

Appendix - BT

1. Frequency Error

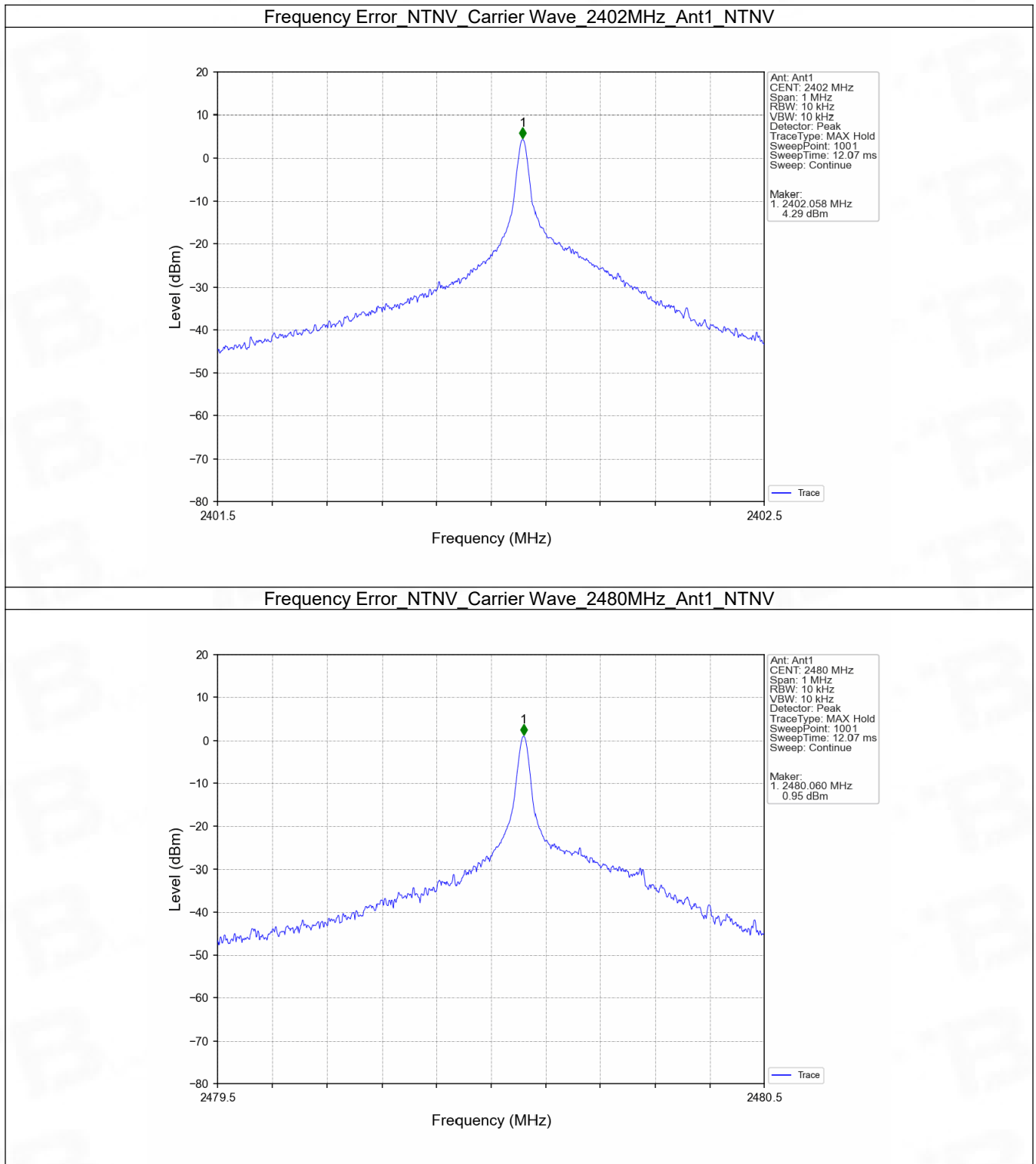
1.1 Test Result

1.1.1 Ant1

Ant1								
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
						Result	Limit	
NTNV	Carrier Wave	SISO	2402	DH5	2402.058	24.15	-50 to 50	Pass
			2480	DH5	2480.060	24.19	-50 to 50	Pass

1.2 Test Graph

1.2.1 Ant1



2. Occupied Bandwidth

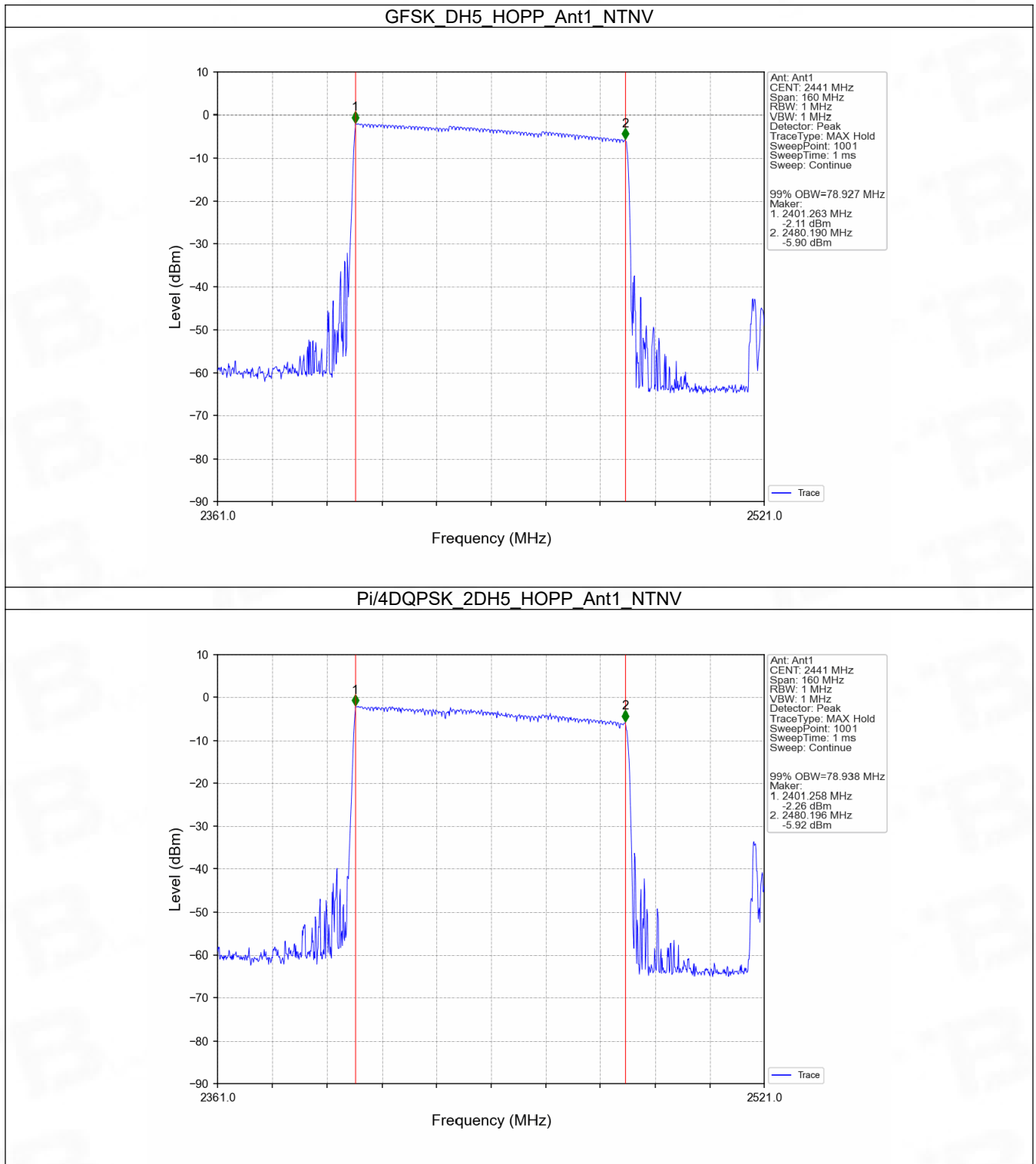
2.1 Test Result

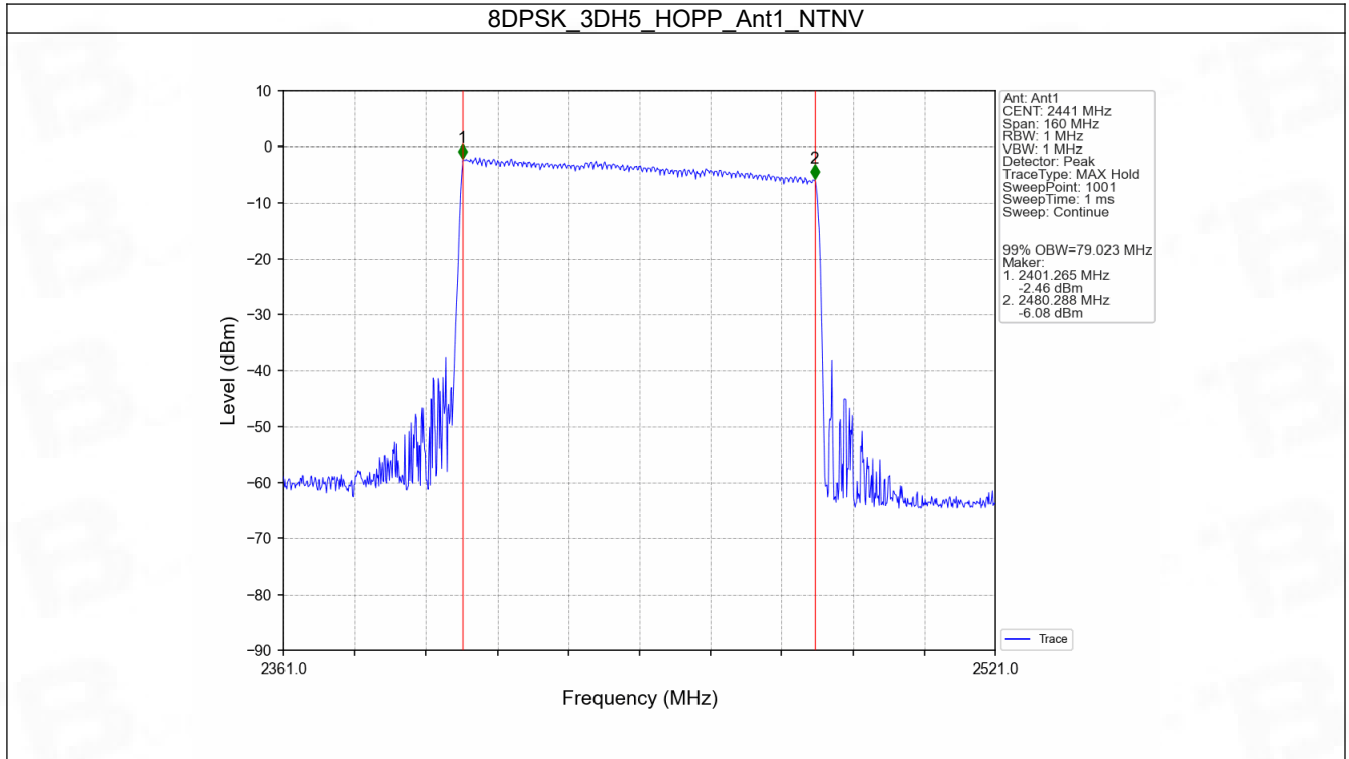
2.1.1 OBW

ENV	Mode	TX Type	Frequency (MHz)	Packet Type	99% Occupied Bandwidth (MHz)		Verdict
					ANT1	Limit	
NTNV	GFSK	SISO	HOPP	DH5	78.927	≤ 83.5	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	78.938	≤ 83.5	Pass
	8DPSK	SISO	HOPP	3DH5	79.023	≤ 83.5	Pass

