

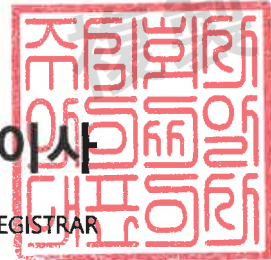


시험 성적서

TEST REPORT

페이지(page) : (1) / (총(Total) 11)

성적서 번호 Report No.		ICRT-TR-E250699-0A	
신청자 Client	기관명 Name	Roche Diabetes Care GmbH	
	주 소 Address	68305 Mannheim Sandhofer Strasse 116	
시험대상품목 Sample description		Accu-Chek SmartGuide device	
모델명 Type designation		Accu-Chek SmartGuide device	
정 격 Ratings		DC 3.0 V	
시험장소 Place of test		☒ 고정시험(Inside test) ☐ 현장시험(Field test) 주소지(Address): 112, 113 Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea	
시험기간 Date of test		25. Feb. 2025 ~ 05. Mar. 2025	
시험방법/항목 Test Method/Item		Certification Ordinance Article 2 Clause 1 Item19	
시험결과 Test Results		Refer to 3. Test Summary	
확 인 Affirmation	작성자 Tested by	기술책임자 Technical Manager	
	성 명 Name	Si-Yeon, Hwang	성 명 Name
	(서명) (Signature)		(서명) (Signature)
☐ 위 성적서는 고객이 제공한 시료에 대한 시험결과 입니다. The above test report is certified that the above mentioned products have been tested for the sample.			
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2025. 03. 05 주식회사 아이씨알 대표이사 The head of INTERNATIONAL CERTIFICATION REGISTRAR			



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The authenticity of the test report can be checked on the G4B or ICR website.

경기도 김포시 양촌읍 황금3로7번길 112 / Tel: 02-6351-9001 ~ 6



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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E250699-0A	2025. 03. 05	Initial Issue	All



1. Applicant & Manufacturer & Test Laboratory Information

1.1 Applicant information

Applicant	Roche Diabetes Care GmbH
Address	68305 Mannheim Sandhofer Strasse 116

1.2 Manufacturer Information

Manufacturer	Roche Diabetes Care GmbH
Address	68305 Mannheim Sandhofer Strasse 116

1.3 Test Laboratory Information

Conducted tests were performed at	
Laboratory	ICR Co., Ltd.
Address	112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
Telephone No.	+82-2-6351-9002
Fax No.	+82-2-6351-9007
RRA No.	KR0165
KOLAS No.	KT652



2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	Accu-Chek SmartGuide device
Model Name	Accu-Chek SmartGuide device
Additional Model Name	-
Power Supply	DC 3.0 V

2.2 Additional Information

Device Type	Stand Alone
Operating Frequency	2 402 MHz ~ 2 480 MHz
Declaration Output Power	4 mW
Transmission Time	On Time : 0.418 ms
	Off Time : 0.240 ms
	Duty Cycle : 63.53 %
Number of Channel	40
Modulation Type	GFSK
Antenna Type	PCB Antenna
Antenna Gain	-5.615 dBi

2.3 Mode of operation during the test

- The EUT is continuous transmission mode during the test

2.4 Testing Environment

- Temperature: (20 ± 5) °C, Humidity: 45 % R.H. to 75 % R.H.
- Unless specified otherwise in the individual methods, the tests were conducted on ambient conditions.

2.5 Test Method

- Ministry of Internal Affairs and Communications Notification Article 88 Appendix 43

2.6 Test Plot

- Refer to attached Test plot.



3. Test Summary

3.1 Test standards and results

Certification Ordinance Article 2 Clause 1 Item19		
Test items	Applied	Results
Frequency Tolerance	☒	PASS
Occupied Bandwidth	☒	PASS
RF Output Power Tolerance	☒	PASS
Unwanted (Spurious) Emission Strength	☒	PASS
Secondary Emitted Radio Wave Strength	☒	PASS
Interference Prevention Function	☒	PASS

Note : This test report is prepared according to the requirements of ISO / IEC 17025.



4. Bluetooth LE

4.1 Test Data

Test Result : Pass

4.1.1 Results (Rated Voltage)

Measurement Frequency		MHz	2 402	2 440	2 480	Result	Limit
Channel Number		Ch.	0	19	39	---	---
Frequency Measurements		MHz	2 402.033	2 440.033	2 480.034	---	---
Frequency Tolerance		ppm	13.721	13.609	13.636	PASS	±50×10 ⁻⁶ (50ppm)
Occupied Bandwidth		MHz	1.039	1.039	1.039	PASS	26 MHz or below
RF Output Power		mW	4.247	4.447	3.963	PASS	10 mW or below
RF Output Power Tolerance		%	6.167	11.171	-0.919		+20 to -80 %
Unwanted (Spurious) Emission Strength	30 to 2 387MHz	uW/MHz	0.002	0.001	0.001	PASS	2.5 uW/MHz or below
		MHz	2 369.654	674.656	754.644	----	
	2 387 to 2 400MHz	uW/MHz	0.759	0.000 2	0.000 1	PASS	25uW/MHz or below
		MHz	2 400.000	2 399.175	2 390.303	----	
	2 483.5 to 2 496.5MHz	uW/MHz	0.000 1	0.000 4	0.875	PASS	25uW/MHz or below
		MHz	2 491.189	2 488.195	2 484.926	----	
	2 496.5 to 12 500MHz	uW/MHz	0.076	0.067	0.058	PASS	2.5uW/MHz or below
		MHz	4 804.270	4 880.540	4 959.630	----	
Secondary Emitted Radio Wave Strength	30 to 1 000MHz	nW	0.002	0.001	0.001	PASS	4nW or below
		MHz	818.570	958.610	864.492	----	
	1 000 to 12 500MHz	nW	0.056	0.064	0.051	PASS	20nW or below
		MHz	4 801.170	11 193.170	6 581.820	----	
Interference Prevention Function			Good			PASS	

* The transmitter RF output power is connected to the Power Sensor.

* RF Output Power = $10^{(\text{Measured value (dBm)} / 10)} / (\text{On Time} / \text{period})$ * FT (ppm) = $[(\text{Measured value (MHz)} - \text{Operating frequency (MHz)}) / \text{Operating frequency (MHz)}] \times 10^6$

* The frequency tolerance value is a value calculated from the data value of the test plot.



4.1.2 Results (-10% Voltage)

Measurement Frequency		MHz	2 402	2 440	2 480	Result	Limit
Channel Number		Ch.	0	19	39	---	---
Frequency Measurements		MHz	2 402.032	2 440.033	2 480.033	---	---
Frequency Tolerance		ppm	13.142	13.401	13.432	PASS	±50×10 ⁻⁶ (50ppm)
Occupied Bandwidth		MHz	1.039	1.039	1.039	PASS	26MHz or below
RF Output Power		mW	4.247	4.447	3.963	PASS	10mW or below
RF Output Power Tolerance		%	6.167	11.171	-0.919		+20 to -80%
Unwanted (Spurious) Emission Strength	30 to 2 387MHz	uW/MHz	0.002	0.001	0.001	PASS	2.5uW/MHz or below
		MHz	2 367.887	675.614	754.644	-----	
	2 387 to 2 400MHz	uW/MHz	0.690	0.000 1	0.000 1	PASS	25uW/MHz or below
		MHz	2 399.999	2 391.044	2 396.594	-----	
	2 483.5 to 2 496.5MHz	uW/MHz	0.000 1	0.000 1	1.148	PASS	25uW/MHz or below
		MHz	2 484.289	2 487.039	2 484.931	-----	
	2 496.5 to 12 500MHz	uW/MHz	0.080	0.069	0.058	PASS	2.5uW/MHz or below
		MHz	4 803.640	4 880.230	4 959.630	-----	
Secondary Emitted Radio Wave Strength	30 to 1 000MHz	nW	0.002	0.001	0.001	PASS	4nW or below
		MHz	952.426	949.607	810.235	-----	
	1 000 to 12 500MHz	nW	0.099	0.055	0.056	PASS	20nW or below
		MHz	7353.010	12 467.840	11 892.850	-----	
Interference Prevention Function			Good			PASS	

* The transmitter RF output power is connected to the Power Sensor.

* RF Output Power = $10^{(\text{Measured value(dBm)} / 10) / (\text{On Time} / \text{period})}$

* FT (ppm) = $[(\text{Measured value(MHz)} - \text{Operating frequency(MHz)}) / \text{Operating frequency(MHz)}] \times 10^6$

* The frequency tolerance value is a value calculated from the data value of the test plot.



4.1.3 Results (10% Voltage)

Measurement Frequency		MHz	2 402	2 440	2 480	Result	Limit
Channel Number		Ch.	0	19	39	---	---
Frequency Measurements		MHz	2 402.032	2 440.033	2 480.033	---	---
Frequency Tolerance		ppm	13.470	13.475	13.471	PASS	±50×10 ⁻⁶ (50ppm)
Occupied Bandwidth		MHz	1.039	1.039	1.039	PASS	26MHz or below
RF Output Power		mW	4.247	4.447	3.963	PASS	10mW or below
RF Output Power Tolerance		%	6.167	11.171	-0.919		+20 to -80%
Unwanted (Spurious) Emission Strength	30 to 2 387MHz	uW/MHz	0.002	0.001	0.001	PASS	2.5uW/MHz or below
		MHz	2 369.065	674.730	755.160	-----	
	2 387 to 2 400MHz	uW/MHz	0.750	0.000 2	0.000 1	PASS	25uW/MHz or below
		MHz	2 399.993	2 399.610	2 397.777	-----	
	2 483.5 to 2 496.5MHz	uW/MHz	0.000 1	0.000 2	1.143	PASS	25uW/MHz or below
		MHz	2 486.620	2 491.260	2 484.661	-----	
	2 496.5 to 12 500MHz	uW/MHz	0.082	0.069	0.058	PASS	2.5uW/MHz or below
		MHz	4 803.640	4 879.600	4 959.630	-----	
Secondary Emitted Radio Wave Strength	30 to 1 000MHz	nW	0.002	0.002	0.002	PASS	4nW or below
		MHz	793.775	710.813	797.989	-----	
	1 000 to 12 500MHz	nW	0.067	0.060	0.065	PASS	20nW or below
		MHz	11 558.290	10 477.320	12 092.300	-----	
Interference Prevention Function			Good			PASS	

* The transmitter RF output power is connected to the Power Sensor.

* RF Output Power = $10^{(\text{Measured value(dBm)} / 10)} / (\text{On Time} / \text{period})$

* FT (ppm) = $[(\text{Measured value(MHz)} - \text{Operating frequency(MHz)}) / \text{Operating frequency(MHz)}] \times 10^6$

* The frequency tolerance value is a value calculated from the data value of the test plot.



5. Used Equipment

	Description	Model Name	Serial Number	Manufacturer	Cal Date	Next Cal. (cycle)	Calibration by	Calibration method
☒	SIGNAL GENERATOR	SMB100A	180607	Rohde& Schwarz	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)
☒	VECTOR SIGNAL GENERATOR	SMBV100A	263124	Rohde& Schwarz	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)
☒	SPECTRUM ANALYZER	FSV40-N	101936	Rohde& Schwarz	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)
☒	SPECTRUM ANALYZER	FSV40-N	101303	Rohde& Schwarz	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)
☒	POWER SENSOR	NRP-Z81	108294	Rohde& Schwarz	2025. 02. 25	2026. 02. 25 (1Y)	KCLAB	(c)
☒	DC POWER SUPPLY	E3632A	MY51300069	AGILANT	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)
☒	DC POWER SUPPLY	E3632A	MY40010228	AGILANT	2025. 02. 24	2026. 02. 24 (1Y)	KCLAB	(c)

Note1: "X" used equipment.

Note2: The validity of measurement equipment is one year from the first day of the following month of the calibration date.

