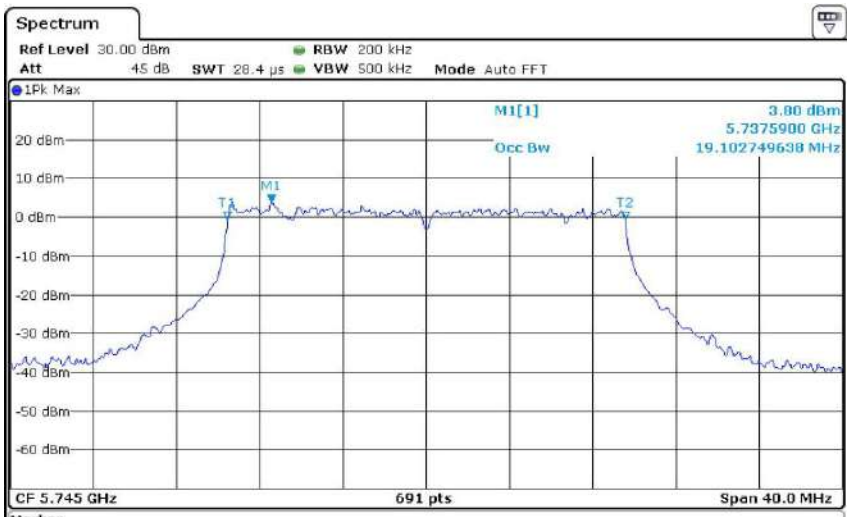
99% OBW 802.11ax20

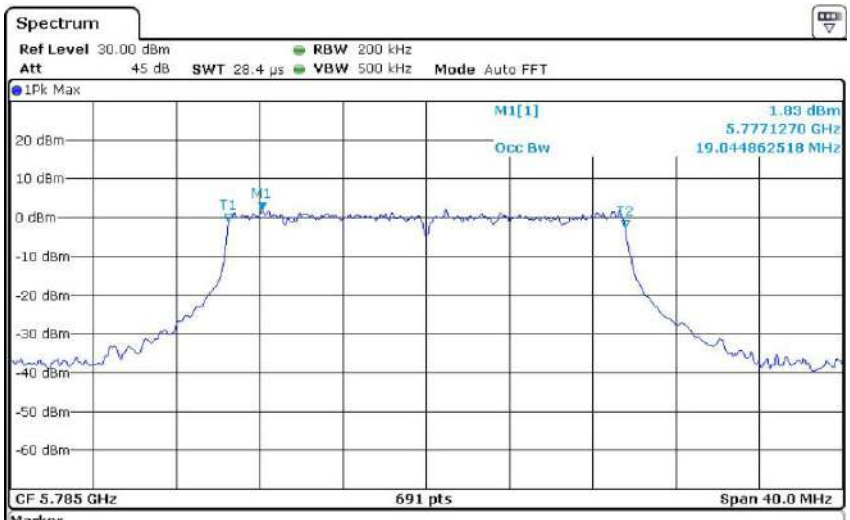
Channel:149



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73759 GHz	3.80 dBm		
T1		1	5.7354486 GHz	-0.55 dBm	Occ Bw	19.102749638 MHz
T2		1	5.7545514 GHz	-0.56 dBm		

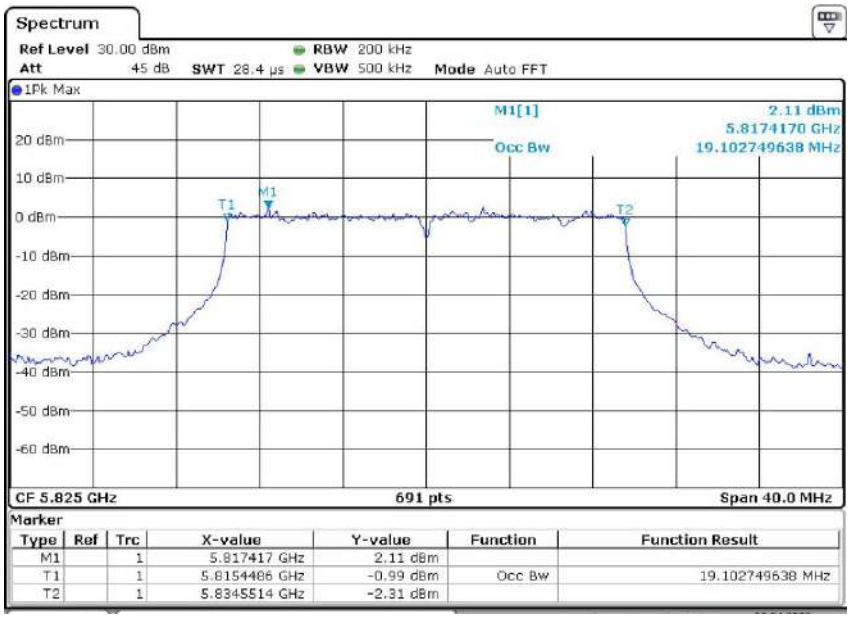
Channel: 157



Marker

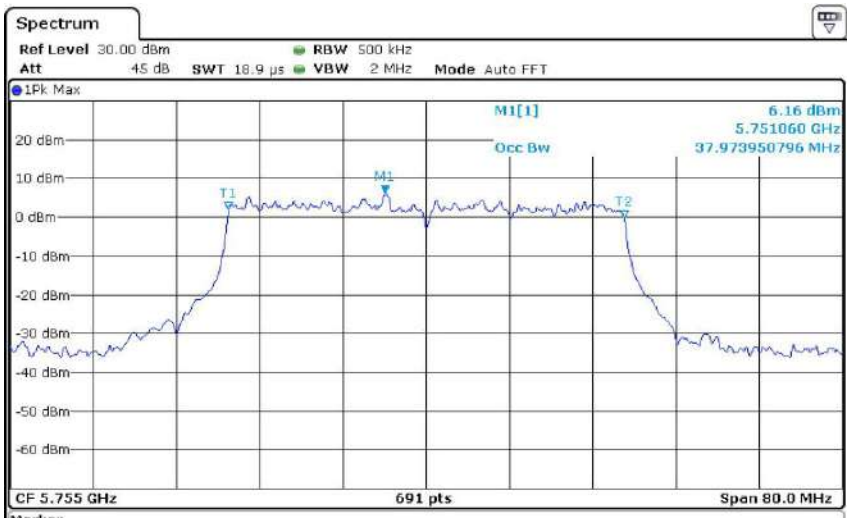
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.777127 GHz	1.83 dBm		
T1		1	5.7755065 GHz	-0.96 dBm	Occ Bw	19.044862518 MHz
T2		1	5.7945514 GHz	-2.77 dBm		

Channel: 165


Spectrum
Ref Level 30.00 dBm
RBW 200 kHz
Att 45 dB
SWT 28.4 µs
VBW 500 kHz
Mode Auto FFT
1Pk Max
M1[1]
2.11 dBm
5.8174170 GHz
Occ Bw
19.102749638 MHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
M1
T2
CF 5.825 GHz
691 pts
Span 40.0 MHz
Marker
Type | Ref | Trc | X-value | Y-value | Function | Function Result
M1 | | 1 | 5.817417 GHz | 2.11 dBm | |
T1 | | 1 | 5.8154486 GHz | -0.99 dBm | Occ Bw | 19.102749638 MHz
T2 | | 1 | 5.8345514 GHz | -2.31 dBm | |

99% OBW 802.11ax40

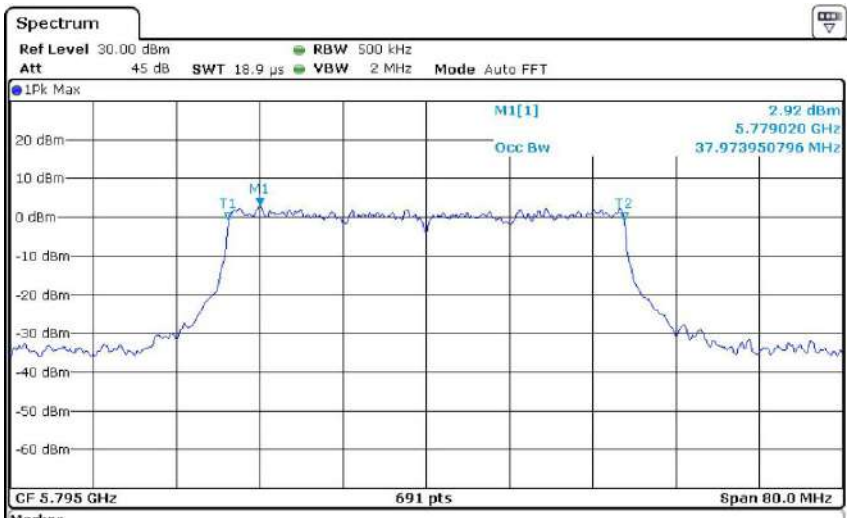
Channel: 151



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.75106 GHz	6.16 dBm		
T1		1	5.736013 GHz	1.95 dBm	Occ Bw	37.973950796 MHz
T2		1	5.773987 GHz	-0.18 dBm		

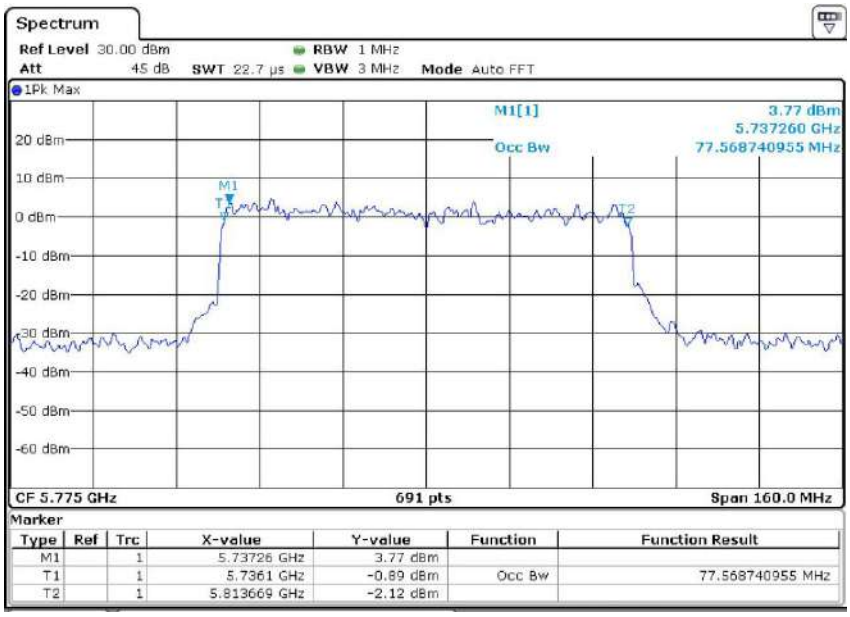
Channel: 159



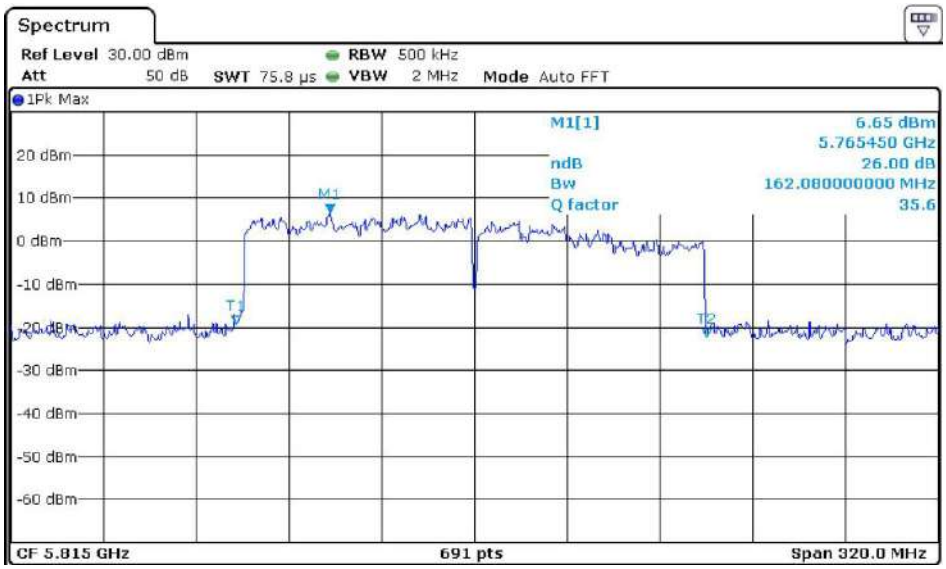
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.77902 GHz	2.92 dBm		
T1		1	5.776013 GHz	-0.77 dBm	Occ Bw	37.973950796 MHz
T2		1	5.813987 GHz	-0.81 dBm		

99% OBW 802.11ax80
Channel: 155



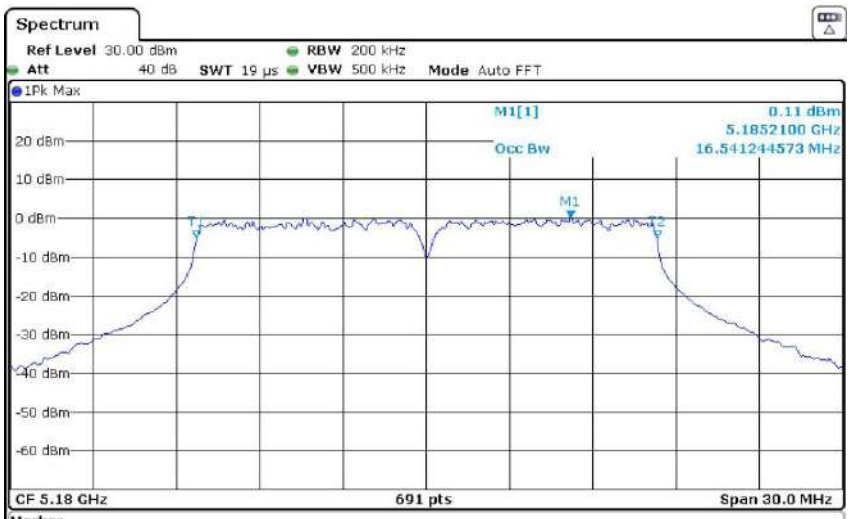
99% OBW 802.11ax160
Channel: 163



Test plots as followed: CHAIN 1

99% OBW 802.11a

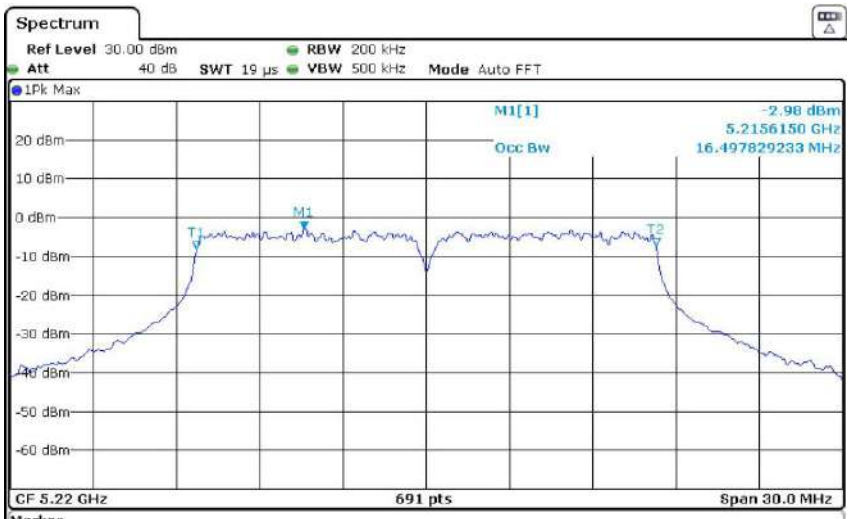
Channel: 36



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.18521 GHz	0.11 dBm		
T1		1	5.1717511 GHz	-5.04 dBm	Occ Bw	16.541244573 MHz
T2		1	5.1882923 GHz	-5.26 dBm		