2.2 Test Graph

2.2.1 OBW





3. Spread Bandwidth

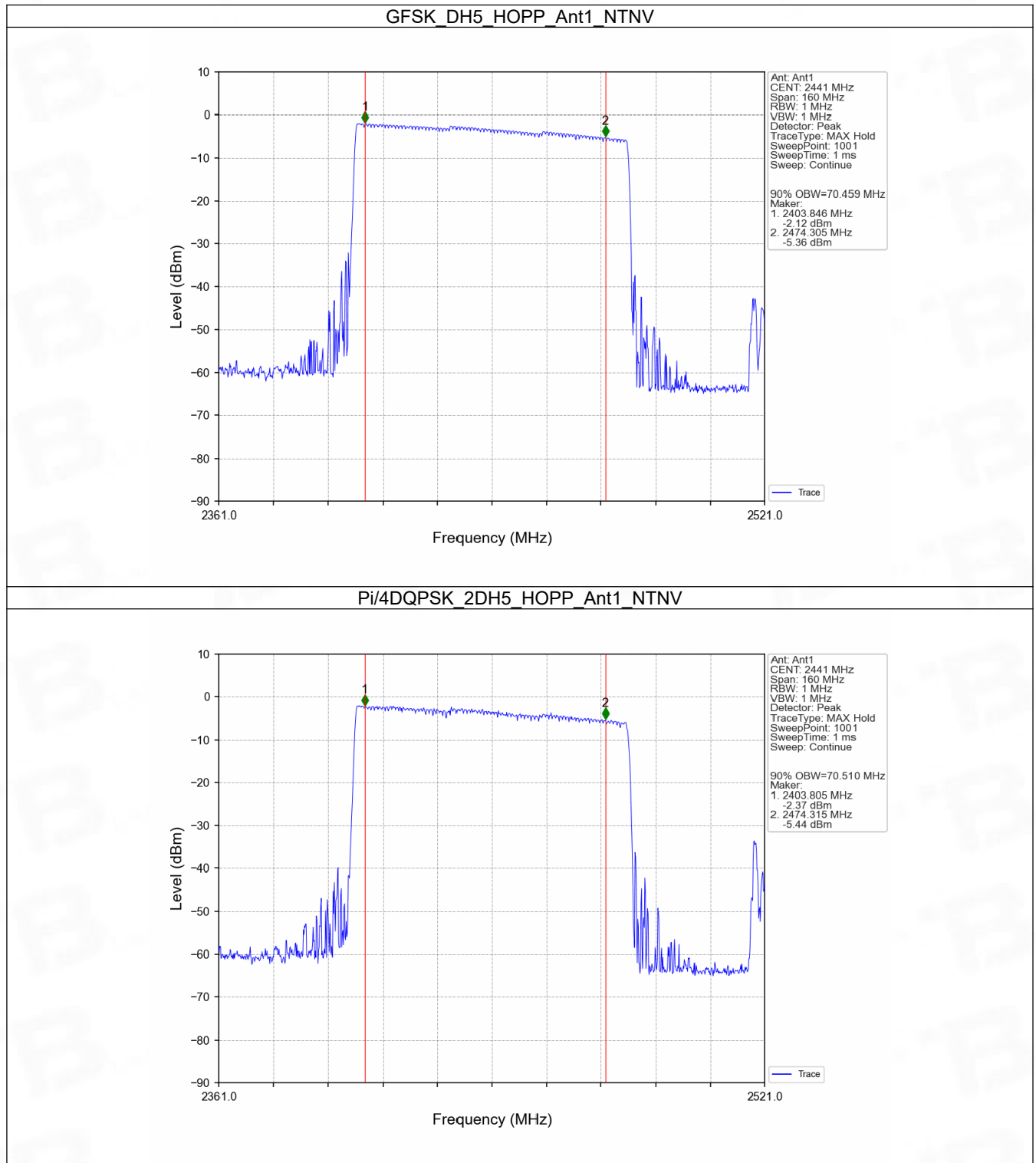
3.1 Test Result

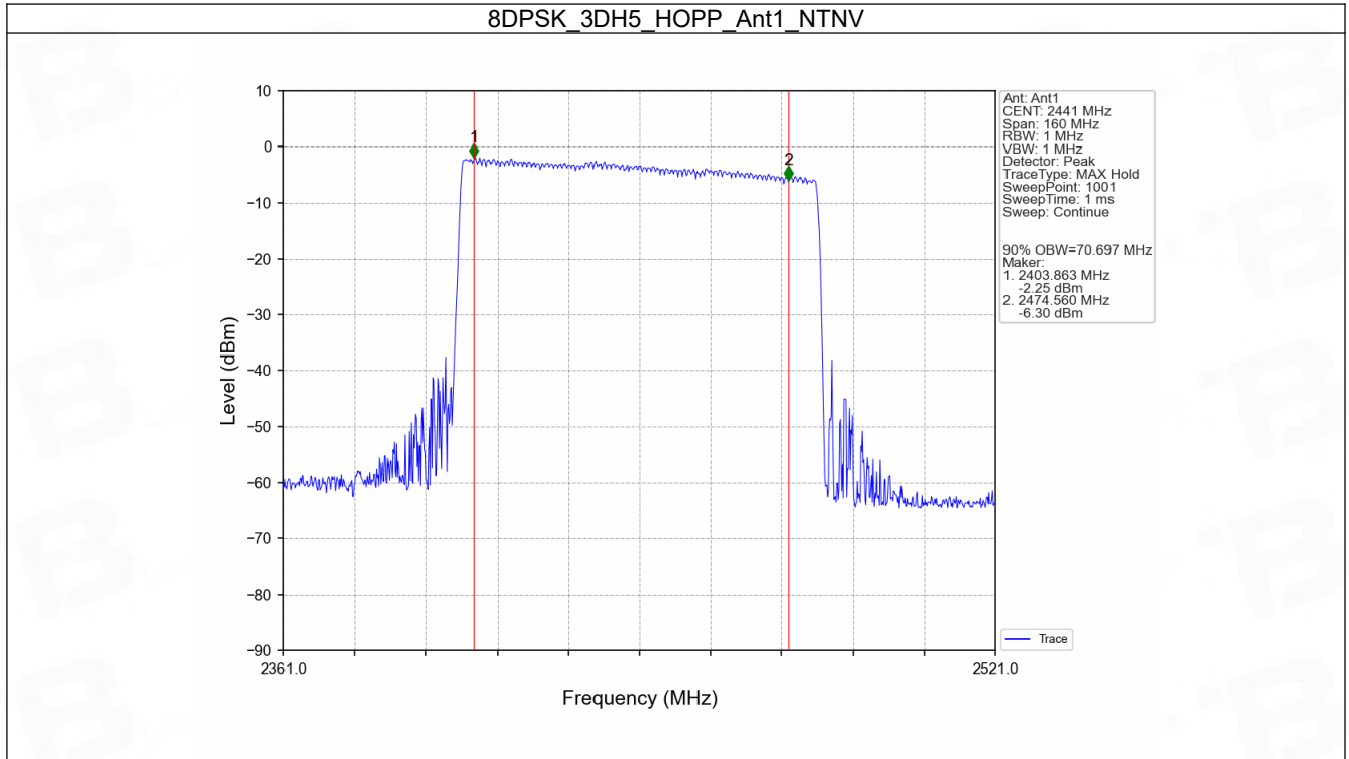
3.1.1 SPBW

ENV	Mode	TX Type	Frequency (MHz)	Packet Type	Spread Bandwidth (MHz)		Verdict
					ANT1	Limit	
NTNV	GFSK	SISO	HOPP	DH5	70.459	/	Only For Report
	Pi/4DQPSK	SISO	HOPP	2DH5	70.510	/	Only For Report
	8DPSK	SISO	HOPP	3DH5	70.697	/	Only For Report

3.2 Test Graph

3.2.1 SPBW





4. Antenna Power

4.1 Test Result

4.1.1 Power

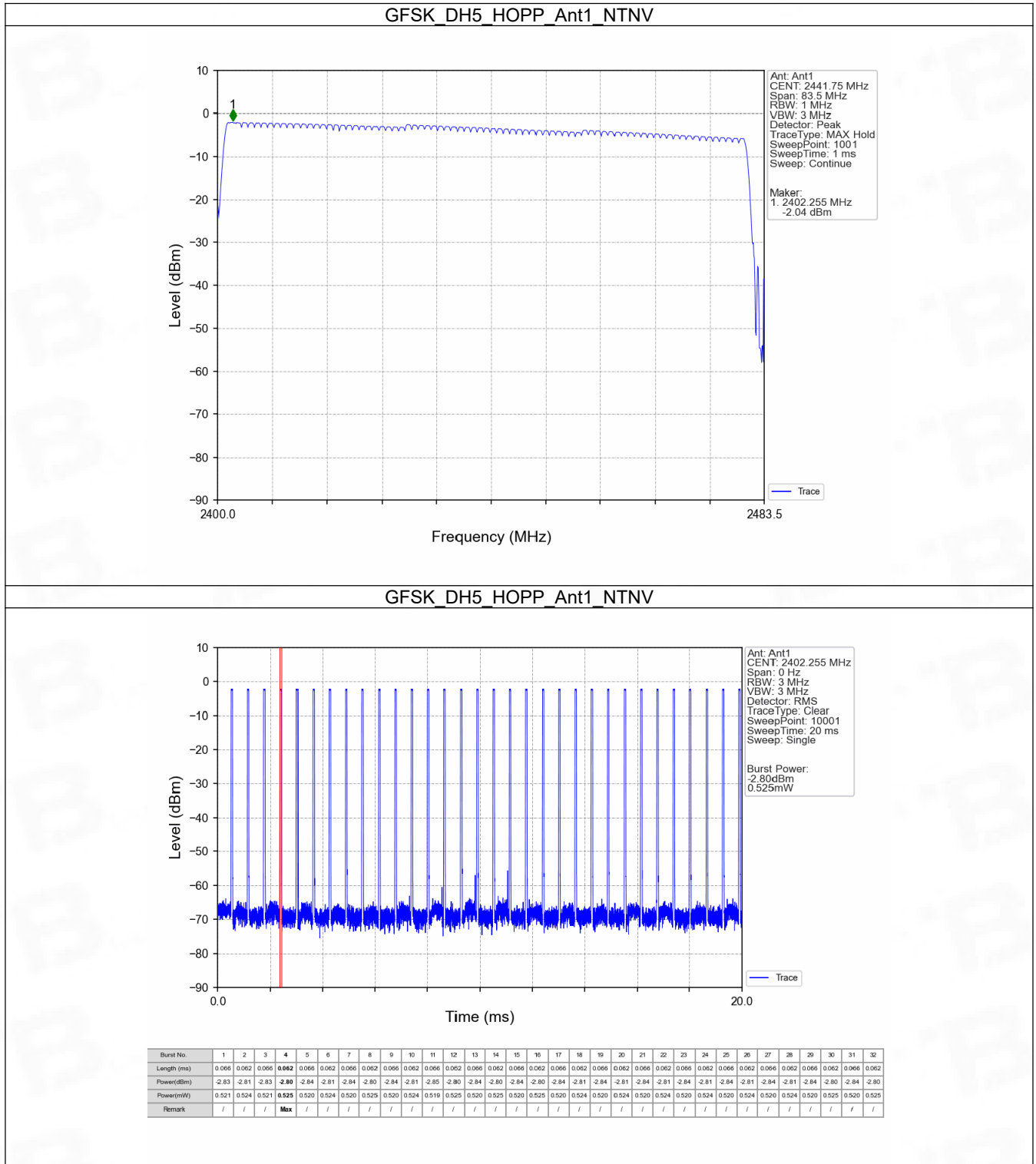
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Antenna Power (mW/MHz)			Nominal Power (mW/MHz)	Tolerance (%)		Verdict
						Measured		Limit		Measured	Limit	
						dBm/MHz	mW/MHz	mW/MHz				
NTNV	GFSK	SISO	HOPP	DH5	1	-21.28	0.007	<=3.00	0.007	6.39	<=20	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	1	-22.96	0.005	<=3.00	0.007	-27.74	<=20	Pass
	8DPSK	SISO	HOPP	3DH5	1	-22.23	0.006	<=3.00	0.007	-14.51	<=20	Pass

4.1.2 EIRP

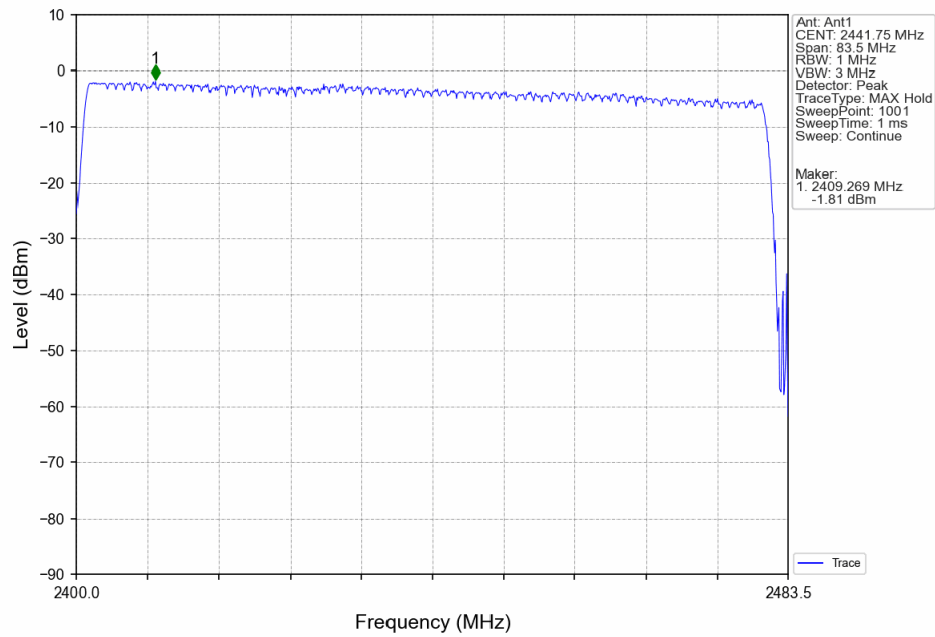
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Gain (dBi)	EIRP (dBm/MHz)		Verdict
							Result	Limit	
NTNV	GFSK	SISO	HOPP	DH5	1	2.50	-18.78	<=6.91	Pass
	Pi/4DQPSK	SISO	HOPP	2DH5	1	2.50	-20.46	<=6.91	Pass
	8DPSK	SISO	HOPP	3DH5	1	2.50	-19.73	<=6.91	Pass

