

TEST REPORT

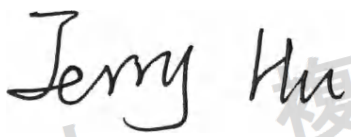
Applicant:	Phase SAS		
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Manufacturer:	DONGGUAN GUAN CHAN PLASTICELECTRIC TECHNOLOGY LTD.		
Address:	ROOM 101, BUILDING 4, NO.1, SHANGXING ROAD, SHANGJIAO, CHANGAN TOWN, DONGGUAN CITY GUANGDONG PROVINCE		
Factory:	DONGGUAN GUAN CHAN PLASTICELECTRIC TECHNOLOGY LTD.		
Address:	ROOM 101, BUILDING 4, NO.1, SHANGXING ROAD, SHANGJIAO, CHANGAN TOWN, DONGGUAN CITY GUANGDONG PROVINCE		
E.U.T.:	Phase Pro		
Model Number:	PH-PRO-U-01		
Trade Name:	Phase SAS		
Date of Receipt:	2025-02-07	Date of Test:	2025-02-07 to 2025-02-12
Test Specification:	Article 2 Paragraph 1, item 19 MIC Notice No.88 Appendix No.43		
Equipment Rule:	MIC Ordinance Regulating Radio Equipment Section 4.17 of Article 49.20		
Prepared by:	Approved & Authorized Signer:		
			
Jerry Hu/ Engineer		Frank Shen/ Manager	
Issue Date: 2026-05-08			
Other Aspects: None			
Abbreviations: N/A=not applicable E.U.T.=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Dongguan Lepont Testing Service Co., Ltd.			

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1. GENERAL PRODUCT INFORMATION

1.1 PRODUCT FUNCTION

Refer to Technical Construction Form and User Manual.

1.2 TEST DESCRIPTION OF DEVICE (EUT)

Product Name:	Phase Pro
Model No.:	PH-PRO-U-01
Test Model No:	PH-PRO-U-01
Difference:	N/A
Serial No.:	N/A
Test sample(s) ID:	LP24100055C01-S001
Sample(s) Status	Engineer sample
Hardware:	V1.10
Software:	V1.0
Operation Frequency:	2402MHz-2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK, Pi/4-DQPSK, 8DPSK
Antenna Type:	Chip Antenna for Remote PCB Antenna for Receiver(Ant.1&Ant.2)
Antenna gain:	2.2dBi for Remote 3.3dBi for Receiver Ant.1 1.6dBi for Receiver Ant.2
Power supply:	Receiver: DC 5V form USB-B (Supplied by PC USB) Remote: DC 3.7V form battery, 3.7V 400mAh(Nominal voltage)

Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	21	2423	42	2444	63	2465
1	2403	22	2424	43	2445	64	2466
2	2404	23	2425	44	2446	65	2467
3	2405	24	2426	45	2447	66	2468
4	2406	25	2427	46	2448	67	2469
5	2407	26	2428	47	2449	68	2470
6	2408	27	2429	48	2450	69	2471
7	2409	28	2430	49	2451	70	2472
8	2410	29	2431	50	2452	71	2473
9	2411	30	2432	51	2453	72	2474
10	2412	31	2433	52	2454	73	2475
11	2413	32	2434	53	2455	74	2476
12	2414	33	2435	54	2456	75	2477
13	2415	34	2436	55	2457	76	2478
14	2416	35	2437	56	2458	77	2479
15	2417	36	2438	57	2459	78	2480
16	2418	37	2439	58	2460		
17	2419	38	2440	59	2461		
18	2420	39	2441	60	2462		
19	2421	40	2442	61	2463		
20	2422	41	2443	62	2464		

2. TEST STANDARDS AND SITES

2.1 DESCRIPTION OF STANDARDS AND RESULTS

The EUT have been tested according to the applicable standards as referenced below.

MIC Notice No.88 Appendix No.43			
Transmitter Parameters			
Description	Clause	Result	Remark
Antenna Power	3.2 (2)	Pass	---
Tolerances for Antenna Power	3.2 (3)	Pass	---
Frequency Tolerance	3.2 (4)	Pass	---
Transmission Rate	3.2 (5)	Pass	---
Spurious emission intensity	3.2 (6)	Pass	---
Occupied Frequency Bandwidth	3.2 (7)	Pass	---
Spread Bandwidth	3.2 (8)	Report only	---
Process Gain	3.2 (9)	Report only	---
Number of Carriers	3.2 (10)	N/A	---
Dwell Time	3.2 (11)	Pass	---
Receiver Parameters			
Secondary Radiated Emissions	3.3 (1)	Pass	---
Controlling equipment			
Interference prevention function	3.4.1 (1)	Pass	---
Antenna			
Transmission Antenna Gain (EIRP Antenna Power)	3.6 (2)b	Pass	---
Transmission Radiation Angle Width (3dB Beamwidth)	3.6 (2)b	Note1	---
Note:N/A is an abbreviation for Not Applicable.			
Note1: means the Max EIRP=1.268dBm/MHz(1.339mW/MHz)+2.2dBi=3.468dBm/MHz is less than 6.91dBm/MHz, the test is not applicable.			

2.2 LIST OF TEST AND MEASUREMENT INSTRUMENTS

For RF test							
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval	Lab No.	Remark
Spectrum analyzer	Rohde & Schwarz	FSV40	101412	Jan. 07, 2025	1 Year	LEP-E076	☑
Spectrum analyzer	Agilent	N9020A	MY49100060	Jan. 07, 2025	1 Year	LEP-E020	☑
Vector source	Agilent	N5182A	MY47420382	Jan. 07, 2025	1 Year	LEP-E021	☑
Analog signal source	Agilent	N5171B	MY51350292	Jan. 07, 2025	1 Year	LEP-E022	☑
All instrument	Rohde & Schwarz	CMW 500	1201.002K50	Jan. 07, 2025	1 Year	LEP-E019	☑
High and low temperature chamber	Math-mart	MT-1202-40	LEP-E041	Jan. 07, 2025	1 Year	LEP-E041	☑
control unit	Tonscend	JS0806-2	10165	Jan. 07, 2025	1 Year	LEP-E034	☑
Testing software	Tonscend	JSTS1120-3	Ver 2.6.77.0518	N/A	N/A	N/A	☑

Remark: The internal power meter of the control unit

Note: 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).

- (a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.
- (b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).
- (c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).
- (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c). From JRL Article 24-2, paragraph 4, Item 2.

2.3 TEST FACILITY

EMC Lab. : The Laboratory has been assessed and proved to be in compliance with CNAS/CL01
The Certificate Registration Number is L10100.
The Laboratory has been assessed and proved to be in compliance with A2LA
The Certificate Registration Number is 6901.01
FCC Designation No.: CN1351
Test Firm Registration No.: 397428
ISED CAB identifier: CN0151
Test Firm Registration No.: 20133

Test Location : Dongguan Lepont Testing Service Co., Ltd.

Address : Room 102, Building 11, No.7, Houjie Science And Technology Avenue, Houjie, Dongguan, Guangdong, China

3. TEST SET-UP AND OPERATION MODES

3.1 GENERAL CONDITION

	Temperature	Humidity
Ambient Condition:	22.8℃	59 %RH

3.2 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT

OUTSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID	Trade name	Date Cable	Power Cord
1.	Lap top	Xiaoxin Pro IA5HR	PF490VB0	N/A	Lenovo	N/A	N/A
2.	Com Tool	USB TTL	V2.2	/	GZU	/	/
INSIDE SUPPORT EQUIPMENT							
No.	Equipment	Model	Serial No.	FCC ID	Trade name	Date Cable	Power Cord
1.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3.3 TEST MODE AND SOFTWARE

Test mode	Lower channel	Center channel	Upper channel	
GFSK Transmitting	2402MHz	2441MHz	2480MHz	All Channel Hopping
GFSK Receiving	2402MHz	2441MHz	2480MHz	N/A
8-DPSK Transmitting	2402MHz	2441MHz	2480MHz	All Channel Hopping
8-DPSK Receiving	2402MHz	2441MHz	2480MHz	N/A
Remark: The "GFSK" and "8-DPSK" is worst case, Will be recorded in the report.				

Note:

- For the test results, the EUT had been tested with all conditions. But only the worst case (Mode A) was shown in test report except the RF output power test was shown all conditions.

Software	Description
BT_Tool.exe	Set the COM Port Test Tool to set the corresponding Test conditions

3.4 POWER SUPPLY OF TEST

A power supply with the rated voltage and also the rated voltage +10% shall be used. However when it was confirmed that input voltage variation at the radio unit (except power supply section) in the radio equipment to be tested is less than +1% against a variation of +10% at the input voltage from the external power supply to the radio equipment, the test may be done for the rated voltage only and when the radio equipment was designed so as to be operated in a specified voltage variation limit within +10%, and which is indicated in the installation specification with the upper and the lower limits, the test shall be done for the rated voltage and the specified upper and lower limits of voltage

Test conditions	Input Voltage (Vdc)	Voltage at the input of the RF circuit	Tolerances %
Vnormal	3.7	3.3V	0%
Vmin(-10%)	3.3	3.3V	0%
Vmax(+10%)	4.07	3.3V	0%

Note 1: When the input voltage is reduced or increased by 10%, RF IC input variation is less than $\pm 1\%$. So the following test items are conducted in the normal voltage.

3.5 MEASUREMENT UNCERTAINTY

Parameter	UNCERTAINTY
Uncertainty for Conduction Spurious emission test	2.10 dB
Uncertainty for Output power test	0.94 dB
Uncertainty for Power density test	2.10 dB
Uncertainty for Frequency range test	1×10^{-6}
Uncertainty for Bandwidth test	1×10^{-6}
Uncertainty for DC power test	0.042 %
Temperature	$\pm 0.8^{\circ}\text{C}$
Humidity	$\pm 3.2\%$

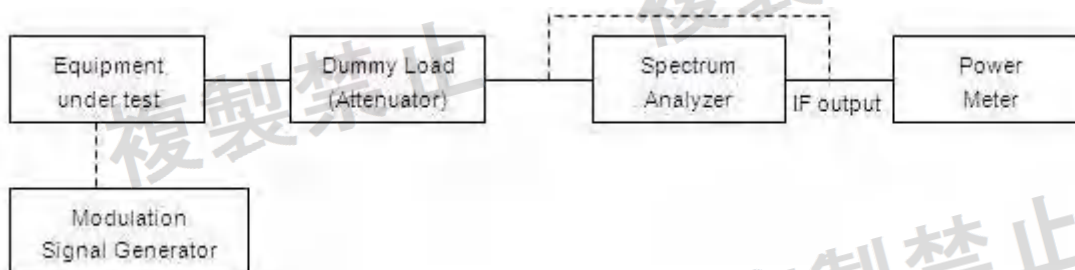
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

4. ANTENNA POWER ERROR MEASUREMENT

4.1 LIMIT

Item	Limits
Antenna Power Density	$\leq 3\text{mW/MHz}$
EIRP Power Density	$\leq 6.91\text{dBm/MHz}$
Antenna Power Error	+20% No lower limit

4.2 TEST SETUP



4.3 MEASURING EQUIPMENT CONDITIONS

Test according to clause 4.4 radio frequency test setup.

4.4 MEASURING OPERATION PROCEDURES

Frequency hopping system (including combined systems of direct spread and orthogonal frequency division multiplexing)

- Connect the high frequency power meter to the output of the attenuator and measure the total power.
- Divide the total power by the spread bandwidth and find the average power per MHz
- Confirm that the frequency distribution of frequency hopping(frequency hopping intervals are equally spaced at less than 1 MHz) and the emergence probability of the various hopping frequencies are even according to the supporting data. Furthermore, if frequency distribution of frequency hopping is not even, consider other measurement methods by referring to “6 Other Conditions”.
- Set the antenna power as follows:

(1)Continuous waves: value in b.

(2)Burst waves: value in b.and value calculated from the average power within bursts from rates of transmission times.

4.5 TEST RESULT

Test Mode	Channel	Output Power (dBm)	antenna total power(mW)	Spread Band Width (MHz)	Test Result for Antenna Power (mW/MHz)	Declared Antenna Power (mW/MHz)	Tolerance (%)
GFSK	Hopping	19.19	82.41	71.134	1.159	2	-42.10
$\pi/4$ DQPSK	Hopping	19.83	96.16	71.809	1.339	2	-33.05
8DPSK	Hopping	19.74	94.19	70.898	1.329	2	-33.55

Note: 1. Antenna Power (mw/MHz)= antenna total power(mW)/ Spread Bandwidth(MHz)

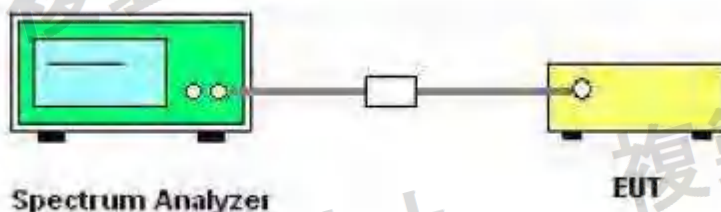
2. Output Power Tolerance (%) = {(conducted RF output power density – Rated power)/Rated power*100}

5. FREQUENCY ERROR MEASUREMENT

5.1 LIMIT

According to Radio Law of Japan item 19 of Article 2 Paragraph 1, Clause 3.2 (4), the Tolerance of frequency: $\pm 50 \times 10^{-6}$.

