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	24.69	3.00	25.54	<=34.77	Pass
			13	24.95	3.00	25.8	<=34.77	Pass
			24	24.69	3.00	25.54	<=34.77	Pass
		12	0	23.82	3.00	24.67	<=34.77	Pass
			6	23.89	3.00	24.74	<=34.77	Pass
			13	23.74	3.00	24.59	<=34.77	Pass
		25	0	23.89	3.00	24.74	<=34.77	Pass
	782	1	0	24.83	3.00	25.68	<=34.77	Pass
			13	24.37	3.00	25.22	<=34.77	Pass
			24	24.12	3.00	24.97	<=34.77	Pass
		12	0	23.87	3.00	24.72	<=34.77	Pass
			6	23.84	3.00	24.69	<=34.77	Pass
			13	23.66	3.00	24.51	<=34.77	Pass
		25	0	23.78	3.00	24.63	<=34.77	Pass
	784.5	1	0	24.79	3.00	25.64	<=34.77	Pass
			13	24.34	3.00	25.19	<=34.77	Pass
			24	24.16	3.00	25.01	<=34.77	Pass
		12	0	23.80	3.00	24.65	<=34.77	Pass
			6	23.67	3.00	24.52	<=34.77	Pass
			13	23.65	3.00	24.5	<=34.77	Pass
		25	0	23.75	3.00	24.6	<=34.77	Pass
16QAM	779.5	1	0	23.30	3.00	24.15	<=34.77	Pass
			13	23.68	3.00	24.53	<=34.77	Pass
			24	23.44	3.00	24.29	<=34.77	Pass
		12	0	22.85	3.00	23.7	<=34.77	Pass
			6	22.99	3.00	23.84	<=34.77	Pass
			13	22.69	3.00	23.54	<=34.77	Pass
		25	0	22.91	3.00	23.76	<=34.77	Pass
	782	1	0	24.00	3.00	24.85	<=34.77	Pass
			13	23.70	3.00	24.55	<=34.77	Pass
			24	23.51	3.00	24.36	<=34.77	Pass
		12	0	22.93	3.00	23.78	<=34.77	Pass
			6	22.80	3.00	23.65	<=34.77	Pass
			13	22.79	3.00	23.64	<=34.77	Pass
		25	0	22.73	3.00	23.58	<=34.77	Pass
	784.5	1	0	24.06	3.00	24.91	<=34.77	Pass
			13	23.95	3.00	24.8	<=34.77	Pass
			24	24.04	3.00	24.89	<=34.77	Pass
		12	0	22.81	3.00	23.66	<=34.77	Pass
			6	22.66	3.00	23.51	<=34.77	Pass
			13	22.73	3.00	23.58	<=34.77	Pass
		25	0	22.79	3.00	23.64	<=34.77	Pass
64QAM	779.5	1	0	24.94	3.00	25.79	<=34.77	Pass
			13	23.61	3.00	24.46	<=34.77	Pass
			24	23.56	3.00	24.41	<=34.77	Pass
		12	0	22.63	3.00	23.48	<=34.77	Pass
			6	22.90	3.00	23.75	<=34.77	Pass

			13	22.80	3.00	23.65	<=34.77	Pass
		25	0	22.77	3.00	23.62	<=34.77	Pass
	782	1	0	23.76	3.00	24.61	<=34.77	Pass
			13	23.39	3.00	24.24	<=34.77	Pass
			24	23.83	3.00	24.68	<=34.77	Pass
		12	0	22.86	3.00	23.71	<=34.77	Pass
			6	22.50	3.00	23.35	<=34.77	Pass
			13	22.50	3.00	23.35	<=34.77	Pass
		25	0	22.80	3.00	23.65	<=34.77	Pass
	784.5	1	0	23.65	3.00	24.5	<=34.77	Pass
			13	23.83	3.00	24.68	<=34.77	Pass
			24	23.58	3.00	24.43	<=34.77	Pass
		12	0	22.88	3.00	23.73	<=34.77	Pass
			6	22.54	3.00	23.39	<=34.77	Pass
			13	22.72	3.00	23.57	<=34.77	Pass
		25	0	22.70	3.00	23.55	<=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	24.93	3.00	26.50	<=34.77	Pass
			25	24.77	3.00	25.62	<=34.77	Pass
			49	24.12	3.00	24.97	<=34.77	Pass
		25	0	23.96	3.00	24.81	<=34.77	Pass
			13	23.79	3.00	24.64	<=34.77	Pass
			25	23.76	3.00	24.61	<=34.77	Pass
		50	0	23.77	3.00	24.62	<=34.77	Pass
16QAM	782	1	0	23.10	3.00	23.95	<=34.77	Pass
			25	23.92	3.00	24.77	<=34.77	Pass
			49	23.82	3.00	24.67	<=34.77	Pass
		25	0	22.85	3.00	23.70	<=34.77	Pass
			13	22.84	3.00	23.69	<=34.77	Pass
			25	22.82	3.00	23.67	<=34.77	Pass
		50	0	22.72	3.00	23.57	<=34.77	Pass
64QAM	782	1	0	22.62	3.00	23.47	<=34.77	Pass
			25	23.60	3.00	24.45	<=34.77	Pass
			49	23.09	3.00	23.94	<=34.77	Pass
		25	0	22.79	3.00	23.64	<=34.77	Pass
			13	22.85	3.00	23.70	<=34.77	Pass
			25	22.68	3.00	23.53	<=34.77	Pass
		50	0	22.67	3.00	23.52	<=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	LV	1.900	0.0024	-2.5 to 2.5	Pass
					HV	-1.300	-0.0017	-2.5 to 2.5	Pass
					NV	1.900	0.0024	-2.5 to 2.5	Pass
				-30	NV	-1.600	-0.0020	-2.5 to 2.5	Pass
				-20	NV	-0.100	-0.0001	-2.5 to 2.5	Pass
				-10	NV	-1.800	-0.0023	-2.5 to 2.5	Pass
				0	NV	-1.100	-0.0014	-2.5 to 2.5	Pass
				10	NV	-1.900	-0.0024	-2.5 to 2.5	Pass
				30	NV	0.400	0.0005	-2.5 to 2.5	Pass
				40	NV	1.400	0.0018	-2.5 to 2.5	Pass
				50	NV	-0.300	-0.0004	-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	4.556	/	Pass
	16QAM	782	25	0	4.555	/	Pass
10	QPSK	782	50	0	9.053	/	Pass
	16QAM	782	50	0	9.042	/	Pass

