

TEST REPORT

Report No.	CISRR25063032002
Project No.	CISR250630320
Applicant	Guangzhou Pinzhong Electronic Technology Co.,Ltd.
Address	Room611-612,Greenland Center of Financial City,No.662, Huangpu Avenue Middle Road,Tianhe District,Guangzhou City,China
Manufacturer	Guangzhou Pinzhong Electronic Technology Co.,Ltd.
Address	Room611-612,Greenland Center of Financial City,No.662, Huangpu Avenue Middle Road,Tianhe District,Guangzhou City,China
Product Name	BEITONG KP70 Haptic Feedback Elite Wireless Controller
Trade Mark	
Model/Type reference	BTP-KP70B
Listed Model(s)	-
Standard	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19
Test date	September 22, 2025 to September 26, 2025
Issue date	September 30, 2025
Test result	Complied

Jimmy Huang

Reviewed by: Jimmy Huang



Approved by: Hans Hu

The test results relate only to the tested samples.

The test report should not be reproduced except in full without the written approval of Shenzhen Bangce Testing Technology Co., Ltd.

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1. REPORT VERSION

Version No.	Issue date	Description
00	September 30, 2025	Original

2. SUMMARY OF TEST RESULT

Report clause	Test Item	Standard Requirement	Result
5.1	Frequency Tolerance	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.2	Antenna Power	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.3	Occupied Bandwidth	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.4	Spread Bandwidth	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.5	Spurious Emissions of TX	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.6	Spurious Emissions of RX	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS
5.7	Interference prevention function	MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19	PASS

Note:

- The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Product Description

Main unit information:	
Product Name:	BEITONG KP70 Haptic Feedback Elite Wireless Controller
Trade Mark:	
Model No.:	BTP-KP70B
Listed Model(s):	-
Power supply:	Input: DC 5V
Hardware version:	V1
Software version:	V1
Battery:	DC 3.7V

3.2. Radio Specification Description

Transmission technology:	Bluetooth
Modulation:	GFSK
Operation frequency:	2402MHz~2480MHz
Channel number:	40
Channel separation:	2MHz
Rated Power:	3mW
Antenna type:	PCB
Antenna gain:	1.49dBi

Channel list:

BT LE: 1Mbps, GFSK.

CH0	2402 MHz	CH20	2442 MHz
CH1	2404 MHz	CH21	2444 MHz
CH2	2406 MHz	CH22	2446 MHz
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CH19	2440 MHz	CH39	2480 MHz

3.3. Modification of EUT

No modifications are made to the EUT during all test items.

3.4. Testing Site

Laboratory Name	Shenzhen Bangce Testing Technology Co., Ltd.
Laboratory Location	101, building 10, Yunli Intelligent Park, Shutianpu community, Matian Street, Guangming District, Shenzhen, Guangdong, China

3.5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS \text{ (dBuV/m)} = RA \text{ (dBuV)} + AF \text{ (dB/m)} + CL \text{ (dB)} - AG \text{ (dB)}$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

3.6. DISTURBANCE Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$CD \text{ (dBuV)} = RA \text{ (dBuV)} + PL \text{ (dB)} + CL \text{ (dB)}$$

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

4. TEST CONFIGURATION

4.1. Test frequency list

Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
2402	2440	2480

4.2. Test mode

No	Test mode	Description
TM1	TX mode	Keep the EUT in continuously transmitting mode with GFSK modulation at lowest, middle and highest channel.
TM2	RX mode	Keep the EUT in continuously receives mode with GFSK modulation at lowest, middle and highest channel.
TM3	Single carrier mode	Keep the EUT in Single carrier status

4.3. Support unit used in test configuration and system

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The following peripheral devices and interface cables were connected during the measurement:

Item	Equipment name	Trade Name	Model No.
-	-	-	-

4.4. Test sample information

Type	sample no.
Engineer sample	CISR250630320-S01
Normal sample	CISR250630320-S02

4.5. Testing environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.6. Test Voltage

The fluctuation of input voltage to the circuit of RF unit of test equipment is under $\pm 1\%$, when input voltage to the test equipment is fluctuated by $\pm 10\%$, So, all measurement has been conducted by only rated voltage.

The measurement result of the voltage fluctuation at RF circuit		
Test condition	EUT Voltage for operation	RF Circuitry Voltage
Normal Voltage	5V	3.3V
High Voltage (+10% of Normal Voltage)	5.5V	3.3V
Low Voltage (-10% of Normal Voltage)	4.5V	3.3V

4.7. Statement of the measurement uncertainty

No.	Test Items	Measurement Uncertainty
1	Frequency Tolerance	$\pm 5\text{Hz}$
2	Peak Output Power	1.34dB
3	Bandwidth	0.002%
4	Conducted Spurious Emission	1.93dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

4.8. Equipment Used during the Test

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
MXA Signal Analyzer	Agilent	N9020A	MY53281532	2025.1.08	1Year
DC Power Supply	Agilent	E3642A	MY400013613	2025.1.08	1Year
Power control box	Tonscend	JS0806-2	--	2025.1.08	1Year
Oscilloscope	Tektronix	TBS1102C	C025437	2025.1.08	1Year

Note: All equipment is calibrated through GUANGZHOU LISAI CALIBRATION AND TEST CO. LTD and according to Article 24-2, Paragraph 4 of the Radio Act method c.

5. TEST CONDITIONS AND RESULTS

5.1. Frequency Tolerance

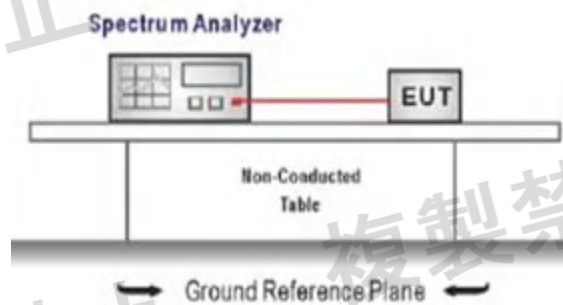
Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

$\pm 50 \times 10^{-6}$

Test configuration:



Test procedure:

1. Set EUT work in test mode as described in clause 4.2.
2. 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: 500kHz.
Detector: Peak.
Trace Mode: Max Hold.
3. When the trace is complete, find the peak value of the power envelope and record.

Test mode:

TM3

Test data:

Refer to the Appendix Report

Result:

Passed

5.2. Antenna Power

Standard Applicable:

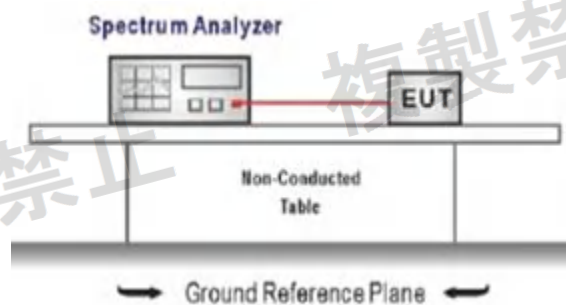
MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

Modulation system	Frequency band used	Antenna power (max.)	EIRP (max.)	
			Omnidirectional case	Directional case
DS, OFDM	2,400 ~ 2,483.5 MHz	10 mW/MHz	12.14 dBm/MHz	22.14 dBm/MHz
FH, DS-FH FH-OFDM	2,400 ~ 2,483.5 MHz	3 mW/MHz	6.91 dBm/MHz	16.91 dBm/MHz
	Excluding 2,427 ~ 2,470.75 MHz	10 mW/MHz	12.14 dBm/MHz	22.14 dBm/MHz
Other than the above	2,400 ~ 2,483.5 MHz	10 mW	12.14 dBm	22.14 dBm

Antenna Power Tolerance: 20%

Test configuration:



Test procedure:

1. EUT have transmitted continuous maximum power
2. Antenna Power Error is definition that actual measure antenna power tolerance between +20% power range that base on manufacturer declare the conducted power density.

