

**Appendix A.20****1. Effective (Isotropic) Radiated Power Output Data****1.1 Test Result****1.1.1 B71_5MHz_ERP**

Band: 71 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	665.5	1	0	21.46	-2.00	17.31	<=34.77	Pass
			13	21.53	-2.00	17.38	<=34.77	Pass
			24	21.36	-2.00	17.21	<=34.77	Pass
		12	0	20.80	-2.00	16.65	<=34.77	Pass
			6	20.64	-2.00	16.49	<=34.77	Pass
			13	20.73	-2.00	16.58	<=34.77	Pass
		25	0	20.66	-2.00	16.51	<=34.77	Pass
	680.5	1	0	21.59	-2.00	17.44	<=34.77	Pass
			13	21.95	-2.00	17.80	<=34.77	Pass
			24	21.68	-2.00	17.53	<=34.77	Pass
		12	0	20.87	-2.00	16.72	<=34.77	Pass
			6	20.89	-2.00	16.74	<=34.77	Pass
			13	20.95	-2.00	16.80	<=34.77	Pass
		25	0	20.92	-2.00	16.77	<=34.77	Pass
	695.5	1	0	21.90	-2.00	17.75	<=34.77	Pass
			13	21.90	-2.00	17.75	<=34.77	Pass
			24	21.87	-2.00	17.72	<=34.77	Pass
		12	0	20.92	-2.00	16.77	<=34.77	Pass
			6	20.86	-2.00	16.71	<=34.77	Pass
			13	20.86	-2.00	16.71	<=34.77	Pass
		25	0	20.86	-2.00	16.71	<=34.77	Pass
16QAM	665.5	1	0	21.20	-2.00	17.05	<=34.77	Pass
			13	21.15	-2.00	17.00	<=34.77	Pass
			24	21.03	-2.00	16.88	<=34.77	Pass
		12	0	19.82	-2.00	15.67	<=34.77	Pass
			6	19.76	-2.00	15.61	<=34.77	Pass
			13	19.64	-2.00	15.49	<=34.77	Pass
		25	0	19.84	-2.00	15.69	<=34.77	Pass
	680.5	1	0	20.60	-2.00	16.45	<=34.77	Pass
			13	20.88	-2.00	16.73	<=34.77	Pass
			24	20.71	-2.00	16.56	<=34.77	Pass
		12	0	19.90	-2.00	15.75	<=34.77	Pass
			6	19.91	-2.00	15.76	<=34.77	Pass



			13	19.85	-2.00	15.70	<=34.77	Pass
		25	0	19.79	-2.00	15.64	<=34.77	Pass
	695.5	1	0	20.89	-2.00	16.74	<=34.77	Pass
			13	20.95	-2.00	16.80	<=34.77	Pass
			24	20.89	-2.00	16.74	<=34.77	Pass
		12	0	19.81	-2.00	15.66	<=34.77	Pass
			6	19.74	-2.00	15.59	<=34.77	Pass
			13	19.78	-2.00	15.63	<=34.77	Pass
			25	0	19.87	-2.00	15.72	<=34.77
		Note1: ERP=Conducted Power+Antenna Gain-2.15						

1.1.2 B71_10MHz_ERP

Band: 71 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	668	1	0	21.70	-2.00	17.55	<=34.77	Pass
			25	22.09	-2.00	17.94	<=34.77	Pass
			49	21.87	-2.00	17.72	<=34.77	Pass
		25	0	20.71	-2.00	16.56	<=34.77	Pass
			13	20.85	-2.00	16.70	<=34.77	Pass
			25	20.94	-2.00	16.79	<=34.77	Pass
		50	0	20.87	-2.00	16.72	<=34.77	Pass
	680.5	1	0	21.67	-2.00	17.52	<=34.77	Pass
			25	22.40	-2.00	18.25	<=34.77	Pass
			49	22.11	-2.00	17.96	<=34.77	Pass
		25	0	20.80	-2.00	16.65	<=34.77	Pass
			13	20.95	-2.00	16.80	<=34.77	Pass
			25	21.00	-2.00	16.85	<=34.77	Pass
		50	0	21.03	-2.00	16.88	<=34.77	Pass
	693	1	0	22.11	-2.00	17.96	<=34.77	Pass
			25	21.96	-2.00	17.81	<=34.77	Pass
			49	21.83	-2.00	17.68	<=34.77	Pass
		25	0	20.98	-2.00	16.83	<=34.77	Pass
			13	21.01	-2.00	16.86	<=34.77	Pass
			25	21.00	-2.00	16.85	<=34.77	Pass
		50	0	20.97	-2.00	16.82	<=34.77	Pass
16QAM	668	1	0	21.06	-2.00	16.91	<=34.77	Pass
			25	21.23	-2.00	17.08	<=34.77	Pass
			49	21.01	-2.00	16.86	<=34.77	Pass
		25	0	19.50	-2.00	15.35	<=34.77	Pass
			13	19.76	-2.00	15.61	<=34.77	Pass
			25	19.97	-2.00	15.82	<=34.77	Pass



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	680.5	50	0	19.75	-2.00	15.60	<=34.77	Pass
		1	0	21.19	-2.00	17.04	<=34.77	Pass
			25	21.60	-2.00	17.45	<=34.77	Pass
			49	21.62	-2.00	17.47	<=34.77	Pass
		25	0	19.83	-2.00	15.68	<=34.77	Pass
			13	20.13	-2.00	15.98	<=34.77	Pass
			25	20.08	-2.00	15.93	<=34.77	Pass
		50	0	19.97	-2.00	15.82	<=34.77	Pass
	693	1	0	21.29	-2.00	17.14	<=34.77	Pass
			25	21.02	-2.00	16.87	<=34.77	Pass
			49	20.91	-2.00	16.76	<=34.77	Pass
		25	0	19.87	-2.00	15.72	<=34.77	Pass
			13	20.02	-2.00	15.87	<=34.77	Pass
			25	20.00	-2.00	15.85	<=34.77	Pass
		50	0	19.93	-2.00	15.78	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.3 B71_15MHz_ERP

