

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 B17_5MHz_ERP

Band: 17 / Bandwidth: 5MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	706.5	1	0	23.75	0.00	21.60	<=34.77	Pass
			13	23.78	0.00	21.63	<=34.77	Pass
			24	23.58	0.00	21.43	<=34.77	Pass
		12	0	22.71	0.00	20.56	<=34.77	Pass
			6	22.87	0.00	20.72	<=34.77	Pass
			13	22.80	0.00	20.65	<=34.77	Pass
		25	0	22.82	0.00	20.67	<=34.77	Pass
	710	1	0	23.70	0.00	21.55	<=34.77	Pass
			13	23.74	0.00	21.59	<=34.77	Pass
			24	23.65	0.00	21.50	<=34.77	Pass
		12	0	22.77	0.00	20.62	<=34.77	Pass
			6	22.70	0.00	20.55	<=34.77	Pass
			13	22.76	0.00	20.61	<=34.77	Pass
		25	0	22.75	0.00	20.60	<=34.77	Pass
	713.5	1	0	23.61	0.00	21.46	<=34.77	Pass
			13	23.62	0.00	21.47	<=34.77	Pass
			24	23.53	0.00	21.38	<=34.77	Pass
		12	0	22.62	0.00	20.47	<=34.77	Pass
			6	22.73	0.00	20.58	<=34.77	Pass
			13	22.67	0.00	20.52	<=34.77	Pass
		25	0	22.66	0.00	20.51	<=34.77	Pass
16QAM	706.5	1	0	23.01	0.00	20.86	<=34.77	Pass
			13	23.16	0.00	21.01	<=34.77	Pass
			24	22.92	0.00	20.77	<=34.77	Pass
		12	0	21.81	0.00	19.66	<=34.77	Pass
			6	21.94	0.00	19.79	<=34.77	Pass
			13	21.78	0.00	19.63	<=34.77	Pass
		25	0	21.84	0.00	19.69	<=34.77	Pass
	710	1	0	23.06	0.00	20.91	<=34.77	Pass
			13	23.10	0.00	20.95	<=34.77	Pass
			24	22.90	0.00	20.75	<=34.77	Pass
		12	0	21.76	0.00	19.61	<=34.77	Pass
			6	21.75	0.00	19.60	<=34.77	Pass
			13	21.83	0.00	19.68	<=34.77	Pass
		25	0	21.74	0.00	19.59	<=34.77	Pass
	713.5	1	0	22.98	0.00	20.83	<=34.77	Pass
			13	22.94	0.00	20.79	<=34.77	Pass
			24	23.01	0.00	20.86	<=34.77	Pass
		12	0	21.59	0.00	19.44	<=34.77	Pass
			6	21.70	0.00	19.55	<=34.77	Pass
			13	21.60	0.00	19.45	<=34.77	Pass
		25	0	21.62	0.00	19.47	<=34.77	Pass
64QAM	706.5	1	0	22.90	0.00	20.75	<=34.77	Pass
			13	22.94	0.00	20.79	<=34.77	Pass
			24	22.88	0.00	20.73	<=34.77	Pass
		12	0	21.85	0.00	19.70	<=34.77	Pass
			6	21.88	0.00	19.73	<=34.77	Pass
			13	21.79	0.00	19.64	<=34.77	Pass
		25	0	21.81	0.00	19.66	<=34.77	Pass
	710	1	0	22.75	0.00	20.60	<=34.77	Pass
			13	22.89	0.00	20.74	<=34.77	Pass
			24	22.77	0.00	20.62	<=34.77	Pass
		12	0	21.73	0.00	19.58	<=34.77	Pass
			6	21.72	0.00	19.57	<=34.77	Pass

			13	21.78	0.00	19.63	<=34.77	Pass
		25	0	21.76	0.00	19.61	<=34.77	Pass
	713.5	1	0	22.86	0.00	20.71	<=34.77	Pass
			13	22.88	0.00	20.73	<=34.77	Pass
			24	22.73	0.00	20.58	<=34.77	Pass
		12	0	21.61	0.00	19.46	<=34.77	Pass
			6	21.68	0.00	19.53	<=34.77	Pass
			13	21.63	0.00	19.48	<=34.77	Pass
		25	0	21.58	0.00	19.43	<=34.77	Pass
	256QAM	706.5	1	0	19.09	0.00	16.94	<=34.77
13				18.95	0.00	16.80	<=34.77	Pass
24				18.91	0.00	16.76	<=34.77	Pass
12			0	18.80	0.00	16.65	<=34.77	Pass
			6	18.80	0.00	16.65	<=34.77	Pass
			13	18.87	0.00	16.72	<=34.77	Pass
25			0	18.87	0.00	16.72	<=34.77	Pass
710		1	0	18.82	0.00	16.67	<=34.77	Pass
			13	19.05	0.00	16.90	<=34.77	Pass
			24	18.46	0.00	16.31	<=34.77	Pass
		12	0	18.61	0.00	16.46	<=34.77	Pass
			6	18.82	0.00	16.67	<=34.77	Pass
			13	18.78	0.00	16.63	<=34.77	Pass
		25	0	18.74	0.00	16.59	<=34.77	Pass
713.5		1	0	18.73	0.00	16.58	<=34.77	Pass
			13	18.82	0.00	16.67	<=34.77	Pass
			24	18.64	0.00	16.49	<=34.77	Pass
		12	0	18.61	0.00	16.46	<=34.77	Pass
	6		18.74	0.00	16.59	<=34.77	Pass	
	13		18.60	0.00	16.45	<=34.77	Pass	
	25	0	18.60	0.00	16.45	<=34.77	Pass	
Note1: ERP=Conducted Power+Antenna Gain-2.15								

1.1.2 B17_10MHz_ERP

Band: 17 / Bandwidth: 10MHz / NTNV								
Modulation	Frequency (MHz)	RB Allocation		Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
		Size	Offset			Result	Limit	
QPSK	709	1	0	23.83	0.00	21.68	<=34.77	Pass
			25	23.92	0.00	21.77	<=34.77	Pass
			49	23.68	0.00	21.53	<=34.77	Pass
		25	0	22.90	0.00	20.75	<=34.77	Pass
			13	22.90	0.00	20.75	<=34.77	Pass
			25	22.79	0.00	20.64	<=34.77	Pass
		50	0	22.84	0.00	20.69	<=34.77	Pass
	710	1	0	23.81	0.00	21.66	<=34.77	Pass
			25	23.77	0.00	21.62	<=34.77	Pass
			49	23.64	0.00	21.49	<=34.77	Pass
		25	0	22.85	0.00	20.70	<=34.77	Pass
			13	22.73	0.00	20.58	<=34.77	Pass
			25	22.78	0.00	20.63	<=34.77	Pass
		50	0	22.69	0.00	20.54	<=34.77	Pass
	711	1	0	23.77	0.00	21.62	<=34.77	Pass
			25	23.69	0.00	21.54	<=34.77	Pass
			49	23.49	0.00	21.34	<=34.77	Pass
		25	0	22.70	0.00	20.55	<=34.77	Pass
			13	22.84	0.00	20.69	<=34.77	Pass
			25	22.75	0.00	20.60	<=34.77	Pass
		50	0	22.72	0.00	20.57	<=34.77	Pass
16QAM	709	1	0	23.10	0.00	20.95	<=34.77	Pass
			25	23.07	0.00	20.92	<=34.77	Pass
			49	23.08	0.00	20.93	<=34.77	Pass
		25	0	21.87	0.00	19.72	<=34.77	Pass

		50	13	21.87	0.00	19.72	<=34.77	Pass	
			25	21.77	0.00	19.62	<=34.77	Pass	
			0	21.90	0.00	19.75	<=34.77	Pass	
	710	1	0	23.26	0.00	21.11	<=34.77	Pass	
			25	22.86	0.00	20.71	<=34.77	Pass	
			49	22.81	0.00	20.66	<=34.77	Pass	
		25	0	21.81	0.00	19.66	<=34.77	Pass	
			13	21.78	0.00	19.63	<=34.77	Pass	
			25	21.76	0.00	19.61	<=34.77	Pass	
		50	0	21.73	0.00	19.58	<=34.77	Pass	
	711	1	0	23.18	0.00	21.03	<=34.77	Pass	
			25	23.00	0.00	20.85	<=34.77	Pass	
49			22.81	0.00	20.66	<=34.77	Pass		
25		0	21.76	0.00	19.61	<=34.77	Pass		
		13	21.82	0.00	19.67	<=34.77	Pass		
		25	21.68	0.00	19.53	<=34.77	Pass		
50		0	21.75	0.00	19.60	<=34.77	Pass		
64QAM	709	1	0	22.93	0.00	20.78	<=34.77	Pass	
			25	22.89	0.00	20.74	<=34.77	Pass	
			49	22.76	0.00	20.61	<=34.77	Pass	
		25	0	21.83	0.00	19.68	<=34.77	Pass	
			13	21.86	0.00	19.71	<=34.77	Pass	
			25	21.77	0.00	19.62	<=34.77	Pass	
	50	0	21.90	0.00	19.75	<=34.77	Pass		
	710	1	0	23.07	0.00	20.92	<=34.77	Pass	
			25	23.06	0.00	20.91	<=34.77	Pass	
			49	22.78	0.00	20.63	<=34.77	Pass	
		25	0	21.80	0.00	19.65	<=34.77	Pass	
			13	21.75	0.00	19.60	<=34.77	Pass	
			25	21.80	0.00	19.65	<=34.77	Pass	
	50	0	21.69	0.00	19.54	<=34.77	Pass		
	711	1	0	22.89	0.00	20.74	<=34.77	Pass	
			25	22.97	0.00	20.82	<=34.77	Pass	
			49	22.97	0.00	20.82	<=34.77	Pass	
		25	0	21.77	0.00	19.62	<=34.77	Pass	
			13	21.76	0.00	19.61	<=34.77	Pass	
			25	21.72	0.00	19.57	<=34.77	Pass	
	50	0	21.67	0.00	19.52	<=34.77	Pass		
	256QAM	709	1	0	19.13	0.00	16.98	<=34.77	Pass
				25	18.85	0.00	16.70	<=34.77	Pass
				49	18.72	0.00	16.57	<=34.77	Pass
25			0	18.59	0.00	16.44	<=34.77	Pass	
			13	18.92	0.00	16.77	<=34.77	Pass	
			25	18.91	0.00	16.76	<=34.77	Pass	
50		0	18.80	0.00	16.65	<=34.77	Pass		
710		1	0	18.98	0.00	16.83	<=34.77	Pass	
			25	18.86	0.00	16.71	<=34.77	Pass	
			49	18.87	0.00	16.72	<=34.77	Pass	
		25	0	18.57	0.00	16.42	<=34.77	Pass	
			13	18.79	0.00	16.64	<=34.77	Pass	
			25	18.80	0.00	16.65	<=34.77	Pass	
50		0	18.77	0.00	16.62	<=34.77	Pass		
711		1	0	18.54	0.00	16.39	<=34.77	Pass	
			25	18.96	0.00	16.81	<=34.77	Pass	
			49	19.00	0.00	16.85	<=34.77	Pass	
		25	0	18.52	0.00	16.37	<=34.77	Pass	
			13	19.06	0.00	16.91	<=34.77	Pass	
			25	18.73	0.00	16.58	<=34.77	Pass	
50		0	18.73	0.00	16.58	<=34.77	Pass		
Note1: ERP=Conducted Power+Antenna Gain-2.15									

