Appendix A.9

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B13_5MHz_ERP

Band: 13 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	779.5	1	0	23.03	-0.75	20.13	<=34.77	Pass
			13	23.07	-0.75	20.17	<=34.77	Pass
			24	23.08	-0.75	20.18	<=34.77	Pass
		12	0	22.10	-0.75	19.20	<=34.77	Pass
			6	22.14	-0.75	19.24	<=34.77	Pass
			13	22.04	-0.75	19.14	<=34.77	Pass
		25	0	22.06	-0.75	19.16	<=34.77	Pass
	782	1	0	23.17	-0.75	20.27	<=34.77	Pass
			13	23.14	-0.75	20.24	<=34.77	Pass
			24	23.05	-0.75	20.15	<=34.77	Pass
		12	0	22.11	-0.75	19.21	<=34.77	Pass
			6	22.13	-0.75	19.23	<=34.77	Pass
			13	22.07	-0.75	19.17	<=34.77	Pass
		25	0	22.16	-0.75	19.26	<=34.77	Pass
	784.5	1	0	23.19	-0.75	20.29	<=34.77	Pass
			13	23.10	-0.75	20.20	<=34.77	Pass
			24	22.98	-0.75	20.08	<=34.77	Pass
		12	0	22.10	-0.75	19.20	<=34.77	Pass
			6	22.01	-0.75	19.11	<=34.77	Pass
			13	22.06	-0.75	19.16	<=34.77	Pass
		25	0	21.99	-0.75	19.09	<=34.77	Pass
16QAM	779.5	1	0	22.07	-0.75	19.17	<=34.77	Pass
			13	22.24	-0.75	19.34	<=34.77	Pass
			24	22.33	-0.75	19.43	<=34.77	Pass
		12	0	21.13	-0.75	18.23	<=34.77	Pass
			6	21.11	-0.75	18.21	<=34.77	Pass
			13	21.02	-0.75	18.12	<=34.77	Pass
		25	0	21.12	-0.75	18.22	<=34.77	Pass
	782	1	0	22.35	-0.75	19.45	<=34.77	Pass
			13	22.18	-0.75	19.28	<=34.77	Pass
			24	22.33	-0.75	19.43	<=34.77	Pass
		12	0	21.16	-0.75	18.26	<=34.77	Pass
			6	21.14	-0.75	18.24	<=34.77	Pass
			13	21.11	-0.75	18.21	<=34.77	Pass
		25	0	21.12	-0.75	18.22	<=34.77	Pass
	784.5	1	0	22.56	-0.75	19.66	<=34.77	Pass
			13	22.19	-0.75	19.29	<=34.77	Pass
			24	22.38	-0.75	19.48	<=34.77	Pass
		12	0	21.07	-0.75	18.17	<=34.77	Pass
			6	21.12	-0.75	18.22	<=34.77	Pass

			13	21.09	-0.75	18.19	<=34.77	Pass
		25	0	21.05	-0.75	18.15	<=34.77	Pass
64QAM	779.5	1	0	22.07	-0.75	19.17	<=34.77	Pass
			13	22.26	-0.75	19.36	<=34.77	Pass
			24	22.10	-0.75	19.20	<=34.77	Pass
		12	0	21.10	-0.75	18.20	<=34.77	Pass
			6	21.20	-0.75	18.30	<=34.77	Pass
			13	21.07	-0.75	18.17	<=34.77	Pass
		25	0	21.09	-0.75	18.19	<=34.77	Pass
	782	1	0	21.96	-0.75	19.06	<=34.77	Pass
			13	22.34	-0.75	19.44	<=34.77	Pass
			24	22.11	-0.75	19.21	<=34.77	Pass
		12	0	21.05	-0.75	18.15	<=34.77	Pass
			6	21.19	-0.75	18.29	<=34.77	Pass
			13	21.04	-0.75	18.14	<=34.77	Pass
		25	0	21.12	-0.75	18.22	<=34.77	Pass
	784.5	1	0	22.07	-0.75	19.17	<=34.77	Pass
			13	22.04	-0.75	19.14	<=34.77	Pass
			24	22.06	-0.75	19.16	<=34.77	Pass
		12	0	20.99	-0.75	18.09	<=34.77	Pass
			6	21.08	-0.75	18.18	<=34.77	Pass
			13	21.05	-0.75	18.15	<=34.77	Pass
		25	0	20.97	-0.75	18.07	<=34.77	Pass
256QAM	779.5	1	0	18.14	-0.75	15.24	<=34.77	Pass
			13	18.18	-0.75	15.28	<=34.77	Pass
			24	18.01	-0.75	15.11	<=34.77	Pass
		12	0	18.07	-0.75	15.17	<=34.77	Pass
			6	18.11	-0.75	15.21	<=34.77	Pass
			13	18.07	-0.75	15.17	<=34.77	Pass
		25	0	18.03	-0.75	15.13	<=34.77	Pass
	782	1	0	17.99	-0.75	15.09	<=34.77	Pass
			13	18.30	-0.75	15.40	<=34.77	Pass
			24	18.06	-0.75	15.16	<=34.77	Pass
		12	0	18.16	-0.75	15.26	<=34.77	Pass
			6	18.22	-0.75	15.32	<=34.77	Pass
			13	18.12	-0.75	15.22	<=34.77	Pass
		25	0	18.11	-0.75	15.21	<=34.77	Pass
	784.5	1	0	17.98	-0.75	15.08	<=34.77	Pass
			13	18.31	-0.75	15.41	<=34.77	Pass
			24	18.15	-0.75	15.25	<=34.77	Pass
		12	0	18.03	-0.75	15.13	<=34.77	Pass
			6	18.08	-0.75	15.18	<=34.77	Pass
			13	18.11	-0.75	15.21	<=34.77	Pass
		25	0	17.99	-0.75	15.09	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

1.1.2 B13_10MHz_ERP

Band: 13 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	

QPSK	782	1	0	23.12	-0.75	20.22	<=34.77	Pass
			25	23.24	-0.75	20.34	<=34.77	Pass
			49	23.04	-0.75	20.14	<=34.77	Pass
		25	0	22.15	-0.75	19.25	<=34.77	Pass
			13	22.18	-0.75	19.28	<=34.77	Pass
			25	22.13	-0.75	19.23	<=34.77	Pass
		50	0	22.14	-0.75	19.24	<=34.77	Pass
16QAM	782	1	0	22.38	-0.75	19.48	<=34.77	Pass
			25	22.34	-0.75	19.44	<=34.77	Pass
			49	22.23	-0.75	19.33	<=34.77	Pass
		25	0	21.22	-0.75	18.32	<=34.77	Pass
			13	21.19	-0.75	18.29	<=34.77	Pass
			25	21.10	-0.75	18.20	<=34.77	Pass
		50	0	21.13	-0.75	18.23	<=34.77	Pass
64QAM	782	1	0	22.16	-0.75	19.26	<=34.77	Pass
			25	21.97	-0.75	19.07	<=34.77	Pass
			49	22.18	-0.75	19.28	<=34.77	Pass
		25	0	21.10	-0.75	18.20	<=34.77	Pass
			13	21.17	-0.75	18.27	<=34.77	Pass
			25	21.10	-0.75	18.20	<=34.77	Pass
		50	0	21.21	-0.75	18.31	<=34.77	Pass
256QAM	782	1	0	18.13	-0.75	15.23	<=34.77	Pass
			25	18.28	-0.75	15.38	<=34.77	Pass
			49	18.11	-0.75	15.21	<=34.77	Pass
		25	0	18.19	-0.75	15.29	<=34.77	Pass
			13	18.17	-0.75	15.27	<=34.77	Pass
			25	18.17	-0.75	15.27	<=34.77	Pass
		50	0	18.24	-0.75	15.34	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 Test Result

2.1.1 B13_10MHz

Band: 13 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	3.27	-0.600	-0.0008	-2.5 to 2.5	Pass
					3.85	1.300	0.0017	-2.5 to 2.5	Pass
					4.43	0.600	0.0008	-2.5 to 2.5	Pass
				-30	3.85	1.600	0.0020	-2.5 to 2.5	Pass
				-20	3.85	2.200	0.0028	-2.5 to 2.5	Pass
				-10	3.85	2.600	0.0033	-2.5 to 2.5	Pass
				0	3.85	-0.300	-0.0004	-2.5 to 2.5	Pass
				10	3.85	0.500	0.0006	-2.5 to 2.5	Pass
				30	3.85	-0.600	-0.0008	-2.5 to 2.5	Pass
				40	3.85	2.200	0.0028	-2.5 to 2.5	Pass
				50	3.85	0.000	0.0000	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.479	/	Pass
	16QAM	782	25	0	4.477	/	Pass
	64QAM	782	25	0	4.480	/	Pass
	256QAM	782	25	0	4.471	/	Pass
10	QPSK	782	50	0	8.948	/	Pass
	16QAM	782	50	0	8.955	/	Pass
	64QAM	782	50	0	8.967	/	Pass
	256QAM	782	50	0	8.926	/	Pass

