



RF TEST REPORT

Report No. : TBR-C-202603-0180-112
Applicant : Shenzhen Alldocube Science and Technology Co., Ltd.
Equipment Under Test (EUT)
EUT Name : Tablet PC
Model No. : CUL8JN
Series Model No. : Please refer to page 4
Brand Name : ALLDOCUBE
Receipt Date : 2023-07-25
Test Date : 2023-07-25 to 2023-08-15
Issue Date : 2026-04-28
Rule Part(s) : MIC Notice No.88 Annex 43
Test Standards : ARIB STD-T66
Article 2 paragraph 1 item 19
Conclusions : **PASS**
In the configuration tested, the EUT complied with the standards specified above
Test By : Gold.zhang
Reviewed By : Wade.W
Approved By : IVAN SU



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

Contents

CONTENTS	2
1. GENERAL INFORMATION	4
1.1 Description of Device (EUT)	4
1.2 Channle List	5
2. DESCRIPTION OF TEST	6
2.1 Summary of Test	6
2.2 Assistant Equipment Used for Test	7
2.3 Block Diagram of Test Setup	7
2.4 Test Mode Description	7
2.5 Test Conditions	8
2.6 Measurement Uncertainty (95% confidence levels, k=2)	8
2.7 Test Lab Information	8
2.8 Test Equipment	8
3. TRANSMITTER TEST	9
3.1 Frequency Error	9
3.2 Antenna Power	10
3.3 Occupied Bandwidth	11
3.4 Spread Bandwidth	12
3.5 Spurious Emission of TX	13
3.6 Number of Carriers	14
3.7 Interference Prevention Function	15
3.8 Carrier Sensing Function	16
4. RECEIVER TEST	17
4.1 Secondary Radiated Emissions	17
5. TEST SETUP PHOTOS	18
6. EUT PHOTOS	18
7. LABEL INFORMATION	18
8. CONSTRUCTION PROTECTION CONFIRMATION METHOD	18
8.1 Requirement	18
8.2 Confirmation Method	18
APPENDIX A: FREQUENCY ERROR	19
APPENDIX B: ANTENNA POWER	22
APPENDIX C: OCCUPIED BANDWIDTH	31
APPENDIX D: SPREAD BANDWIDTH	36
APPENDIX E: SPURIOUS EMISSION OF TX	41
APPENDIX F: SPURIOUS EMISSION OF RX	63



Revision History

Report No.	Version	Description	Issued Date
TBR-C-202307-0111-112	Rev.01	Initial issue of report	2023-08-15
TBR-C-202501-0023-12	Rev.02	Change the Address of Applicant and Manufacturer, Series Model No., Product Name	2025-01-10
TBR-C-202603-0180-112	Rev.03	Change the Series Model No.	2026-04-28



1. General Information

1.1 Description of Device (EUT)

EUT	:	Tablet PC
Model No.	:	CUL8JN,T803,T806,T808,T810,T811,T812,T813,T815,T816,T817,T818,T820,T821,T822,T880,T881,T882,U808,U810,U811,U812,U813,U815,U816,U817,U818,U880,U881,U882,U883,T830,T831,T832,T860,T861,T862
Power supply	:	Adapter (Model:AS1201A-0502000JPU) Input: 100-240V~ 50/60Hz 0.35A MAX Output: 5V=2000mA DC 3.8V by 4000mAh Rechargeable Li-ion battery
Radio Technology	:	802.11b/g/n(HT20)/n(HT40)
Operation frequency	:	802.11b/g/n(HT20): 2412MHz-2472MHz 802.11n(HT40): 2422MHz-2462MHz
Modulation	:	802.11b:DSSS(CCK, DQPSK, DBPSK) 802.11g/n:OFDM(BPSK,QPSK,16QAM,64QAM)
Data Rate	:	802.11b:11/5.5/2/1Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n: up to 150Mbps
Antenna Type	:	FPC antenna, Maximum Gain: 0.21dBi
Declared Output Power	:	802.11b: 8mW/MHz 802.11g: 6.5mW/MHz 802.11n(HT20): 6mW/MHz 802.11n(HT40): 2mW/MHz
Applicant Address	:	Shenzhen Alldocube Science and Technology Co., Ltd. Building A, Room 2802, Longhua District Digital Innovation Center (HORoy North Station Center), Beizhan Community, Minzhi Street, Longhua District, Shenzhen City, China
Manufacturer Address	:	Shenzhen Alldocube Science and Technology Co., Ltd. Building A, Room 2802, Longhua District Digital Innovation Center (HORoy North Station Center), Beizhan Community, Minzhi Street, Longhua District, Shenzhen City, China
Software Version	:	----
Hardware Version	:	----
Remark: (1)The antenna gain and adapter provided by the applicant, the verified for the RF conduction test provided by TOBY test lab. (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		



1.2 Channle List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	06	2437	11	2462
02	2417	07	2442	12	2467
03	2422	08	2447	13	2472
04	2427	09	2452		
05	2432	10	2457		
Note: CH 01~CH 13 for 802.11b/g/n(HT20) CH 03~CH 11 for 802.11n(HT40)					



2. Description of Test

2.1 Summary of Test

CLAUSE (ARIB STD-T66)	TEST PARAMETER	RESULTS
Transmitter Parameters		
3.2 (2)	Antenna Power	PASS
3.2 (3)	Tolerances for Antenna Power	PASS
3.2 (4)	Frequency Tolerance	PASS
3.2 (5)	Transmission Rate	PASS
3.2 (7)	Occupied Frequency Bandwidth	PASS
3.2 (8)	Spread Bandwidth	PASS
3.2 (9)	Process Gain	PASS
3.2 (10)	Number of Carriers	PASS
3.2 (11)	Dwell Time	N/A
3.2 (6)	Spurious Emissions	PASS
/	Interference prevention function	PASS
/	Carrier Sensing function	PASS
Receiver Parameters		
3.3 (1)	Secondary Radiated Emissions	PASS
Note: N/A is an abbreviation for Not Applicable.		



2.2 Assistant Equipment Used for Test

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	Trade Name
Notebook	161301-FC	18407/00001136	Xiaomi

2.3 Block Diagram of Test Setup



Test PC run test software provided by client to control EUT work in test mode as described in clause 2.4

2.4 Test Mode Description

The test software (**WCN Combo Tool #1**) was used to control EUT work in Continuous TX mode, and select test channel, wireless mode:

Tested Mode, Channel and Data Rate Information		
Mode	Channel	Data Rate
802.11b	CH01/CH07/CH13	1Mbps
802.11g	CH01/CH07/CH13	6Mbps
802.11n(HT20)	CH01/CH07/CH13	6.5Mbps
802.11n(HT40)	CH03/CH07/CH11	13Mbps
Note: Some modes not apply for all the test items.		

Test Voltage Information		
Power supply voltage 5V DC (Normal)	Power supply voltage 5.5V DC (+10%)	Power supply voltage 4.5V DC (-10%)
RF module voltage DC 3.3V	RF module voltage DC 3.3V	RF module voltage DC 3.3V
When EUT be operated at 10% from the normal supply voltage, the supply voltage of RF part was varied within 1%. All test cases were done under the normal supply voltage. Note: For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.		

Equipment No.	Factory number	Instrument name in English	Test range	Name of manufacturer and model	uncertainty	Calibration time	next time the calibration time
TB-079	C011238	Digital Oscilloscope	100MHz, 1.25GS/s	Tektronix TDS3014B	U=0.4% (K=2) U=0.2% (K=2) U=3.7% (K=2) U=0.2S (K=2)	2023-06-21	2024-06-20
TB-183	W21091606020P01	DC power supply	DC 0-60V, 0-20A	WTKS POWER WSD-6020	DCV:Urel=0.5% DCA:Urel=0.5%	2022-11-29	2023-11-28
Calibration agencies:				Guangzhou LiSai Metrology & Test Co., Ltd. CCIC (Shenzhen) Metrology & Testing Service Co.,Ltd			
Note: Calibration by the calibration agencies listed in the table correspond to paragraph 4 (ii) (c) of Article 24-2 in the Radio Law.							



2.5 Test Conditions

Temperature range	25°C
Humidity range	65%
Pressure range	106kPa

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

Item	MU	Remark
Bandwidth	0.2KHz	/
Antenna Power	0.33dB	/
Frequency Tolerance	2.8×10^{-4} MHz	/
Conducted spurious emission	0.13dB	/

2.7 Test Lab Information

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F.,Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.

2.8 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde&Schwarz	FSV40-N	102197	Jun. 20, 2023	Jun. 19, 2024
RF Control Unit	Tonsced	JS0806-2	21F8060439	Sep.01.2022	Aug. 31, 2023
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep.01.2022	Aug. 31, 2023
Analog Signal Generator	Agilent	N5181A	MY48180463	Sep.01.2022	Aug. 31, 2023
Calibration agencies:			Guangzhou LiSai Metrology & Test Co., Ltd. CCIC (Shenzhen) Metrology & Testing Service Co.,Ltd		
Note: Calibration by the calibration agencies listed in the table correspond to paragraph 4 (ii) (c) of Article 24-2 in the Radio Law.					



3. Transmitter Test

3.1 Frequency Error

3.1.1 Test Limit

+/- 50×10^{-6} or less (50ppm)

3.1.2 Block Diagram of Test Setup



3.1.3 Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 4.3
- (2) Set EUT work in carrier Tx mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
Centre Frequency: The centre frequency of the channel under test.
Resolution BW: 10 KHz.
Video BW: 10 KHz.
Span: 1MHz.
Detector: Peak.
Trace Mode: Max Hold.
- (4) When the trace is complete, find the peak value of the power envelope and record the frequency.

3.1.4 Deviation From Test Standard

No deviation

3.1.5 Test Result

Please refer to the Appendix A.

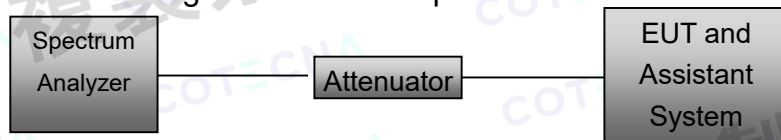


3.2 Antenna Power

3.2.1 Test Limit

Mode	Limit	Remark
802.11b/g/n(HT20)	≤10mW/MHz	Output Power
802.11n(HT40)	≤5mW/MHz	
Tolerance: -80%~+20%		
802.11b/g/n(HT20)	≤12.14dBm/MHz	E.I.R.P Power
802.11n(HT40)	≤9.13dBm/MHz	

3.2.2 Block Diagram of Test Setup



3.2.3 Test Procedure

Connect the UUT to the spectrum analyzer and use the following settings:

Centre Frequency: The centre frequency of the channel under test.

RBW: 1 MHz/VBW: 1 MHz/ Span: Wide enough to cover the complete power envelope of the signal of the EUT. / Detector: Peak. / Trace Mode: Max Hold.

When the trace is complete, find the peak value of the power envelope. Calculated the Maximum deviation and recorded the results.

3.2.4 Deviation From Test Standard

No deviation

3.2.5 Test Result

Please refer to the Appendix B.

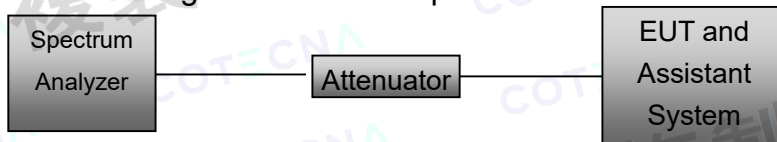


3.3 Occupied Bandwidth

3.3.1 Test Limit

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

3.3.2 Block Diagram of Test Setup



3.3.3 Test Procedure

Setting of SA is following as: RBW:300 kHz / VBW: 300 kHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold

EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode (For FHSS Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26 MHz (For DSSS or OFDM Device) or 83.5 MHz (For FHSS Device).

3.3.4 Deviation From Test Standard

No deviation

3.3.5 Test Result

Please refer to the Appendix C.

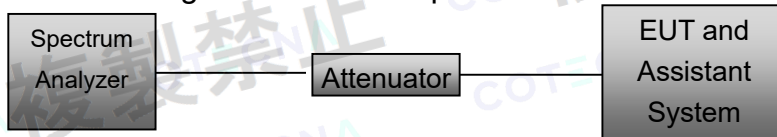


3.4 Spread Bandwidth

3.4.1 Test Limit

ITEM	LIMIT	REMARK
SPREADING FACTOR	≥ 5	Operating frequency 2400 to 2483MHz
SPREADING BANDWIDTH	$\geq 500\text{kHz}$	

3.4.2 Block Diagram of Test Setup



3.4.3 Test Procedure

Setting of SA is following as: RBW:300 kHz / VBW: 300 kHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold

EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode (For FHSS Device). SA set to 90% of occupied bandwidth to measure Spread Spectrum Bandwidth and must greater than 500 kHz.

3.4.4 Deviation From Test Standard

No deviation

3.4.5 Test Result

Please refer to the Appendix D.



3.5 Spurious Emission of TX

3.5.1 Test Limit

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

FREQUENCIES (MHz)	LIMIT
30.0MHz to 2387MHz	$\leq 2.5\mu\text{W}/\text{MHz}$
2387.0MHz to 2400.0MHz	$\leq 25\mu\text{W}/\text{MHz}$
2483.5MHz to 2496.5MHz	$\leq 25\mu\text{W}/\text{MHz}$
2496.5MHz to 13000.0MHz	$\leq 2.5\mu\text{W}/\text{MHz}$

3.5.2 Block Diagram of Test Setup



3.5.3 Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 8.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Below 1G: BW: 100kHz. Video BW: 100kHz.

Above 1G: BW: 1MHz. Video BW: 1MHz.

Detector: Peak. Trace Mode: Max Hold.

- (4) All the emissions from 30MHz to 13.0GHz were measured and record.

3.5.4 Deviation From Test Standard

No deviation

3.5.5 Test Result

Please refer to the Appendix E.

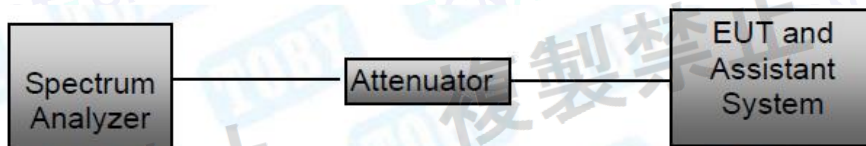


3.6 Number of Carriers

3.6.1 Test Limit

The OFDM system shall have one or more carriers per 1 MHz bandwidth.

3.6.2 Block Diagram of Test Setup



3.6.3 Deviation From Test Standard

No deviation

3.6.4 Test Result

ENVIRONMENTAL CONDITIONS	23.6deg.C, 43% RH
TEST RESULT	This device has more than 1 subcarrier in 1MHz, Compliances with the requirement.

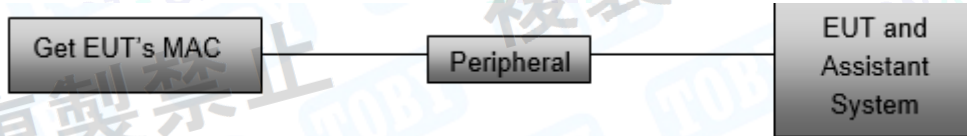


3.7 Interference Prevention Function

3.7.1 Test Limit

Item	Limits
Identification	≥48 bits
MAC IP List	MAC Scan

3.7.2 Block Diagram of Test Setup



3.7.3 Test Procedure

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes from EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification code: a. Transmit the predetermined identification codes from the counterpart. b. Check if communication is normal. c. Transmit the signals other than predetermined ID codes from the counterpart. d. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

3.7.4 Deviation From Test Standard

No deviation

3.7.5 Test Result

Temperature:	25°C	Humidity:	55%RH
Mac:	F2:36:42:4B:23:11		
Test result:	CONFORM		
Tested by:	HUANG		

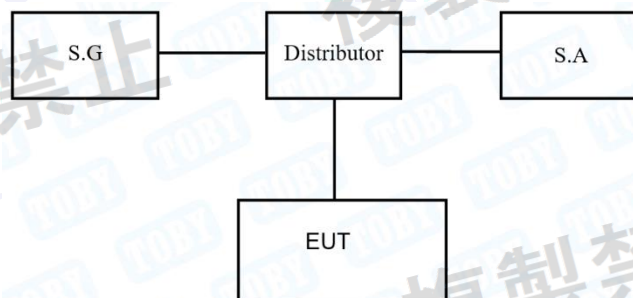


3.8 Carrier Sensing Function

3.8.1 Test Limit

Item	Limits
Identification	≥48 bits
MAC IP List	MAC Scan

3.8.2 Block Diagram of Test Setup



(EUT operate in multiple outputs: The measurement was performed by combiner.)

3.8.3 Test Procedure

1. Turn the standard signal generator output OFF. Leave the equipment under test to be ready for transmission and verify the transmission with the spectrum analyzer.
2. Set the equipment under test to the receiving state.
3. Turn the standard signal generator ON and leave the equipment under test to be ready for transmission and verify with the spectrum analyzer that no transmission is being made.

3.8.4 Deviation From Test Standard

No deviation

3.8.5 Test Result

802.11n (HT40)

FREQUENCY (MHz)	Pcs (dBm)	C.F (dB)	S.G LEVEL	TEST RESULT
2422	-44.6835	4.09	-40.5935	PASS
2442	-44.7549	4.16	-40.5949	PASS
2462	-44.8258	4.18	-40.6458	PASS

NOTE:

Pcs (dBm) = $22.79 + Gr - 20\log(F)$.

Gr: Antenna gain (**2.4GHz:0.21dBi**). **F:** Transmission frequency (MHz).

CF = Distributor loss + cable loss.



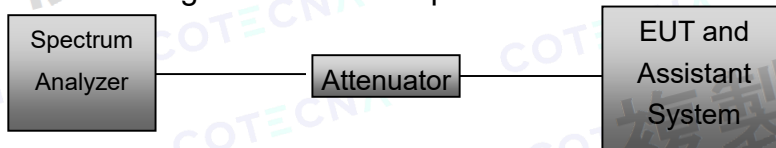
4. Receiver Test

4.1 Secondary Radiated Emissions

4.1.1 Test 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.

4.1.2 Block Diagram of Test Setup



4.1.3 Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 8.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:
 - Below 1G: BW: 100kHz. Video BW: 100kHz.
 - Above 1G: BW: 1MHz. Video BW: 1MHz.
 - Detector: Peak. Trace Mode: Max Hold.
- (4) All the emissions from 30MHz to 13.0GHz were measured and record.

4.1.4 Deviation From Test Standard

No deviation

4.1.5 Test Result

Please refer to the Appendix F.



5. Test Setup Photos

Reference to the test report No.: TBR-C-202603-0180-1.

6. EUT Photos

Reference to the test report No.: TBR-C-202603-0180-1.

7. Label Information

Reference to the test report No.: TBR-C-202603-0180-1.

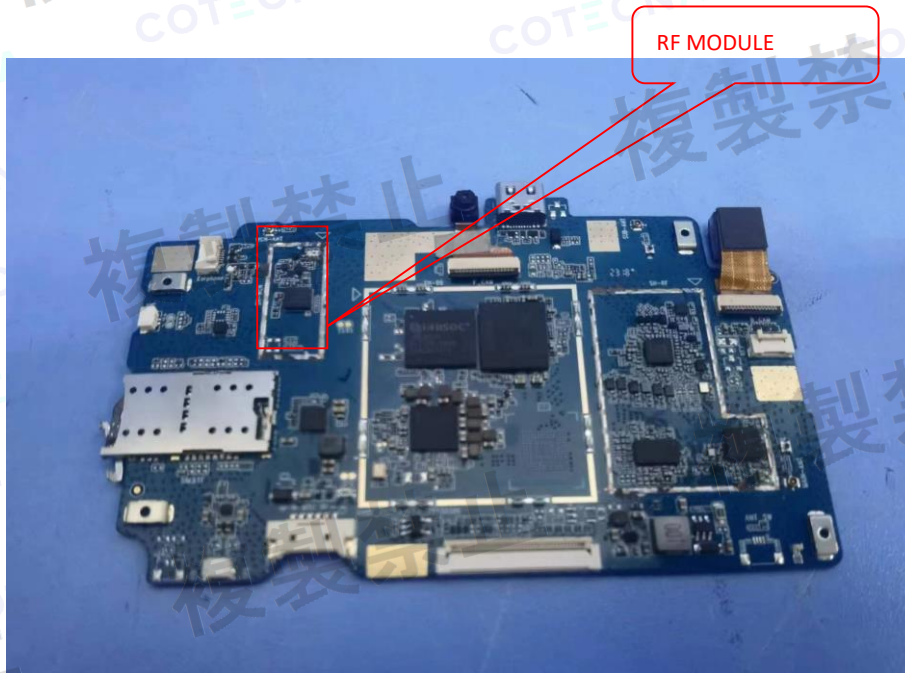
8. Construction Protection Confirmation Method

8.1 Requirement

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

8.2 Confirmation Method

RF module is welded directly to PCB board. So the end user can not to modify or change the RF Parts easily.



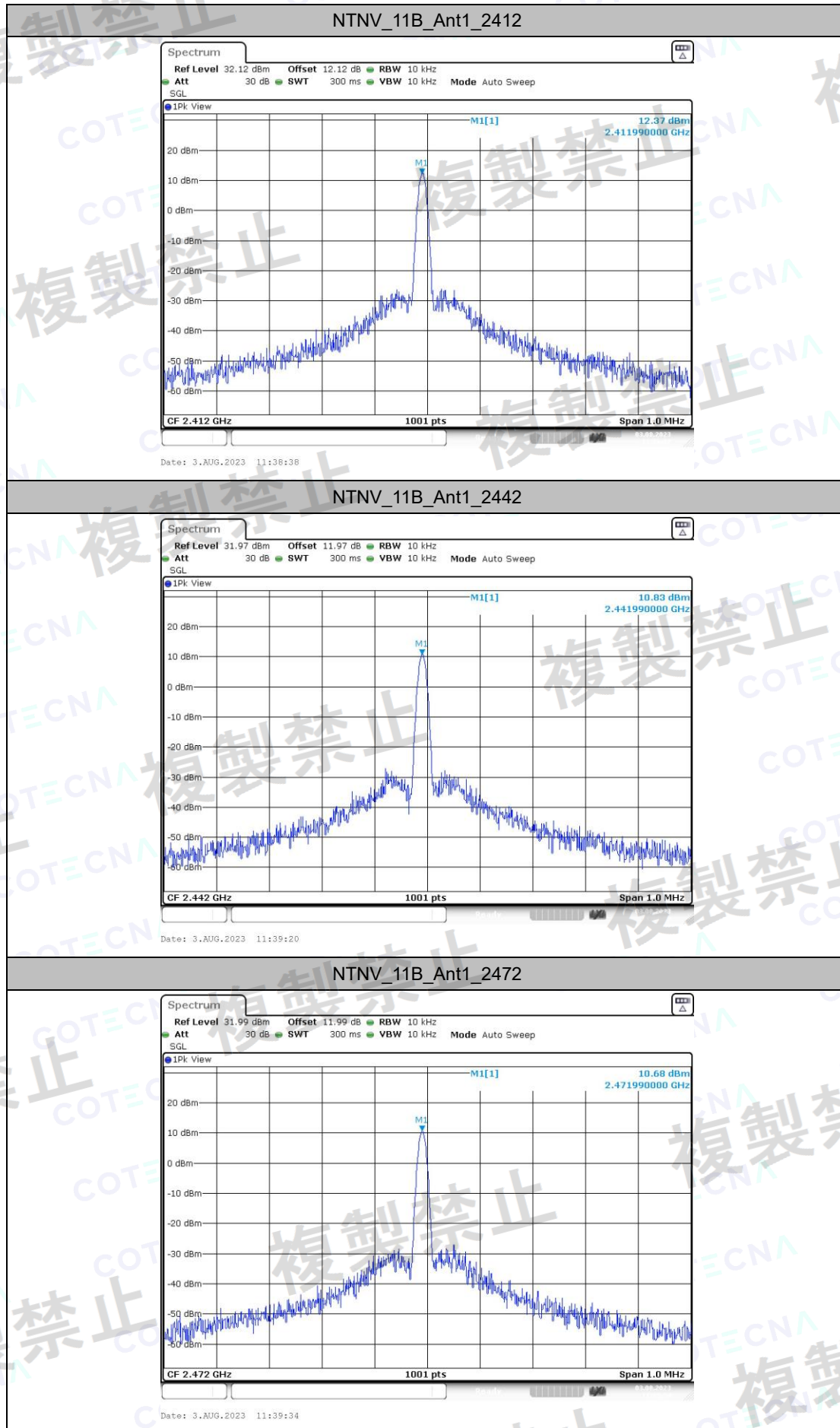
Appendix A: Frequency Error

Test Result

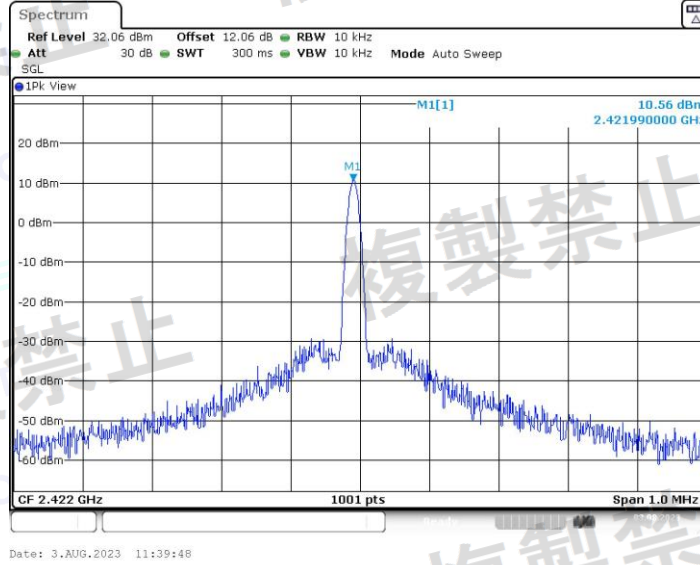
TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	11B	Ant1	2412	-4.14594	±50	PASS
			2442	-4.09500	±50	PASS
			2472	-4.04531	±50	PASS
	11N40SISO	Ant1	2422	-4.12882	±50	PASS
			2462	-4.06174	±50	PASS



