

Appendix A

RF Test Data for BR_EDR(Conducted Measurement)

Product Name: Speaker Clock Wireless Charger
Trade Mark: ETECH
Test Model: EBS5-223438

Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	51.4%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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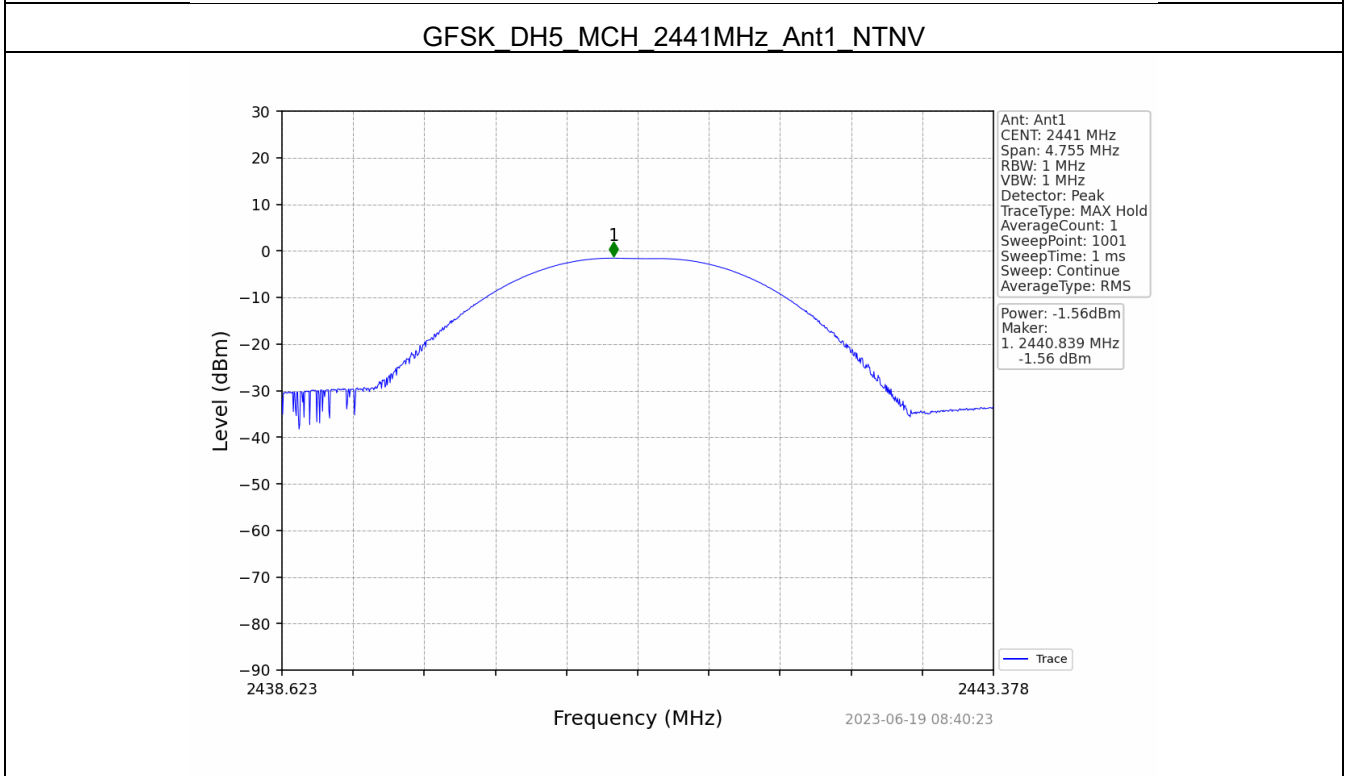
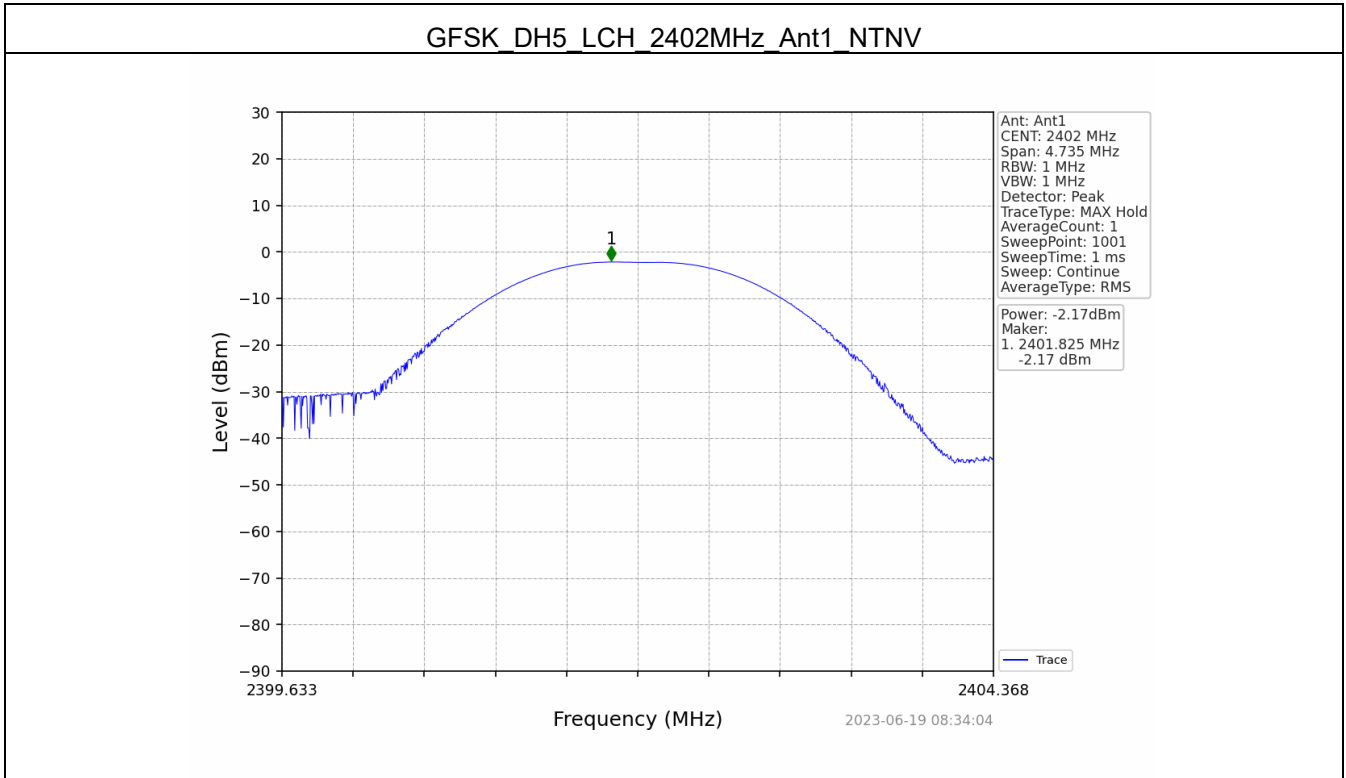
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1 Maximum Conducted Peak Output Power

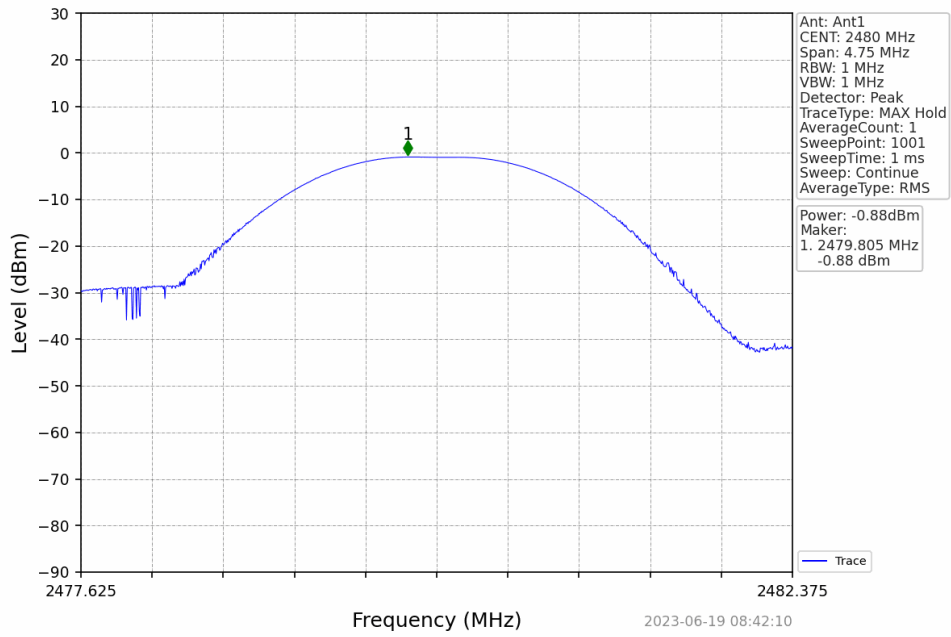
1.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.17	21	Pass
	MCH	-1.56	21	Pass
	HCH	-0.88	21	Pass
$\pi/4$ -DQPSK	LCH	-1.33	21	Pass
	MCH	-0.83	21	Pass
	HCH	-0.20	21	Pass

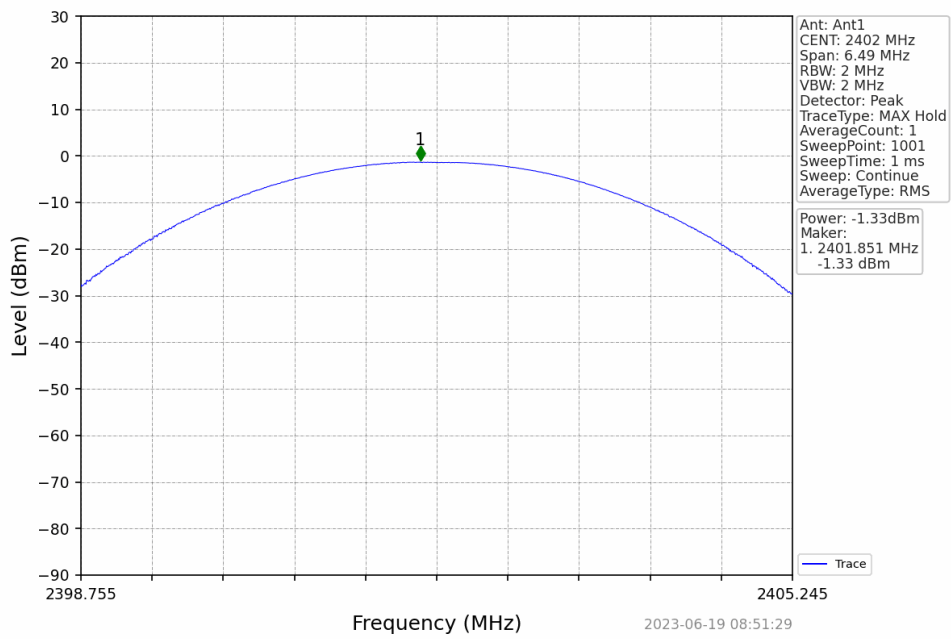
1.2 Test Graphs



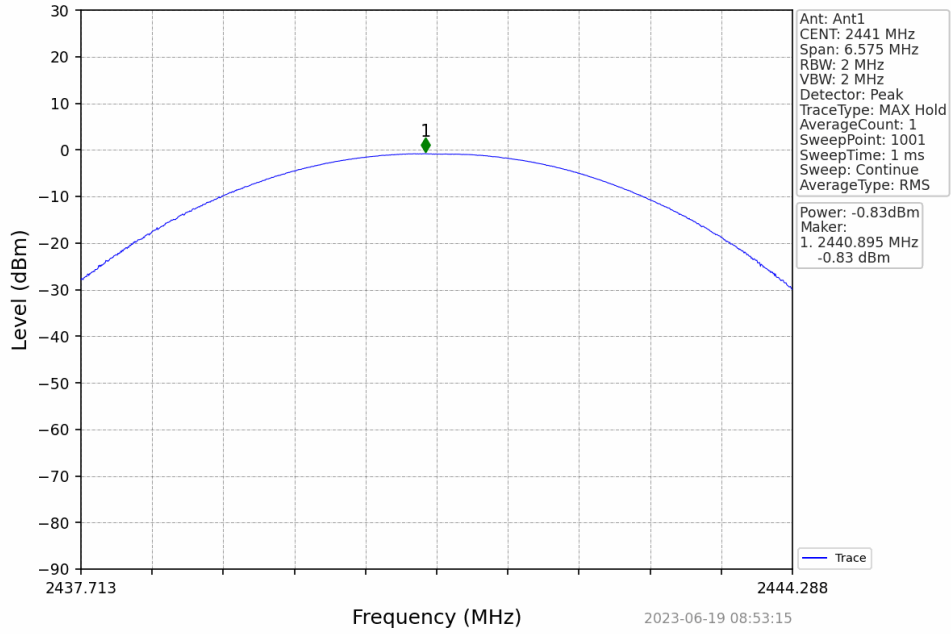
GFSK DH5 HCH 2480MHz Ant1 NTN



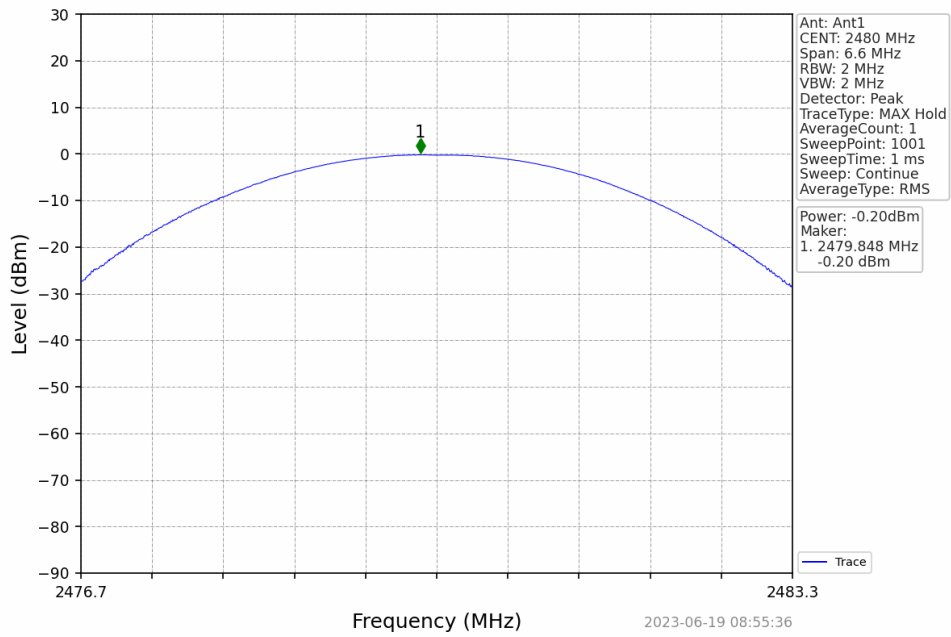
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN

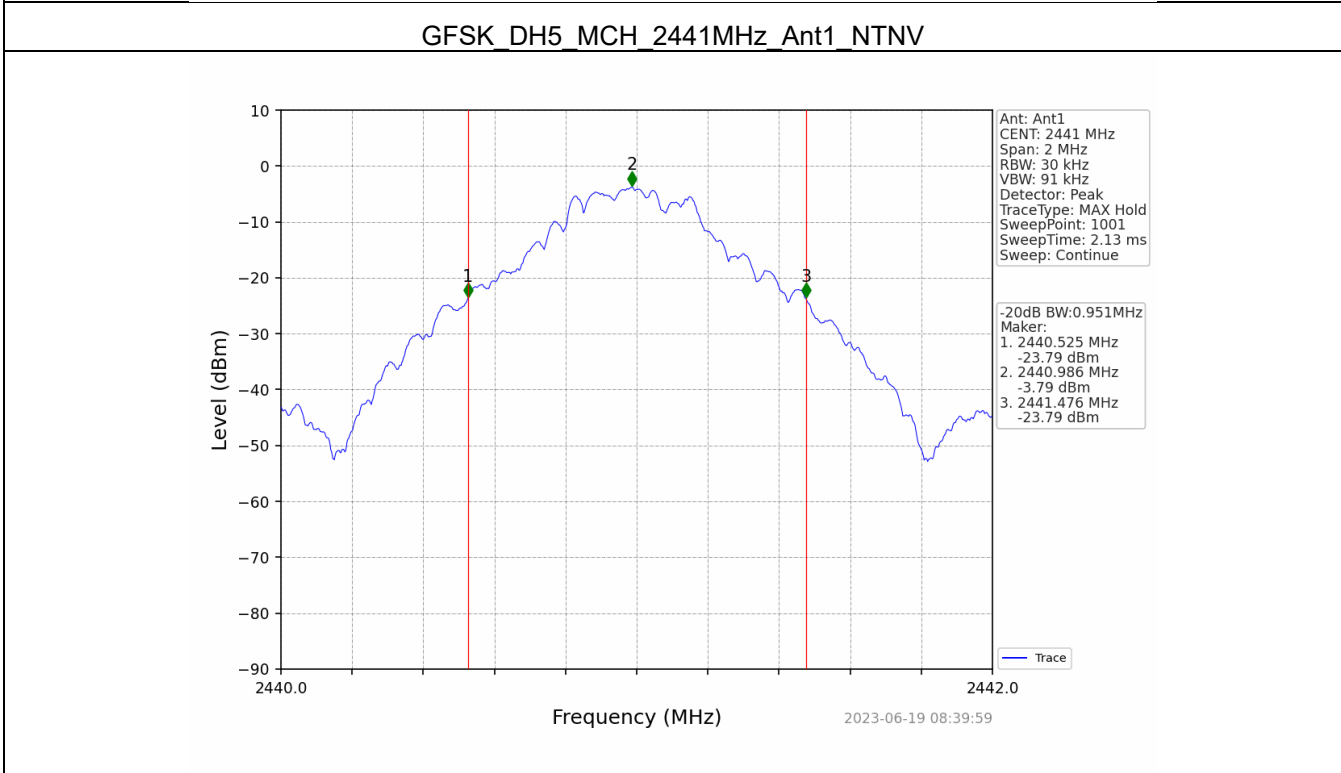
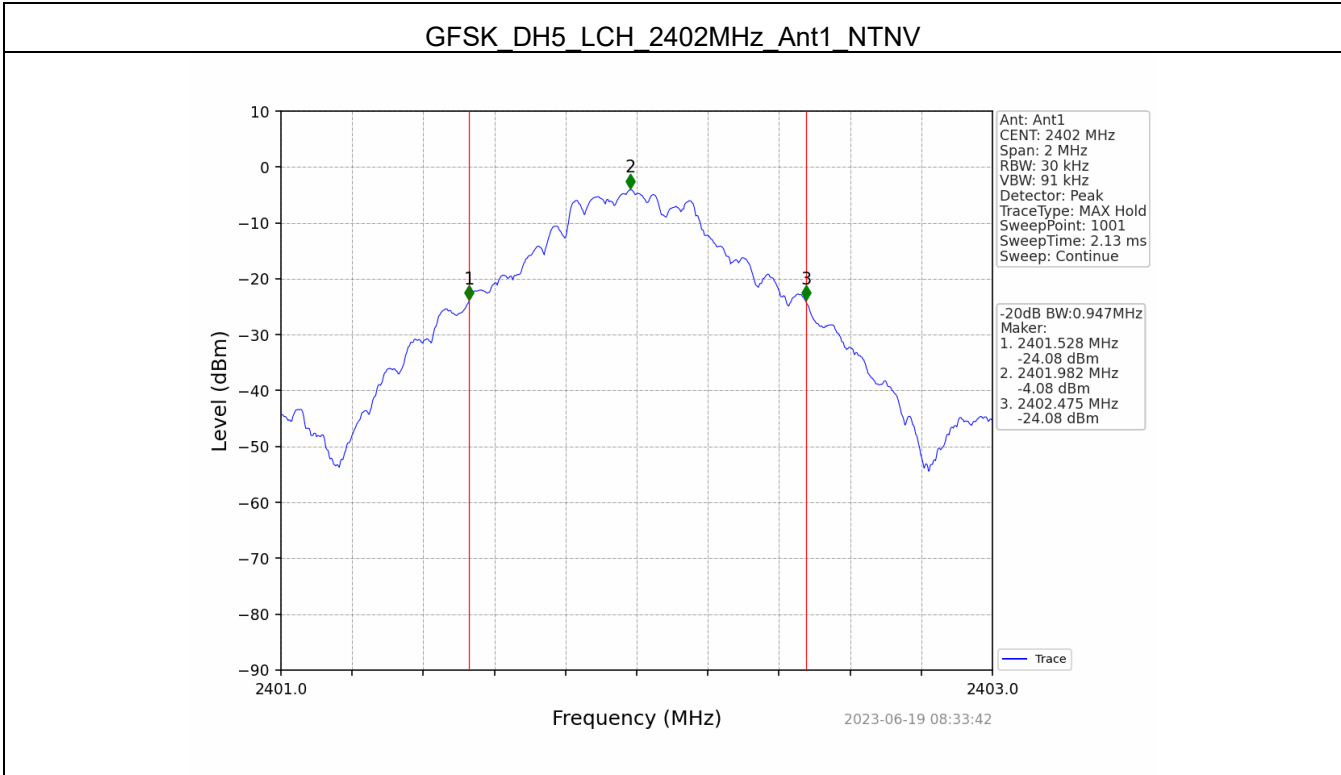


2 20dB Bandwidth

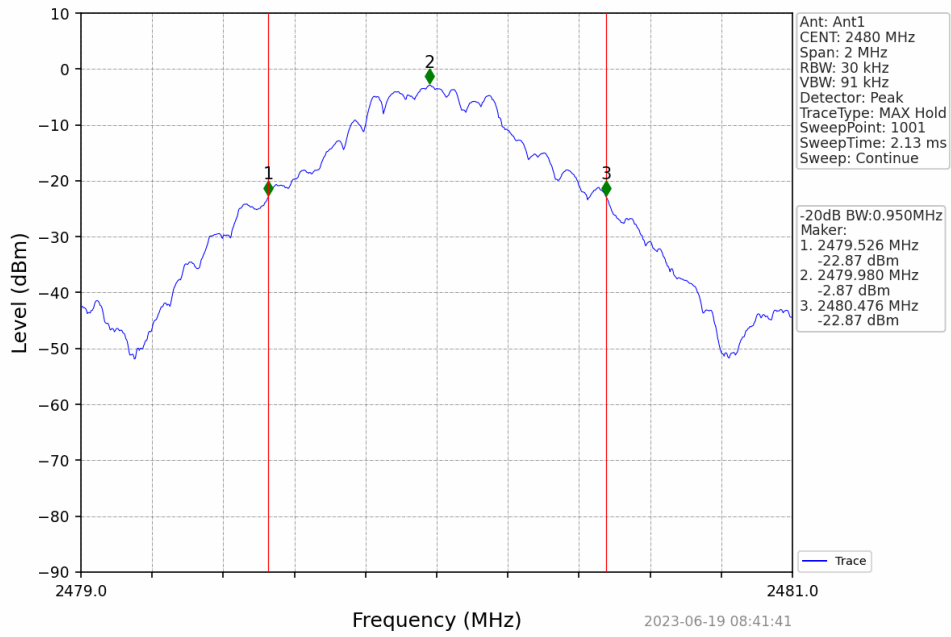
2.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.947	Not Specified	Pass
	MCH	0.951	Not Specified	Pass
	HCH	0.950	Not Specified	Pass
$\pi/4$ -DQPSK	LCH	1.298	Not Specified	Pass
	MCH	1.315	Not Specified	Pass
	HCH	1.320	Not Specified	Pass

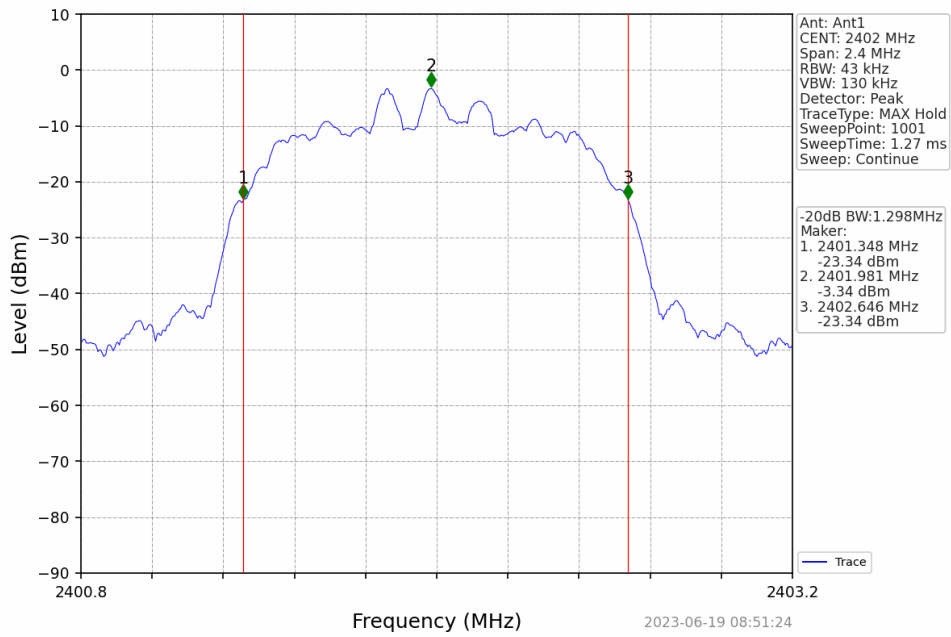
2.2 Test Graphs



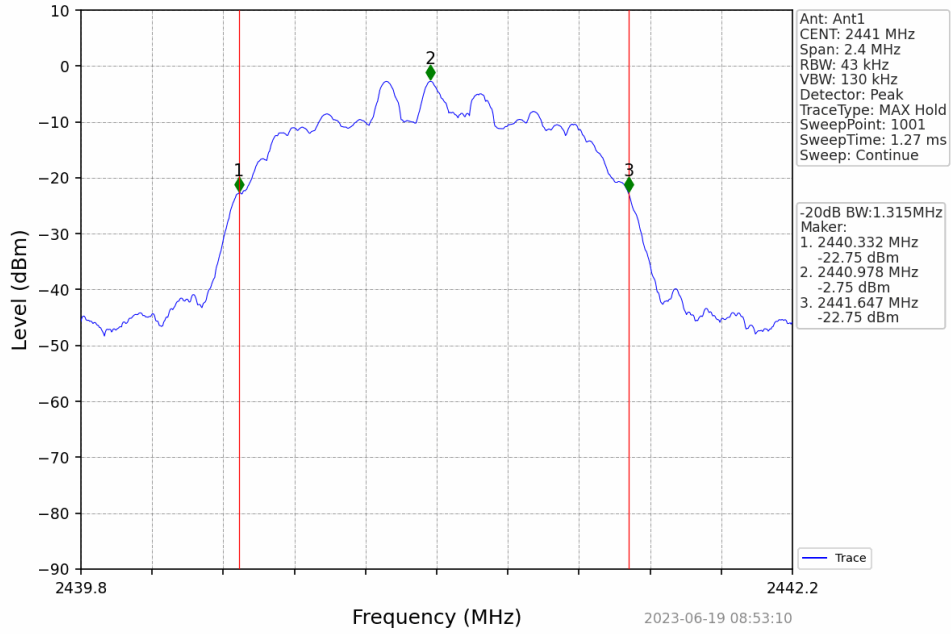
GFSK DH5 HCH 2480MHz Ant1 NTN



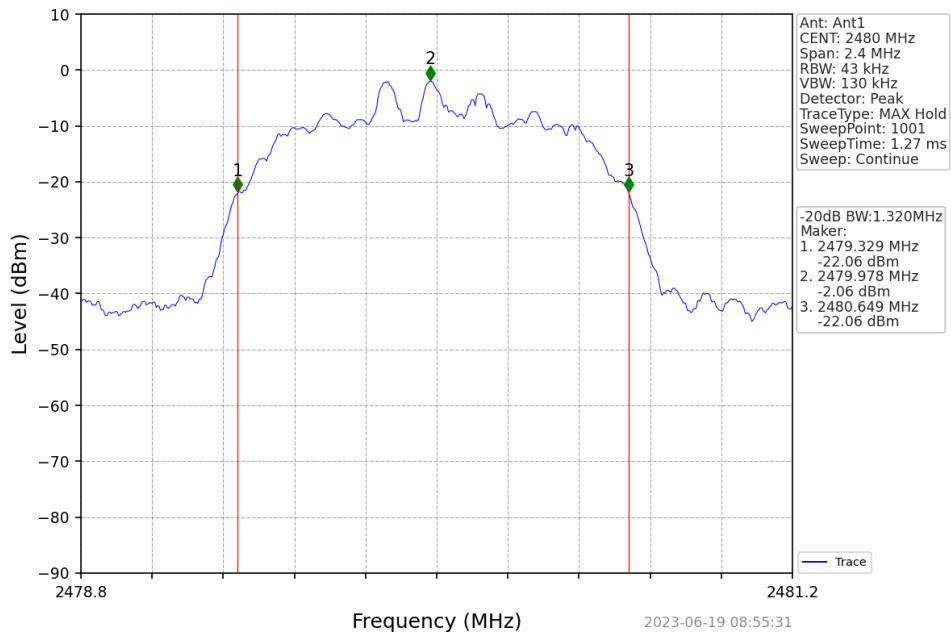
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN



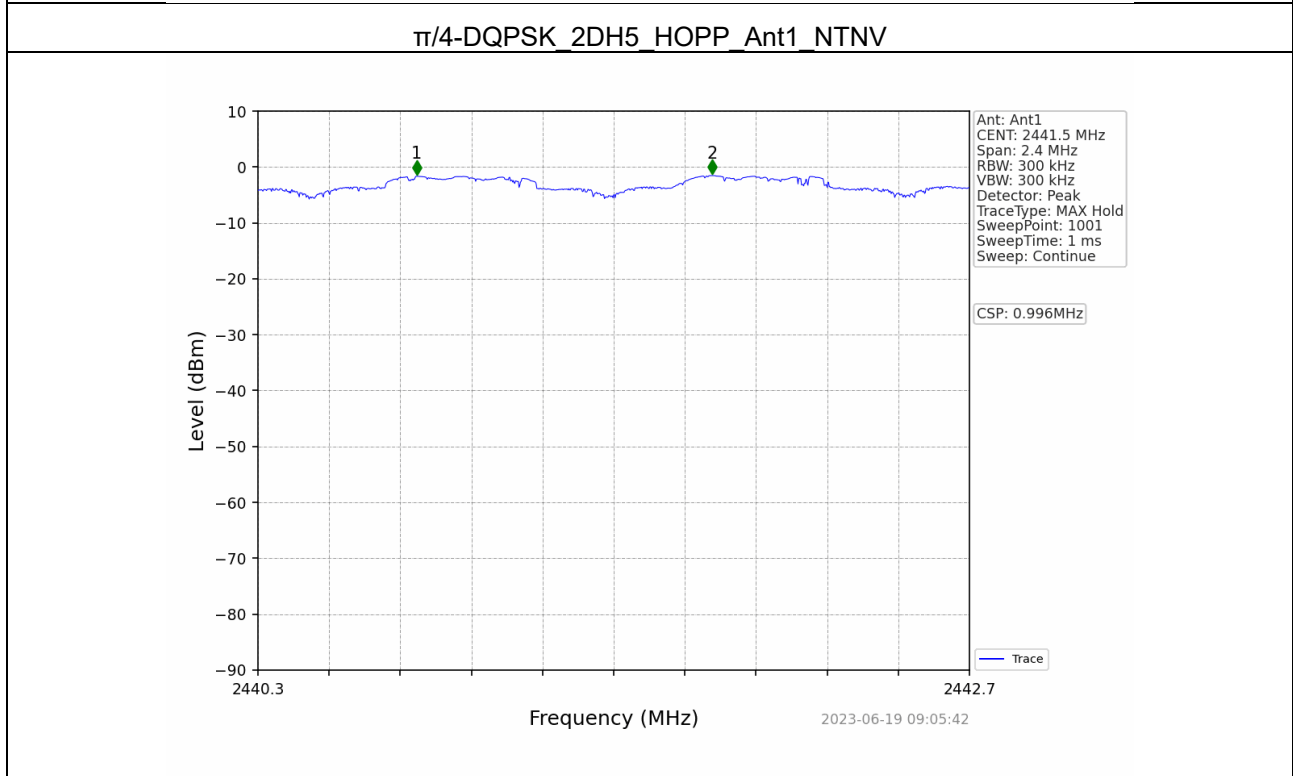
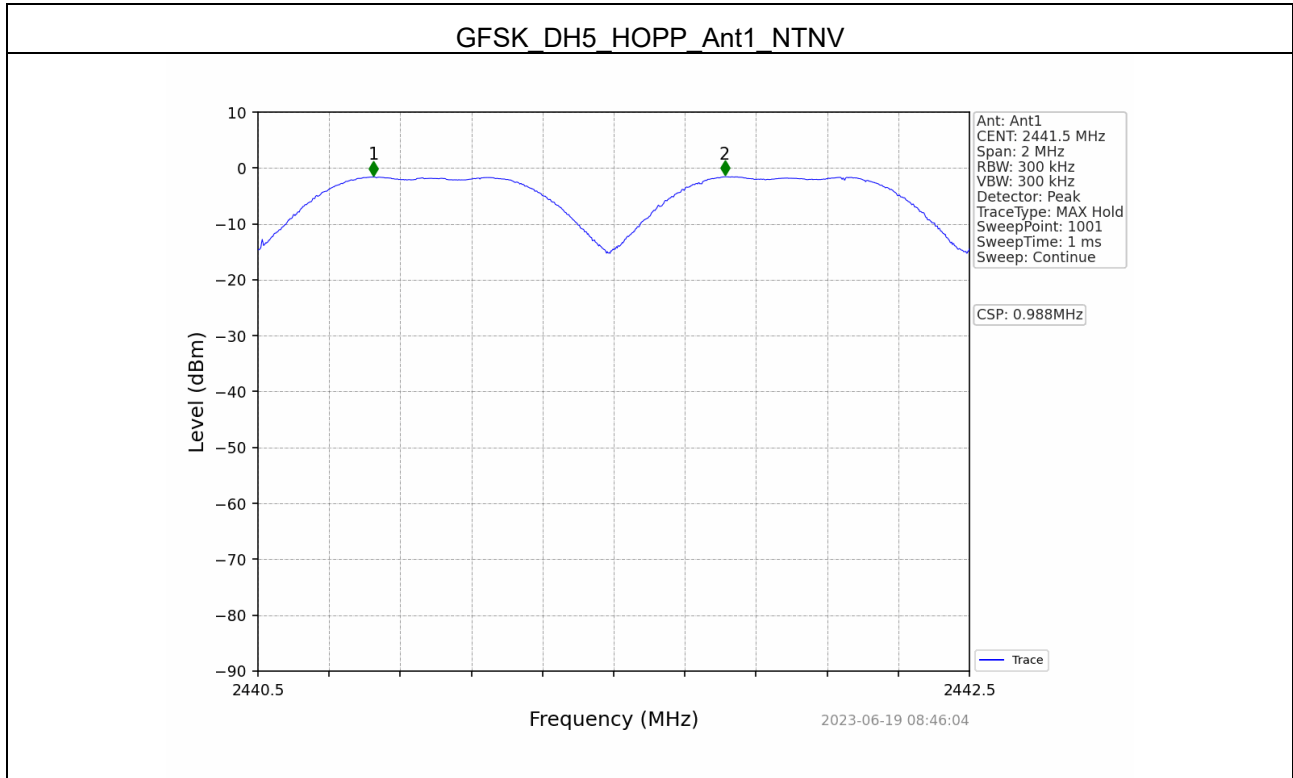


3 Carrier Frequency Separation

3.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	20dB Bandwidth (MHz)	Limit [MHz]	Verdict
GFSK	MCH	0.988	0.951	≥ 0.951	Pass
$\pi/4$ -DQPSK	MCH	0.996	1.320	≥ 0.88	Pass

3.2 Test Graphs



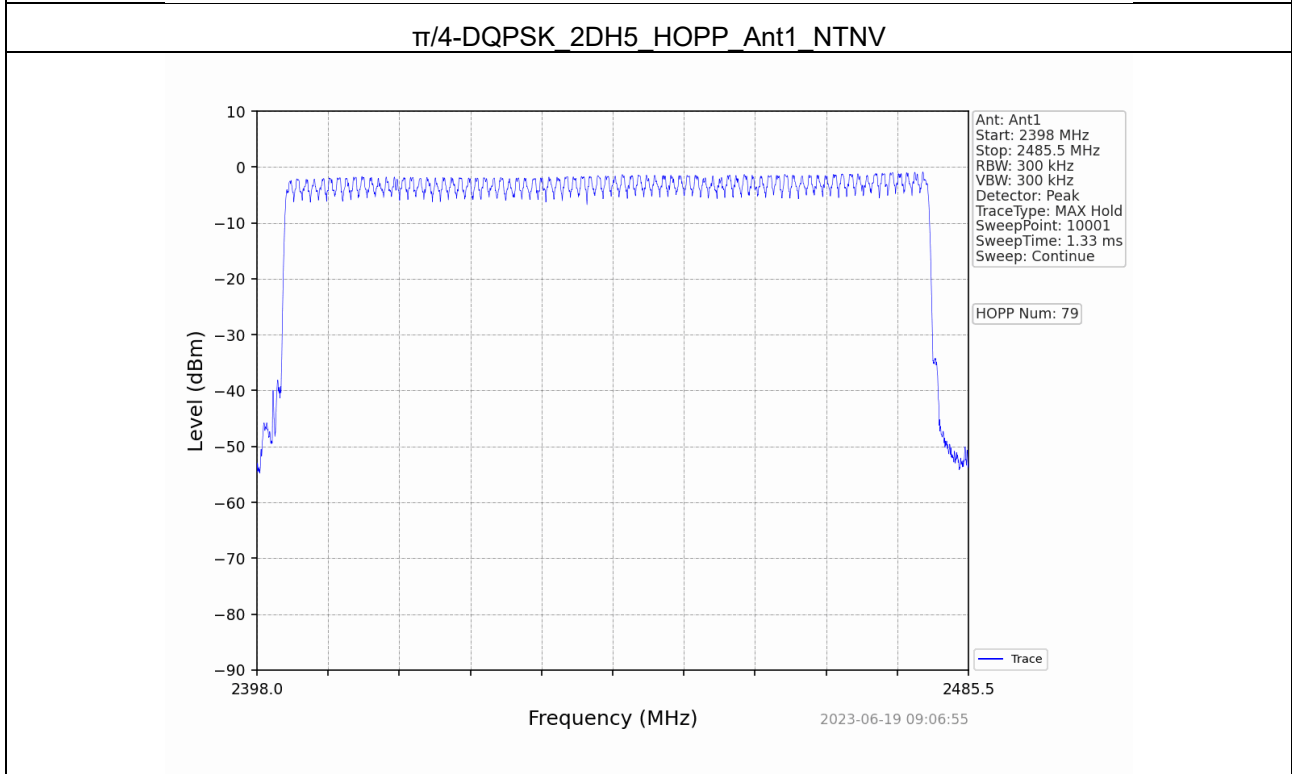
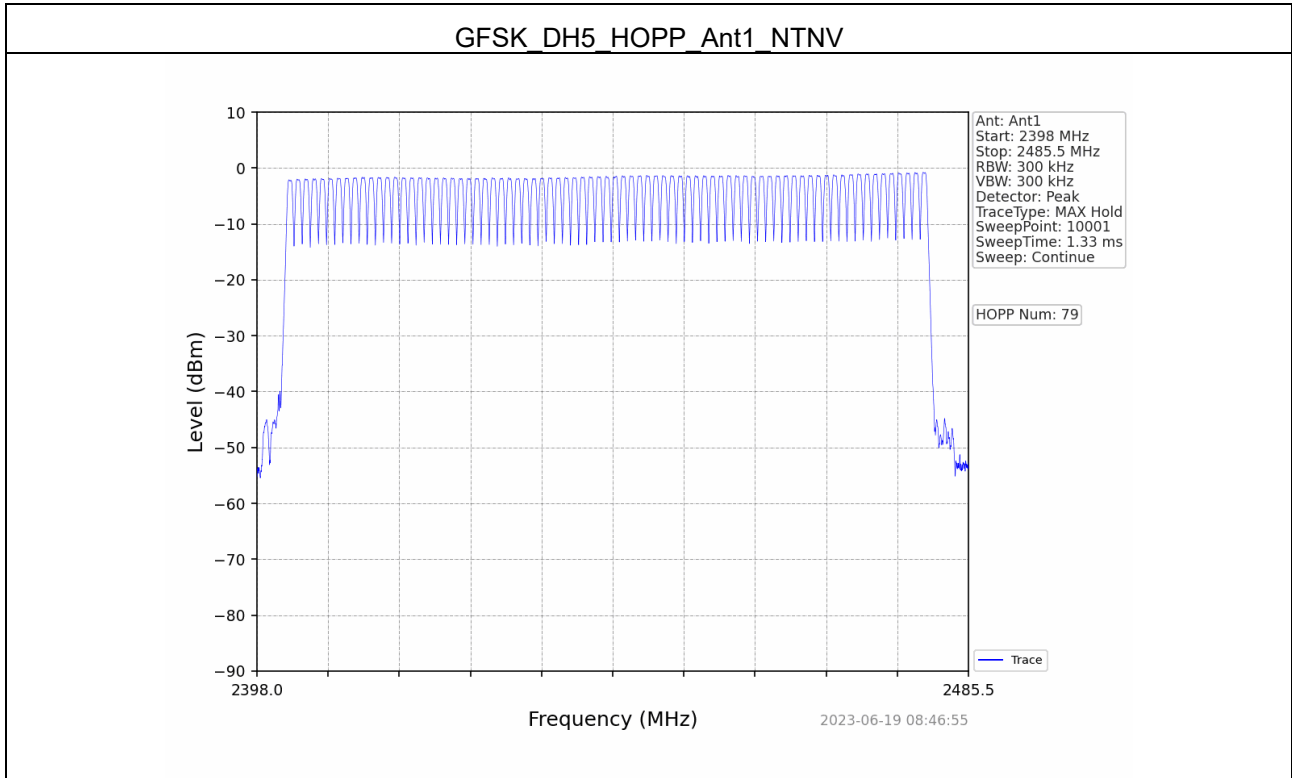


