



RF TEST REPORT

Applicant	:	enjoy smile Co.
Address of Applicant	:	5-13-37 Midorigaoka Atsugi Kanagawa Japan
Manufacturer	:	DMS Solutions Ltd
Address of Manufacturer	:	3F, Jinjie Industrial Park, No.13 Longjiang Road, Wanji Industrial Zone, Longhu District, Shantou
Equipment under Test	:	2.4GHz FHSS RF Transmitter Module
Model No.	:	ES-TXM001
Test Standard(s)	:	MIC public notice 88:2004 annex 43 and annex 1 Article 2 Paragraph 1 Item 19
Report No.	:	A2606238-C03-R01
Issue Date	:	2026/08/26
Issued By	:	Shenzhen Alpha Product Testing Co., Ltd. Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

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Test Report Declare

Applicant	:	enjoy smile Co.
Address of Applicant	:	5-13-37 Midorigaoka Atsugi Kanagawa Japan
Manufacturer	:	DMS Solutions Ltd
Address of Manufacturer	:	3F, Jinjie Industrial Park, No.13 Longjiang Road, Wanji Industrial Zone, Longhu District, Shantou
Equipment under Test	:	2.4GHz FHSS RF Transmitter Module
Model No.	:	ES-TXM001
Trademark	:	 enjoy smile Co.

Test Standard Used:

MIC public notice 88:2004, annex 43 and annex 1, Article 2, Paragraph 1, Item 19

We Declare:

The equipment described above is tested by Shenzhen Alpha Product Testing Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	A2606238-C03-R01		
Date of Receipt:	2026/08/06	Date of Test:	2026/08/06 - 2026/08/26

Prepared By:

Yannis Wen/Engineer

Approved By:

Alan Fan/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
V0	Initial issue	2026/08/26	Yannis Wen

1. Summary of Test Results

MIC public notice 88:2004, annex 43 and annex 1, Article 2, Paragraph 1, Item 19			
No.	Test Parameter	Condition	Result
1	Frequency Tolerance	Apply all equipment	Pass
2	Antenna Power&Power Tolerance	Apply all equipment	Pass
3	Equivalent Isotropic Radiated Power	Application to Antenna Gain more than 2.14dBi.	Pass
4	Occupied Bandwidth	Apply all equipment	Pass
5	Transmitter Spurious Emissions (conducted)	Apply all equipment	Pass
6	Carrier sensing function1	Application to transmitting devices which EIRP is less than (2.14dBi + antenna power limit) and the shortage of EIRP is compensated by the antenna power. Not applicable to this product.	N/A
7	Carrier sensing function2	Application to transmitting devices with OFDM modulation and the occupied bandwidth greater than 26MHz.	N/A
8	Interference Prevention Function	The product is encrypted with a built-in programming code.	Pass
9	Secondary Radiated Emissions	The EUT has only transmission functions.	N/A
10	Dwell Time	Apply FH system	Pass
11	Transmission Radiated Angle Width (3dB Beam Bandwidth)	Application to EIRP more than 12.14dBm.	N/A
Note:			
(1) N/A is an abbreviation for Not Applicable.			

2. General Test Information

2.1. Description of EUT

EUT Name	:	2.4GHz FHSS RF Transmitter Module
Model Number	:	ES-TXM001
Difference of model number	:	/
Power Supply	:	DC 3.3V
Hardware Version	:	V1.0
Software Version	:	V1.0

Radio Specification	:	2.4G Technology
Operation Frequency	:	2406 MHz to 2475 MHz
Modulation	:	GFSK
Declared Power	:	0.3mW/MHz
Data Rate	:	1Mbps
Antenna Type	:	PCB Antenna
Max Antenna Gain(dBi)	:	2.78dBi(Antenna information is provided by applicant.)

2.4G Technology Channel information					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2406	22	2429	44	2455
1	2407	23	2430	45	2456
2	2408	24	2431	46	2457
3	2409	25	2432	47	2458
4	2410	26	2433	48	2460
5	2411	27	2434	49	2461
6	2412	28	2435	50	2462
7	2413	29	2436	51	2463
8	2414	30	2437	52	2464
9	2415	31	2438	53	2465
10	2416	32	2443	54	2466
11	2417	33	2444	55	2467
12	2418	34	2445	56	2468
13	2419	35	2446	57	2469
14	2420	36	2447	58	2470
15	2421	37	2448	59	2471
16	2423	38	2449	60	2472
17	2424	39	2450	61	2473

18	2425	40	2451	62	2474
19	2426	41	2452	63	2475
20	2427	42	2453		
21	2428	43	2454		

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
Transmitter	DMS SOLUTIONS LTD.	ES-TX001	/

2.3. Block diagram of EUT configuration for test



2.4. Test mode description

The special firmware was used to control EUT work in Continuous 2.4G Technology TX mode, and select test channel, wireless mode

Mode	Channel	Frequency(MHz)
GFSK hopping off mode	Low :CH0	2406
	Middle: CH23	2430
	High: CH63	2475
GFSK hopping on mode	CH0 to CH63	2406-2475
Carrier Tx Mode	Low :CH0	2406
	Middle: CH23	2430
	High: CH63	2475

2.5. Deviations of test standard

No deviation.

2.6. Test conditions

During the measurement the environmental conditions were within the listed ranges:

Items	Required
Temperature range:	5-35°C
Humidity range:	45-85%
Pressure range:	86-106kPa

Voltage mode	Input Voltage	Radio Unit Voltage
DC	DC 3.0V	DC 3V
	DC 3.3V	DC 3V
	DC 3.7V	DC 3V
Note: 1 The radio unit Voltage with the IC. 2 The radio unit less than 1%, so the test only rated voltage (Normal voltage DC 3.3V).		

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Shenzhen Alpha Product Testing Co., Ltd.

Add.: Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

Tel.: 4008-3008-95, Website: <http://www.a-lab.cn>, Email: service@a-lab.cn

CNAS Accreditation No. L7472; A2LA Accreditation Number: 4762.01

FCC Designation Number: CN1182, Test Firm Registration Number: 203110

Innovation, Science and Economic Development Canada Site Registration Number: 12135A

CAB identifier: CN0085

2.8. Measurement uncertainty

Item	MU	Remark
Bandwidth	±0.20 ppm	/
Antenna Power	±0.33 dB	/
Frequency Tolerance	±5.02 ppm	/
Conducted spurious emission	±0.13 dB	/
Spurious emissions,radiated(>1G)	±2.83 dB	/
Spurious emissions,radiated(<1G)	±3.01 dB	/

3. Frequency Tolerance

3.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/0302

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

3.2. Block diagram of test setup



3.3. Limits

+/- 50x 10⁻⁶ or less(50ppm)

3.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

3.5. Test procedure

Configure EUT and assistant system according clause 2.3 and 3.2

Set EUT work in test mode as described in clause 2.4

Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

- Centre Frequency: The centre frequency of the channel under test.
- Resolution BW: 10 KHz..
- Video BW: 10 KHz.
- Span: 1MHz.
- Detector: Peak.
- Trace Mode: Max Hold.

When the trace is complete, find the peak value of the power envelope and record.

3.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: Carrier TX Mode
Power supply: DC 3.3V	Memo: Please refer to Frequency Error of the Annex.

4. Antenna Power&Power Tolerance

4.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/03/02

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

4.2. Block diagram of test setup



4.3. Limits

No.	Modulation Method	Frequency Range	Antenna Power	E.I.R.P
1.	FHSS(Compound method with DSSS or OFDM) (OBW within 83.5MHz)	2427-2470.75 MHz	3mW/MHz or less	6.91-16.91dBm/MHz
2.	DSSS (OBW within 26MHz)	2400 - 2483.5 MHz	10mW/MHz or less	12.14-22.14dBm/MHz
3.	OFDM (OBW within 26MHz)		10mW/MHz or less	12.14-22.14dBm/MHz
4.	OFDM (OBW 26-40MHz)		5mW/MHz or less	9.13-19.13dBm/MHz
5.	Other Digital methods (OBW within 26MHz)		10mW or less	12.14-22.14dBm
6.	Tolerance	+20%		

4.4. Assistant equipment used for test

Assistant	Manufacturer	Model number	Description	other
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equipment				
/	/	/	/	/

4.5. Test procedure

The Antenna Power may be measured using a broadband power meter.

4.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: GFSK hopping on mode
Power supply: DC 3.3V	Memo: Please refer to Antenna Power of the Annex

5. Equivalent Isotropic Radiated Power

5.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/03/02

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

5.2. Block diagram of test setup



5.3. Limits

No.	Modulation Method	Frequency Range	Antenna Power	E.I.R.P
1.	FHSS(Compound method with DSSS or OFDM) (OBW within 83.5MHz)	2427-2470.75 MHz	3mW/MHz or less	6.91-16.91dBm/MHz
		2400-2483.5 MHz (except 2427-2470.75MHz)	10mW/MHz or less	12.14-22.14dBm/MHz
2.	DSSS (OBW within 26MHz)	2400 - 2483.5 MHz	10mW/MHz or less	12.14-22.14dBm/MHz
3.	OFDM (OBW within 26MHz)		10mW/MHz or less	12.14-22.14dBm/MHz
4.	OFDM (OBW 26-40MHz)		5mW/MHz or less	9.13-19.13dBm/MHz
5.	Other Digital methods (OBW within 26MHz)		10mW or less	12.14-22.14dBm
6.	Tolerance	+20%		

5.4. Assistant equipment used for test

Assistant	Manufacturer	Model number	Description	other
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equipment				
/	/	/	/	/

5.5. Test procedure

EIRP(dBm)=Antenna Power(dBm)+Antenna Gain(dBi)

5.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: GFSK hopping on mode
Power supply: DC 3.3V	Memo: Please refer to EIRP Power of the Annex

6. Occupied Bandwidth

6.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/0302

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

6.2. Block diagram of test setup



6.3. Limits

Permissible value for occupied bandwidth using the FH system, a hybrid system combining DS and FH systems, or a hybrid system combining FH and OFDM systems shall be 83.5 MHz or less, while necessary bandwidth (minimum occupied bandwidth sufficient to ensure information transmission of required quality at a required transmission rate for the system used under specified conditions for a given emission type) using a system other than any of the above shall be 26 MHz or less.

