



Appendix for 15.247

Report Reference No.:CTL2109137021-WF

1. Bandwidth

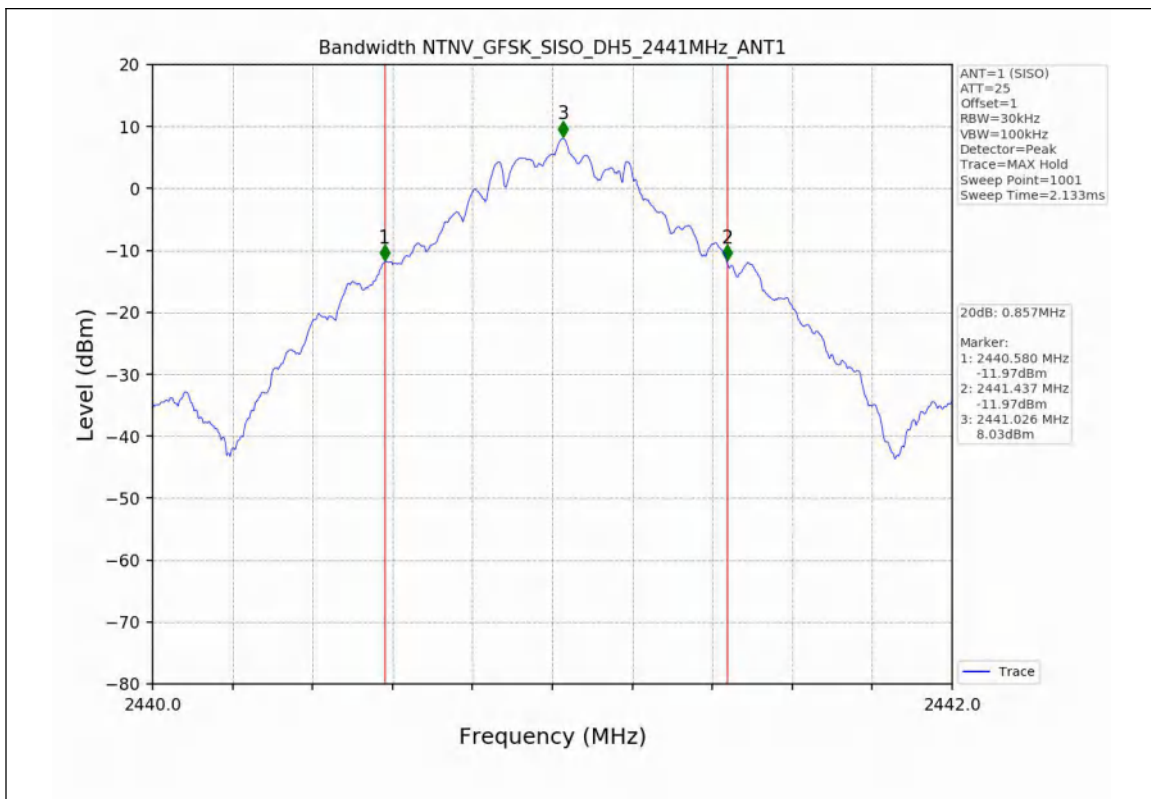
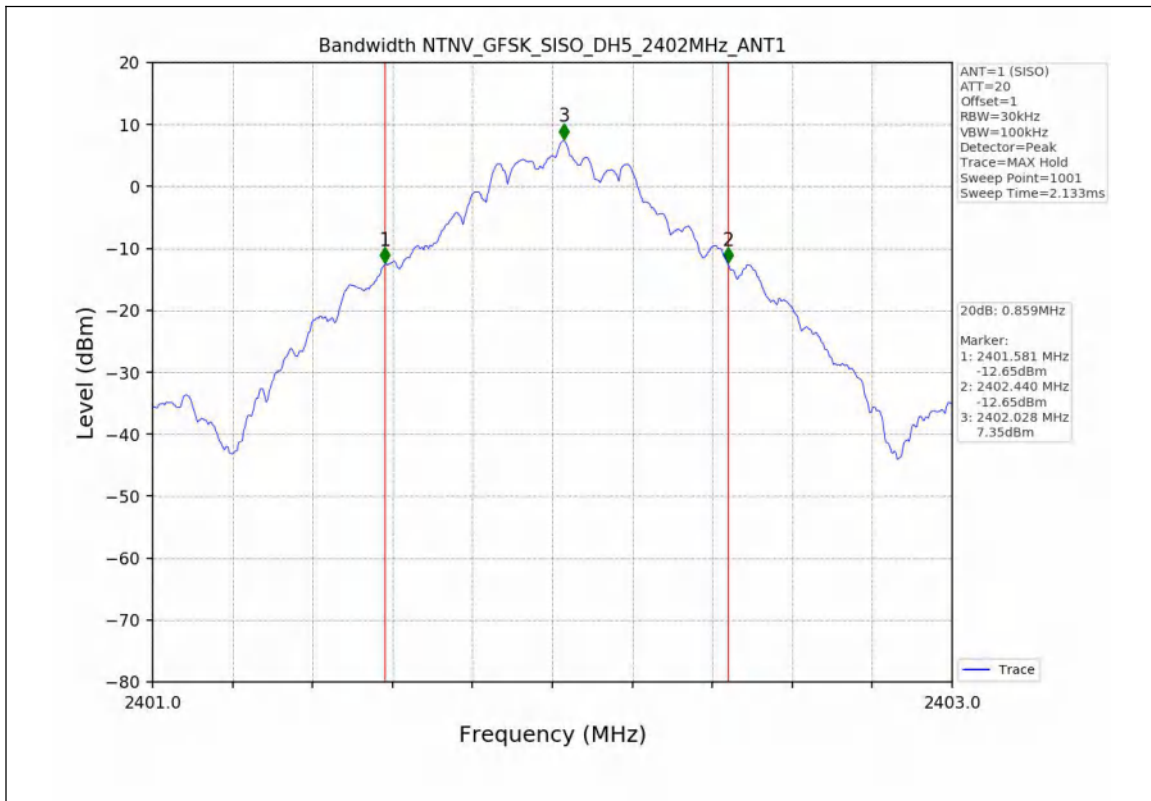
1.1 Test Result

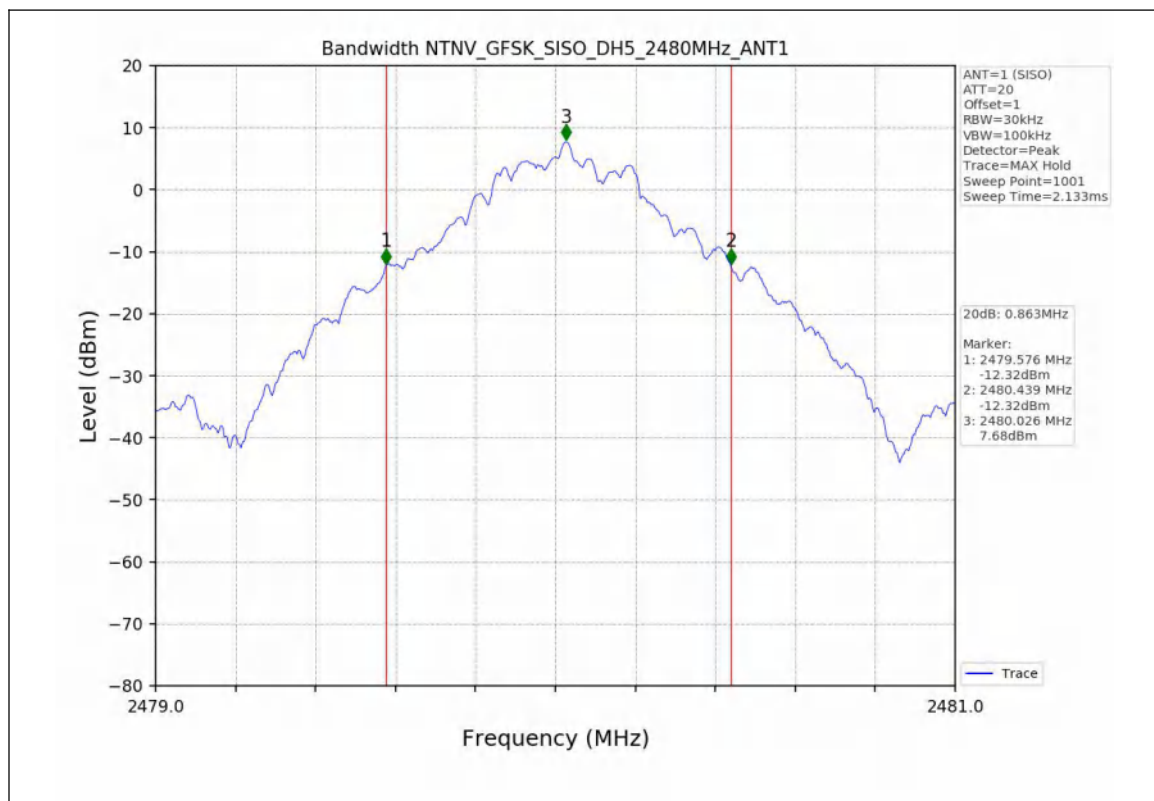
Test Mode	Frequency (MHz)	TX Type	ANT No.	20dB Bandwidth	Verdict
				Test Result (MHz)	
GFSK	2402	SISO	1	0.859	PASS
	2441	SISO	1	0.857	PASS
	2480	SISO	1	0.863	PASS
Pi/4DQPSK	2402	SISO	1	1.229	PASS
	2441	SISO	1	1.240	PASS
	2480	SISO	1	1.251	PASS
8DPSK	2402	SISO	1	1.265	PASS
	2441	SISO	1	1.241	PASS
	2480	SISO	1	1.266	PASS

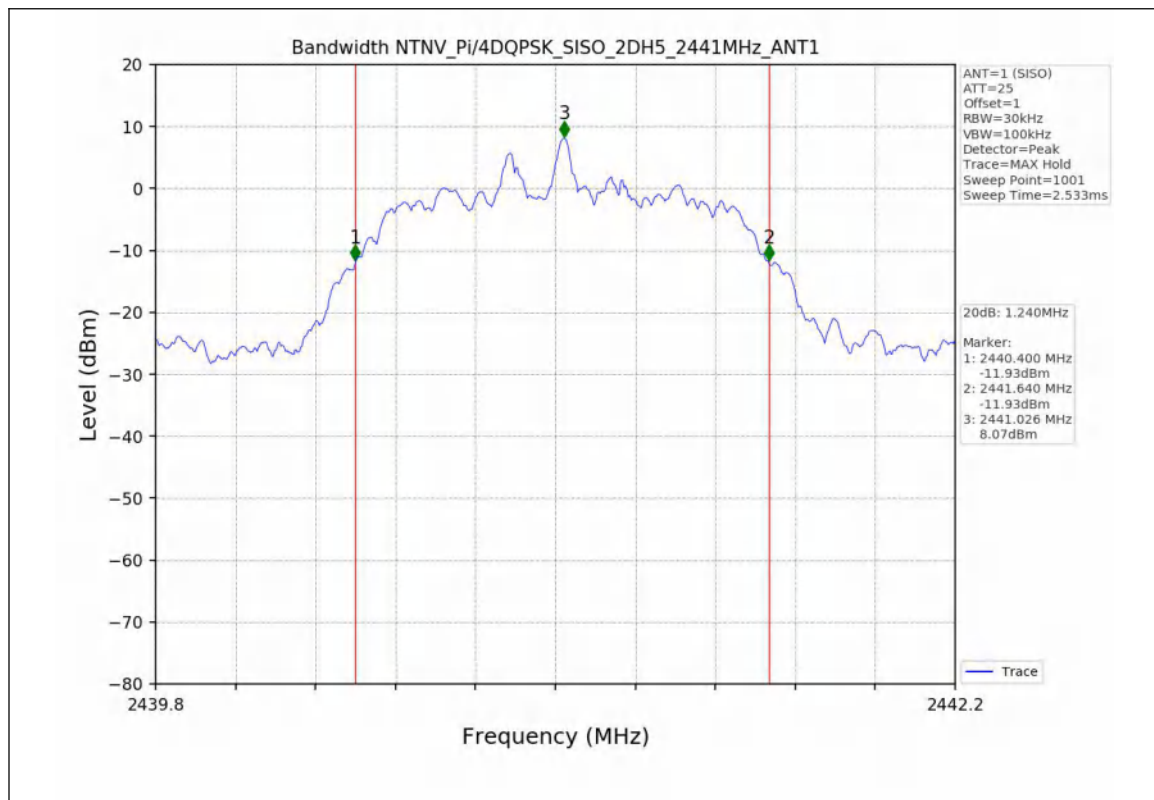
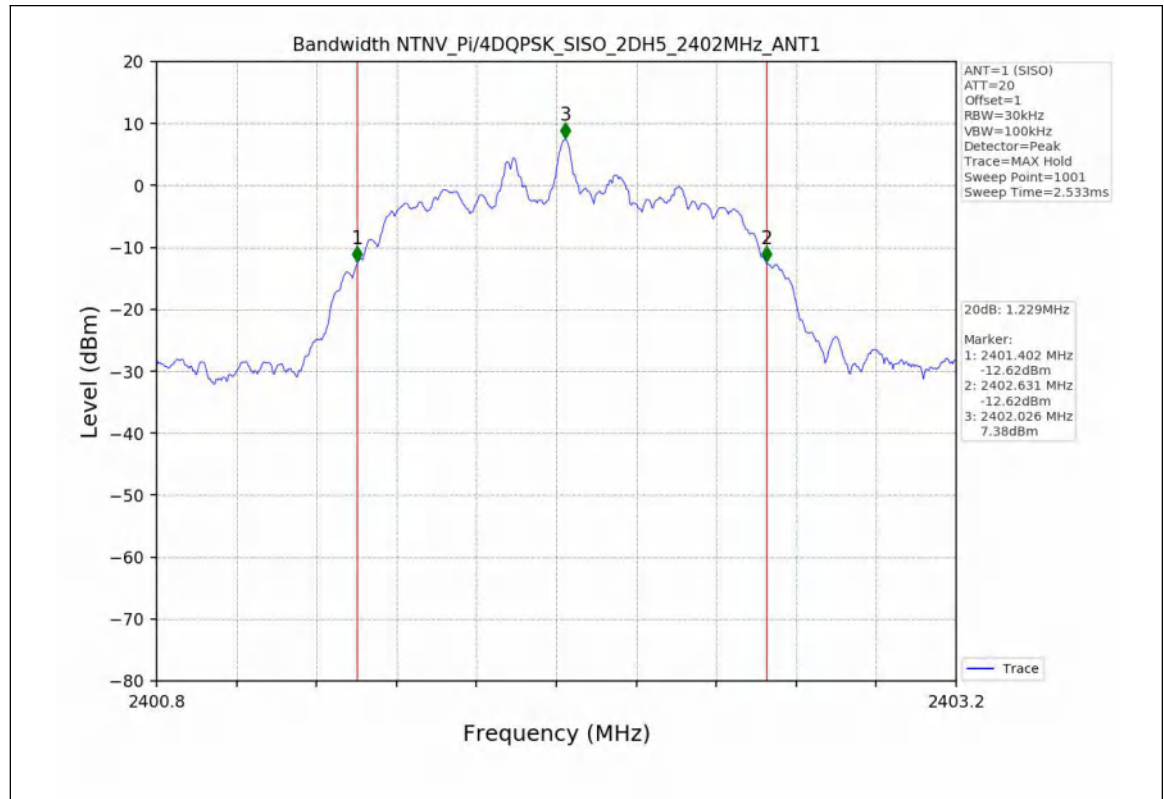
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
GFSK	2402	SISO	1	0.844	Only for Report Use
	2441	SISO	1	0.843	Only for Report Use
	2480	SISO	1	0.847	Only for Report Use
Pi/4DQPSK	2402	SISO	1	1.199	Only for Report Use
	2441	SISO	1	1.231	Only for Report Use
	2480	SISO	1	1.254	Only for Report Use
8DPSK	2402	SISO	1	1.202	Only for Report Use
	2441	SISO	1	1.235	Only for Report Use
	2480	SISO	1	1.257	Only for Report Use

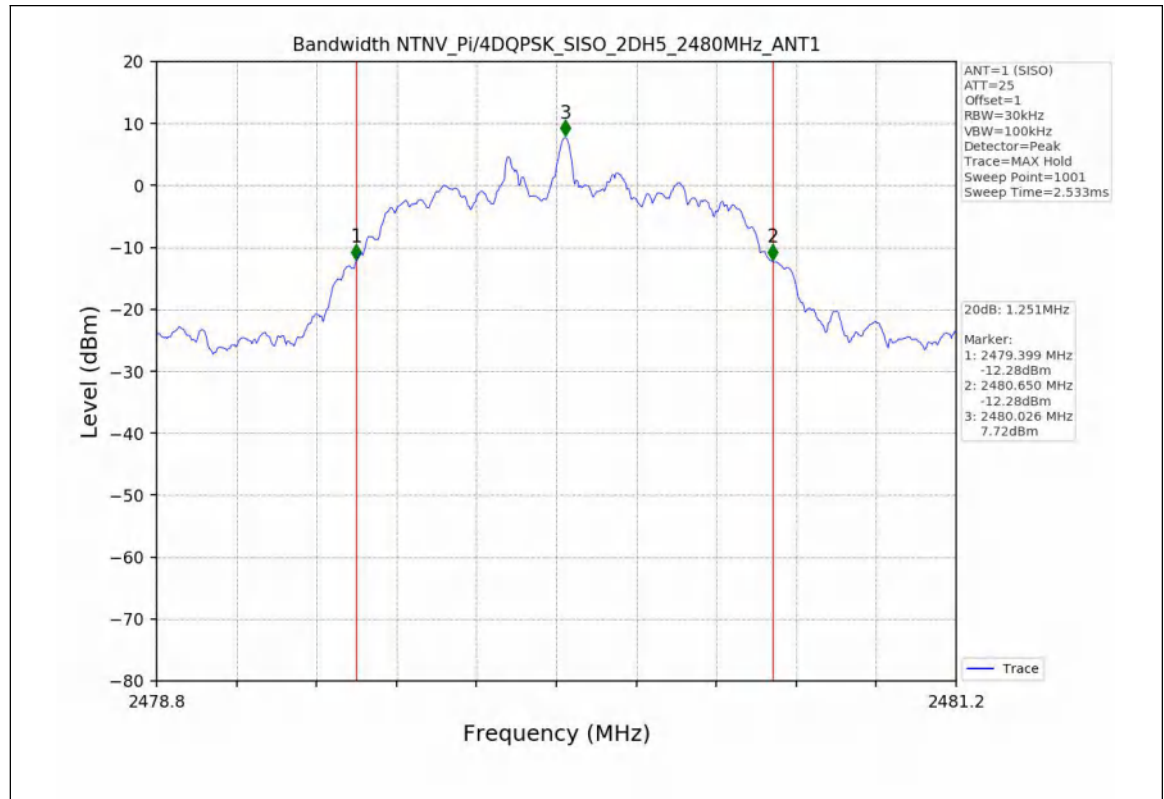


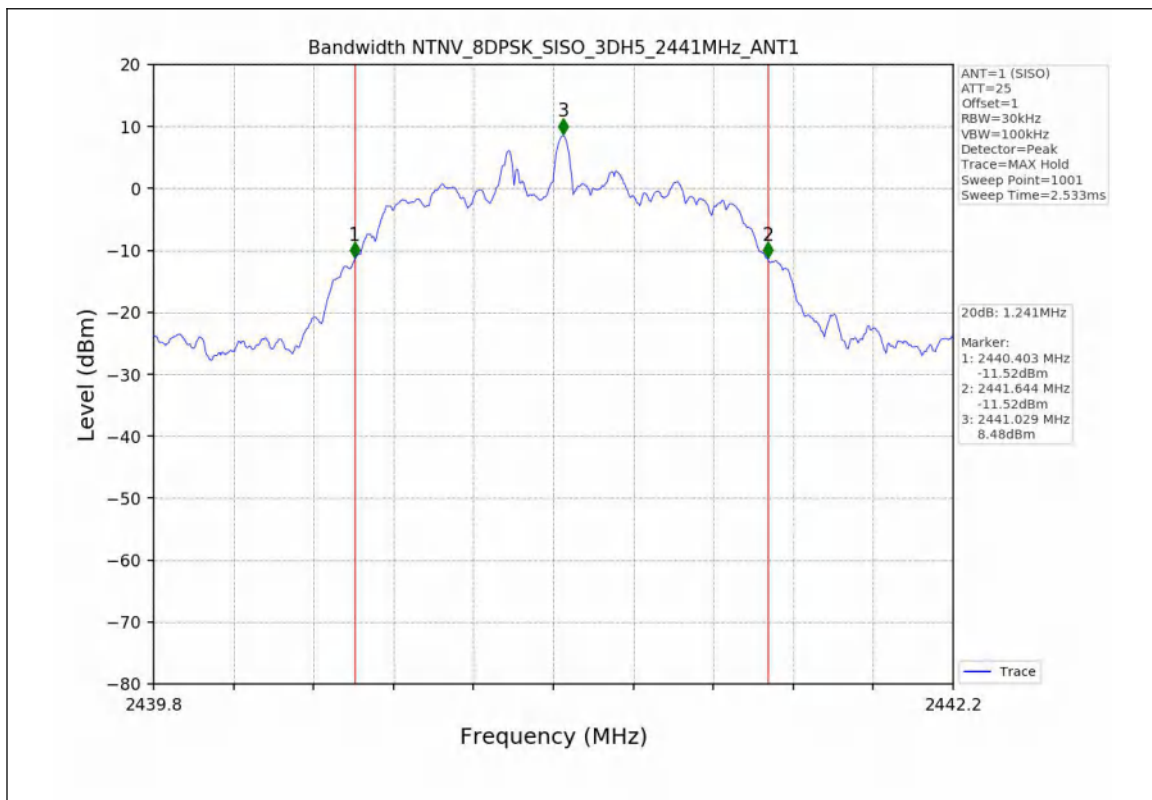
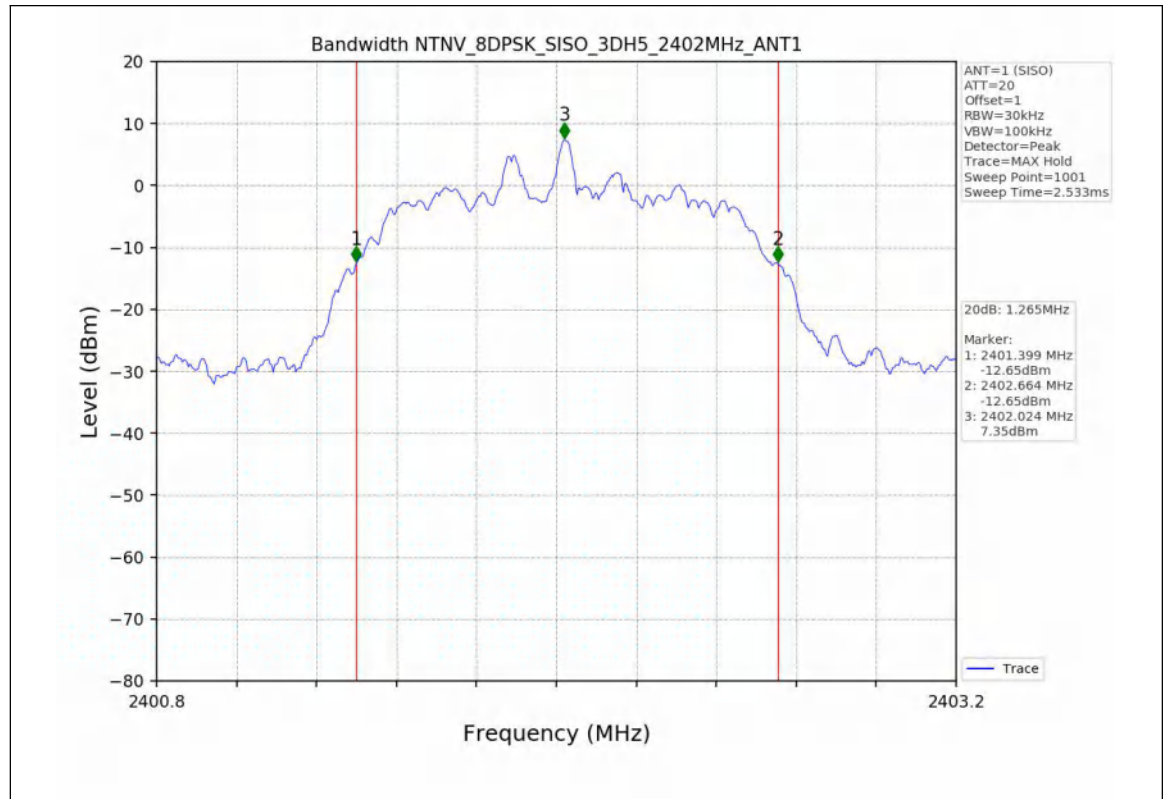
1.2 Test Graph - 20dB Bandwidth

