

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B12_1.4MHz_ERP

Band: 12 / Bandwidth: 1.4MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	699.7	1	0	22.81	3.17	23.83	<=34.77	Pass
			2	22.87	3.17	23.89	<=34.77	Pass
			5	22.78	3.17	23.80	<=34.77	Pass
		3	0	22.76	3.17	23.78	<=34.77	Pass
			2	22.75	3.17	23.77	<=34.77	Pass
			3	22.73	3.17	23.75	<=34.77	Pass
		6	0	21.77	3.17	22.79	<=34.77	Pass
	707.5	1	0	22.57	3.17	23.59	<=34.77	Pass
			2	22.62	3.17	23.64	<=34.77	Pass
			5	22.63	3.17	23.65	<=34.77	Pass
		3	0	22.64	3.17	23.66	<=34.77	Pass
			2	22.70	3.17	23.72	<=34.77	Pass
			3	22.68	3.17	23.70	<=34.77	Pass
		6	0	21.66	3.17	22.68	<=34.77	Pass
	715.3	1	0	22.54	3.17	23.56	<=34.77	Pass
			2	22.55	3.17	23.57	<=34.77	Pass
			5	22.57	3.17	23.59	<=34.77	Pass
		3	0	22.62	3.17	23.64	<=34.77	Pass
			2	22.57	3.17	23.59	<=34.77	Pass
			3	22.54	3.17	23.56	<=34.77	Pass
		6	0	21.54	3.17	22.56	<=34.77	Pass
16QAM	699.7	1	0	21.76	3.17	22.78	<=34.77	Pass
			2	21.79	3.17	22.81	<=34.77	Pass
			5	21.78	3.17	22.80	<=34.77	Pass
		3	0	21.74	3.17	22.76	<=34.77	Pass
			2	21.74	3.17	22.76	<=34.77	Pass
			3	21.74	3.17	22.76	<=34.77	Pass
		6	0	20.73	3.17	21.75	<=34.77	Pass
	707.5	1	0	21.43	3.17	22.45	<=34.77	Pass
			2	21.39	3.17	22.41	<=34.77	Pass
			5	21.41	3.17	22.43	<=34.77	Pass
		3	0	21.61	3.17	22.63	<=34.77	Pass
			2	21.68	3.17	22.70	<=34.77	Pass
			3	21.66	3.17	22.68	<=34.77	Pass
		6	0	20.62	3.17	21.64	<=34.77	Pass
	715.3	1	0	21.58	3.17	22.60	<=34.77	Pass
			2	21.61	3.17	22.63	<=34.77	Pass
			5	21.56	3.17	22.58	<=34.77	Pass
		3	0	21.47	3.17	22.49	<=34.77	Pass
			2	21.48	3.17	22.50	<=34.77	Pass
			3	21.46	3.17	22.48	<=34.77	Pass
		6	0	20.64	3.17	21.66	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.2 B12_3MHz_ERP

Band: 12 / Bandwidth: 3MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	700.5	1	0	22.80	3.17	23.82	<=34.77	Pass
			7	22.84	3.17	23.86	<=34.77	Pass
			14	22.35	3.17	23.37	<=34.77	Pass
		8	0	21.79	3.17	22.81	<=34.77	Pass
			4	21.68	3.17	22.70	<=34.77	Pass
			7	21.45	3.17	22.47	<=34.77	Pass
		15	0	21.58	3.17	22.60	<=34.77	Pass
	707.5	1	0	22.47	3.17	23.49	<=34.77	Pass
			7	22.62	3.17	23.64	<=34.77	Pass
			14	22.77	3.17	23.79	<=34.77	Pass
		8	0	21.59	3.17	22.61	<=34.77	Pass
			4	21.65	3.17	22.67	<=34.77	Pass
			7	21.74	3.17	22.76	<=34.77	Pass
		15	0	21.64	3.17	22.66	<=34.77	Pass
	714.5	1	0	22.69	3.17	23.71	<=34.77	Pass
			7	22.66	3.17	23.68	<=34.77	Pass
			14	22.48	3.17	23.50	<=34.77	Pass
		8	0	21.75	3.17	22.77	<=34.77	Pass
			4	21.59	3.17	22.61	<=34.77	Pass
			7	21.50	3.17	22.52	<=34.77	Pass
		15	0	21.59	3.17	22.61	<=34.77	Pass
16QAM	700.5	1	0	21.71	3.17	22.73	<=34.77	Pass
			7	21.75	3.17	22.77	<=34.77	Pass
			14	21.31	3.17	22.33	<=34.77	Pass
		8	0	20.84	3.17	21.86	<=34.77	Pass
			4	20.77	3.17	21.79	<=34.77	Pass
			7	20.57	3.17	21.59	<=34.77	Pass
		15	0	20.65	3.17	21.67	<=34.77	Pass
	707.5	1	0	21.35	3.17	22.37	<=34.77	Pass
			7	21.53	3.17	22.55	<=34.77	Pass
			14	21.61	3.17	22.63	<=34.77	Pass
		8	0	20.56	3.17	21.58	<=34.77	Pass
			4	20.65	3.17	21.67	<=34.77	Pass
			7	20.70	3.17	21.72	<=34.77	Pass
		15	0	20.64	3.17	21.66	<=34.77	Pass
	714.5	1	0	21.91	3.17	22.93	<=34.77	Pass
			7	21.92	3.17	22.94	<=34.77	Pass
			14	21.63	3.17	22.65	<=34.77	Pass
		8	0	20.77	3.17	21.79	<=34.77	Pass
			4	20.77	3.17	21.79	<=34.77	Pass
			7	20.67	3.17	21.69	<=34.77	Pass
		15	0	20.67	3.17	21.69	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.3 B12_5MHz_ERP

Band: 12 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	701.5	1	0	22.88	3.17	23.90	<=34.77	Pass
			13	22.45	3.17	23.47	<=34.77	Pass
			24	22.39	3.17	23.41	<=34.77	Pass
		12	0	21.77	3.17	22.79	<=34.77	Pass
			6	21.62	3.17	22.64	<=34.77	Pass
			13	21.60	3.17	22.62	<=34.77	Pass
		25	0	21.69	3.17	22.71	<=34.77	Pass
	707.5	1	0	22.64	3.17	23.66	<=34.77	Pass
			13	22.75	3.17	23.77	<=34.77	Pass
			24	23.05	3.17	24.07	<=34.77	Pass
		12	0	21.69	3.17	22.71	<=34.77	Pass
			6	21.73	3.17	22.75	<=34.77	Pass
			13	21.93	3.17	22.95	<=34.77	Pass
		25	0	21.83	3.17	22.85	<=34.77	Pass
	713.5	1	0	22.76	3.17	23.78	<=34.77	Pass
			13	22.58	3.17	23.60	<=34.77	Pass
			24	22.37	3.17	23.39	<=34.77	Pass
		12	0	21.84	3.17	22.86	<=34.77	Pass
			6	21.66	3.17	22.68	<=34.77	Pass
			13	21.57	3.17	22.59	<=34.77	Pass
		25	0	21.65	3.17	22.67	<=34.77	Pass
16QAM	701.5	1	0	22.13	3.17	23.15	<=34.77	Pass
			13	21.80	3.17	22.82	<=34.77	Pass
			24	21.79	3.17	22.81	<=34.77	Pass
		12	0	20.85	3.17	21.87	<=34.77	Pass
			6	20.72	3.17	21.74	<=34.77	Pass
			13	20.70	3.17	21.72	<=34.77	Pass
		25	0	20.75	3.17	21.77	<=34.77	Pass
	707.5	1	0	21.72	3.17	22.74	<=34.77	Pass
			13	21.85	3.17	22.87	<=34.77	Pass
			24	22.15	3.17	23.17	<=34.77	Pass
		12	0	20.80	3.17	21.82	<=34.77	Pass
			6	20.83	3.17	21.85	<=34.77	Pass
			13	21.02	3.17	22.04	<=34.77	Pass
		25	0	20.81	3.17	21.83	<=34.77	Pass
	713.5	1	0	22.03	3.17	23.05	<=34.77	Pass
			13	21.87	3.17	22.89	<=34.77	Pass
			24	21.68	3.17	22.70	<=34.77	Pass
		12	0	20.80	3.17	21.82	<=34.77	Pass
			6	20.75	3.17	21.77	<=34.77	Pass
			13	20.66	3.17	21.68	<=34.77	Pass
		25	0	20.80	3.17	21.82	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.4 B12_10MHz_ERP

