

Appendix RF test data for LTE_band_12

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	24.22	-2.50	19.57	<=34.77	Pass
			2	24.30	-2.50	19.65	<=34.77	Pass
			5	24.22	-2.50	19.57	<=34.77	Pass
		3	0	24.27	-2.50	19.62	<=34.77	Pass
			2	24.29	-2.50	19.64	<=34.77	Pass
			3	24.25	-2.50	19.60	<=34.77	Pass
		6	0	23.25	-2.50	18.60	<=34.77	Pass
	707.5	1	0	24.21	-2.50	19.56	<=34.77	Pass
			2	24.34	-2.50	19.69	<=34.77	Pass
			5	24.22	-2.50	19.57	<=34.77	Pass
		3	0	24.28	-2.50	19.63	<=34.77	Pass
			2	24.31	-2.50	19.66	<=34.77	Pass
			3	24.29	-2.50	19.64	<=34.77	Pass
		6	0	23.24	-2.50	18.59	<=34.77	Pass
	715.3	1	0	24.26	-2.50	19.61	<=34.77	Pass
			2	24.34	-2.50	19.69	<=34.77	Pass
			5	24.27	-2.50	19.62	<=34.77	Pass
		3	0	24.35	-2.50	19.70	<=34.77	Pass
			2	24.38	-2.50	19.73	<=34.77	Pass
			3	24.34	-2.50	19.69	<=34.77	Pass
		6	0	23.32	-2.50	18.67	<=34.77	Pass
16QAM	699.7	1	0	23.10	-2.50	18.45	<=34.77	Pass
			2	23.19	-2.50	18.54	<=34.77	Pass
			5	23.13	-2.50	18.48	<=34.77	Pass
		3	0	23.36	-2.50	18.71	<=34.77	Pass
			2	23.40	-2.50	18.75	<=34.77	Pass
			3	23.41	-2.50	18.76	<=34.77	Pass
		6	0	22.26	-2.50	17.61	<=34.77	Pass
	707.5	1	0	23.20	-2.50	18.55	<=34.77	Pass
			2	23.30	-2.50	18.65	<=34.77	Pass
			5	23.24	-2.50	18.59	<=34.77	Pass
		3	0	23.30	-2.50	18.65	<=34.77	Pass
			2	23.28	-2.50	18.63	<=34.77	Pass
			3	23.29	-2.50	18.64	<=34.77	Pass
		6	0	22.23	-2.50	17.58	<=34.77	Pass
	715.3	1	0	23.39	-2.50	18.74	<=34.77	Pass
			2	23.50	-2.50	18.85	<=34.77	Pass
			5	23.36	-2.50	18.71	<=34.77	Pass
		3	0	23.25	-2.50	18.60	<=34.77	Pass
			2	23.25	-2.50	18.60	<=34.77	Pass
			3	23.28	-2.50	18.63	<=34.77	Pass
		6	0	22.36	-2.50	17.71	<=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	24.35	-2.50	19.70	<=34.77	Pass
			7	24.45	-2.50	19.80	<=34.77	Pass
			14	24.36	-2.50	19.71	<=34.77	Pass
		8	0	23.24	-2.50	18.59	<=34.77	Pass
			4	23.31	-2.50	18.66	<=34.77	Pass
			7	23.26	-2.50	18.61	<=34.77	Pass
		15	0	23.21	-2.50	18.56	<=34.77	Pass
	707.5	1	0	24.26	-2.50	19.61	<=34.77	Pass
			7	24.38	-2.50	19.73	<=34.77	Pass
			14	24.28	-2.50	19.63	<=34.77	Pass
		8	0	23.23	-2.50	18.58	<=34.77	Pass
			4	23.29	-2.50	18.64	<=34.77	Pass
			7	23.28	-2.50	18.63	<=34.77	Pass
		15	0	23.23	-2.50	18.58	<=34.77	Pass
	714.5	1	0	24.30	-2.50	19.65	<=34.77	Pass
			7	24.46	-2.50	19.81	<=34.77	Pass
			14	24.31	-2.50	19.66	<=34.77	Pass
		8	0	23.31	-2.50	18.66	<=34.77	Pass
			4	23.35	-2.50	18.70	<=34.77	Pass
			7	23.27	-2.50	18.62	<=34.77	Pass
		15	0	23.30	-2.50	18.65	<=34.77	Pass
16QAM	700.5	1	0	23.24	-2.50	18.59	<=34.77	Pass
			7	23.36	-2.50	18.71	<=34.77	Pass
			14	23.27	-2.50	18.62	<=34.77	Pass
		8	0	22.33	-2.50	17.68	<=34.77	Pass
			4	22.40	-2.50	17.75	<=34.77	Pass
			7	22.32	-2.50	17.67	<=34.77	Pass
		15	0	22.30	-2.50	17.65	<=34.77	Pass
	707.5	1	0	23.41	-2.50	18.76	<=34.77	Pass
			7	23.54	-2.50	18.89	<=34.77	Pass
			14	23.44	-2.50	18.79	<=34.77	Pass
		8	0	22.27	-2.50	17.62	<=34.77	Pass
			4	22.31	-2.50	17.66	<=34.77	Pass
			7	22.27	-2.50	17.62	<=34.77	Pass
		15	0	22.27	-2.50	17.62	<=34.77	Pass
	714.5	1	0	23.74	-2.50	19.09	<=34.77	Pass
			7	23.91	-2.50	19.26	<=34.77	Pass
			14	23.76	-2.50	19.11	<=34.77	Pass
		8	0	22.52	-2.50	17.87	<=34.77	Pass
			4	22.55	-2.50	17.90	<=34.77	Pass
			7	22.52	-2.50	17.87	<=34.77	Pass
		15	0	22.42	-2.50	17.77	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

1.1.3 B12_5MHz_ERP

Band: 12 / Bandwidth: 5MHz / NTN								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	701.5	1	0	24.16	-2.50	19.51	<=34.77	Pass
			13	24.31	-2.50	19.66	<=34.77	Pass
			24	24.24	-2.50	19.59	<=34.77	Pass
		12	0	23.21	-2.50	18.56	<=34.77	Pass
			6	23.26	-2.50	18.61	<=34.77	Pass
			13	23.19	-2.50	18.54	<=34.77	Pass
		25	0	23.16	-2.50	18.51	<=34.77	Pass
	707.5	1	0	24.18	-2.50	19.53	<=34.77	Pass
			13	24.24	-2.50	19.59	<=34.77	Pass

16QAM	713.5	12	24	24.22	-2.50	19.57	<=34.77	Pass
			0	23.24	-2.50	18.59	<=34.77	Pass
			6	23.27	-2.50	18.62	<=34.77	Pass
			13	23.29	-2.50	18.64	<=34.77	Pass
		25	0	23.24	-2.50	18.59	<=34.77	Pass
			0	24.20	-2.50	19.55	<=34.77	Pass
			13	24.31	-2.50	19.66	<=34.77	Pass
			24	24.25	-2.50	19.60	<=34.77	Pass
		12	0	23.35	-2.50	18.70	<=34.77	Pass
			6	23.32	-2.50	18.67	<=34.77	Pass
			13	23.25	-2.50	18.60	<=34.77	Pass
			0	23.29	-2.50	18.64	<=34.77	Pass
	701.5	1	0	23.17	-2.50	18.52	<=34.77	Pass
			13	23.32	-2.50	18.67	<=34.77	Pass
			24	23.35	-2.50	18.70	<=34.77	Pass
			0	22.21	-2.50	17.56	<=34.77	Pass
		12	6	22.30	-2.50	17.65	<=34.77	Pass
			13	22.22	-2.50	17.57	<=34.77	Pass
			0	22.23	-2.50	17.58	<=34.77	Pass
			0	23.43	-2.50	18.78	<=34.77	Pass
		1	13	23.50	-2.50	18.85	<=34.77	Pass
			24	23.43	-2.50	18.78	<=34.77	Pass
			0	22.35	-2.50	17.70	<=34.77	Pass
			6	22.39	-2.50	17.74	<=34.77	Pass
	713.5	12	13	22.35	-2.50	17.70	<=34.77	Pass
			0	22.32	-2.50	17.67	<=34.77	Pass
			0	23.01	-2.50	18.36	<=34.77	Pass
			13	23.15	-2.50	18.50	<=34.77	Pass
		1	24	23.06	-2.50	18.41	<=34.77	Pass
			0	22.32	-2.50	17.67	<=34.77	Pass
			6	22.34	-2.50	17.69	<=34.77	Pass
			13	22.29	-2.50	17.64	<=34.77	Pass
		25	0	22.37	-2.50	17.72	<=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	24.24	-2.50	19.59	<=34.77	Pass
			25	24.45	-2.50	19.80	<=34.77	Pass
			49	24.27	-2.50	19.62	<=34.77	Pass
		25	0	23.31	-2.50	18.66	<=34.77	Pass
			13	23.36	-2.50	18.71	<=34.77	Pass
			25	23.38	-2.50	18.73	<=34.77	Pass
		50	0	23.37	-2.50	18.72	<=34.77	Pass
			0	24.27	-2.50	19.62	<=34.77	Pass
			25	24.53	-2.50	19.88	<=34.77	Pass
		1	49	24.37	-2.50	19.72	<=34.77	Pass
			0	23.33	-2.50	18.68	<=34.77	Pass
			13	23.31	-2.50	18.66	<=34.77	Pass
	707.5	25	25	23.32	-2.50	18.67	<=34.77	Pass
			0	23.34	-2.50	18.69	<=34.77	Pass
			0	24.22	-2.50	19.57	<=34.77	Pass
		1	25	24.46	-2.50	19.81	<=34.77	Pass
			49	24.38	-2.50	19.73	<=34.77	Pass
			0	23.17	-2.50	18.52	<=34.77	Pass

16QAM	704	50	13	23.31	-2.50	18.66	<=34.77	Pass
			25	23.19	-2.50	18.54	<=34.77	Pass
			0	23.23	-2.50	18.58	<=34.77	Pass
		1	0	23.62	-2.50	18.97	<=34.77	Pass
			25	23.95	-2.50	19.30	<=34.77	Pass
			49	23.75	-2.50	19.10	<=34.77	Pass
		25	0	22.46	-2.50	17.81	<=34.77	Pass
			13	22.45	-2.50	17.80	<=34.77	Pass
			25	22.51	-2.50	17.86	<=34.77	Pass
		50	0	22.46	-2.50	17.81	<=34.77	Pass
	707.5	1	0	23.24	-2.50	18.59	<=34.77	Pass
			25	23.41	-2.50	18.76	<=34.77	Pass
			49	23.29	-2.50	18.64	<=34.77	Pass
		25	0	22.46	-2.50	17.81	<=34.77	Pass
			13	22.44	-2.50	17.79	<=34.77	Pass
			25	22.45	-2.50	17.80	<=34.77	Pass
		50	0	22.44	-2.50	17.79	<=34.77	Pass
	711	1	0	23.37	-2.50	18.72	<=34.77	Pass
			25	23.57	-2.50	18.92	<=34.77	Pass
			49	23.47	-2.50	18.82	<=34.77	Pass
		25	0	22.25	-2.50	17.60	<=34.77	Pass
			13	22.35	-2.50	17.70	<=34.77	Pass
			25	22.25	-2.50	17.60	<=34.77	Pass
		50	0	22.25	-2.50	17.60	<=34.77	Pass

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 Test Result

2.1.1 B12_1.4MHz

Band: 12 / Bandwidth: 1.4MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	699.7	6	0	20	3.27	-5.150	-0.0074	-2.5 to 2.5	Pass
					3.85	-7.625	-0.0109	-2.5 to 2.5	Pass
					4.43	-6.695	-0.0096	-2.5 to 2.5	Pass
				-30	3.85	-3.619	-0.0052	-2.5 to 2.5	Pass
				-20	3.85	-2.460	-0.0035	-2.5 to 2.5	Pass
				-10	3.85	-5.879	-0.0084	-2.5 to 2.5	Pass
				0	3.85	-5.393	-0.0077	-2.5 to 2.5	Pass
				10	3.85	-4.191	-0.0060	-2.5 to 2.5	Pass
				30	3.85	-7.553	-0.0108	-2.5 to 2.5	Pass
				40	3.85	-3.247	-0.0046	-2.5 to 2.5	Pass
	707.5	6	0	20	3.85	-6.709	-0.0096	-2.5 to 2.5	Pass
					3.27	-5.336	-0.0075	-2.5 to 2.5	Pass
					3.85	-5.379	-0.0076	-2.5 to 2.5	Pass
				-30	4.43	-7.052	-0.0100	-2.5 to 2.5	Pass
					3.85	-8.483	-0.0120	-2.5 to 2.5	Pass
					3.85	-7.739	-0.0109	-2.5 to 2.5	Pass
				-10	3.85	-3.605	-0.0051	-2.5 to 2.5	Pass
				0	3.85	-6.437	-0.0091	-2.5 to 2.5	Pass
				10	3.85	-6.080	-0.0086	-2.5 to 2.5	Pass
				30	3.85	-1.431	-0.0020	-2.5 to 2.5	Pass
				40	3.85	-4.635	-0.0066	-2.5 to 2.5	Pass

				50	3.85	-5.064	-0.0072	-2.5 to 2.5	Pass
	715.3	6	0	20	3.27	-3.705	-0.0052	-2.5 to 2.5	Pass
					3.85	-6.609	-0.0092	-2.5 to 2.5	Pass
					4.43	-3.848	-0.0054	-2.5 to 2.5	Pass
					-30	3.85	-4.449	-0.0062	-2.5 to 2.5
				-20	3.85	-5.121	-0.0072	-2.5 to 2.5	Pass
				-10	3.85	-3.147	-0.0044	-2.5 to 2.5	Pass
				0	3.85	-7.439	-0.0104	-2.5 to 2.5	Pass
				10	3.85	-4.449	-0.0062	-2.5 to 2.5	Pass
				30	3.85	-7.024	-0.0098	-2.5 to 2.5	Pass
				40	3.85	-6.709	-0.0094	-2.5 to 2.5	Pass
	50	3.85	-1.259	-0.0018	-2.5 to 2.5	Pass			
16QAM	699.7	6	0	20	3.27	-6.180	-0.0088	-2.5 to 2.5	Pass
					3.85	-7.582	-0.0108	-2.5 to 2.5	Pass
					4.43	-5.250	-0.0075	-2.5 to 2.5	Pass
					-30	3.85	-7.997	-0.0114	-2.5 to 2.5
				-20	3.85	-6.952	-0.0099	-2.5 to 2.5	Pass
				-10	3.85	-5.765	-0.0082	-2.5 to 2.5	Pass
				0	3.85	-5.736	-0.0082	-2.5 to 2.5	Pass
				10	3.85	-4.821	-0.0069	-2.5 to 2.5	Pass
				30	3.85	-6.537	-0.0093	-2.5 to 2.5	Pass
				40	3.85	-3.419	-0.0049	-2.5 to 2.5	Pass
				50	3.85	-5.922	-0.0085	-2.5 to 2.5	Pass
	707.5	6	0	20	3.27	-6.394	-0.0090	-2.5 to 2.5	Pass
					3.85	-7.110	-0.0100	-2.5 to 2.5	Pass
					4.43	-5.150	-0.0073	-2.5 to 2.5	Pass
					-30	3.85	-6.409	-0.0091	-2.5 to 2.5
				-20	3.85	-8.626	-0.0122	-2.5 to 2.5	Pass
				-10	3.85	-7.324	-0.0104	-2.5 to 2.5	Pass
				0	3.85	-4.964	-0.0070	-2.5 to 2.5	Pass
				10	3.85	-3.347	-0.0047	-2.5 to 2.5	Pass
				30	3.85	-8.168	-0.0115	-2.5 to 2.5	Pass
				40	3.85	-5.794	-0.0082	-2.5 to 2.5	Pass
				50	3.85	-6.022	-0.0085	-2.5 to 2.5	Pass
	715.3	6	0	20	3.27	-6.552	-0.0092	-2.5 to 2.5	Pass
					3.85	-7.095	-0.0099	-2.5 to 2.5	Pass
					4.43	-5.078	-0.0071	-2.5 to 2.5	Pass
					-30	3.85	-10.028	-0.0140	-2.5 to 2.5
				-20	3.85	-5.665	-0.0079	-2.5 to 2.5	Pass
				-10	3.85	-6.709	-0.0094	-2.5 to 2.5	Pass
				0	3.85	-6.437	-0.0090	-2.5 to 2.5	Pass
				10	3.85	-8.183	-0.0114	-2.5 to 2.5	Pass
				30	3.85	-3.362	-0.0047	-2.5 to 2.5	Pass
				40	3.85	-6.137	-0.0086	-2.5 to 2.5	Pass
				50	3.85	-7.839	-0.0110	-2.5 to 2.5	Pass