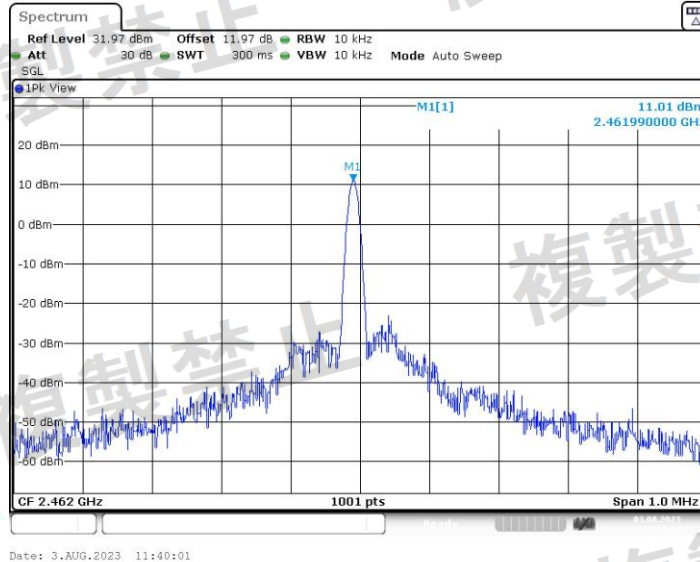
Test Graphs



NTNV_11N40SISO_Ant1_2422



NTNV_11N40SISO_Ant1_2462



Appendix B: Antenna Power

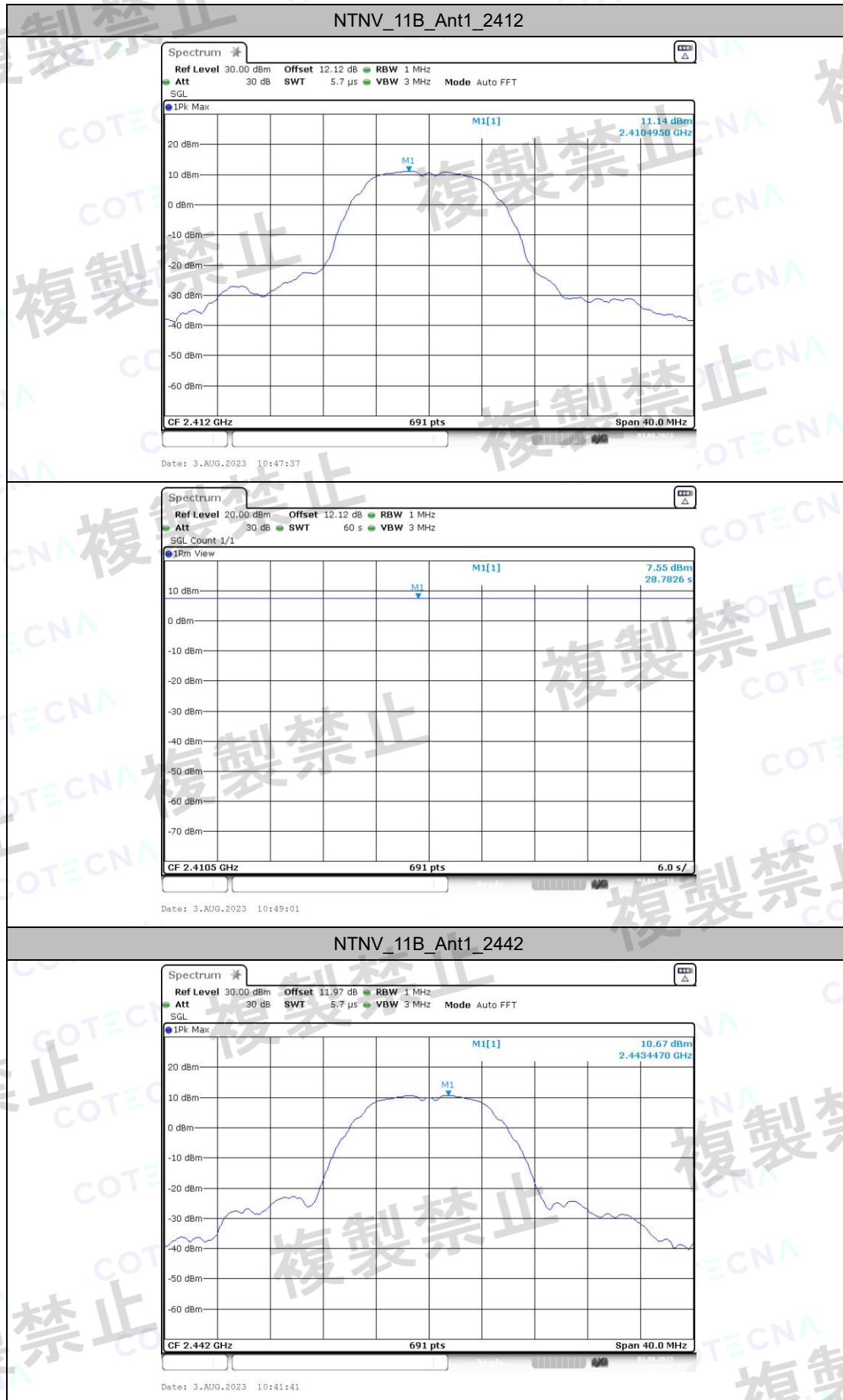
Test Result

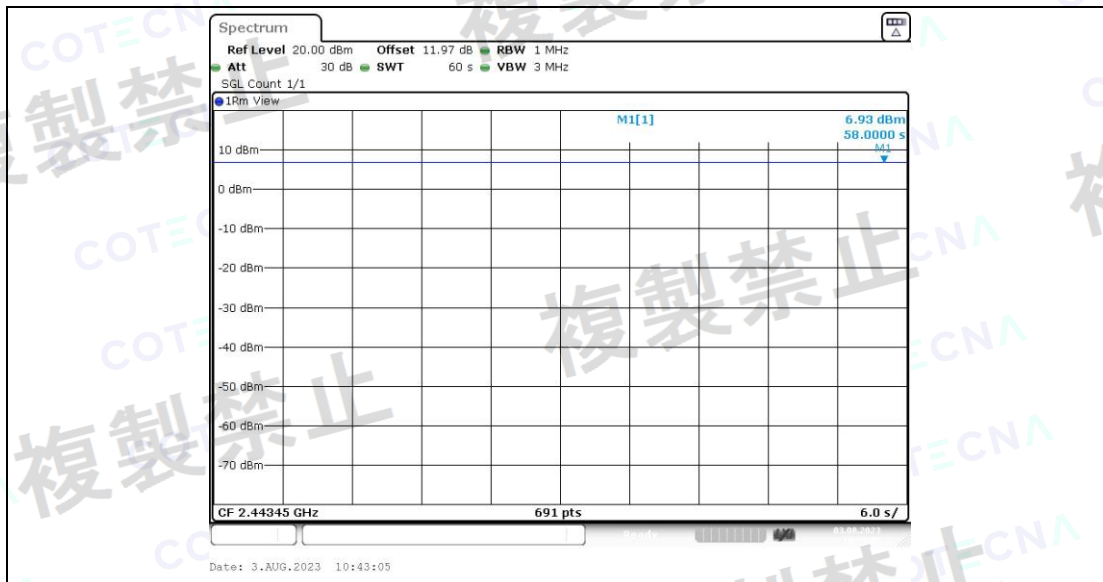
Antenna Power							
Test Condition	Test Mode	Antenna	Frequency [MHz]	Result (dBm/MHz)	Result (mW/MHz)	Limit (mW/MHz)	Verdict
NTNV	11B	Ant1	2412	8.13	6.5013	≤10	PASS
			2442	7.51	5.6364	≤10	PASS
			2472	9.02	7.9799	≤10	PASS
	11G	Ant1	2412	7.79	6.0117	≤10	PASS
			2442	5.96	3.9446	≤10	PASS
			2472	8.04	6.3680	≤10	PASS
	11N20SISO	Ant1	2412	7.55	5.6885	≤10	PASS
			2442	5.65	3.6728	≤10	PASS
			2472	5.97	3.9537	≤10	PASS
	11N40SISO	Ant1	2422	1.60	1.4454	≤5	PASS
			2442	1.63	1.4555	≤5	PASS
			2462	2.94	1.9679	≤5	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power (mW/MHz)	RatedPower (mW/MHz)	Result (%)	Limit (%)	Verdict
NTNV	11B	Ant1	2412	6.5013	8	-18.73	-80 to +20	PASS
			2442	5.6364	8	-29.55	-80 to +20	PASS
			2472	7.9799	8	-0.25	-80 to +20	PASS
	11G	Ant1	2412	6.0117	6.5	-7.51	-80 to +20	PASS
			2442	3.9446	6.5	-39.31	-80 to +20	PASS
			2472	6.3680	6.5	-2.03	-80 to +20	PASS
	11N20SISO	Ant1	2412	5.6885	6	-5.19	-80 to +20	PASS
			2442	3.6728	6	-38.79	-80 to +20	PASS
			2472	3.9537	6	-34.11	-80 to +20	PASS
	11N40SISO	Ant1	2422	1.4454	2	-27.73	-80 to +20	PASS
			2442	1.4555	2	-27.23	-80 to +20	PASS
			2462	1.9679	2	-1.61	-80 to +20	PASS

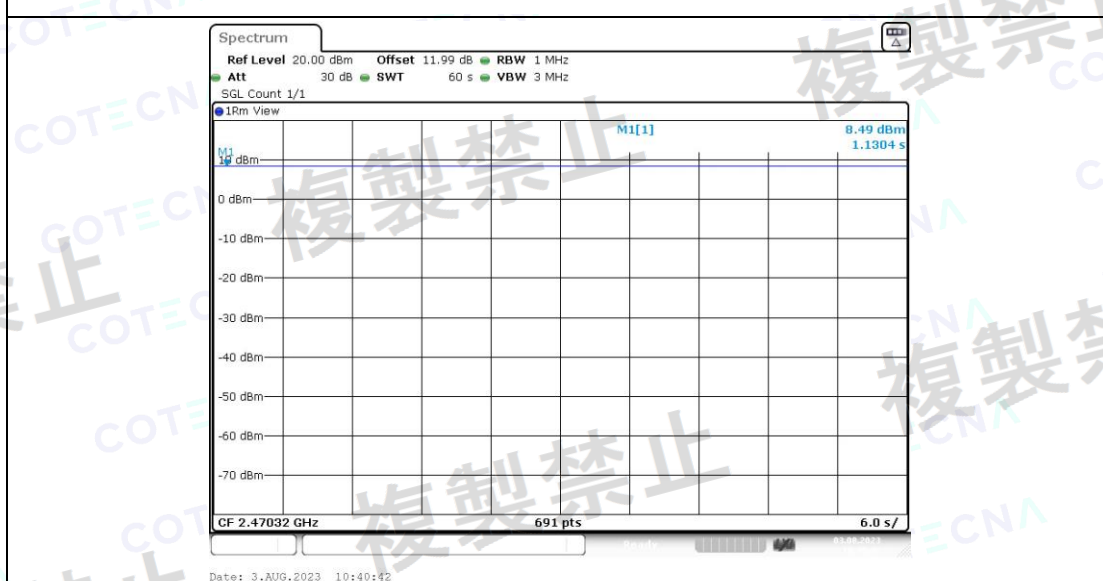
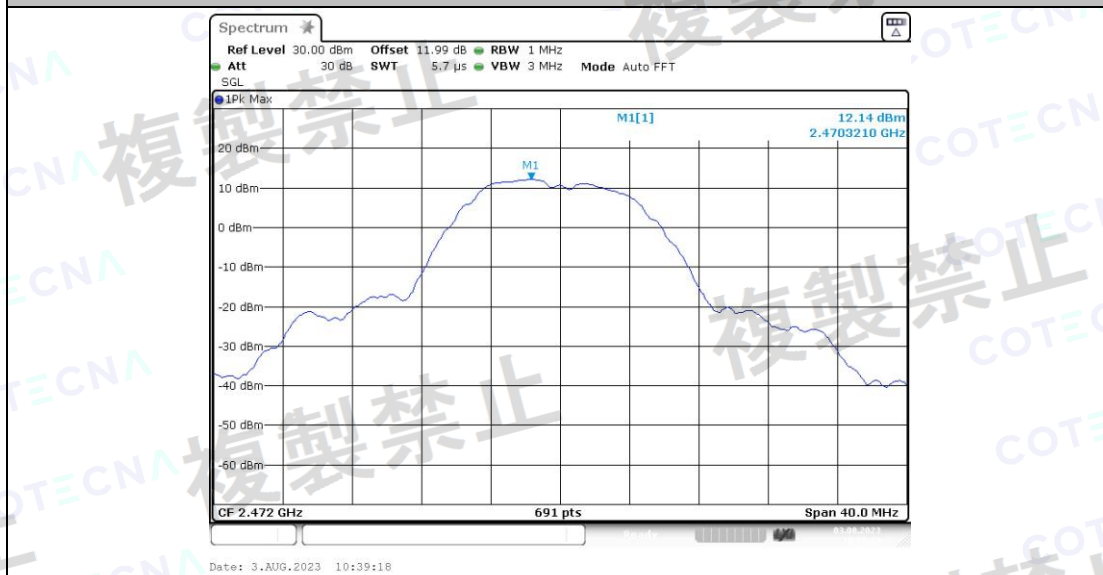


Test Graphs



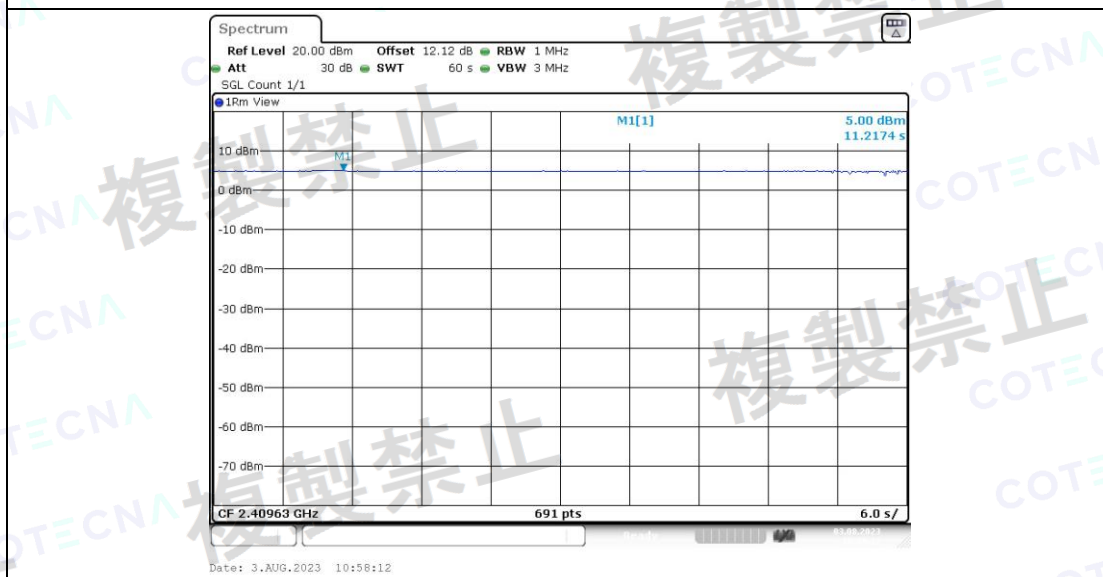
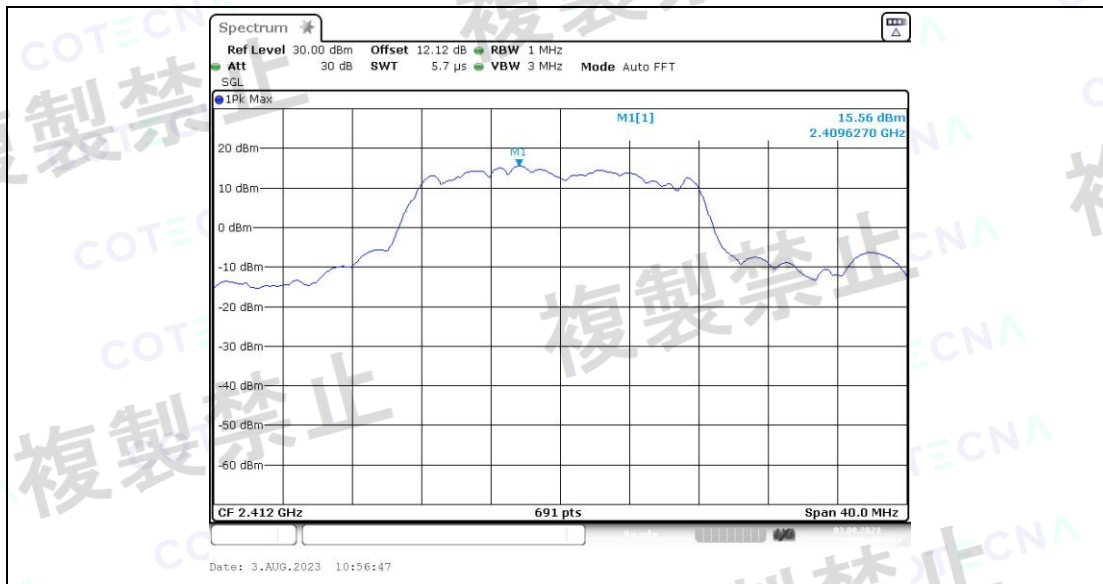


NTNV_11B_Ant1_2472

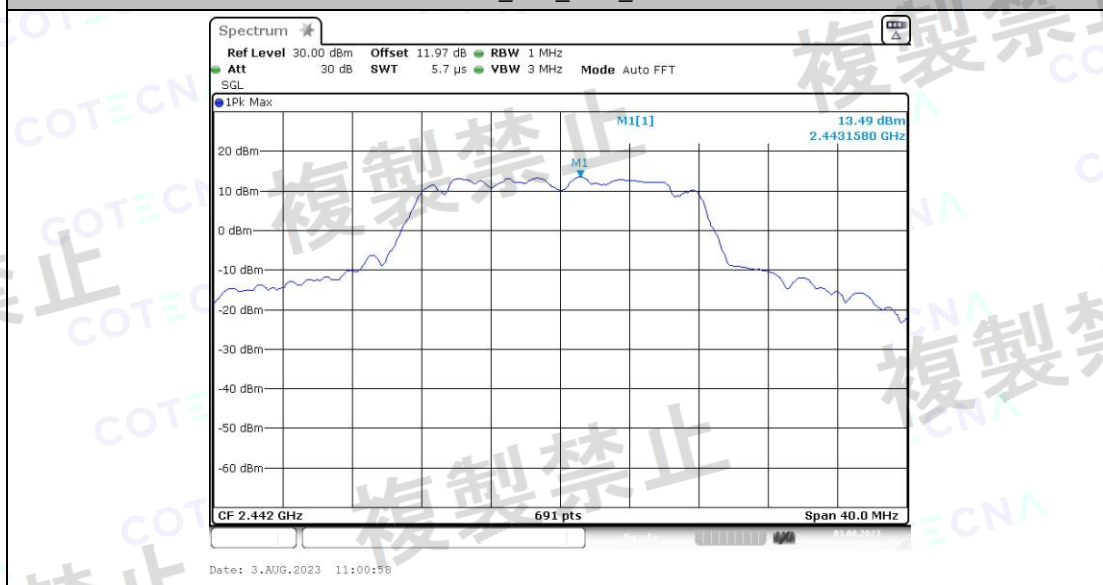


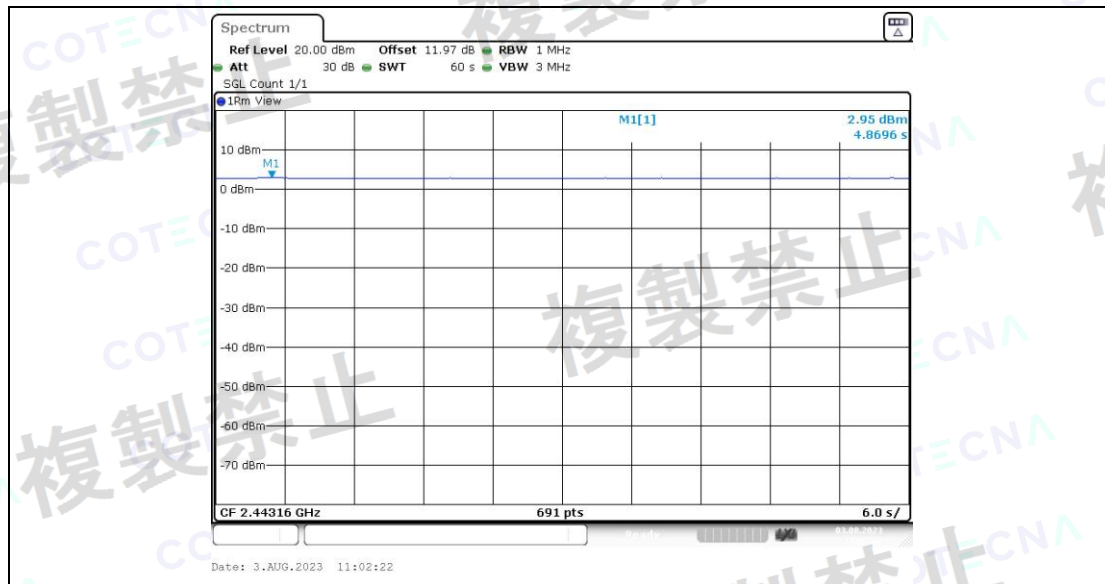
NTNV_11G_Ant1_2412



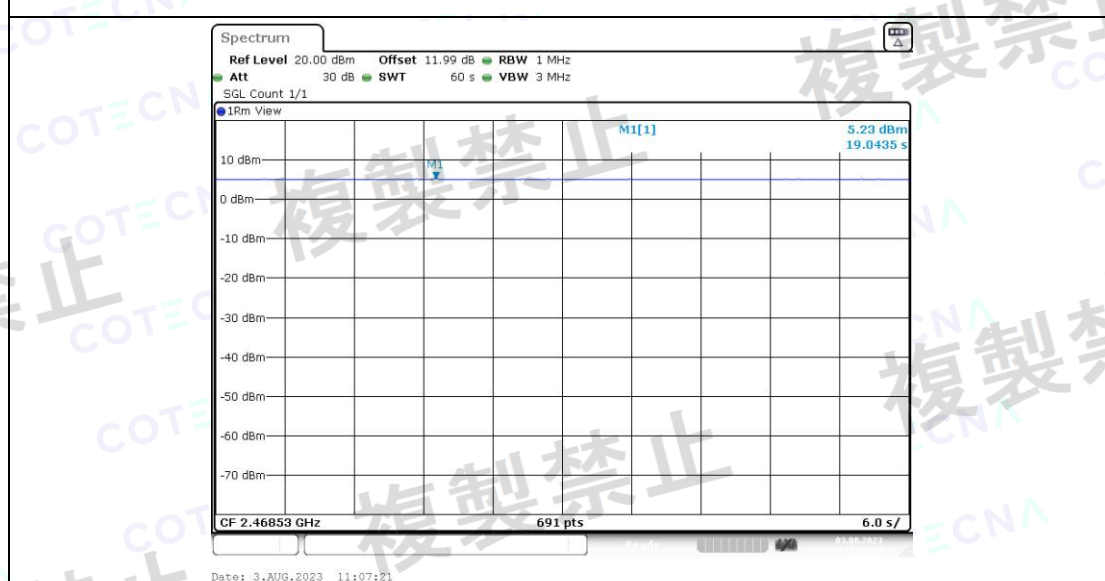
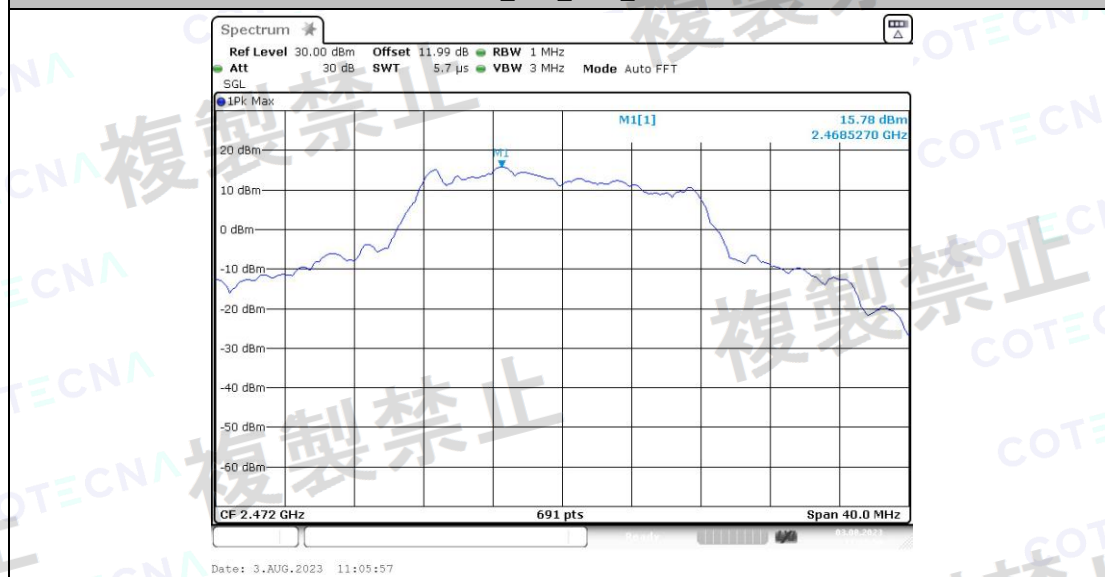