Test mode:

TM1

Test data:

Refer to the Appendix Report

Result:

Passed

5.3. Occupied Bandwidth

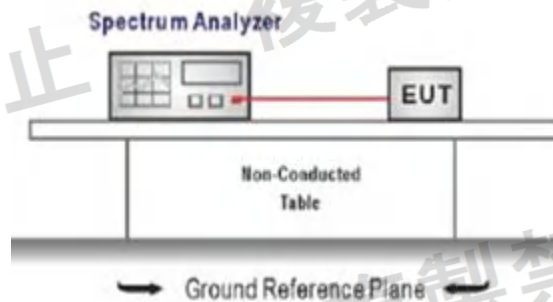
Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

≤26MHz

Test configuration:



Test procedure:

1. Set EUT work in test mode as described in clause 4.2
2. 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.
RBW/VBW= 300kHz/300kHz
Span: Wide enough to cover the complete power envelope of the signal of the EUT.
Sweep mode: Continuous sweeping.
Detector: Peak.
Trace Mode: Max Hold.
3. When the trace is complete, measure the occupied bandwidth (99% bandwidth) with spectrum analyzer' s bandwidth measure function.

Test mode:

TM1

Test data:

Refer to the Appendix Report

Result:

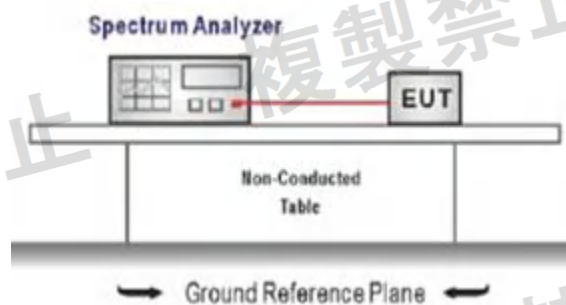
Passed

5.4. Spread Bandwidth

Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Test configuration:



Test procedure:

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW $\geq$ 1% of the 20 dB bandwidth, VBW $\geq$ RBW
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

Test mode:

TM1

Test data:

Refer to the Appendix Report

Result:

Passed

5.5. Spurious Emissions of TX

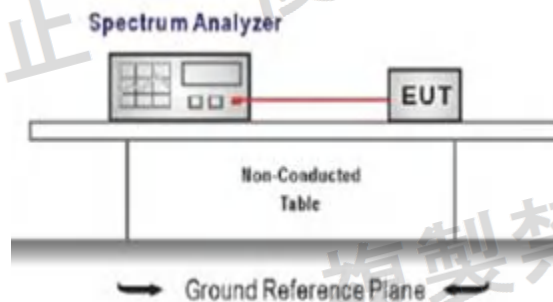
Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

- a. $2387\text{MHz} \leq f \leq 2400\text{MHz}$ and $2483.5\text{MHz} < f \leq 2496.5\text{MHz}$ $25 \mu\text{W}$ or less
b. $2.387 > f$ and $2.496.5\text{MHz} < f$ $2.5 \mu\text{W}$ or less

Test configuration:



Test procedure:

Set EUT work in test mode as described in clause 4.2

1. Connected the EUT' s antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
Below 1GHz: RBW/VBW= 100kHz/ 100kHz
Above 1GHz: RBW/VBW= 1MHz / 1MHz.
Detector: Peak.
Trace Mode: Max Hold.
2. All the emissions from 30MHz to 12.5GHz were measured and record.

Test mode:

TM1

Test data:

Refer to the Appendix Report

Result:

Passed

5.6. Spurious Emissions of RX

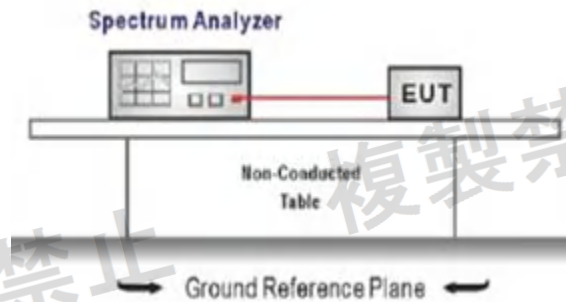
Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

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.

Test configuration:



Test procedure:

1. Set EUT work in test mode as described in clause 4.2
2. 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.

Test mode:

TM2

Test data:

Refer to the Appendix Report

Result:

Passed

5.7. Interference prevention function

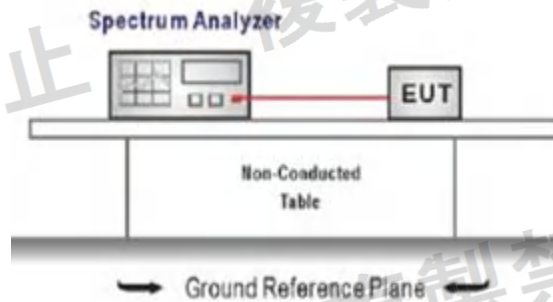
Standard Applicable:

MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item 19

Limit:

Radio equipment used mainly on the same premises and automatically transmits or receives identification code.

Test configuration:



Test procedure:

1. Transmit the predetermined identification codes from EUT.
2. Check the transmitted identification codes with the demodulator.

Test mode:

TM1, TM2

Identification code:

A0:5A:5E:59:EC:B5

Result:

Passed

6. TEST SETUP PHOTOS

Refer to the report CISRR25063032001.

7. EXTERNAL AND INTERNAL PHOTOS

7.1. External Photos

Refer to the report CISRR25063032001.

7.2. Internal photos

Refer to the report CISRR25063032001.

