

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	23.94	-1.32	20.47	<=34.77	Pass
			13	24.28	-1.32	20.81	<=34.77	Pass
			24	23.94	-1.32	20.47	<=34.77	Pass
		12	0	23.18	-1.32	19.71	<=34.77	Pass
			6	23.17	-1.32	19.70	<=34.77	Pass
			13	23.14	-1.32	19.67	<=34.77	Pass
		25	0	23.20	-1.32	19.73	<=34.77	Pass
	782	1	0	24.06	-1.32	20.59	<=34.77	Pass
			13	24.05	-1.32	20.58	<=34.77	Pass
			24	23.87	-1.32	20.40	<=34.77	Pass
		12	0	23.14	-1.32	19.67	<=34.77	Pass
			6	23.18	-1.32	19.71	<=34.77	Pass
			13	23.21	-1.32	19.74	<=34.77	Pass
		25	0	23.06	-1.32	19.59	<=34.77	Pass
	784.5	1	0	24.08	-1.32	20.61	<=34.77	Pass
			13	24.09	-1.32	20.62	<=34.77	Pass
			24	24.01	-1.32	20.54	<=34.77	Pass
		12	0	23.21	-1.32	19.74	<=34.77	Pass
			6	23.12	-1.32	19.65	<=34.77	Pass
			13	23.10	-1.32	19.63	<=34.77	Pass
		25	0	23.07	-1.32	19.60	<=34.77	Pass
16QAM	779.5	1	0	23.40	-1.32	19.93	<=34.77	Pass
			13	23.43	-1.32	19.96	<=34.77	Pass
			24	23.51	-1.32	20.04	<=34.77	Pass
		12	0	21.78	-1.32	18.31	<=34.77	Pass
			6	22.22	-1.32	18.75	<=34.77	Pass
			13	22.09	-1.32	18.62	<=34.77	Pass
		25	0	22.11	-1.32	18.64	<=34.77	Pass
	782	1	0	23.37	-1.32	19.90	<=34.77	Pass
			13	23.27	-1.32	19.80	<=34.77	Pass
			24	23.40	-1.32	19.93	<=34.77	Pass
		12	0	22.12	-1.32	18.65	<=34.77	Pass
			6	22.11	-1.32	18.64	<=34.77	Pass
			13	22.16	-1.32	18.69	<=34.77	Pass
		25	0	22.08	-1.32	18.61	<=34.77	Pass
	784.5	1	0	23.33	-1.32	19.86	<=34.77	Pass
			13	23.10	-1.32	19.63	<=34.77	Pass
			24	23.45	-1.32	19.98	<=34.77	Pass
		12	0	22.14	-1.32	18.67	<=34.77	Pass
			6	22.13	-1.32	18.66	<=34.77	Pass
			13	22.12	-1.32	18.65	<=34.77	Pass
		25	0	22.06	-1.32	18.59	<=34.77	Pass
64QAM	779.5	1	0	23.16	-1.32	19.69	<=34.77	Pass
			13	23.11	-1.32	19.64	<=34.77	Pass
			24	22.98	-1.32	19.51	<=34.77	Pass
		12	0	22.11	-1.32	18.64	<=34.77	Pass
			6	22.14	-1.32	18.67	<=34.77	Pass
			13	22.14	-1.32	18.67	<=34.77	Pass
		25	0	22.24	-1.32	18.77	<=34.77	Pass

	782	1	0	23.20	-1.32	19.73	<=34.77	Pass
			13	23.21	-1.32	19.74	<=34.77	Pass
			24	23.07	-1.32	19.60	<=34.77	Pass
		12	0	21.99	-1.32	18.52	<=34.77	Pass
			6	22.12	-1.32	18.65	<=34.77	Pass
			13	22.08	-1.32	18.61	<=34.77	Pass
		25	0	22.05	-1.32	18.58	<=34.77	Pass
	784.5	1	0	22.93	-1.32	19.46	<=34.77	Pass
			13	23.18	-1.32	19.71	<=34.77	Pass
			24	23.09	-1.32	19.62	<=34.77	Pass
		12	0	22.12	-1.32	18.65	<=34.77	Pass
			6	22.08	-1.32	18.61	<=34.77	Pass
			13	22.08	-1.32	18.61	<=34.77	Pass
		25	0	22.04	-1.32	18.57	<=34.77	Pass
256QAM	779.5	1	0	19.17	-1.32	15.70	<=34.77	Pass
			13	19.31	-1.32	15.84	<=34.77	Pass
			24	19.21	-1.32	15.74	<=34.77	Pass
		12	0	18.96	-1.32	15.49	<=34.77	Pass
			6	19.21	-1.32	15.74	<=34.77	Pass
			13	19.21	-1.32	15.74	<=34.77	Pass
		25	0	19.20	-1.32	15.73	<=34.77	Pass
	782	1	0	19.13	-1.32	15.66	<=34.77	Pass
			13	19.25	-1.32	15.78	<=34.77	Pass
			24	19.24	-1.32	15.77	<=34.77	Pass
		12	0	18.81	-1.32	15.34	<=34.77	Pass
			6	19.12	-1.32	15.65	<=34.77	Pass
			13	19.12	-1.32	15.65	<=34.77	Pass
		25	0	19.12	-1.32	15.65	<=34.77	Pass
	784.5	1	0	19.18	-1.32	15.71	<=34.77	Pass
			13	19.31	-1.32	15.84	<=34.77	Pass
			24	19.13	-1.32	15.66	<=34.77	Pass
		12	0	19.11	-1.32	15.64	<=34.77	Pass
			6	19.14	-1.32	15.67	<=34.77	Pass
			13	19.19	-1.32	15.72	<=34.77	Pass
		25	0	19.17	-1.32	15.70	<=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	24.20	-1.32	20.73	<=34.77	Pass
			25	24.18	-1.32	20.71	<=34.77	Pass
			49	24.04	-1.32	20.57	<=34.77	Pass
		25	0	23.16	-1.32	19.69	<=34.77	Pass
			13	23.21	-1.32	19.74	<=34.77	Pass
			25	23.12	-1.32	19.65	<=34.77	Pass
		50	0	23.02	-1.32	19.55	<=34.77	Pass
16QAM	782	1	0	23.34	-1.32	19.87	<=34.77	Pass
			25	23.22	-1.32	19.75	<=34.77	Pass
			49	23.08	-1.32	19.61	<=34.77	Pass
		25	0	22.13	-1.32	18.66	<=34.77	Pass
			13	22.01	-1.32	18.54	<=34.77	Pass
			25	22.03	-1.32	18.56	<=34.77	Pass
		50	0	22.22	-1.32	18.75	<=34.77	Pass
64QAM	782	1	0	23.02	-1.32	19.55	<=34.77	Pass

		25	25	23.13	-1.32	19.66	<=34.77	Pass
			49	22.94	-1.32	19.47	<=34.77	Pass
			0	22.19	-1.32	18.72	<=34.77	Pass
			13	22.21	-1.32	18.74	<=34.77	Pass
			25	22.11	-1.32	18.64	<=34.77	Pass
		50	0	22.11	-1.32	18.64	<=34.77	Pass
		256QAM	782	1	0	18.84	-1.32	15.37
25	19.22				-1.32	15.75	<=34.77	Pass
49	19.27				-1.32	15.80	<=34.77	Pass
25	0			18.97	-1.32	15.50	<=34.77	Pass
	13			19.18	-1.32	15.71	<=34.77	Pass
	25			19.13	-1.32	15.66	<=34.77	Pass
50	0			19.16	-1.32	15.69	<=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	0.692	0.0009	-2.5 to 2.5	Pass
					NV	0.648	0.0008	-2.5 to 2.5	Pass
					HV	0.189	0.0002	-2.5 to 2.5	Pass
				-30	NV	0.512	0.0007	-2.5 to 2.5	Pass
				-20	NV	0.568	0.0007	-2.5 to 2.5	Pass
				-10	NV	-0.052	-0.0001	-2.5 to 2.5	Pass
				0	NV	0.261	0.0003	-2.5 to 2.5	Pass
				10	NV	0.522	0.0007	-2.5 to 2.5	Pass
				30	NV	0.105	0.0001	-2.5 to 2.5	Pass
				40	NV	0.652	0.0008	-2.5 to 2.5	Pass
				50	NV	-0.604	-0.0008	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

