

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	24.35	-2.24	19.96	<=34.77	Pass		
			13	24.43	-2.24	20.04	<=34.77	Pass		
			24	24.57	-2.24	20.18	<=34.77	Pass		
		12	0	23.90	-2.24	19.51	<=34.77	Pass		
			6	23.99	-2.24	19.60	<=34.77	Pass		
			13	23.94	-2.24	19.55	<=34.77	Pass		
		25	0	23.87	-2.24	19.48	<=34.77	Pass		
		782	1	0	24.47	-2.24	20.08	<=34.77	Pass	
				13	24.88	-2.24	20.49	<=34.77	Pass	
	24			24.71	-2.24	20.32	<=34.77	Pass		
	12		0	23.96	-2.24	19.57	<=34.77	Pass		
			6	23.97	-2.24	19.58	<=34.77	Pass		
			13	23.85	-2.24	19.46	<=34.77	Pass		
	25	0	23.83	-2.24	19.44	<=34.77	Pass			
	784.5	1	0	24.91	-2.24	20.52	<=34.77	Pass		
			13	25.01	-2.24	20.62	<=34.77	Pass		
			24	24.69	-2.24	20.30	<=34.77	Pass		
		12	0	23.92	-2.24	19.53	<=34.77	Pass		
			6	24.03	-2.24	19.64	<=34.77	Pass		
			13	23.96	-2.24	19.57	<=34.77	Pass		
		25	0	23.94	-2.24	19.55	<=34.77	Pass		
		16QAM	779.5	1	0	23.26	-2.24	18.87	<=34.77	Pass
					13	23.54	-2.24	19.15	<=34.77	Pass
	24				23.07	-2.24	18.68	<=34.77	Pass	
12	0			22.87	-2.24	18.48	<=34.77	Pass		
	6			22.93	-2.24	18.54	<=34.77	Pass		
	13			22.85	-2.24	18.46	<=34.77	Pass		
25	0			23.00	-2.24	18.61	<=34.77	Pass		
782	1			0	24.13	-2.24	19.74	<=34.77	Pass	
				13	24.52	-2.24	20.13	<=34.77	Pass	
			24	23.84	-2.24	19.45	<=34.77	Pass		
	12		0	22.79	-2.24	18.40	<=34.77	Pass		
			6	22.82	-2.24	18.43	<=34.77	Pass		
			13	22.71	-2.24	18.32	<=34.77	Pass		
25	0		22.94	-2.24	18.55	<=34.77	Pass			
784.5	1		0	23.84	-2.24	19.45	<=34.77	Pass		
		13	24.15	-2.24	19.76	<=34.77	Pass			
		24	23.85	-2.24	19.46	<=34.77	Pass			
	12	0	22.98	-2.24	18.59	<=34.77	Pass			
		6	23.06	-2.24	18.67	<=34.77	Pass			
		13	22.77	-2.24	18.38	<=34.77	Pass			
25	0	23.00	-2.24	18.61	<=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	24.38	-2.24	19.99	<=34.77	Pass
			25	25.18	-2.24	20.79	<=34.77	Pass
			49	24.78	-2.24	20.39	<=34.77	Pass
		25	0	23.94	-2.24	19.55	<=34.77	Pass
			13	23.86	-2.24	19.47	<=34.77	Pass
			25	23.90	-2.24	19.51	<=34.77	Pass
		50	0	23.96	-2.24	19.57	<=34.77	Pass
16QAM	782	1	0	23.87	-2.24	19.48	<=34.77	Pass
			25	24.10	-2.24	19.71	<=34.77	Pass
			49	23.96	-2.24	19.57	<=34.77	Pass
		25	0	22.98	-2.24	18.59	<=34.77	Pass
			13	22.98	-2.24	18.59	<=34.77	Pass
			25	22.94	-2.24	18.55	<=34.77	Pass
		50	0	22.96	-2.24	18.57	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 Test Result

2.1.1 B13_5MHz

Band: 13 / Bandwidth: 5MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	779.5	25	0	20	6.2	0.329	0.0004	-2.5 to 2.5	Pass
					7.2	-0.429	-0.0006	-2.5 to 2.5	Pass
					8.4	-0.386	-0.0005	-2.5 to 2.5	Pass
				-30	7.2	1.130	0.0014	-2.5 to 2.5	Pass
				-20	7.2	0.486	0.0006	-2.5 to 2.5	Pass
				-10	7.2	1.259	0.0016	-2.5 to 2.5	Pass
				0	7.2	-0.057	-0.0001	-2.5 to 2.5	Pass
				10	7.2	0.114	0.0001	-2.5 to 2.5	Pass
				30	7.2	1.287	0.0017	-2.5 to 2.5	Pass
				40	7.2	1.388	0.0018	-2.5 to 2.5	Pass
				50	7.2	2.518	0.0032	-2.5 to 2.5	Pass
	782	25	0	20	6.2	3.333	0.0043	-2.5 to 2.5	Pass
					7.2	1.259	0.0016	-2.5 to 2.5	Pass
					8.4	1.144	0.0015	-2.5 to 2.5	Pass
				-30	7.2	1.116	0.0014	-2.5 to 2.5	Pass
				-20	7.2	1.059	0.0014	-2.5 to 2.5	Pass
				-10	7.2	0.329	0.0004	-2.5 to 2.5	Pass
				0	7.2	0.114	0.0001	-2.5 to 2.5	Pass
				10	7.2	0.801	0.0010	-2.5 to 2.5	Pass
				30	7.2	0.486	0.0006	-2.5 to 2.5	Pass
				40	7.2	0.086	0.0001	-2.5 to 2.5	Pass
				50	7.2	0.300	0.0004	-2.5 to 2.5	Pass
	784.5	25	0	20	6.2	2.160	0.0028	-2.5 to 2.5	Pass
					7.2	1.831	0.0023	-2.5 to 2.5	Pass
					8.4	1.202	0.0015	-2.5 to 2.5	Pass
				-30	7.2	0.858	0.0011	-2.5 to 2.5	Pass
				-20	7.2	0.772	0.0010	-2.5 to 2.5	Pass
				-10	7.2	-0.143	-0.0002	-2.5 to 2.5	Pass
				0	7.2	0.100	0.0001	-2.5 to 2.5	Pass
				10	7.2	0.758	0.0010	-2.5 to 2.5	Pass
				30	7.2	0.458	0.0006	-2.5 to 2.5	Pass
				40	7.2	0.772	0.0010	-2.5 to 2.5	Pass
				50	7.2	0.272	0.0003	-2.5 to 2.5	Pass
16QAM	779.5	25	0	20	6.2	2.203	0.0028	-2.5 to 2.5	Pass
					7.2	1.431	0.0018	-2.5 to 2.5	Pass
					8.4	2.217	0.0028	-2.5 to 2.5	Pass
				-30	7.2	1.187	0.0015	-2.5 to 2.5	Pass
				-20	7.2	1.330	0.0017	-2.5 to 2.5	Pass
				-10	7.2	-0.172	-0.0002	-2.5 to 2.5	Pass
				0	7.2	1.059	0.0014	-2.5 to 2.5	Pass
				10	7.2	0.401	0.0005	-2.5 to 2.5	Pass
				30	7.2	0.844	0.0011	-2.5 to 2.5	Pass
				40	7.2	0.429	0.0006	-2.5 to 2.5	Pass
				50	7.2	-0.014	0.0000	-2.5 to 2.5	Pass
	782	25	0	20	6.2	-0.300	-0.0004	-2.5 to 2.5	Pass
					7.2	0.601	0.0008	-2.5 to 2.5	Pass

					8.4	-0.772	-0.0010	-2.5 to 2.5	Pass
				-30	7.2	0.300	0.0004	-2.5 to 2.5	Pass
				-20	7.2	0.858	0.0011	-2.5 to 2.5	Pass
				-10	7.2	0.758	0.0010	-2.5 to 2.5	Pass
				0	7.2	0.358	0.0005	-2.5 to 2.5	Pass
				10	7.2	1.502	0.0019	-2.5 to 2.5	Pass
				30	7.2	1.359	0.0017	-2.5 to 2.5	Pass
				40	7.2	1.788	0.0023	-2.5 to 2.5	Pass
				50	7.2	2.704	0.0035	-2.5 to 2.5	Pass
	784.5	25	0	20	6.2	0.730	0.0009	-2.5 to 2.5	Pass
					7.2	-0.072	-0.0001	-2.5 to 2.5	Pass
					8.4	1.602	0.0020	-2.5 to 2.5	Pass
				-30	7.2	1.373	0.0018	-2.5 to 2.5	Pass
				-20	7.2	1.645	0.0021	-2.5 to 2.5	Pass
				-10	7.2	2.275	0.0029	-2.5 to 2.5	Pass
				0	7.2	3.490	0.0044	-2.5 to 2.5	Pass
				10	7.2	3.719	0.0047	-2.5 to 2.5	Pass
				30	7.2	2.618	0.0033	-2.5 to 2.5	Pass
				40	7.2	2.403	0.0031	-2.5 to 2.5	Pass
				50	7.2	1.874	0.0024	-2.5 to 2.5	Pass

2.1.2 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	6.2	0.572	0.0007	-2.5 to 2.5	Pass
					7.2	0.443	0.0006	-2.5 to 2.5	Pass
					8.4	1.159	0.0015	-2.5 to 2.5	Pass
				-30	7.2	1.388	0.0018	-2.5 to 2.5	Pass
				-20	7.2	2.160	0.0028	-2.5 to 2.5	Pass
				-10	7.2	0.944	0.0012	-2.5 to 2.5	Pass
				0	7.2	1.087	0.0014	-2.5 to 2.5	Pass
				10	7.2	0.544	0.0007	-2.5 to 2.5	Pass
				30	7.2	1.459	0.0019	-2.5 to 2.5	Pass
				40	7.2	1.287	0.0016	-2.5 to 2.5	Pass
16QAM	782	50	0	20	6.2	1.559	0.0020	-2.5 to 2.5	Pass
					7.2	0.501	0.0006	-2.5 to 2.5	Pass
					8.4	0.744	0.0010	-2.5 to 2.5	Pass
				-30	7.2	0.286	0.0004	-2.5 to 2.5	Pass
				-20	7.2	0.358	0.0005	-2.5 to 2.5	Pass
				-10	7.2	-0.243	-0.0003	-2.5 to 2.5	Pass
				0	7.2	-0.057	-0.0001	-2.5 to 2.5	Pass
				10	7.2	0.086	0.0001	-2.5 to 2.5	Pass
				30	7.2	0.129	0.0002	-2.5 to 2.5	Pass
				40	7.2	0.215	0.0003	-2.5 to 2.5	Pass
				50	7.2	-0.629	-0.0008	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band13_OBW