NTNV_11G_Ant1_2442



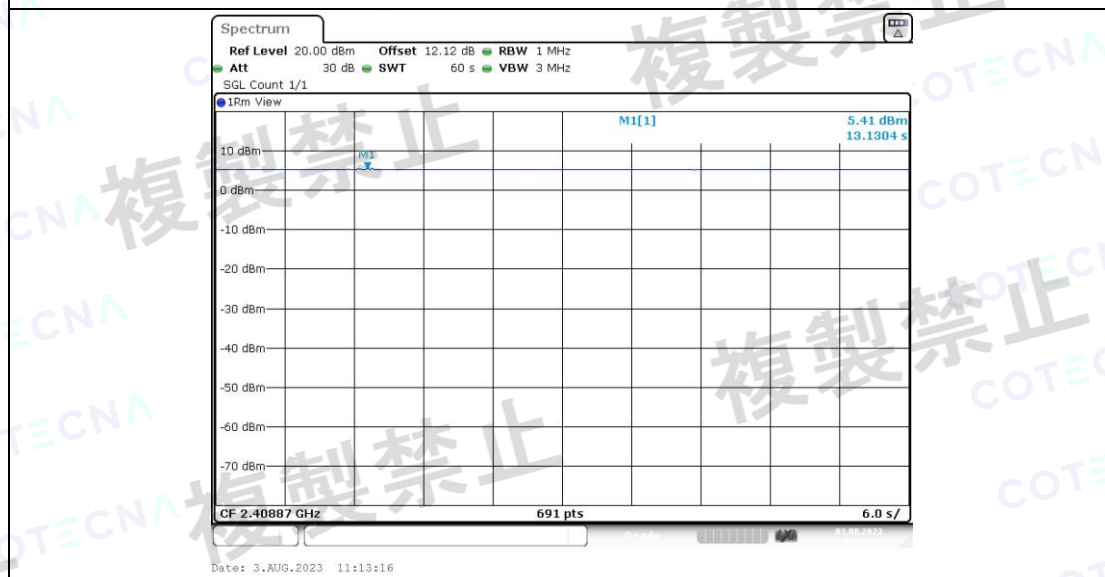


NTVN_11G_Ant1_2472

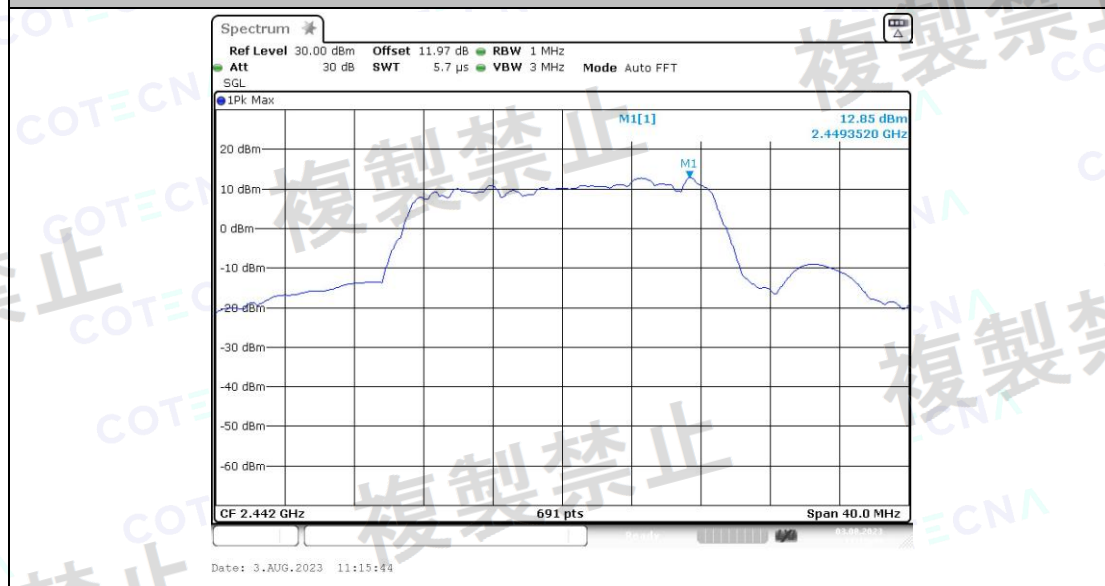


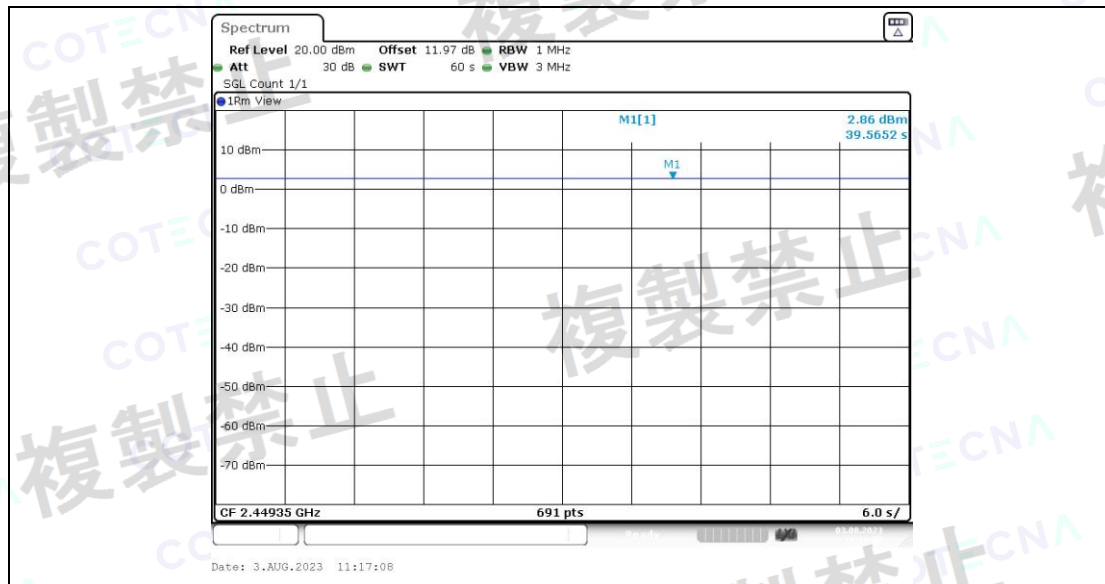
NTVN_11N20SISO_Ant1_2412



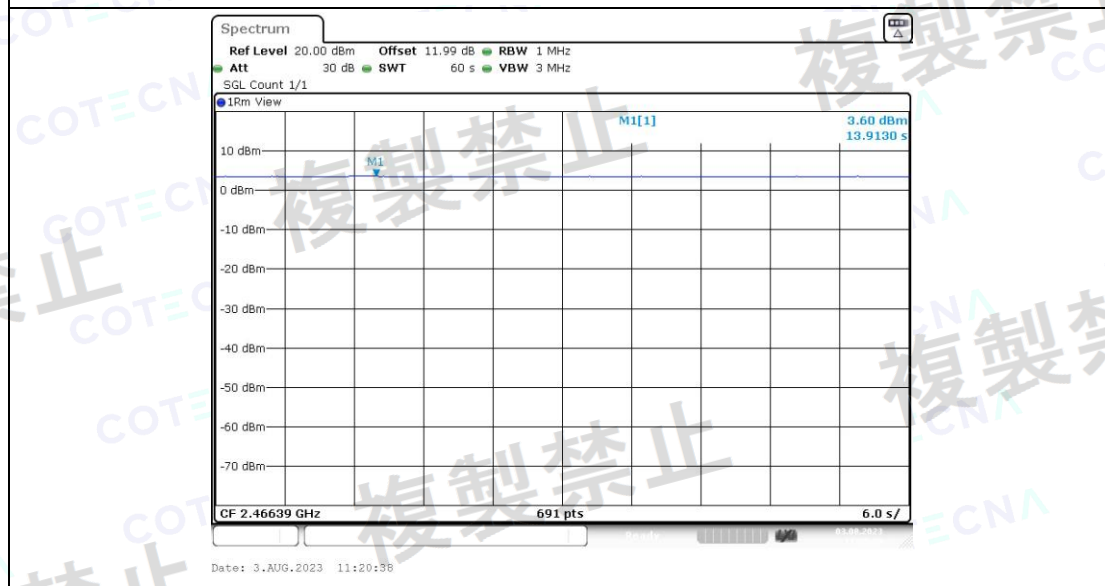
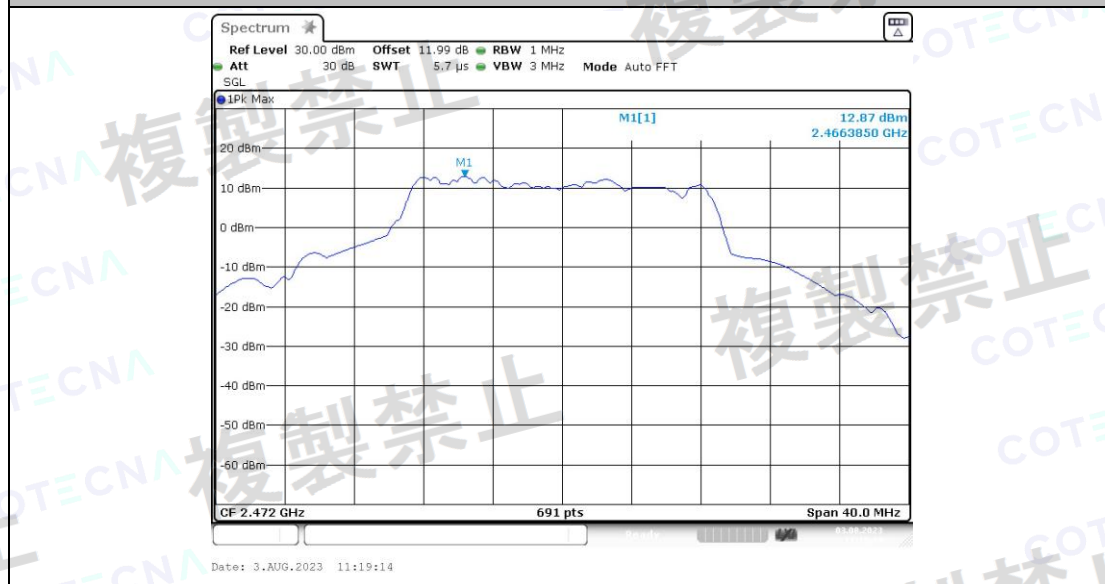


NTNV_11N20SISO_Ant1_2442



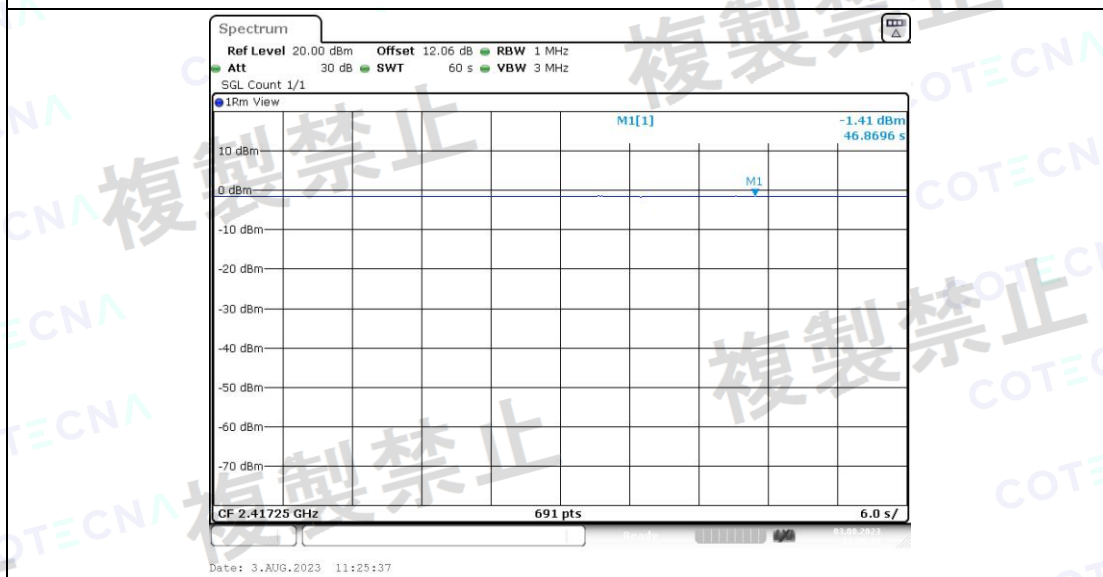


NTNV_11N20SISO_Ant1_2472

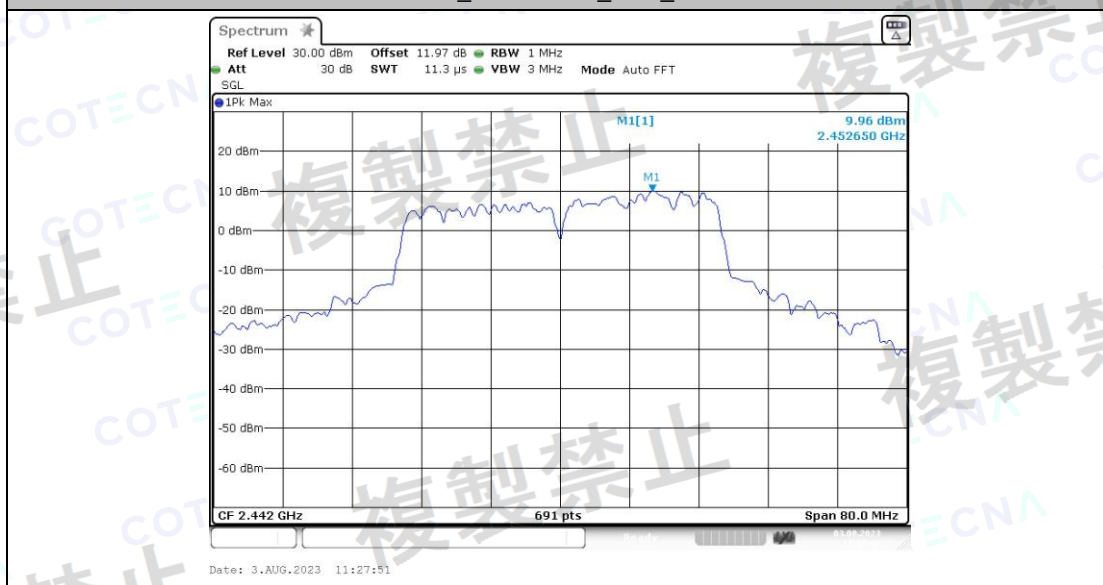


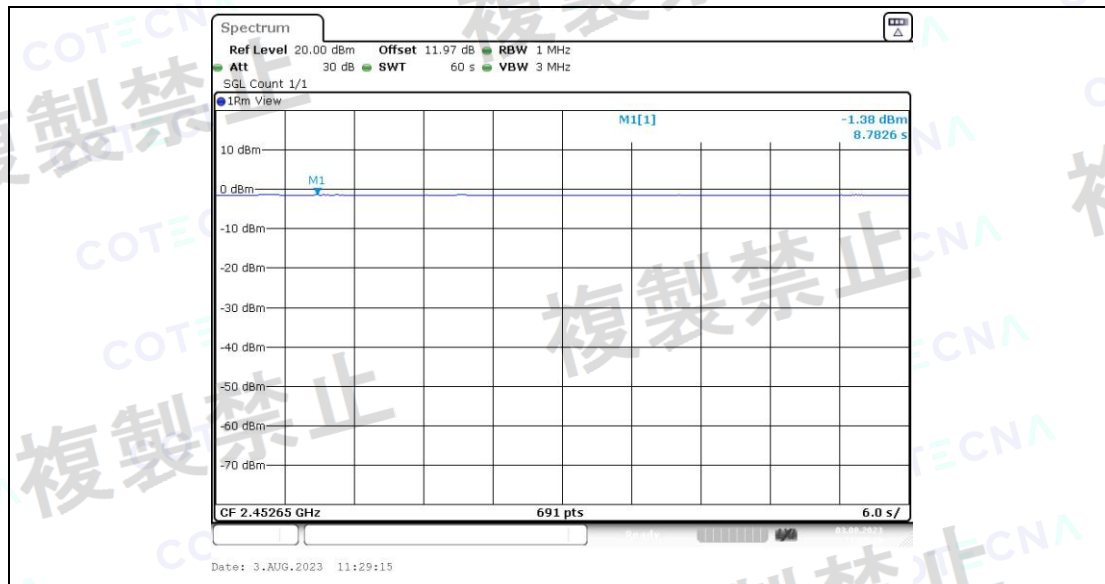
NTNV_11N40SISO_Ant1_2422



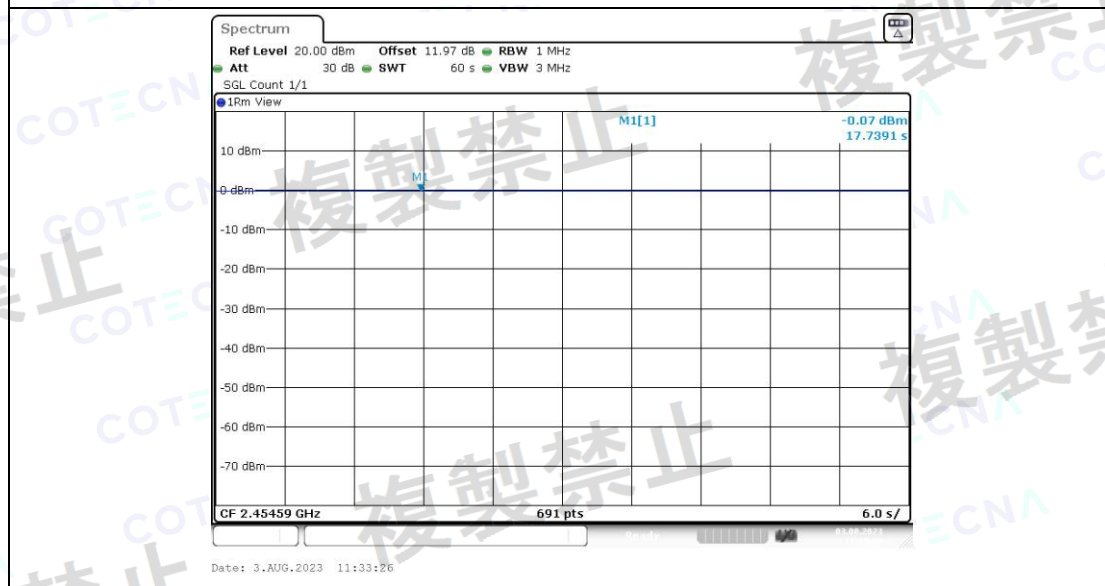
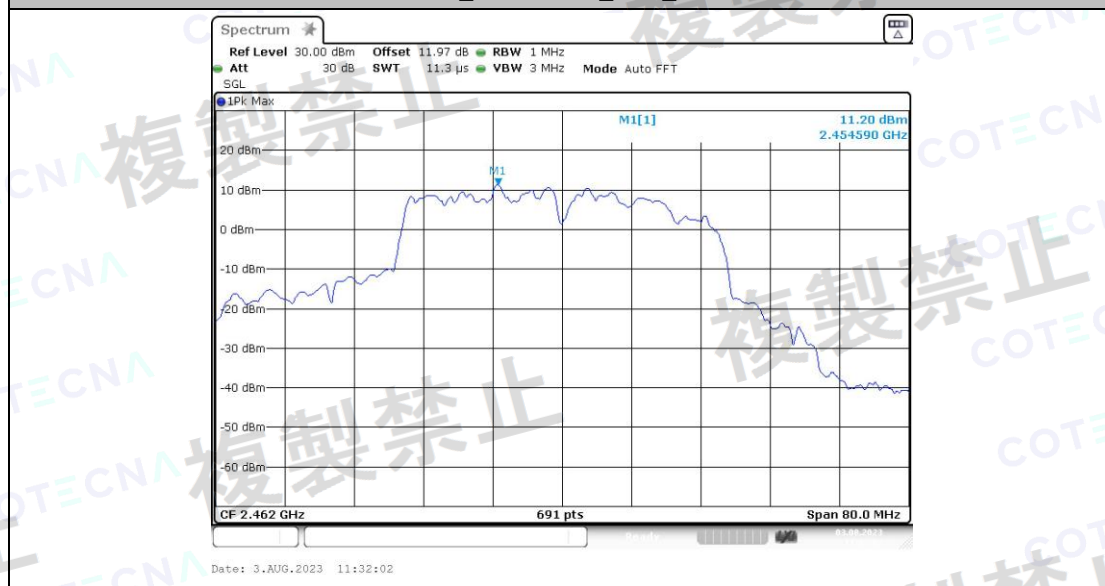


NTNV_11N40SISO_Ant1_2442





NTNV_11N40SISO_Ant1_2462



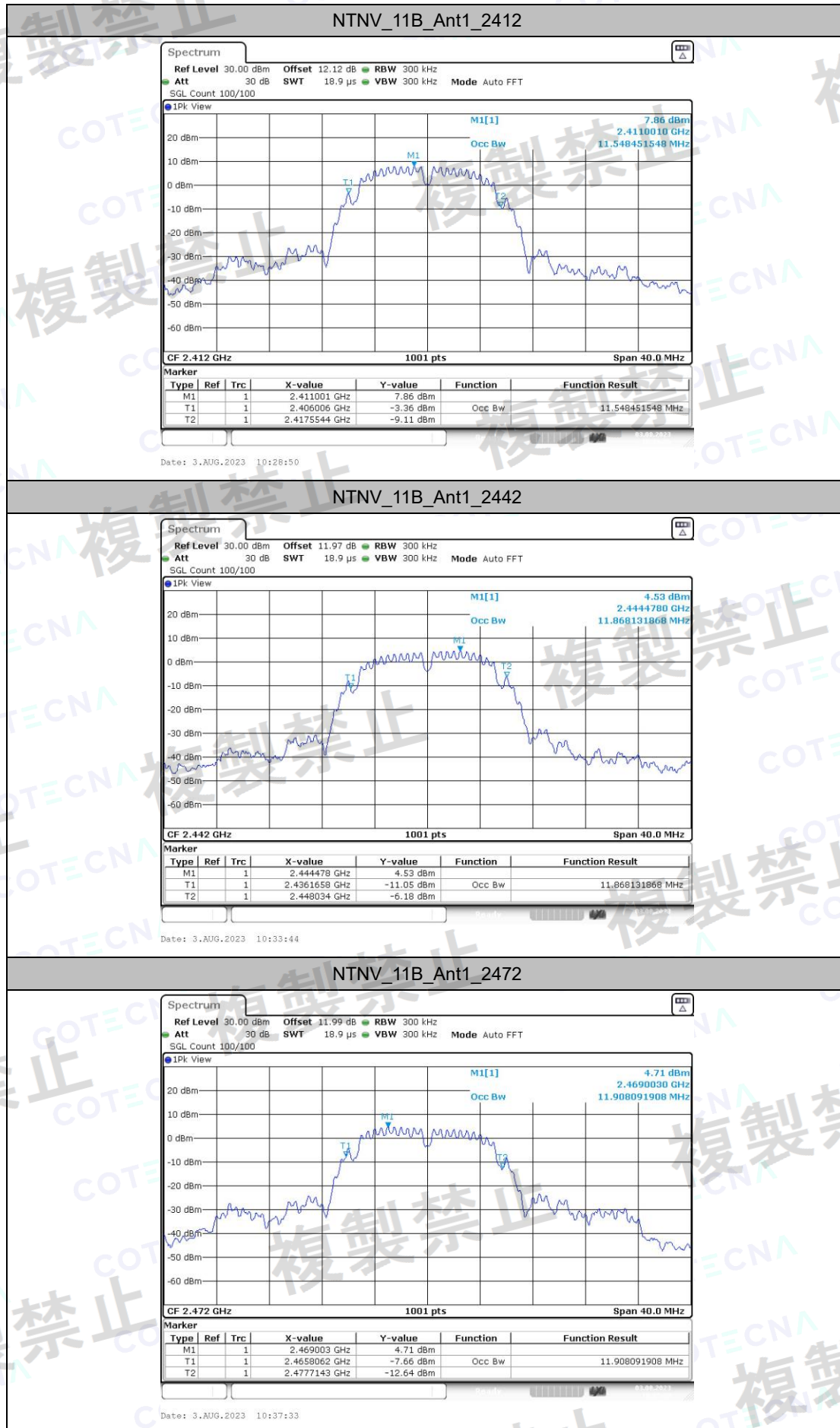
Appendix C: Occupied Bandwidth

Test Result

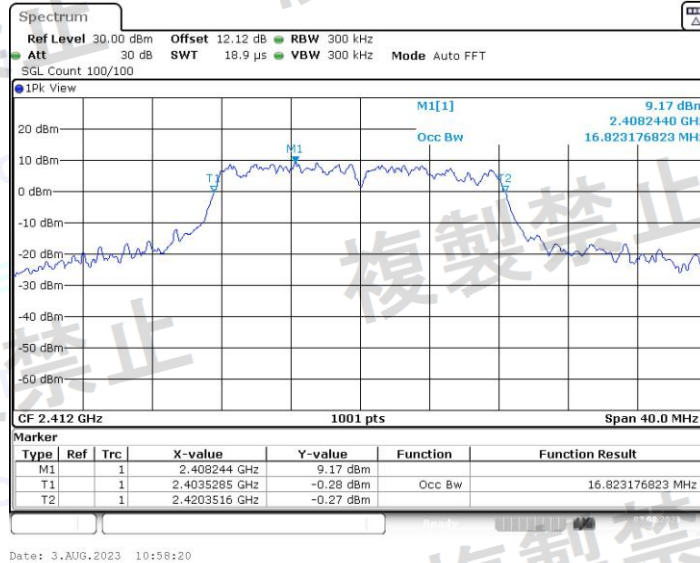
TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	11B	Ant1	2412	11.548	≤26	PASS
			2442	11.868	≤26	PASS
			2472	11.908	≤26	PASS
	11G	Ant1	2412	16.823	≤26	PASS
			2442	16.863	≤26	PASS
			2472	17.742	≤26	PASS
	11N20SISO	Ant1	2412	17.702	≤26	PASS
			2442	17.782	≤26	PASS
			2472	18.102	≤26	PASS
	11N40SISO	Ant1	2422	36.044	26-40	PASS
			2442	36.204	26-40	PASS
			2462	35.644	26-40	PASS