5.2 TEST SETUP



5.3 MEASURING EQUIPMENT CONDITIONS

Spectrum Parameters	Setting
RBW	10KHz
VBW	10KHz
Span	1MHz
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

5.4 MEASURING OPERATION PROCEDURES

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 3.3.
- EUT have transmitted absence of modulation signal and fixed channelize.
- Allow trace to stabilize, use the marker function to mark the highest emission level, record the frequency of the highest emission level.
- Repeat above procedures until all channels were measured.
- Record the results in the test report.

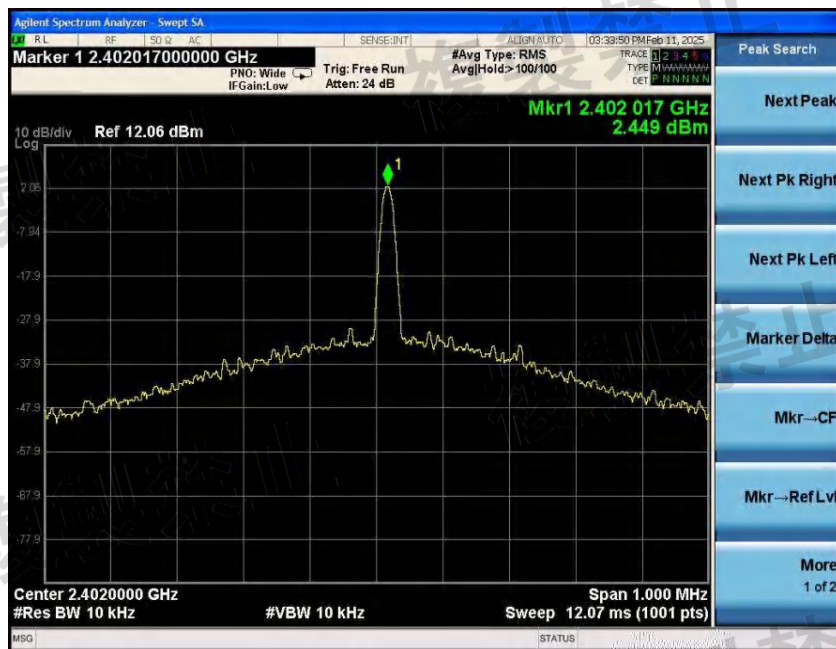
5.5 TEST RESULT

Test Voltage	Channel	Test Frequency (MHz)	Test Result (MHz)	Tolerance (MHz)	Tolerance (ppm)	Limit (ppm)
Normal	0	2402	2402.017	0.017	7.08	±50
Normal	39	2441	2441.016	0.016	6.55	±50
Normal	78	2480	2480.014	0.014	5.65	±50

Note: We test the high, medium, and low voltage mode and recorded the worst-case test values below.

Note :Frequency Tolerance(ppm)=[(Measured Frequency(MHz)-Test Frequency(MHz))/Test Frequency(MHz)]×10⁶

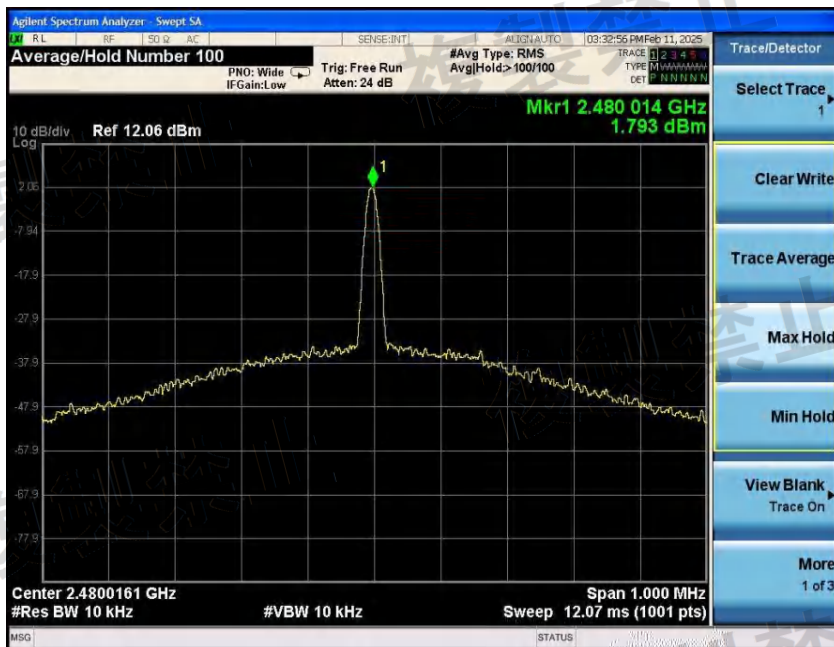
Test Mode: Measurement Data on Lower Channel 2402MHz:



Measurement Data on Center Channel 2441MHz:



Measurement Data on Upper Channel 2480MHz:



6. OCCUPIED FREQUENCY BANDWIDTH

6.1 LIMIT

Item	Limits
Occupied Band Width(99%)	$FH \leq 83.5\text{MHz}$ $FH + DS \leq 83.5\text{MHz}$ $FH + \text{OFDM} \leq 83.5\text{MHz}$ $\text{OFDM}, DS \leq 40\text{MHz}$ Other: $\leq 26\text{MHz}$
Spread-spectrum Bandwidth(90%)	$\geq 500\text{KHz}$ (FH, DS)

6.2 TEST SETUP



6.3 MEASURING EQUIPMENT CONDITIONS

Spectrum Parameter	Setting
Attenuation	20dB
Span Frequency	110 MHz
Reference level	10 dBm
RB/VB	1 MHz / 1 MHz
Detector	Peak
Trace	Max hold
Sweep Time	Auto

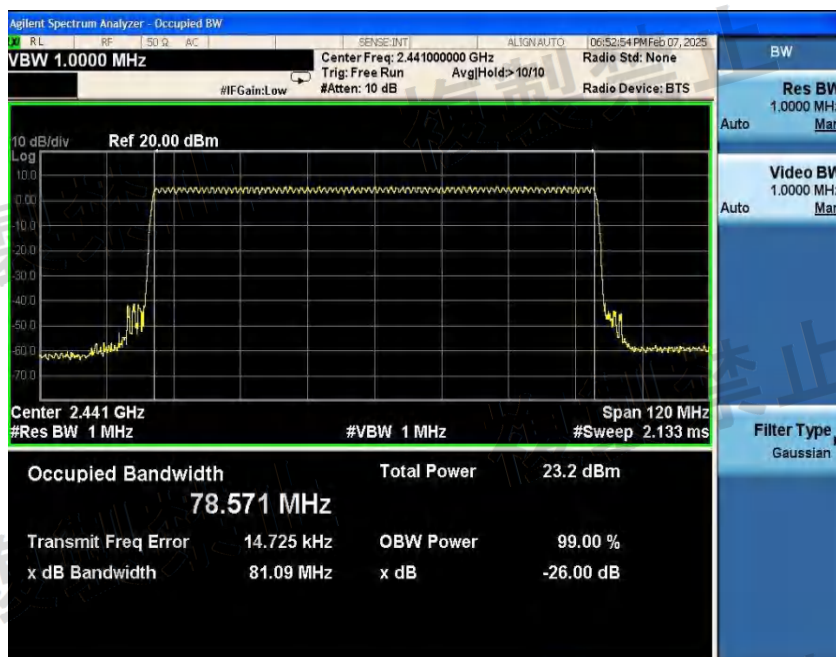
6.4 MEASURING OPERATION PROCEDURES

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 6.3
- Set the EUT transmit continuously with maximum output power.
- Allow trace to stabilize, use the 99% power bandwidth function to measure occupied bandwidth.
- Repeat step a to c, use the 90% power bandwidth function to measure spread bandwidth.
- Repeat above procedures until all channels were measured.
- Record the results in the test report.

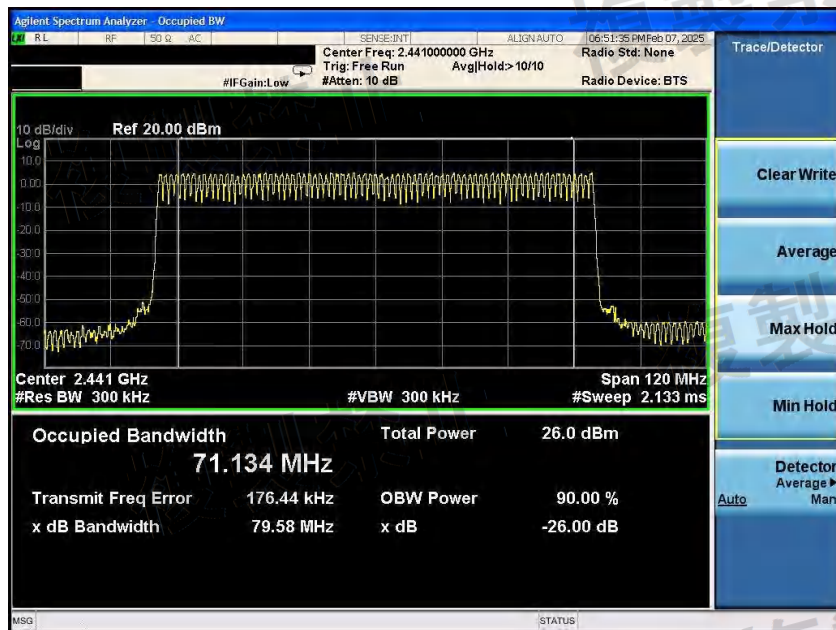
6.5 TEST RESULT

Test Mode	Measured 99% Occupied Frequency Bandwidth (MHz)	Measured 90% Spread Bandwidth (MHz)	Conclusion
GFSK(DH5)	78.571	71.134	Pass
Pi4-DQPSK(2DH5)	78.673	71.809	Pass
8-DPSK(3DH5)	78.851	70.898	Pass

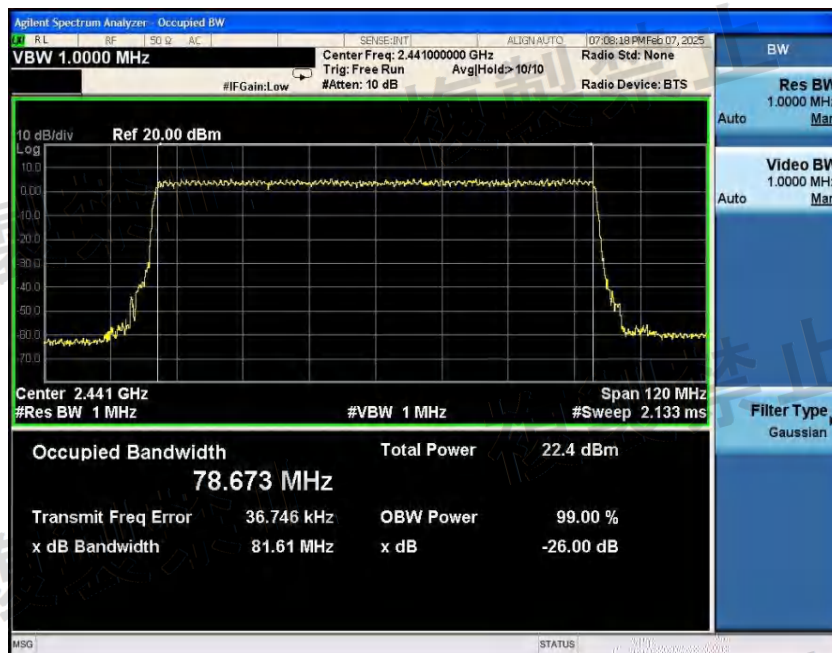
Occupied Frequency Bandwidth Test Mode: GFSK DH5