4.2 Test Graph

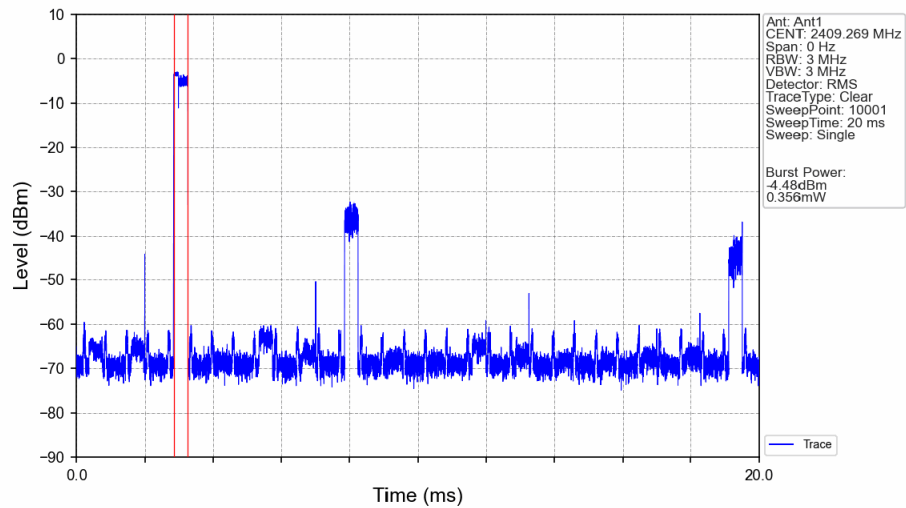
4.2.1 Power



Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

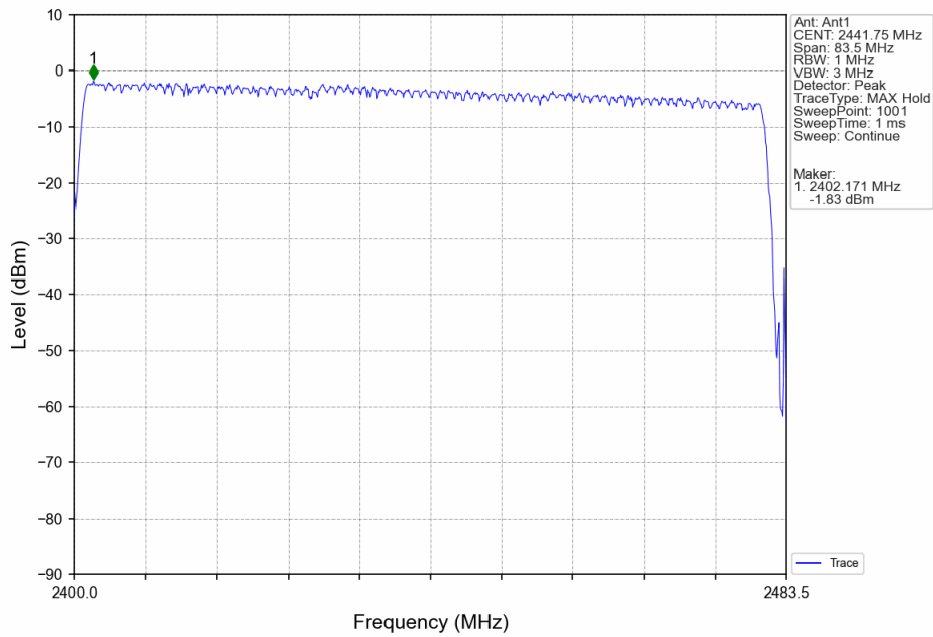


Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

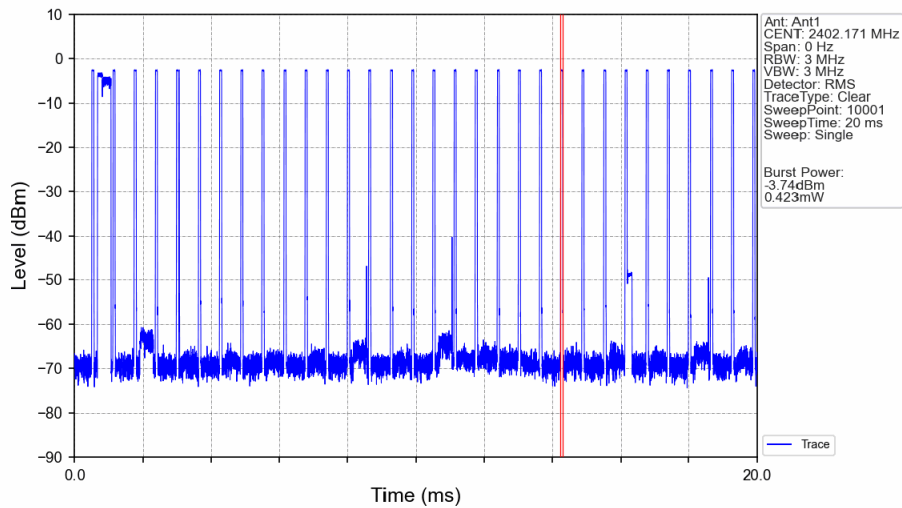


Burst No.	1
Length (ms)	0.398
Power(dBm)	-4.48
Power(mW)	0.356
Remark	Max

8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



Burst No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Length (ms)	0.076	0.410	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074	0.076	0.074
Power(dBm)	-3.75	-4.79	-3.87	-3.75	-3.87	-3.75	-3.87	-3.75	-3.87	-3.75	-3.87	-3.75	-3.87	-3.75	-3.87	-3.74	-3.86	-3.75	-3.86	-3.75	-3.87	-3.75	-3.86	-3.74	-3.87	-3.75	-3.86	-3.74	-3.74	-3.86	-3.75	-3.75	
Power(mW)	0.422	0.332	0.410	0.422	0.410	0.422	0.410	0.422	0.410	0.422	0.410	0.422	0.410	0.422	0.410	0.423	0.411	0.422	0.411	0.422	0.410	0.422	0.411	0.423	0.410	0.422	0.146	0.423	0.423	0.423	0.411	0.422	0.422
Remark	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	Max	/	/	/	/	/	/	/	/	/

5. Dwell Time

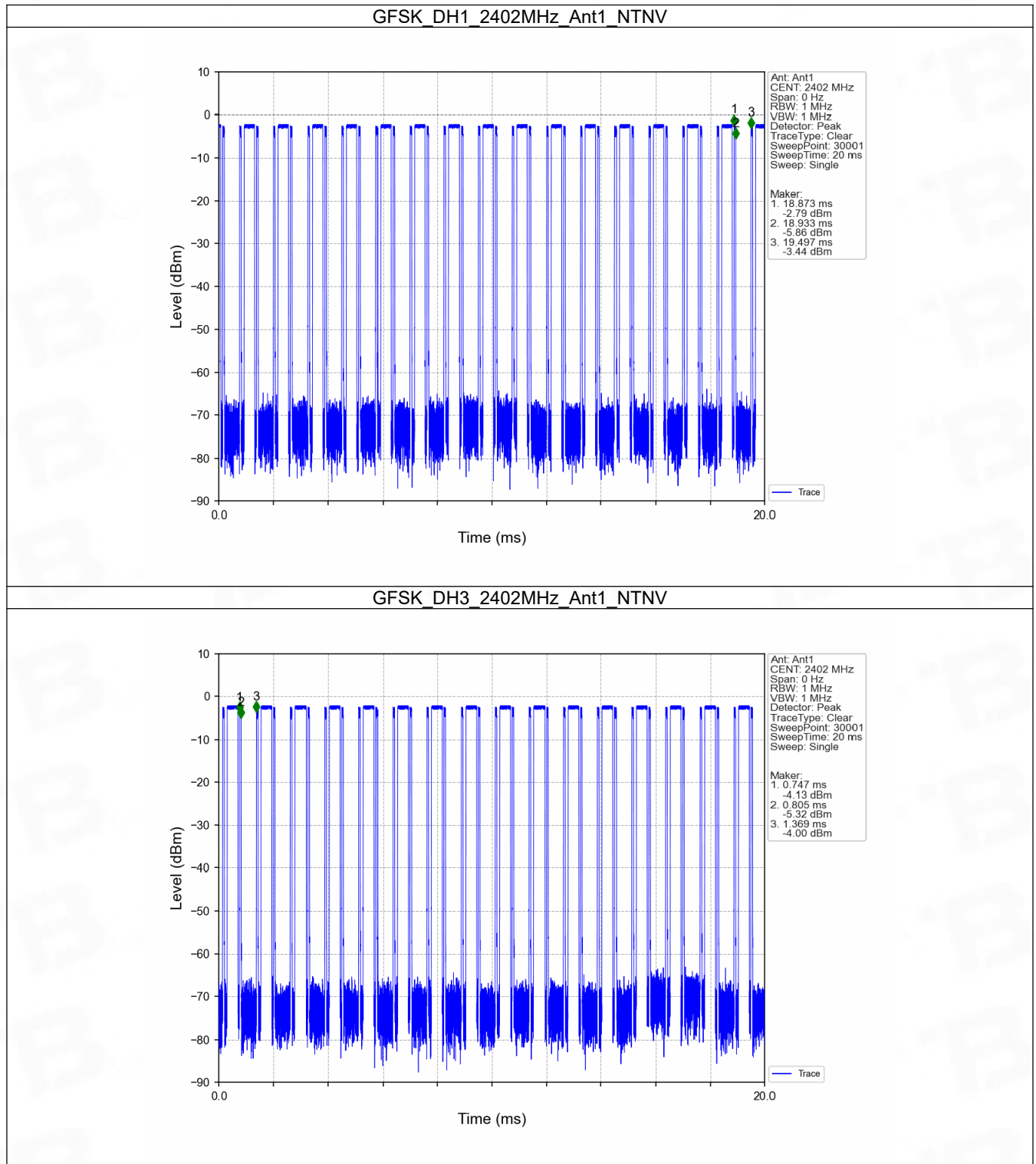
5.1 Test Result

5.1.1 Ant1

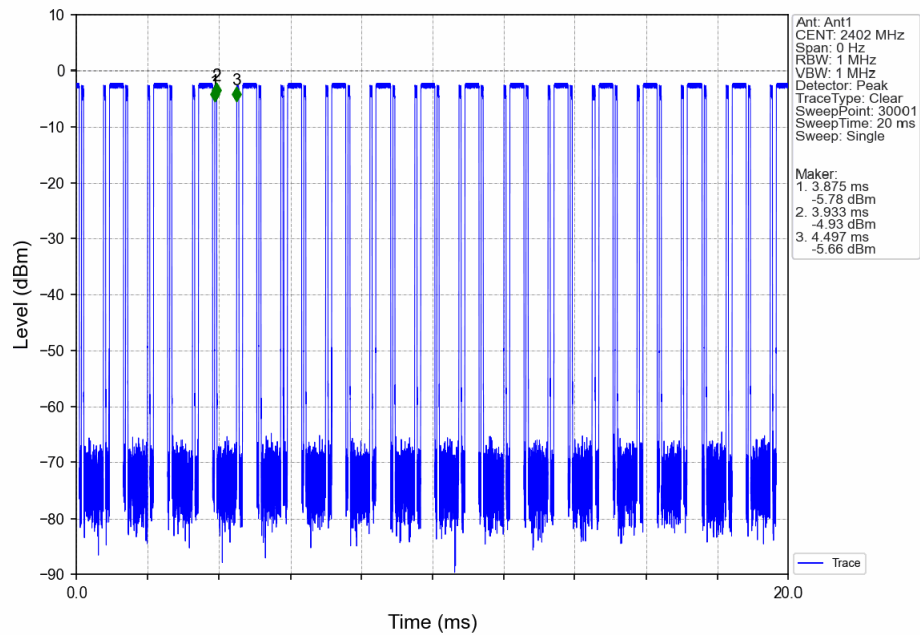
Ant1											
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	Spreading Rate	T_on (ms)	Period (ms)	Hopp Number	Dwell Time (ms)		Verdict
									Result	Limit	
NTNV	GFSK	SISO	2402	DH1	70.459	0.060	0.624	79	34.303	<=400	Pass
				DH3	70.459	0.058	0.622	79	33.266	<=400	Pass
				DH5	70.459	0.058	0.622	79	33.266	<=400	Pass
			2480	DH1	70.459	0.384	1.250	79	109.595	<=400	Pass
				DH3	70.459	0.398	1.250	79	113.591	<=400	Pass
				DH5	70.459	0.398	1.250	79	113.591	<=400	Pass
	Pi/4DQPSK	SISO	2402	2DH1	70.510	0.057	0.622	79	32.717	<=400	Pass
				2DH3	70.510	0.058	0.622	79	33.291	<=400	Pass
				2DH5	70.510	0.057	0.622	79	32.717	<=400	Pass
			2480	2DH1	70.510	0.395	1.250	79	112.816	<=400	Pass
				2DH3	70.510	0.399	1.250	79	113.958	<=400	Pass
				2DH5	70.510	0.398	1.250	79	113.673	<=400	Pass
	8DPSK	SISO	2402	3DH1	70.697	0.056	0.622	79	32.228	<=400	Pass
				3DH3	70.697	0.058	0.622	79	33.379	<=400	Pass
				3DH5	70.697	0.057	0.622	79	32.803	<=400	Pass
			2480	3DH1	70.697	0.394	1.250	79	112.829	<=400	Pass
				3DH3	70.697	0.398	1.250	79	113.974	<=400	Pass
				3DH5	70.697	0.398	1.250	79	113.974	<=400	Pass

