Test Report

Applicant	:	PEAG, LLC dba JLab Audio
Address	:	5927 LANDAU CT, Carlsbad, CA 92008, United States
Product Name	:	Wireless Mouse
Brand Mark	:	JLAB
Model	:	Midnight Wireless Mouse
Series model	:	Midnight Mouse
Report Number	:	BLA-RF-202511-A3501
Date of Receipt	:	Nov. 10,2025
Date of Test	:	Nov. 10,2025 to Dec. 29,2025
Test Standard	:	Item 19 of Article 2 Paragraph 1
Test Result	:	Pass

Compiled by: charlie **Review by:** Xavier **Approved by:** Blue Zheng

Issued Date: Dec. 29,2025

BlueAsia Technical Services (Shenzhen) Co., Ltd. BLA

BlueAsia Technical Services (Shenzhen) Co., Ltd
Address: No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict,Bao'an District, Shenzhen, Guangdong, China

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Revise Record

Version No.	Date	Description
01	Dec. 29,2025	Original

1 General information

1.1 General information

Applicant	PEAG, LLC dba JLab Audio
Address	5927 LANDAU CT, Carlsbad, CA 92008, United States
Manufacturer	GuangDong Simpreal Intelligent Technology Co., Ltd
Address	Room 2408, JiaHong ZhenXing DaSha, DongGuan Avenue #13, DongCheng District, DongGuan City, GuangDong Province, P.R. China
Factory	GuangDong Simpreal Intelligent Technology Co., Ltd
Address	Room 2408, JiaHong ZhenXing DaSha, DongGuan Avenue #13, DongCheng District, DongGuan City, GuangDong Province, P.R. China

1.2 General description of EUT

Product name	Wireless Mouse
Model no.	Midnight Wireless Mouse
Series model	Midnight Mouse
Differences of Series model	Their identical in circuitry and electrical, mechanical and physical construction; the onlydifferences are the model no. for trading purpose.
Operation Frequency	2402MHz-2480MHz
Modulation Type	GFSK
Rate data	1Mbps; 2Mbps
Channel Spacing	2MHz
Number of Channels	40
Conducted rated power	F1D: 1mW
Antenna Type	PCB antenna
Antenna Gain	-0.71dBi(Provided by customer)
Power supply or adapter information	DC3.7V
Hardware version	VER2.0
Software version	V1.18
Engineer sample no.	BLA-RF-202511-A35

2 Description of Support Units

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	lenovo	E46OC	N/A	From lab（No.BLA-ZC-BS-2022005）
Note:"N/A" mean no any auxiliary device during testing.				

3 Laboratory information

3.1 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia Technical Services (Shenzhen) Co.,Ltd.
Address:	No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Registration No.:	L9788
Telephone:	+86-755-28682673
FAX:	+86-755-28682673
No tests were sub-contracted.	

4 Test summary

Test	Test Requirement	Limit/Severity	Result
Antenna Requirement	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43,B-1 (1)&(2)	PASS
Test frequency	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43, A-3	PASS
Frequency Error	Item 19 of Article 2 Paragraph 1	±50 PPM or less	PASS
Occupied Bandwidth	Item 19 of Article 2 Paragraph 1	Within 26MHz	PASS
Spread-spectrum Bandwidth	Item 19 of Article 2 Paragraph 1	N/A	N/A
Antenna Power	Item 19 of Article 2 Paragraph 1	Designated value: (1)FH, FH+DS , FH+OFDM 3mW/MHz (Used in the range of 2400~2483.5MHz) (2) OFDM , DS other than (1) : 10mW/MHz (3) Other than (1) & (2) 10mW Tolerance: +20%	PASS
Transmission Antenna Gain	Item 19 of Article 2 Paragraph 1		N/A[Note1]
EIRP Antenna Power	Item 19 of Article 2 Paragraph 1		PASS
Transmission Radiation Angle Width (3dB beam-width)	Item 19 of Article 2 Paragraph 1		N/A[Note2]
Spurious Emission of Tx	Item 19 of Article 2 Paragraph 1	(1) Below 2387 MHz : -26dBm/MHz (2) 2387 to 2400 MHz : -16dBm/MHz (3) 2483.5 through 2496.5 MHz : -16dBm/MHz (4) Over 2496.5 MHz : -26dBm/MHz	PASS
Dwell Time	Item 19 of Article 2 Paragraph 1	N/A	N/A
Pseudorandom Frequency Hopping Sequence	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43	N/A
Interference prevention capability	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43	PASS
RF accessibility	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43	PASS
Spurious Emission of Rx	Item 19 of Article 2 Paragraph 1	(1) Below 1 GHz:4nW -54dBm (2) 1GHz or higher:20nW -47dBm	PASS

Remark:
EUT:In this whole report EUT means Equipment Under Test.
Tx:In this whole report Tx (or tx) means the product in transmitting status.
Rx: In this whole report Rx (or rx) means the product in receiving status.
Note1 Antenna gain is -0.71dBi that is lower than 2.14dBi, this test is not applicable.
Note2 The max EIRP power is -2.851dBm (Antenna power dBm + Antenna gain dBi)that is less than 12.14dBm, this test is not applicable.

5 Test equipment

Equipment	Manufacturer	Model	Serial No.	Cal Date	Due Date	Calibration body	Classification
Communication test set test set	Anritsu	MT8852B	06262047872	2025/08/06	2026/08/05	GRGT	(c)
Spectrum Analyzer	Keysight	N9030A	MY52350152	2025/08/06	2026/08/05	GRGT	(c)
Signal Generator	Agilent	E4438C	MY45092582	2025/08/06	2026/08/05	GRGT	(c)
DC regulated power supply	ZHAOXIN	KXN-305D	BLA-EMC-027	2024/9/24	2026/9/23	GRGT	(c)
Power probe	DARE	RPR3006W	14I00889SN042	2025/08/05	2026/08/04	GRGT	(c)
digital multimeter	VICTOR	VICTOR 7	092177978	2025/07/07	2026/07/06	GRGT	(c)
hygrothermograph	MINGLE	TH101B	1020	2025/8/9	2026/8/9	LISAI	(c)

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

Notice: Calibration duration for above equipments is 1 year.

6 Radio Technical Requirements Specification

Table 1: Radio Technical Requirements Specification for 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2 Paragraph 1)

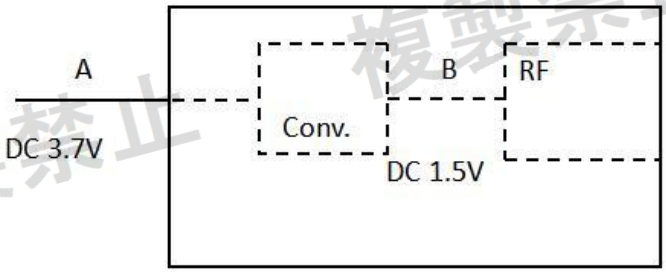
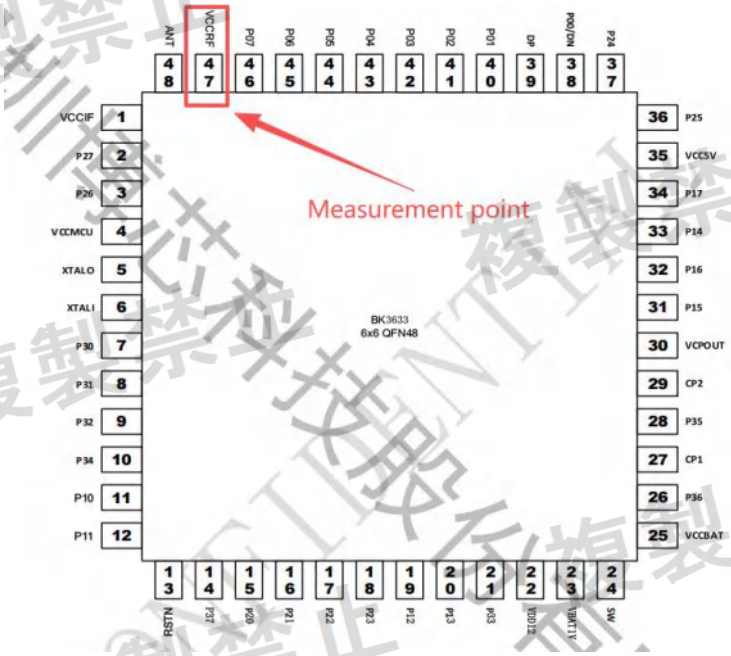
Items	Technical standard
Assigned frequency or designated frequency	2400-2483.5MHz
Communication method	One-way communication, simplex, semi-duplex, or duplex operation of digital signal transmission including spread spectrum
Tolerance of frequency (×10^{-6})	±50PPM
Tolerance of occupied bandwidth	FH: 83.5MHz or less FH + DS: 83.5MHz or less FH + OFDM: 83.5MHz or less OFDM: 38MHz or less Others: 26MHz or less
Antenna power	Designated value (1)FH, FH+DS , FH+OFDM：3mW/MHz (used in the range of 2400 - 2483.5 MHz) (2) OFDM , DS other than (1)：10mW/MHz (3) Other than (1) & (2)：10mW Tolerance ：+20%
Antenna gain	1) 12.14 dBi or less in principle 2) In case of directional antenna (1) FH, FH+DS or FH+OFDM using 2400 - 2483.5 MHz EIRP≤ 16.91 dBm/MHz (2) OFDM or DS other than (1) EIRP≤ 22.14 dBm/MHz (3) Other than (1) and (2): 22.14 dBm or less (4) OFDM OBW 26 - 38MHz: 19.14dBm/MHz (5) Half-power angle of directional antenna (e) in case of the item 2):e≤ 360/A (The A is 10 in maximum.)
Tolerance of spurious emission intensity	(1) Below 2387 MHz: 2.5μW/MHz (2) (2) 2387 to 2400 MHz: 25μW/MHz (3) 2483.5 through 2496.5 MHz: 25μW/MHz (4) (4) Over 2496.5 MHz: 2.5μW/MHz
Spreading bandwidth	N/A
Limit of secondary radiated emissions	(1) Below 1 GHz: 4nW (2) 1 GHz or higher: 20nW
Interference prevention function	Shall have the function of automatic transmission and reception of identification sign.
Structure	Shall be of the structure that the RF and modulator sections excluding antenna cannot easily be opened.
Note	DS: Direct spread FH: Frequency hopping OFDM: Orthogonal frequency division multiplexing

Note: The Technical Standards described here do not cover all of the regulated items.

6.1 Transmitter Requirements

6.1.1 EUT test voltage and Frequency

6.1.1.1 EUT test voltage

Power Supply:	DC 3.7V
Test voltage require:	The power supply is by DC 3.7V from battery. The supply voltage of RF part is varied within +/-1% when DC 3.7V varies at +/-10%, so the DC 3.7V is chosen in the test report.
Power Supply view:	 Test below: 1:The fluctuation of B point is under ±1%,when input voltage from A point to the test equipment is fluctuated by ±10%.
	
Power Supply result:	The measurement result of the voltage fluctuation at RF circuit when 3.7V +/- 10%.

DC INPUT	DCV
3.33V	1.5
3.7V	1.5
4.07V	1.5

Test condition	Ambient		
	Temperature(℃)	Humidity(%)	Voltage(V)
NTNV	24	48	DC3.7V
NTLV	N/A	N/A	N/A
NTHV	N/A	N/A	N/A

6.1.1.2 Test frequency

Test frequencies:	If the EUT can be set to 3 of more different (carrier) frequencies in 1 allocated band, testing shall be performed using the Lowest, Middle and the Highest frequency (L,M and H). If there are 2 or fewer frequencies, testing shall be performed with the available frequencies.

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top. 1 near middle and 1 near bottom

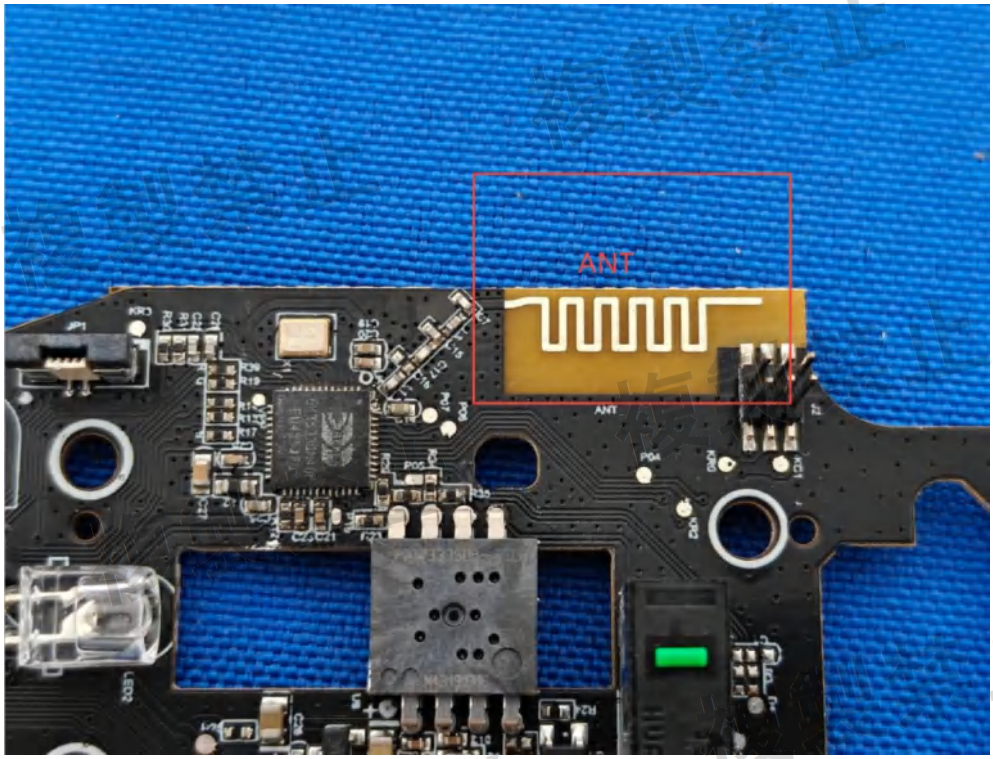
EUT channels and frequencies list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

Test frequencies are the lowest channel: 0 channel (2402 MHz), Middle channel, 19 channel (2440 MHz) and highest channel: 39channel (2480 MHz).

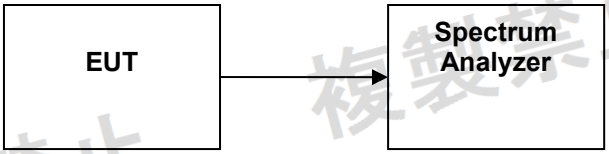
6.2 Antenna Requirement

Standard requirement
Applicable for equipment with an antenna terminal, including testing terminals) If an antenna connector is available, all relevant tests will be carried out conducted. If not, tests will be carried out in an anechoic room or with a suitable test-fixture.
EUT Antenna
The antenna is PCB Antenna. The best case gain of the antenna is -0.71dBi



Result: An antenna connector is available; all relevant tests will be carried out conducted.