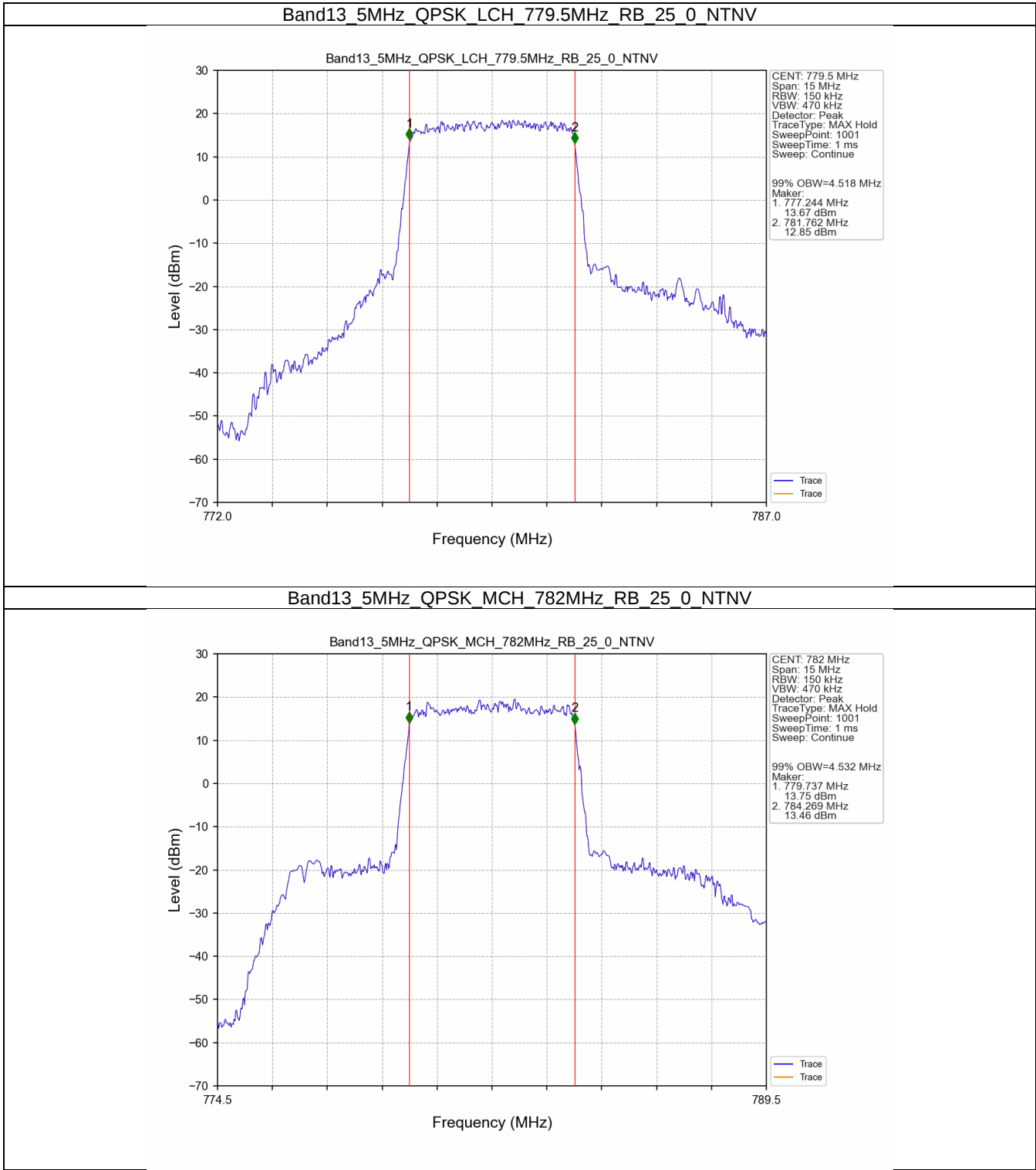
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	4.518	/	Pass
		782	25	0	4.532	/	Pass
		784.5	25	0	4.541	/	Pass
	16QAM	779.5	25	0	4.556	/	Pass
		782	25	0	4.560	/	Pass
		784.5	25	0	4.544	/	Pass
10	QPSK	782	50	0	9.047	/	Pass
	16QAM	782	50	0	9.000	/	Pass

3.1.2 Band13_XDB

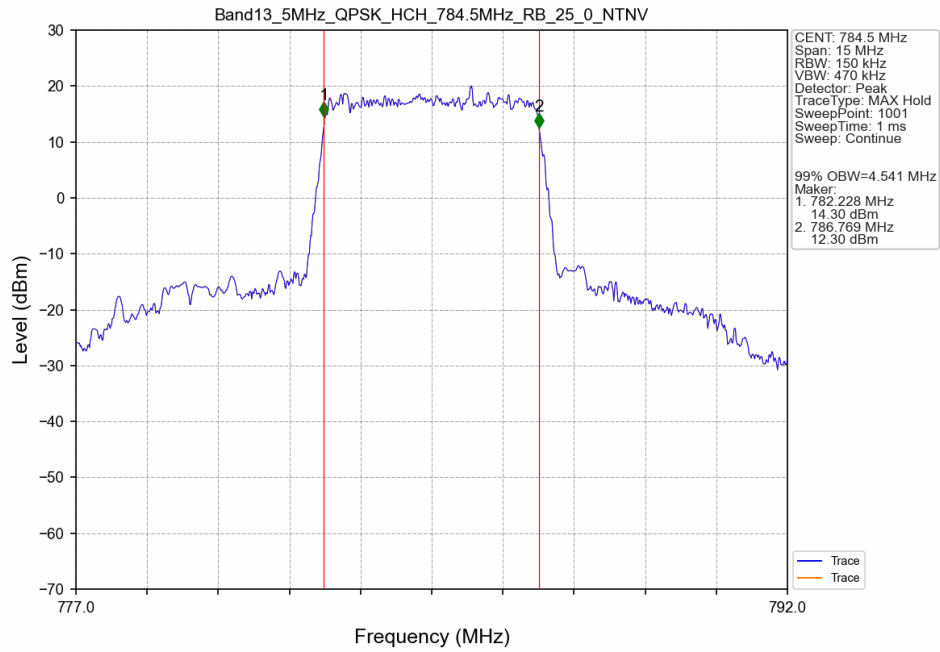
Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	779.5	25	0	5.055	/	Pass
		782	25	0	5.057	/	Pass
		784.5	25	0	5.080	/	Pass
	16QAM	779.5	25	0	5.072	/	Pass
		782	25	0	5.073	/	Pass
		784.5	25	0	5.066	/	Pass
10	QPSK	782	50	0	10.015	/	Pass
	16QAM	782	50	0	9.976	/	Pass

3.2 Test Graph

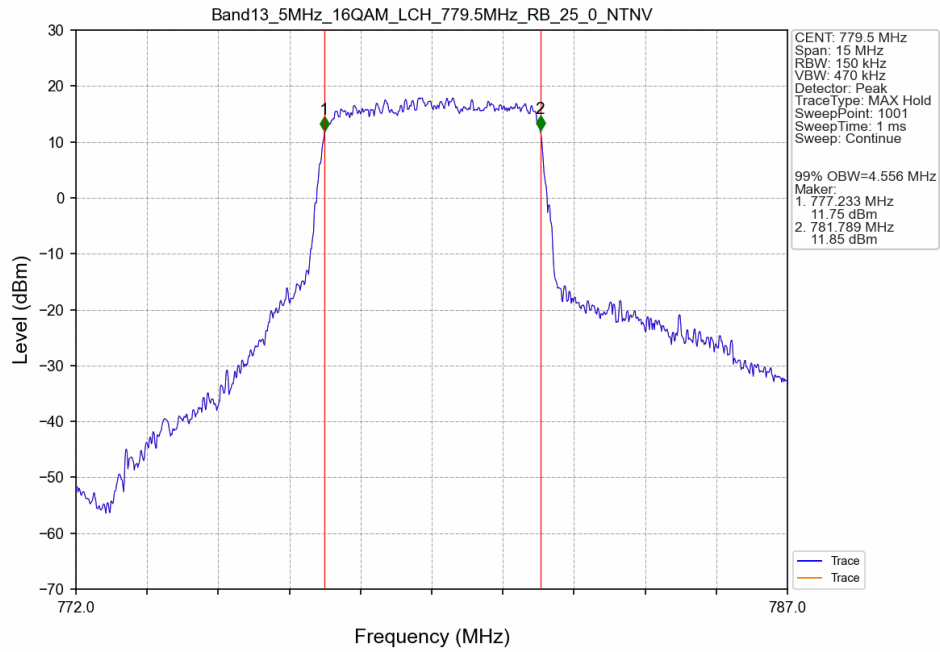
3.2.1 Band13_OBW



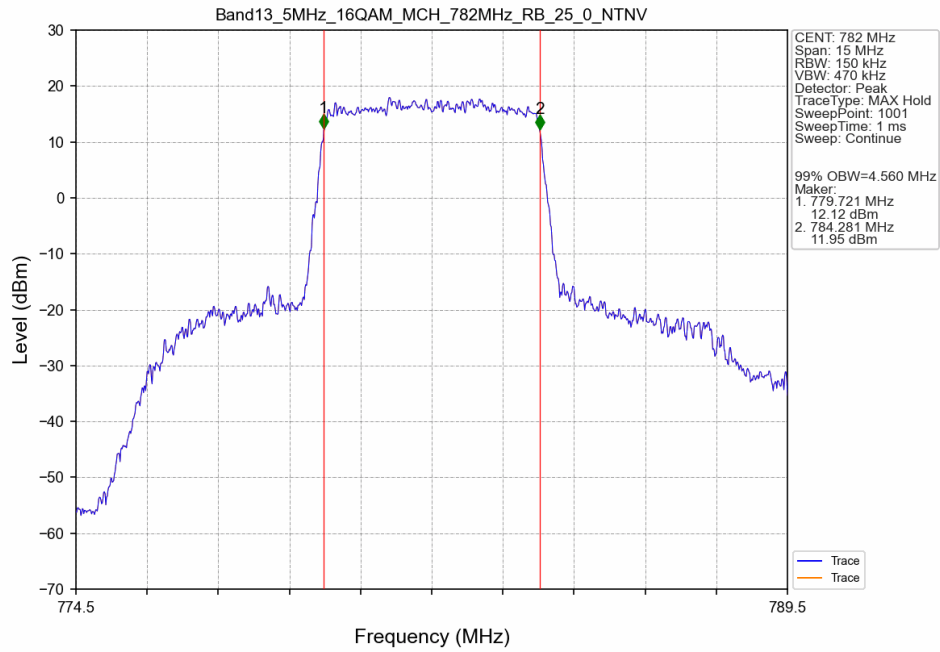
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTNV



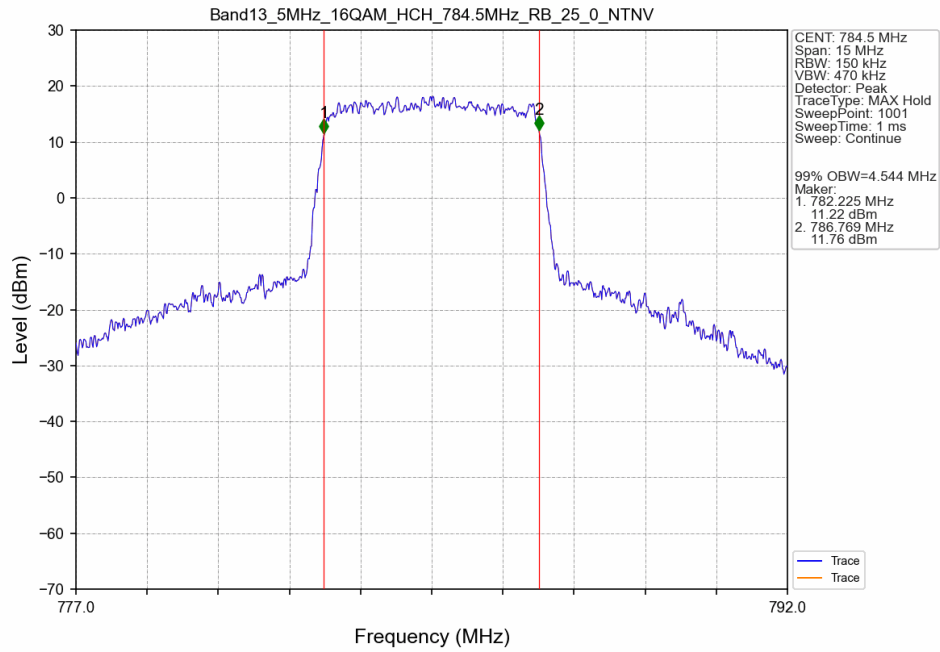
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTNV



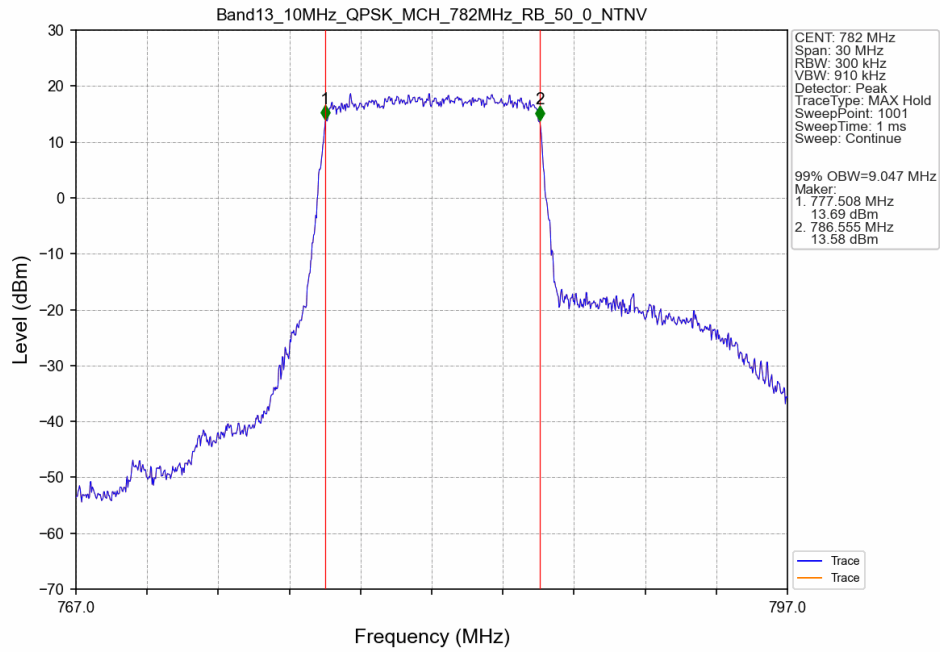
Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTV



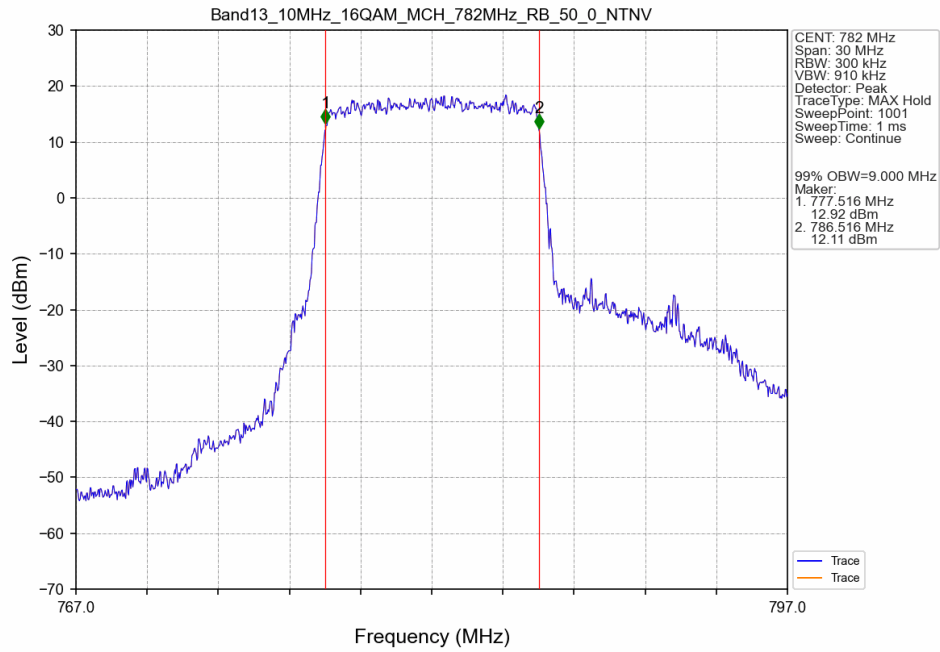
Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTV



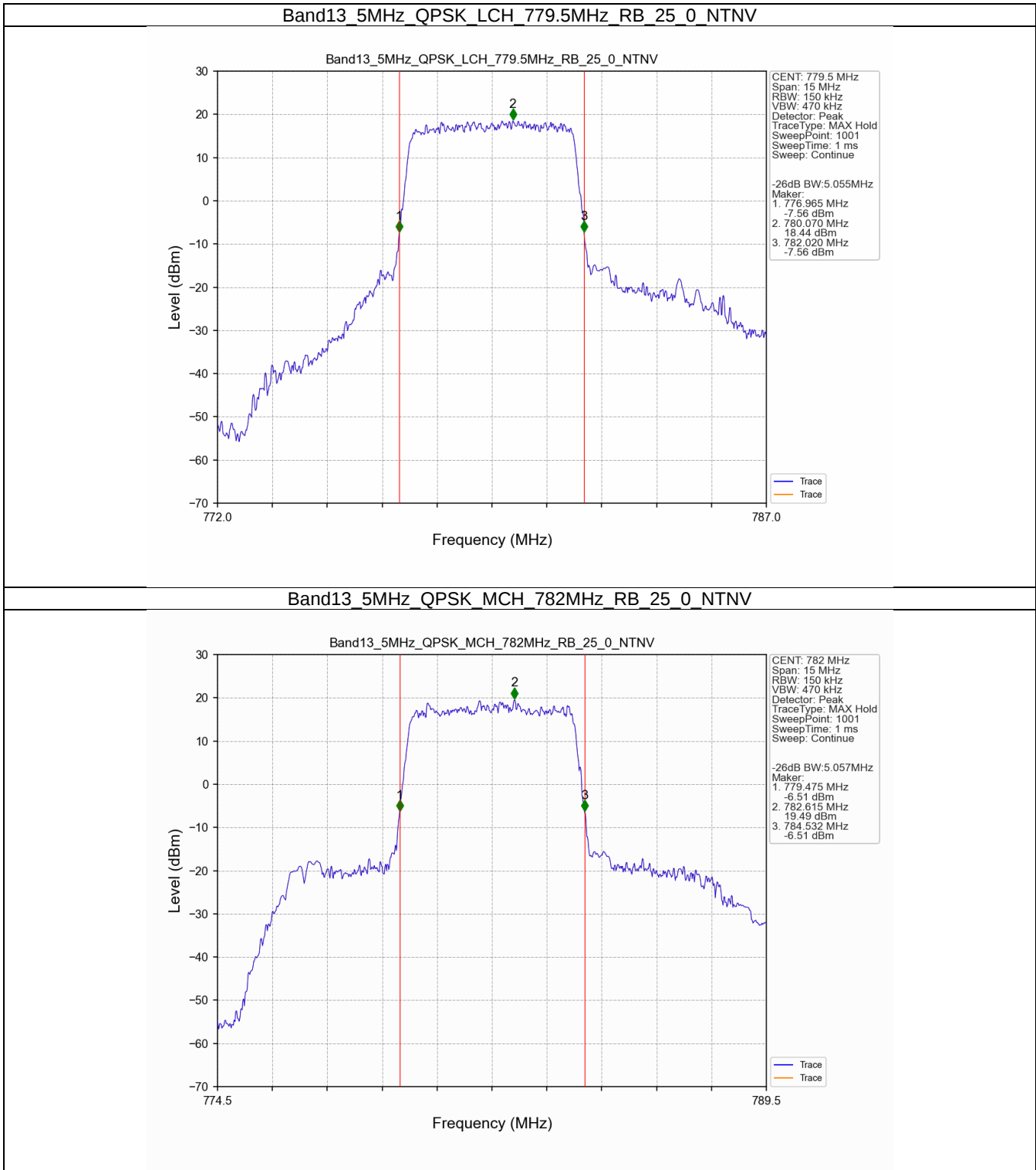
Band13 10MHz QPSK MCH 782MHz RB 50 0 NTNV