Note1: ERP=Conducted Power+Antenna Gain-2.15

2. Frequency Stability

2.1 Test Result

2.1.1 B17_10MHz

Band: 17 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	710	50	0	20	3.27	1.500	0.0021	-2.5 to 2.5	Pass
					3.85	0.200	0.0003	-2.5 to 2.5	Pass
					4.43	0.200	0.0003	-2.5 to 2.5	Pass
				-30	3.85	0.800	0.0011	-2.5 to 2.5	Pass
				-20	3.85	1.200	0.0017	-2.5 to 2.5	Pass
				-10	3.85	0.400	0.0006	-2.5 to 2.5	Pass
				0	3.85	1.100	0.0015	-2.5 to 2.5	Pass
				10	3.85	-1.200	-0.0017	-2.5 to 2.5	Pass
				30	3.85	0.700	0.0010	-2.5 to 2.5	Pass
				40	3.85	-1.800	-0.0025	-2.5 to 2.5	Pass
				50	3.85	-0.600	-0.0008	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

3.1 Test Result

3.1.1 Band17_OBW

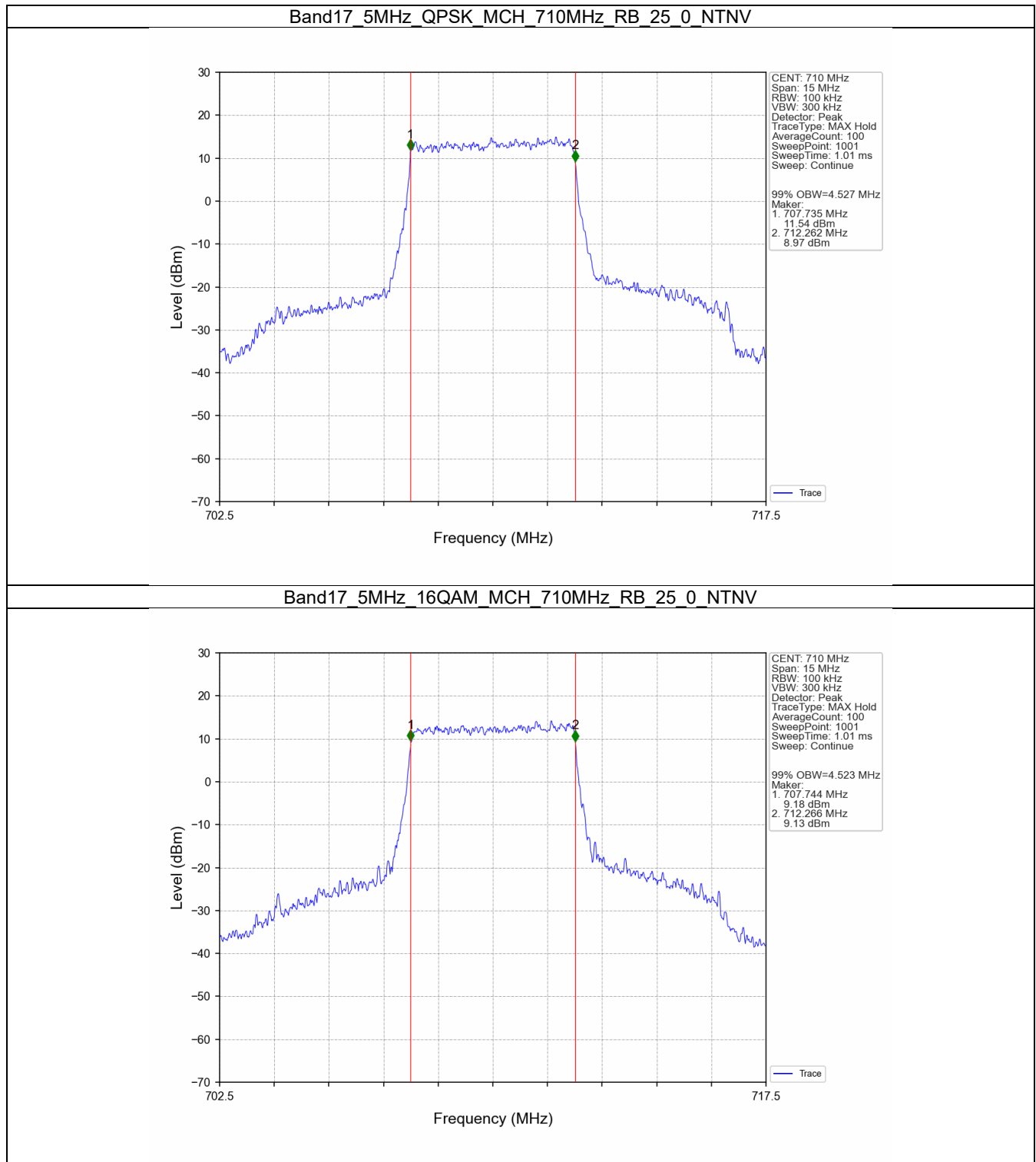
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.527	/	Pass
	16QAM	710	25	0	4.523	/	Pass
	64QAM	710	25	0	4.536	/	Pass
	256QAM	710	25	0	4.521	/	Pass
10	QPSK	710	50	0	9.010	/	Pass
	16QAM	710	50	0	9.025	/	Pass
	64QAM	710	50	0	9.022	/	Pass
	256QAM	710	50	0	9.032	/	Pass

3.1.2 Band17_XDB

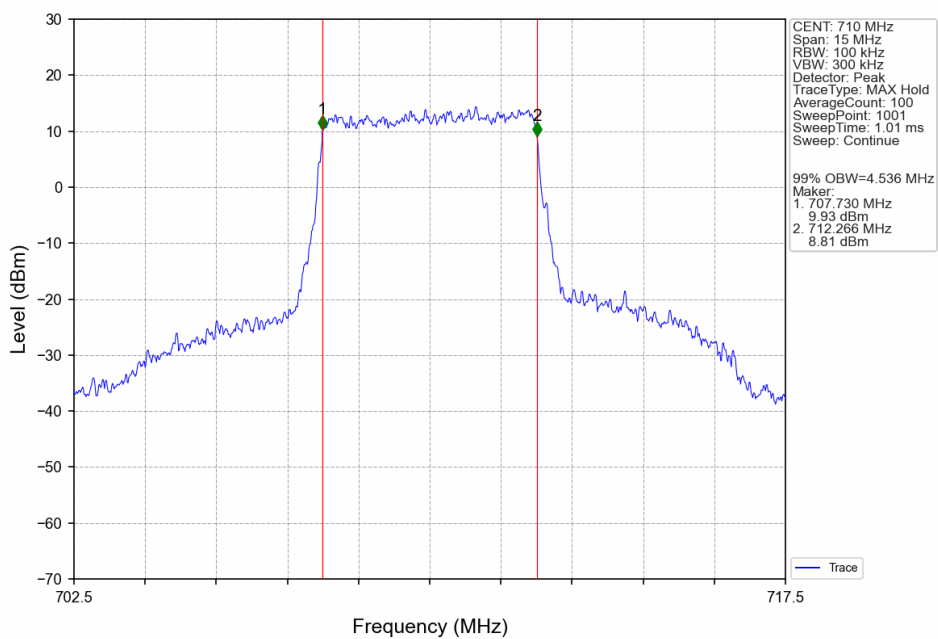
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.175	/	Pass
	16QAM	710	25	0	5.113	/	Pass
	64QAM	710	25	0	5.140	/	Pass
	256QAM	710	25	0	5.168	/	Pass
10	QPSK	710	50	0	10.018	/	Pass
	16QAM	710	50	0	10.066	/	Pass
	64QAM	710	50	0	10.019	/	Pass
	256QAM	710	50	0	9.956	/	Pass