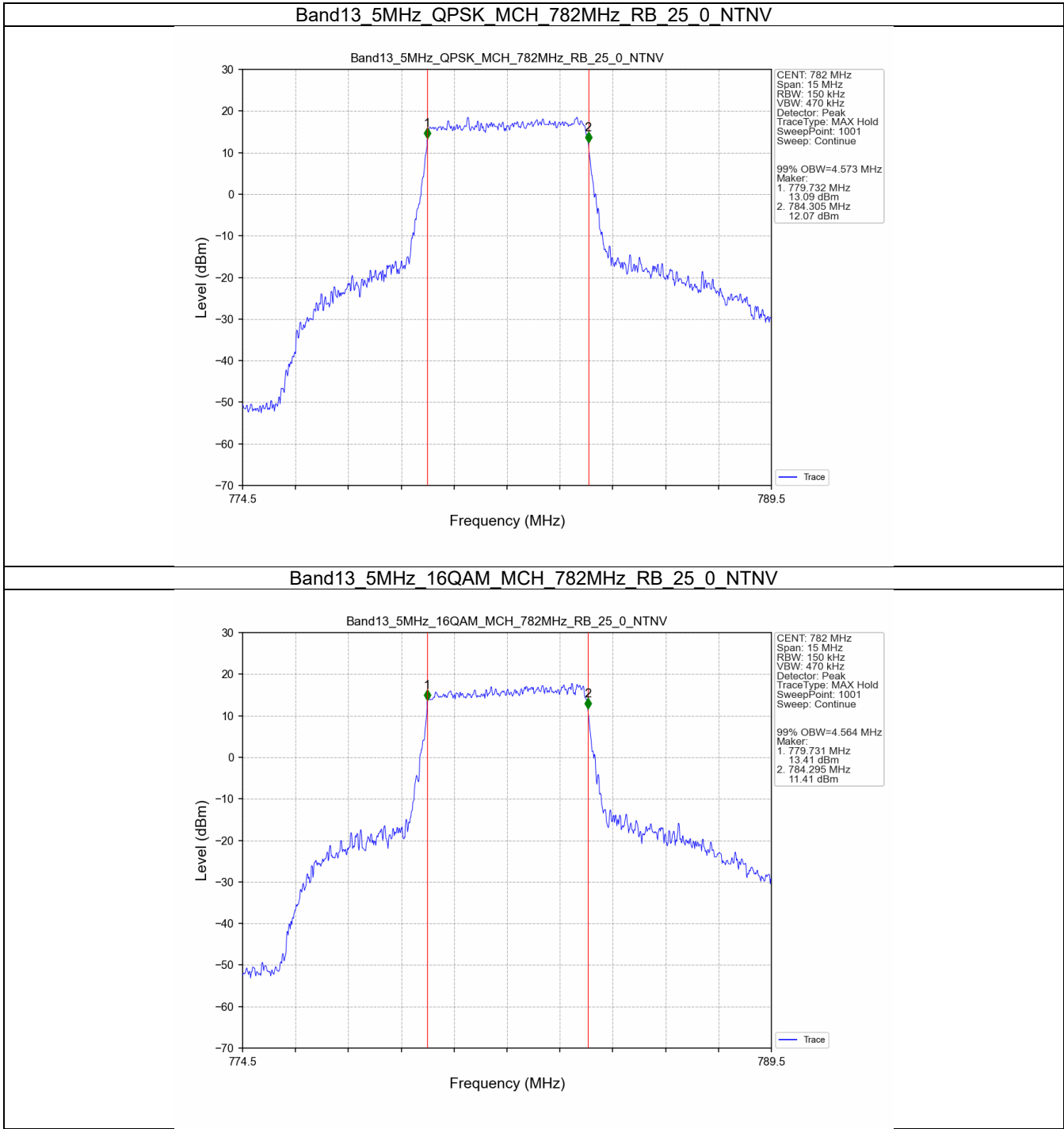
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	4.573	/	Pass
	16QAM	782	25	0	4.564	/	Pass
	64QAM	782	25	0	4.580	/	Pass
	256QAM	782	25	0	4.588	/	Pass
10	QPSK	782	50	0	9.079	/	Pass
	16QAM	782	50	0	9.048	/	Pass
	64QAM	782	50	0	9.080	/	Pass
	256QAM	782	50	0	9.071	/	Pass

3.1.2 Band13_XDB

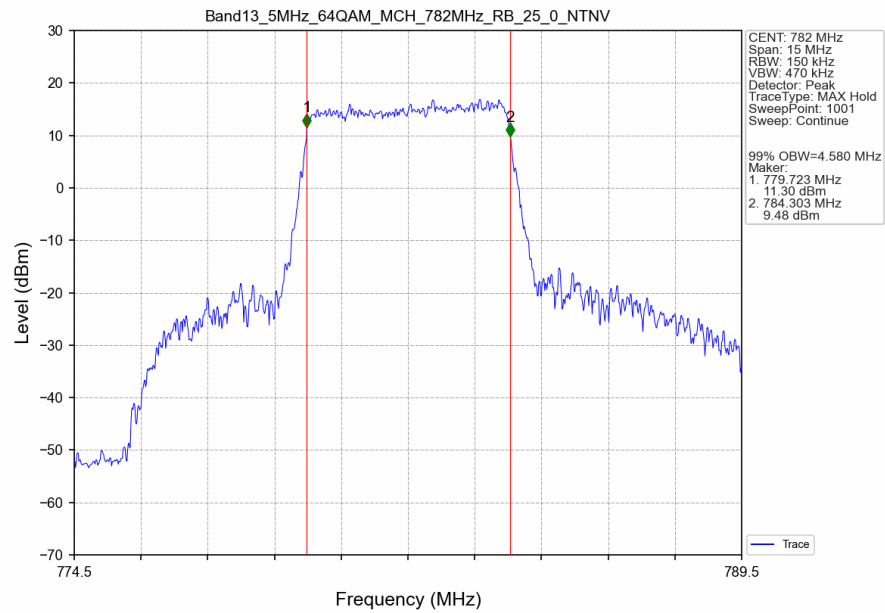
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.242	/	Pass
	16QAM	782	25	0	5.252	/	Pass
	64QAM	782	25	0	5.268	/	Pass
	256QAM	782	25	0	5.302	/	Pass
10	QPSK	782	50	0	10.311	/	Pass
	16QAM	782	50	0	10.061	/	Pass
	64QAM	782	50	0	10.100	/	Pass
	256QAM	782	50	0	10.089	/	Pass