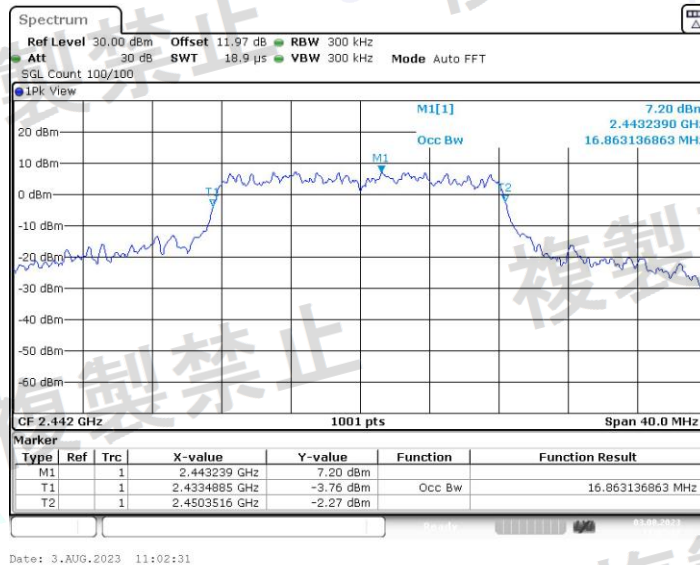
Test Graphs



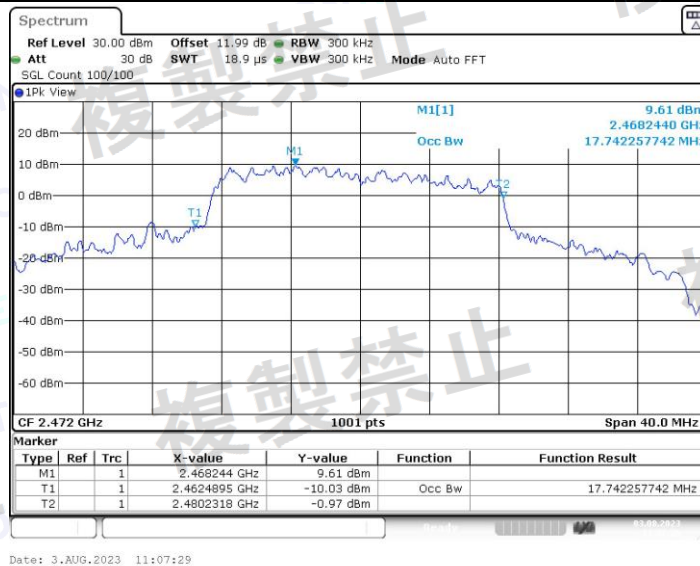
NTNV_11G_Ant1_2412



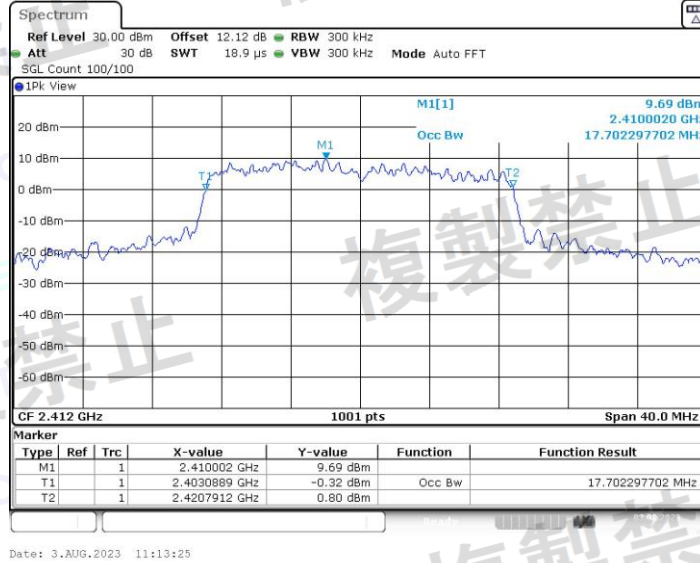
NTNV_11G_Ant1_2442



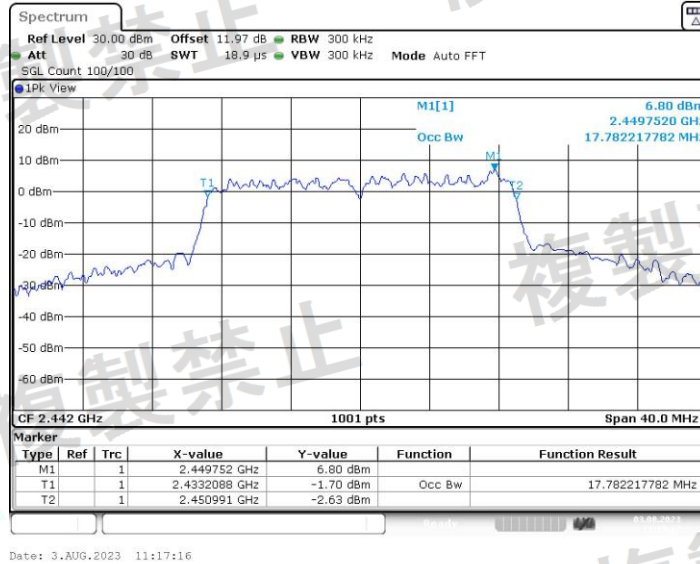
NTNV_11G_Ant1_2472



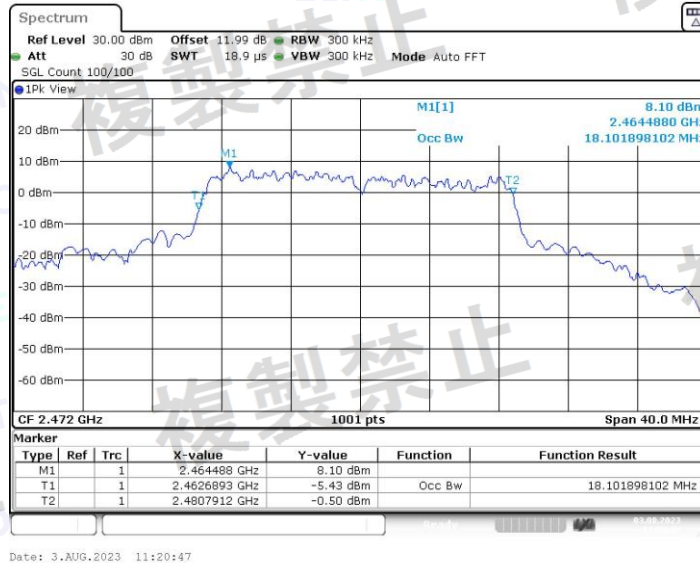
NTNV_11N20SISO_Ant1_2412



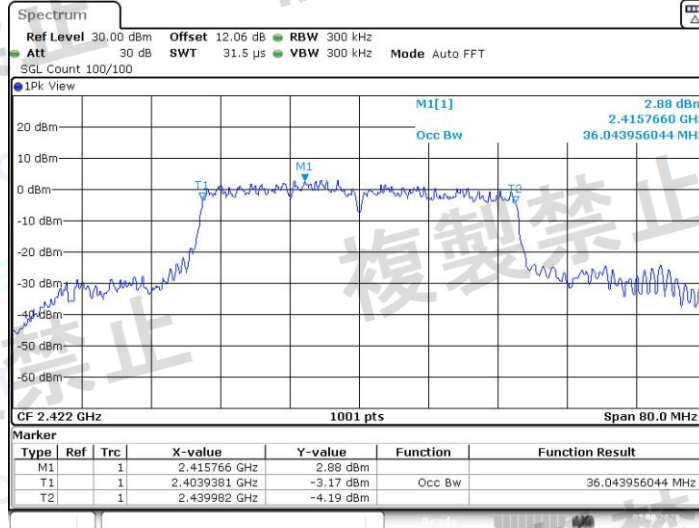
NTNV_11N20SISO_Ant1_2442



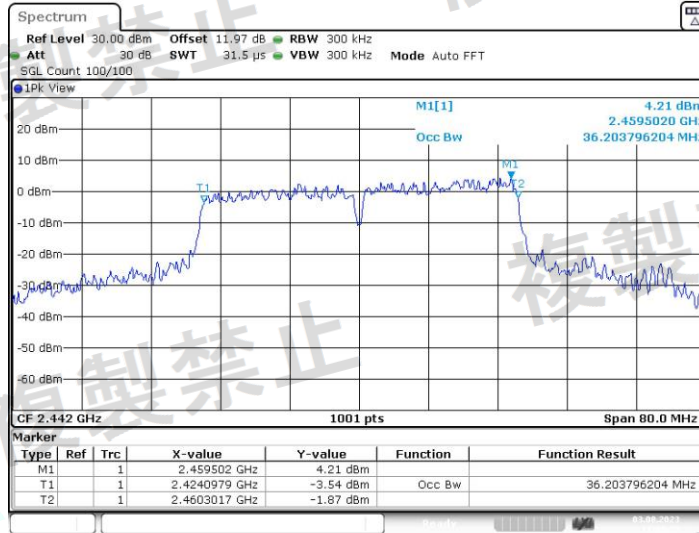
NTNV_11N20SISO_Ant1_2472



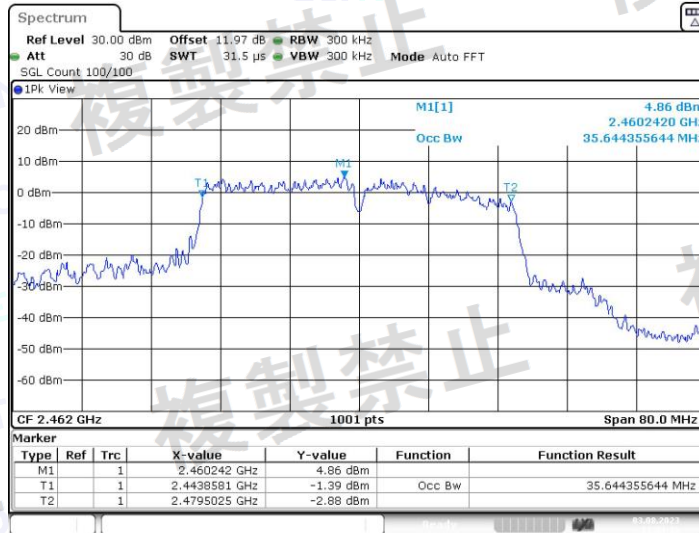
NTNV_11N40SISO_Ant1_2422



NTNV_11N40SISO_Ant1_2442



NTNV_11N40SISO_Ant1_2462



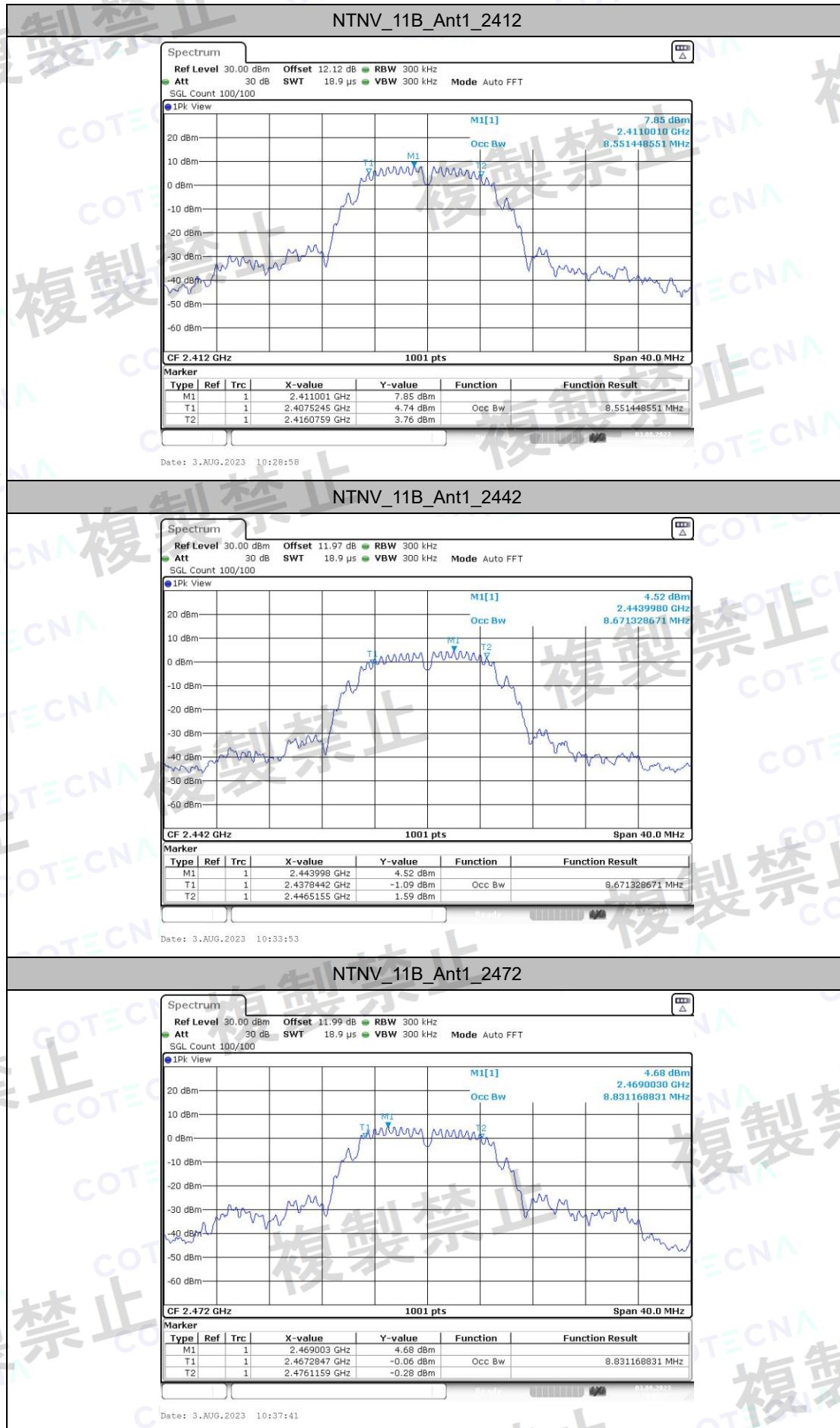
Appendix D: Spread Bandwidth

Test Result

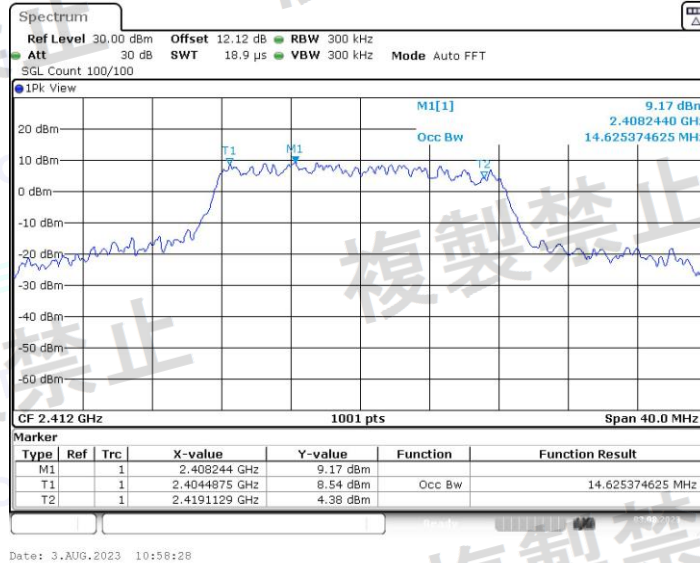
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Spread Factor	Limit	Verdict
NTNV	11B	Ant1	2412	8.551	≥0.5	6.219	>5	PASS
			2442	8.671	≥0.5	6.306	>5	PASS
			2472	8.831	≥0.5	6.423	>5	PASS
	11G	Ant1	2412	14.625	≥0.5	10.636	>5	PASS
			2442	14.985	≥0.5	10.898	>5	PASS
			2472	14.346	≥0.5	10.433	>5	PASS
	11N20SISO	Ant1	2412	15.105	≥0.5	10.985	>5	PASS
			2442	15.704	≥0.5	11.421	>5	PASS
			2472	15.744	≥0.5	11.450	>5	PASS
	11N40SISO	Ant1	2422	31.728	≥0.5	23.075	>5	PASS
			2442	32.368	≥0.5	23.540	>5	PASS
			2462	29.491	≥0.5	21.448	>5	PASS
Spreading Factor: 90% channel power bandwidth / 1.375								



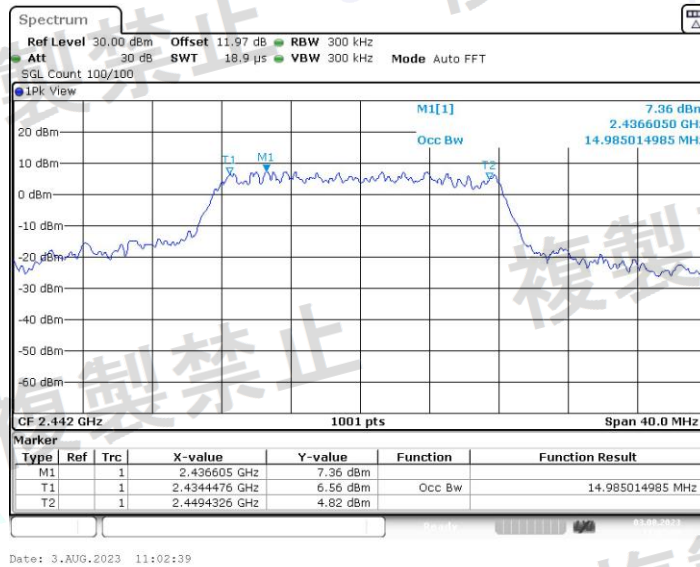
Test Graphs



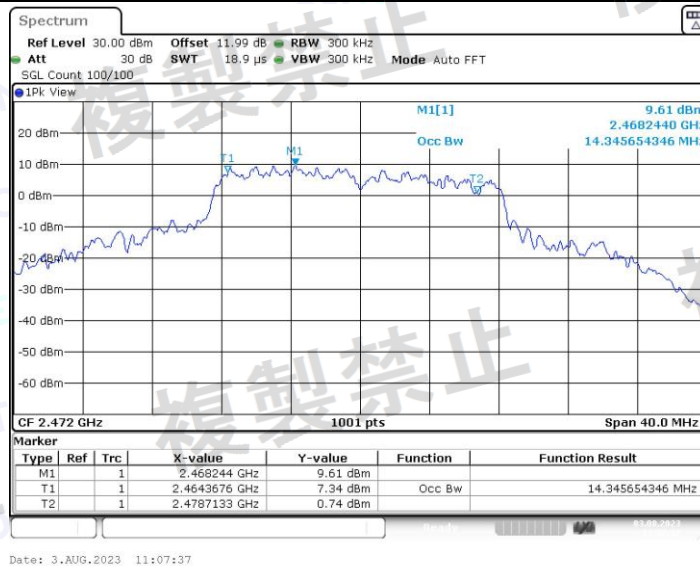
NTNV_11G_Ant1_2412



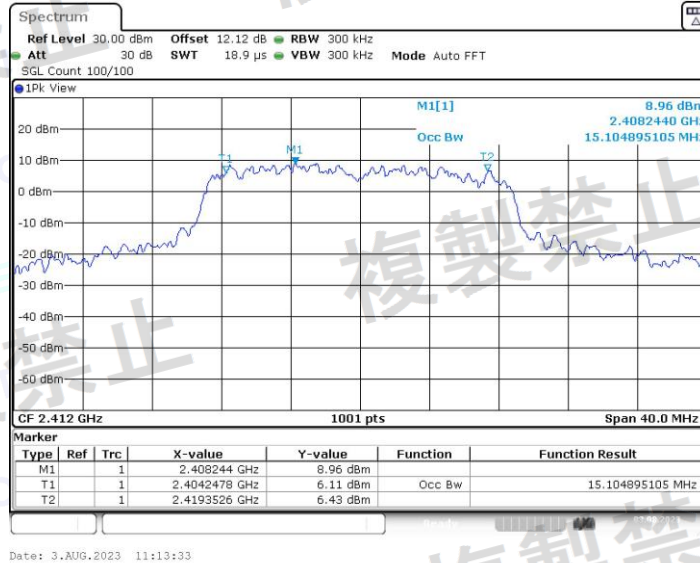
NTNV_11G_Ant1_2442



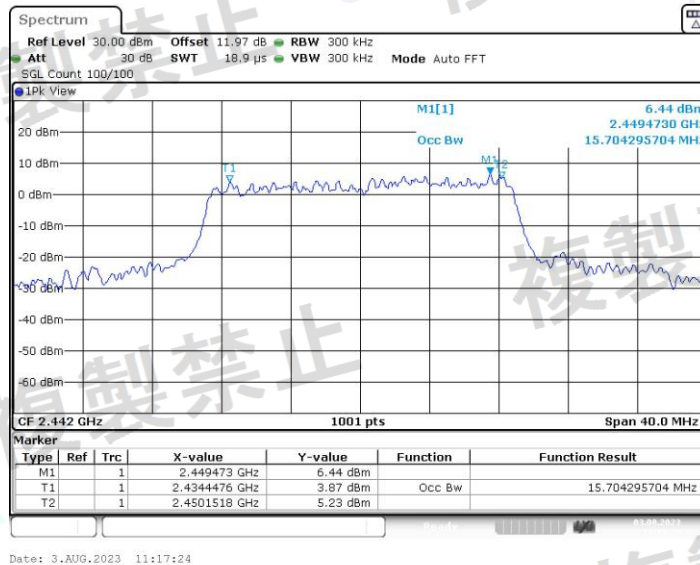
NTNV_11G_Ant1_2472



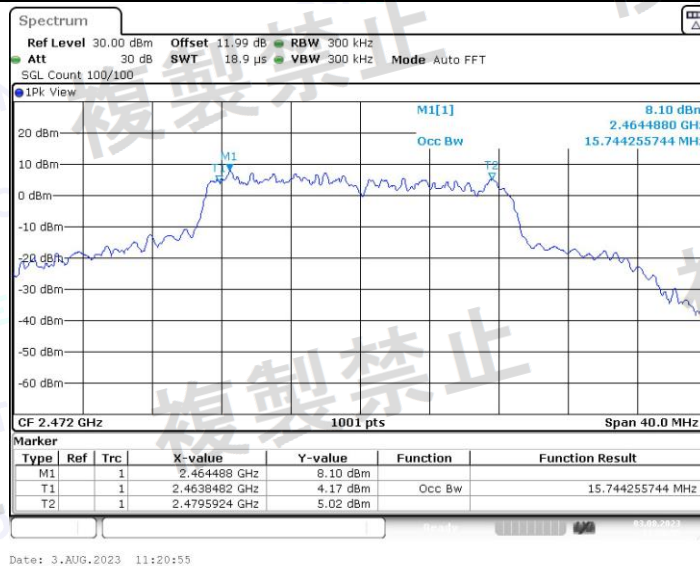
NTNV_11N20SISO_Ant1_2412



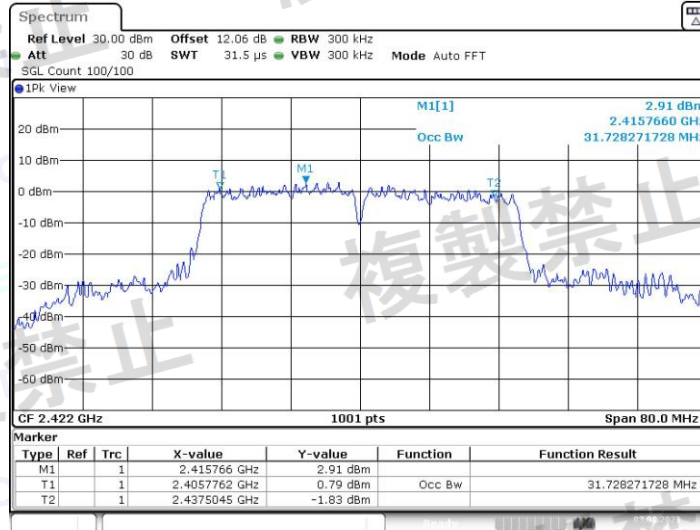
NTNV_11N20SISO_Ant1_2442



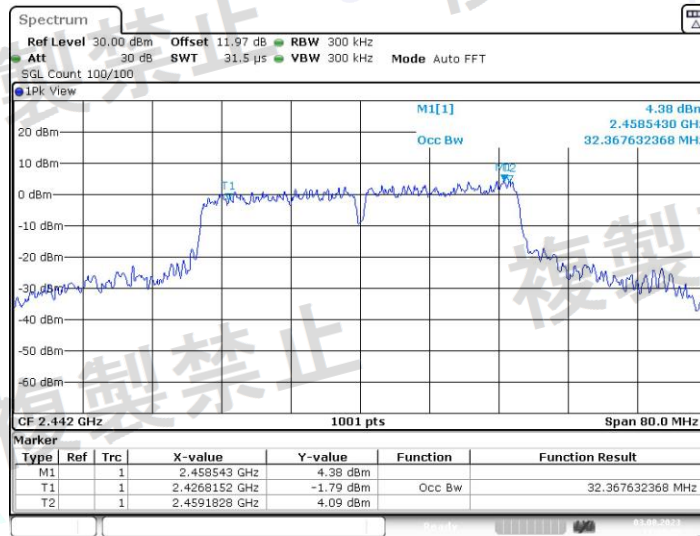
NTNV_11N20SISO_Ant1_2472



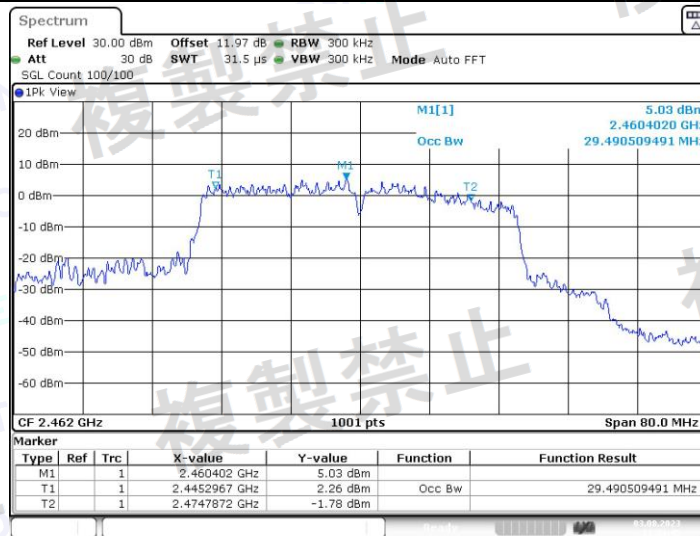
NTNV_11N40SISO_Ant1_2422



NTNV_11N40SISO_Ant1_2442



NTNV_11N40SISO_Ant1_2462



Appendix E: Spurious Emission of TX

Test Result

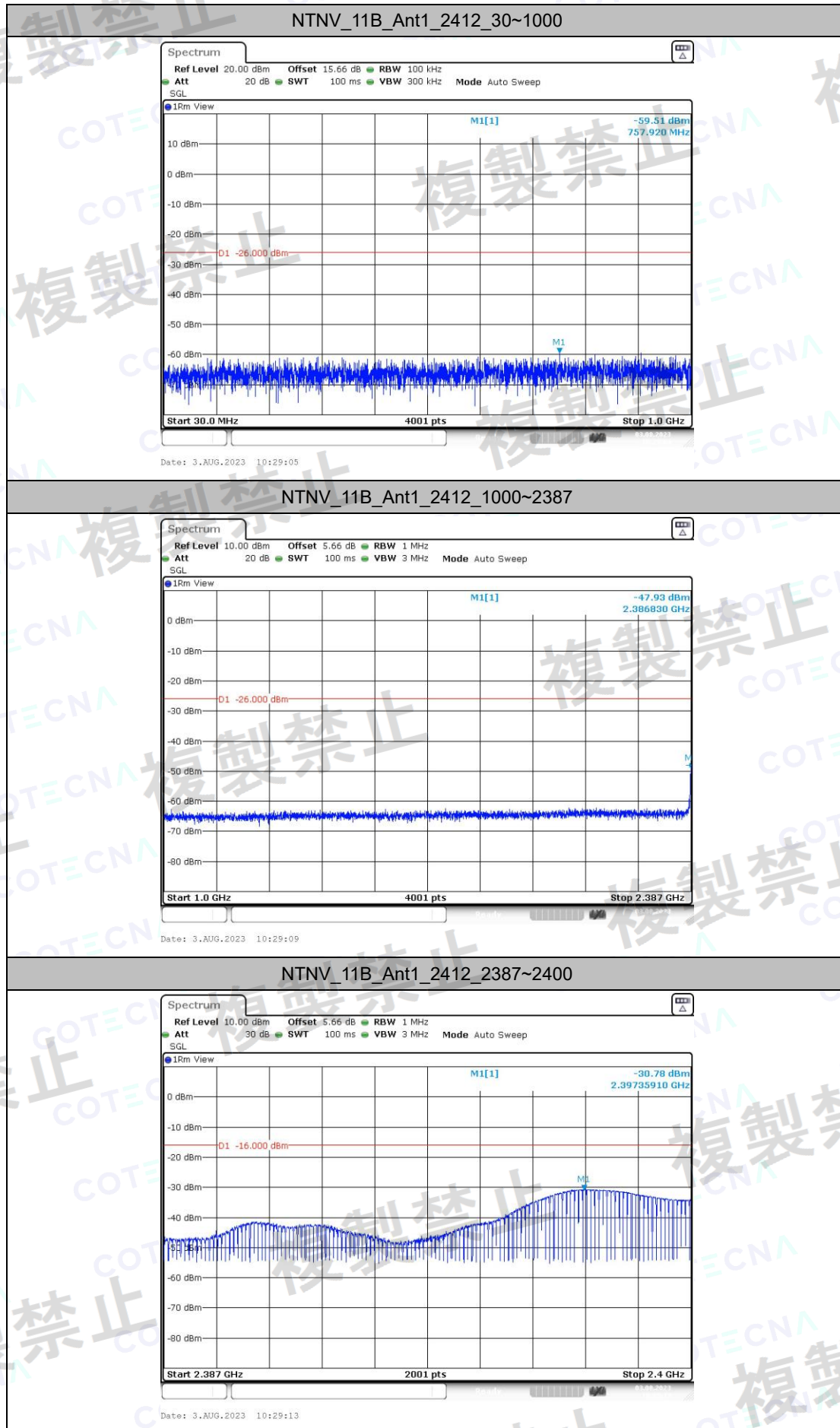
TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	11B	Ant1	2412	30~1000	-59.51	≤-26	0.00112	≤2.5	PASS
				1000~2387	-47.93	≤-26	0.01611	≤2.5	PASS
				2387~2400	-30.78	≤-16	0.83560	≤25	PASS
				2483.5~2496.5	-52.06	≤-16	0.00622	≤25	PASS
				2496.5~13000	-47.70	≤-26	0.01698	≤2.5	PASS
			2442	30~1000	-59.77	≤-26	0.00105	≤2.5	PASS
				1000~2387	-61.79	≤-26	0.00066	≤2.5	PASS
				2387~2400	-52.10	≤-16	0.00617	≤25	PASS
				2483.5~2496.5	-51.77	≤-16	0.00665	≤25	PASS
				2496.5~13000	-53.56	≤-26	0.00441	≤2.5	PASS
			2472	30~1000	-58.82	≤-26	0.00131	≤2.5	PASS
				1000~2387	-62.10	≤-26	0.00062	≤2.5	PASS
				2387~2400	-52.15	≤-16	0.00610	≤25	PASS
				2483.5~2496.5	-30.52	≤-16	0.88716	≤25	PASS
				2496.5~13000	-54.22	≤-26	0.00378	≤2.5	PASS
	11G	Ant1	2412	30~1000	-60.32	≤-26	0.00093	≤2.5	PASS
				1000~2387	-36.91	≤-26	0.20370	≤2.5	PASS
				2387~2400	-18.64	≤-16	13.67729	≤25	PASS
				2483.5~2496.5	-51.69	≤-16	0.00678	≤25	PASS
				2496.5~13000	-52.46	≤-26	0.00568	≤2.5	PASS
			2442	30~1000	-59.75	≤-26	0.00106	≤2.5	PASS
				1000~2387	-62.03	≤-26	0.00063	≤2.5	PASS
				2387~2400	-50.82	≤-16	0.00828	≤25	PASS
				2483.5~2496.5	-51.36	≤-16	0.00731	≤25	PASS
				2496.5~13000	-54.26	≤-26	0.00375	≤2.5	PASS
			2472	30~1000	-57.25	≤-26	0.00188	≤2.5	PASS
				1000~2387	-62.18	≤-26	0.00061	≤2.5	PASS
				2387~2400	-52.38	≤-16	0.00578	≤25	PASS
				2483.5~2496.5	-16.77	≤-16	21.03778	≤25	PASS
				2496.5~13000	-53.52	≤-26	0.00445	≤2.5	PASS
	11N20SIS O	Ant1	2412	30~1000	-60.01	≤-26	0.00100	≤2.5	PASS
				1000~2387	-36.19	≤-26	0.24044	≤2.5	PASS
				2387~2400	-17.82	≤-16	16.51962	≤25	PASS
				2483.5~2496.5	-51.49	≤-16	0.00710	≤25	PASS
				2496.5~13000	-53.26	≤-26	0.00472	≤2.5	PASS
			2442	30~1000	-58.71	≤-26	0.00135	≤2.5	PASS
				1000~2387	-61.61	≤-26	0.00069	≤2.5	PASS
				2387~2400	-51.23	≤-16	0.00753	≤25	PASS
				2483.5~2496.5	-50.49	≤-16	0.00893	≤25	PASS