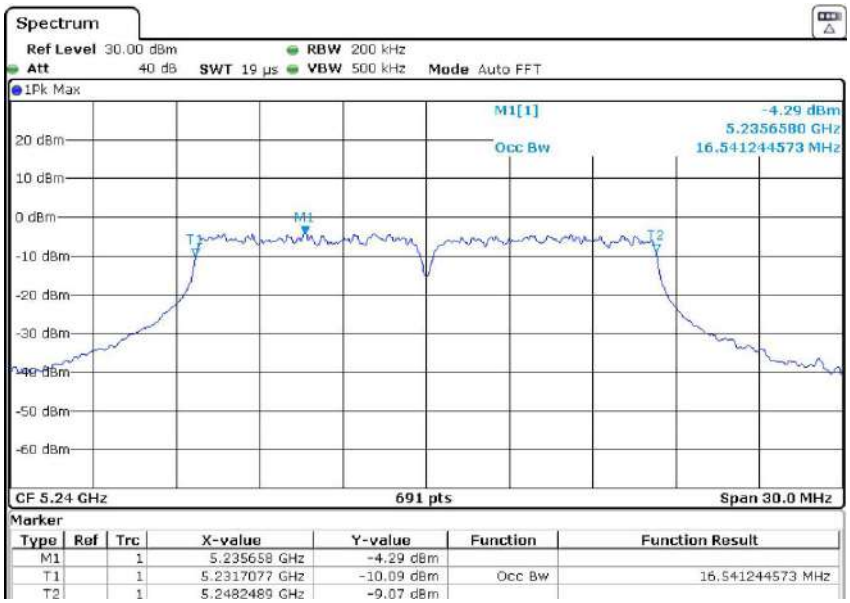
Channel: 44



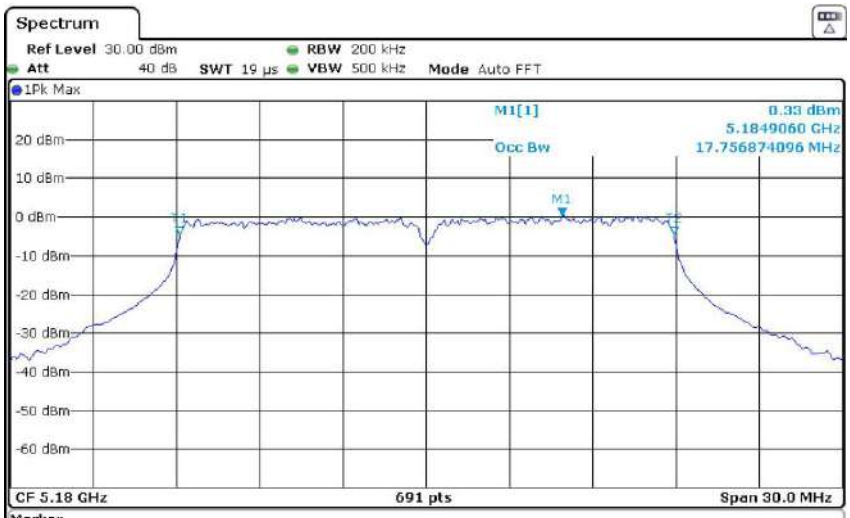
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.215615 GHz	-2.98 dBm		
T1		1	5.2117511 GHz	-8.01 dBm	Occ Bw	16.497829233 MHz
T2		1	5.2282489 GHz	-7.43 dBm		

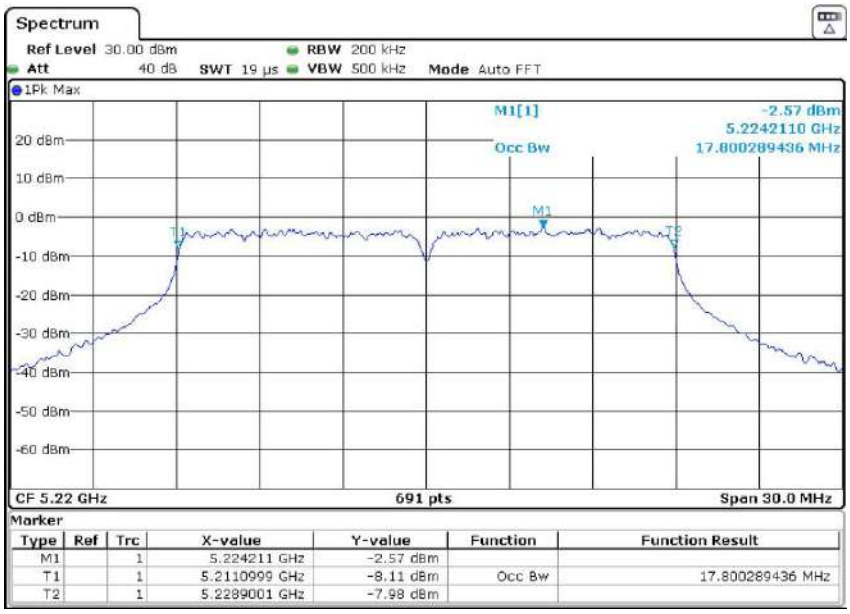
Channel: 48


Spectrum
Ref Level 30.00 dBm
RBW 200 kHz
Att 40 dB
SWT 19 µs
VBW 500 kHz
Mode Auto FFT
1Pk Max
M1[1]
-4.29 dBm
5.2356580 GHz
16.541244573 MHz
Occ Bw
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 5.24 GHz
691 pts
Span 30.0 MHz
Marker
Type | Ref | Trc | X-value | Y-value | Function | Function Result
M1 | | 1 | 5.235658 GHz | -4.29 dBm | |
T1 | | 1 | 5.2317077 GHz | -10.09 dBm | Occ Bw | 16.541244573 MHz
T2 | | 1 | 5.2482489 GHz | -9.07 dBm | |

99% OBW 802.11n20
Channel: 36



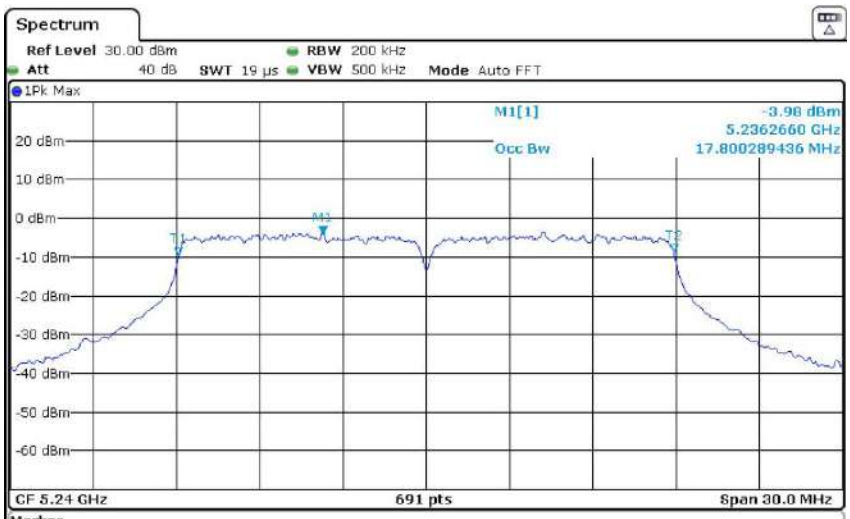
Channel: 44



Plot No.174, UdyogVihar Phase 4, Sector -18, Gurgaon -122016, Haryana, India

Contact: 0124-4235350, 4145343; e-mail: info @aaemtlabs.com; Website: www.aaemtlabs.com

Channel: 48

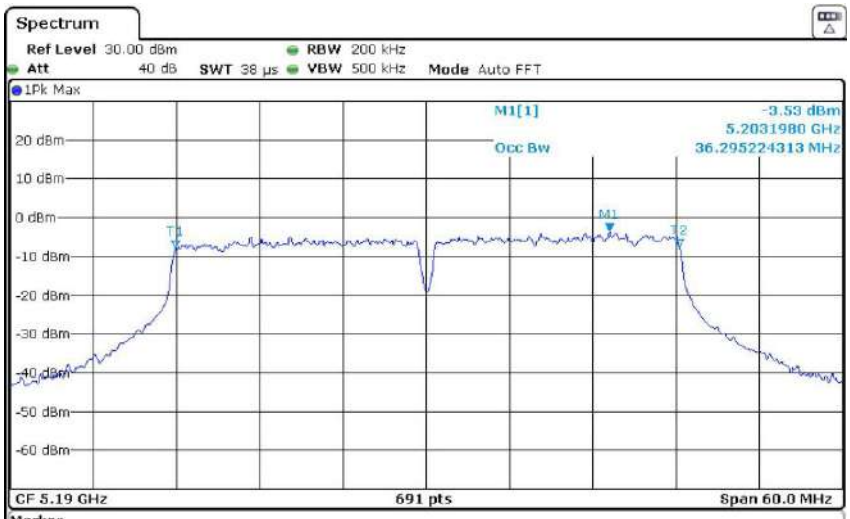


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.236266 GHz	-3.98 dBm		
T1		1	5.2310999 GHz	-9.42 dBm	Occ Bw	17.800289436 MHz
T2		1	5.2489001 GHz	-8.58 dBm		

99% OBW 802.11n40

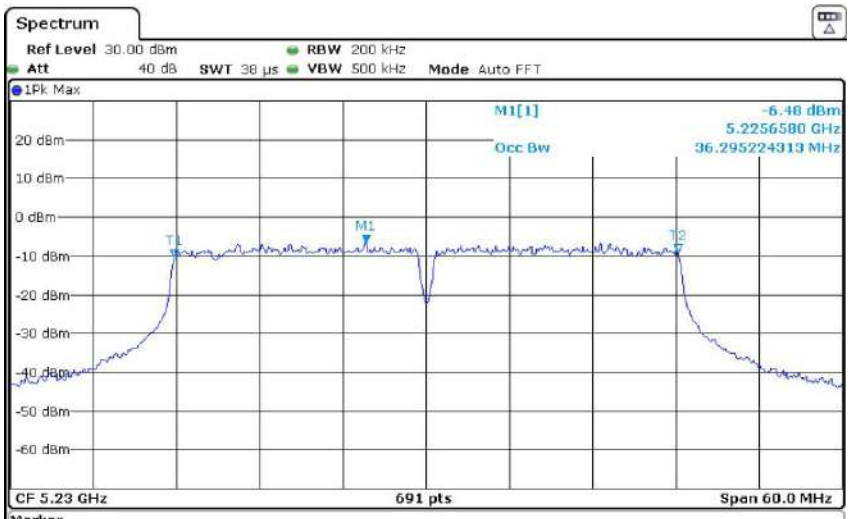
Channel: 38



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.203198 GHz	-3.53 dBm		
T1		1	5.1719392 GHz	-7.85 dBm	Occ Bw	36.295224313 MHz
T2		1	5.2082344 GHz	-7.50 dBm		

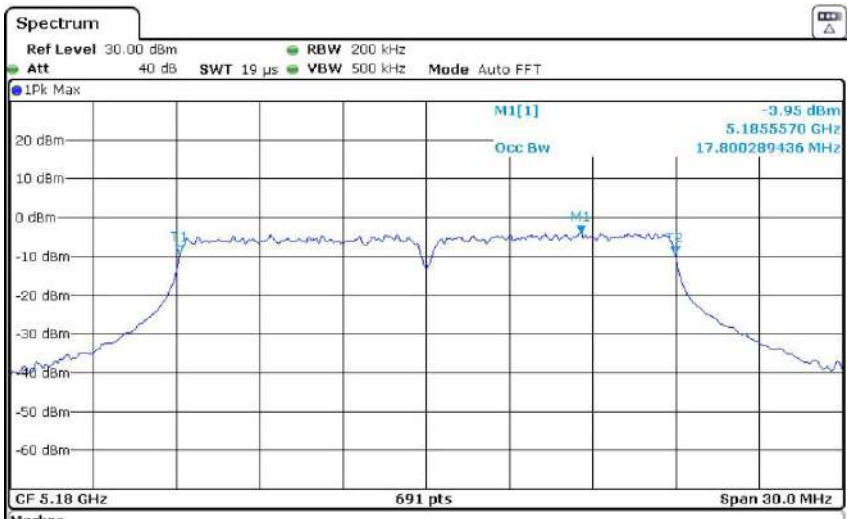
Channel: 46



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.225658 GHz	-6.48 dBm		
T1		1	5.2118524 GHz	-10.42 dBm	Occ Bw	36.295224313 MHz
T2		1	5.2481476 GHz	-9.09 dBm		

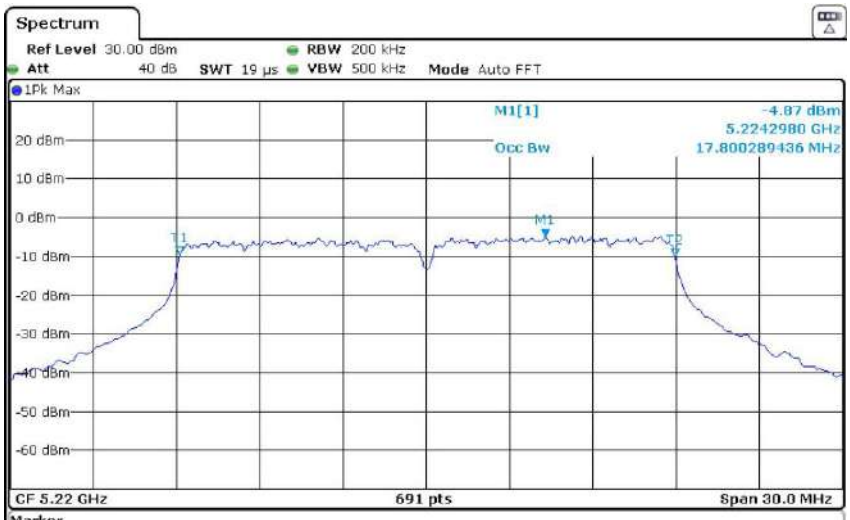
99% OBW 802.11ac20
Channel: 36



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.185557 GHz	-3.95 dBm		
T1		1	5.1711433 GHz	-9.11 dBm	Occ Bw	17.800289436 MHz
T2		1	5.1889436 GHz	-9.41 dBm		

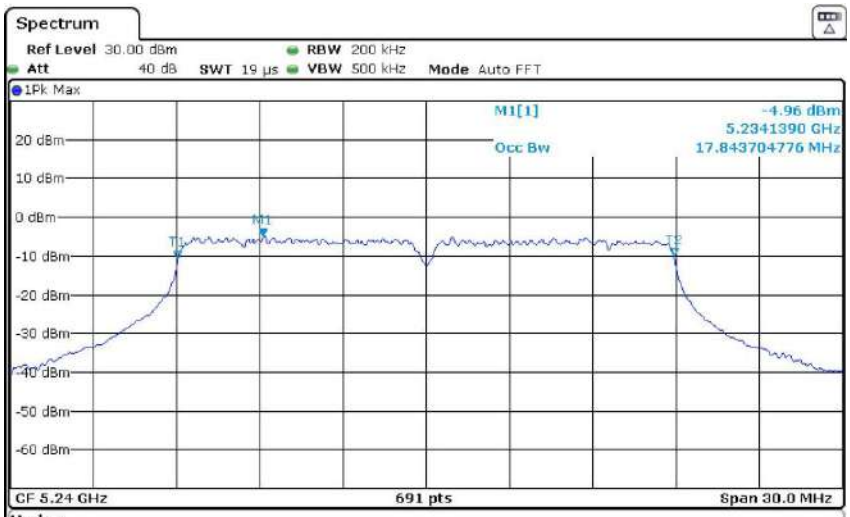
Channel: 44



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.224298 GHz	-4.87 dBm		
T1		1	5.2111433 GHz	-9.61 dBm	Occ Bw	17.800289436 MHz
T2		1	5.2289436 GHz	-10.10 dBm		

