

Appendix Test Data

Project No.:	18220WC10140601	Test Date:	2021.6.26
Test Engineer:	<i>Tomy He</i>	Auditor:	<i>Edward Pan</i>
Temperature:	24.3°C	Relative Humidity:	56 %
Pressure:	1012 hPa		

1. Bandwidth

1.1 OBW

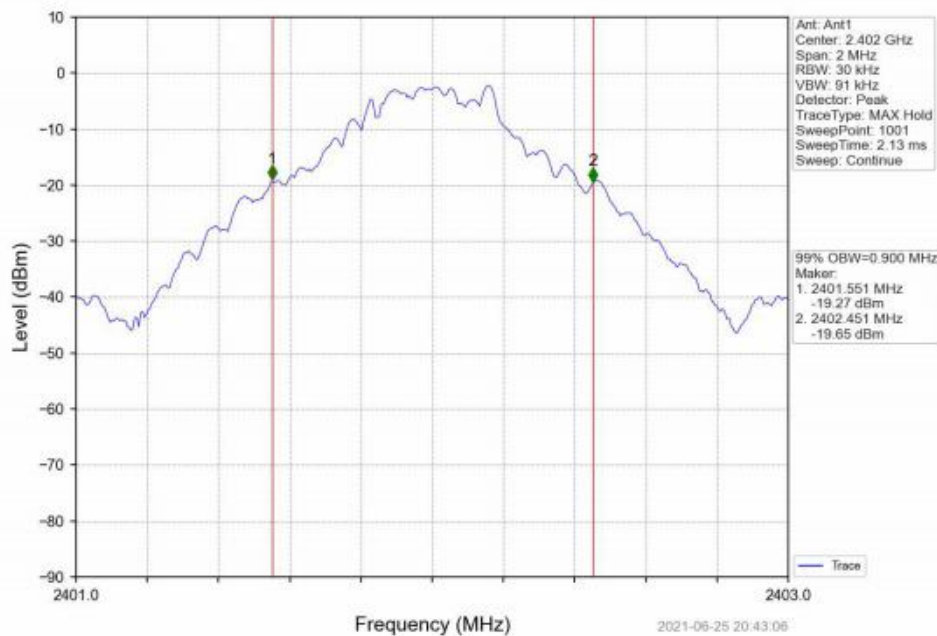
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Ant	99% Occupied Bandwidth (MHz)	Limit	Verdict
GFSK	SISO	2402	DH5	1	0.90	/	Note1
		2441	DH5	1	0.90	/	Note1
		2480	DH5	1	0.90	/	Note1
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.18	/	Note1
		2441	2DH5	1	1.17	/	Note1
		2480	2DH5	1	1.17	/	Note1
8DPSK	SISO	2402	3DH5	1	1.19	/	Note1
		2441	3DH5	1	1.19	/	Note1
		2480	3DH5	1	1.18	/	Note1

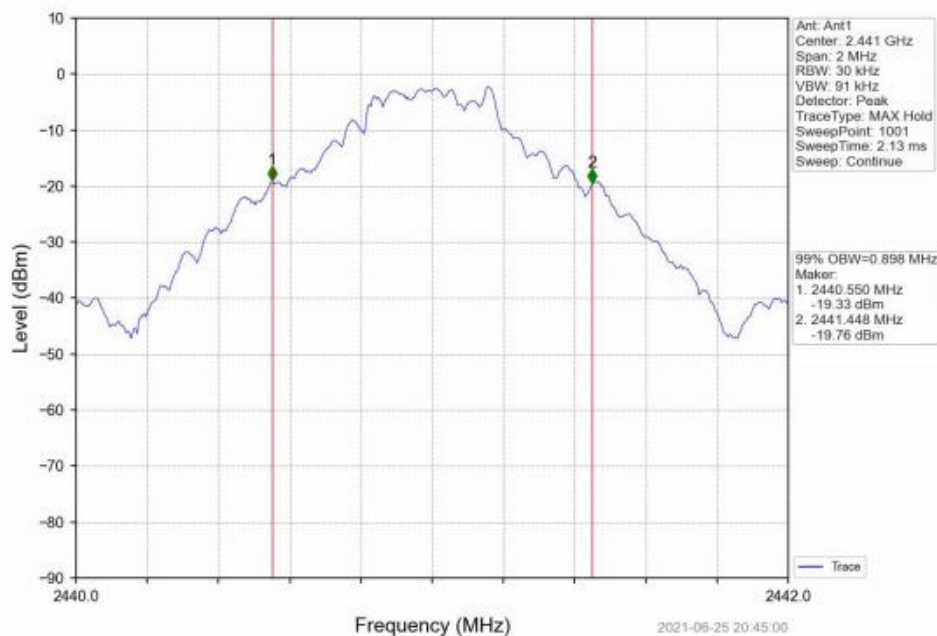
Note1: Only for Report Use

1.1.2 Test Graph

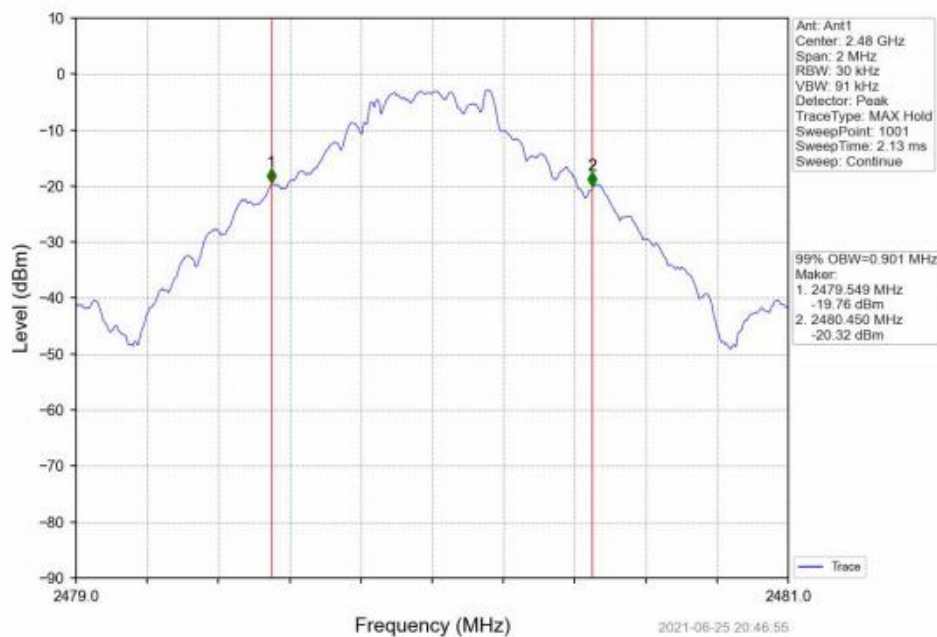
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



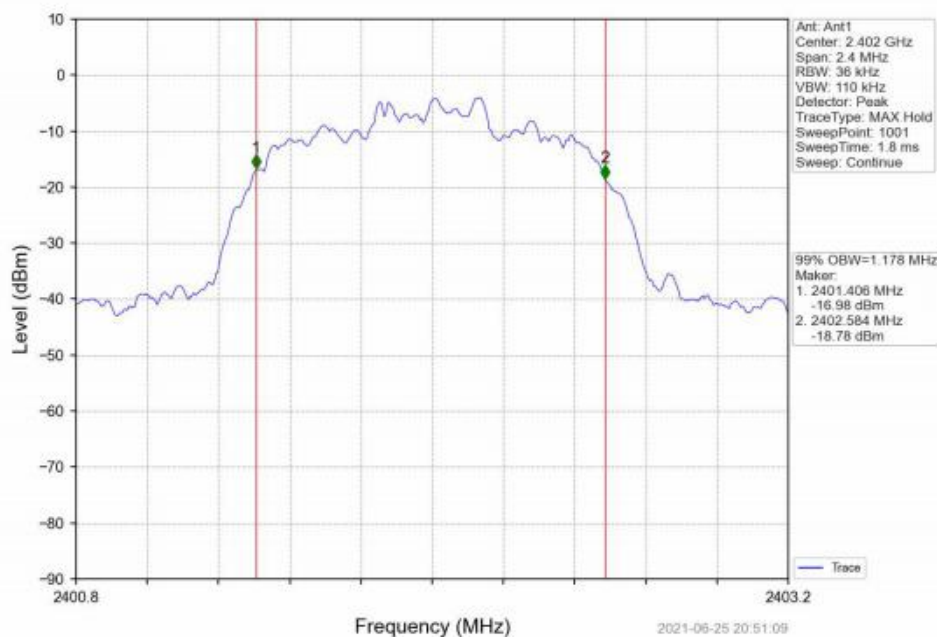
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



GFSK_DH5_HCH_2480MHz_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



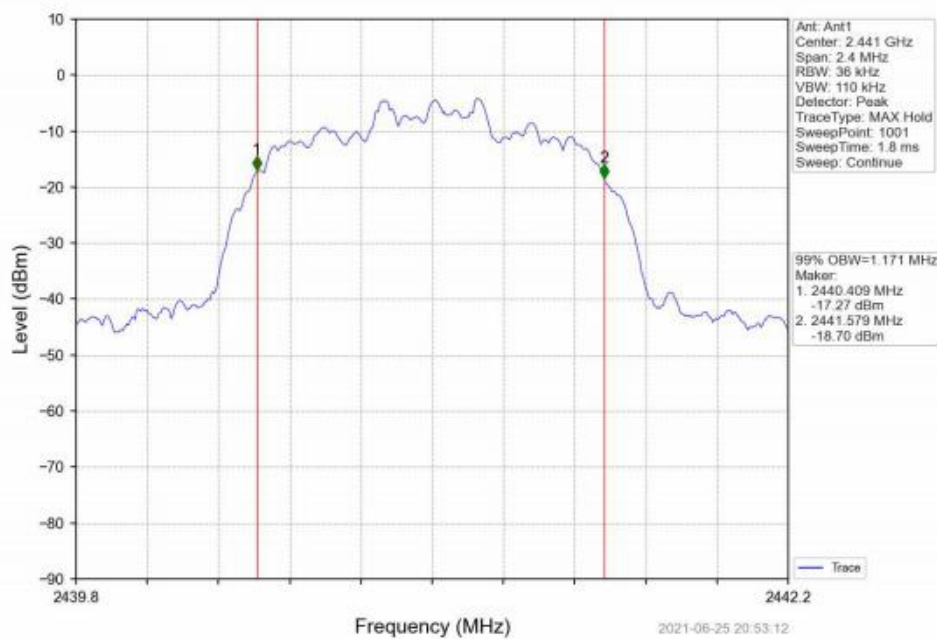
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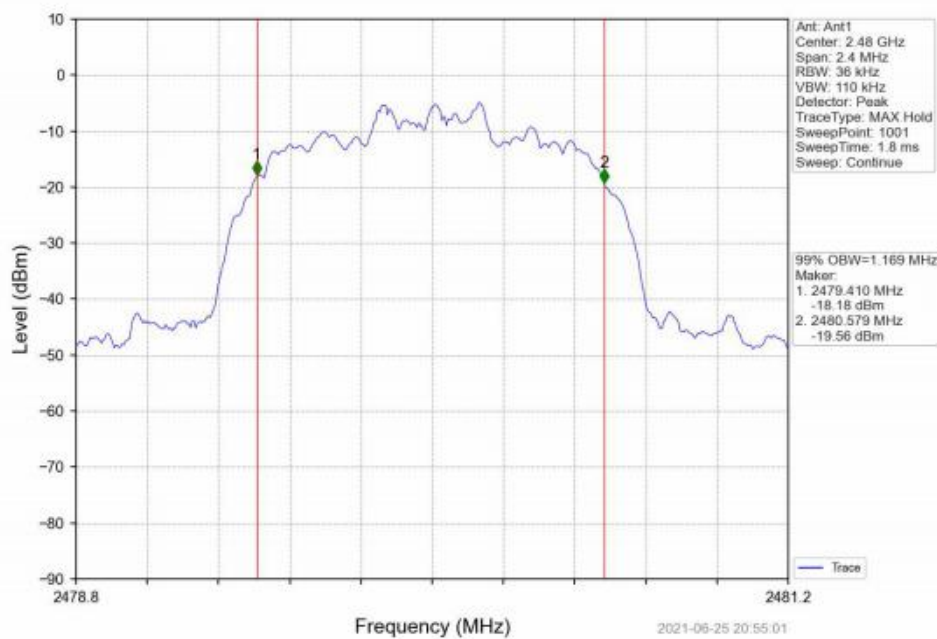
Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotech.com

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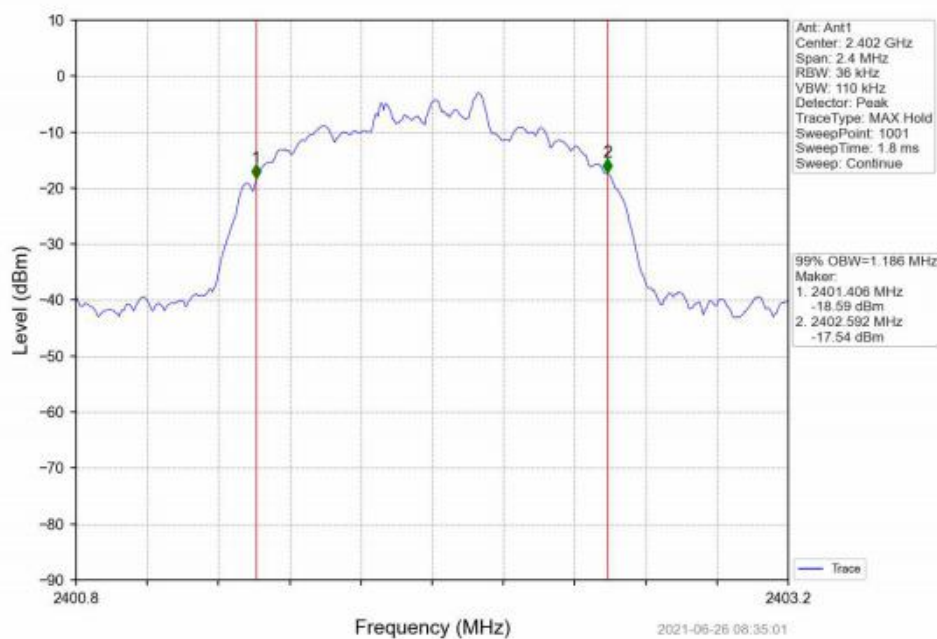
π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



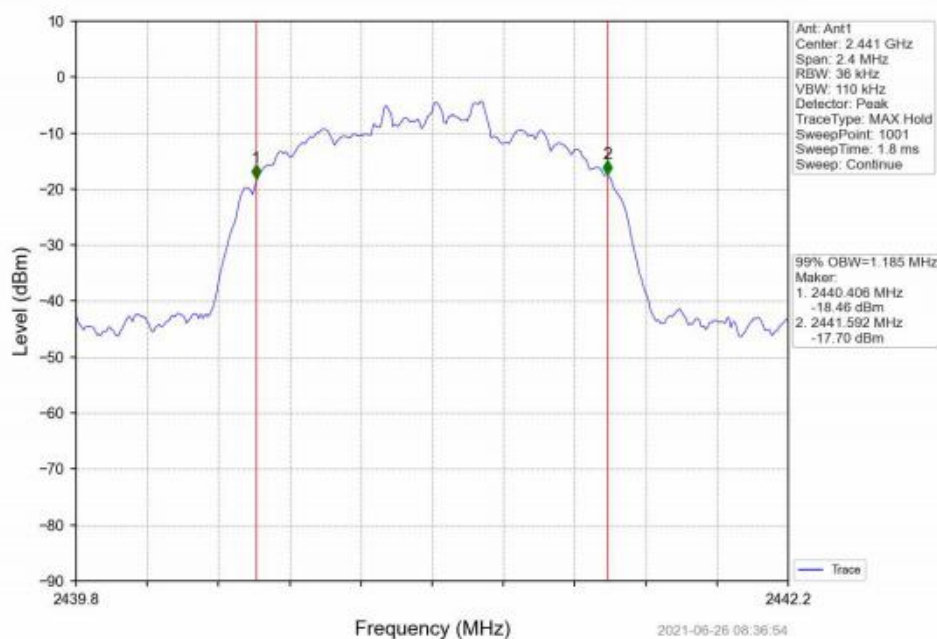
π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV

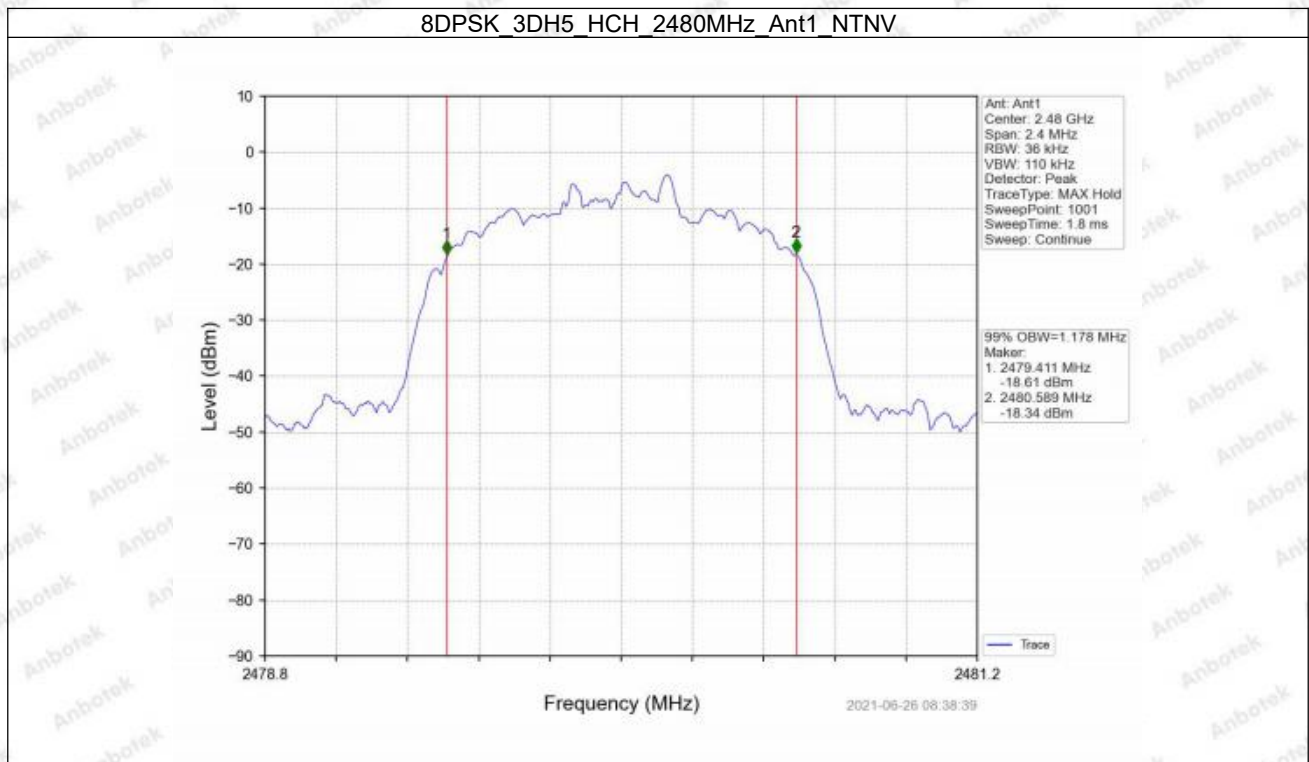


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1.2 20dB BW

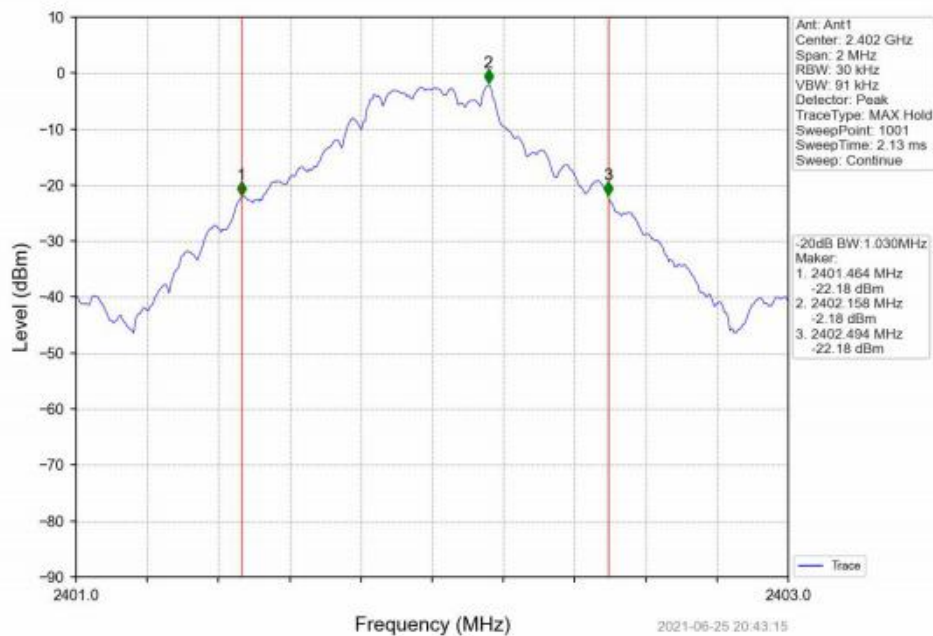
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Ant	20dB Bandwidth (MHz)	Limit	Verdict
GFSK	SISO	2402	DH5	1	1.03	/	Note1
		2441	DH5	1	1.04	/	Note1
		2480	DH5	1	1.04	/	Note1
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.32	/	Note1
		2441	2DH5	1	1.31	/	Note1
		2480	2DH5	1	1.32	/	Note1
8DPSK	SISO	2402	3DH5	1	1.31	/	Note1
		2441	3DH5	1	1.31	/	Note1
		2480	3DH5	1	1.30	/	Note1