Note3: Cal.Method

a) : Calibration conducted by the National Institute of Information and Communications Technology~NICT~ or a designated calibration agency under Article 102-18 paragraph (1)~ TELECOM Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

b) : Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)~Japan Calibration Service System~

c) : Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)~ TELECOM Engineering Center, Intertek Japan K.K., Keysight Technologies, Inc~.

d) : Calibration conducted by using other equipment that listed above from a) to c)



6. Test data plot

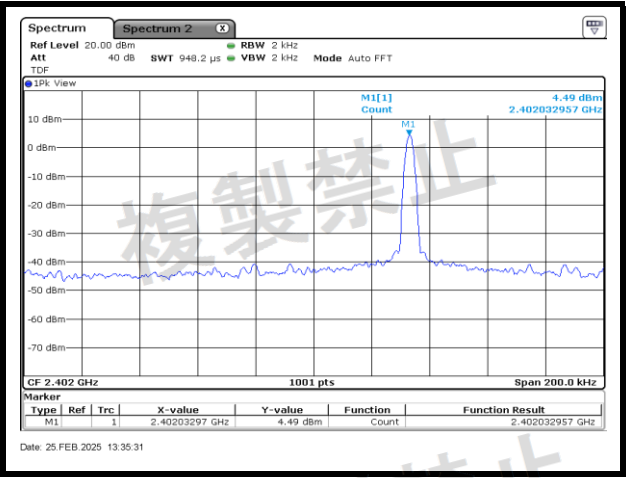
- Refer to attached Test plot.

- END -

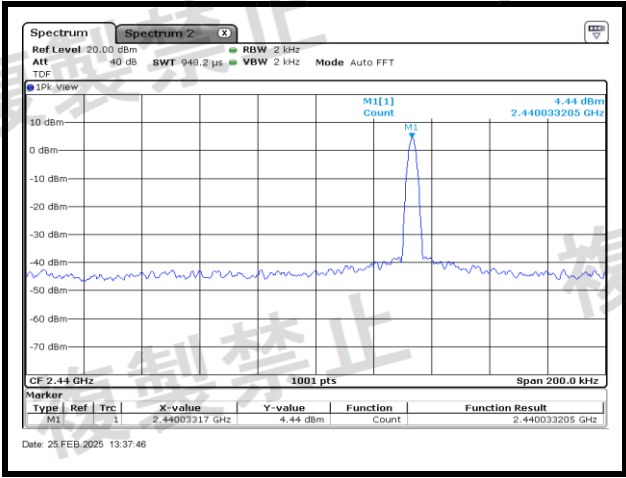
Test Plot

Frequency tolerance (Rated voltage)

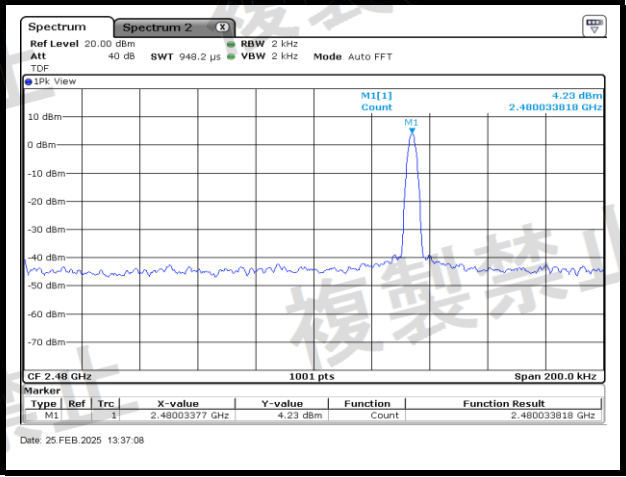
Ch.0: 2402MHz



Ch.19: 2440MHz



Ch.39: 2480MHz



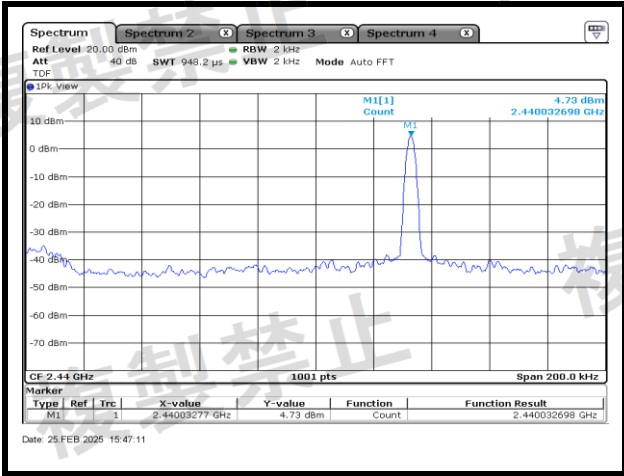
Test Plot

Frequency tolerance (-10% voltage)

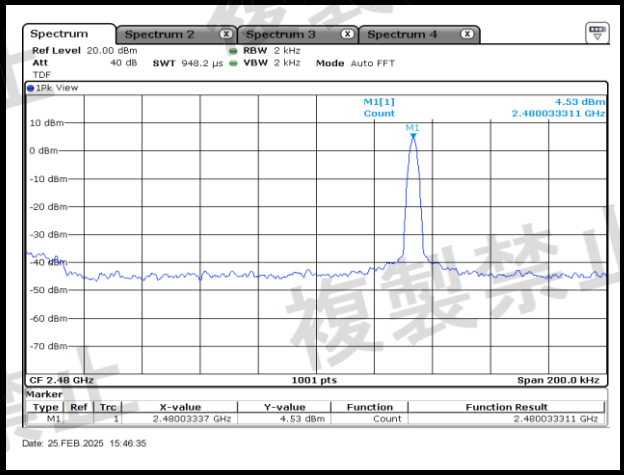
Ch.0: 2402MHz



Ch.19: 2440MHz



Ch.39: 2480MHz



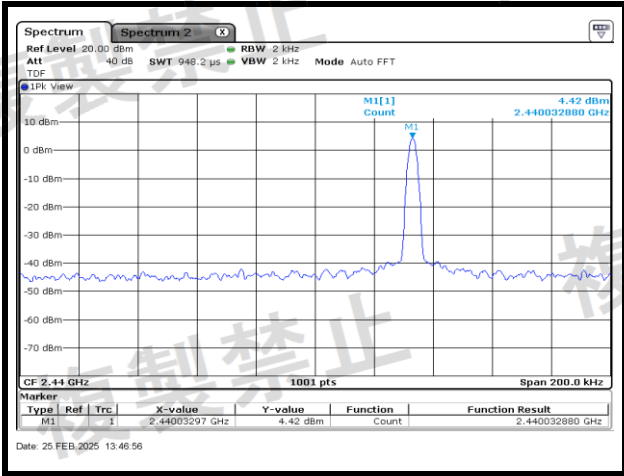
Test Plot

Frequency tolerance (+10% voltage)

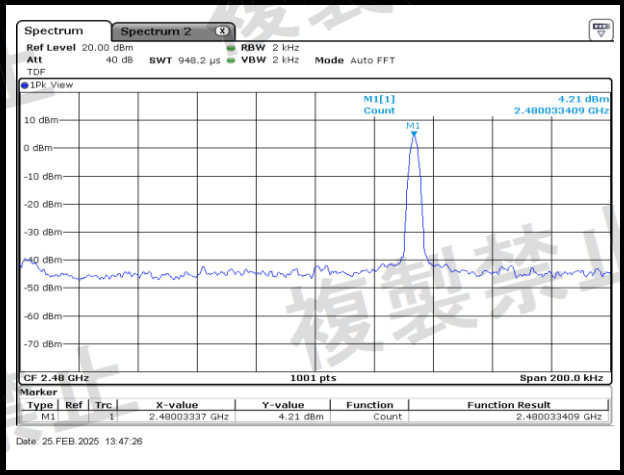
Ch.0: 2402MHz



Ch.19: 2440MHz



Ch.39: 2480MHz

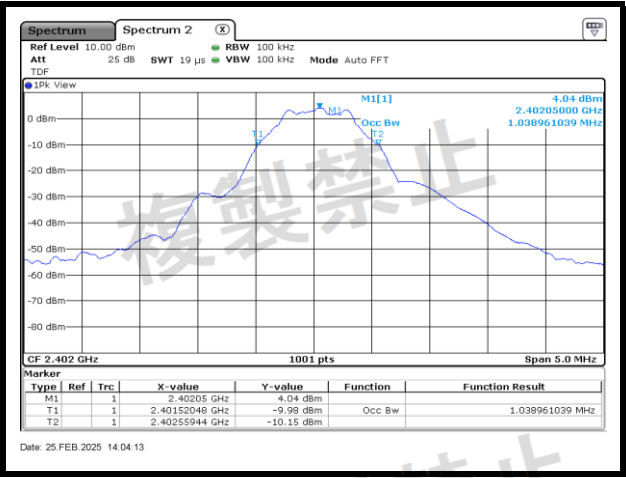


Test Plot

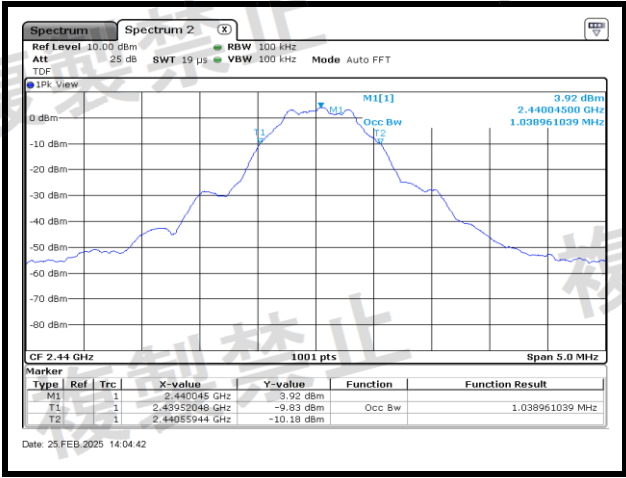
Occupied bandwidth (Rated voltage)

Occupied bandwidth

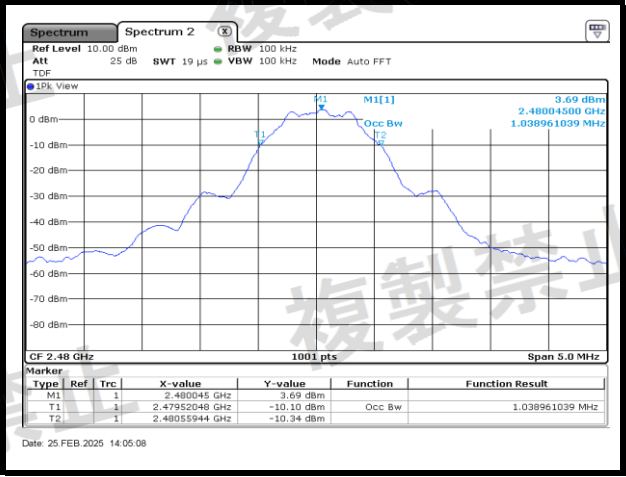
Ch.0: 2402MHz



Ch 19: 2440MHz



Ch.39: 2480MHz

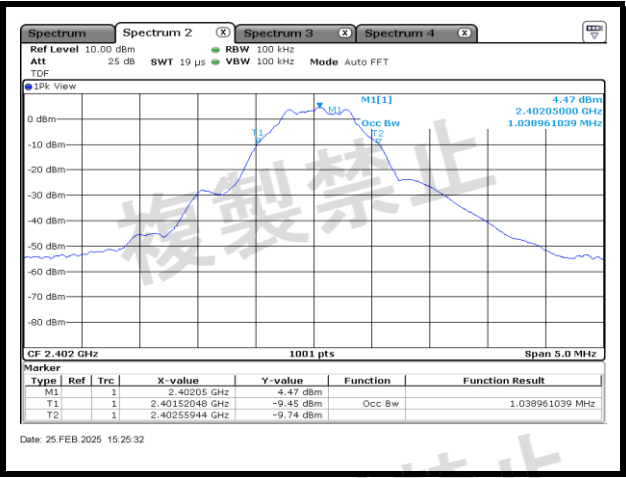


Test Plot

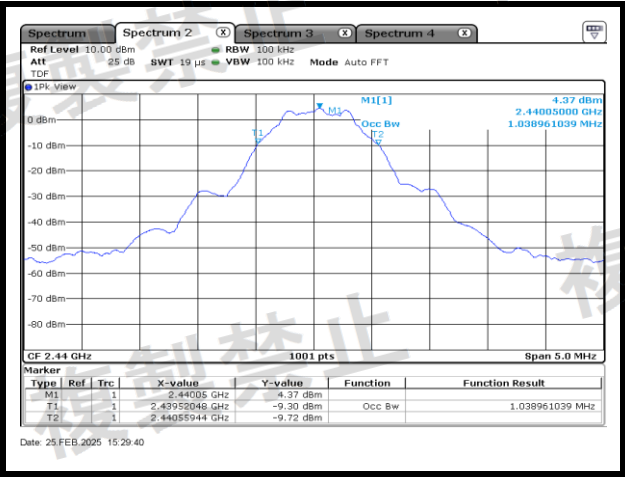
Occupied bandwidth (-10% voltage)

