

**Appendix A.10****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	22.09	0.60	20.54	<=34.77	Pass
			2	22.14	0.60	20.59	<=34.77	Pass
			5	22.19	0.60	20.64	<=34.77	Pass
		3	0	21.89	0.60	20.34	<=34.77	Pass
			2	21.99	0.60	20.44	<=34.77	Pass
			3	21.88	0.60	20.33	<=34.77	Pass
		6	0	20.96	0.60	19.41	<=34.77	Pass
	707.5	1	0	21.96	0.60	20.41	<=34.77	Pass
			2	22.24	0.60	20.69	<=34.77	Pass
			5	21.97	0.60	20.42	<=34.77	Pass
		3	0	21.84	0.60	20.29	<=34.77	Pass
			2	21.85	0.60	20.30	<=34.77	Pass
			3	21.87	0.60	20.32	<=34.77	Pass
		6	0	20.89	0.60	19.34	<=34.77	Pass
	715.3	1	0	21.69	0.60	20.14	<=34.77	Pass
			2	21.80	0.60	20.25	<=34.77	Pass
			5	21.96	0.60	20.41	<=34.77	Pass
		3	0	21.69	0.60	20.14	<=34.77	Pass
			2	21.81	0.60	20.26	<=34.77	Pass
			3	21.83	0.60	20.28	<=34.77	Pass
		6	0	20.83	0.60	19.28	<=34.77	Pass
16QAM	699.7	1	0	20.43	0.60	18.88	<=34.77	Pass
			2	20.63	0.60	19.08	<=34.77	Pass
			5	20.74	0.60	19.19	<=34.77	Pass
		3	0	20.84	0.60	19.29	<=34.77	Pass
			2	21.08	0.60	19.53	<=34.77	Pass
			3	21.09	0.60	19.54	<=34.77	Pass
		6	0	20.04	0.60	18.49	<=34.77	Pass
	707.5	1	0	20.46	0.60	18.91	<=34.77	Pass
			2	20.59	0.60	19.04	<=34.77	Pass
			5	20.47	0.60	18.92	<=34.77	Pass
		3	0	20.96	0.60	19.41	<=34.77	Pass
			2	21.04	0.60	19.49	<=34.77	Pass



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			3	21.14	0.60	19.59	<=34.77	Pass
		6	0	19.97	0.60	18.42	<=34.77	Pass
	715.3	1	0	20.23	0.60	18.68	<=34.77	Pass
			2	20.37	0.60	18.82	<=34.77	Pass
			5	20.46	0.60	18.91	<=34.77	Pass
			0	20.57	0.60	19.02	<=34.77	Pass
		3	2	21.10	0.60	19.55	<=34.77	Pass
			3	20.98	0.60	19.43	<=34.77	Pass
		6	0	19.97	0.60	18.42	<=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	21.90	0.60	20.35	<=34.77	Pass
			7	22.38	0.60	20.83	<=34.77	Pass
			14	22.02	0.60	20.47	<=34.77	Pass
		8	0	20.93	0.60	19.38	<=34.77	Pass
			4	21.13	0.60	19.58	<=34.77	Pass
			7	21.04	0.60	19.49	<=34.77	Pass
		15	0	20.84	0.60	19.29	<=34.77	Pass
	707.5	1	0	22.01	0.60	20.46	<=34.77	Pass
			7	22.33	0.60	20.78	<=34.77	Pass
			14	21.92	0.60	20.37	<=34.77	Pass
		8	0	20.92	0.60	19.37	<=34.77	Pass
			4	20.95	0.60	19.40	<=34.77	Pass
			7	20.84	0.60	19.29	<=34.77	Pass
		15	0	20.91	0.60	19.36	<=34.77	Pass
	714.5	1	0	21.88	0.60	20.33	<=34.77	Pass
			7	22.05	0.60	20.50	<=34.77	Pass
			14	21.98	0.60	20.43	<=34.77	Pass
		8	0	20.83	0.60	19.28	<=34.77	Pass
			4	20.90	0.60	19.35	<=34.77	Pass
			7	20.77	0.60	19.22	<=34.77	Pass
		15	0	20.81	0.60	19.26	<=34.77	Pass
16QAM	700.5	1	0	20.42	0.60	18.87	<=34.77	Pass
			7	21.14	0.60	19.59	<=34.77	Pass
			14	20.58	0.60	19.03	<=34.77	Pass
		8	0	19.90	0.60	18.35	<=34.77	Pass
			4	20.18	0.60	18.63	<=34.77	Pass
			7	20.23	0.60	18.68	<=34.77	Pass



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	707.5	15	0	19.94	0.60	18.39	<=34.77	Pass
		1	0	20.55	0.60	19.00	<=34.77	Pass
			7	20.70	0.60	19.15	<=34.77	Pass
			14	20.32	0.60	18.77	<=34.77	Pass
		8	0	20.00	0.60	18.45	<=34.77	Pass
			4	19.91	0.60	18.36	<=34.77	Pass
			7	20.09	0.60	18.54	<=34.77	Pass
		15	0	19.91	0.60	18.36	<=34.77	Pass
	714.5	1	0	20.59	0.60	19.04	<=34.77	Pass
			7	20.64	0.60	19.09	<=34.77	Pass
			14	20.79	0.60	19.24	<=34.77	Pass
		8	0	19.85	0.60	18.30	<=34.77	Pass
			4	20.03	0.60	18.48	<=34.77	Pass
			7	19.91	0.60	18.36	<=34.77	Pass
		15	0	19.53	0.60	17.98	<=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	21.90	0.60	20.35	<=34.77	Pass
			13	22.13	0.60	20.58	<=34.77	Pass
			24	21.87	0.60	20.32	<=34.77	Pass
		12	0	20.93	0.60	19.38	<=34.77	Pass
			6	21.01	0.60	19.46	<=34.77	Pass
			13	20.86	0.60	19.31	<=34.77	Pass
		25	0	20.91	0.60	19.36	<=34.77	Pass
	707.5	1	0	21.88	0.60	20.33	<=34.77	Pass
			13	22.03	0.60	20.48	<=34.77	Pass
			24	21.69	0.60	20.14	<=34.77	Pass
		12	0	20.90	0.60	19.35	<=34.77	Pass
			6	20.88	0.60	19.33	<=34.77	Pass
			13	20.74	0.60	19.19	<=34.77	Pass
		25	0	20.77	0.60	19.22	<=34.77	Pass
	713.5	1	0	21.81	0.60	20.26	<=34.77	Pass
			13	21.85	0.60	20.30	<=34.77	Pass
			24	21.76	0.60	20.21	<=34.77	Pass
		12	0	20.76	0.60	19.21	<=34.77	Pass
			6	20.80	0.60	19.25	<=34.77	Pass
			13	20.68	0.60	19.13	<=34.77	Pass
		25	0	20.79	0.60	19.24	<=34.77	Pass