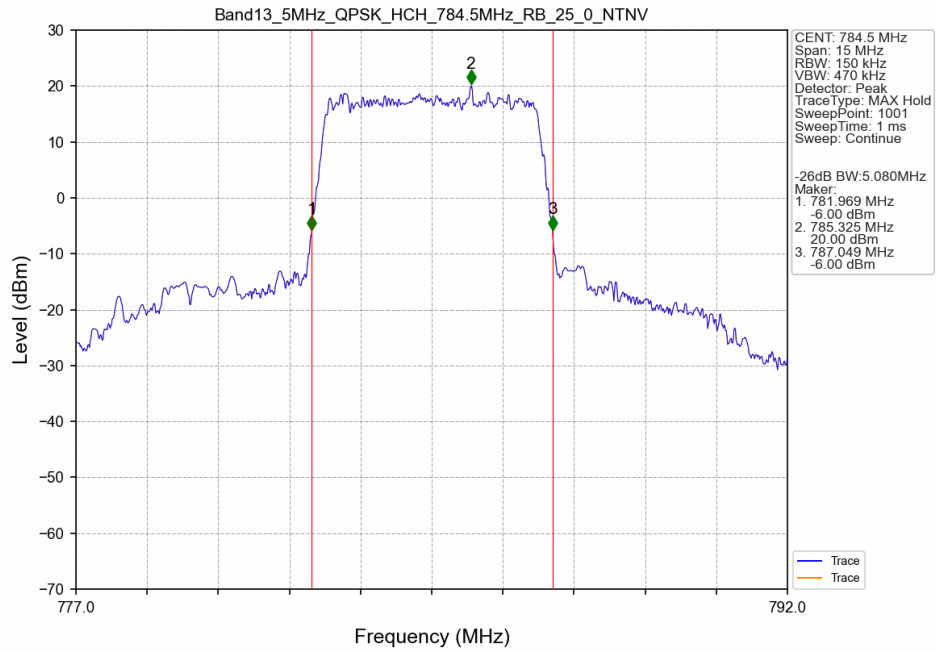
Band13 10MHz 16QAM MCH 782MHz RB 50 0 NTNV



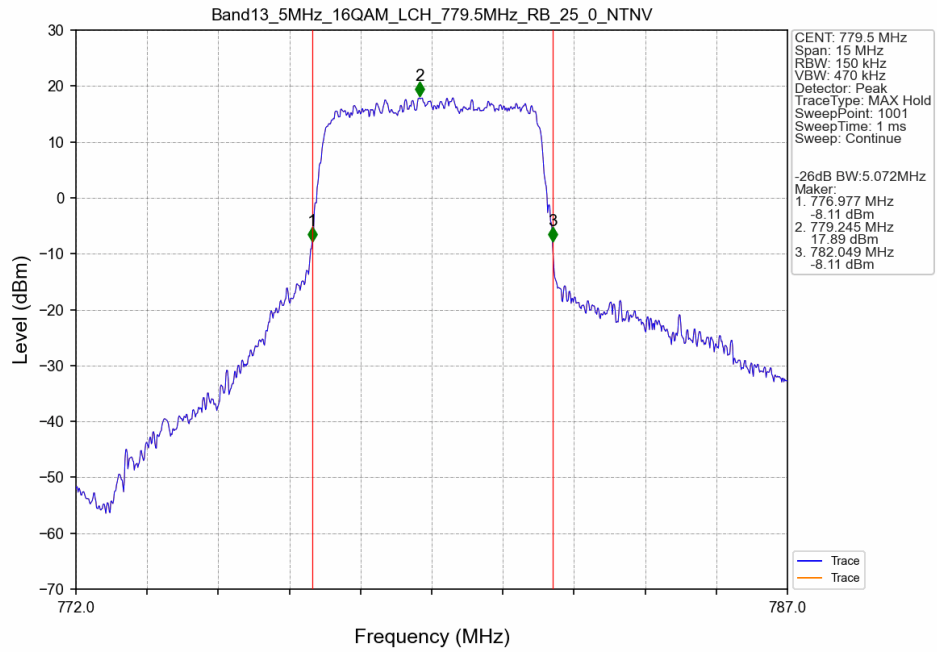
3.2.2 Band13_XDB



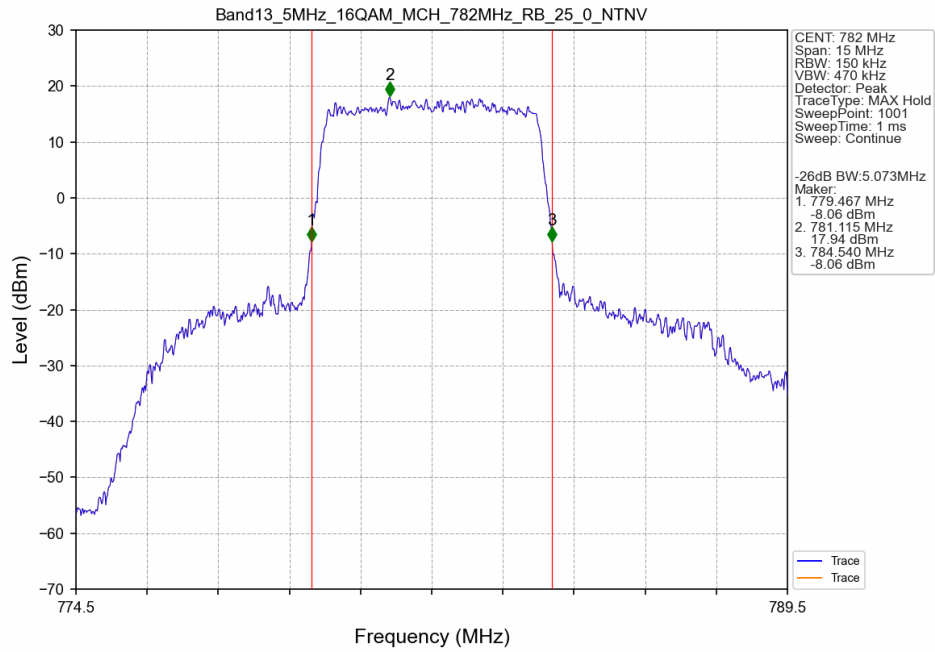
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN



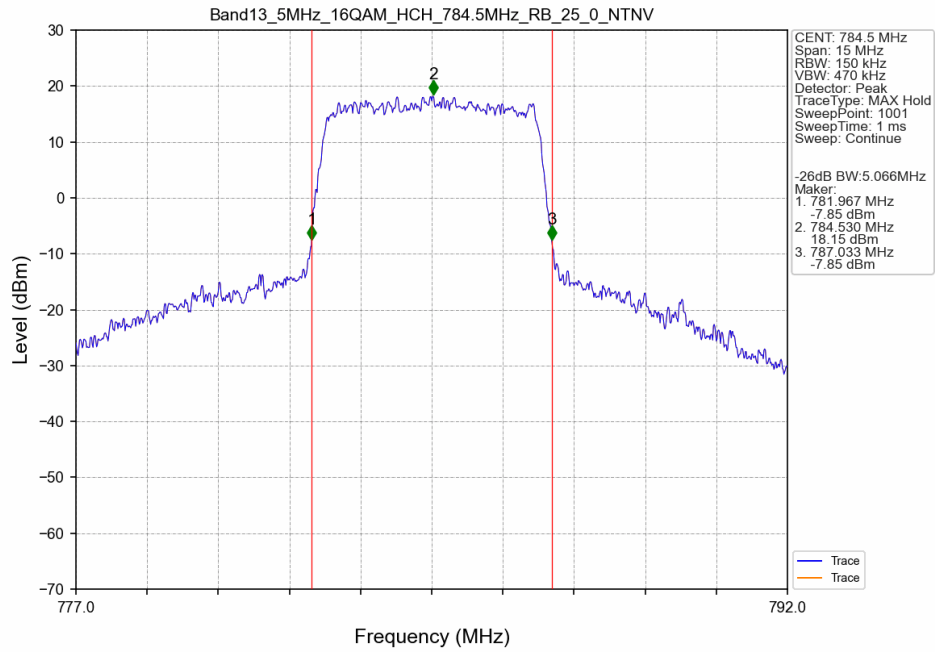
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTN



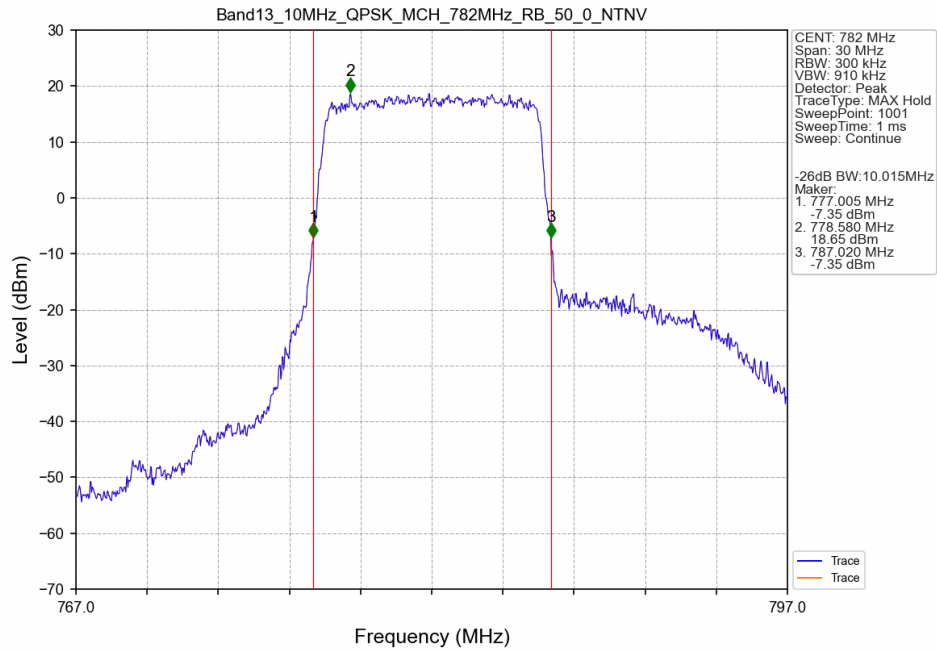
Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTV



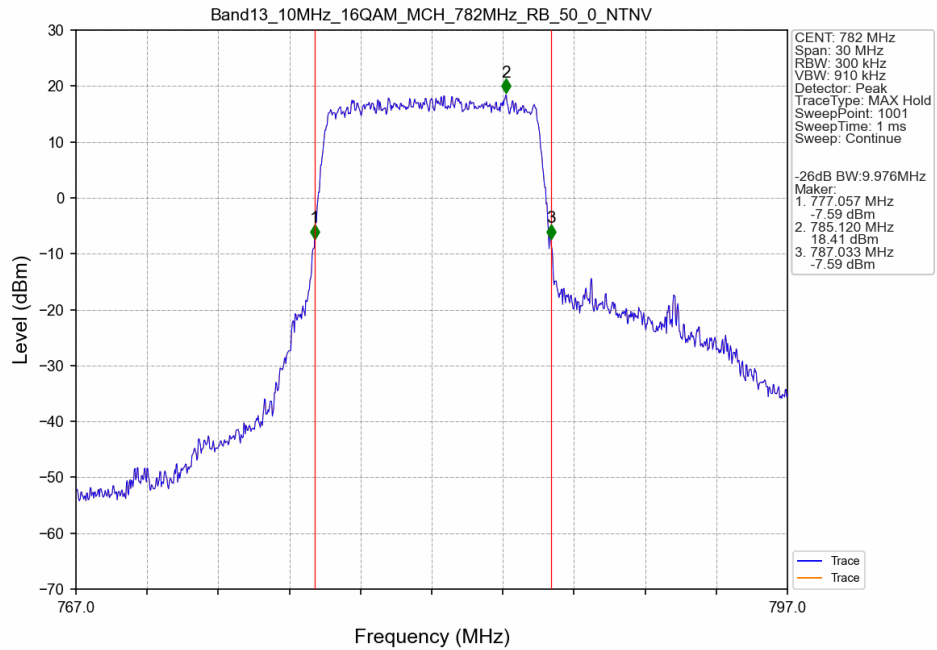
Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTV



Band13 10MHz QPSK MCH 782MHz RB 50 0 NTNV



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



4. Peak-Average Ratio

4.1 Test Result

4.1.1 B13_5MHz

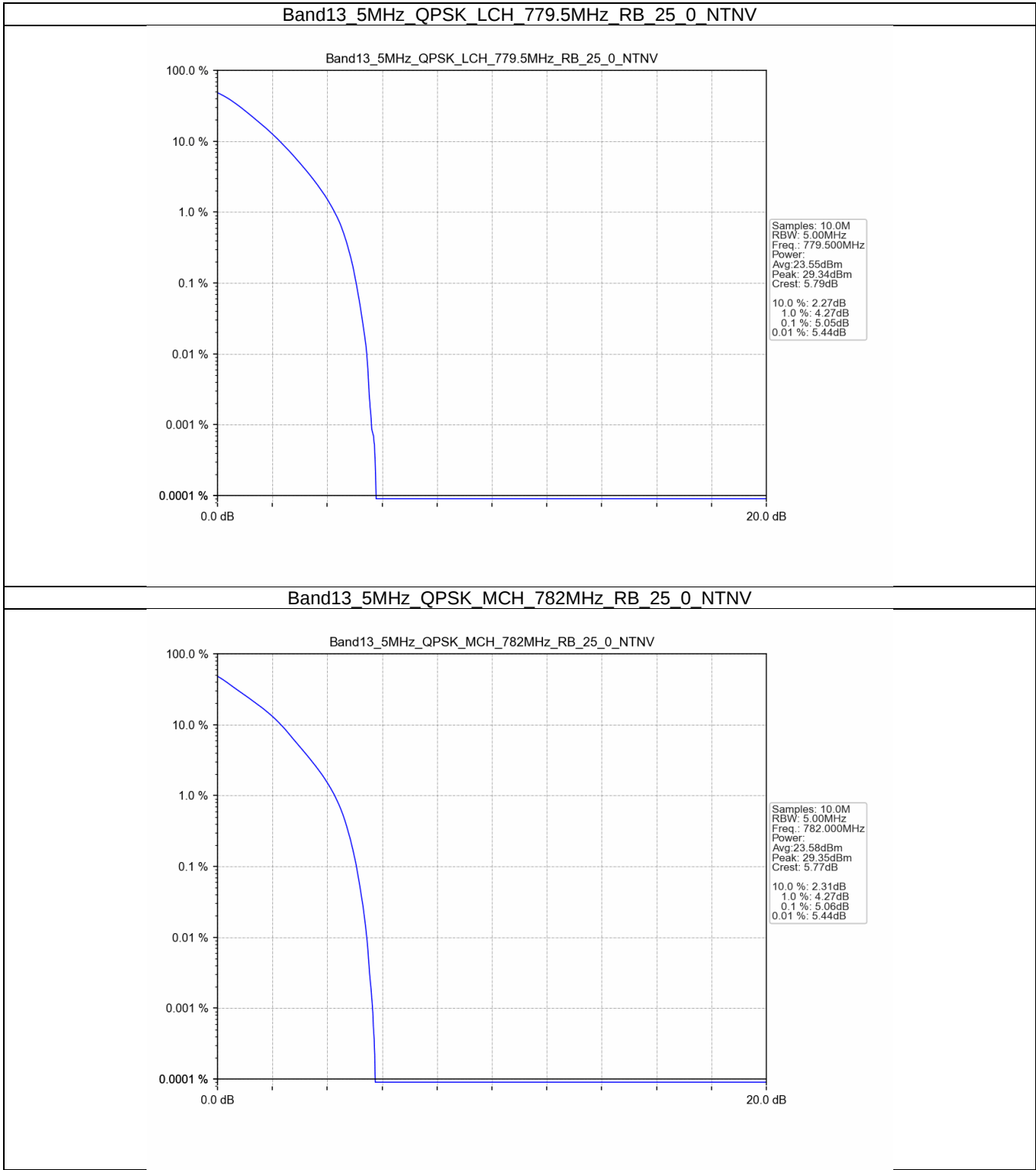
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	25	0	5.05	<=13	Pass
	782	25	0	5.06	<=13	Pass
	784.5	25	0	5.17	<=13	Pass
16QAM	779.5	25	0	5.88	<=13	Pass
	782	25	0	5.86	<=13	Pass
	784.5	25	0	5.89	<=13	Pass

4.1.2 B13_10MHz

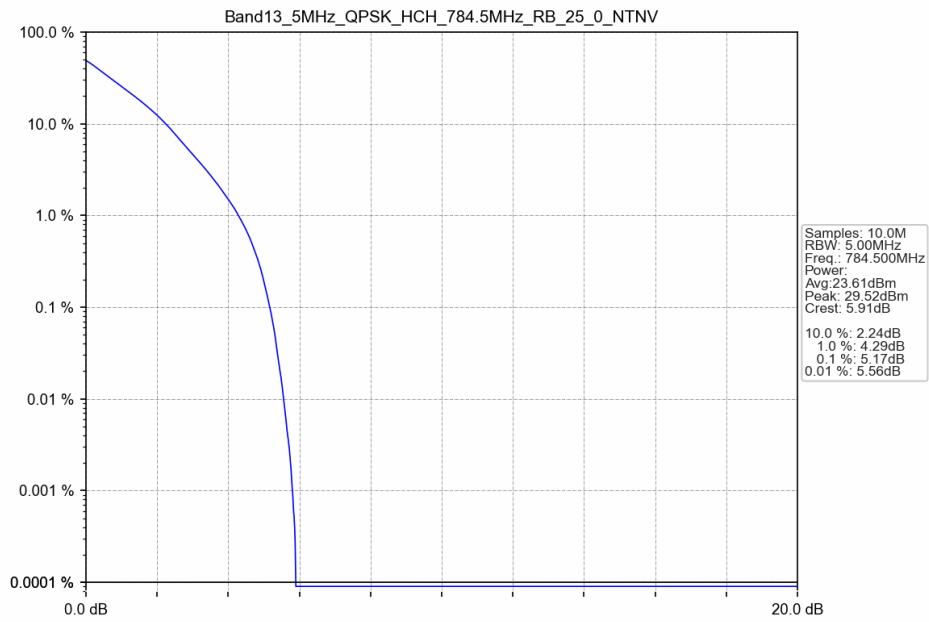
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	5.17	<=13	Pass
16QAM	782	50	0	5.99	<=13	Pass