Occupied bandwidth

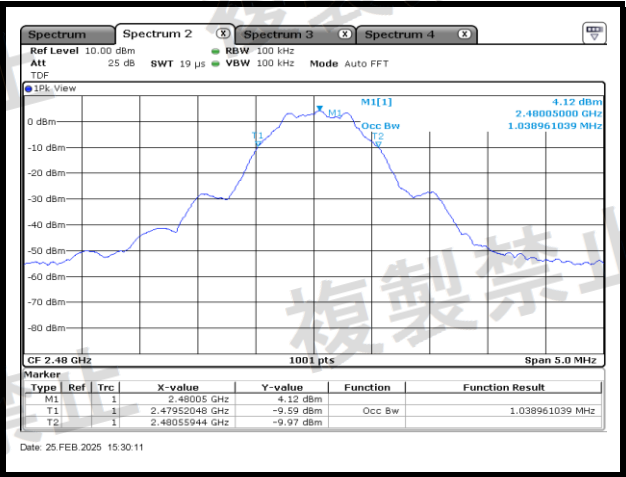
Ch.0: 2402MHz



Ch 19: 2440MHz



Ch.39: 2480MHz

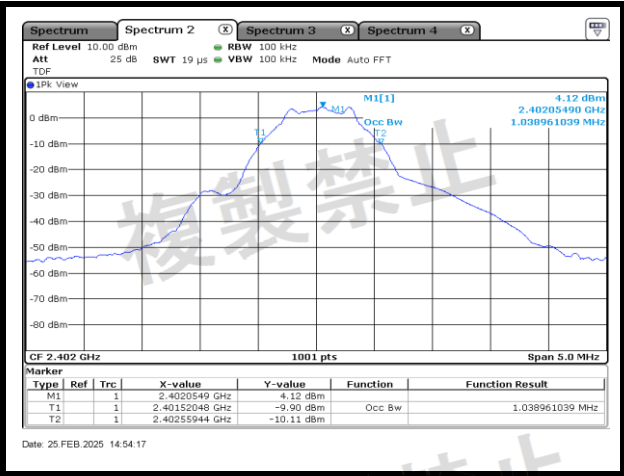


Test Plot

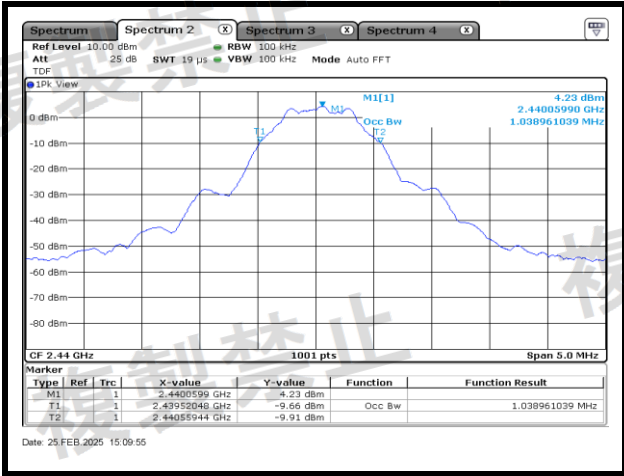
Occupied bandwidth (+10% voltage)

Occupied bandwidth

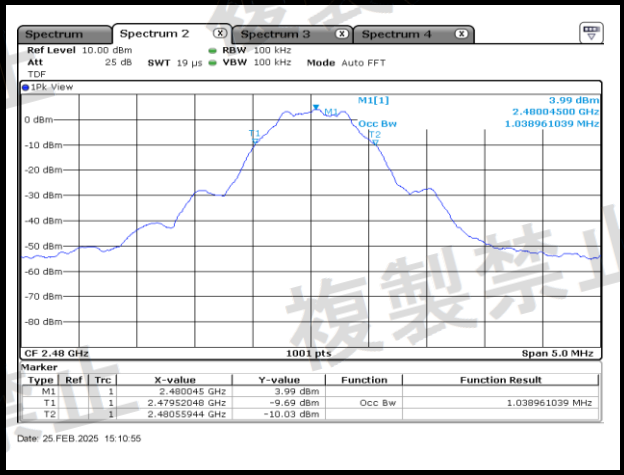
Ch.0: 2402MHz



Ch 19: 2440MHz



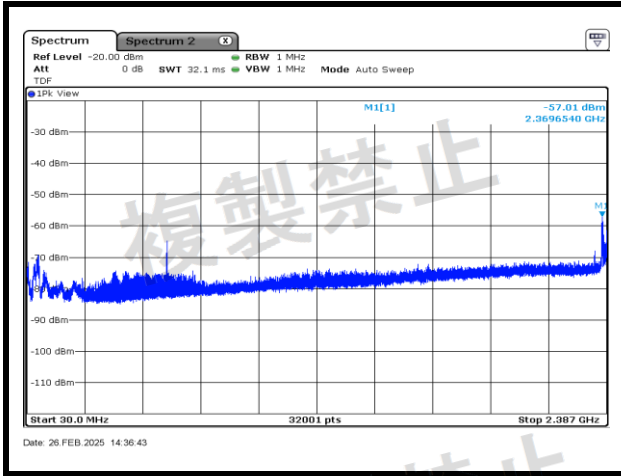
Ch.39: 2480MHz



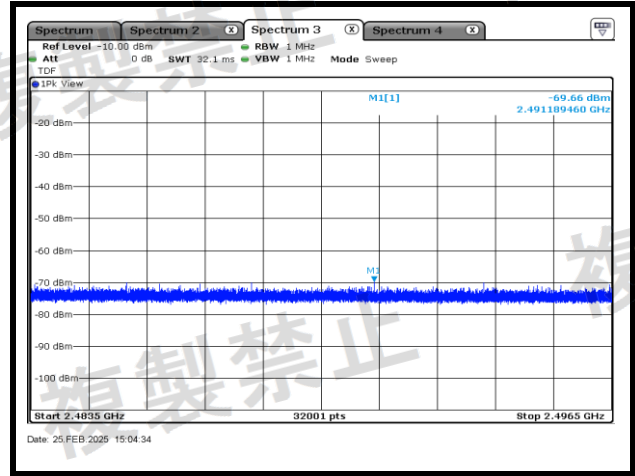
Test Plot

Unwanted(Spurious) emission strength (Rated voltage)

