

# 4. Peak-Average Ratio

## 4.1 Test Result

## 4.1.1 B4\_1.4MHz

		Ban	d: 4 / Bandwidth:	: 1.4MHz / NTNV		
Mandadatian	Frequency	RB Allocation		Peak-Averag	ge Ratio (dB)	Manaliat
Modulation	(MHz)	Size	Offset	Result	Limit	Verdict
	1710.7	6	0	5.23	<=13	Pass
QPSK	1732.5	6	0	5.55	<=13	Pass
	1754.3	6	0	4.99	<=13	Pass
	1710.7	6	0	6.15	<=13	Pass
16QAM	1732.5	6	0	6.30	<=13	Pass
	1754.3	6	0	6.89	<=13	Pass

## 4.1.2 B4\_3MHz

Band: 4 / Bandwidth: 3MHz / NTNV								
Modulation	Frequency	RB Alle	ocation	Peak-Averag	ge Ratio (dB)	\/a maliat		
Modulation	(MHz)	Size	Offset	Result	Limit	Verdict		
	1711.5	15	0	5.50	<=13	Pass		
QPSK	1732.5	15	0	5.67	<=13	Pass		
	1753.5	15	0	5.20	<=13	Pass		
	1711.5	15	0	7.05	<=13	Pass		
16QAM	1732.5	15	0	8.18	<=13	Pass		
	1753.5	15	0	7.29	<=13	Pass		

## 4.1.3 B4\_5MHz

		Baı	nd: 4 / Bandwidth	n: 5MHz / NTNV		
Madulation	Frequency	RB Allo	ocation	Peak-Averaç	ge Ratio (dB)	\/ordiot
Modulation	(MHz)	Size	Offset	Result	Limit	Verdict
	1712.5	25	0	5.54	<=13	Pass
QPSK	1732.5	25	0	5.68	<=13	Pass
	1752.5	25	0	5.37	<=13	Pass
	1712.5	25	0	7.08	<=13	Pass
16QAM	1732.5	25	0	8.55	<=13	Pass
	1752.5	25	0	10.62	<=13	Pass

## 4.1.4 B4\_10MHz

		Ban	d: 4 / Bandwidth:	: 10MHz / NTNV		
Modulation	Frequency	RB Allo	ocation	Peak-Averaç	ge Ratio (dB)	\/ P (
viodulation	(MHz)	Size	Offset	Result	Limit	Verdict
	1715	50	0	5.50	<=13	Pass
QPSK	1732.5	50	0	5.59	<=13	Pass
	1750	50	0	5.32	<=13	Pass
16OAM	1715	27	0	12.71	<=13	Pass
16QAM —	1732.5	27	0	8.79	<=13	Pass

4-	750	00	E OE	. 40	D
1 1 1	750 l 27	1 23	5.85	<=13	Pass

## 4.1.5 B4\_15MHz

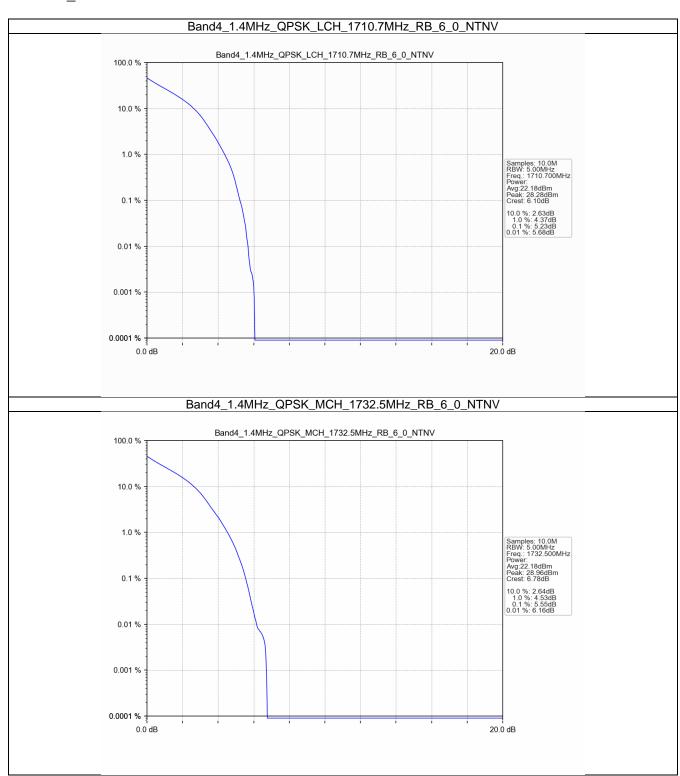
Band: 4 / Bandwidth: 15MHz / NTNV								
NA 1 1 6	Frequency	RB Allo	ocation	Peak-Averaç	ge Ratio (dB)	\		
Modulation	(MHz)	Size	Offset	Result	Limit	Verdict		
	1717.5	75	0	5.79	<=13	Pass		
QPSK	1732.5	75	0	5.84	<=13	Pass		
	1747.5	75	0	5.60	<=13	Pass		
	1717.5	27	0	6.14	<=13	Pass		
16QAM	1732.5	27	0	6.33	<=13	Pass		
	1747.5	27	48	5.79	<=13	Pass		

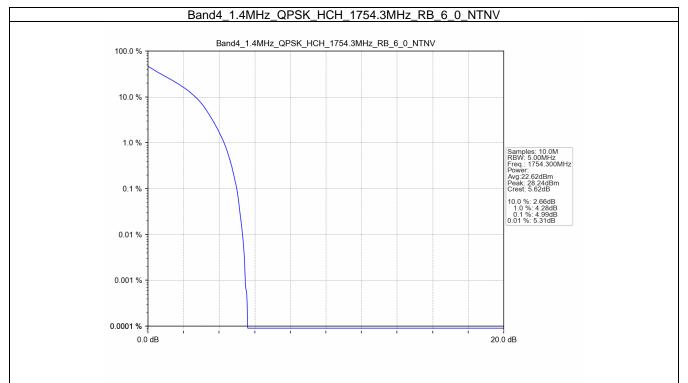
## 4.1.6 B4\_20MHz

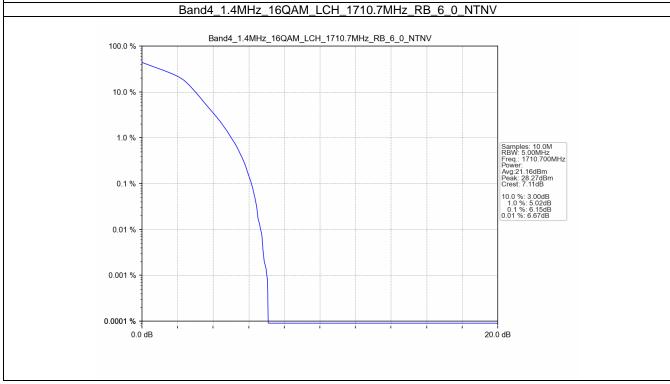
		Ban	d: 4 / Bandwidth	: 20MHz / NTNV		
Modulation	Frequency	RB Allo	ocation	Peak-Avera	ge Ratio (dB)	Verdict
Modulation	(MHz)	Size	Offset	Result	Limit	verdict
	1720	100	0	5.43	<=13	Pass
QPSK	1732.5	100	0	5.49	<=13	Pass
	1745	100	0	5.47	<=13	Pass
	1720	27	0	6.59	<=13	Pass
16QAM	1732.5	27	0	6.38	<=13	Pass
	1745	27	73	5.94	<=13	Pass