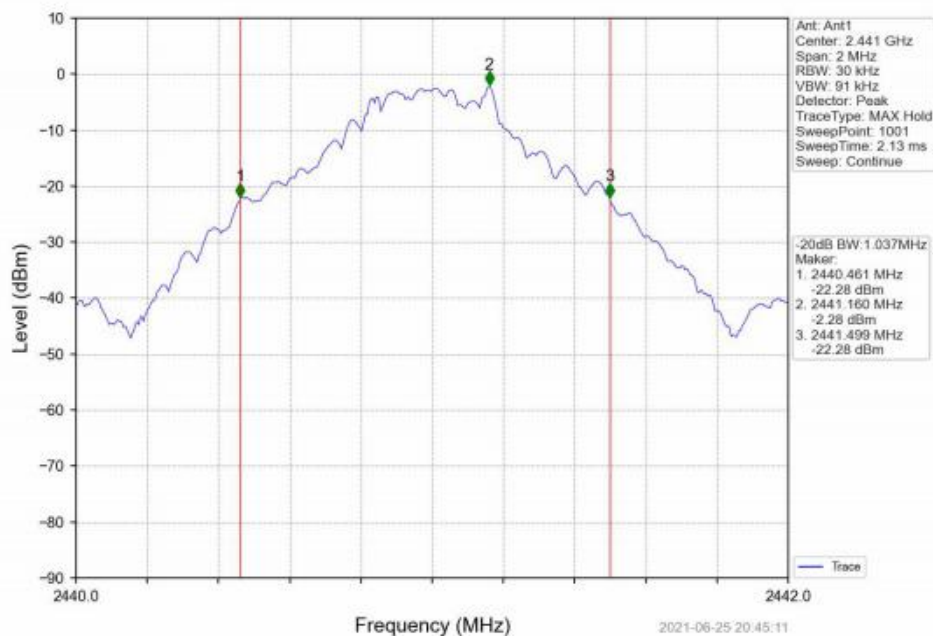
Note1: Only for Report Use

1.2.2 Test Graph

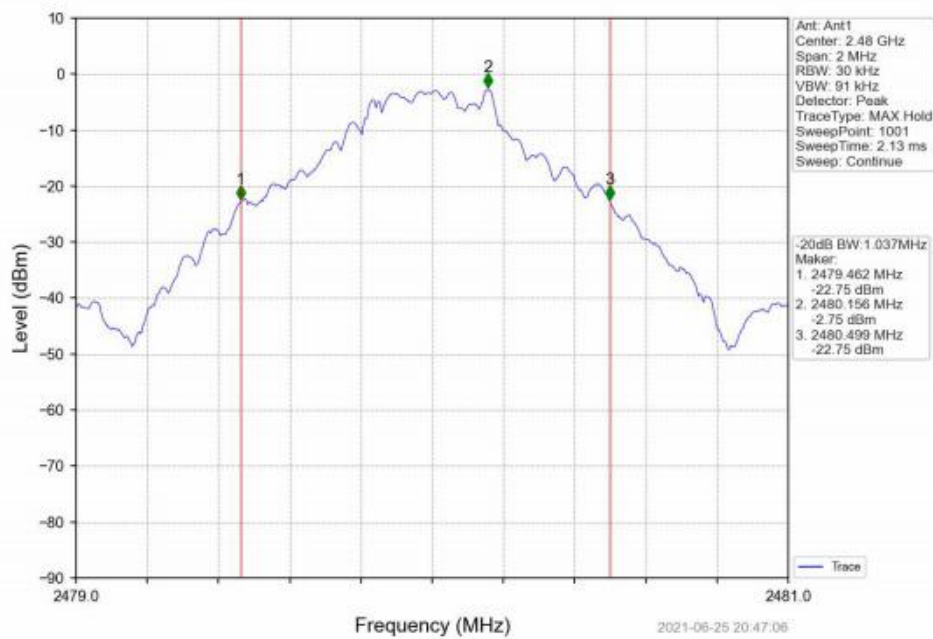
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



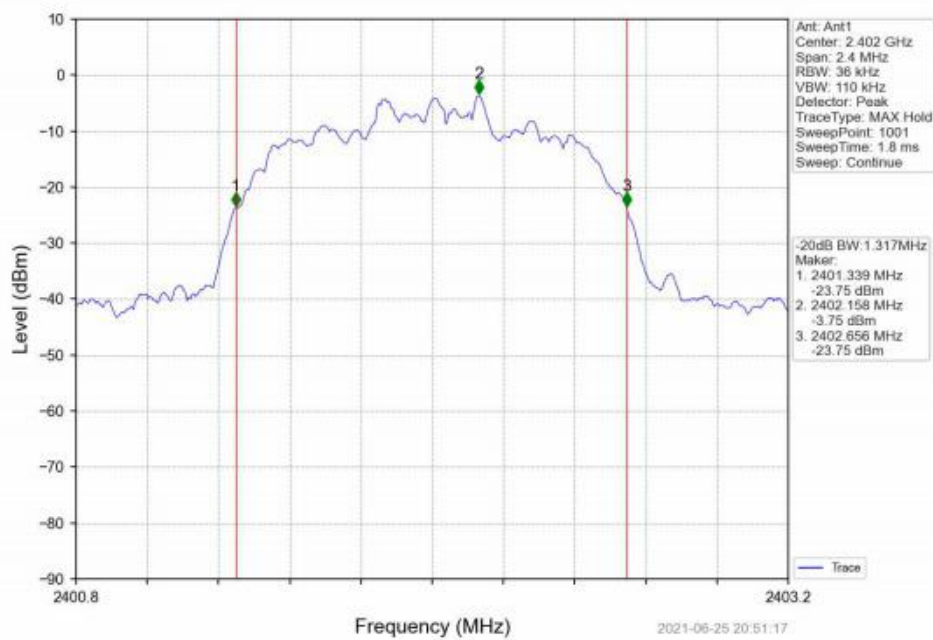
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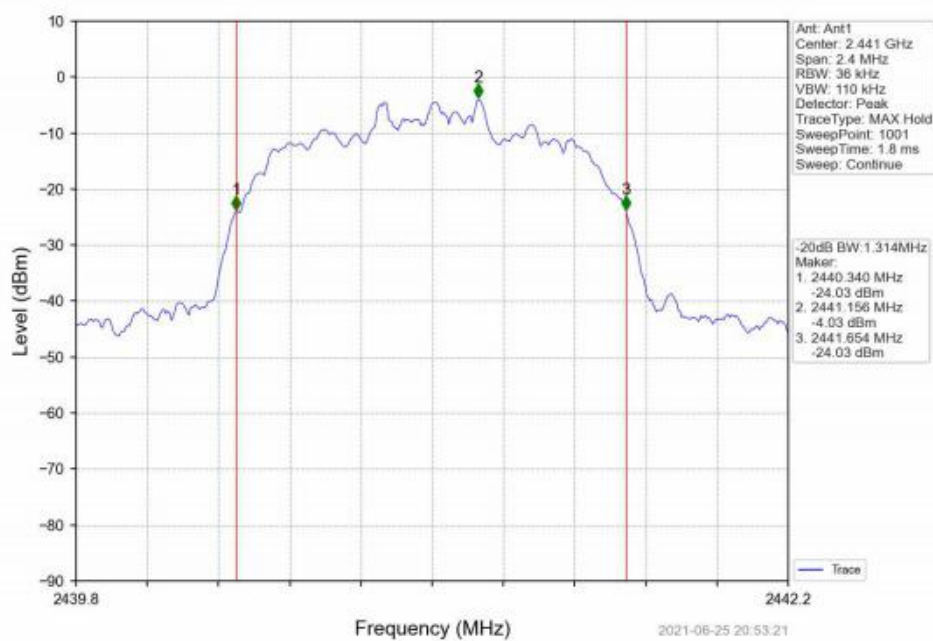
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



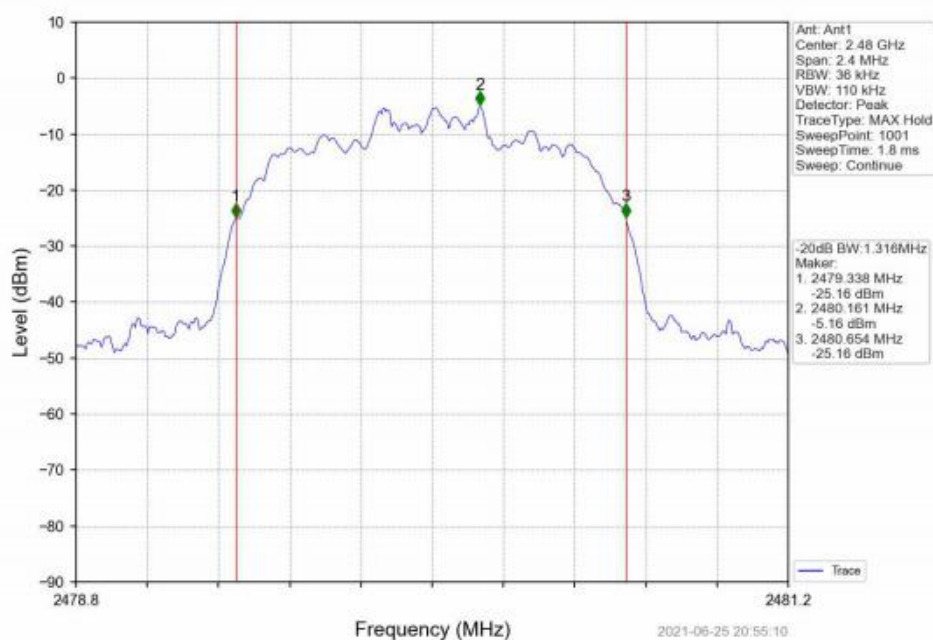
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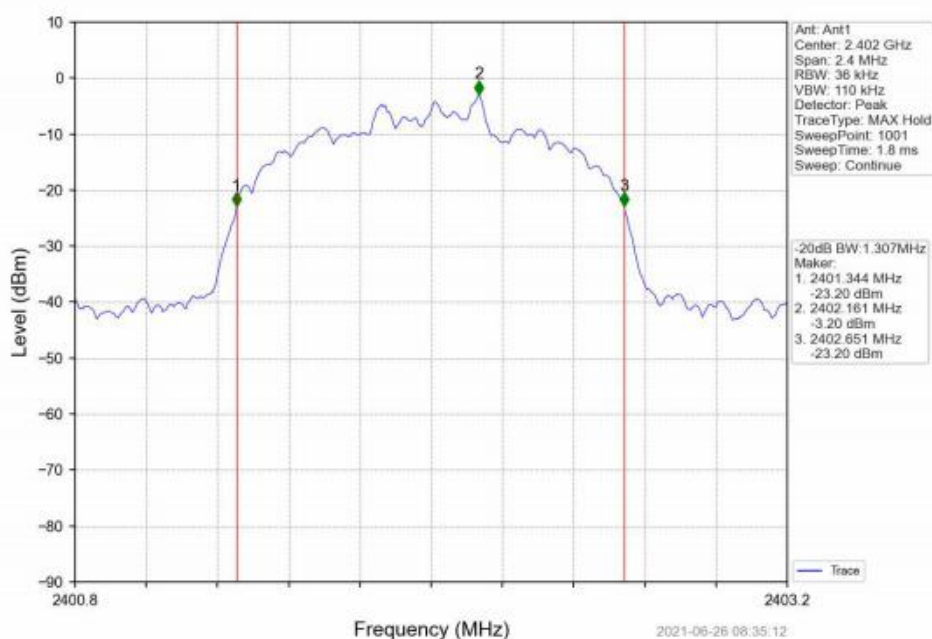
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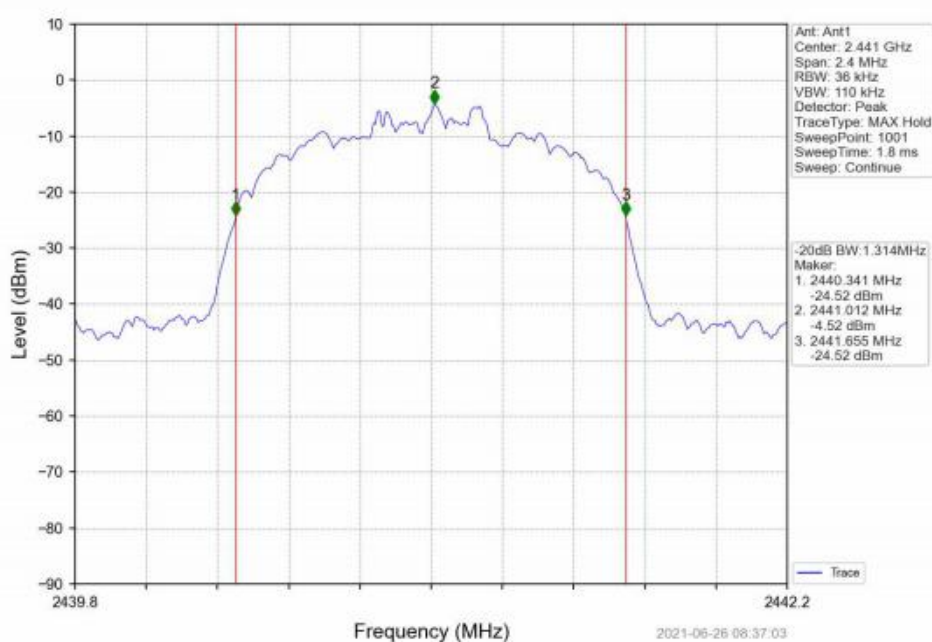
π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

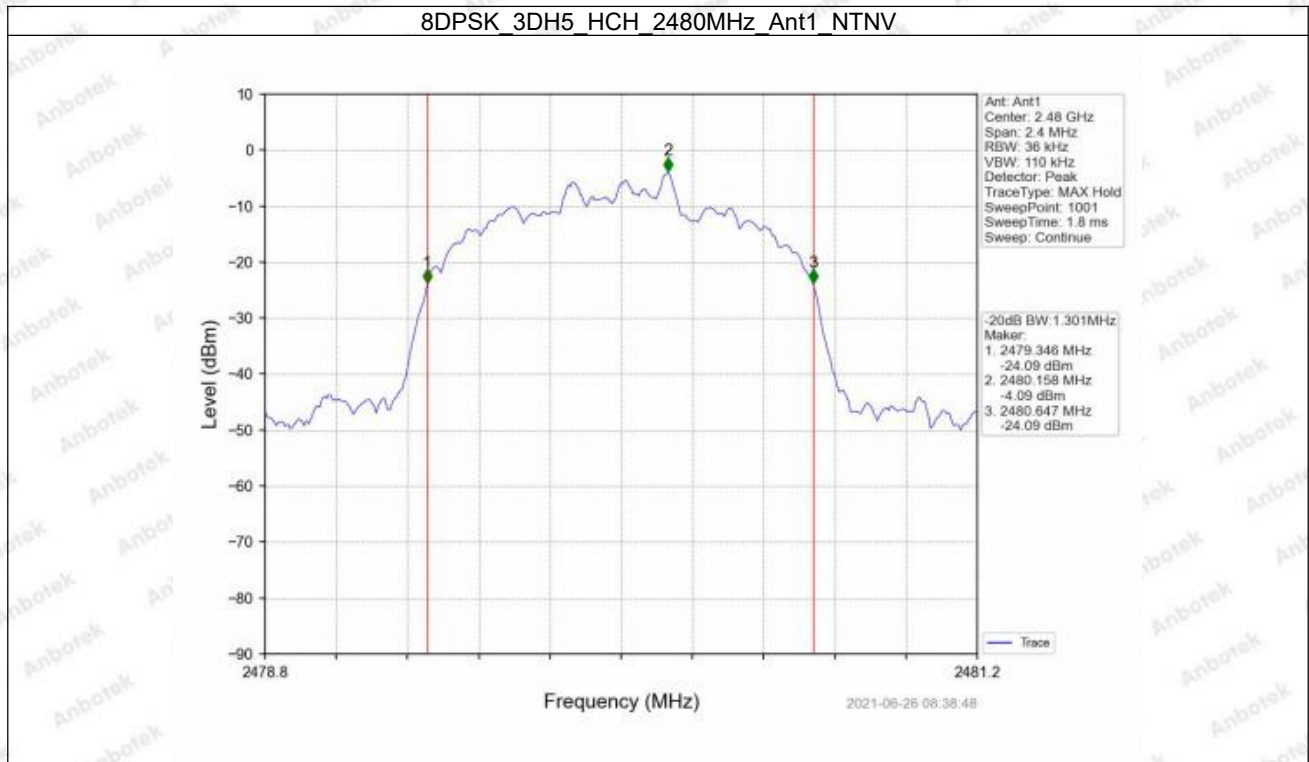


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





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2. Maximum Conducted Output Power

2.1 Power

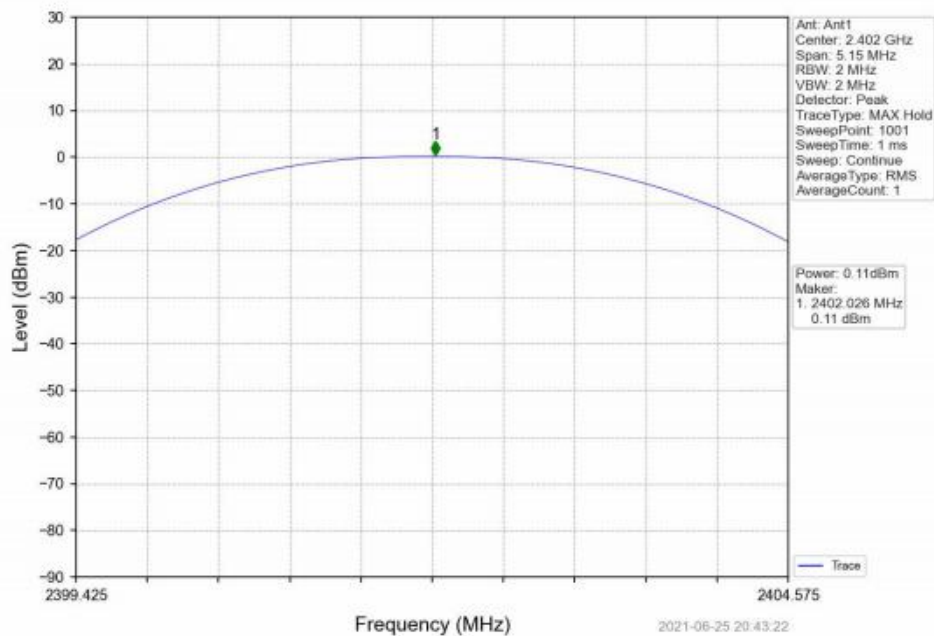
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Measured Peak Output Power (dBm)	Limit (dBm)	Verdict
				Ant1		
GFSK	SISO	2402	DH5	0.11	<=20.97	Pass
		2441	DH5	0.10	<=20.97	Pass
		2480	DH5	-0.35	<=20.97	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	-0.49	<=20.97	Pass
		2441	2DH5	-0.64	<=20.97	Pass
		2480	2DH5	-1.24	<=20.97	Pass
8DPSK	SISO	2402	3DH5	-0.42	<=20.97	Pass
		2441	3DH5	-0.54	<=20.97	Pass
		2480	3DH5	-1.16	<=20.97	Pass

