



MIC public notice 88 TEST REPORT

On Behalf of

ZhenShi Information Technology (Shenzhen) Co.,Ltd

SMART WATCH

Model No.: XPAW029

Prepared for : ZhenShi Information Technology (Shenzhen) Co.,Ltd
Address : RM1401-1403,1408, Tower E, Galaxy World, Minzhi Street, Longhua
District, Shenzhen, China

Prepared By : Shenzhen PSI Testing Co., Ltd.
Address : 1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road,
Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Report Number : psi2604177-C01-R07
Date of Receipt : May 18, 2026
Date of Test : May 18, 2026–June 1, 2026
Date of Report : June 1, 2026
Version Number : V0

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TEST REPORT DECLARATION

Applicant : ZhenShi Information Technology (Shenzhen) Co.,Ltd
Address : RM1401-1403,1408, Tower E, Galaxy World, Minzhi Street, Longhua District,
Shenzhen, China
Manufacturer : ZhenShi Information Technology (Shanghai) Co.,Ltd
Address : Room 4015, Building 2, No.588 Zixing Road, Minhang Distric, Shanghai, China
EUT Description : SMART WATCH
(A) Model No. : XPAW029
(B) Trademark : **mibro**

Measurement Standard Used:

MIC public notice 88:2004, annex 43 and annex 1, Article 2, Paragraph 1, Item 19

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the MIC public notice 88:2004, annex 43 and annex 1 limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.
After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature)..... Felix Pang
Test Engineer

Felix Pang

Approved by (name + signature)..... Simple Guan
Project Manager

Simple Guan

Date of issue..... June 1, 2026

Revision History

Revision	Issue Date	Revisions	Revised By
V0	June 1, 2026	Initial released Issue	Felix Pang

1. General Information

1.1. Description of Device (EUT)

EUT Name : SMART WATCH
Model No. : XPAW029
Diff : The color of the strap is different. So all the test were performed on the model XPAW029.
Power supply : DC 5V from adapter, DC 3.87V from battery.

Radio Technology : Bluetooth V5.0 EDR
Operation frequency : 2402MHz -2480MHz
Number of channels : 79
Modulation : GFSK, $\pi/4$ -DQPSK, 8DPSK
Channel spacing : 1MHz
Stated power : 0.5 mW/MHz
Antenna Type : Internal antenna, Maximum Gain is -8.14dBi.

Software version : V046
Hardware version : AW1028_MB_V1.1

Note : Antenna information is provided by applicant.
Testing lab is not responsible for the accuracy of the information.

1.2. Accessories of Device (EUT)

Accessories 1 : Charging dock
Manufacturer : N/A
Model : N/A

1.3. Ancillary Equipment Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1.	Notebook PC	Dell	Latitude 3490	N/A	N/A
2.	Adapter	Baseus	CCXFK65CC	N/A	N/A

1.4. Test Lab Information

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

August 30, 2023 File on A2LA

Certificate Number: 6975.01

2. Summary of test

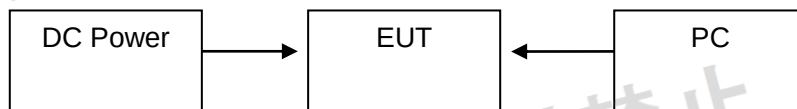
2.1. Summary of test result

Test Standard	Test Parameter	Results
MIC Notice No.88 Appendix No.43 Article 2 Paragraph 1 Item19	Transmitter Parameters	
	Antenna Power	Pass
	Tolerances for Antenna Power	Pass
	Frequency Tolerance	Pass
	Transmission Rate	N/A
	Occupied Frequency Bandwidth	Pass
	Spread Bandwidth	Just for reported
	Spread factor	Just for reported
	Number of Carriers	N/A
	Dwell Time	Pass
	Spurious Emissions	Pass
	Interference prevention function	Pass
	Equivalent Isotropic Radiated Power	Pass
	3dB Beam Bandwidth	N/A*
	Receiver Parameters	
	Secondary Radiated Emissions	Pass

Note:

1. N/A is an abbreviation for Not Applicable.
 2. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.
 3. * This test item is not applied for radio equipment with equivalent isotropic radiation power lower than 6.91dBm/MHz.
 4. Test Equipment calibration method:
 - a) Calibration conducted by the National institute of information and Communications Technology NICT or a designated calibration agency under Article 102-18 paragraph.
 - b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No.51 of1992).
 - c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph.
 - d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to.
- The all calibration corresponds to c) described above.

2.2. Block Diagram



2.3. Test mode

The test software is used to control the operation of the EUT in the continuous transmission mode, and select the test channel and wireless mode:

Tested mode, channel information		
Mode	Channel	Frequency (MHz)
Carrier Tx Mode	CH0	2402
	CH39	2441
	CH78	2480
GFSK / Pi/4-DQPSK/8DPSK hopping on Tx Mode	CH0 to CH78	2402 to 2480
GFSK / Pi/4-DQPSK/8DPSK hopping off Tx Mode	CH0	2402
	CH39	2441
	CH78	2480
GFSK / Pi/4-DQPSK/8DPSK Rx Mode	CH0	2402
	CH39	2441
	CH78	2480

Note: 1. Some modes not apply for all the test items.

2. Use patterns have assessed, this report only put the worst case data.

2.4. Software test version and power setting information

Mode	The client 's preset testing software is used to control the operation of EUT in continuous transmission mode and select the testing channel, wireless mode:		
Power level setup by client			
Mode	Channel	Frequency (MHz)	Soft Set
GFSK / PI/4-DQPSK/8DPSK	CH0	2402	TX level is set as default
	CH39	2441	TX level is set as default
	CH78	2480	TX level is set as default

2.5. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	26℃
Humidity range:	25-75%	54%
Pressure range:	86-106kPa	101kPa

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

Item	MU
Bandwidth	968Hz
Antenna Power	0.41dB
Frequency Tolerance	±0.5ppm
Conducted spurious emission	1.26dB
Dwell time	2%

2.7. Test Voltage

Voltage mode	Input Voltage	Radio Unit Voltage
DC	DC 4.5V	DC 3.87V
	DC 5.0V	DC 3.87V
	DC 5.5V	DC 3.87V
Note: 1 The radio unit Voltage with the IC. 2 During external power source is varied by ± 10%, power supply to the RF circuit of EUT (excluding power source) is less than ±1%. So the test only rated voltage (Normal voltage DC 12V).		

3. Antenna Power

3.1. Test Equipment

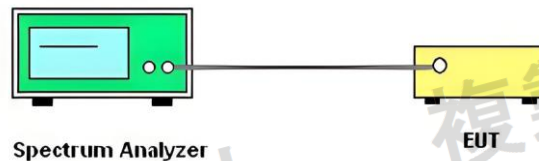
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	RF Power Sensor Unit	Tachoy	TR1029-2	20220428P008	2025.12.18	1 Year
2	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

3.2. Limit

Limit	3mW/MHz
Tolerance	+20%, No Low Limit

3.3. Block diagram of test setup



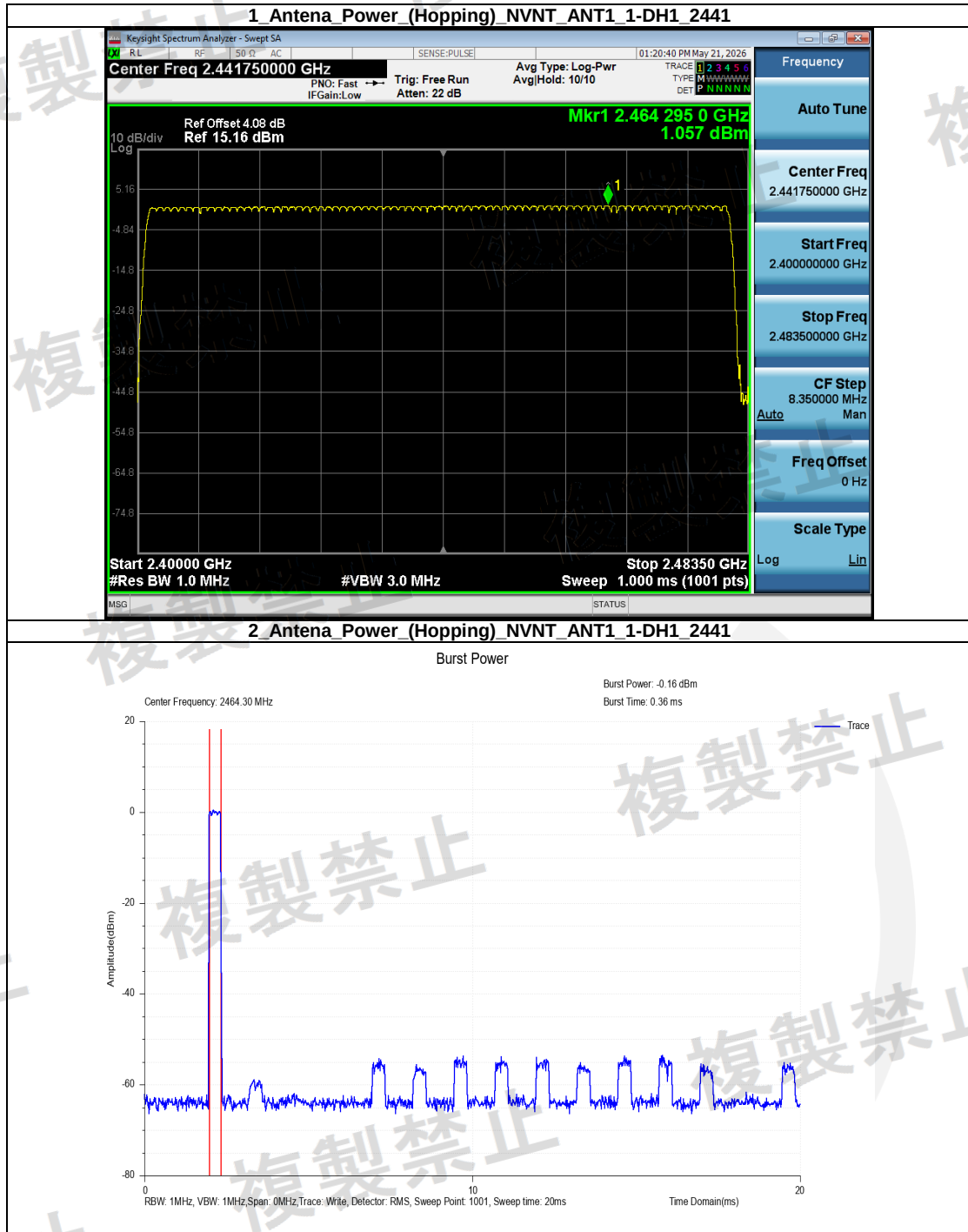
3.4. Test Procedure

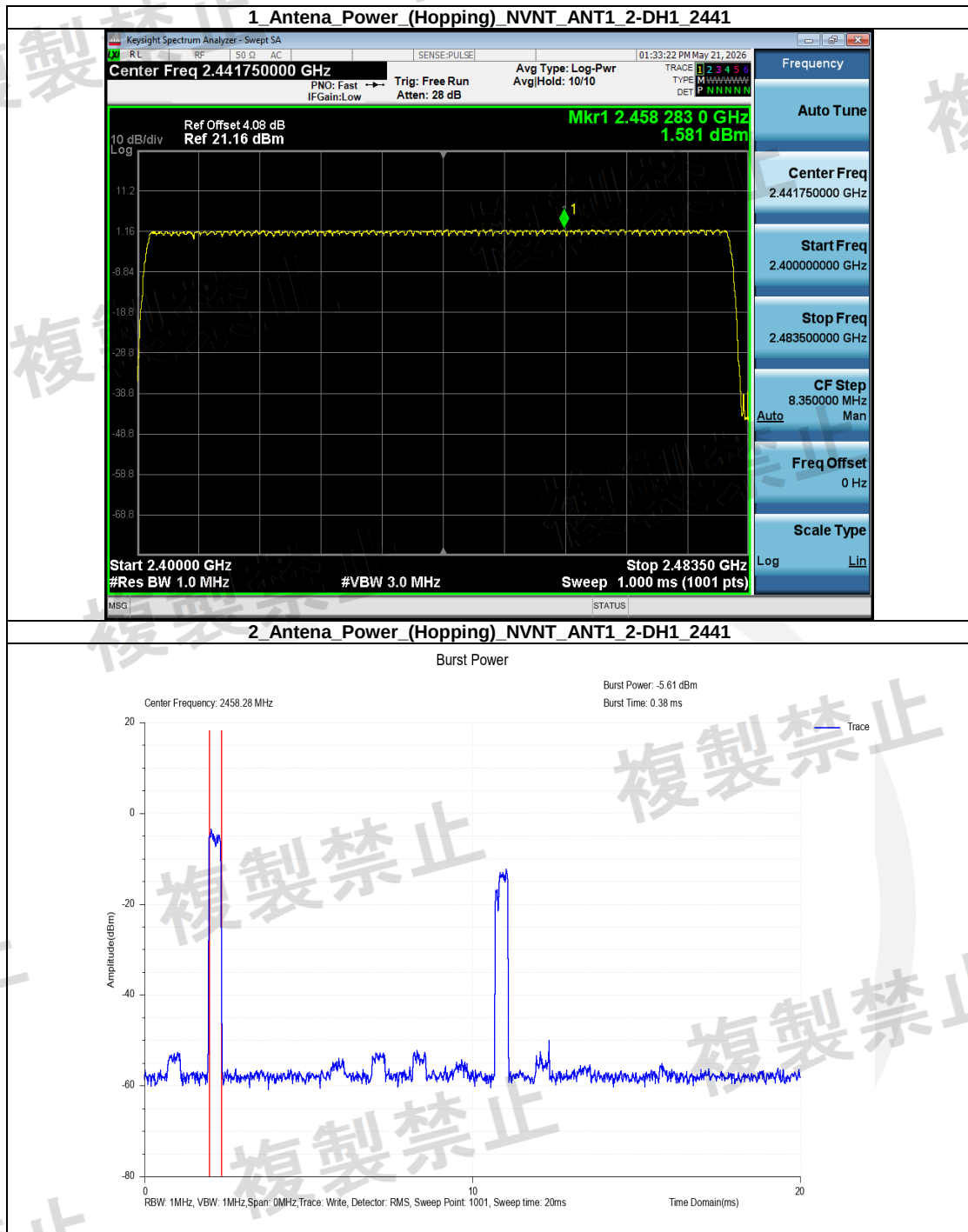
- (1) Configure EUT and assistant system according clause 2.3 and 3.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the spectrum.
- (4)When the trace is complete, find the peak value of the power envelope and record.

