

Annex for Bluetooth

Test Report No. :CTL2010201061-WF

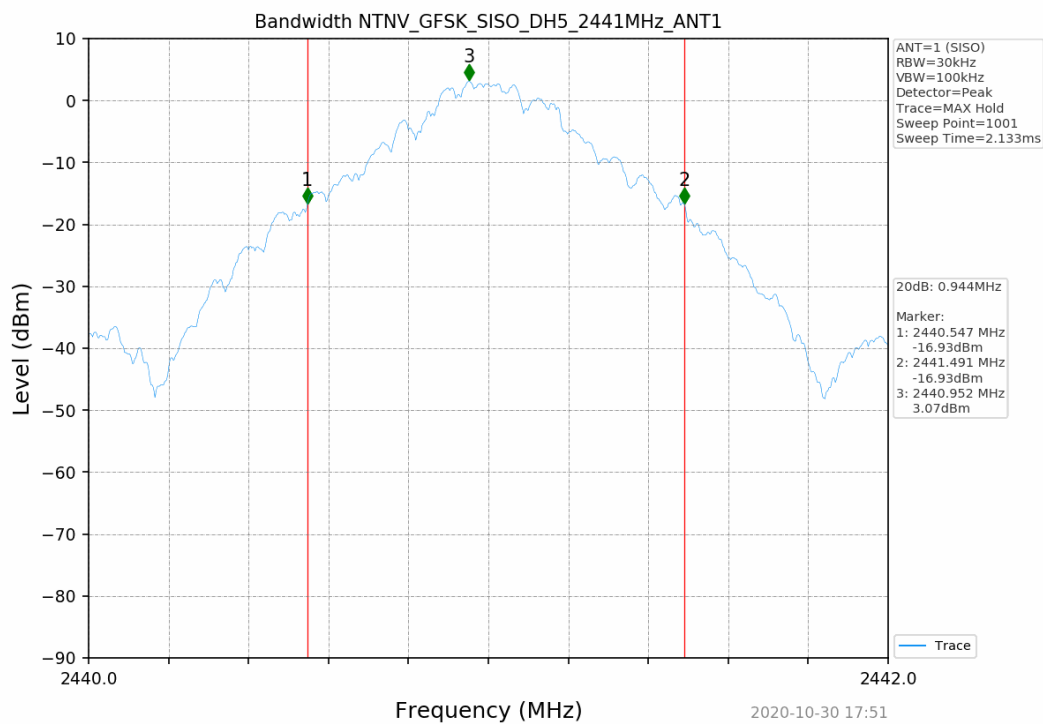
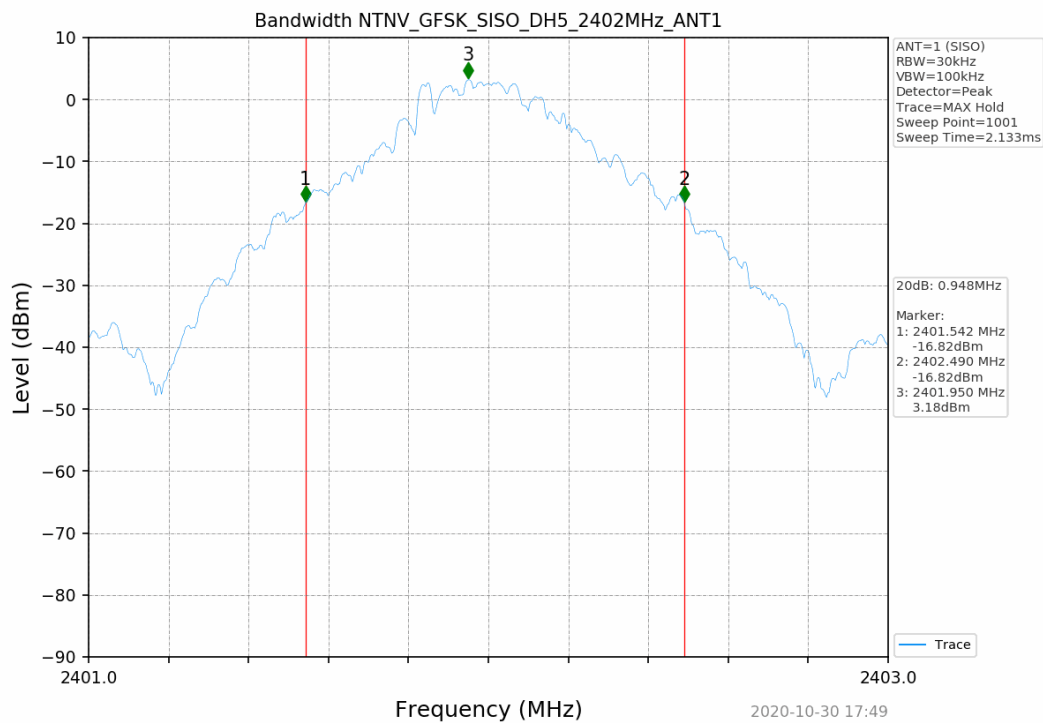
1. Bandwidth

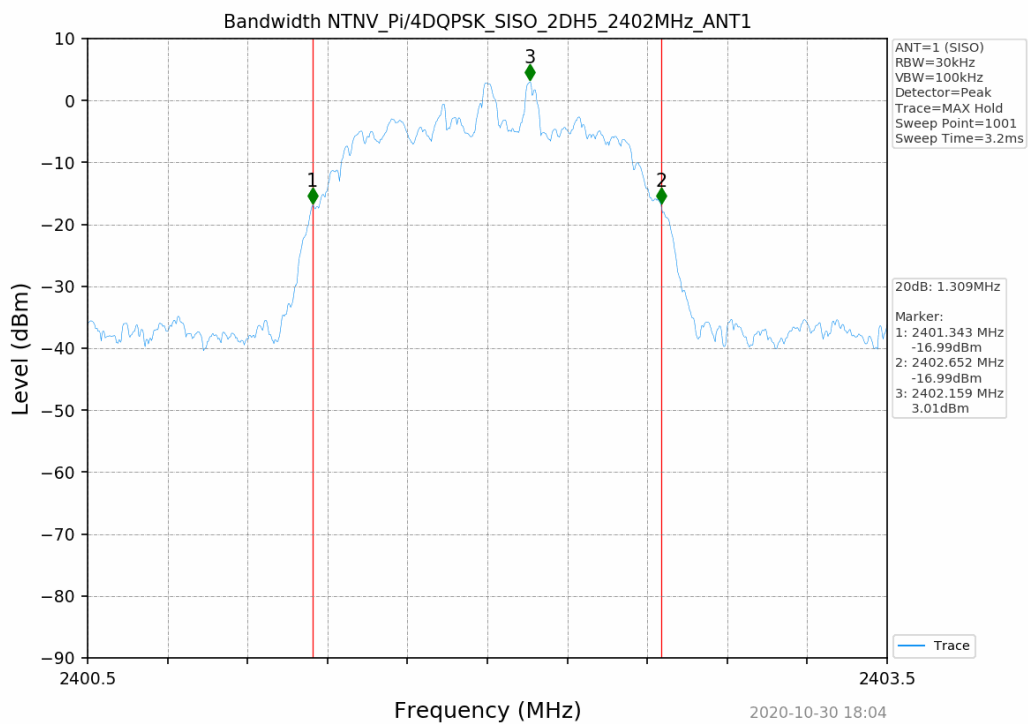
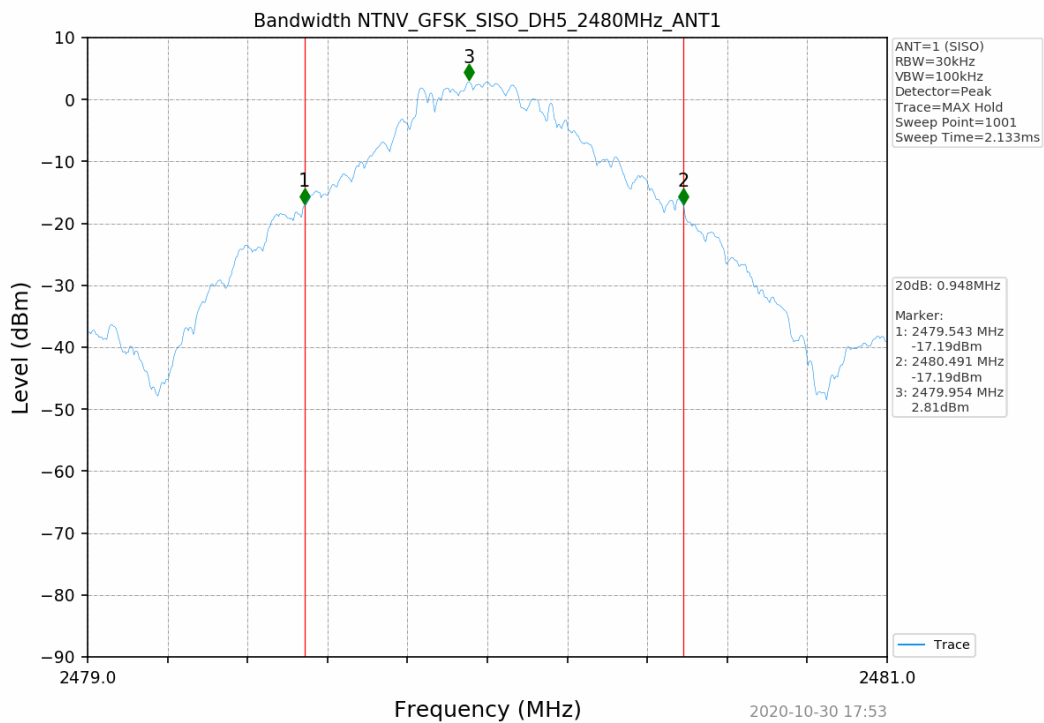
1.1 Test Result

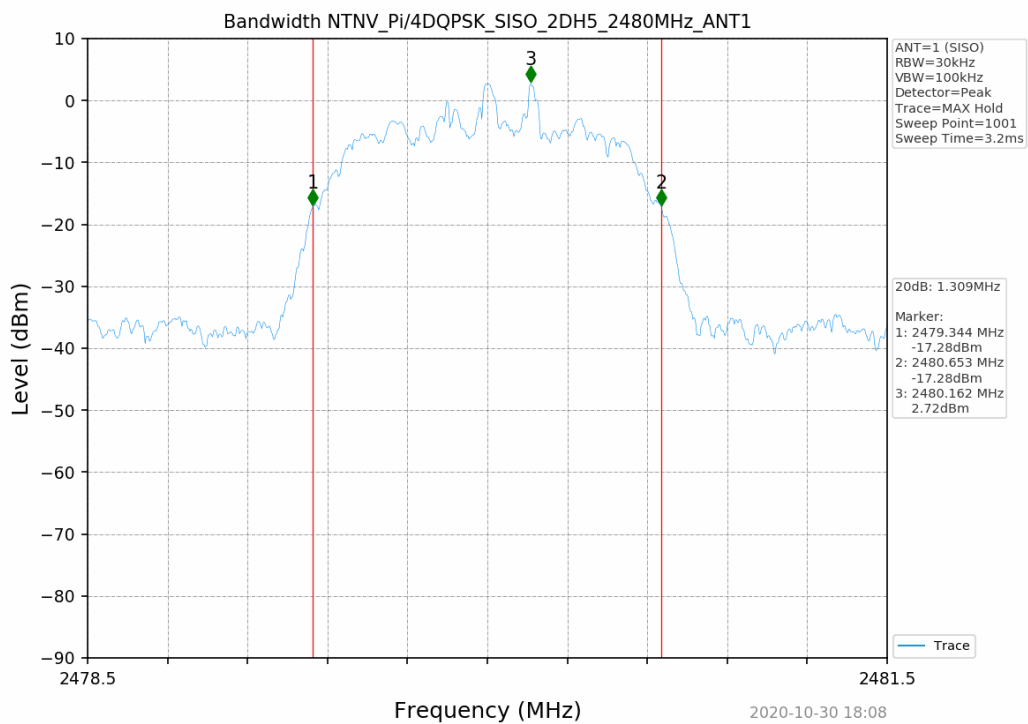
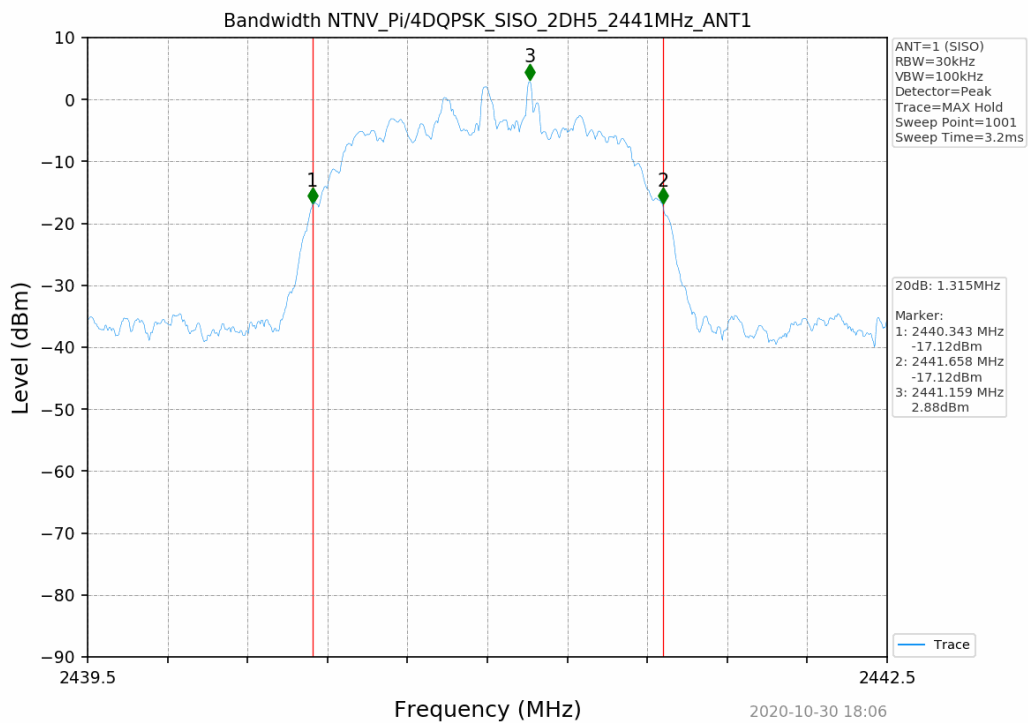
Test Mode	Frequency (MHz)	TX Type	ANT No.	20dB Bandwidth	Verdict
				Test Result (MHz)	
GFSK	2402	SISO	1	0.948	PASS
	2441	SISO	1	0.944	PASS
	2480	SISO	1	0.948	PASS
Pi/4DQPSK	2402	SISO	1	1.309	PASS
	2441	SISO	1	1.315	PASS
	2480	SISO	1	1.309	PASS
8DPSK	2402	SISO	1	1.307	PASS
	2441	SISO	1	1.312	PASS
	2480	SISO	1	1.314	PASS