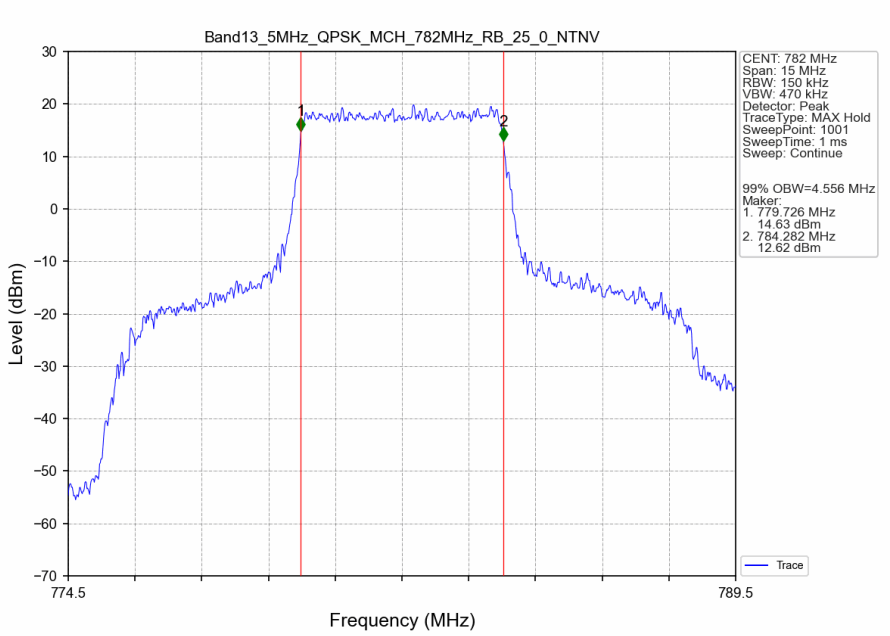
3.1.2 Band13_XDB

Band: 13 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	782	25	0	5.210	/	Pass
	16QAM	782	25	0	5.300	/	Pass
10	QPSK	782	50	0	10.194	/	Pass
	16QAM	782	50	0	10.625	/	Pass

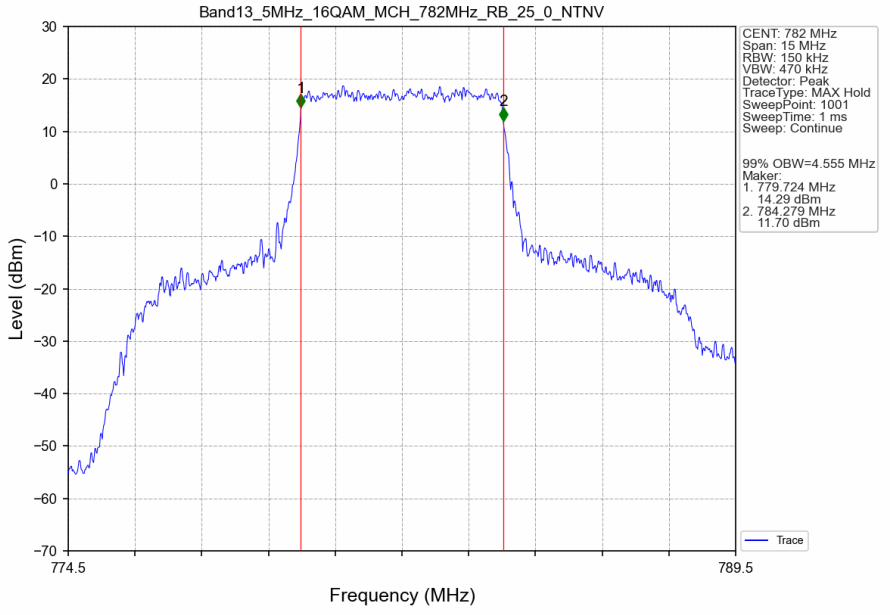
3.2 Test Graph

3.2.1 Band13_OBW

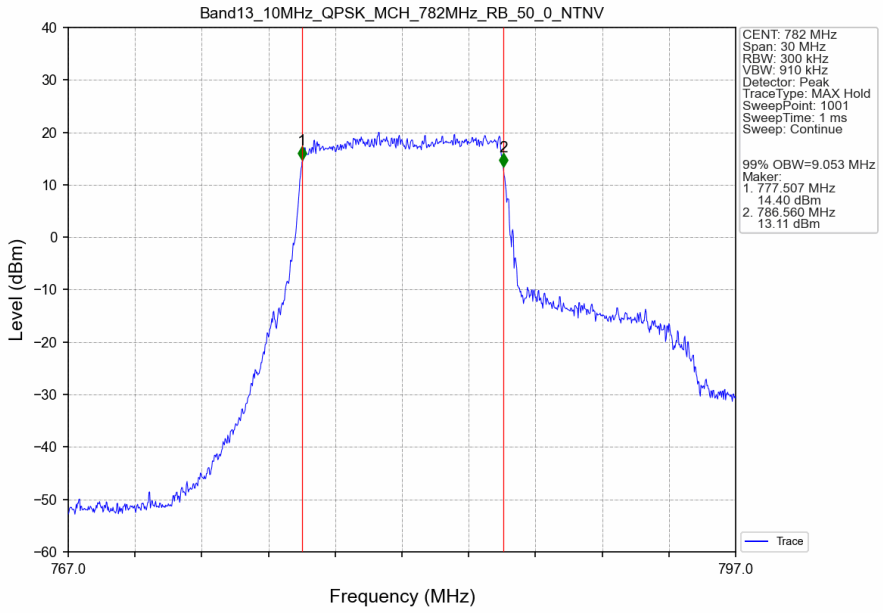
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV



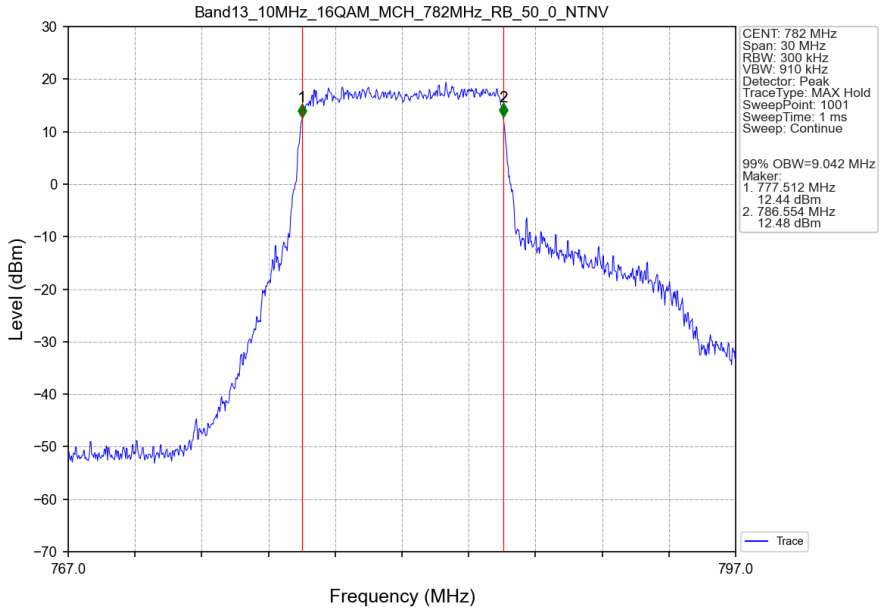
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV



Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV

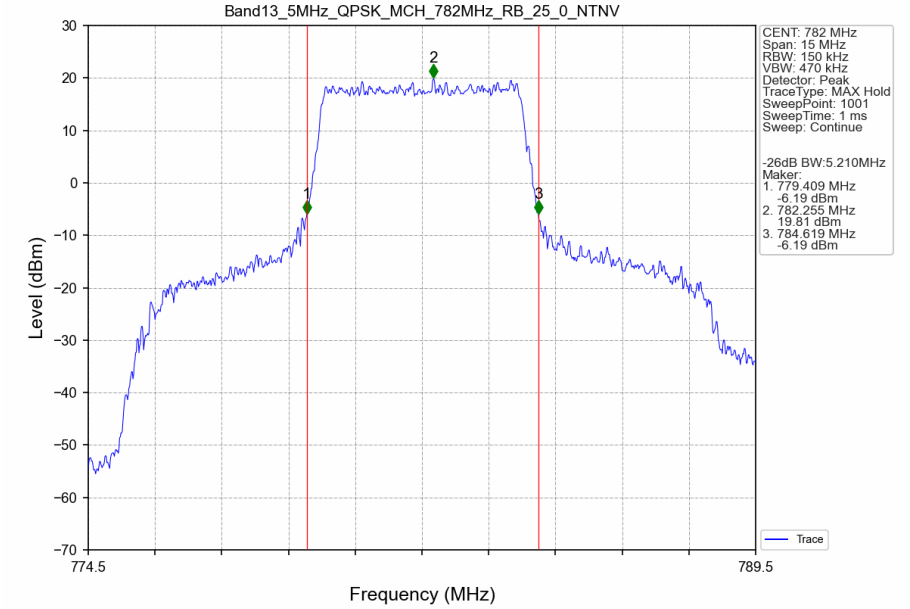


Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV

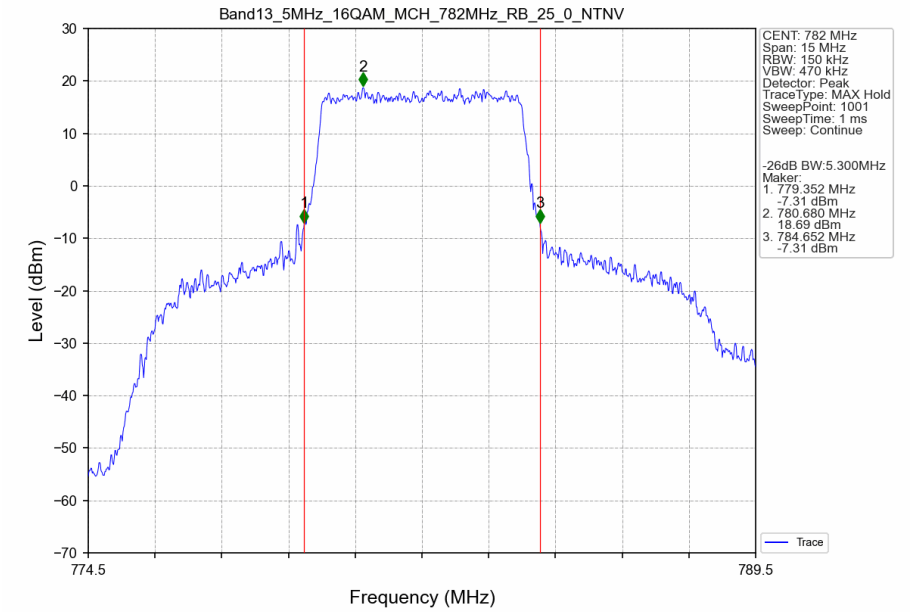


3.2.2 Band13_XDB

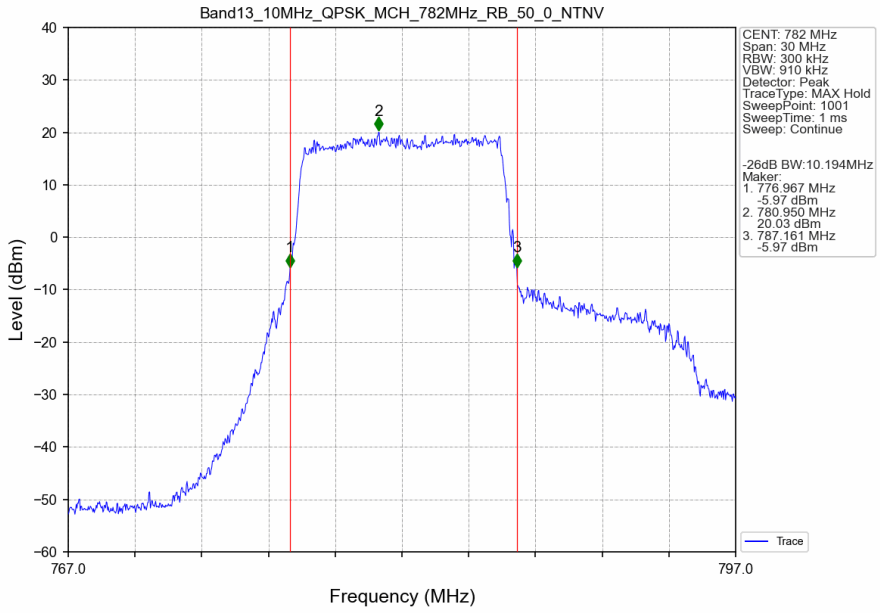
Band13_5MHz_QPSK_MCH_782MHz_RB_25_0_NTNV



