

JAPAN MIC RF TEST REPORT

FOR

Applicant	:	Fender Musical Instruments
Address	:	17600 N. Perimeter Dr., Suite 100, Scottsdale, AZ 85255 USA
Equipment under Test	:	Portable Audio Amplifier System (W/BK32881)
Model No.	:	PASSPORT EVENT SERIES 2
Type No.	:	PR 845
Trade Mark	:	FENDER
Manufacturer	:	Fender Musical Instruments
Address	:	17600 N. Perimeter Dr., Suite 100, Scottsdale, AZ 85255 USA

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

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REPORT

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Test Report Declare

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Test Standard Used: Article 2 Paragraph 1 of Item 19

Test method: Notification 88, Appendix No. 43

We Declare:

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

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above standard.

Report No.:	DDT-R22102518-4E08		
Date of Receipt:	Nov. 03, 2022	Date of Test:	Nov. 03, 2022 ~ Dec. 07, 2022

Prepared By:

Jacky Huang

Jacky Huang/Engineer

Approved By:



Damon Hu/EMC Manager

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

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Dec. 09, 2022	

1. Summary of Test Results

TEST PARAMETER	STANDARD	METHOD	RESULTS
Antenna Power	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass
Tolerances for Antenna Power	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass
Frequency Tolerance	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass
Transmission Rate	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Occupied Frequency Bandwidth	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass
Spread Bandwidth	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Spreading Factor	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Number of Carriers	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Dwell Time	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Spurious Emissions	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass
Carrier Sense	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Process Gain	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	N/A
Secondary Radiated Emissions	Article 2 Paragraph 1 of Item 19.	Notification 88, Appendix No. 43	Pass

2. General Test Information

2.1. Description of EUT

EUT* Name	: Portable Audio Amplifier System (W/BK32881)
Model Number	: PASSPORT EVENT SERIES 2
EUT Function Description	: Please reference user manual of this device
Power Supply	: AC 100-120V, 50/60Hz
Radio Specification	: Bluetooth V5.2
Operation Frequency	: 2402 MHz - 2480 MHz
Modulation	: GFSK, $\pi/4$ -DQPSK, 8DPSK
Data Rate	: 1 Mbps, 2 Mbps, 3 Mbps
Antenna Type	: PCB antenna, max peak gain: -1.07 dBi
Sample Number	: S22102518-07

Note: EUT is the abbreviation of equipment under test.

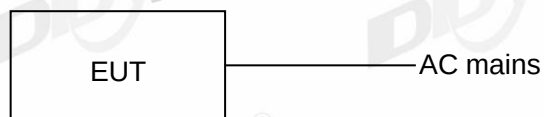
2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Serial No.	Other
AC cable	N/A	N/A	N/A	Length: 1.90m, unshielded
Audio cable	N/A	N/A	N/A	Length: 4.90m, unshielded
Audio cable	N/A	N/A	N/A	Length: 4.90m, unshielded

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.4. Block diagram of EUT configuration for test



Test software: BK32xx RF Test_V1.8.2

The test software was used to control EUT work in Continuous Tx mode and Rx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 0.5dB (According to the manufacturer's claims)

Tested mode, channel, information			
Mode	Channel	Frequency (MHz)	Power Level
GFSK hopping on Tx mode	CH0 to CH78	2402 to 2480	3
$\pi/4$ -DQPSK hopping on Tx mode	CH0 to CH78	2402 to 2480	3
8DPSK hopping on Tx mode	CH0 to CH78	2402 to 2480	3
GFSK hopping off Tx mode	CH0	2402	3
	CH39	2441	3
	CH78	2480	3
$\pi/4$ -DQPSK hopping off Tx mode	CH0	2402	3
	CH39	2441	3
	CH78	2480	3
8DPSK hopping off Tx mode	CH0	2402	3
	CH39	2441	3
	CH78	2480	3
Rx mode	CH0	2402	default
	CH39	2441	default
	CH78	2480	default

2.5. Test environment conditions

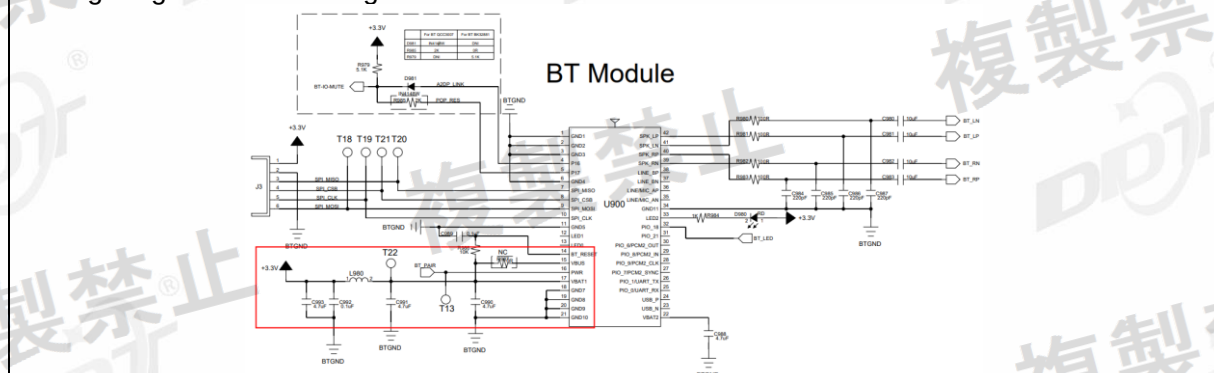
During the measurement the environmental conditions were within the listed ranges:

/	Normal Conditions
Temperature range	23 °C
Humidity range	45.5%
Pressure range	101 kPa
Power supply	AC 100 V/60 Hz (When the input voltage to equipment fluctuated $\pm 10\%$, the RF unit circuit voltage fluctuation under 1%, therefore all test performed on the rated voltage for equipment.)

The measurement result of the voltage fluctuation at RF circuit when AC 100V +/- 10%.

Input voltage	RF module voltage
AC 110V	DC 3.30V
AC 100V	DC 3.30V
AC 90V	DC 3.30V

Voltage regulator circuit diagram of BT module



2.6. Deviations of test standard

No deviation.

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

Test Item	Uncertainty
Occupied Channel Bandwidth	±1%
Uncertainty for radio frequency	1×10^{-9}
RF Output Power, Conducted	±0.6 dB
Power Spectral Density, Conducted	±1.2 dB
Unwanted Emissions, Conducted	±0.6 dB
Temperature	±0.2 °C
Humidity	±1%
DC and Low frequency voltage	±0.5%
Time	±1%
Duty Cycle	±1%

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. Equipment Used During Test

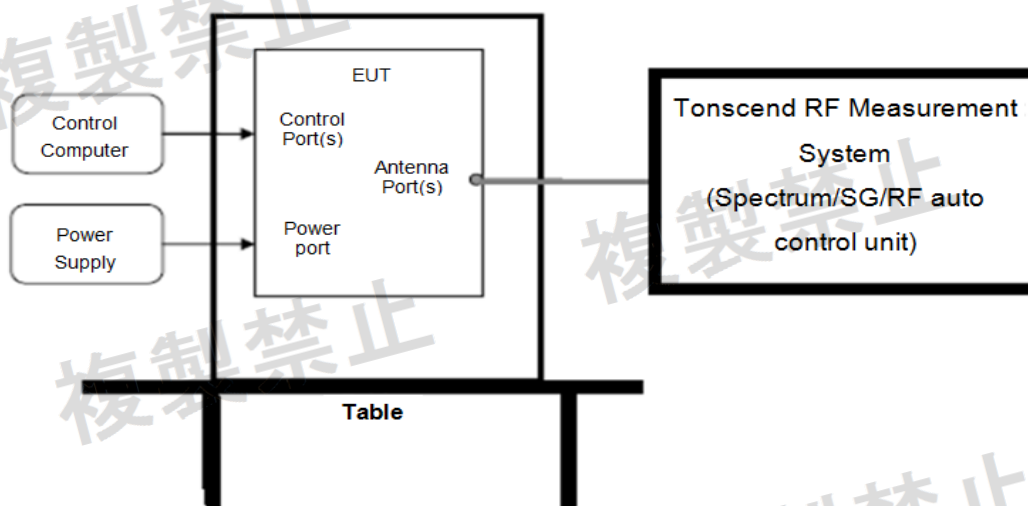
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date	Cal Method	Calibration body
RF Connected Test (Tonscend RF Measurement System)							
Spectrum analyzer	R&S	FSU	101407	Jul. 21, 2022	Jul. 20, 2023	(C)	CCIC
RF Control Unit	Tonscend	JS0806-2	158060010	May 18, 2022	May 17, 2023	(C)	CCIC
MULTIMETER	FLUKE	15B PRO	55060005WS	Aug. 26, 2022	Aug. 25, 2023	(C)	CCIC
Test Software	JS Tonscend	JS1120-3	Ver.2.6.77.0518	N/A	N/A	N/A	N/A
Remarks: (a) 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) 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 form (a) to (c). Form JRL Article 24-2, paragraph 4, item 2. Note: A power meter has been integrated in the RF Control Unit.							

4. Duty cycle

4.1. Limit

Test Burst Ratio for Antenna Power calculation.

4.2. Block diagram of test setup



4.3. Test procedure

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

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

Resolution BW: 10 MHz.

Video BW: 10 MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Max Hold.

Sweep: Video Trigger

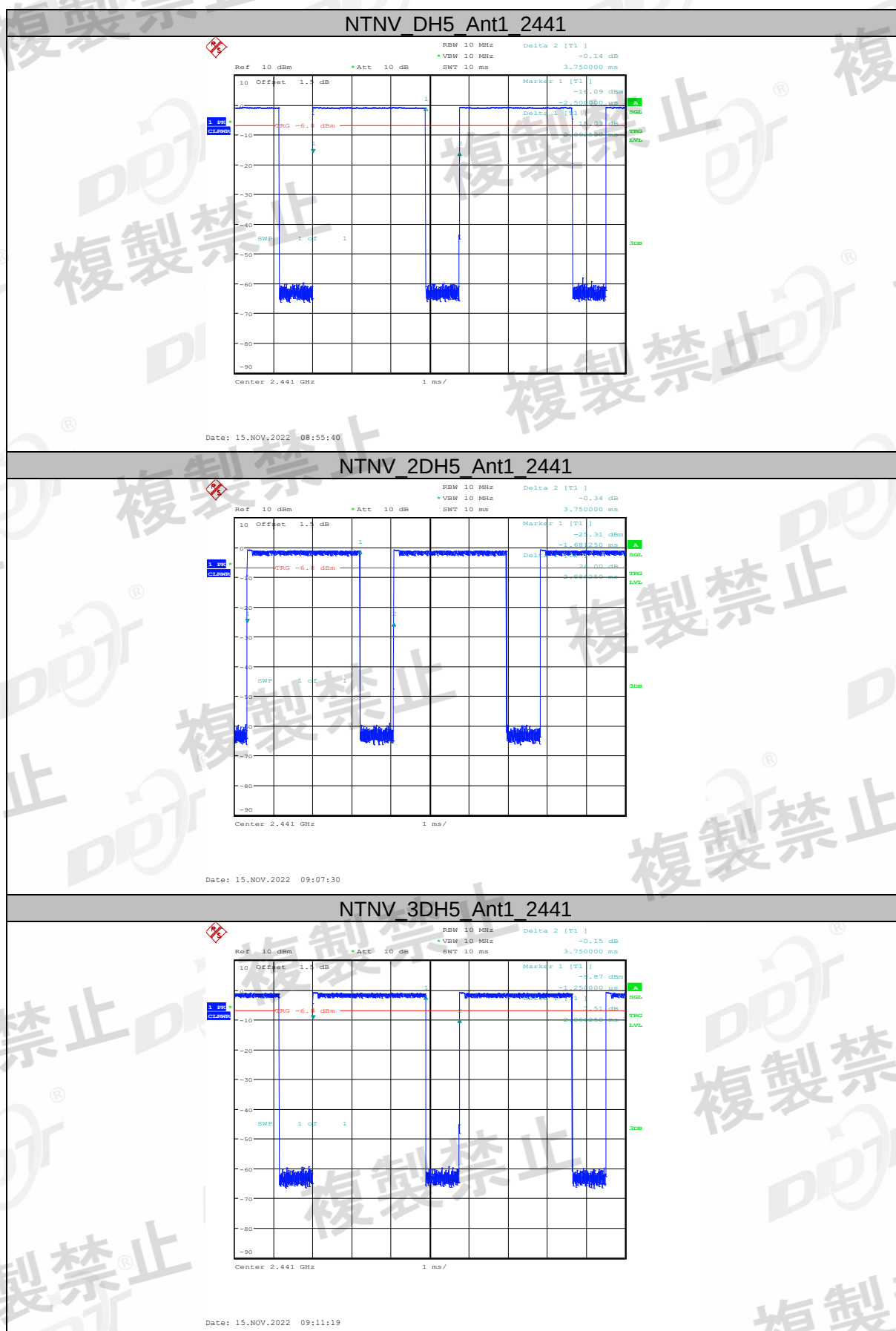
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula: Duty cycle= Pulse's on time / Burst cycle

4.4. Test result

Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]
DH5	Ant1	2441	2.89	3.75	77.07
2DH5	Ant1	2441	2.89	3.75	77.07
3DH5	Ant1	2441	2.89	3.75	77.07

Note: In the same mode, all channels have the same duty cycle.

4.5. Original test data

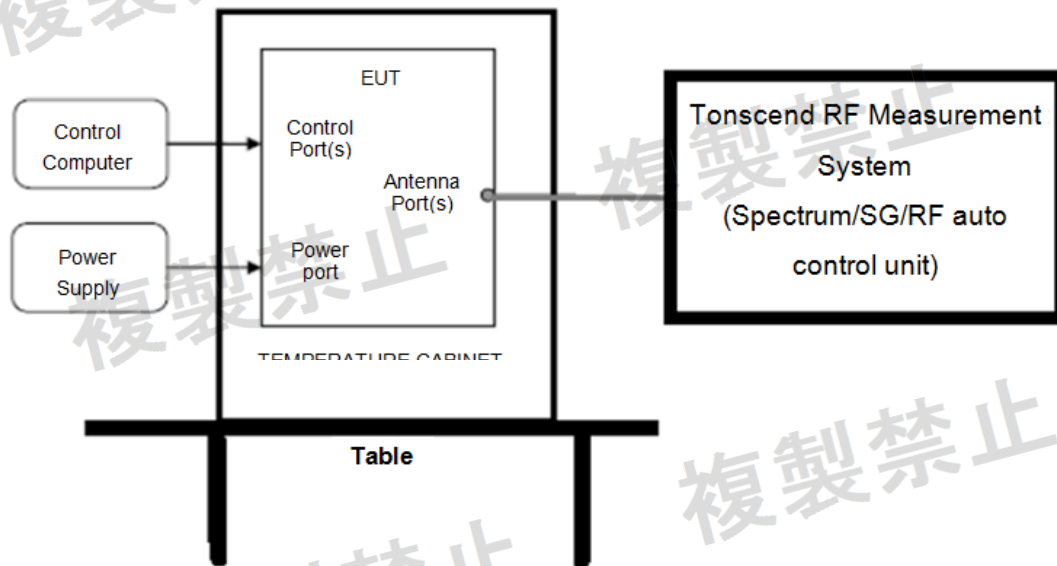


5. Antenna Power and Tolerances for Antenna Power

5.1. Limit

Limit	3 mW/MHz
Tolerance	+20%, -80%

5.2. Block diagram of test setup



Note: A power meter has been integrated in the RF Control Unit.

5.3. Test procedure

- (1) Connect each EUT's antenna output to power sensor by RF cable and attenuator and measure the total electric power.
- (2) For adaptive equipment, the measurement duration shall be long enough to ensure a minimum number of bursts (at least 10) is captured.
- (3) Divide the total power by spread bandwidth, and then derive the average electric power per 1MHz.
- (4) Confirm that frequency distribution of FHSS is lower than 1MHz, and is even by the submitted documents.

Antenna power is as follows.

- a) Continuous wave: Value of B).
- b) Burst wave: Value derived from the average power in burst by the value of B) and transmitting time rate.