3.2 Test Graph

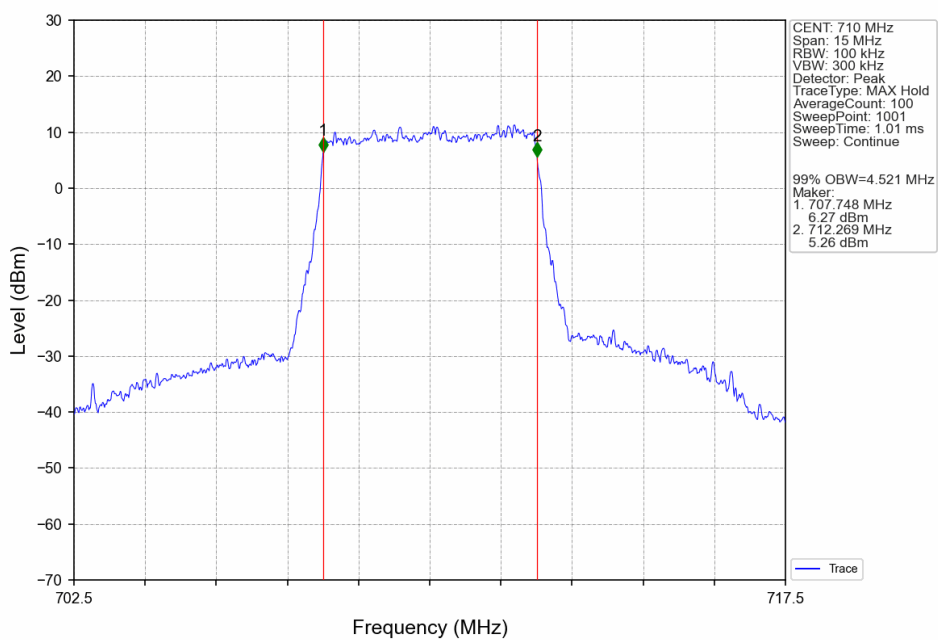
3.2.1 Band17_OBW



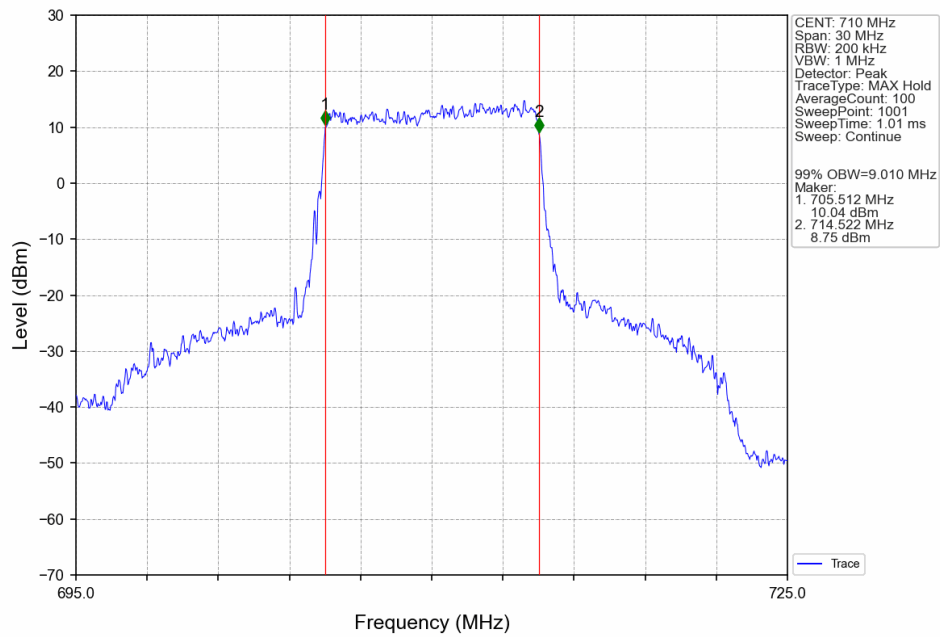
Band17_5MHz_64QAM_MCH_710MHz_RB_25_0_NTNV



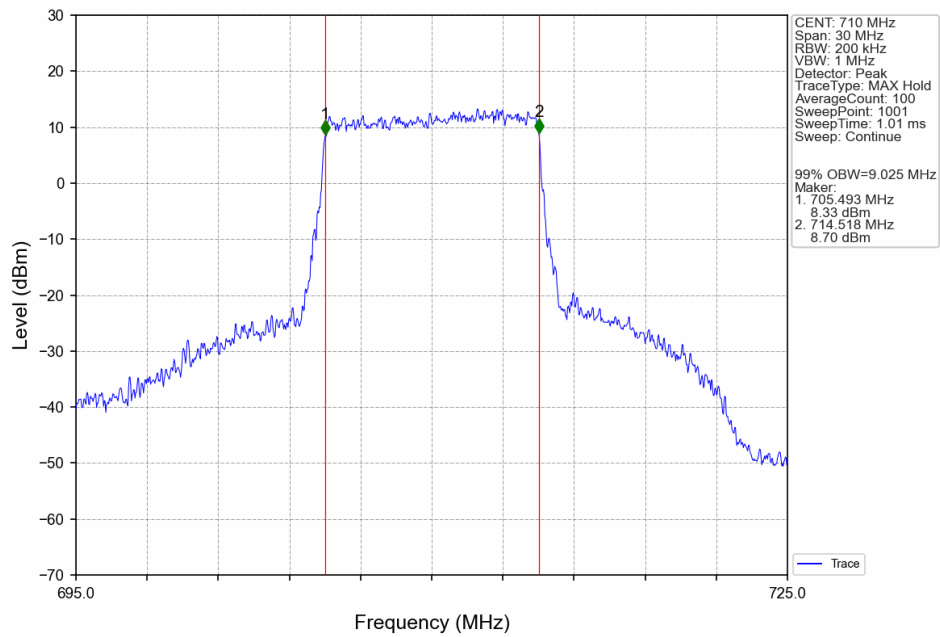
Band17_5MHz_256QAM_MCH_710MHz_RB_25_0_NTNV



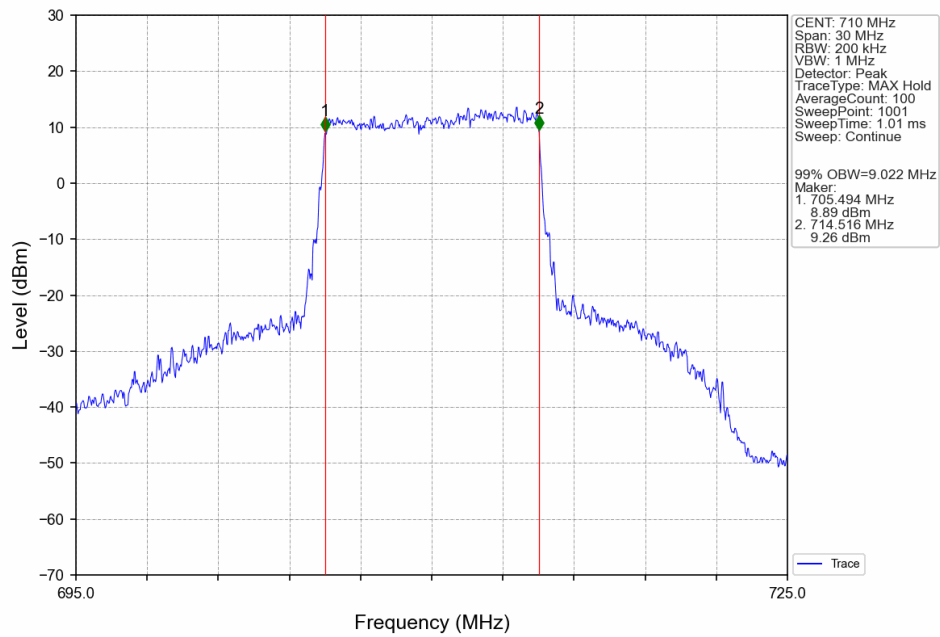
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



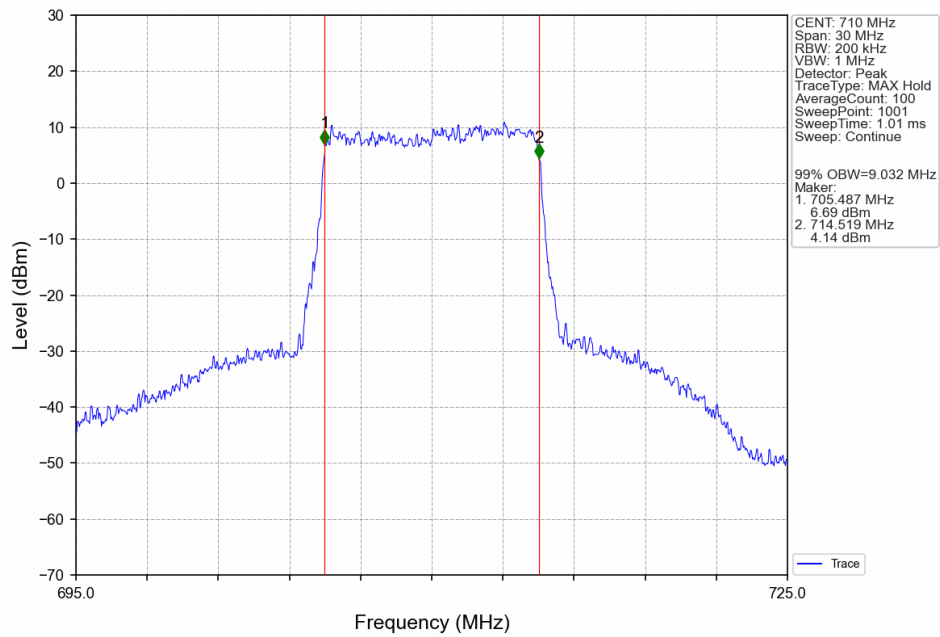
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