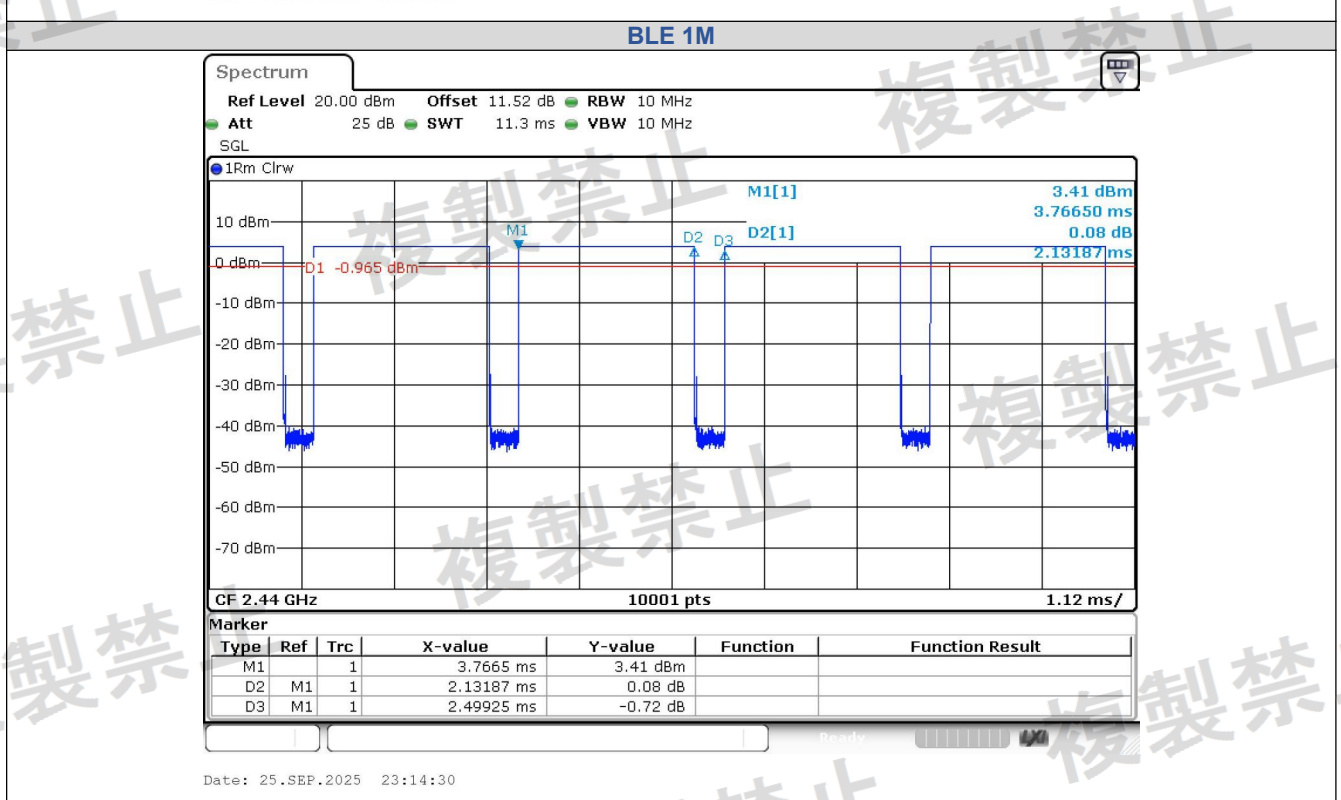
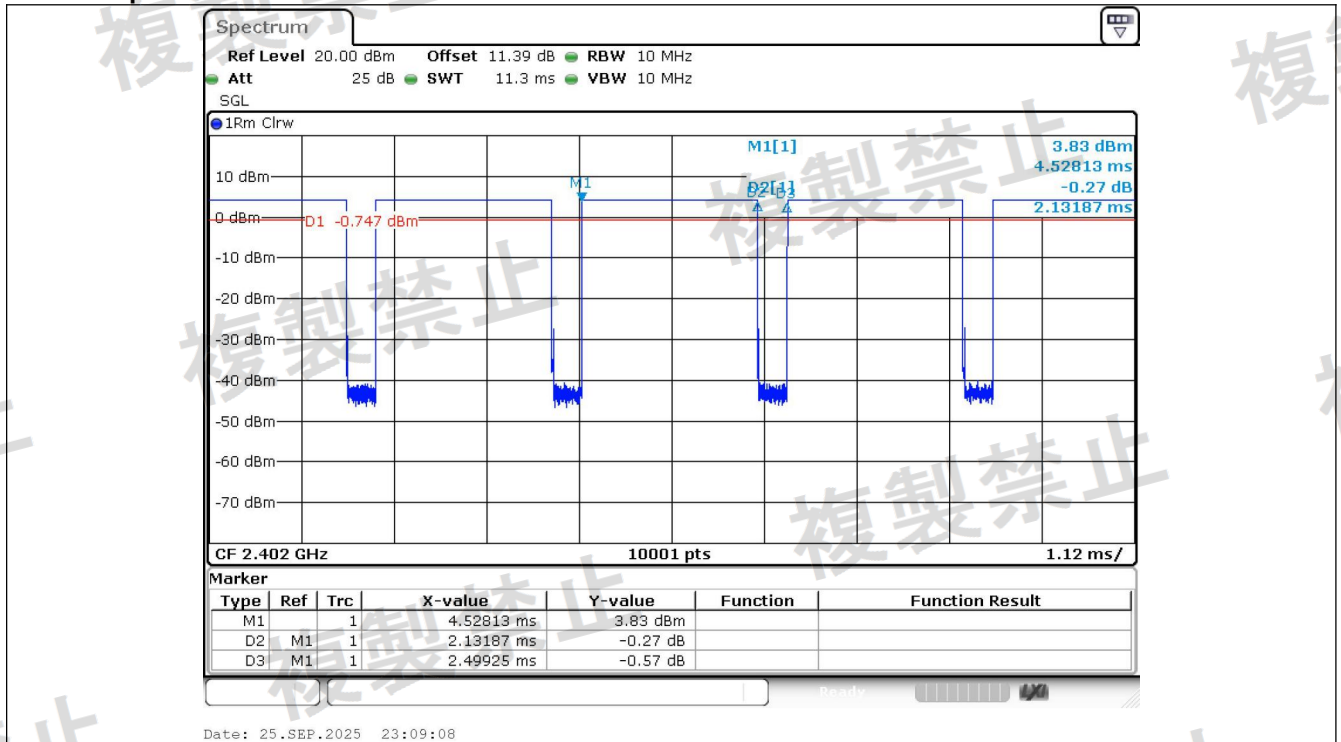
8. Appendix Report

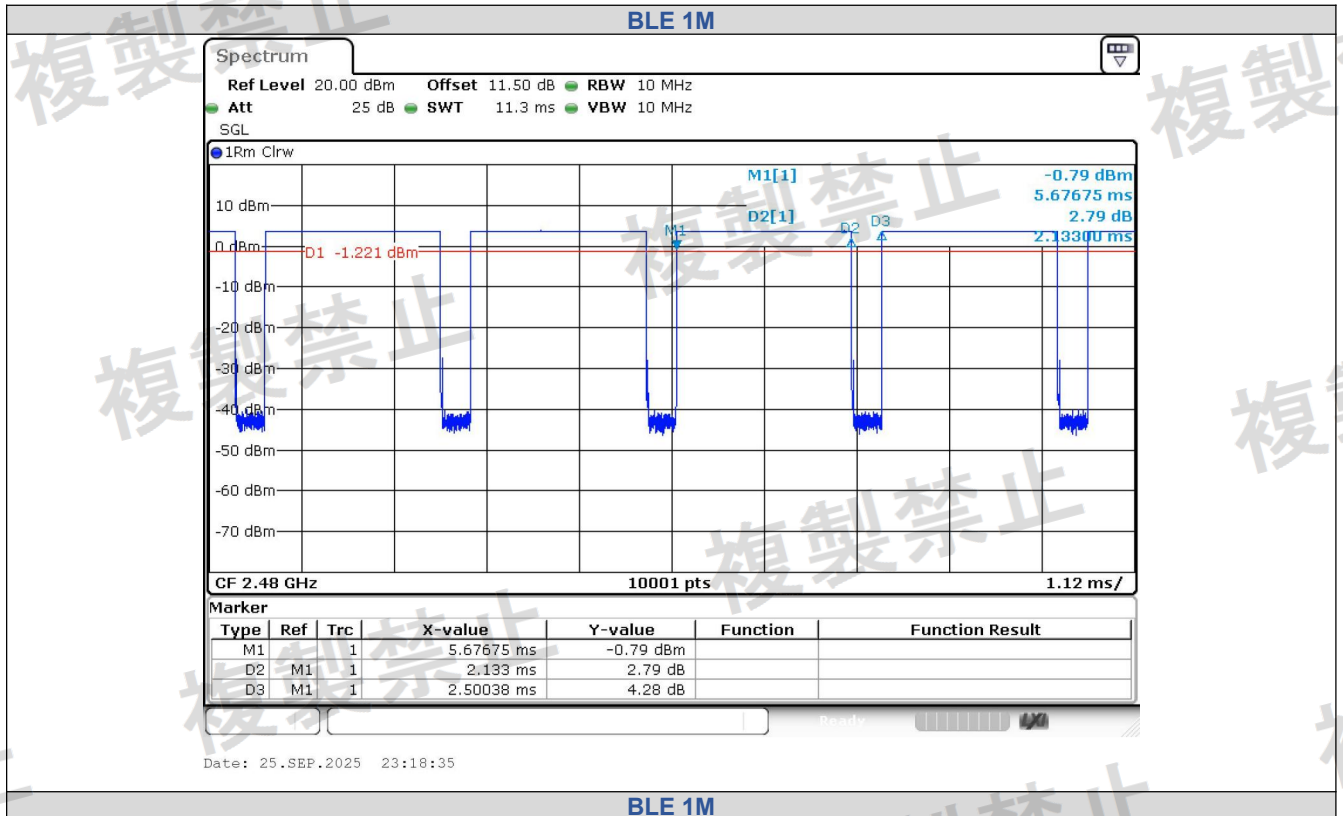
8.1 Duty Cycle

Test Result

Mode	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
BLE 1M	0	2.132	2.499	85.30	0.8530	0.6905
	19	2.132	2.499	85.30	0.8530	0.6905
	39	2.133	2.500	85.31	0.8531	0.69