5.2 Test Graph

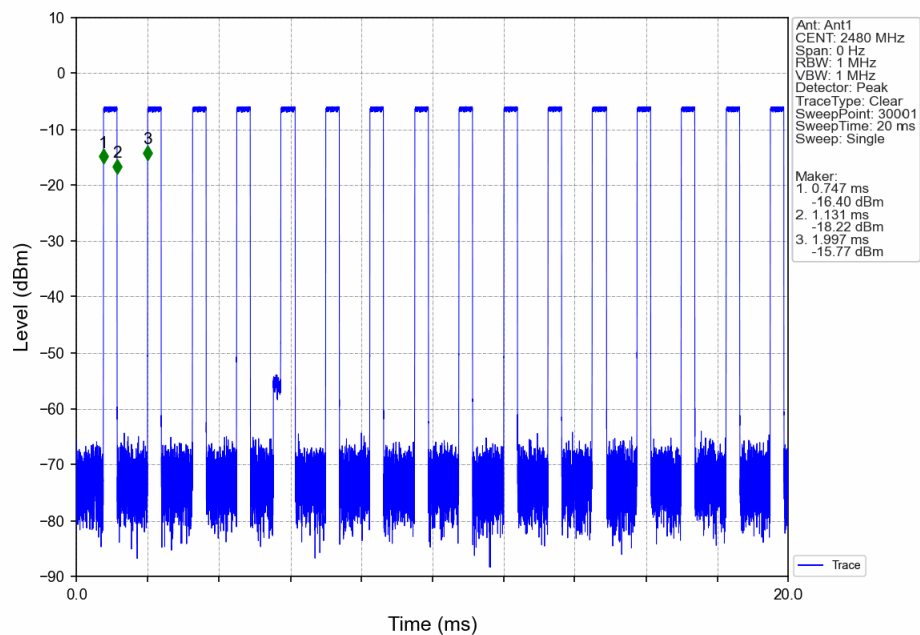
5.2.1 Ant1



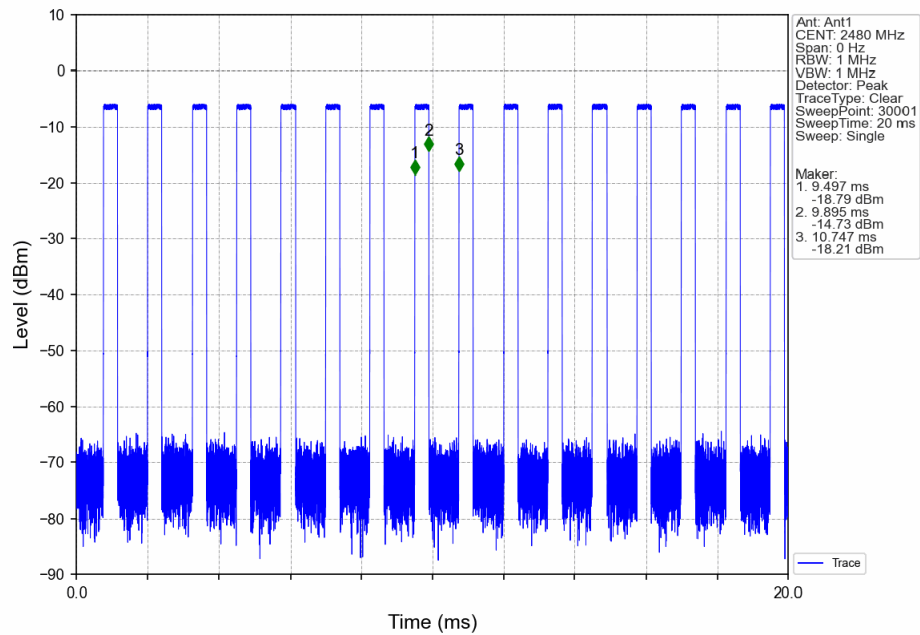
GFSK_DH5_2402MHz_Ant1_NTNV



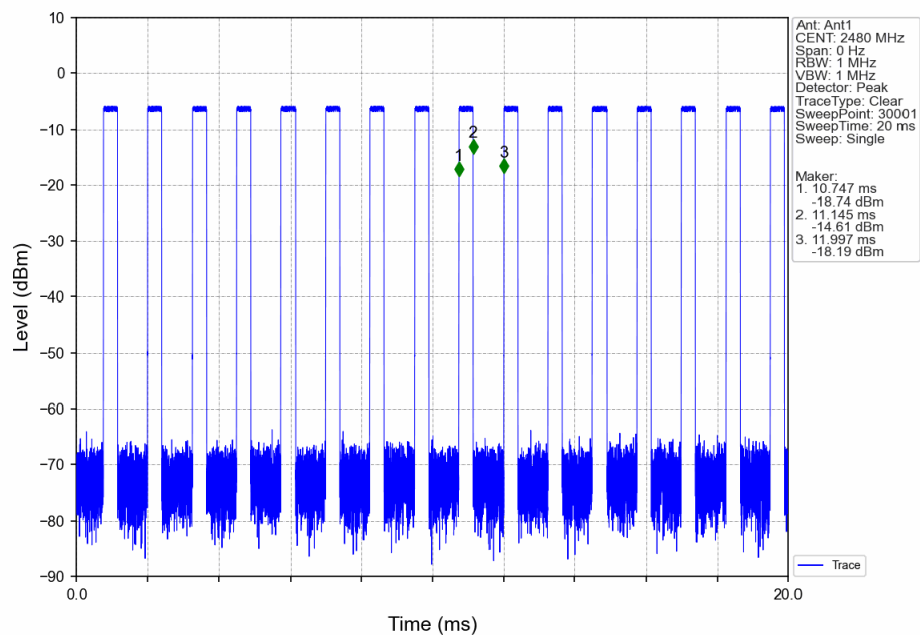
GFSK_DH1_2480MHz_Ant1_NTNV



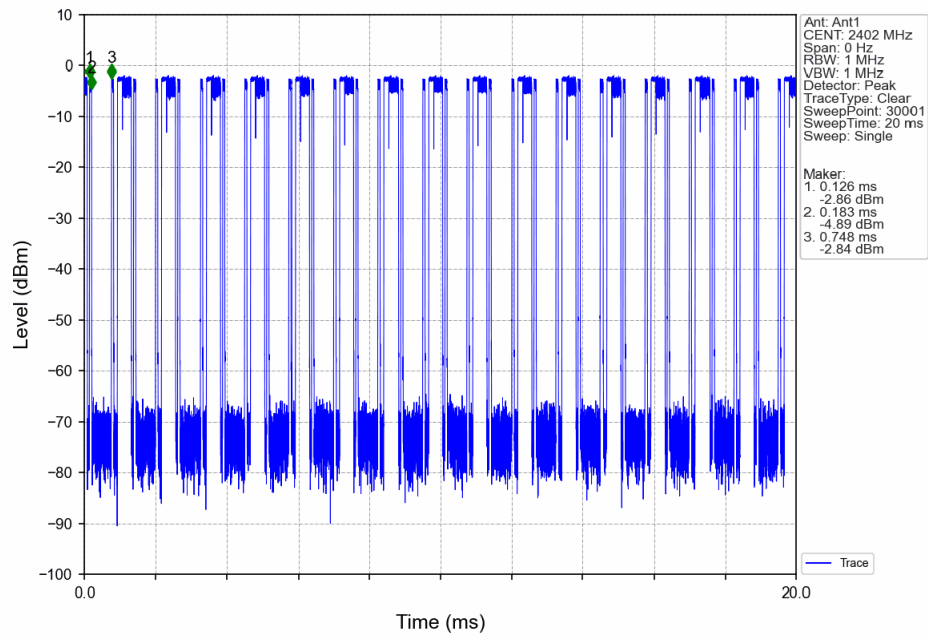
GFSK_DH3_2480MHz_Ant1_NTNV



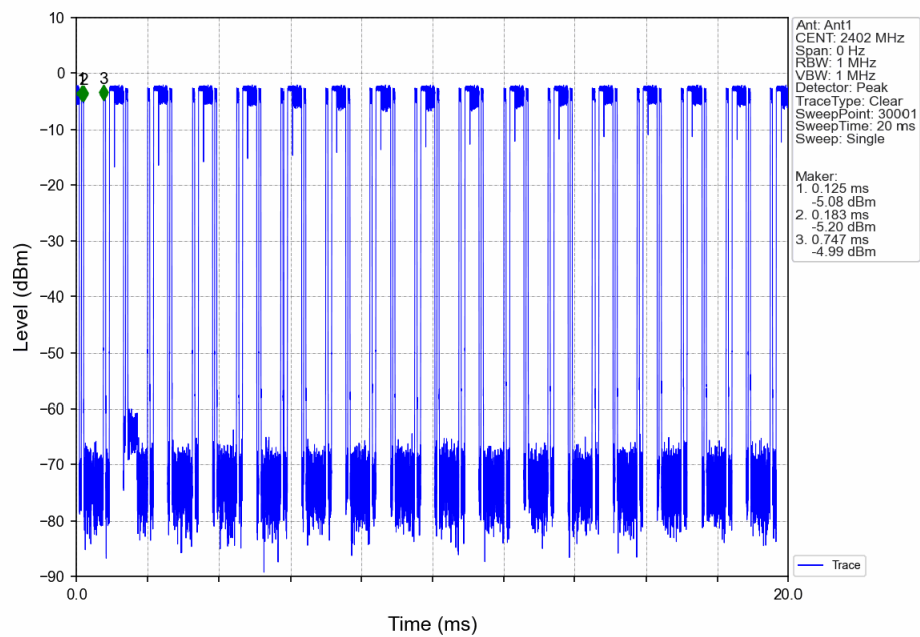
GFSK_DH5_2480MHz_Ant1_NTNV



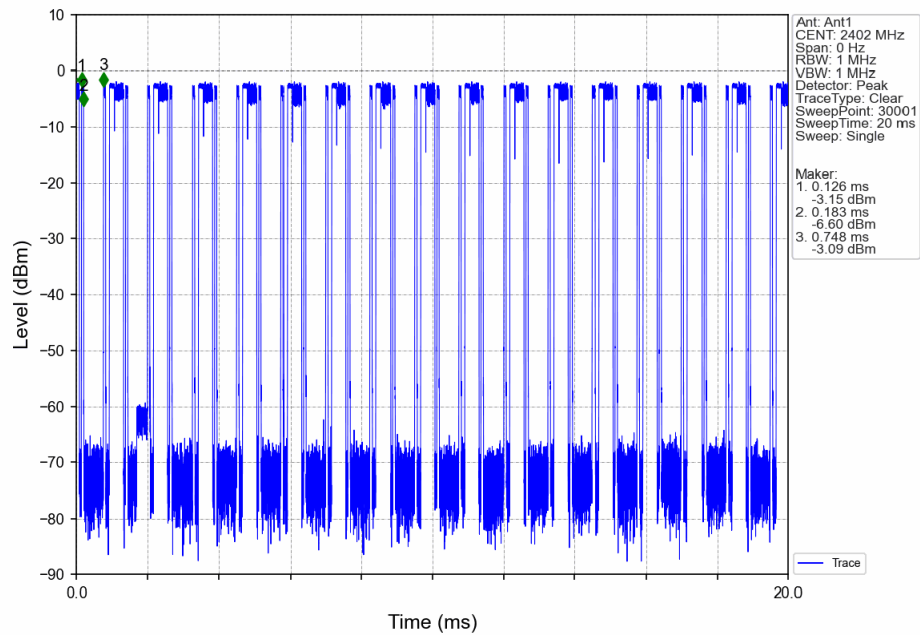
Pi/4DQPSK_2DH1_2402MHz_Ant1_NTNV



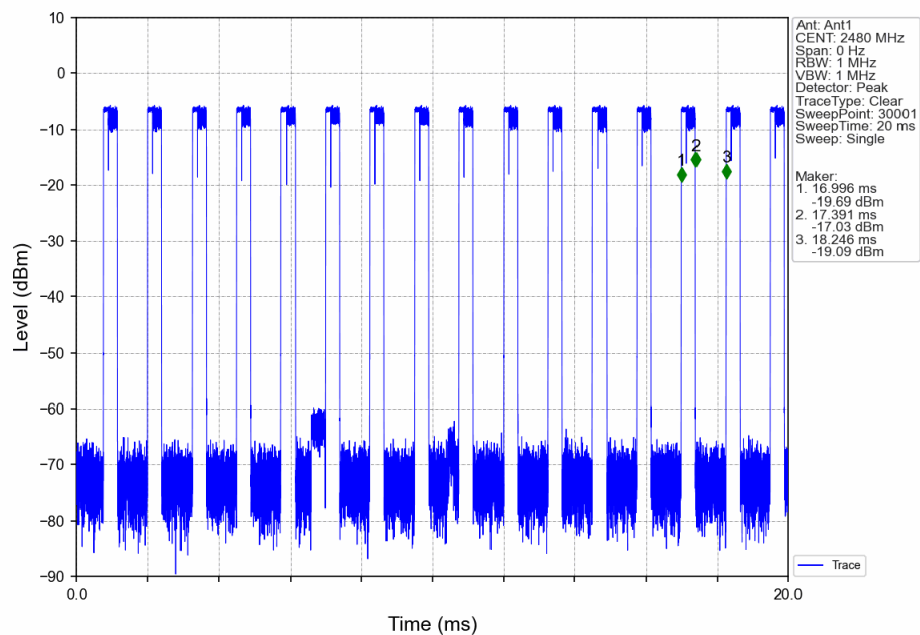
Pi/4DQPSK_2DH3_2402MHz_Ant1_NTNV



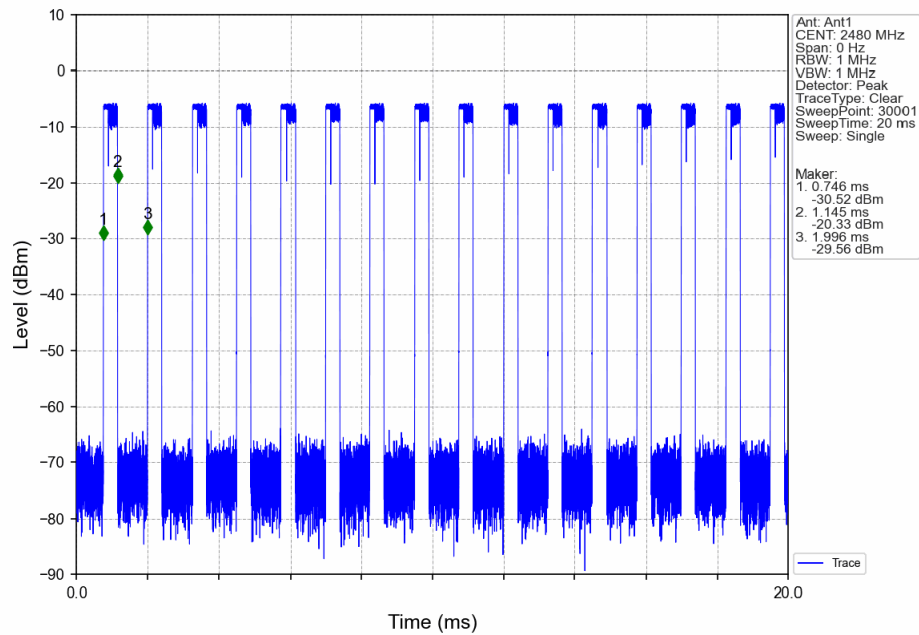
Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV



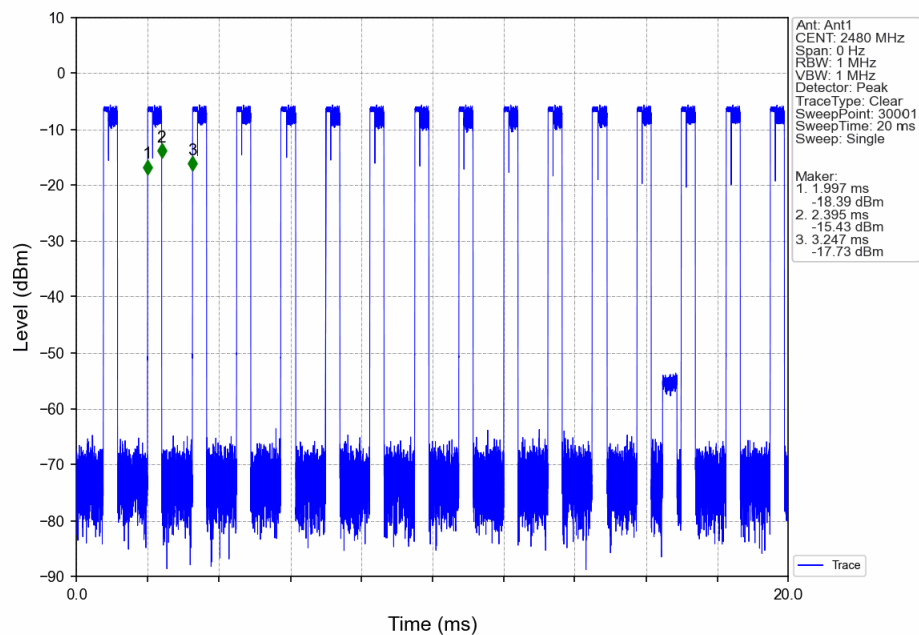
Pi/4DQPSK_2DH1_2480MHz_Ant1_NTNV



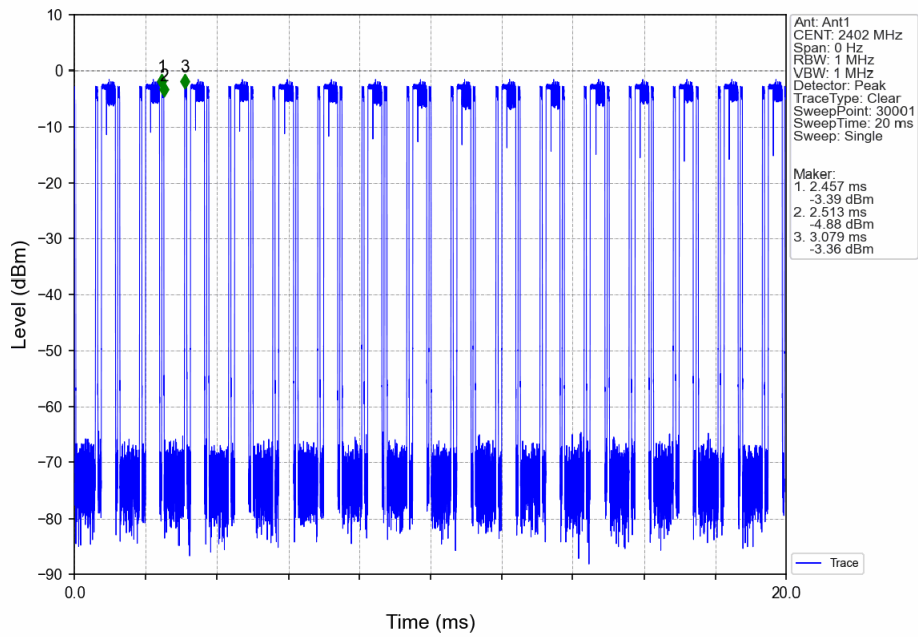
Pi/4DQPSK_2DH3_2480MHz_Ant1_NTNV



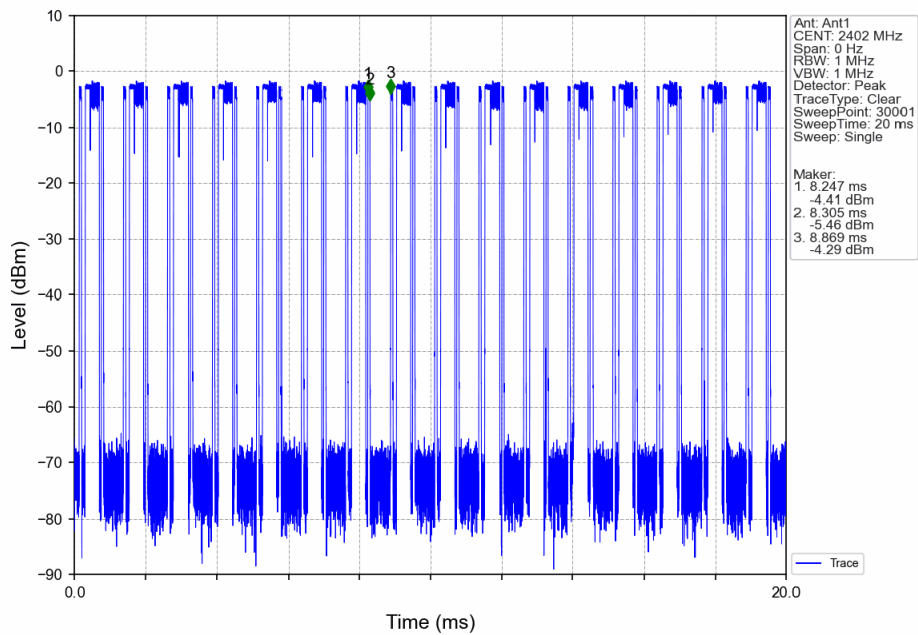
Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