Band: 12 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	704	1	0	23.11	3.17	24.13	<=34.77	Pass
			25	22.67	3.17	23.69	<=34.77	Pass
			49	23.19	3.17	24.21	<=34.77	Pass
		25	0	21.78	3.17	22.80	<=34.77	Pass
			13	21.73	3.17	22.75	<=34.77	Pass
			25	21.85	3.17	22.87	<=34.77	Pass
		50	0	21.79	3.17	22.81	<=34.77	Pass
	707.5	1	0	22.67	3.17	23.69	<=34.77	Pass
			25	22.84	3.17	23.86	<=34.77	Pass
			49	23.11	3.17	24.13	<=34.77	Pass
		25	0	21.73	3.17	22.75	<=34.77	Pass
			13	21.92	3.17	22.94	<=34.77	Pass
			25	22.06	3.17	23.08	<=34.77	Pass
		50	0	21.93	3.17	22.95	<=34.77	Pass
	711	1	0	22.70	3.17	23.72	<=34.77	Pass
			25	22.97	3.17	23.99	<=34.77	Pass
			49	22.69	3.17	23.71	<=34.77	Pass
		25	0	21.86	3.17	22.88	<=34.77	Pass
			13	21.92	3.17	22.94	<=34.77	Pass
			25	21.82	3.17	22.84	<=34.77	Pass
		50	0	21.86	3.17	22.88	<=34.77	Pass
16QAM	704	1	0	22.28	3.17	23.30	<=34.77	Pass
			25	21.95	3.17	22.97	<=34.77	Pass
			49	22.37	3.17	23.39	<=34.77	Pass
		12	0	21.90	3.17	22.92	<=34.77	Pass
			19	21.76	3.17	22.78	<=34.77	Pass
			38	21.97	3.17	22.99	<=34.77	Pass
		27	0	20.79	3.17	21.81	<=34.77	Pass
	707.5	1	0	21.63	3.17	22.65	<=34.77	Pass
			25	21.82	3.17	22.84	<=34.77	Pass
			49	22.10	3.17	23.12	<=34.77	Pass
		12	0	21.61	3.17	22.63	<=34.77	Pass
			19	21.82	3.17	22.84	<=34.77	Pass
			38	22.08	3.17	23.10	<=34.77	Pass
		27	0	20.86	3.17	21.88	<=34.77	Pass
	711	1	0	21.45	3.17	22.47	<=34.77	Pass
			25	21.71	3.17	22.73	<=34.77	Pass
			49	21.46	3.17	22.48	<=34.77	Pass
		12	0	21.75	3.17	22.77	<=34.77	Pass
			19	21.98	3.17	23.00	<=34.77	Pass
			38	21.76	3.17	22.78	<=34.77	Pass
		27	23	20.88	3.17	21.90	<=34.77	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 Test Result

2.1.1 B12_10MHz

Band: 12 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	707.5	50	0	20	LV	-0.286	-0.0004	-2.5 to 2.5	Pass
					NV	0.672	0.0009	-2.5 to 2.5	Pass
					HV	-0.014	0.0000	-2.5 to 2.5	Pass
				-30	NV	-0.014	0.0000	-2.5 to 2.5	Pass
				-20	NV	0.100	0.0001	-2.5 to 2.5	Pass
				-10	NV	0.029	0.0000	-2.5 to 2.5	Pass
				0	NV	0.072	0.0001	-2.5 to 2.5	Pass
				10	NV	0.000	0.0000	-2.5 to 2.5	Pass
				30	NV	0.100	0.0001	-2.5 to 2.5	Pass
				40	NV	0.315	0.0004	-2.5 to 2.5	Pass
				50	NV	0.286	0.0004	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band12_OBW

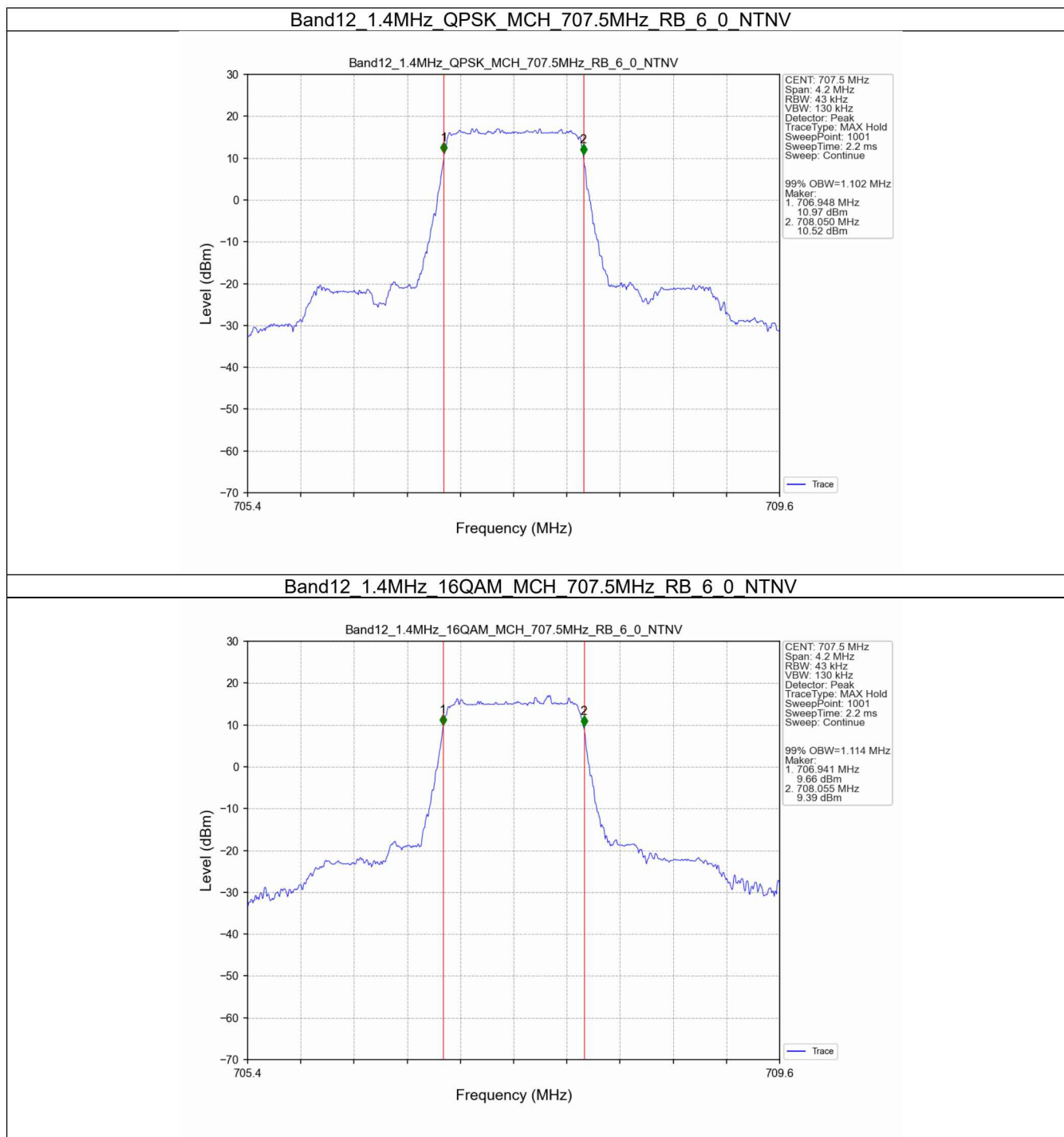
Band: 12 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	707.5	6	0	1.102	/	Pass
	16QAM	707.5	6	0	1.114	/	Pass
3	QPSK	707.5	15	0	2.740	/	Pass
	16QAM	707.5	15	0	2.752	/	Pass
5	QPSK	707.5	25	0	4.571	/	Pass
	16QAM	707.5	25	0	4.563	/	Pass
10	QPSK	707.5	50	0	9.043	/	Pass
	16QAM	707.5	27	0	5.168	/	Pass

