

# 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	24.88	-3.73	19.00	<=34.77	Pass
			13	24.85	-3.73	18.97	<=34.77	Pass
			24	24.97	-3.73	19.09	<=34.77	Pass
		12	0	23.79	-3.73	17.91	<=34.77	Pass
			6	23.80	-3.73	17.92	<=34.77	Pass
			13	23.83	-3.73	17.95	<=34.77	Pass
	25	0	23.84	-3.73	17.96	<=34.77	Pass	
	710	1	0	24.94	-3.73	19.06	<=34.77	Pass
			13	24.86	-3.73	18.98	<=34.77	Pass
			24	24.89	-3.73	19.01	<=34.77	Pass
		12	0	23.85	-3.73	17.97	<=34.77	Pass
			6	23.79	-3.73	17.91	<=34.77	Pass
			13	23.80	-3.73	17.92	<=34.77	Pass
	25	0	23.85	-3.73	17.97	<=34.77	Pass	
	713.5	1	0	24.92	-3.73	19.04	<=34.77	Pass
			13	24.84	-3.73	18.96	<=34.77	Pass
			24	24.86	-3.73	18.98	<=34.77	Pass
		12	0	23.79	-3.73	17.91	<=34.77	Pass
6			23.74	-3.73	17.86	<=34.77	Pass	
13			23.72	-3.73	17.84	<=34.77	Pass	
25	0	23.80	-3.73	17.92	<=34.77	Pass		
16QAM	706.5	1	0	23.62	-3.73	17.74	<=34.77	Pass
			13	23.56	-3.73	17.68	<=34.77	Pass
			24	23.67	-3.73	17.79	<=34.77	Pass
		12	0	22.83	-3.73	16.95	<=34.77	Pass
			6	22.81	-3.73	16.93	<=34.77	Pass
			13	22.85	-3.73	16.97	<=34.77	Pass
	25	0	22.86	-3.73	16.98	<=34.77	Pass	
	710	1	0	24.10	-3.73	18.22	<=34.77	Pass
			13	24.00	-3.73	18.12	<=34.77	Pass
			24	24.01	-3.73	18.13	<=34.77	Pass
		12	0	22.90	-3.73	17.02	<=34.77	Pass
			6	22.84	-3.73	16.96	<=34.77	Pass
			13	22.83	-3.73	16.95	<=34.77	Pass
	25	0	22.82	-3.73	16.94	<=34.77	Pass	
	713.5	1	0	23.98	-3.73	18.10	<=34.77	Pass
			13	23.85	-3.73	17.97	<=34.77	Pass
			24	23.86	-3.73	17.98	<=34.77	Pass
		12	0	22.81	-3.73	16.93	<=34.77	Pass
6			22.74	-3.73	16.86	<=34.77	Pass	
13			22.74	-3.73	16.86	<=34.77	Pass	
25	0	22.79	-3.73	16.91	<=34.77	Pass		
64QAM	706.5	1	0	22.75	-3.73	16.87	<=34.77	Pass
			13	22.66	-3.73	16.78	<=34.77	Pass
			24	22.80	-3.73	16.92	<=34.77	Pass
		12	0	21.85	-3.73	15.97	<=34.77	Pass
			6	21.84	-3.73	15.96	<=34.77	Pass
			13	21.87	-3.73	15.99	<=34.77	Pass
		25	0	21.82	-3.73	15.94	<=34.77	Pass

	710	1	0	23.23	-3.73	17.35	<=34.77	Pass		
			13	23.16	-3.73	17.28	<=34.77	Pass		
			24	23.13	-3.73	17.25	<=34.77	Pass		
		12	0	21.82	-3.73	15.94	<=34.77	Pass		
			6	21.78	-3.73	15.90	<=34.77	Pass		
			13	21.79	-3.73	15.91	<=34.77	Pass		
		25	0	21.82	-3.73	15.94	<=34.77	Pass		
		713.5	1	0	23.03	-3.73	17.15	<=34.77	Pass	
				13	22.93	-3.73	17.05	<=34.77	Pass	
	24			22.96	-3.73	17.08	<=34.77	Pass		
	12		0	21.88	-3.73	16.00	<=34.77	Pass		
			6	21.83	-3.73	15.95	<=34.77	Pass		
			13	21.84	-3.73	15.96	<=34.77	Pass		
	25		0	21.84	-3.73	15.96	<=34.77	Pass		
	256QAM		706.5	1	0	19.58	-3.73	13.70	<=34.77	Pass
					13	19.52	-3.73	13.64	<=34.77	Pass
		24			19.61	-3.73	13.73	<=34.77	Pass	
		12		0	19.87	-3.73	13.99	<=34.77	Pass	
6				19.84	-3.73	13.96	<=34.77	Pass		
13				19.87	-3.73	13.99	<=34.77	Pass		
25		0		19.88	-3.73	14.00	<=34.77	Pass		
710		1		0	20.11	-3.73	14.23	<=34.77	Pass	
				13	20.02	-3.73	14.14	<=34.77	Pass	
			24	20.04	-3.73	14.16	<=34.77	Pass		
		12	0	19.91	-3.73	14.03	<=34.77	Pass		
			6	19.85	-3.73	13.97	<=34.77	Pass		
			13	19.85	-3.73	13.97	<=34.77	Pass		
		25	0	19.85	-3.73	13.97	<=34.77	Pass		
		713.5	1	0	19.95	-3.73	14.07	<=34.77	Pass	
				13	19.78	-3.73	13.90	<=34.77	Pass	
24				19.85	-3.73	13.97	<=34.77	Pass		
12			0	19.84	-3.73	13.96	<=34.77	Pass		
	6		19.79	-3.73	13.91	<=34.77	Pass			
	13		19.77	-3.73	13.89	<=34.77	Pass			
25	0		19.80	-3.73	13.92	<=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	24.82	-3.73	18.94	<=34.77	Pass	
			25	24.83	-3.73	18.95	<=34.77	Pass	
			49	24.86	-3.73	18.98	<=34.77	Pass	
		25	0	23.86	-3.73	17.98	<=34.77	Pass	
			13	23.84	-3.73	17.96	<=34.77	Pass	
			25	23.85	-3.73	17.97	<=34.77	Pass	
		50	0	23.85	-3.73	17.97	<=34.77	Pass	
		710	1	0	24.80	-3.73	18.92	<=34.77	Pass
				25	24.76	-3.73	18.88	<=34.77	Pass
	49			24.77	-3.73	18.89	<=34.77	Pass	
	25		0	23.86	-3.73	17.98	<=34.77	Pass	
			13	23.83	-3.73	17.95	<=34.77	Pass	
			25	23.82	-3.73	17.94	<=34.77	Pass	
	50	0	23.86	-3.73	17.98	<=34.77	Pass		
	711	1	0	24.96	-3.73	19.08	<=34.77	Pass	

