



Appendix A

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Speaker

Trade Mark: N/A

Test Model: EBS-211371

Environmental Conditions

Temperature:	25.2°C
Relative Humidity:	51.2%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen



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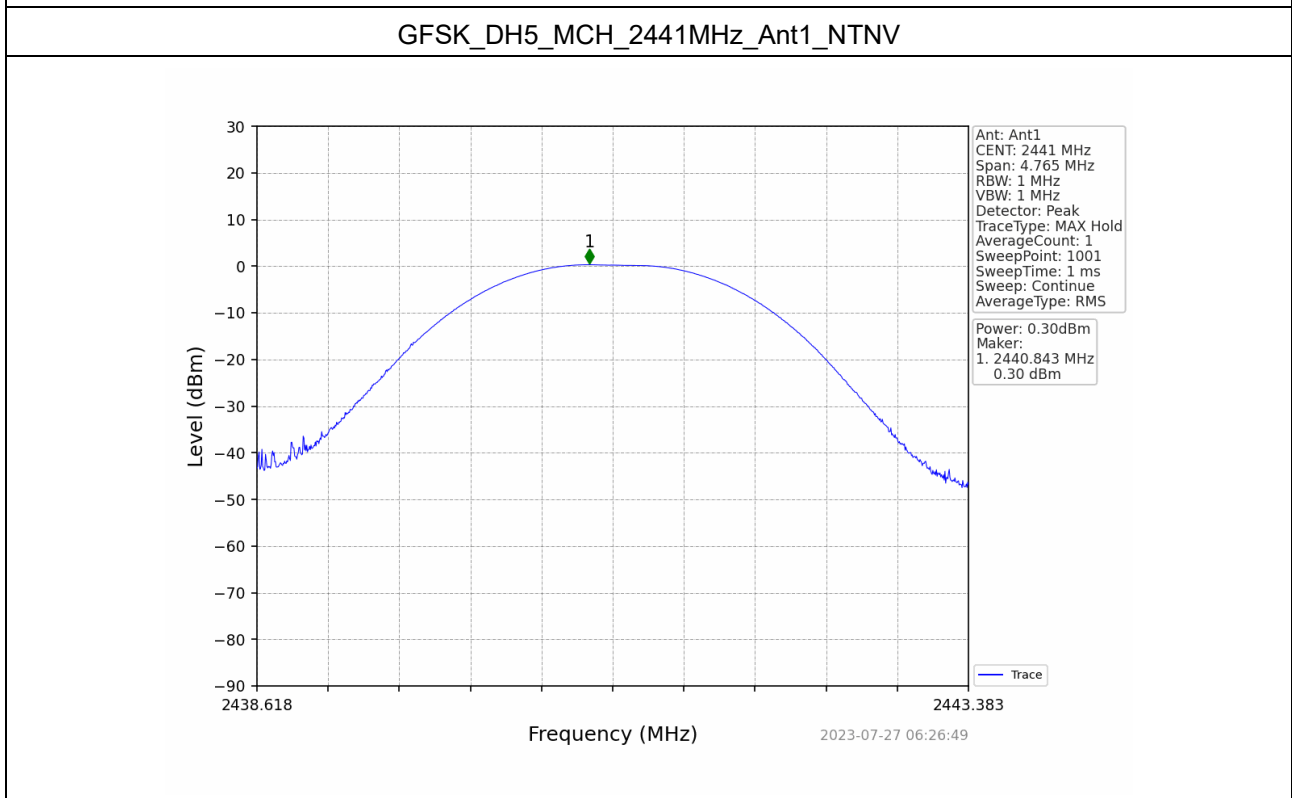
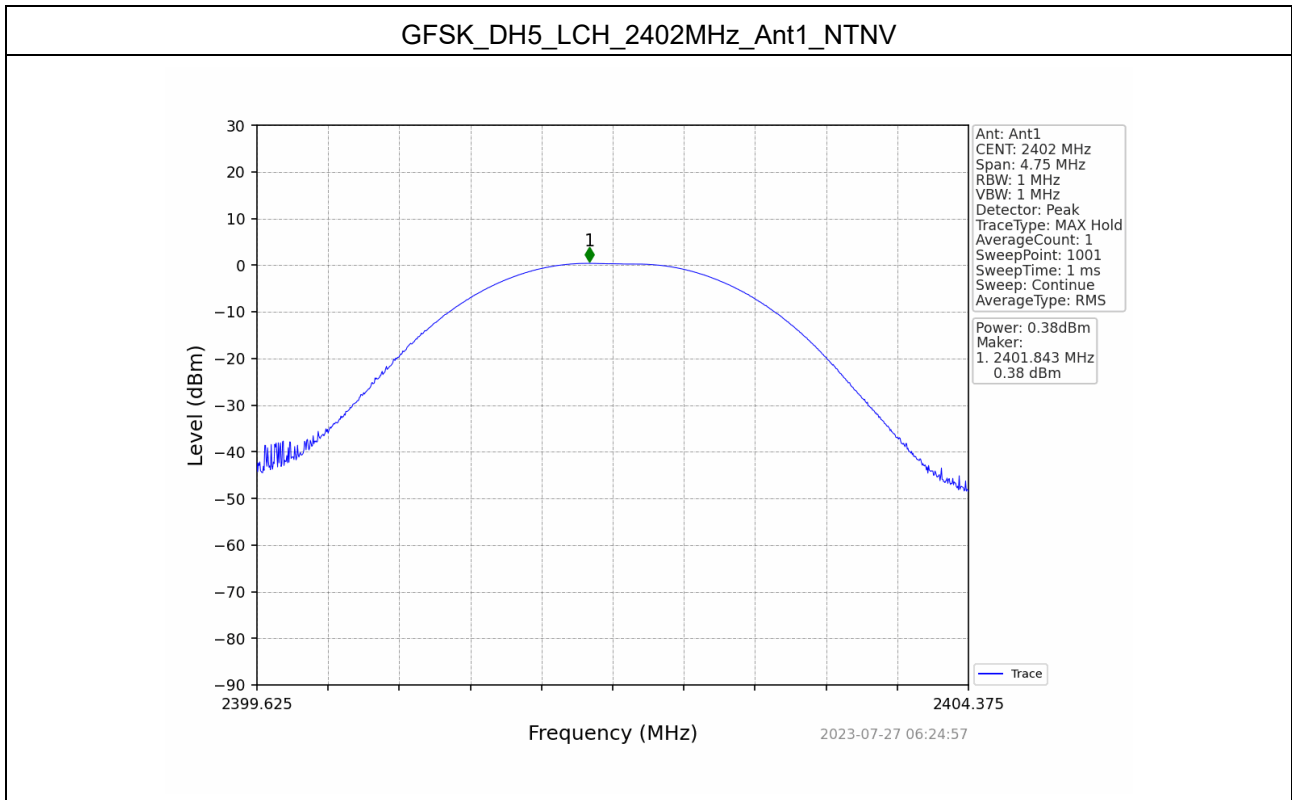
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1 Maximum Conducted Peak Output Power

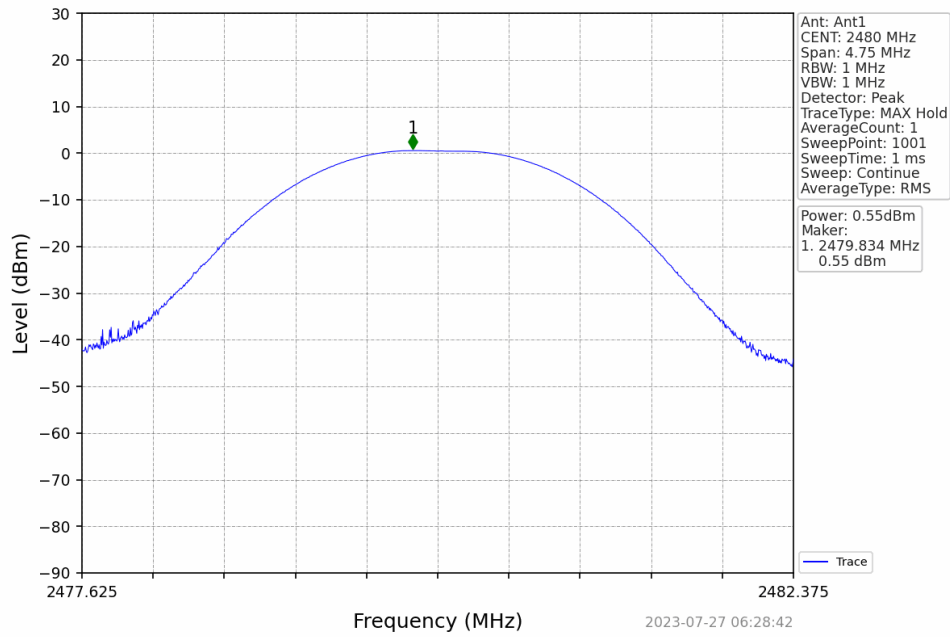
1.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.38	21	Pass
	MCH	0.30	21	Pass
	HCH	0.55	21	Pass
$\pi/4$ -DQPSK	LCH	1.14	21	Pass
	MCH	1.05	21	Pass
	HCH	1.29	21	Pass

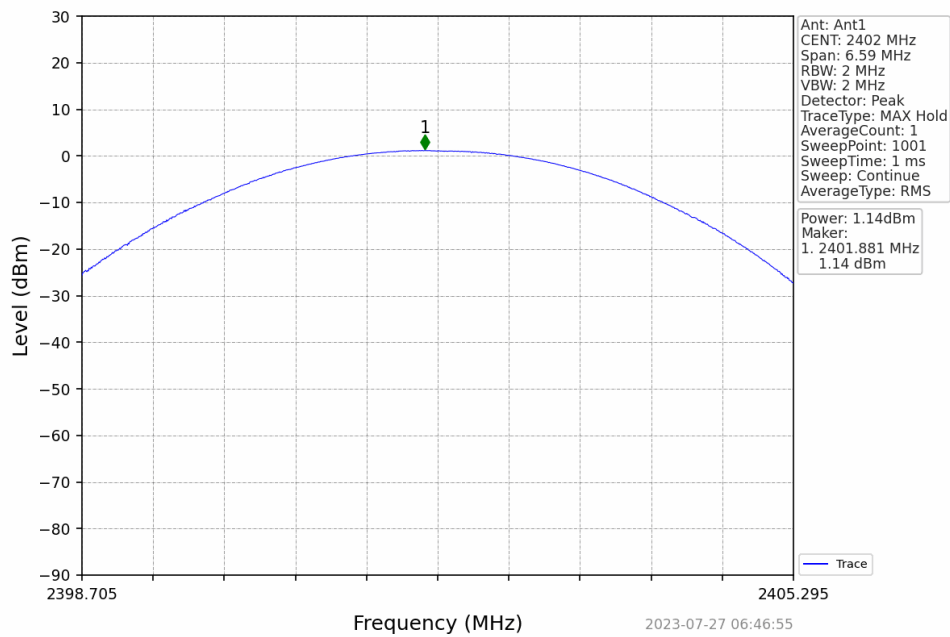
1.2 Test Graphs



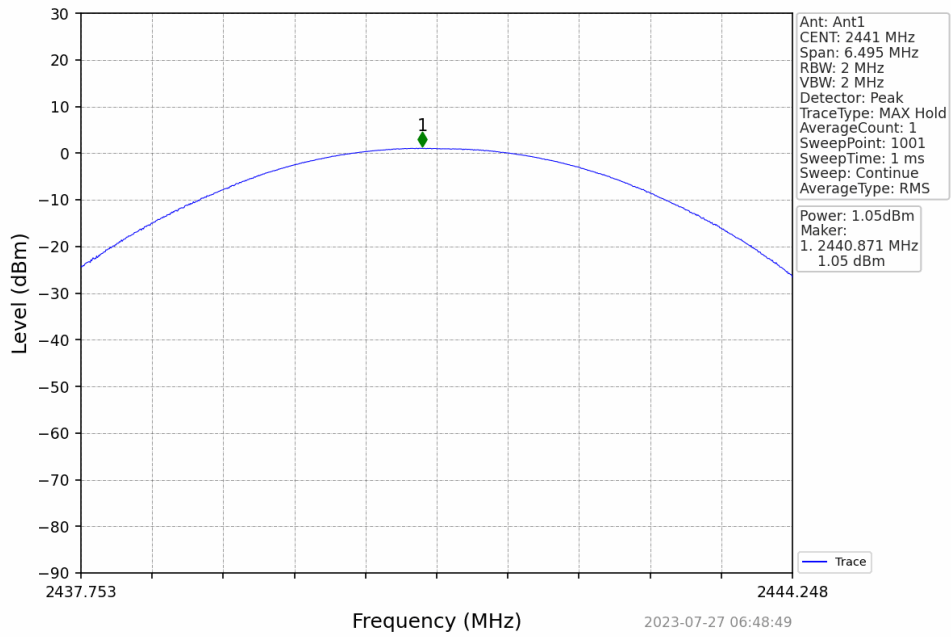
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



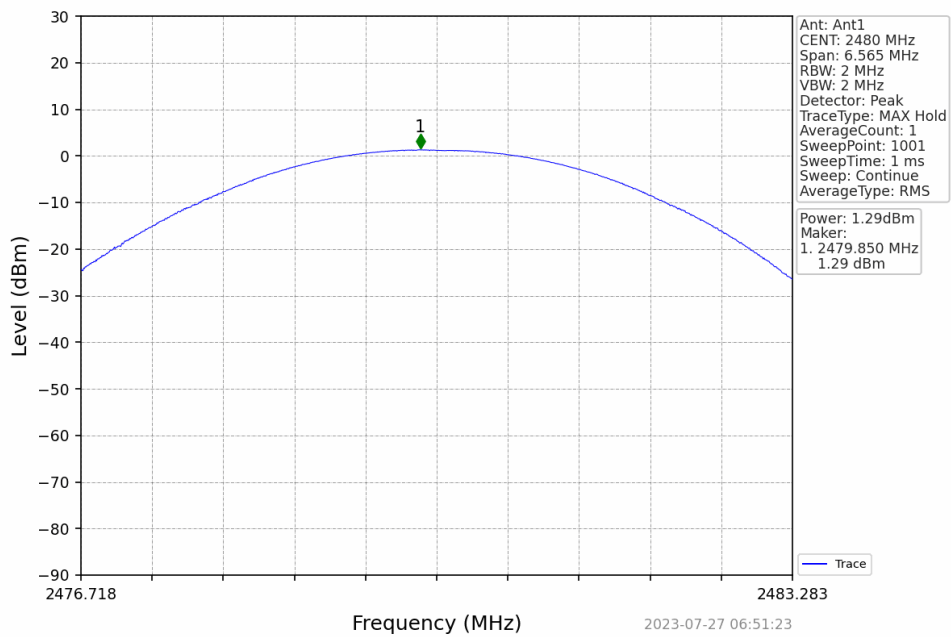
$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