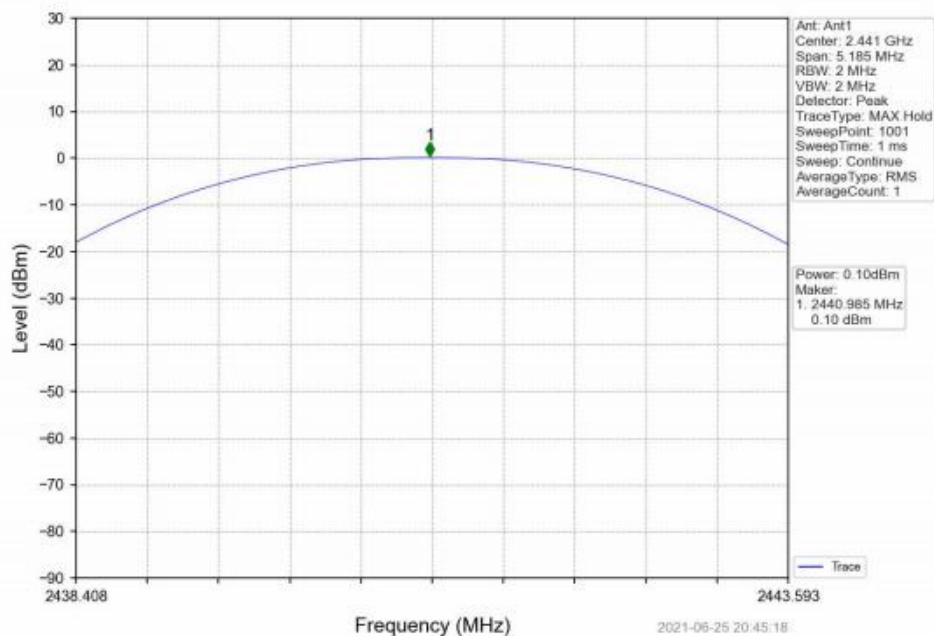
Note1: Antenna Gain: -0.58dBi;

2.1.2 Test Graph

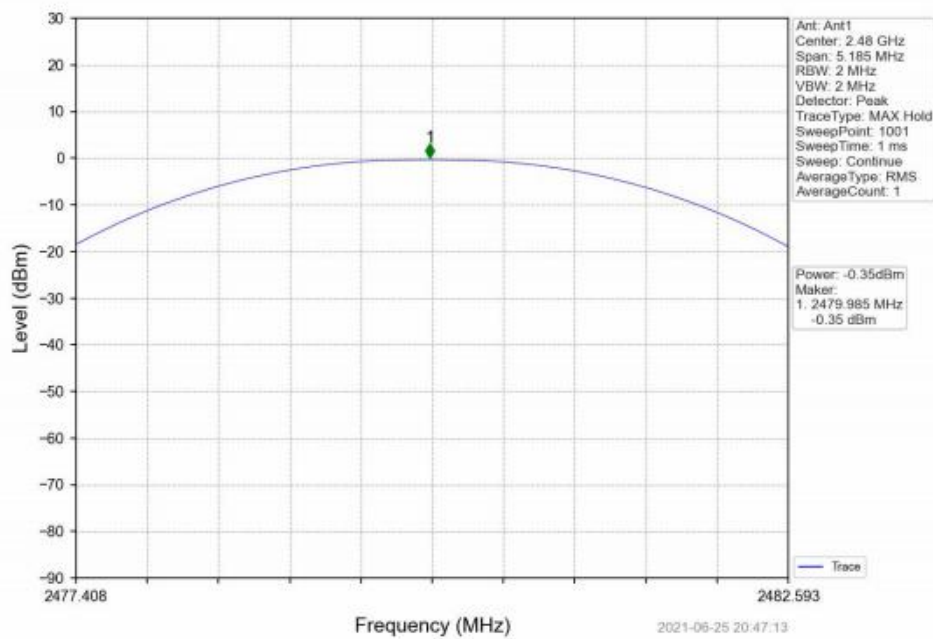
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



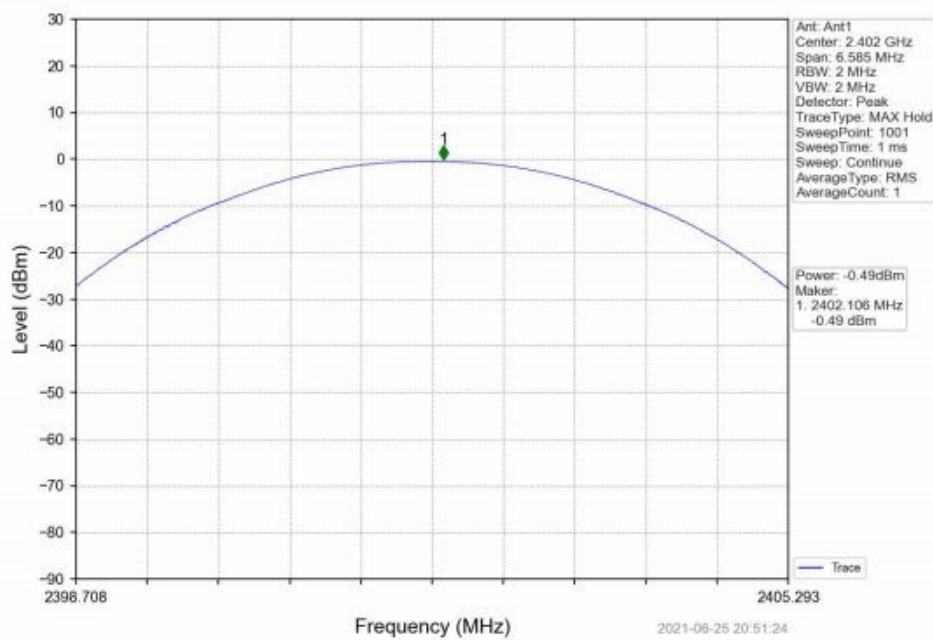
GFSK_DH5_MCH_2441MHz_Ant1_NTNV

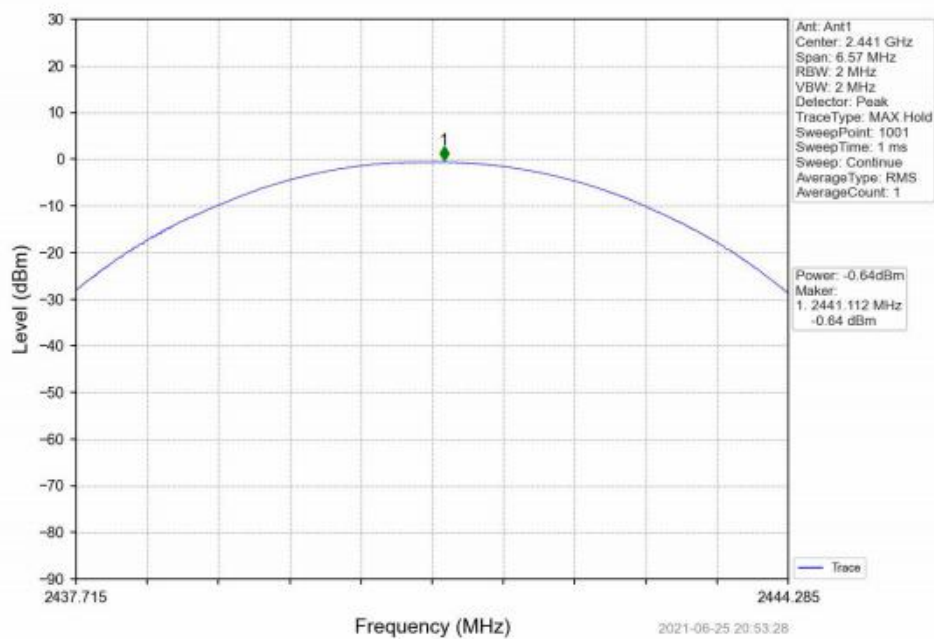
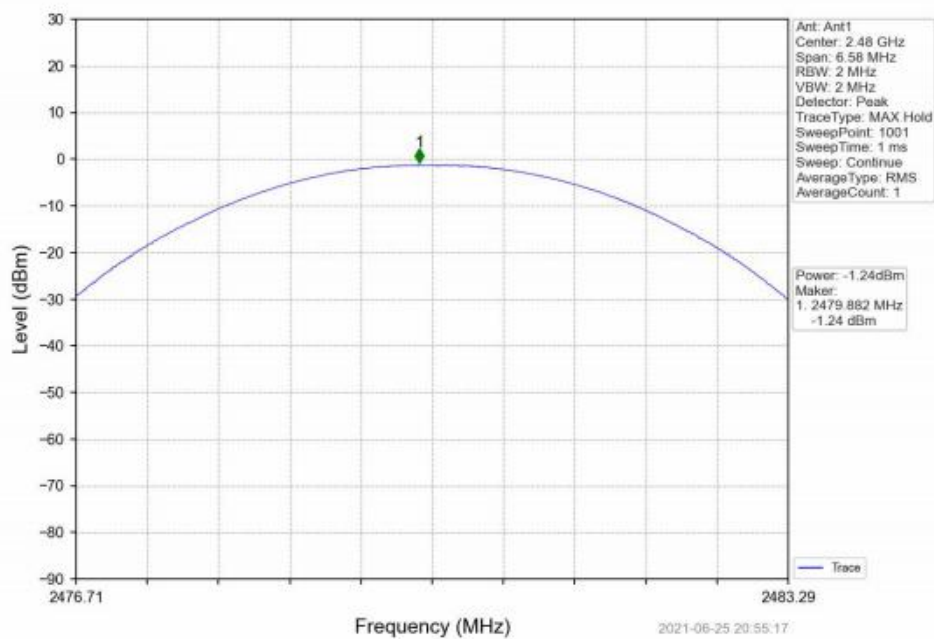


GFSK_DH5_HCH_2480MHz_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV**Shenzhen Anbotek Compliance Laboratory Limited**

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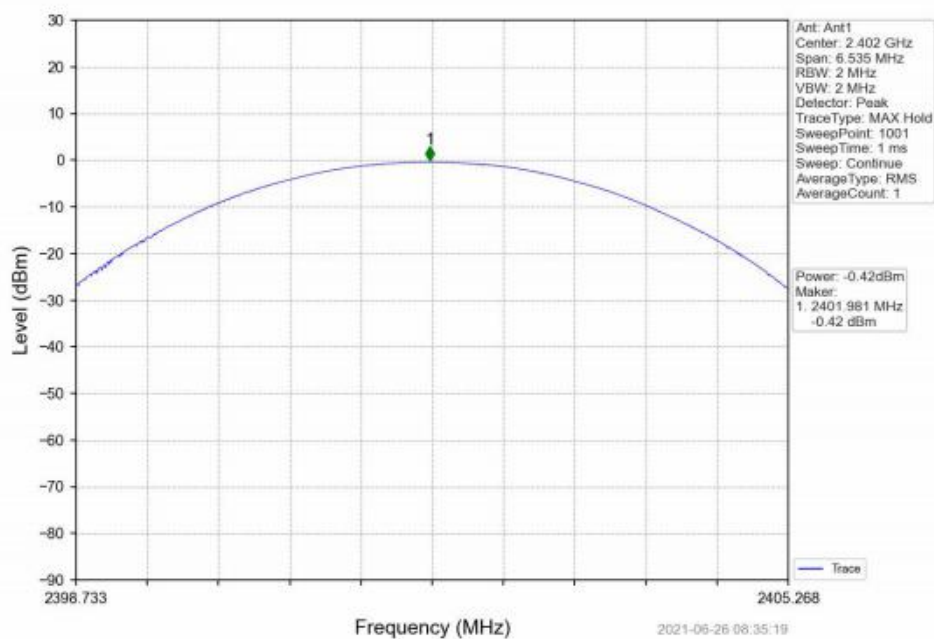


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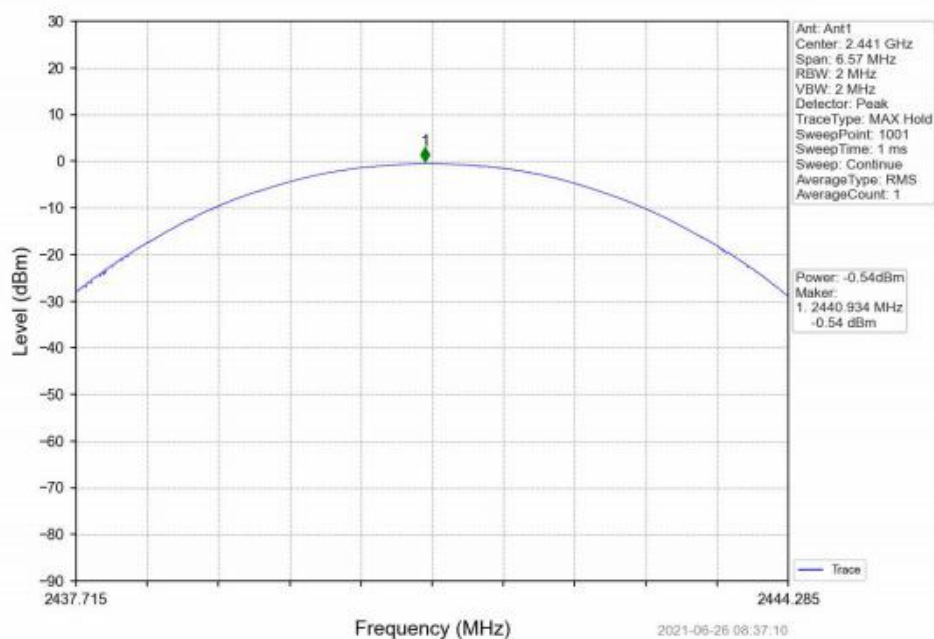
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8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





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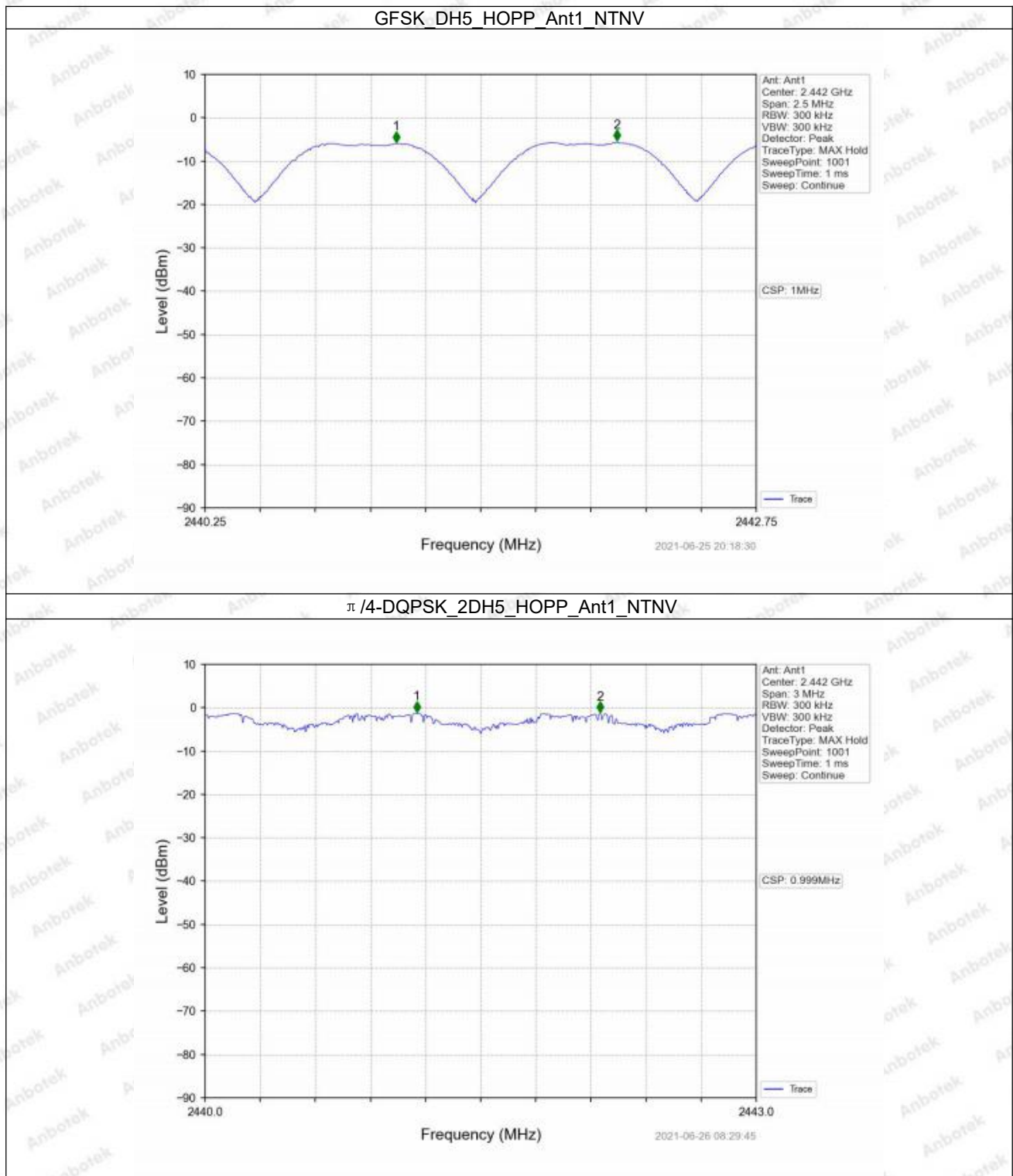
3. Carrier Frequency Separation

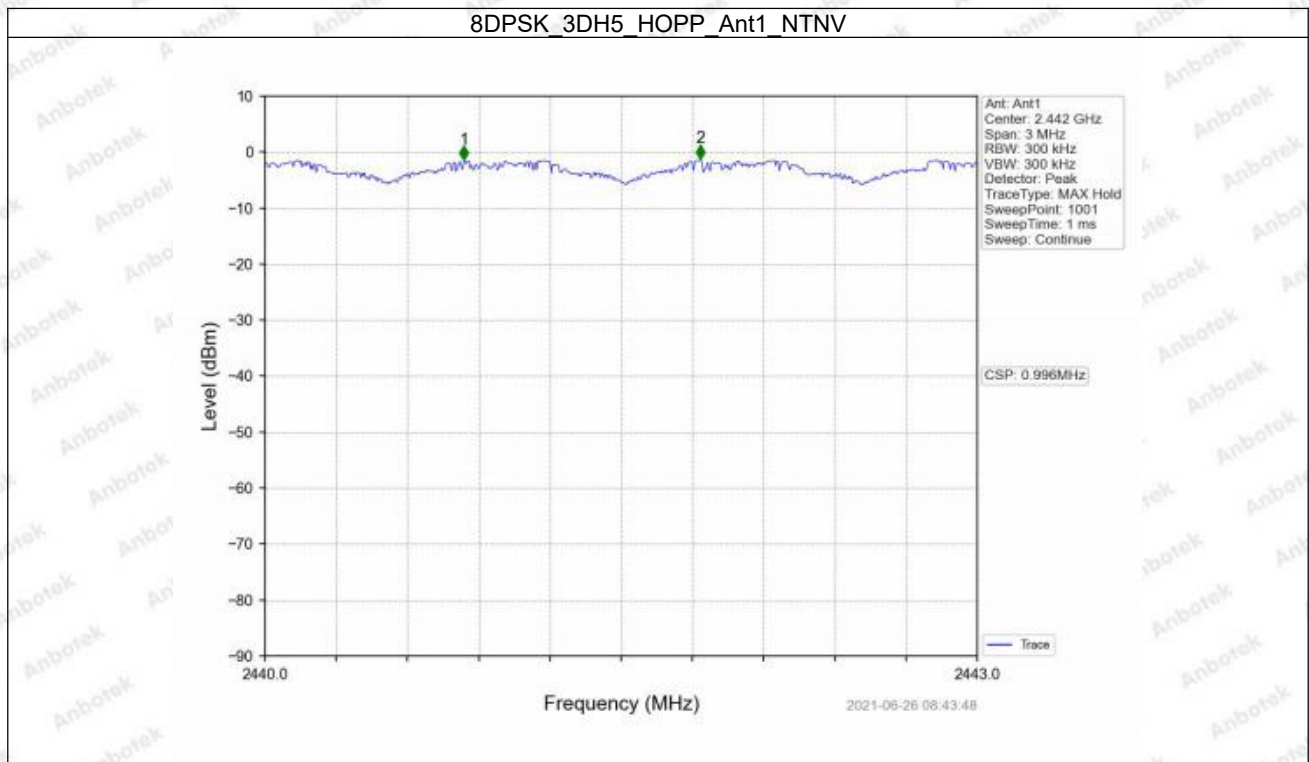
3.1 Ant1

3.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.00	1.03	≥ 0.687	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	1.00	1.32	≥ 0.878	Pass
8DPSK	SISO	HOPP	3DH5	1.00	1.31	≥ 0.871	Pass

