

Prüfbericht-Nr.: Test report no.:		CN260BIF 002	Auftrags-Nr.: Order no.:		27219598	Page 1 of 14 Seite 1 von 14	
Kunden-Referenz-Nr.: Client reference no.:		N/A	Auftragsdatum: Order date:		2026-01-15		
Auftraggeber: Client:		SHOKZ (SINGAPORE) PTE. LTD. 11 NORTH BUONA VISTA DRIVE #16-09 THE METROPOLIS, SINGAPORE 138589, Singapore					
Prüfgegenstand: Test item:		OPENDOTS ONE SE					
Bezeichnung / Typ-Nr.: Identification / Type no.:		SHOKZ E311 (Trademark: SHOKZ)					
Auftrags-Inhalt: Order content:		Type test					
Prüfgrundlage: Test specification:		Notification No.88 of MIC, 2004 Annex 43 Ordinance Regulating Radio Equipment 49-20-1 ARIB STD-T66, Article 2 Section 1 Item 19					
Wareneingangsdatum: Date of sample receipt:		2026-01-21					
Prüfmuster-Nr.: Test sample no.:		A004183749					
Prüfzeitraum: Testing period:		2026-01-22 – 2026-02-04					
Ort der Prüfung: Place of testing:		TÜV Rheinland (Shenzhen) Co., Ltd.					
Prüflaboratorium: Testing laboratory:		TÜV Rheinland (Shenzhen) Co., Ltd.					
Prüfergebnis*: Test result*:		Pass					
geprüft von: tested by:				genehmigt von: authorized by:			
Datum: Date:		2026-03-12		Ausstellungsdatum: Issue date:		2026-03-12	
Position / Stellung:		Signed by: Harry W. C. W. Project Manager		Position / Stellung:		Signed by: Alex L. Authorizer	
Sonstiges / Other:		This test report is for Bluetooth Low Energy function.					
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged					
* Legende: * Legend:		P(ass) = entspricht o.g. Prüfgrundlage(n) P(ass) = passed a.m. test specification(s)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n) F(ail) = failed a.m. test specification(s)		N/A = nicht anwendbar N/A = not applicable	
* Legend: * Legend:		P(ass) = passed a.m. test specification(s)		F(ail) = failed a.m. test specification(s)		N/A = not applicable N/A = not tested	
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.							

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Remarks
Anmerkungen

- | | |
|---|--|
| 1 | <p>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</p> <p><i>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</i></p> |
| 2 | <p>As contractually agreed, this document has been signed digitally only. TÜV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TÜV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.</p> <p><i>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</i></p> |
| 3 | <p>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</p> <p><i>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</i></p> |
| 4 | <p>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</p> <p><i>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</i></p> |

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1 TEST SITES

1.1 TEST FACILITIES

TÜV Rheinland (Shenzhen) Co., Ltd.

2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of China

1.2 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Table 1: List of Test and Measurement Equipment

TÜV Rheinland (Shenzhen) Co., Ltd.

Equipment	Manufacturer	Model	Serial No.	Calibration Company	Date calibrated	Cal. until	Note (Radio Law)
Wireless Connectivity Tester	R&S	CMW270	101375	GRGTEST	23.09.2025	22.09.2026	24-2-4-2-(ha)
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	GRGTEST	23.09.2025	22.09.2026	24-2-4-2-(ha)
Power Meter	Rohde & Schwarz	NRP2	107105	GRGTEST	30.10.2025	29.10.2026	24-2-4-2-(ha)
Power Sensor	Rohde & Schwarz	NRP-Z81	105677	GRGTEST	23.09.2025	22.09.2026	24-2-4-2-(ha)
DC Power Supply	KIKUSUI	PAN35-5A	YM002997	GRGTEST	22.02.2025 02.02.2026	21.02.2026 01.02.2027	24-2-4-2-(ha)
Digital Multi Meter	FLUKE	F15B	44350844WS	GRGTEST	24.02.2025 02.02.2026	23.02.2026 01.02.2027	24-2-4-2-(ha)

1.3 UNCERTAINTY OF MEASUREMENT

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

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

ITEM	UNCERTAINTY
Occupied Bandwidth	206.50 Hz
Spurious emissions	$\pm 3.93\text{dB}$
Output power density	1.37dB
Out of band radiated power	2.52 dB
Frequency Tolerance	0.104 ppm

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2 GENERAL PRODUCT INFORMATION

2.1 PRODUCT FUNCTION AND INTENDED USE

The EUTs are True Wireless Stereo Earbuds, which consist of a left earbud, a right earbud and a charging box, the left & right earbuds support Bluetooth dual mode wireless technology.

Note: The left and right earbuds share the same Schematics and PCB layout, they are electrically identical, refer to EUT photos for details. Full test performed on right earbud.

For details refer to the User Manual, Technical Description and Circuit Diagram.

2.2 RATINGS AND SYSTEM DETAILS

Table 2: Technical Specification of EUT

General Information of EUT	Description
Kind of Equipment	OPENDOTS ONE SE
Type Designation	SHOKZ E311
Trade Mark	SHOKZ
Extreme Temperature Range	0°C to +40°C
Operating Voltage (for earbuds):	Internal battery operated (3.85Vdc)
Hardware release No.:	THK604N (Earbud) TKR699C (Charging Case)
Software release No.:	THK_EU_V_12_20251218
Technical Specification of Bluetooth (BDR & EDR)	
Characteristic	Description
Operating Frequency band	2402 – 2480 MHz
Channel Number	79 channels
Channel separation	1MHz
Modulation	GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Integral Antenna
Antenna Gain	-3.07 dBi (Provided by the Client)
Technical Specification of Bluetooth Low Energy	
Operating Frequency band	2402 – 2480 MHz
Channel Number	40 channels
Channel separation	2MHz
Data rate	1Mbps, 2Mbps
Modulation	GFSK
Antenna Type	Integral Antenna
Antenna Gain	-3.07 dBi (Provided by the Client)
rated RF output power:	Please refer to Note 1
Conducted RF output power:	Please refer to Note 1
EIRP output power:	Please refer to Note 1

NOTES:

1. The power table as below table:

Test mode	Rated output power density (mW)	Conducted power density (mW)	EIRP (dBm)
BLE 1Mbps	9.5	8.9331	6.44
BLE 2Mbps	9.5	9.0573	6.50

2. For the test results, the EUT had been tested with all conditions.

3. The above EUT information was declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or user's manual.

Table 3: RF Channel and Frequency, Bluetooth (BDR & EDR)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

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Table 4: RF Channel and Frequency, Bluetooth Low Energy

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF 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

2.3 TEST CONDITIONS

Test conditions	Voltage (Vdc)
V_{normal}	3.85
V_{max}	4.235
V_{min}	3.465

Test conditions	Unit
Temperature	23.5 deg °C
Humidity	53.0 %

2.4 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT

Table 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop	Lenovo	T480	PF-16A6N8	N/A

2.5 ANTENNA SPECIFICATIONS

2.5.1 ANTENNA GAIN

Ant. Type	Connector Type	Highest Peak Gain (dBi) 2.4GHz ~ 2.5GHz
Integral Antenna	N/A	-3.07 dBi

2.5.2 ANTENNA PATTERN

Please refer to the attached file (Antenna report).

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3 TEST RESULTS

3.1 FREQUENCY TOLERANCE MEASUREMENT

3.1.1 LIMITS OF FREQUENCY TOLERANCE MEASUREMENT

Tolerance of frequency shall be +/- 50ppm

3.1.2 TEST SETUP



3.1.3 TEST RESULTS

For the measurement records, refer to the appendix A.

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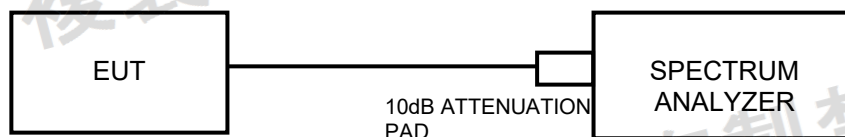
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3.2 OCCUPIED BANDWIDTH MEASUREMENT (99% POWER BANDWIDTH)

3.2.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

ITEM	LIMIT	REMARK
Occupied bandwidth	<26MHz	For 802.11b, g & 802.11n (HT20)
Occupied bandwidth	<26MHz	For BT-LE (GFSK)

3.2.2 TEST SETUP



3.2.3 TEST RESULTS

For the measurement records, refer to the appendix A.

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3.3 ANTENNA POWER MEASUREMENT

3.3.1 LIMITS OF ANTENNA POWER

Modulation system	Frequency band used	Antenna power (max.)	EIRP (max)	
			Omni-directional case	Directional case
DS.OFDM (Narrow-Band)	2,400 – 2,4835 MHz	10mW/MHz	12.14 dBm/MHz (16.367 mW/MHz)	22.14 dBm/MHz (163.682 mW/MHz)
OFDM (Wide-Band)	2,400 – 2,4835 MHz	5mW/MHz	9.13dBm/MHz (8.185mW/MHz)	19.13dBm/MHz (81.846mW/MHz)
DTS	2,400 – 2,4835 MHz	10Mw* Refer to Note 1& 2	12.14 dBm 16.367 mW	22.14 dBm 163.682 mW

*

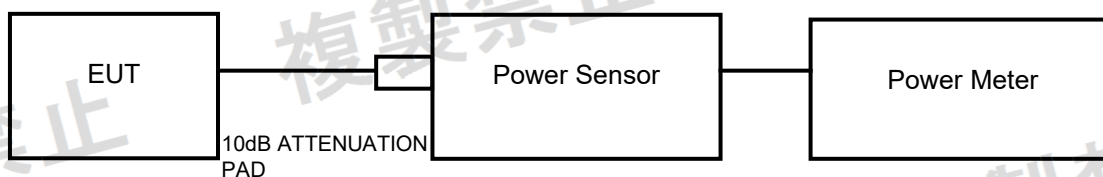
Note1: Rated >10mW is possible if EIRP $\leq$ 12.14dBm.

Note2: Rated >10mW & EUT does not switch frequency within 4s after transmission.

Tolerance of antenna power shall be +20% (upper value) and –80% (lower value).

According article 49.20 f(2) The angular width of the principal radiation in the horizontal and vertical planes of the transmitting antenna shall not exceed the value obtained by the following expression. $360/A$ degree
A represents the value determined by dividing an equivalent isotropically radiated power by the value obtained by applying an antenna power with the mean power of 10 mW to the transmitting antenna with its absolute gain being 2.14 dB, and shall be 1 when it is lower than 1.

3.3.2 TEST SETUP



3.3.3 TEST RESULTS

For the measurement records, refer to the appendix A.

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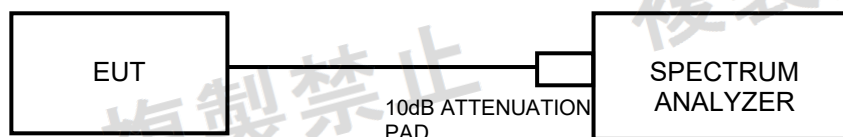
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3.4 SPURIOUS EMISSIONS FOR TRANSMITTER MEASUREMENT

3.4.1 LIMITS OF SPURIOUS EMISSIONS

FREQUENCIES (MHz)	LIMIT
Operating frequency 2400 to 2483.5MHz	
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 12500.0MHz	$\leq 2.5\mu\text{W}/\text{MHz}$

3.4.2 TEST SETUP



3.4.3 TEST RESULT

For the measurement records, refer to the appendix A.

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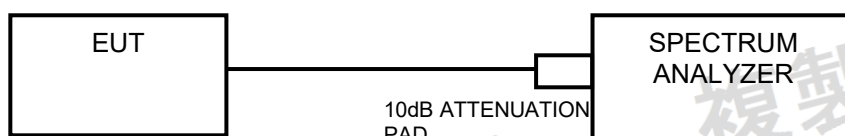
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3.5 SPURIOUS EMISSIONS FOR RECEIVER

3.5.1 LIMITS OF SPURIOUS EMISSIONS FOR RECEIVER

FREQUENCIES (MHz)	LIMIT
Below 1GHz	$\leq 4\text{nW}$ (-54dBm)
Above 1GHz	$\leq 20\text{nW}$ (-47dBm)

3.5.2 TEST SETUP



3.5.3 TEST RESULT

For the measurement records, refer to the appendix A.

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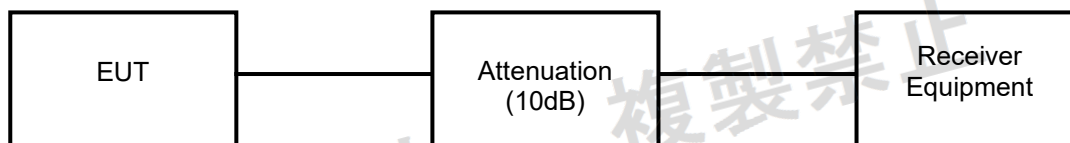
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3.6 INTERFERENCE PREVENTION FUNCTION

3.6.1 LIMITS OF Interference Prevention Function

The function specified in Article 9-4 of the Ordinance Regulating Radio Equipment

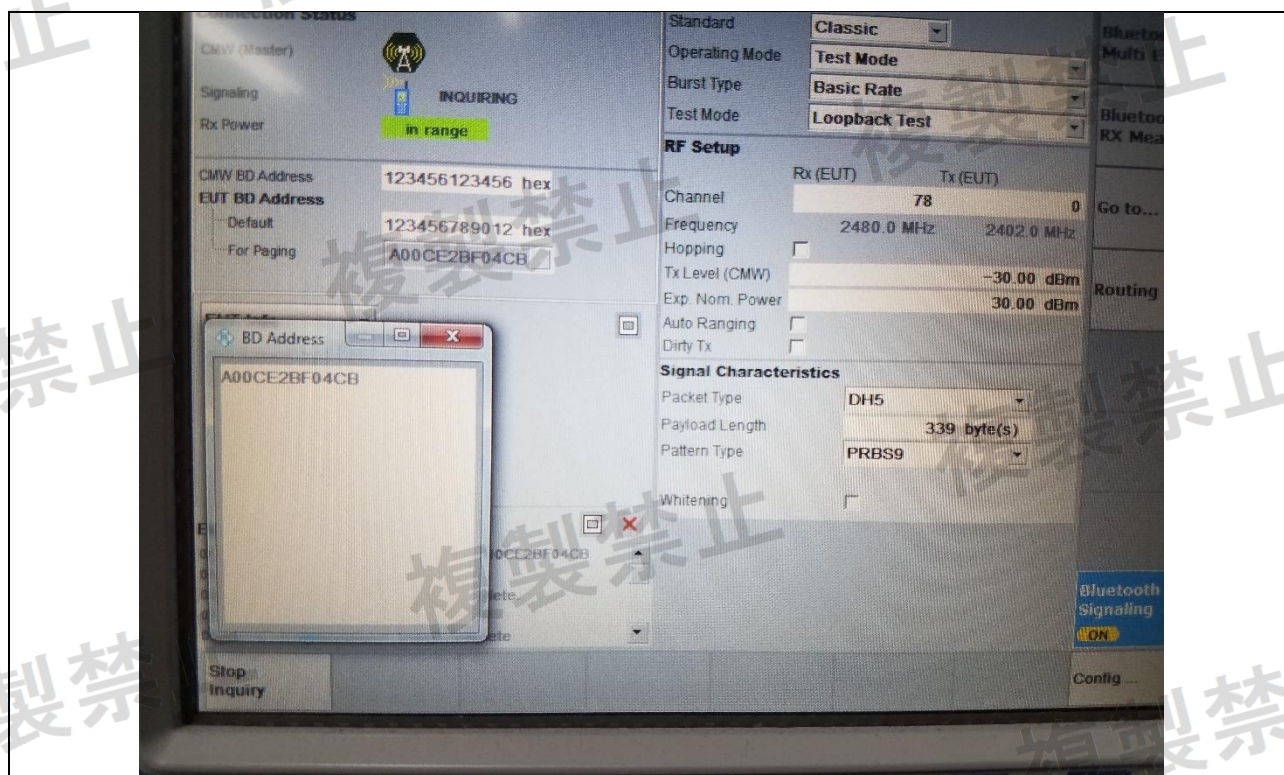
3.6.2 TEST SETUP



3.6.3 TEST RESULTS

ENVIRONMENTAL CONDITIONS	23.5 deg.C, 53.0% RH
LINK MODE	TEST RESULT
BT-LE	PASS

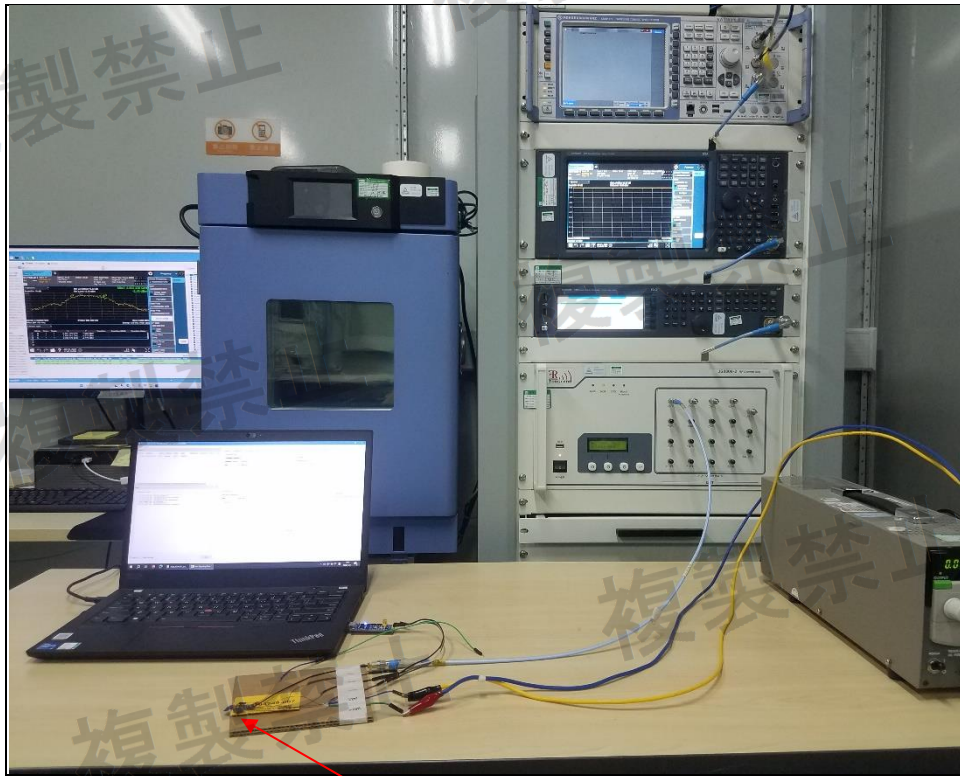
EUT connected to CMW270, MAC address (A00CE2BF04CB) as below:



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4 PHOTOGRAPHS OF THE TEST CONFIGURATION



EUT

---END---

Appendix A

Test results of Bluetooth Low Energy

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1 Appendix A.1 : FREQUENCY TOLERANCE

Note:

NTNV means: Normal Temperature & Normal Voltage, NTHV means: Normal Temperature & Max. Voltage,

NTLV means: Normal Temperature & Min. Voltage.

TestCondition	TestMode	Antenna	Freq(MHz)	Result[ppm]	Limit[ppm]	Verdict
NTNV	BLE_1M	Ant1	2402	0.00000	±50	PASS
			2440	-2.45902	±50	PASS
			2480	15.72581	±50	PASS
	BLE_2M	Ant1	2402	-7.49376	±50	PASS
			2440	-6.76230	±50	PASS
			2480	-21.77419	±50	PASS
NTLV	BLE_1M	Ant1	2402	-5.62032	±50	PASS
			2440	0.61475	±50	PASS
			2480	-6.04839	±50	PASS
	BLE_2M	Ant1	2402	-9.99167	±50	PASS
			2440	-14.75410	±50	PASS
			2480	-21.77419	±50	PASS
NTHV	BLE_1M	Ant1	2402	-16.86095	±50	PASS
			2440	0.00000	±50	PASS
			2480	-9.67742	±50	PASS
	BLE_2M	Ant1	2402	-22.48127	±50	PASS
			2440	-4.30328	±50	PASS
			2480	-1.20968	±50	PASS









