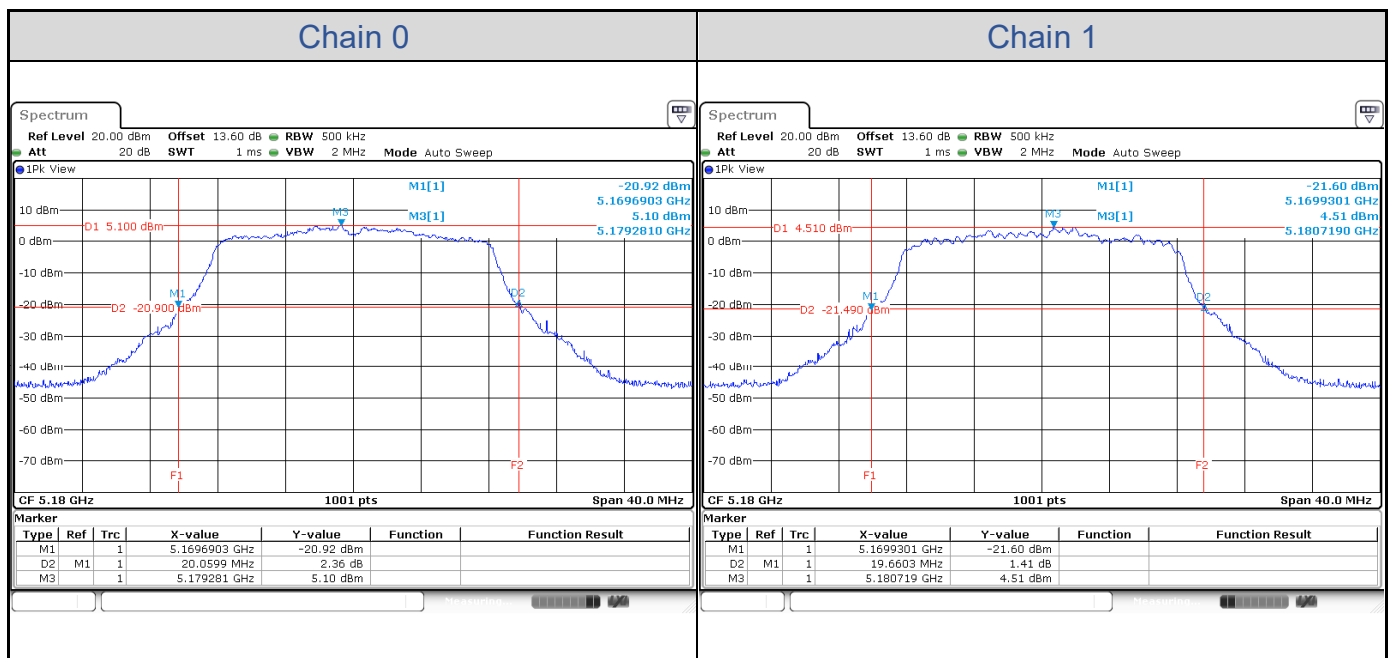


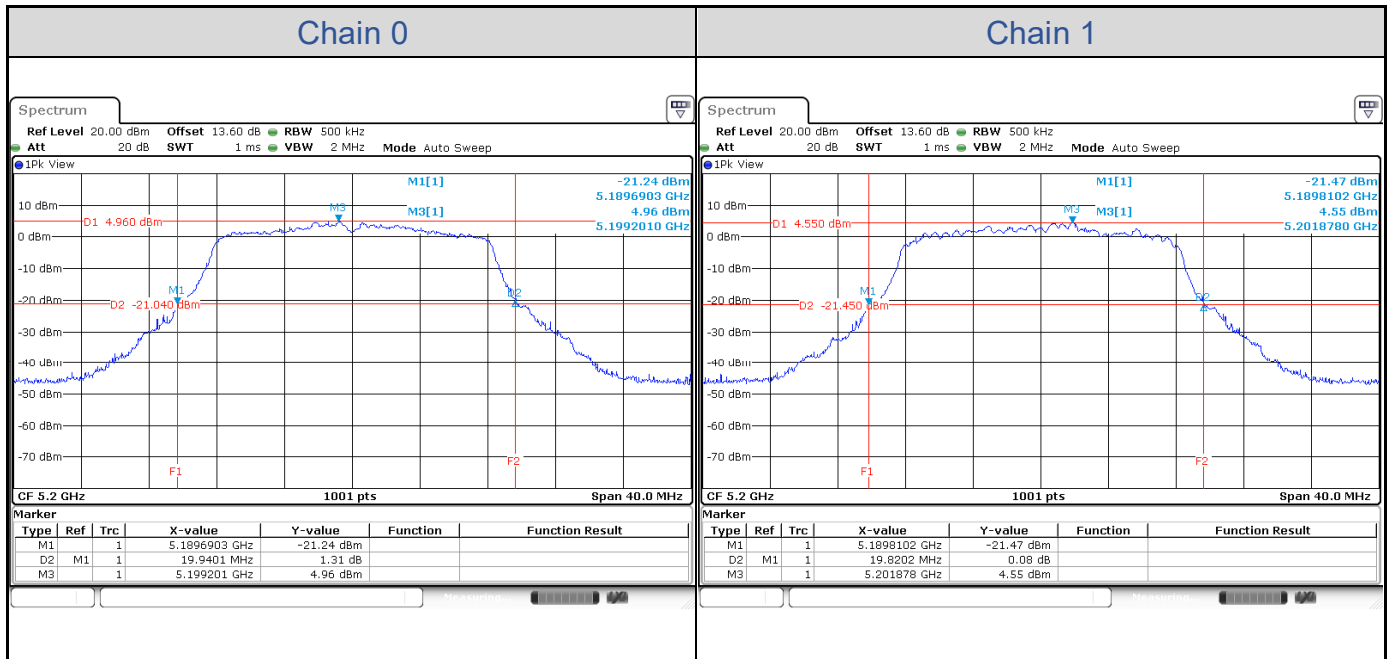
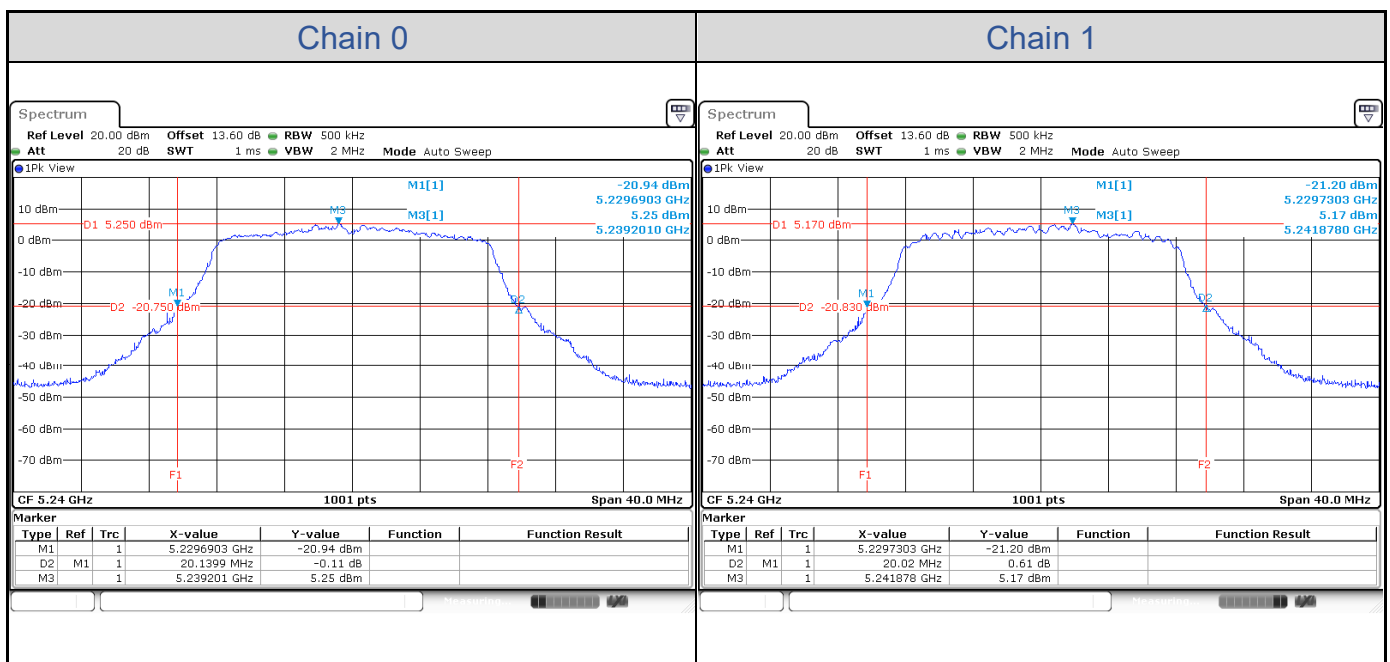
# Appendix A: Test Results of Conducted Test (Spruce\_Panel antenna)

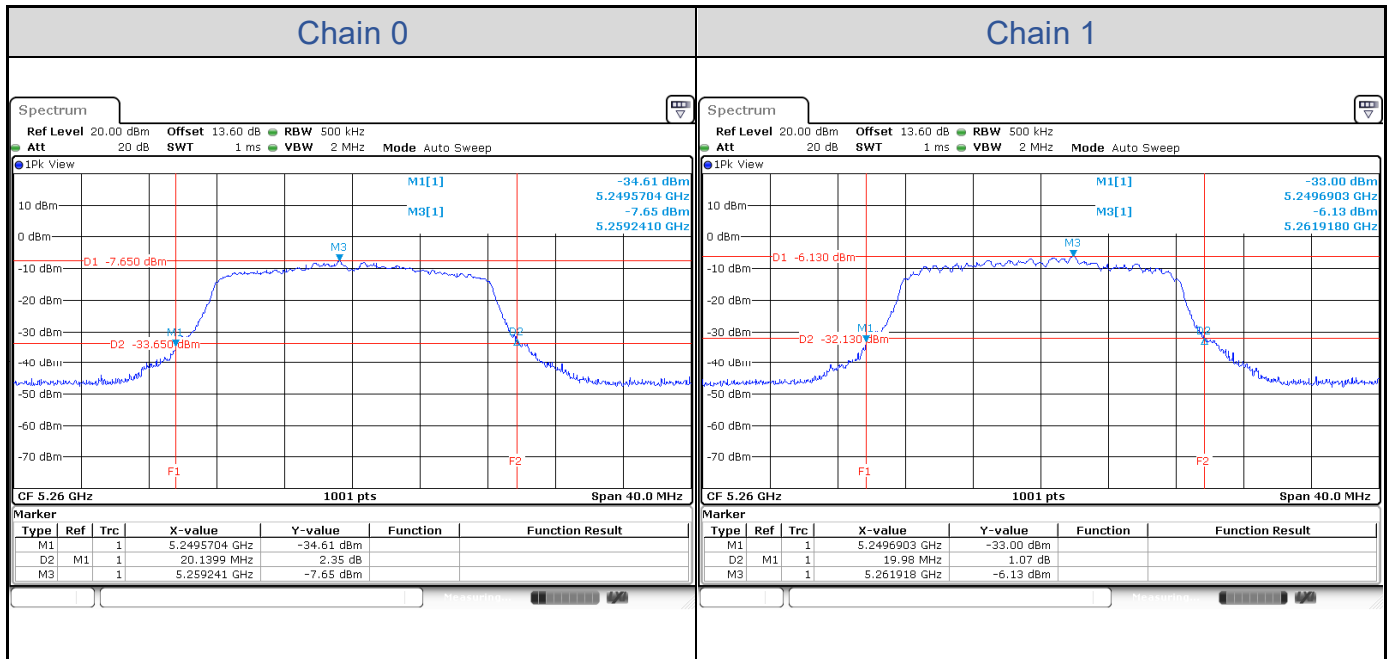
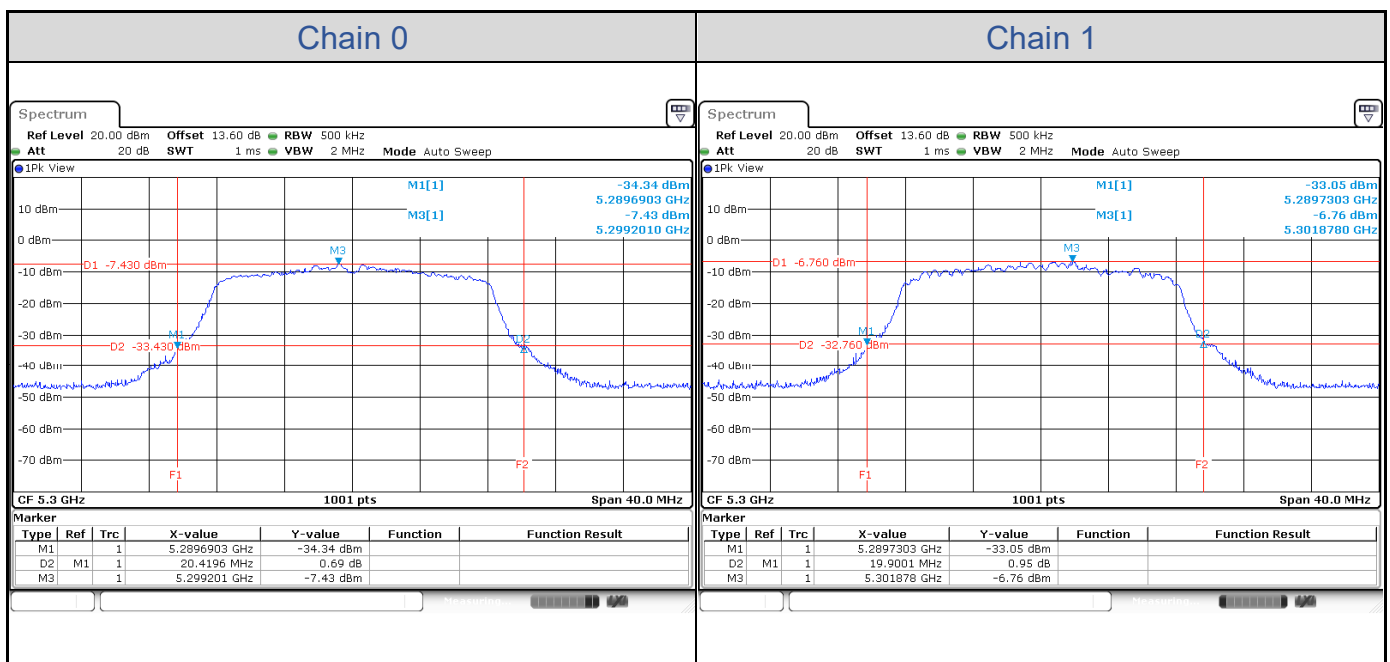
## Test Result of 26 dB Bandwidth 802.11a

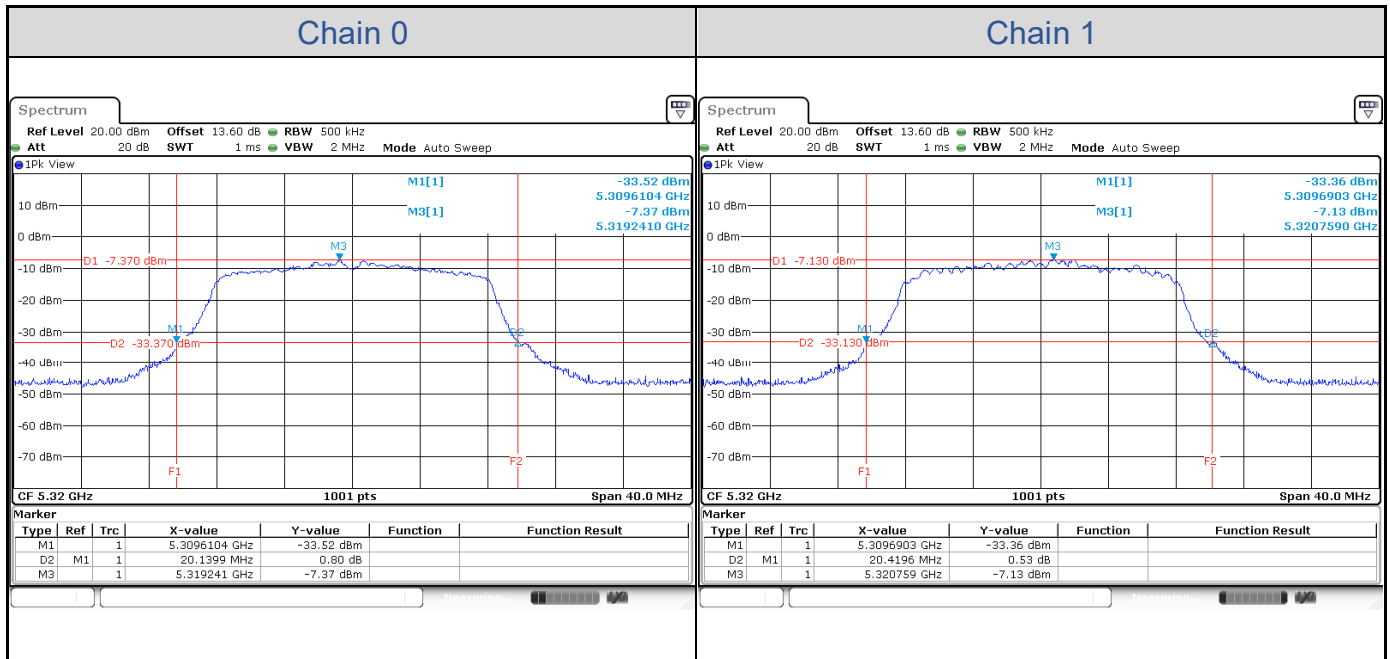
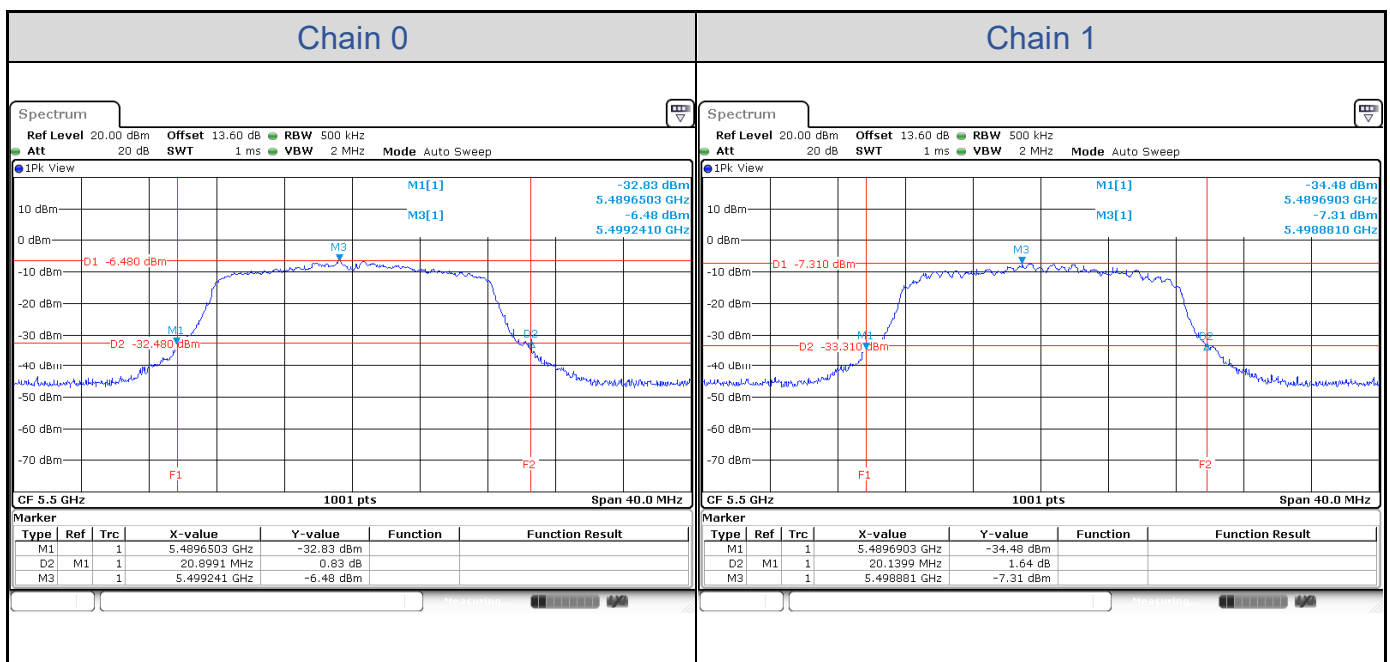
Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	36	5180	20.06	19.66
	40	5200	19.94	19.82
	48	5240	20.14	20.02
U-NII-2A	52	5260	20.14	19.98
	60	5300	20.42	19.90
	64	5320	20.14	20.42
U-NII-2C	100	5500	20.90	20.14
	116	5580	20.74	19.98
	140	5700	20.78	19.94

