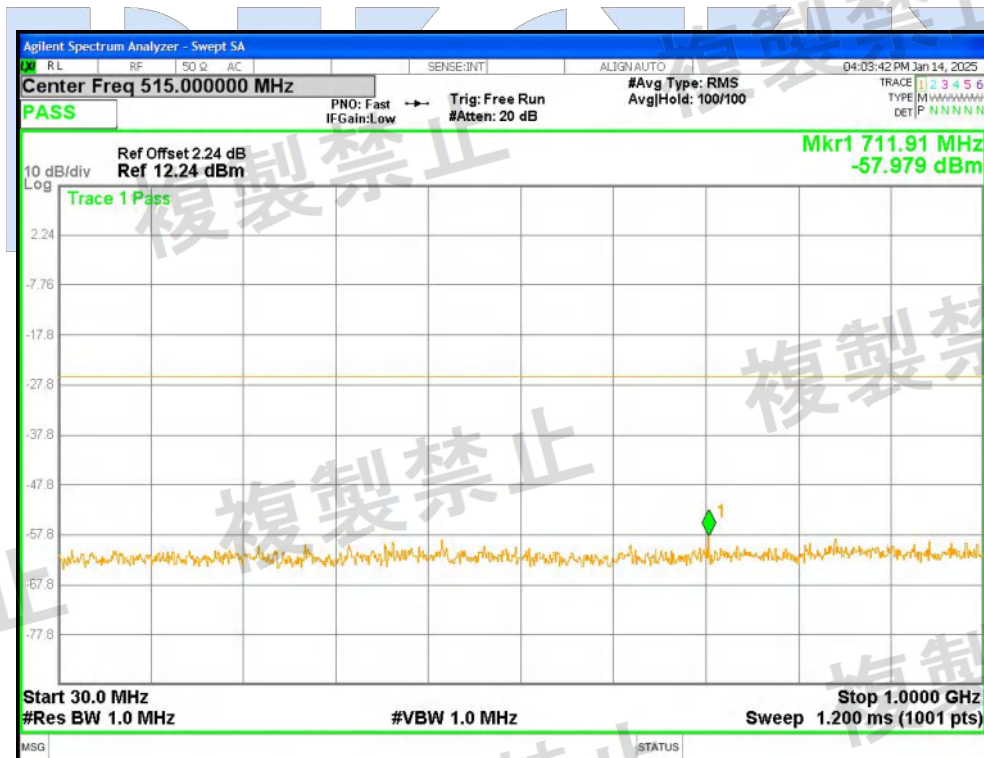
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 2387MHz-2400MHz



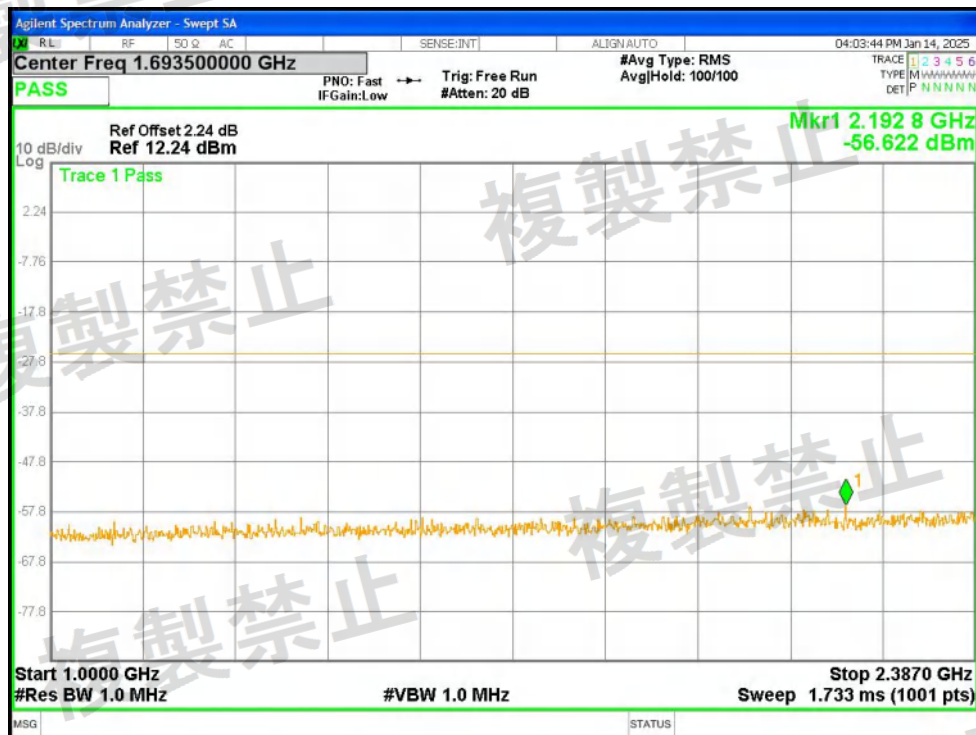
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 2483.5MHz-2496.5MHz



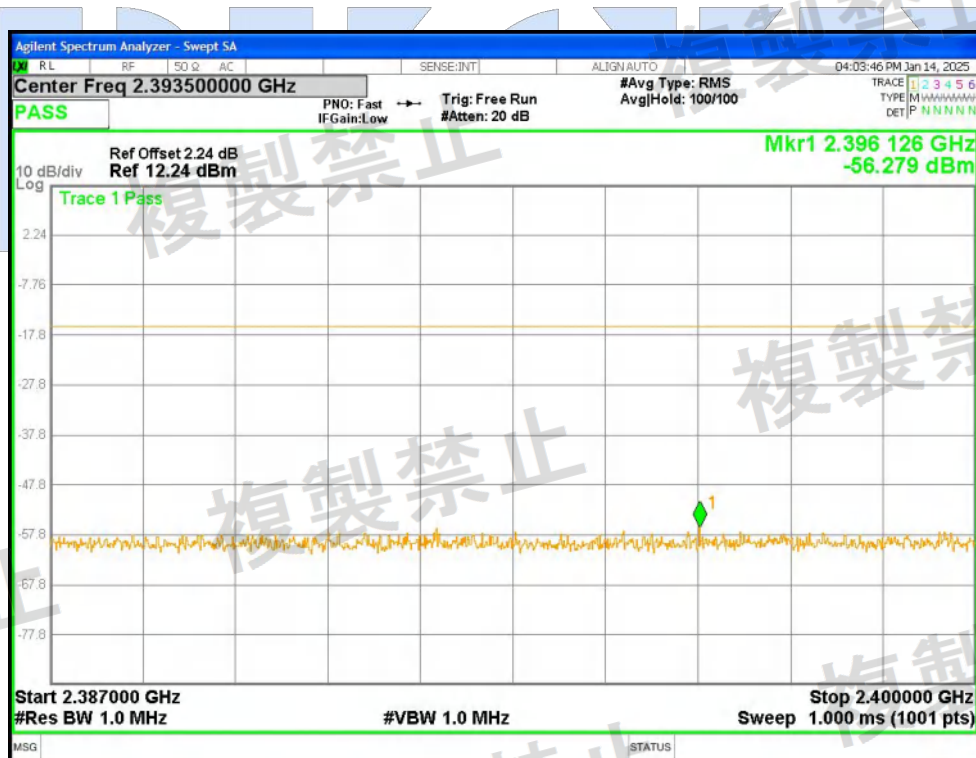
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 @ 2496.5MHz-13000MHz



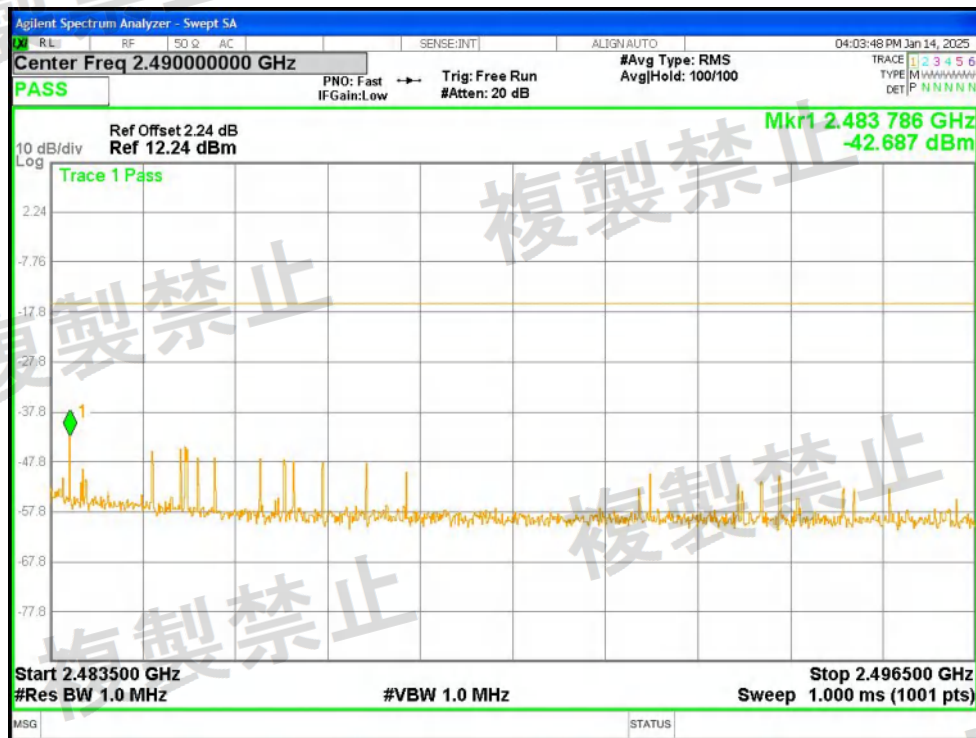
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 30MHz-1000MHz