3.1.2 Band12_XDB

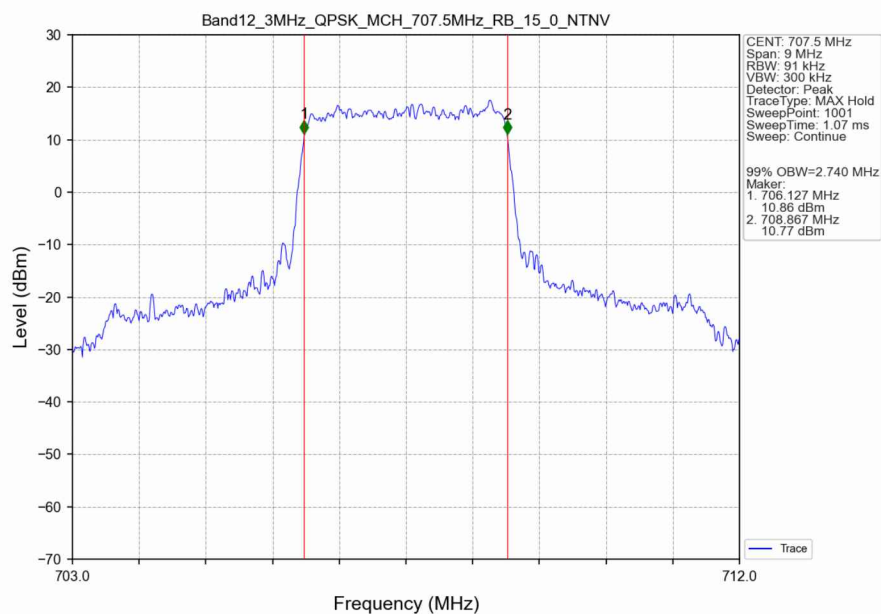
Band: 12 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	707.5	6	0	1.315	/	Pass
	16QAM	707.5	6	0	1.309	/	Pass
3	QPSK	707.5	15	0	3.032	/	Pass
	16QAM	707.5	15	0	3.069	/	Pass
5	QPSK	707.5	25	0	5.348	/	Pass
	16QAM	707.5	25	0	5.662	/	Pass
10	QPSK	707.5	50	0	10.268	/	Pass
	16QAM	707.5	27	0	6.577	/	Pass

3.2 Test Graph

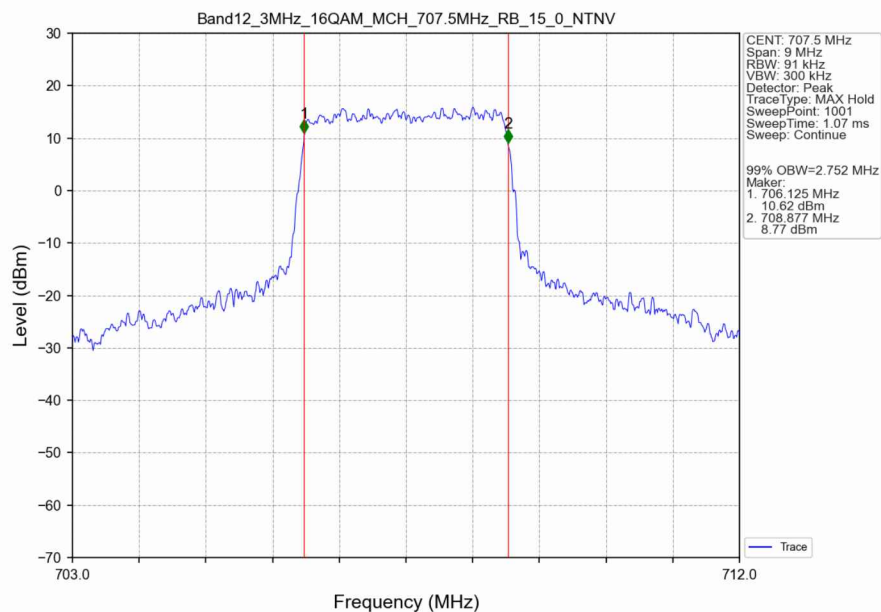
3.2.1 Band12_OBW



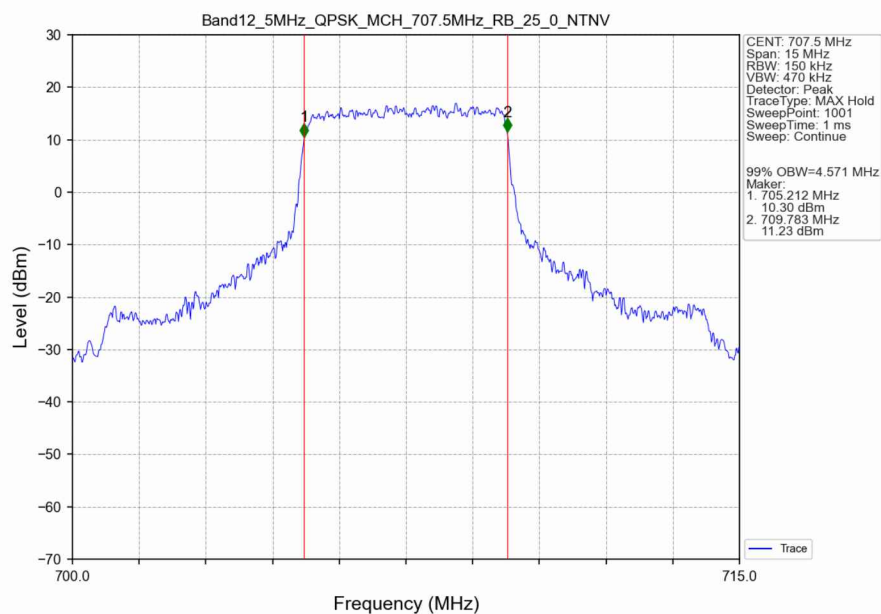
Band12_3MHz_QPSK_MCH_707.5MHz_RB_15_0_NTNV