Test Graphs





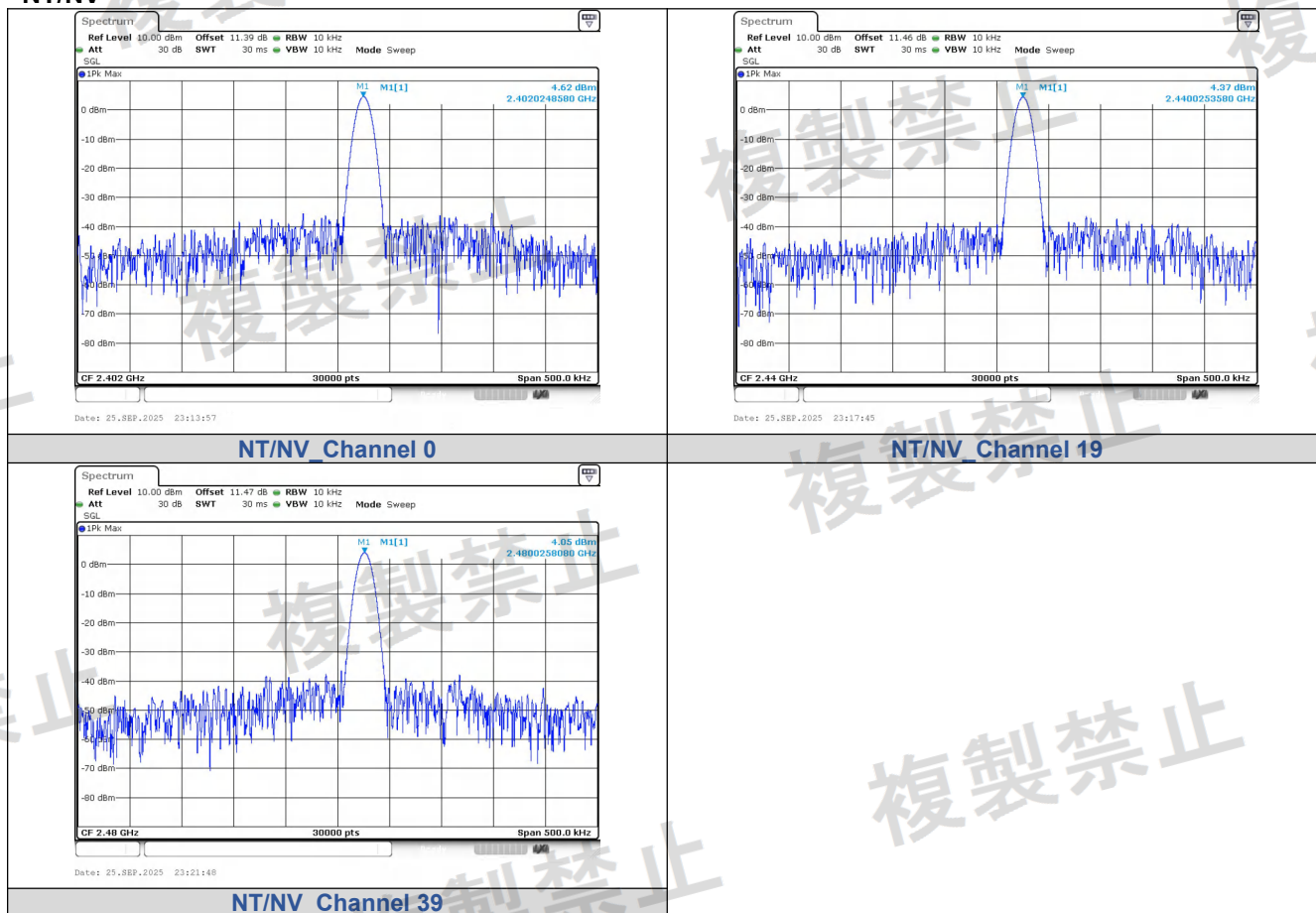
8.2 Frequency Tolerance

Test Result

Condition	Mode	Ch.	Center Frequency (MHz)	Measured Value (MHz)	Deviation (ppm)	Limit (ppm)	Result
NT/NV	BLE 1M(CW)	0	2402	2402.0248580	10.35	± 50	PASS
		19	2440	2440.0253580	10.39		PASS
		39	2480	2480.0258080	10.41		PASS

Test Graphs

NT/NV



8.3 Antenna Power

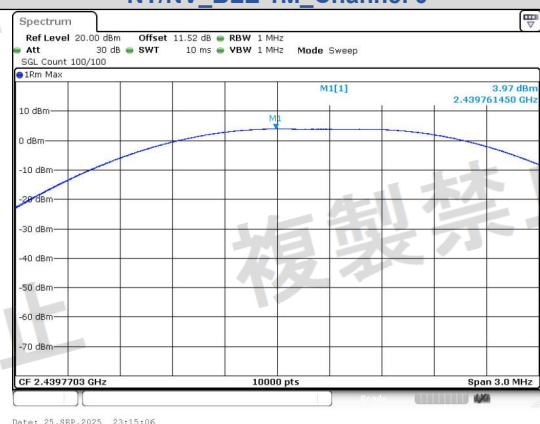
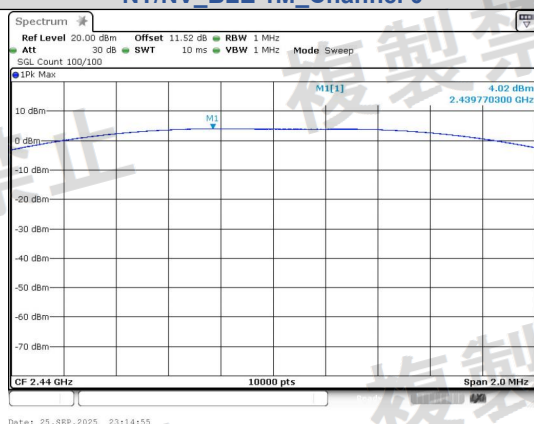
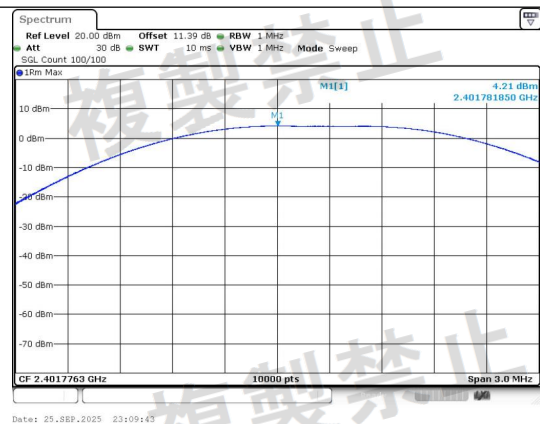
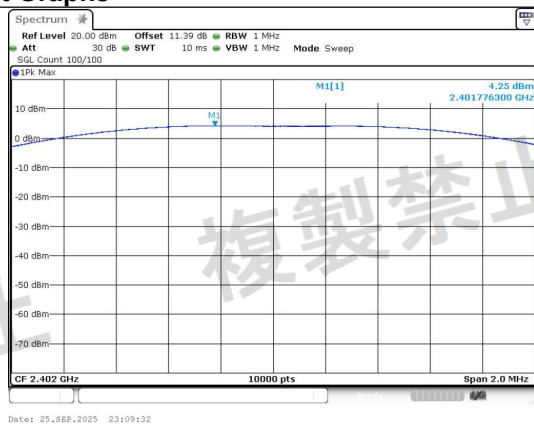
Test Result