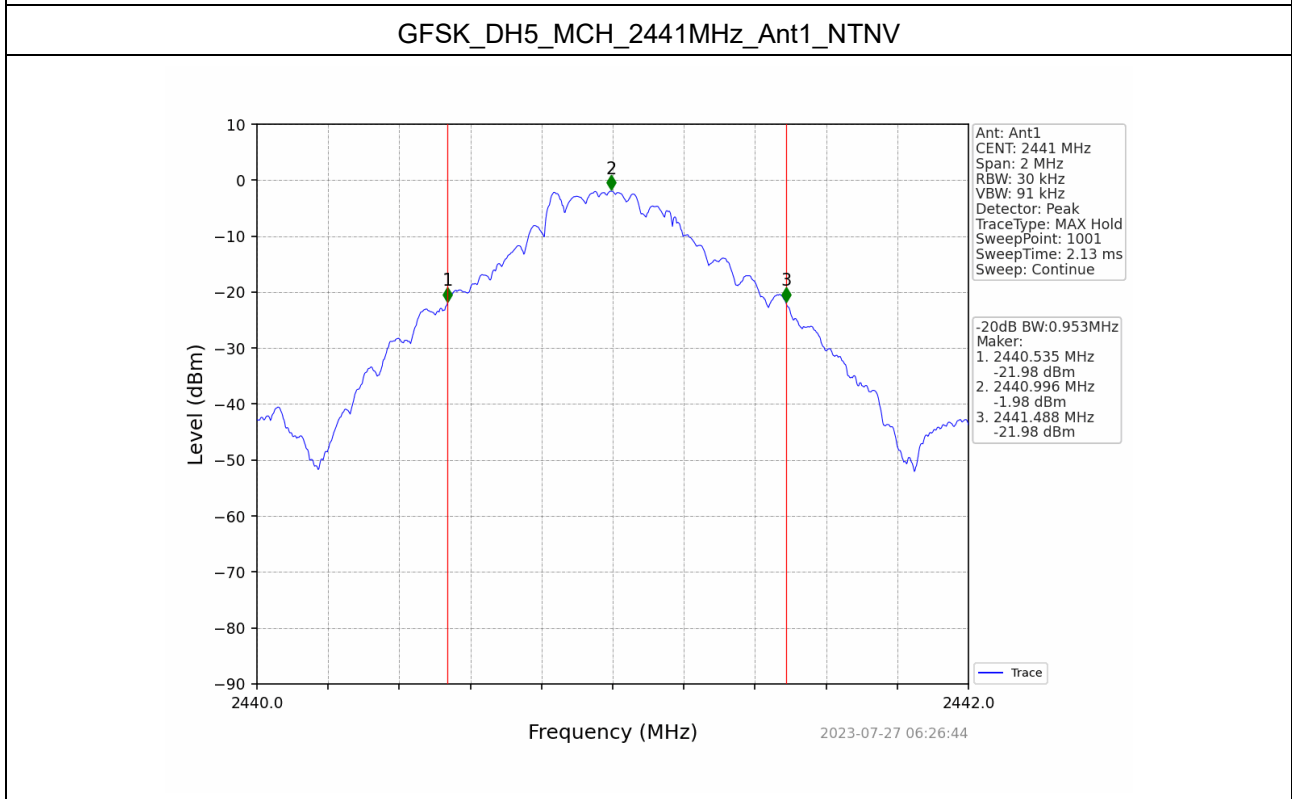
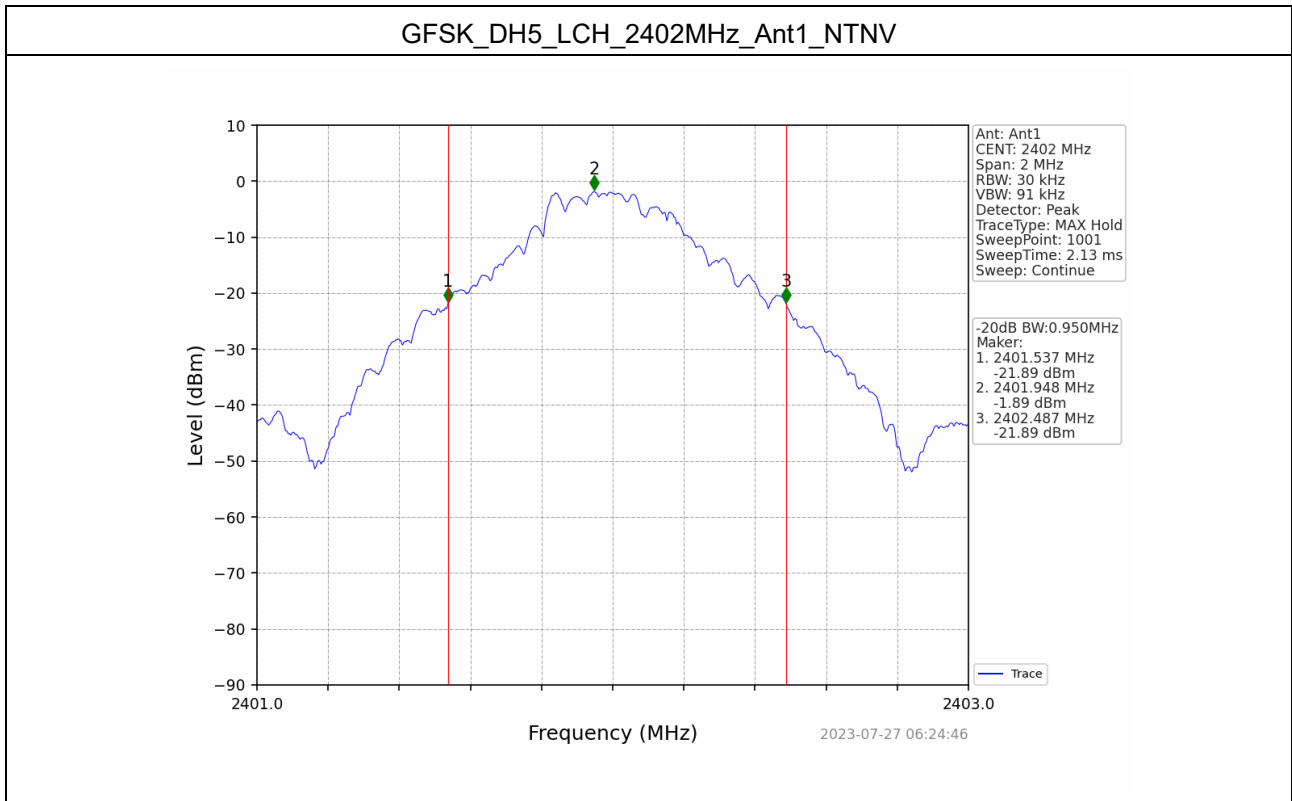


2 20dB Bandwidth

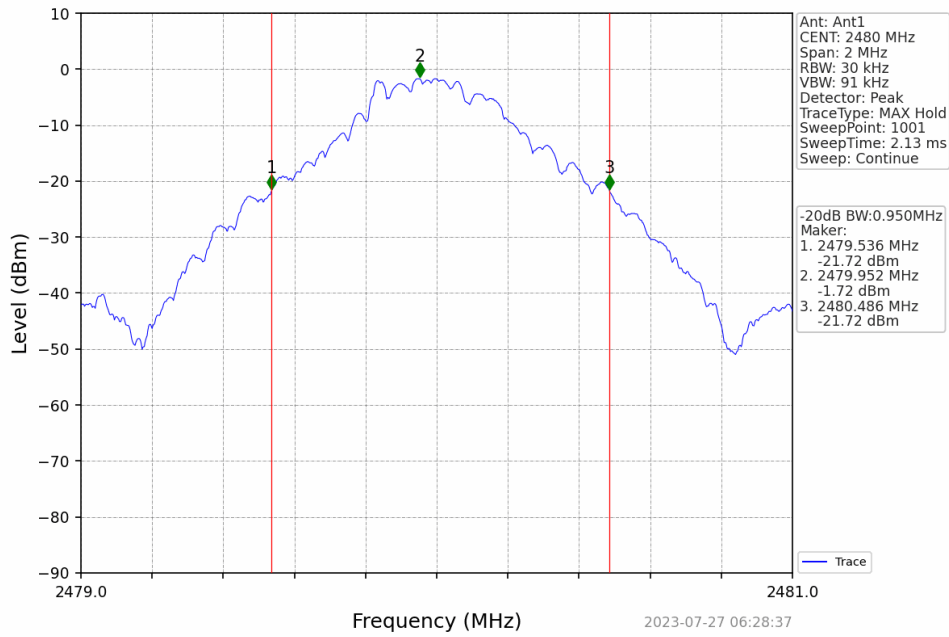
2.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.950	Not Specified	Pass
	MCH	0.953	Not Specified	Pass
	HCH	0.950	Not Specified	Pass
$\pi/4$ -DQPSK	LCH	1.318	Not Specified	Pass
	MCH	1.299	Not Specified	Pass
	HCH	1.313	Not Specified	Pass

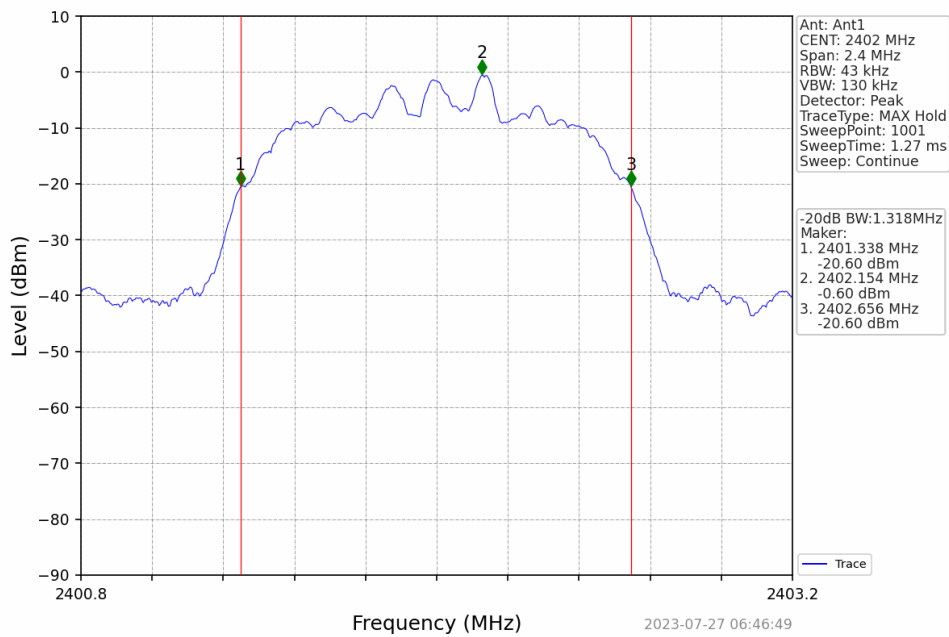
2.2 Test Graphs



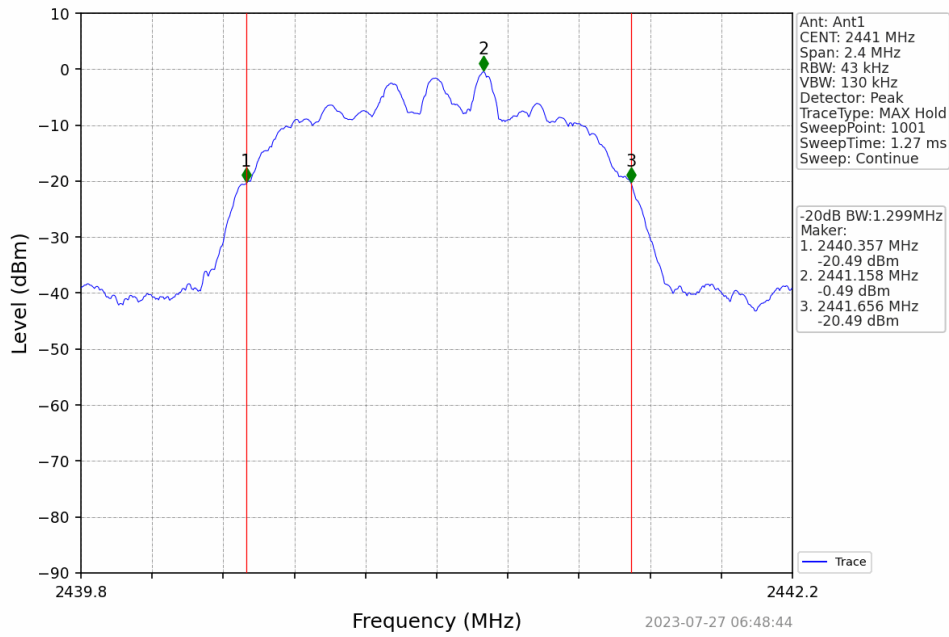
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



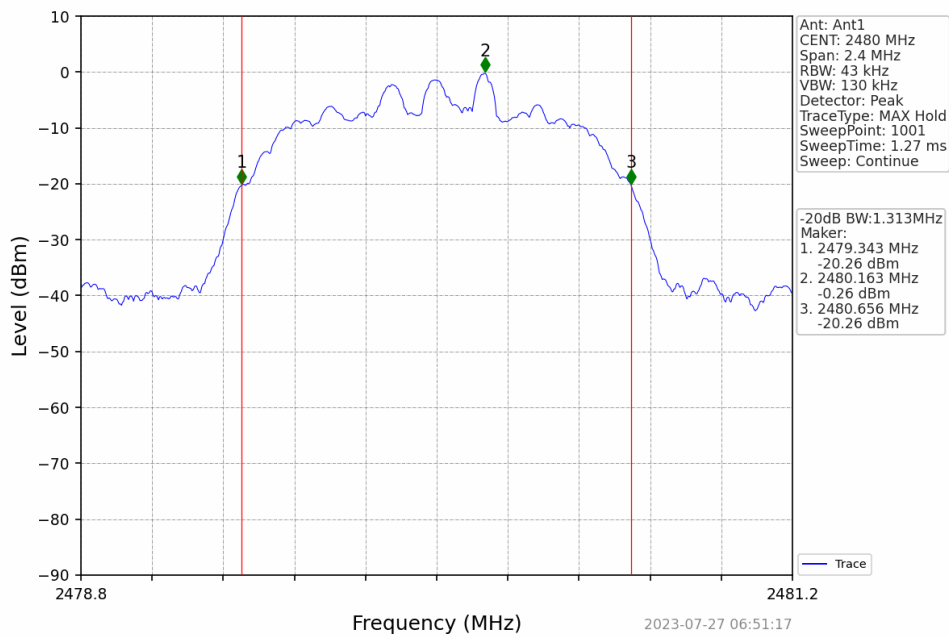
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$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

