

Shenzhen CTL Testing Technology Co., Ltd.

Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Appendix for 15.247

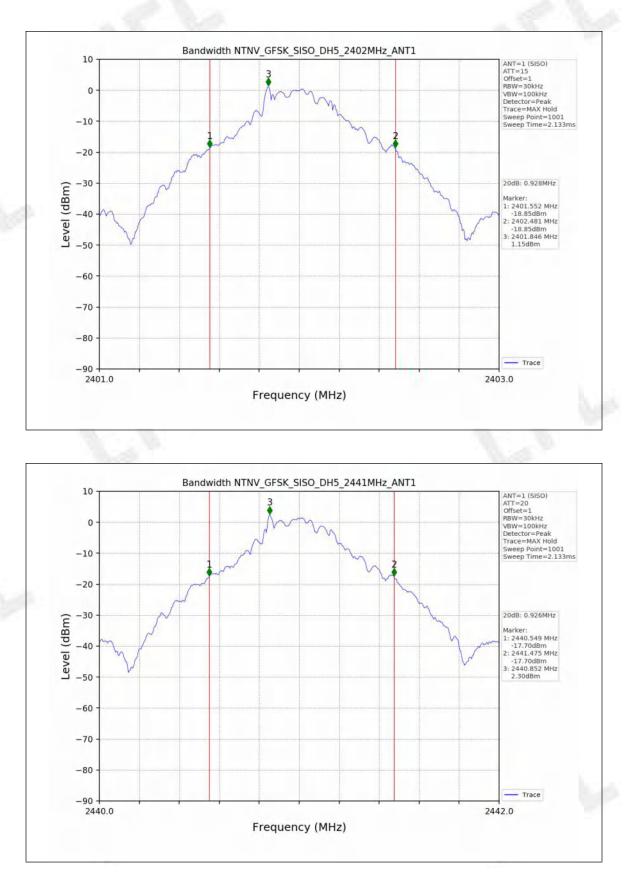
1. Bandwidth

1.1 Test Result

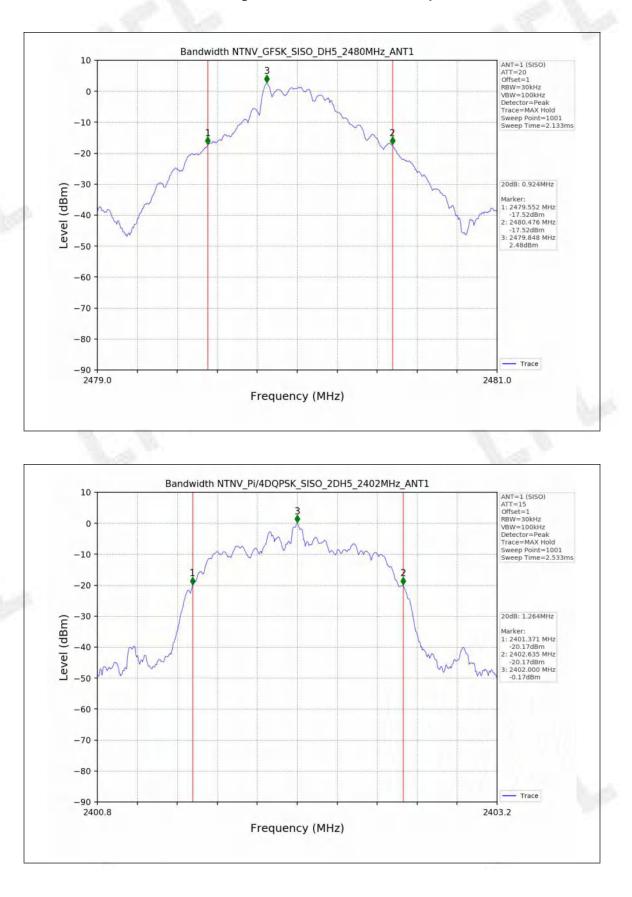
Test Mode	Frequency (MHz)	ТХ Туре	ANT No.	20dB Bandwidth Test Result (MHz)	Verdict
	2402	SISO	1	0.928	PASS
GFSK	2441	SISO	1	0.926	PASS
	2480	SISO	1	0.924	PASS
	2402	SISO	1	1.264	PASS
Pi/4DQPSK	2441	SISO	1	1.232	PASS
	2480	SISO	1	1.233	PASS
8DPSK	2402	SISO	1	1.245	PASS
	2441	SISO	1	1.248	PASS
	2480	SISO	1	1.248	PASS

Test Mode	est Mode Frequency (MHz)		ANT No.		ed Bandwidth sult (MHz)
	2402	SISO	1	0.857	Only for Report Use
GFSK	2441	SISO	1	0.855	Only for Report Use
	2480	SISO	1	0.852	Only for Report Use
	2402	SISO	1	1.156	Only for Report Use
Pi/4DQPSK	2441	SISO	1	1.160	Only for Report Use
	2480	SISO	1	1.159	Only for Report Use
8DPSK	2402	SISO	1	1.151	Only for Report Use
	2441	SISO	1	1.153	Only for Report Use
	2480	SISO	1	1.151	Only for Report Use