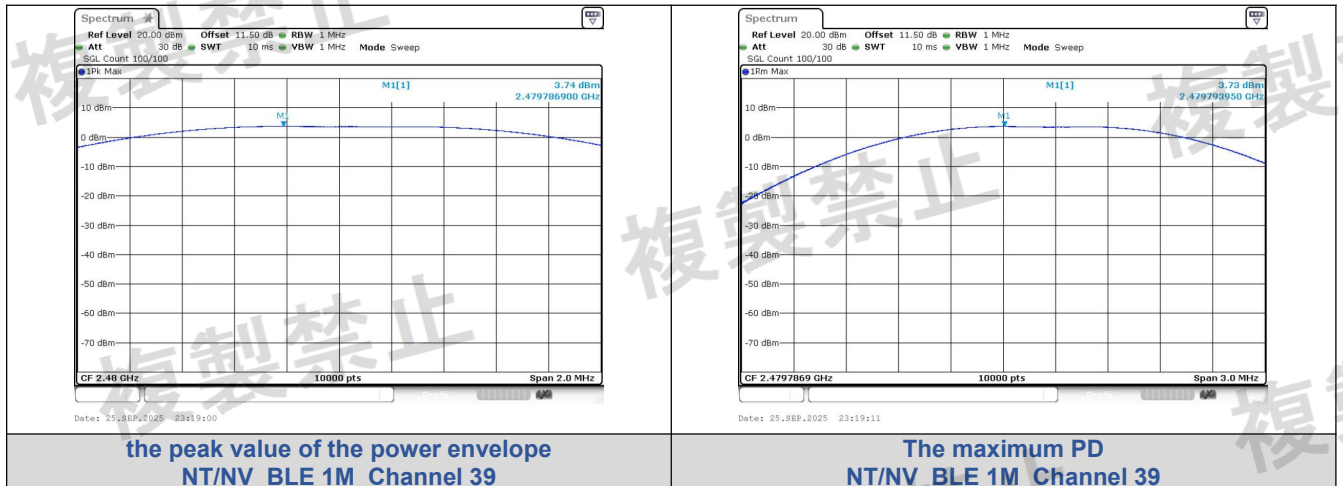
Condition	Modulation	Frequency (MHz)	Antenna power (dBm)	Antenna power (dBm/MHz)	Antenna power density (mW/MHz)	Limit (mW/MHz)	Result
NT/NV	BLE 1M	2402	4.21	5.10	3.191	10	PASS
	BLE 1M	2440	3.97	4.81	3.020	10	PASS
	BLE 1M	2480	3.73	4.52	2.859	10	PASS

Condition	Modulation	Frequency (MHz)	Tolerance (%)	Tolerance Limit (%)	Rated power (mW/MHz)	Result
NT/NV	BLE 1M	2402	6.36%	+20	3	PASS
	BLE 1M	2440	0.68%	+20		PASS
	BLE 1M	2480	-4.70%	+20		PASS

Condition	Mode	Frequency (MHz)	EIRP(dBm)	Gain(dBi)	Limit (dBm)	Result
NT/NV	BLE 1M	2402	5.70	1.49	16.3682	PASS
		2440	5.46	1.49	16.3682	PASS
		2480	5.22	1.49	16.3682	PASS

Test Graphs



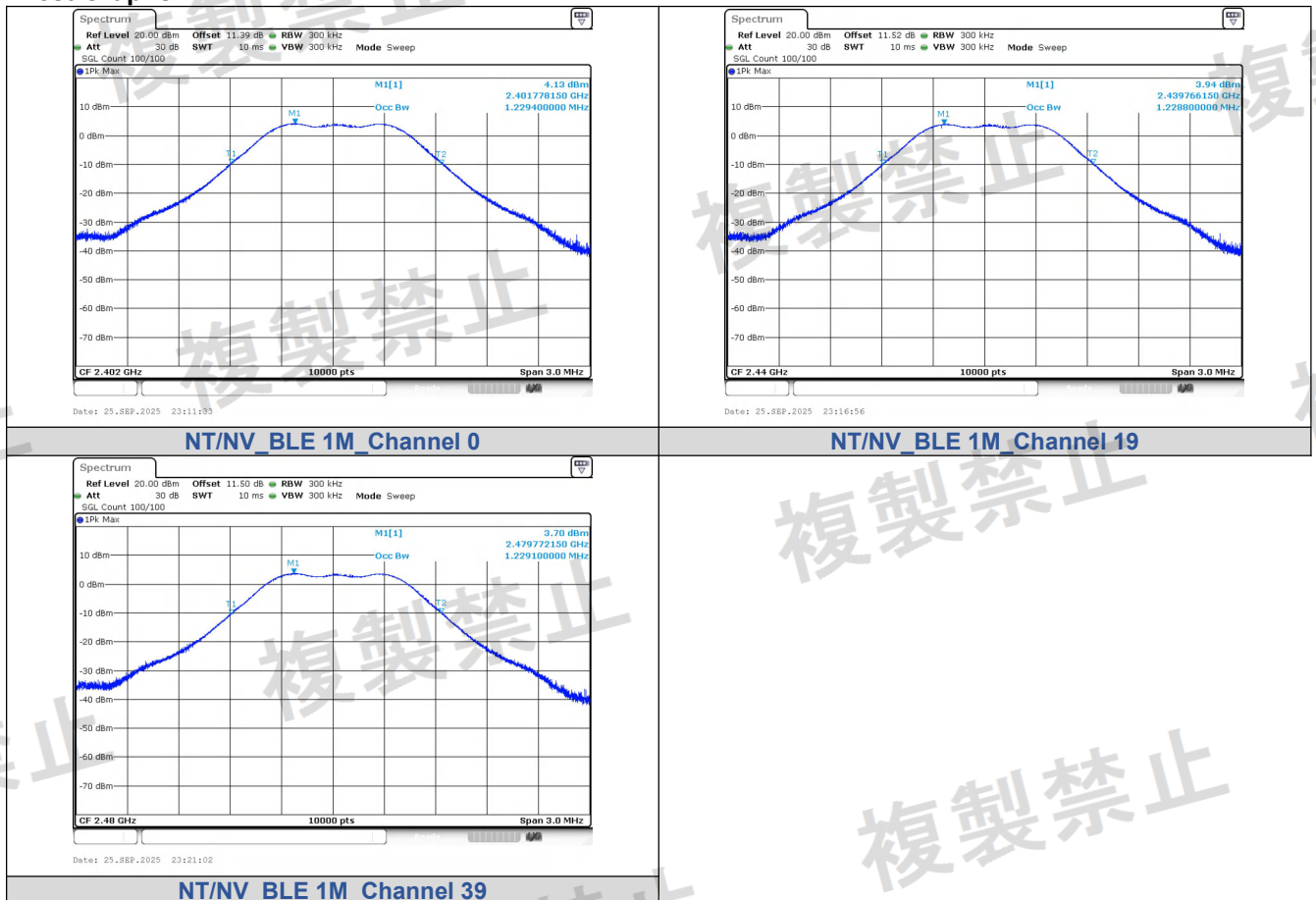


8.4 Occupied Bandwidth (99% BW)

Test Result

Condition	Mode	Channel	Frequency (MHz)	99% BW (MHz)	Limit (MHz)	Result
NT/NV	BLE 1M	0	2402	1.2294	26	PASS
		19	2440	1.2288		PASS
		39	2480	1.2291		PASS