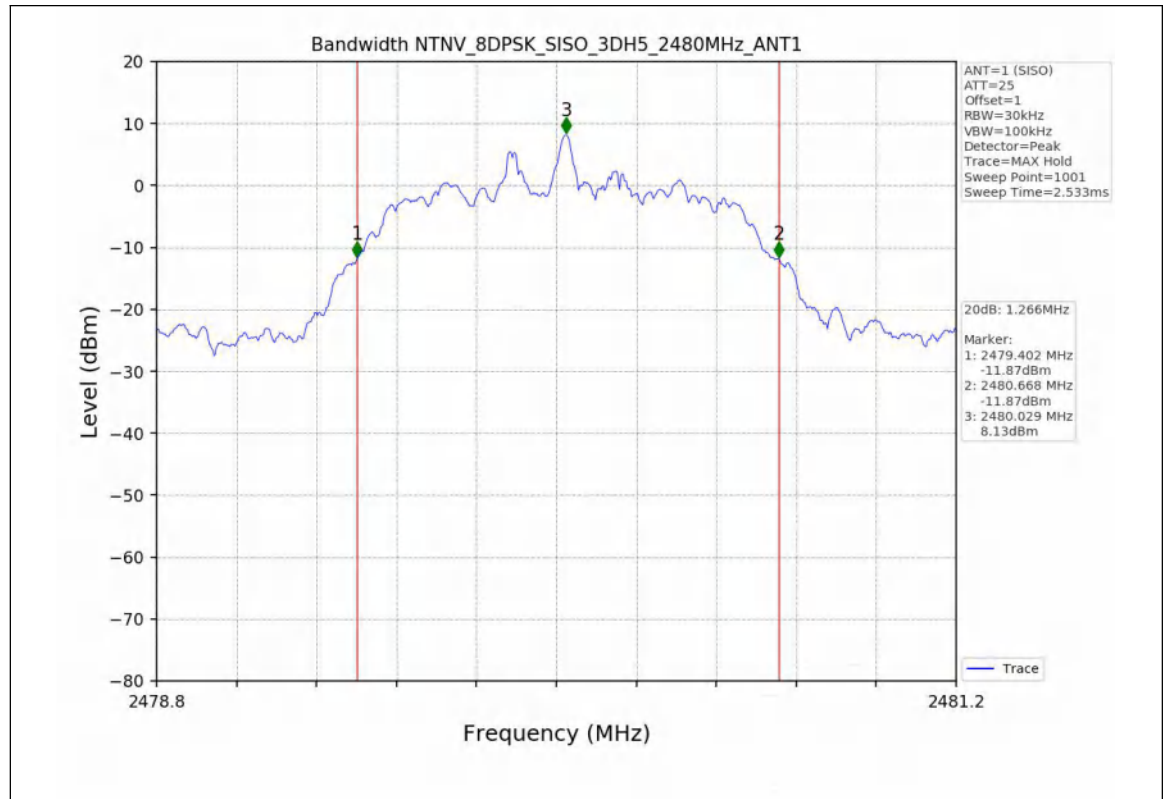




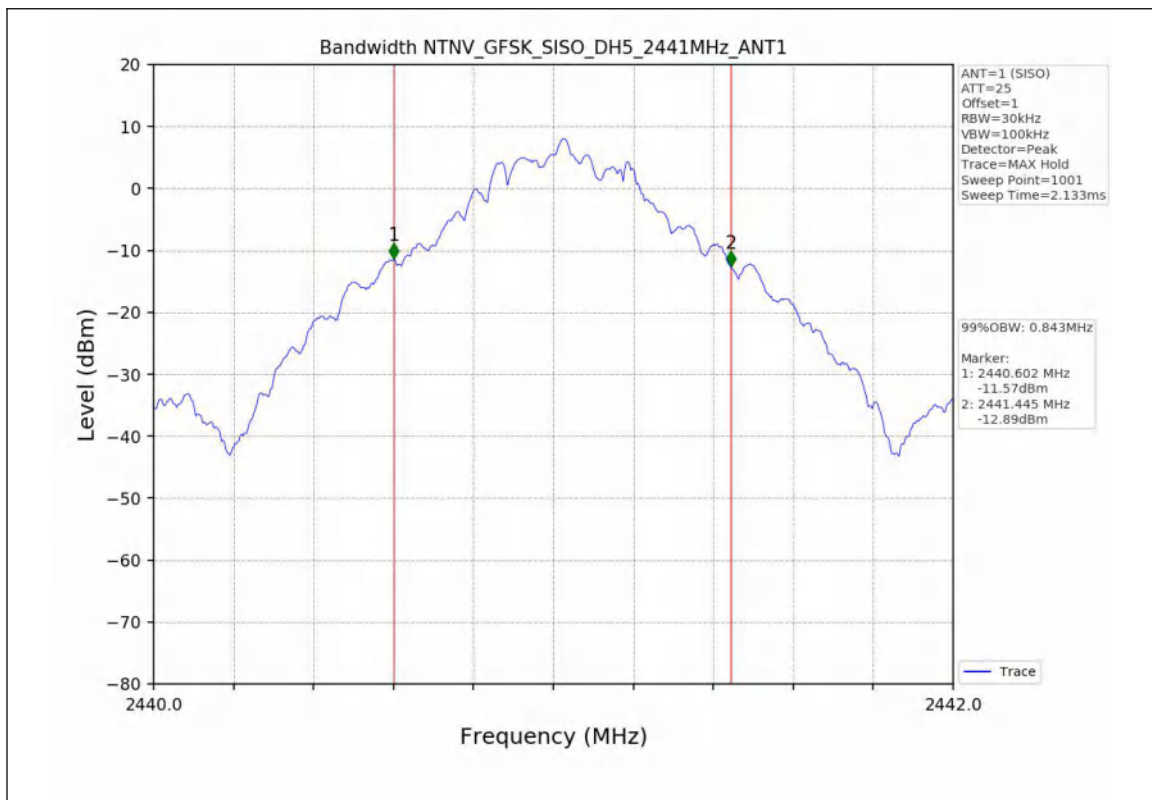
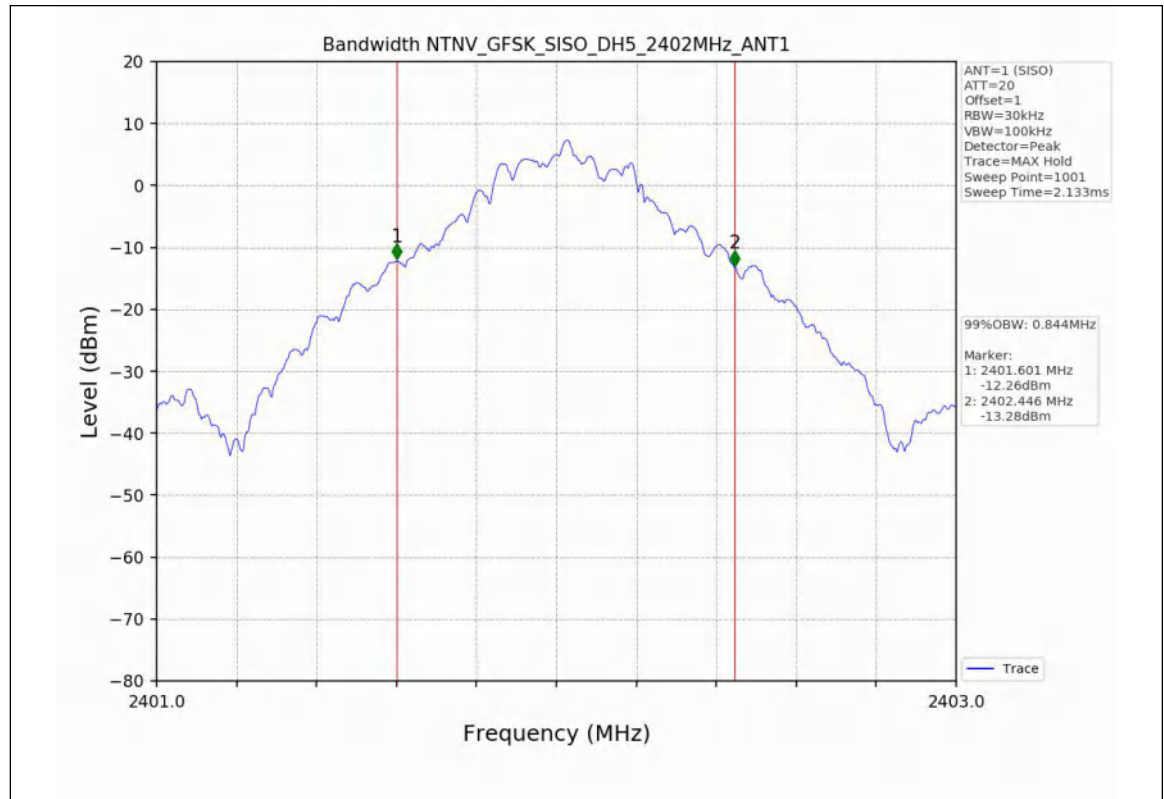


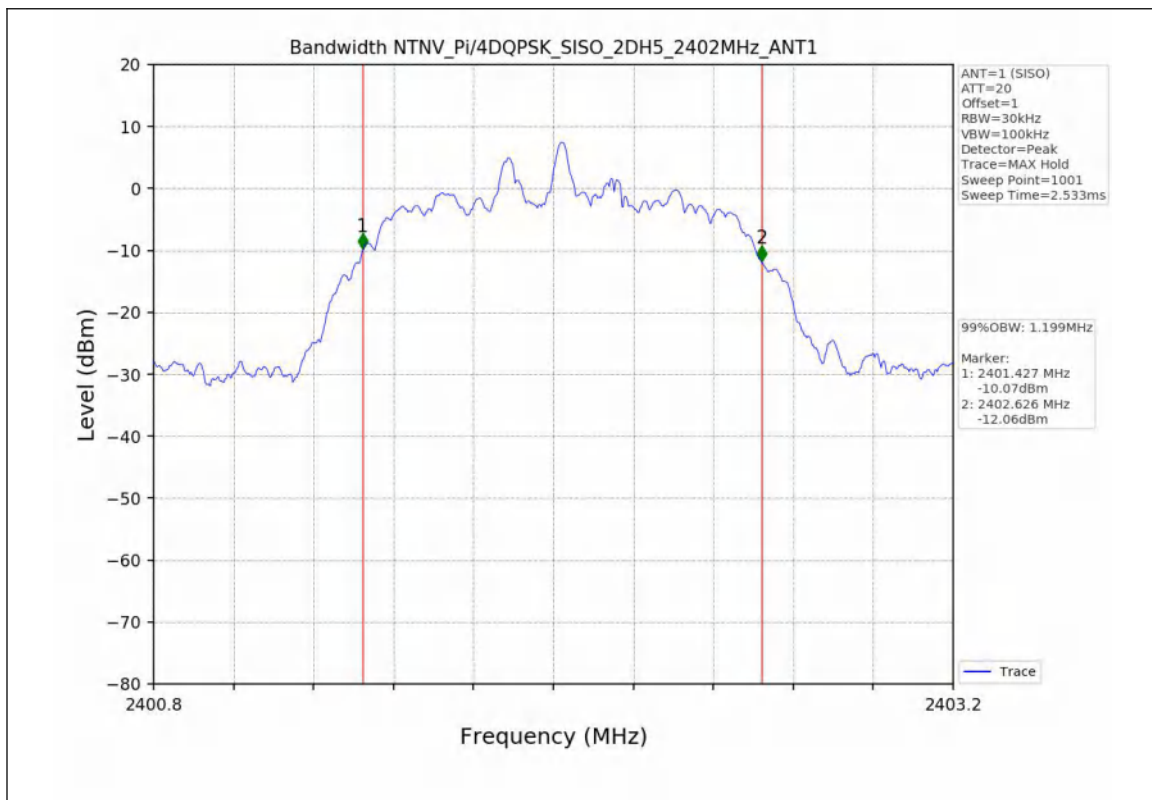
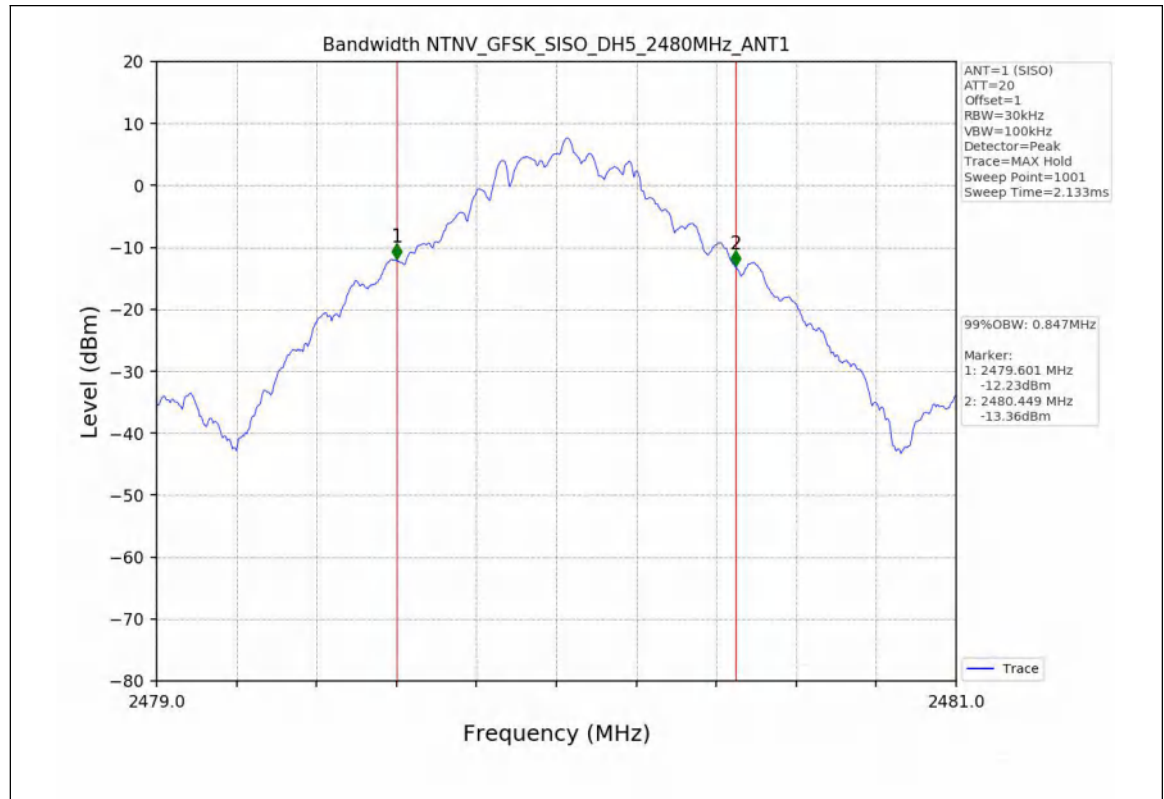


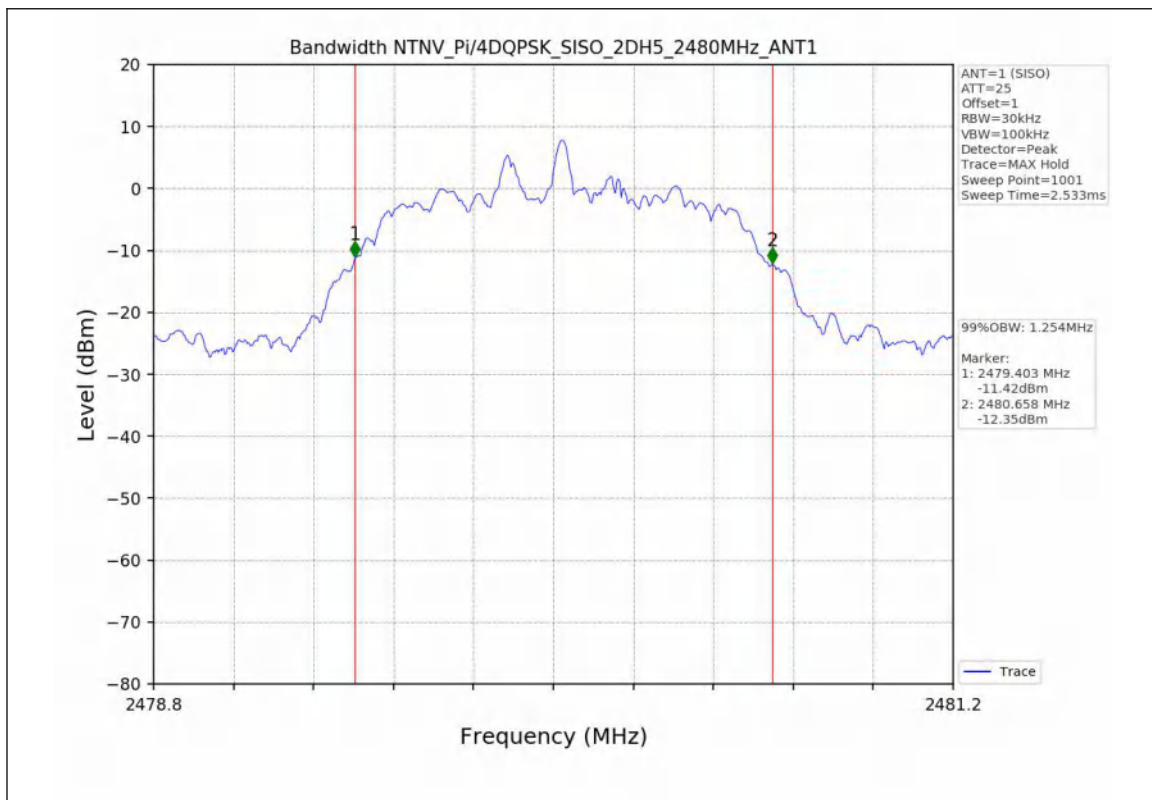
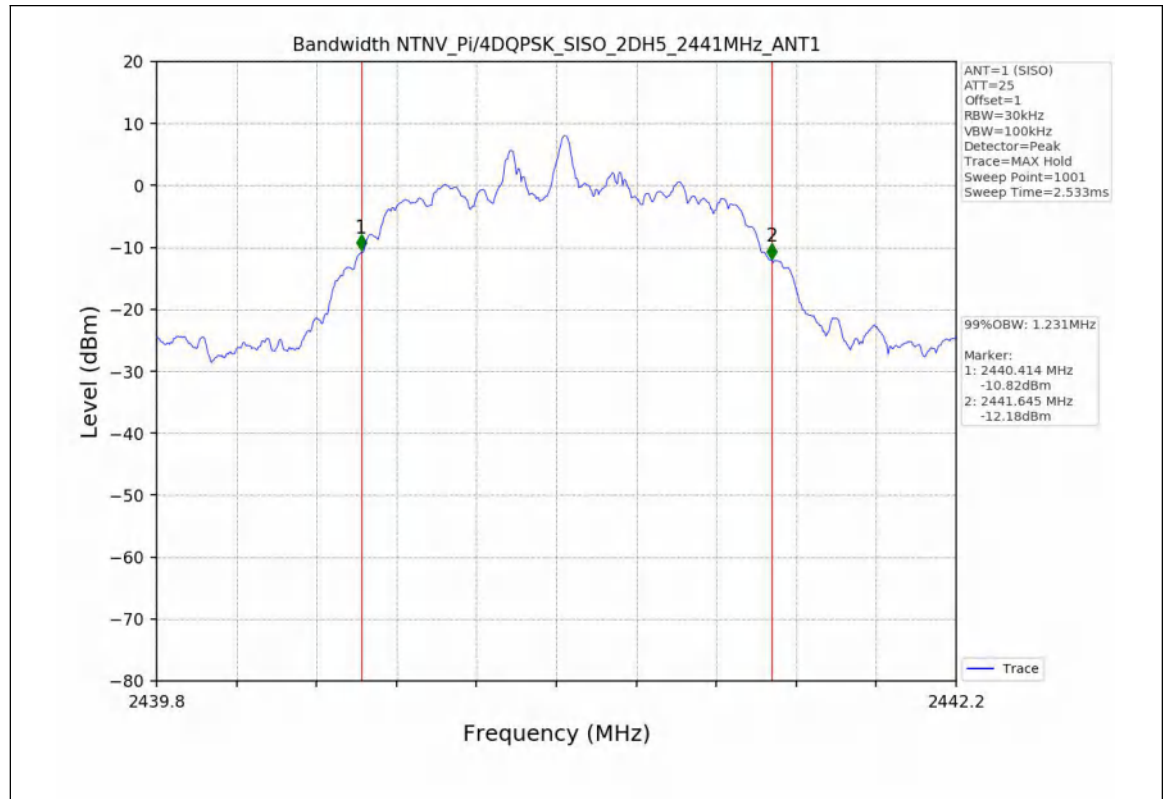