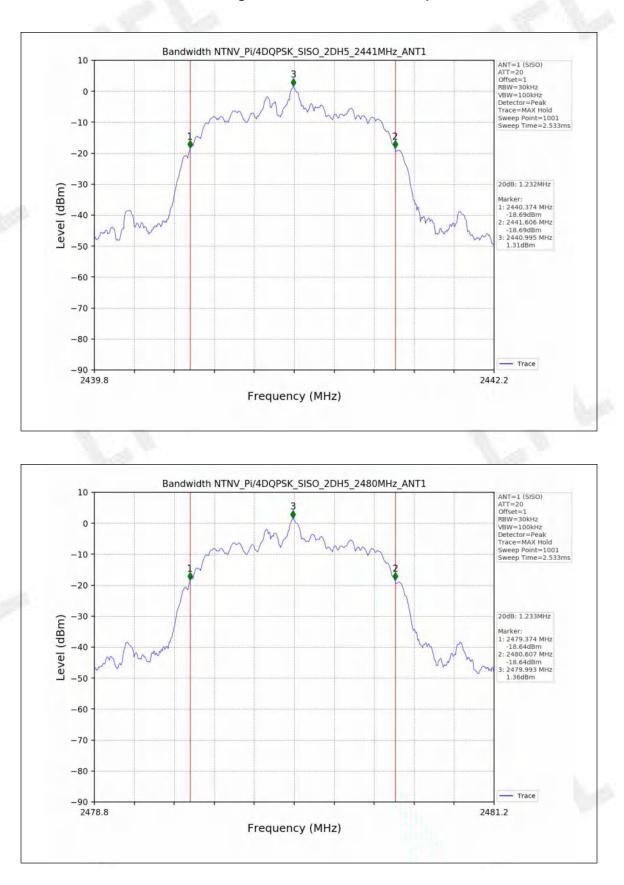
1.2 Test Graph - 20dB Bandwidth

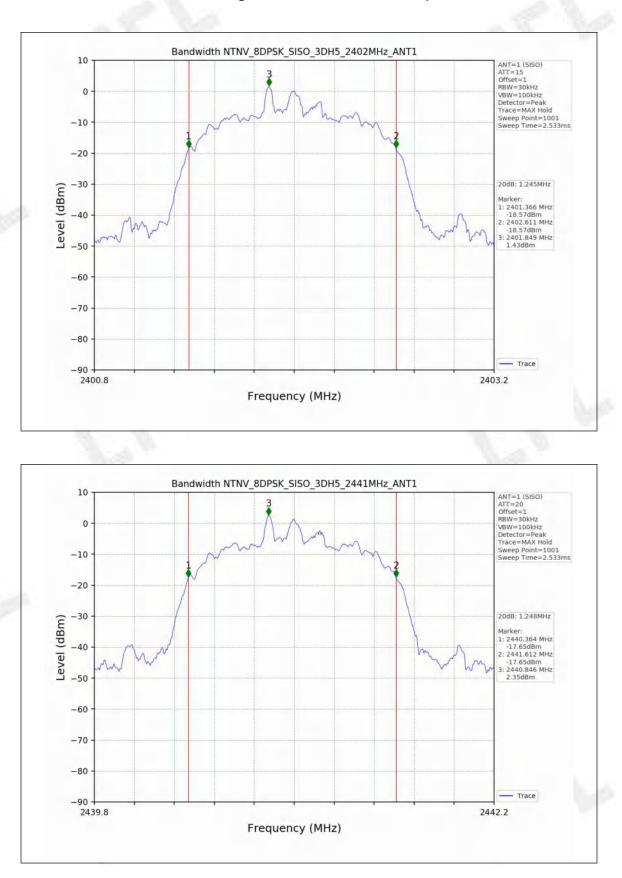


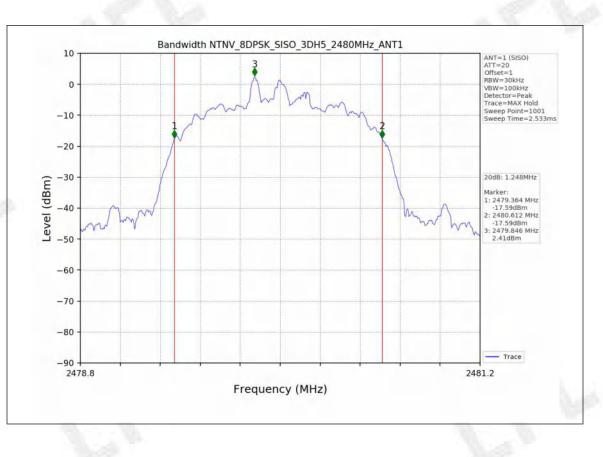
Page 3 of 42



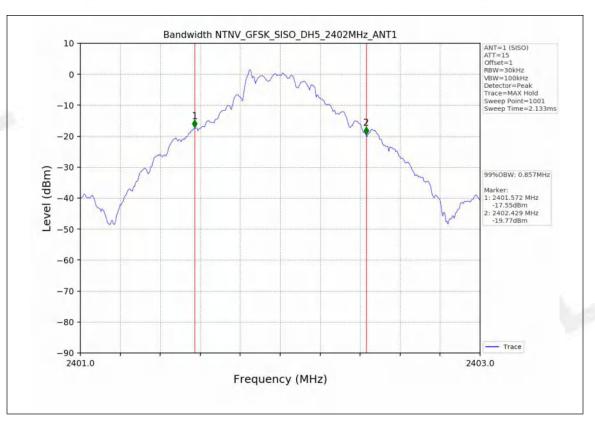
Page 4 of 42

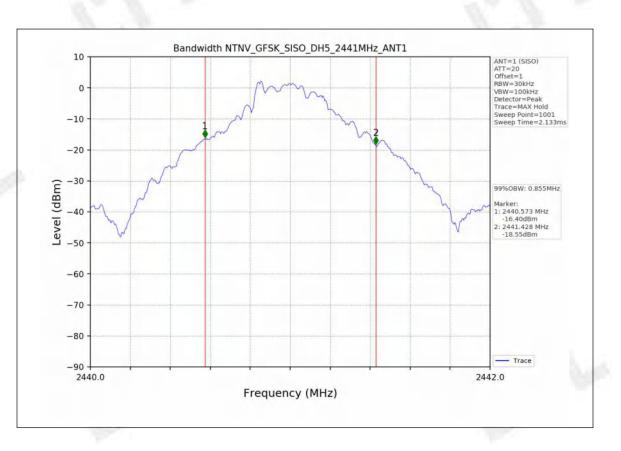




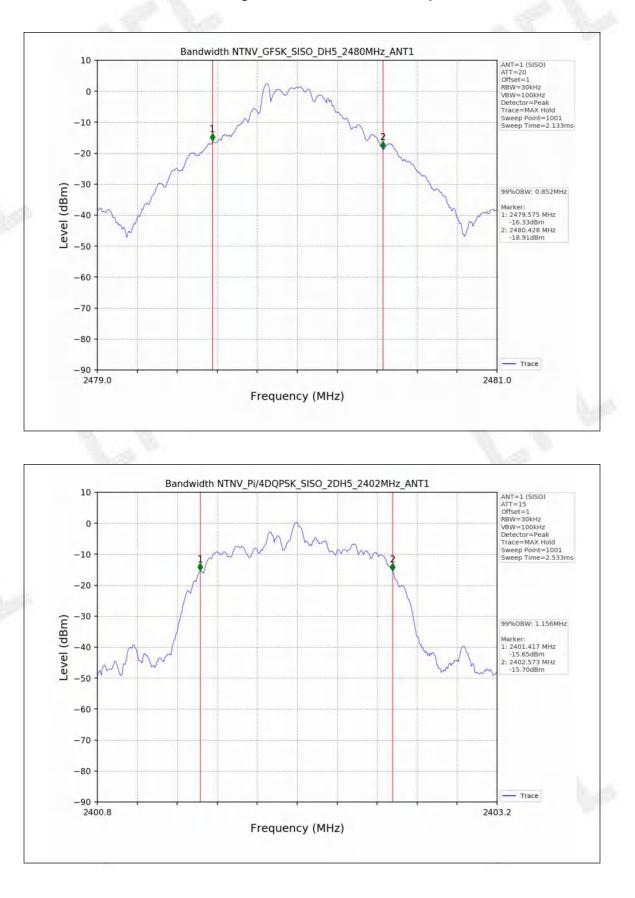


1.3 Test Graph - 99% Occupied Bandwidth

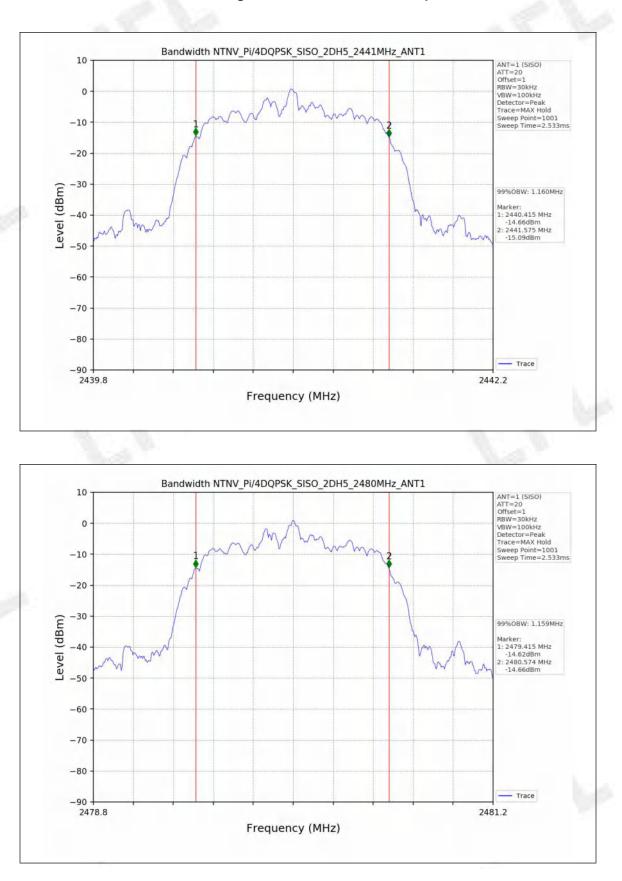




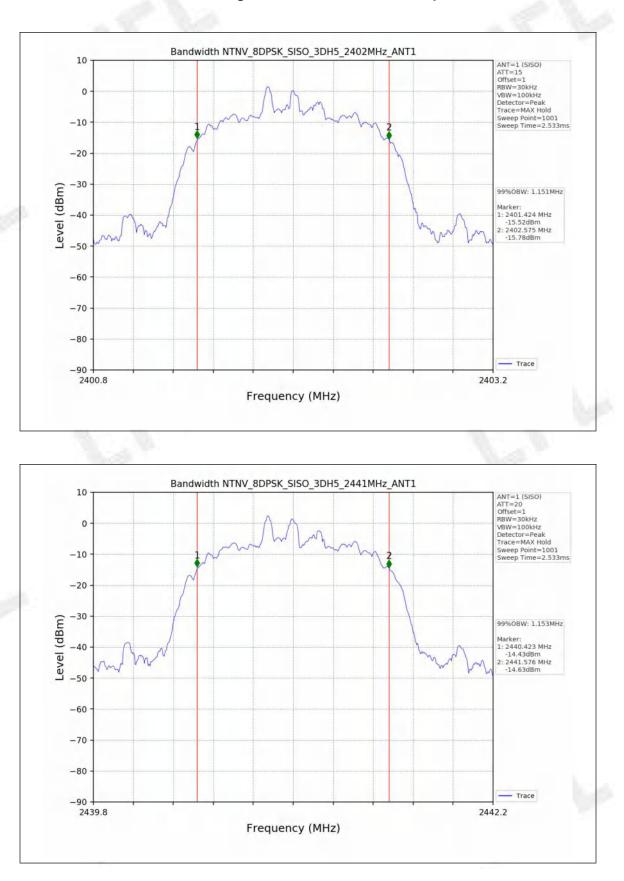
Page 8 of 42



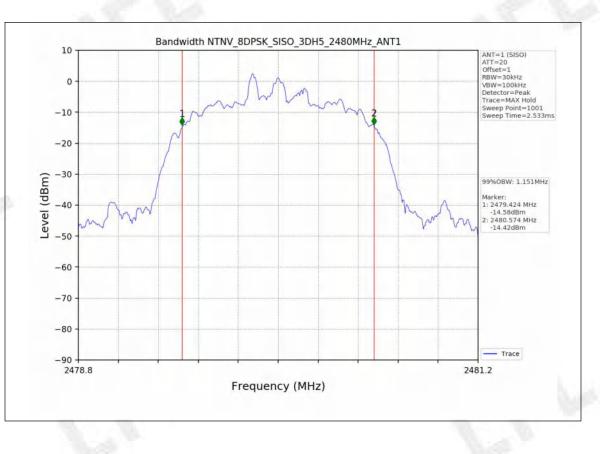
Page 9 of 42



Page 10 of 42



Page 11 of 42



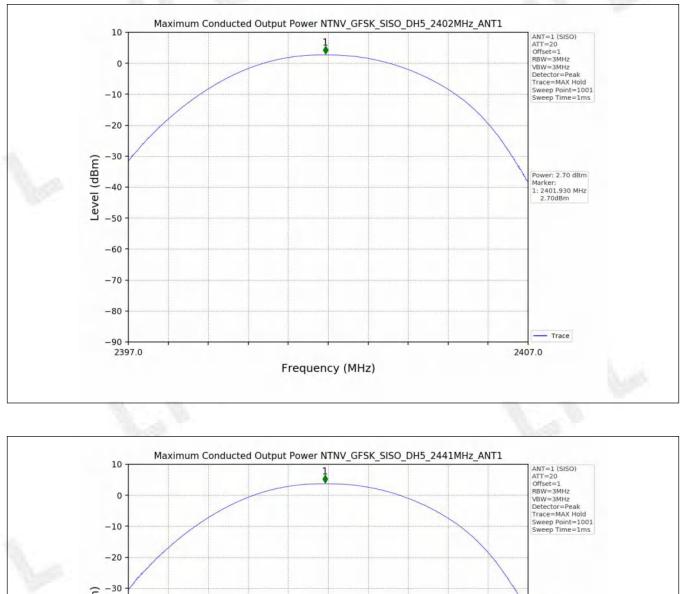
2. Maximum Conducted Output Power

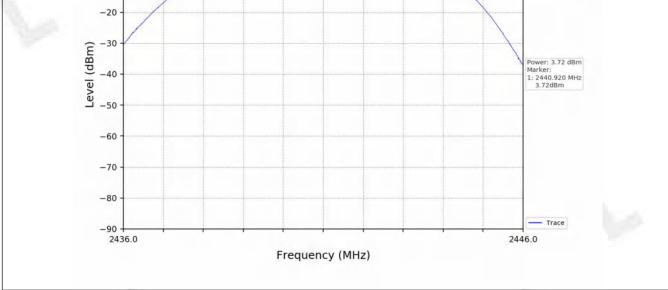
2.1 Test Result

Test Mode	Frequency (MHz)	Тх Туре	Measured Peak Output Power (dBm) Ant 1	Limits (dBm)	Verdict