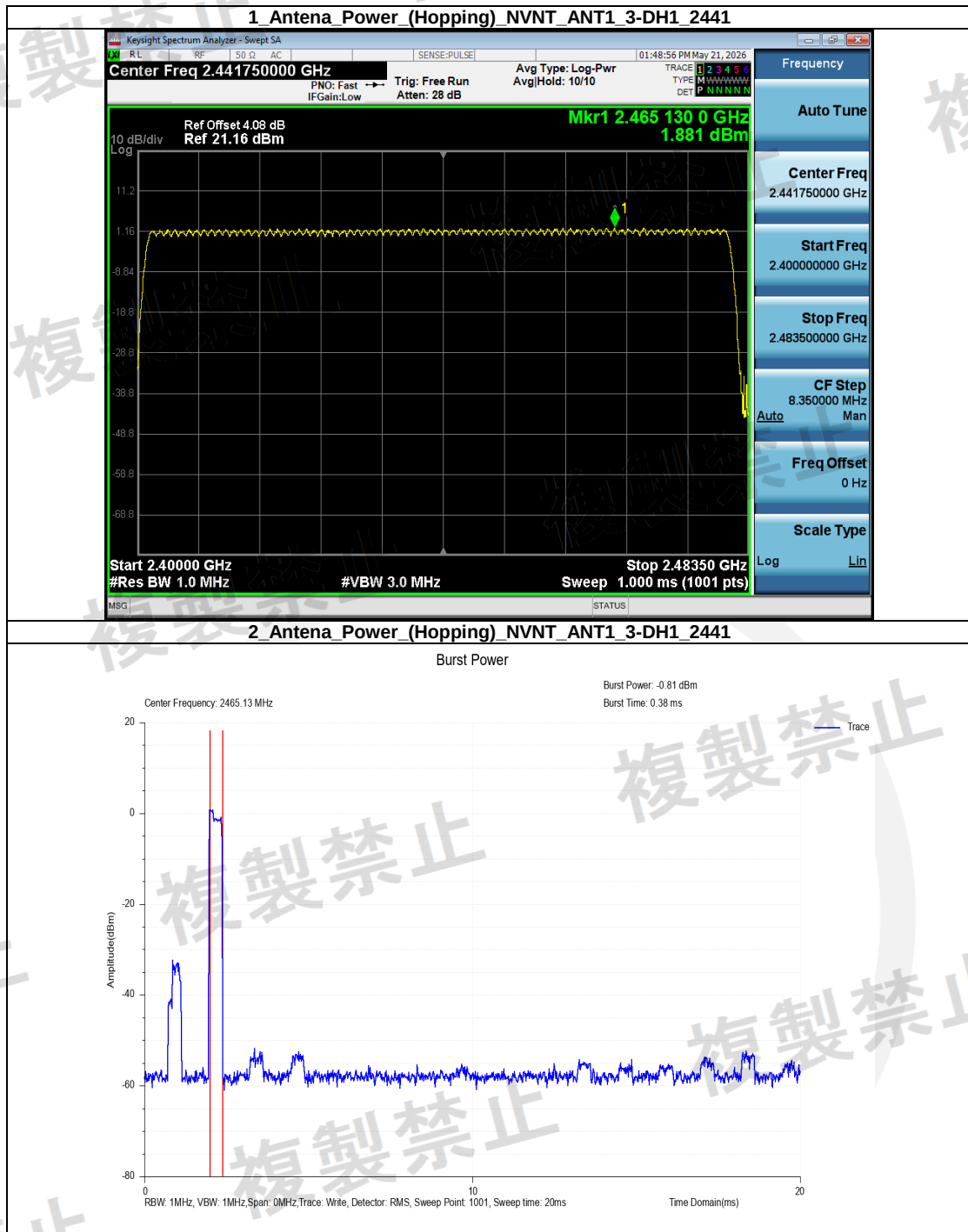
3.5. Test result

Condition	Antenna	Mode	Frequency	Burst Power(dBm)	Burst Power(mW)	Spread BW(MHz)	Antenna Power(mW/MHz)
NVNT	ANT1	1-DH1	Hopping	-0.16	0.96	71.480	0.01
NVNT	ANT1	2-DH1	Hopping	-5.61	0.27	71.590	0.00
NVNT	ANT1	3-DH1	Hopping	-0.81	0.83	71.480	0.01

Modulation	Mode	Antenna Power(mW/MHz)	Rated Power(mW/MHz)	Power Limit(mW/MHz)	Power Tolerance(%)	Tolerance Limit(%)	Result
1-DH1	Hopping	0.01	0.50	3	-97.31	+20	Pass
2-DH1	Hopping	0.00	0.50	3	-99.23	+20	Pass
3-DH1	Hopping	0.01	0.50	3	-97.68	+20	Pass







Condition	Antenna	Mode	Frequency	Measured Power(dBm/MHz)	Antenna Gain(dBi)	EIRP(dBm/MHz)	EIRP Limit(dBm/MHz)	Result
NVNT	ANT1	1-DH1	2441.00	-18.71	-8.14	-26.85	6.91	Pass
NVNT	ANT1	2-DH1	2441.00	-24.16	-8.14	-32.30	6.91	Pass
NVNT	ANT1	3-DH1	2441.00	-19.35	-8.14	-27.49	6.91	Pass

4. Frequency Tolerance

4.1. Test Equipment

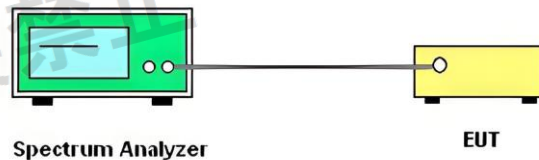
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

4.2. Limit

$\pm 50 \times 10^{-6}$ or less (50ppm)

4.3. Block diagram of test setup



4.4. Test Procedure

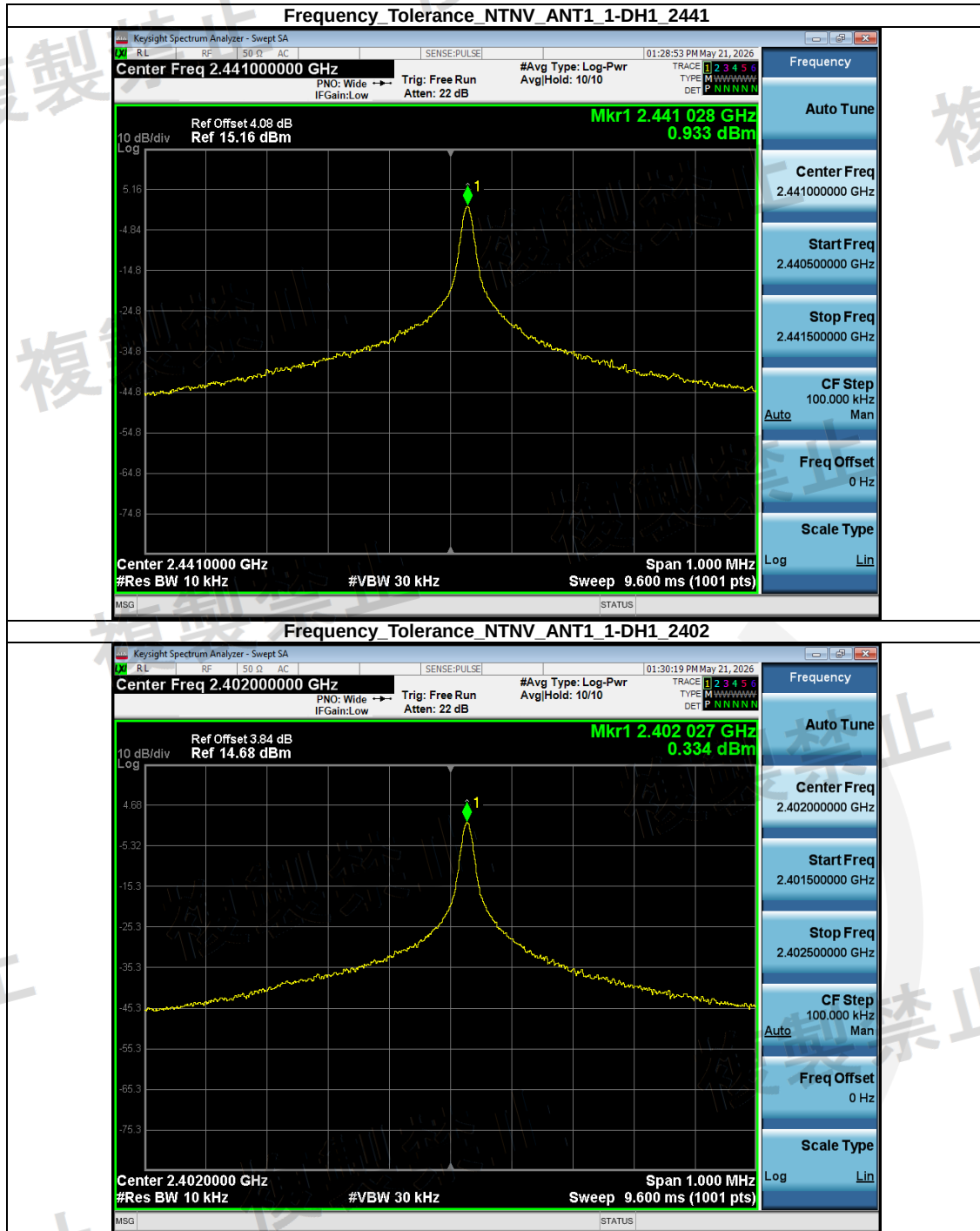
- (1) Configure EUT and assistant system according clause 2.4 and 4.3
- (2) Set EUT work in carrier Tx mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:

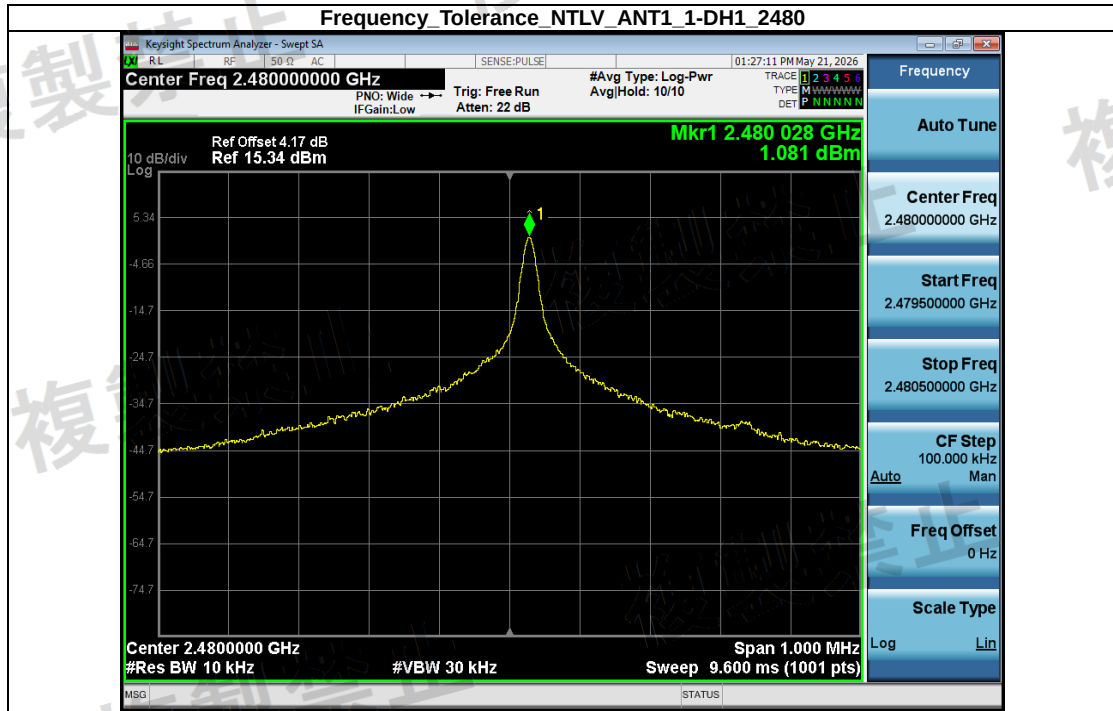
Centre Frequency	The Centre frequency of the channel under test
Resolution BW	10 KHz
Video BW	10 KHz
Span	1MHz
Detector	Peak
Trace Mode	Max Hold

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

4.5. Test result

Condition	Antenna	Modulation	Frequency (MHz)	Test Frequency(MHz)	Frequency Tolerance(ppm)	Limit(ppm)	Result
NVNT	ANT1	un-modulation	2441.00	2441.028	11.471	± 50	Pass
NVNT	ANT1	un-modulation	2402.00	2402.027	11.241	± 50	Pass
NVNT	ANT1	un-modulation	2480.00	2480.028	11.290	± 50	Pass





5. Occupied Frequency Bandwidth

5.1. Test Equipment

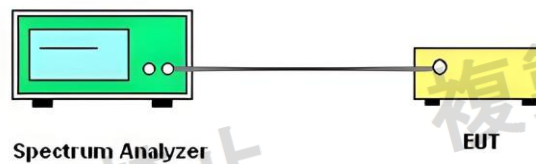
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

5.2. 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.

5.3. Block diagram of test setup



5.4. Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 5.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:

Non hopping:

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

Resolution BW: 300 KHz,

Video BW: 300 KHz

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

Detector: Peak.

Trace Mode: Max Hold.

Frequency hopping:

Centre Frequency: 2441MHz

Resolution BW: 1MHz,

Video BW: 3MHz

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

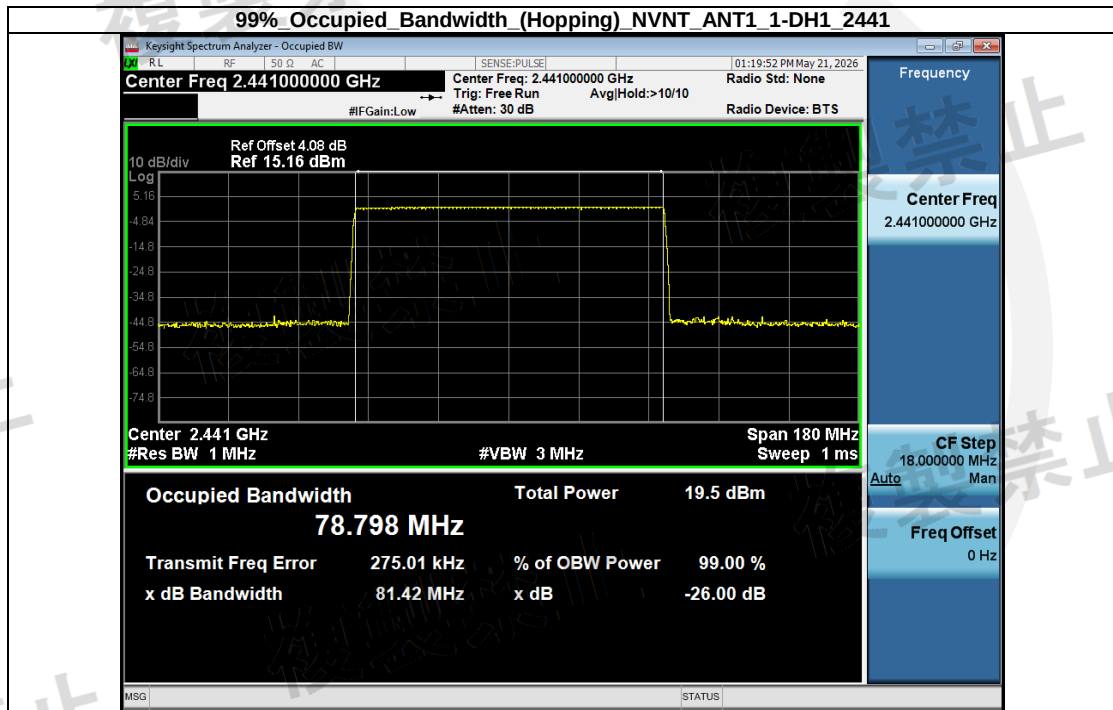
Detector: Peak.

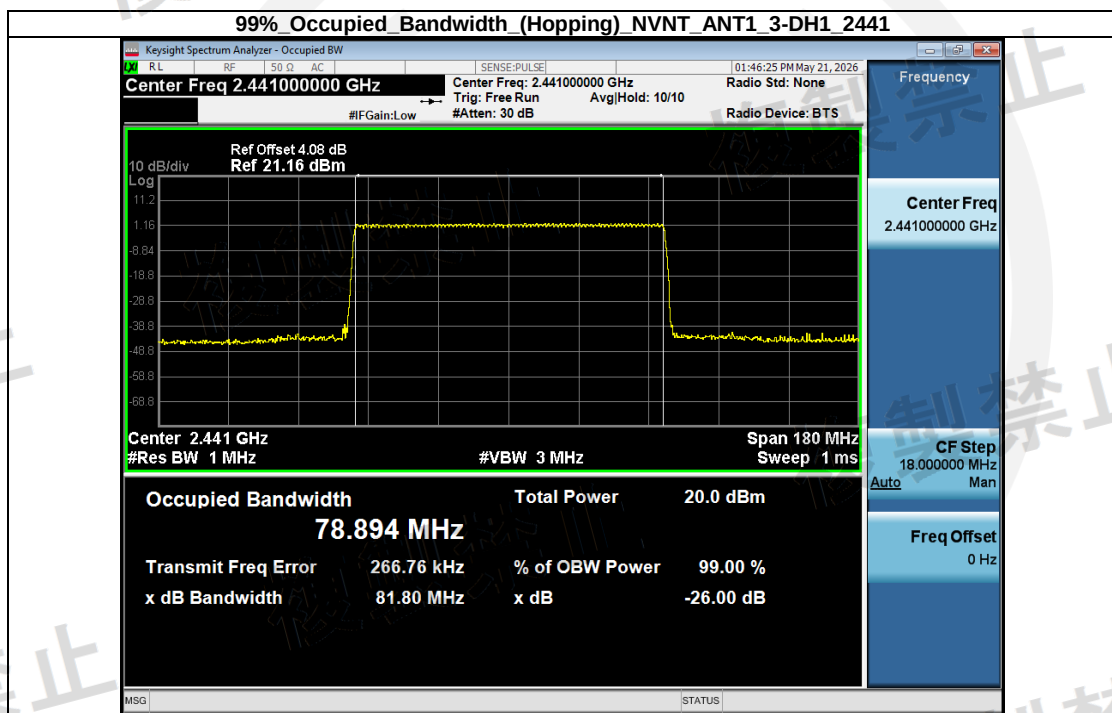
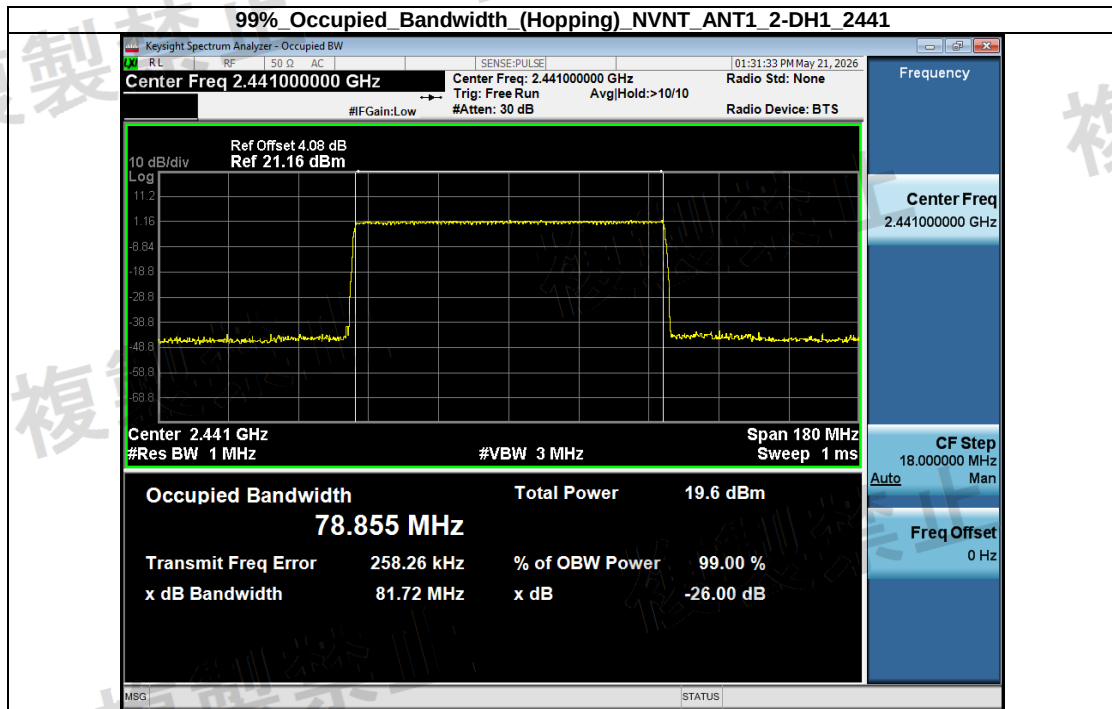
Trace Mode: Max Hold.