Occupied Frequency Bandwidth Test Mode: GFSK DH5



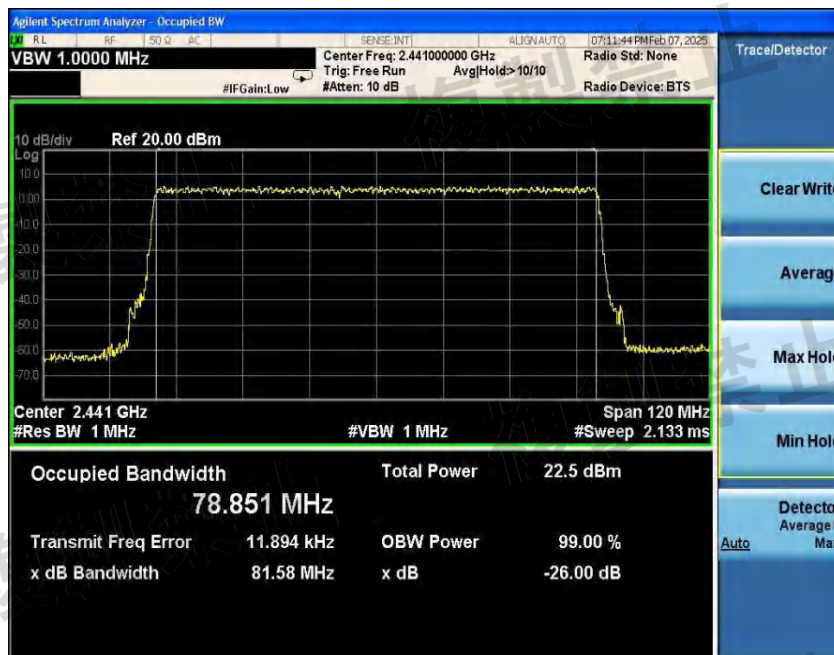
Occupied Frequency Bandwidth Test Mode: Pi-4 DQPSK 2DH5



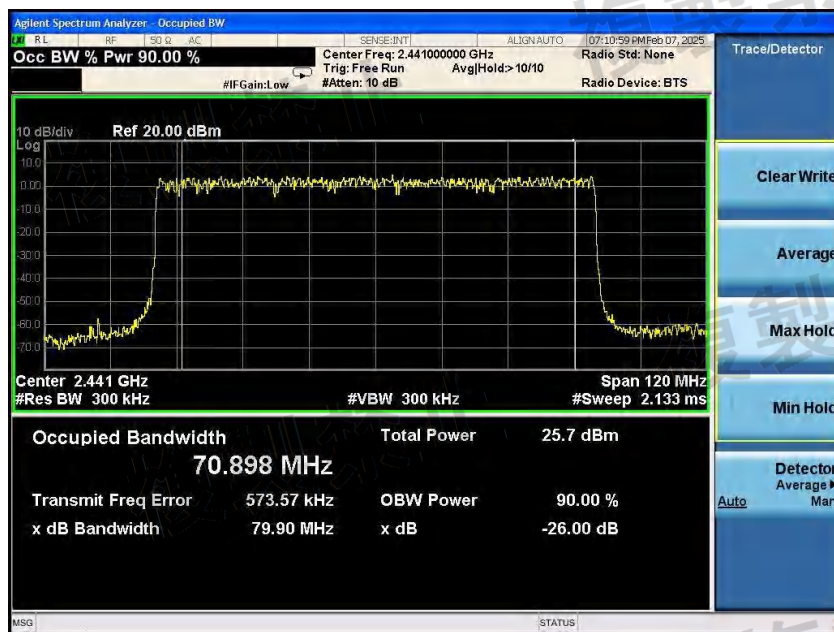
Occupied Frequency Bandwidth Test Mode: Pi-4 DQPSK 2DH5



Occupied Frequency Bandwidth Test Mode: 8-DPSK 3DH5



Occupied Frequency Bandwidth Test Mode: 8-DPSK 3DH5

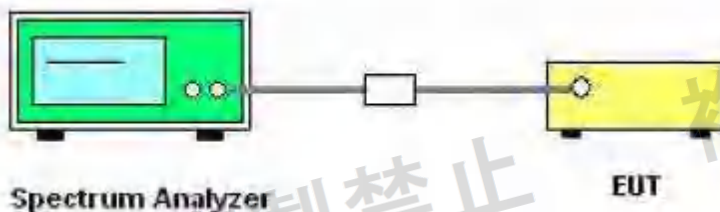


7. DWELL TIME

7.1 LIMIT

Item	Limits
Dwell Time	FH , FH+DS , FH+OFDM : 0.4 sec or lees (The total sum of holding time at arbitrary frequencies within the time multiplied 0.4 sec by the spreading rate)

7.2 TEST SETUP



7.3 MEASURING EQUIPMENT CONDITIONS

Spectrum Parameter	Setting
Attenuation	20dB
Span Frequency	0 MHz
Reference level	10 dBm
RB/VB	1 MHz / 1 MHz
Detector	Peak
Trace	Max hold
Sweep Time	Auto

7.4 CONDITIONS OF EQUIPMENT UNDER TEST

- The transmitter output (antenna port) was connected to the spectrum analyzer
- Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- Use a video trigger with the trigger level set to enable triggering only on full pulses.
- Sweep Time is more than once pulse time.
- Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- Measure the maximum time duration of one single pulse.
- Set the EUT for DH5, DH3 and DH1 packet transmitting.
- Measure the maximum time duration of one single pulse.
- $\text{Dwell time(ms)} = \text{observation time(s)} * \text{amount of bursts per second} * \text{Pluse width}$

7.5 TEST RESULT

Test Mode: GFSK

Date Package	90% Spread BW (MHz)	observation time(s)	Burst Count	Pluse width(ms)	Dwell Time (ms)	Limit (s)	Result
DH1	71.404	28.5616	149	0.38	56.62	0.400	Pass
DH3	71.218	28.4872	104	1.20	124.8	0.400	Pass
DH5	71.134	28.4536	73	2.88	210.24	0.400	Pass

Test Mode: 8-DPSK

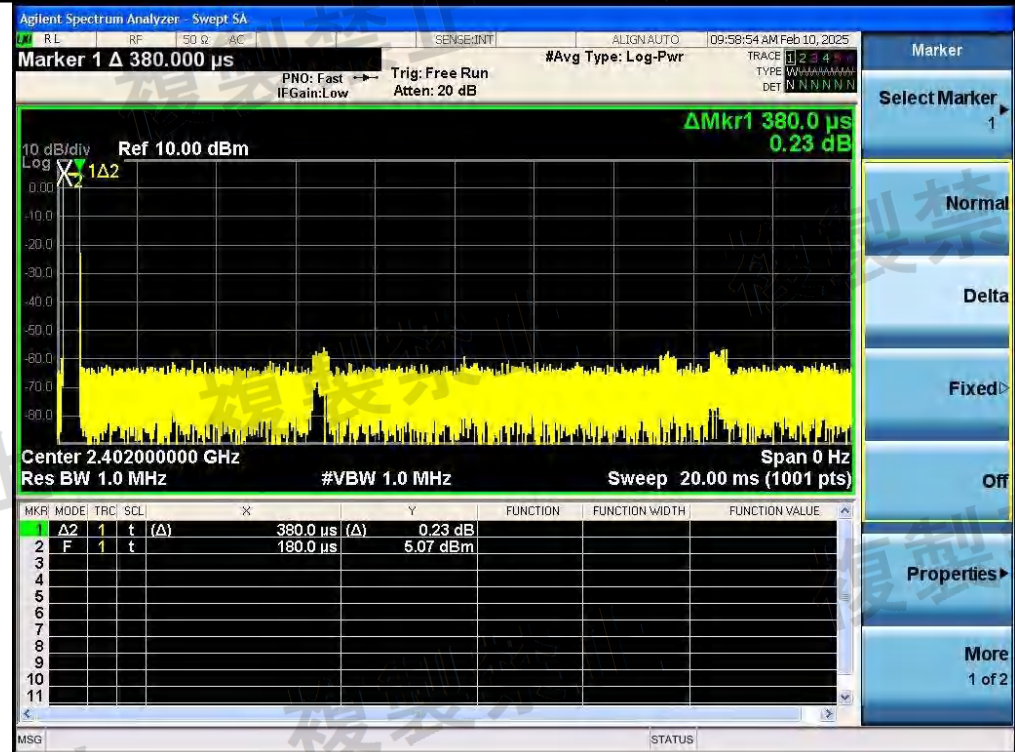
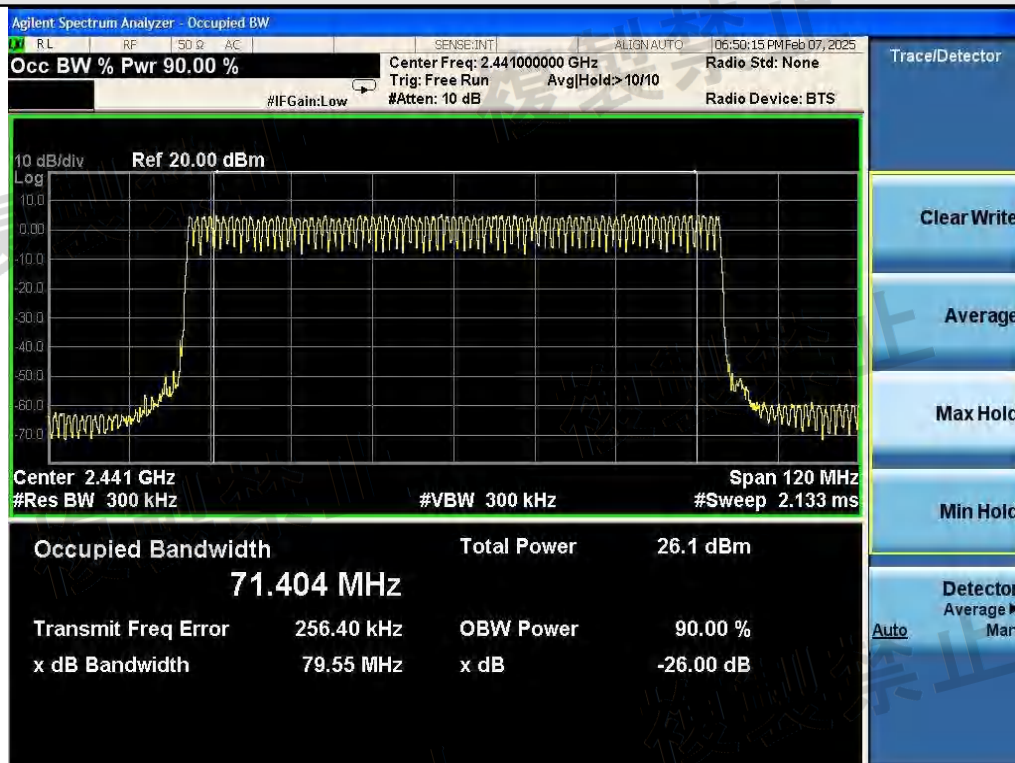
Date Package	90% Spread BW (MHz)	observation time(s)	Burst Count	Pluse width(ms)	Dwell Time(s)	Limit (s)	Result
3DH1	71.794	28.7176	146	0.44	64.24	0.400	Pass
3DH3	71.940	28.7760	116	1.68	194.88	0.400	Pass
3DH5	70.898	28.3592	71	2.88	204.48	0.400	Pass