	2402	SISO	2.70	30	PASS
GFSK	2441	SISO	3.72	30	PASS
	2480	SISO	3.75	30	PASS
	2402	SISO	2.74	20.97	PASS
Pi/4DQPSK	2441	SISO	3.69	20.97	PASS
	2480	SISO	3.74	20.97	PASS
	2402	SISO	2.93	20.97	PASS
8DPSK	2441	SISO	3.99	20.97	PASS
	2480	SISO	3.99	20.97	PASS

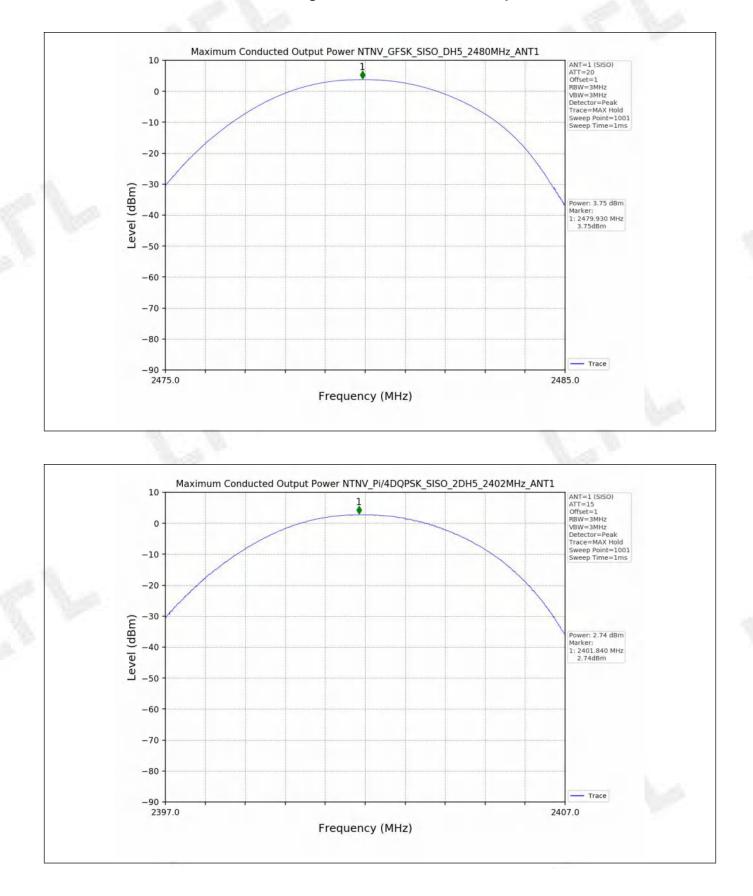
2.2 Test Graph

Page 12 of 42





Page 13 of 42



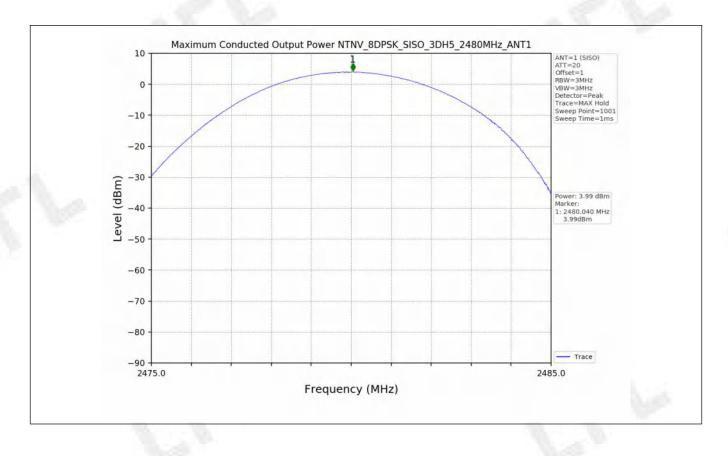
Page 14 of 42



Page 15 of 42



Page 16 of 42



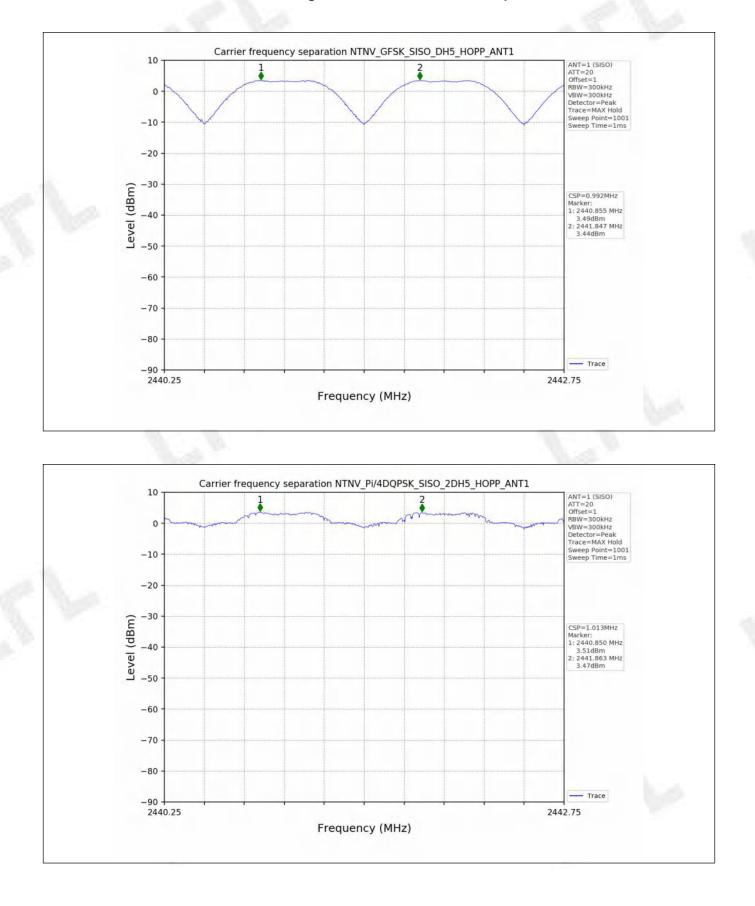
3. Carrier frequency separation

3.1 Test Result

Test Mode	ТХ Туре	ANT No.	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limits (MHz)	Verdict
GFSK	SISO	1	0.992	0.928	≥0.928	PASS
Pi/4DQPSK	SISO	1	1.013	1.264	≥0.843	PASS
8DPSK	SISO	1	1.000	1.248	≥0.832	PASS

