

1. Transmitter Conducted Power Output

1.1 Test Result

1.1.1 B26a_1.4MHz_ERP

Band: 26a / Bandwidth: 1.4MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)		Verdict
		Size	Offset	Result	Limit	
QPSK	814.7	1	0	24.30	<=50	Pass
			2	24.37	<=50	Pass
			5	24.65	<=50	Pass
		3	0	24.36	<=50	Pass
			2	24.45	<=50	Pass
			3	24.58	<=50	Pass
	819	1	0	24.34	<=50	Pass
			2	24.47	<=50	Pass
			5	24.35	<=50	Pass
		3	0	24.07	<=50	Pass
			2	24.83	<=50	Pass
			3	24.46	<=50	Pass
		6	0	24.30	<=50	Pass
			0	23.80	<=50	Pass
			2	24.47	<=50	Pass
			5	24.59	<=50	Pass
			0	24.25	<=50	Pass
			2	24.12	<=50	Pass
16QAM	823.3	1	0	24.55	<=50	Pass
			2	24.59	<=50	Pass
			5	24.20	<=50	Pass
		3	0	24.84	<=50	Pass
			2	24.55	<=50	Pass
			3	24.12	<=50	Pass
	814.7	1	0	23.84	<=50	Pass
			2	24.54	<=50	Pass
			5	23.78	<=50	Pass
		3	0	23.13	<=50	Pass
			2	23.95	<=50	Pass
			3	23.46	<=50	Pass
	819	1	0	23.34	<=50	Pass
			2	22.83	<=50	Pass
			5	24.04	<=50	Pass
		3	0	24.33	<=50	Pass
			2	23.93	<=50	Pass
			3	24.04	<=50	Pass
64QAM	823.3	1	0	23.50	<=50	Pass
			2	23.78	<=50	Pass
			5	23.78	<=50	Pass
		3	0	22.83	<=50	Pass
			2	23.89	<=50	Pass
			5	23.76	<=50	Pass
	814.7	1	0	23.78	<=50	Pass
			2	23.98	<=50	Pass
			5	23.97	<=50	Pass
		3	0	23.76	<=50	Pass
			2	23.62	<=50	Pass
			5	23.44	<=50	Pass

			3	23.82	<=50	Pass
		6	0	22.53	<=50	Pass
819	1	0	23.84	<=50	Pass	
		2	23.78	<=50	Pass	
		5	23.41	<=50	Pass	
		0	23.53	<=50	Pass	
		3	23.67	<=50	Pass	
	3	3	23.85	<=50	Pass	
		6	0	22.90	<=50	Pass
		0	23.39	<=50	Pass	
		2	23.64	<=50	Pass	
		5	23.78	<=50	Pass	
823.3	1	0	23.22	<=50	Pass	
		2	23.78	<=50	Pass	
		3	23.42	<=50	Pass	
		6	0	22.46	<=50	Pass
		0	23.39	<=50	Pass	
	3	2	23.64	<=50	Pass	
		5	23.78	<=50	Pass	
		0	23.22	<=50	Pass	
		2	23.78	<=50	Pass	
		3	23.42	<=50	Pass	

1.1.2 B26a_3MHz_ERP

Band: 26a / Bandwidth: 3MHz / NTNv							
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)		Verdict	
		Size	Offset	Result	Limit		
QPSK	815.5	1	0	24.80	<=50	Pass	
			7	24.91	<=50	Pass	
			14	24.68	<=50	Pass	
		8	0	23.99	<=50	Pass	
			4	23.85	<=50	Pass	
	819		7	23.59	<=50	Pass	
			15	23.85	<=50	Pass	
	1	0	24.09	<=50	Pass		
		7	24.32	<=50	Pass		
		14	24.16	<=50	Pass		
	822.5	8	0	23.77	<=50	Pass	
			4	23.59	<=50	Pass	
			7	23.86	<=50	Pass	
		15	0	23.90	<=50	Pass	
			0	24.34	<=50	Pass	
16QAM	815.5	1	7	24.22	<=50	Pass	
			14	24.78	<=50	Pass	
		8	0	23.91	<=50	Pass	
			4	23.91	<=50	Pass	
			7	23.80	<=50	Pass	
	819	15	0	23.50	<=50	Pass	
			0	24.37	<=50	Pass	
			7	23.64	<=50	Pass	
		8	14	24.07	<=50	Pass	
			0	22.96	<=50	Pass	
			4	22.60	<=50	Pass	
		1	7	22.78	<=50	Pass	
			15	22.94	<=50	Pass	
			0	24.65	<=50	Pass	
	8	1	7	24.01	<=50	Pass	
			14	23.45	<=50	Pass	
			0	22.88	<=50	Pass	
		8	4	22.97	<=50	Pass	
			7	22.86	<=50	Pass	
			15	22.92	<=50	Pass	

			0	23.75	<=50	Pass	
		1	7	23.87	<=50	Pass	
		1	14	23.80	<=50	Pass	
		8	0	22.97	<=50	Pass	
		8	4	22.45	<=50	Pass	
		8	7	22.94	<=50	Pass	
		8	15	0	22.92	<=50	Pass
			0	23.29	<=50	Pass	
		1	7	23.73	<=50	Pass	
		1	14	22.81	<=50	Pass	
		8	0	22.93	<=50	Pass	
		8	4	23.44	<=50	Pass	
		8	7	22.87	<=50	Pass	
		8	15	0	22.50	<=50	Pass
			0	23.86	<=50	Pass	
		1	7	23.75	<=50	Pass	
		1	14	23.72	<=50	Pass	
		8	0	22.82	<=50	Pass	
		8	4	22.97	<=50	Pass	
		8	7	22.97	<=50	Pass	
		8	15	0	22.79	<=50	Pass
			0	23.91	<=50	Pass	
		1	7	23.16	<=50	Pass	
		1	14	23.38	<=50	Pass	
		8	0	22.83	<=50	Pass	
		8	4	22.96	<=50	Pass	
		8	7	22.83	<=50	Pass	
		8	15	0	22.60	<=50	Pass

1.1.3 B26a_5MHz_ERP

Band: 26a / Bandwidth: 5MHz / NTV							
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)		Verdict	
		Size	Offset	Result	Limit		
QPSK	816.5	1	0	24.75	<=50	Pass	
			13	24.96	<=50	Pass	
			24	23.49	<=50	Pass	
		12	0	23.80	<=50	Pass	
			6	23.91	<=50	Pass	
			13	23.48	<=50	Pass	
	819	25	0	23.89	<=50	Pass	
			0	24.90	<=50	Pass	
			13	24.18	<=50	Pass	
			24	24.30	<=50	Pass	
		12	0	23.90	<=50	Pass	
			6	23.59	<=50	Pass	
			13	23.98	<=50	Pass	
	821.5	25	0	23.82	<=50	Pass	
			0	24.83	<=50	Pass	
			13	24.30	<=50	Pass	
		1	24	24.45	<=50	Pass	
			0	23.73	<=50	Pass	
			6	23.81	<=50	Pass	
		12	13	23.78	<=50	Pass	
			25	0	23.91	<=50	Pass
			0	23.58	<=50	Pass	
16QAM	816.5	1	13	23.85	<=50	Pass	

			24	24.01	<=50	Pass
	12	0	22.95	<=50	Pass	
		6	22.55	<=50	Pass	
		13	22.83	<=50	Pass	
		25	0	22.85	<=50	Pass
	819	0	23.86	<=50	Pass	
		13	24.01	<=50	Pass	
		24	23.98	<=50	Pass	
		0	22.83	<=50	Pass	
		12	6	22.95	<=50	Pass
	821.5	13	22.85	<=50	Pass	
		25	0	22.92	<=50	Pass
		0	23.99	<=50	Pass	
		13	24.21	<=50	Pass	
		24	23.61	<=50	Pass	
64QAM	816.5	0	22.81	<=50	Pass	
		12	6	22.94	<=50	Pass
		13	22.81	<=50	Pass	
		25	0	23.00	<=50	Pass
		0	23.86	<=50	Pass	
	819	13	23.42	<=50	Pass	
		24	23.60	<=50	Pass	
		0	22.51	<=50	Pass	
		12	6	22.88	<=50	Pass
		13	22.37	<=50	Pass	
	821.5	25	0	22.85	<=50	Pass
		0	23.66	<=50	Pass	
		13	22.96	<=50	Pass	
		24	22.75	<=50	Pass	
		0	21.79	<=50	Pass	
	821.5	12	6	21.94	<=50	Pass
		13	21.84	<=50	Pass	
		25	0	21.82	<=50	Pass
		0	23.14	<=50	Pass	
		13	22.26	<=50	Pass	
		24	22.50	<=50	Pass	
	821.5	0	21.84	<=50	Pass	
		12	6	21.88	<=50	Pass
		13	21.70	<=50	Pass	
		25	0	21.88	<=50	Pass

1.1.4 B26a_10MHz_ERP

Band: 26a / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)		Verdict
		Size	Offset	Result	Limit	
QPSK	819	1	0	24.90	<=50	Pass
			25	24.59	<=50	Pass
			49	24.15	<=50	Pass
		25	0	23.73	<=50	Pass
			13	23.94	<=50	Pass
			25	23.81	<=50	Pass
16QAM	819	1	0	23.89	<=50	Pass
			0	23.72	<=50	Pass
			25	23.67	<=50	Pass
			49	23.57	<=50	Pass
		25	0	22.20	<=50	Pass

			13	22.98	<=50	Pass
			25	22.83	<=50	Pass
		50	0	22.94	<=50	Pass
64QAM	819	1	0	22.40	<=50	Pass
			25	22.80	<=50	Pass
			49	22.86	<=50	Pass
		25	0	21.84	<=50	Pass
			13	21.92	<=50	Pass
			25	21.91	<=50	Pass
		50	0	21.90	<=50	Pass

2. Frequency Stability

2.1 Test Result

2.1.1 B26a_10MHz

Modulation	Frequency (MHz)	Band: 26a / Bandwidth: 10MHz							
		RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		
		Size	Offset				Result	Limit	
QPSK	819	50	0	20	LV	-2.200	-0.0027	-2.5 to 2.5	Pass
					HV	-1.500	-0.0018	-2.5 to 2.5	Pass
					NV	-1.800	-0.0022	-2.5 to 2.5	Pass
				-30	NV	-1.900	-0.0023	-2.5 to 2.5	Pass
				-20	NV	-1.600	-0.0020	-2.5 to 2.5	Pass
				-10	NV	-1.200	-0.0015	-2.5 to 2.5	Pass
				0	NV	-2.500	-0.0031	-2.5 to 2.5	Pass
				10	NV	-0.800	-0.0010	-2.5 to 2.5	Pass
				30	NV	-1.700	-0.0021	-2.5 to 2.5	Pass
				40	NV	-0.900	-0.0011	-2.5 to 2.5	Pass
				50	NV	-1.900	-0.0023	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band26a_OBW