Test Graphs



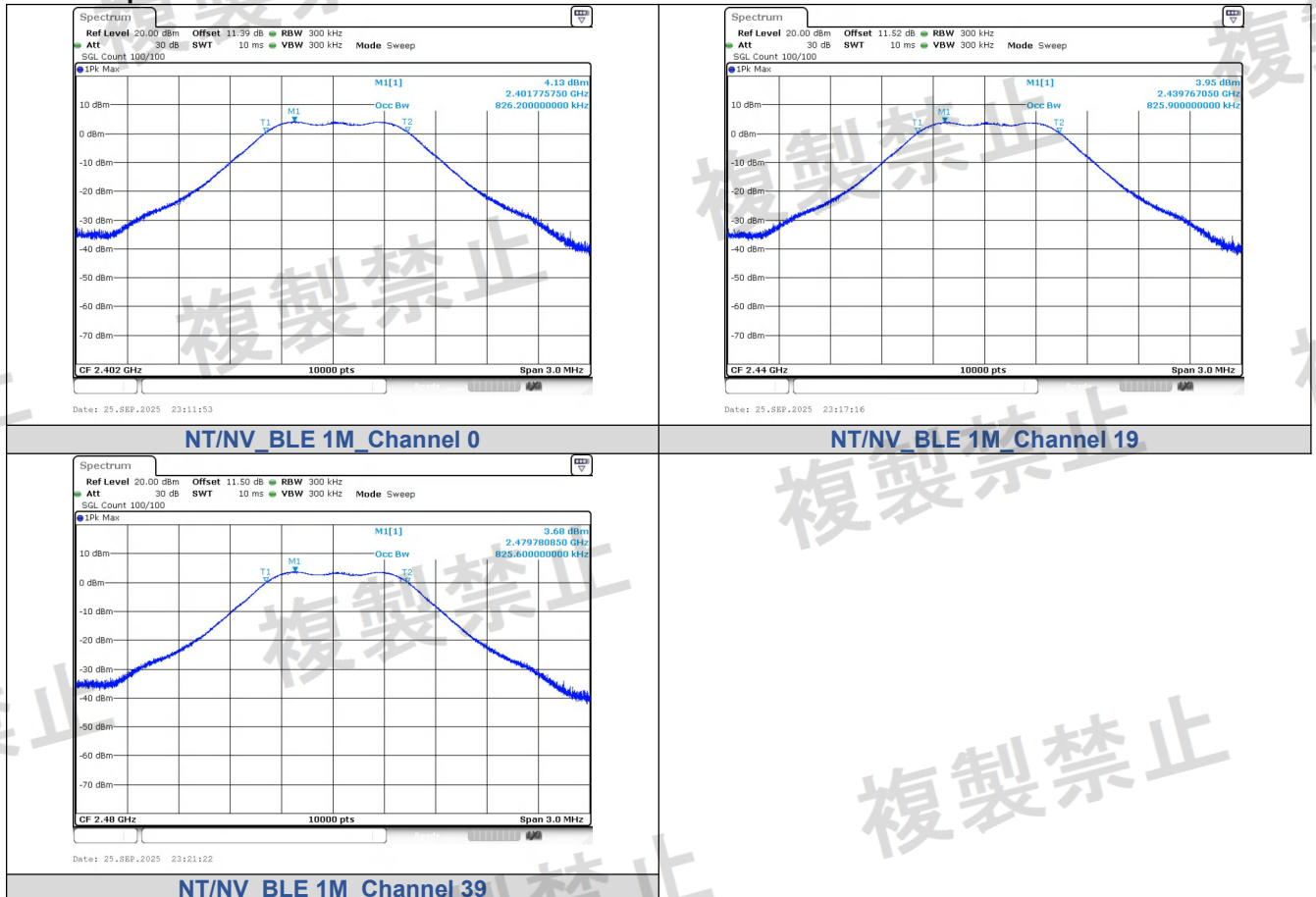
8.5 Spreading Bandwidth (90% BW)

Test Result

Condition	Mode	Channel	Frequency (MHz)	90% SBW (MHz)	Spreading factor	Result
NT/NV	BLE 1M	0	2402	0.82620	13.2192	PASS
		19	2440	0.82590	13.2144	PASS
		39	2480	0.82560	13.2096	PASS

Note: Spreading Factor = 90% Bandwidth / 0.0625.

Test Graphs

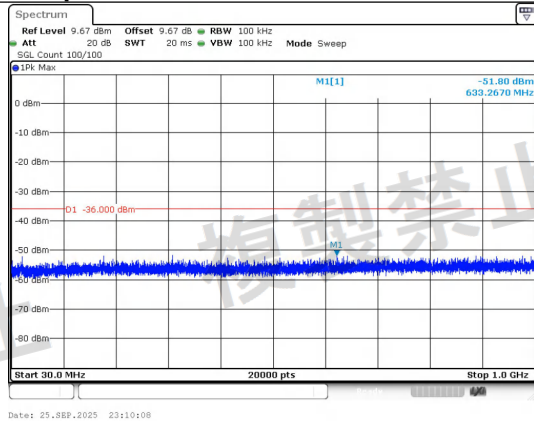


8.6 Spurious Emissions

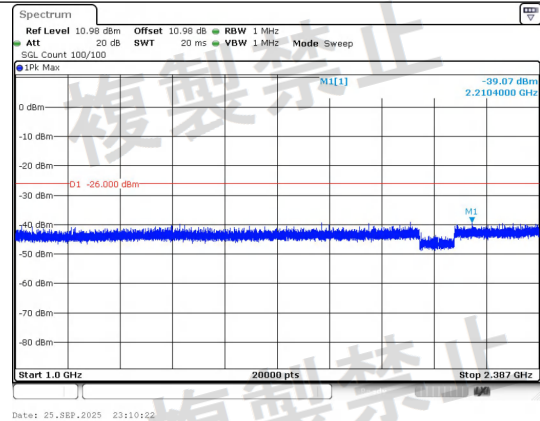
Test Result BLE 1M

Condi tion	Freque ncy Range	Lowest Channel			Middle Channel			Highest Channel			Limit ($\mu\text{W/M}$ Hz)
		Peak (Mhz)	Measu red Value (dbm)	Measu red Value ($\mu\text{W/M}$ Hz)	Peak (Mhz)	Measu red Value (dbm)	Measu red Value ($\mu\text{W/M}$ Hz)	Peak (Mhz)	Measu red Value (dbm)	Measu red Value ($\mu\text{W/M}$ Hz)	
NT/NV	30 to 1000	633.267	-51.800	0.007	829.789	-50.860	0.008	719.888	-50.310	0.009	0.25
NT/NV	1000 to 2387	2210.400	-39.070	0.124	2248.335	-38.340	0.147	2288.280	-37.200	0.191	2.5
NT/NV	2387 to 2400	2399.999	-28.750	1.334	2395.054	-38.110	0.155	2389.905	-37.820	0.165	25
NT/NV	2483.5 to 2496.5	2492.791	-37.520	0.177	2490.520	-37.460	0.179	2483.736	-36.500	0.224	25
NT/NV	2496.5 to 12500	6127.020	-32.260	0.594	6978.820	-32.940	0.508	11251.810	-33.400	0.457	2.5
Result: PASS											