2.1.2 B12_3MHz

Band: 12 / Bandwidth: 3MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	700.5	15	0	20	3.27	-7.238	-0.0103	-2.5 to 2.5	Pass
					3.85	-9.499	-0.0136	-2.5 to 2.5	Pass
					4.43	-9.956	-0.0142	-2.5 to 2.5	Pass
				-30	3.85	-8.984	-0.0128	-2.5 to 2.5	Pass
				-20	3.85	-8.240	-0.0118	-2.5 to 2.5	Pass
				-10	3.85	-7.968	-0.0114	-2.5 to 2.5	Pass
				0	3.85	-11.401	-0.0163	-2.5 to 2.5	Pass

				10	3.85	-9.842	-0.0140	-2.5 to 2.5	Pass
				30	3.85	-9.742	-0.0139	-2.5 to 2.5	Pass
				40	3.85	-8.240	-0.0118	-2.5 to 2.5	Pass
				50	3.85	-8.855	-0.0126	-2.5 to 2.5	Pass
	707.5	15	0	20	3.27	-1.187	-0.0017	-2.5 to 2.5	Pass
					3.85	-2.389	-0.0034	-2.5 to 2.5	Pass
					4.43	-5.665	-0.0080	-2.5 to 2.5	Pass
				-30	3.85	-6.924	-0.0098	-2.5 to 2.5	Pass
				-20	3.85	-6.208	-0.0088	-2.5 to 2.5	Pass
				-10	3.85	-6.795	-0.0096	-2.5 to 2.5	Pass
				0	3.85	-4.649	-0.0066	-2.5 to 2.5	Pass
				10	3.85	-6.609	-0.0093	-2.5 to 2.5	Pass
				30	3.85	-5.622	-0.0079	-2.5 to 2.5	Pass
				40	3.85	-1.016	-0.0014	-2.5 to 2.5	Pass
				50	3.85	-5.736	-0.0081	-2.5 to 2.5	Pass
	714.5	15	0	20	3.27	-5.937	-0.0083	-2.5 to 2.5	Pass
					3.85	-11.044	-0.0155	-2.5 to 2.5	Pass
					4.43	-8.111	-0.0114	-2.5 to 2.5	Pass
				-30	3.85	-6.795	-0.0095	-2.5 to 2.5	Pass
				-20	3.85	-5.836	-0.0082	-2.5 to 2.5	Pass
				-10	3.85	-5.021	-0.0070	-2.5 to 2.5	Pass
				0	3.85	-8.769	-0.0123	-2.5 to 2.5	Pass
				10	3.85	-7.167	-0.0100	-2.5 to 2.5	Pass
				30	3.85	-8.969	-0.0126	-2.5 to 2.5	Pass
				40	3.85	-10.700	-0.0150	-2.5 to 2.5	Pass
				50	3.85	-5.236	-0.0073	-2.5 to 2.5	Pass
16QAM	700.5	15	0	20	3.27	-10.185	-0.0145	-2.5 to 2.5	Pass
					3.85	-6.065	-0.0087	-2.5 to 2.5	Pass
					4.43	-6.795	-0.0097	-2.5 to 2.5	Pass
				-30	3.85	-4.635	-0.0066	-2.5 to 2.5	Pass
				-20	3.85	-9.356	-0.0134	-2.5 to 2.5	Pass
				-10	3.85	-7.811	-0.0112	-2.5 to 2.5	Pass
				0	3.85	-7.739	-0.0110	-2.5 to 2.5	Pass
				10	3.85	-9.971	-0.0142	-2.5 to 2.5	Pass
				30	3.85	-5.350	-0.0076	-2.5 to 2.5	Pass
				40	3.85	-5.908	-0.0084	-2.5 to 2.5	Pass
				50	3.85	-7.625	-0.0109	-2.5 to 2.5	Pass
	707.5	15	0	20	3.27	-4.449	-0.0063	-2.5 to 2.5	Pass
					3.85	-4.663	-0.0066	-2.5 to 2.5	Pass
					4.43	-8.240	-0.0116	-2.5 to 2.5	Pass
				-30	3.85	-7.596	-0.0107	-2.5 to 2.5	Pass
				-20	3.85	-6.924	-0.0098	-2.5 to 2.5	Pass
				-10	3.85	-7.997	-0.0113	-2.5 to 2.5	Pass
				0	3.85	-6.022	-0.0085	-2.5 to 2.5	Pass
				10	3.85	-6.480	-0.0092	-2.5 to 2.5	Pass
				30	3.85	-8.039	-0.0114	-2.5 to 2.5	Pass
				40	3.85	-7.496	-0.0106	-2.5 to 2.5	Pass
				50	3.85	-8.583	-0.0121	-2.5 to 2.5	Pass
	714.5	15	0	20	3.27	-5.851	-0.0082	-2.5 to 2.5	Pass
					3.85	-6.809	-0.0095	-2.5 to 2.5	Pass
					4.43	-5.107	-0.0071	-2.5 to 2.5	Pass
				-30	3.85	-4.578	-0.0064	-2.5 to 2.5	Pass
				-20	3.85	-9.856	-0.0138	-2.5 to 2.5	Pass
				-10	3.85	-11.244	-0.0157	-2.5 to 2.5	Pass
				0	3.85	-4.492	-0.0063	-2.5 to 2.5	Pass
				10	3.85	-6.237	-0.0087	-2.5 to 2.5	Pass
				30	3.85	-5.136	-0.0072	-2.5 to 2.5	Pass
				40	3.85	-9.871	-0.0138	-2.5 to 2.5	Pass
				50	3.85	-3.633	-0.0051	-2.5 to 2.5	Pass

2.1.3 B12_5MHz

Band: 12 / Bandwidth: 5MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	701.5	25	0	20	3.27	-9.198	-0.0131	-2.5 to 2.5	Pass
					3.85	-9.513	-0.0136	-2.5 to 2.5	Pass
					4.43	-8.526	-0.0122	-2.5 to 2.5	Pass
				-30	3.85	-10.958	-0.0156	-2.5 to 2.5	Pass
				-20	3.85	-6.080	-0.0087	-2.5 to 2.5	Pass
				-10	3.85	-6.909	-0.0098	-2.5 to 2.5	Pass
				0	3.85	-9.112	-0.0130	-2.5 to 2.5	Pass
				10	3.85	-5.693	-0.0081	-2.5 to 2.5	Pass
				30	3.85	-9.155	-0.0131	-2.5 to 2.5	Pass
				40	3.85	-7.381	-0.0105	-2.5 to 2.5	Pass
				50	3.85	-3.877	-0.0055	-2.5 to 2.5	Pass
	707.5	25	0	20	3.27	-5.636	-0.0080	-2.5 to 2.5	Pass
					3.85	-3.648	-0.0052	-2.5 to 2.5	Pass
					4.43	1.431	0.0020	-2.5 to 2.5	Pass
				-30	3.85	-3.648	-0.0052	-2.5 to 2.5	Pass
				-20	3.85	-7.339	-0.0104	-2.5 to 2.5	Pass
				-10	3.85	-7.381	-0.0104	-2.5 to 2.5	Pass
				0	3.85	-8.111	-0.0115	-2.5 to 2.5	Pass
				10	3.85	-2.961	-0.0042	-2.5 to 2.5	Pass
				30	3.85	-6.466	-0.0091	-2.5 to 2.5	Pass
				40	3.85	-3.905	-0.0055	-2.5 to 2.5	Pass
				50	3.85	-2.689	-0.0038	-2.5 to 2.5	Pass
	713.5	25	0	20	3.27	-2.446	-0.0034	-2.5 to 2.5	Pass
					3.85	-6.981	-0.0098	-2.5 to 2.5	Pass
					4.43	-3.619	-0.0051	-2.5 to 2.5	Pass
				-30	3.85	-6.795	-0.0095	-2.5 to 2.5	Pass
				-20	3.85	-6.566	-0.0092	-2.5 to 2.5	Pass
				-10	3.85	-6.394	-0.0090	-2.5 to 2.5	Pass
				0	3.85	-6.824	-0.0096	-2.5 to 2.5	Pass
				10	3.85	-4.721	-0.0066	-2.5 to 2.5	Pass
				30	3.85	-5.407	-0.0076	-2.5 to 2.5	Pass
				40	3.85	-9.599	-0.0135	-2.5 to 2.5	Pass
16QAM	701.5	25	0	20	3.27	-7.167	-0.0102	-2.5 to 2.5	Pass
					3.85	-5.078	-0.0072	-2.5 to 2.5	Pass
					4.43	-5.450	-0.0078	-2.5 to 2.5	Pass
				-30	3.85	-2.933	-0.0042	-2.5 to 2.5	Pass
				-20	3.85	-2.818	-0.0040	-2.5 to 2.5	Pass
				-10	3.85	-2.589	-0.0037	-2.5 to 2.5	Pass
				0	3.85	-1.259	-0.0018	-2.5 to 2.5	Pass
				10	3.85	-3.519	-0.0050	-2.5 to 2.5	Pass
				30	3.85	-5.236	-0.0075	-2.5 to 2.5	Pass
				40	3.85	-9.513	-0.0136	-2.5 to 2.5	Pass
				50	3.85	-7.753	-0.0111	-2.5 to 2.5	Pass
	707.5	25	0	20	3.27	-5.350	-0.0076	-2.5 to 2.5	Pass
					3.85	-5.136	-0.0073	-2.5 to 2.5	Pass
					4.43	-11.845	-0.0167	-2.5 to 2.5	Pass
				-30	3.85	-5.522	-0.0078	-2.5 to 2.5	Pass
				-20	3.85	-6.208	-0.0088	-2.5 to 2.5	Pass
				-10	3.85	-5.994	-0.0085	-2.5 to 2.5	Pass
				0	3.85	-3.562	-0.0050	-2.5 to 2.5	Pass
				10	3.85	-6.981	-0.0099	-2.5 to 2.5	Pass

	713.5	25	0	30	3.85	-6.695	-0.0095	-2.5 to 2.5	Pass
				40	3.85	-8.154	-0.0115	-2.5 to 2.5	Pass
				50	3.85	-8.097	-0.0114	-2.5 to 2.5	Pass
				20	3.27	-5.636	-0.0079	-2.5 to 2.5	Pass
					3.85	-7.210	-0.0101	-2.5 to 2.5	Pass
					4.43	-7.524	-0.0105	-2.5 to 2.5	Pass
				-30	3.85	-6.895	-0.0097	-2.5 to 2.5	Pass
				-20	3.85	-6.366	-0.0089	-2.5 to 2.5	Pass
				-10	3.85	-10.428	-0.0146	-2.5 to 2.5	Pass
				0	3.85	-11.659	-0.0163	-2.5 to 2.5	Pass
				10	3.85	-5.336	-0.0075	-2.5 to 2.5	Pass
				30	3.85	-8.397	-0.0118	-2.5 to 2.5	Pass
				40	3.85	-7.296	-0.0102	-2.5 to 2.5	Pass
				50	3.85	-10.386	-0.0146	-2.5 to 2.5	Pass

2.1.4 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	704	50	0	20	3.27	-4.735	-0.0067	-2.5 to 2.5	Pass
					3.85	-1.416	-0.0020	-2.5 to 2.5	Pass
					4.43	-6.537	-0.0093	-2.5 to 2.5	Pass
				-30	3.85	-4.106	-0.0058	-2.5 to 2.5	Pass
				-20	3.85	-6.094	-0.0087	-2.5 to 2.5	Pass
				-10	3.85	-4.621	-0.0066	-2.5 to 2.5	Pass
				0	3.85	-5.093	-0.0072	-2.5 to 2.5	Pass
				10	3.85	-7.195	-0.0102	-2.5 to 2.5	Pass
				30	3.85	-5.894	-0.0084	-2.5 to 2.5	Pass
				40	3.85	-9.141	-0.0130	-2.5 to 2.5	Pass
				50	3.85	-7.668	-0.0109	-2.5 to 2.5	Pass
	707.5	50	0	20	3.27	-3.676	-0.0052	-2.5 to 2.5	Pass
					3.85	-4.849	-0.0069	-2.5 to 2.5	Pass
					4.43	-5.350	-0.0076	-2.5 to 2.5	Pass
				-30	3.85	-5.965	-0.0084	-2.5 to 2.5	Pass
				-20	3.85	-5.136	-0.0073	-2.5 to 2.5	Pass
				-10	3.85	-6.437	-0.0091	-2.5 to 2.5	Pass
				0	3.85	-4.721	-0.0067	-2.5 to 2.5	Pass
				10	3.85	-3.748	-0.0053	-2.5 to 2.5	Pass
				30	3.85	-2.532	-0.0036	-2.5 to 2.5	Pass
				40	3.85	-5.364	-0.0076	-2.5 to 2.5	Pass
				50	3.85	-8.368	-0.0118	-2.5 to 2.5	Pass
	711	50	0	20	3.27	-6.309	-0.0089	-2.5 to 2.5	Pass
					3.85	-8.569	-0.0121	-2.5 to 2.5	Pass
					4.43	-6.838	-0.0096	-2.5 to 2.5	Pass
				-30	3.85	-4.692	-0.0066	-2.5 to 2.5	Pass
				-20	3.85	-2.260	-0.0032	-2.5 to 2.5	Pass
				-10	3.85	-6.166	-0.0087	-2.5 to 2.5	Pass
				0	3.85	-8.211	-0.0115	-2.5 to 2.5	Pass
				10	3.85	-5.865	-0.0082	-2.5 to 2.5	Pass
				30	3.85	-7.324	-0.0103	-2.5 to 2.5	Pass
				40	3.85	-5.078	-0.0071	-2.5 to 2.5	Pass
				50	3.85	-9.041	-0.0127	-2.5 to 2.5	Pass
16QAM	704	50	0	20	3.27	-5.064	-0.0072	-2.5 to 2.5	Pass
					3.85	-3.133	-0.0045	-2.5 to 2.5	Pass
					4.43	-1.202	-0.0017	-2.5 to 2.5	Pass
				-30	3.85	-5.708	-0.0081	-2.5 to 2.5	Pass
				-20	3.85	-3.476	-0.0049	-2.5 to 2.5	Pass