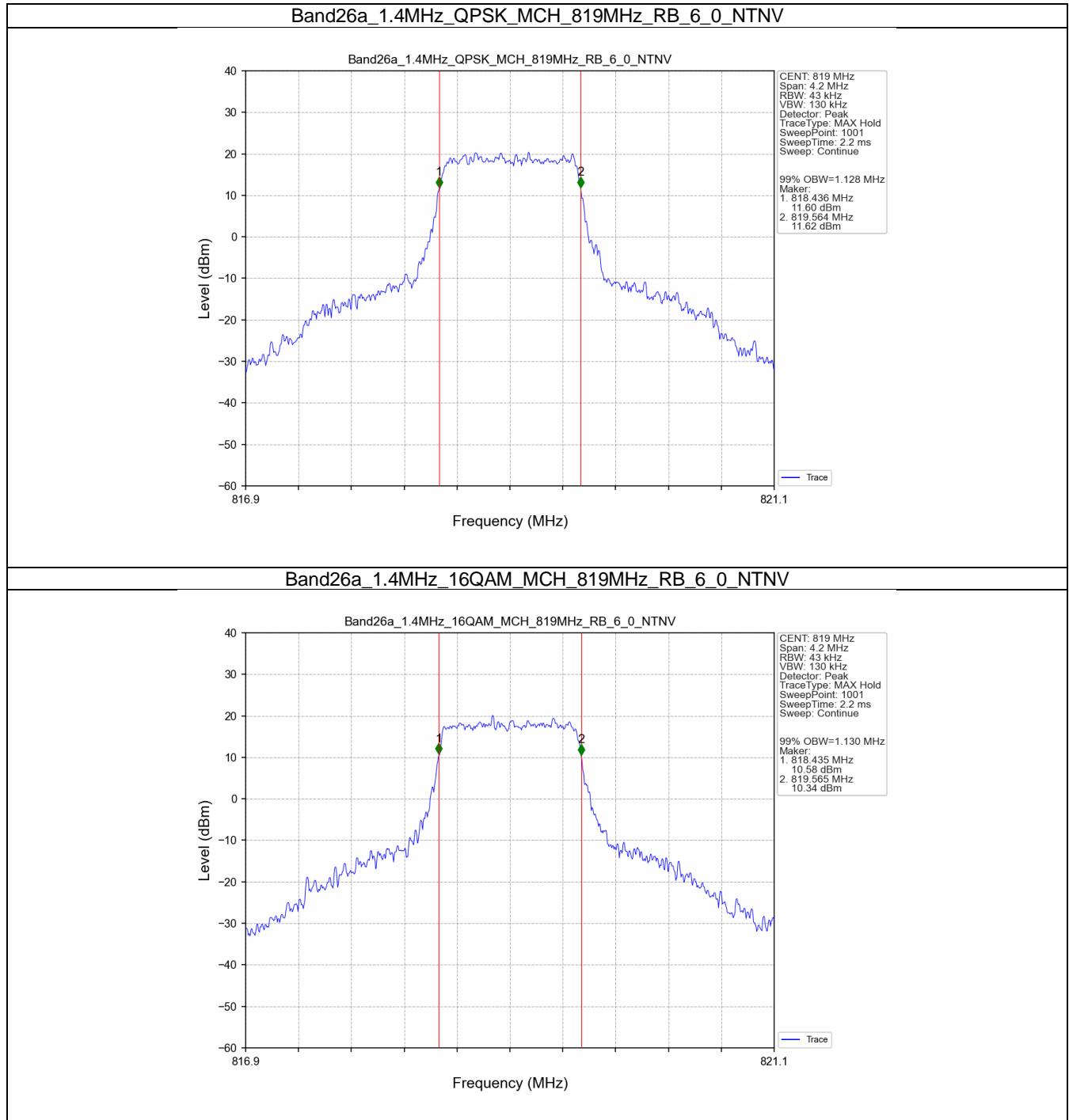
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	819	6	0	1.128	/	Pass
	16QAM	819	6	0	1.130	/	Pass
3	QPSK	819	15	0	2.741	/	Pass
	16QAM	819	15	0	2.753	/	Pass
5	QPSK	819	25	0	4.574	/	Pass
	16QAM	819	25	0	4.555	/	Pass
10	QPSK	819	50	0	9.073	/	Pass
	16QAM	819	50	0	9.065	/	Pass

3.1.2 Band26a_XDB

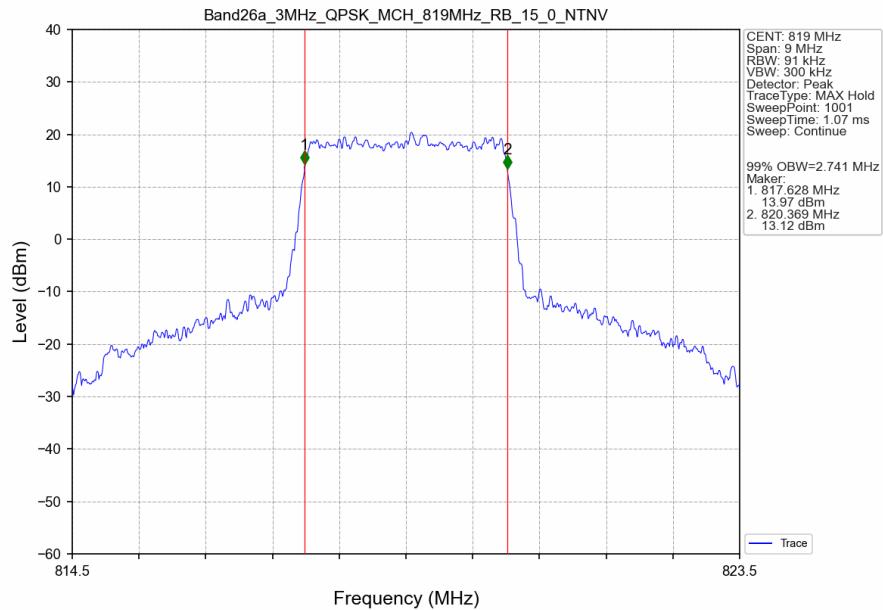
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	819	6	0	1.419	/	Pass
	16QAM	819	6	0	1.415	/	Pass
3	QPSK	819	15	0	3.130	/	Pass
	16QAM	819	15	0	3.101	/	Pass
5	QPSK	819	25	0	5.277	/	Pass
	16QAM	819	25	0	5.252	/	Pass
10	QPSK	819	50	0	10.257	/	Pass
	16QAM	819	50	0	10.128	/	Pass

3.2 Test Graph

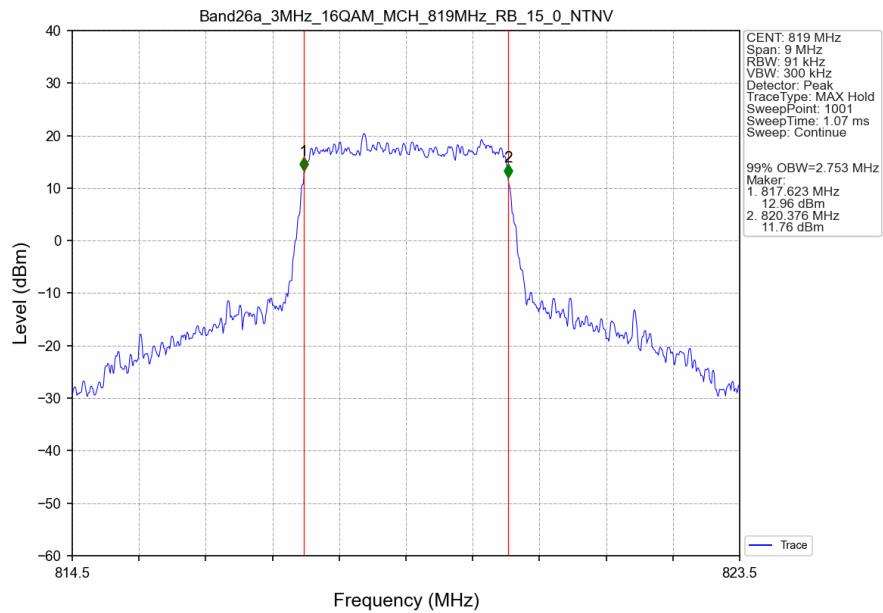
3.2.1 Band26a_OBW



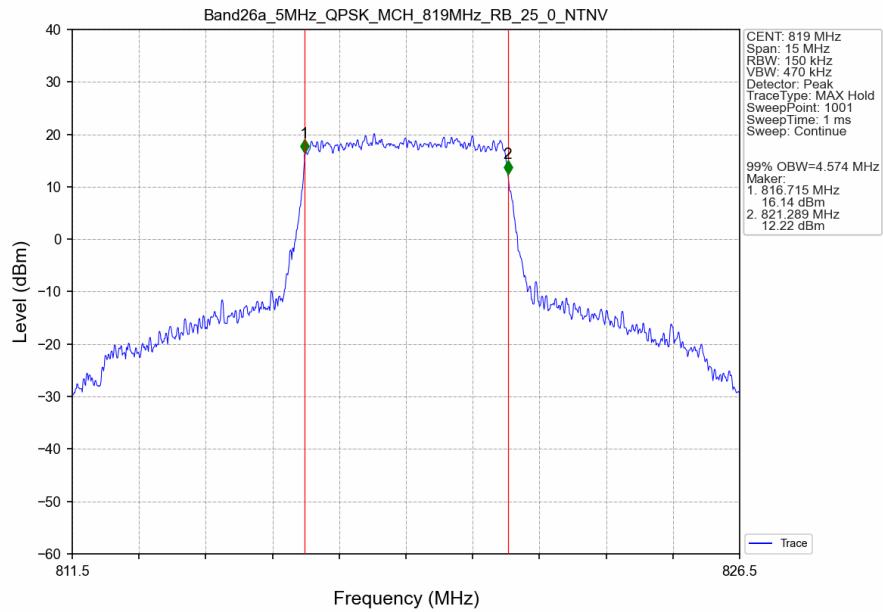
Band26a_3MHz_QPSK_MCH_819MHz_RB_15_0_NTNV



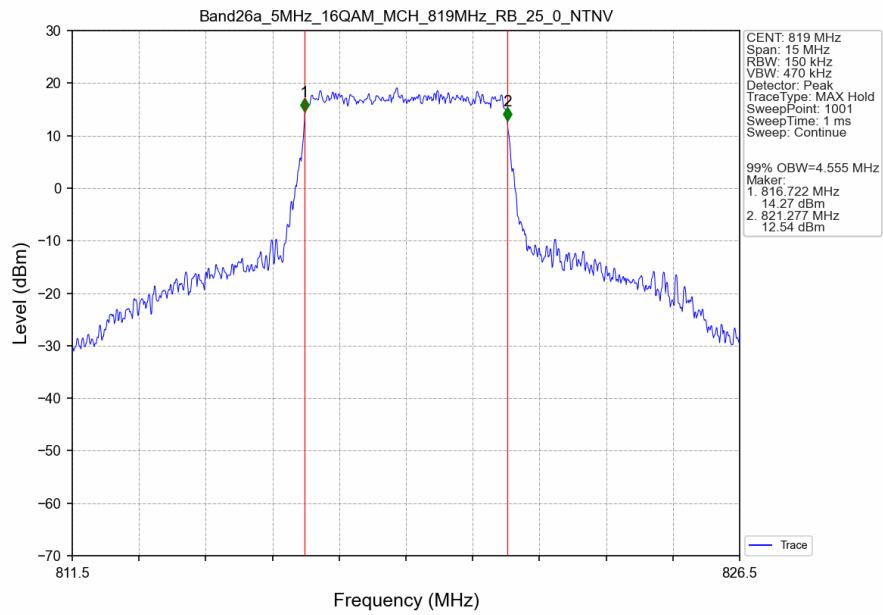
Band26a_3MHz_16QAM_MCH_819MHz_RB_15_0_NTNV



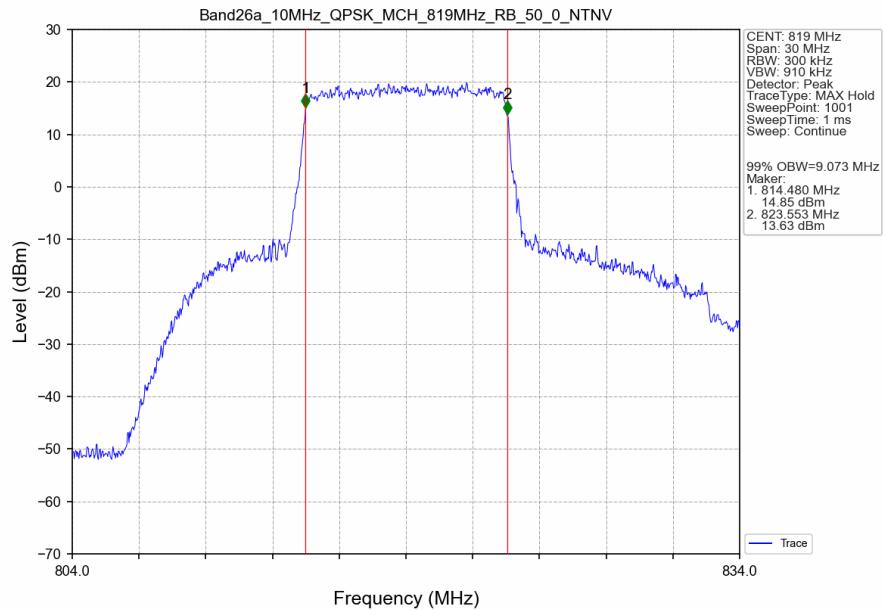
Band26a_5MHz_QPSK_MCH_819MHz_RB_25_0_NTNV