3.1.2 Test Graph



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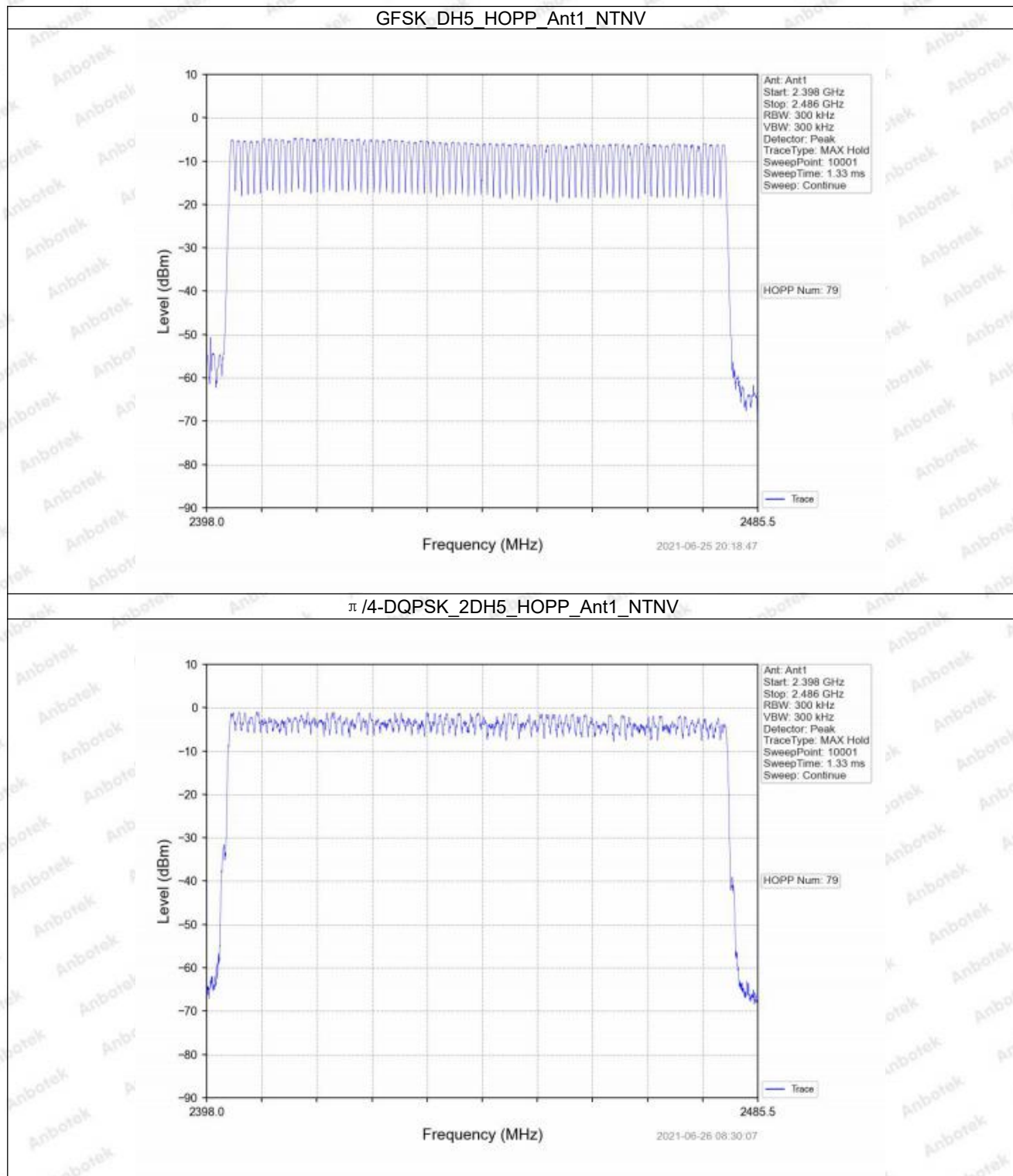
4. Number of Hopping Frequencies

4.1 HopNum

4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies	Limit	Verdict
				Ant1		
GFSK	SISO	HOPP	DH5	79	>=15	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	79	>=15	Pass
8DPSK	SISO	HOPP	3DH5	79	>=15	Pass

4.1.2 Test Graph



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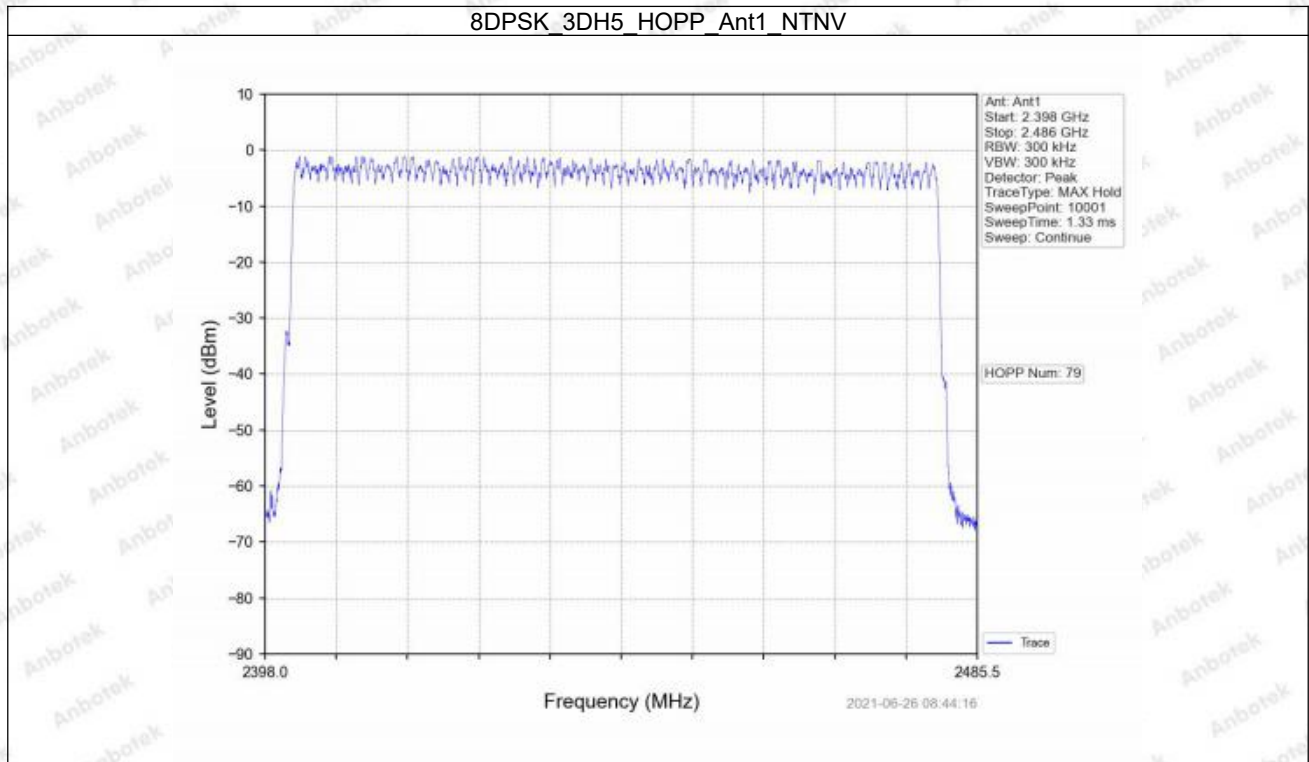
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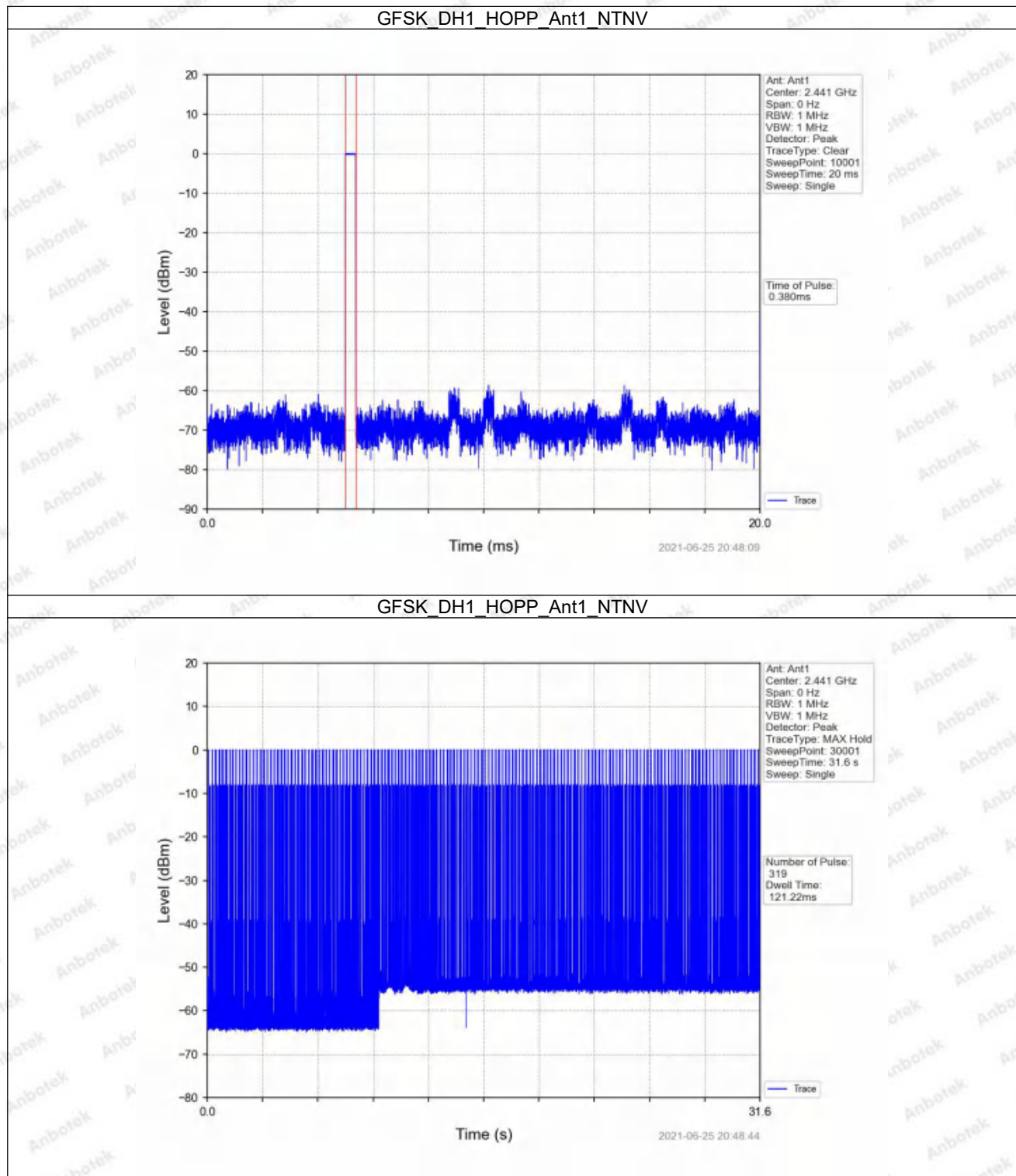
5. Time of Occupancy (Dwell Time)

5.1 Ant1

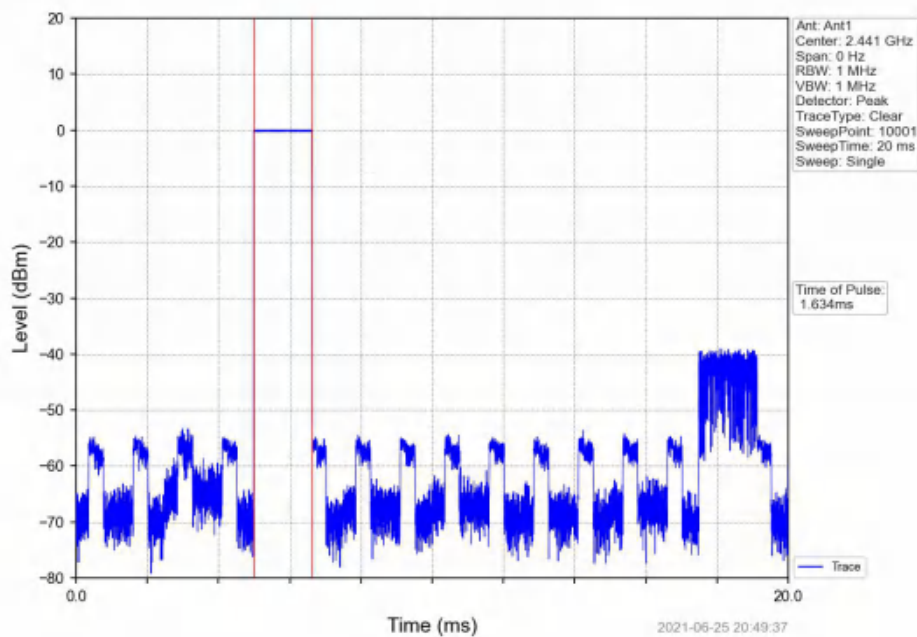
5.1.1 Test Result

Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.38	31.60	319	121.22	<=400	Pass
			DH3	1.63	31.60	164	267.98	<=400	Pass
			DH5	2.88	31.60	106	305.07	<=400	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH1	0.39	31.60	319	123.13	<=400	Pass
			2DH3	1.64	31.60	164	268.63	<=400	Pass
			2DH5	2.89	31.60	110	317.68	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.39	31.60	319	123.77	<=400	Pass
			3DH3	1.64	31.60	164	268.30	<=400	Pass
			3DH5	2.89	31.60	106	306.13	<=400	Pass

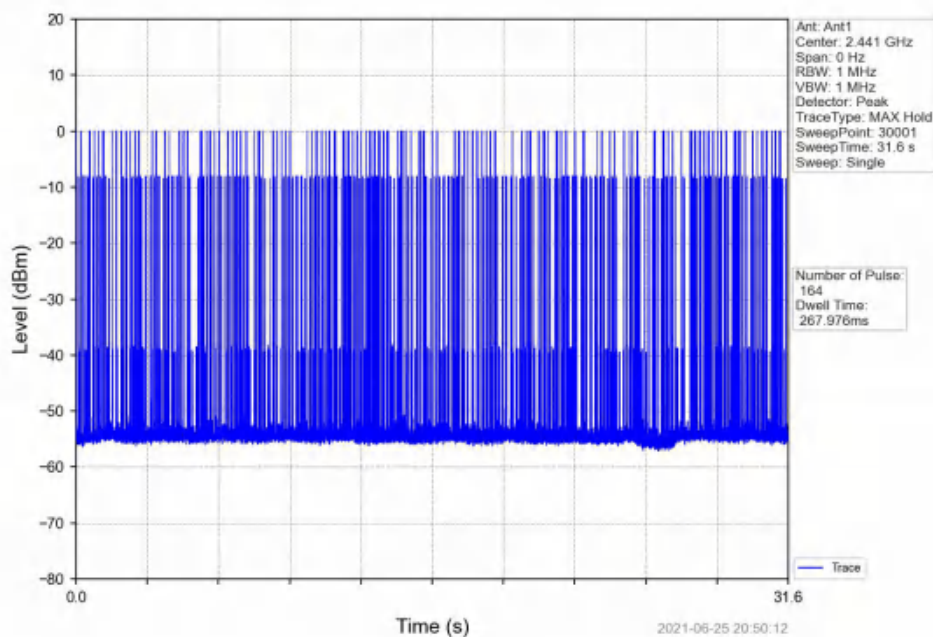
5.1.2 Test Graph



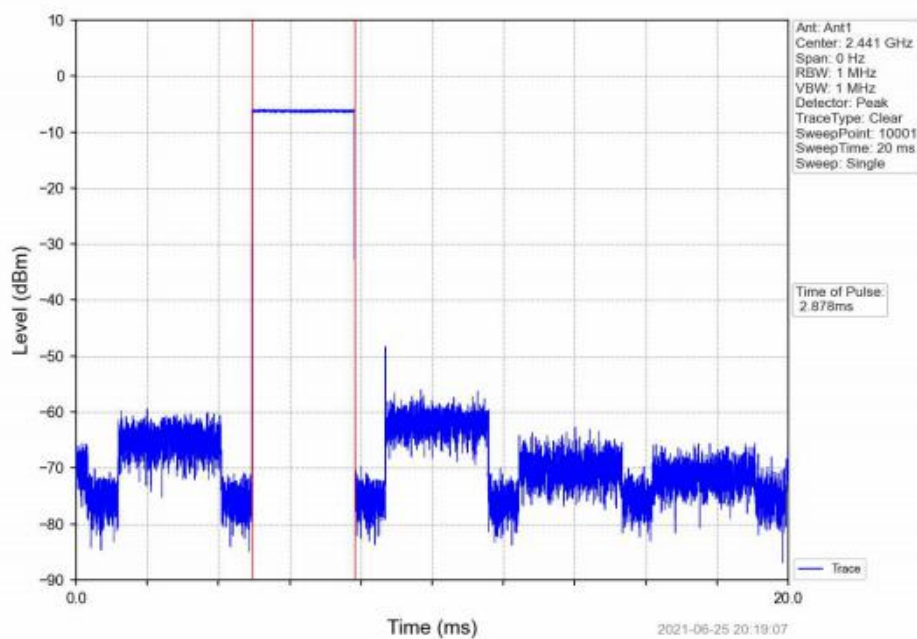
GFSK_DH3_HOPP_Ant1_NTNV



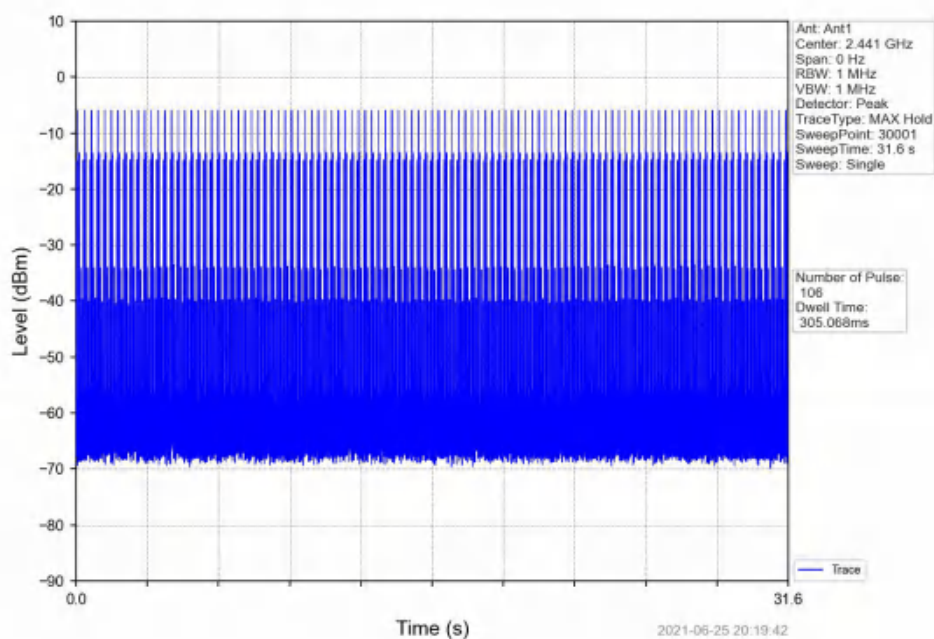
GFSK_DH3_HOPP_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV

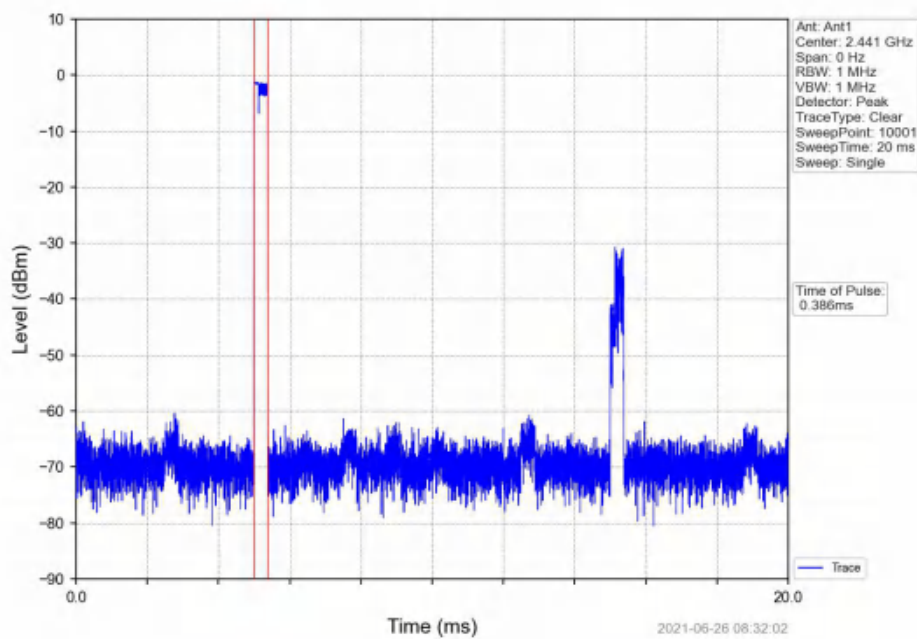
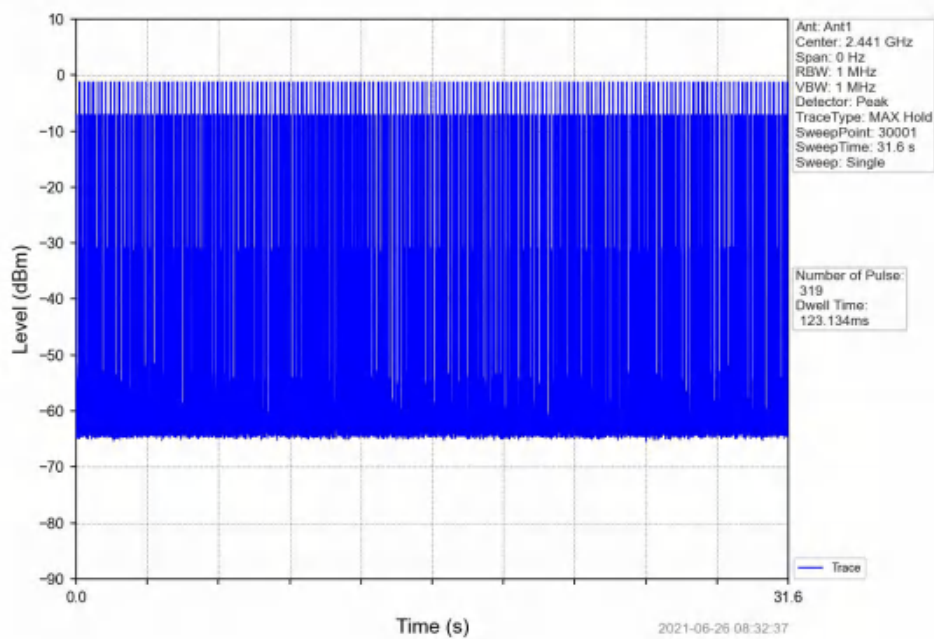


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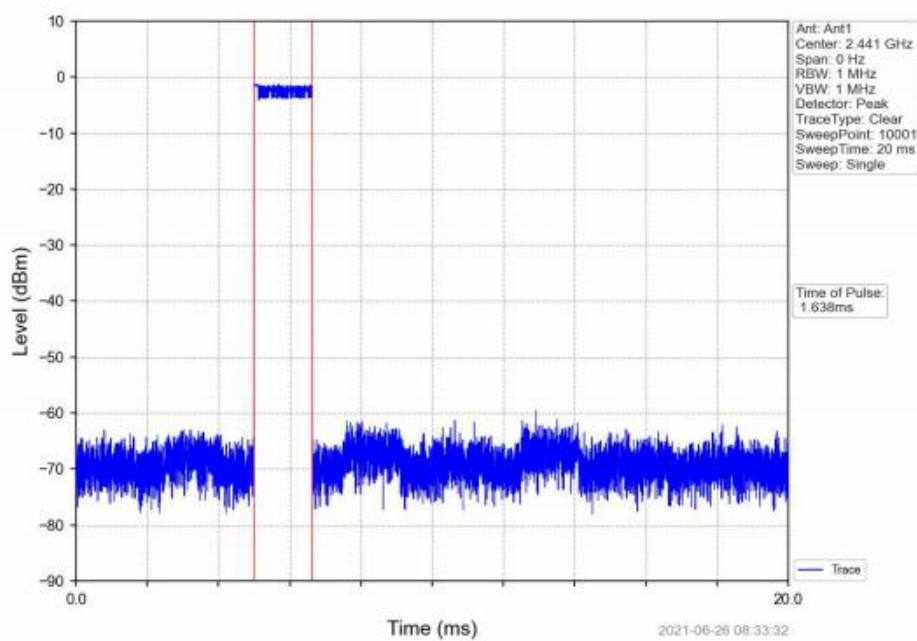
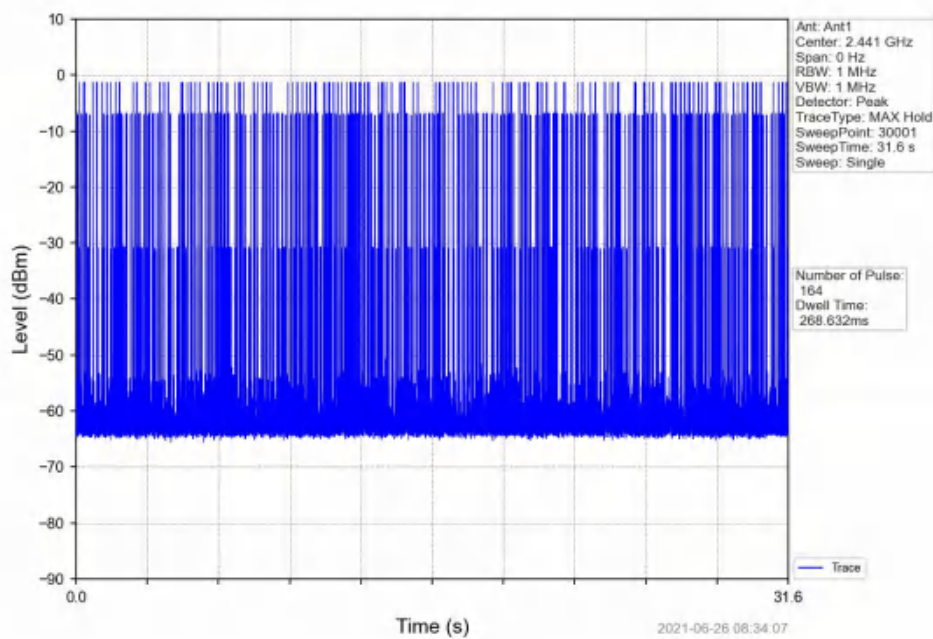
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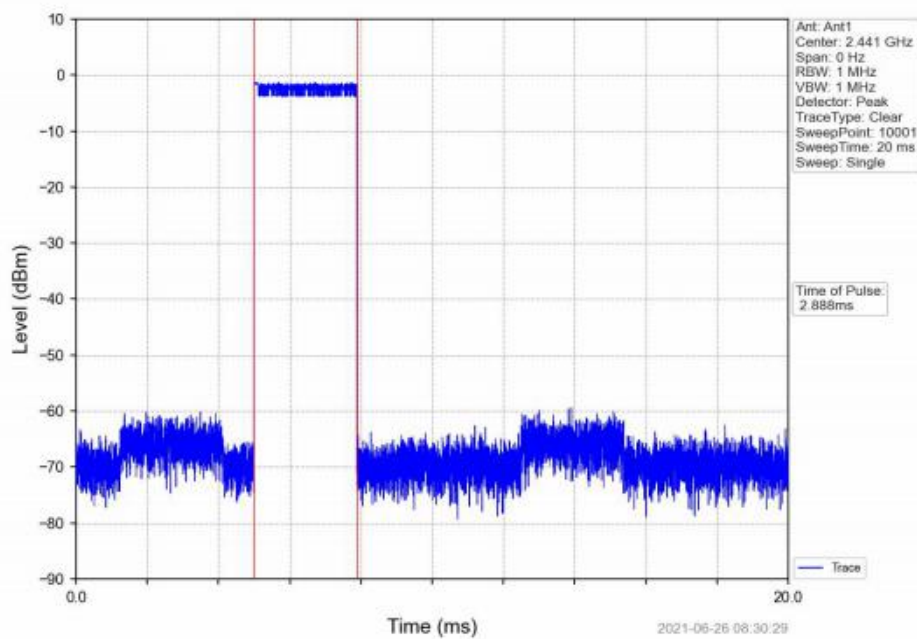
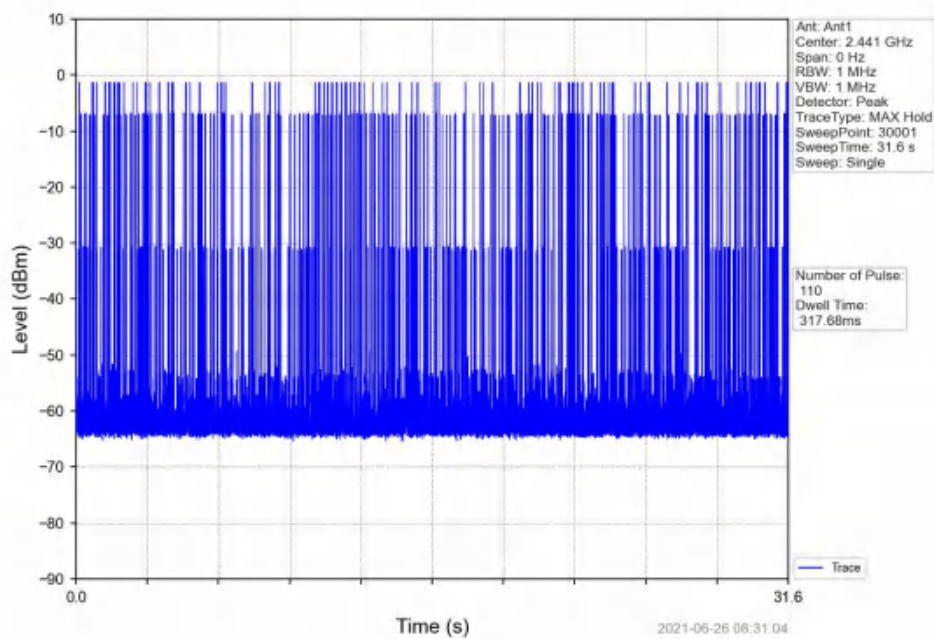
π /4-DQPSK_2DH1_HOPP_Ant1_NTNV π /4-DQPSK_2DH1_HOPP_Ant1_NTNV**Shenzhen Anbotek Compliance Laboratory Limited**

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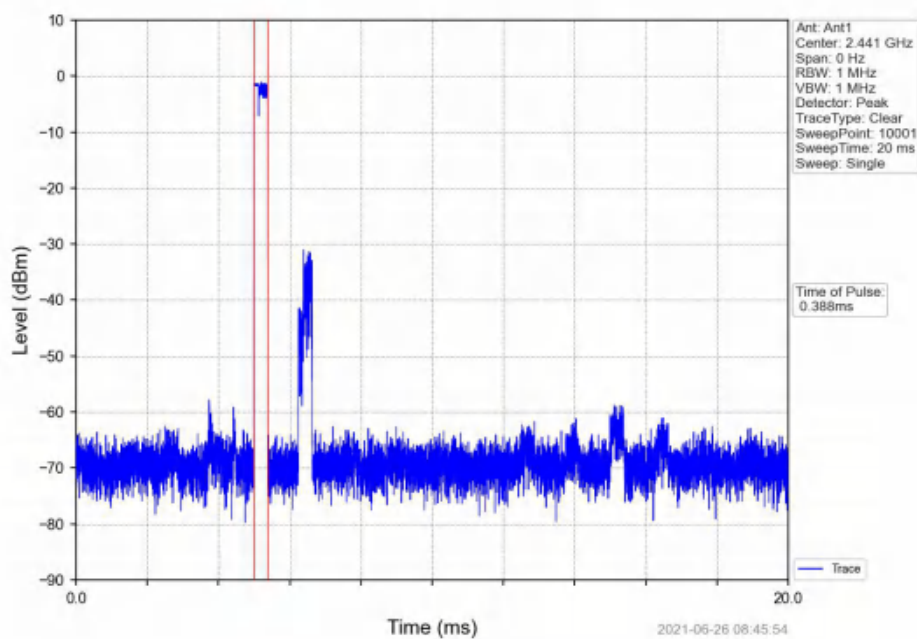
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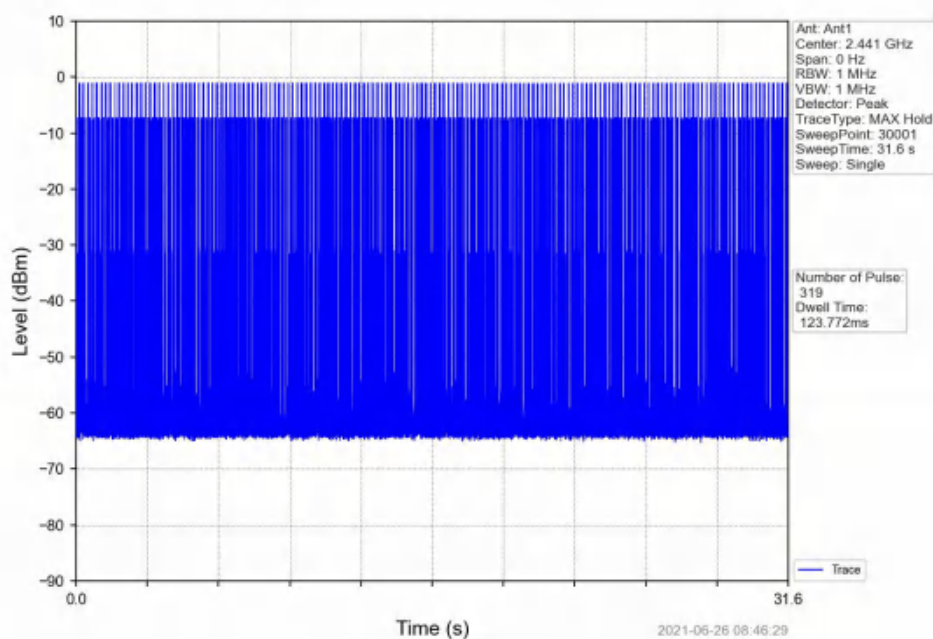
$\pi/4$ -DQPSK_2DH3_HOPP_Ant1_NTNV $\pi/4$ -DQPSK_2DH3_HOPP_Ant1_NTNV

$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV $\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV

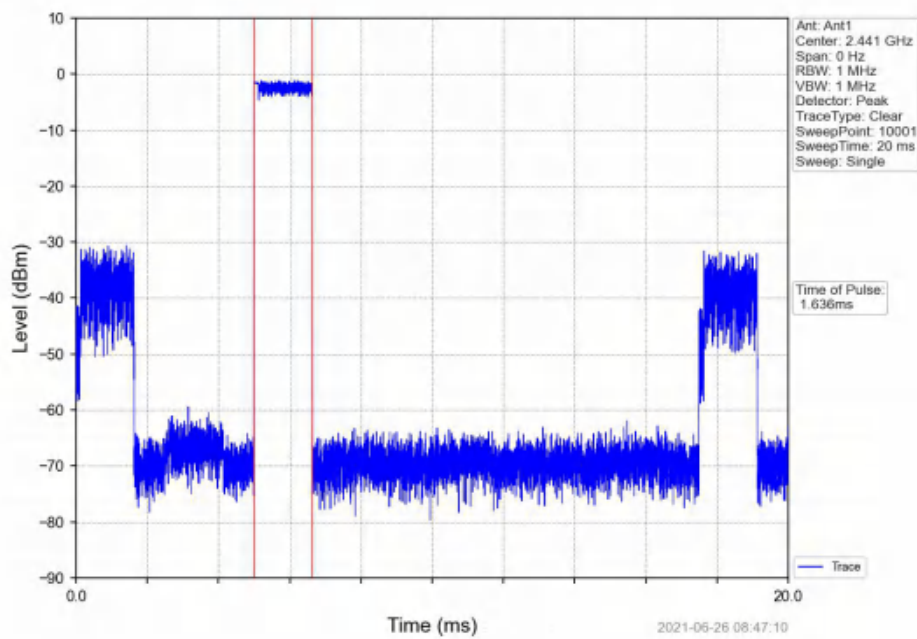
8DPSK_3DH1_HOPP_Ant1_NTNV



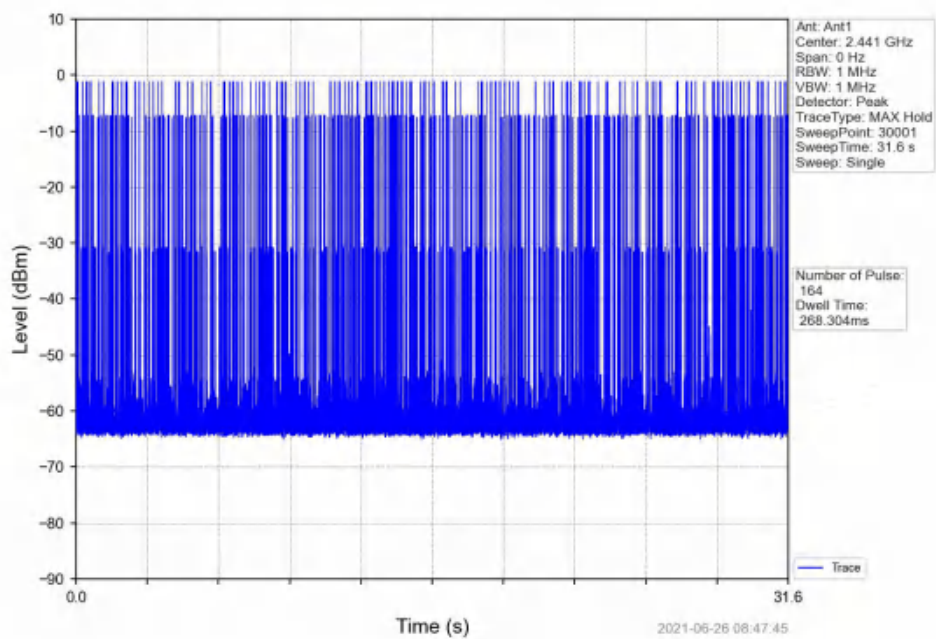
8DPSK_3DH1_HOPP_Ant1_NTNV



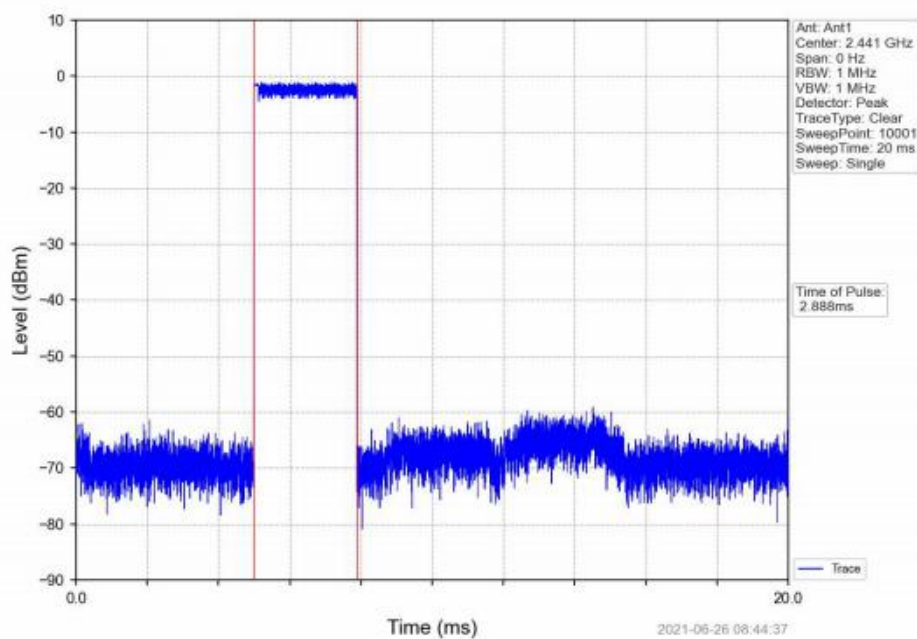
8DPSK_3DH3_HOPP_Ant1_NTNV



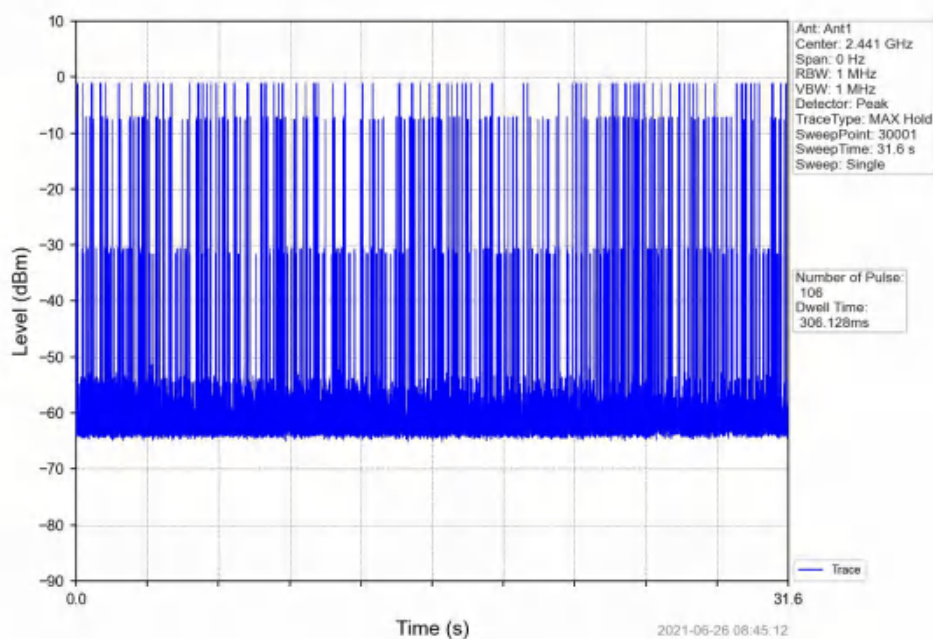
8DPSK_3DH3_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