				-10	3.85	-7.024	-0.0100	-2.5 to 2.5	Pass
				0	3.85	-4.978	-0.0071	-2.5 to 2.5	Pass
				10	3.85	-7.010	-0.0100	-2.5 to 2.5	Pass
				30	3.85	-7.467	-0.0106	-2.5 to 2.5	Pass
				40	3.85	-6.938	-0.0099	-2.5 to 2.5	Pass
				50	3.85	-4.206	-0.0060	-2.5 to 2.5	Pass
	707.5	50	0	20	3.27	-8.569	-0.0121	-2.5 to 2.5	Pass
					3.85	-8.726	-0.0123	-2.5 to 2.5	Pass
					4.43	-4.520	-0.0064	-2.5 to 2.5	Pass
				-30	3.85	-7.052	-0.0100	-2.5 to 2.5	Pass
				-20	3.85	-5.193	-0.0073	-2.5 to 2.5	Pass
				-10	3.85	-7.267	-0.0103	-2.5 to 2.5	Pass
				0	3.85	-4.621	-0.0065	-2.5 to 2.5	Pass
				10	3.85	-7.682	-0.0109	-2.5 to 2.5	Pass
				30	3.85	-7.010	-0.0099	-2.5 to 2.5	Pass
				40	3.85	-6.080	-0.0086	-2.5 to 2.5	Pass
				50	3.85	-7.839	-0.0111	-2.5 to 2.5	Pass
	711	50	0	20	3.27	-6.595	-0.0093	-2.5 to 2.5	Pass
					3.85	-3.490	-0.0049	-2.5 to 2.5	Pass
					4.43	-3.662	-0.0052	-2.5 to 2.5	Pass
				-30	3.85	-5.779	-0.0081	-2.5 to 2.5	Pass
				-20	3.85	-2.446	-0.0034	-2.5 to 2.5	Pass
				-10	3.85	-4.263	-0.0060	-2.5 to 2.5	Pass
				0	3.85	-0.944	-0.0013	-2.5 to 2.5	Pass
				10	3.85	-4.807	-0.0068	-2.5 to 2.5	Pass
				30	3.85	-1.044	-0.0015	-2.5 to 2.5	Pass
				40	3.85	-1.545	-0.0022	-2.5 to 2.5	Pass
				50	3.85	-1.960	-0.0028	-2.5 to 2.5	Pass

3. Modulation Characteristics

3.1 Test Result

3.1.1 B12_1.4MHz

Band: 12 / Bandwidth: 1.4MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	
QPSK	707.5	6	0	Refer To Test Graph		Pass
16QAM	707.5	6	0	Refer To Test Graph		Pass

3.1.2 B12_3MHz

Band: 12 / Bandwidth: 3MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	
QPSK	707.5	15	0	Refer To Test Graph		Pass
16QAM	707.5	15	0	Refer To Test Graph		Pass

3.1.3 B12_5MHz

Band: 12 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	

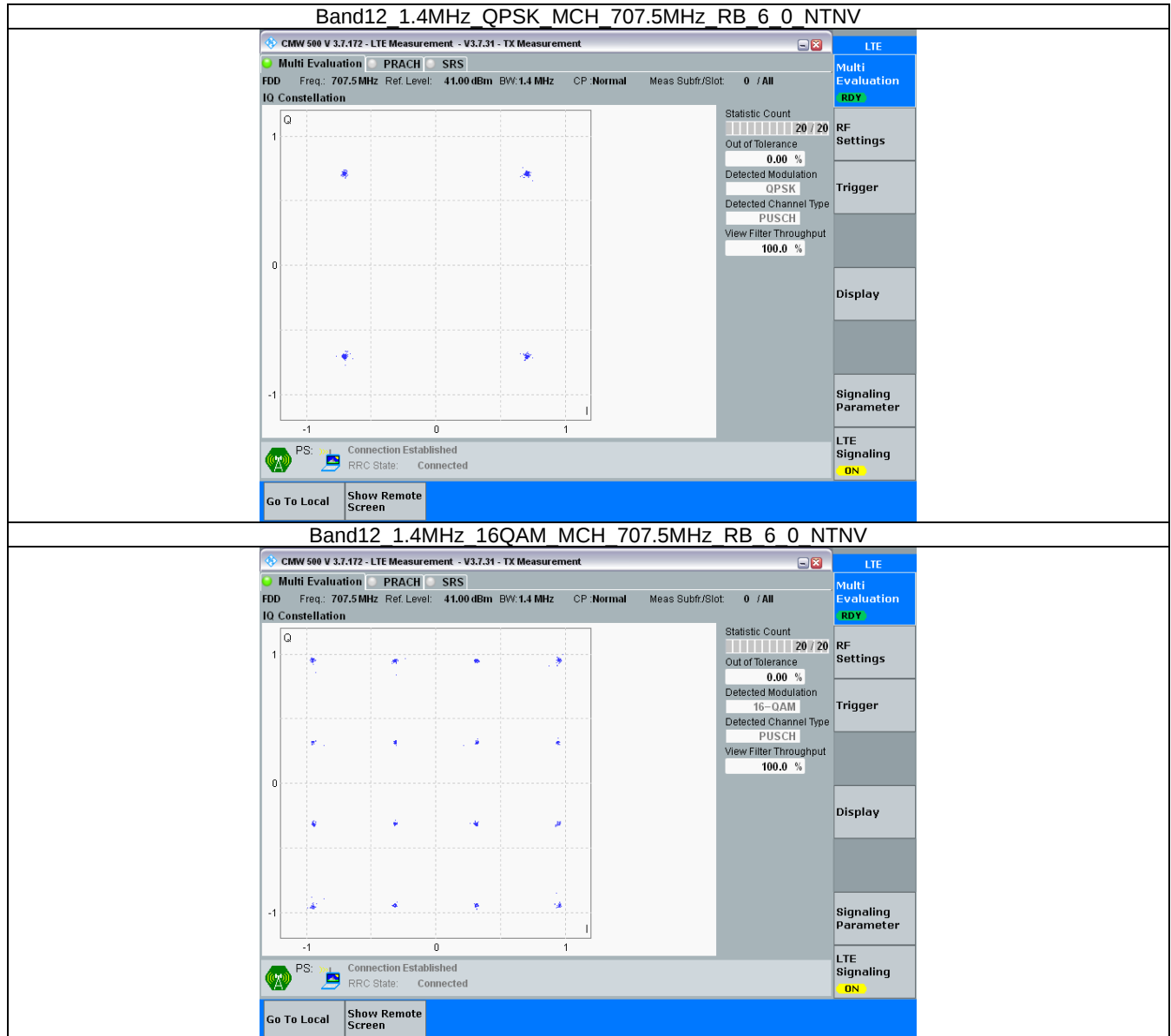
QPSK	707.5	25	0	Refer To Test Graph	Pass
16QAM	707.5	25	0	Refer To Test Graph	Pass

3.1.4 B12_10MHz

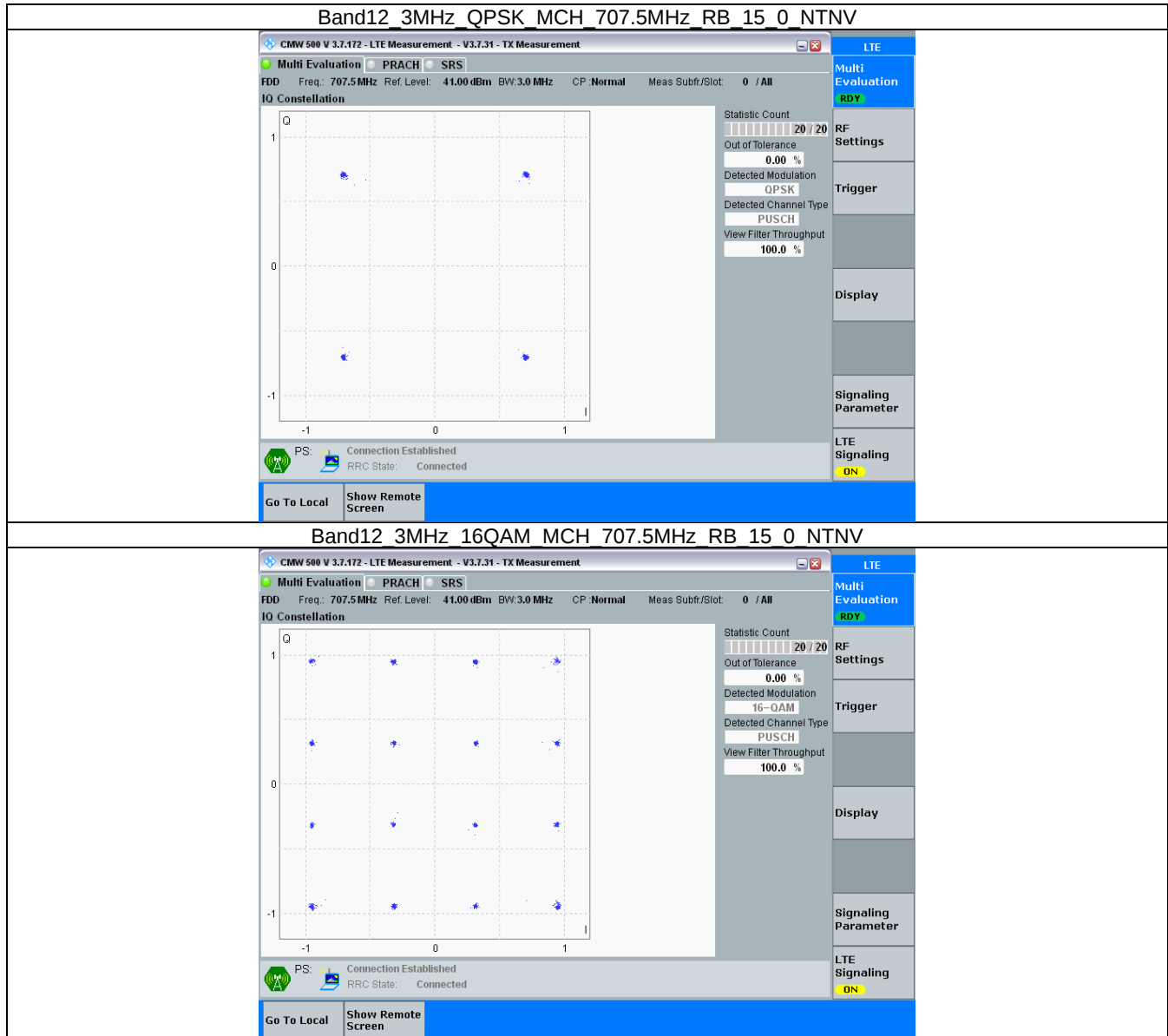
Band: 12 / Bandwidth: 10MHz / NTVN						
Modulation	Frequency (MHz)	RB Allocation		Modulation Characteristics		Verdict
		Size	Offset	Result	Limit	
QPSK	707.5	50	0	Refer To Test Graph		Pass
16QAM	707.5	50	0	Refer To Test Graph		Pass