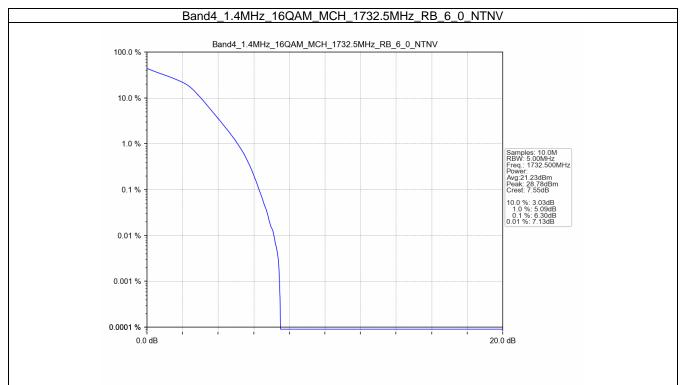
## 4.2 Test Graph

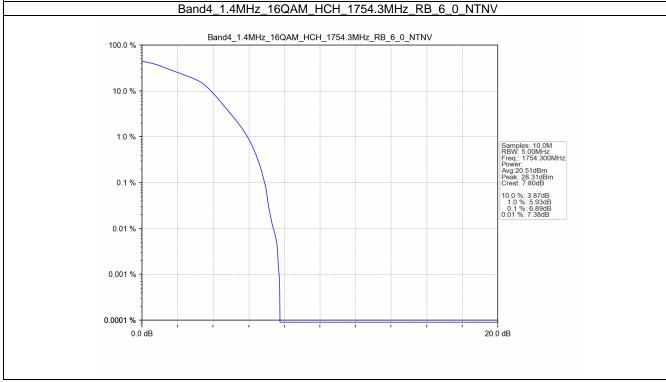
### 4.2.1 B4\_1.4MHz









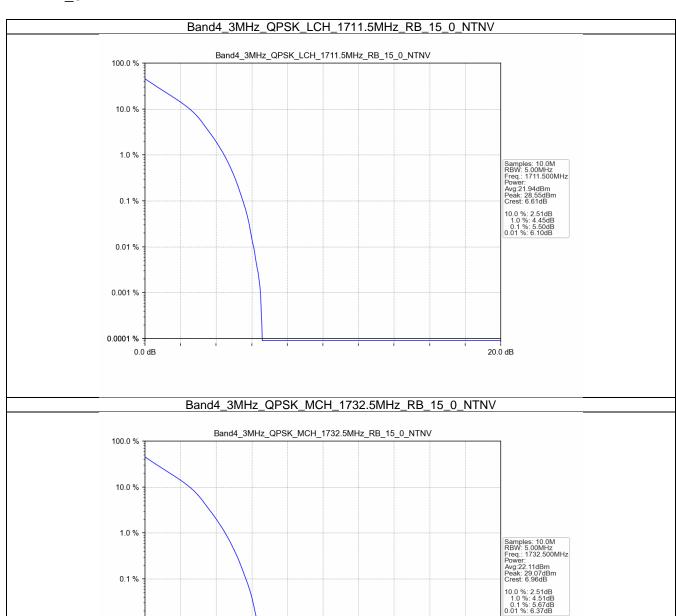


#### 4.2.2 B4\_3MHz

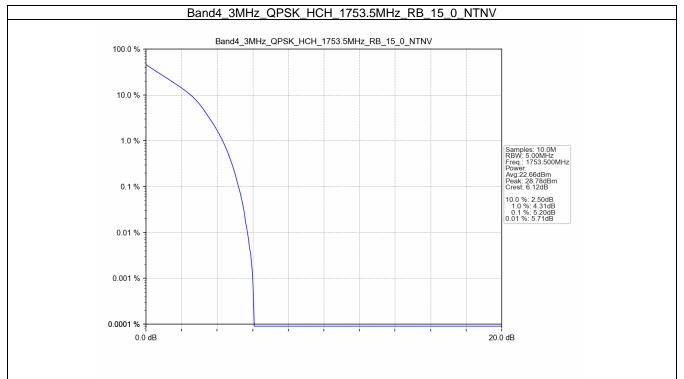
0.01 %

0.001 %

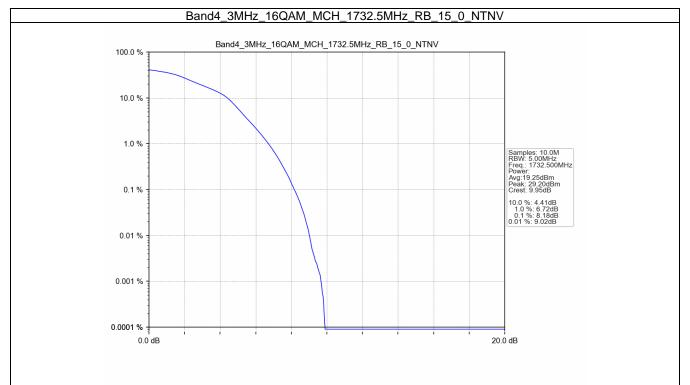
0.0001 % <del>|</del> 0.0 dB

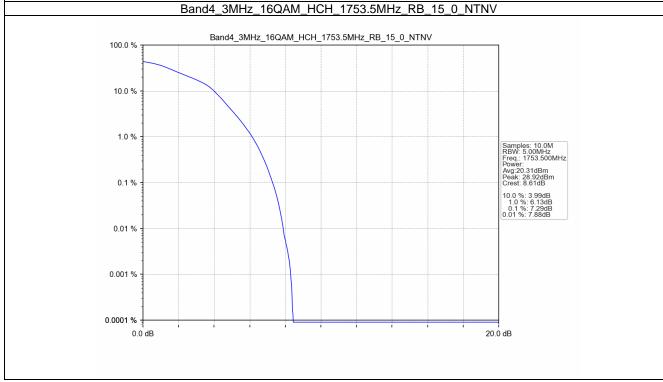


20.0 dB

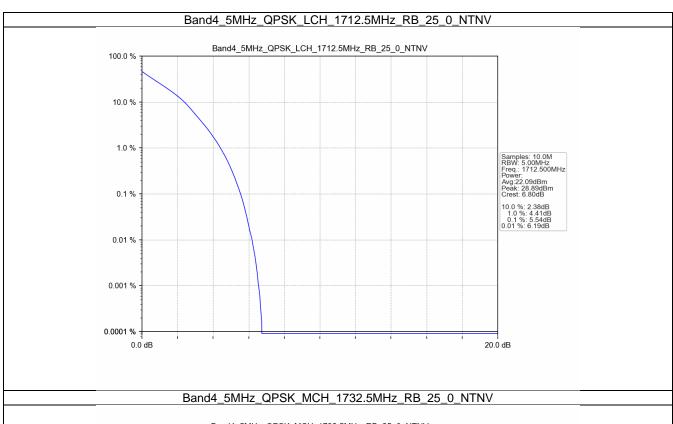


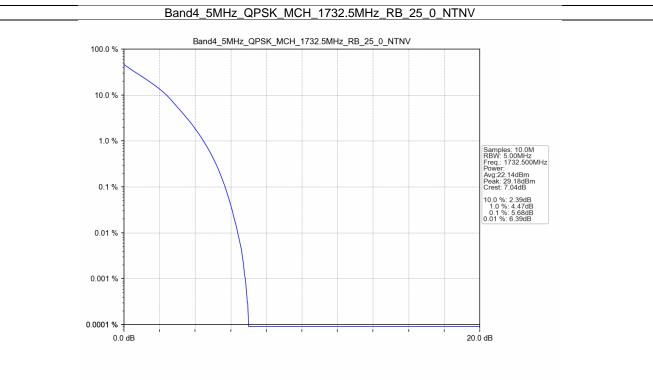


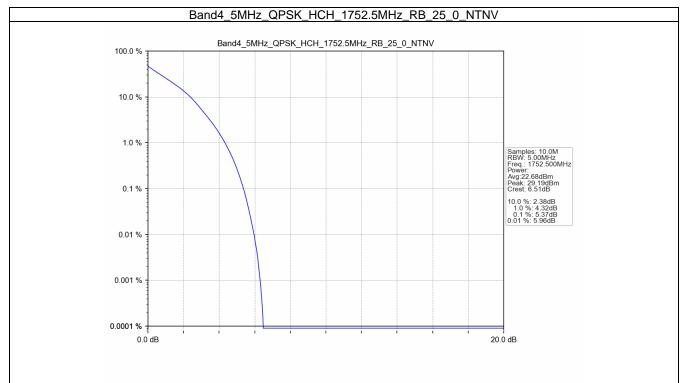




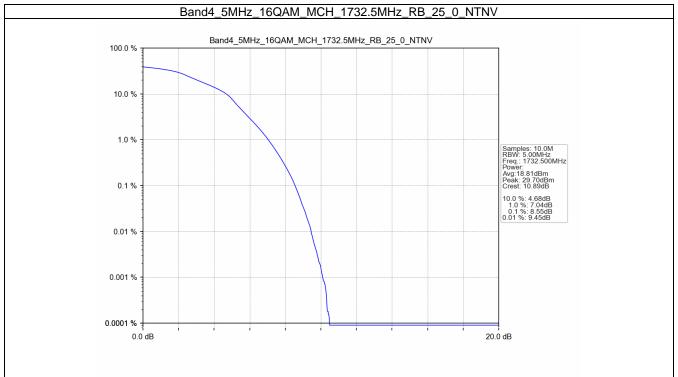
#### 4.2.3 B4\_5MHz

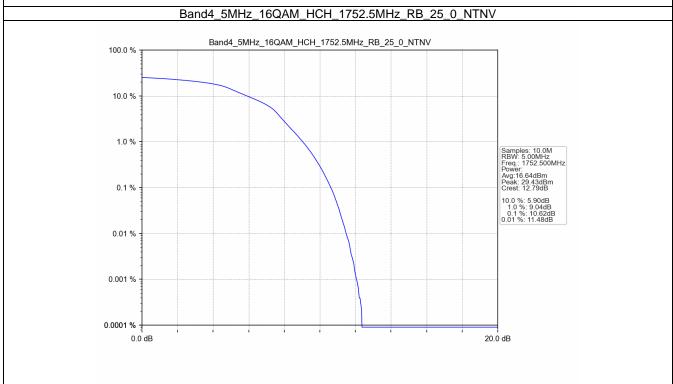




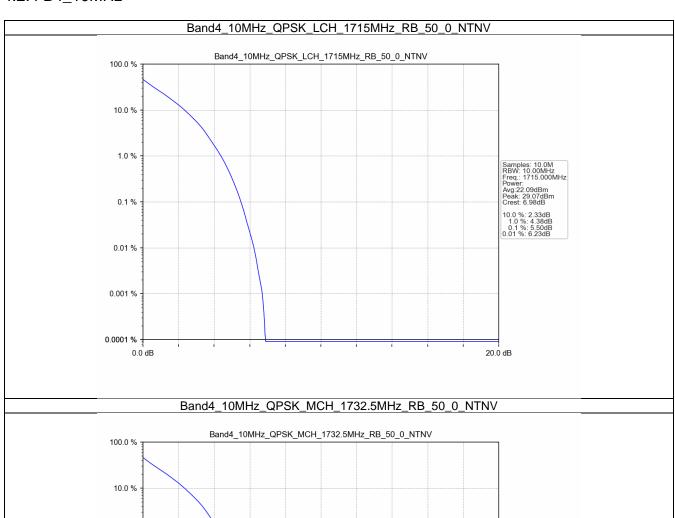


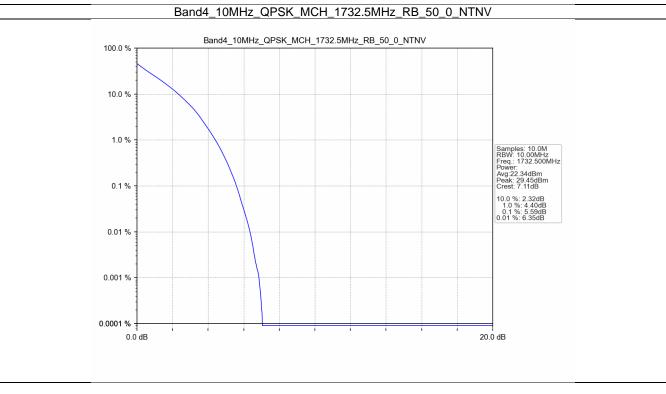


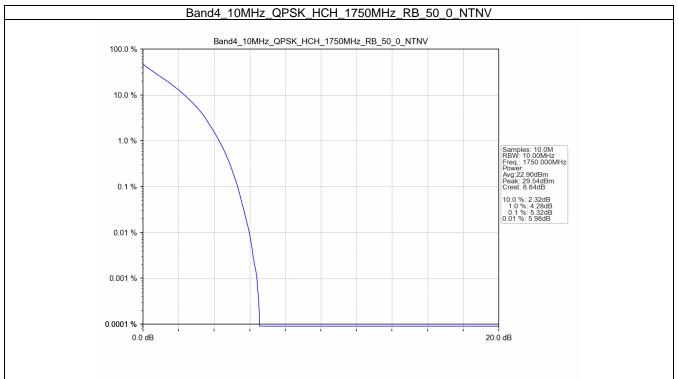




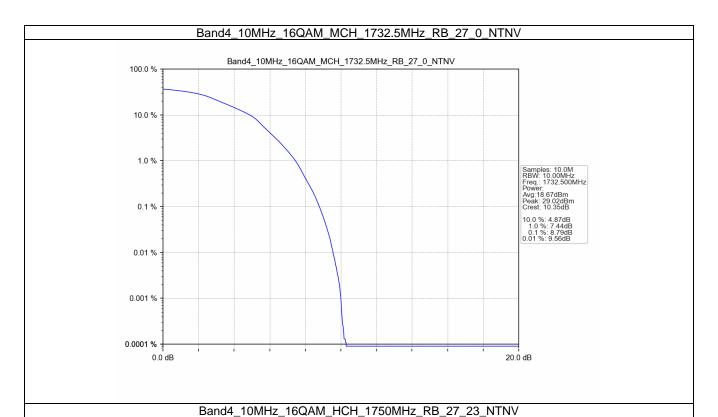
#### 4.2.4 B4\_10MHz

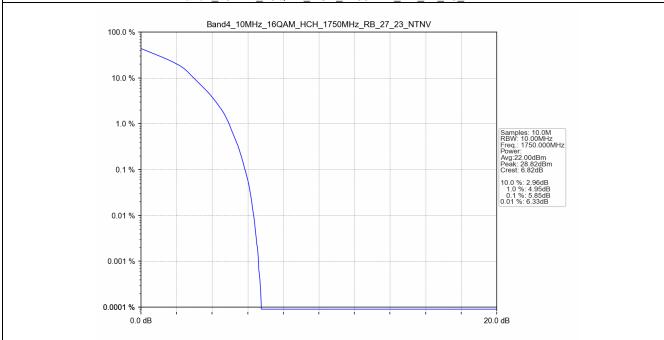




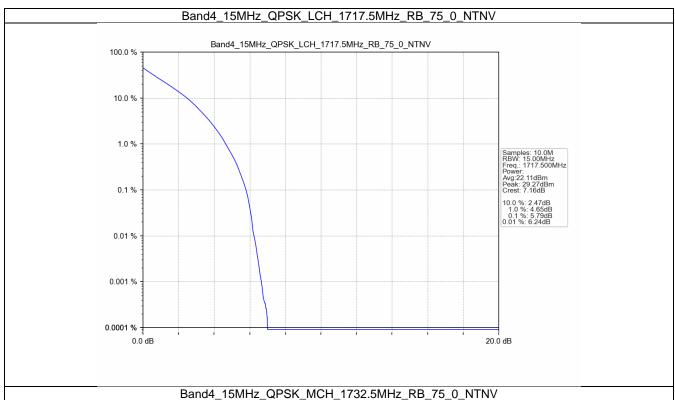


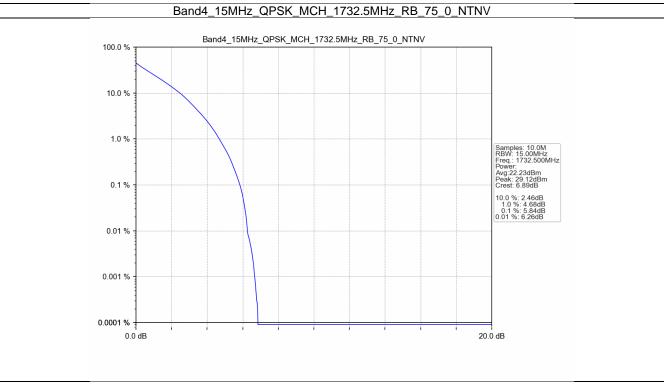


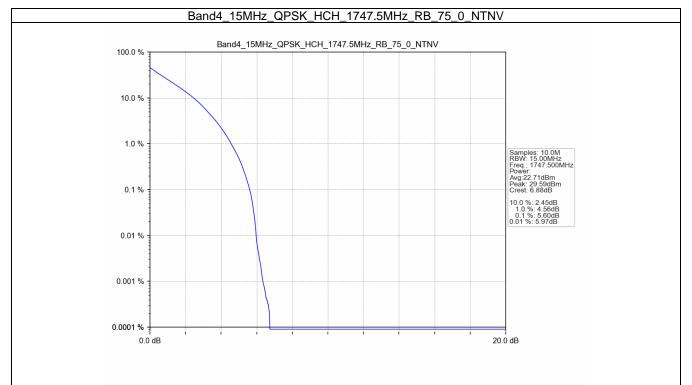


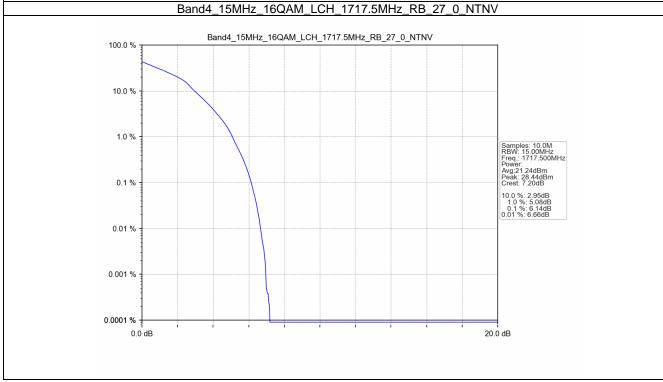