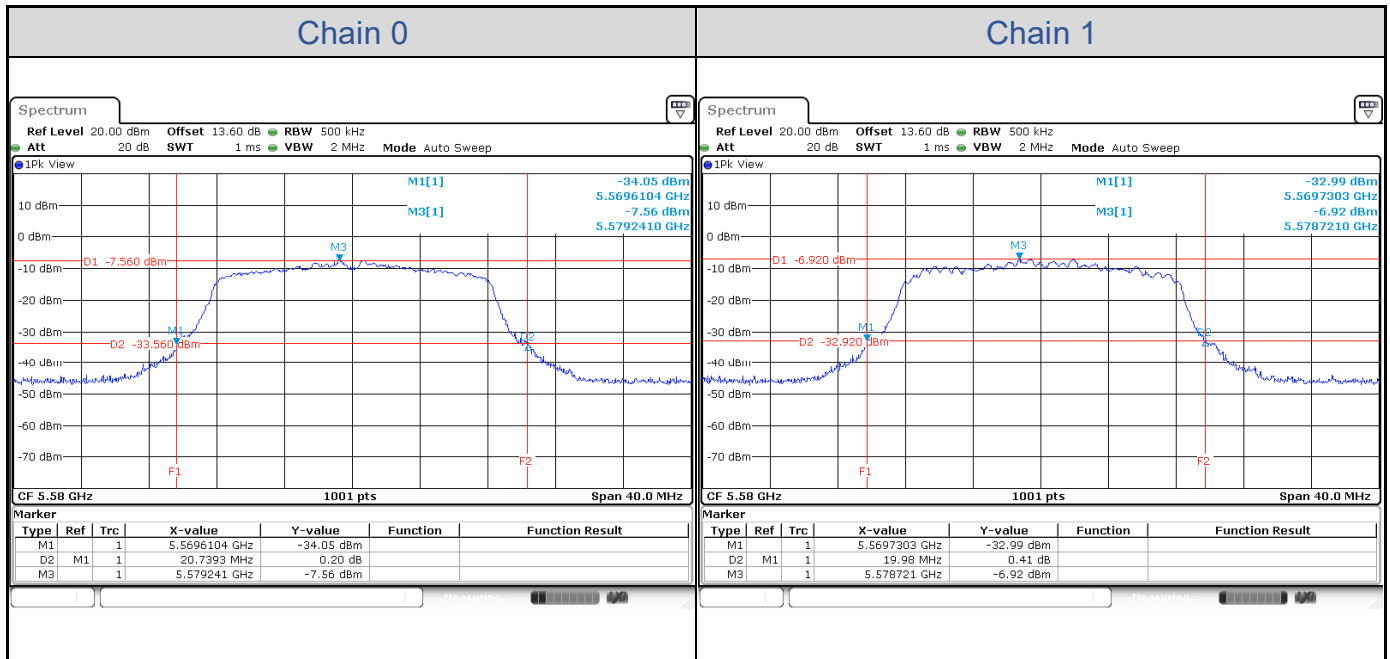
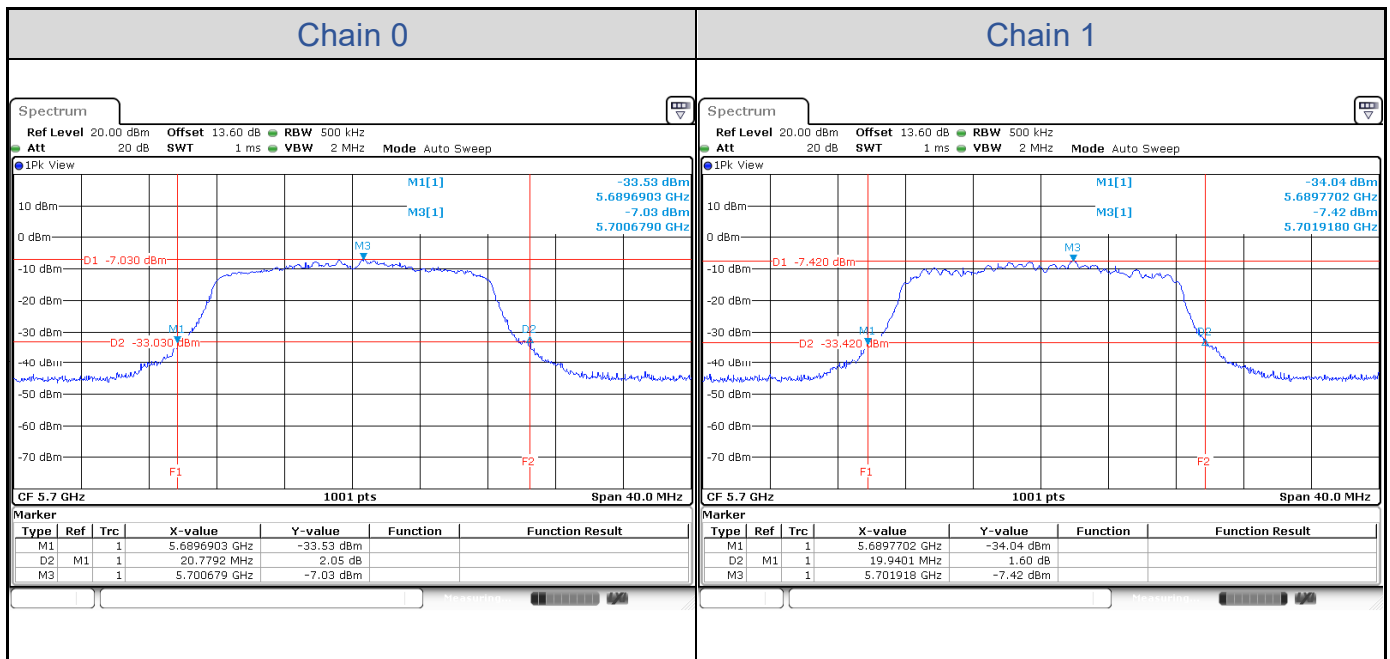
### 802.11a-Channel 36



**802.11a-Channel 40**

**802.11a-Channel 48**


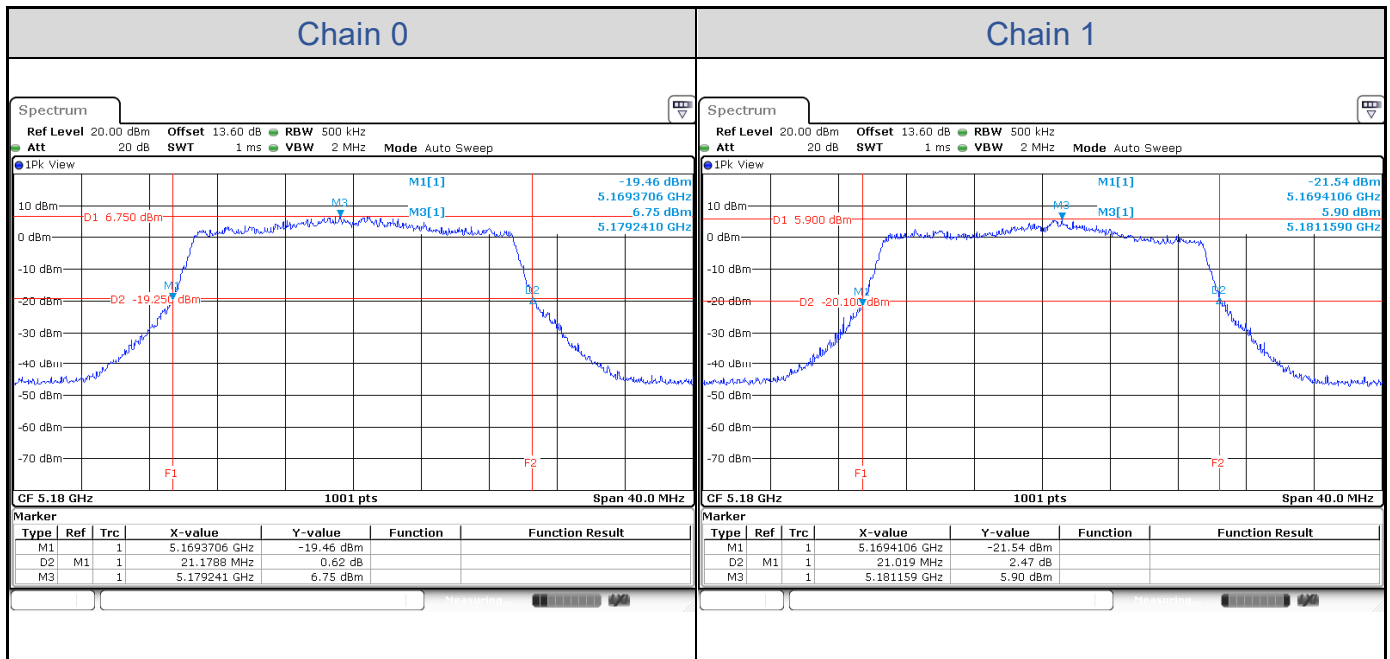
**802.11a-Channel 52**

**802.11a-Channel 60**


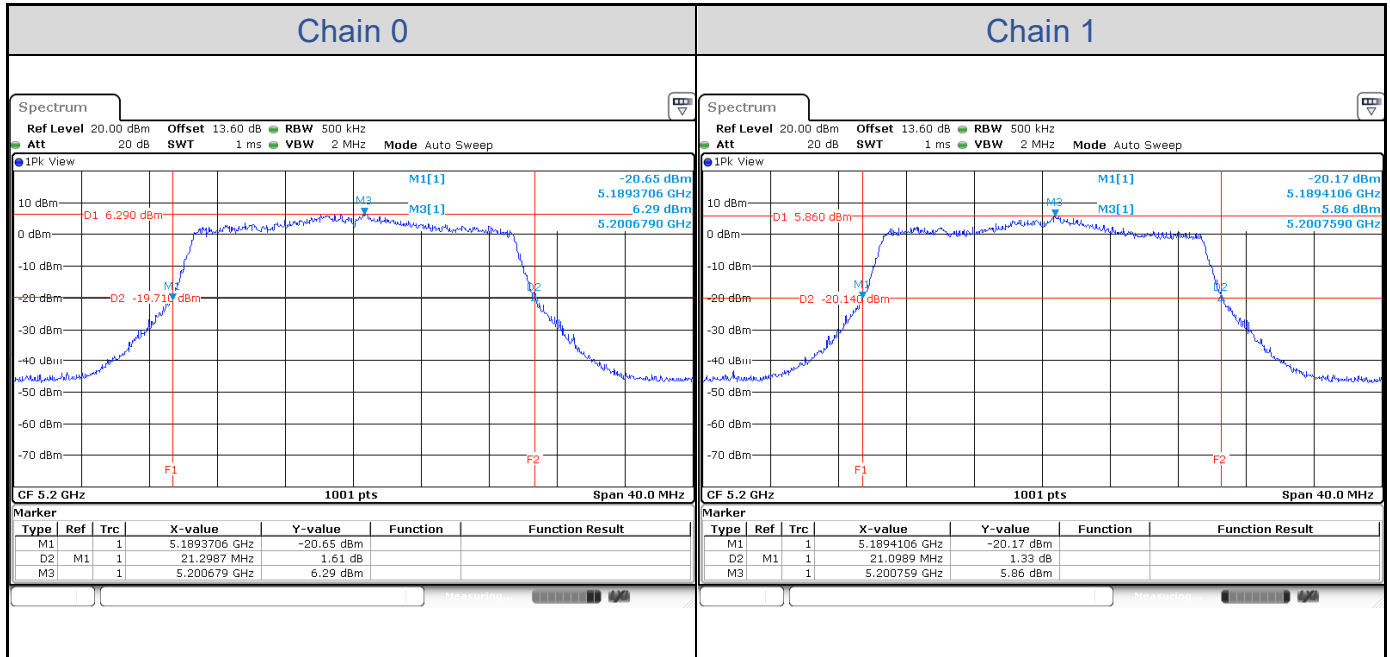
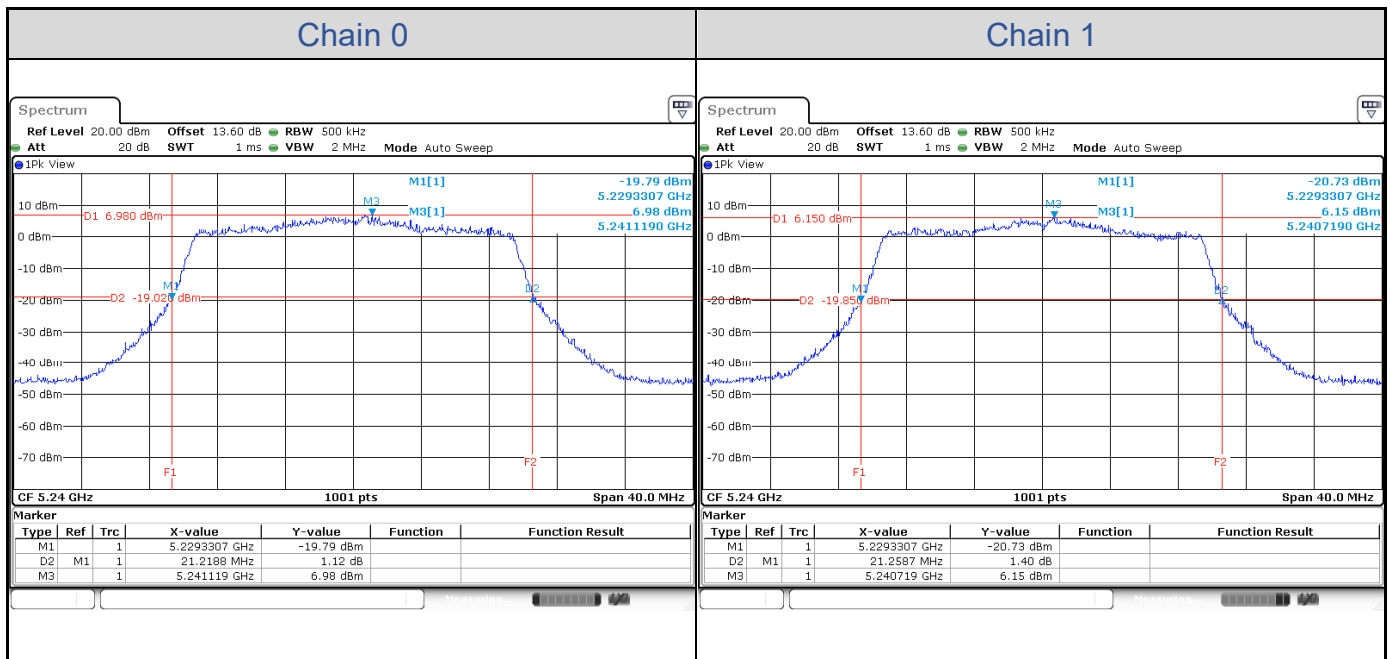
**802.11a-Channel 64**

**802.11a-Channel 100**


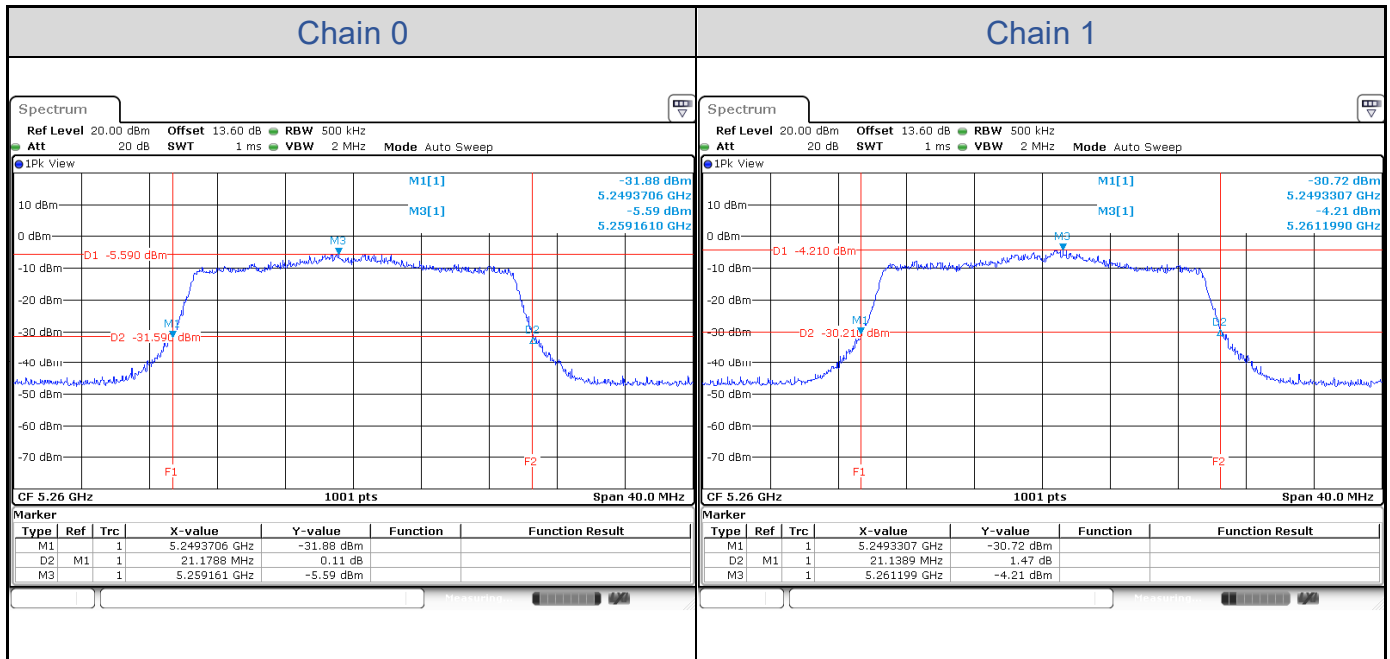
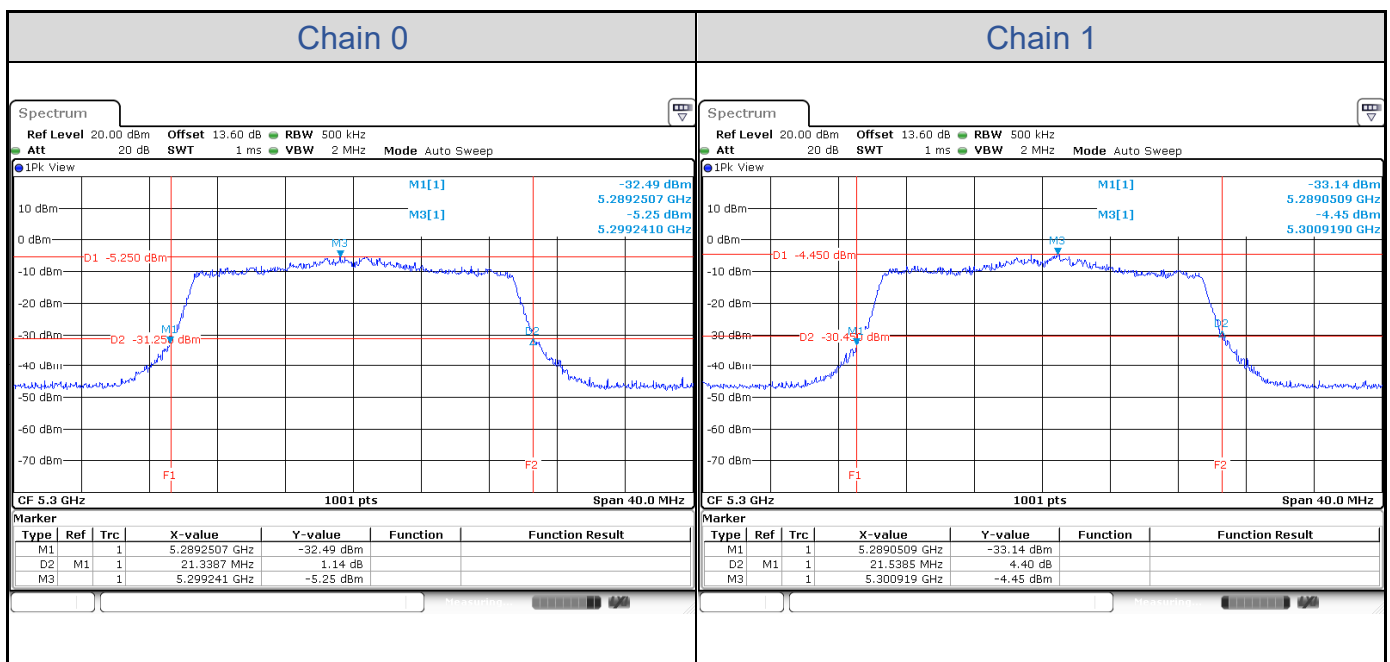
**802.11a-Channel 116**

**802.11a-Channel 140**


**802.11ax HE20**

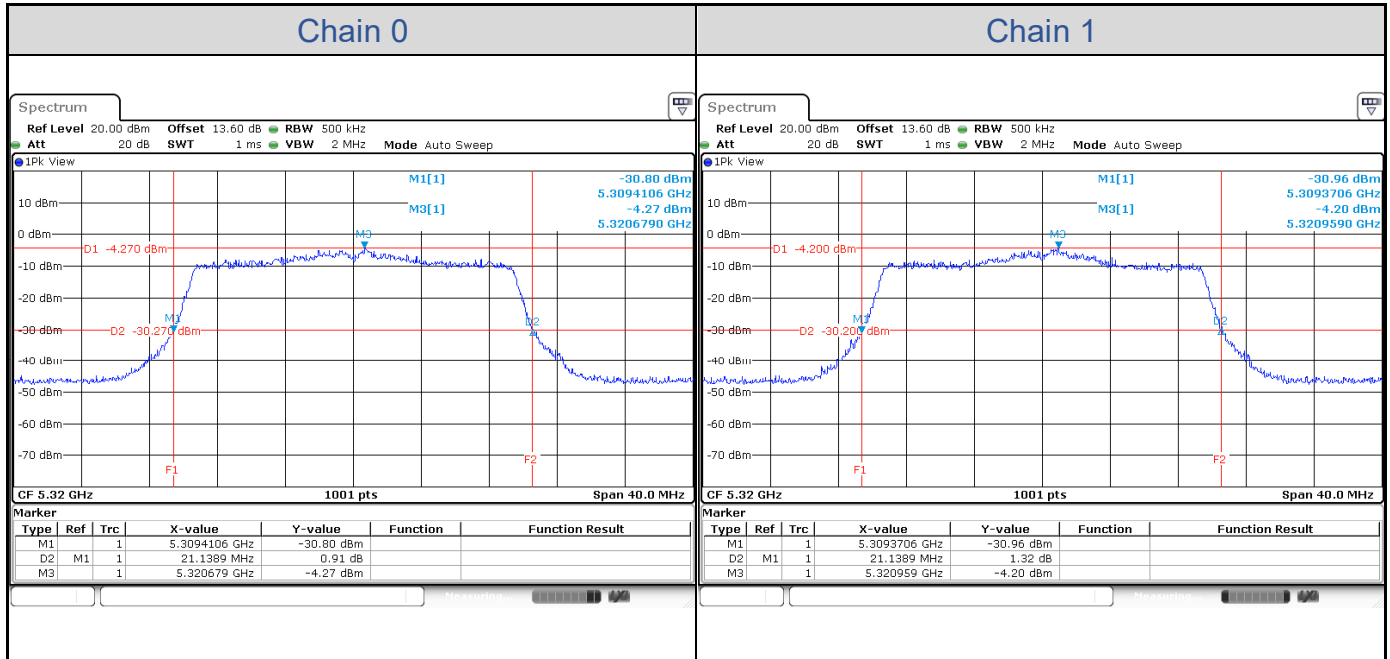
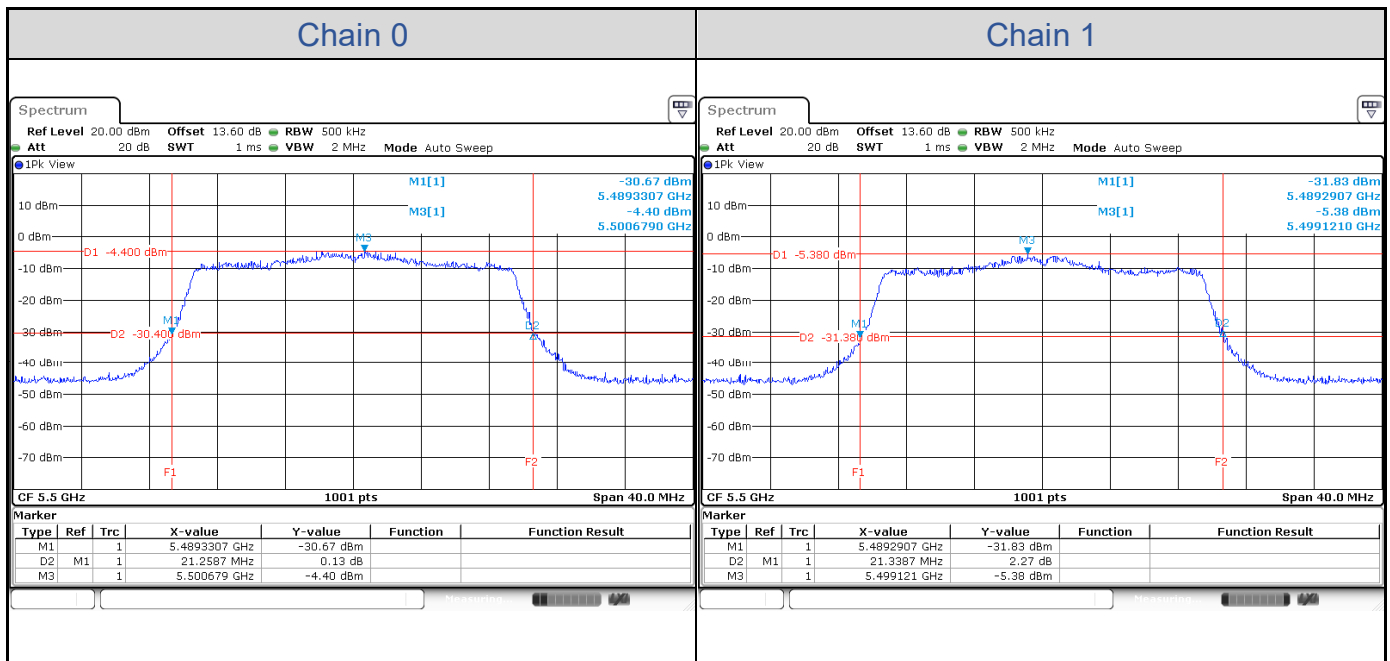
Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	36	5180	21.18	21.02
	40	5200	21.30	21.10
	48	5240	21.22	21.26
U-NII-2A	52	5260	21.18	21.14
	60	5300	21.34	21.54
	64	5320	21.14	21.14
U-NII-2C	100	5500	21.26	21.34
	116	5580	21.54	21.30
	140	5700	21.14	21.38