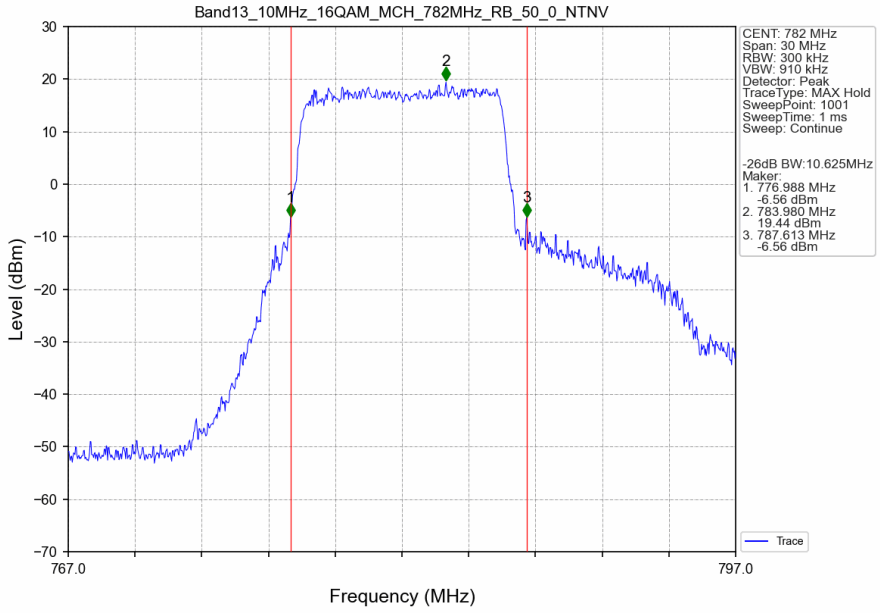
Band13_5MHz_16QAM_MCH_782MHz_RB_25_0_NTNV



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

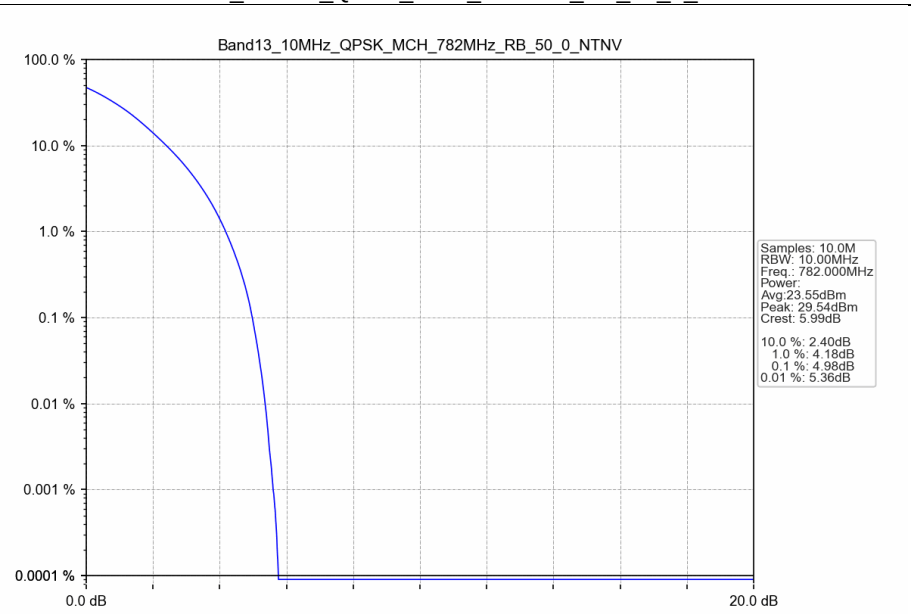
4.1.1 B13_10MHz

Band: 13 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	782	50	0	4.98	<=13	Pass
16QAM	782	50	0	5.70	<=13	Pass
64QAM	782	50	0	5.71	<=13	Pass