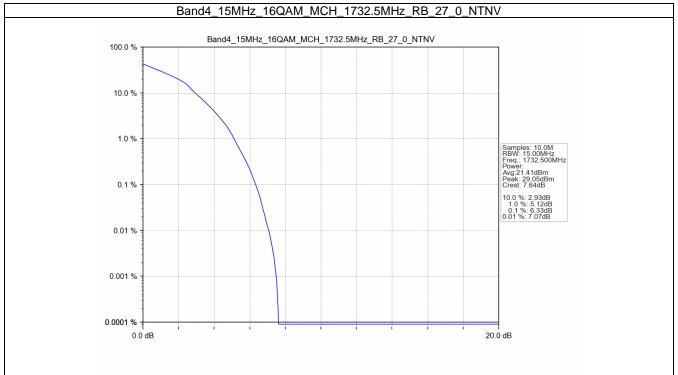
#### 4.2.5 B4\_15MHz

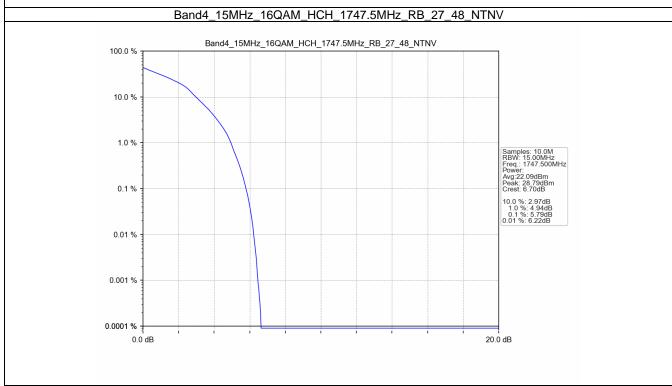




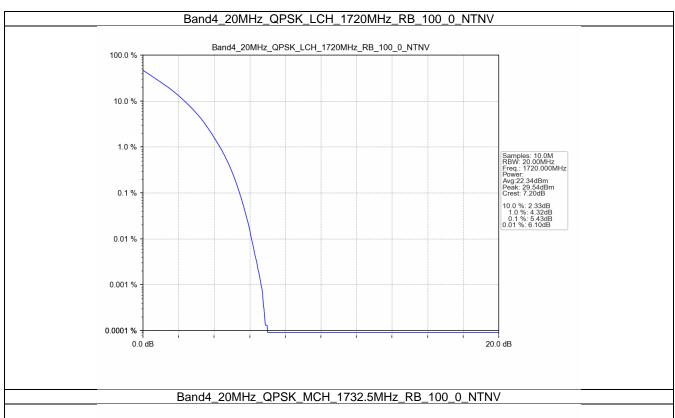


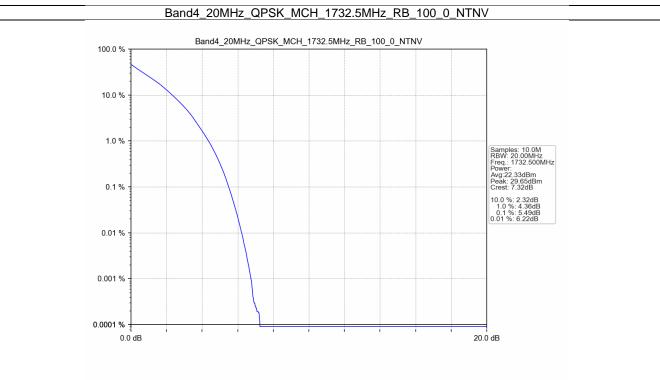


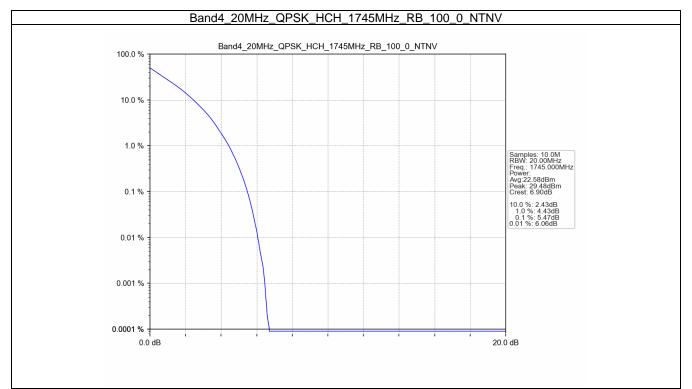


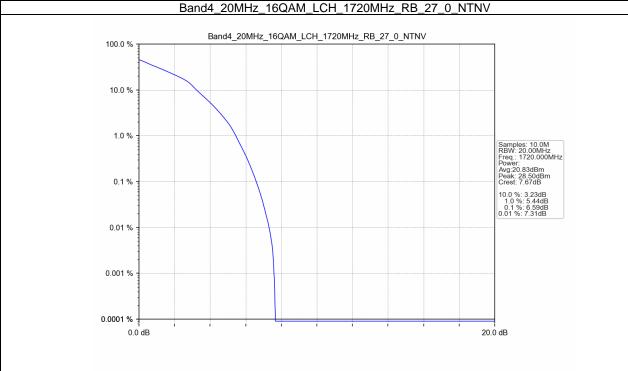


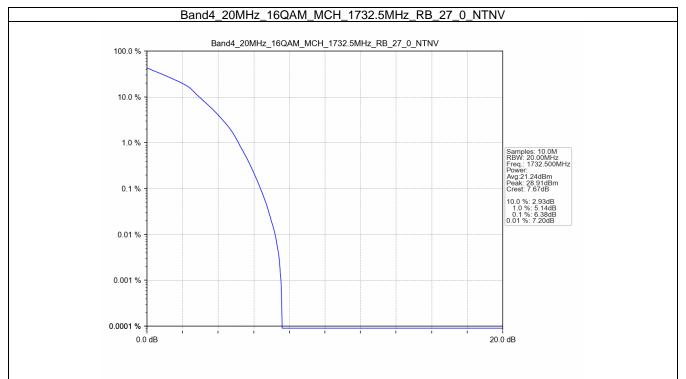
#### 4.2.6 B4\_20MHz

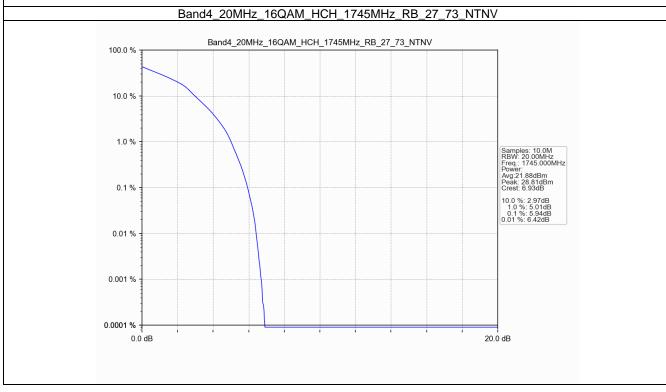












# 5. Spurious Emission

## 5.1 Test Result

## 5.1.1 B4\_1.4MHz

		Ва	nd: 4 / Bandwidth:	1.4MHz / NTNV		
Madulation	Frequency	RB Allocation		Spurious Emission		Verdict
Modulation	(MHz)	Size	Offset	Result	Limit	verdict
	1710.7	1	0	Refer To Test	Graph	Pass
QPSK —		6	0	Refer To Test	Graph	Pass
	1732.5	1	0	Refer To Test Graph		Pass
		1	0	Refer To Test	Graph	Pass
	1754.3	I	5	Refer To Test	Graph	Pass
		6	0	Refer To Test Graph		Pass
	1710.7	1	0	Refer To Test	Graph	Pass
	1710.7	6	0	Refer To Test Graph		Pass
16QAM	1732.5	1	0	Refer To Test	Graph	Pass
IOQAM		1754.3	0	Refer To Test Graph		Pass
	1754.3		5	Refer To Test Graph		Pass
		6	0	Refer To Test Graph		Pass