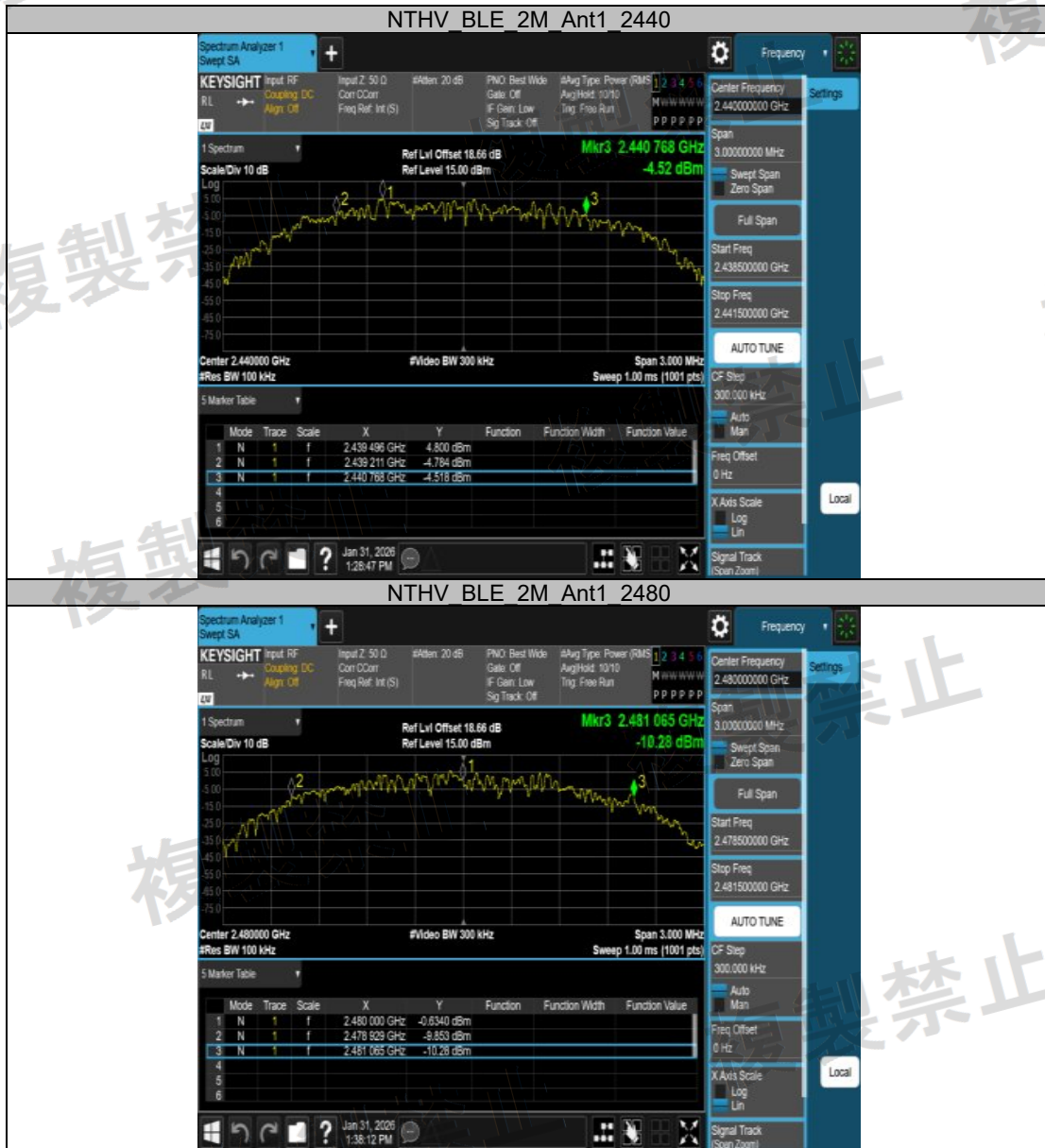
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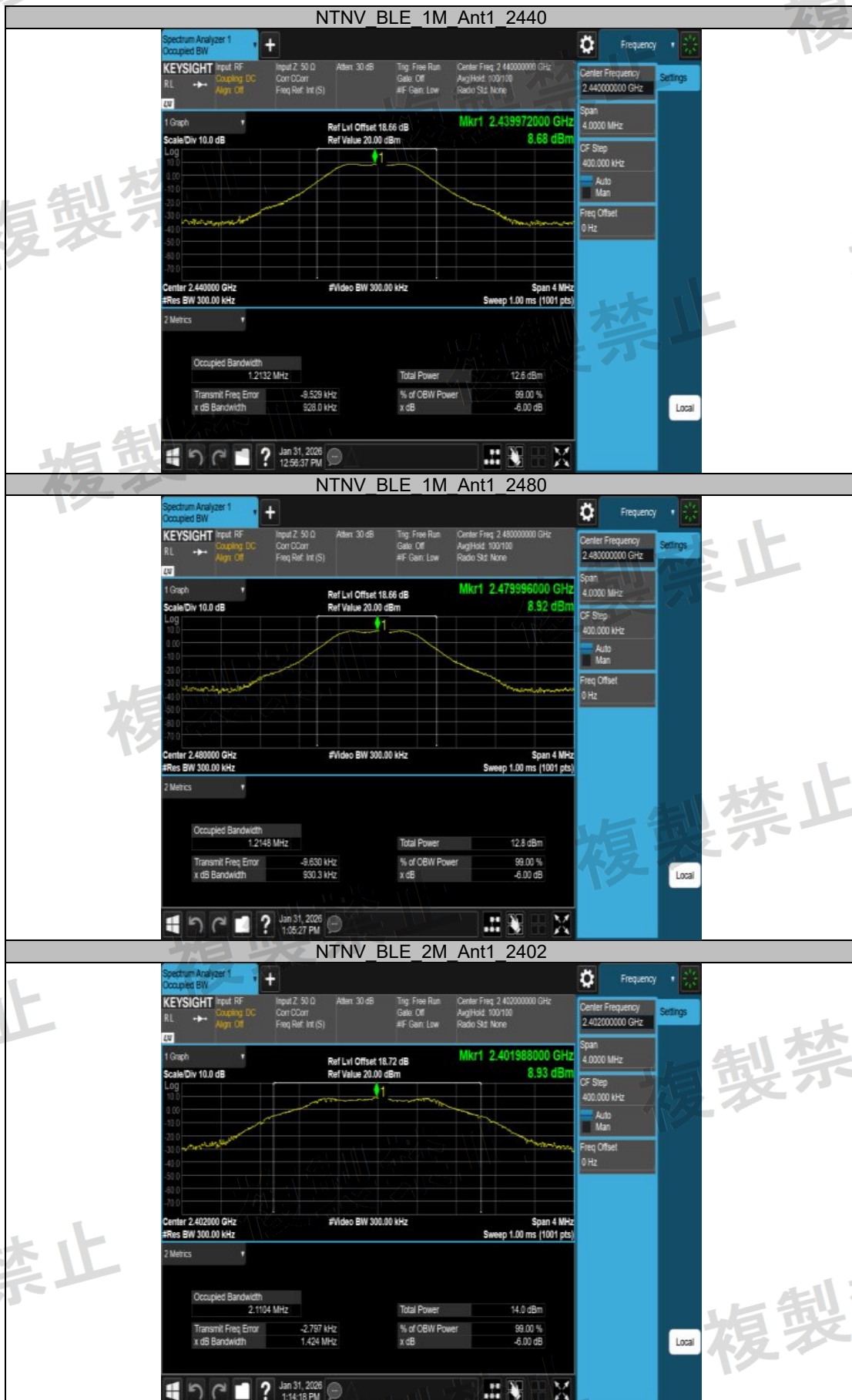


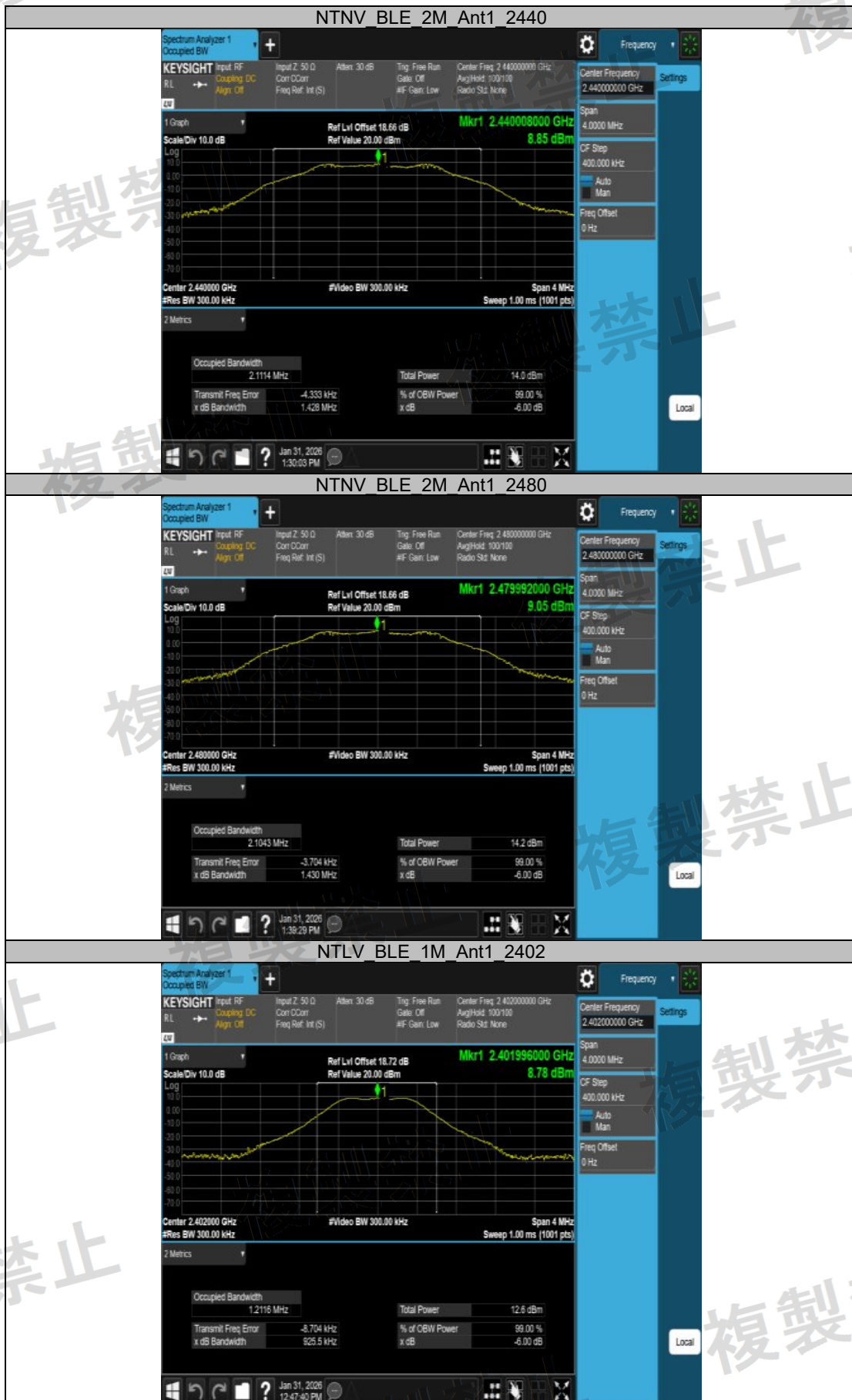


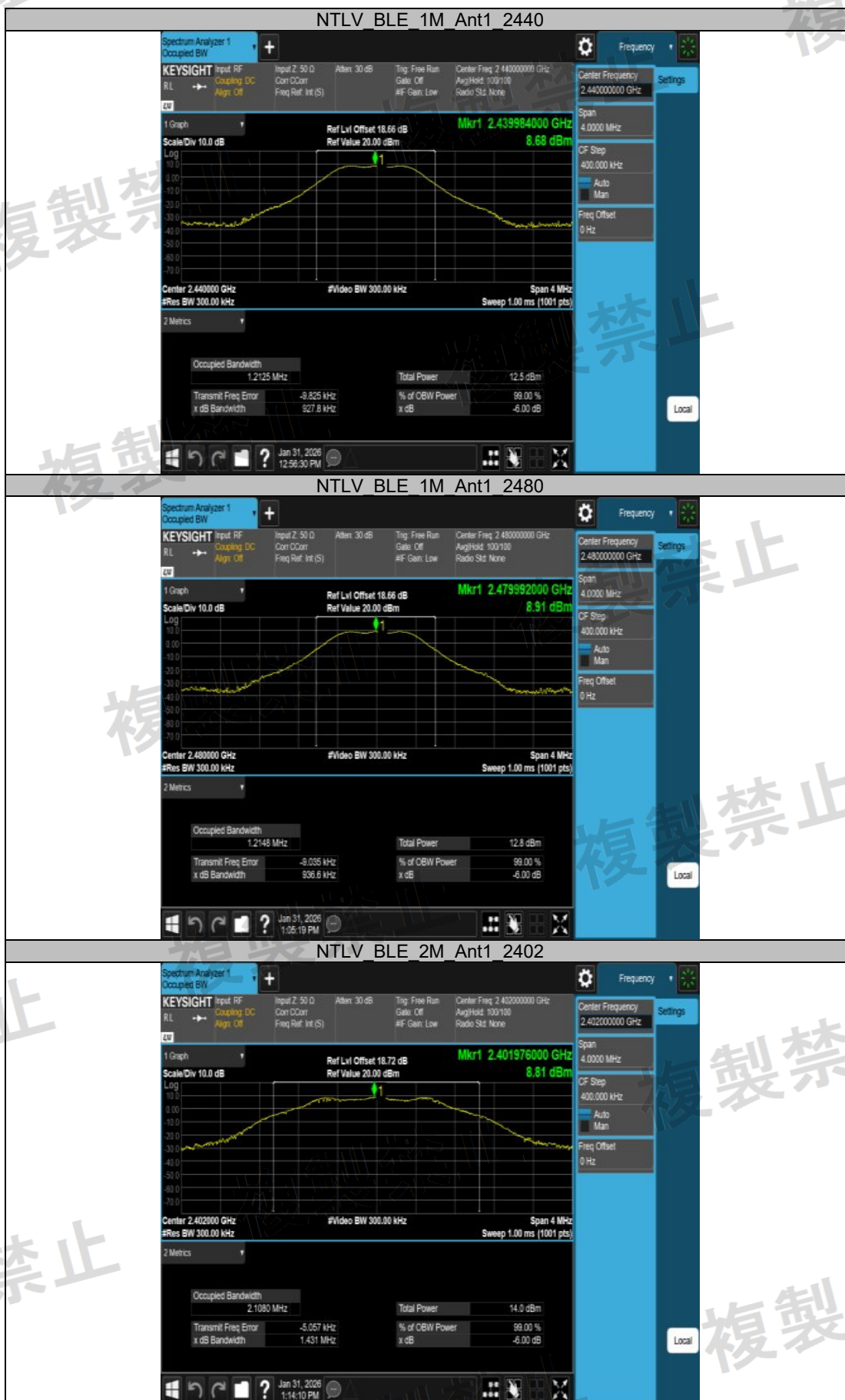
2 Appendix A.2 : OCCUPIED BANDWIDTH

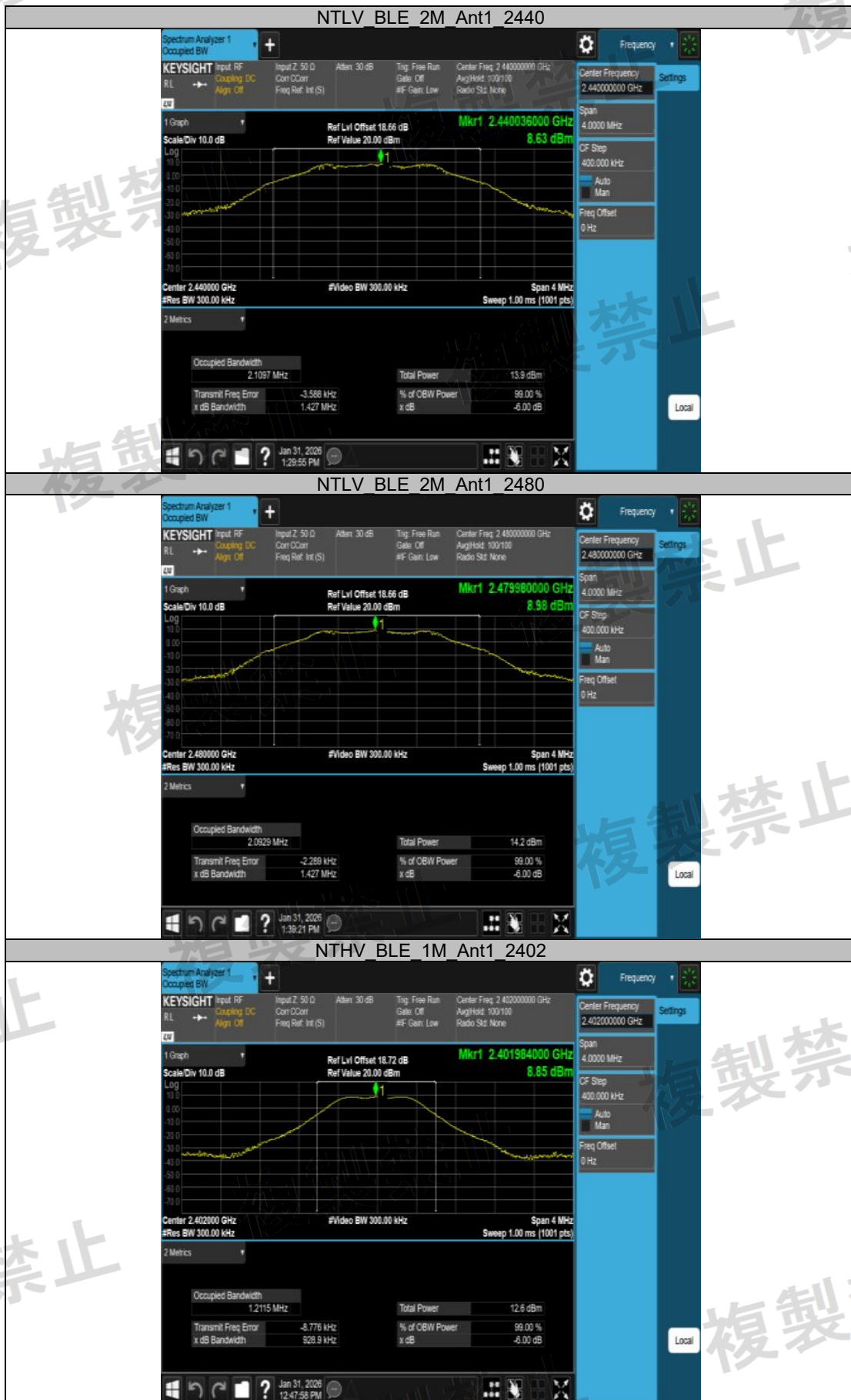
TestCondition	TestMode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.210	≤26	PASS
			2440	1.213	≤26	PASS
			2480	1.215	≤26	PASS
	BLE_2M	Ant1	2402	2.110	≤26	PASS
			2440	2.111	≤26	PASS
			2480	2.104	≤26	PASS
NTLV	BLE_1M	Ant1	2402	1.212	≤26	PASS
			2440	1.213	≤26	PASS
			2480	1.215	≤26	PASS
	BLE_2M	Ant1	2402	2.108	≤26	PASS
			2440	2.110	≤26	PASS
			2480	2.093	≤26	PASS
NTHV	BLE_1M	Ant1	2402	1.212	≤26	PASS
			2440	1.215	≤26	PASS
			2480	1.215	≤26	PASS
	BLE_2M	Ant1	2402	2.105	≤26	PASS
			2440	2.103	≤26	PASS
			2480	2.100	≤26	PASS