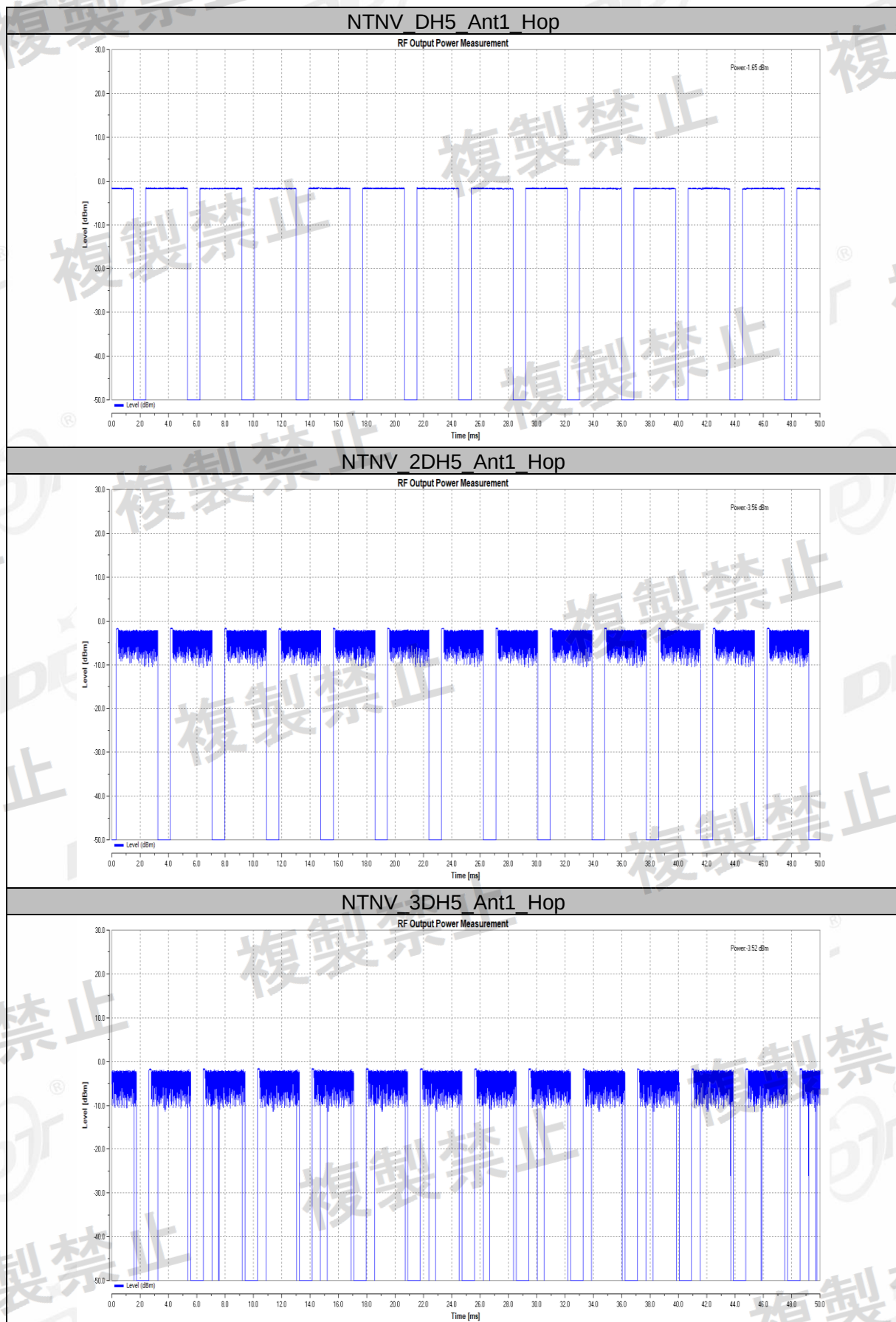
5.4. Test result

Antenna Power							
Mode	Ant	Measured		Burst Ratio	Spread Bandwidth	Result	Limit
		dBm	mW		MHz	mW/MHz	mW/MHz
GFSK Tx mode Hopping	Ant1	-1.65	0.68	0.77	71.300	0.0124	3
$\pi/4$ -DQPSK Tx mode Hopping	Ant1	-3.56	0.44	0.77	71.700	0.0080	3
8DPSK Tx mode Hopping	Ant1	-3.52	0.44	0.77	71.500	0.0080	3
Note 1: Output Power Density (mW/MHz) = Total Output Power (mW) / Burst Ratio / Spread Bandwidth (MHz)							
Note 2: Burst Ratio = ON Time / (ON Time + OFF Time)							

Mode	Ant	Stated power	Result	Tolerance	Limit
		mW/MHz	mW/MHz	%	%
GFSK Tx mode Hopping	Ant1	0.015	0.0124	-17.33	+ 20% $\geq$ and $\geq$ -80%
$\pi/4$ -DQPSK Tx mode Hopping	Ant1	0.010	0.0080	-20.00	+ 20% $\geq$ and $\geq$ -80%
8DPSK Tx mode Hopping	Ant1	0.010	0.0080	-20.00	+ 20% $\geq$ and $\geq$ -80%
Tolerances for Antenna Power Limit: + 20% $\geq$ and $\geq$ -80%					
Verdict : Pass					

EIRP							
Mode	Ant	Measured	Result		EIRP		Limit
		dBm	dBm	mW	mW/MHz	dBm/MHz	dBm/MHz
GFSK Tx mode Hopping	Ant1	-1.65	-2.72	0.535	0.010	-20.00	6.91
$\pi/4$ -DQPSK Tx mode Hopping	Ant1	-3.56	-4.63	0.344	0.006	-22.22	6.91
8DPSK Tx mode Hopping	Ant1	-3.52	-4.59	0.348	0.006	-22.22	6.91
Note 1: Output Power Density (mW/MHz) = Total Output Power (mW) / Burst Ratio / Spread Bandwidth (MHz)							
Note 2: Burst Ratio = ON Time / (ON Time + OFF Time)							

5.5. Original test data

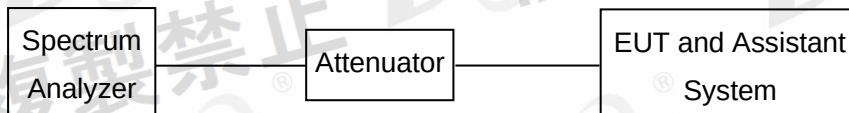


6. Frequency Tolerance

6.1. Limit

+/- 50 x 10⁻⁶ or less (50 ppm)

6.2. Block diagram of test setup



6.3. Test procedure

(1) 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: 1 MHz.

Detector: Peak.

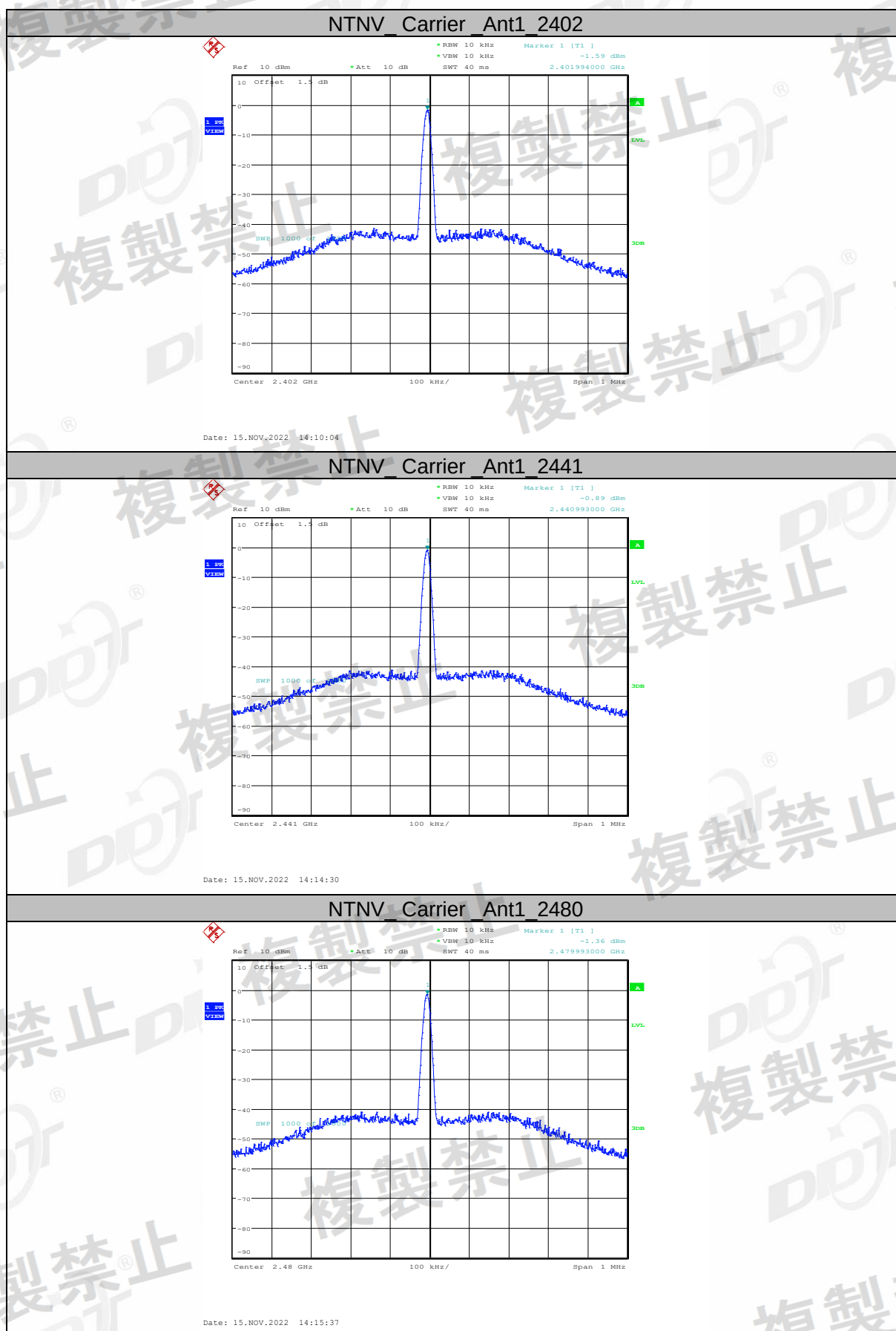
Trace Mode: Max Hold.

(2) When the trace is complete, find the peak value of the power envelope and record the frequency.

6.4. Test result

Mode	Channel (MHz)	Result			Limit (ppm)
		Measured (MHz)	Tolerance (kHz)	Tolerance (ppm)	
Carrier Tx mode	CH0: 2402	2401.994	-6	-2.49792	+/-50
	CH39: 2441	2440.993	-7	-2.86768	+/-50
	CH78 :2480	2479.993	-7	-2.82258	+/-50
Verdict : Pass					

6.5. Original test data

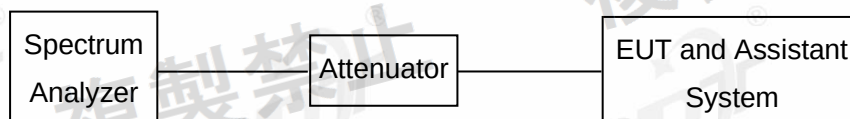


7. Occupied Frequency Bandwidth

7.1. 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.

7.2. Block diagram of test setup



7.3. Test procedure

- (1) 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.

Hopping off:

Resolution BW: 30 kHz

Video BW: 30 kHz

Hopping on:

Resolution BW: 1 MHz

Video BW: 1 MHz

Span: Wide enough to cover the complete power envelope of the signal of the EUT.

Detector: Peak.

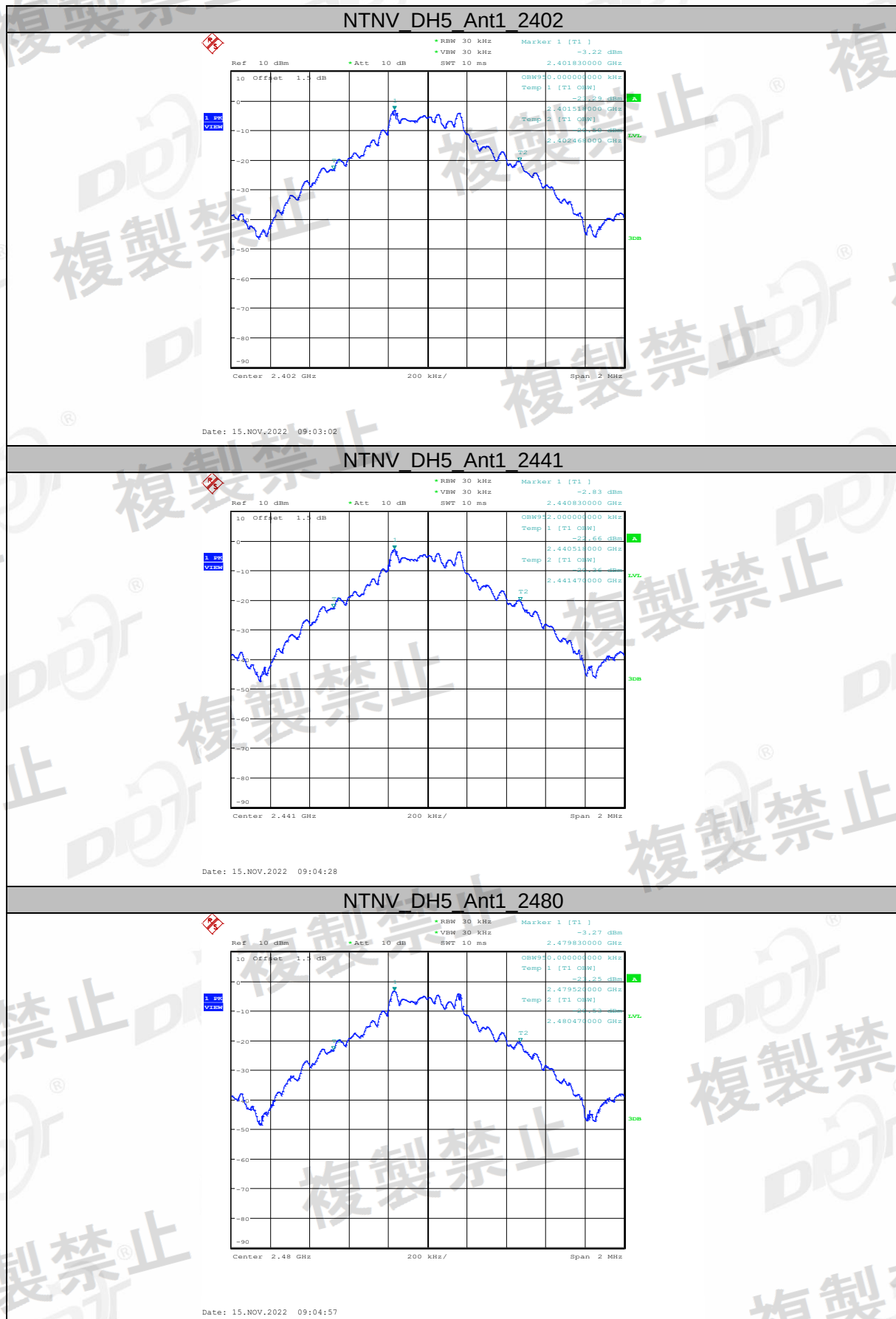
Trace Mode: Max Hold.

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

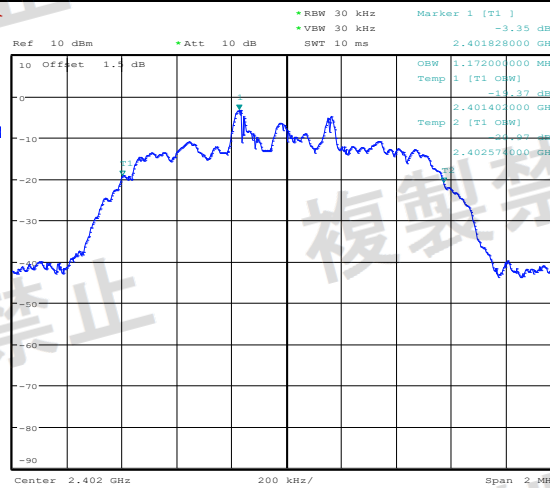
7.4. Test result

Mode	Channel	Result	Limit
		(MHz)	(MHz)
GFSK Tx mode Hopping off	CH0	0.950	83.5
	CH39	0.952	83.5
	CH78	0.950	83.5
$\pi/4$ -DQPSK Tx mode Hopping off	CH0	1.172	83.5
	CH39	1.170	83.5
	CH78	1.168	83.5
8DPSK Tx mode Hopping off	CH0	1.174	83.5
	CH39	1.174	83.5
	CH78	1.170	83.5
GFSK Tx mode Hopping on	/	78.800	83.5
$\pi/4$ -DQPSK Tx mode Hopping on	/	78.000	83.5
8DPSK Tx mode Hopping on	/	78.900	83.5
Verdict : Pass			

7.5. Original test data

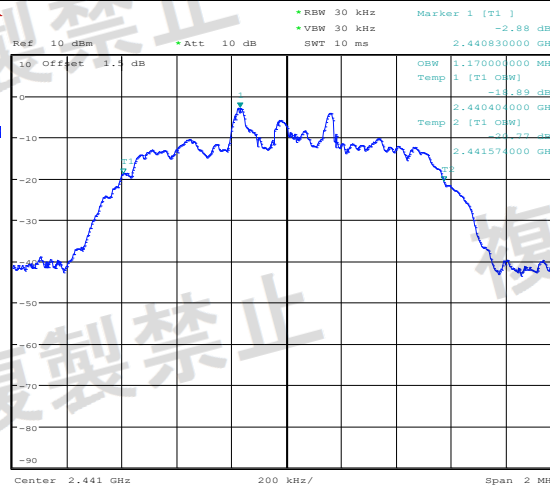


NTNV 2DH5 Ant1 2402



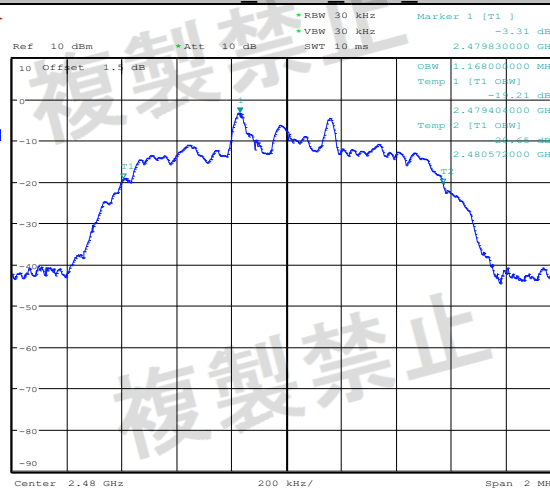
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NTNV 2DH5 Ant1 2441



Date: 15.NOV.2022 09:06:38

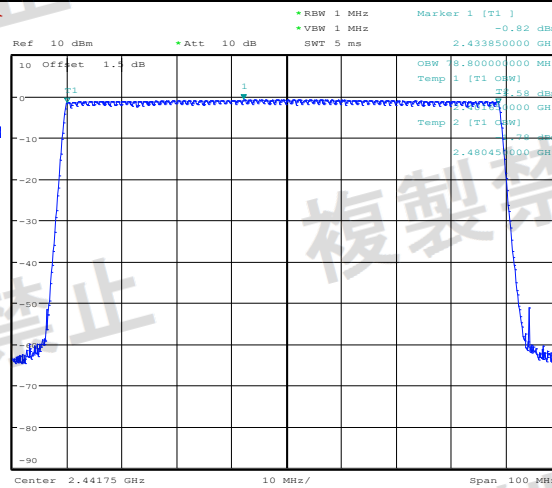
NTNV 2DH5 Ant1 2480



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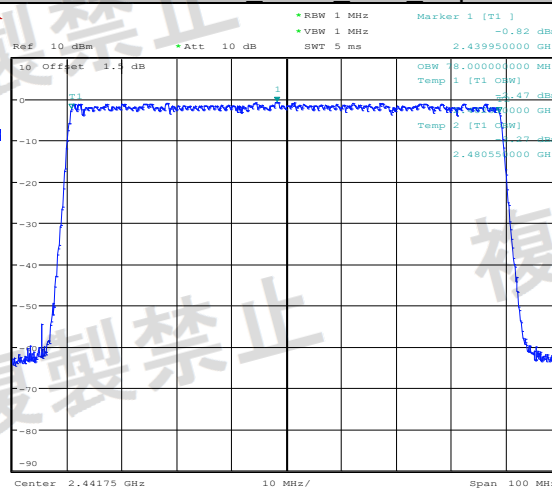


NTNV_DH5_Ant1_Hop



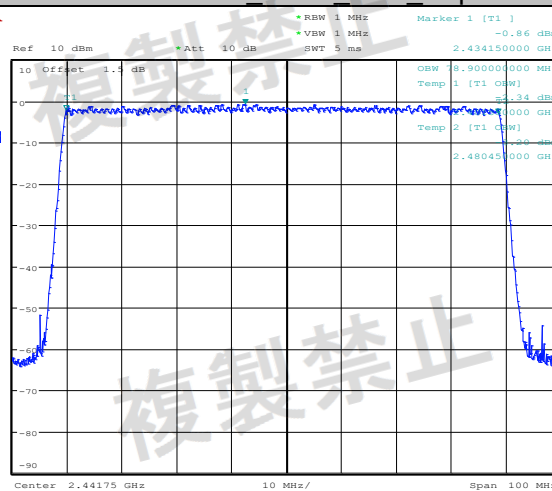
Date: 15.NOV.2022 09:18:19

NTNV_2DH5_Ant1_Hop



Date: 15.NOV.2022 09:19:44

NTNV_3DH5_Ant1_Hop



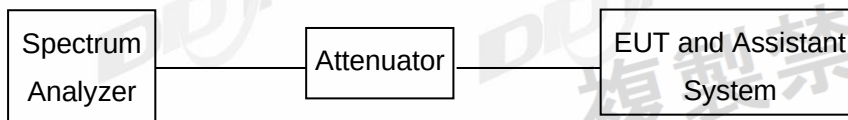
Date: 15.NOV.2022 09:20:54

8. Spread Bandwidth

8.1. Limit

In spread spectrum systems, spread bandwidth (which refers to a frequency bandwidth with an upper limit and lower limit such that each of the mean powers radiated above the upper frequency limit and below the lower frequency limit is equal to 5 % of the total mean power radiated; this also applies hereafter) shall be 500 kHz or more.