## 5.1.2 B4\_3MHz

		В	and: 4 / Bandwidth	: 3MHz / NTNV		
Modulation	Frequency	RB Al	ocation	Spurious Emission		Verdict
Modulation	(MHz)	Size	Offset	Result	Limit	verdict
	1711.5	1	0	Refer To Test	Graph	Pass
	1711.5	15	0	Refer To Test	Graph	Pass
QPSK	1732.5	1	0	Refer To Test	Pass	
QFSK	1753.5	1753.5	0	Refer To Test	Pass	
			14	Refer To Test	Pass	
		15	0	Refer To Test Graph		Pass
	1711.5	1	0	Refer To Test	Graph	Pass
	1711.5	15	0	Refer To Test Graph		Pass
16QAM	1732.5	1	0	Refer To Test	Graph	Pass
IOQAW		1753.5	0	Refer To Test Graph		Pass
	1753.5		14	Refer To Test Graph		Pass
		15	0	Refer To Test	Graph	Pass

## 5.1.3 B4\_5MHz

		Ва	and: 4 / Bandwid	th: 5MHz / NTNV		
Modulation	Frequency	RB Allo	ocation	Spurious Em	ission	\/owdiat
Modulation	(MHz)	Size	Offset	Result	Limit	Verdict
	1712.5	1	0	Refer To Test	Graph	Pass
	1712.3	25	0	Refer To Test Graph		Pass
QPSK	1732.5	1	0	Refer To Test Graph		Pass
QFSN	1752.5	1752.5	0	Refer To Test	Graph	Pass
			24	Refer To Test Graph		Pass
		25	0	Refer To Test Graph		Pass
16QAM	1712.5	1	0	Refer To Test	Refer To Test Graph	

	25	0	Refer To Test Graph	Pass
1732.5	1	0	Refer To Test Graph	Pass
	4	0	Refer To Test Graph	Pass
1752.5	ı	24	Refer To Test Graph	Pass
	25	0	Refer To Test Graph	Pass

## 5.1.4 B4\_10MHz

		Ba	and: 4 / Bandwidth:	10MHz / NTNV		
Madulation	Frequency	RB Allocation		Spurious Emission		Verdict
Modulation	(MHz)	Size	Offset	Result	Limit	verdict
	1715	1	0	Refer To Test	Graph	Pass
	1713	50	0	Refer To Test Graph		Pass
QPSK	1732.5	1	0	Refer To Test Graph		Pass
QF3K	1750	1	0	Refer To Test Graph		Pass
		o   ' [	49	Refer To Test Graph		Pass
		50	0	Refer To Test Graph		Pass
	1715	1	0	Refer To Test	Graph	Pass
16QAM	1732.5	1	0	Refer To Test	Graph	Pass
IOQAIVI	1750	4	0	Refer To Test Graph		Pass
		1/50   1		Refer To Test Graph		Pass

## 5.1.5 B4\_15MHz

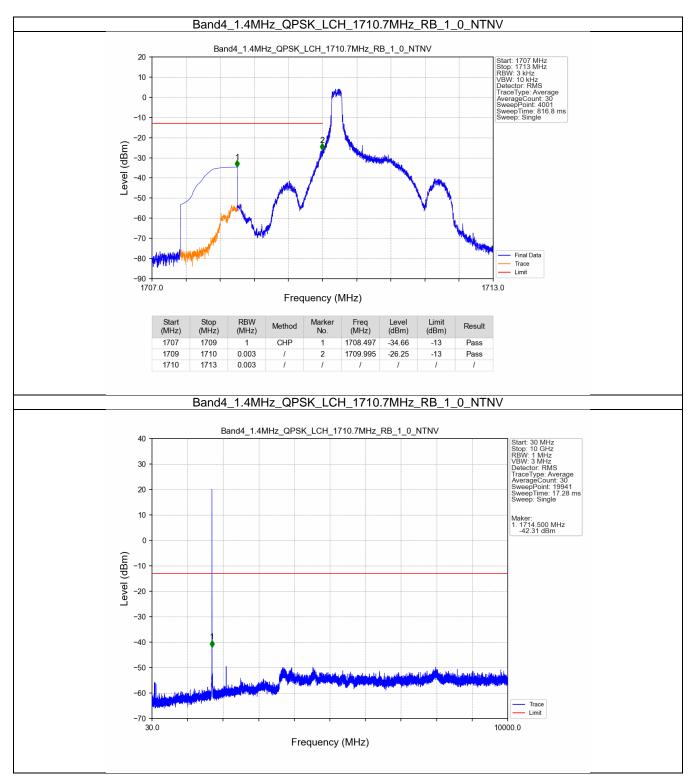
		Ва	and: 4 / Bandwidth	: 15MHz / NTNV		
Modulation	Frequency (MHz)	RB Allocation		Spurious Em	\/a = di at	
		Size	Offset	Result	Limit	Verdict
	1717.5	1	0	Refer To Test	Pass	
	1/1/.5	75	0	Refer To Test	Pass	
QPSK	1732.5	1	0	Refer To Test	Pass	
QFSK	1747.5	1	0	Refer To Test	Pass	
			74	Refer To Test Graph		Pass
		75	0	Refer To Test	Graph	Pass
	1717.5	1	0	Refer To Test	Pass	
16QAM	1732.5	32.5 1 0		Refer To Test	Pass	
	4747.5	4	0	Refer To Test	Pass	
	1747.5	ı	74	Refer To Test	Pass	

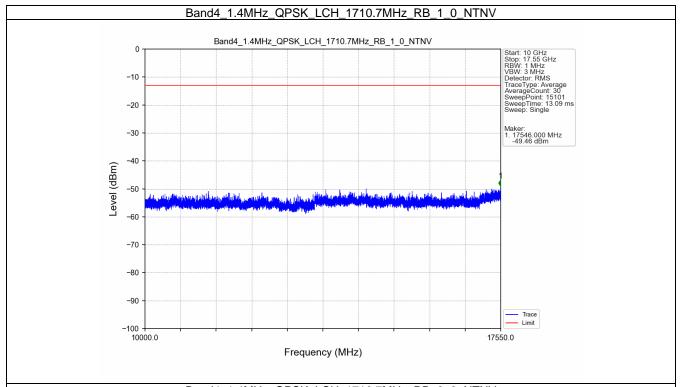
## 5.1.6 B4\_20MHz

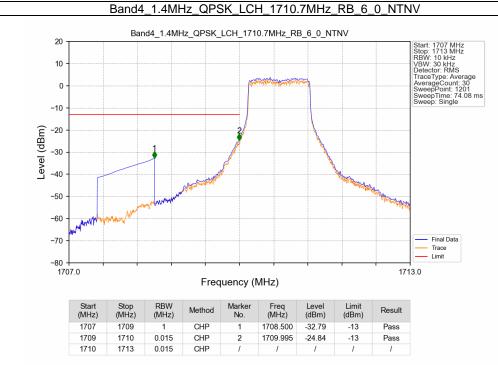
		Ba	and: 4 / Bandwidth:	20MHz / NTNV		
Modulation	Frequency (MHz)	RB Allocation		Spurious En	Vandiet	
		Size	Offset	Result	Limit	Verdict
	1720	1	0	Refer To Tes	Pass	
	1720	100	0	Refer To Test Graph		Pass
QPSK	1732.5	1	0	Refer To Tes	Pass	
QPSK _	1745	1	0	Refer To Tes	Pass	
			99	Refer To Test Graph		Pass
		100	0	Refer To Tes	t Graph	Pass
	1720	1	0	Refer To Tes	Pass	
16QAM	1732.5	1	0	Refer To Test Graph		Pass
	1745	1745 1 -	0	Refer To Tes	Pass	
			99	Refer To Tes	Pass	