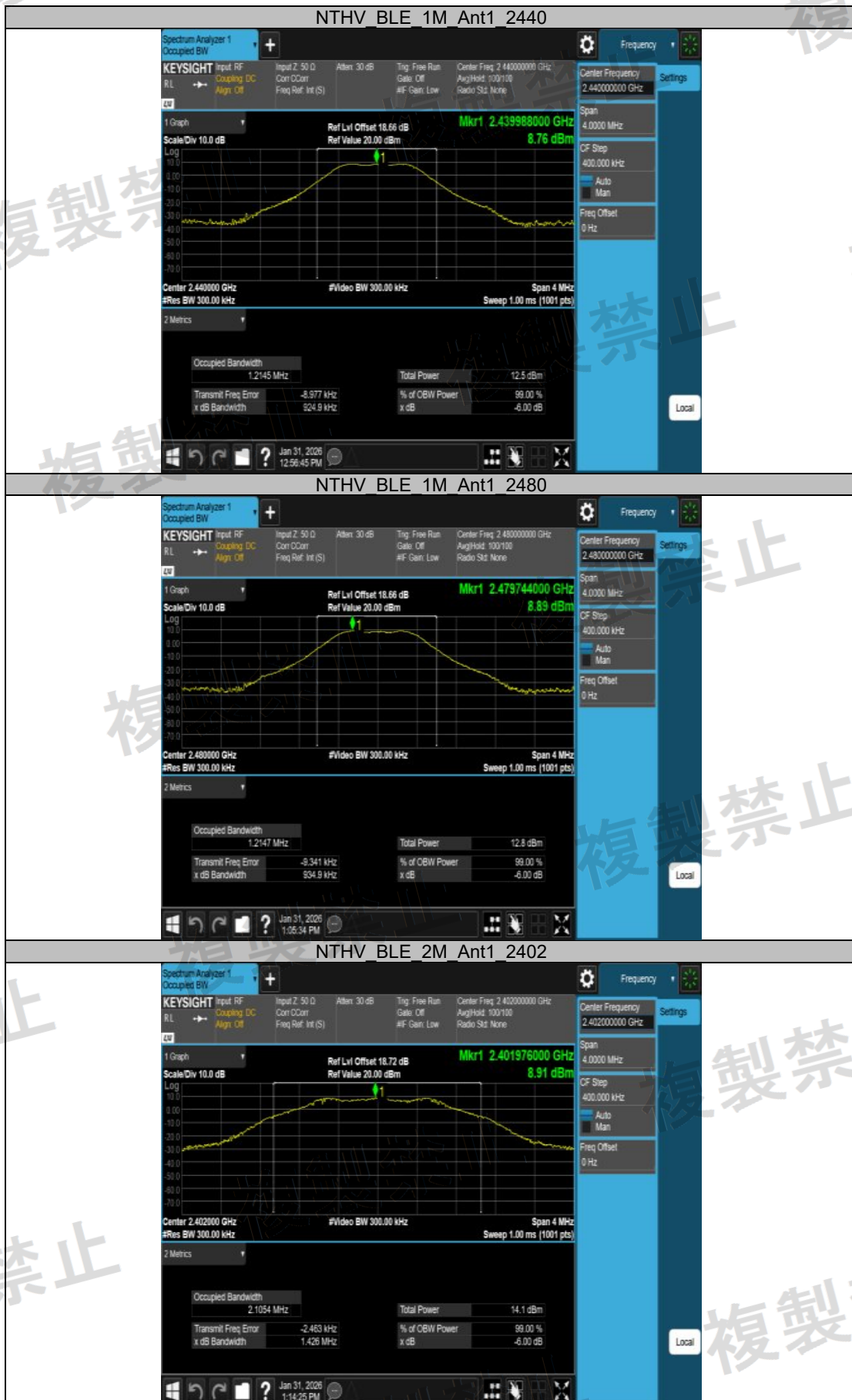


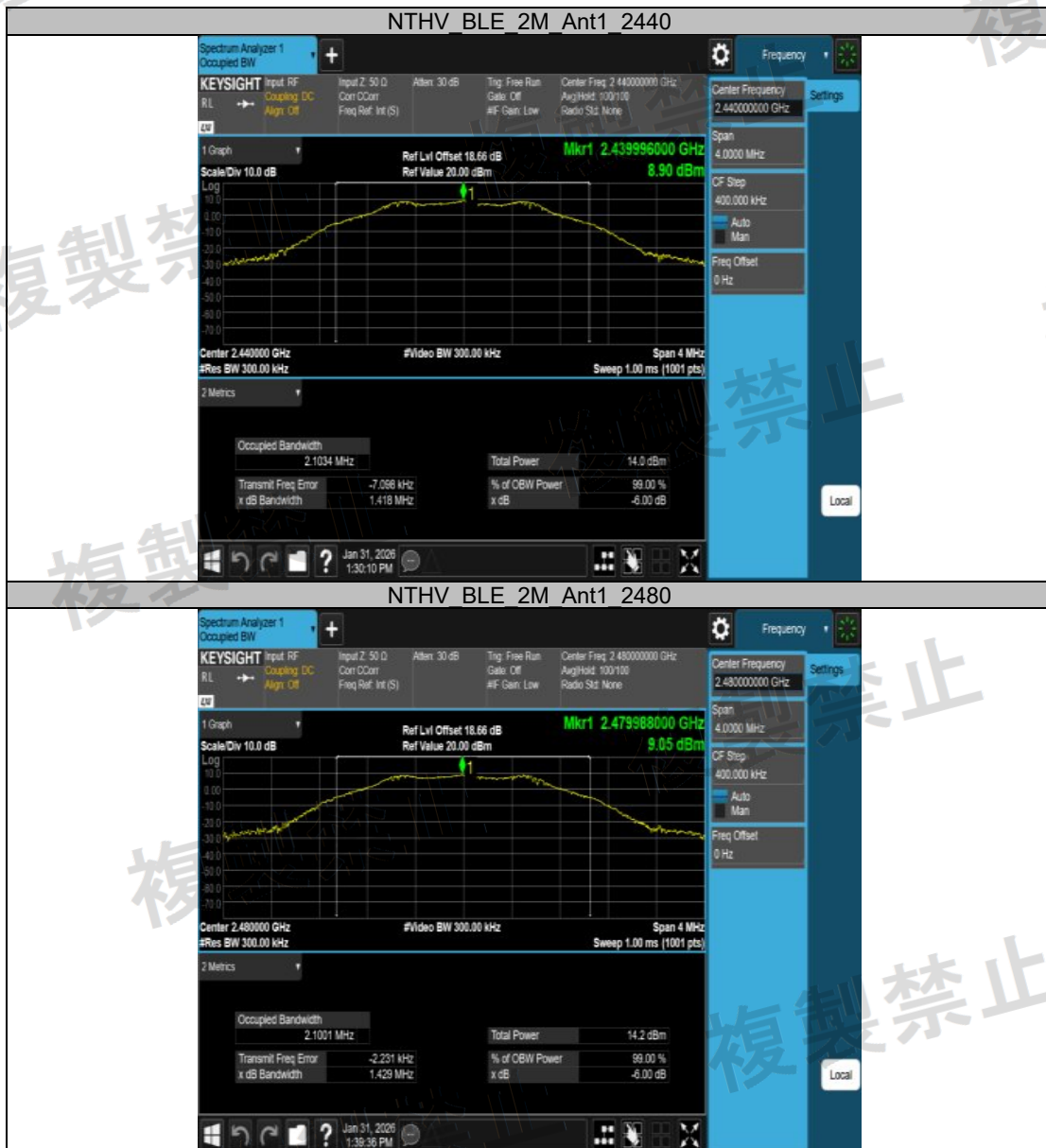












3 Appendix A.3 : ANTENNA POWER

Antenna Power							
TestCondition	TestMode	Antenna	Freq(MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	9.26	8.4333	≤10	PASS
			2440	9.51	8.9331	≤10	PASS
			2480	9.36	8.6298	≤10	PASS
	BLE_2M	Ant1	2402	9.31	8.5310	≤10	PASS
			2440	9.57	9.0573	≤10	PASS
			2480	9.41	8.7297	≤10	PASS
NTLV	BLE_1M	Ant1	2402	9.26	8.4333	≤10	PASS
			2440	9.50	8.9125	≤10	PASS
			2480	9.36	8.6298	≤10	PASS
	BLE_2M	Ant1	2402	9.30	8.5114	≤10	PASS
			2440	9.57	9.0573	≤10	PASS
			2480	9.42	8.7498	≤10	PASS
NTHV	BLE_1M	Ant1	2402	9.27	8.4528	≤10	PASS
			2440	9.51	8.9331	≤10	PASS
			2480	9.36	8.6298	≤10	PASS
	BLE_2M	Ant1	2402	9.33	8.5704	≤10	PASS
			2440	9.57	9.0573	≤10	PASS
			2480	9.44	8.7902	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Freq(MHz)	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	8.4333	9.5	-11.23	+20	PASS
			2440	8.9331	9.5	-5.97	+20	PASS
			2480	8.6298	9.5	-9.16	+20	PASS
	BLE_2M	Ant1	2402	8.5310	9.5	-10.20	+20	PASS
			2440	9.0573	9.5	-4.66	+20	PASS
			2480	8.7297	9.5	-8.11	+20	PASS
NTLV	BLE_1M	Ant1	2402	8.4333	9.5	-11.23	+20	PASS
			2440	8.9125	9.5	-6.18	+20	PASS
			2480	8.6298	9.5	-9.16	+20	PASS
	BLE_2M	Ant1	2402	8.5114	9.5	-10.41	+20	PASS
			2440	9.0573	9.5	-4.66	+20	PASS
			2480	8.7498	9.5	-7.90	+20	PASS
NTHV	BLE_1M	Ant1	2402	8.4528	9.5	-11.02	+20	PASS
			2440	8.9331	9.5	-5.97	+20	PASS
			2480	8.6298	9.5	-9.16	+20	PASS
	BLE_2M	Ant1	2402	8.5704	9.5	-9.79	+20	PASS
			2440	9.0573	9.5	-4.66	+20	PASS
			2480	8.7902	9.5	-7.47	+20	PASS

EIRP							
TestCondition	TestMode	Antenna	Freq (MHz)	Power (dBm)	EIRP(dBm)	Limit (dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	9.26	6.19	≤12.14	PASS
			2440	9.51	6.44	≤12.14	PASS
			2480	9.36	6.29	≤12.14	PASS
	BLE_2M	Ant1	2402	9.31	6.24	≤12.14	PASS
			2440	9.57	6.50	≤12.14	PASS
			2480	9.41	6.34	≤12.14	PASS
NTLV	BLE_1M	Ant1	2402	9.26	6.19	≤12.14	PASS
			2440	9.50	6.43	≤12.14	PASS
			2480	9.36	6.29	≤12.14	PASS
	BLE_2M	Ant1	2402	9.30	6.23	≤12.14	PASS
			2440	9.57	6.50	≤12.14	PASS
			2480	9.42	6.35	≤12.14	PASS
NTHV	BLE_1M	Ant1	2402	9.27	6.20	≤12.14	PASS
			2440	9.51	6.44	≤12.14	PASS
			2480	9.36	6.29	≤12.14	PASS
	BLE_2M	Ant1	2402	9.33	6.26	≤12.14	PASS
			2440	9.57	6.50	≤12.14	PASS
			2480	9.44	6.37	≤12.14	PASS

4 Appendix A.4: SPURIOUS EMISSIONS FOR TRANSMITTER

Test Result Step1

Test Condition	Test Mode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~500	30.94	-46.24	≤-26	0.02377	≤2.5	PASS
				500~1000	888.63	-55.70	≤-26	0.00269	≤2.5	PASS
				1000~2387	2305.86	-52.17	≤-26	0.00607	≤2.5	PASS
				2387~2400	2400.00	-23.65	≤-16	4.31519	≤25	PASS
				2483.5~2496.5	2490.94	-43.82	≤-16	0.04150	≤25	PASS
				2496.5~13000	7205.74	-44.09	≤-26	0.03899	≤2.5	PASS
			2440	30~500	30.24	-47.25	≤-26	0.01884	≤2.5	PASS
				500~1000	505.50	-56.15	≤-26	0.00243	≤2.5	PASS
				1000~2387	2344.00	-51.68	≤-26	0.00679	≤2.5	PASS
				2387~2400	2388.85	-43.82	≤-16	0.04150	≤25	PASS
				2483.5~2496.5	2485.40	-43.83	≤-16	0.04140	≤25	PASS
				2496.5~13000	4879.74	-47.51	≤-26	0.01774	≤2.5	PASS
			2480	30~500	31.06	-45.80	≤-26	0.02630	≤2.5	PASS
				500~1000	810.88	-55.34	≤-26	0.00292	≤2.5	PASS
				1000~2387	2384.23	-50.87	≤-26	0.00818	≤2.5	PASS
				2387~2400	2389.92	-43.50	≤-16	0.04467	≤25	PASS
				2483.5~2496.5	2483.53	-41.05	≤-16	0.07852	≤25	PASS
				2496.5~13000	4960.62	-46.29	≤-26	0.02350	≤2.5	PASS
	BLE_2M	Ant1	2402	30~500	30.47	-46.68	≤-26	0.02148	≤2.5	PASS
				500~1000	647.88	-55.60	≤-26	0.00275	≤2.5	PASS
				1000~2387	2306.55	-48.90	≤-26	0.01288	≤2.5	PASS
				2387~2400	2400	-14.39	≤-16	36.39150	≤25	See table below
				2483.5~2496.5	2496.33	-43.75	≤-16	0.04217	≤25	PASS
				2496.5~13000	7206.27	-51.44	≤-26	0.00718	≤2.5	PASS
			2440	30~500	30.35	-46.91	≤-26	0.02037	≤2.5	PASS
				500~1000	944.63	-55.42	≤-26	0.00287	≤2.5	PASS
				1000~2387	2344.70	-49.66	≤-26	0.01081	≤2.5	PASS
				2387~2400	2398.39	-43.86	≤-16	0.04111	≤25	PASS
				2483.5~2496.5	2493.22	-43.41	≤-16	0.04560	≤25	PASS
				2496.5~13000	4880.79	-48.84	≤-26	0.01306	≤2.5	PASS
			2480	30~500	31.53	-46.62	≤-26	0.02178	≤2.5	PASS
				500~1000	973.50	-55.87	≤-26	0.00259	≤2.5	PASS
				1000~2387	2384.57	-49.33	≤-26	0.01167	≤2.5	PASS
				2387~2400	2398.51	-43.92	≤-16	0.04055	≤25	PASS
				2483.5~2496.5	2483.56	-40.06	≤-16	0.09863	≤25	PASS
				2496.5~13000	4960.62	-47.59	≤-26	0.01742	≤2.5	PASS
NTLV	BLE_1M	Ant1	2402	30~500	32.94	-46.26	≤-26	0.02366	≤2.5	PASS
				500~1000	586.75	-55.82	≤-26	0.00262	≤2.5	PASS
				1000~2387	2306.21	-52.70	≤-26	0.00537	≤2.5	PASS
				2387~2400	2399.99	-23.97	≤-16	4.00867	≤25	PASS
				2483.5~2496.5	2492.67	-43.60	≤-16	0.04365	≤25	PASS
				2496.5~13000	7205.74	-43.56	≤-26	0.04406	≤2.5	PASS
			2440	30~500	30.00	-46.91	≤-26	0.02037	≤2.5	PASS
				500~1000	792.25	-56.06	≤-26	0.00248	≤2.5	PASS
				1000~2387	2344.00	-52.02	≤-26	0.00628	≤2.5	PASS
				2387~2400	2390.20	-43.92	≤-16	0.04055	≤25	PASS
				2483.5~2496.5	2485.16	-43.56	≤-16	0.04406	≤25	PASS
				2496.5~13000	4880.27	-47.95	≤-26	0.01603	≤2.5	PASS
			2480	30~500	30.00	-46.80	≤-26	0.02089	≤2.5	PASS
				500~1000	814.38	-55.85	≤-26	0.00260	≤2.5	PASS
				1000~2387	2384.23	-49.78	≤-26	0.01052	≤2.5	PASS

	BLE_2M	Ant1	2402	2387~2400	2392.49	-43.95	≤-16	0.04027	≤25	PASS
				2483.5~2496.5	2483.64	-41.51	≤-16	0.07063	≤25	PASS
				2496.5~13000	4959.57	-46.36	≤-26	0.02312	≤2.5	PASS
				30~500	31.18	-46.52	≤-26	0.02228	≤2.5	PASS
				500~1000	829.75	-55.72	≤-26	0.00268	≤2.5	PASS
				1000~2387	2306.55	-49.50	≤-26	0.01122	≤2.5	PASS
			2440	2387~2400	2400	-14.50	≤-16	35.48134	≤25	See table below
				2483.5~2496.5	2486.35	-42.96	≤-16	0.05058	≤25	PASS
				2496.5~13000	7205.74	-51.40	≤-26	0.00724	≤2.5	PASS
				30~500	30.82	-46.66	≤-26	0.02158	≤2.5	PASS
				500~1000	845.13	-55.20	≤-26	0.00302	≤2.5	PASS
				1000~2387	2344.70	-49.56	≤-26	0.01107	≤2.5	PASS
			2480	2387~2400	2395.63	-43.46	≤-16	0.04508	≤25	PASS
				2483.5~2496.5	2491.88	-43.92	≤-16	0.04055	≤25	PASS
				2496.5~13000	4879.74	-48.37	≤-26	0.01455	≤2.5	PASS
				30~500	30.24	-47.26	≤-26	0.01879	≤2.5	PASS
				500~1000	595.50	-55.31	≤-26	0.00294	≤2.5	PASS
				1000~2387	2384.23	-49.25	≤-26	0.01189	≤2.5	PASS
				2387~2400	2398.04	-43.45	≤-16	0.04519	≤25	PASS
				2483.5~2496.5	2483.50	-39.04	≤-16	0.12474	≤25	PASS
				2496.5~13000	4959.05	-48.06	≤-26	0.01563	≤2.5	PASS

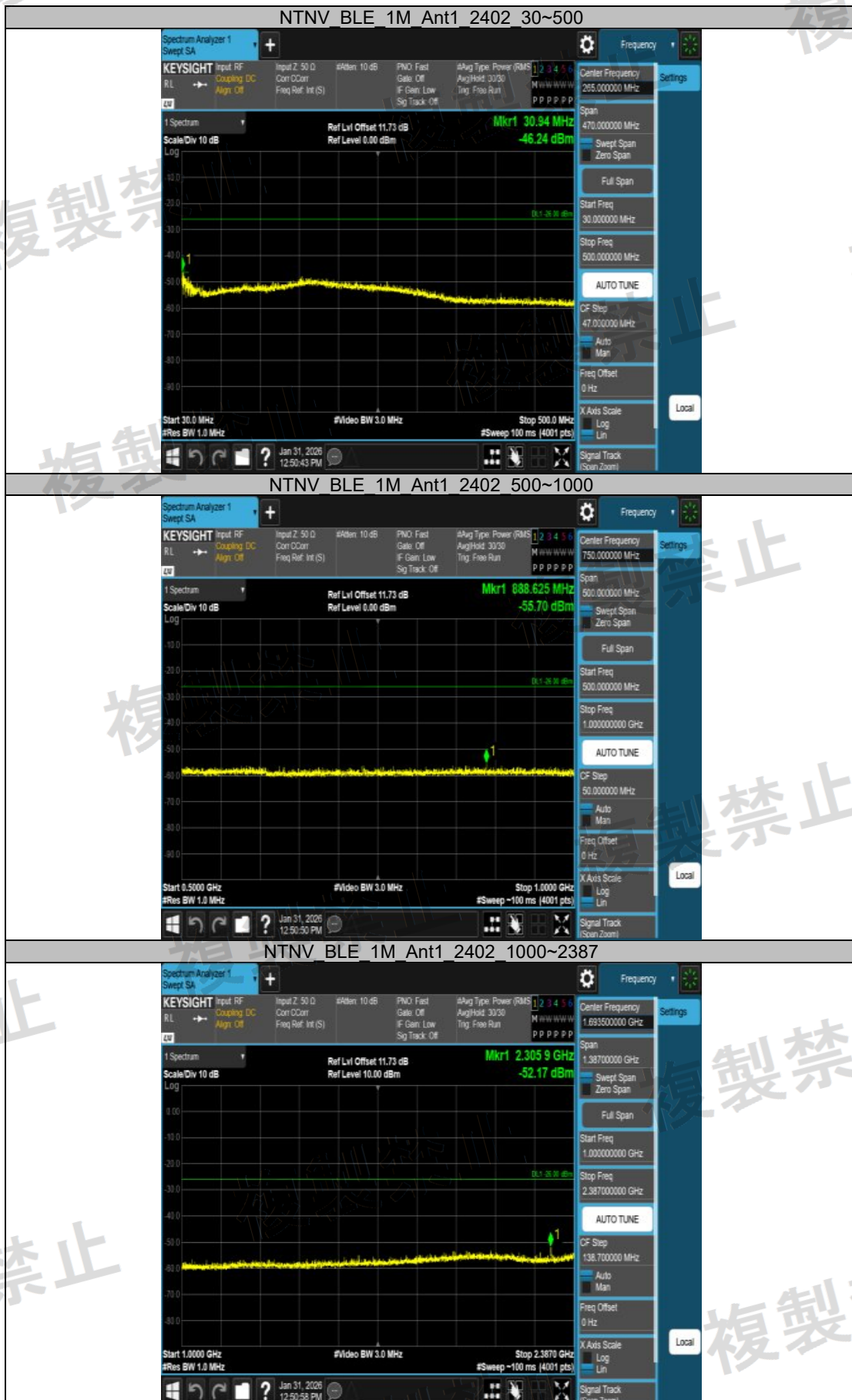
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				500~1000	599.88	-55.98	≤-26	0.00252	≤2.5	PASS
				1000~2387	2305.86	-52.43	≤-26	0.00571	≤2.5	PASS
				2387~2400	2399.99	-23.71	≤-16	4.25598	≤25	PASS
				2483.5~2496.5	2485.58	-43.68	≤-16	0.04285	≤25	PASS
				2496.5~13000	7205.74	-43.76	≤-26	0.04207	≤2.5	PASS
			2440	30~500	30.35	-46.89	≤-26	0.02046	≤2.5	PASS
				500~1000	587.75	-55.58	≤-26	0.00277	≤2.5	PASS
				1000~2387	2344.00	-51.88	≤-26	0.00649	≤2.5	PASS
				2387~2400	2399.99	-43.82	≤-16	0.04150	≤25	PASS
				2483.5~2496.5	2486.74	-43.16	≤-16	0.04831	≤25	PASS
				2496.5~13000	4880.79	-47.65	≤-26	0.01718	≤2.5	PASS
			2480	30~500	30.71	-47.11	≤-26	0.01945	≤2.5	PASS
				500~1000	881.25	-55.85	≤-26	0.00260	≤2.5	PASS
				1000~2387	2384.23	-51.51	≤-26	0.00706	≤2.5	PASS
				2387~2400	2387.55	-43.61	≤-16	0.04355	≤25	PASS
				2483.5~2496.5	2484.08	-41.66	≤-16	0.06823	≤25	PASS
				2496.5~13000	4959.57	-46.85	≤-26	0.02065	≤2.5	PASS
	BLE_2M	Ant1	2402	30~500	30.59	-45.79	≤-26	0.02636	≤2.5	PASS
				500~1000	851.50	-55.88	≤-26	0.00258	≤2.5	PASS
				1000~2387	2306.55	-49.91	≤-26	0.01021	≤2.5	PASS
				2387~2400	2400	-14.39	≤-16	36.39150	≤25	See table below
				2483.5~2496.5	2490.59	-44.04	≤-16	0.03945	≤25	PASS
				2496.5~13000	7205.74	-51.63	≤-26	0.00687	≤2.5	PASS
			2440	30~500	31.53	-46.36	≤-26	0.02312	≤2.5	PASS
				500~1000	733.38	-56.00	≤-26	0.00251	≤2.5	PASS
				1000~2387	2344.35	-49.07	≤-26	0.01239	≤2.5	PASS
				2387~2400	2397.50	-43.85	≤-16	0.04121	≤25	PASS
				2483.5~2496.5	2488.64	-43.71	≤-16	0.04256	≤25	PASS
				2496.5~13000	7320.23	-47.73	≤-26	0.01687	≤2.5	PASS
			2480	30~500	30.00	-46.71	≤-26	0.02133	≤2.5	PASS
				500~1000	584.13	-55.81	≤-26	0.00262	≤2.5	PASS
				1000~2387	2384.23	-48.68	≤-26	0.01355	≤2.5	PASS
				2387~2400	2398.50	-43.77	≤-16	0.04198	≤25	PASS
				2483.5~2496.5	2483.57	-40.18	≤-16	0.09594	≤25	PASS
				2496.5~13000	4959.05	-47.93	≤-26	0.01611	≤2.5	PASS