8.2. Block diagram of test setup



8.3. Test procedure

- (1) 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: 1 MHz.

Video BW: 1 MHz.

Span: Wide enough to cover the complete power envelope of the signal of the EUT.

Detector: Peak.

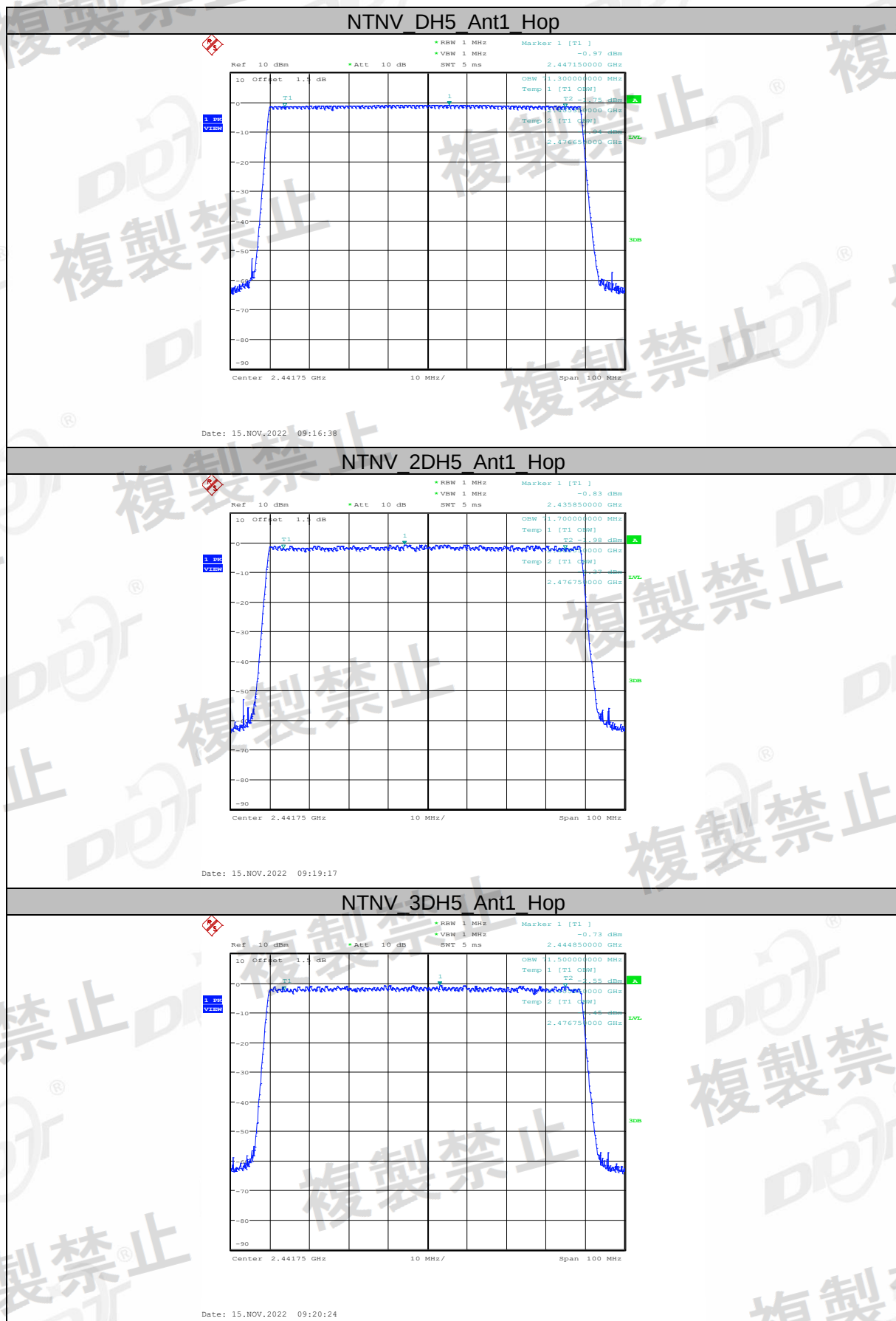
Trace Mode: Max Hold.

- (2) When the trace is complete, measure the spread bandwidth (90% bandwidth) with spectrum analyzer's bandwidth measure function.

8.4. Test result

Mode	Condition	Channel	Result	Limit	Spreading factor	Limit
			(MHz)	(kHz)		
GFSK Tx mode Hopping on	Normal	79 channels (2402~2480)	71.300	500	71.300	≥5
$\pi/4$ -DQPSK Tx mode Hopping on	Normal	79 channels (2402~2480)	71.700	500	35.850	≥5
8DPSK Tx mode Hopping on	Normal	79 channels (2402~2480)	71.500	500	23.833	≥5
Verdict : Pass						
Note: Spreading factor = Spread bandwidth (actual measurement value)/Transmission rate.						

8.5. Original test data

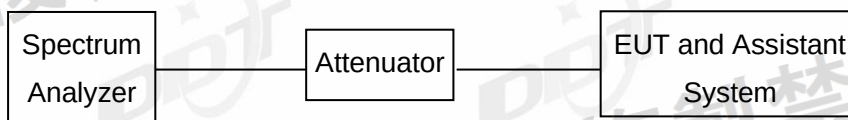


9. Dwell Time

9.1. Limit

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

9.2. Block diagram of test setup



9.3. Test procedure

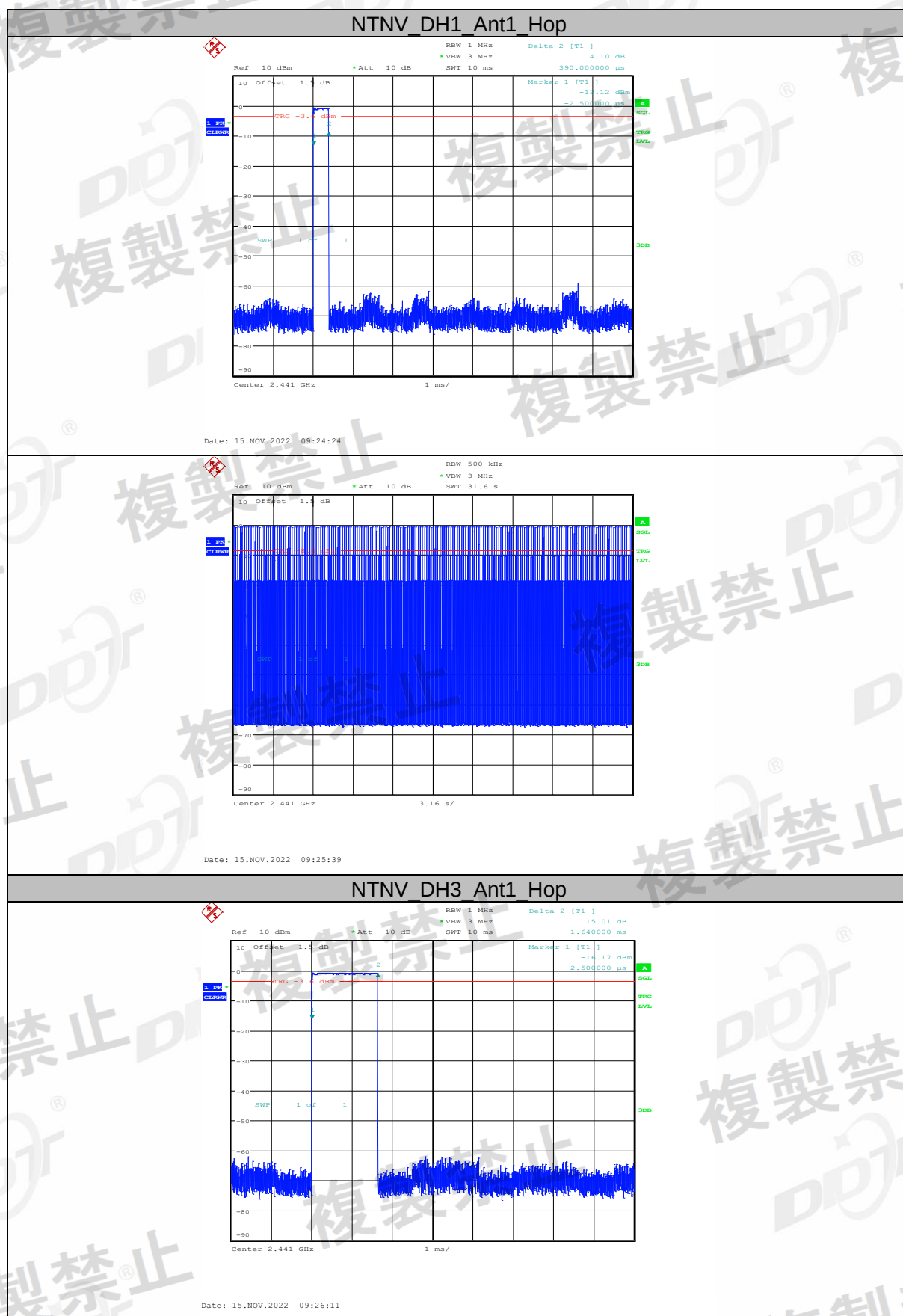
- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) The test period: $T = 0.4 \text{ Second/Channel} \times 79 \text{ Channel} = 31.6 \text{ s}$.
- (3) Measure the hopping number and on time of each pulse with spectrum analyzer in zero span set, and calculate dwell time with formula $\text{Dwell time} = \text{total hops} \times \text{pulse's on time}$.

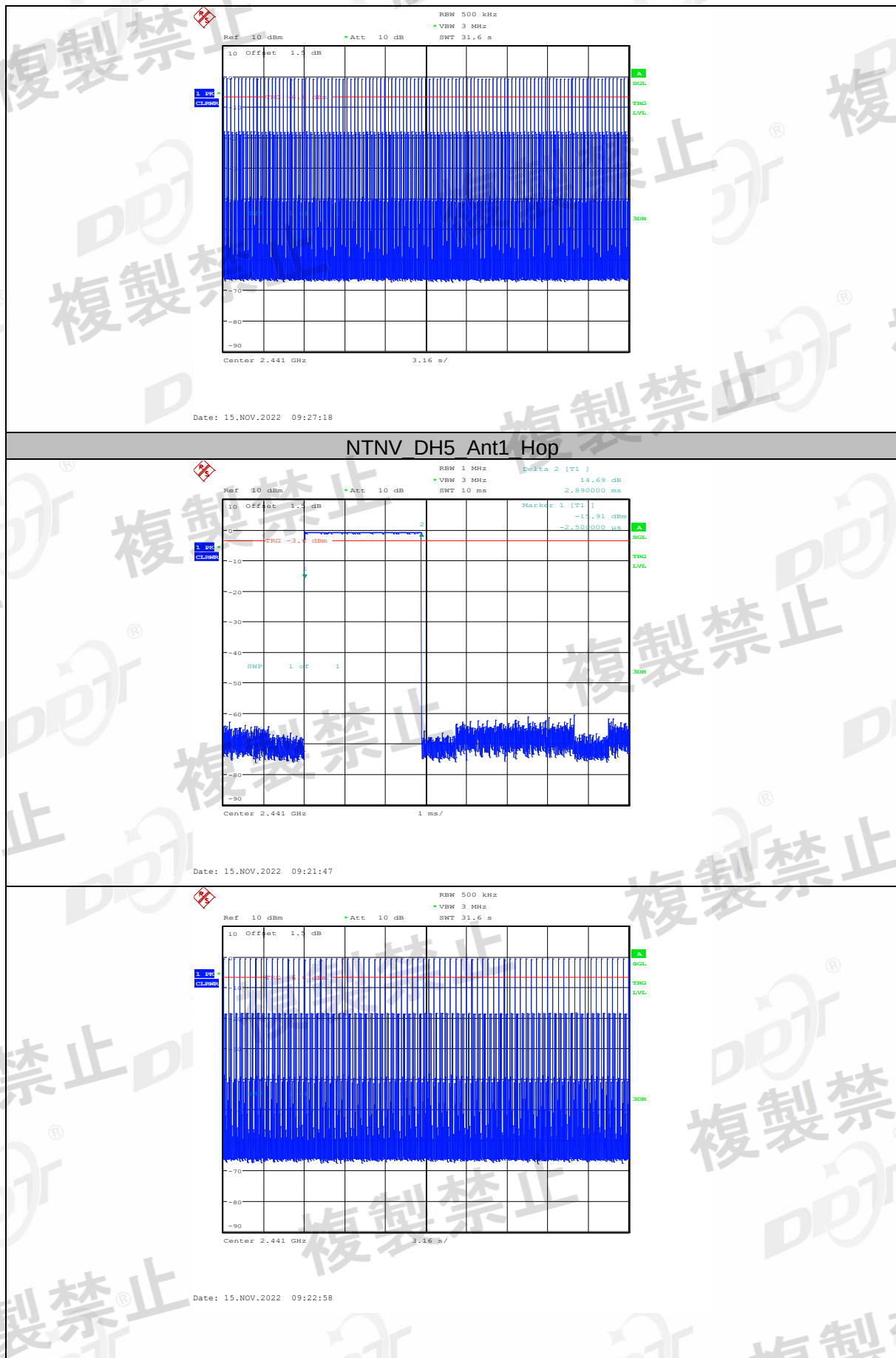
9.4. Test result

Mode	Dwell time (s)	Pulse's on time (ms)	Total hops	Limit	Verdict
DH1	0.080	0.39	206	<400ms	Pass
DH3	0.179	1.64	109	<400ms	Pass
DH5	0.220	2.89	76	<400ms	Pass
2DH1	0.080	0.39	205	<400ms	Pass
2DH3	0.190	1.64	116	<400ms	Pass
2DH5	0.220	2.89	76	<400ms	Pass
3DH1	0.083	0.39	213	<400ms	Pass
3DH3	0.187	1.64	114	<400ms	Pass
3DH5	0.223	2.89	77	<400ms	Pass

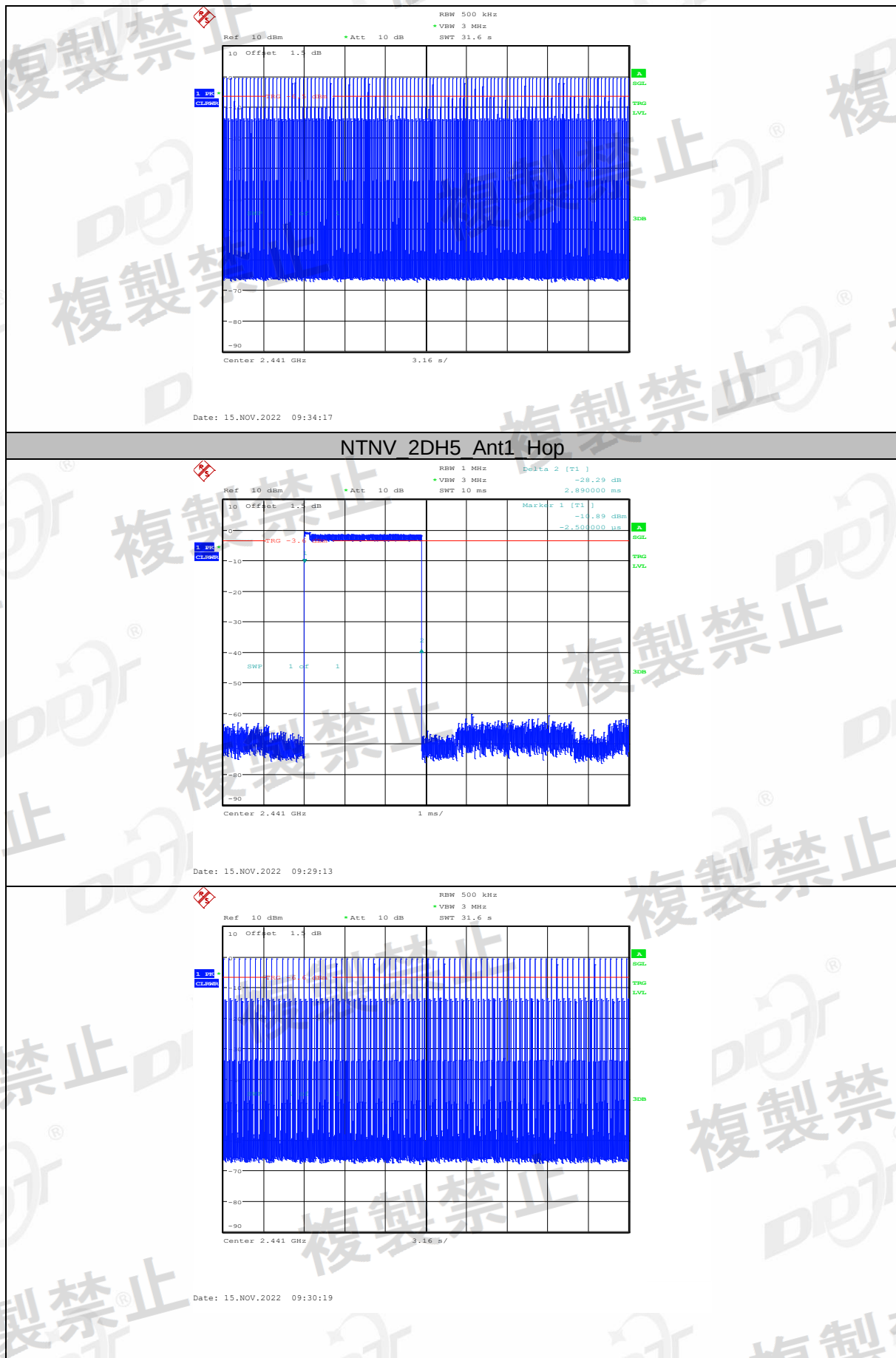
Note: Dwell time = total hops * pulse's on time.