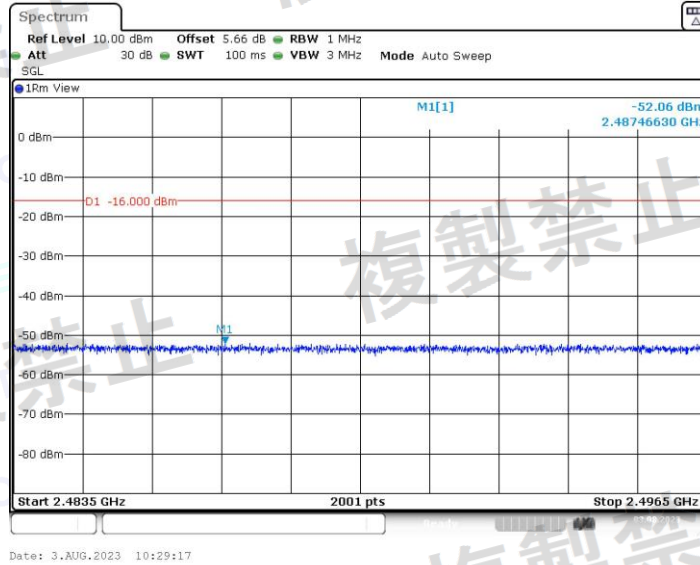
				2496.5~13000	-54.08	≤-26	0.00391	≤2.5	PASS
			2472	30~1000	-59.69	≤-26	0.00107	≤2.5	PASS
				1000~2387	-62.19	≤-26	0.00060	≤2.5	PASS
				2387~2400	-52.23	≤-16	0.00598	≤25	PASS
				2483.5~2496.5	-22.82	≤-16	5.22396	≤25	PASS
				2496.5~13000	-54.33	≤-26	0.00369	≤2.5	PASS
	11N40SIS O	Ant1	2422	30~1000	-59.06	≤-26	0.00124	≤2.5	PASS
				1000~2387	-35.86	≤-26	0.25942	≤2.5	PASS
				2387~2400	-30.06	≤-16	0.98628	≤25	PASS
				2483.5~2496.5	-48.87	≤-16	0.01297	≤25	PASS
				2496.5~13000	-52.70	≤-26	0.00537	≤2.5	PASS
			2442	30~1000	-59.46	≤-26	0.00113	≤2.5	PASS
				1000~2387	-49.09	≤-26	0.01233	≤2.5	PASS
				2387~2400	-36.75	≤-16	0.21135	≤25	PASS
				2483.5~2496.5	-37.50	≤-16	0.17783	≤25	PASS
				2496.5~13000	-53.49	≤-26	0.00448	≤2.5	PASS
			2462	30~1000	-59.96	≤-26	0.00101	≤2.5	PASS
				1000~2387	-58.97	≤-26	0.00127	≤2.5	PASS
				2387~2400	-45.77	≤-16	0.02649	≤25	PASS
				2483.5~2496.5	-30.57	≤-16	0.87700	≤25	PASS
				2496.5~13000	-53.54	≤-26	0.00443	≤2.5	PASS