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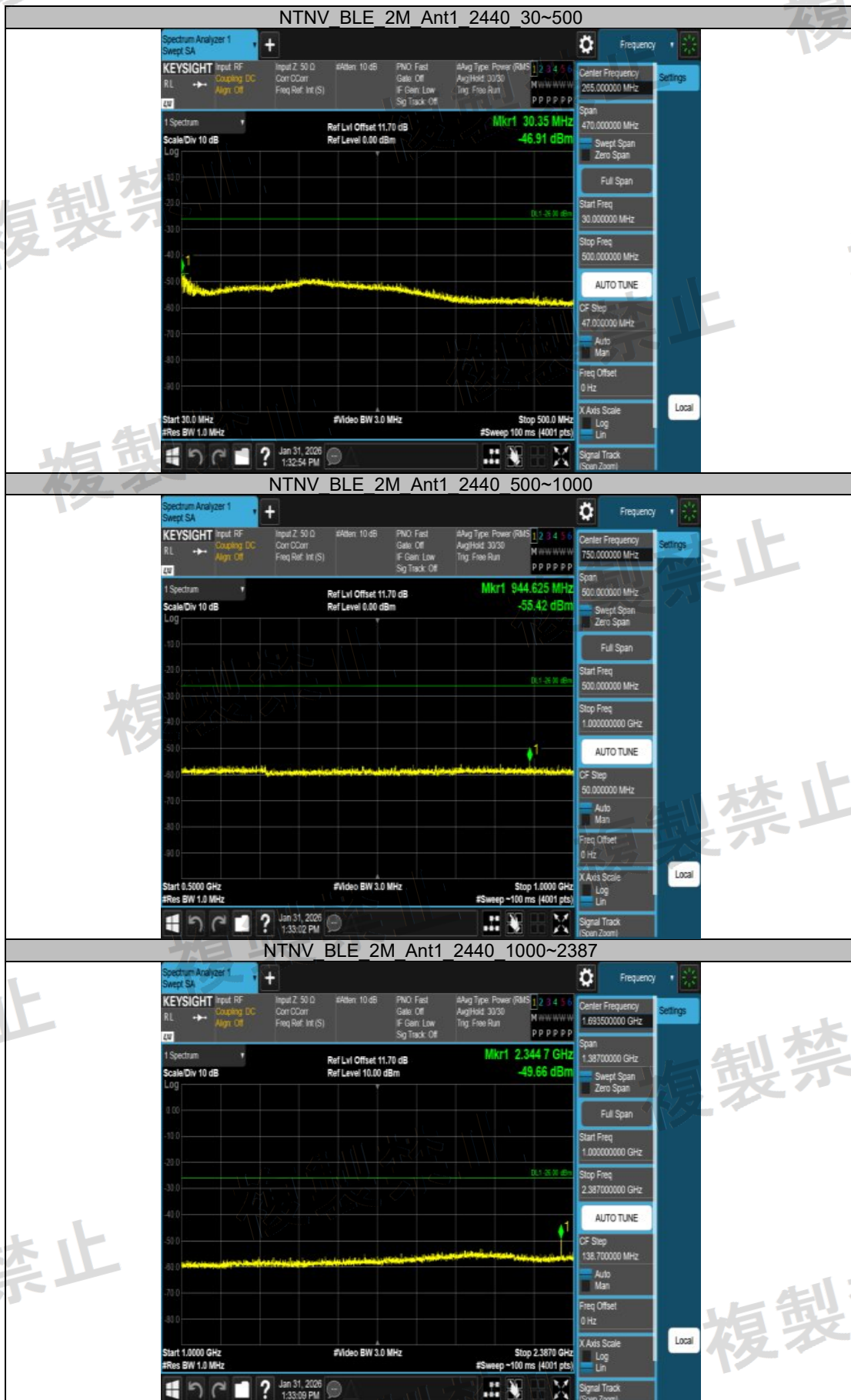
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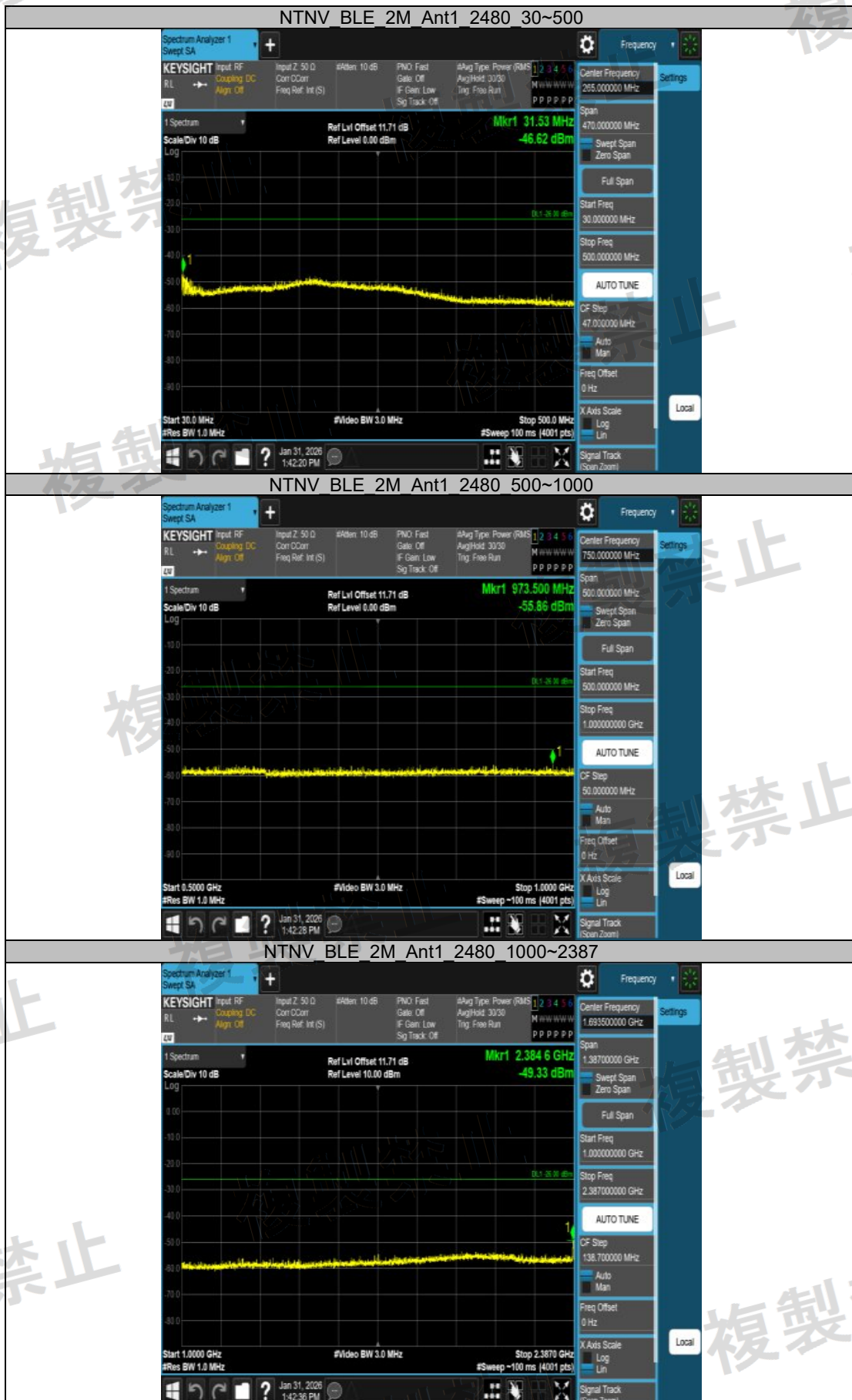




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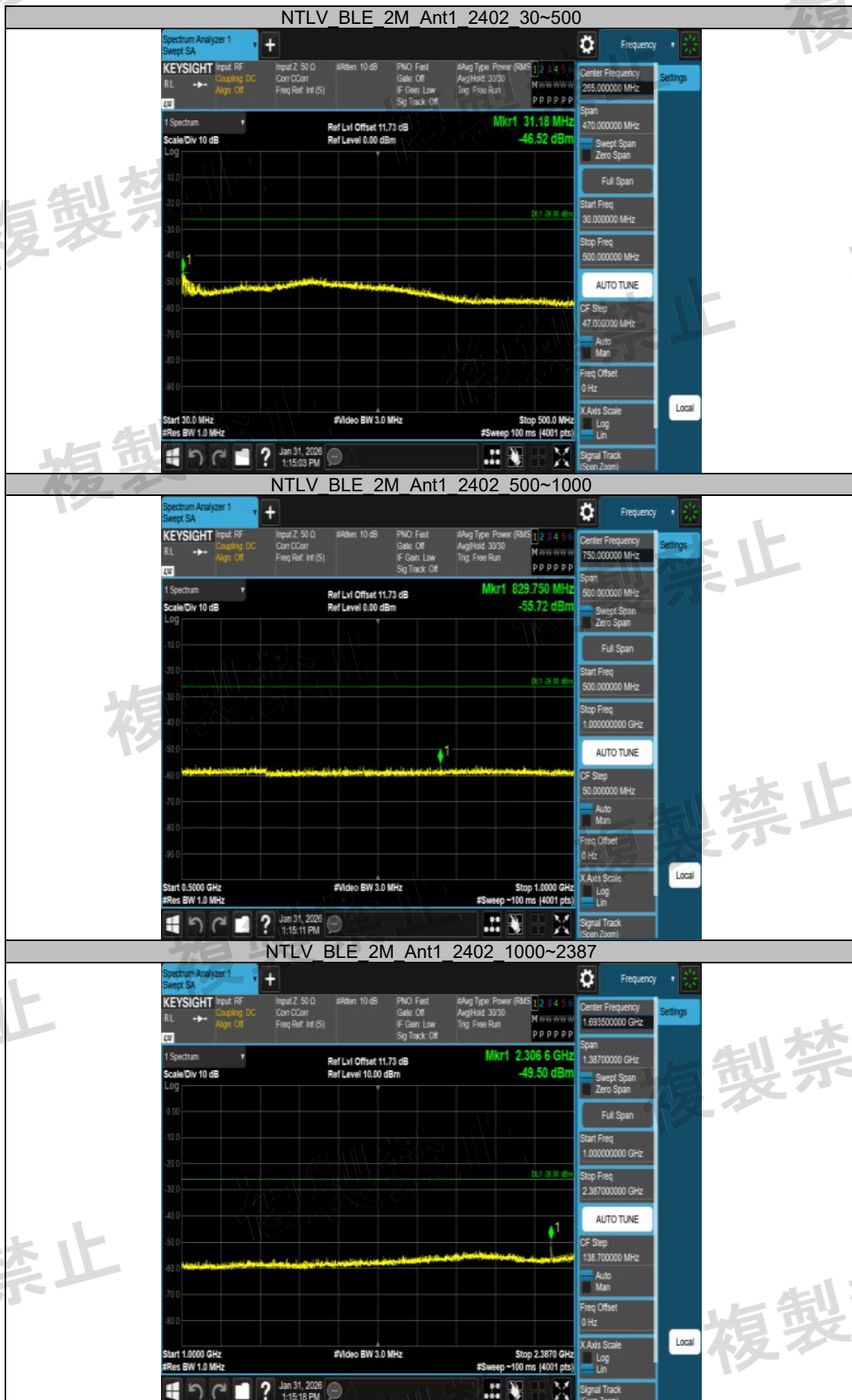


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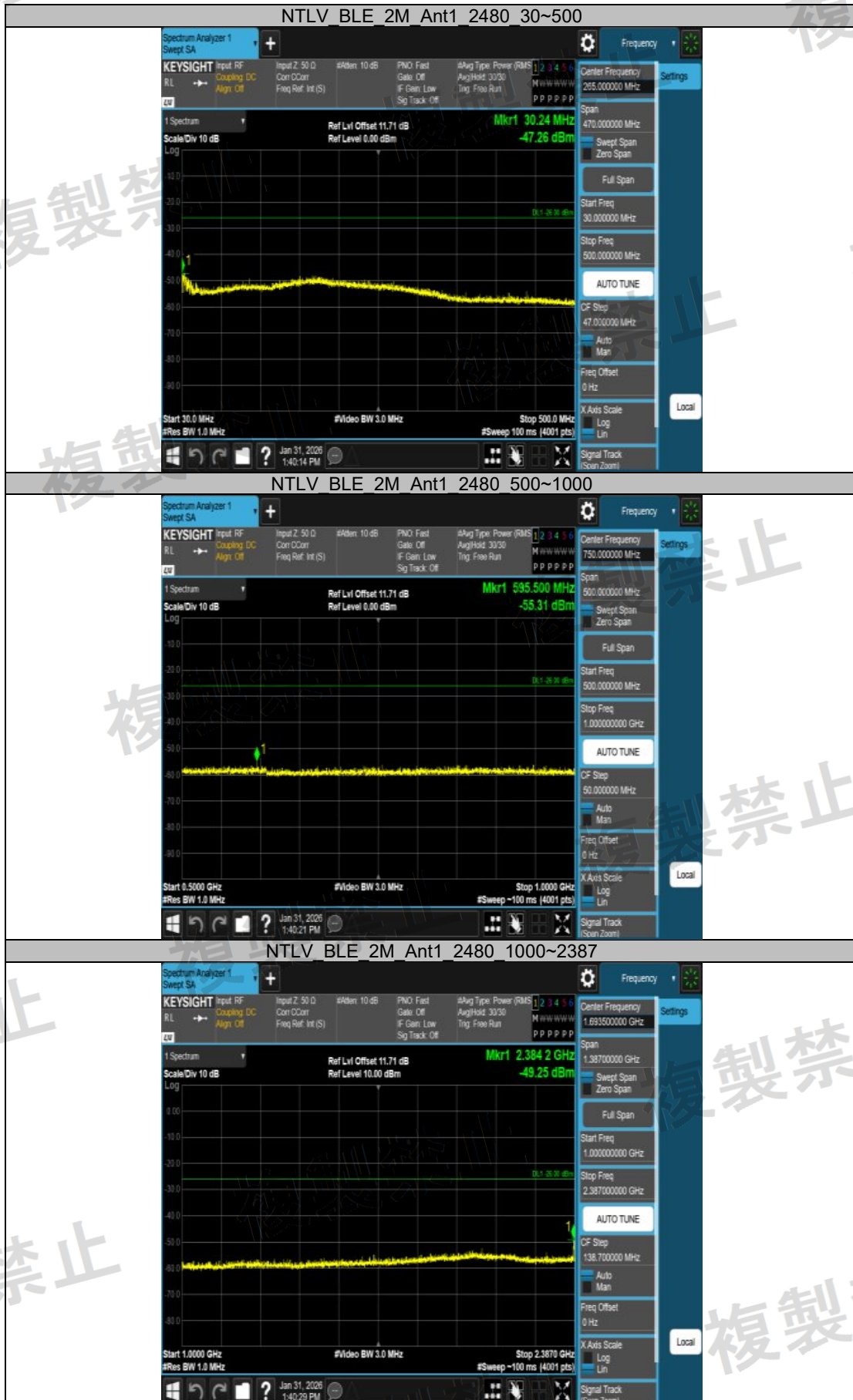


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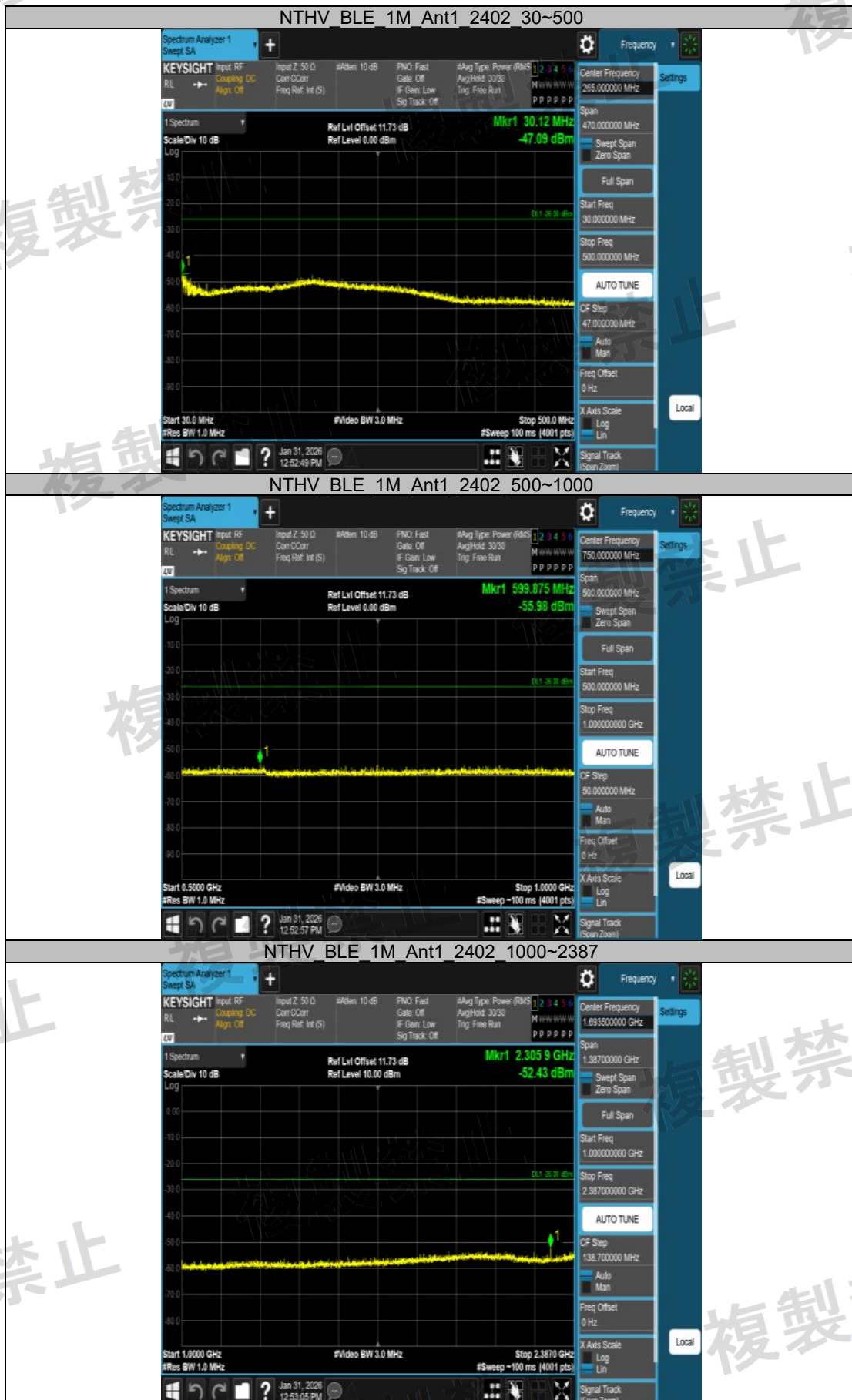




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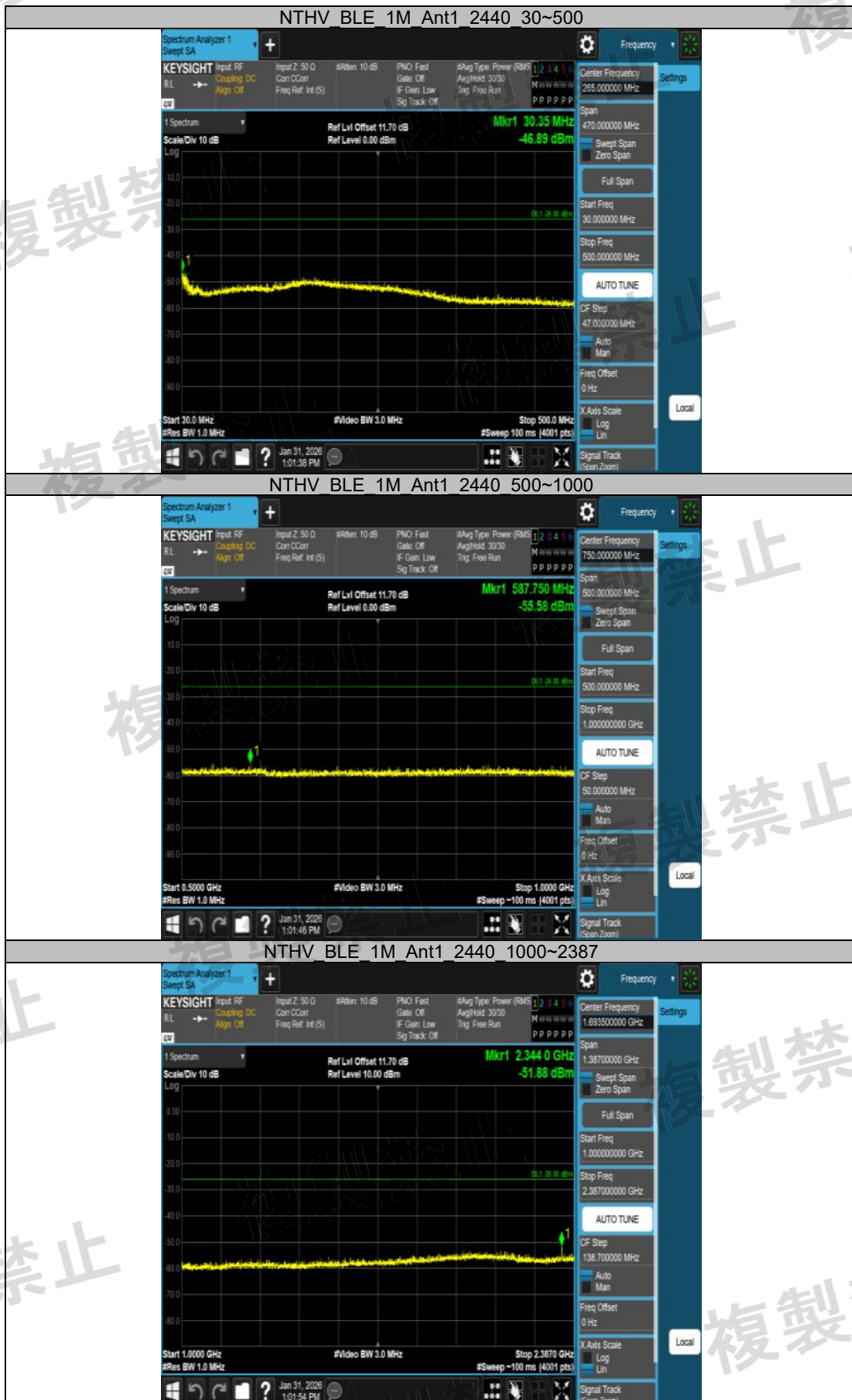


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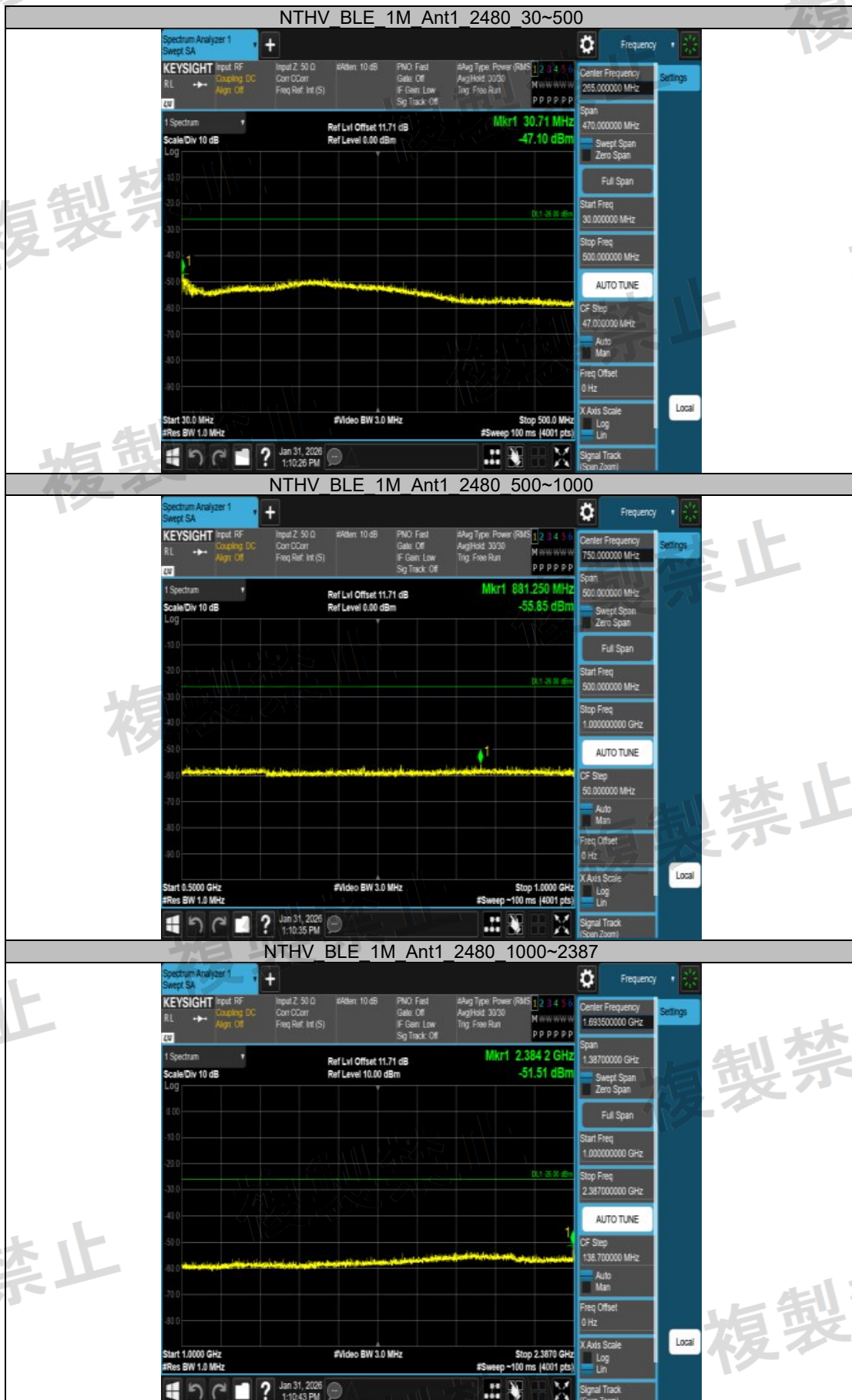