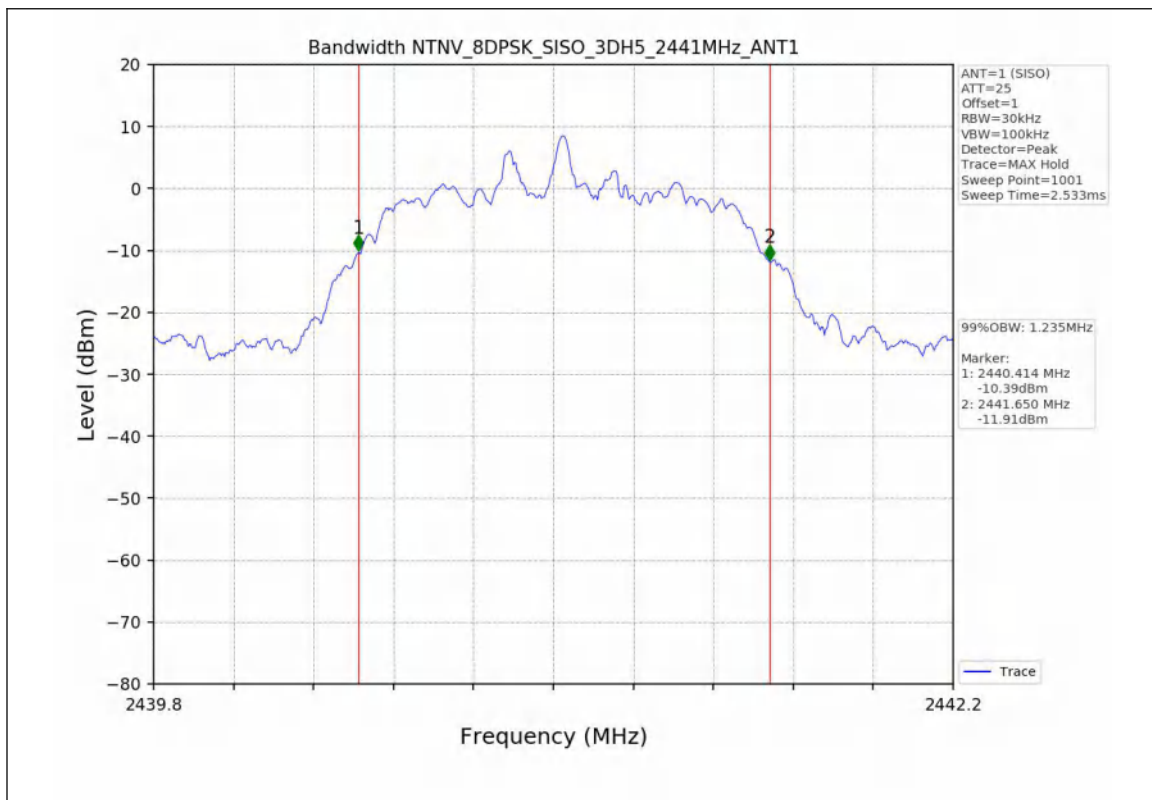
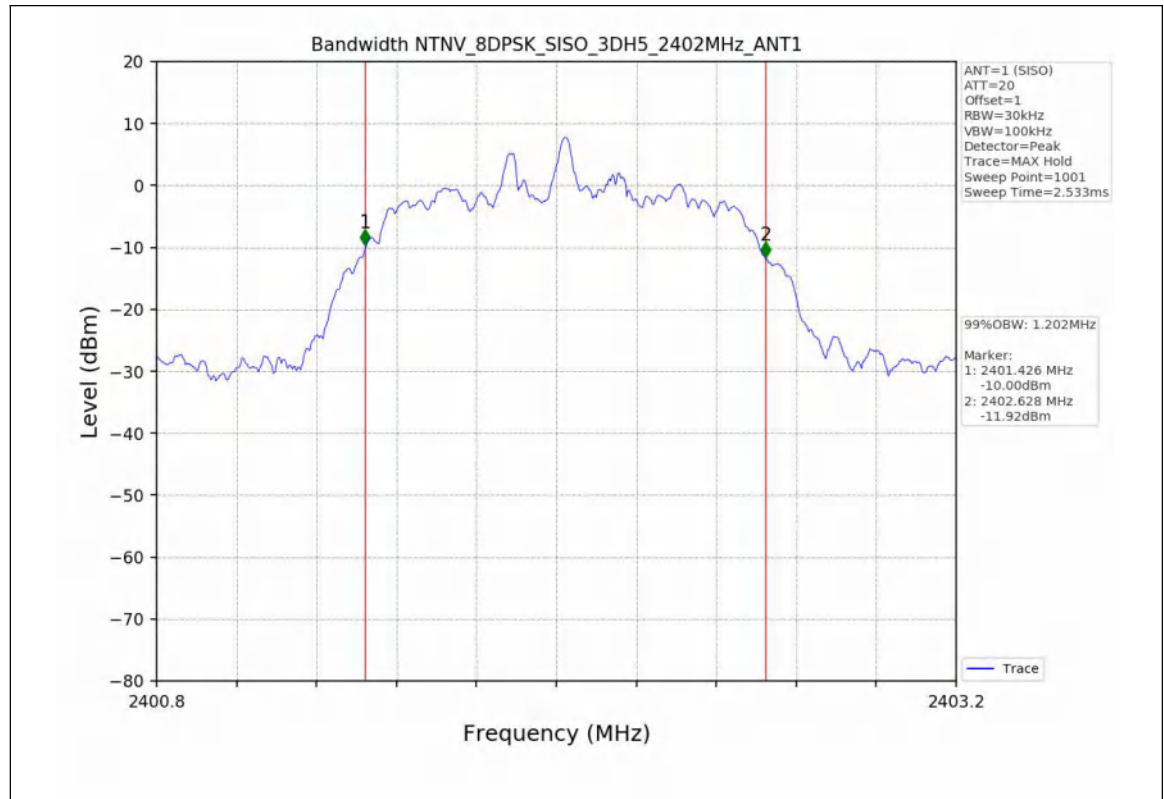


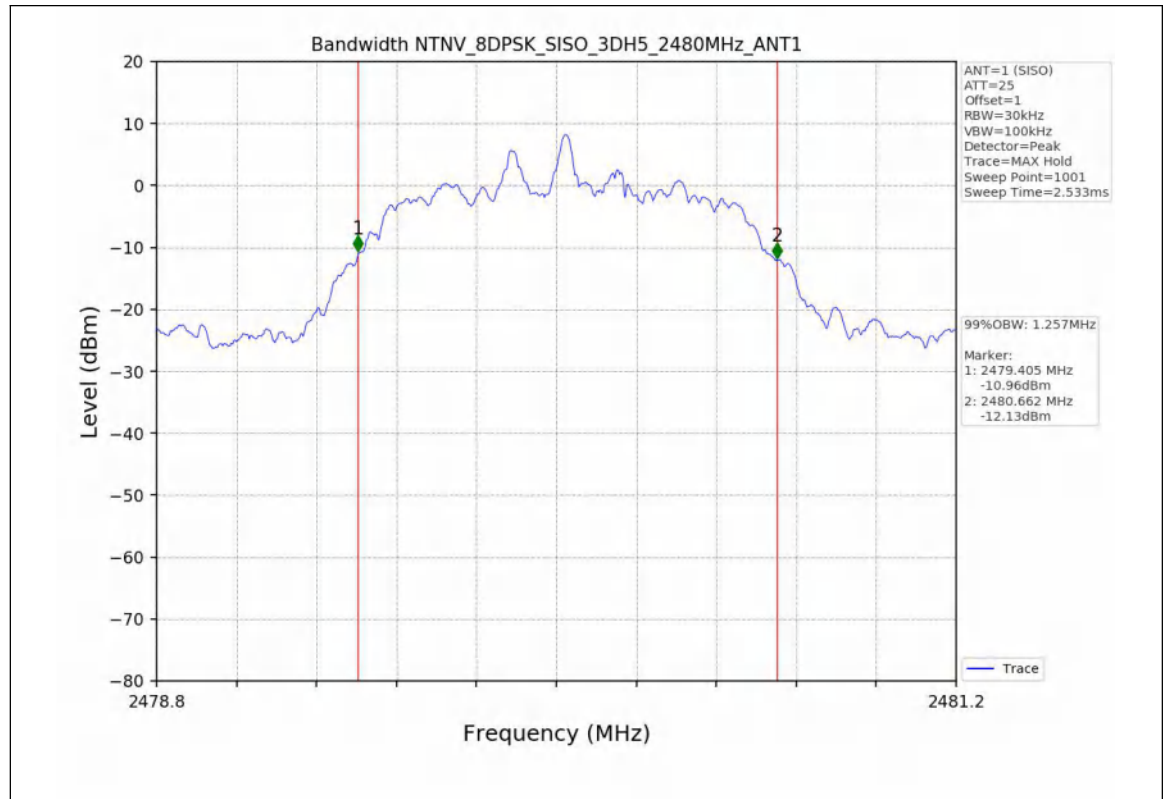
1.3 Test Graph - 99% Occupied Bandwidth











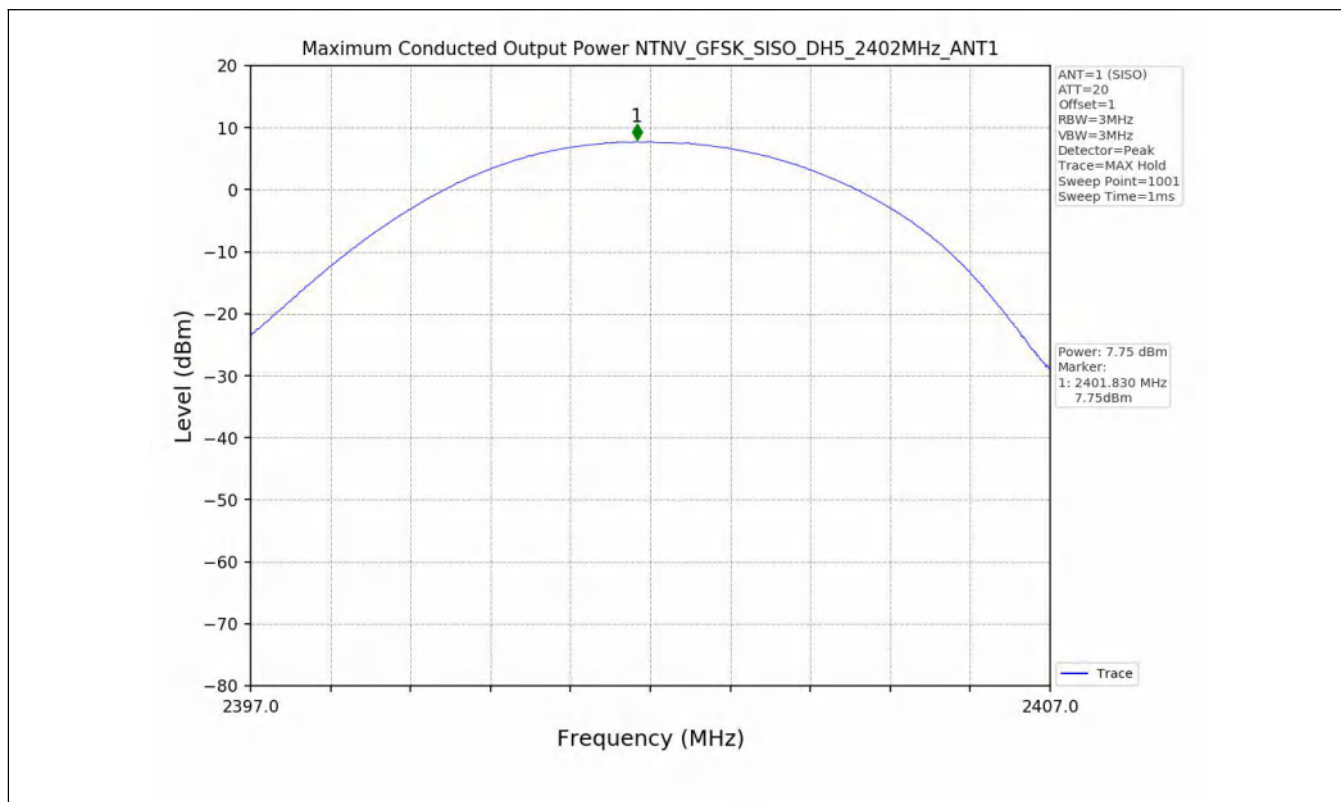


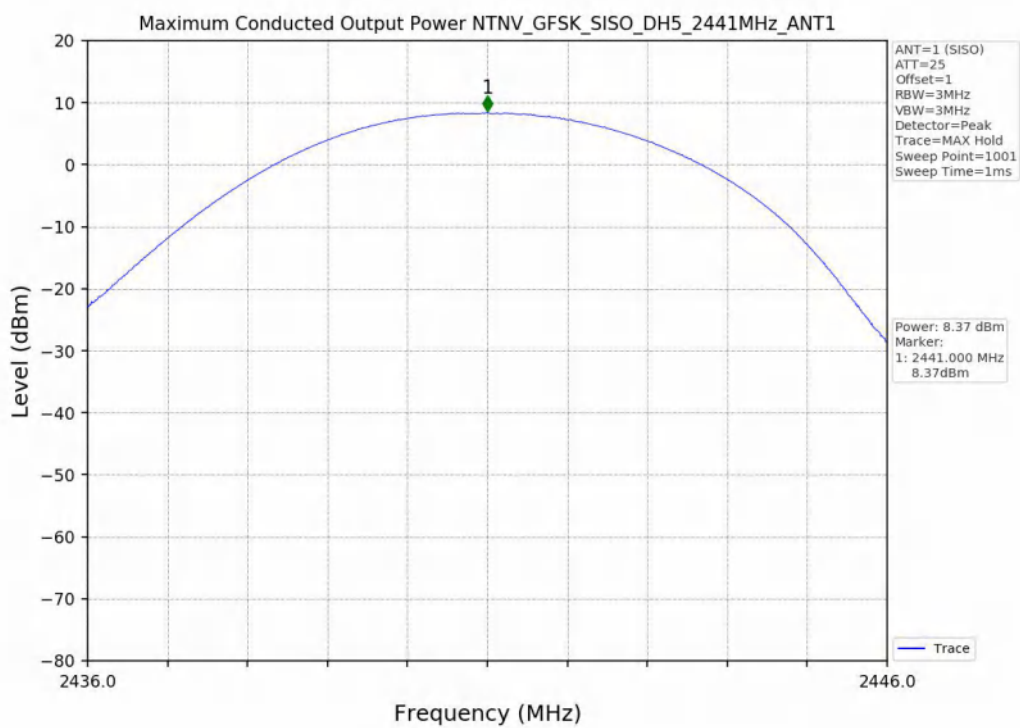
2. Maximum Conducted Output Power

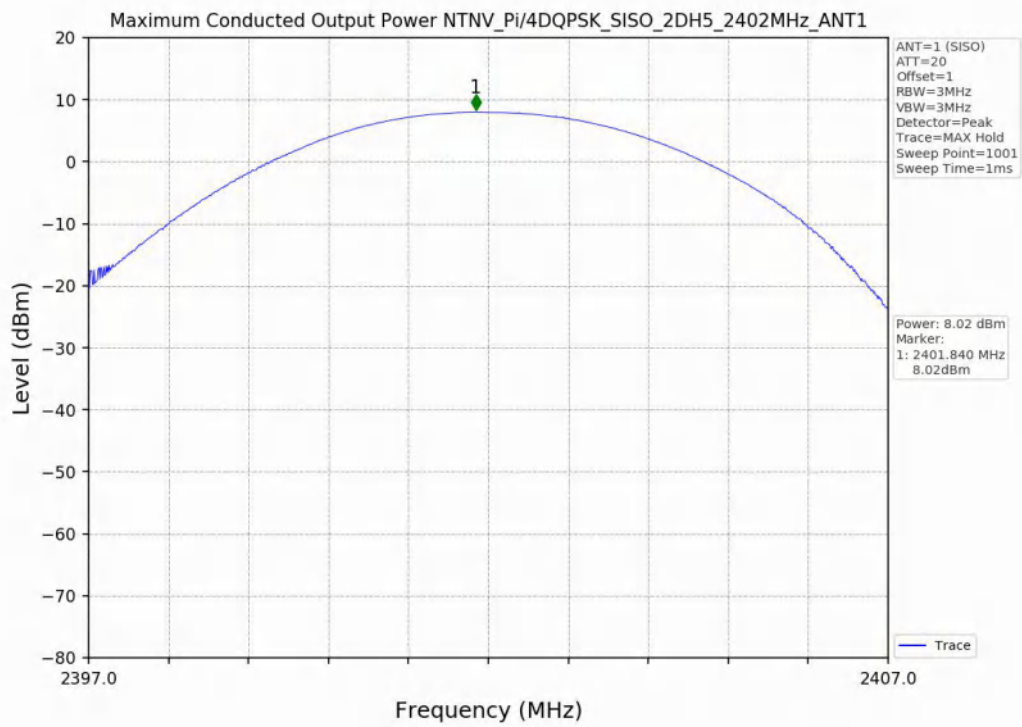
2.1 Test Result

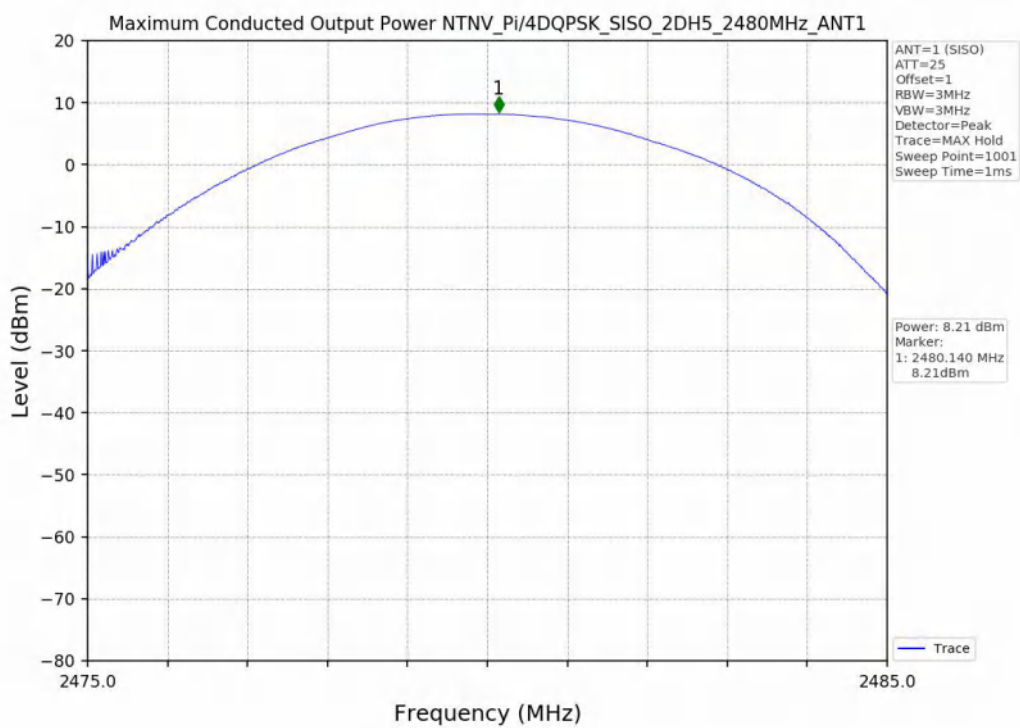
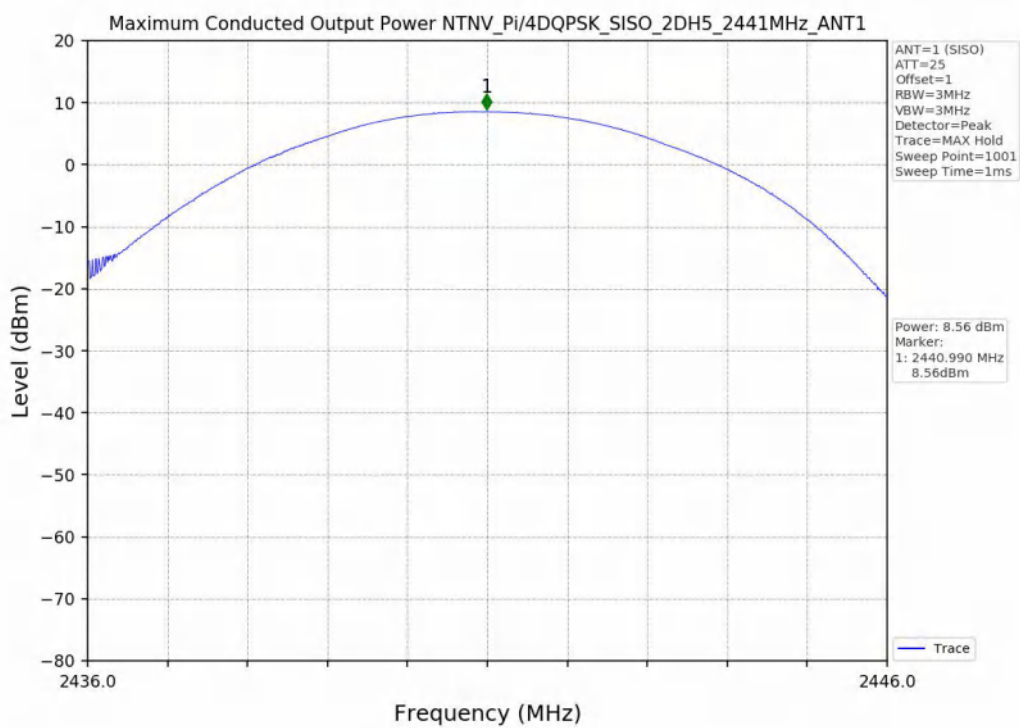
Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
GFSK	2402	SISO	7.75	30	PASS
	2441	SISO	8.37	30	PASS
	2480	SISO	8.03	30	PASS
Pi/4DQPSK	2402	SISO	8.02	20.97	PASS
	2441	SISO	8.56	20.97	PASS
	2480	SISO	8.21	20.97	PASS
8DPSK	2402	SISO	8.16	20.97	PASS
	2441	SISO	8.84	20.97	PASS
	2480	SISO	8.45	20.97	PASS