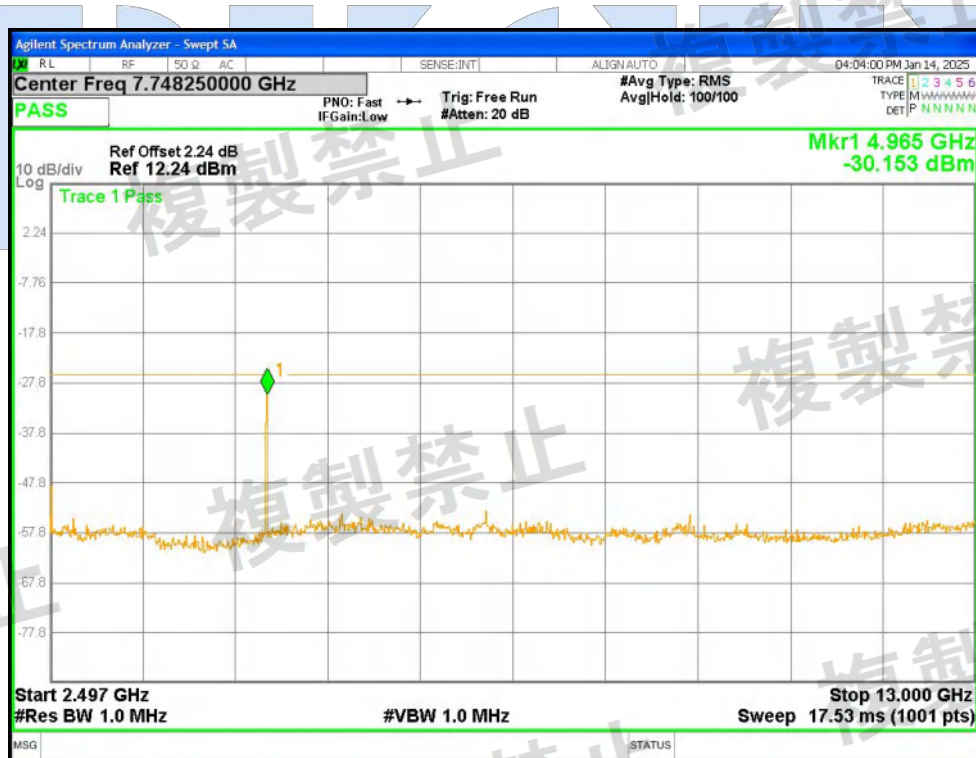
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 1000MHz-2387MHz



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



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



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 2496.5MHz-13000MHz

6. Dwell Time

6.1. Limit

Item	Limits
Hopping Freq. Dwell Time	$\leq 0.4 \text{ sec (In } 0.4 \text{ sec} \times \text{ spreading rate)}$

6.2. Test Setup



6.3. Test Procedure

- 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 DH1/DH3/DH5, 2DH1/2DH3/2DH5 and 3DH1/3DH3/3DH5 packet transmitting.
- Measure the maximum time duration of one single pulse.
- Dwell time = Pulse width(msec)*Number of Pulses

6.4. Test Result

Dwell Time = (One Pulse Time * (Burst Count in the specified period time);
the specified period time = Spread factor* 0.4
Spread Spectrum Factor = Spread Spectrum Bandwidth / modulation rate of EUT

Modulation rate of EUT is below:

GFSK modulation: 1Mbps

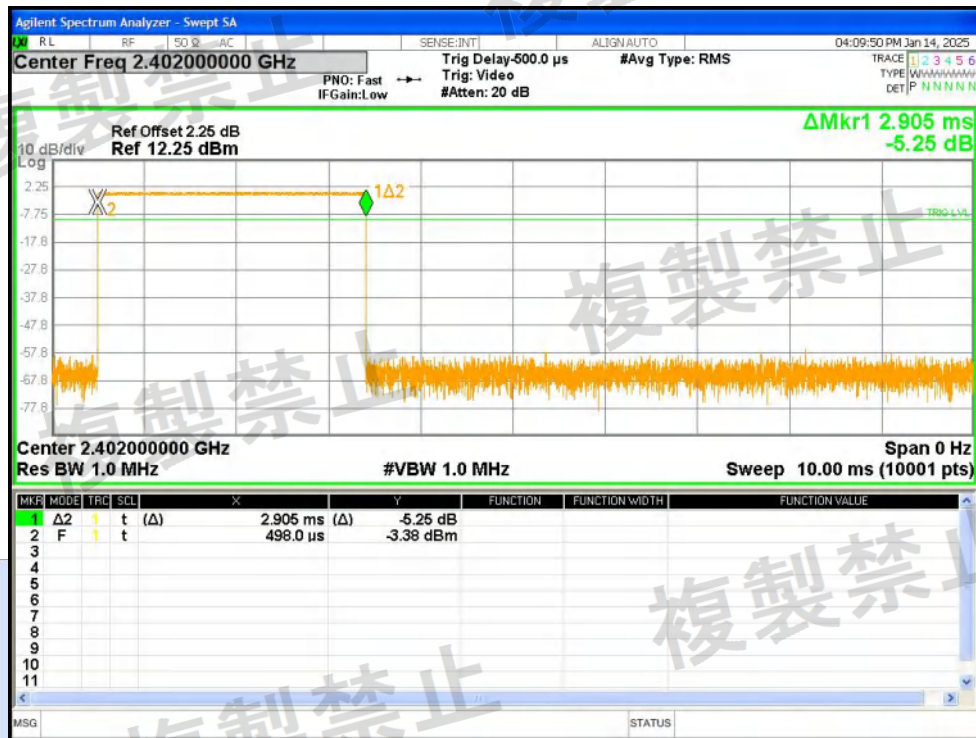
$\pi/4$ -DQPSK modulation: 1Mbps

8DPSK modulation: 1Mbps

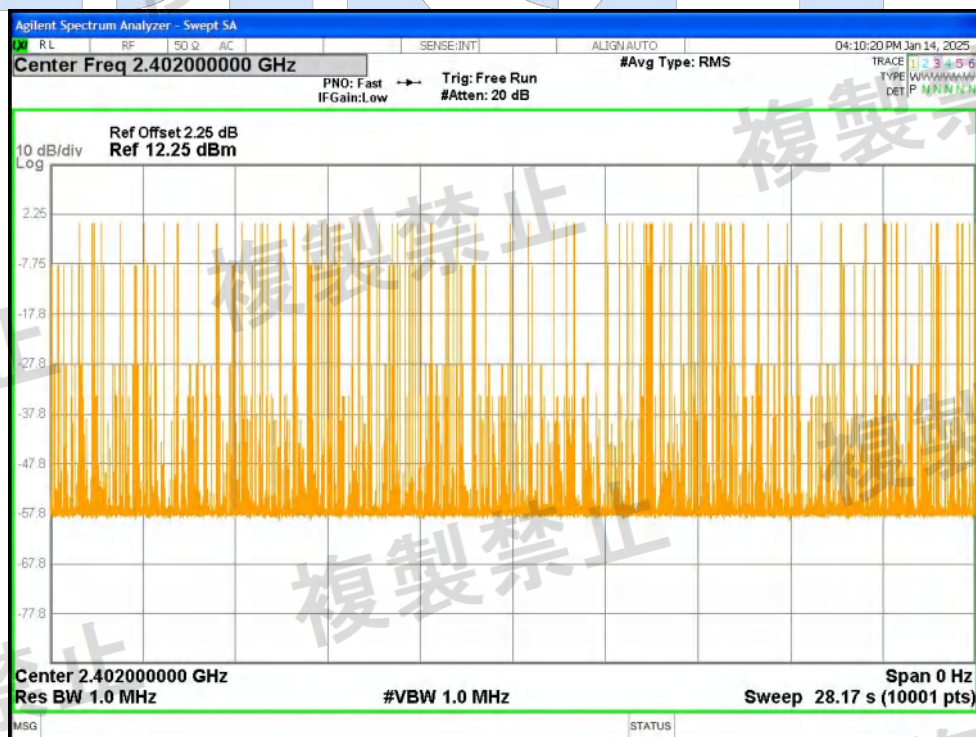
Spread Spectrum Factor = Spread Spectrum Bandwidth / Modulation Rate