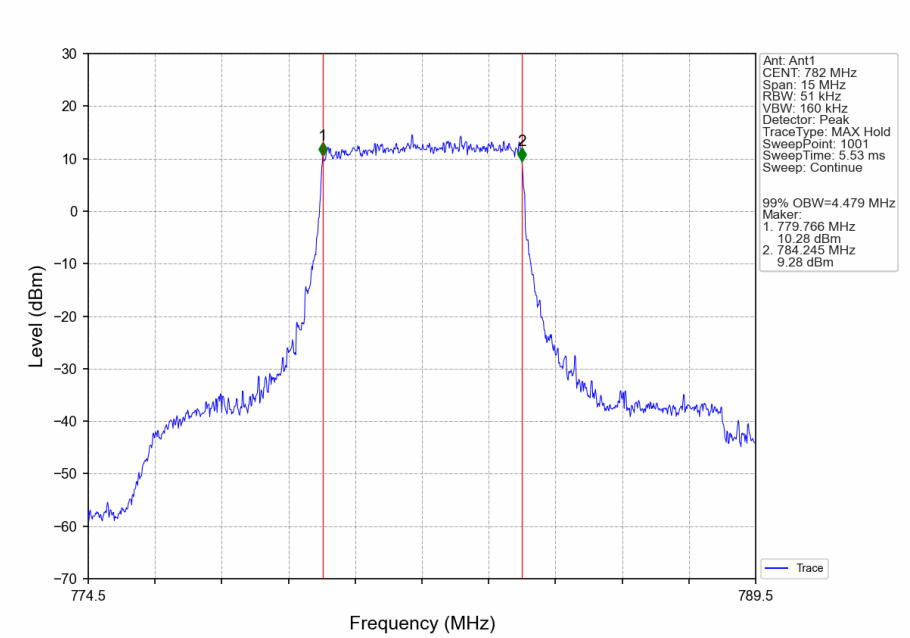
3.1.2 Band13_XDB

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.952	/	Pass
	16QAM	782	25	0	5.066	/	Pass
	64QAM	782	25	0	4.996	/	Pass
	256QAM	782	25	0	5.012	/	Pass
10	QPSK	782	50	0	9.737	/	Pass
	16QAM	782	50	0	9.748	/	Pass
	64QAM	782	50	0	9.785	/	Pass
	256QAM	782	50	0	9.846	/	Pass

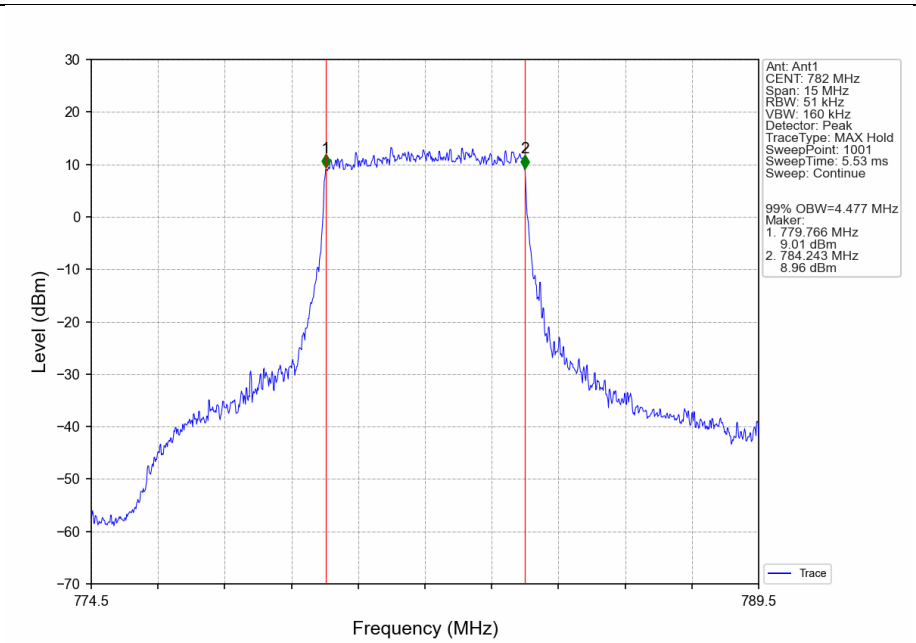
3.2 Test Graph

3.2.1 Band13_OBW

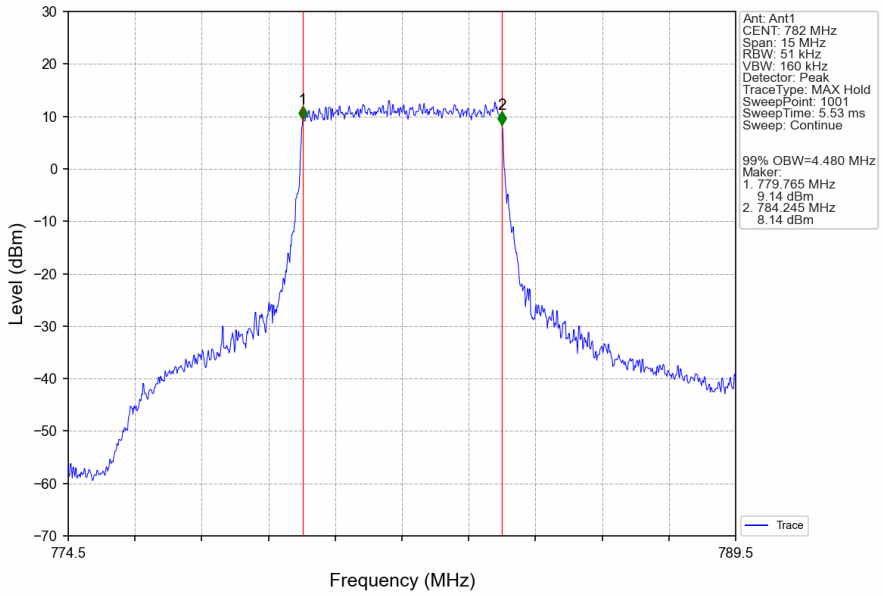
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV



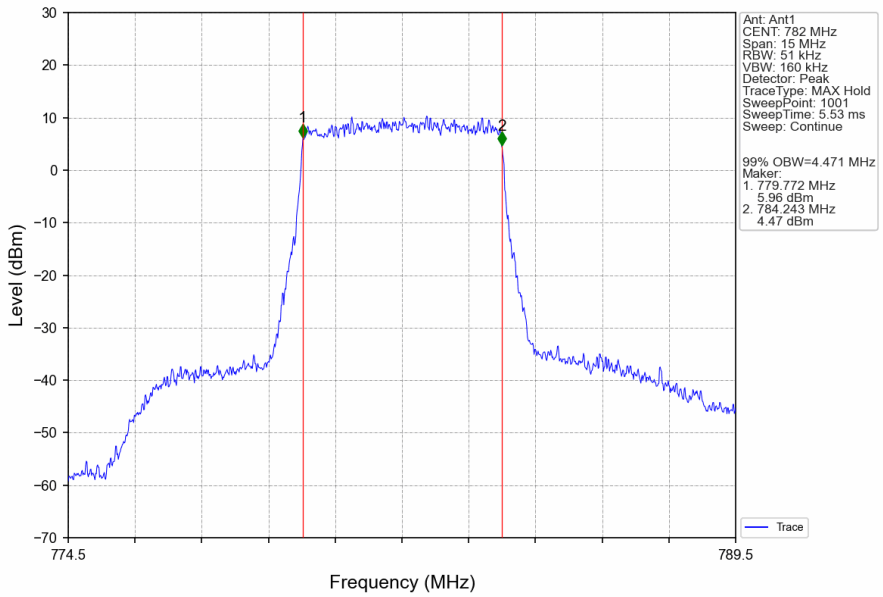
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV


Ant: Ant1
CENT: 782 MHz
Span: 15 MHz
RBW: 51 kHz
VBW: 160 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 1001
SweepTime: 5.53 ms
Sweep: Continue
99% OBW=4.477 MHz
Maker:
1. 779.766 MHz
9.01 dBm
2. 784.243 MHz
8.96 dBm
Trace
Level (dBm)
Frequency (MHz)
774.5
789.5