4.2 Test Graph

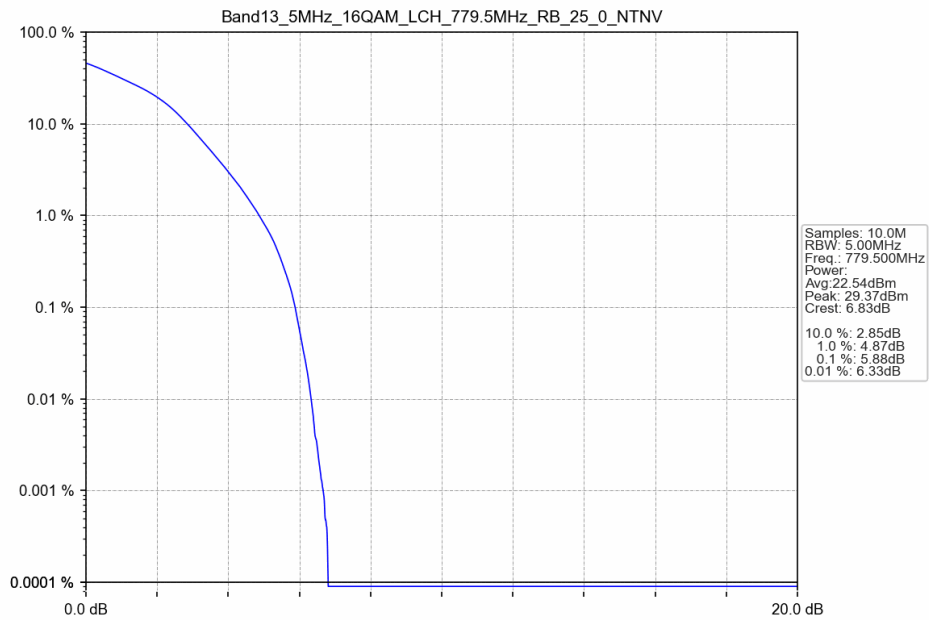
4.2.1 B13_5MHz



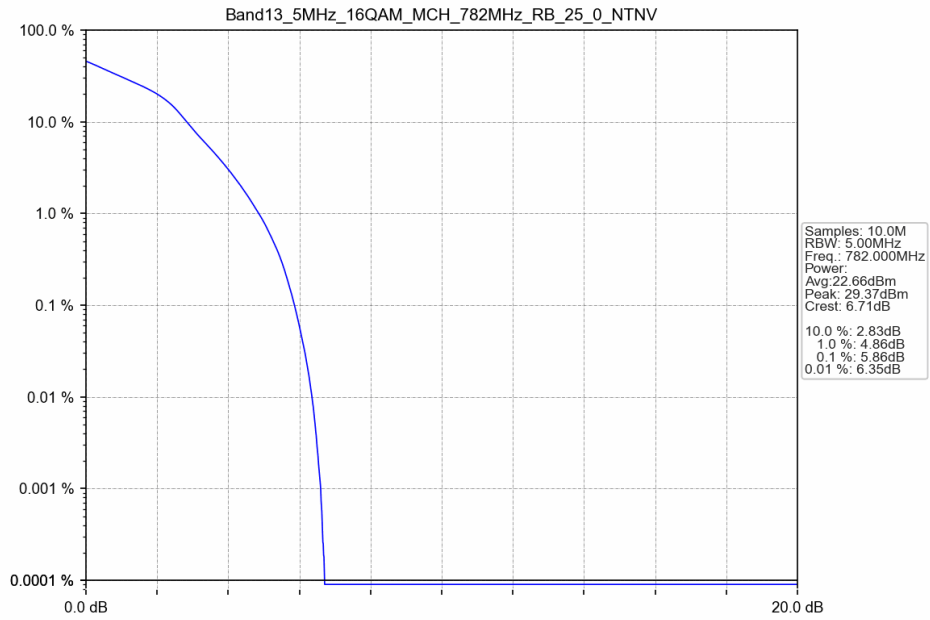
Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN



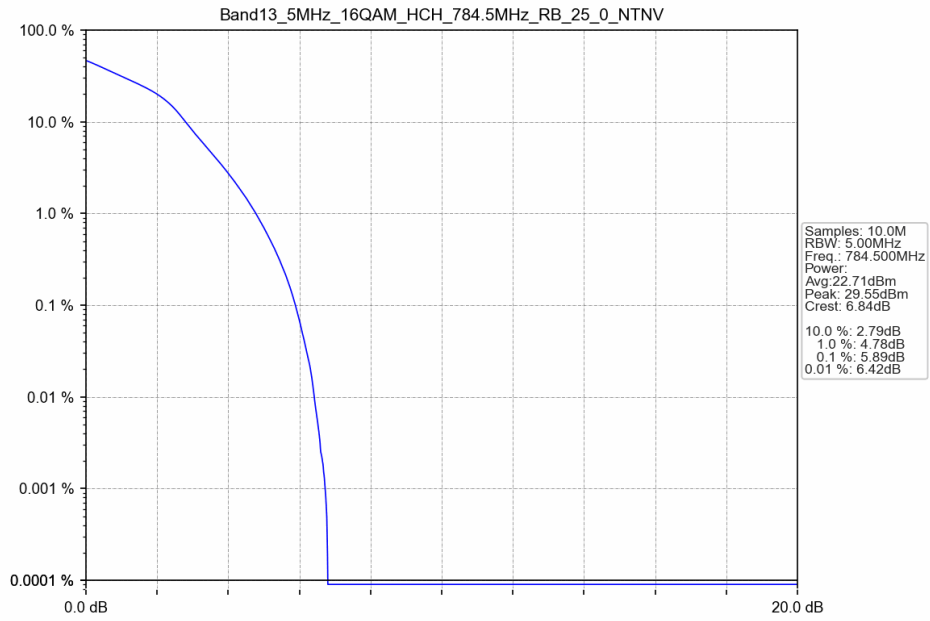
Band13 5MHz 16QAM LCH 779.5MHz RB 25 0 NTN



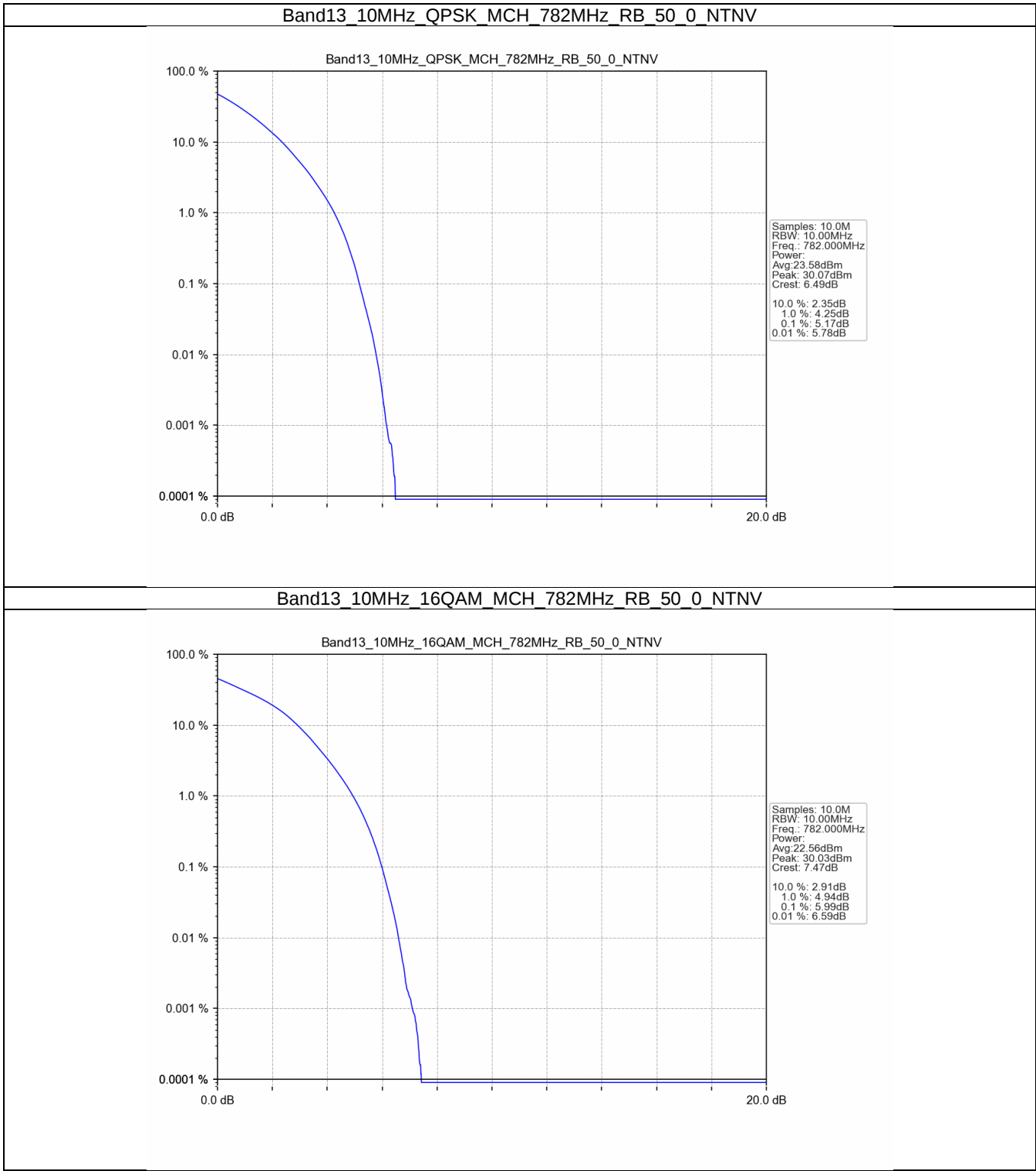
Band13 5MHz 16QAM MCH 782MHz RB 25 0 NTN



Band13 5MHz 16QAM HCH 784.5MHz RB 25 0 NTN



4.2.2 B13_10MHz



5. Spurious Emission

5.1 Test Result

5.1.1 B13_5MHz

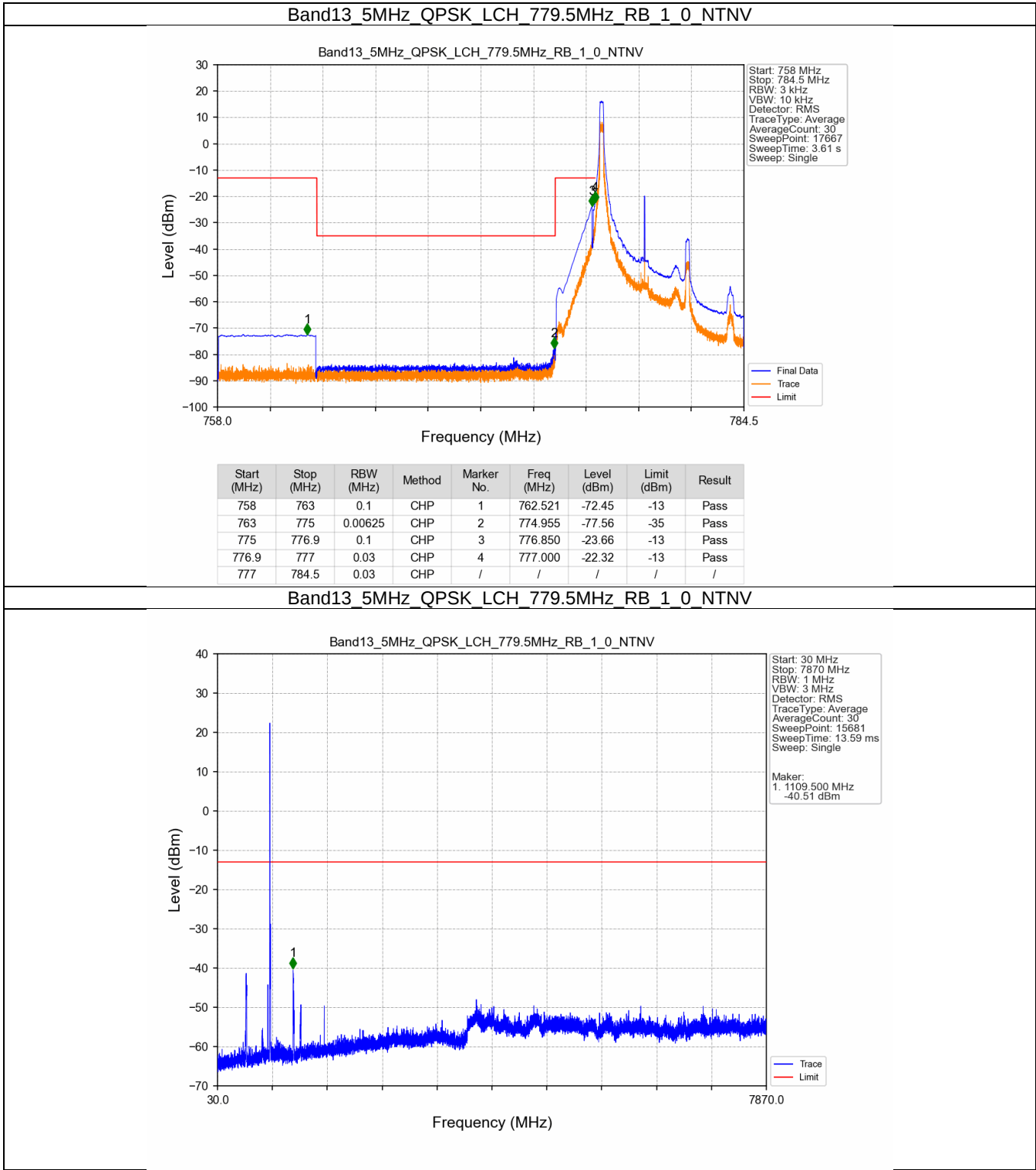
Band: 13 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	779.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	782	1	0	Refer To Test Graph		Pass
	784.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