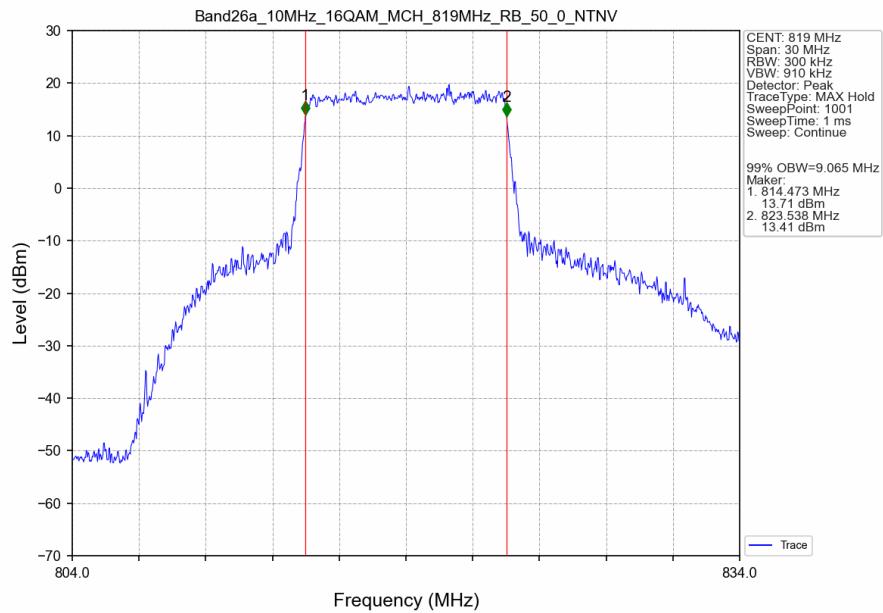
Band26a_5MHz_16QAM_MCH_819MHz_RB_25_0_NTNV



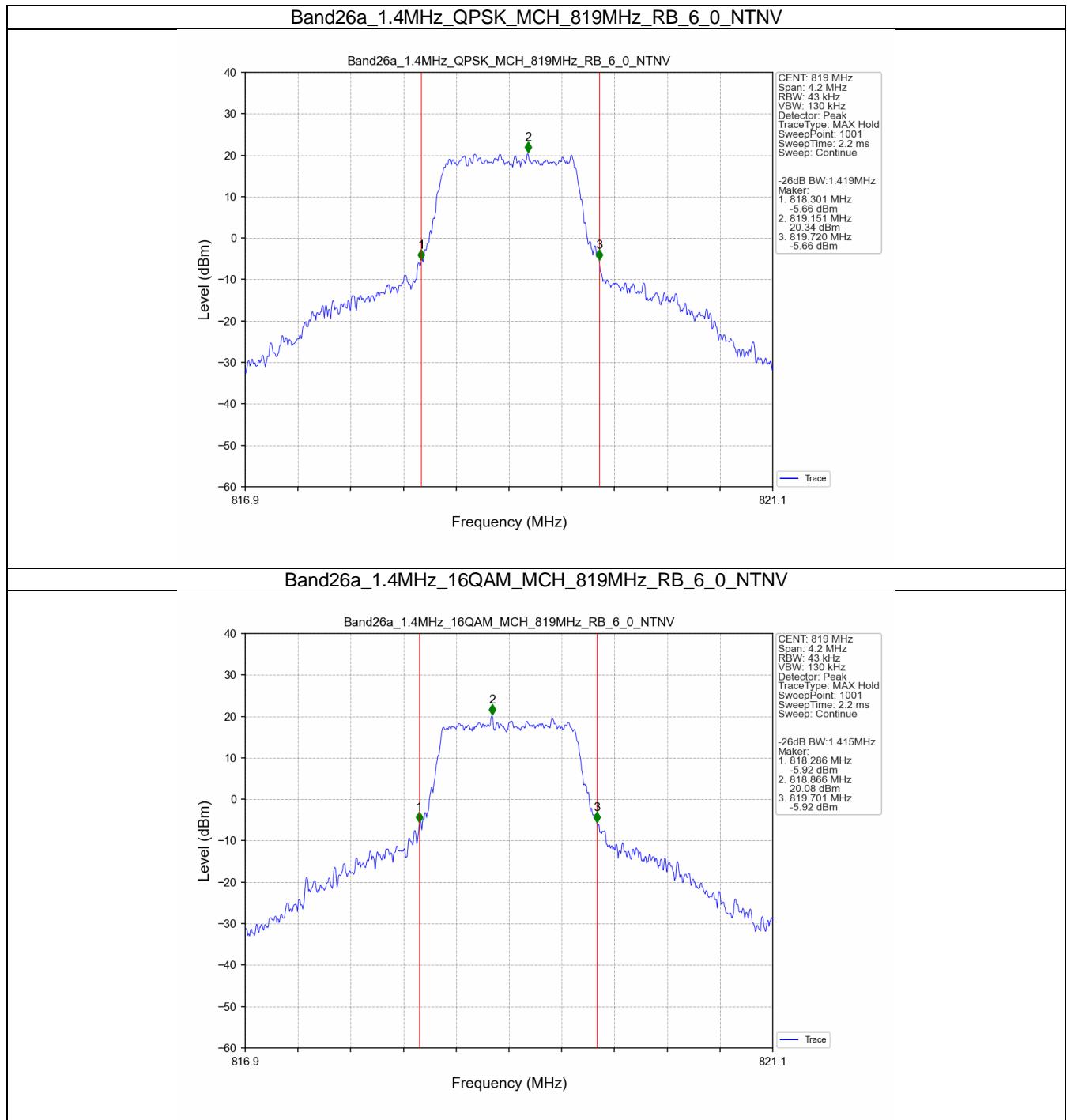
Band26a_10MHz_QPSK_MCH_819MHz_RB_50_0_NTNV



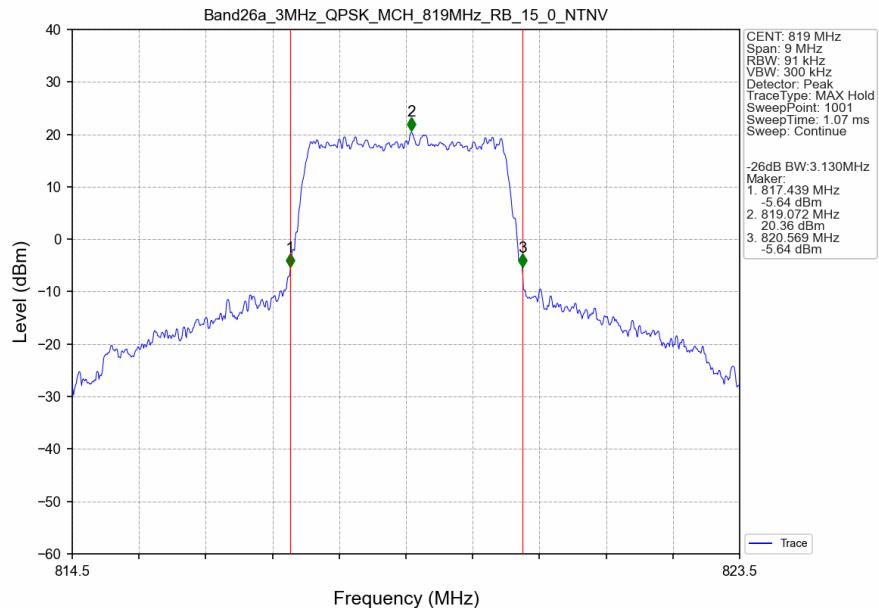
Band26a_10MHz_16QAM_MCH_819MHz_RB_50_0_NTNV



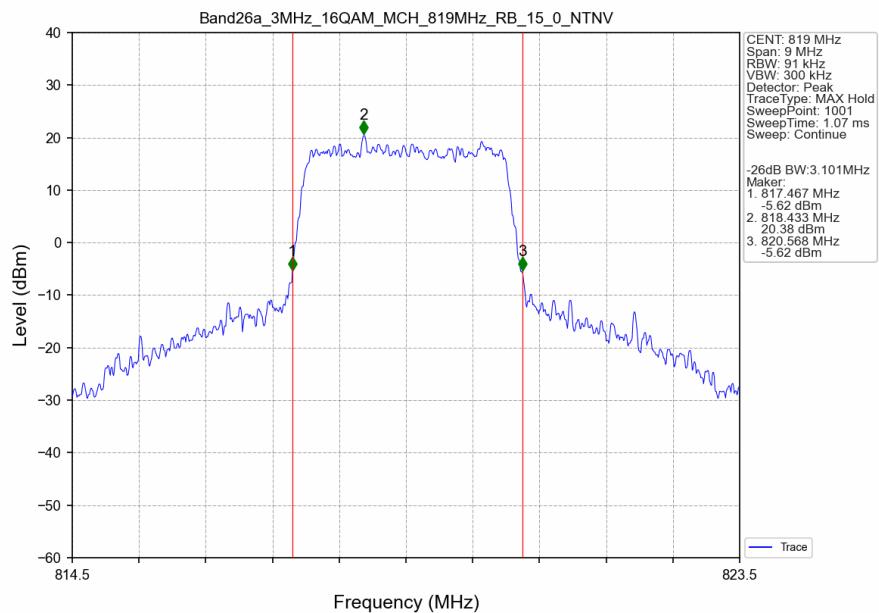
3.2.2 Band26a_XDB



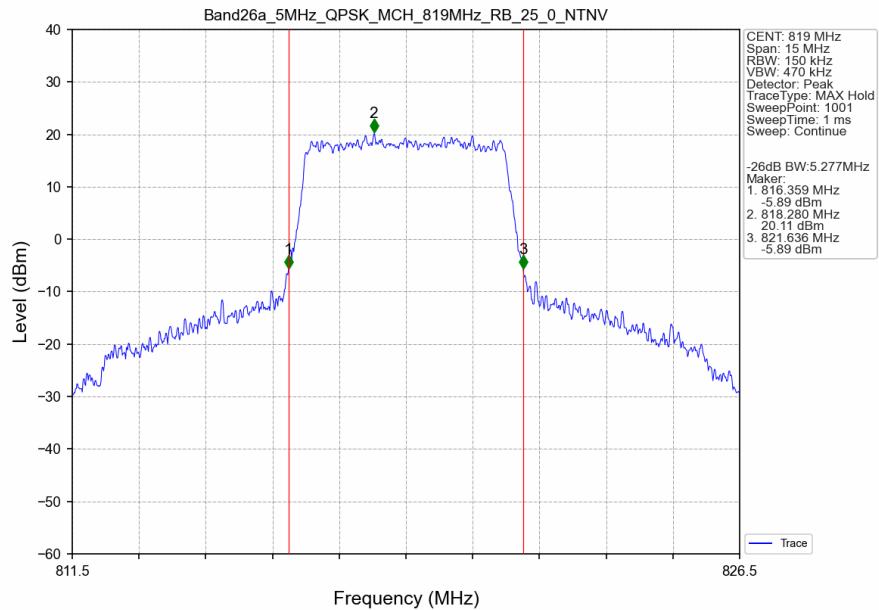
Band26a_3MHz_QPSK_MCH_819MHz_RB_15_0_NTNV