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

5.5. Test result

Condition	Antenna	Modulation	mode	Occupied Bandwidth(MHz)	Limit(MHz)	Result
NVNT	ANT1	1-DH1	Hopping	78.80	83.50	Pass
NVNT	ANT1	2-DH1	Hopping	78.86	83.50	Pass
NVNT	ANT1	3-DH1	Hopping	78.89	83.50	Pass





6. Spread Bandwidth

6.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year
Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.						

6.2. Limit

N/A

6.3. Block diagram of test setup

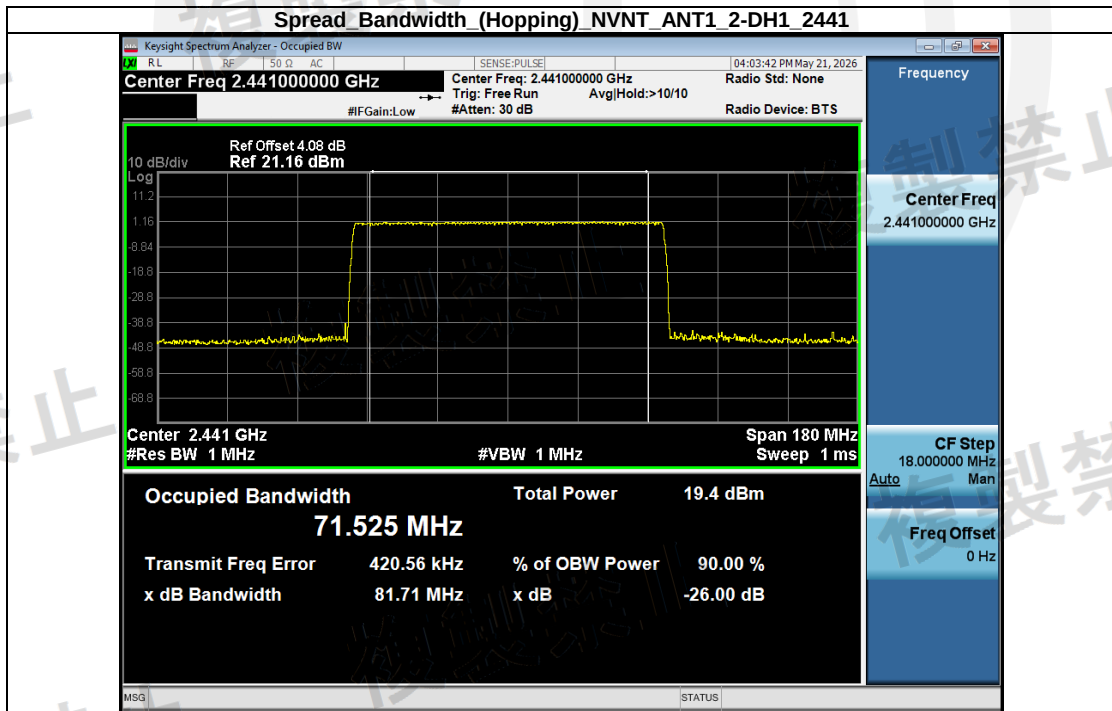
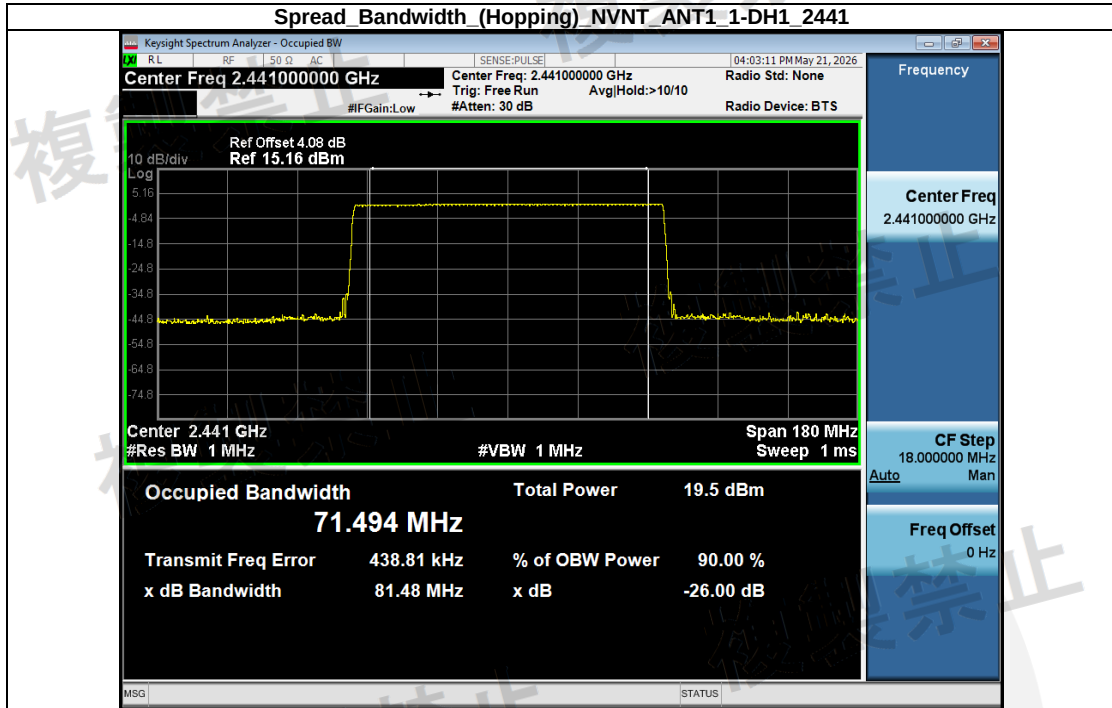


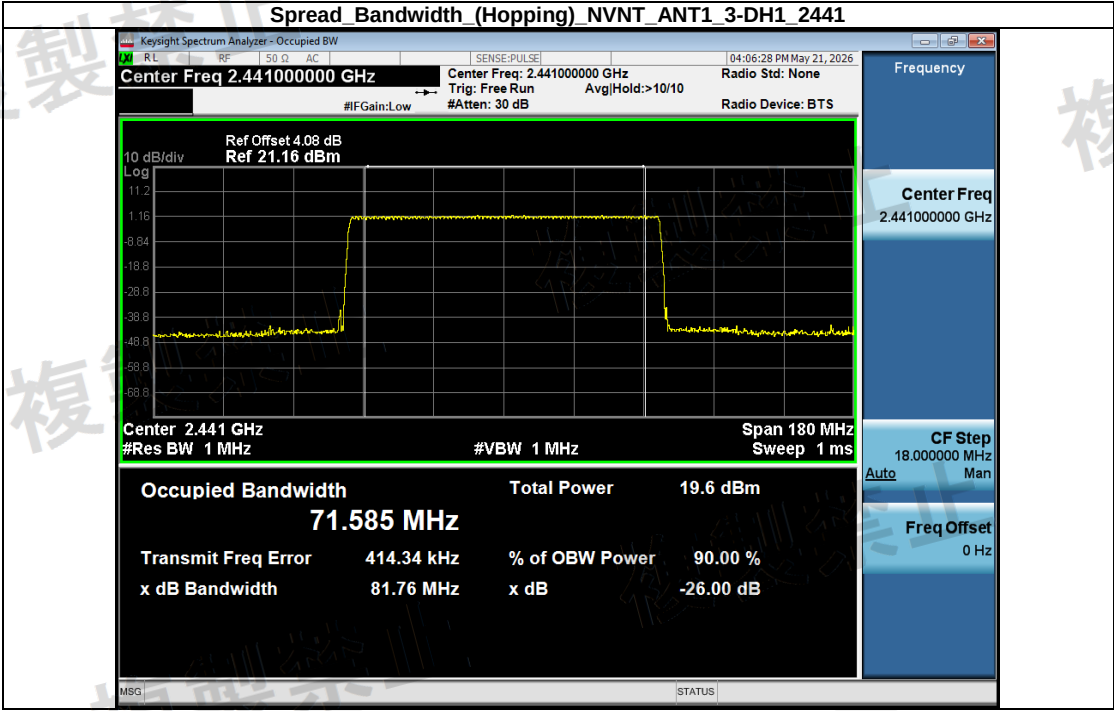
6.4. Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 6.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:
 - Centre Frequency: The centre frequency of the channel under test.
 - Resolution BW: 1MHz.
 - Video BW: 1MHz.
 - Span: Wide enough to cover the complete power envelope of the signal of the EUT.
 - Detector: Peak.
 - Trace Mode: Max Hold.
- (4) When the trace is complete, measure the spread bandwidth (90% bandwidth) with spectrum analyzer's bandwidth measure function.

6.5. Test result

Condition	Antenna	Modulation	mode	Spread Bandwidth(MHz)	Spread Bandwidth Limit(kHz)	Rate(Msymbol/s)	Spread Factor
NVNT	ANT1	1-DH1	Hopping	71.49	N/A	1	71.49
NVNT	ANT1	2-DH1	Hopping	71.52	N/A	1	71.52
NVNT	ANT1	3-DH1	Hopping	71.58	N/A	1	71.58





7. Dwell time

7.1. Test Equipment

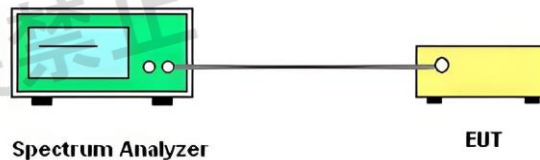
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

7.2. Limit

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

7.3. Block diagram of test setup



7.4. Test Procedure

- (1) Configure EUT and assistant system according clause 2.4 and 7.3
- (2) Set EUT work in test mode as described in clause 2.4
- (3) Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:

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

Resolution BW: 1MHz.

Video BW: 1MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Max Hold.

Sweep: Video Trigger

- (4) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 Burst cycle.

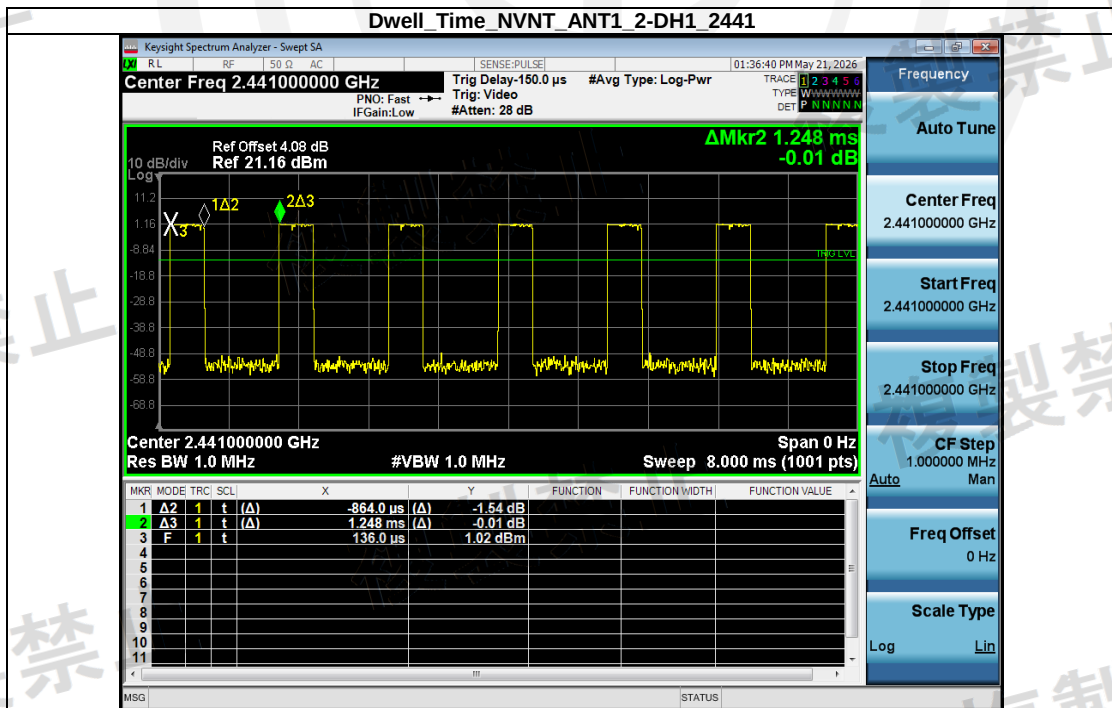
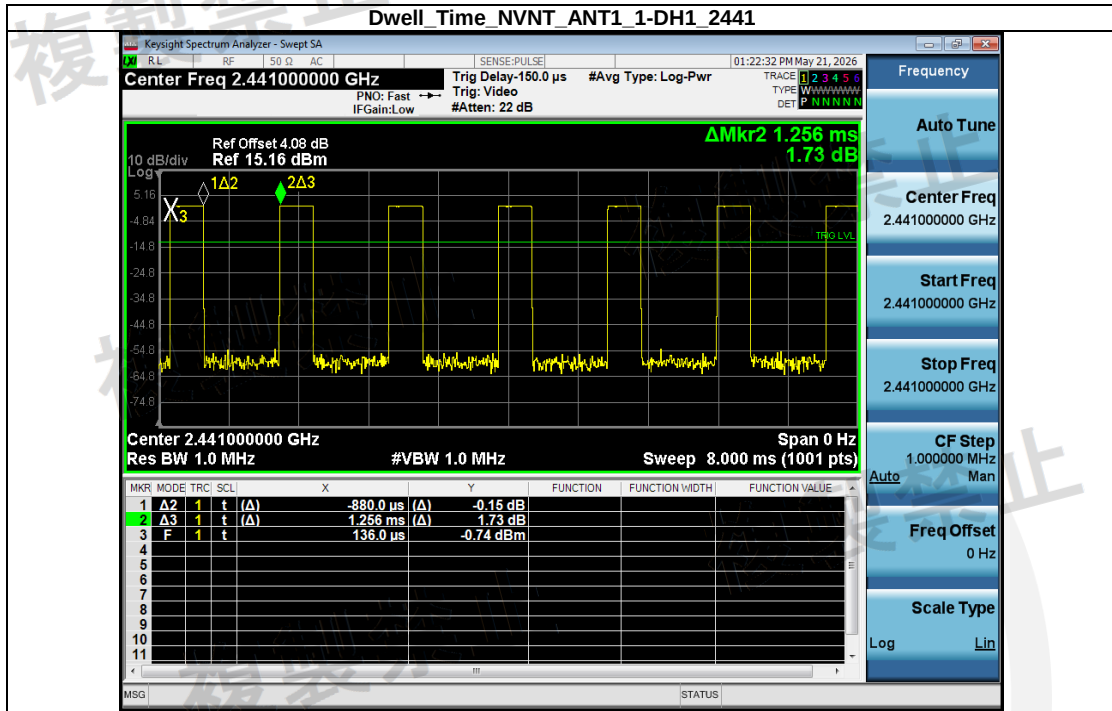
- (5) Calculate dwell time follow below formula:

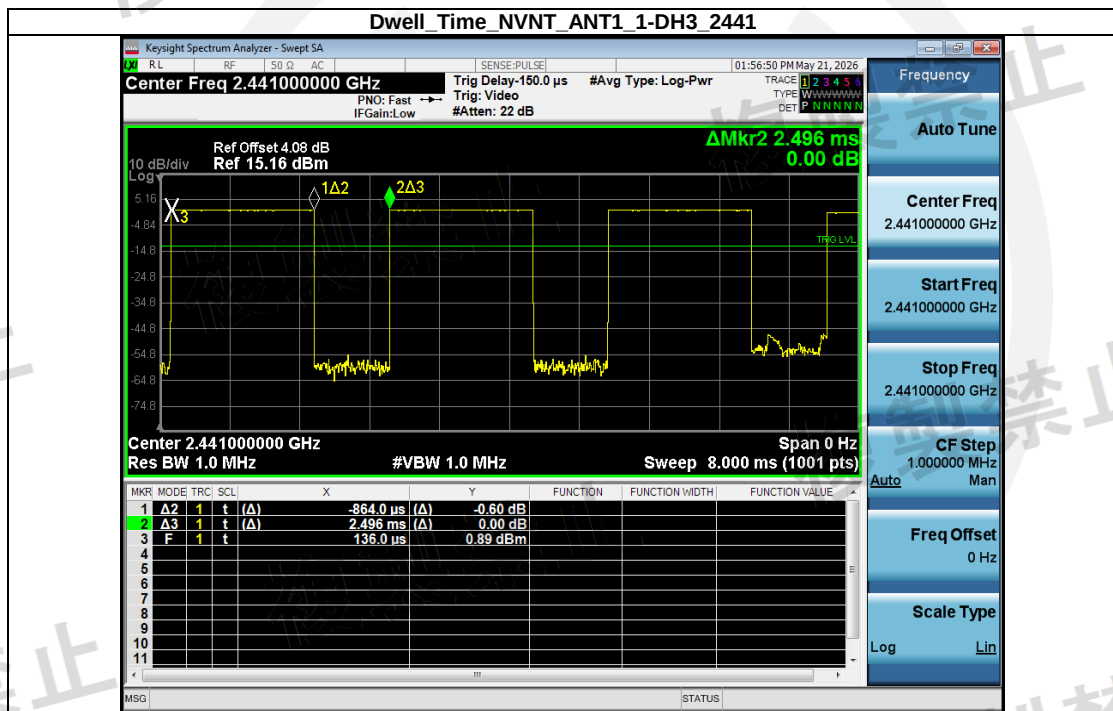
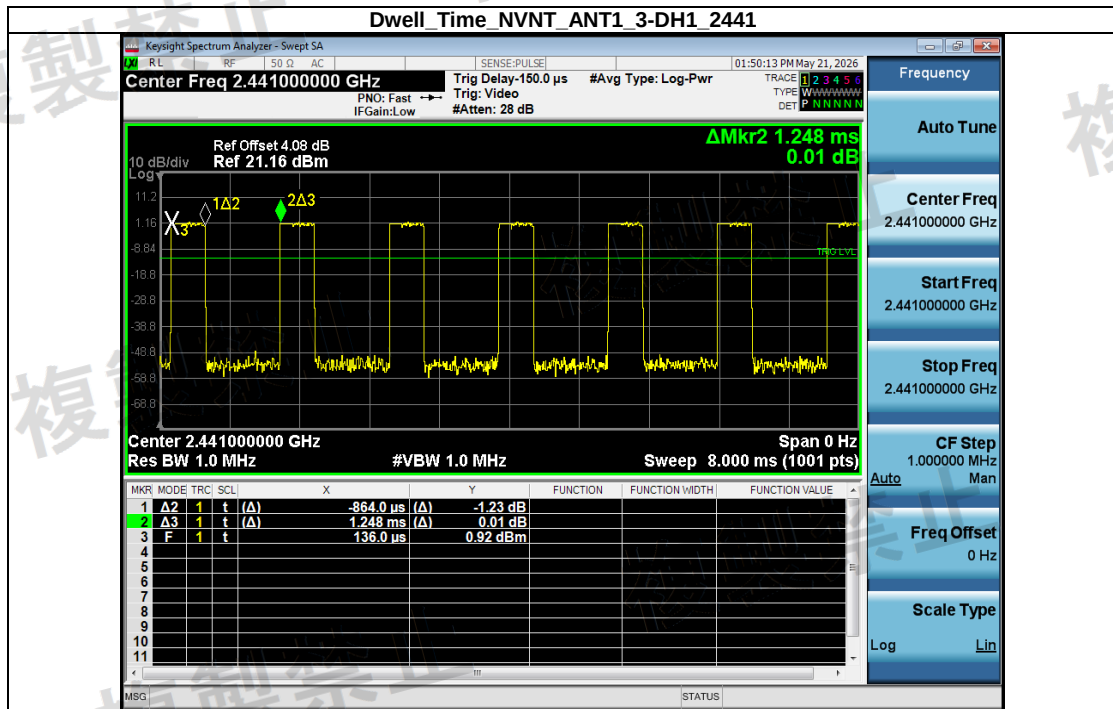
Dwell time = (0.4(s) x spreading rate x sending time of 1 burst(s)) / (Burst cycle(s) x No. of hopping channel)

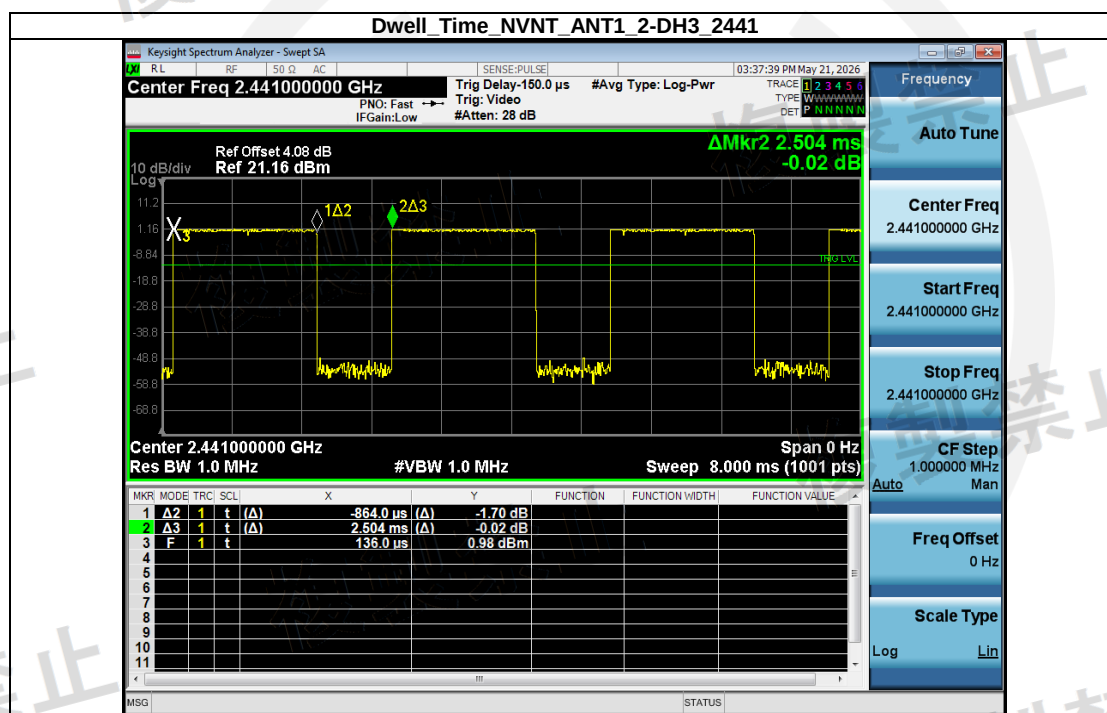
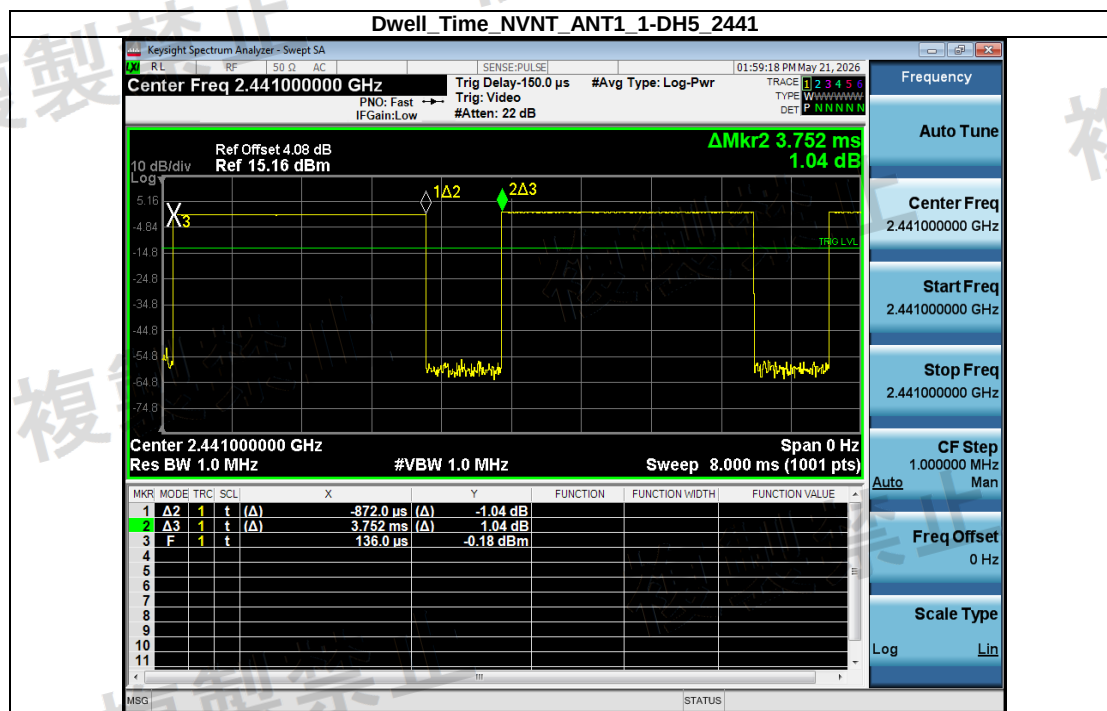
Spreading rate = Spread bandwidth (actual measurement value) / Transmission rate.

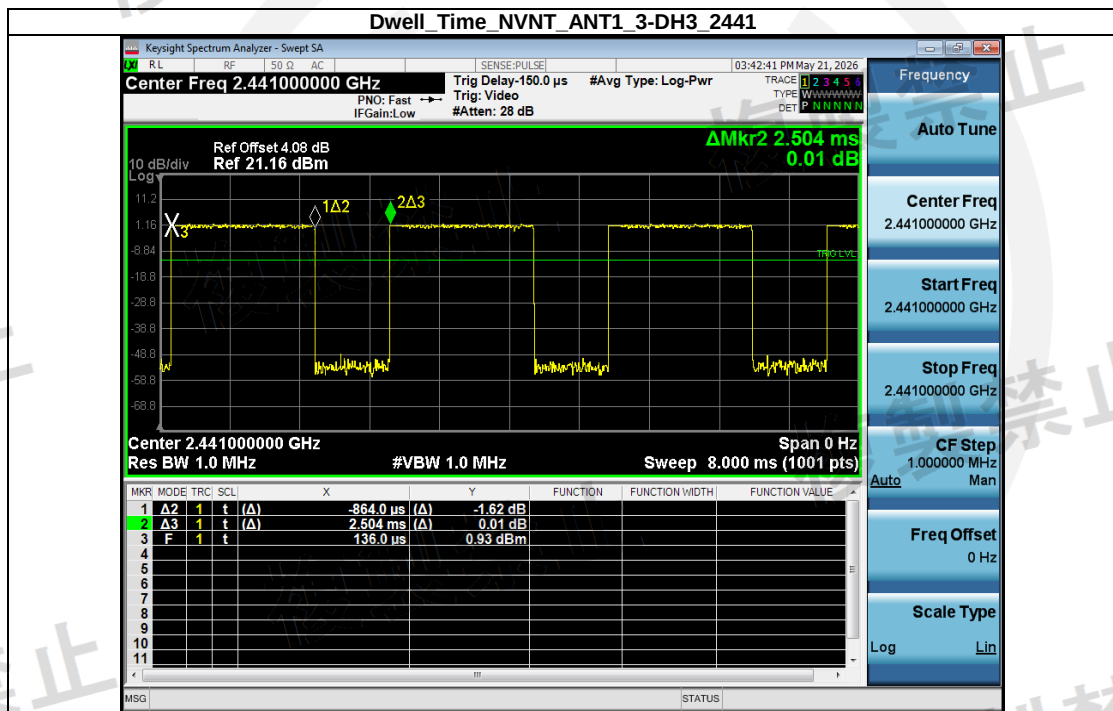
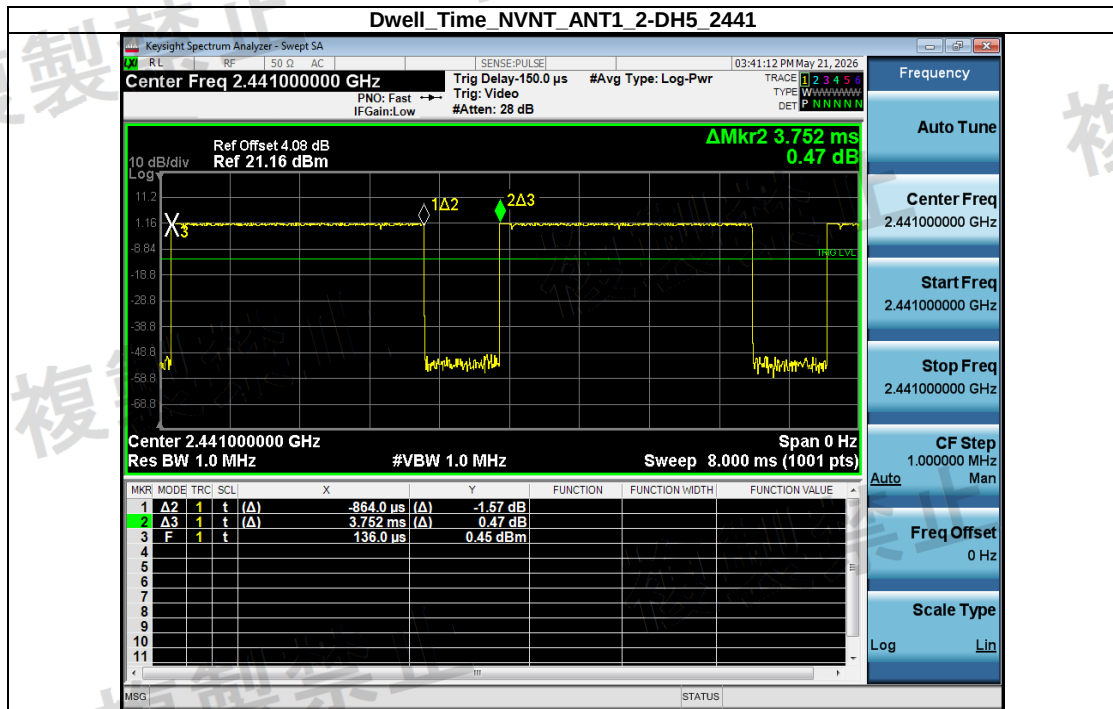
7.5. Test result