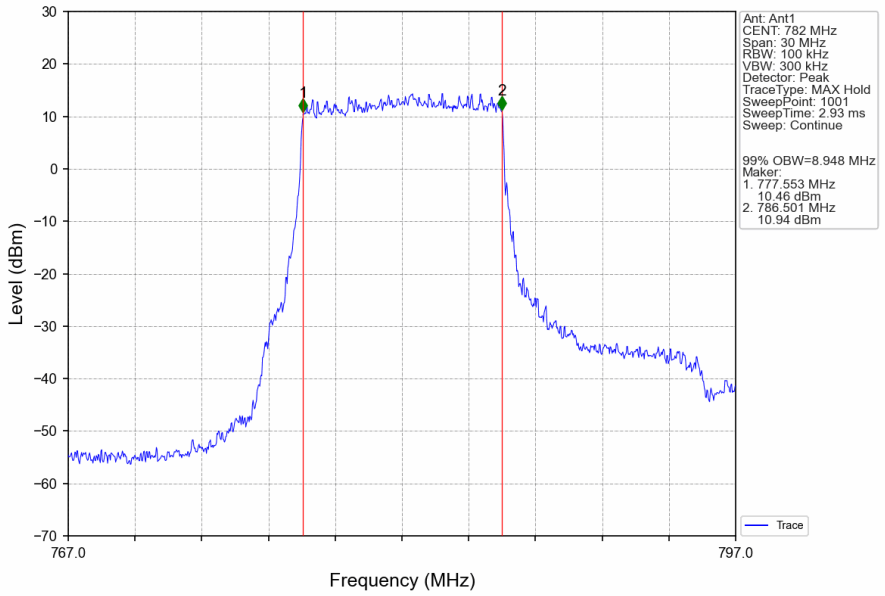
Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



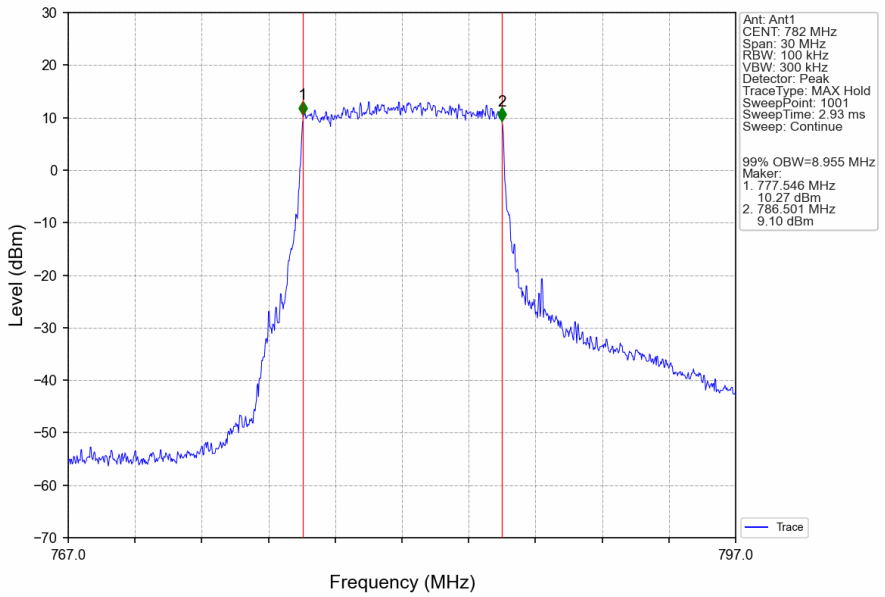
Band13_5MHz_256QAM_MCH_782MHz_RB_25_0_NTNV



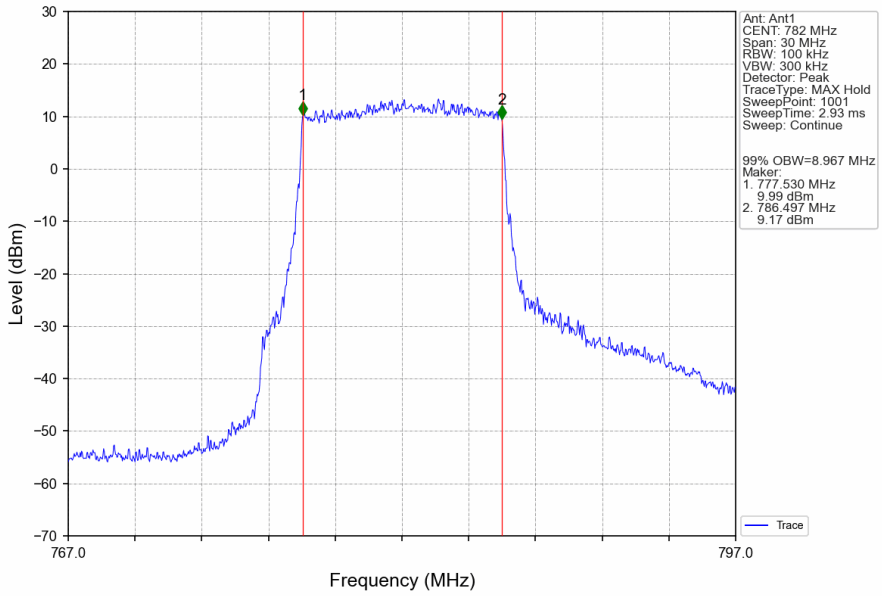
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



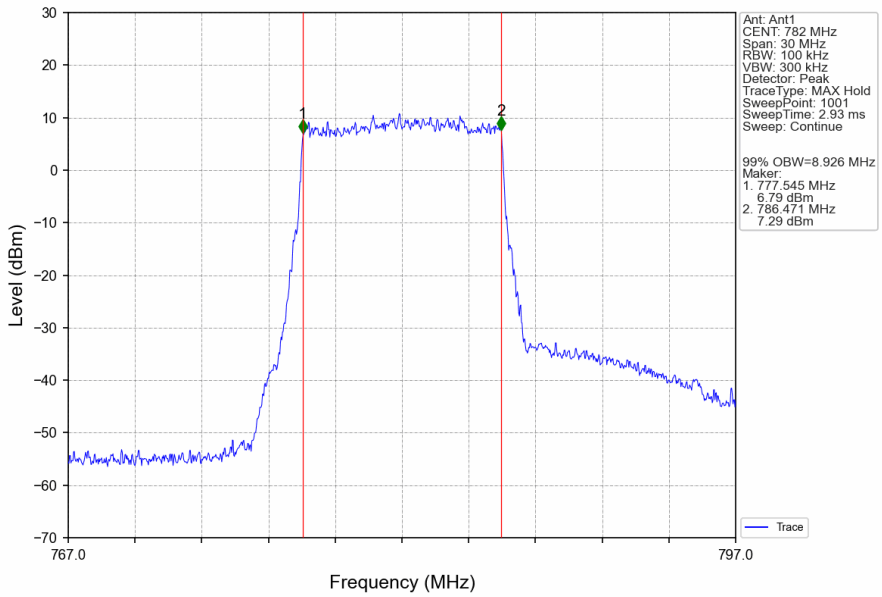
Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV

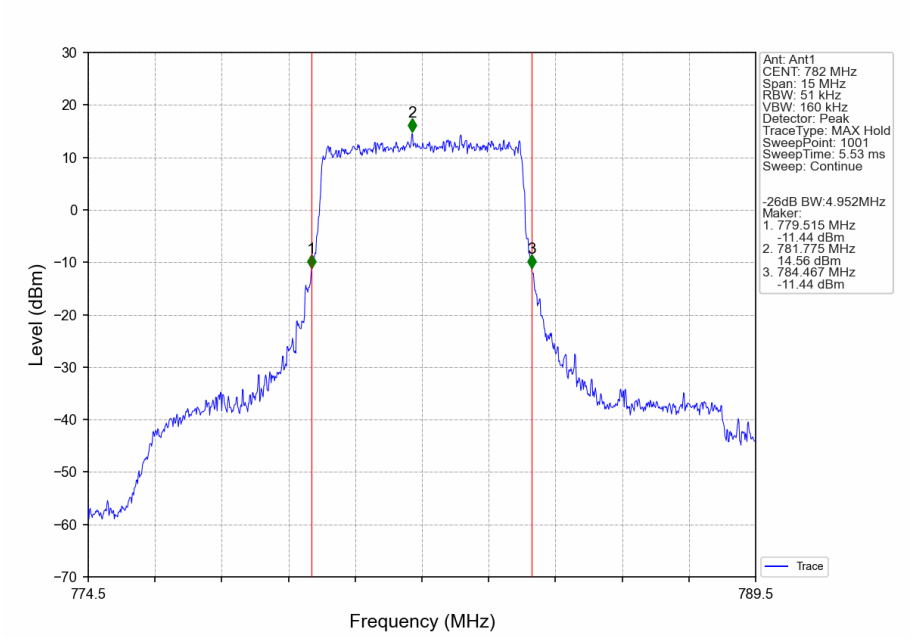


Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV

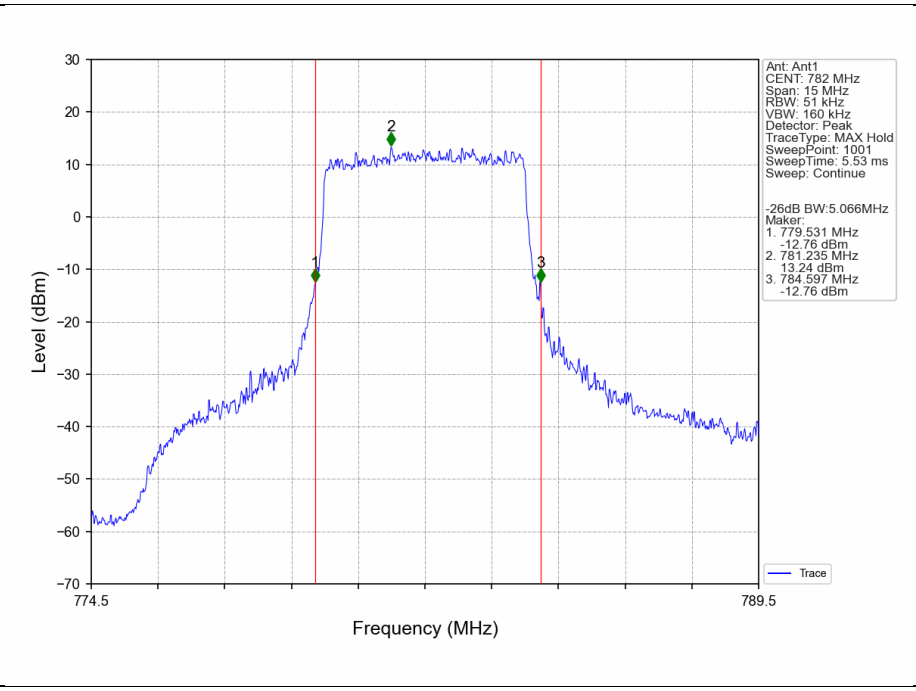


3.2.2 Band13_XDB

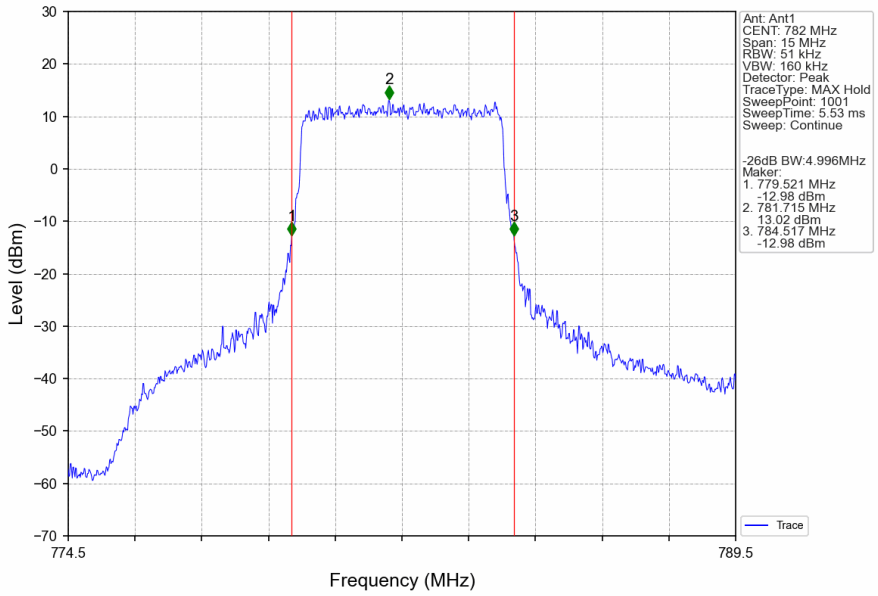
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV



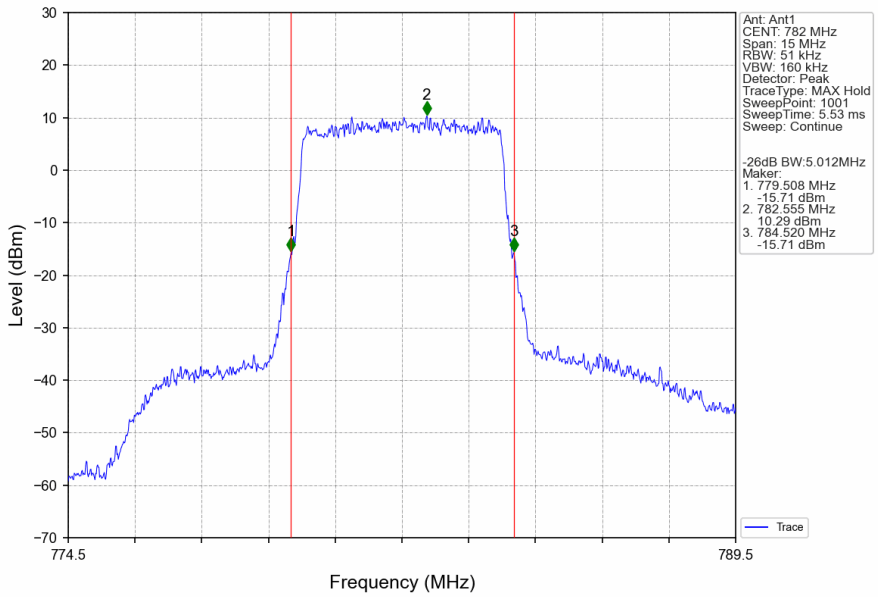
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV


Ant: Ant1
CENT: 782 MHz
Span: 15 MHz
RBW: 51 kHz
VBW: 160 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 1001
SweepTime: 5.53 ms
Sweep: Continue
-26dB BW:5.066MHz
Maker:
1. 779.531 MHz
-12.76 dBm
2. 781.235 MHz
13.24 dBm
3. 784.597 MHz
-12.76 dBm
Trace
Level (dBm)
Frequency (MHz)
774.5
789.5
30
20
10
0
-10
-20
-30
-40
-50
-60
-70

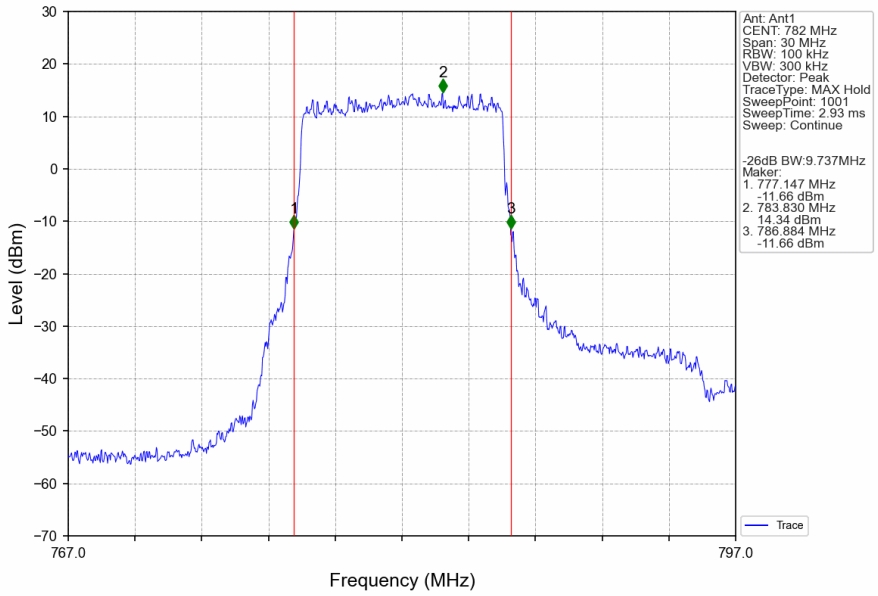
Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