Mode	Frequency (MHz)	Pulse Time (ms)	Total Time (ms)	Dwell	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH5	2402	2.905	252.735		87	28170.4	400	Pass
2-DH5	2402	2.91	299.73		103	28143.6	400	Pass
3-DH5	2402	2.91	279.36		96	28176	400	Pass

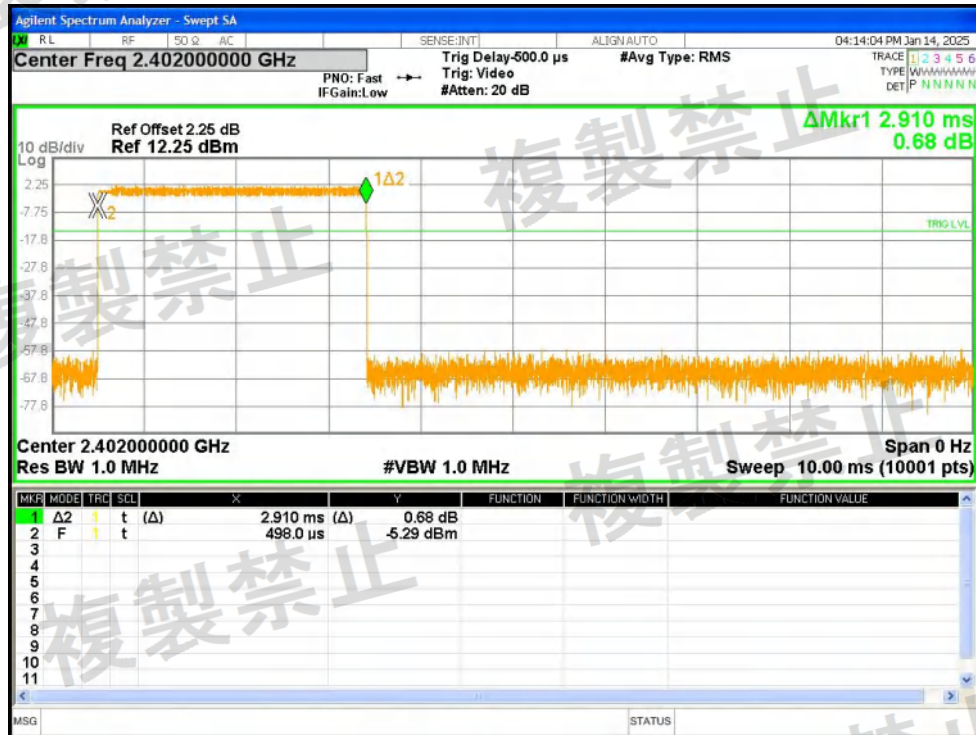
Note: All modes were tested and only data for the worst mode are reported.



Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



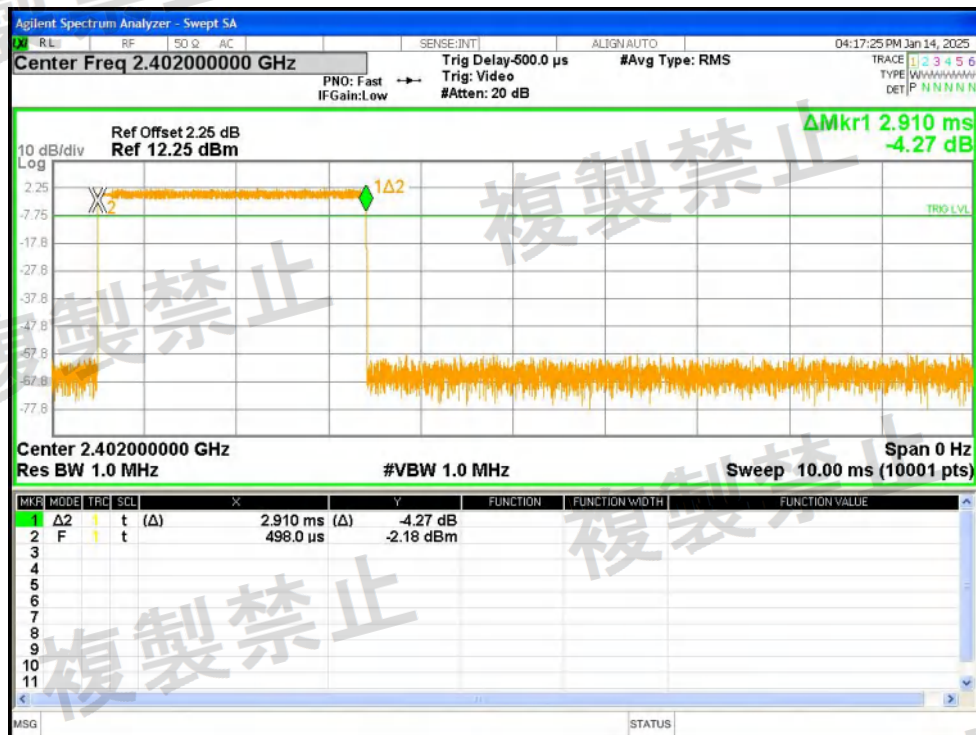
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



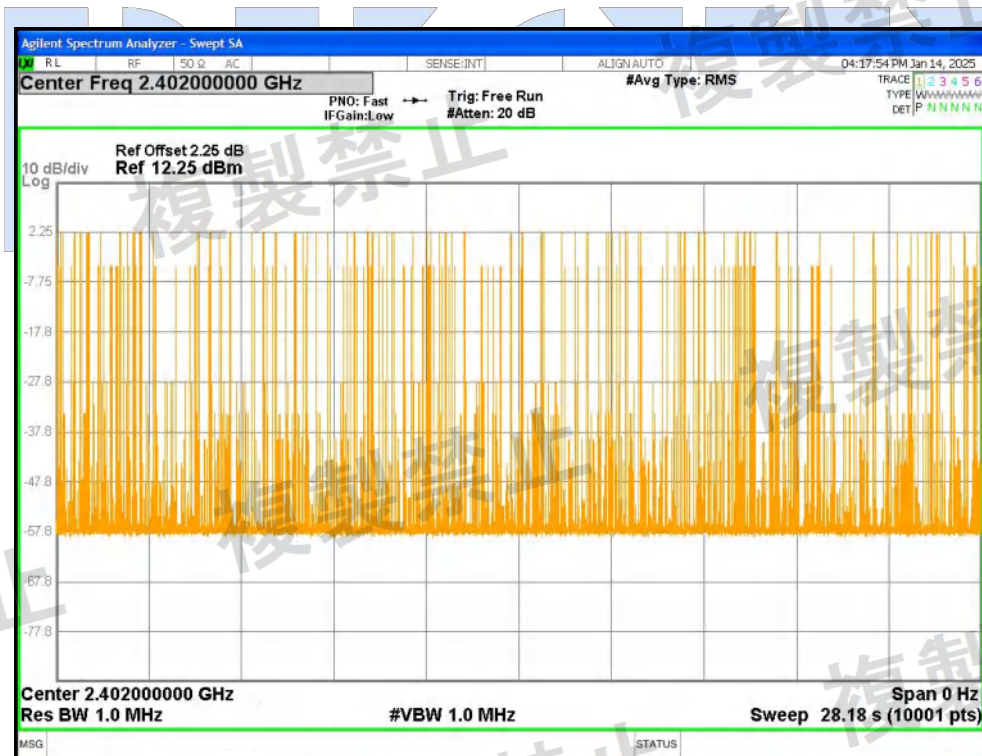
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



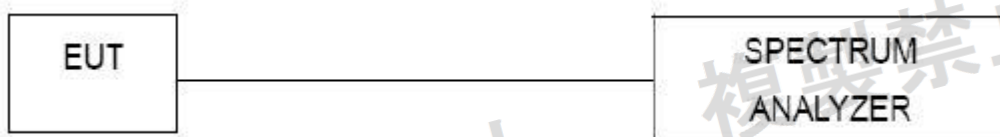
Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

7. Secondary Radiated Emissions

7.1. Limit

Item	Limit
RX Spurious Emission	$\leq 4 \text{ nW}$ (Below 1GHz)
	$\leq 20 \text{ nW}$ (Above 1GHz)

