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	24.38	-6.50	15.73	<=34.77	Pass
			13	24.44	-6.50	15.79	<=34.77	Pass
			24	24.38	-6.50	15.73	<=34.77	Pass
		12	0	23.35	-6.50	14.70	<=34.77	Pass
			6	23.34	-6.50	14.69	<=34.77	Pass
			13	23.32	-6.50	14.67	<=34.77	Pass
		25	0	23.37	-6.50	14.72	<=34.77	Pass
	782	1	0	24.35	-6.50	15.70	<=34.77	Pass
			13	24.37	-6.50	15.72	<=34.77	Pass
			24	24.35	-6.50	15.70	<=34.77	Pass
		12	0	23.33	-6.50	14.68	<=34.77	Pass
			6	23.33	-6.50	14.68	<=34.77	Pass
			13	23.33	-6.50	14.68	<=34.77	Pass
		25	0	23.39	-6.50	14.74	<=34.77	Pass
	784.5	1	0	24.41	-6.50	15.76	<=34.77	Pass
			13	24.37	-6.50	15.72	<=34.77	Pass
			24	24.35	-6.50	15.70	<=34.77	Pass
		12	0	23.31	-6.50	14.66	<=34.77	Pass
			6	23.30	-6.50	14.65	<=34.77	Pass
			13	23.28	-6.50	14.63	<=34.77	Pass
		25	0	23.37	-6.50	14.72	<=34.77	Pass
16QAM	779.5	1	0	23.43	-6.50	14.78	<=34.77	Pass
			13	23.50	-6.50	14.85	<=34.77	Pass
			24	23.49	-6.50	14.84	<=34.77	Pass
		12	0	22.39	-6.50	13.74	<=34.77	Pass
			6	22.36	-6.50	13.71	<=34.77	Pass
			13	22.34	-6.50	13.69	<=34.77	Pass
		25	0	22.32	-6.50	13.67	<=34.77	Pass
	782	1	0	23.75	-6.50	15.10	<=34.77	Pass
			13	23.78	-6.50	15.13	<=34.77	Pass
			24	23.74	-6.50	15.09	<=34.77	Pass
		12	0	22.35	-6.50	13.70	<=34.77	Pass
			6	22.35	-6.50	13.70	<=34.77	Pass
			13	22.33	-6.50	13.68	<=34.77	Pass
		25	0	22.34	-6.50	13.69	<=34.77	Pass
	784.5	1	0	23.31	-6.50	14.66	<=34.77	Pass
			13	23.29	-6.50	14.64	<=34.77	Pass
			24	23.25	-6.50	14.60	<=34.77	Pass
		12	0	22.42	-6.50	13.77	<=34.77	Pass
			6	22.39	-6.50	13.74	<=34.77	Pass
			13	22.36	-6.50	13.71	<=34.77	Pass
		25	0	22.42	-6.50	13.77	<=34.77	Pass
64QAM	779.5	1	0	22.61	-6.50	13.96	<=34.77	Pass
			13	22.65	-6.50	14.00	<=34.77	Pass
			24	22.63	-6.50	13.98	<=34.77	Pass
		12	0	21.42	-6.50	12.77	<=34.77	Pass
			6	21.40	-6.50	12.75	<=34.77	Pass
			13	21.40	-6.50	12.75	<=34.77	Pass
		25	0	21.41	-6.50	12.76	<=34.77	Pass
	782	1	0	22.49	-6.50	13.84	<=34.77	Pass
			13	22.53	-6.50	13.88	<=34.77	Pass
			24	22.49	-6.50	13.84	<=34.77	Pass
		12	0	21.28	-6.50	12.63	<=34.77	Pass
			6	21.29	-6.50	12.64	<=34.77	Pass

			13	21.26	-6.50	12.61	<=34.77	Pass
		25	0	21.27	-6.50	12.62	<=34.77	Pass
	784.5	1	0	22.55	-6.50	13.90	<=34.77	Pass
			13	22.51	-6.50	13.86	<=34.77	Pass
			24	22.51	-6.50	13.86	<=34.77	Pass
		12	0	21.37	-6.50	12.72	<=34.77	Pass
			6	21.37	-6.50	12.72	<=34.77	Pass
			13	21.32	-6.50	12.67	<=34.77	Pass
		25	0	21.41	-6.50	12.76	<=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	24.35	-6.50	15.70	<=34.77	Pass
			25	24.30	-6.50	15.65	<=34.77	Pass
			49	24.30	-6.50	15.65	<=34.77	Pass
		25	0	23.29	-6.50	14.64	<=34.77	Pass
			13	23.28	-6.50	14.63	<=34.77	Pass
			25	23.28	-6.50	14.63	<=34.77	Pass
		50	0	23.29	-6.50	14.64	<=34.77	Pass
16QAM	782	1	0	23.34	-6.50	14.69	<=34.77	Pass
			25	23.32	-6.50	14.67	<=34.77	Pass
			49	23.32	-6.50	14.67	<=34.77	Pass
		25	0	22.31	-6.50	13.66	<=34.77	Pass
			13	22.30	-6.50	13.65	<=34.77	Pass
			25	22.30	-6.50	13.65	<=34.77	Pass
		50	0	22.27	-6.50	13.62	<=34.77	Pass
64QAM	782	1	0	22.23	-6.50	13.58	<=34.77	Pass
			25	22.20	-6.50	13.55	<=34.77	Pass
			49	22.21	-6.50	13.56	<=34.77	Pass
		25	0	21.24	-6.50	12.59	<=34.77	Pass
			13	21.24	-6.50	12.59	<=34.77	Pass
			25	21.21	-6.50	12.56	<=34.77	Pass
		50	0	21.28	-6.50	12.63	<=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	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	782	50	0	20	LV	-4.153	-0.0053	-2.5 to 2.5	Pass
					NV	-3.866	-0.0049	-2.5 to 2.5	Pass
					HV	-3.696	-0.0047	-2.5 to 2.5	Pass
				-30	NV	-2.326	-0.0030	-2.5 to 2.5	Pass
				-20	NV	-2.082	-0.0027	-2.5 to 2.5	Pass
				-10	NV	-1.102	-0.0014	-2.5 to 2.5	Pass
				0	NV	2.939	0.0038	-2.5 to 2.5	Pass
				10	NV	1.243	0.0016	-2.5 to 2.5	Pass
				30	NV	-1.486	-0.0019	-2.5 to 2.5	Pass
				40	NV	-0.909	-0.0012	-2.5 to 2.5	Pass
				50	NV	-4.393	-0.0056	-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	4.536	/	Pass
	16QAM	782	25	0	4.571	/	Pass
	64QAM	782	25	0	4.541	/	Pass
10	QPSK	782	50	0	9.062	/	Pass
	16QAM	782	50	0	9.040	/	Pass
	64QAM	782	50	0	9.056	/	Pass