5.1.2 B13_10MHz

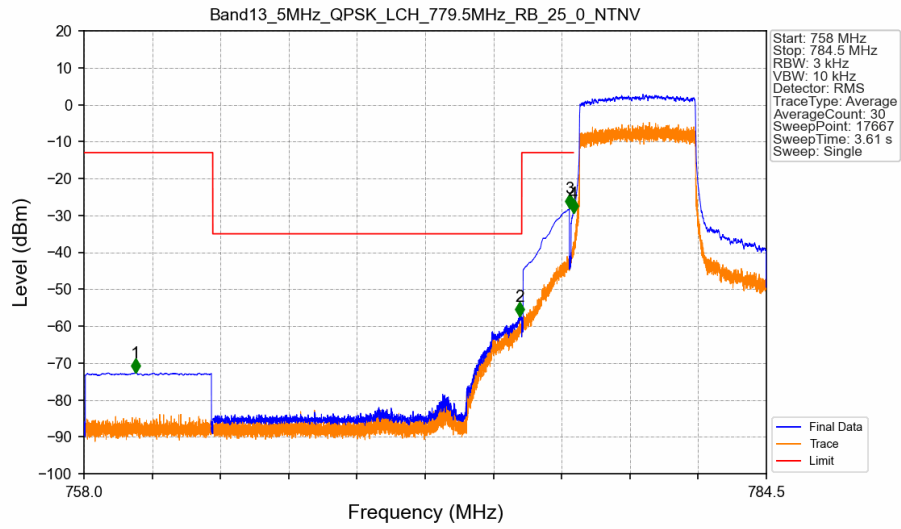
Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	782	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	782	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

5.2.1 B13_5MHz

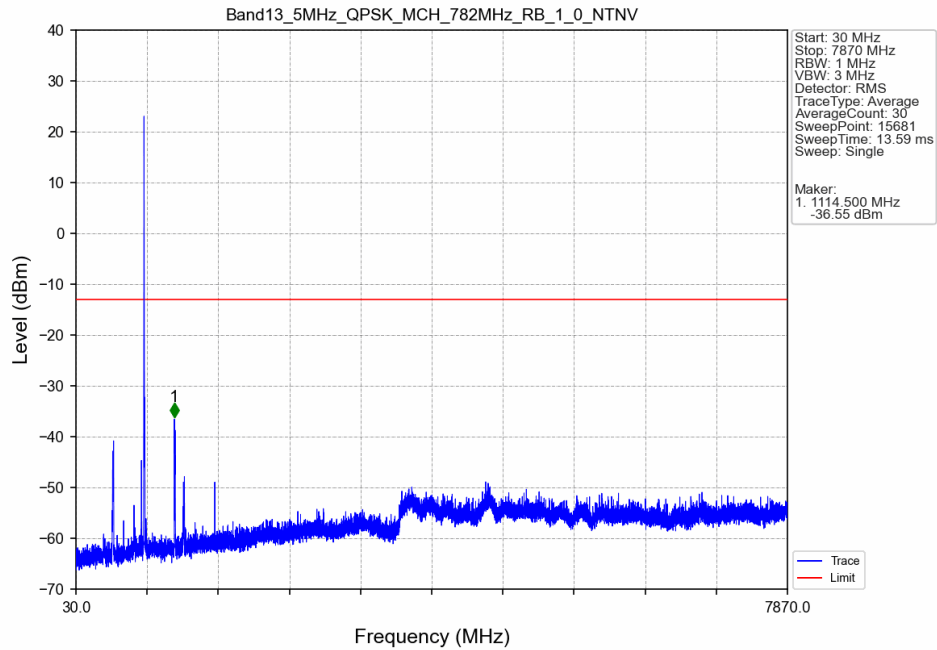


Band13 5MHz QPSK LCH 779.5MHz RB 25 0 NTN

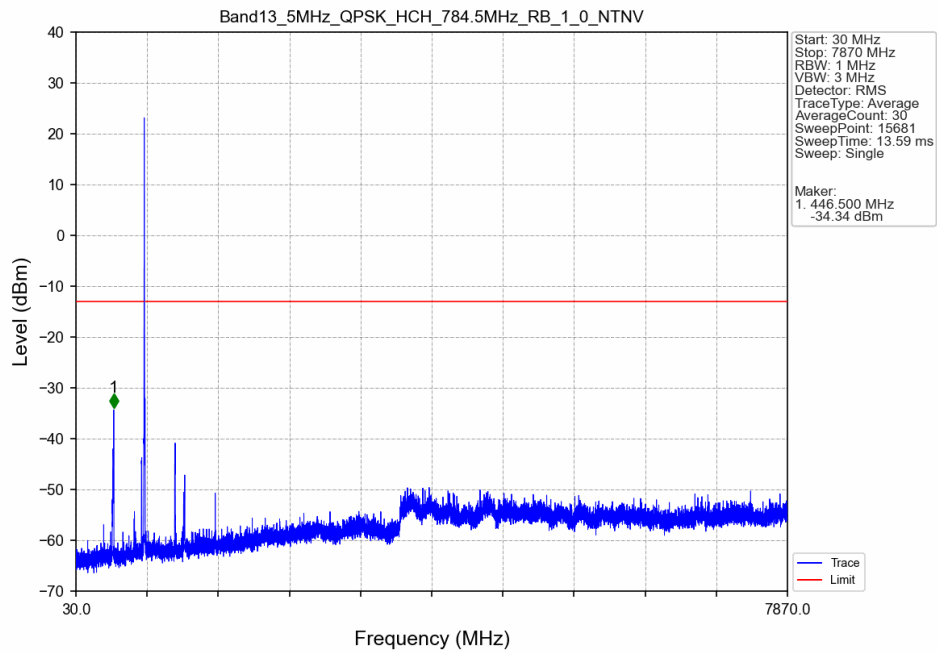


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.989	-72.63	-13	Pass
763	775	0.00625	CHP	2	774.913	-57.29	-35	Pass
775	776.9	0.1	CHP	3	776.850	-28.09	-13	Pass
776.9	777	0.03	CHP	4	777.000	-29.25	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