3.2 Test Graph

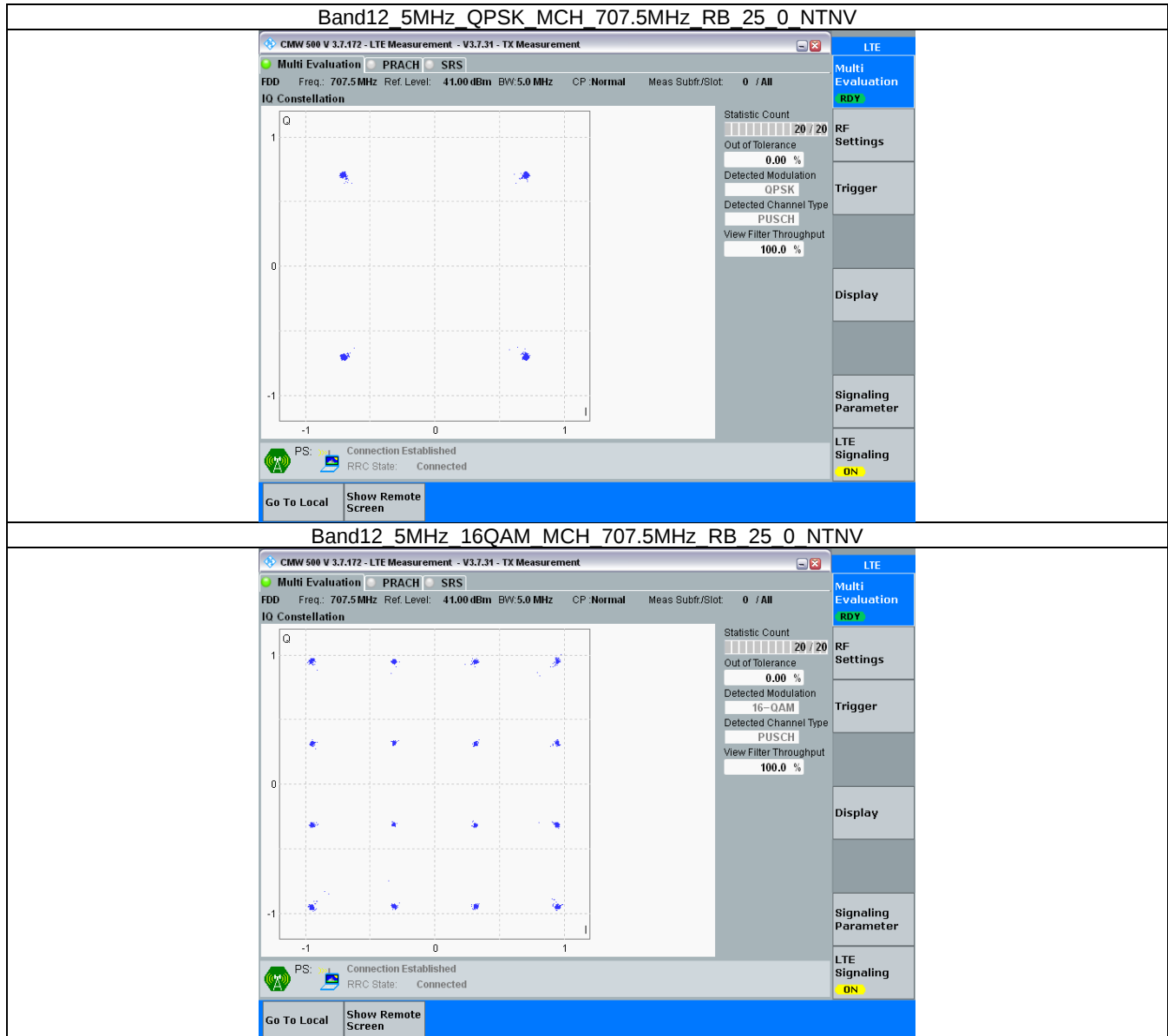
3.2.1 B12_1.4MHz



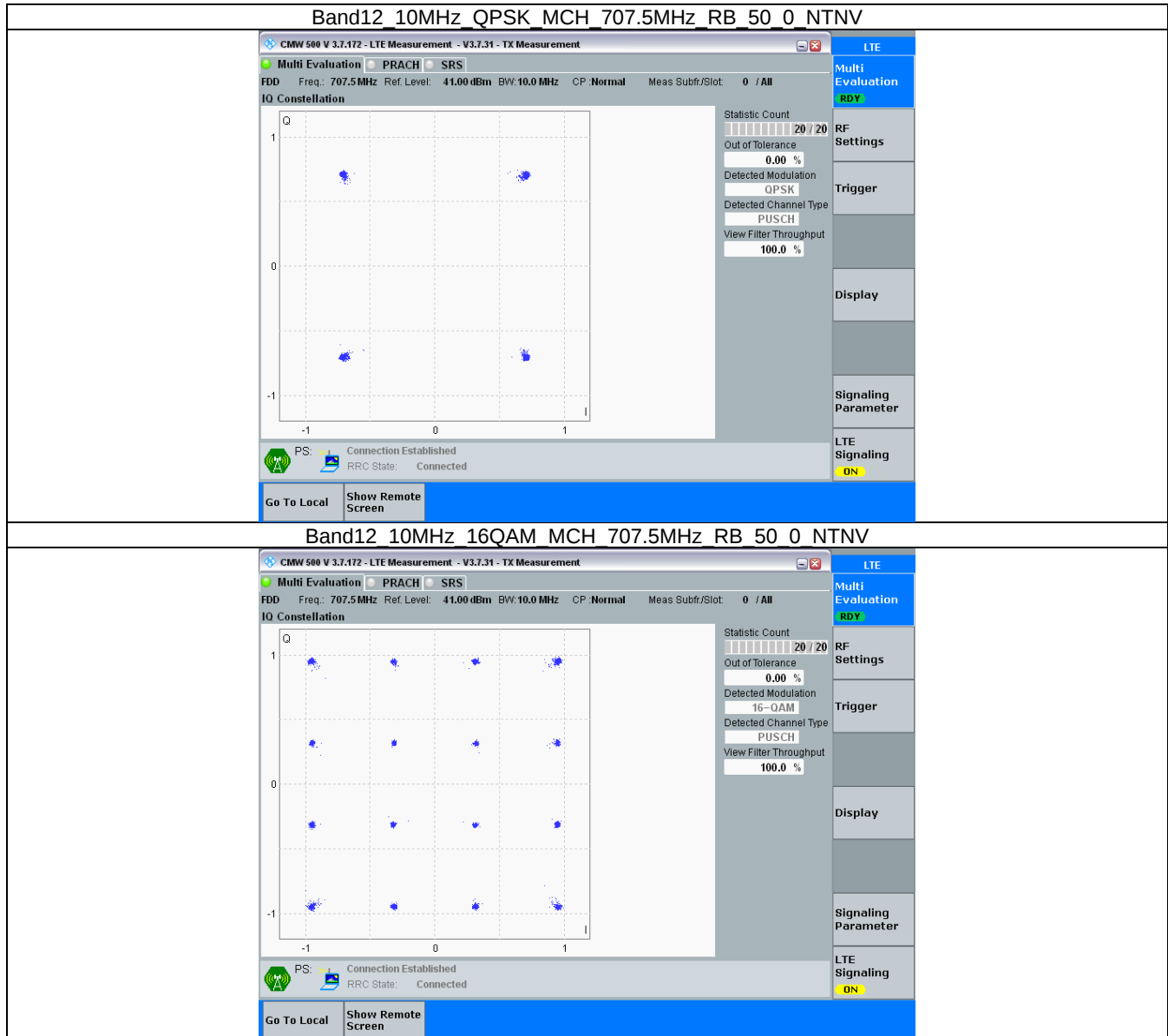
3.2.2 B12_3MHz



3.2.3 B12_5MHz



3.2.4 B12_10MHz



4. 99% & 26dB Bandwidth

4.1 Test Result

4.1.1 Band12_OBW

Band: 12 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	699.7	6	0	1.102	/	Pass
		707.5	6	0	1.111	/	Pass
		715.3	6	0	1.112	/	Pass
	16QAM	699.7	6	0	1.108	/	Pass
		707.5	6	0	1.106	/	Pass
		715.3	6	0	1.120	/	Pass
3	QPSK	700.5	15	0	2.724	/	Pass
		707.5	15	0	2.730	/	Pass
		714.5	15	0	2.719	/	Pass
	16QAM	700.5	15	0	2.719	/	Pass
		707.5	15	0	2.720	/	Pass
		714.5	15	0	2.726	/	Pass
5	QPSK	701.5	25	0	4.562	/	Pass
		707.5	25	0	4.585	/	Pass
		713.5	25	0	4.580	/	Pass
	16QAM	701.5	25	0	4.580	/	Pass
		707.5	25	0	4.584	/	Pass
		713.5	25	0	4.584	/	Pass
10	QPSK	704	50	0	9.098	/	Pass
		707.5	50	0	9.056	/	Pass
		711	50	0	9.071	/	Pass
	16QAM	704	50	0	9.098	/	Pass
		707.5	50	0	9.071	/	Pass
		711	50	0	9.070	/	Pass

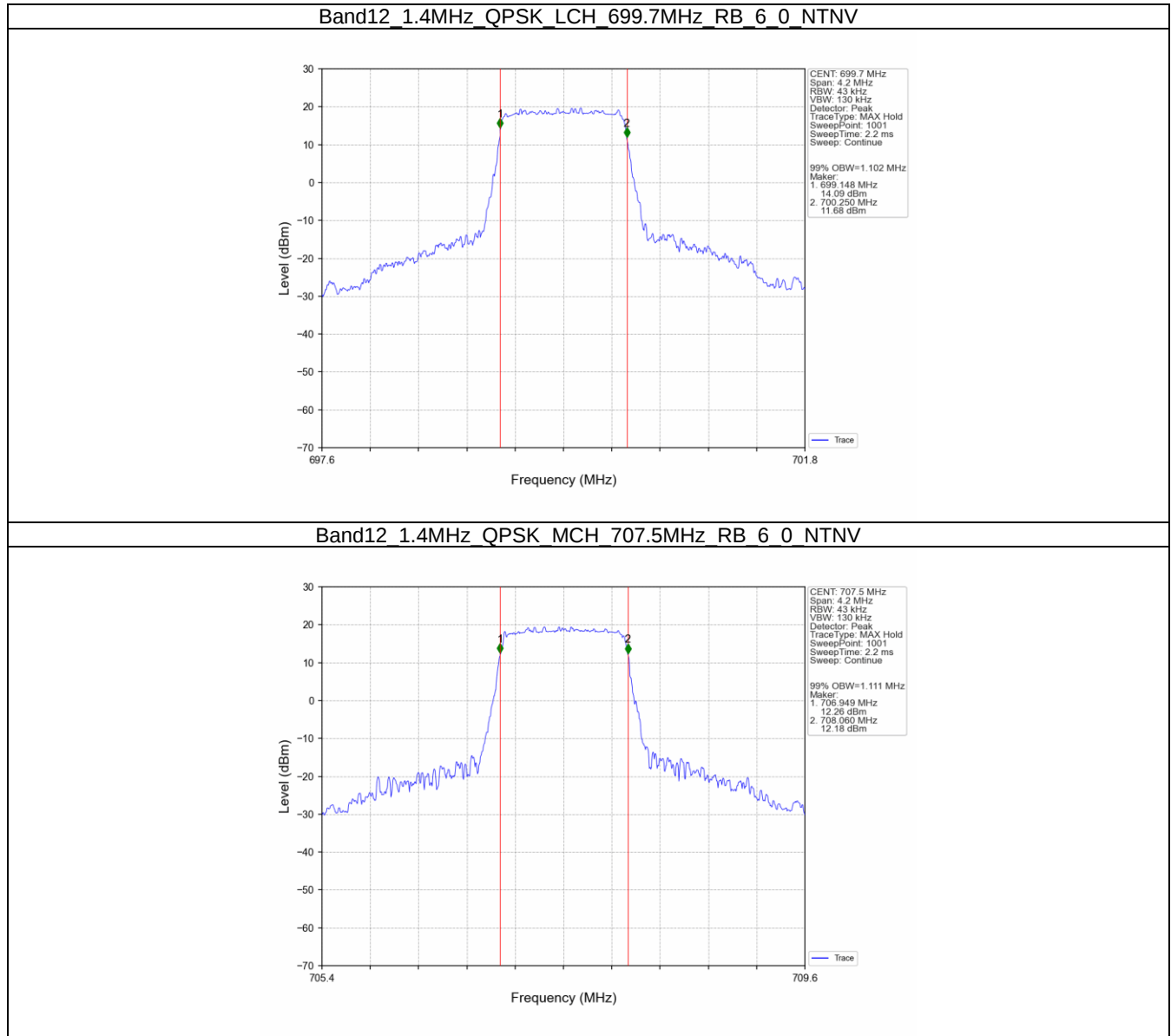
4.1.2 Band12_XDB

Band: 12 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
1.4	QPSK	699.7	6	0	1.326	/	Pass
		707.5	6	0	1.323	/	Pass
		715.3	6	0	1.320	/	Pass
	16QAM	699.7	6	0	1.322	/	Pass
		707.5	6	0	1.306	/	Pass
		715.3	6	0	1.331	/	Pass
3	QPSK	700.5	15	0	2.987	/	Pass
		707.5	15	0	3.000	/	Pass
		714.5	15	0	2.995	/	Pass
	16QAM	700.5	15	0	2.967	/	Pass
		707.5	15	0	3.009	/	Pass
		714.5	15	0	2.999	/	Pass
5	QPSK	701.5	25	0	5.193	/	Pass
		707.5	25	0	5.300	/	Pass
		713.5	25	0	5.246	/	Pass

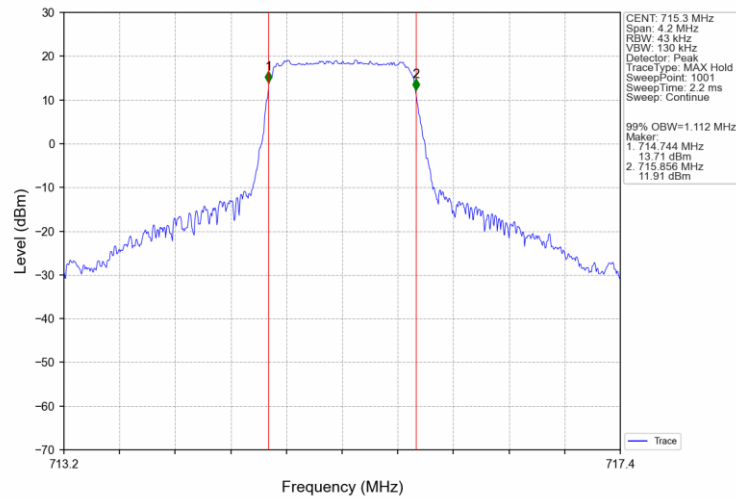
10	16QAM	701.5	25	0	5.163	/	Pass
		707.5	25	0	5.248	/	Pass
		713.5	25	0	5.285	/	Pass
	QPSK	704	50	0	10.227	/	Pass
		707.5	50	0	10.236	/	Pass
		711	50	0	10.199	/	Pass
	16QAM	704	50	0	10.242	/	Pass
		707.5	50	0	10.300	/	Pass
		711	50	0	10.206	/	Pass

4.2 Test Graph

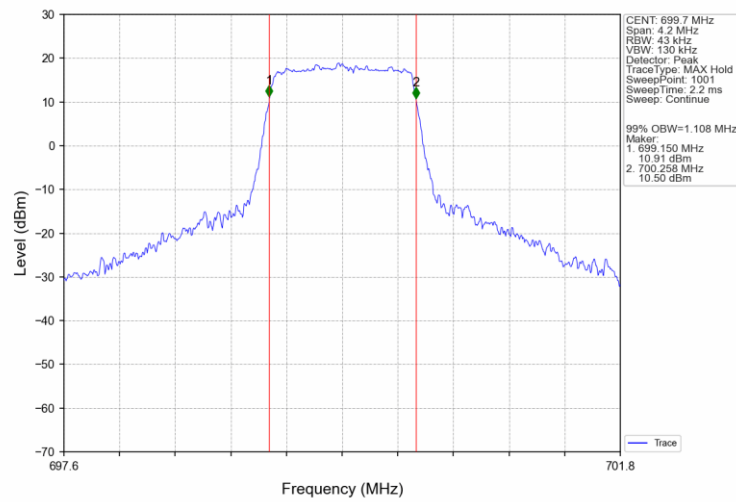
4.2.1 Band12_OBW



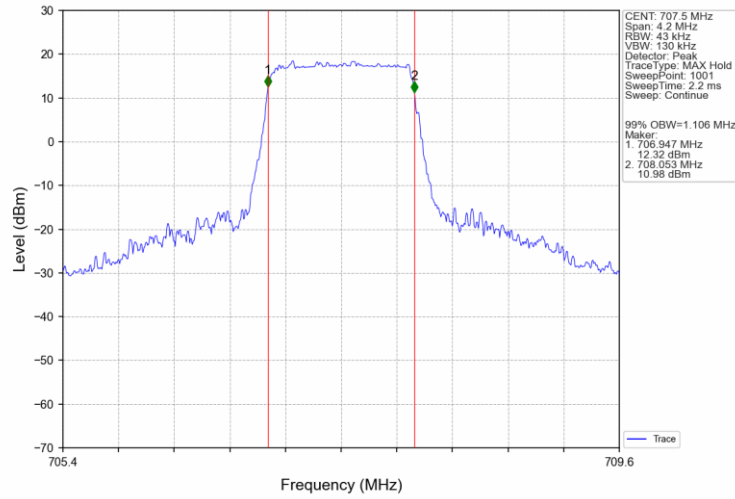
Band12 1.4MHz QPSK HCH 715.3MHz RB 6 0 NTV



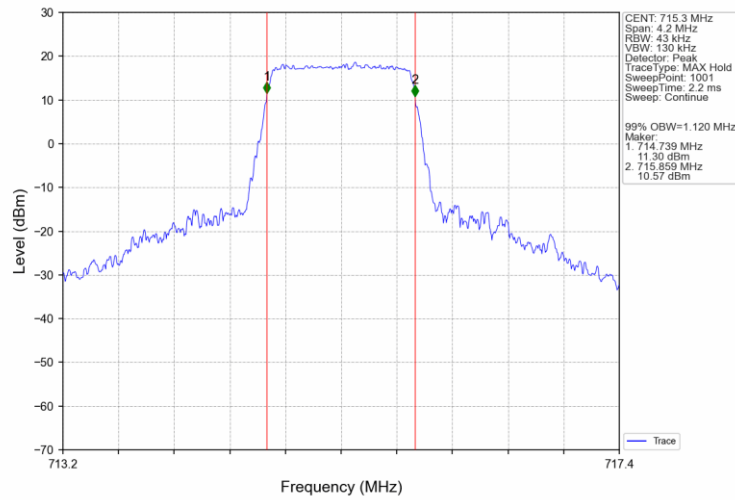
Band12 1.4MHz 16QAM LCH 699.7MHz RB 6 0 NTV



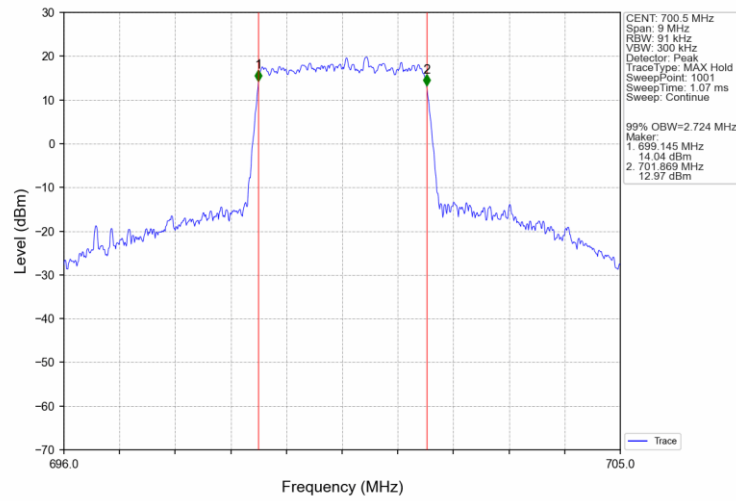
Band12_1.4MHz_16QAM_MCH_707.5MHz_RB_6_0_NTNV



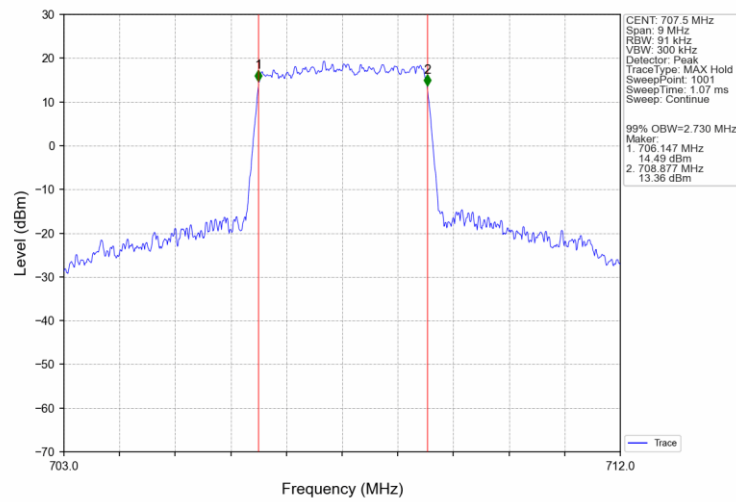
Band12_1.4MHz_16QAM_HCH_715.3MHz_RB_6_0_NTNV