		25	25	24.90	-3.73	19.02	<=34.77	Pass
			49	24.92	-3.73	19.04	<=34.77	Pass
			0	23.89	-3.73	18.01	<=34.77	Pass
			13	23.82	-3.73	17.94	<=34.77	Pass
			25	23.80	-3.73	17.92	<=34.77	Pass
		50	0	23.84	-3.73	17.96	<=34.77	Pass
			0	23.98	-3.73	18.10	<=34.77	Pass
			25	23.90	-3.73	18.02	<=34.77	Pass
			49	23.95	-3.73	18.07	<=34.77	Pass
			0	22.94	-3.73	17.06	<=34.77	Pass
16QAM	709	1	13	22.91	-3.73	17.03	<=34.77	Pass
			25	22.91	-3.73	17.03	<=34.77	Pass
			0	22.84	-3.73	16.96	<=34.77	Pass
		25	0	23.94	-3.73	18.06	<=34.77	Pass
			25	23.89	-3.73	18.01	<=34.77	Pass
	49		23.93	-3.73	18.05	<=34.77	Pass	
	710	1	0	22.94	-3.73	17.06	<=34.77	Pass
			13	22.89	-3.73	17.01	<=34.77	Pass
			25	22.89	-3.73	17.01	<=34.77	Pass
		25	0	22.86	-3.73	16.98	<=34.77	Pass
			0	24.29	-3.73	18.41	<=34.77	Pass
	25		24.16	-3.73	18.28	<=34.77	Pass	
	711	1	49	24.13	-3.73	18.25	<=34.77	Pass
			0	22.91	-3.73	17.03	<=34.77	Pass
			13	22.84	-3.73	16.96	<=34.77	Pass
25		25	22.81	-3.73	16.93	<=34.77	Pass	
		0	22.83	-3.73	16.95	<=34.77	Pass	
64QAM	709	1	0	23.03	-3.73	17.15	<=34.77	Pass
			25	23.00	-3.73	17.12	<=34.77	Pass
			49	22.96	-3.73	17.08	<=34.77	Pass
		25	0	21.93	-3.73	16.05	<=34.77	Pass
			13	21.91	-3.73	16.03	<=34.77	Pass
	25		21.90	-3.73	16.02	<=34.77	Pass	
	710	1	0	21.85	-3.73	15.97	<=34.77	Pass
			0	23.02	-3.73	17.14	<=34.77	Pass
			25	22.97	-3.73	17.09	<=34.77	Pass
		25	49	22.93	-3.73	17.05	<=34.77	Pass
			0	21.93	-3.73	16.05	<=34.77	Pass
	13		21.89	-3.73	16.01	<=34.77	Pass	
	711	1	25	21.88	-3.73	16.00	<=34.77	Pass
			0	21.85	-3.73	15.97	<=34.77	Pass
			0	23.18	-3.73	17.30	<=34.77	Pass
25		25	23.16	-3.73	17.28	<=34.77	Pass	
		49	23.18	-3.73	17.30	<=34.77	Pass	
	0	21.92	-3.73	16.04	<=34.77	Pass		
256QAM	709	1	13	21.84	-3.73	15.96	<=34.77	Pass
			25	21.81	-3.73	15.93	<=34.77	Pass
			0	21.83	-3.73	15.95	<=34.77	Pass
		25	0	19.96	-3.73	14.08	<=34.77	Pass
			13	19.92	-3.73	14.04	<=34.77	Pass
	25		19.93	-3.73	14.05	<=34.77	Pass	
	710	1	0	19.87	-3.73	13.99	<=34.77	Pass
			0	19.95	-3.73	14.07	<=34.77	Pass
			25	19.89	-3.73	14.01	<=34.77	Pass
		25	49	19.90	-3.73	14.02	<=34.77	Pass
			0	19.95	-3.73	14.07	<=34.77	Pass

			13	19.90	-3.73	14.02	<=34.77	Pass	
			25	19.90	-3.73	14.02	<=34.77	Pass	
		50	0	19.89	-3.73	14.01	<=34.77	Pass	
	711	1		0	20.27	-3.73	14.39	<=34.77	Pass
				25	20.20	-3.73	14.32	<=34.77	Pass
				49	20.21	-3.73	14.33	<=34.77	Pass
		25		0	19.93	-3.73	14.05	<=34.77	Pass
				13	19.86	-3.73	13.98	<=34.77	Pass
				25	19.85	-3.73	13.97	<=34.77	Pass
	50	0	19.88	-3.73	14.00	<=34.77	Pass		
	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	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	710	50	0	20	LV	-2.747	-0.0039	-2.5 to 2.5	Pass
					NV	-1.087	-0.0015	-2.5 to 2.5	Pass
					HV	-2.089	-0.0029	-2.5 to 2.5	Pass
				-30	NV	-4.471	-0.0063	-2.5 to 2.5	Pass
				-20	NV	-1.760	-0.0025	-2.5 to 2.5	Pass
				-10	NV	-1.516	-0.0021	-2.5 to 2.5	Pass
				0	NV	-2.303	-0.0032	-2.5 to 2.5	Pass
				10	NV	-1.388	-0.0020	-2.5 to 2.5	Pass
				30	NV	-0.858	-0.0012	-2.5 to 2.5	Pass
				40	NV	-2.546	-0.0036	-2.5 to 2.5	Pass
50	NV	-2.217	-0.0031	-2.5 to 2.5	Pass				

### 3. 99% & 26dB Bandwidth

#### 3.1 Test Result

##### 3.1.1 Band17\_OBW

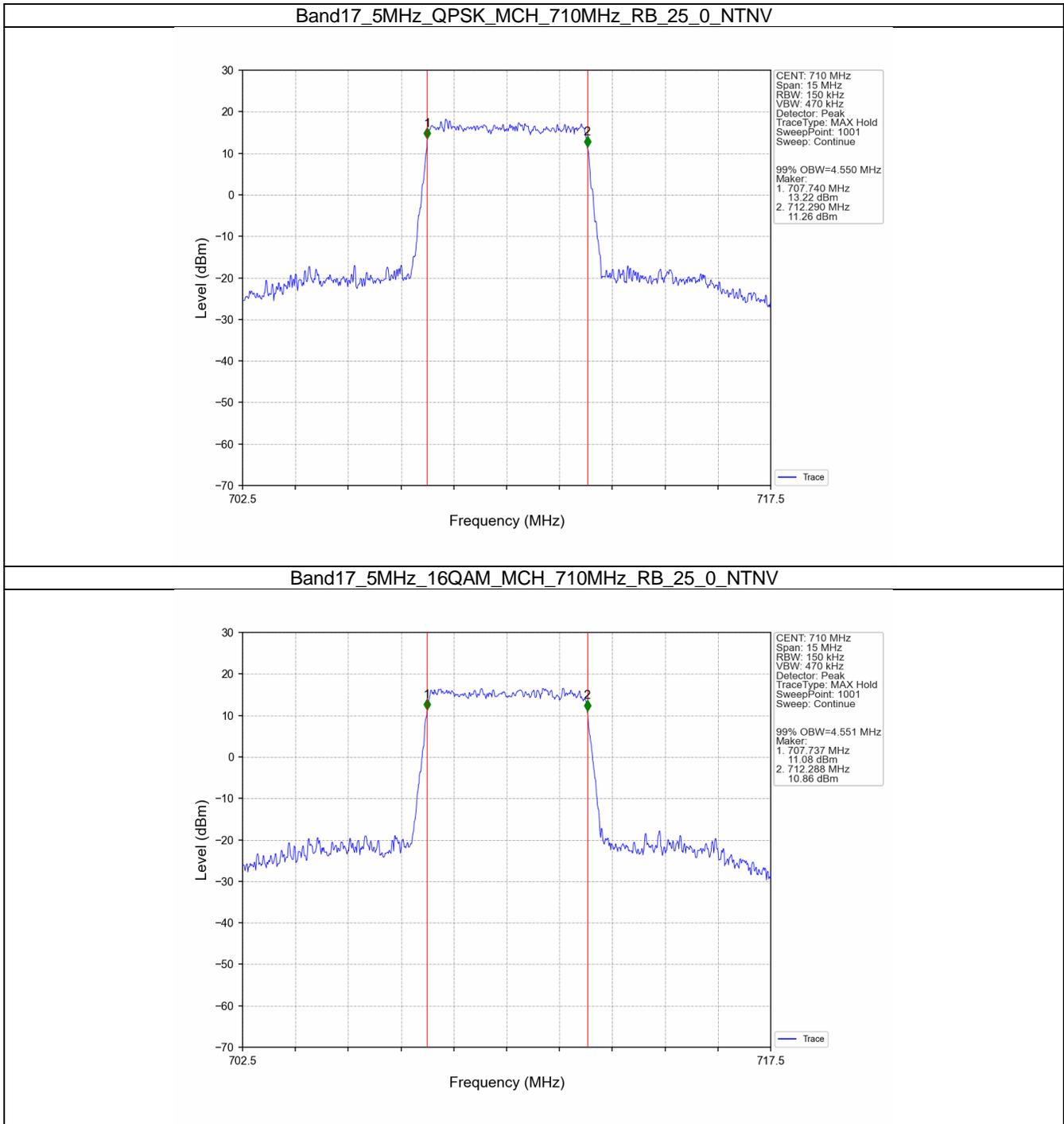
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	4.550	/	Pass
	16QAM	710	25	0	4.551	/	Pass
10	QPSK	710	50	0	9.054	/	Pass
	16QAM	710	50	0	9.034	/	Pass