3.2 Test Graph

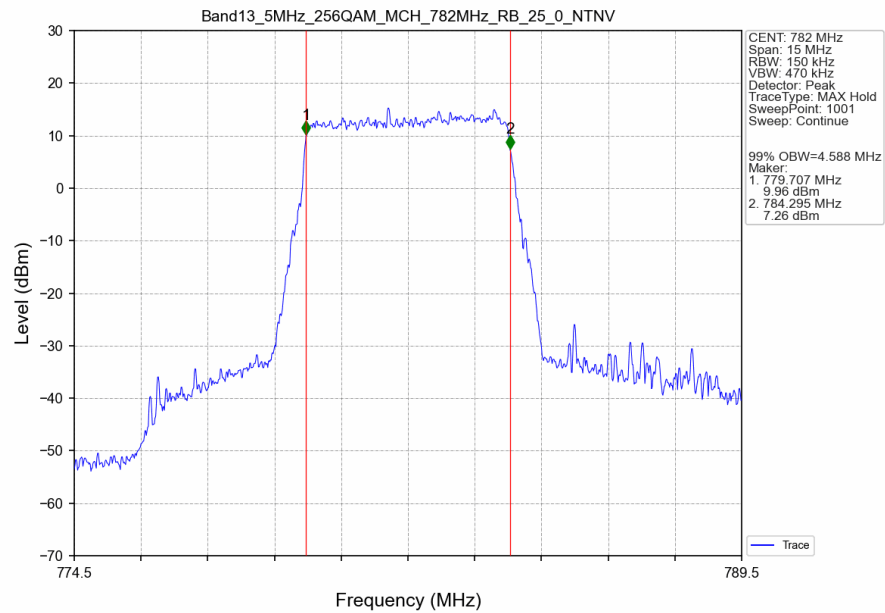
3.2.1 Band13_OBW



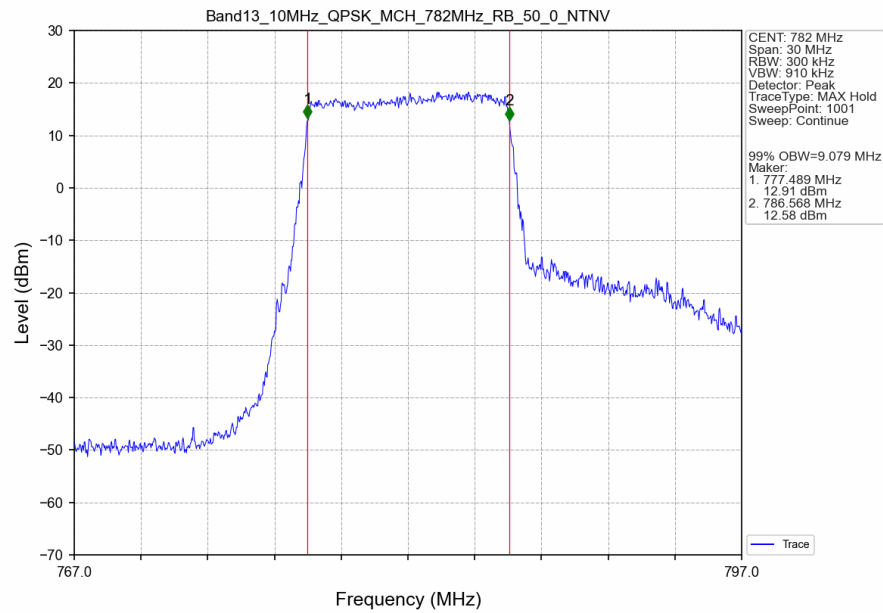
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTV



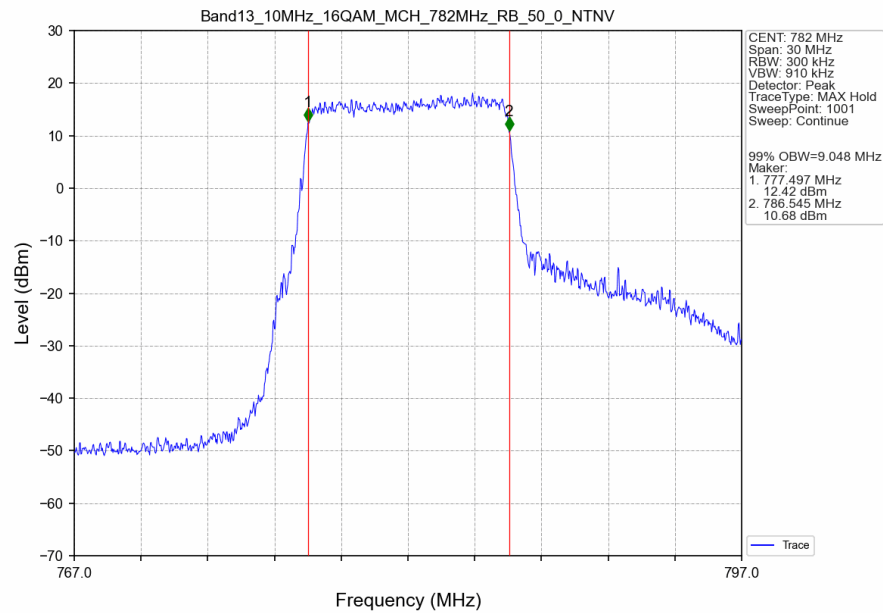
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTV



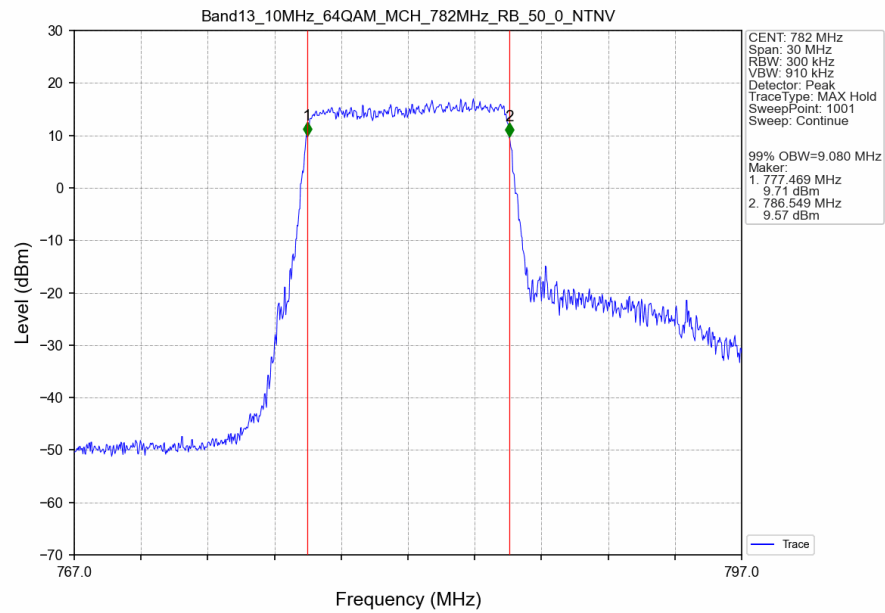
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTV



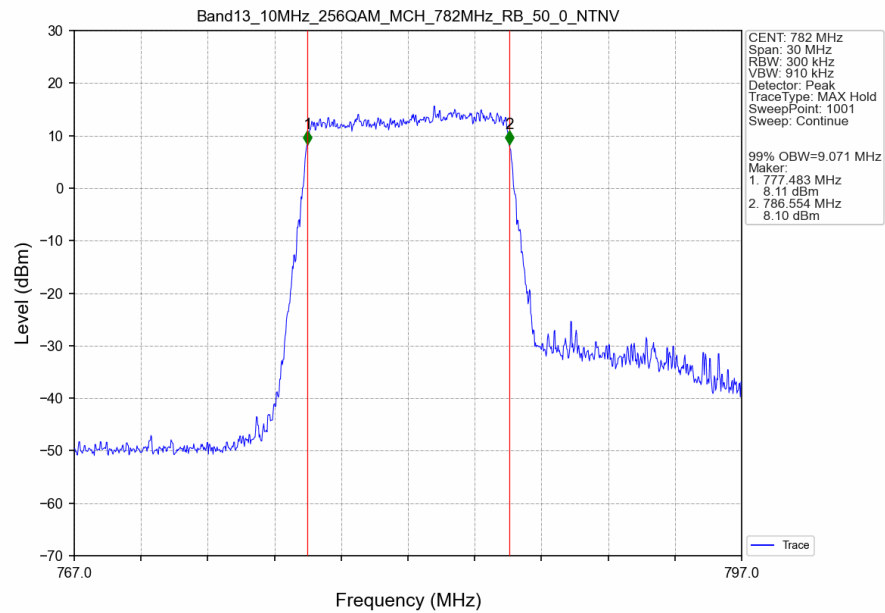
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTV



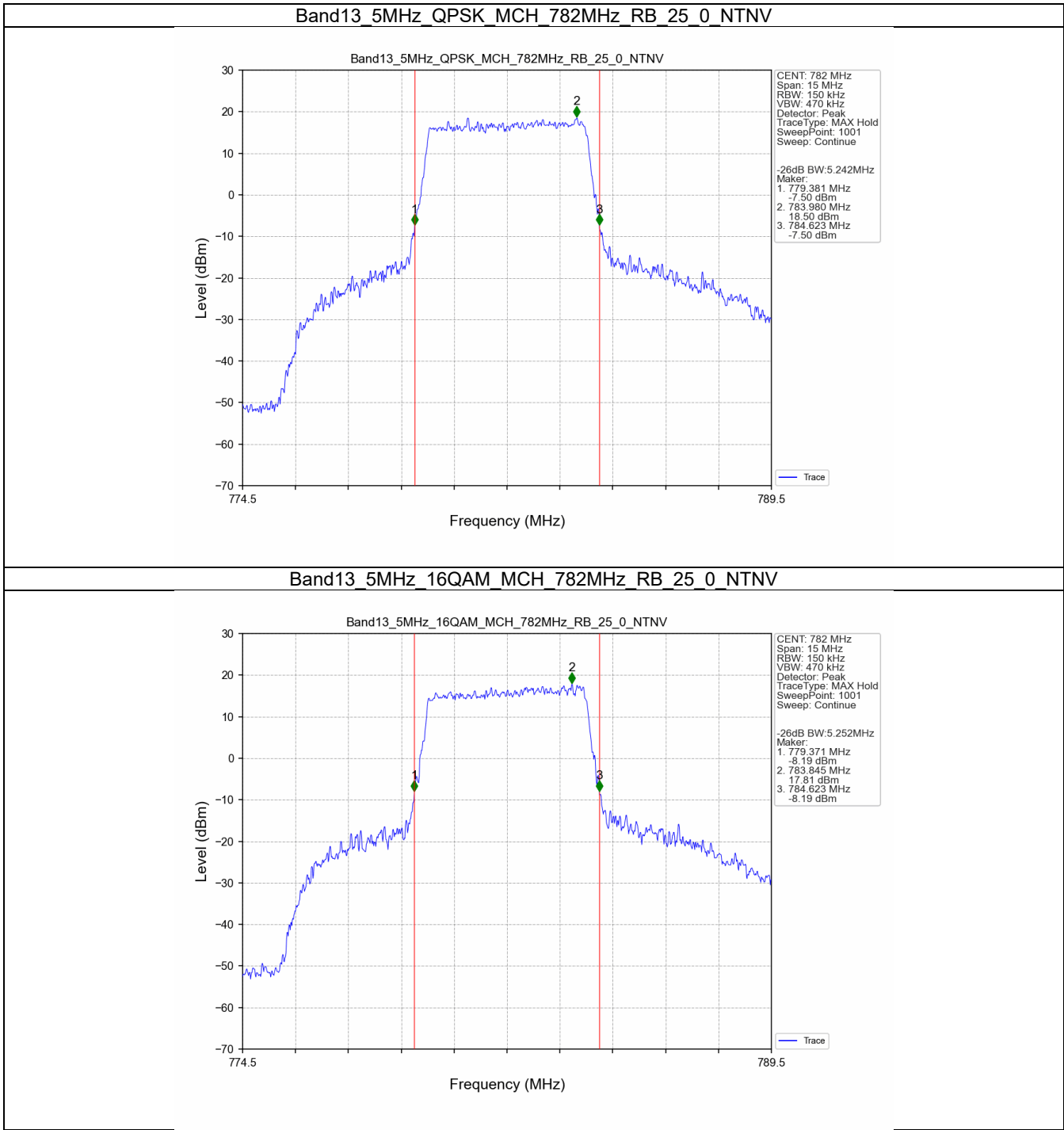
Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTV



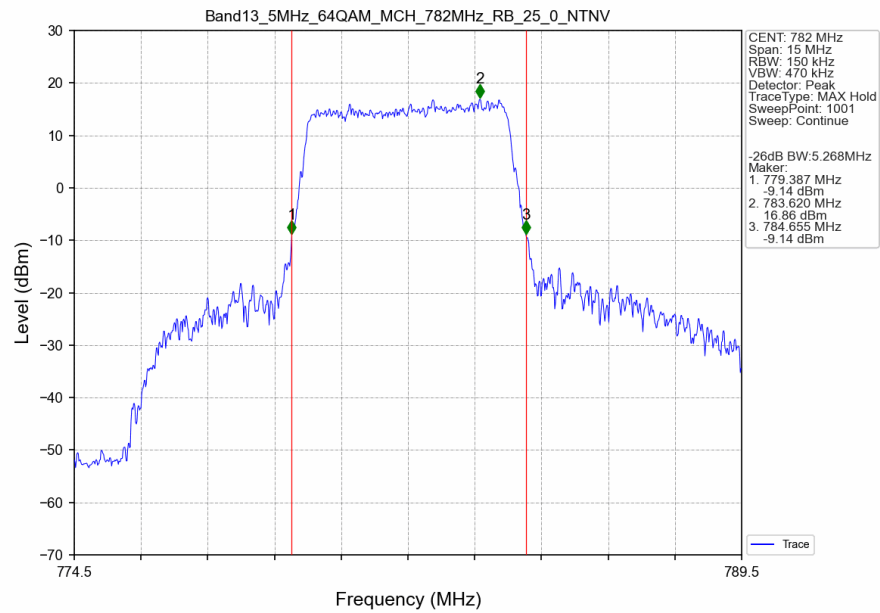
Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTV



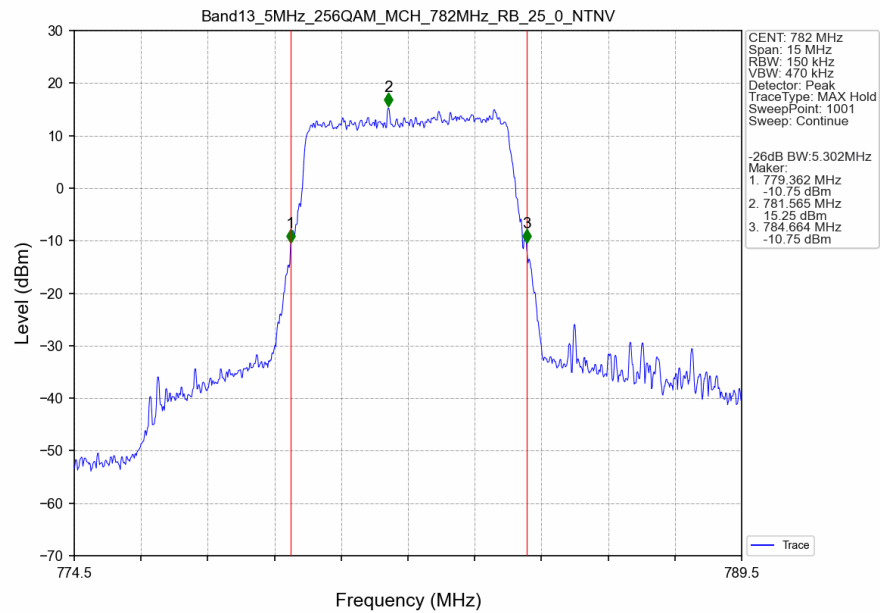
3.2.2 Band13_XDB



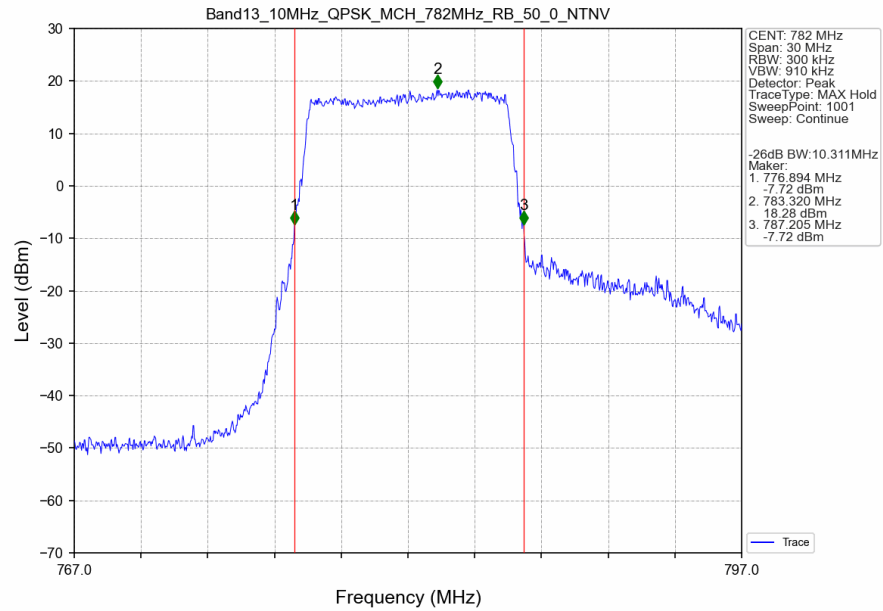
Band13 5MHz 64QAM MCH 782MHz RB 25 0 NTNV