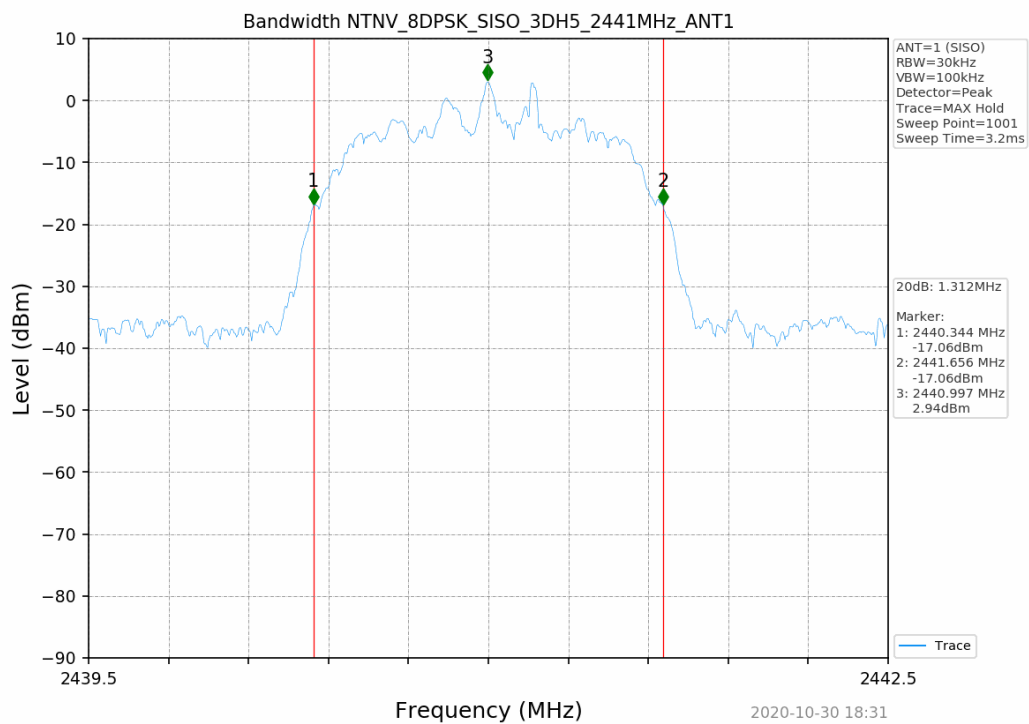
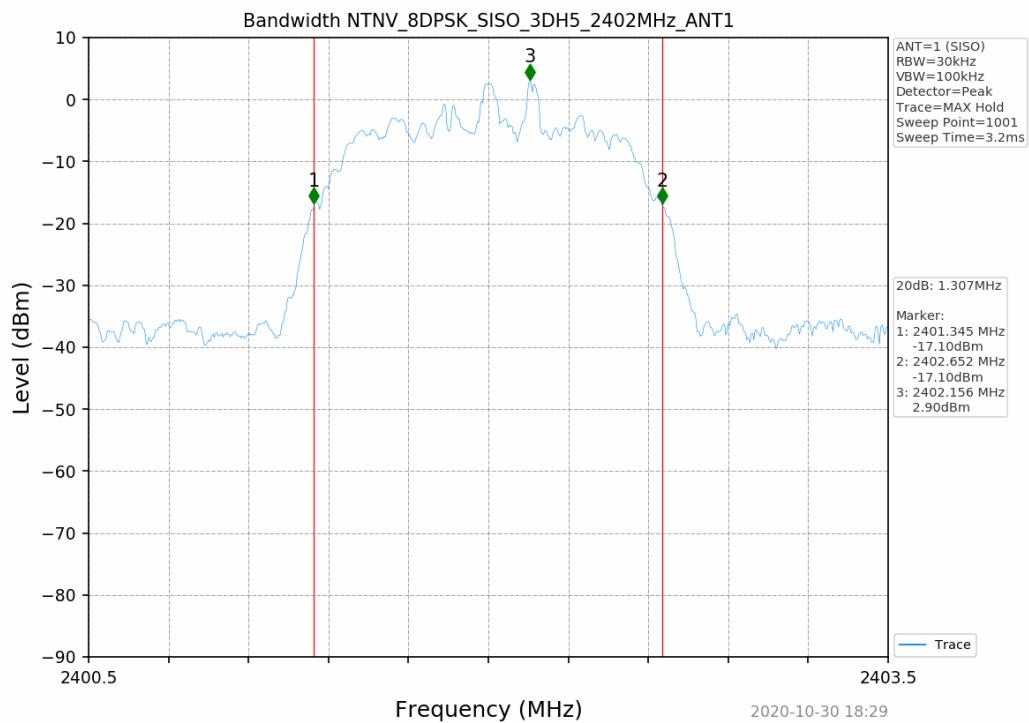
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
GFSK	2402	SISO	1	0.851	Only for Report Use
	2441	SISO	1	0.840	Only for Report Use
	2480	SISO	1	0.839	Only for Report Use
Pi/4DQPSK	2402	SISO	1	1.184	Only for Report Use
	2441	SISO	1	1.177	Only for Report Use
	2480	SISO	1	1.190	Only for Report Use
8DPSK	2402	SISO	1	1.191	Only for Report Use
	2441	SISO	1	1.178	Only for Report Use
	2480	SISO	1	1.187	Only for Report Use

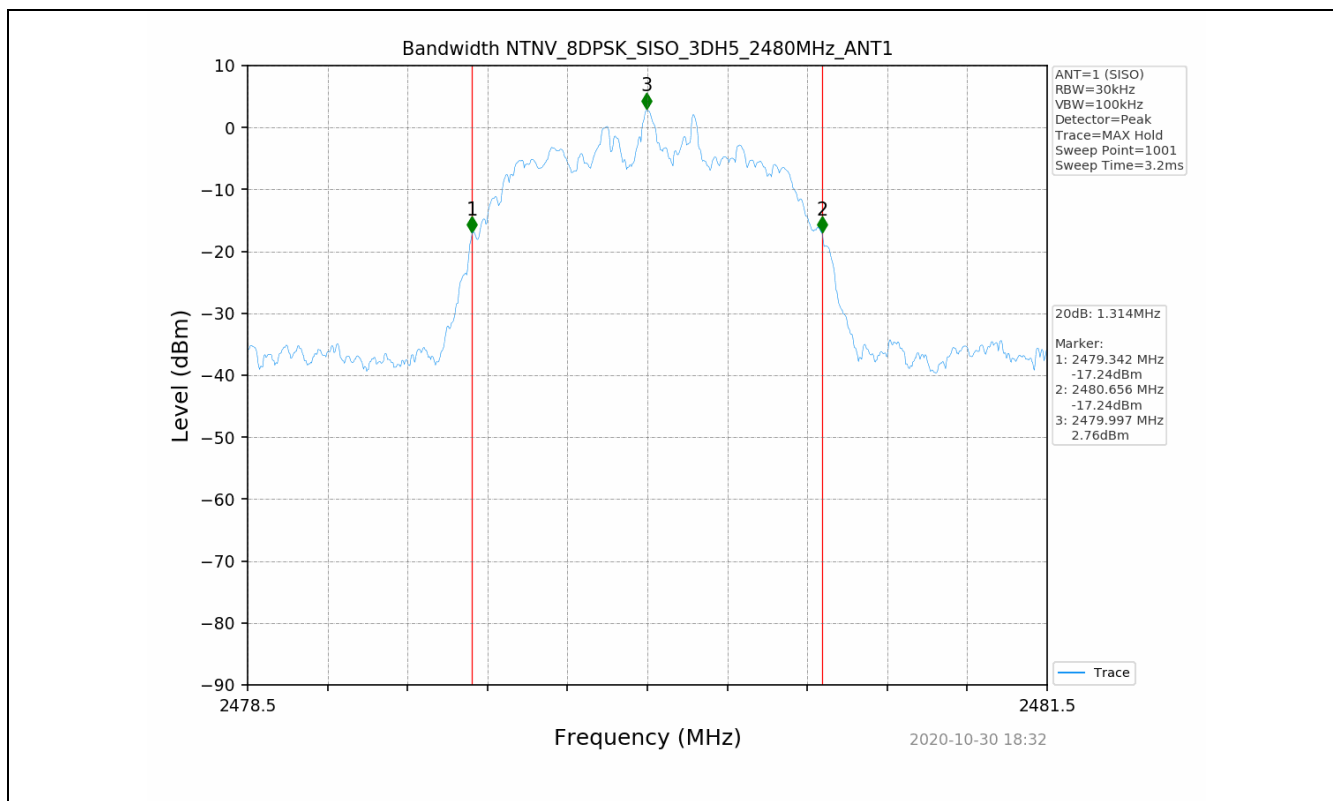
1.2 Test Graph - 20dB Bandwidth



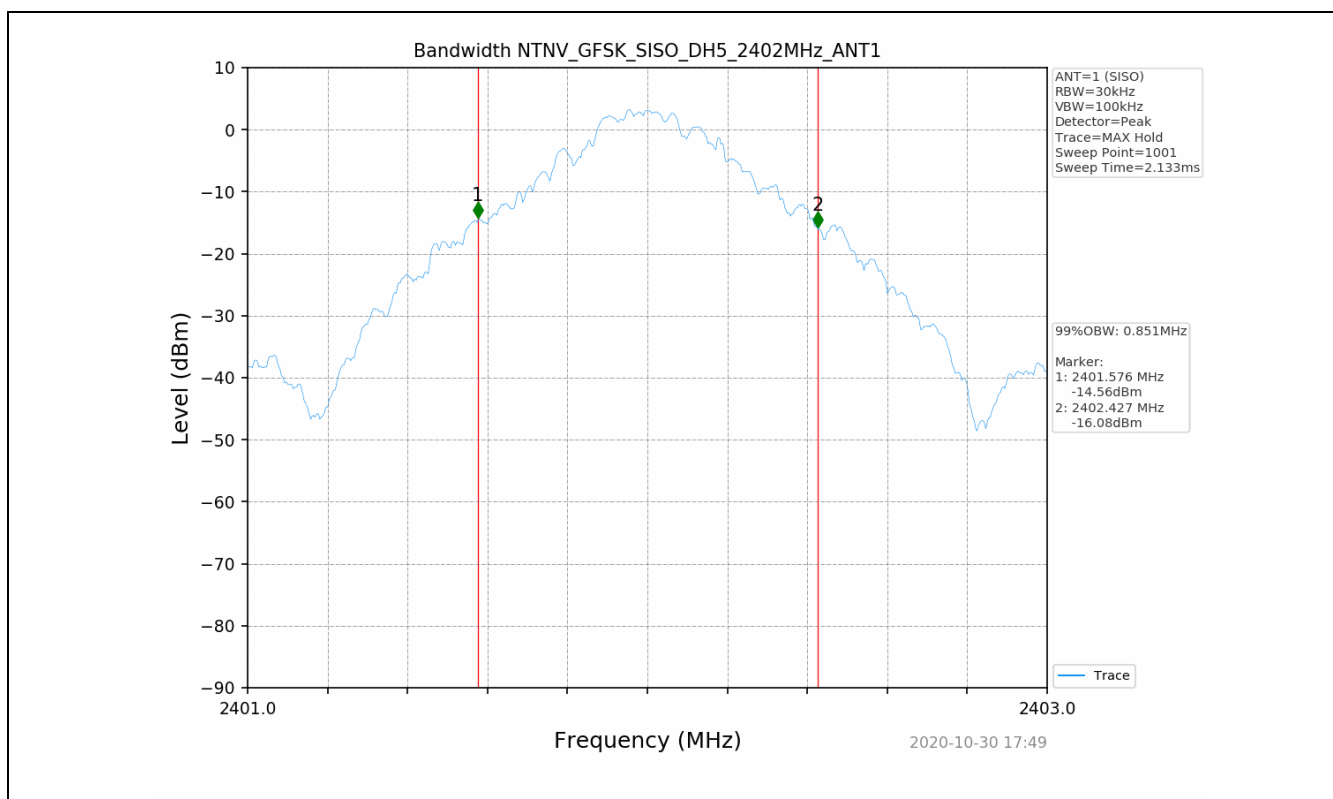


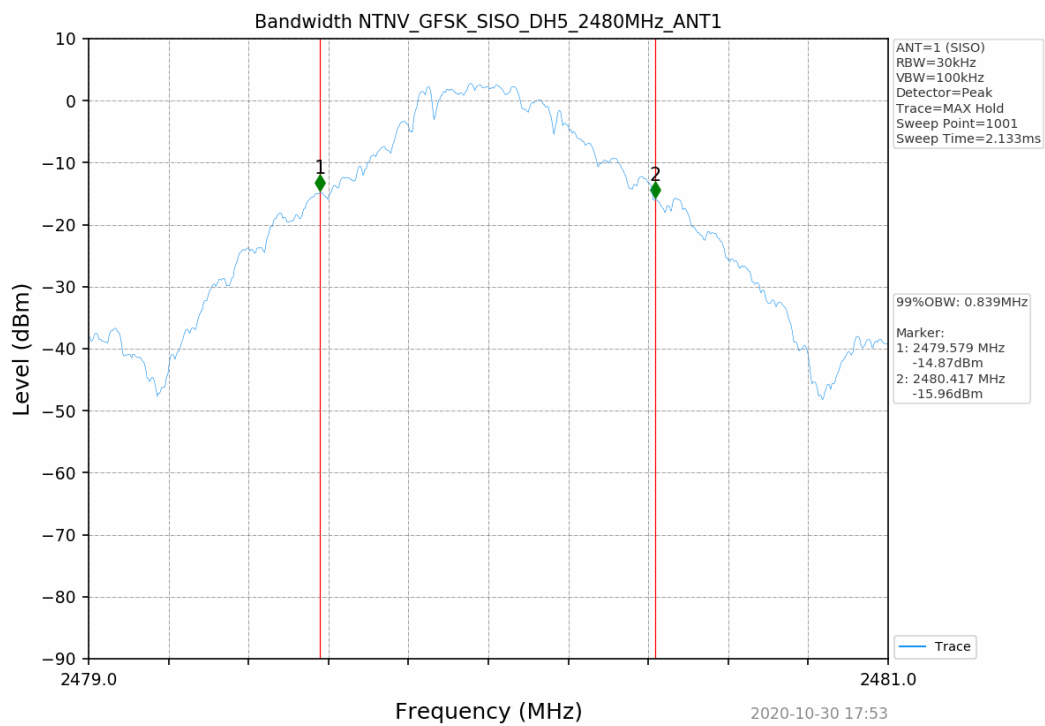
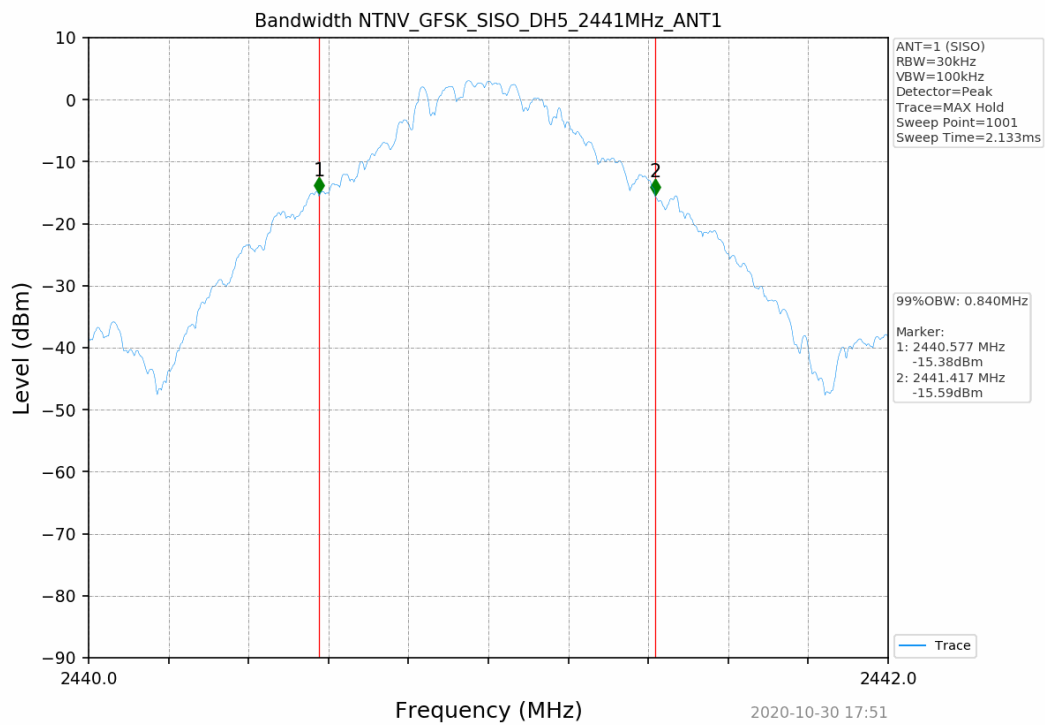