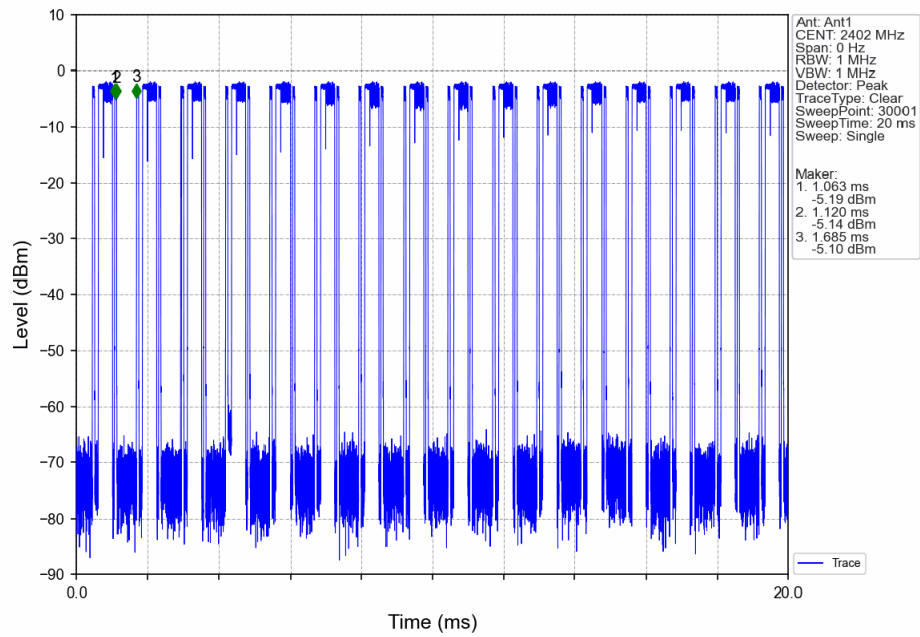
8DPSK_3DH1_2402MHz_Ant1_NTNV



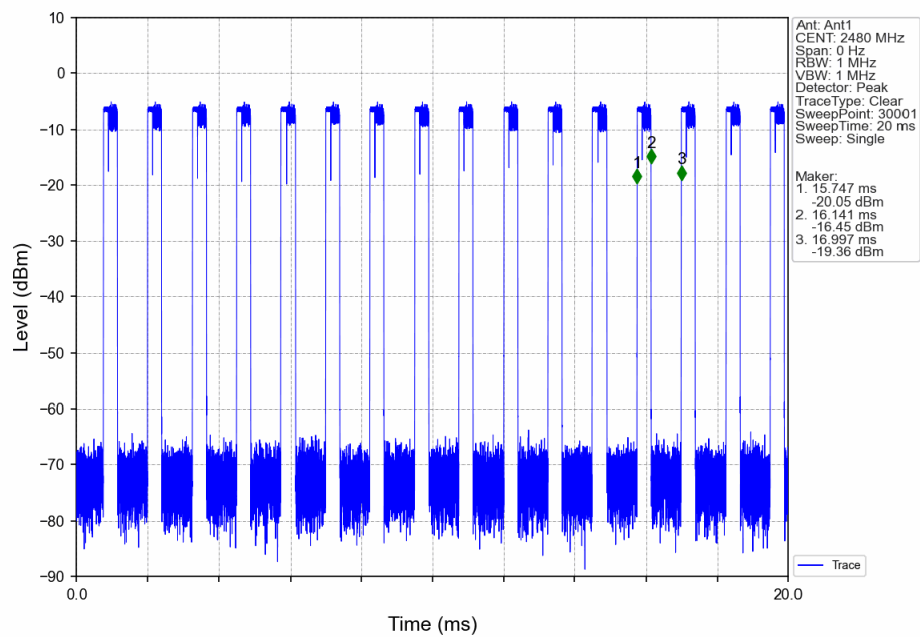
8DPSK_3DH3_2402MHz_Ant1_NTNV



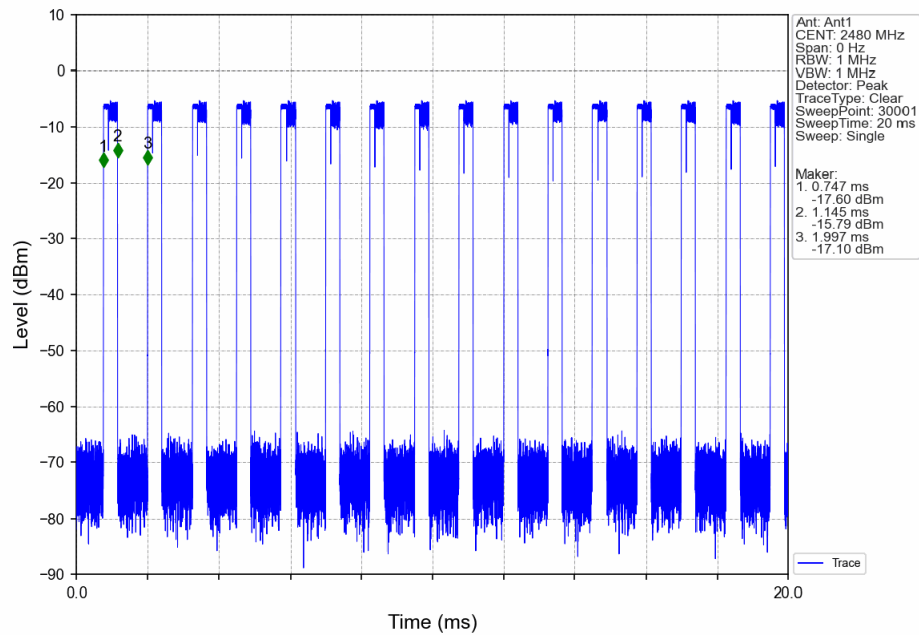
8DPSK_3DH5_2402MHz_Ant1_NTNV



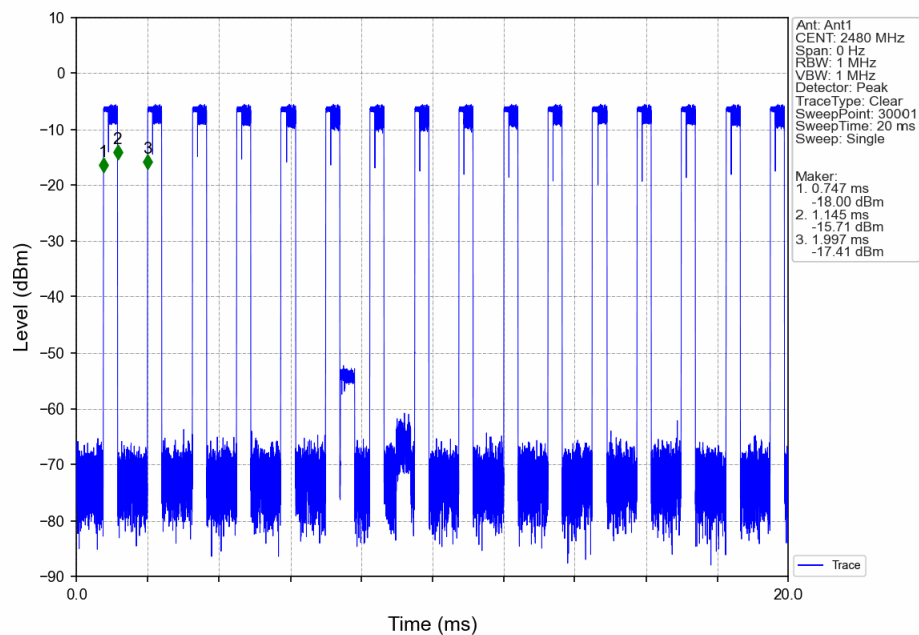
8DPSK_3DH1_2480MHz_Ant1_NTNV



8DPSK_3DH3_2480MHz_Ant1_NTNV



8DPSK_3DH5_2480MHz_Ant1_NTNV



6. Spurious Emission Intensity

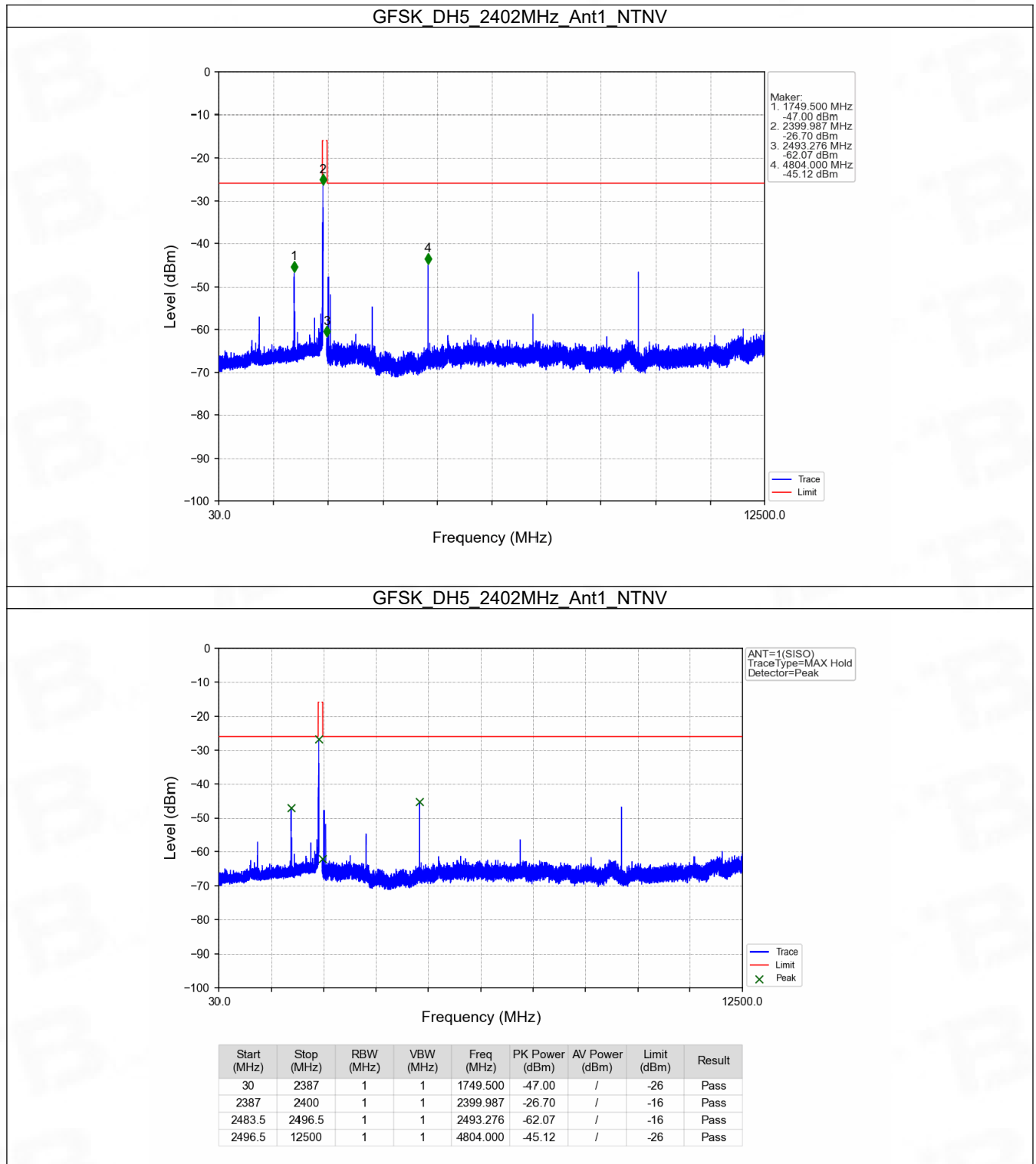
6.1 Test Result

6.1.1 TxSe_NTNV

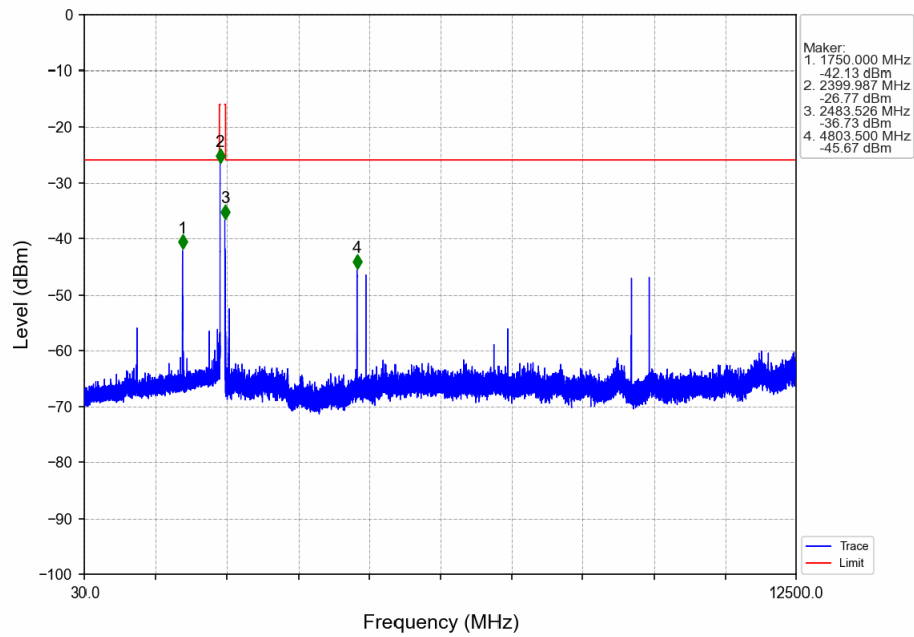
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
GFSK	SISO	2402	1	30	2387	1749.5	-47.00	0.020	/	/	2.5	Pass
				2387	2400	2399.987	-26.70	2.138	/	/	25	Pass
				2483.5	2496.5	2493.276	-62.07	0.001	/	/	25	Pass
				2496.5	12500	4804	-45.12	0.031	/	/	2.5	Pass
		2480	1	30	2387	1750	-42.13	0.061	/	/	2.5	Pass
				2387	2400	2399.987	-26.77	2.104	/	/	25	Pass
				2483.5	2496.5	2483.526	-36.73	0.212	/	/	25	Pass
				2496.5	12500	4803.5	-45.67	0.027	/	/	2.5	Pass
Pi/4DQPSK	SISO	2402	1	30	2387	2384.5	-53.28	0.005	/	/	2.5	Pass
				2387	2400	2399.987	-26.88	2.051	/	/	25	Pass
				2483.5	2496.5	2483.747	-56.94	0.002	/	/	25	Pass
				2496.5	12500	4803.5	-45.46	0.028	/	/	2.5	Pass
		2480	1	30	2387	1764	-47.33	0.018	/	/	2.5	Pass
				2387	2400	2399.987	-26.81	2.084	/	/	25	Pass
				2483.5	2496.5	2483.552	-37.52	0.177	/	/	25	Pass
				2496.5	12500	9608.5	-46.72	0.021	/	/	2.5	Pass
8DPSK	SISO	2402	1	30	2387	2382.5	-54.70	0.003	/	/	2.5	Pass
				2387	2400	2399.987	-26.87	2.056	/	/	25	Pass
				2483.5	2496.5	2485.554	-62.20	0.001	/	/	25	Pass
				2496.5	12500	4804	-44.76	0.033	/	/	2.5	Pass
		2480	1	30	2387	2354	-55.22	0.003	/	/	2.5	Pass
				2387	2400	2399.987	-26.77	2.104	/	/	25	Pass
				2483.5	2496.5	2483.526	-36.59	0.219	/	/	25	Pass
				2496.5	12500	2532.5	-34.04	0.394	/	/	2.5	Pass

6.2 Test Graph

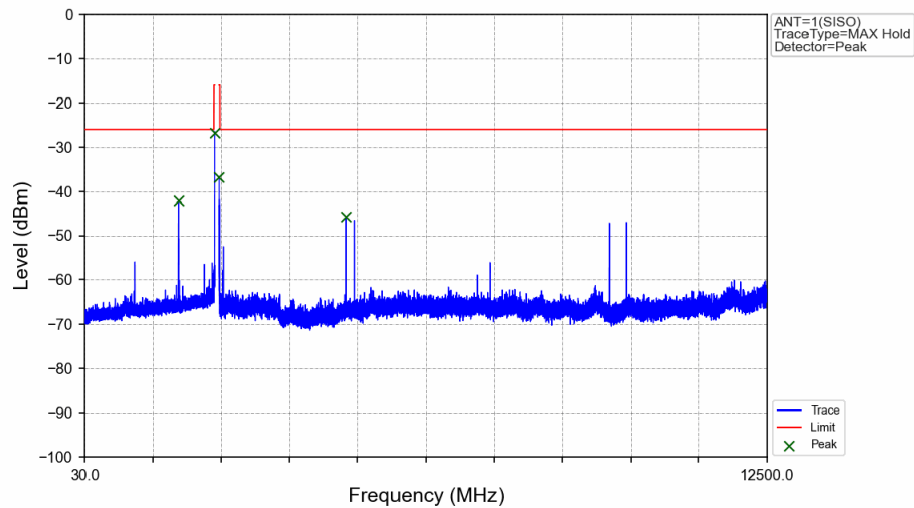
6.2.1 TxSe_NTNV



GFSK_DH5_2480MHz_Ant1_NTNV

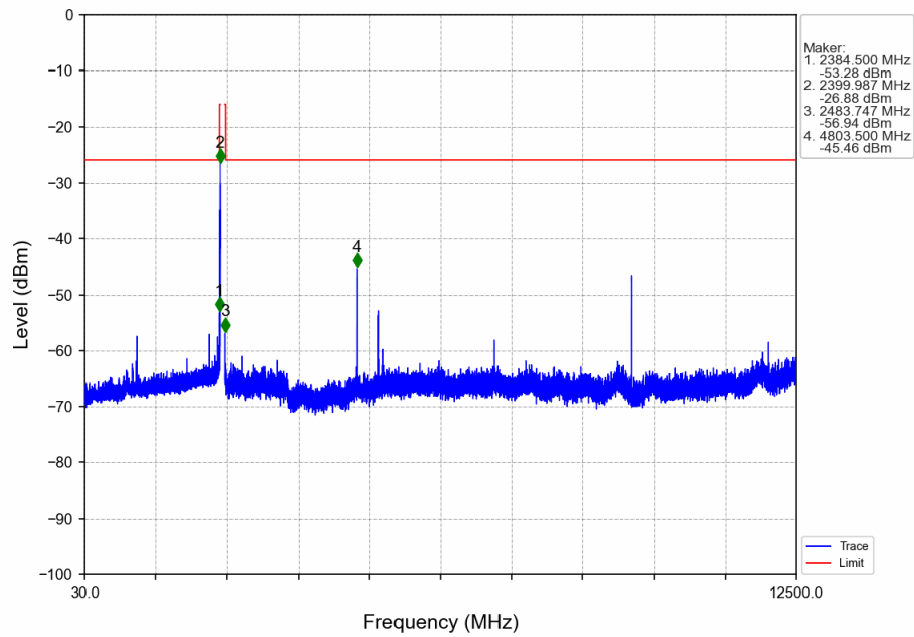


GFSK_DH5_2480MHz_Ant1_NTNV

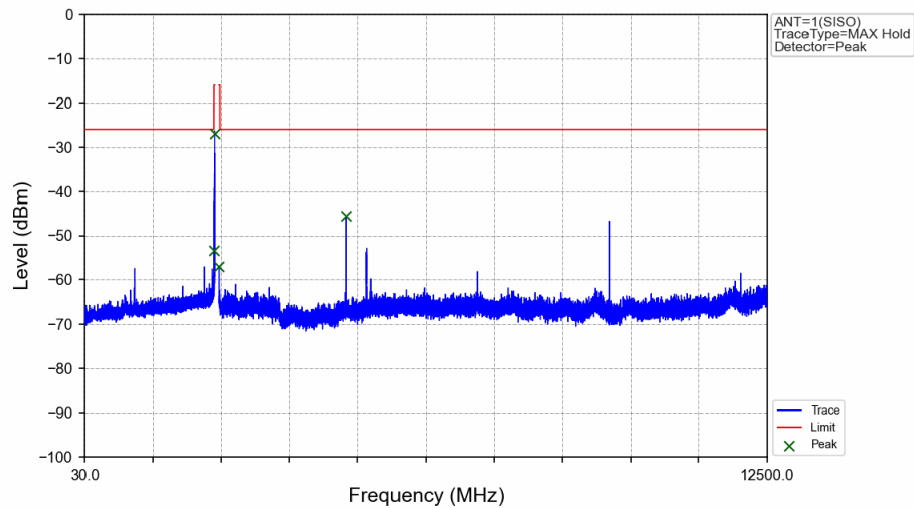


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1750.000	-42.13	/	-26	Pass
2387	2400	1	1	2399.987	-26.77	/	-16	Pass
2483.5	2496.5	1	1	2483.526	-36.73	/	-16	Pass
2496.5	12500	1	1	4803.500	-45.67	/	-26	Pass

Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

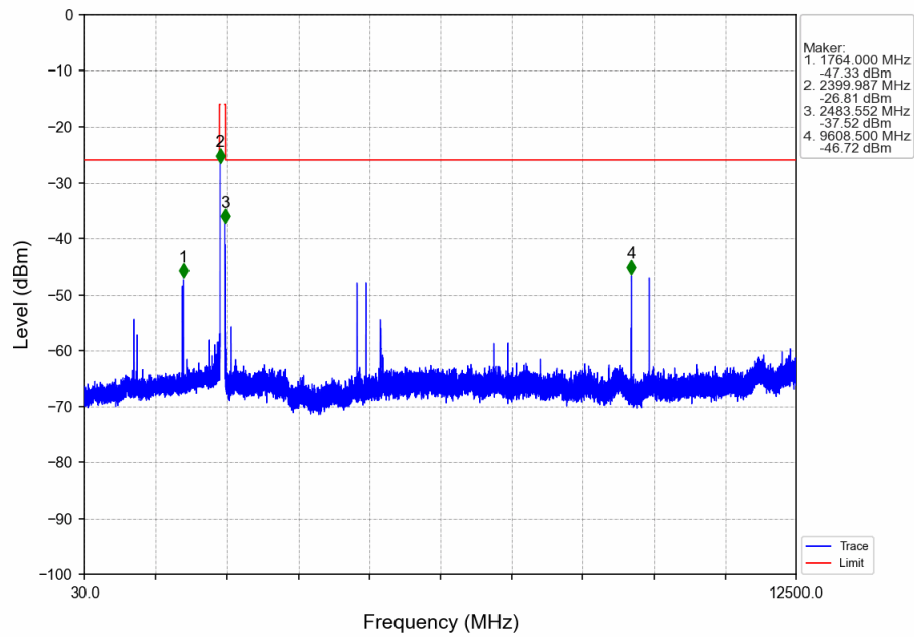


Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

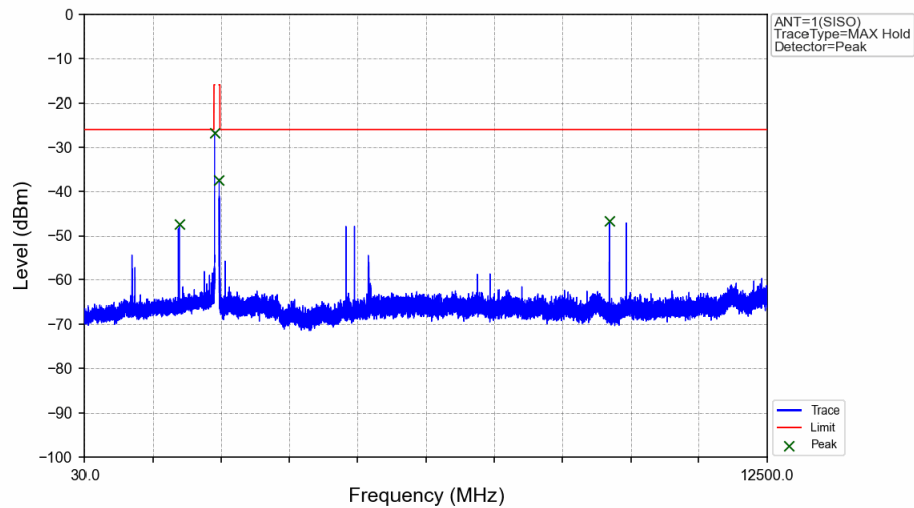


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2384.500	-53.28	/	-26	Pass
2387	2400	1	1	2399.987	-26.88	/	-16	Pass
2483.5	2496.5	1	1	2483.747	-56.94	/	-16	Pass
2496.5	12500	1	1	4803.500	-45.46	/	-26	Pass

Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

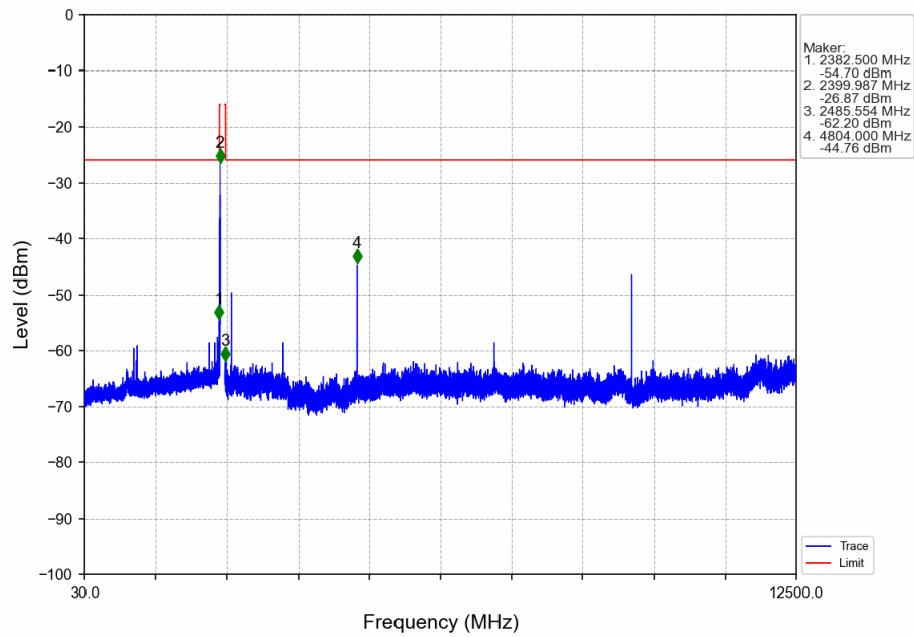


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

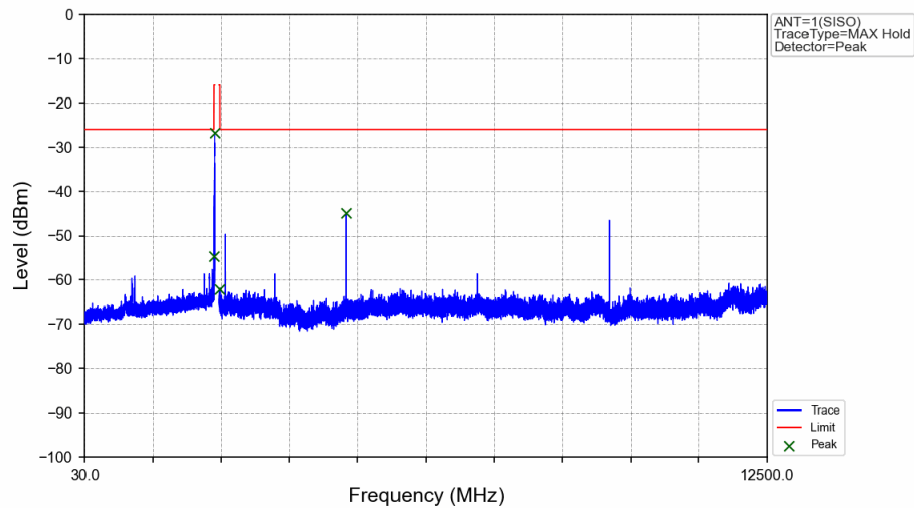


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1764.000	-47.33	/	-26	Pass
2387	2400	1	1	2399.987	-26.81	/	-16	Pass
2483.5	2496.5	1	1	2483.552	-37.52	/	-16	Pass
2496.5	12500	1	1	9608.500	-46.72	/	-26	Pass

8DPSK_3DH5_2402MHz_Ant1_NTNV

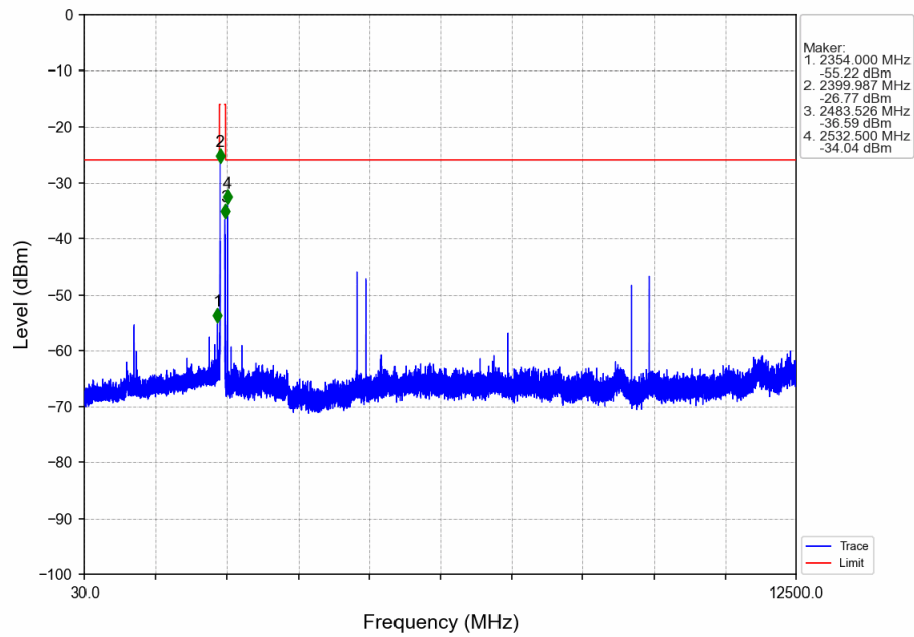


8DPSK_3DH5_2402MHz_Ant1_NTNV

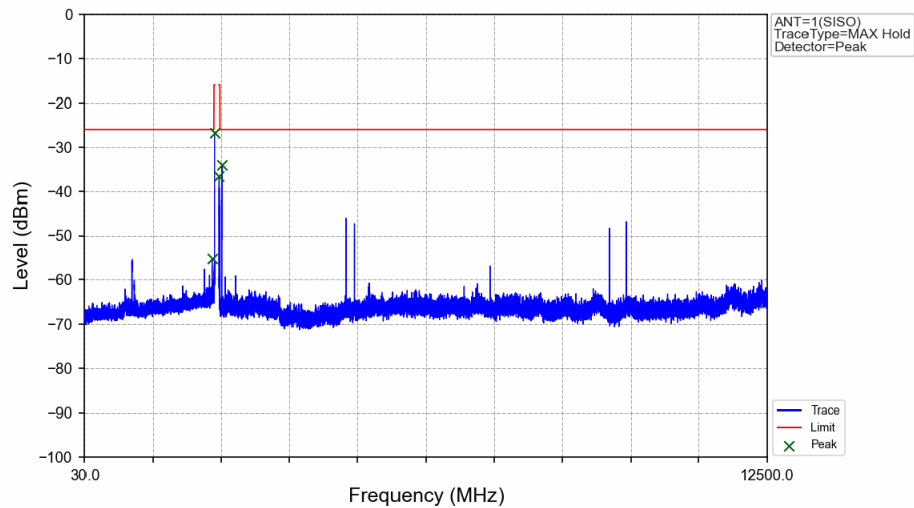


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2382.500	-54.70	/	-26	Pass
2387	2400	1	1	2399.987	-26.87	/	-16	Pass
2483.5	2496.5	1	1	2485.554	-62.20	/	-16	Pass
2496.5	12500	1	1	4804.000	-44.76	/	-26	Pass

8DPSK_3DH5_2480MHz_Ant1_NTNV



8DPSK_3DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2354.000	-55.22	/	-26	Pass
2387	2400	1	1	2399.987	-26.77	/	-16	Pass
2483.5	2496.5	1	1	2483.526	-36.59	/	-16	Pass
2496.5	12500	1	1	2532.500	-34.04	/	-26	Pass

7. Secondary Radiated Emission

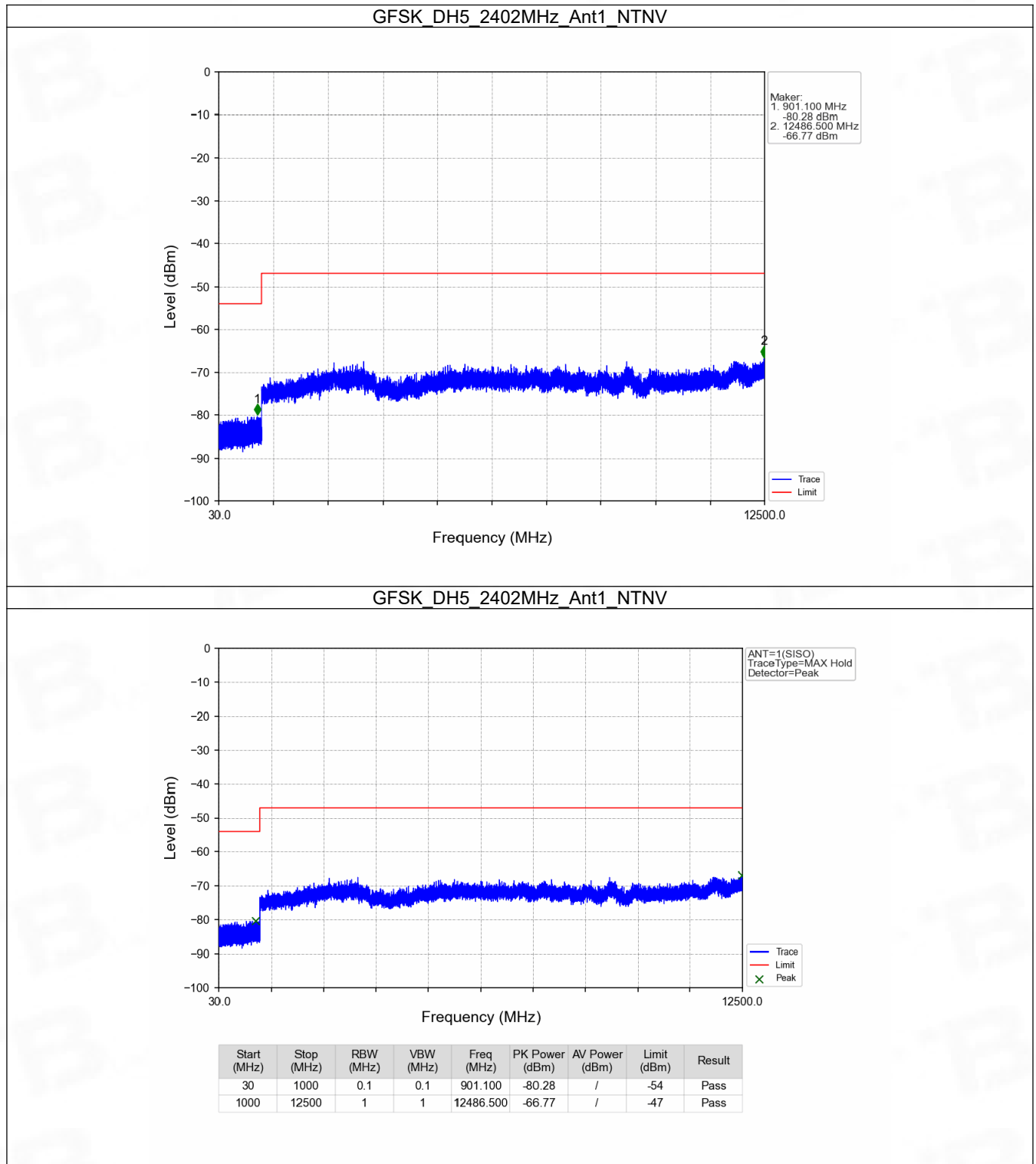
7.1 Test Result

7.1.1 RxSe_NTNV

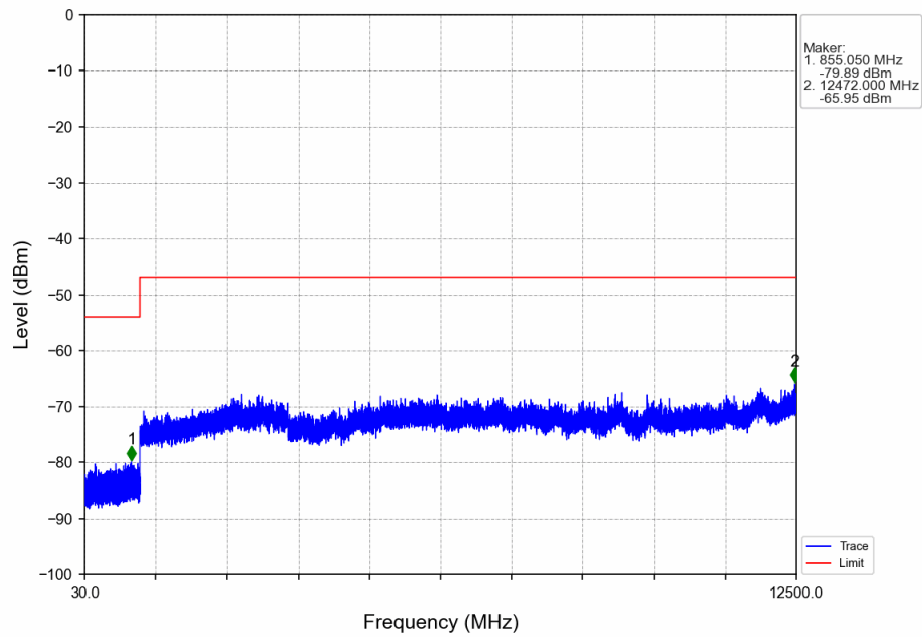
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
GFSK	SISO	2402	1	30	1000	901.1	-80.28	0.009	/	/	4	Pass
				1000	12500	12486.5	-66.77	0.210	/	/	20	Pass
		2480	1	30	1000	855.05	-79.89	0.010	/	/	4	Pass
				1000	12500	12472	-65.95	0.254	/	/	20	Pass
Pi/4DQPSK	SISO	2402	1	30	1000	776.9	-79.21	0.012	/	/	4	Pass
				1000	12500	12498.5	-65.94	0.255	/	/	20	Pass
		2480	1	30	1000	855.65	-79.46	0.011	/	/	4	Pass
				1000	12500	12093.5	-66.38	0.230	/	/	20	Pass
8DPSK	SISO	2402	1	30	1000	809.05	-79.59	0.011	/	/	4	Pass
				1000	12500	11841	-66.61	0.218	/	/	20	Pass
		2480	1	30	1000	805.75	-79.87	0.010	/	/	4	Pass
				1000	12500	12468	-66.91	0.204	/	/	20	Pass