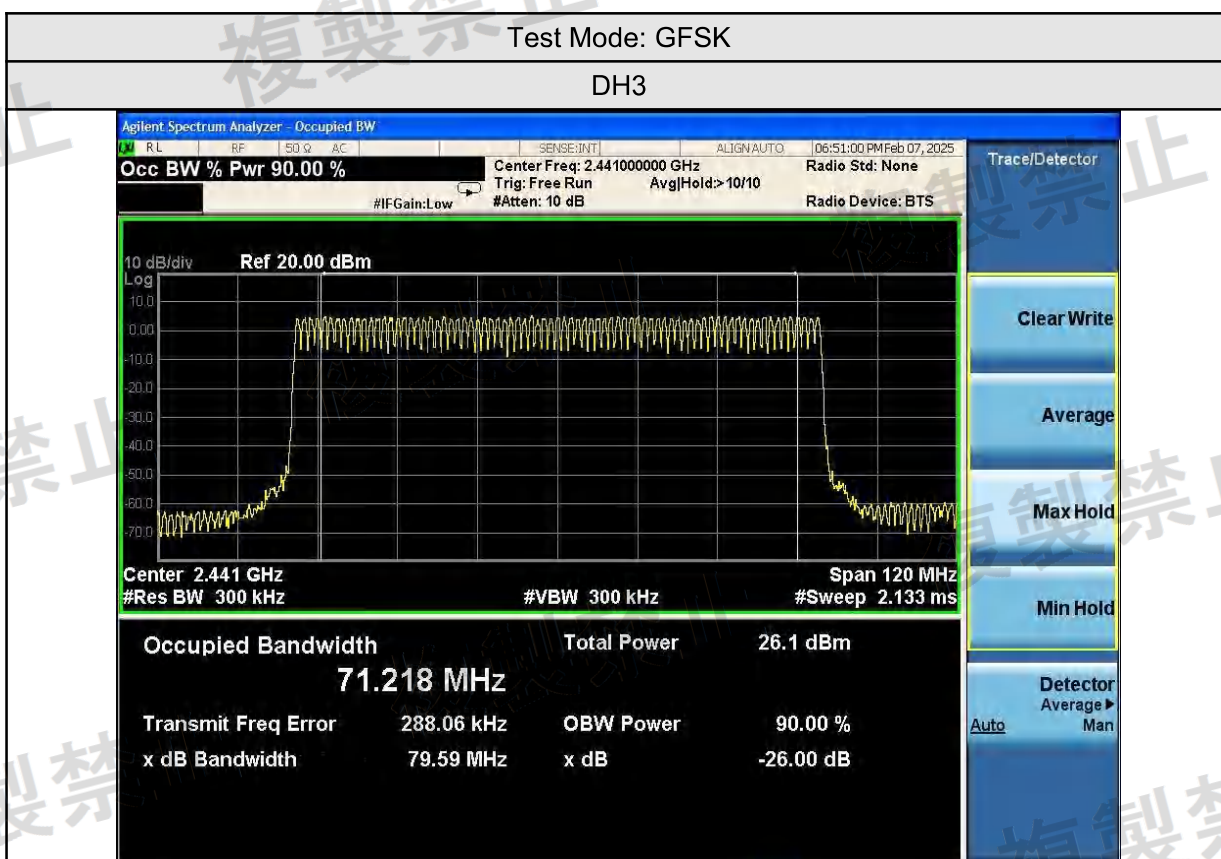
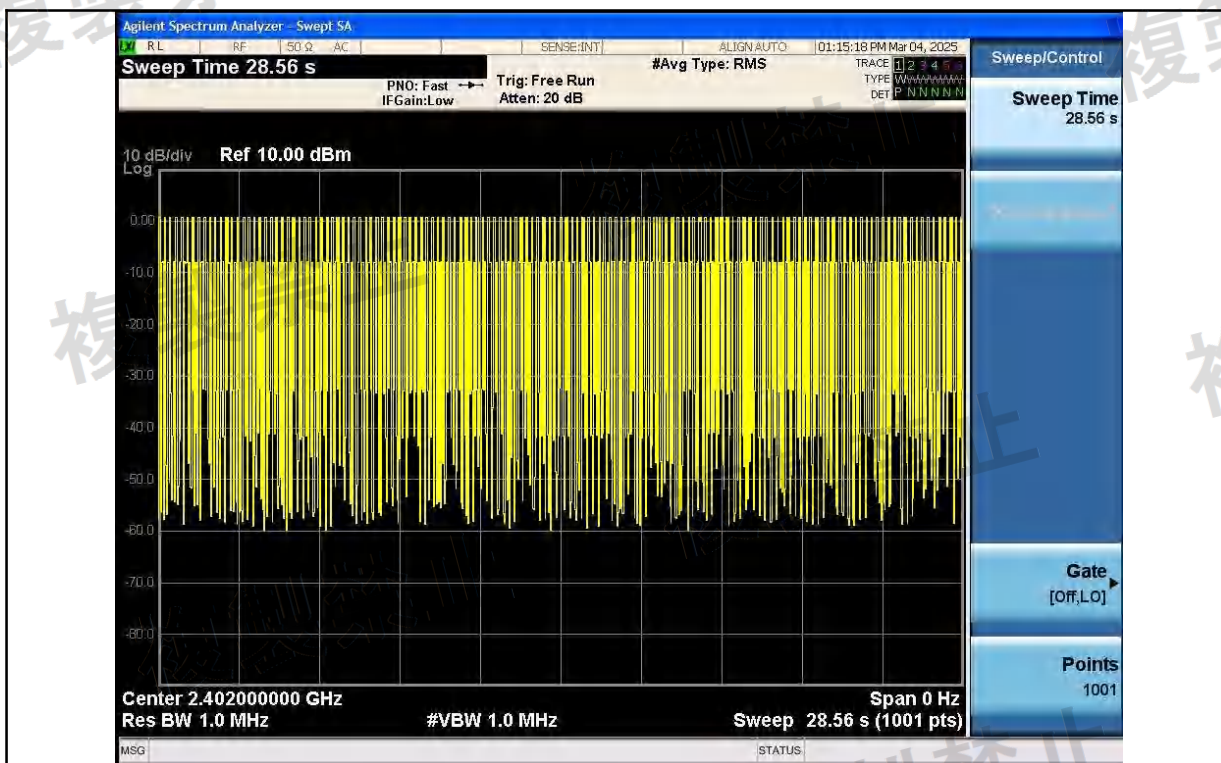
Note1: observation time(s)=0.4*Spread bandwidth

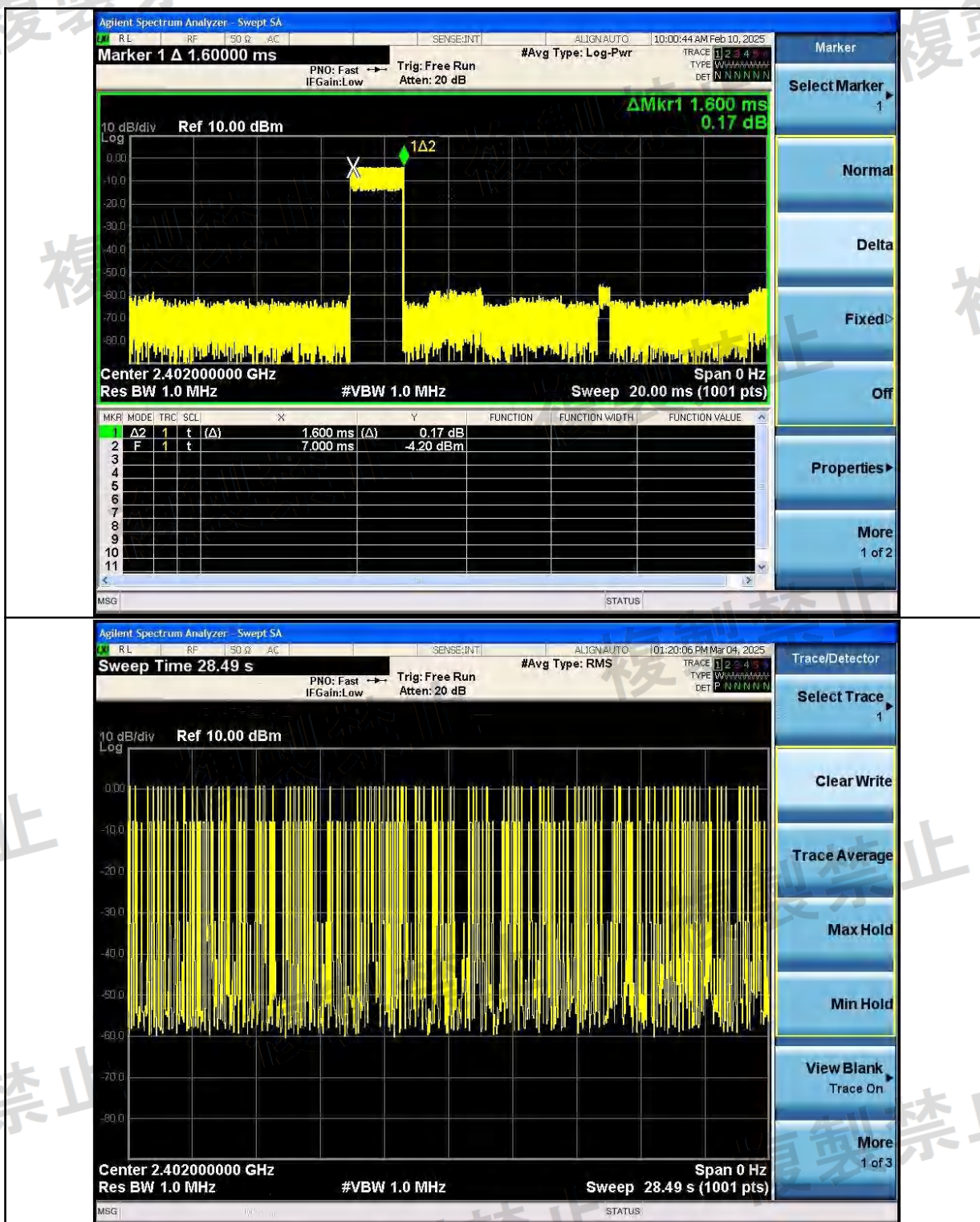
Note2: Dwell time(ms)= observation time(s)* amount of bursts per second * Pluse width

