

**Appendix for 15.247**  
**Report No.: CTL2011102111-WF**

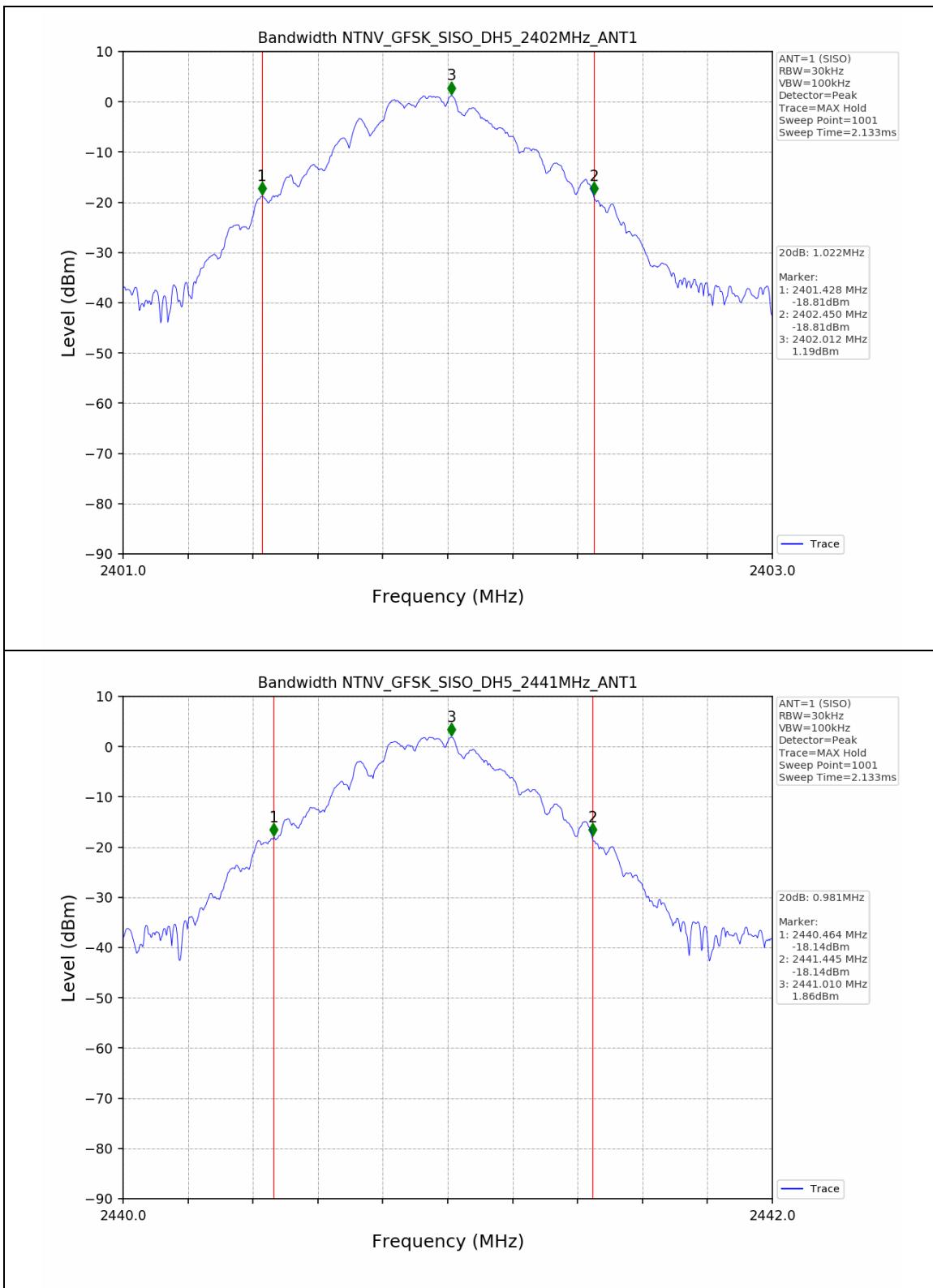
## 1. Bandwidth

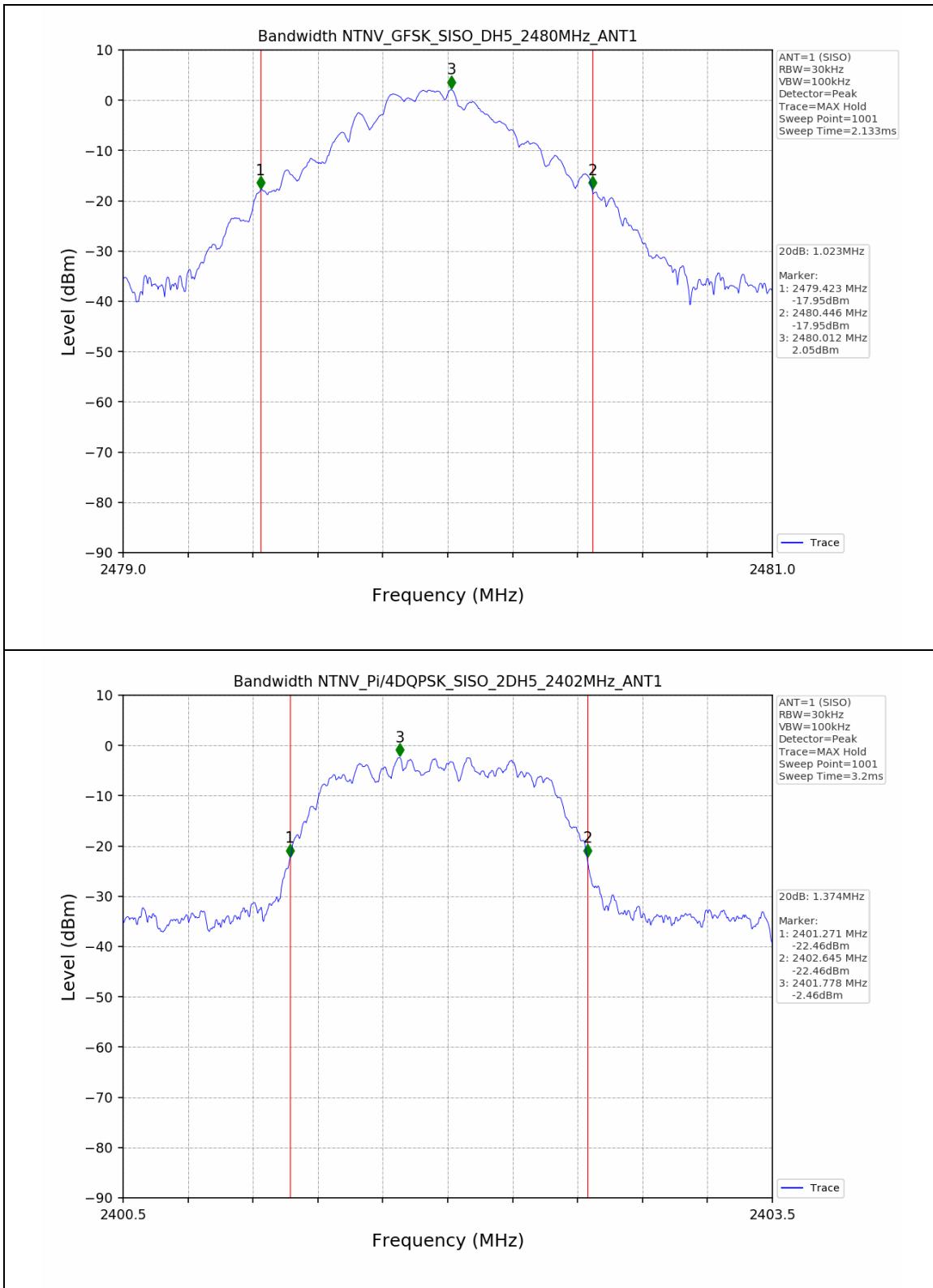
### 1.1 Test Result

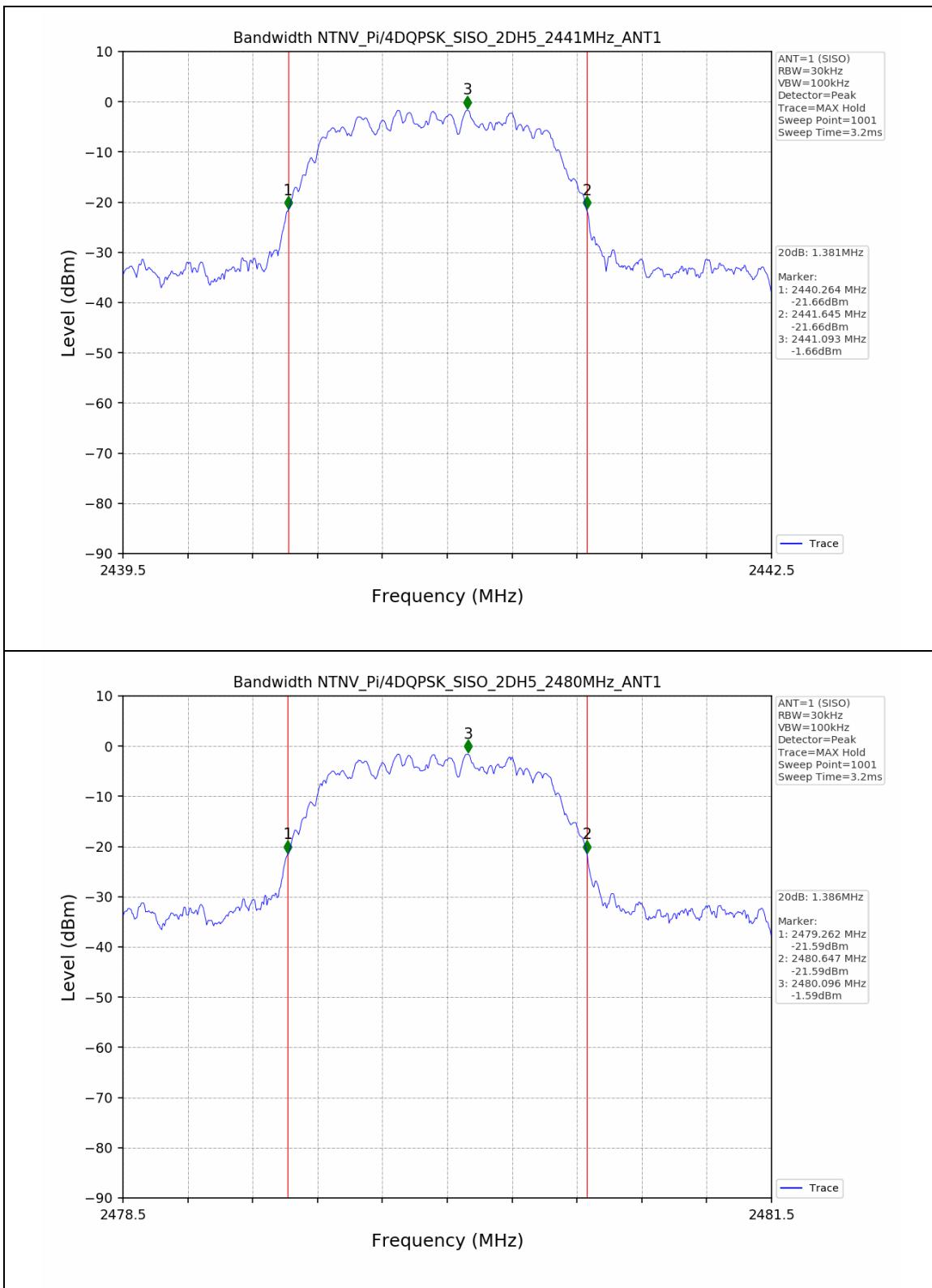
Test Mode	Frequency (MHz)	TX Type	ANT No.	20dB Bandwidth	Verdict
				Test Result (MHz)	
GFSK	2402	SISO	1	1.022	PASS
	2441	SISO	1	0.981	PASS
	2480	SISO	1	1.023	PASS
Pi/4DQPSK	2402	SISO	1	1.374	PASS
	2441	SISO	1	1.381	PASS
	2480	SISO	1	1.386	PASS
8DPSK	2402	SISO	1	1.364	PASS
	2441	SISO	1	1.362	PASS
	2480	SISO	1	1.362	PASS

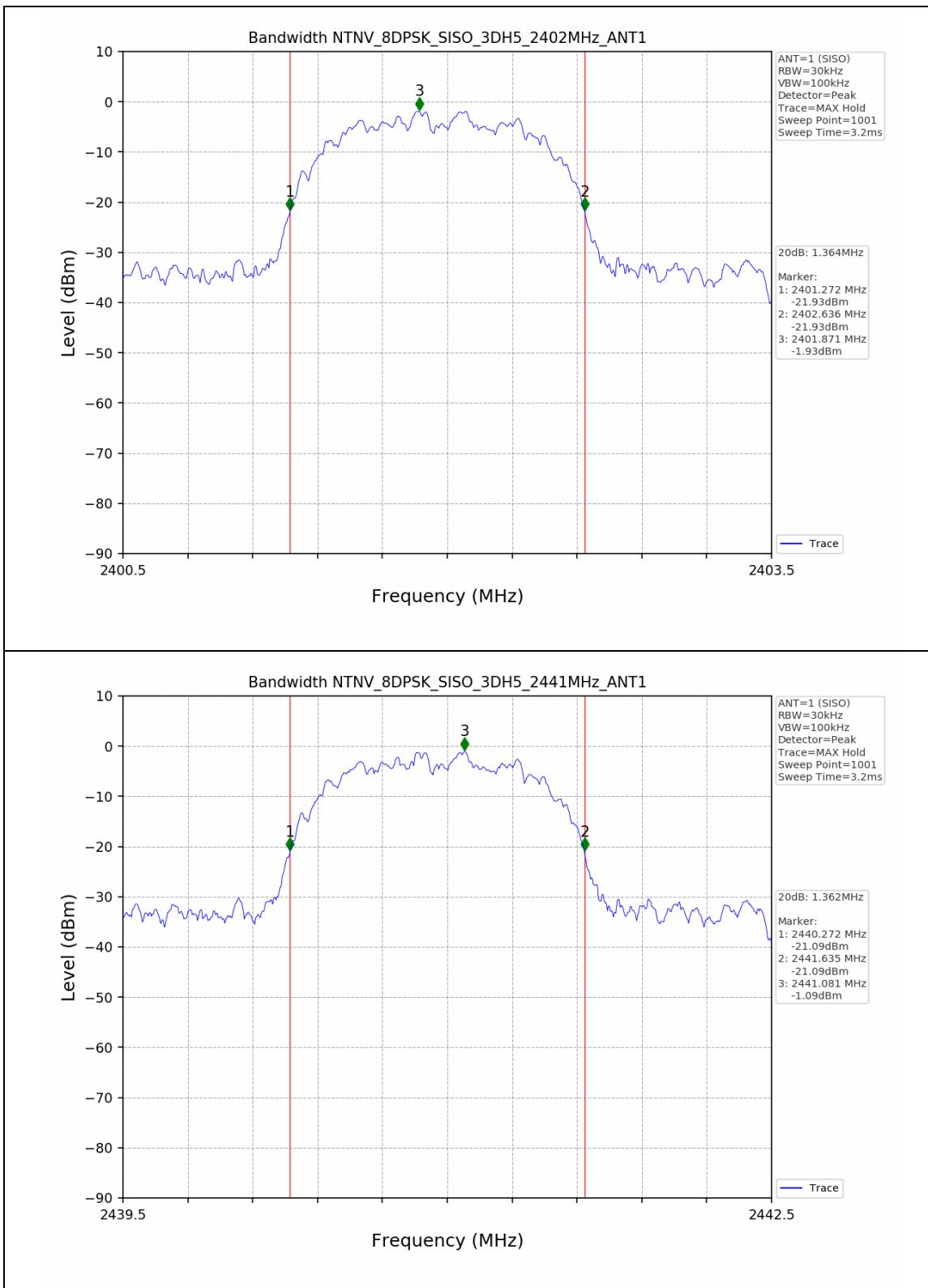
Test Mode	Frequency (MHz)	TX Type	ANT No.	99% Occupied Bandwidth	
				Test Result (MHz)	
GFSK	2402	SISO	1	0.904	Only for Report Use
	2441	SISO	1	0.901	Only for Report Use
	2480	SISO	1	0.902	Only for Report Use
Pi/4DQPSK	2402	SISO	1	1.224	Only for Report Use
	2441	SISO	1	1.222	Only for Report Use
	2480	SISO	1	1.223	Only for Report Use
8DPSK	2402	SISO	1	1.232	Only for Report Use
	2441	SISO	1	1.231	Only for Report Use
	2480	SISO	1	1.231	Only for Report Use