7.2 Test Graph

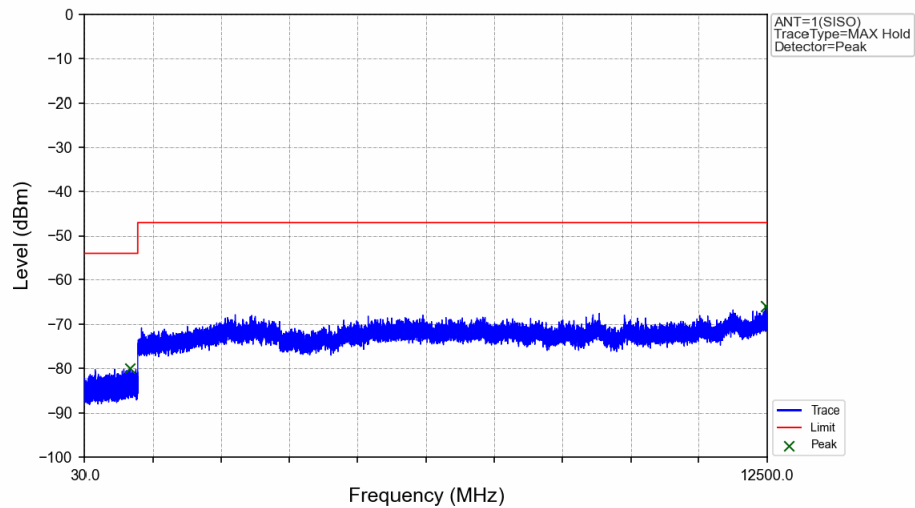
7.2.1 RxSe_NTNV



GFSK_DH5_2480MHz_Ant1_NTNV

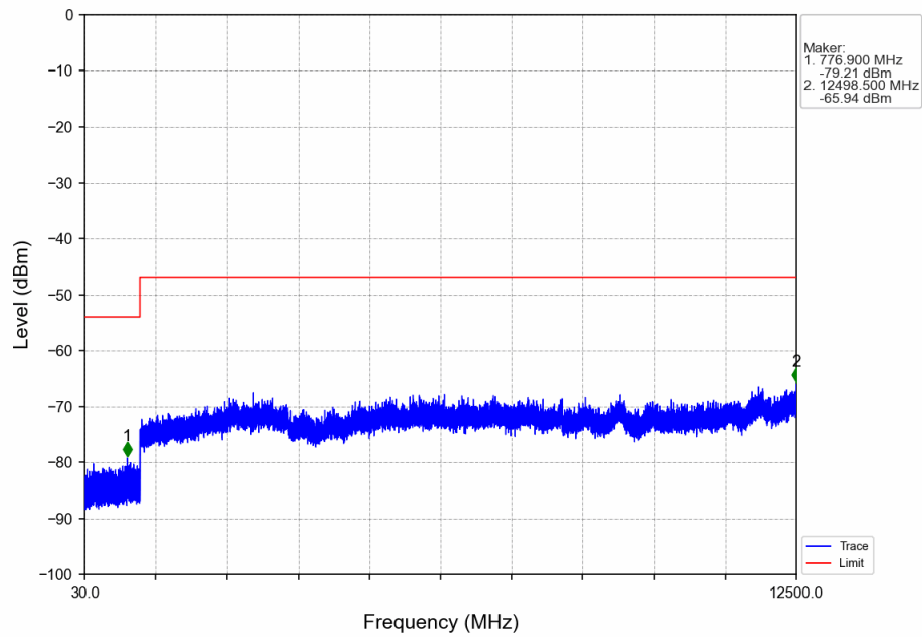


GFSK_DH5_2480MHz_Ant1_NTNV

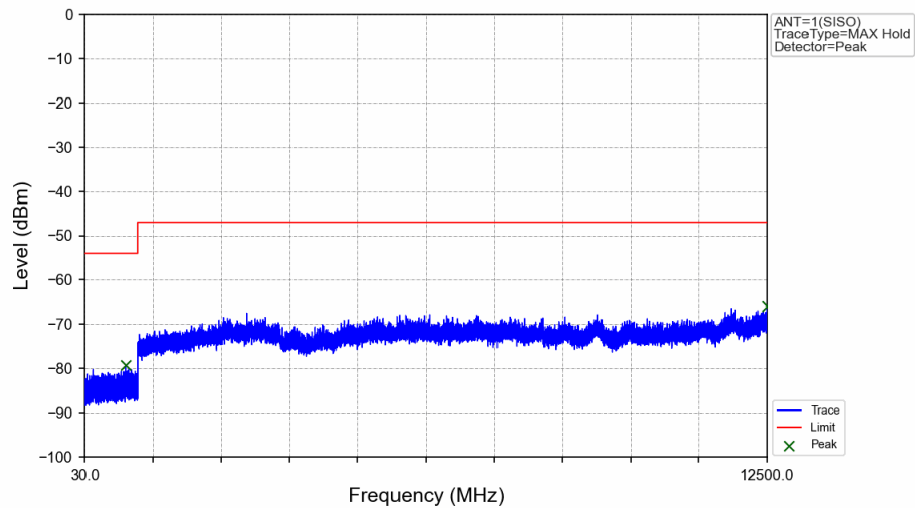


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	855.050	-79.89	/	-54	Pass
1000	12500	1	1	12472.000	-65.95	/	-47	Pass

Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

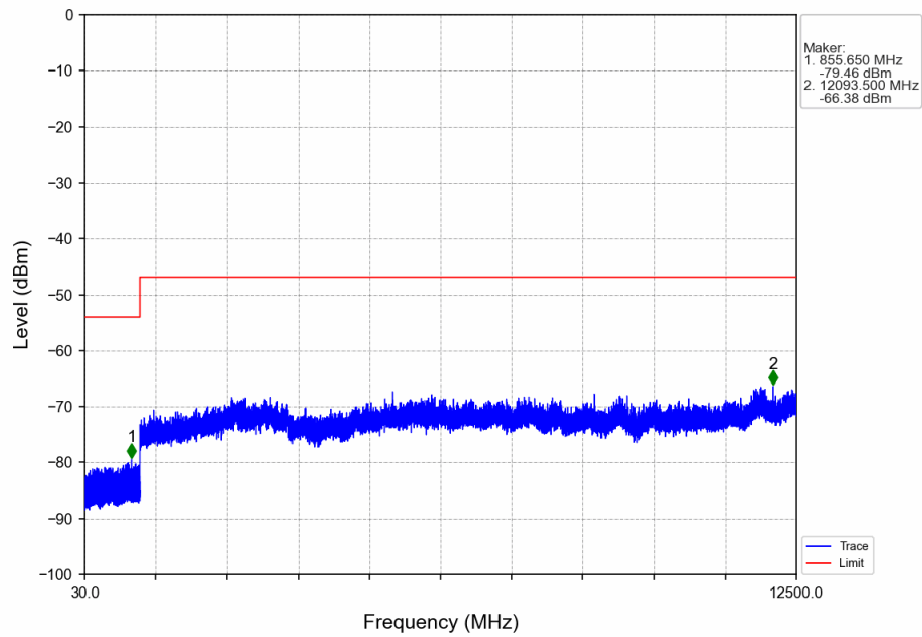


Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

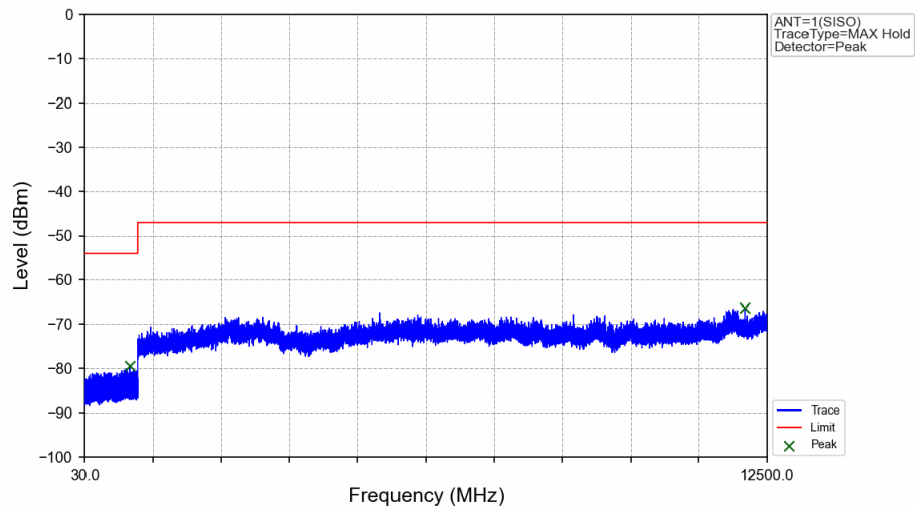


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	776.900	-79.21	/	-54	Pass
1000	12500	1	1	12498.500	-65.94	/	-47	Pass

Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

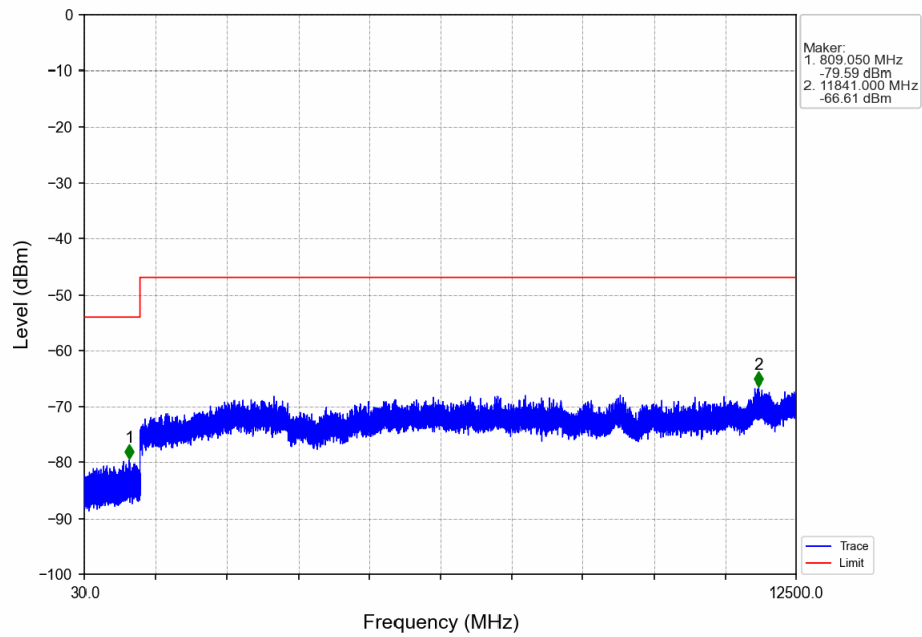


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

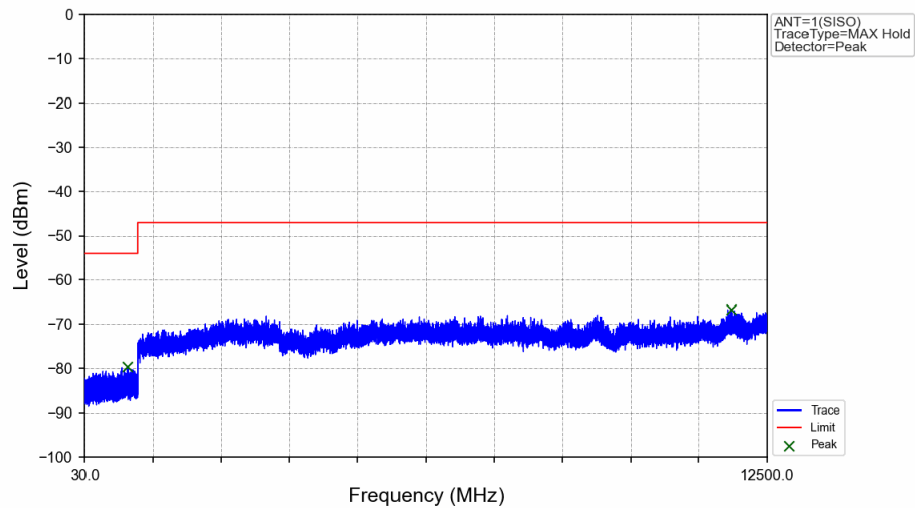


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	855.650	-79.46	/	-54	Pass
1000	12500	1	1	12093.500	-66.38	/	-47	Pass

8DPSK_3DH5_2402MHz_Ant1_NTNV

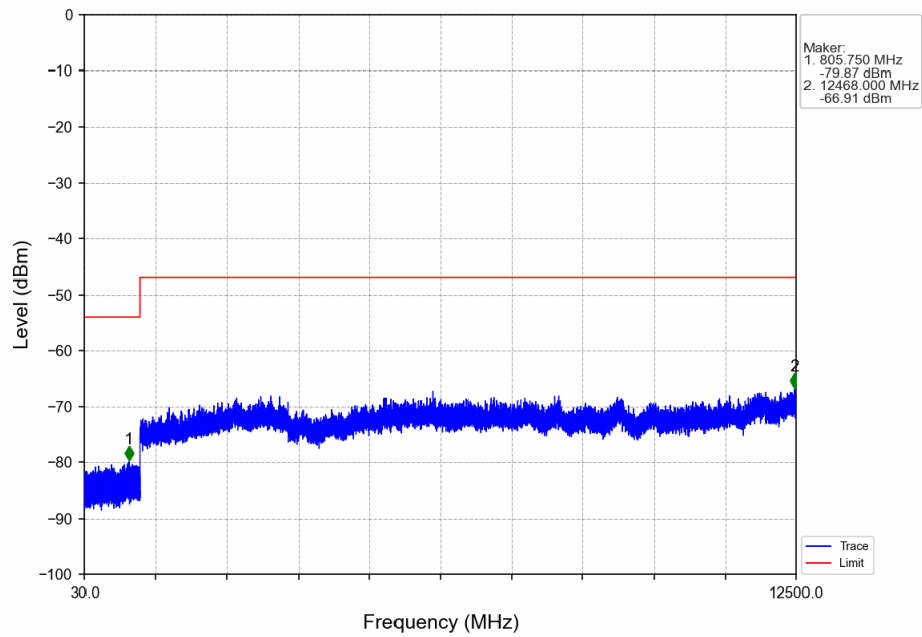


8DPSK_3DH5_2402MHz_Ant1_NTNV

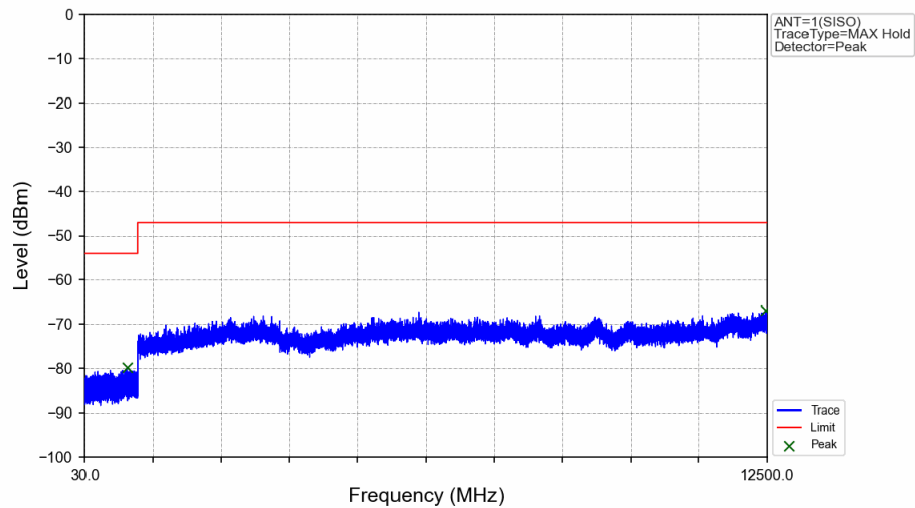


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	809.050	-79.59	/	-54	Pass
1000	12500	1	1	11841.000	-66.61	/	-47	Pass

8DPSK_3DH5_2480MHz_Ant1_NTNV



8DPSK_3DH5_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	805.750	-79.87	/	-54	Pass
1000	12500	1	1	12468.000	-66.91	/	-47	Pass