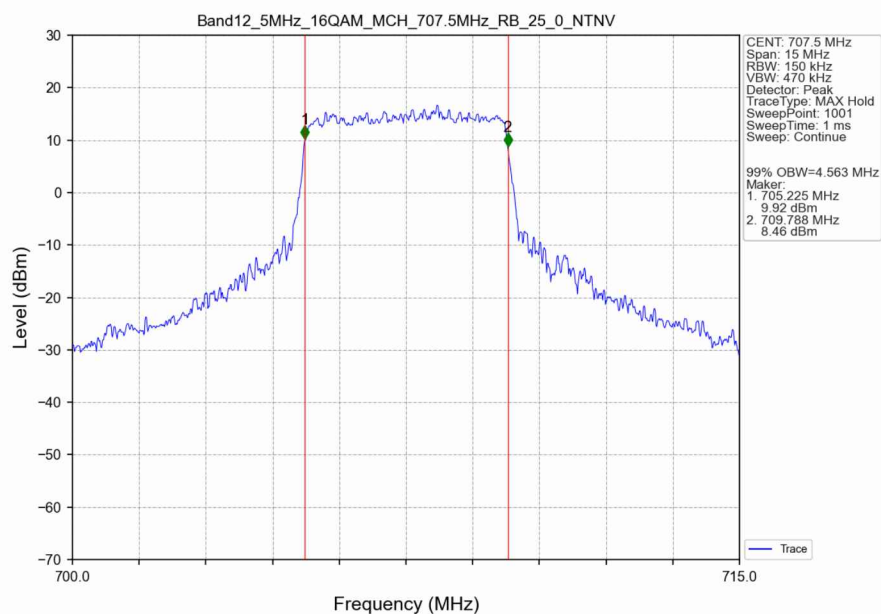
Band12_3MHz_16QAM_MCH_707.5MHz_RB_15_0_NTNV



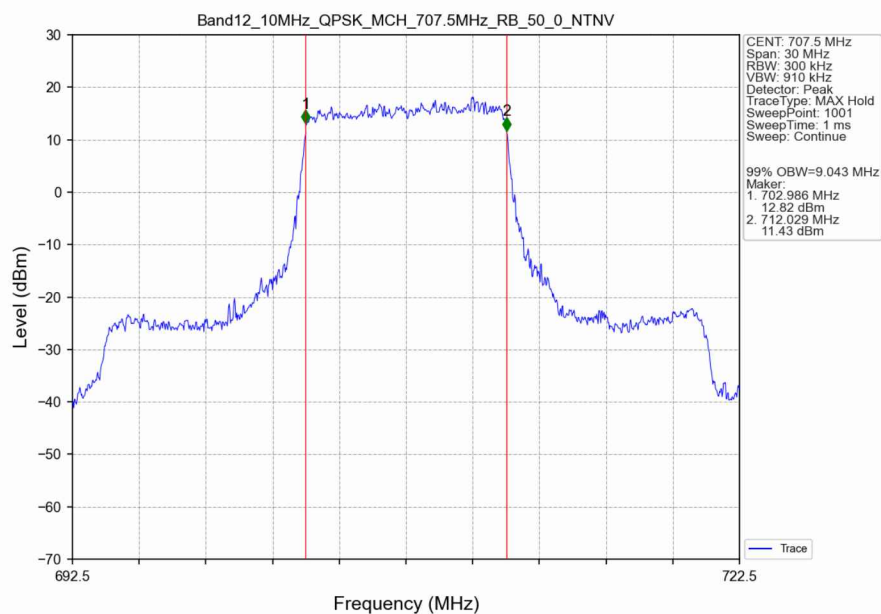
Band12_5MHz_QPSK_MCH_707.5MHz_RB_25_0_NTNV



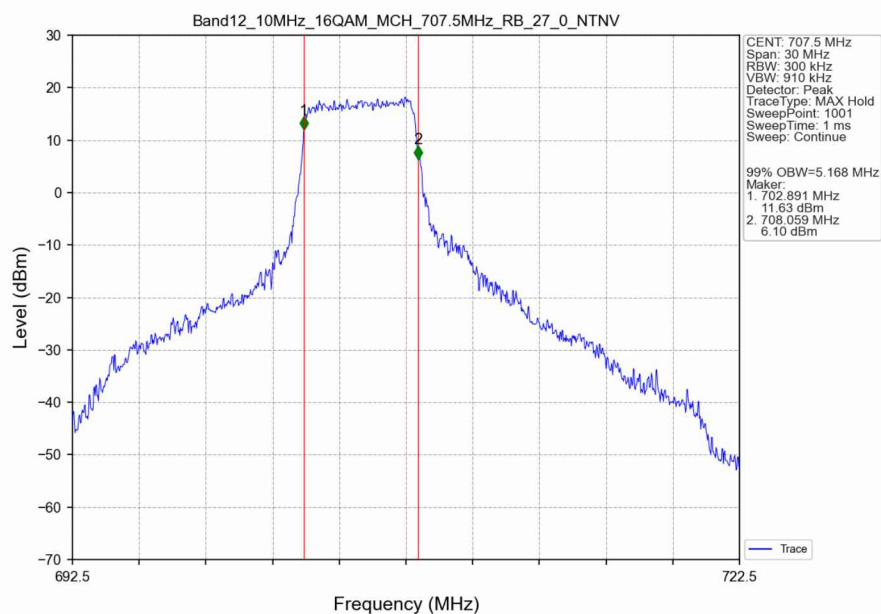
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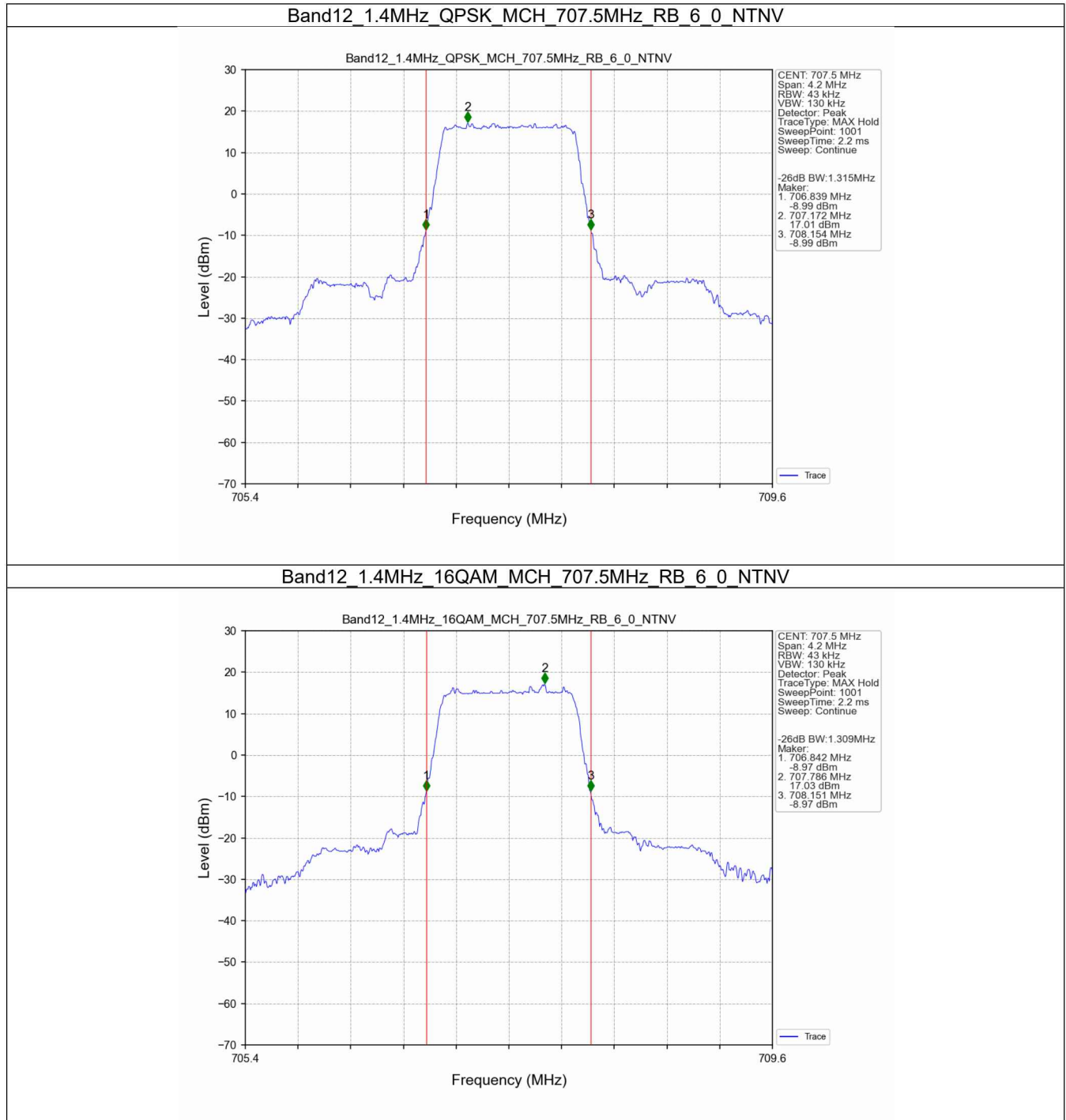
Band12_10MHz_QPSK_MCH_707.5MHz_RB_50_0_NTNV