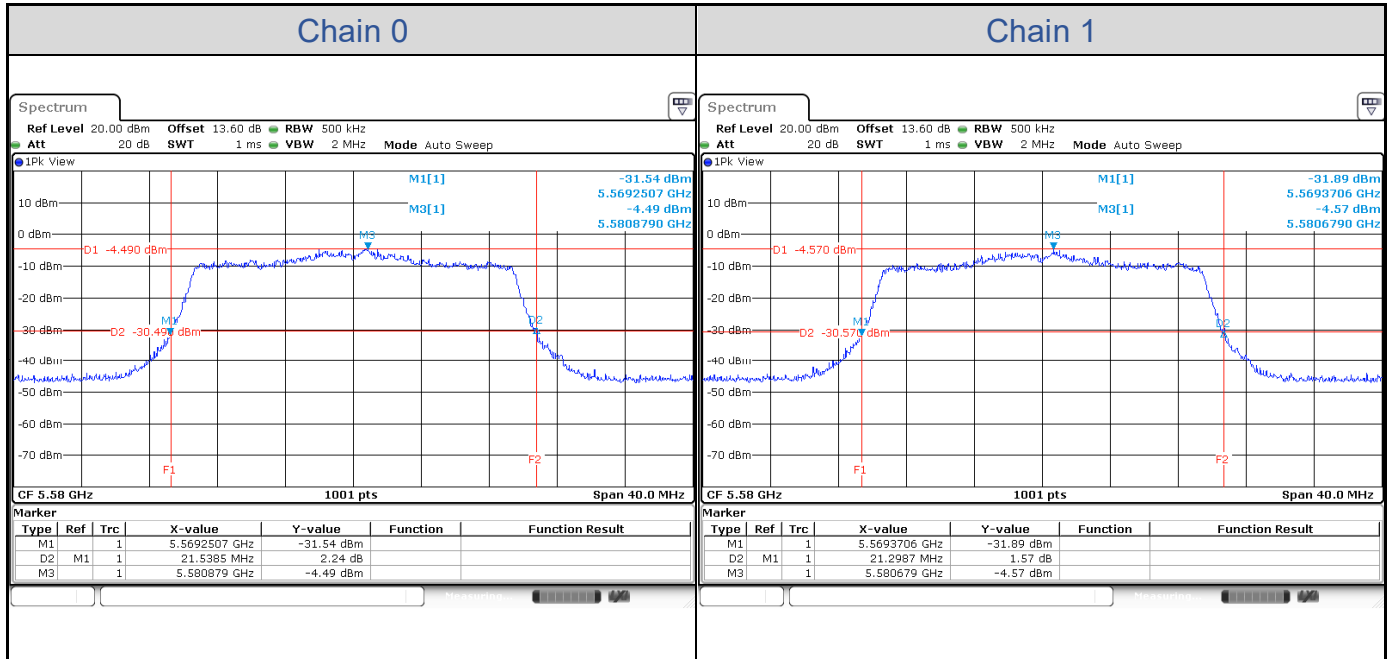
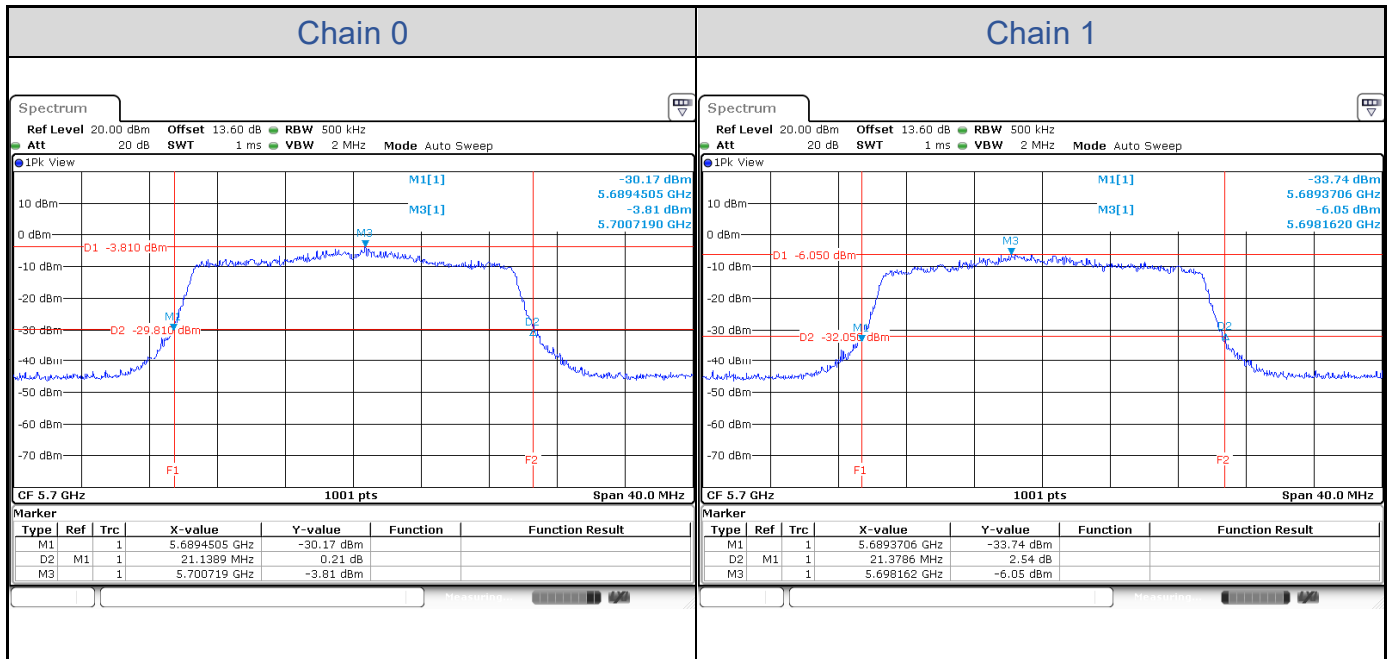
**802.11ax HE20-Channel 36**


**802.11ax HE20-Channel 40**

**802.11ax HE20-Channel 48**


**802.11ax HE20-Channel 52**

**802.11ax HE20-Channel 60**


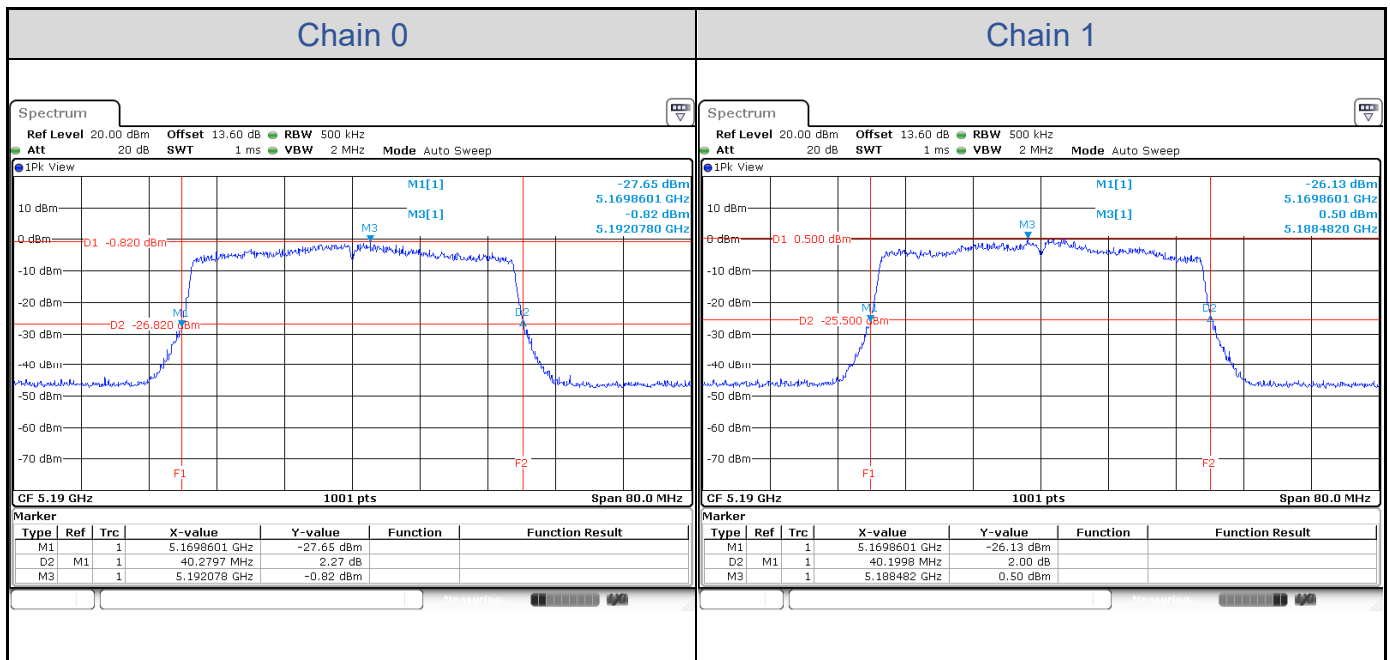


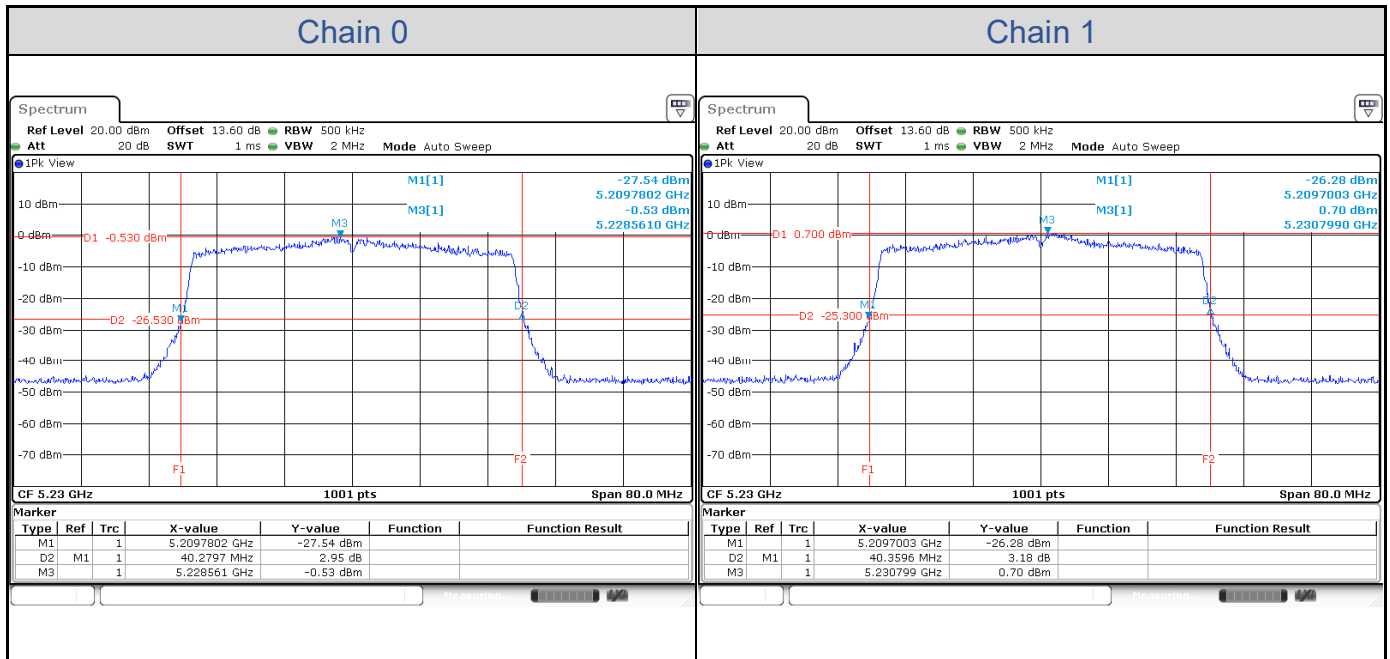
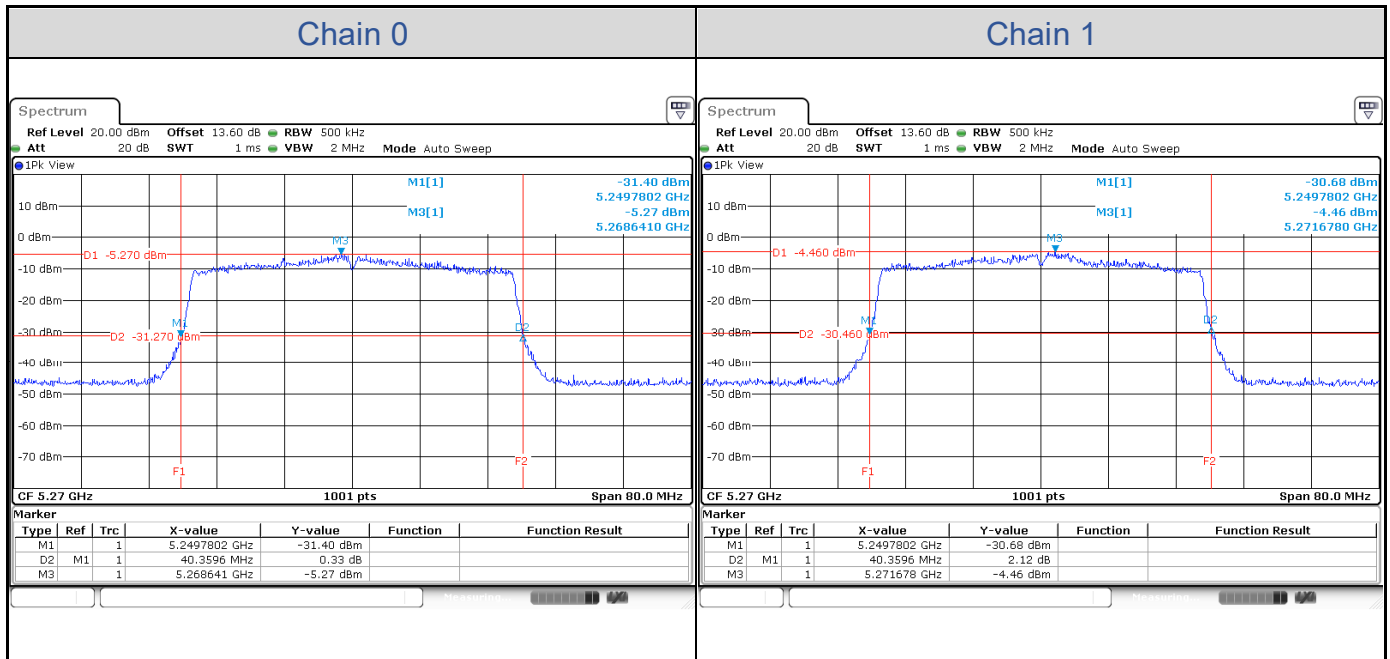
**802.11ax HE20-Channel 64**

**802.11ax HE20-Channel 100**


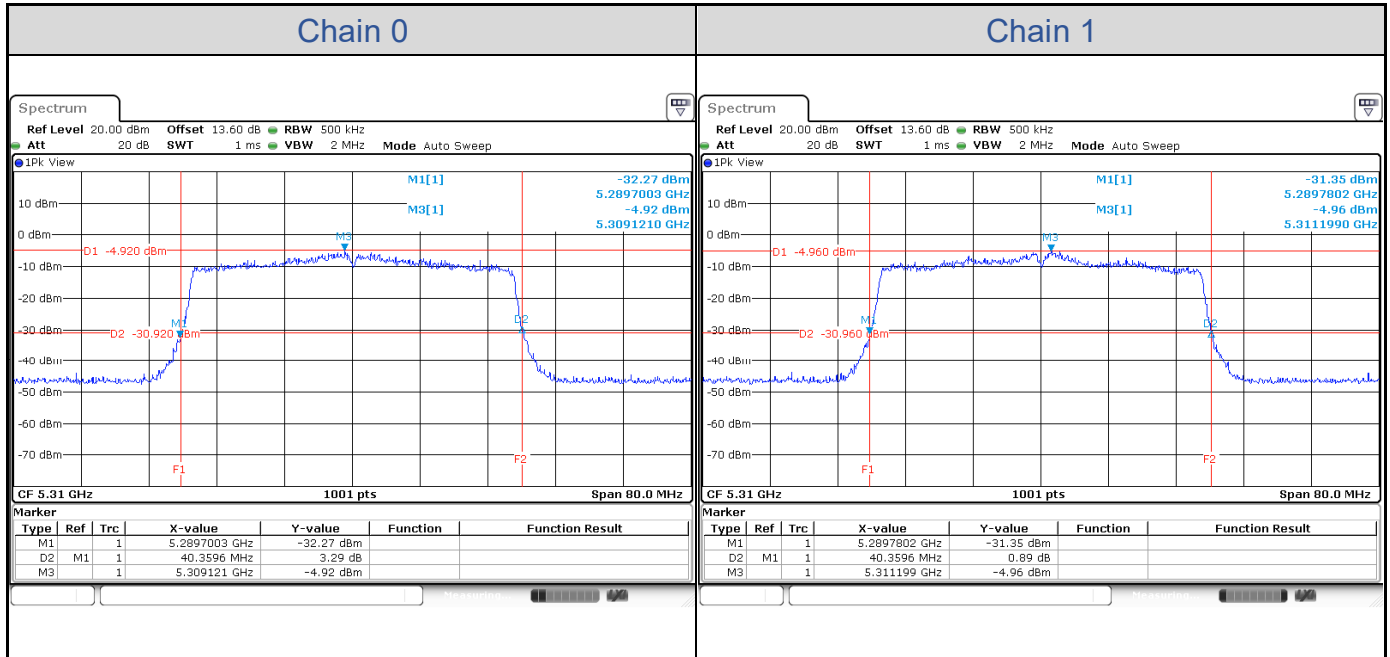
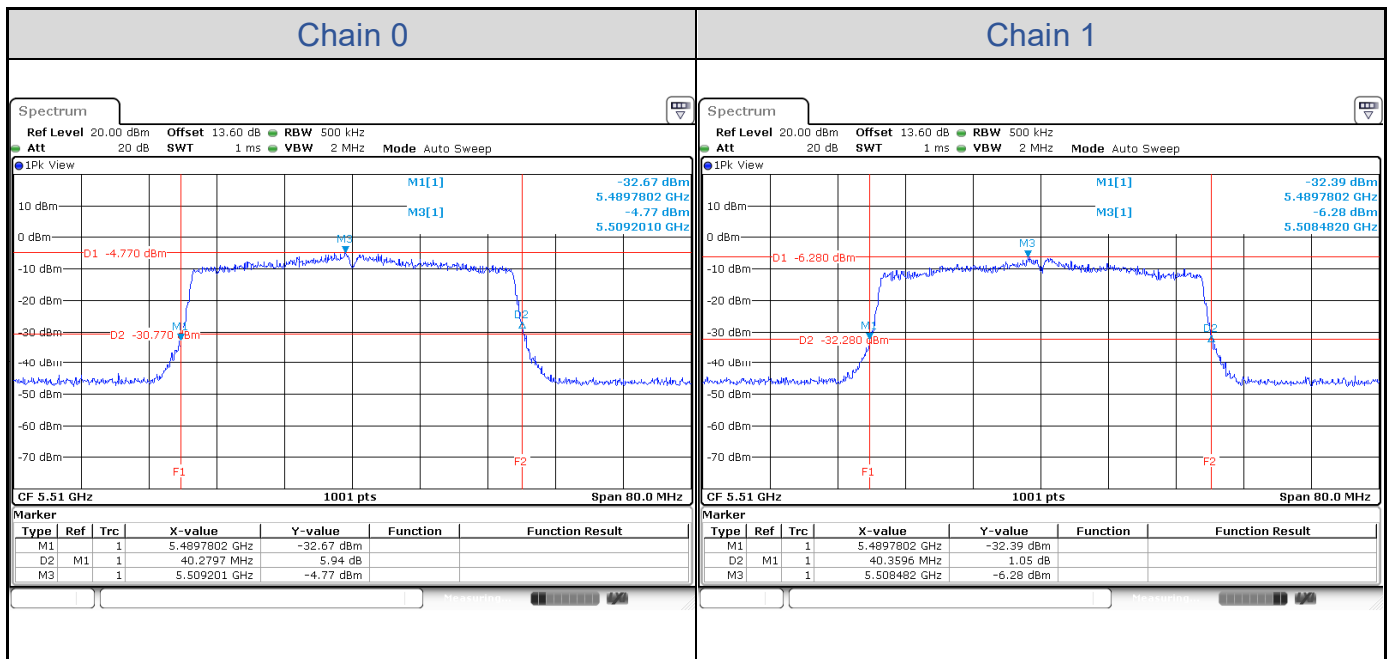
**802.11ax HE20-Channel 116**