##### 3.1.2 Band17\_XDB

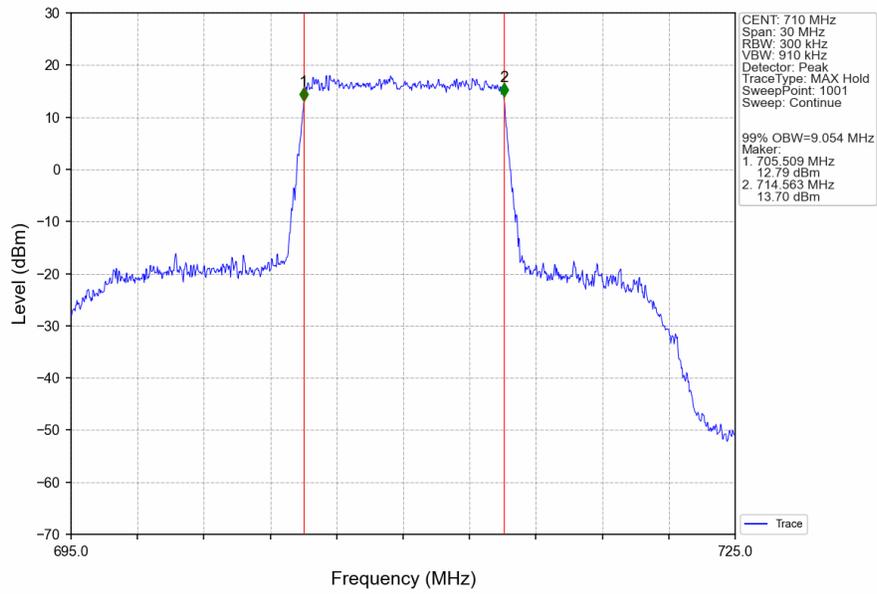
Band: 17 / NTNV							
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)		Verdict
			Size	Offset	Result	Limit	
5	QPSK	710	25	0	5.087	/	Pass
	16QAM	710	25	0	5.103	/	Pass
10	QPSK	710	50	0	10.092	/	Pass
	16QAM	710	50	0	9.925	/	Pass

### 3.2 Test Graph

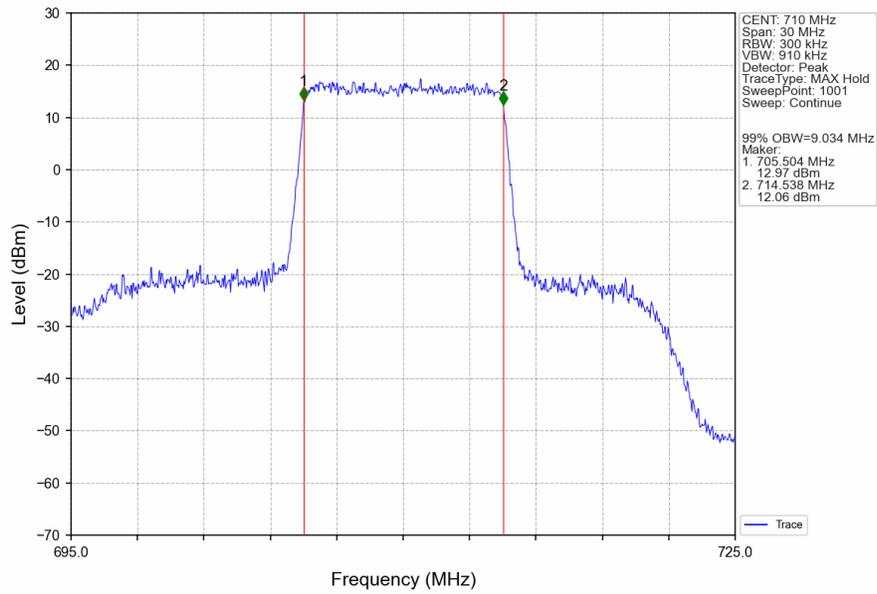
#### 3.2.1 Band17\_OBW



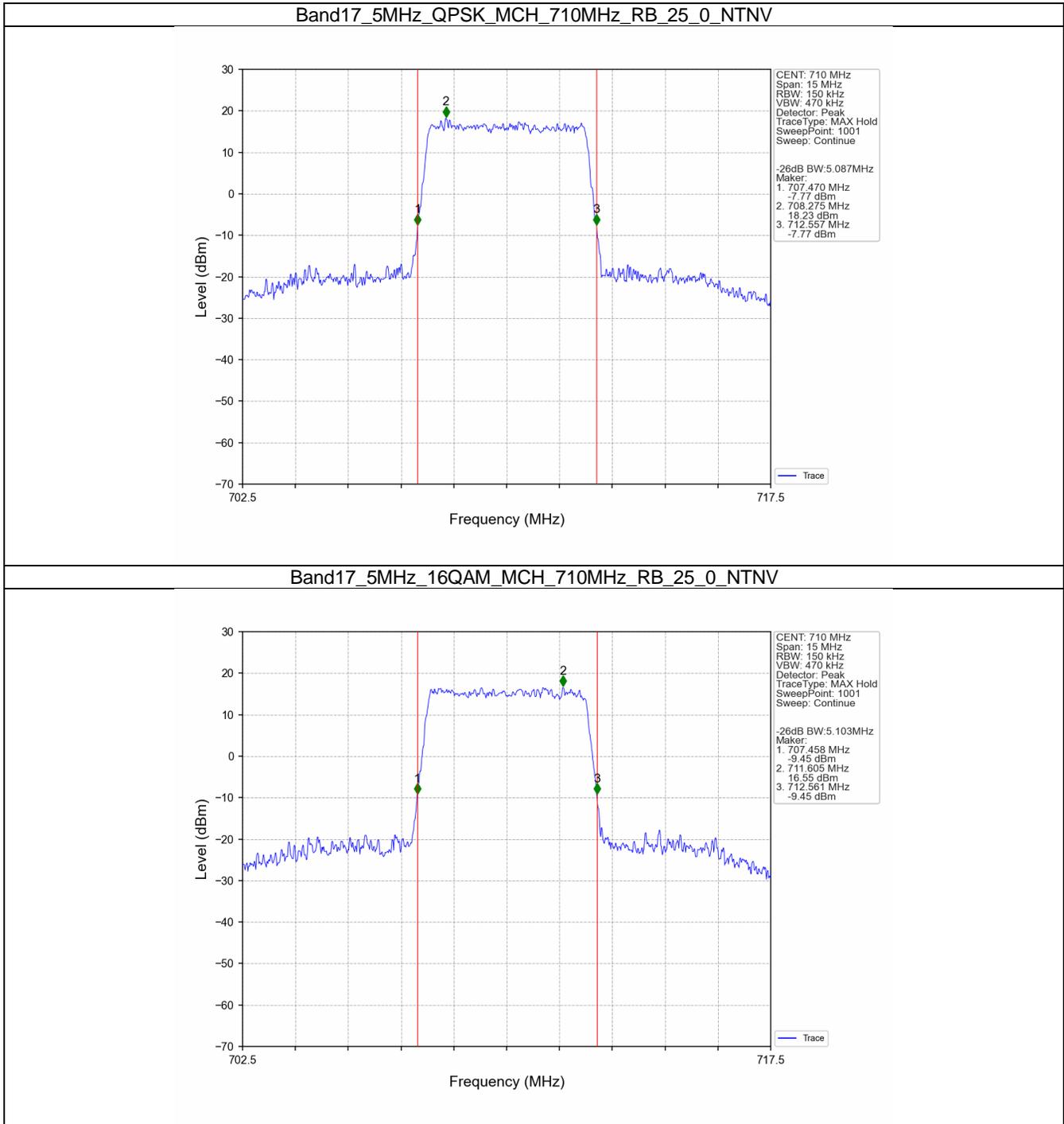
Band17\_10MHz\_QPSK\_MCH\_710MHz\_RB\_50\_0\_NTNV