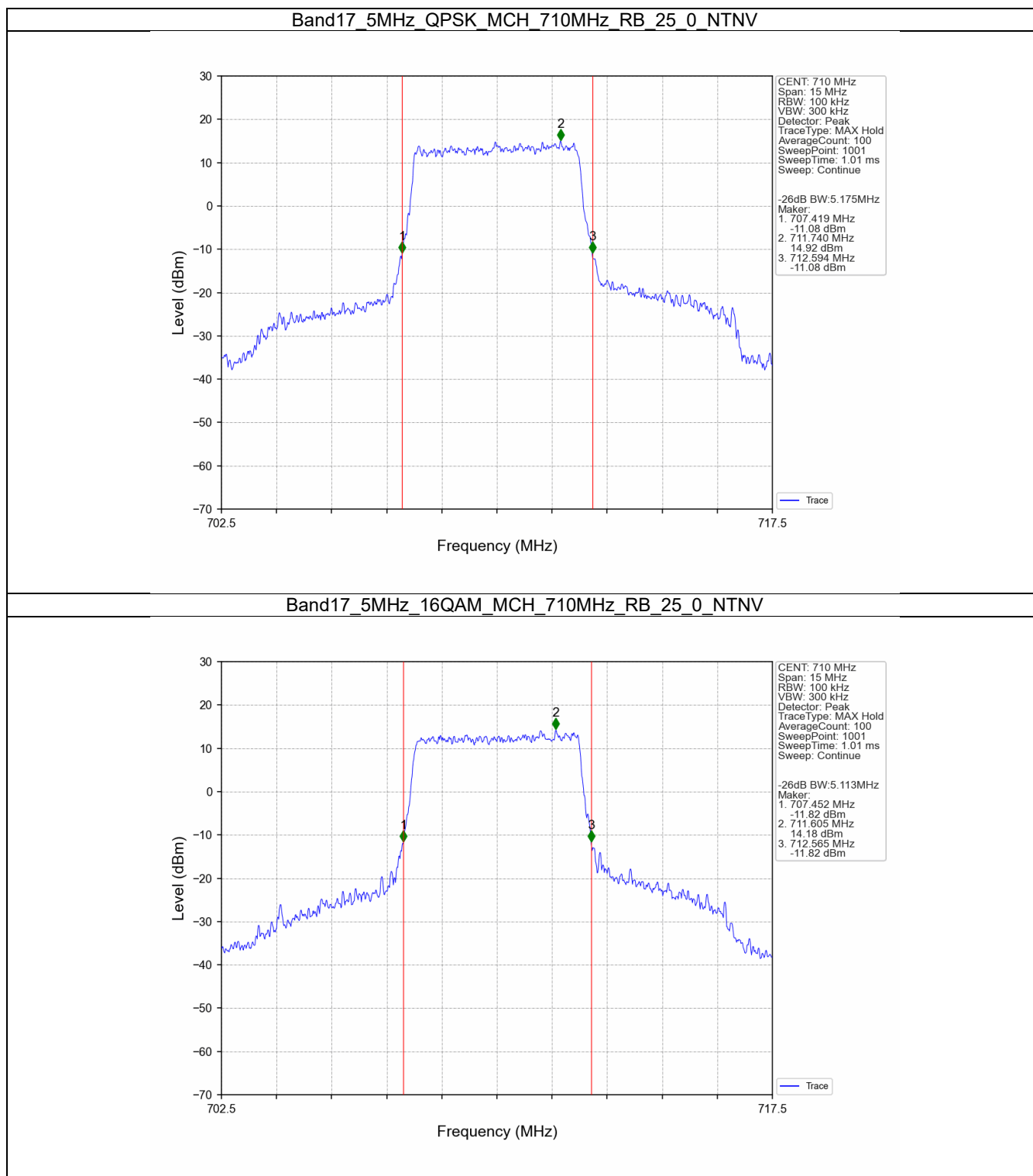
Band17_10MHz_64QAM_MCH_710MHz_RB_50_0_NTNV



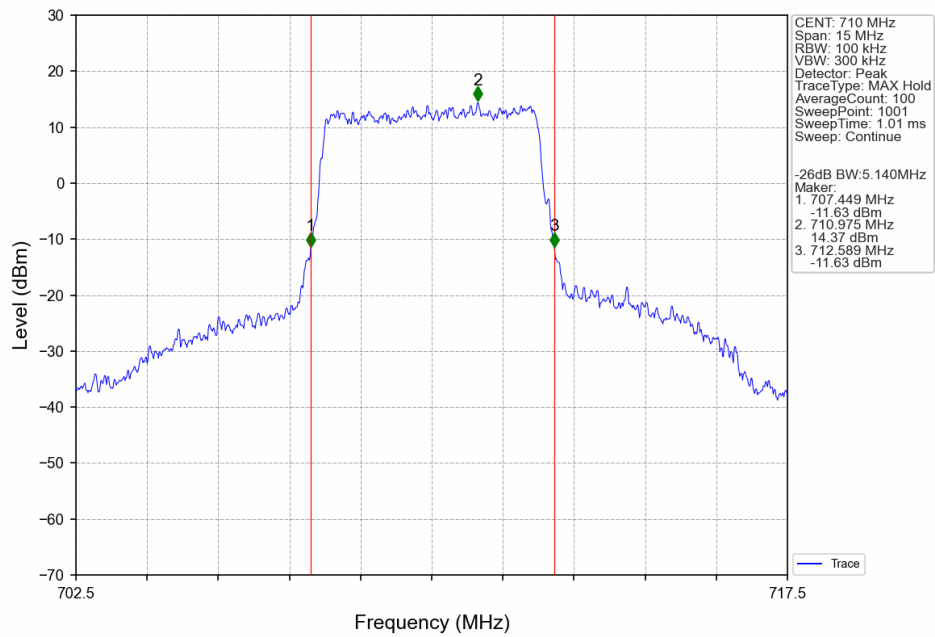
Band17_10MHz_256QAM_MCH_710MHz_RB_50_0_NTNV



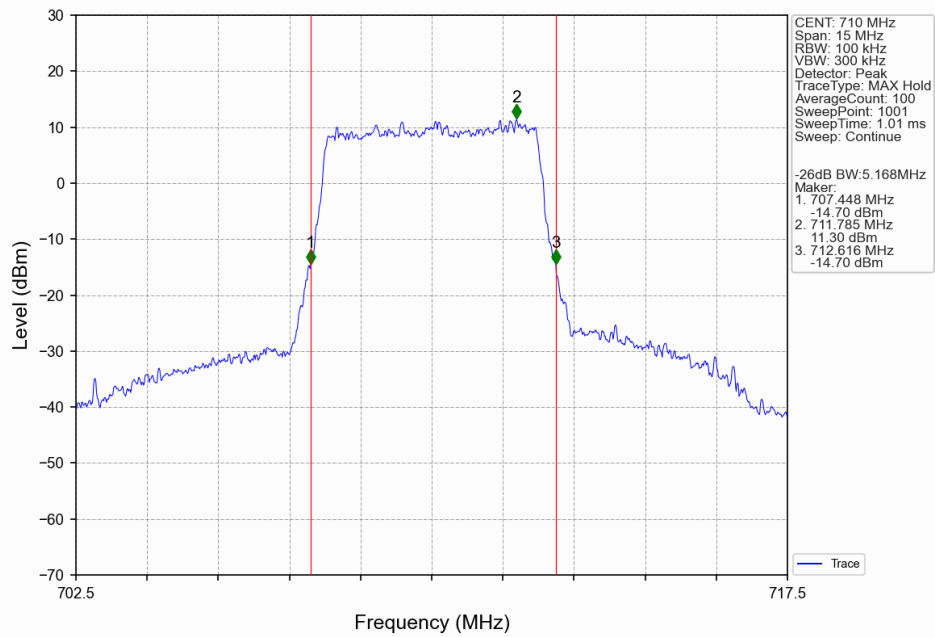
3.2.2 Band17_XDB



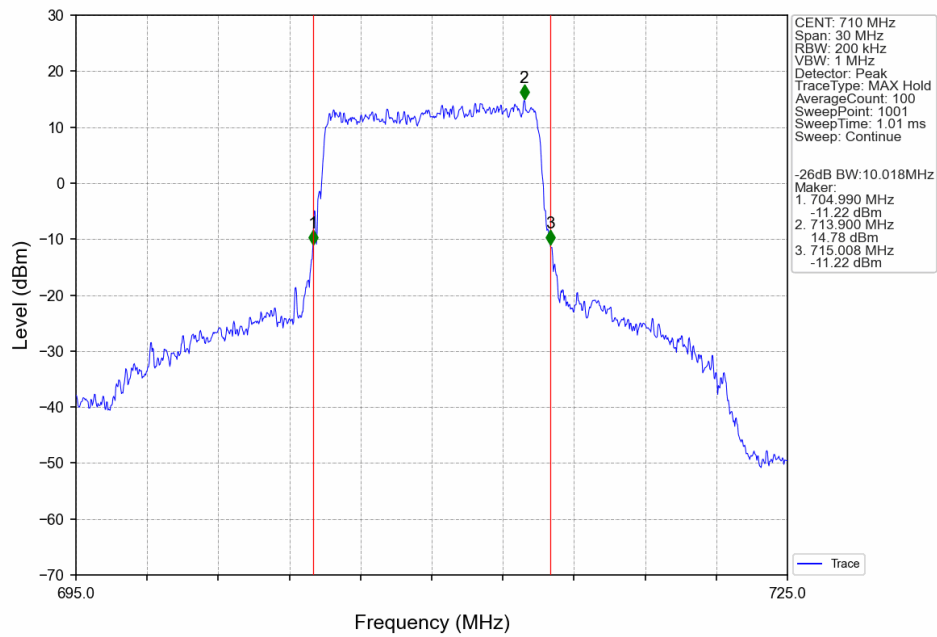
Band17_5MHz_64QAM_MCH_710MHz_RB_25_0_NTNV