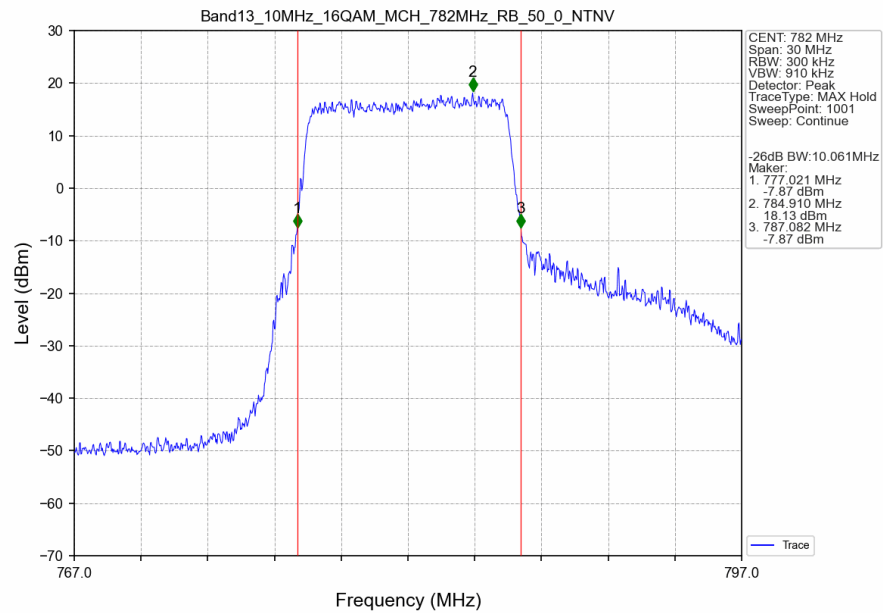
Band13 5MHz 256QAM MCH 782MHz RB 25 0 NTNV



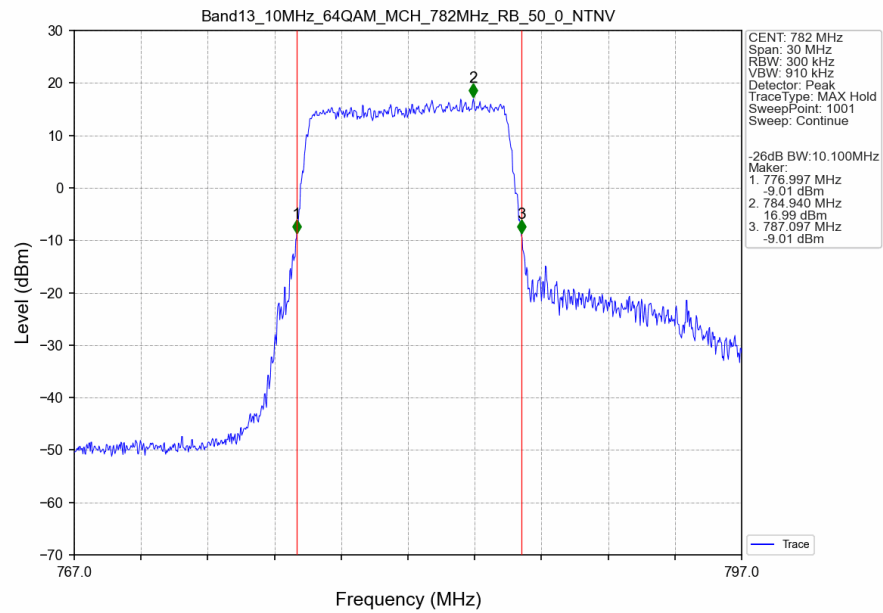
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTNV



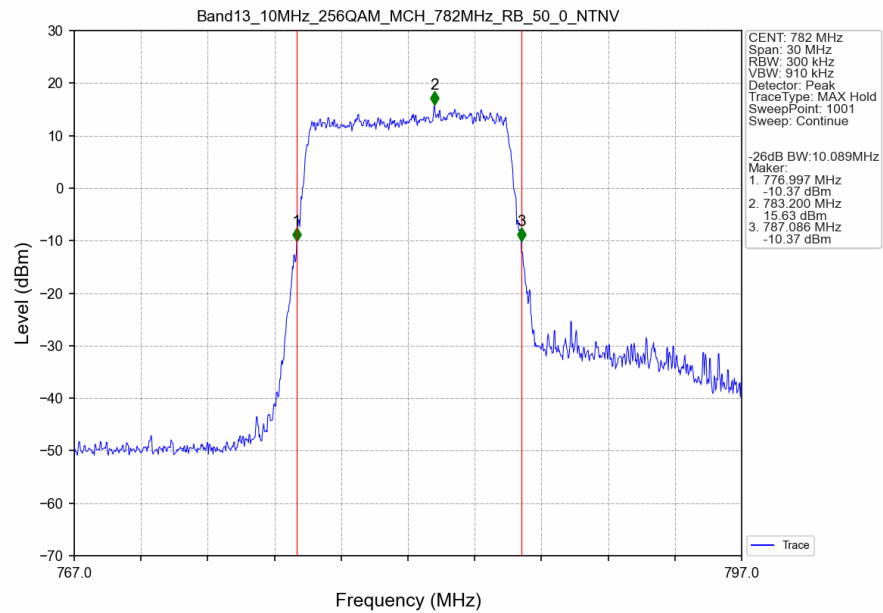
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTNV



Band13 10MHz 64QAM MCH 782MHz RB 50 0 NTN



Band13 10MHz 256QAM MCH 782MHz RB 50 0 NTN



4. Peak-Average Ratio

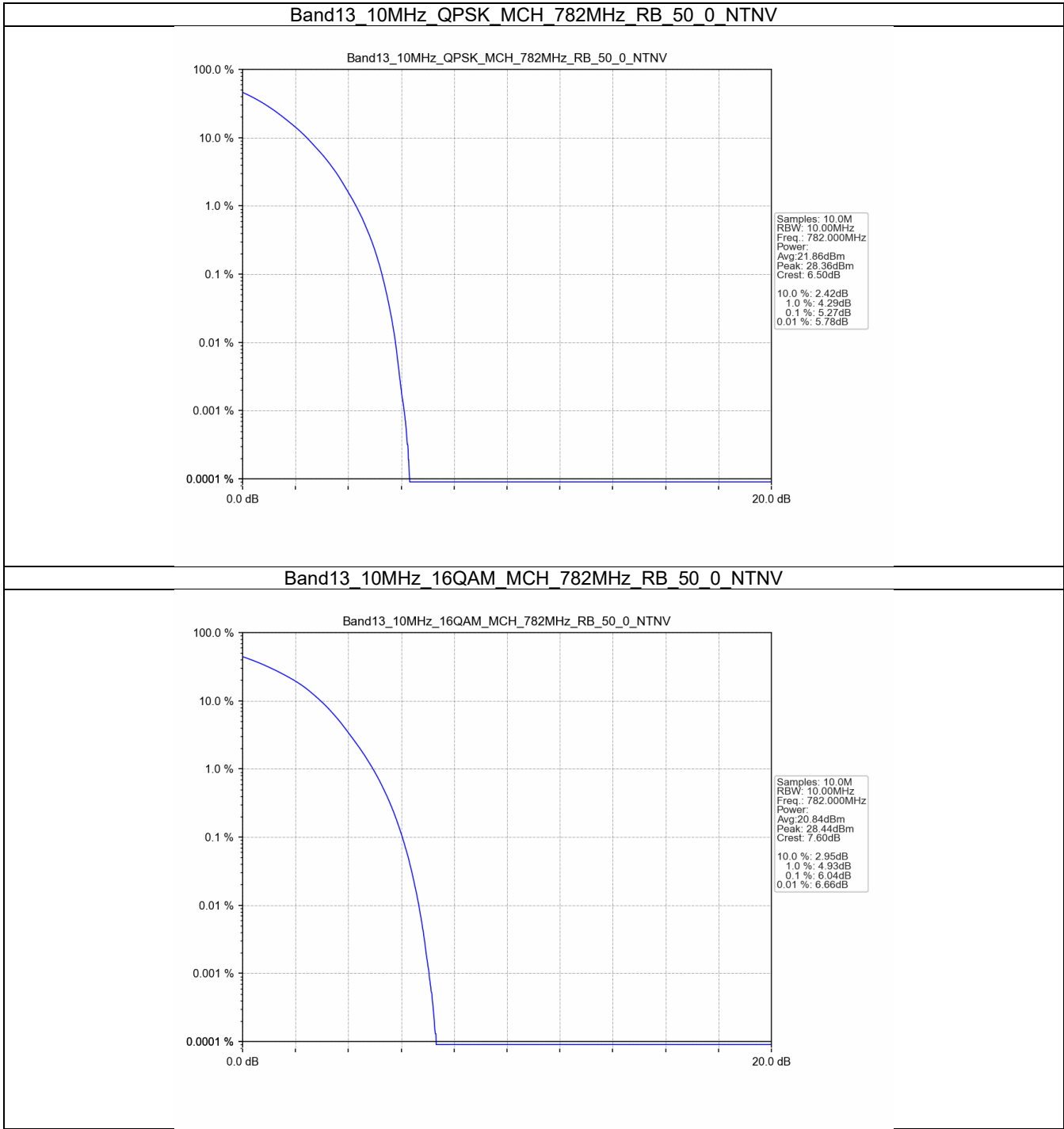
4.1 Test Result

4.1.1 B13_10MHz

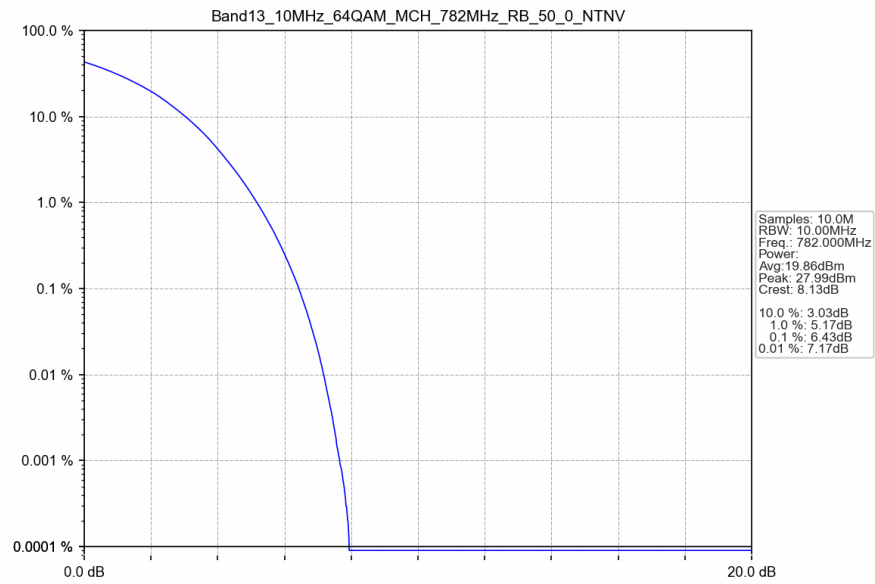
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.27	<=13	Pass
16QAM	782	50	0	6.04	<=13	Pass
64QAM	782	50	0	6.43	<=13	Pass
256QAM	782	50	0	6.71	<=13	Pass

4.2 Test Graph

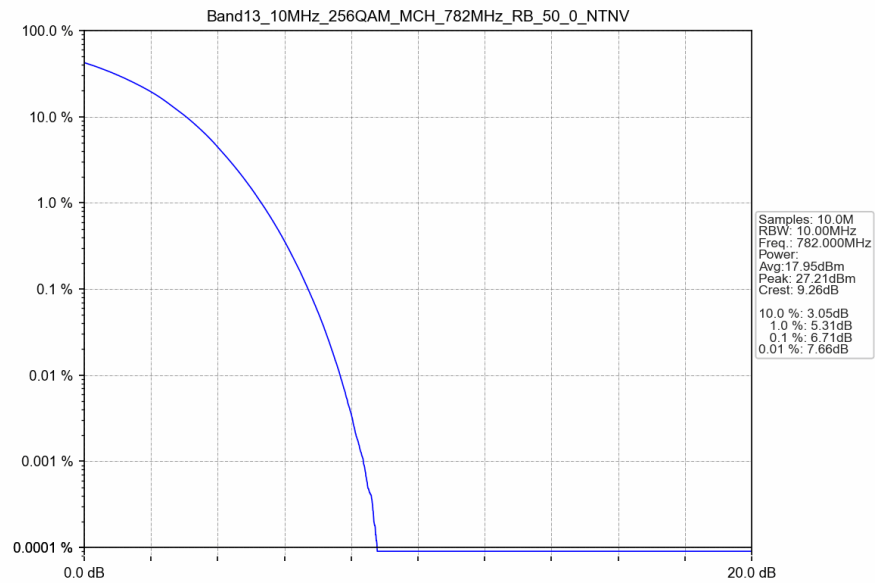
4.2.1 B13_10MHz



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

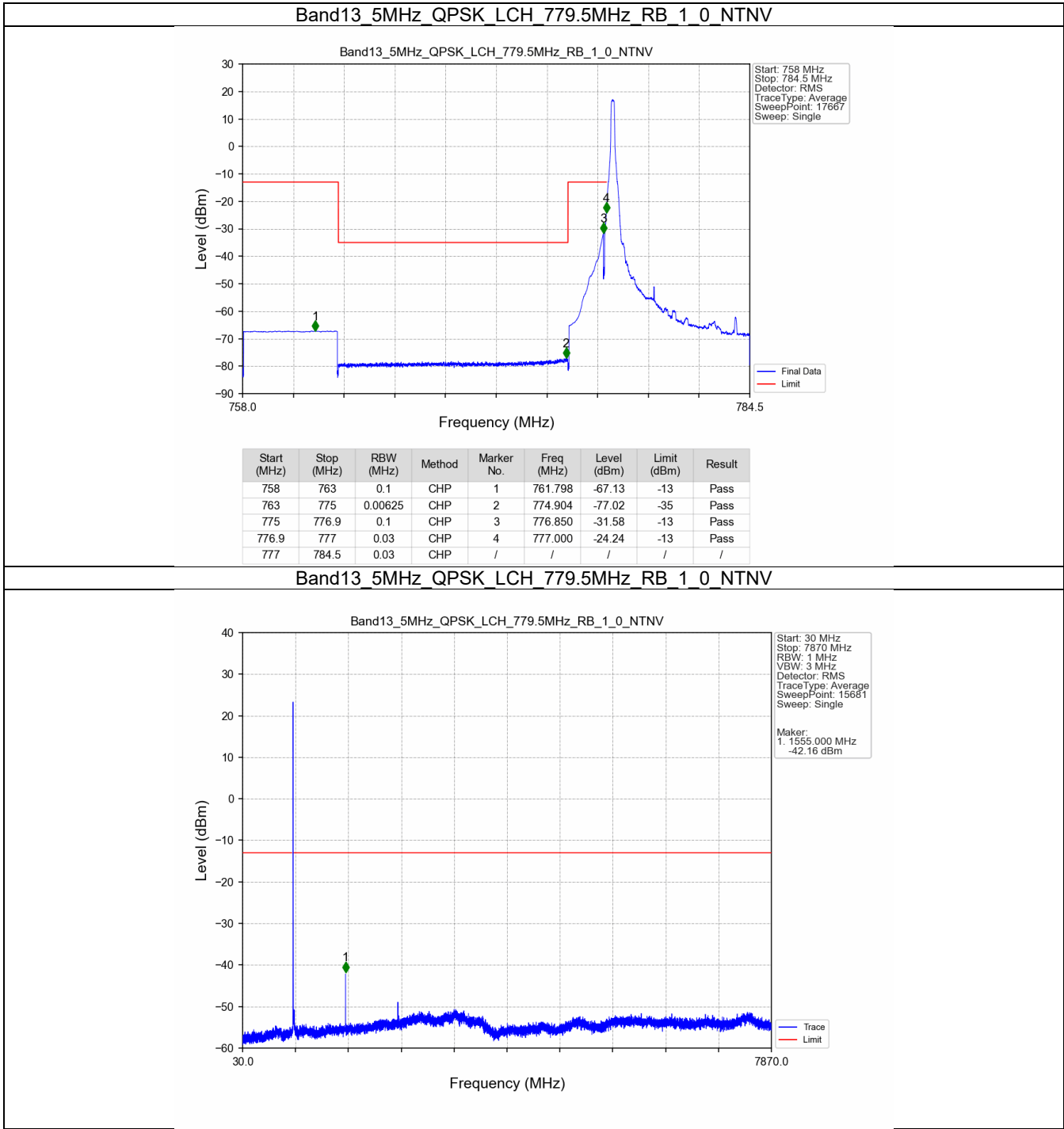
Band: 13 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