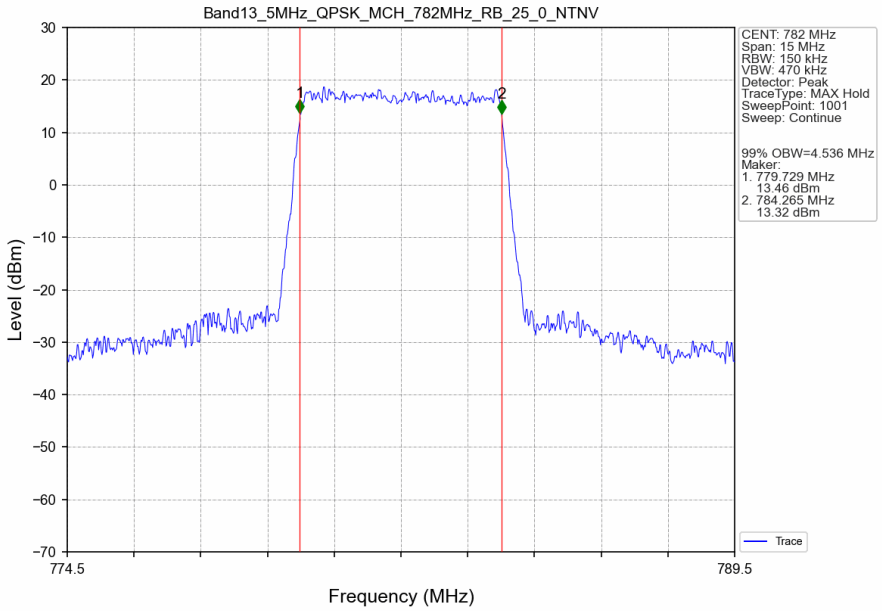
3.1.2 Band13_XDB

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.035	/	Pass
	16QAM	782	25	0	5.080	/	Pass
	64QAM	782	25	0	5.073	/	Pass
10	QPSK	782	50	0	10.036	/	Pass
	16QAM	782	50	0	9.970	/	Pass
	64QAM	782	50	0	9.988	/	Pass

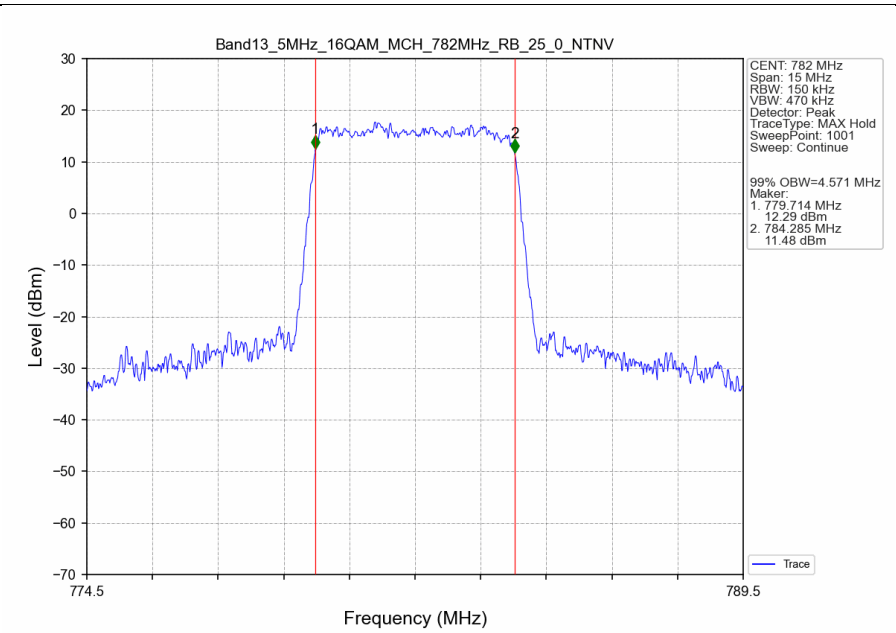
3.2 Test Graph

3.2.1 Band13_OBW

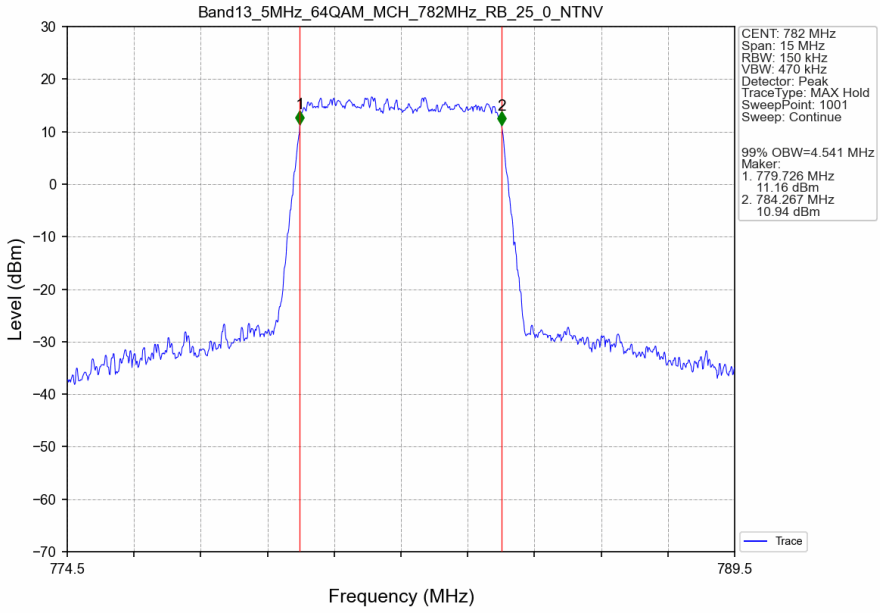
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV



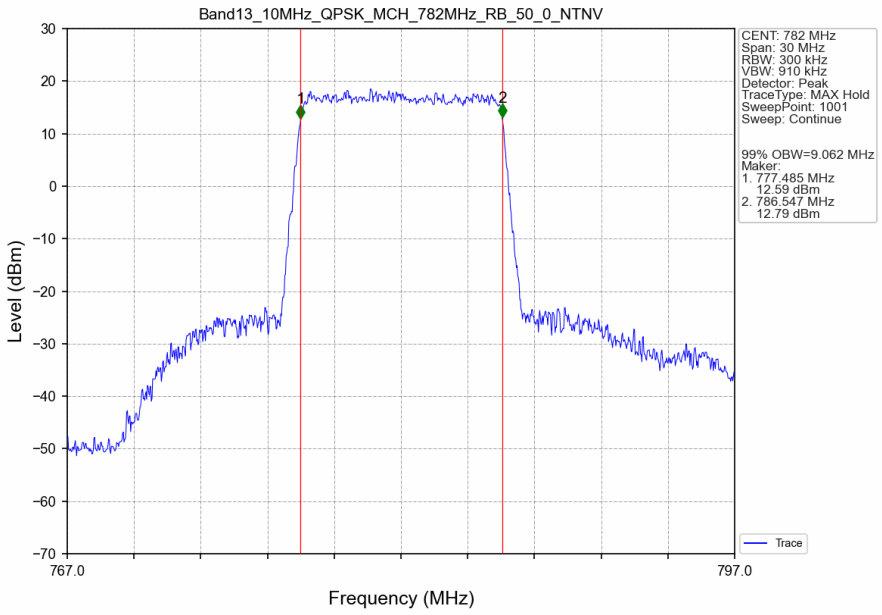
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV



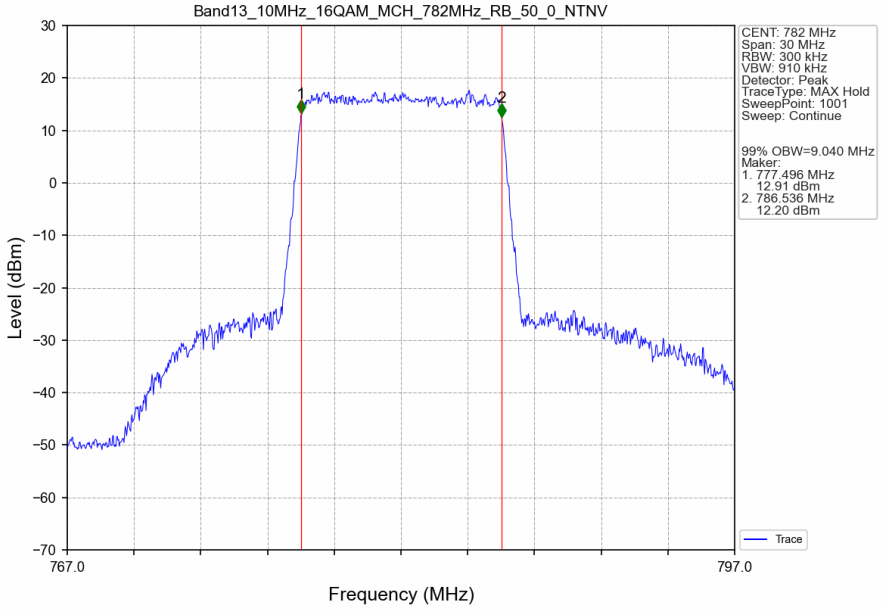
Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



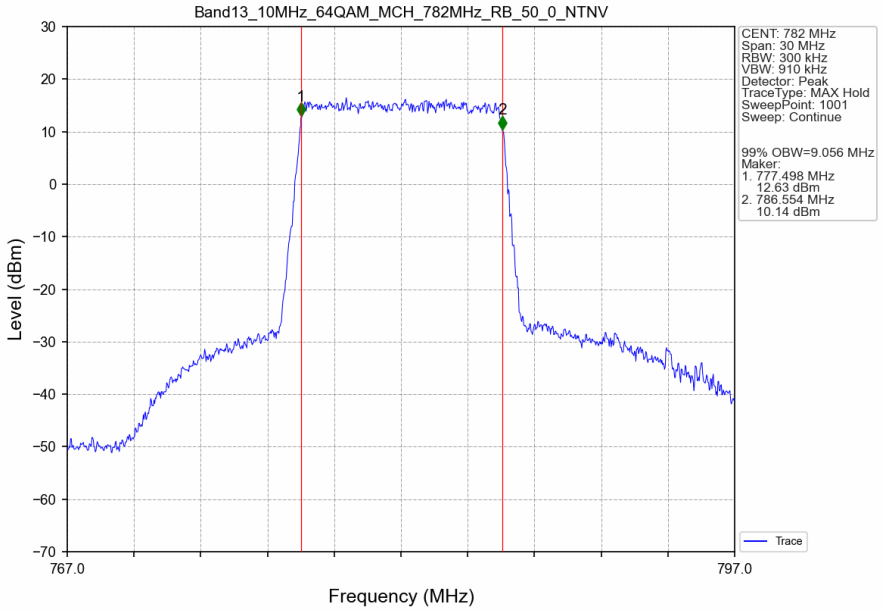
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV


Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV
CENT: 782 MHz
Span: 30 MHz
RBW: 300 kHz
VBW: 910 kHz
Detector: Peak
TraceType: MAX Hold
SweepPoint: 1001
Sweep: Continue
99% OBW=9.062 MHz
Maker:
1. 777.485 MHz
12.59 dBm
2. 786.547 MHz
12.79 dBm
Trace
Level (dBm)
Frequency (MHz)
767.0
797.0

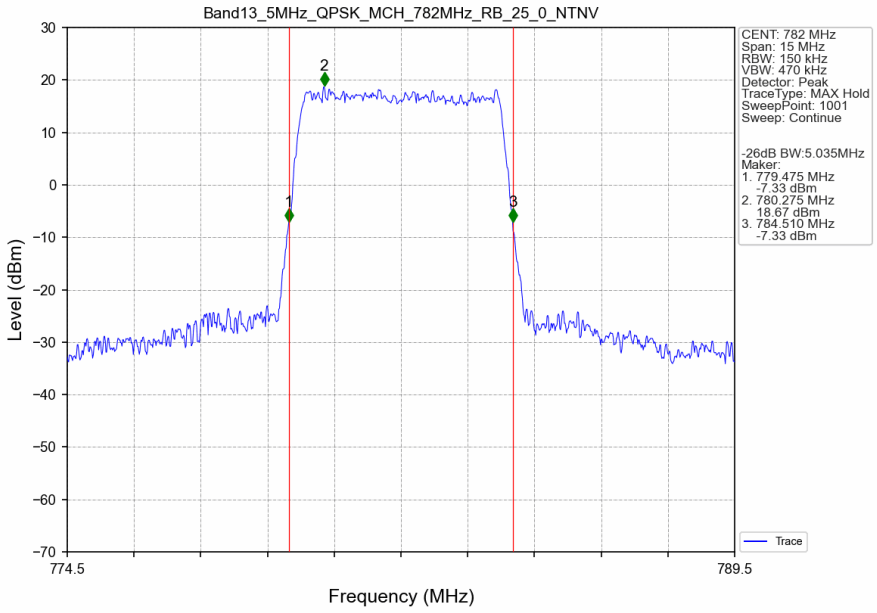
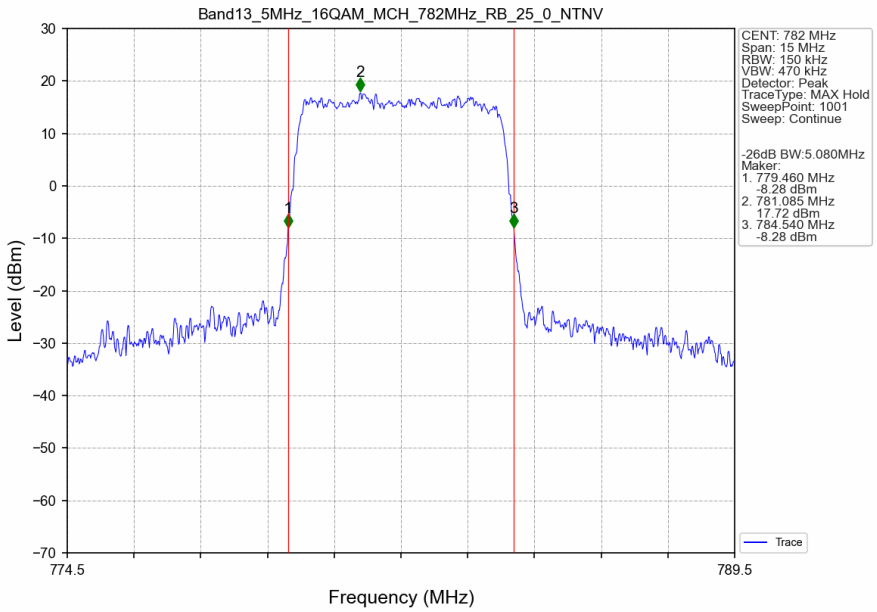
Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV

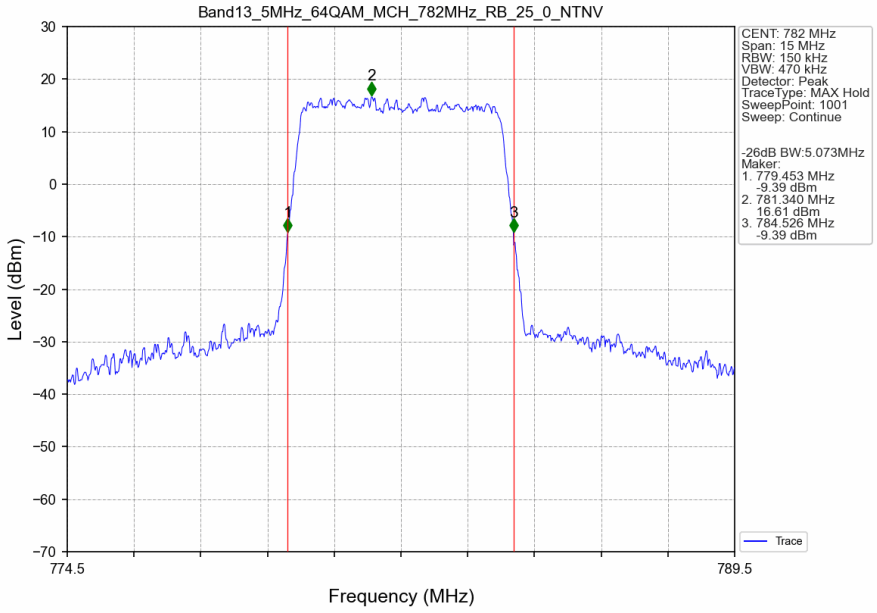


Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV

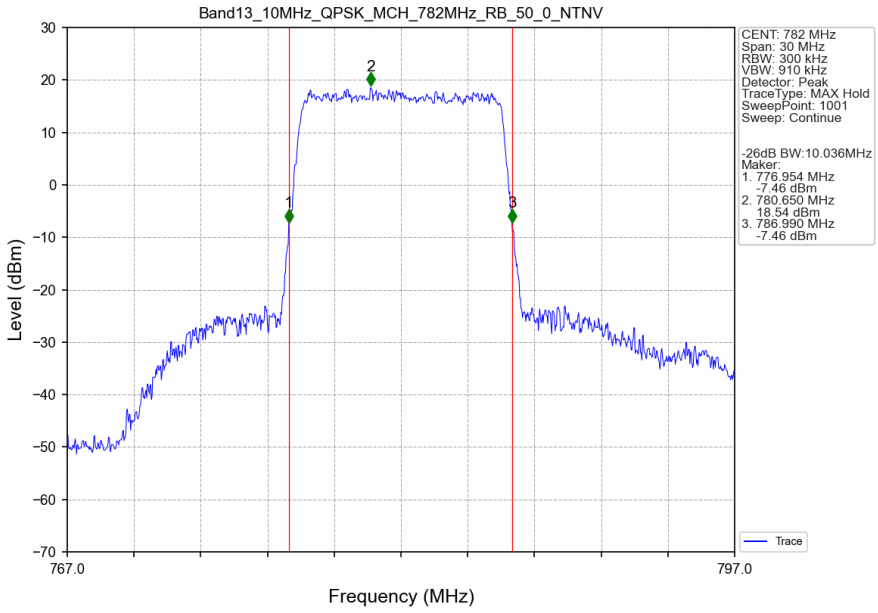


3.2.2 Band13_XDB

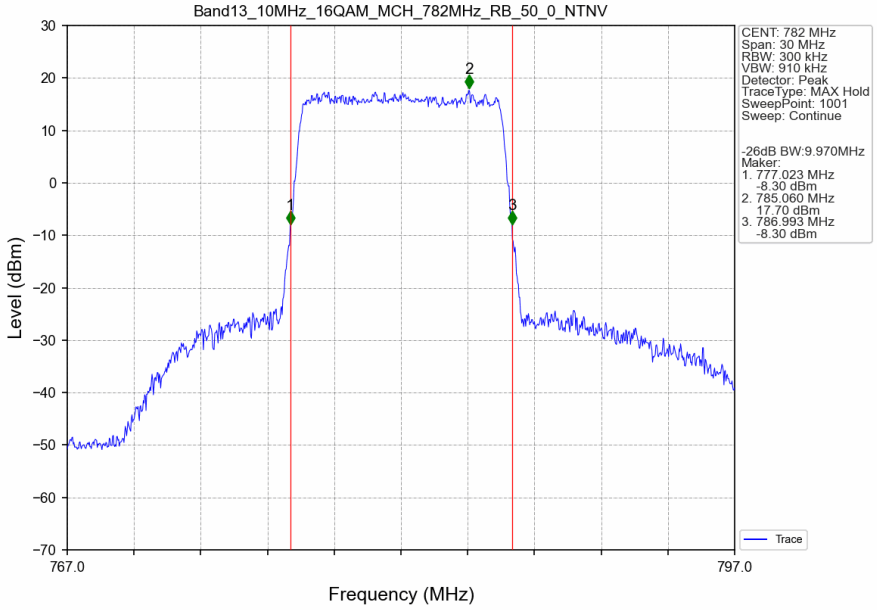
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV

Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV

Band13_5MHz_64QAM_MCH_782MHz_RB_25_0_NTNV



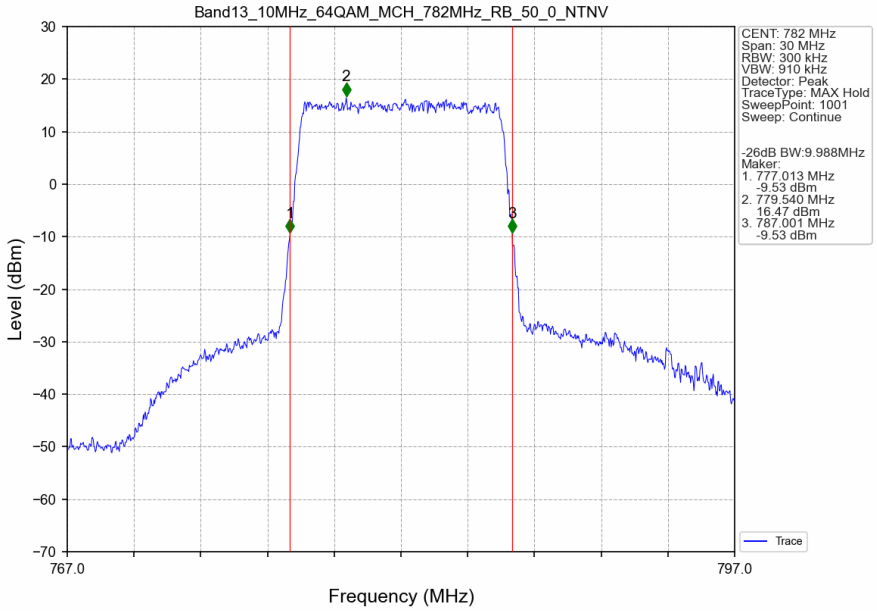
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



4. Peak-Average Ratio

4.1 Test Result

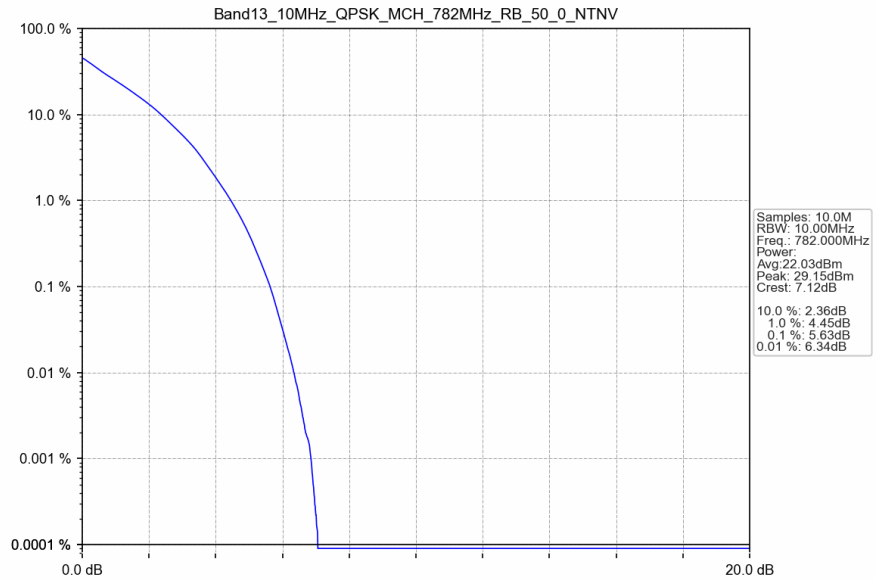
4.1.1 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.63	<=13	Pass
16QAM	782	50	0	6.37	<=13	Pass
64QAM	782	50	0	6.63	<=13	Pass

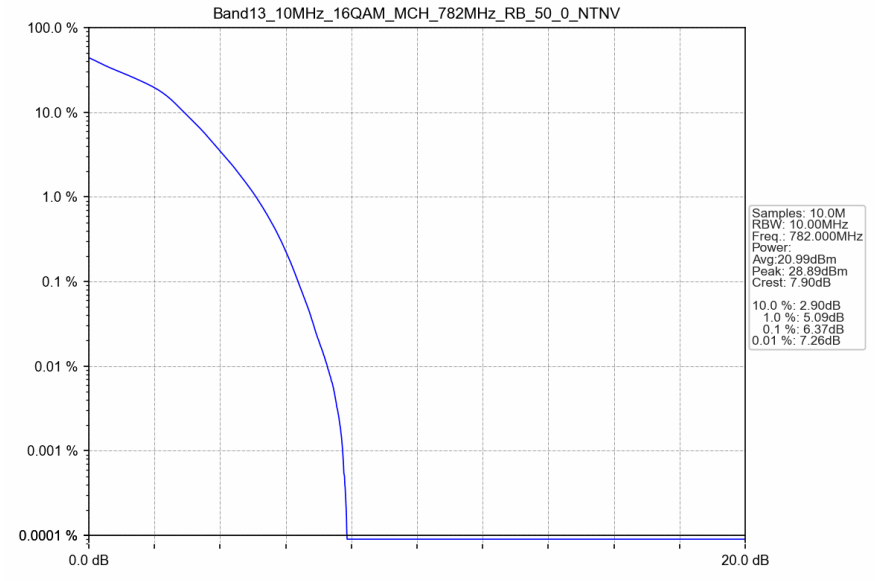
4.2 Test Graph

4.2.1 B13_10MHz

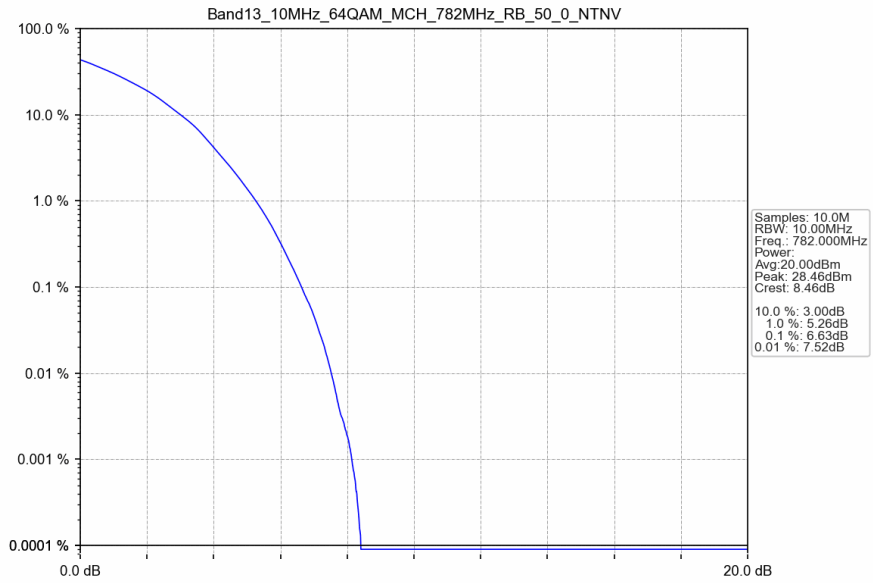
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV


Band13_10MHz_64QAM_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:20.00dBm
Peak: 28.46dBm
Crest: 8.46dB
10.0 %: 3.00dB
1.0 %: 5.26dB
0.1 %: 6.63dB
0.01 %: 7.52dB

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

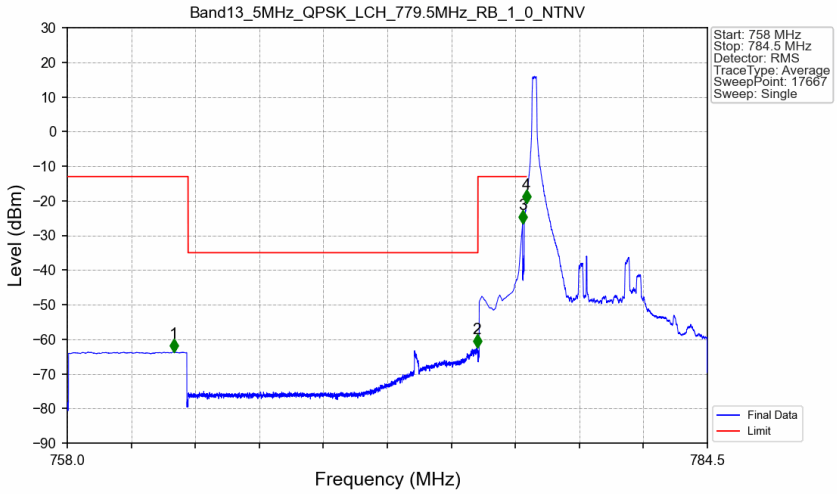
5.1.2 B13_10MHz

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

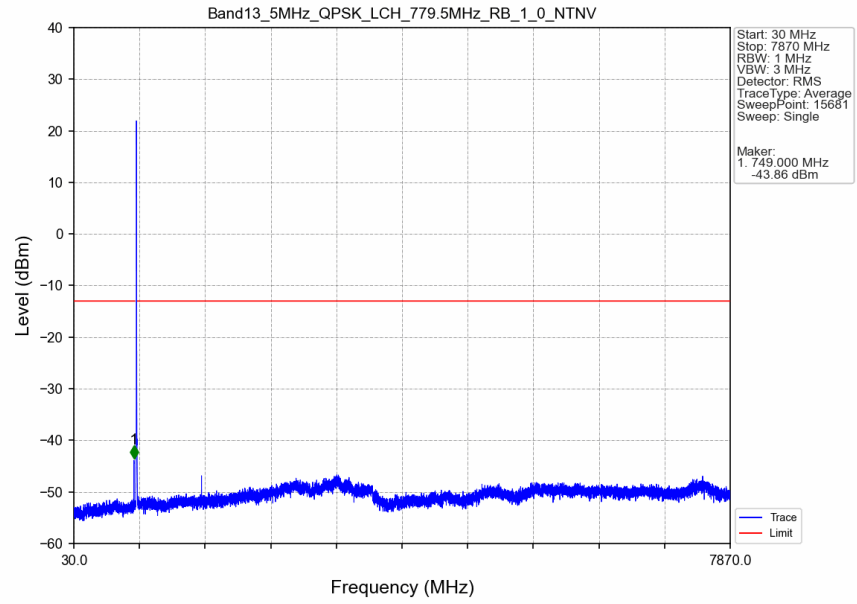
5.2.1 B13_5MHz

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

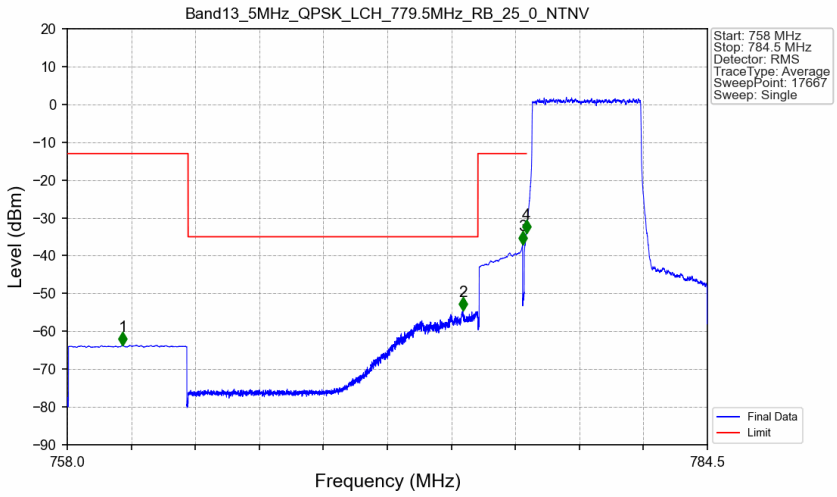


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.412	-63.66	-13	Pass
763	775	0.00625	CHP	2	774.963	-62.31	-35	Pass
775	776.9	0.1	CHP	3	776.850	-26.57	-13	Pass
776.9	777	0.03	CHP	4	777.000	-20.58	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