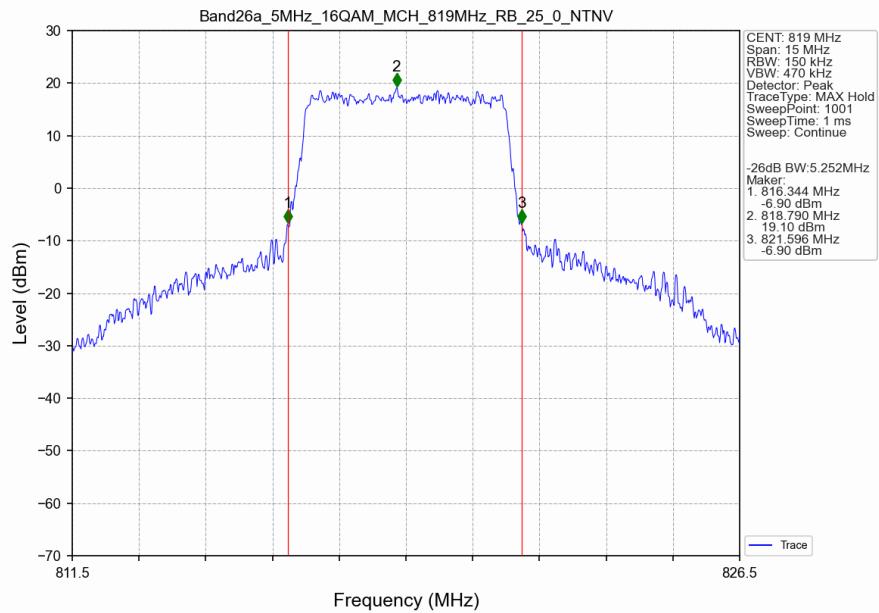
Band26a_3MHz_16QAM_MCH_819MHz_RB_15_0_NTNV



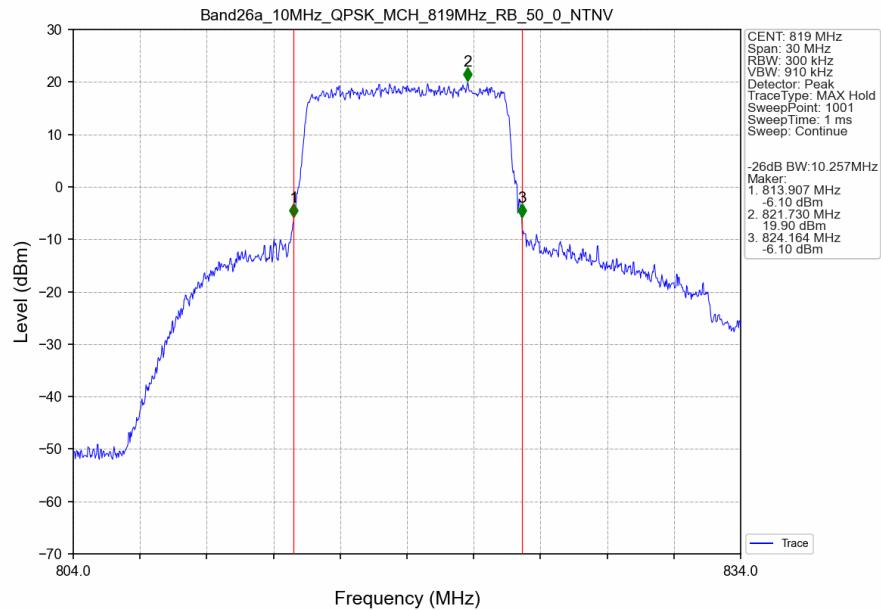
Band26a_5MHz_QPSK_MCH_819MHz_RB_25_0_NTNV



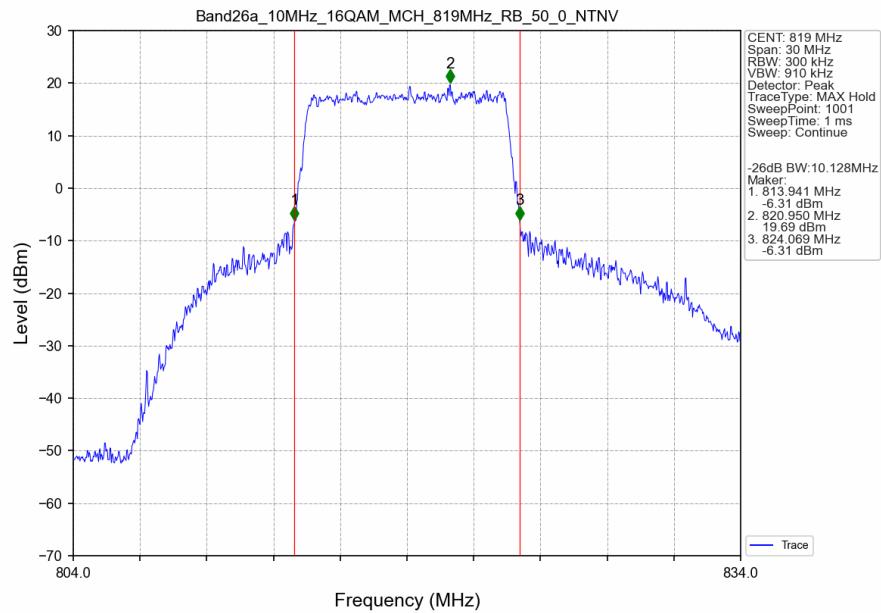
Band26a_5MHz_16QAM_MCH_819MHz_RB_25_0_NTNV



Band26a_10MHz_QPSK_MCH_819MHz_RB_50_0_NTNV



Band26a_10MHz_16QAM_MCH_819MHz_RB_50_0_NTNV



4. Peak-Average Ratio

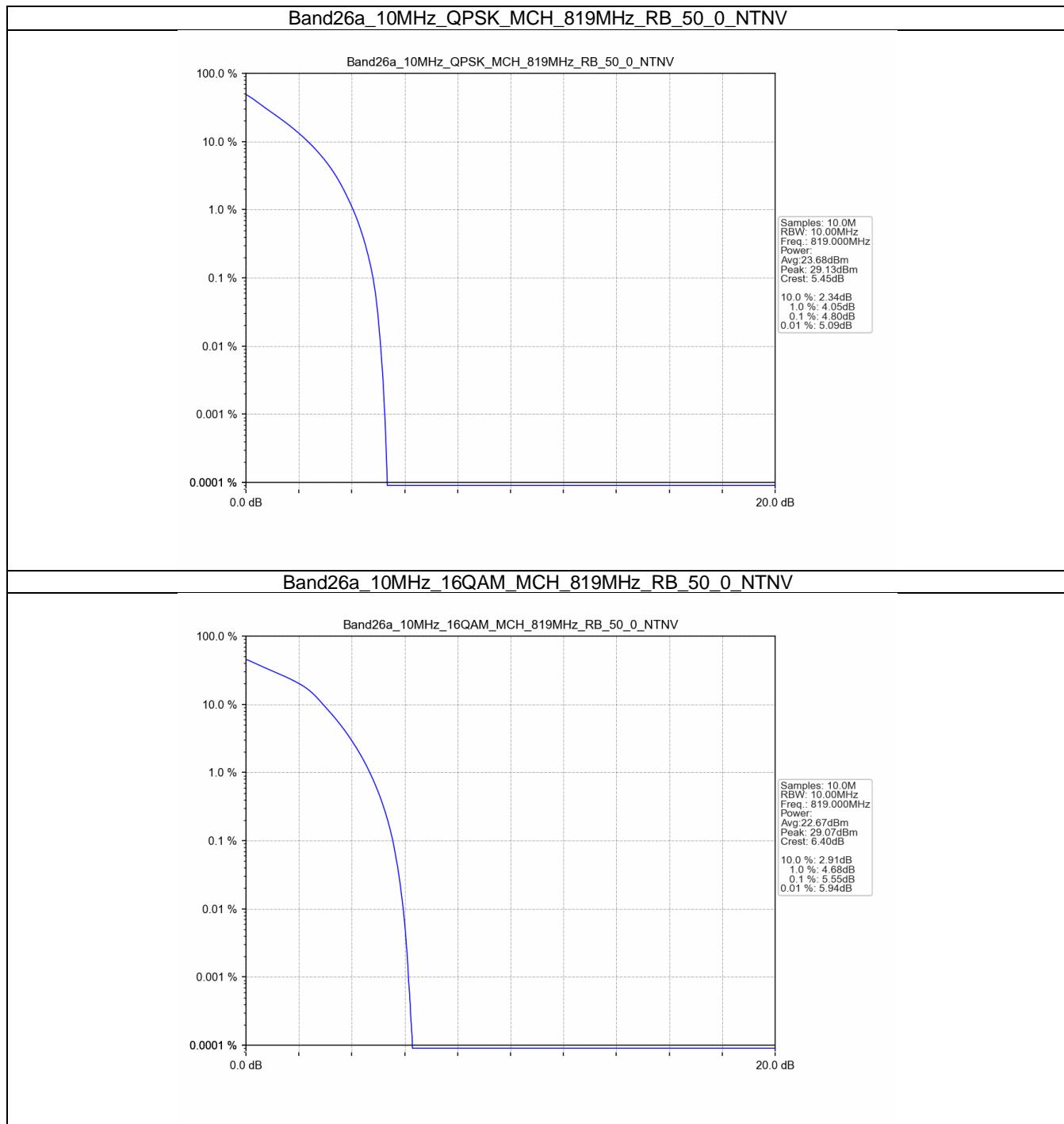
4.1 Test Result

4.1.1 B26a_10MHz

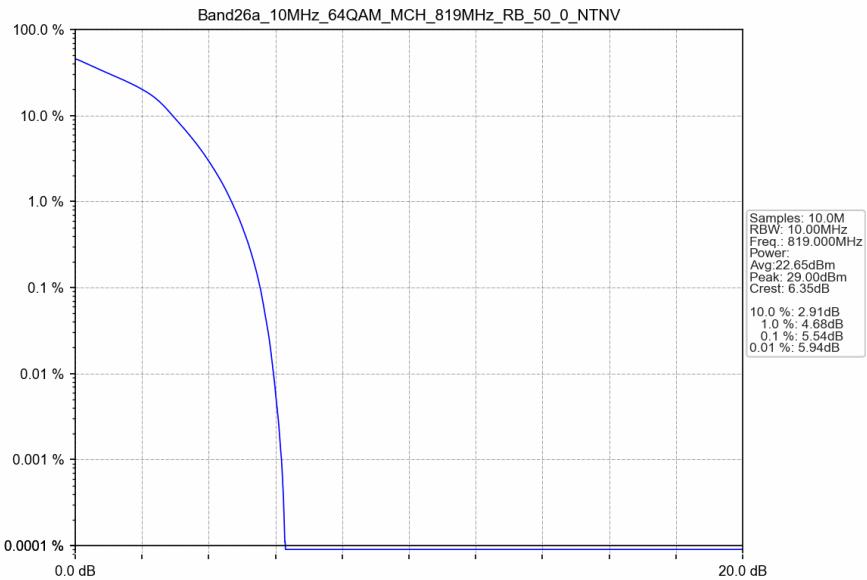
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	819	50	0	4.80	<=13	Pass
16QAM	819	50	0	5.55	<=13	Pass
64QAM	819	50	0	5.54	<=13	Pass

4.2 Test Graph

4.2.1 B26a_10MHz



Band26a_10MHz_64QAM_MCH_819MHz_RB_50_0_NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B26a_1.4MHz

Band: 26a / Bandwidth: 1.4MHz / NTNV							
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict	
		Size	Offset	Result	Limit		
QPSK	814.7	1	0	Refer To Test Graph		Pass	
		6	0	Refer To Test Graph		Pass	
	819	1	0	Refer To Test Graph		Pass	
		1	0	Refer To Test Graph		Pass	
	823.3		5	Refer To Test Graph		Pass	
			6	Refer To Test Graph		Pass	

5.1.2 B26a_3MHz

Band: 26a / Bandwidth: 3MHz / NTNV							
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict	
		Size	Offset	Result	Limit		
QPSK	815.5	1	0	Refer To Test Graph		Pass	
		15	0	Refer To Test Graph		Pass	
	819	1	0	Refer To Test Graph		Pass	
		1	0	Refer To Test Graph		Pass	
	822.5		14	Refer To Test Graph		Pass	
			15	Refer To Test Graph		Pass	