6.3 Frequency Error

Test Requirement:	Item 19 of Article 2 Paragraph 1		
Test Method:	MIC Notice No.88 Appendix No.43		
EUT Operation:			
Ambient:	Temp.: 24°C	Humid.: 46%	Press.: 1010mbar
Test Status:	Test the EUT in transmitting mode without modulation. Test in Channel lowest (2402MHz), middle (2440MHz) and highest (2480MHz), keep in continuously transmitting status.		
Test Configuration:			
Test Conditions:	Frequency Counter or Spectrum Analyzer is used for measurement.		
EUT conditions:	Modulation/Spread/Hopping off, CW Tx If EUT does not accept “Modulation OFF” mode in the measurement, you may use “Modulation ON” mode. In that case you can use the Max power Frequency as the measuring results.		
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 1MHz RBW 10KHz VBW 10KHz Sweep Time Auto Detector mode Positive peak Indication mode Max hold		
Technical standard:	Tolerance of frequency: $\pm 50\times 10^{-6}$		
Test result:	PASS		

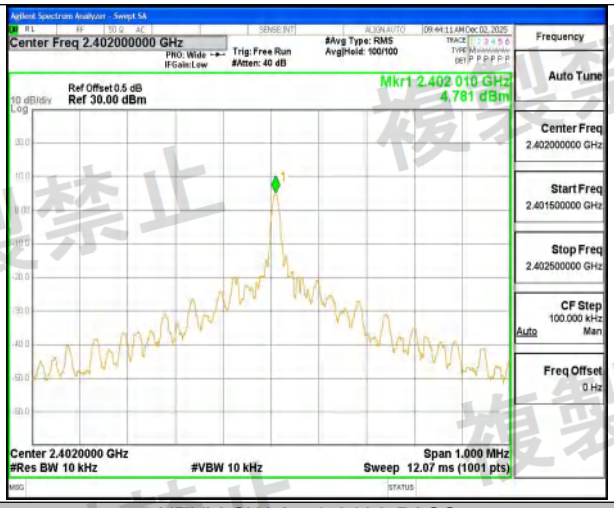
Measurement Record: **Uncertainty: ± 10Hz**

Test Result

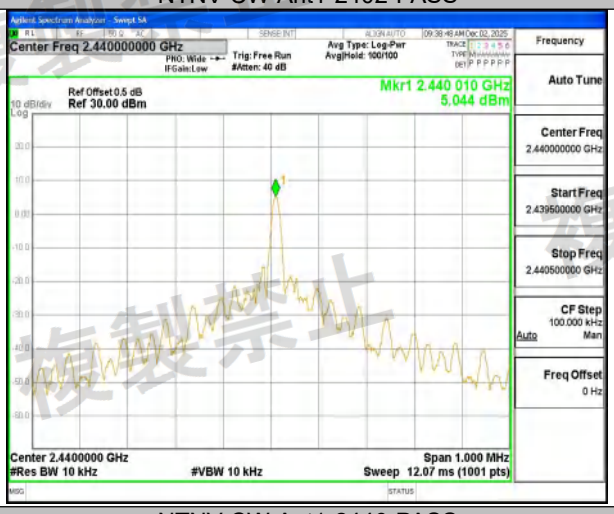
TestCondition	TestMode	Antenna	Freq(MHz)	CenterFreq [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Unmodulated	Ant1	2402	2402.01	4.16320	±50	PASS
			2440	2440.01	4.09836	±50	PASS
			2480	2480.01	4.03226	±50	PASS

Result plot as follows:

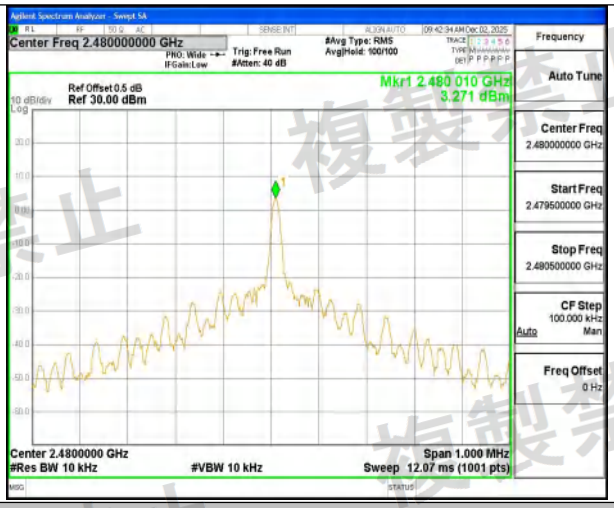
Test Graphs



NTNV-CW-Ant1-2402-PASS

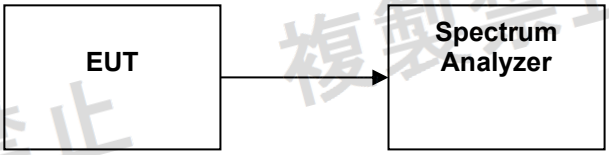


NTNV-CW-Ant1-2440-PASS



NTNV-CW-Ant1-2480-PASS

6.4 Occupied Bandwidth (99%)

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Operation:	
Ambient:	Temp.: 24°C Humid.: 46% Press.: 1010mbar
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listedbelow.
Test Configuration:	
EUT conditions:	Modulation/Spread/Hopping on, Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding testsignal.
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 3MHz or 6MHz RBW 100KHz VBW 300KHz Sweep Time Auto detector mode Positive peak Indication mode Max hold OBW 99%
Technical standard:	Within 26MHz
Test result:	PASS

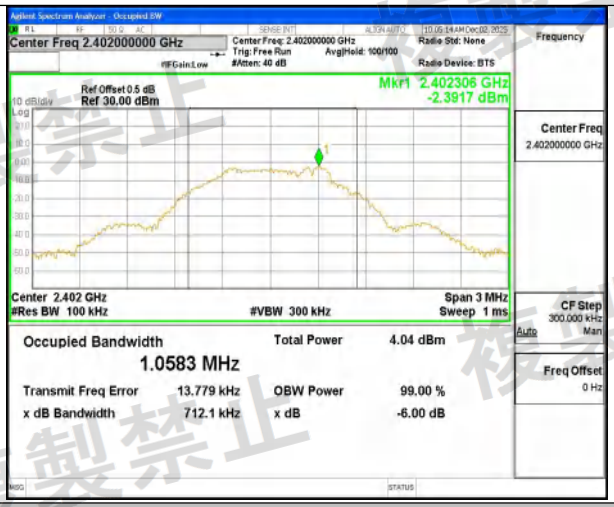
Measurement Record: **Uncertainty: ± 10KHz**

Test Result

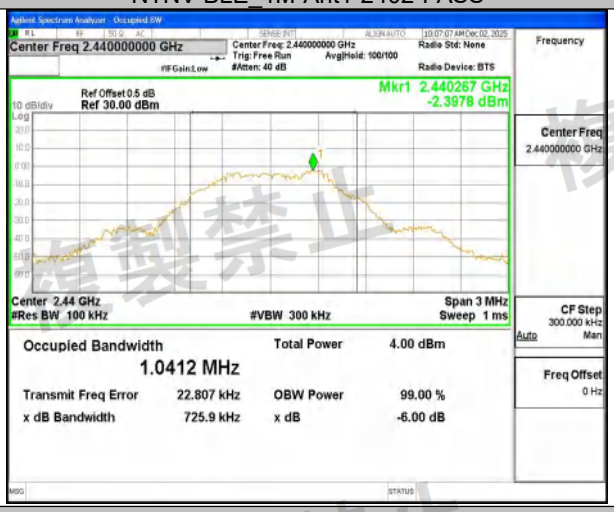
TestCondition	TestMode	Antenna	Channel	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.058	≤26	PASS
			2440	1.041	≤26	PASS
			2480	1.042	≤26	PASS
NTNV	BLE_2M	Ant1	2402	2.024	≤26	PASS
			2440	2.063	≤26	PASS
			2480	2.039	≤26	PASS

Result plot as follows:

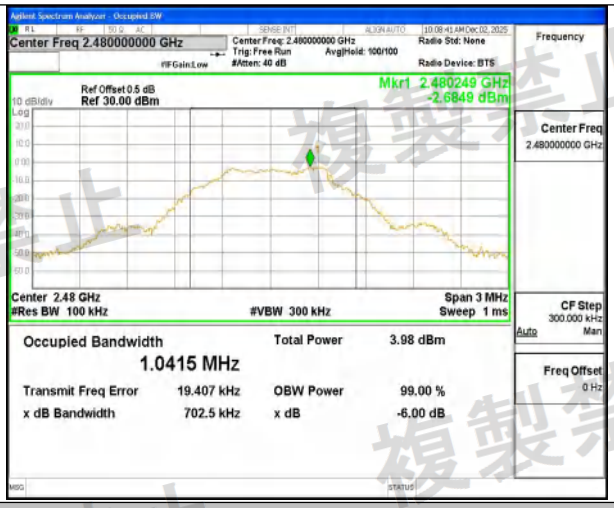
Test Graphs



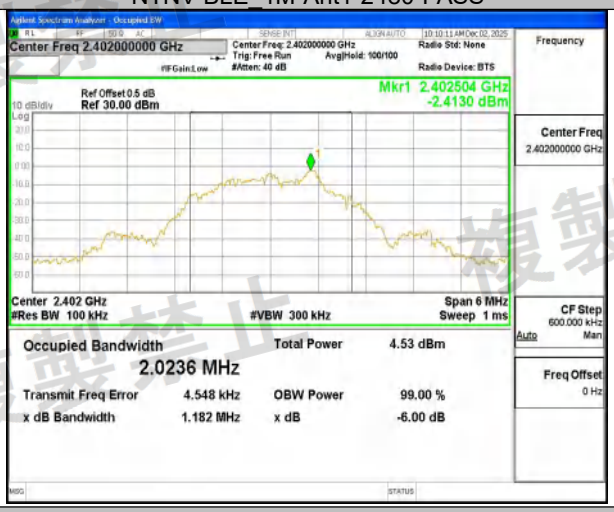
NTNV-BLE_1M-Ant1-2402-PASS



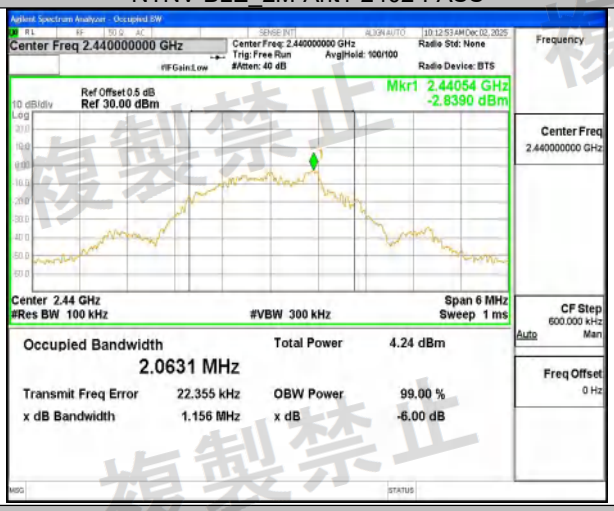
NTNV-BLE_1M-Ant1-2440-PASS



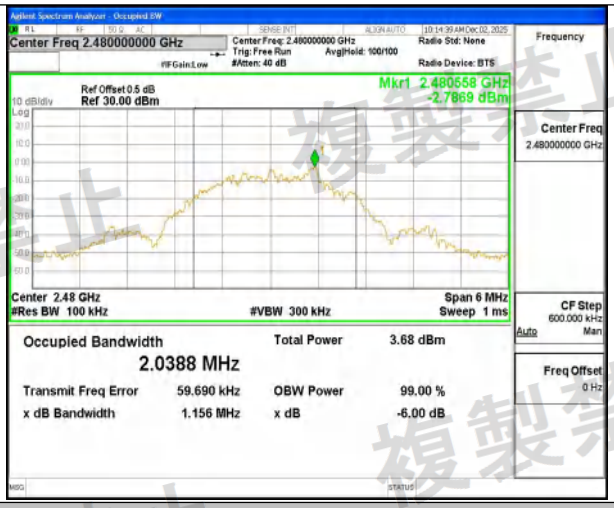
NTNV-BLE_1M-Ant1-2480-PASS



NTNV-BLE_2M-Ant1-2402-PASS

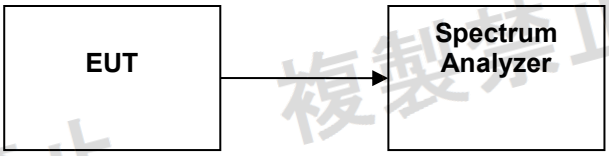


NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS

6.5 Spread spectrum Bandwidth (90%)

Test Requirement:	Item 19 of Article 2 Paragraph 1		
Test Method:	MIC Notice No.88 Appendix No.43		
Ambient:	Temp.: 24°C	Humid.: 50%	Press.: 1010mbar
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listedbelow.		
Test Configuration:			
EUT conditions:	Modulation/Spread/Hopping on, Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding testsignal.		
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 3MHz or 6MHz RBW 100KHz VBW 300KHz Sweep Time Auto detector mode Positive peak Indication mode Max hold OBW 90%		
Technical standard:	N/A		
Test result:	N/A		

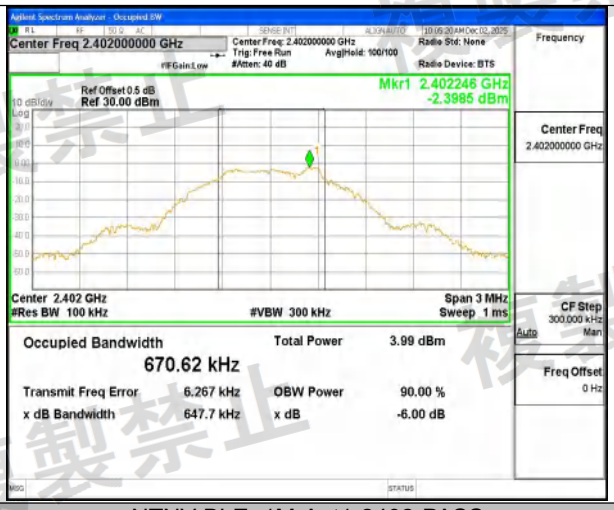
Measurement Record: **Uncertainty: ± 10KHz**

Test Result

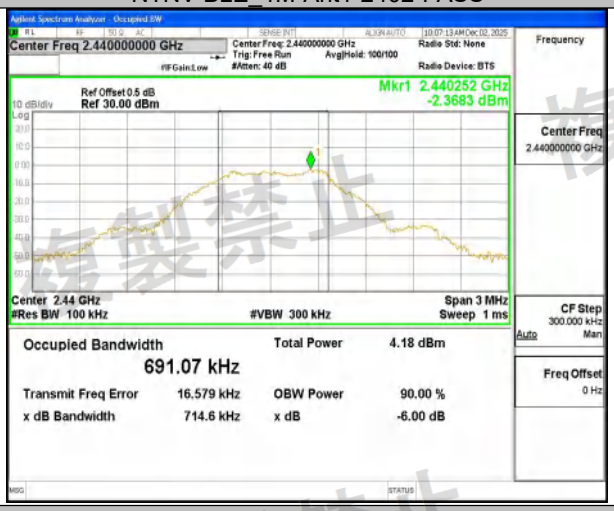
TestCondition	TestMode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.671	N/A	N/A
			2440	0.691	N/A	N/A
			2480	0.679	N/A	N/A
NTNV	BLE_2M	Ant1	2402	1.270	N/A	N/A
			2440	1.280	N/A	N/A
			2480	1.275	N/A	N/A