Test Mode: GFSK

DH1

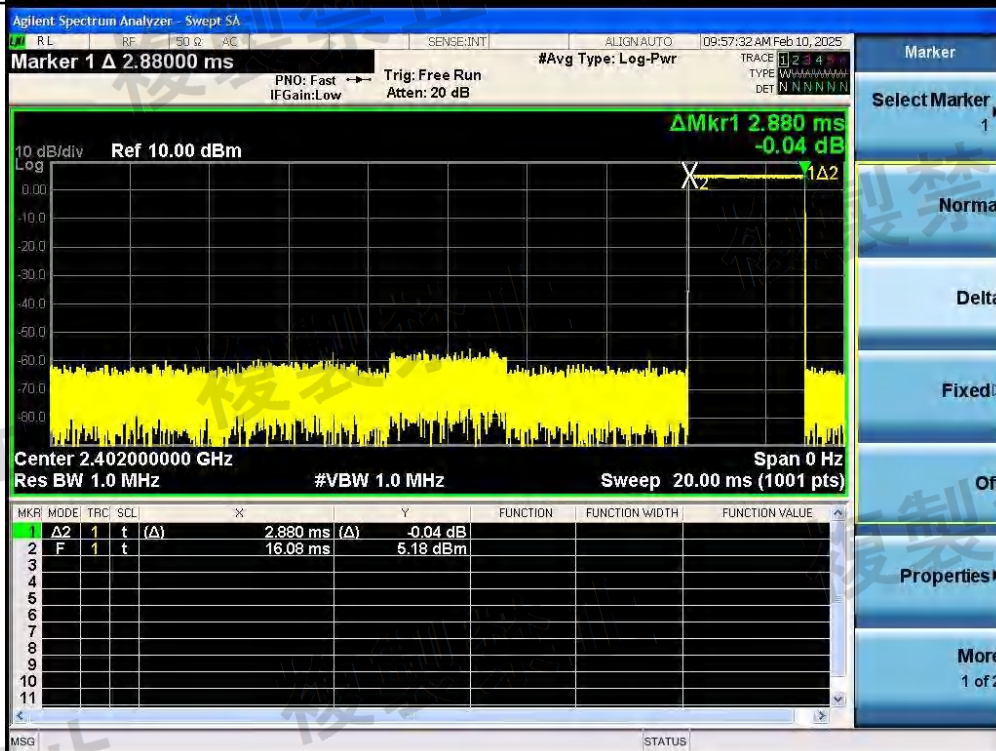


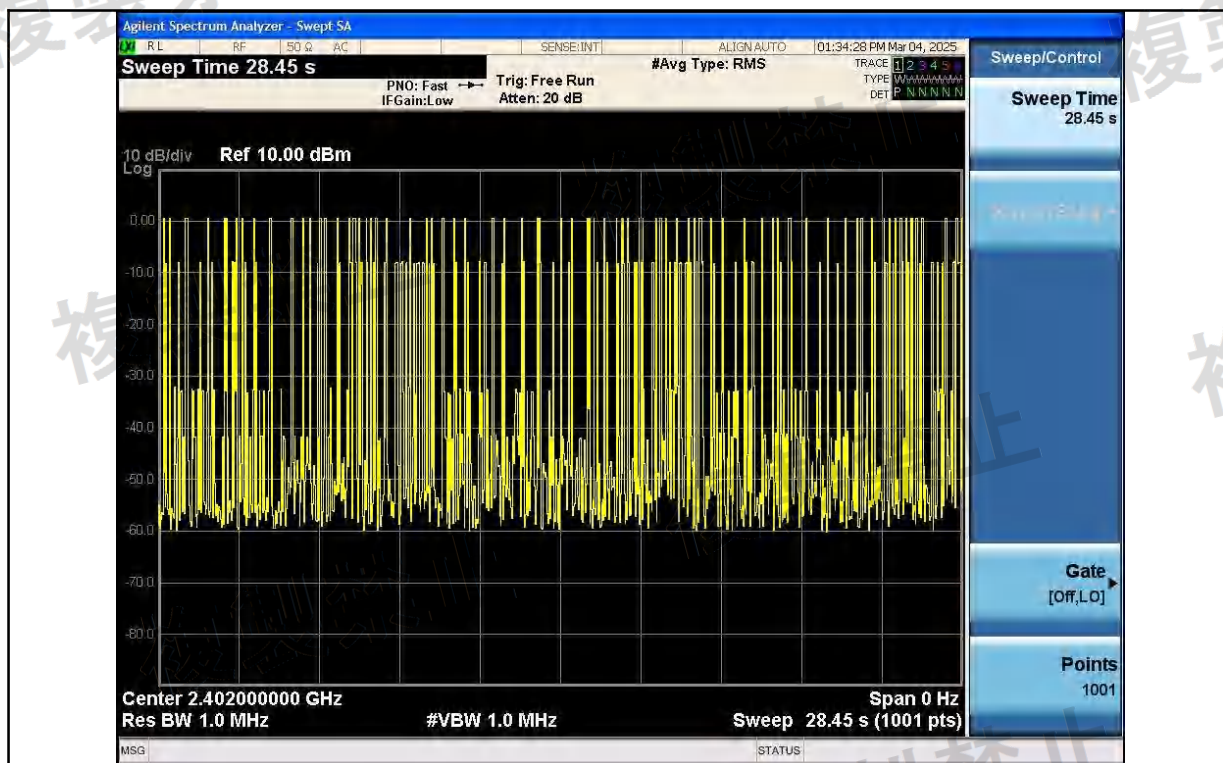




Test Mode: GFSK

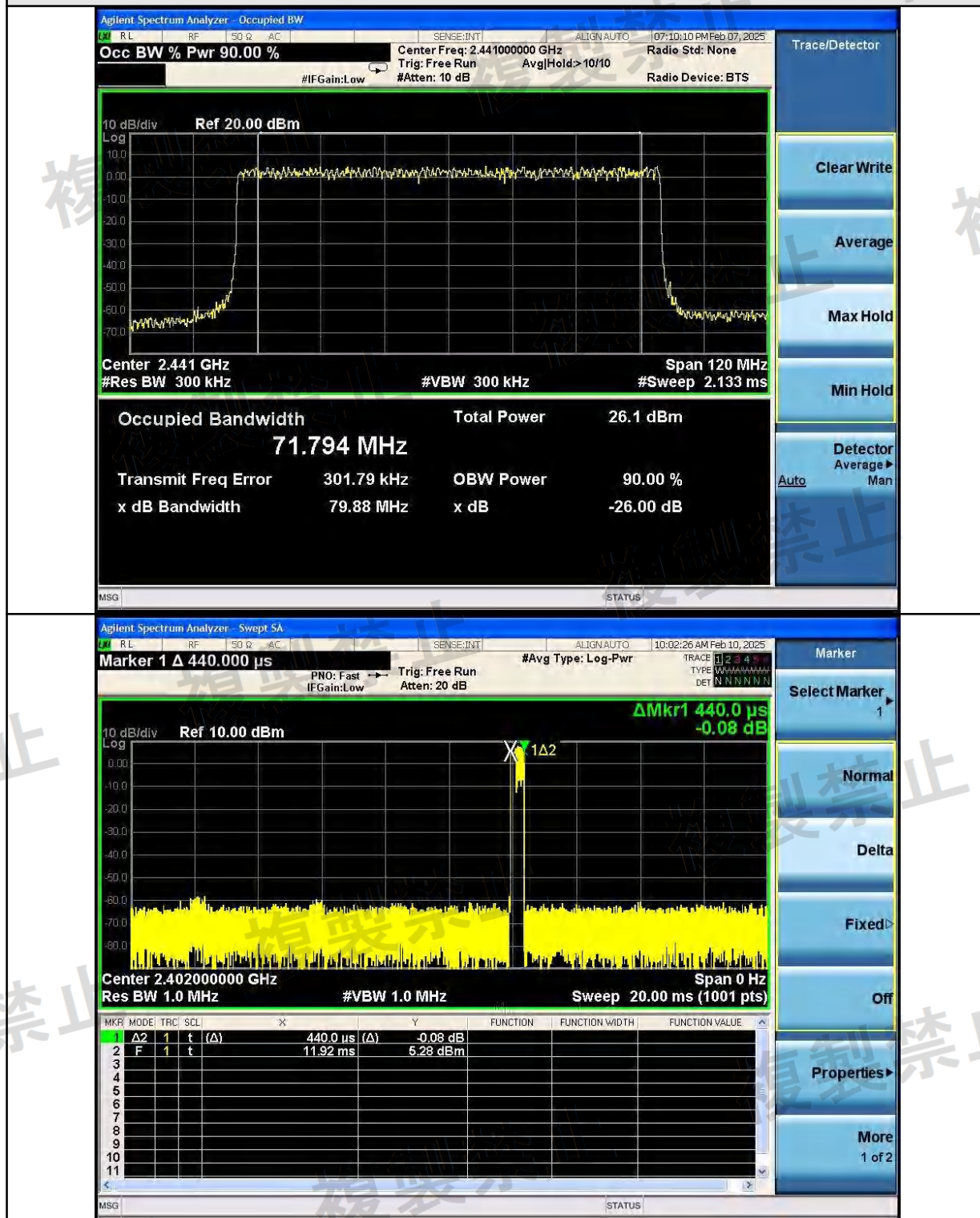
DH5

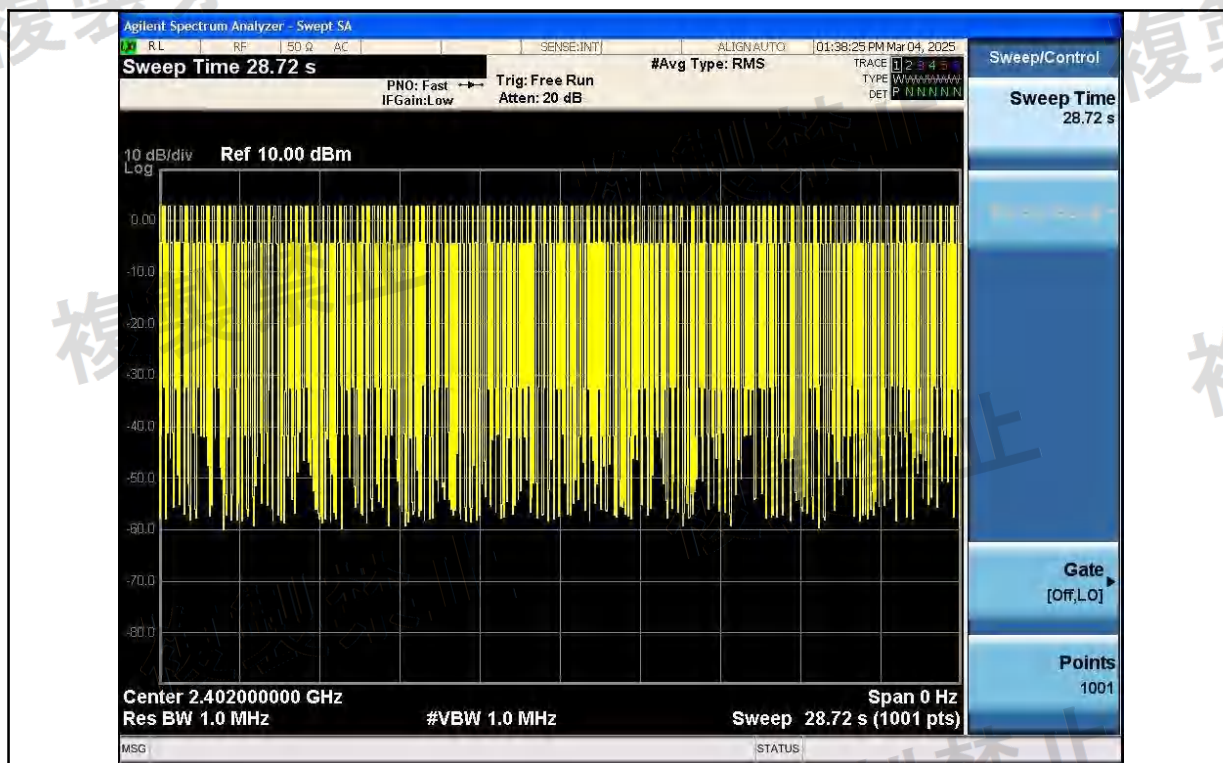




Test Mode: 8-DPSK

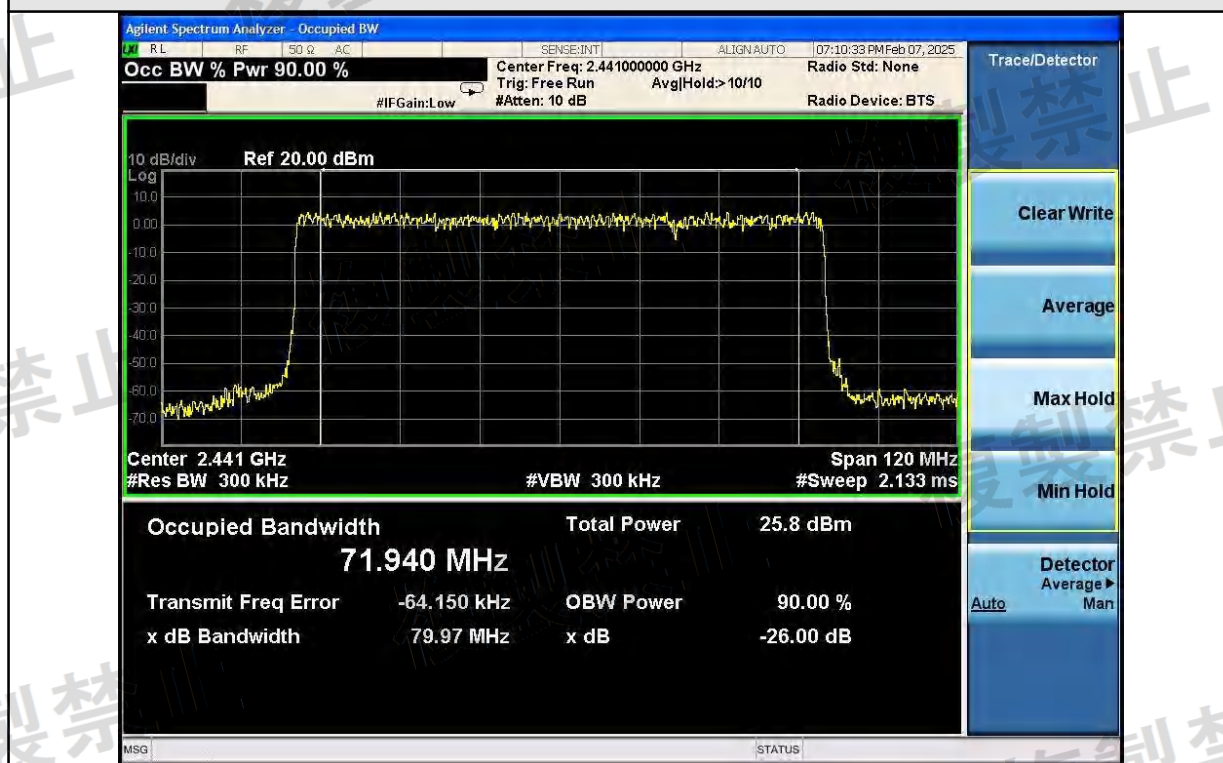
3DH1

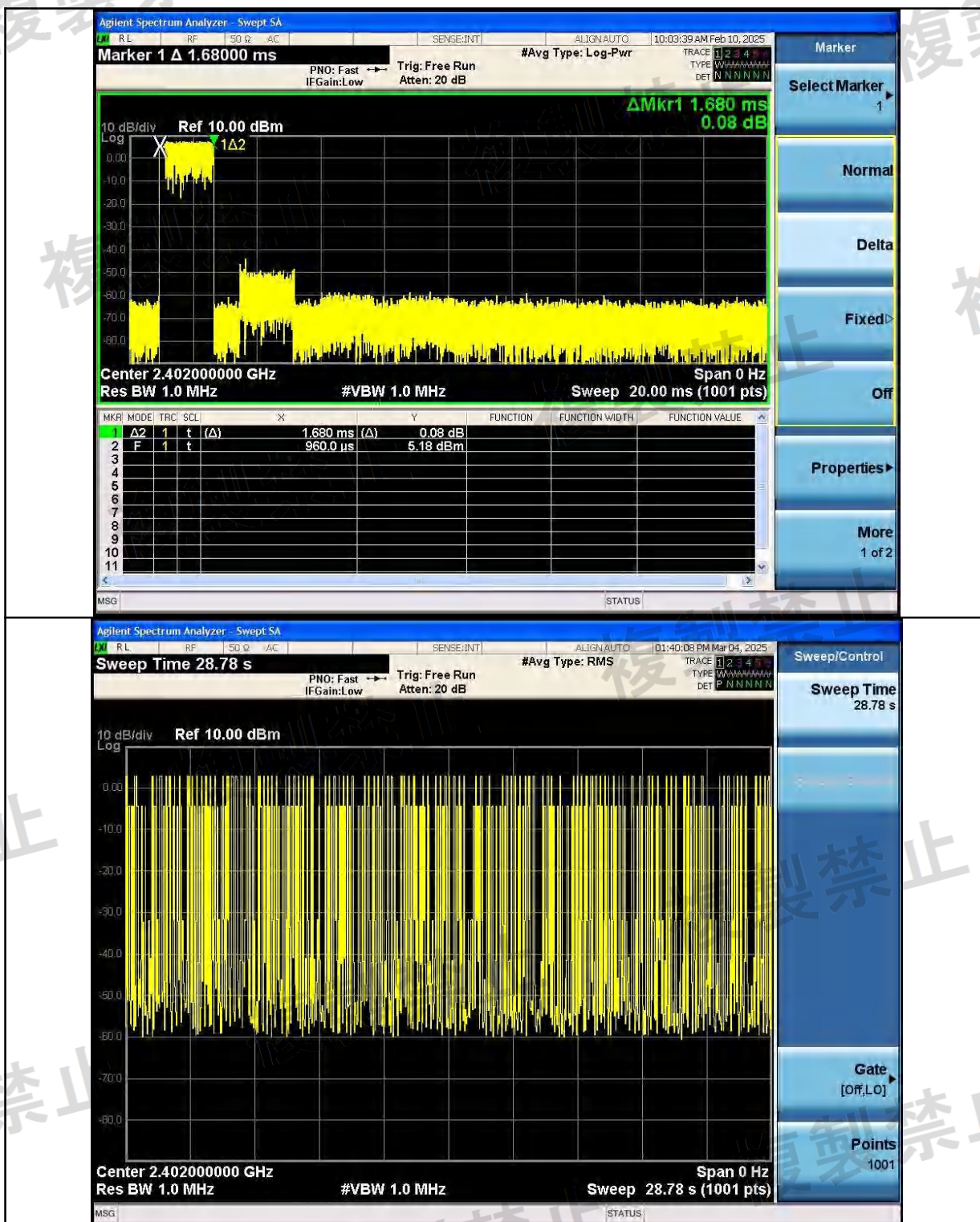




Test Mode: 8-DPSK

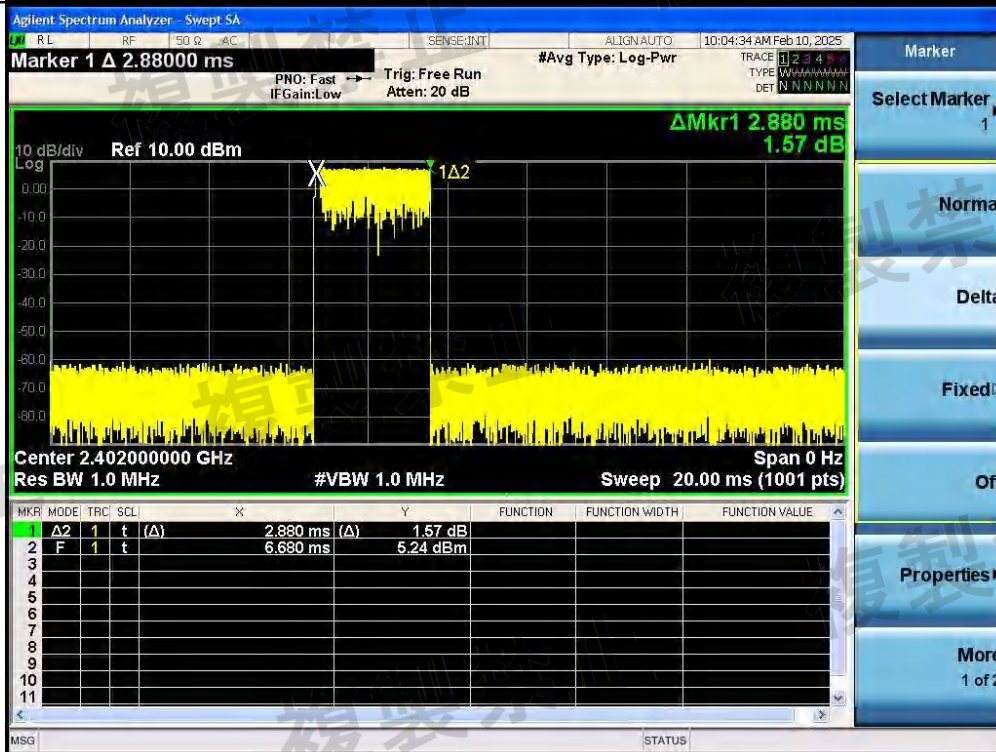
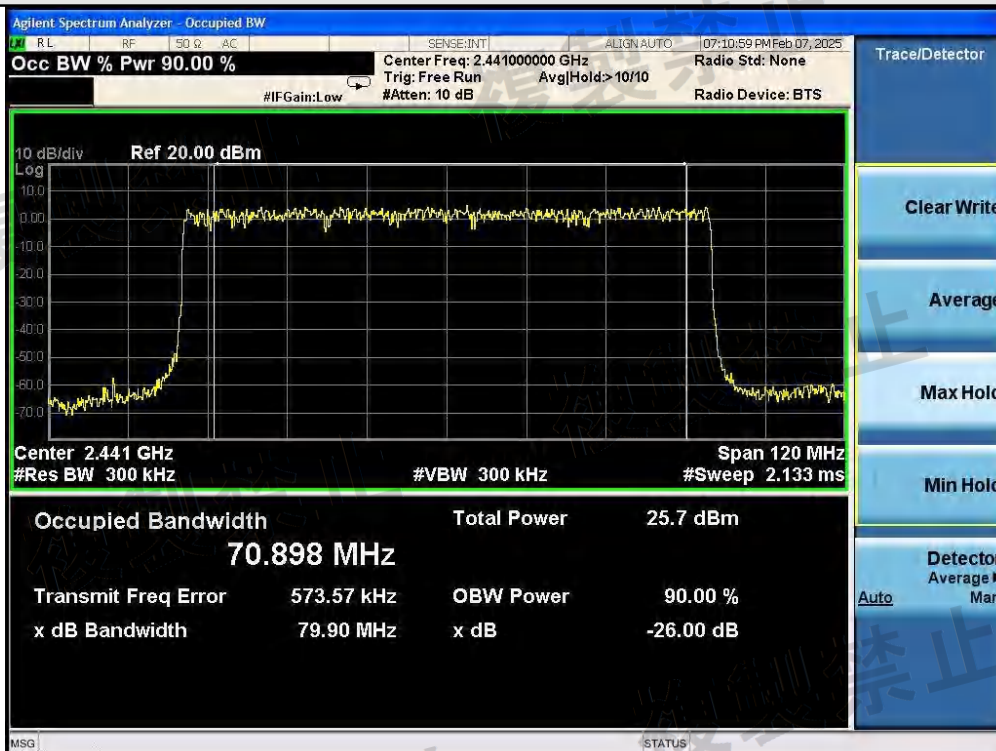
3DH3

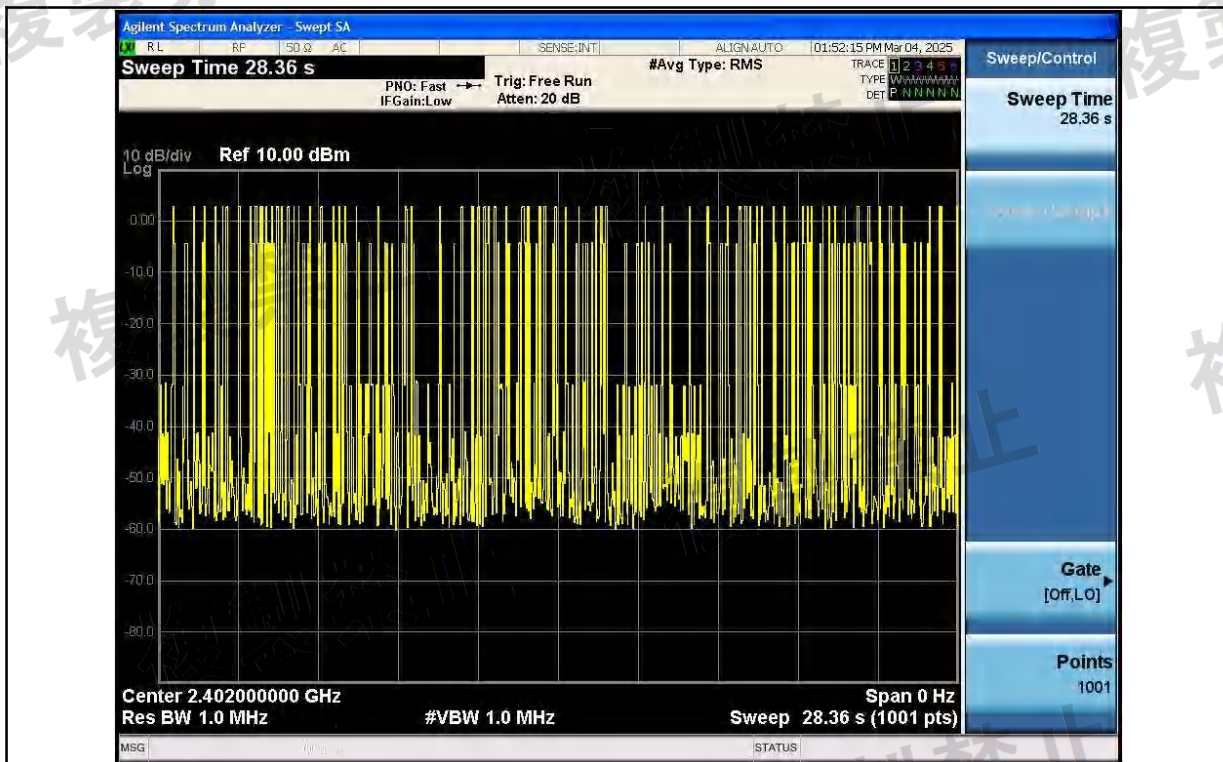




Test Mode: 8-DPSK

3DH5



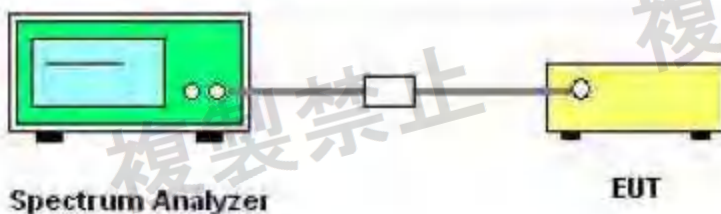


8. UNWANTED EMISSION INTENSITY MEASUREMENT

8.1 LIMIT

Item	Limits
Spurious Emission Intensity	30MHz~1000MHz: $\leq 0.25\mu\text{W}/100\text{KHz}(-36\text{dBm}/100\text{KHz})$
	1000MHz~2387MHz: $\leq 2.5\mu\text{W}/\text{MHz}(-26\text{dBm}/\text{MHz})$
	2387MHz~2400MHz: $\leq 25\mu\text{W}/\text{MHz}(-16\text{dBm}/\text{MHz})$
	2483.5MHz~2496.5MHz: $\leq 25\mu\text{W}/\text{MHz}(-16\text{dBm}/\text{MHz})$
	2496.5 MHz~12750MHz: $\leq 2.5\mu\text{W}/\text{MHz}(-26\text{dBm}/\text{MHz})$

8.2 TEST SETUP



8.3 MEASURING EQUIPMENT CONDITIONS

Spectrum Parameter	Setting
Attenuation	Auto
RB/VB	100 kHz / 100 kHz (Below 1GHz)
	1 MHz / 1 MHz (1 GHz or higher)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.4 MEASURING OPERATION PROCEDURES

- Connect EUT antenna terminal to the spectrum analyzer with RF cable.
- Spectrum analyzer setting parameters in accordance with section 3.4.2
- Set the EUT transmit continuously with maximum output power.
- Allow trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission.
- Repeat above procedures until all channels were measured.
- Record the results in the test report.

Test Data:

Test Model	Channel (MHz)	Band(GHz)	Frequency(MHz)	Max Value (dBm/MHz)	Limit (dBm/MHz)
GFSK	2402	30-1000	527.61	-61.364	-26
		1000-2387	2375.9	-58.77	-26
		2387-2400	2399.974	-30.703	-16
		2483.5-2496.5	2487.244	-60.129	-16
		2496.5-13000	7087	-65.359	-26
	2441	30-1000	527.61	-60.853	-26
		1000-2387	2385.6	-61.787	-26
		2387-2400	2396.776	-61.649	-16
		2483.5-2496.5	2487.504	-59.221	-16
		2496.5-13000	7097	-65.533	-26
	2480	30-1000	527.61	-61.052	-26
		1000-2387	2385.6	-63.354	-26
		2387-2400	2396.724	-62.000	-16
		2483.5-2496.5	2485.723	-33.437	-16
		2496.5-13000	7076	-66.215	-26
Pi/4-DQPSK	2402	30-1000	527.61	-61.738	-26
		1000-2387	2375.9	-60.248	-26
		2387-2400	2399.987	-27.969	-16
		2483.5-2496.5	2487.101	-59.703	-16
		2496.5-13000	7097	-66.402	-26
	2441	30-1000	527.61	-62.274	-26
		1000-2387	2385.6	-63.203	-26
		2387-2400	2396.308	-58.697	-16
		2483.5-2496.5	2486.997	-59.949	-16
		2496.5-13000	6488	-66.253	-26
	2480	30-1000	870.99	-69.498	-26
		1000-2387	2385.6	-62.597	-26
		2387-2400	2399.649	-57.529	-16
		2483.5-2496.5	2483.682	-39.509	-16
		2496.5-13000	7097	-65.790	-26
8DPSK	2402	30-1000	527.61	-62.436	-26
		1000-2387	2375.9	-59.744	-26
		2387-2400	2399.987	-28.242	-16
		2483.5-2496.5	2487.140	-59.618	-16
		2496.5-13000	7066	-66.055	-26
	2441	30-1000	527.61	-62.234	-26
		1000-2387	2385.6	-61.300	-26
		2387-2400	2397.335	-53.777	-16
		2483.5-2496.5	2487.166	-59.562	-16
		2496.5-13000	6572	-65.692	-26
	2480	30-1000	527.61	-62.214	-26
		1000-2387	2377.3	-66.534	-26
		2387-2400	2396.854	-58.310	-16
		2483.5-2496.5	2483.565	-38.619	-16
		2496.5-13000	7066	-66.438	-26

Note: in the 30MHz to 1GHz frequency band, the RBW used for the measurement is 100kHz.