5.1.3 B26a_5MHz

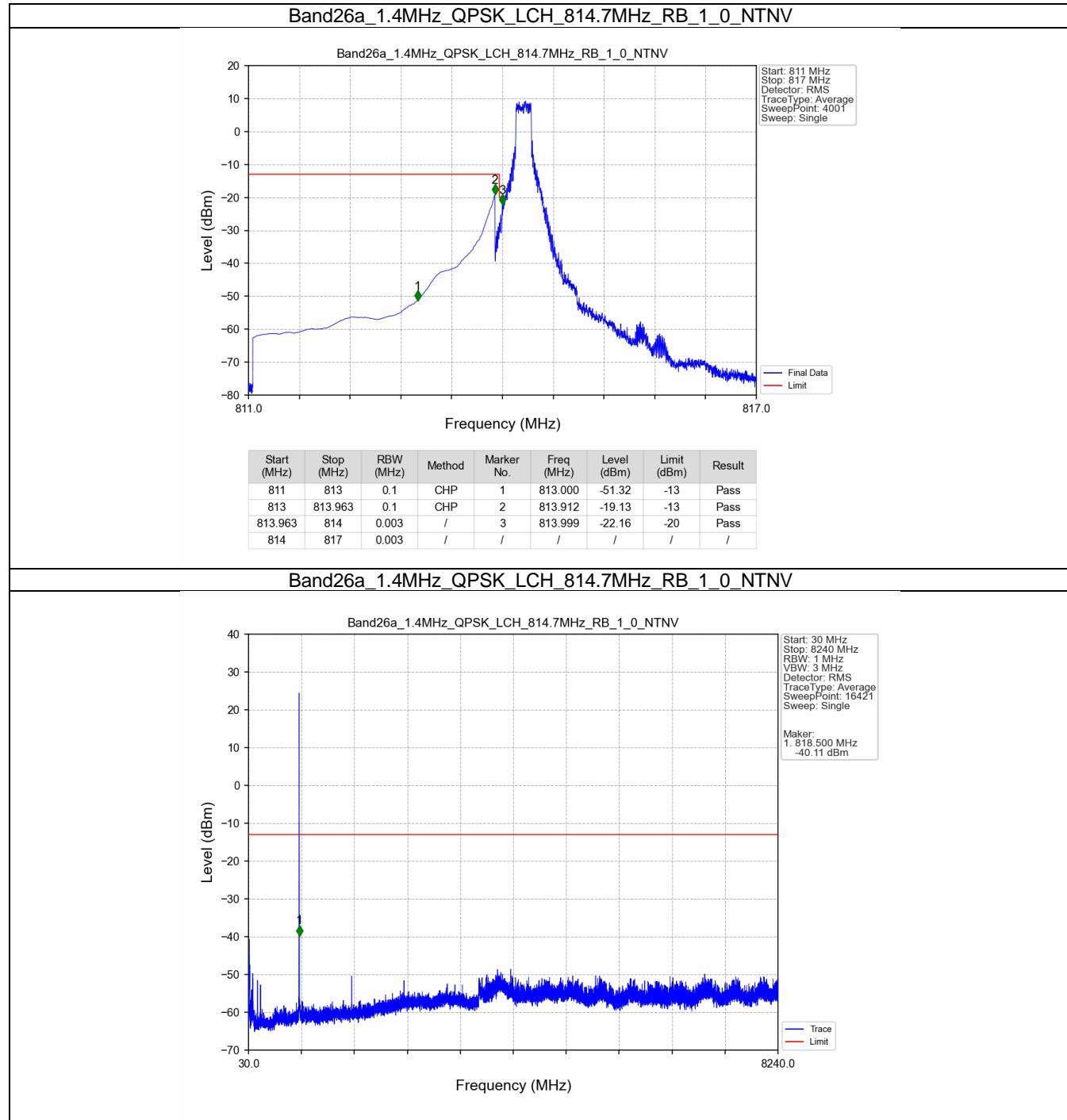
Band: 26a / Bandwidth: 5MHz / NTNV							
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict	
		Size	Offset	Result	Limit		
QPSK	816.5	1	0	Refer To Test Graph		Pass	
		25	0	Refer To Test Graph		Pass	
	819	1	0	Refer To Test Graph		Pass	
		1	0	Refer To Test Graph		Pass	
	821.5		24	Refer To Test Graph		Pass	
			25	Refer To Test Graph		Pass	

5.1.4 B26a_10MHz

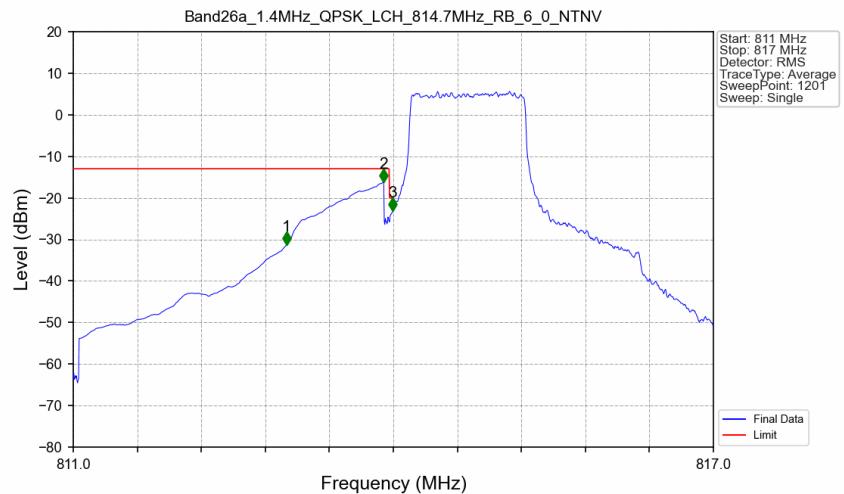
Band: 26a / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	819	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	819	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

5.2.1 B26a_1.4MHz

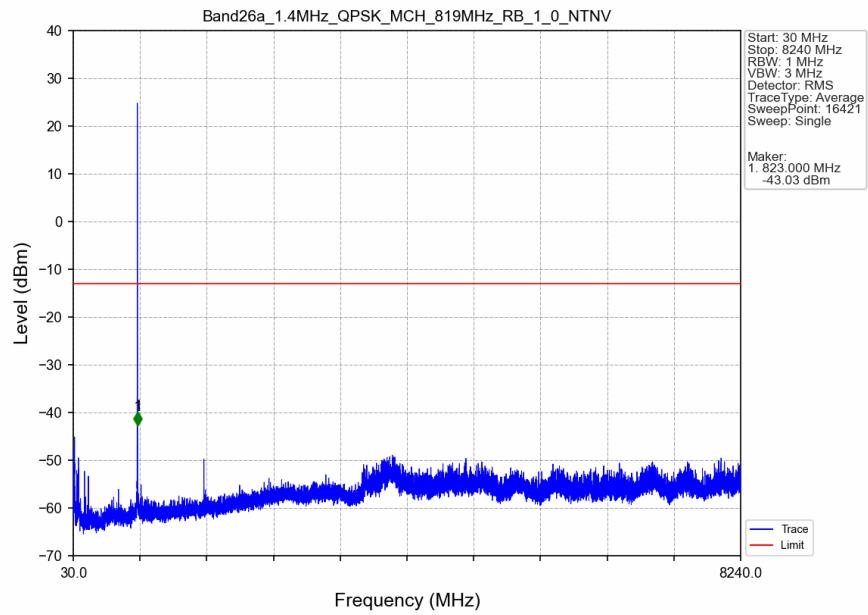


Band26a_1.4MHz_QPSK_LCH_814.7MHz_RB_6_0_NTNV

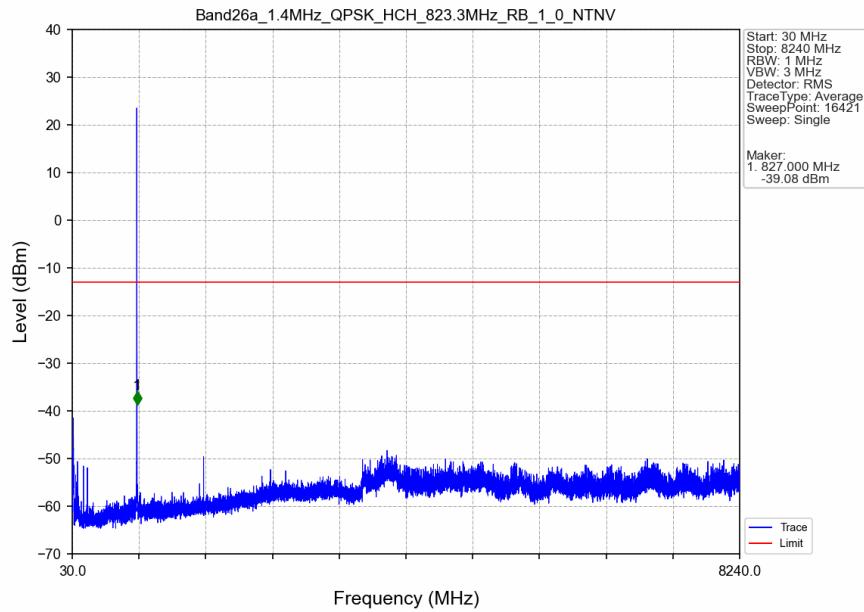


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
811	813	0.1	CHP	1	813.000	-31.32	-13	Pass
813	813.963	0.1	CHP	2	813.910	-16.23	-13	Pass
813.963	814	0.014	CHP	3	813.995	-23.14	-20	Pass
814	817	0.014	CHP	/	/	/	/	/

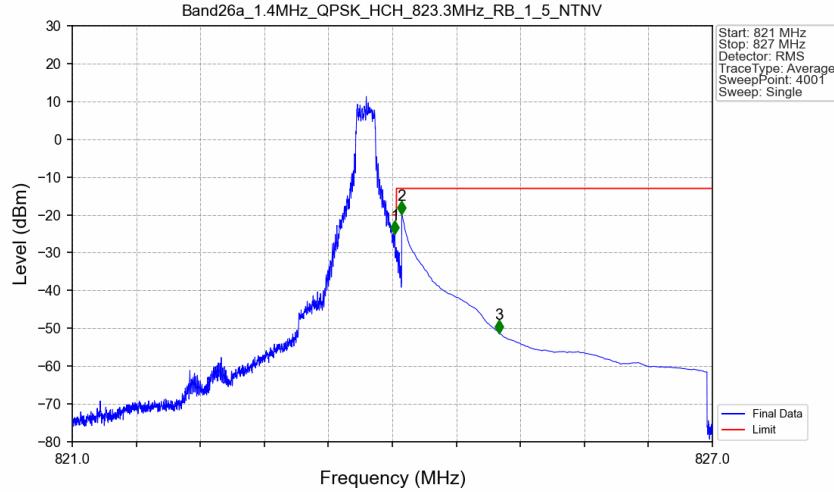
Band26a_1.4MHz_QPSK_MCH_819MHz_RB_1_0_NTNV