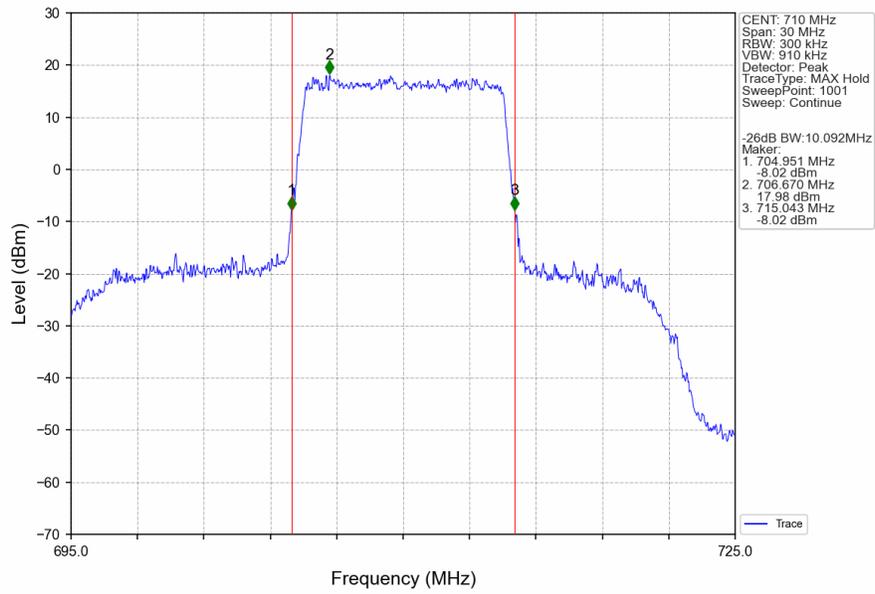
Band17\_10MHz\_16QAM\_MCH\_710MHz\_RB\_50\_0\_NTNV