Band: 71 / Bandwidth: 15MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	670.5	1	0	21.61	-2.00	17.46	<=34.77	Pass
			38	21.81	-2.00	17.66	<=34.77	Pass
			74	21.85	-2.00	17.70	<=34.77	Pass
		36	0	20.80	-2.00	16.65	<=34.77	Pass
			18	20.97	-2.00	16.82	<=34.77	Pass
			39	20.90	-2.00	16.75	<=34.77	Pass
		75	0	20.77	-2.00	16.62	<=34.77	Pass
	680.5	1	0	21.73	-2.00	17.58	<=34.77	Pass
			38	21.97	-2.00	17.82	<=34.77	Pass
			74	21.82	-2.00	17.67	<=34.77	Pass
		36	0	20.84	-2.00	16.69	<=34.77	Pass
			18	20.93	-2.00	16.78	<=34.77	Pass
			39	20.94	-2.00	16.79	<=34.77	Pass
		75	0	20.89	-2.00	16.74	<=34.77	Pass
	690.5	1	0	21.78	-2.00	17.63	<=34.77	Pass
			38	21.94	-2.00	17.79	<=34.77	Pass
			74	21.82	-2.00	17.67	<=34.77	Pass
		36	0	20.91	-2.00	16.76	<=34.77	Pass
			18	20.97	-2.00	16.82	<=34.77	Pass
			39	20.92	-2.00	16.77	<=34.77	Pass
		75	0	21.04	-2.00	16.89	<=34.77	Pass



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16QAM	670.5	1	0	20.79	-2.00	16.64	<=34.77	Pass
			38	21.23	-2.00	17.08	<=34.77	Pass
			74	20.50	-2.00	16.35	<=34.77	Pass
		36	0	19.78	-2.00	15.63	<=34.77	Pass
			18	19.95	-2.00	15.80	<=34.77	Pass
			39	19.71	-2.00	15.56	<=34.77	Pass
		75	0	19.77	-2.00	15.62	<=34.77	Pass
	680.5	1	0	21.49	-2.00	17.34	<=34.77	Pass
			38	21.57	-2.00	17.42	<=34.77	Pass
			74	21.63	-2.00	17.48	<=34.77	Pass
		36	0	19.80	-2.00	15.65	<=34.77	Pass
			18	19.92	-2.00	15.77	<=34.77	Pass
			39	19.91	-2.00	15.76	<=34.77	Pass
		75	0	19.84	-2.00	15.69	<=34.77	Pass
	690.5	1	0	21.03	-2.00	16.88	<=34.77	Pass
			38	21.15	-2.00	17.00	<=34.77	Pass
			74	20.98	-2.00	16.83	<=34.77	Pass
		36	0	19.98	-2.00	15.83	<=34.77	Pass
			18	20.02	-2.00	15.87	<=34.77	Pass
			39	19.96	-2.00	15.81	<=34.77	Pass
		75	0	19.98	-2.00	15.83	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.4 B71_20MHz_ERP

Band: 71 / Bandwidth: 20MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	673	1	0	21.50	-2.00	17.35	<=34.77	Pass
			50	21.90	-2.00	17.75	<=34.77	Pass
			99	21.65	-2.00	17.50	<=34.77	Pass
		50	0	20.77	-2.00	16.62	<=34.77	Pass
			25	20.81	-2.00	16.66	<=34.77	Pass
			50	20.83	-2.00	16.68	<=34.77	Pass
		100	0	20.79	-2.00	16.64	<=34.77	Pass
	683	1	0	21.89	-2.00	17.74	<=34.77	Pass
			50	22.07	-2.00	17.92	<=34.77	Pass
			99	22.04	-2.00	17.89	<=34.77	Pass
		50	0	20.82	-2.00	16.67	<=34.77	Pass
			25	20.84	-2.00	16.69	<=34.77	Pass
			50	20.97	-2.00	16.82	<=34.77	Pass
		100	0	20.86	-2.00	16.71	<=34.77	Pass
	688	1	0	21.32	-2.00	17.17	<=34.77	Pass

			50	22.08	-2.00	17.93	<=34.77	Pass
			99	21.70	-2.00	17.55	<=34.77	Pass
16QAM	673	50	0	20.80	-2.00	16.65	<=34.77	Pass
			25	20.93	-2.00	16.78	<=34.77	Pass
			50	20.94	-2.00	16.79	<=34.77	Pass
		100	0	20.89	-2.00	16.74	<=34.77	Pass
			0	21.17	-2.00	17.02	<=34.77	Pass
			50	22.17	-2.00	18.02	<=34.77	Pass
	683	1	99	21.44	-2.00	17.29	<=34.77	Pass
			0	19.76	-2.00	15.61	<=34.77	Pass
			25	19.95	-2.00	15.80	<=34.77	Pass
		50	50	19.72	-2.00	15.57	<=34.77	Pass
			0	19.82	-2.00	15.67	<=34.77	Pass
			0	20.99	-2.00	16.84	<=34.77	Pass
		100	50	21.10	-2.00	16.95	<=34.77	Pass
			99	21.29	-2.00	17.14	<=34.77	Pass
			0	19.75	-2.00	15.60	<=34.77	Pass
		50	25	20.02	-2.00	15.87	<=34.77	Pass
			50	19.94	-2.00	15.79	<=34.77	Pass
			0	19.86	-2.00	15.71	<=34.77	Pass
	688	1	0	20.94	-2.00	16.79	<=34.77	Pass
			50	21.72	-2.00	17.57	<=34.77	Pass
			99	21.29	-2.00	17.14	<=34.77	Pass
		50	0	19.94	-2.00	15.79	<=34.77	Pass
			25	19.91	-2.00	15.76	<=34.77	Pass
			50	20.00	-2.00	15.85	<=34.77	Pass
		100	0	19.95	-2.00	15.80	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 Test Result

2.1.1 B71_10MHz

Band: 71 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	680.5	50	0	20	LV	-1.044	-0.0015	-2.5 to 2.5	Pass
					NV	-0.200	-0.0003	-2.5 to 2.5	Pass
					HV	-0.973	-0.0014	-2.5 to 2.5	Pass
				-30	NV	-0.787	-0.0012	-2.5 to 2.5	Pass
				-20	NV	-0.858	-0.0013	-2.5 to 2.5	Pass



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				-10	NV	0.272	0.0004	-2.5 to 2.5	Pass
				0	NV	-0.415	-0.0006	-2.5 to 2.5	Pass
				10	NV	-0.386	-0.0006	-2.5 to 2.5	Pass
				30	NV	-0.916	-0.0013	-2.5 to 2.5	Pass
				40	NV	-0.386	-0.0006	-2.5 to 2.5	Pass
				50	NV	-0.257	-0.0004	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band71_OBW