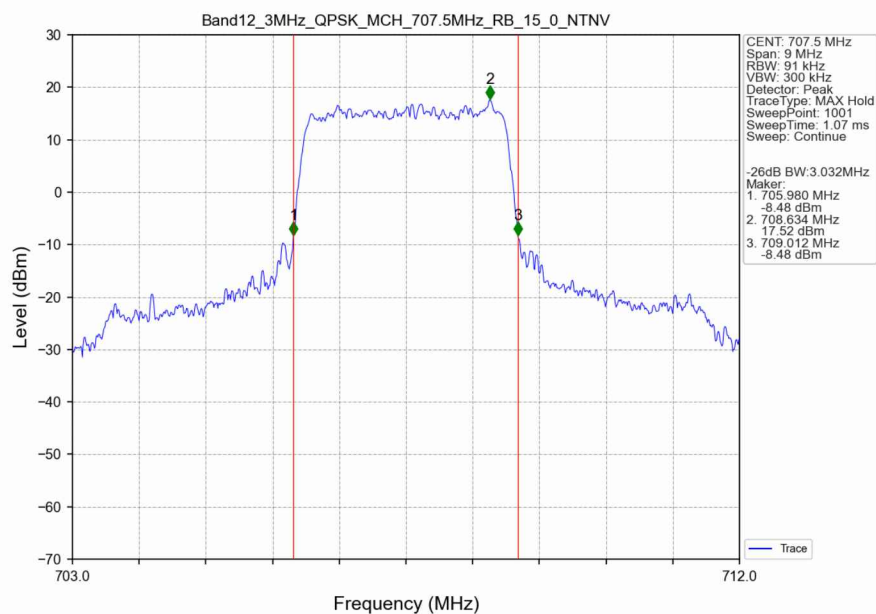
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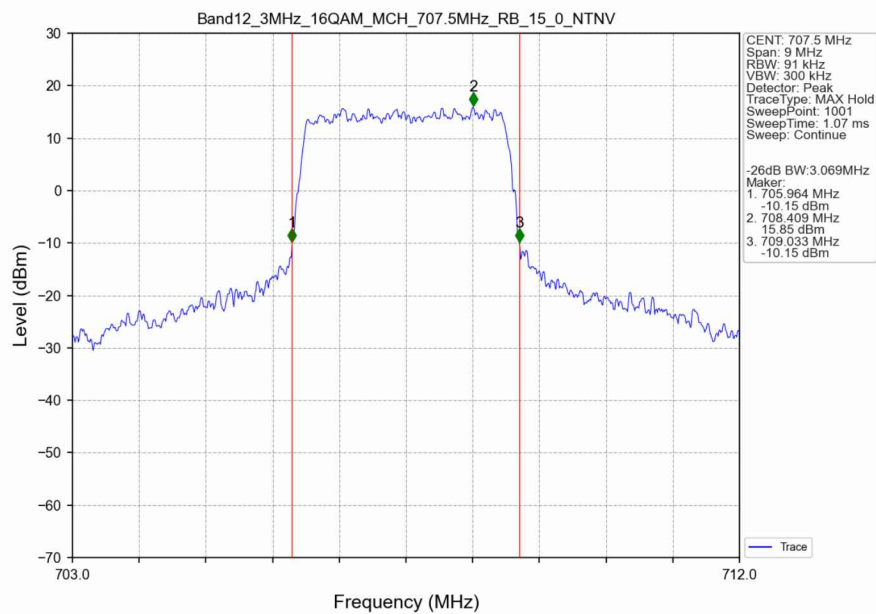
3.2.2 Band12_XDB



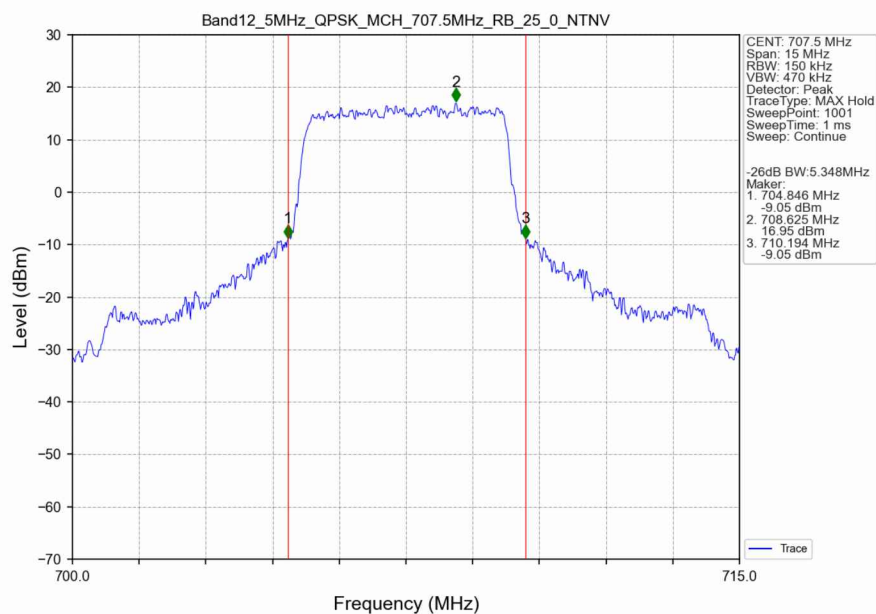
Band12_3MHz_QPSK_MCH_707.5MHz_RB_15_0_NTNV