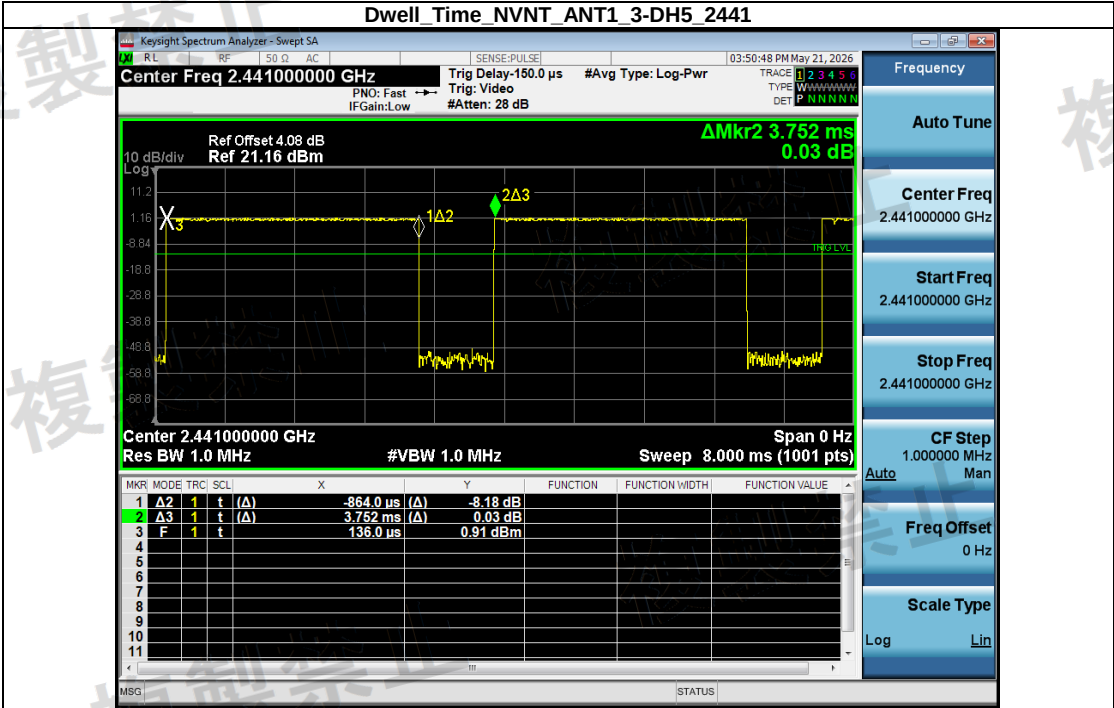
Condition	Antenna	Modulation	mode	Burst Time(ms)	Burst Cycle(ms)	Dwell Time(s)	Limit(s)	Result
NVNT	ANT1	1-DH1	Hopping	0.376	1.256	0.108	0.4	Pass
NVNT	ANT1	2-DH1	Hopping	0.384	1.248	0.112	0.4	Pass
NVNT	ANT1	3-DH1	Hopping	0.384	1.248	0.111	0.4	Pass
NVNT	ANT1	1-DH3	Hopping	1.632	2.496	0.235	0.4	Pass
NVNT	ANT1	1-DH5	Hopping	2.880	3.752	0.275	0.4	Pass
NVNT	ANT1	2-DH3	Hopping	1.640	2.504	0.235	0.4	Pass
NVNT	ANT1	2-DH5	Hopping	2.888	3.752	0.276	0.4	Pass
NVNT	ANT1	3-DH3	Hopping	1.640	2.504	0.235	0.4	Pass
NVNT	ANT1	3-DH5	Hopping	2.888	3.752	0.276	0.4	Pass











8. Transmitter Spurious Emissions (Conducted)

8.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

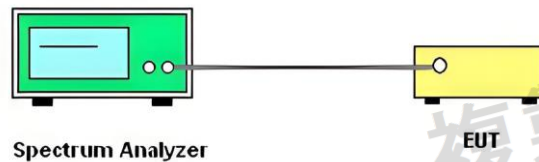
Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

8.2. 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:

- $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.5\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 $\mu\text{W}/\text{MHz}$ or less
- $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 $\mu\text{W}/\text{MHz}$ or less

8.3. Block diagram of test setup



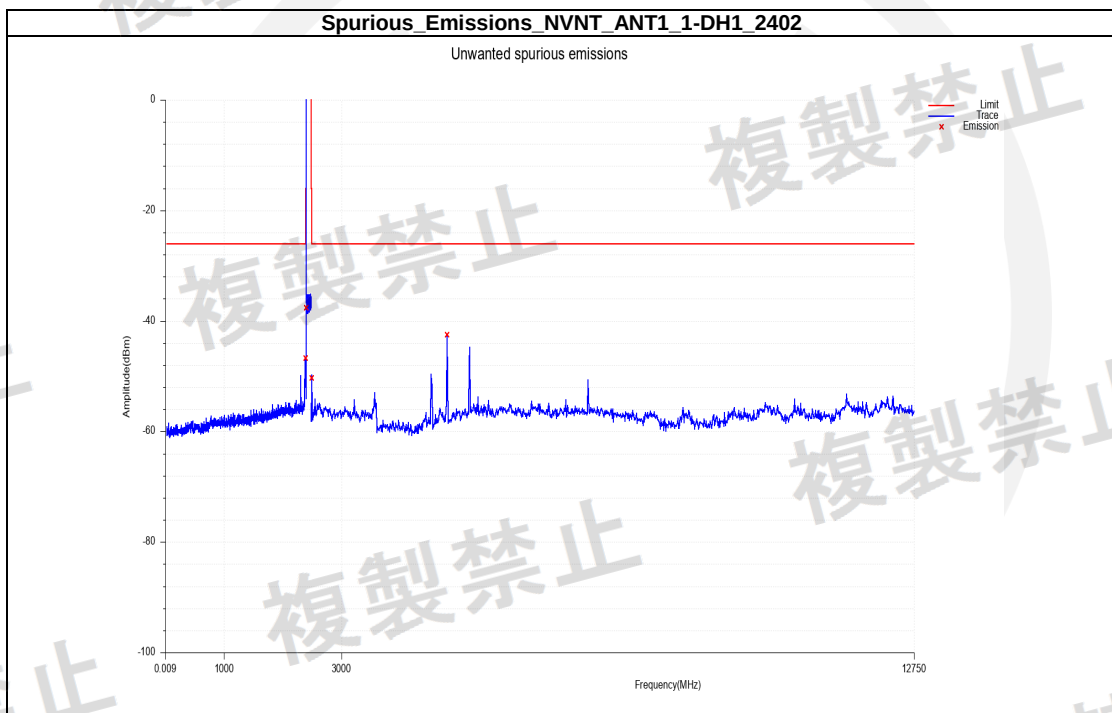
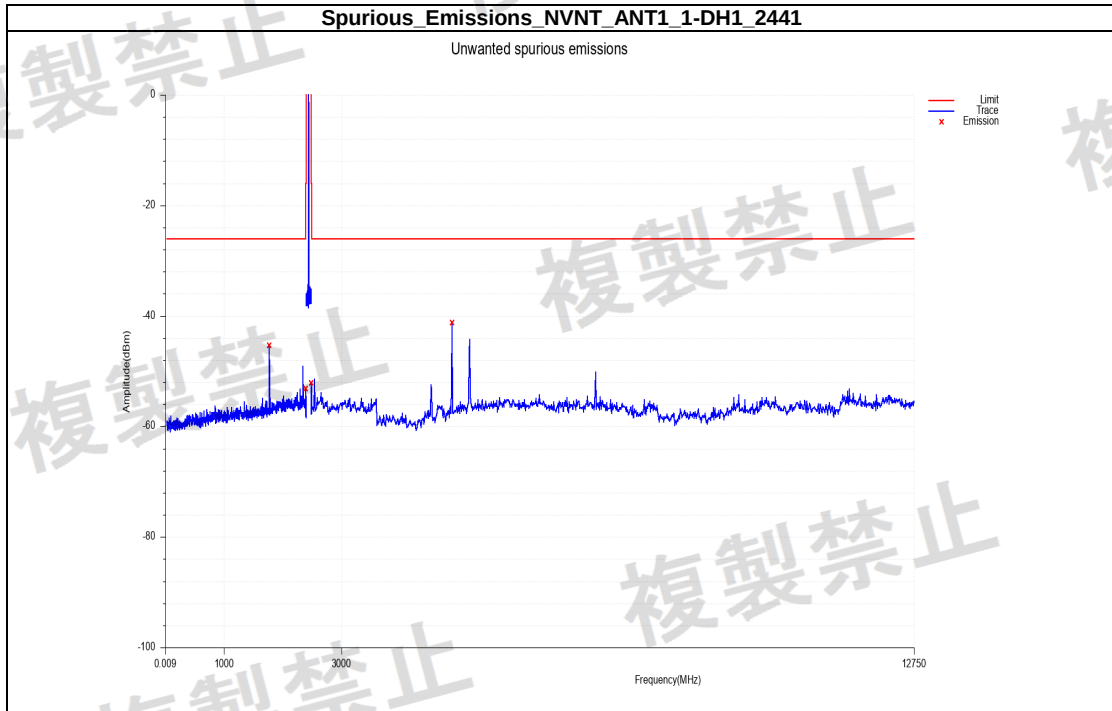
8.4. Test Procedure

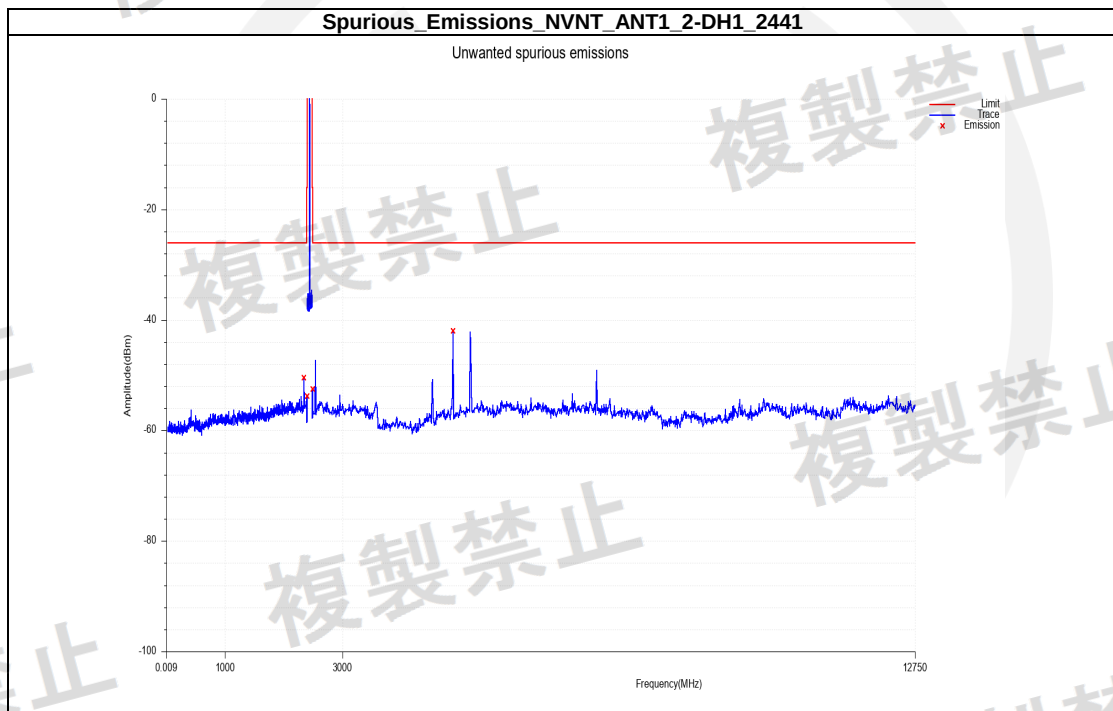
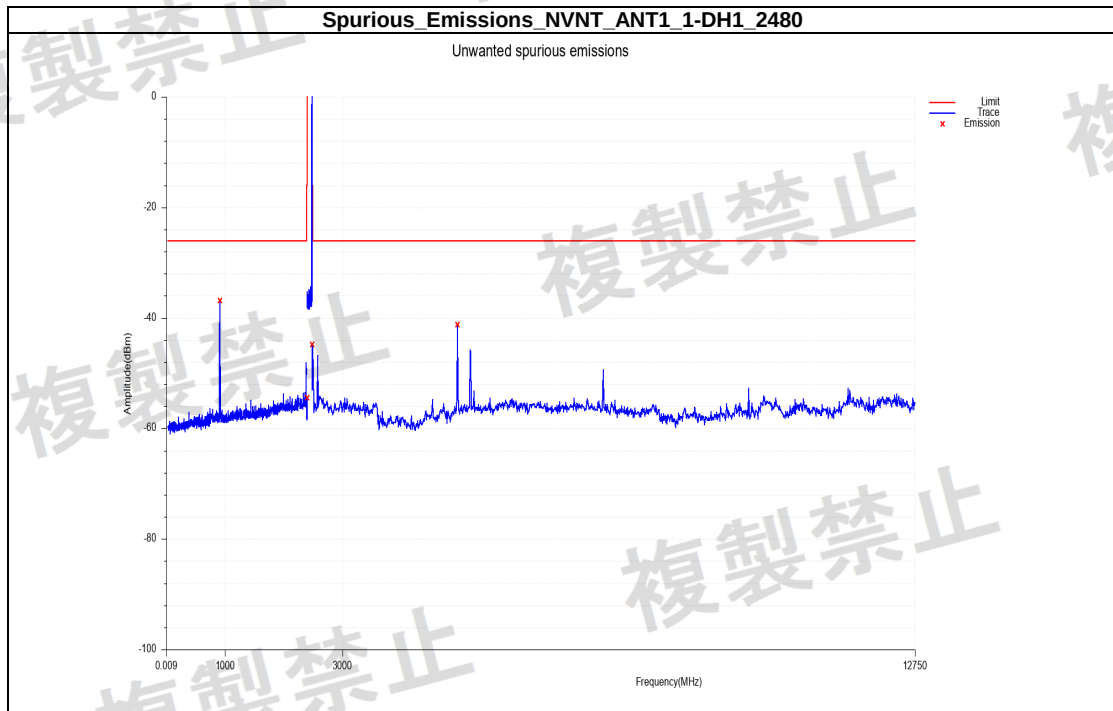
- Configure EUT and assistant system according clause 2.4 and 8.3
- Set EUT work in test mode as described in clause 2.4
- Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:

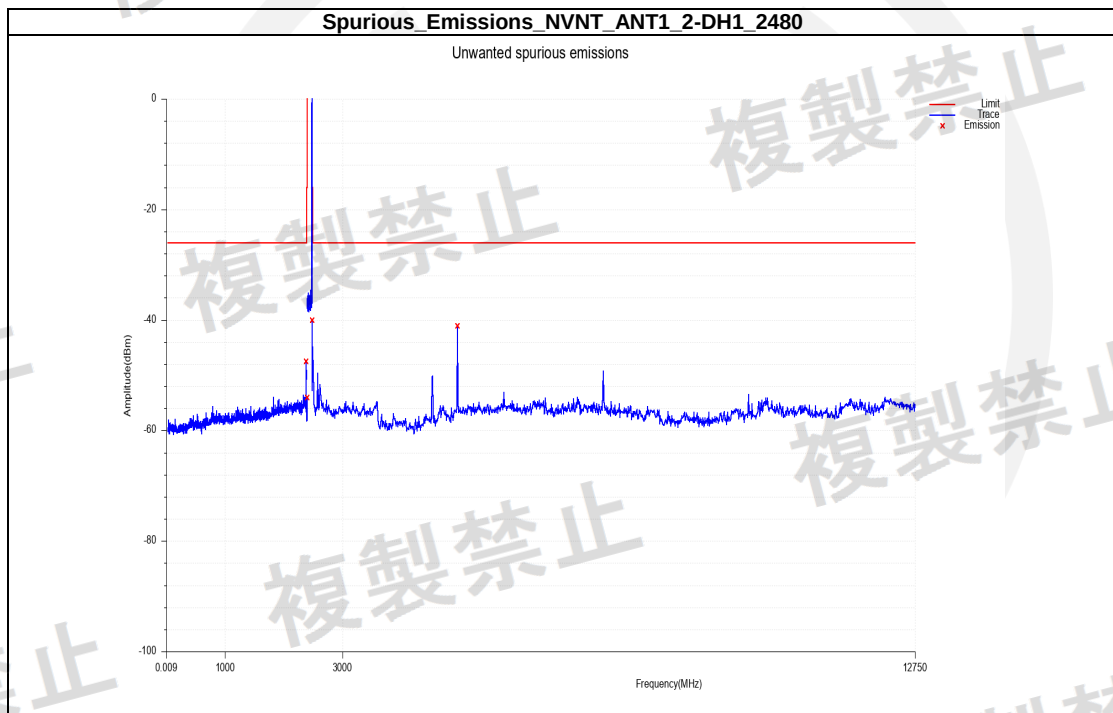
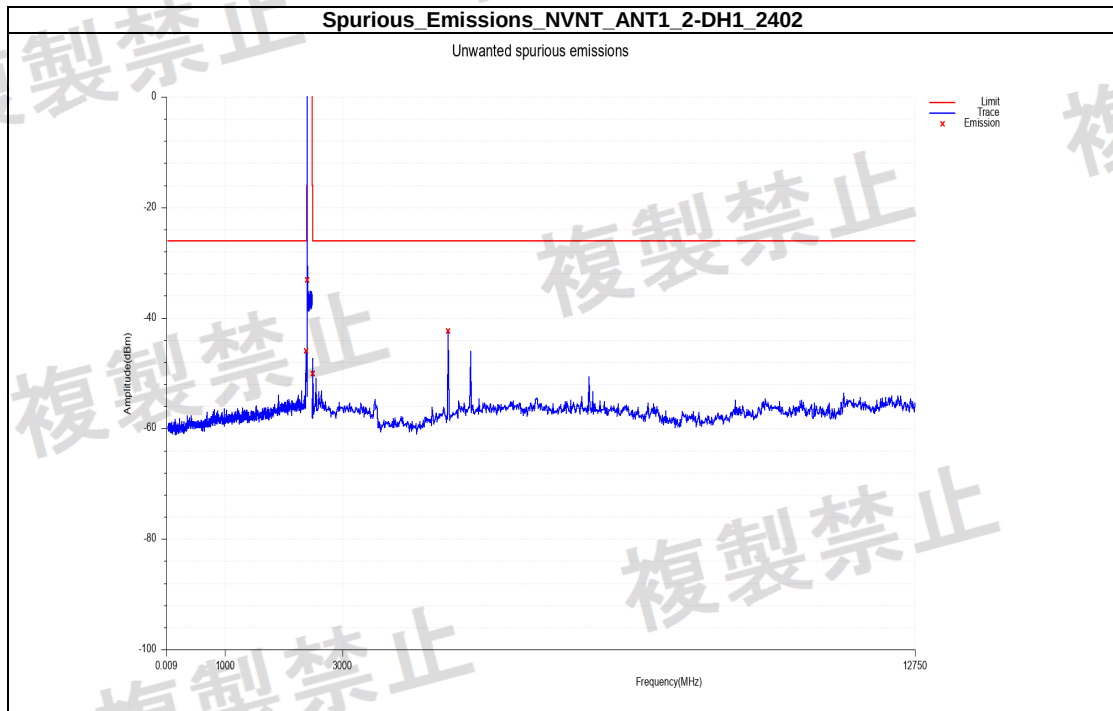
Below 1GHz	Above 1GHz
Resolution BW: 1MHz	Resolution BW: 1MHz
Video BW: 1MHz	Video BW: 1MHz
- All the emissions from 30MHz to 13GHz were measured and record.
- Software Name: RTS, Manufacturer: TACHOY, Version: V1.0.0

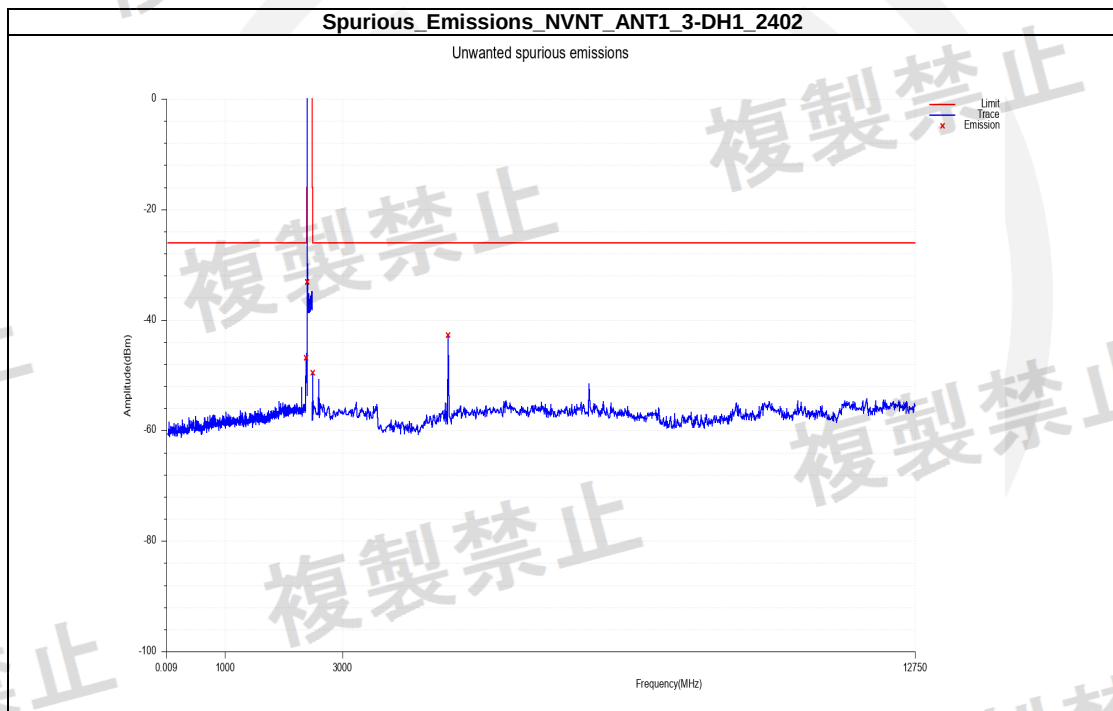
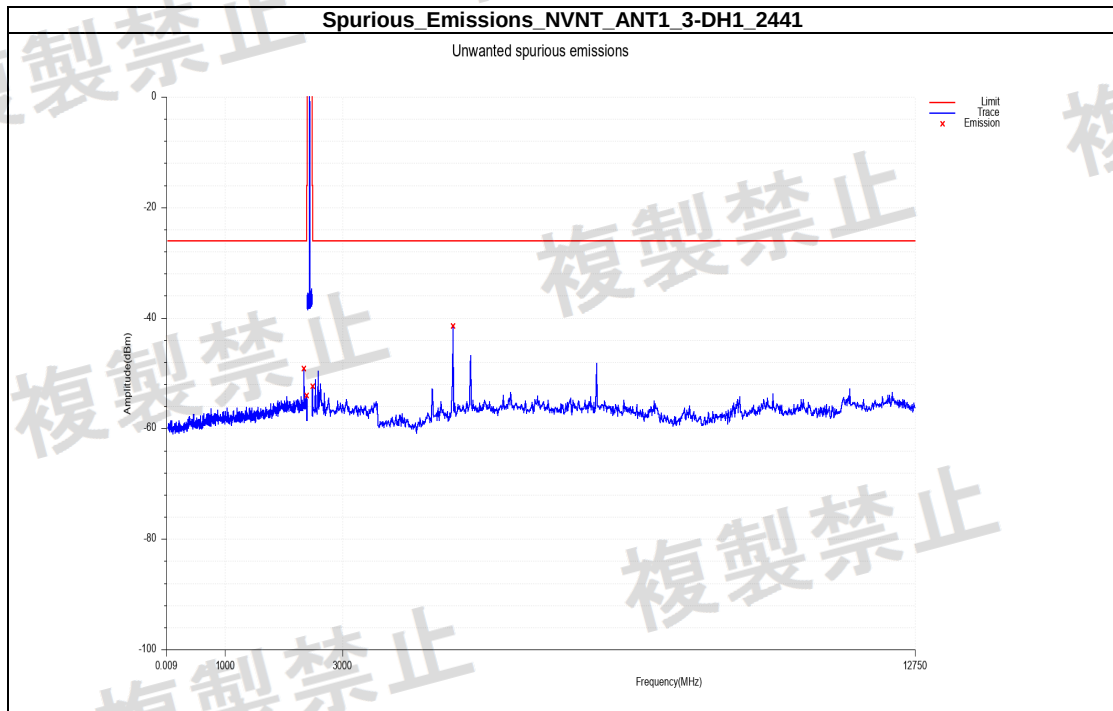
8.5. Test result

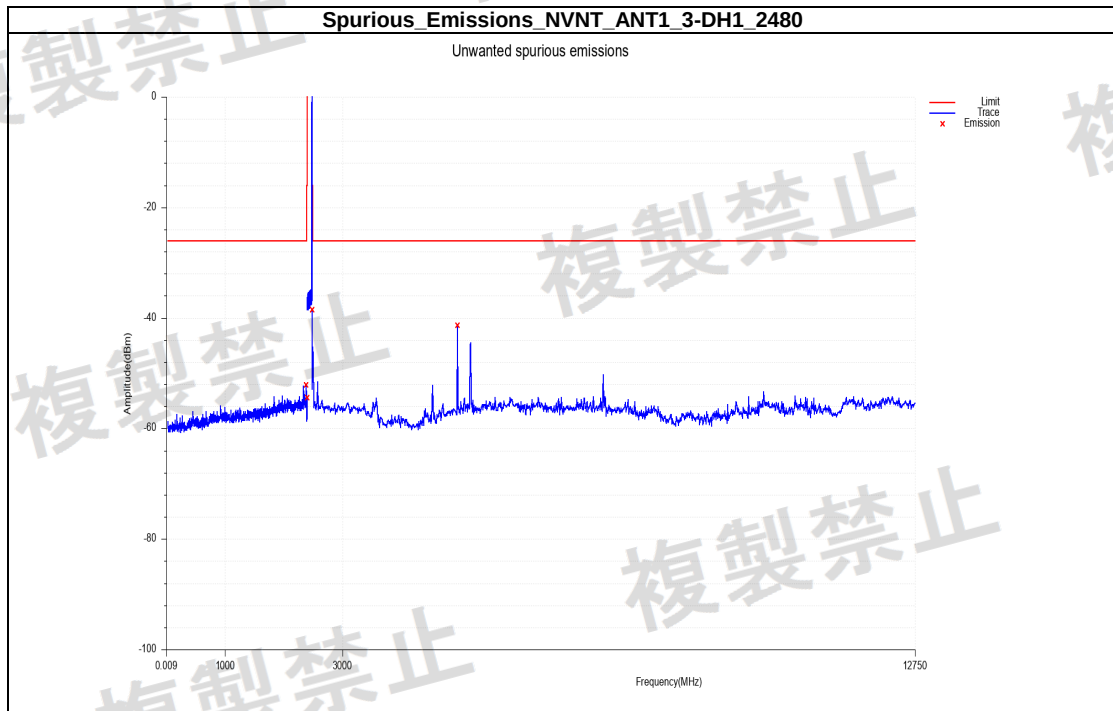
Mode	Frequency (MHz)	Frequency Area(MHz)	RBW (kHz)	Spur. Fre.(MHz)	Spur. Level (dBm/MHz)	Limit (dBm/MHz)	Spur. Level	Limit	Result
1-DH1	2441.00	30.000000~2387.000000	1000	1767.11	-45.27	-26	0.0297µW/MHz	2.5µW/MHz	Pass
1-DH1	2441.00	2387.000000~2400.000000	1000	2392.94	-53.21	-16	0.0047µW/MHz	25µW/MHz	Pass
1-DH1	2441.00	2400.000000~2483.500000	/	/	/	/	/	/	/
1-DH1	2441.00	2483.500000~2496.500000	1000	2488.82	-52.17	-16	0.0060µW/MHz	25µW/MHz	Pass
1-DH1	2441.00	2496.500000~12750.000000	1000	4885.57	-41.26	-26	0.0748µW/MHz	2.5µW/MHz	Pass
1-DH1	2402.00	30.000000~2387.000000	1000	2387.00	-46.73	-26	0.0212µW/MHz	2.5µW/MHz	Pass
1-DH1	2402.00	2387.000000~2400.000000	1000	2399.99	-37.56	-16	0.1753µW/MHz	25µW/MHz	Pass
1-DH1	2402.00	2400.000000~2483.500000	/	/	/	/	/	/	/
1-DH1	2402.00	2483.500000~2496.500000	1000	2496.40	-50.35	-16	0.0092µW/MHz	25µW/MHz	Pass
1-DH1	2402.00	2496.500000~12750.000000	1000	4803.54	-42.55	-26	0.0555µW/MHz	2.5µW/MHz	Pass
1-DH1	2480.00	30.000000~2387.000000	1000	913.88	-36.83	-26	0.2073µW/MHz	2.5µW/MHz	Pass
1-DH1	2480.00	2387.000000~2400.000000	1000	2399.96	-54.44	-16	0.0035µW/MHz	25µW/MHz	Pass
1-DH1	2480.00	2400.000000~2483.500000	/	/	/	/	/	/	/
1-DH1	2480.00	2483.500000~2496.500000	1000	2483.51	-44.83	-16	0.0328µW/MHz	25µW/MHz	Pass
1-DH1	2480.00	2496.500000~12750.000000	1000	4957.34	-41.24	-26	0.0752µW/MHz	2.5µW/MHz	Pass
2-DH1	2441.00	30.000000~2387.000000	1000	2346.93	-50.45	-26	0.0090µW/MHz	2.5µW/MHz	Pass
2-DH1	2441.00	2387.000000~2400.000000	1000	2399.97	-53.81	-16	0.0041µW/MHz	25µW/MHz	Pass
2-DH1	2441.00	2400.000000~2483.500000	/	/	/	/	/	/	/
2-DH1	2441.00	2483.500000~2496.500000	1000	2489.06	-52.47	-16	0.0056µW/MHz	25µW/MHz	Pass
2-DH1	2441.00	2496.500000~12750.000000	1000	4885.57	-42.02	-26	0.0628µW/MHz	2.5µW/MHz	Pass
2-DH1	2402.00	30.000000~2387.000000	1000	2384.64	-45.93	-26	0.0255µW/MHz	2.5µW/MHz	Pass
2-DH1	2402.00	2387.000000~2400.000000	1000	2400.00	-33.10	-16	0.4903µW/MHz	25µW/MHz	Pass
2-DH1	2402.00	2400.000000~2483.500000	/	/	/	/	/	/	/
2-DH1	2402.00	2483.500000~2496.500000	1000	2496.41	-50.05	-16	0.0098µW/MHz	25µW/MHz	Pass
2-DH1	2402.00	2496.500000~12750.000000	1000	4803.54	-42.30	-26	0.0588µW/MHz	2.5µW/MHz	Pass
2-DH1	2480.00	30.000000~2387.000000	1000	2384.64	-47.51	-26	0.0177µW/MHz	2.5µW/MHz	Pass
2-DH1	2480.00	2387.000000~2400.000000	1000	2399.90	-54.04	-16	0.0039µW/MHz	25µW/MHz	Pass
2-DH1	2480.00	2400.000000~2483.500000	/	/	/	/	/	/	/
2-DH1	2480.00	2483.500000~2496.500000	1000	2483.50	-40.02	-16	0.0995µW/MHz	25µW/MHz	Pass
2-DH1	2480.00	2496.500000~12750.000000	1000	4957.34	-41.02	-26	0.0790µW/MHz	2.5µW/MHz	Pass
3-DH1	2441.00	30.000000~2387.000000	1000	2344.57	-49.21	-26	0.0119µW/MHz	2.5µW/MHz	Pass
3-DH1	2441.00	2387.000000~2400.000000	1000	2392.93	-53.98	-16	0.0039µW/MHz	25µW/MHz	Pass
3-DH1	2441.00	2400.000000~2483.500000	/	/	/	/	/	/	/
3-DH1	2441.00	2483.500000~2496.500000	1000	2488.92	-52.40	-16	0.0057µW/MHz	25µW/MHz	Pass
3-DH1	2441.00	2496.500000~12750.000000	1000	4885.57	-41.47	-26	0.0713µW/MHz	2.5µW/MHz	Pass
3-DH1	2402.00	30.000000~2387.000000	1000	2382.29	-46.92	-26	0.0203µW/MHz	2.5µW/MHz	Pass
3-DH1	2402.00	2387.000000~2400.000000	1000	2400.00	-33.18	-16	0.4807µW/MHz	25µW/MHz	Pass
3-DH1	2402.00	2400.000000~2483.500000	/	/	/	/	/	/	/
3-DH1	2402.00	2483.500000~2496.500000	1000	2496.25	-49.55	-16	0.0111µW/MHz	25µW/MHz	Pass
3-DH1	2402.00	2496.500000~12750.000000	1000	4803.54	-42.78	-26	0.0527µW/MHz	2.5µW/MHz	Pass
3-DH1	2480.00	30.000000~2387.000000	1000	2384.64	-52.11	-26	0.0061µW/MHz	2.5µW/MHz	Pass
3-DH1	2480.00	2387.000000~2400.000000	1000	2399.88	-54.37	-16	0.0036µW/MHz	25µW/MHz	Pass
3-DH1	2480.00	2400.000000~2483.500000	/	/	/	/	/	/	/
3-DH1	2480.00	2483.500000~2496.500000	1000	2483.53	-38.53	-16	0.1402µW/MHz	25µW/MHz	Pass
3-DH1	2480.00	2496.500000~12750.000000	1000	4957.34	-41.28	-26	0.0745µW/MHz	2.5µW/MHz	Pass











9. Interference prevention function

9.1. Limit

Item	Limits
Identification	≥48 bits

9.2. Test Equipment

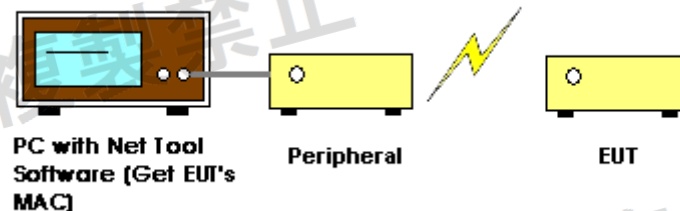
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Comprehensive Test Instrument	Rohde&Schwarz	CMW 500	145266	2025.12.18	1 Year
2.	Notebook PC	Dell	Latitude 3490	N/A	N/A	N/A

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

9.3. Measuring ID Code Software

Item	Limits
MAC IP List	MAC Scan

9.4. Block diagram of test setup



9.5. Test Procedure

- 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.
- 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.