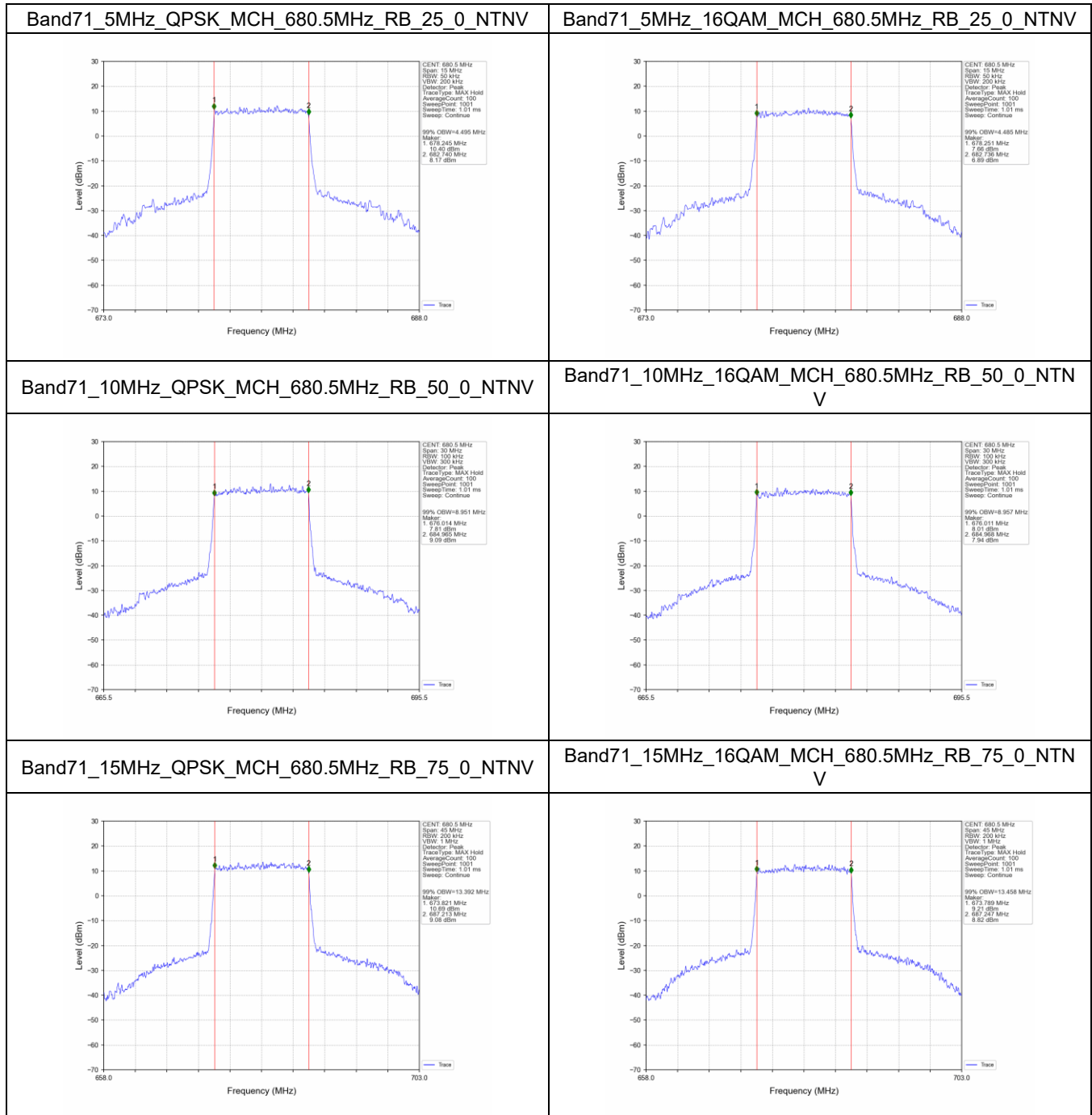
Band: 71 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	680.5	25	0	4.495	/	Pass
	16QAM	680.5	25	0	4.485	/	Pass
10	QPSK	680.5	50	0	8.951	/	Pass
	16QAM	680.5	50	0	8.957	/	Pass
15	QPSK	680.5	75	0	13.392	/	Pass
	16QAM	680.5	75	0	13.458	/	Pass
20	QPSK	683	100	0	17.812	/	Pass
	16QAM	683	100	0	17.889	/	Pass

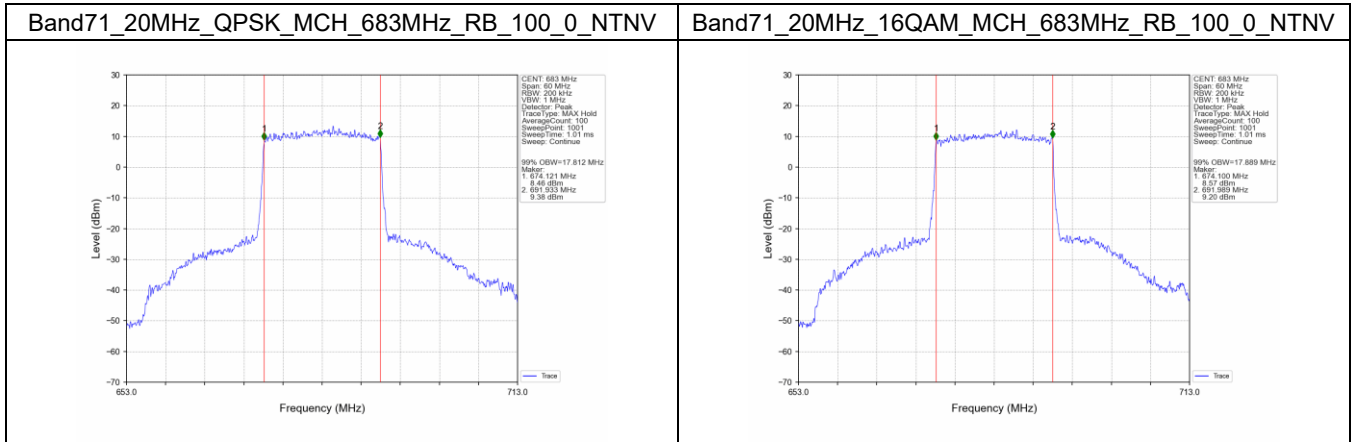
3.1.2 Band71_XDB

Band: 71 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	680.5	25	0	4.896	/	Pass
	16QAM	680.5	25	0	4.927	/	Pass
10	QPSK	680.5	50	0	9.687	/	Pass
	16QAM	680.5	50	0	9.746	/	Pass
15	QPSK	680.5	75	0	14.606	/	Pass
	16QAM	680.5	75	0	14.555	/	Pass
20	QPSK	683	100	0	18.952	/	Pass
	16QAM	683	100	0	19.104	/	Pass