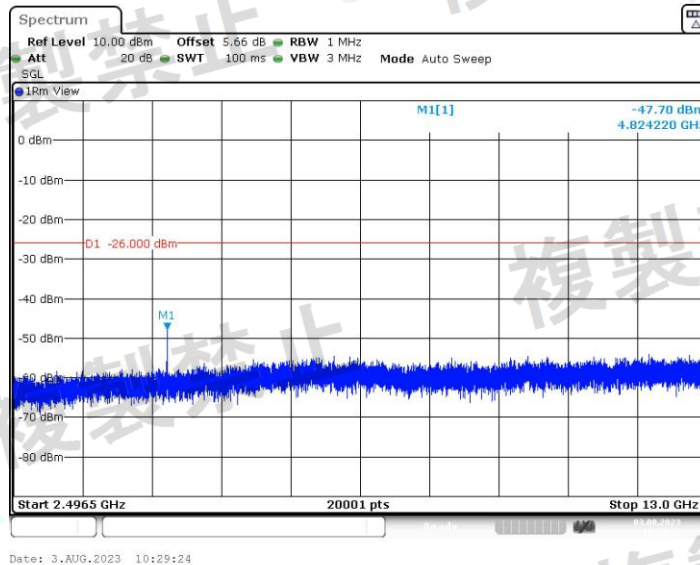
Test Graphs



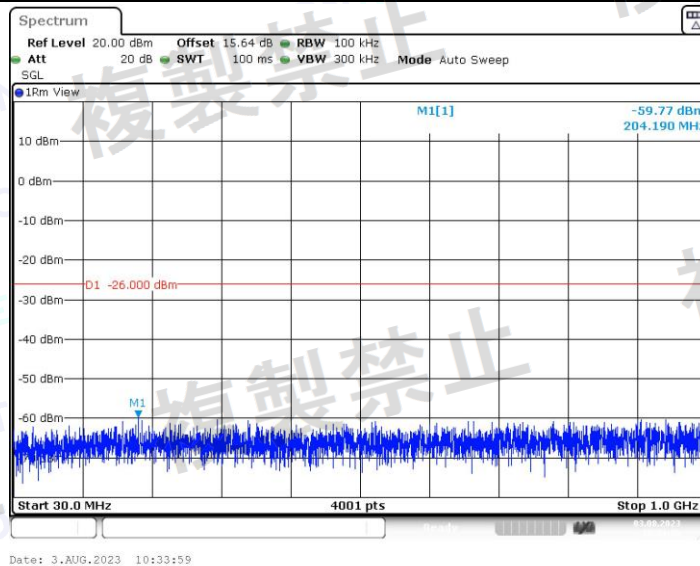
NTNV_11B_Ant1_2412_2483.5~2496.5



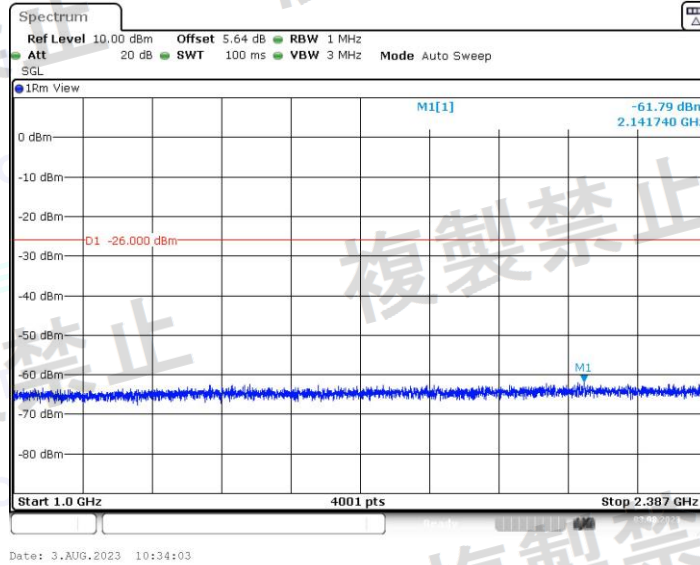
NTNV_11B_Ant1_2412_2496.5~13000



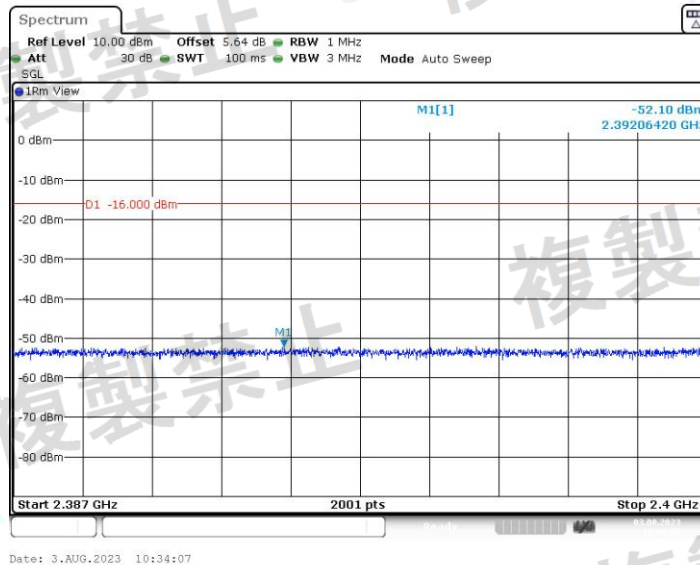
NTNV_11B_Ant1_2442_30~1000



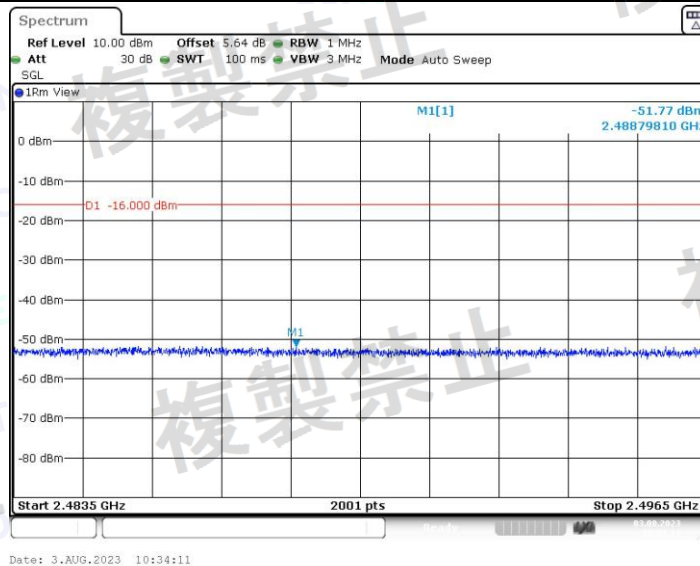
NTNV_11B_Ant1_2442_1000~2387



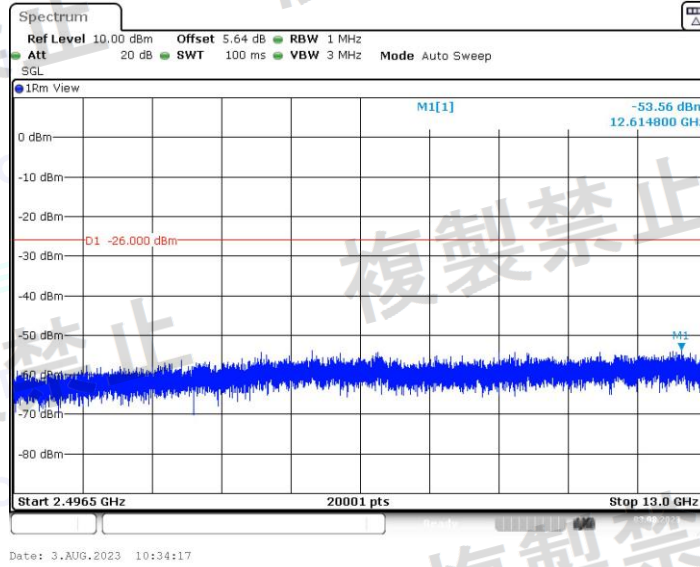
NTNV_11B_Ant1_2442_2387~2400



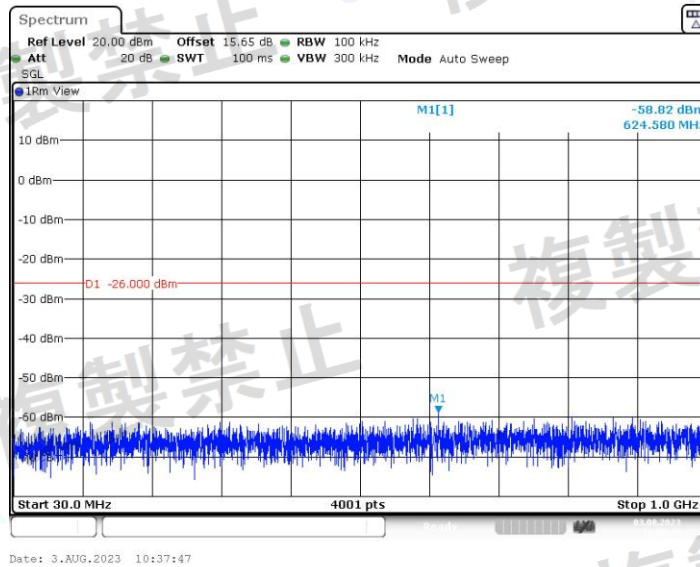
NTNV_11B_Ant1_2442_2483.5~2496.5



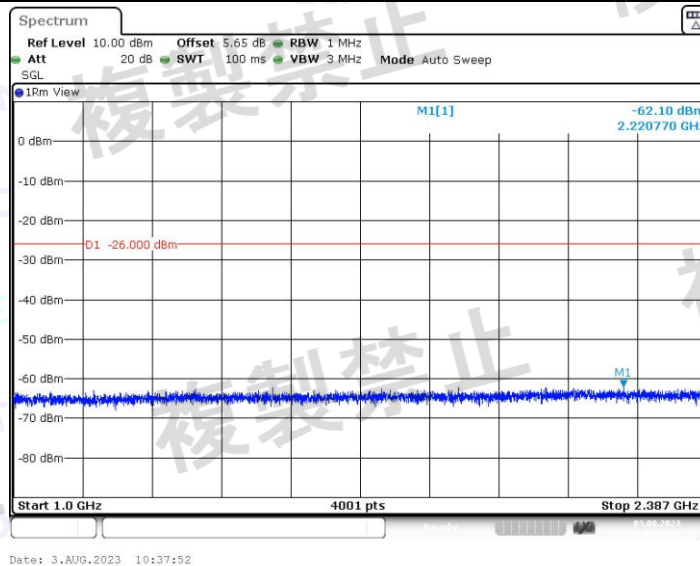
NTNV_11B_Ant1_2442_2496.5~13000



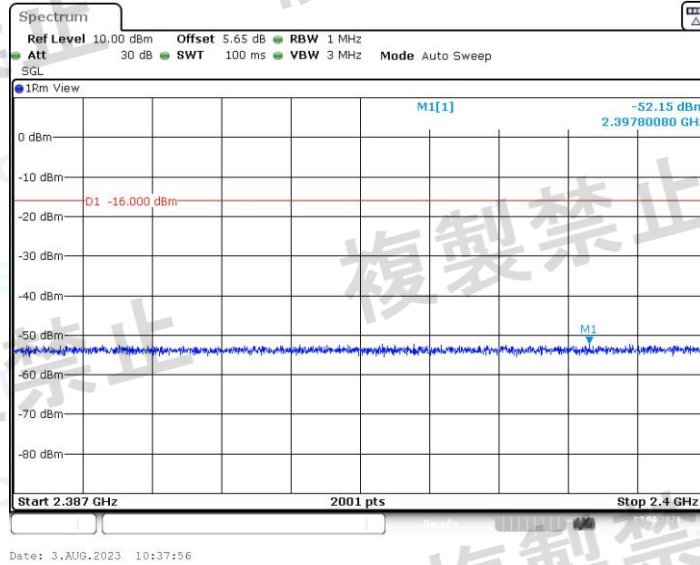
NTNV_11B_Ant1_2472_30~1000



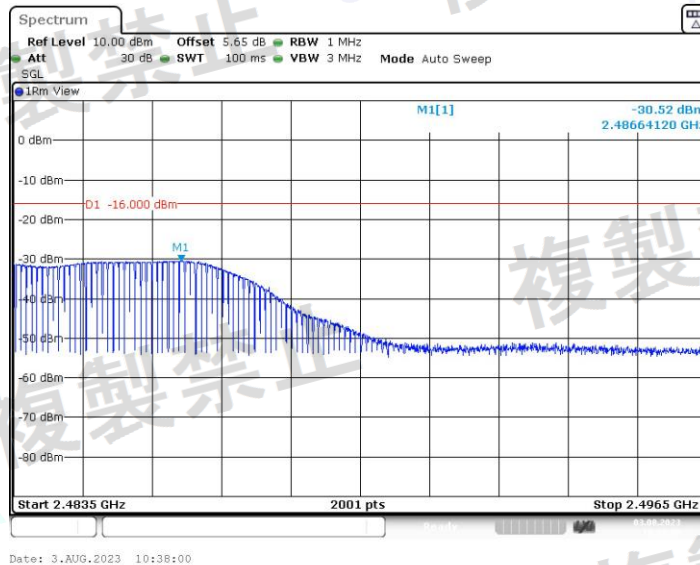
NTNV_11B_Ant1_2472_1000~2387



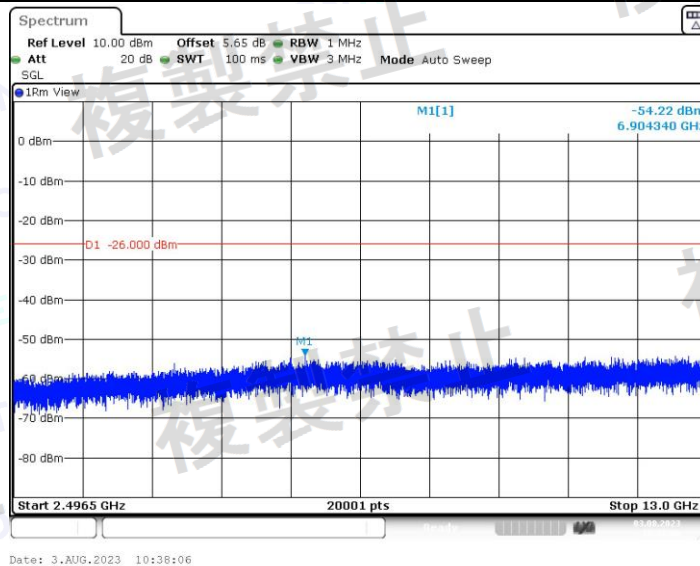
NTNV_11B_Ant1_2472_2387~2400



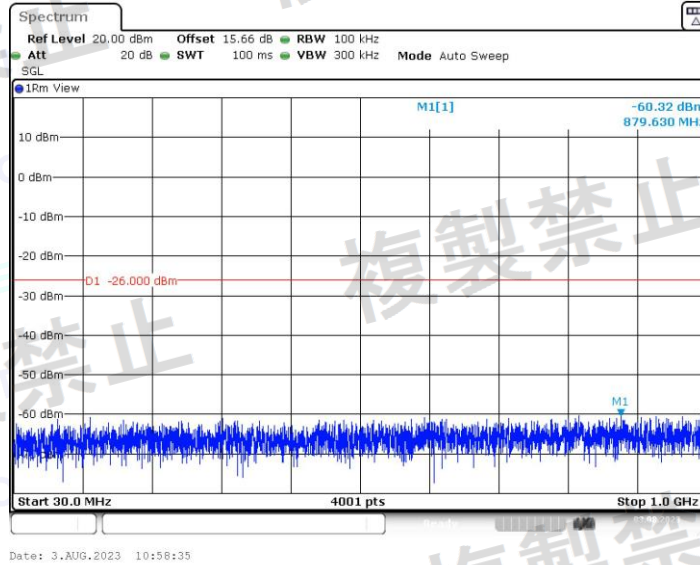
NTNV_11B_Ant1_2472_2483.5~2496.5



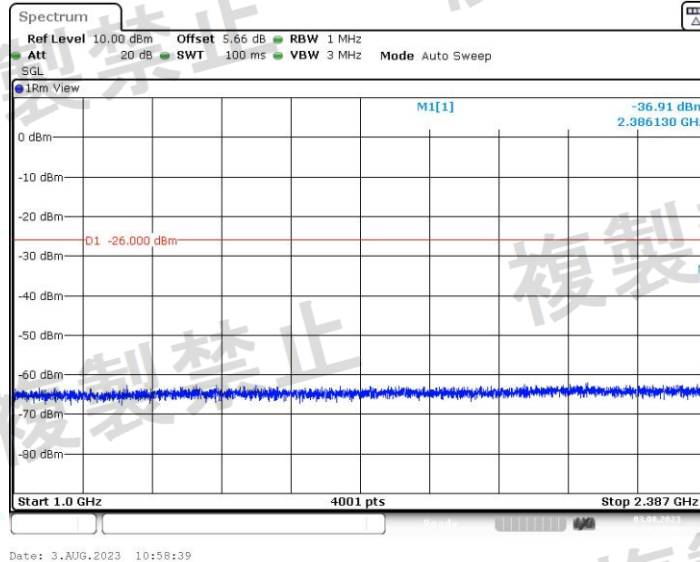
NTNV_11B_Ant1_2472_2496.5~13000



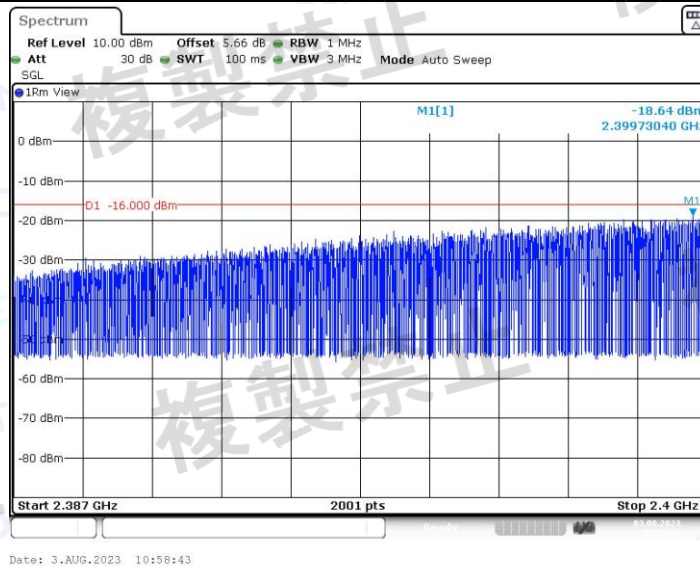
NTNV_11G_Ant1_2412_30~1000



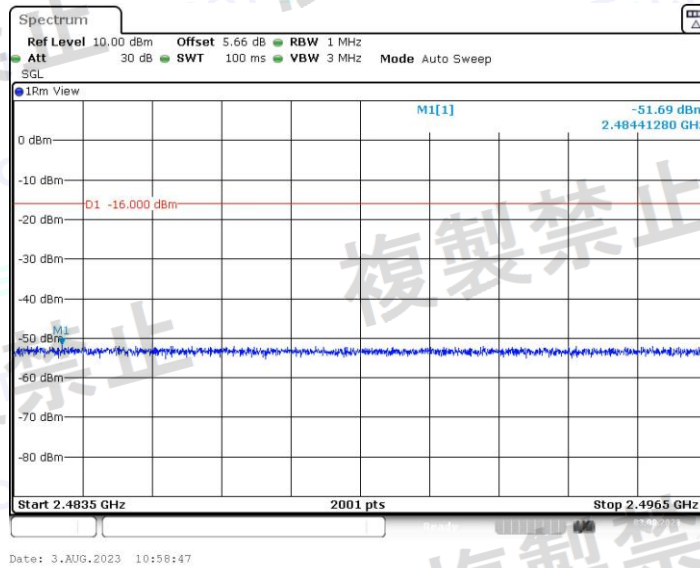
NTNV_11G_Ant1_2412_1000~2387



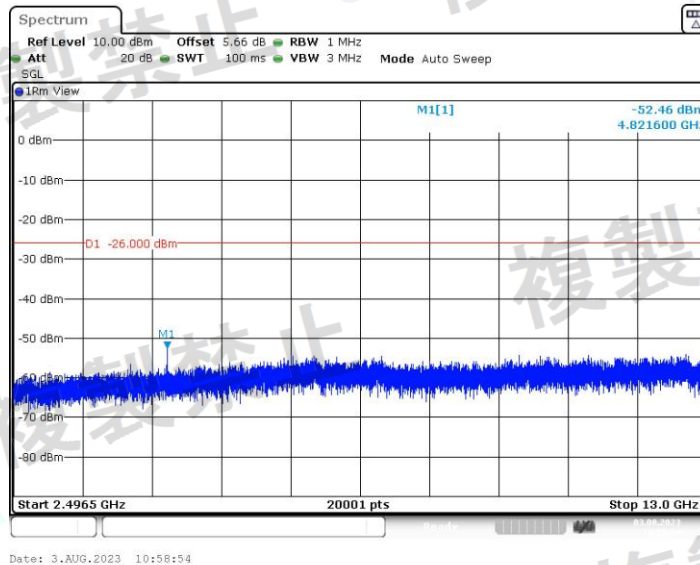
NTNV_11G_Ant1_2412_2387~2400



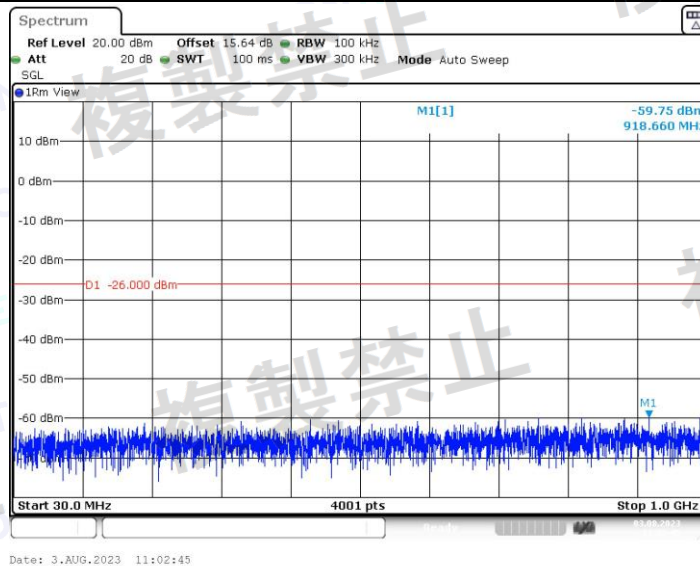
NTNV_11G_Ant1_2412_2483.5~2496.5



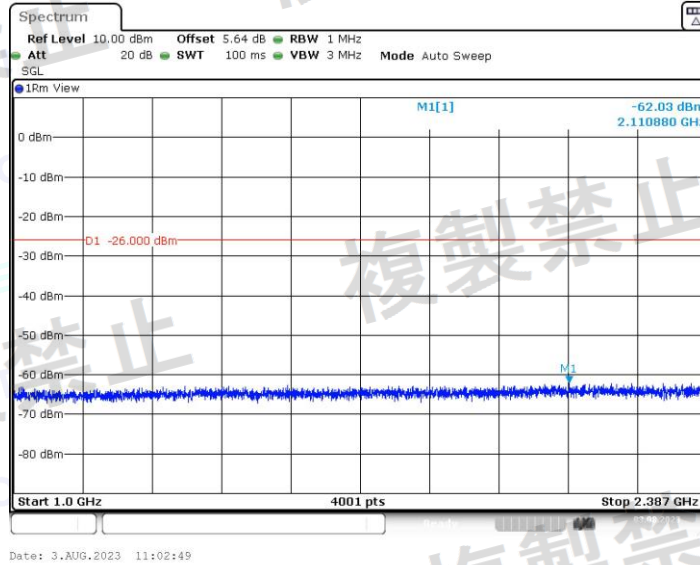
NTNV_11G_Ant1_2412_2496.5~13000



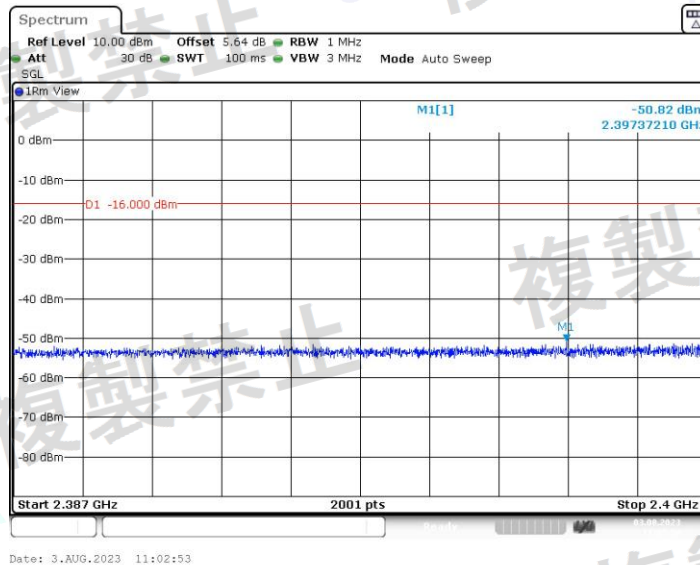
NTNV_11G_Ant1_2442_30~1000



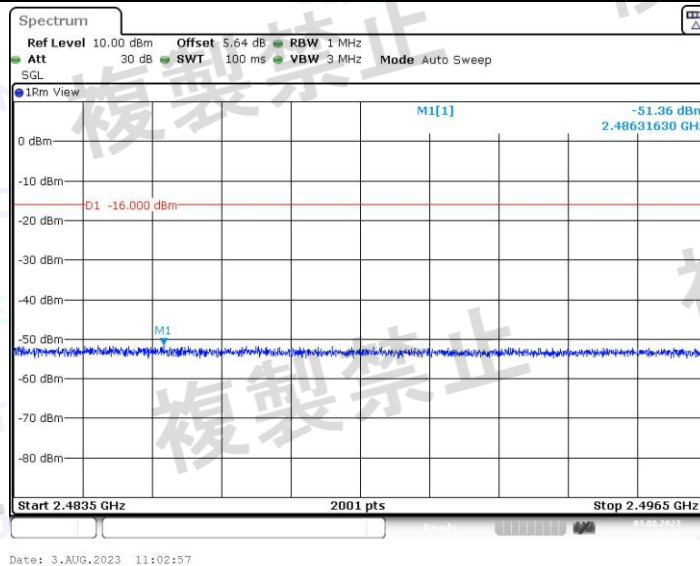
NTNV_11G_Ant1_2442_1000~2387



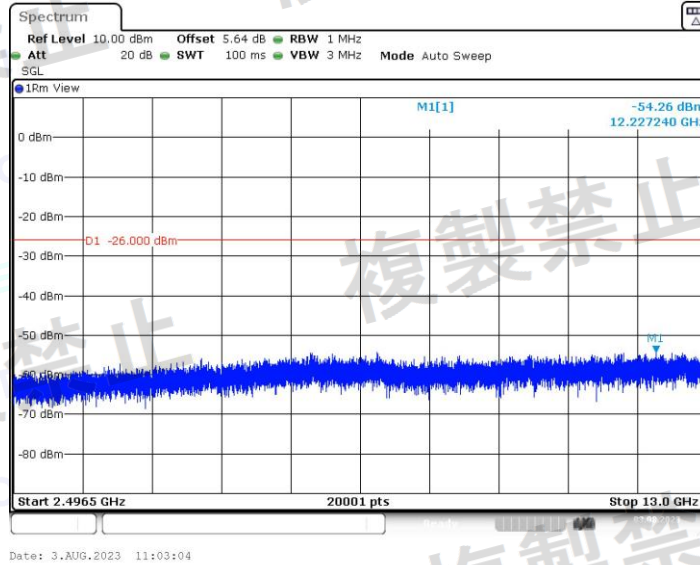
NTNV_11G_Ant1_2442_2387~2400



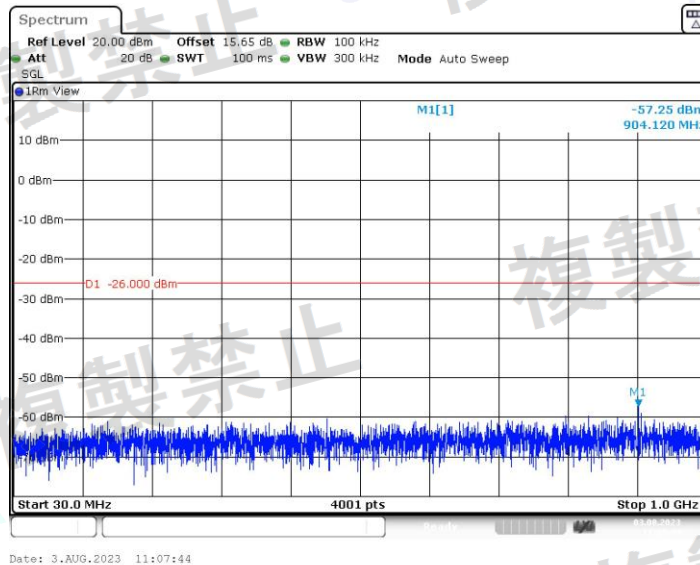
NTNV_11G_Ant1_2442_2483.5~2496.5



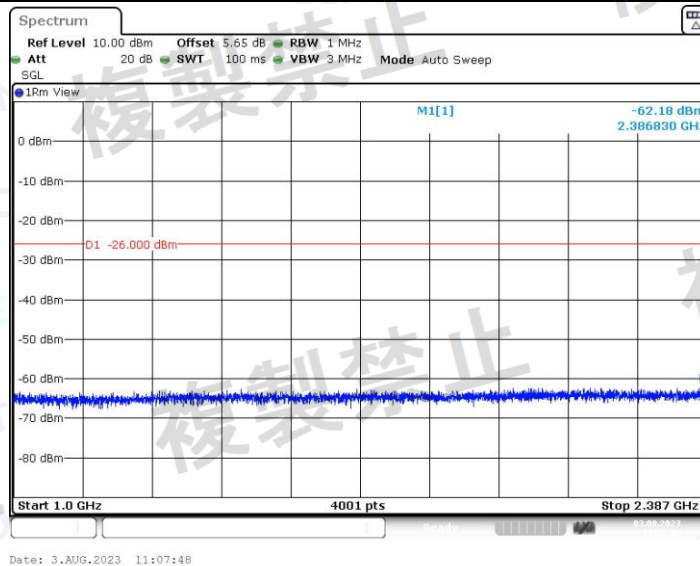
NTNV_11G_Ant1_2442_2496.5~13000



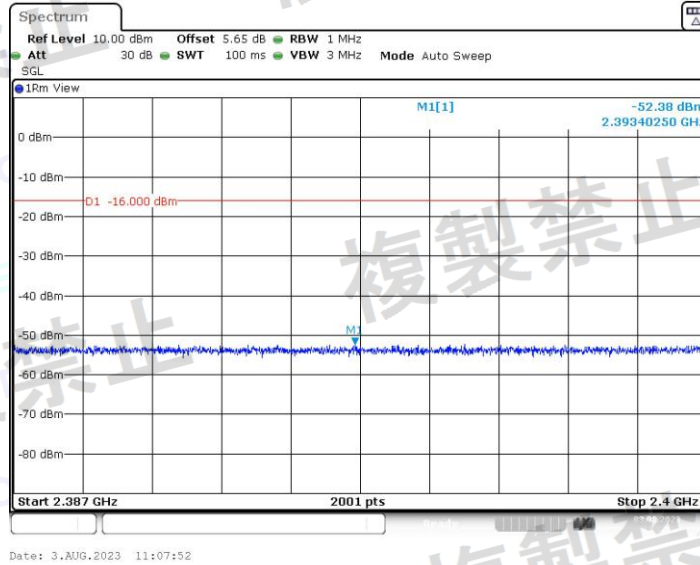
NTNV_11G_Ant1_2472_30~1000



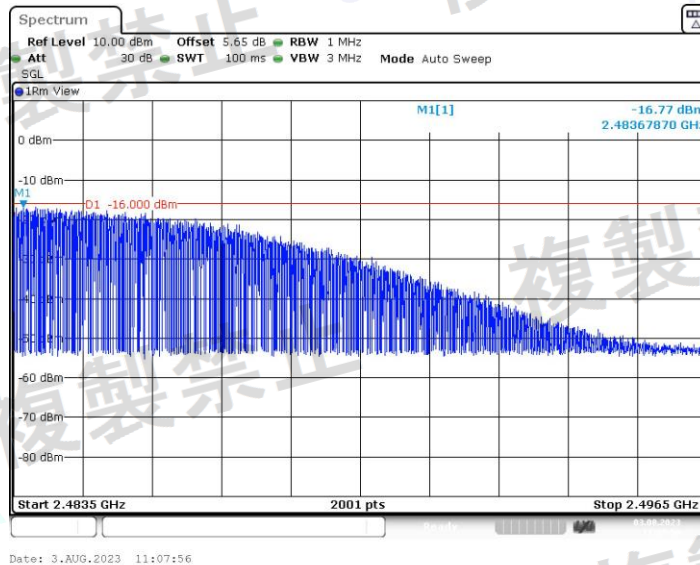
NTNV_11G_Ant1_2472_1000~2387



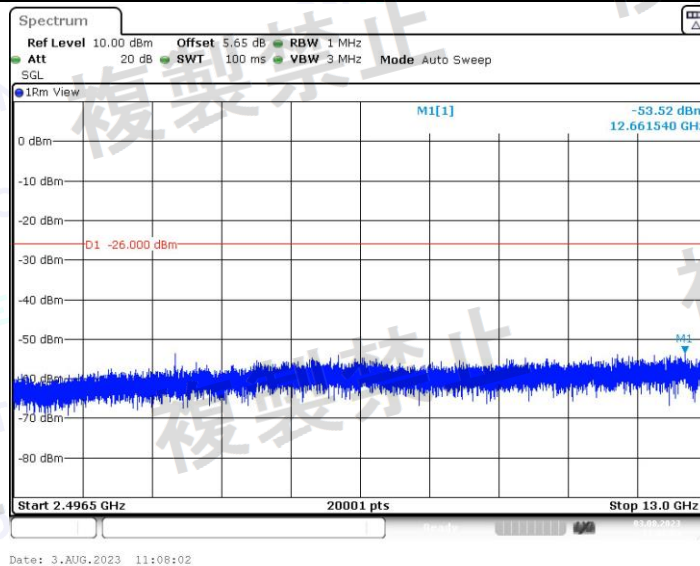
NTNV_11G_Ant1_2472_2387~2400



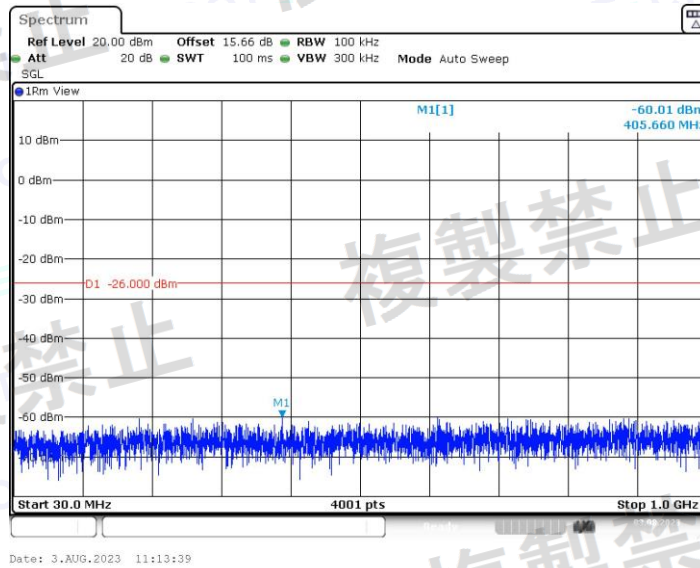
NTNV_11G_Ant1_2472_2483.5~2496.5



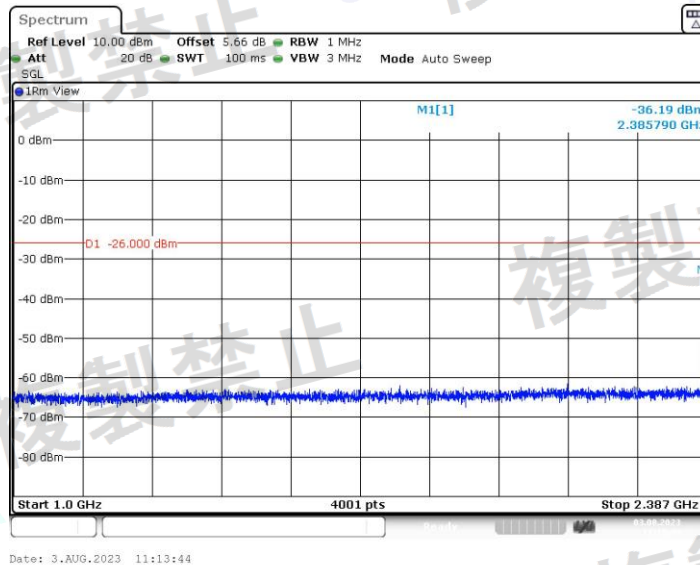
NTNV_11G_Ant1_2472_2496.5~13000



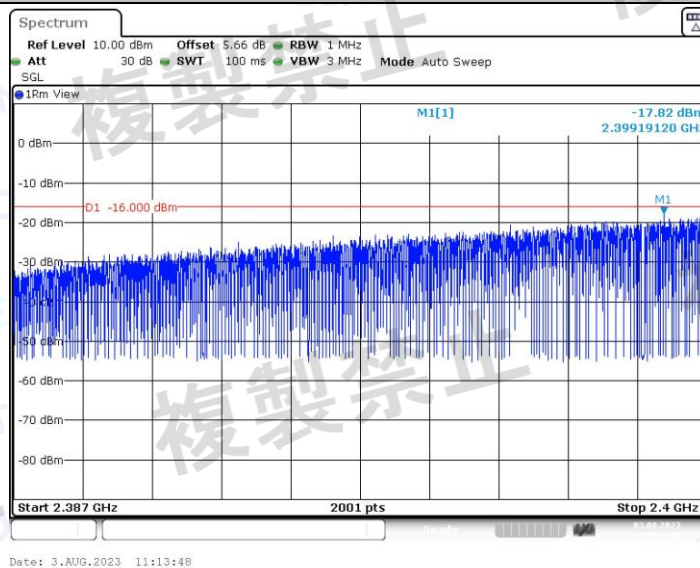
NTNV_11N20SISO_Ant1_2412_30~1000



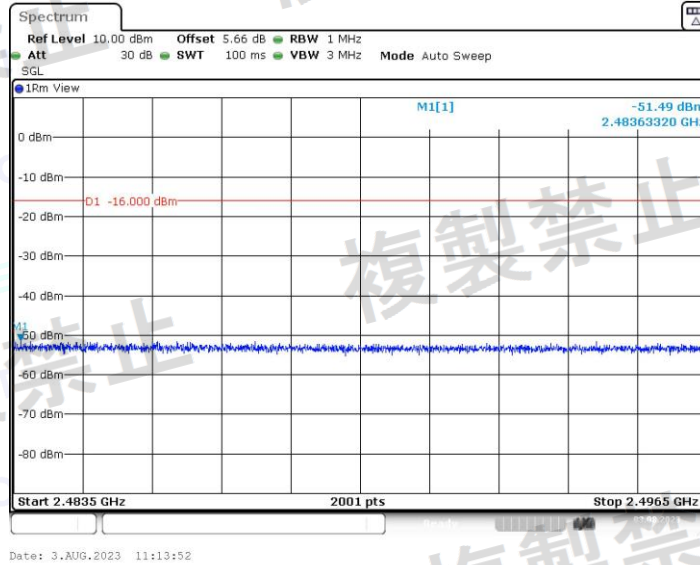
NTNV_11N20SISO_Ant1_2412_1000~2387



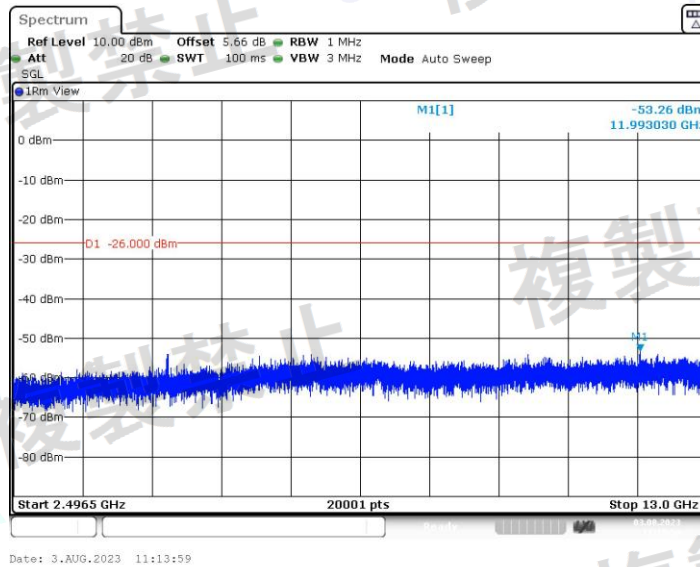
NTNV_11N20SISO_Ant1_2412_2387~2400



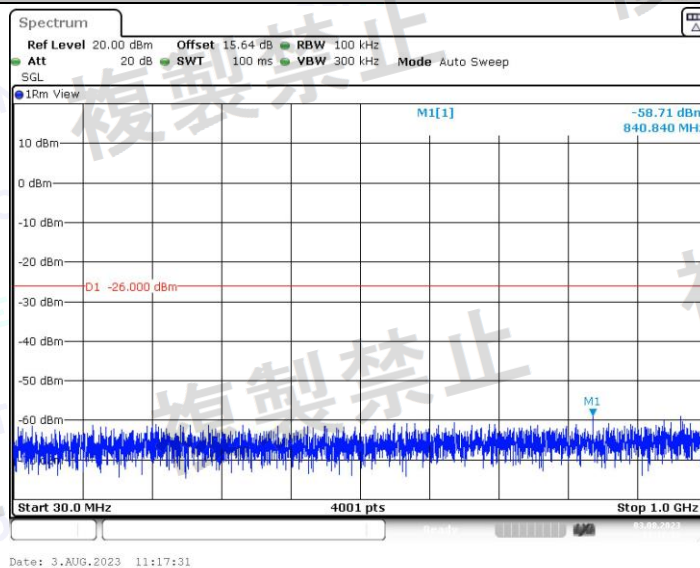
NTNV_11N20SISO_Ant1_2412_2483.5~2496.5



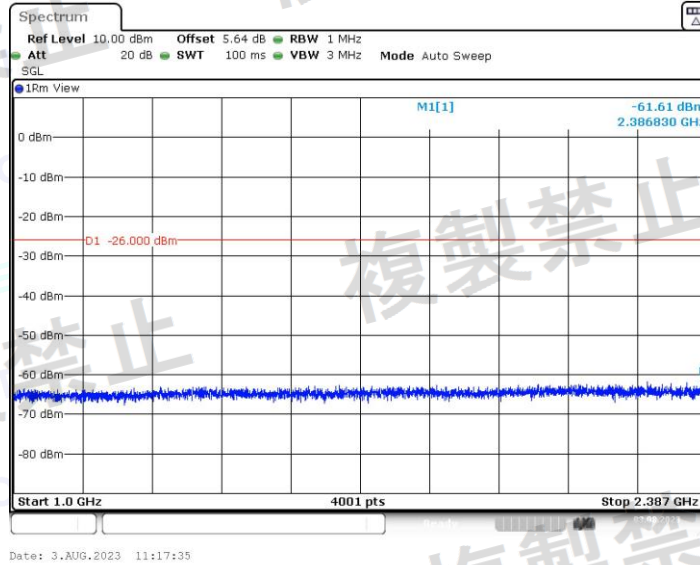
NTNV_11N20SISO_Ant1_2496.5~13000



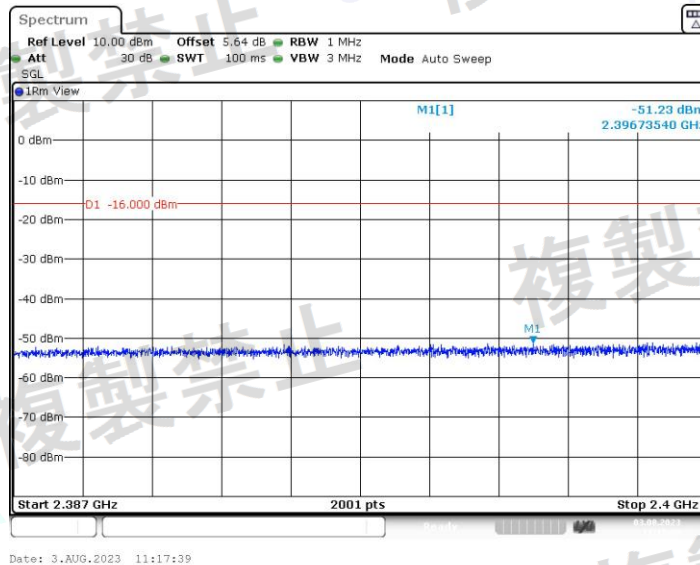
NTNV_11N20SISO_Ant1_2442_30~1000



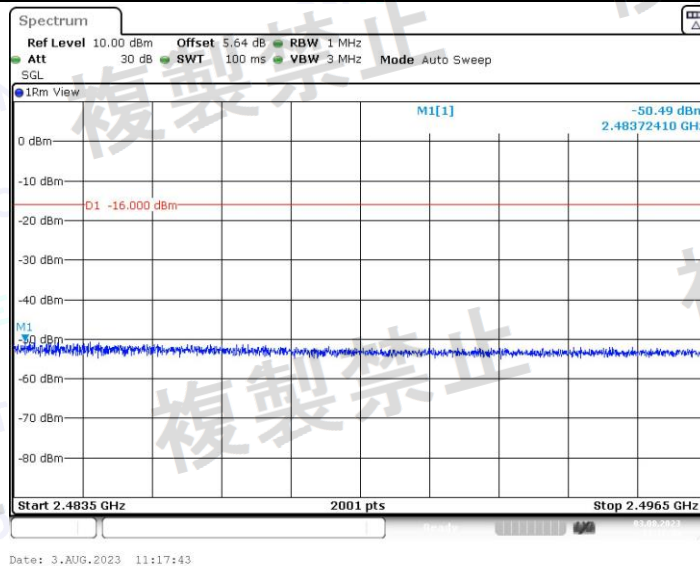
NTNV_11N20SISO_Ant1_2442_1000~2387



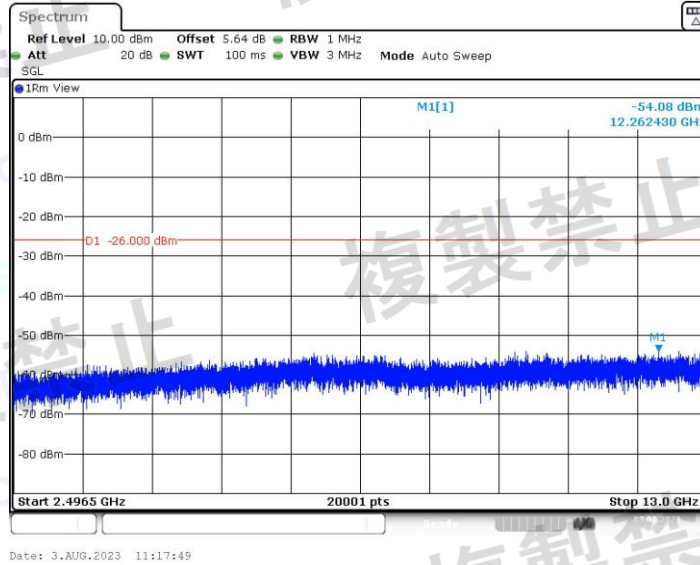
NTNV_11N20SISO_Ant1_2442_2387~2400



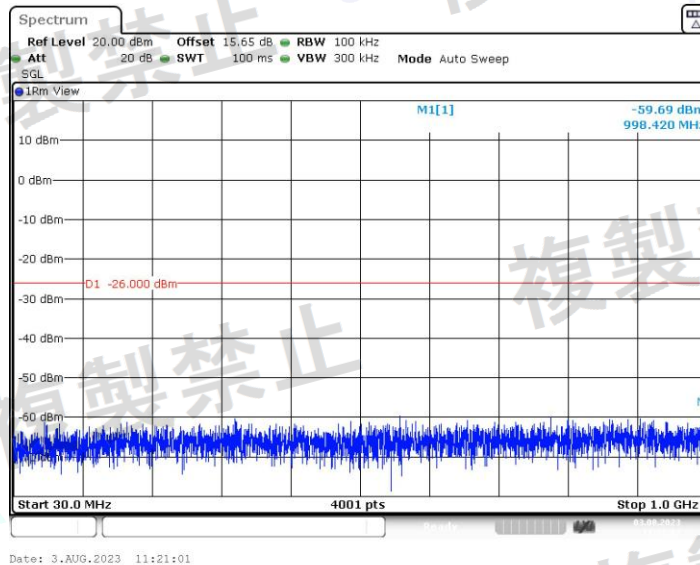
NTNV_11N20SISO_Ant1_2442_2483.5~2496.5



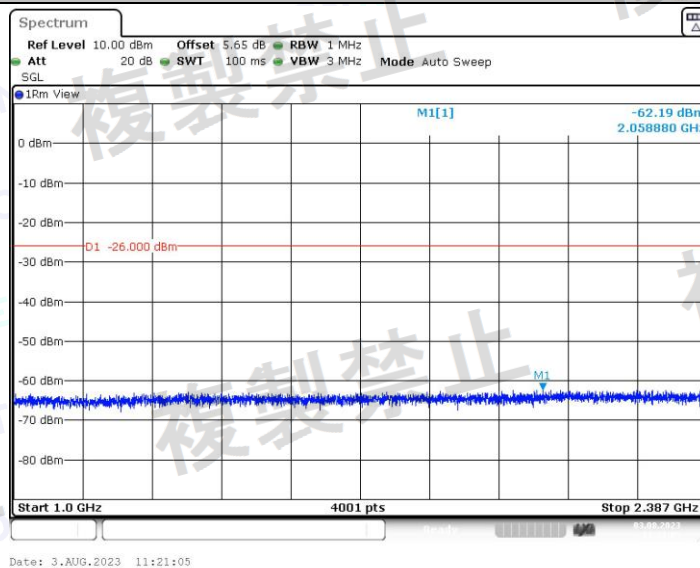