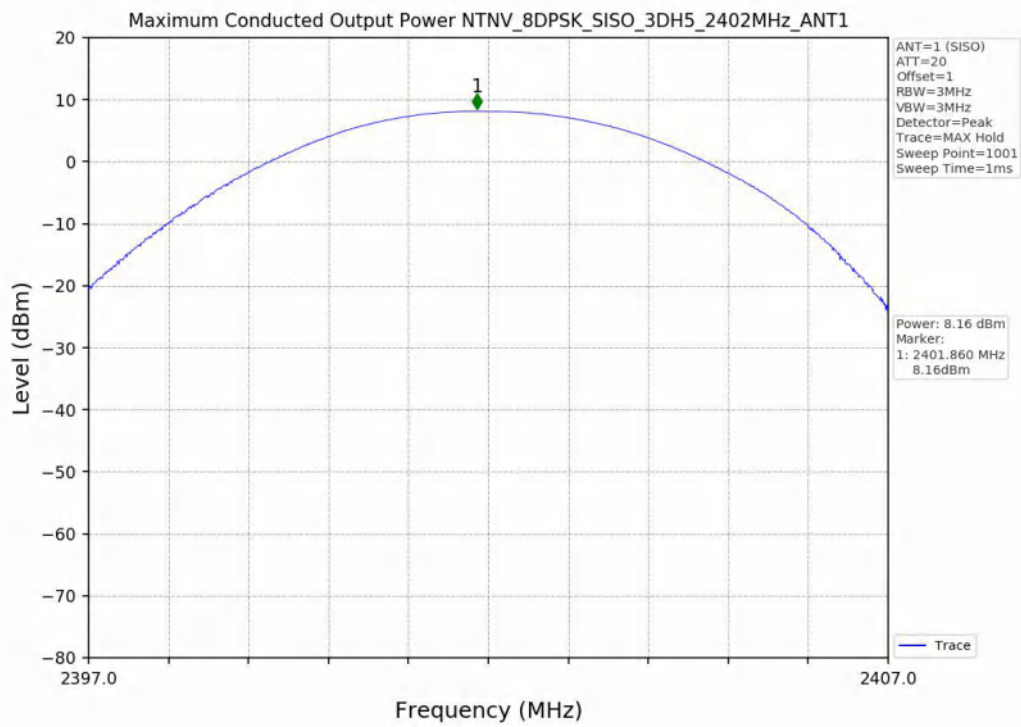
2.2 Test Graph

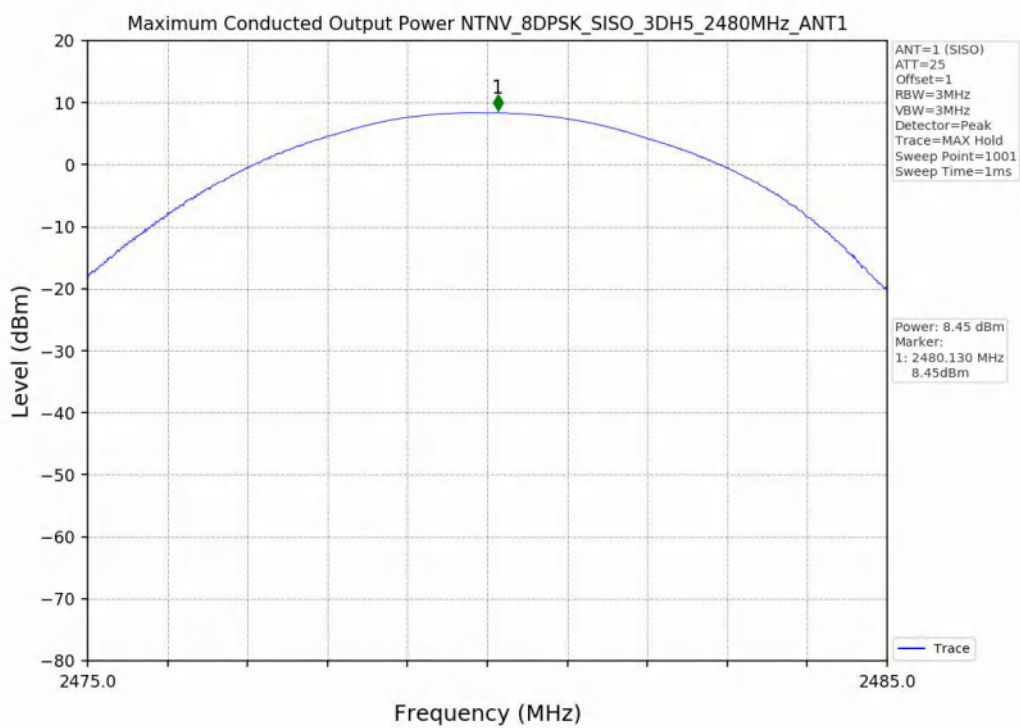
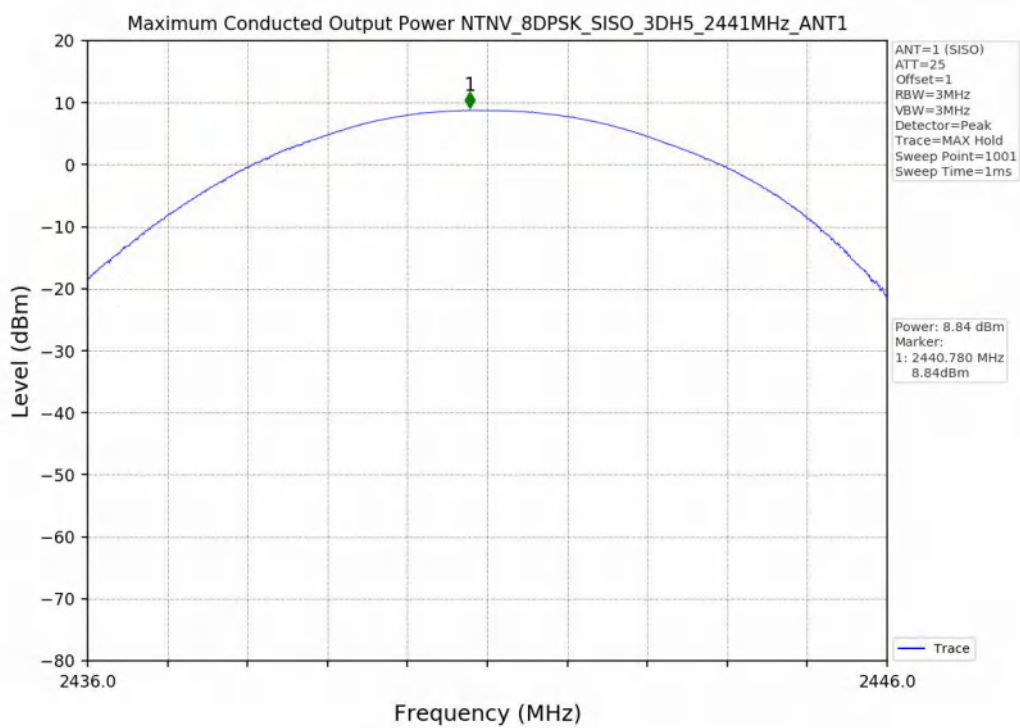












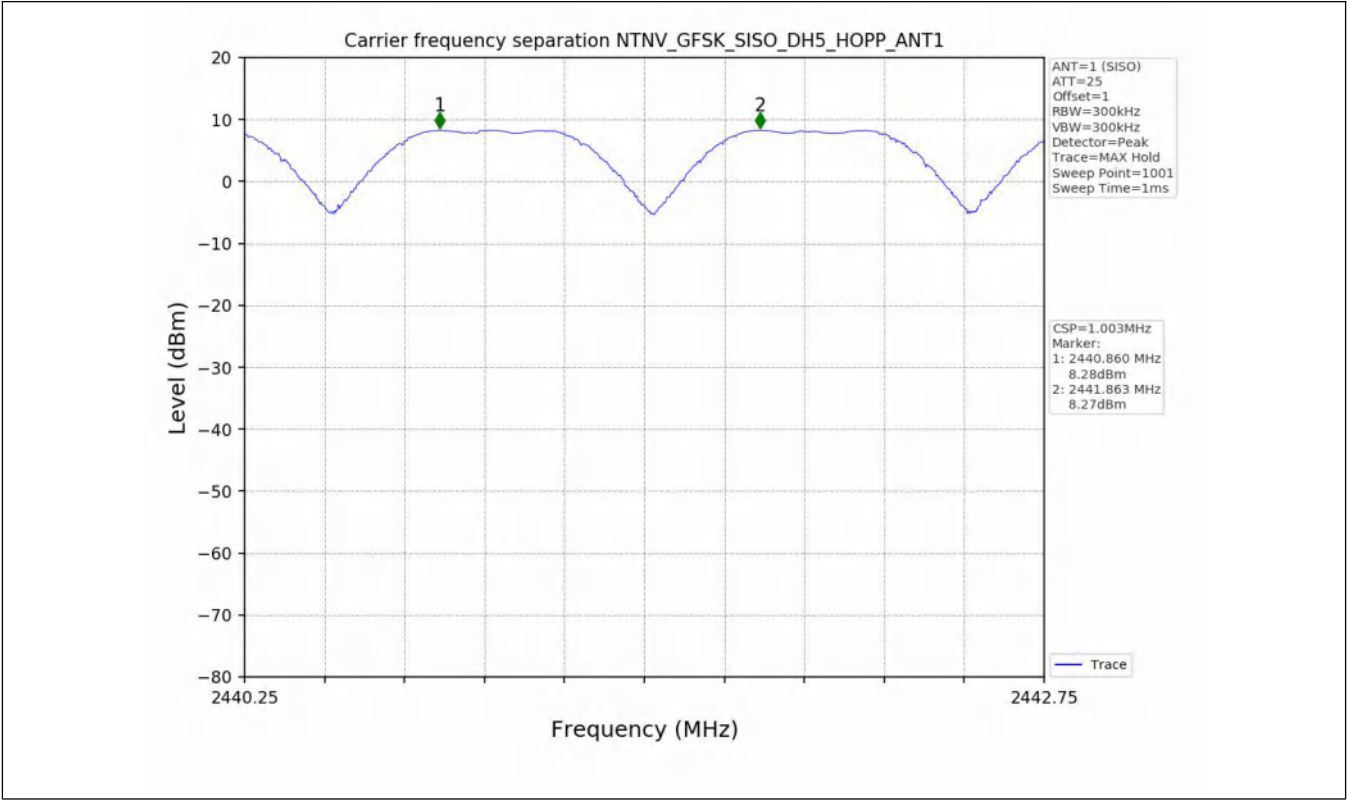


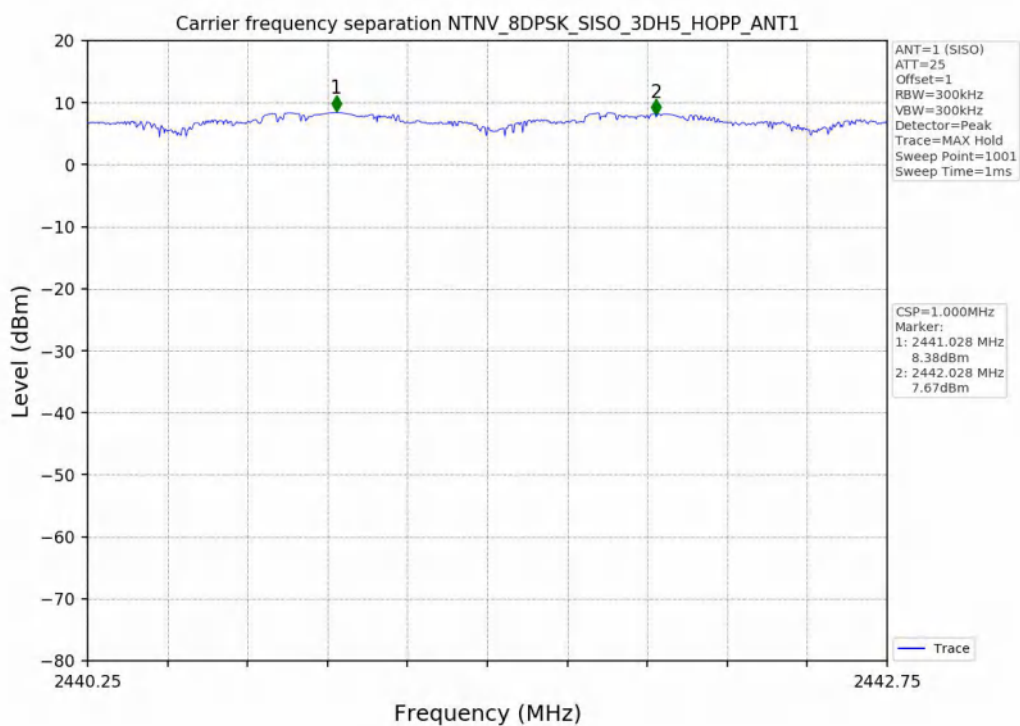
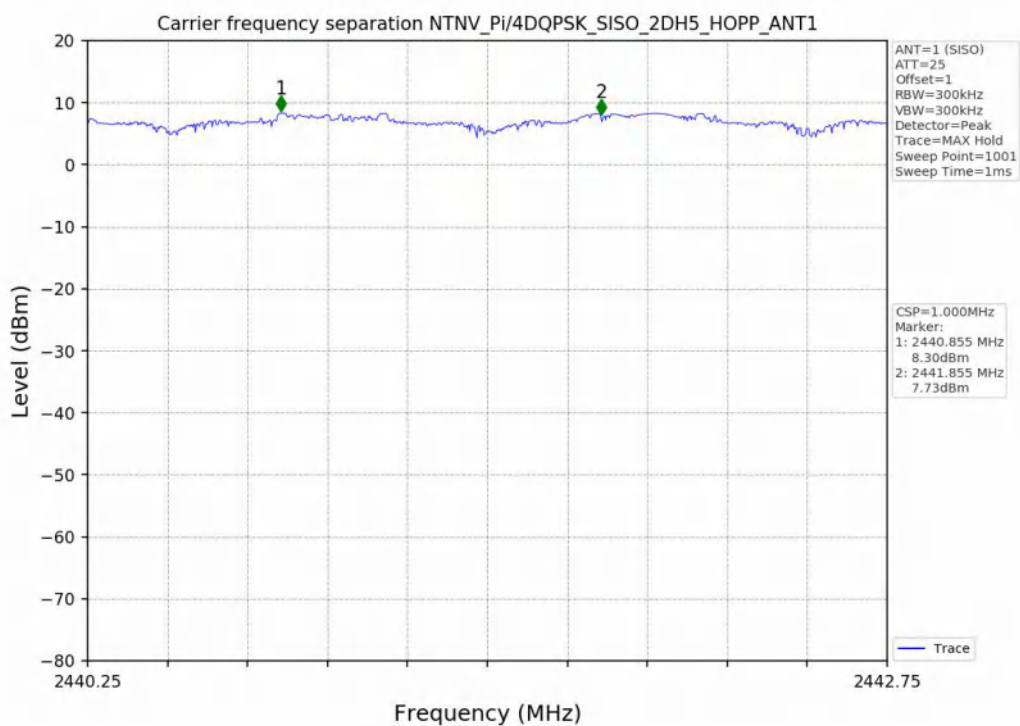
3. Carrier frequency separation

3.1 Test Result

Test Mode	TX Type	ANT No.	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limits (MHz)	Verdict
GFSK	SISO	1	1.003	0.863	≥ 0.863	PASS
Pi/4DQPSK	SISO	1	1.000	1.251	≥ 0.834	PASS
8DPSK	SISO	1	1.000	1.266	≥ 0.844	PASS

3.2 Test Graph





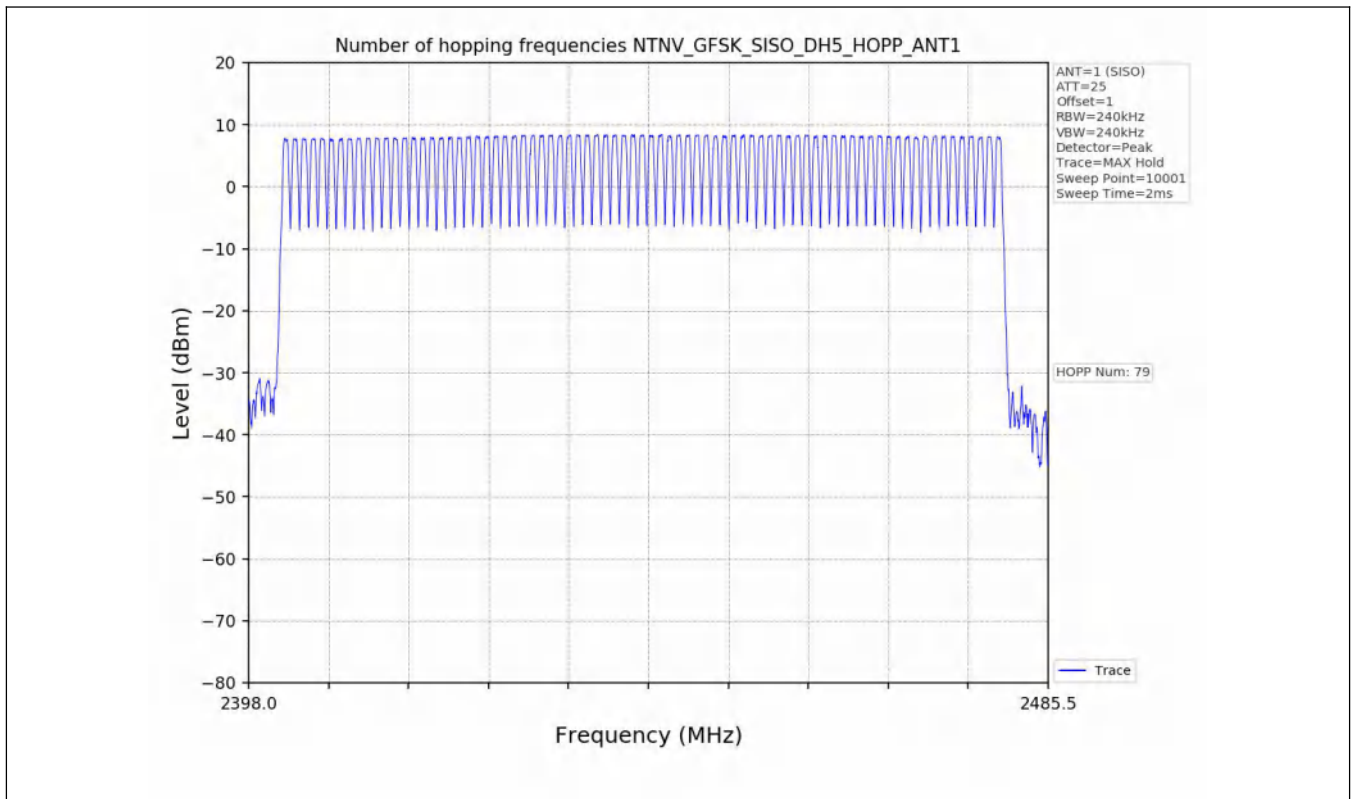


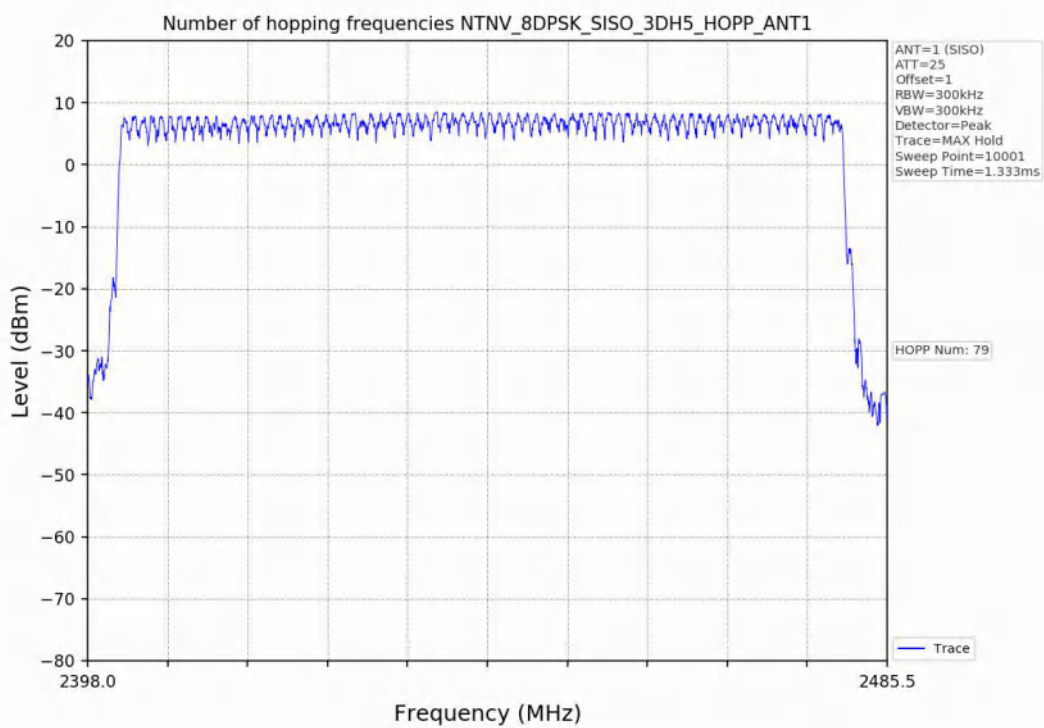
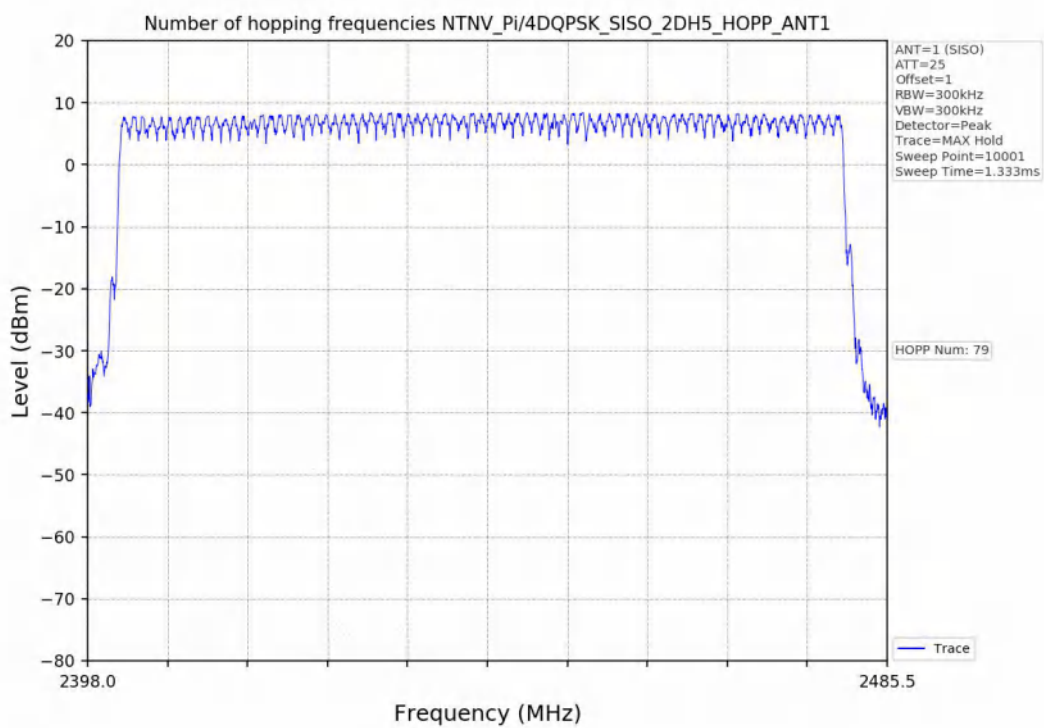
4. Number of hopping frequencies