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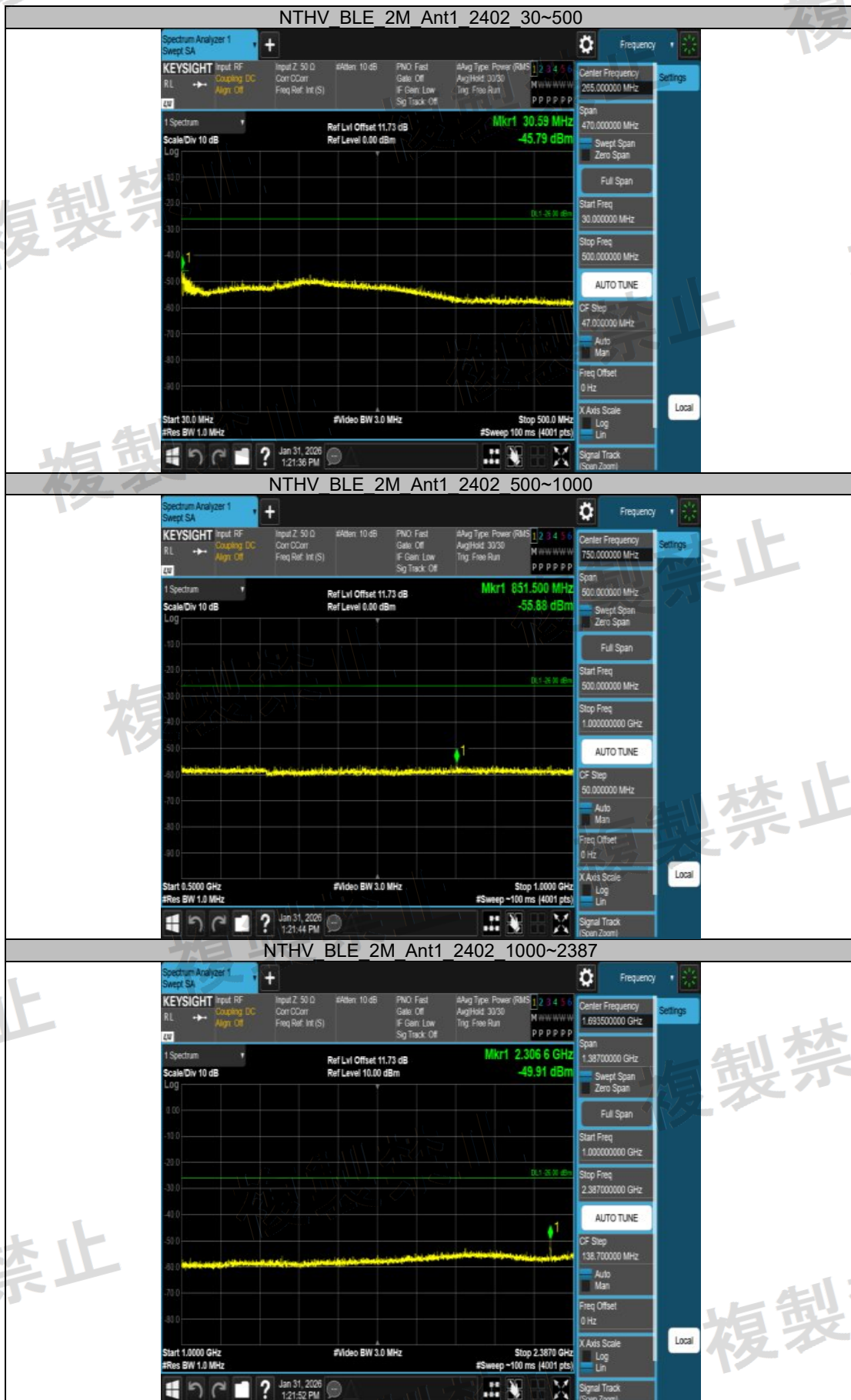
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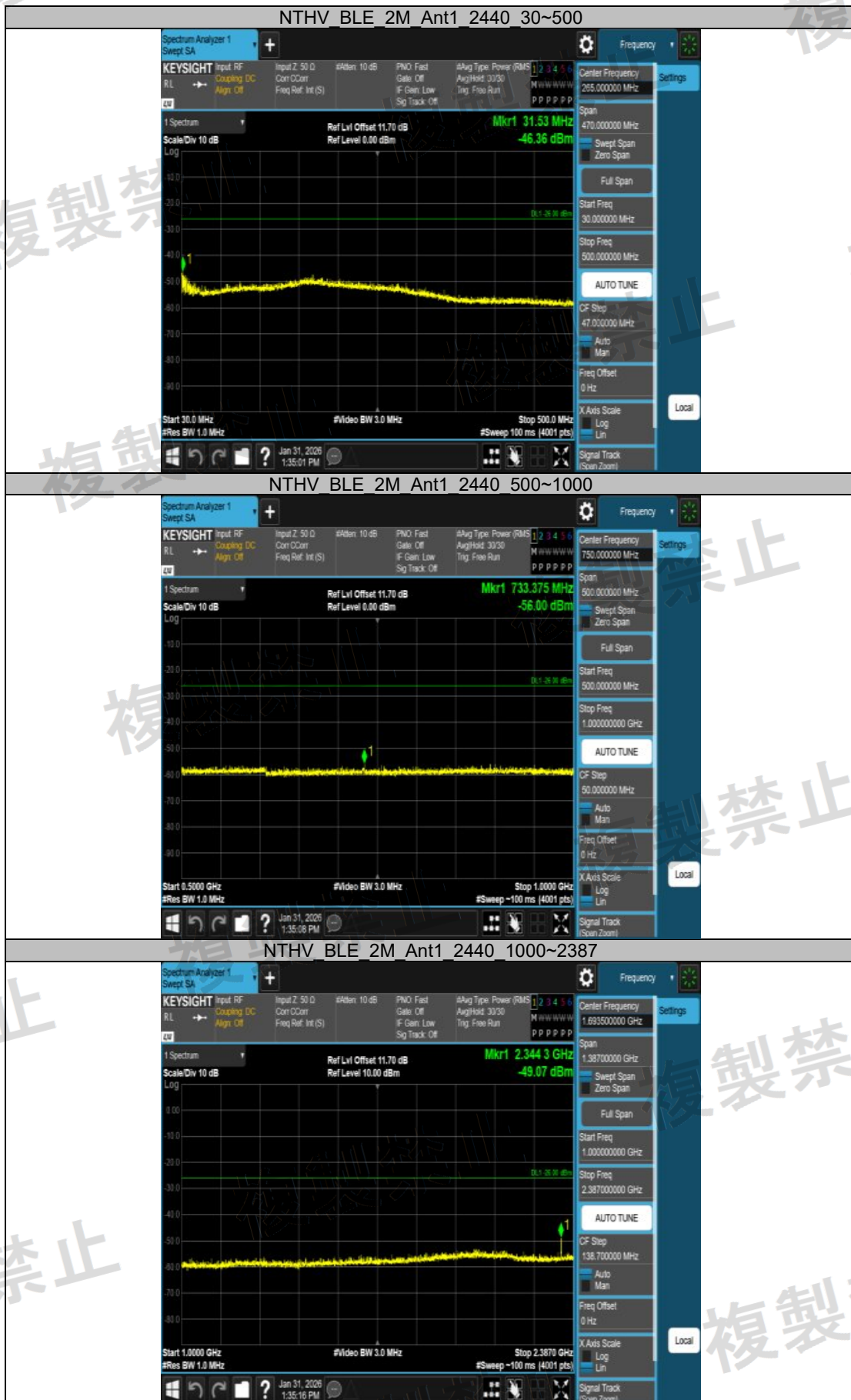
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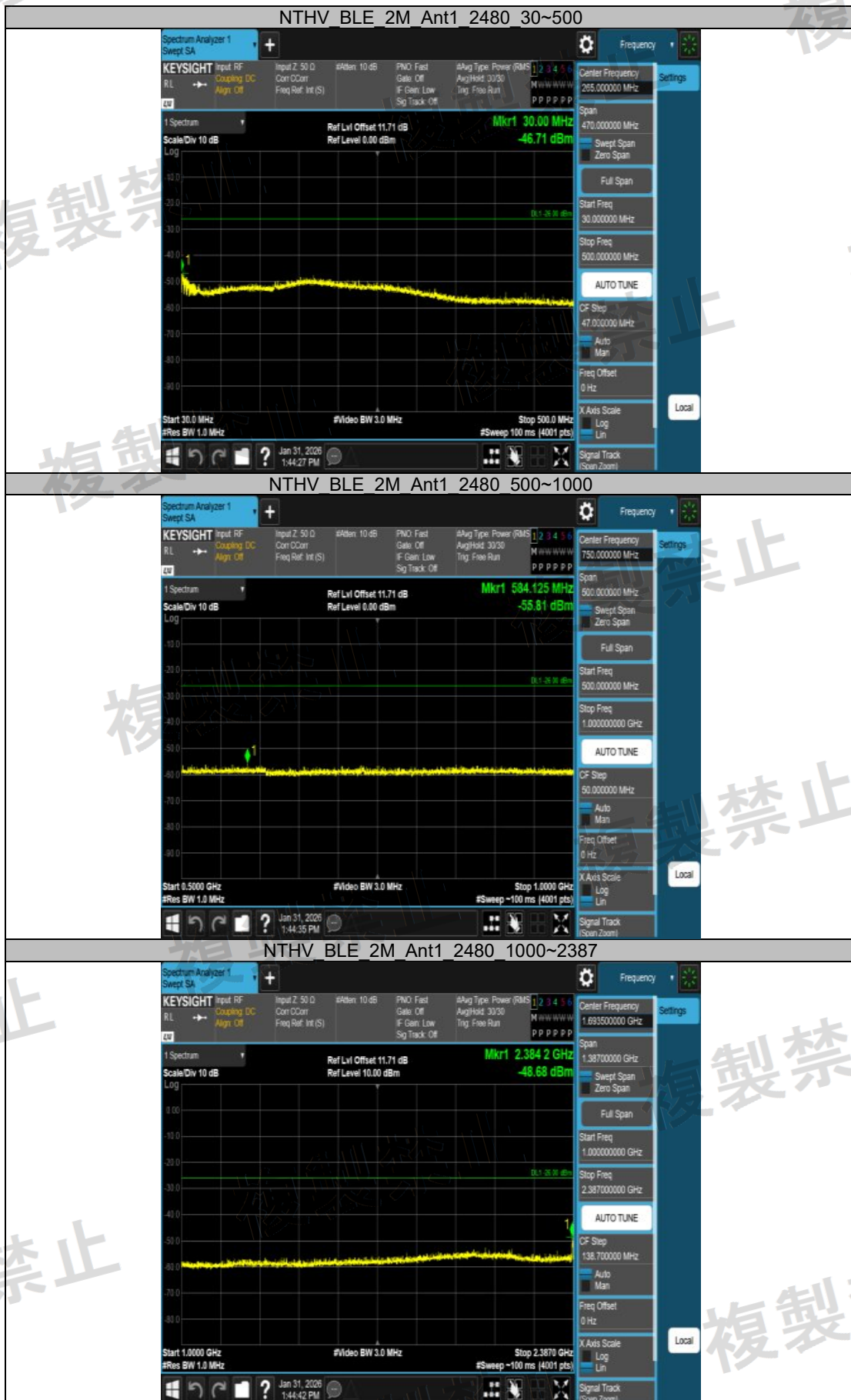












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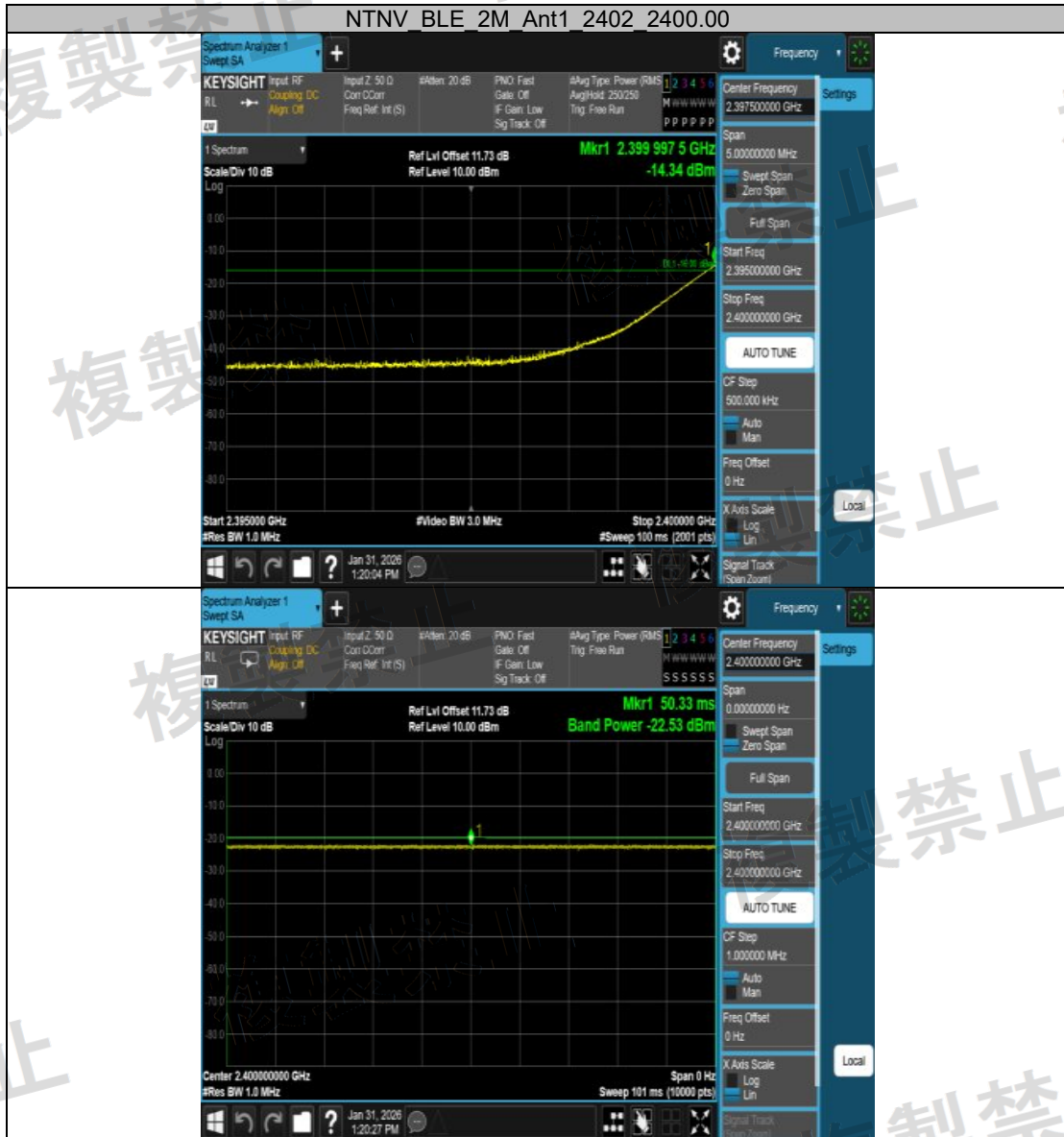


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Test Result Step2

TestCondition	TestMode	Antenna	Freq(MHz)	Freq.[MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_2M	Ant1	2402	2400.00	-22.53	≤-16	5.58470	≤25	PASS
NTLV	BLE_2M	Ant1	2402	2400.00	-22.54	≤-16	5.57186	≤25	PASS
NTHV	BLE_2M	Ant1	2402	2400.00	-22.77	≤-16	5.28445	≤25	PASS

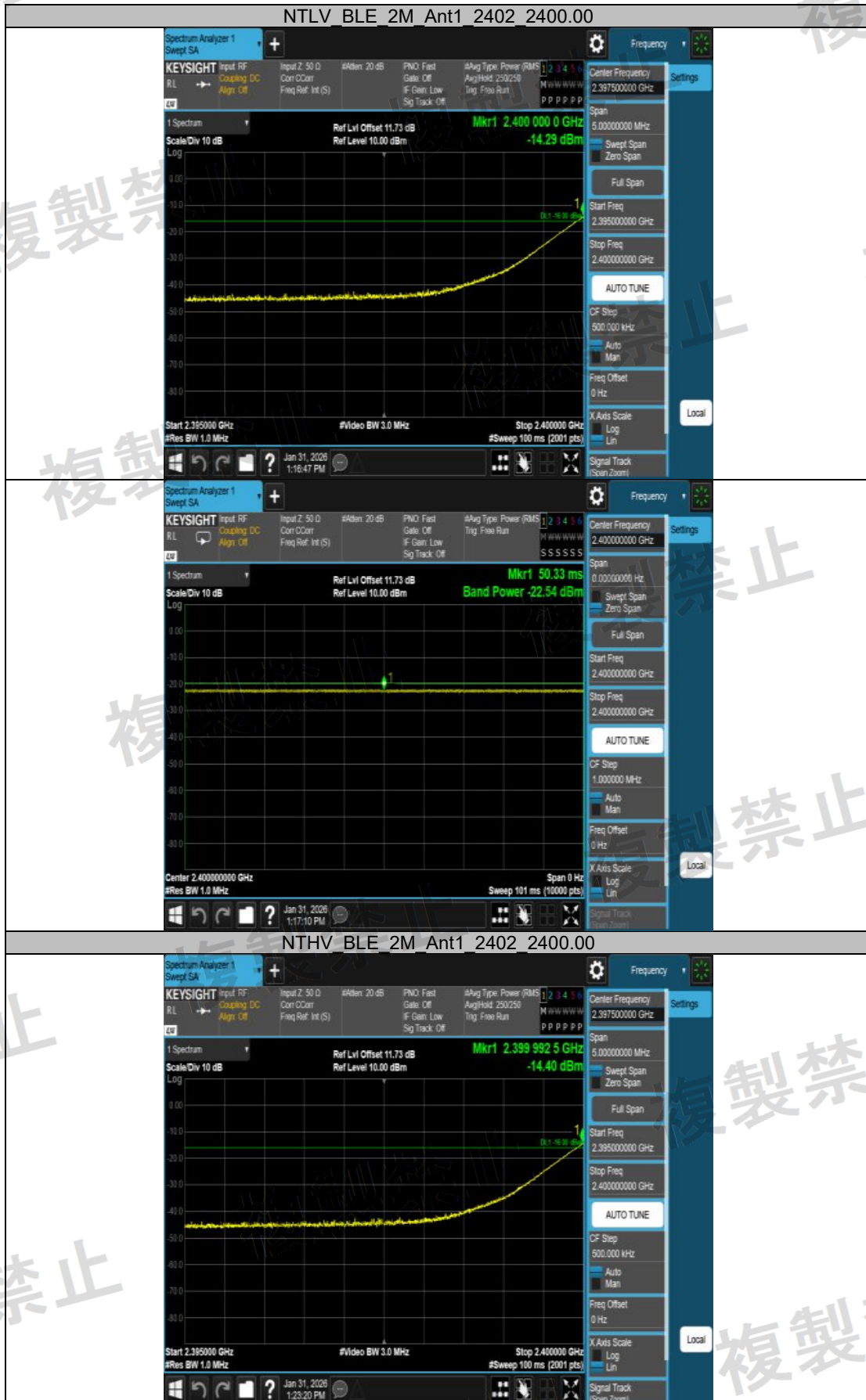


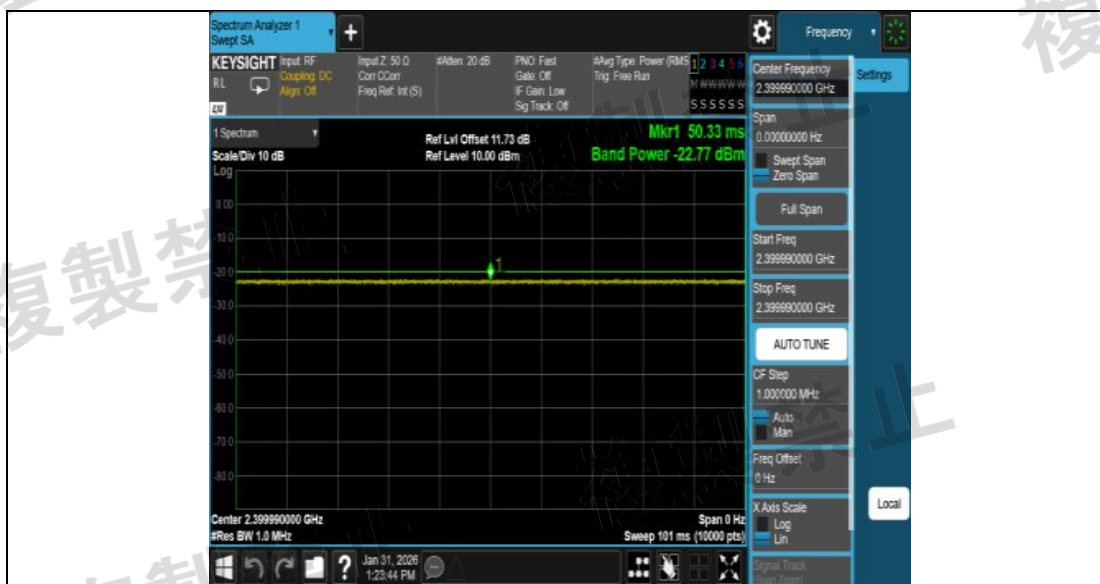
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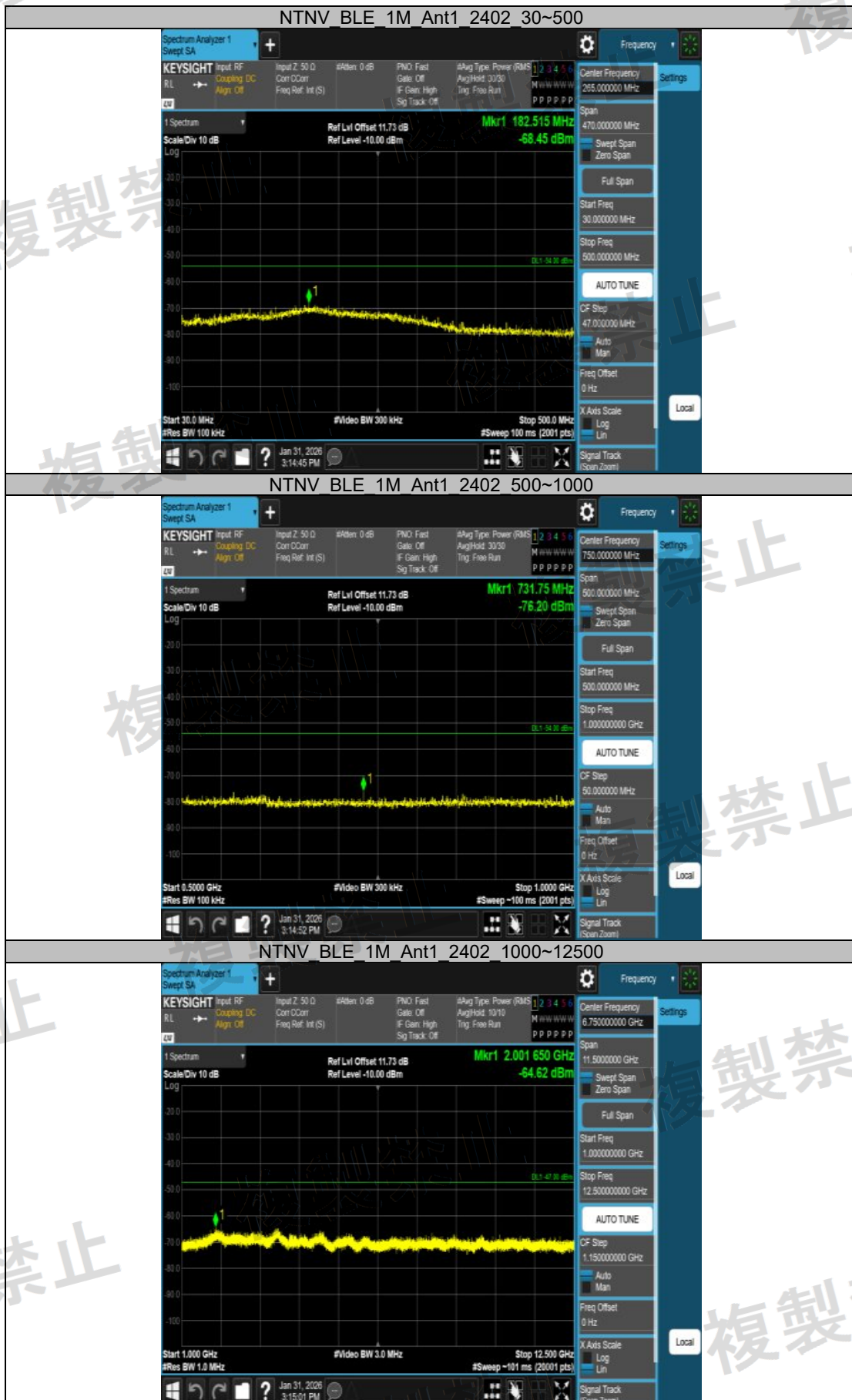
5 Appendix A.5: SPURIOUS EMISSIONS FOR RECEIVER