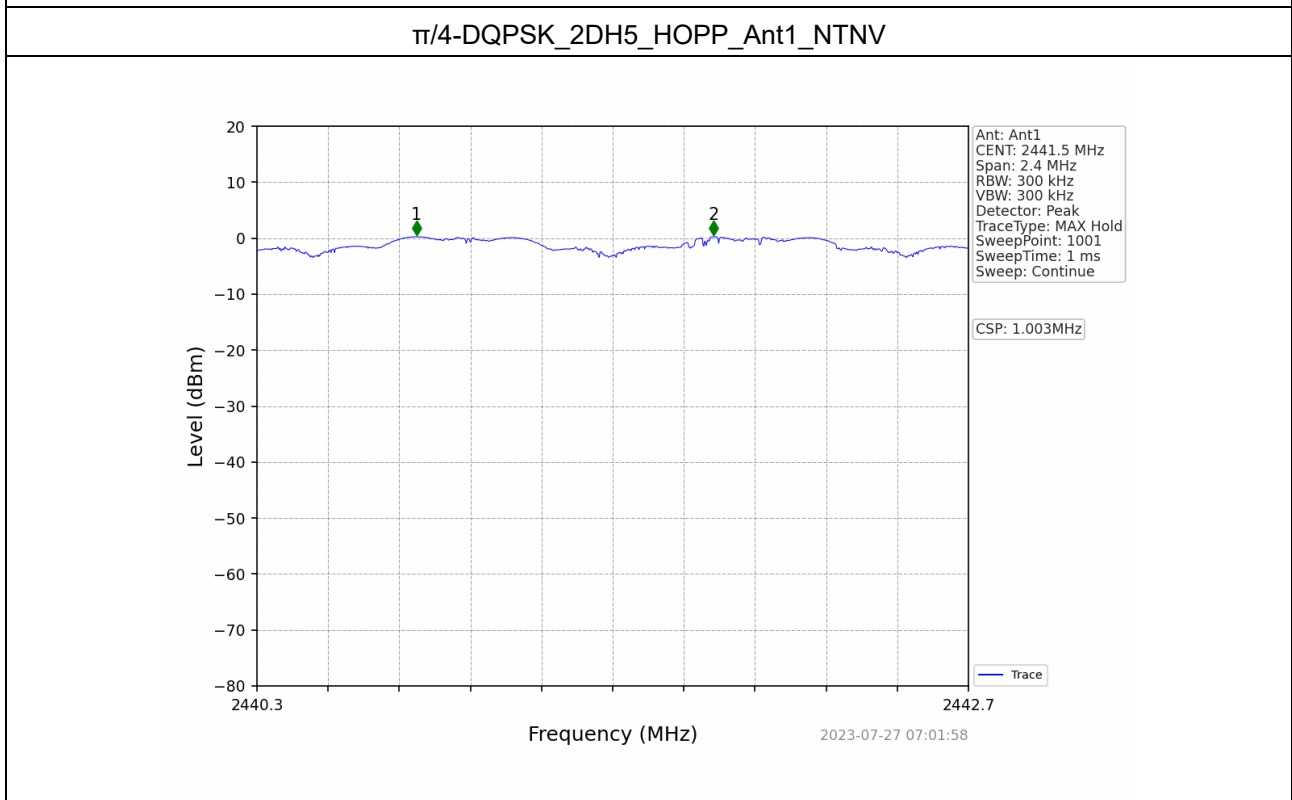
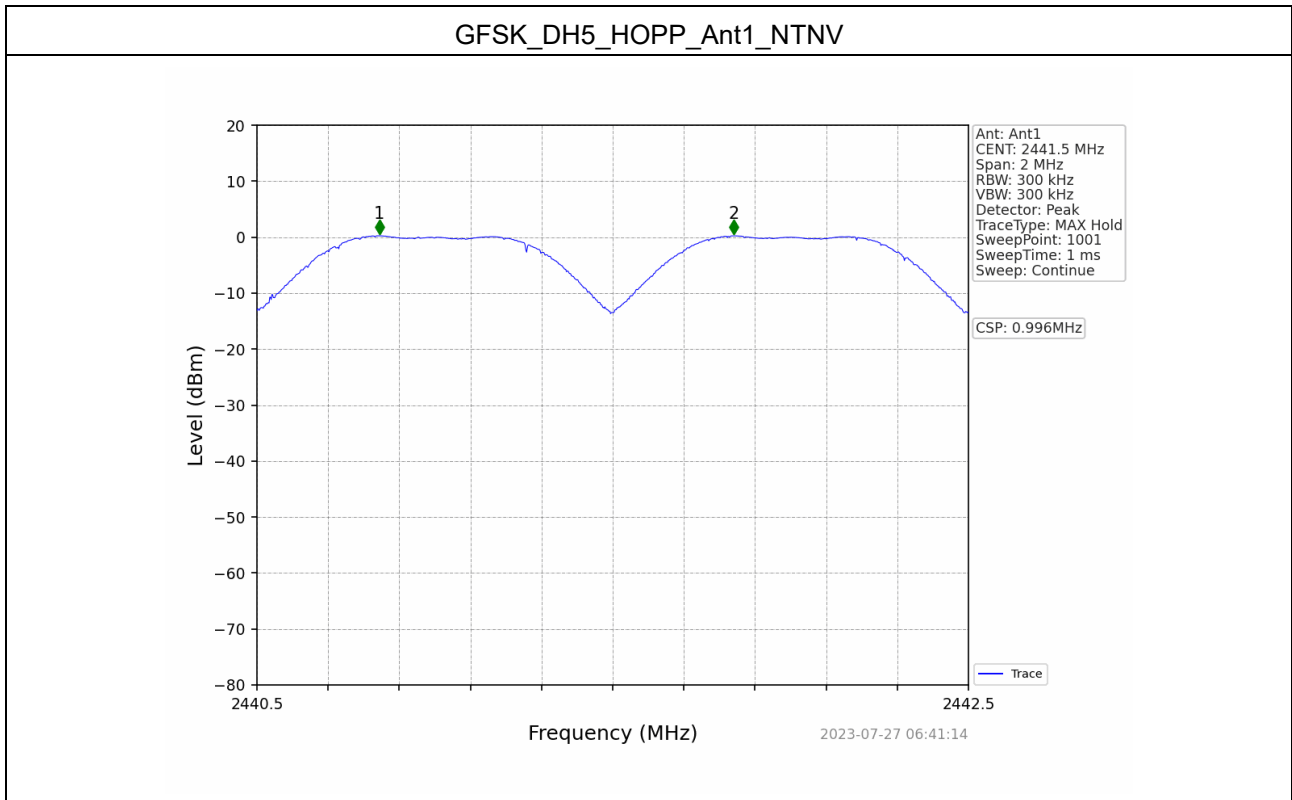


3 Carrier Frequency Separation

3.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	20dB Bandwidth (MHz)	Limit [MHz]	Verdict
GFSK	MCH	0.996	0.953	≥ 0.953	Pass
$\pi/4$ -DQPSK	MCH	1.003	1.318	≥ 0.879	Pass

3.2 Test Graphs

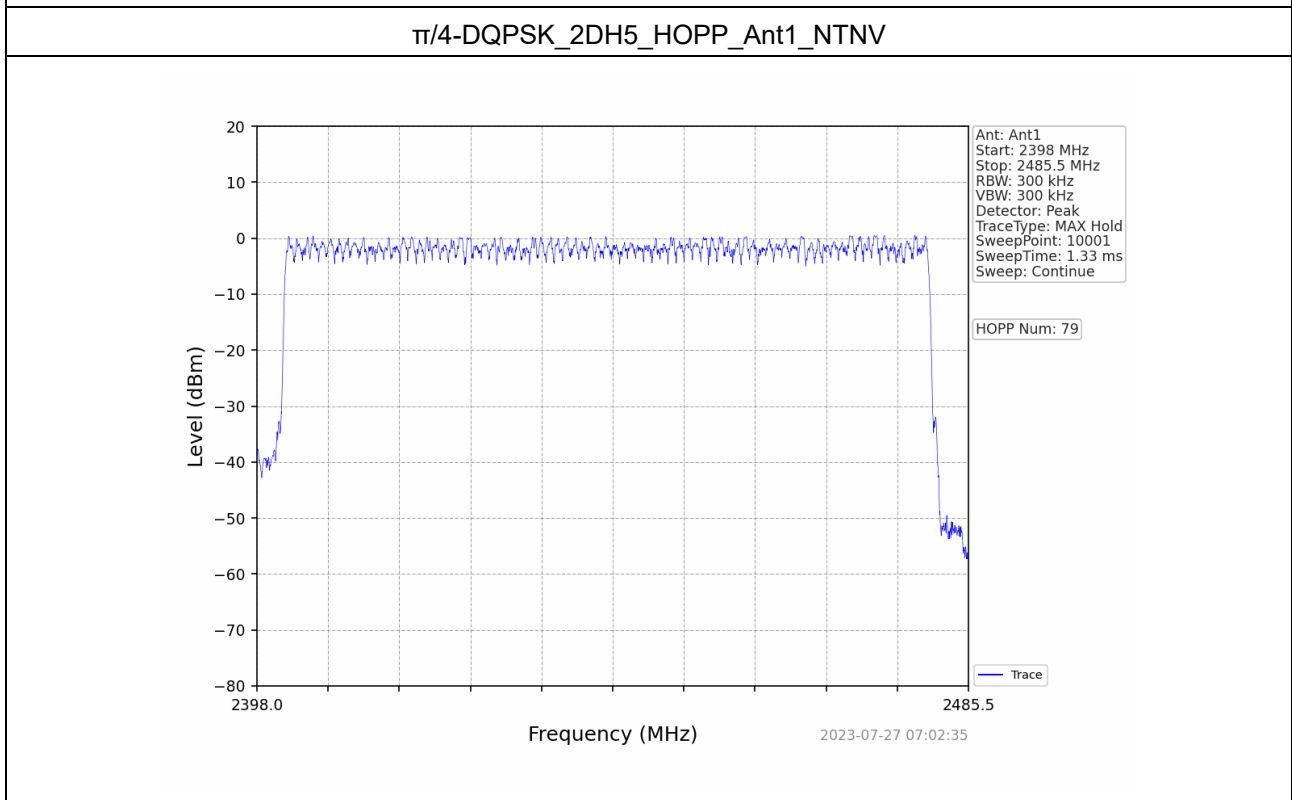
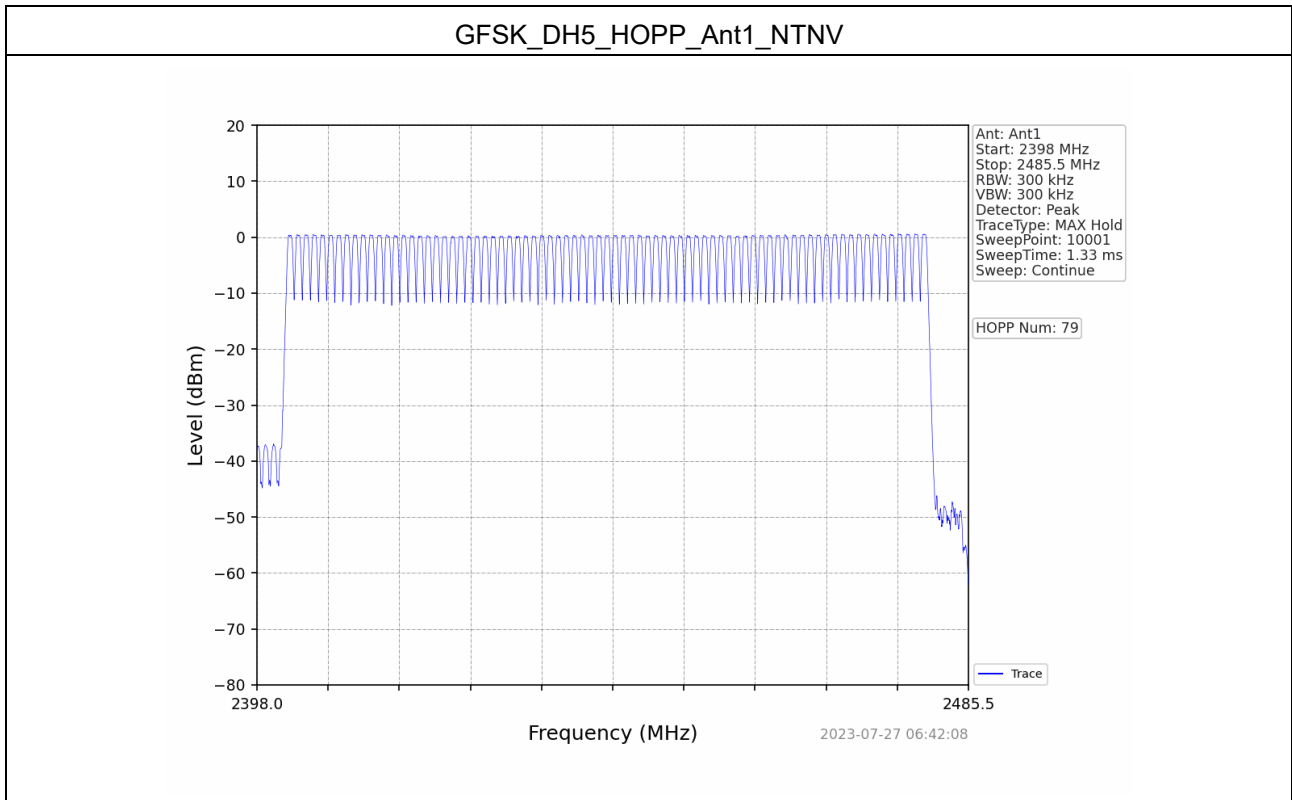