6.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

6.5. Test procedure

Configure EUT and assistant system according clause 2.3 and 6.2

Set EUT work in test mode as described in clause 2.4

Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below(no hopping):

- Centre Frequency: The centre frequency of the channel under test.
- Resolution BW: 30 KHz
- Video BW: 30 KHz

- Span: Wide enough to cover the complete power envelope of the signal of the EUT.
- Detector: Peak.
- Trace Mode: Max Hold.

Spectrum Analyzer as below(hopping):

- Centre Frequency: The centre frequency of the channel under test.
- Resolution BW: 1 MHz
- Video BW: 1 MHz
- Span: Wide enough to cover the complete power envelope of the signal of the EUT.
- Detector: Peak.
- Trace Mode: Max Hold.

When the trace is complete, measure the occupied bandwidth (99% bandwidth) with spectrum analyzer's bandwidth measure function.

6.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: GFSK hopping off&hopping on mode
Power supply: DC 3.3V	Memo: Please refer to Occupied Channel Bandwidth&Occupied Channel Bandwidth (Hopping) of the Annex.

7. Transmitter Spurious Emissions (conducted)

7.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/0302

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

7.2. Block diagram of test setup



7.3. Limits

Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows:

- $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.5\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 $\mu\text{W}/\text{MHz}$ or less
- $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 $\mu\text{W}/\text{MHz}$ or less

7.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

7.5. Test procedure

Configure EUT and assistant system according clause 2.3 and 7.2

Set EUT work in test mode as described in clause 2.4

Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

- Resolution BW: 1MHz.
- Video BW: 1MHz.
- Detector: Peak.
- Trace Mode: Max Hold.

All the emissions from 30MHz to 13GHz were measured and record.

7.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: GFSK hopping off mode
Power supply: DC 3.3V	Memo: Please refer to Tx Spurious Emission of the Annex.

8. Secondary Radiated Emissions

8.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/0302

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

8.2. Block diagram of test setup



8.3. Limits

The limit on secondary emissions radiated from the receiving equipment within which the function of other radio equipment will not be impaired shall be, in terms of the power of a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4 nW or less at a frequency below 1 GHz and 20 nW or less at a frequency of 1 GHz or higher as measured using the circuit.

8.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

8.5. Test procedure

Configure EUT and assistant system according clause 2.3 and 8.2

Set EUT work in test mode as described in clause 2.4

Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

- Resolution BW: 100 KHz for frequency below 1GHz and 1MHz for frequency above 1GHz
- Video BW: 100 KHz for frequency below 1GHz and 1MHz for frequency above 1GHz
- Detector: Peak.
- Trace Mode: Max Hold.

All the emissions from 30MHz to 13GHz were measured and record.

8.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/06--2026/08/07
Condition: 24.3°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: /
Power supply: DC 3.3V	Memo: The EUT has only transmission functions.

9. Dwell Time

9.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2026/07/27	2027/07/26
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2026/07/28	2027/07/27
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE071	2026/07/28	2027/07/27
Power Sensor	DARE	RPR3006W	Aa-EE070	2026/07/28	2027/07/27
Power meter	Agilent	E4419B	Aa-EE045	2026/07/27	2027/07/26
Electronic Thermo- Hygrometer	S.H.Qixiang	HTC-1	Aa-EE056	2026/07/31	2027/07/30
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2026/03/03	2027/0302

The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.
Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act

9.2. Block diagram of test setup



9.3. Limits

Frequency dwell time (time during which radio waves continue to be emitted at a specified frequency) of a transmitting equipment using the FH system shall be 0.4 seconds or less.

9.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

9.5. Test procedure

- (1) Configure EUT and assistant system according clause 2.4 and 7.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the middle hopping channel.

Resolution BW: 1MHz.

Video BW: 1MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Max Hold.

Sweep: Video Trigger

(4) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 Burst cycle.

(5) Calculate dwell time follow below formula:

Dwell time =(0.4(s) x spreading rate x sending time of 1 burst(s))/(Burst cycle(s) x No. of hopping channel)

Spreading rate = Spread bandwidth (actual measurement value)/Transmission rate.

9.6. Test result

Test Site: RF Laboratory	Test Date: 2026/08/26--2026/08/26
Condition: 24.2°C,55%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

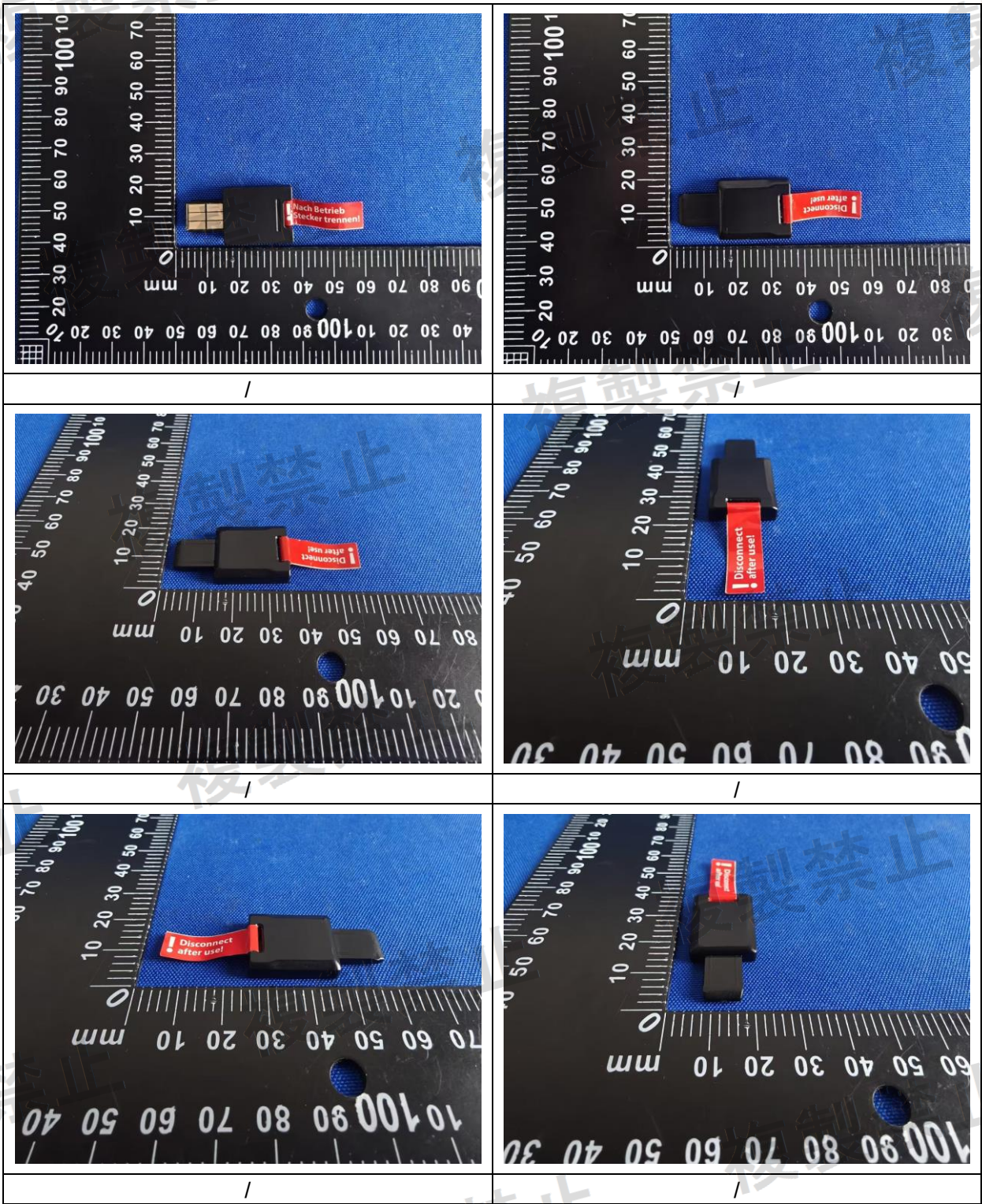
EUT Name: 2.4GHz FHSS RF Transmitter Module	EUT Model: ES-TXM001
Sample No.: A2606238-S0003	Test Mode: GFSK hopping on mode
Power supply: DC 3.3V	Memo: Please refer to Dwell Time of the Annex.