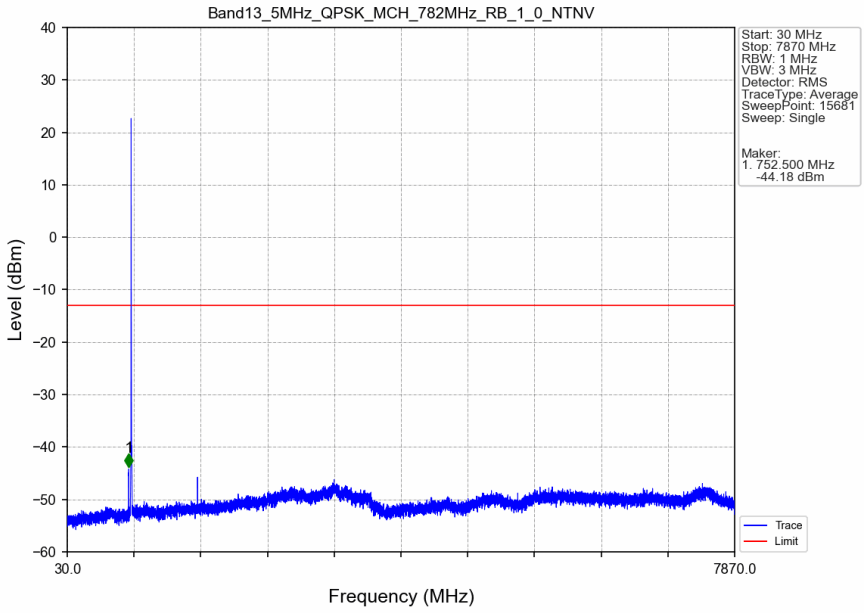


Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

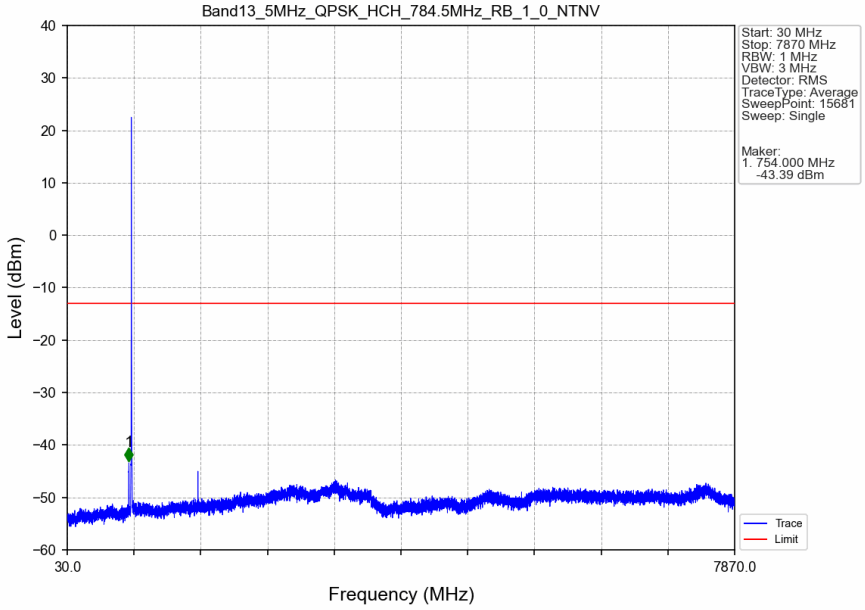


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.298	-63.66	-13	Pass
763	775	0.00625	CHP	2	774.378	-54.39	-35	Pass
775	776.9	0.1	CHP	3	776.850	-37.07	-13	Pass
776.9	777	0.03	CHP	4	777.000	-33.98	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

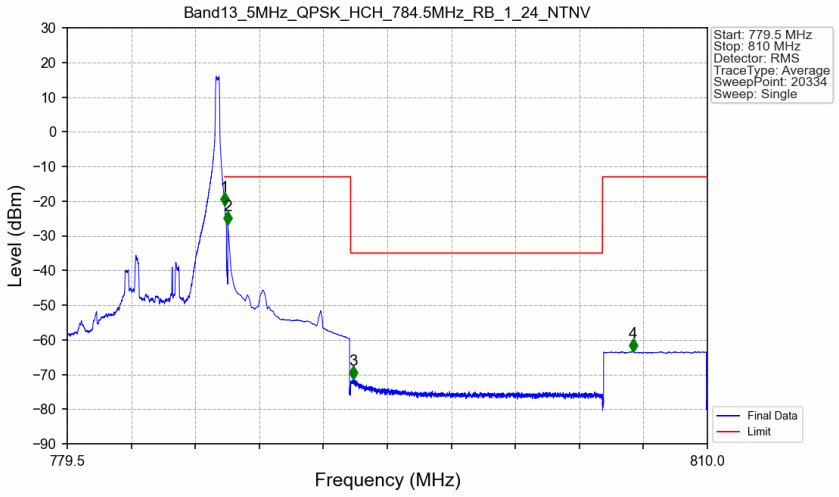
Band13_5MHz_QPSK_MCH_782MHz_RB_1_0_NTNV



Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

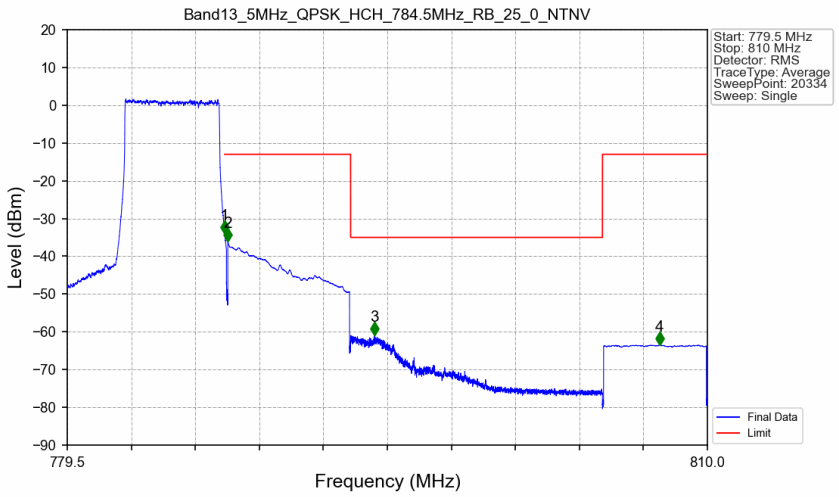


Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_24_NTNV



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	-21.40	-13	Pass
787.1	793	0.1	CHP	2	787.150	-26.75	-13	Pass
793	805	0.00625	CHP	3	793.144	-71.37	-35	Pass
805	810	0.1	CHP	4	806.455	-63.39	-13	Pass

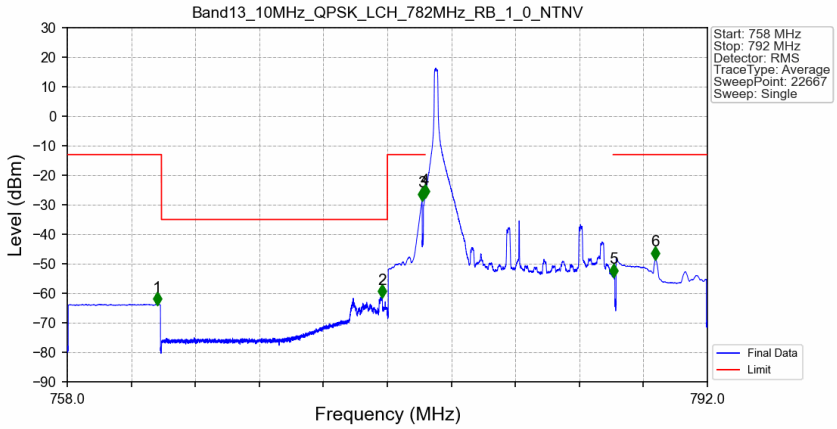
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



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	-34.12	-13	Pass
787.1	793	0.1	CHP	2	787.150	-36.05	-13	Pass
793	805	0.00625	CHP	3	794.152	-60.92	-35	Pass
805	810	0.1	CHP	4	807.723	-63.50	-13	Pass