Result plot as follows:

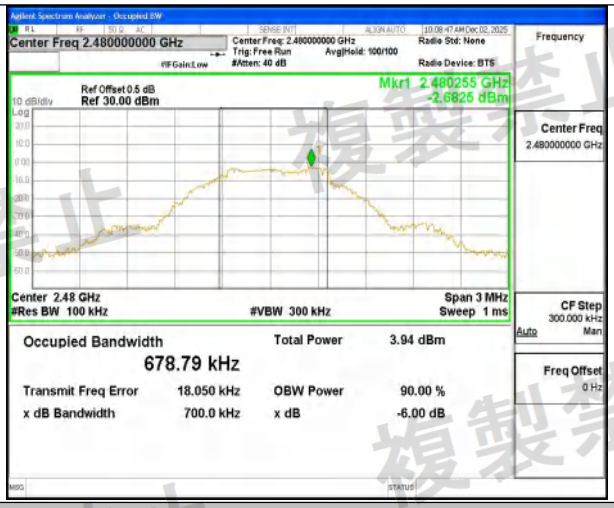
Test Graphs



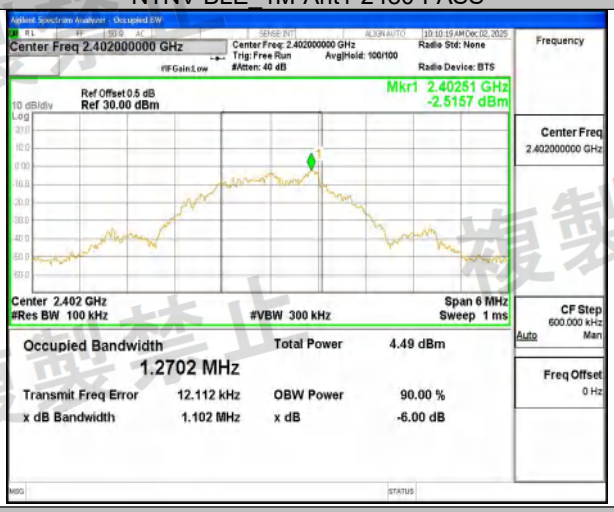
NTNV-BLE_1M-Ant1-2402-PASS



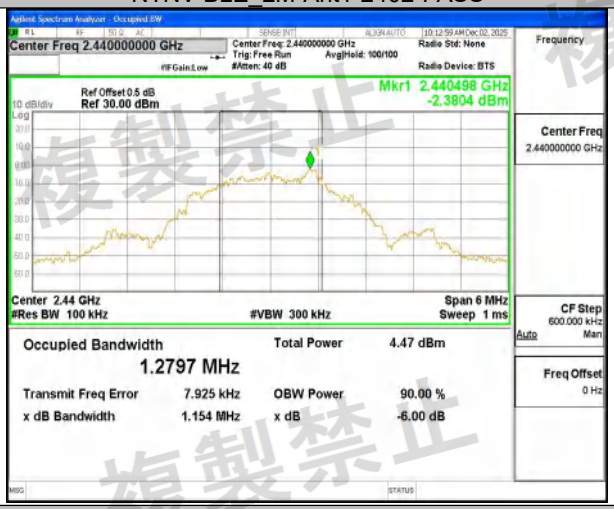
NTNV-BLE_1M-Ant1-2440-PASS



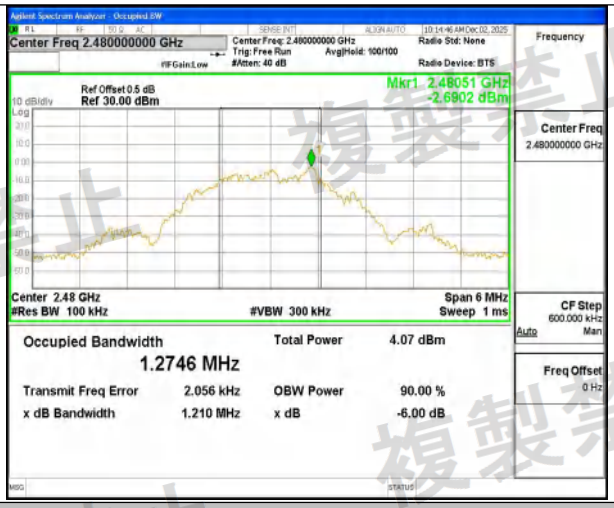
NTNV-BLE_1M-Ant1-2480-PASS



NTNV-BLE_2M-Ant1-2402-PASS

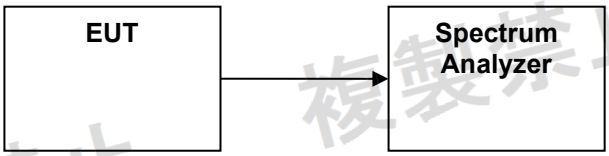


NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS

6.6 Antenna Power

Test Requirement:	Item 19 of Article 2 Paragraph 1		
Test Method:	MIC Notice No.88 Appendix No.43		
Ambient:	Temp.: 24°C	Humid.: 50%	Press.: 1010mbar
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.		
Test Configuration:			
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding testsignal.		
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 10MHz RBW 3MHz(More than 99% bandwidth) VBW 3MHz Sweep Time Auto Detector mode Positive peak Indication mode Max hold		
Technical standard:	Antenna Power (1) FH, FH+DS , FH+OFDM 3mW/MHz or less (used in the range of 2400- 2483.5 MHz) (2) OFDM , DS other than (1) 10mW/MHz or less (3) Other than (1) & (2) 10mW or less Tolerance: ＋20%		
Test result:	PASS		

Measurement Record: **Uncertainty: ± 10 kHz / ±1dB**

Test Result

Test Condition	Test Mode	Antenna	Channel	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	-2.176	0.606	≤10	PASS
			2440	-2.309	0.588	≤10	PASS
			2480	-2.478	0.565	≤10	PASS
NTNV	BLE_2M	Ant1	2402	-2.141	0.611	≤10	PASS
			2440	-2.276	0.592	≤10	PASS
			2480	-2.458	0.568	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Channel	Power (mW)	RatedPower (mW)	Result(%)	Limit(%)	Verdict
NTNV	BLE_1M	Ant1	2402	0.606	1.0	-39.41	+20	PASS
			2440	0.588	1.0	-41.24	+20	PASS
			2480	0.565	1.0	-43.48	+20	PASS
NTNV	BLE_2M	Ant1	2402	0.611	1.0	-38.92	+20	PASS
			2440	0.592	1.0	-40.79	+20	PASS
			2480	0.568	1.0	-43.22	+20	PASS

EIRP						
Test Condition	Test Mode	Antenna	Channel	Result(dBm)	Limit(dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	-2.886	≤12.14	PASS
			2440	-3.019	≤12.14	PASS
			2480	-3.188	≤12.14	PASS
NTNV	BLE_2M	Ant1	2402	-2.851	≤12.14	PASS
			2440	-2.986	≤12.14	PASS
			2480	-3.168	≤12.14	PASS

Remark:

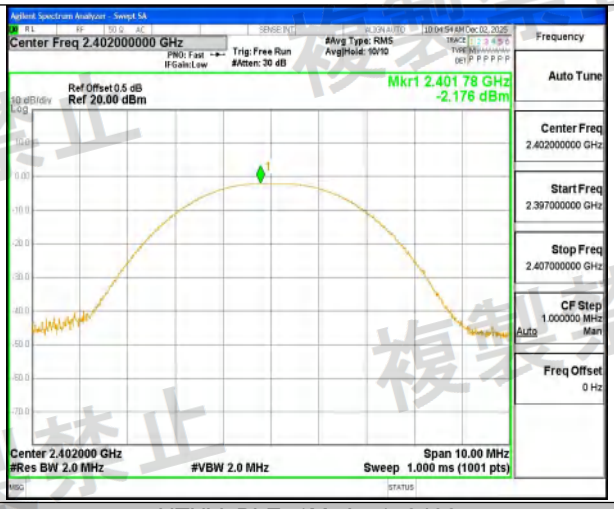
Conducted rated power:F1D: 1 mW

Tolerance (%) :[(test value- rate power)/rater power]*100

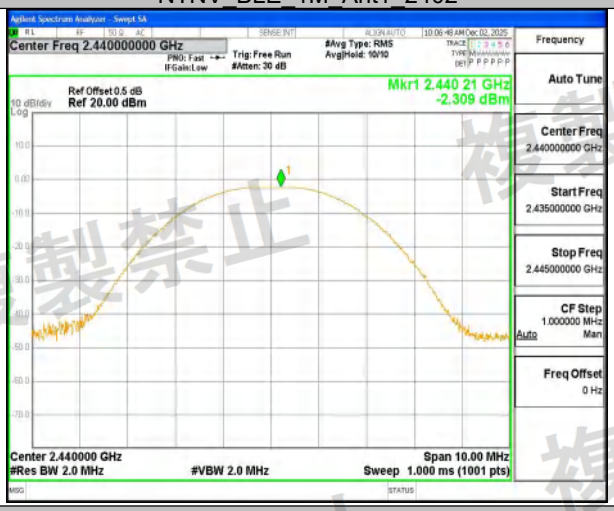
EIRP= antenna power in dBm+ gain in dBi

Result plot as follows:

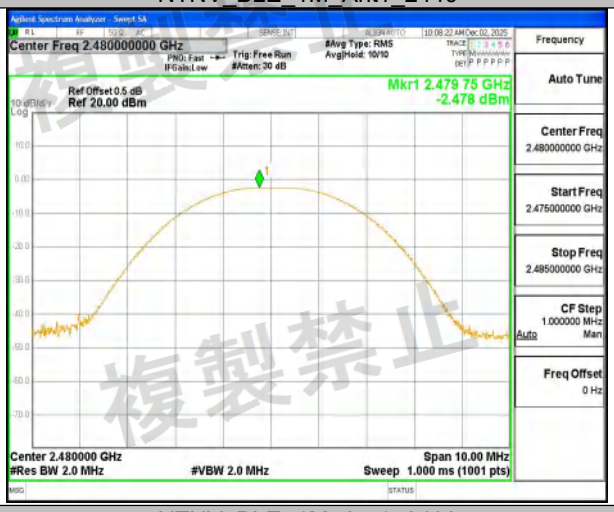
Test Graphs



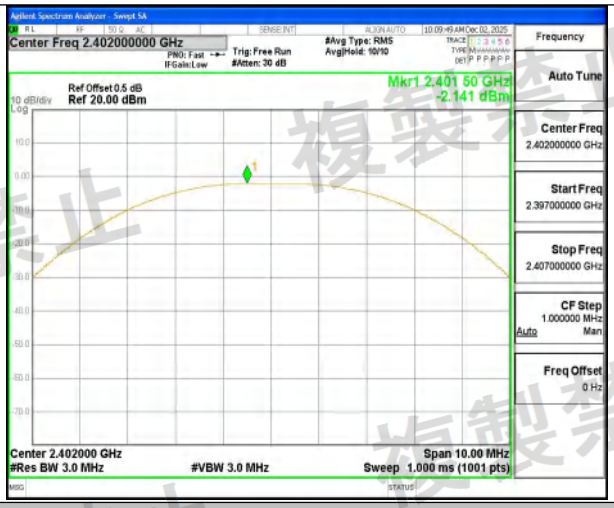
NTNV_BLE_1M_Ant1_2402



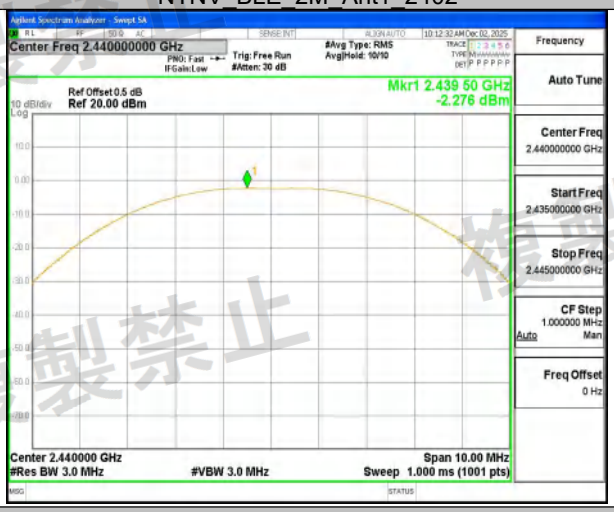
NTNV_BLE_1M_Ant1_2440



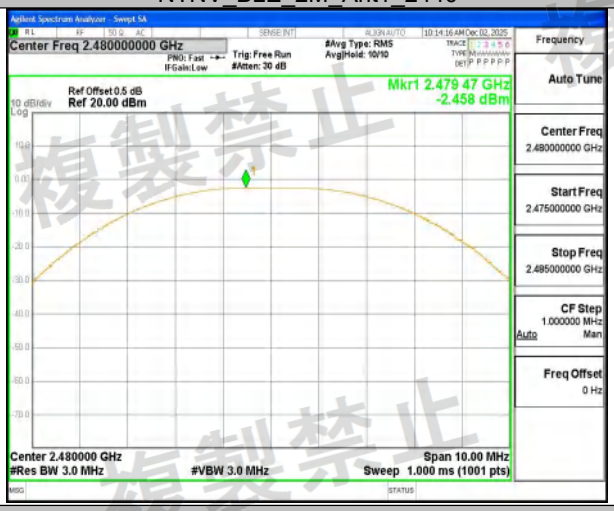
NTNV_BLE_1M_Ant1_2480



NTNV_BLE_2M_Ant1_2402

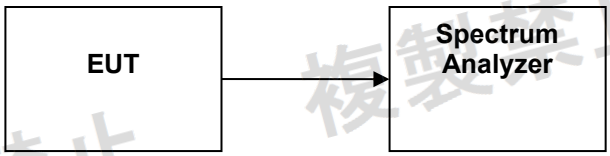


NTNV_BLE_2M_Ant1_2440



NTNV_BLE_2M_Ant1_2480

6.7 Spurious Emissions of Tx

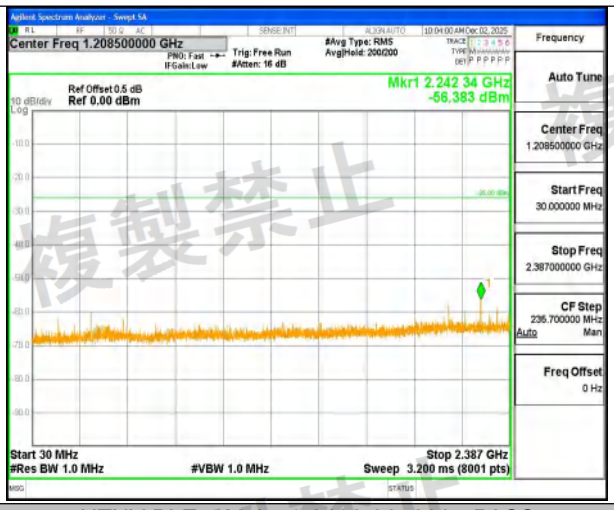
Test Requirement:	Item 19 of Article 2 Paragraph 1		
Test Method:	MIC Notice No.88 Appendix No.43		
EUT Operation:			
Ambient:	Temp.: 24°C	Humid.: 46%	Press.: 1010mbar
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.		
Test Configuration:			
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding testsignal.		
Measurement Procedure:	Step1 All spurious are measured from 30MHz to 13GHz by peak mode.		
Spectrum Analyzer conditions(Step 1):	Frequency: 30MHz – 2400MHz , 2483.5MHz –13GHz RBW 1000kHz (30 – 1GHz) , 1000KHz (over 1GHz) VBW 1000kHz (30 – 1GHz) , 1000KHz (over 1GHz) Sweep Time Auto detector mode Positive peak Indication mode Max hold		
Spectrum Analyzer conditions(Step 2):	Frequency: Spurious Frequency Span 0Hz RBW 1MHz VBW 1MHz Sweep Time Auto Detector: RMS Indication mode Max hold		
Technical standard:	(1) Below 2387 MHz : 2.5μW/MHz;-26dbm/Mhz (2) 2387 to 2400 MHz : 25μW/MHz;-16dbm/Mhz (3) 2483.5 through 2496.5 MHz : 25μW/MHz;-16dbm/Mhz (4) Over 2496.5 MHz : 2.5μW/MHz;-26dbm/Mhz		
Test result:	PASS		