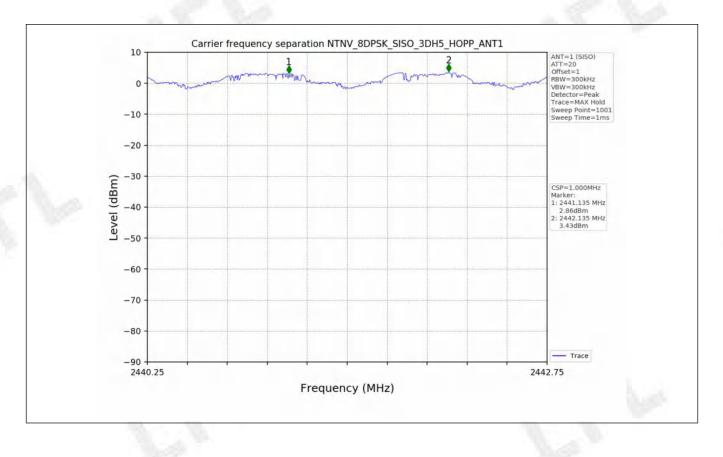
3.2 Test Graph

Page 17 of 42



Page 18 of 42

Report No.: CTL2203017062-WF



4. Number of hopping frequencies

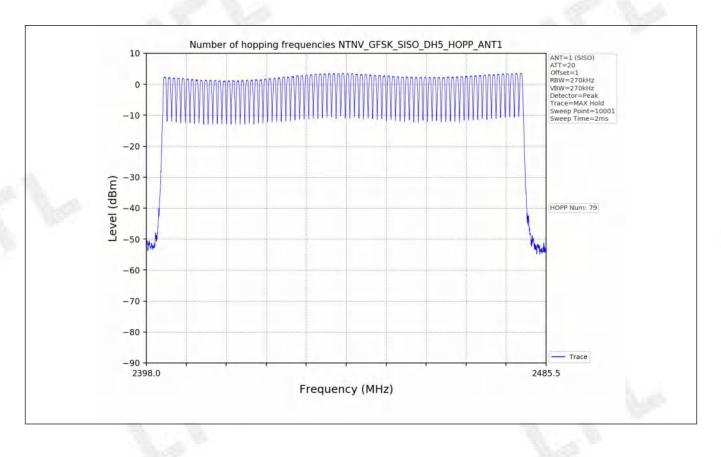
4.1 Test Result

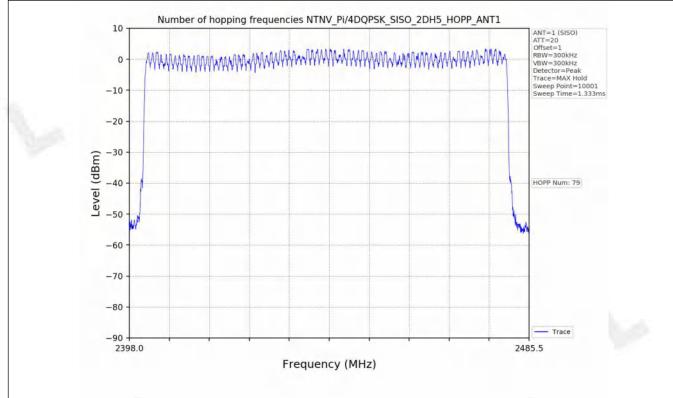
Test Mode	ТХ Туре	ANT No.	Num of Hopping Frequencies	Limits	Verdict
GFSK	SISO	1	79	≥15	PASS
Pi/4DQPSK	SISO	1	79	≥15	PASS
8DPSK	SISO	1	79	≥15	PASS

4.2 Test Graph

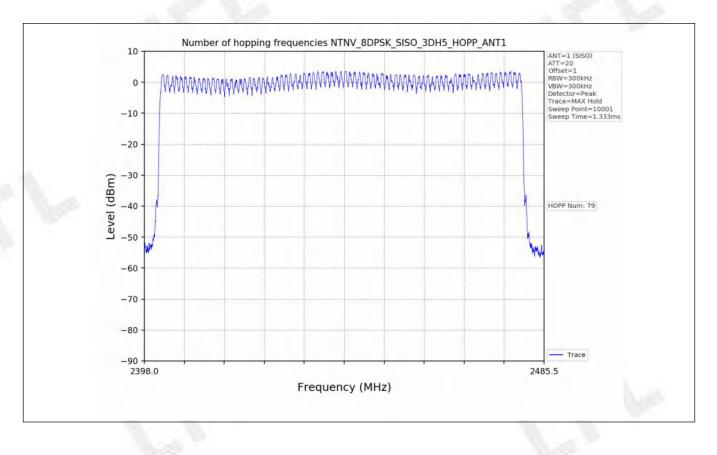
Page 19 of 42

Report No.: CTL2203017062-WF





Page 20 of 42



5. Time of occupancy (dwell time)

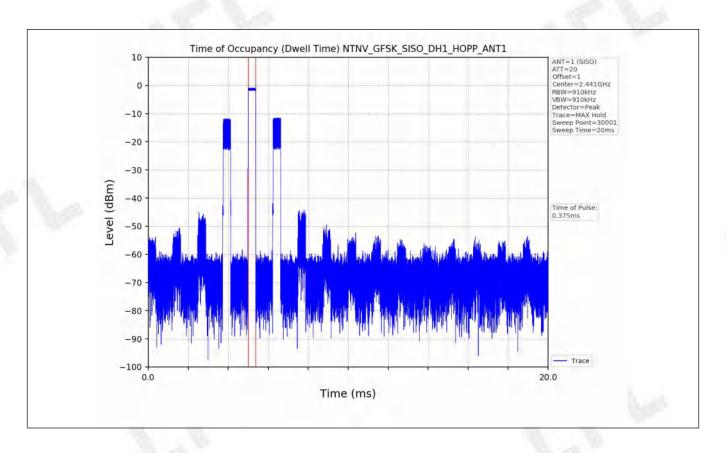
5.1 Test Result

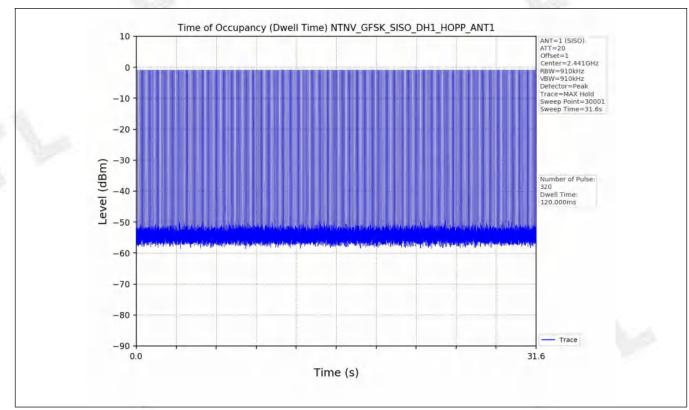
Test Mode	Packet Type	ТХ Туре	ANT No.	Duration of Single Pulse (ms)	Obeservatio	Num of Pulse in Observation Period	Dwell Time (ms)	Limits (ms)	Verdict
No.	DH1	SISO	1	0.375	31.6	320	120.000	≤400	PASS
GFSK	DH3	SISO	1	1.621	31.6	160	259.360	≤400	PASS
	DH5	SISO	1	2.869	31.6	106	304.114	≤400	PASS
	2DH1	SISO	1	0.407	31.6	320	130.240	≤400	PASS
Pi/4DQPSK	2DH3	SISO	1	1.660	31.6	160	265.600	≤400	PASS
	2DH5	SISO	1	2.883	31.6	106	305.598	≤400	PASS
	3DH1	SISO	1	0.409	31.6	320	130.880	≤400	PASS
8DPSK	3DH3	SISO	1	1.658	31.6	160	265.280	≤400	PASS
	3DH5	SISO	1	2.883	31.6	107	308.481	≤400	PASS