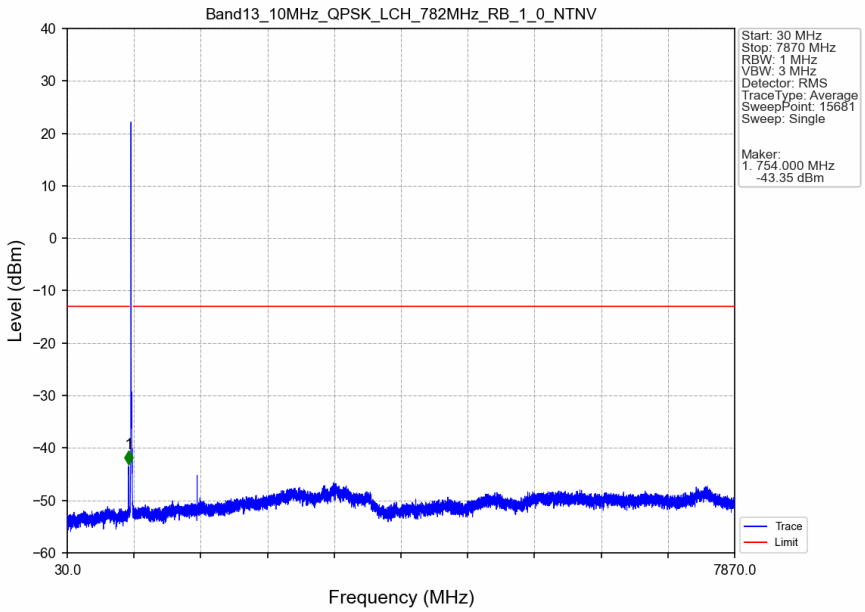
5.2.2 B13_10MHz

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

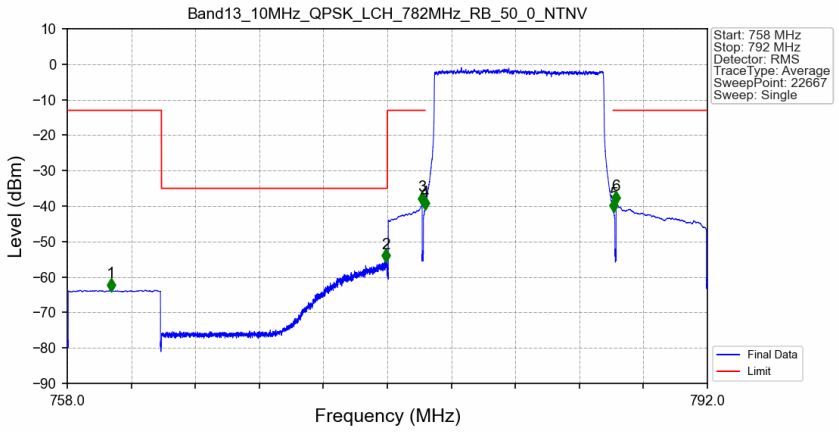


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.770	-63.67	-13	Pass
763	775	0.00625	CHP	2	774.731	-61.09	-35	Pass
775	776.9	0.1	CHP	3	776.850	-28.20	-13	Pass
776.9	777	0.03	CHP	4	777.000	-27.26	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.023	-54.10	-13	Pass
787.1	792	0.1	CHP	6	789.235	-48.20	-13	Pass

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

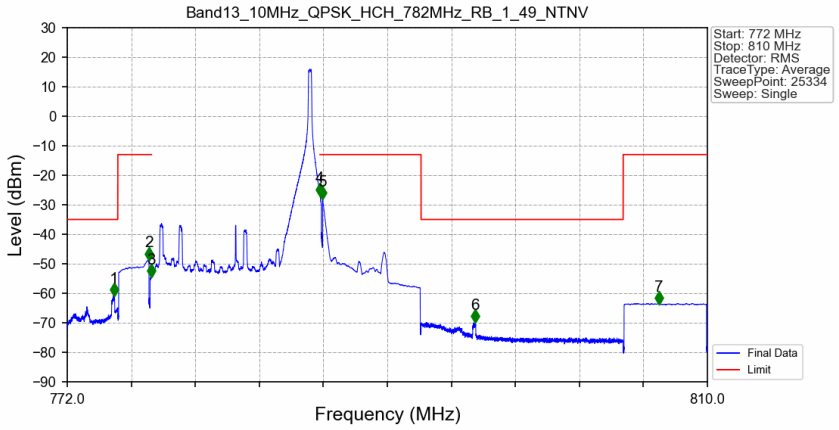


Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



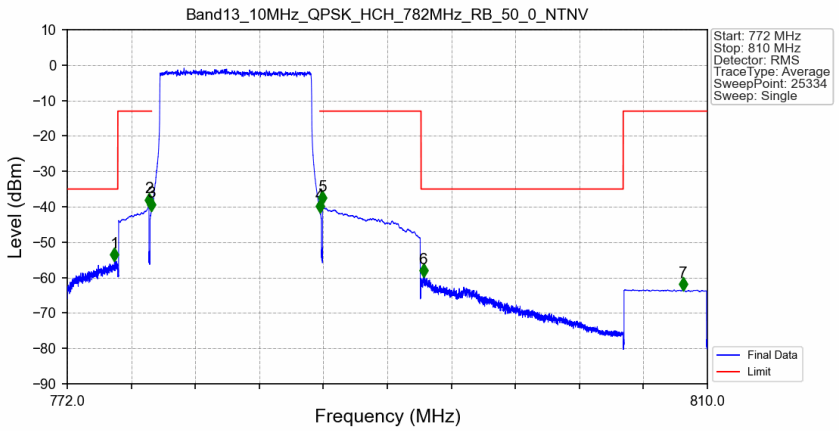
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.330	-63.71	-13	Pass
763	775	0.00625	CHP	2	774.923	-55.54	-35	Pass
775	776.9	0.1	CHP	3	776.848	-39.38	-13	Pass
776.9	777	0.03	CHP	4	776.992	-40.75	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.000	-41.32	-13	Pass
787.1	792	0.1	CHP	6	787.150	-39.13	-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	774.777	-60.72	-35	Pass
775	776.9	0.1	CHP	2	776.848	-48.45	-13	Pass
776.9	777	0.03	CHP	3	776.992	-54.27	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-26.70	-13	Pass
787.1	793	0.1	CHP	5	787.150	-27.80	-13	Pass
793	805	0.00625	CHP	6	796.228	-69.55	-35	Pass
805	810	0.1	CHP	7	807.105	-63.41	-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	774.804	-55.04	-35	Pass
775	776.9	0.1	CHP	2	776.850	-39.57	-13	Pass
776.9	777	0.03	CHP	3	776.992	-40.89	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-41.35	-13	Pass
787.1	793	0.1	CHP	5	787.150	-39.00	-13	Pass
793	805	0.00625	CHP	6	793.134	-59.60	-35	Pass
805	810	0.1	CHP	7	808.573	-63.42	-13	Pass