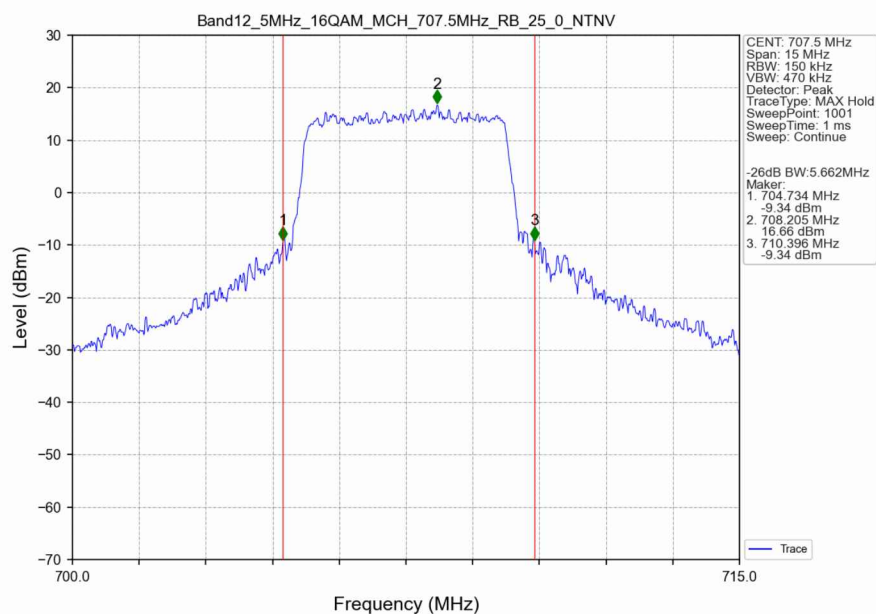
Band12_3MHz_16QAM_MCH_707.5MHz_RB_15_0_NTNV



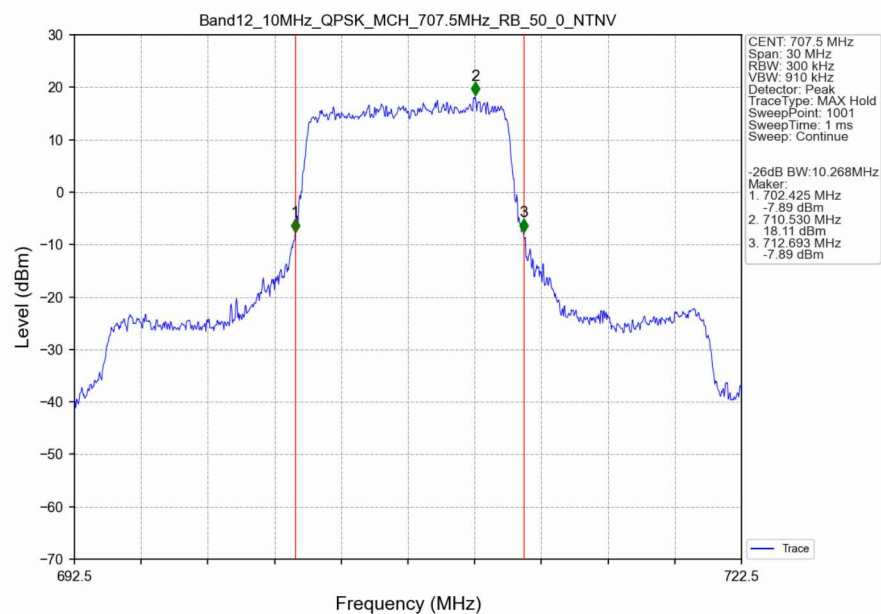
Band12_5MHz_QPSK_MCH_707.5MHz_RB_25_0_NTNV



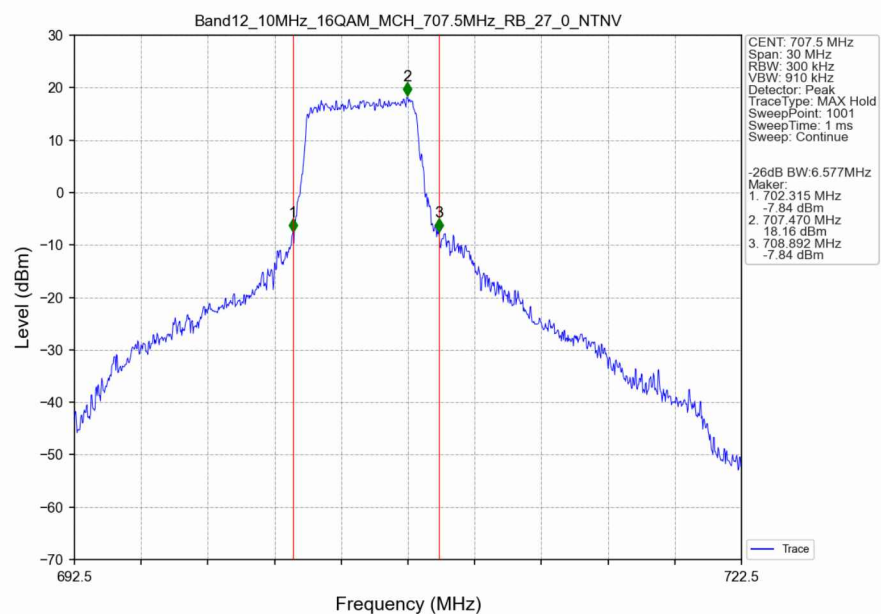
Band12_5MHz_16QAM_MCH_707.5MHz_RB_25_0_NTNV