4 Hopping Channel Number

4.1 Test Result

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ -DQPSK	Hop	79	≥ 15	PASS

4.2 Test Graphs

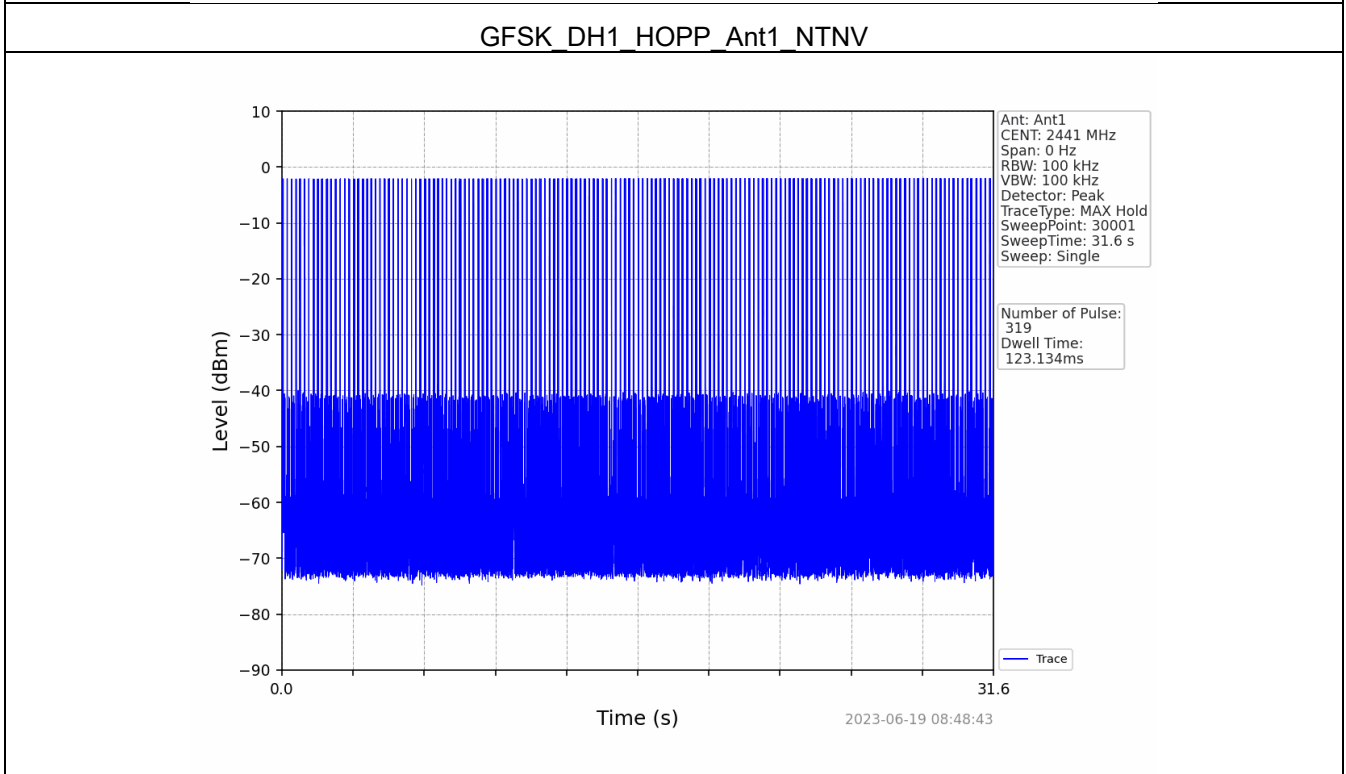
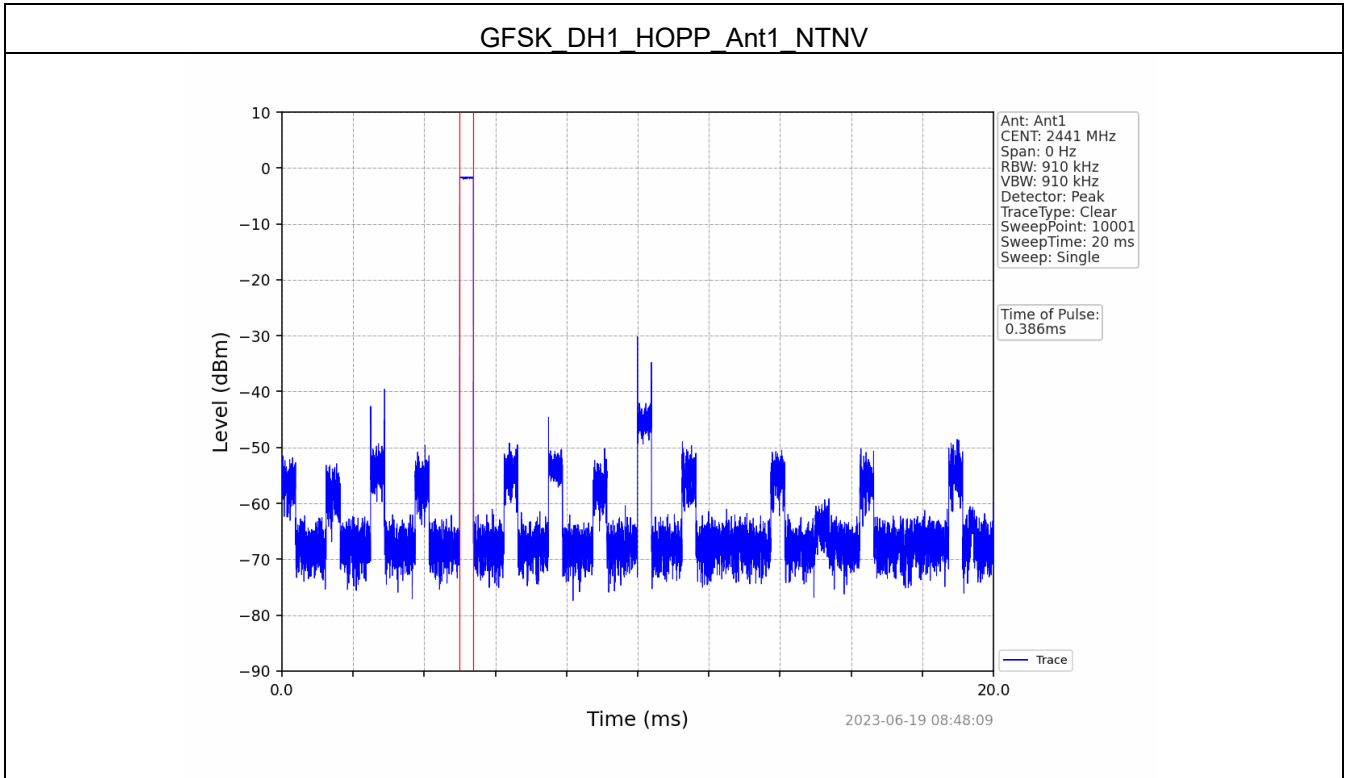


5 Dwell Time

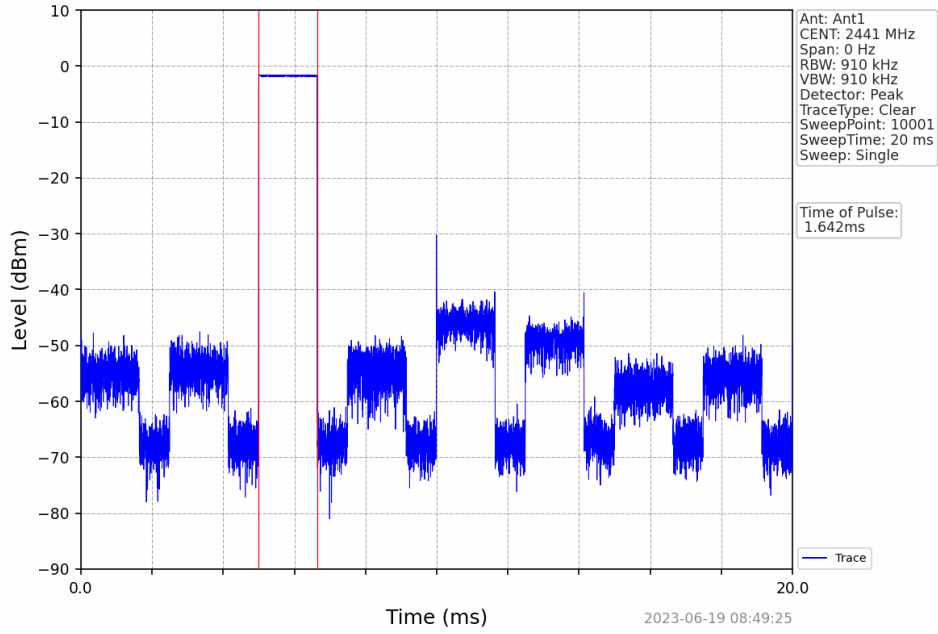
5.1 Test Result

Mode	Packet	Channel	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	DH5	LCH	0.386	31.600	319	123.134	<=400	Pass
		MCH	1.642	31.600	155	254.510	<=400	Pass
		HCH	2.892	31.600	116	335.472	<=400	Pass
$\pi/4$ -DQPSK	2DH5	LCH	0.398	31.600	320	127.360	<=400	Pass
		MCH	1.648	31.600	166	273.568	<=400	Pass
		HCH	2.898	31.600	91	263.718	<=400	Pass