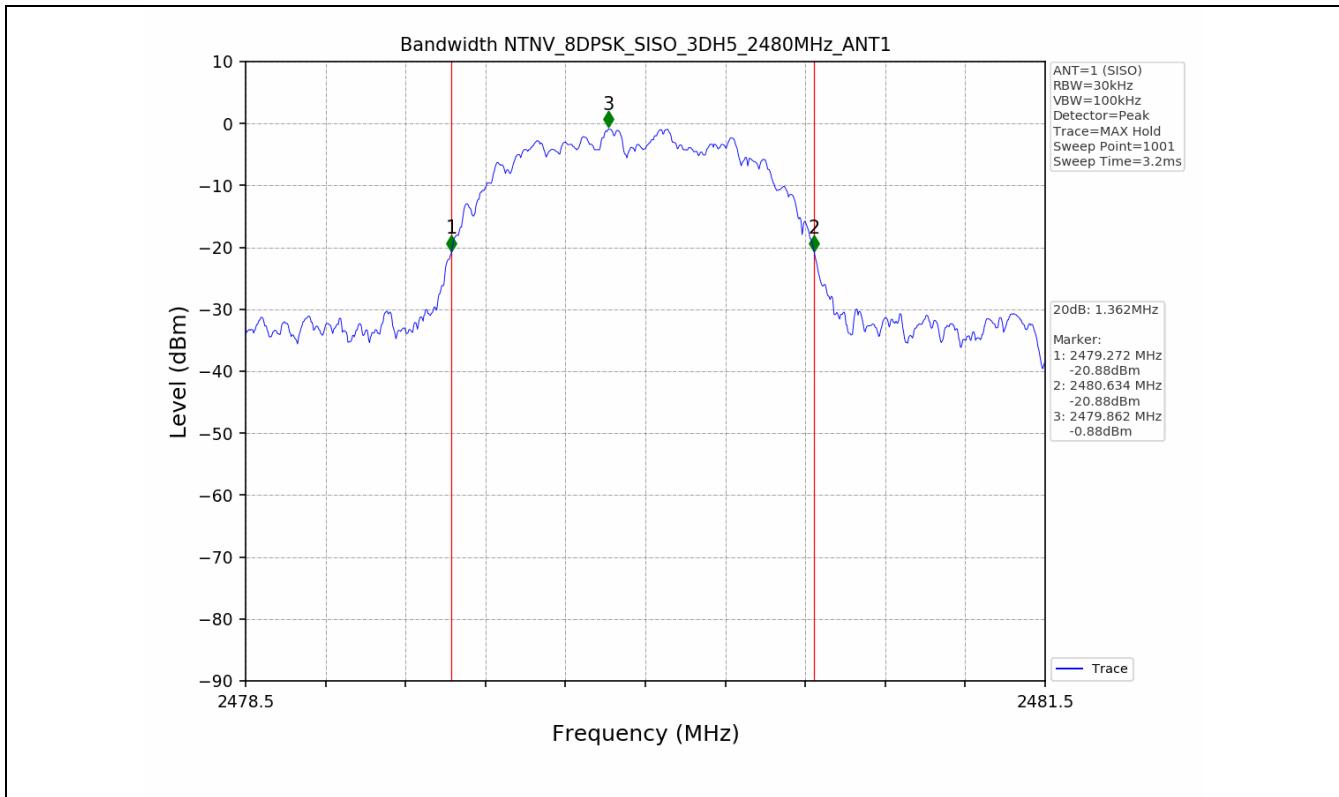
## 1.2 Test Graph - 20dB Bandwidth



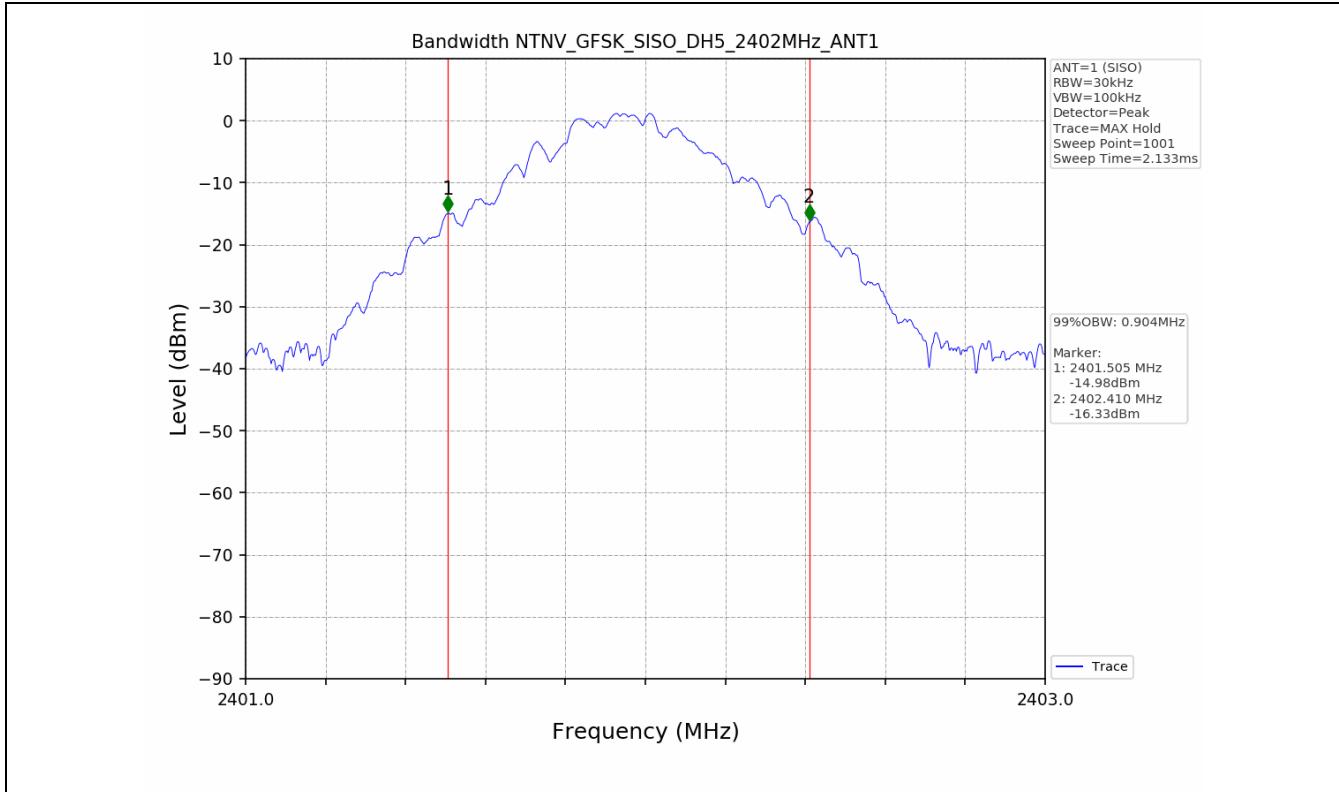


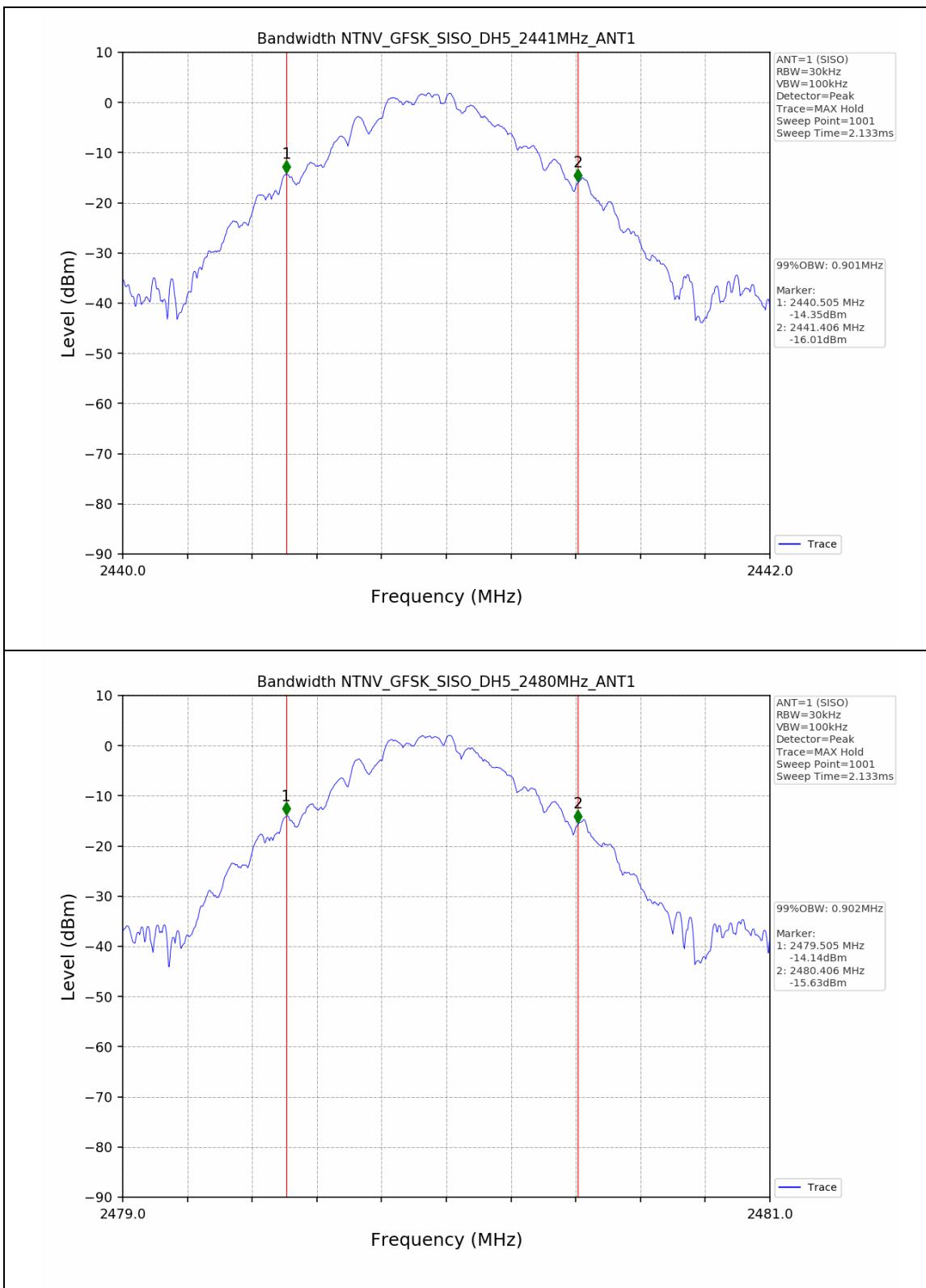


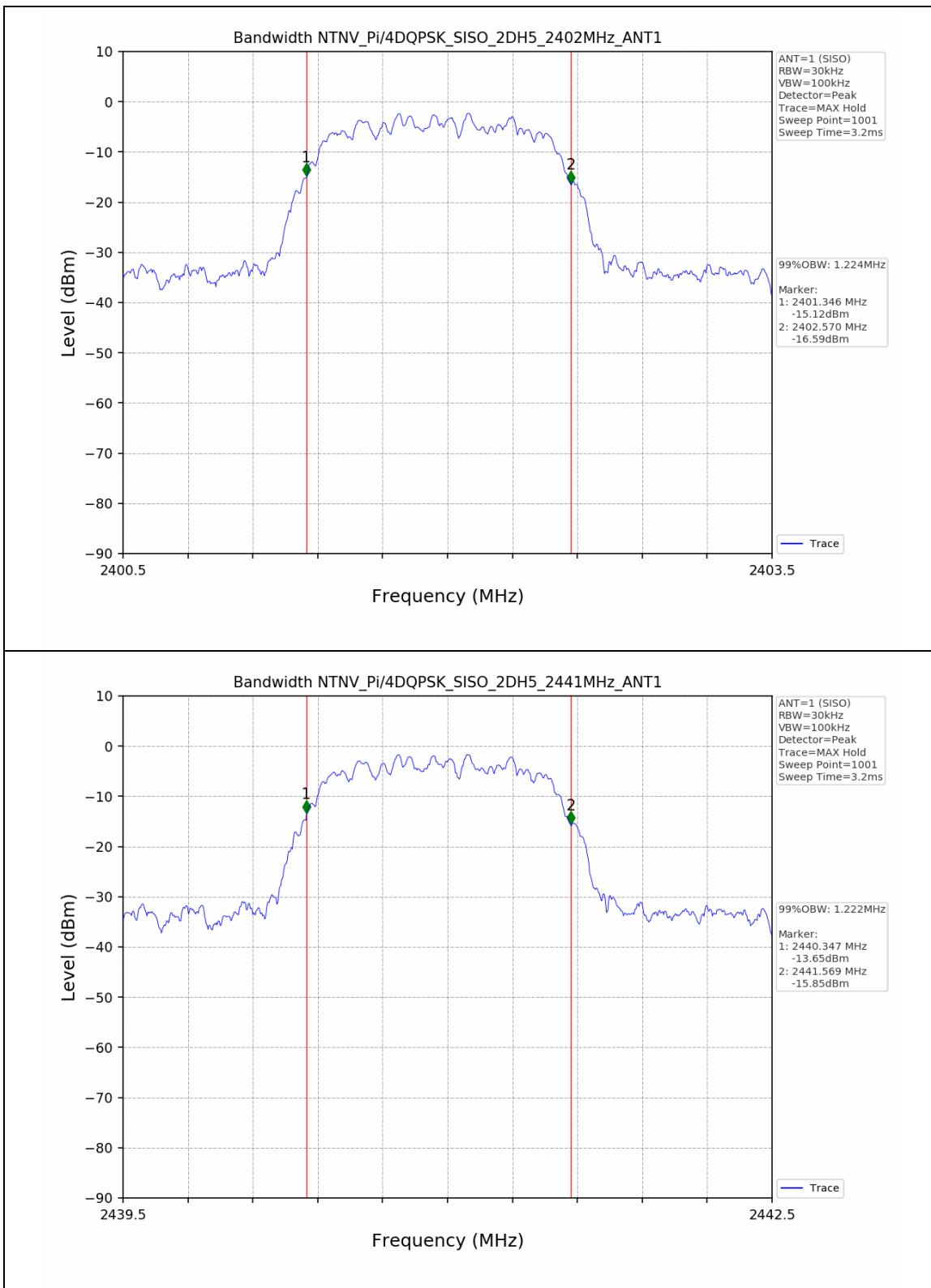


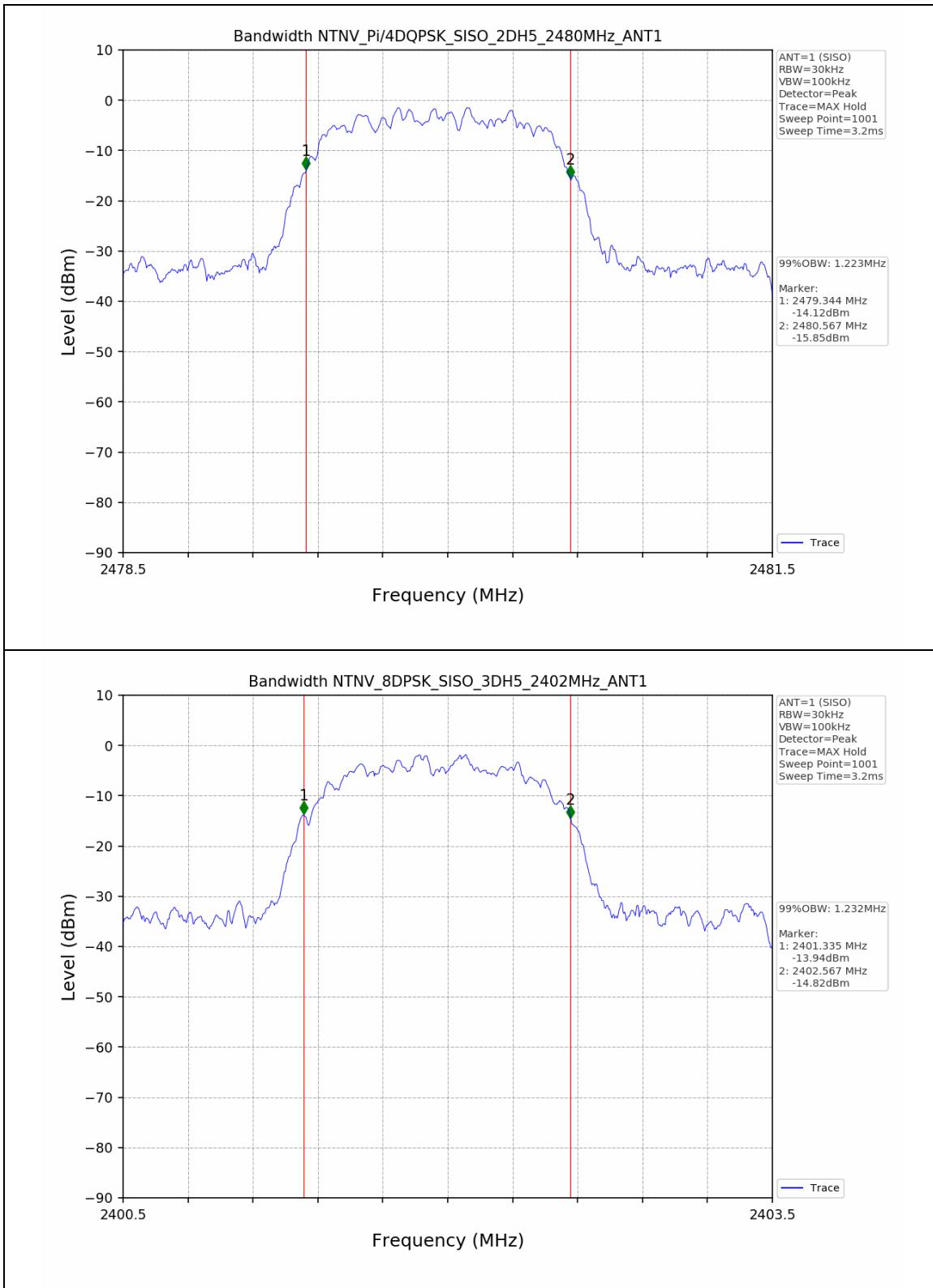