Band26a_1.4MHz_QPSK_HCH_823.3MHz_RB_1_0_NTNV

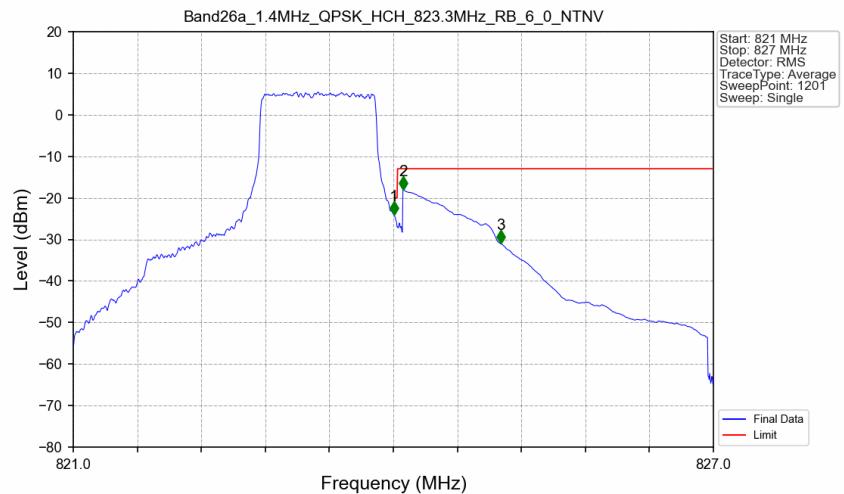


Band26a_1.4MHz_QPSK_HCH_823.3MHz_RB_1_5_NTNV



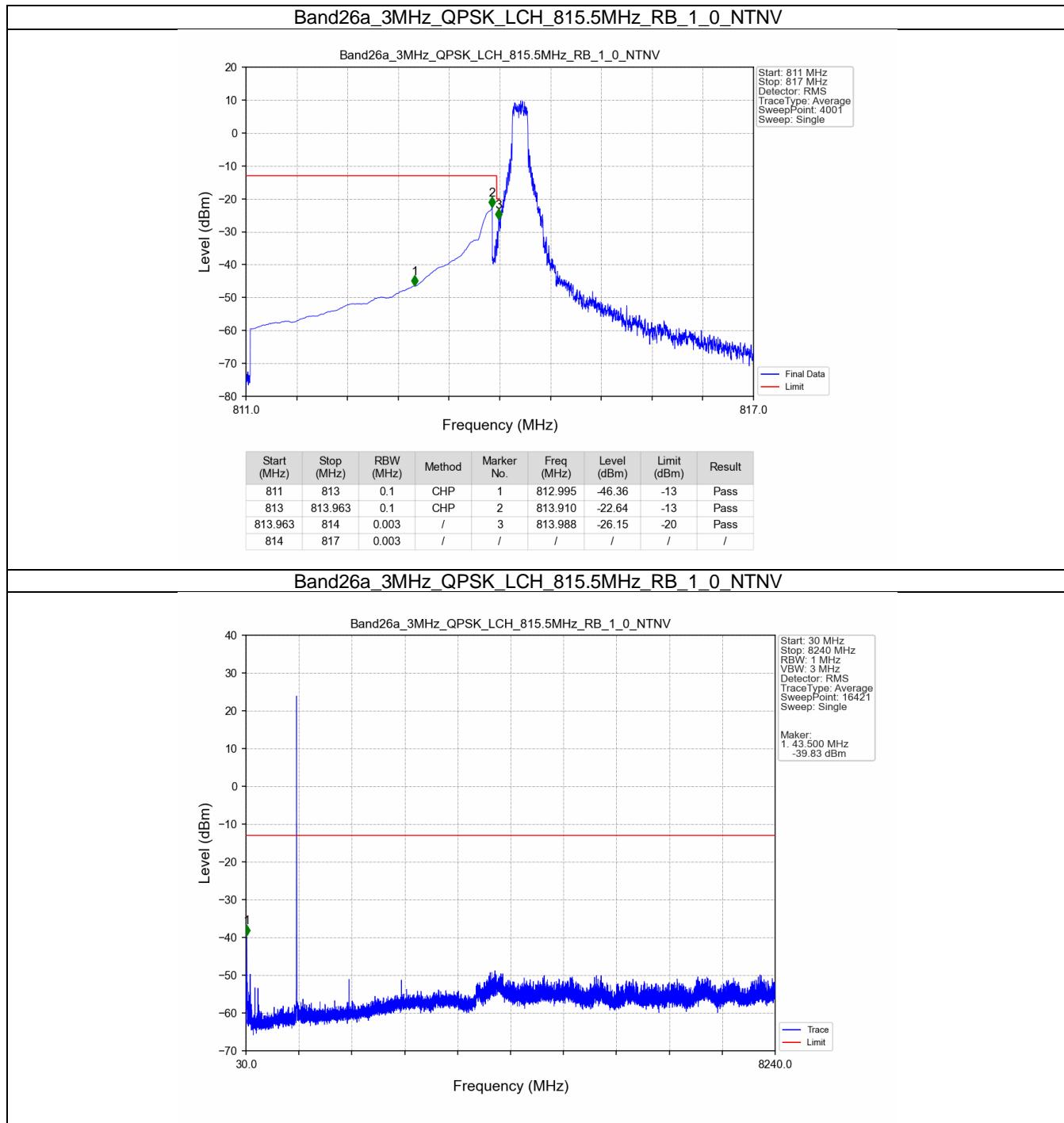
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
821	824	0.003	/	/	/	/	/	/
824	824.038	0.003	/	1	824.023	-25.00	-20	Pass
824.038	825	0.1	CHP	2	824.088	-19.88	-13	Pass
825	827	0.1	CHP	3	825.000	-51.30	-13	Pass

Band26a_1.4MHz_QPSK_HCH_823.3MHz_RB_6_0_NTNV

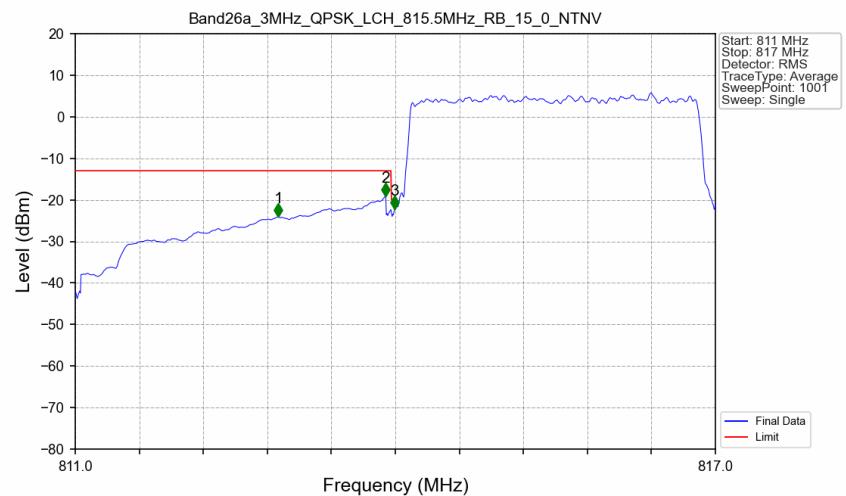


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
821	824	0.014	CHP	/	/	/	/	/
824	824.038	0.014	CHP	1	824.005	-24.04	-20	Pass
824.038	825	0.1	CHP	2	824.090	-18.03	-13	Pass
825	827	0.1	CHP	3	825.005	-31.02	-13	Pass

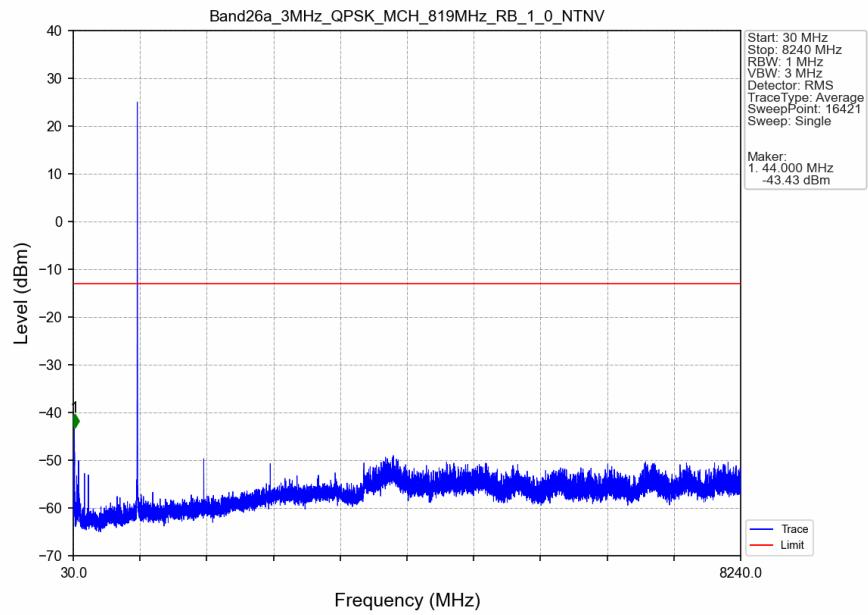
5.2.2 B26a_3MHz



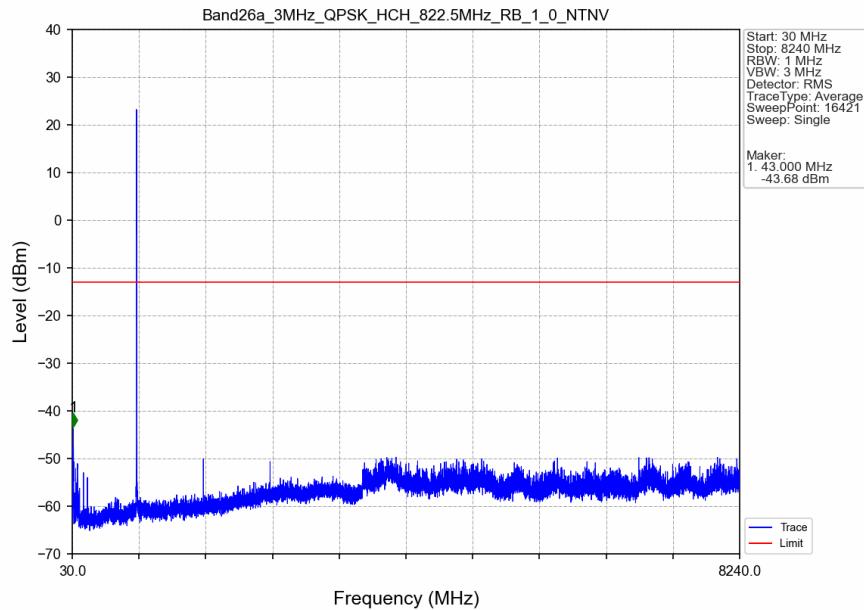
Band26a_3MHz_QPSK_LCH_815.5MHz_RB_15_0_NTNV



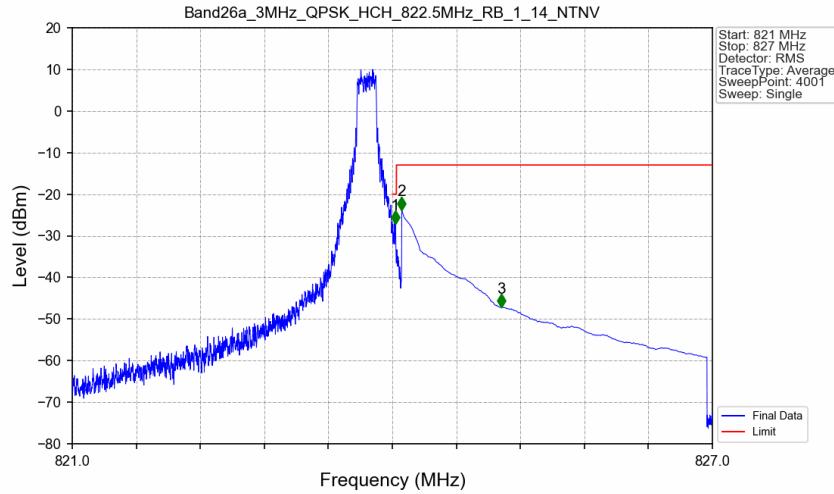
Band26a_3MHz_QPSK_MCH_819MHz_RB_1_0_NTNV