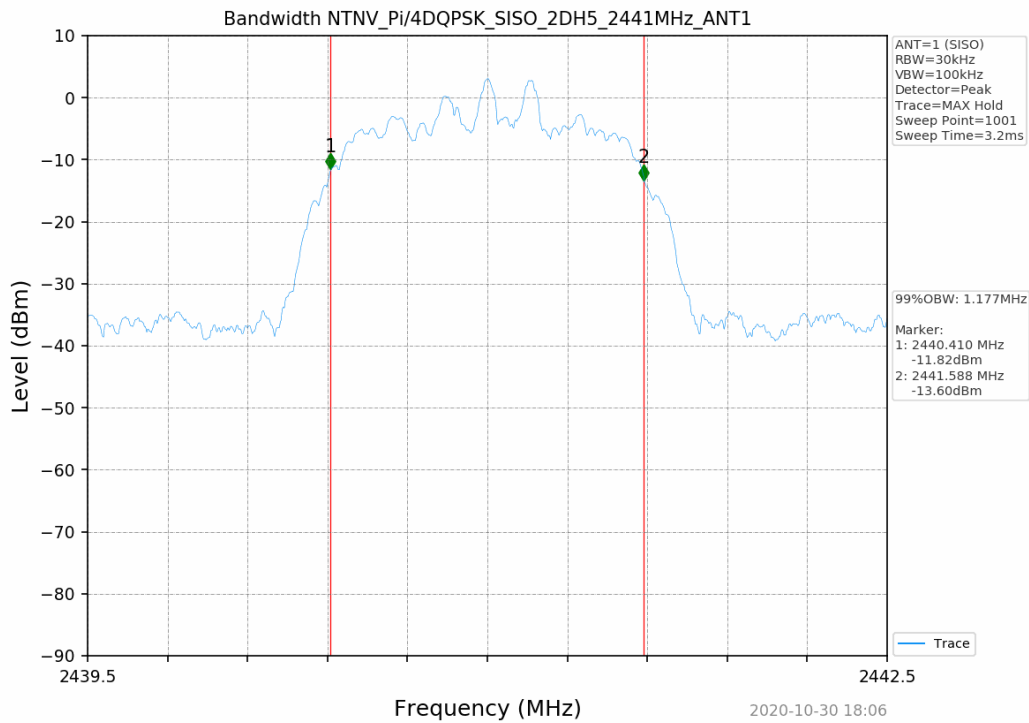
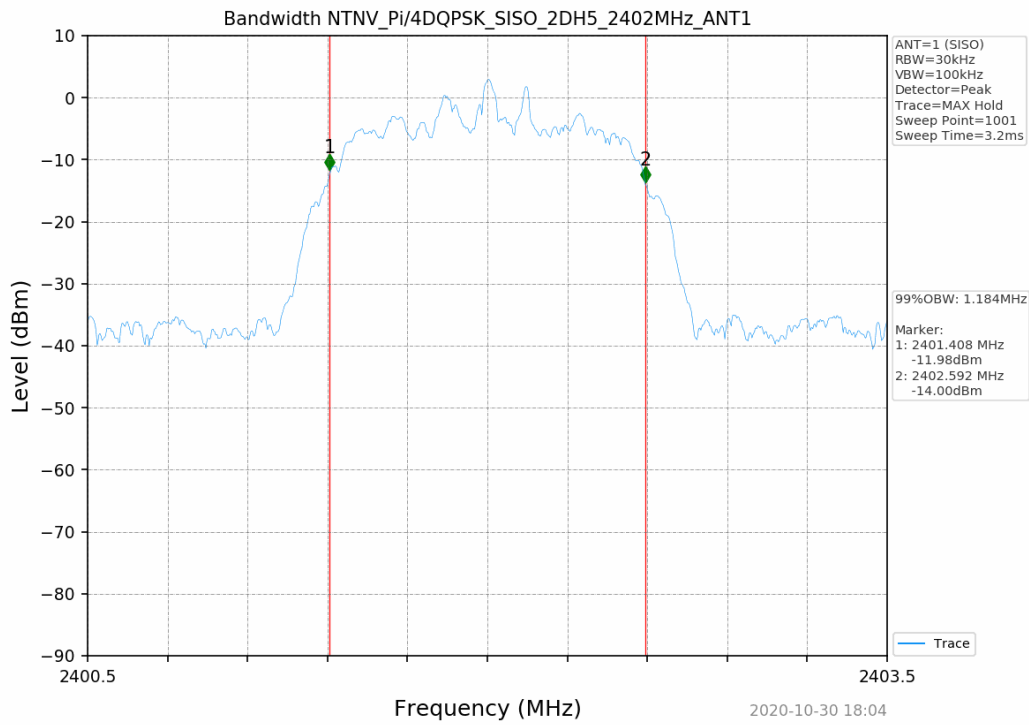


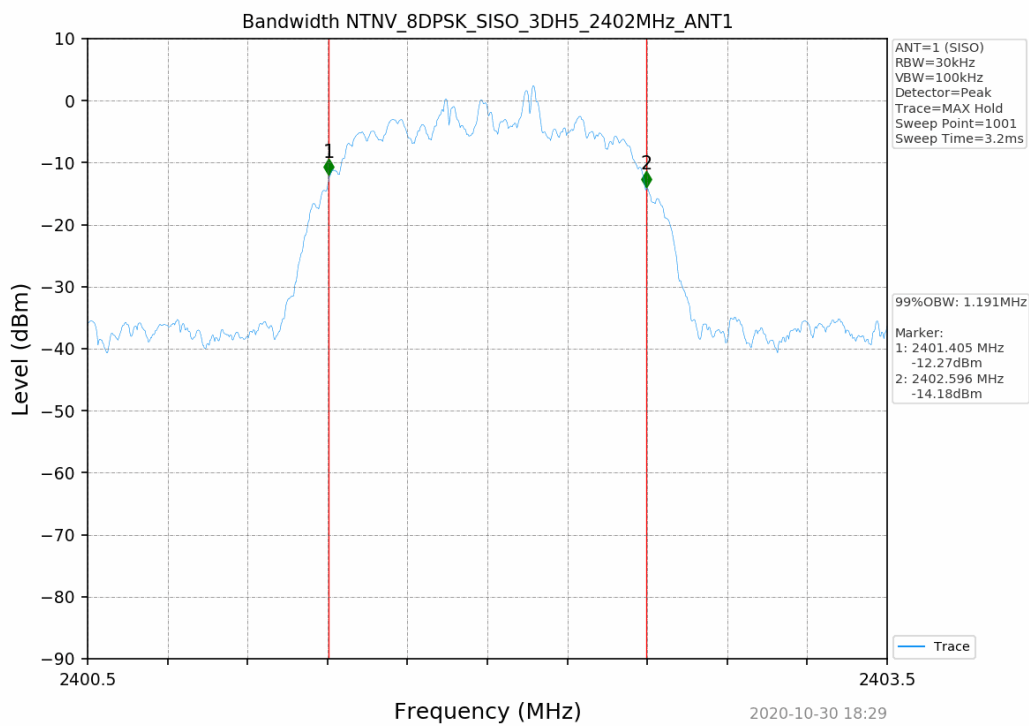
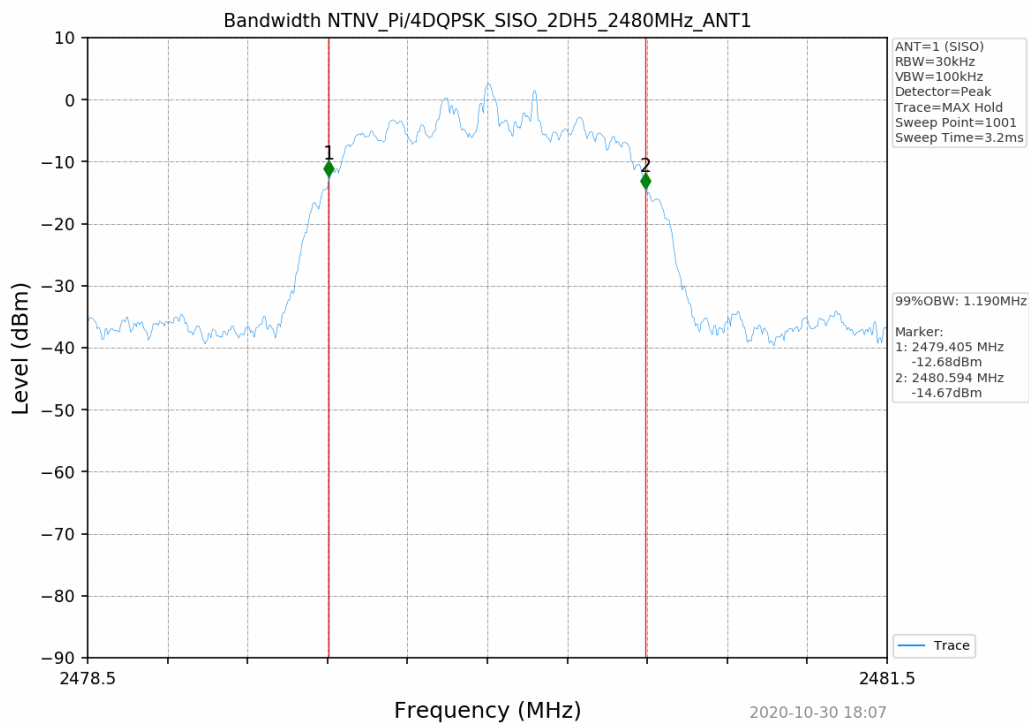


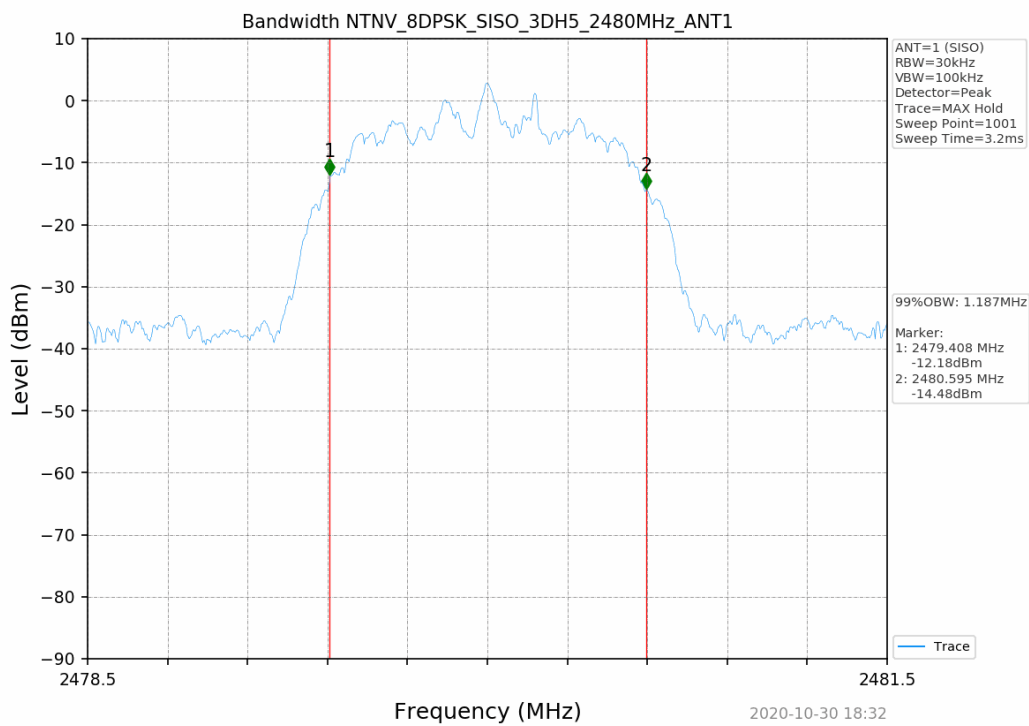
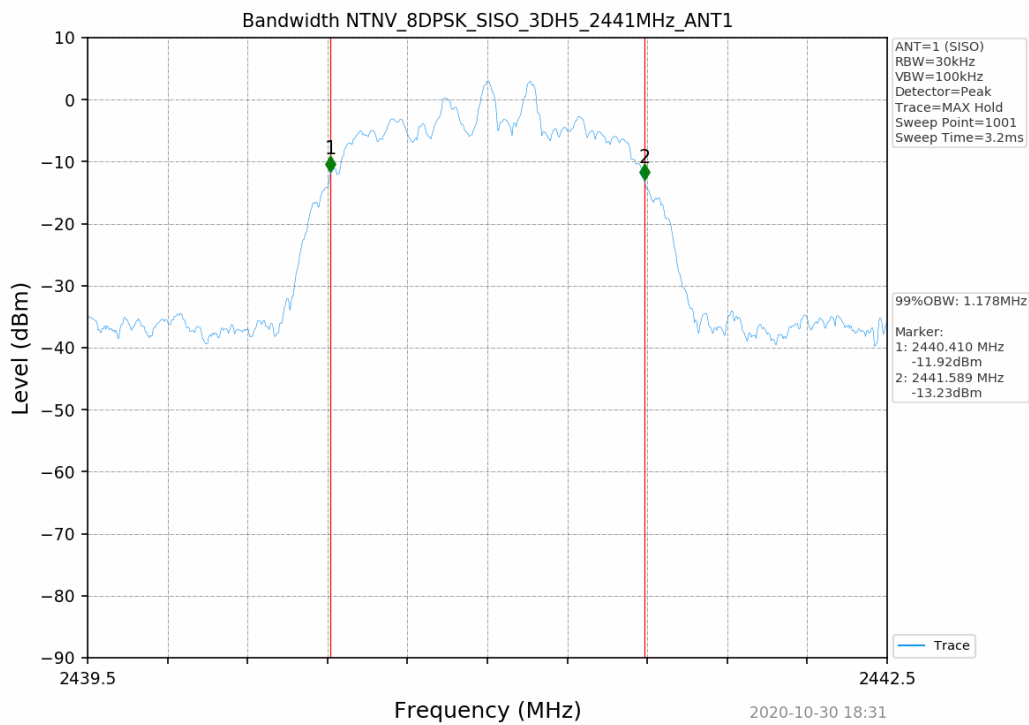
1.3 Test Graph - 99% Occupied Bandwidth