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16QAM	701.5	1	0	20.45	0.60	18.90	<=34.77	Pass
			13	20.57	0.60	19.02	<=34.77	Pass
			24	20.29	0.60	18.74	<=34.77	Pass
		12	0	19.70	0.60	18.15	<=34.77	Pass
			6	19.89	0.60	18.34	<=34.77	Pass
			13	19.83	0.60	18.28	<=34.77	Pass
		25	0	19.95	0.60	18.40	<=34.77	Pass
	707.5	1	0	20.31	0.60	18.76	<=34.77	Pass
			13	20.56	0.60	19.01	<=34.77	Pass
			24	20.28	0.60	18.73	<=34.77	Pass
		12	0	19.73	0.60	18.18	<=34.77	Pass
			6	19.97	0.60	18.42	<=34.77	Pass
			13	19.86	0.60	18.31	<=34.77	Pass
		25	0	20.06	0.60	18.51	<=34.77	Pass
	713.5	1	0	20.52	0.60	18.97	<=34.77	Pass
			13	20.39	0.60	18.84	<=34.77	Pass
			24	20.39	0.60	18.84	<=34.77	Pass
		12	0	19.62	0.60	18.07	<=34.77	Pass
			6	19.63	0.60	18.08	<=34.77	Pass
			13	19.62	0.60	18.07	<=34.77	Pass
		25	0	19.69	0.60	18.14	<=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	21.90	0.60	20.35	<=34.77	Pass
			25	22.16	0.60	20.61	<=34.77	Pass
			49	21.84	0.60	20.29	<=34.77	Pass
		25	0	20.83	0.60	19.28	<=34.77	Pass
			13	20.98	0.60	19.43	<=34.77	Pass
			25	20.83	0.60	19.28	<=34.77	Pass
		50	0	20.90	0.60	19.35	<=34.77	Pass
	707.5	1	0	21.86	0.60	20.31	<=34.77	Pass
			25	22.37	0.60	20.82	<=34.77	Pass
			49	21.80	0.60	20.25	<=34.77	Pass
		25	0	20.90	0.60	19.35	<=34.77	Pass
			13	20.92	0.60	19.37	<=34.77	Pass
			25	20.73	0.60	19.18	<=34.77	Pass
		50	0	20.86	0.60	19.31	<=34.77	Pass
	711	1	0	21.77	0.60	20.22	<=34.77	Pass



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16QAM	704	25	25	22.07	0.60	20.52	<=34.77	Pass
			49	21.81	0.60	20.26	<=34.77	Pass
			0	20.95	0.60	19.40	<=34.77	Pass
			13	20.83	0.60	19.28	<=34.77	Pass
			25	20.73	0.60	19.18	<=34.77	Pass
		50	0	20.88	0.60	19.33	<=34.77	Pass
		1	0	20.51	0.60	18.96	<=34.77	Pass
			25	20.80	0.60	19.25	<=34.77	Pass
			49	20.42	0.60	18.87	<=34.77	Pass
		25	0	19.93	0.60	18.38	<=34.77	Pass
			13	19.94	0.60	18.39	<=34.77	Pass
			25	19.90	0.60	18.35	<=34.77	Pass
		50	0	19.98	0.60	18.43	<=34.77	Pass
	707.5	1	0	20.66	0.60	19.11	<=34.77	Pass
			25	20.78	0.60	19.23	<=34.77	Pass
			49	20.47	0.60	18.92	<=34.77	Pass
		25	0	19.96	0.60	18.41	<=34.77	Pass
			13	19.88	0.60	18.33	<=34.77	Pass
			25	19.83	0.60	18.28	<=34.77	Pass
		50	0	19.93	0.60	18.38	<=34.77	Pass
		1	0	20.63	0.60	19.08	<=34.77	Pass
			25	20.71	0.60	19.16	<=34.77	Pass
			49	20.40	0.60	18.85	<=34.77	Pass
		25	0	19.82	0.60	18.27	<=34.77	Pass
			13	19.80	0.60	18.25	<=34.77	Pass
			25	19.83	0.60	18.28	<=34.77	Pass
		50	0	19.97	0.60	18.42	<=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 (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	707.5	50	0	20	LV	-0.400	-0.0006	-2.5 to 2.5	Pass
					NV	2.000	0.0028	-2.5 to 2.5	Pass
					HV	0.500	0.0007	-2.5 to 2.5	Pass
				-30	NV	0.400	0.0006	-2.5 to 2.5	Pass
				-20	NV	0.800	0.0011	-2.5 to 2.5	Pass



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				-10	NV	1.400	0.0020	-2.5 to 2.5	Pass
				0	NV	0.500	0.0007	-2.5 to 2.5	Pass
				10	NV	-0.100	-0.0001	-2.5 to 2.5	Pass
				30	NV	0.600	0.0008	-2.5 to 2.5	Pass
				40	NV	0.300	0.0004	-2.5 to 2.5	Pass
				50	NV	0.100	0.0001	-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	1.082	/	Pass
	16QAM	707.5	6	0	1.083	/	Pass
3	QPSK	707.5	15	0	2.686	/	Pass
	16QAM	707.5	15	0	2.687	/	Pass
5	QPSK	707.5	25	0	4.465	/	Pass
	16QAM	707.5	25	0	4.465	/	Pass
10	QPSK	707.5	50	0	8.941	/	Pass
	16QAM	707.5	50	0	8.938	/	Pass