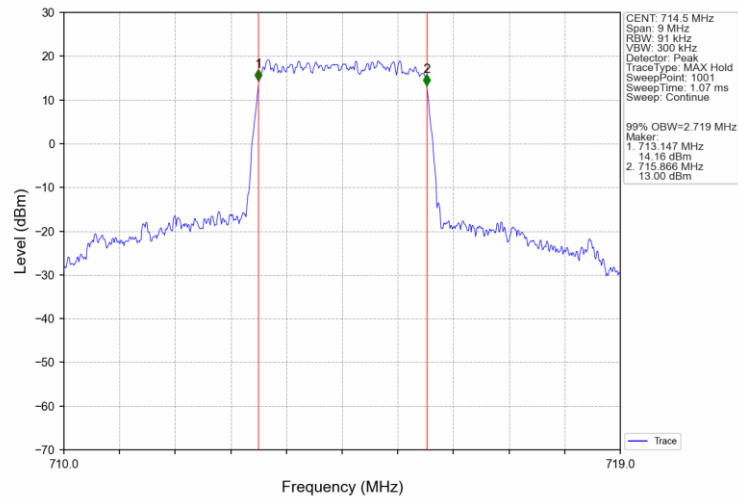
Band12_3MHz_QPSK_LCH_700.5MHz_RB_15_0_NTNV



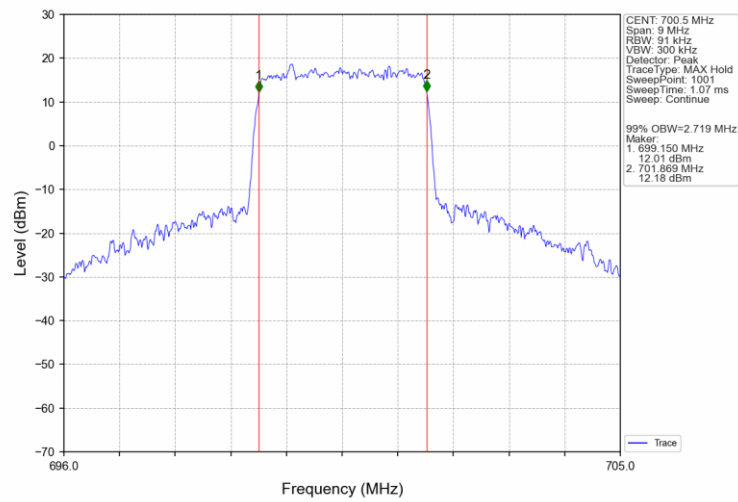
Band12_3MHz_QPSK_MCH_707.5MHz_RB_15_0_NTNV



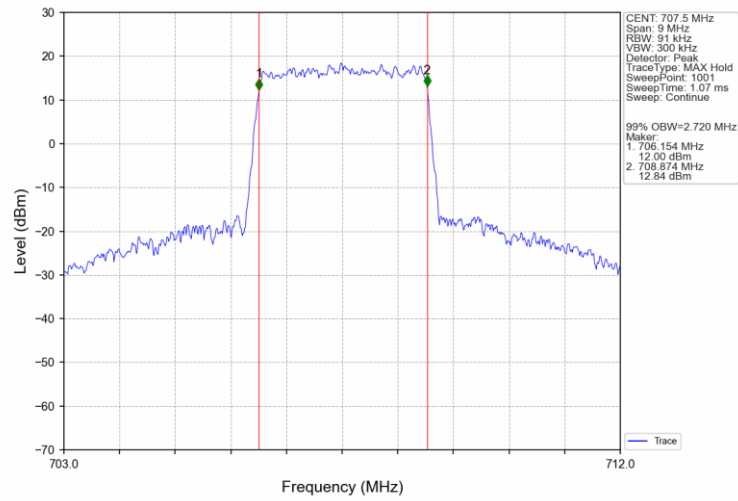
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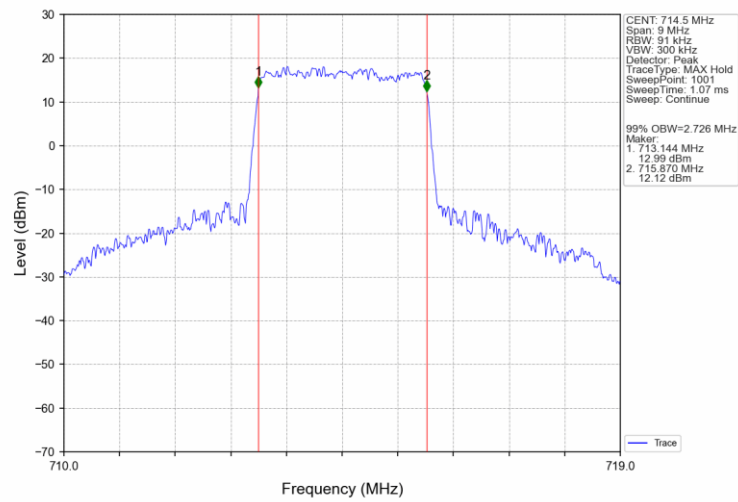
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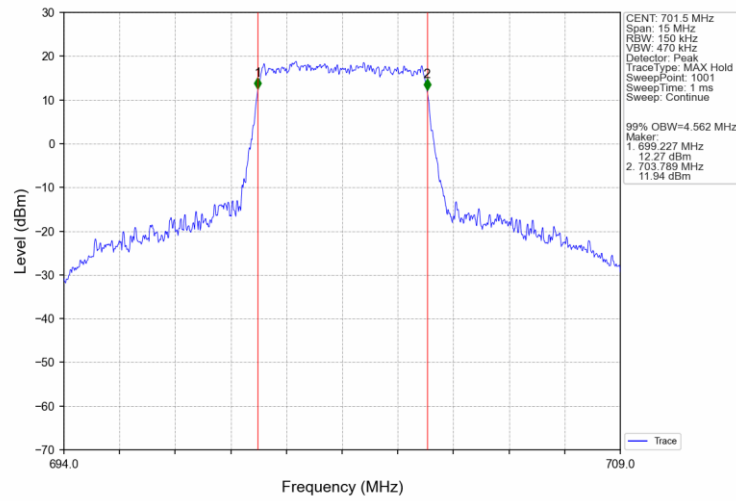
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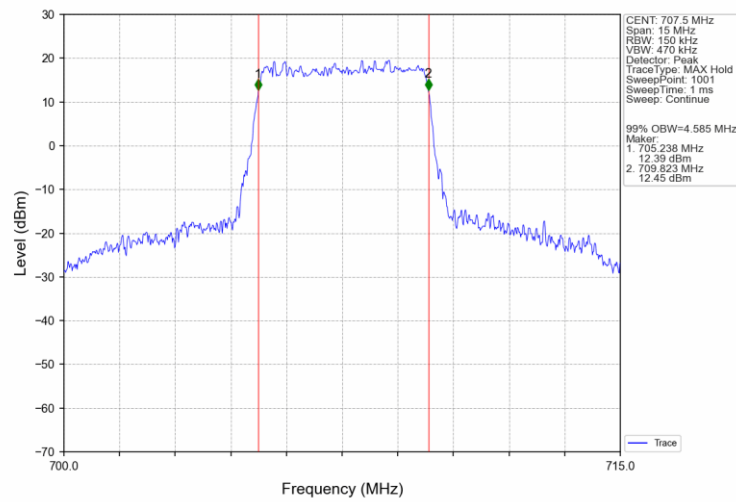
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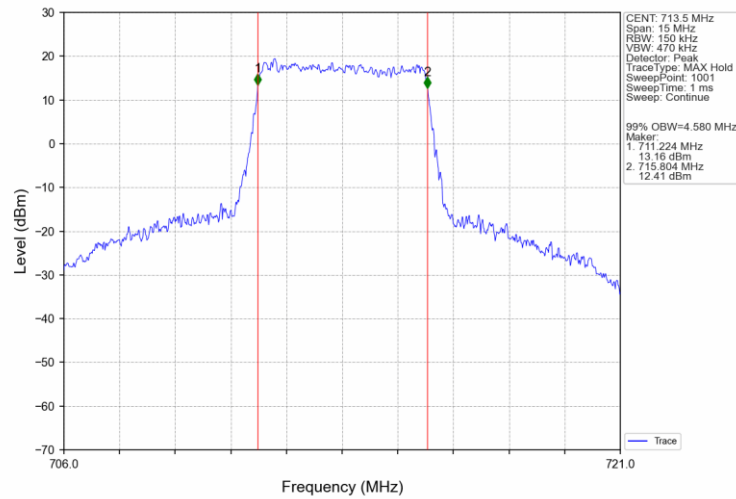
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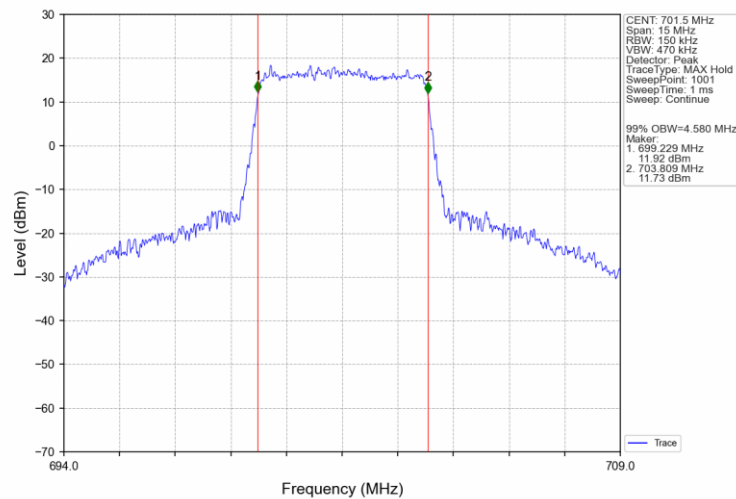
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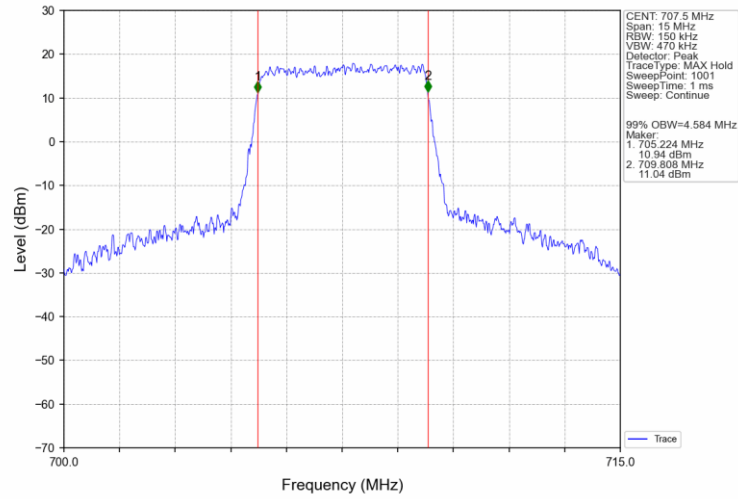
Band12_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



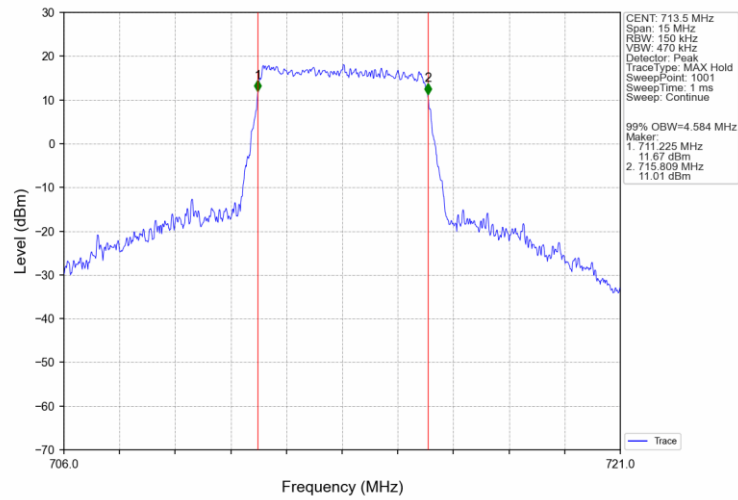
Band12_5MHz_16QAM_LCH_701.5MHz_RB_25_0_NTNV



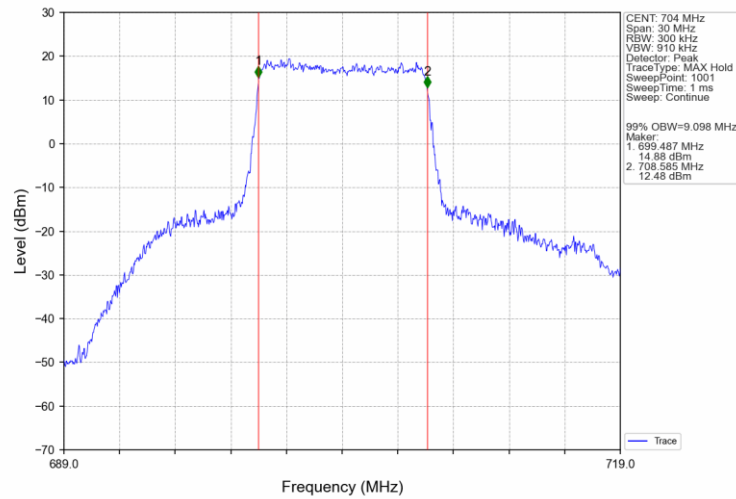
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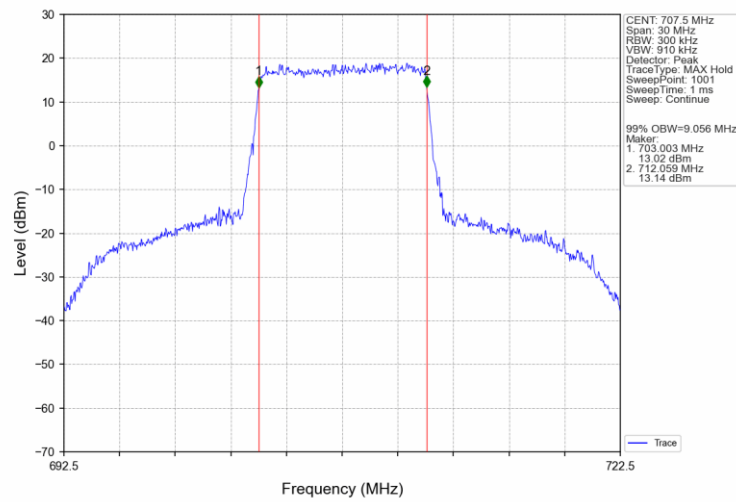
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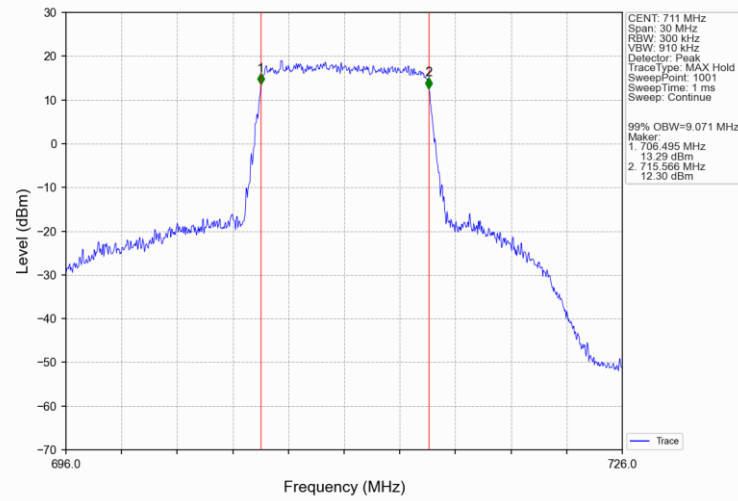
Band12_10MHz_QPSK_LCH_704MHz_RB_50_0_NTNV