Its measurement results need to added 10dB (according to the formula as follow)

$$B = A + 10 \log \text{RBW}_{\text{ref}} / \text{RBW}_{\text{measured}}$$

A is the measured value at the narrower measurement bandwidth $\text{RBW}_{\text{measured}}$

B is the corresponding value at RBW_{ref}

8.5 TEST RESULT

Test mode: GFSK mode 2402MHz Test Plots



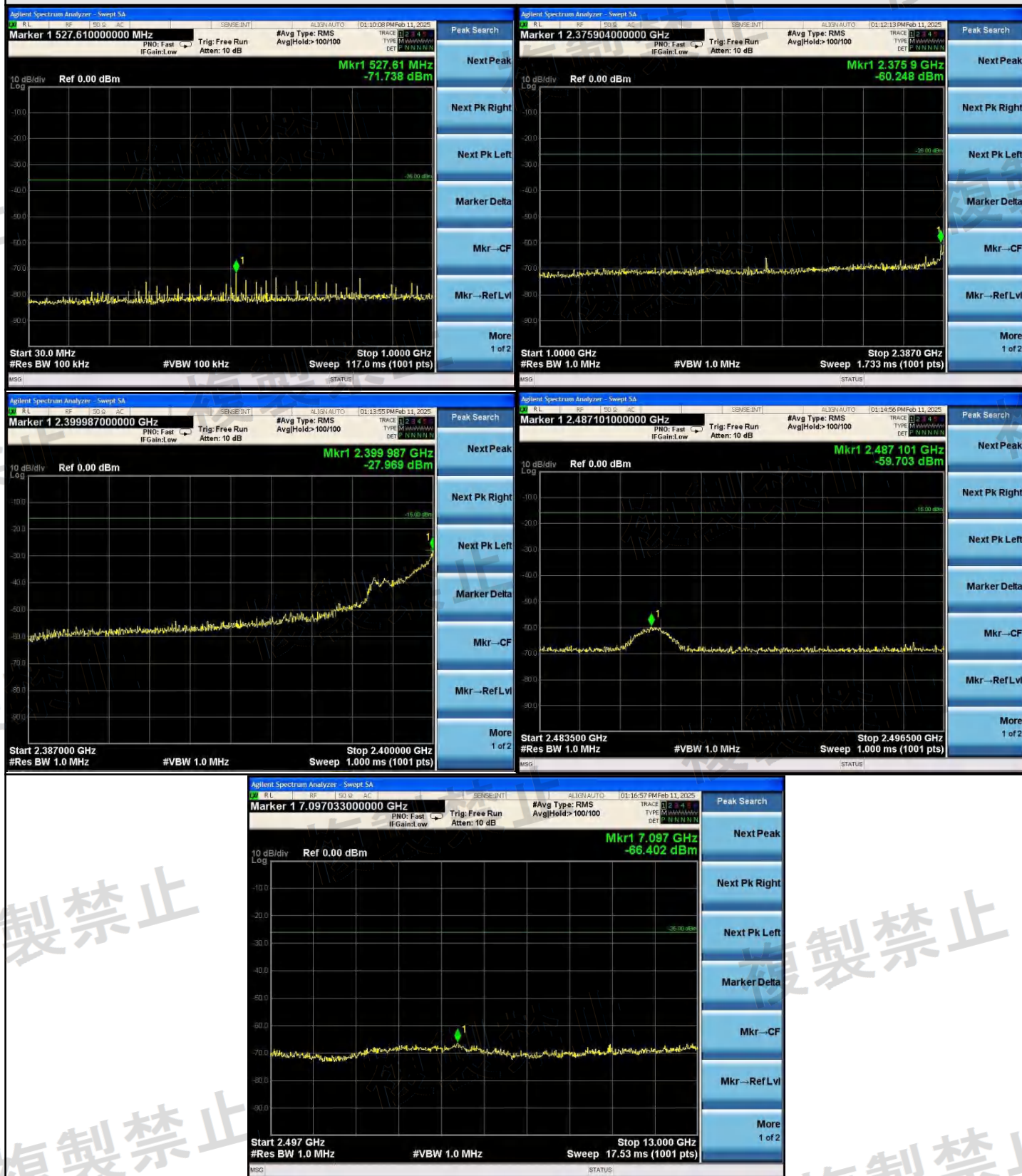
Test mode: GFSK mode 2441MHz Test Plots



Test mode: GFSK mode 2480MHz Test Plots



Test mode: Pi/4-DQPSK mode 2402MHz Test Plots



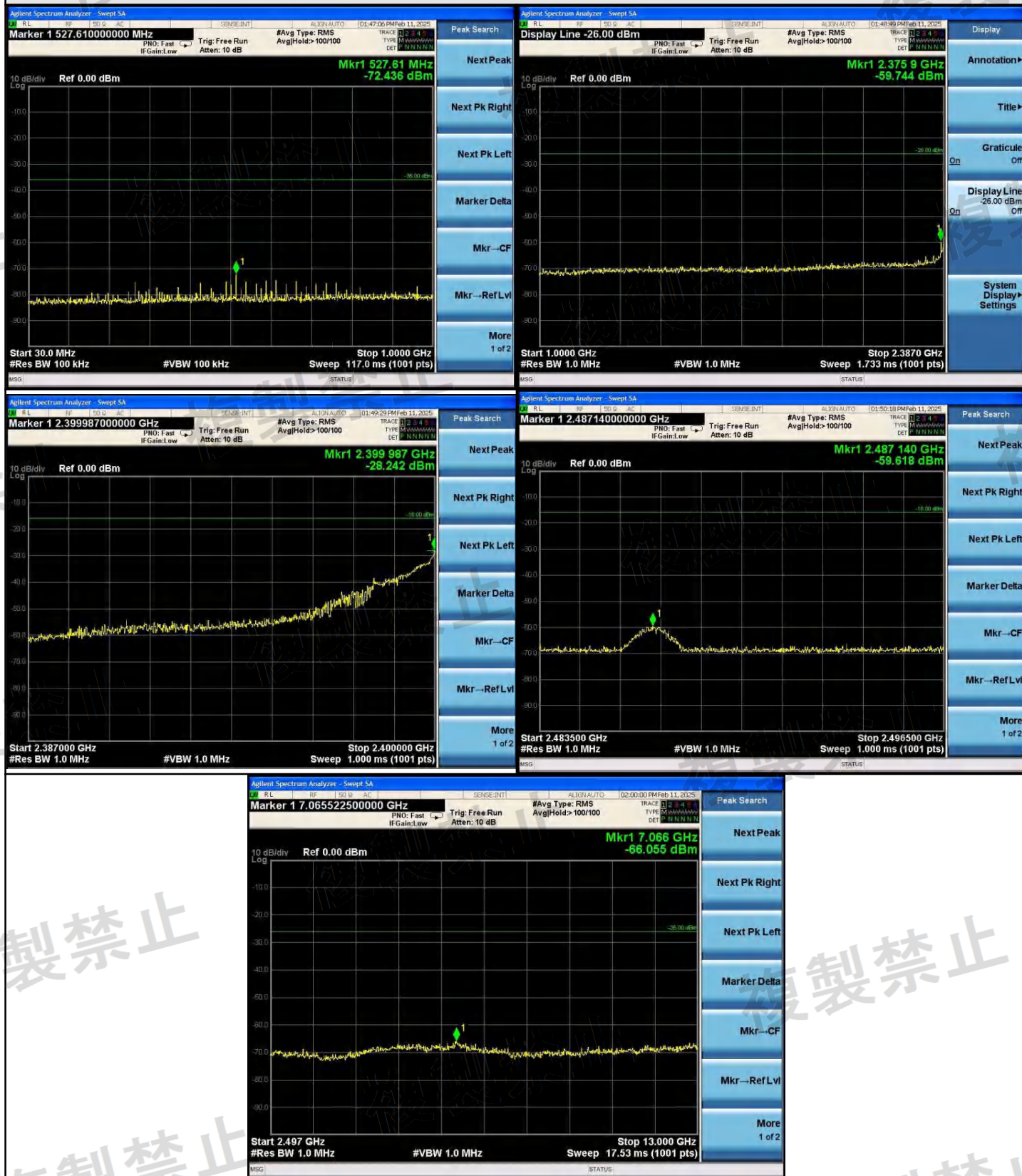
Test mode: Pi/4-DQPSK mode 2441MHz Test Plots



Test mode: Pi/4-DQPSK mode 2480MHz Test Plots



Test mode: 8-DQPSK mode 2402MHz Test Plots



Test mode: 8-DQPSK mode 2441MHz Test Plots



Test mode: 8-DQPSK mode 2480MHz Test Plots



9. UNWANTED EMISSION INTENSITY MEASUREMENT OF RECEIVING EQUIPMENT

9.1 LIMIT

Item	Limits
RX Spurious Emission	$\leq 4\text{nW}$ (Below 1GHz)
	$\leq 20\text{ nW}$ (1 GHz or higher)

9.2 TEST SETUP



9.3 MEASURING EQUIPMENT CONDITIONS

Spectrum Parameter	Setting
Attenuation	Auto
RB/VB	100 kHz / 100 kHz (Below 1GHz)
	1 MHz / 1 MHz (1 GHz or higher)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

9.4 MEASURING OPERATION PROCEDURES

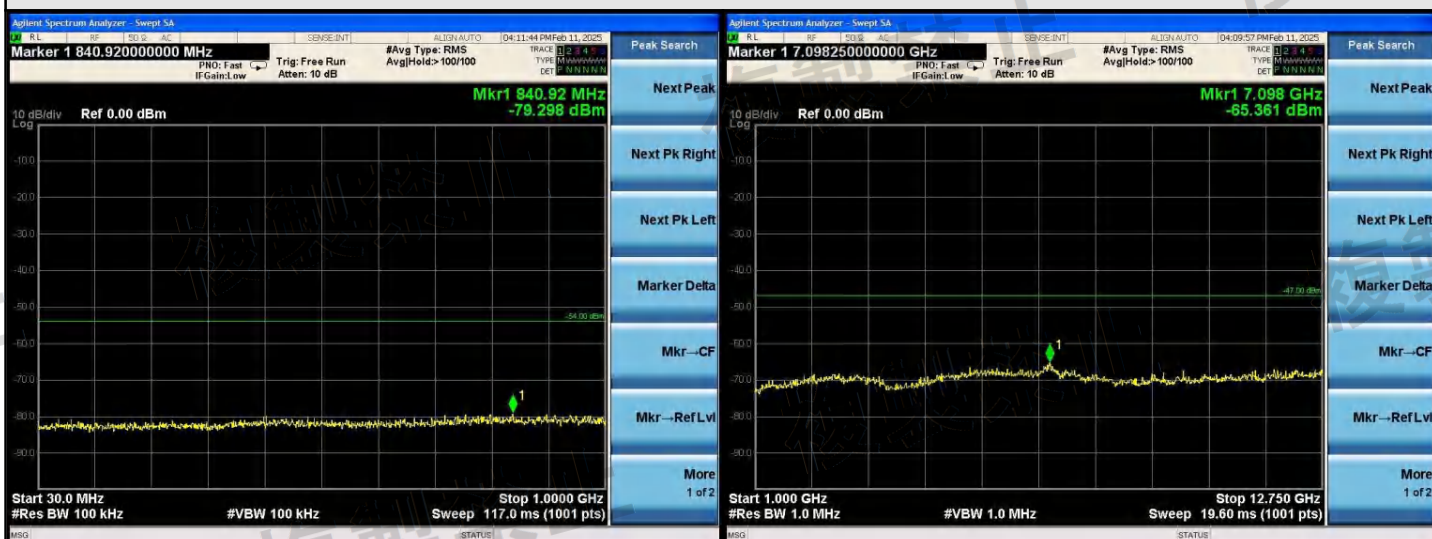
- EUT have transmitted the maximum modulation signal and fixed channelize.
- Setting of SA is following as: RB:100KHz / VB:100KHz(Below 1G), RB:1MHz / VB:1MHz(Above1G)
- AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 4nW.
- SA adjusted to start frequency 1000MHz and stop frequency 12500MHz. Then to mark peak reading value + cable loss shall be less than 20nW.