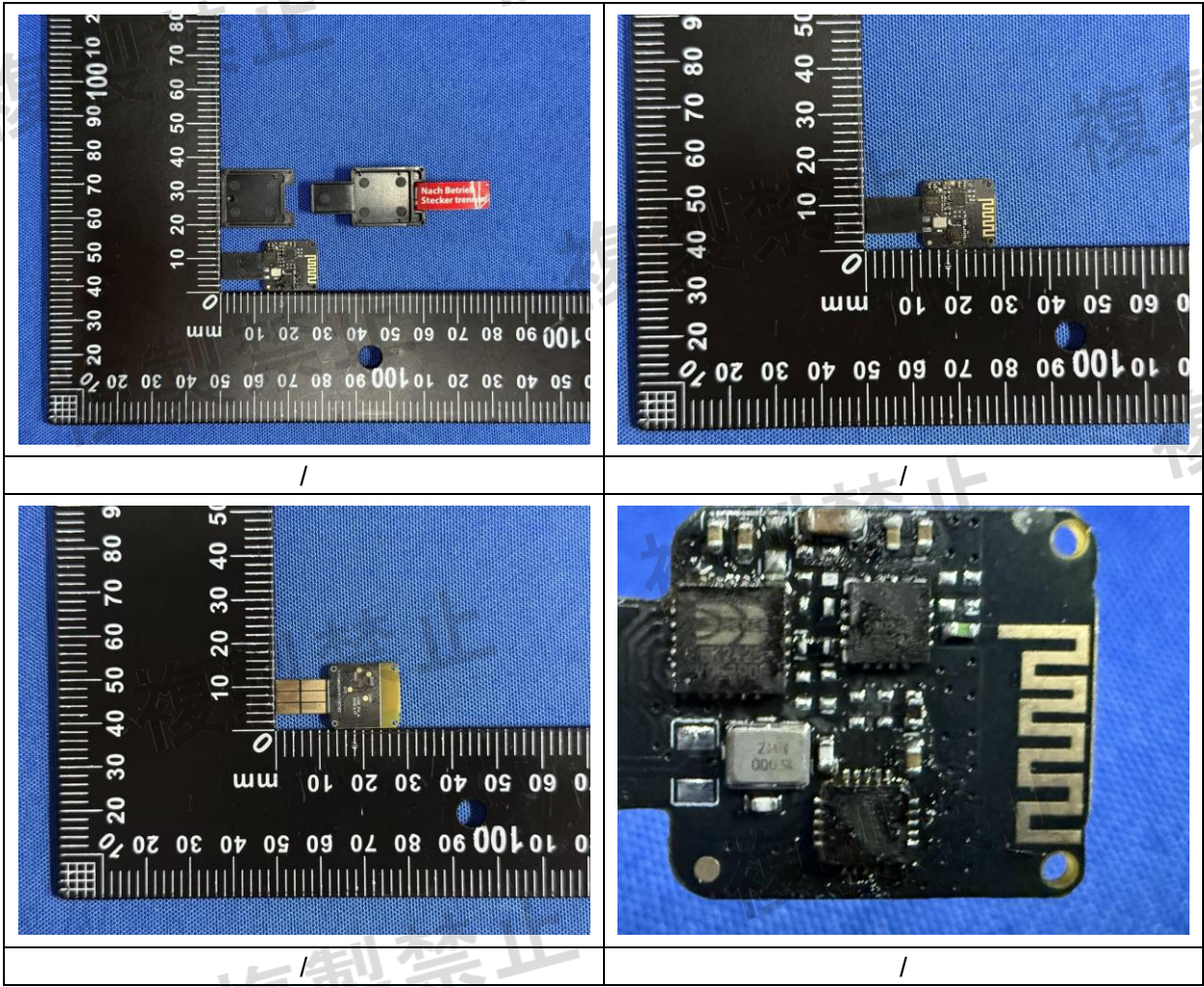
10. Test Setup Photograph





11. Photos of the EUT



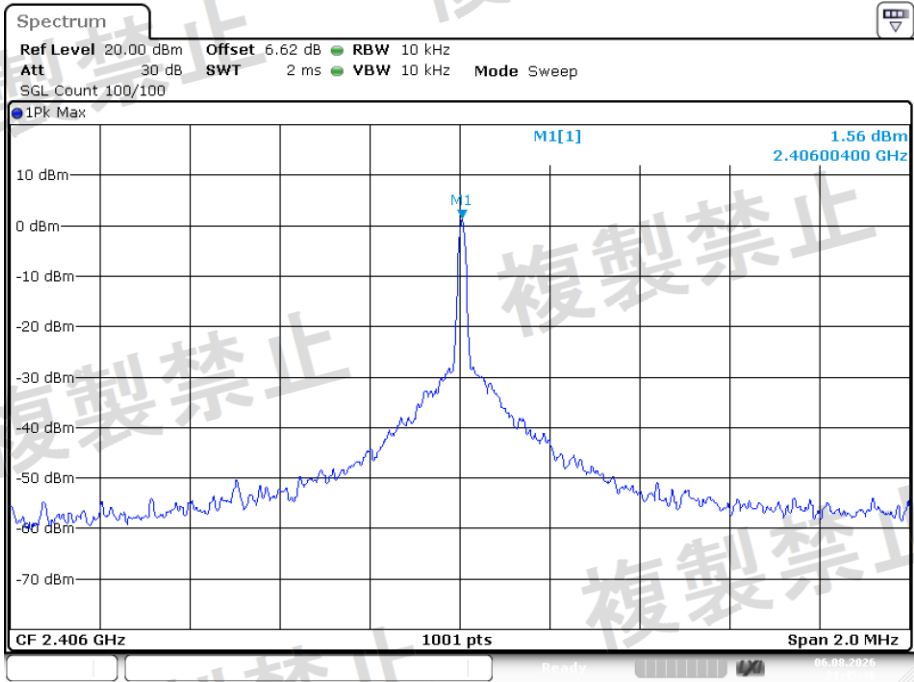


12. Annex

Frequency Error

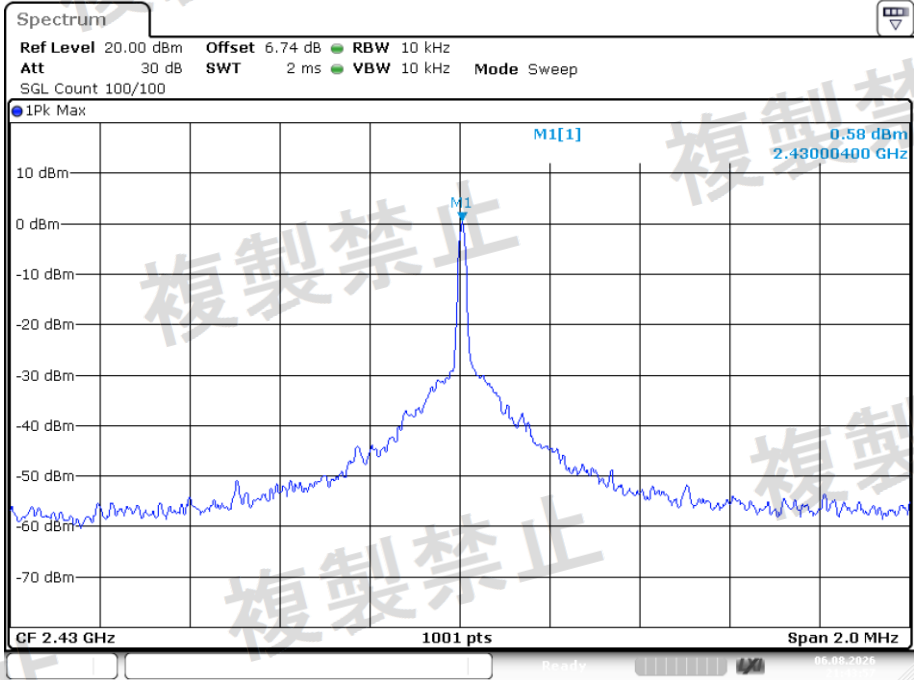
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	Carrier	2406	Ant1	2406.004	4000	1.66	±50	Pass
NVNT	Carrier	2430	Ant1	2430.004	4000	1.65	±50	Pass
NVNT	Carrier	2475	Ant1	2475.004	4000	1.62	±50	Pass