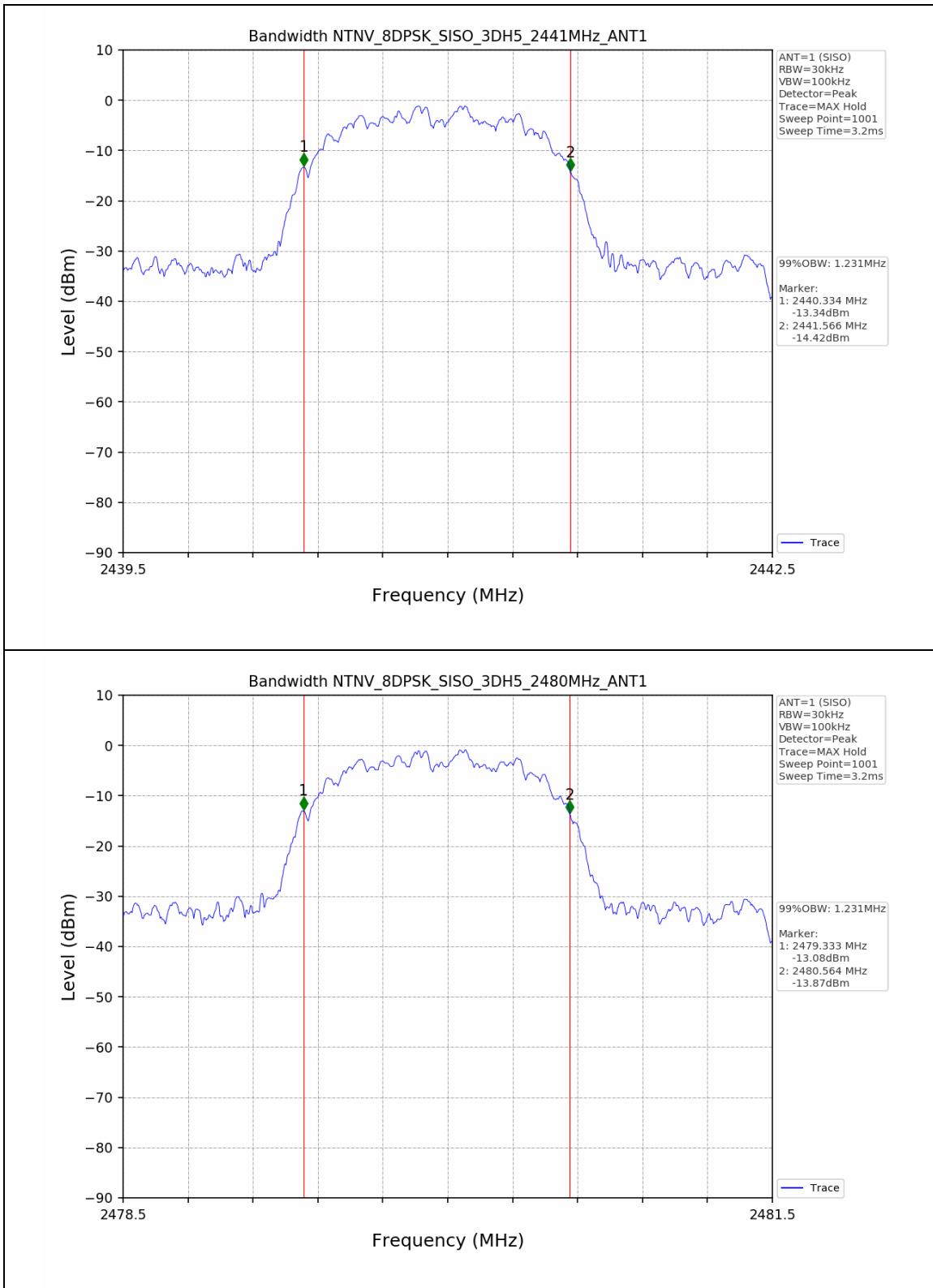
### 1.3 Test Graph - 99% Occupied Bandwidth









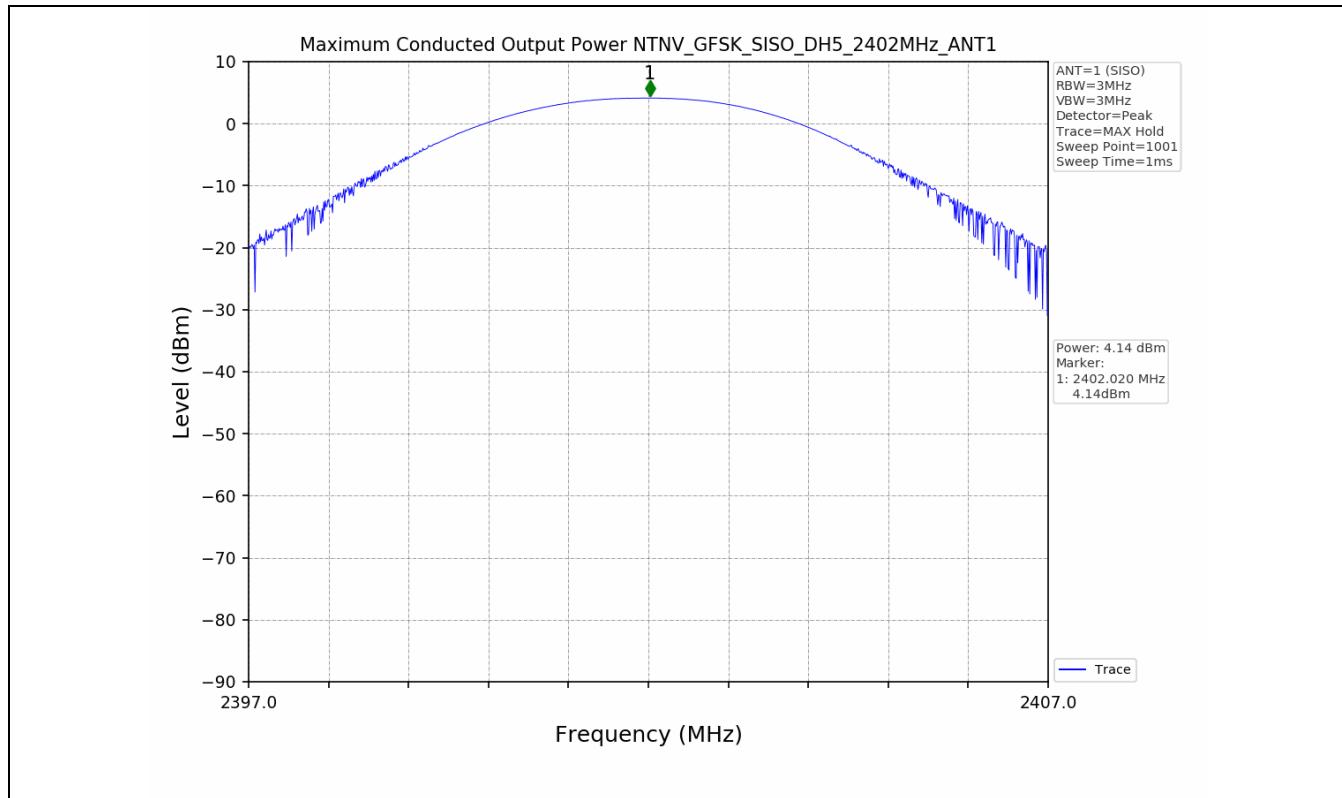


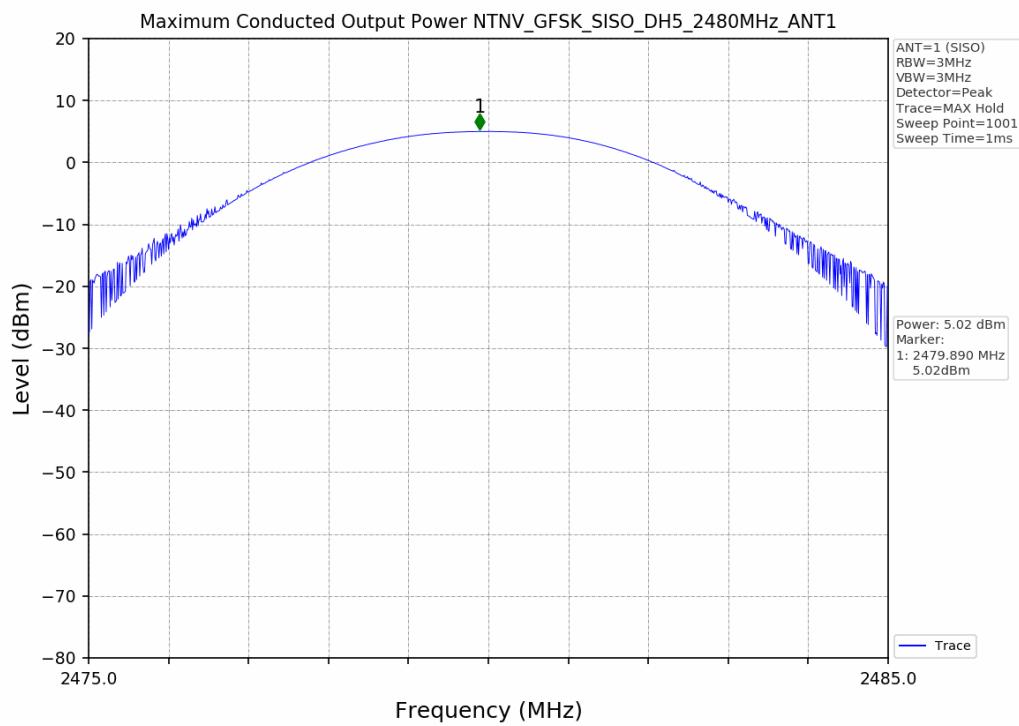
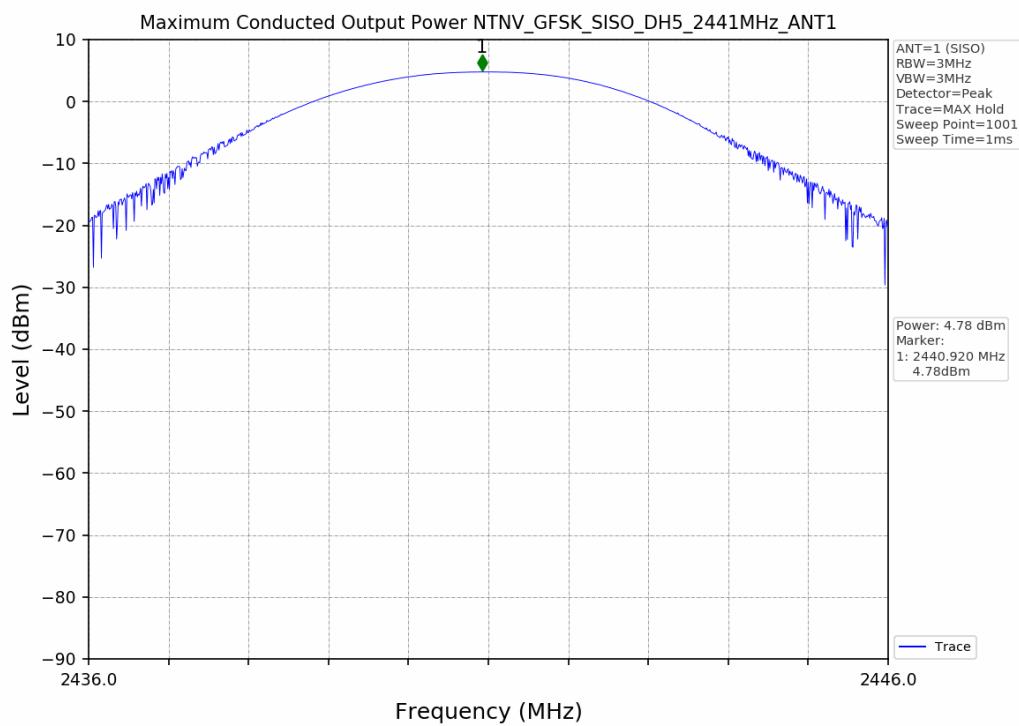
## 2. Maximum Conducted Output Power