Test Data:

Test Mode	Channel (MHz)	Band(MHz)	Frequency(MHz)	Max Value(dBm)	Limit(dBm)
GFSK	2402	30-1000	840.92	-79.298	-54
		1000-12500	7098	-65.361	-47
	2441	30-1000	791.45	-78.733	-54
		1000-12500	7087	65.909	-47
	2480	30-1000	903	-79.353	-54
		1000-12500	7098	-65.640	-47
Pi/4-DQPSK	2402	30-1000	901.6	-79.153	-54
		1000-12500	7087	-66.091	-47
	2441	30-1000	895.24	-79.385	-54
		1000-12500	7181	-66.185	-47
	2480	30-1000	798.24	-78.417	-54
		1000-12500	1270.3	-65.558	-47
8DPSK	2402	30-1000	797.27	-79.649	-54
		1000-12500	7110	-67.065	-47
	2441	30-1000	898.15	-78.400	-54
		1000-12500	7051	-65.552	-47
	2480	30-1000	670.20	-78.068	-54
		1000-12500	7122	-65.527	-47

9.5 TEST RESULT

Test mode: GFSK mode 2402MHz Test Plots



Test mode: GFSK mode 2441MHz Test Plots



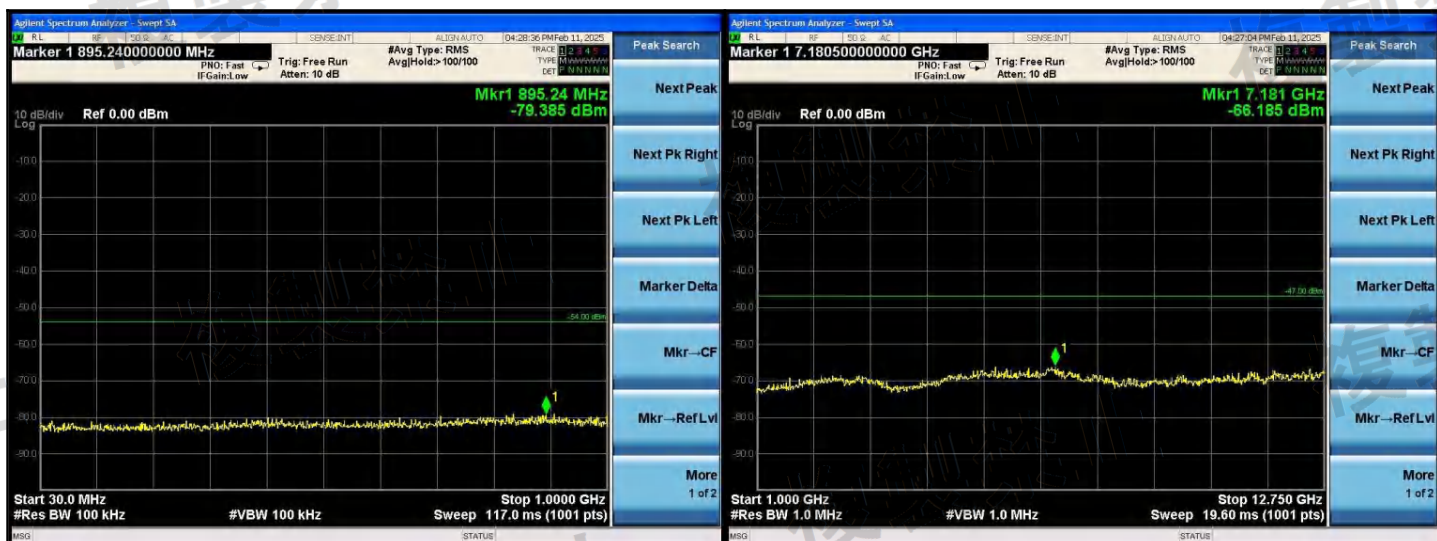
Test mode: GFSK mode 2480MHz Test Plots



Test mode: Pi/4-DQPSK mode 2402MHz Test Plots



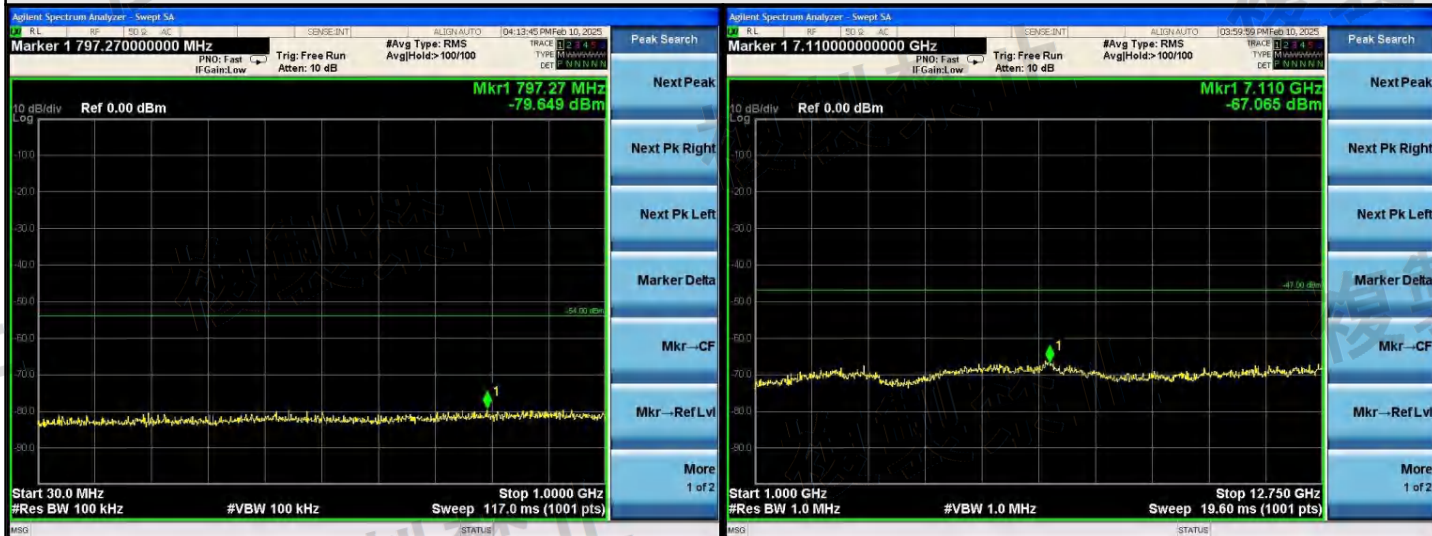
Test mode: Pi/4-DQPSK mode 2441MHz Test Plots



Test mode: Pi/4-DQPSK mode 2480MHz Test Plots



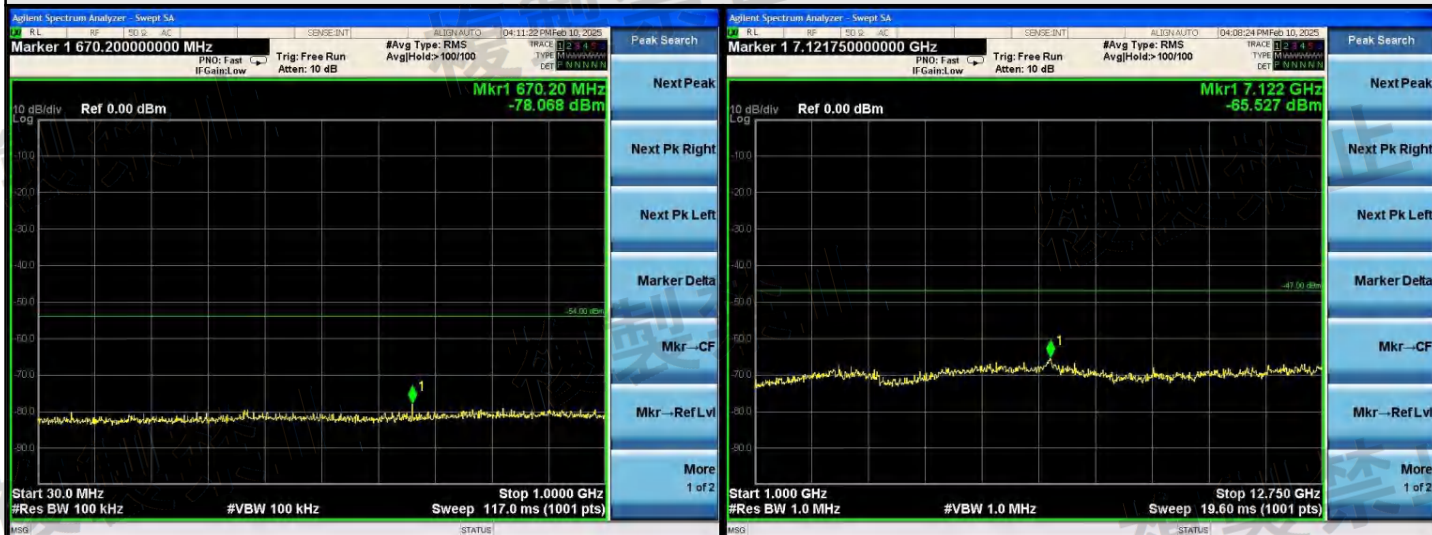
Test mode: 8-DQPSK mode 2402MHz Test Plots



Test mode: 8-DQPSK mode 2441MHz Test Plots



Test mode: 8-DQPSK mode 2480MHz Test Plots

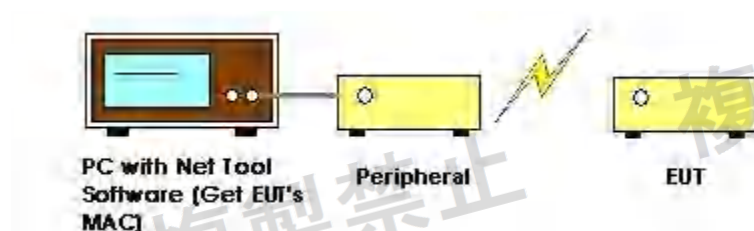


10. INTERFERENCE PREVENTION FUNCTION

10.1 LIMIT

Item	Limits
Identification Code	≥48bits

10.2 TEST SETUP



10.3 MEASURING EQUIPMENT CONDITIONS

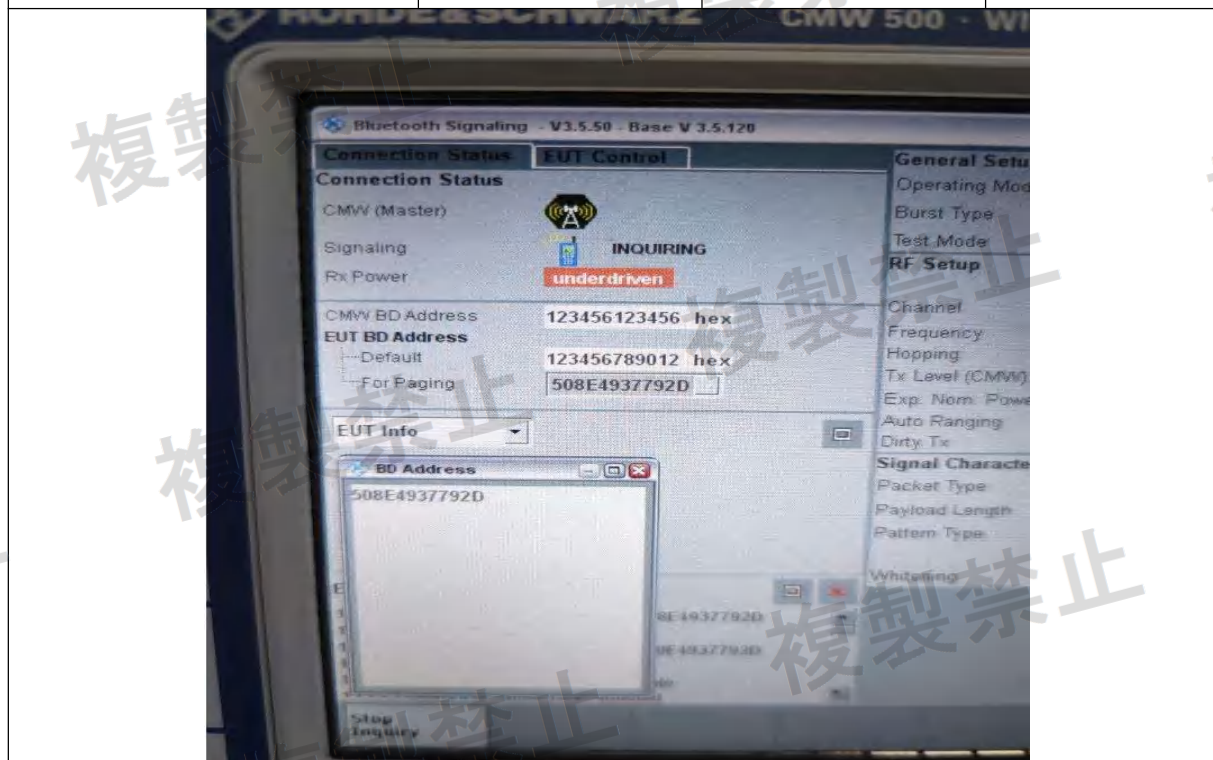
1. The demodulator shall be able to demodulate the transmitting signal from the radio equipment and to display contents of the identification code.
2. The opposite equipment shall be able to transmit the identification code as same as the transmitting signal from the radio equipment

10.4 MEASURING OPERATION PROCEDURES

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

10.5 TEST RESULT

Identification Code	Length(bits)	Limit(bits)	Result
50:8E:49:37:79:2D	48	≥48	Pass



---END---