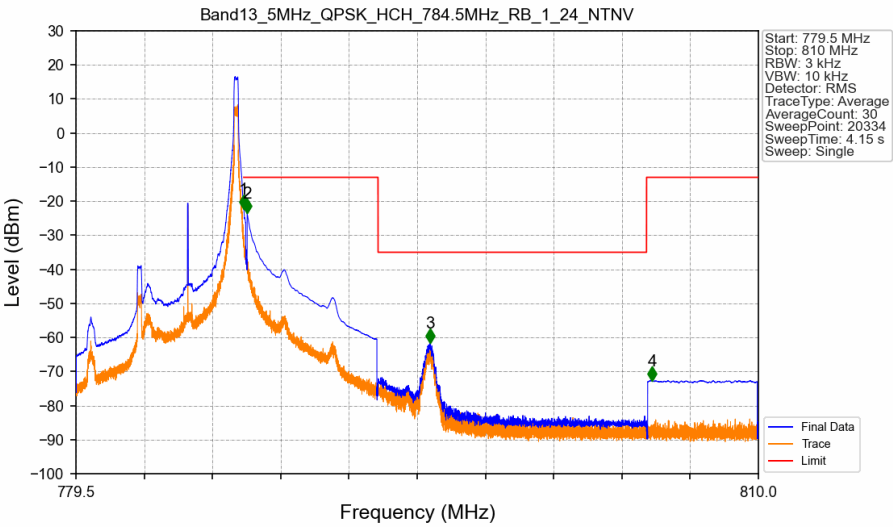
Band13 5MHz QPSK MCH 782MHz RB 1 0 NTN



Band13 5MHz QPSK HCH 784.5MHz RB 1 0 NTN

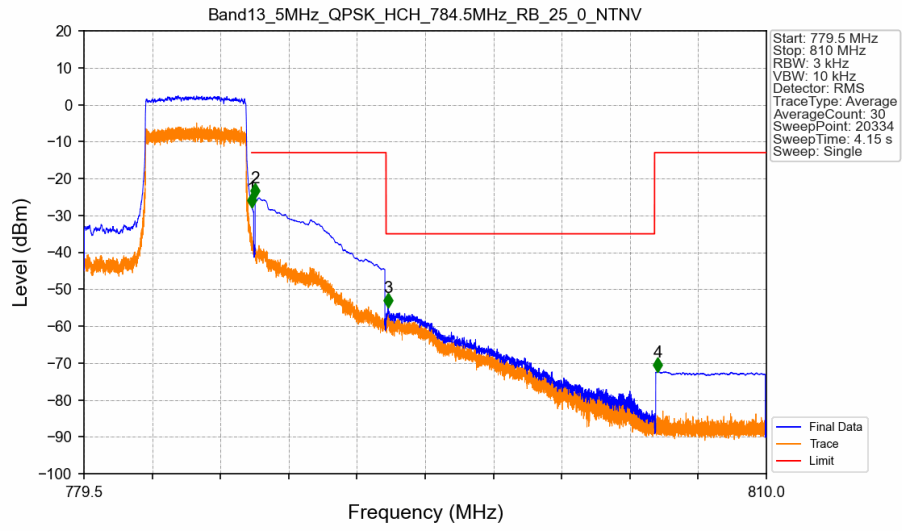


Band13 5MHz QPSK HCH 784.5MHz RB 1 24 NTN



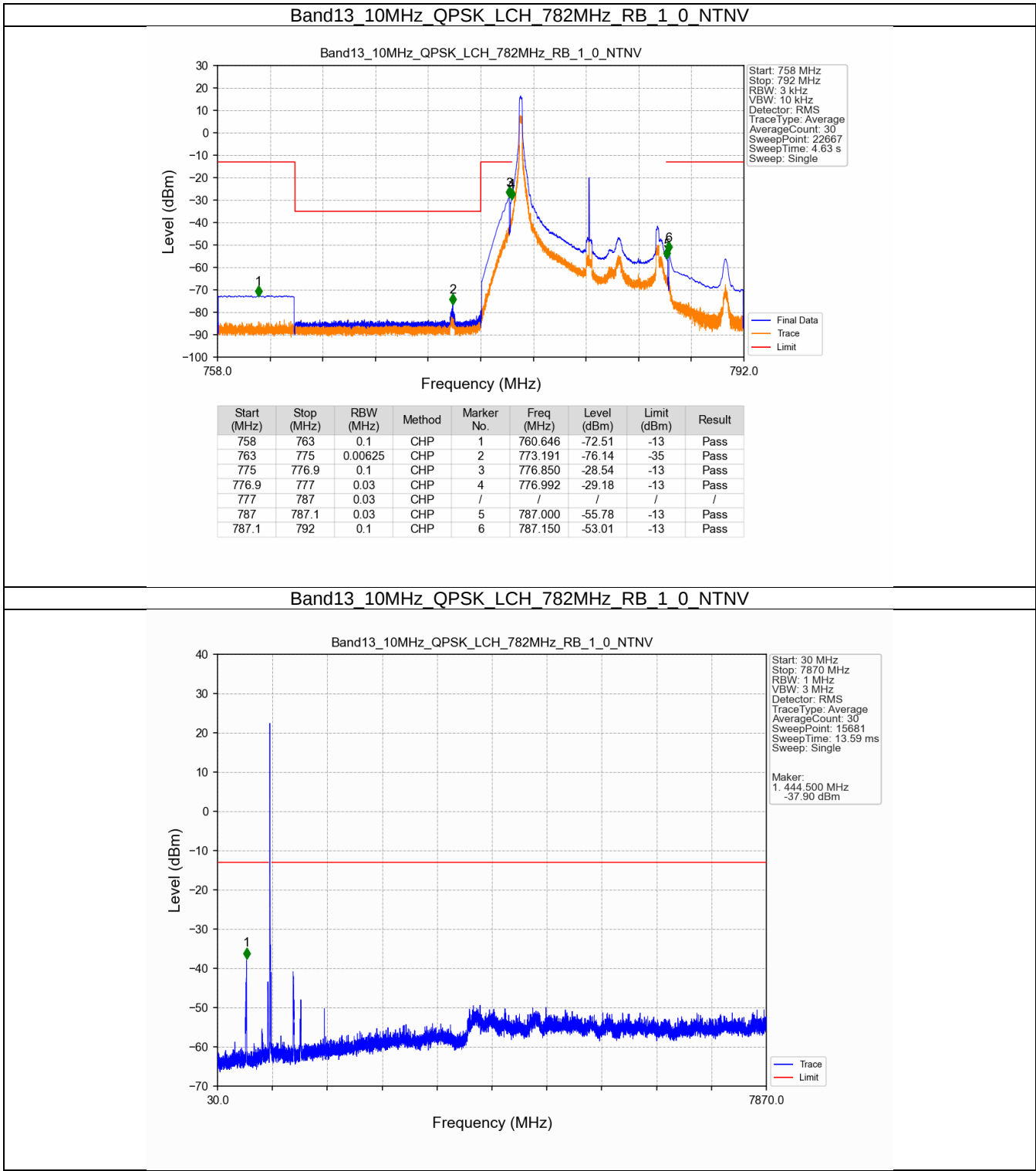
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-22.31	-13	Pass
787.1	793	0.1	CHP	2	787.150	-23.47	-13	Pass
793	805	0.00625	CHP	3	795.316	-61.58	-35	Pass
805	810	0.1	CHP	4	805.243	-72.62	-13	Pass

Band13 5MHz QPSK HCH 784.5MHz RB 25 0 NTN

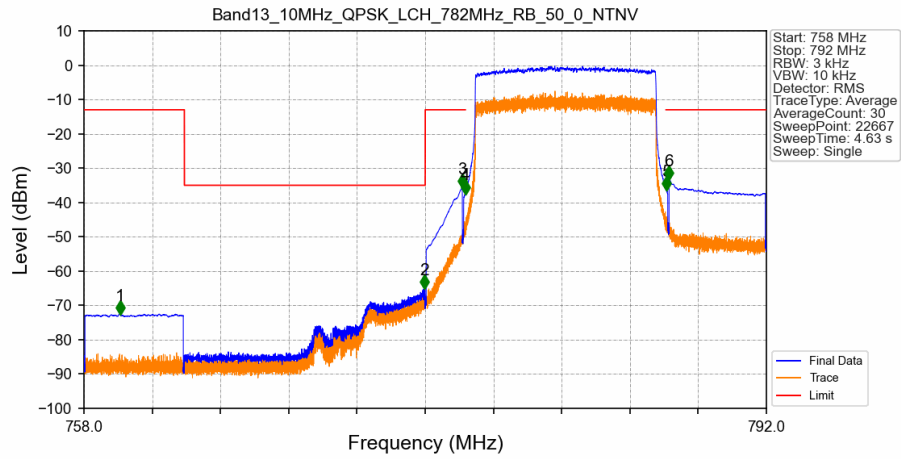


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
779.5	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	1	787.000	-27.75	-13	Pass
787.1	793	0.1	CHP	2	787.150	-25.15	-13	Pass
793	805	0.00625	CHP	3	793.099	-54.86	-35	Pass
805	810	0.1	CHP	4	805.149	-72.29	-13	Pass

5.2.2 B13_10MHz

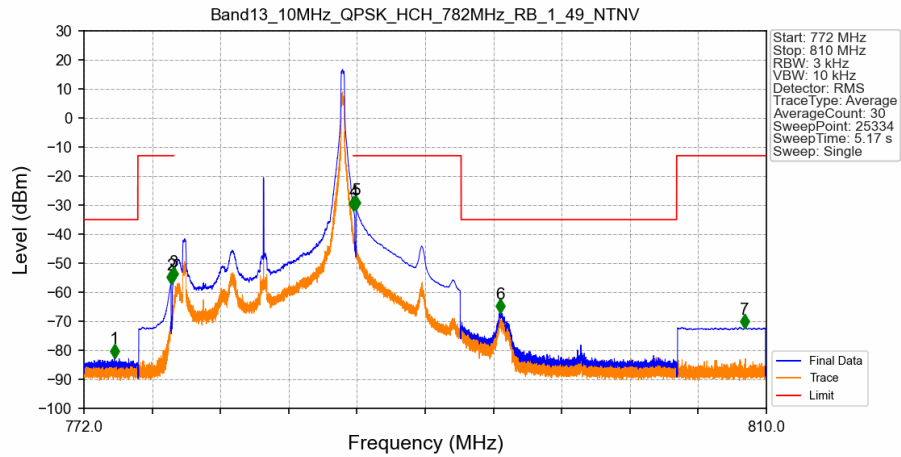


Band13 10MHz QPSK LCH 782MHz RB 50 0 NTNV



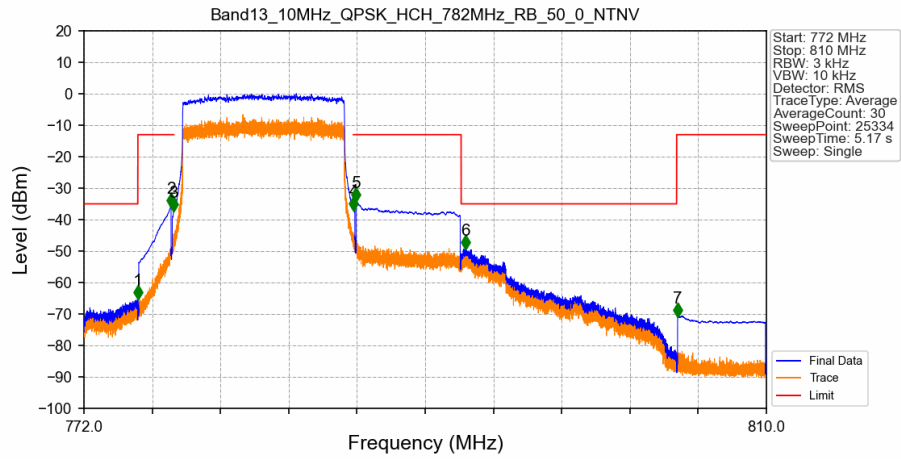
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	759.796	-72.42	-13	Pass
763	775	0.00625	CHP	2	774.973	-64.87	-35	Pass
775	776.9	0.1	CHP	3	776.850	-35.53	-13	Pass
776.9	777	0.03	CHP	4	776.995	-37.25	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.006	-36.17	-13	Pass
787.1	792	0.1	CHP	6	787.150	-33.21	-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	773.695	-82.23	-35	Pass
775	776.9	0.1	CHP	2	776.850	-56.82	-13	Pass
776.9	777	0.03	CHP	3	777.000	-55.64	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.011	-31.58	-13	Pass
787.1	793	0.1	CHP	5	787.150	-31.14	-13	Pass
793	805	0.00625	CHP	6	795.166	-66.82	-35	Pass
805	810	0.1	CHP	7	808.800	-72.07	-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	774.988	-65.02	-35	Pass
775	776.9	0.1	CHP	2	776.850	-35.74	-13	Pass
776.9	777	0.03	CHP	3	776.988	-37.13	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.014	-36.66	-13	Pass
787.1	793	0.1	CHP	5	787.150	-33.98	-13	Pass
793	805	0.00625	CHP	6	793.231	-49.05	-35	Pass
805	810	0.1	CHP	7	805.059	-70.60	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 13-Middle channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0				
Frequency	Spurious Emission Level		Limit	Margin
(MHz)	Polaxis	(dBm)	(dBm)	(dB)
1555	H	-53.95	-13	40.95
2332.5	H	-58.98	-13	45.98
3110	H	-57.45	-13	44.45
1555	V	-51.79	-13	38.79
2332.5	V	-60.89	-13	47.89
3110	V	-59.17	-13	46.17