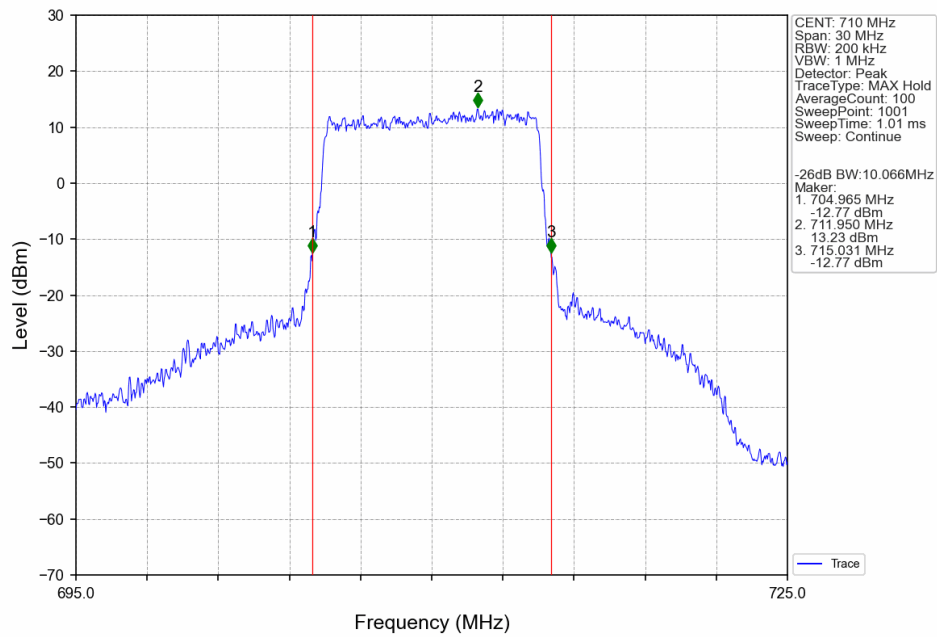
Band17_5MHz_256QAM_MCH_710MHz_RB_25_0_NTNV



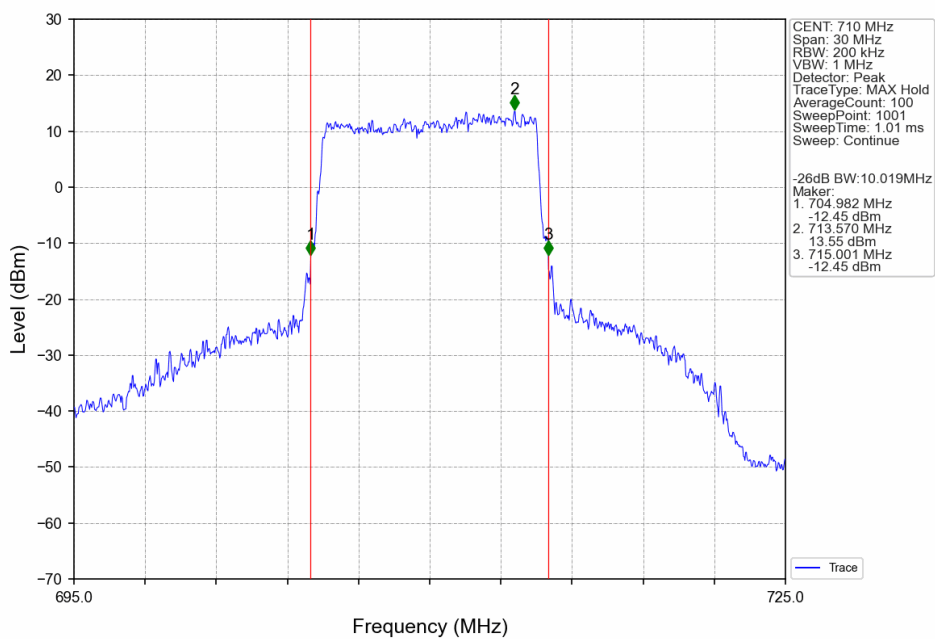
Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



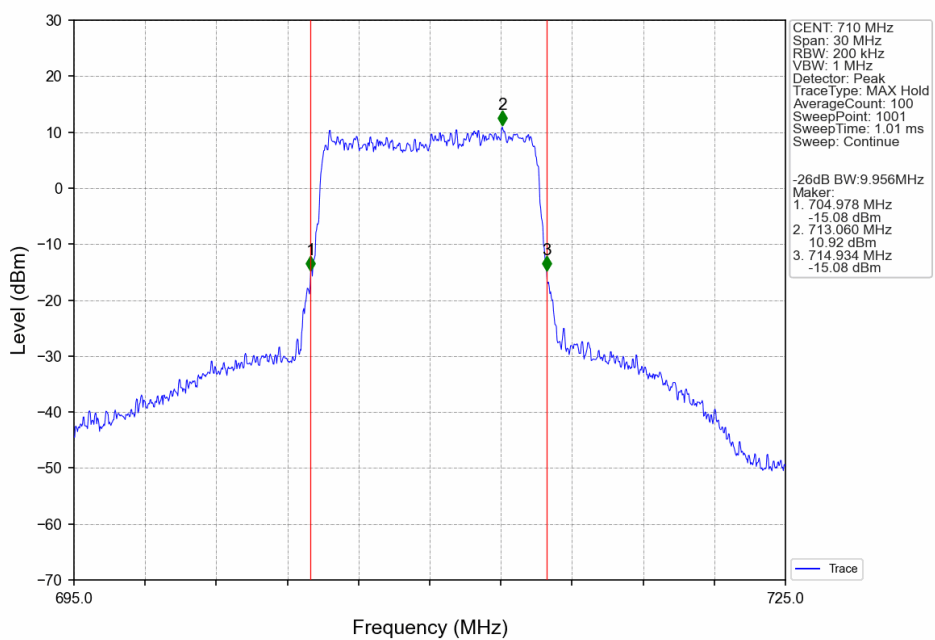
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_64QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_256QAM_MCH_710MHz_RB_50_0_NTNV



4. Peak-Average Ratio

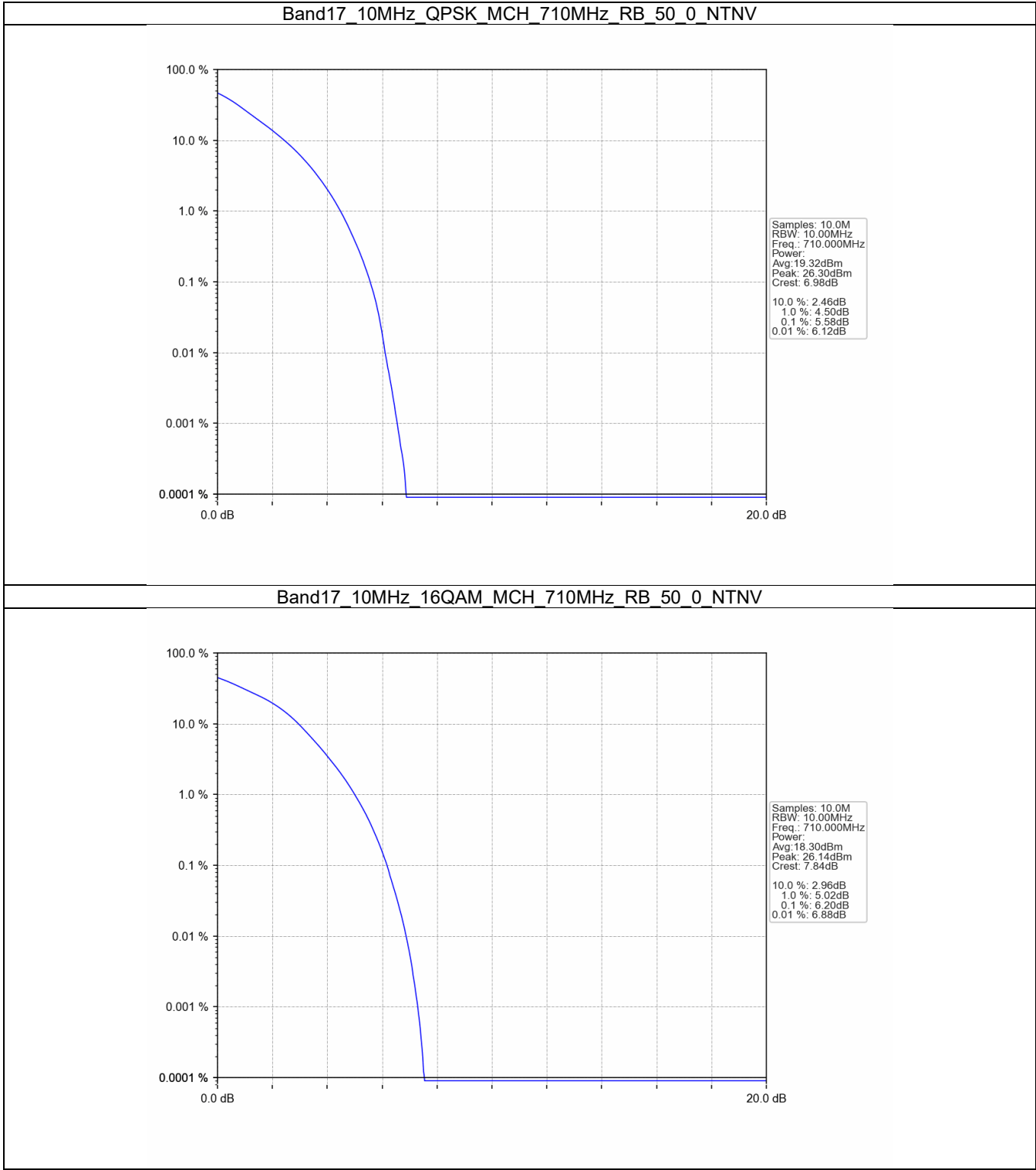
4.1 Test Result

4.1.1 B17_10MHz

Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	5.58	<=13	Pass
16QAM	710	50	0	6.20	<=13	Pass
64QAM	710	50	0	6.18	<=13	Pass
256QAM	710	50	0	6.60	<=13	Pass