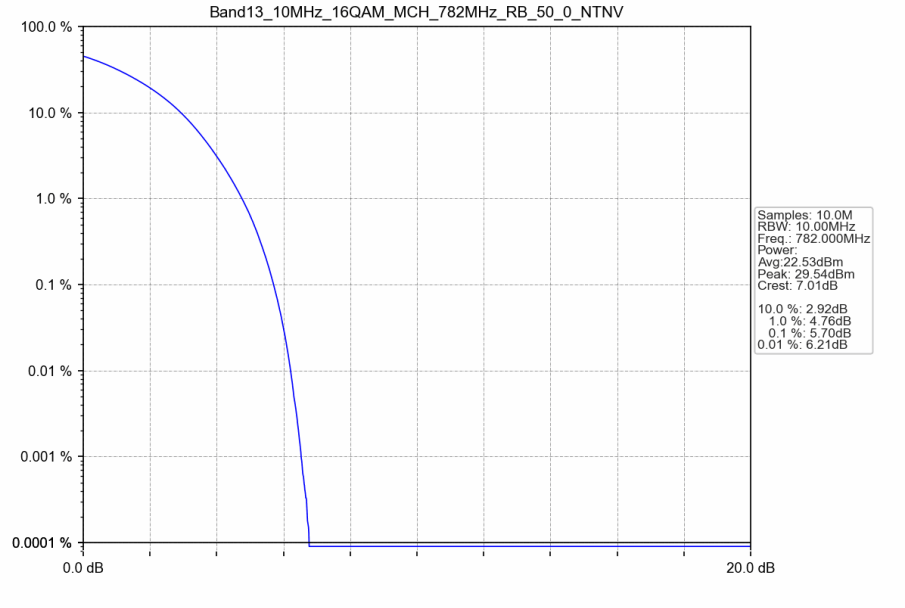
4.2 Test Graph

4.2.1 B13_10MHz

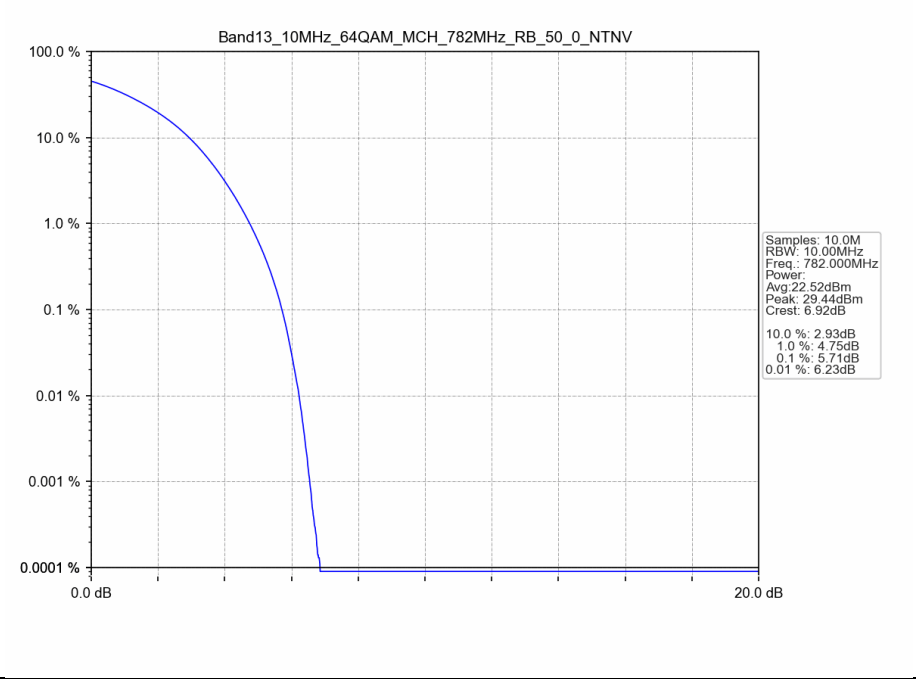
Band13_10MHz_QPSK_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_16QAM_MCH_782MHz_RB_50_0_NTNV



Band13_10MHz_64QAM_MCH_782MHz_RB_50_0_NTNV



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

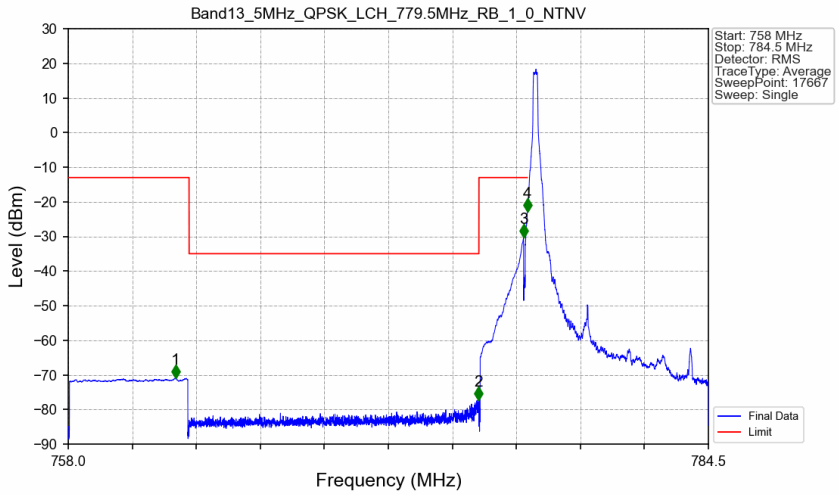
5.1.2 B13_10MHz

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

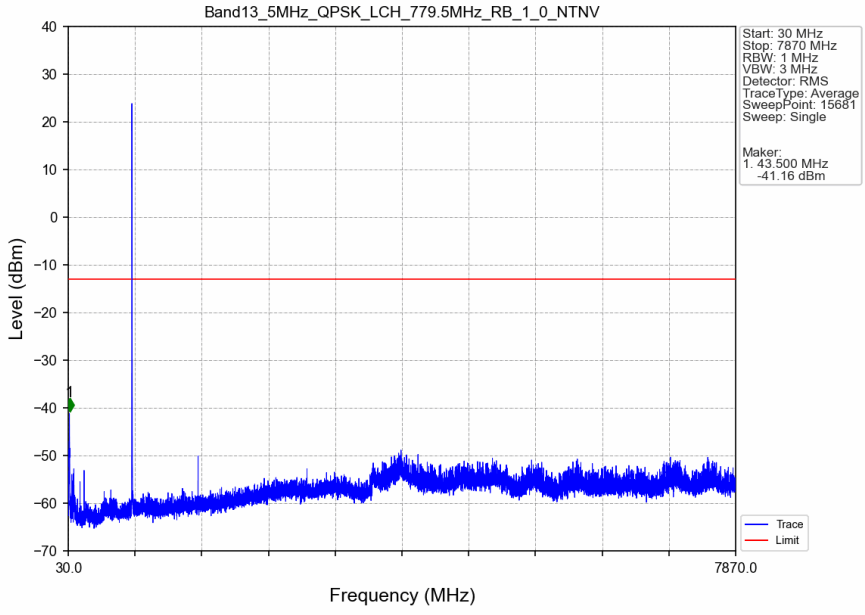
5.2.1 B13_5MHz

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

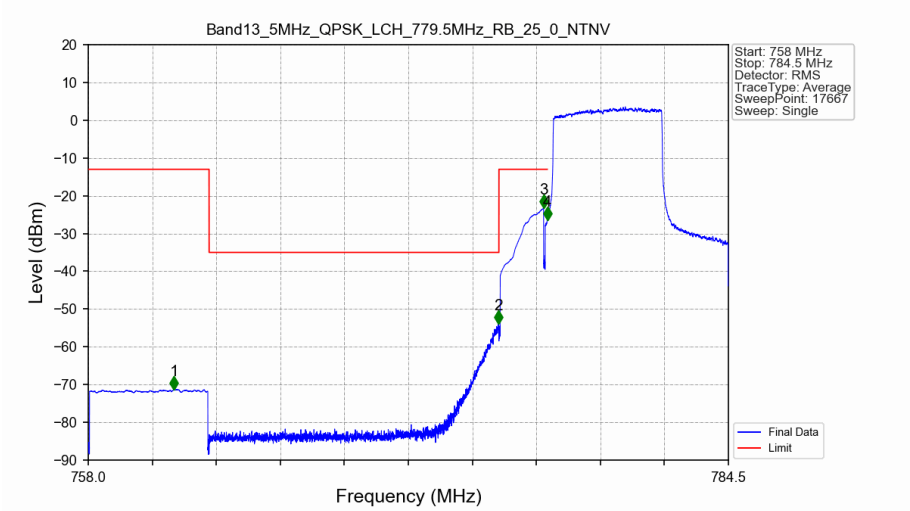


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.443	-70.93	-13	Pass
763	775	0.00625	CHP	2	774.988	-77.18	-35	Pass
775	776.9	0.1	CHP	3	776.850	-30.23	-13	Pass
776.9	777	0.03	CHP	4	777.000	-22.82	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