4 Hopping Channel Number

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

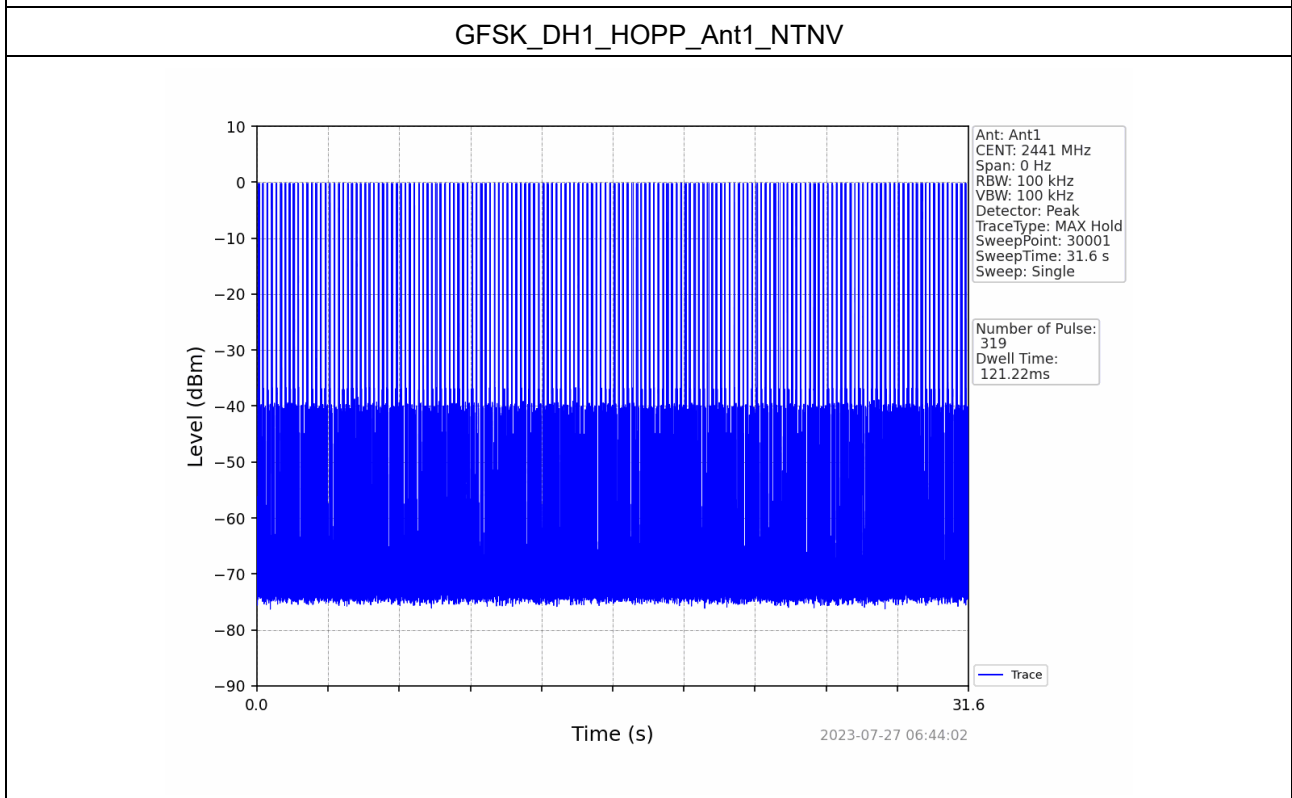
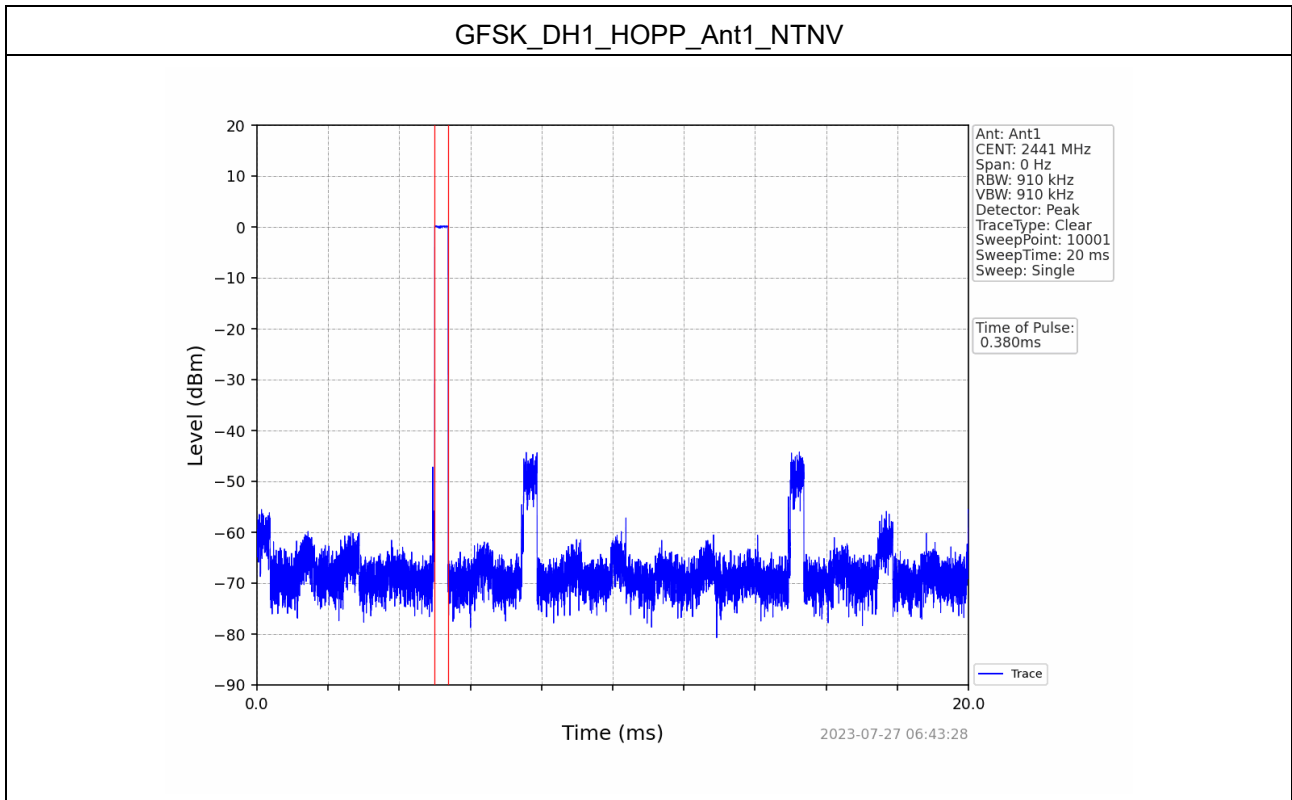


5 Dwell Time

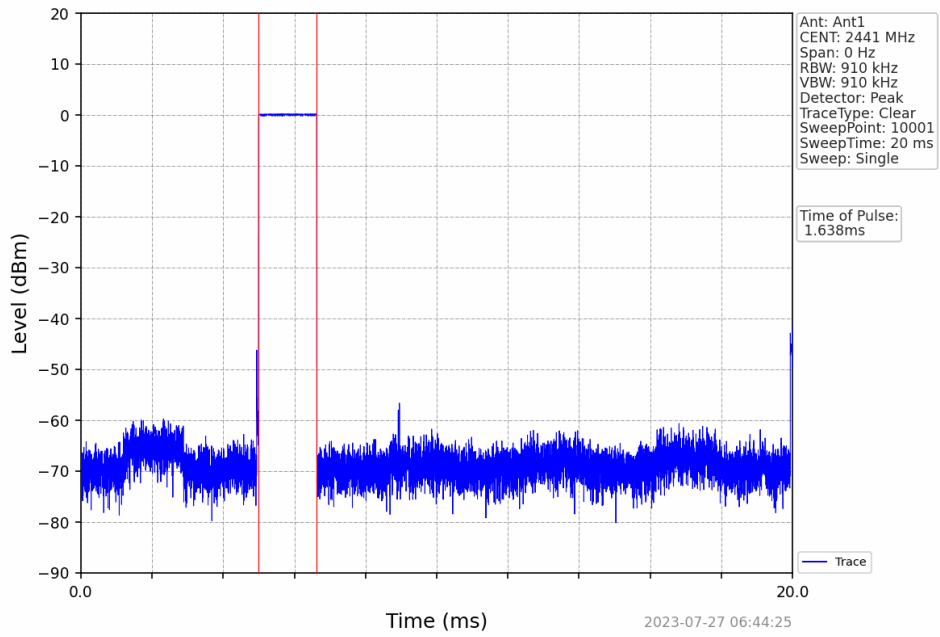
5.1 Test Result

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	0.380	31.600	319	121.220	<=400	Pass
		MCH	1.638	31.600	106	173.628	<=400	Pass
		HCH	2.884	31.600	66	190.344	<=400	Pass
$\pi/4$ -DQPSK	2DH5	LCH	0.390	31.600	321	125.190	<=400	Pass
		MCH	1.642	31.600	102	167.484	<=400	Pass
		HCH	2.890	31.600	73	210.970	<=400	Pass