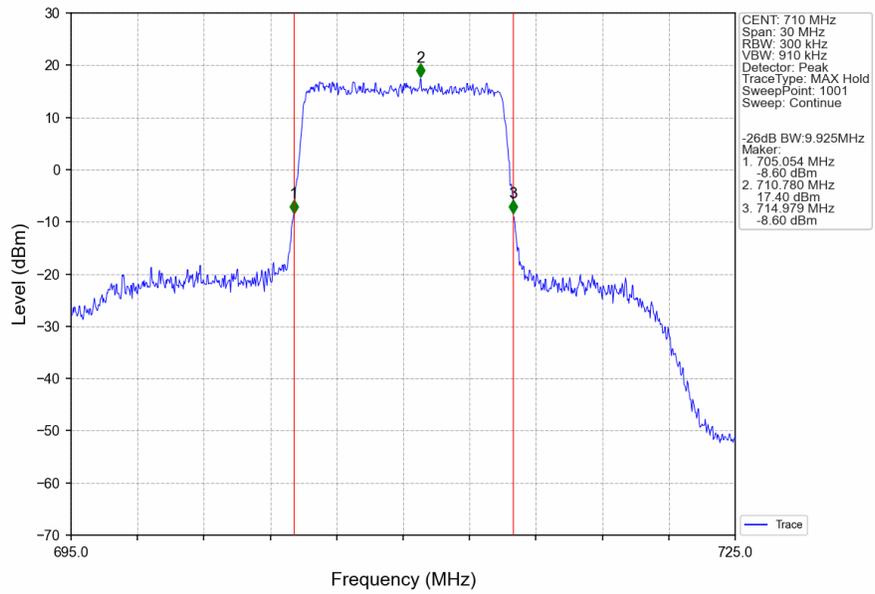
### 3.2.2 Band17\_XDB



Band17\_10MHz\_QPSK\_MCH\_710MHz\_RB\_50\_0\_NTNV



Band17\_10MHz\_16QAM\_MCH\_710MHz\_RB\_50\_0\_NTNV



## 4. Peak-Average Ratio

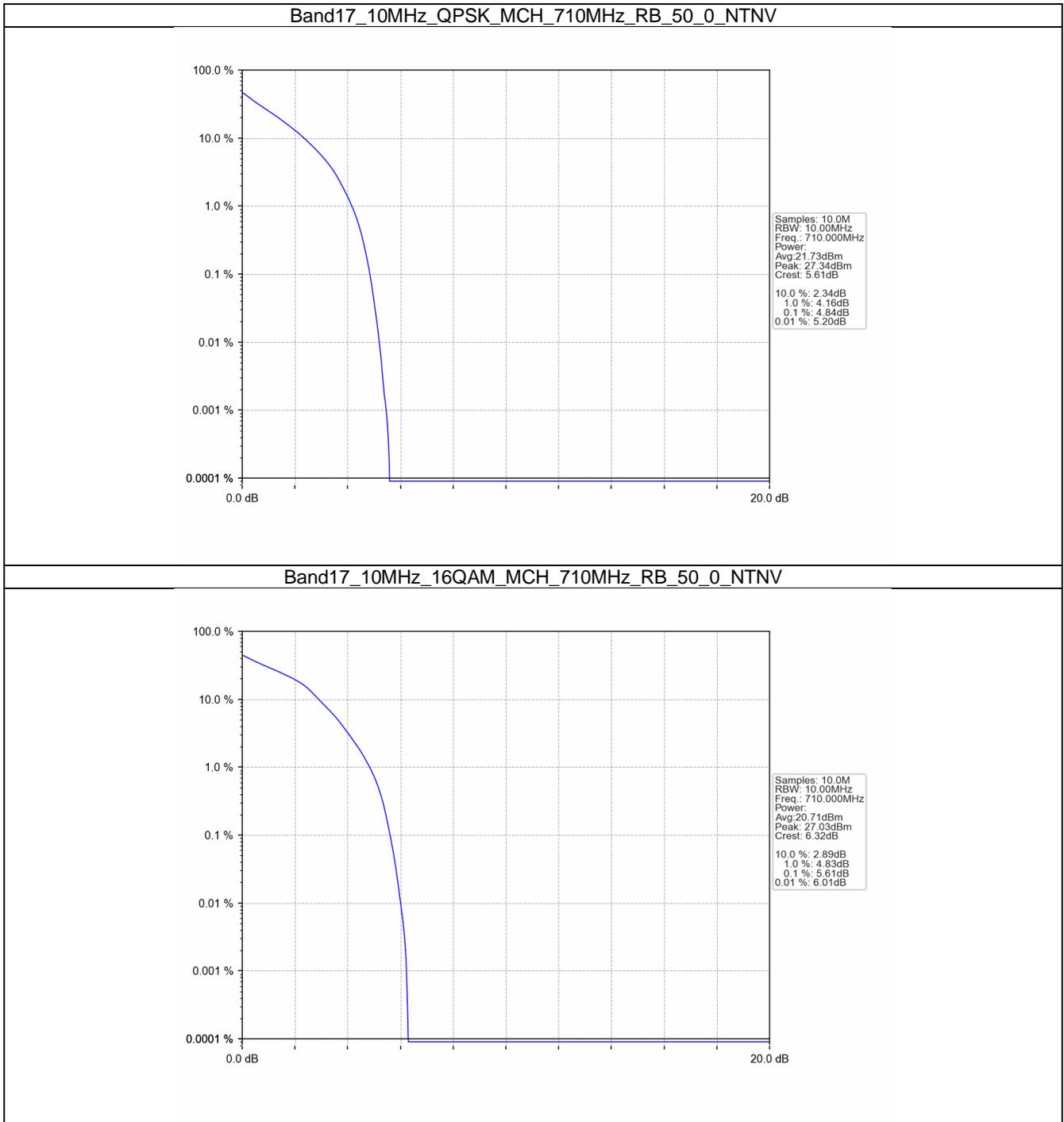
### 4.1 Test Result

#### 4.1.1 B17\_10MHz

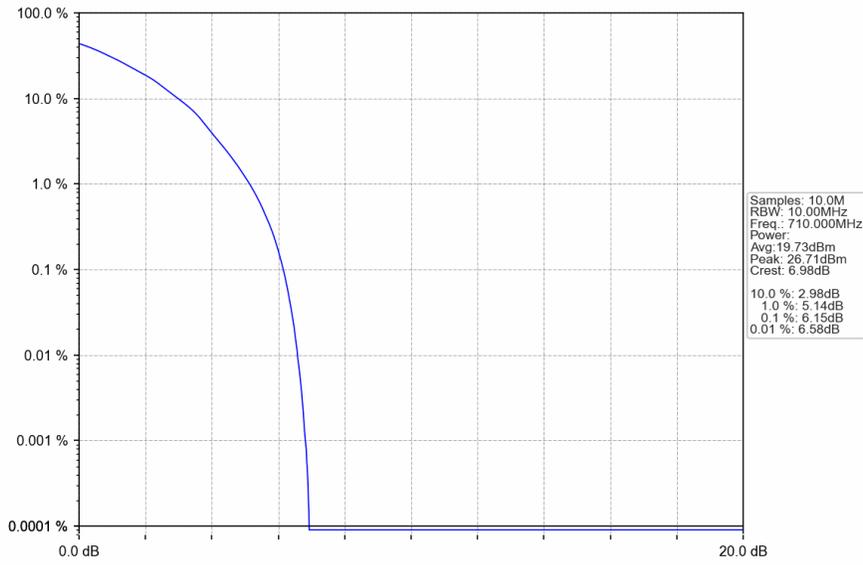
Band: 17 / Bandwidth: 10MHz / NTNV						
Modulation	Frequency (MHz)	RB Allocation		Peak-Average Ratio (dB)		Verdict
		Size	Offset	Result	Limit	
QPSK	710	50	0	4.84	<=13	Pass
16QAM	710	50	0	5.61	<=13	Pass
64QAM	710	50	0	6.15	<=13	Pass
256QAM	710	50	0	6.60	<=13	Pass

## 4.2 Test Graph

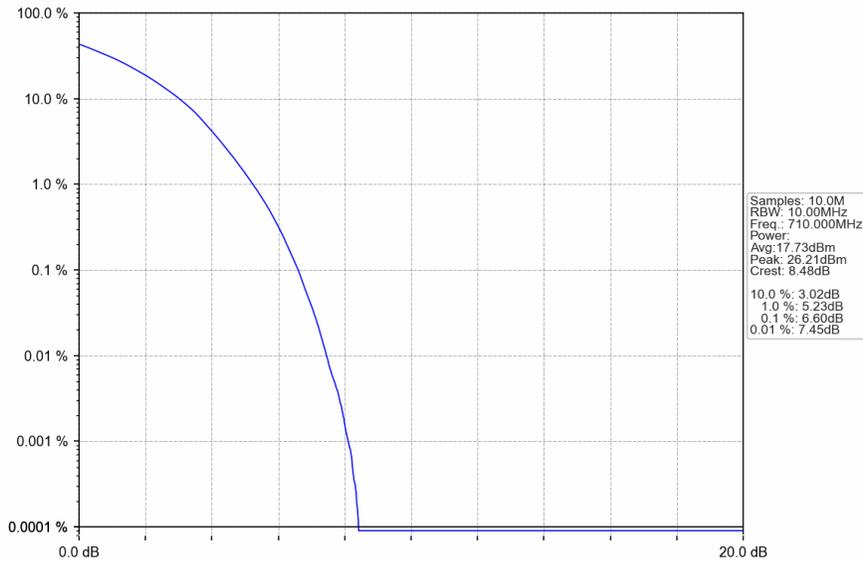
### 4.2.1 B17\_10MHz



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

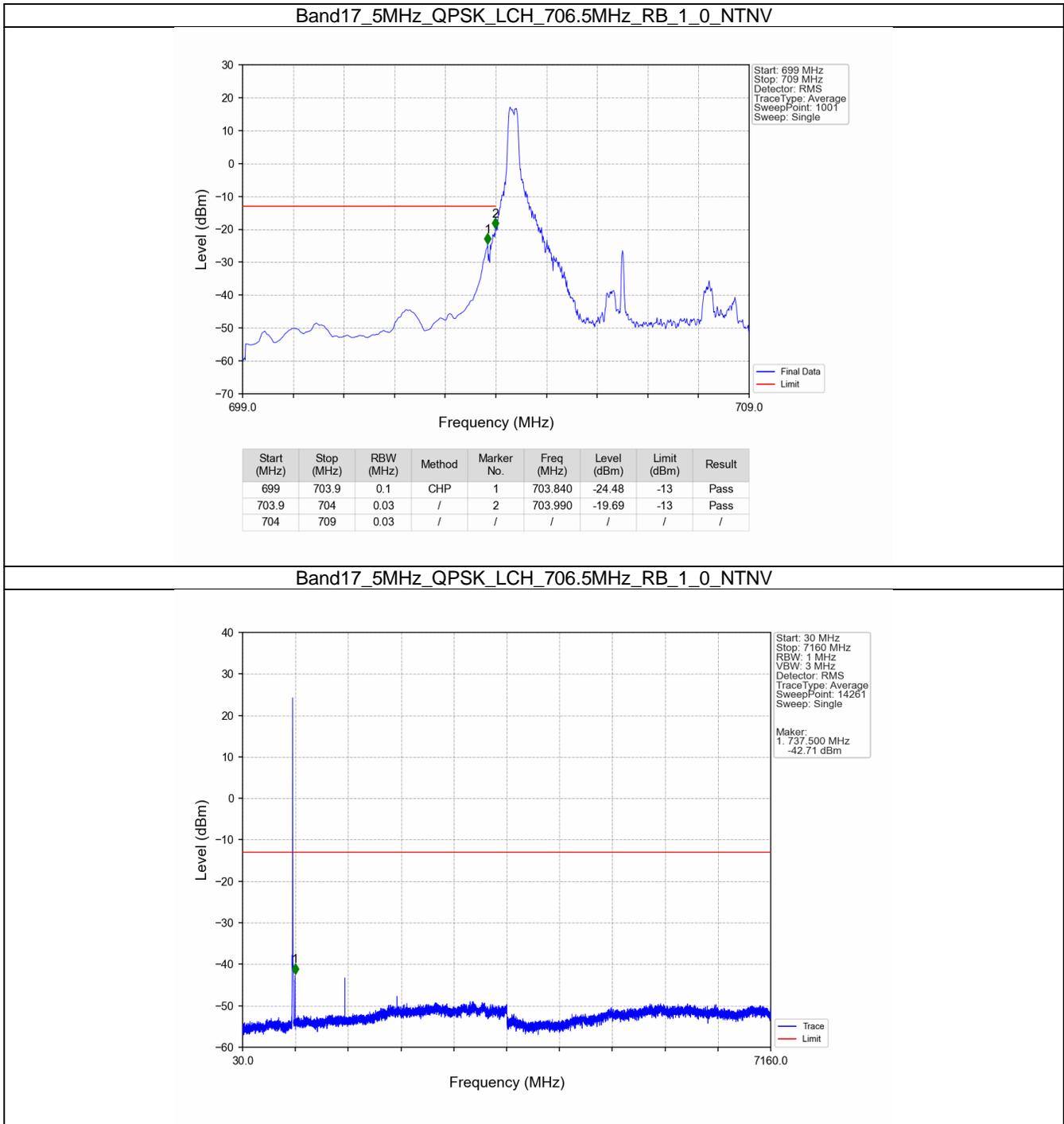
Band: 17 / Bandwidth: 5MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	706.5	1	0	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	713.5	1	0	Refer To Test Graph		Pass
			24	Refer To Test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