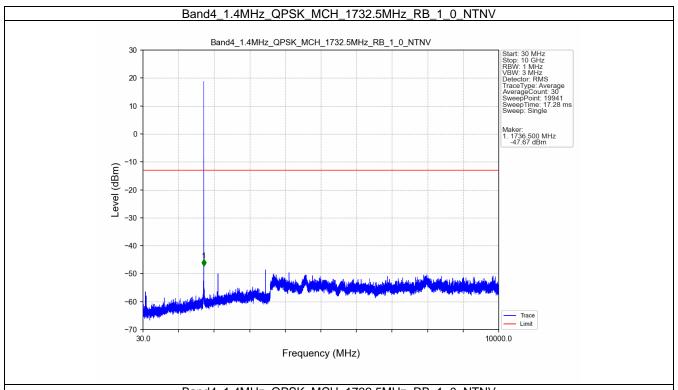
## 5.2 Test Graph

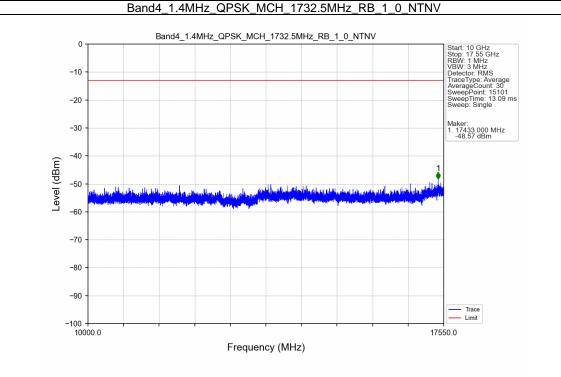
#### 5.2.1 B4\_1.4MHz

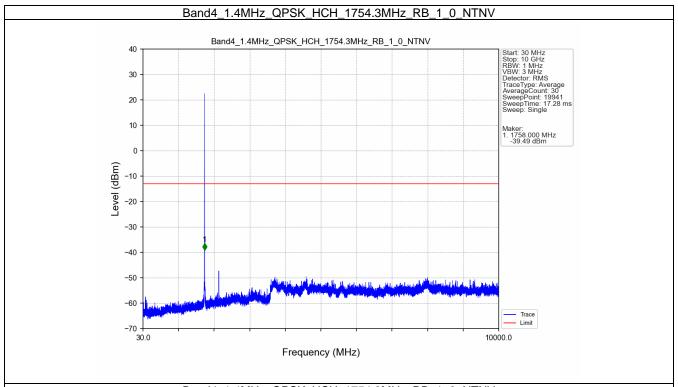


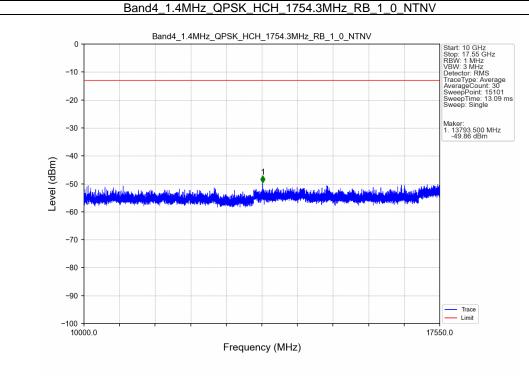


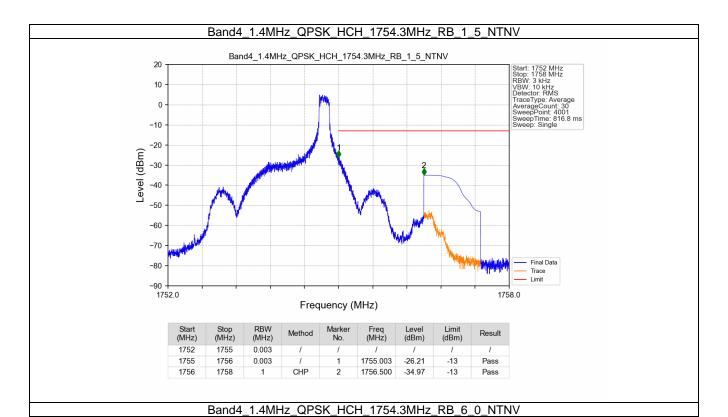


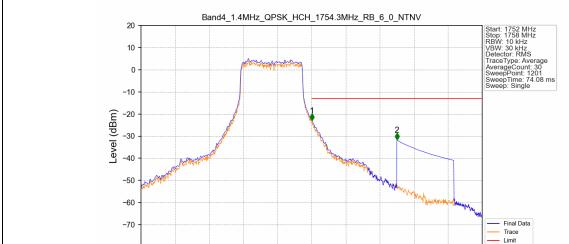










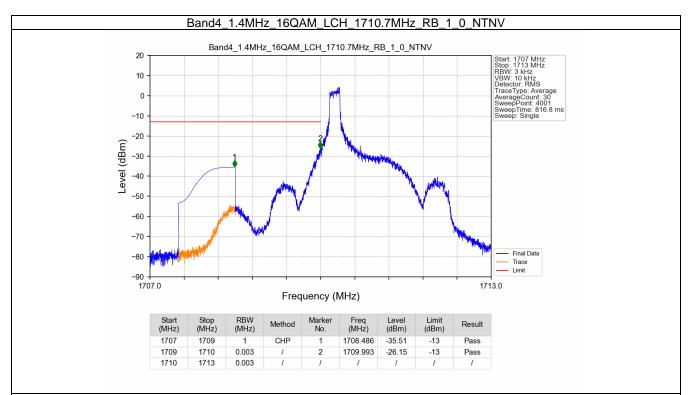


1752.0

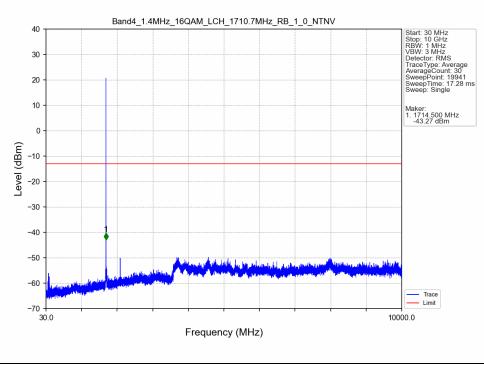
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
1752	1755	0.015	CHP	1	1	1	1	1
1755	1756	0.015	CHP	1	1755.005	-22.91	-13	Pass
1756	1758	1	CHP	2	1756.500	-31.67	-13	Pass

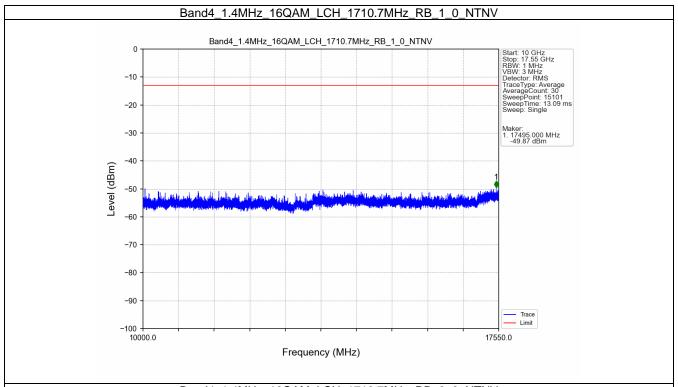
Frequency (MHz)

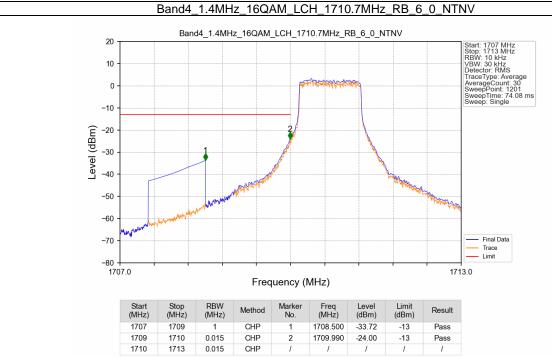
1758.0

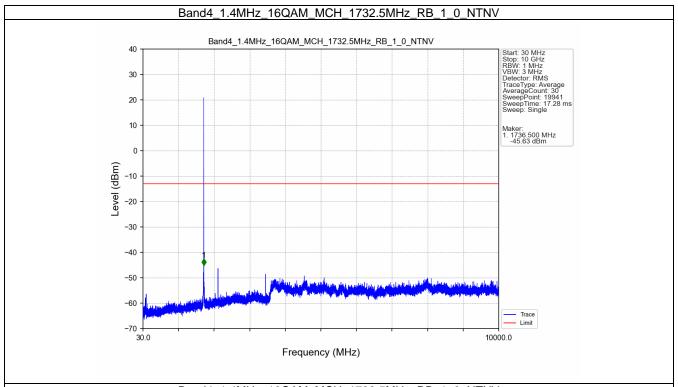


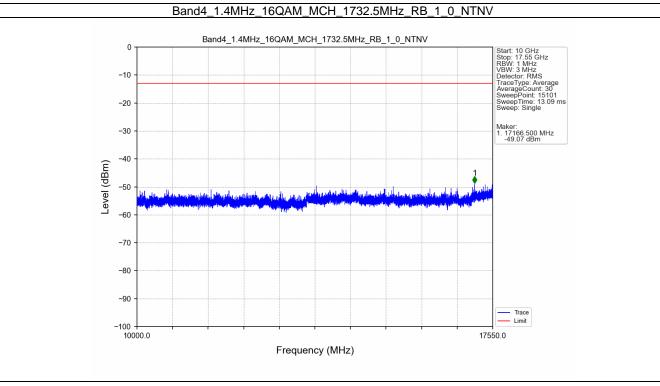


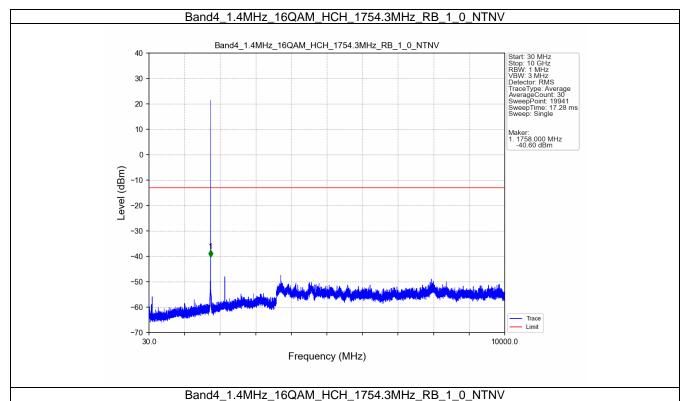


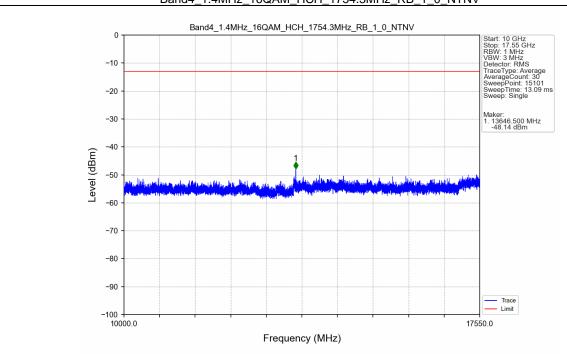


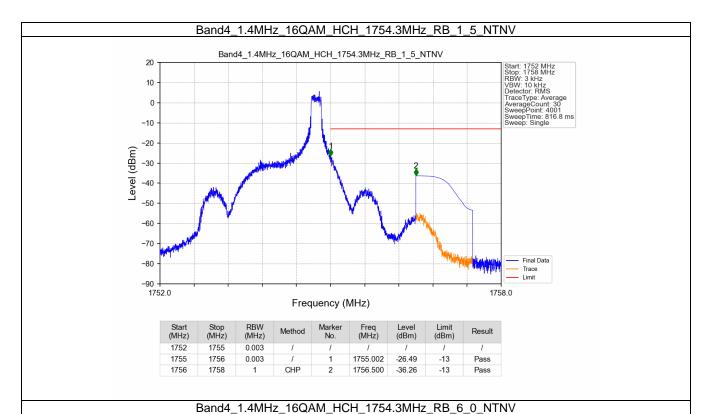


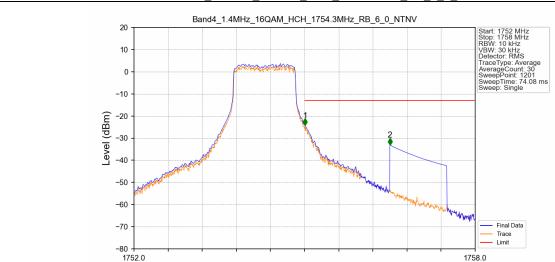








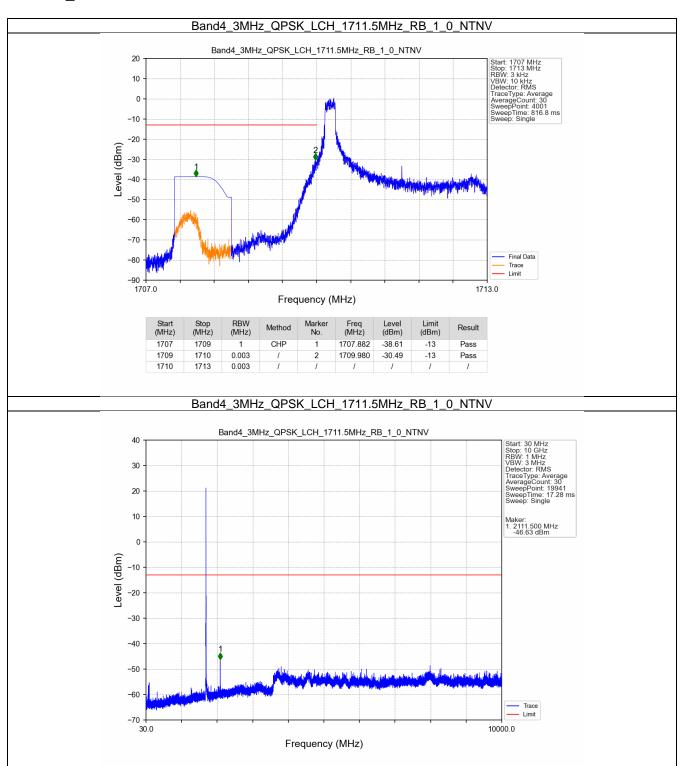


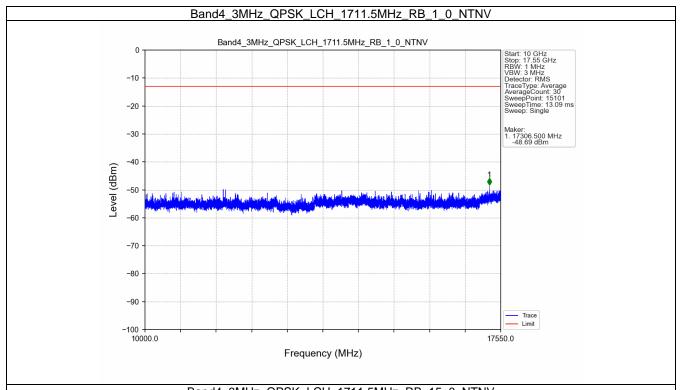


Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
1752	1755	0.015	CHP	1	1	1	1	1
1755	1756	0.015	CHP	1	1755.010	-24.19	-13	Pass
1756	1758	1	CHP	2	1756.500	-33.04	-13	Pass