Band13_5MHz_QPSK_LCH_779.5MHz_RB_1_0_NTNV

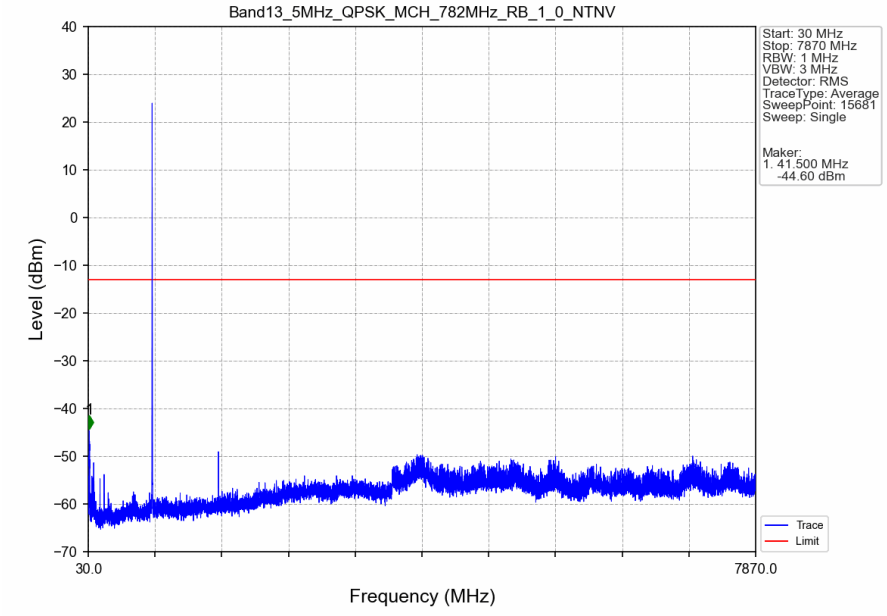


Band13_5MHz_QPSK_LCH_779.5MHz_RB_25_0_NTNV

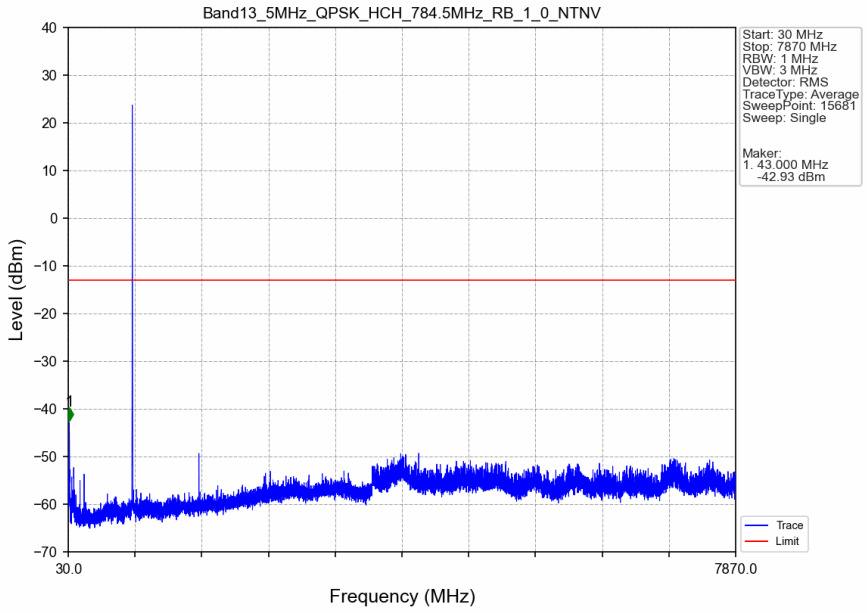


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	761.546	-71.23	-13	Pass
763	775	0.00625	CHP	2	774.976	-53.94	-35	Pass
775	776.9	0.1	CHP	3	776.850	-23.19	-13	Pass
776.9	777	0.03	CHP	4	776.998	-26.49	-13	Pass
777	784.5	0.03	CHP	/	/	/	/	/

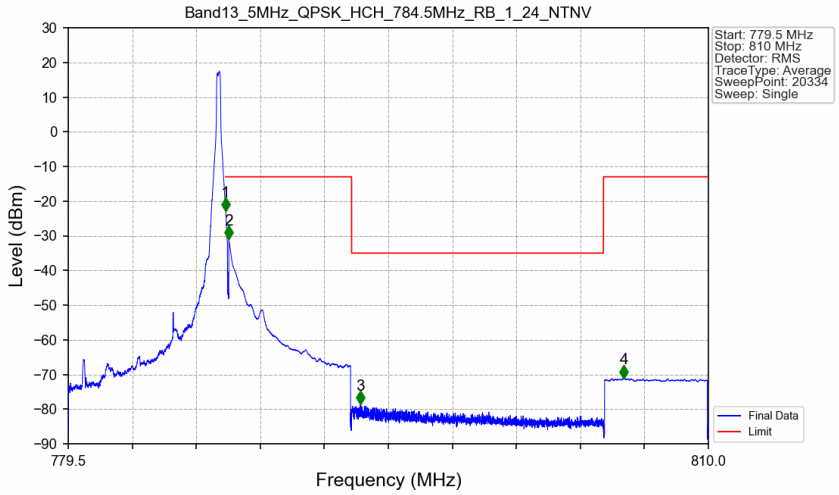
Band13_5MHz_QPSK_MCH_782MHz_RB_1_0_NTNV



Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_0_NTNV

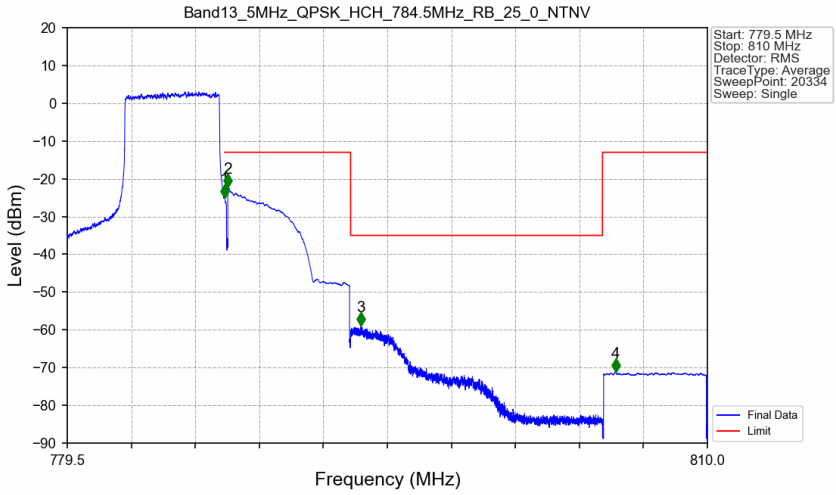


Band13_5MHz_QPSK_HCH_784.5MHz_RB_1_24_NTNV



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	-22.77	-13	Pass
787.1	793	0.1	CHP	2	787.150	-30.91	-13	Pass
793	805	0.00625	CHP	3	793.431	-78.48	-35	Pass
805	810	0.1	CHP	4	805.975	-71.03	-13	Pass