**802.11ax HE20-Channel 140**


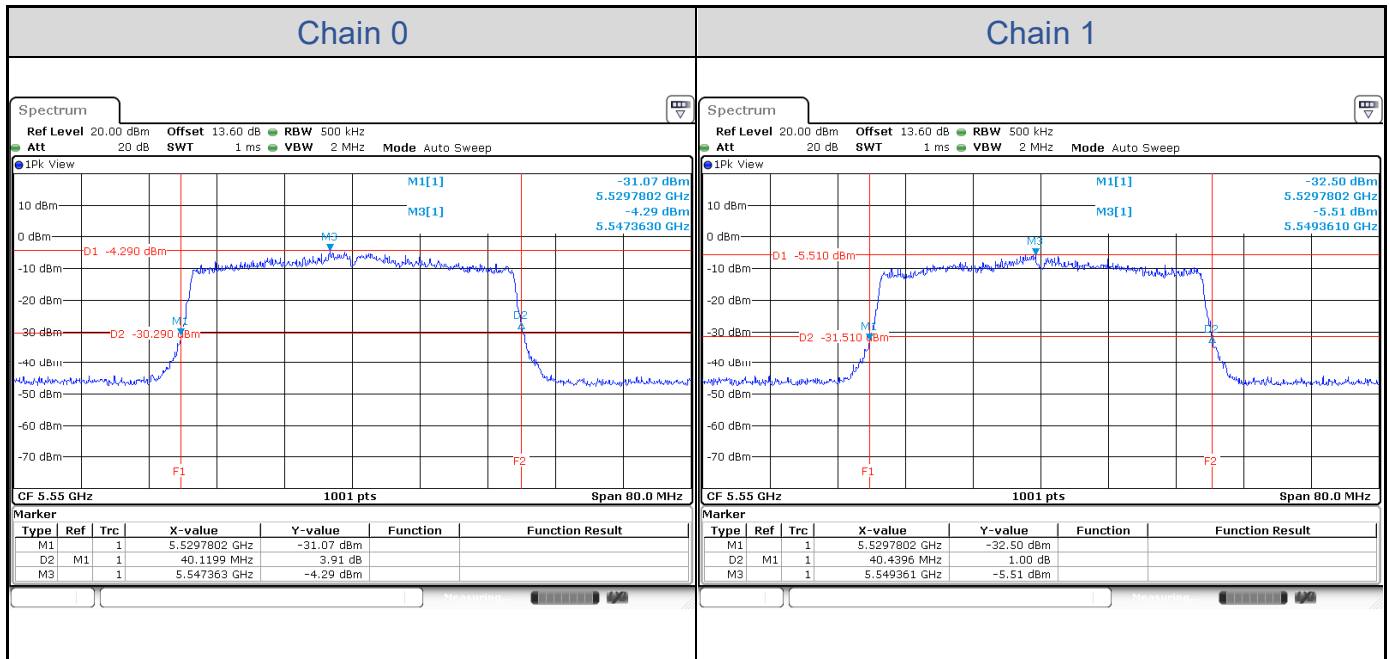
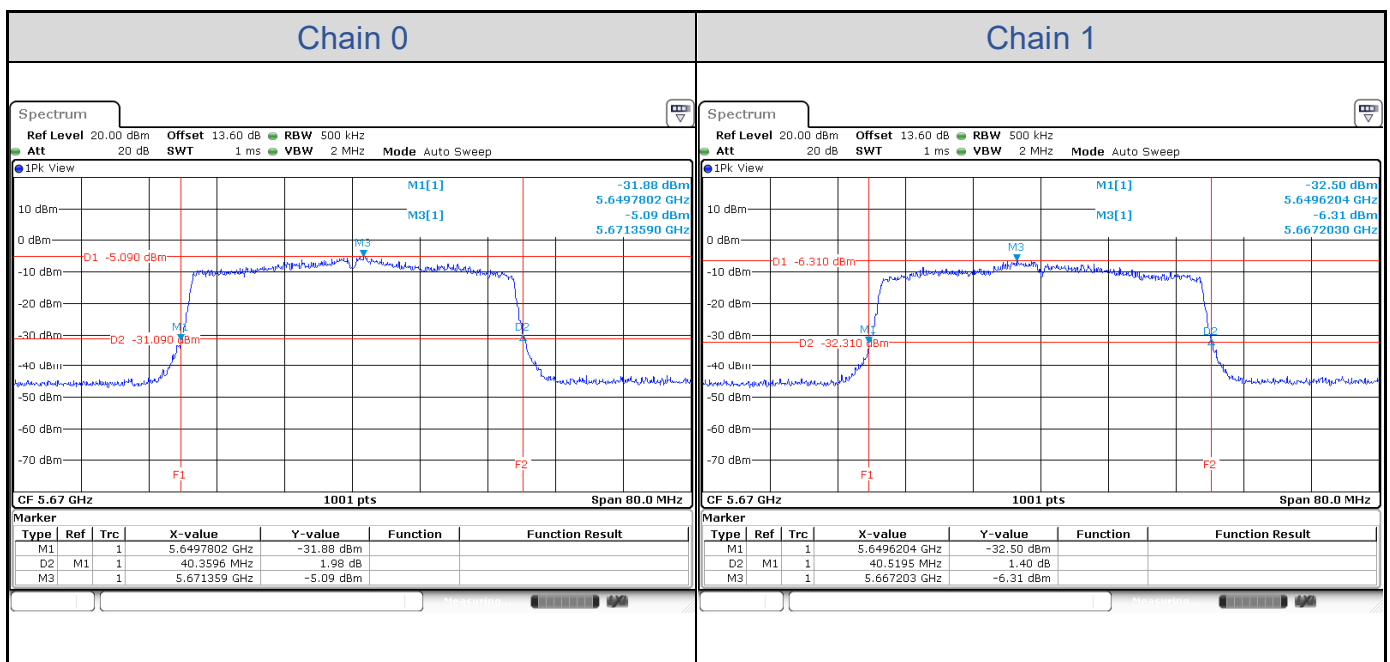
**802.11ax HE40**

Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	38	5190	40.28	40.20
	46	5230	40.28	40.36
U-NII-2A	54	5270	40.36	40.36
	62	5310	40.36	40.36
U-NII-2C	102	5510	40.28	40.36
	110	5500	40.12	40.44
	134	5670	40.36	40.52

**802.11ax HE40-Channel 38**


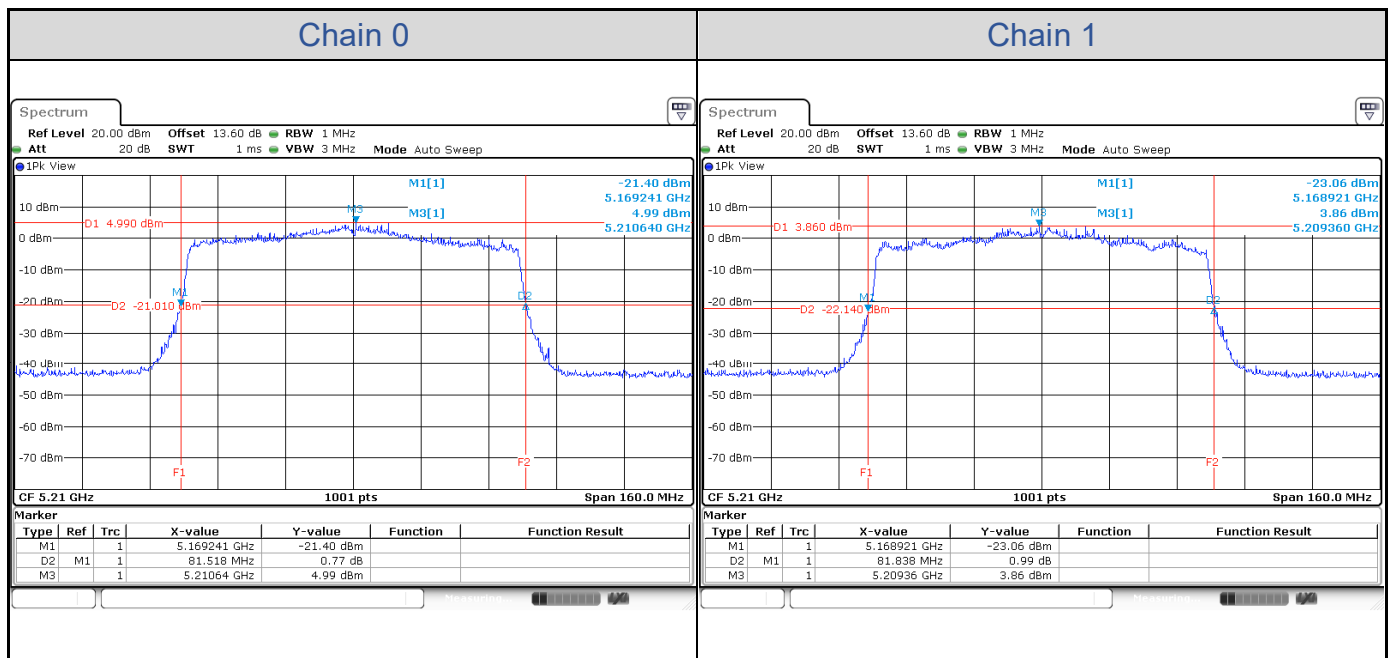
**802.11ax HE40-Channel 46**

**802.11ax HE40-Channel 54**


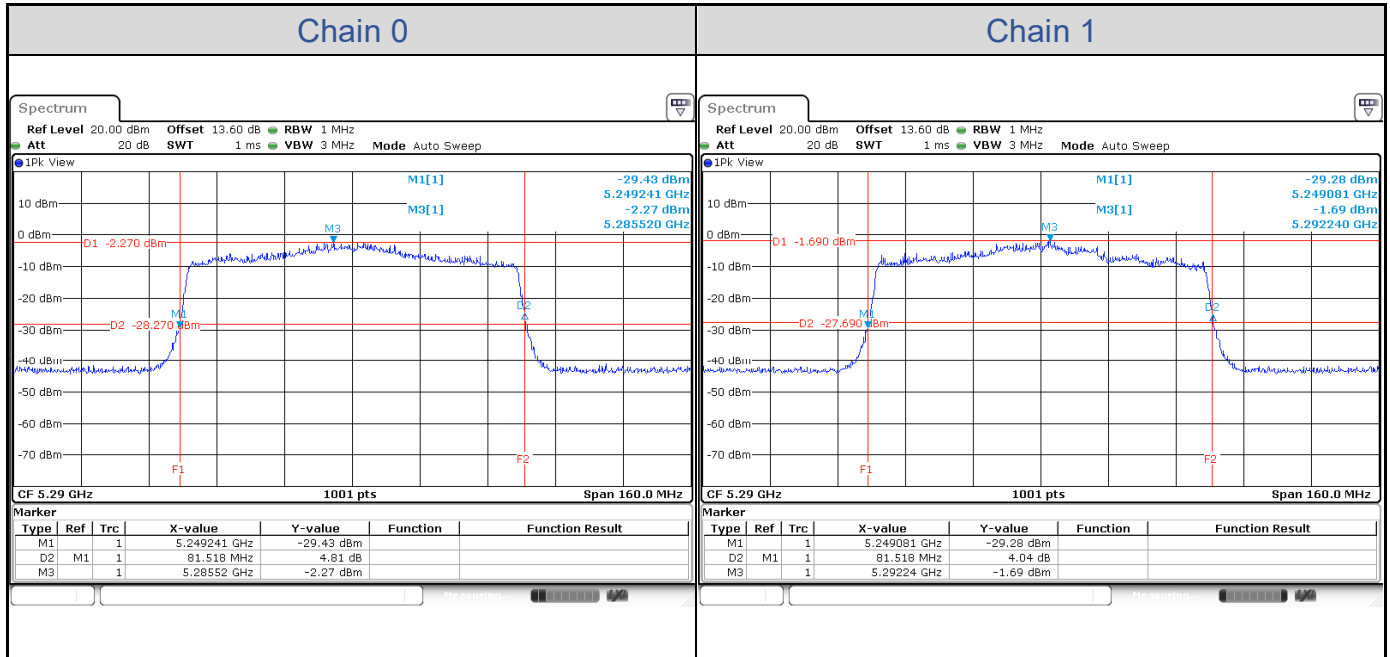
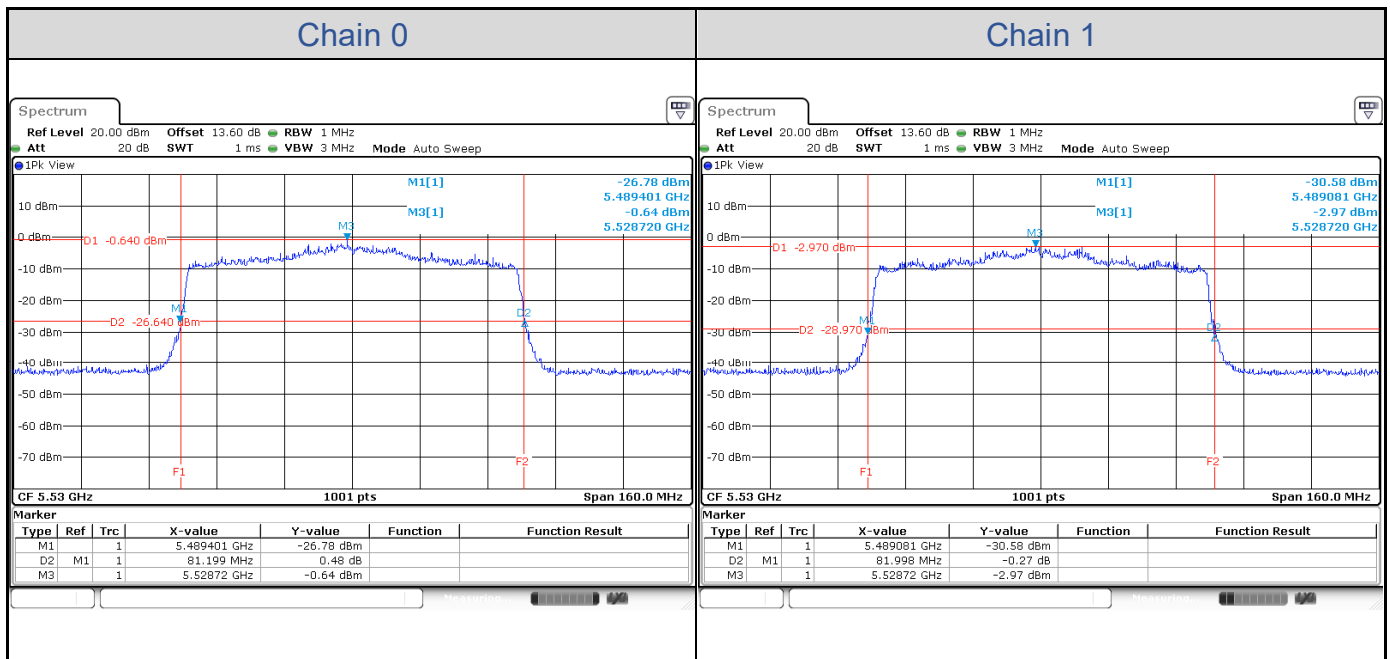
**802.11ax HE40-Channel 62**

**802.11ax HE40-Channel 102**


**802.11ax HE40-Channel 110**

**802.11ax HE40-Channel 134**


**802.11ax HE80**

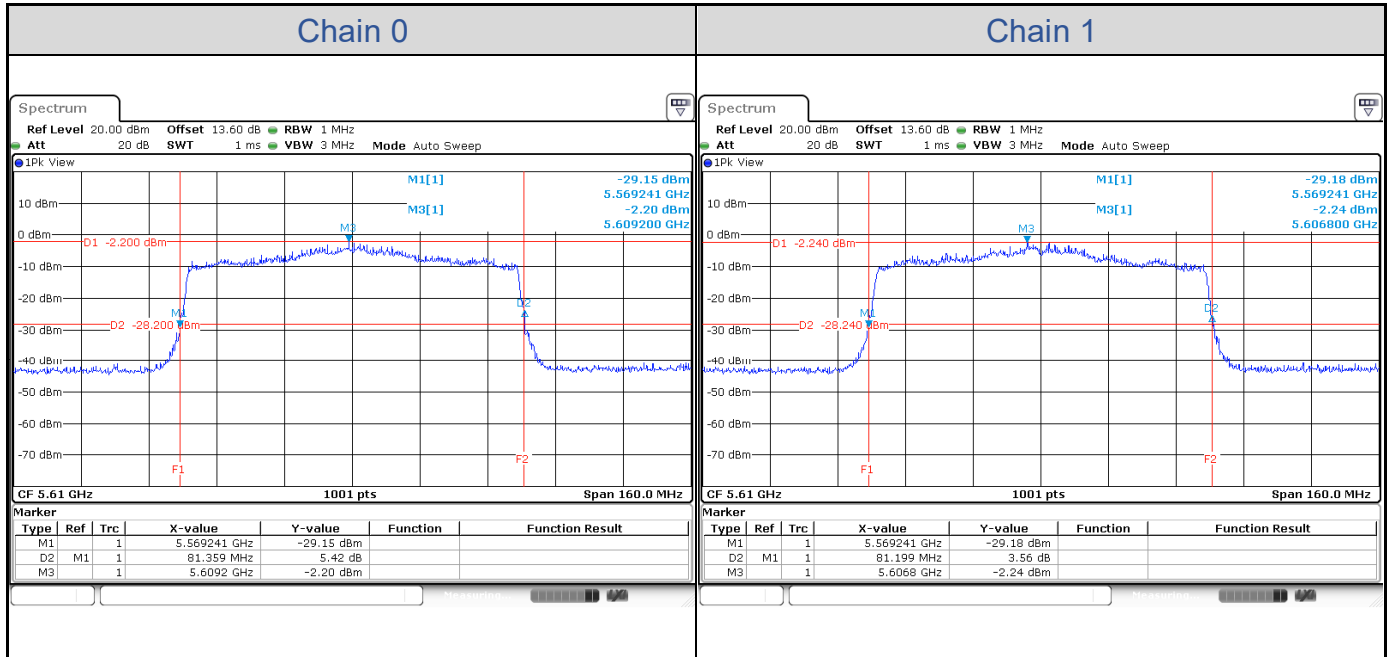
Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	42	5210	81.52	81.84
U-NII-2A	58	5290	81.52	81.52
U-NII-2C	106	5530	81.20	82.00
	122	5610	81.36	81.20

**802.11ax HE80-Channel 42**


**802.11ax HE80-Channel 58**

**802.11ax HE80-Channel 106**


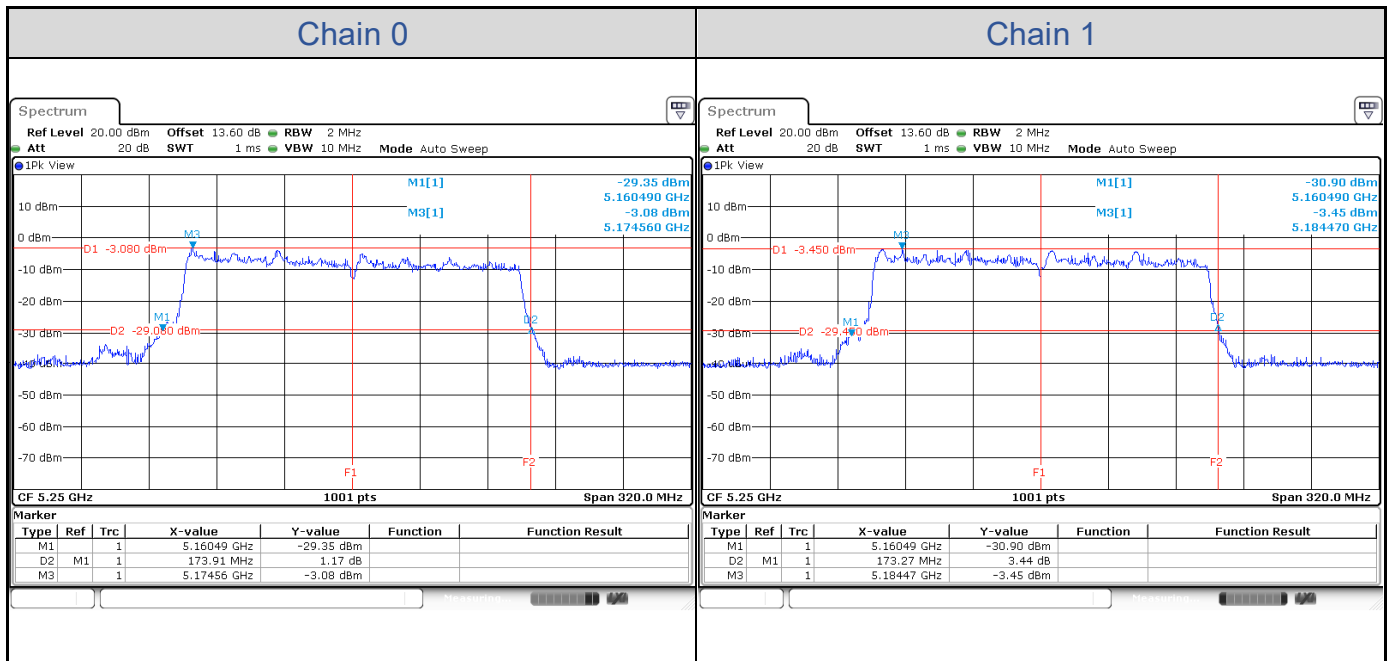
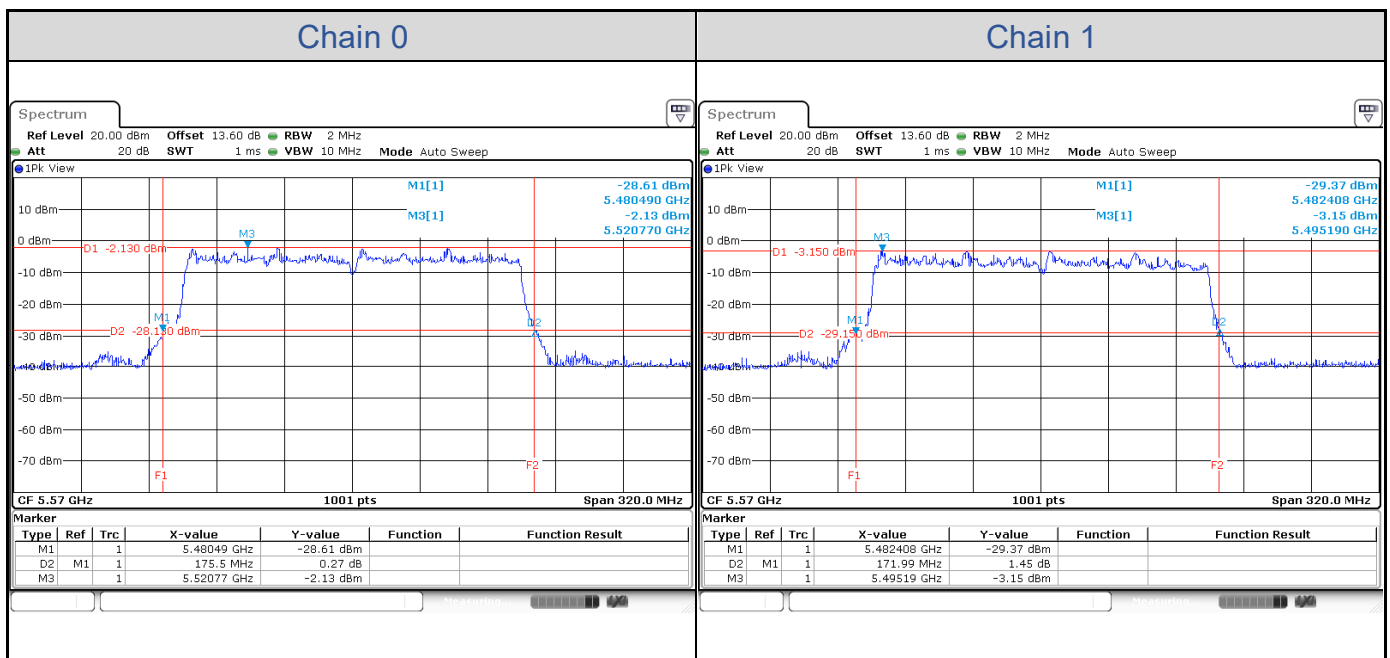