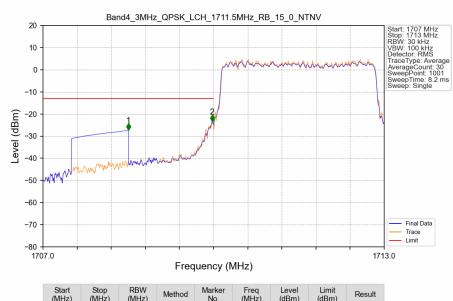
Frequency (MHz)

#### 5.2.2 B4\_3MHz

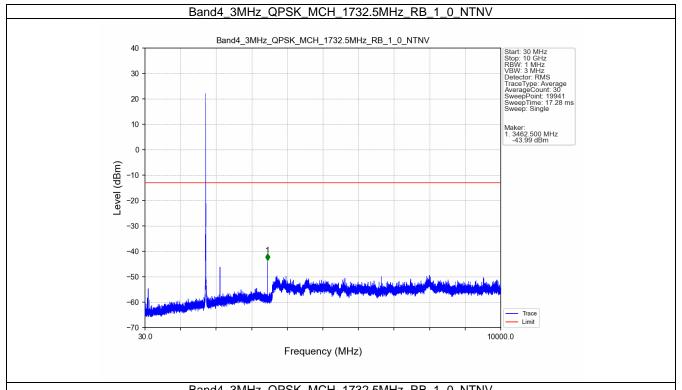


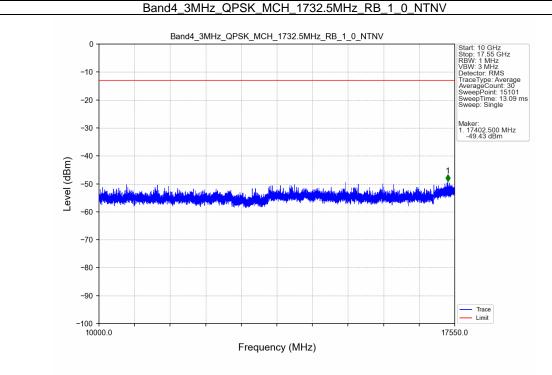


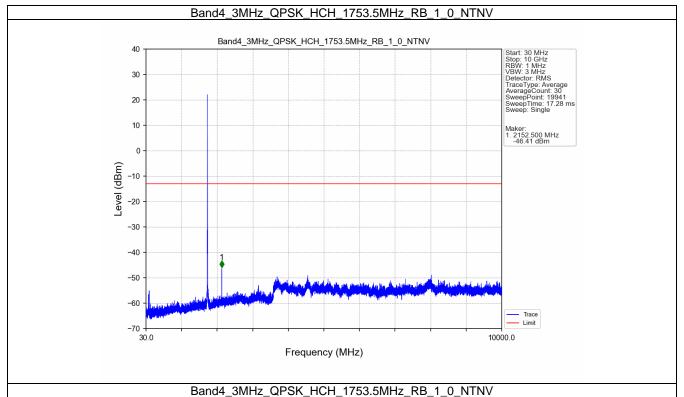


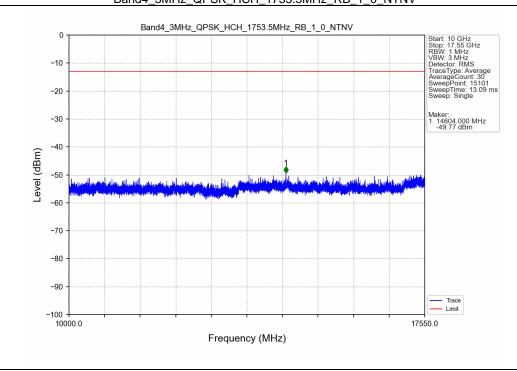


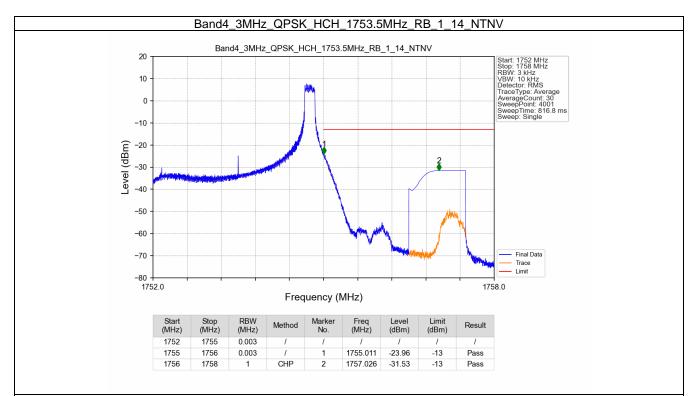
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
1707	1709	1	CHP	1	1708.500	-27.39	-13	Pass
1709	1710	0.032	CHP	2	1709.976	-23.49	-13	Pass
1710	1713	0.032	CHP	1	1	1	1	1



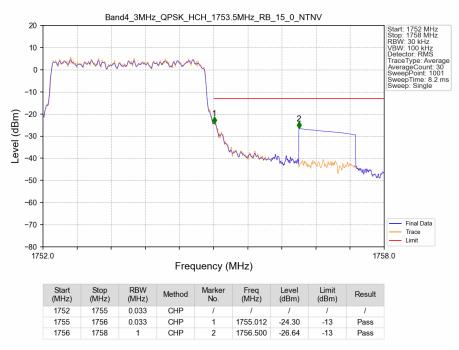


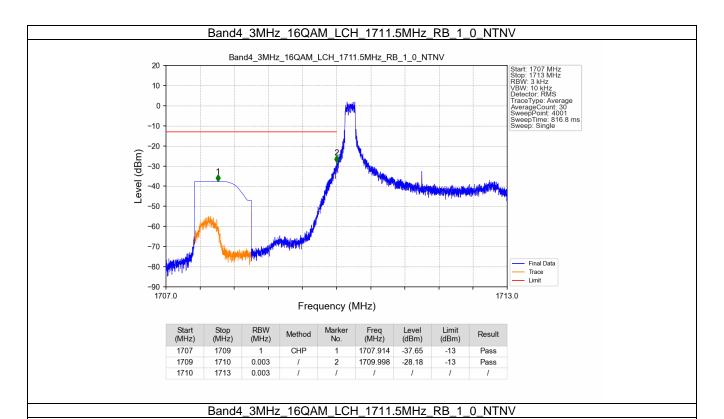


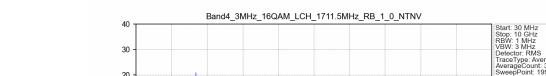


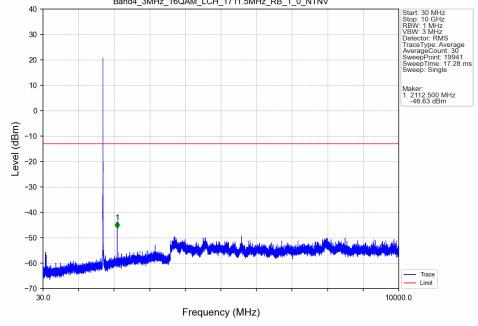


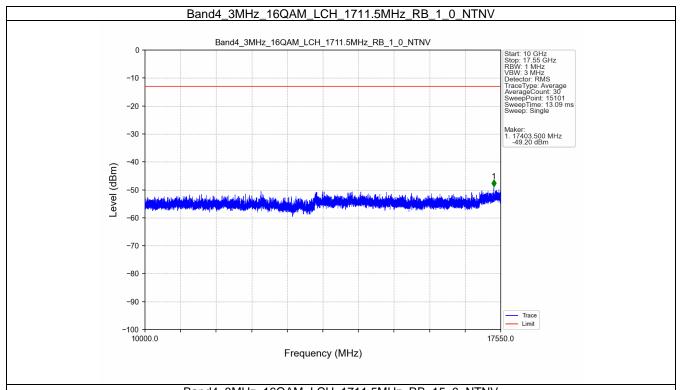
#### Band4\_3MHz\_QPSK\_HCH\_1753.5MHz\_RB\_15\_0\_NTNV