5.2 Test Graph

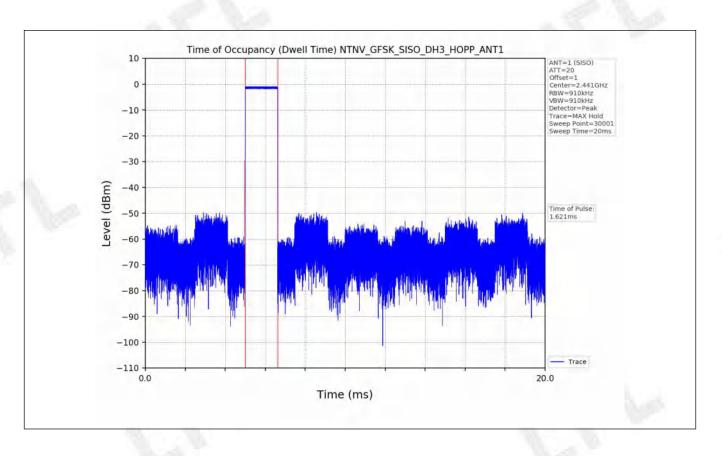
Page 21 of 42

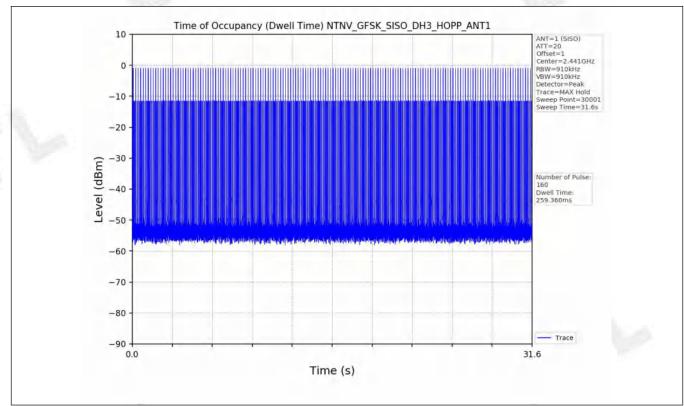
Report No.: CTL2203017062-WF





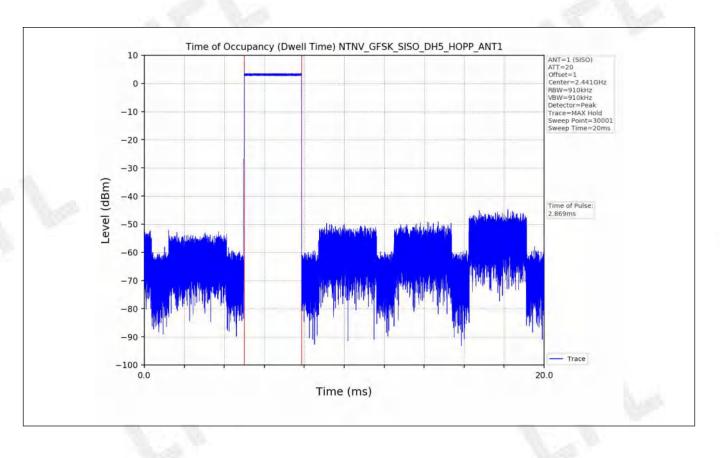
Page 22 of 42

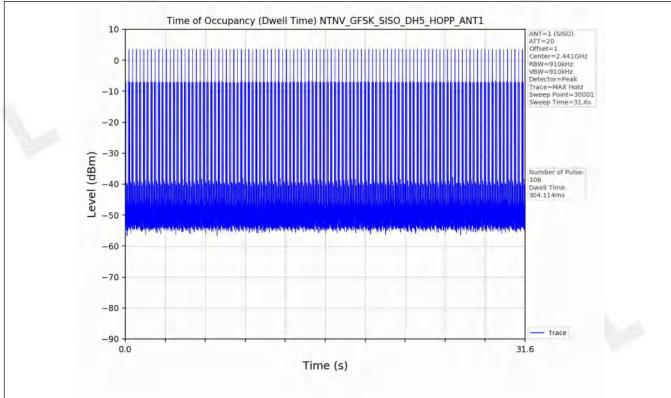




Page 23 of 42

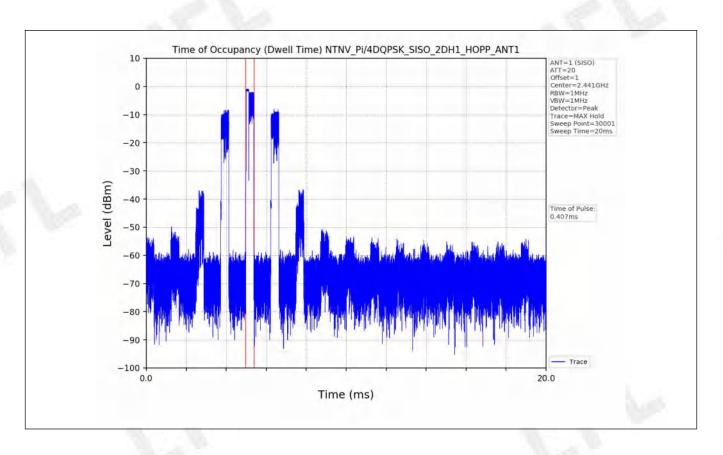
Report No.: CTL2203017062-WF

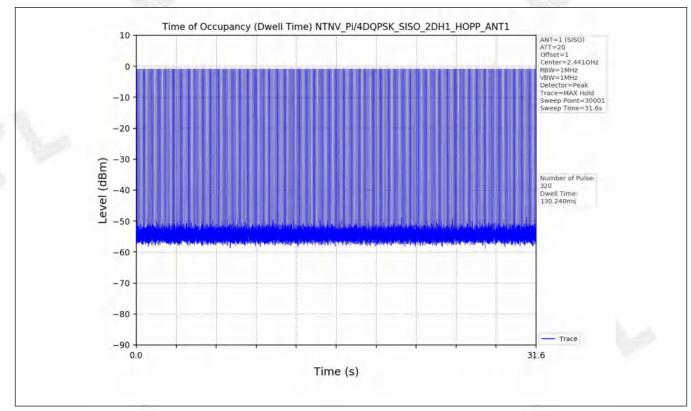




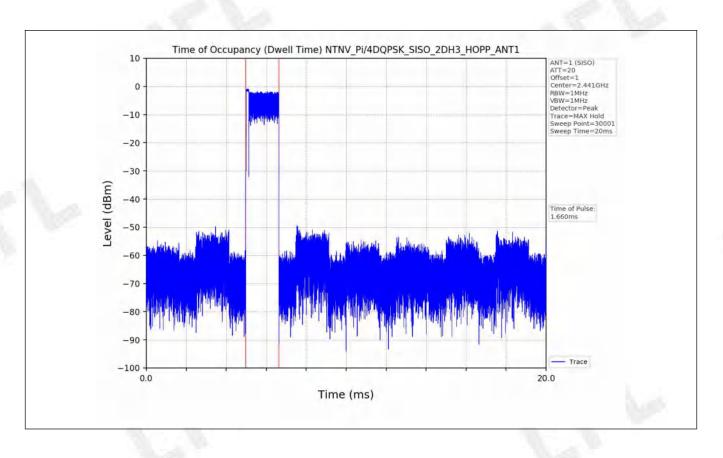
21.