802.11ax HE80-Channel 122



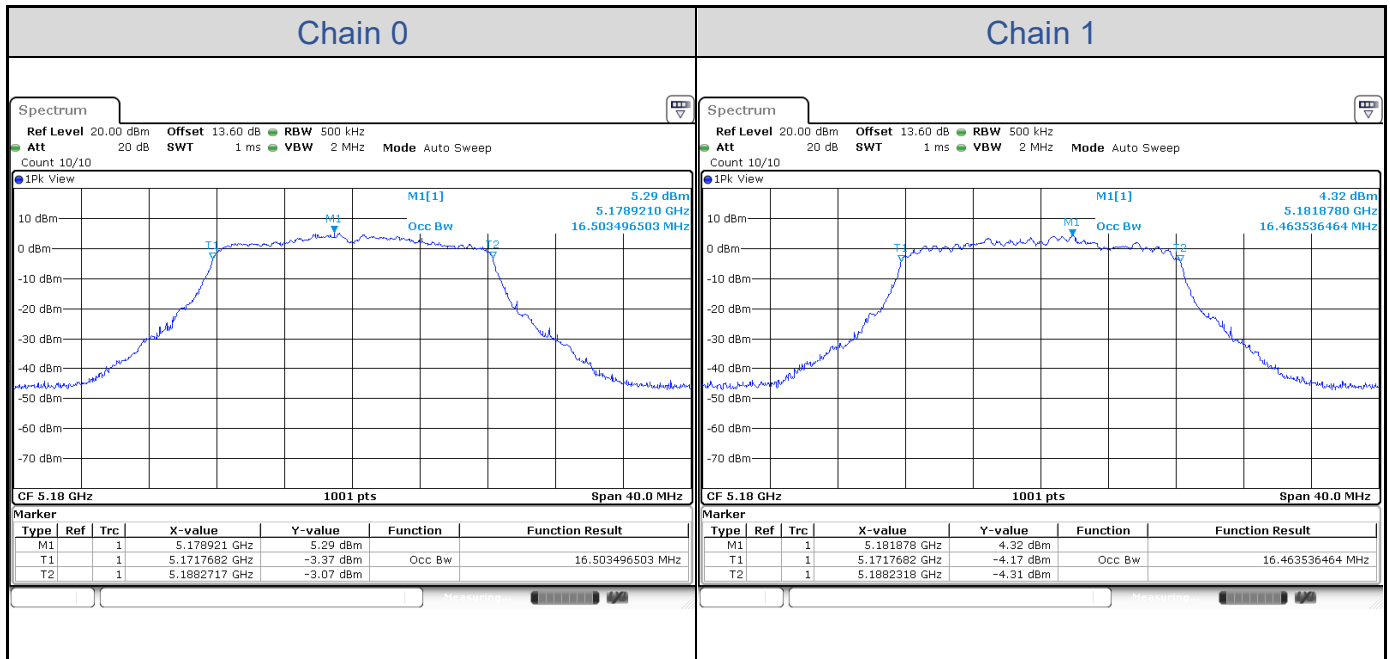
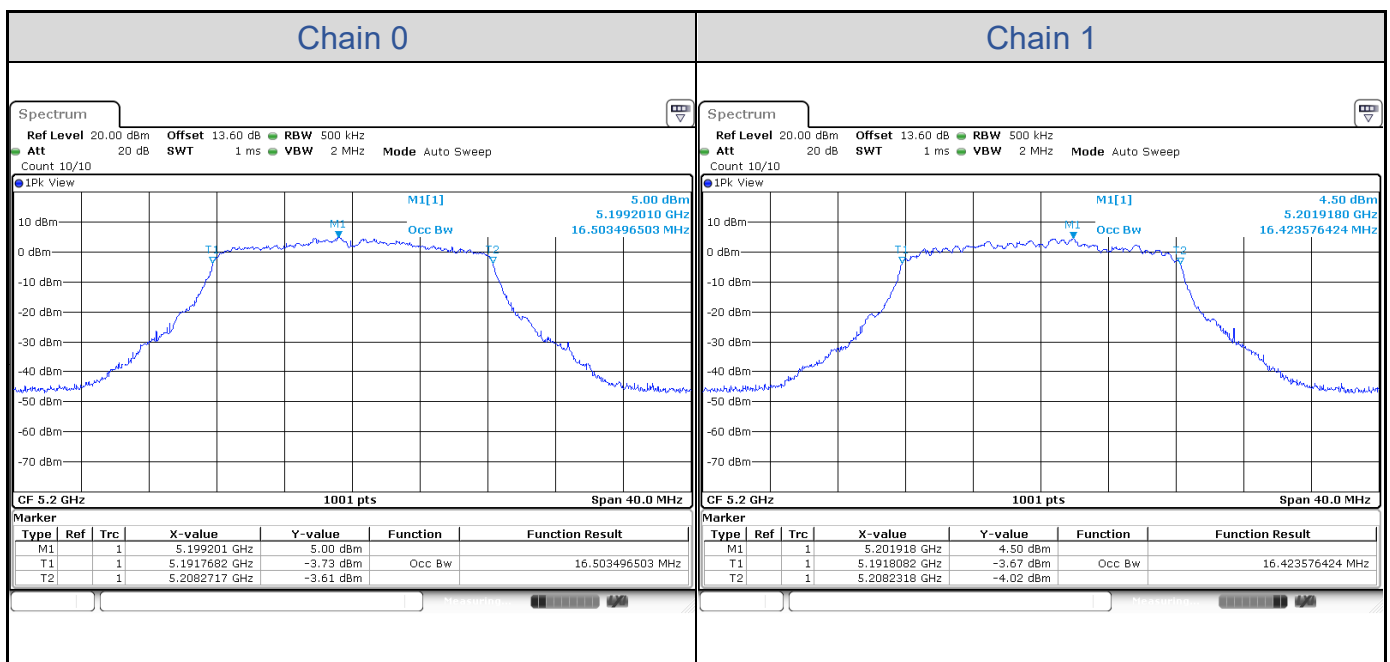
**802.11ax HE160**

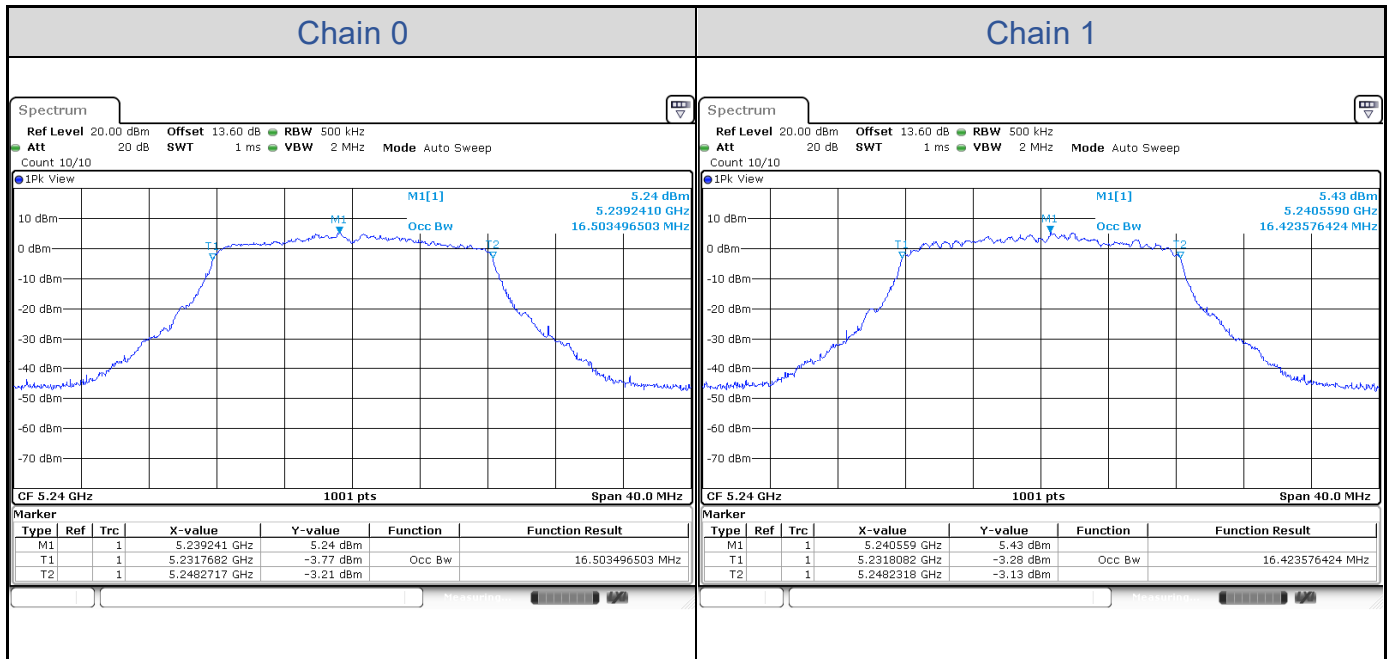
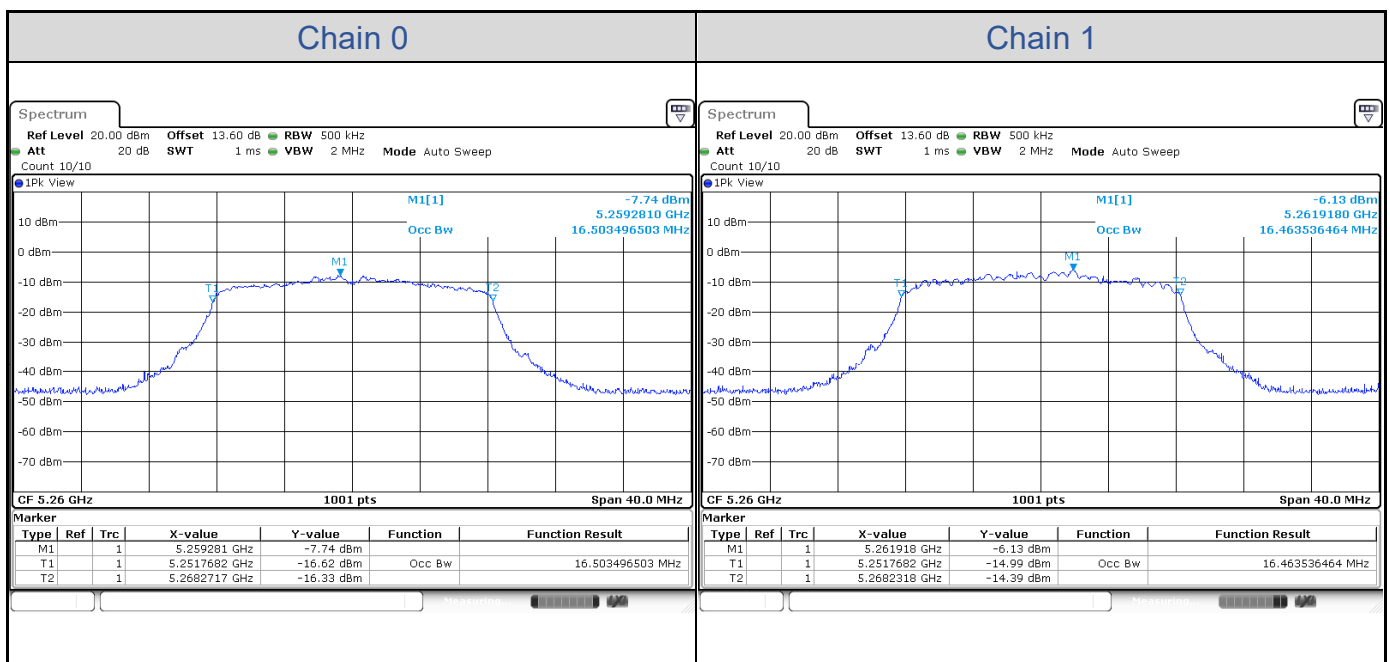
Band	Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	50	5250	89.51	89.51
U-NII-2A	50	5250	84.40	83.76
U-NII-2C	114	5570	175.50	171.99

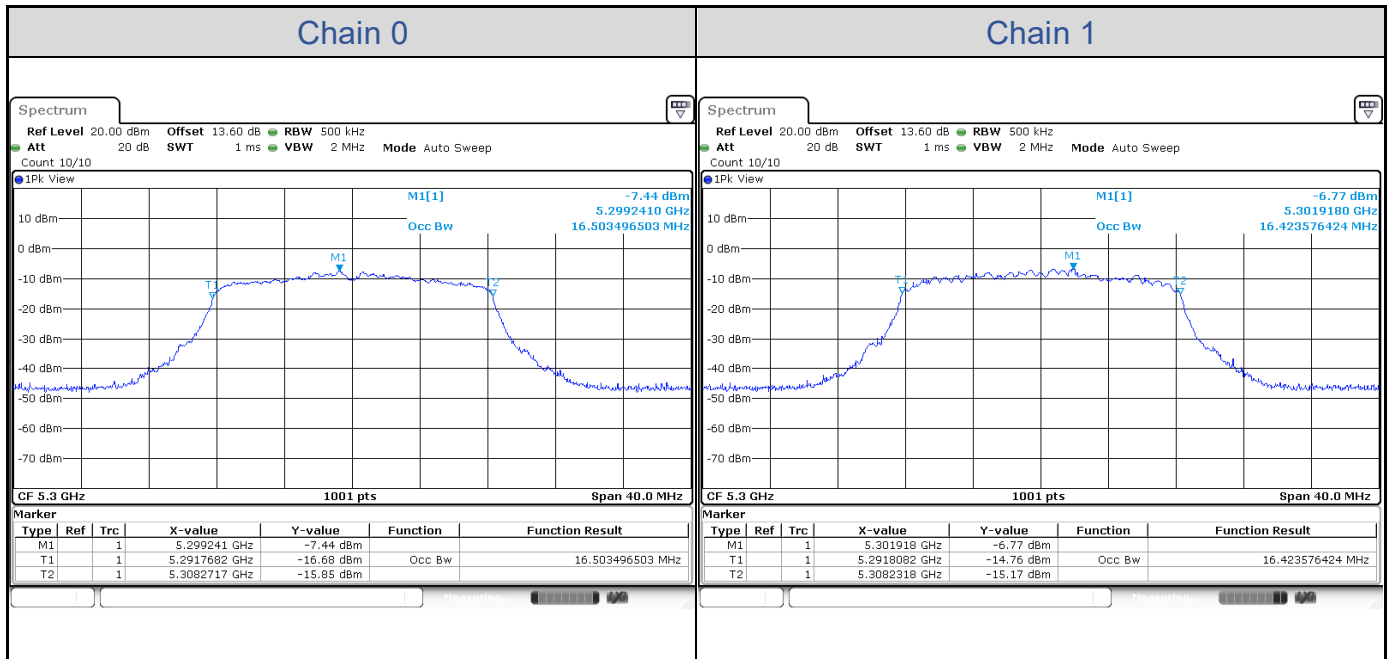
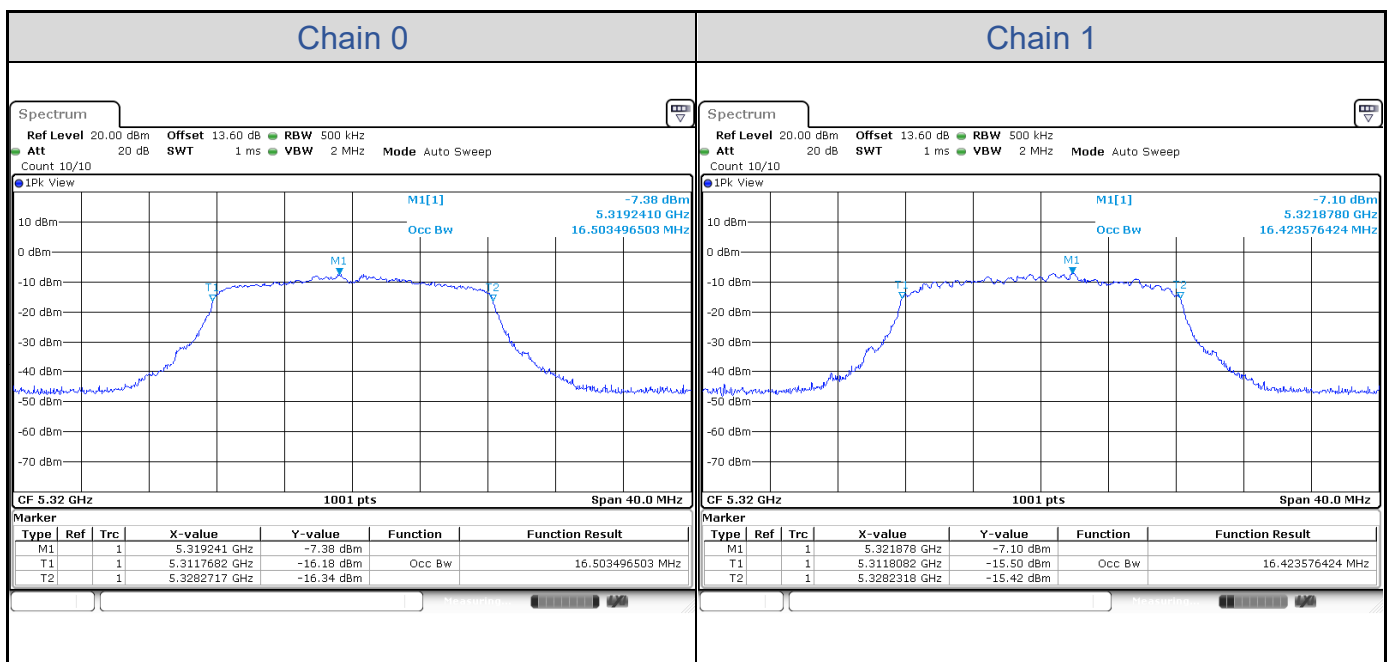
**802.11ax HE160-Channel 50**

**802.11ax HE160-Channel 114**


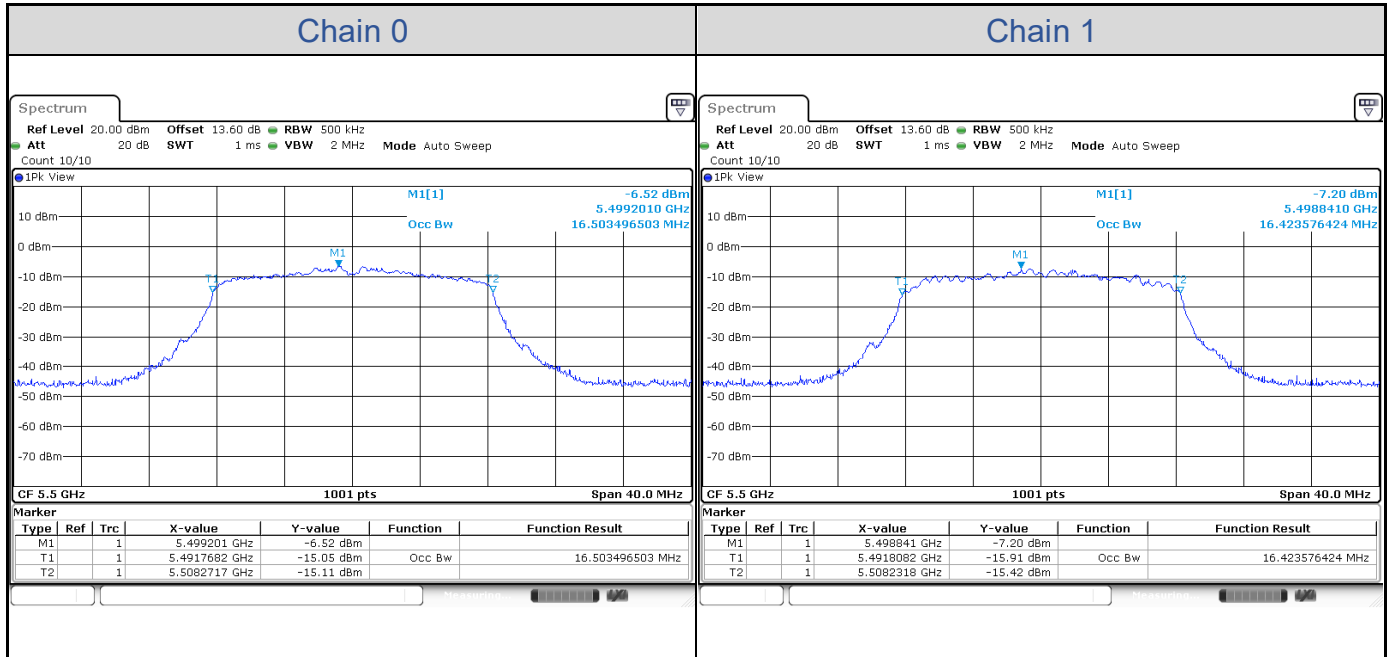
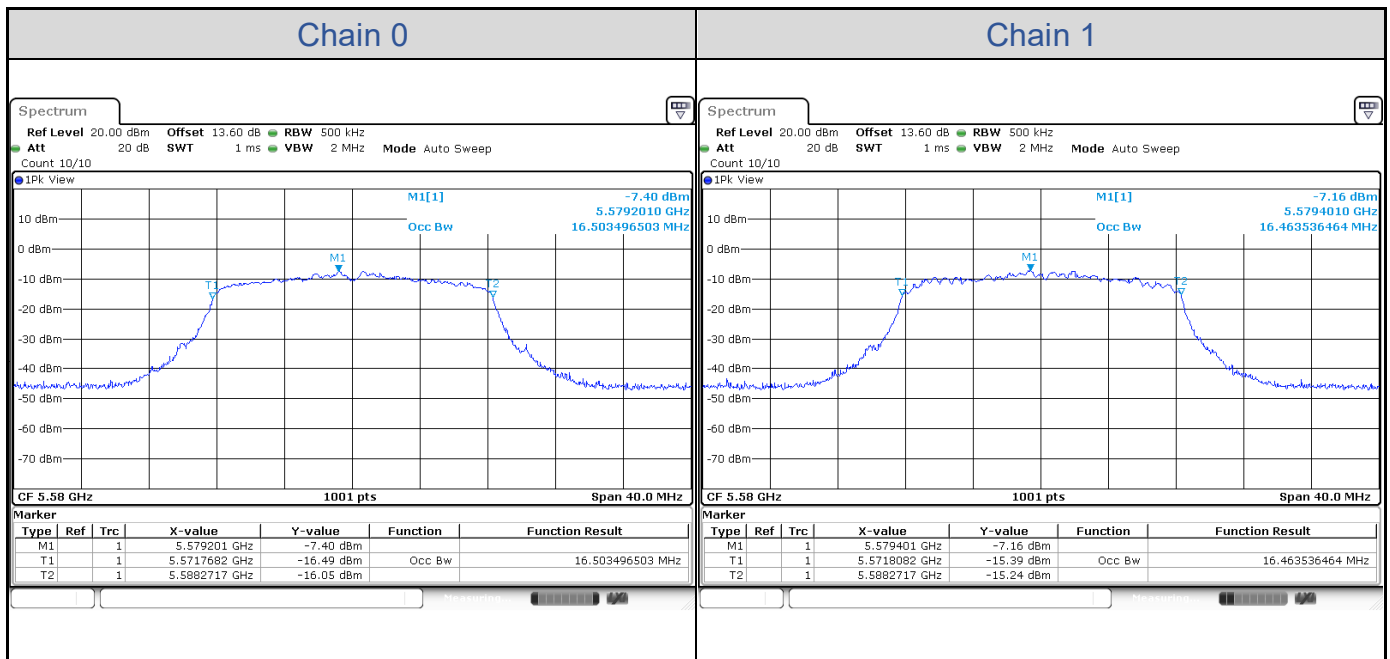
**Test Result of 99% Occupied Bandwidth**
**802.11a**