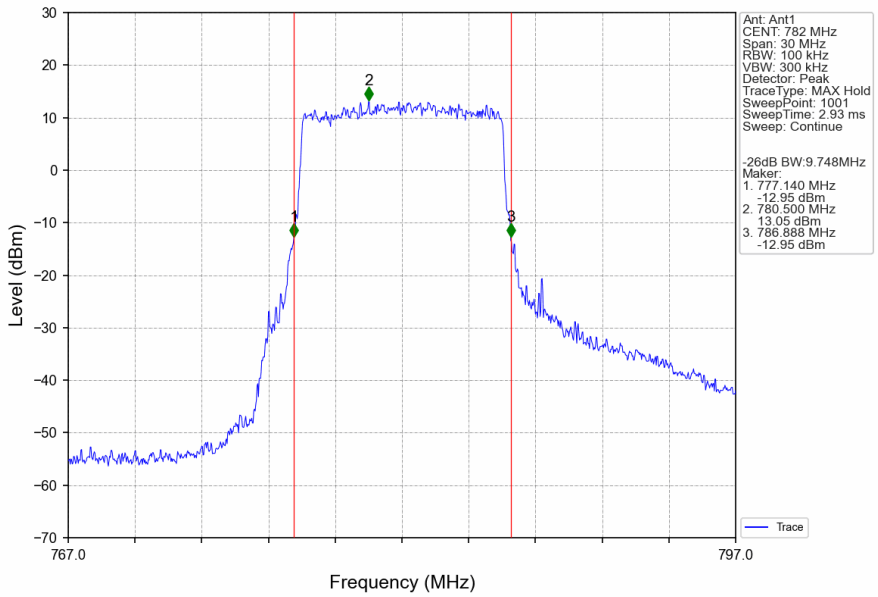
Band13_5MHz_256QAM_MCH_782MHz_RB_25_0_NTNV



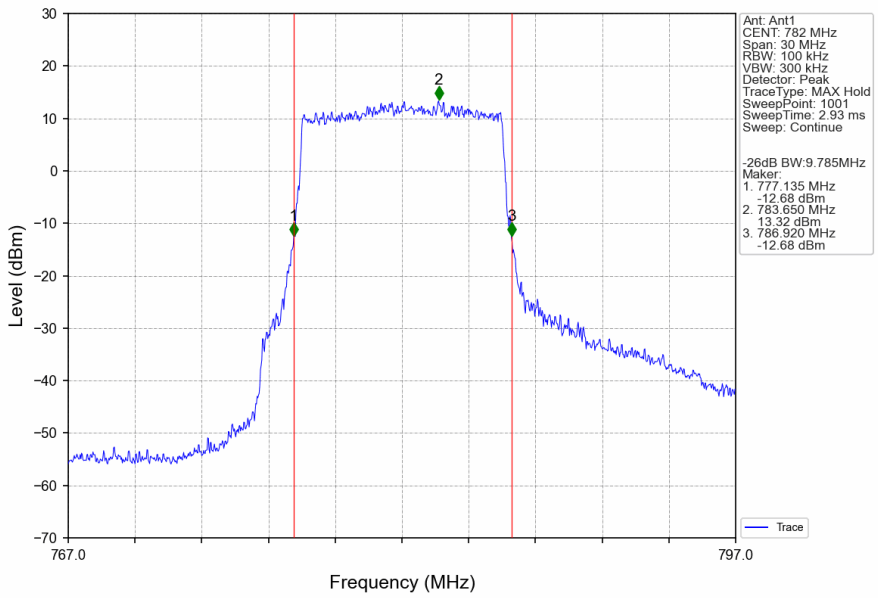
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



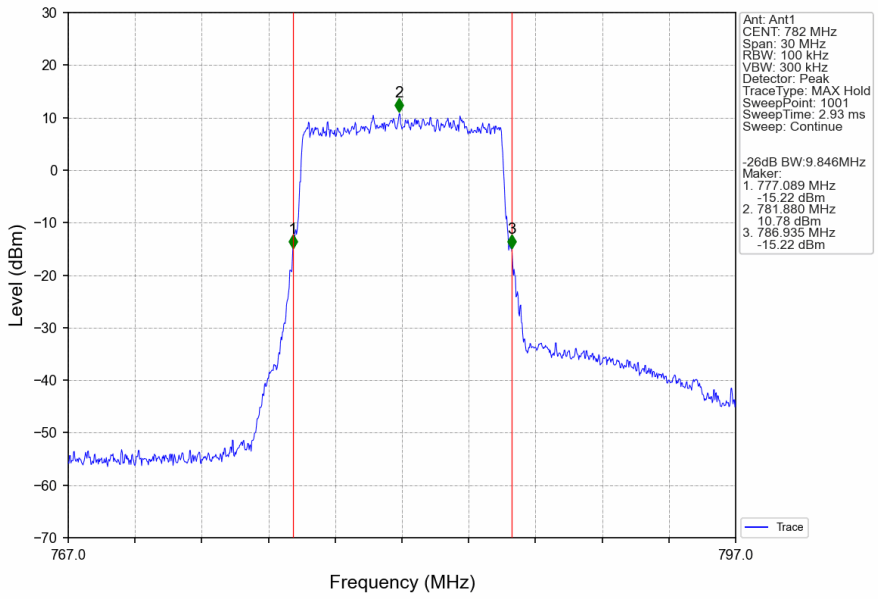
Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV



4. Peak-Average Ratio

4.1 Test Result

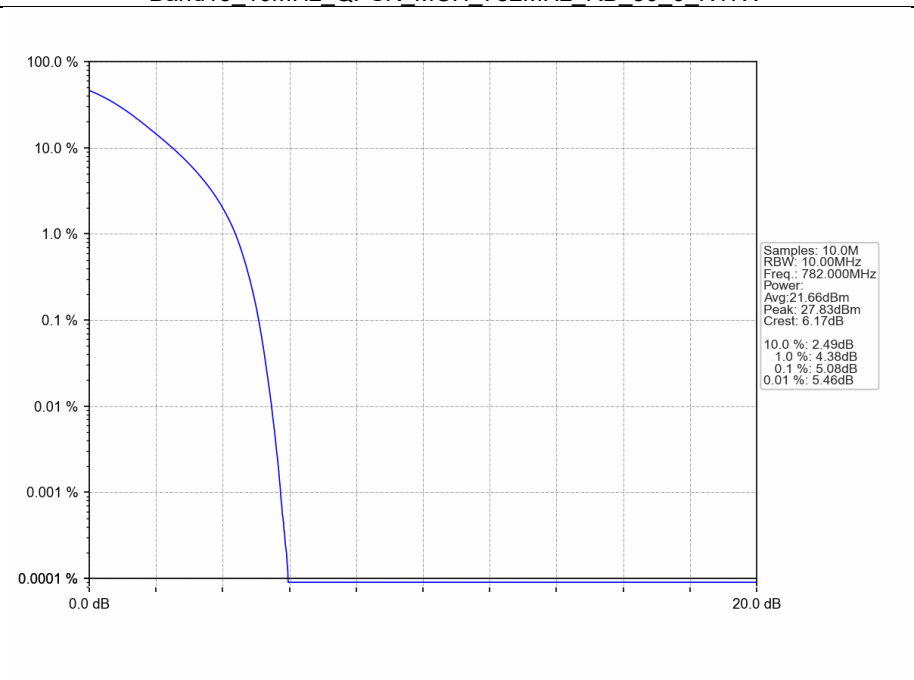
4.1.1 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.08	<=13	Pass
16QAM	782	50	0	6.05	<=13	Pass
64QAM	782	50	0	6.05	<=13	Pass
256QAM	782	50	0	6.67	<=13	Pass