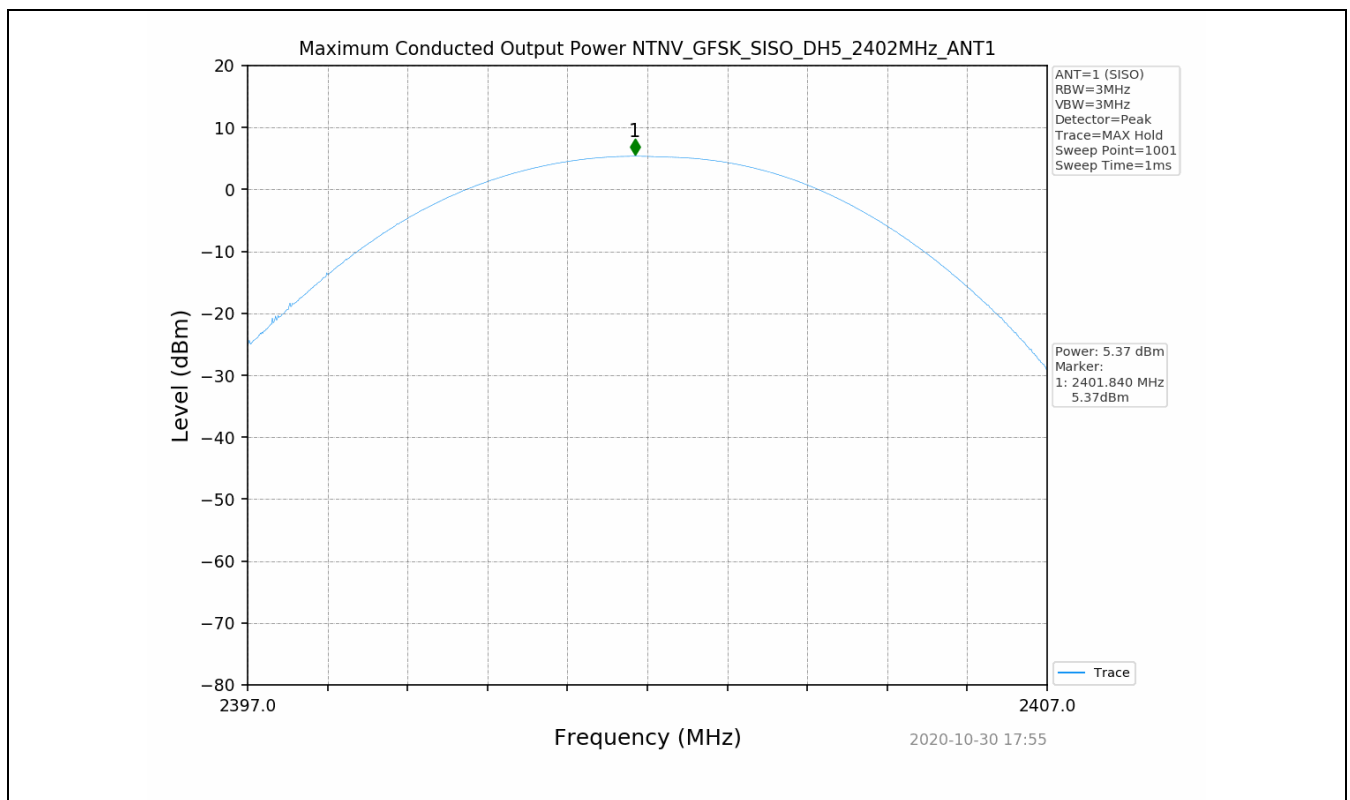


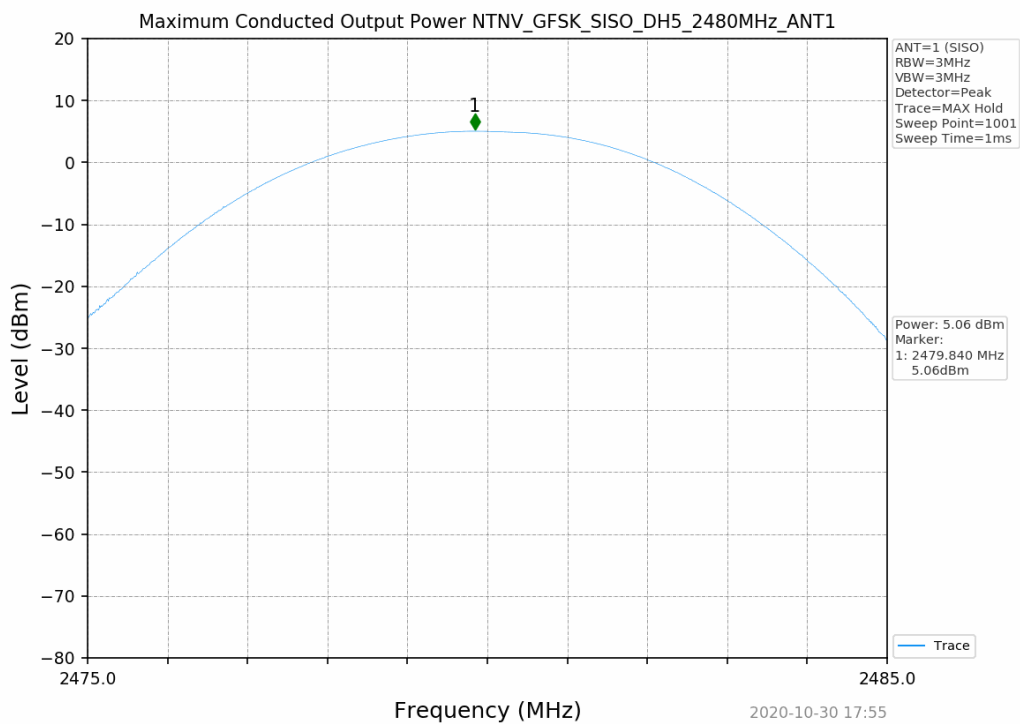
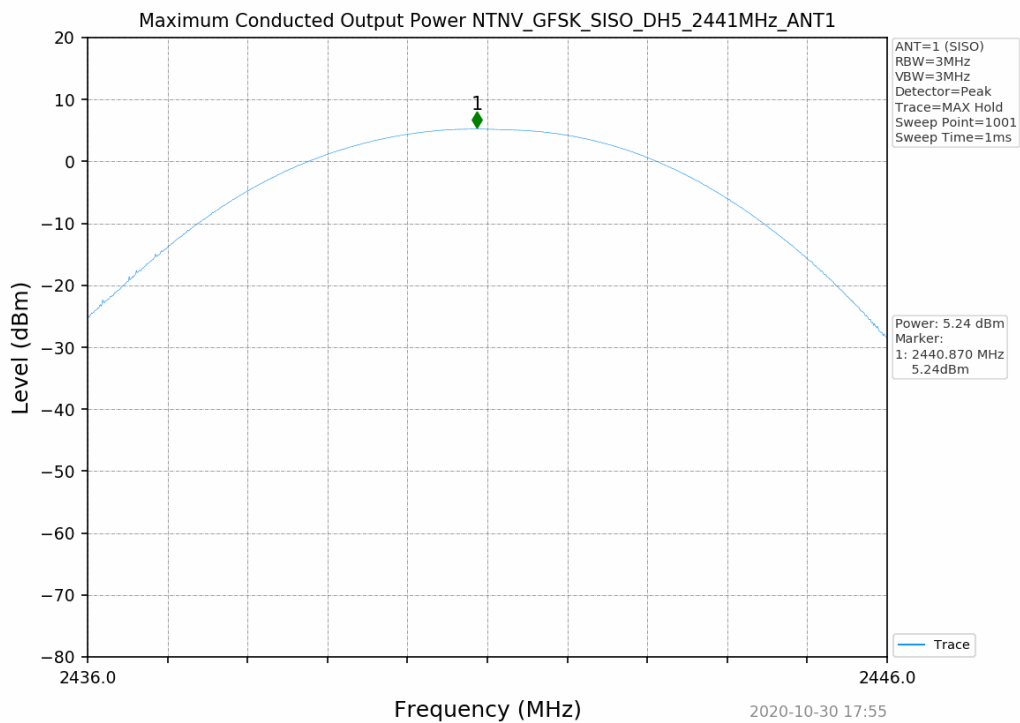
2. Maximum Conducted Output Power

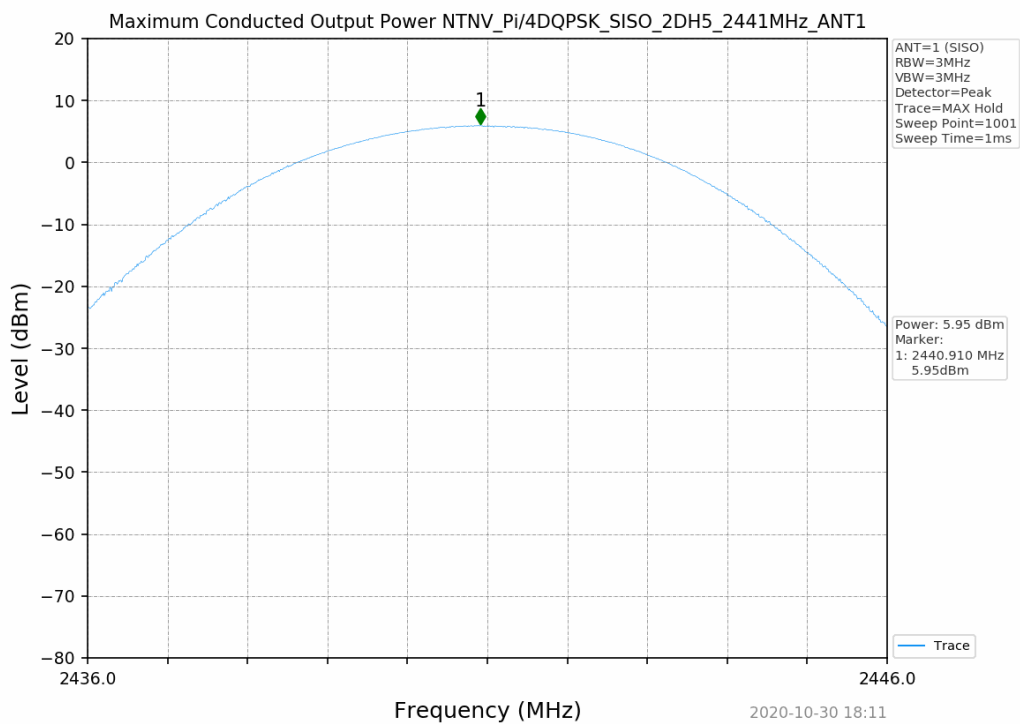
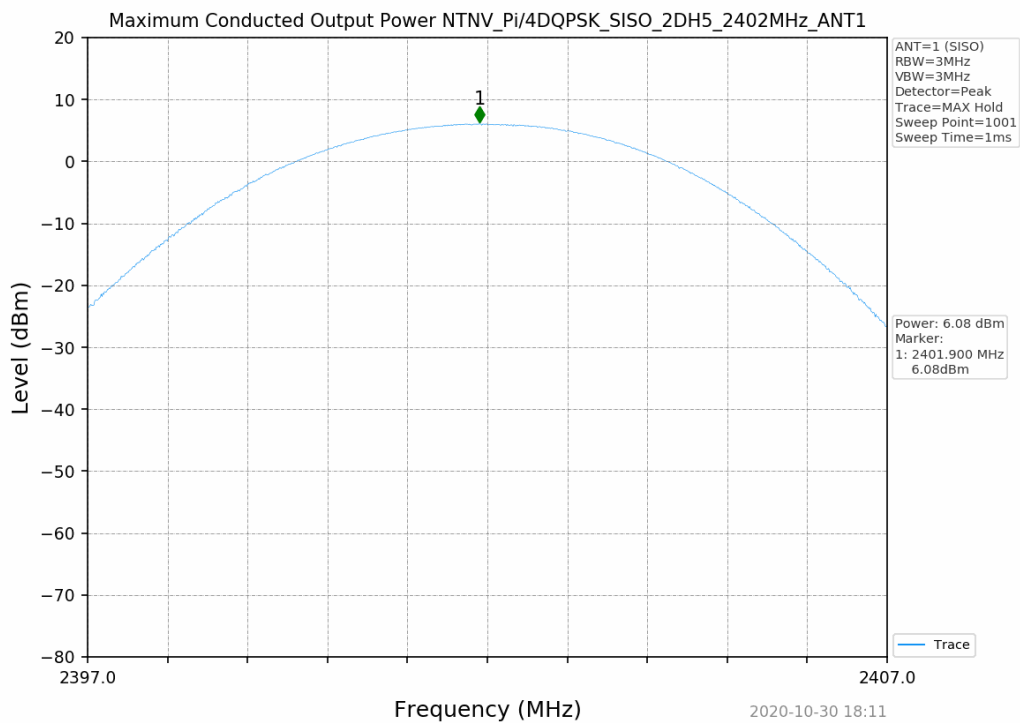
2.1 Test Result

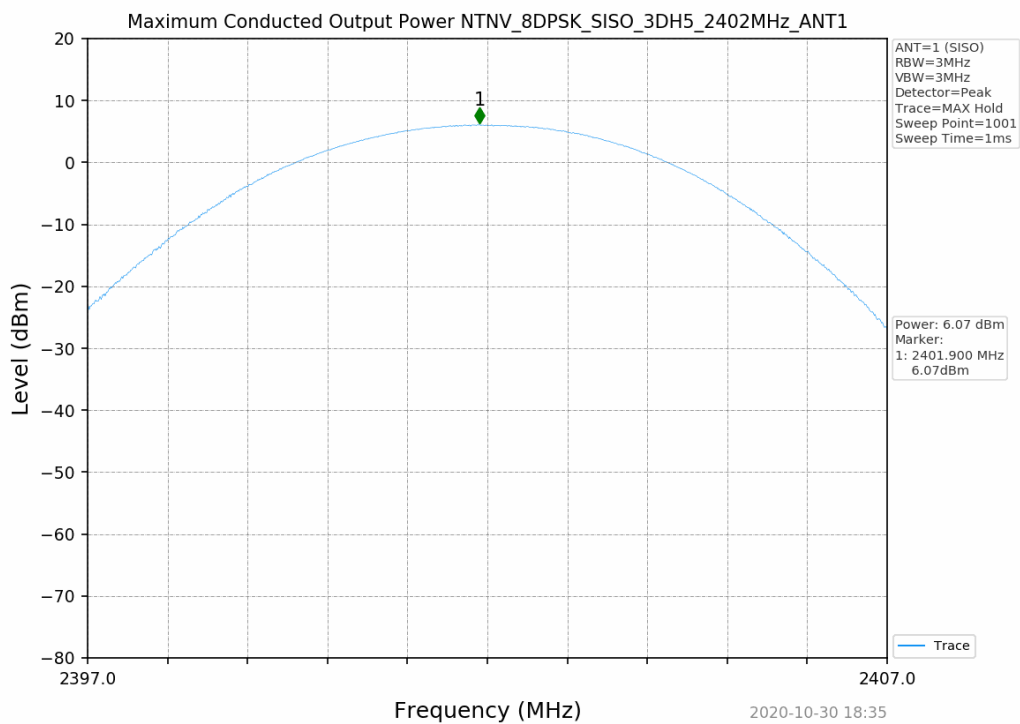
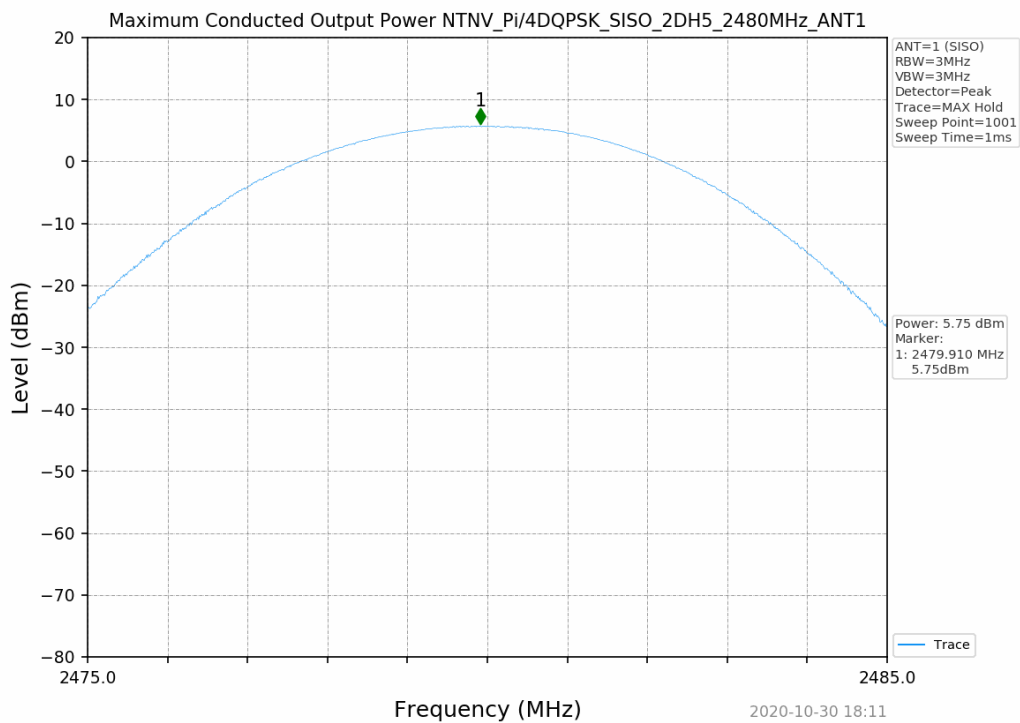
Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
GFSK	2402	SISO	5.37	30	PASS
	2441	SISO	5.24	30	PASS
	2480	SISO	5.06	30	PASS
Pi/4DQPSK	2402	SISO	6.08	20.97	PASS
	2441	SISO	5.95	20.97	PASS
	2480	SISO	5.75	20.97	PASS
8DPSK	2402	SISO	6.07	20.97	PASS
	2441	SISO	5.94	20.97	PASS
	2480	SISO	5.75	20.97	PASS

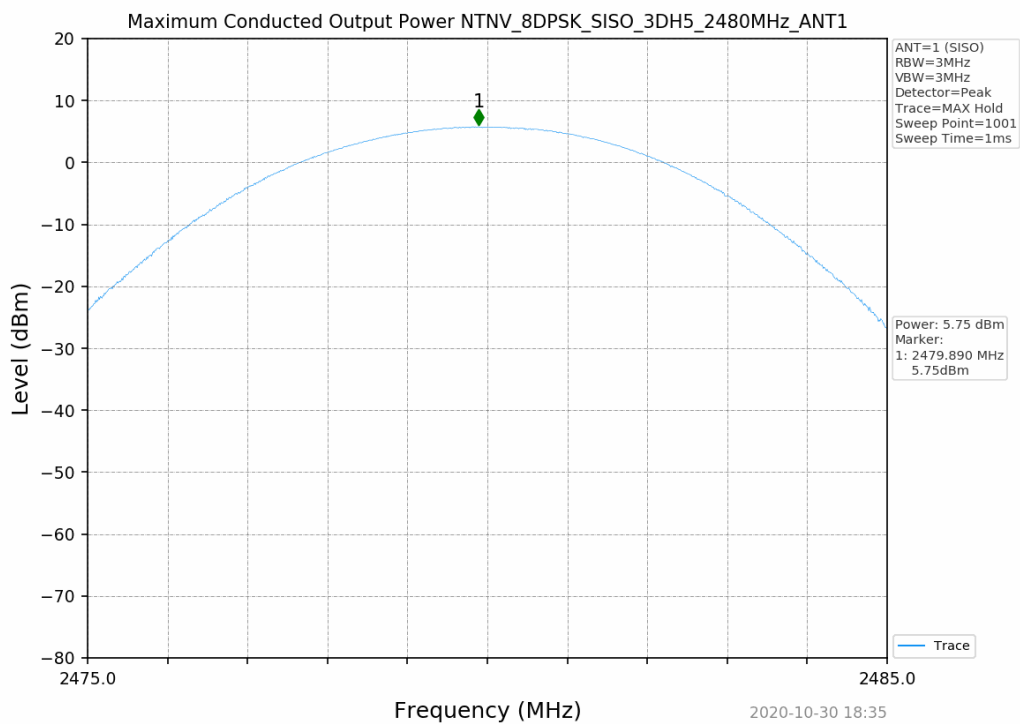
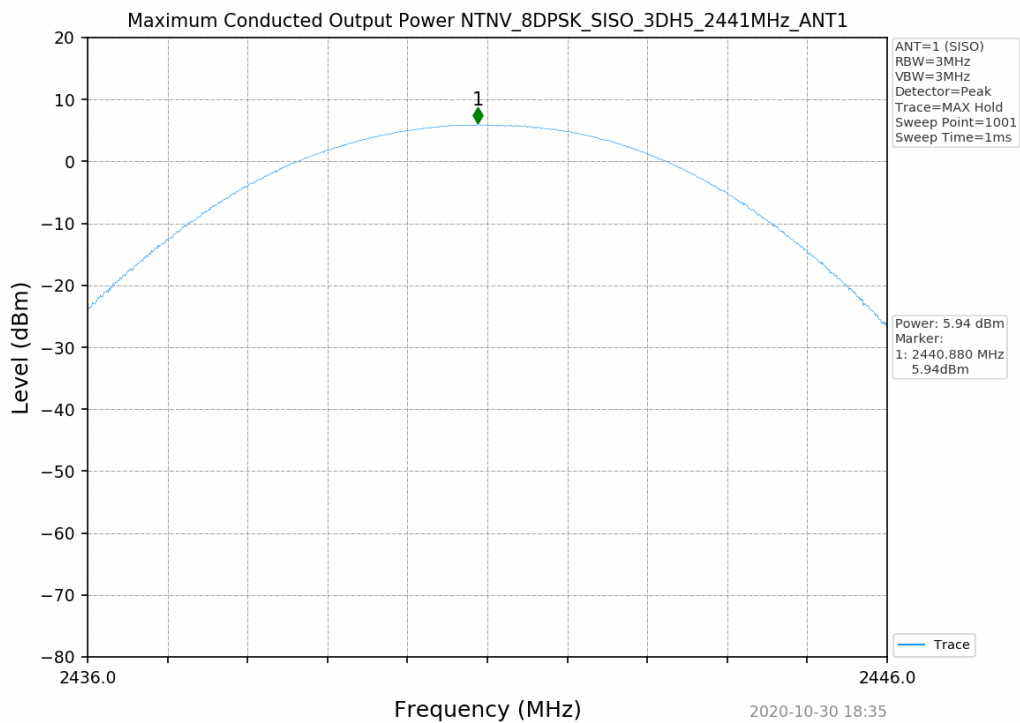
2.2 Test Graph