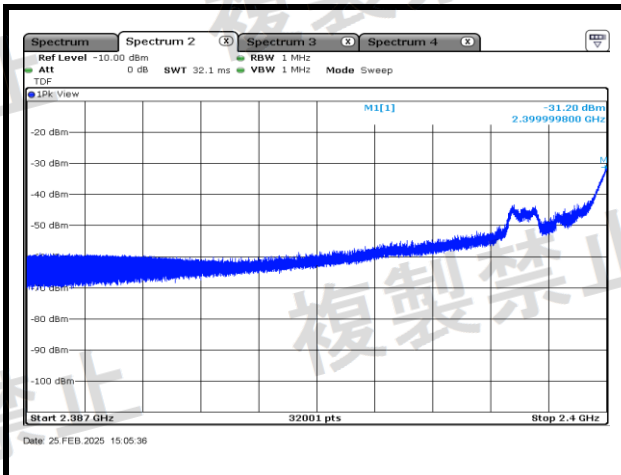
Ch.0: 2402MHz
30-2387MHz



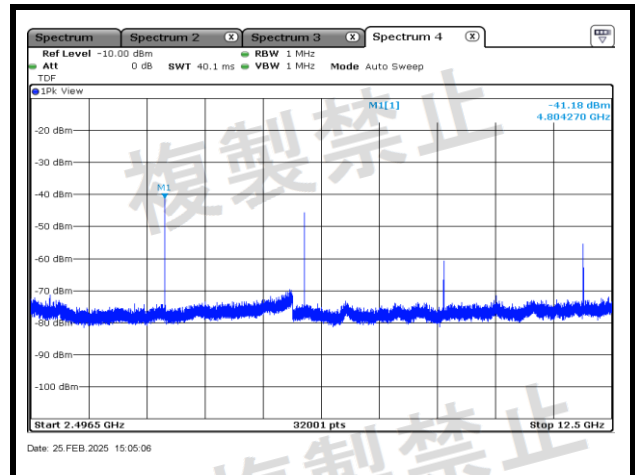
2483.5-2496.5MHz



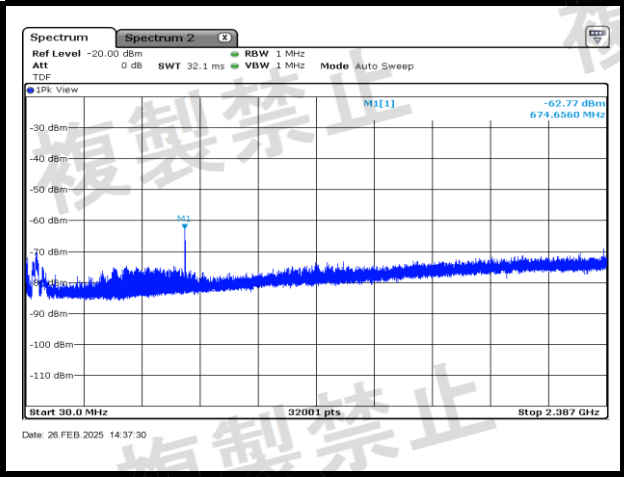
2387-2400MHz



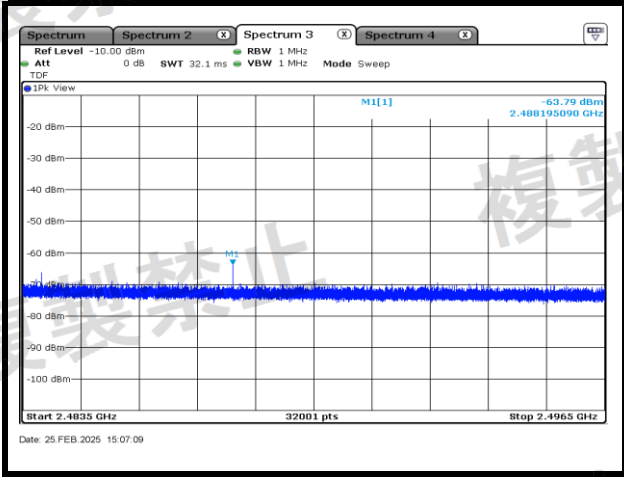
2496.5-12750MHz



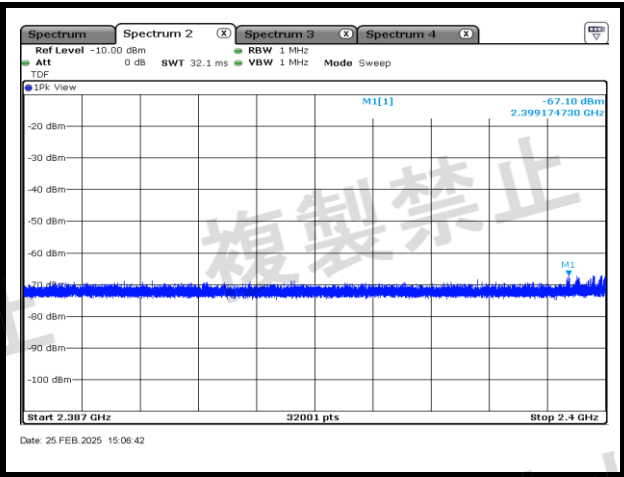
Ch.19: 2440MHz
30-2387MHz



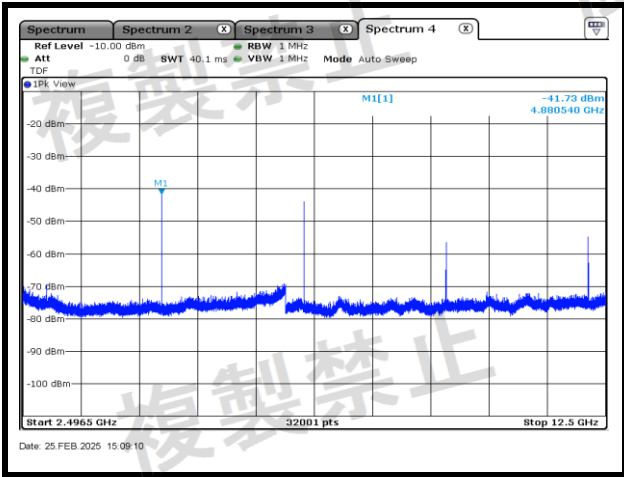
2483.5-2496.5MHz



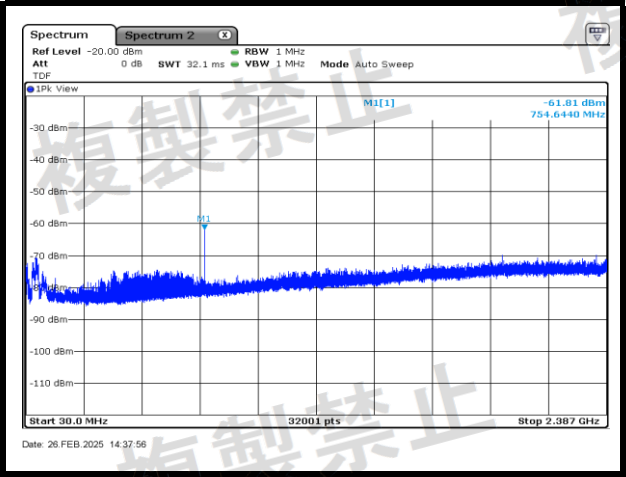
2387-2400MHz



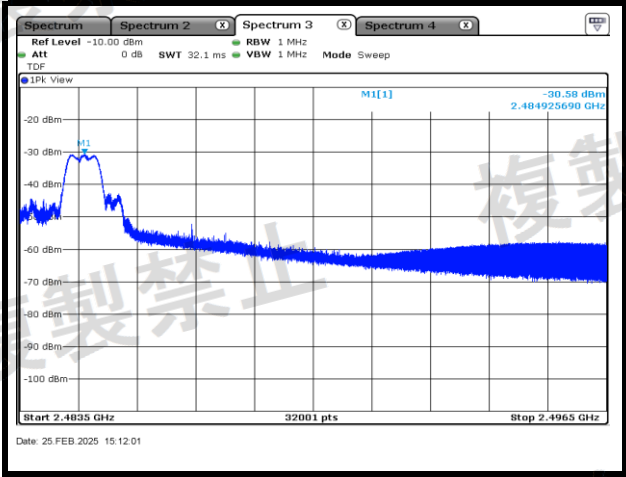
2496.5-12750MHz



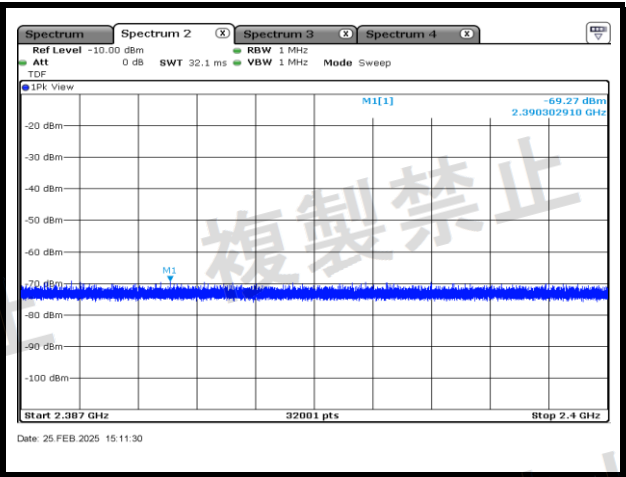
Ch.39: 2480MHz
30-2387MHz



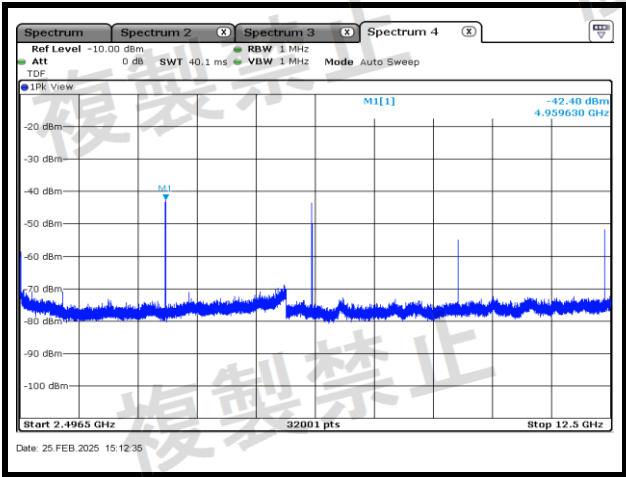
2483.5-2496.5MHz



2387-2400MHz



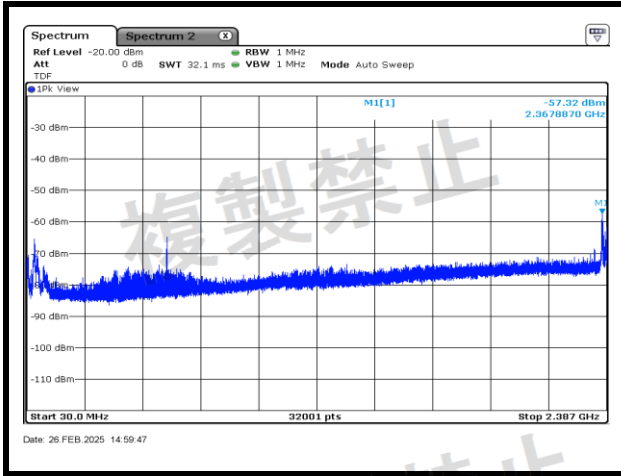
2496.5-12750MHz



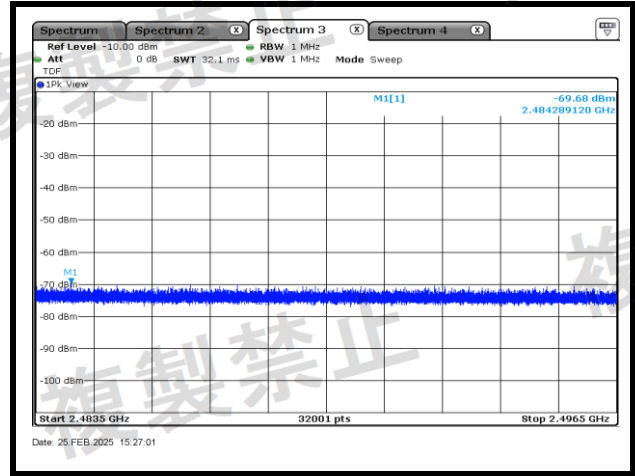
Test Plot

Unwanted(Spurious) emission strength (Rated voltage)