7.2. Test Setup



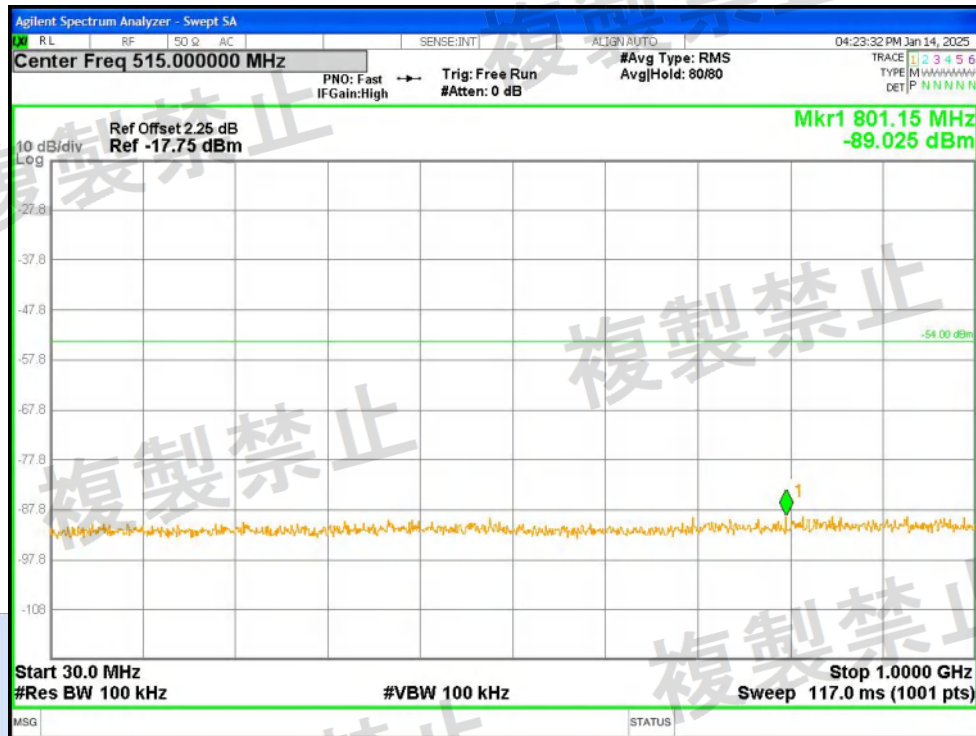
7.3. Test Procedure

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: 10dB / Ref: 0dBm / 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.

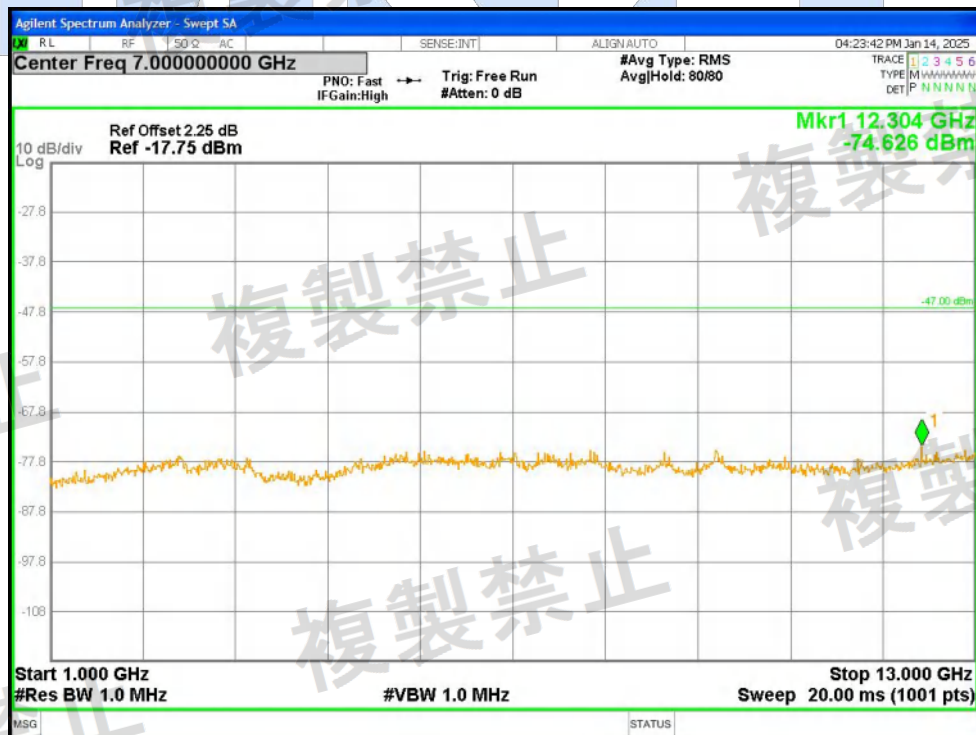
7.4. Test Result

Mode	Frequency (MHz)	Antenna	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
1-DH5	2402	Ant1	30-1000	801.15	-89.03	-54	Pass
1-DH5	2402	Ant1	1000-13000	12304	-74.63	-47	Pass
1-DH5	2441	Ant1	30-1000	857.41	-89.21	-54	Pass
1-DH5	2441	Ant1	1000-13000	7936	-75.11	-47	Pass
1-DH5	2480	Ant1	30-1000	893.3	-88.44	-54	Pass
1-DH5	2480	Ant1	1000-13000	12988	-75.18	-47	Pass
2-DH5	2402	Ant1	30-1000	913.67	-88.47	-54	Pass
2-DH5	2402	Ant1	1000-13000	5524	-75.14	-47	Pass
2-DH5	2441	Ant1	30-1000	457.77	-88.72	-54	Pass
2-DH5	2441	Ant1	1000-13000	12964	-75.69	-47	Pass
2-DH5	2480	Ant1	30-1000	864.2	-89.19	-54	Pass
2-DH5	2480	Ant1	1000-13000	12736	-75.05	-47	Pass
3-DH5	2402	Ant1	30-1000	944.71	-89.03	-54	Pass
3-DH5	2402	Ant1	1000-13000	5968	-75.56	-47	Pass

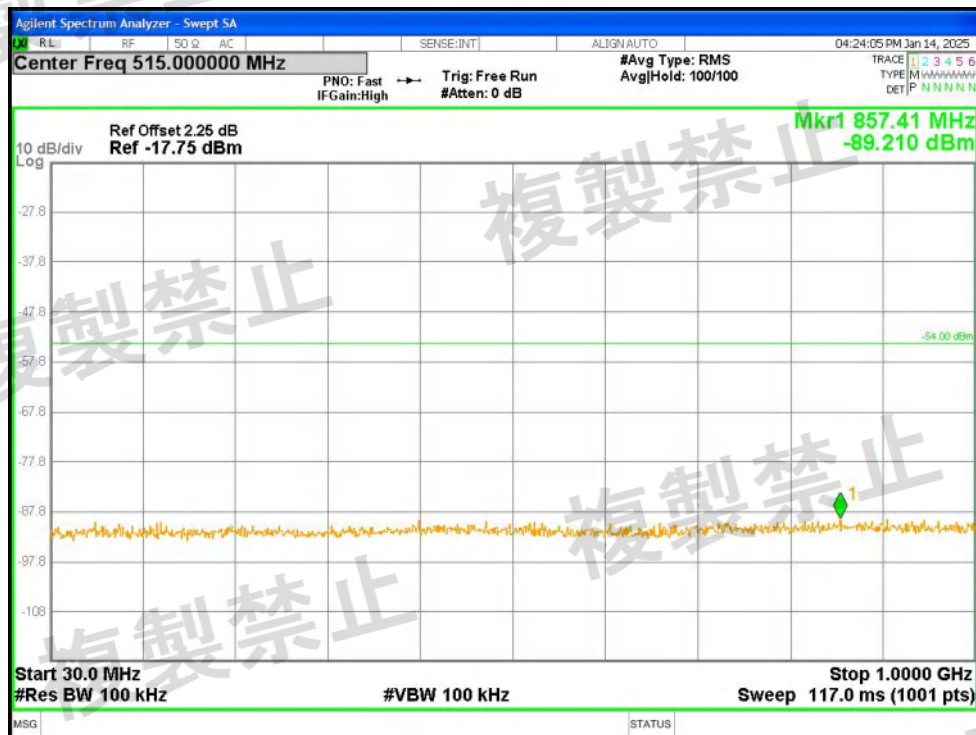
3-DH5	2441	Ant1	30-1000	452.92	-87.83	-54	Pass
3-DH5	2441	Ant1	1000-13000	2632	-75.39	-47	Pass
3-DH5	2480	Ant1	30-1000	689.6	-89.03	-54	Pass
3-DH5	2480	Ant1	1000-13000	7468	-75.68	-47	Pass



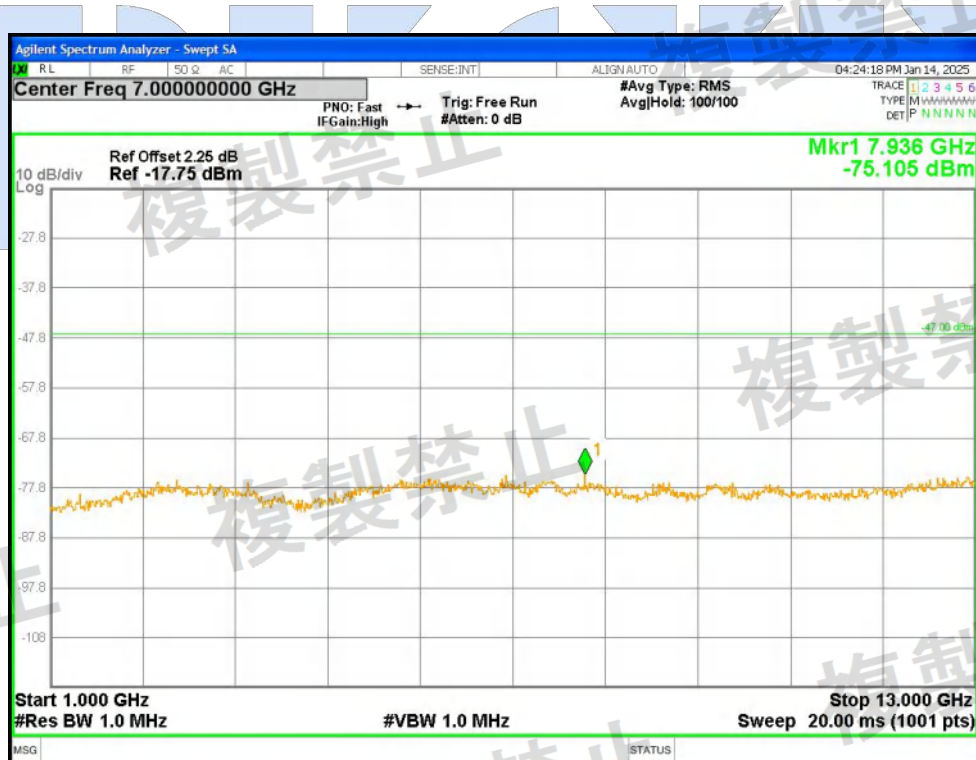
Rx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 30MHz-1000MHz