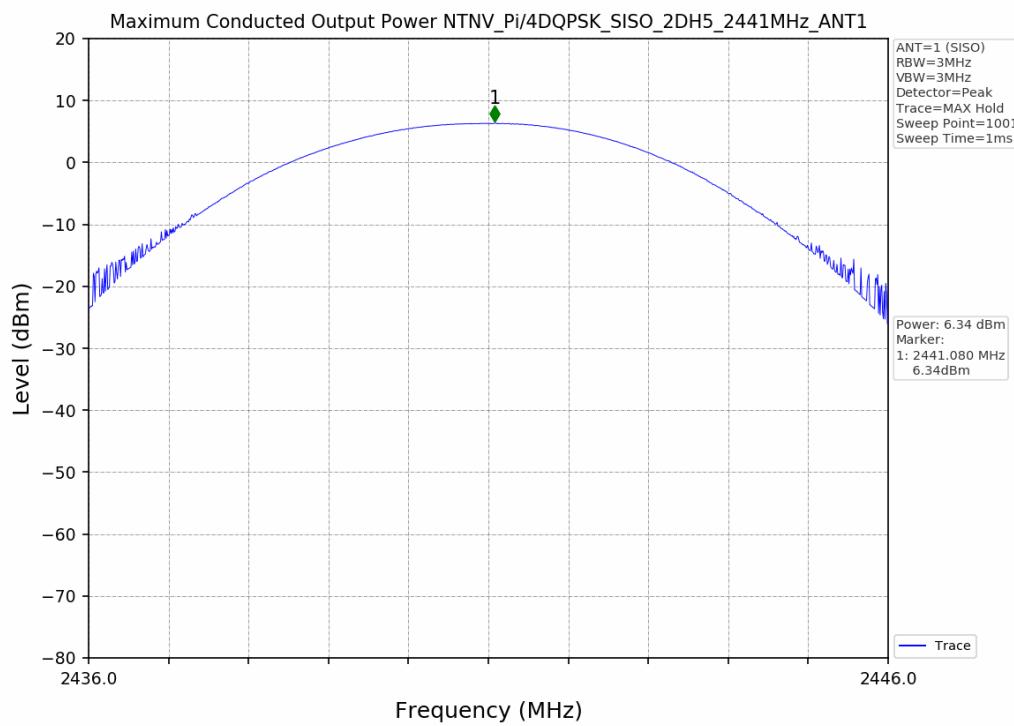
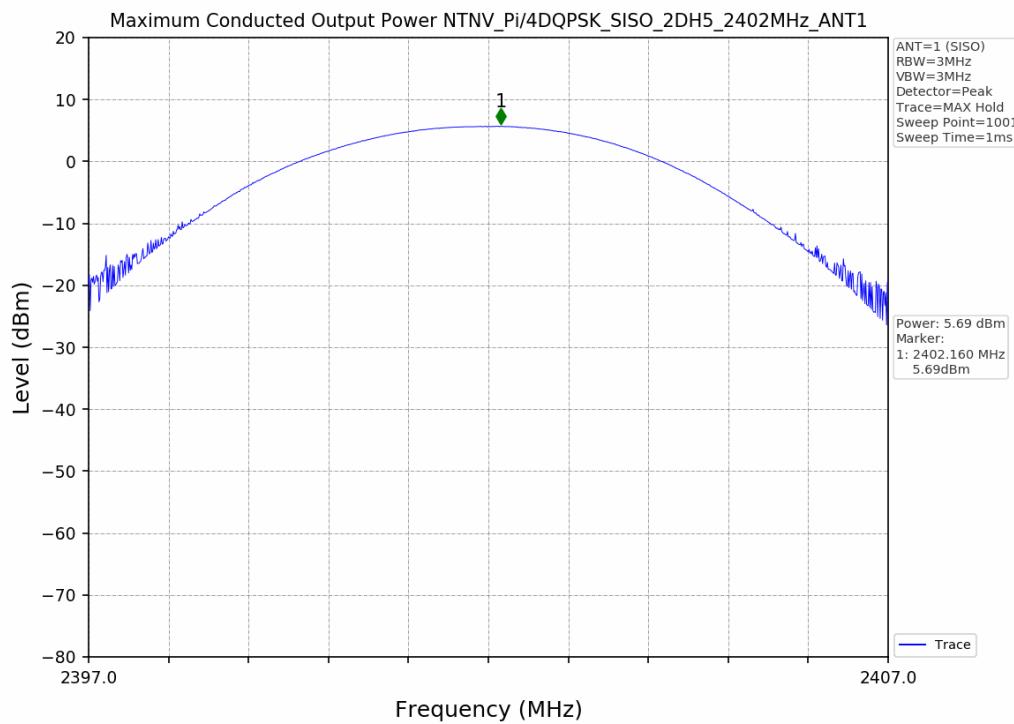
### 2.1 Test Result

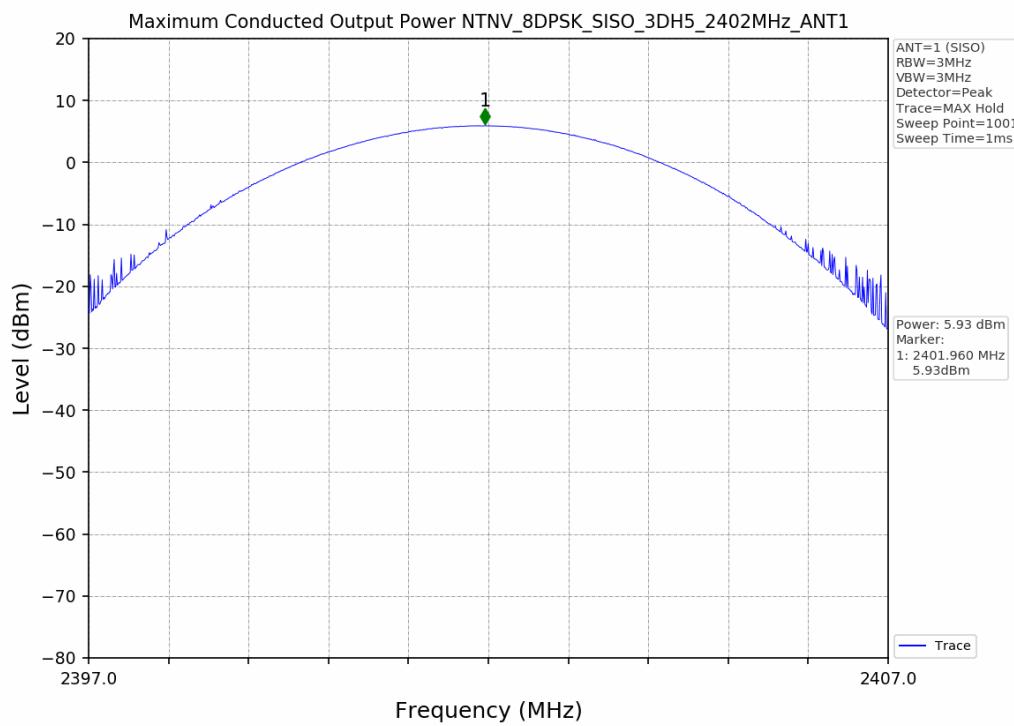
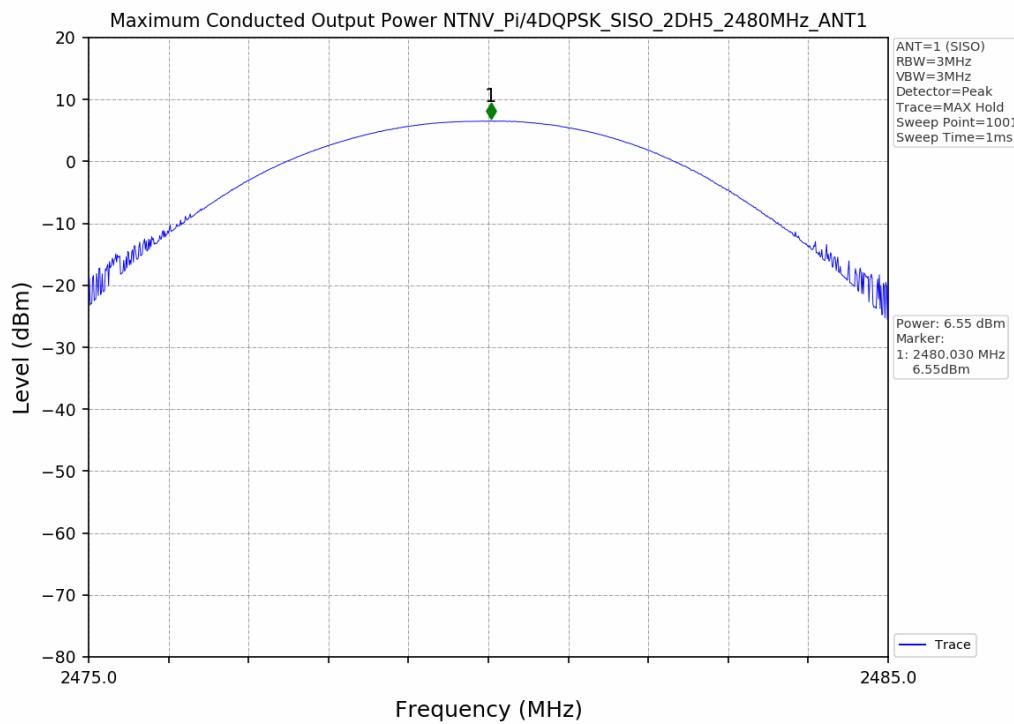
Test Mode	Frequency (MHz)	Tx Type	Measured Peak Output Power (dBm)	Limits (dBm)	Verdict
			Ant 1		
GFSK	2402	SISO	4.14	20.97	PASS
	2441	SISO	4.78	20.97	PASS
	2480	SISO	5.02	20.97	PASS
Pi/4DQPSK	2402	SISO	5.69	20.97	PASS
	2441	SISO	6.34	20.97	PASS
	2480	SISO	6.55	20.97	PASS
8DPSK	2402	SISO	5.93	20.97	PASS
	2441	SISO	6.59	20.97	PASS
	2480	SISO	6.83	20.97	PASS

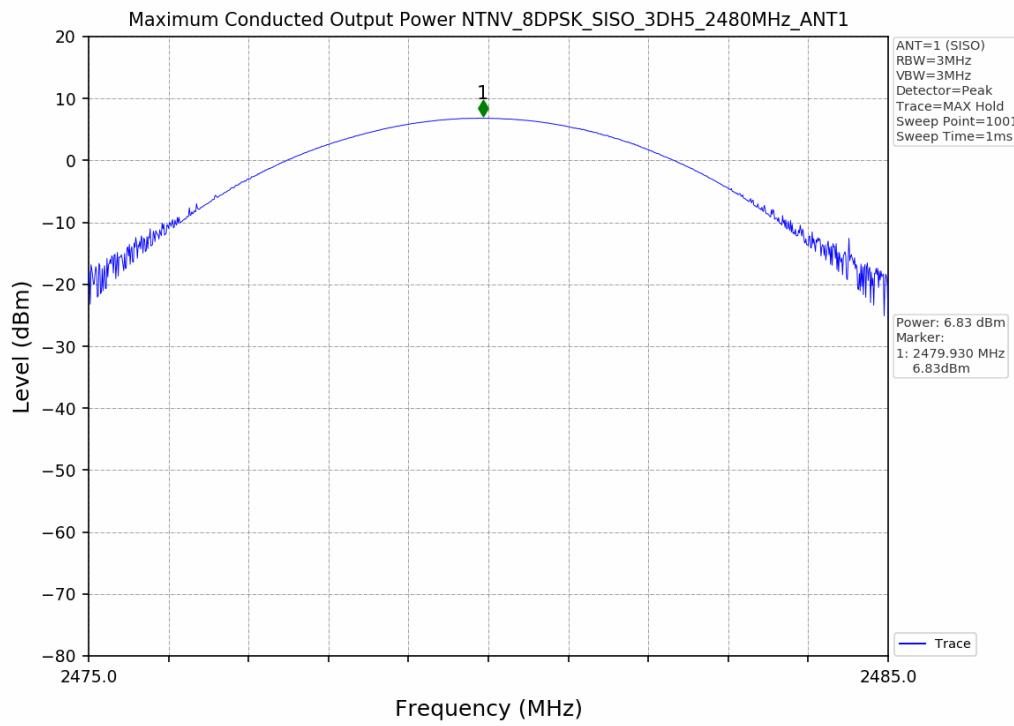
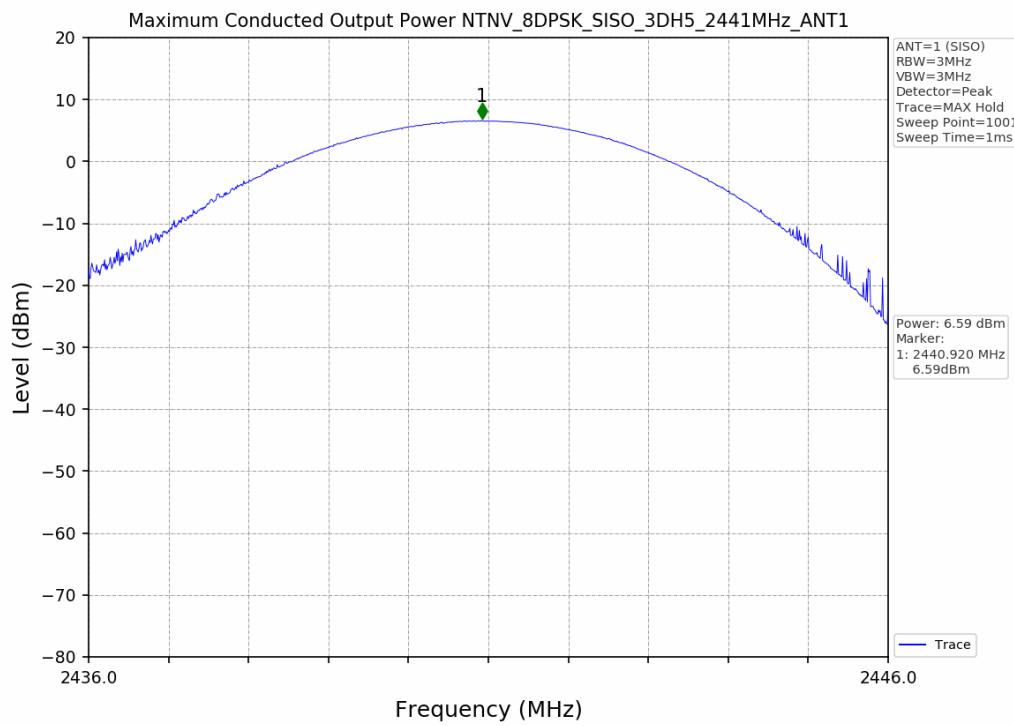
### 2.2 Test Graph