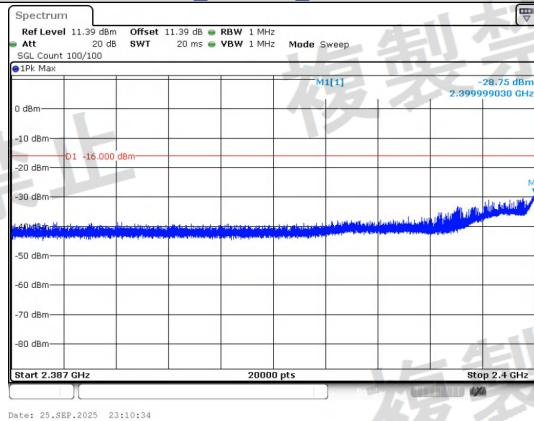
Test Graphs



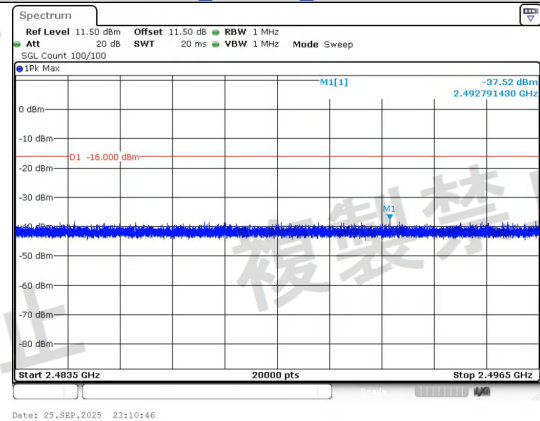
30 to 1000MHz
NT/NV_BLE 1M_Channel 0



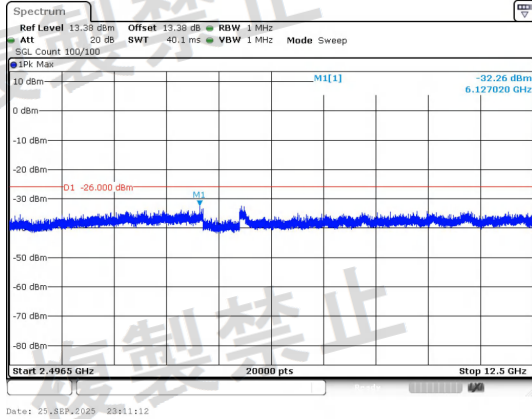
1000 to 2387MHz
NT/NV_BLE 1M_Channel 0



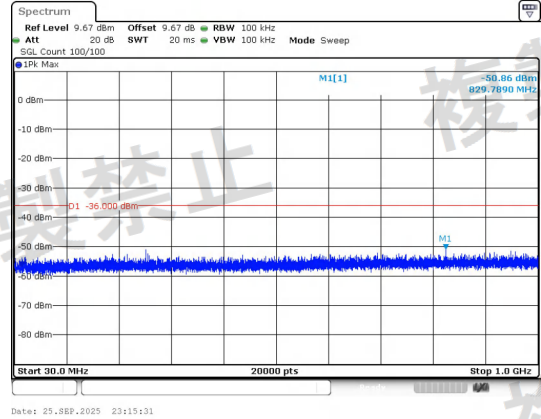
2387 to 2400MHz
NT/NV_BLE 1M_Channel 0



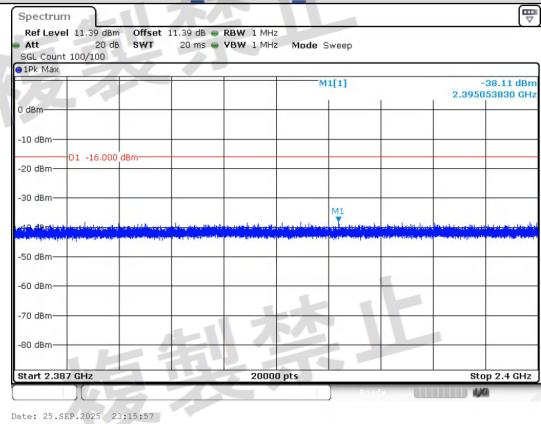
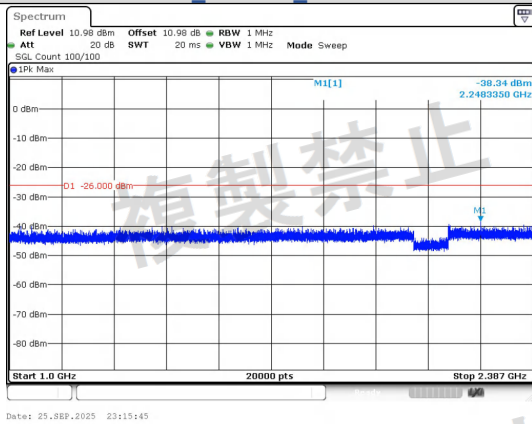
2483.5 to 2496.5MHz
NT/NV_BLE 1M_Channel 0



**2496.5 to 12500MHz
NT/NV_BLE 1M_Channel 0**

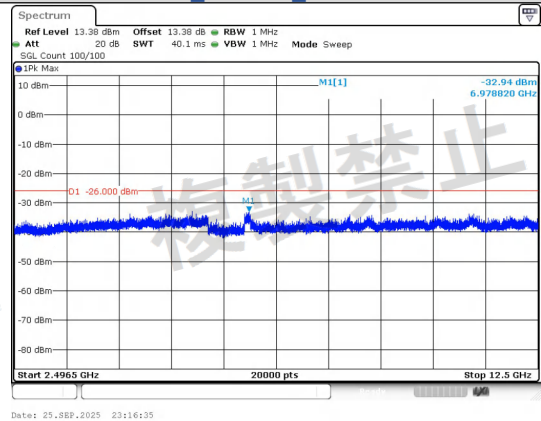
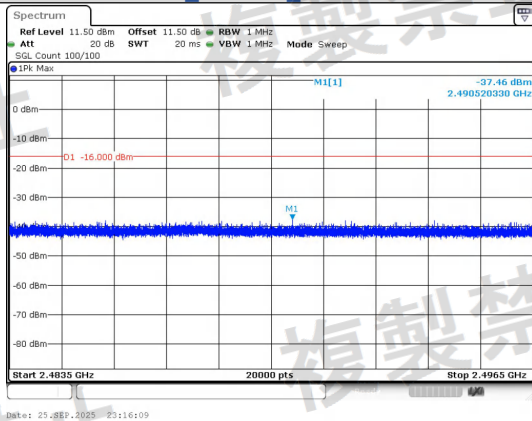


**30 to 1000MHz
NT/NV_BLE 1M_Channel 19**



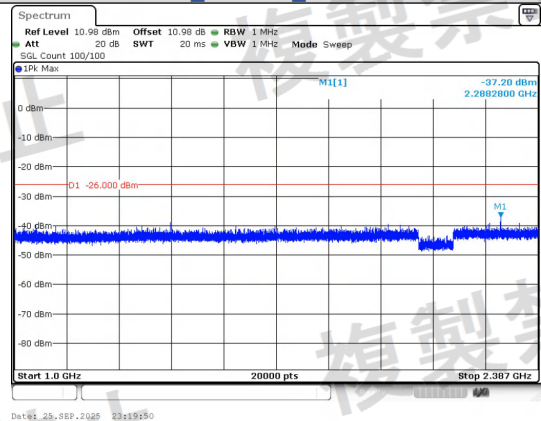
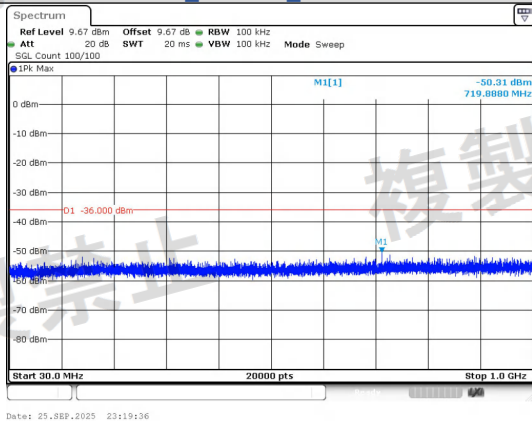
**1000 to 2387MHz
NT/NV_BLE 1M_Channel 19**