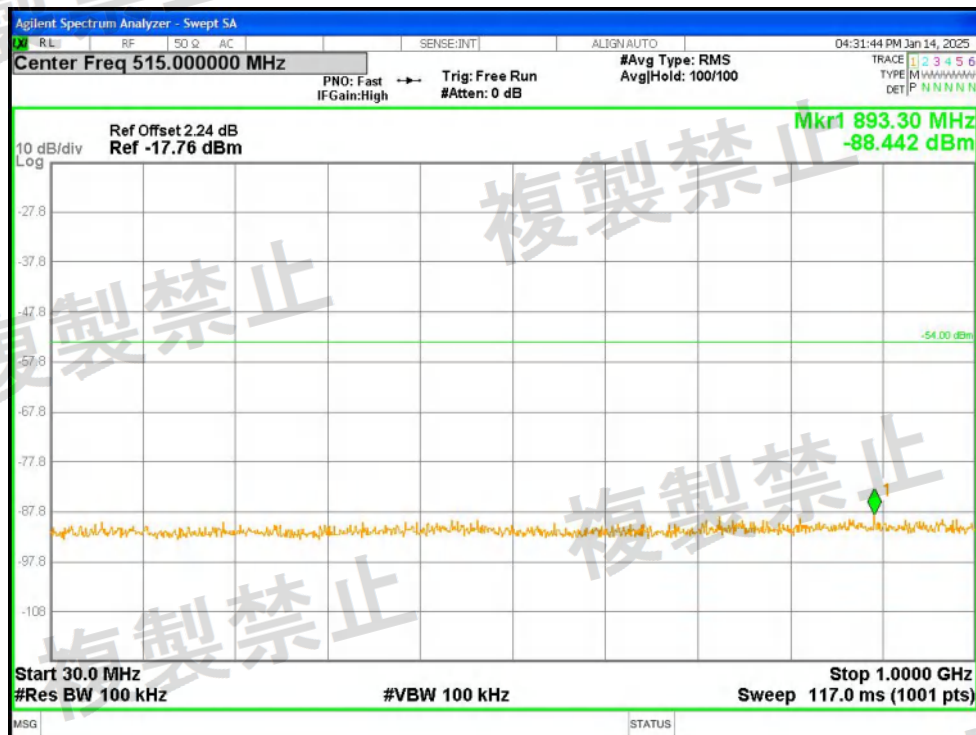
Rx. Spurious NVNT 1-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



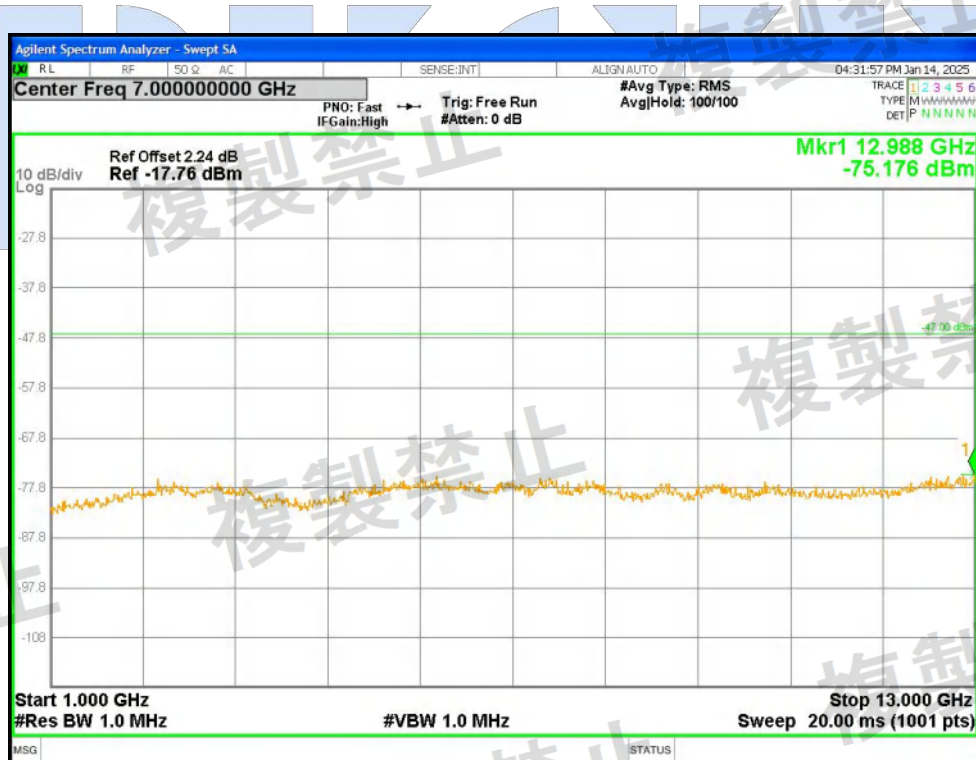
Rx. Spurious NVNT 4-DH5 2441MHz Ant1 @ 30MHz-1000MHz



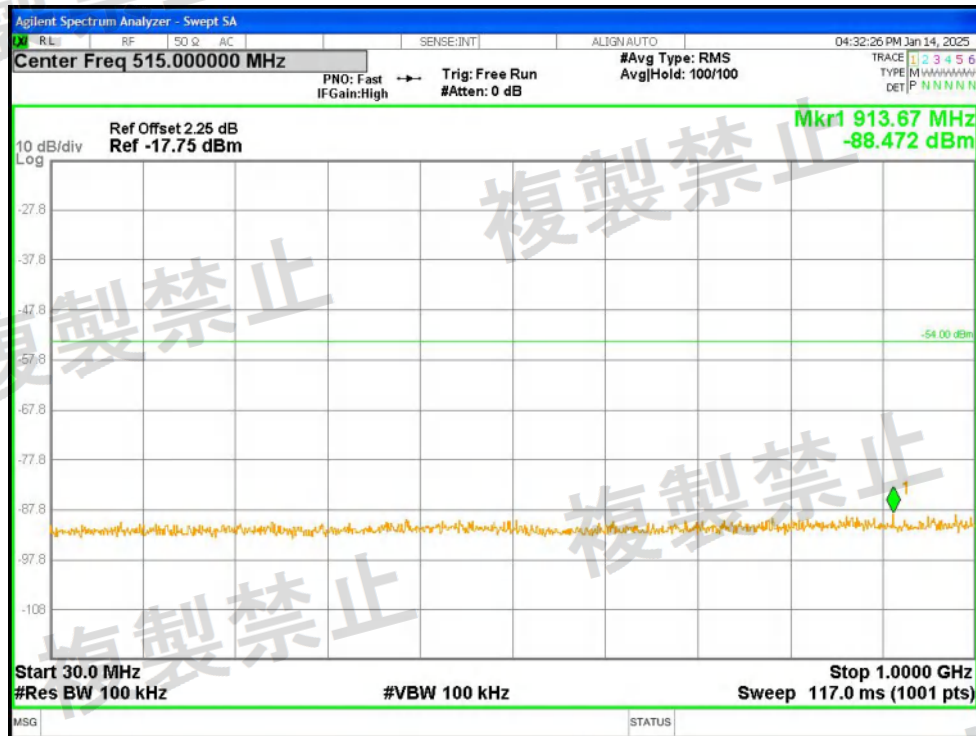
Rx. Spurious NVNT 1-DH5 2441MHz Ant1 @ 1000MHz-13000MHz