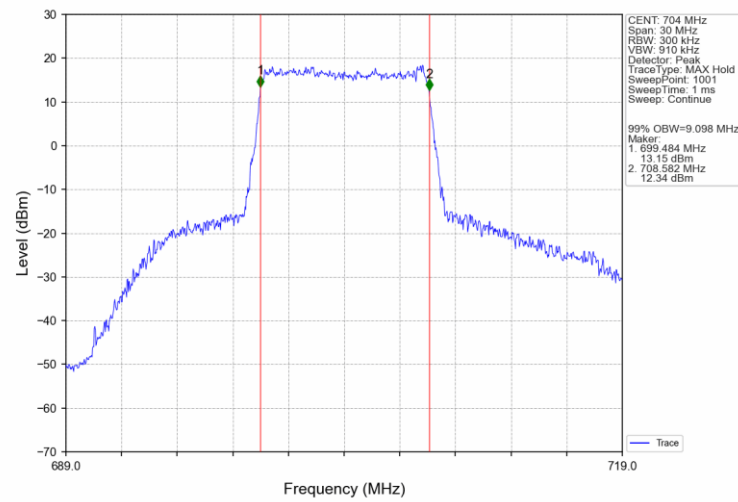
Band12_10MHz_QPSK_MCH_707.5MHz_RB_50_0_NTNV



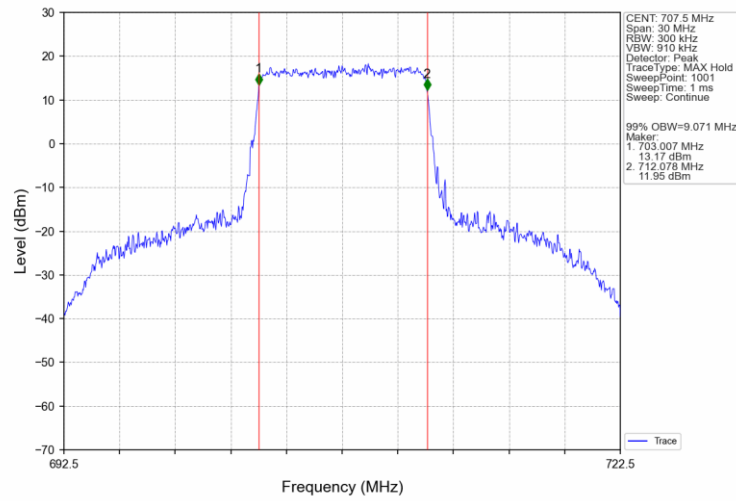
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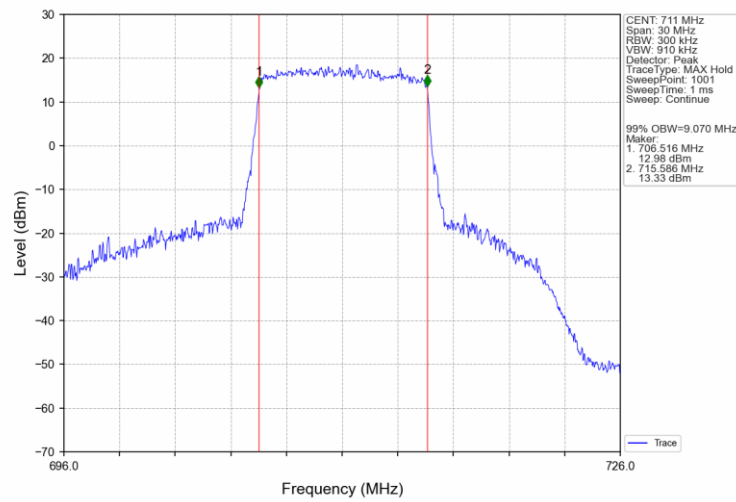
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Band12_10MHz_16QAM_MCH_707.5MHz_RB_50_0_NTNV

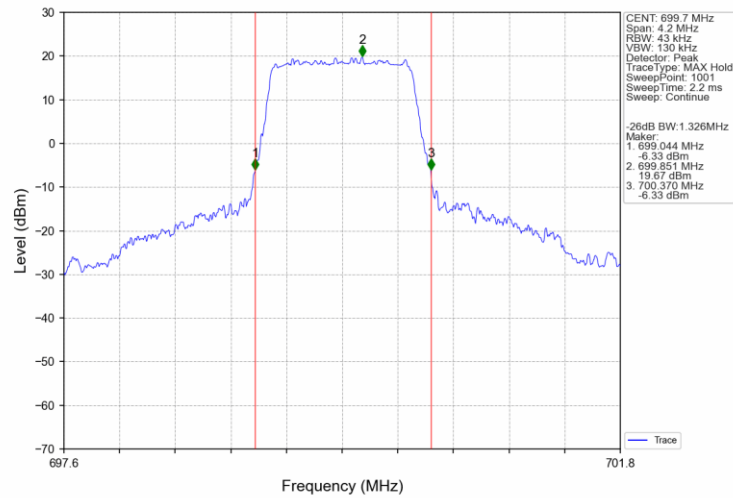


Band12_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV

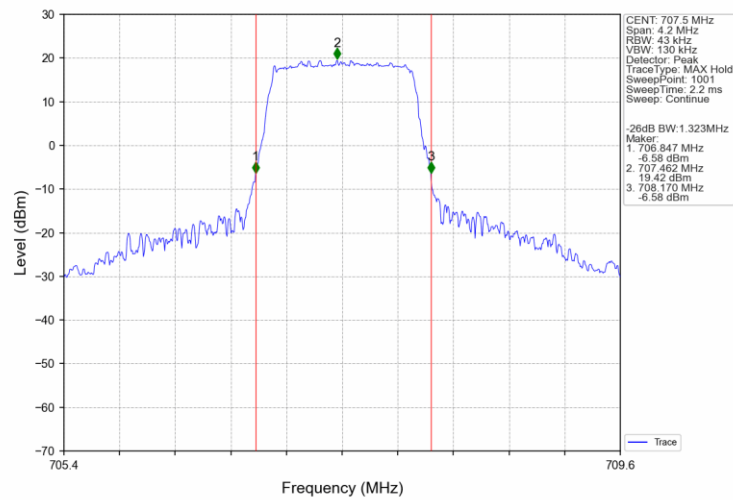


4.2.2 Band12_XDB

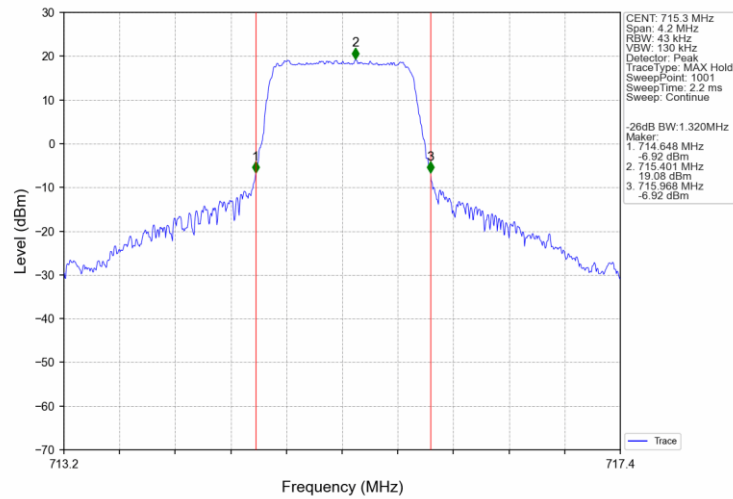
Band12 1.4MHz QPSK LCH 699.7MHz RB 6 0 NTNV



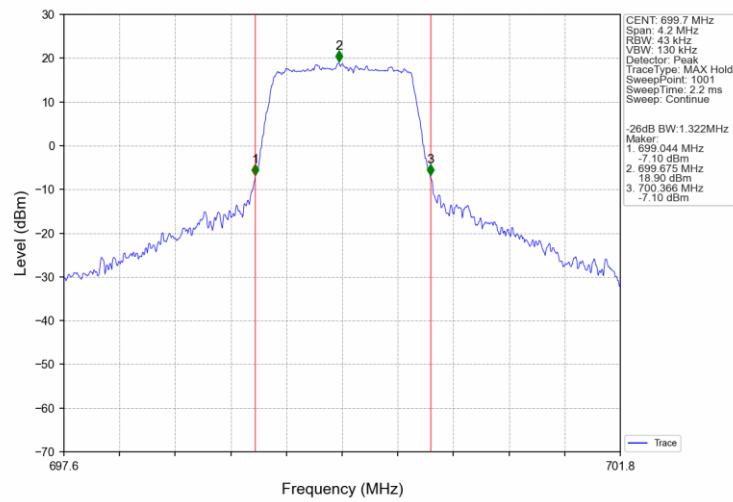
Band12 1.4MHz QPSK MCH 707.5MHz RB 6 0 NTNV



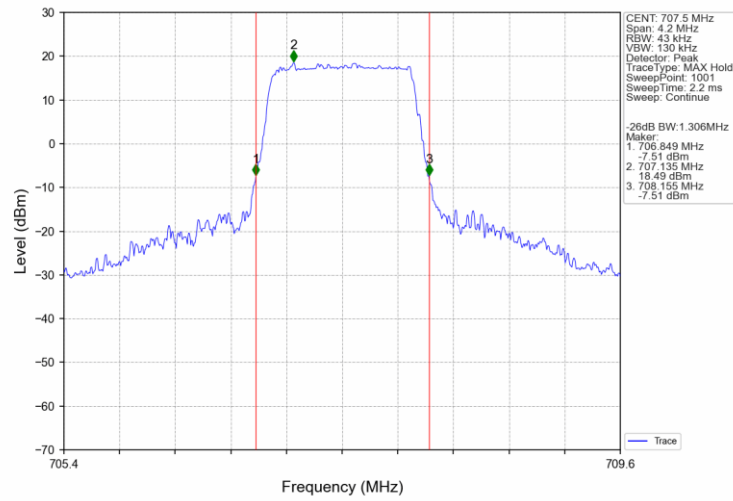
Band12_1.4MHz_QPSK_HCH_715.3MHz_RB_6_0_NTNV



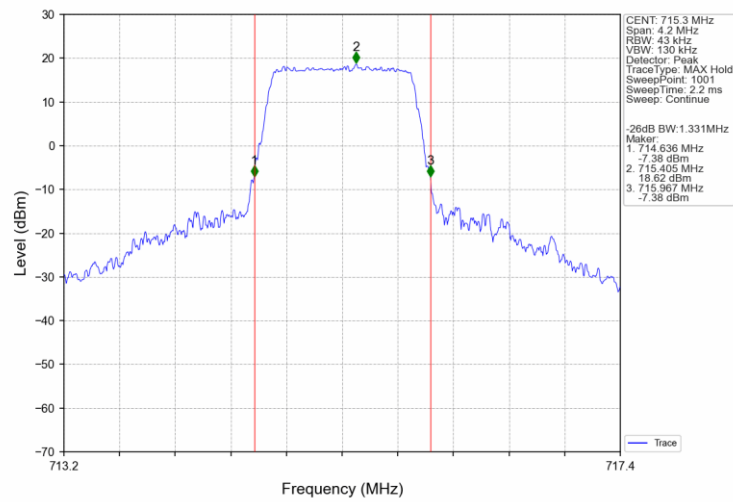
Band12_1.4MHz_16QAM_LCH_699.7MHz_RB_6_0_NTNV



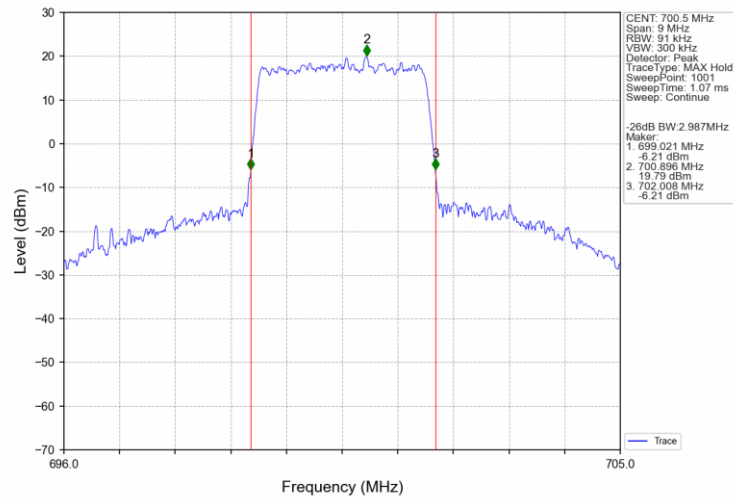
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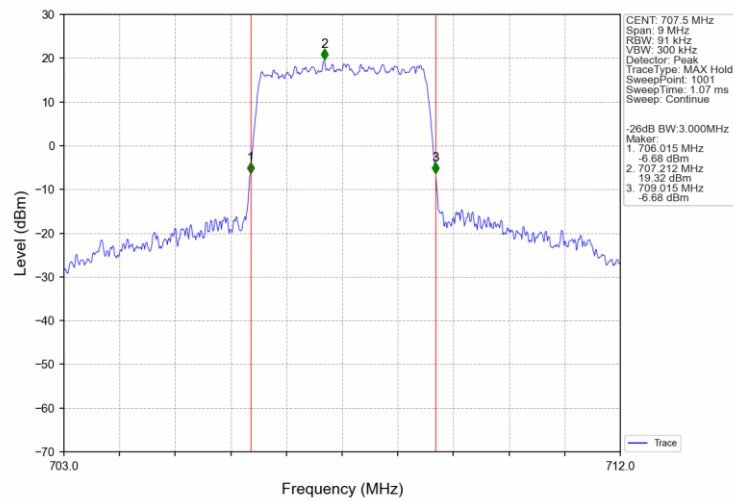
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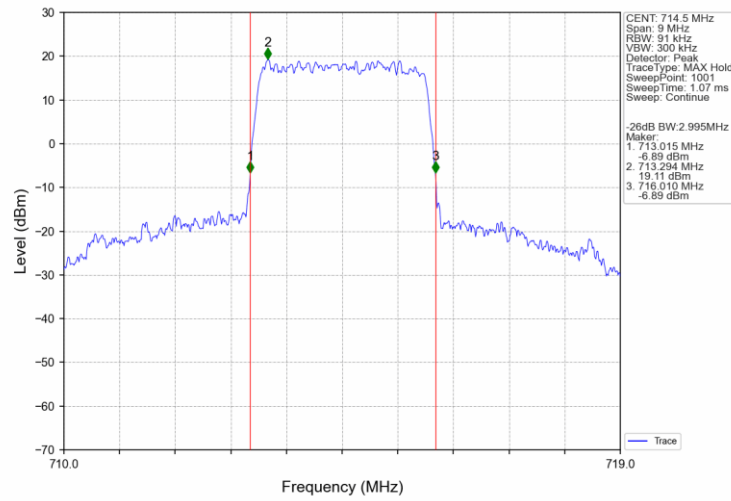
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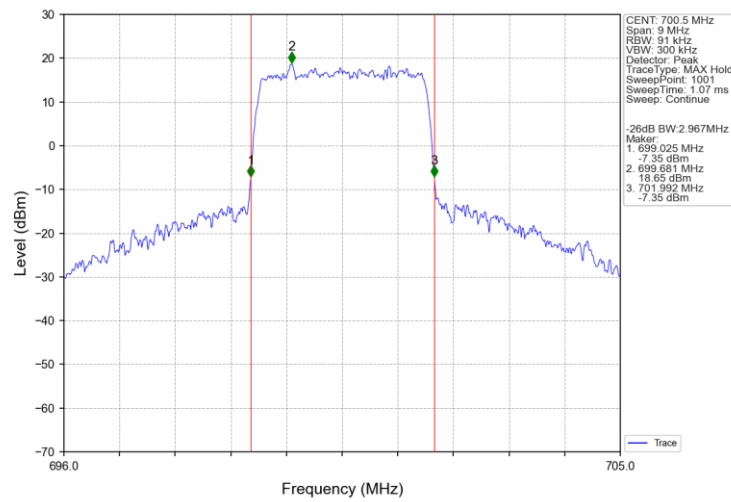
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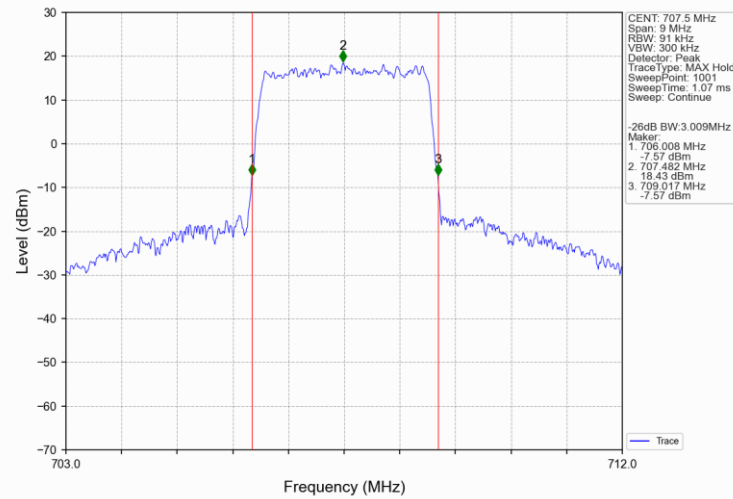
Band12_3MHz_QPSK_HCH_714.5MHz_RB_15_0_NTNV