NTNV_11N20SISO_Ant1_2442_2496.5~13000



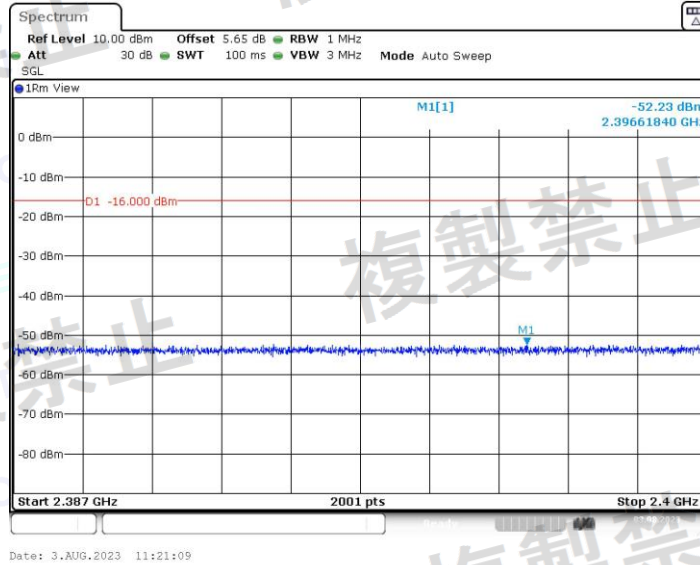
NTNV_11N20SISO_Ant1_2472_30~1000



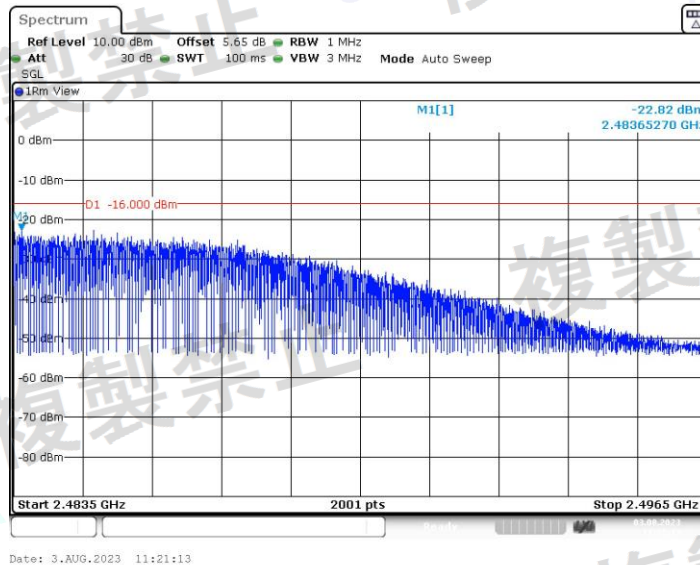
NTNV_11N20SISO_Ant1_2472_1000~2387



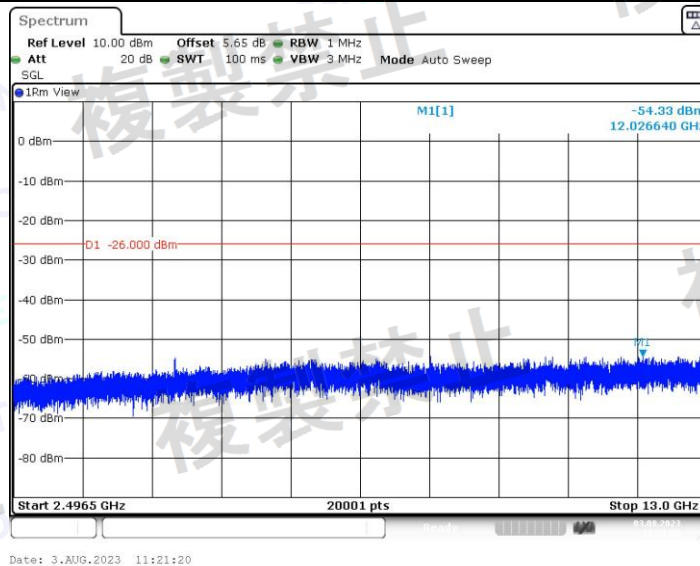
NTNV_11N20SISO_Ant1_2472_2387~2400



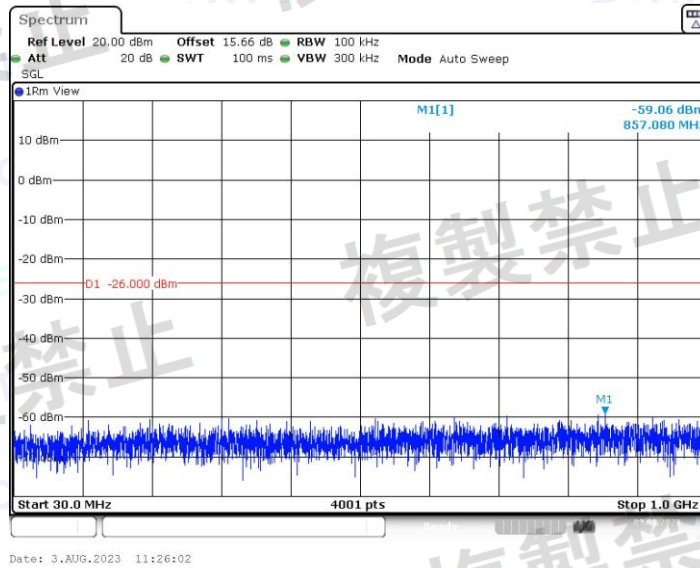
NTNV_11N20SISO_Ant1_2472_2483.5~2496.5



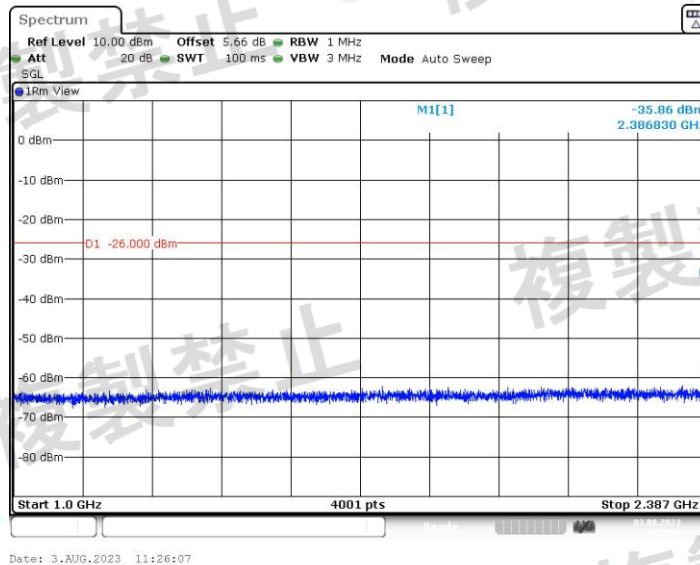
NTNV_11N20SISO_Ant1_2472_2496.5~13000



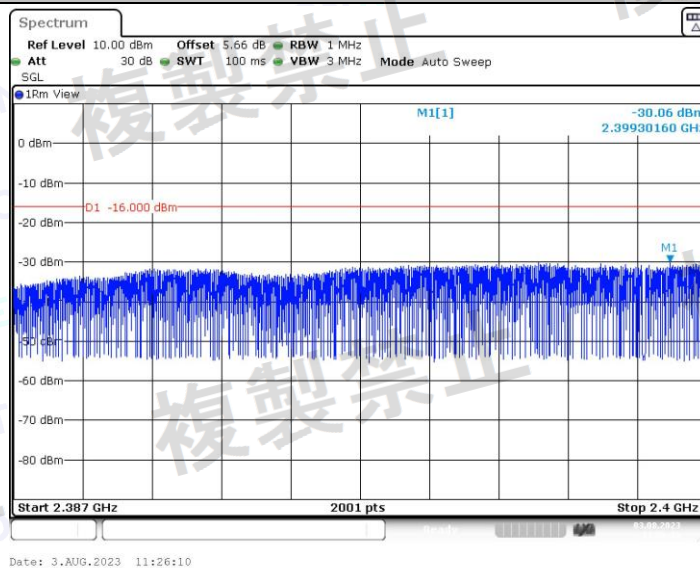
NTNV_11N40SISO_Ant1_2422_30~1000



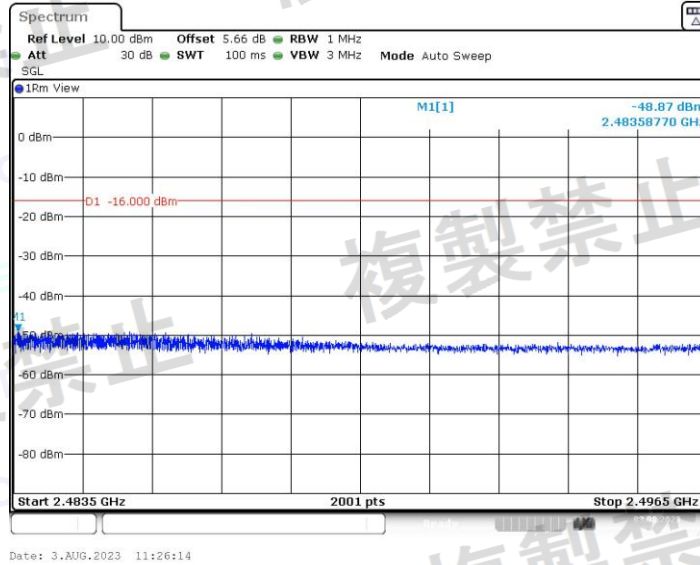
NTNV_11N40SISO_Ant1_2422_1000~2387



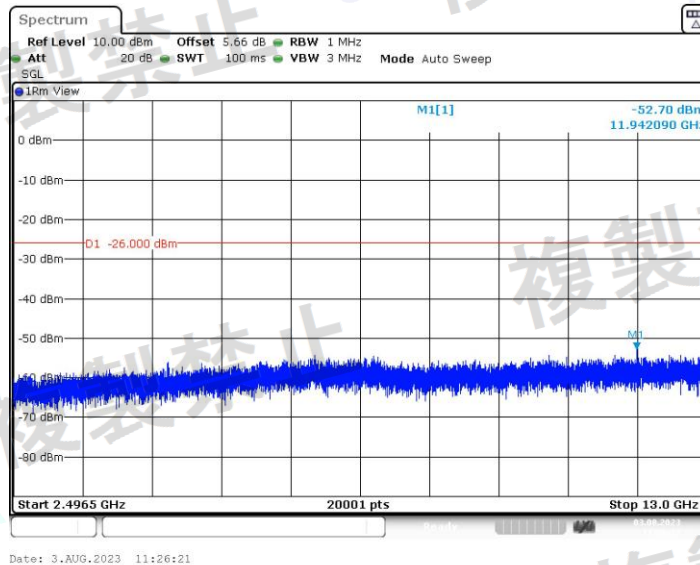
NTNV_11N40SISO_Ant1_2422_2387~2400



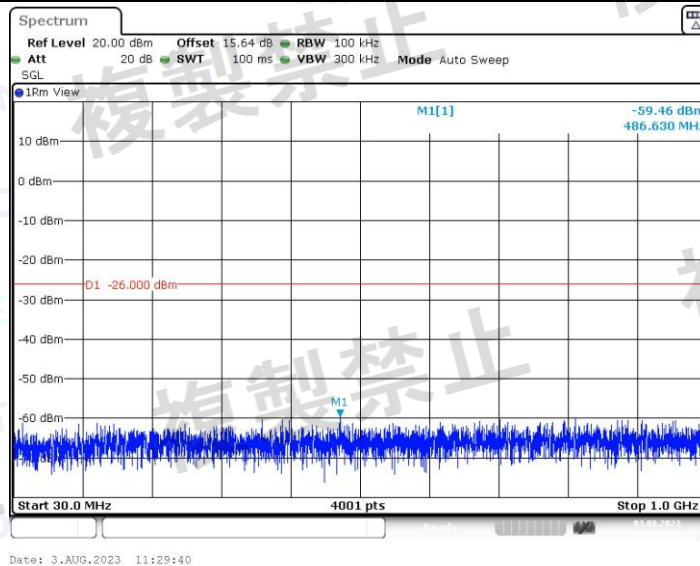
NTNV_11N40SISO_Ant1_2422_2483.5~2496.5



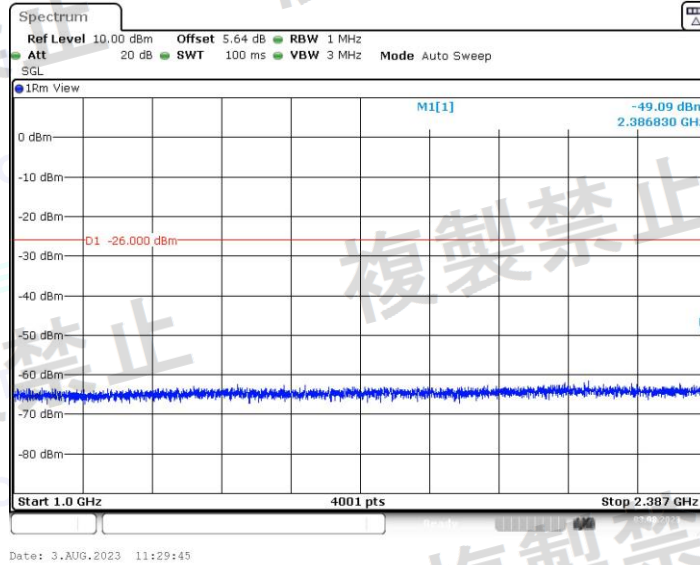
NTNV_11N40SISO_Ant1_2422_2496.5~13000



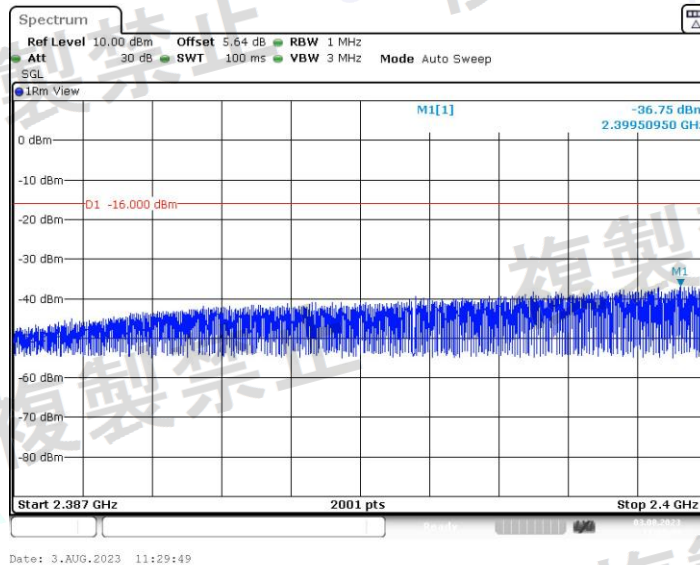
NTNV_11N40SISO_Ant1_2442_30~1000



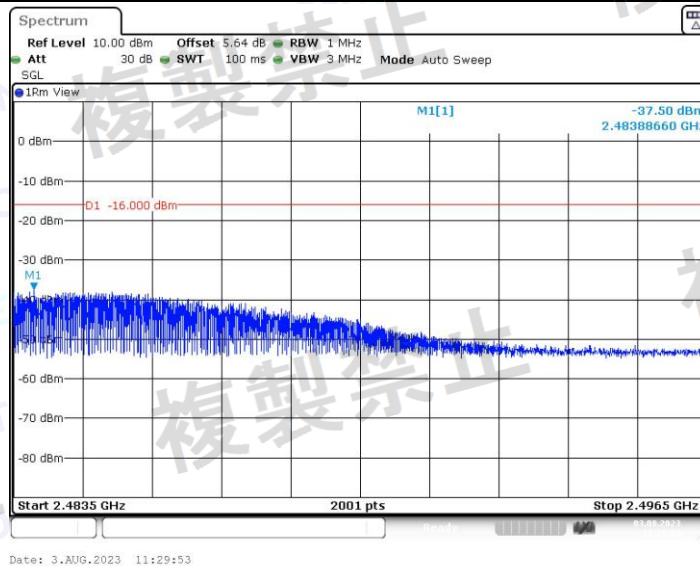
NTNV_11N40SISO_Ant1_2442_1000~2387



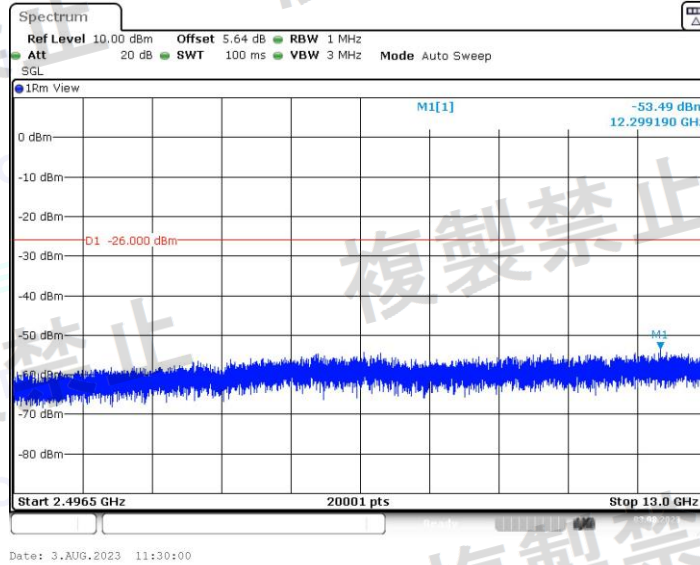
NTNV_11N40SISO_Ant1_2442_2387~2400



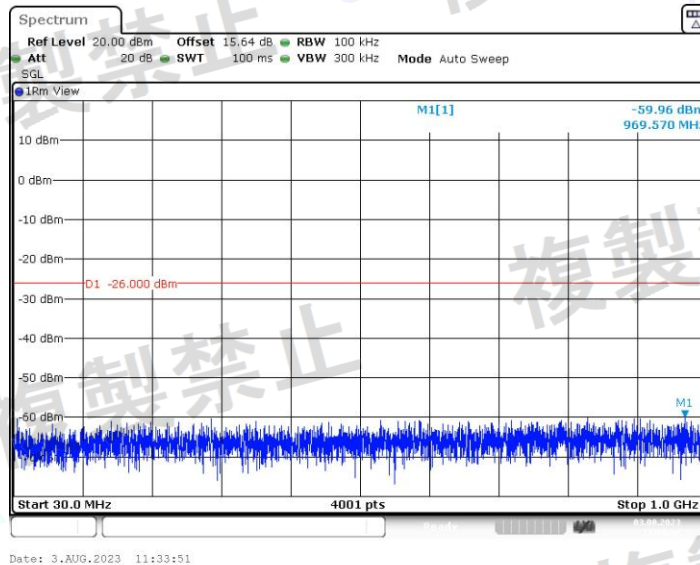
NTNV_11N40SISO_Ant1_2442_2483.5~2496.5



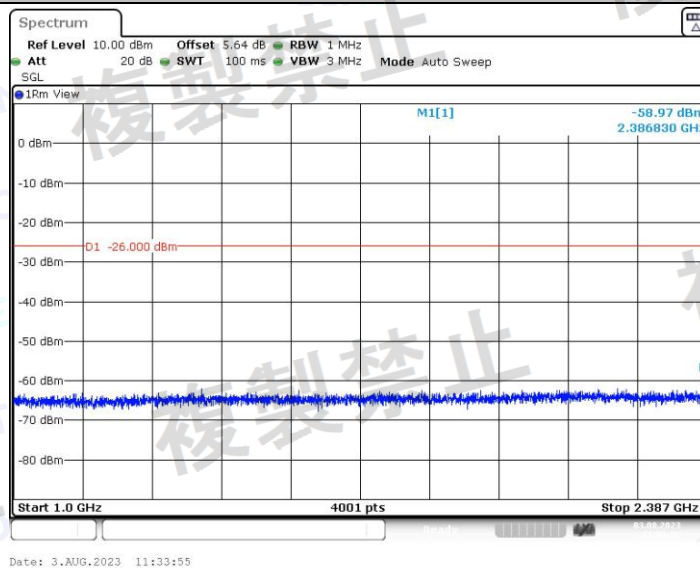
NTNV_11N40SISO_Ant1_2442_2496.5~13000



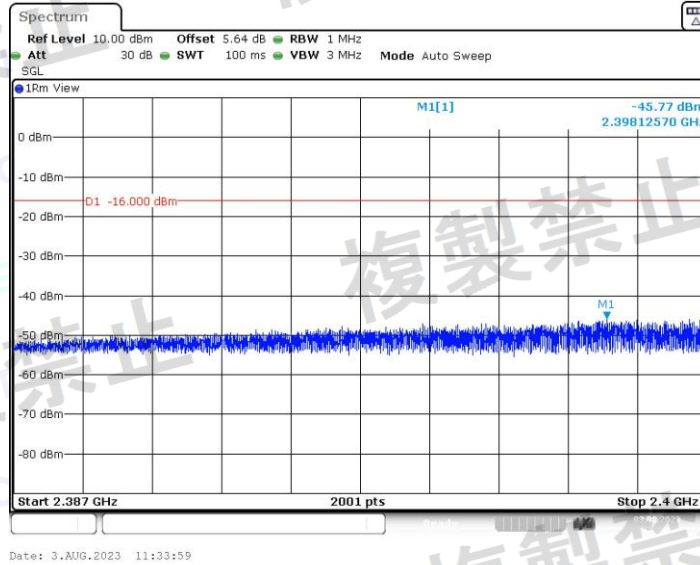
NTNV_11N40SISO_Ant1_2462_30~1000



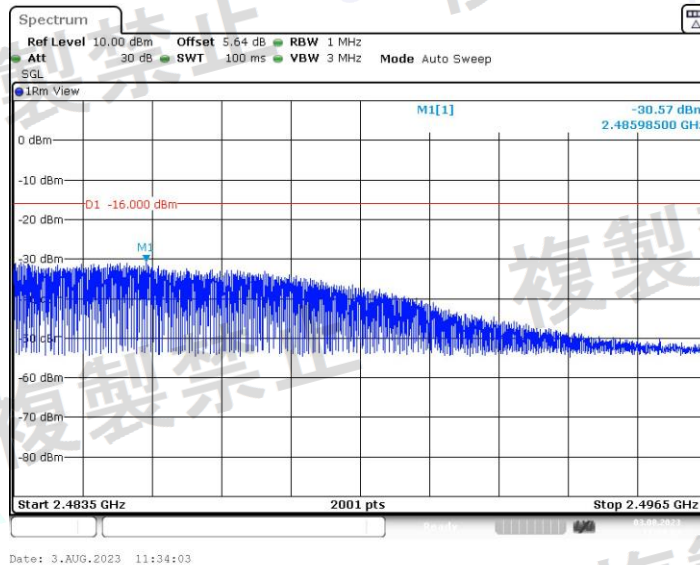
NTNV_11N40SISO_Ant1_2462_1000~2387



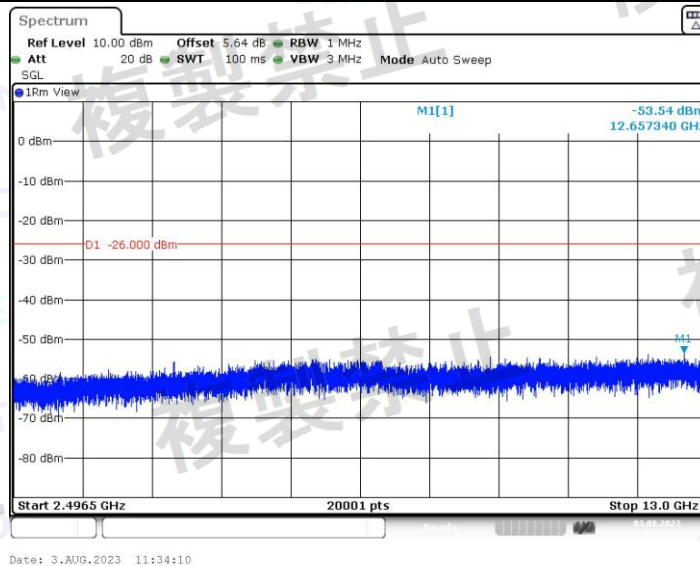
NTNV_11N40SISO_Ant1_2462_2387~2400



NTNV_11N40SISO_Ant1_2462_2483.5~2496.5



NTNV_11N40SISO_Ant1_2462_2496.5~13000



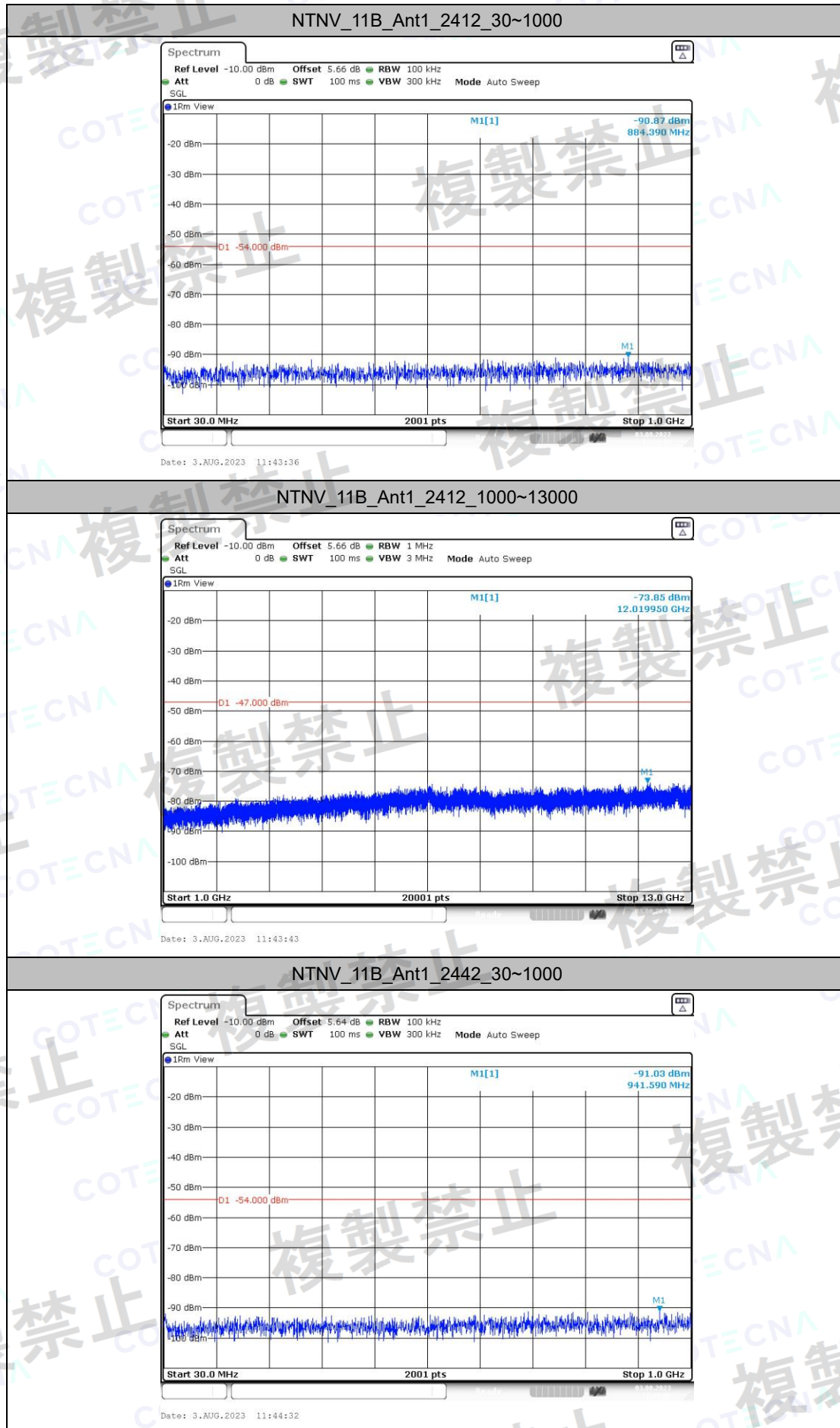
Appendix F: Spurious Emission of RX

Test Result

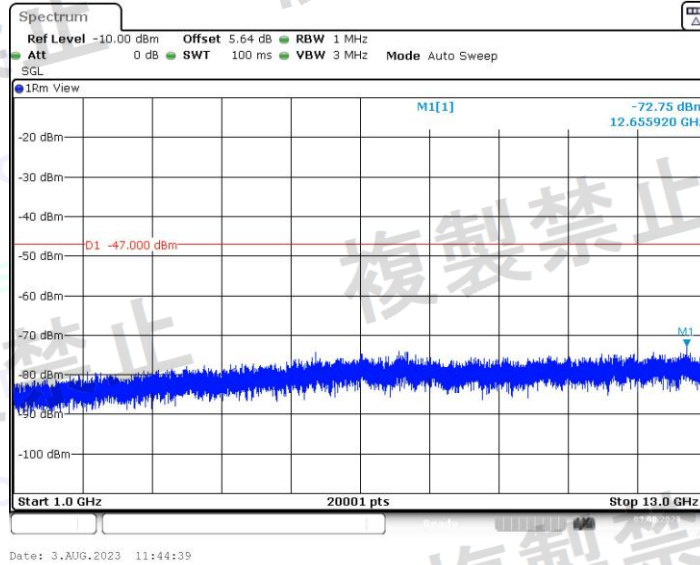
TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	11B	Ant1	2412	30~1000	-90.87	≤-54	0.00082	≤4	PASS
				1000~13000	-73.85	≤-47	0.04121	≤20	PASS
			2442	30~1000	-91.03	≤-54	0.00079	≤4	PASS
				1000~13000	-72.75	≤-47	0.05309	≤20	PASS
			2472	30~1000	-89.91	≤-54	0.00102	≤4	PASS
				1000~13000	-74.14	≤-47	0.03855	≤20	PASS
	11G	Ant1	2412	30~1000	-90.33	≤-54	0.00093	≤4	PASS
				1000~13000	-73.77	≤-47	0.04198	≤20	PASS
			2442	30~1000	-90.38	≤-54	0.00092	≤4	PASS
				1000~13000	-73.20	≤-47	0.04786	≤20	PASS
			2472	30~1000	-91.13	≤-54	0.00077	≤4	PASS
				1000~13000	-73.45	≤-47	0.04519	≤20	PASS
	11N20SISO	Ant1	2412	30~1000	-91.42	≤-54	0.00072	≤4	PASS
				1000~13000	-74.03	≤-47	0.03954	≤20	PASS
			2442	30~1000	-90.35	≤-54	0.00092	≤4	PASS
				1000~13000	-73.84	≤-47	0.04130	≤20	PASS
			2472	30~1000	-87.97	≤-54	0.00160	≤4	PASS
				1000~13000	-72.89	≤-47	0.05140	≤20	PASS
	11N40SISO	Ant1	2422	30~1000	-90.95	≤-54	0.00080	≤4	PASS
				1000~13000	-73.80	≤-47	0.04169	≤20	PASS
			2442	30~1000	-91.31	≤-54	0.00074	≤4	PASS
				1000~13000	-73.89	≤-47	0.04083	≤20	PASS
			2462	30~1000	-90.88	≤-54	0.00082	≤4	PASS
				1000~13000	-73.29	≤-47	0.04688	≤20	PASS