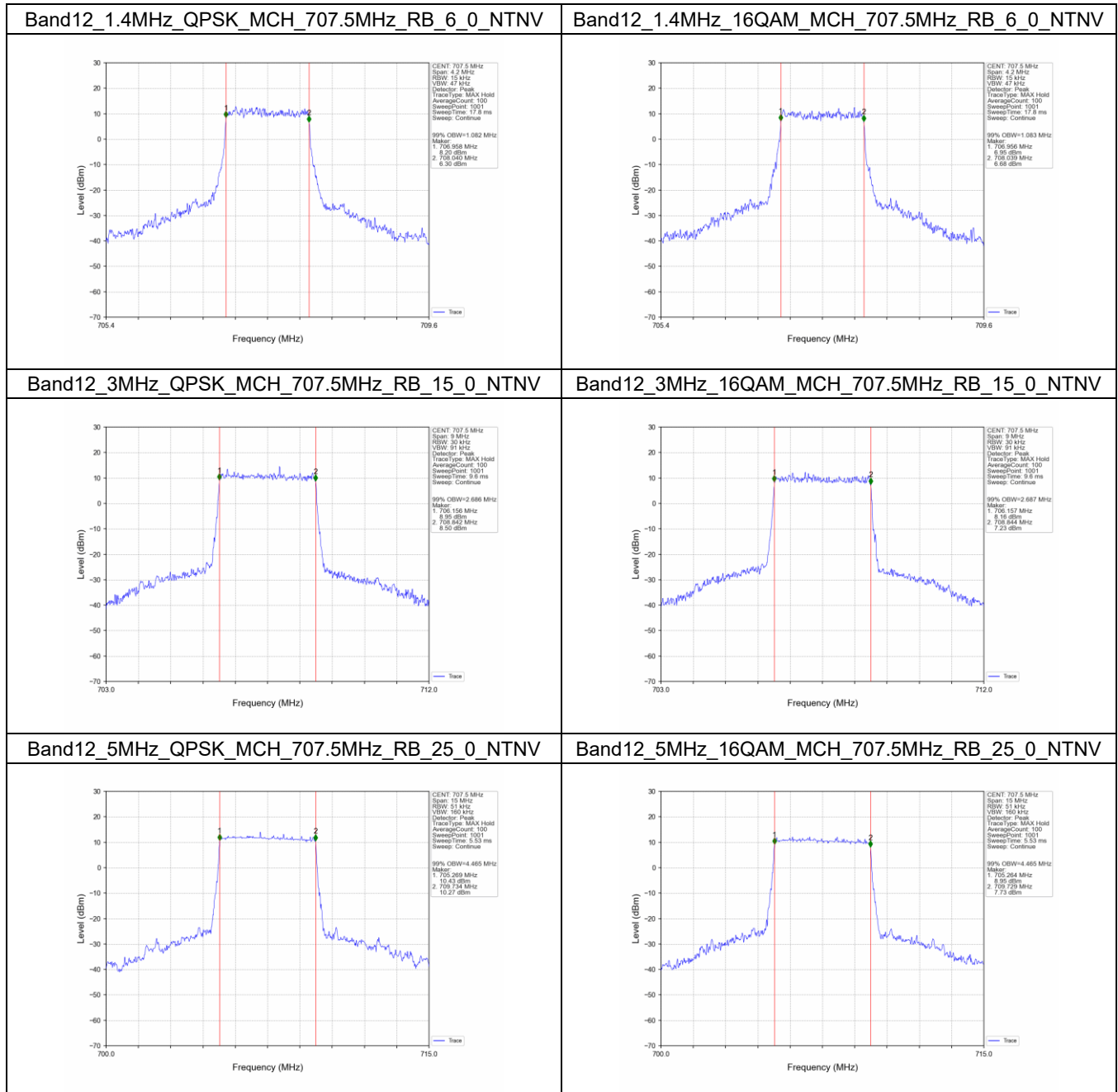
3.1.2 Band12_XDB

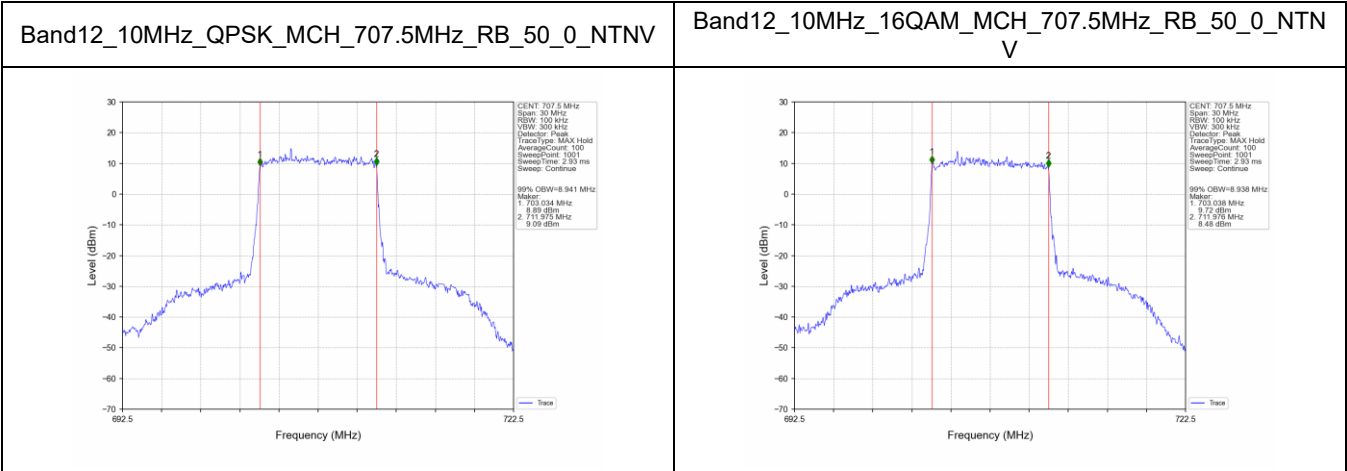
Band: 12 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	707.5	6	0	1.249	/	Pass
	16QAM	707.5	6	0	1.261	/	Pass
3	QPSK	707.5	15	0	2.911	/	Pass
	16QAM	707.5	15	0	2.949	/	Pass
5	QPSK	707.5	25	0	4.906	/	Pass
	16QAM	707.5	25	0	4.929	/	Pass
10	QPSK	707.5	50	0	9.543	/	Pass
	16QAM	707.5	50	0	9.516	/	Pass