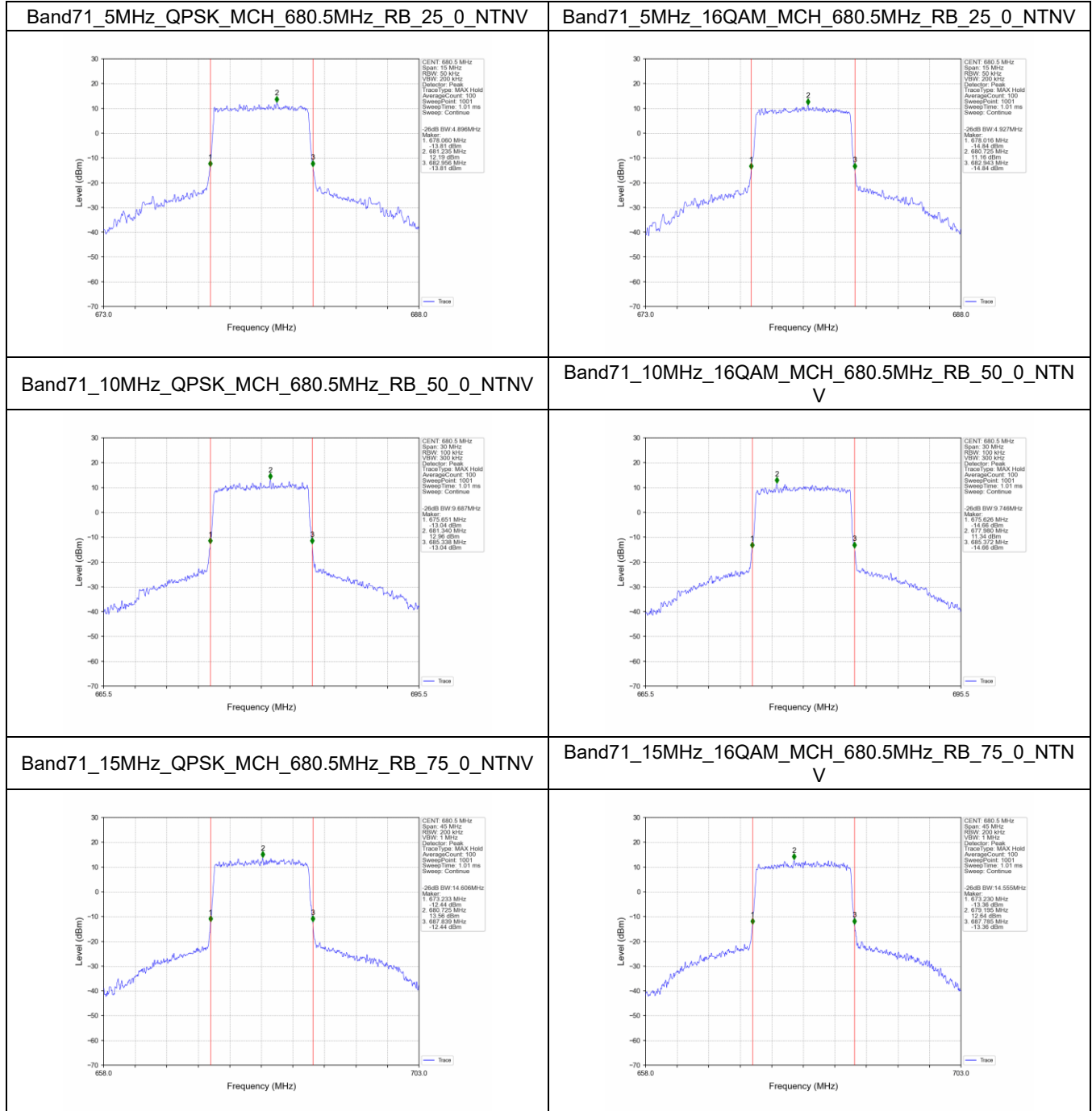
3.2 Test Graph

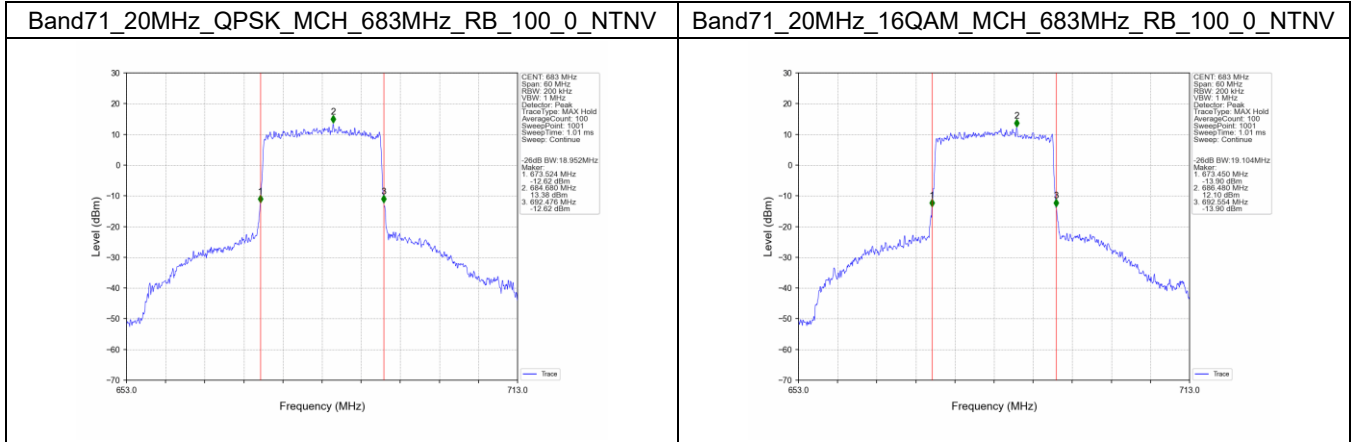
3.2.1 Band71_OBW





3.2.2 Band71_XDB







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4. Peak-Average Ratio

4.1 Test Result

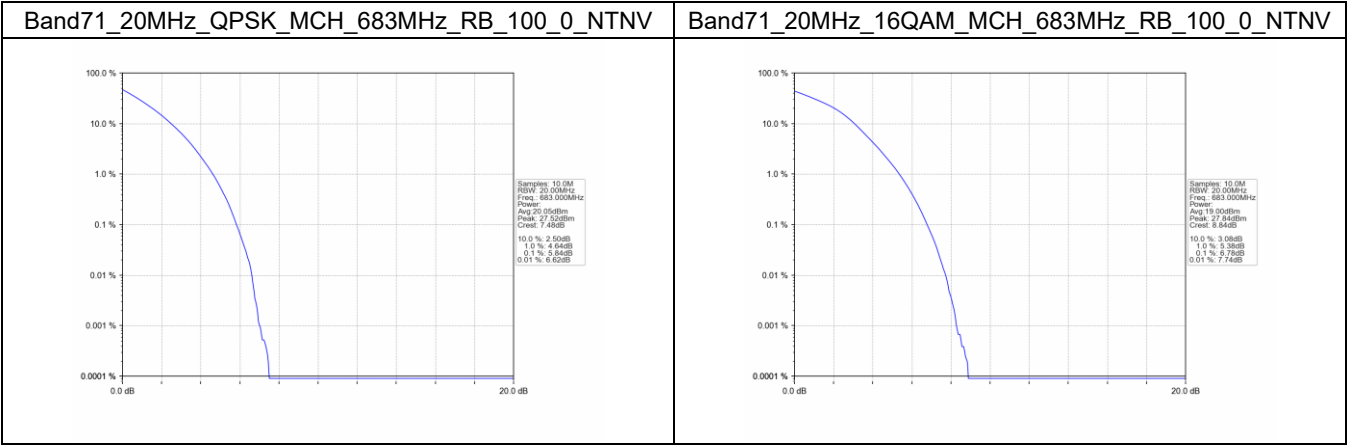
4.1.1 B71_20MHz

Band: 71 / Bandwidth: 20MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	683	100	0	5.84	<=13	Pass
16QAM	683	100	0	6.78	<=13	Pass



4.2 Test Graph

4.2.1 B71_20MHz





5. Spurious Emission

5.1 Test Result

5.1.1 B71_5MHz

Band: 71 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	665.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	680.5	1	0	Refer To Test Graph		Pass
	695.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

5.1.2 B71_10MHz

Band: 71 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	668	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	680.5	1	0	Refer To Test Graph		Pass
	693	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.1.3 B71_15MHz

Band: 71 / Bandwidth: 15MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	670.5	1	0	Refer To Test Graph		Pass
		75	0	Refer To Test Graph		Pass
	680.5	1	0	Refer To Test Graph		Pass
	690.5	1	0	Refer To Test Graph		Pass
			74	Refer To Test Graph		Pass
		75	0	Refer To Test Graph		Pass