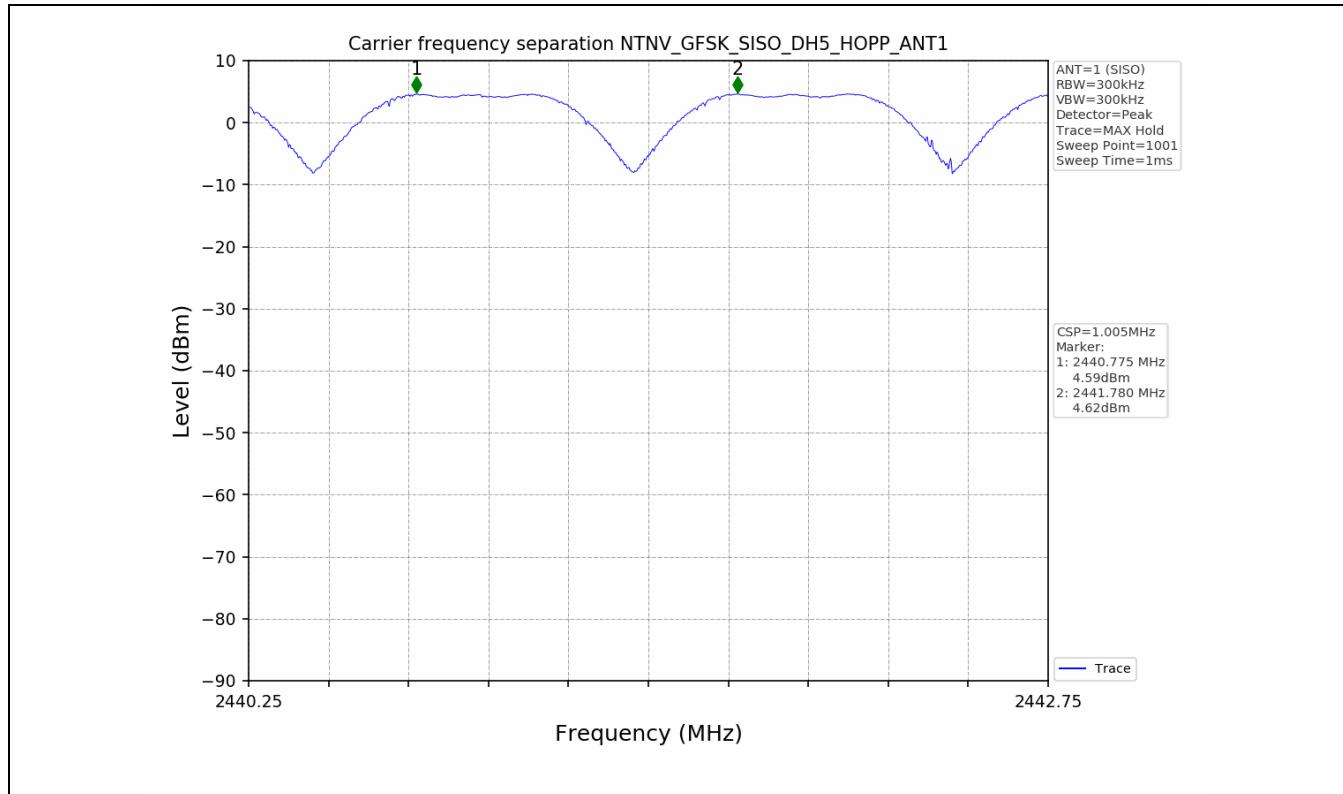


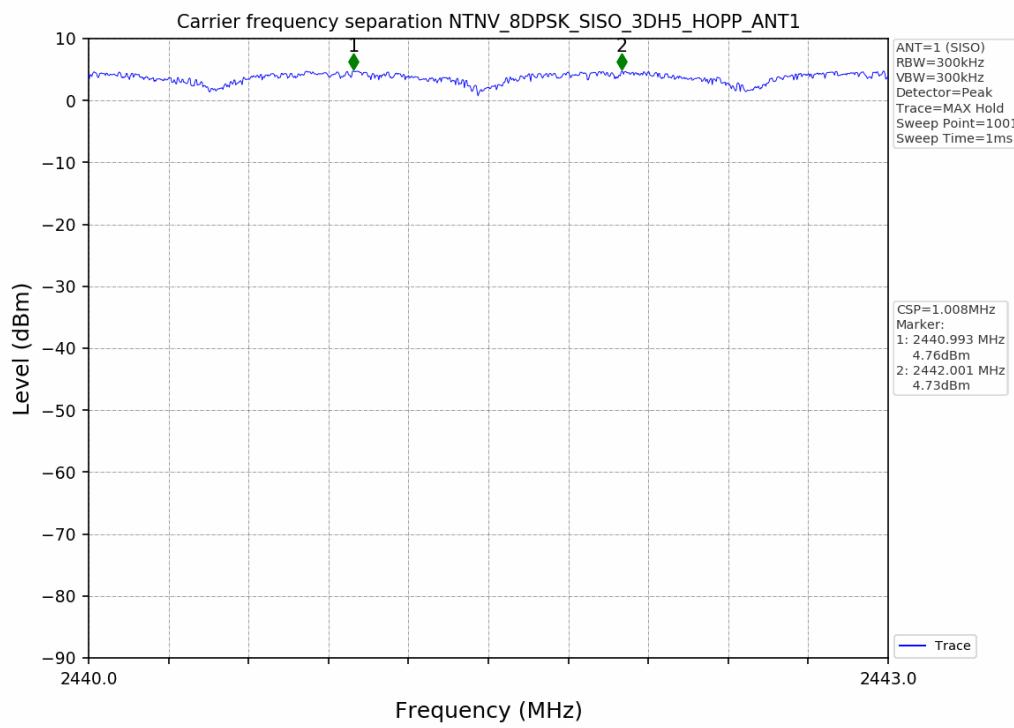
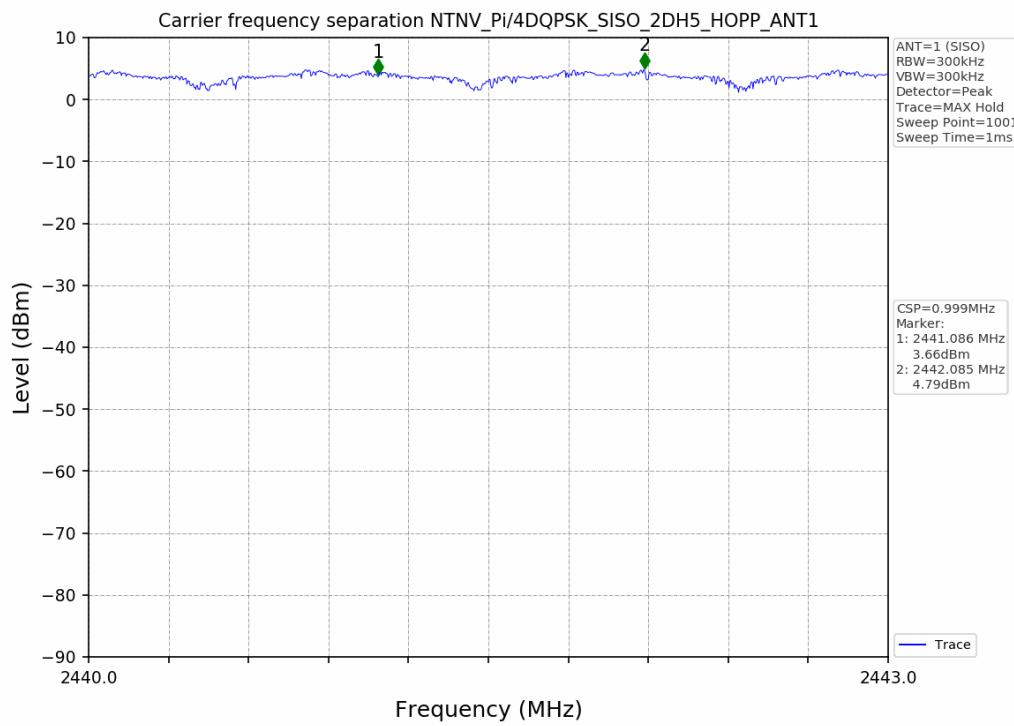
### 3. Carrier frequency separation

#### 3.1 Test Result

Test Mode	TX Type	ANT No.	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limits (MHz)	Verdict
GFSK	SISO	1	1.005	1.023	$\geq 0.682$	PASS
Pi/4DQPSK	SISO	1	0.999	1.386	$\geq 0.924$	PASS
8DPSK	SISO	1	1.008	1.364	$\geq 0.909$	PASS

#### 3.2 Test Graph



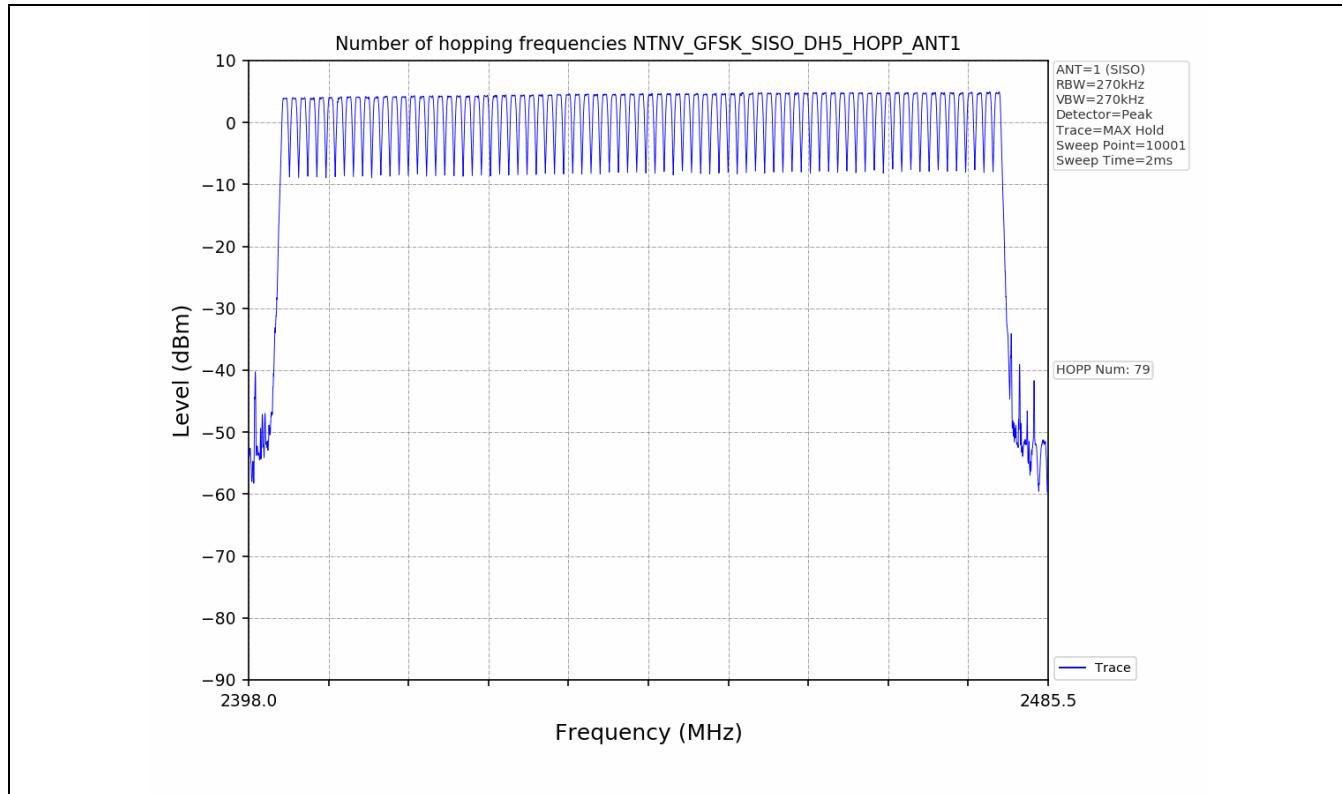


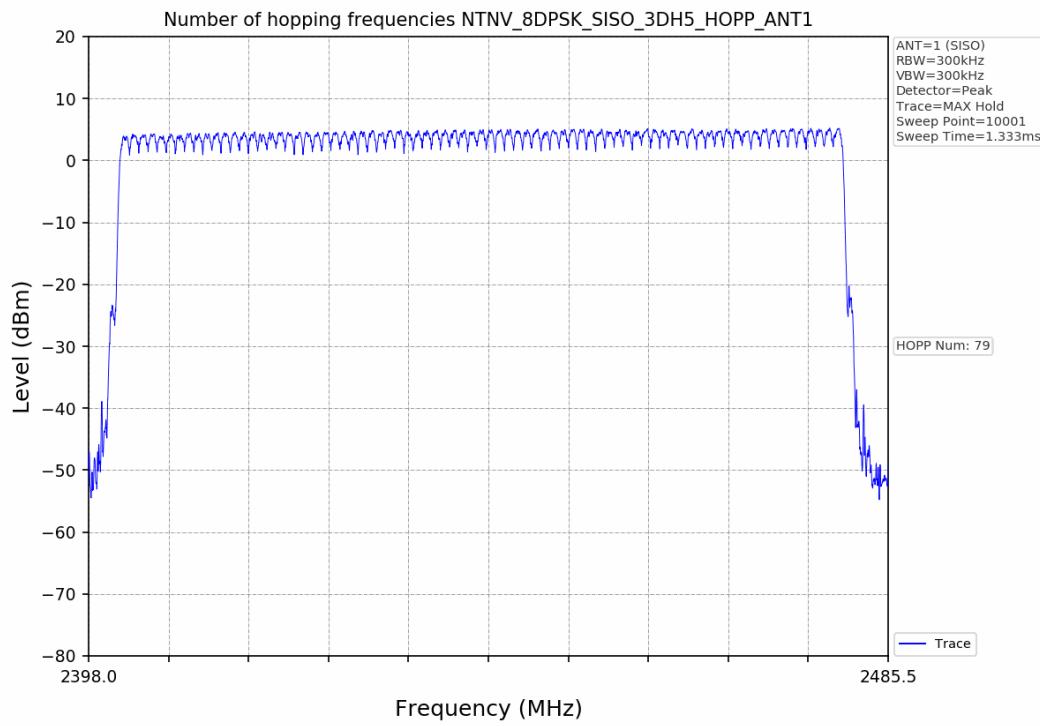
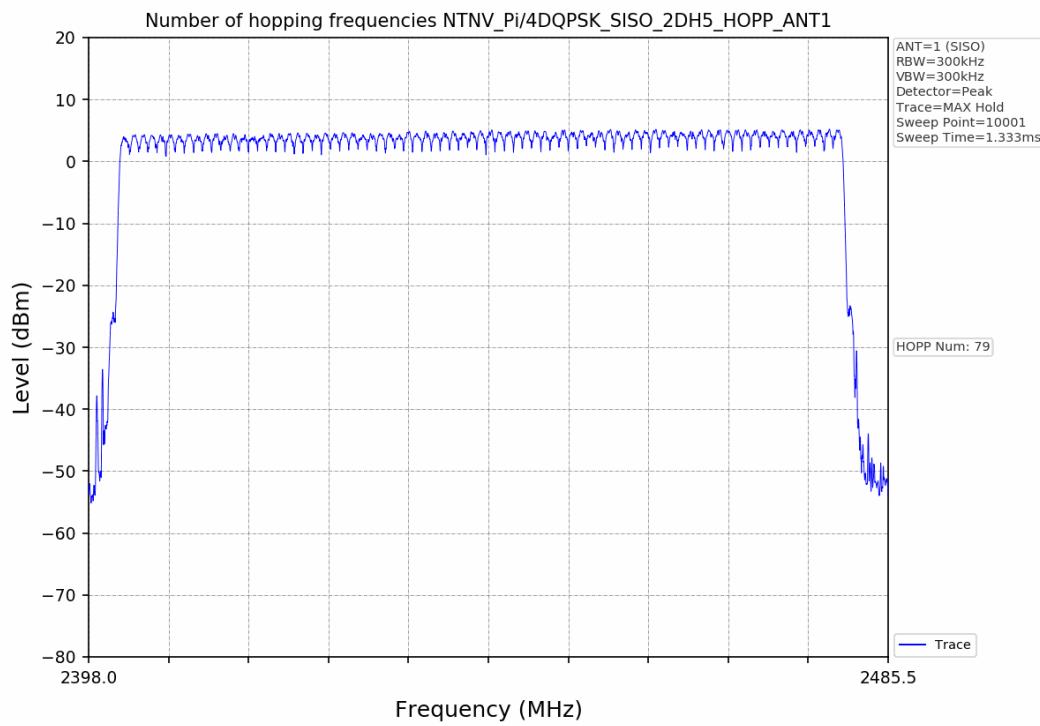
## 4. Number of hopping frequencies