4.1 Test Result

Test Mode	TX Type	ANT No.	Num of Hopping Frequencies	Limits	Verdict
GFSK	SISO	1	79	≥ 15	PASS
Pi/4DQPSK	SISO	1	79	≥ 15	PASS
8DPSK	SISO	1	79	≥ 15	PASS

4.2 Test Graph





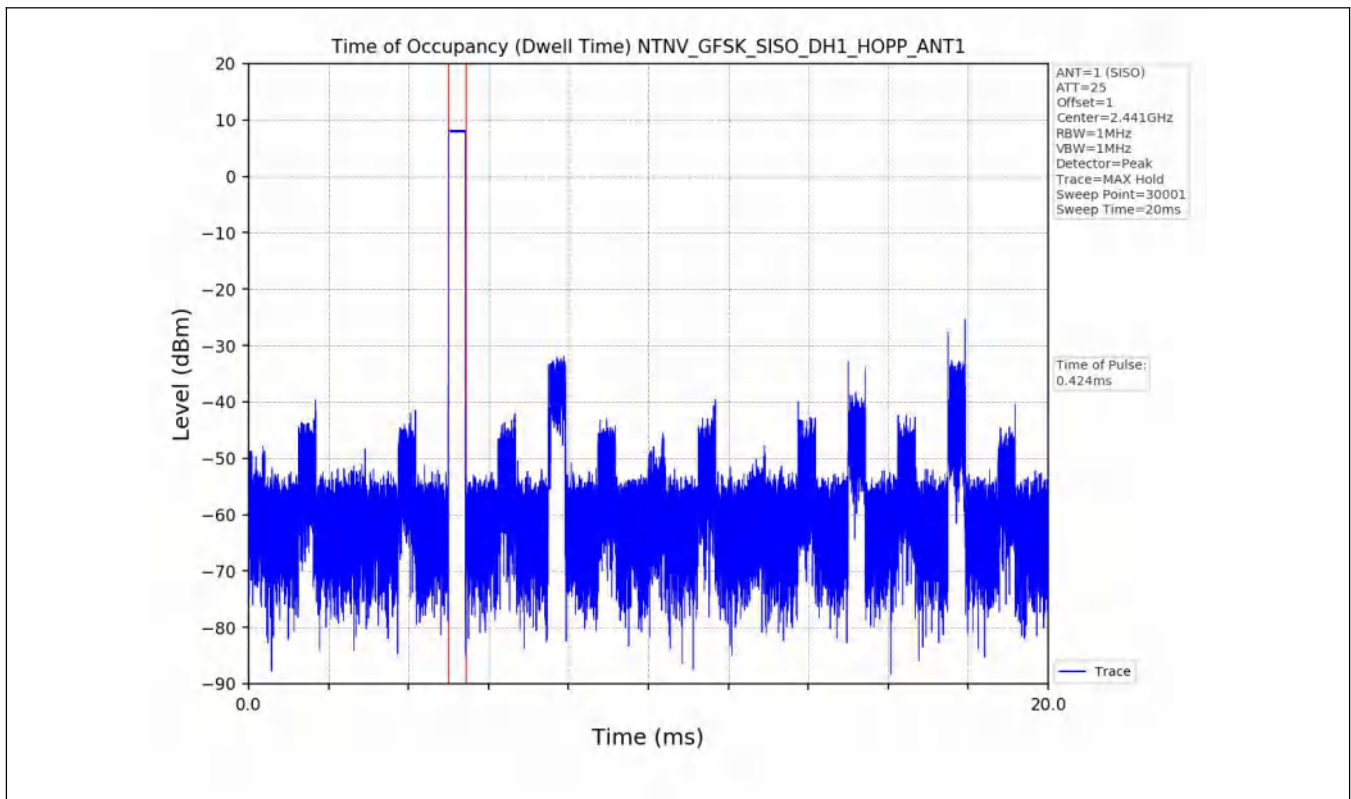


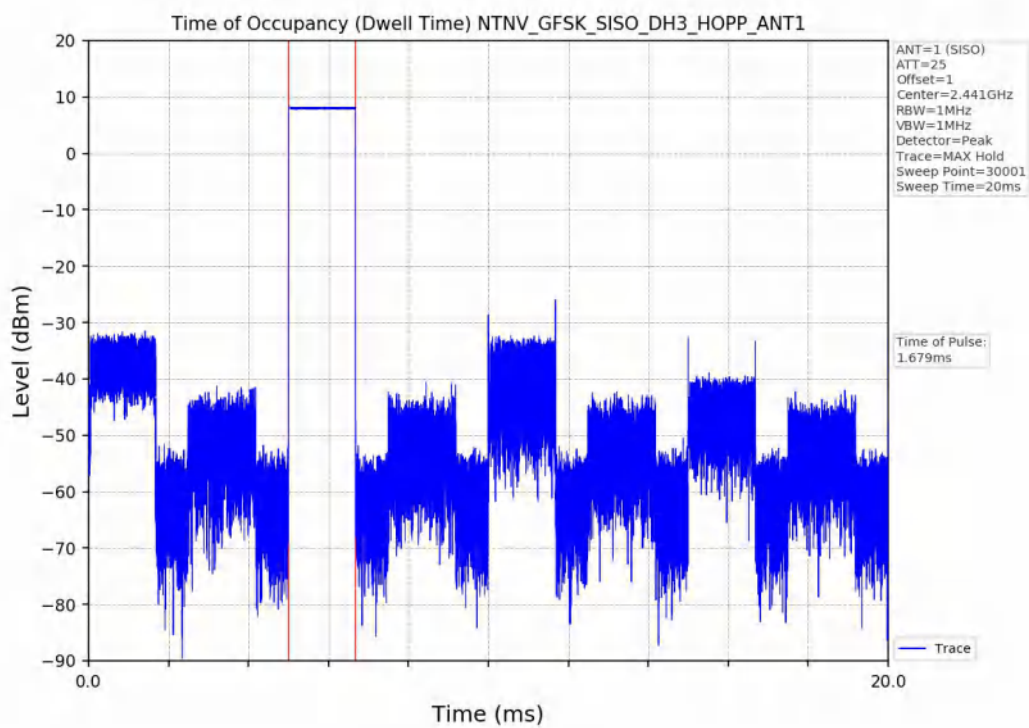
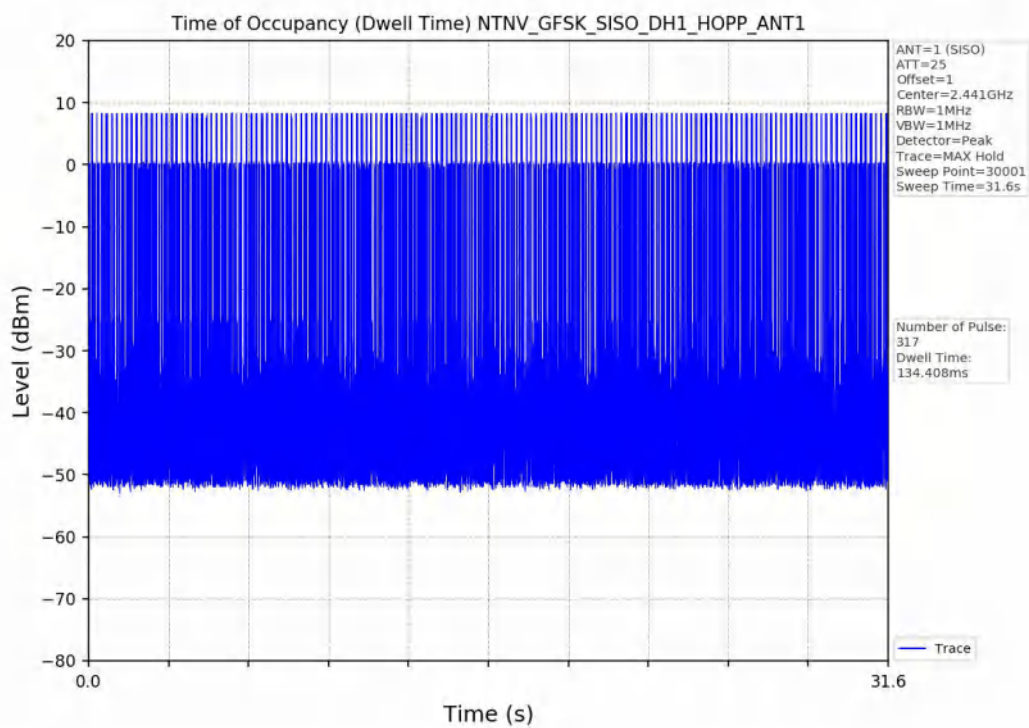
5. Time of Occupancy (Dwell Time)

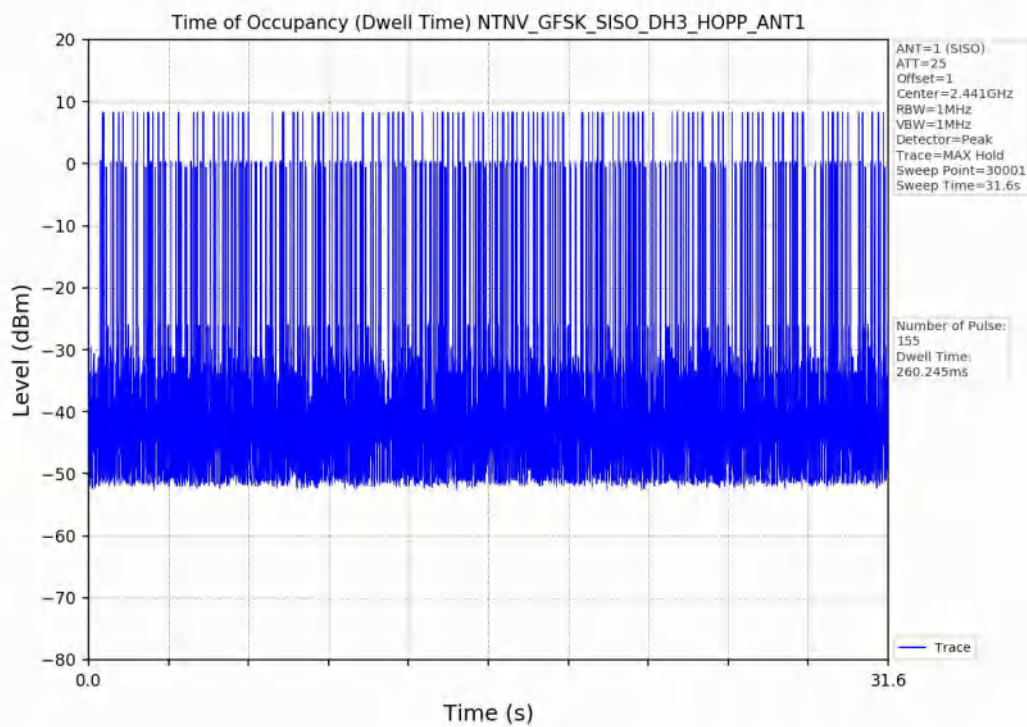
5.1 Test Result

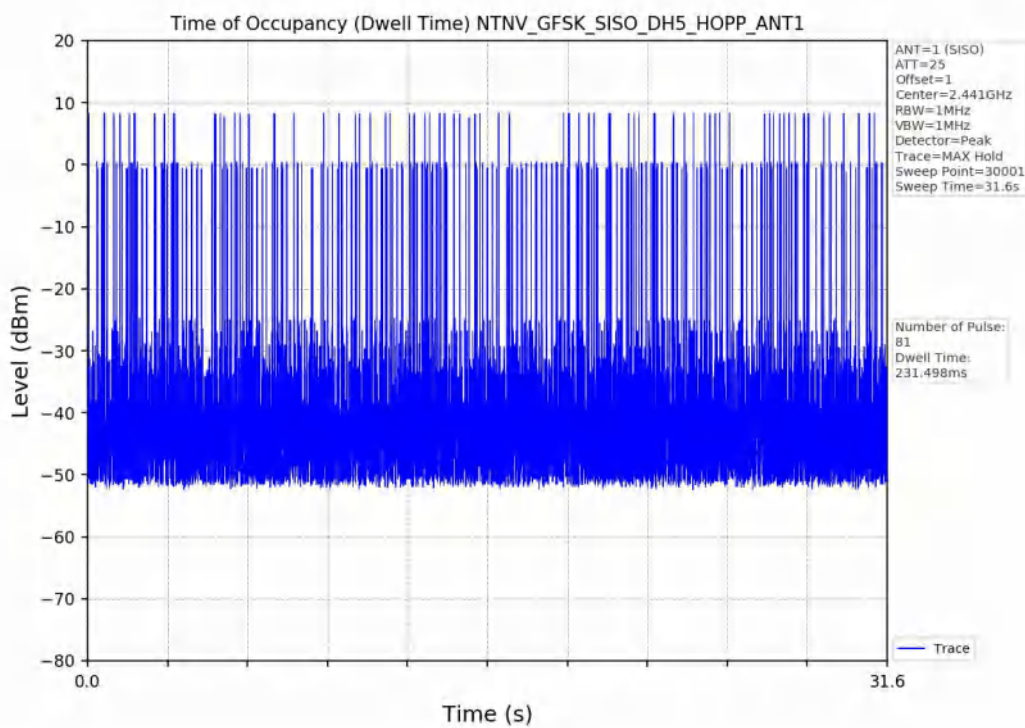
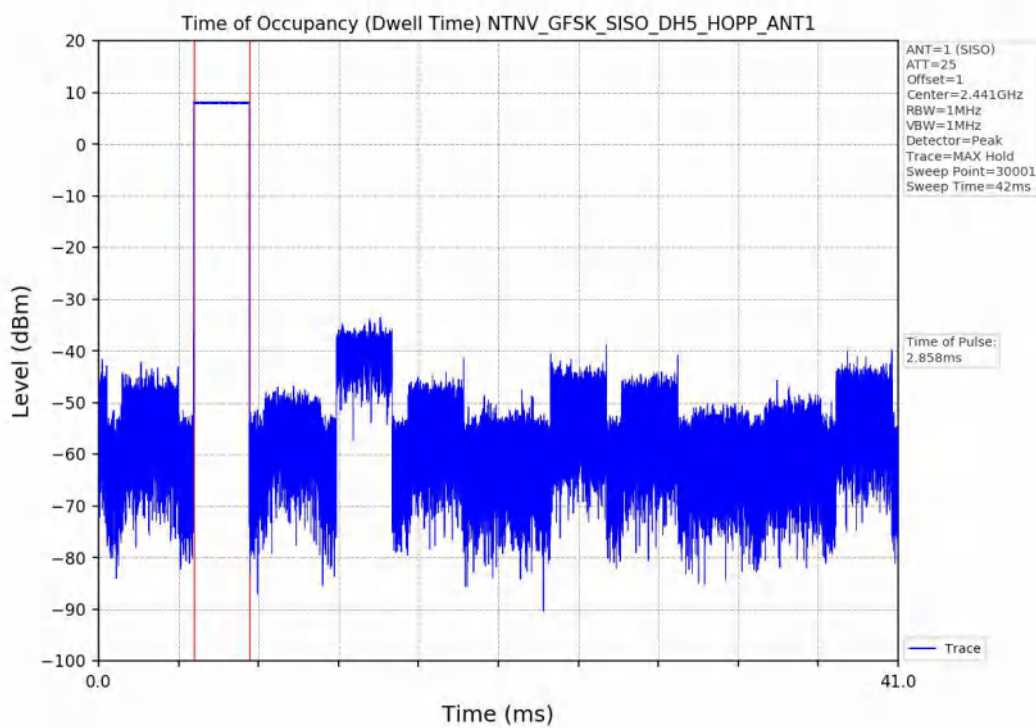
Test Mode	Packet Type	TX Type	ANT No.	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limits (ms)	Verdict
GFSK	DH1	SISO	1	0.424	31.6	317	134.408	≤400	PASS
	DH3	SISO	1	1.679	31.6	155	260.245	≤400	PASS
	DH5	SISO	1	2.858	31.6	81	231.498	≤400	PASS
Pi/4DQPSK	2DH1	SISO	1	0.433	31.6	318	137.694	≤400	PASS
	2DH3	SISO	1	1.685	31.6	156	262.860	≤400	PASS
	2DH5	SISO	1	2.933	31.6	102	299.166	≤400	PASS
8DPSK	3DH1	SISO	1	0.434	31.6	319	138.446	≤400	PASS
	3DH3	SISO	1	1.686	31.6	175	295.050	≤400	PASS
	3DH5	SISO	1	2.933	31.6	106	310.898	≤400	PASS

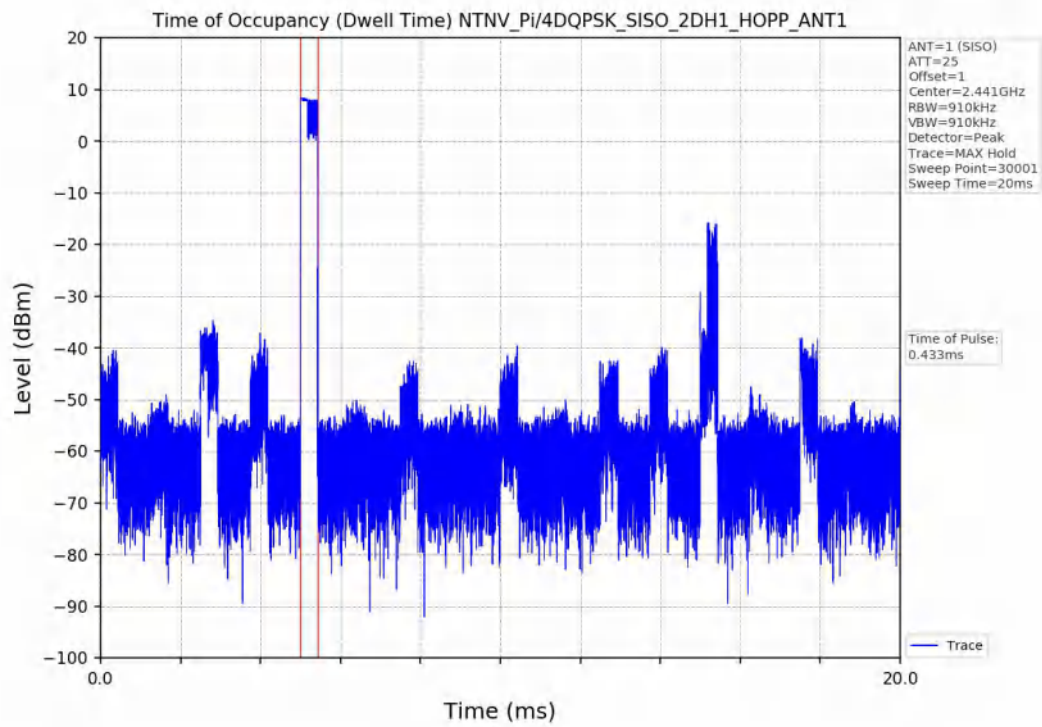
5.2 Test Graph

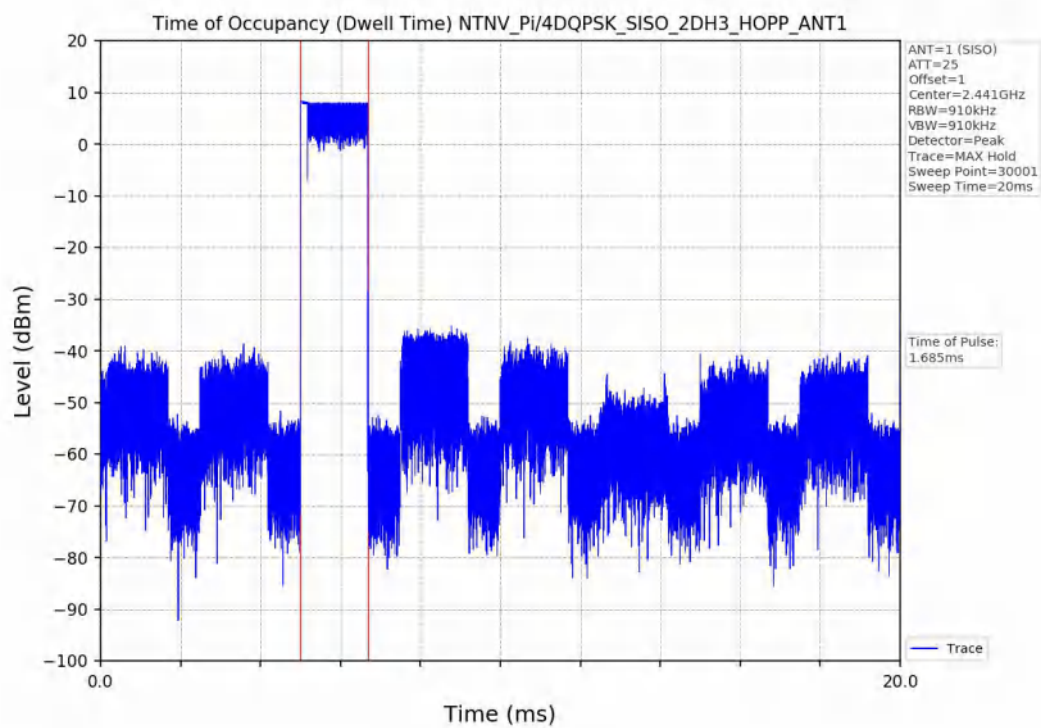
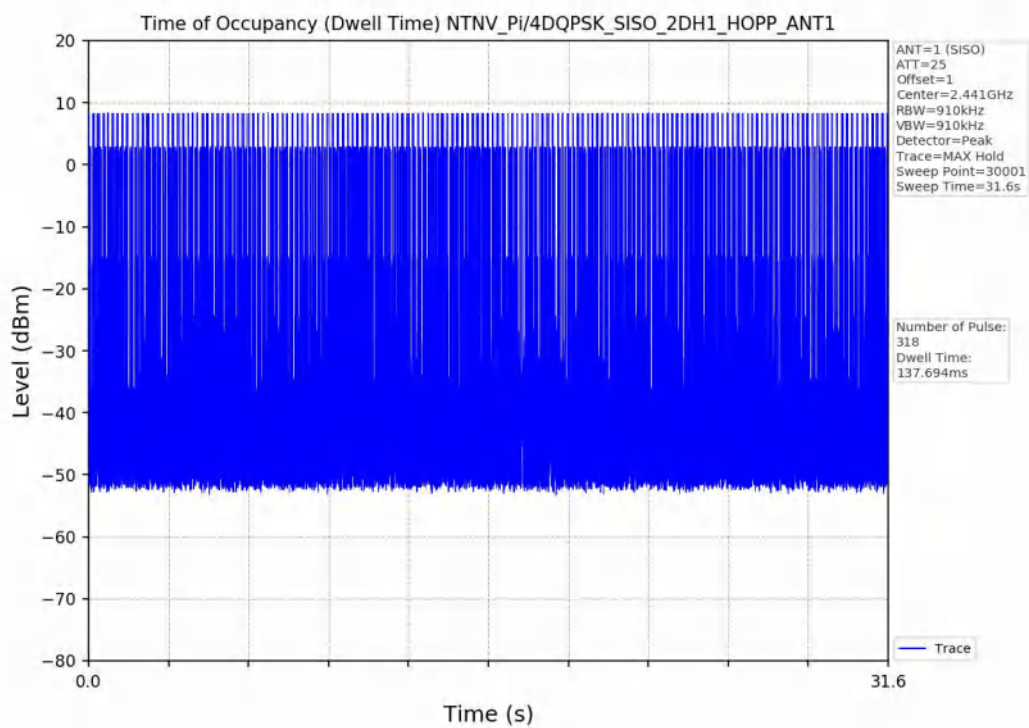