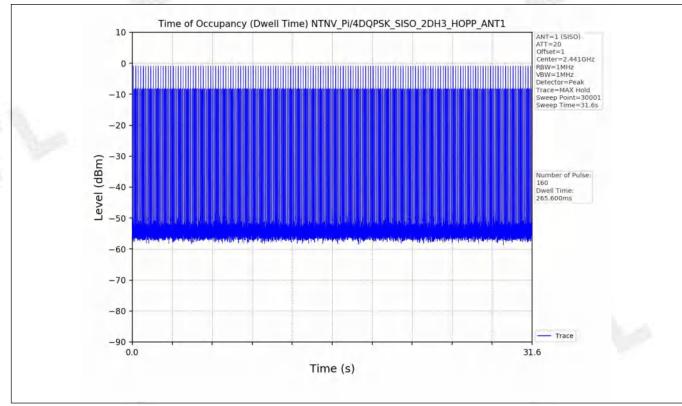
Page 24 of 42





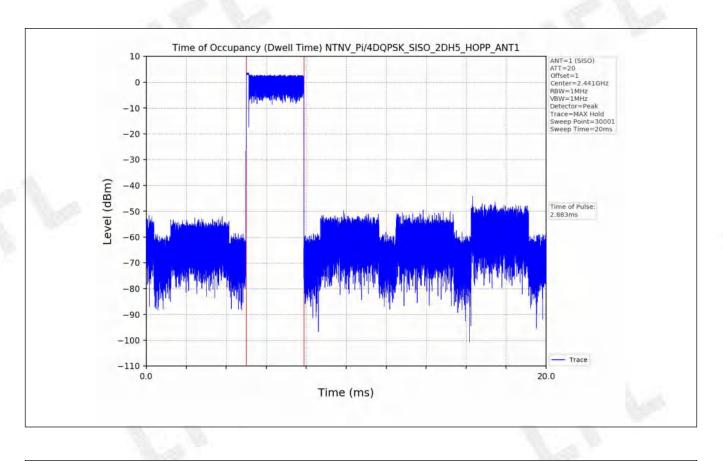
Page 25 of 42

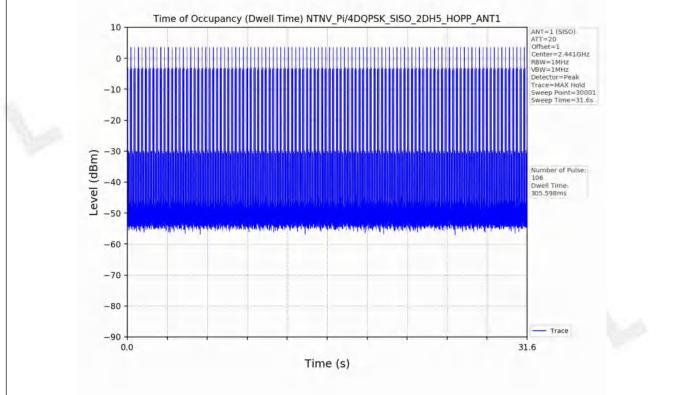




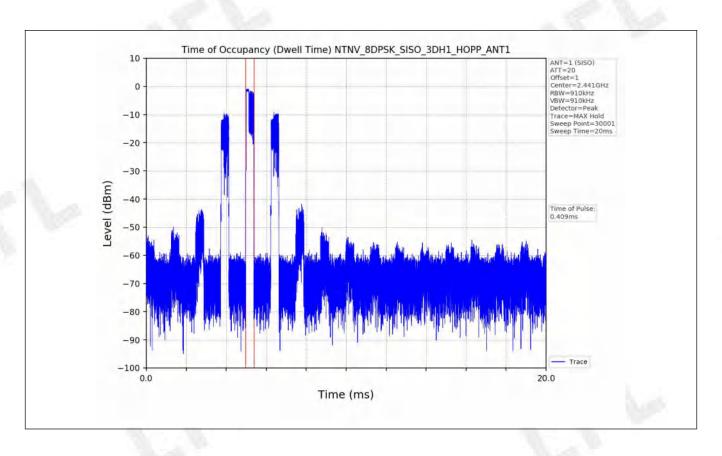
Page 26 of 42

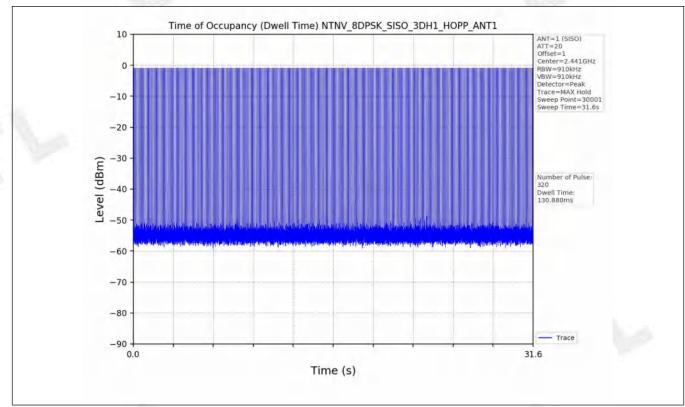
Report No.: CTL2203017062-WF



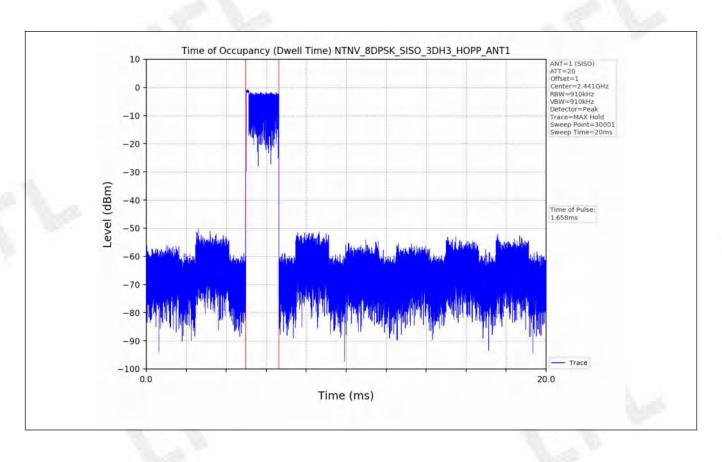


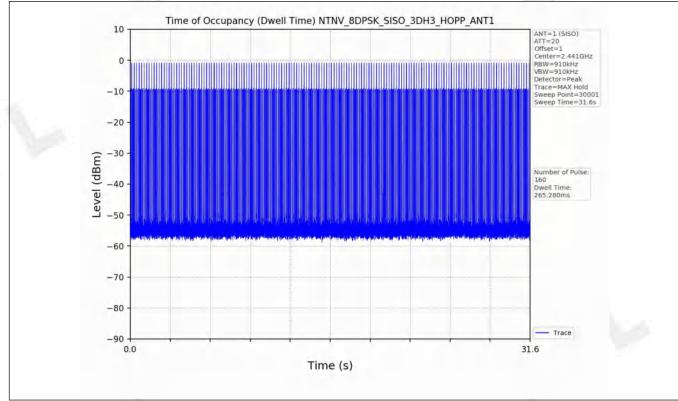
Page 27 of 42



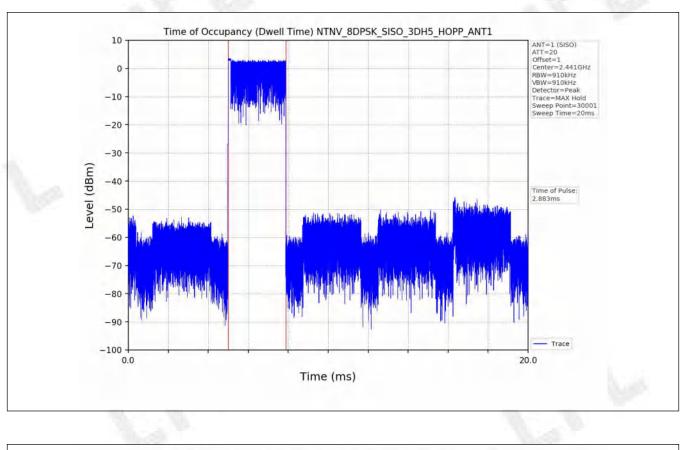


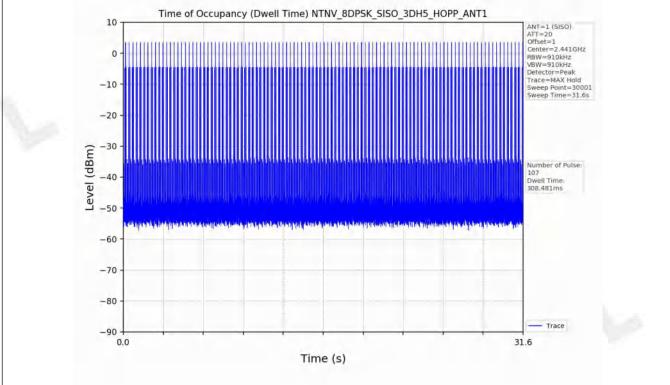
Page 28 of 42





Page 29 of 42





6. Unwanted Emissions in Non-restricted Frequency Bands

6.1 Test Result

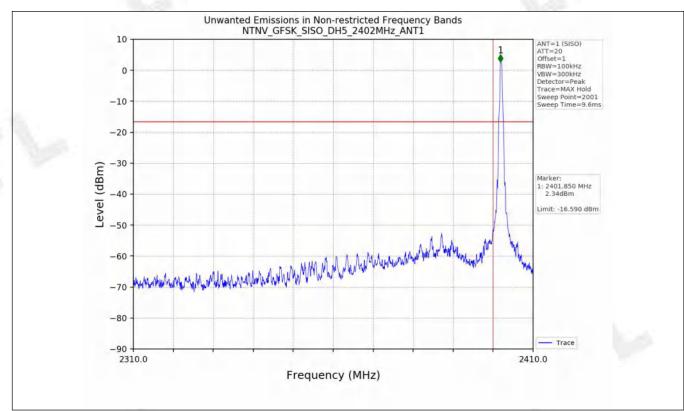
Test Mode	Frequency (MHz)	ТХ Туре	ANT No.	Spurious Conducted Emission (dBm)	Limits (dBm)	Verdict
	2402	SISO	1	Refer to test graph	-16.59	PASS
GFSK	2441	SISO	1	Refer to test graph	-16.59	PASS
GFSK	2480	SISO	1	Refer to test graph	-16.59	PASS
	Hopping	SISO	1	Refer to test graph	-16.59	PASS
	2402	SISO	1	Refer to test graph	-16.76	PASS
Pi/4DQPSK	2441	SISO	1	Refer to test graph	-16.76	PASS
FI/4DQF3N	2480	SISO	1	Refer to test graph	-16.76	PASS
	Hopping	SISO	1	Refer to test graph	-16.76	PASS
	2402	SISO	1	Refer to test graph	-16.60	PASS
8DPSK	2441	SISO	1	Refer to test graph	-16.60	PASS
	2480	SISO	1	Refer to test graph	-16.60	PASS
	Hopping	SISO	1	Refer to test graph	-16.60	PASS