Measurement Record: **Uncertainty:** **±1dB**

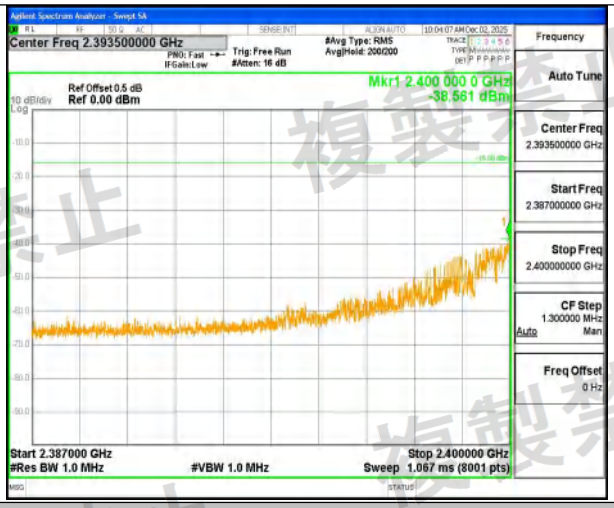
Test Result

TestCondition	TestMode	Antenna	Channel (MHz)	Freq.Range [MHz]	Freq [MHz]	Result [dBm/ MHz]	Limit [dBm/ MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	30~2387	2242.34	-56.38	≤-26	PASS
NTNV	BLE_1M	Ant1	2402	2387~2400	2400.00	-38.56	≤-16	PASS
NTNV	BLE_1M	Ant1	2402	2483.5~2496.5	2484.28	-61.98	≤-16	PASS
NTNV	BLE_1M	Ant1	2402	2496.5~13000	7205.45	-30.48	≤-26	PASS
NTNV	BLE_1M	Ant1	2440	30~2387	2280.05	-56.45	≤-26	PASS
NTNV	BLE_1M	Ant1	2440	2387~2400	2388.02	-61.31	≤-16	PASS
NTNV	BLE_1M	Ant1	2440	2483.5~2496.5	2492.28	-62.57	≤-16	PASS
NTNV	BLE_1M	Ant1	2440	2496.5~13000	7319.42	-33.98	≤-26	PASS
NTNV	BLE_1M	Ant1	2480	30~2387	2320.41	-56.27	≤-26	PASS
NTNV	BLE_1M	Ant1	2480	2387~2400	2399.72	-57.26	≤-16	PASS
NTNV	BLE_1M	Ant1	2480	2483.5~2496.5	2483.56	-51.79	≤-16	PASS
NTNV	BLE_1M	Ant1	2480	2496.5~13000	7441.27	-35.83	≤-26	PASS
NTNV	BLE_2M	Ant1	2402	30~2387	2242.04	-56.33	≤-26	PASS
NTNV	BLE_2M	Ant1	2402	2387~2400	2400.00	-24.68	≤-16	PASS
NTNV	BLE_2M	Ant1	2402	2483.5~2496.5	2494.95	-61.71	≤-16	PASS
NTNV	BLE_2M	Ant1	2402	2496.5~13000	7204.93	-30.56	≤-26	PASS
NTNV	BLE_2M	Ant1	2440	30~2387	2280.35	-56.02	≤-26	PASS
NTNV	BLE_2M	Ant1	2440	2387~2400	2391.21	-62.48	≤-16	PASS
NTNV	BLE_2M	Ant1	2440	2483.5~2496.5	2496.50	-61.92	≤-16	PASS
NTNV	BLE_2M	Ant1	2440	2496.5~13000	7321.52	-34.04	≤-26	PASS
NTNV	BLE_2M	Ant1	2480	30~2387	2320.71	-56.32	≤-26	PASS
NTNV	BLE_2M	Ant1	2480	2387~2400	2399.71	-57.55	≤-16	PASS
NTNV	BLE_2M	Ant1	2480	2483.5~2496.5	2483.58	-45.64	≤-16	PASS
NTNV	BLE_2M	Ant1	2480	2496.5~13000	7441.80	-35.87	≤-26	PASS

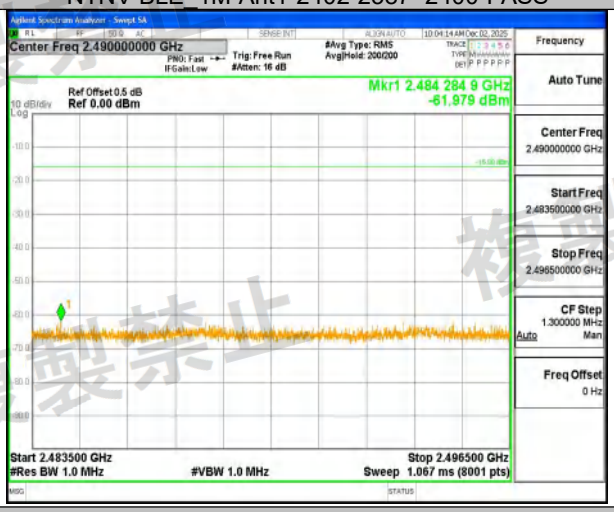
Test Graphs



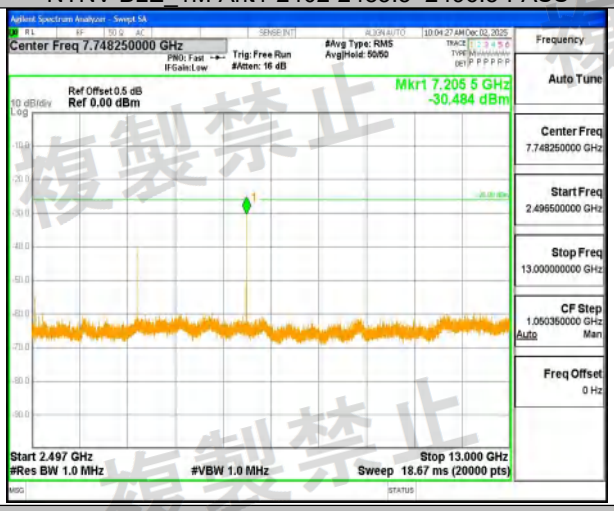
NTNV-BLE_1M-Ant1-2402-30~2387-PASS



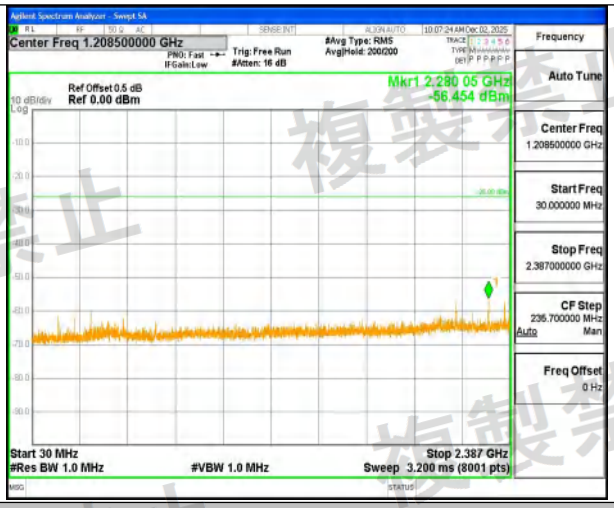
NTNV-BLE_1M-Ant1-2402-2387~2400-PASS



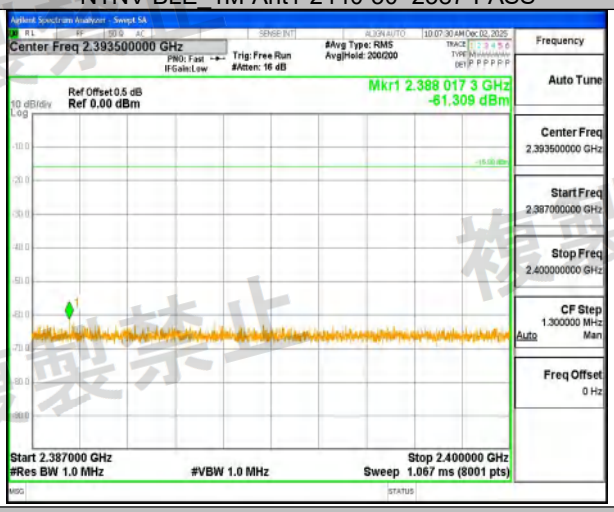
NTNV-BLE_1M-Ant1-2402-2483.5~2496.5-PASS



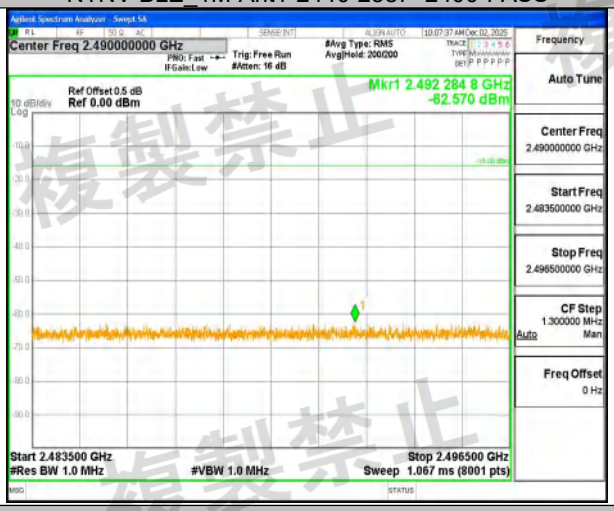
NTNV-BLE_1M-Ant1-2402-2496.5~13000-PASS



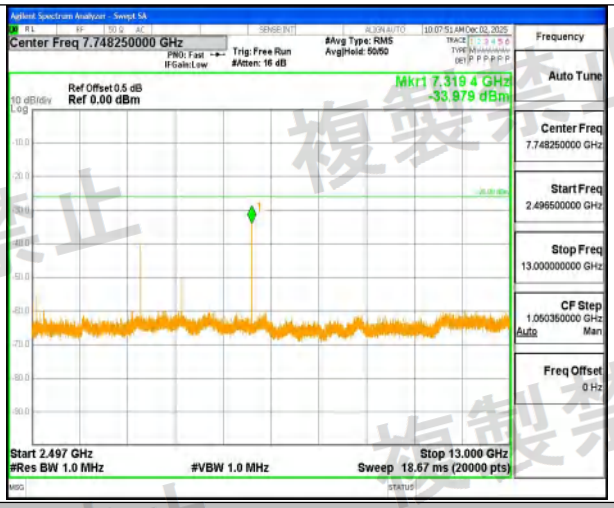
NTNV-BLE_1M-Ant1-2440-30~2387-PASS



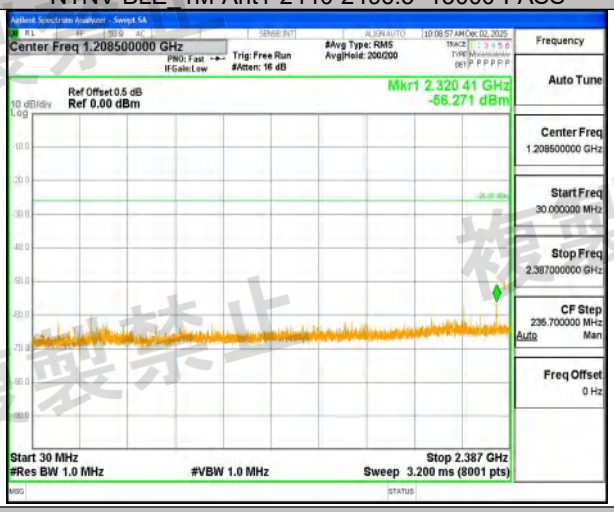
NTNV-BLE_1M-Ant1-2440-2387~2400-PASS



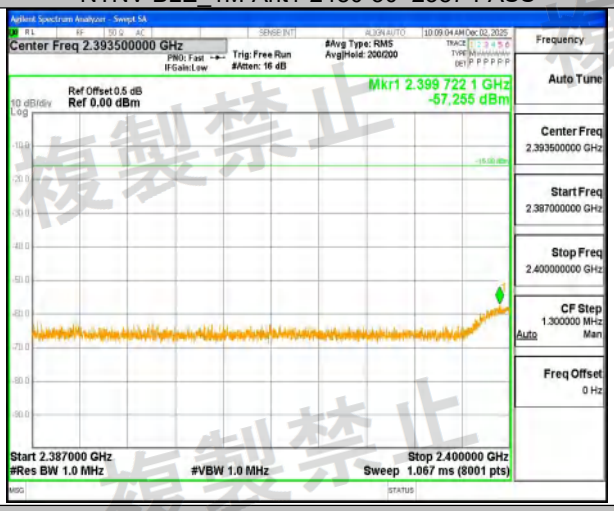
NTNV-BLE_1M-Ant1-2440-2483.5~2496.5-PASS