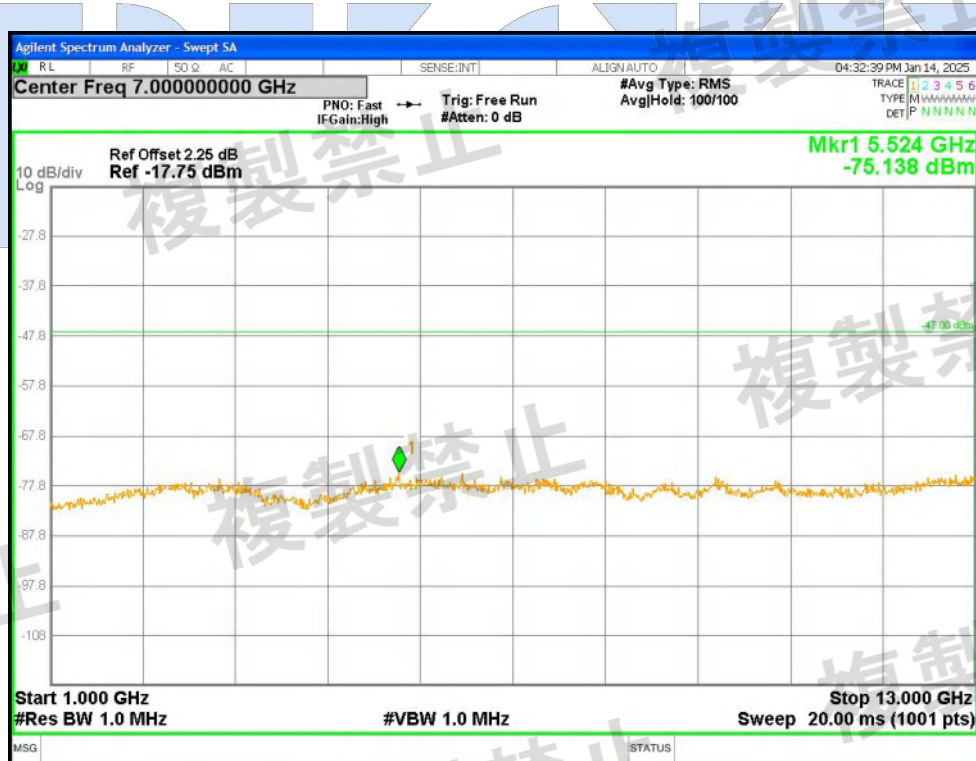
Rx. Spurious NVNT 4-DH5 2480MHz Ant1 @ 30MHz-1000MHz



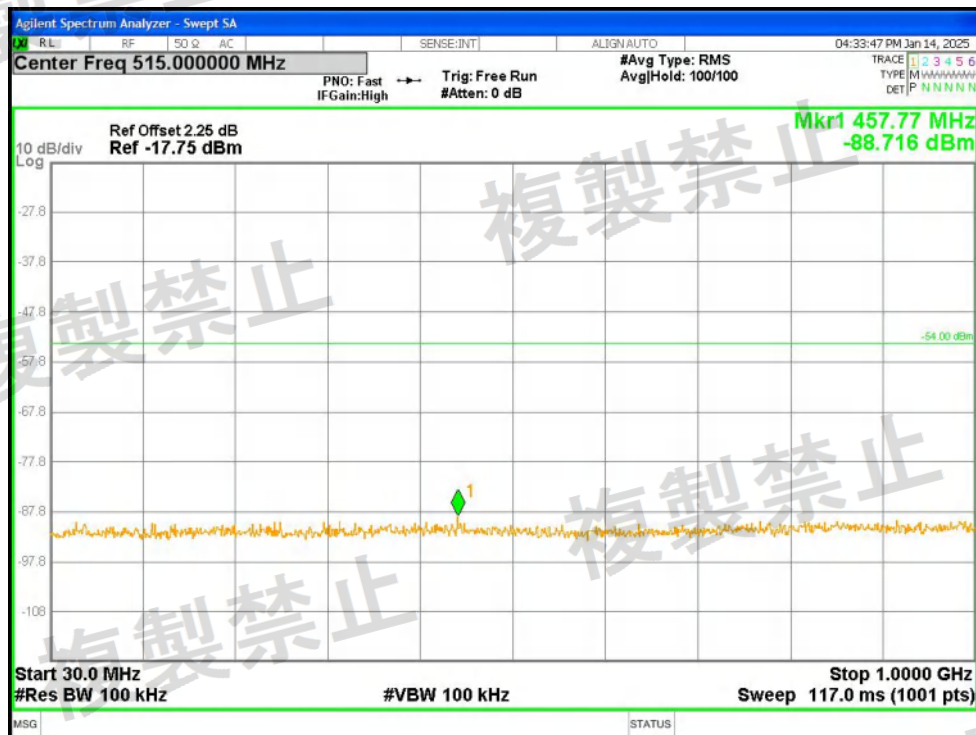
Rx. Spurious NVNT 1-DH5 2480MHz Ant1 @ 1000MHz-13000MHz



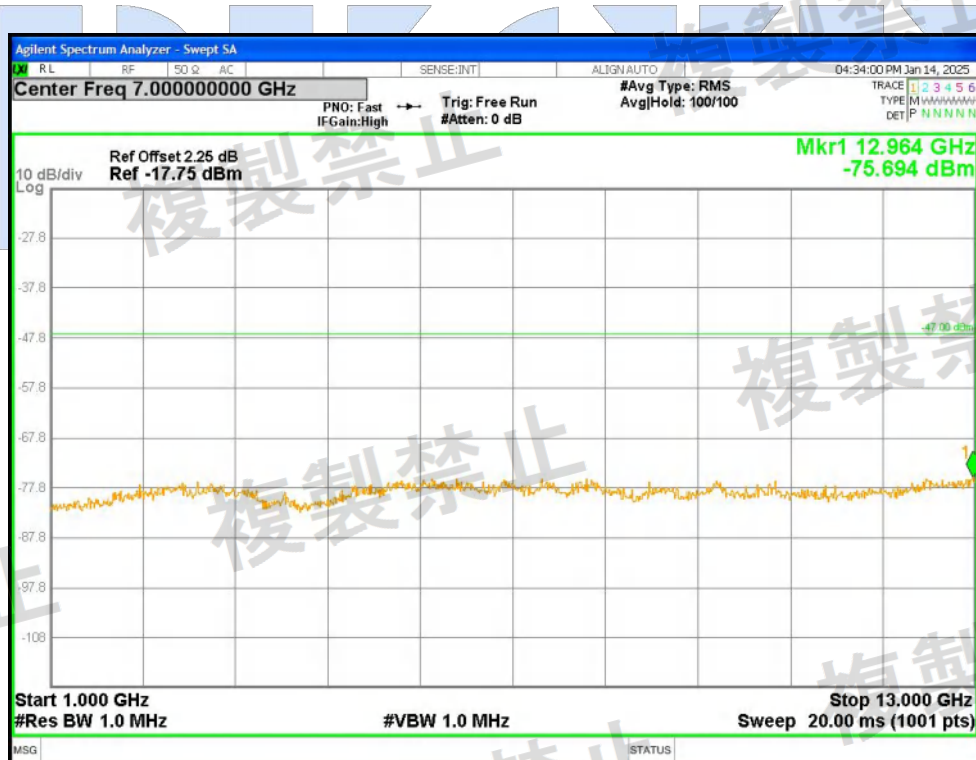
Rx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 30MHz-1000MHz



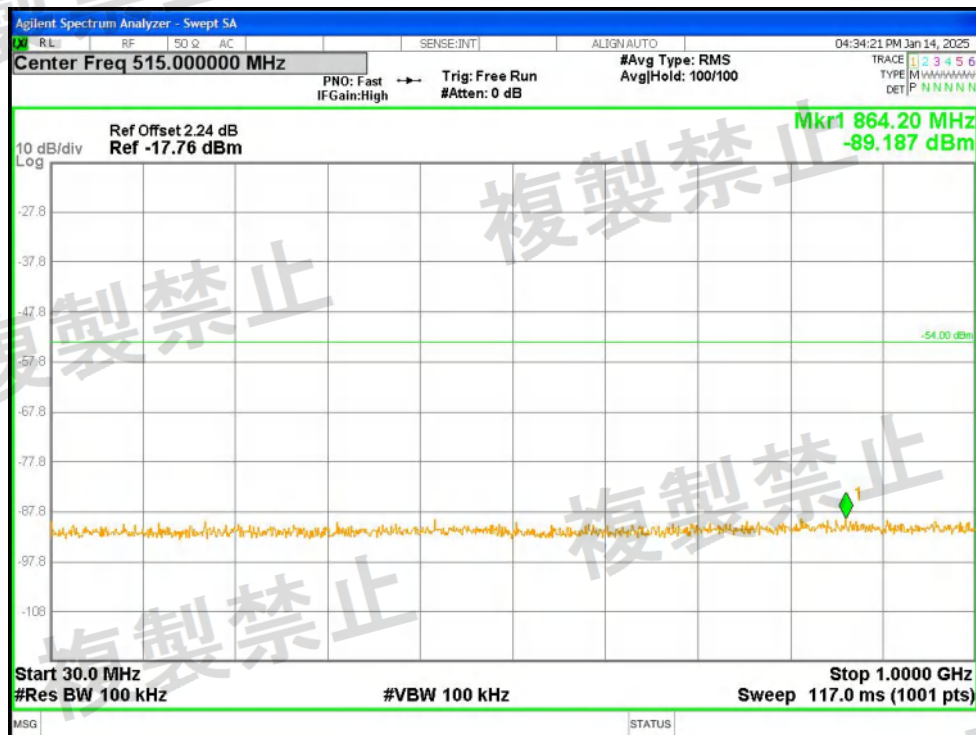
Rx. Spurious NVNT 2-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