Freq. Error NVNT Carrier 2406MHz Ant1



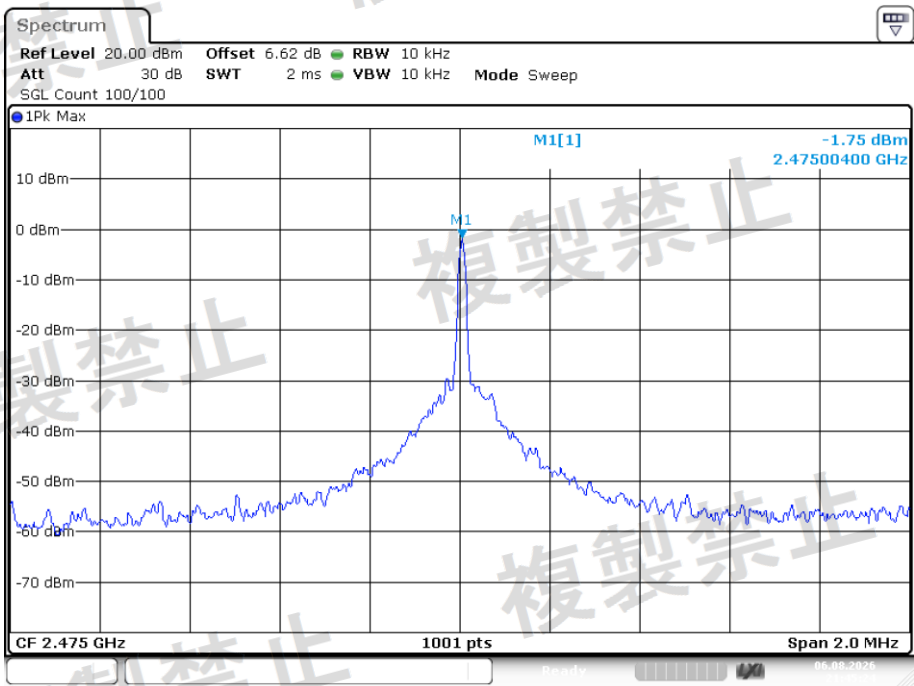
Date: 6.AUG.2026 21:45:36

Freq. Error NVNT Carrier 2430MHz Ant1



Date: 6.AUG.2026 21:43:57

Freq. Error NVNT Carrier 2475MHz Ant1

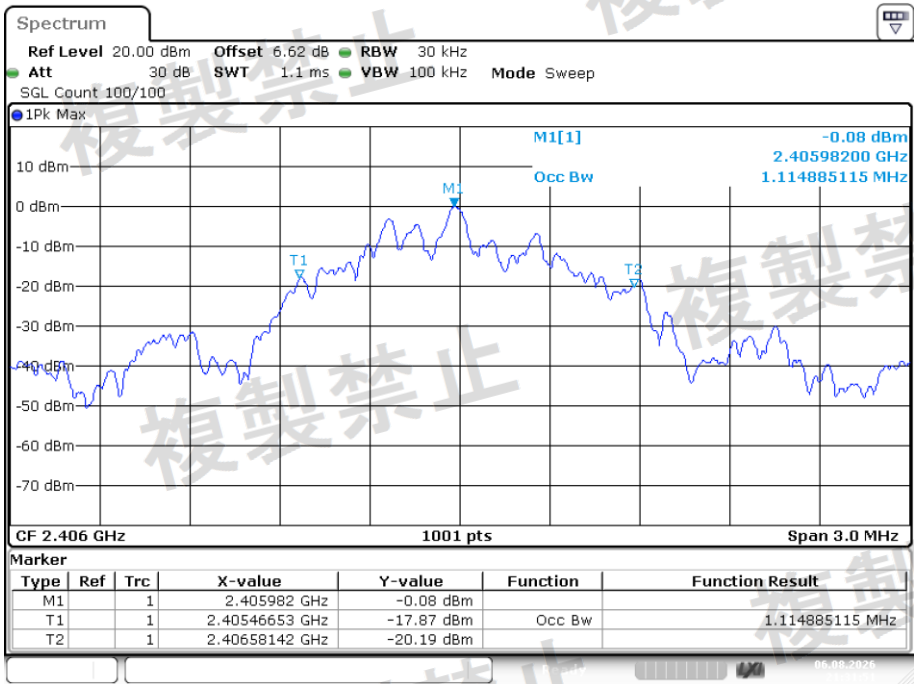


Date: 6.AUG.2026 21:45:24

Occupied Channel Bandwidth

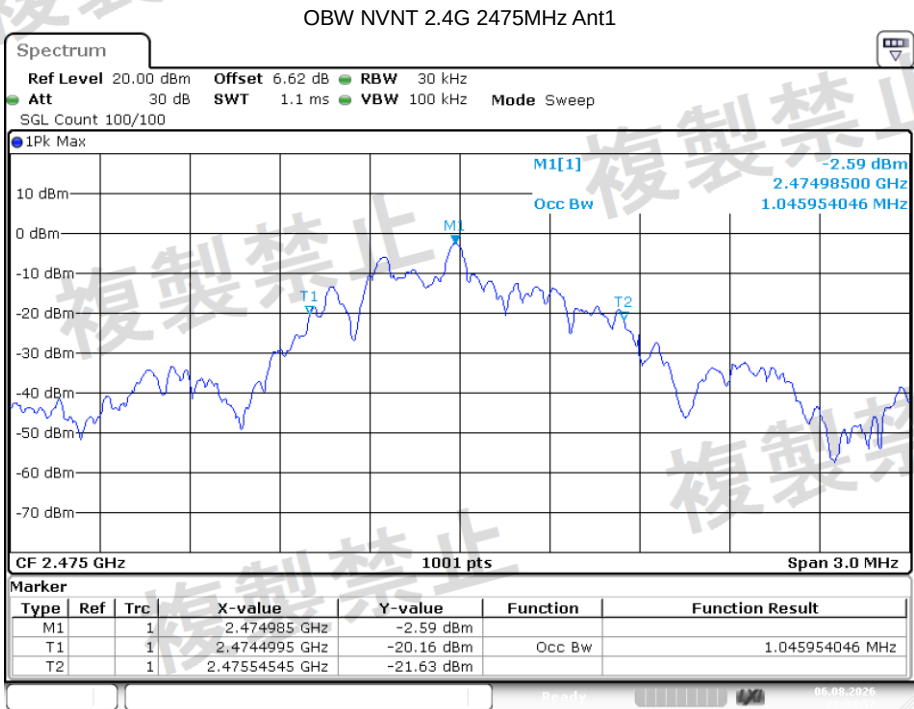
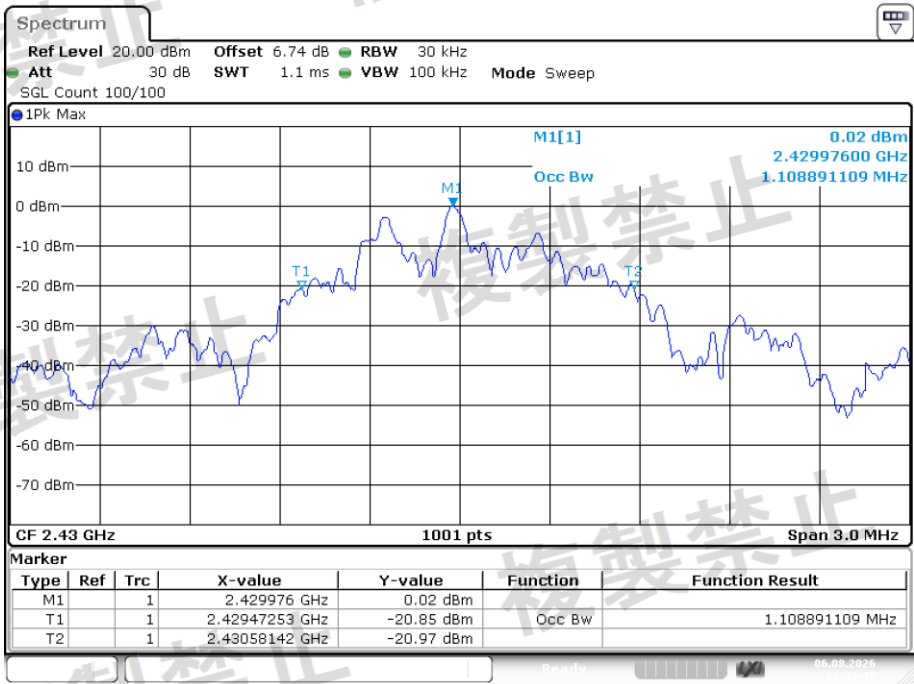
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	2.4G	2406	Ant1	1.115
NVNT	2.4G	2430	Ant1	1.109
NVNT	2.4G	2475	Ant1	1.046

OBW NVNT 2.4G 2406MHz Ant1



Date: 6.AUG.2026 21:31:51

OBW NVNT 2.4G 2430MHz Ant1

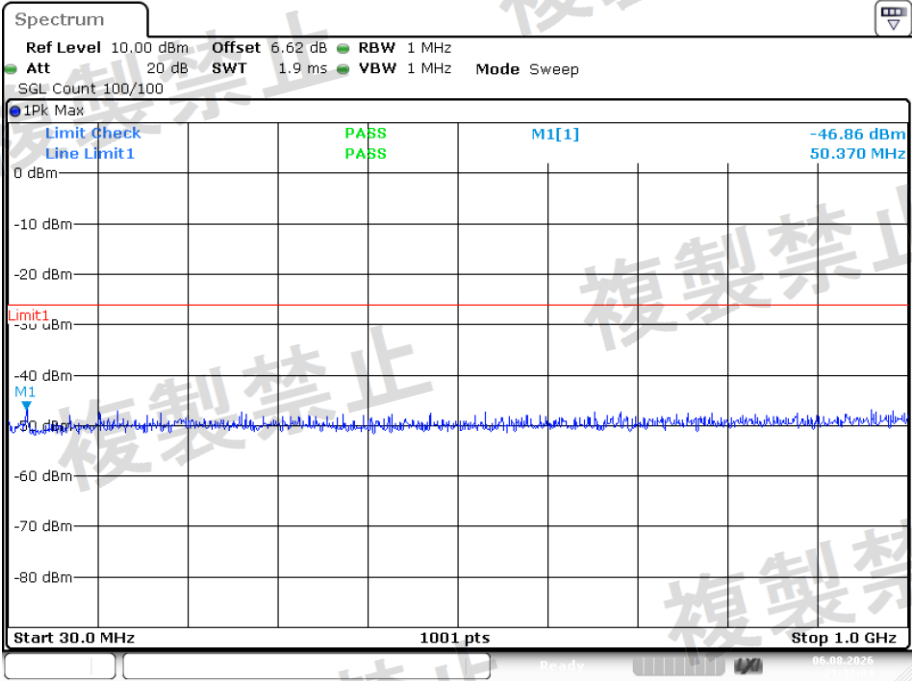


Tx Spurious Emission

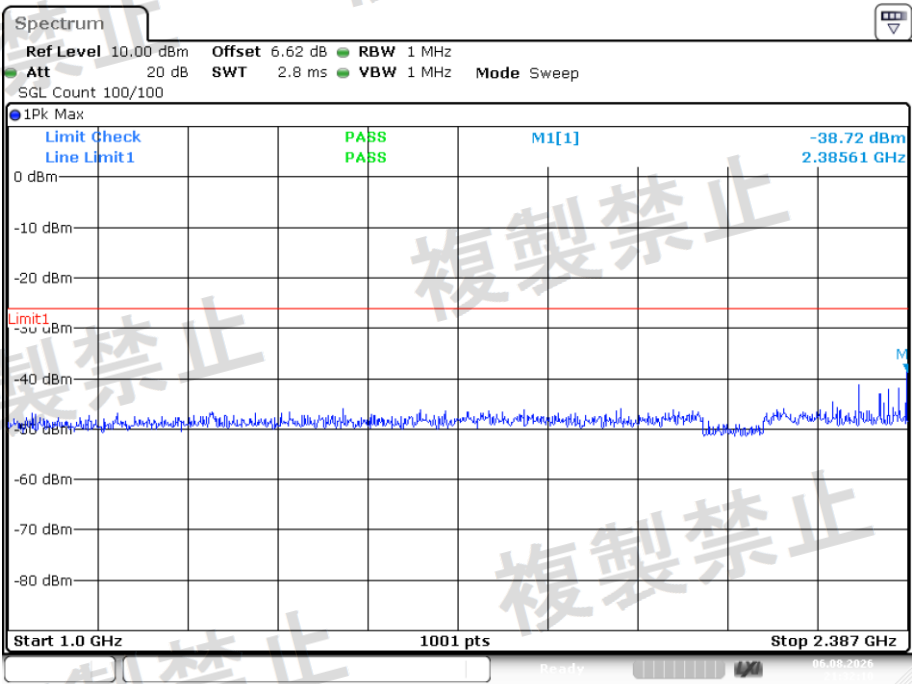
Condi on	Mo de	Freque ncy (MHz)	Anten na	Range (MHz)	Emissi on Freque ncy (MHz)	Max Peak Value (dBm/M Hz)	Max RMS Value (dBm/M Hz)	Max Peak Value (uW/M Hz)	Max RMS Value (uW/M Hz)	Limit Start(uW/ MHz)	Limit Stop (uW/M Hz)	Verd ict
NVNT	2.4 G	2406	Ant1	30-1000	50.37	-46.86	NA	0.0206	NA	2.5	2.5	Pass
NVNT	2.4 G	2406	Ant1	1000- 2387	2385.6 1	-38.72	NA	0.1343	NA	2.5	2.5	Pass
NVNT	2.4 G	2406	Ant1	2387- 2400	2400.0 0	-27.75	NA	1.6788	NA	25	25	Pass
NVNT	2.4 G	2406	Ant1	2483.5- 2496.5	2494.6 1	-45.01	NA	0.0316	NA	25	25	Pass