9.6. Test result

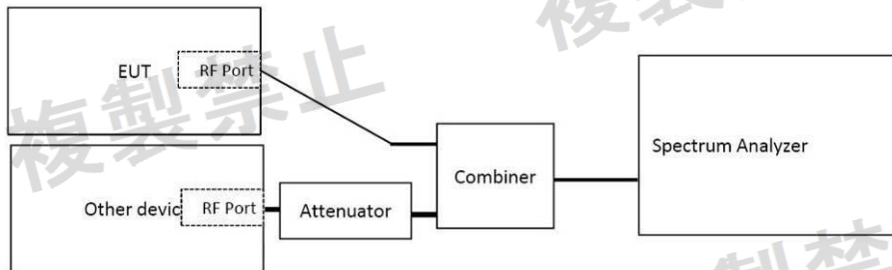
Temperature:	26℃	Humidity:	54%RH
Mac:	68:A3:7B:9C:2E:10	Test result:	Conform

10. Transmission rate

10.1. Limit

The maximum transmission burst length is limited to 4ms.

10.2. Block diagram of test setup



10.3. Test Procedure

The device was configured to transmit maximum length packets at the fastest and slowest data rate (3MB/s and 1Mb/s).

10.4. Test result

Not Applicable

11. Secondary Radiated Emissions

11.1. Test Equipment

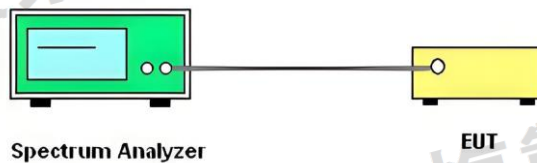
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Agilent	N9020A	MY51281067	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

11.2. 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.

11.3. Block diagram of test setup

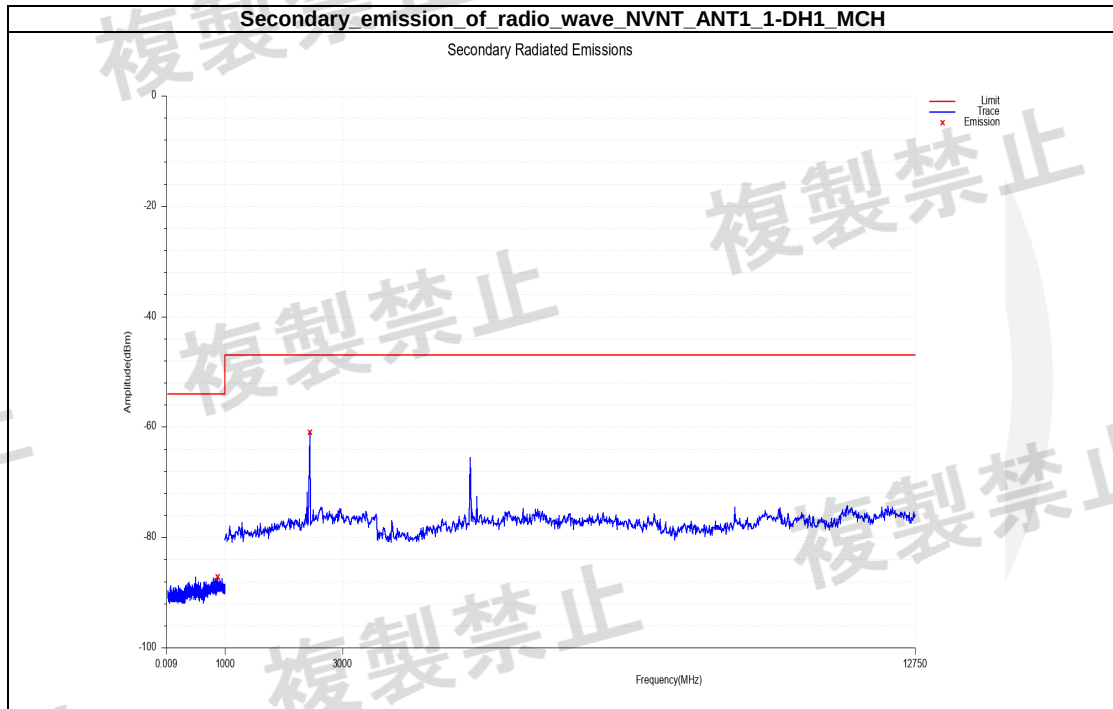


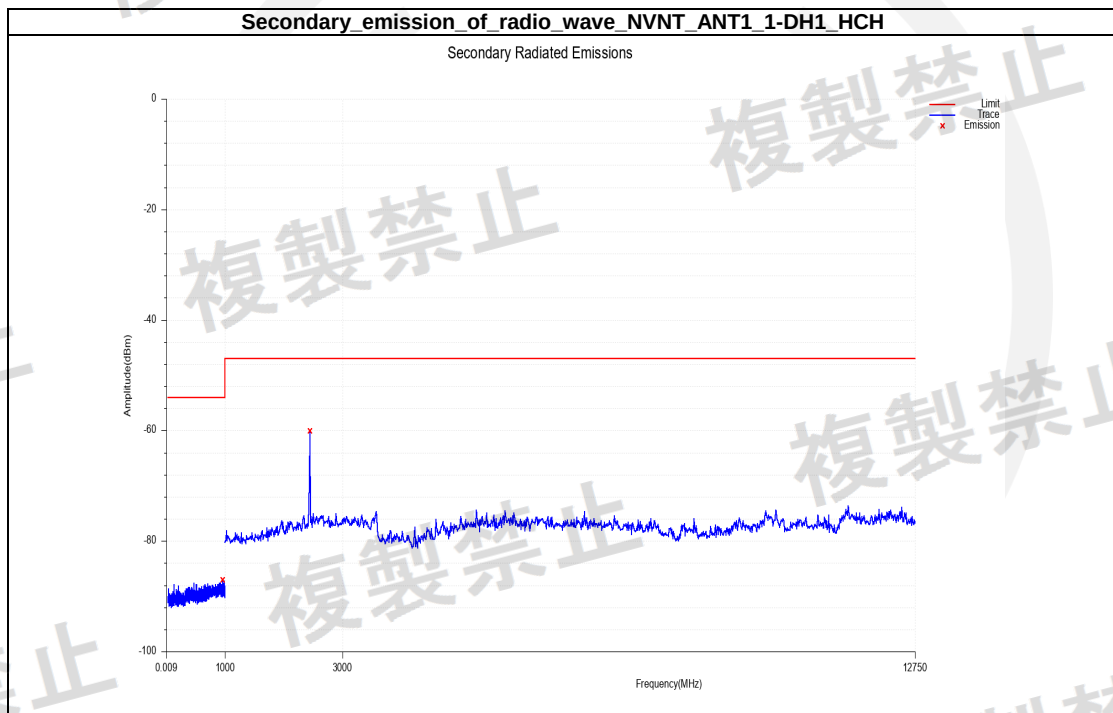
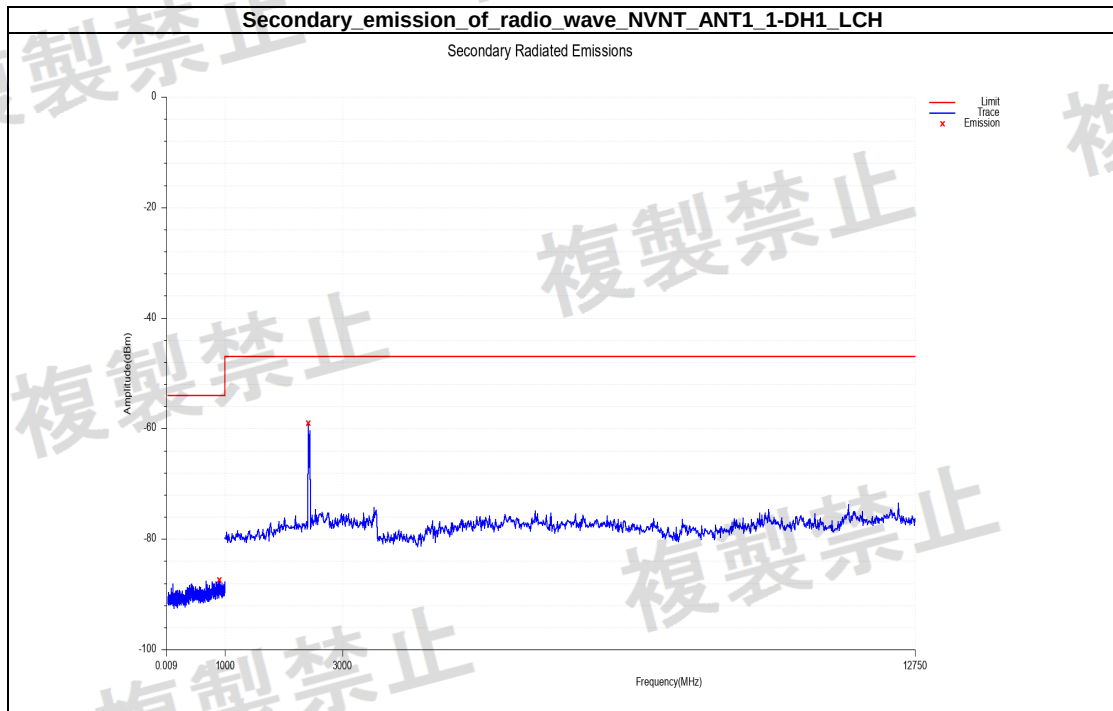
11.4. Test Procedure

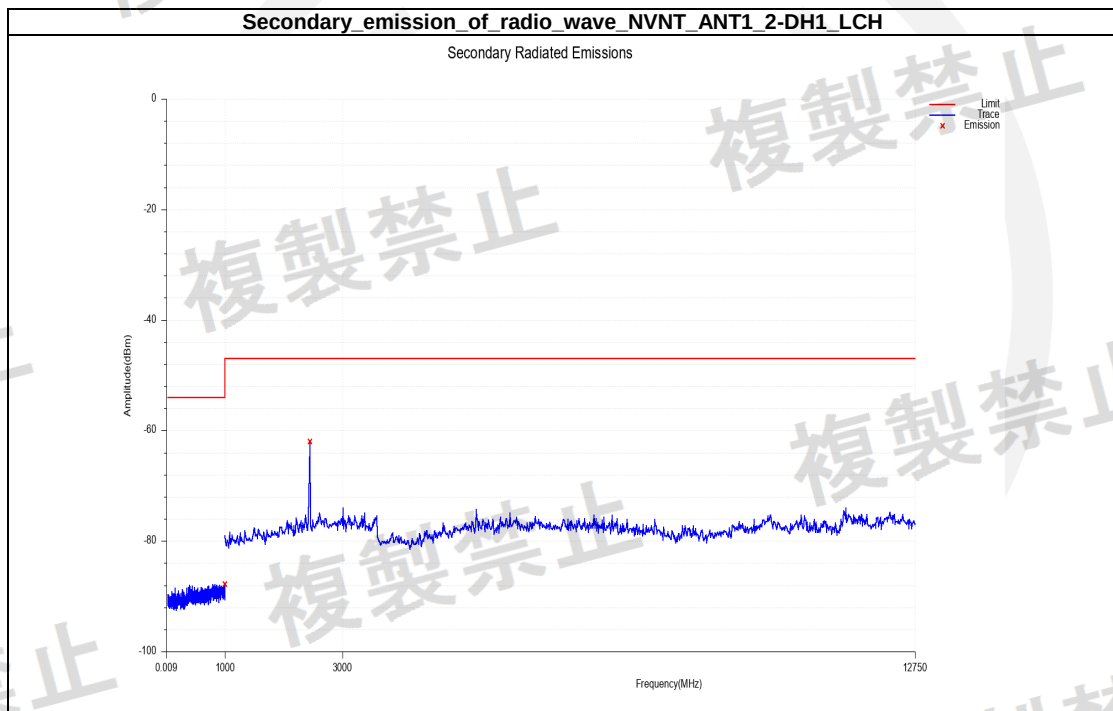
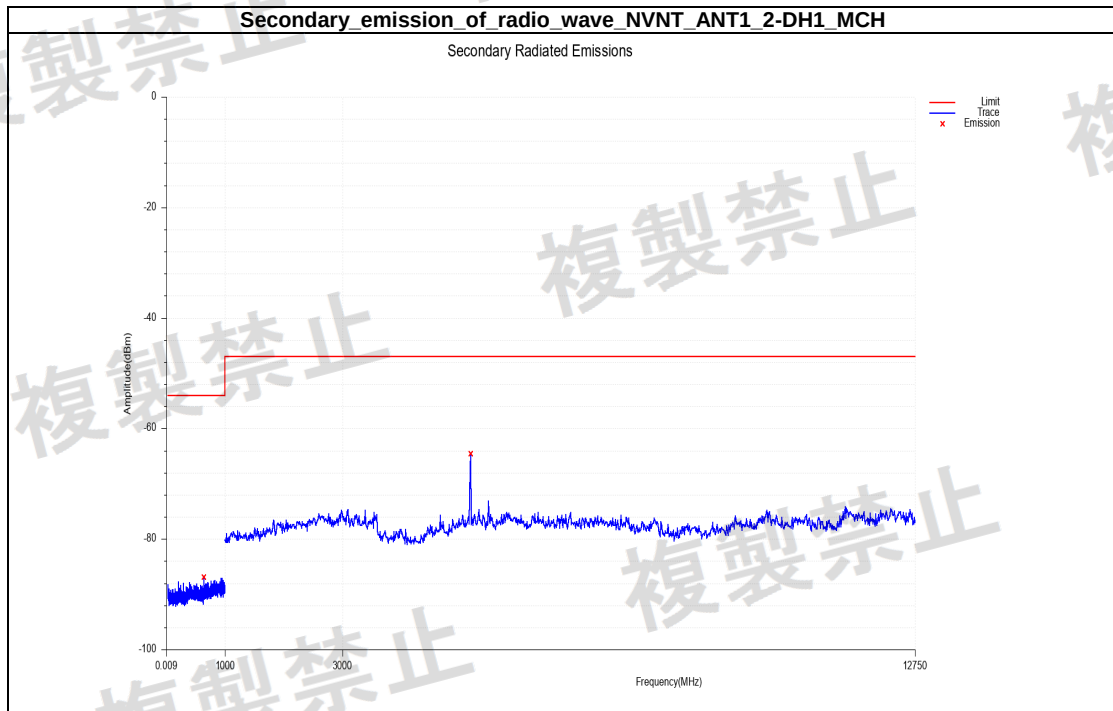
1. Configure EUT and assistant system according clause 2.4 and 9.3
2. Set EUT work in test mode as described in clause 2.4
3. Connected the EUT's antenna port to the Spectrum Analyzer, set the Spectrum Analyzer as below:
Resolution BW: 100 KHz for frequency below 1GHz and 1MHz for frequency above 1GHz
Video BW: 100 KHz for frequency below 1GHz and 1MHz for frequency above 1GHz
Detector: Peak.
Trace Mode: Max Hold.
4. All the emissions from 30MHz to 13GHz were measured and record.
5. Software Name: RTS, Manufacturer: TACHOY, Version: V1.0.0