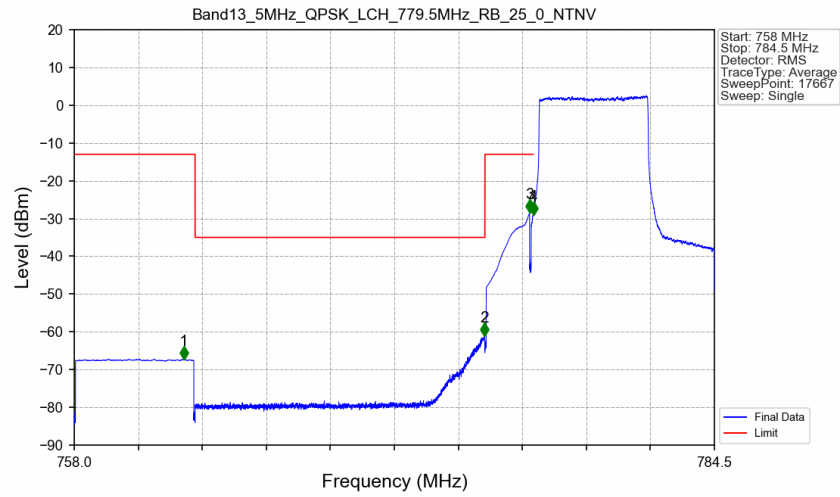
Band: 13 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

5.2.1 B13_5MHz

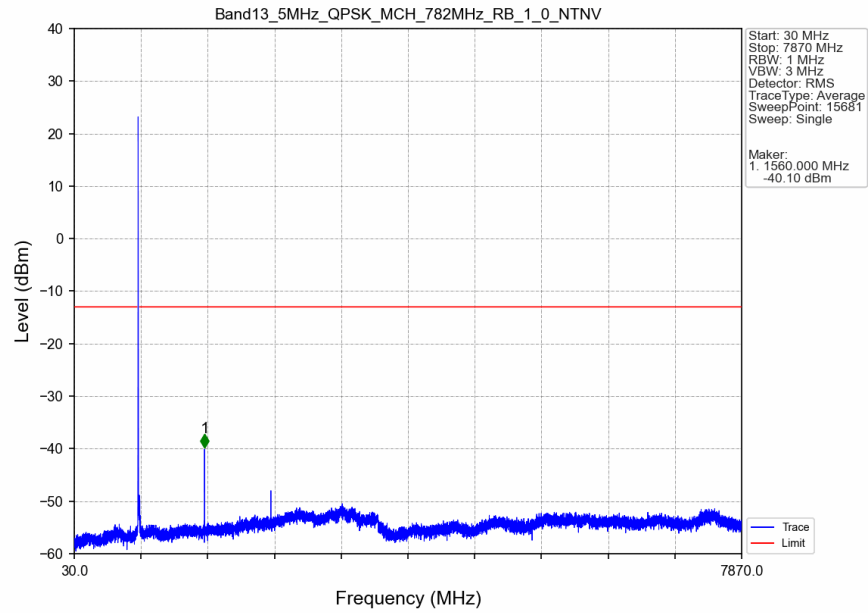


Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTV

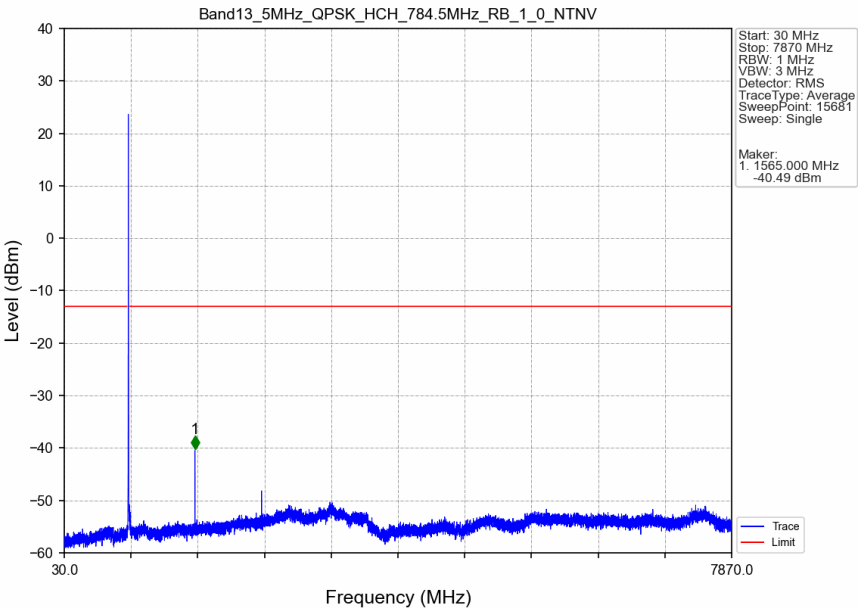


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.532	-67.24	-13	Pass
763	775	0.00625	CHP	2	774.970	-61.13	-35	Pass
775	776.9	0.1	CHP	3	776.850	-28.42	-13	Pass
776.9	777	0.03	CHP	4	777.000	-28.94	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

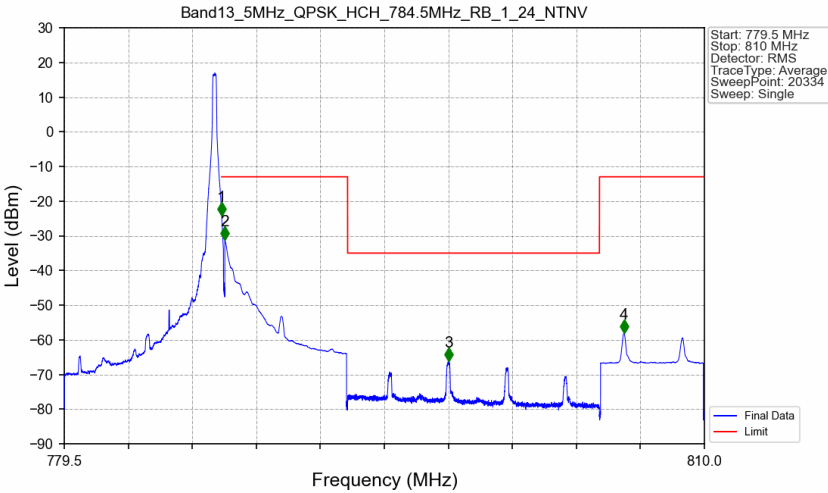
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTV



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTN

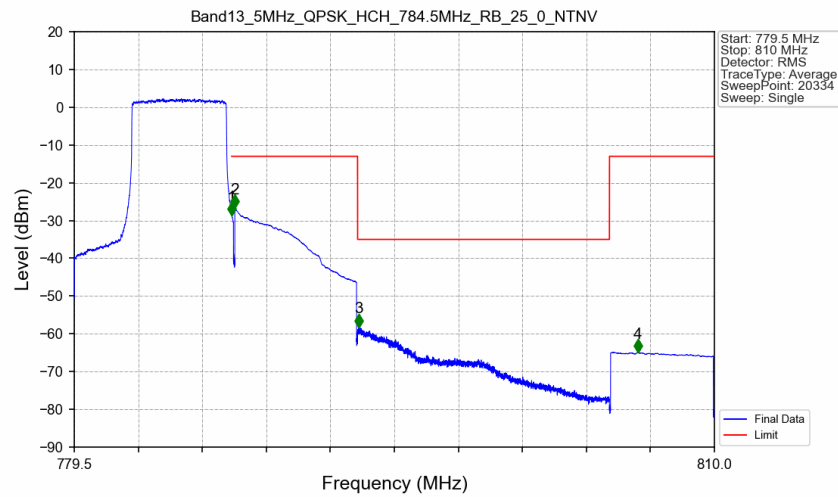


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTN



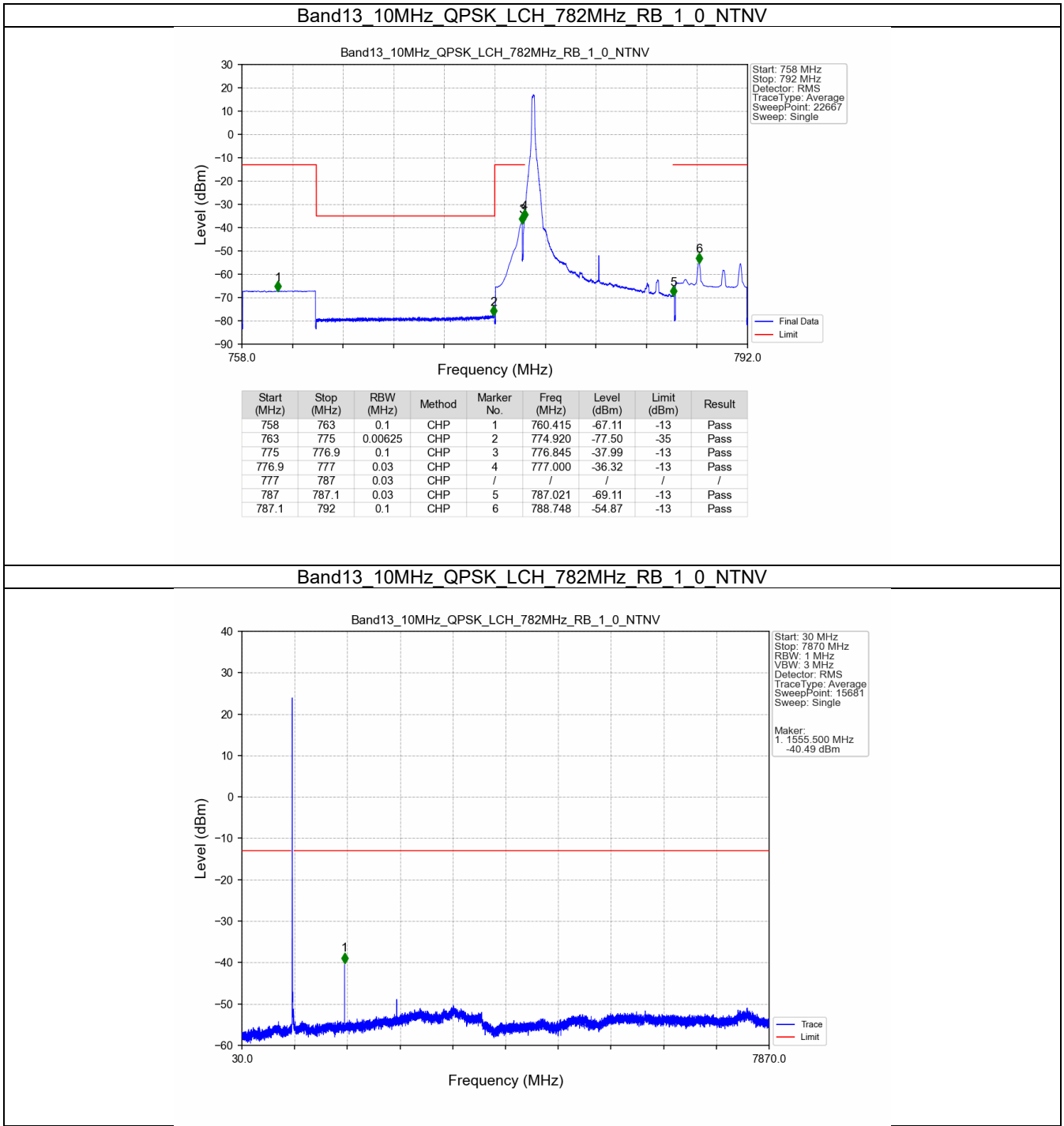
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-24.19	-13	Pass
787.1	793	0.1	CHP	2	787.150	-31.04	-13	Pass
793	805	0.00625	CHP	3	797.805	-66.18	-35	Pass
805	810	0.1	CHP	4	806.166	-58.10	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN

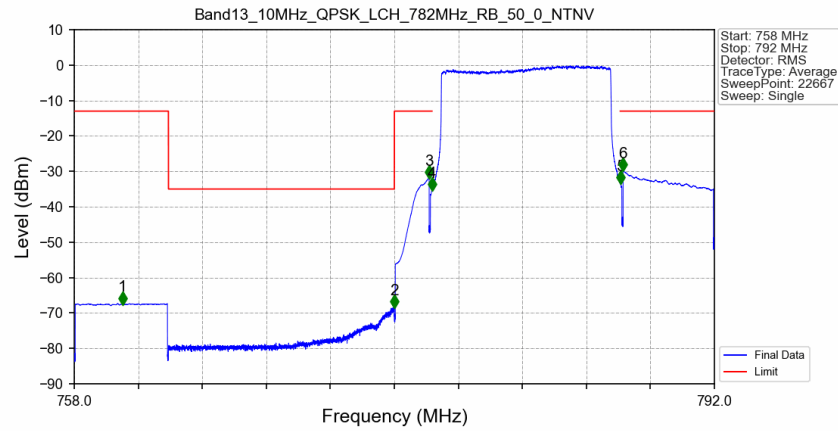


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-28.59	-13	Pass
787.1	793	0.1	CHP	2	787.150	-26.55	-13	Pass
793	805	0.00625	CHP	3	793.056	-58.18	-35	Pass
805	810	0.1	CHP	4	806.359	-64.91	-13	Pass

5.2.2 B13_10MHz

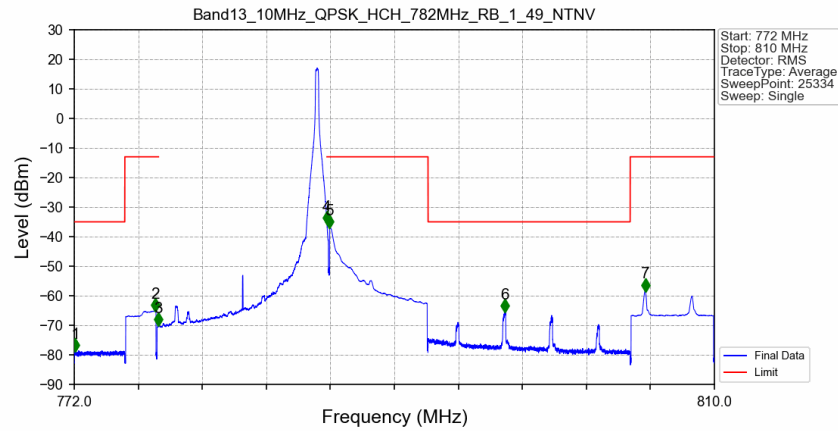


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



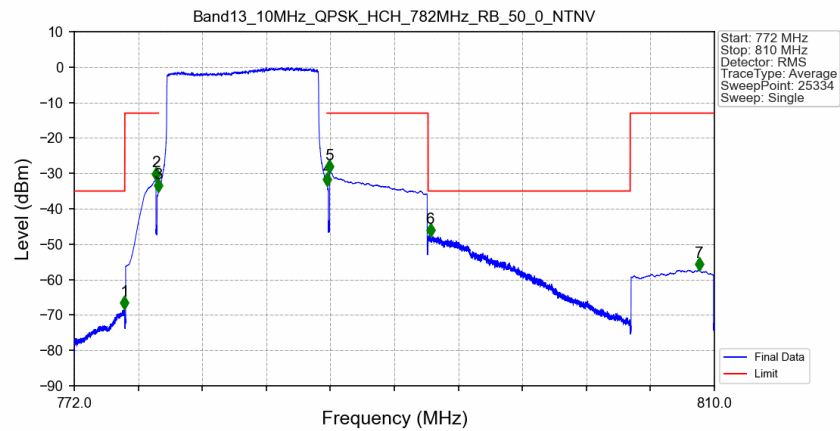
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	760.567	-67.33	-13	Pass
763	775	0.00625	CHP	2	774.995	-68.39	-35	Pass
775	776.9	0.1	CHP	3	776.850	-31.73	-13	Pass
776.9	777	0.03	CHP	4	777.000	-35.17	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.002	-33.35	-13	Pass
787.1	792	0.1	CHP	6	787.150	-29.70	-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	772.053	-78.60	-35	Pass
775	776.9	0.1	CHP	2	776.817	-64.98	-13	Pass
776.9	777	0.03	CHP	3	776.979	-69.95	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-35.51	-13	Pass
787.1	793	0.1	CHP	5	787.150	-36.88	-13	Pass
793	805	0.00625	CHP	6	797.559	-65.21	-35	Pass
805	810	0.1	CHP	7	805.894	-58.22	-13	Pass

Band13 10MHz QPSK HCH 782MHz RB 50 0 NTN



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
772	775	0.00625	CHP	1	774.984	-68.13	-35	Pass
775	776.9	0.1	CHP	2	776.850	-31.68	-13	Pass
776.9	777	0.03	CHP	3	777.000	-35.05	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.015	-33.33	-13	Pass
787.1	793	0.1	CHP	5	787.150	-29.69	-13	Pass
793	805	0.00625	CHP	6	793.135	-47.55	-35	Pass
805	810	0.1	CHP	7	809.080	-57.20	-13	Pass