6. Unwanted Emissions In Non-restricted Frequency Bands

6.1 Ref

6.1.1 Test Result

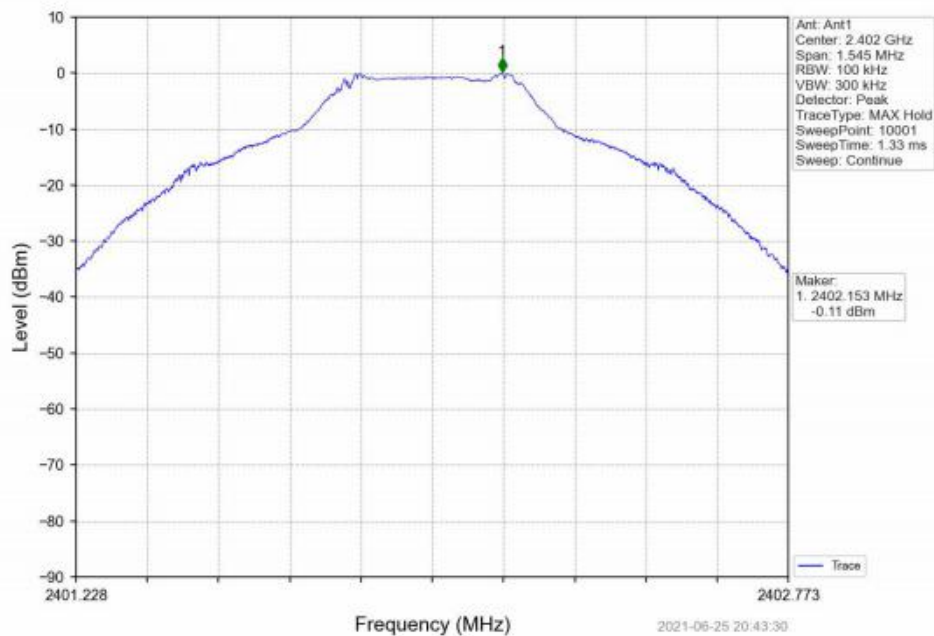
Mode	TX Type	Frequency (MHz)	Packet Type	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-0.11	/	/
		2441	DH5	1	-0.16	/	/
		2480	DH5	1	-6.22	/	/
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	-1.18	/	/
		2441	2DH5	1	-1.60	/	/
		2480	2DH5	1	-2.24	/	/
8DPSK	SISO	2402	3DH5	1	-1.37	/	/
		2441	3DH5	1	-1.53	/	/
		2480	3DH5	1	-2.31	/	/

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

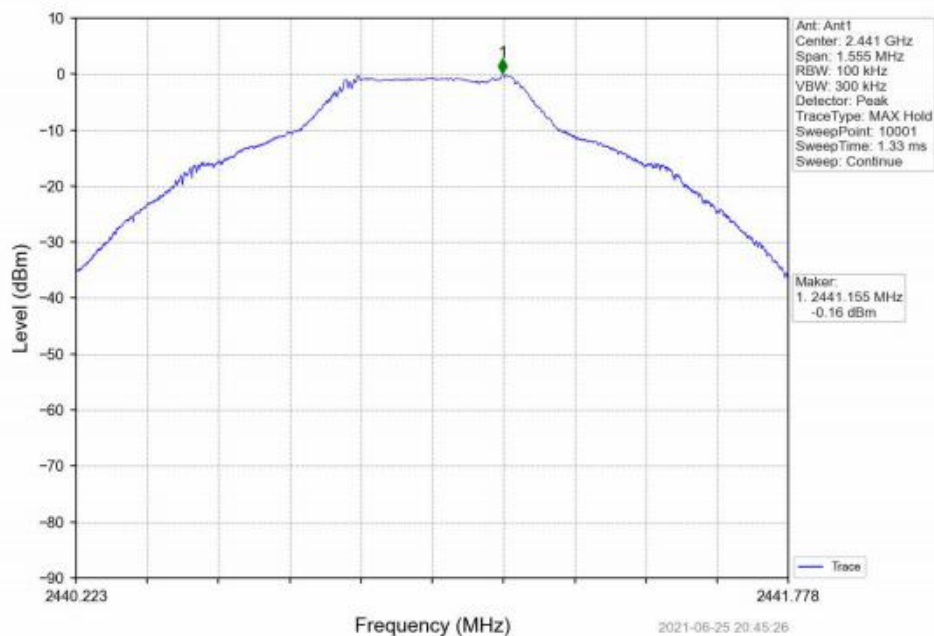
Note2: Only for Report Use

6.1.2 Test Graph

GFSK_DH5_LCH_2402MHz_Ant1_NTNV



GFSK_DH5_MCH_2441MHz_Ant1_NTNV



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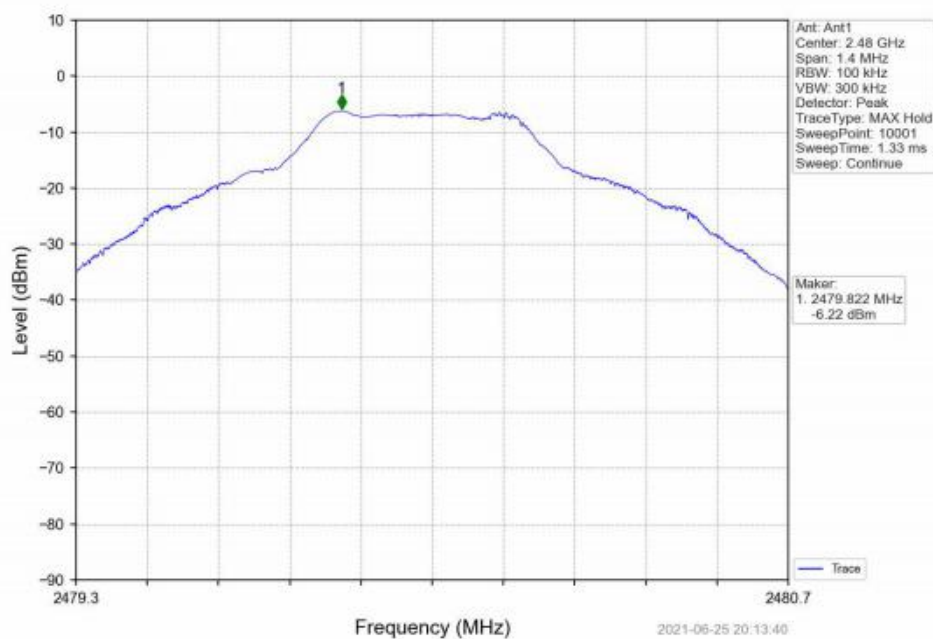


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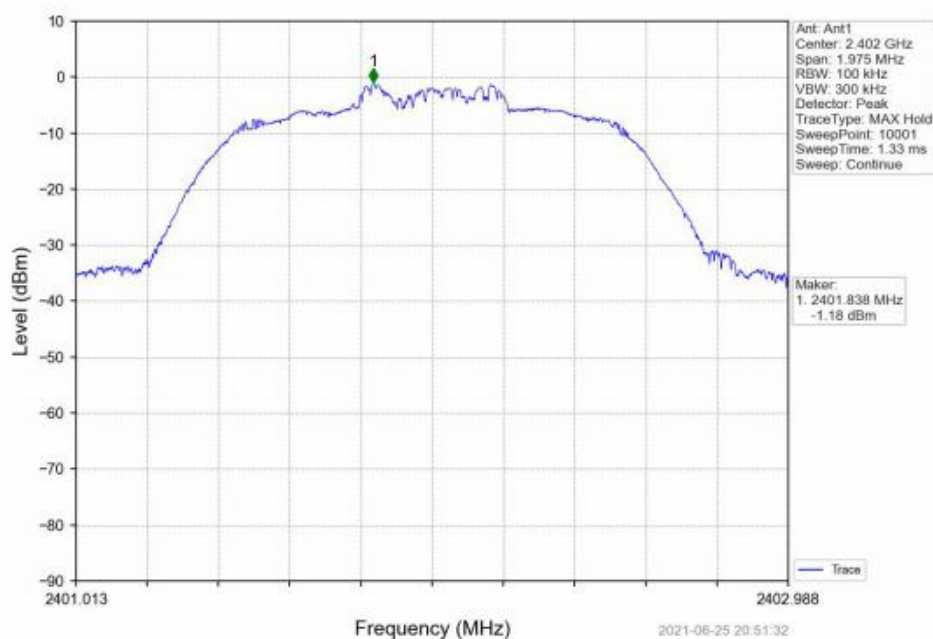
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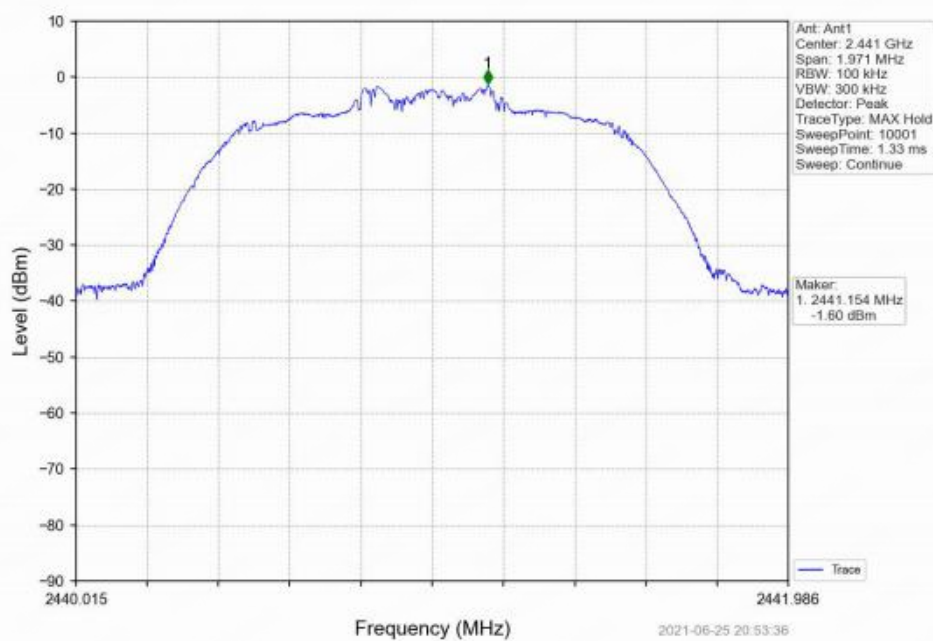
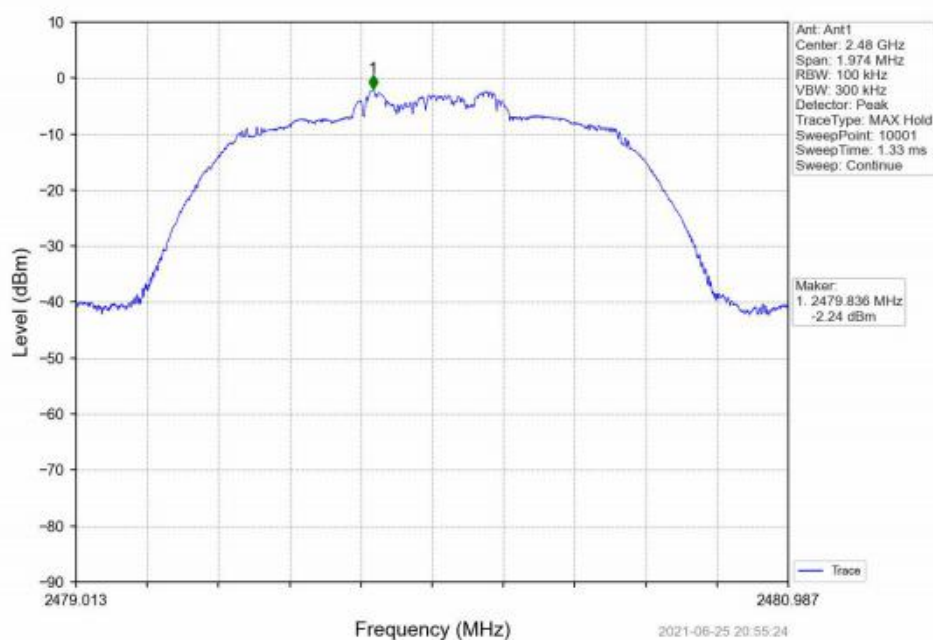
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GFSK_DH5_HCH_2480MHz_Ant1_NTNV



π /4-QPSK_2DH5_LCH_2402MHz_Ant1_NTNV



π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV**Shenzhen Anbotek Compliance Laboratory Limited**

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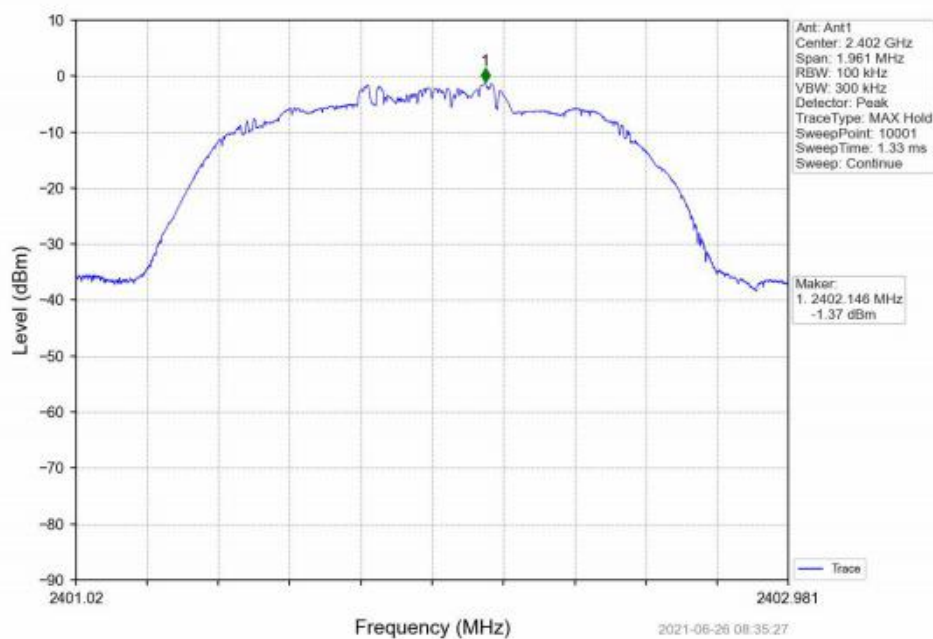


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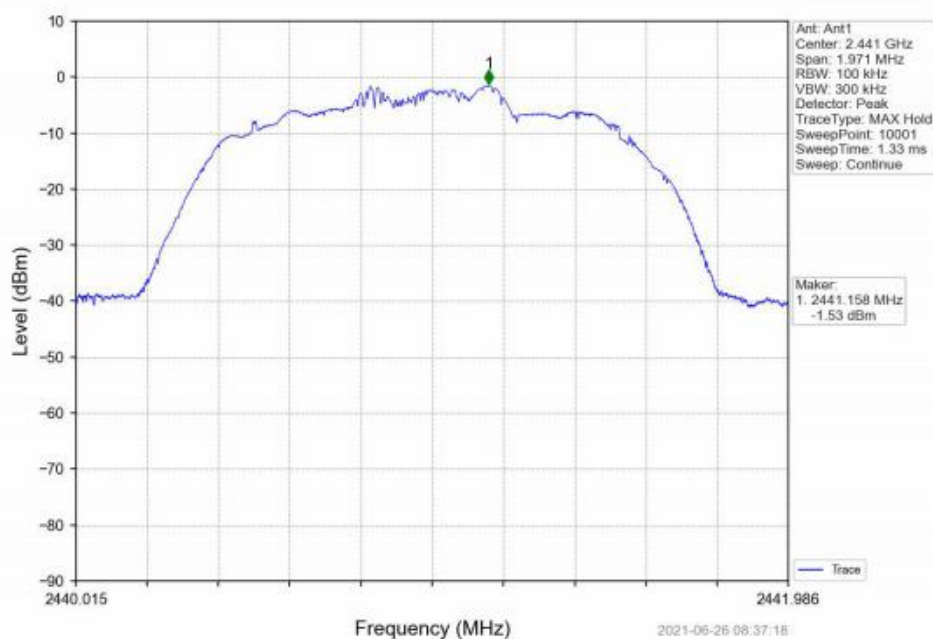
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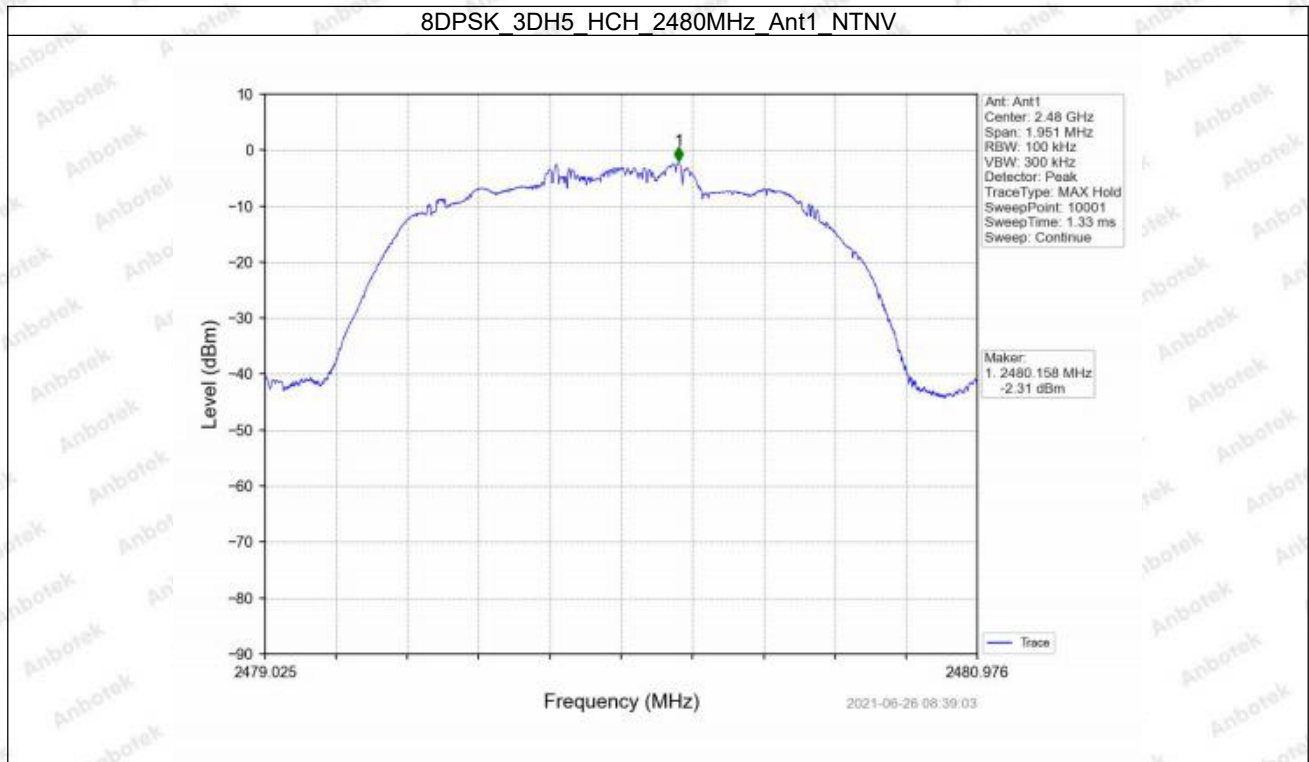
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8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





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6.2 CSE

6.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
π /4-DQPSK	SISO	2402	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
8DPSK	SISO	2402	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.							
Note2: Only for Report Use							