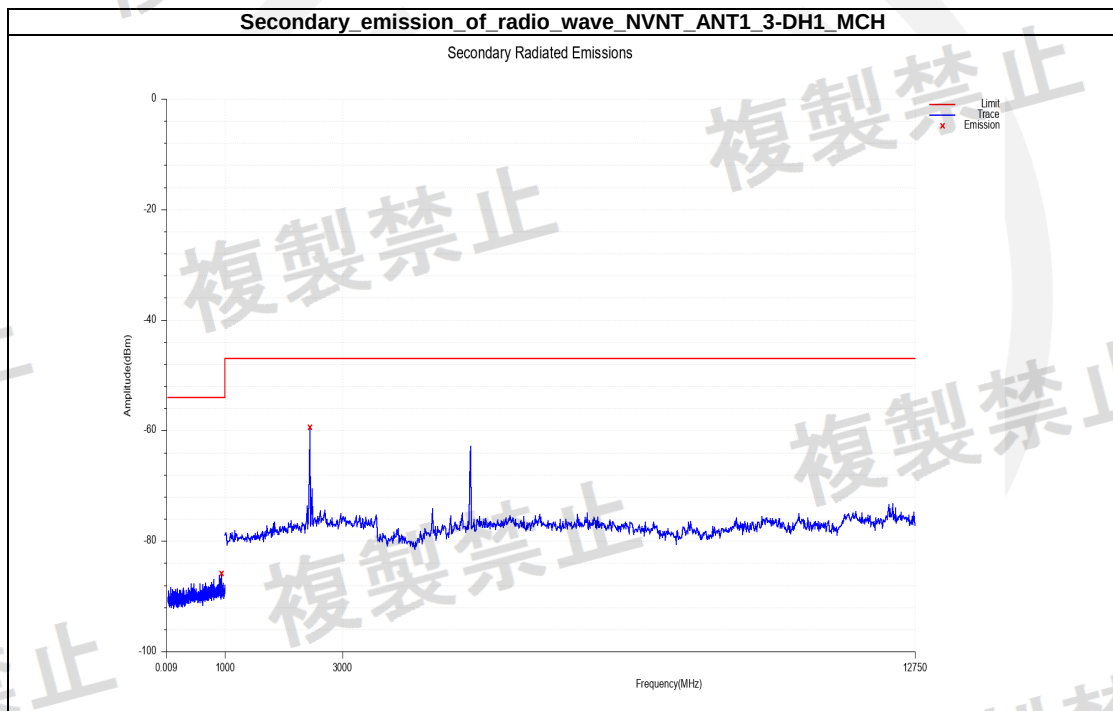
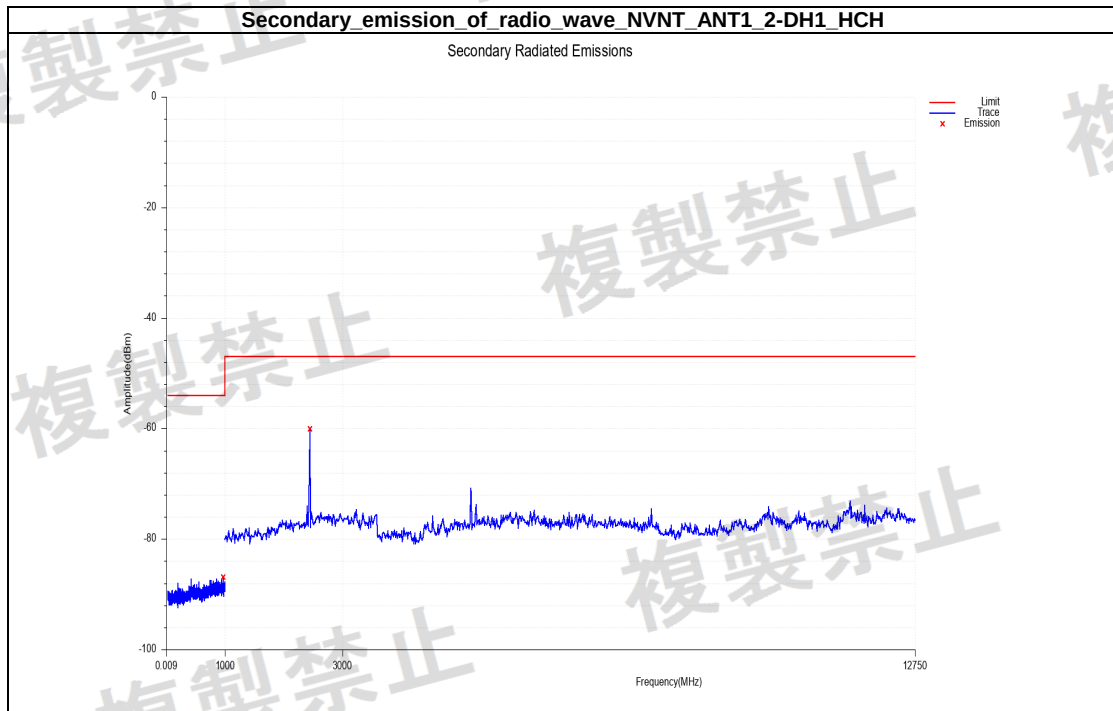
11.5. Test result

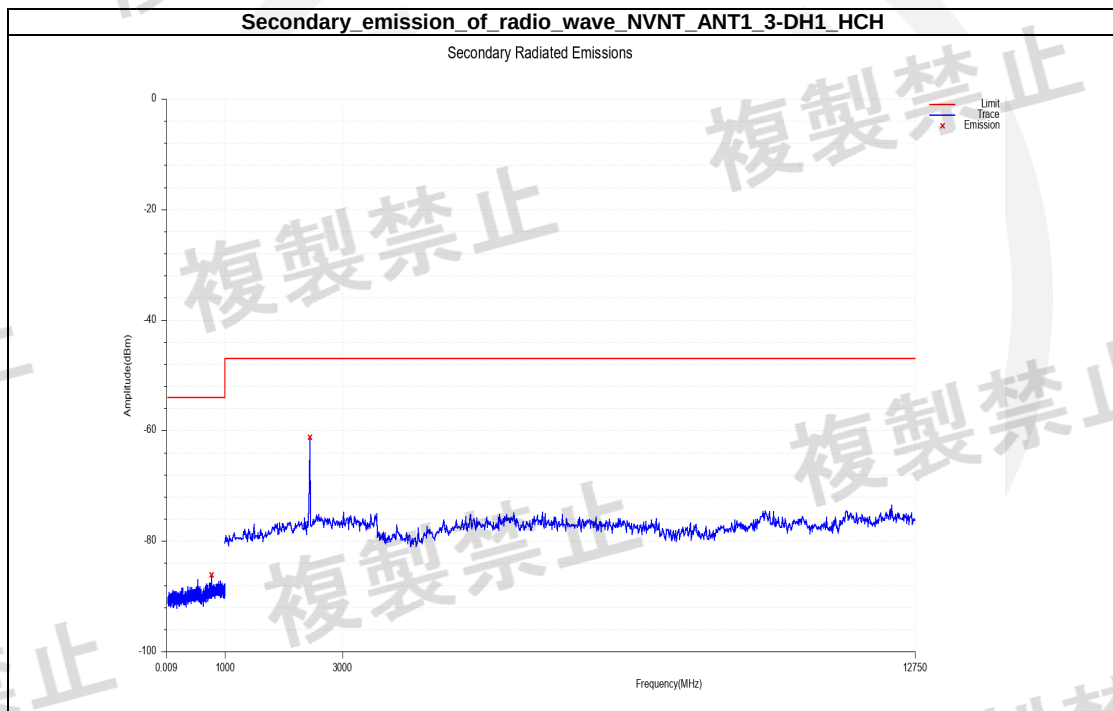
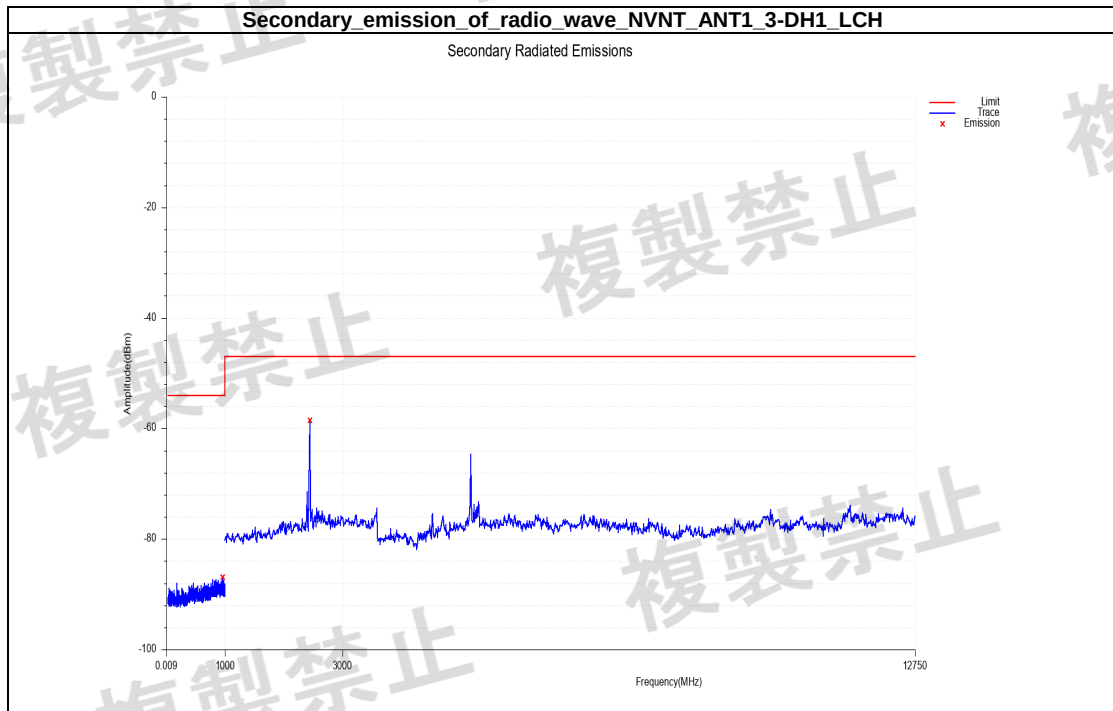
Mode	Channel	Range(MHz)	RBW(kHz)	Spur. Freq.(MHz)	Spur. Lev.(dBm)	Spur. Lev	Limit	Over 1/10 Limit	Read Lev.(dBm)	Read Lev.	Result
1-DH1	MCH	30.0~1000.0	100	874.87	-87.10	0.0019nW	4nW	NO	/	/	Pass
1-DH1	MCH	1000.0~12750.0	1000	2445.25	-60.92	0.8095nW	20nW	NO	/	/	Pass
1-DH1	LCH	30.0~1000.0	100	900.09	-87.46	0.0017nW	4nW	NO	/	/	Pass
1-DH1	LCH	1000.0~12750.0	1000	2421.75	-59.10	1.2302nW	20nW	NO	/	/	Pass
1-DH1	HCH	30.0~1000.0	100	955.38	-87.05	0.0019nW	4nW	NO	/	/	Pass
1-DH1	HCH	1000.0~12750.0	1000	2445.25	-60.07	0.9841nW	20nW	NO	/	/	Pass
2-DH1	MCH	30.0~1000.0	100	639.16	-86.88	0.0020nW	4nW	NO	/	/	Pass
2-DH1	MCH	1000.0~12750.0	1000	5183.00	-64.62	0.3452nW	20nW	NO	/	/	Pass
2-DH1	LCH	30.0~1000.0	100	993.21	-87.77	0.0016nW	4nW	NO	/	/	Pass
2-DH1	LCH	1000.0~12750.0	1000	2445.25	-61.96	0.6369nW	20nW	NO	/	/	Pass
2-DH1	HCH	30.0~1000.0	100	968.96	-86.96	0.0020nW	4nW	NO	/	/	Pass
2-DH1	HCH	1000.0~12750.0	1000	2445.25	-60.07	0.9851nW	20nW	NO	/	/	Pass
3-DH1	MCH	30.0~1000.0	100	938.89	-85.91	0.0025nW	4nW	NO	/	/	Pass
3-DH1	MCH	1000.0~12750.0	1000	2445.25	-59.49	1.1255nW	20nW	NO	/	/	Pass
3-DH1	LCH	30.0~1000.0	100	956.35	-86.88	0.0020nW	4nW	NO	/	/	Pass
3-DH1	LCH	1000.0~12750.0	1000	2445.25	-58.50	1.4137nW	20nW	NO	/	/	Pass
3-DH1	HCH	30.0~1000.0	100	773.99	-86.11	0.0024nW	4nW	NO	/	/	Pass
3-DH1	HCH	1000.0~12750.0	1000	2445.25	-61.23	0.7527nW	20nW	NO	/	/	Pass











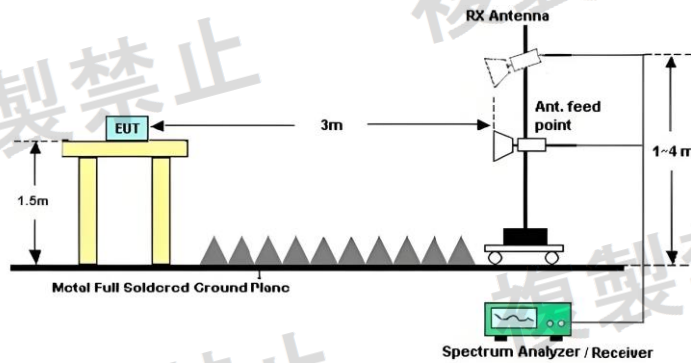
12.3dB Beam Bandwidth

12.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum analyzer	Rohde&Schwarz	ESC17	101032/003	2025.12.18	1 Year
2	Horn Antenna	Schwarzbeck	BBHA 9120 D	02706	2022.12.24	1 Year
3	Preamplifier	SKET	LNPA_0118G-50	SK2022032901	2025.12.18	1 Year

Note: The test equipment is calibrated by China Certification & Inspection (Group) Co., Ltd.

12.2. Block diagram of test setup



12.3. Test Procedure

Step 1

Set the test equipment at test frequency, and transmit.

Step 2

Stop the modulation, and make it “continuous transmission of unmodulated wave” in principle. If it is impossible, make it “intermittent burst transmission of unmodulated wave”

Step 3

Polarized wave side of measurement antenna is the same using mode as test equipment.

Step 4

Set the height and direction of test equipment and measurement antenna approximately facing each other.

Step 5

Set the spectrum analyzer according to “Spectrum set” and set as reference level and receive.

Step 6

Adjust at the maximum received power point, turning the test equipment horizontally and vertically.

Step 7

Change the height of the measurement antenna from the ground by $\pm 50\text{cm}$ with a central focus on the antenna of test equipment, and search the location that the power is maximum by adjusting the direction of measurement antenna. Set the indicator of spectrum analyzer at this point as “E”.

Step 8

By using EIRP (P_E) that is measured at 9, calculate allowed main beam angle (θ_0) between the horizontal plane and vertical plane of the test equipment as follows.

Allowed main beam angle (θ_0) = $360/A$

θ_0 : Allowed transmitter antenna beamwidth angle in degree of test equipment

P_E : EIRP of test equipment (dBm)

A: A is defined as EIRP divides by the summation of antenna gain 2.14dBi transmitter antenna and average power 10mW (In case of using OFDM, or DS, or FHSS, or DS and complex with FHSS, or OFDM and complex with FHSS, 10mW/MHz. However, in FHSS or DS and complex with FHSS, or OFDM and complex with FHSS, when using the frequency from 2,427MHz to 2,470.75MHz, 3mW/MHz) antenna power. In case the value is lower than 1, set A as 1.

Step 9

Turn the test equipment in horizontal direction, from main beam direction with the beam angle except main beam angle (θ_0) calculated by (step 8), over all surroundings as much as possible. Confirm that received power is decreased more than 3dB from the maximum point value of received power(E).

Step 10

Return the test equipment to position (step 6), incline the test equipment in vertical direction, from main beam direction with the beam angle except main beam angle (θ_0) calculated by (step 8), widely as much as possible (over 90 degrees. However, it is able to according to "6. other condition", too.) Confirm that received power is 3dB lower than the maximum point value of received power (E).

Step 11

Spectrum Analyzer as below:

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

Frequency Span: 0Hz

Resolution BW: 1MHz

Video BW: 1KHz

Y-Axis: 5dB/Div

Detector: Peak.

Sweep mode: Continuous sweep

Input level: the amplitude of transmission signal is set around max. Line area of mixer.

12.4. Test result

Not applicable.

Note: EIRP below 6.91dBm/MHz

13. Test setup photo

Reference to the **psi2604177-C01-R07 appendix I Test Setup Photo** for details.

14. EUT photo

Reference to the **psi2604177-C01-R07 appendix II external photos** and **appendix III internal photos** for details.

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