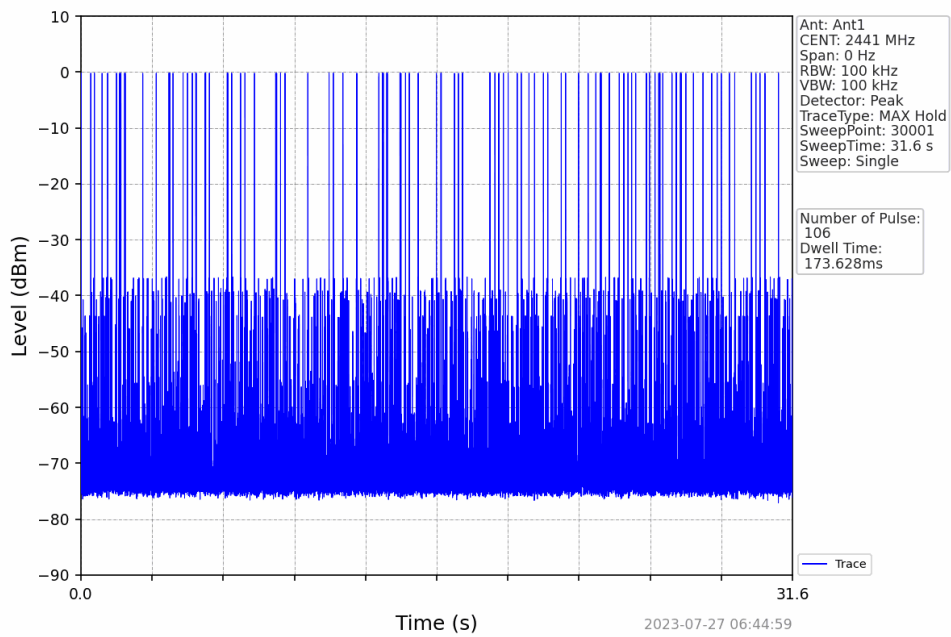
5.2 Test Graphs



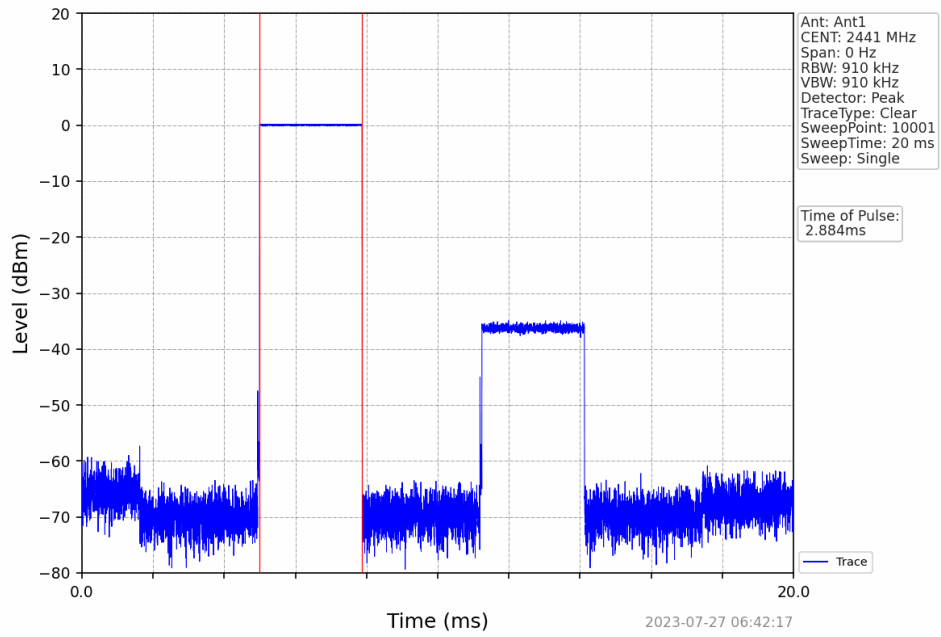
GFSK_DH3_HOPP_Ant1_NTNV



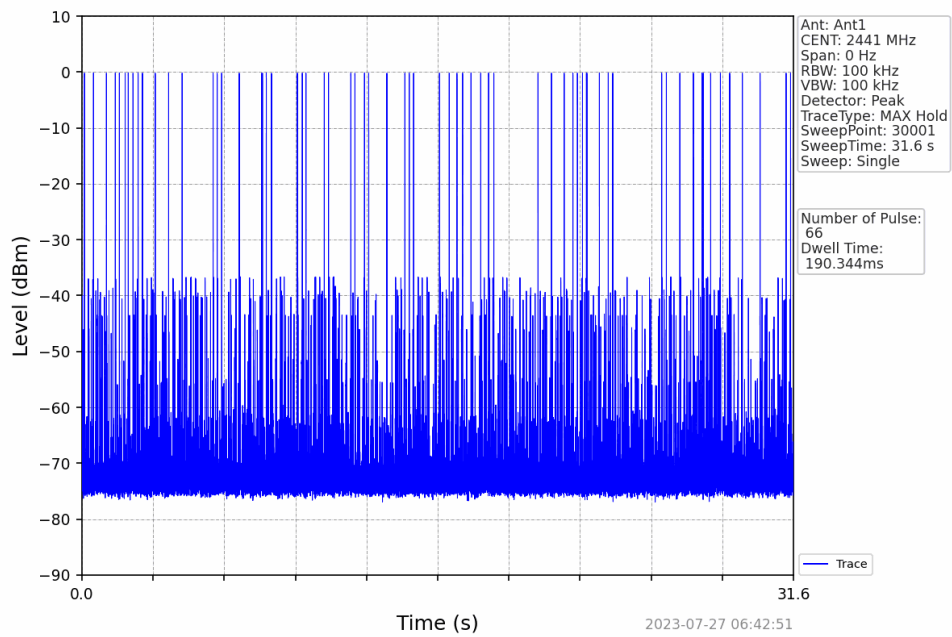
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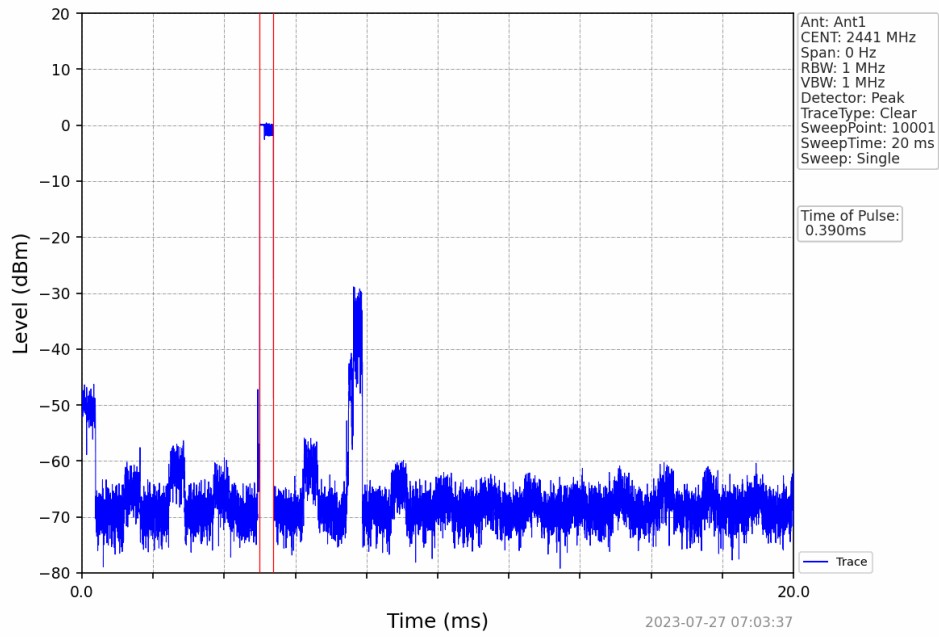
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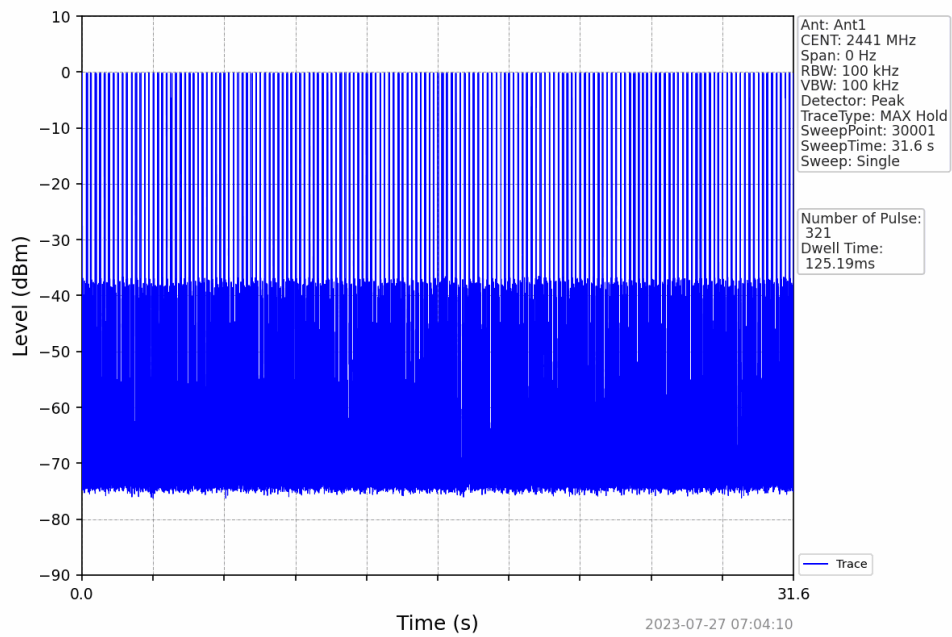
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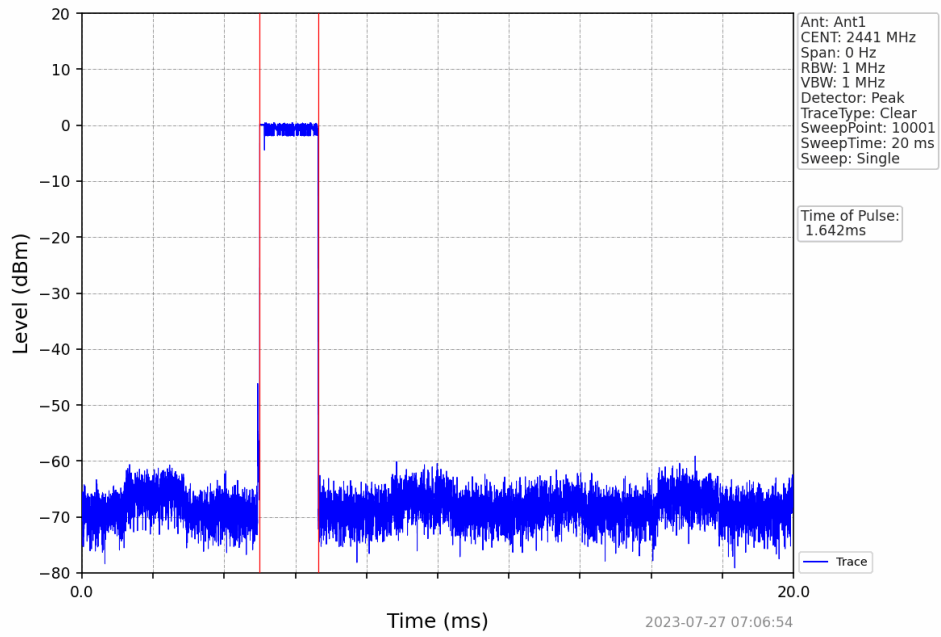
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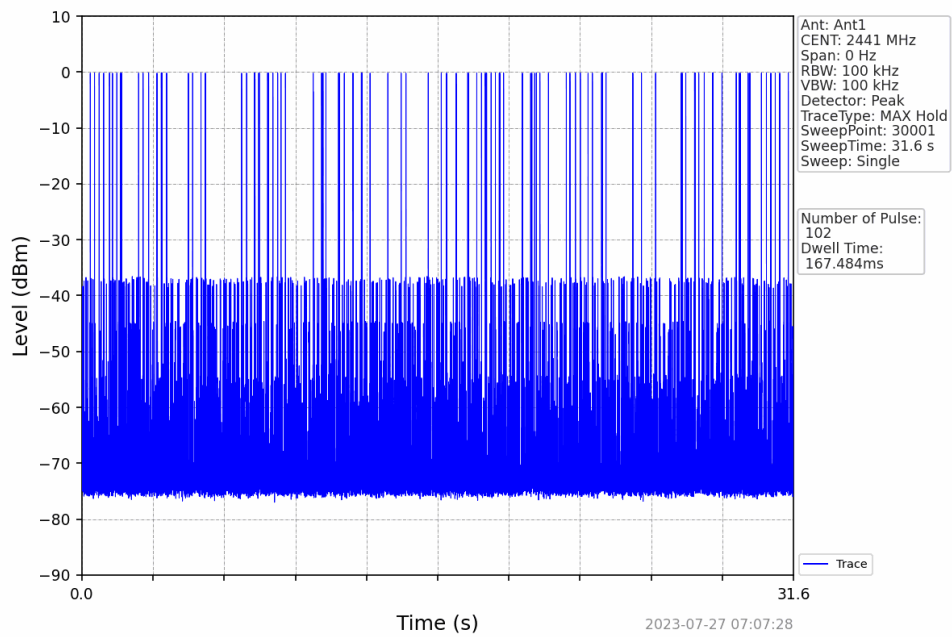
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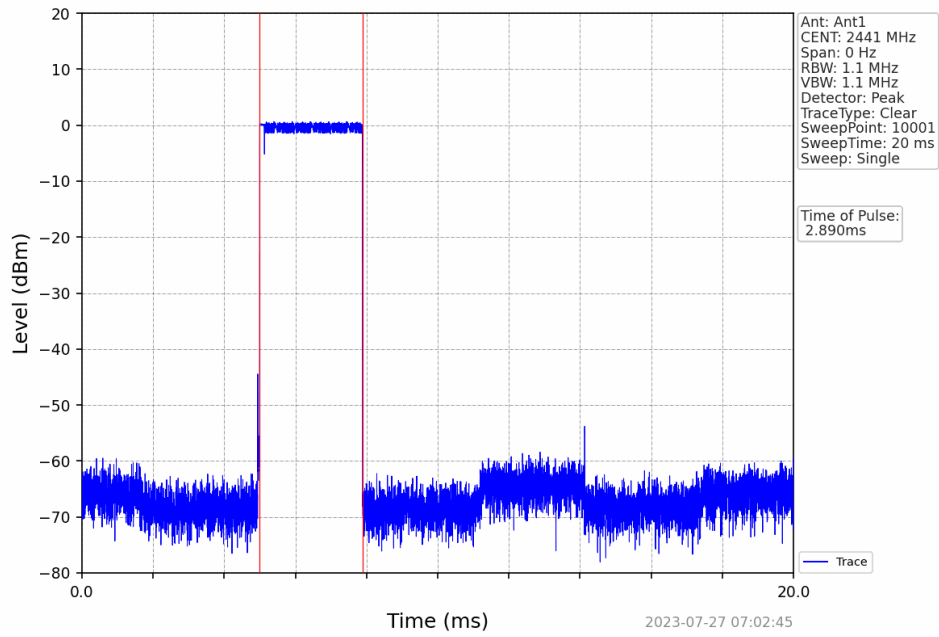
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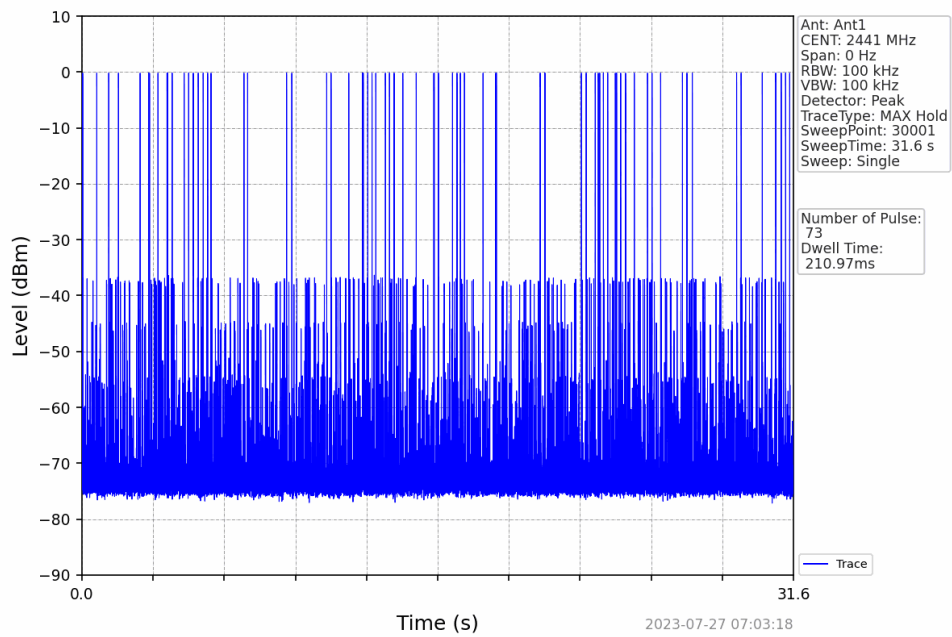
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$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV



6 Conducted Spurious Emissions and Band Edges Test

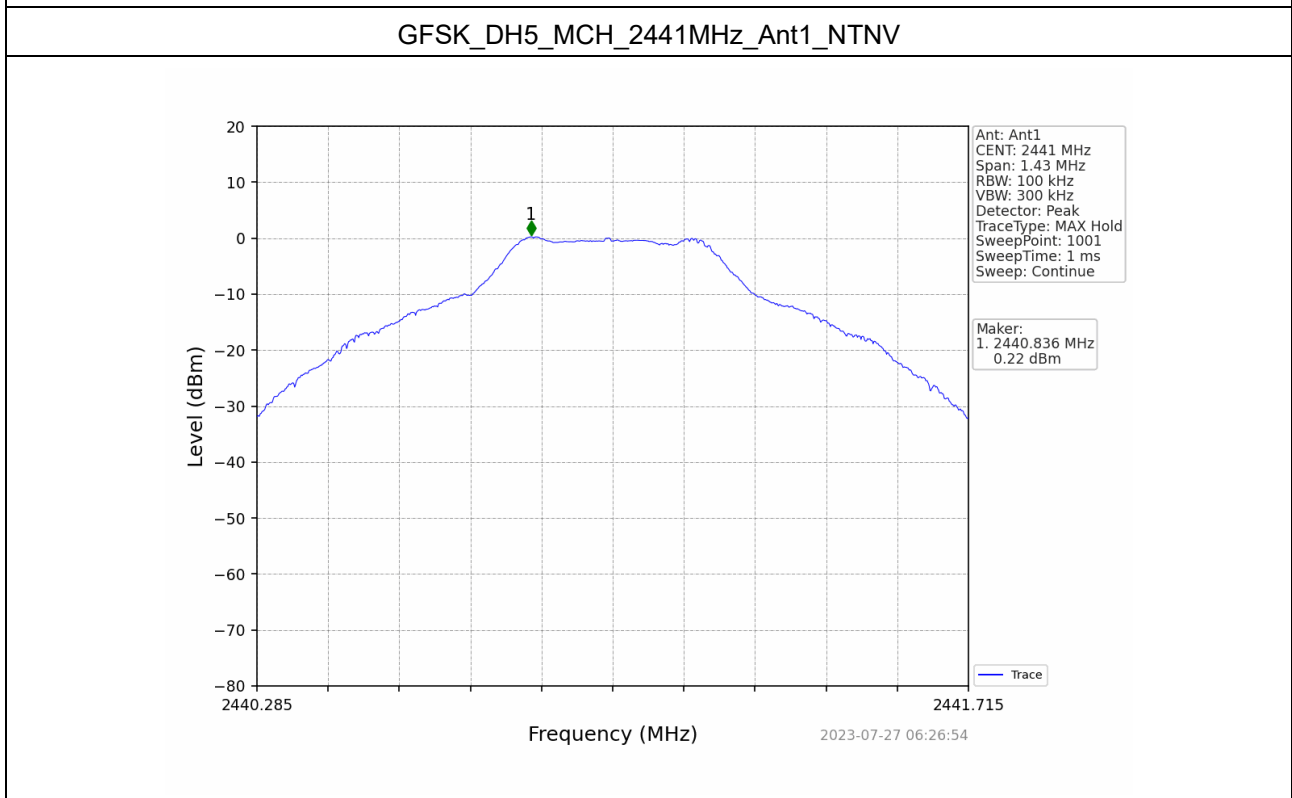
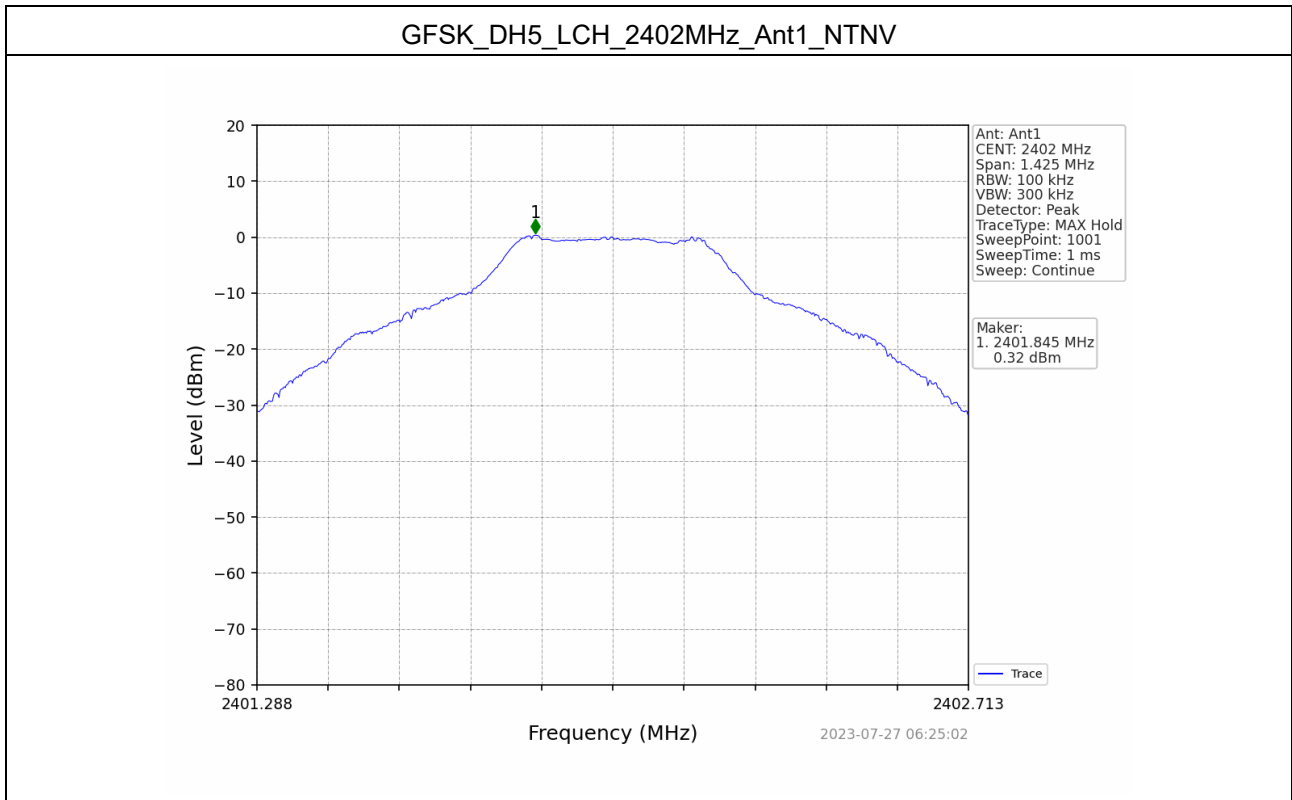
6.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	0.32	-20	Pass
	MCH	0.22	-20	Pass
	HCH	0.50	-20	Pass
$\pi/4$ -DQPSK	LCH	0.20	-20	Pass
	MCH	0.15	-20	Pass
	HCH	0.31	-20	Pass