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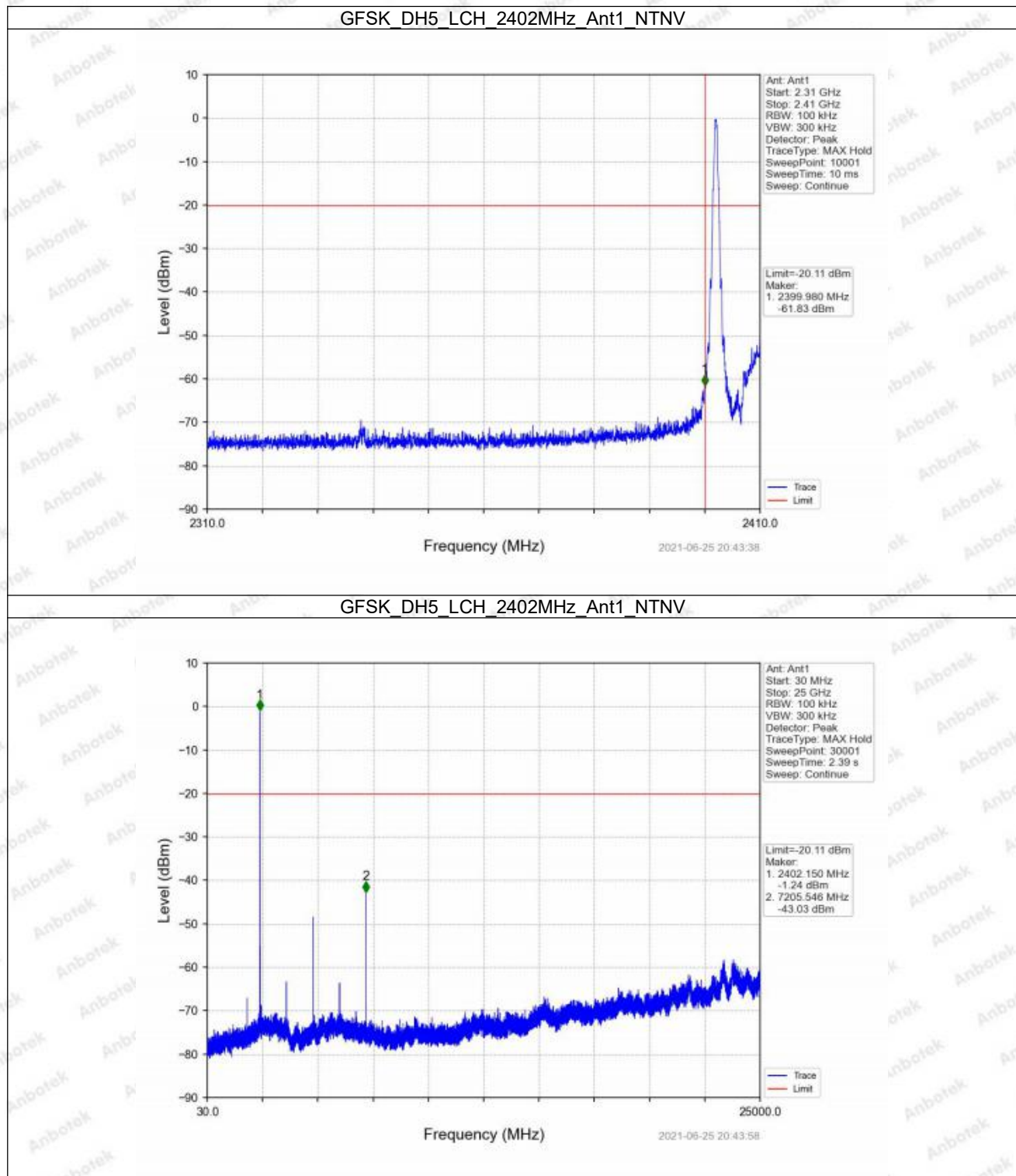


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6.2.2 Test Graph



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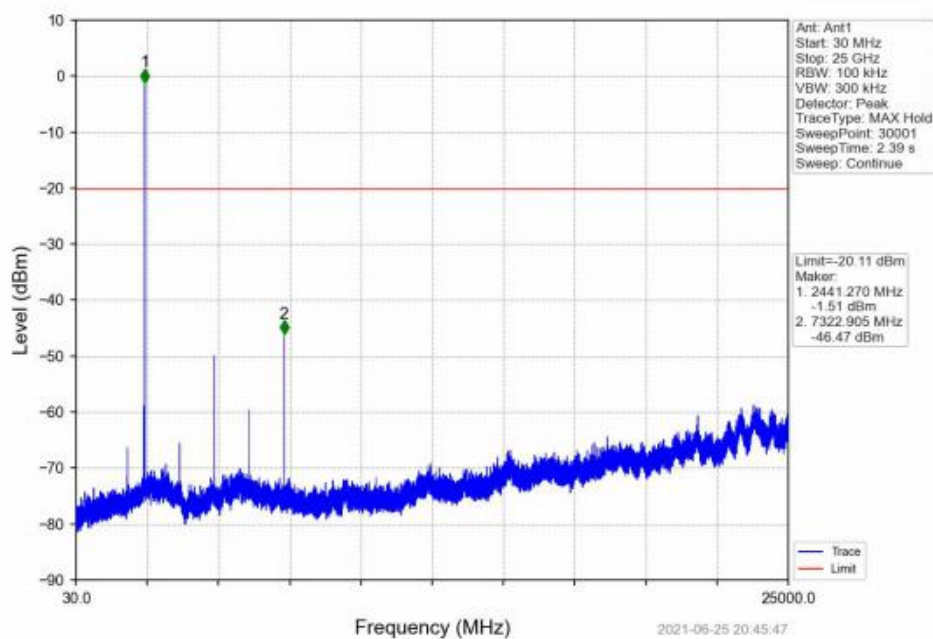
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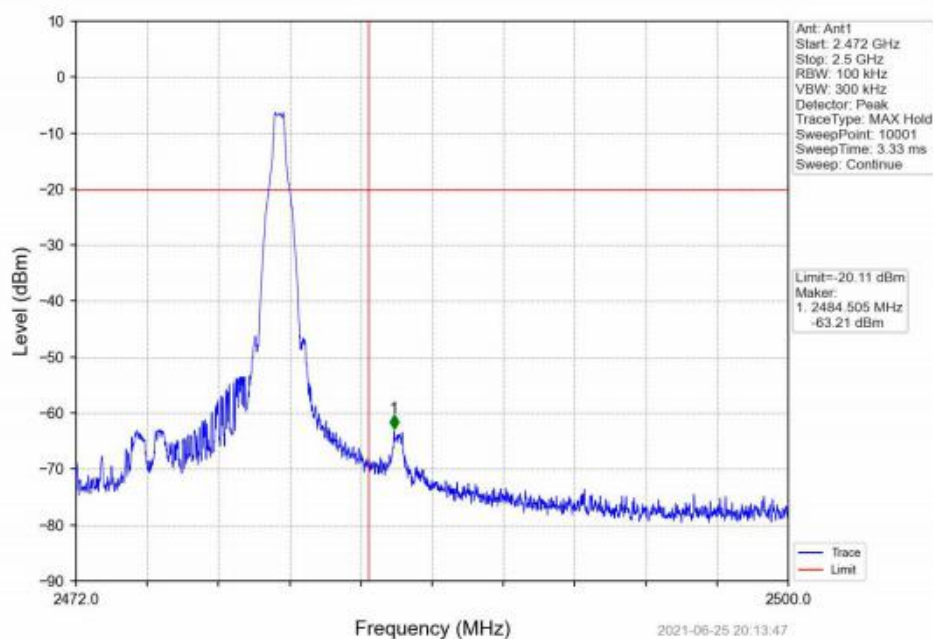


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GFSK_DH5_MCH_2441MHz_Ant1_NTNV



GFSK_DH5_HCH_2480MHz_Ant1_NTNV



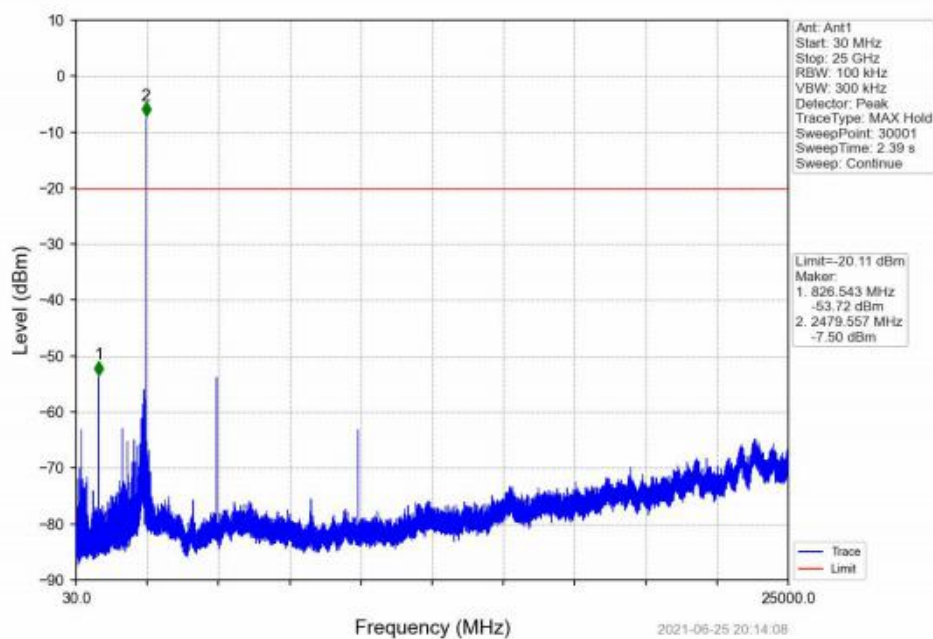
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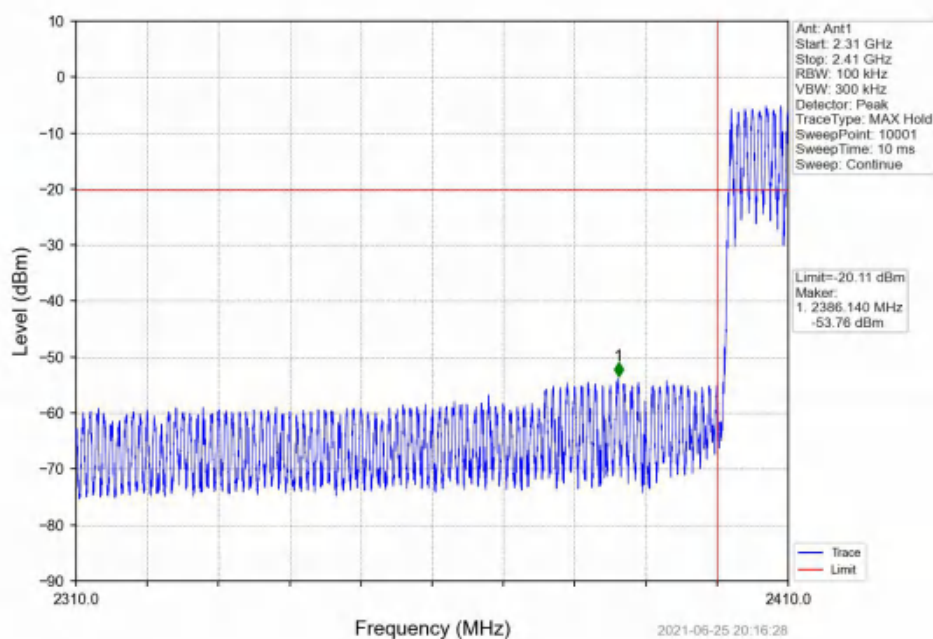
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GFSK_DH5_HCH_2480MHz_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV



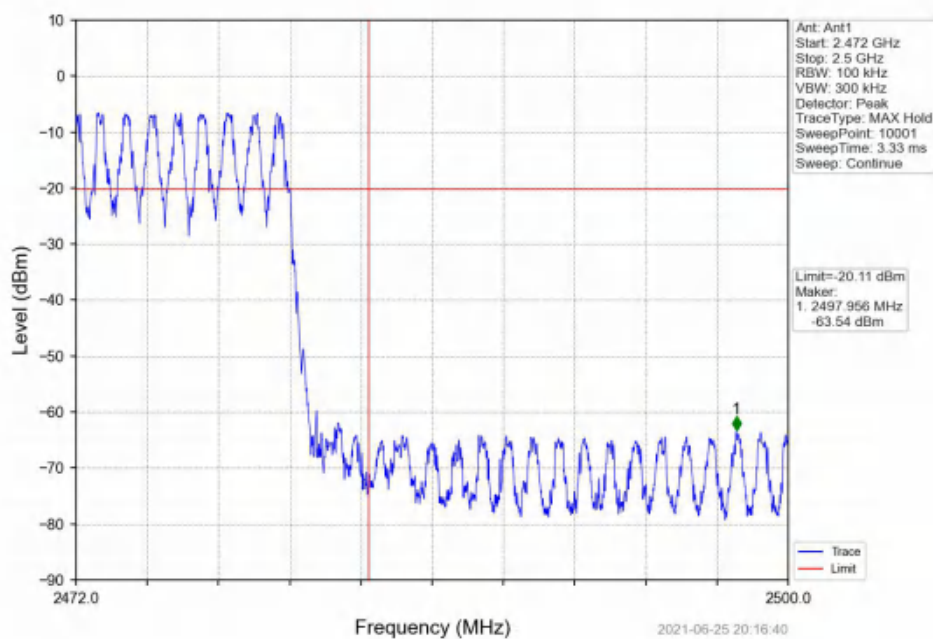
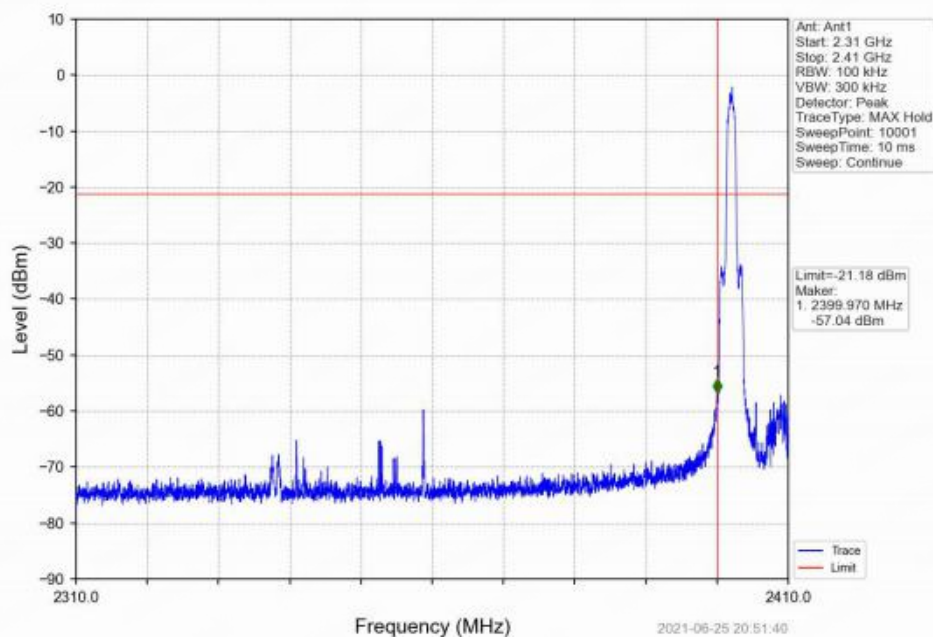
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GFSK_DH5_HOPP_Ant1_NTNV

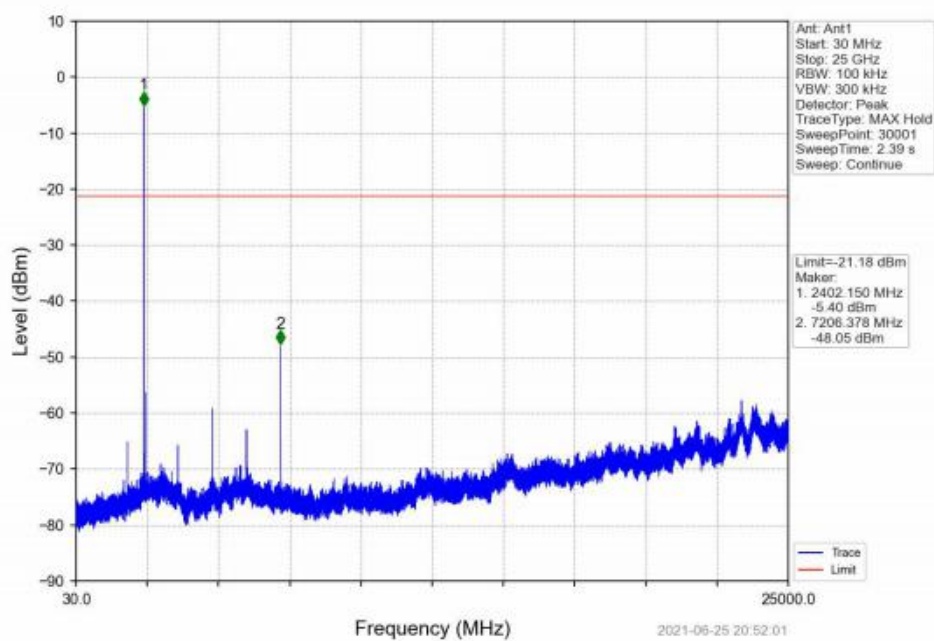
 π /4-DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV**Shenzhen Anbotech Compliance Laboratory Limited**

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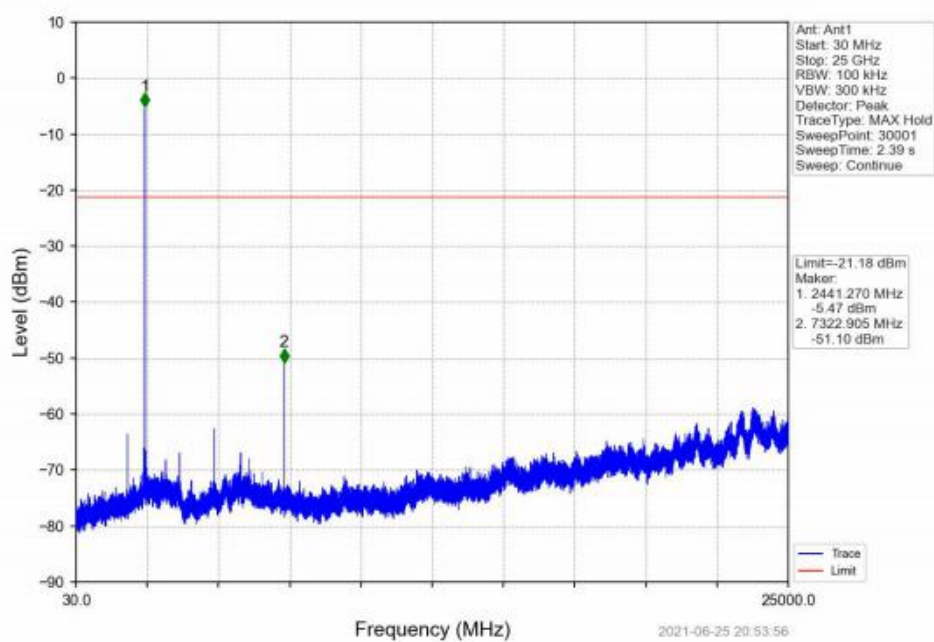
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$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