Band12_10MHz_QPSK_MCH_707.5MHz_RB_50_0_NTNV



Band12_10MHz_16QAM_MCH_707.5MHz_RB_27_0_NTNV





4. Peak-Average Ratio

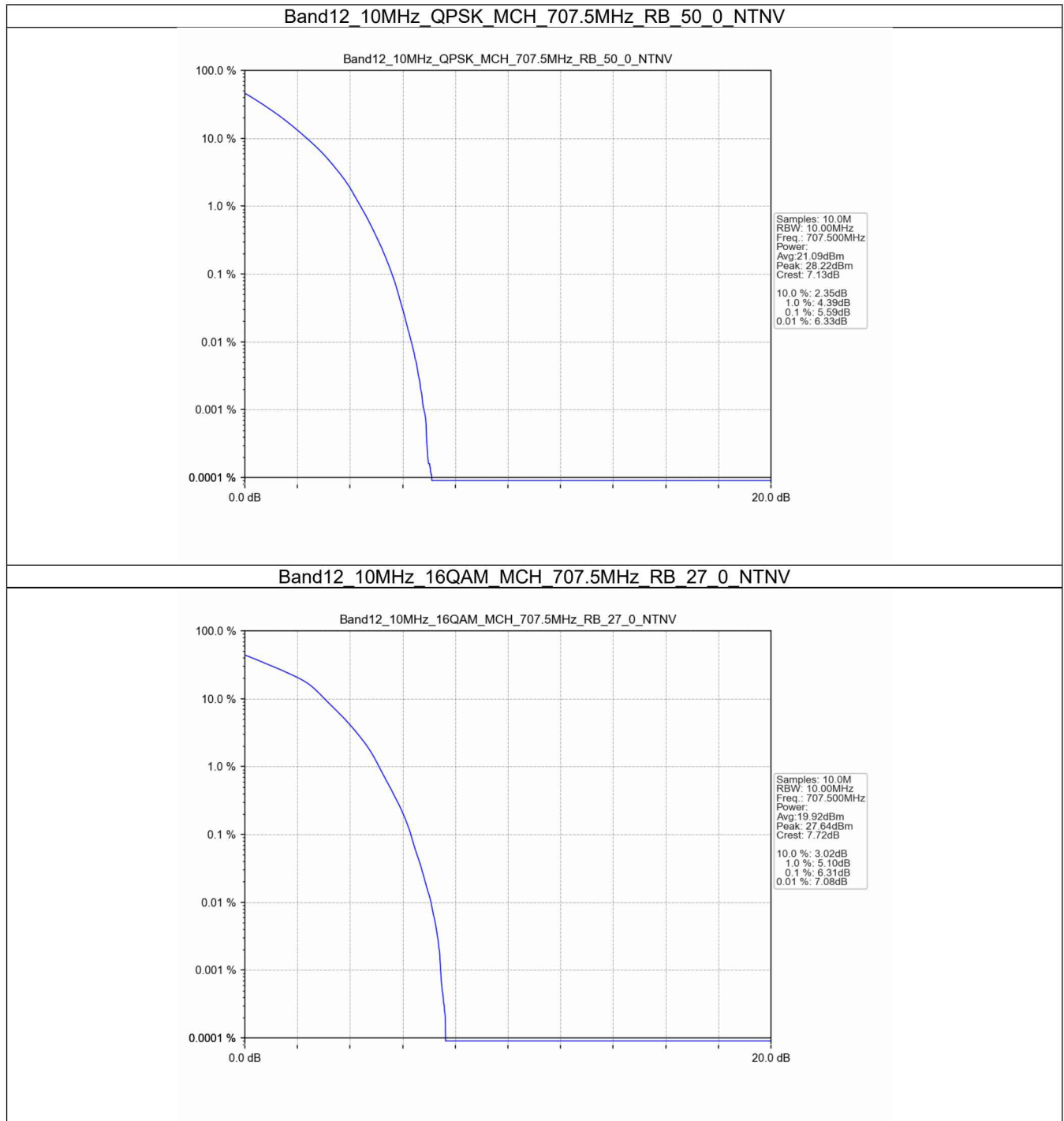
4.1 Test Result

4.1.1 B12_10MHz

Band: 12 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	707.5	50	0	5.59	<=13	Pass
16QAM	707.5	27	0	6.31	<=13	Pass

4.2 Test Graph

4.2.1 B12_10MHz



5. Spurious Emission

5.1 Test Result

5.1.1 B12_1.4MHz

Band: 12 / Bandwidth: 1.4MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	699.7	1	0	Refer To Test Graph		Pass
		6	0	Refer To Test Graph		Pass
	707.5	1	0	Refer To Test Graph		Pass
	715.3	1	0	Refer To Test Graph		Pass
			5	Refer To Test Graph		Pass
		6	0	Refer To Test Graph		Pass

5.1.2 B12_3MHz

Band: 12 / Bandwidth: 3MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	700.5	1	0	Refer To Test Graph		Pass
		15	0	Refer To Test Graph		Pass
	707.5	1	0	Refer To Test Graph		Pass
		714.5	1	0	Refer To Test Graph	
	14			Refer To Test Graph		Pass
	15		0	Refer To Test Graph		Pass

5.1.3 B12_5MHz

Band: 12 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	701.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	707.5	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

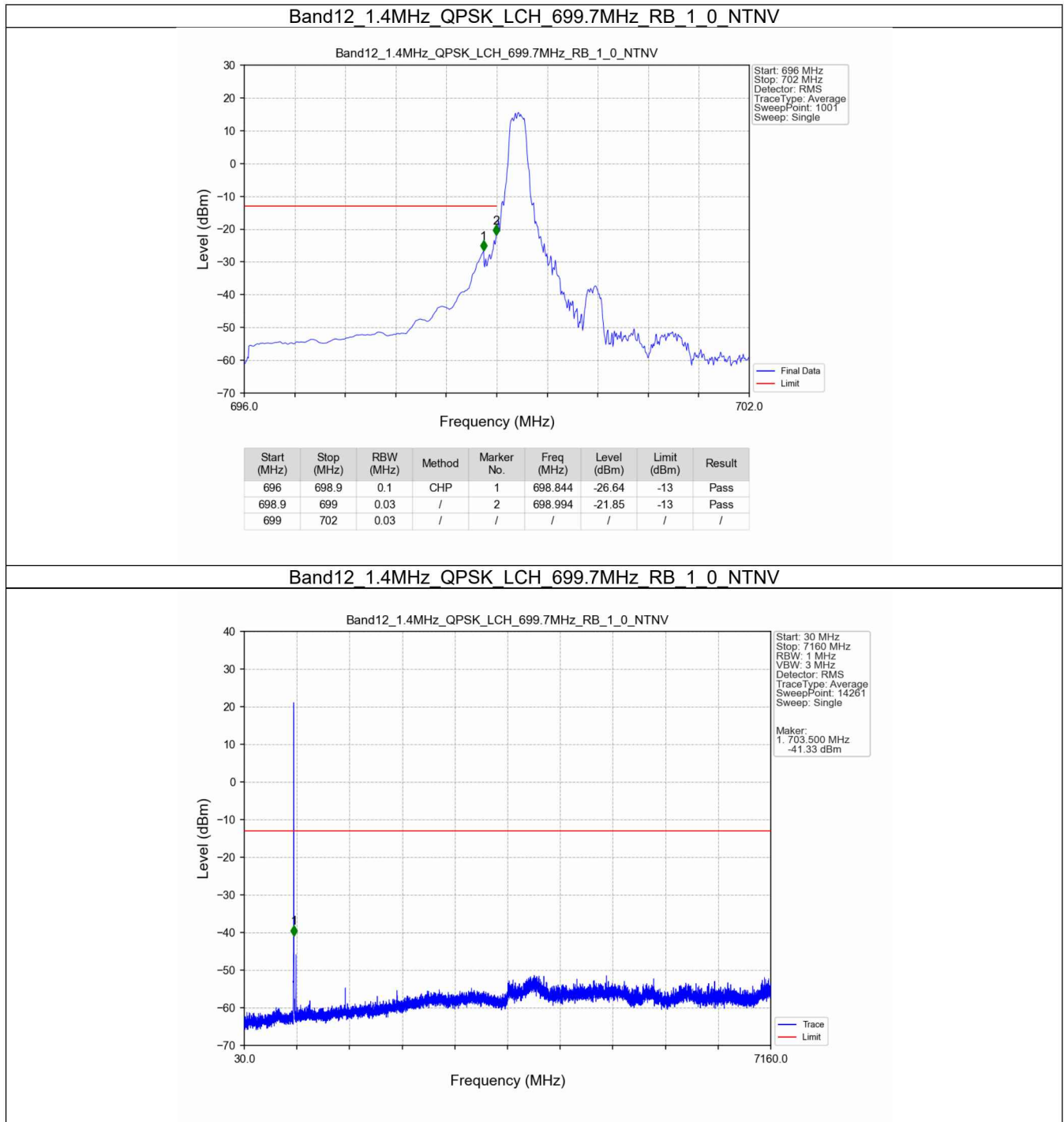


5.1.4 B12_10MHz

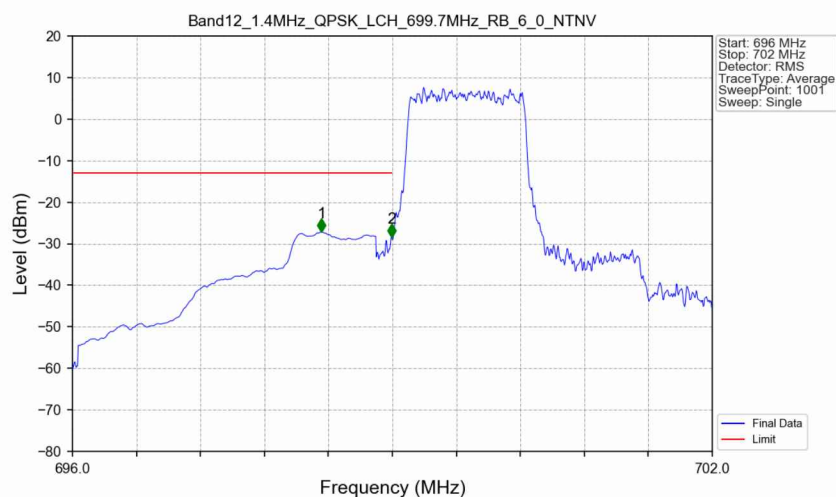
Band: 12 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	704	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	707.5	1	0	Refer To Test Graph		Pass
		1	0	Refer To Test Graph		Pass
	711	1	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