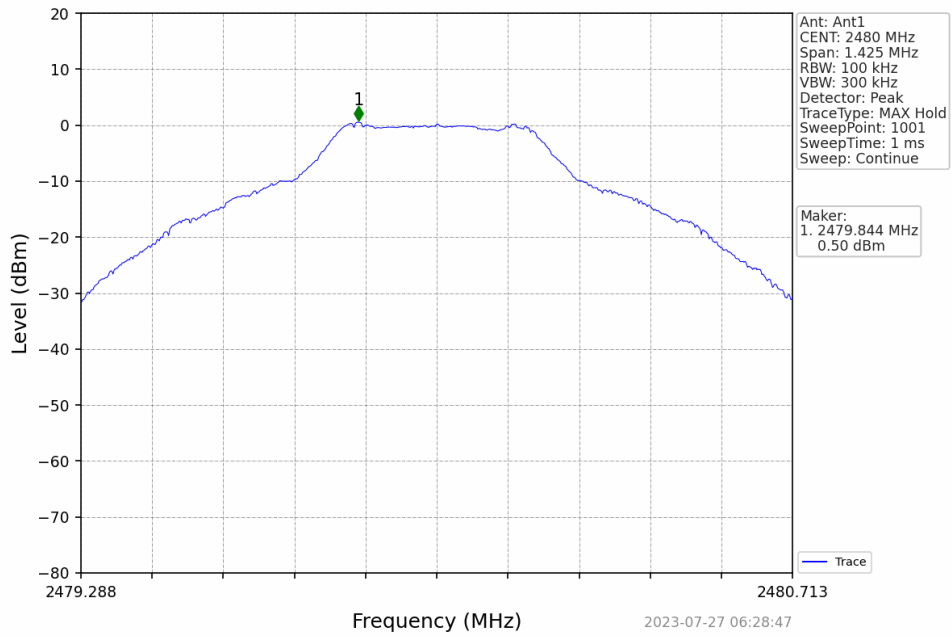
Mode	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	2402	DH5	1	0.50	-19.50	Pass
	2441	DH5	1	0.50	-19.50	Pass
	2480	DH5	1	0.50	-19.50	Pass
	HOPP	DH5	1	0.50	-19.50	Pass
$\pi/4$ -DQPSK	2402	2DH5	1	0.31	-19.69	Pass
	2441	2DH5	1	0.31	-19.69	Pass
	2480	2DH5	1	0.31	-19.69	Pass
	HOPP	2DH5	1	0.31	-19.69	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.

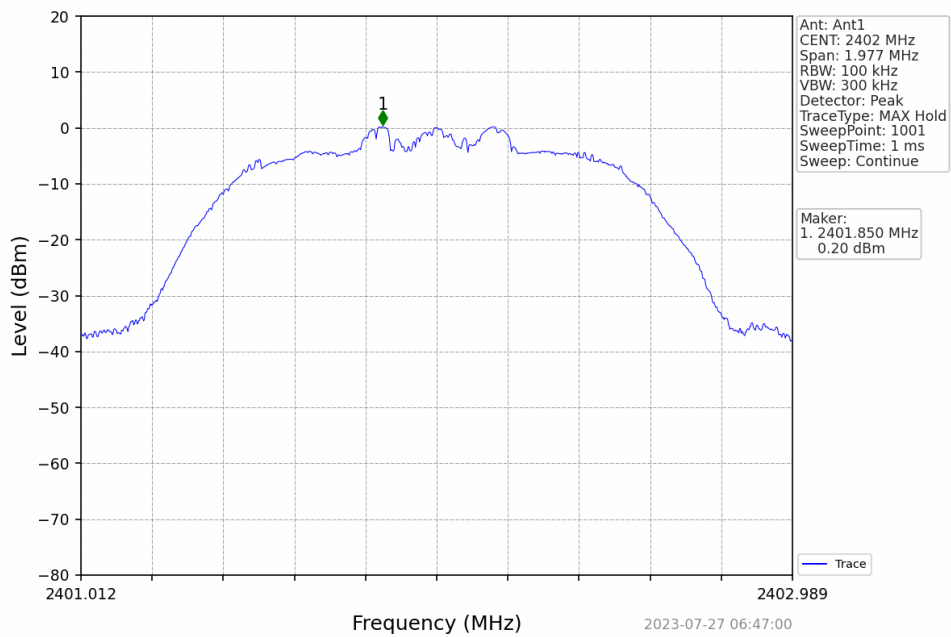
6.2 Test Graphs



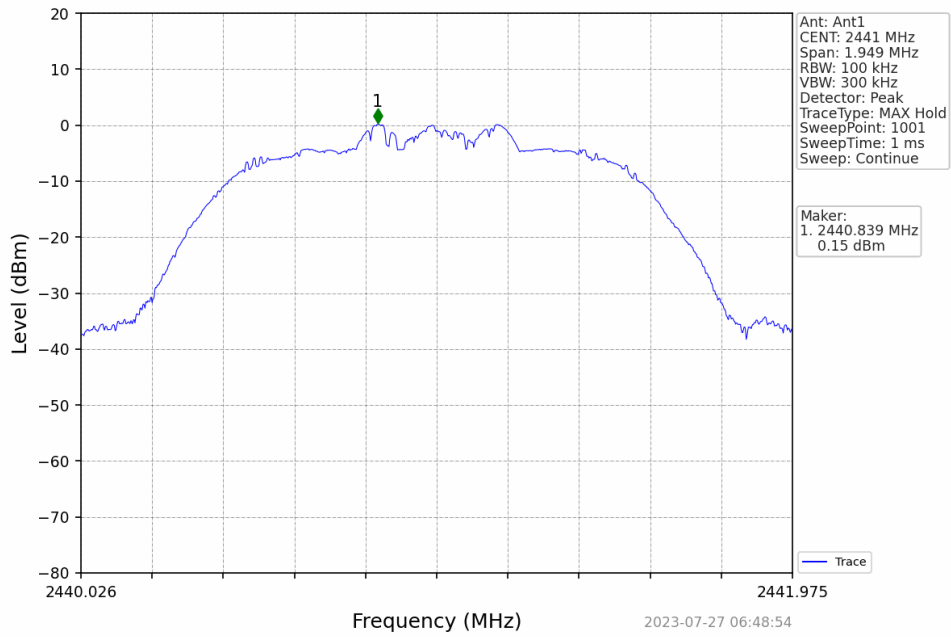
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



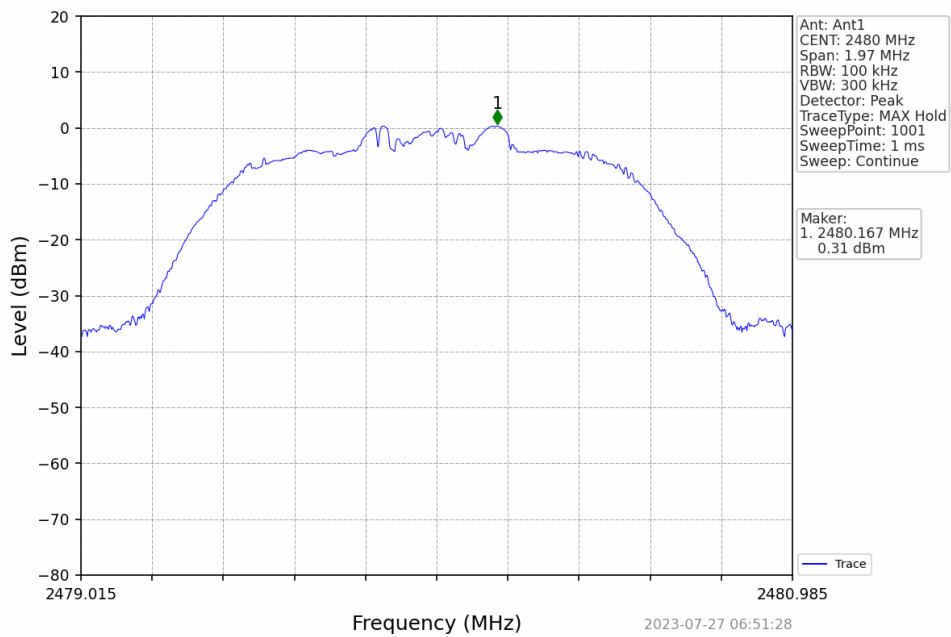
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$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

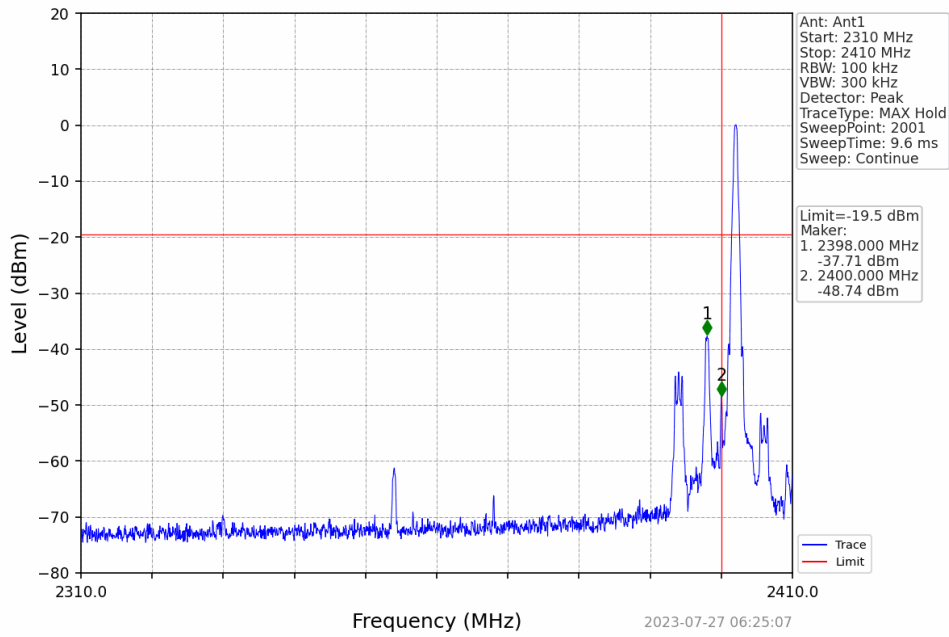


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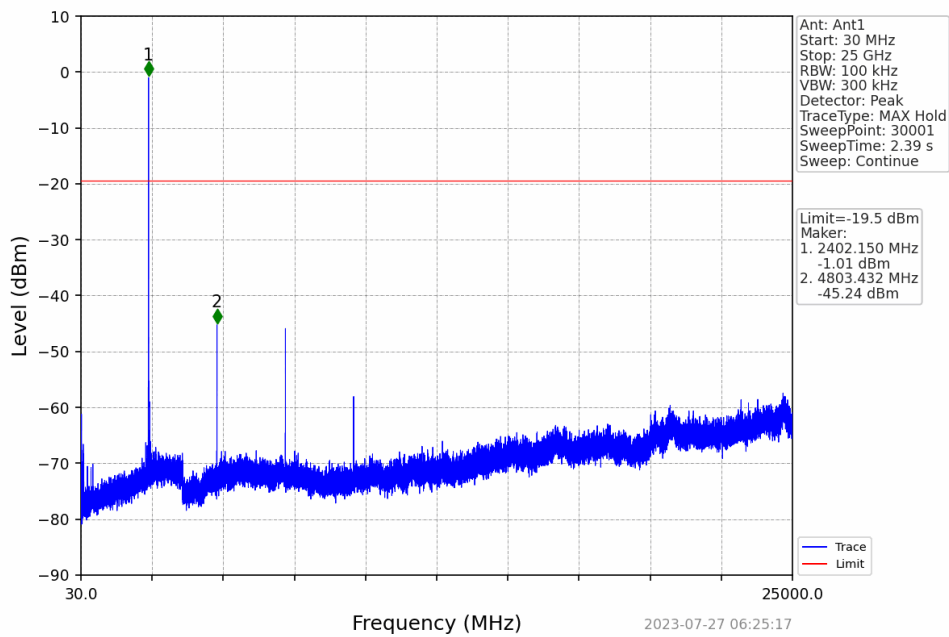