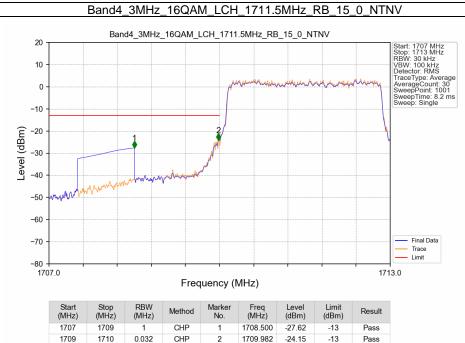






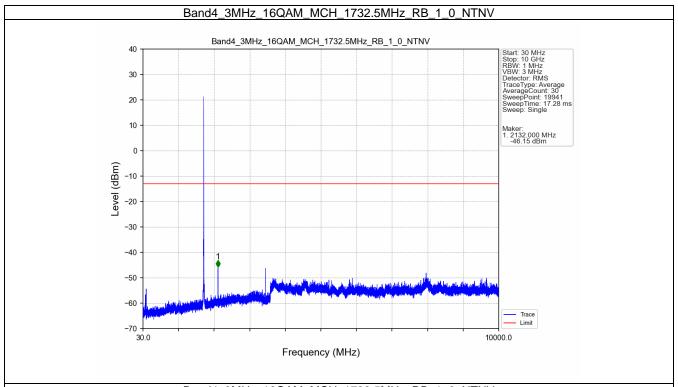


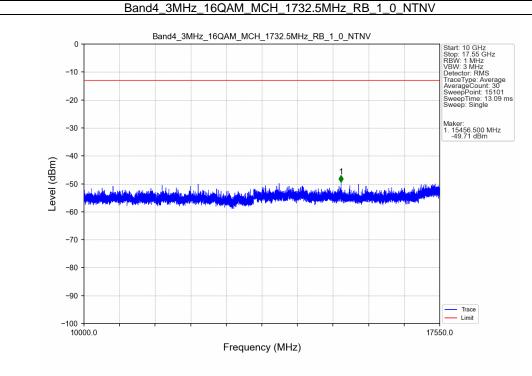


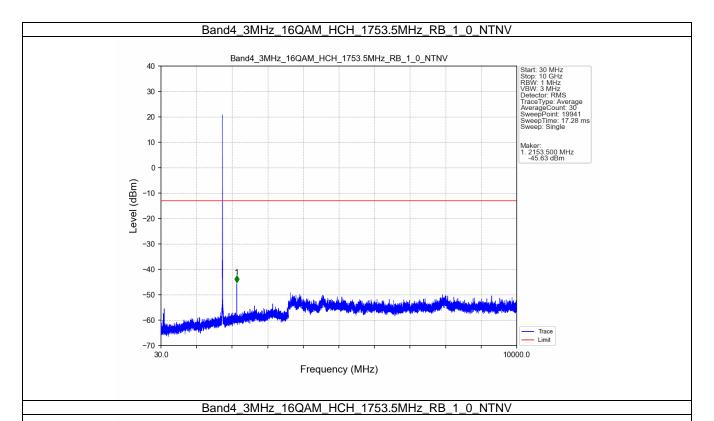


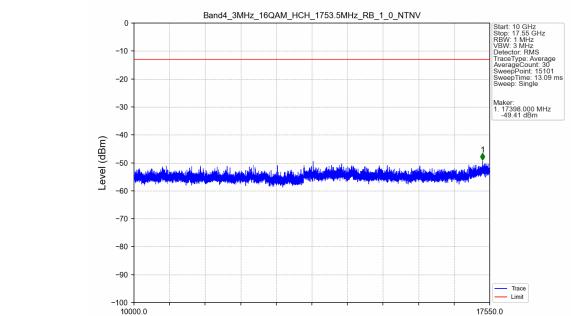
0.032

CHP

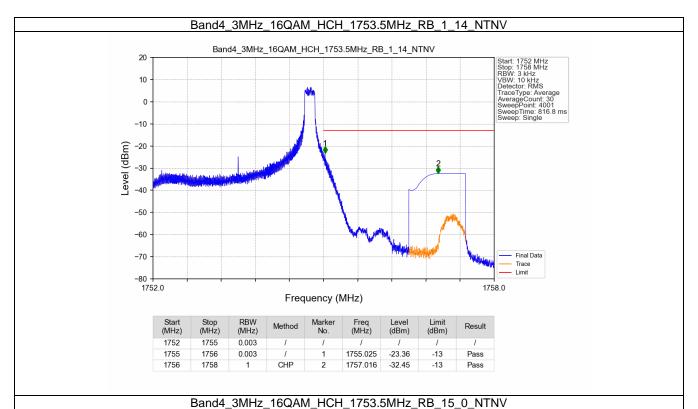








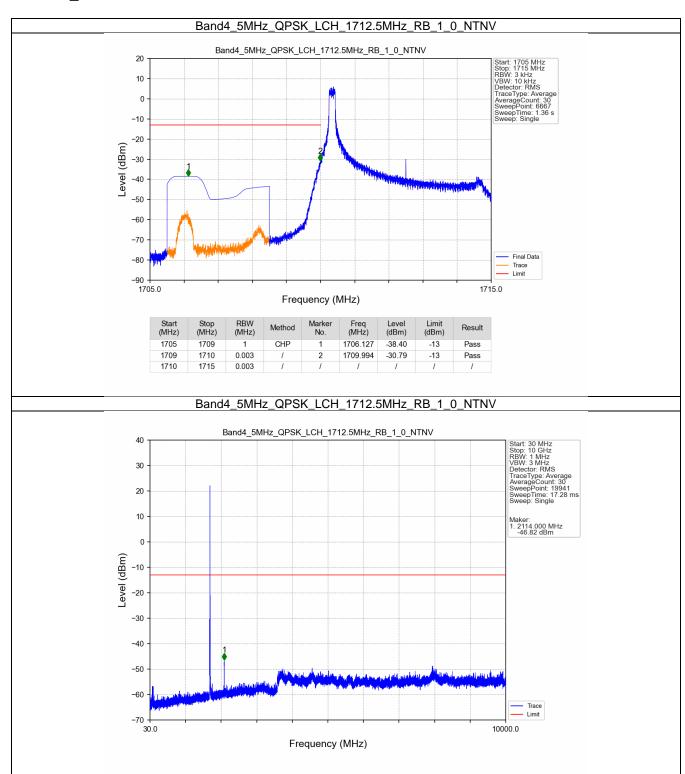
Frequency (MHz)

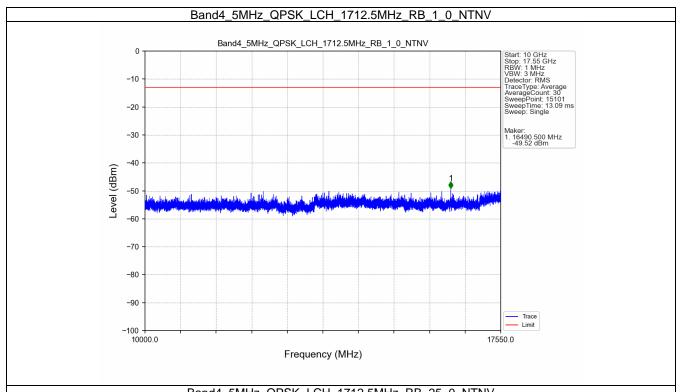


### Band4\_3MHz\_16QAM\_HCH\_1753.5MHz\_RB\_15\_0\_NTNV Start: 1752 MHz Stop: 1758 MHz RBW: 30 kHz VBW: 100 kHz Detector: RMS TraceType: Average AverageCount: 30 SweepPoint: 1001 SweepTime: 8.2 ms Sweep: Single 0 -10 -20 -30 Level (dBm) -40 -50 -60 -70 -80 Final Data -90 Trace Limit -100 1752.0 1758.0 Frequency (MHz)

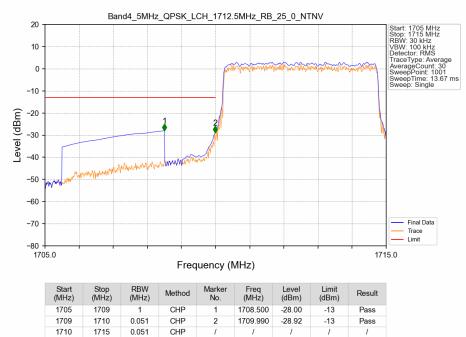
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
1752	1755	0.033	CHP	1	1	1	1	1
1755	1756	0.033	CHP	1	1755.066	-75.56	-13	Pass
1756	1758	1	CHP	2	1757.430	-61.61	-13	Pass

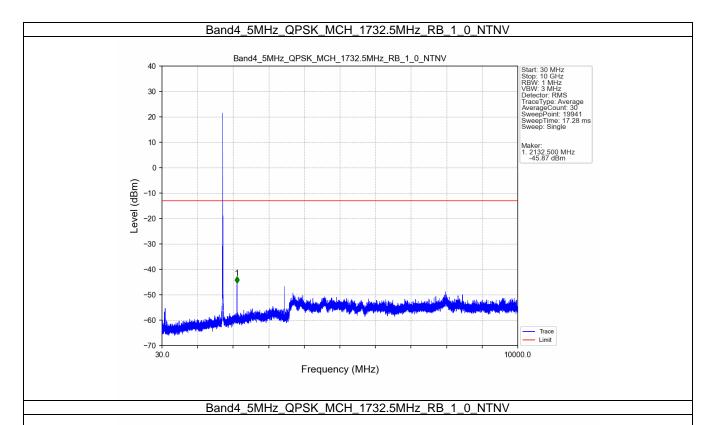
# 5.2.3 B4\_5MHz

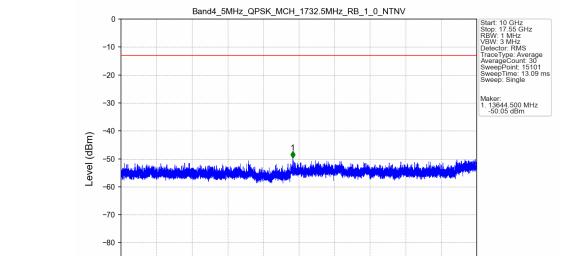












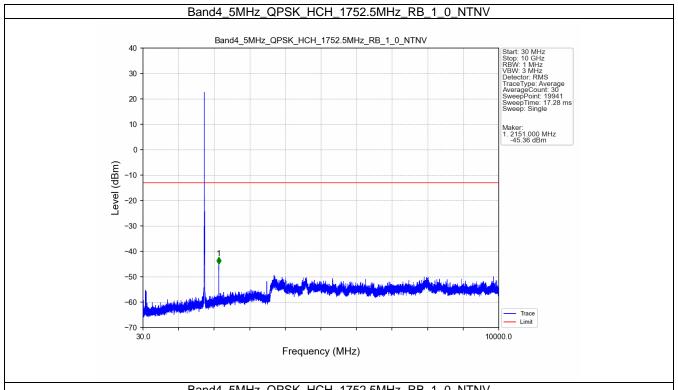
Frequency (MHz)