NVNT	2.4 G	2406	Ant1	2496.5- 13000	3504.8 4	-34.68	NA	0.3404	NA	2.5	2.5	Pass
NVNT	2.4 G	2430	Ant1	30-1000	985.45	-46.33	NA	0.0233	NA	2.5	2.5	Pass
NVNT	2.4 G	2430	Ant1	1000- 2387	2335.6 8	-41.61	NA	0.069	NA	2.5	2.5	Pass
NVNT	2.4 G	2430	Ant1	2387- 2400	2399.8 0	-39.54	NA	0.1112	NA	25	25	Pass
NVNT	2.4 G	2430	Ant1	2483.5- 2496.5	2494.2 1	-43.42	NA	0.0455	NA	25	25	Pass
NVNT	2.4 G	2430	Ant1	2496.5- 13000	3494.3 3	-34.62	NA	0.3451	NA	2.5	2.5	Pass
NVNT	2.4 G	2475	Ant1	30-1000	748.77	-45.89	NA	0.0258	NA	2.5	2.5	Pass
NVNT	2.4 G	2475	Ant1	1000- 2387	2380.0 7	-42.31	NA	0.0587	NA	2.5	2.5	Pass
NVNT	2.4 G	2475	Ant1	2387- 2400	2387.0 8	-44.22	NA	0.0378	NA	25	25	Pass
NVNT	2.4 G	2475	Ant1	2483.5- 2496.5	2494.1 3	-34.24	NA	0.3767	NA	25	25	Pass
NVNT	2.4 G	2475	Ant1	2496.5- 13000	2496.5 0	-35.33	NA	0.2931	NA	2.5	2.5	Pass

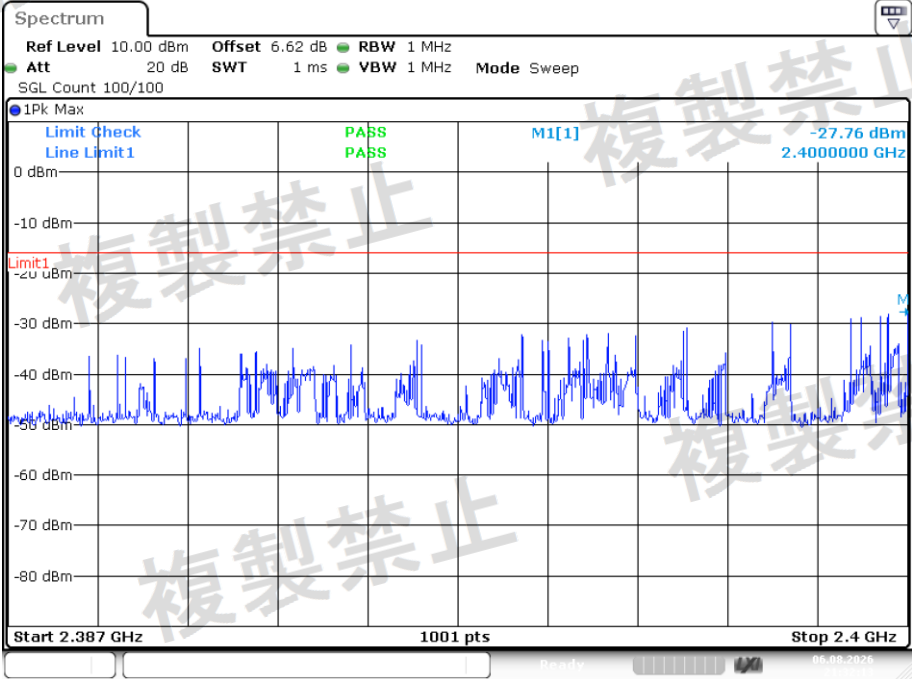
Tx. Spurious NVNT 2.4G 2406MHz Ant1 @ 30MHz-1000MHz



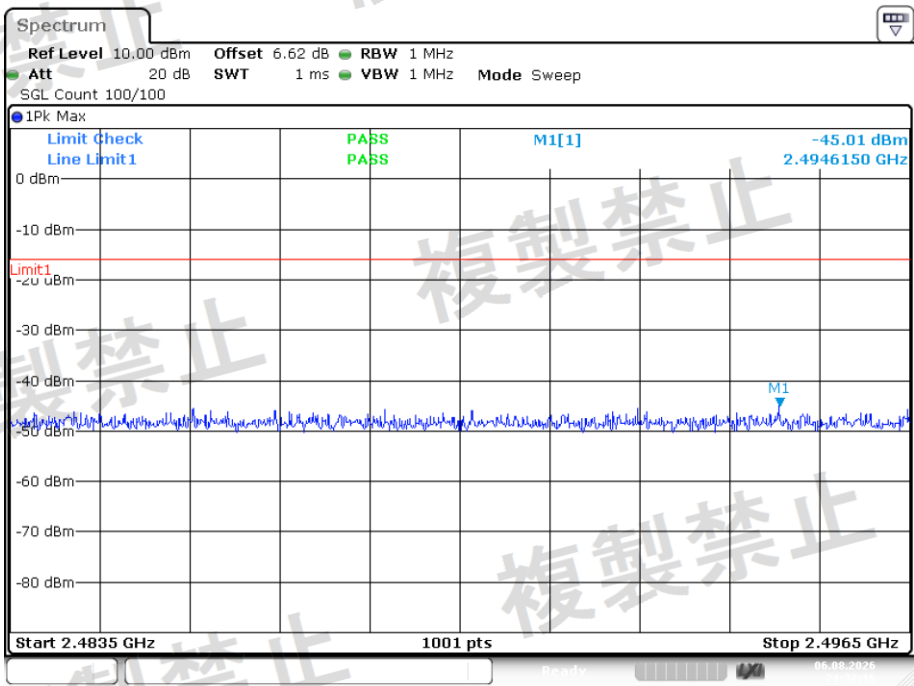
Tx. Spurious NVNT 2.4G 2406MHz Ant1 @ 1000MHz-2387MHz



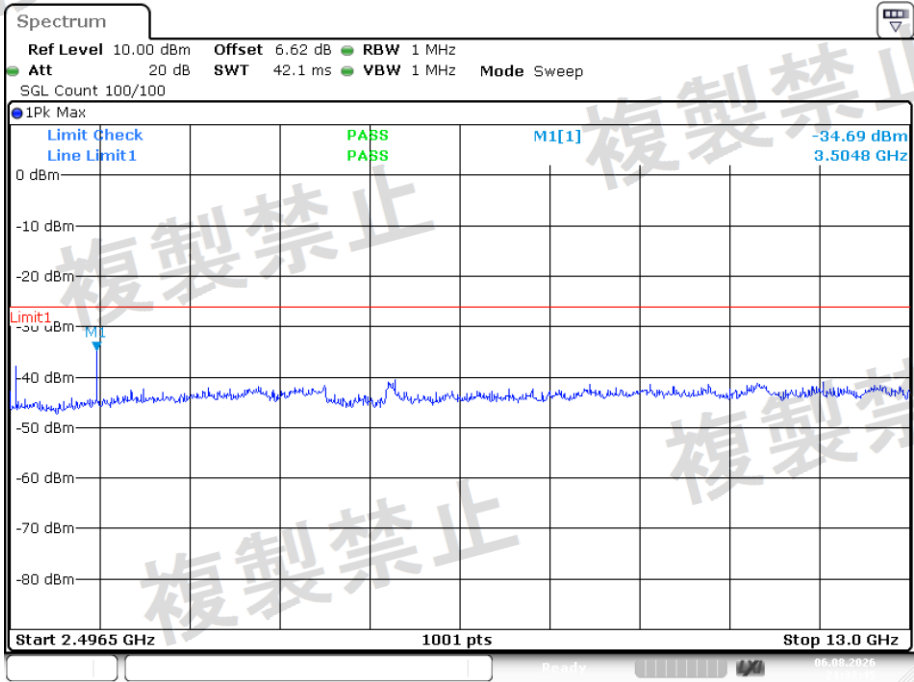
Tx. Spurious NVNT 2.4G 2406MHz Ant1 @ 2387MHz-2400MHz



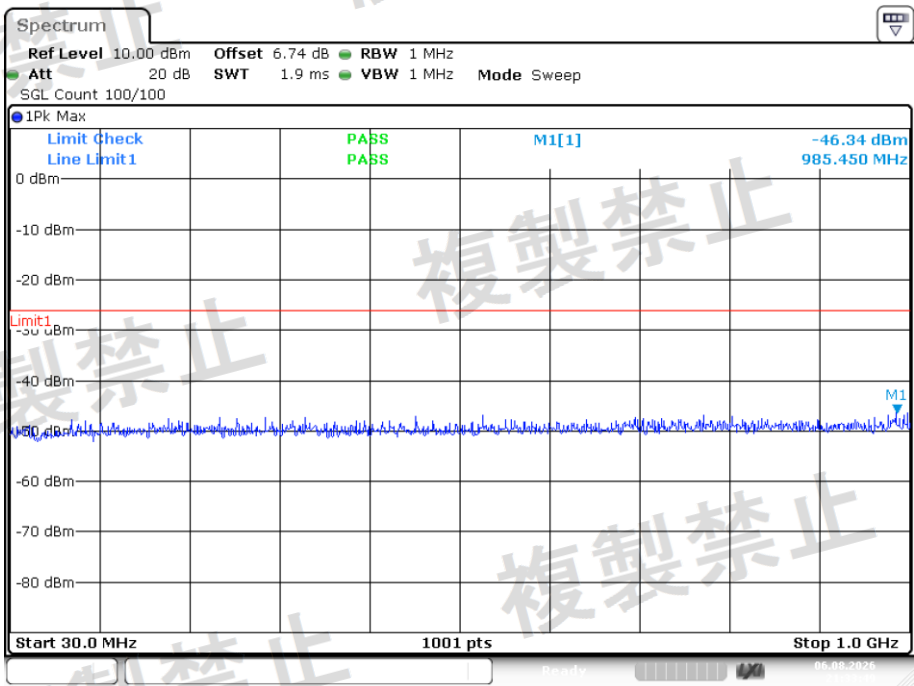
Tx. Spurious NVNT 2.4G 2406MHz Ant1 @ 2483.5MHz-2496.5MHz