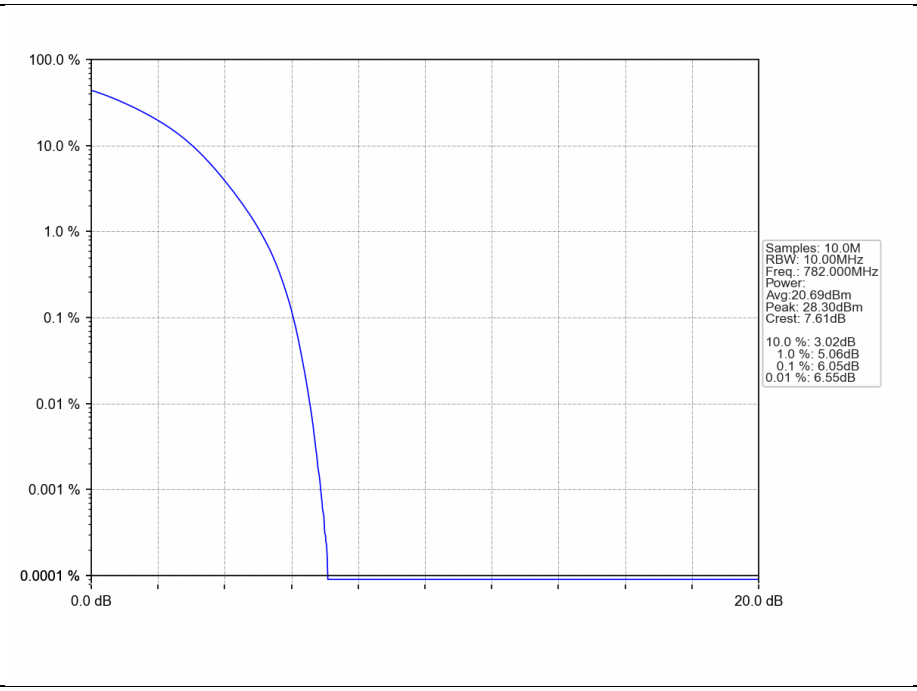
4.2 Test Graph

4.2.1 B13_10MHz

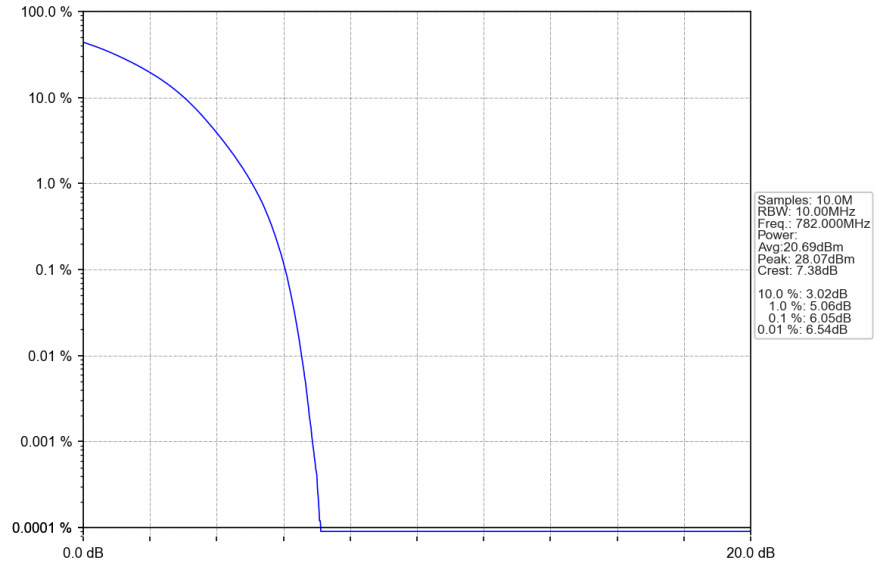
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



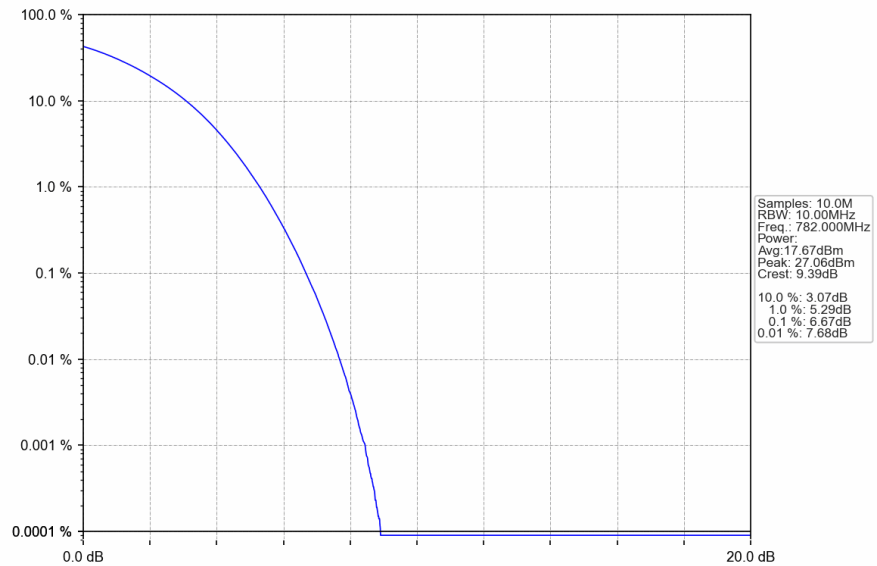
Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV


100.0 %
10.0 %
1.0 %
0.1 %
0.01 %
0.001 %
0.0001 %
0.0 dB
20.0 dB
Samples: 10.0M
RBW: 10.00MHz
Freq.: 782.000MHz
Power:
Avg:20.69dBm
Peak: 28.30dBm
Crest: 7.61dB
10.0 %: 3.02dB
1.0 %: 5.06dB
0.1 %: 6.05dB
0.01 %: 6.55dB

Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_256QAM_MCH_782MHz_RB_50_0_NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B13_5MHz

Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

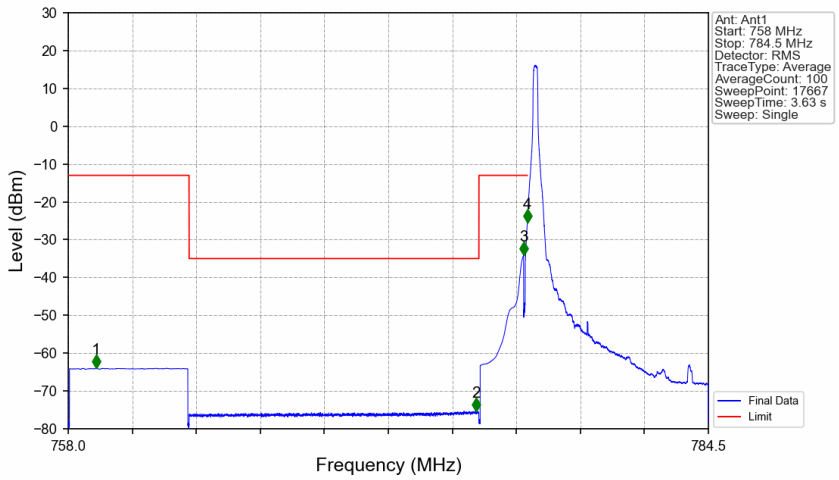
5.1.2 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

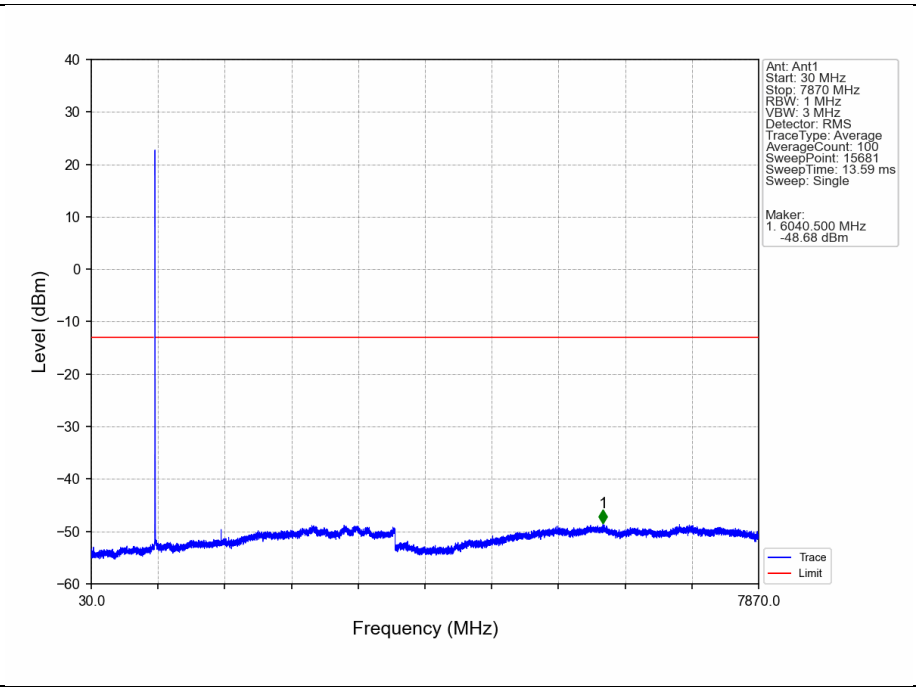
5.2.1 B13_5MHz

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

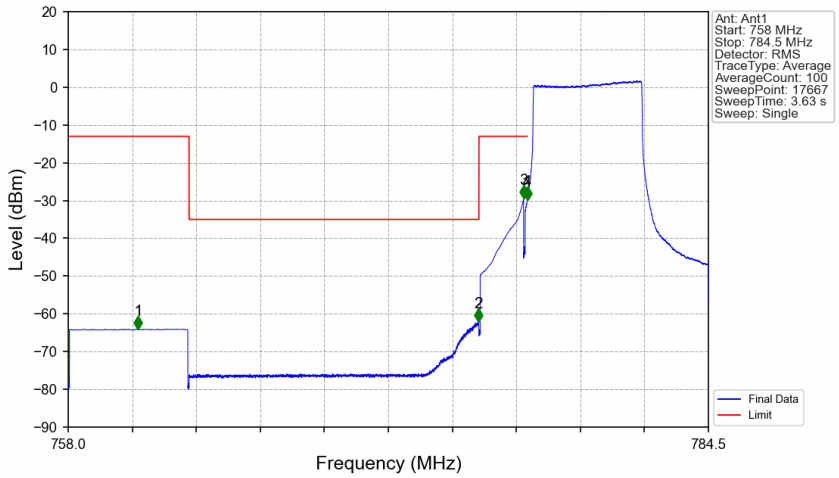


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.158	-64.00	-13	Pass
763	775	0.00625	CHP	2	774.883	-75.24	-35	Pass
775	776.9	0.1	CHP	3	776.850	-34.00	-13	Pass
776.9	777	0.03	CHP	4	777.000	-25.38	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