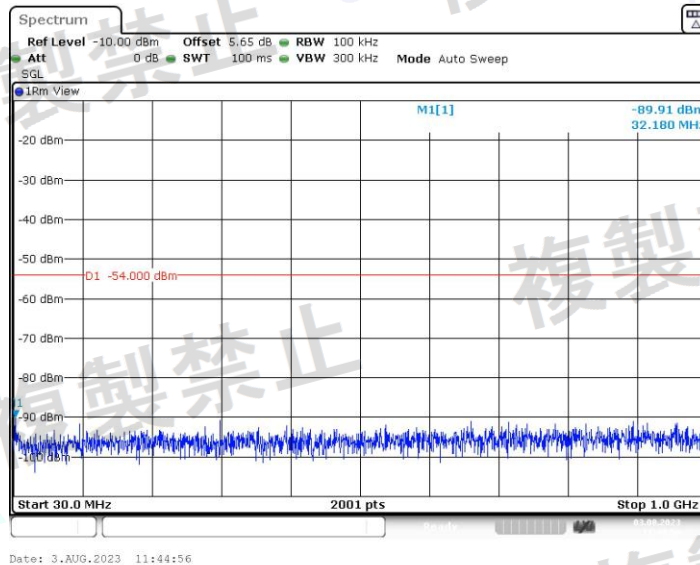
Test Graphs



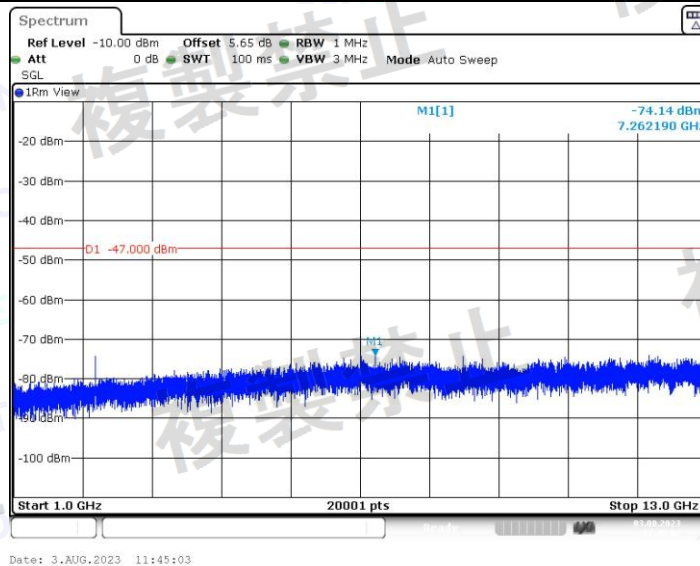
NTNV_11B_Ant1_2442_1000~13000



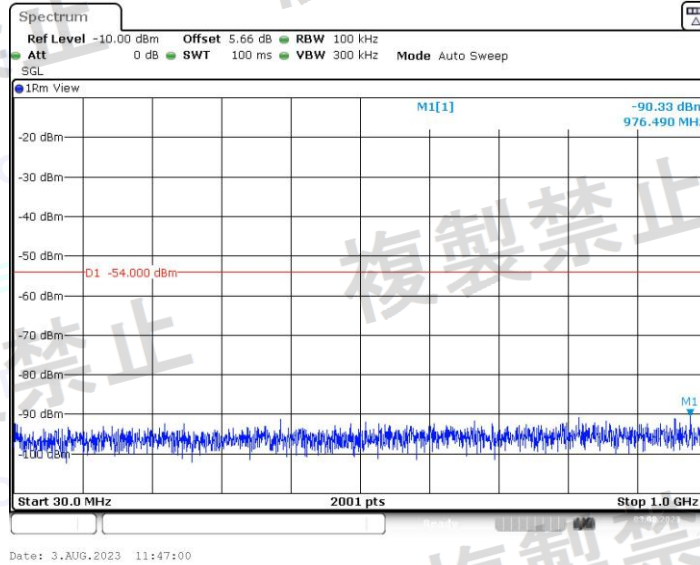
NTNV_11B_Ant1_2472_30~1000



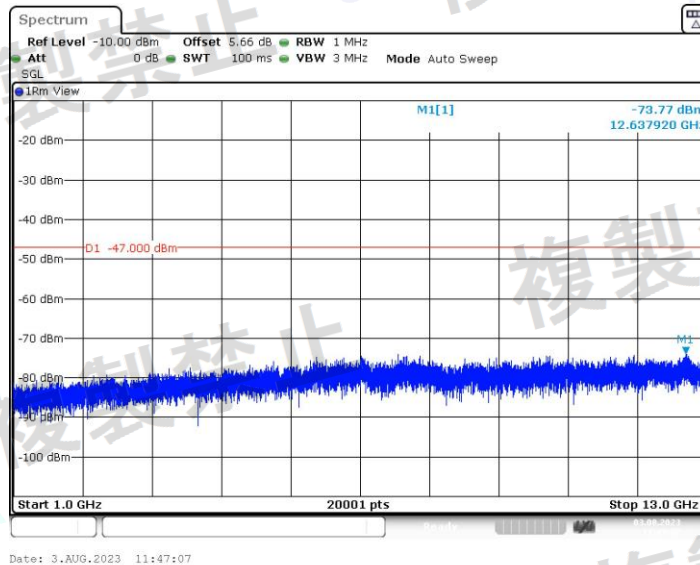
NTNV_11B_Ant1_2472_1000~13000



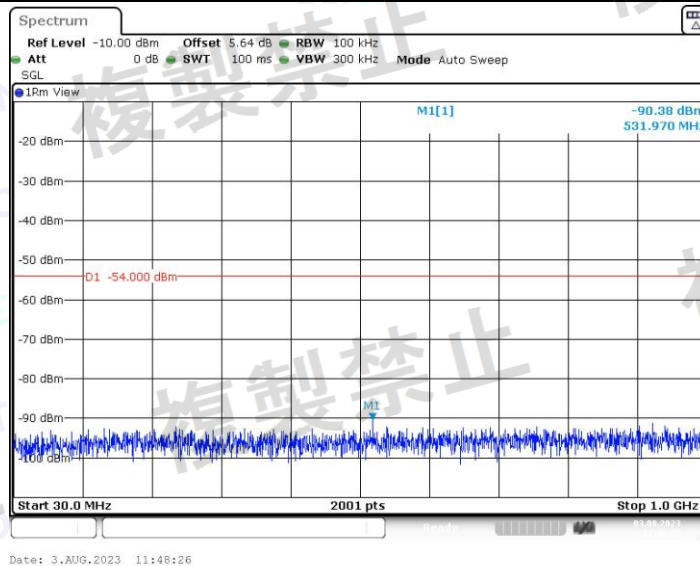
NTNV_11G_Ant1_2412_30~1000



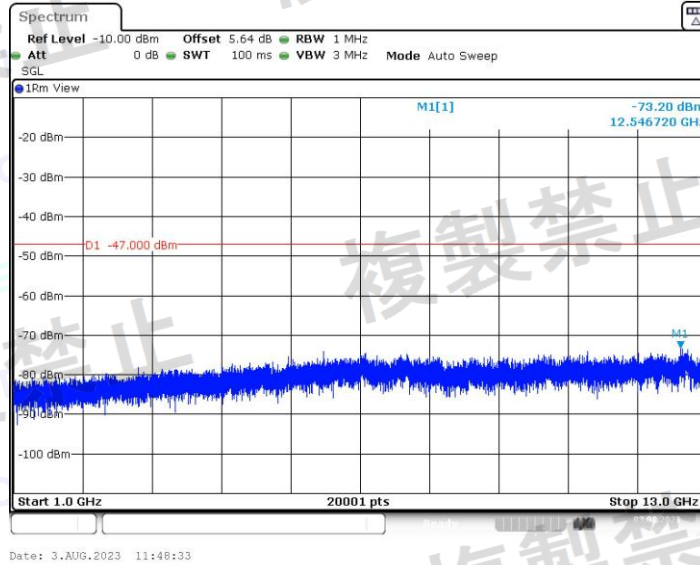
NTNV_11G_Ant1_2412_1000~13000



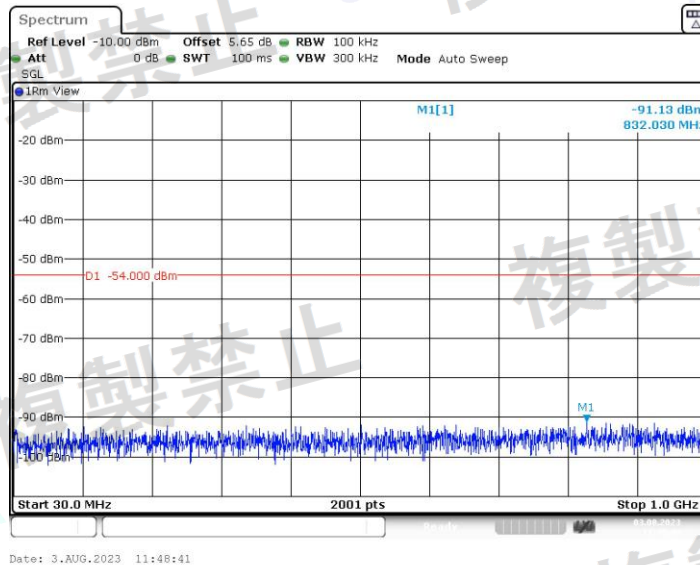
NTNV_11G_Ant1_2442_30~1000



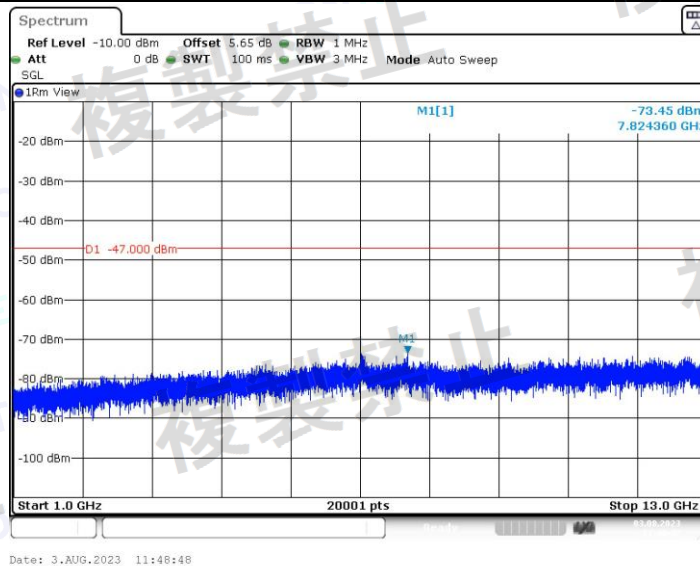
NTNV_11G_Ant1_2442_1000~13000



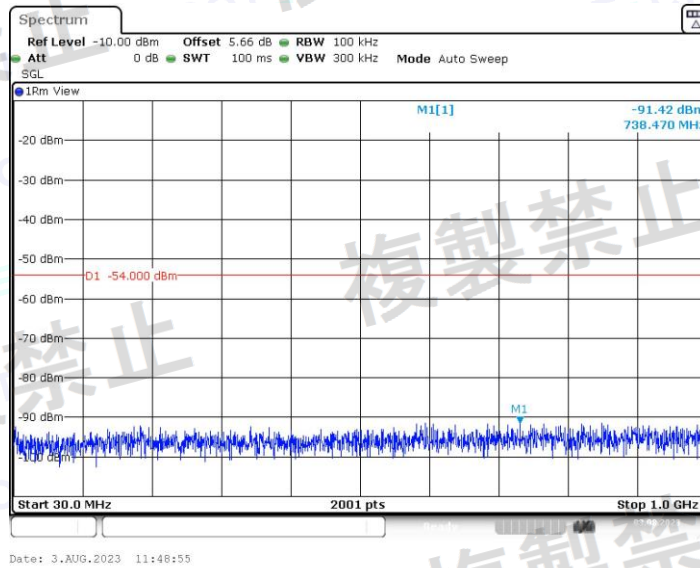
NTNV_11G_Ant1_2472_30~1000



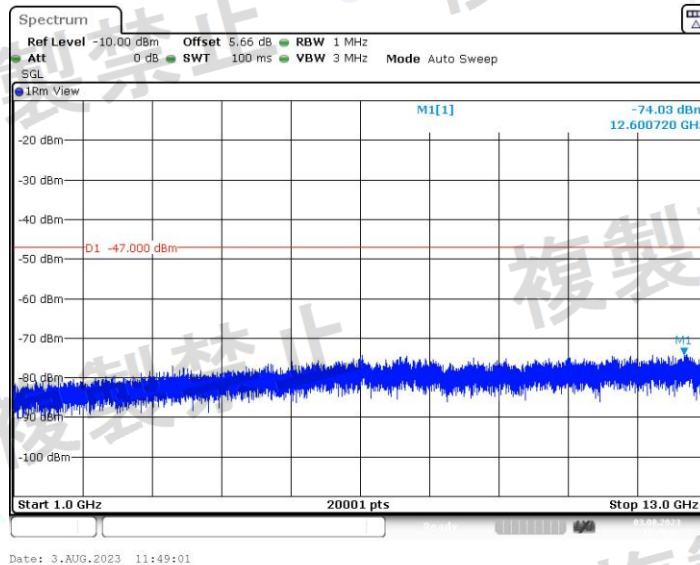
NTNV_11G_Ant1_2472_1000~13000



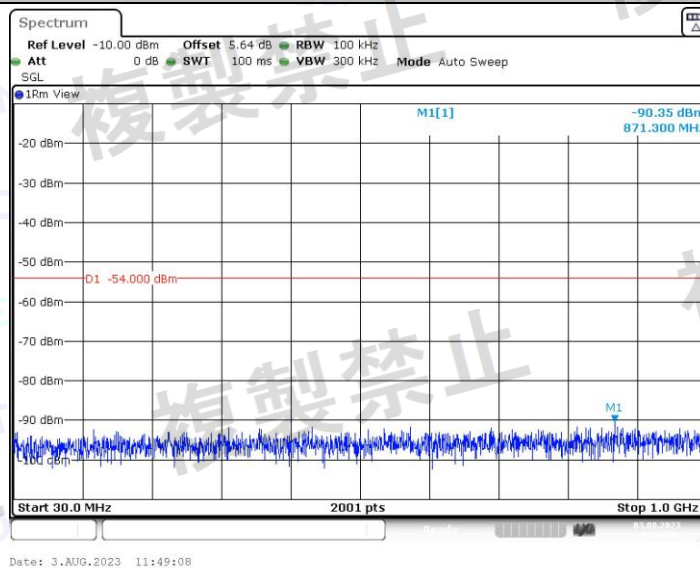
NTNV_11N20SISO_Ant1_2412_30~1000



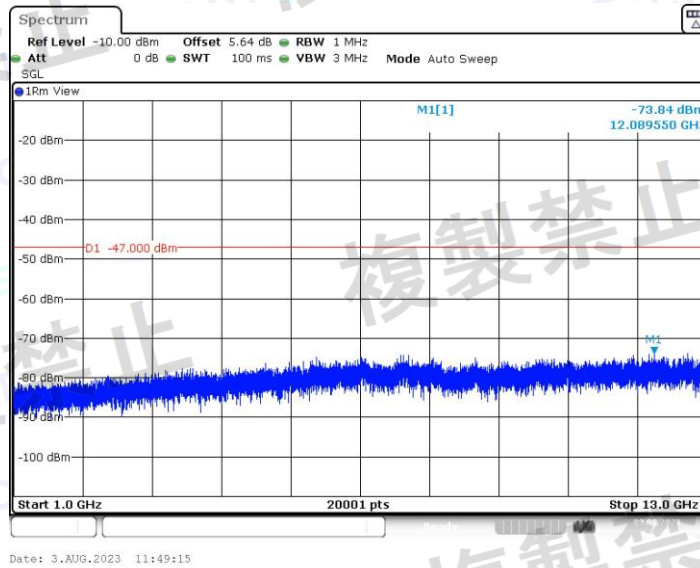
NTNV_11N20SISO_Ant1_2412_1000~13000



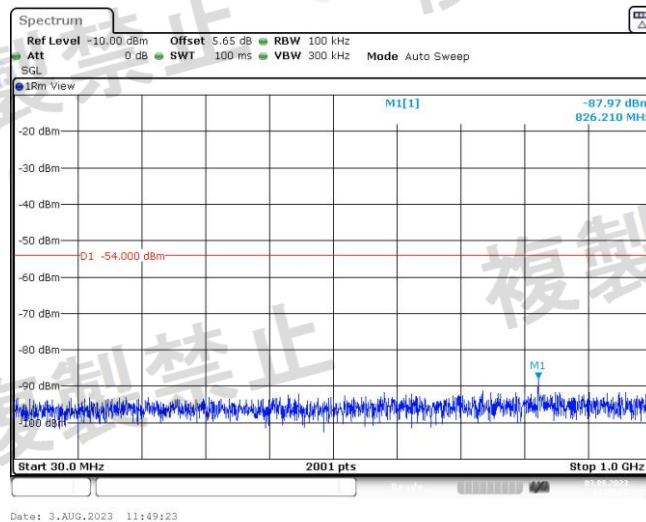
NTNV_11N20SISO_Ant1_2442_30~1000



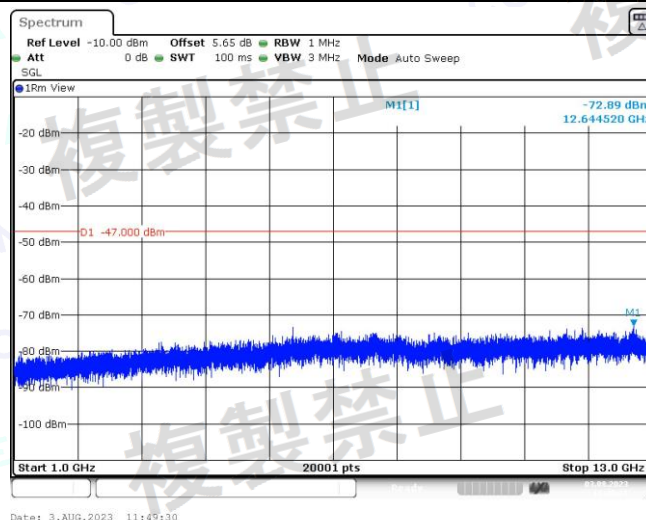
NTNV_11N20SISO_Ant1_2442_1000~13000



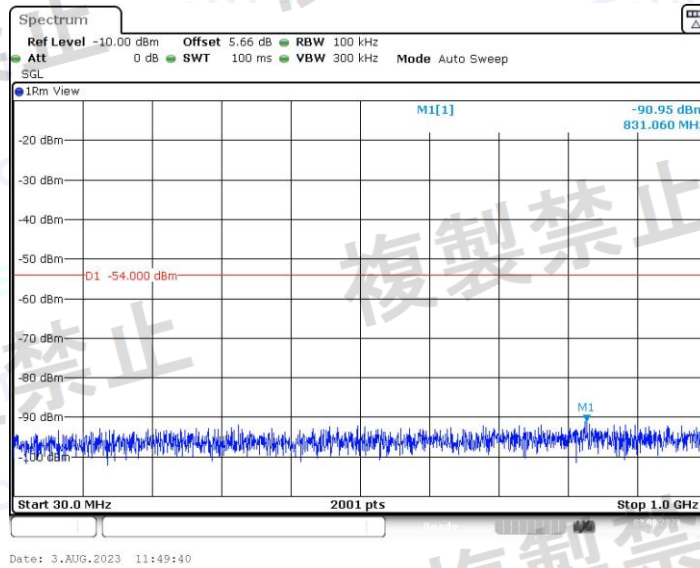
NTNV_11N20SISO_Ant1_2472_30~1000



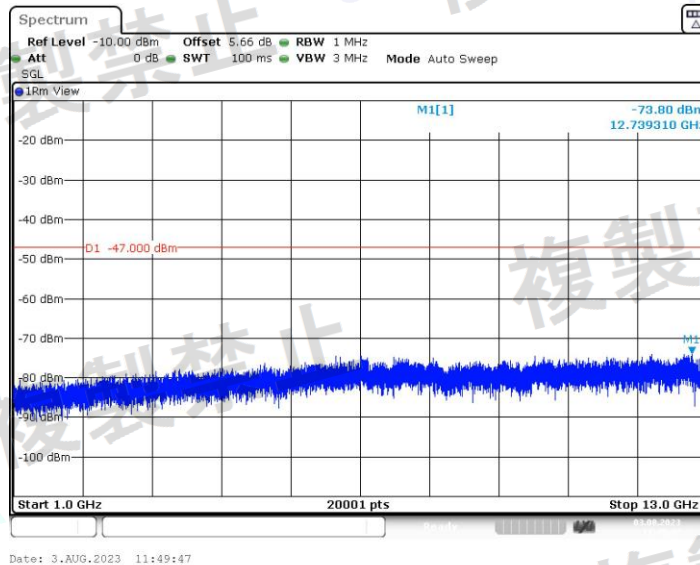
NTNV_11N20SISO_Ant1_2472_1000~13000



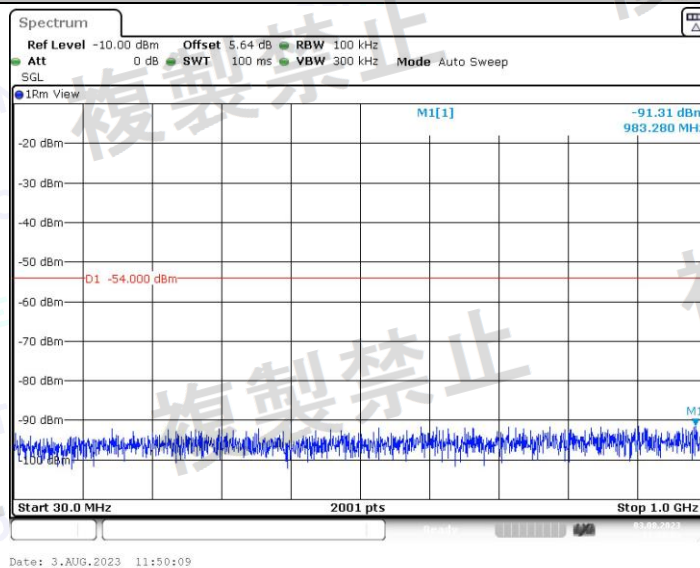
NTNV_11N40SISO_Ant1_2422_30~1000



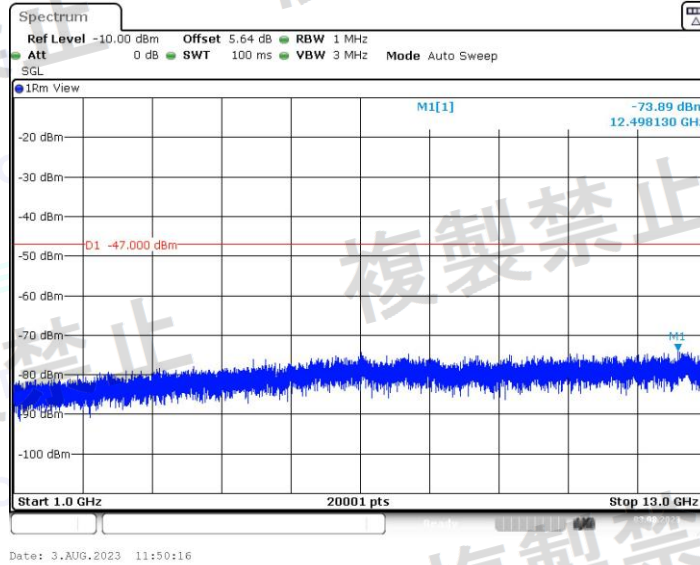
NTNV_11N40SISO_Ant1_2422_1000~13000



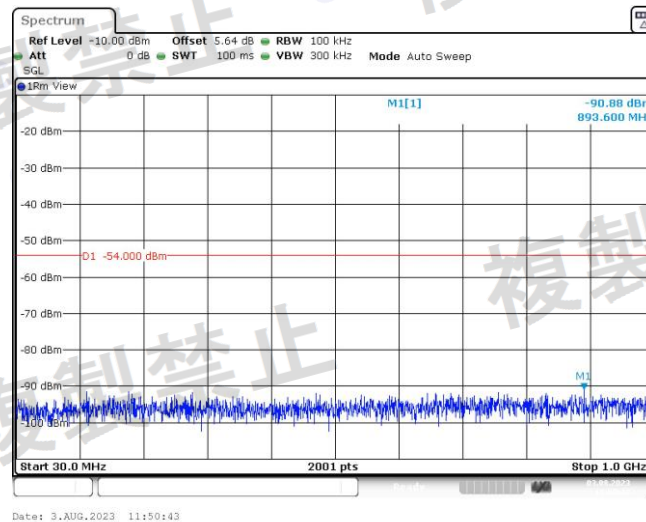
NTNV_11N40SISO_Ant1_2442_30~1000



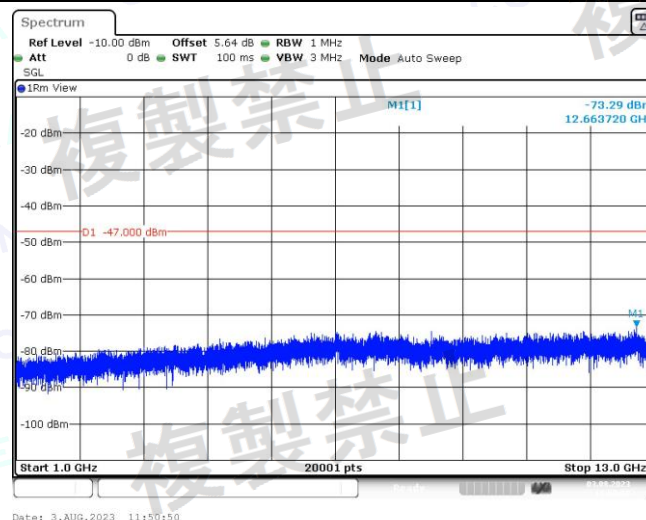
NTNV_11N40SISO_Ant1_2442_1000~13000



NTNV_11N40SISO_Ant1_2462_30~1000



NTNV_11N40SISO_Ant1_2462_1000~13000



-----END OF THE REPORT-----