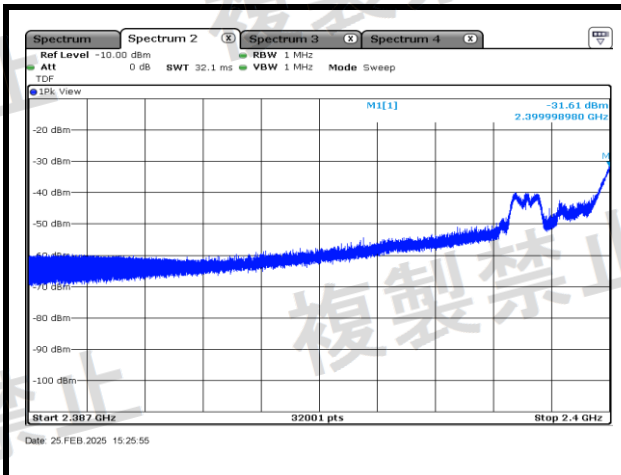
Ch.0: 2402MHz
30-2387MHz



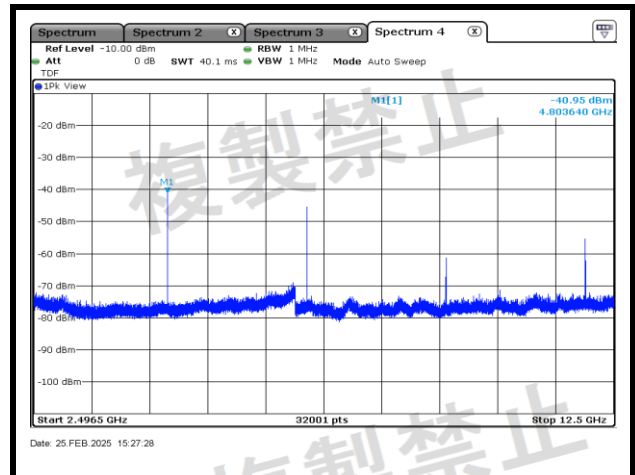
2483.5-2496.5MHz



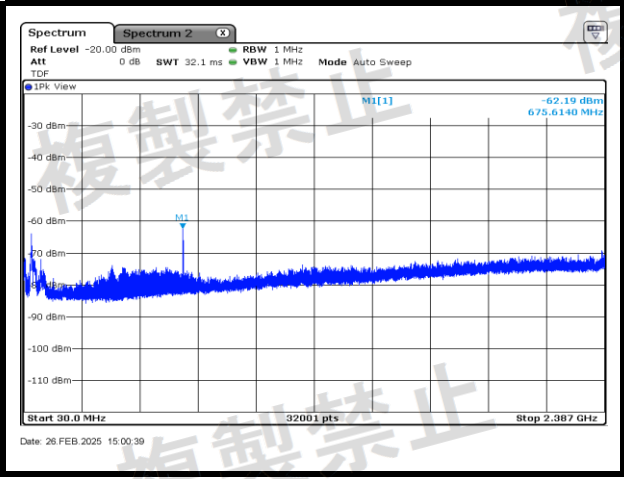
2387-2400MHz



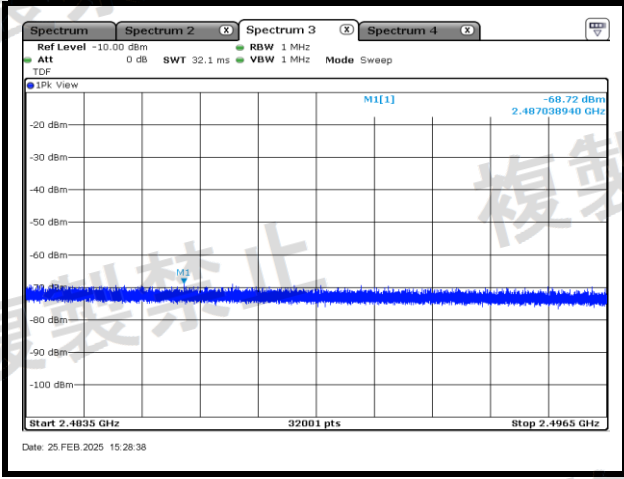
2496.5-12750MHz



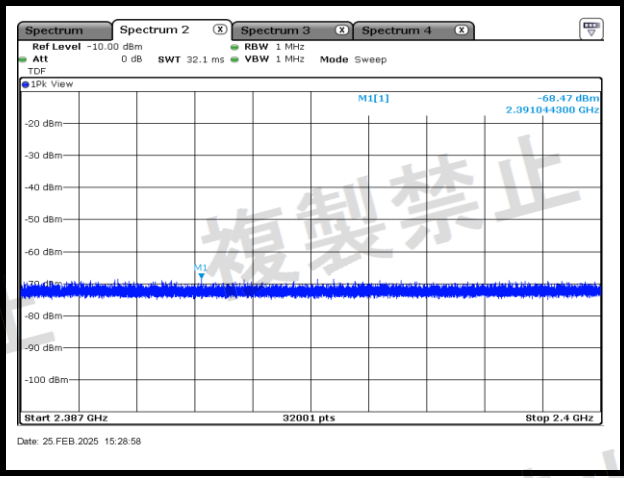
Ch.19: 2440MHz
30-2387MHz



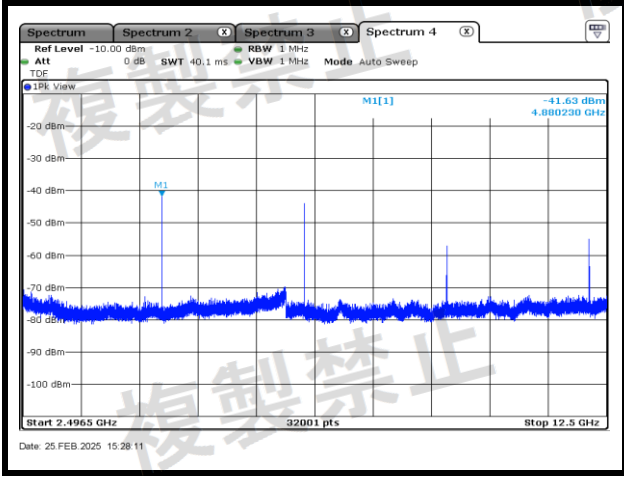
2483.5-2496.5MHz



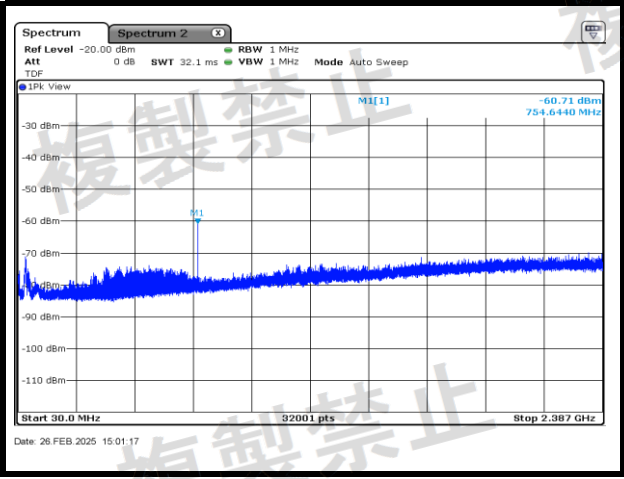
2387-2400MHz



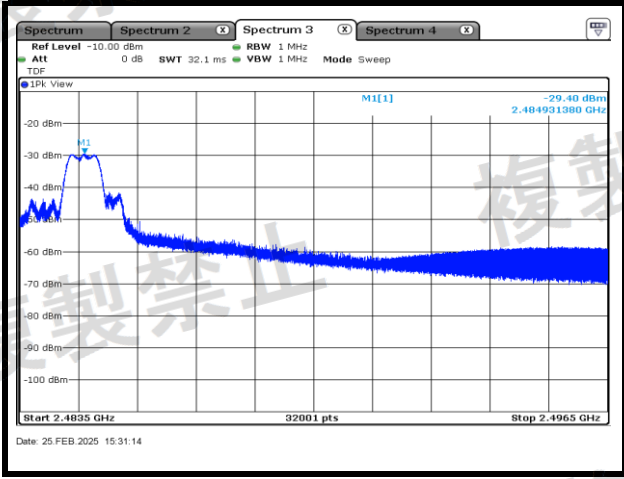
2496.5-12750MHz



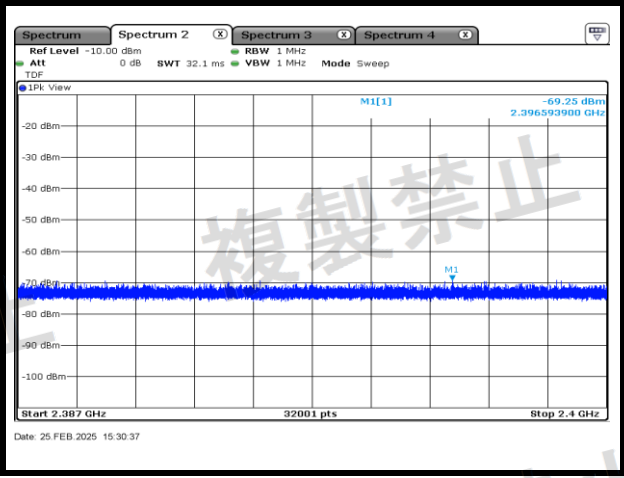
Ch.39: 2480MHz
30-2387MHz



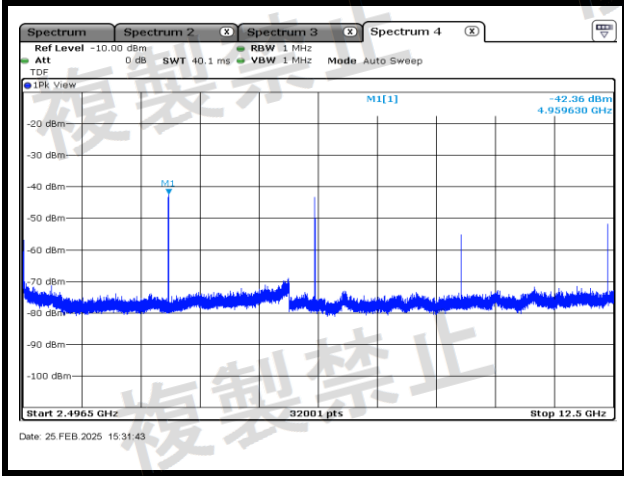
2483.5-2496.5MHz



2387-2400MHz



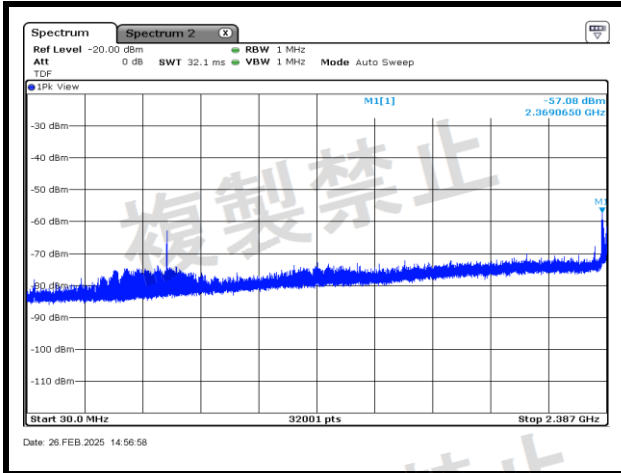
2496.5-12750MHz



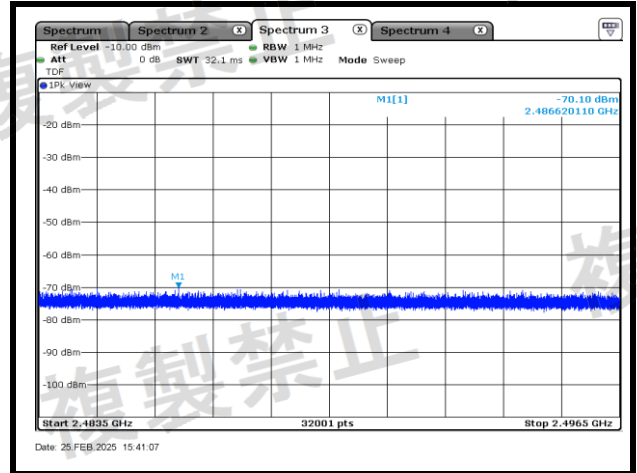
Test Plot

Unwanted(Spurious) emission strength (Rated voltage)