### 4.1 Test Result

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

### 4.2 Test Graph



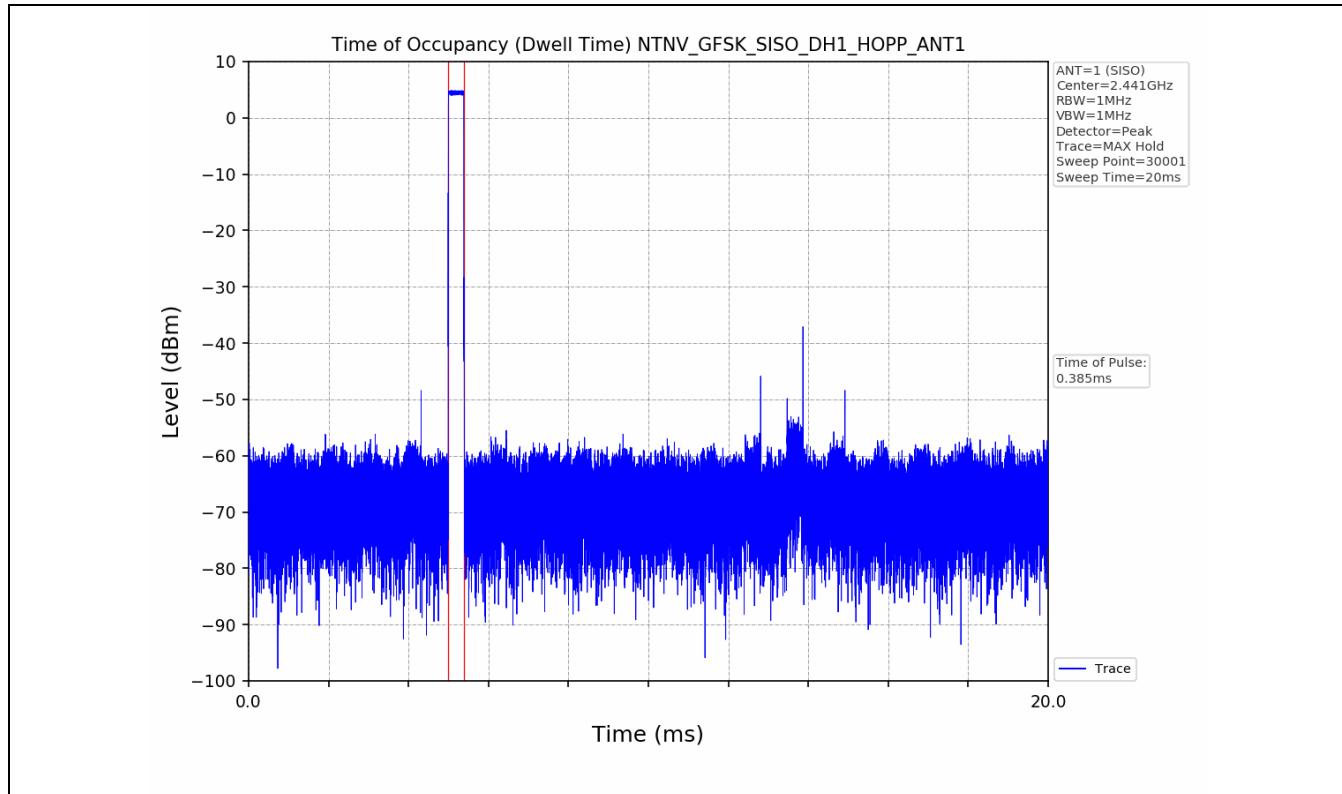


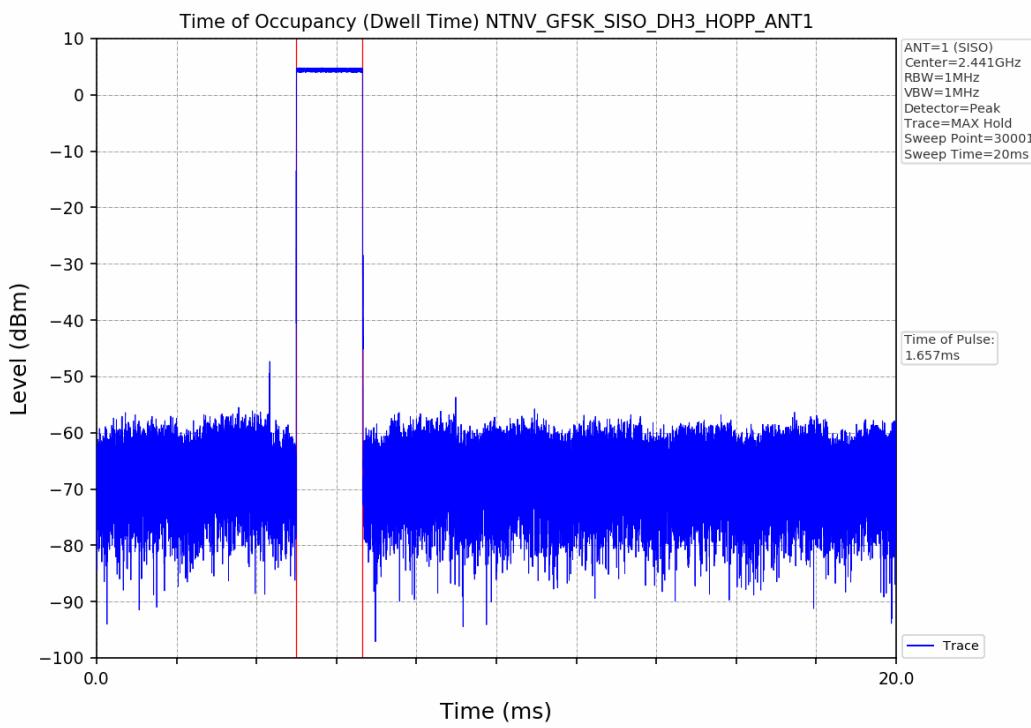
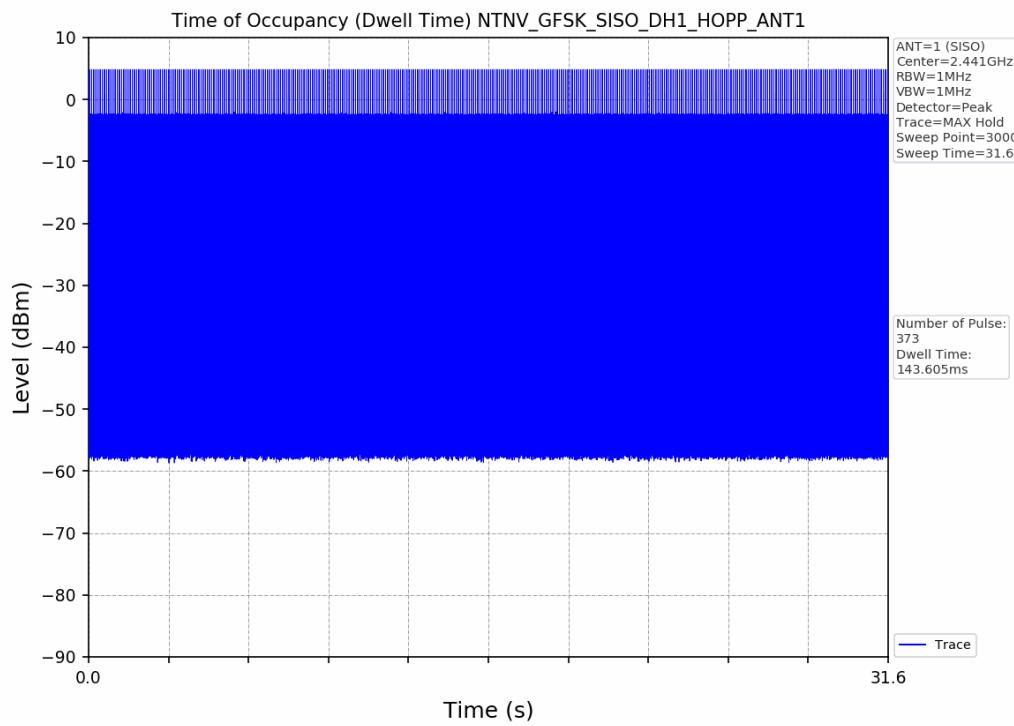
## 5. Time of Occupancy (Dwell Time)

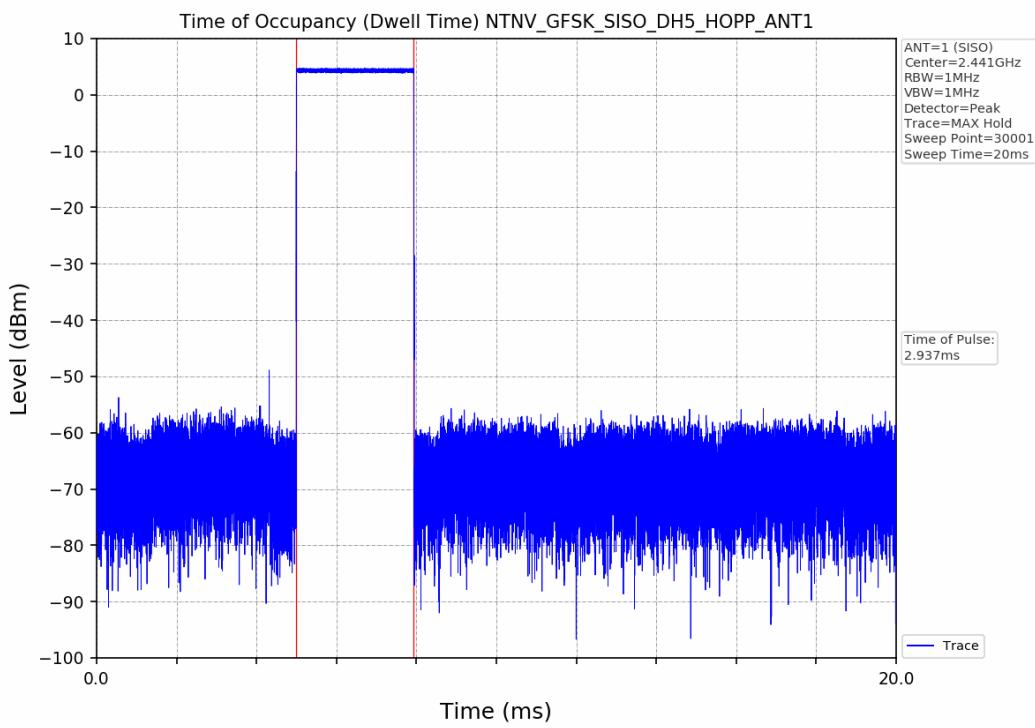
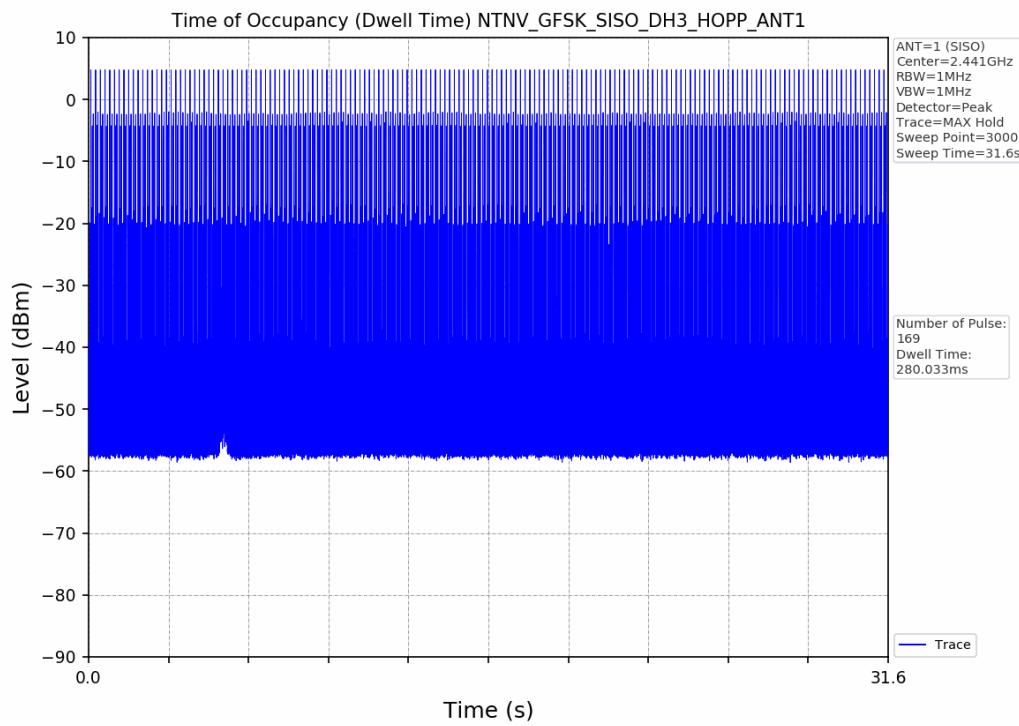
### 5.1 Test Result