Channel: 48

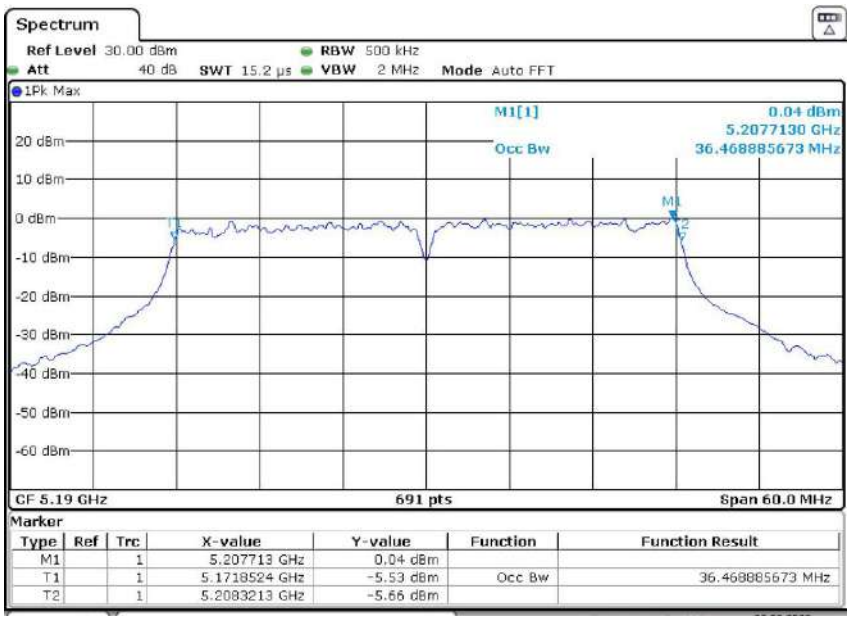


Marker

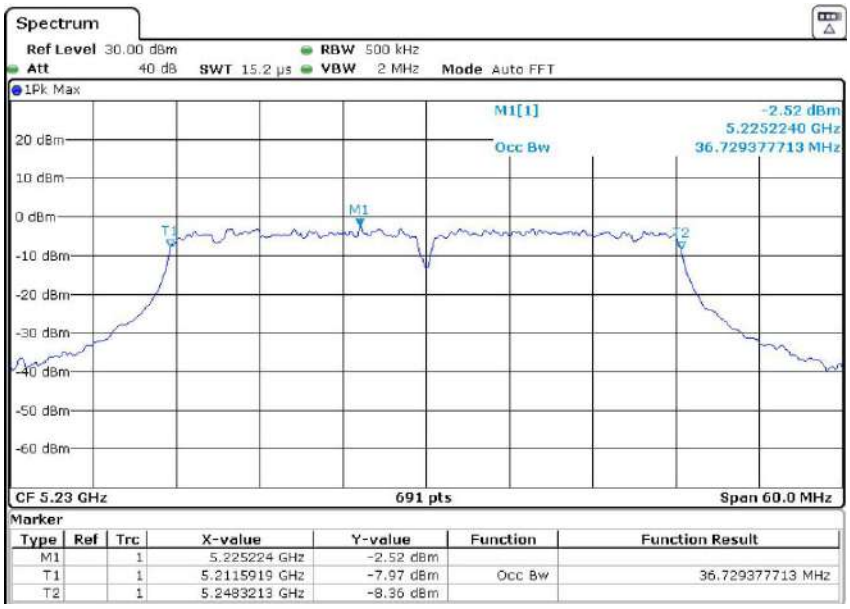
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.234139 GHz	-4.96 dBm		
T1		1	5.2310564 GHz	-10.58 dBm	Occ Bw	17.843704776 MHz
T2		1	5.2489001 GHz	-9.95 dBm		

99% OBW 802.11ac40

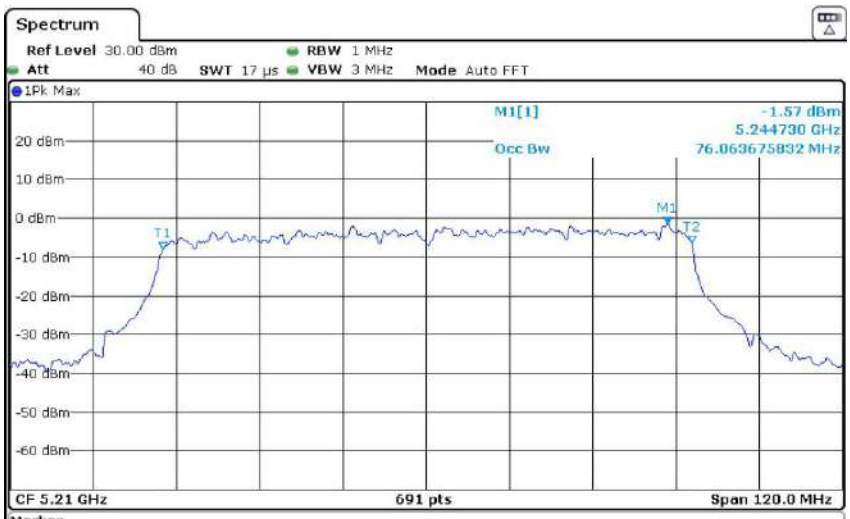
Channel: 38



Channel: 46



99% OBW 802.11ac80
Channel: 42

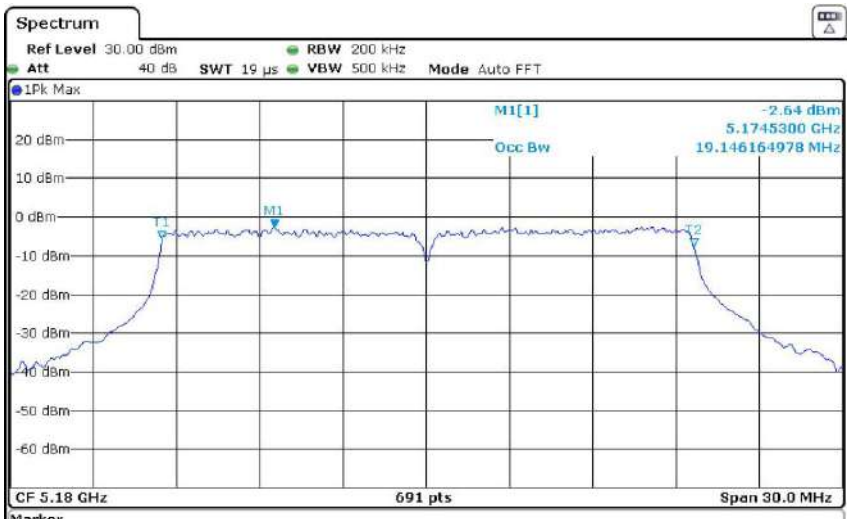


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.24473 GHz	-1.57 dBm		
T1		1	5.172142 GHz	-8.10 dBm	Occ Bw	76.063675832 MHz
T2		1	5.248205 GHz	-6.55 dBm		

99% OBW 802.11ax20

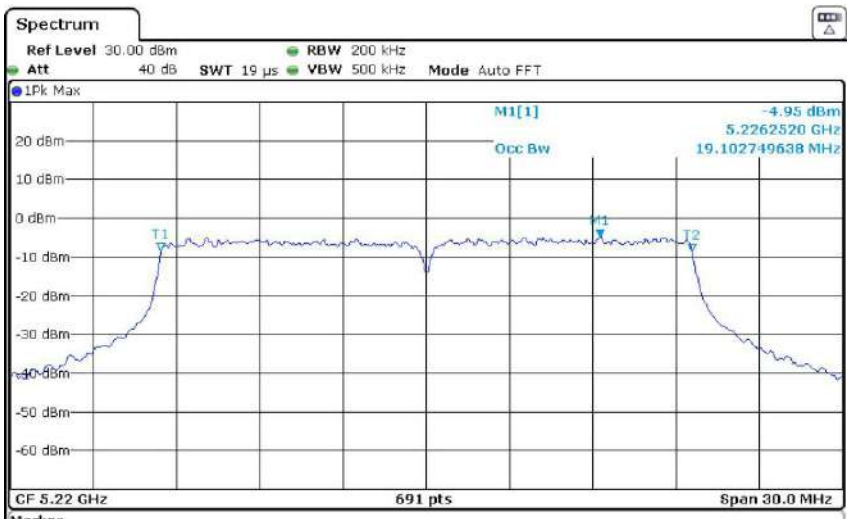
Channel: 36



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.17453 GHz	-2.64 dBm		
T1		1	5.170492 GHz	-5.60 dBm	Occ Bw	19.146164978 MHz
T2		1	5.1896382 GHz	-7.71 dBm		

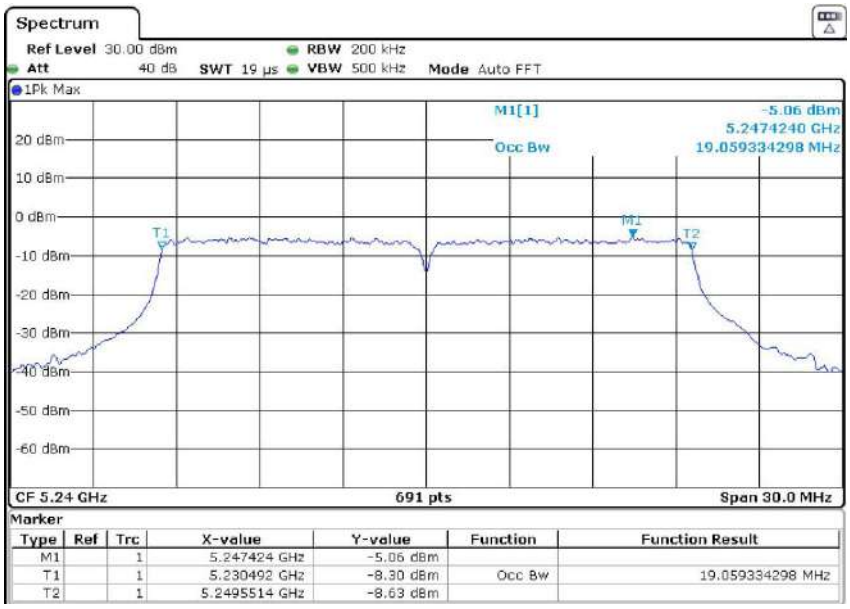
Channel: 44



Marker

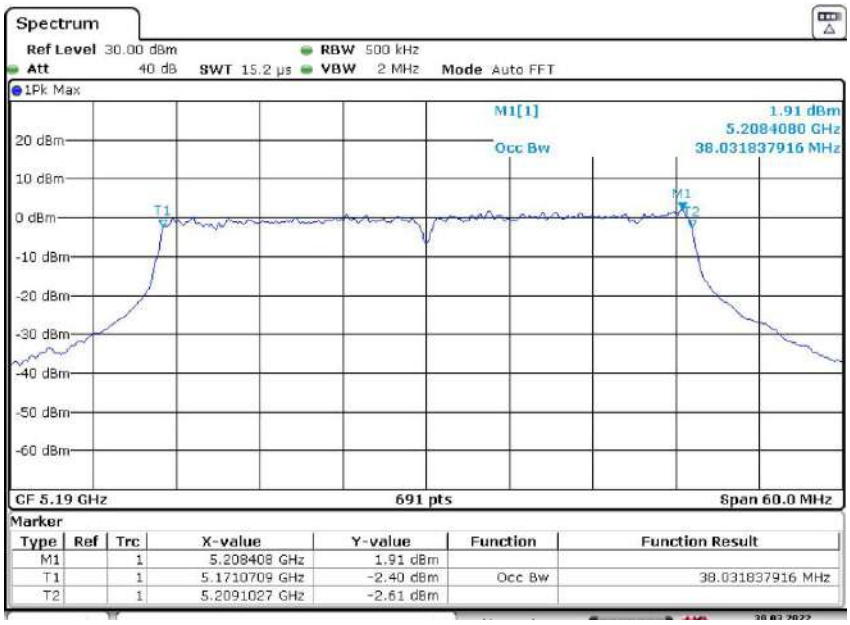
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.226252 GHz	-4.95 dBm		
T1		1	5.2104486 GHz	-8.33 dBm	Occ Bw	19.102749638 MHz
T2		1	5.2295514 GHz	-8.79 dBm		

Channel: 48

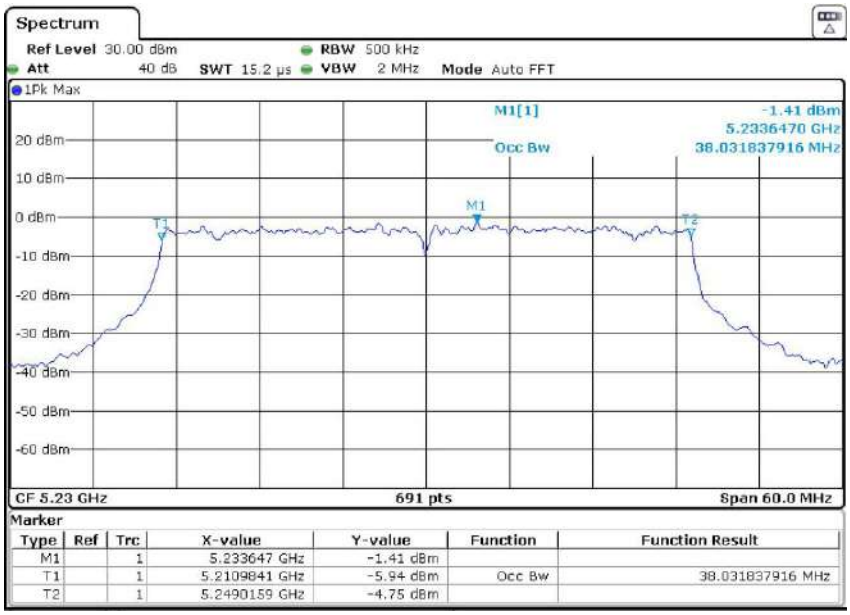

Spectrum
Ref Level 30.00 dBm
RBW 200 kHz
Att 40 dB
SWT 19 µs
VBW 500 kHz
Mode Auto FFT
1Pk Max
M1[1]
-5.06 dBm
5.2474240 GHz
19.059334298 MHz
Occ Bw
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
M1
T2
CF 5.24 GHz
691 pts
Span 30.0 MHz
Marker
Type | Ref | Trc | X-value | Y-value | Function | Function Result
M1 | | 1 | 5.247424 GHz | -5.06 dBm | |
T1 | | 1 | 5.230492 GHz | -8.30 dBm | Occ Bw | 19.059334298 MHz
T2 | | 1 | 5.2495514 GHz | -8.63 dBm | |