CSE

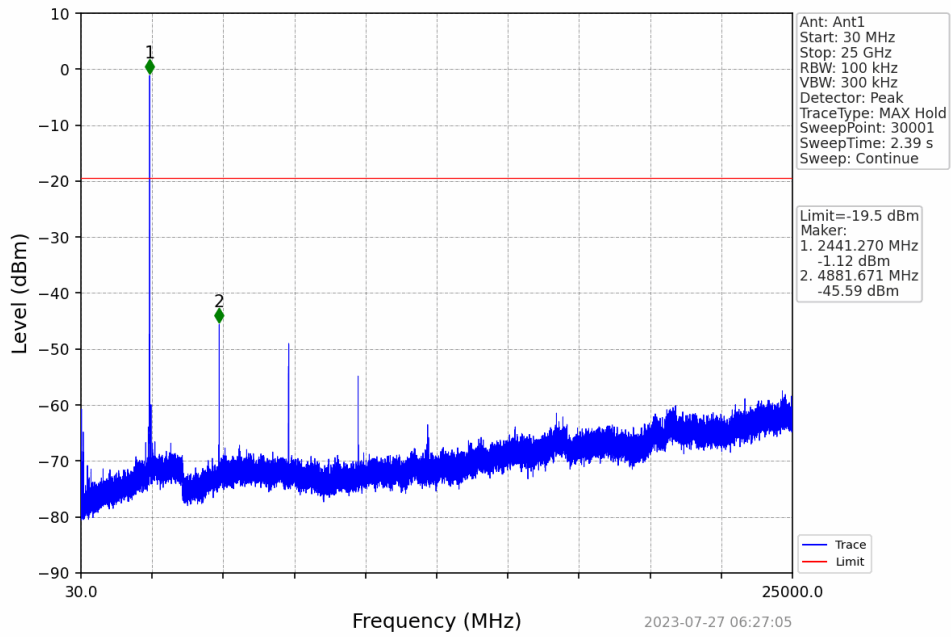
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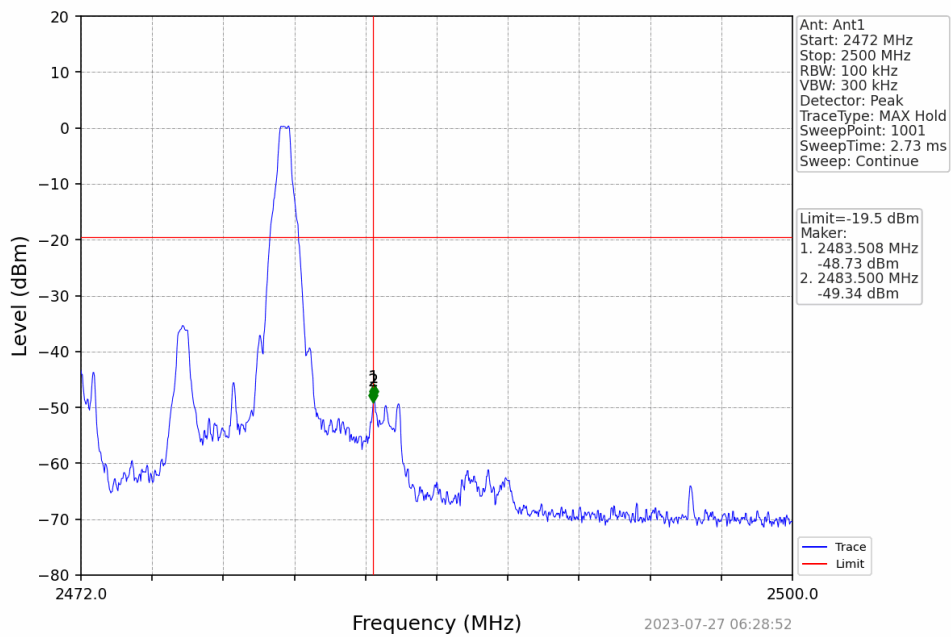
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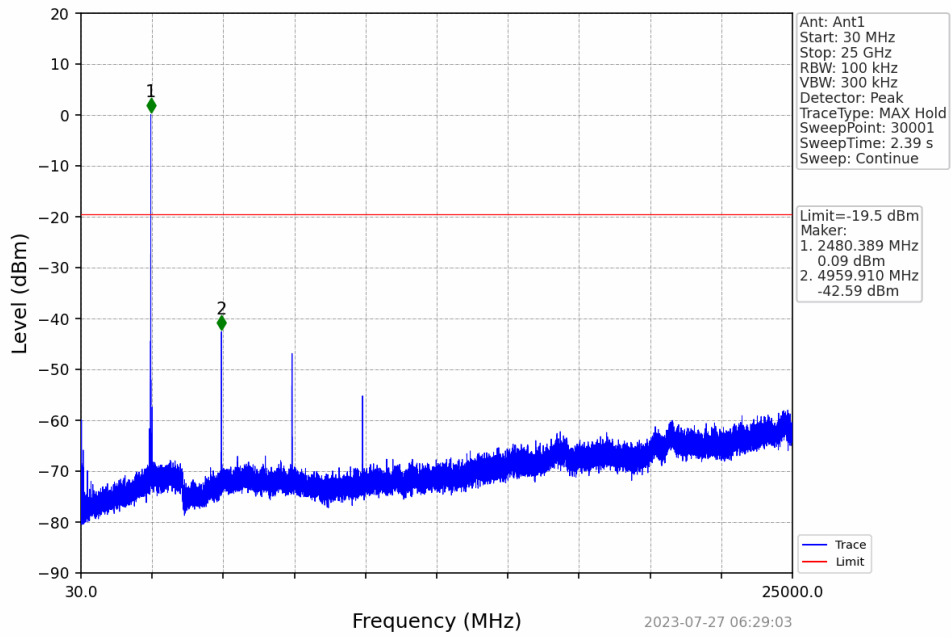
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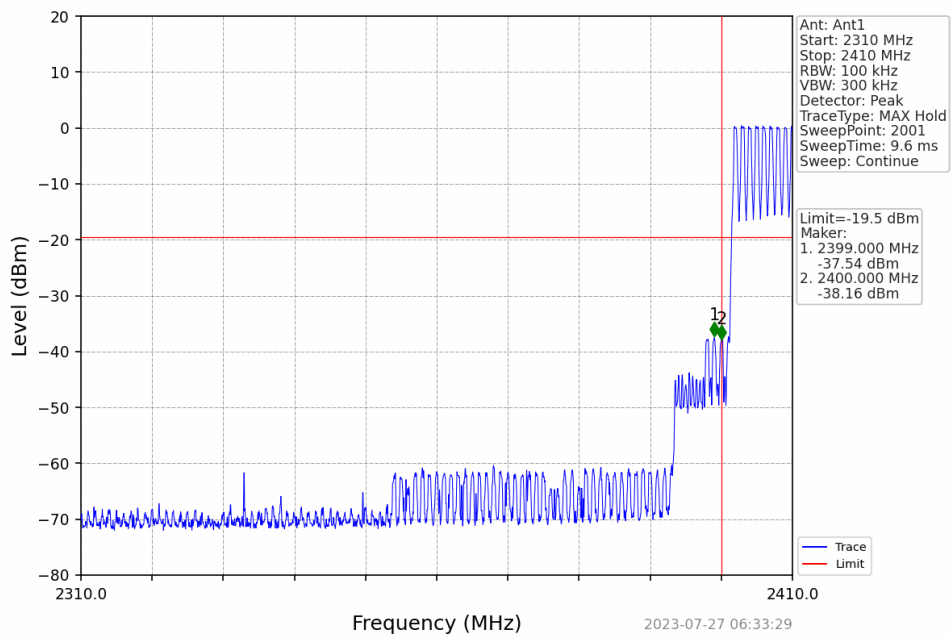
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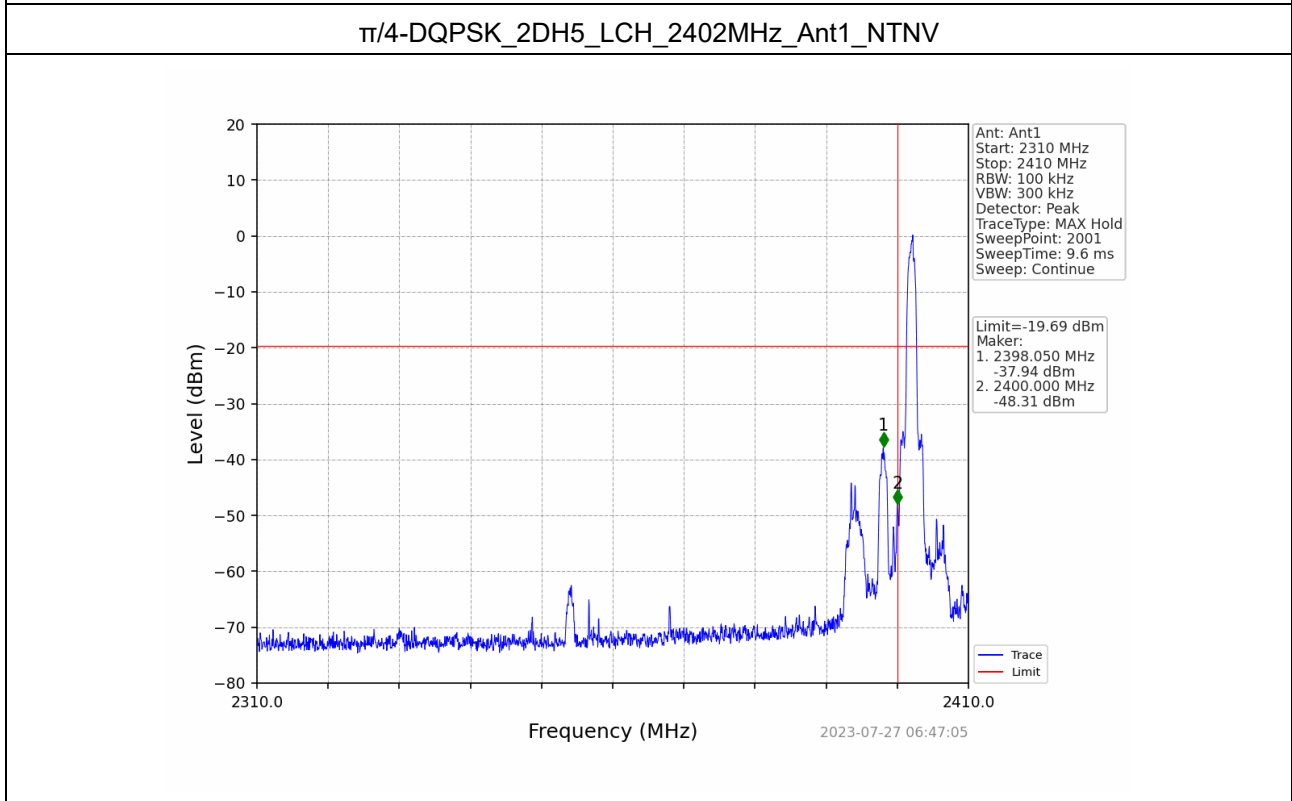
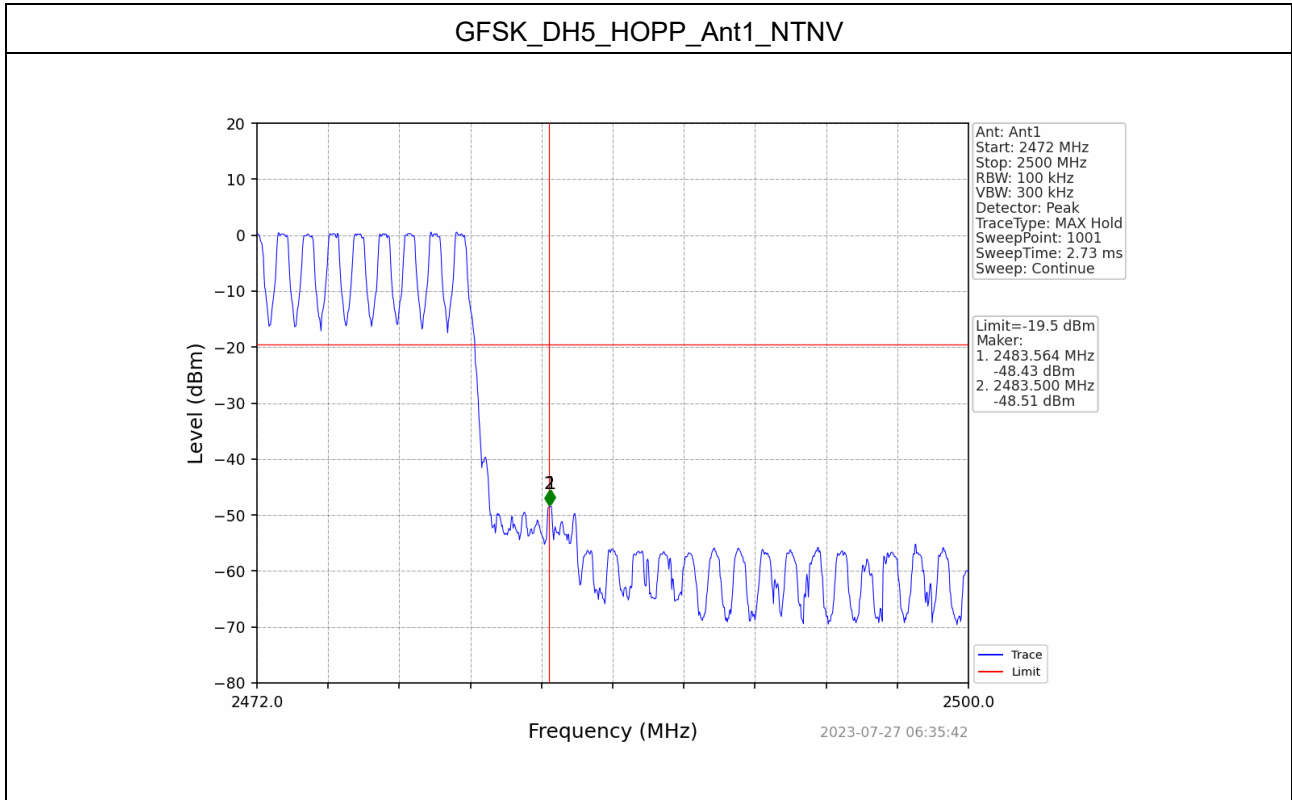