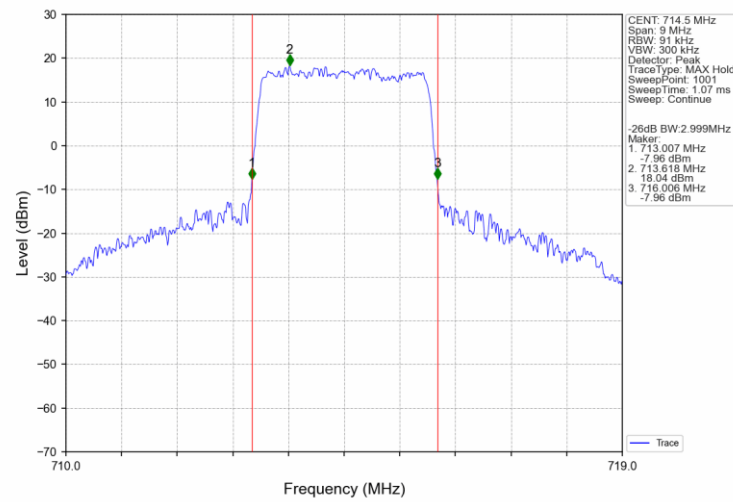
Band12_3MHz_16QAM_LCH_700.5MHz_RB_15_0_NTNV



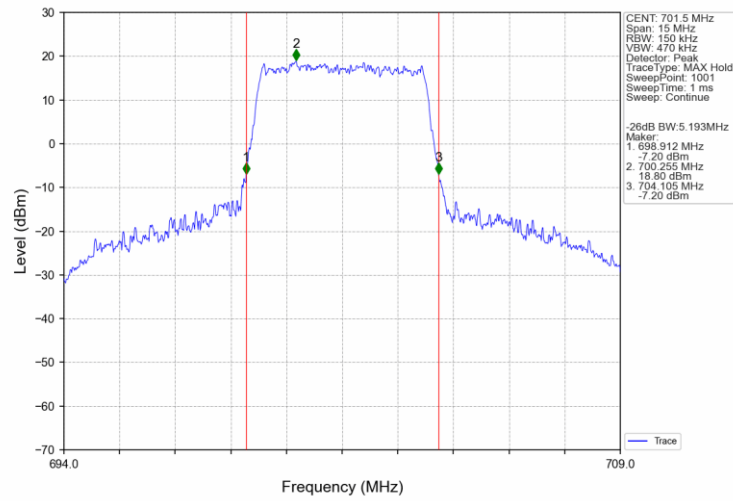
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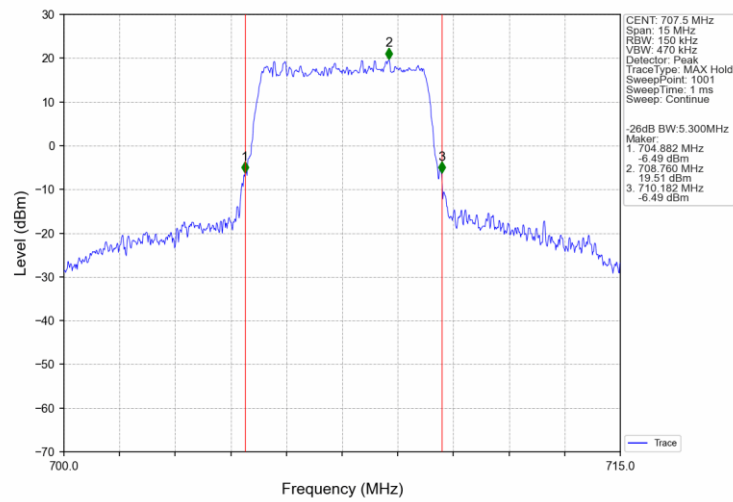
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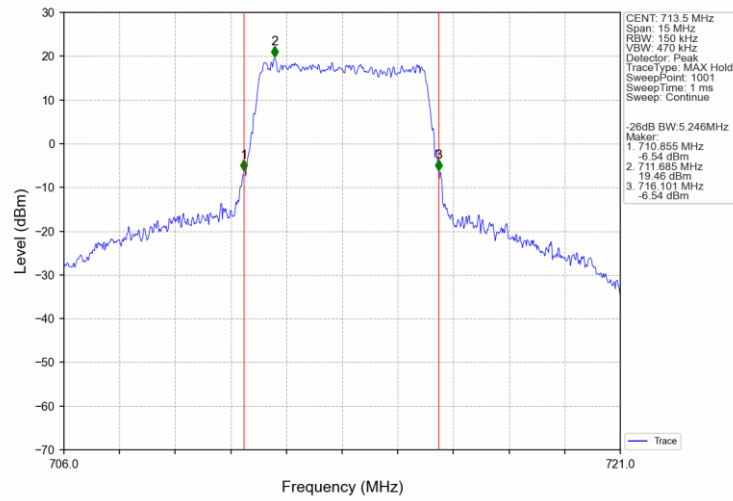
Band12_5MHz_QPSK_LCH_701.5MHz_RB_25_0_NTNV



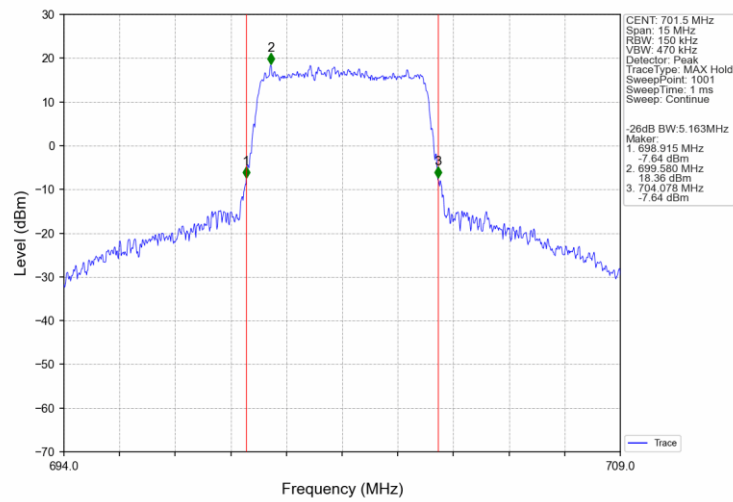
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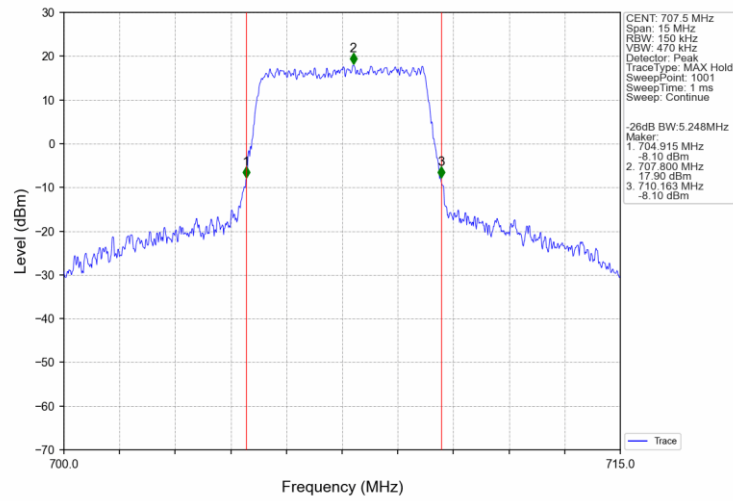
Band12_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



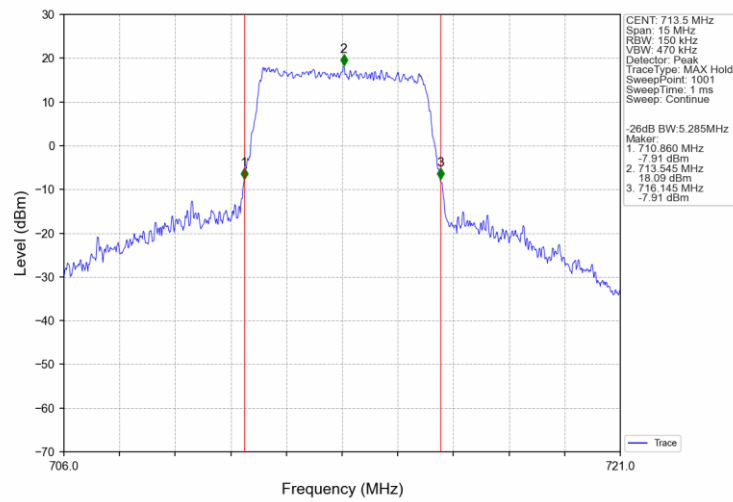
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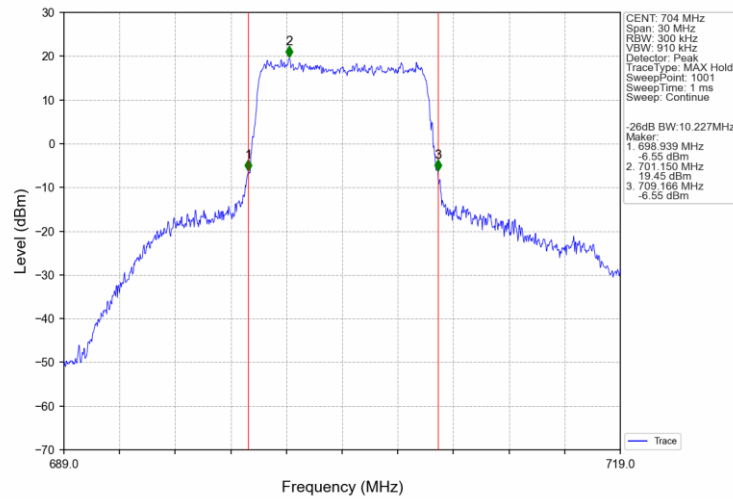
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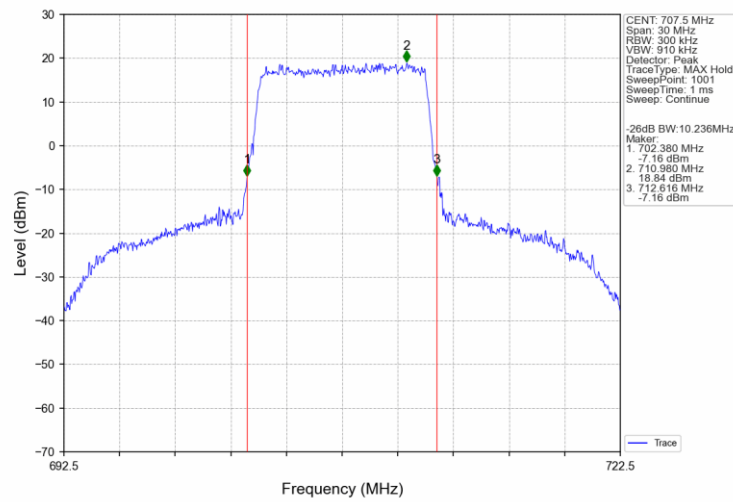
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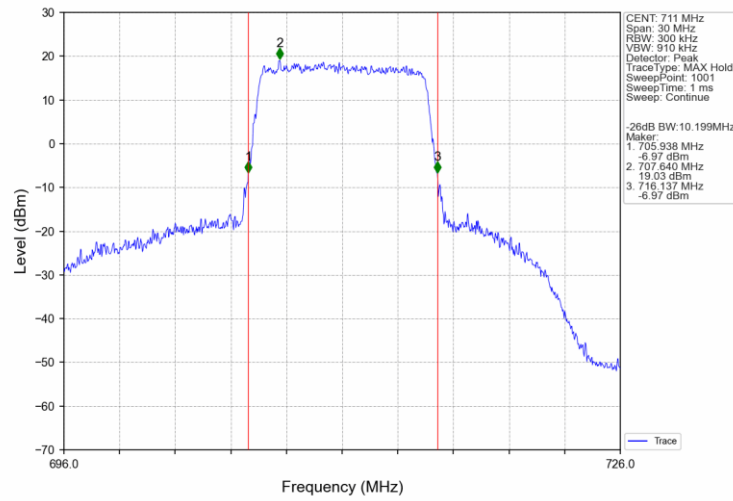
Band12_10MHz_QPSK_LCH_704MHz_RB_50_0_NTNV



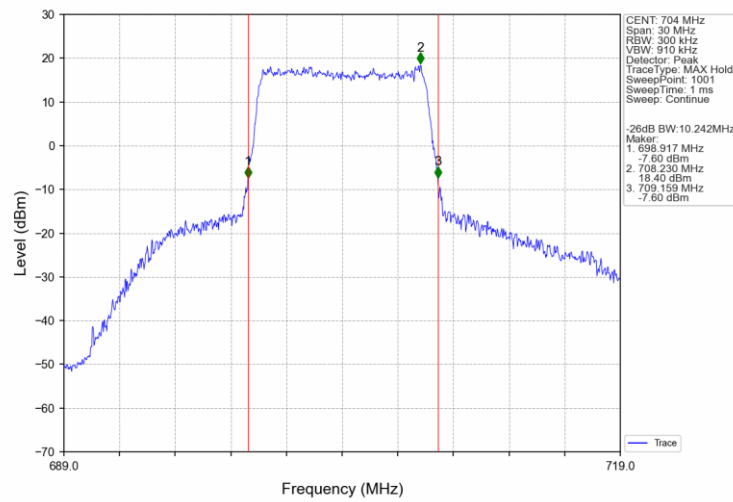
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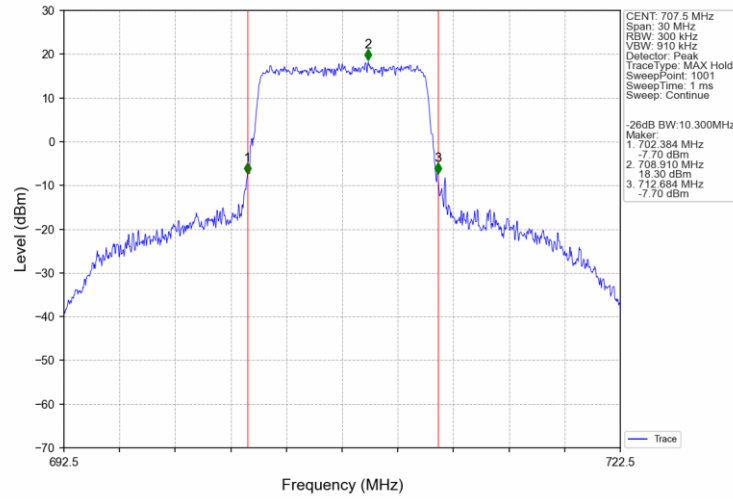
Band12_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