#### 5.1.2 B17\_10MHz

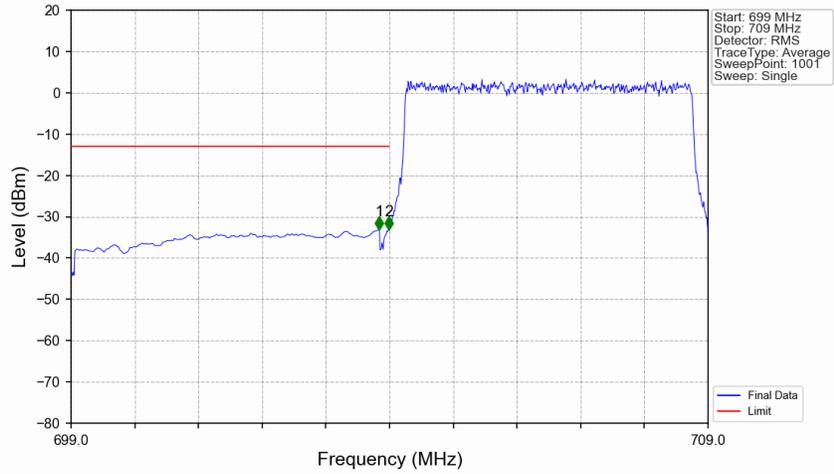
Band: 17 / Bandwidth: 10MHz / NTV						
Modulation	Frequency (MHz)	RB Allocation		Spurious Emission		Verdict
		Size	Offset	Result	Limit	
QPSK	709	1	0	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	710	1	0	Refer To Test Graph		Pass
	711	1	0	Refer To Test Graph		Pass
			49	Refer To Test Graph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

## 5.2 Test Graph

### 5.2.1 B17\_5MHz

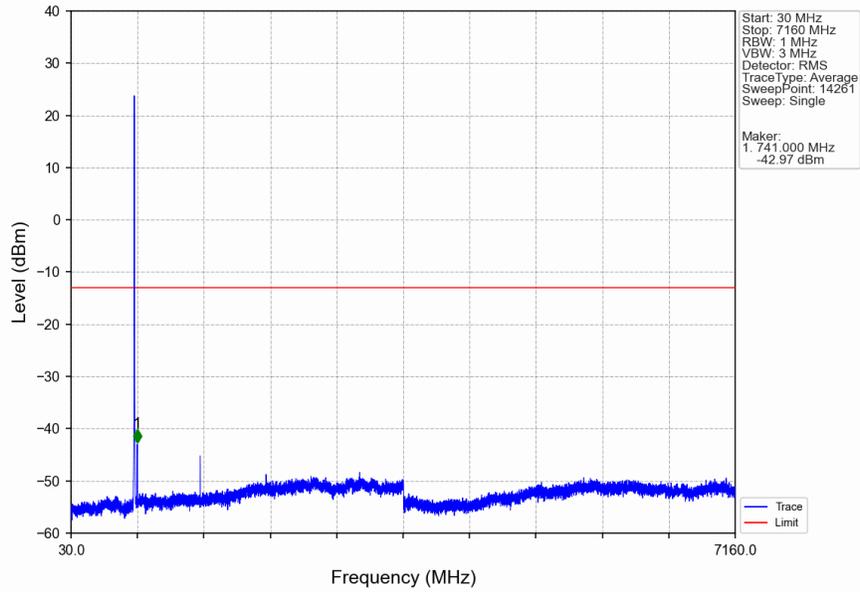


Band17\_5MHz\_QPSK\_LCH\_706.5MHz\_RB\_25\_0\_NTNV



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	-33.09	-13	Pass
703.9	704	0.03	/	2	703.990	-33.22	-13	Pass
704	709	0.03	/	/	/	/	/	/

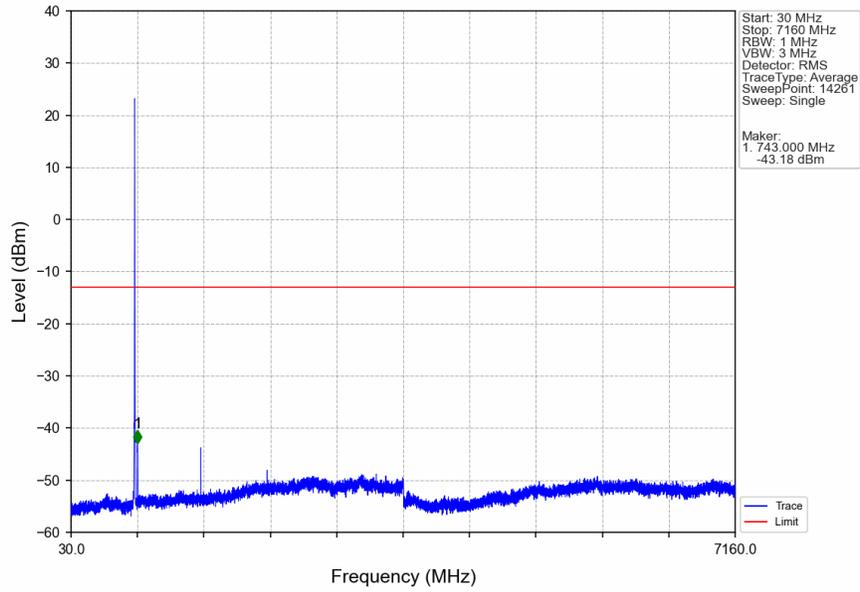
Band17\_5MHz\_QPSK\_MCH\_710MHz\_RB\_1\_0\_NTNV



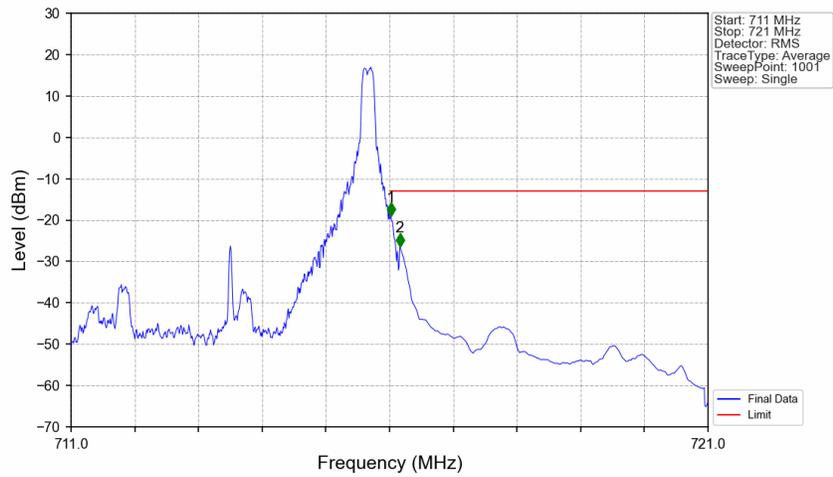
Start: 30 MHz  
 Stop: 7160 MHz  
 RBW: 1 MHz  
 VBW: 3 MHz  
 Detector: RMS  
 Trace Type: Average  
 Sweep Point: 14261  
 Sweep: Single