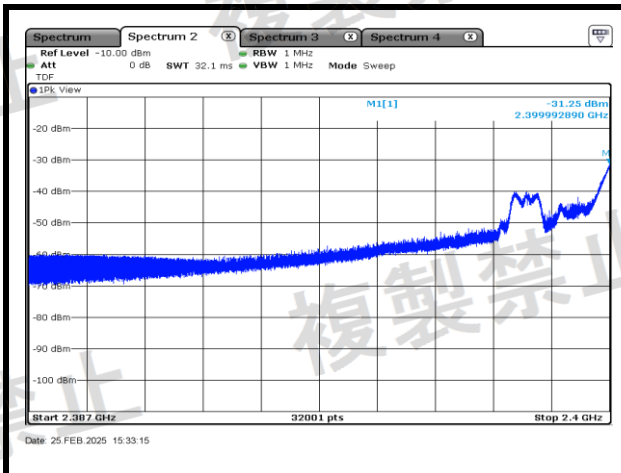
Ch.0: 2402MHz
30-2387MHz



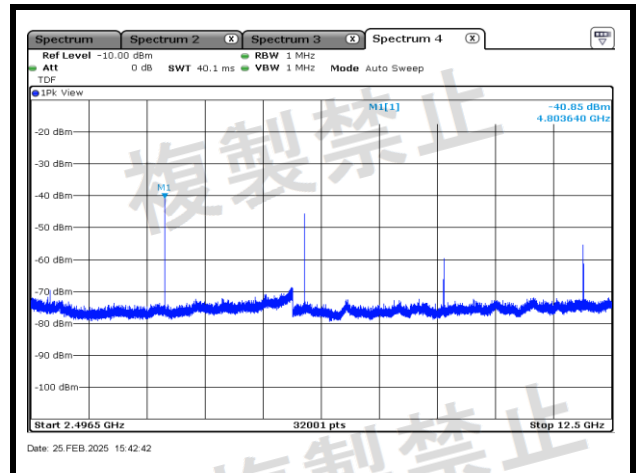
2483.5-2496.5MHz



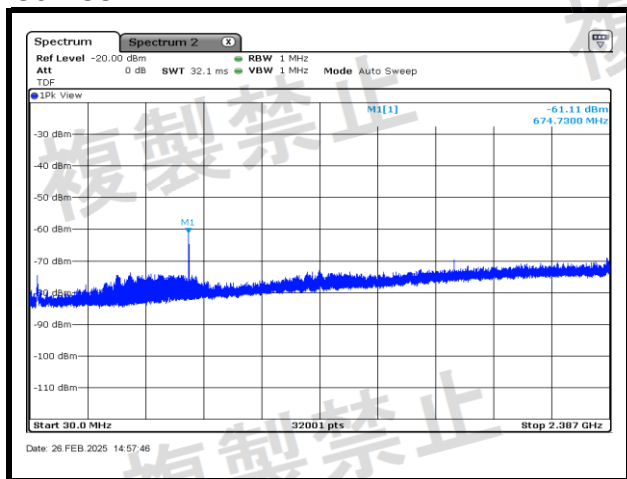
2387-2400MHz



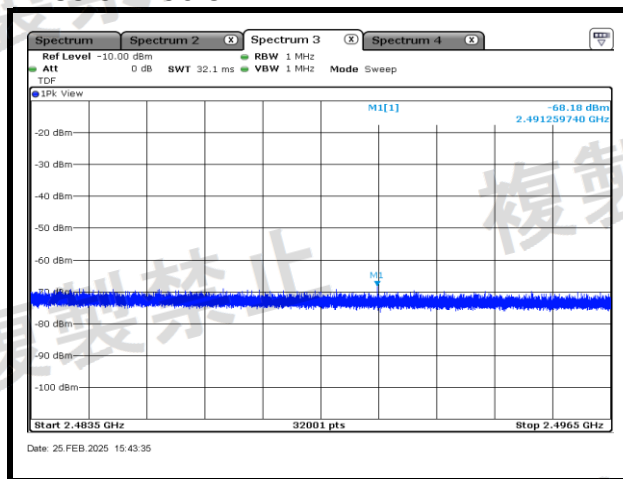
2496.5-12750MHz



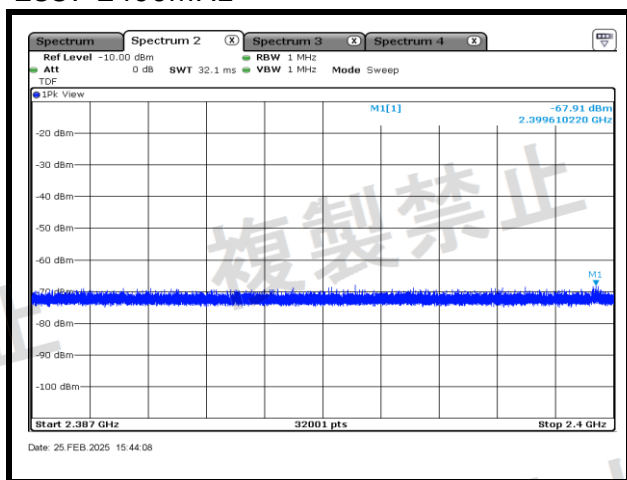
Ch.19: 2440MHz
30-2387MHz



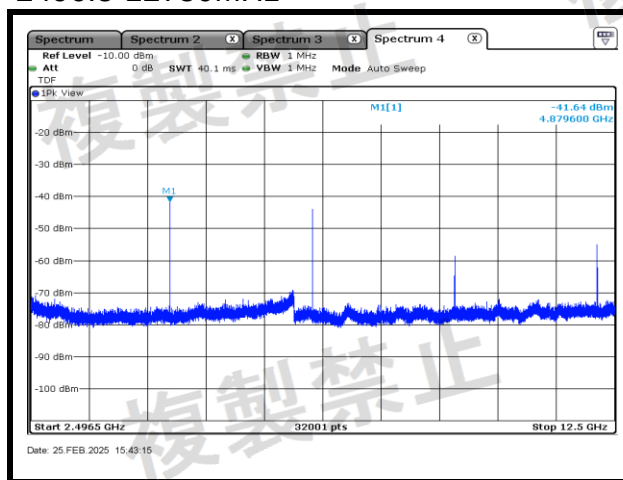
2483.5-2496.5MHz



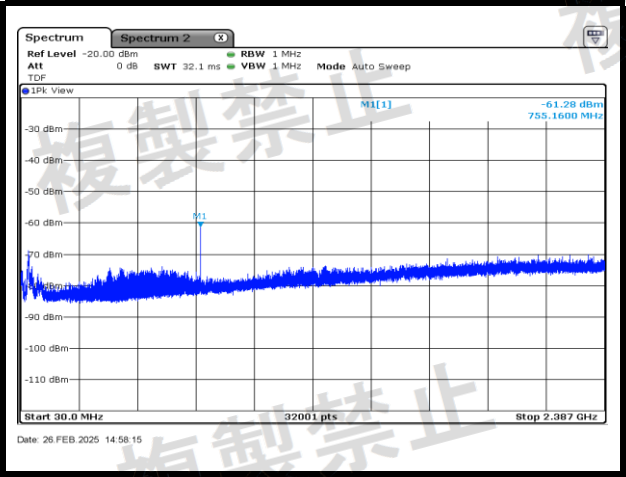
2387-2400MHz



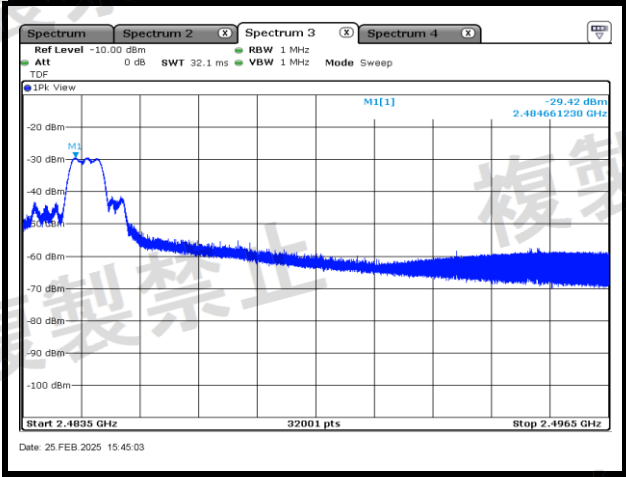
2496.5-12750MHz



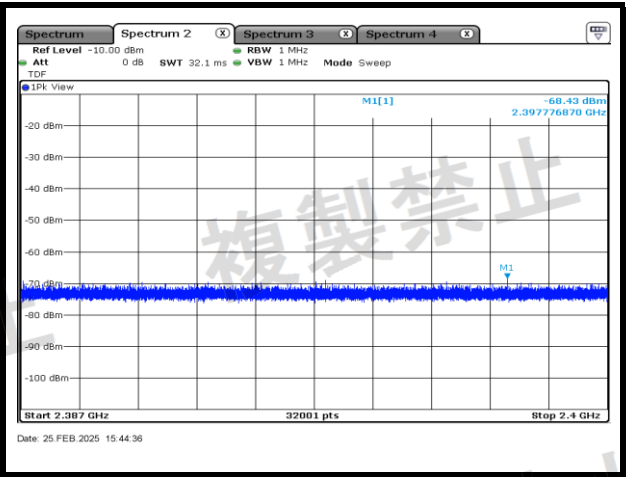
Ch.39: 2480MHz
30-2387MHz



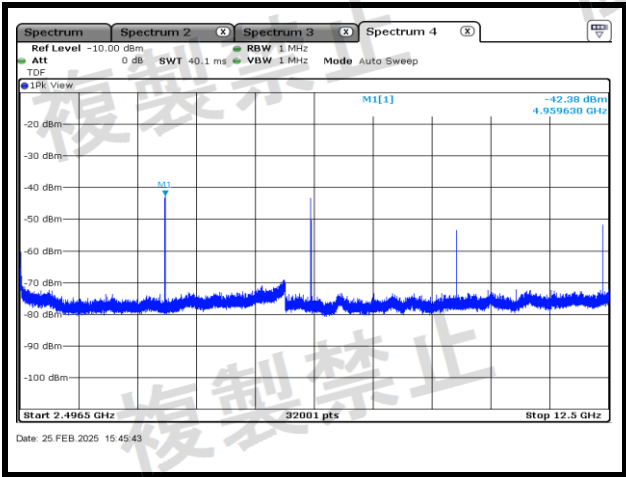
2483.5-2496.5MHz



2387-2400MHz



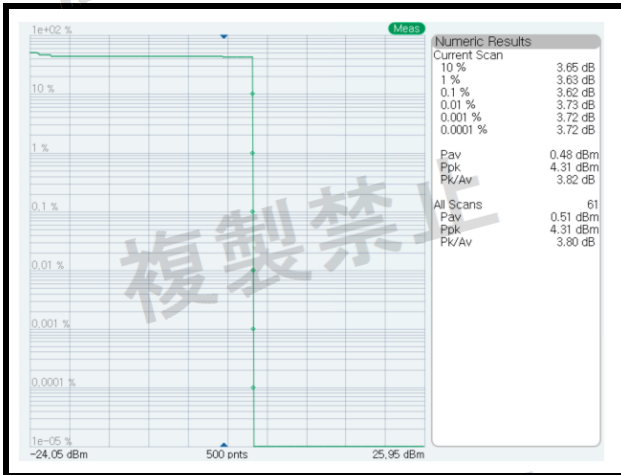
2496.5-12750MHz



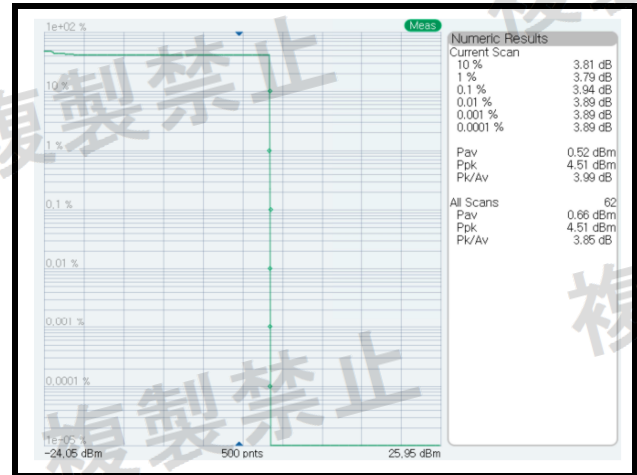
Test Plot

RF output power tolerance (Rated voltage)

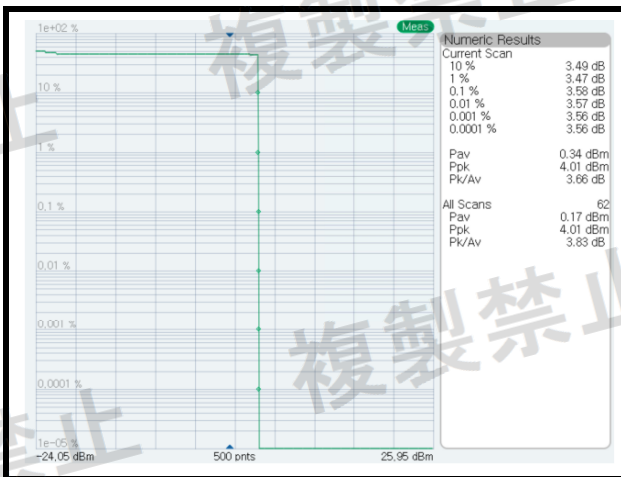
Ch.0: 2402MHz



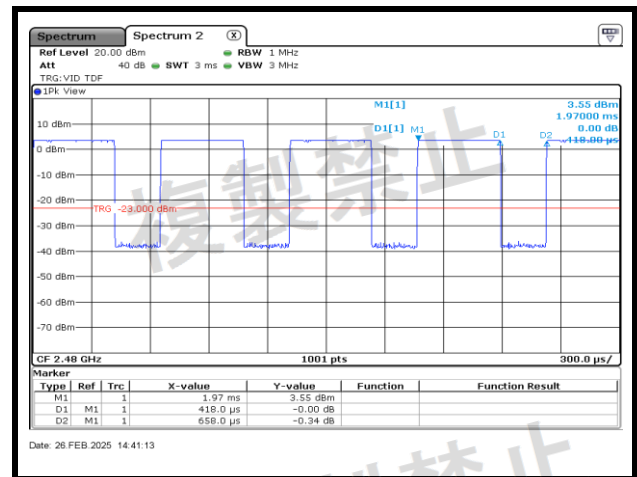
Ch.19: 2440MHz



Ch.39: 2480MHz



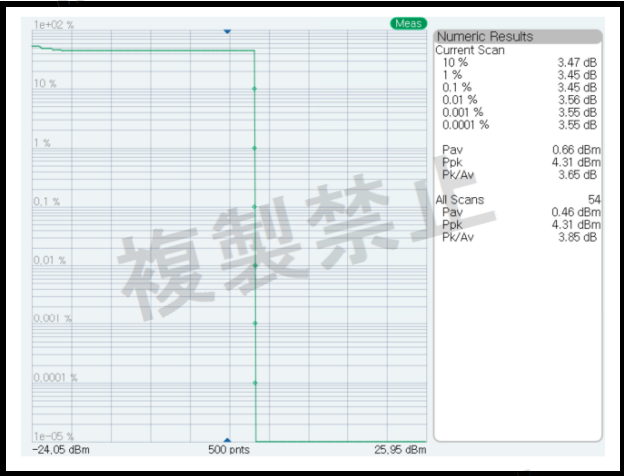
ON/OFF time



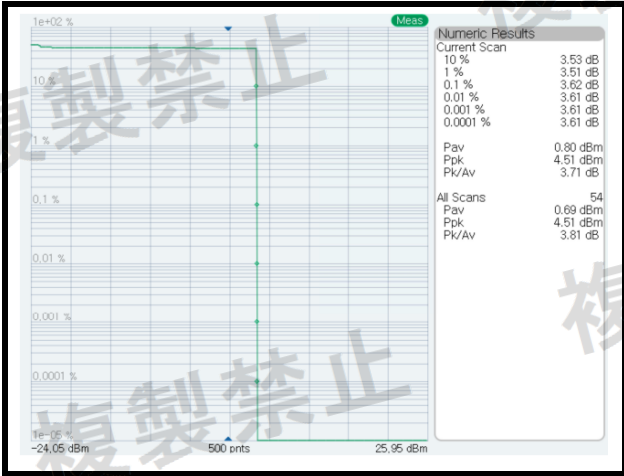
Test Plot

RF output power tolerance (-10% voltage)