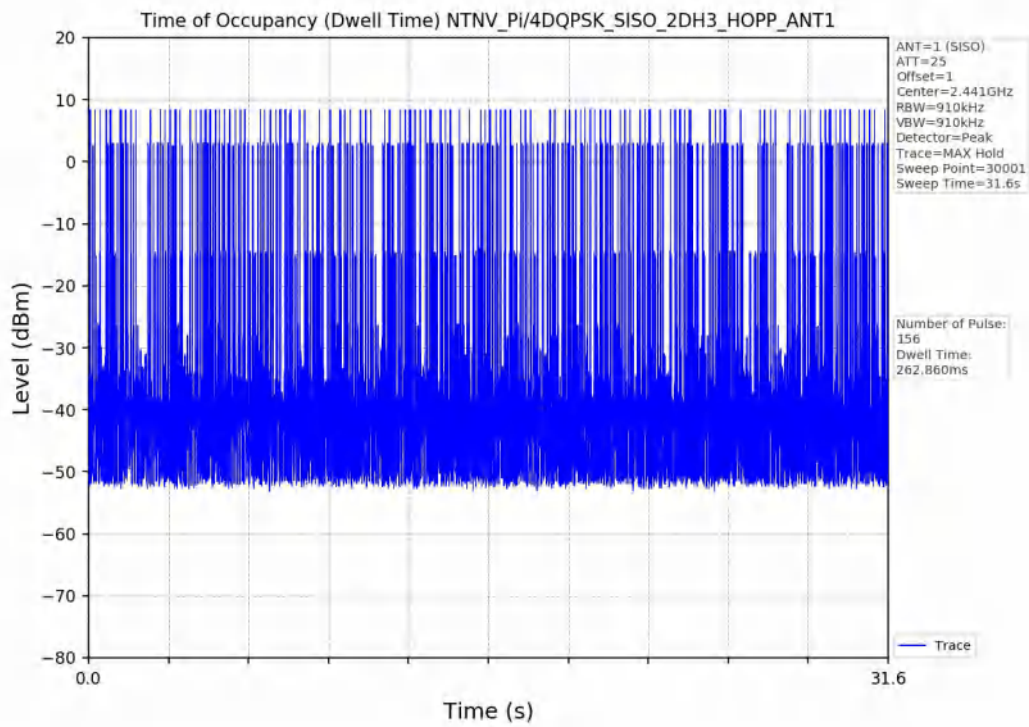


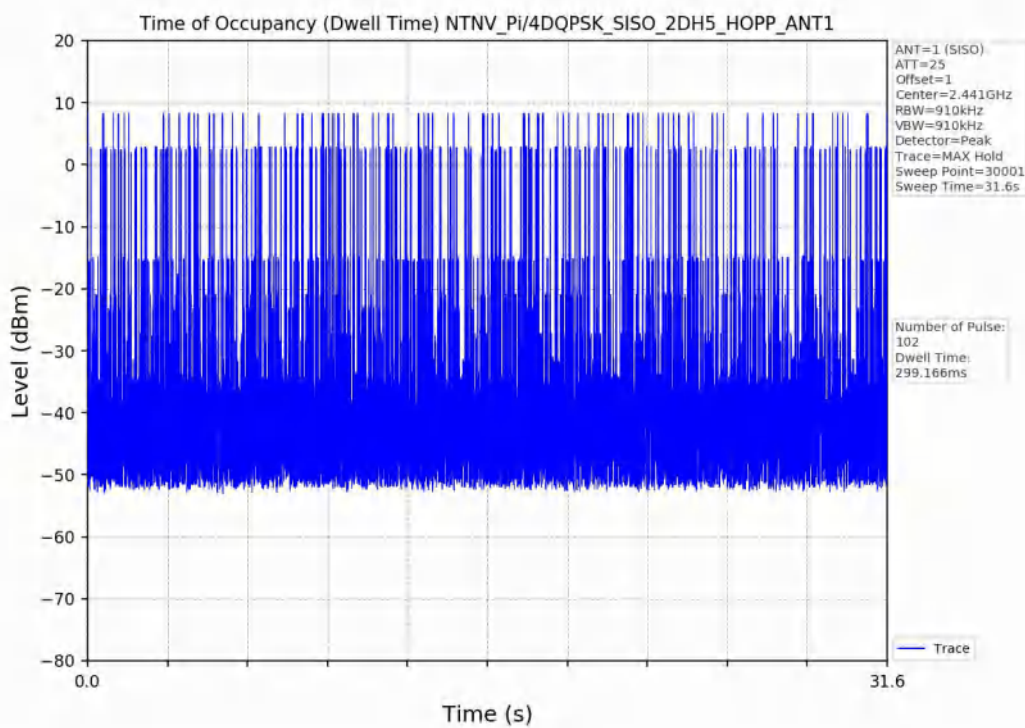
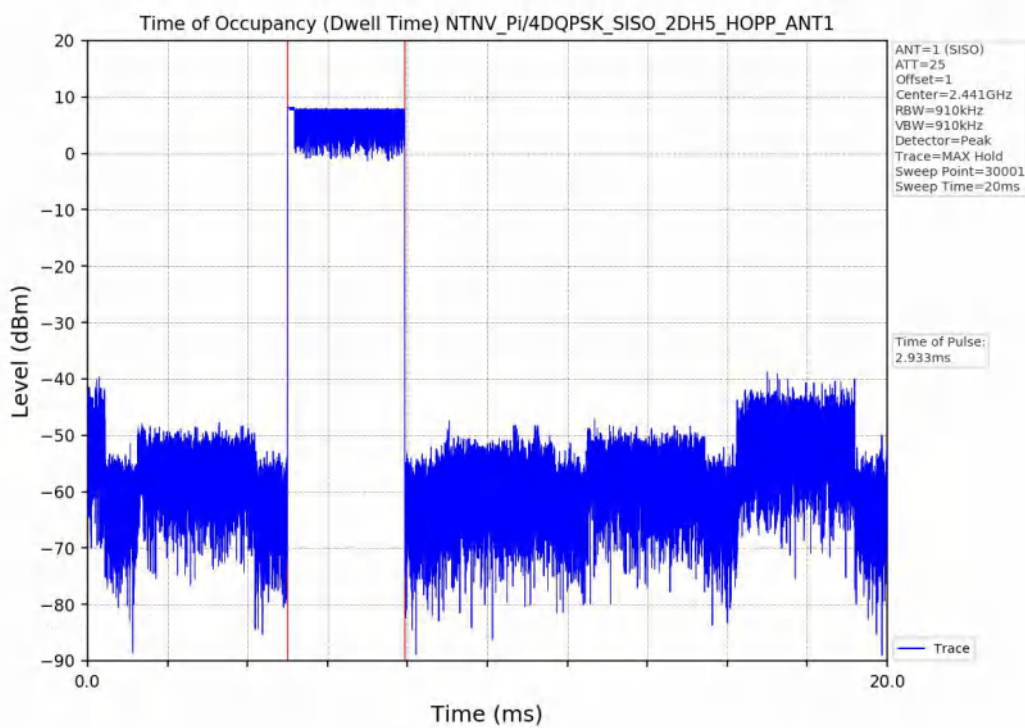


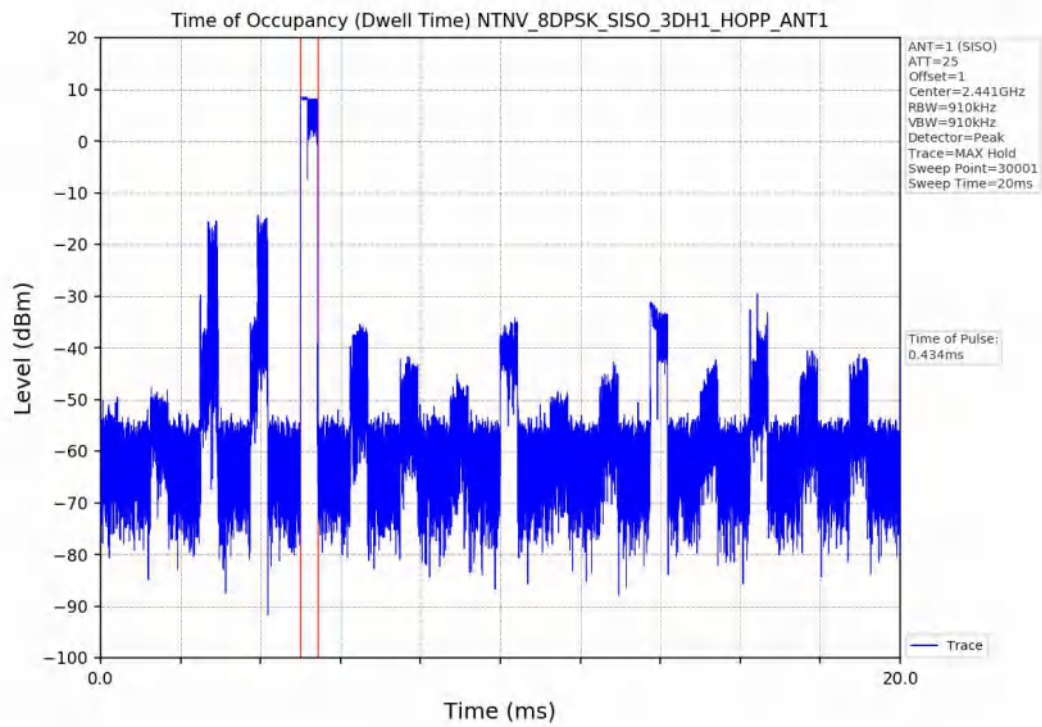


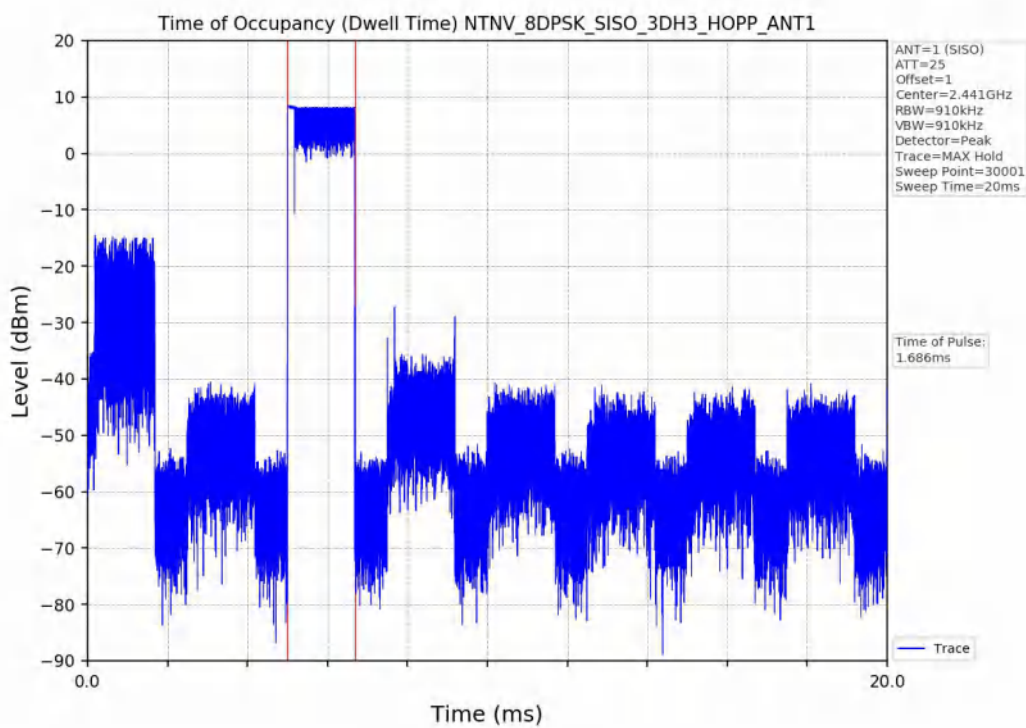
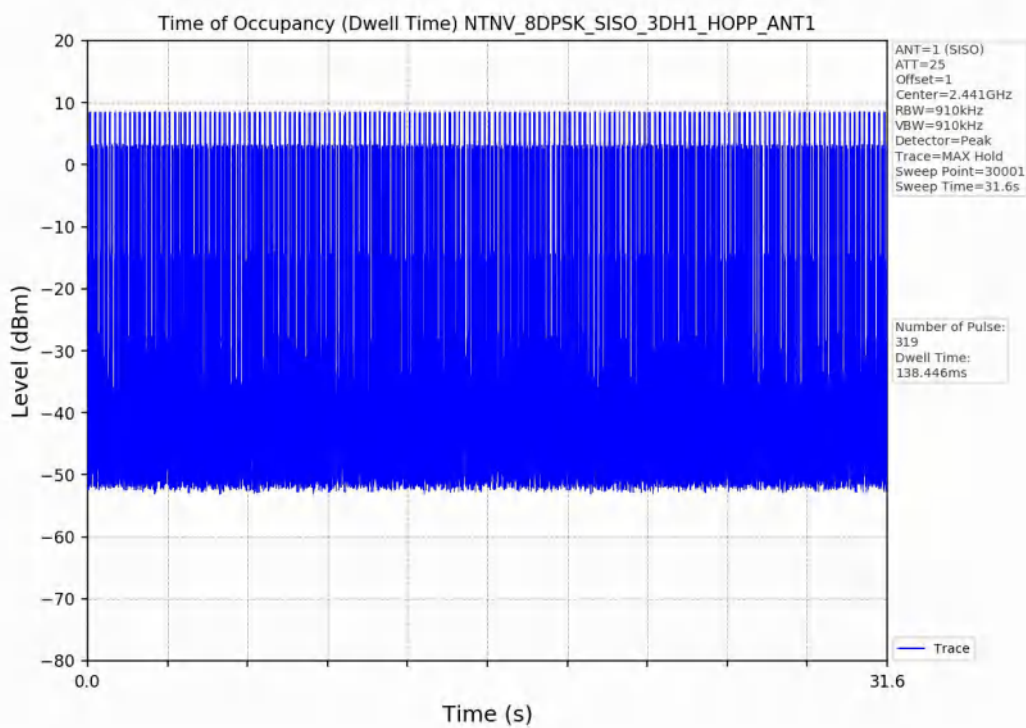


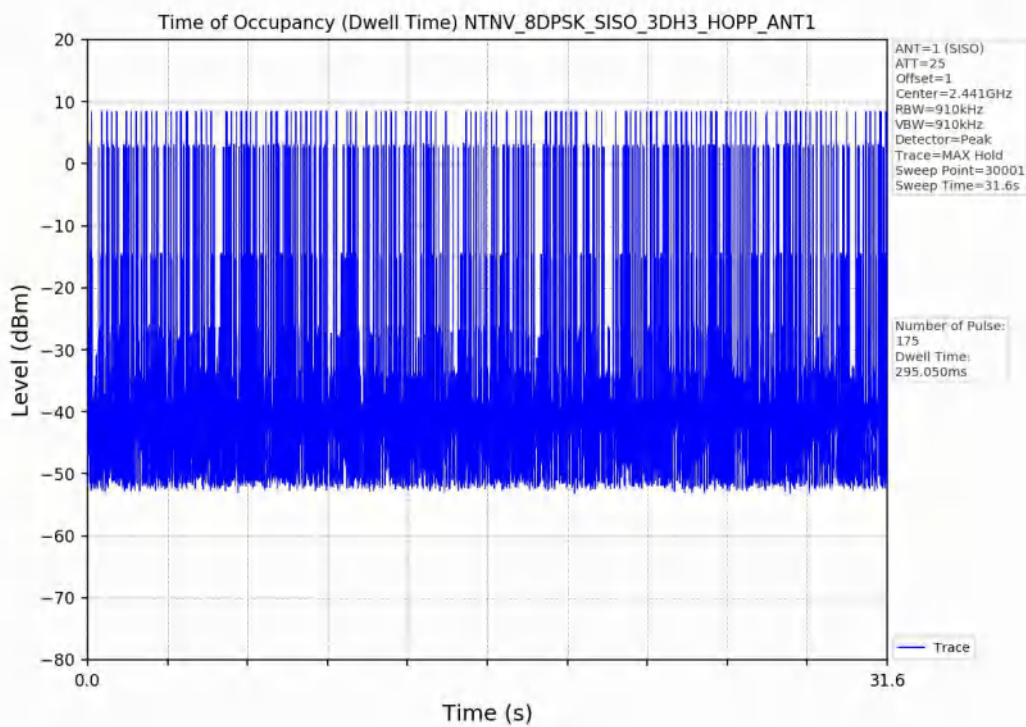


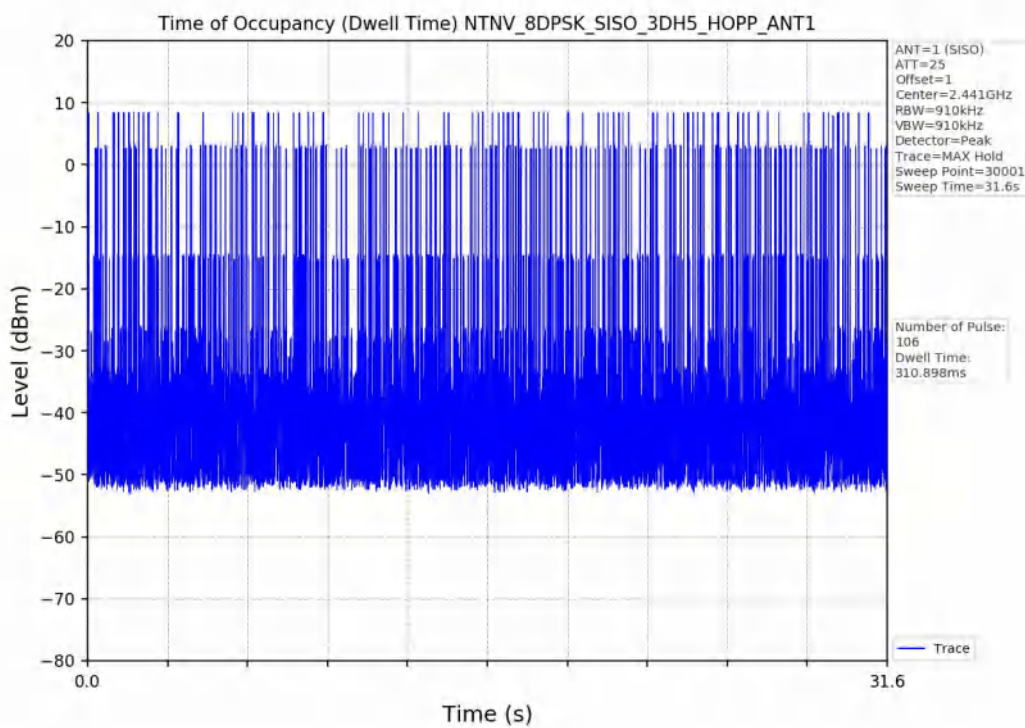
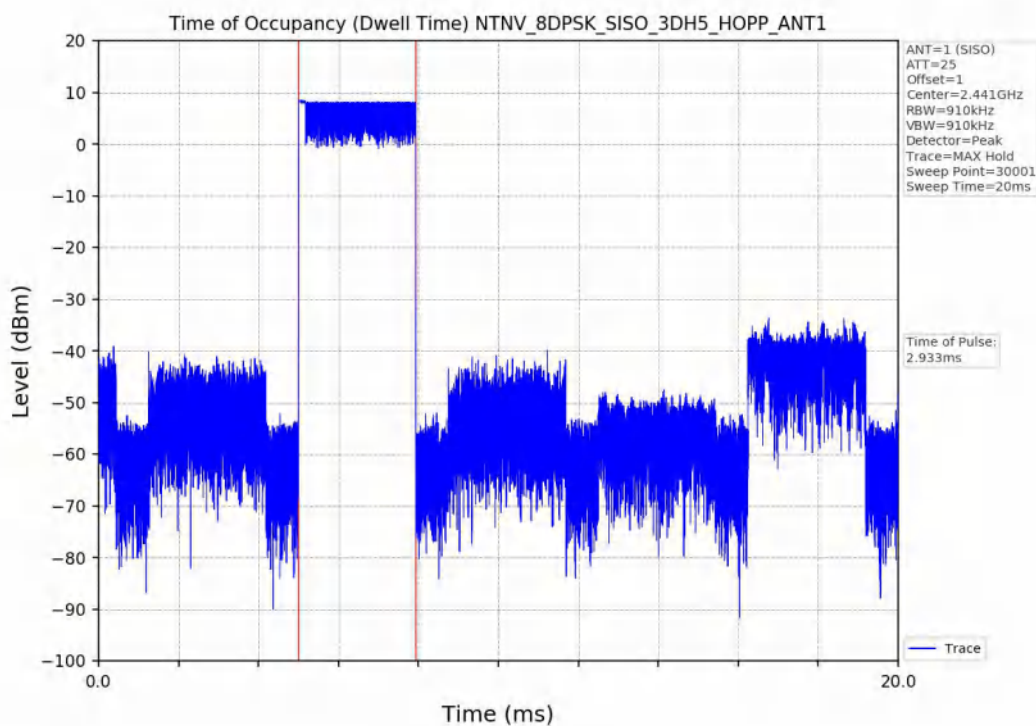