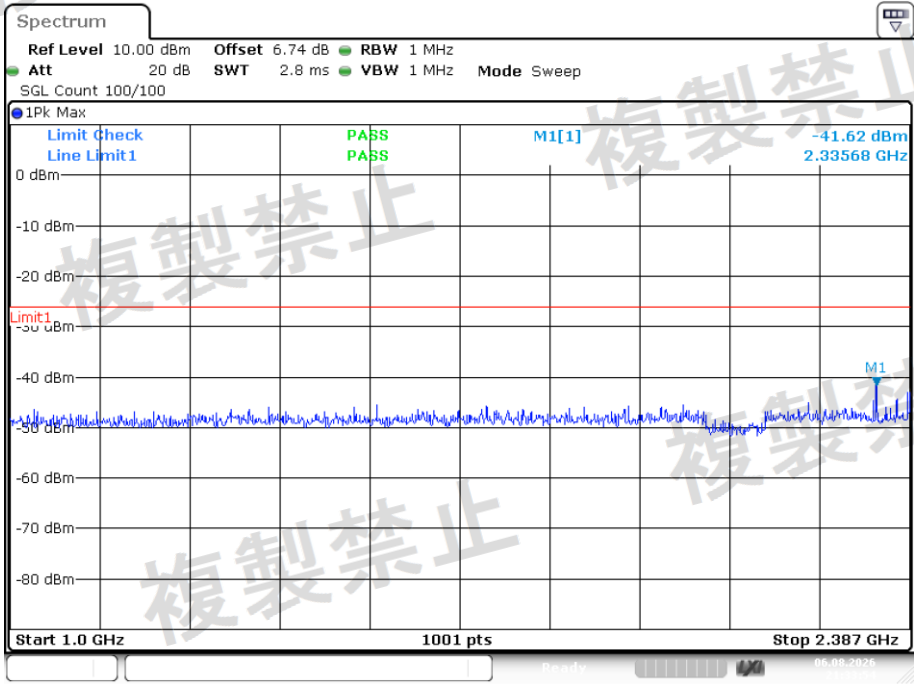
Tx. Spurious NVNT 2.4G 2406MHz Ant1 @ 2496.5MHz-13000MHz



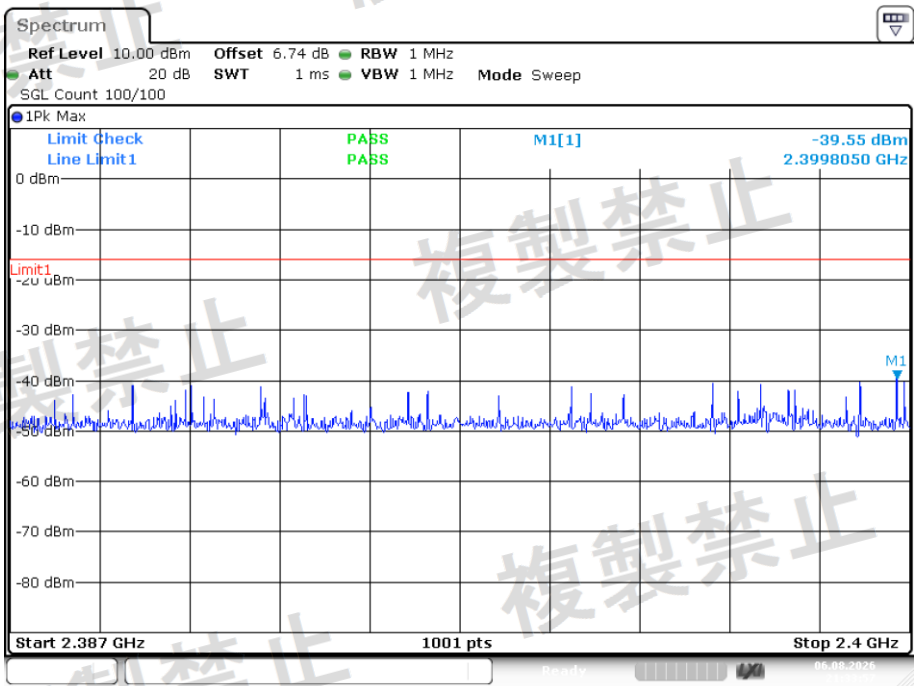
Tx. Spurious NVNT 2.4G 2430MHz Ant1 @ 30MHz-1000MHz



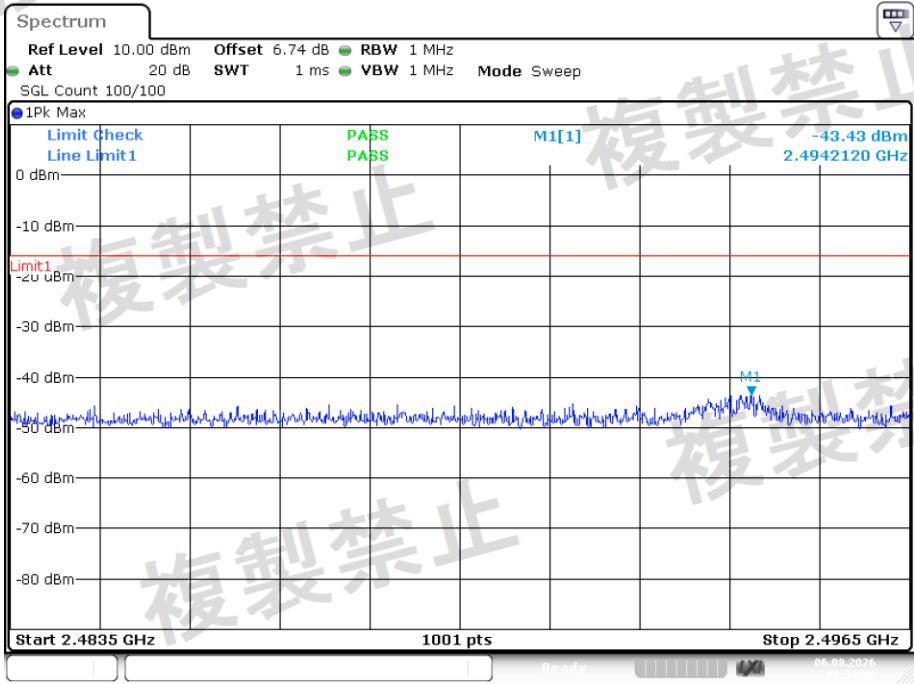
Tx. Spurious NVNT 2.4G 2430MHz Ant1 @ 1000MHz-2387MHz



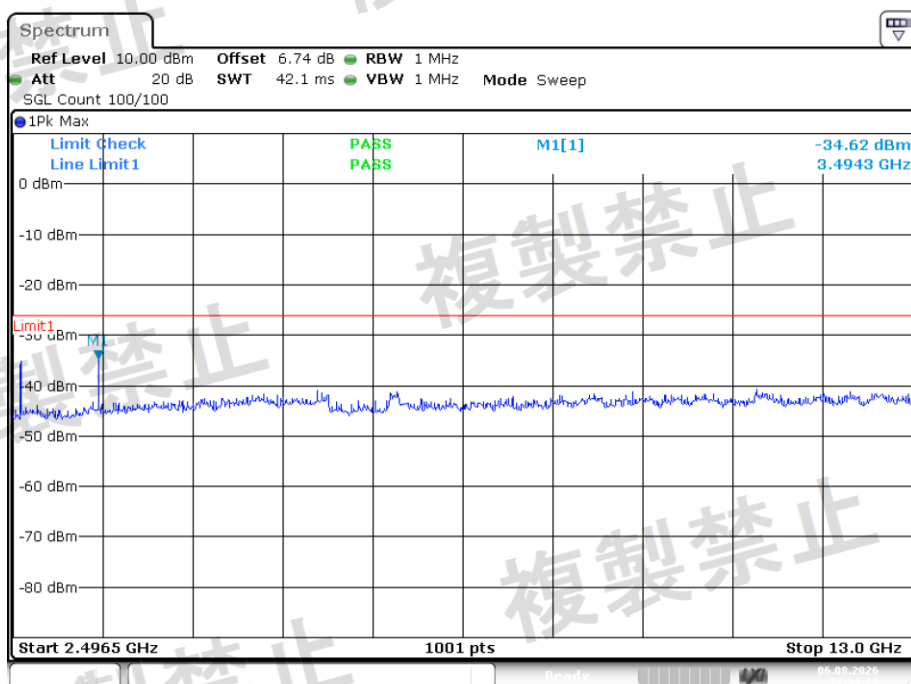
Tx. Spurious NVNT 2.4G 2430MHz Ant1 @ 2387MHz-2400MHz



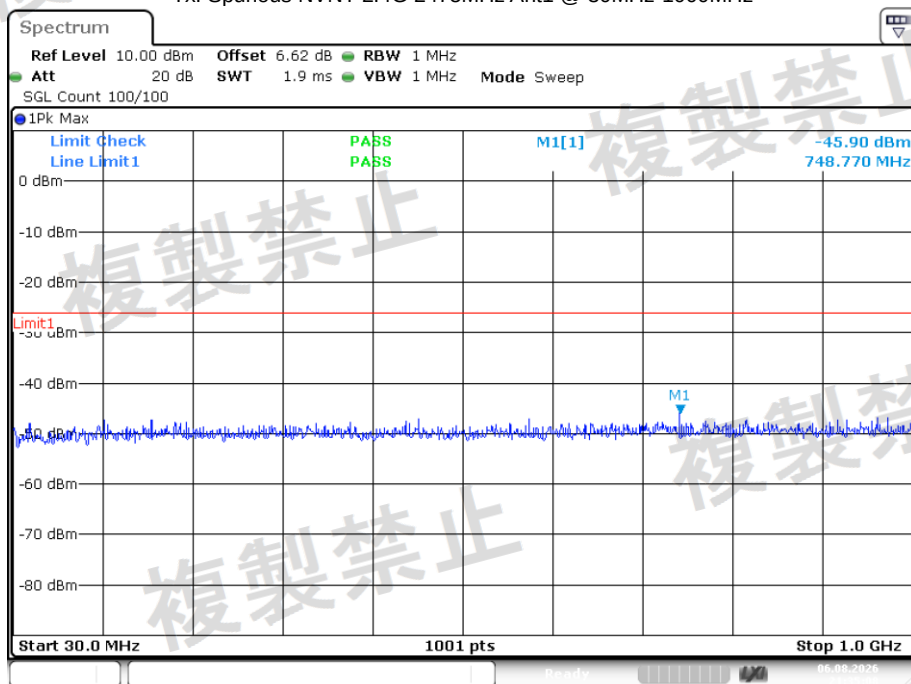
Tx. Spurious NVNT 2.4G 2430MHz Ant1 @ 2483.5MHz-2496.5MHz