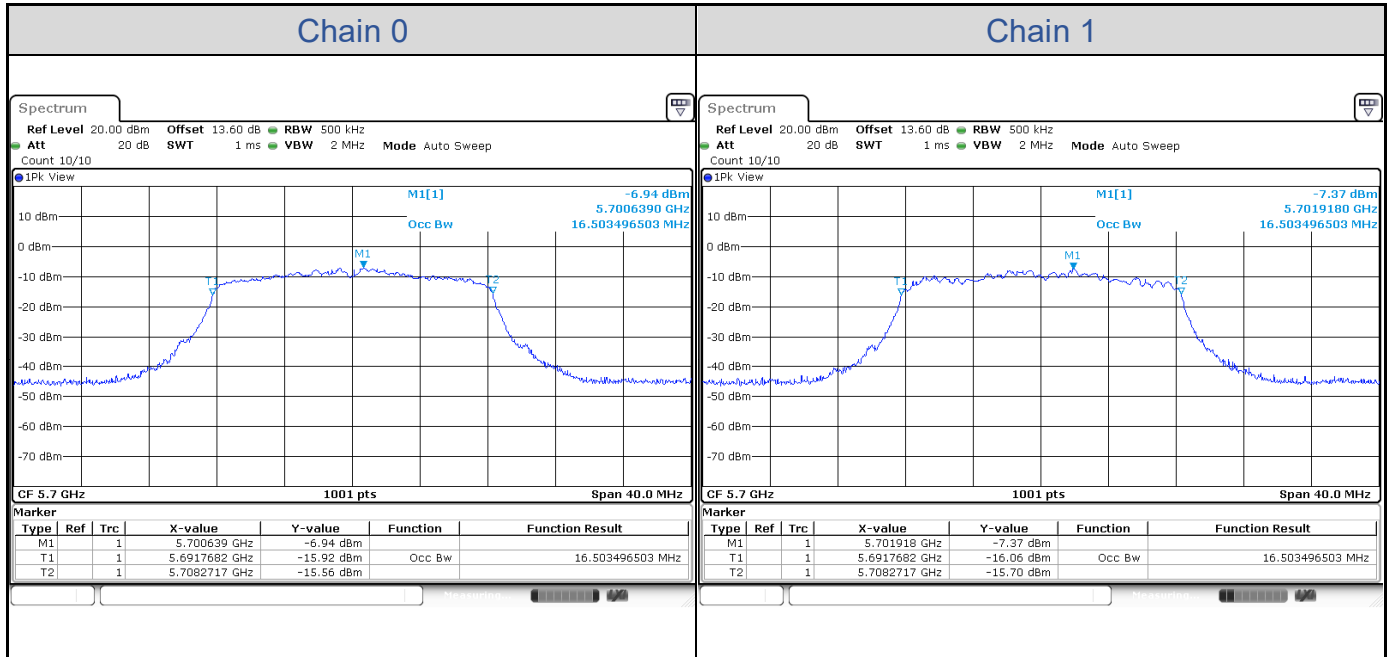
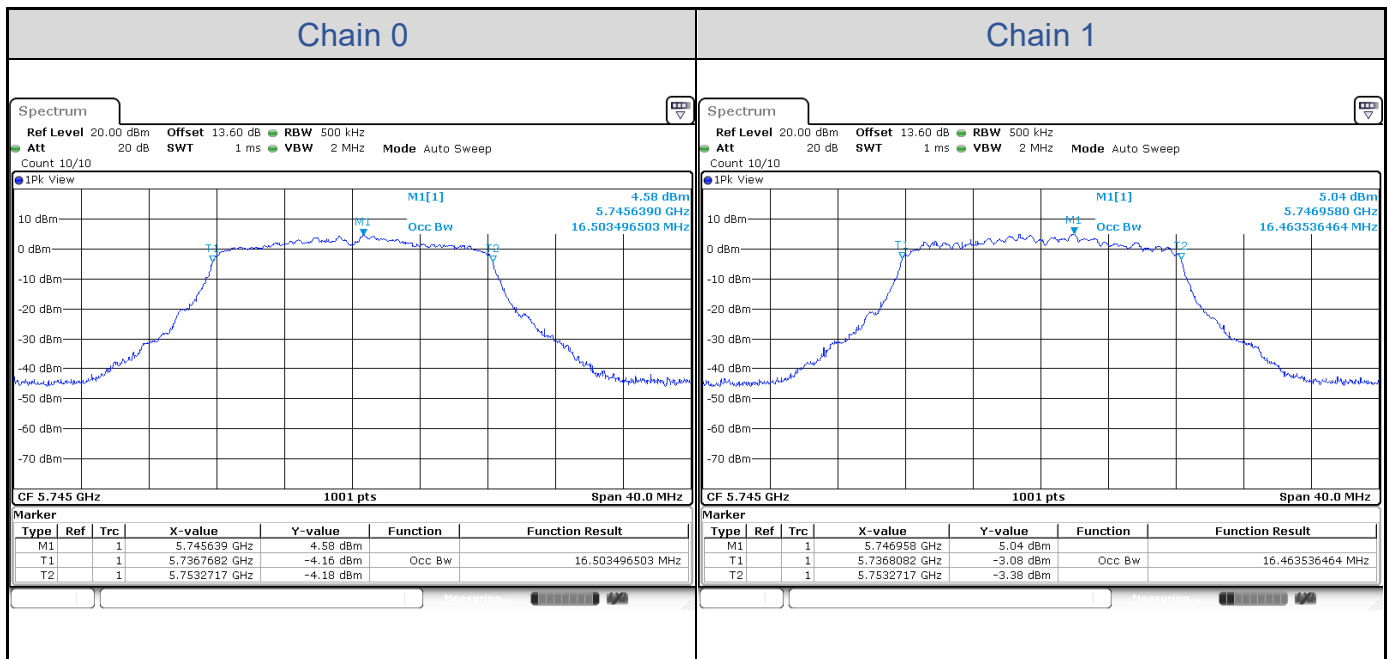
Band	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	36	5180	16.50	16.46
	40	5200	16.50	16.42
	48	5240	16.50	16.42
U-NII-2A	52	5260	16.50	16.46
	60	5300	16.50	16.42
	64	5320	16.50	16.42
U-NII-2C	100	5500	16.50	16.42
	116	5580	16.50	16.46
	140	5700	16.50	16.50
U-NII-3	149	5745	16.50	16.46
	157	5785	16.50	16.50
	165	5825	16.50	16.50

**802.11a-Channel 36**

**802.11a-Channel 40**


**802.11a-Channel 48**

**802.11a-Channel 52**


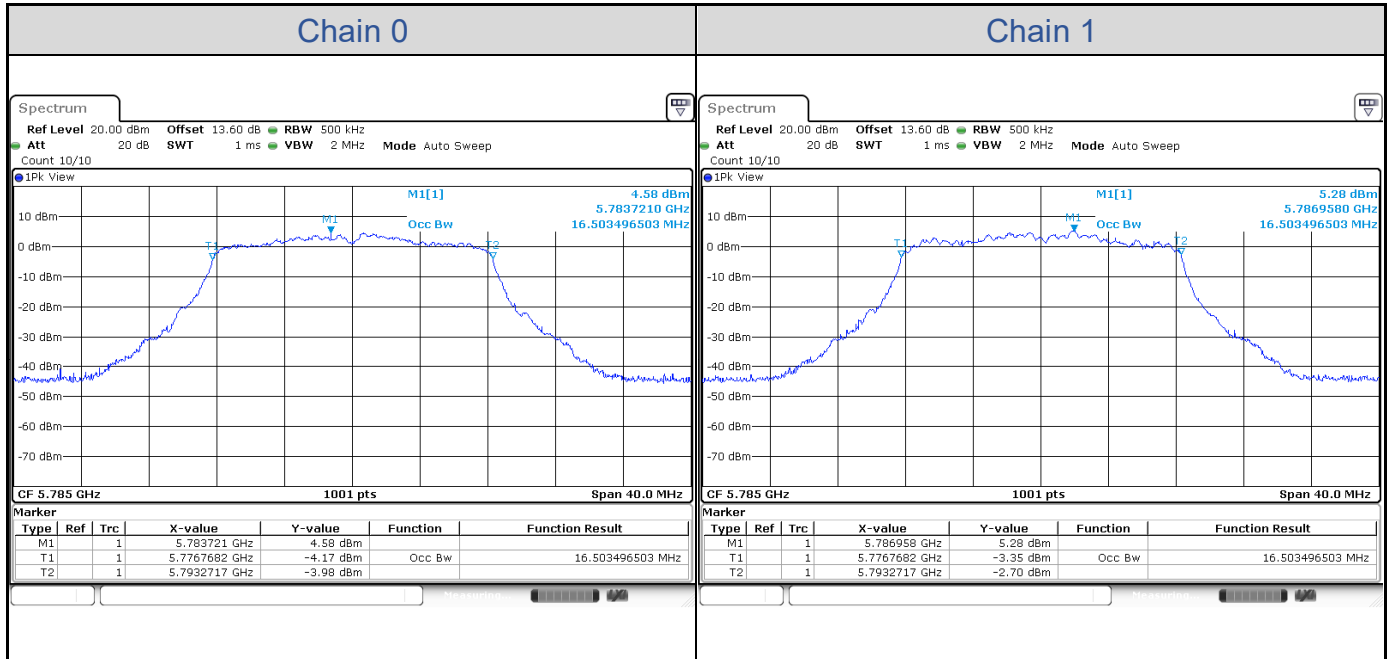
**802.11a-Channel 60**

**802.11a-Channel 64**


**802.11a-Channel 100**

**802.11a-Channel 116**


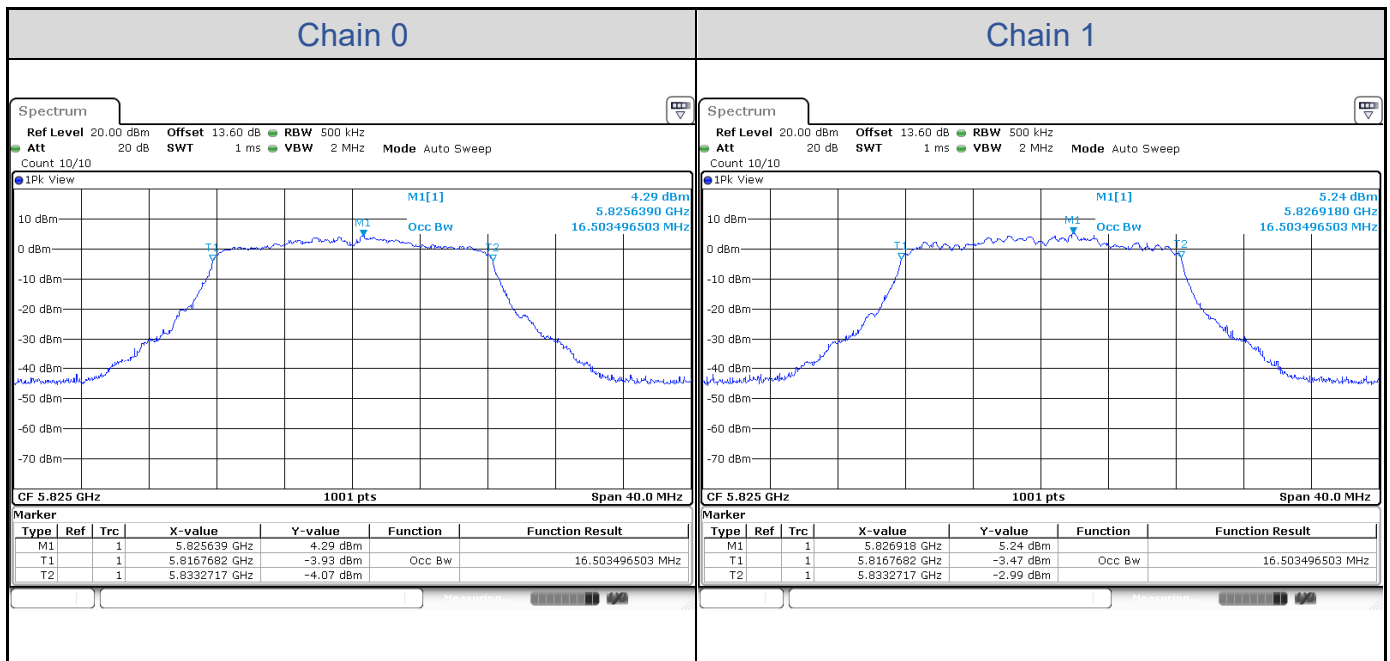
**802.11a-Channel 140**

**802.11a-Channel 149**




802.11a-Channel 157

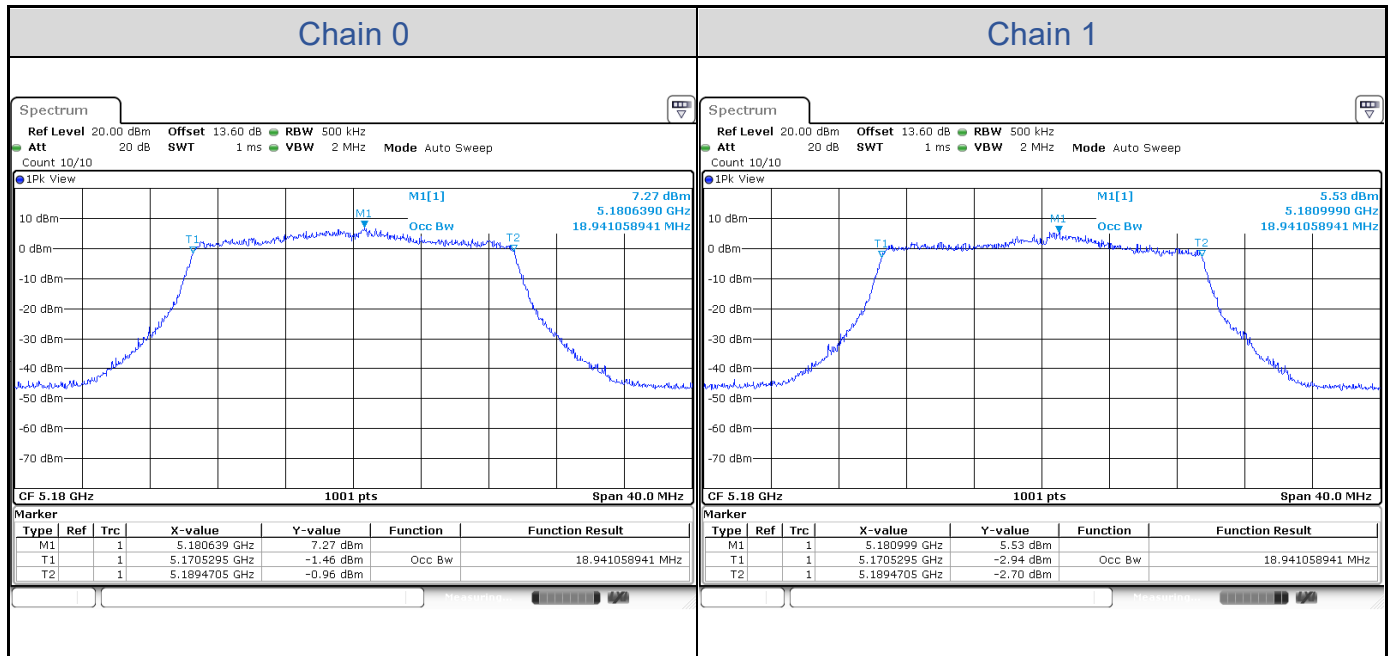


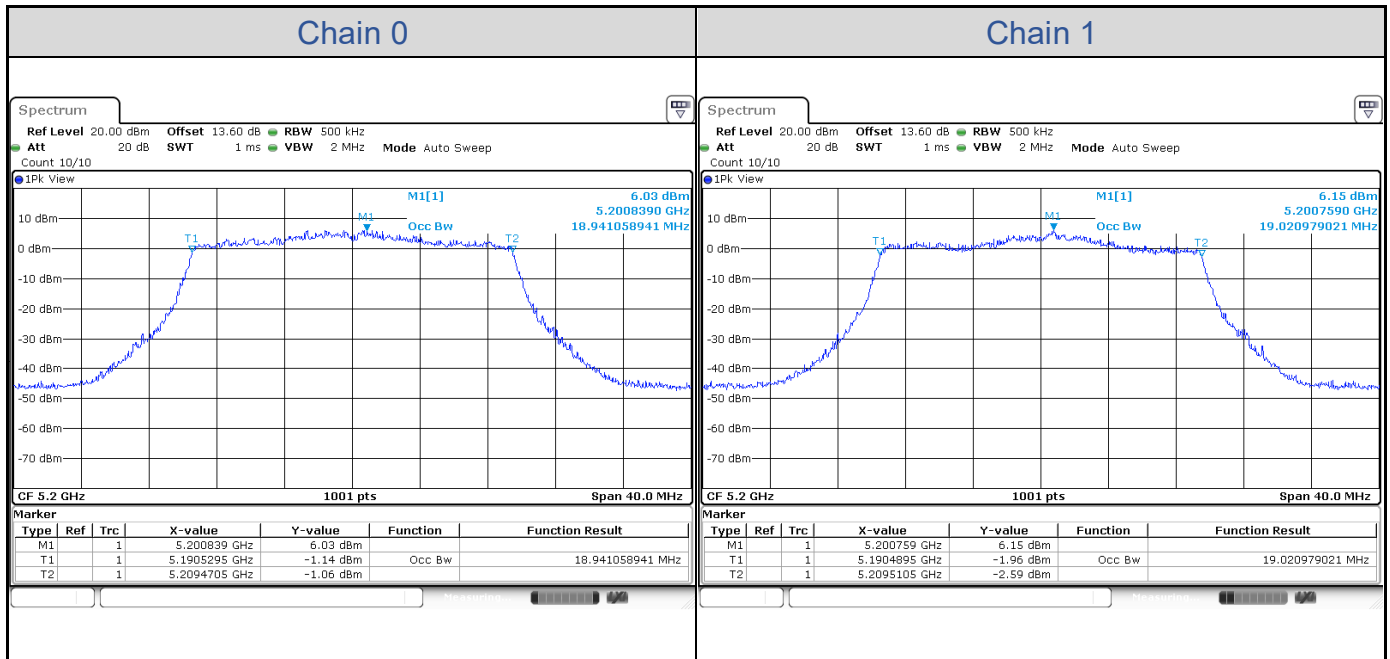
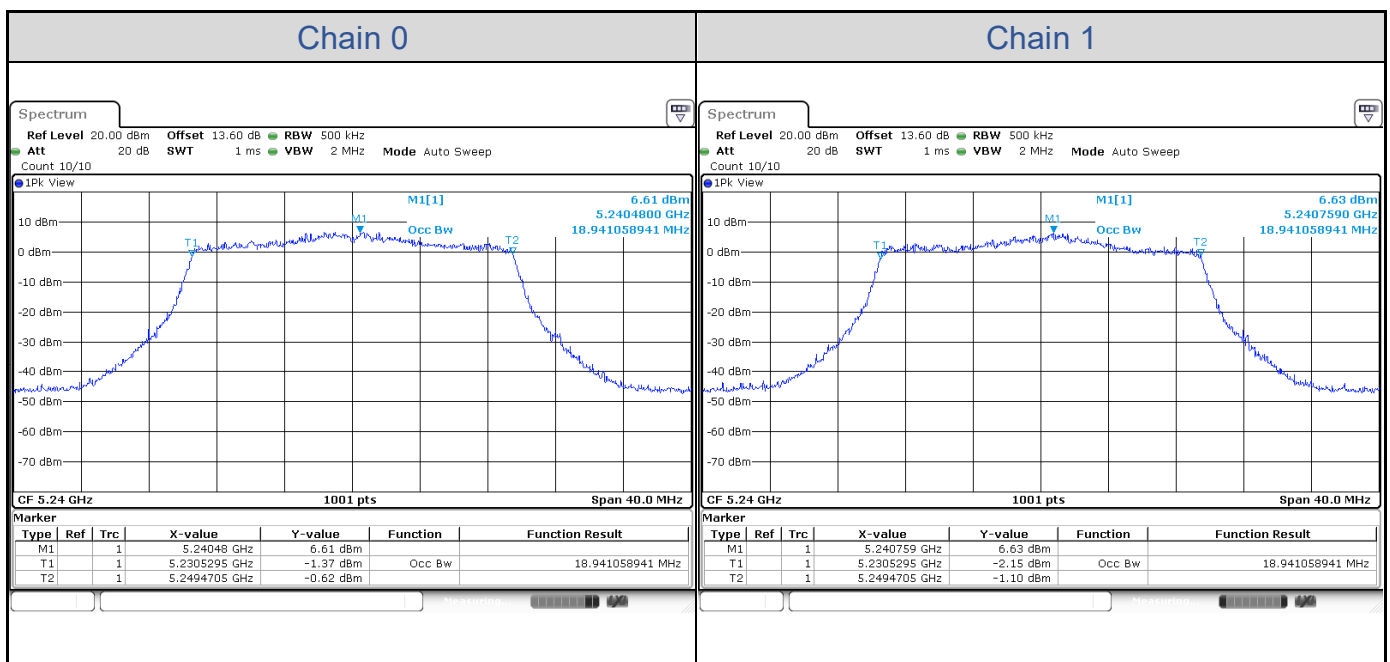
802.11a-Channel 165