5.1.4 B71_20MHz

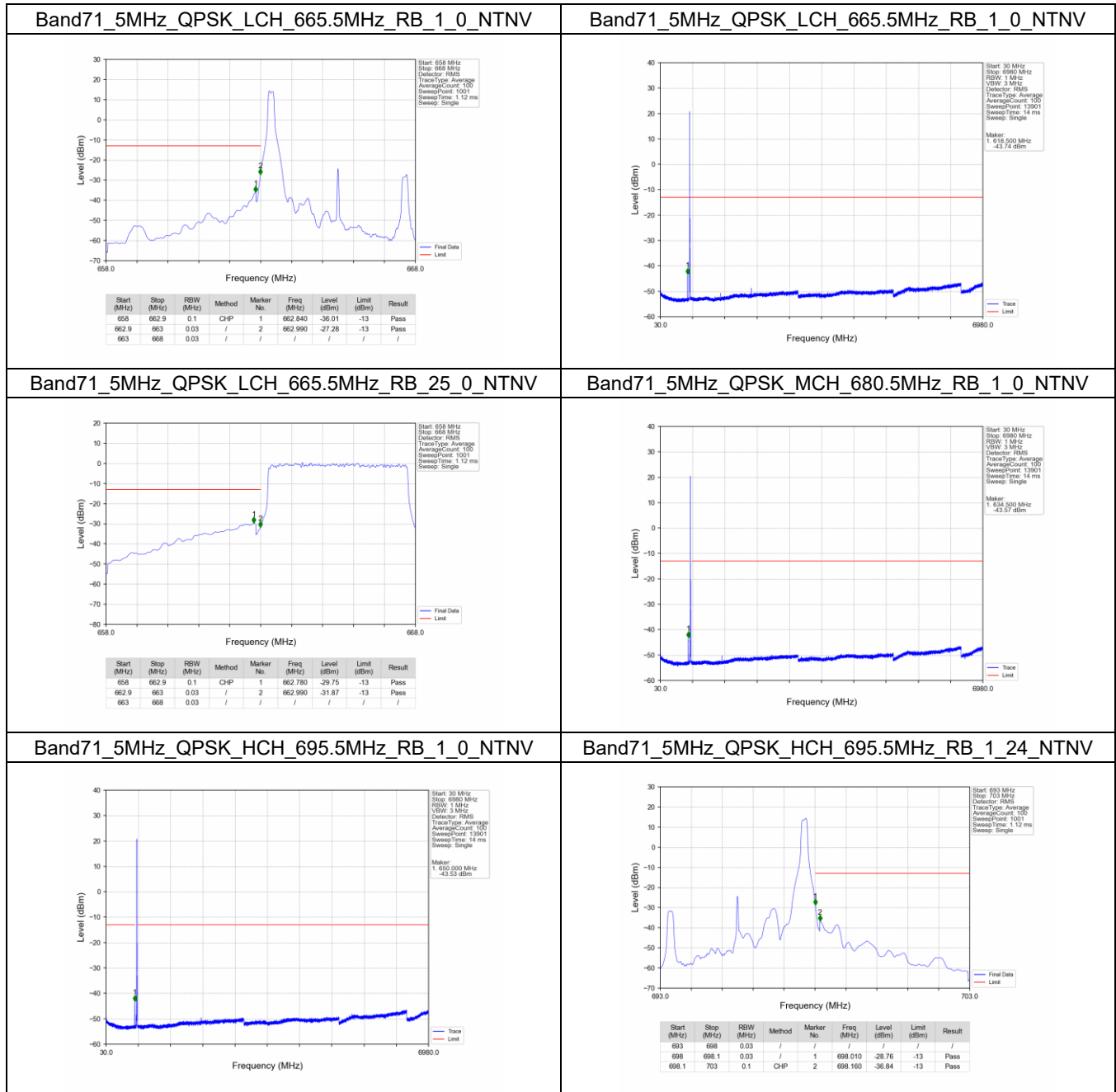


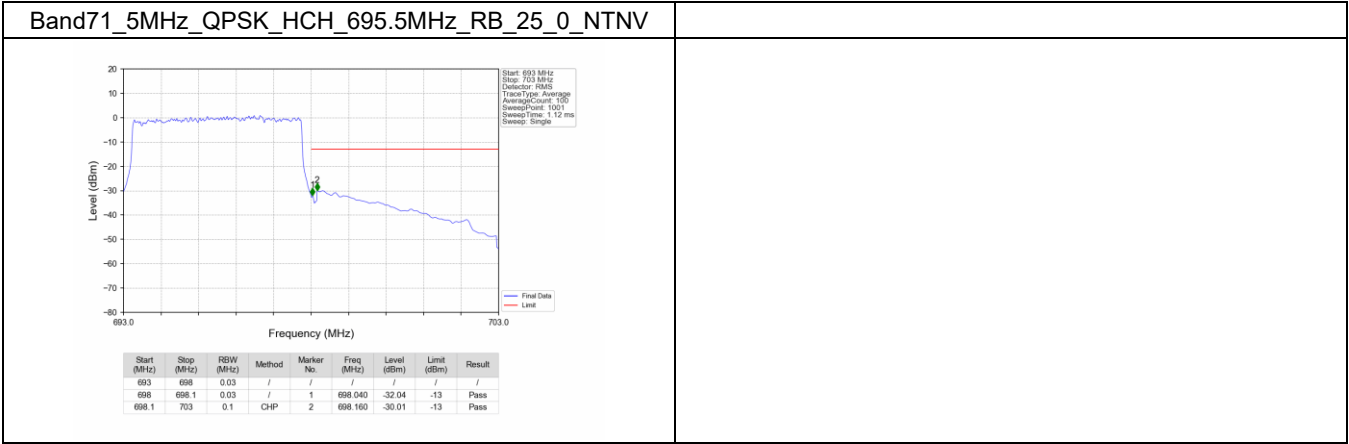
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Band: 71 / Bandwidth: 20MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	673	1	0	Refer To Test Graph		Pass
		100	0	Refer To Test Graph		Pass
	683	1	0	Refer To Test Graph		Pass
	688	1	0	Refer To Test Graph		Pass
			99	Refer To Test Graph		Pass
		100	0	Refer To Test Graph		Pass