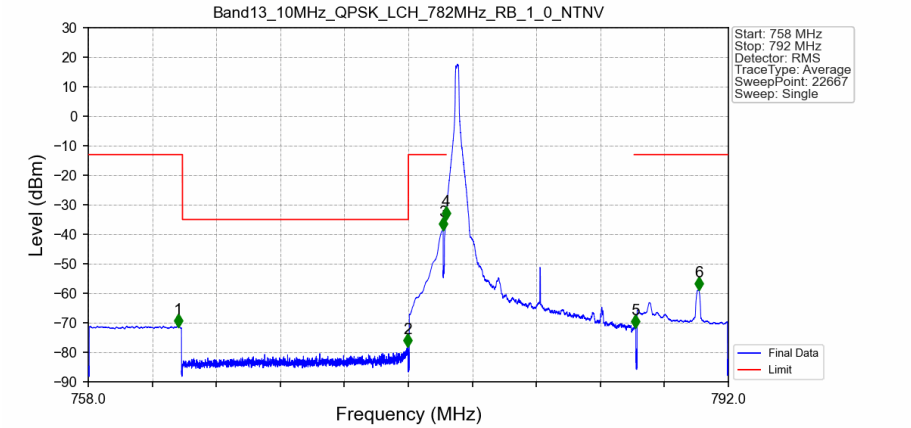
Band13_5MHz_QPSK_HCH_784.5MHz_RB_25_0_NTNV



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	-24.92	-13	Pass
787.1	793	0.1	CHP	2	787.150	-22.24	-13	Pass
793	805	0.00625	CHP	3	793.489	-58.97	-35	Pass
805	810	0.1	CHP	4	805.632	-71.11	-13	Pass

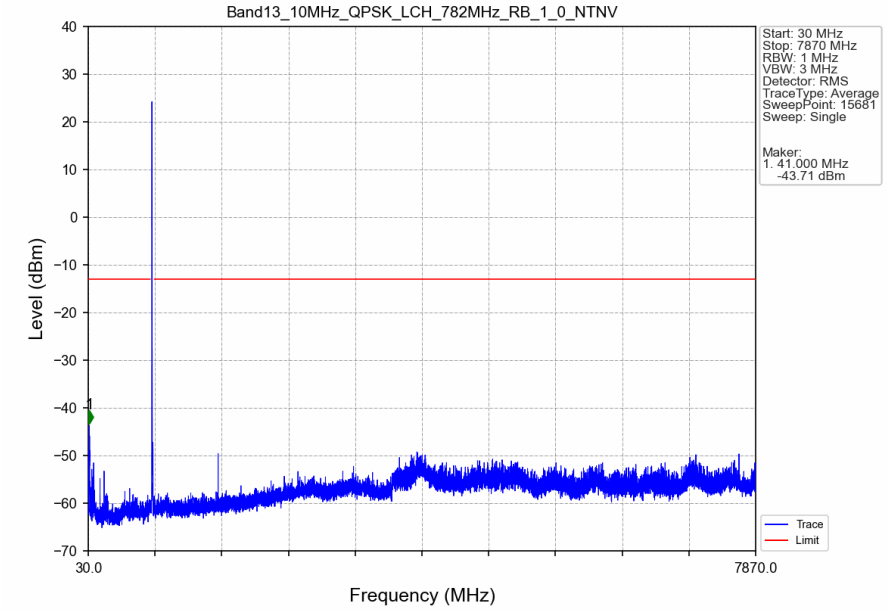
5.2.2 B13_10MHz

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

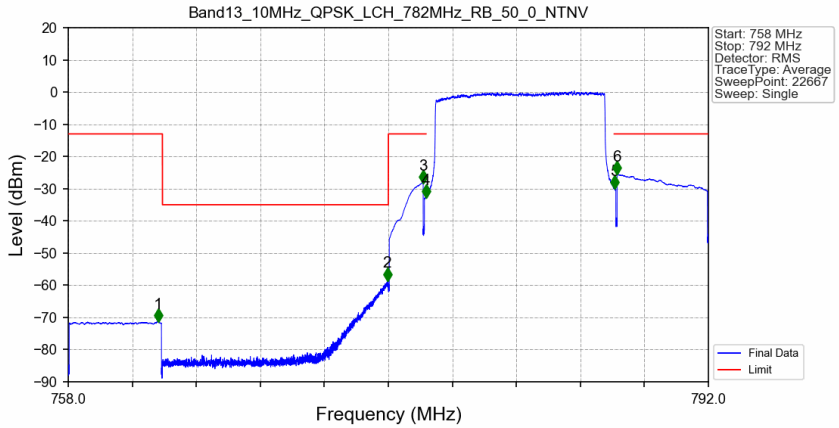


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.764	-71.08	-13	Pass
763	775	0.00625	CHP	2	774.973	-77.91	-35	Pass
775	776.9	0.1	CHP	3	776.850	-38.21	-13	Pass
776.9	777	0.03	CHP	4	777.000	-34.66	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.054	-71.43	-13	Pass
787.1	792	0.1	CHP	6	790.426	-58.60	-13	Pass