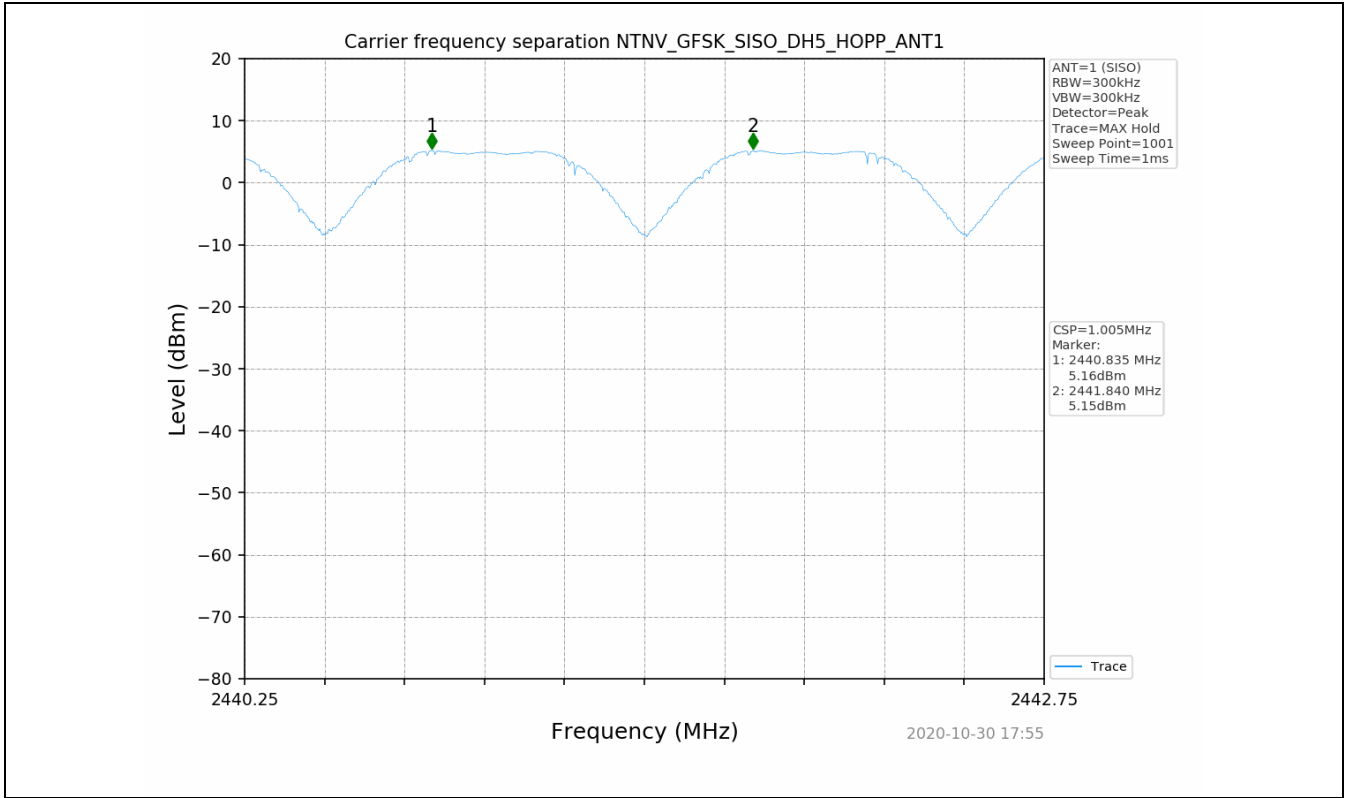


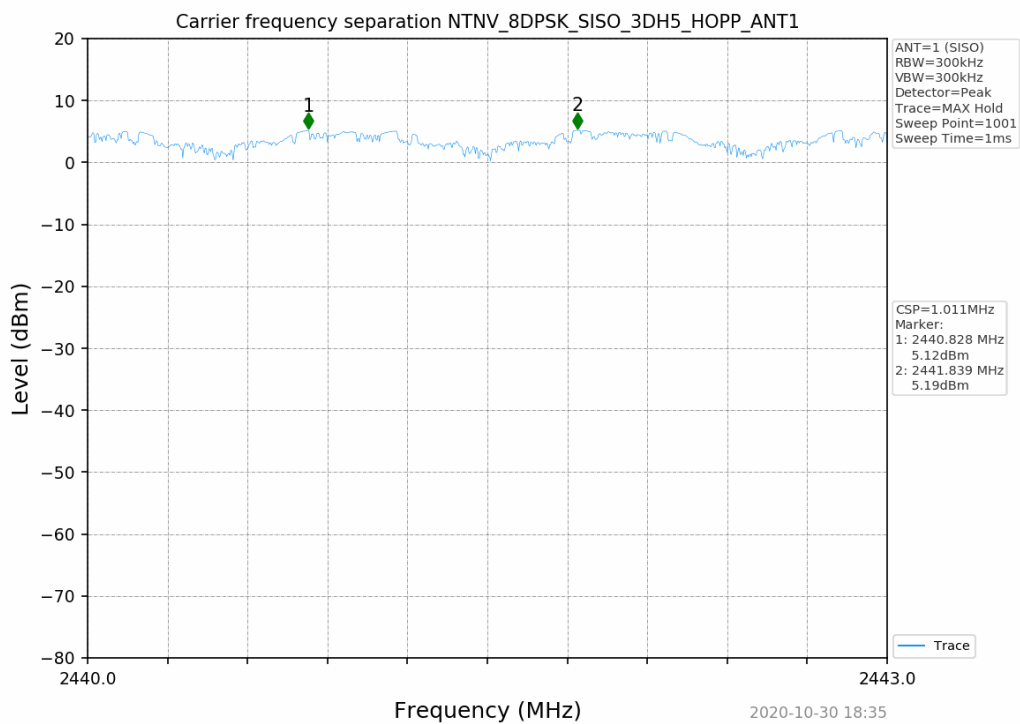
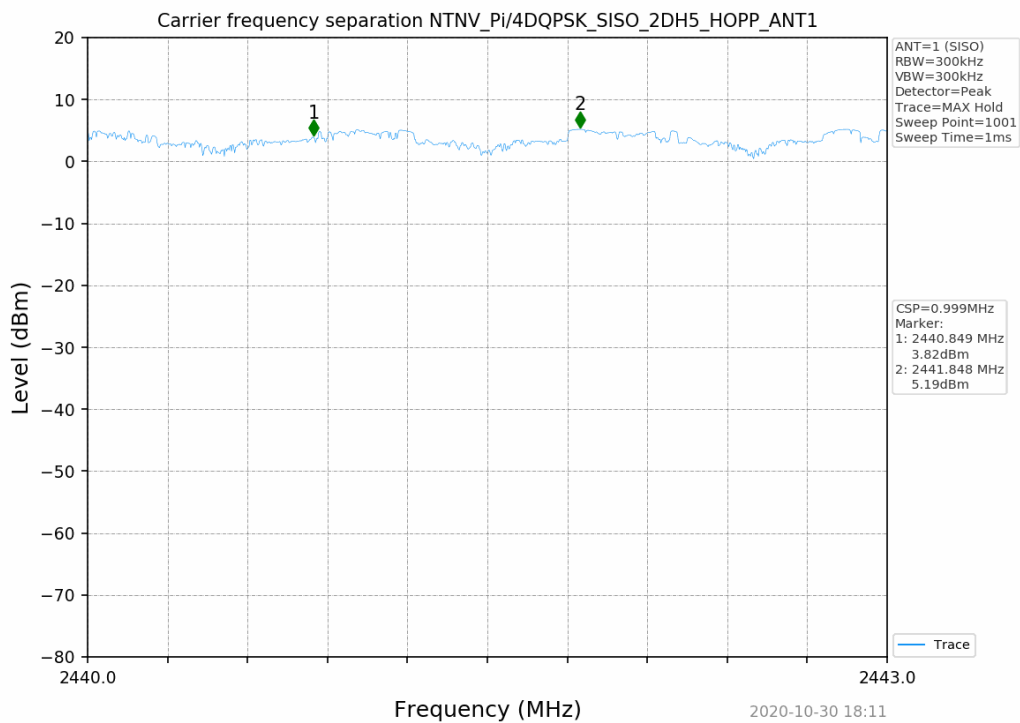
3. Carrier frequency separation

3.1 Test Result

Test Mode	TX Type	ANT No.	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limits (MHz)	Verdict
GFSK	SISO	1	1.005	0.948	≥ 0.632	PASS
Pi/4DQPSK	SISO	1	0.999	1.315	≥ 0.877	PASS
8DPSK	SISO	1	1.011	1.314	≥ 0.876	PASS

3.2 Test Graph



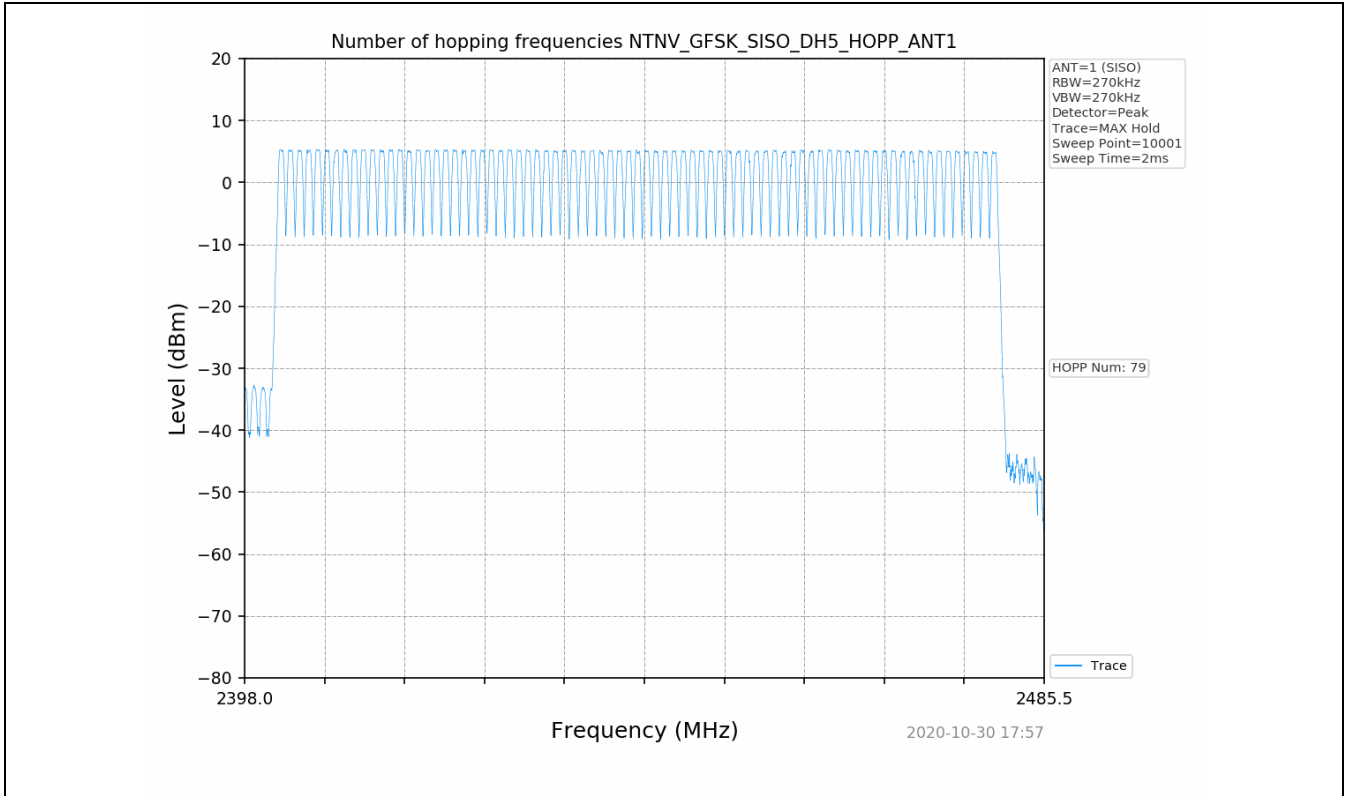


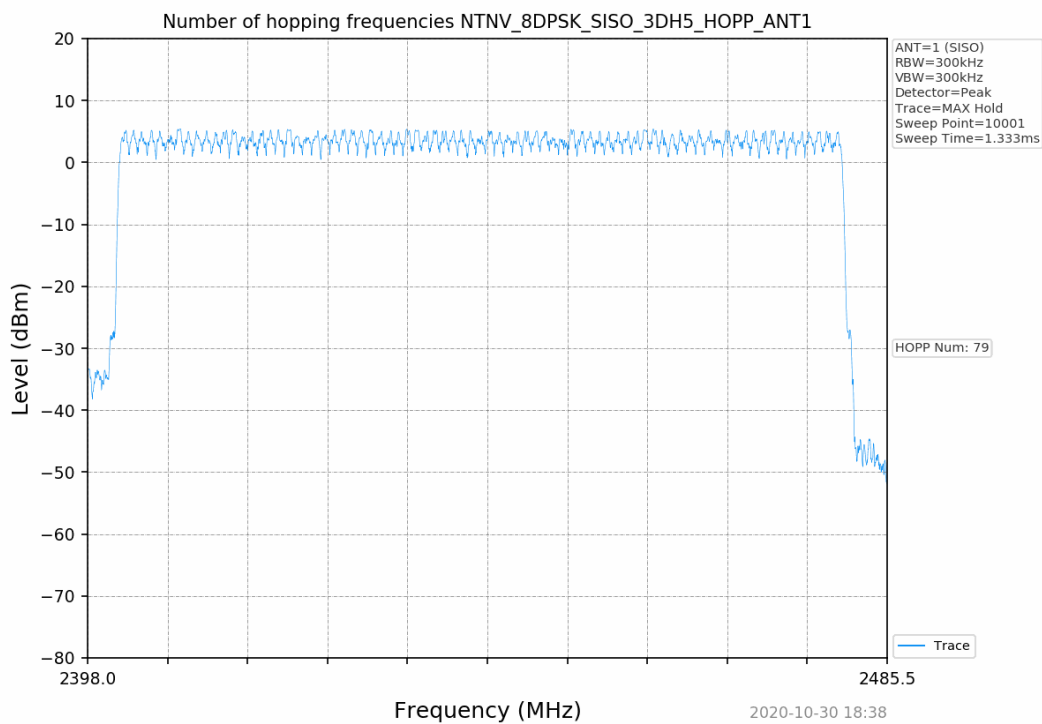
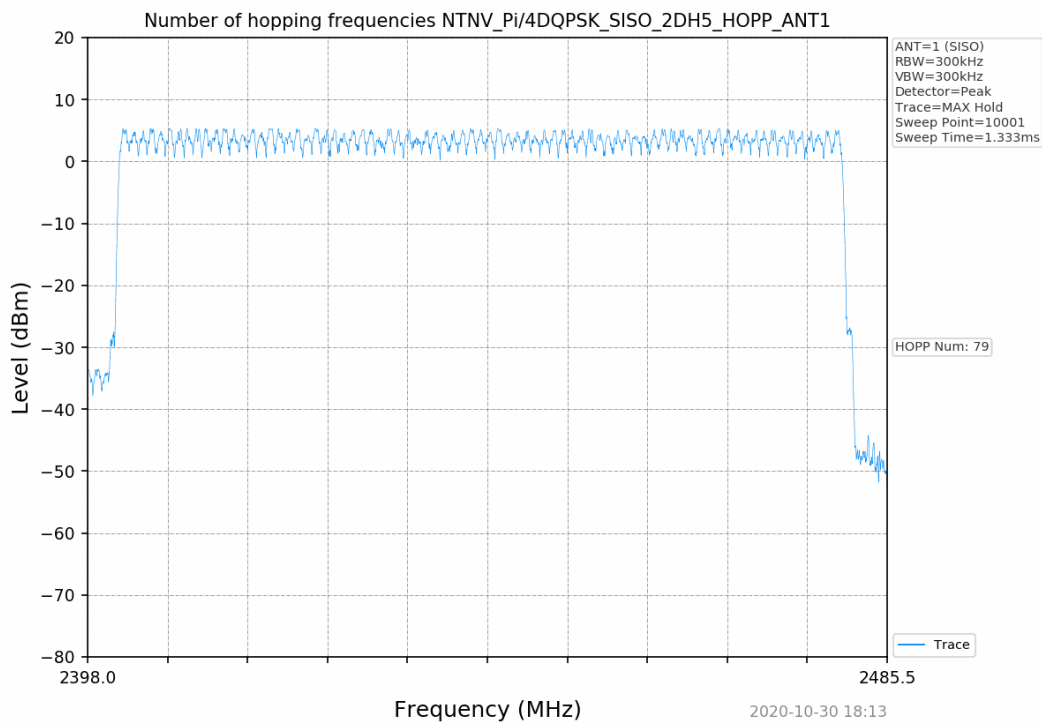
4. Number of hopping frequencies