99% OBW 802.11ax40

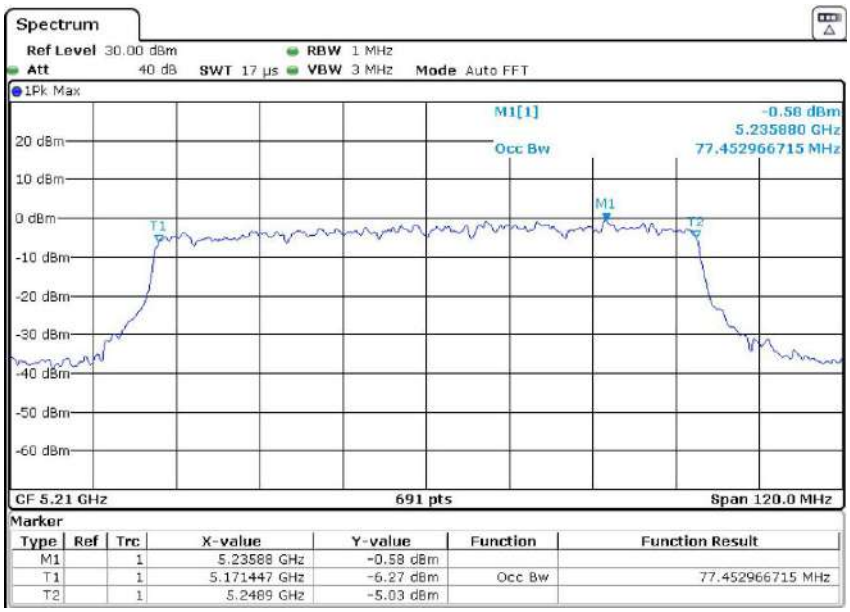
Channel: 38



Channel: 46



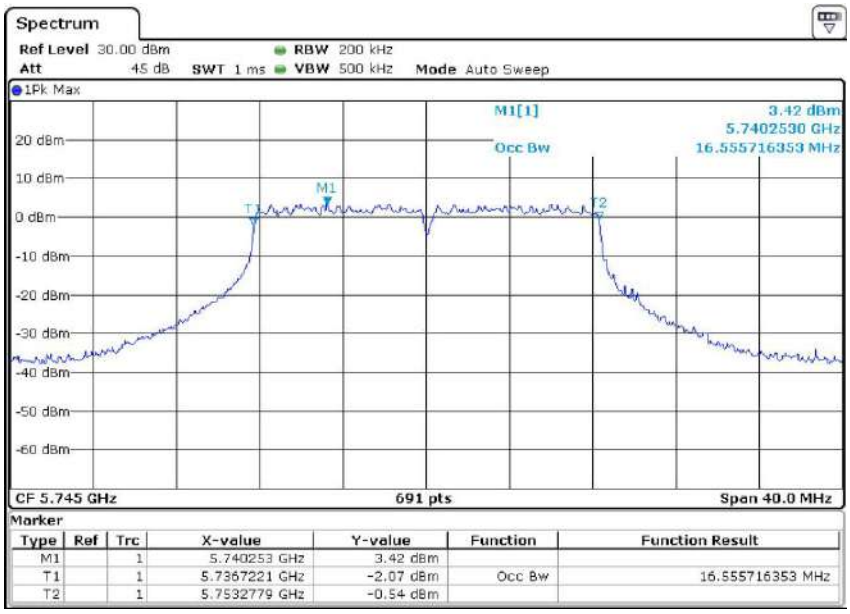
99% OBW 802.11ax80
Channel: 42



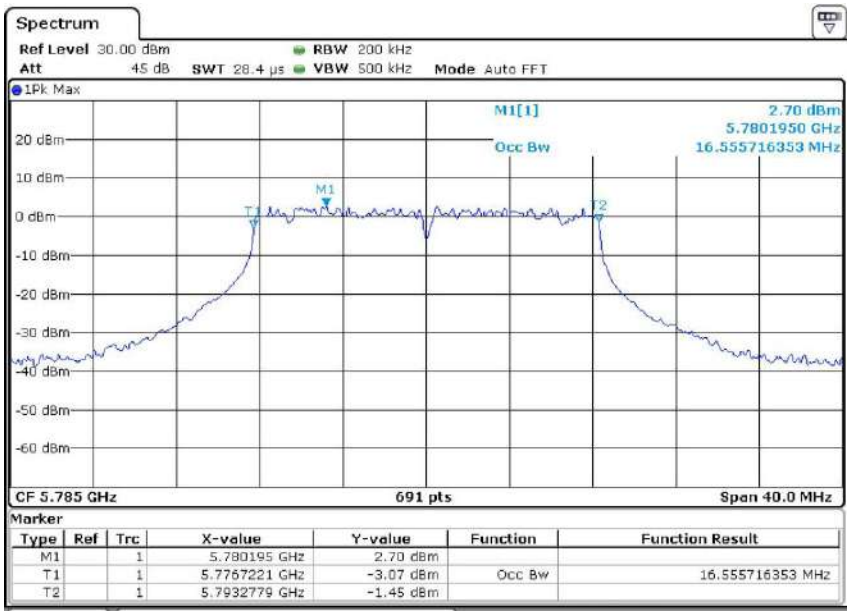
Test plots as followed: CHAIN 1

99% OBW 802.11a

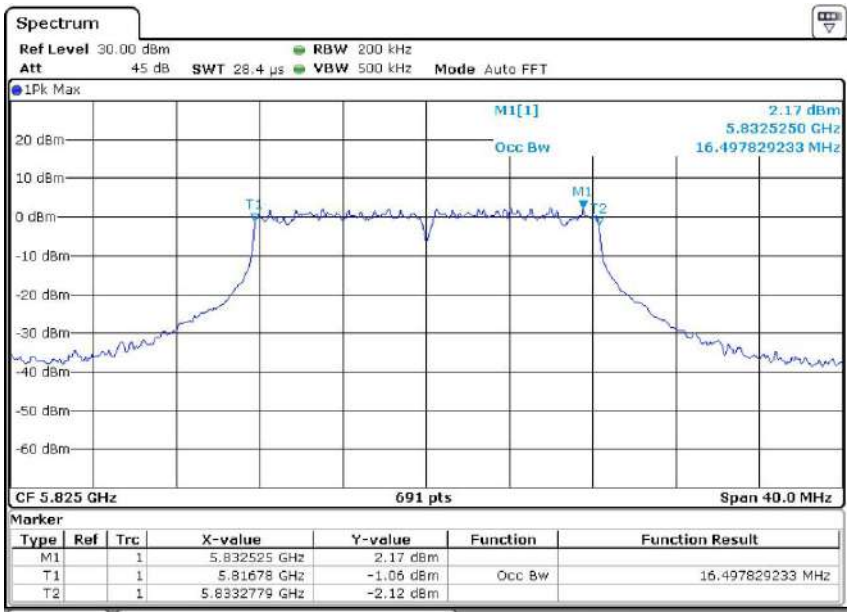
Channel: 149



Channel: 157

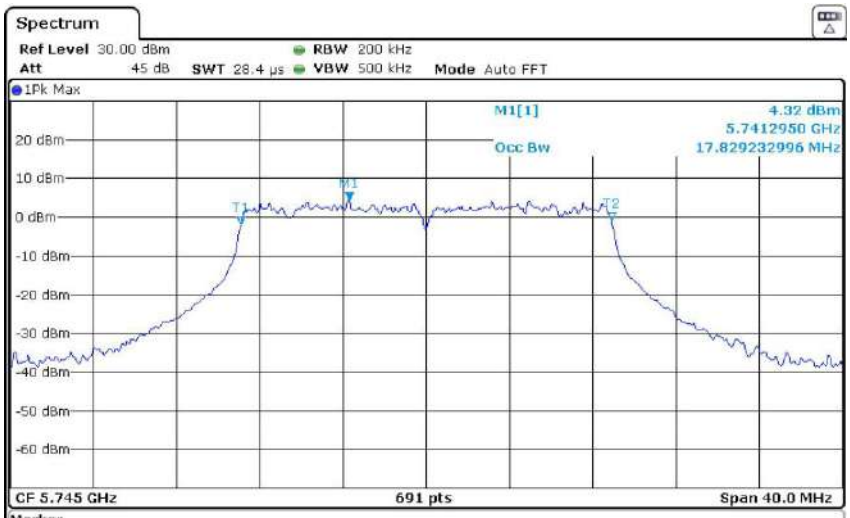


Channel: 165


Spectrum
Ref Level 30.00 dBm
RBW 200 kHz
Att 45 dB
SWT 28.4 µs
VBW 500 kHz
Mode Auto FFT
1Pk Max
M1[1]
2.17 dBm
5.8325250 GHz
16.497829233 MHz
Occ Bw
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
M1
T2
CF 5.825 GHz
691 pts
Span 40.0 MHz
Marker
Type | Ref | Trc | X-value | Y-value | Function | Function Result
M1 | | 1 | 5.832525 GHz | 2.17 dBm | |
T1 | | 1 | 5.81678 GHz | -1.06 dBm | Occ Bw | 16.497829233 MHz
T2 | | 1 | 5.8332779 GHz | -2.12 dBm | |

99% OBW 802.11n20

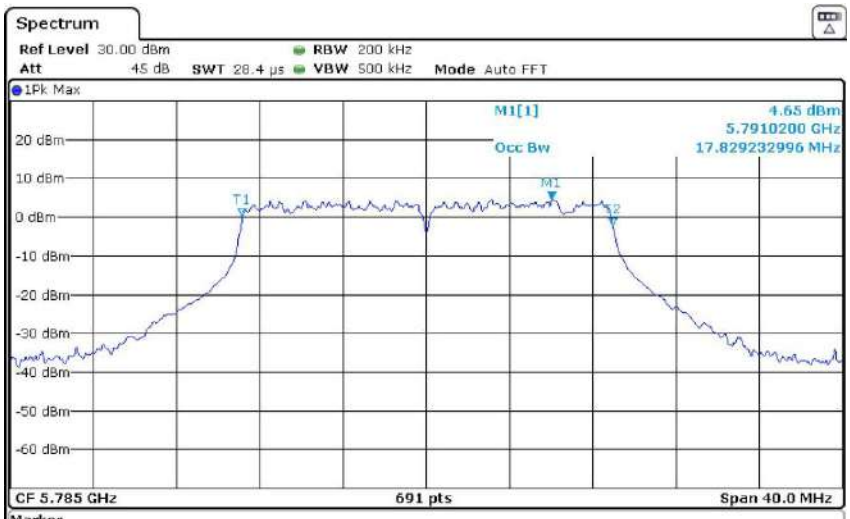
Channel: 149



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.741295 GHz	4.32 dBm		
T1		1	5.7360854 GHz	-1.91 dBm	Occ Bw	17.829232996 MHz
T2		1	5.7539146 GHz	-0.72 dBm		

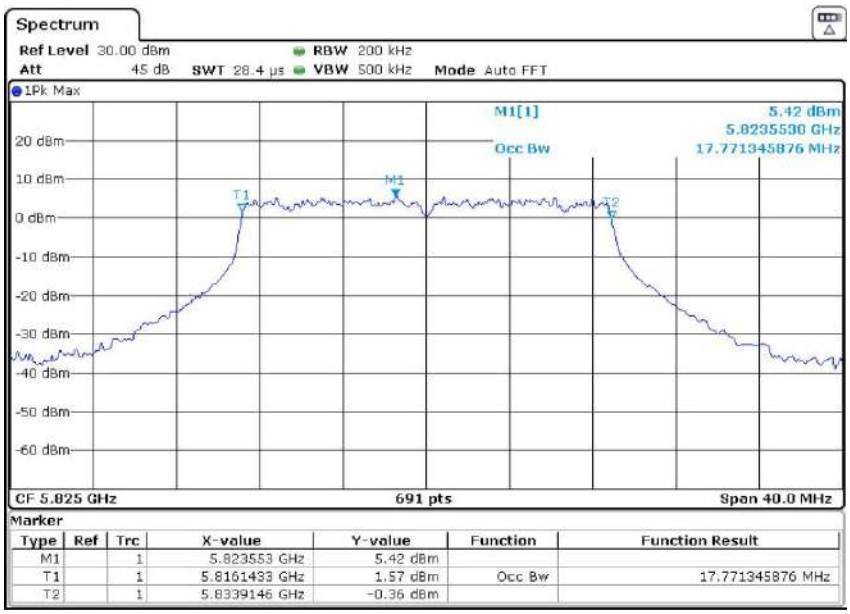
Channel: 157



Marker

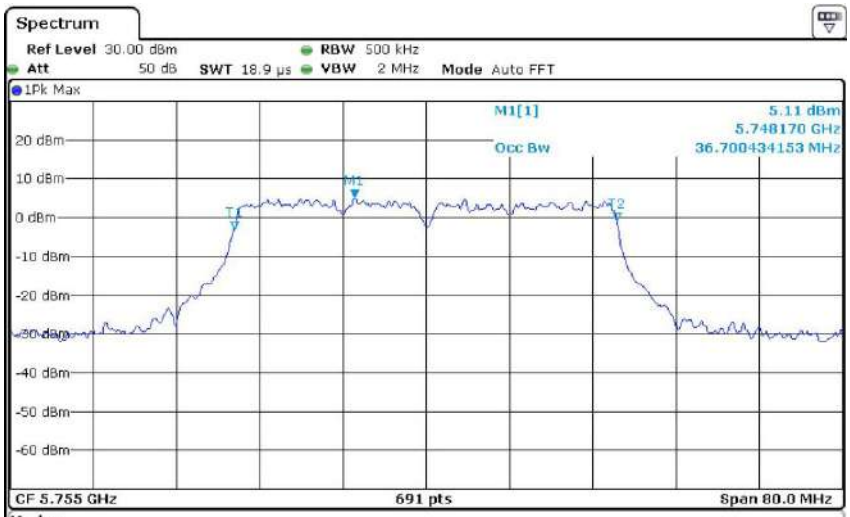
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.79102 GHz	4.65 dBm		
T1		1	5.7761433 GHz	0.40 dBm	Occ Bw	17.829232996 MHz
T2		1	5.7939725 GHz	-2.29 dBm		

Channel: 165


Spectrum
Ref Level 30.00 dBm
RBW 200 kHz
Att 45 dB
SWT 28.4 µs
VBW 500 kHz
Mode Auto FFT
1Pk Max
M1[1]
5.42 dBm
5.8235530 GHz
17.771345876 MHz
Occ Bw
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
M1
T2
CF 5.825 GHz
691 pts
Span 40.0 MHz
Marker
Type | Ref | Trc | X-value | Y-value | Function | Function Result
M1 | | 1 | 5.823553 GHz | 5.42 dBm | |
T1 | | 1 | 5.8161433 GHz | 1.57 dBm | Occ Bw | 17.771345876 MHz
T2 | | 1 | 5.8339146 GHz | -0.36 dBm | |

99% OBW 802.11n40

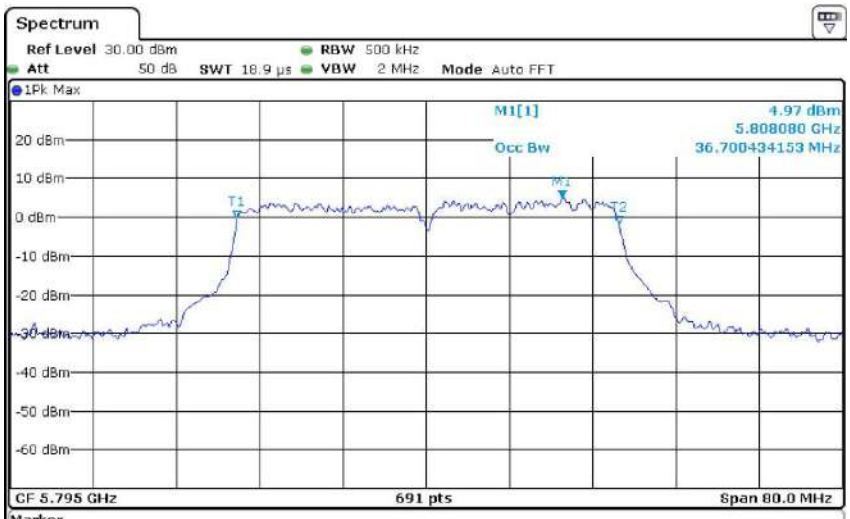
Channel: 151



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.74817 GHz	5.11 dBm		
T1		1	5.736592 GHz	-2.85 dBm	Occ Bw	36.700434153 MHz
T2		1	5.773292 GHz	-0.81 dBm		

Channel: 159

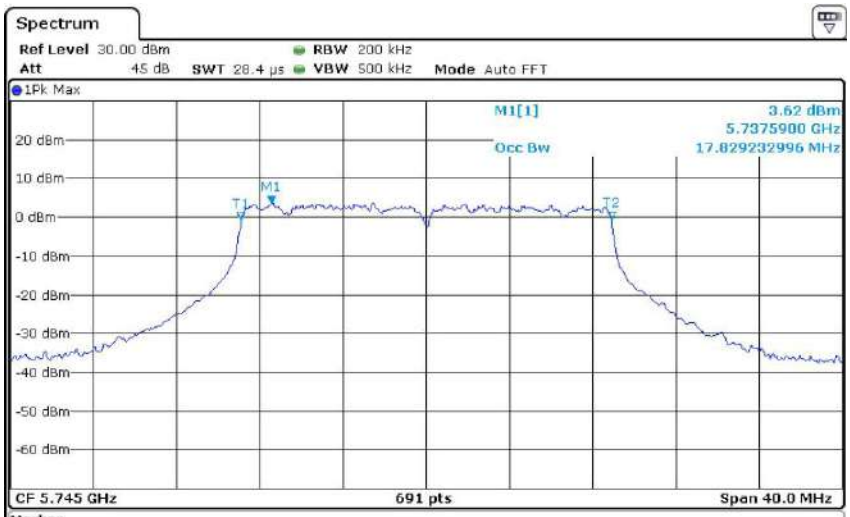


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.80808 GHz	4.97 dBm		
T1		1	5.776823 GHz	-0.16 dBm	Occ Bw	36.700434153 MHz
T2		1	5.813524 GHz	-1.66 dBm		

99% OBW 802.11ac20

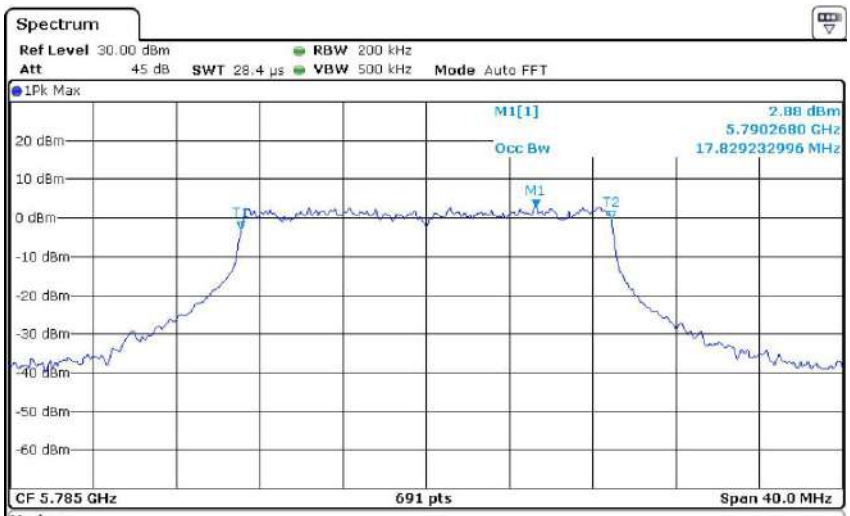
Channel: 149



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.73759 GHz	3.62 dBm		
T1		1	5.7360854 GHz	-0.72 dBm	Occ Bw	17.829232996 MHz
T2		1	5.7539146 GHz	-0.42 dBm		