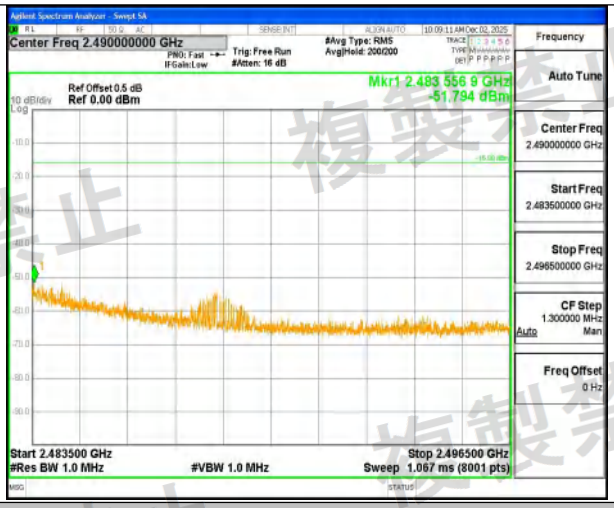
NTNV-BLE_1M-Ant1-2440-2496.5~13000-PASS



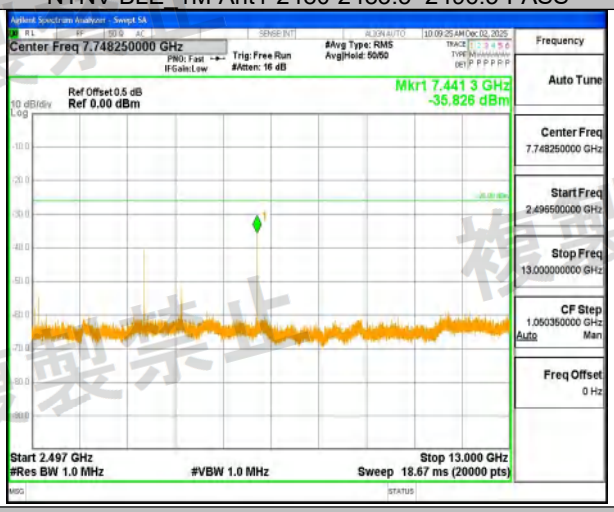
NTNV-BLE_1M-Ant1-2480-30~2387-PASS



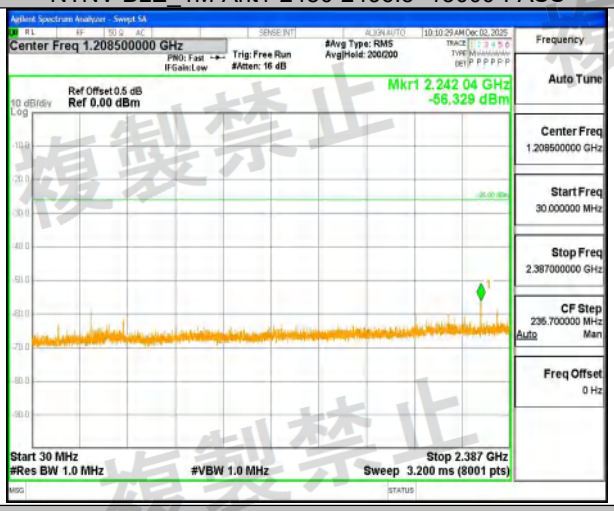
NTNV-BLE_1M-Ant1-2480-2387~2400-PASS



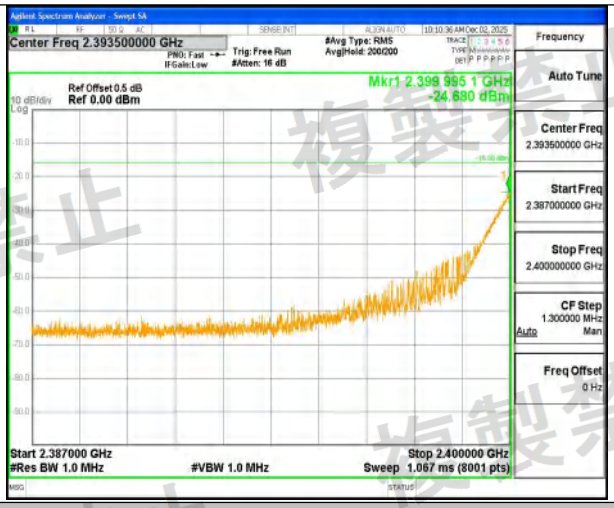
NTNV-BLE_1M-Ant1-2480-2483.5~2496.5-PASS



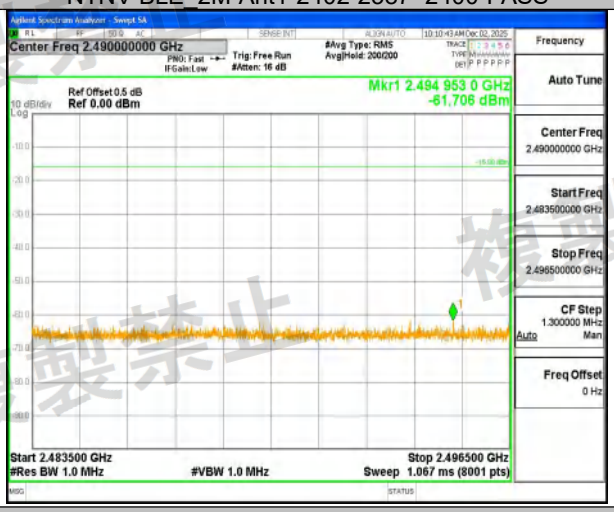
NTNV-BLE_1M-Ant1-2480-2496.5~13000-PASS



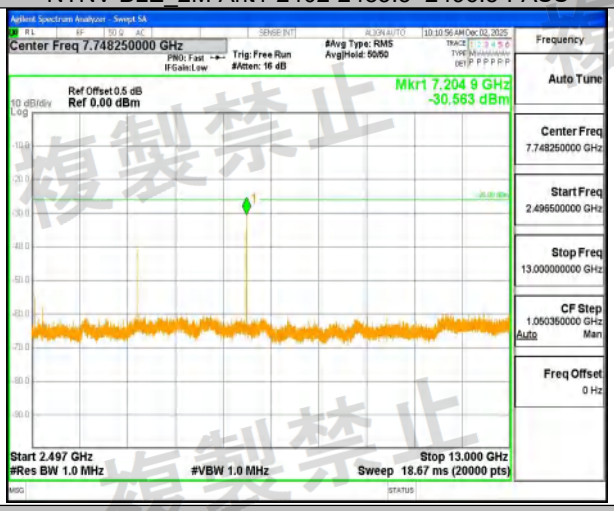
NTNV-BLE_2M-Ant1-2402-30~2387-PASS



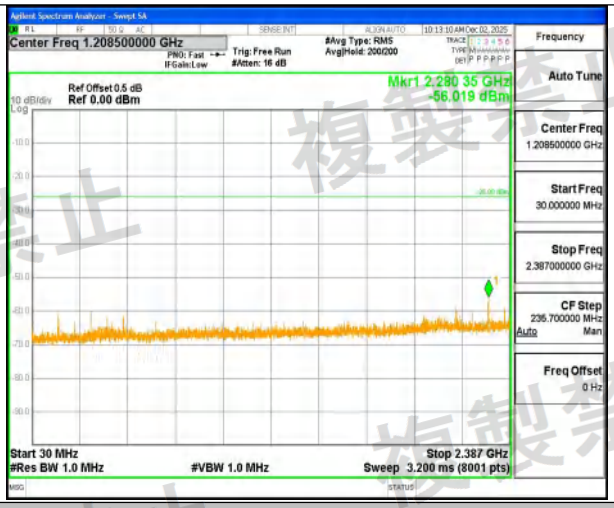
NTNV-BLE_2M-Ant1-2402-2387~2400-PASS



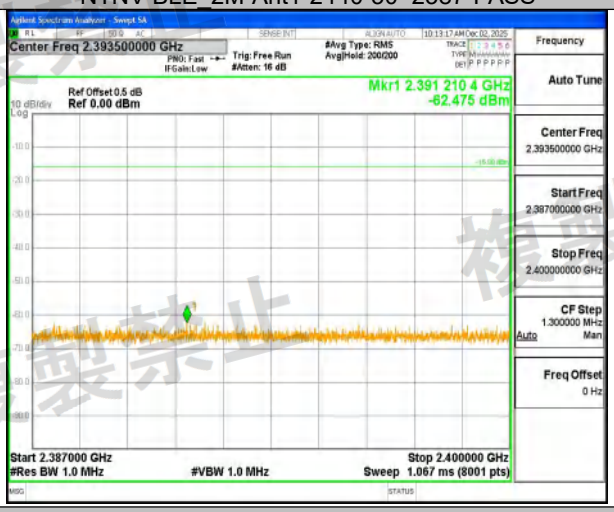
NTNV-BLE_2M-Ant1-2402-2483.5~2496.5-PASS



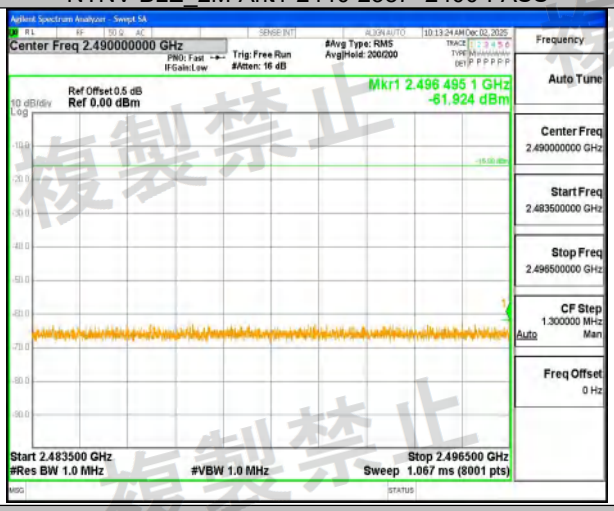
NTNV-BLE_2M-Ant1-2402-2496.5~13000-PASS



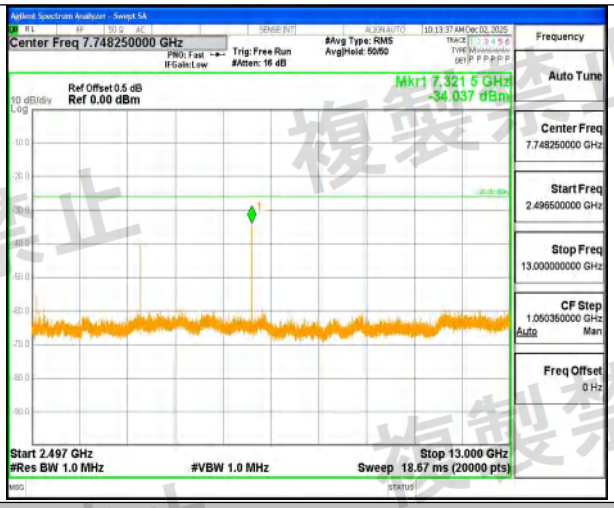
NTNV-BLE_2M-Ant1-2440-30~2387-PASS



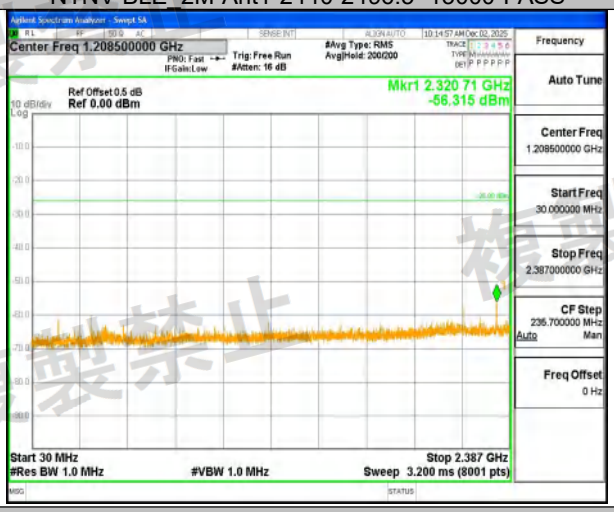
NTNV-BLE_2M-Ant1-2440-2387~2400-PASS



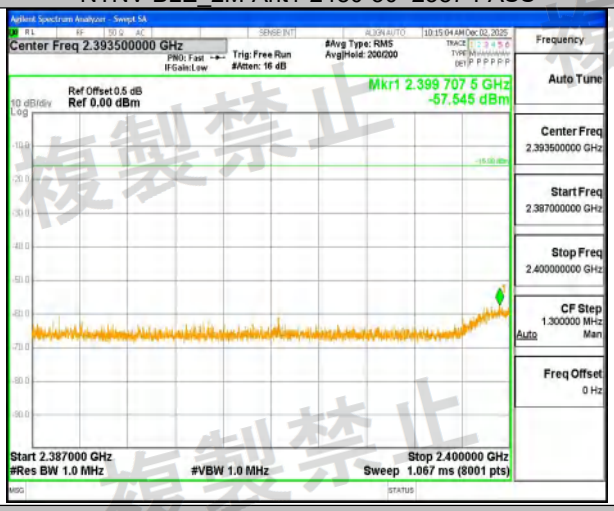
NTNV-BLE_2M-Ant1-2440-2483.5~2496.5-PASS



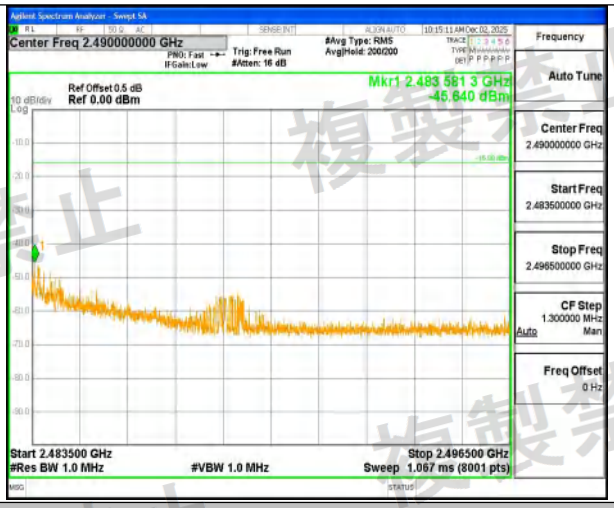
NTNV-BLE_2M-Ant1-2440-2496.5~13000-PASS



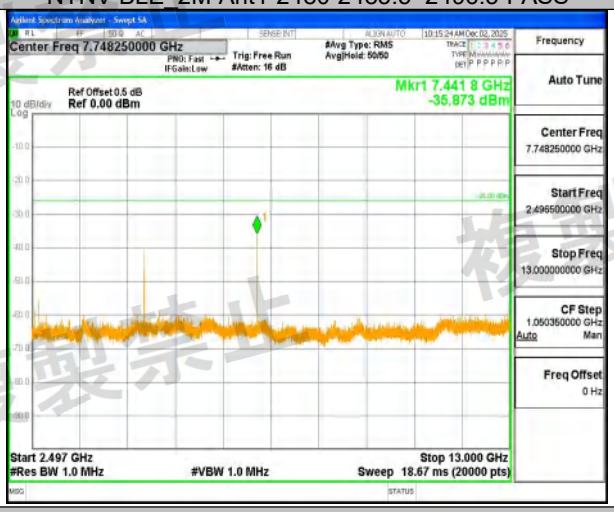
NTNV-BLE_2M-Ant1-2480-30~2387-PASS



NTNV-BLE_2M-Ant1-2480-2387~2400-PASS



NTNV-BLE_2M-Ant1-2480-2483.5~2496.5-PASS



NTNV-BLE_2M-Ant1-2480-2496.5~13000-PASS

6.8 Interference prevention function

1) Measurement system diagram

(1) When transmitting identification code

2)Condition of measuring instrument

(1) Demodulator must be able to demodulate the transmitting signal emitted by test equipment and to indicate the identification code.

3)Condition of test equipment The mode of normal use.

4) Measuring operation procedure

(1) When test equipment has the function to transmit identification code automatically:

A)Transmit the predetermined identification code from test equipment.

B)Confirm the transmitted identification code by demodulator.

MAC Address:03 12 24 14 55 dc

5)Test result: The unit does meet the requirements (Good).