GFSK_DH5_HCH_2480MHz_Ant1_NTNV

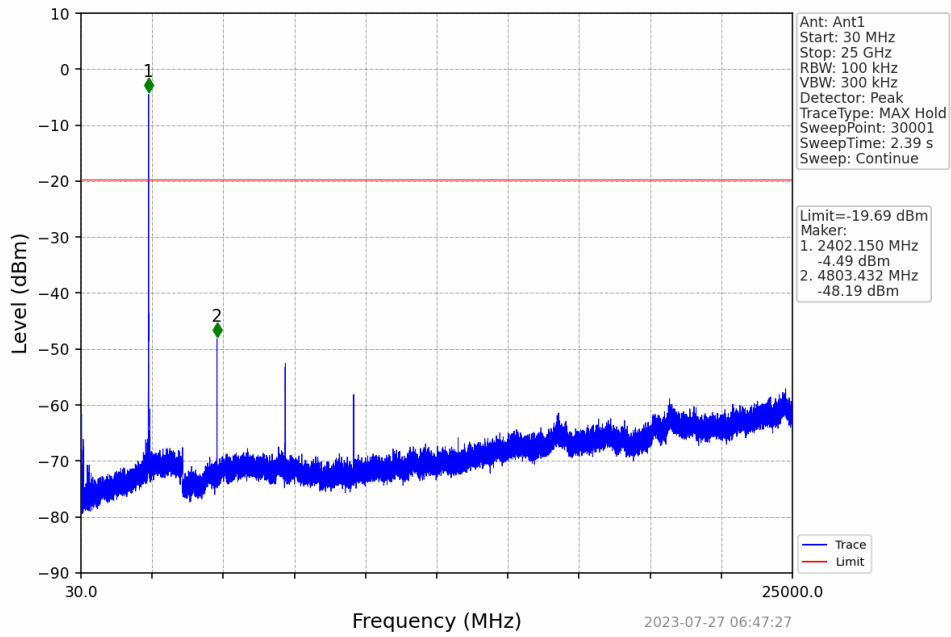


GFSK_DH5_HOPP_2410MHz_Ant1_NTNV

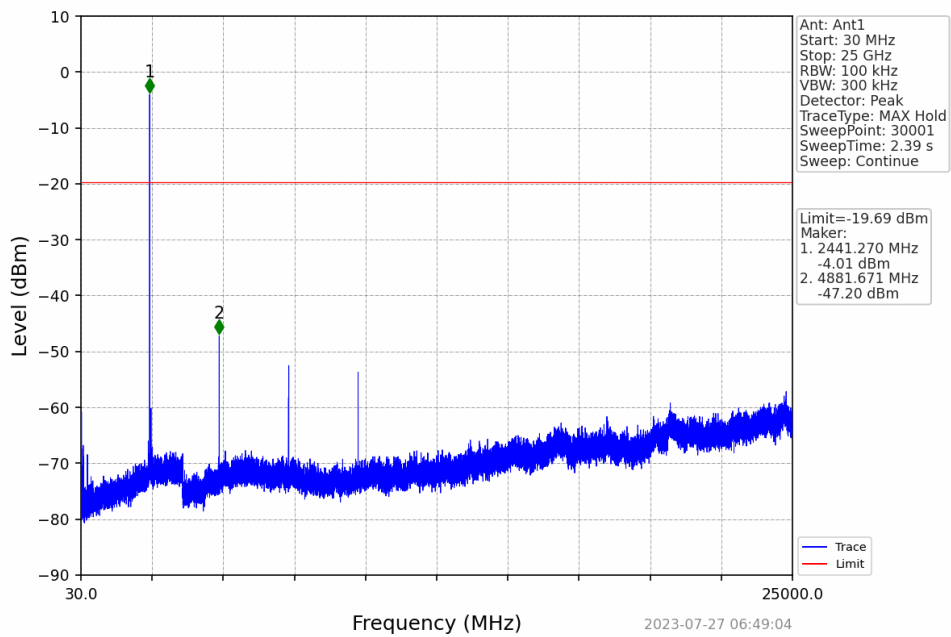




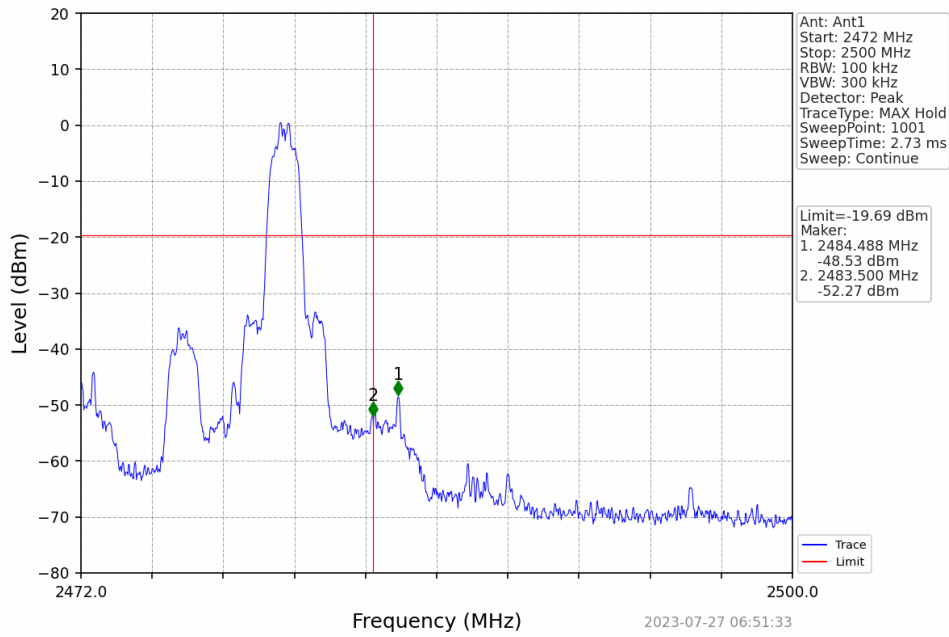
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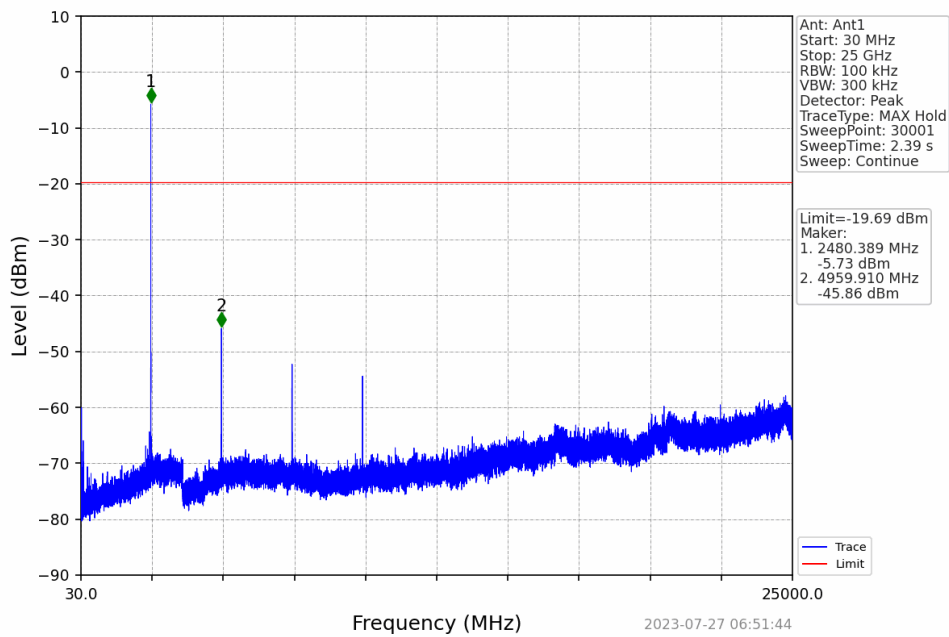
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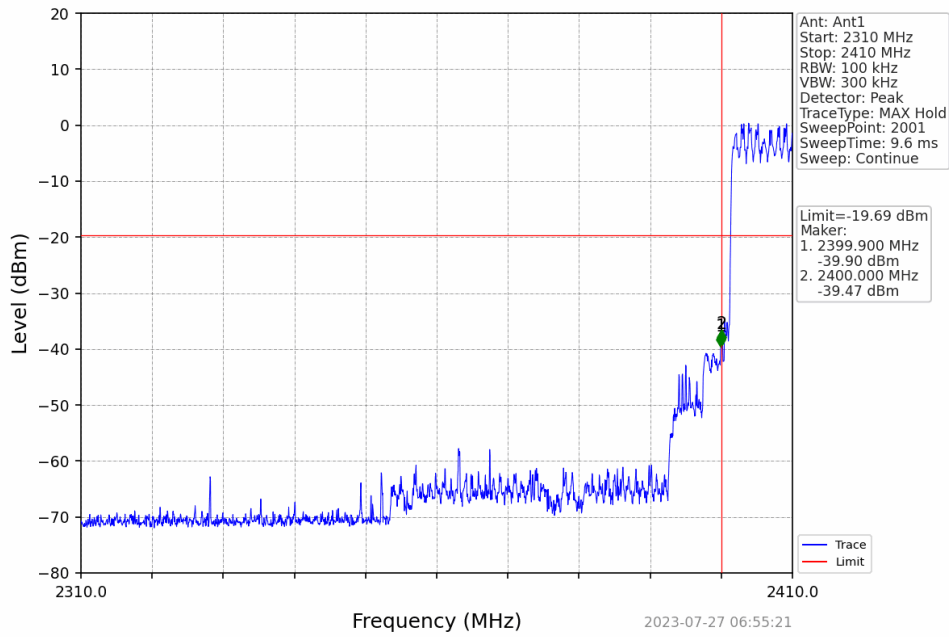
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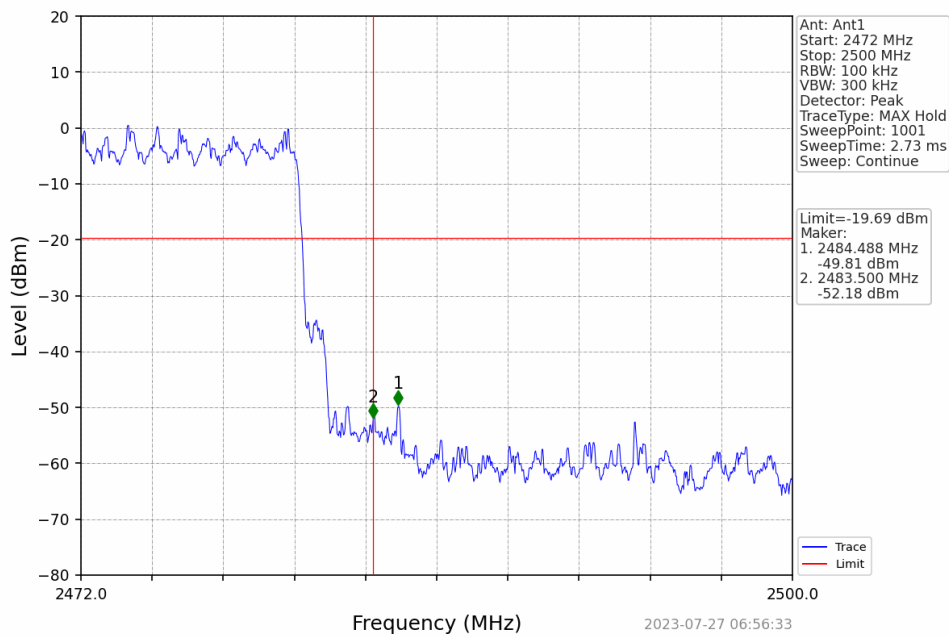
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$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV



$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV



7 Band-edge for RF Conducted Emissions

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	47.14	29.15	3.41	34.01	45.69	74.00	-28.31	PK	PASS
H	2400.00	64.54	29.16	3.43	34.01	63.12	74.00	-10.88	PK	PASS
V	2390.00	48.10	29.15	3.41	34.01	46.65	74.00	-27.35	PK	PASS
V	2400.00	67.03	29.16	3.43	34.01	65.61	74.00	-8.39	PK	PASS
H	2390.00	36.73	29.15	3.41	34.01	35.28	54.00	-18.72	AV	PASS
H	2400.00	48.22	29.16	3.43	34.01	46.80	54.00	-7.20	AV	PASS
V	2390.00	36.98	29.15	3.41	34.01	35.53	54.00	-18.47	AV	PASS
V	2400.00	50.27	29.16	3.43	34.01	48.85	54.00	-5.15	AV	PASS
High Channel: 2480MHz										
H	2483.50	49.75	29.28	3.53	34.03	48.53	74.00	-25.47	PK	PASS
H	2500.00	48.11	29.30	3.56	34.03	46.94	74.00	-27.06	PK	PASS
V	2483.50	51.30	29.28	3.53	34.03	50.08	74.00	-23.92	PK	PASS
V	2500.00	49.52	29.30	3.56	34.03	48.35	74.00	-25.65	PK	PASS
H	2483.50	39.60	29.28	3.53	34.03	38.38	54.00	-15.62	AV	PASS
H	2500.00	37.00	29.30	3.56	34.03	35.83	54.00	-18.17	AV	PASS
V	2483.50	41.17	29.28	3.53	34.03	39.95	54.00	-14.05	AV	PASS
V	2500.00	37.27	29.30	3.56	34.03	36.10	54.00	-17.90	AV	PASS



Test Mode: $\pi/4$ -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	46.70	29.15	3.41	34.01	45.25	74.00	-28.75	PK	PASS
H	2400.00	64.04	29.16	3.43	34.01	62.62	74.00	-11.38	PK	PASS
V	2390.00	47.62	29.15	3.41	34.01	46.17	74.00	-27.83	PK	PASS
V	2400.00	66.48	29.16	3.43	34.01	65.06	74.00	-8.94	PK	PASS
H	2390.00	36.39	29.15	3.41	34.01	34.94	54.00	-19.06	AV	PASS
H	2400.00	47.85	29.16	3.43	34.01	46.43	54.00	-7.57	AV	PASS
V	2390.00	36.61	29.15	3.41	34.01	35.16	54.00	-18.84	AV	PASS
V	2400.00	49.87	29.16	3.43	34.01	48.45	54.00	-5.55	AV	PASS
High Channel: 2480MHz										
H	2483.50	49.26	29.28	3.53	34.03	48.04	74.00	-25.96	PK	PASS
H	2500.00	47.71	29.30	3.56	34.03	46.54	74.00	-27.46	PK	PASS
V	2483.50	50.74	29.28	3.53	34.03	49.52	74.00	-24.48	PK	PASS
V	2500.00	49.07	29.30	3.56	34.03	47.90	74.00	-26.10	PK	PASS
H	2483.50	39.26	29.28	3.53	34.03	38.04	54.00	-15.96	AV	PASS
H	2500.00	36.72	29.30	3.56	34.03	35.55	54.00	-18.45	AV	PASS
V	2483.50	40.79	29.28	3.53	34.03	39.57	54.00	-14.43	AV	PASS
V	2500.00	36.96	29.30	3.56	34.03	35.79	54.00	-18.21	AV	PASS

Remark:

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

-----End-----