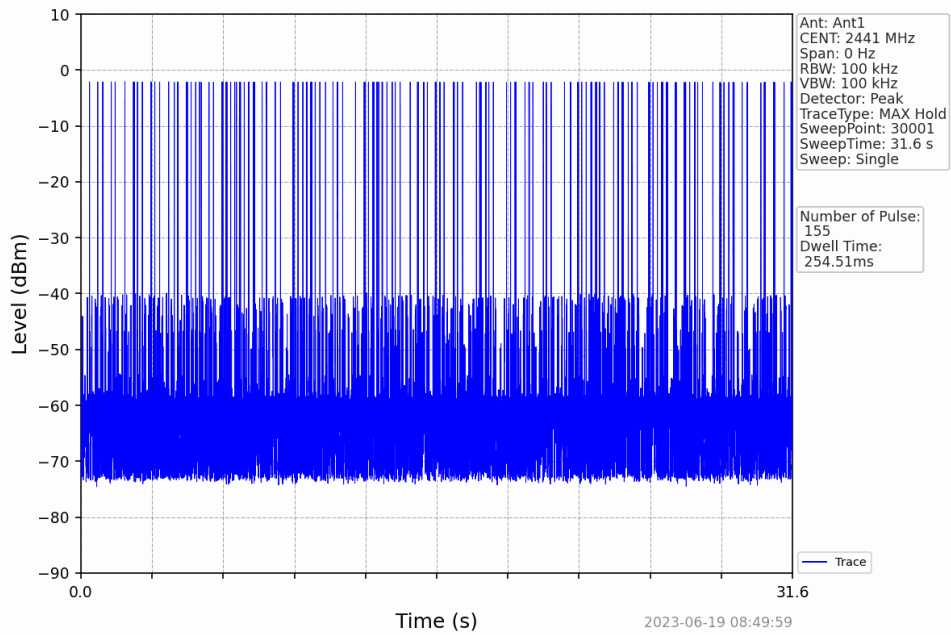
5.2 Test Graphs



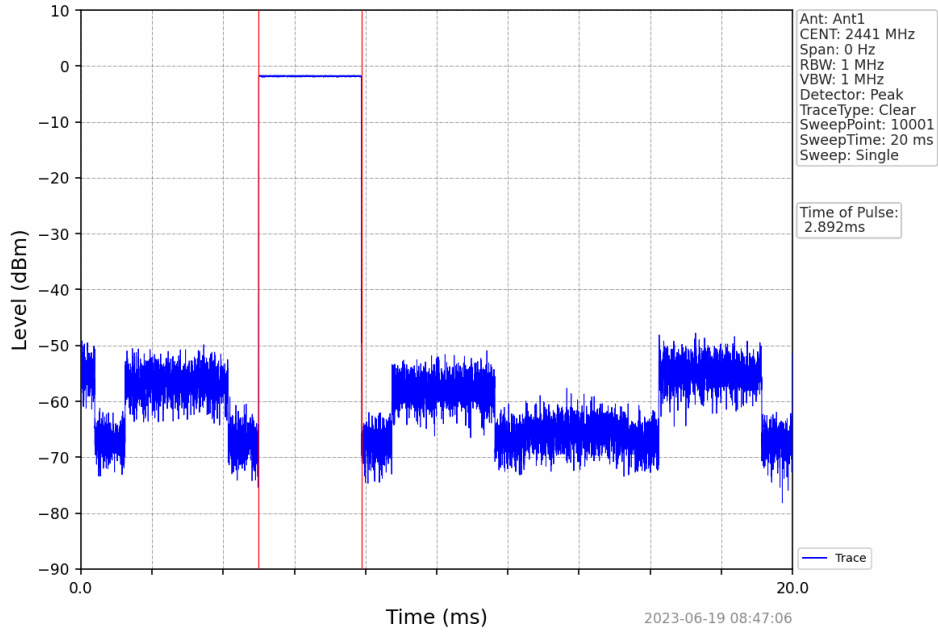
GFSK DH3 HOPP Ant1 NTN



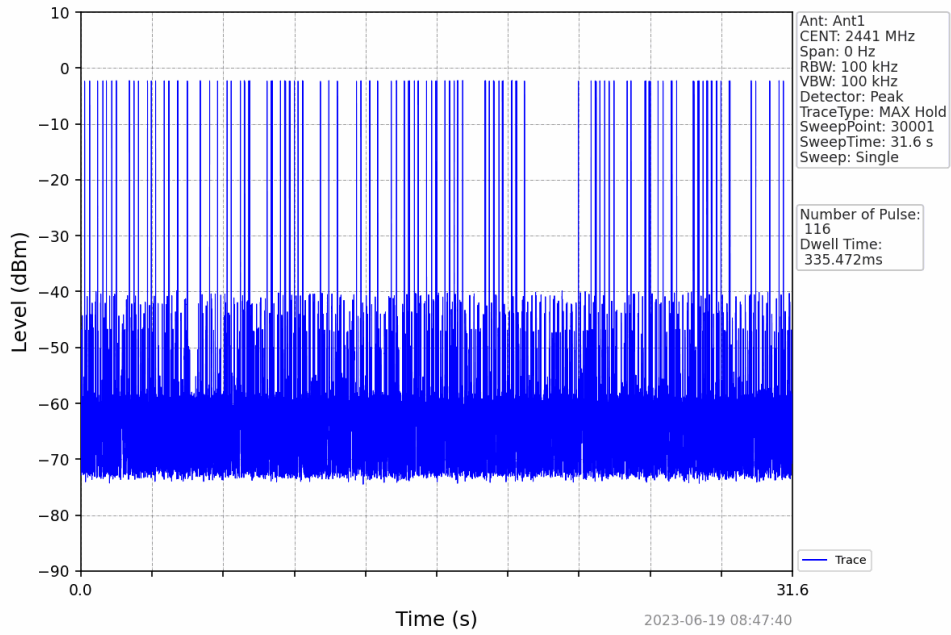
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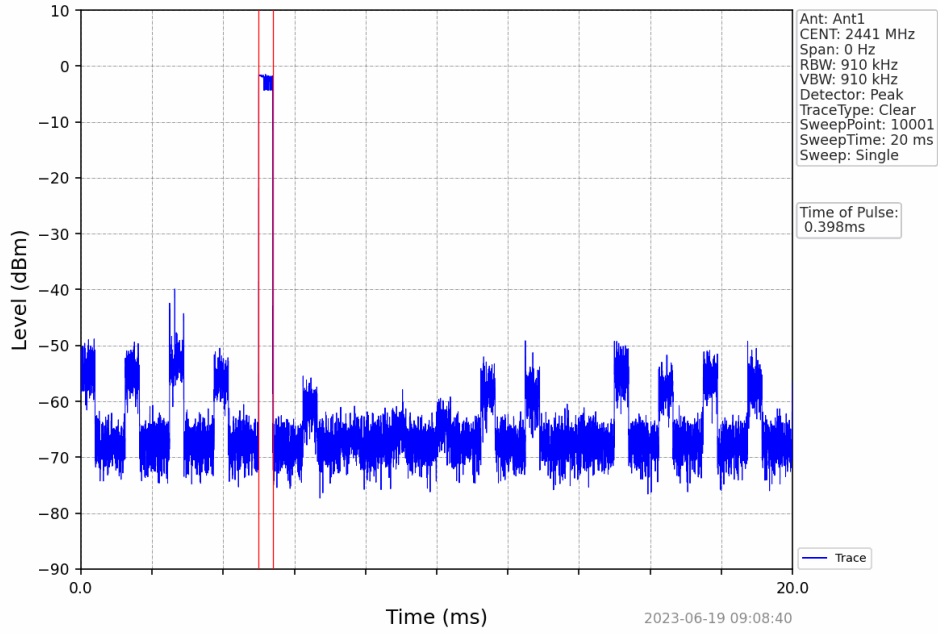
GFSK DH5 HOPP Ant1 NTN



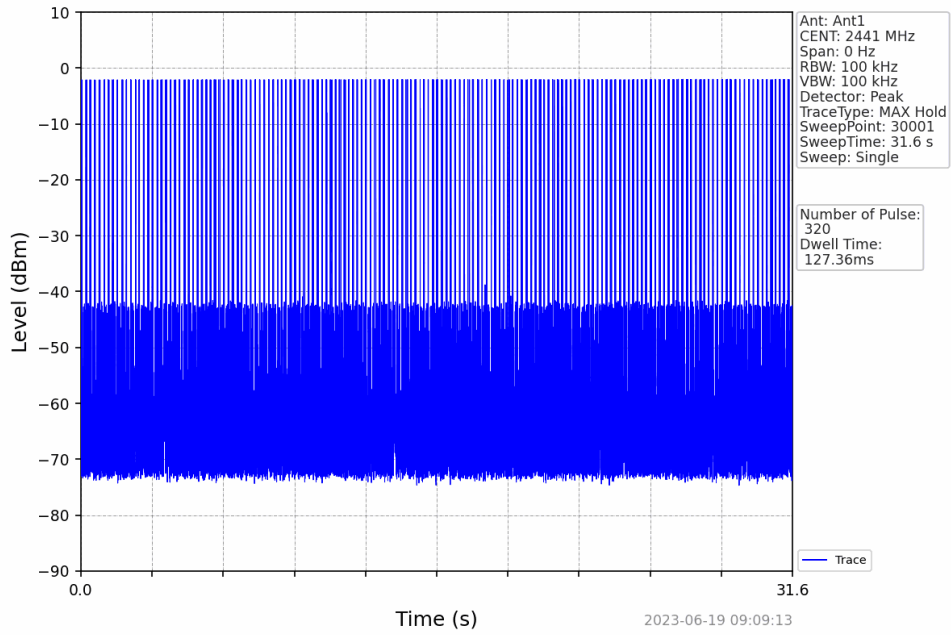
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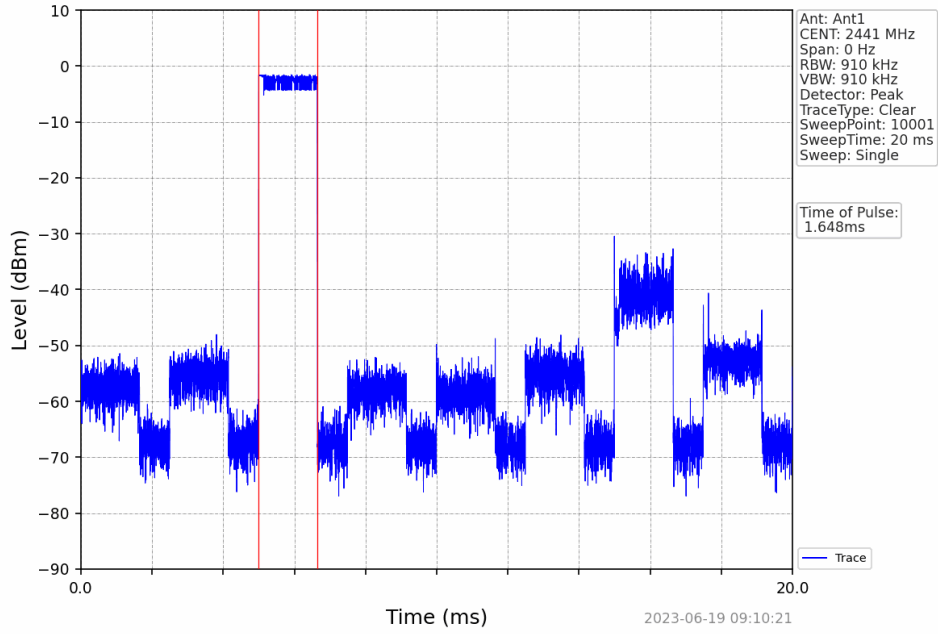
$\pi/4$ -DQPSK 2DH1_HOPP_Ant1_NTNV



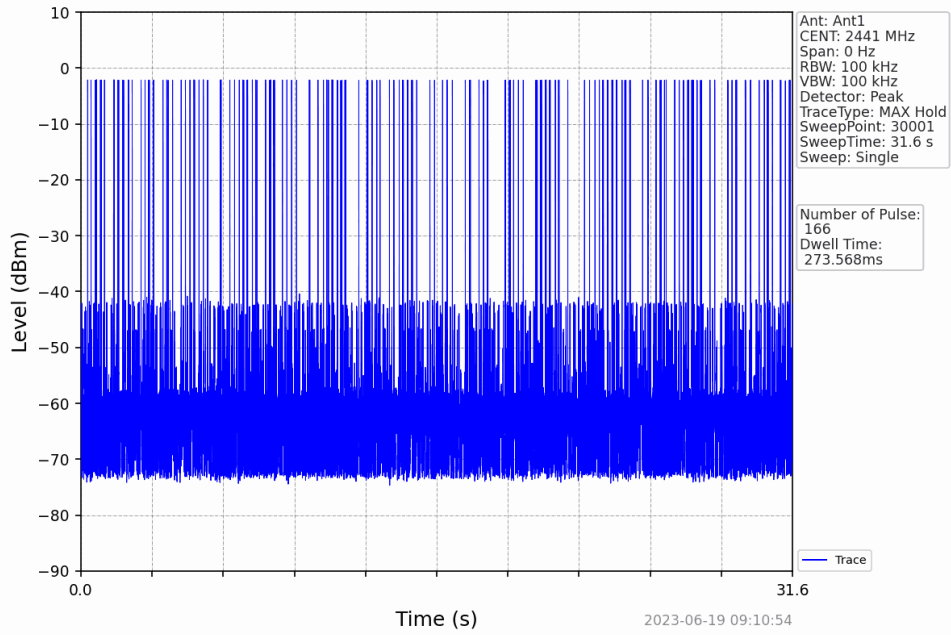
$\pi/4$ -DQPSK 2DH1_HOPP_Ant1_NTNV



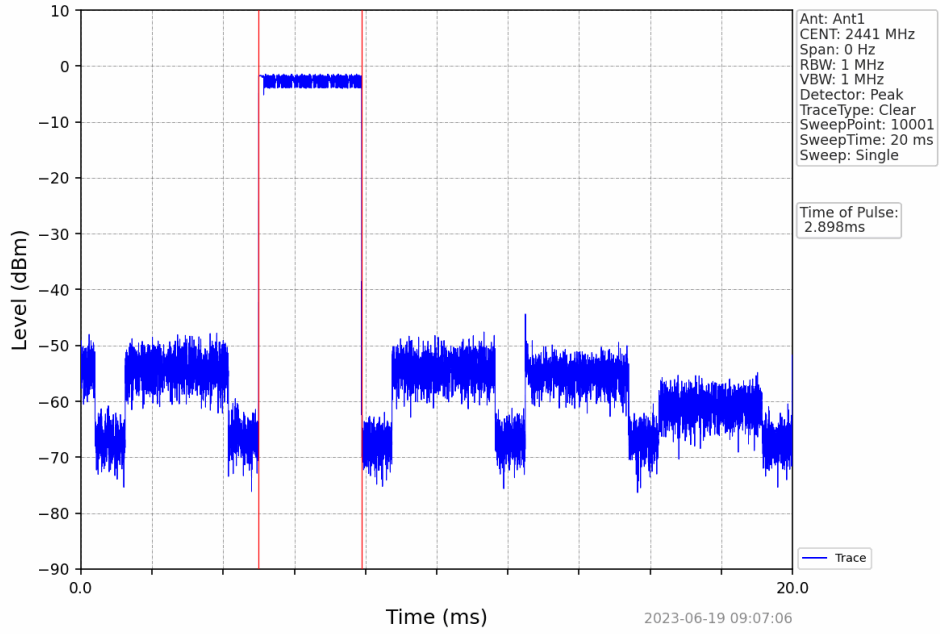
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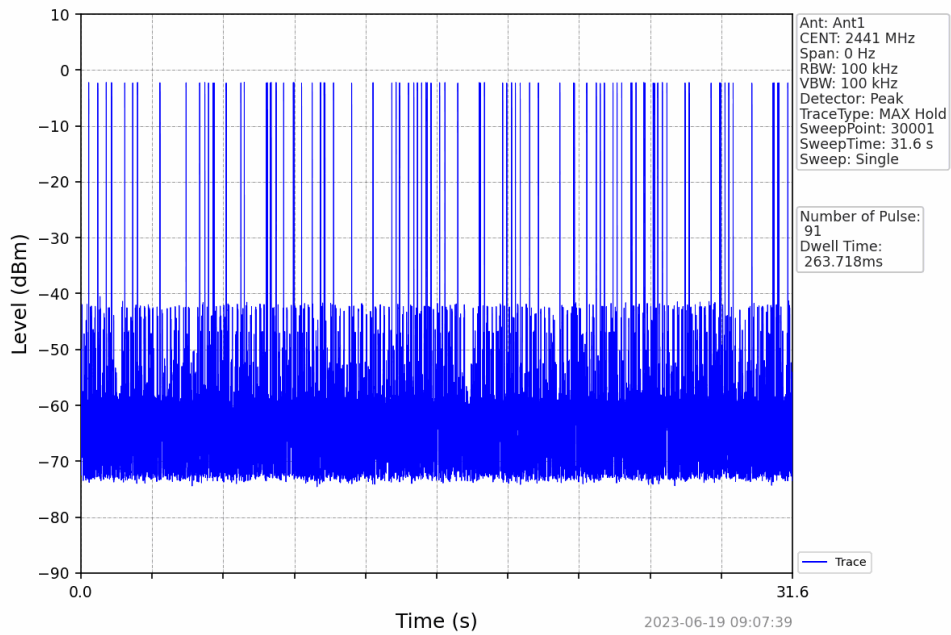
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$\pi/4$ -DQPSK 2DH5 HOPP Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HOPP Ant1 NTN