Band26a_3MHz_QPSK_HCH_822.5MHz_RB_1_0_NTNV

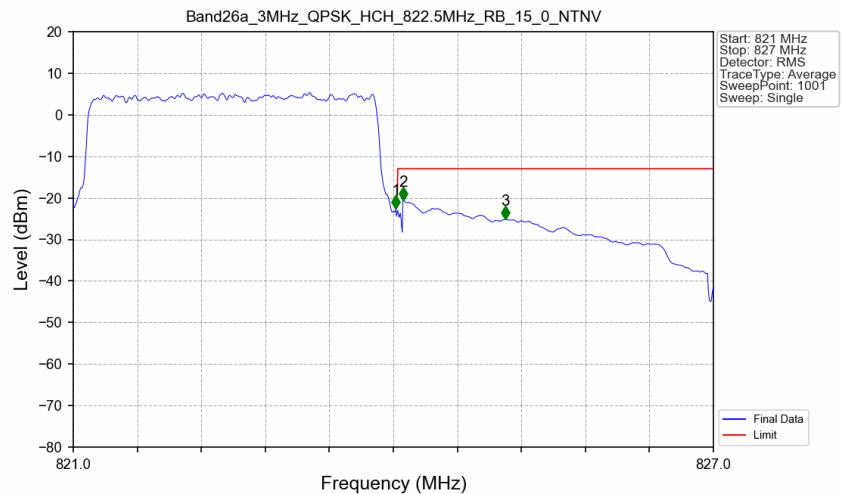


Band26a_3MHz_QPSK_HCH_822.5MHz_RB_1_14_NTNV



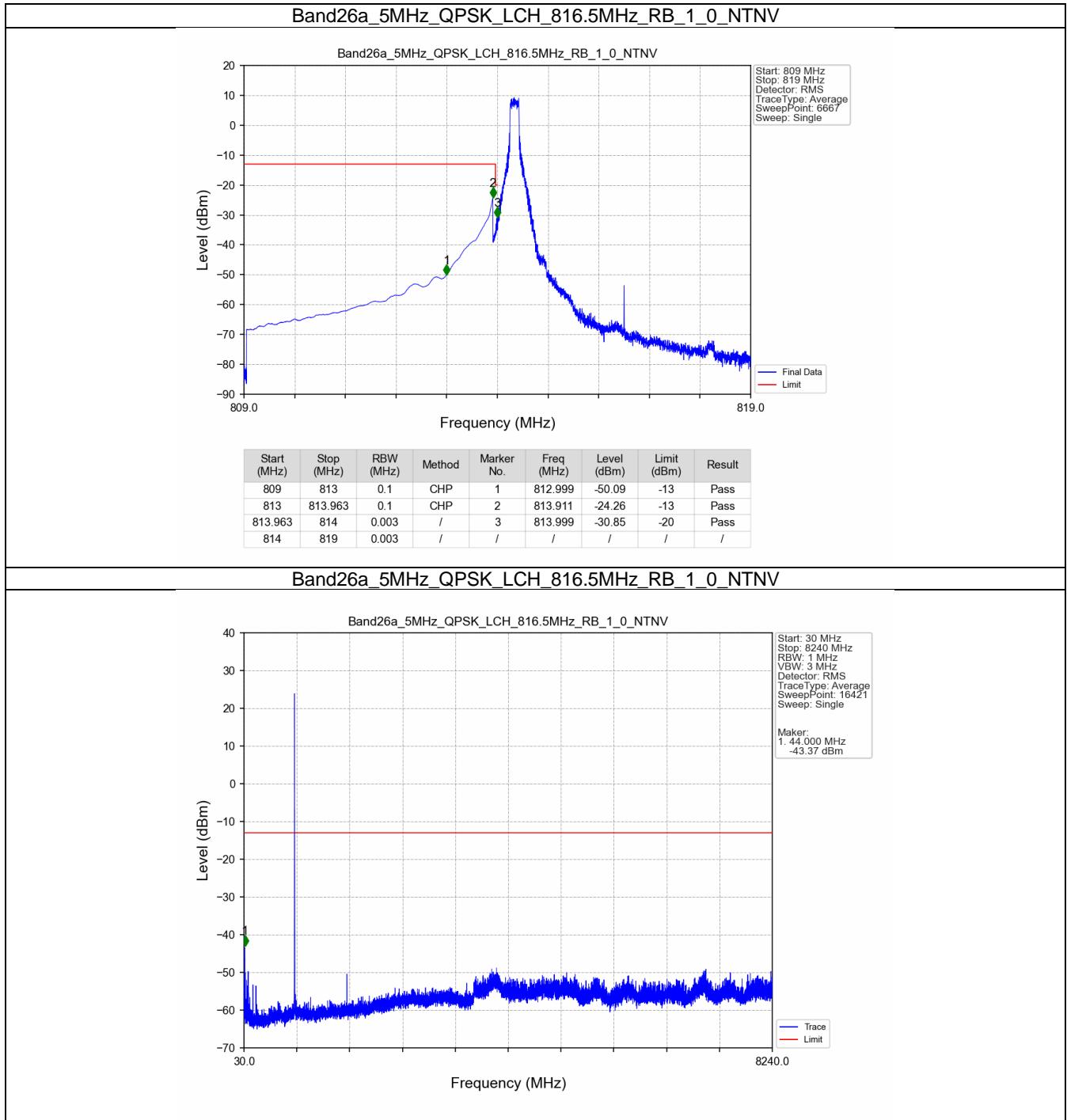
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
821	824	0.003	/	/	/	/	/	/
824	824.038	0.003	/	1	824.029	-27.04	-20	Pass
824.038	825	0.1	CHP	2	824.088	-23.75	-13	Pass
825	827	0.1	CHP	3	825.019	-47.10	-13	Pass

Band26a_3MHz_QPSK_HCH_822.5MHz_RB_15_0_NTNV

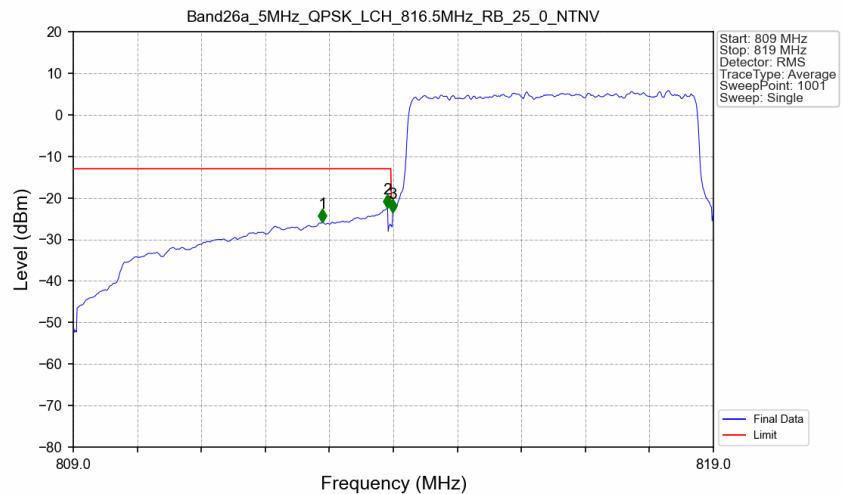


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
821	824	0.031	CHP	/	/	/	/	/
824	824.038	0.031	CHP	1	824.024	-22.55	-20	Pass
824.038	825	0.1	CHP	2	824.090	-20.59	-13	Pass
825	827	0.1	CHP	3	825.050	-25.18	-13	Pass

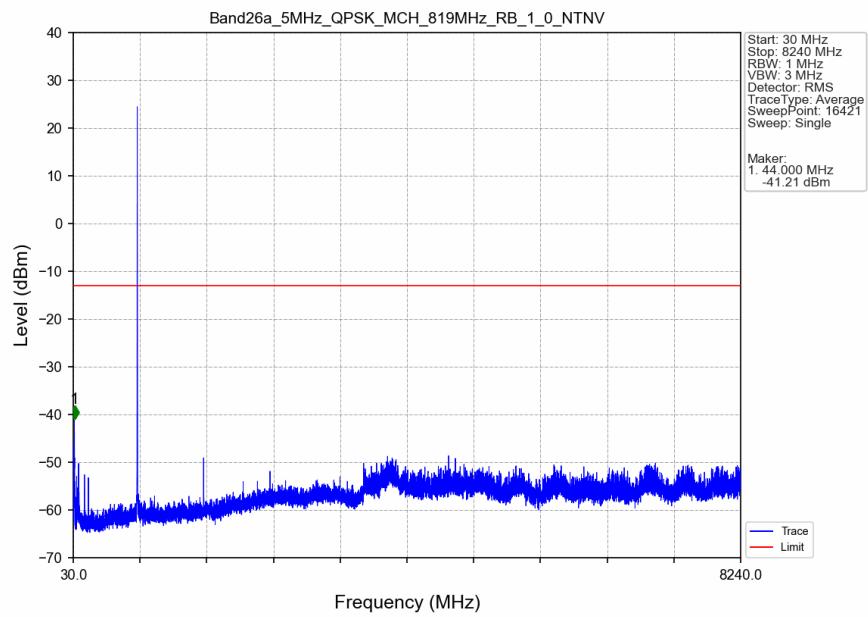
5.2.3 B26a_5MHz



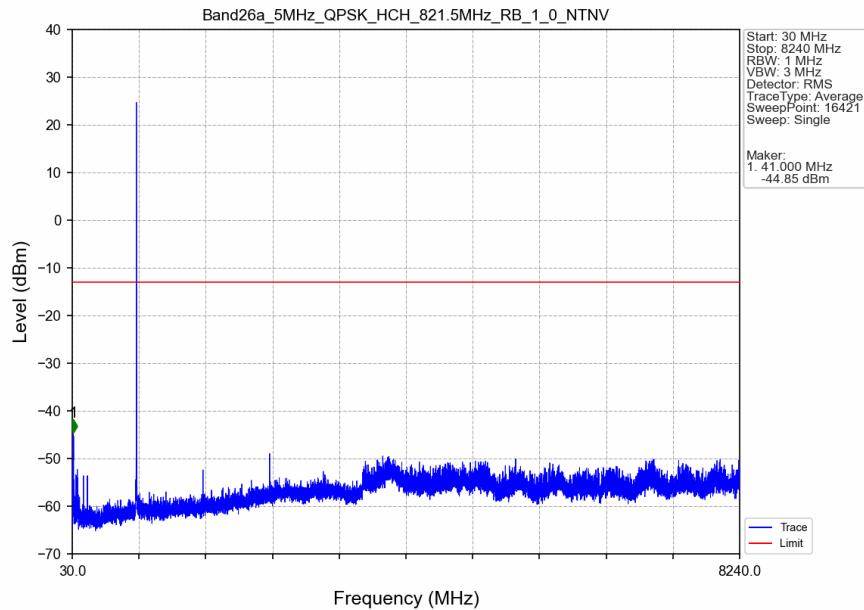
Band26a_5MHz_QPSK_LCH_816.5MHz_RB_25_0_NTNV



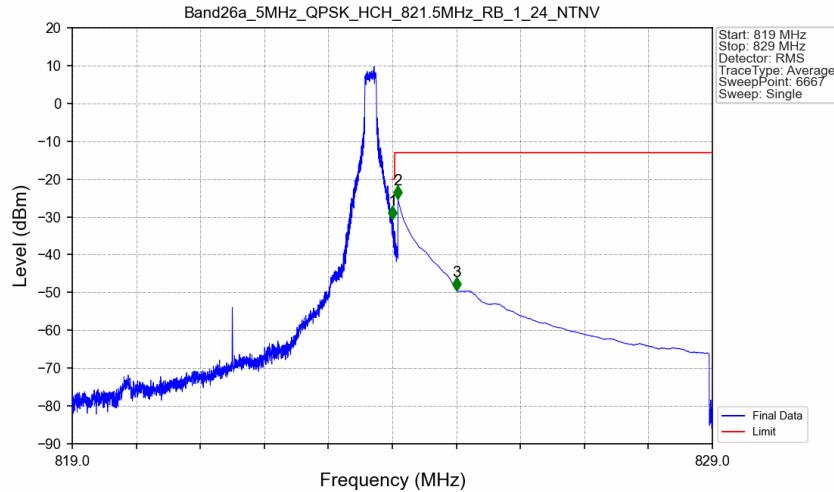
Band26a_5MHz_QPSK_MCH_819MHz_RB_1_0_NTNV