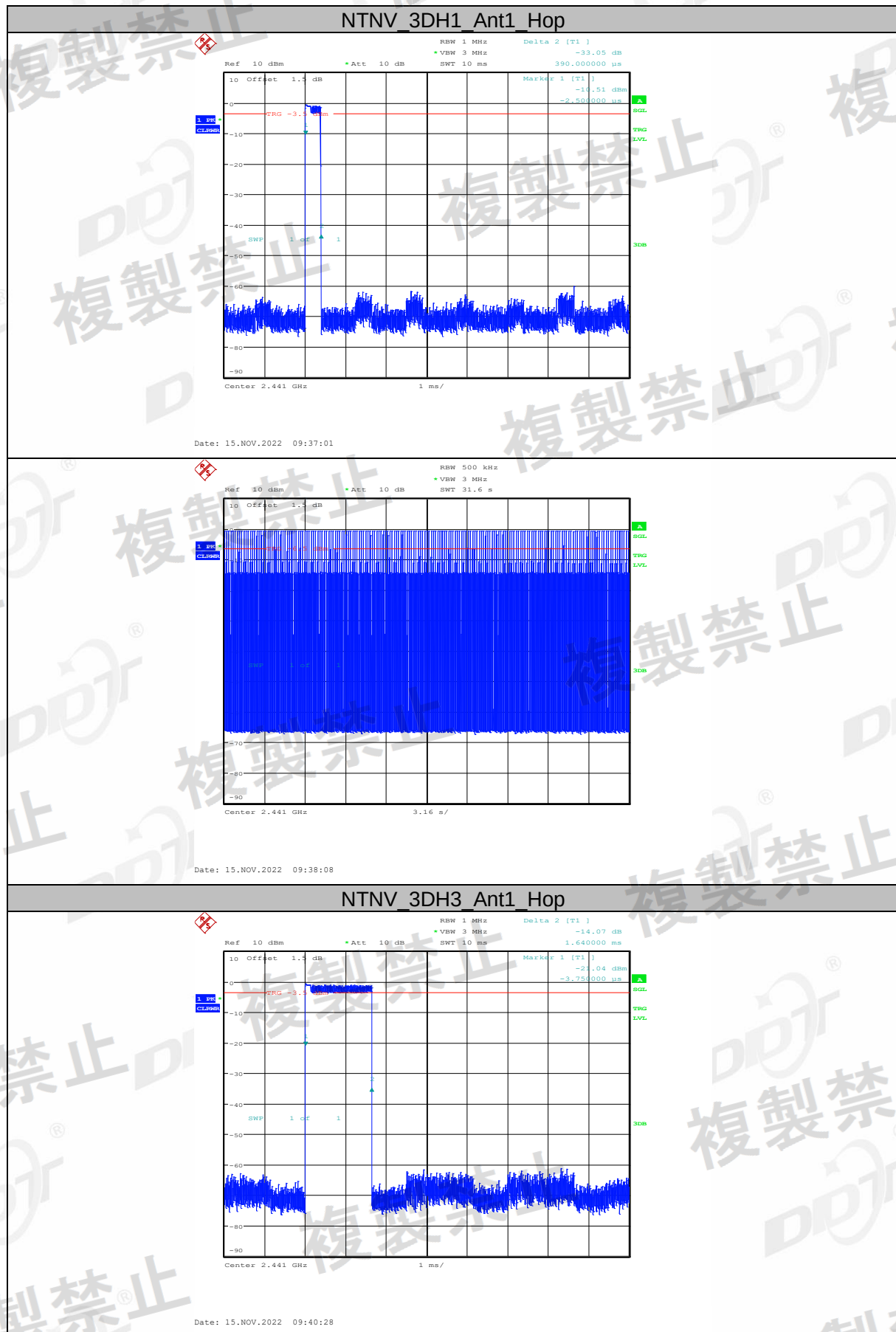
9.5. Original test data

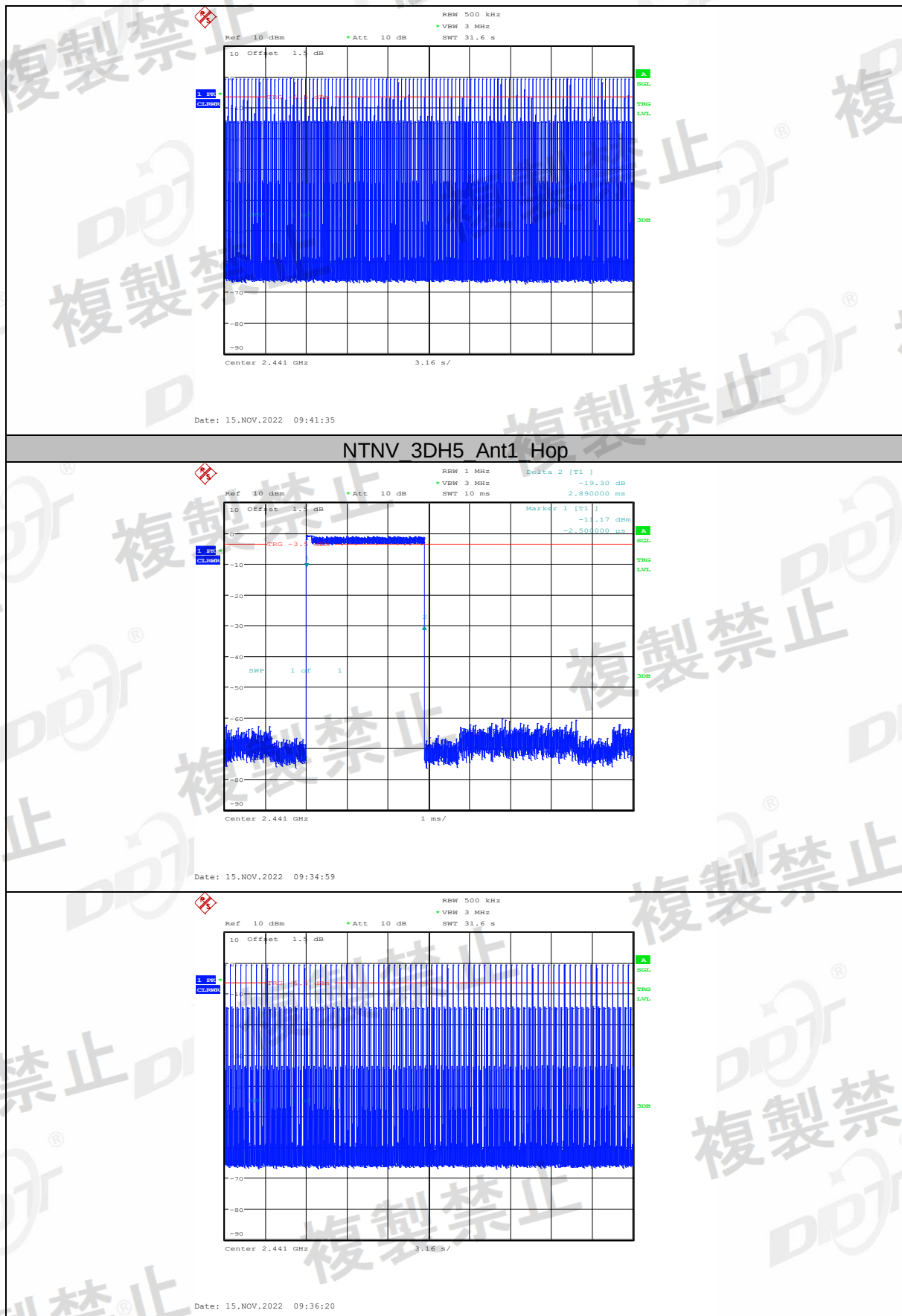












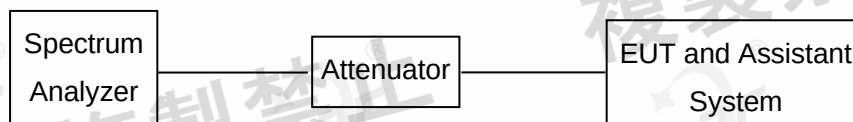
10. Transmitter Spurious Emissions (Conducted)

10.1. 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:

- a. $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.5\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 μW or less
- b. $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 μW or less

10.2. Block diagram of test setup



10.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator.
- (2) Set the Spectrum Analyzer as below, sweep the frequency, and search for unwanted emission.

Resolution BW: 1 MHz,

Video BW: Same with Resolution BW,

Detector: Peak,

Trace Mode: Max Hold,

- (3) All the emissions from 30 MHz to 13 GHz were measured and record.

- (4) In the vicinity of the carrier wave, etc., it is possible to set a narrower resolution bandwidth for measurement as necessary. In that case, convert the intensity of the unwanted emission to the value in the reference bandwidth. For this report if spurious emissions are greater than [limit -3dB] in 1MHz RBW, then more detailed measurements are required. Repeat the test in 30kHz RBW, the spurious emission value using following the formula below:

Calculated Value = (Measured Value + 15.2 dB)

15.2 dB adjustment is derived from the Conversion Factor of RBW

Conversion Factor of RBW = $10 \times \text{Log} (\text{Reference Bandwidth} / \text{RBW of measurement}) = 15.2[\text{dB}]$

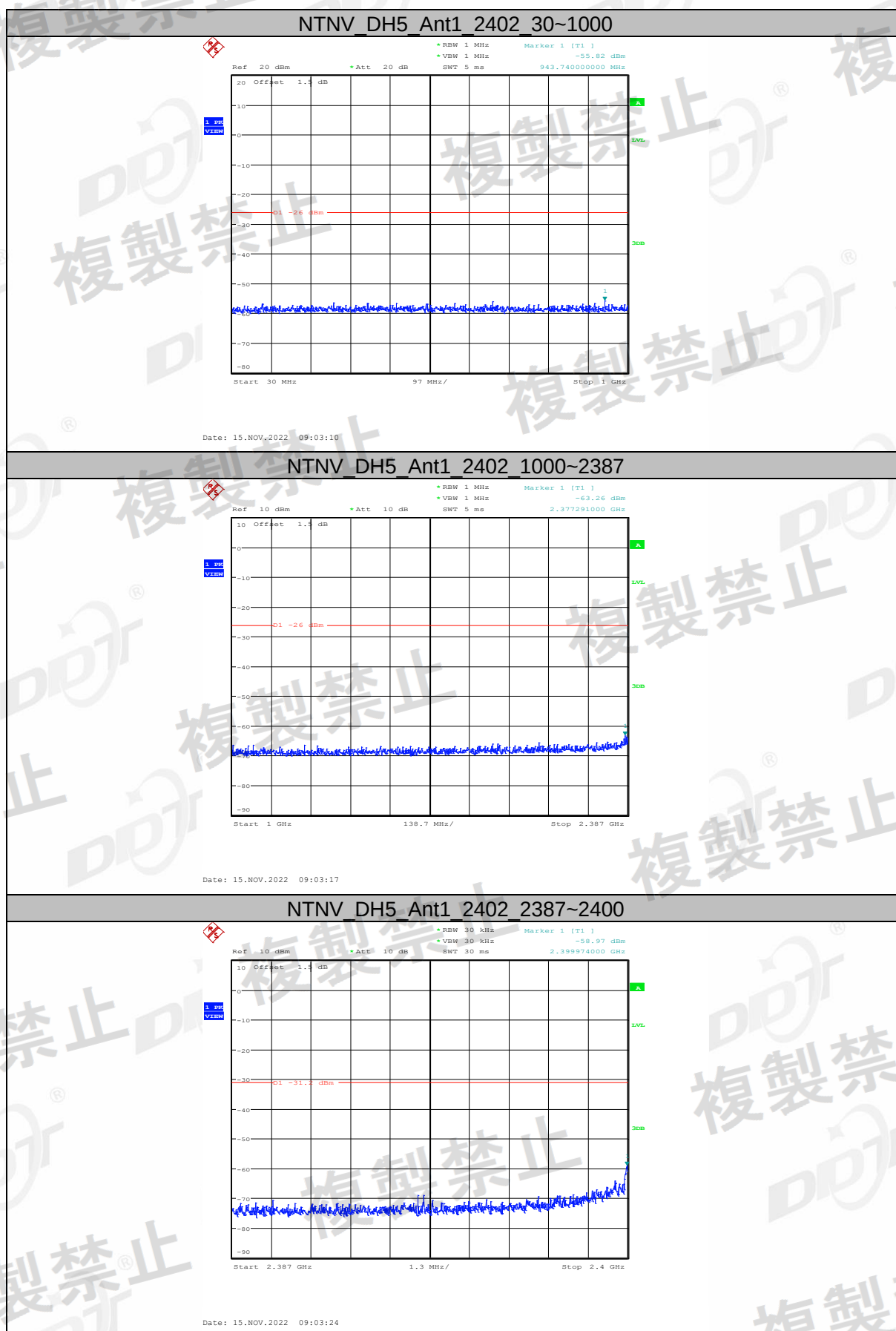
Where: Reference Bandwidth = 1 MHz

RBW of measurement = 30 kHz

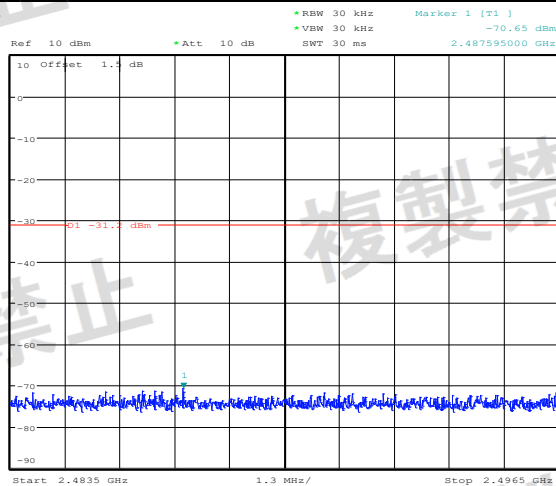
10.4. Test result

Test Condition	Test Mode	Antenna	Frequency (MHz)	Frequency Range [MHz]	Result [dBm]	Limit [dBm]	Verdict
NTNV	DH5	Ant1	2402	30~1000	-55.82	≤-26	Pass
				1000~2387	-63.26	≤-26	Pass
				2387~2400	-43.77	≤-16	Pass
				2483.5~2496.5	-55.45	≤-16	Pass
				2496.5~13000	-28.81	≤-26	Pass
			2441	30~1000	-56.31	≤-26	Pass
				1000~2387	-65.40	≤-26	Pass
				2387~2400	-55.49	≤-16	Pass
				2483.5~2496.5	-55.47	≤-16	Pass
				2496.5~13000	-31.43	≤-26	Pass
			2480	30~1000	-56.05	≤-26	Pass
				1000~2387	-65.50	≤-26	Pass
				2387~2400	-54.39	≤-16	Pass
				2483.5~2496.5	-52.58	≤-16	Pass
				2496.5~13000	-30.97	≤-26	Pass
	2DH5	Ant1	2402	30~1000	-54.46	≤-26	Pass
				1000~2387	-59.39	≤-26	Pass
				2387~2400	-40.41	≤-16	Pass
				2483.5~2496.5	-55.65	≤-16	Pass
				2496.5~13000	-31.97	≤-26	Pass
			2441	30~1000	-55.46	≤-26	Pass
				1000~2387	-63.24	≤-26	Pass
				2387~2400	-55.43	≤-16	Pass
				2483.5~2496.5	-54.91	≤-16	Pass
				2496.5~13000	-33.19	≤-26	Pass
			2480	30~1000	-55.78	≤-26	Pass
				1000~2387	-65.64	≤-26	Pass
				2387~2400	-56.09	≤-16	Pass
				2483.5~2496.5	-50.56	≤-16	Pass
				2496.5~13000	-31.01	≤-26	Pass
	3DH5	Ant1	2402	30~1000	-56.39	≤-26	Pass
				1000~2387	-63.47	≤-26	Pass
				2387~2400	-41.64	≤-16	Pass
				2483.5~2496.5	-54.96	≤-16	Pass
				2496.5~13000	-29.18	≤-26	Pass
			2441	30~1000	-55.76	≤-26	Pass
				1000~2387	-63.51	≤-26	Pass
				2387~2400	-55.41	≤-16	Pass
				2483.5~2496.5	-55.82	≤-16	Pass
				2496.5~13000	-33.13	≤-26	Pass
			2480	30~1000	-56.25	≤-26	Pass
				1000~2387	-65.59	≤-26	Pass
				2387~2400	-55.96	≤-16	Pass
				2483.5~2496.5	-51.73	≤-16	Pass
				2496.5~13000	-33.93	≤-26	Pass