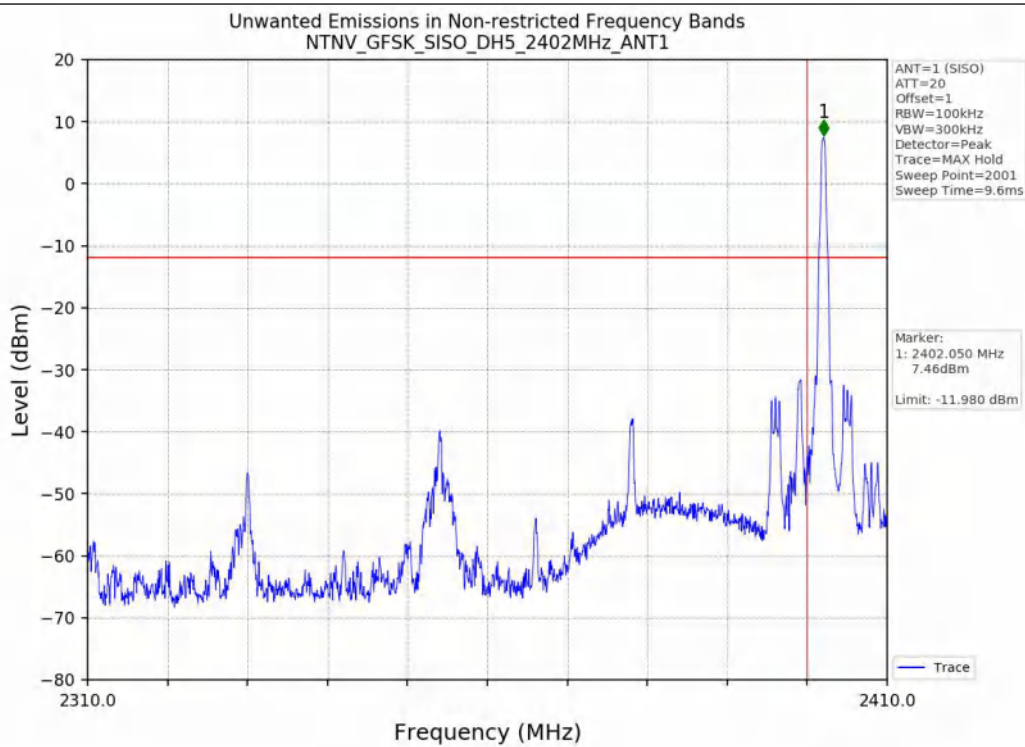
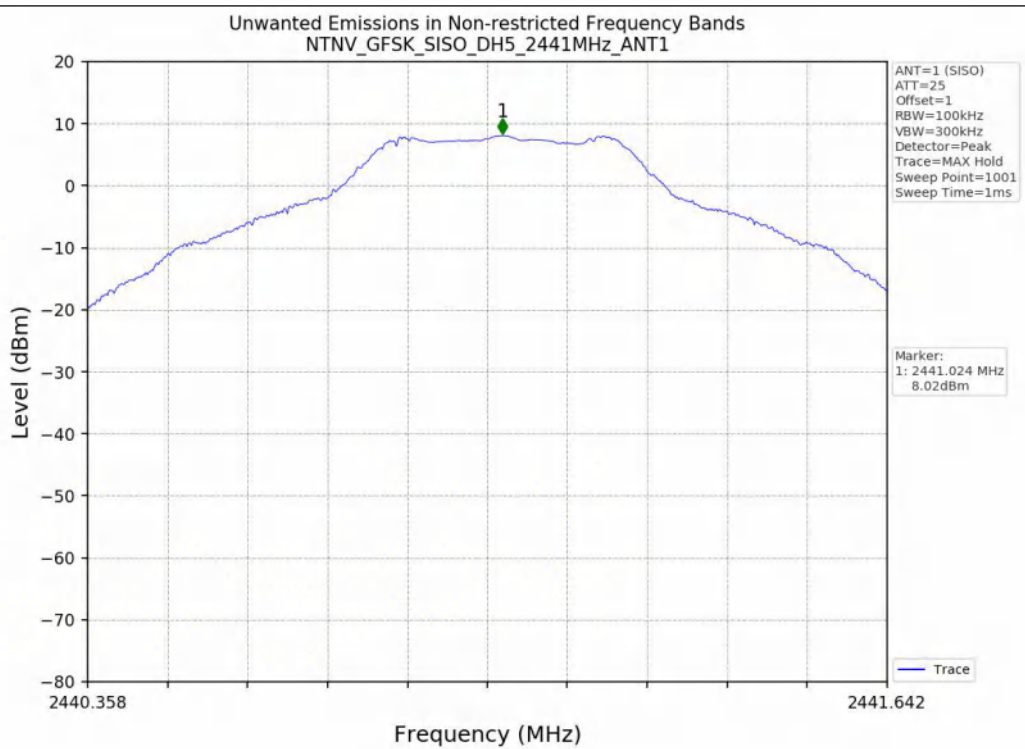


6. Unwanted Emissions in Non-restricted Frequency Bands

6.1 Test Result

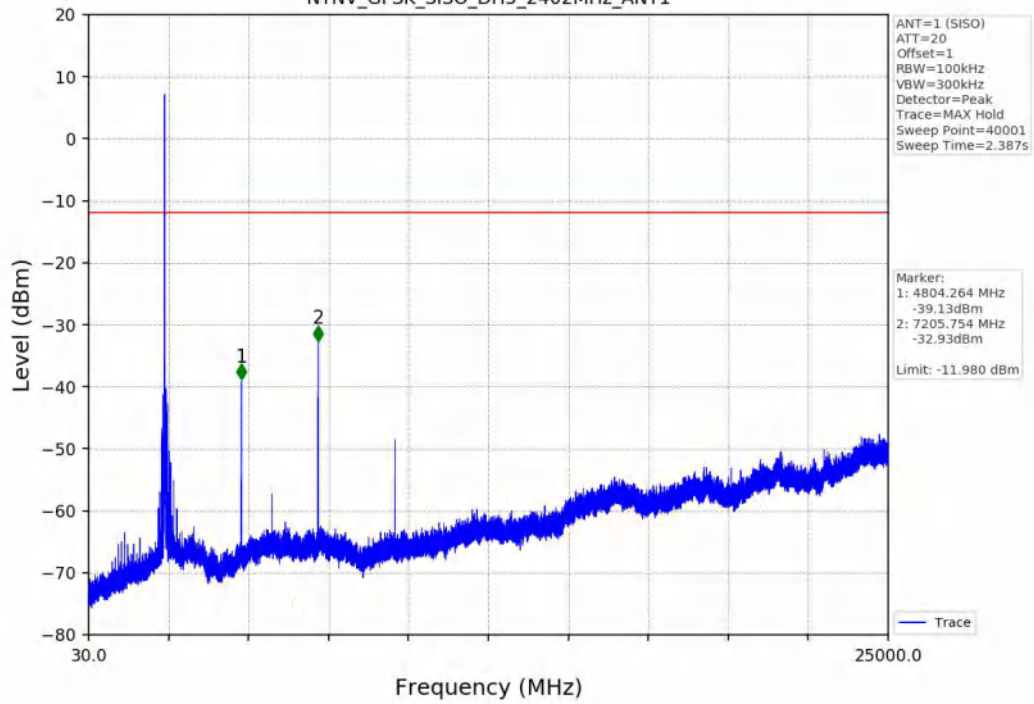
Test Mode	Frequency (MHz)	TX Type	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
GFSK	2402	SISO	1	Refer to test graph	-11.98	PASS
	2441	SISO	1	Refer to test graph	-11.98	PASS
	2480	SISO	1	Refer to test graph	-11.98	PASS
	Hopping	SISO	1	Refer to test graph	-11.98	PASS
Pi/4DQPSK	2402	SISO	1	Refer to test graph	-11.94	PASS
	2441	SISO	1	Refer to test graph	-11.94	PASS
	2480	SISO	1	Refer to test graph	-11.94	PASS
	Hopping	SISO	1	Refer to test graph	-11.94	PASS
8DPSK	2402	SISO	1	Refer to test graph	-11.52	PASS
	2441	SISO	1	Refer to test graph	-11.52	PASS
	2480	SISO	1	Refer to test graph	-11.52	PASS
	Hopping	SISO	1	Refer to test graph	-11.52	PASS

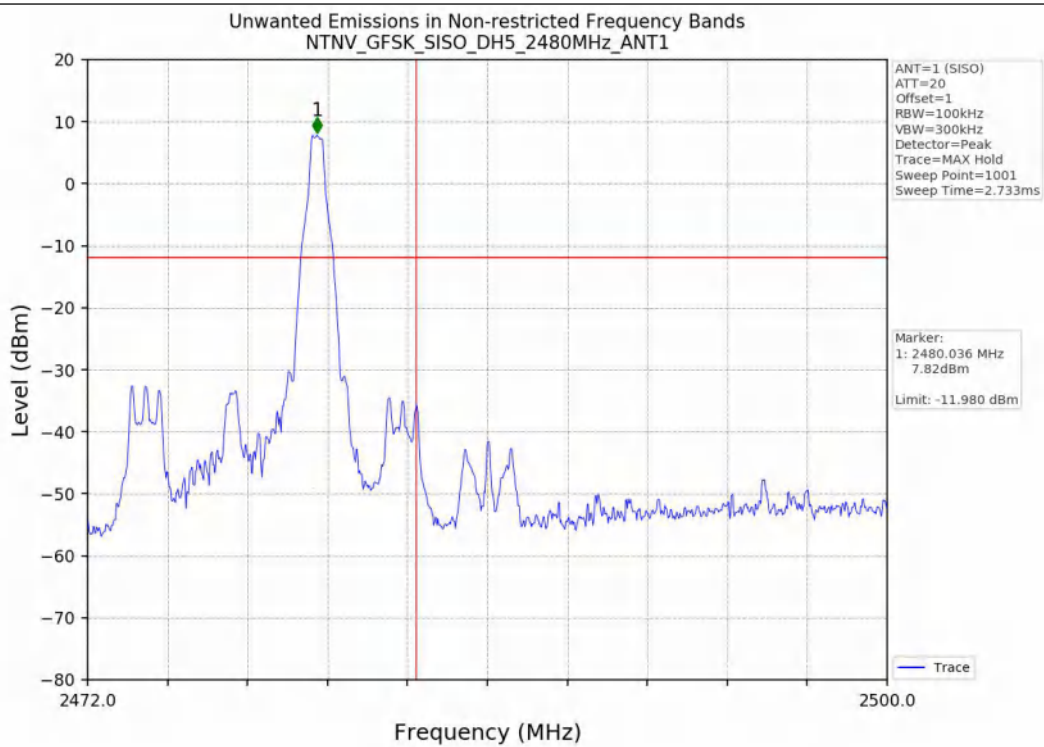
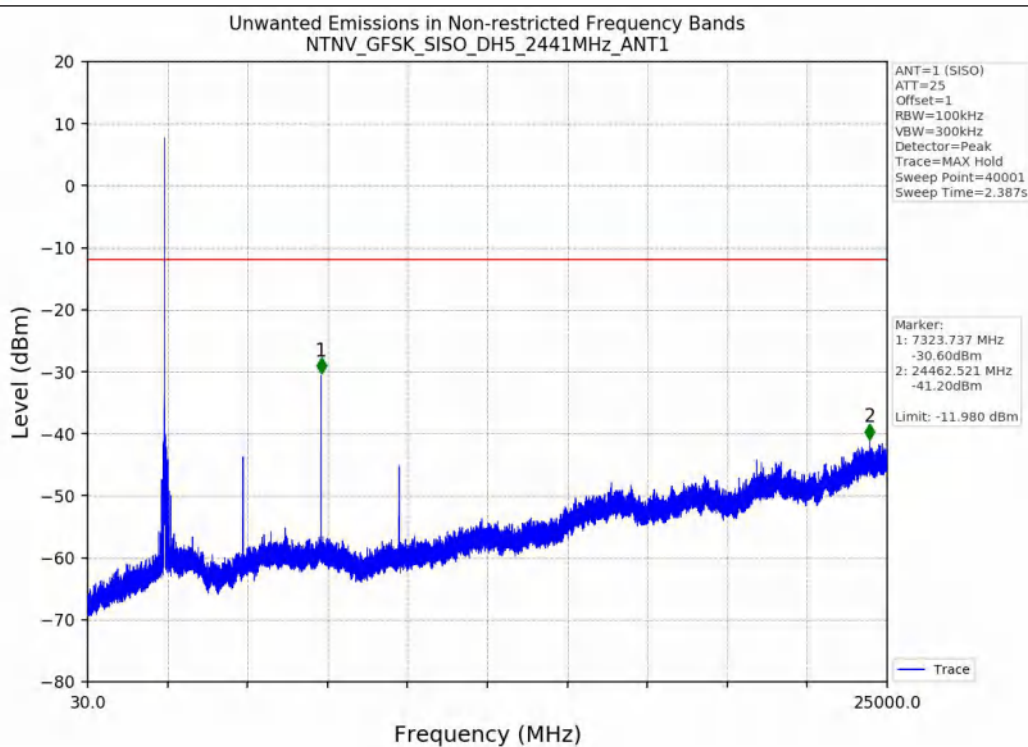
6.2 Test Graph





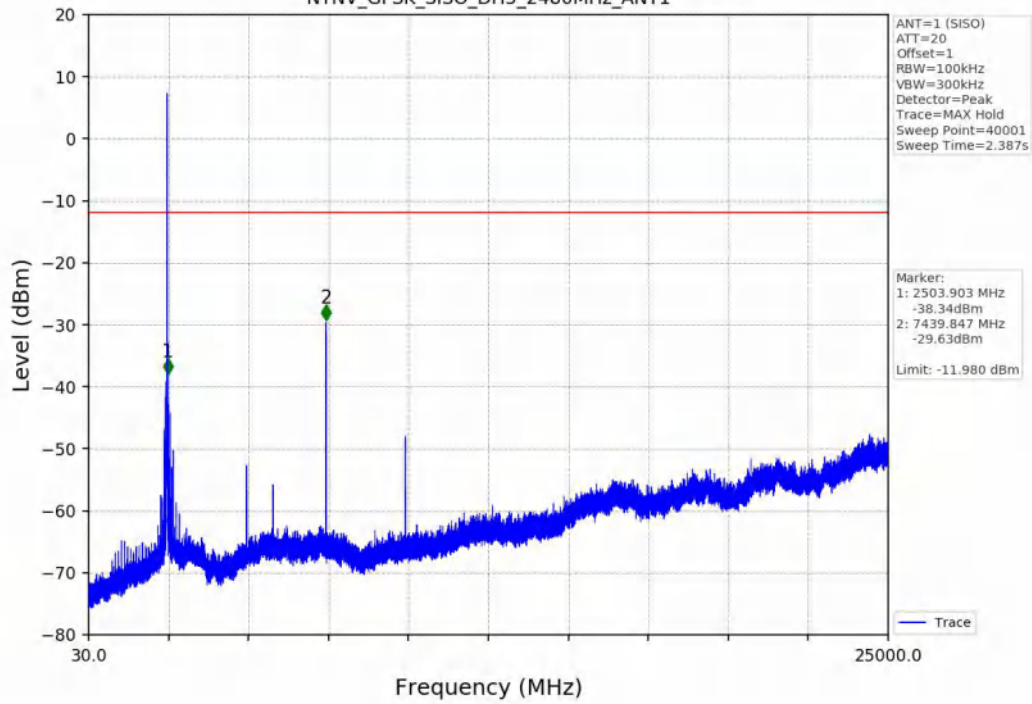
Unwanted Emissions in Non-restricted Frequency Bands
NTNV_GFSK_SISO_DH5_2402MHz_ANT1

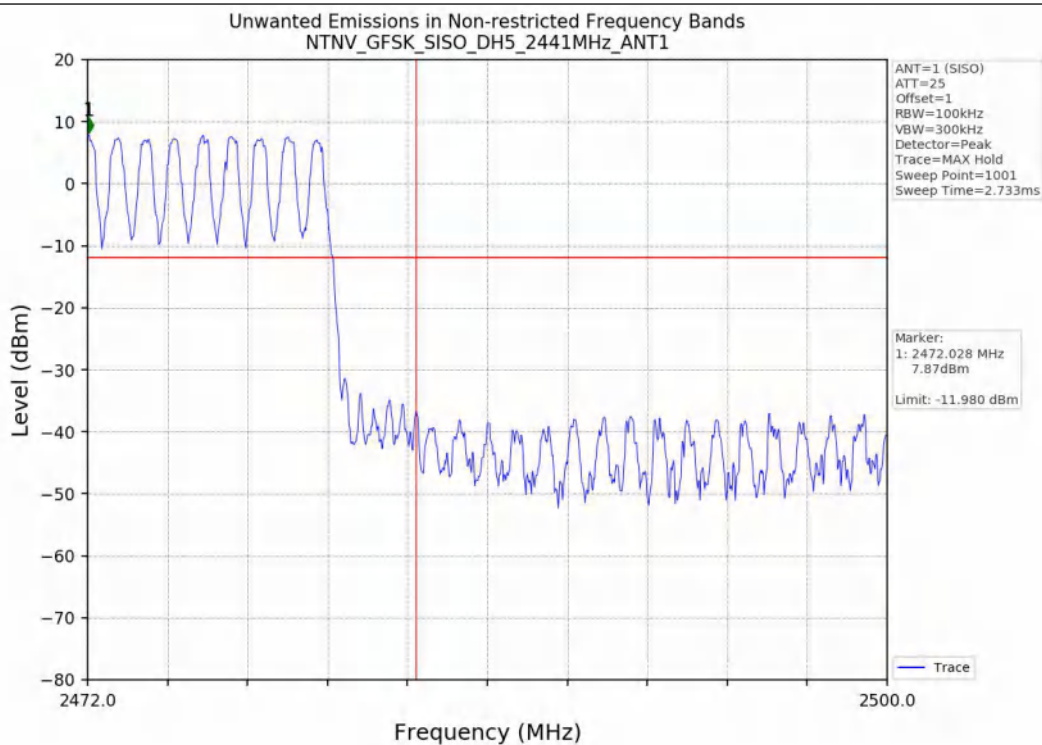
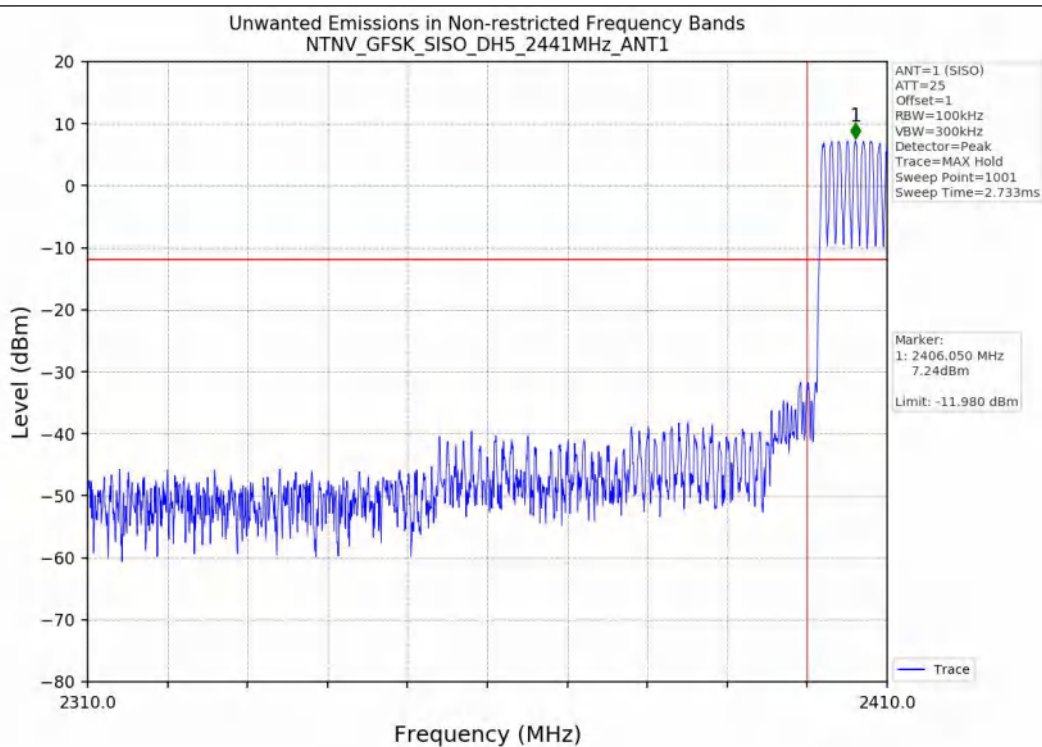