Test result: PASS

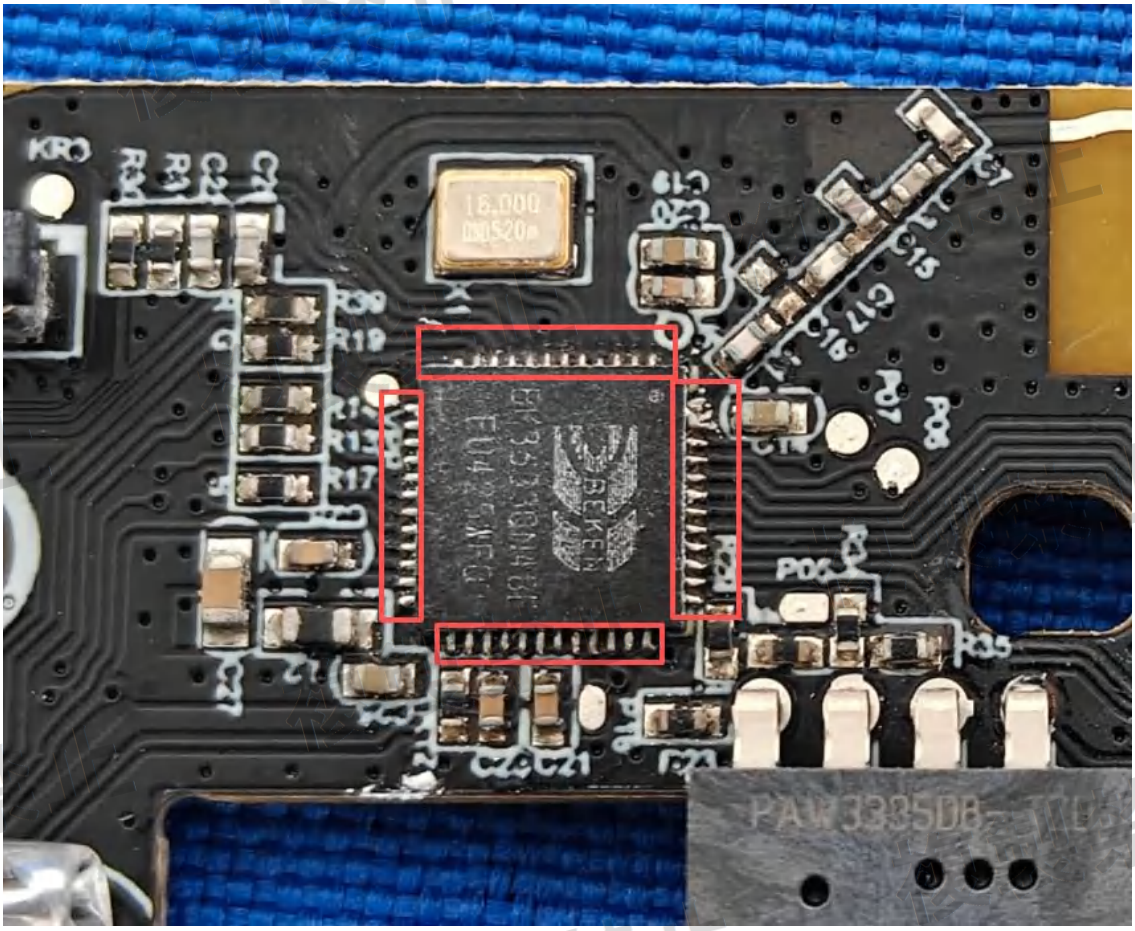
6.9 RF accessibility

Standard requirement

Article 49-20, paragraph 1 (a)

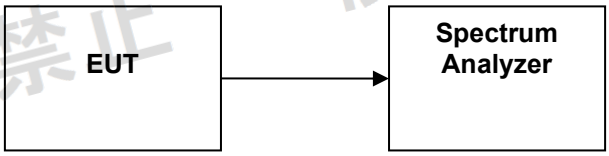
The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

RF and Modulation parts are mounted on PCB with surface mount technology, and The product cannot be modified and once disassembled, it will not be usable.The number of IC pins is 48, and the interval is less than 1.5mm



7 Receiver Requirements

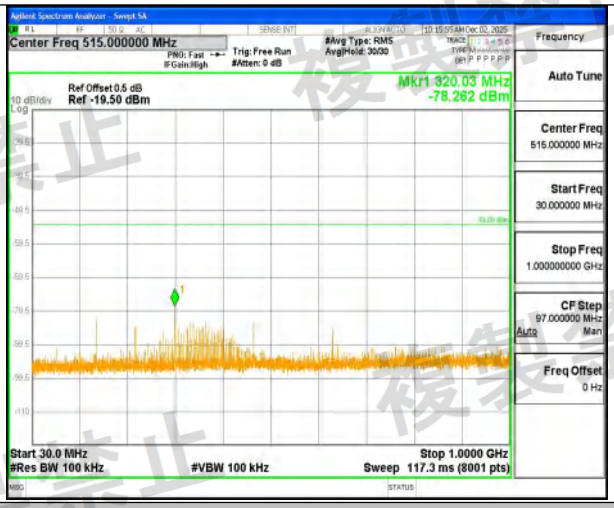
7.1 Spurious Emissions of Rx

Test Requirement:	Item 19 of Article 2 Paragraph 1		
Test Method:	MIC Notice No.88 Appendix No.43		
EUT Operation:			
Ambient:	Temp.: 24°C	Humid.: 46%	Press.: 1010
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.		
Test Configuration:			
EUT conditions:	Rx		
Measurement Procedure:	Step1 All spurious are measured from 30MHz to 13 GHz by peak mode. Step2 IF the value measured by Step1 is exceed the limit of 1/10, measure in average mode.		
Spectrum Analyzer conditions(Step 1):	30MHz – 1GHz , 1GHz – 13GHz RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) Sweep Time Auto detector mode Positive peak Indication mode Max hold		
Spectrum Analyzer Conditions(Step 2):	Frequency: Spurious Frequency Span 0 Hz RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) Sweep Time Auto Detector: RMS Indication mode Max hold		
Technical standard:	(1) Below 1 GHz : 4 nW or less;-54dbm (2) 1 GHz and over : 20 nW or less;-47dbm		
Test result:	PASS		

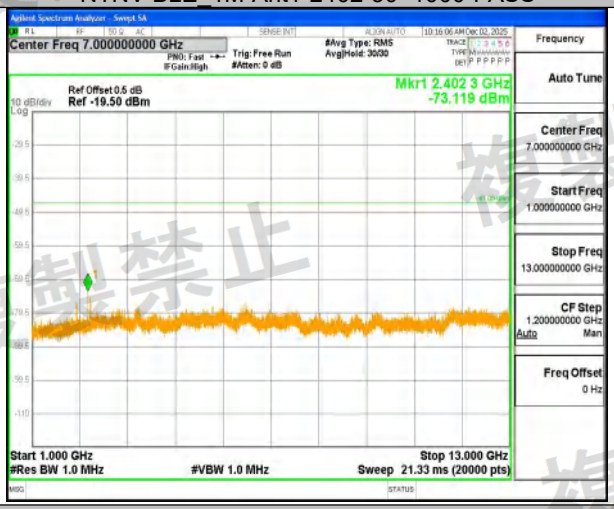
7.1.1 Test Result

TestCondition	TestMode	Antenna	Channel (MHz)	Freq.Range [MHz]	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	320.03	-78.26	≤-54	PASS
NTNV	BLE_1M	Ant1	2402	1000~13000	2402.27	-73.12	≤-47	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	320.03	-77.73	≤-54	PASS
NTNV	BLE_1M	Ant1	2440	1000~13000	2460.47	-75.04	≤-47	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	320.03	-77.85	≤-54	PASS
NTNV	BLE_1M	Ant1	2480	1000~13000	2480.27	-65.75	≤-47	PASS
NTNV	BLE_2M	Ant1	2402	30~1000	320.03	-78.30	≤-54	PASS
NTNV	BLE_2M	Ant1	2402	1000~13000	2597.28	-70.39	≤-47	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	320.03	-77.66	≤-54	PASS
NTNV	BLE_2M	Ant1	2440	1000~13000	2464.07	-73.51	≤-47	PASS
NTNV	BLE_2M	Ant1	2480	30~1000	320.03	-78.26	≤-54	PASS
NTNV	BLE_2M	Ant1	2480	1000~13000	5751.04	-73.61	≤-47	PASS