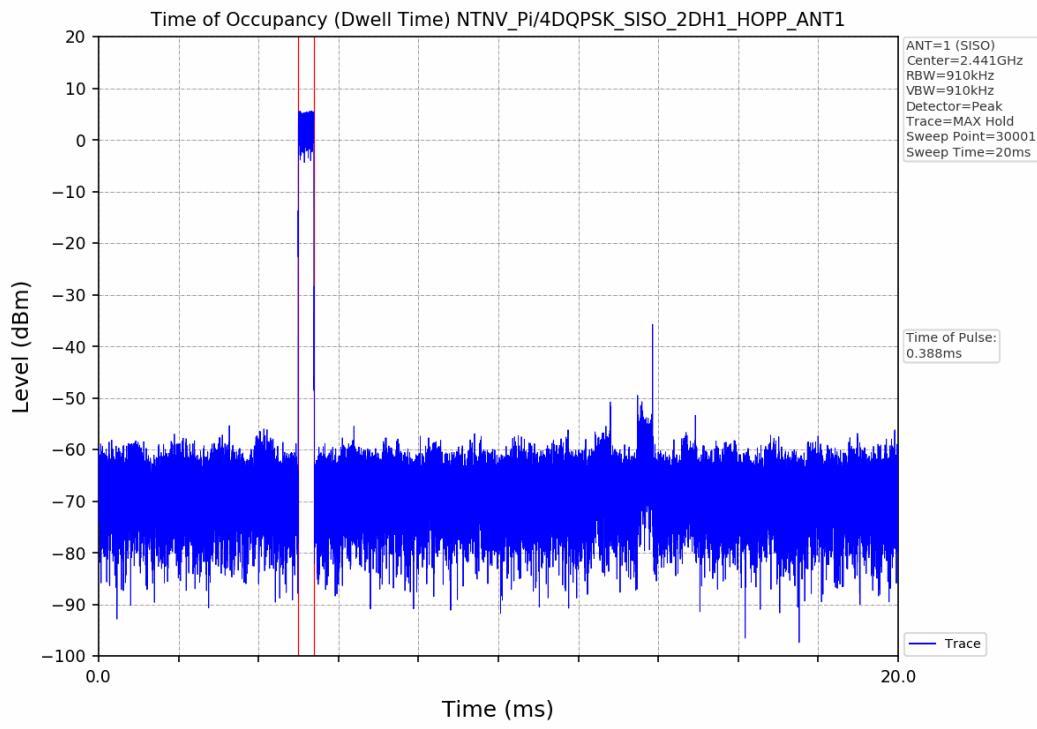
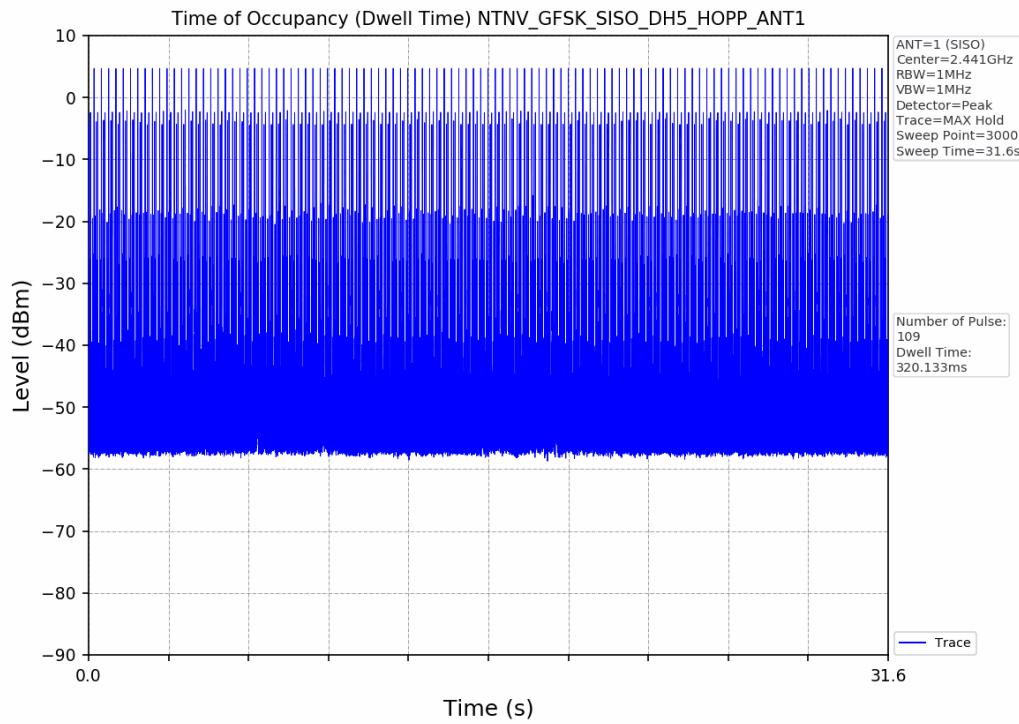
Test Mode	Packet Type	TX Type	ANT No.	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limits (ms)	Verdict
GFSK	DH1	SISO	1	0.385	31.6	373	143.605	≤400	PASS
	DH3	SISO	1	1.657	31.6	169	280.033	≤400	PASS
	DH5	SISO	1	2.937	31.6	109	320.133	≤400	PASS
Pi/4D QPSK	2DH1	SISO	1	0.388	31.6	373	144.724	≤400	PASS
	2DH3	SISO	1	1.629	31.6	169	275.301	≤400	PASS
	2DH5	SISO	1	2.929	31.6	109	319.261	≤400	PASS
8DPSK	3DH1	SISO	1	0.405	31.6	373	151.065	≤400	PASS
	3DH3	SISO	1	1.654	31.6	169	279.526	≤400	PASS
	3DH5	SISO	1	2.942	31.6	110	323.620	≤400	PASS

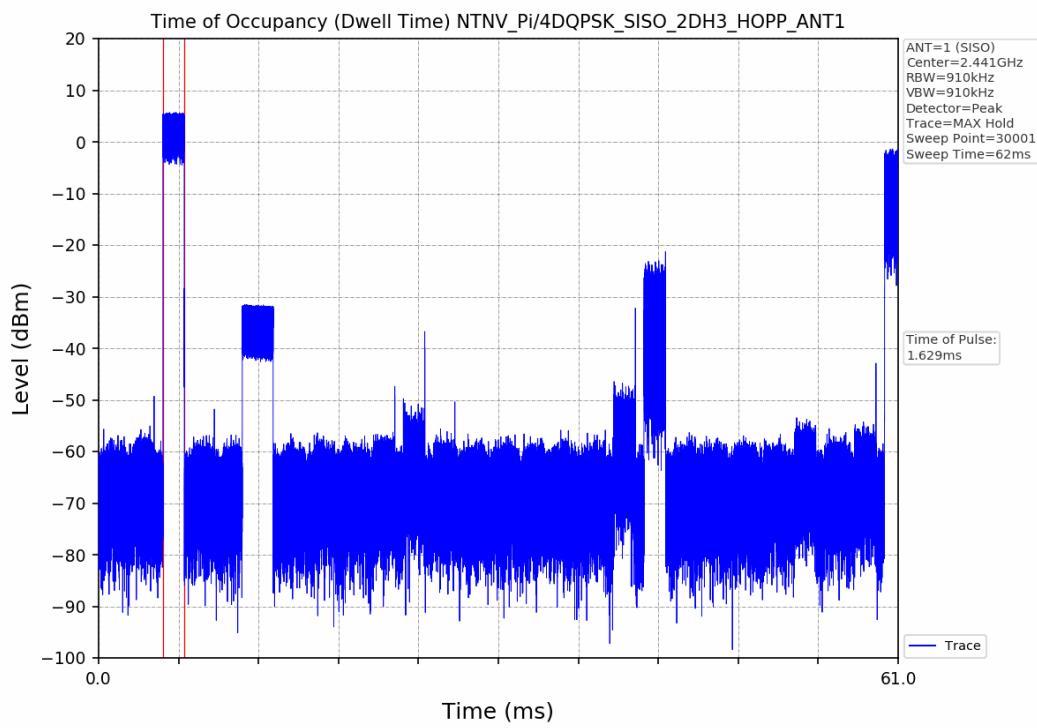
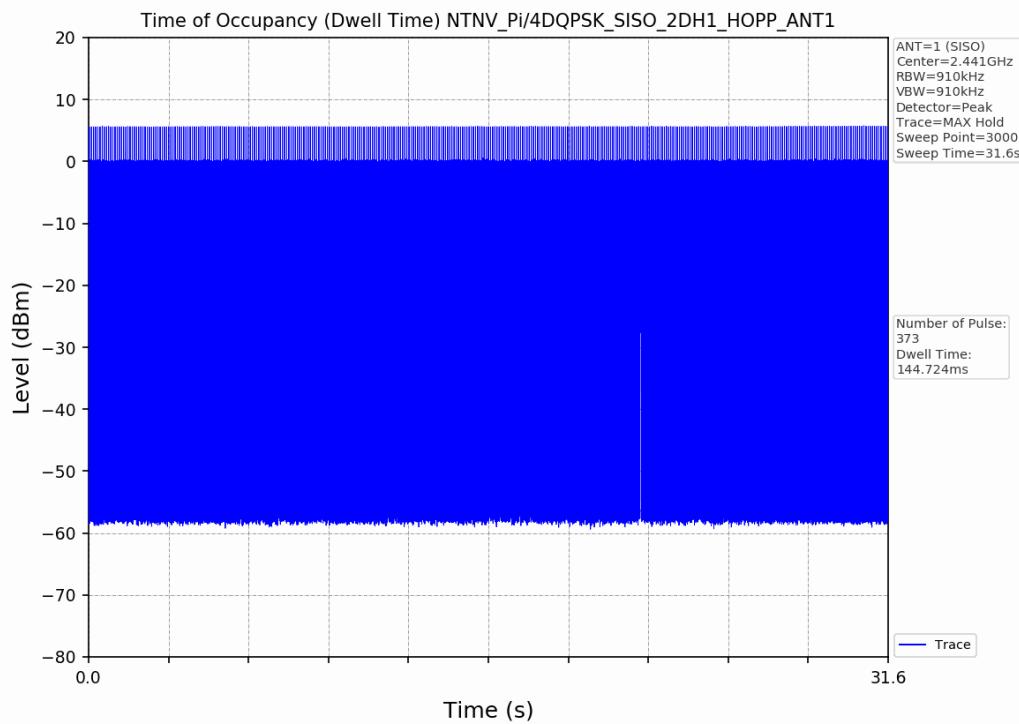
### 5.2 Test Graph

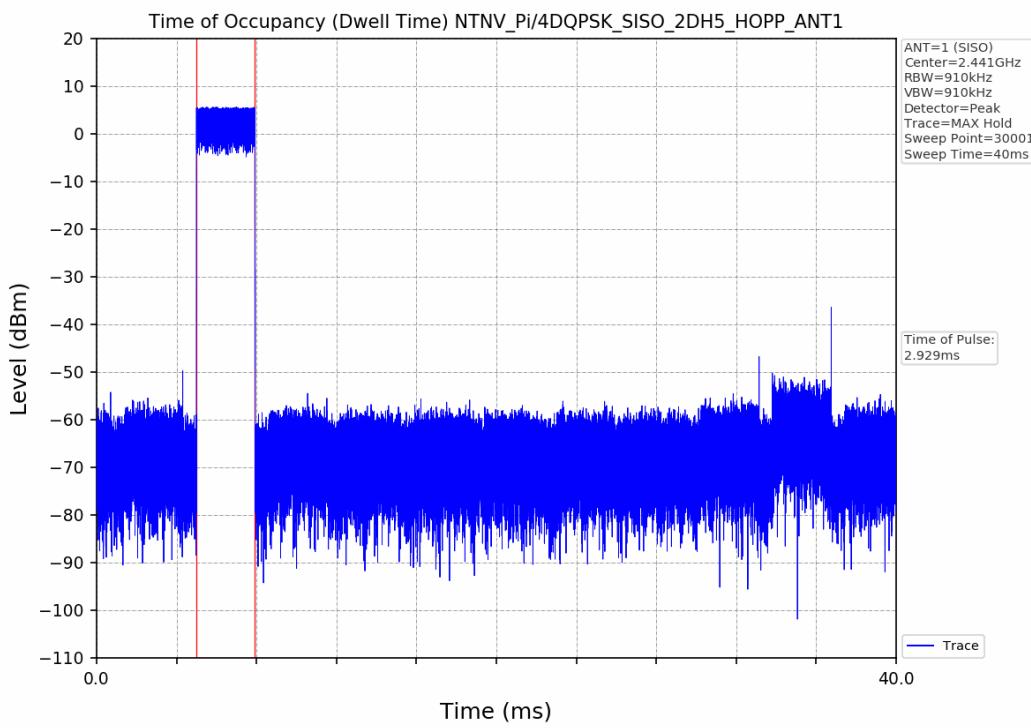
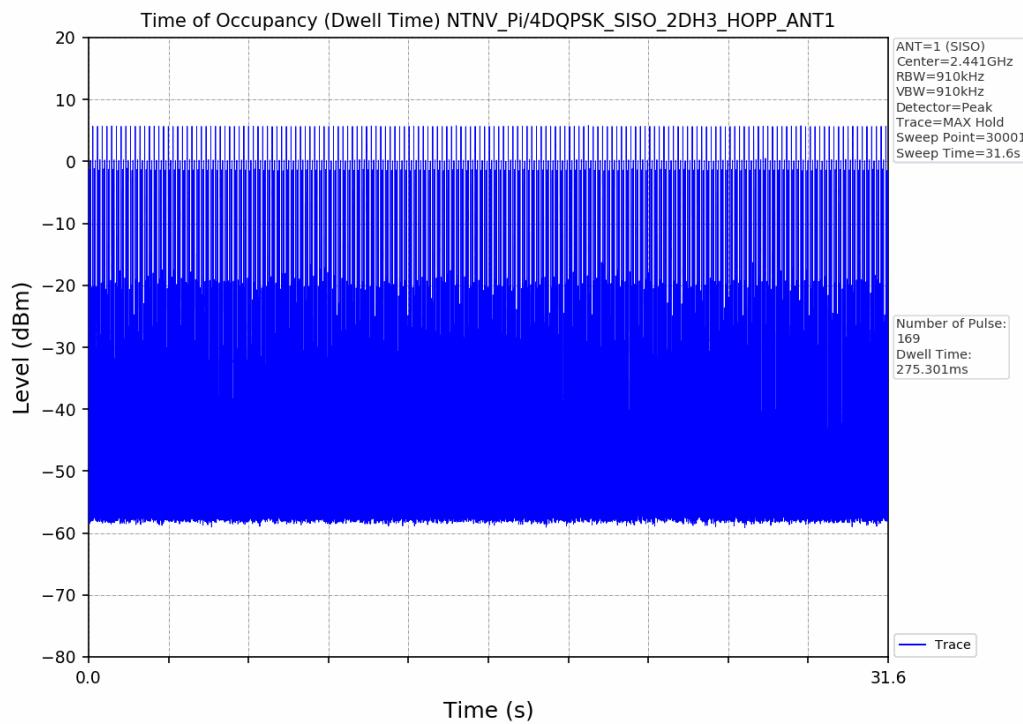


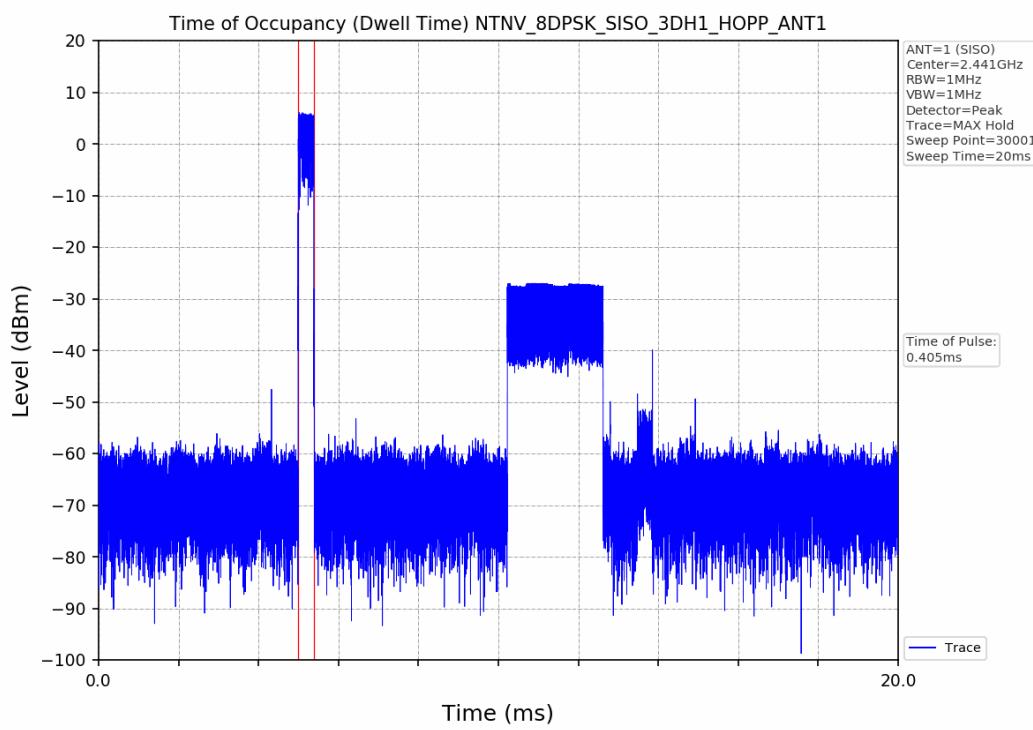
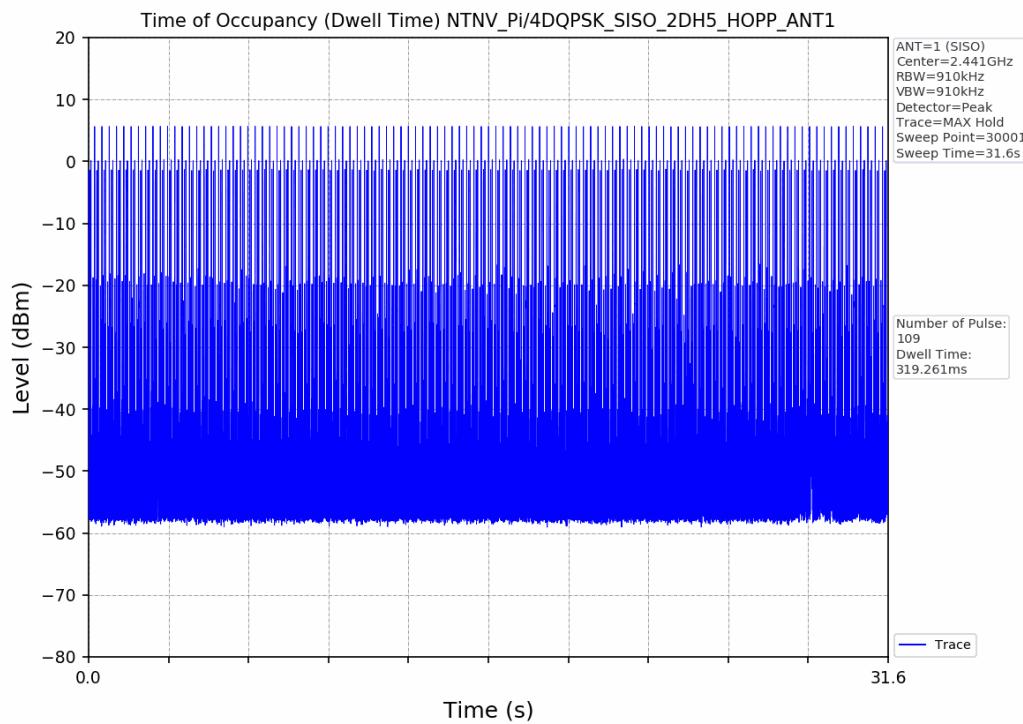