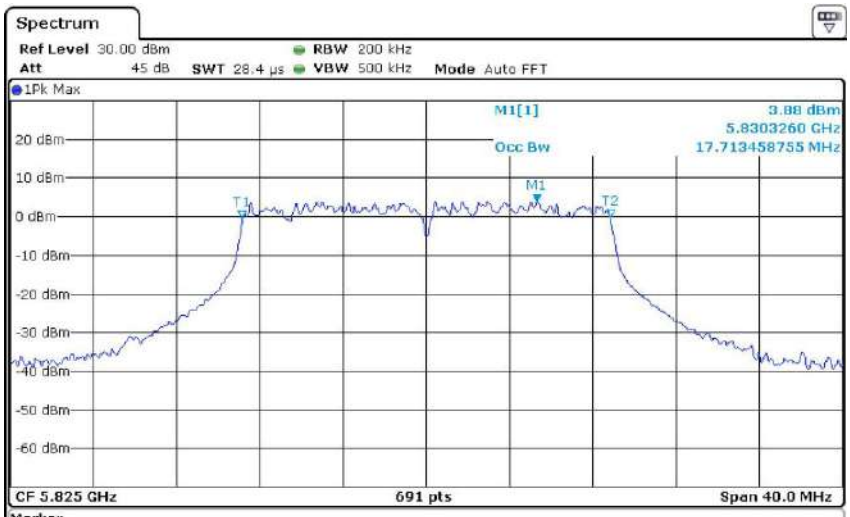
Channel: 157



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.790268 GHz	2.88 dBm		
T1		1	5.7760854 GHz	-2.93 dBm	Occ Bw	17.829232996 MHz
T2		1	5.7939146 GHz	-0.37 dBm		

Channel:165

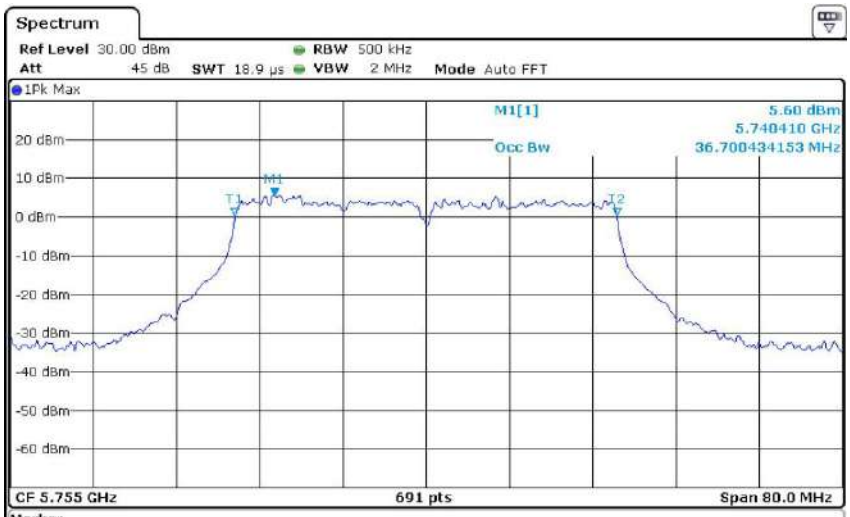


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.830326 GHz	3.88 dBm		
T1		1	5.8161433 GHz	-0.39 dBm	Occ Bw	17.713458755 MHz
T2		1	5.8338567 GHz	-0.30 dBm		

99% OBW 802.11ac40

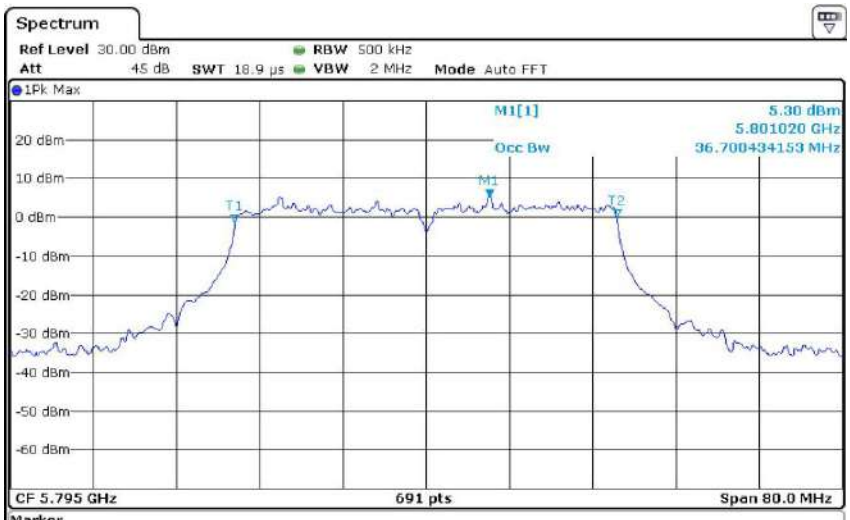
Channel:151



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.74041 GHz	5.60 dBm		
T1		1	5.736592 GHz	0.29 dBm	Occ Bw	36.700434153 MHz
T2		1	5.773292 GHz	0.29 dBm		

Channel:159

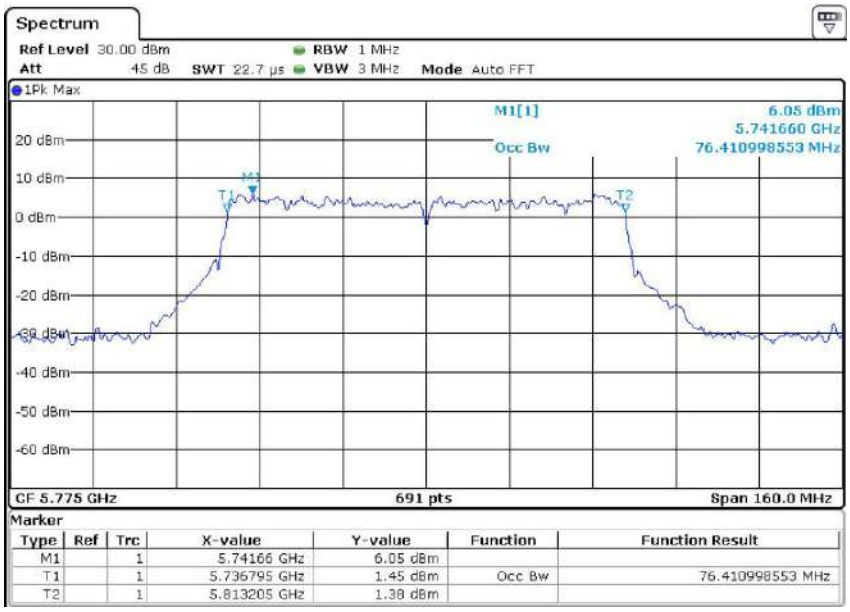


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.80102 GHz	5.30 dBm		
T1		1	5.776592 GHz	-1.43 dBm	Occ Bw	36.700434153 MHz
T2		1	5.813292 GHz	0.11 dBm		

99% OBW 802.11ac80

Channel:155

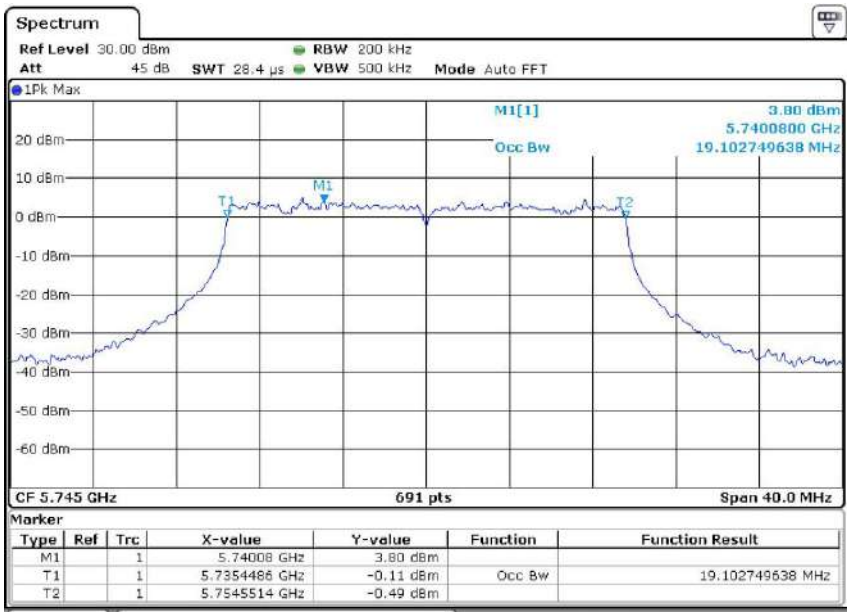


Marker

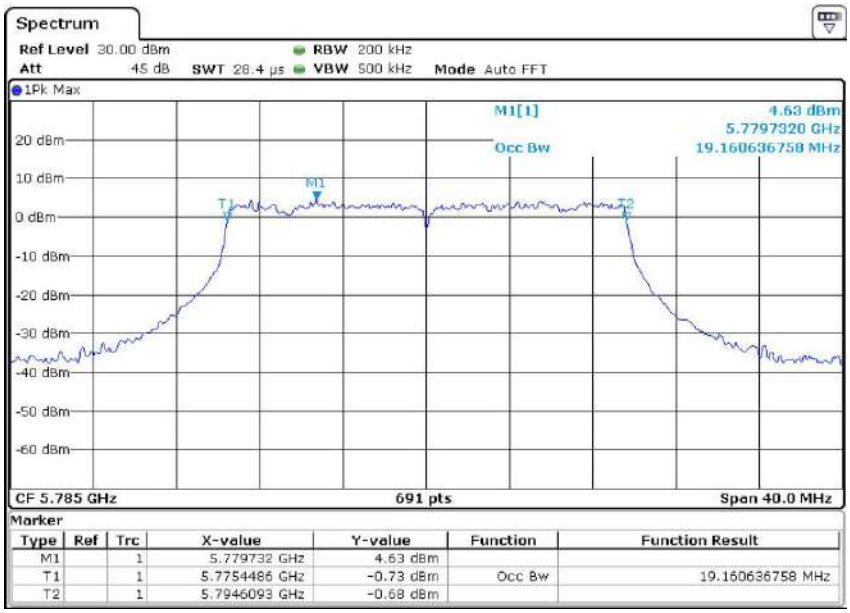
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.74166 GHz	6.05 dBm		
T1		1	5.736795 GHz	1.45 dBm	Occ Bw	76.410998553 MHz
T2		1	5.813205 GHz	1.38 dBm		

99% OBW 802.11ax20

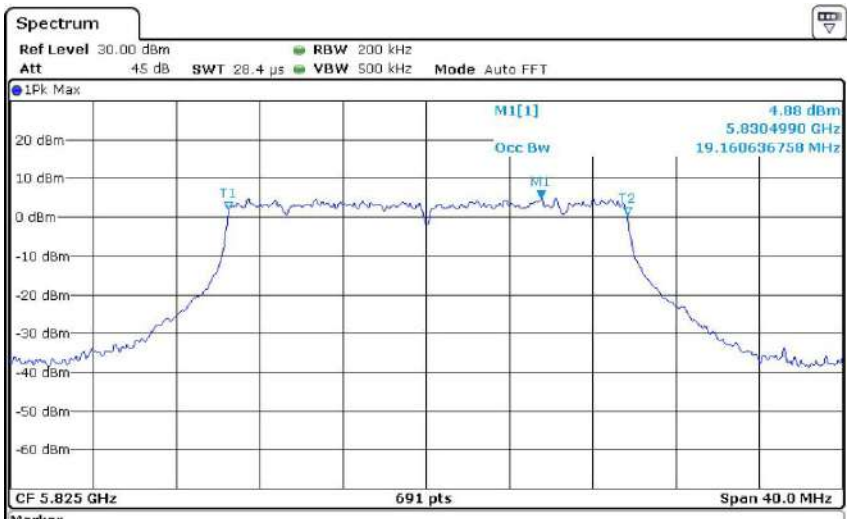
Channel:149



Channel: 157



Channel: 165

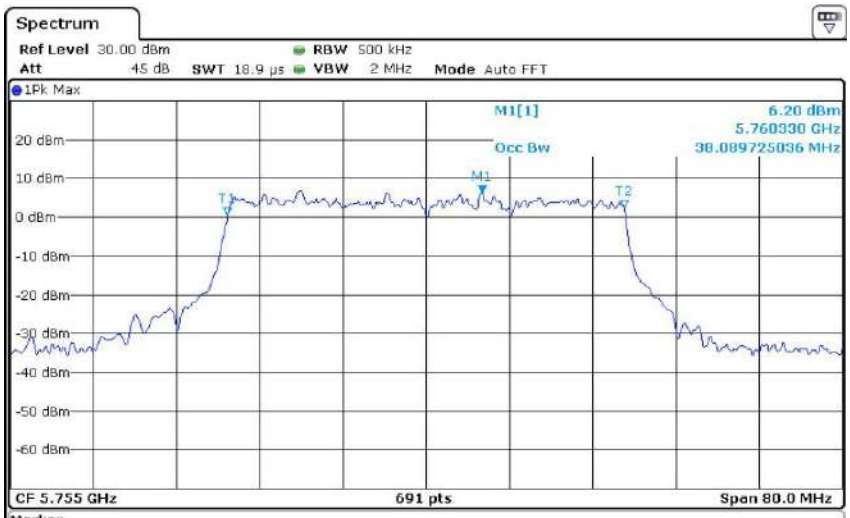


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.830499 GHz	4.88 dBm		
T1		1	5.8155065 GHz	1.99 dBm	Occ Bw	19.160636758 MHz
T2		1	5.8346671 GHz	0.69 dBm		

99% OBW 802.11ax40

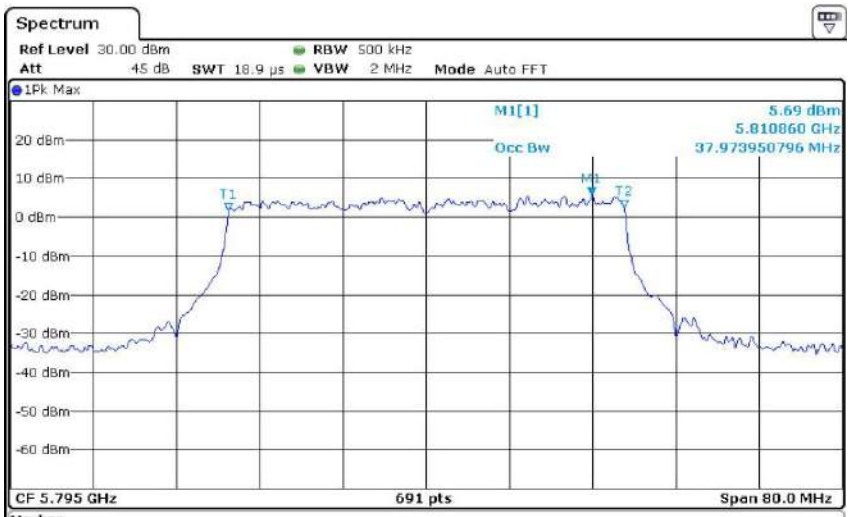
Channel: 151



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.76033 GHz	6.20 dBm		
T1		1	5.735897 GHz	0.55 dBm	Occ Bw	38.089725036 MHz
T2		1	5.773987 GHz	2.58 dBm		