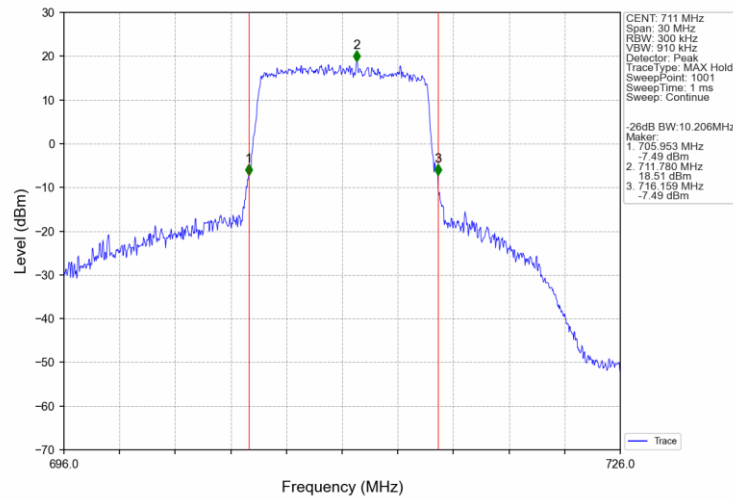
Band12_10MHz_16QAM_LCH_704MHz_RB_50_0_NTNV



Band12_10MHz_16QAM_MCH_707.5MHz_RB_50_0_NTNV



Band12_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



5. Peak-Average Ratio

5.1 Test Result

5.1.1 B12_1.4MHz

Band: 12 / Bandwidth: 1.4MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	699.7	6	0	4.29	<=13	Pass
	707.5	6	0	4.77	<=13	Pass
	715.3	6	0	4.63	<=13	Pass
16QAM	699.7	6	0	5.14	<=13	Pass
	707.5	6	0	5.62	<=13	Pass
	715.3	6	0	5.45	<=13	Pass

5.1.2 B12_3MHz

Band: 12 / Bandwidth: 3MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	700.5	15	0	4.58	<=13	Pass
	707.5	15	0	4.99	<=13	Pass
	714.5	15	0	4.93	<=13	Pass
16QAM	700.5	15	0	5.37	<=13	Pass
	707.5	15	0	5.80	<=13	Pass
	714.5	15	0	5.77	<=13	Pass

5.1.3 B12_5MHz

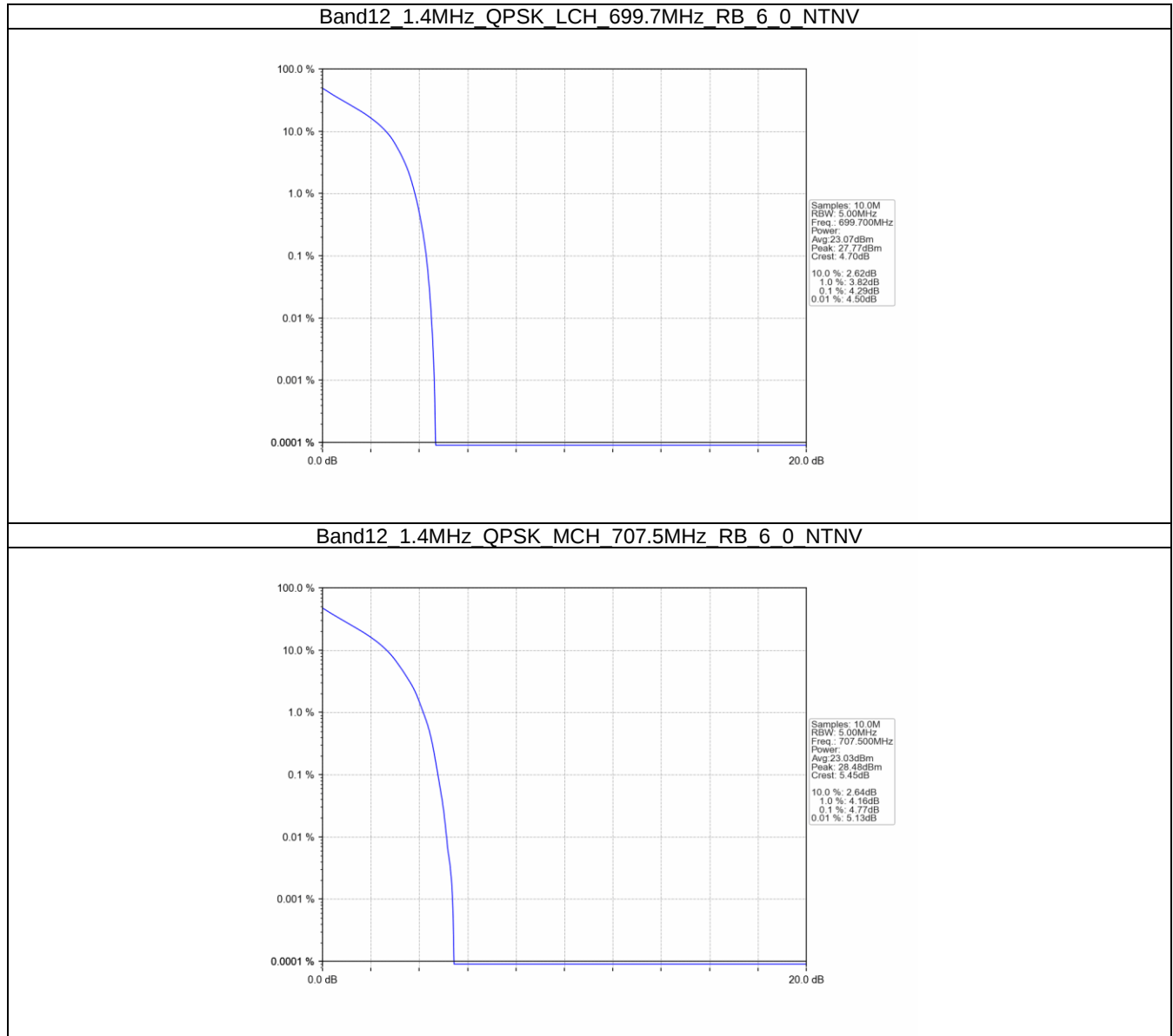
Band: 12 / Bandwidth: 5MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	701.5	25	0	5.09	<=13	Pass
	707.5	25	0	5.27	<=13	Pass
	713.5	25	0	5.17	<=13	Pass
16QAM	701.5	25	0	5.82	<=13	Pass
	707.5	25	0	5.95	<=13	Pass
	713.5	25	0	5.90	<=13	Pass

5.1.4 B12_10MHz

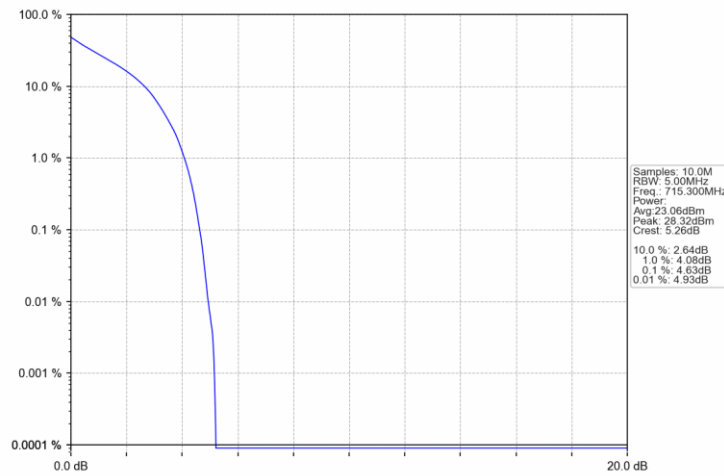
Band: 12 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	704	50	0	5.21	<=13	Pass
	707.5	50	0	5.23	<=13	Pass
	711	50	0	5.14	<=13	Pass
16QAM	704	50	0	5.96	<=13	Pass
	707.5	50	0	5.95	<=13	Pass
	711	50	0	5.94	<=13	Pass

5.2 Test Graph

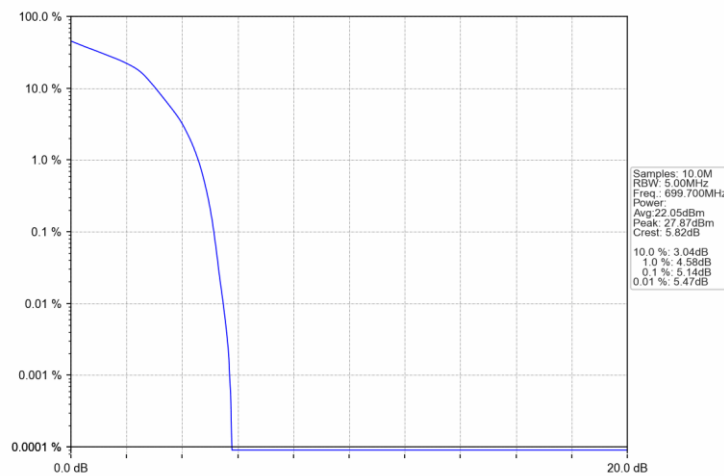
5.2.1 B12_1.4MHz



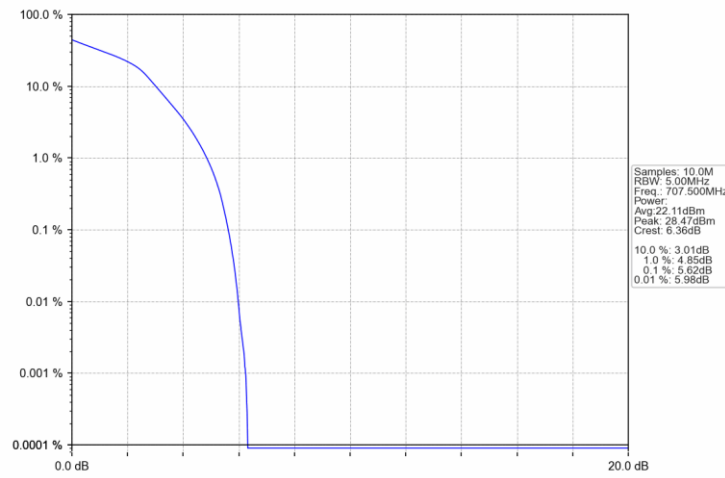
Band12_1.4MHz_QPSK_HCH_715.3MHz_RB_6_0_NTNV



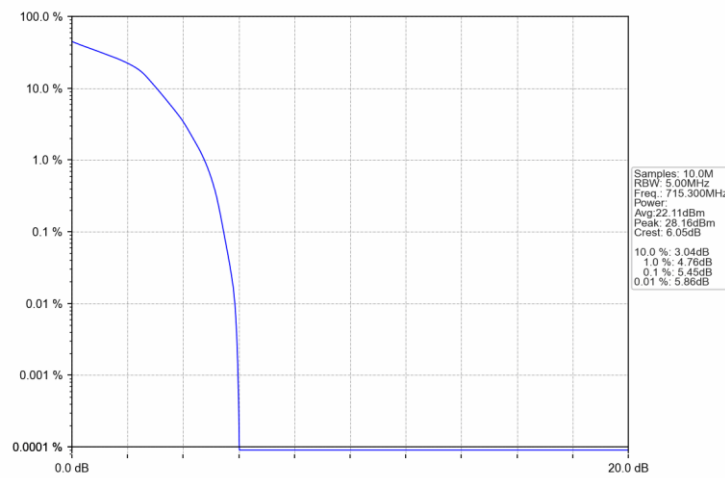
Band12_1.4MHz_16QAM_LCH_699.7MHz_RB_6_0_NTNV



Band12 1.4MHz 16QAM MCH 707.5MHz RB 6 0 NTN

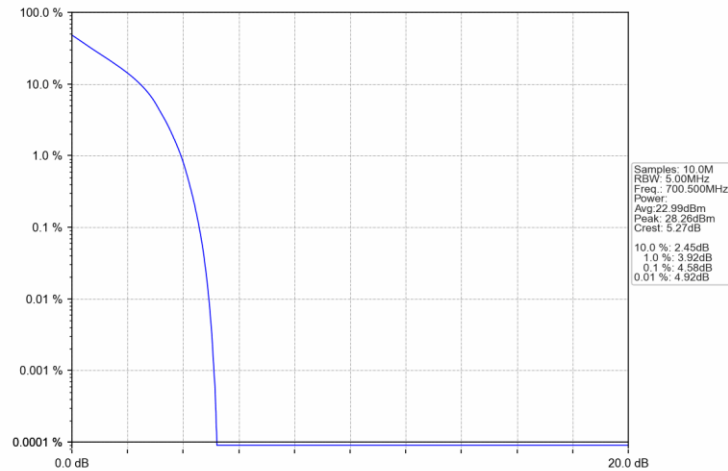


Band12 1.4MHz 16QAM HCH 715.3MHz RB 6 0 NTN

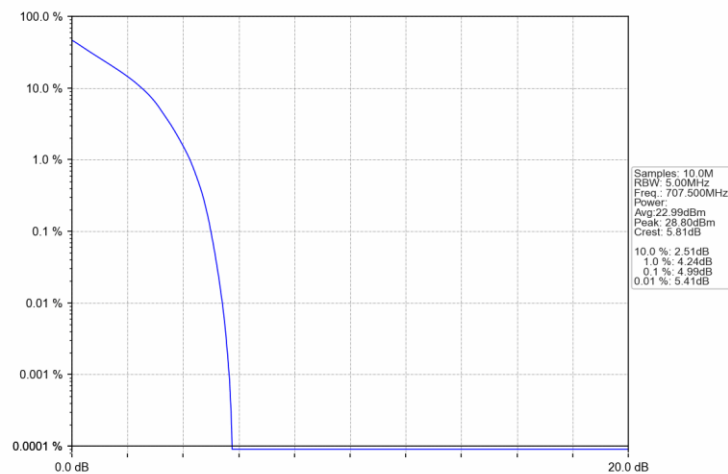


5.2.2 B12_3MHz

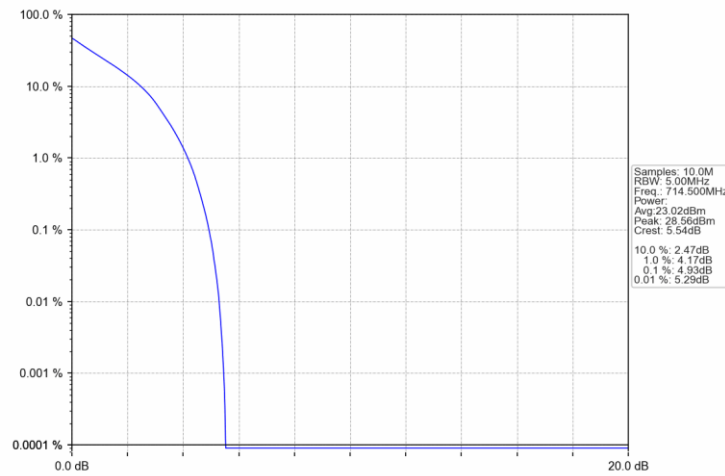
Band12_3MHz_QPSK_LCH_700.5MHz_RB_15_0_NTNV



Band12_3MHz_QPSK_MCH_707.5MHz_RB_15_0_NTNV



Band12_3MHz_QPSK_HCH_714.5MHz_RB_15_0_NTNV



Band12_3MHz_16QAM_LCH_700.5MHz_RB_15_0_NTNV