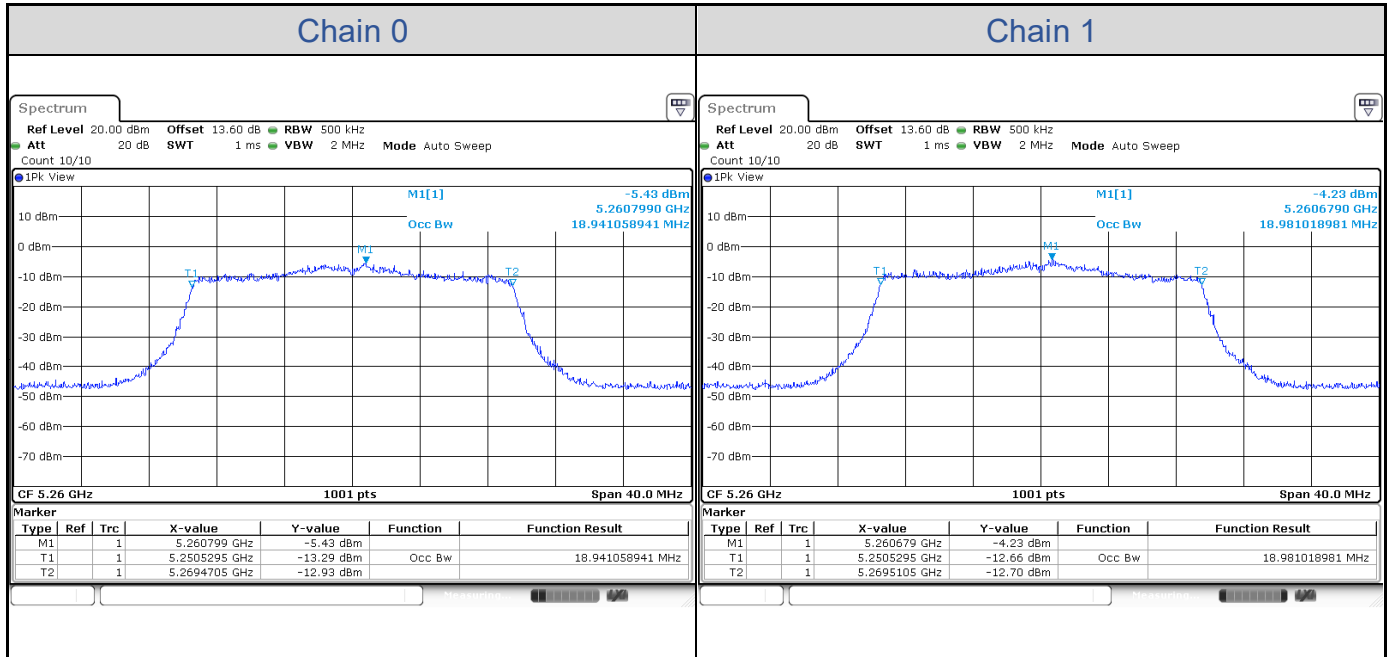
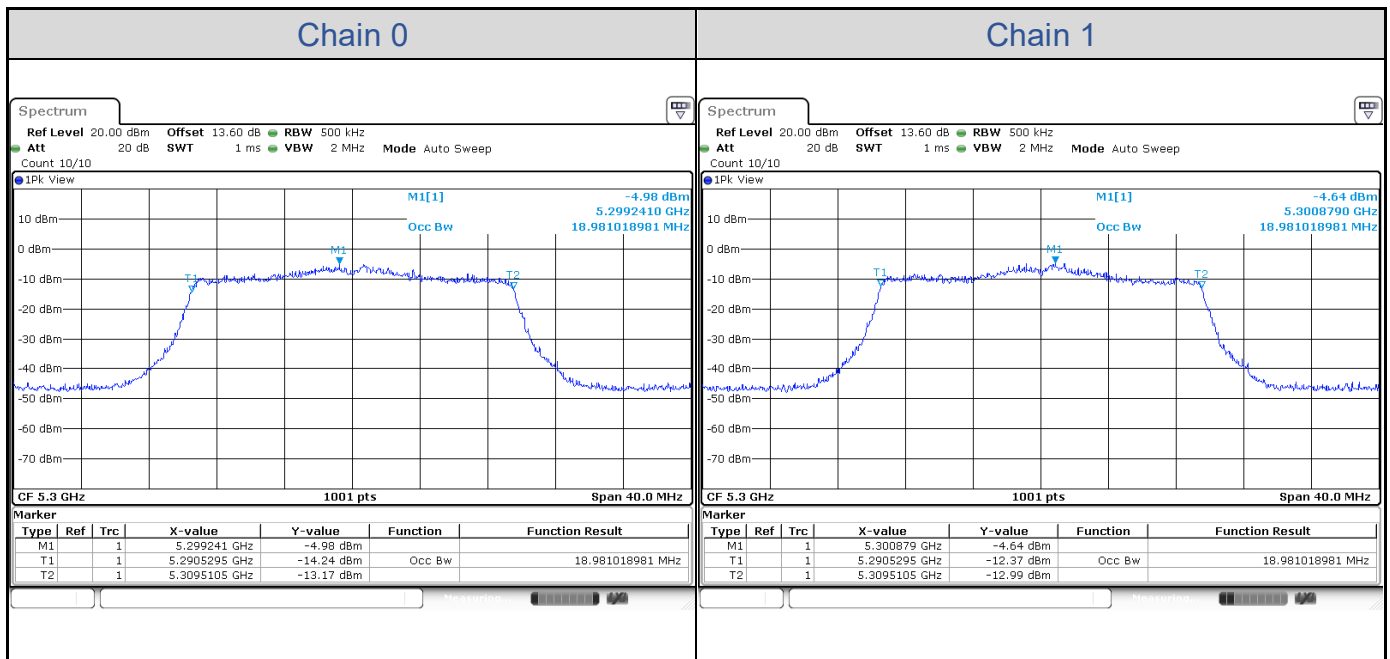


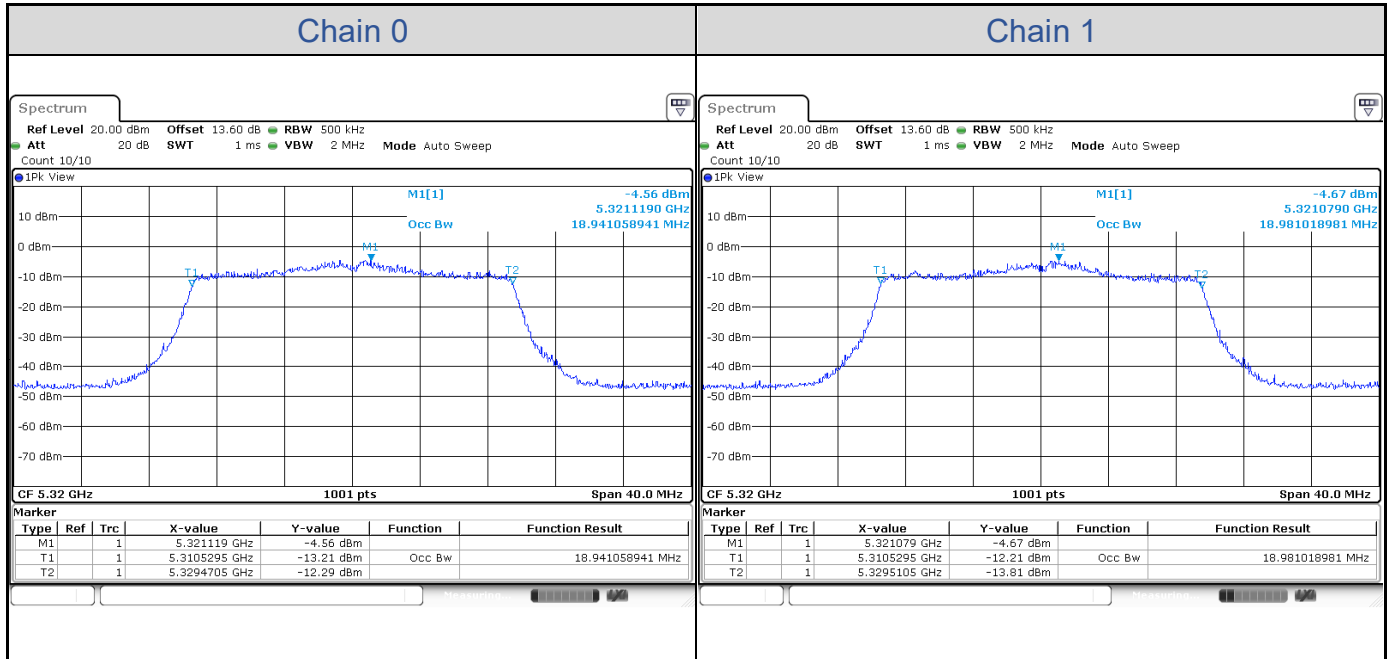
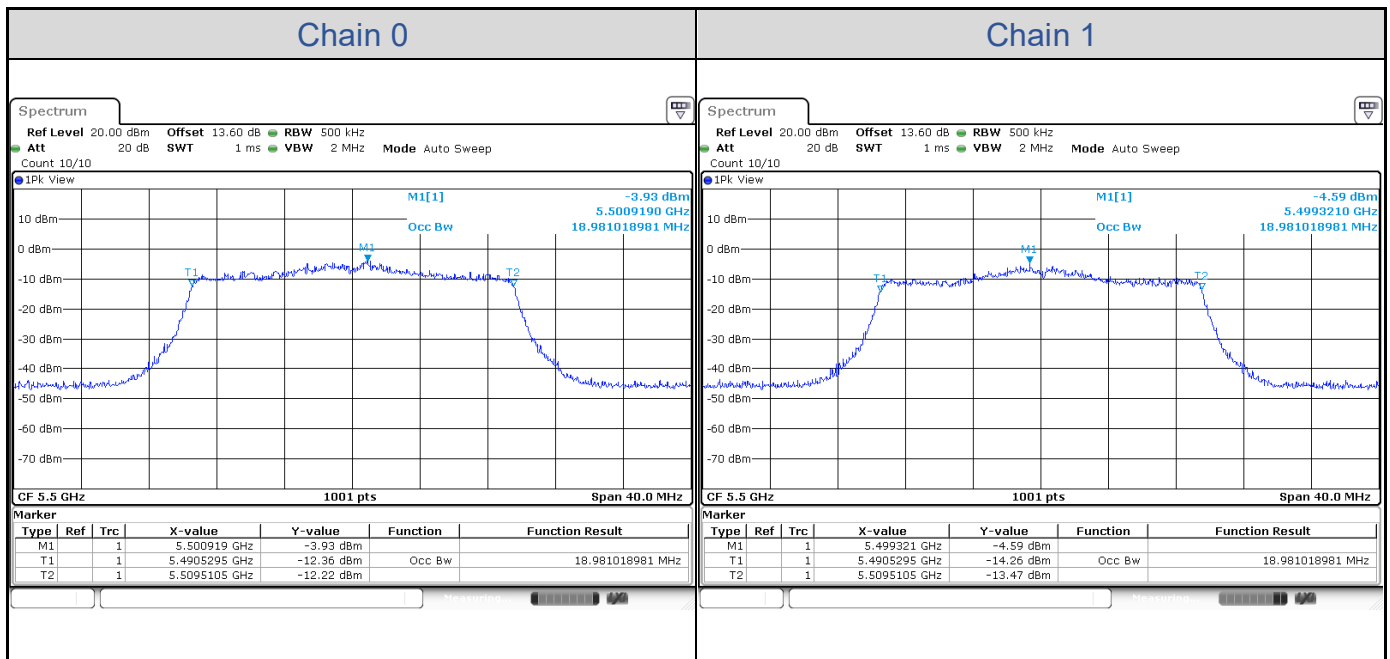
**802.11ax HE20**

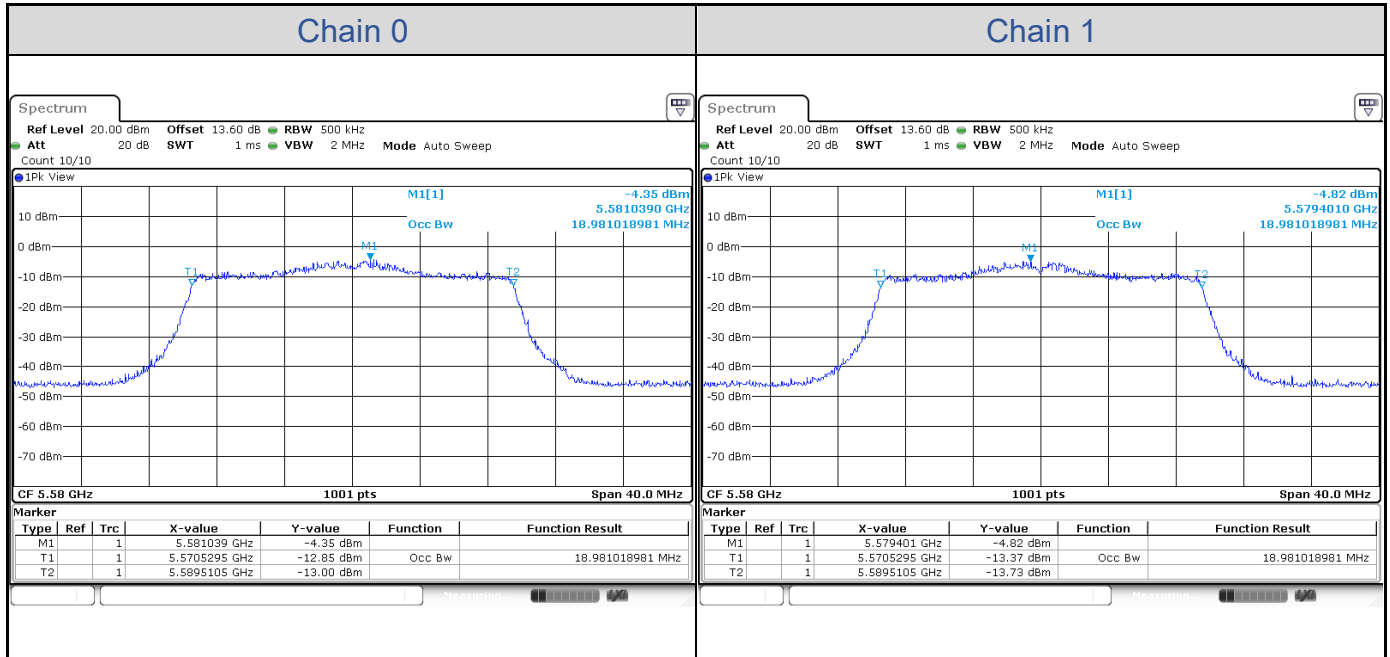
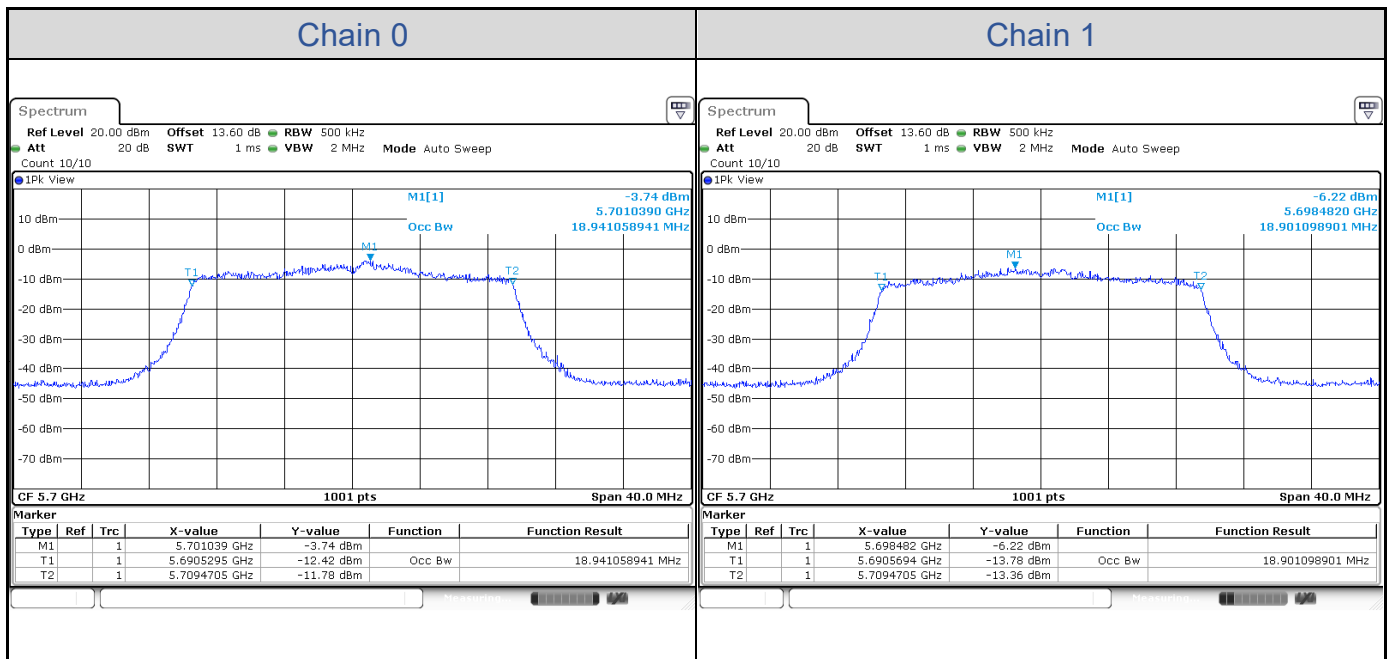
Band	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	36	5180	18.94	18.94
	40	5200	18.94	19.02
	48	5240	18.94	18.94
U-NII-2A	52	5260	18.94	18.98
	60	5300	18.98	18.98
	64	5320	18.94	18.98
U-NII-2C	100	5500	18.98	18.98
	116	5580	18.98	18.98
	140	5700	18.94	18.90
U-NII-3	149	5745	18.98	18.90
	157	5785	18.94	18.90
	165	5825	18.94	18.86

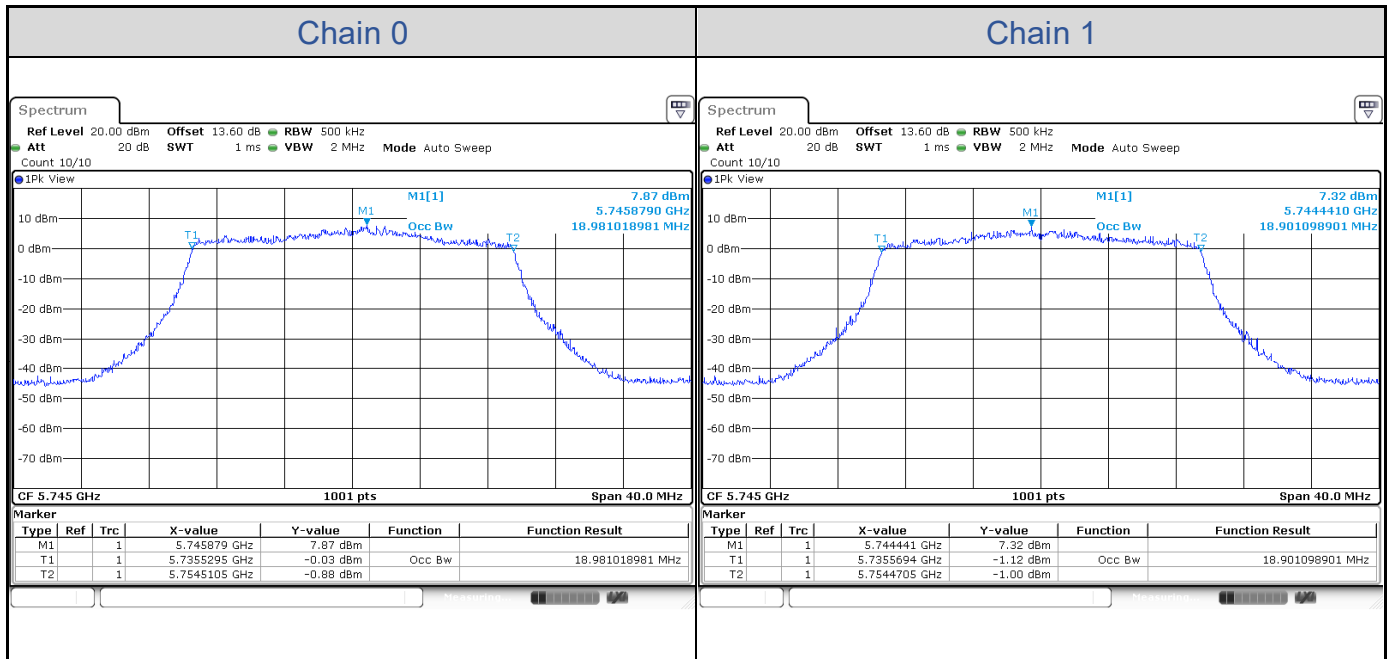
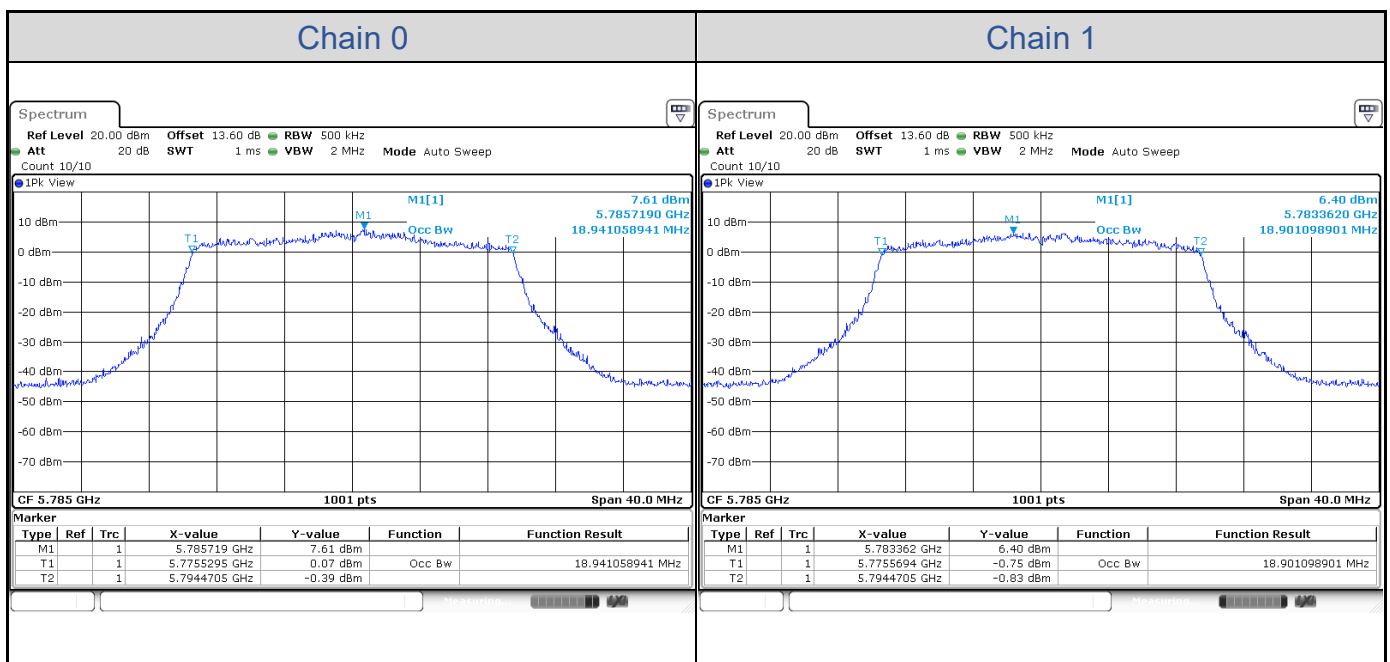
**802.11ax HE20-Channel 36**