10.5. Original test data

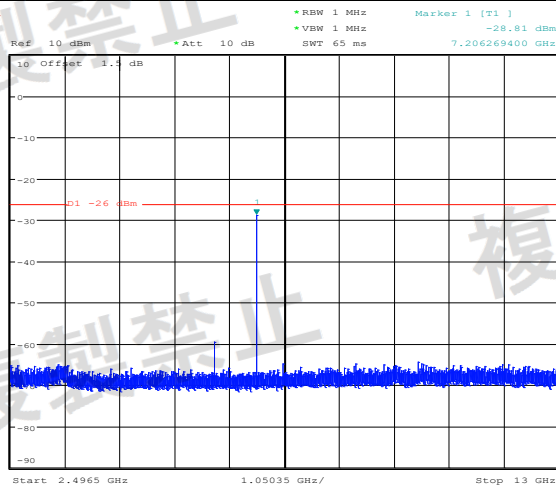


NTNV DH5 Ant1 2402 2483.5~2496.5



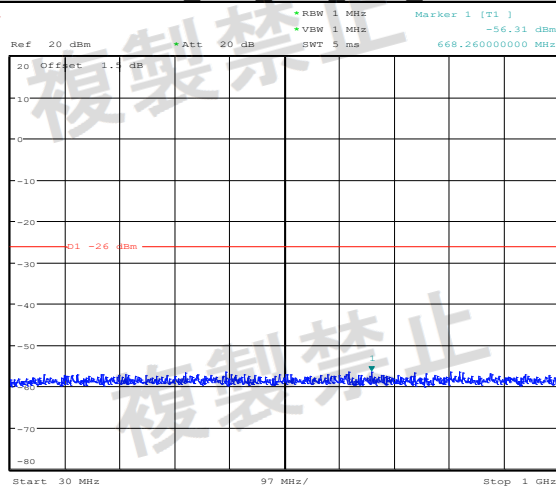
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NTNV DH5 Ant1 2402 2496.5~13000

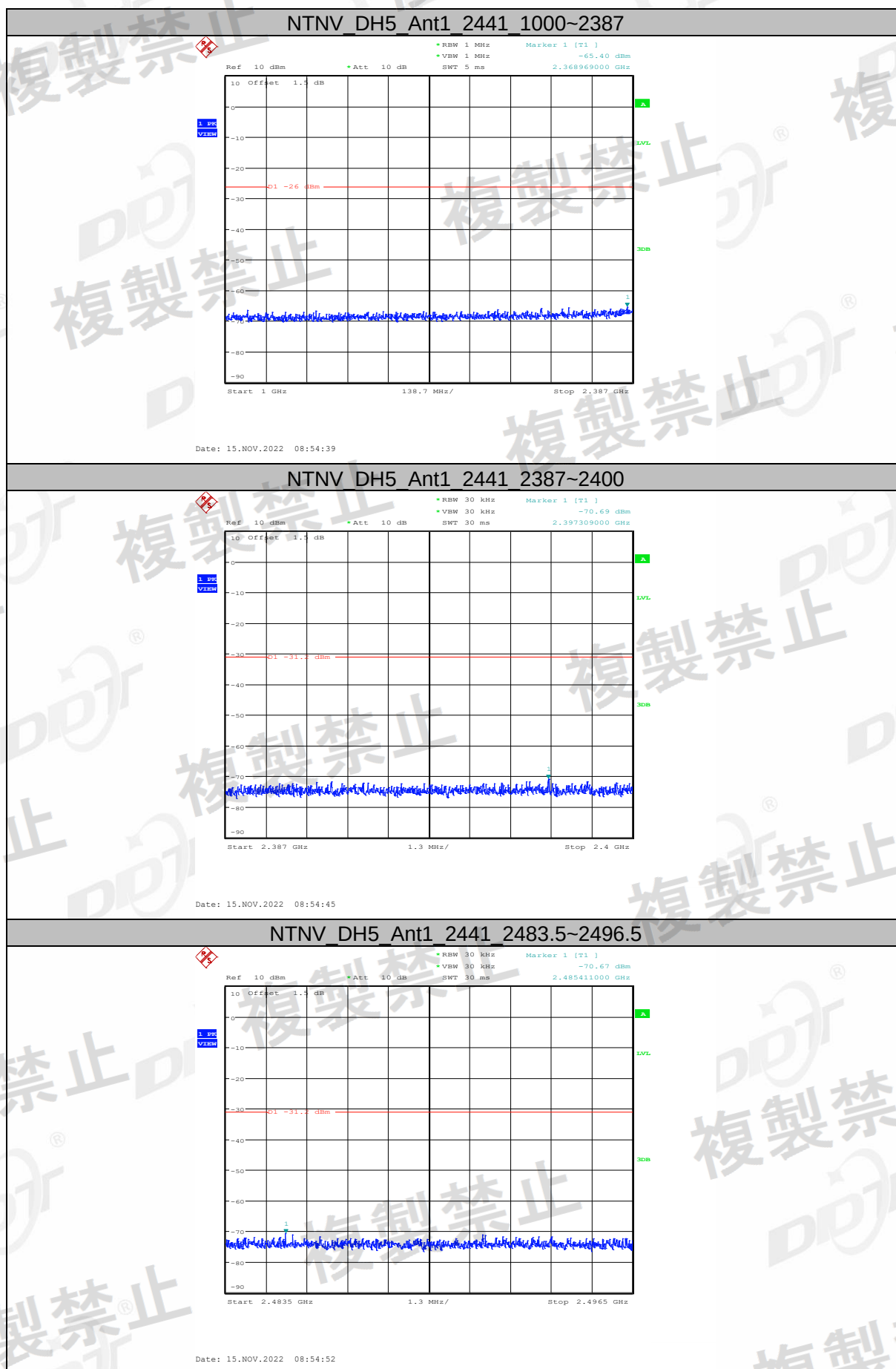


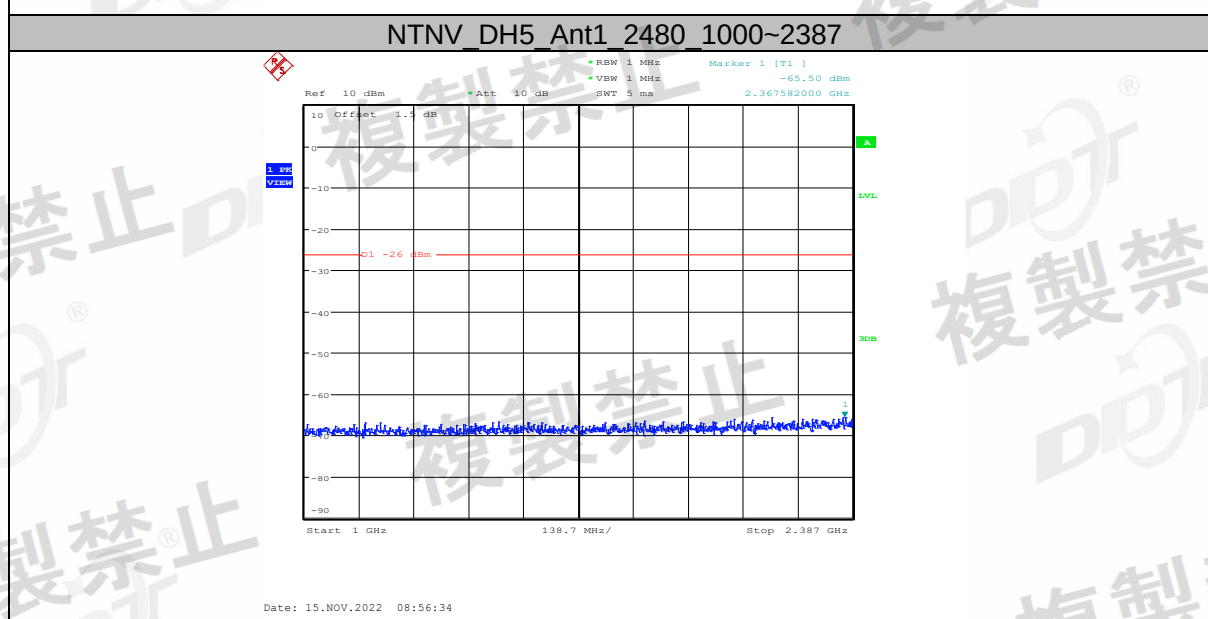
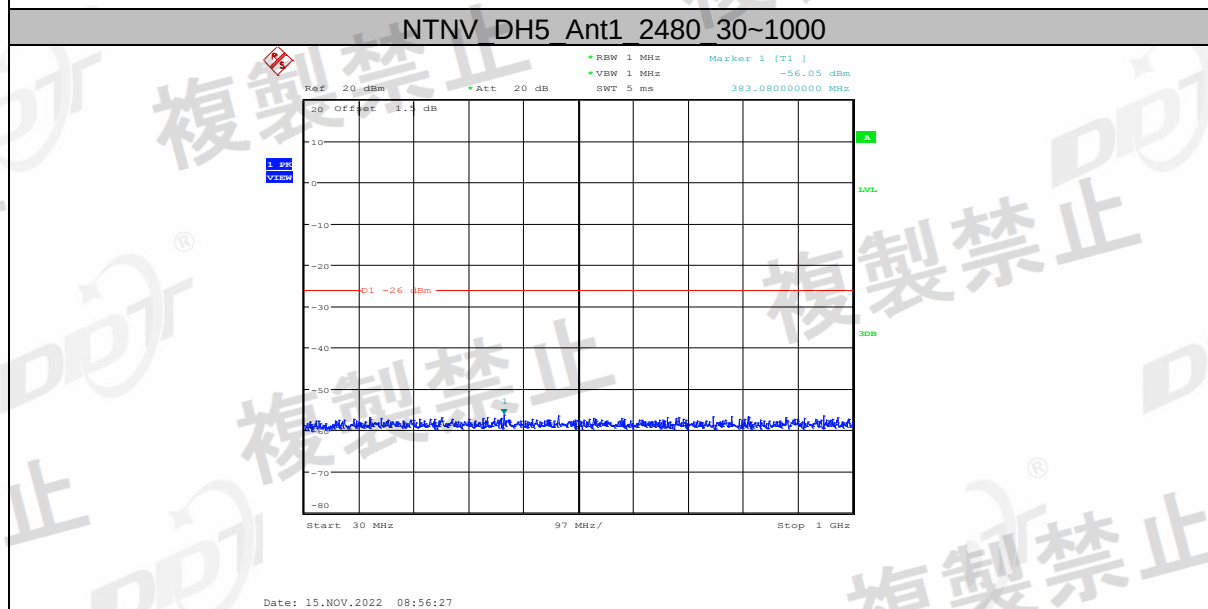
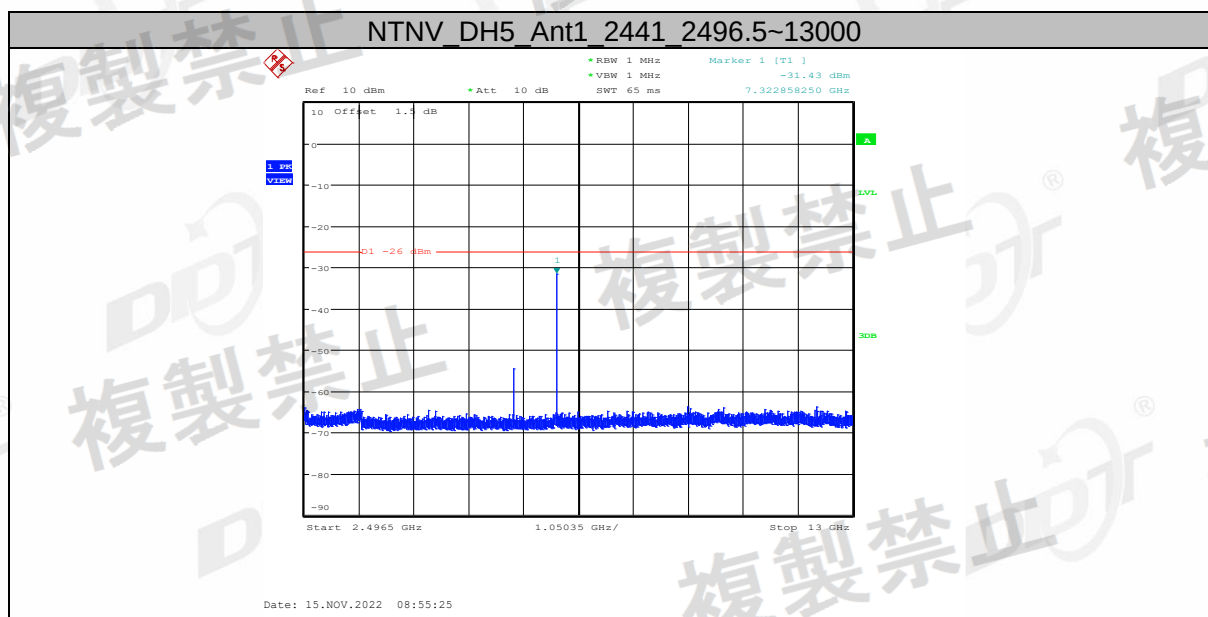
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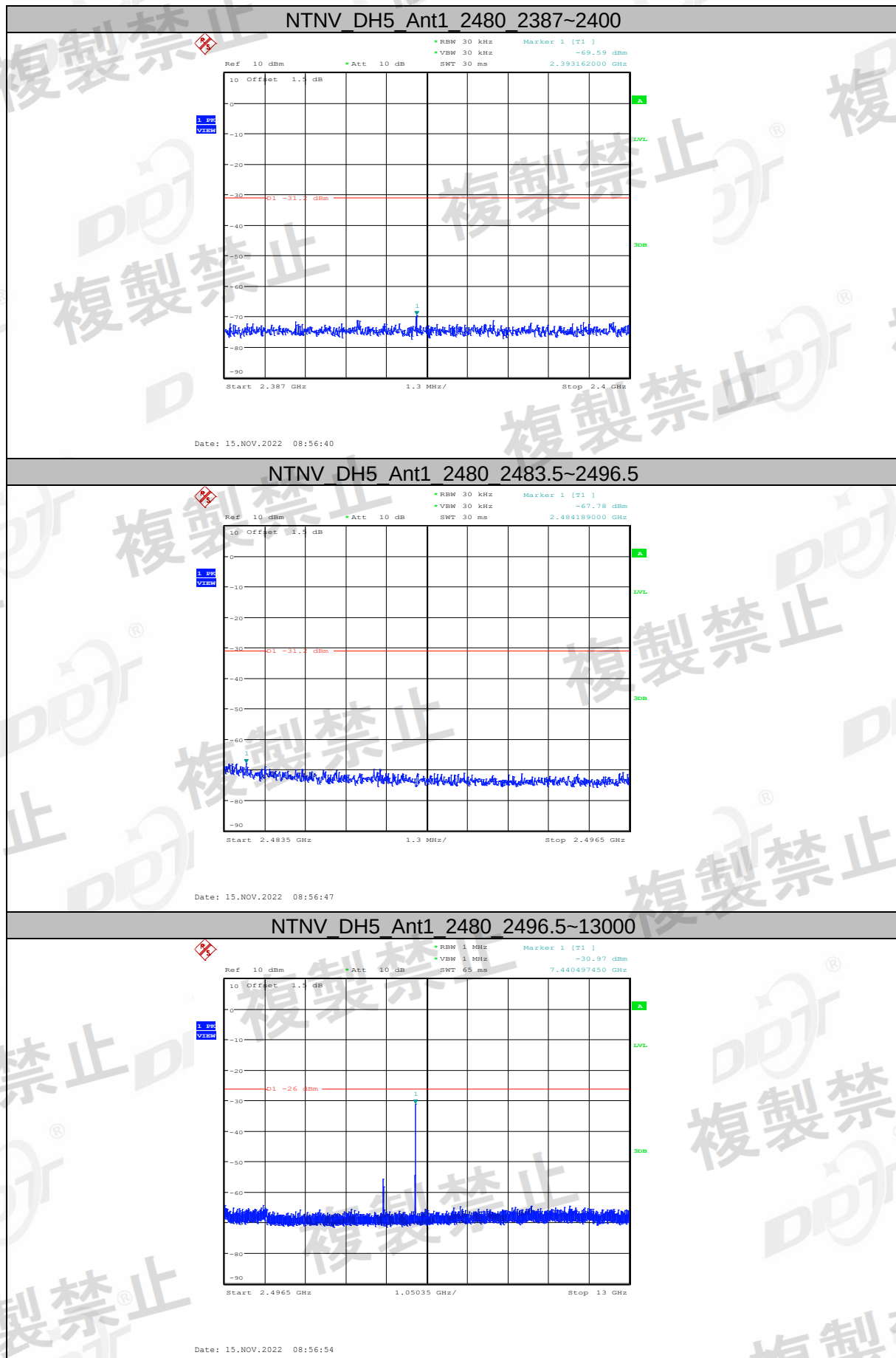
NTNV DH5 Ant1 2441 30~1000