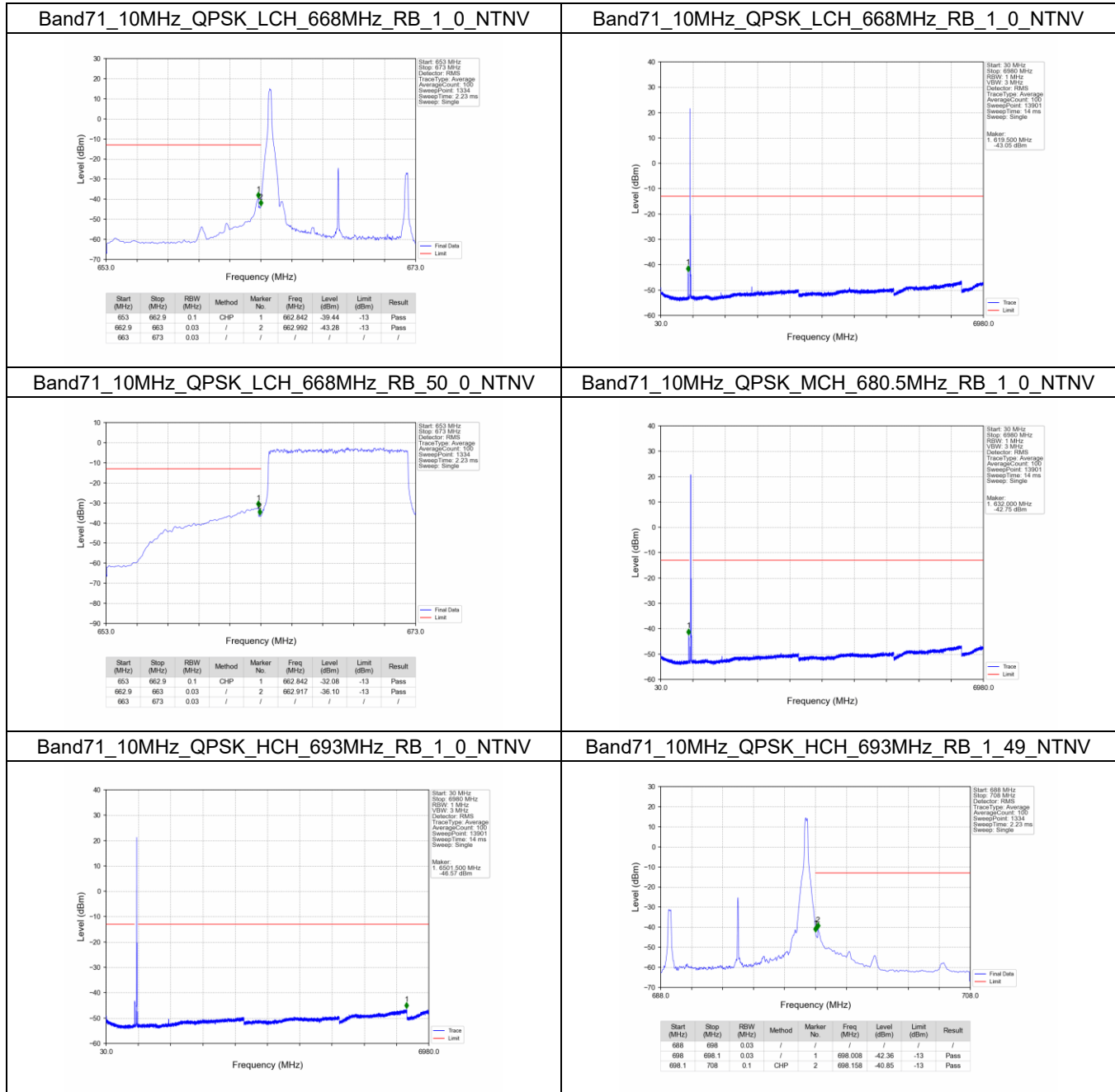
5.2 Test Graph

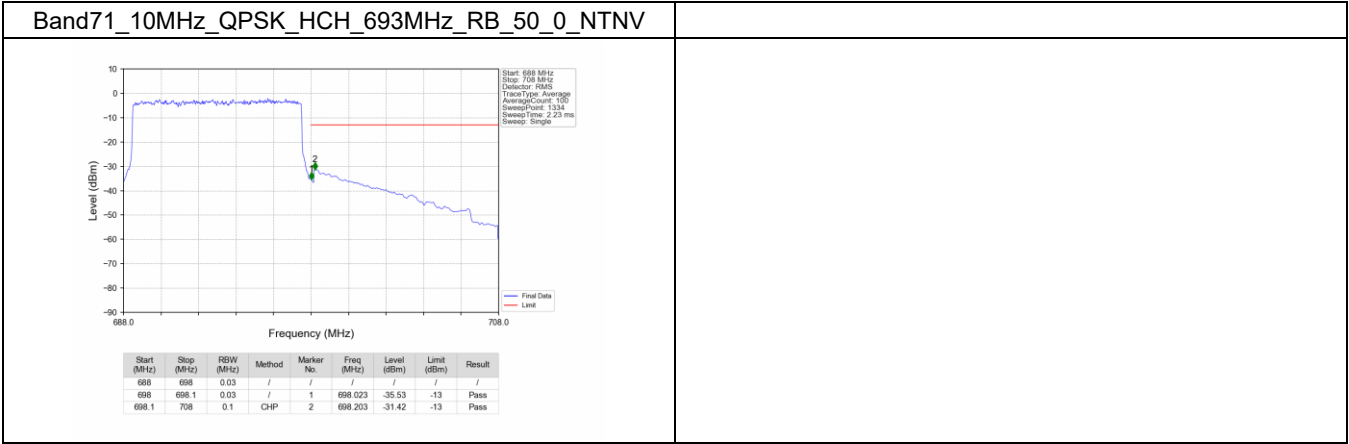
5.2.1 B71_5MHz



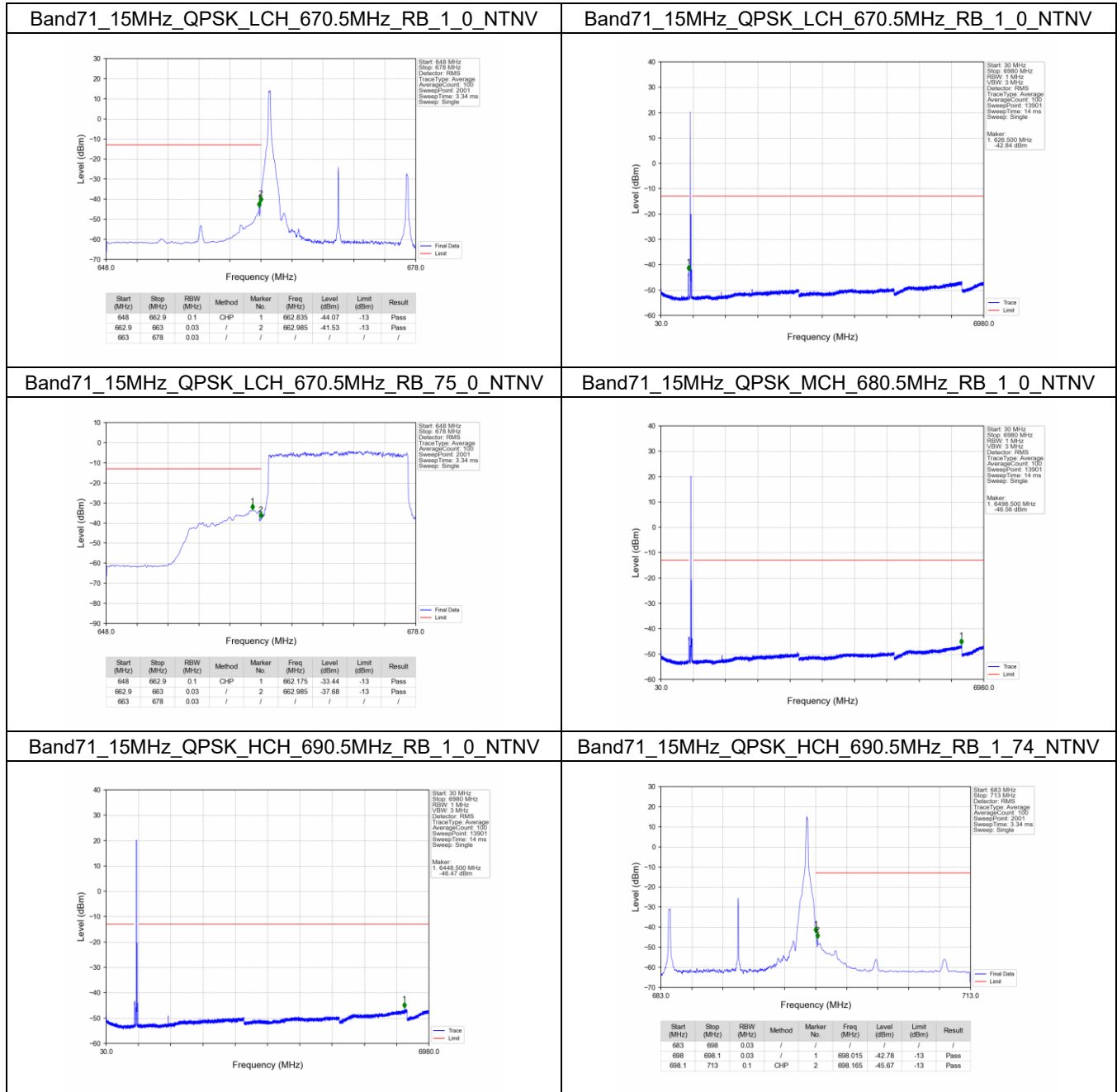


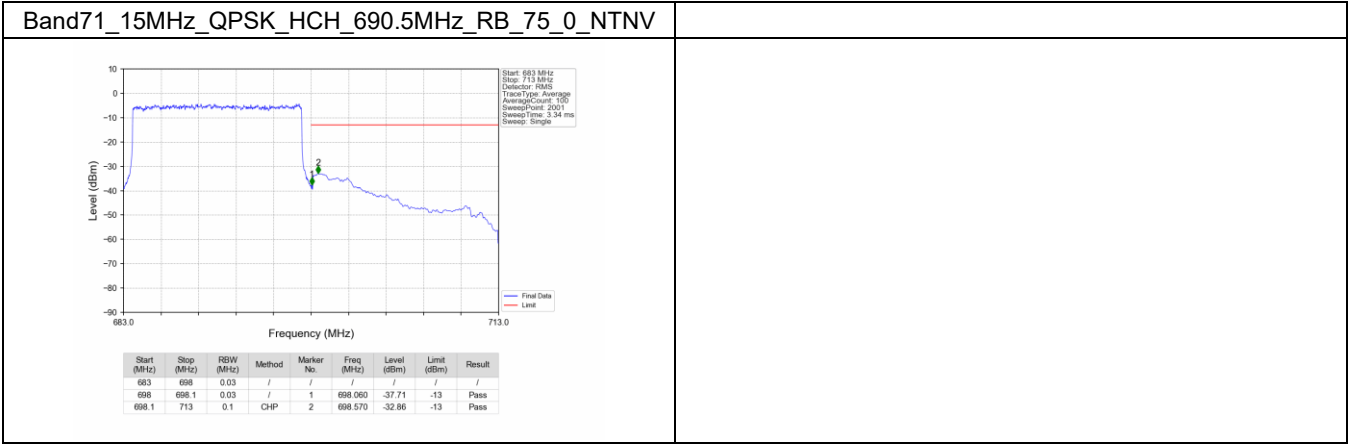
5.2.2 B71_10MHz



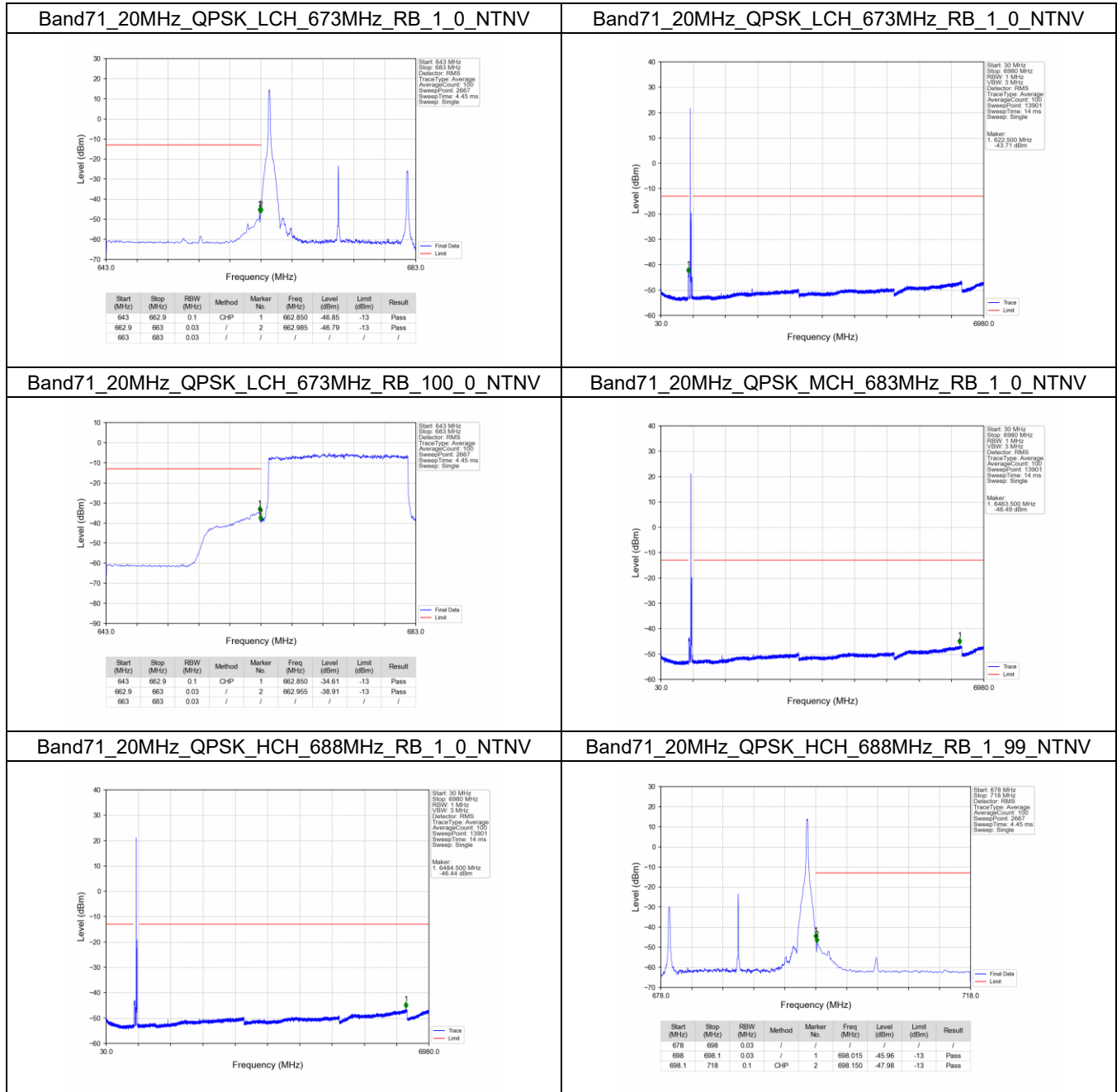


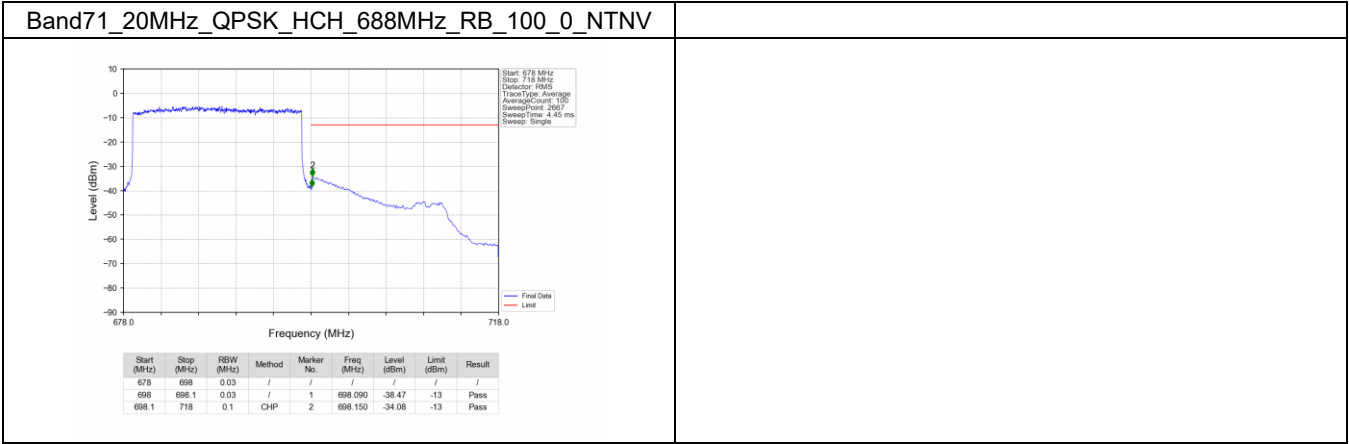
5.2.3 B71_15MHz





5.2.4 B71_20MHz







6. Frequency Stability (IC)

6.1 Test Result

6.1.1 B71_10MHz

Band: 71 / Bandwidth: 10MHz / NTNV									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	OBW (FL - FH) (MHz)		Limit	Verdict
		Size	Offset			FL	FH		
QPSK	680.5	50	0	20	LV	675.984	684.973	673 to 688	Pass
					NV	675.967	684.977	673 to 688	Pass
					HV	675.972	684.977	673 to 688	Pass
				-30	NV	675.976	684.985	673 to 688	Pass
				-20	NV	675.970	684.975	673 to 688	Pass
				-10	NV	675.984	684.979	673 to 688	Pass
				0	NV	675.972	684.969	673 to 688	Pass
				10	NV	675.981	684.978	673 to 688	Pass
				30	NV	675.975	684.972	673 to 688	Pass
				40	NV	675.975	684.980	673 to 688	Pass
				50	NV	675.998	684.977	673 to 688	Pass

---End of Attachment---