Test Condition	Test Mode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~500	182.52	-68.45	≤-54	0.14289	≤4	PASS
				500~1000	731.75	-76.20	≤-54	0.02399	≤4	PASS
				1000~12500	2001.65	-64.62	≤-47	0.34514	≤20	PASS
			2440	30~500	142.57	-68.63	≤-54	0.13709	≤4	PASS
				500~1000	731.75	-73.80	≤-54	0.04169	≤4	PASS
				1000~12500	3815.78	-63.83	≤-47	0.41400	≤20	PASS
			2480	30~500	184.16	-68.04	≤-54	0.15704	≤4	PASS
				500~1000	731.75	-75.79	≤-54	0.02636	≤4	PASS
				1000~12500	3777.25	-64.19	≤-47	0.38107	≤20	PASS
	BLE_2M	Ant1	2402	30~500	181.11	-67.20	≤-54	0.19055	≤4	PASS
				500~1000	731.75	-75.79	≤-54	0.02636	≤4	PASS
				1000~12500	3743.90	-64.45	≤-47	0.35892	≤20	PASS
			2440	30~500	183.93	-68.11	≤-54	0.15453	≤4	PASS
				500~1000	731.75	-75.27	≤-54	0.02972	≤4	PASS
				1000~12500	2593.33	-64.48	≤-47	0.35645	≤20	PASS
			2480	30~500	142.57	-68.57	≤-54	0.13900	≤4	PASS
				500~1000	731.75	-76.67	≤-54	0.02153	≤4	PASS
				1000~12500	2132.18	-64.74	≤-47	0.33574	≤20	PASS
NTLV	BLE_1M	Ant1	2402	30~500	183.69	-68.11	≤-54	0.15453	≤4	PASS
				500~1000	731.75	-75.54	≤-54	0.02793	≤4	PASS
				1000~12500	3739.30	-63.90	≤-47	0.40738	≤20	PASS
			2440	30~500	183.69	-68.41	≤-54	0.14421	≤4	PASS
				500~1000	731.75	-74.89	≤-54	0.03243	≤4	PASS
				1000~12500	2113.20	-63.37	≤-47	0.46026	≤20	PASS
			2480	30~500	196.62	-67.54	≤-54	0.17620	≤4	PASS
				500~1000	731.75	-75.46	≤-54	0.02844	≤4	PASS
				1000~12500	3773.23	-64.16	≤-47	0.38371	≤20	PASS
	BLE_2M	Ant1	2402	30~500	169.12	-67.92	≤-54	0.16144	≤4	PASS
				500~1000	731.75	-76.47	≤-54	0.02254	≤4	PASS
				1000~12500	3796.23	-64.10	≤-47	0.38905	≤20	PASS
			2440	30~500	189.10	-67.98	≤-54	0.15922	≤4	PASS
				500~1000	731.75	-75.69	≤-54	0.02698	≤4	PASS
				1000~12500	5137.70	-64.48	≤-47	0.35645	≤20	PASS
			2480	30~500	210.95	-68.40	≤-54	0.14454	≤4	PASS
				500~1000	731.75	-75.78	≤-54	0.02642	≤4	PASS
				1000~12500	3804.85	-63.42	≤-47	0.45499	≤20	PASS
NTHV	BLE_1M	Ant1	2402	30~500	186.98	-68.61	≤-54	0.13772	≤4	PASS
				500~1000	731.75	-75.25	≤-54	0.02985	≤4	PASS
				1000~12500	2039.03	-63.70	≤-47	0.42658	≤20	PASS
			2440	30~500	188.63	-68.79	≤-54	0.13213	≤4	PASS
				500~1000	731.75	-75.82	≤-54	0.02618	≤4	PASS
				1000~12500	3813.48	-64.53	≤-47	0.35237	≤20	PASS
			2480	30~500	158.78	-69.29	≤-54	0.11776	≤4	PASS
				500~1000	731.75	-75.20	≤-54	0.03020	≤4	PASS
				1000~12500	3812.90	-64.16	≤-47	0.38371	≤20	PASS
	BLE_2M	Ant1	2402	30~500	185.81	-68.34	≤-54	0.14655	≤4	PASS
				500~1000	731.75	-75.39	≤-54	0.02891	≤4	PASS
				1000~12500	3776.68	-64.40	≤-47	0.36308	≤20	PASS
			2440	30~500	210.01	-68.32	≤-54	0.14723	≤4	PASS
				500~1000	731.75	-75.64	≤-54	0.02729	≤4	PASS
				1000~12500	3796.23	-64.38	≤-47	0.36475	≤20	PASS
			2480	30~500	203.67	-68.85	≤-54	0.13032	≤4	PASS
				500~1000	731.75	-76.09	≤-54	0.02460	≤4	PASS
				1000~12500	3818.65	-64.17	≤-47	0.38282	≤20	PASS

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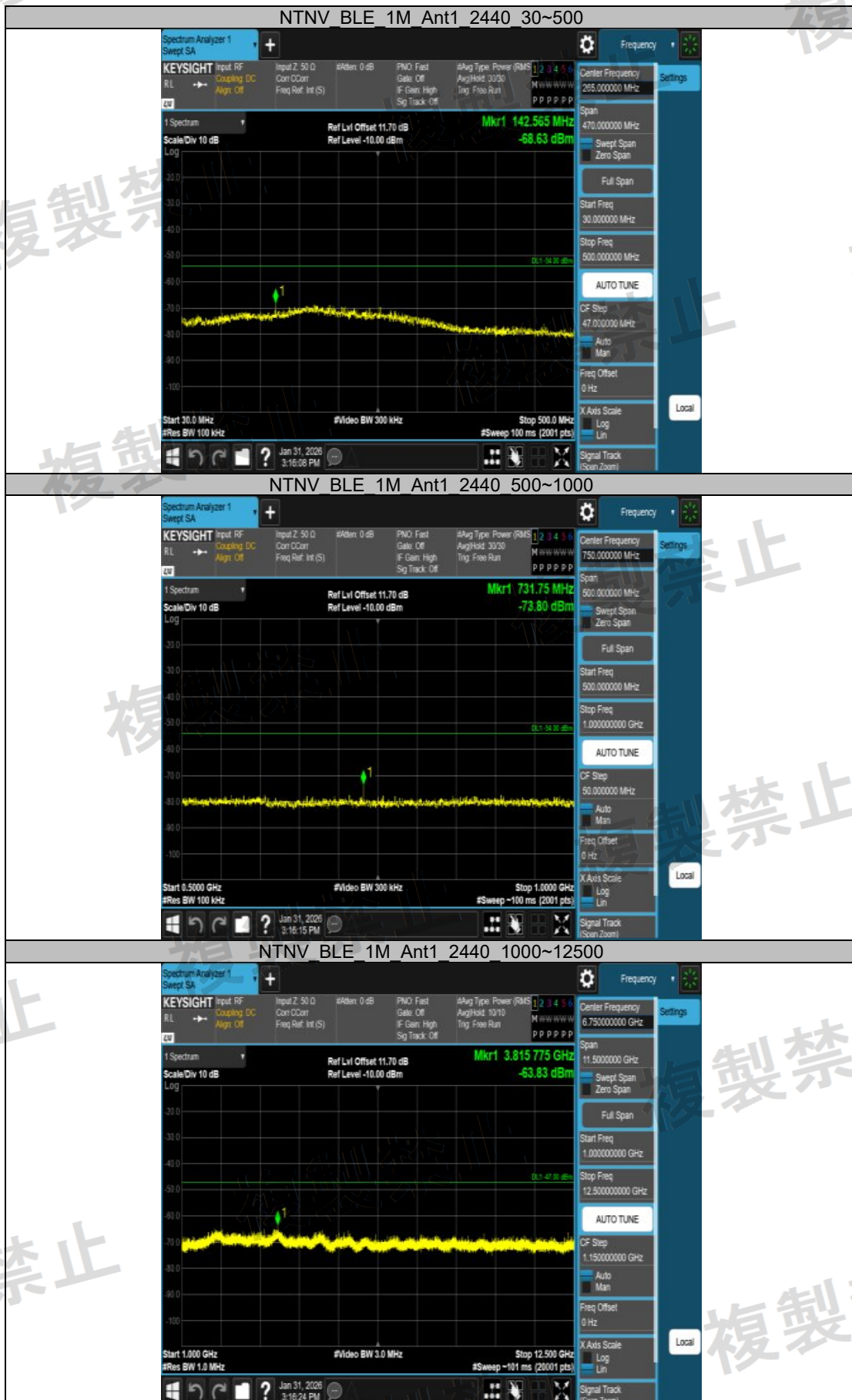
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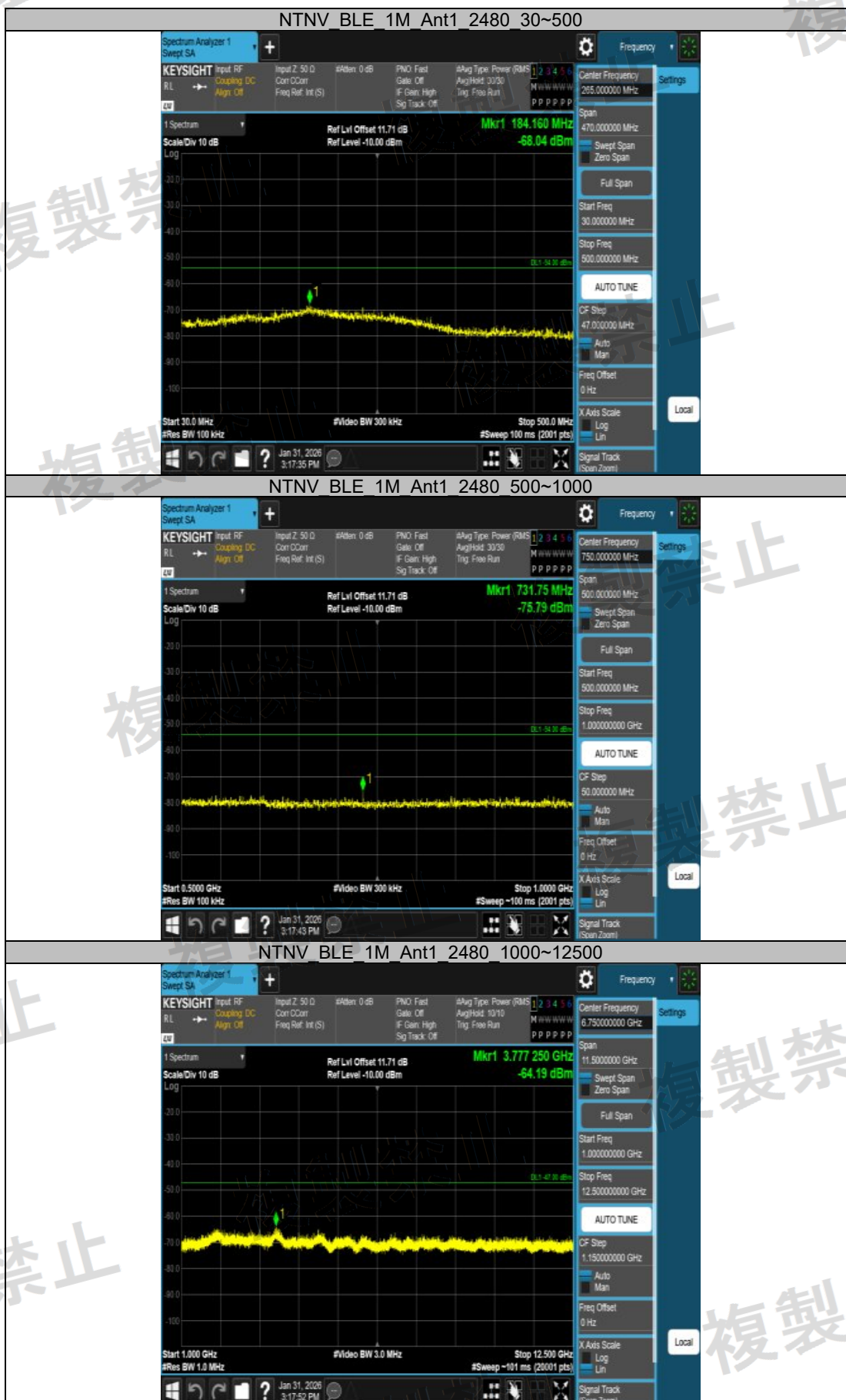


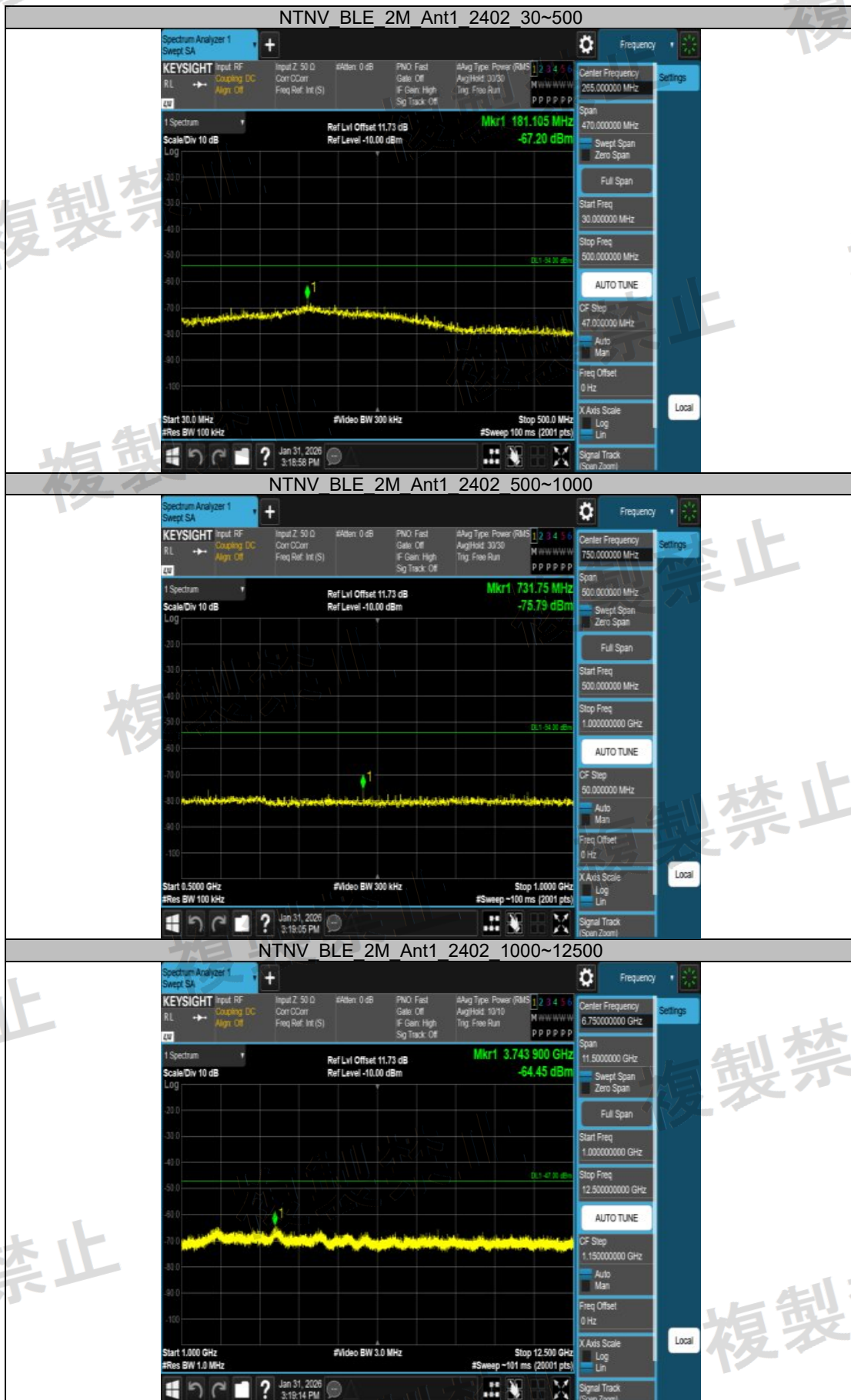
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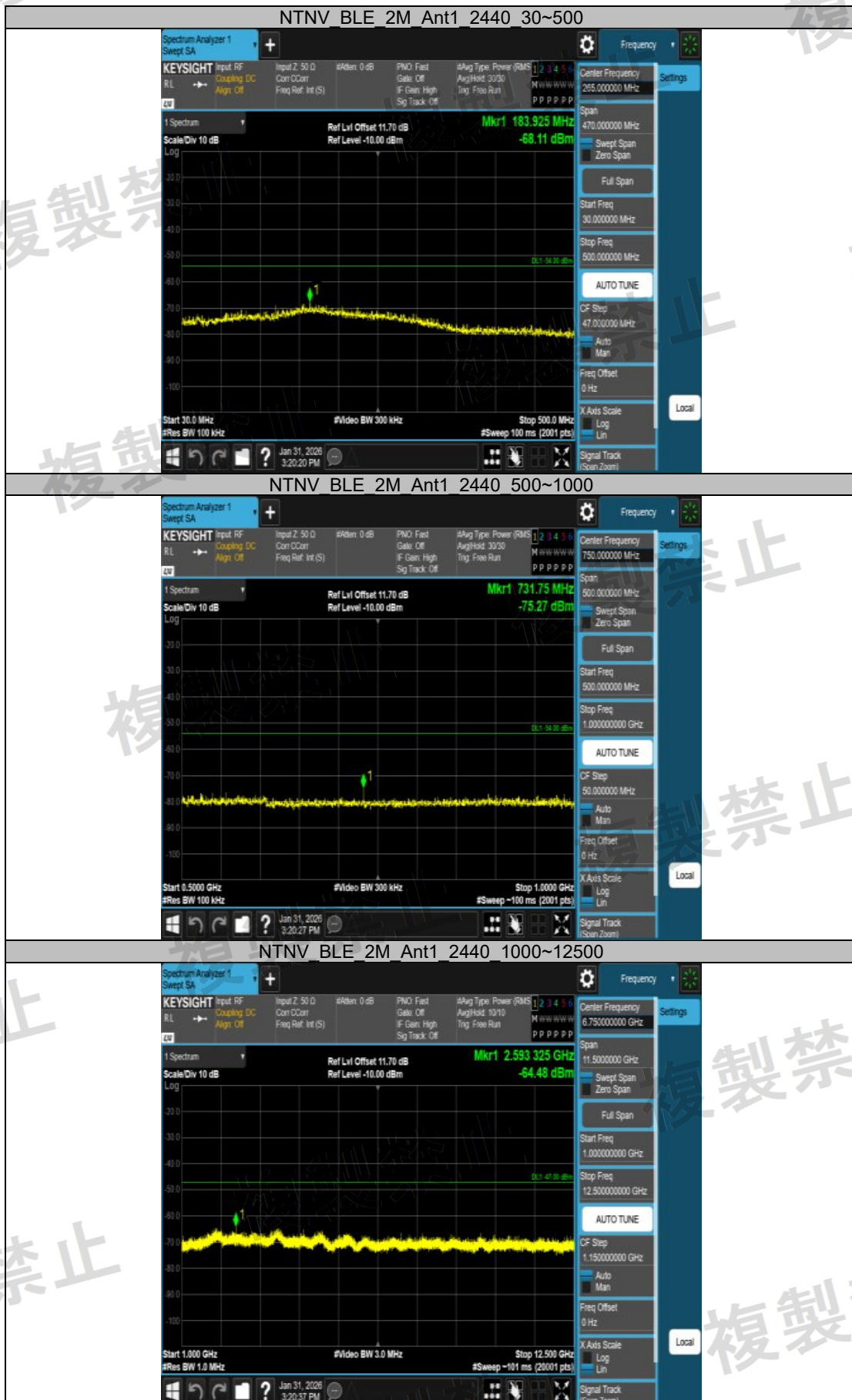
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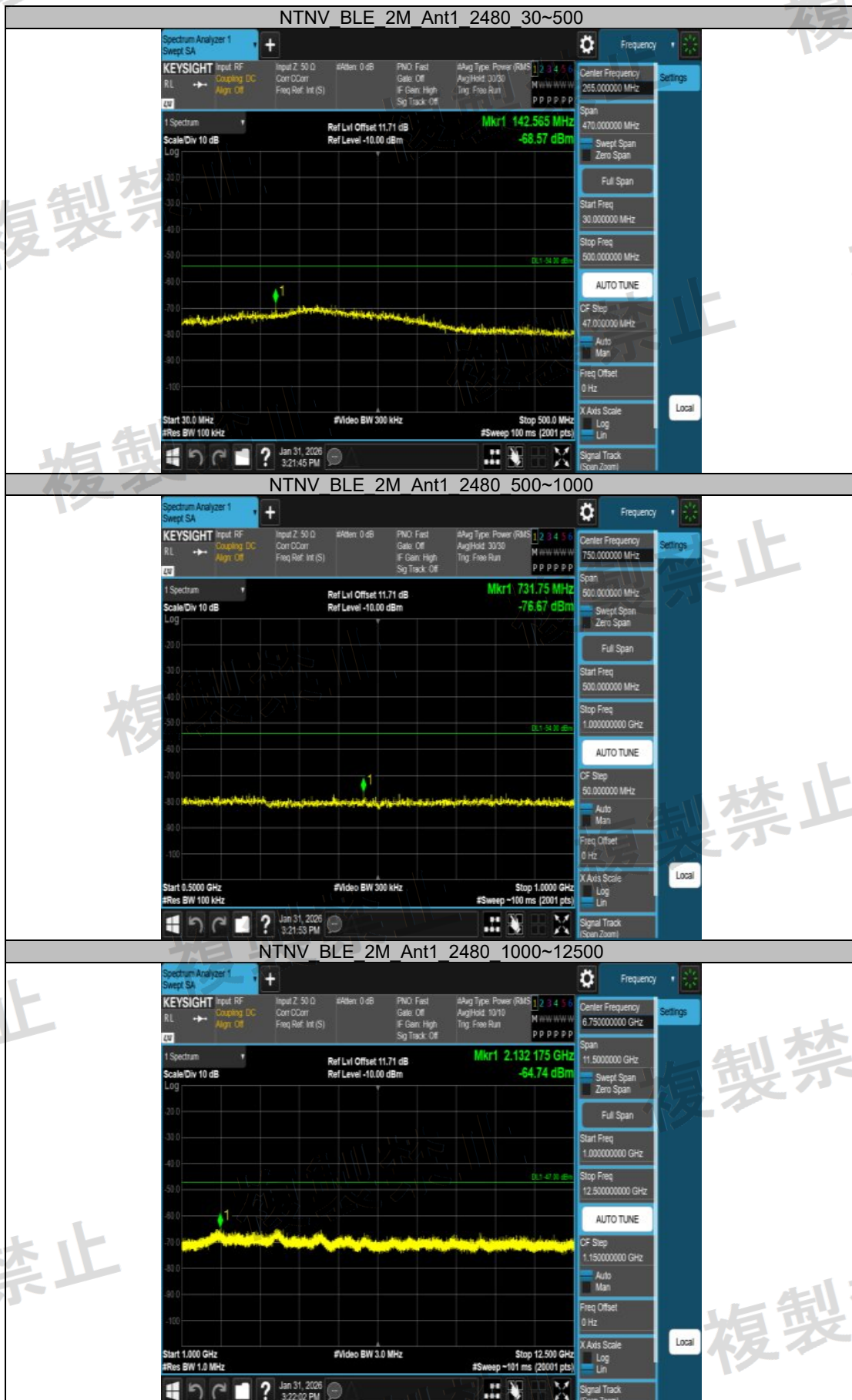
Appendix A CN260BIF 002