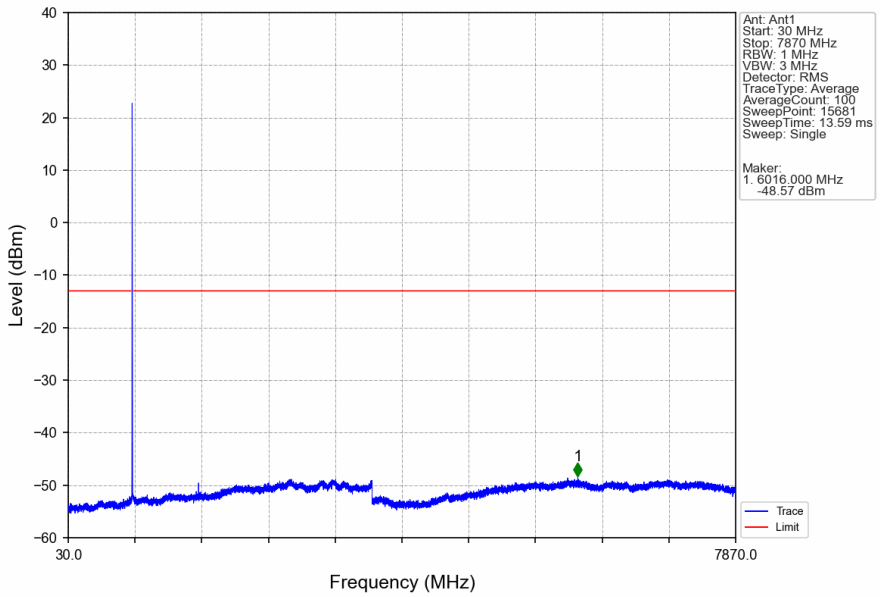

Ant: Ant1
Start: 30 MHz
Stop: 7870 MHz
RBW: 1 MHz
VBW: 3 MHz
Detector: RMS
TraceType: Average
AverageCount: 100
SweepPoint: 15681
SweepTime: 13.59 ms
Sweep: Single
Maker:
1. 6040.500 MHz
-48.68 dBm
Level (dBm)
Frequency (MHz)
30.0
7870.0
Trace
Limit

Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

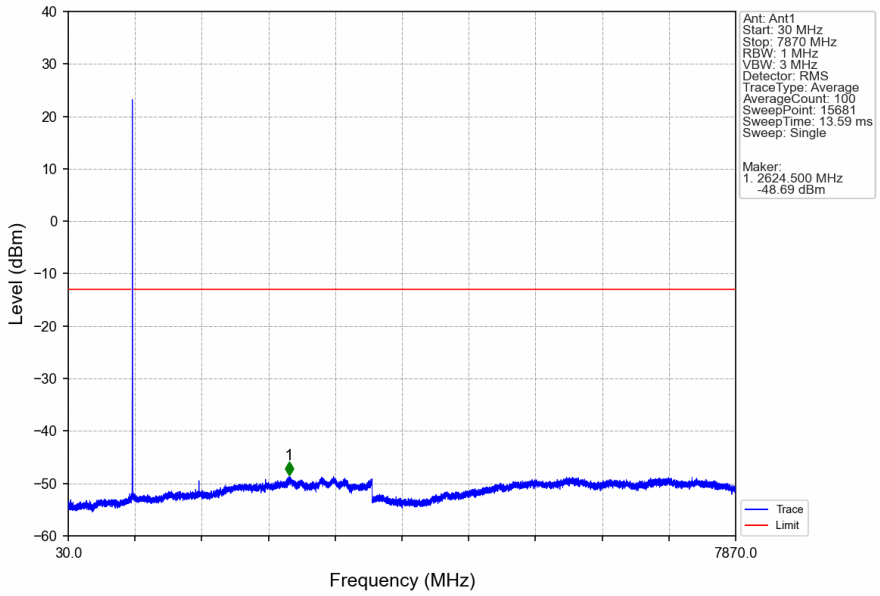


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.897	-64.07	-13	Pass
763	775	0.00625	CHP	2	774.976	-62.01	-35	Pass
775	776.9	0.1	CHP	3	776.850	-29.51	-13	Pass
776.9	777	0.03	CHP	4	777.000	-29.78	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

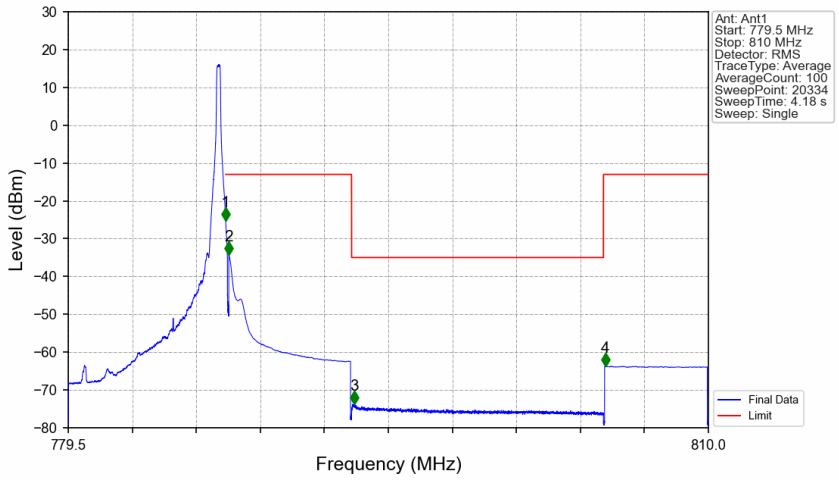
Band13_5MHz_QPSK_MCH_782MHz_RB_1_0_NTNV



Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

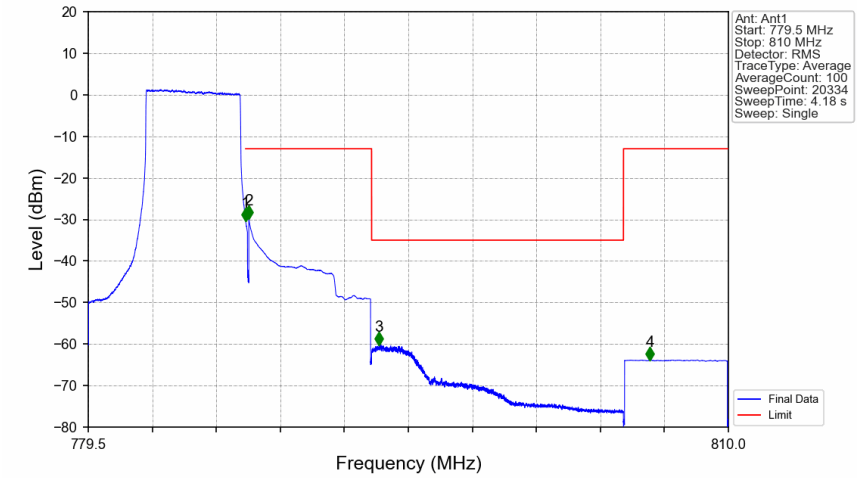


Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_24_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-25.26	-13	Pass
787.1	793	0.1	CHP	2	787.150	-34.18	-13	Pass
793	805	0.00625	CHP	3	793.113	-73.76	-35	Pass
805	810	0.1	CHP	4	805.096	-63.74	-13	Pass