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	0.379	31.6	320	121.280	≤400	PASS
	DH3	SISO	1	1.633	31.6	112	182.896	≤400	PASS
	DH5	SISO	1	2.880	31.6	70	201.600	≤400	PASS
Pi/4D QPSK	2DH1	SISO	1	0.387	31.6	320	123.840	≤400	PASS
	2DH3	SISO	1	1.639	31.6	110	180.290	≤400	PASS
	2DH5	SISO	1	2.887	31.6	54	155.898	≤400	PASS
8DPSK	3DH1	SISO	1	0.387	31.6	320	123.840	≤400	PASS
	3DH3	SISO	1	1.639	31.6	108	177.012	≤400	PASS
	3DH5	SISO	1	2.888	31.6	71	205.048	≤400	PASS

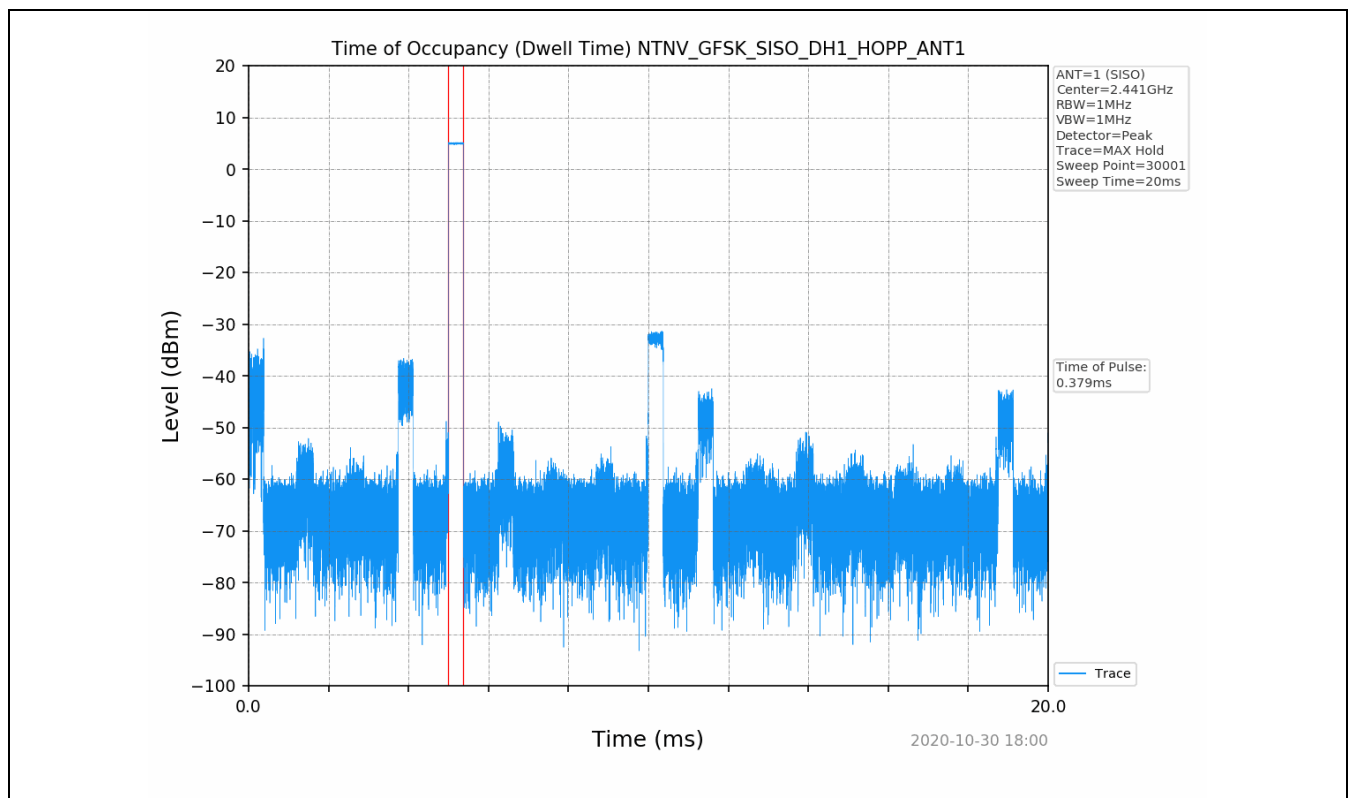
Note:

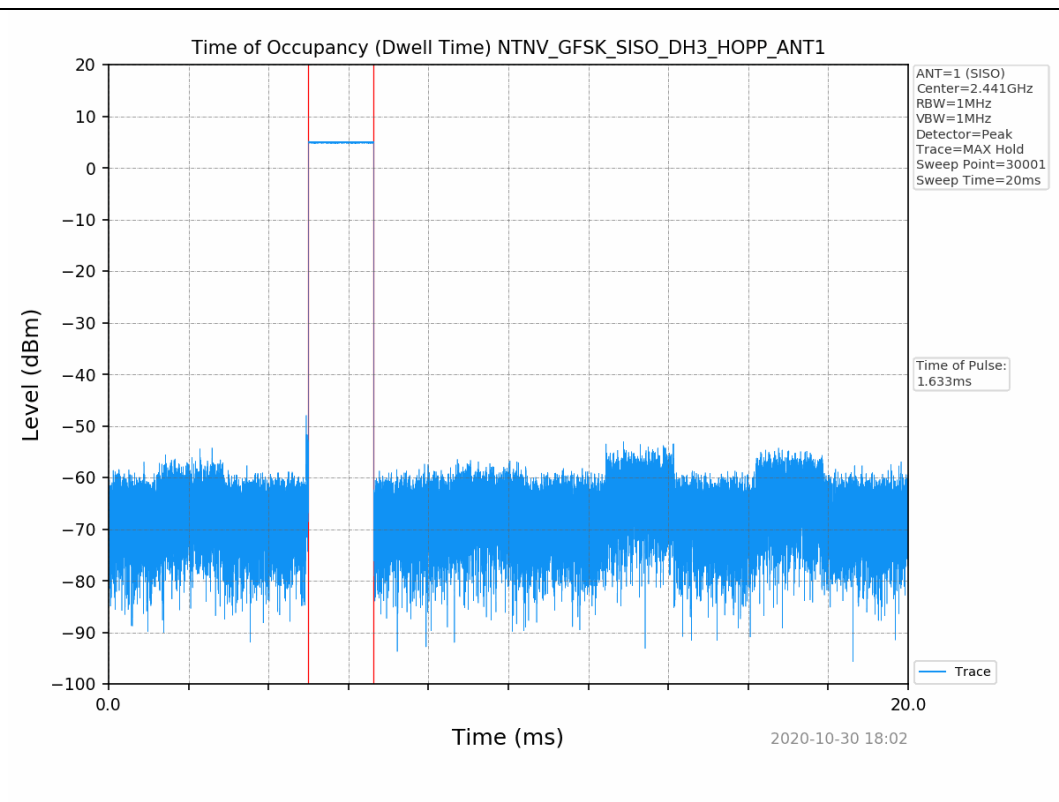
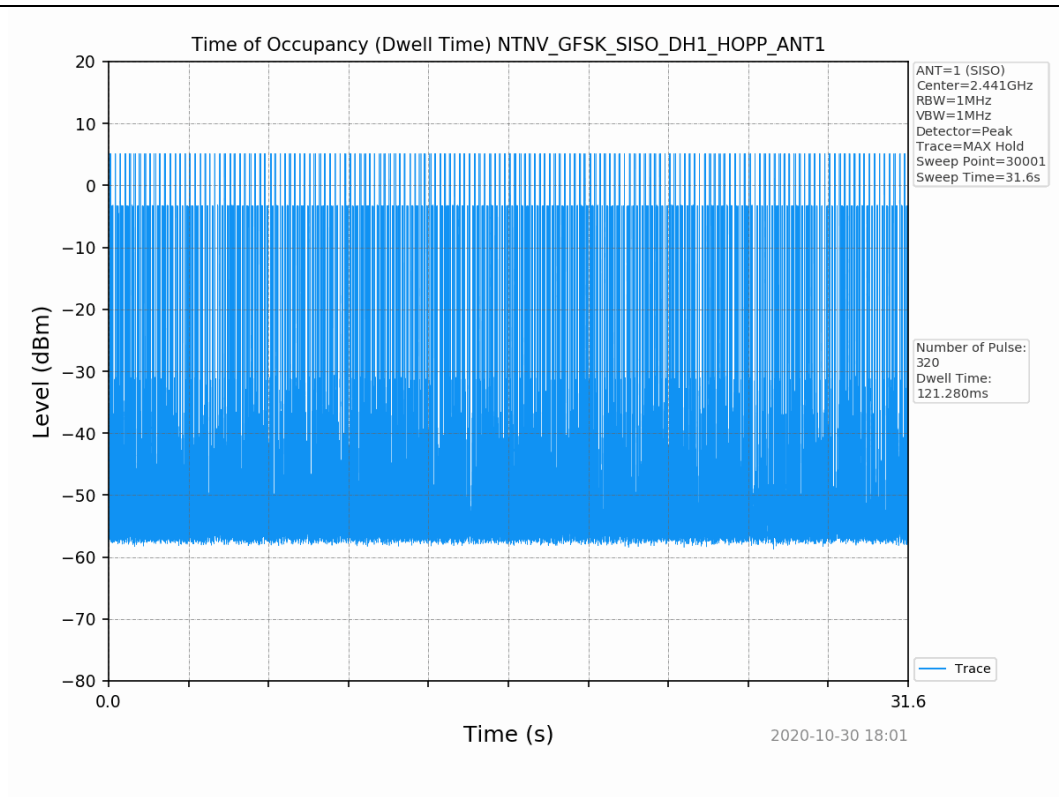
Dwell time= Pulse time (ms) × (Num of Pulse in Observation Period) for DH1, 2DH1, 3DH1

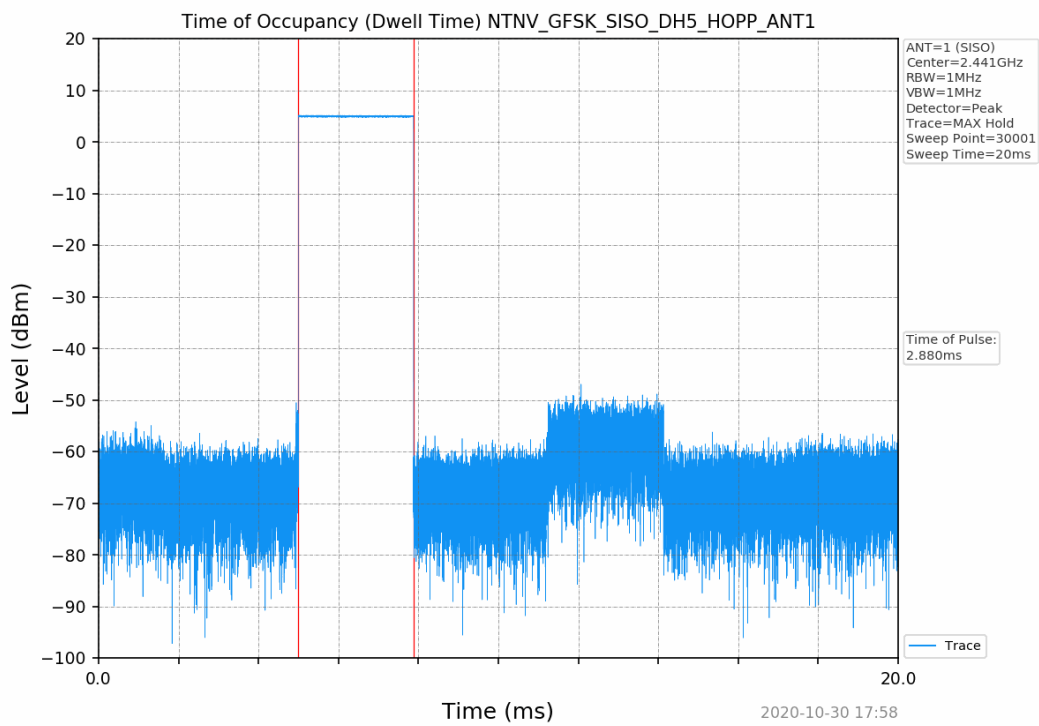
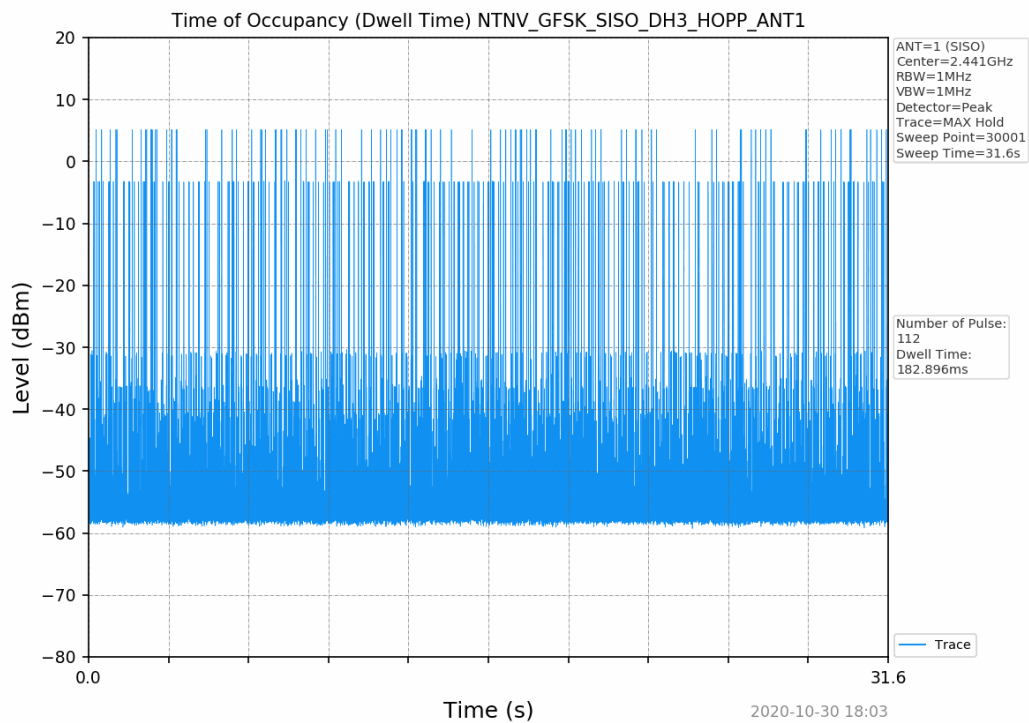
Dwell time= Pulse time (ms) × (Num of Pulse in Observation Period) for DH3, 2DH3, 3DH3