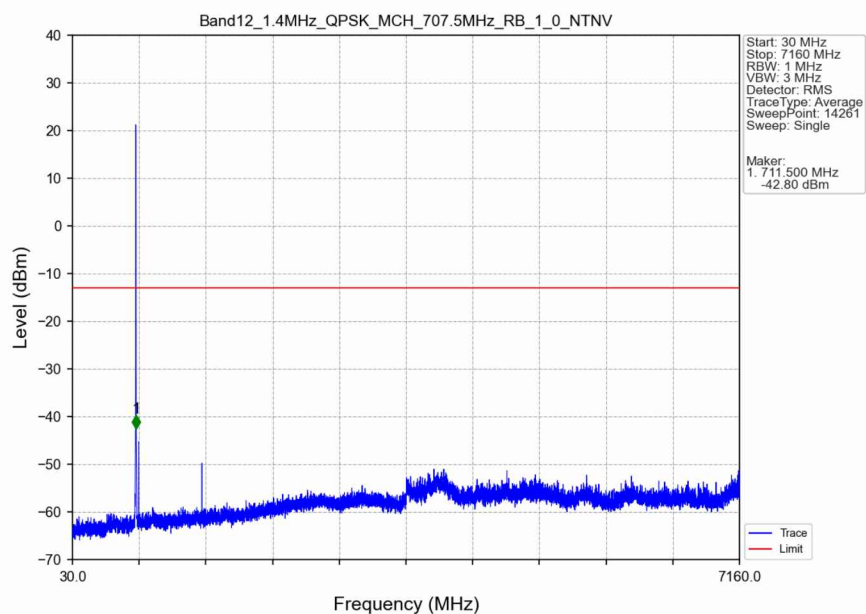
5.2.1 B12_1.4MHz



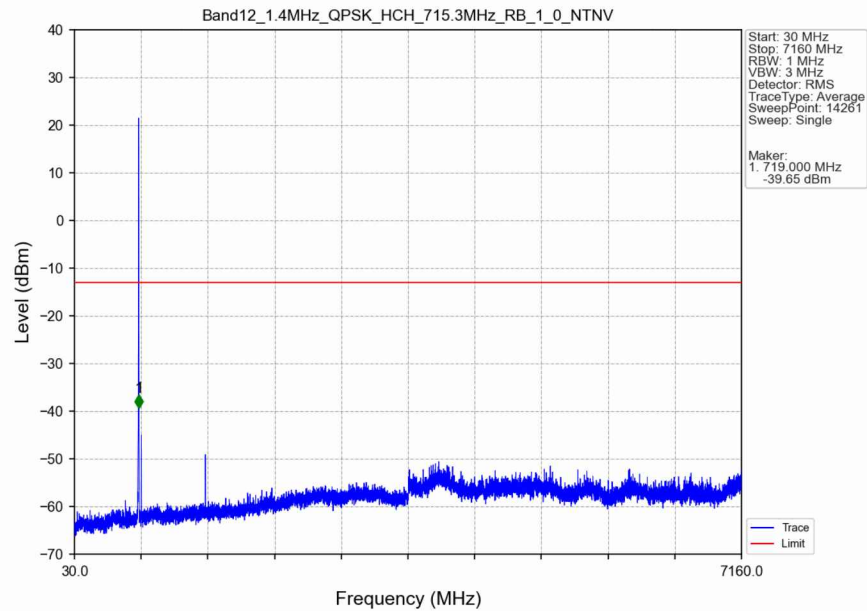
Band12_1.4MHz_QPSK_LCH_699.7MHz_RB_6_0_NTNV



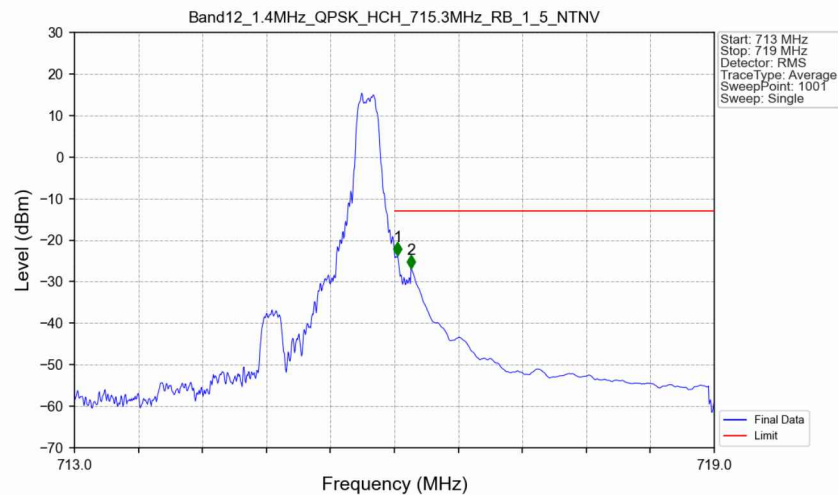
Band12_1.4MHz_QPSK_MCH_707.5MHz_RB_1_0_NTNV



Band12_1.4MHz_QPSK_HCH_715.3MHz_RB_1_0_NTNV

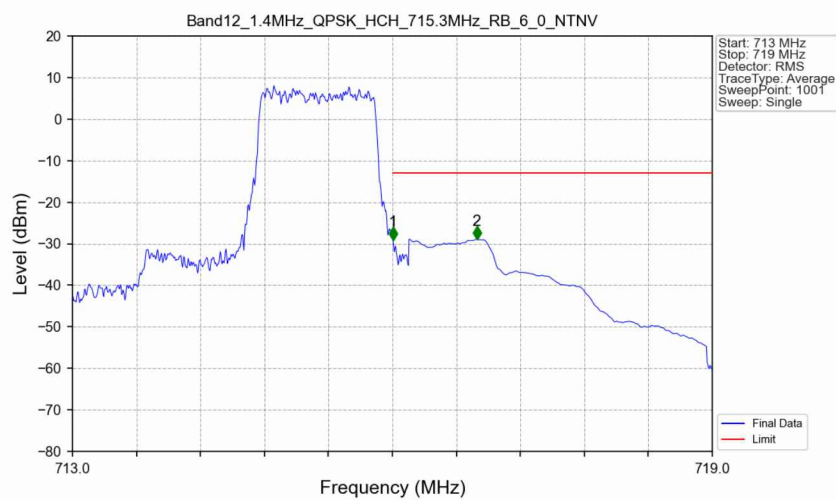


Band12_1.4MHz_QPSK_HCH_715.3MHz_RB_1_5_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
713	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.030	-23.71	-13	Pass
716.1	719	0.1	CHP	2	716.156	-26.86	-13	Pass

Band12_1.4MHz_QPSK_HCH_715.3MHz_RB_6_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
713	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.006	-29.04	-13	Pass
716.1	719	0.1	CHP	2	716.792	-28.89	-13	Pass