6.2 Test Graph

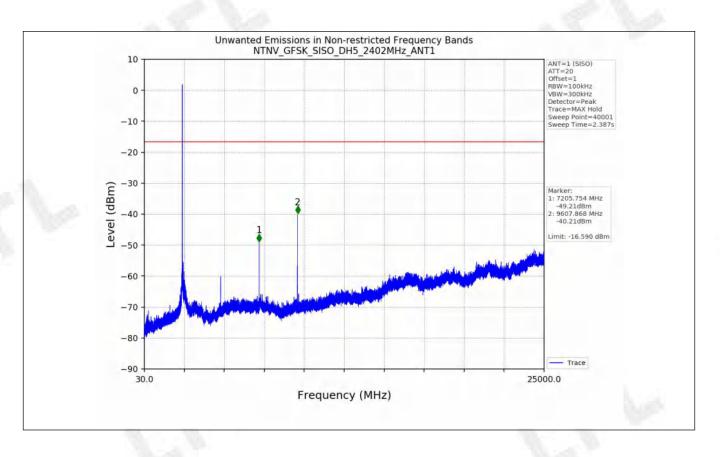
Page 31 of 42

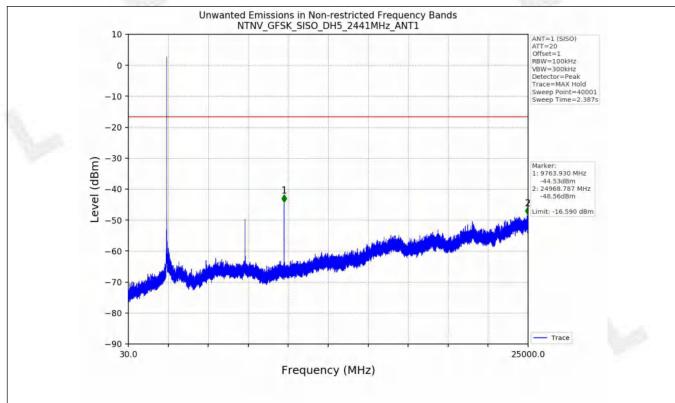
Report No.: CTL2203017062-WF





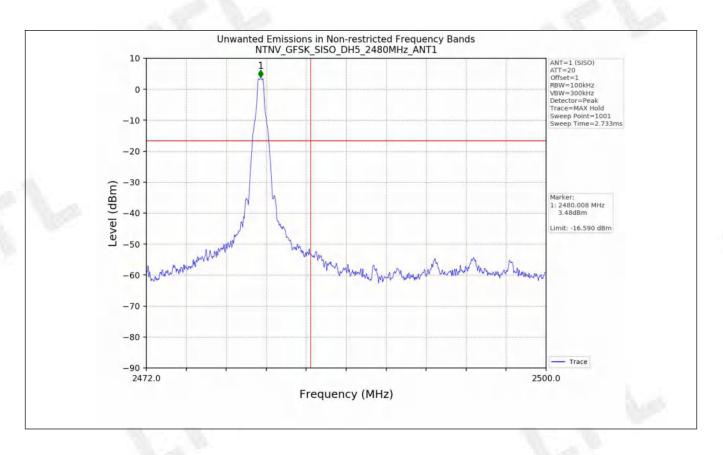
Page 32 of 42

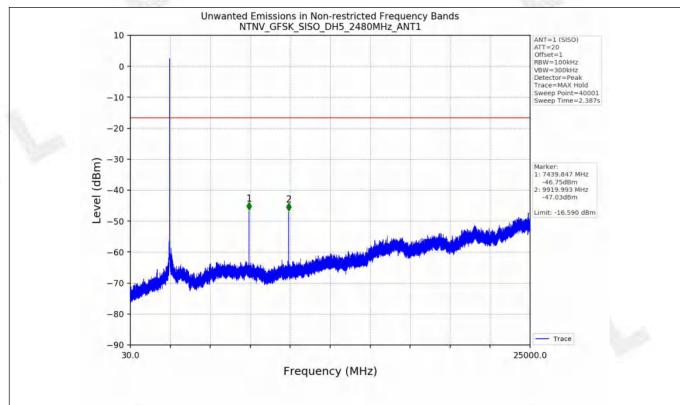




Page 33 of 42

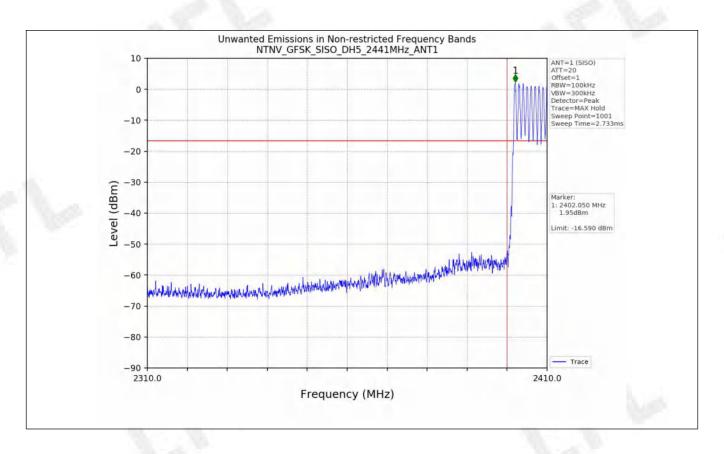
Report No.: CTL2203017062-WF

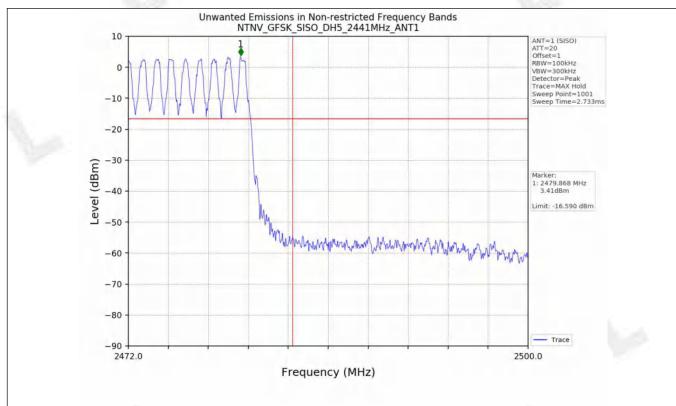




Page 34 of 42

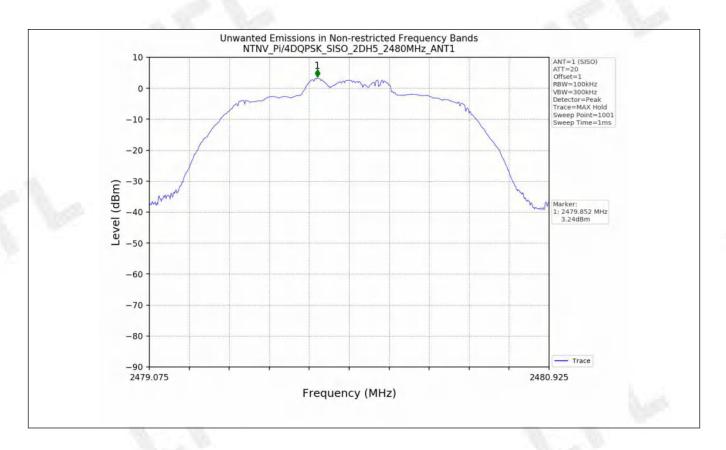
Report No.: CTL2203017062-WF

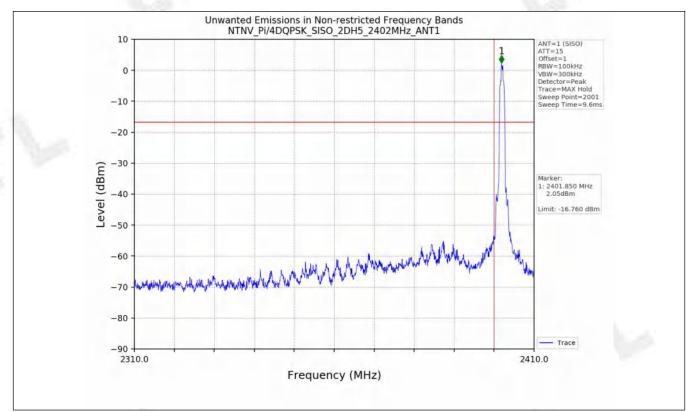




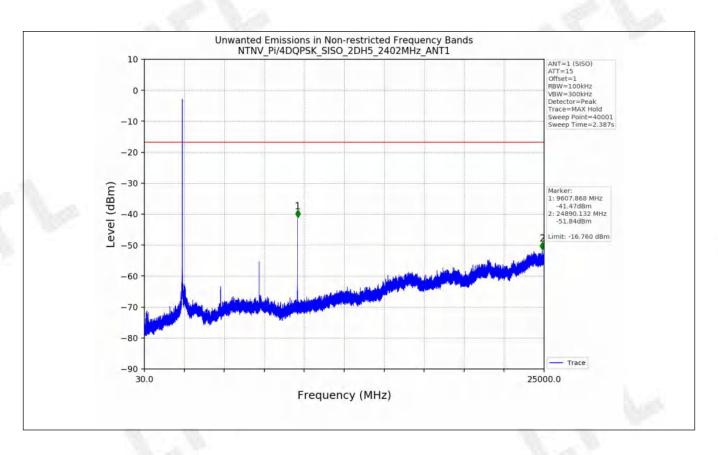
Page 35 of 42

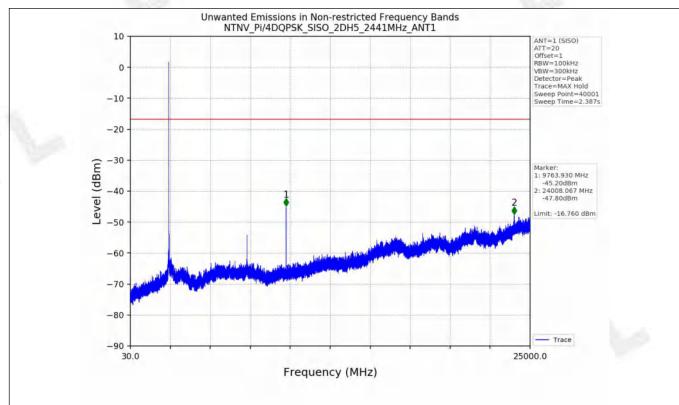
Report No.: CTL2203017062-WF





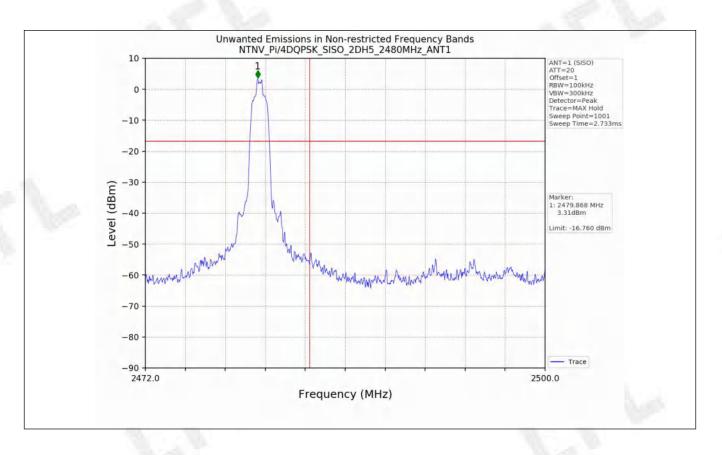