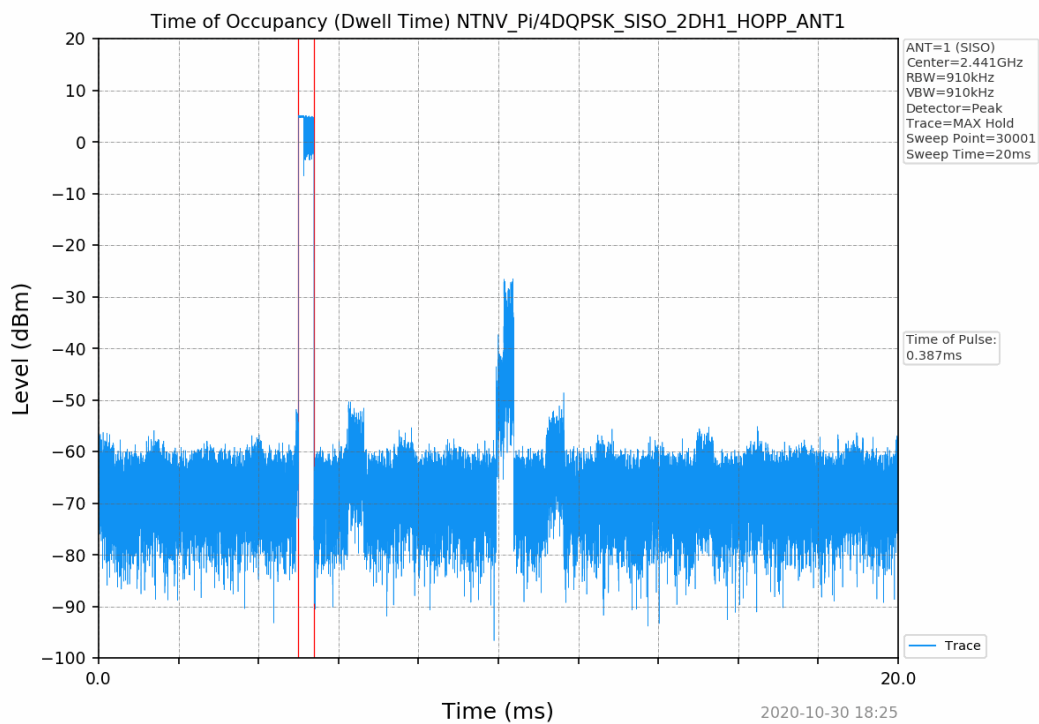
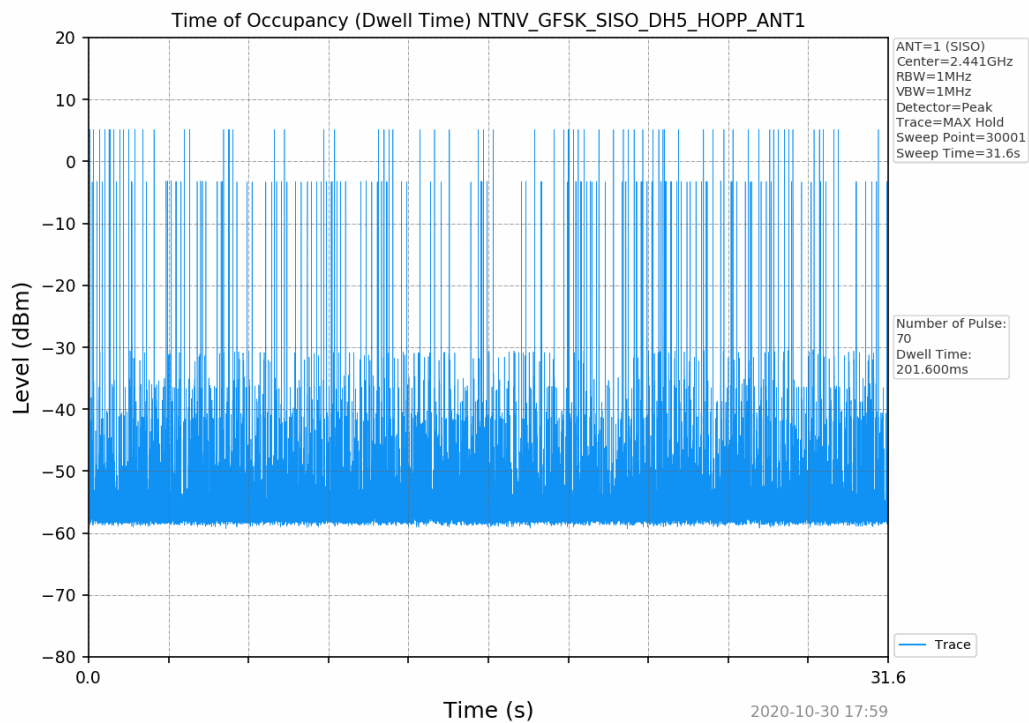
Dwell time= Pulse time (ms) × (Num of Pulse in Observation Period) for DH5, 2DH5, 3DH5

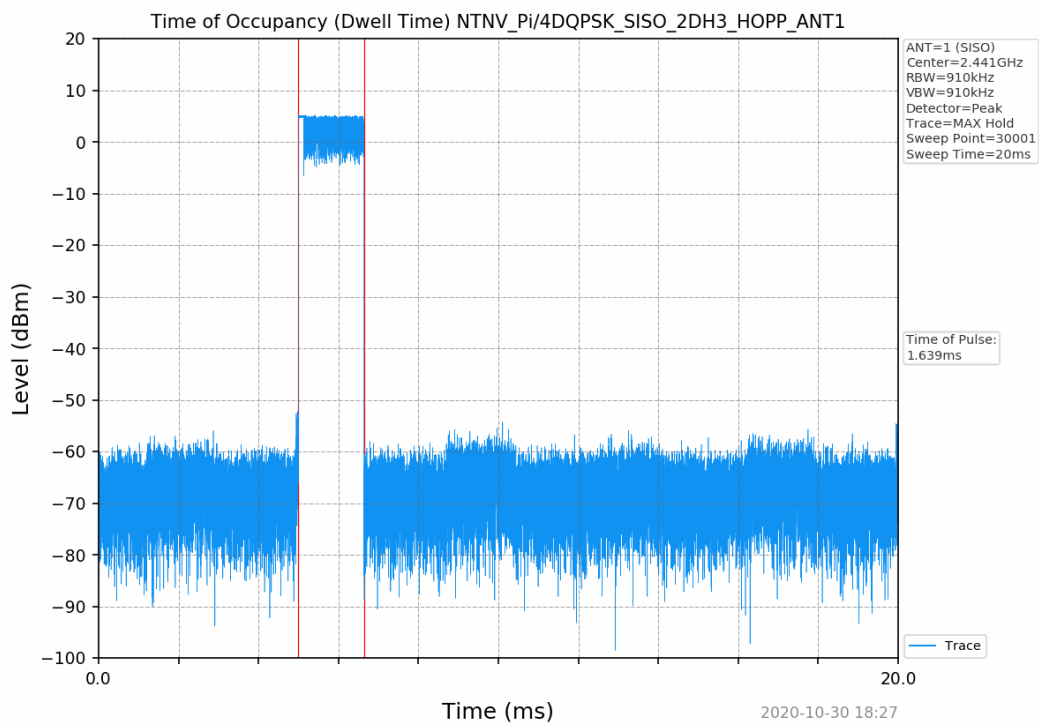
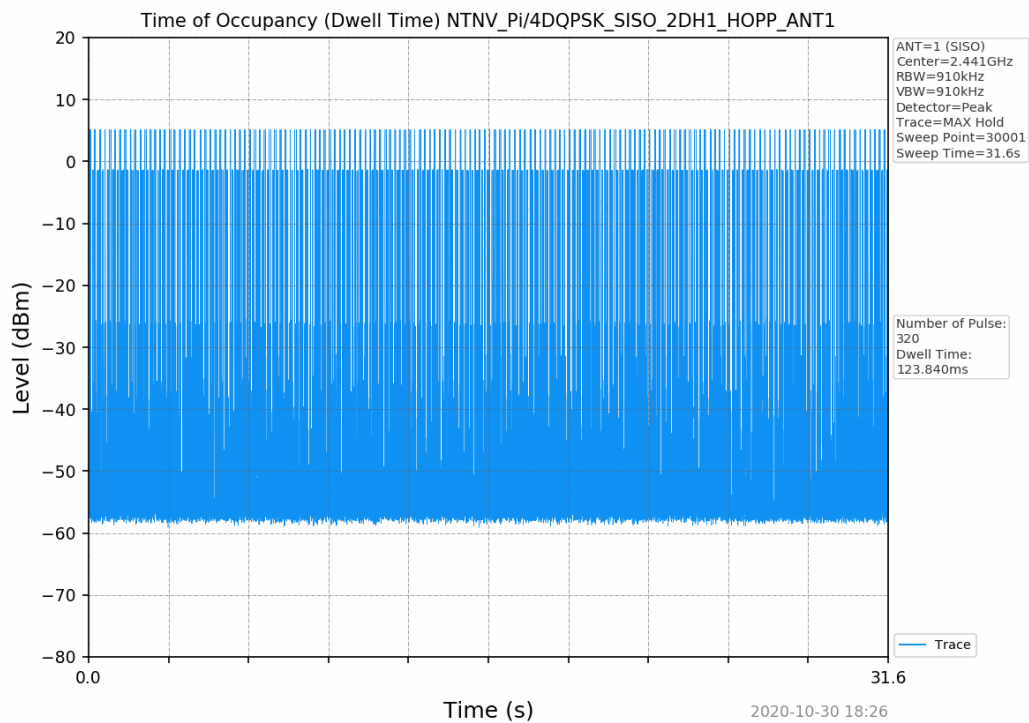
5.2 Test Graph

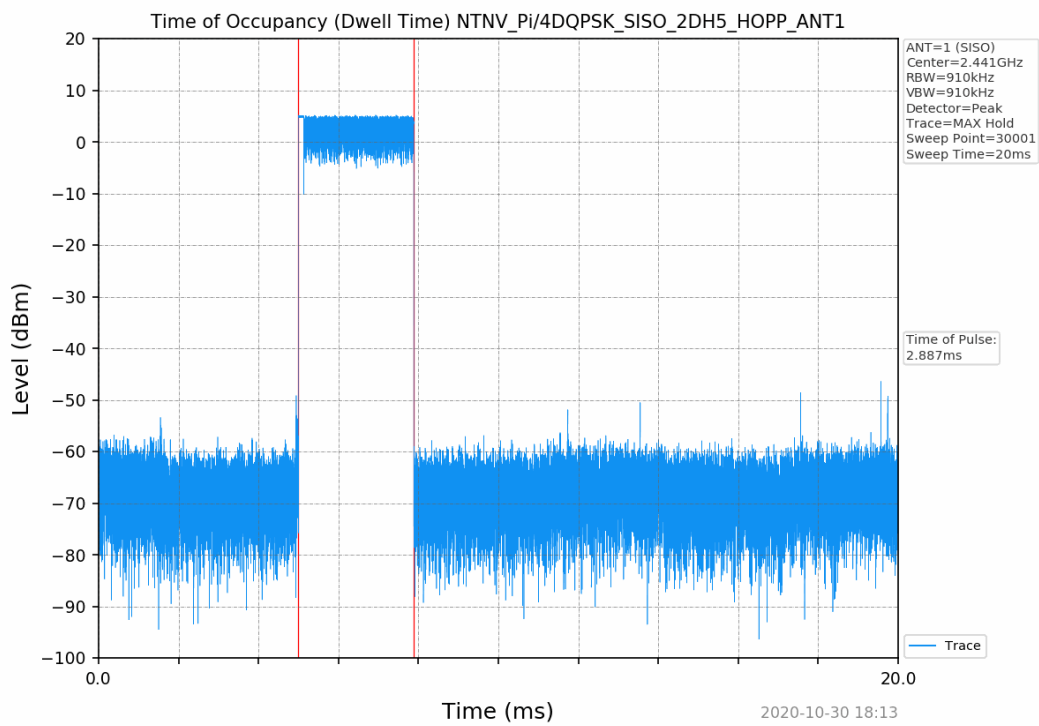
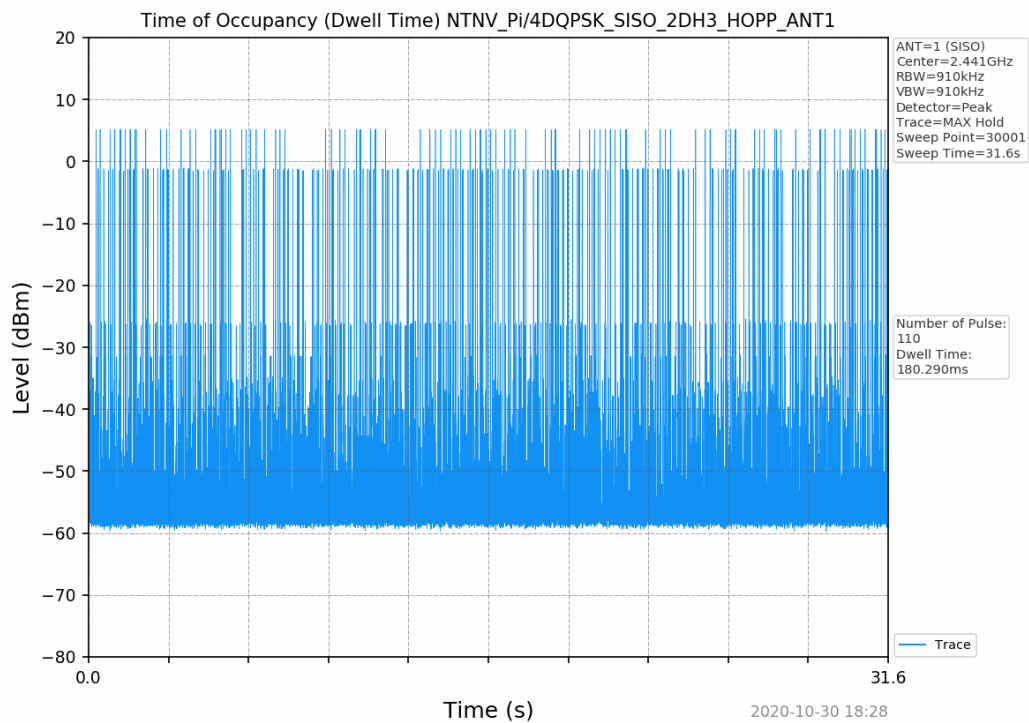