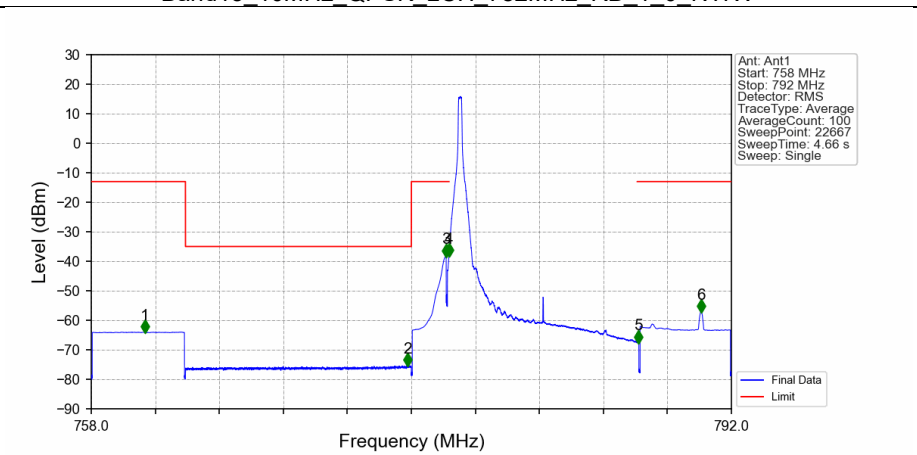
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-30.37	-13	Pass
787.1	793	0.1	CHP	2	787.150	-29.88	-13	Pass
793	805	0.00625	CHP	3	793.353	-60.19	-35	Pass
805	810	0.1	CHP	4	806.254	-63.85	-13	Pass

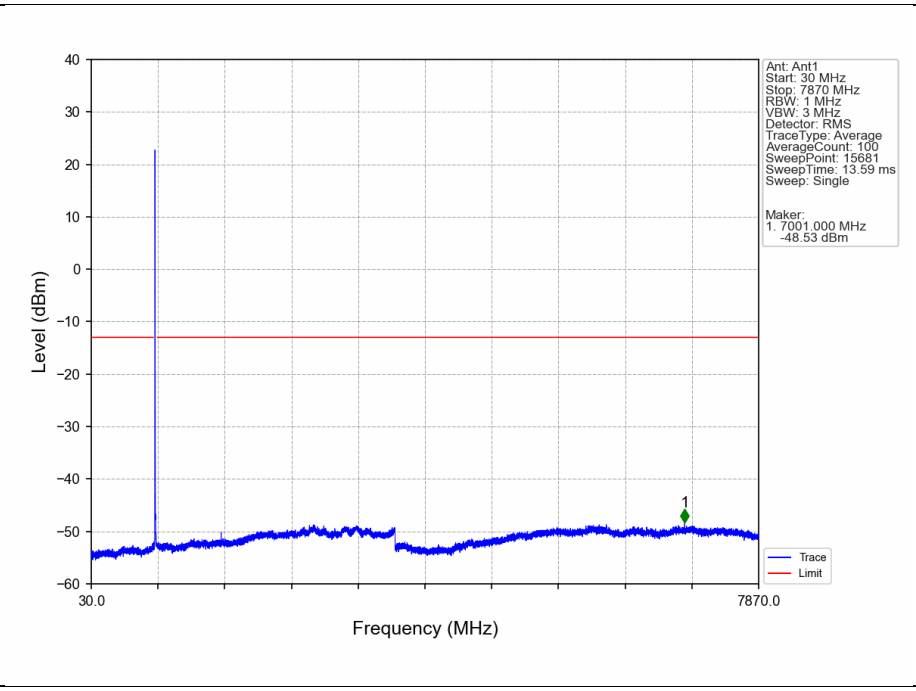
5.2.2 B13_10MHz

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

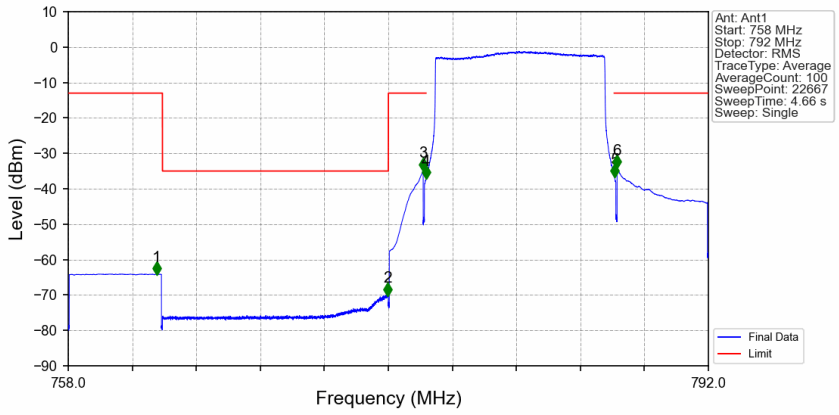


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.844	-63.98	-13	Pass
763	775	0.00625	CHP	2	774.811	-75.36	-35	Pass
775	776.9	0.1	CHP	3	776.844	-38.21	-13	Pass
776.9	777	0.03	CHP	4	777.000	-38.13	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.054	-67.42	-13	Pass
787.1	792	0.1	CHP	6	790.378	-57.15	-13	Pass

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

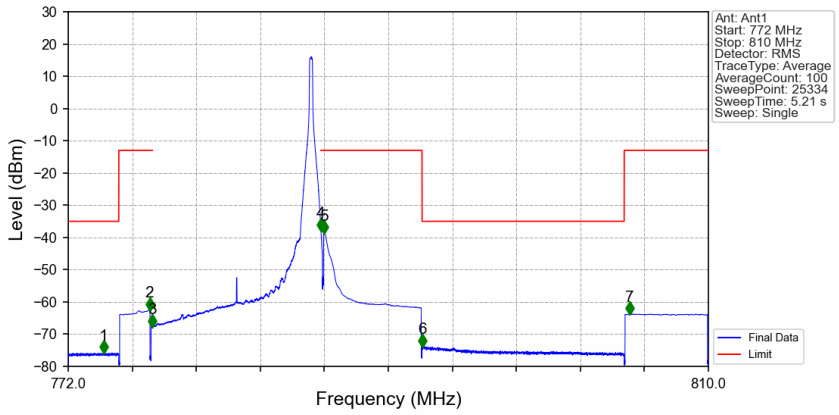

Ant: Ant1
Start: 30 MHz
Stop: 7870 MHz
RBW: 1 MHz
VBW: 3 MHz
Detector: RMS
TraceType: Average
AverageCount: 100
SweepPoint: 15681
SweepTime: 13.59 ms
Sweep: Single
Maker:
1. 7001.000 MHz
-48.53 dBm
Level (dBm)
Frequency (MHz)
30.0
7870.0
Trace
Limit

Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



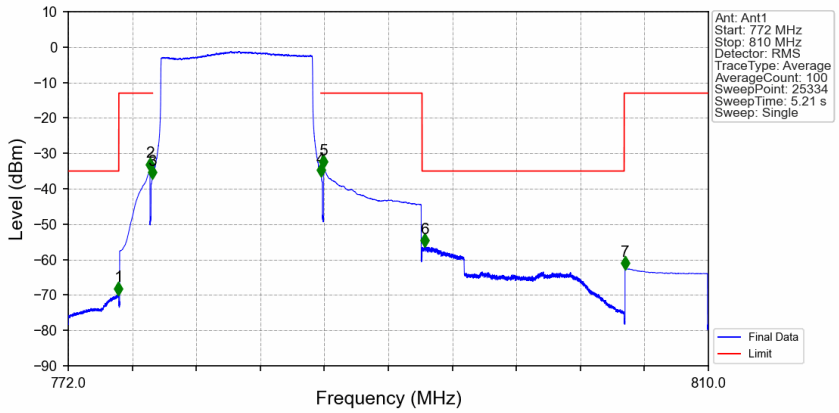
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.694	-64.06	-13	Pass
763	775	0.00625	CHP	2	774.968	-69.91	-35	Pass
775	776.9	0.1	CHP	3	776.850	-34.66	-13	Pass
776.9	777	0.03	CHP	4	777.000	-36.96	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.000	-36.46	-13	Pass
787.1	792	0.1	CHP	6	787.150	-33.91	-13	Pass

Band13_10MHz_QPSK_HCH_782MHz_RB_1_49_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.112	-75.74	-35	Pass
775	776.9	0.1	CHP	2	776.836	-62.36	-13	Pass
776.9	777	0.03	CHP	3	777.000	-67.54	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-37.70	-13	Pass
787.1	793	0.1	CHP	5	787.182	-38.47	-13	Pass
793	805	0.00625	CHP	6	793.042	-73.69	-35	Pass
805	810	0.1	CHP	7	805.330	-63.73	-13	Pass

Band13_10MHz_QPSK_HCH_782MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.970	-69.74	-35	Pass
775	776.9	0.1	CHP	2	776.850	-34.66	-13	Pass
776.9	777	0.03	CHP	3	777.000	-36.98	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-36.22	-13	Pass
787.1	793	0.1	CHP	5	787.150	-33.91	-13	Pass
793	805	0.00625	CHP	6	793.168	-56.21	-35	Pass
805	810	0.1	CHP	7	805.051	-62.48	-13	Pass

---End of Attachment---