4.2 Test Graph

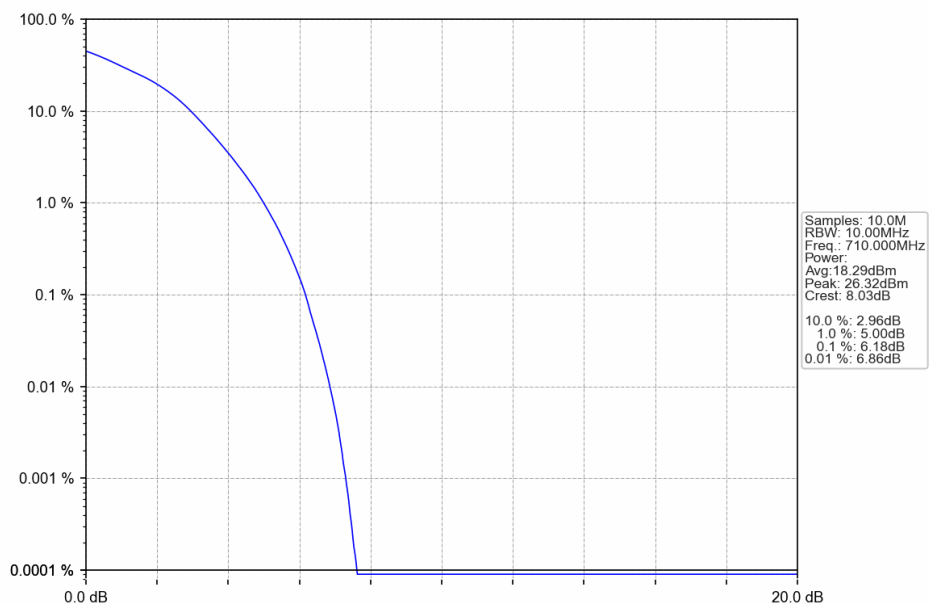
4.2.1 B17_10MHz



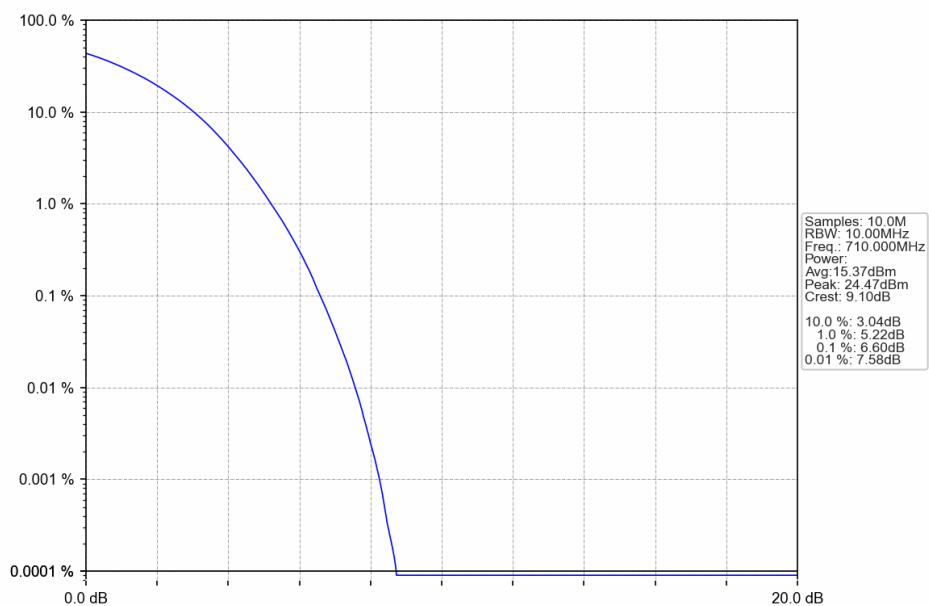
Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV

Samples: 10.0M
RBW: 10.00MHz
Freq.: 710.000MHz
Power:
Avg: 18.30dBm
Peak: 26.14dBm
Crest: 7.84dB

Band17_10MHz_64QAM_MCH_710MHz_RB_50_0_NTNV



Band17_10MHz_256QAM_MCH_710MHz_RB_50_0_NTNV



5. Spurious Emission

5.1 Test Result

5.1.1 B17_5MHz

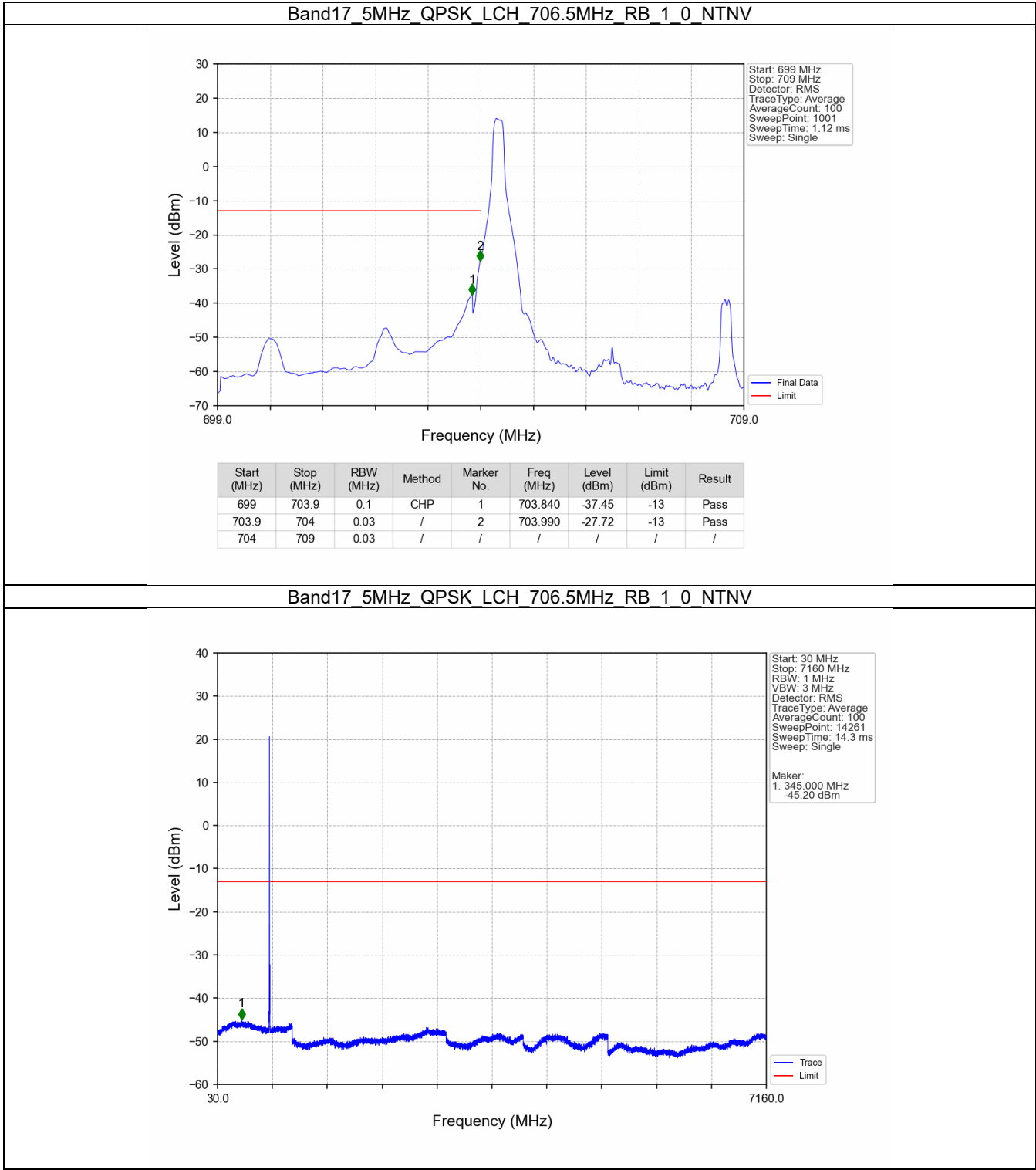
Band: 17 / Bandwidth: 5MHz / NTVN						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass

5.1.2 B17_10MHz

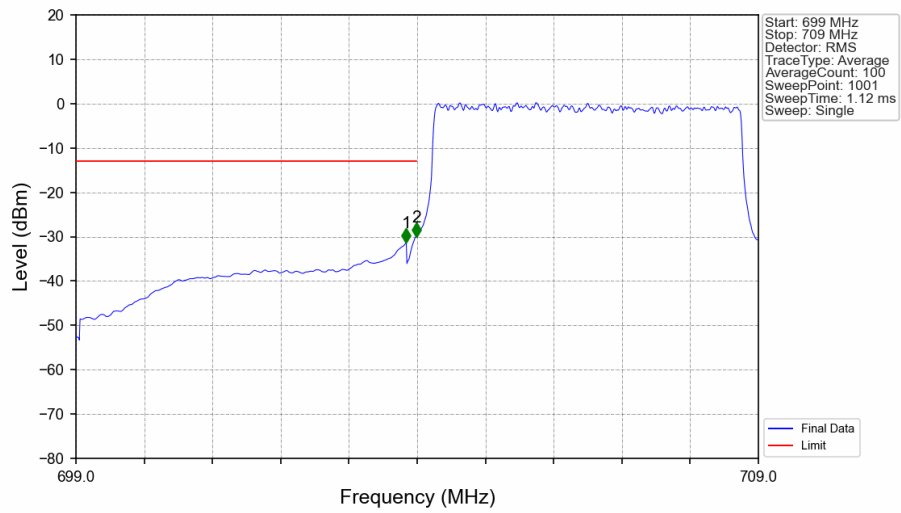
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass

5.2 Test Graph

5.2.1 B17_5MHz

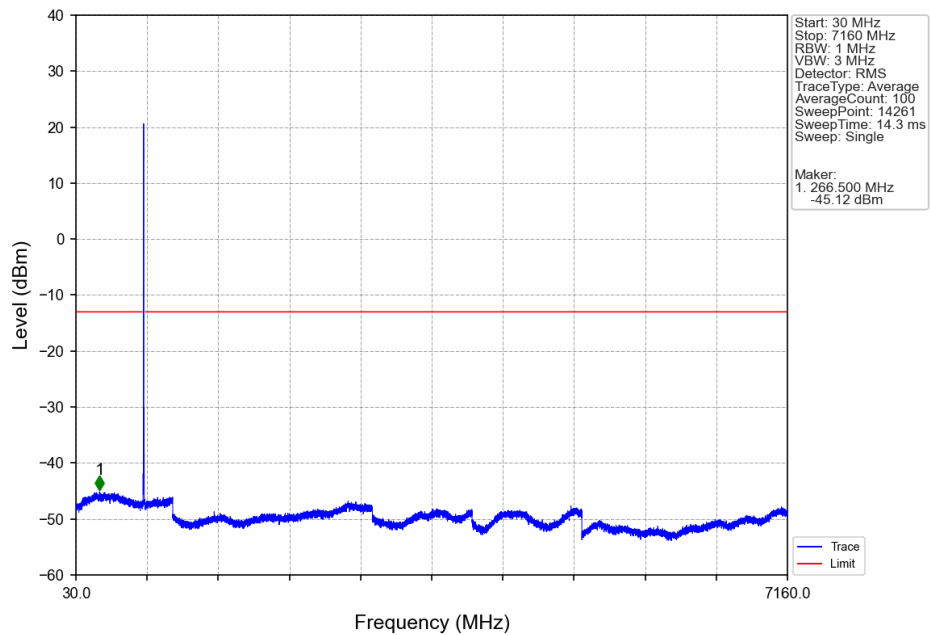


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

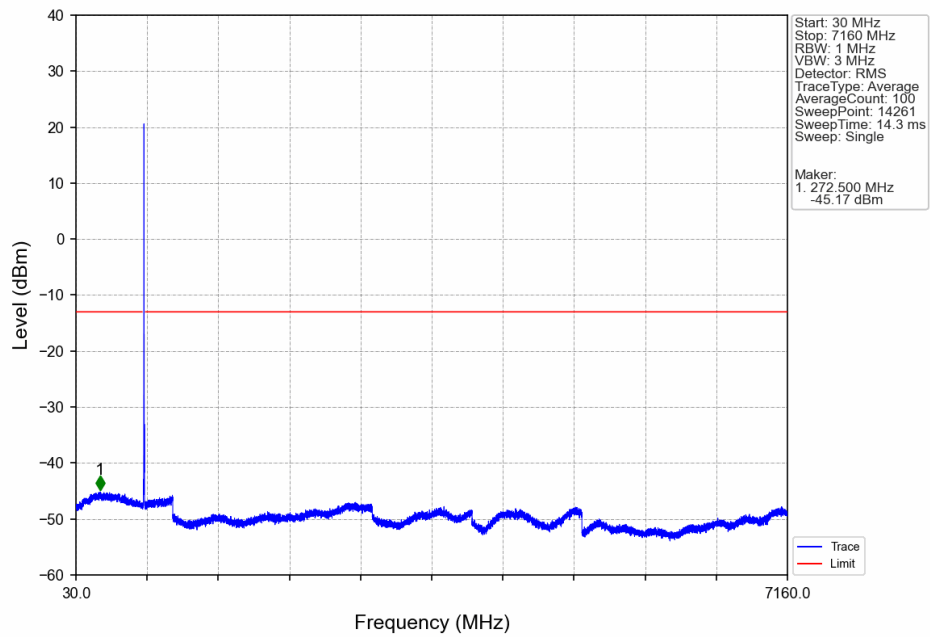


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
699	703.9	0.1	CHP	1	703.840	-31.25	-13	Pass
703.9	704	0.03	/	2	703.990	-29.97	-13	Pass
704	709	0.03	/	/	/	/	/	/

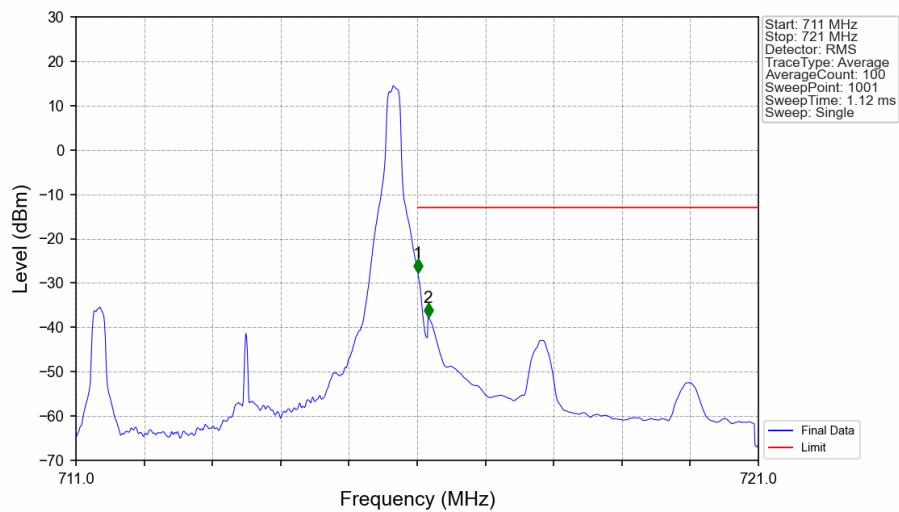
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

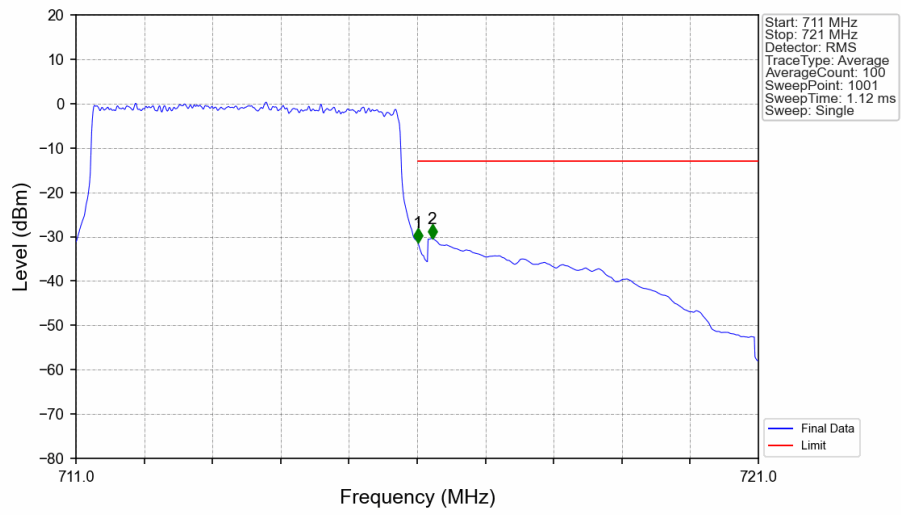


Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.010	-27.77	-13	Pass
716.1	721	0.1	CHP	2	716.160	-37.62	-13	Pass

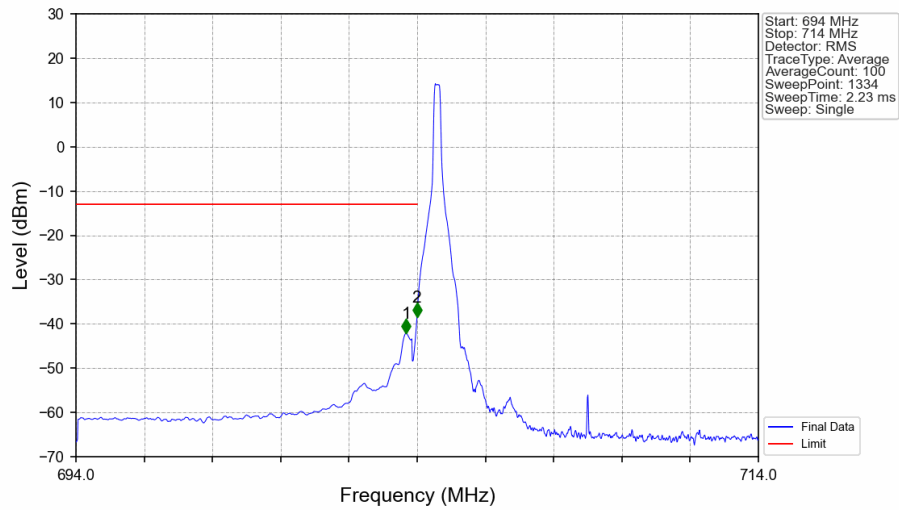
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
711	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.010	-31.26	-13	Pass
716.1	721	0.1	CHP	2	716.220	-30.37	-13	Pass