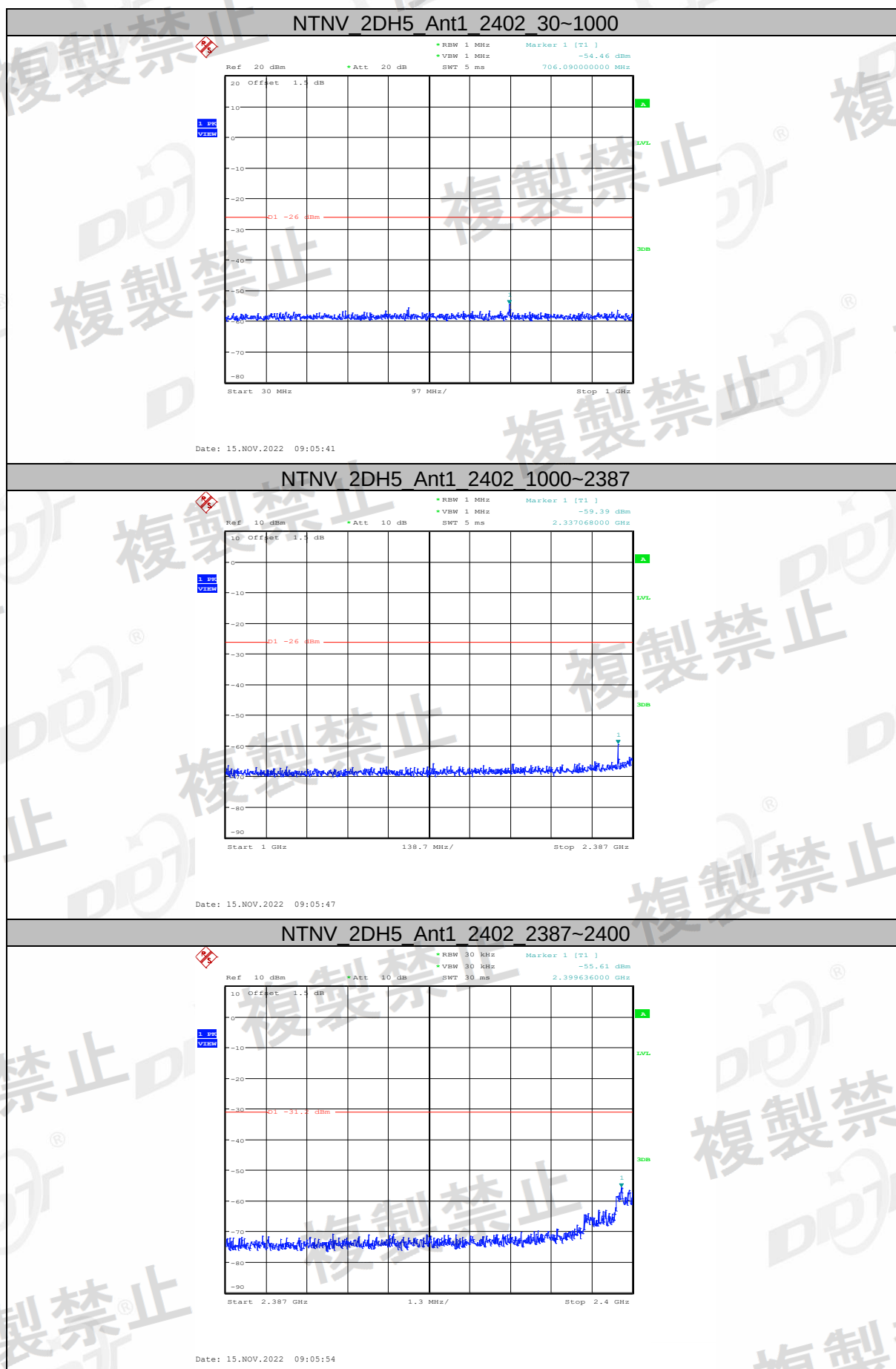


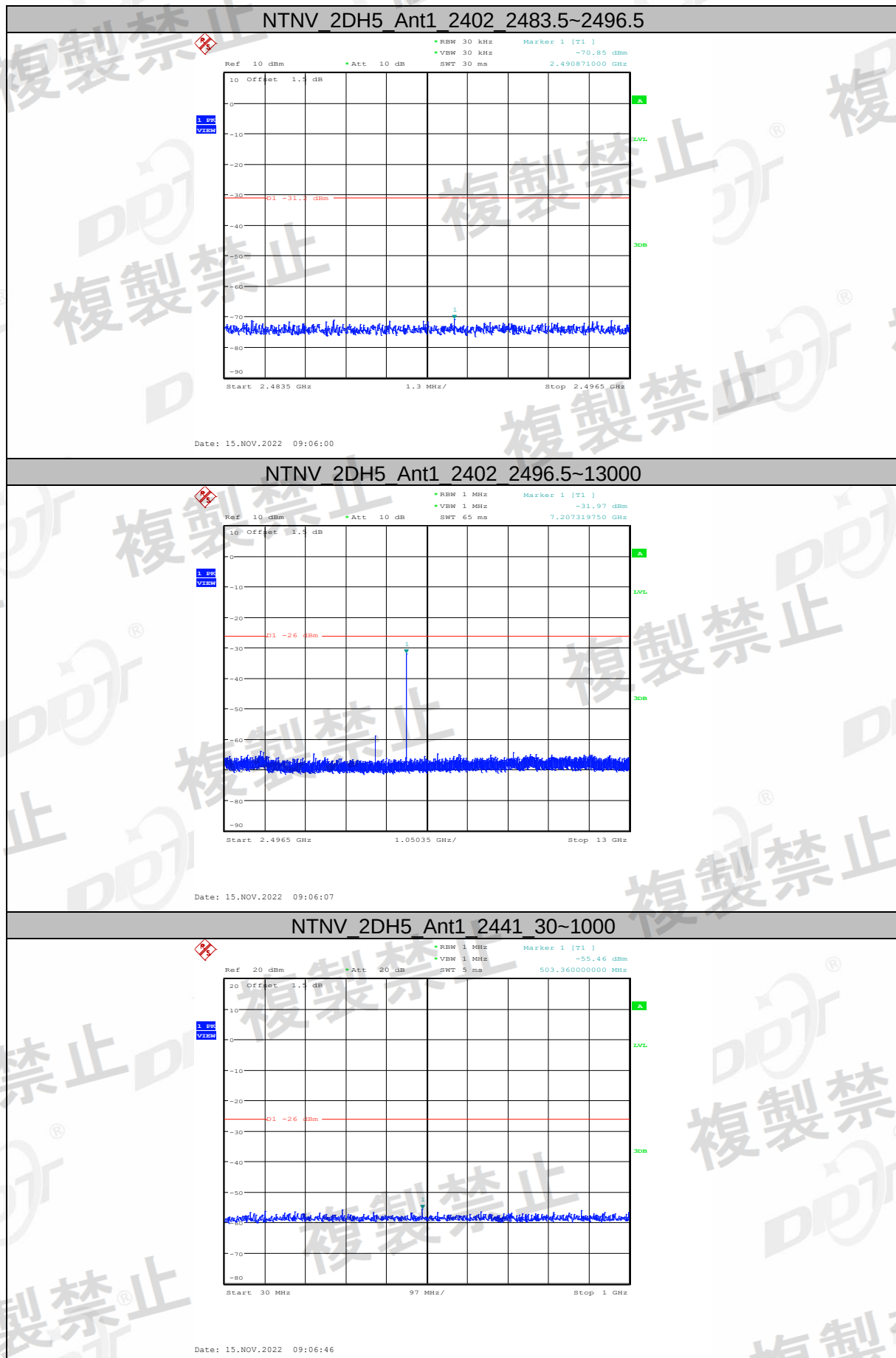
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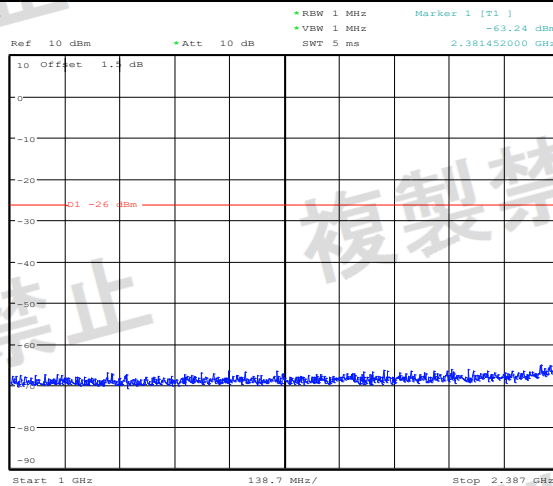






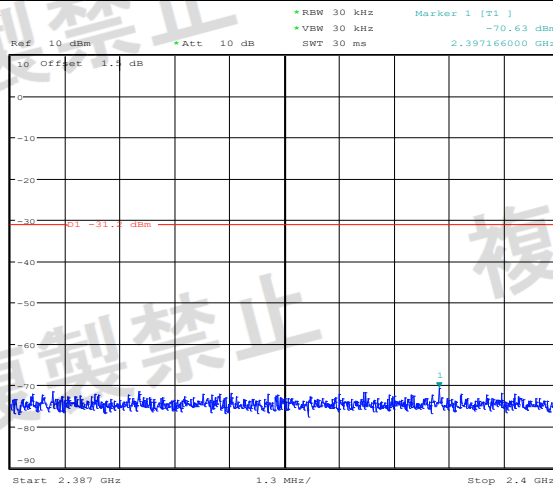


NTNV 2DH5 Ant1 2441 1000~2387



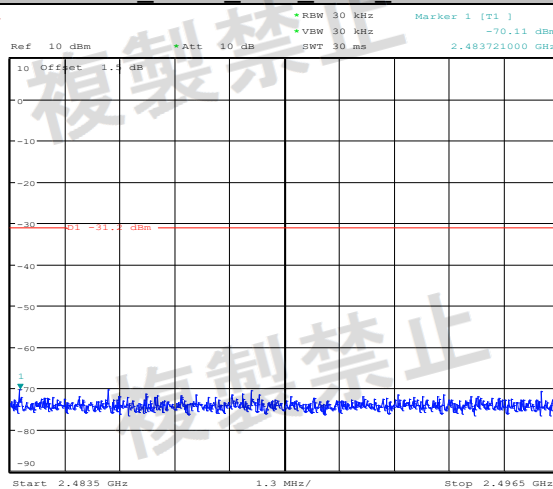
Date: 15.NOV.2022 09:06:53

NTNV 2DH5 Ant1 2441 2387~2400

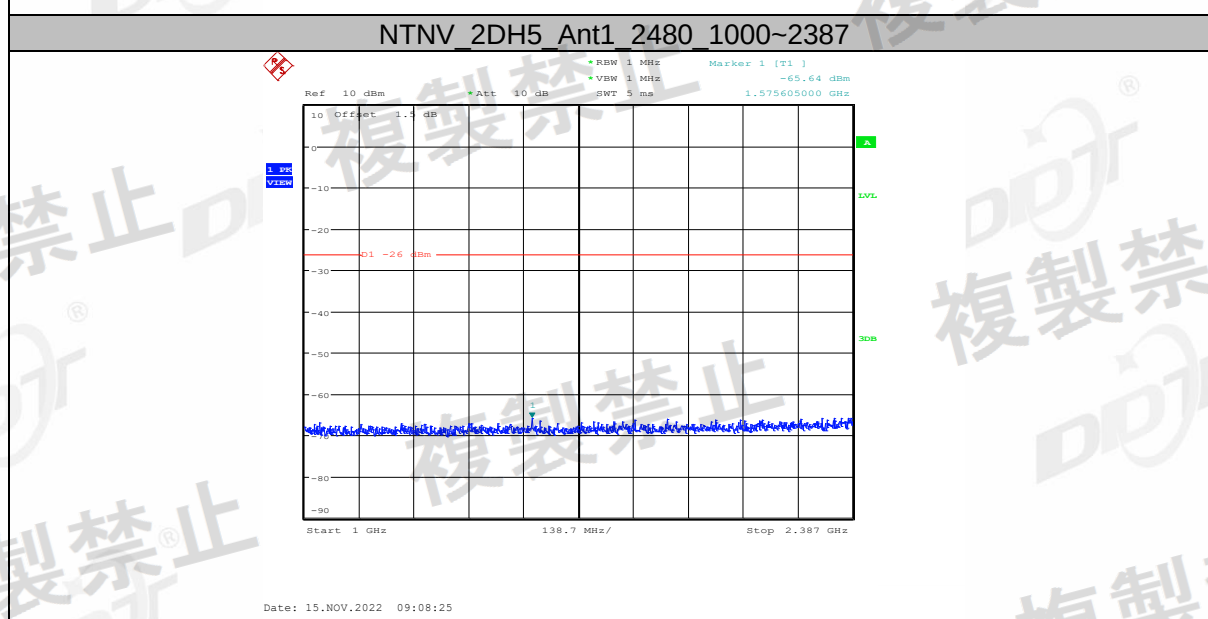
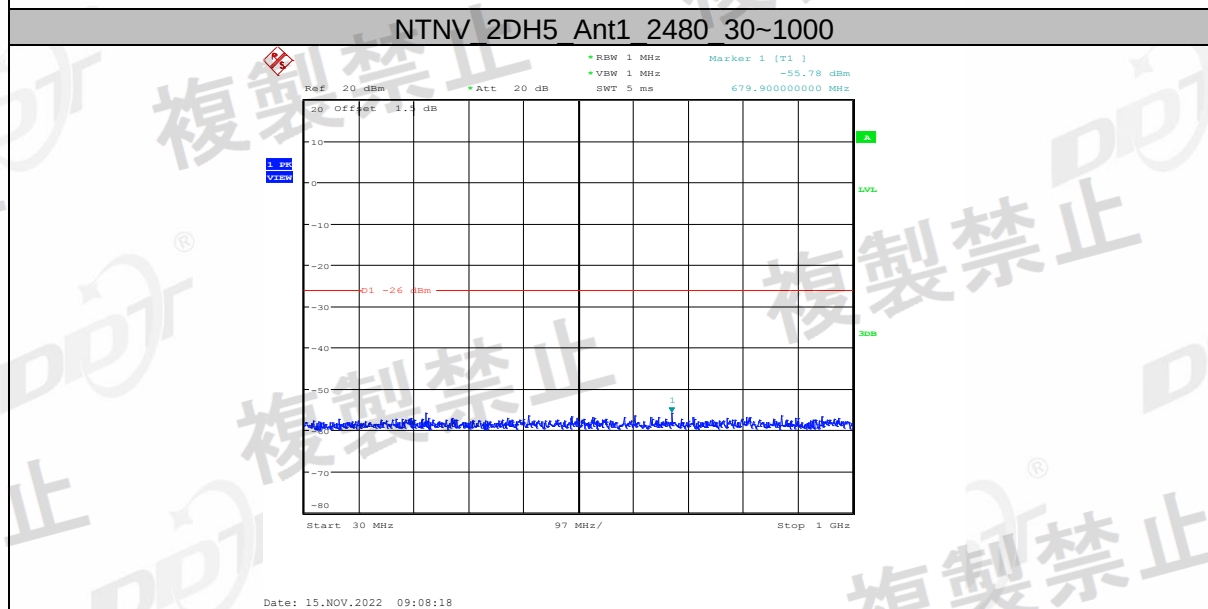
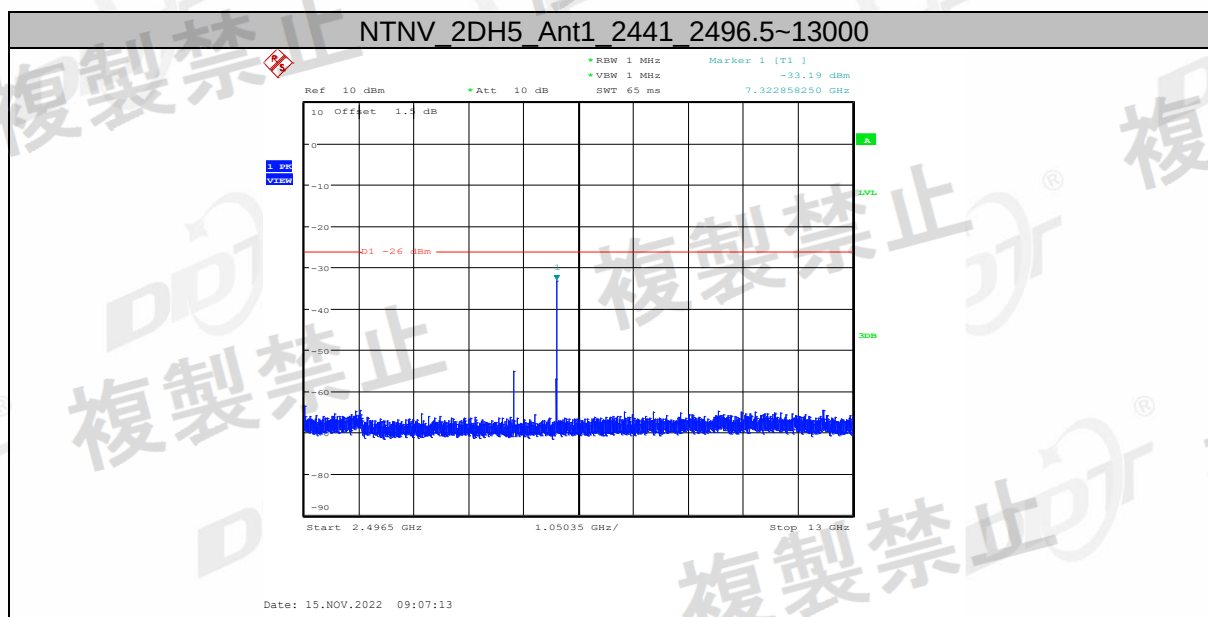