**2387 to 2400MHz
NT/NV_BLE 1M_Channel 19**



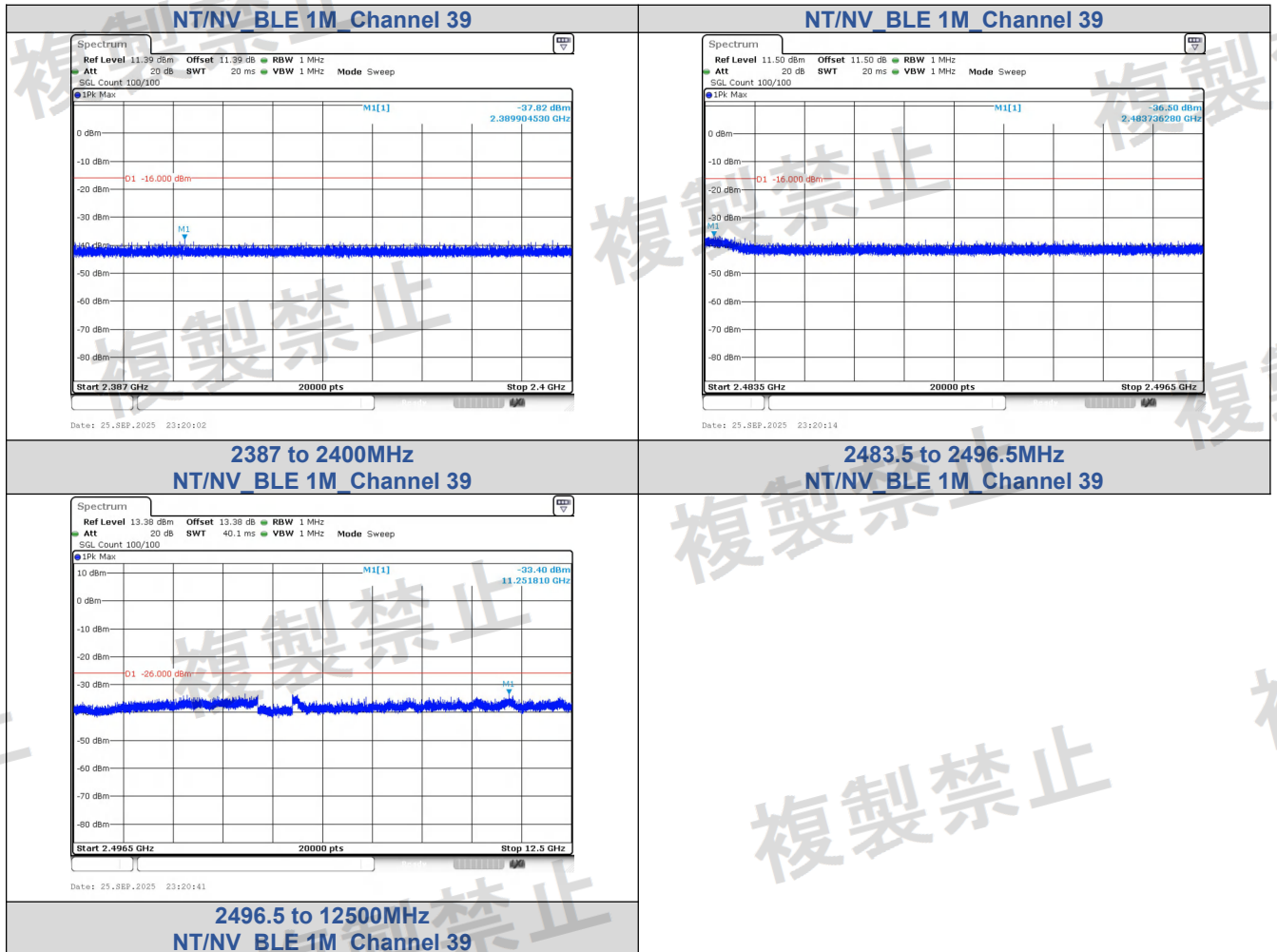
**2483.5 to 2496.5MHz
NT/NV_BLE 1M_Channel 19**

**2496.5 to 12500MHz
NT/NV_BLE 1M_Channel 19**



30 to 1000MHz

1000 to 2387MHz



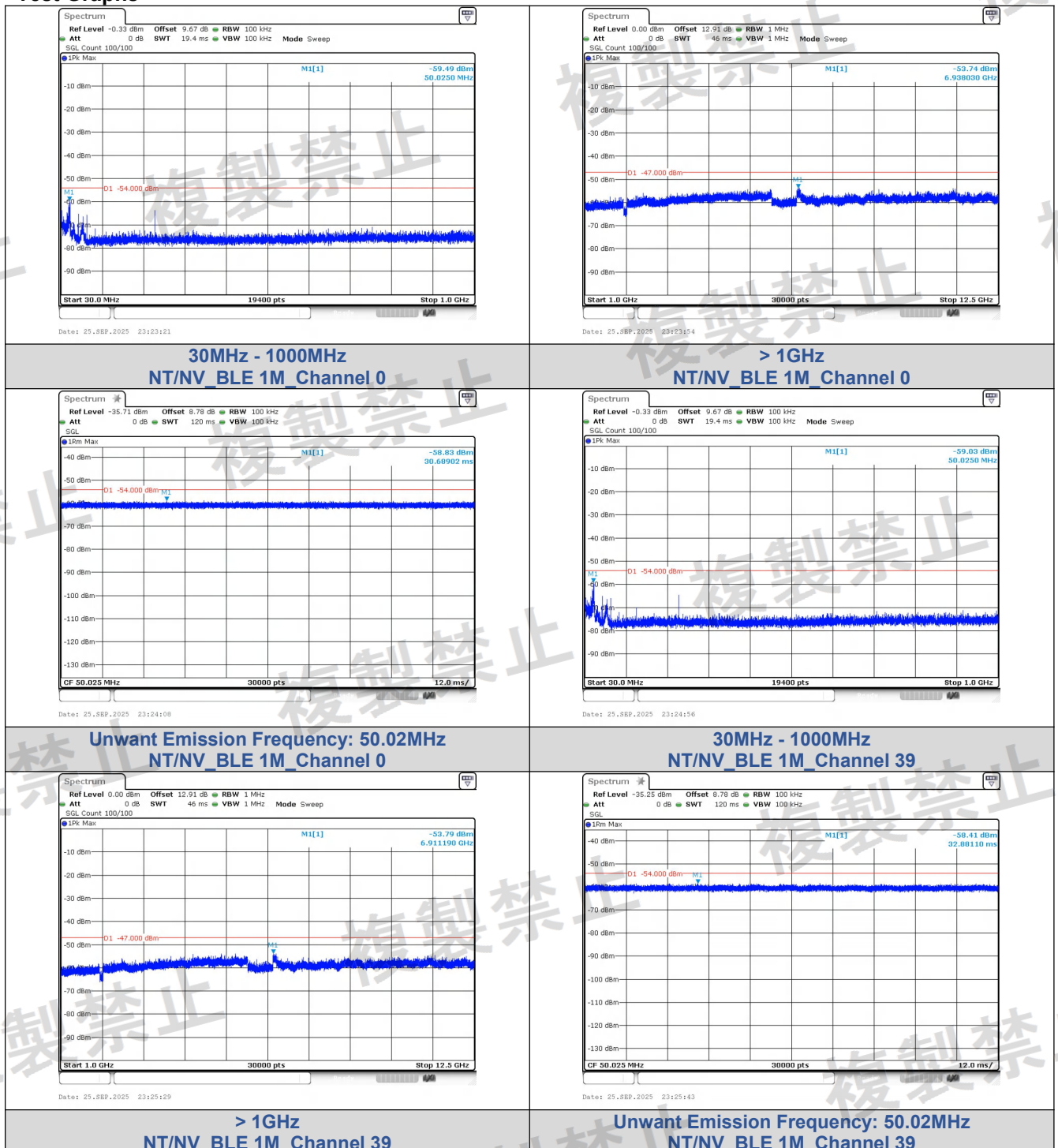
8.7 Spurious Emissions of Receiver

Test Result BLE 1M

Condition	Frequency Range (MHz)	Lowest Channel			Highest Channel			Limit (nW/MHz)
		Peak (MHz)	Measured Value (dbm)	Measured Value (nW/MHz)	Peak (MHz)	Measured Value (dbm)	Measured Value (nW/MHz)	
NT/NV	30 to 1000	50.025	-58.830	1.309	50.025	-58.410	1.442	4
NT/NV	1000 to 12500	6938.025	-53.735	4.232	6911.192	-53.787	4.181	20

Result: PASS

Test Graphs



-----End of the report-----