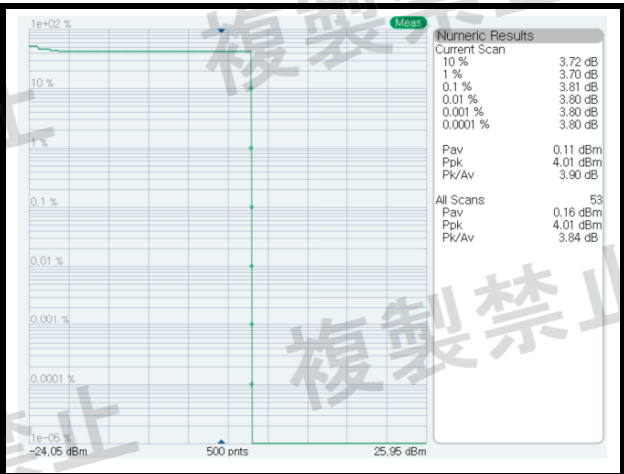
Ch.0: 2402MHz



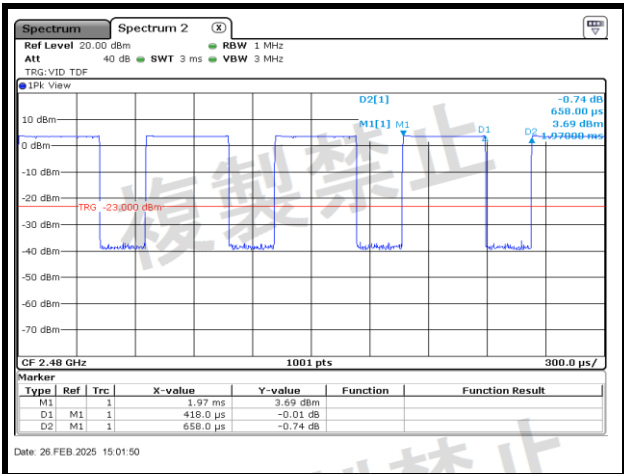
Ch.19: 2440MHz



Ch.39: 2480MHz



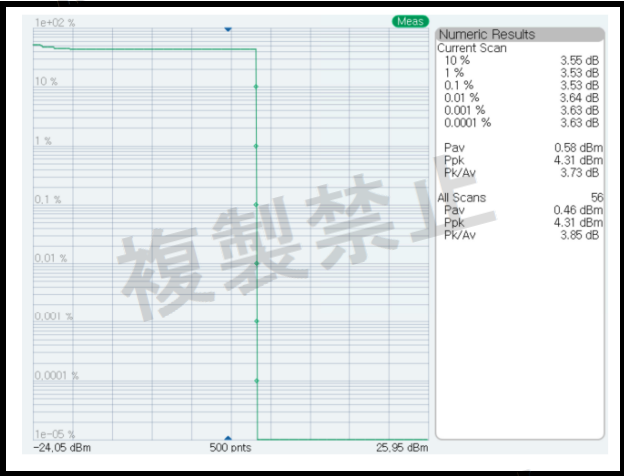
ON/OFF time



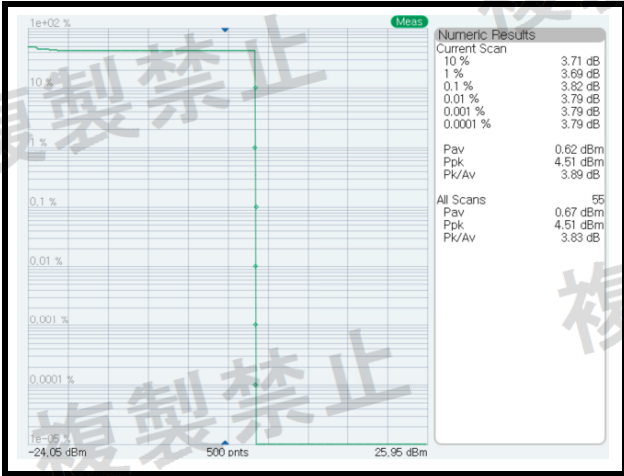
Test Plot

RF output power tolerance (+10% voltage)

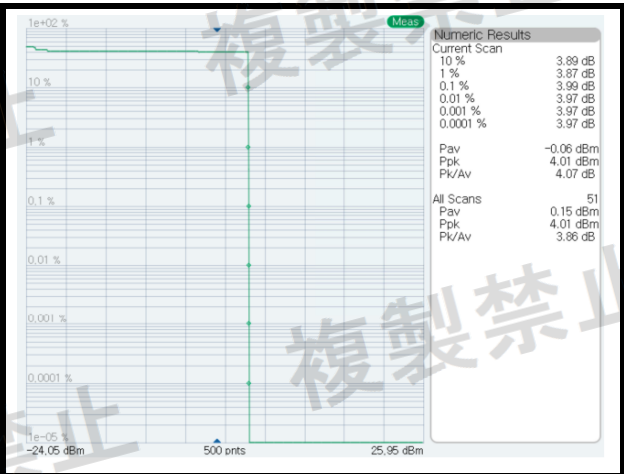
Ch.0: 2402MHz



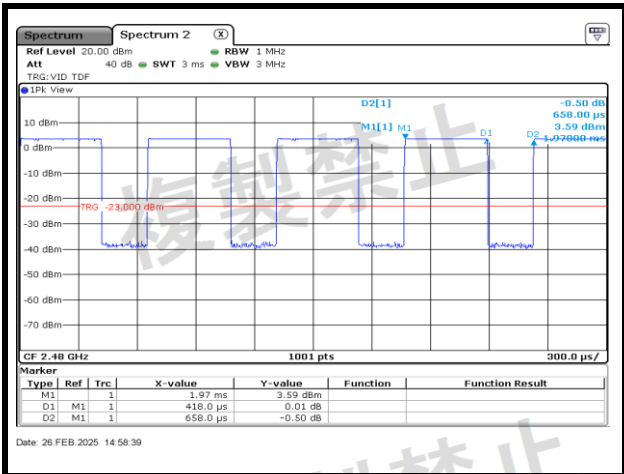
Ch.19: 2440MHz



Ch.39: 2480MHz



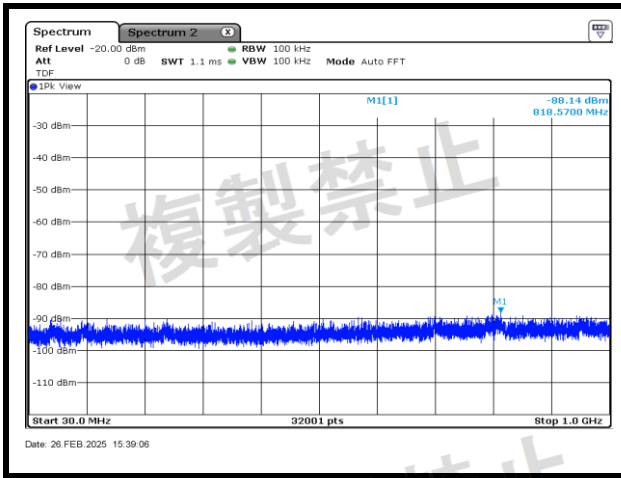
ON/OFF time



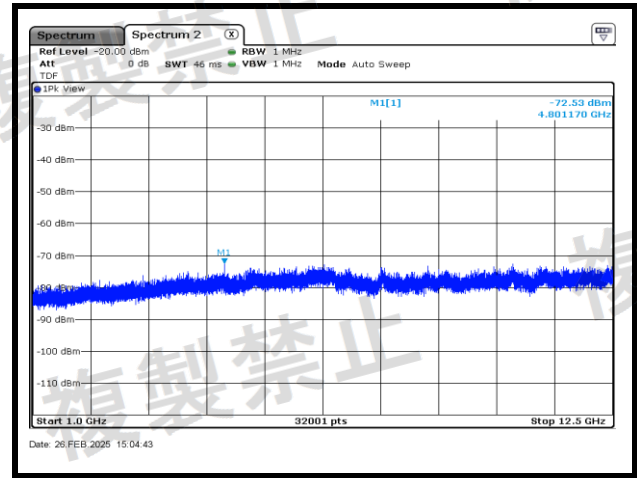
Test Plot

Secondary emitted radio wave strength (Rated voltage)