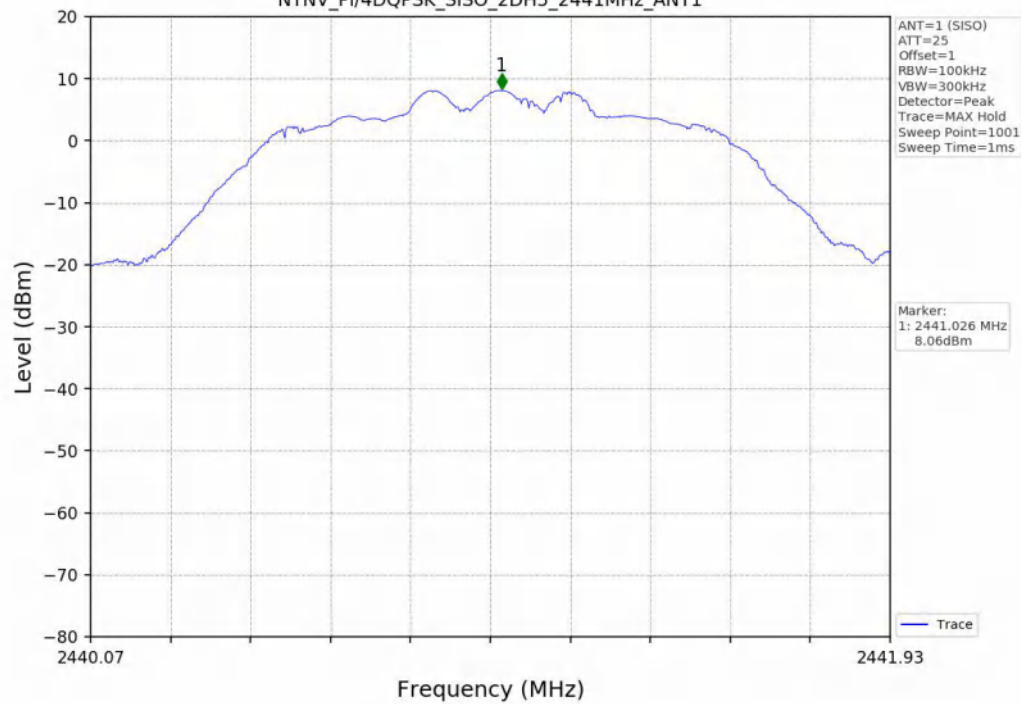
Unwanted Emissions in Non-restricted Frequency Bands
NTNV_GFSK_SISO_DH5_2480MHz_ANT1

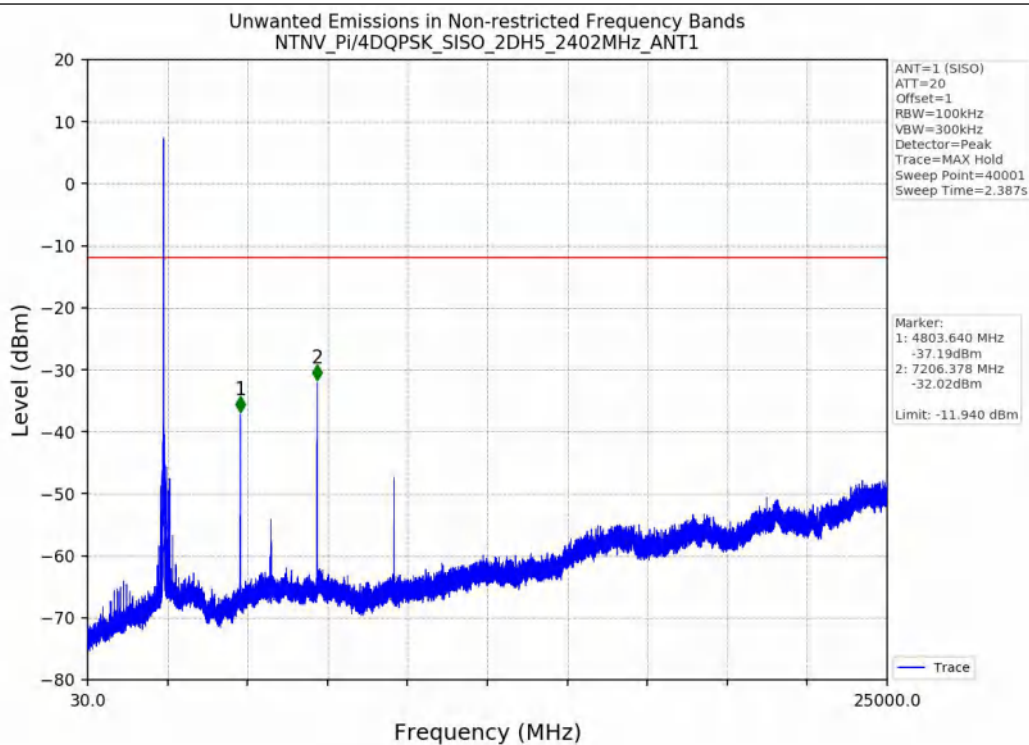
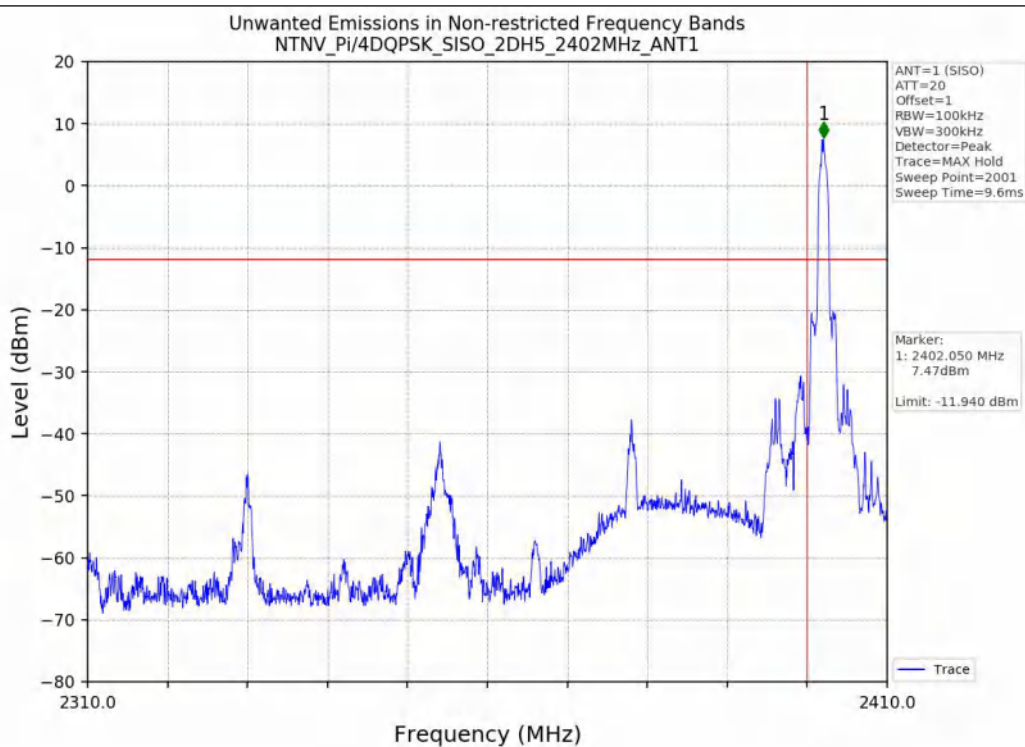






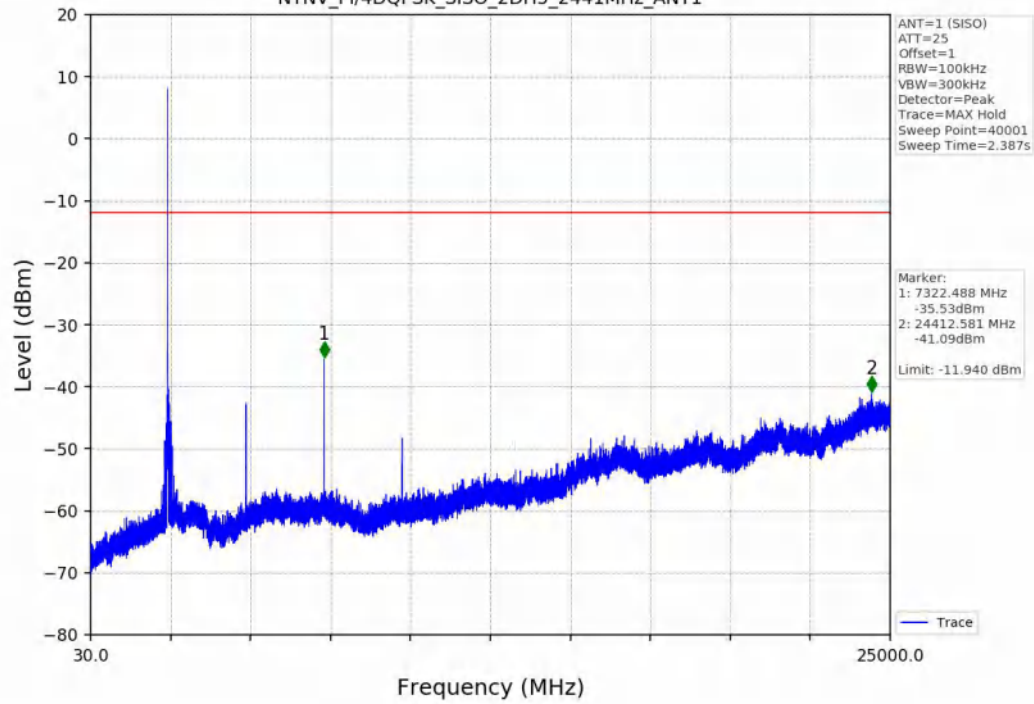
Unwanted Emissions in Non-restricted Frequency Bands
NTNV_Pi/4DQPSK_SISO_2DH5_2441MHz_ANT1

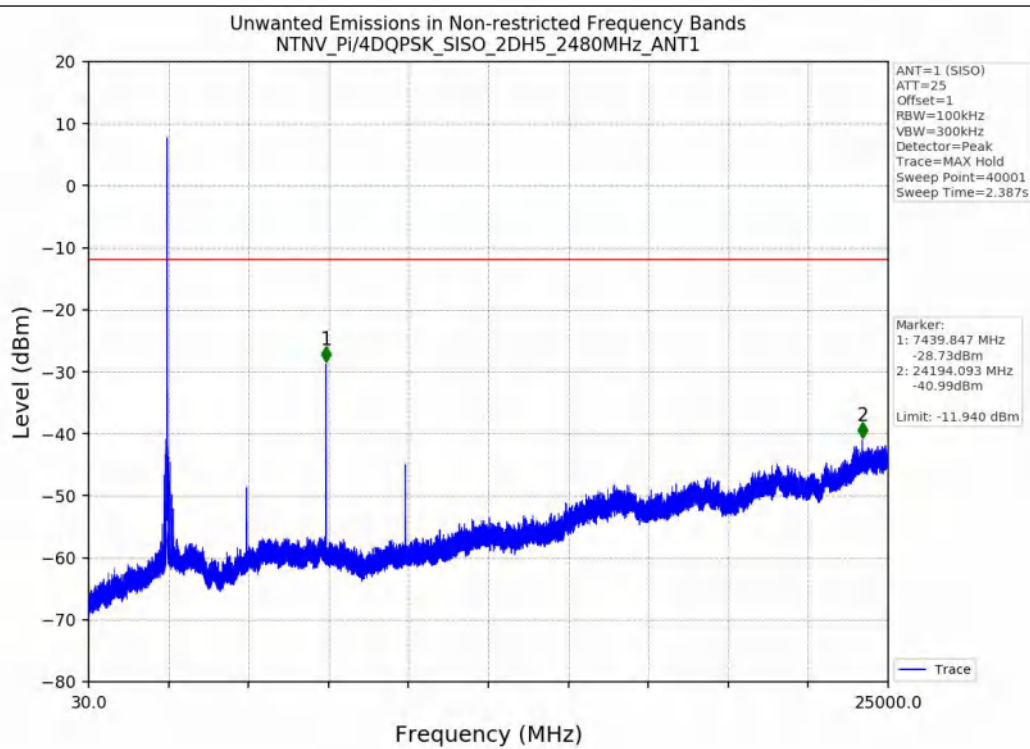
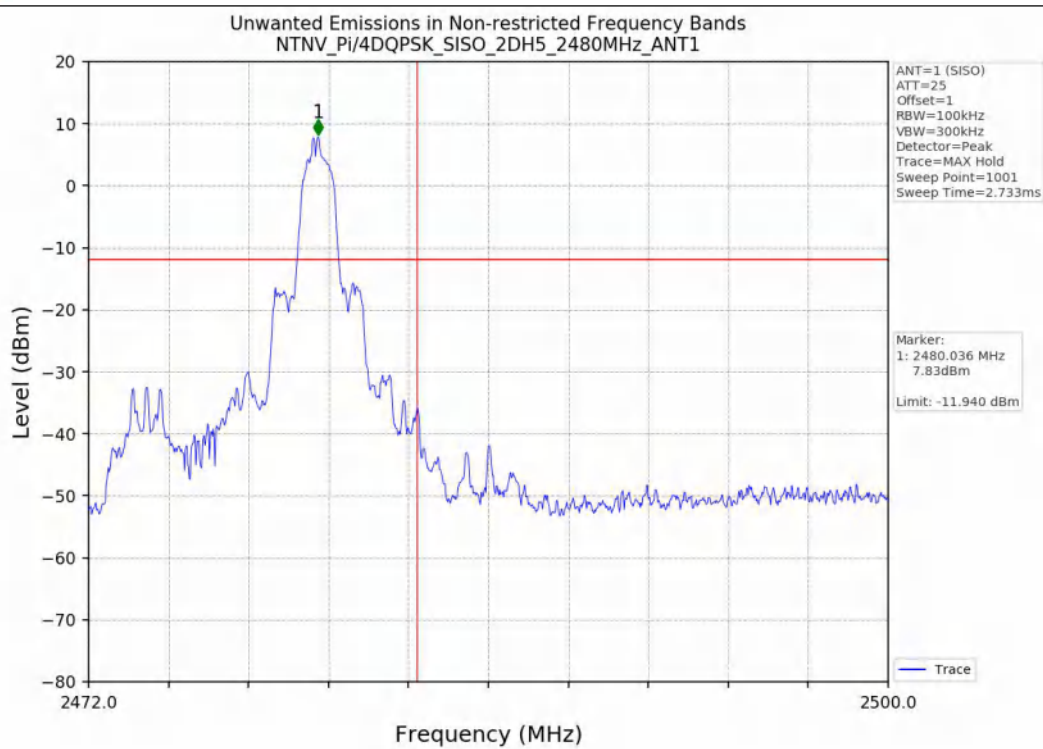


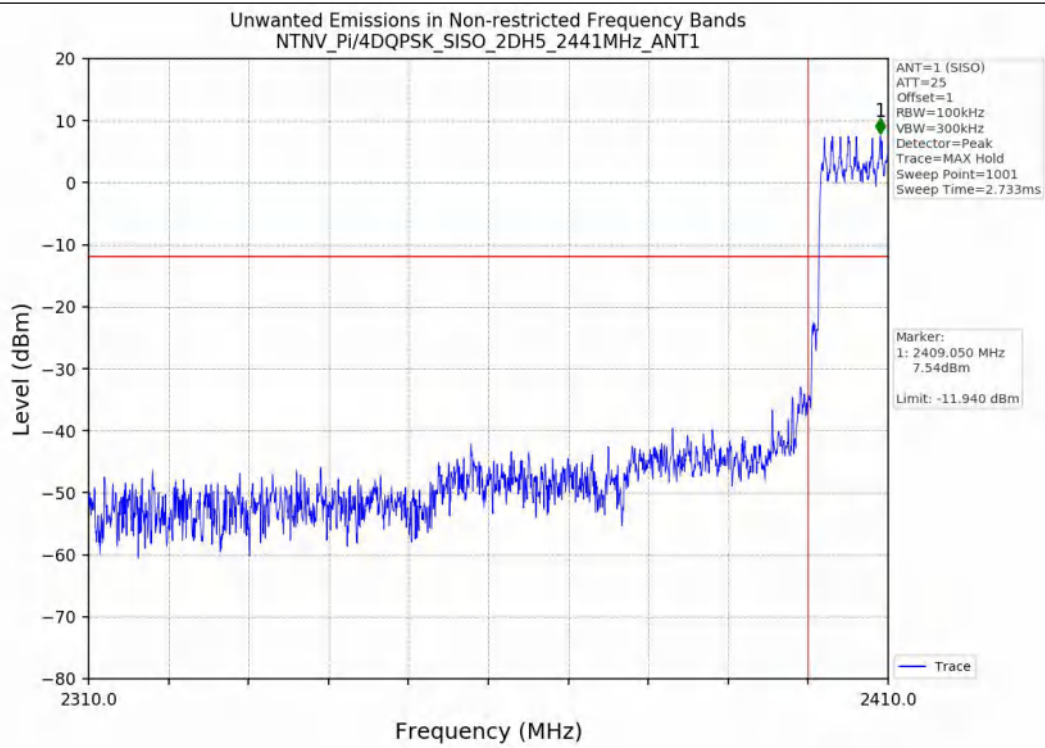


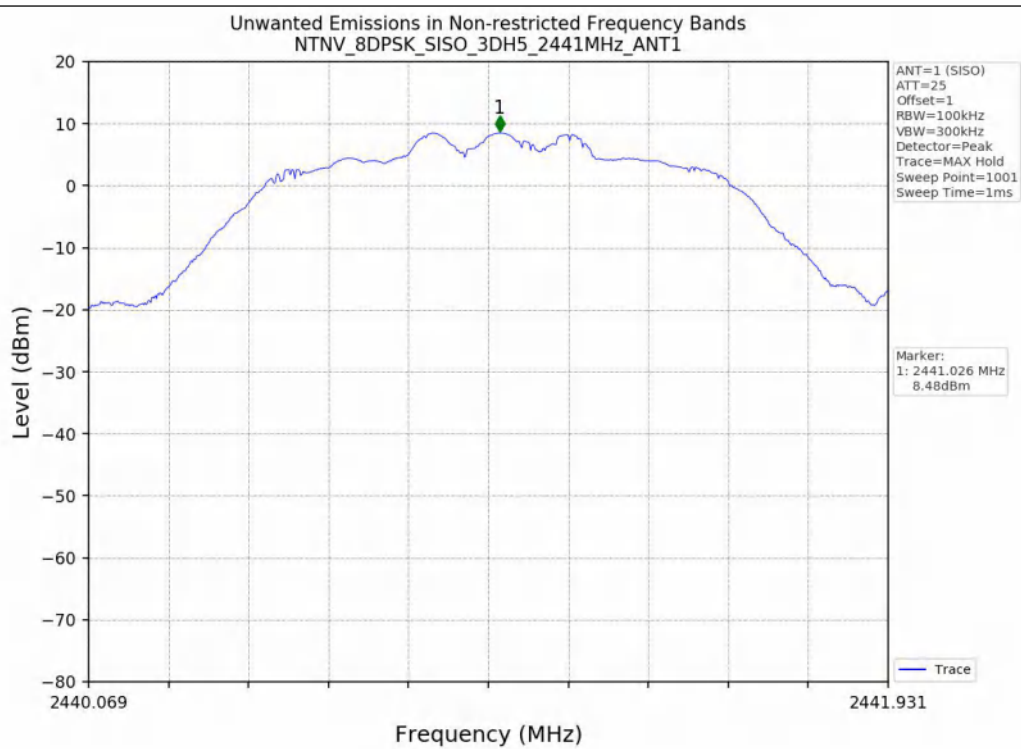
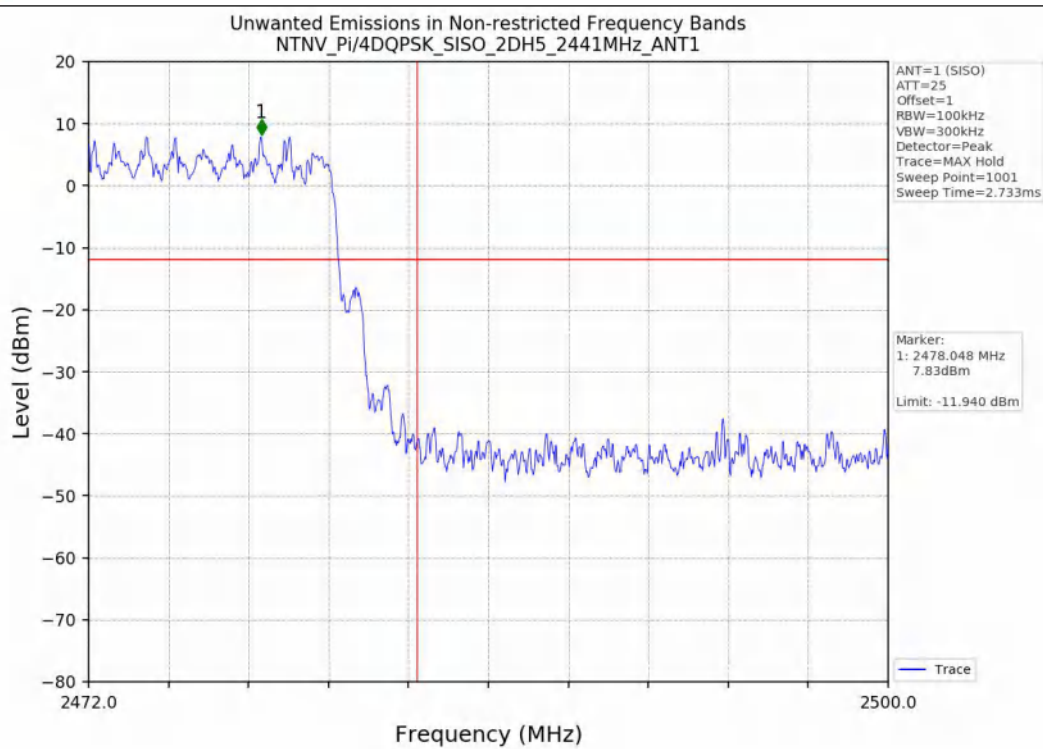


Unwanted Emissions in Non-restricted Frequency Bands
NTNV_Pi/4DQPSK_SISO_2DH5_2441MHz_ANT1











Unwanted Emissions in Non-restricted Frequency Bands
NTNV_8DPSK_SISO_3DH5_2402MHz_ANT1