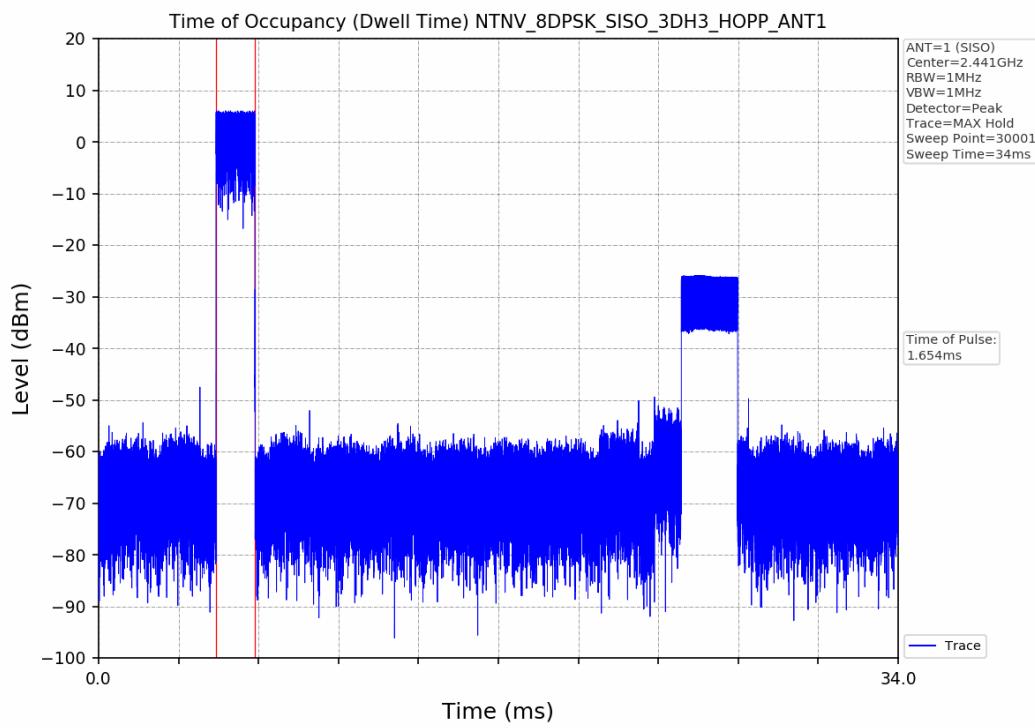
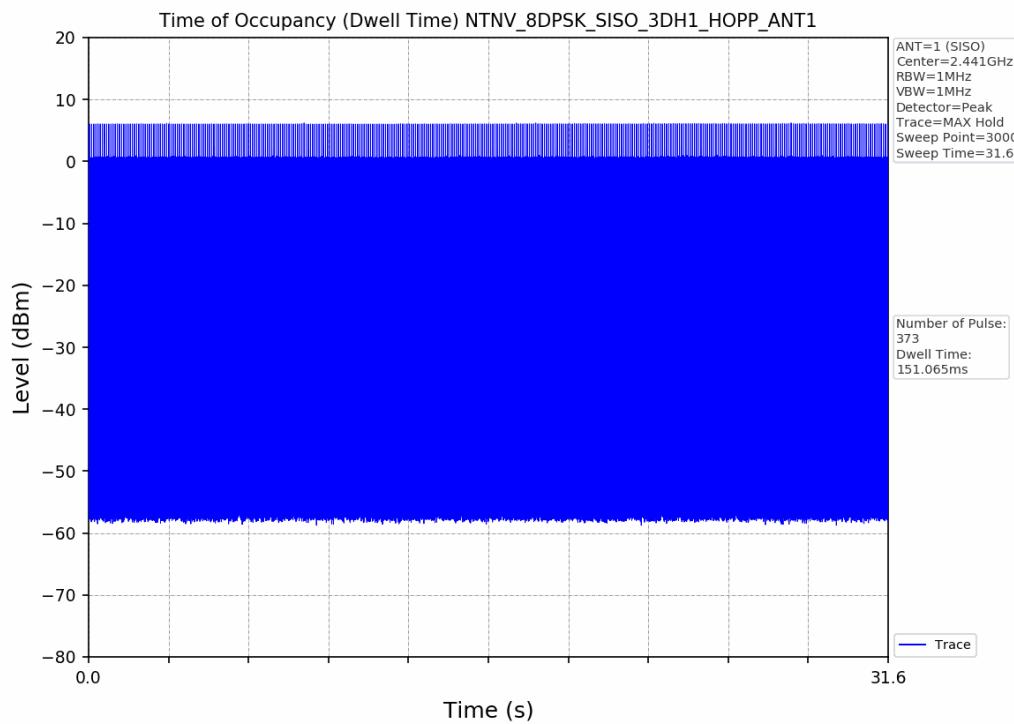


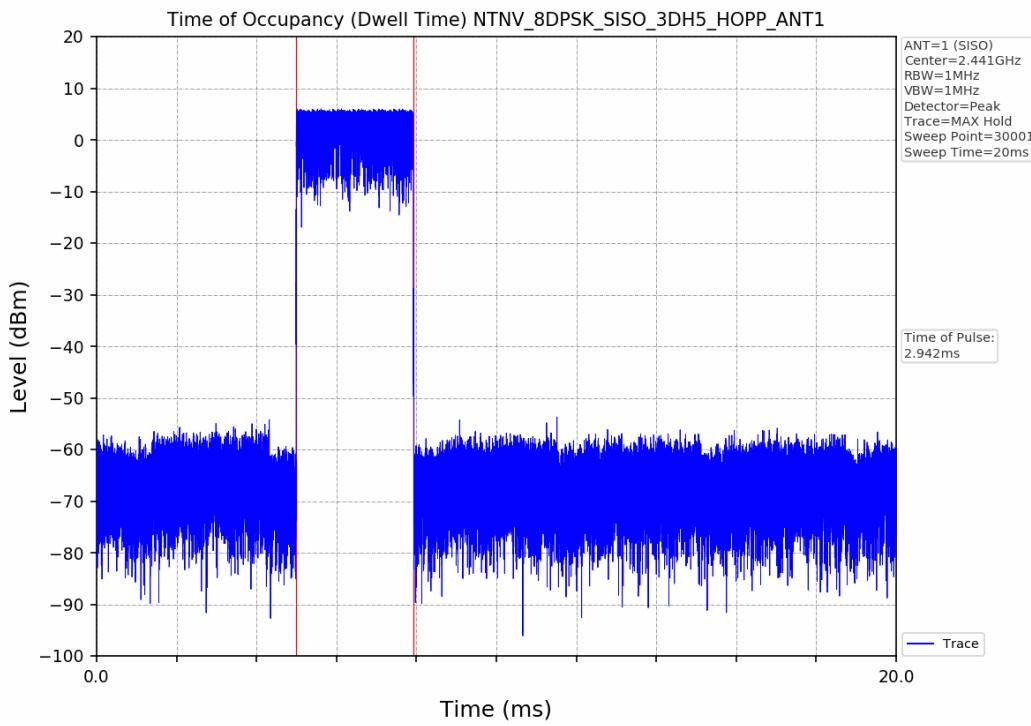
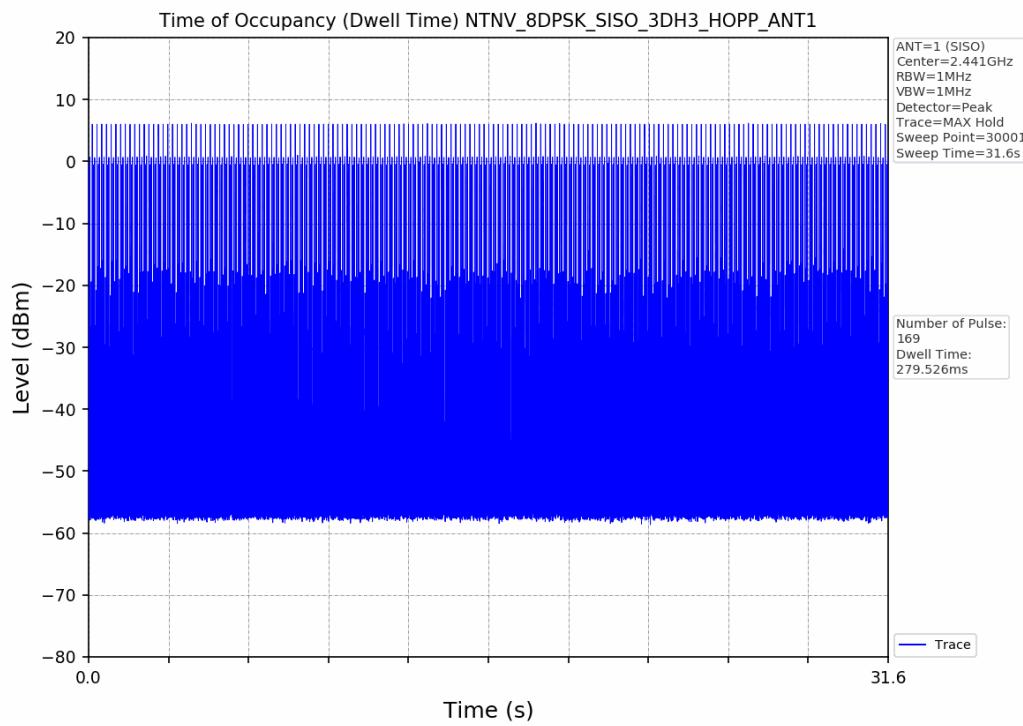


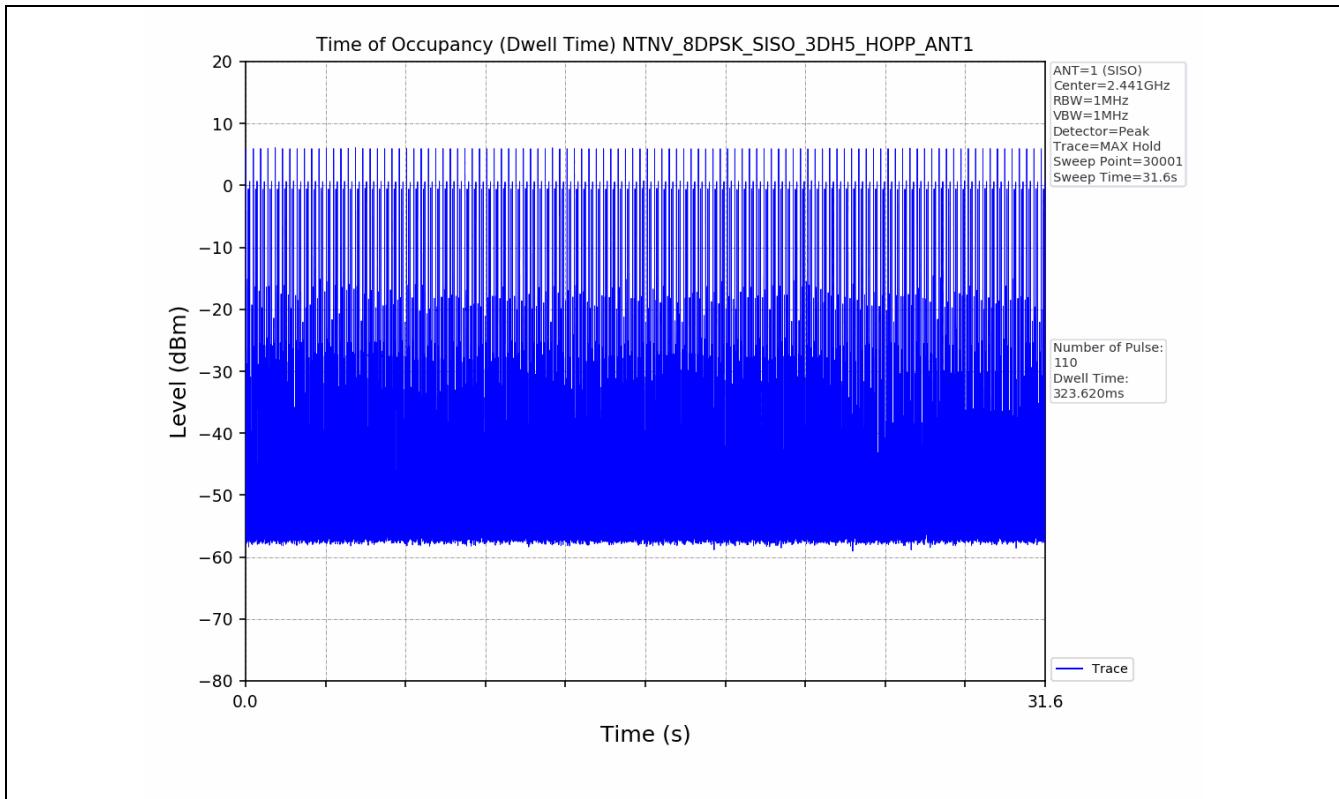












## 6. Unwanted Emissions in Non-restricted Frequency Bands

### 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	-15.58	PASS
	2441	SISO	1	Refer to test graph	-15.58	PASS
	2480	SISO	1	Refer to test graph	-15.58	PASS
	Hopping	SISO	1	Refer to test graph	-15.58	PASS
Pi/4DQPSK	2402	SISO	1	Refer to test graph	-16.83	PASS
	2441	SISO	1	Refer to test graph	-16.83	PASS
	2480	SISO	1	Refer to test graph	-16.83	PASS
	Hopping	SISO	1	Refer to test graph	-16.83	PASS
8DPSK	2402	SISO	1	Refer to test graph	-16.77	PASS
	2441	SISO	1	Refer to test graph	-16.77	PASS
	2480	SISO	1	Refer to test graph	-16.77	PASS
	Hopping	SISO	1	Refer to test graph	-16.77	PASS

## 6.2 Test Graph