6 Conducted Spurious Emissions and Band Edges Test

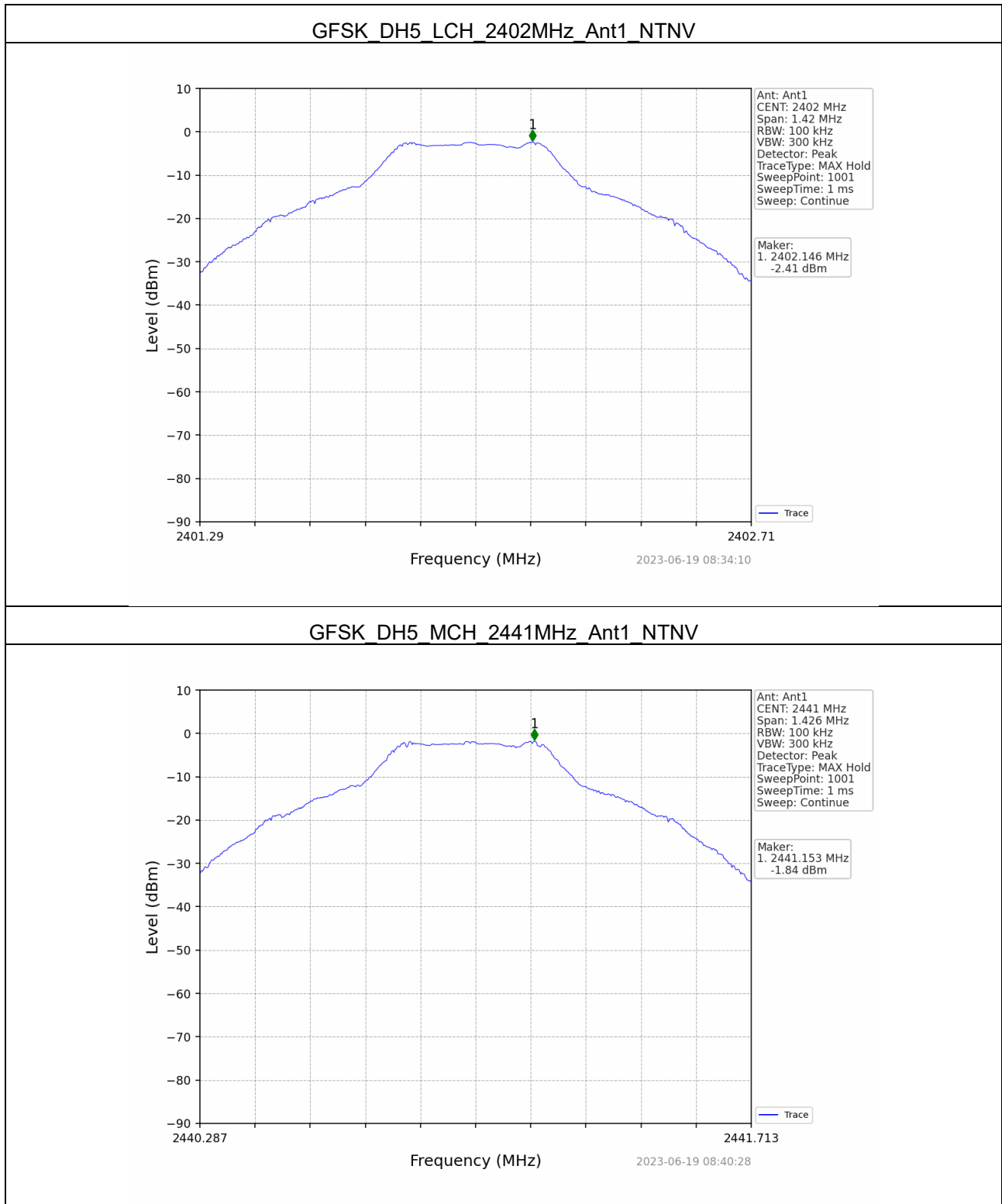
6.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-2.41	-20	Pass
	MCH	-1.84	-20	Pass
	HCH	-1.10	-20	Pass
$\pi/4$ -DQPSK	LCH	-2.32	-20	Pass
	MCH	-1.71	-20	Pass
	HCH	-0.97	-20	Pass

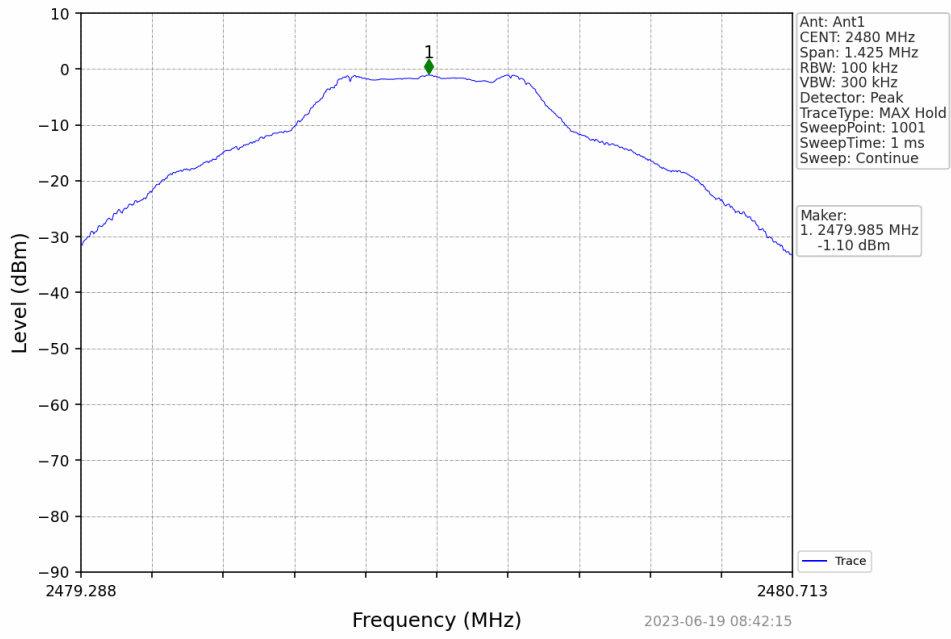
Mode	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	2402	DH5	1	-1.10	-21.10	Pass
	2441	DH5	1	-1.10	-21.10	Pass
	2480	DH5	1	-1.10	-21.10	Pass
	HOPP	DH5	1	-1.10	-21.10	Pass
$\pi/4$ -DQPSK	2402	2DH5	1	-0.97	-20.97	Pass
	2441	2DH5	1	-0.97	-20.97	Pass
	2480	2DH5	1	-0.97	-20.97	Pass
	HOPP	2DH5	1	-0.97	-20.97	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

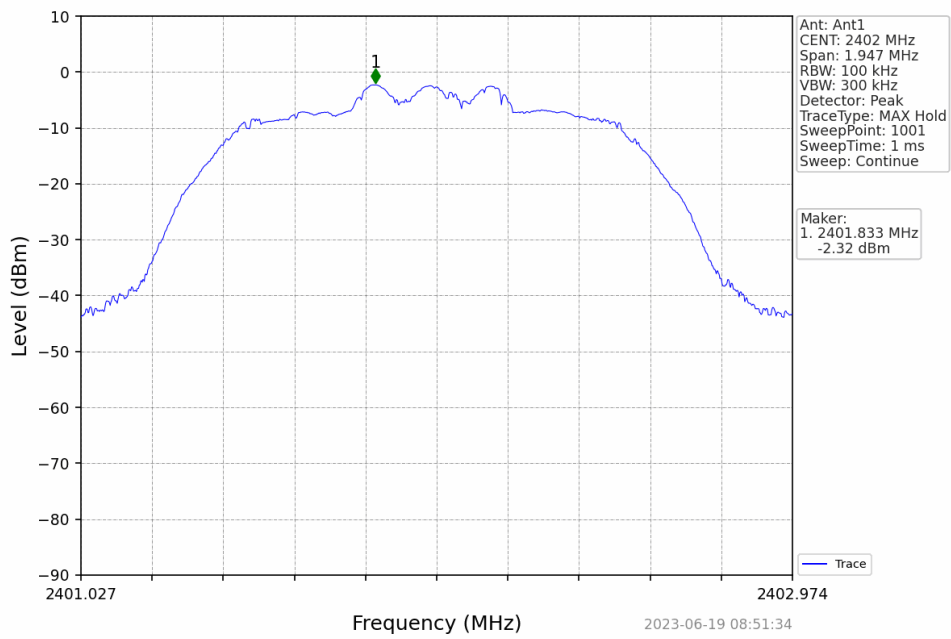
6.2 Test Graphs



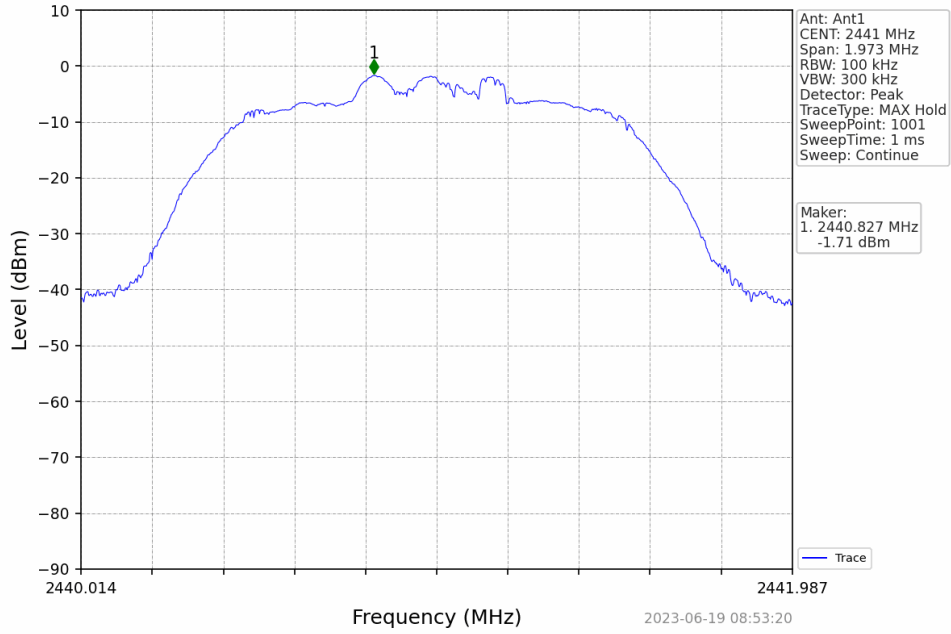
GFSK DH5 HCH 2480MHz Ant1 NTN



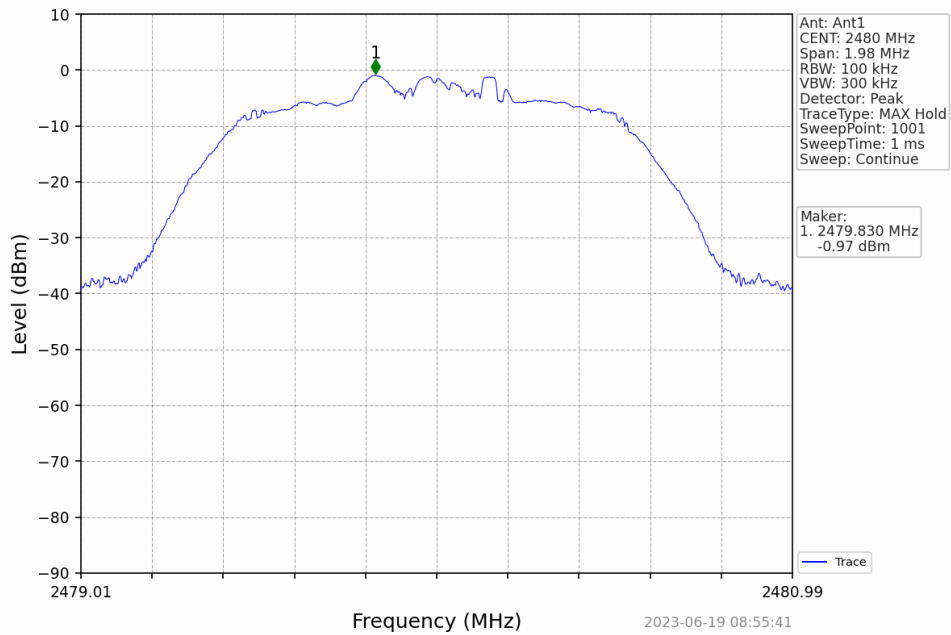
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN

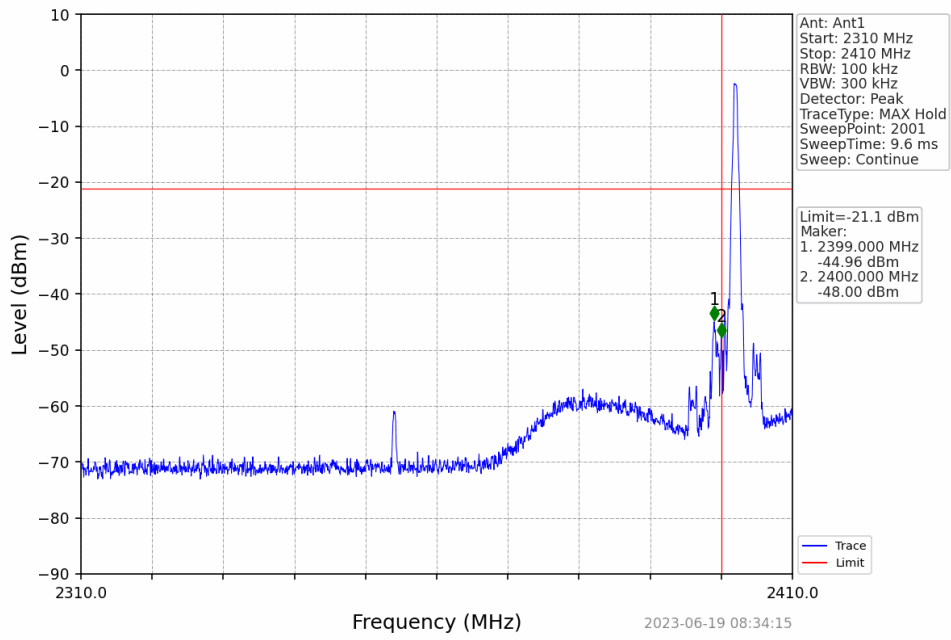


$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN

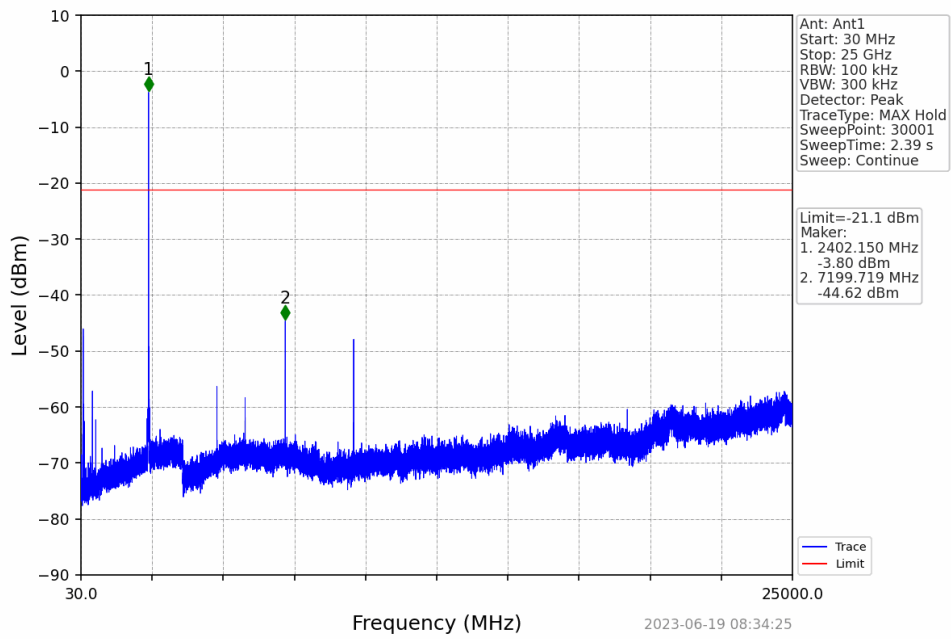


CSE

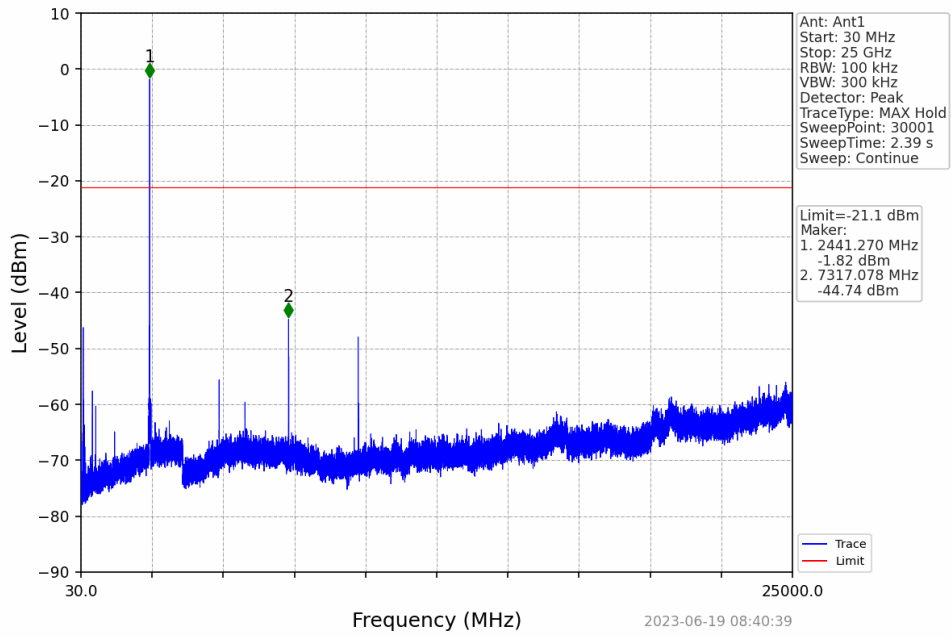
GFSK DH5 LCH 2402MHz Ant1 NTN



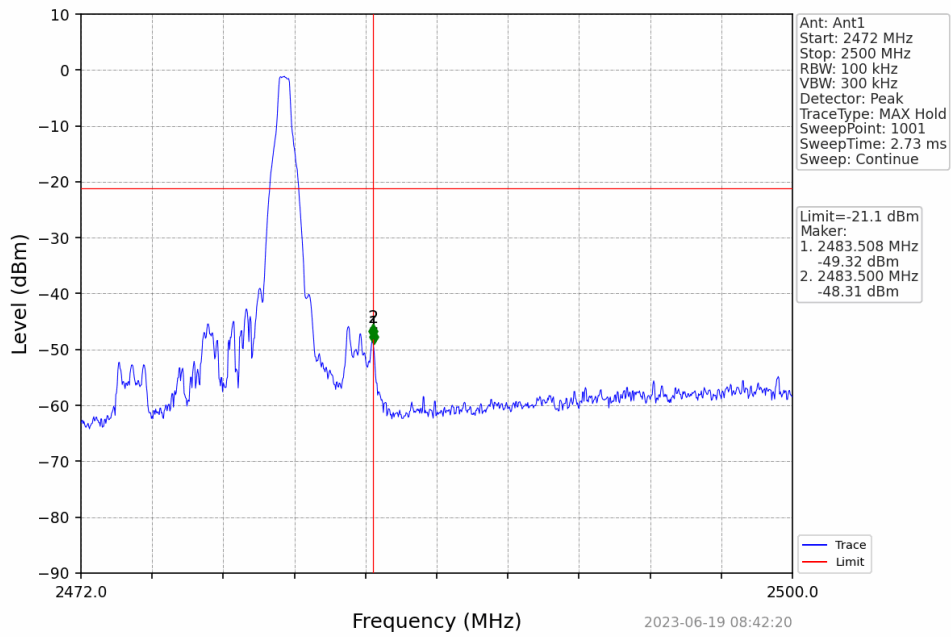
GFSK DH5 LCH 2402MHz Ant1 NTN



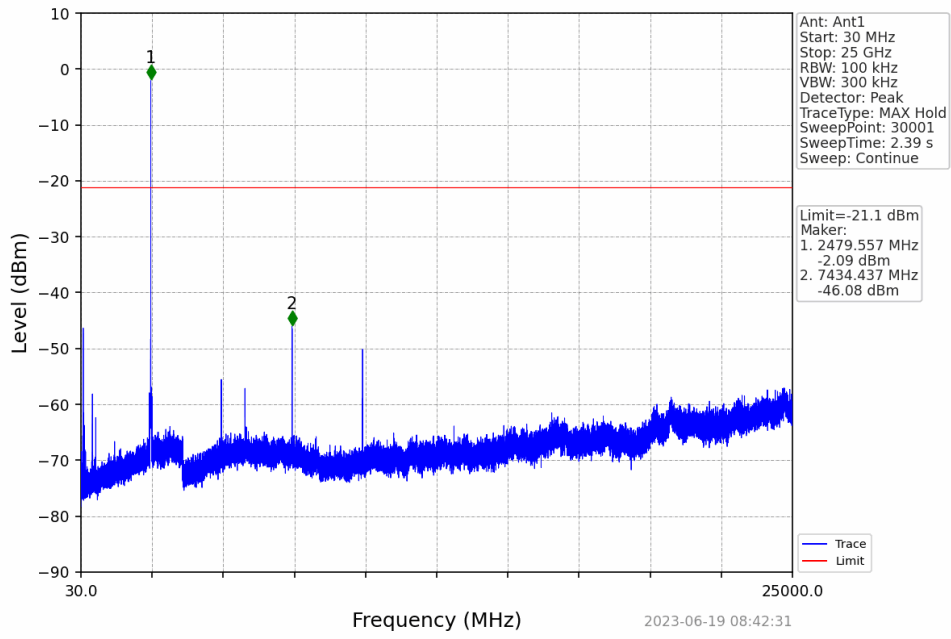
GFSK DH5 MCH 2441MHz Ant1 NTN



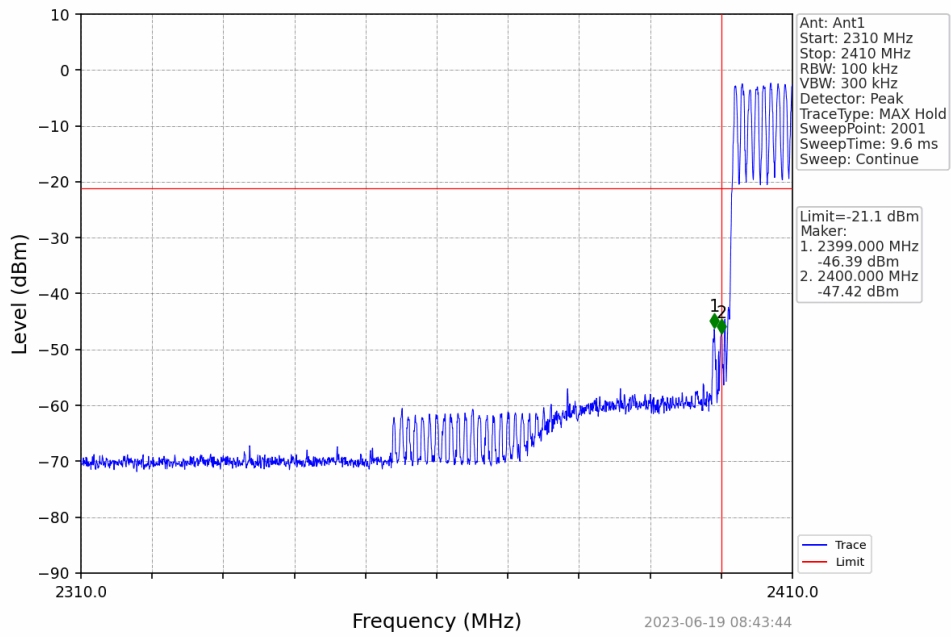
GFSK DH5 HCH 2480MHz Ant1 NTN



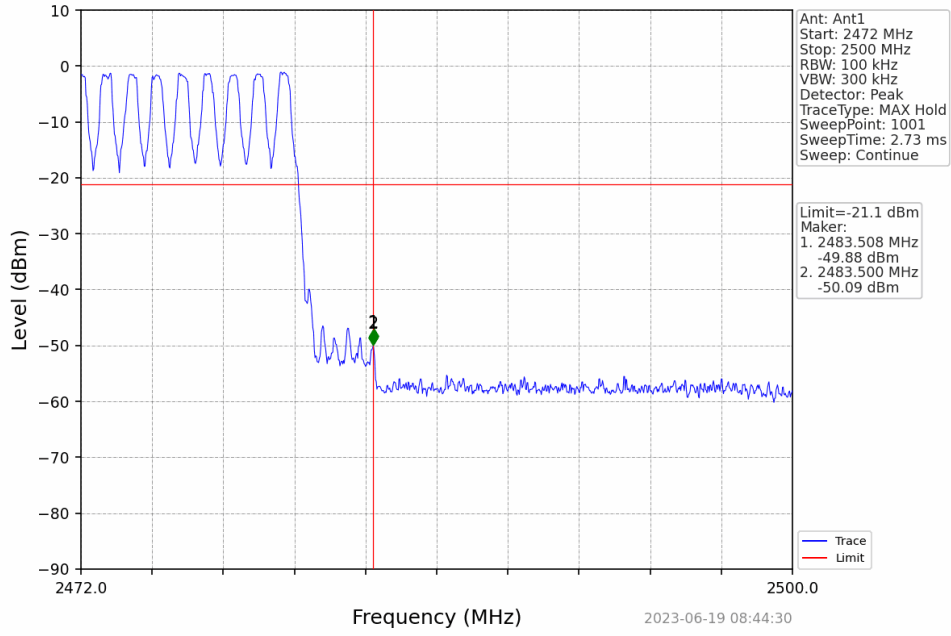
GFSK DH5 HCH 2480MHz Ant1 NTN



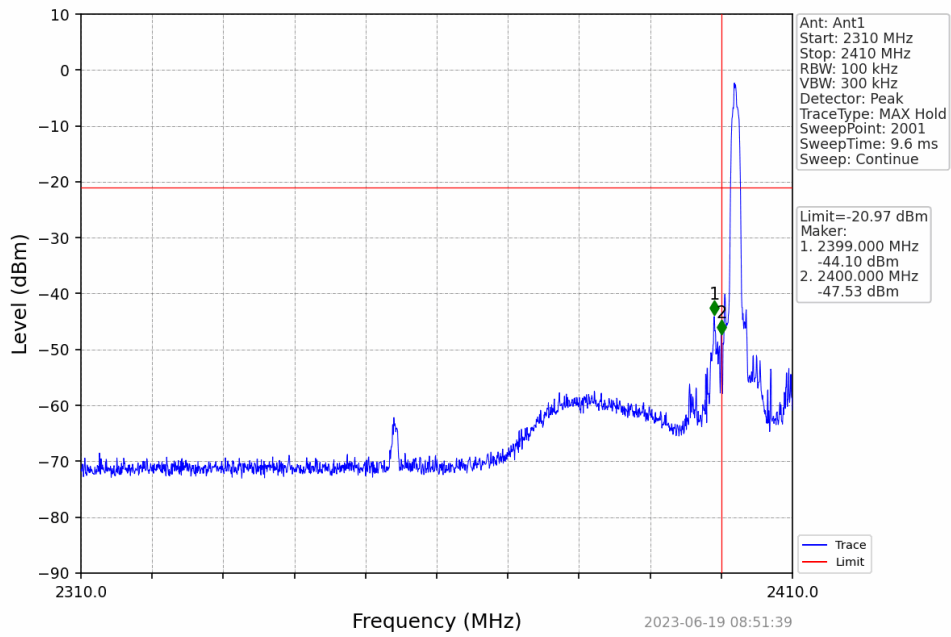
GFSK DH5 HOPP Ant1 NTN



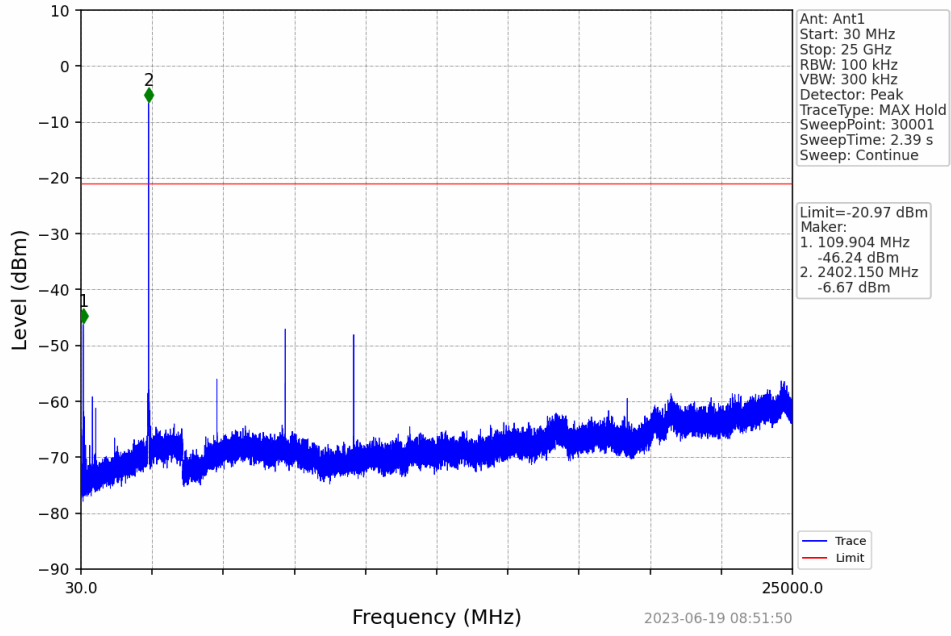
GFSK_DH5_HOPP_Ant1_NTNV



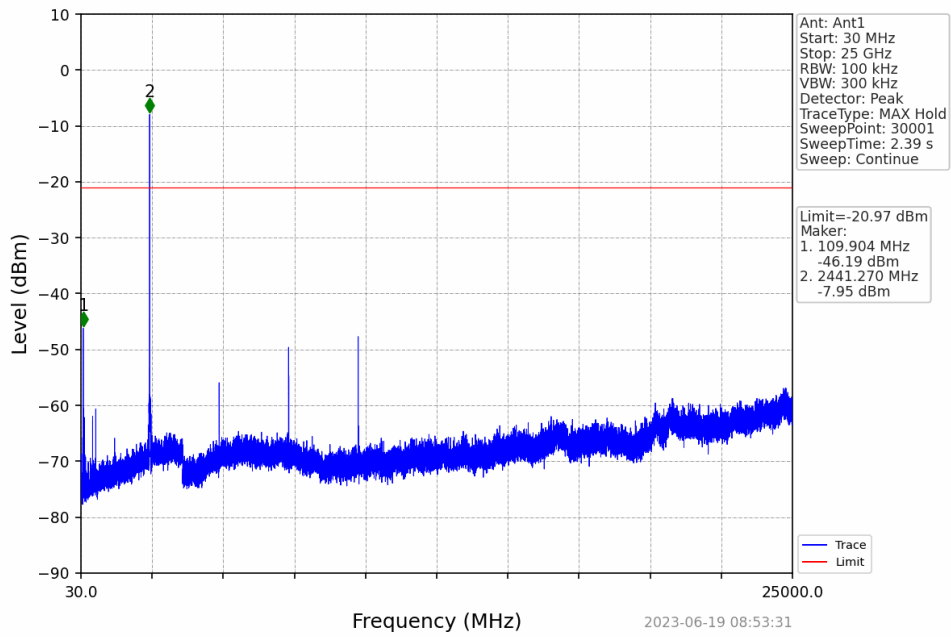
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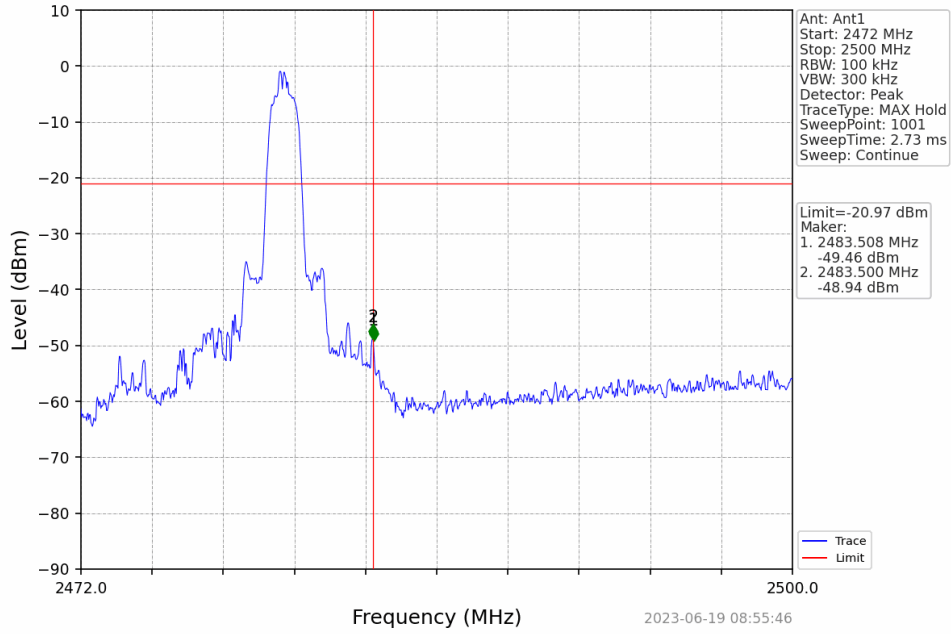
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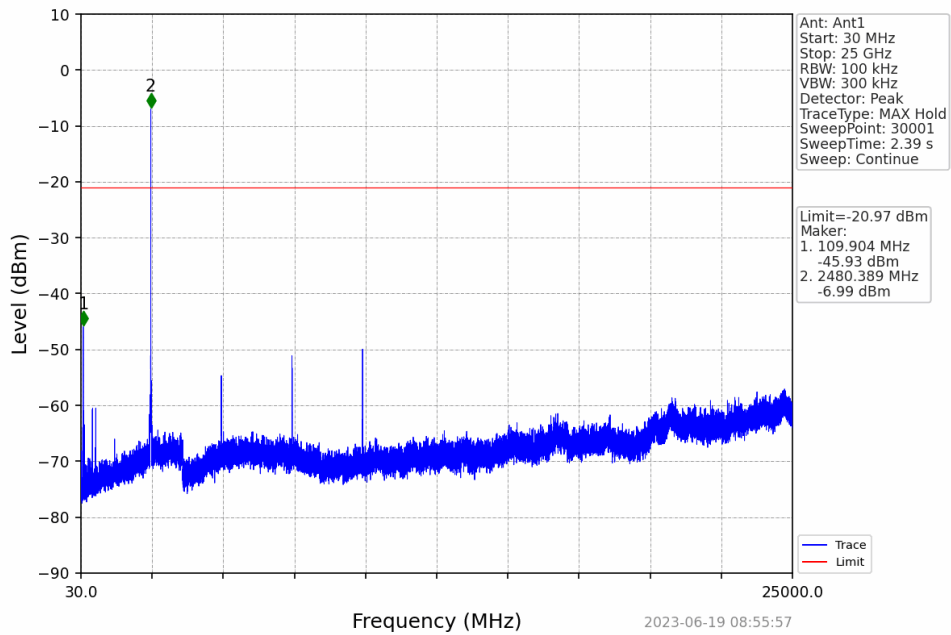
$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



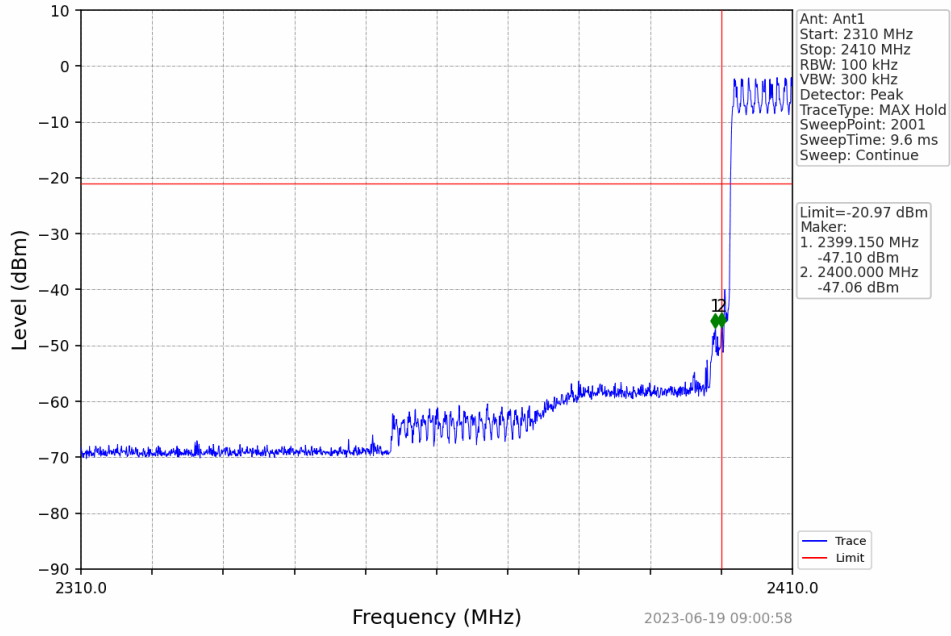
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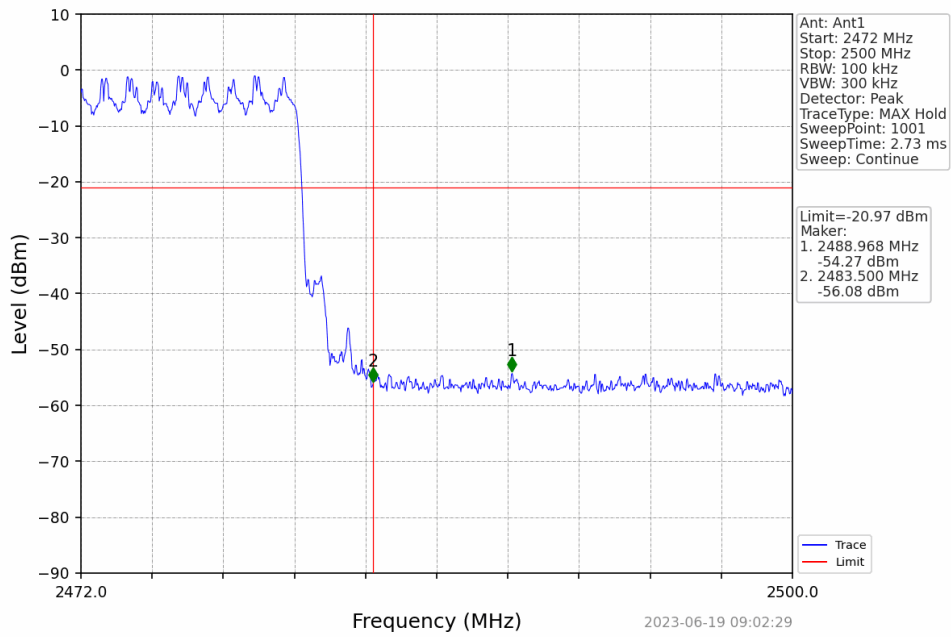
$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HOPP Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HOPP Ant1 NTN



7 Restrict-band Band-edge Test

7.1 Test Result

Test Mode: GFKS										
Pol.	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or Type	Result
Low Channel: 2402MHz										
H	2390.00	45.94	29.15	3.41	34.01	44.49	74.00	-29.51	PK	PASS
H	2400.00	63.16	29.16	3.43	34.01	61.74	74.00	-12.26	PK	PASS
V	2390.00	46.78	29.15	3.41	34.01	45.33	74.00	-28.67	PK	PASS
V	2400.00	65.53	29.16	3.43	34.01	64.11	74.00	-9.89	PK	PASS
H	2390.00	35.80	29.15	3.41	34.01	34.35	54.00	-19.65	AV	PASS
H	2400.00	47.22	29.16	3.43	34.01	45.80	54.00	-8.20	AV	PASS
V	2390.00	35.96	29.15	3.41	34.01	34.51	54.00	-19.49	AV	PASS