Band13_10MHz_QPSK_LCH_782MHz_RB_1_0_NTNV

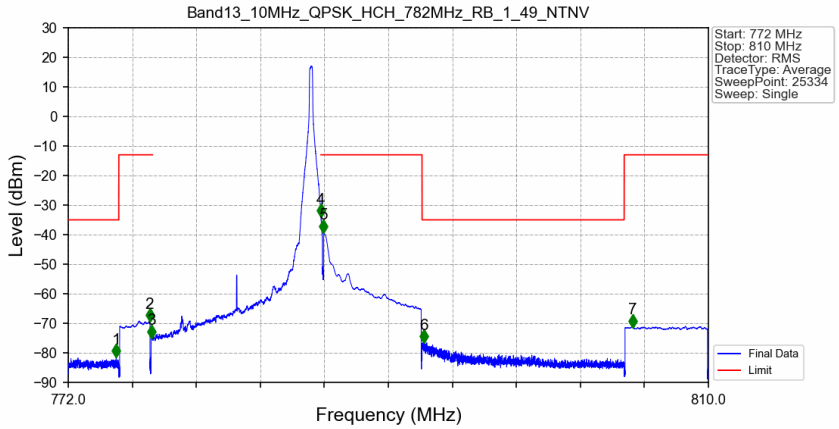


Band13_10MHz_QPSK_LCH_782MHz_RB_50_0_NTNV



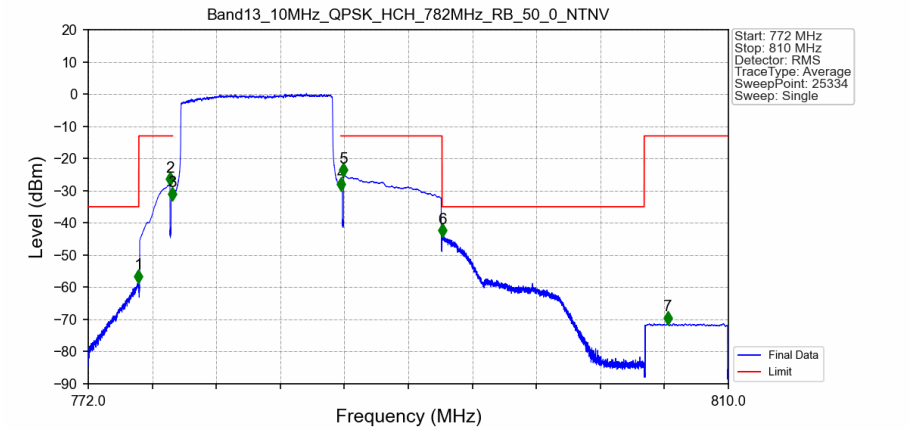
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
758	763	0.1	CHP	1	762.781	-71.17	-13	Pass
763	775	0.00625	CHP	2	774.944	-58.25	-35	Pass
775	776.9	0.1	CHP	3	776.847	-28.08	-13	Pass
776.9	777	0.03	CHP	4	777.000	-32.58	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	5	787.006	-29.79	-13	Pass
787.1	792	0.1	CHP	6	787.150	-25.26	-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	774.844	-81.24	-35	Pass
775	776.9	0.1	CHP	2	776.836	-69.20	-13	Pass
776.9	777	0.03	CHP	3	776.926	-74.62	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.000	-33.67	-13	Pass
787.1	793	0.1	CHP	5	787.150	-38.98	-13	Pass
793	805	0.00625	CHP	6	793.120	-76.33	-35	Pass
805	810	0.1	CHP	7	805.486	-71.04	-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	774.985	-58.31	-35	Pass
775	776.9	0.1	CHP	2	776.848	-28.07	-13	Pass
776.9	777	0.03	CHP	3	776.986	-32.65	-13	Pass
777	787	0.03	CHP	/	/	/	/	/
787	787.1	0.03	CHP	4	787.017	-29.77	-13	Pass
787.1	793	0.1	CHP	5	787.150	-25.34	-13	Pass
793	805	0.00625	CHP	6	793.032	-44.08	-35	Pass
805	810	0.1	CHP	7	806.391	-71.23	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 13-Low channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1554.5	-65.39	-13	-52.39	-68.53	2.6	5.74	Horizontal	Pass
2331.75	-69.99	-13	-56.99	-72.45	2.96	5.42	Horizontal	Pass
3109.0	-66.02	-13	-53.02	-70.01	3.2	7.19	Horizontal	Pass
1554.5	-68.18	-13	-55.18	-71.32	2.6	5.74	Vertical	Pass
2331.75	-70.05	-13	-57.05	-72.51	2.96	5.42	Vertical	Pass
3109.0	-66.27	-13	-53.27	-70.26	3.2	7.19	Vertical	Pass

LTE Band 13-Middle channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1559.5	-66.87	-40	-26.87	-70.0	2.6	5.73	Horizontal	Pass
2339.25	-67.26	-13	-54.26	-69.73	2.96	5.43	Horizontal	Pass
3119.0	-67.47	-13	-54.47	-71.48	3.21	7.22	Horizontal	Pass
1559.5	-69.62	-40	-29.62	-72.75	2.6	5.73	Vertical	Pass
2339.25	-70.03	-13	-57.03	-72.5	2.96	5.43	Vertical	Pass
3119.0	-67.37	-13	-54.37	-71.38	3.21	7.22	Vertical	Pass

LTE Band 13-High channel, Modulation: QPSK, Bandwidth:5MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1564.5	-63.85	-40	-23.85	-66.97	2.6	5.72	Horizontal	Pass
2346.75	-68.75	-13	-55.75	-71.23	2.97	5.45	Horizontal	Pass
3129.0	-66.88	-13	-53.88	-70.91	3.21	7.24	Horizontal	Pass
1564.5	-67.21	-40	-27.21	-70.33	2.6	5.72	Vertical	Pass
2346.75	-69.71	-13	-56.71	-72.19	2.97	5.45	Vertical	Pass
3129.0	-66.04	-13	-53.04	-70.07	3.21	7.24	Vertical	Pass

LTE Band 13-Middle channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0								
Frequency (MHz)	**EIRP (dBm)**	**Limit (dBm)**	**Over Limit (dB)**	**S.G. Power (dBm)**	**Cable Loss (dB)**	**Antenna Gain (dBi)**	**Polarization (H/V)**	**Result**
1555.0	-65.52	-13	-52.52	-68.66	2.6	5.74	Horizontal	Pass
2332.5	-69.37	-13	-56.37	-71.83	2.96	5.42	Horizontal	Pass
3110.0	-65.71	-13	-52.71	-69.71	3.2	7.2	Horizontal	Pass
1555.0	-68.43	-13	-55.43	-71.57	2.6	5.74	Vertical	Pass
2332.5	-70.02	-13	-57.02	-72.48	2.96	5.42	Vertical	Pass
3110.0	-65.87	-13	-52.87	-69.87	3.2	7.2	Vertical	Pass