Band26a_5MHz_QPSK_HCH_821.5MHz_RB_1_0_NTNV

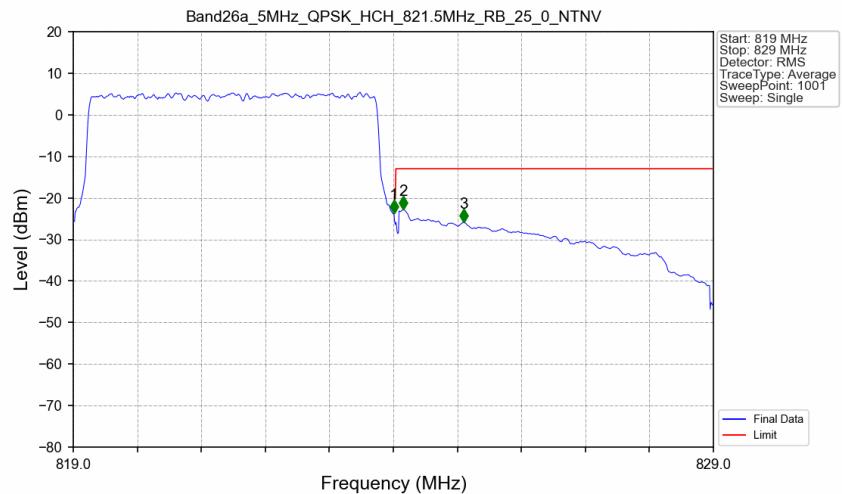


Band26a_5MHz_QPSK_HCH_821.5MHz_RB_1_24_NTNV



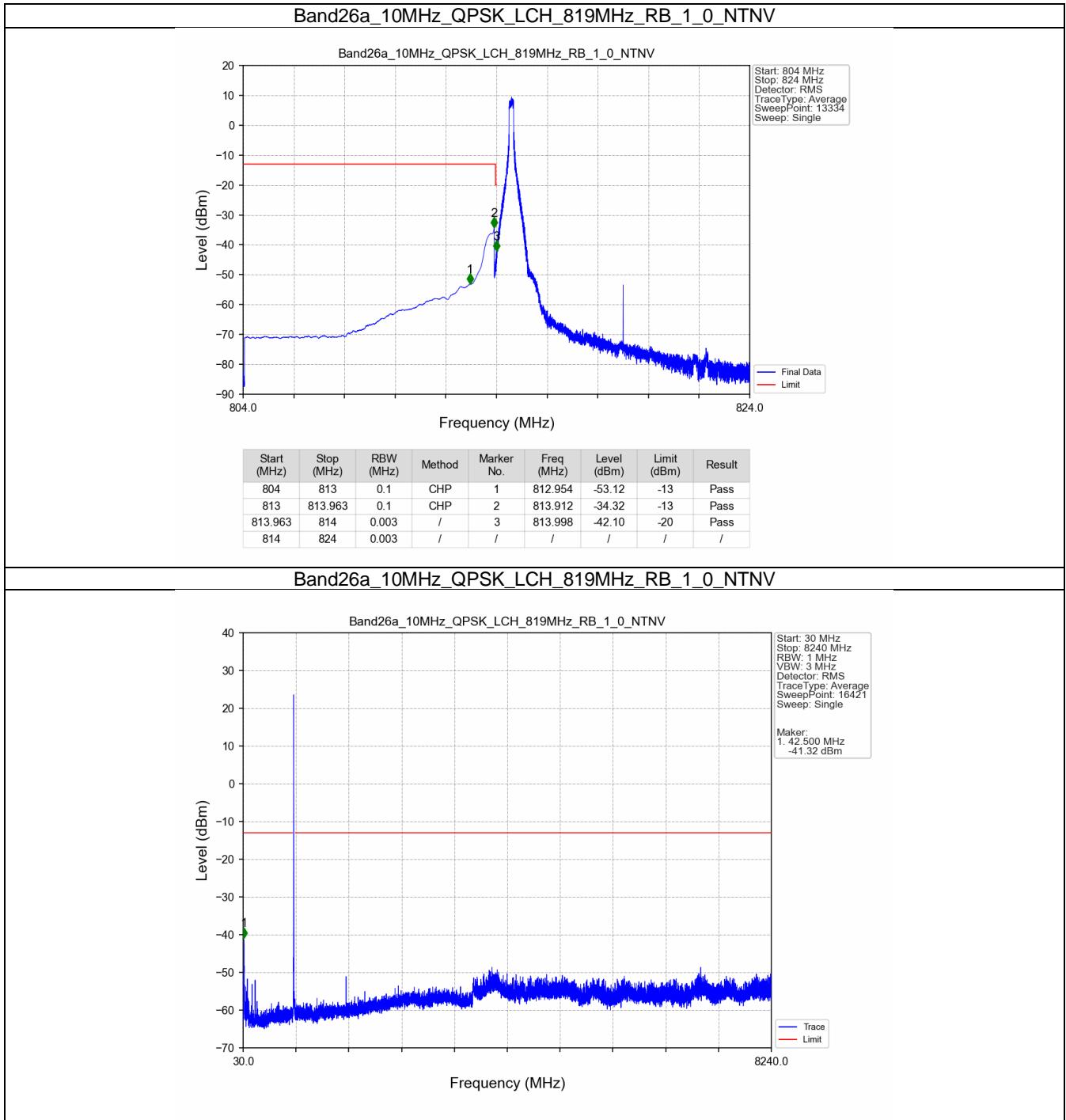
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
819	824	0.003	/	/	/	/	/	/
824	824.038	0.003	/	1	824.001	-30.62	-20	Pass
824.038	825	0.1	CHP	2	824.089	-25.13	-13	Pass
825	829	0.1	CHP	3	825.001	-49.47	-13	Pass

Band26a_5MHz_QPSK_HCH_821.5MHz_RB_25_0_NTNV

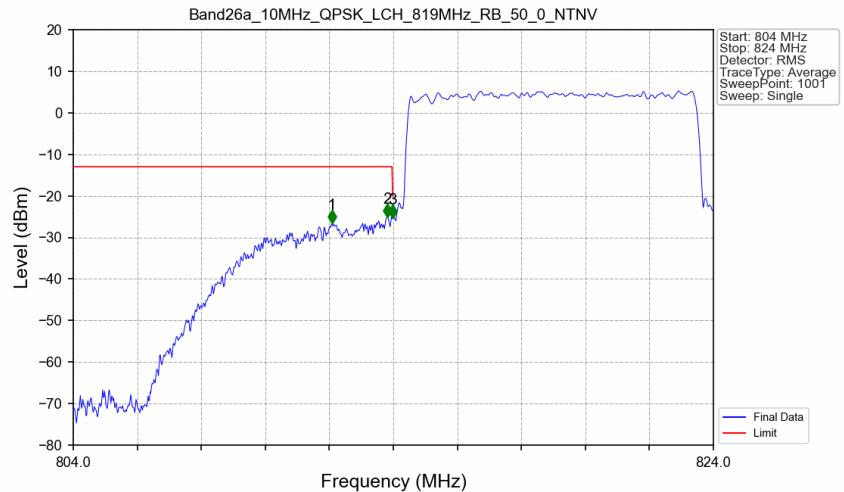


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
819	824	0.053	CHP	/	/	/	/	/
824	824.038	0.053	CHP	1	824.010	-23.74	-20	Pass
824.038	825	0.1	CHP	2	824.150	-22.80	-13	Pass
825	829	0.1	CHP	3	825.100	-25.90	-13	Pass

5.2.4 B26a_10MHz

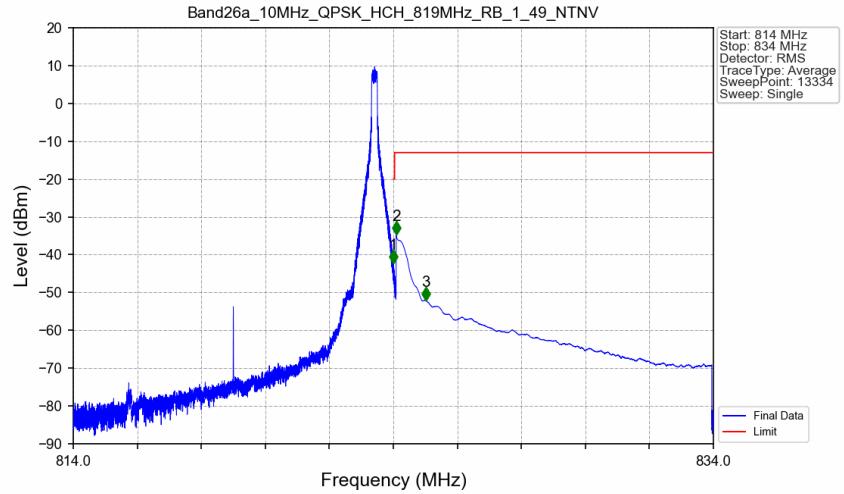


Band26a_10MHz_QPSK_LCH_819MHz_RB_50_0_NTNV



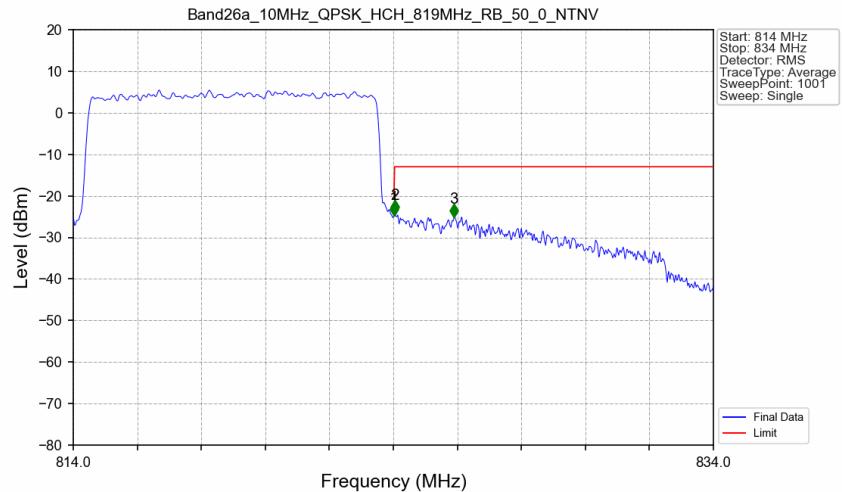
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
804	813	0.1	/	1	812.080	-26.62	-13	Pass
813	813.963	0.1	/	2	813.820	-25.03	-13	Pass
813.963	814	0.103	/	3	813.980	-25.38	-20	Pass
814	824	0.103	CHP	/	/	/	/	/

Band26a_10MHz_QPSK_HCH_819MHz_RB_1_49_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
814	824	0.003	/	/	/	/	/	/
824	824.038	0.003	/	1	824.001	-42.20	-20	Pass
824.038	825	0.1	CHP	2	824.088	-34.70	-13	Pass
825	834	0.1	CHP	3	825.019	-52.03	-13	Pass

Band26a_10MHz_QPSK_HCH_819MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
814	824	0.103	CHP	/	/	/	/	/
824	824.038	0.103	CHP	1	824.020	-24.84	-20	Pass
824.038	825	0.1	/	2	824.040	-24.28	-13	Pass
825	834	0.1	/	3	825.900	-25.07	-13	Pass

6. Field Strength of Spurious Radiation

LTE Band 26a(814-824MHz)-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
1629.0	-70.44	-13	-57.44	-73.37	2.62	5.55	Horizontal	Pass
2443.5	-69.65	-13	-56.65	-72.29	3.04	5.68	Horizontal	Pass
3258.0	-66.97	-13	-53.97	-71.25	3.28	7.56	Horizontal	Pass
1629.0	-67.52	-13	-54.52	-70.45	2.62	5.55	Vertical	Pass
2443.5	-66.17	-13	-53.17	-68.81	3.04	5.68	Vertical	Pass
3258.0	-66.21	-13	-53.21	-70.49	3.28	7.56	Vertical	Pass