Page 36 of 42

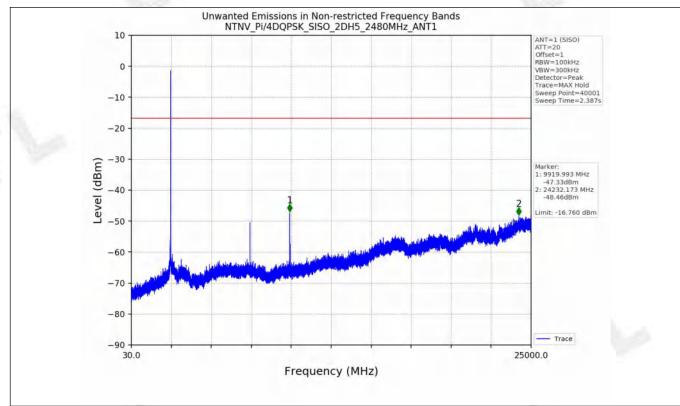




Page 37 of 42

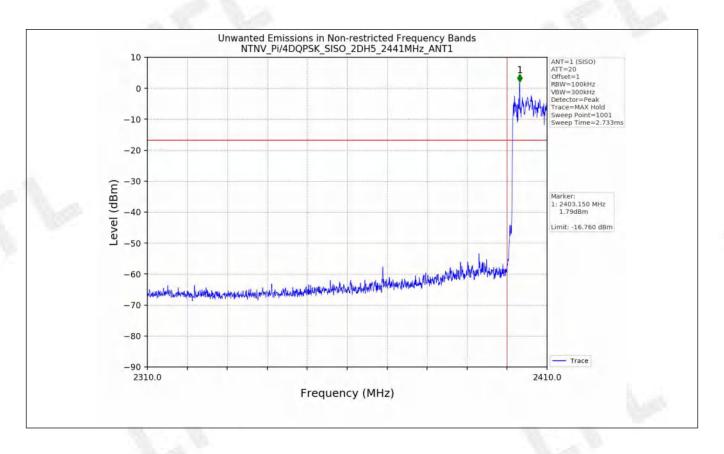
Report No.: CTL2203017062-WF

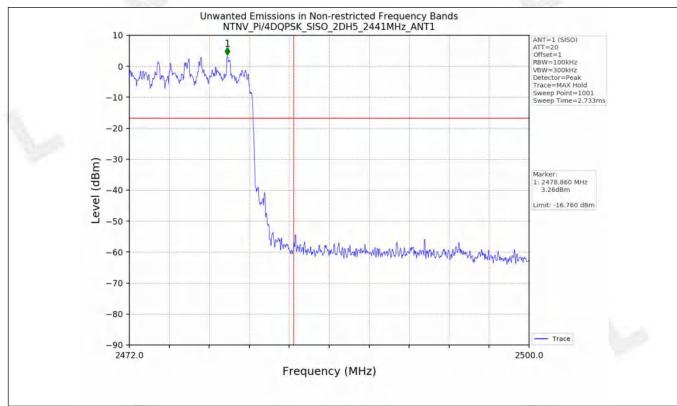




Page 38 of 42

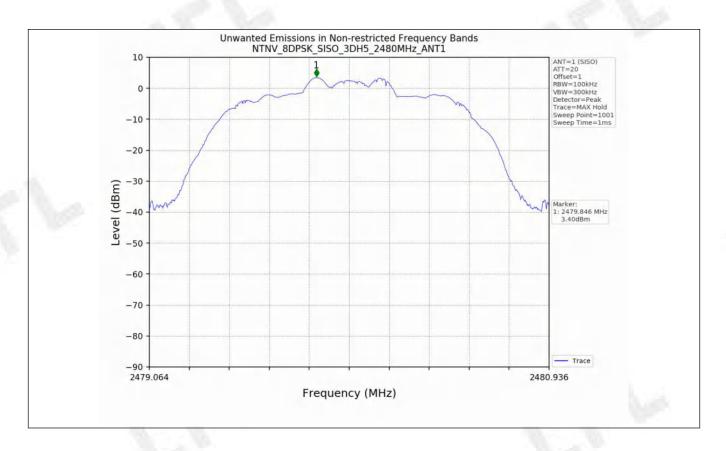
Report No.: CTL2203017062-WF

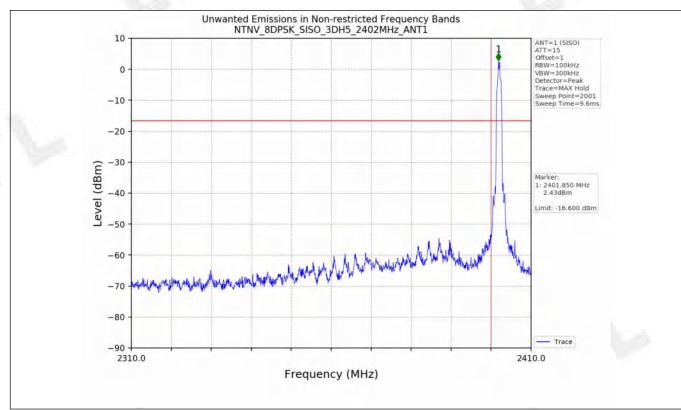




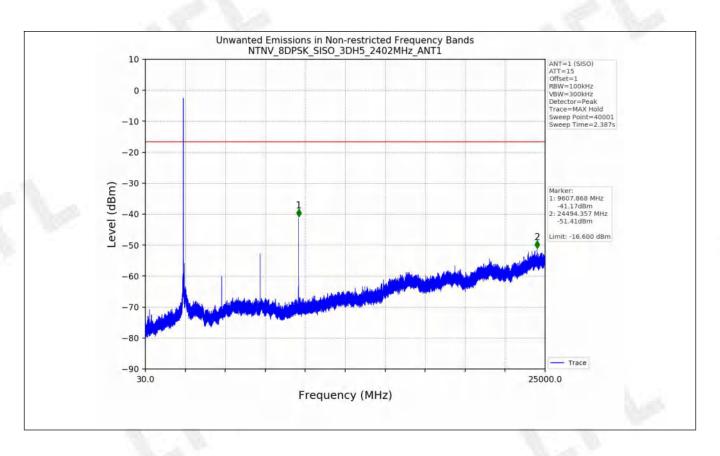
Page 39 of 42

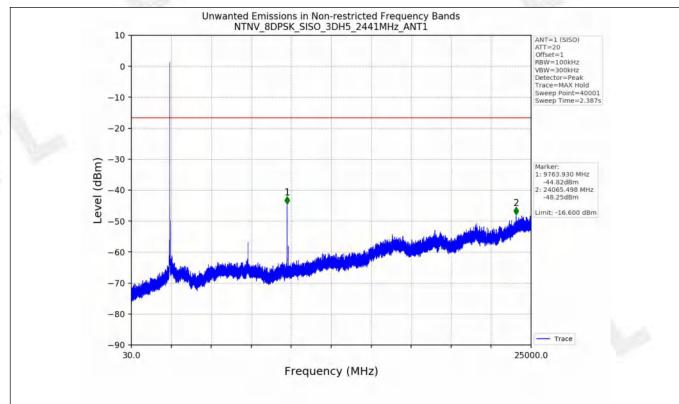
Report No.: CTL2203017062-WF





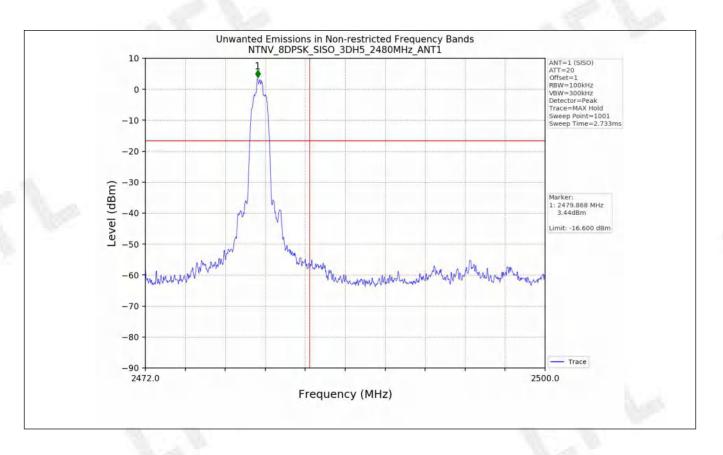
Page 40 of 42

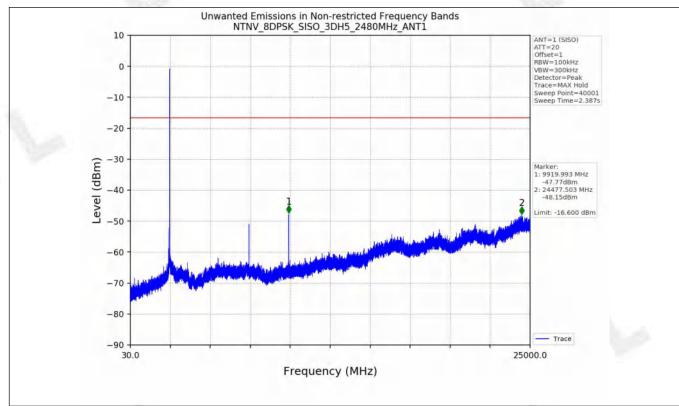




Page 41 of 42

Report No.: CTL2203017062-WF





Page 42 of 42

Report No.: CTL2203017062-WF