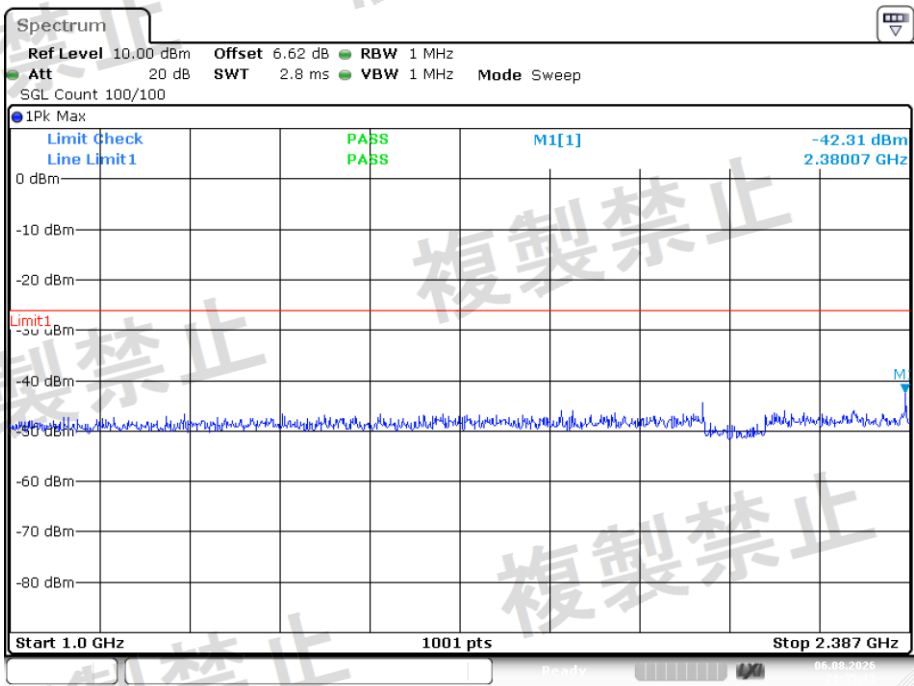
Tx. Spurious NVNT 2.4G 2430MHz Ant1 @ 2496.5MHz-13000MHz



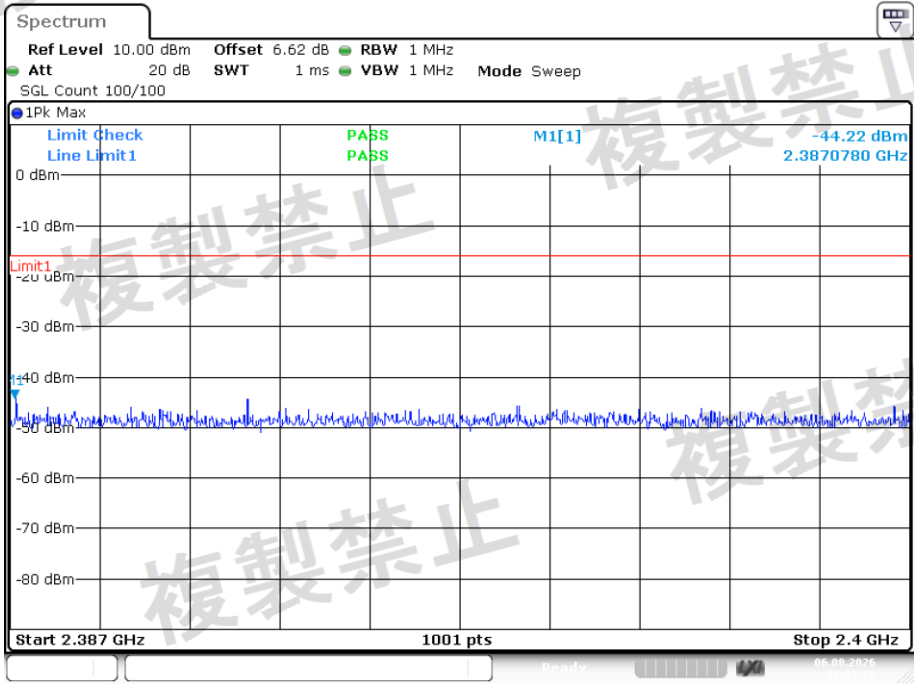
Tx. Spurious NVNT 2.4G 2475MHz Ant1 @ 30MHz-1000MHz



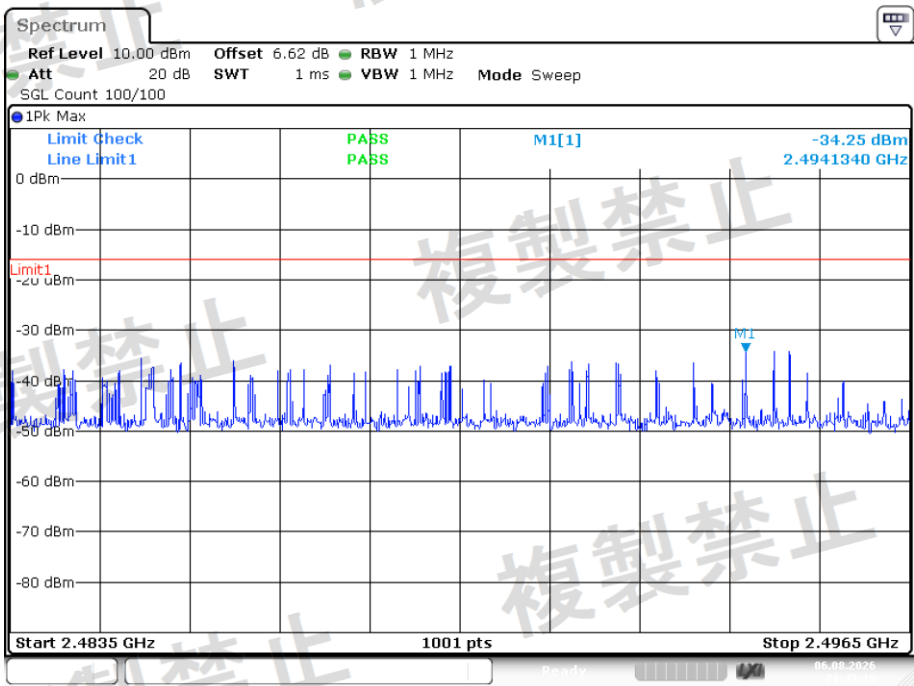
Tx. Spurious NVNT 2.4G 2475MHz Ant1 @ 1000MHz-2387MHz



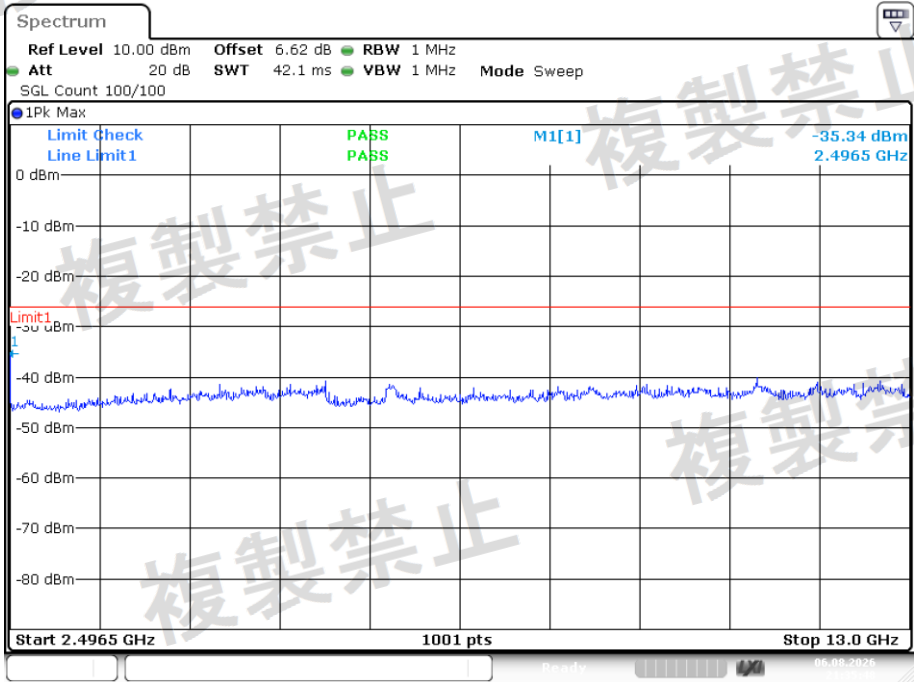
Tx. Spurious NVNT 2.4G 2475MHz Ant1 @ 2387MHz-2400MHz



Tx. Spurious NVNT 2.4G 2475MHz Ant1 @ 2483.5MHz-2496.5MHz



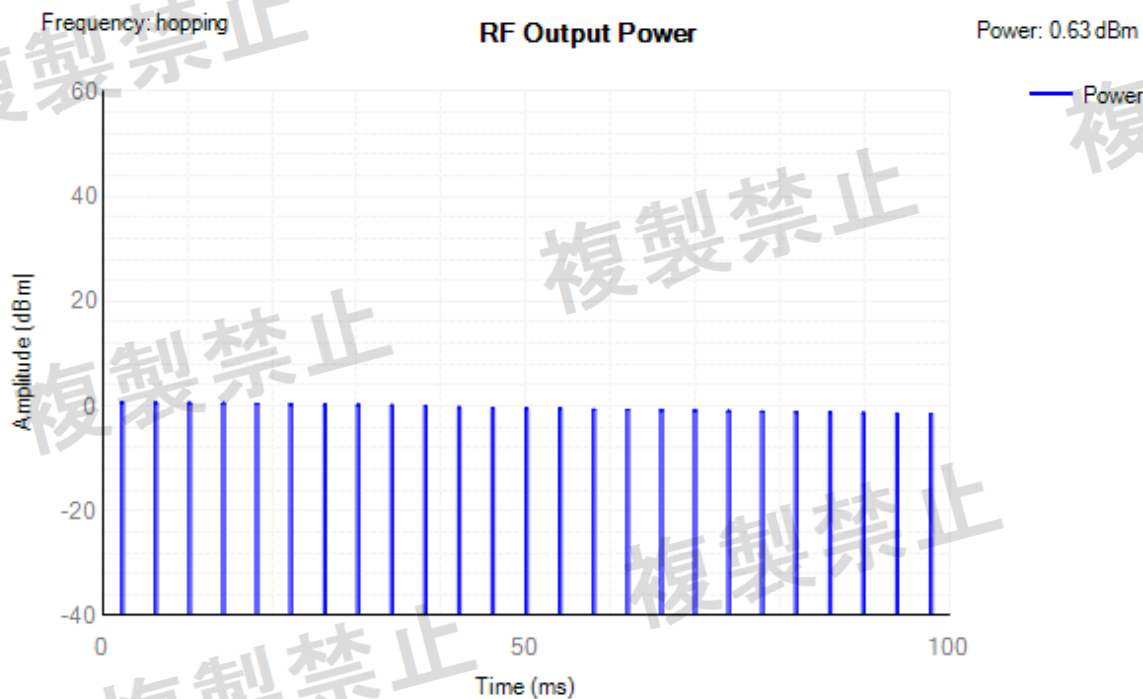
Tx. Spurious NVNT 2.4G 2475MHz Ant1 @ 2496.5MHz-13000MHz