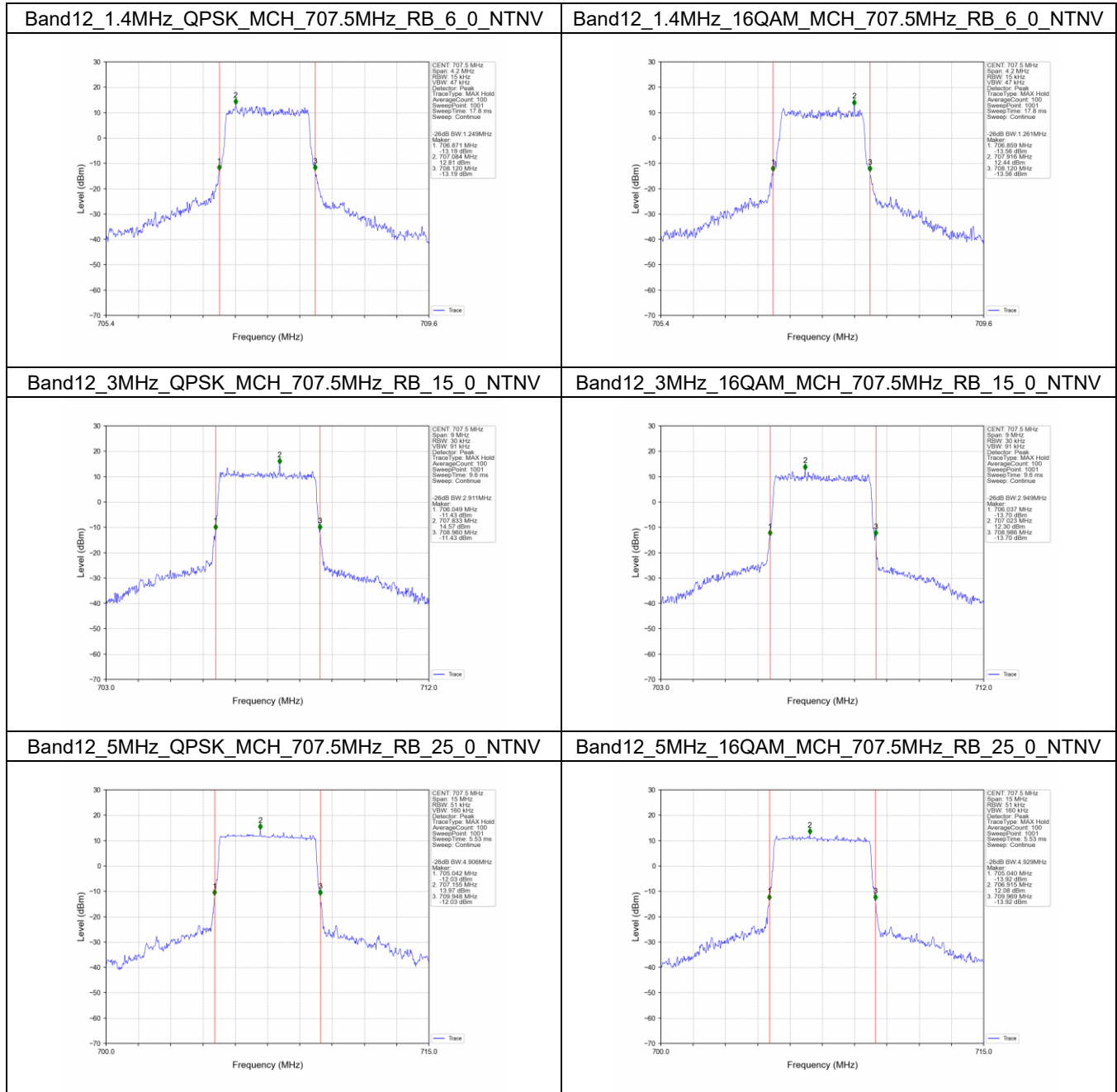
3.2 Test Graph

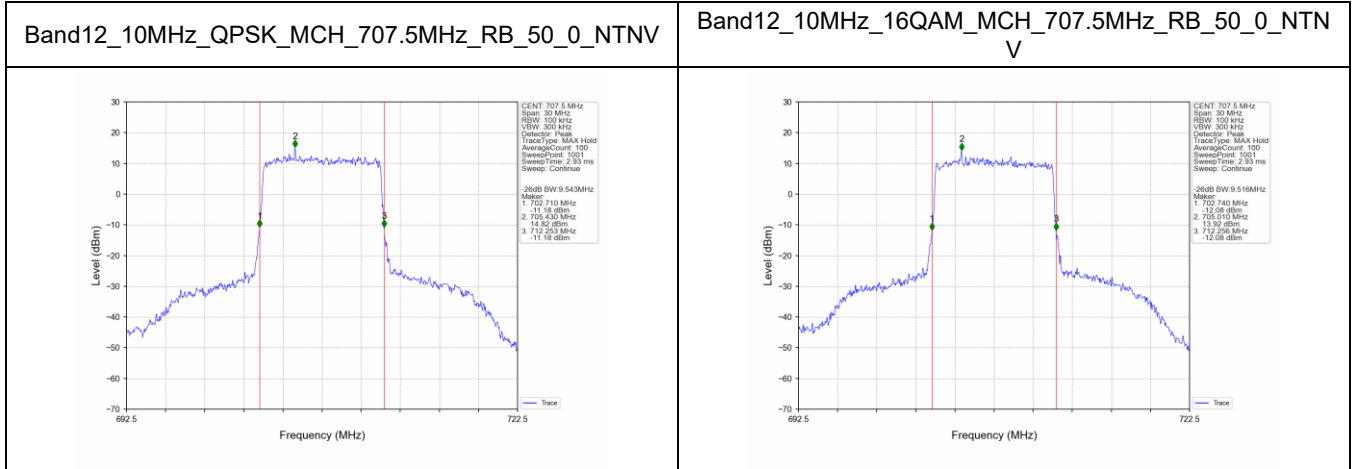
3.2.1 Band12_OBW





3.2.2 Band12_XDB







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4. Peak-Average Ratio

4.1 Test Result

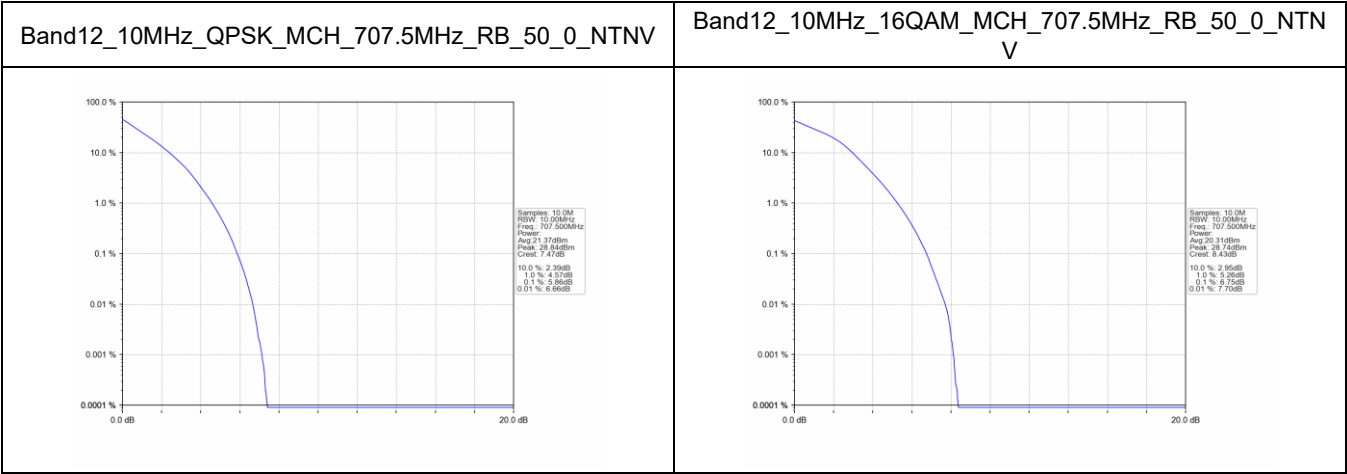
4.1.1 B12_10MHz

Band: 12 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	707.5	50	0	5.86	<=13	Pass
16QAM	707.5	50	0	6.75	<=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 / NTNV						
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		Pass