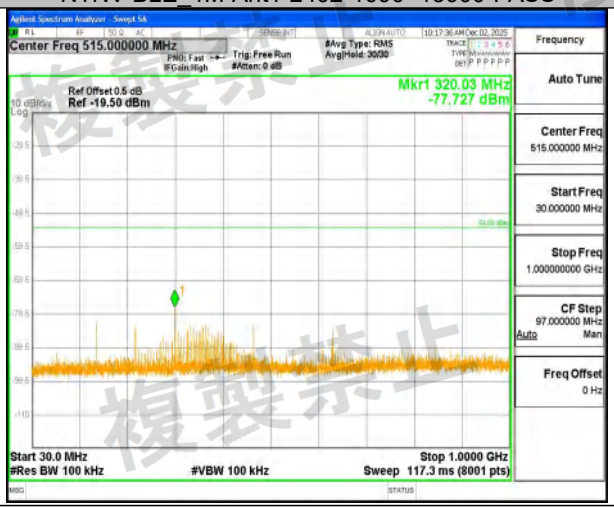
7.1.2 Test Graphs



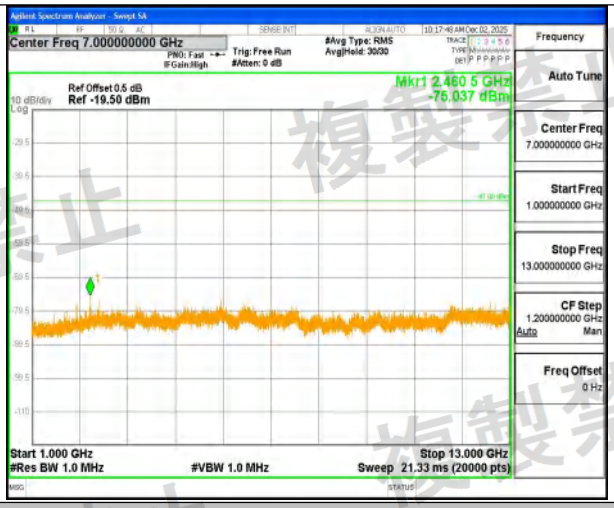
NTNV-BLE_1M-Ant1-2402-30~1000-PASS



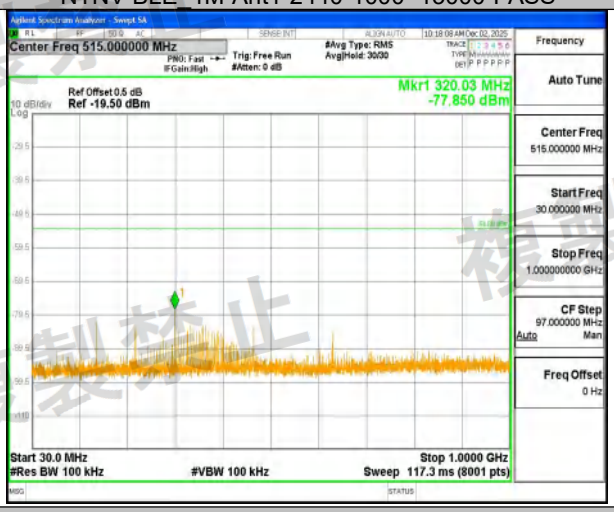
NTNV-BLE_1M-Ant1-2402-1000~13000-PASS



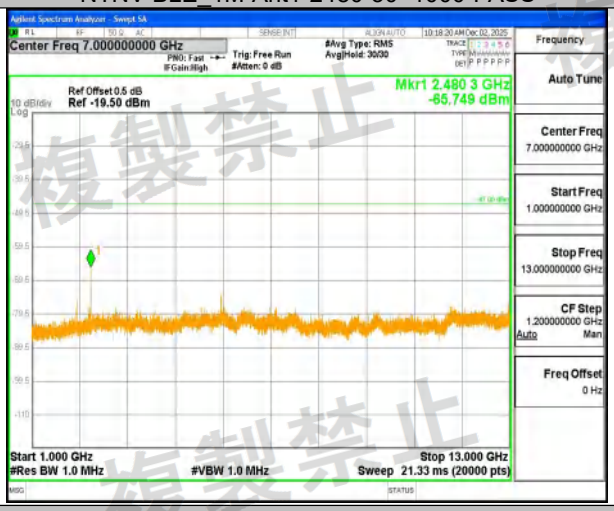
NTNV-BLE_1M-Ant1-2440-30~1000-PASS



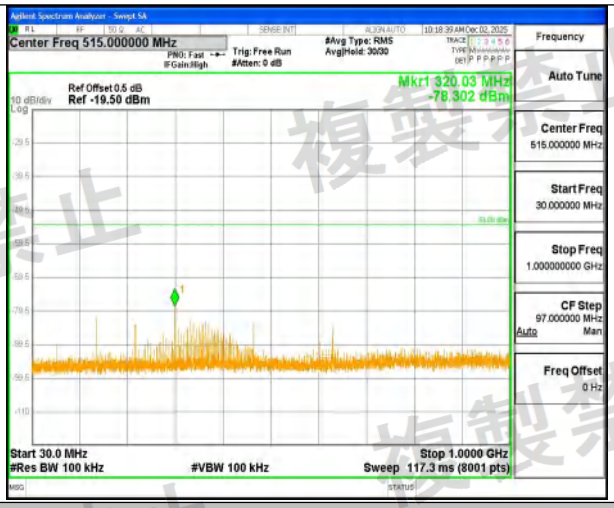
NTNV-BLE_1M-Ant1-2440-1000~13000-PASS



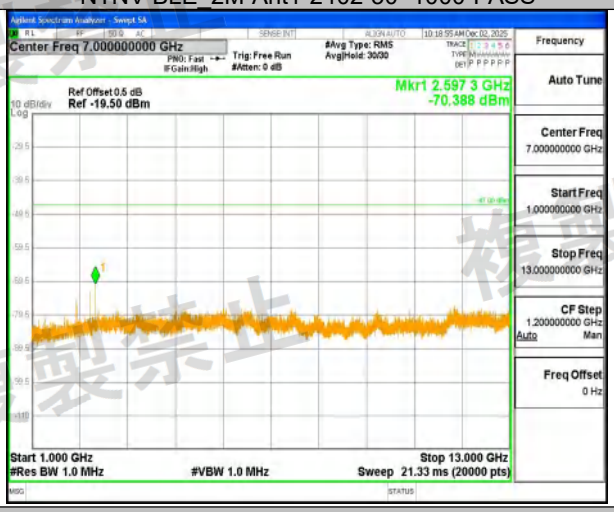
NTNV-BLE_1M-Ant1-2480-30~1000-PASS



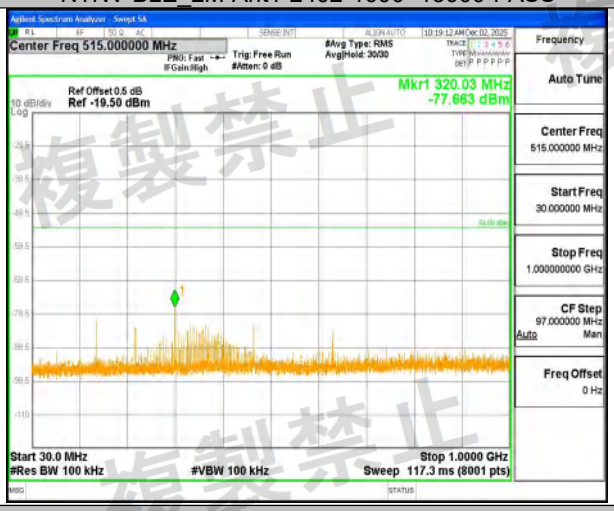
NTNV-BLE_1M-Ant1-2480-1000~13000-PASS



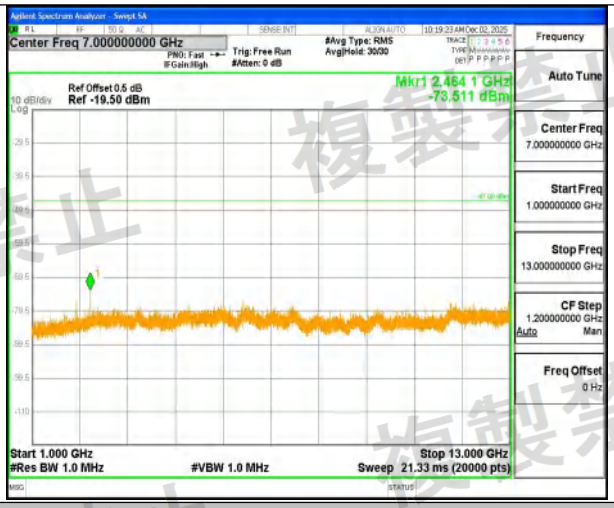
NTNV-BLE_2M-Ant1-2402-30~1000-PASS



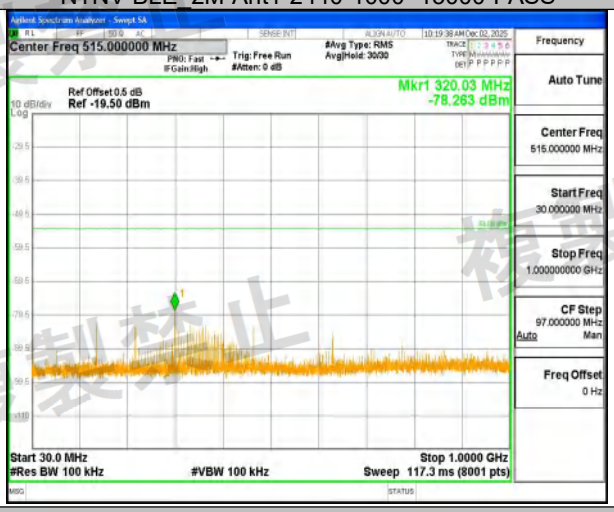
NTNV-BLE_2M-Ant1-2402-1000~13000-PASS



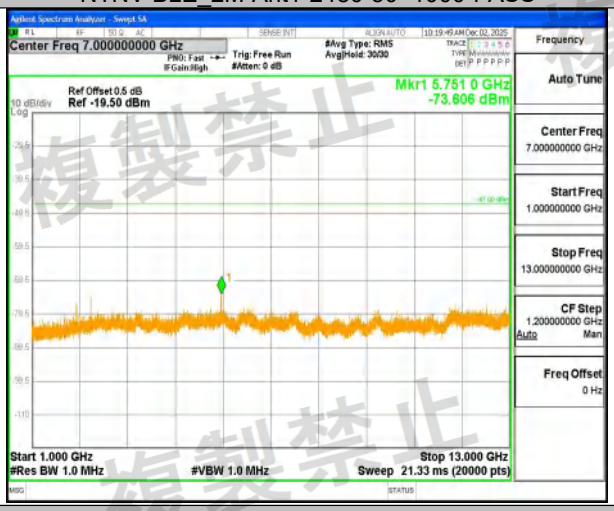
NTNV-BLE_2M-Ant1-2440-30~1000-PASS



NTNV-BLE_2M-Ant1-2440-1000~13000-PASS