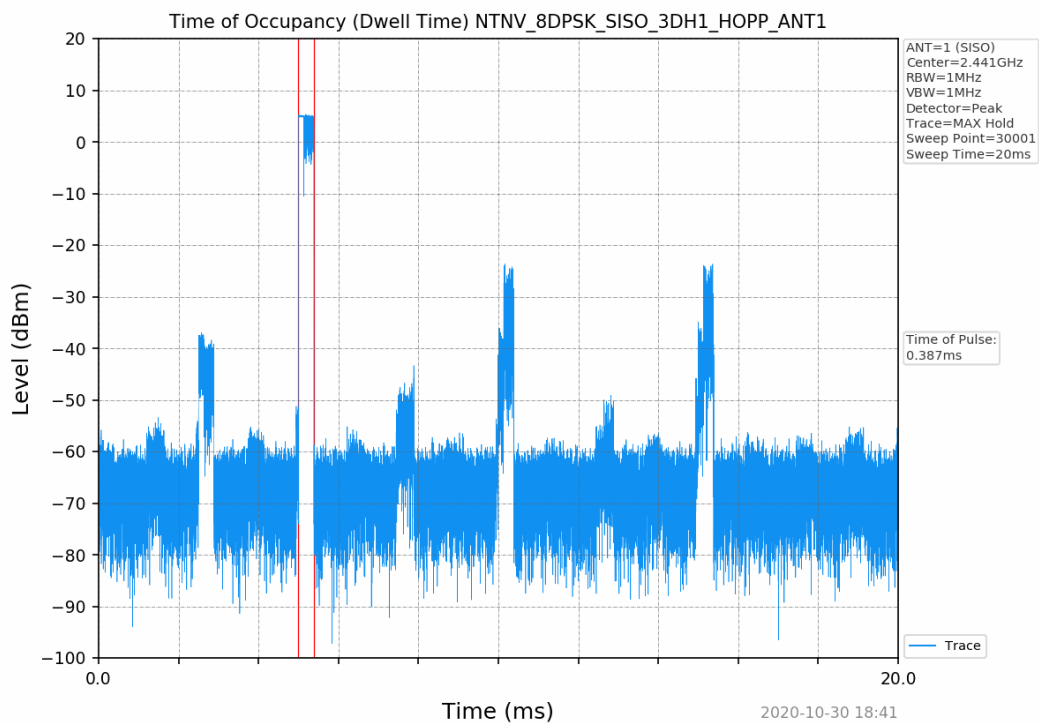
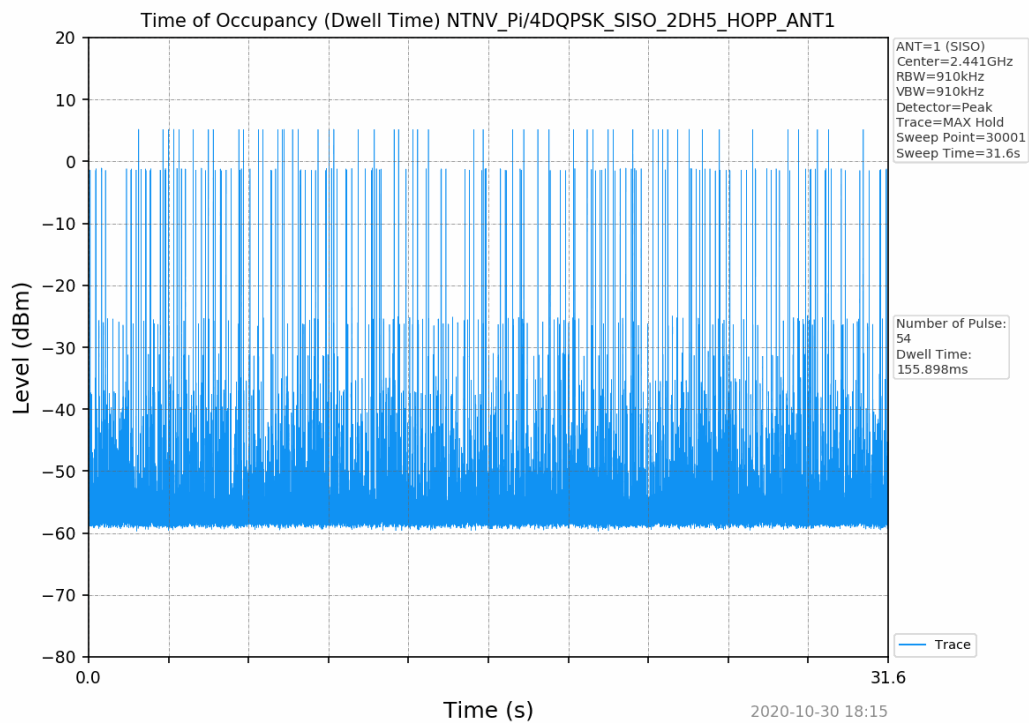


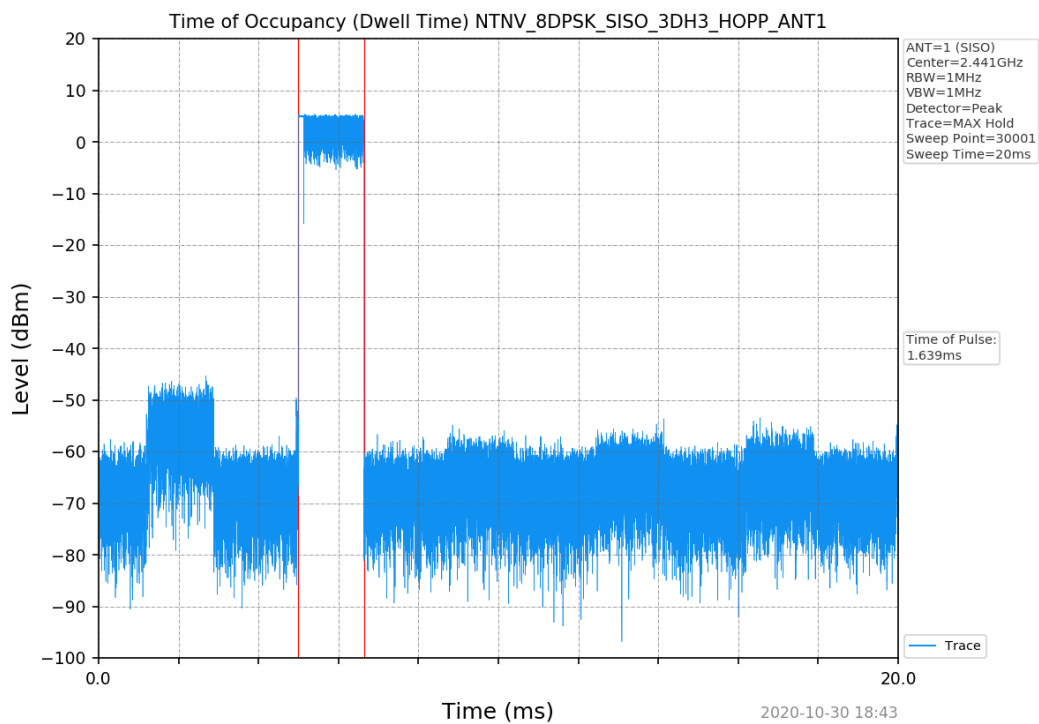
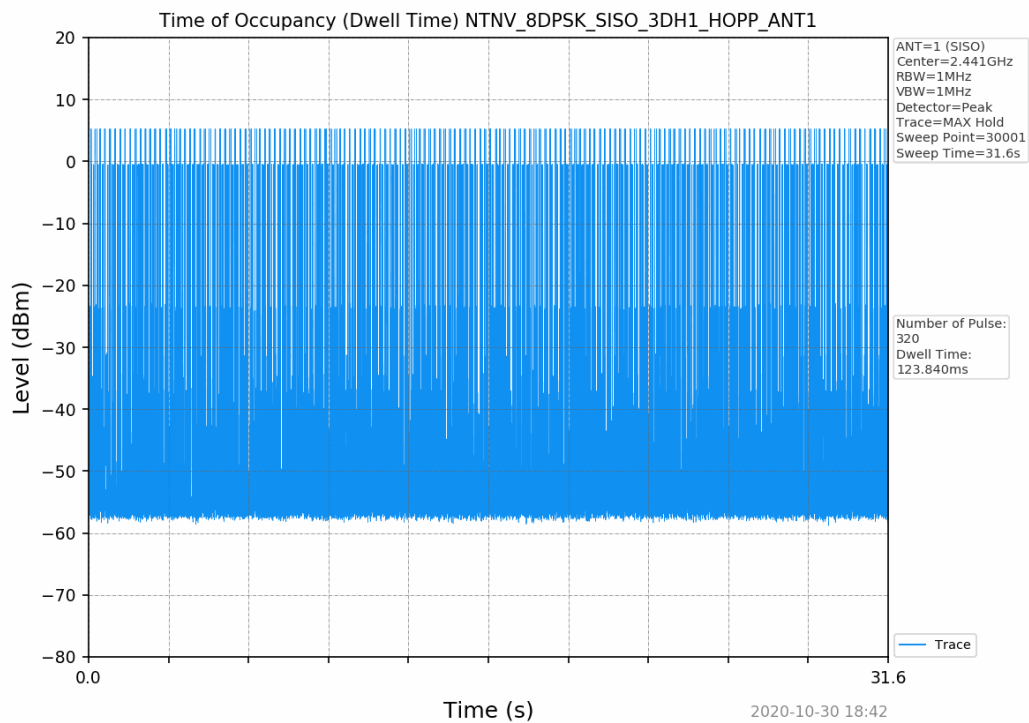


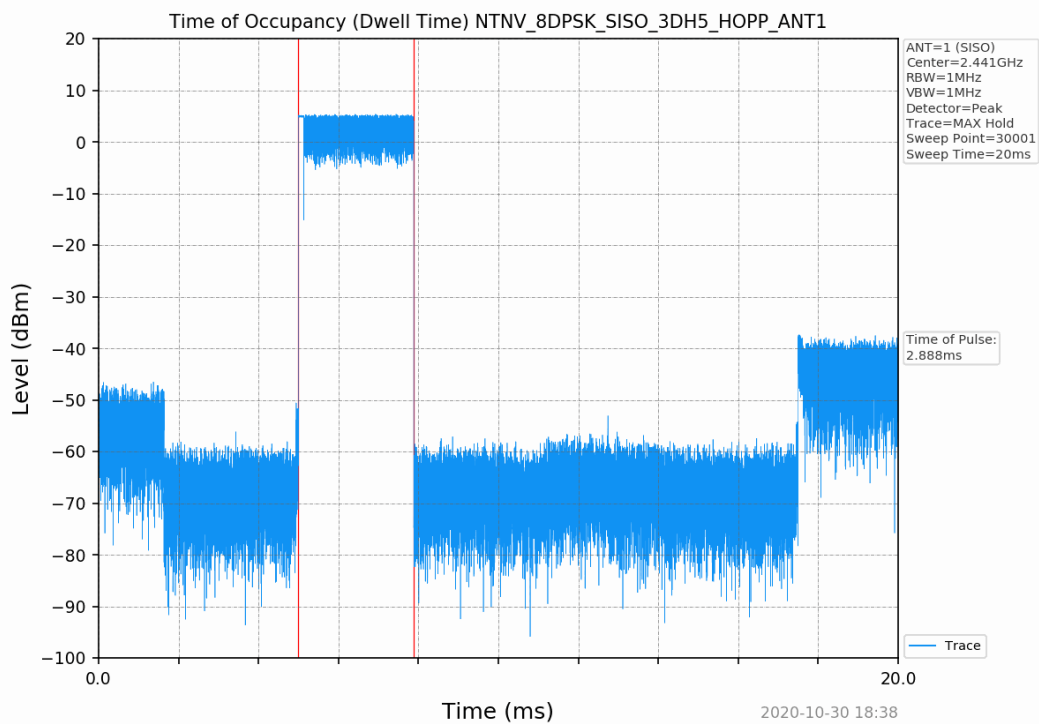
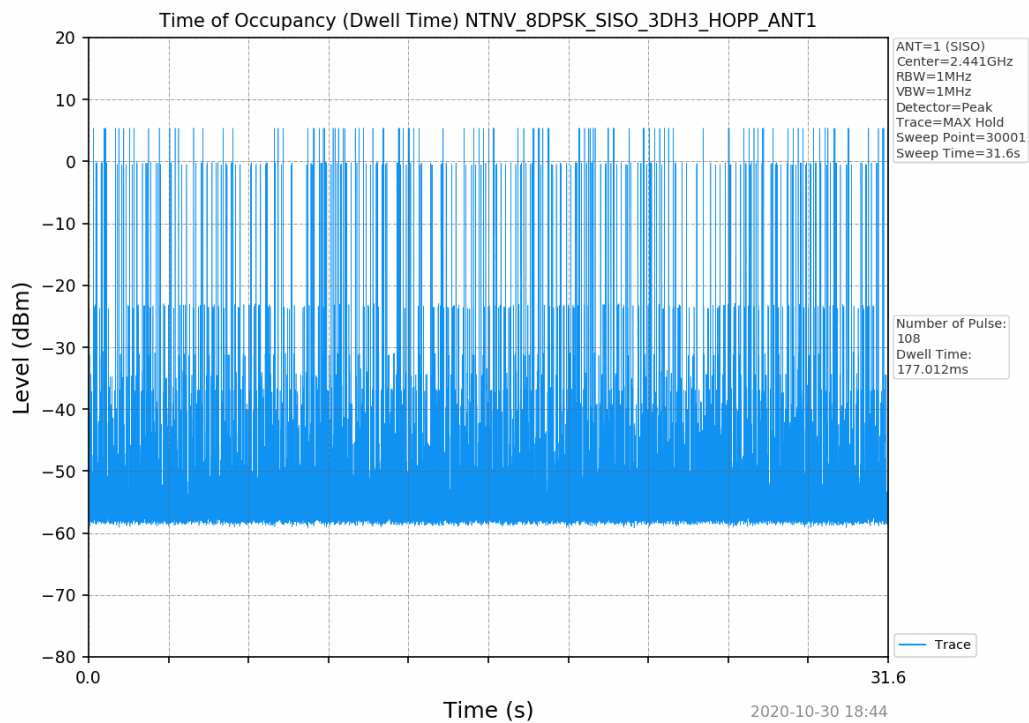


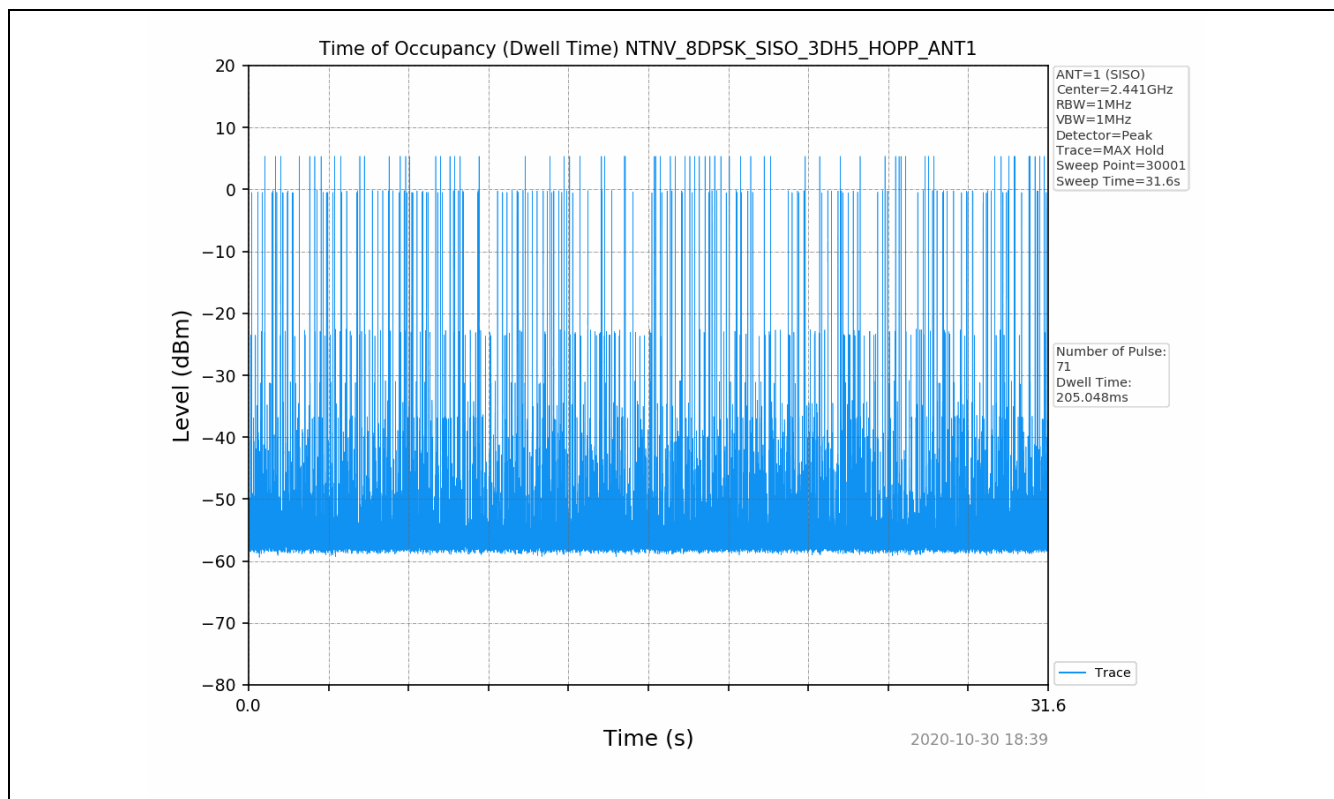












6. Unwanted Emissions in Non-restricted Frequency Bands

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	-14.67	PASS
	2441	SISO	1	Refer to test graph	-14.67	PASS
	2480	SISO	1	Refer to test graph	-14.67	PASS
	Hopping	SISO	1	Refer to test graph	-14.67	PASS
Pi/4DQPSK	2402	SISO	1	Refer to test graph	-14.78	PASS
	2441	SISO	1	Refer to test graph	-14.78	PASS
	2480	SISO	1	Refer to test graph	-14.78	PASS
	Hopping	SISO	1	Refer to test graph	-14.78	PASS
8DPSK	2402	SISO	1	Refer to test graph	-14.78	PASS
	2441	SISO	1	Refer to test graph	-14.78	PASS
	2480	SISO	1	Refer to test graph	-14.78	PASS
	Hopping	SISO	1	Refer to test graph	-14.78	PASS

6.2 Test Graph