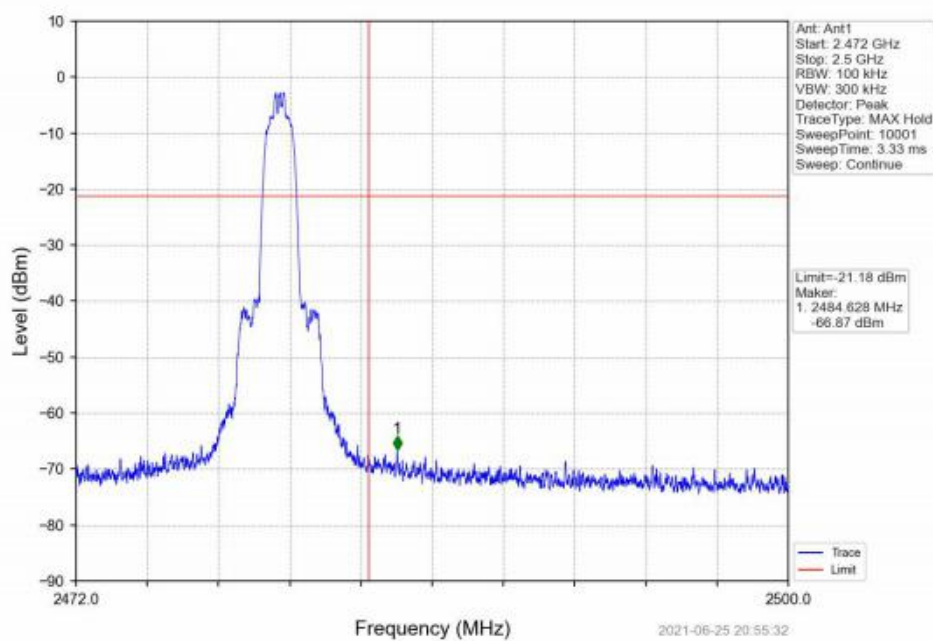
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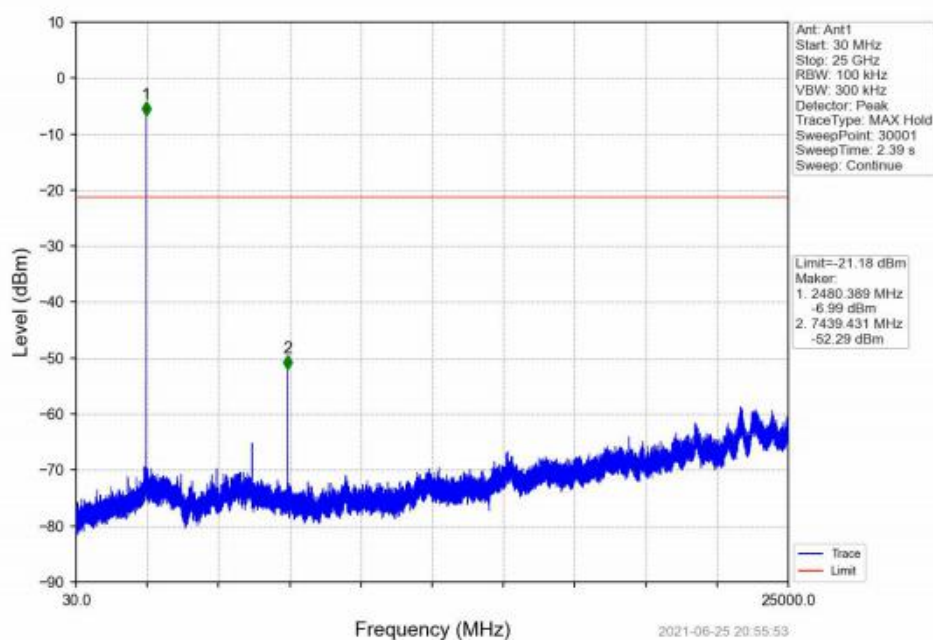
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π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

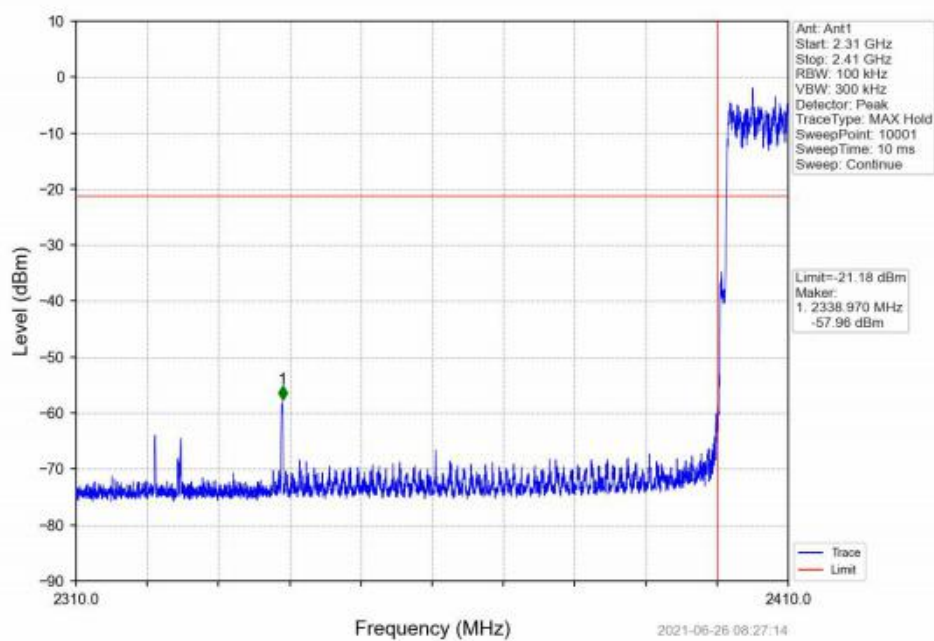
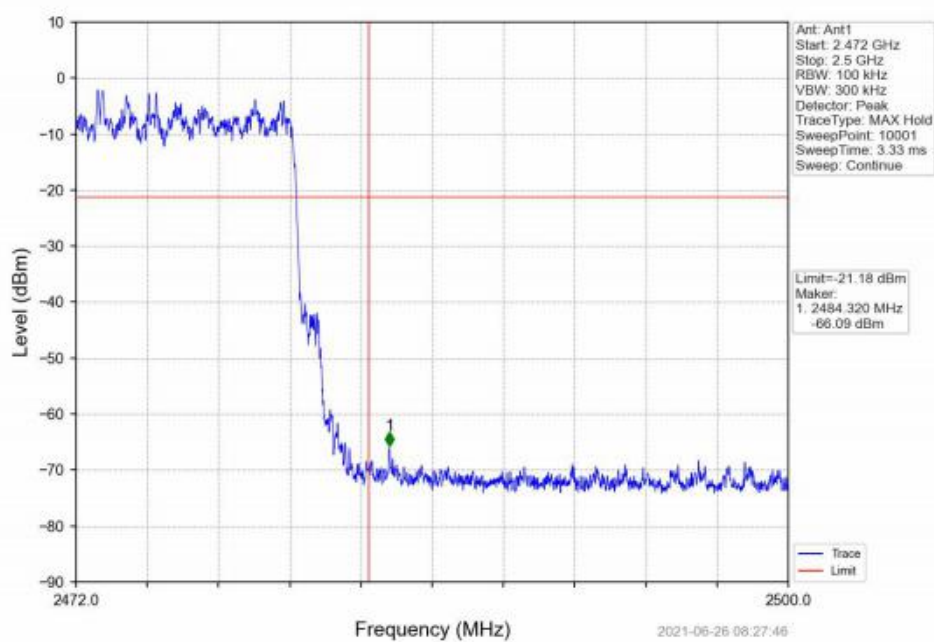


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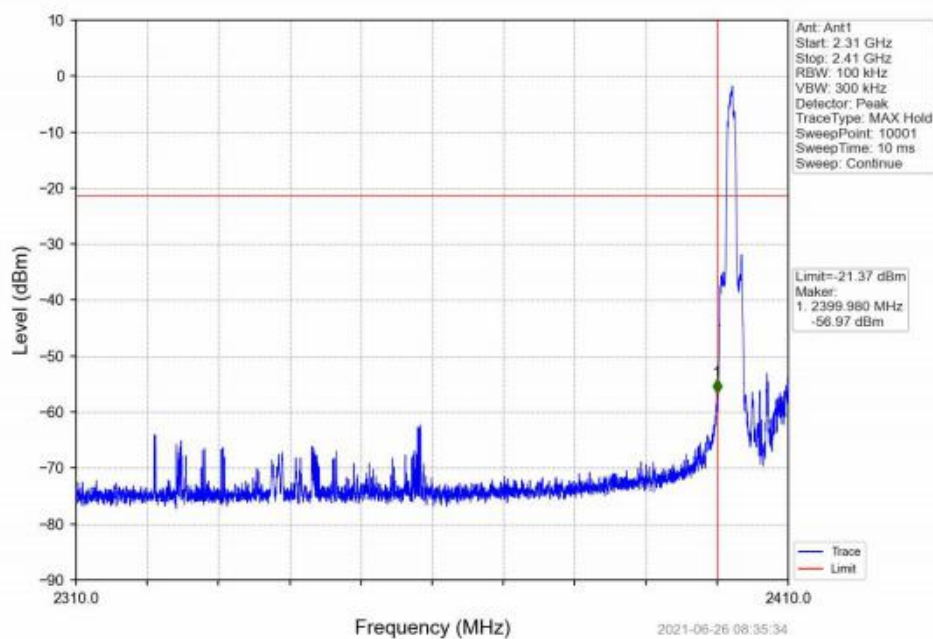
π /4-DQPSK_2DH5_HOPP_Ant1_NTNV π /4-DQPSK_2DH5_HOPP_Ant1_NTNV**Shenzhen Anbotech Compliance Laboratory Limited**

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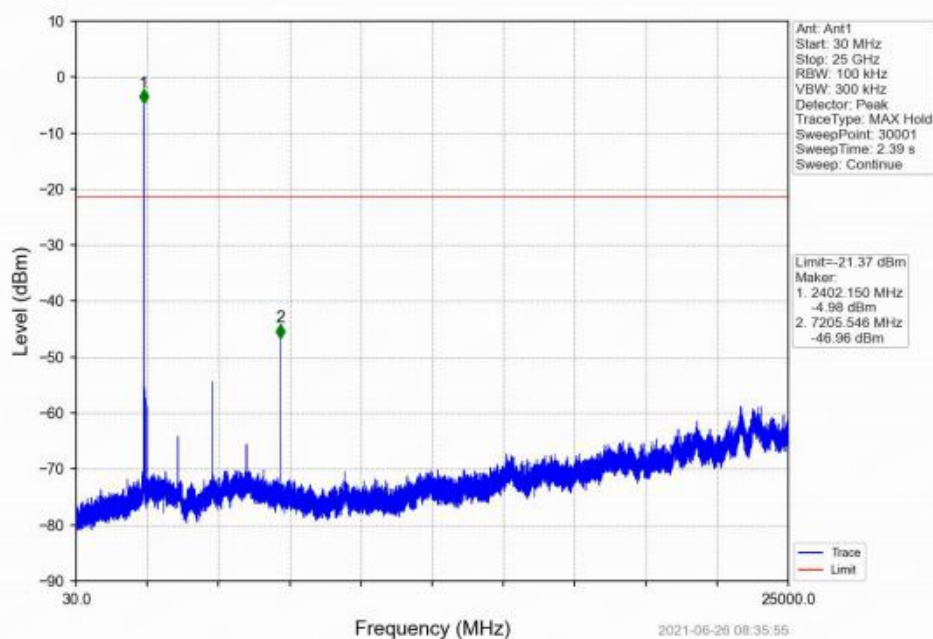
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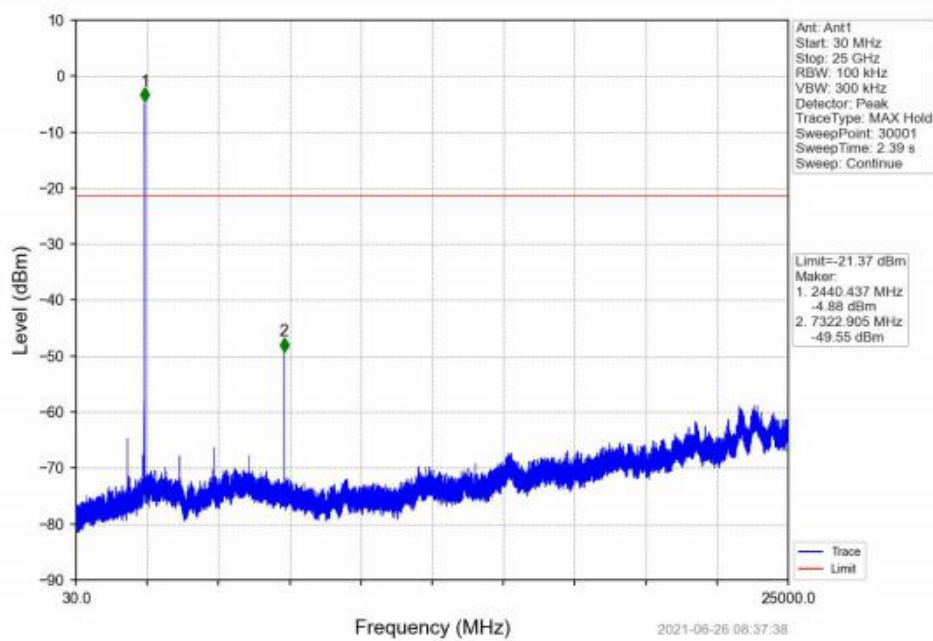


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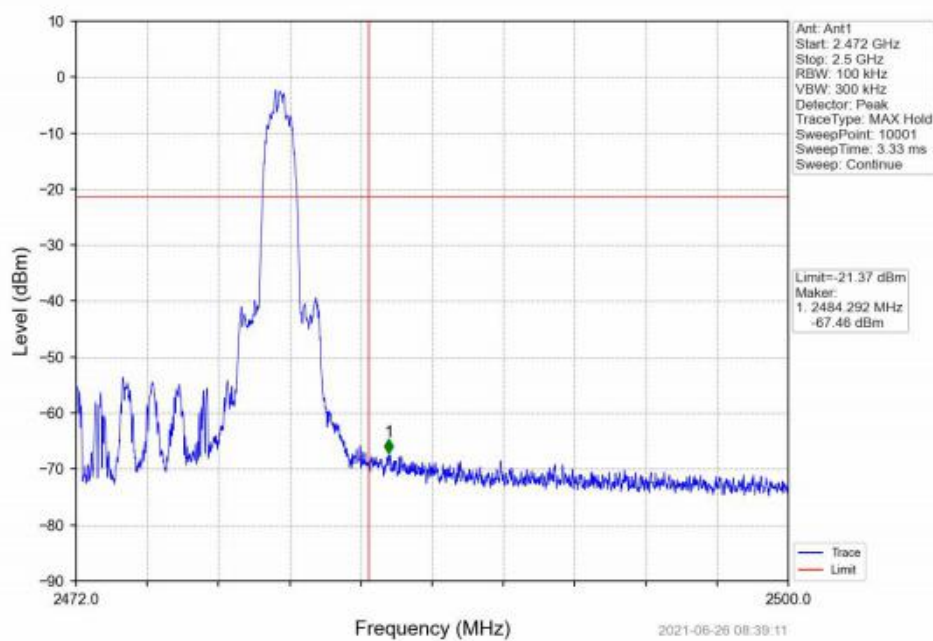
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8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



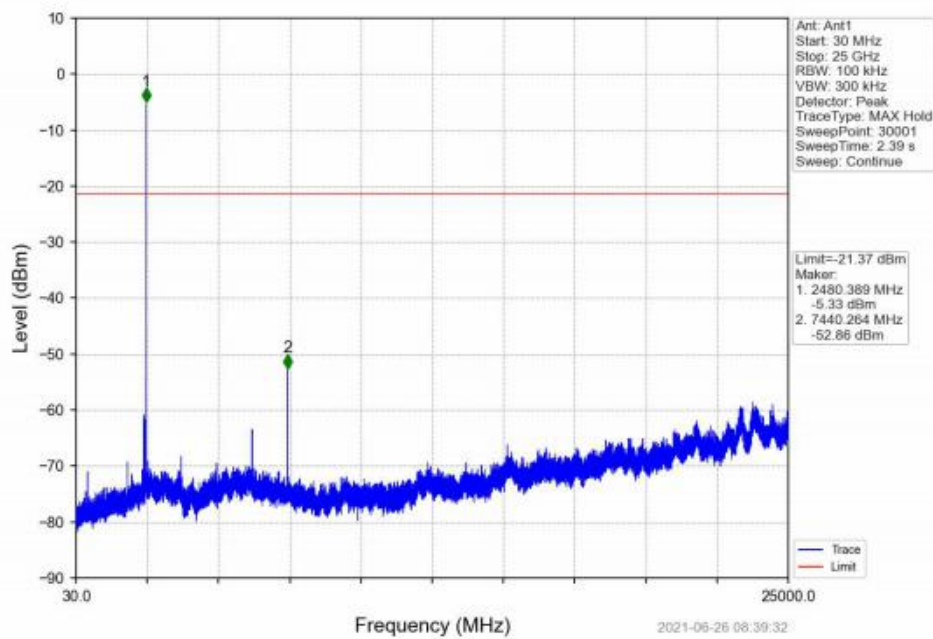
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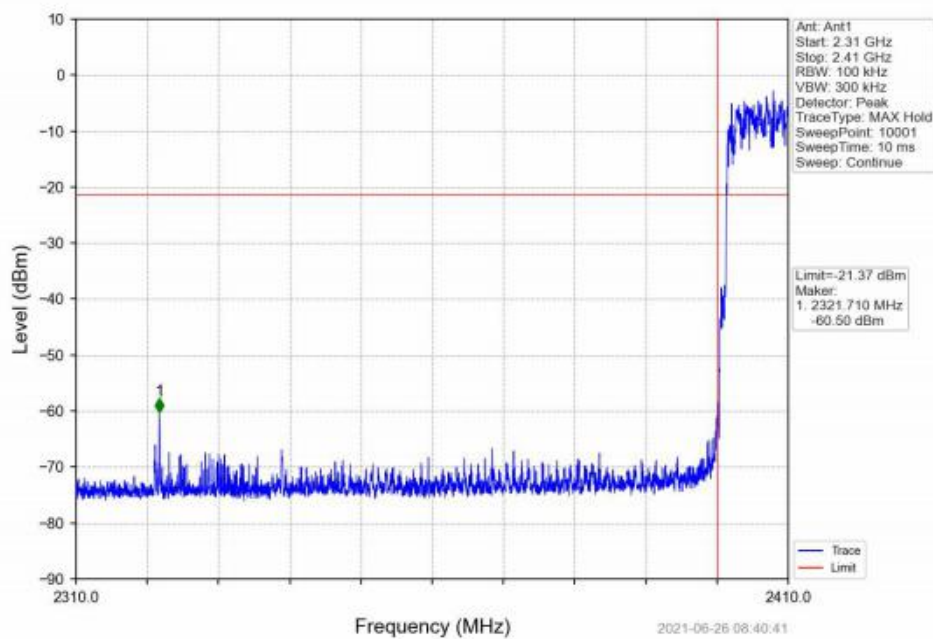
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8DPSK_3DH5_HOPP_Ant1_NTNV

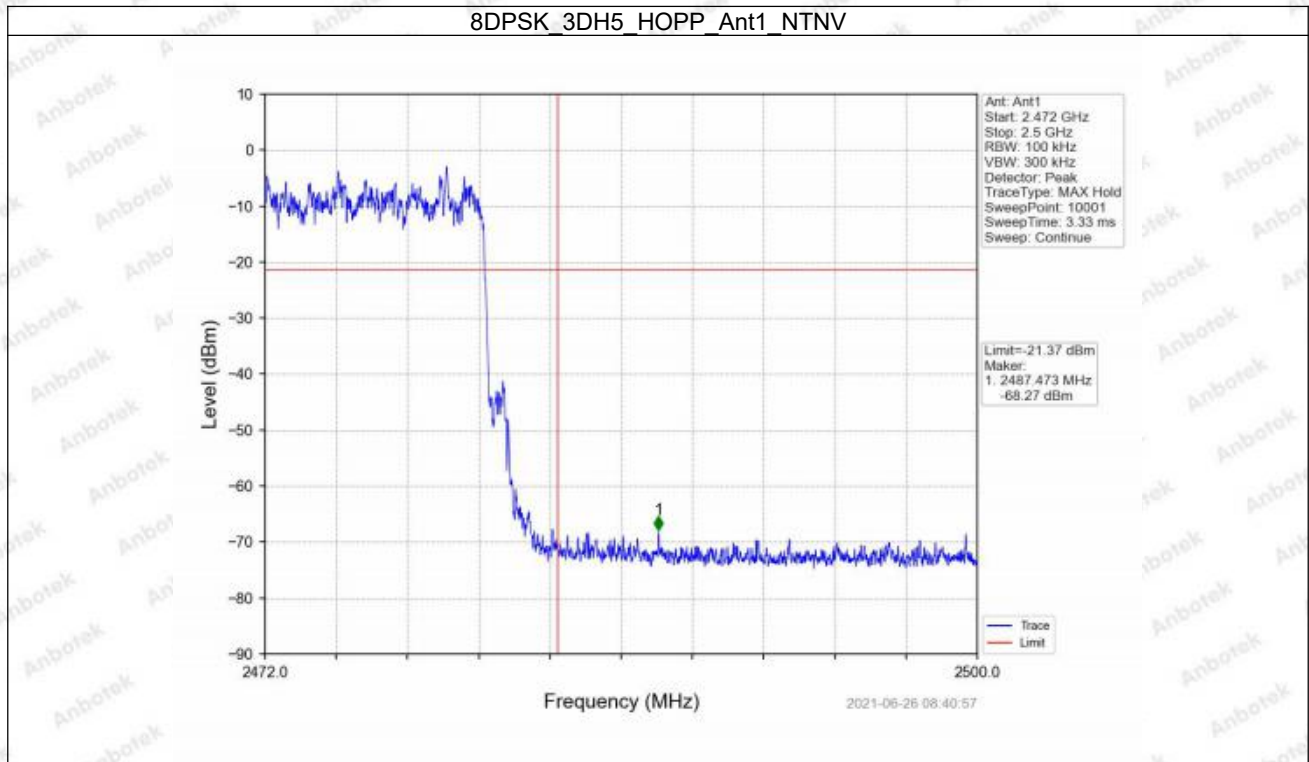


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