V	2400.00	49.16	29.16	3.43	34.01	47.74	54.00	-6.26	AV	PASS
High Channel: 2480MHz										
H	2483.50	48.41	29.28	3.53	34.03	47.19	74.00	-26.81	PK	PASS
H	2500.00	47.00	29.30	3.56	34.03	45.83	74.00	-28.17	PK	PASS
V	2483.50	49.76	29.28	3.53	34.03	48.54	74.00	-25.46	PK	PASS
V	2500.00	48.29	29.30	3.56	34.03	47.12	74.00	-26.88	PK	PASS
H	2483.50	38.66	29.28	3.53	34.03	37.44	54.00	-16.56	AV	PASS
H	2500.00	36.23	29.30	3.56	34.03	35.06	54.00	-18.94	AV	PASS
V	2483.50	40.13	29.28	3.53	34.03	38.91	54.00	-15.09	AV	PASS
V	2500.00	36.40	29.30	3.56	34.03	35.23	54.00	-18.77	AV	PASS

Test Mode: π/4-DQPSK										
Pol.	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detect or Type	Result
Low Channel: 2402MHz										
H	2390.00	45.89	29.15	3.41	34.01	44.44	74.00	-29.56	PK	PASS
H	2400.00	63.11	29.16	3.43	34.01	61.69	74.00	-12.31	PK	PASS
V	2390.00	46.72	29.15	3.41	34.01	45.27	74.00	-28.73	PK	PASS
V	2400.00	65.47	29.16	3.43	34.01	64.05	74.00	-9.95	PK	PASS
H	2390.00	35.76	29.15	3.41	34.01	34.31	54.00	-19.69	AV	PASS
H	2400.00	47.17	29.16	3.43	34.01	45.75	54.00	-8.25	AV	PASS
V	2390.00	35.92	29.15	3.41	34.01	34.47	54.00	-19.53	AV	PASS
V	2400.00	49.11	29.16	3.43	34.01	47.69	54.00	-6.31	AV	PASS
High Channel: 2480MHz										
H	2483.50	48.35	29.28	3.53	34.03	47.13	74.00	-26.87	PK	PASS
H	2500.00	46.95	29.30	3.56	34.03	45.78	74.00	-28.22	PK	PASS
V	2483.50	49.70	29.28	3.53	34.03	48.48	74.00	-25.52	PK	PASS
V	2500.00	48.24	29.30	3.56	34.03	47.07	74.00	-26.93	PK	PASS
H	2483.50	38.62	29.28	3.53	34.03	37.40	54.00	-16.60	AV	PASS
H	2500.00	36.19	29.30	3.56	34.03	35.02	54.00	-18.98	AV	PASS
V	2483.50	40.08	29.28	3.53	34.03	38.86	54.00	-15.14	AV	PASS
V	2500.00	36.37	29.30	3.56	34.03	35.20	54.00	-18.80	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

.....End.....