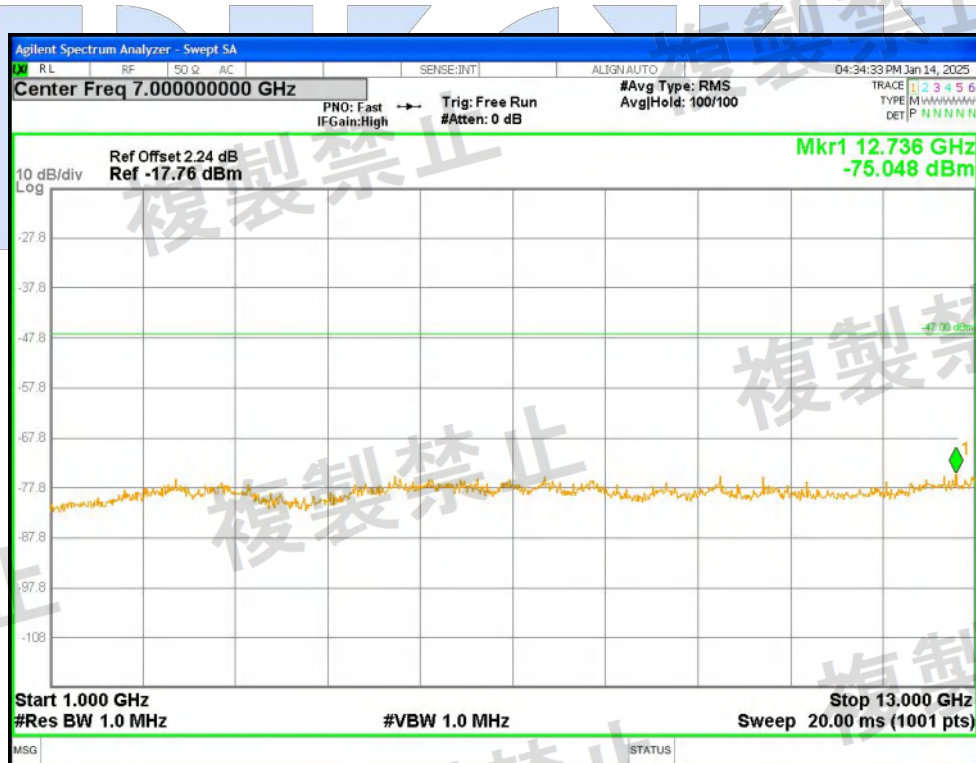
Rx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 30MHz-1000MHz



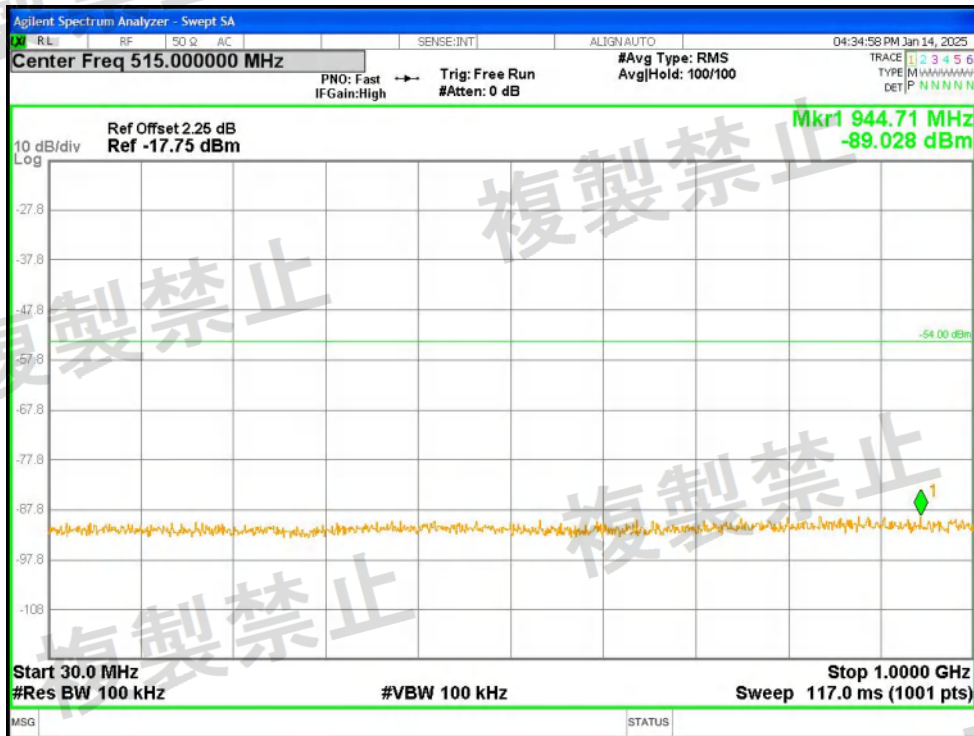
Rx. Spurious NVNT 2-DH5 2441MHz Ant1 @ 1000MHz-13000MHz



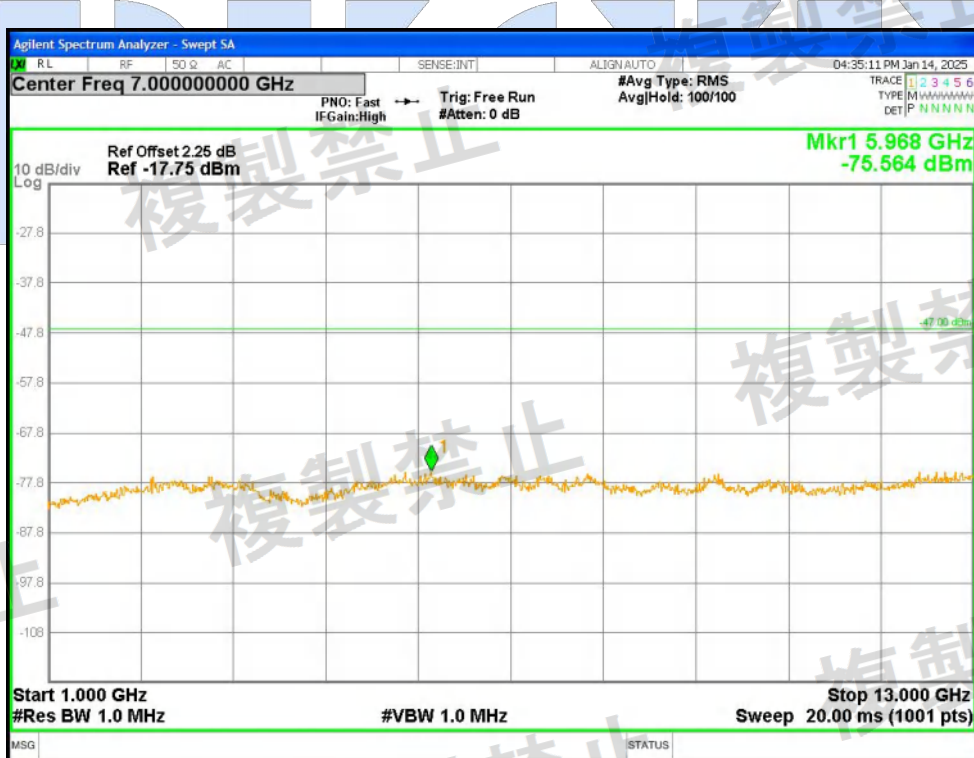
Rx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 30MHz-1000MHz



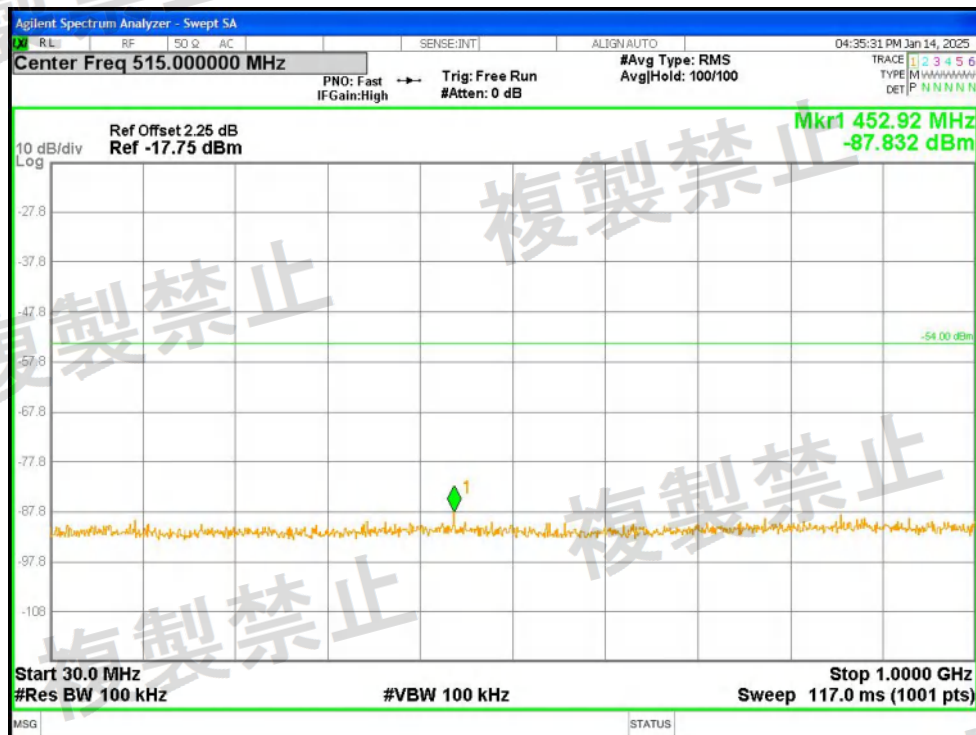
Rx. Spurious NVNT 2-DH5 2480MHz Ant1 @ 1000MHz-13000MHz