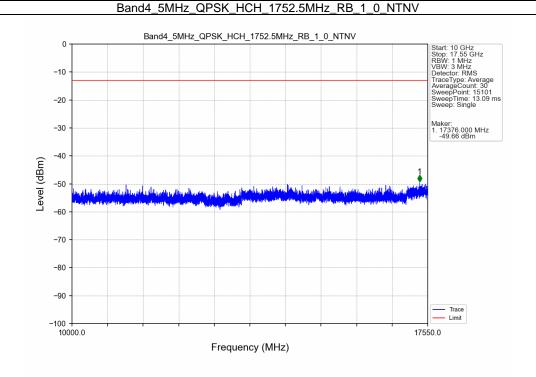
Trace
Limit

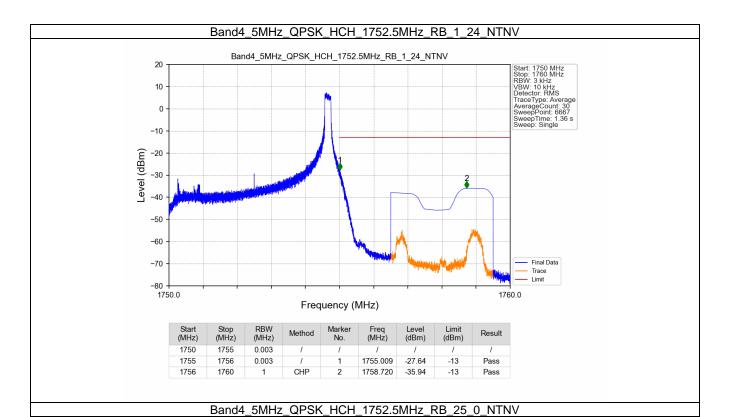
17550.0

-90

-100 <del>|</del> 10000.0







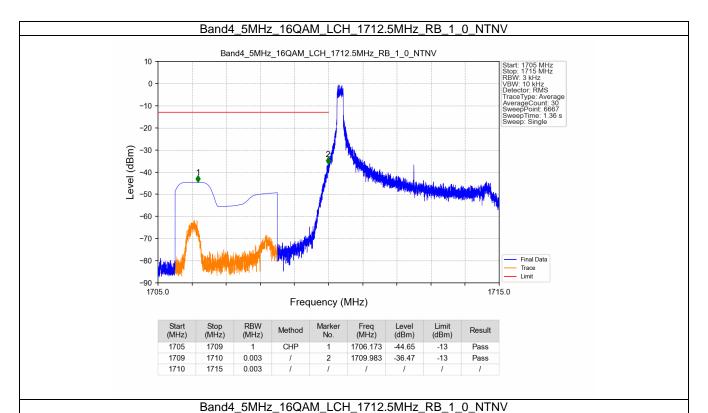


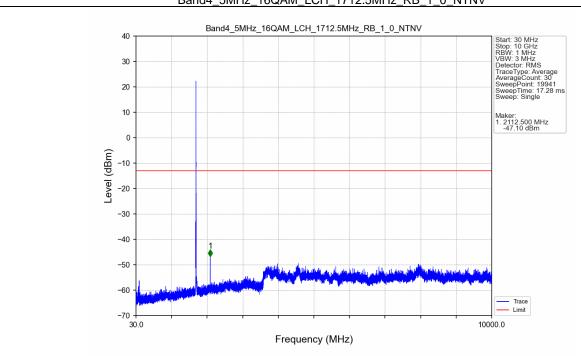
1750.0

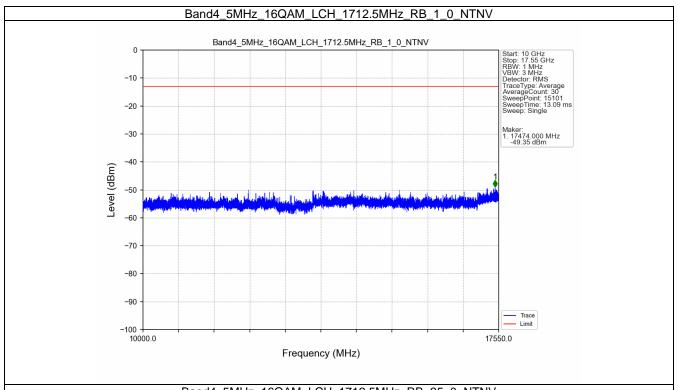
Start (MHz)	Stop (MHz)	RBW (MHz)	Method	Marker No.	Freq (MHz)	Level (dBm)	Limit (dBm)	Result
1750	1755	0.052	CHP	1	1	1	1	1
1755	1756	0.052	CHP	1	1755.010	-29.43	-13	Pass
1756	1760	1	CHP	2	1756.500	-28.25	-13	Pass

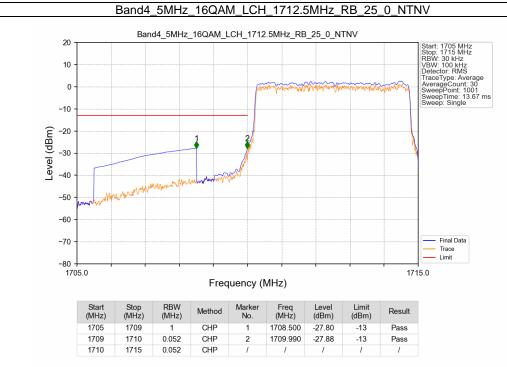
Frequency (MHz)

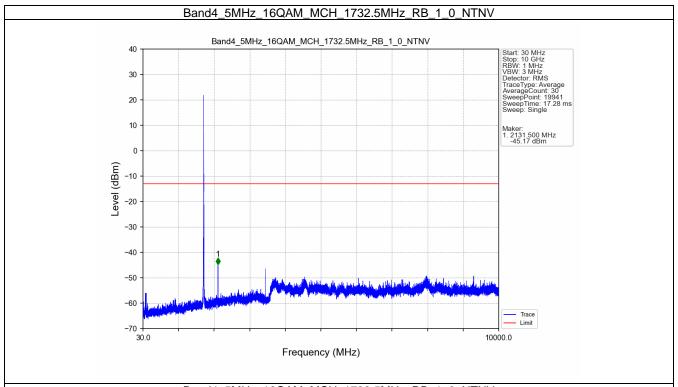
1760.0

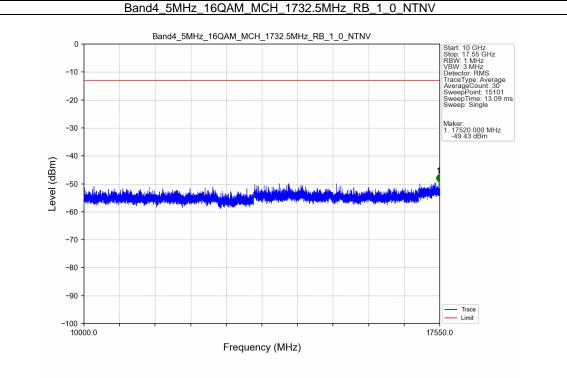


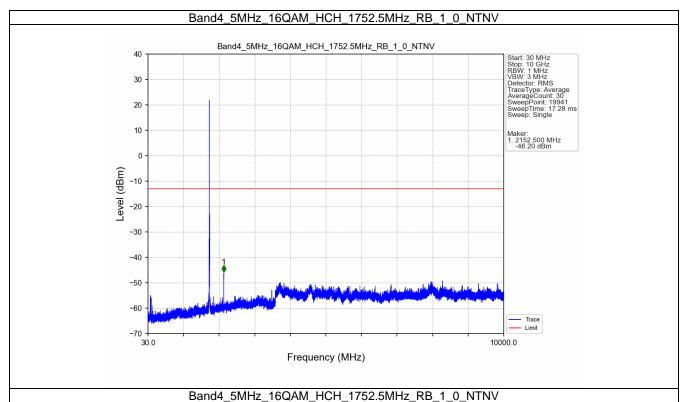


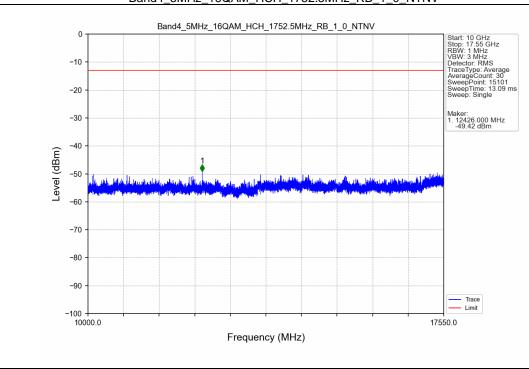


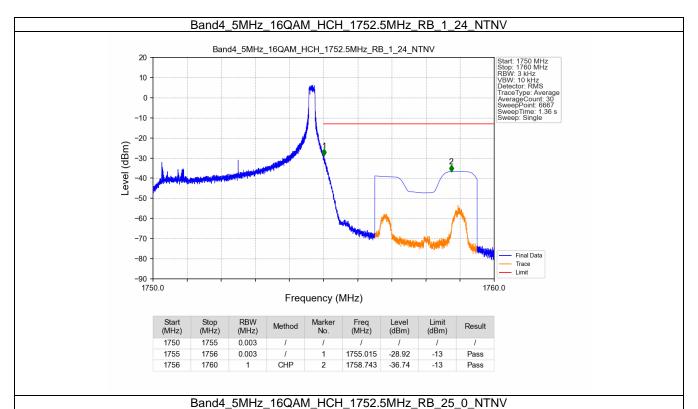


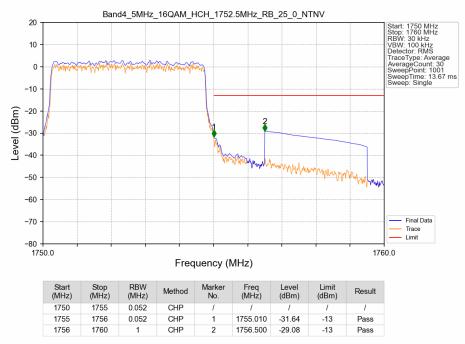




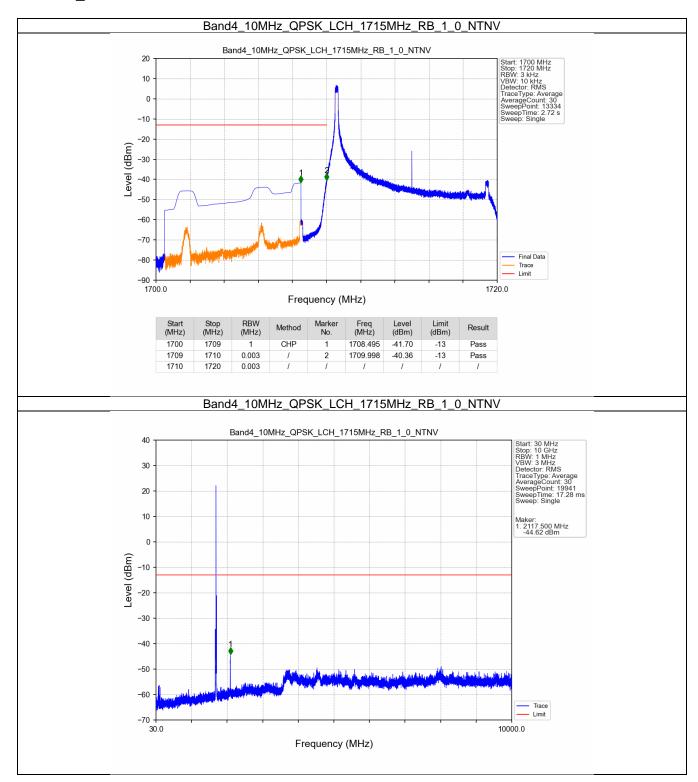


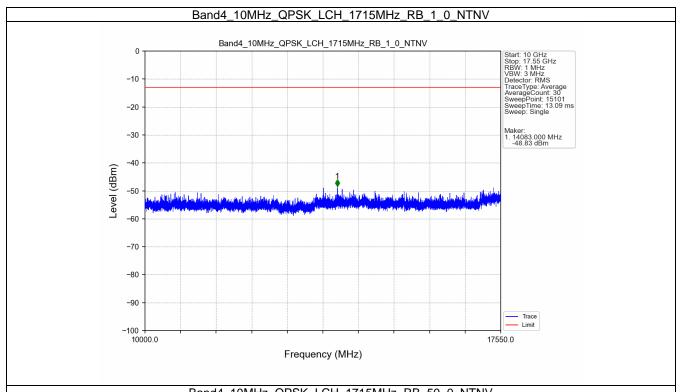


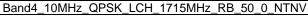


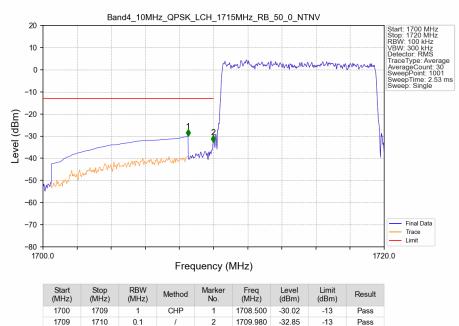


# 5.2.4 B4\_10MHz









0.1