			14	Refer To Test Graph		Pass
		15	0	Refer To Test Graph		Pass

5.1.3 B12_5MHz

Band: 12 / Bandwidth: 5MHz / NTNV						
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

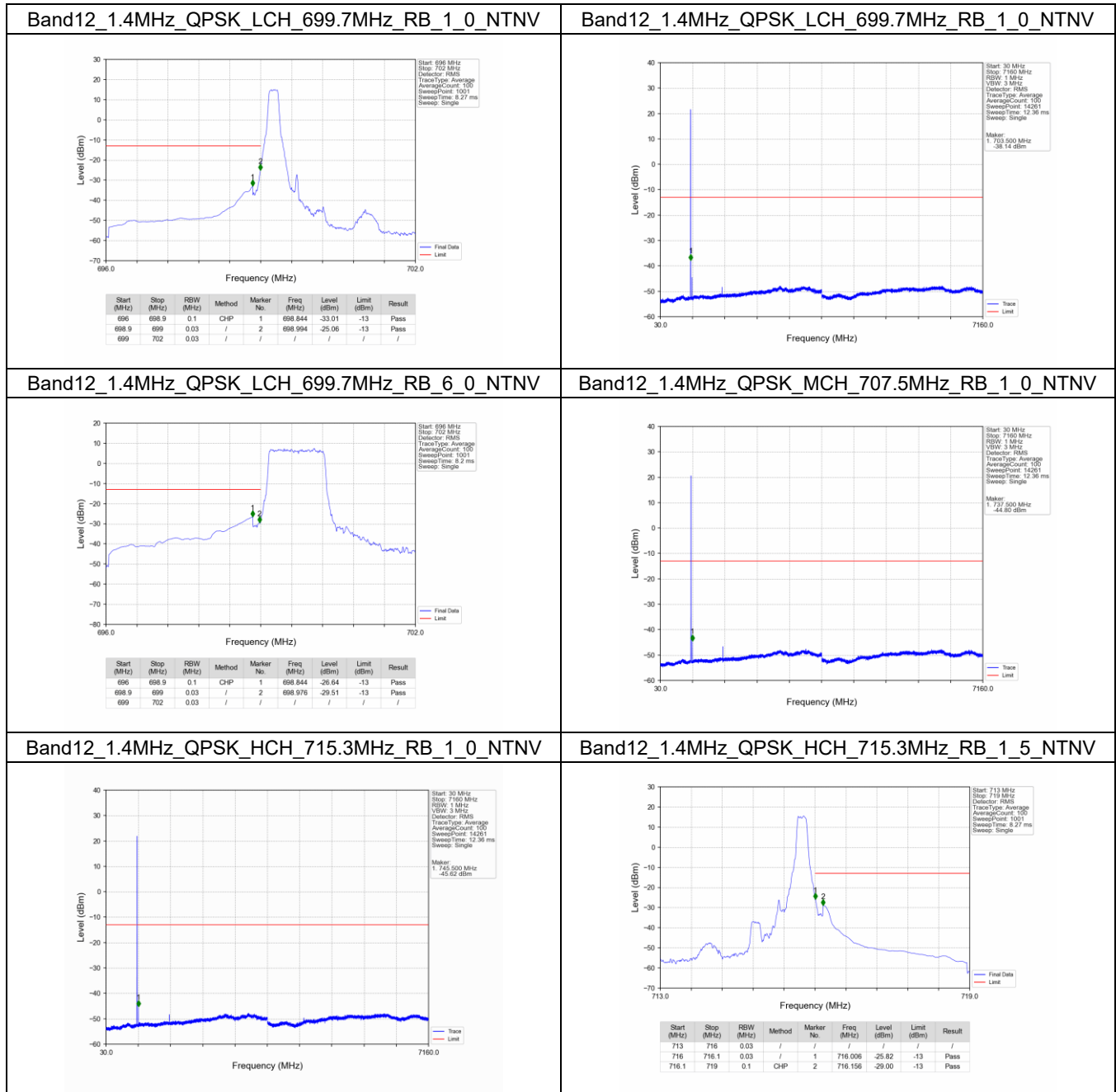


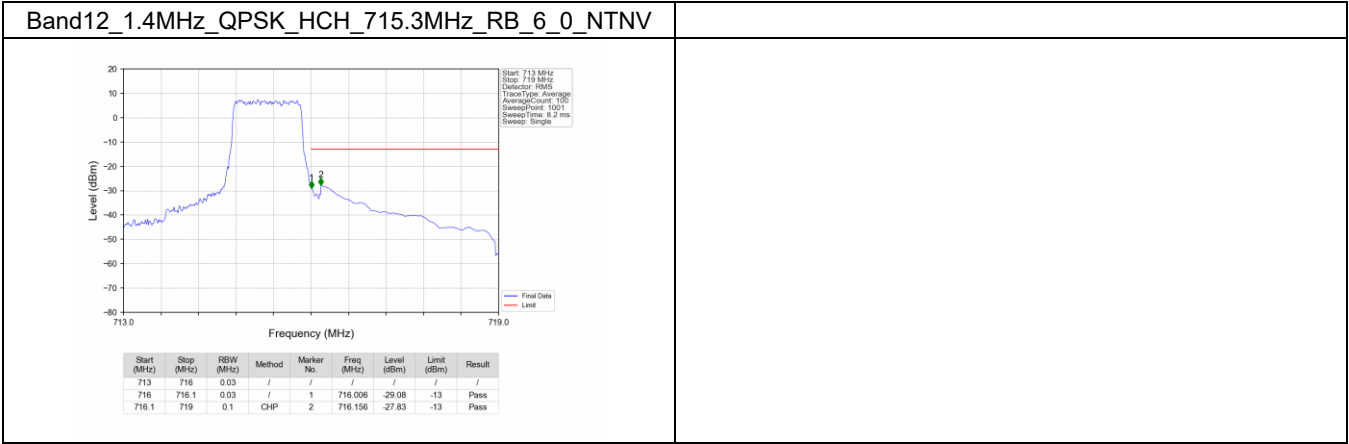
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Band: 12 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	704	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	707.5	1	0	Refer To Test Graph		Pass
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