Marker:  
 1: 741.000 MHz  
 -42.97 dBm

Band17\_5MHz\_QPSK\_HCH\_713.5MHz\_RB\_1\_0\_NTNV

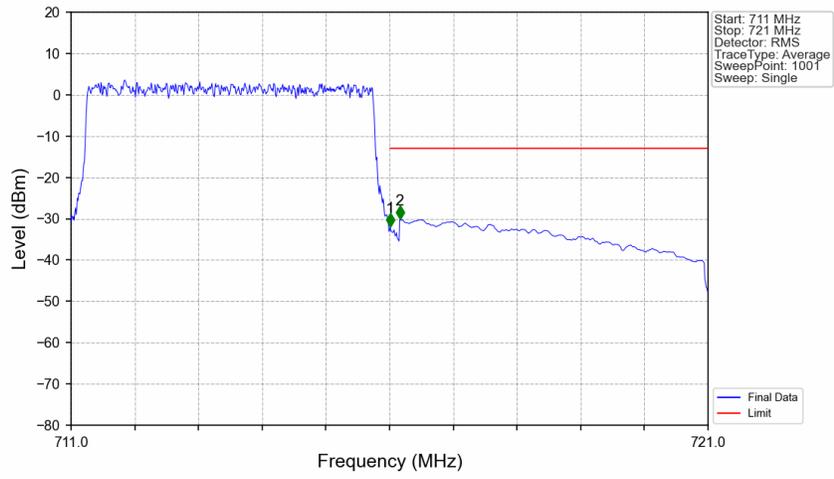


Band17\_5MHz\_QPSK\_HCH\_713.5MHz\_RB\_1\_24\_NTNV



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	716.020	-18.98	-13	Pass
716.1	721	0.1	CHP	2	716.160	-26.32	-13	Pass

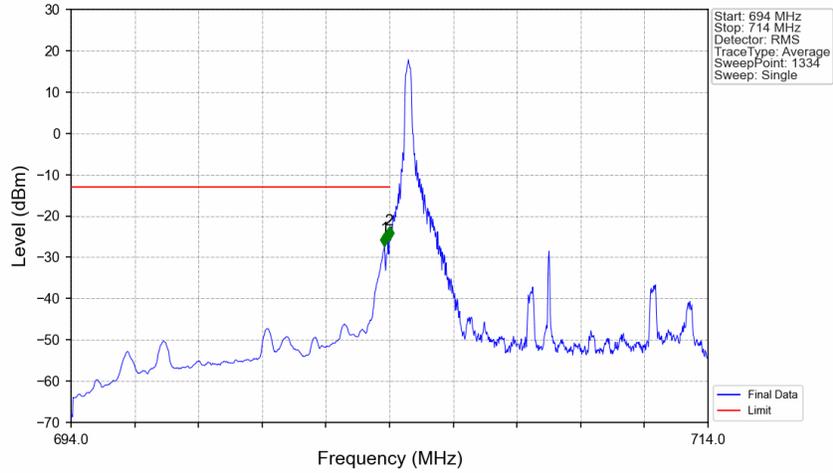
Band17\_5MHz\_QPSK\_HCH\_713.5MHz\_RB\_25\_0\_NTNV



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	-31.78	-13	Pass
716.1	721	0.1	CHP	2	716.160	-30.09	-13	Pass

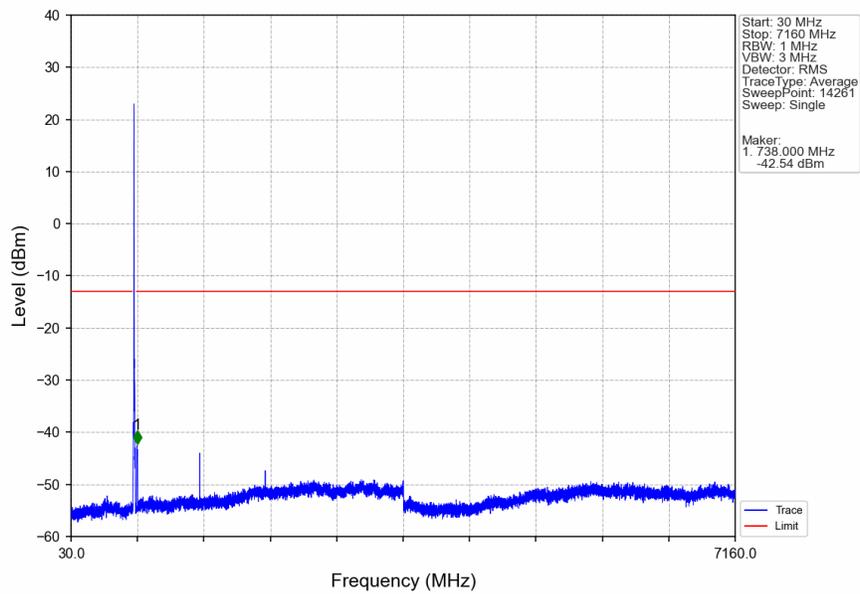
### 5.2.2 B17\_10MHz

Band17\_10MHz\_QPSK\_LCH\_709MHz\_RB\_1\_0\_NTNV

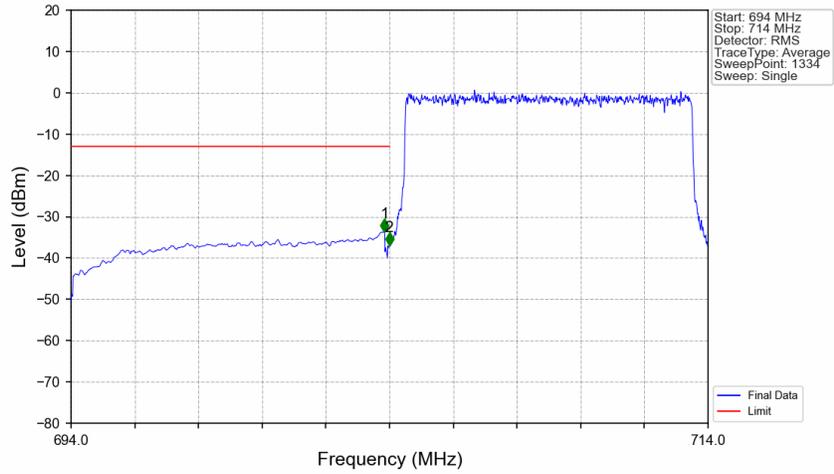


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-27.25	-13	Pass
703.9	704	0.03	/	2	703.992	-25.59	-13	Pass
704	714	0.03	/	/	/	/	/	/