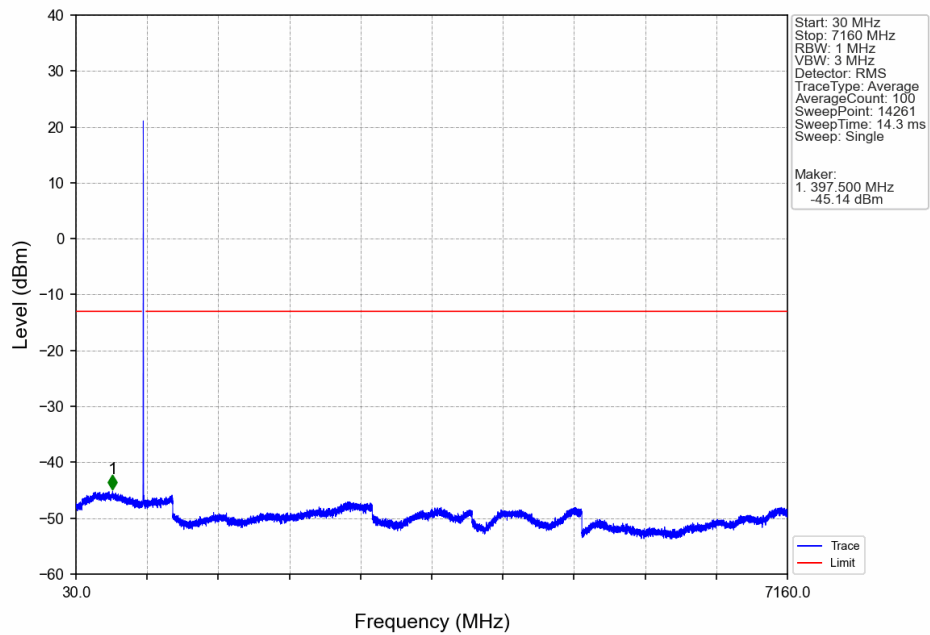
5.2.2 B17_10MHz

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

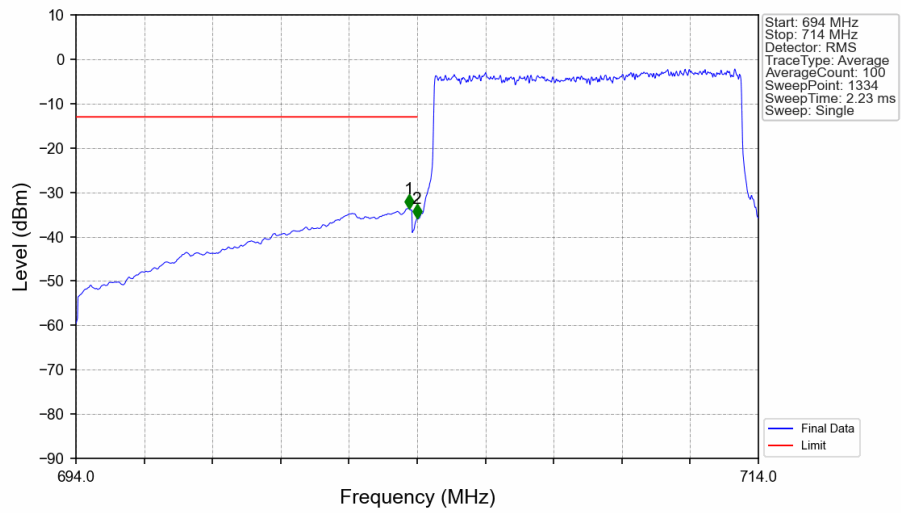


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.677	-42.11	-13	Pass
703.9	704	0.03	/	2	703.992	-38.36	-13	Pass
704	714	0.03	/	/	/	/	/	/

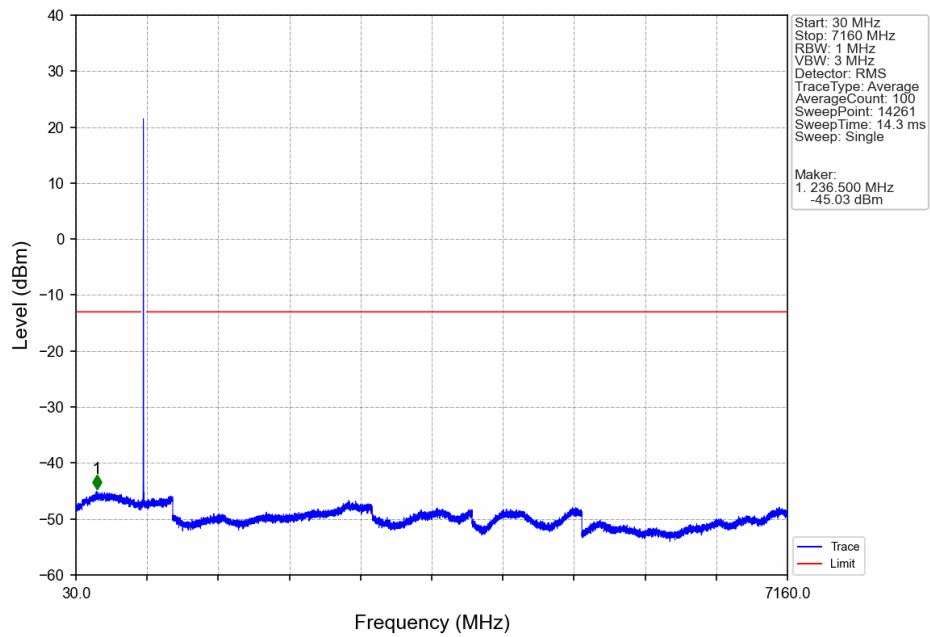
Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV



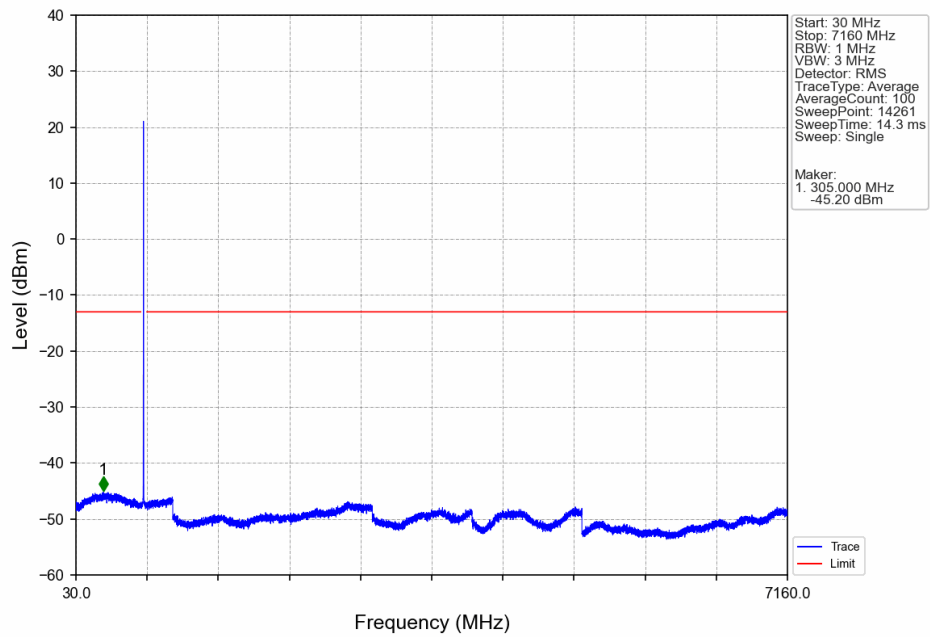
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



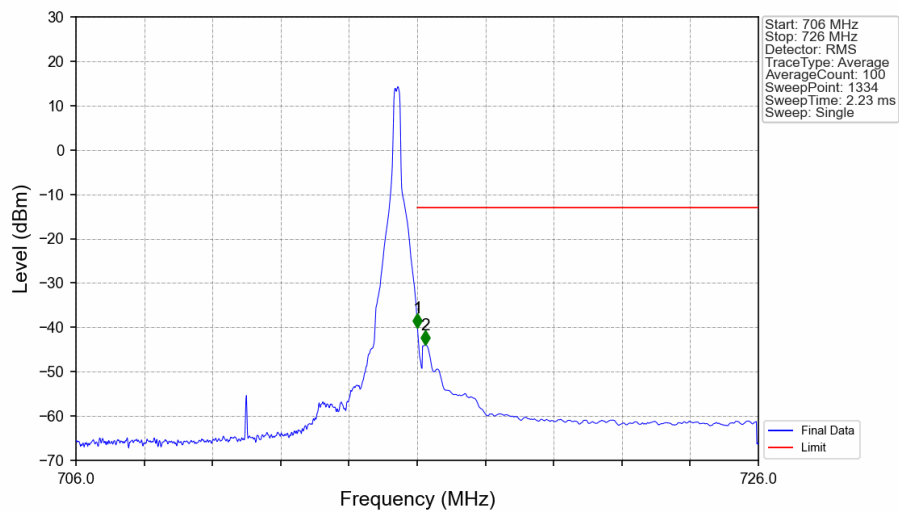
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

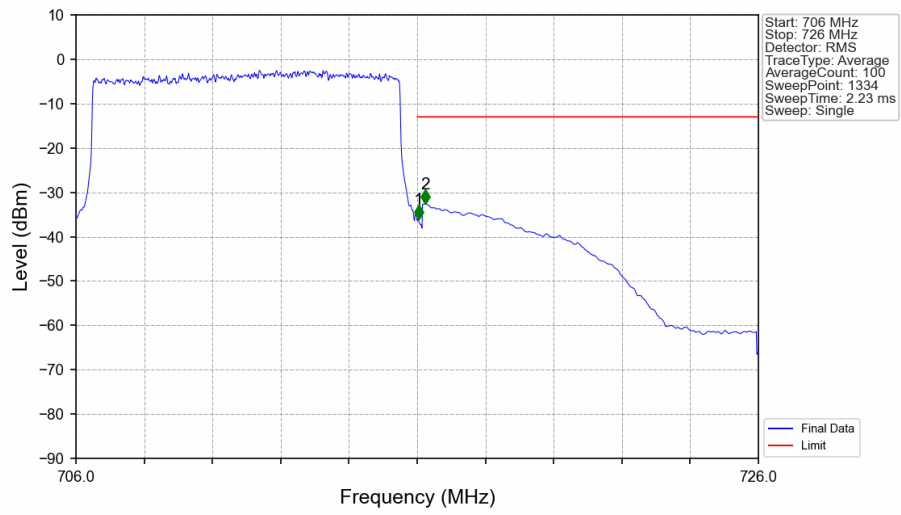


Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
706	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.008	-39.99	-13	Pass
716.1	726	0.1	CHP	2	716.233	-43.96	-13	Pass

Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
706	716	0.03	/	/	/	/	/	/
716	716.1	0.03	/	1	716.038	-36.04	-13	Pass
716.1	726	0.1	CHP	2	716.233	-32.58	-13	Pass

- End of the Appendix -