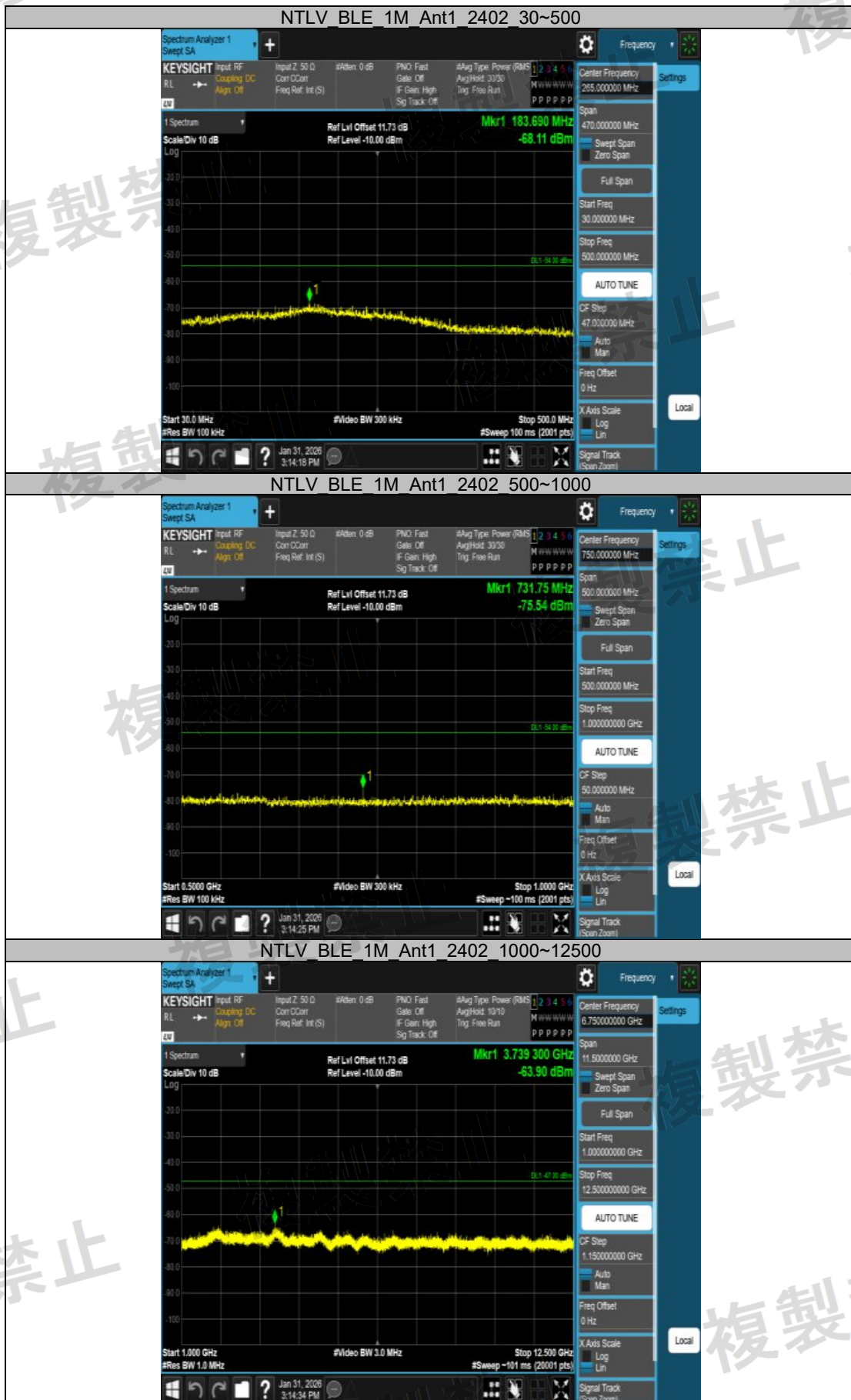


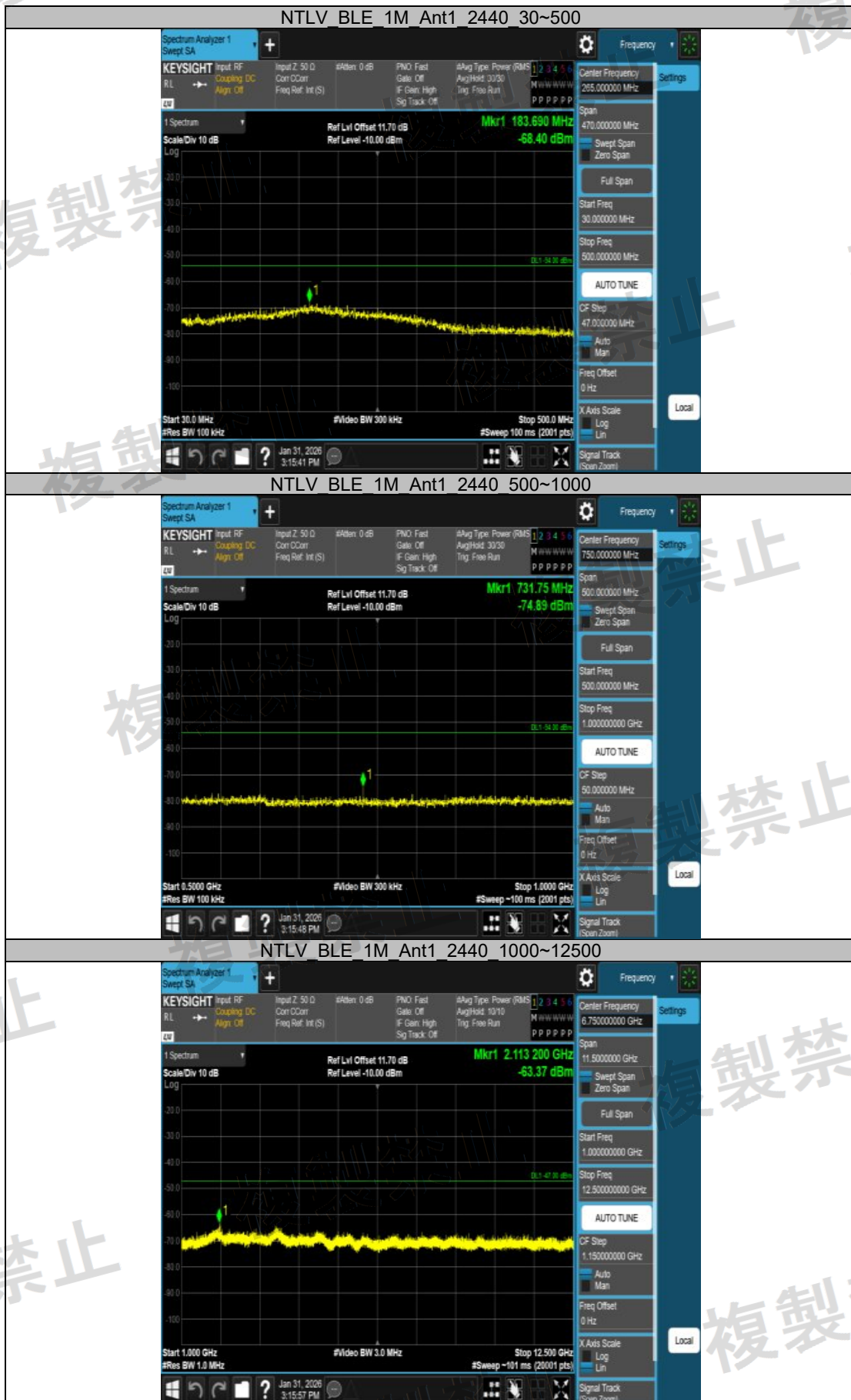
Appendix A CN260BIF 002

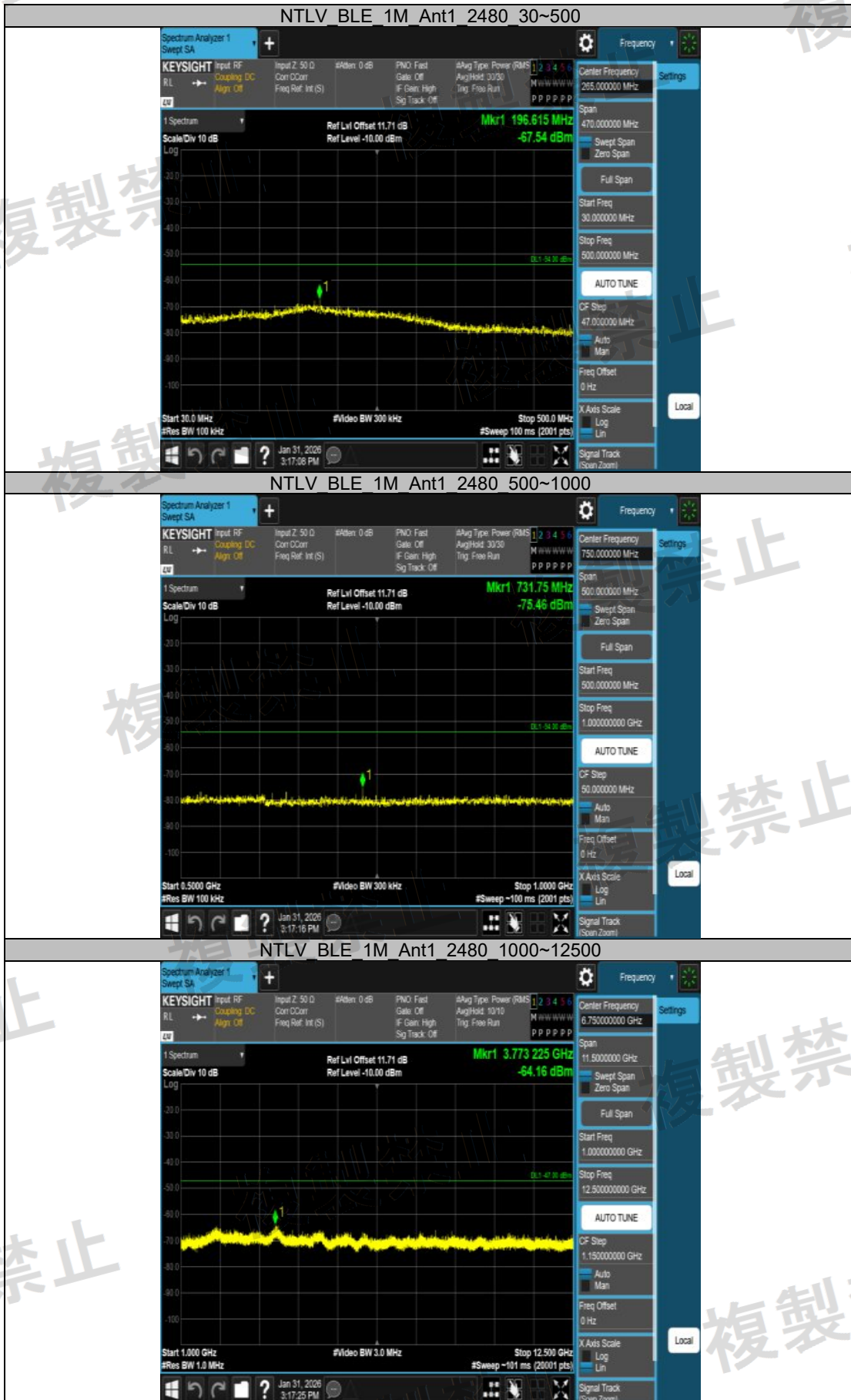
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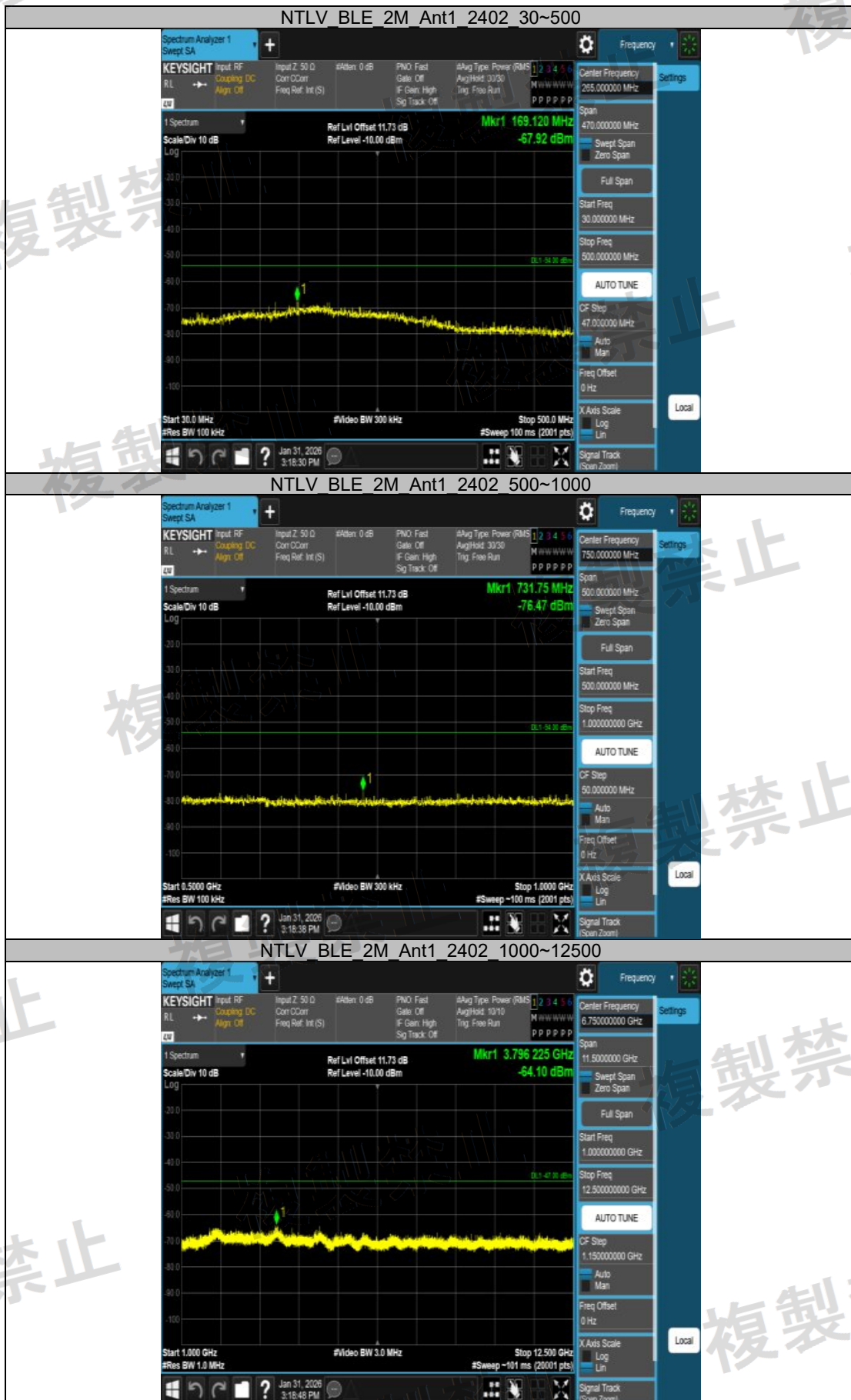
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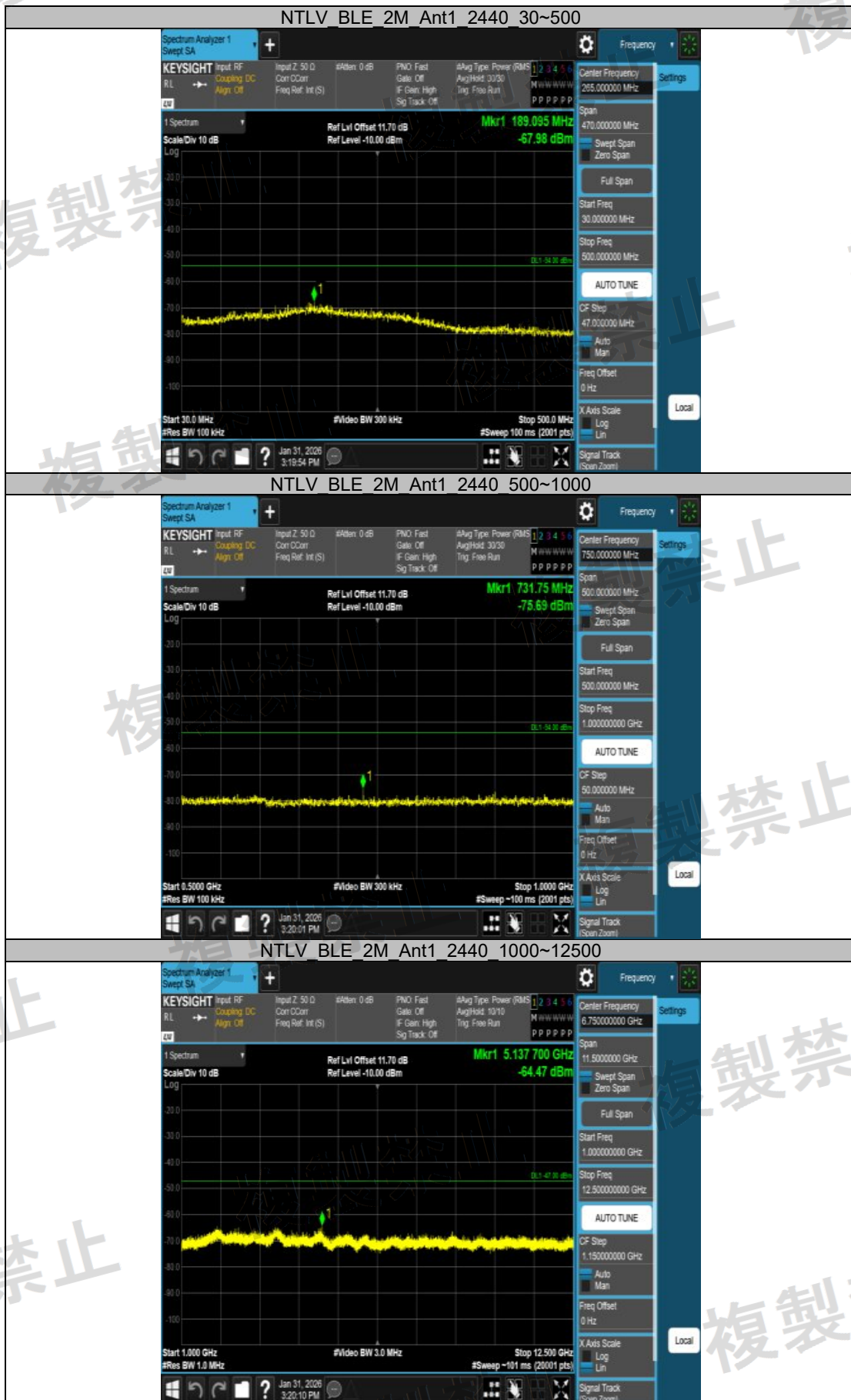