Antenna Power

Condition	Mode	Frequency (MHz)	Antenna	Power (dBm)	Power (mW)	Spread BW (MHz)	Power (mW/MHz)	Limit (mW/MHz)	Declared Power (mW/MHz)	Tolerance (%)	Upper Limit (%)	Verdict
NVNT	2.4G	hopping	Ant1	0.63	1.156	62.458	0.019	3	0.3	-93.67	+20	Pass

Power NVNT 2.4G hopping Ant1

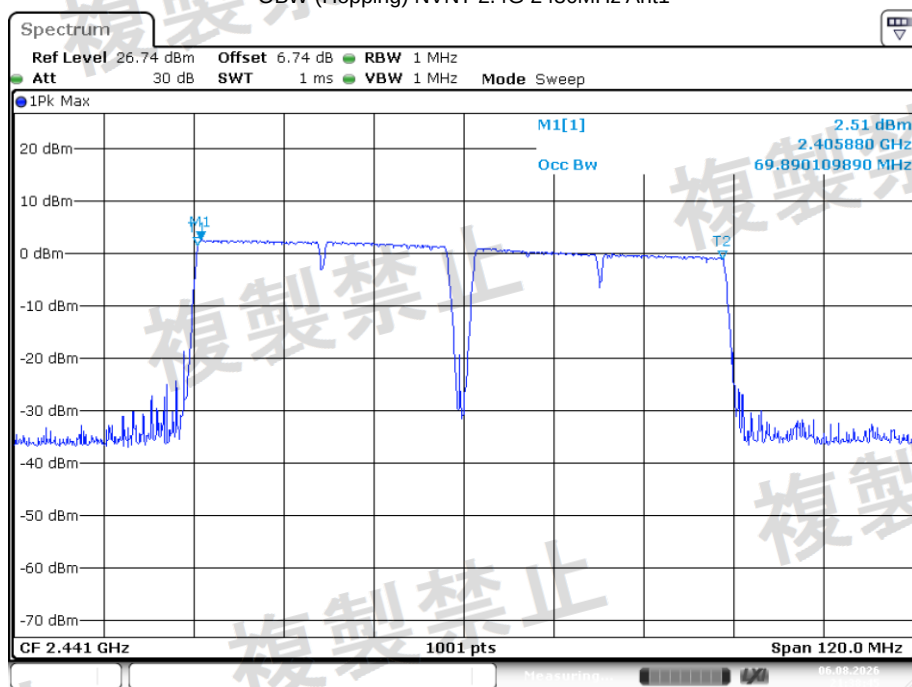
**EIRP Power**

Condition	Mode	Frequency (MHz)	Antenna	Antenna Power (mW/MHz)	Antenna Power (dBm/MHz)	Gain (dBi)	EIRP Power (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	2.4G	hopping	Ant1	0.019	-17.21	2.78	-14.43	6.91	Pass

Occupied Channel Bandwidth (Hopping)

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)	Lower Limit (MHz)	Upper Limit (MHz)	Verdict
NVNT	2.4G	Hopping	Ant1	69.89	N/A	83.5	Pass

OBW (Hopping) NVNT 2.4G 2430MHz Ant1

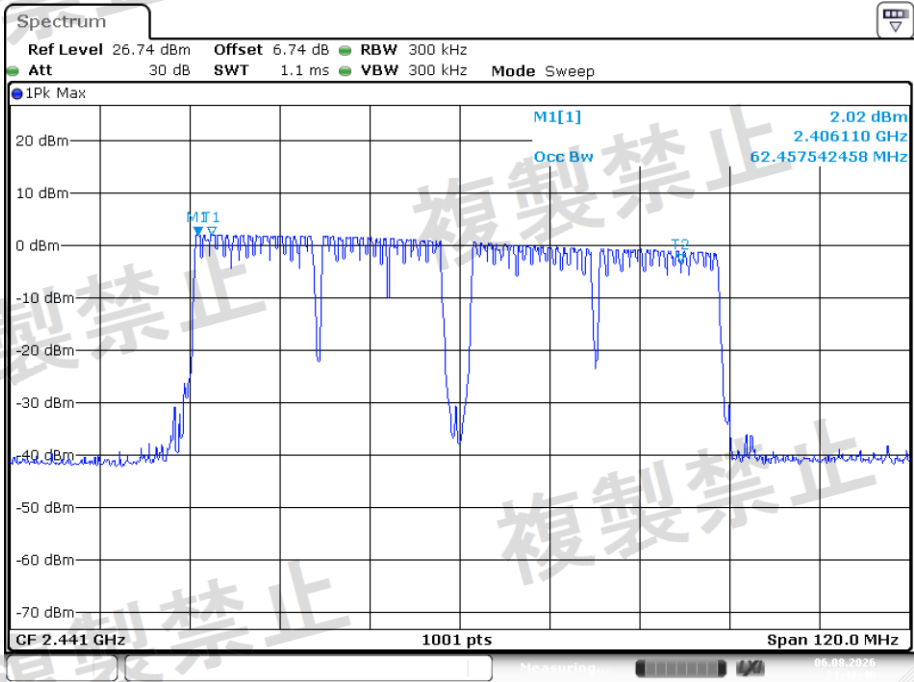


Date: 6.AUG.2026 21:38:45

Spreading Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	90% OBW (MHz)
NVNT	2.4G	2430	Ant1	62.458

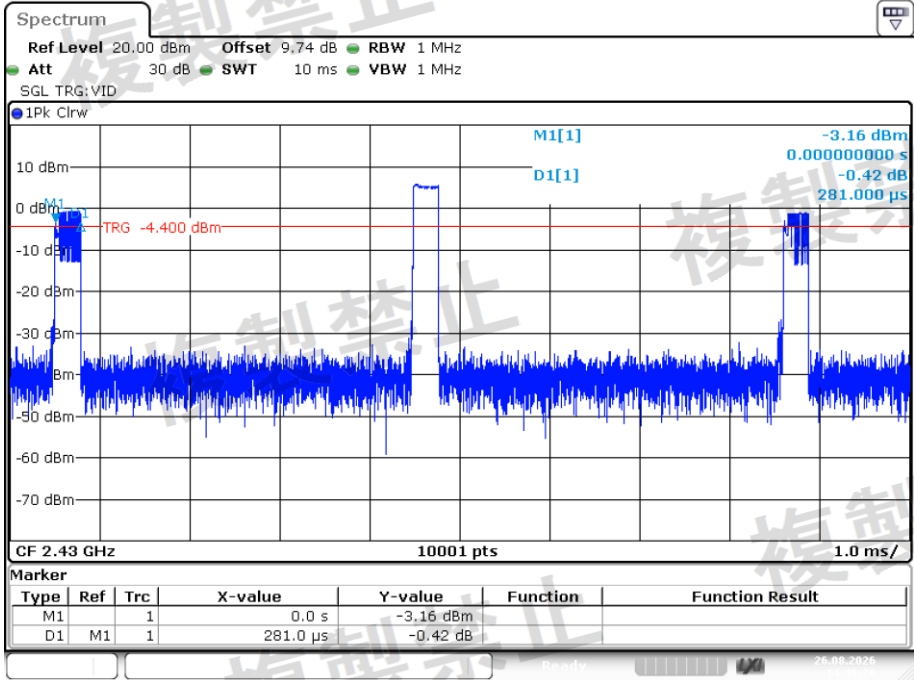
Spreading Bandwidth NVNT 2.4G 2430MHz Ant1



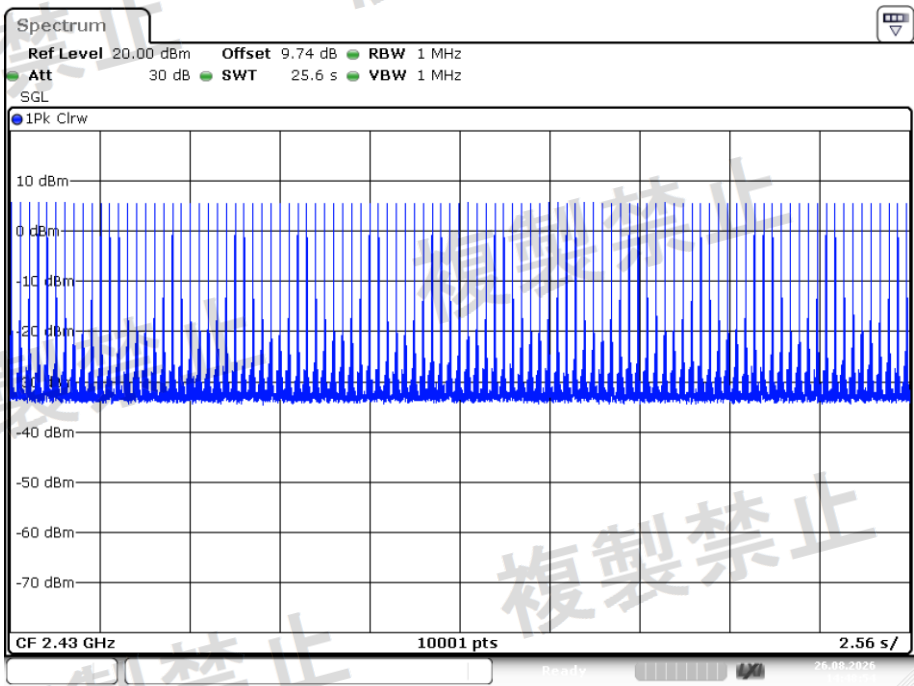
Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	user	2430	Ant1	0.281	28.381	101	25600	400	Pass

Dwell NVNT 2.4G 2430MHz Ant1 One Burst



Dwell NVNT 2.4G 2430MHz Ant1 Accumulated



Date: 26.AUG.2026 14:48:54

-----End Report-----