Band17\_10MHz\_QPSK\_LCH\_709MHz\_RB\_1\_0\_NTNV

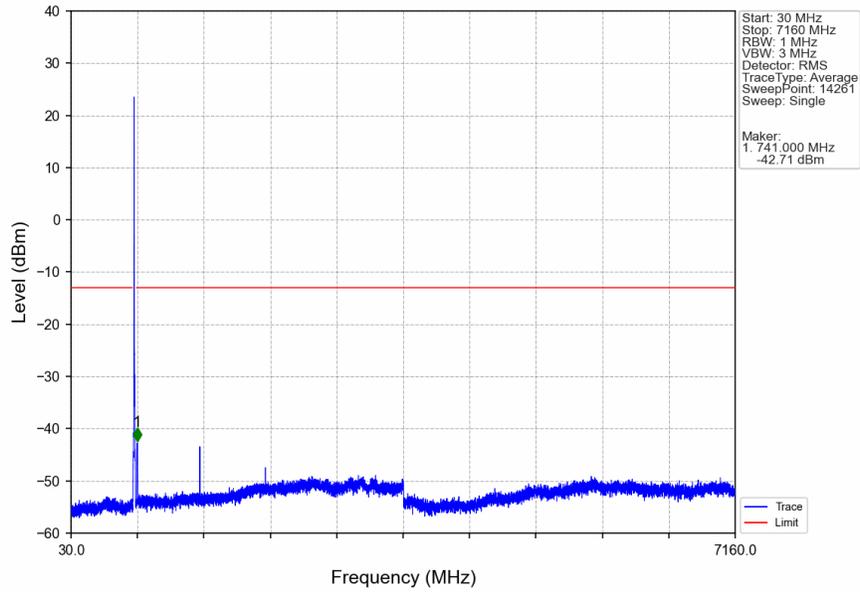


Band17\_10MHz\_QPSK\_LCH\_709MHz\_RB\_50\_0\_NTNV

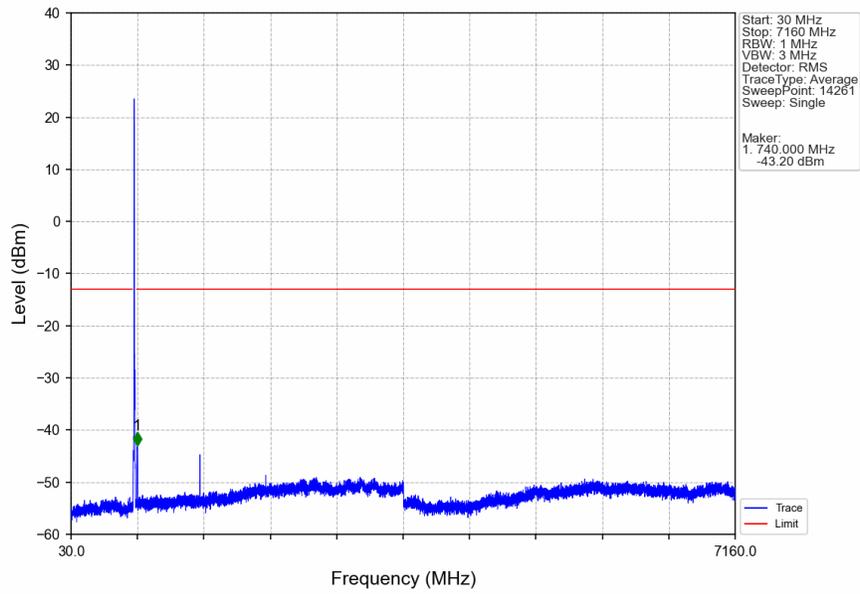


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
694	703.9	0.1	CHP	1	703.842	-33.60	-13	Pass
703.9	704	0.03	/	2	703.992	-37.01	-13	Pass
704	714	0.03	/	/	/	/	/	/

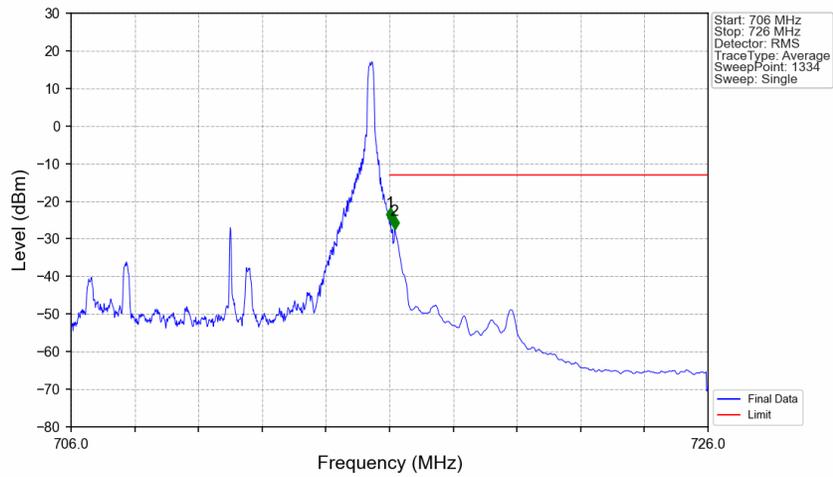
Band17\_10MHz\_QPSK\_MCH\_710MHz\_RB\_1\_0\_NTNV



Band17\_10MHz\_QPSK\_HCH\_711MHz\_RB\_1\_0\_NTNV

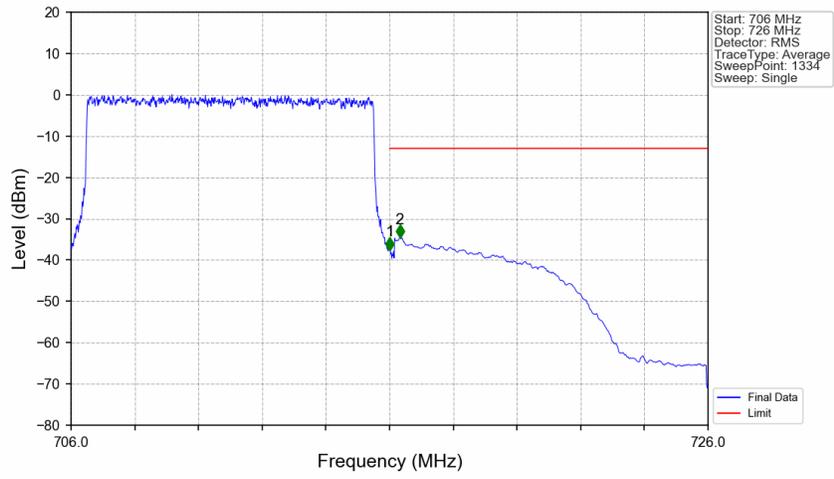


Band17\_10MHz\_QPSK\_HCH\_711MHz\_RB\_1\_49\_NTNV



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	716.023	-25.31	-13	Pass
716.1	726	0.1	CHP	2	716.158	-27.47	-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	716.008	-37.60	-13	Pass
716.1	726	0.1	CHP	2	716.323	-34.65	-13	Pass

## 6. Field Strength of Spurious Radiation

LTE Band 17 ANT0-Low channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1409.0	-66.39	-13	-53.39	-69.21	2.48	5.3	Horizontal	Pass
2113.5	-53.56	-13	-40.56	-55.65	2.8	4.89	Horizontal	Pass
2818.0	-67.99	-13	-54.99	-71.39	3.12	6.52	Horizontal	Pass
1409.0	-63.58	-13	-50.58	-66.4	2.48	5.3	Vertical	Pass
2113.5	-59.88	-13	-46.88	-61.97	2.8	4.89	Vertical	Pass
2818.0	-66.44	-13	-53.44	-69.84	3.12	6.52	Vertical	Pass

LTE Band 17 ANT0-Middle channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1411.0	-65.85	-13	-52.85	-68.68	2.49	5.32	Horizontal	Pass
2116.5	-56.35	-13	-43.35	-58.45	2.8	4.9	Horizontal	Pass
2822.0	-67.04	-13	-54.04	-70.44	3.13	6.53	Horizontal	Pass
1411.0	-63.23	-13	-50.23	-66.06	2.49	5.32	Vertical	Pass
2116.5	-60.5	-13	-47.5	-62.6	2.8	4.9	Vertical	Pass
2822.0	-66.57	-13	-53.57	-69.97	3.13	6.53	Vertical	Pass

LTE Band 17 ANT0-High channel, Modulation: QPSK, Bandwidth:10MHz, 1RB#0								
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable Loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
1413.0	-67.42	-13	-54.42	-70.26	2.49	5.33	Horizontal	Pass
2119.5	-65.89	-13	-52.89	-67.99	2.81	4.91	Horizontal	Pass
2826.0	-66.53	-13	-53.53	-69.94	3.13	6.54	Horizontal	Pass
1413.0	-62.39	-13	-49.39	-65.23	2.49	5.33	Vertical	Pass
2119.5	-67.14	-13	-54.14	-69.24	2.81	4.91	Vertical	Pass
2826.0	-65.69	-13	-52.69	-69.1	3.13	6.54	Vertical	Pass