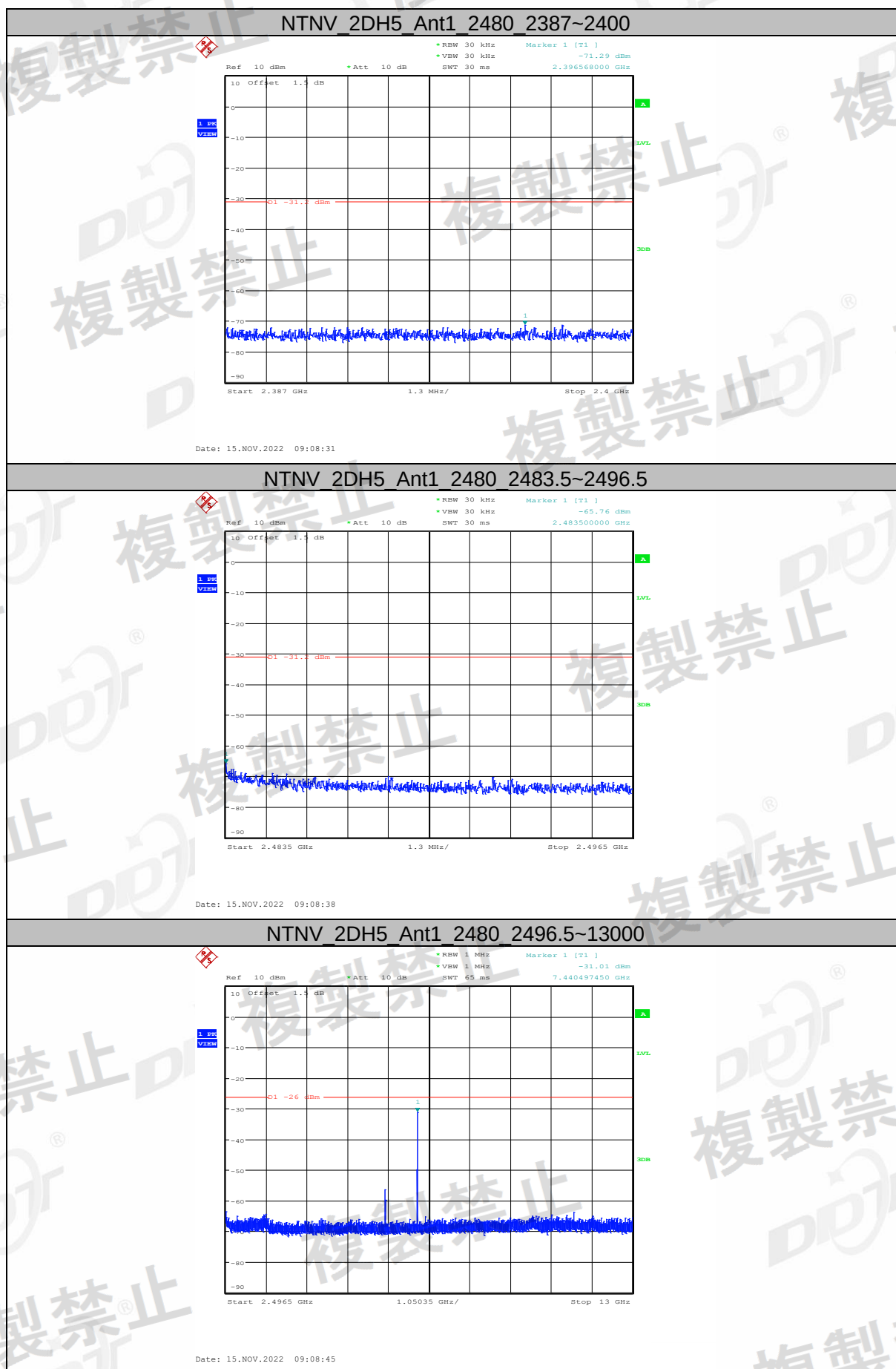
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NTNV 2DH5 Ant1 2441 2483.5~2496.5

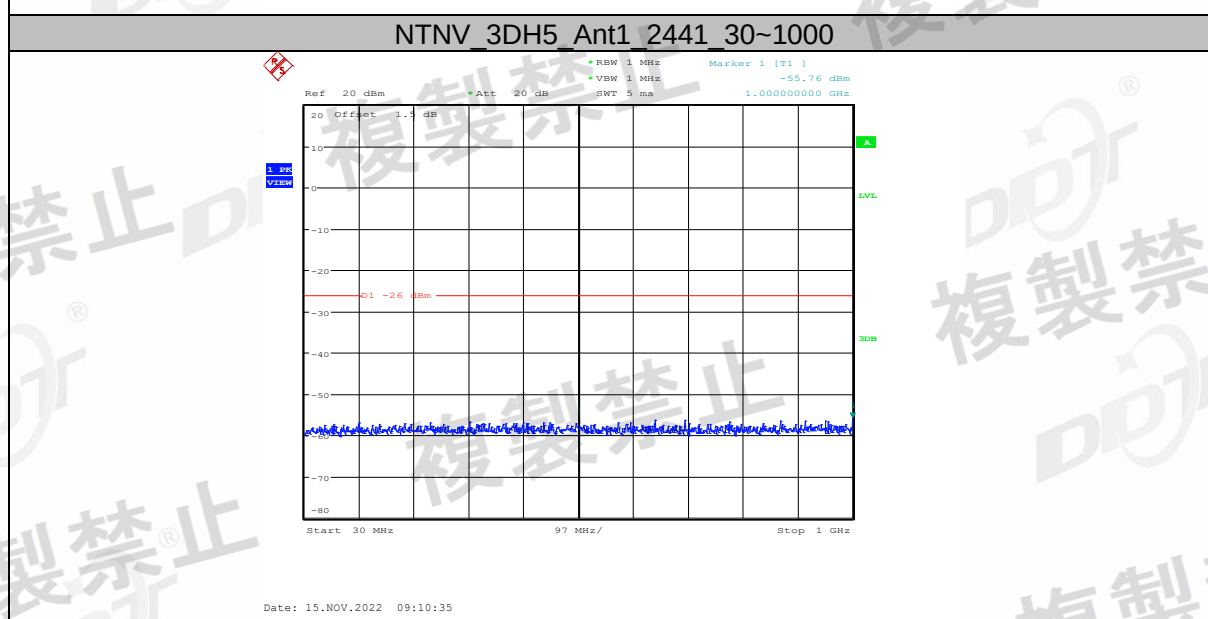
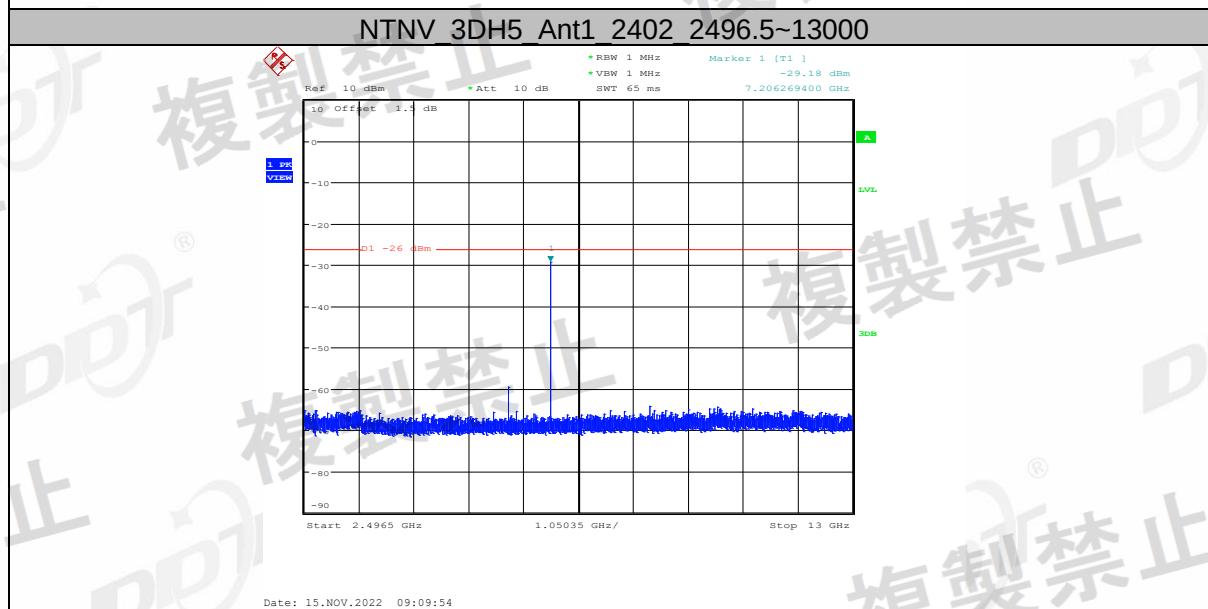
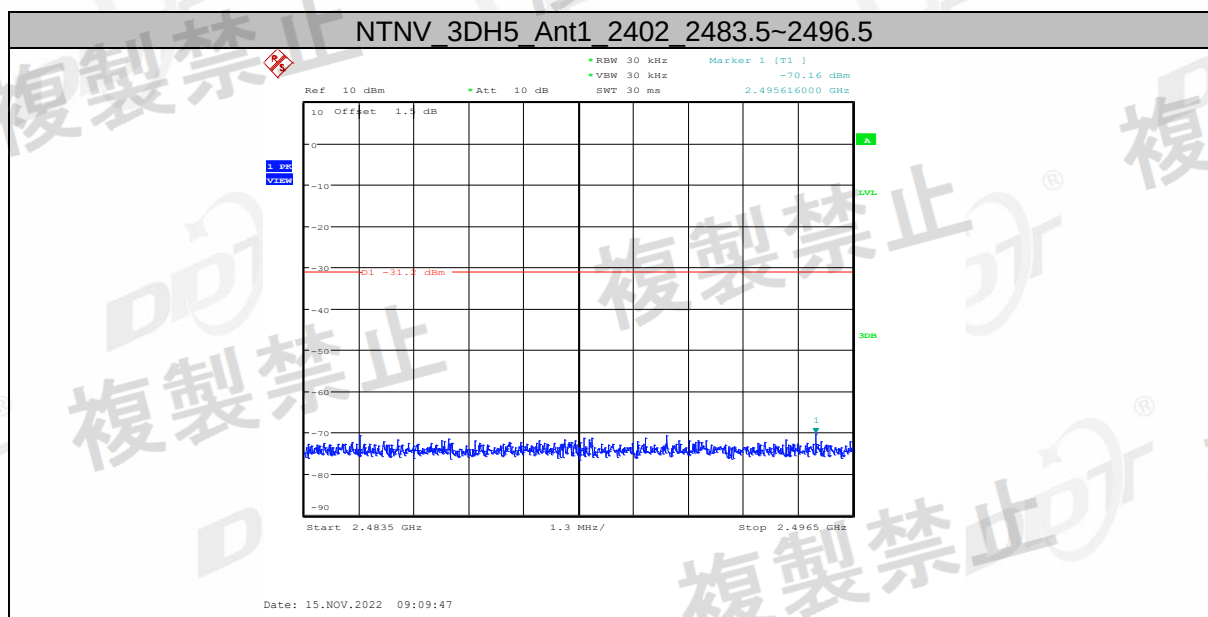


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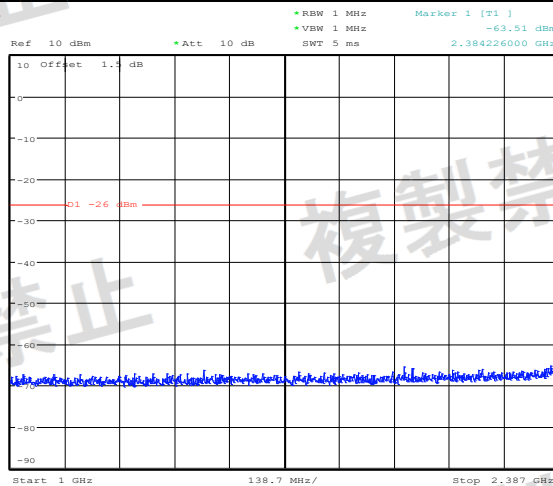






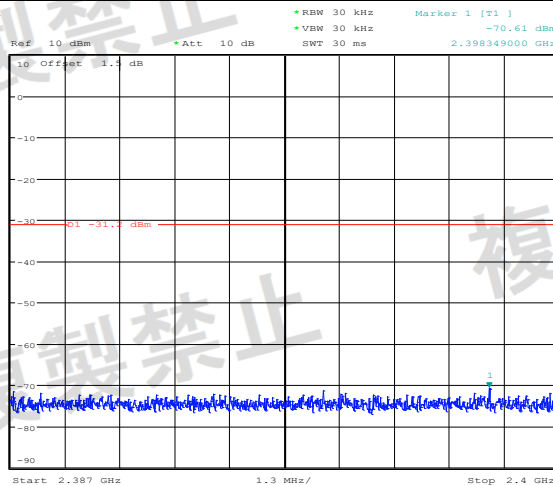


NTNV 3DH5 Ant1 2441 1000~2387



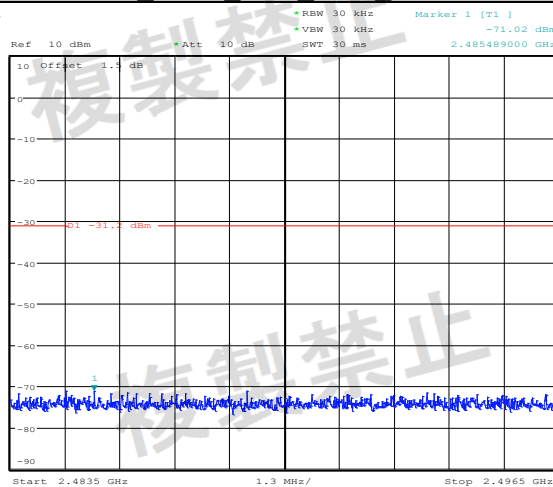
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NTNV 3DH5 Ant1 2441 2387~2400

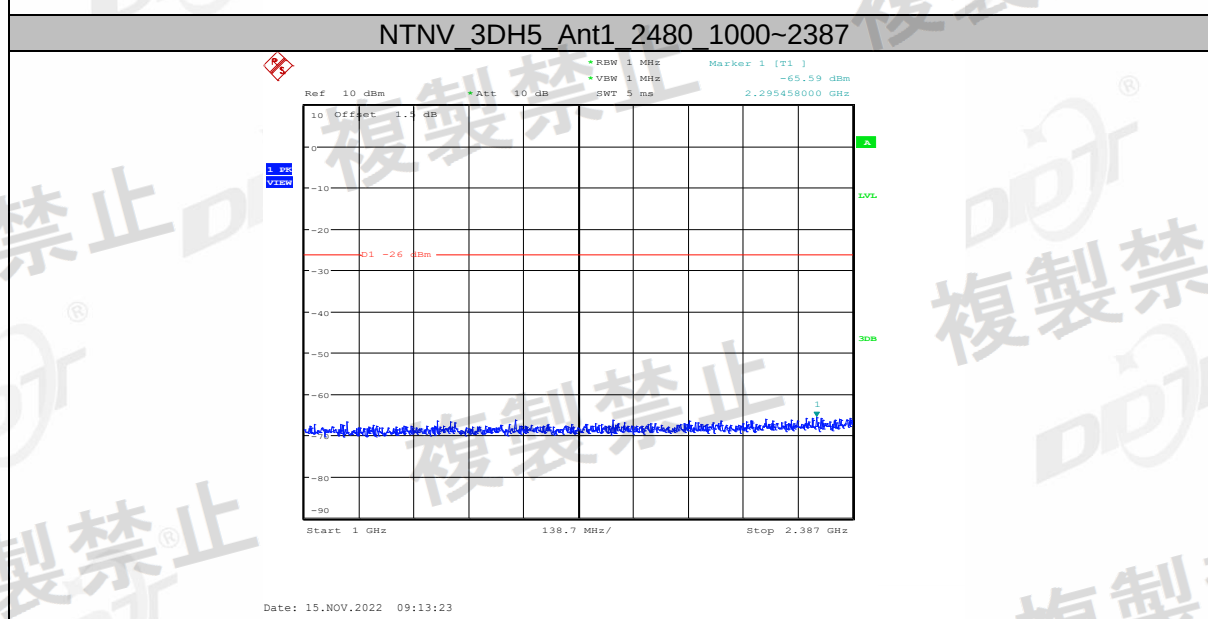
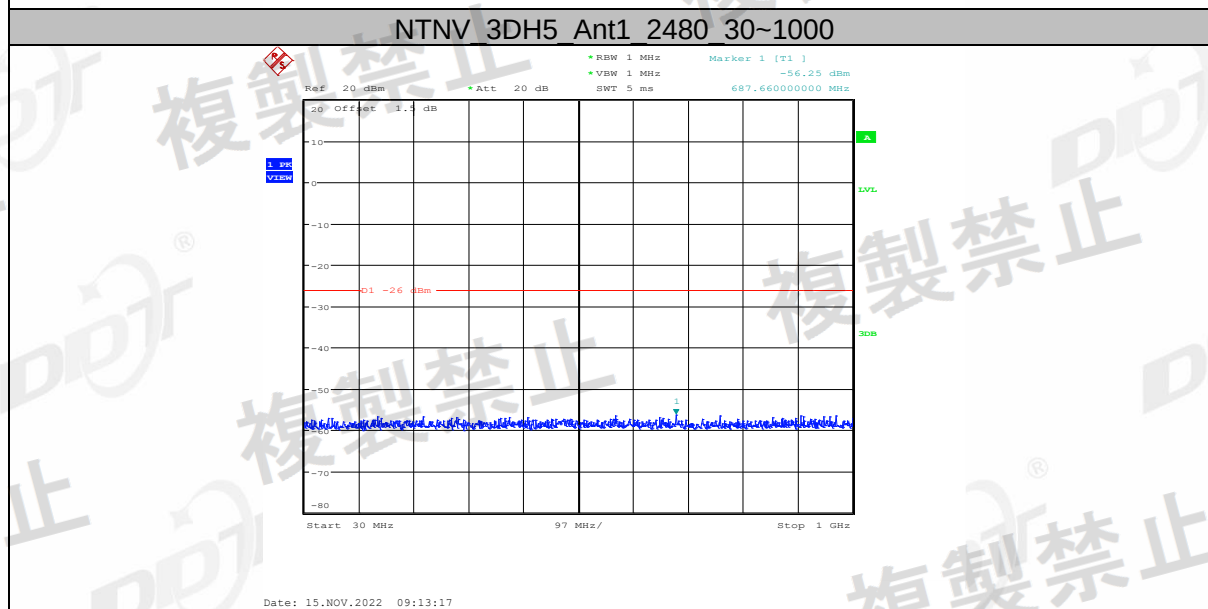
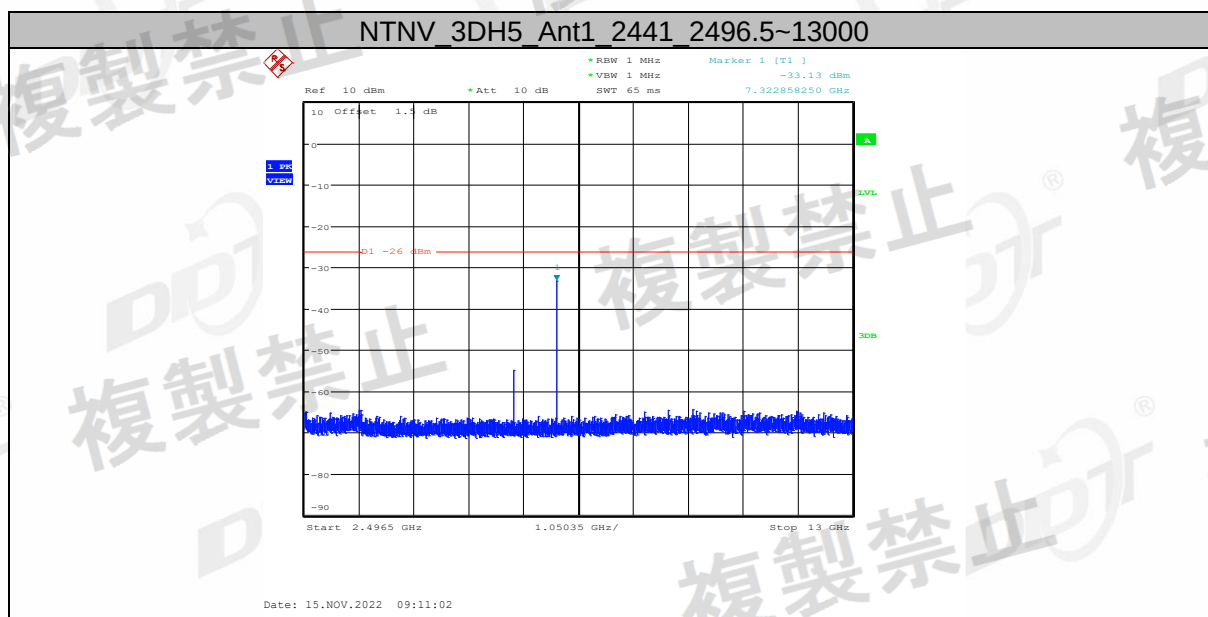