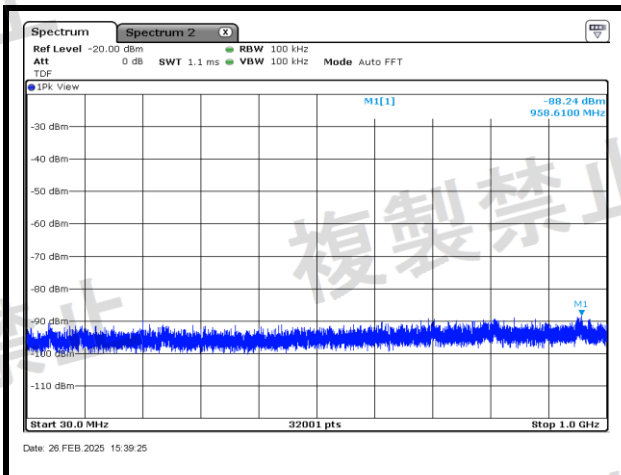
Ch.0: 2402MHz
30-1000MHz



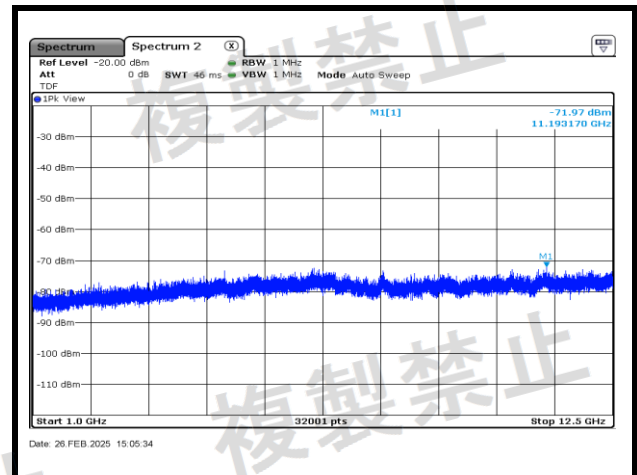
1-12.5GHz



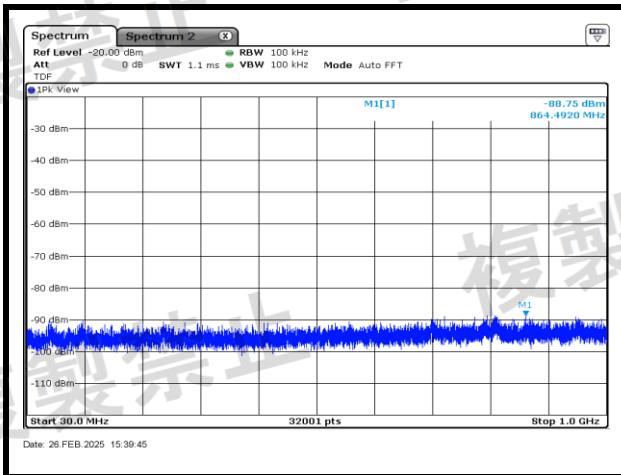
Ch.19: 2440MHz
30-1000MHz



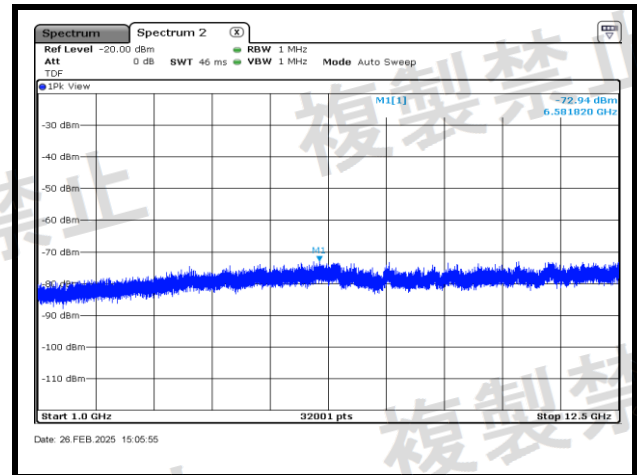
1-12.5GHz



Ch.39: 2480MHz
30-1000MHz



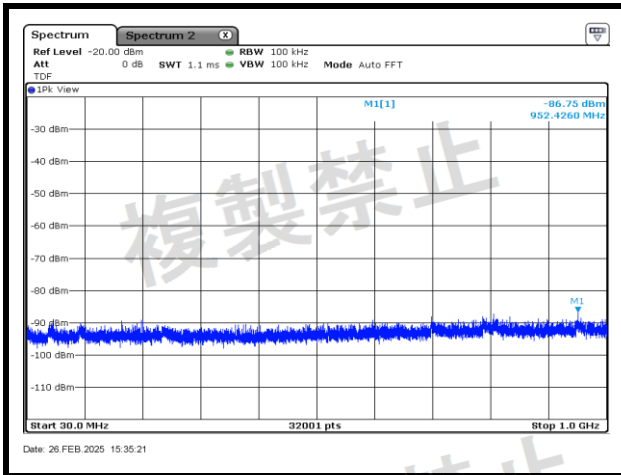
1-12.5GHz



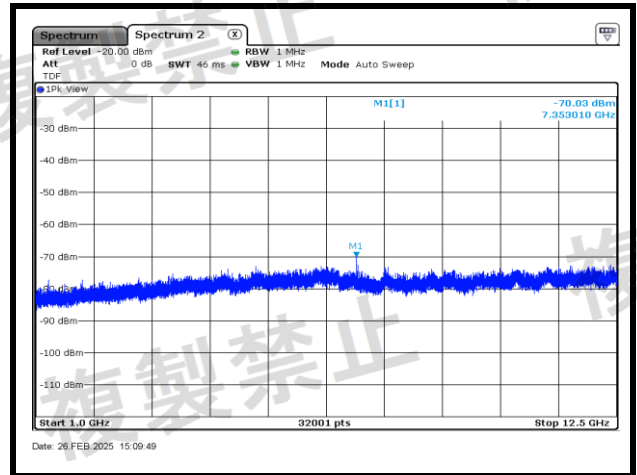
Test Plot

Secondary emitted radio wave strength (-10% voltage)

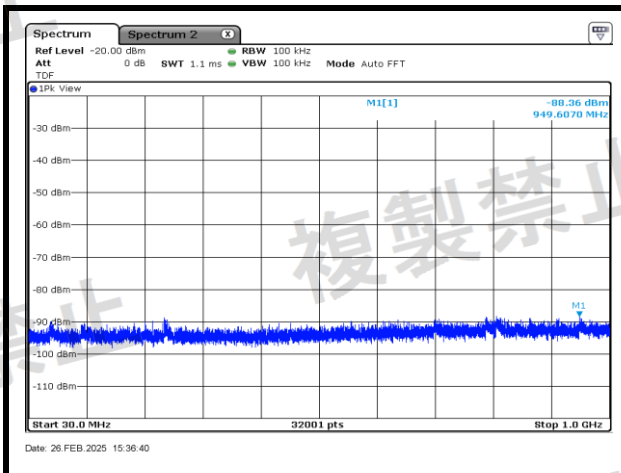
Ch.0: 2402MHz
30-1000MHz



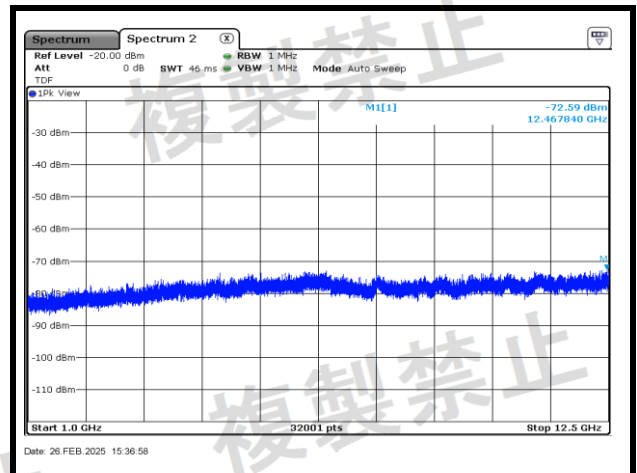
1-12.5GHz



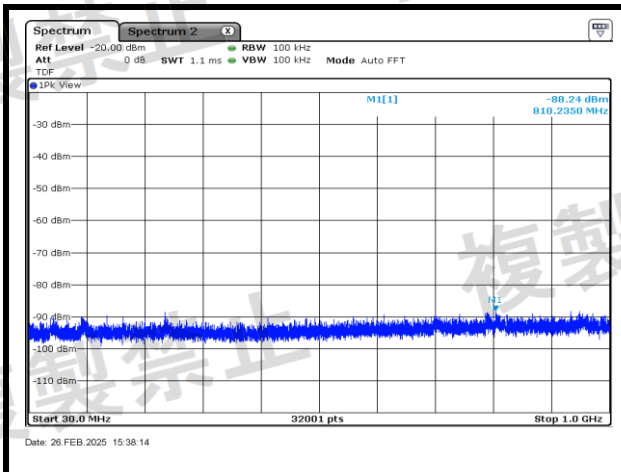
Ch.19: 2440MHz
30-1000MHz



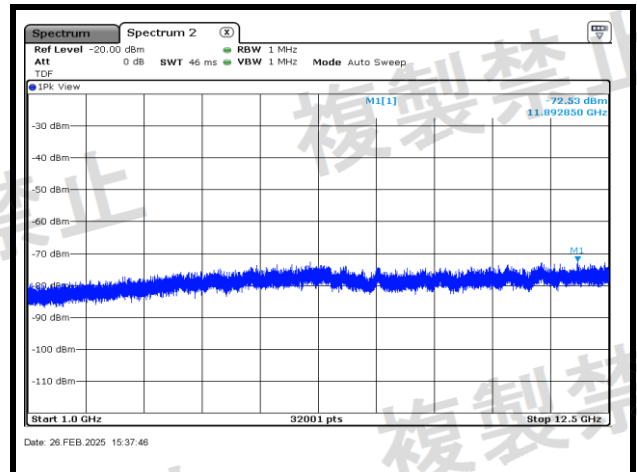
1-12.5GHz



Ch.39: 2480MHz
30-1000MHz



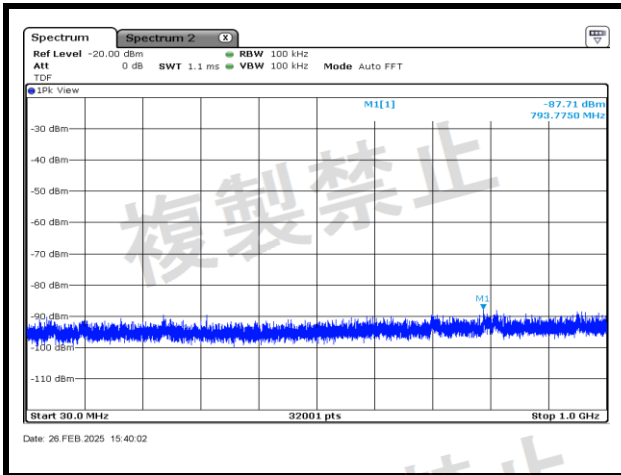
1-12.5GHz



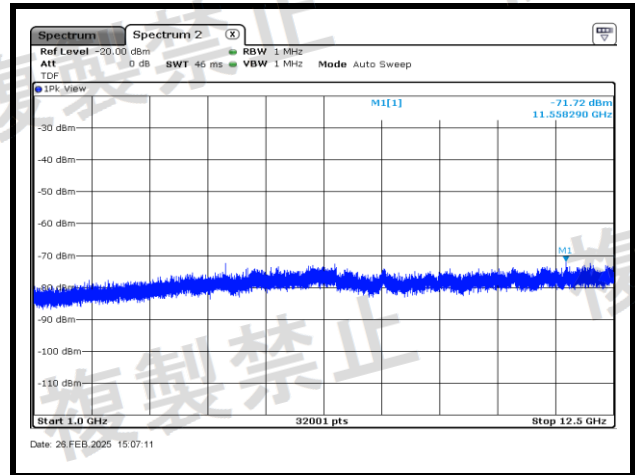
Test Plot

Secondary emitted radio wave strength (+10% voltage)

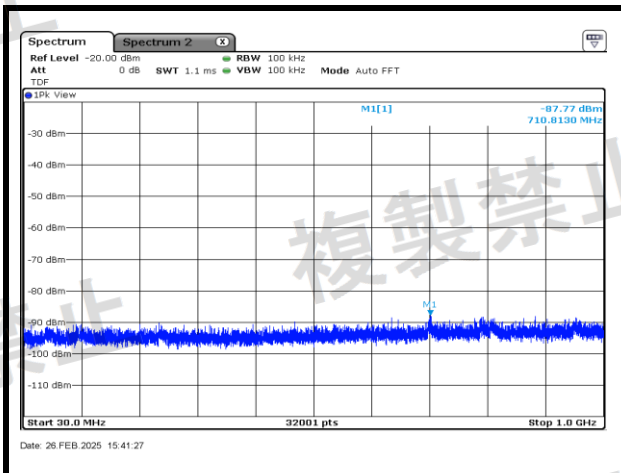
Ch.0: 2402MHz
30-1000MHz



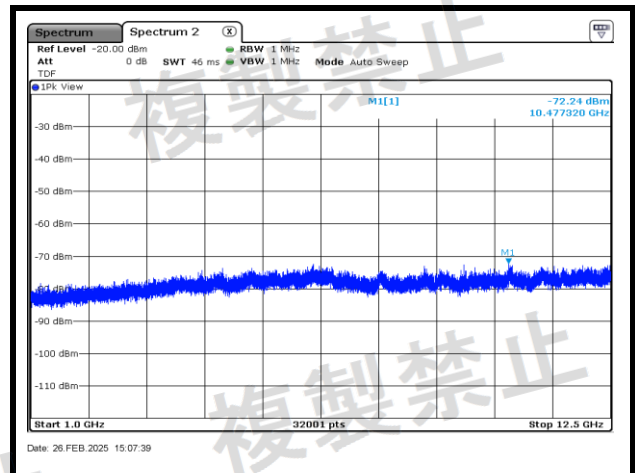
1-12.5GHz



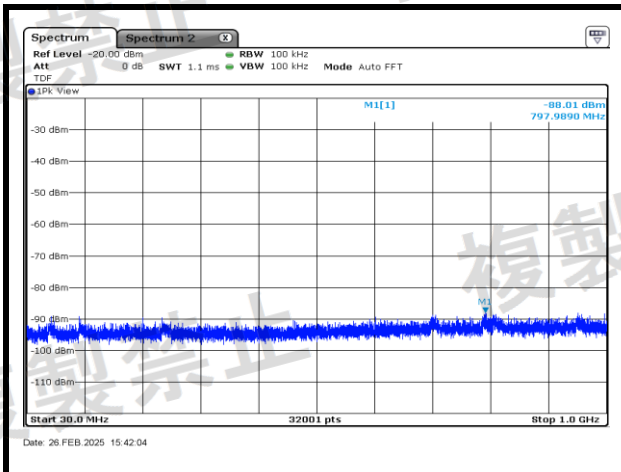
Ch.19: 2440MHz
30-1000MHz



1-12.5GHz



Ch.39: 2480MHz
30-1000MHz



1-12.5GHz