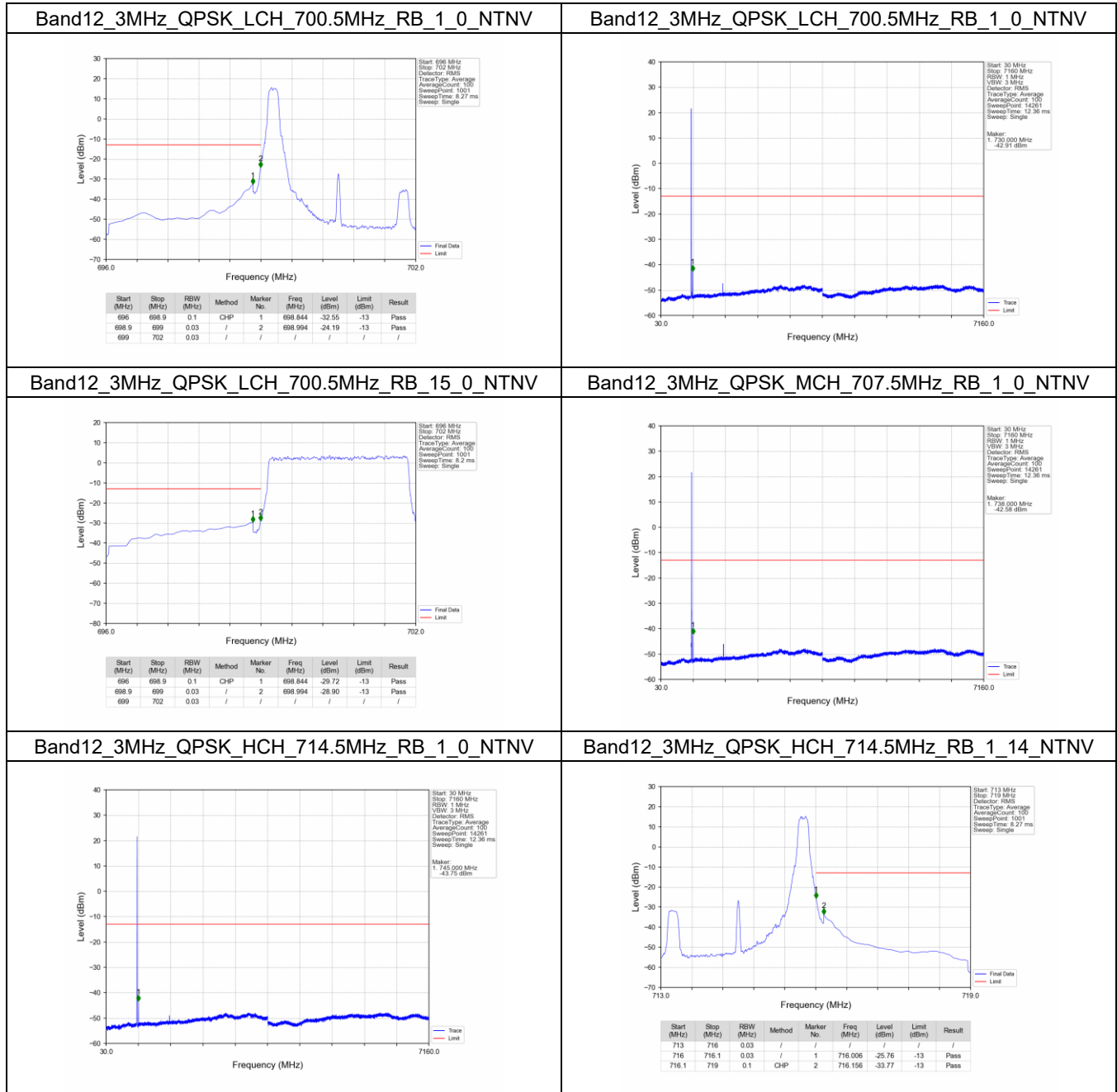
5.2 Test Graph

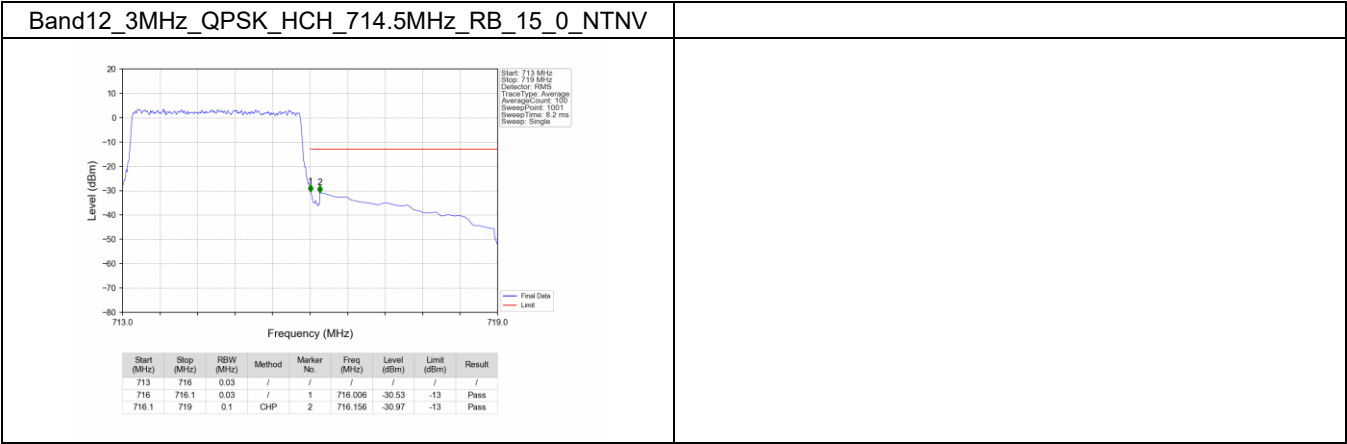
5.2.1 B12_1.4MHz



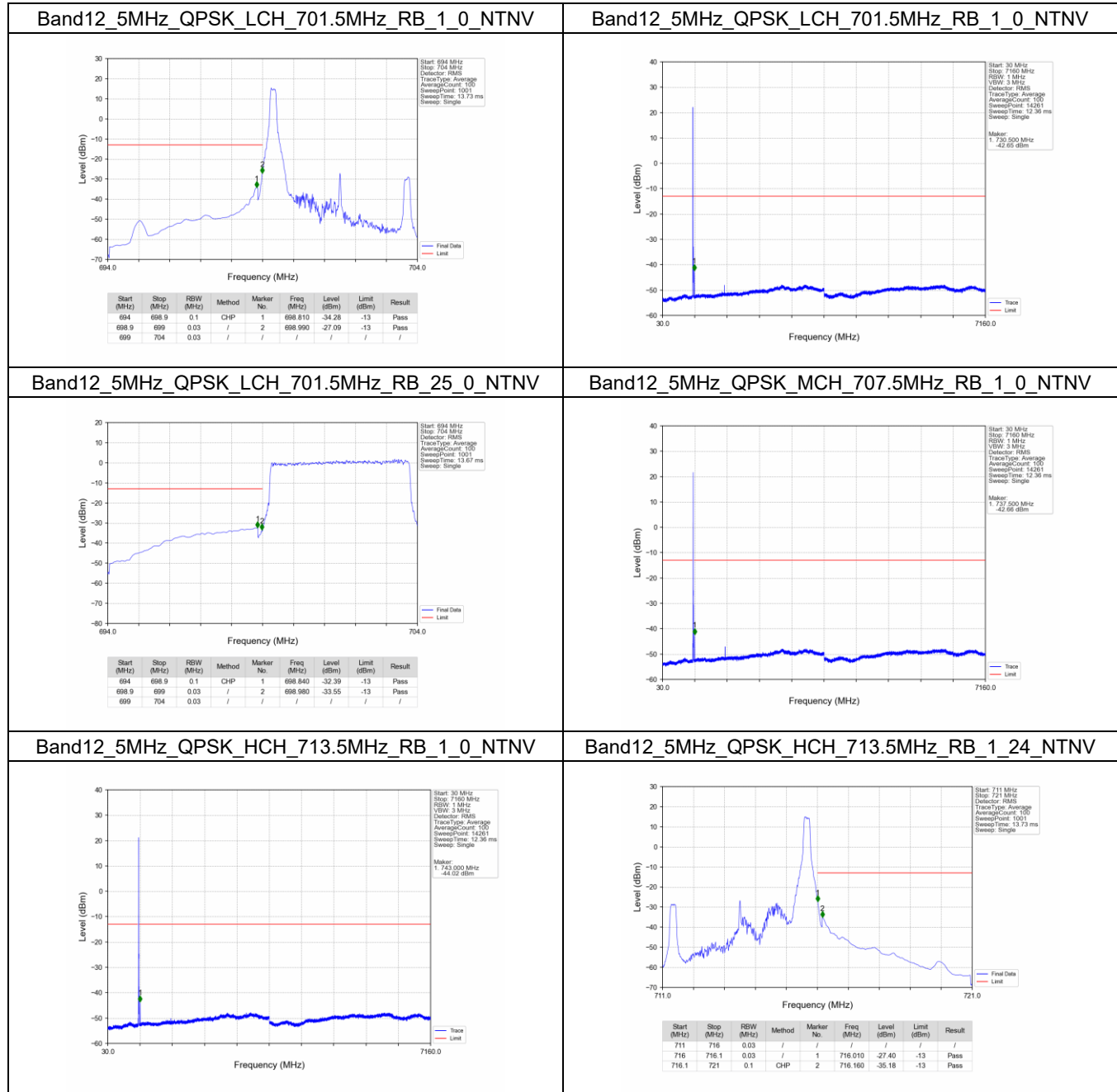


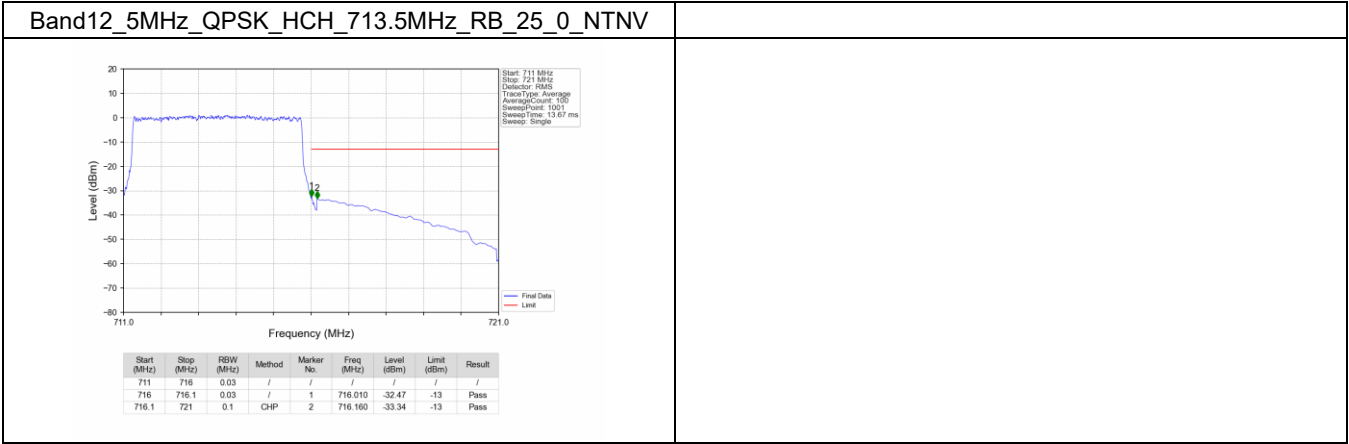
5.2.2 B12_3MHz



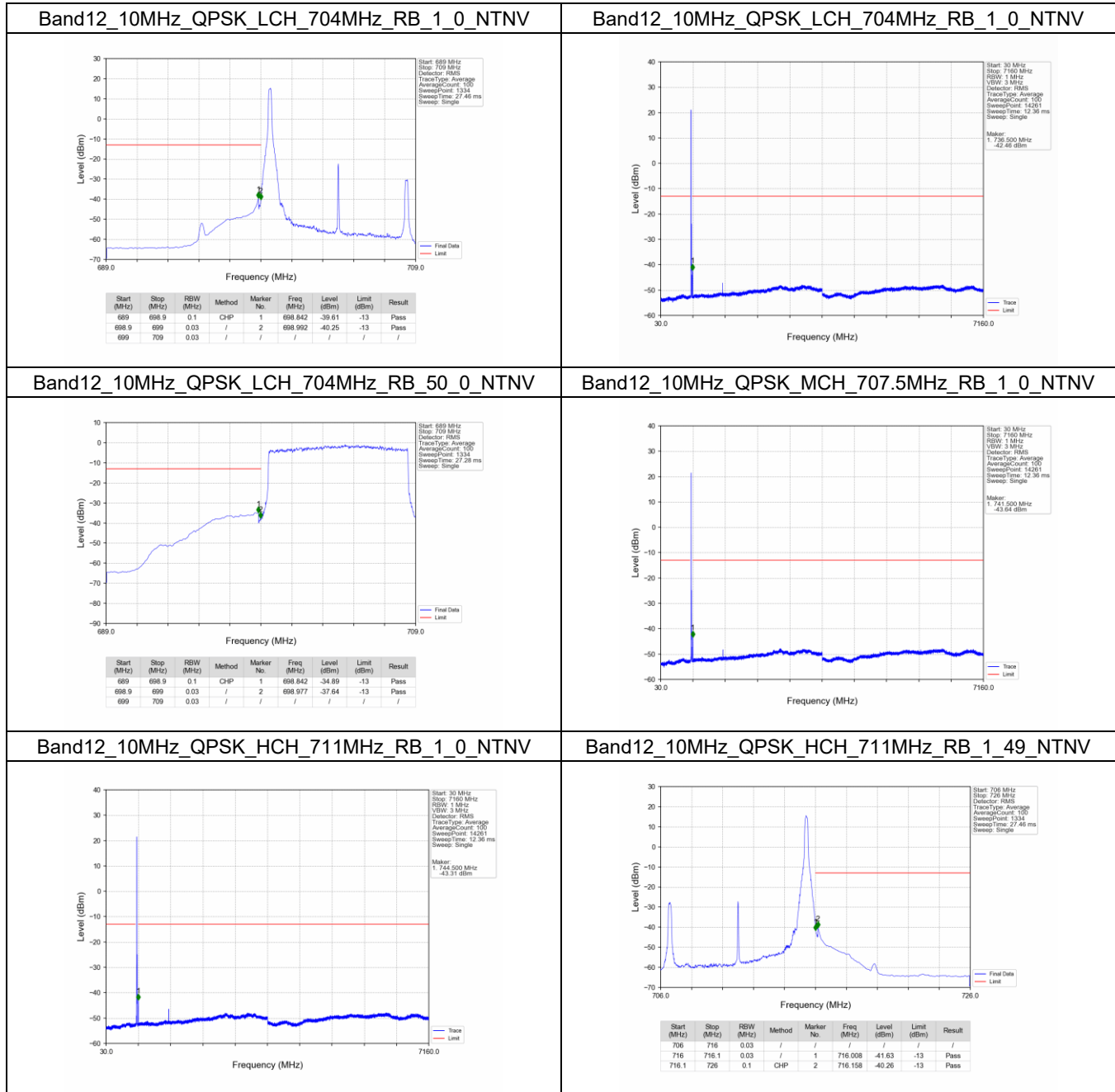


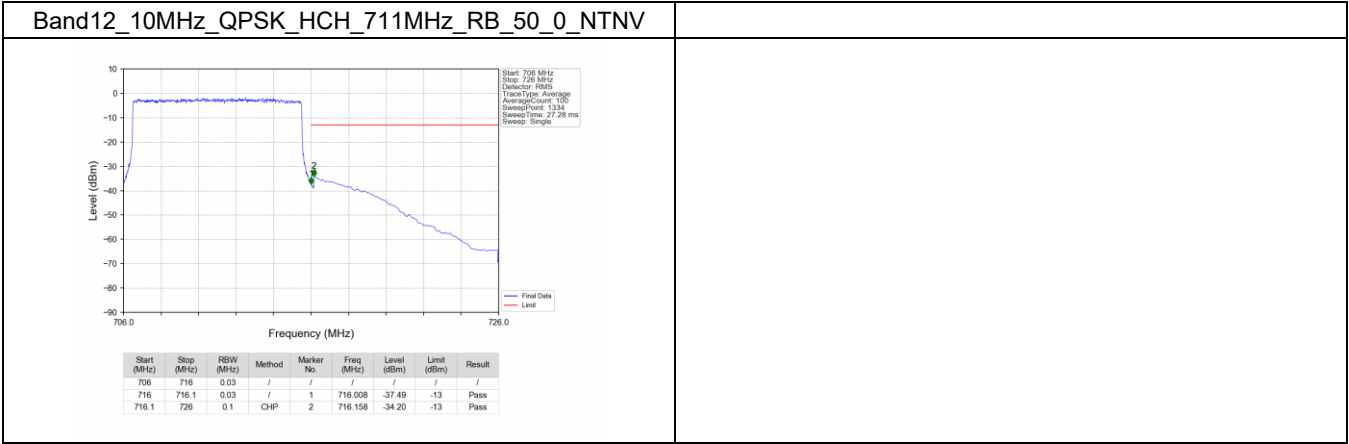
5.2.3 B12_5MHz





5.2.4 B12_10MHz







6. Frequency Stability (IC)

6.1 Test Result

6.1.1 B12_10MHz

Band: 12 / Bandwidth: 10MHz / NTNV									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	OBW (FL - FH) (MHz)		Limit	Verdict
		Size	Offset			FL	FH		
QPSK	707.5	50	0	20	LV	703.001	711.956	698 to 716	Pass
					NV	702.977	711.971	698 to 716	Pass
					HV	702.986	711.964	698 to 716	Pass
				-30	NV	702.997	711.986	698 to 716	Pass
				-20	NV	702.978	711.971	698 to 716	Pass
				-10	NV	702.979	711.973	698 to 716	Pass
				0	NV	702.978	711.970	698 to 716	Pass
				10	NV	703.003	711.967	698 to 716	Pass
				30	NV	702.977	711.973	698 to 716	Pass
				40	NV	703.014	711.962	698 to 716	Pass
				50	NV	702.996	711.974	698 to 716	Pass

---End of Attachment---