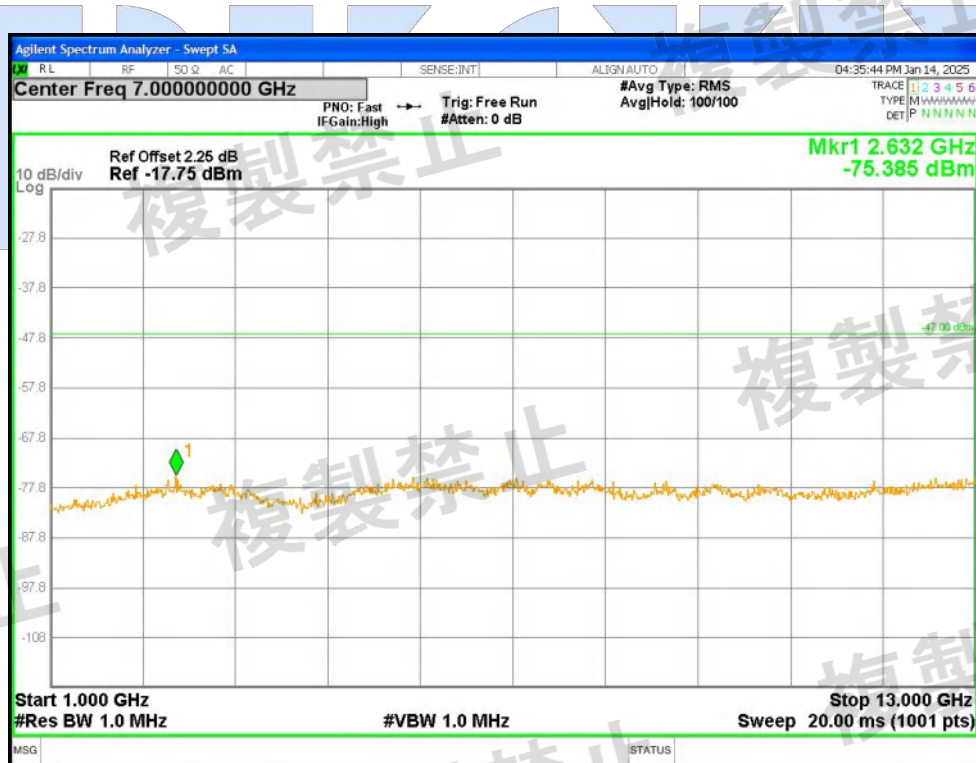
Rx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 30MHz-1000MHz



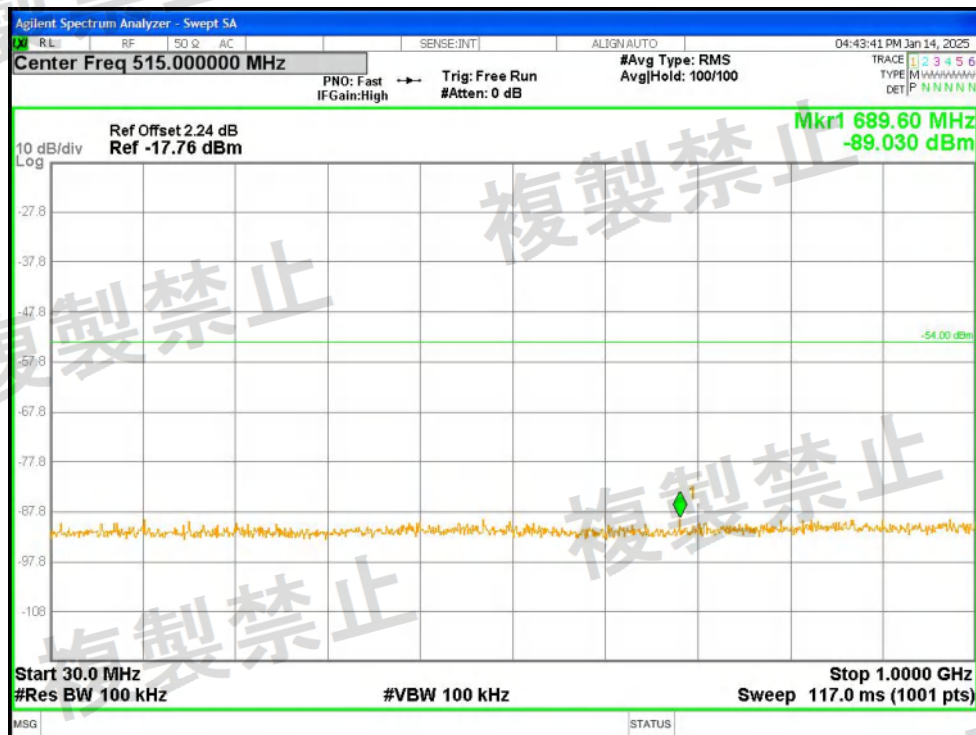
Rx. Spurious NVNT 3-DH5 2402MHz Ant1 @ 1000MHz-13000MHz



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



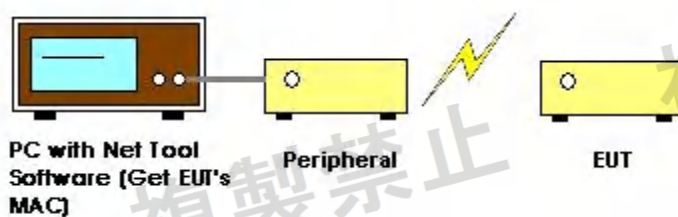
Rx. Spurious NVNT 3-DH5 2480MHz Ant1 @ 1000MHz-13000MHz

8. Interference prevention function

8.1. Limit

Item	Limits
Identification code	≥ 48 bits

8.2. Test Setup



8.3. Test Procedure

- 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.
- 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.

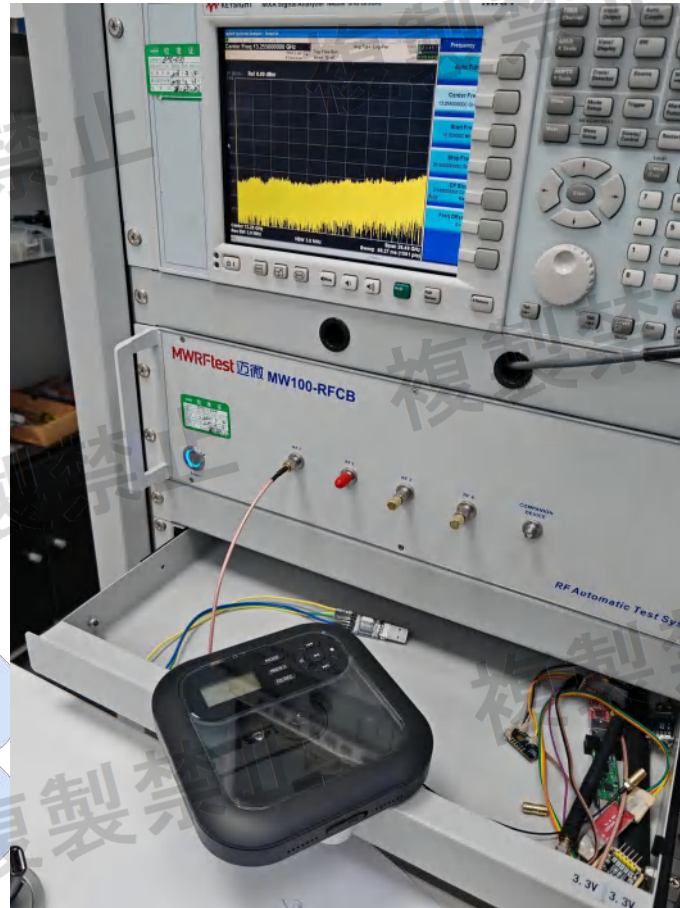
8.4. Test Result

EUT BD Address plot:



9. Test Photographs

Normal Conditions



10. Photos of the EUT

Reference to the appendix Photos.