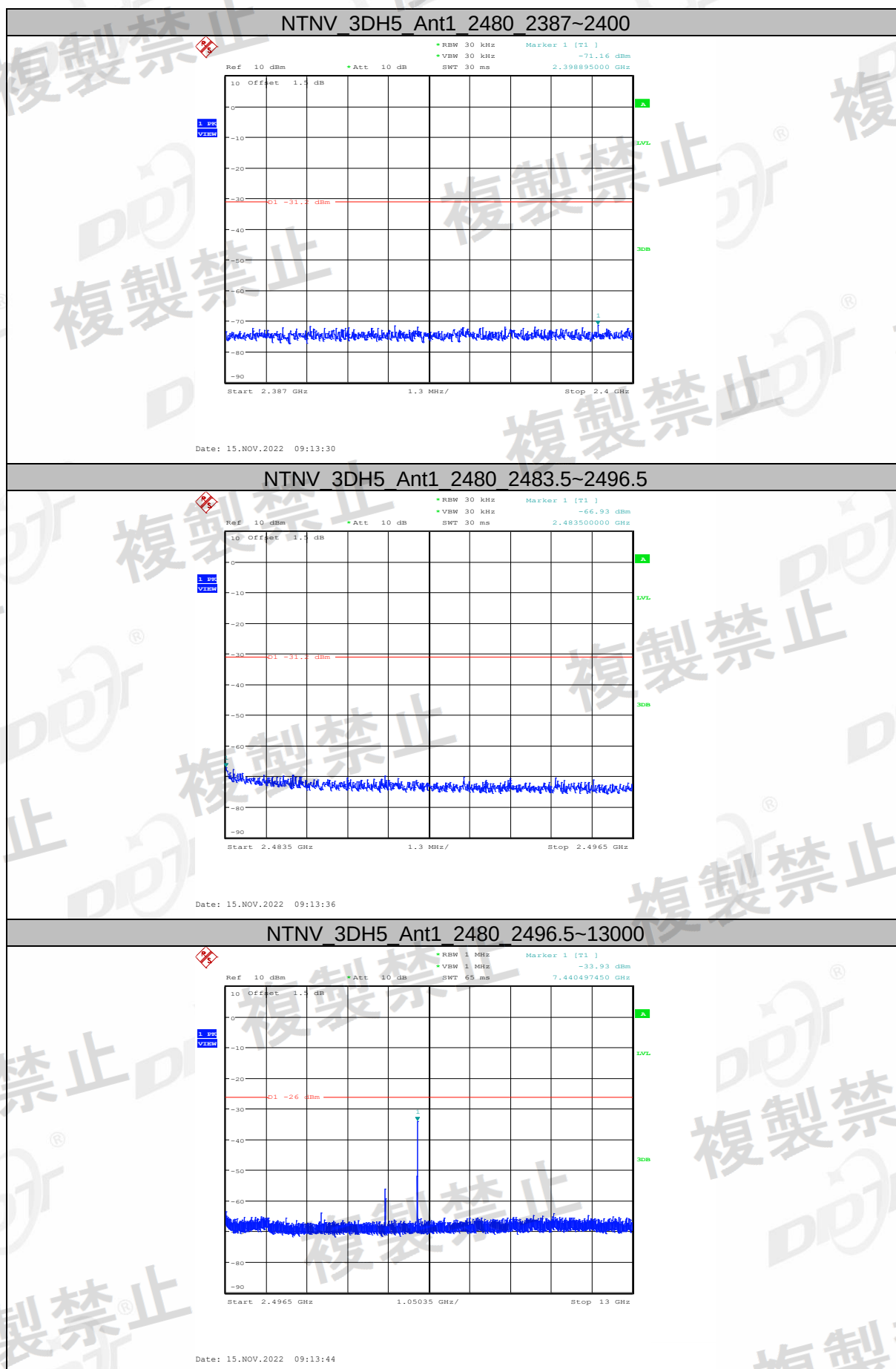
Date: 15.NOV.2022 09:10:48

NTNV 3DH5 Ant1 2441 2483.5~2496.5



Date: 15.NOV.2022 09:10:54



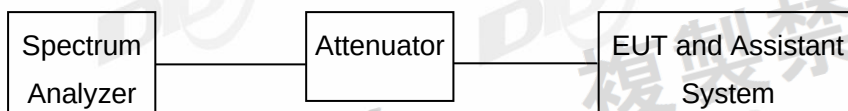


11. Secondary Radiated Emissions

11.1. 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.

11.2. Block diagram of test setup



11.3. Test procedure

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

Resolution BW: 100 kHz for frequency below 1 GHz and 1 MHz for frequency above 1 GHz

Video BW: 100 kHz for frequency below 1 GHz and 1 MHz for frequency above 1 GHz

Detector: Peak.

Trace Mode: Max Hold.

- (2) All the emissions from 30 MHz to 13 GHz were measured and record.

- (3) If the searched value is 1/10 or less of the allowable value specified in the Equipment Regulations, the searched value shall be the measured value.

- (4) If the searched value exceeds 1/10 of the allowable value specified in the equipment Regulations, the frequency sweep width is gradually narrowed to about 10 times the resolution bandwidth in order to improve the setting accuracy of the center frequency of the spectrum analyzer. Then, measure the secondary emission frequency, set the spectrum analyzer as below, perform averaging, and measure the secondary emission power.

Span: 0Hz

Resolution BW: 100kHz for frequency below 1GHz and 1MHz for frequency above 1GHz.

Video BW: Same with Resolution BW

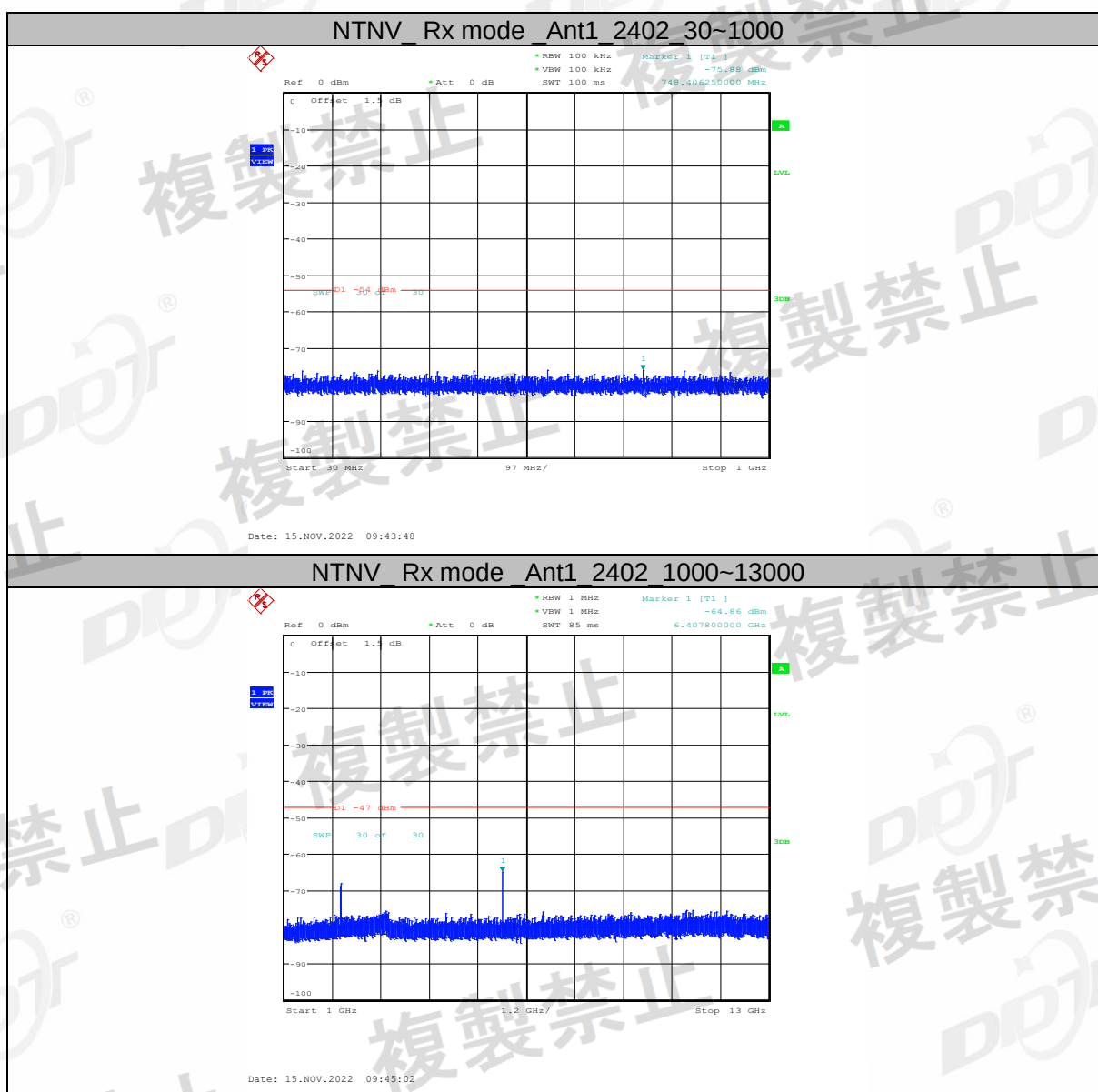
Detector: Sample

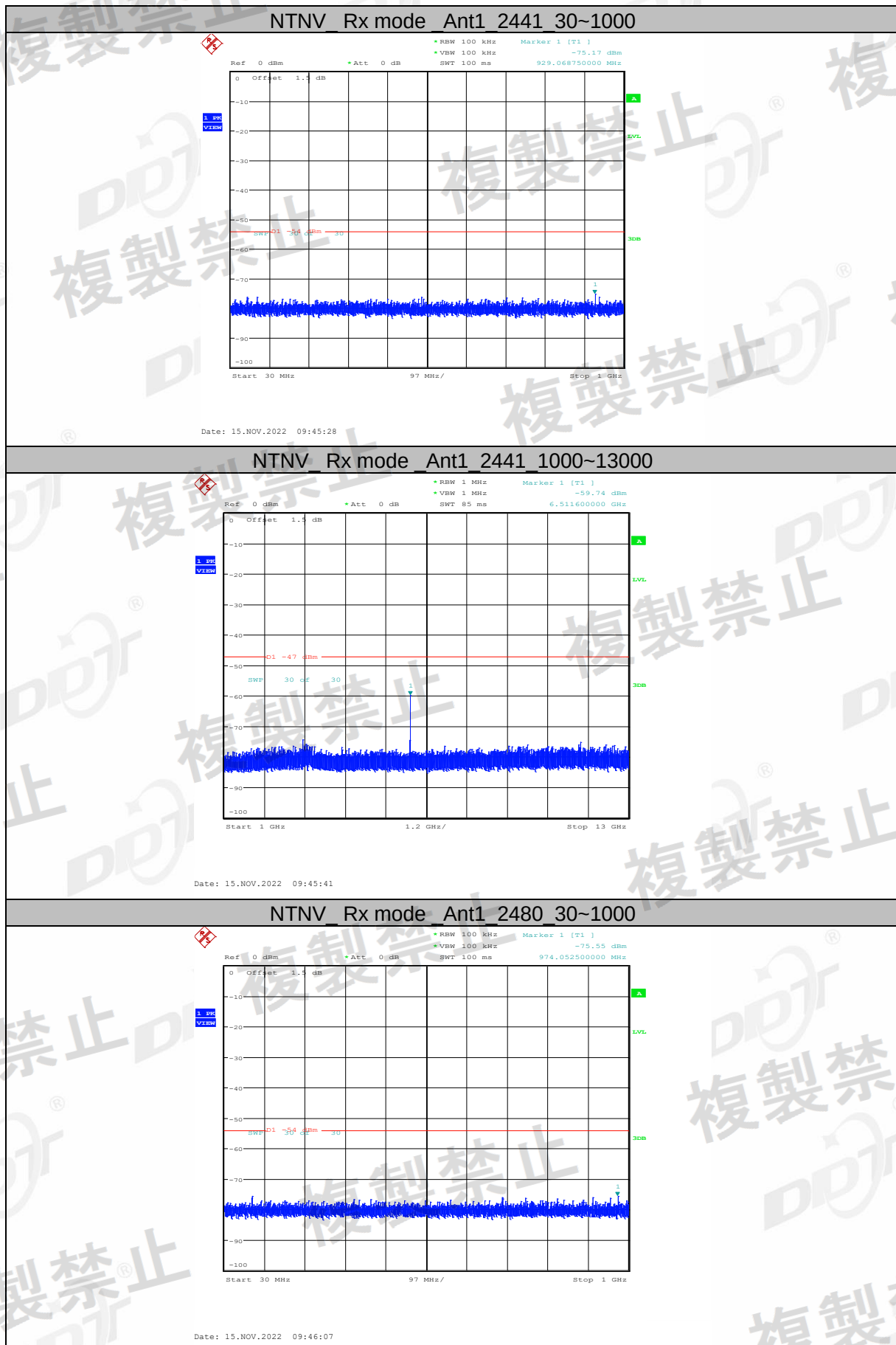
Trace Mode: Max. Hold

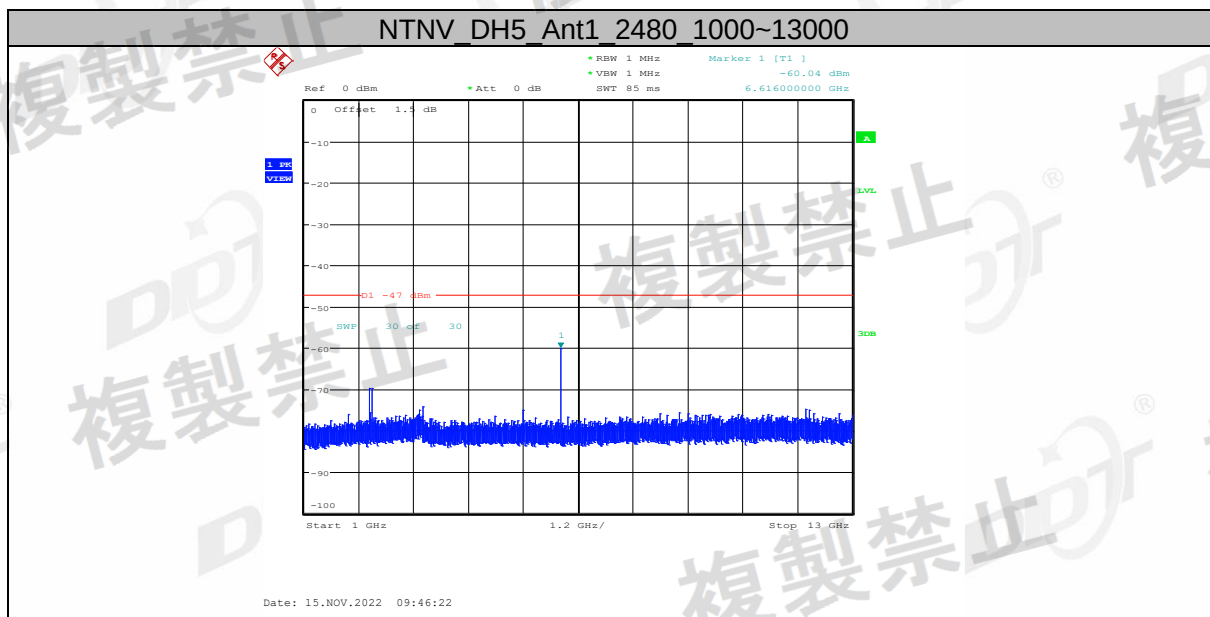
11.4. Test result

Test Condition	Test Mode	Antenna	Channel	Frequency Range	Result	Limit	Verdict
NTNV	Rx mode	ANT1	2402	30~1000	-75.88	-54	Pass
NTNV	Rx mode	ANT1	2402	1000~13000	-64.86	-47	Pass
NTNV	Rx mode	ANT1	2441	30~1000	-75.17	-54	Pass
NTNV	Rx mode	ANT1	2441	1000~13000	-59.74	-47	Pass
NTNV	Rx mode	ANT1	2480	30~1000	-75.55	-54	Pass
NTNV	Rx mode	ANT1	2480	1000~13000	-60.04	-47	Pass

11.5. Original test data



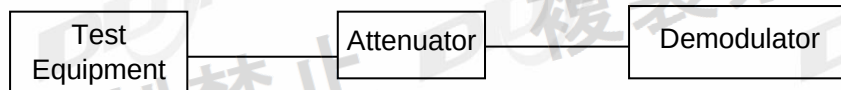




12. Interference Prevention Function

12.1. Measurement system diagram

1) When transmitting identification code



2) Condition of measuring instrument

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.

12.2. 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.

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

Test result: The unit does meet the requirements.

Pass

Passport Event Series 2

84:17:15:12:00:22

13. Test Setup Photograph



14. Photos of the EUT

Please refer to Appendix I.

END OF REPORT