NTNV-BLE_2M-Ant1-2480-30~1000-PASS

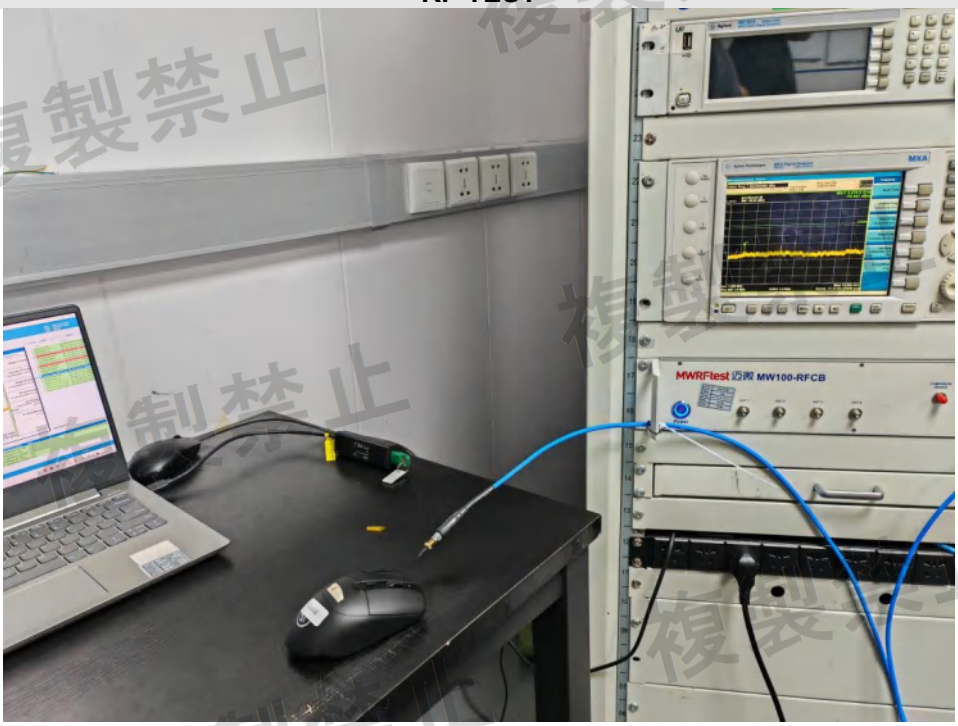


NTNV-BLE_2M-Ant1-2480-1000~13000-PASS

複製禁止

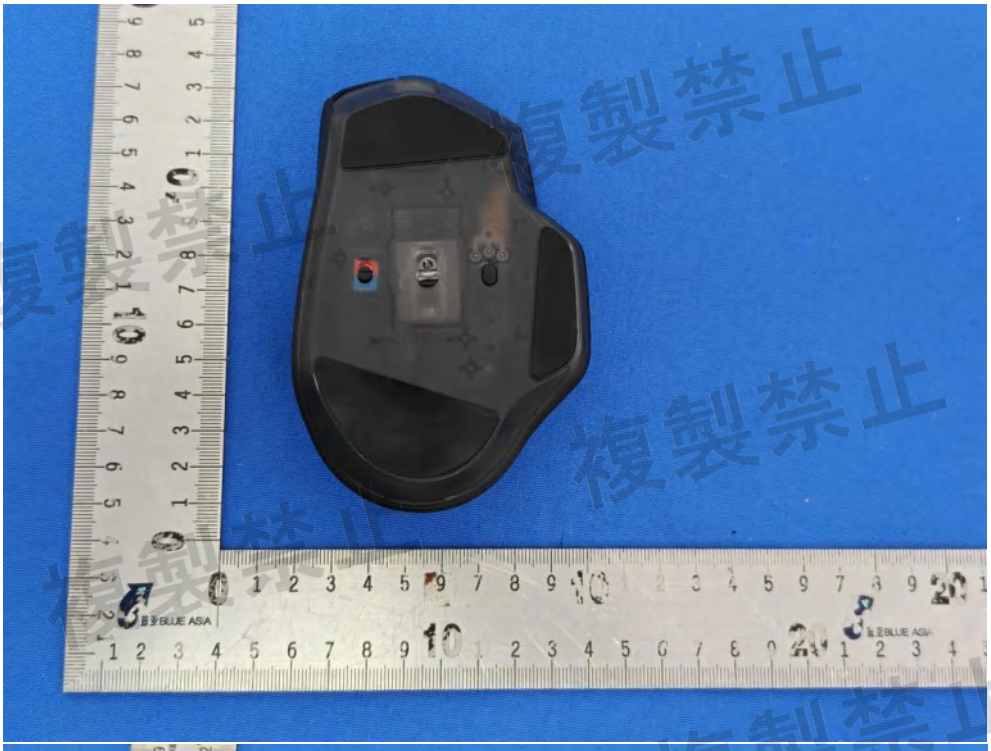
8 Test setup photo

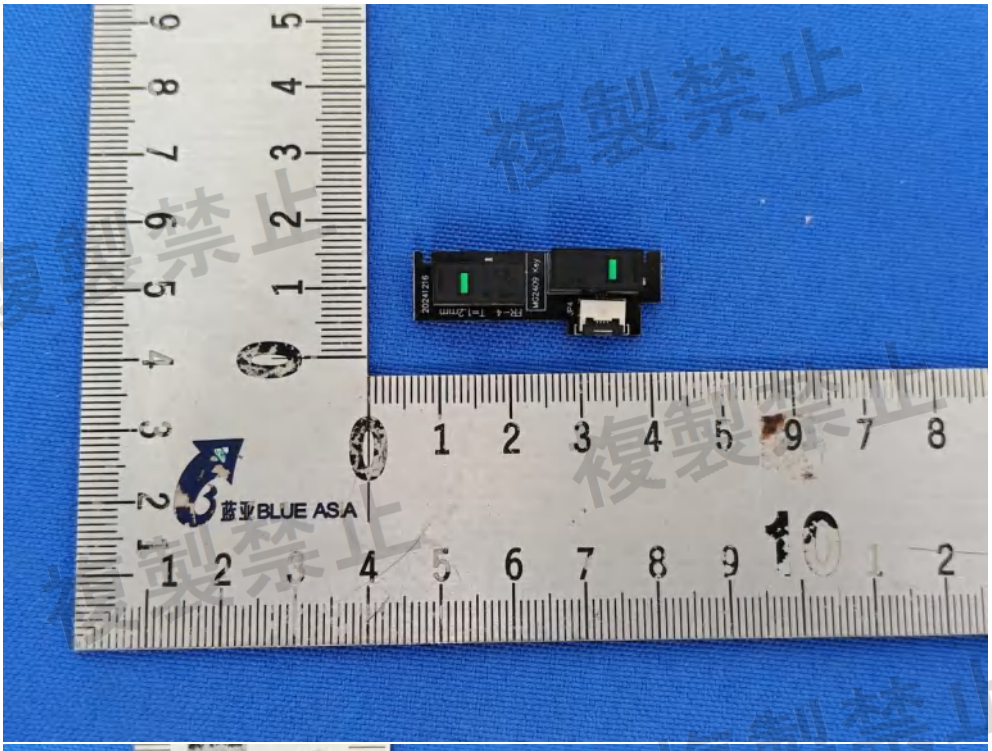
RF TEST

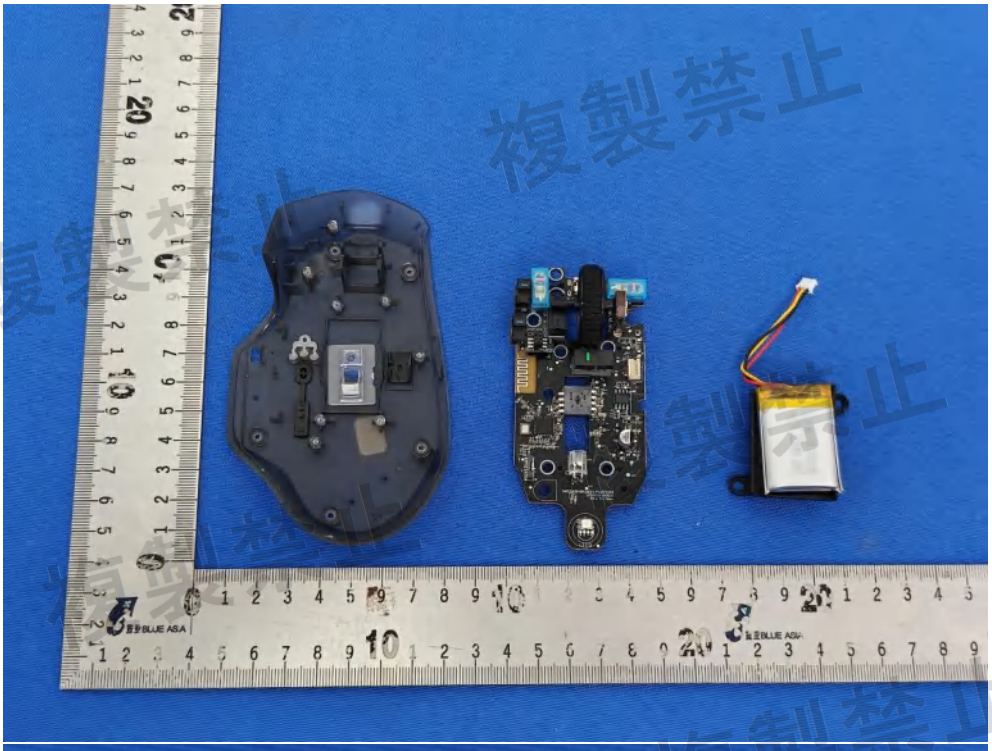


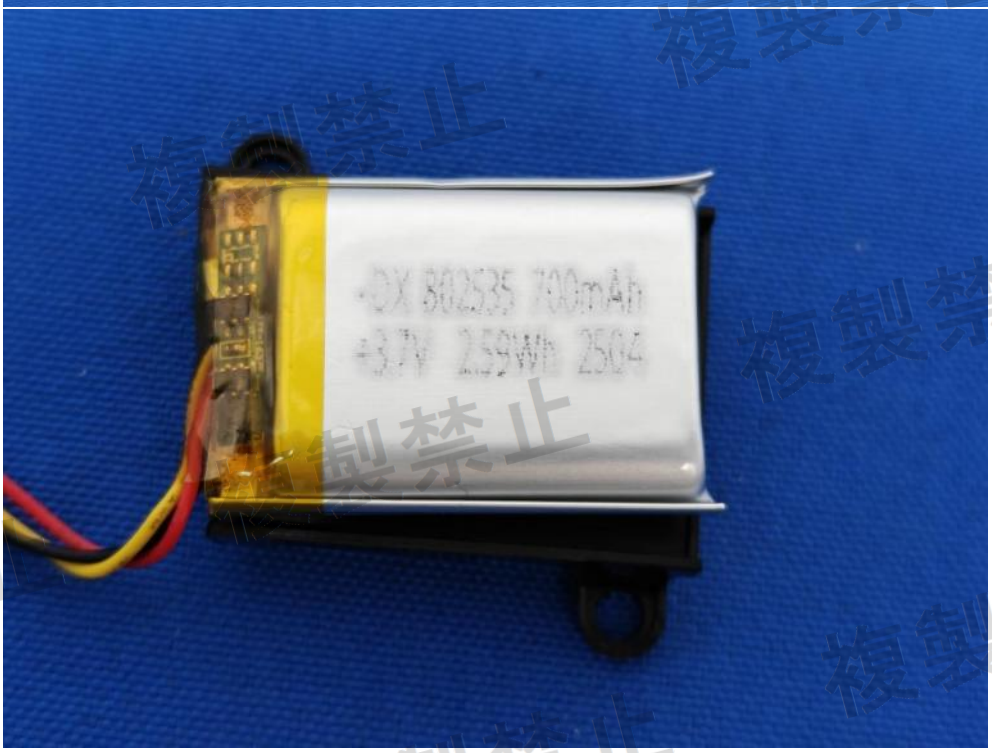
9 Photographs

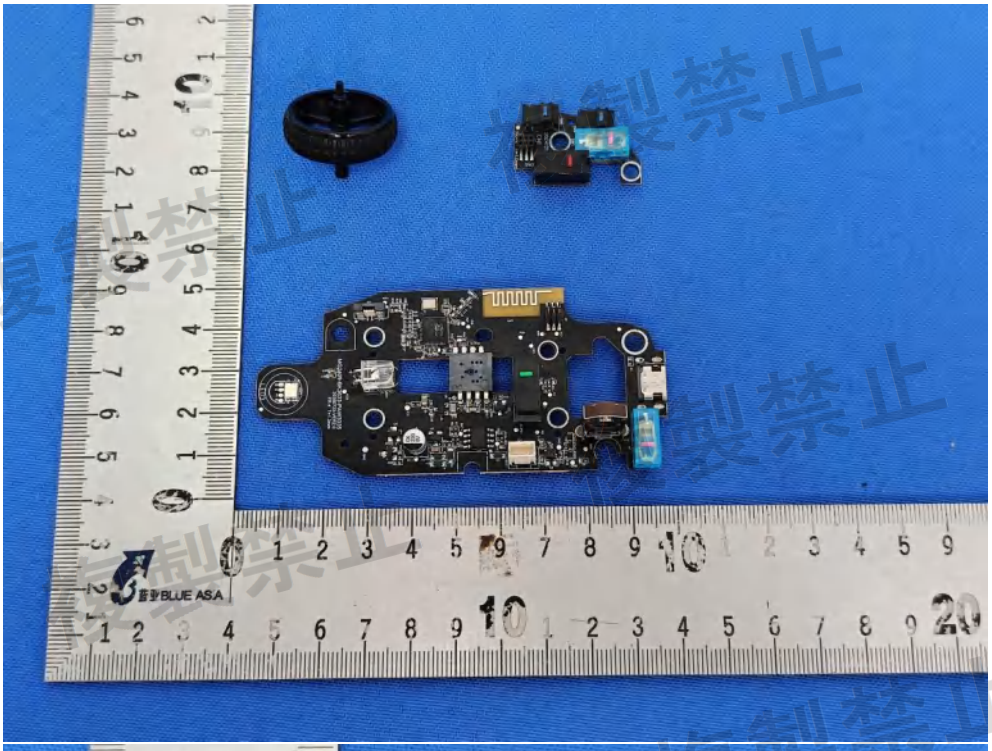
9.1 EUT Constructional Details

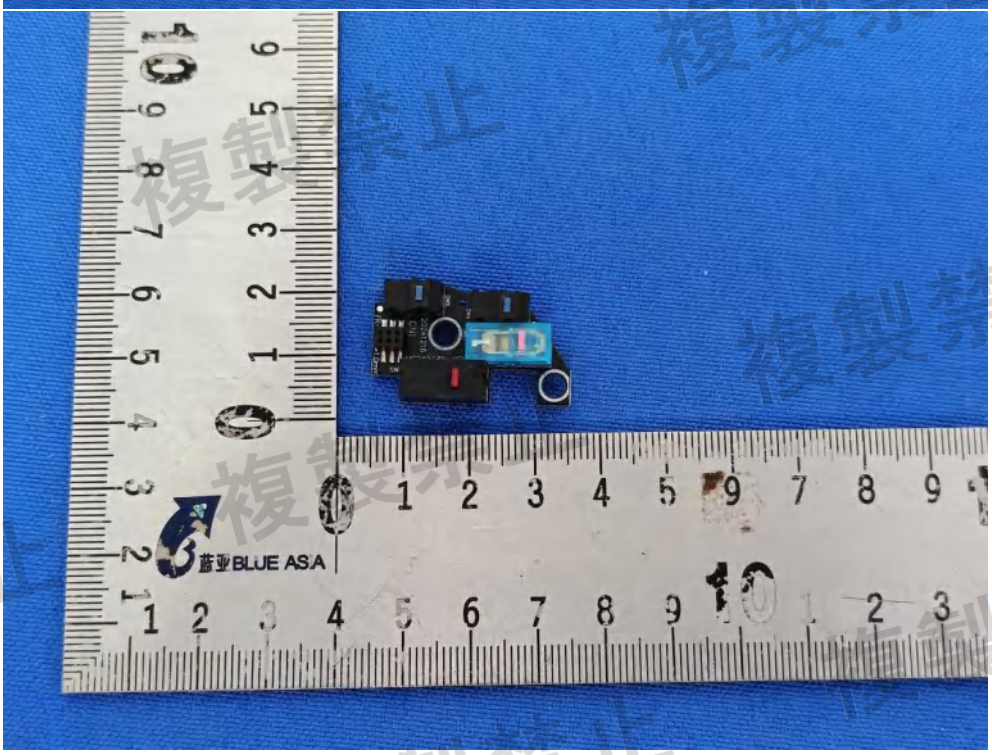


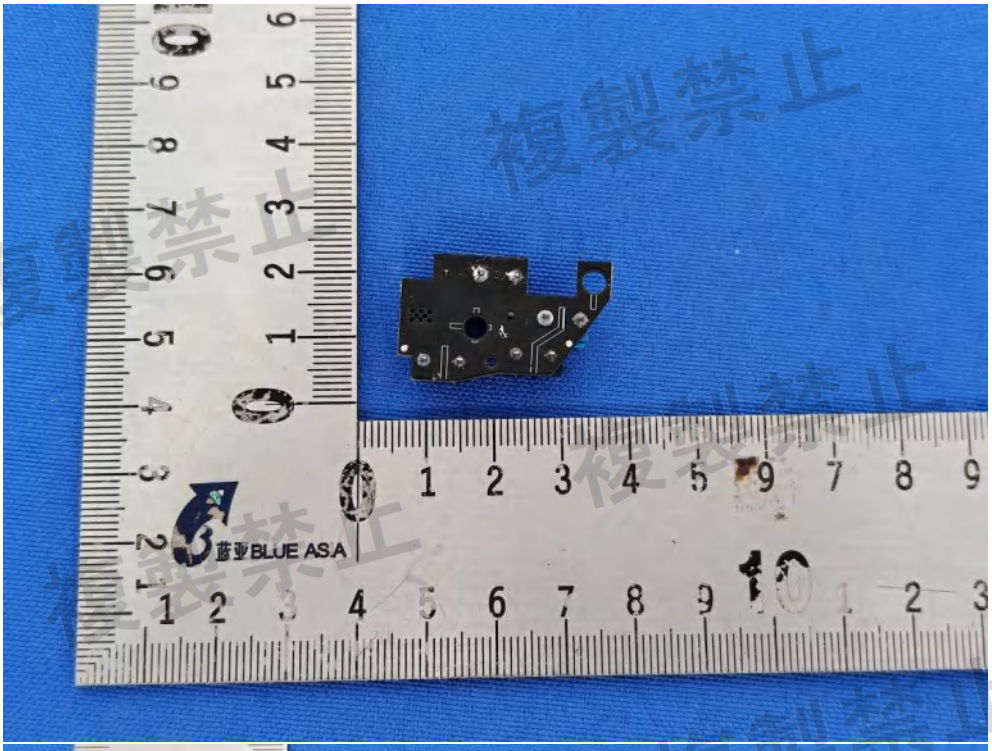


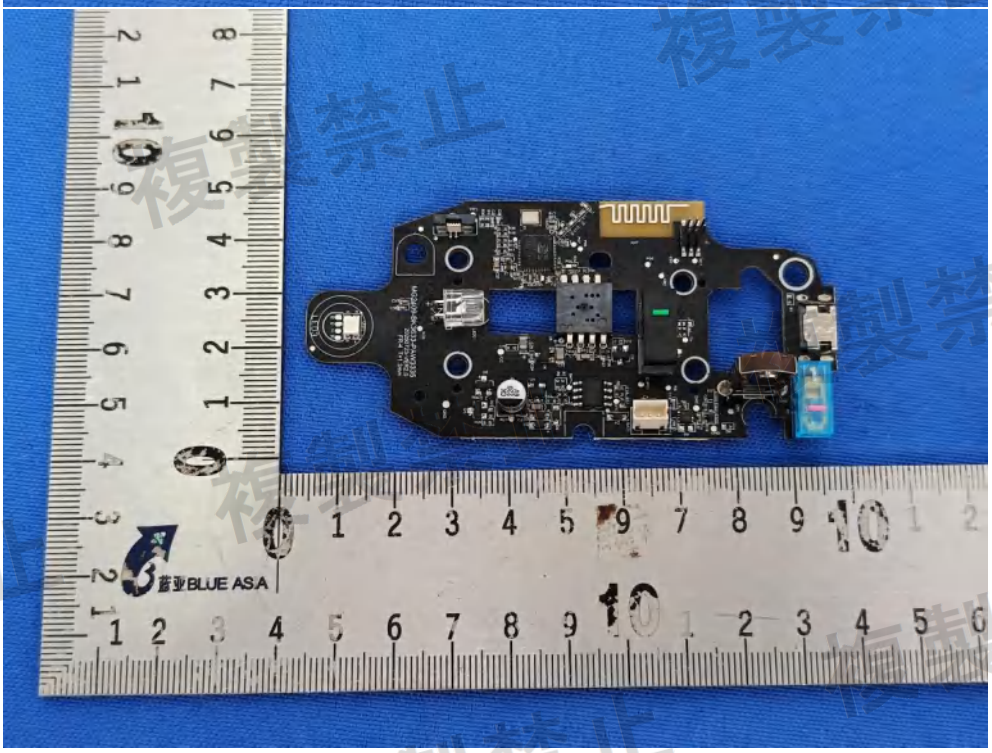


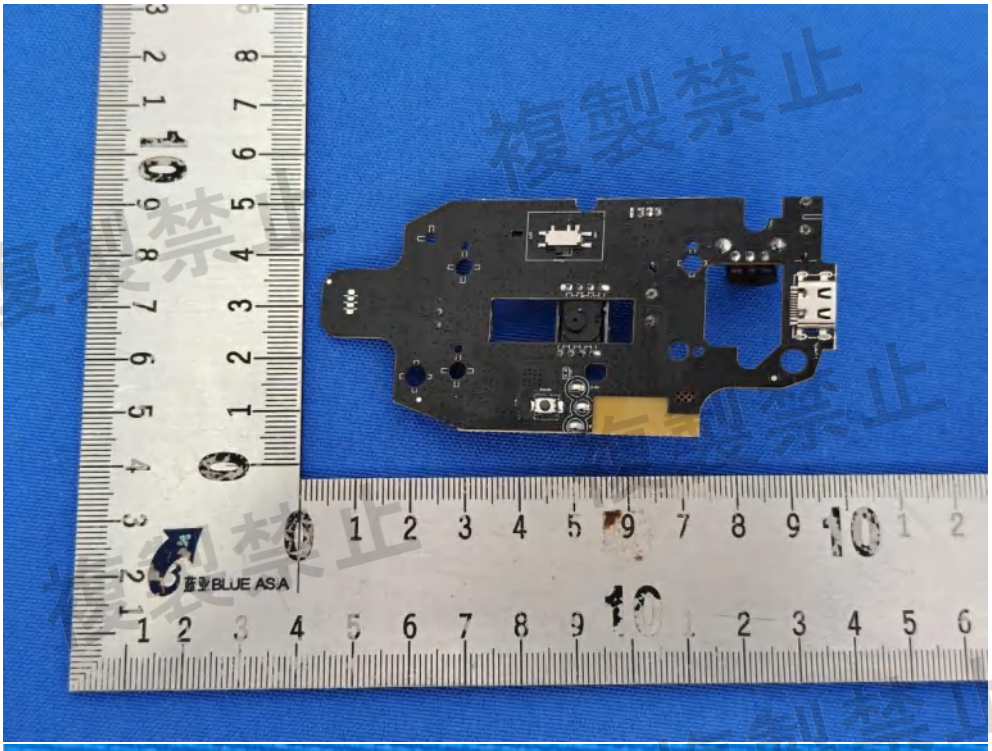

-DX 802535 700mAh
+3.7V 2.59Wh 2504

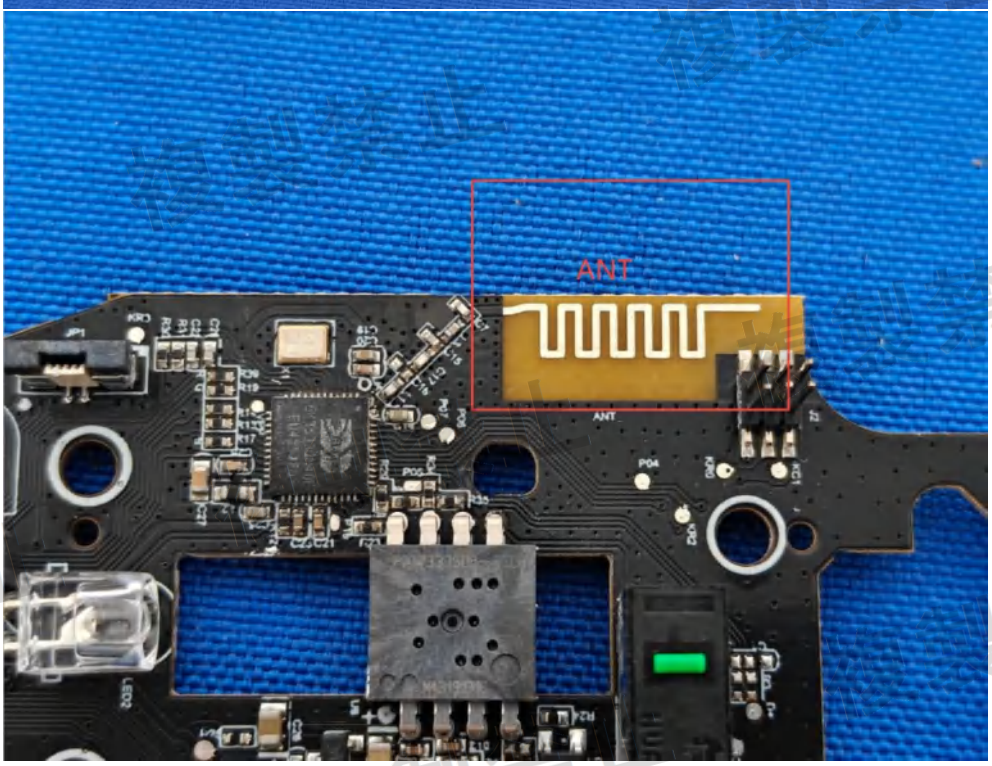








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----END OF REPORT----

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