**802.11ax HE20-Channel 40**

**802.11ax HE20-Channel 48**


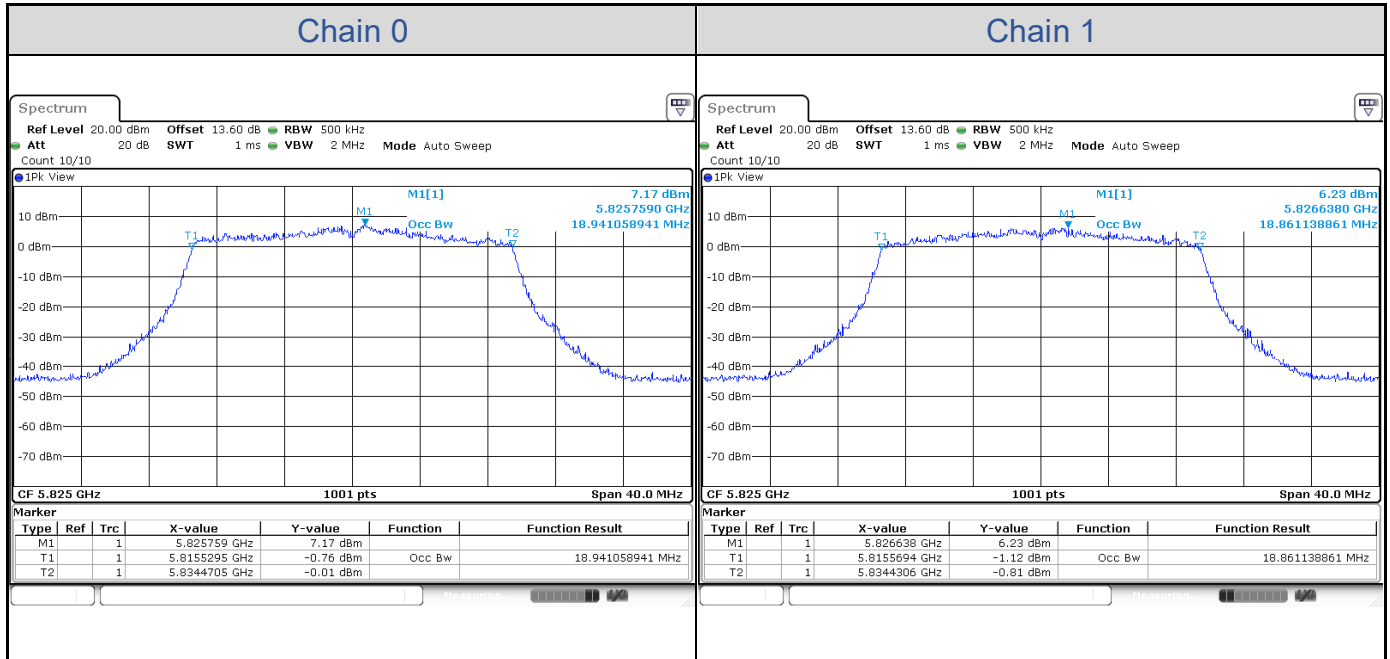
**802.11ax HE20-Channel 52**

**802.11ax HE20-Channel 60**


**802.11ax HE20-Channel 64**

**802.11ax HE20-Channel 100**


**802.11ax HE20-Channel 116**

**802.11ax HE20-Channel 140**


**802.11ax HE20-Channel 149**

**802.11ax HE20-Channel 157**


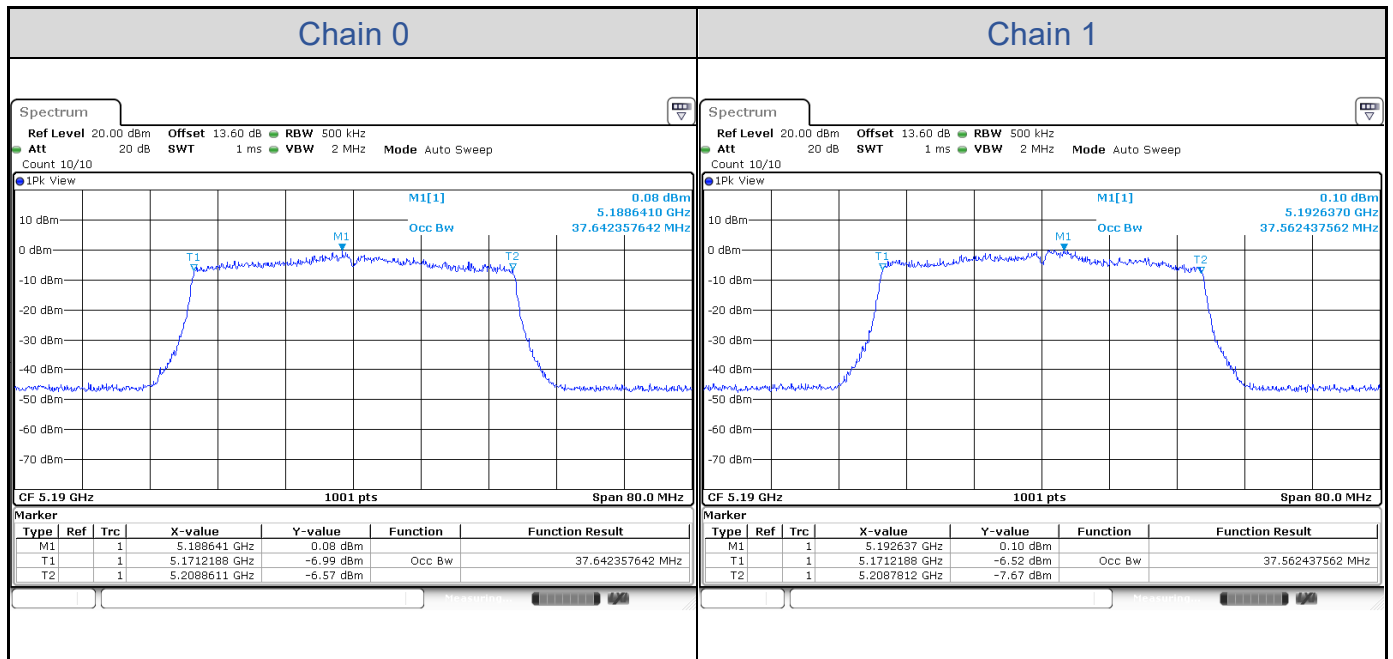
802.11ax HE20-Channel 165

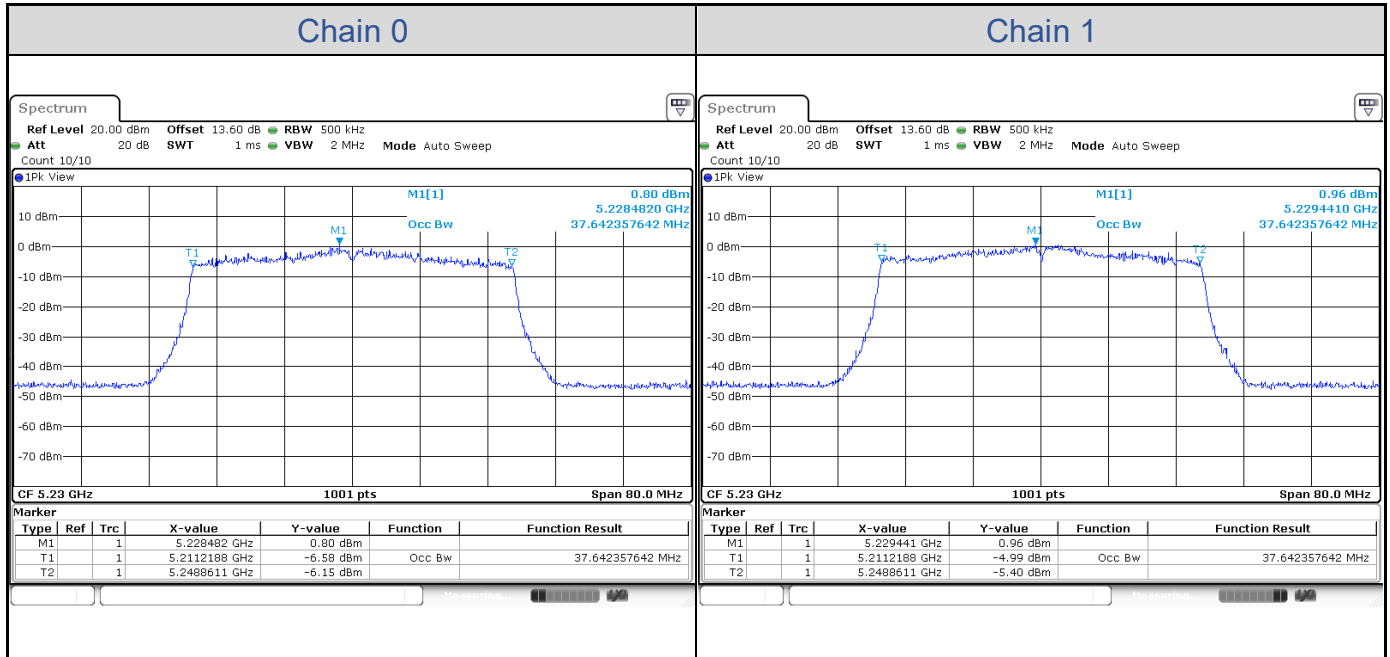
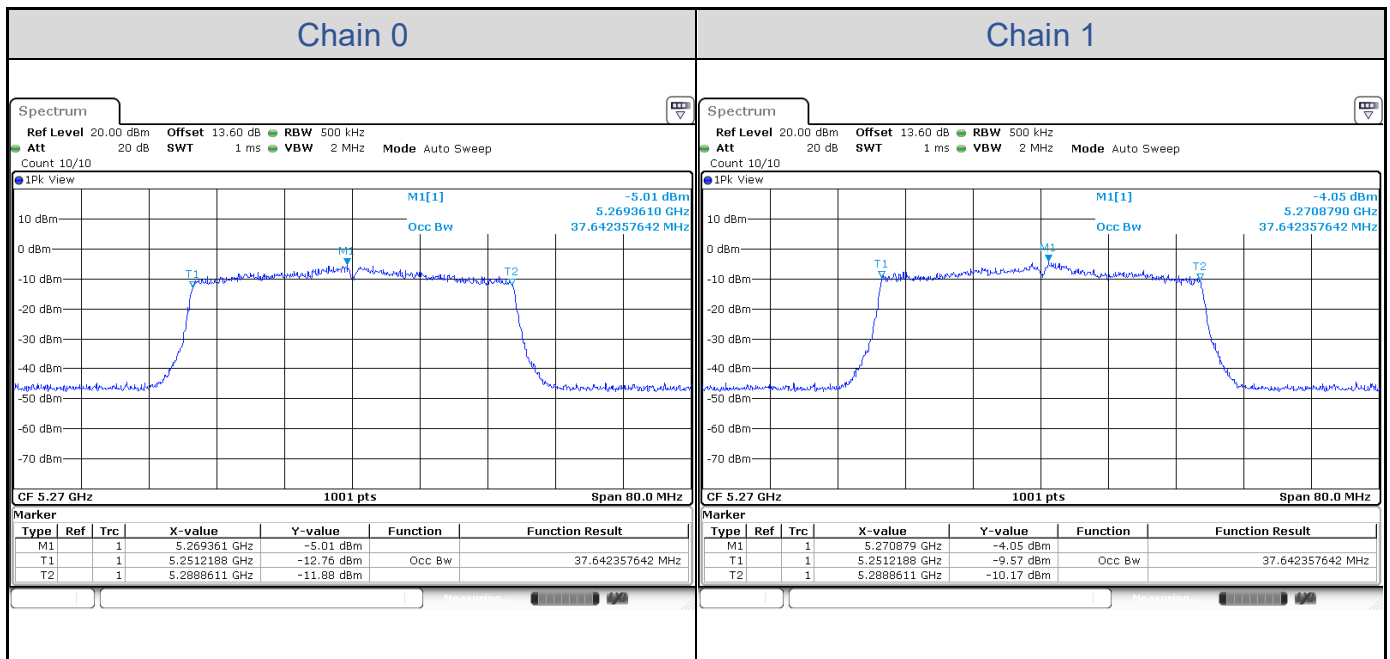


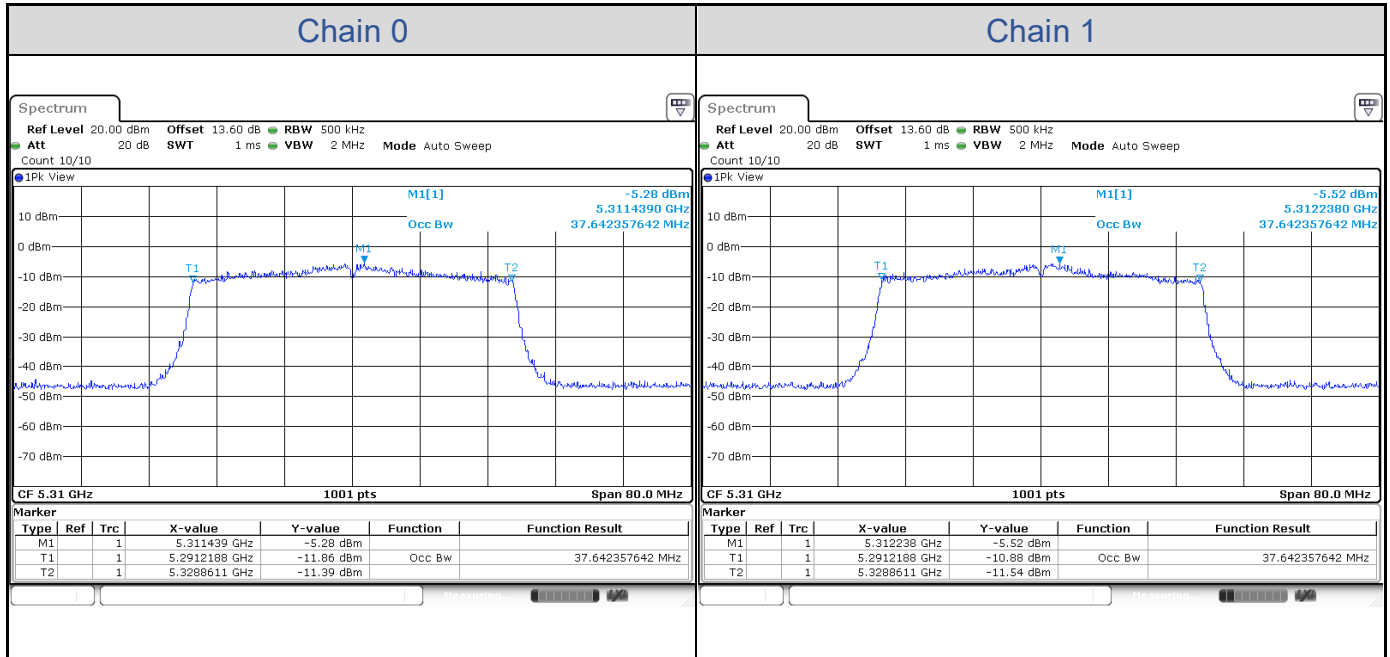
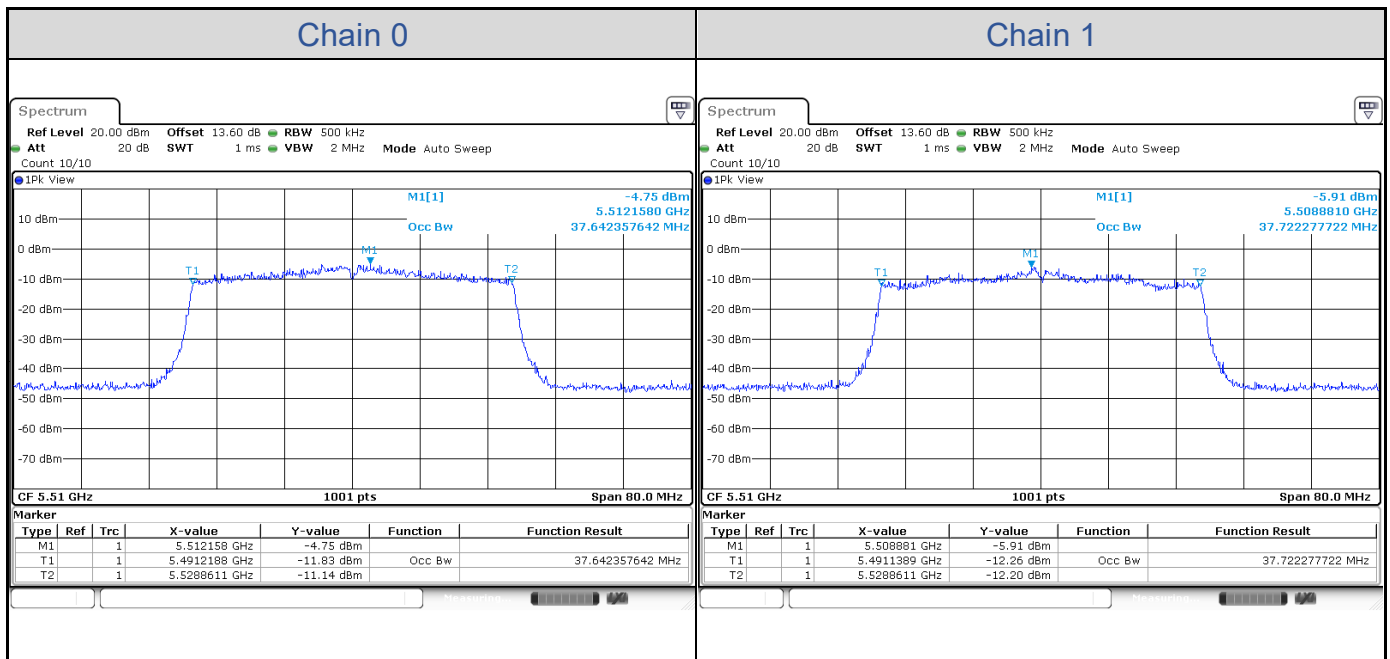


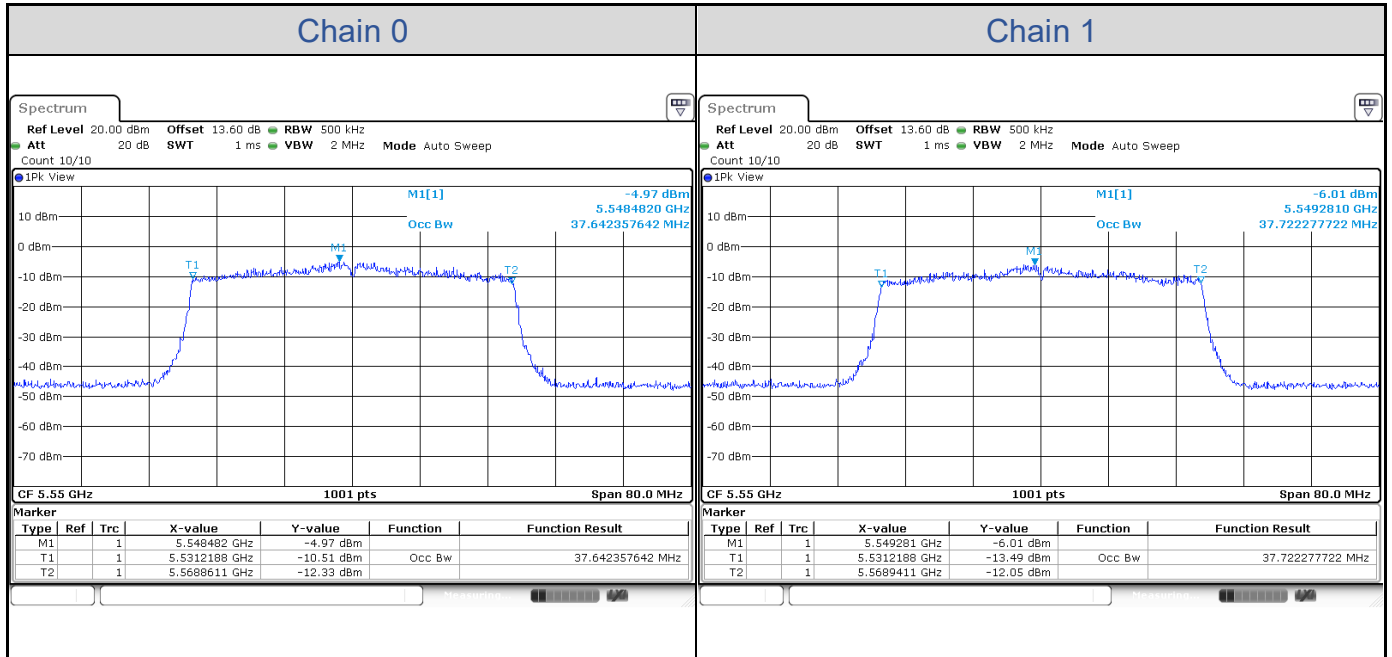
**802.11ax HE40**

Band	Channel	Frequency (MHz)	99% Bandwidth (MHz)	
			Chain 0	Chain 1
U-NII-1	38	5190	37.64	37.56
	46	5230	37.64	37.64
U-NII-2A	54	5270	37.64	37.64
	62	5310	37.64	37.64
U-NII-2C	102	5510	37.64	37.72
	110	5550	37.64	37.72
	134	5670	37.64	37.56
U-NII-3	151	5755	37.56	37.48
	159	5795	37.64	37.48

**802.11ax HE40-Channel 38**


**802.11ax HE40-Channel 46**

**802.11ax HE40-Channel 54**


**802.11ax HE40-Channel 62**

**802.11ax HE40-Channel 102**


**802.11ax HE40-Channel 110**

**802.11ax HE40-Channel 134**