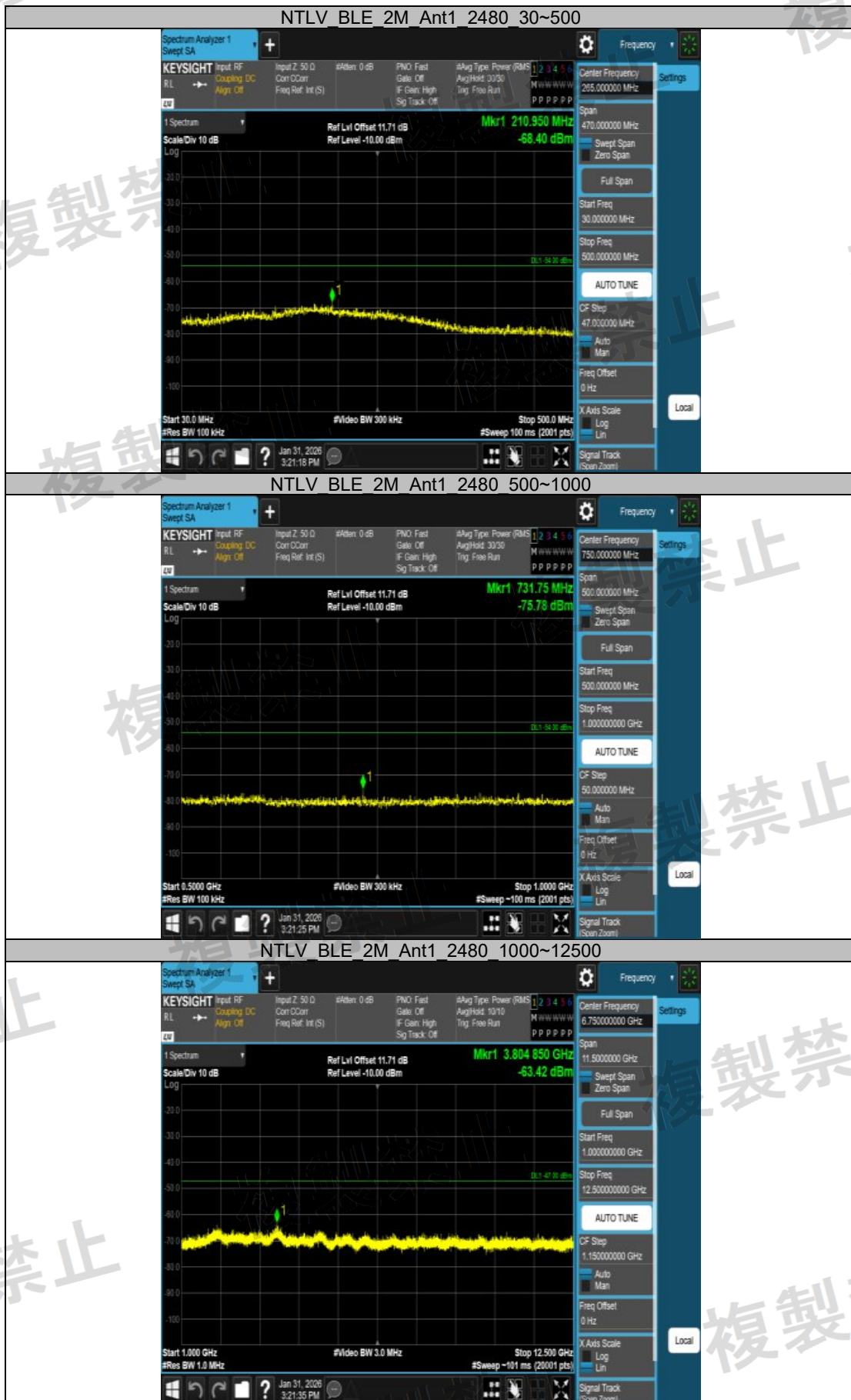










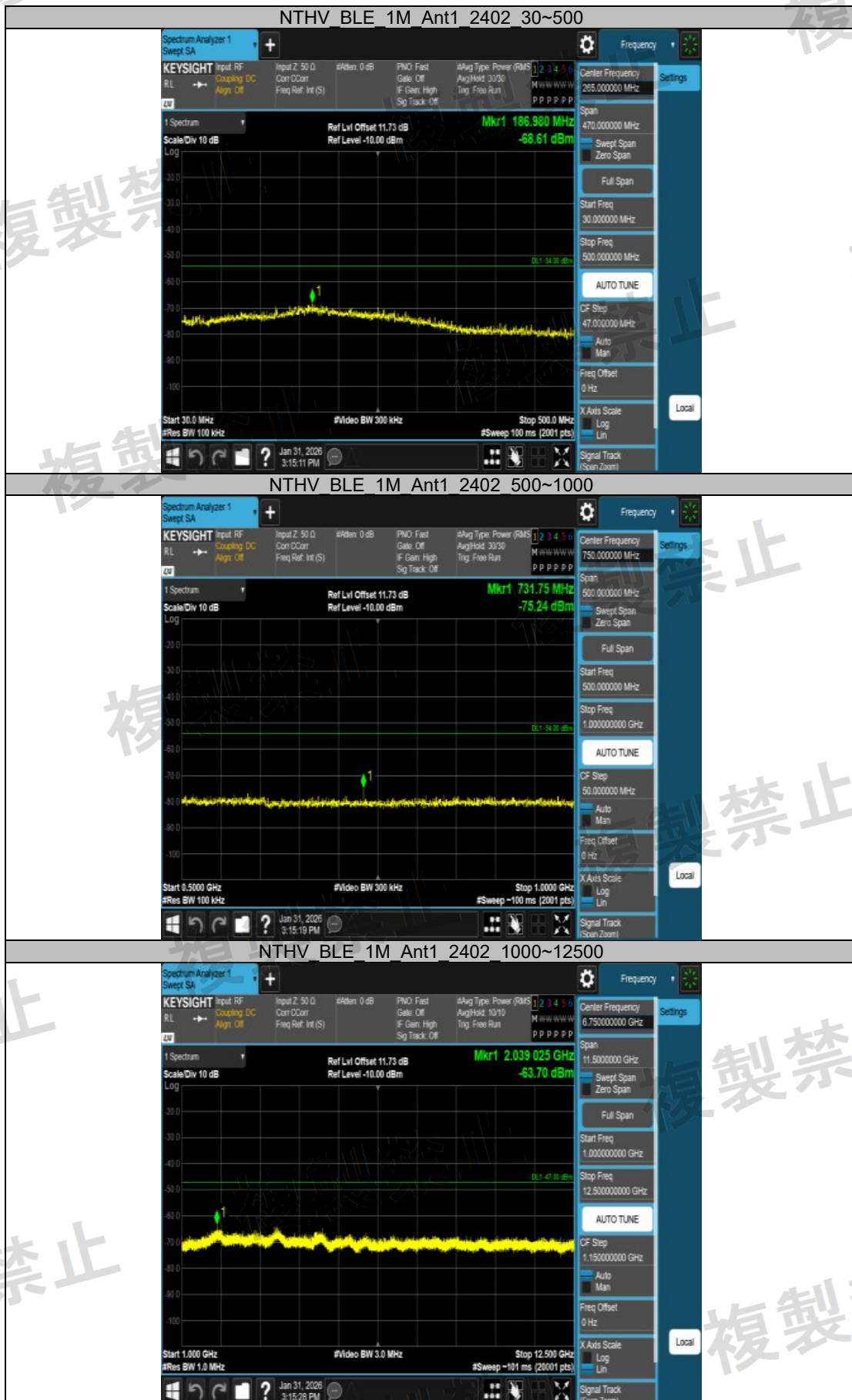


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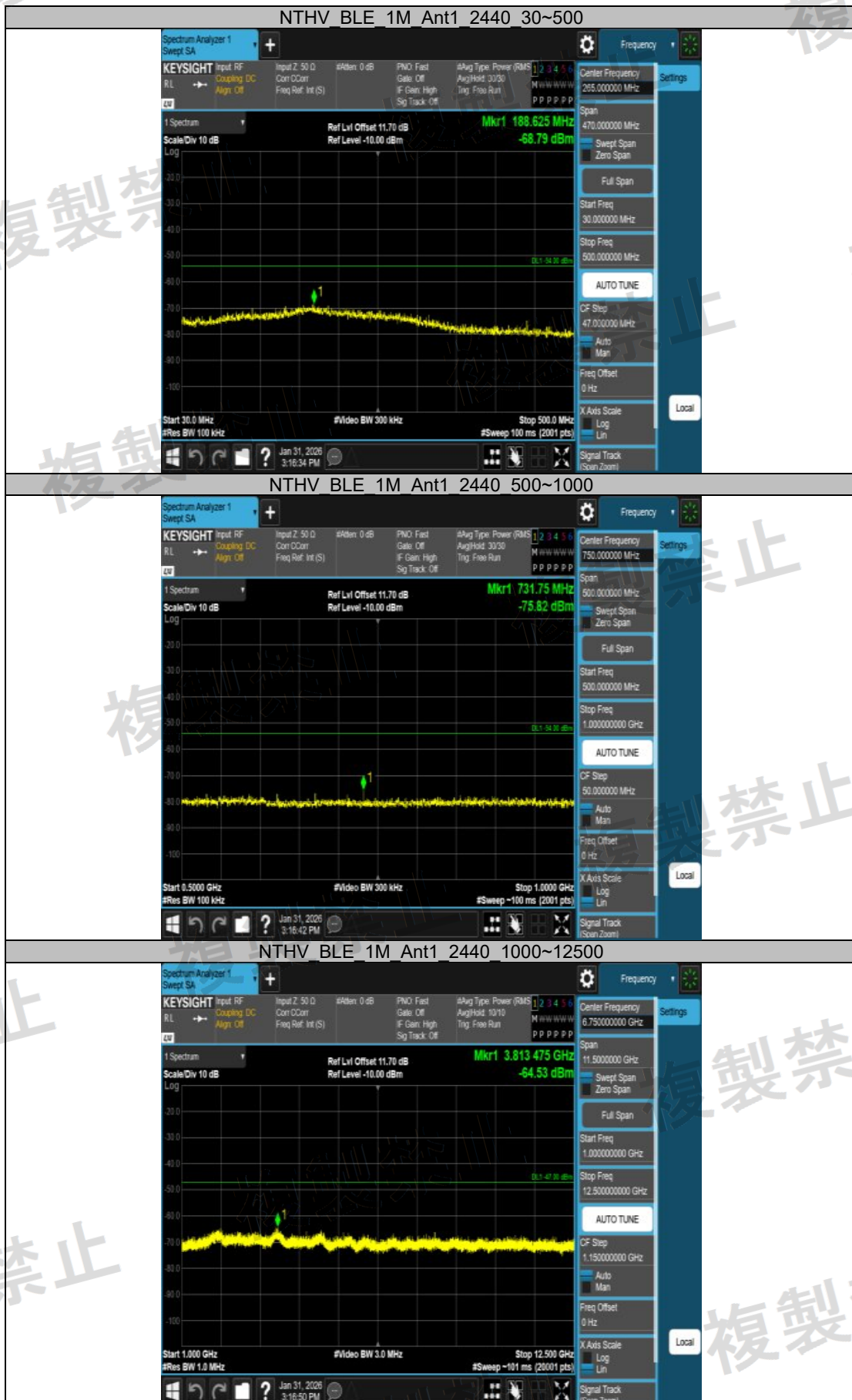


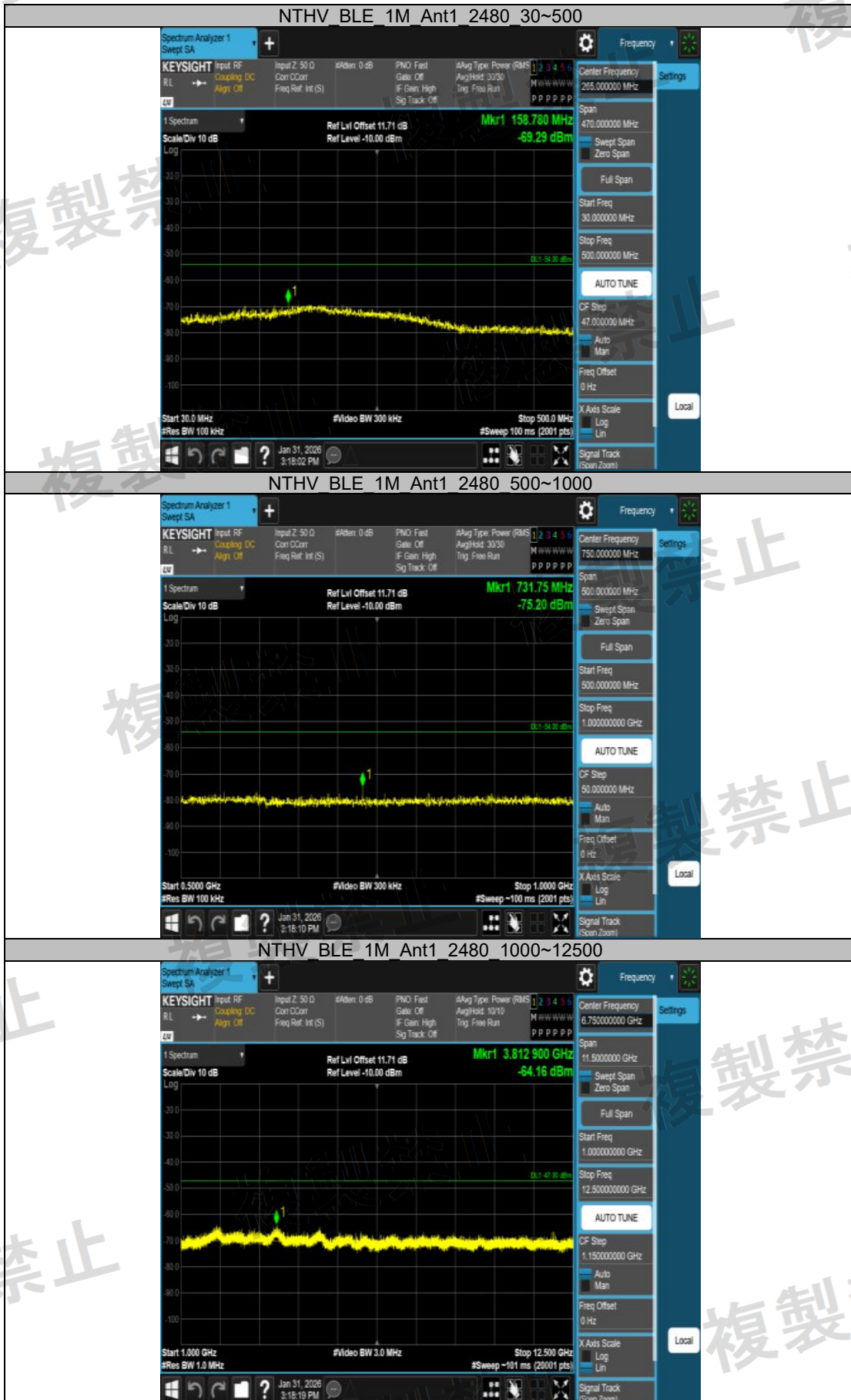
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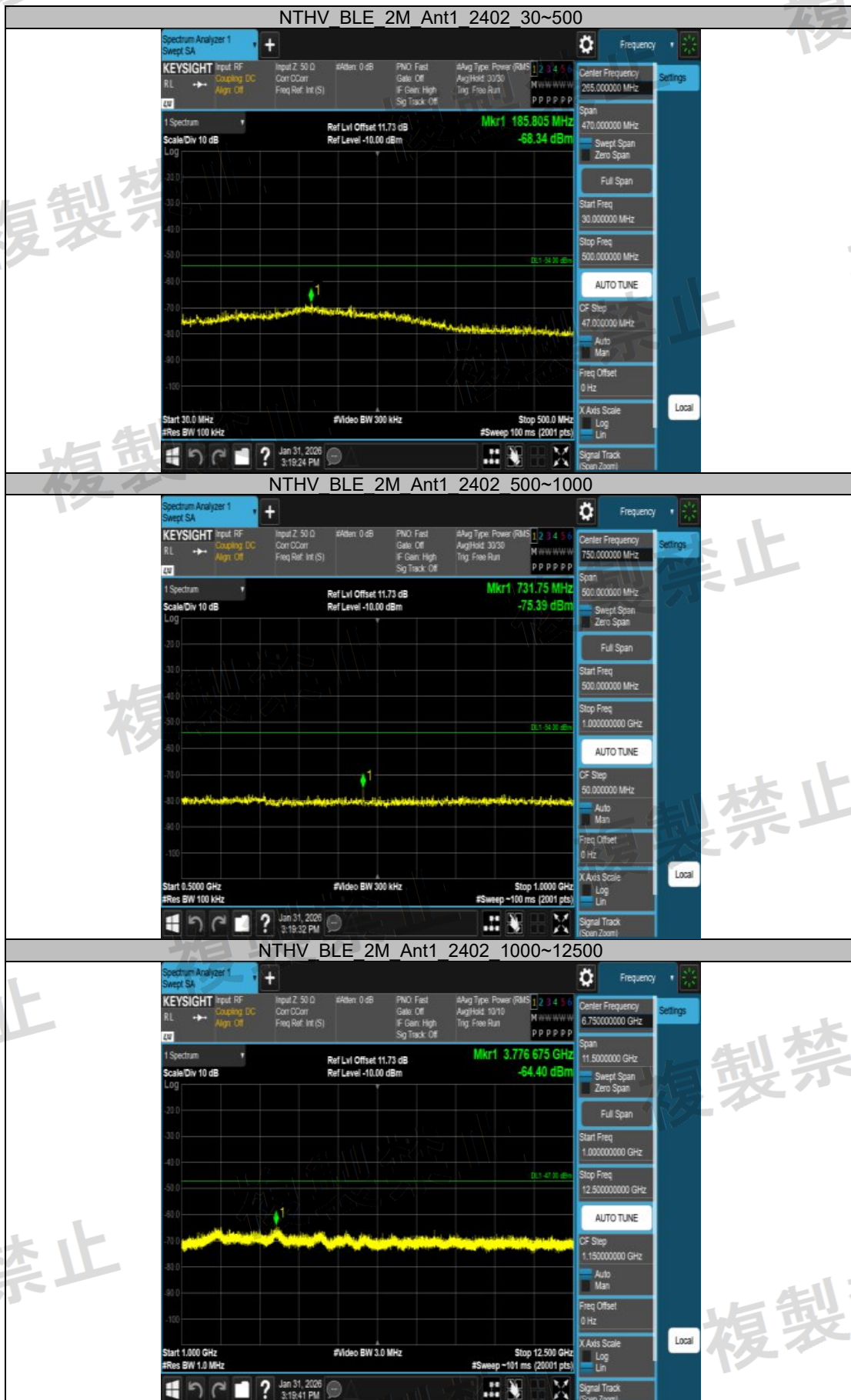


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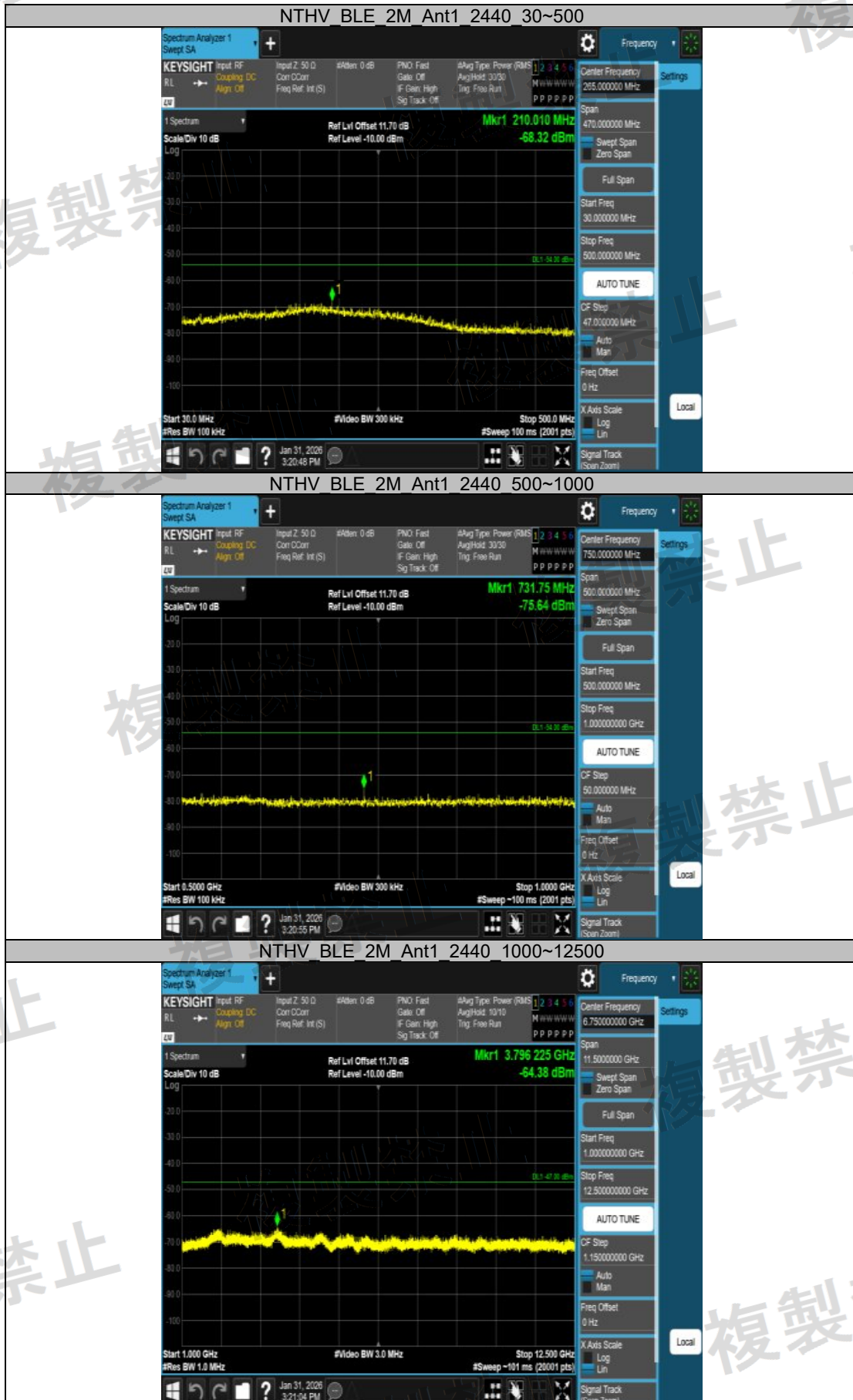


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