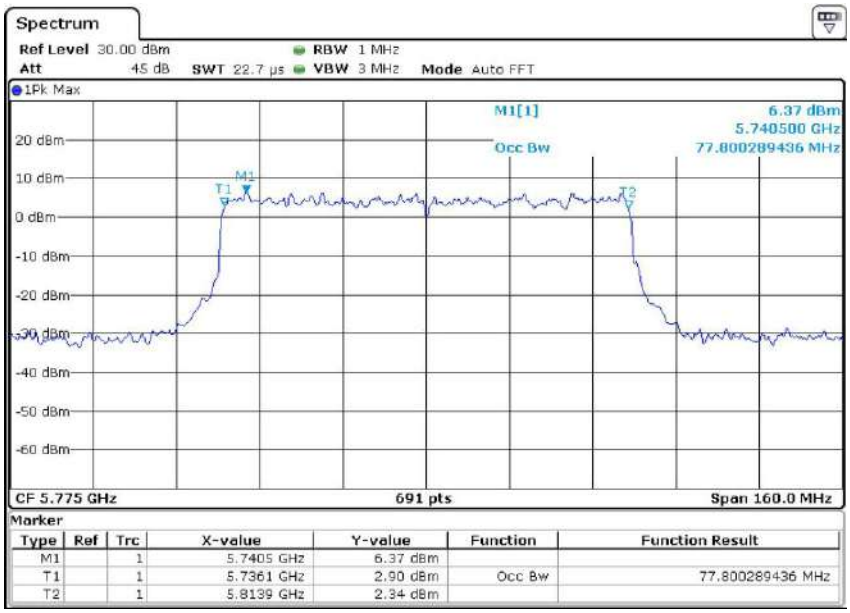
Channel: 159



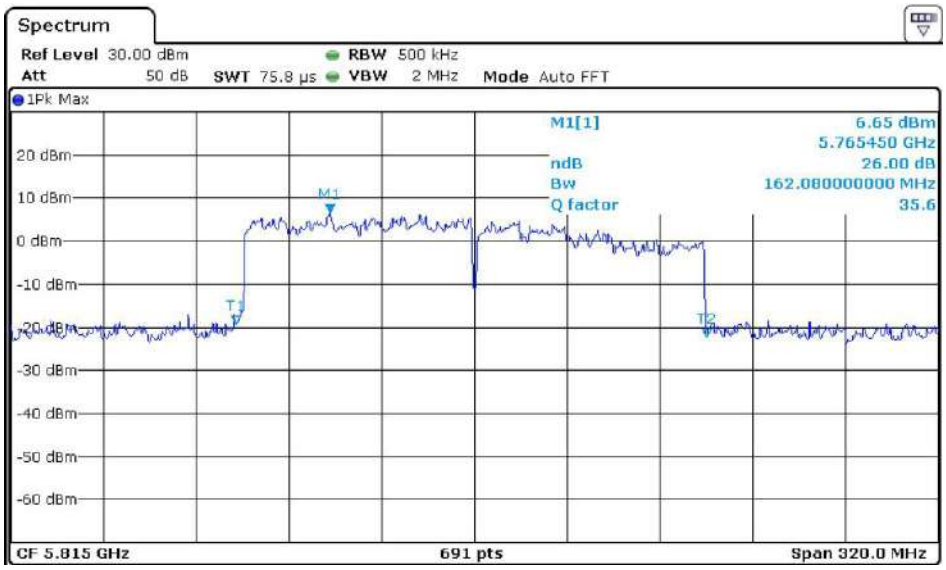
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.81086 GHz	5.69 dBm		
T1		1	5.776013 GHz	1.55 dBm	Occ Bw	37.973950796 MHz
T2		1	5.813987 GHz	2.36 dBm		

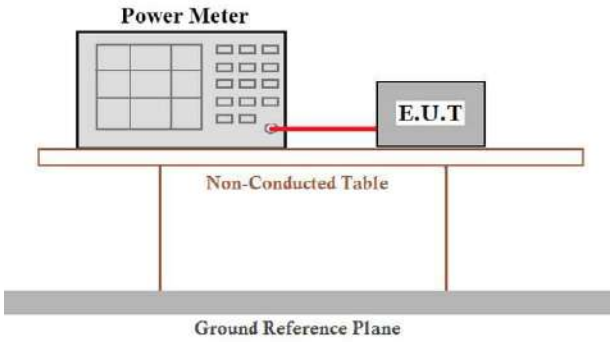
99% OBW 802.11ax80
Channel: 155



99% OBW 802.11ax160
Channel: 163



6. MAXIMUM CONDUCTED OUTPUT POWER

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01
Limit:	For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 250mW. For the band 5.745-5.850 GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 30dBm
Test setup:	
Test procedure:	**Measurement using an RF average power meter** (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle. b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level. c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five. (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B). (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter. (iv) Adjust the measurement in dBm by adding 10 log(1/x) where x is the duty cycle (e.g., 10log(1/0.25) if the duty cycle is 25 percent).
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details

6.1. TEST RESULT CHAIN 0

CH. No.	Frequency (MHz)	Output Power (dBm)				Limit(dBm)	Result
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)		
36	5180.00	17.39	17.88	18.07	18.58	23.98	Pass
44	5220.00	16.33	17.06	17.08	17.67	23.98	Pass
48	5240.00	15.23	15.06	15.21	15.89	23.98	Pass
149	5745.00	22.24	21.60	21.65	22.60	30	Pass
157	5785.00	20.36	20.68	20.43	21.37	30	Pass
165	5825.00	20.36	20.46	20.33	21.48	30	Pass

CH. No.	Frequency (MHz)	Output Power (dBm)			Limit(dBm)	Result
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)		
38	5190.00	21.84	21.06	22.12	23.98	Pass
46	5230.00	21.12	20.12	20.69	23.98	Pass
151	5755.00	22.31	21.80	23.19	30	Pass
159	5795.00	20.59	20.20	21.44	30	Pass

CH. No.	Frequency (MHz)	Output Power (dBm)		Limit(dBm)	Result
		802.11ac(VHT80)	802.11ax(HE80)		
42	5210.00	19.05	20.27	23.98	Pass
155	5775.00	21.50	22.65	30	Pass

CH. No.	Frequency (MHz)	Output Power (dBm)	Limit(dBm)	Result
		802.11ax(HE160)		
163	5815.00	18.19	30	Pass

TEST RESULT CHAIN 1

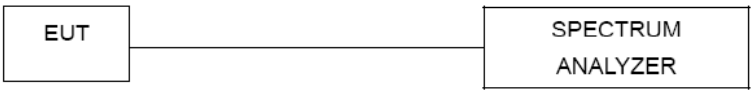
CH. No.	Frequency (MHz)	Output Power (dBm)				Limit(dBm)	Result
		802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11ax (HE20)		
36	5180.00	20.93	18.95	15.08	15.97	23.98	Pass
44	5220.00	14.98	15.61	14.43	15.36	23.98	Pass
48	5240.00	14.12	14.99	14.26	15.29	23.98	Pass
149	5745.00	23.67	22.59	21.34	22.38	30	Pass
157	5785.00	21.90	20.53	20.44	20.72	30	Pass
165	5825.00	20.03	19.48	21.34	19.95	30	Pass

CH. No.	Frequency (MHz)	Output Power (dBm)			Limit(dBm)	Result
		802.11n (HT40)	802.11ac (VHT40)	802.11ax (HE40)		
38	5190.00	17.86	17.33	19.05	23.98	Pass
46	5230.00	15.02	14.89	16.37	23.98	Pass
151	5755.00	22.33	21.70	22.09	30	Pass
159	5795.00	20.38	19.94	20.37	30	Pass

CH. No.	Frequency (MHz)	Output Power (dBm)		Limit(dBm)	Result
		802.11ac(VHT80)	802.11ax(HE80)		
42	5210.00	15.43	16.57	23.98	Pass
155	5775.00	20.31	21.40	30	Pass

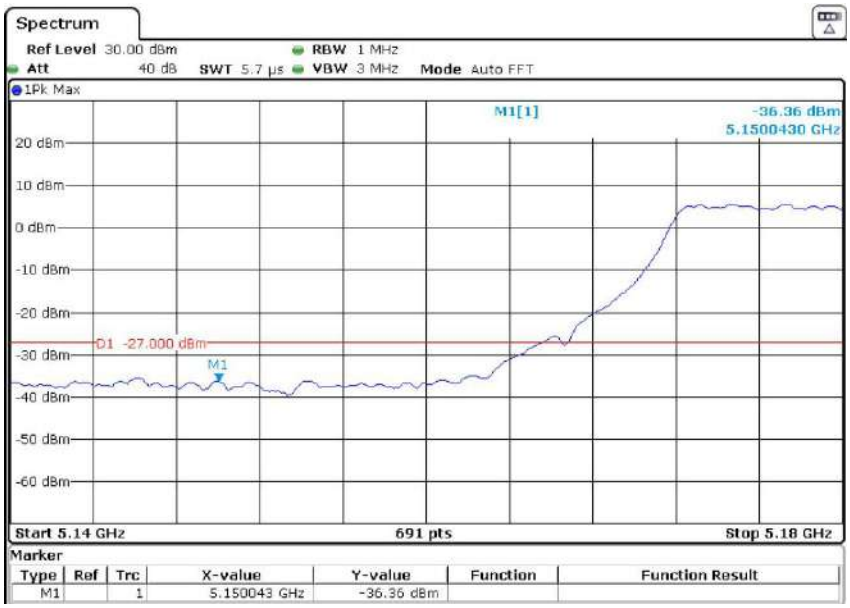
CH. No.	Frequency (MHz)	Output Power (dBm)	Limit(dBm)	Result
		802.11ax(HE160)		
163	5815.00	16.19	30	Pass

7. Band Edges Measurement

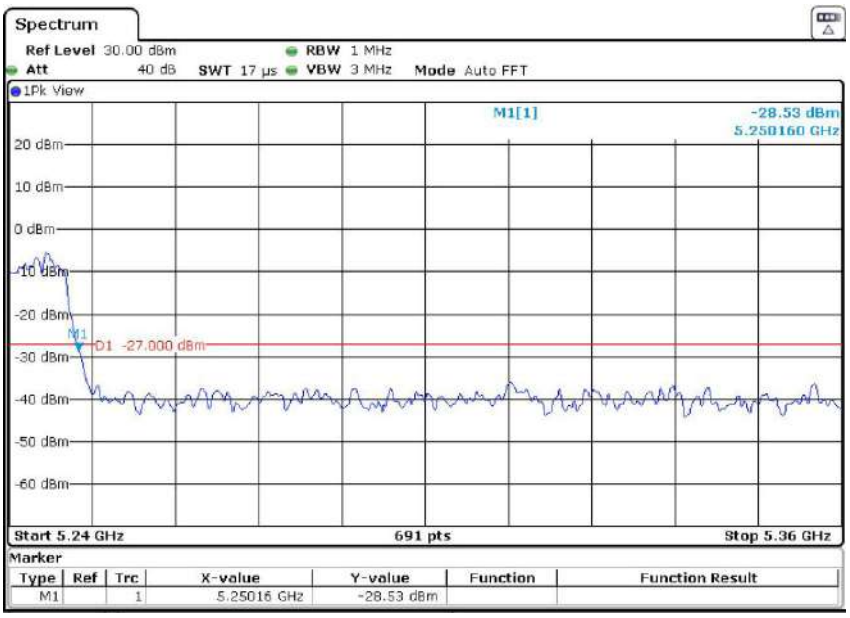
Test Requirement:	FCC Part15 E Section 15.407 and 5.205
Test Method:	ANSI C63.10:2013
Limit:	Undesirable emission limits: (1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. (2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. (3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of −27 dBm/MHz.
Test Procedure:	a. The Transmitter output of EUT was connected to the spectrum analyzer. Equipment mode: Spectrum analyzer Detector function: Peak mode SPAN: 100MHz RBW: 1 MHz VBW: 1 MHz Sweep time= Auto. b. Using Peak Search to read the peak power of Carrier frequencies after Maximum Hold function is completed. c. Find the next peak frequency outside the operation frequency band.
Test setup:	
Test results:	Pass

7.1. TEST RESULT CHAIN 0

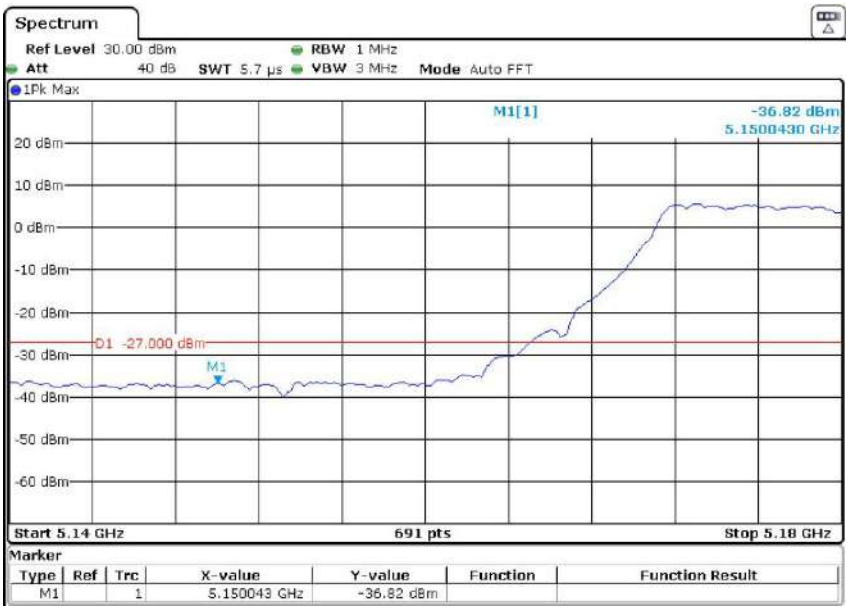
802.11a (5.15GHz-5.25GHz)
The Low Channel 36: 5180MHz



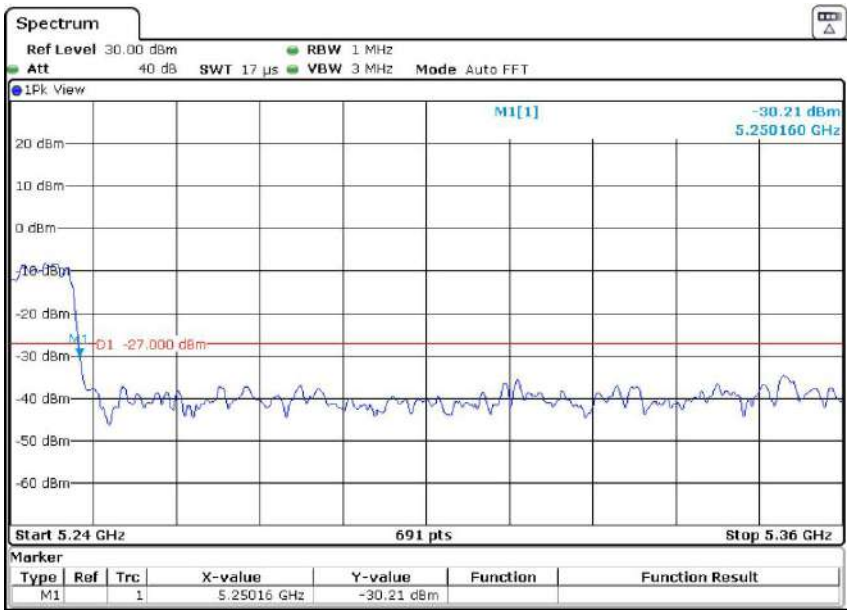
802.11a (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



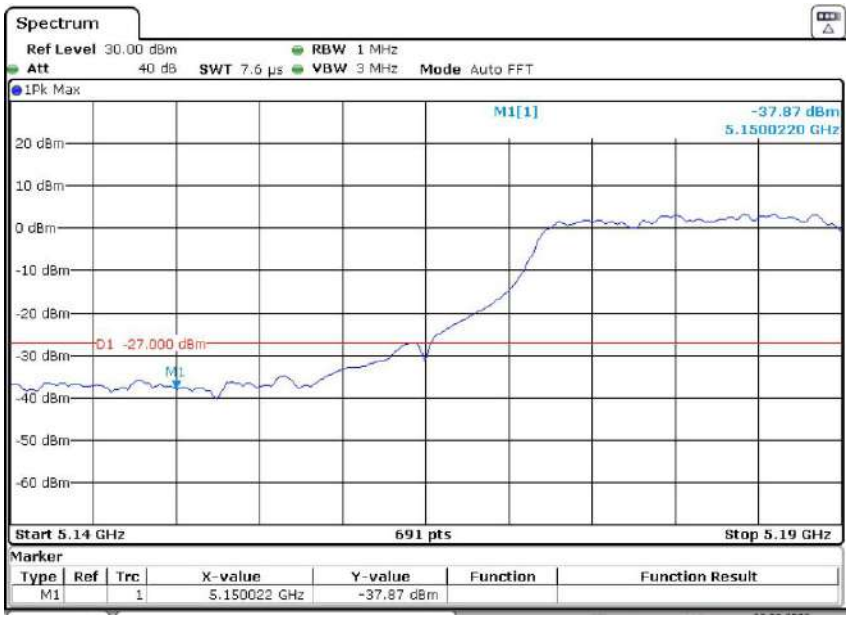
802.11n(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz



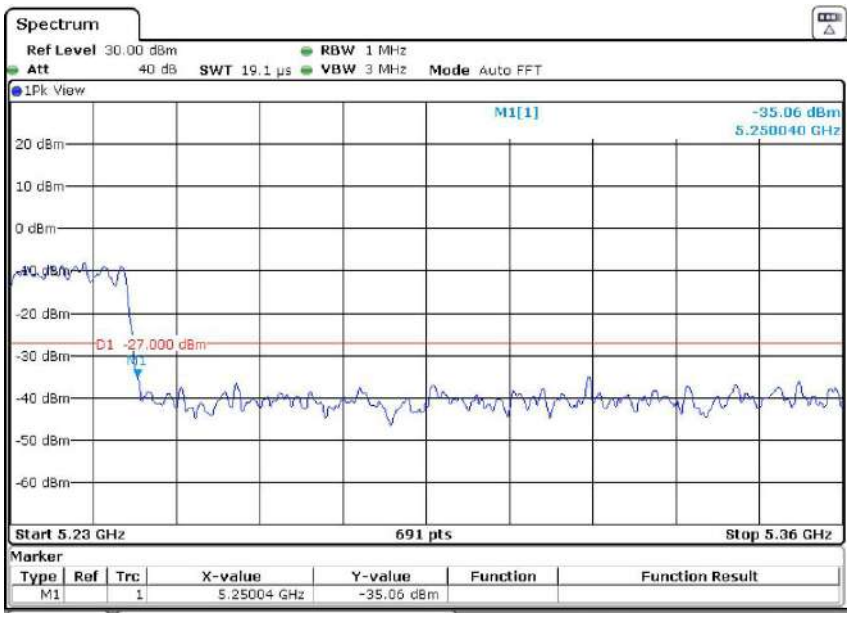
802.11n(20M) (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



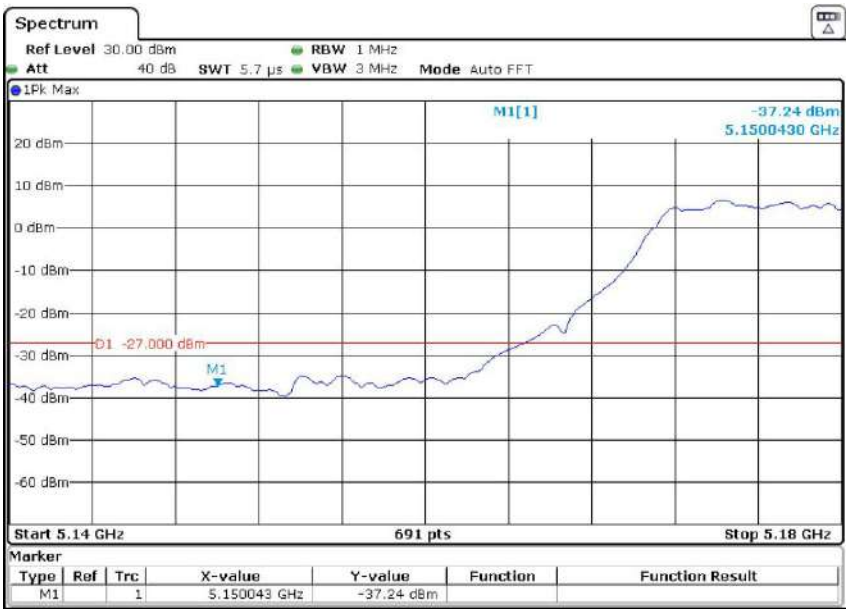
802.11n(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz



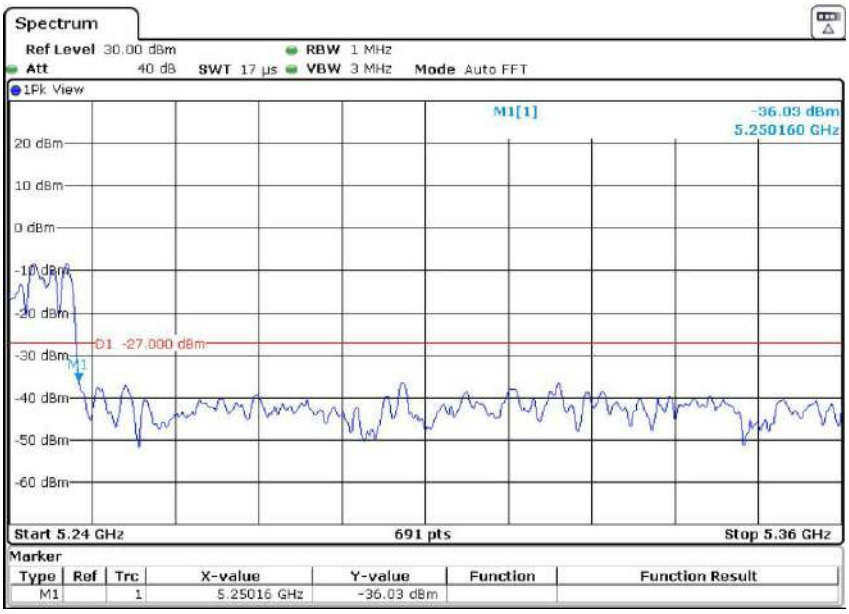
802.11n(40M) (5.15GHz-5.25GHz)
The High Channel 46: 5230MHz



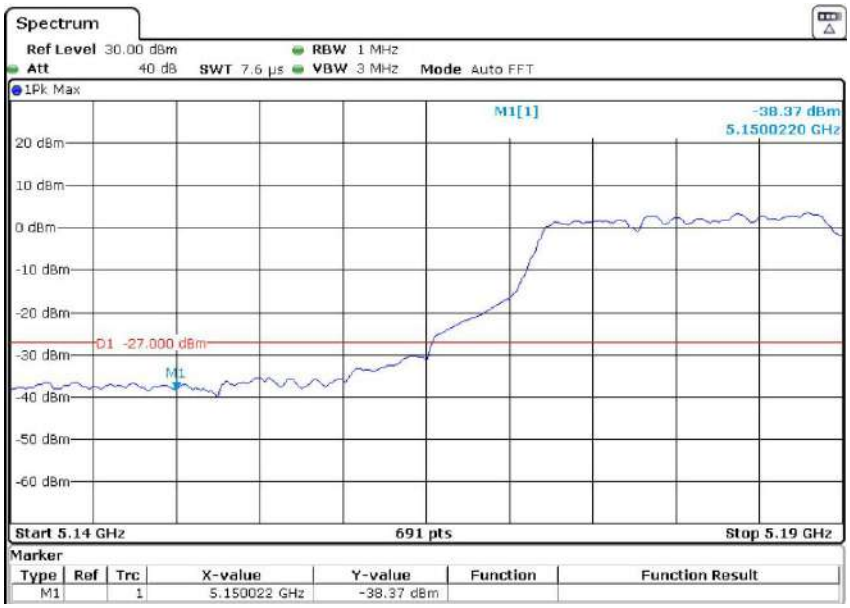
802.11ac(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz



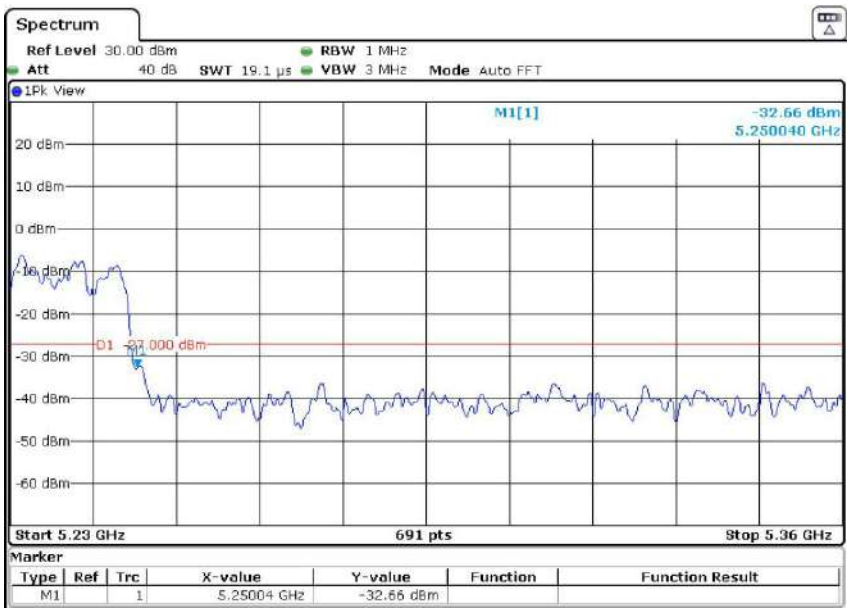
802.11ac(20M) (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



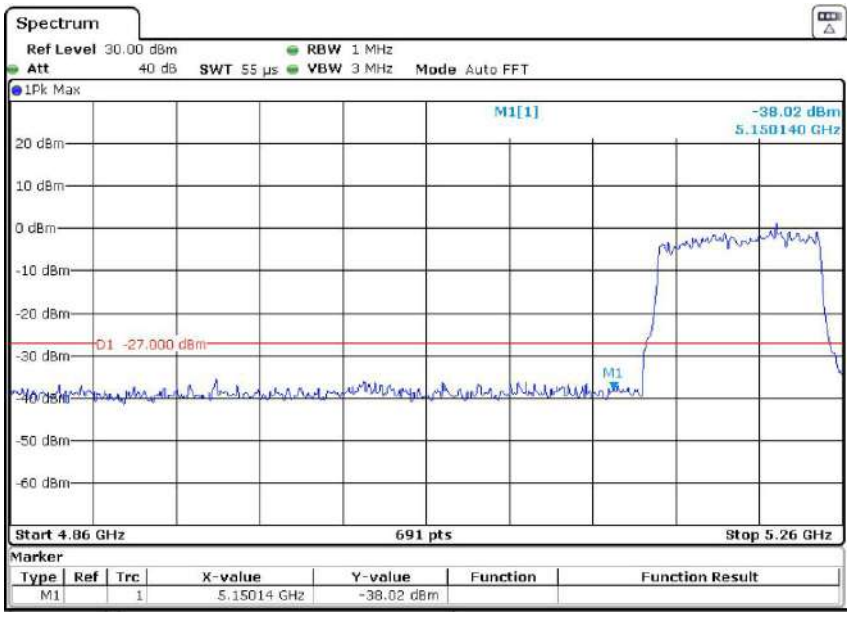
802.11ac(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz

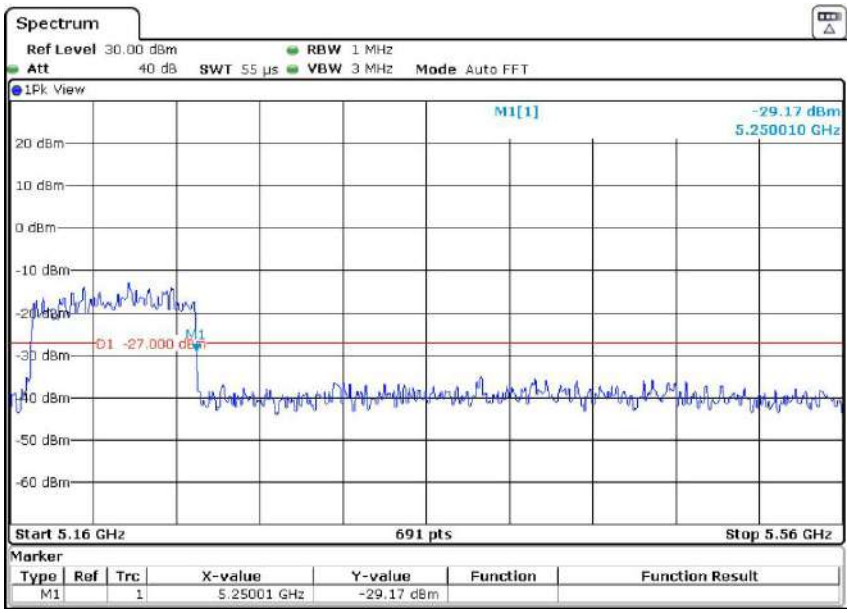


802.11ac(40M) (5.15GHz-5.25GHz)
The High Channel 46: 5230MHz

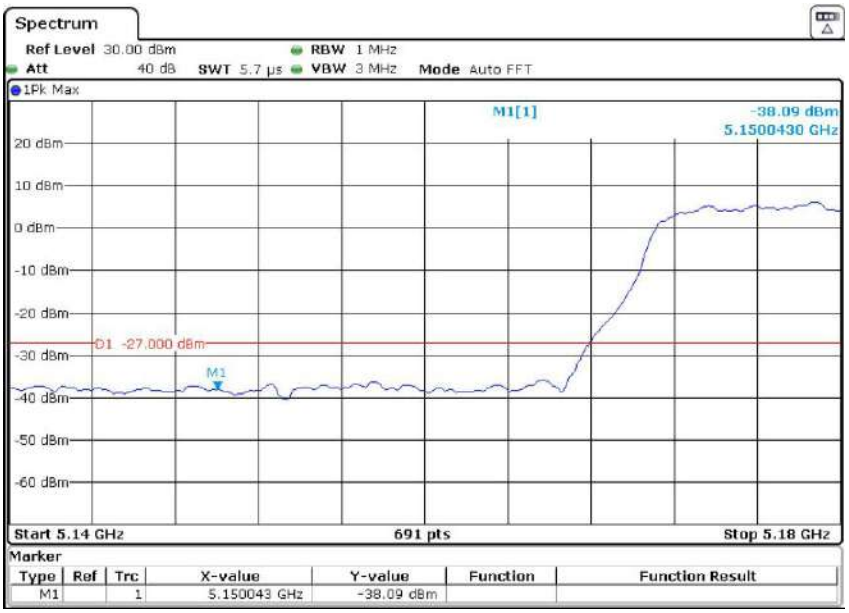


802.11ac(80M) (5.15GHz-5.25GHz)
The Lowest Channel 42: 5210MHz

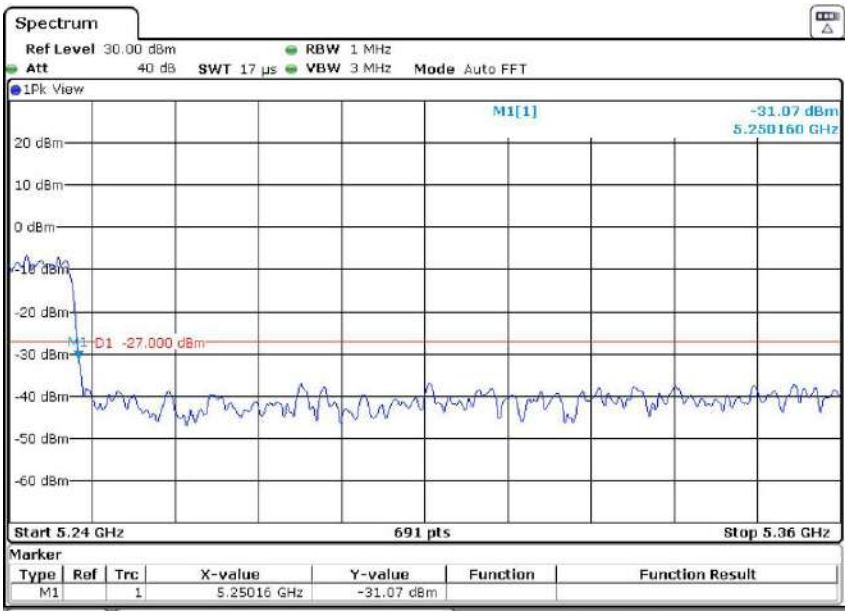




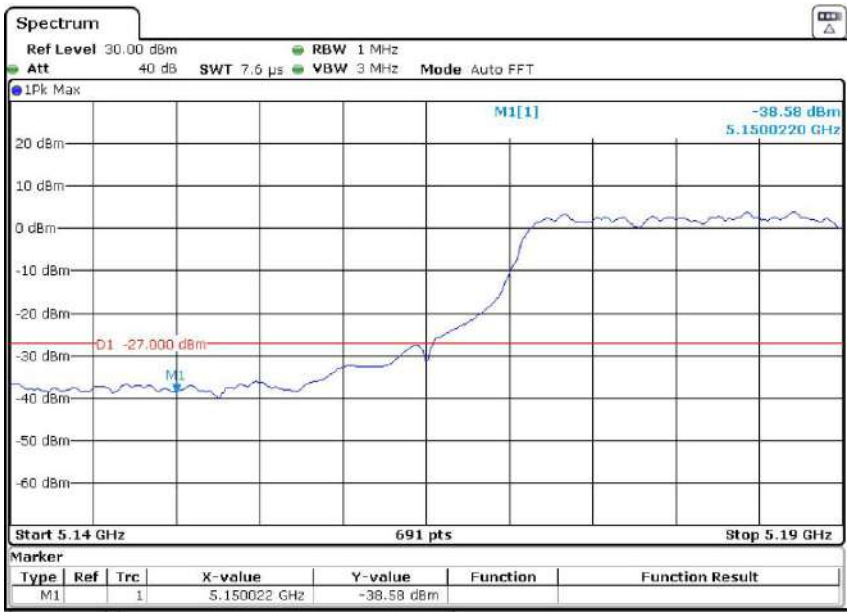
802.11ax(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz



802.11ax(20M) (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz

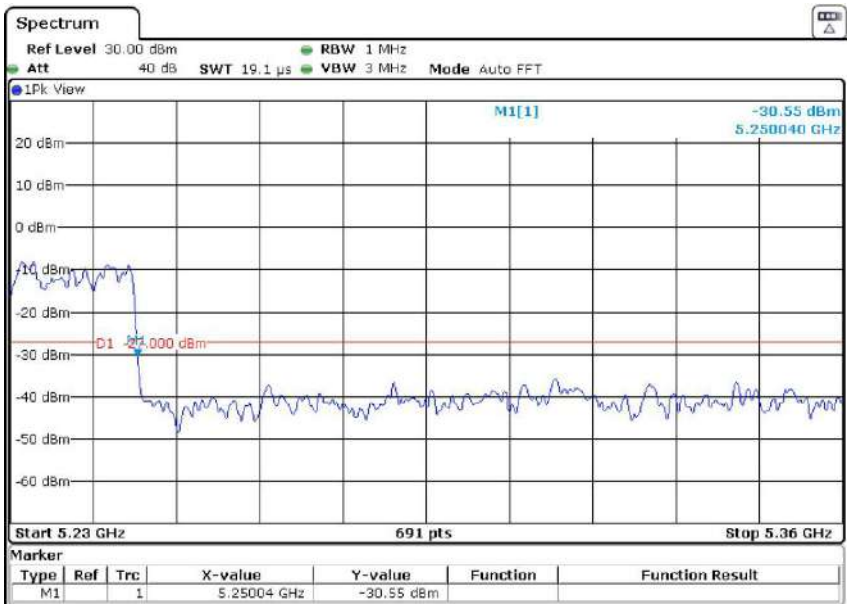


802.11ax(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz

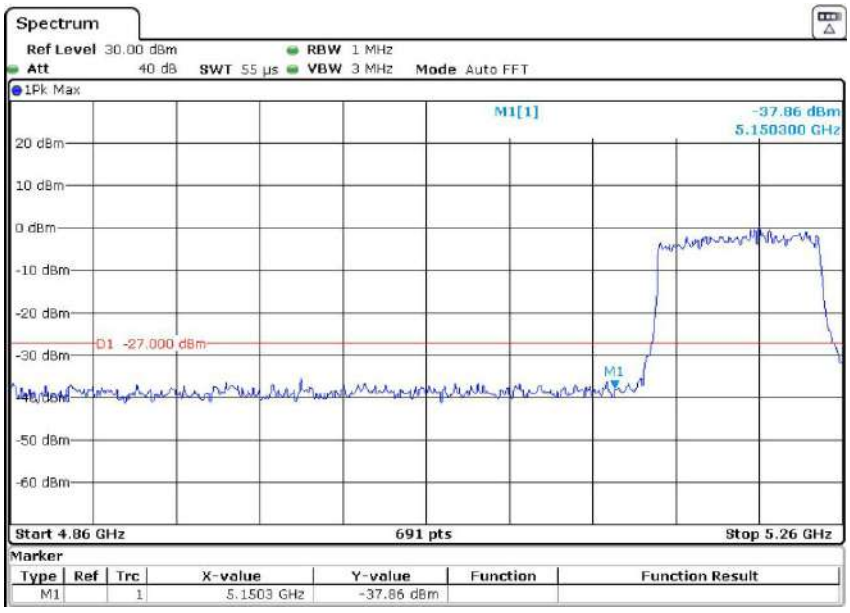


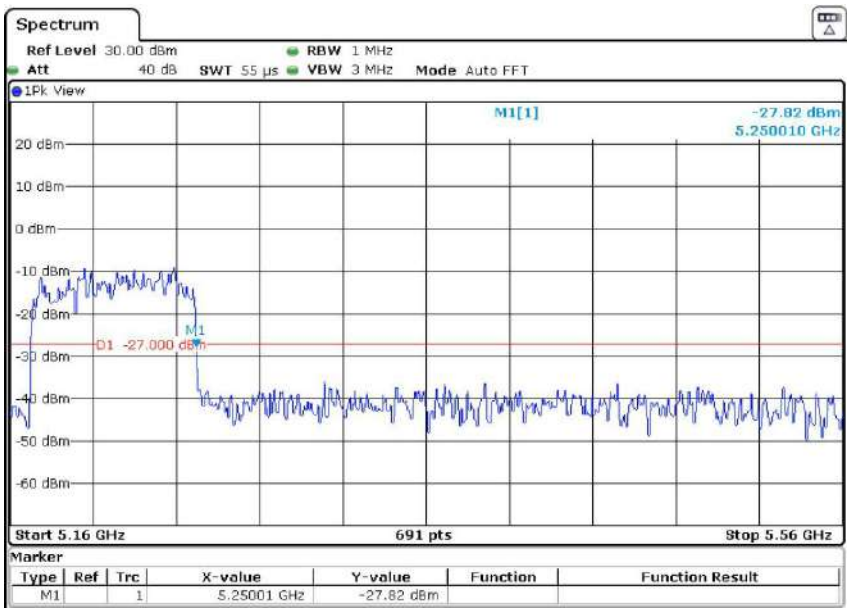
802.11ax(40M) (5.15GHz-5.25GHz)

The High Channel 46: 5230MHz



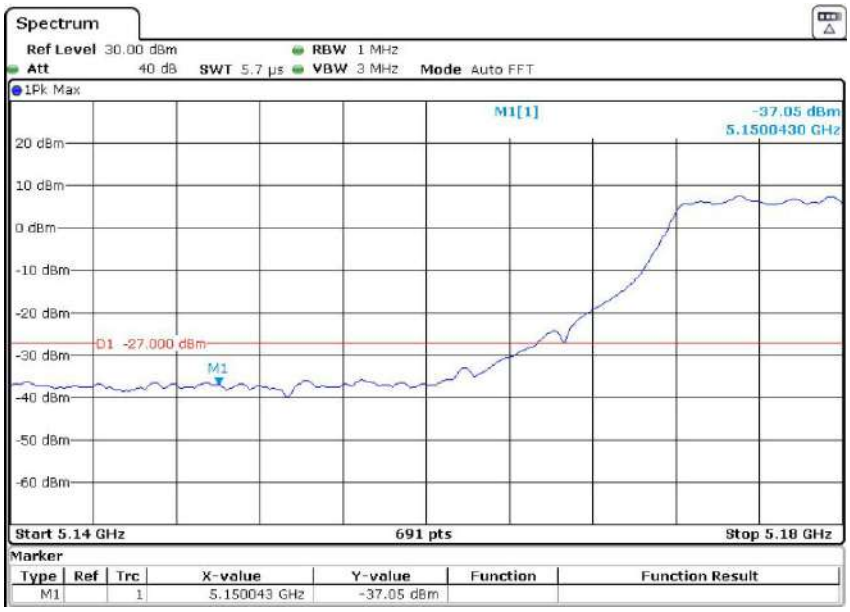
802.11ax(80M) (5.15GHz-5.25GHz)
The Lowest Channel 42: 5210MHz



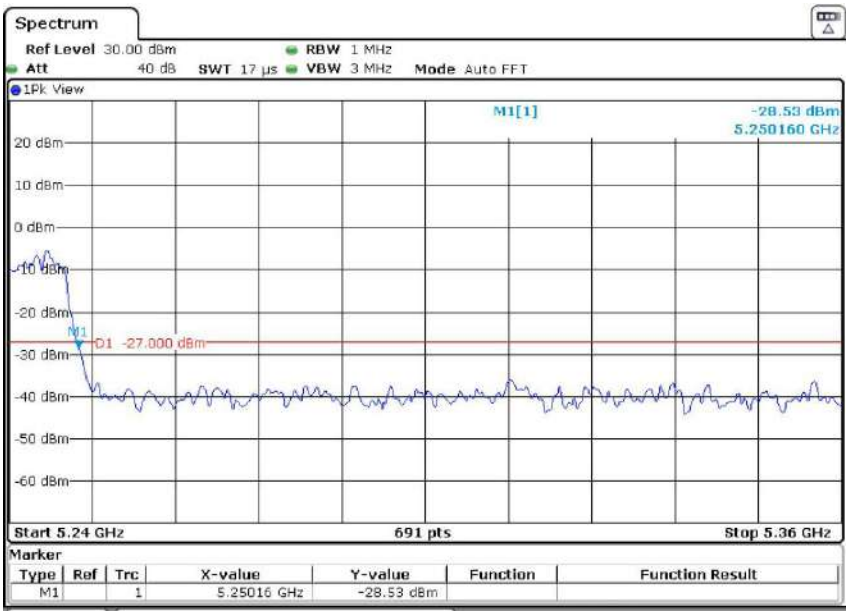


TEST RESULT CHAIN 1

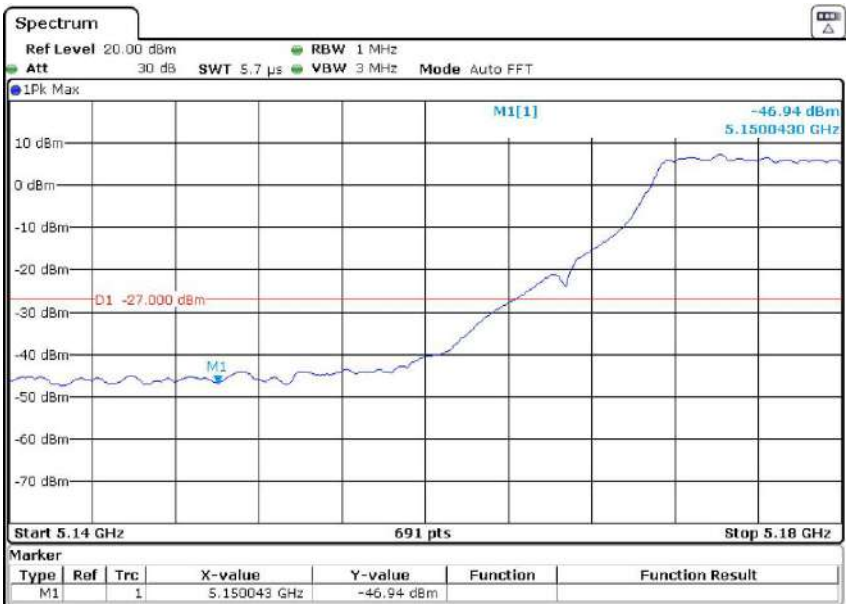
802.11a (5.15GHz-5.25GHz)
The Low Channel 36: 5180MHz



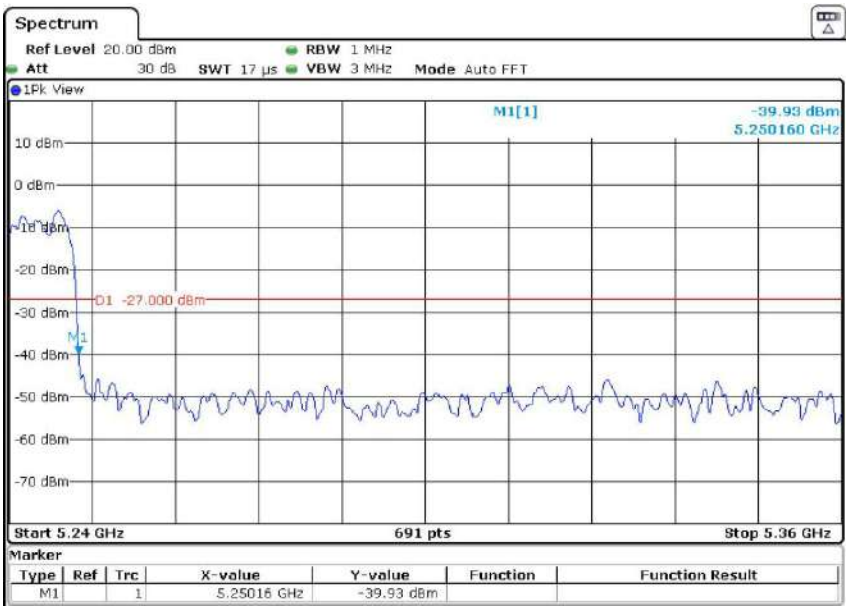
802.11a (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



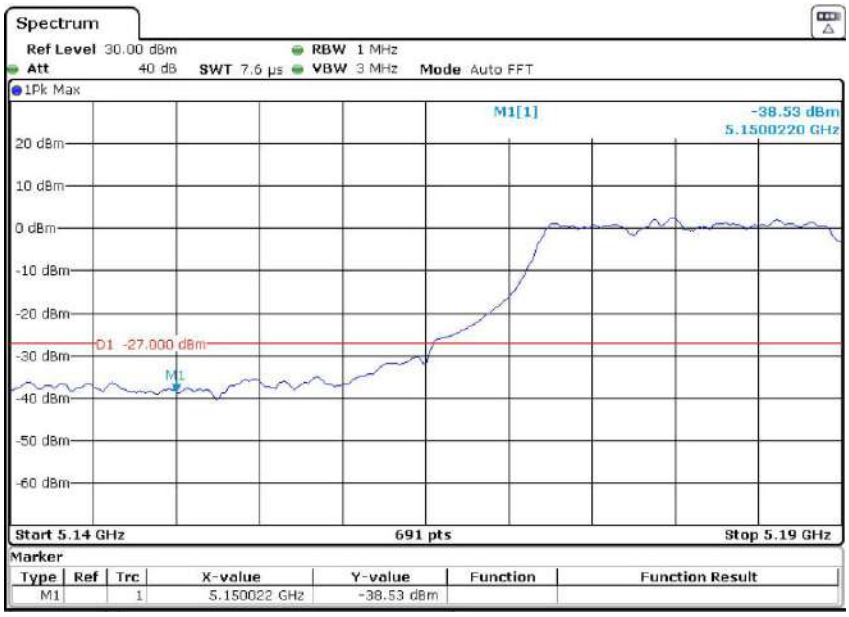
802.11n(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz



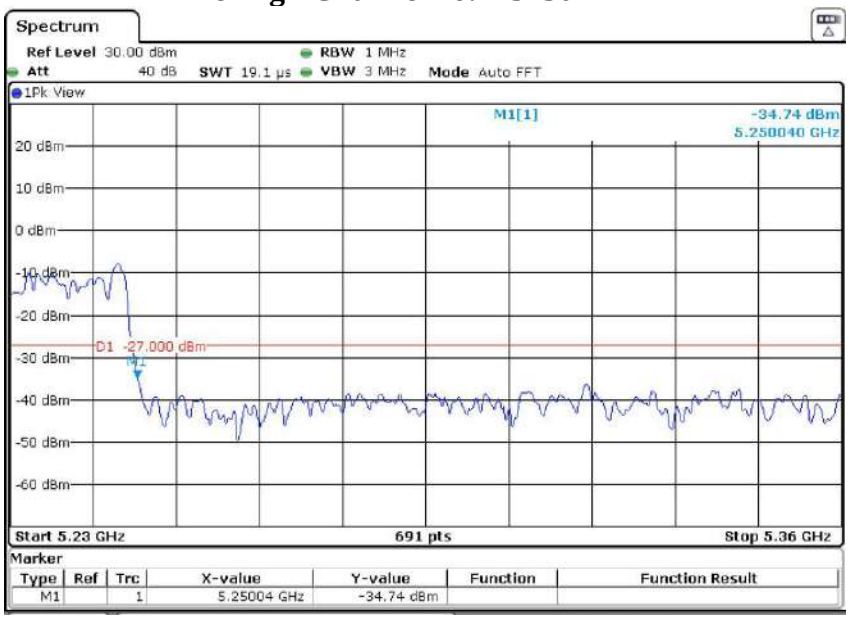
802.11n(20M) (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



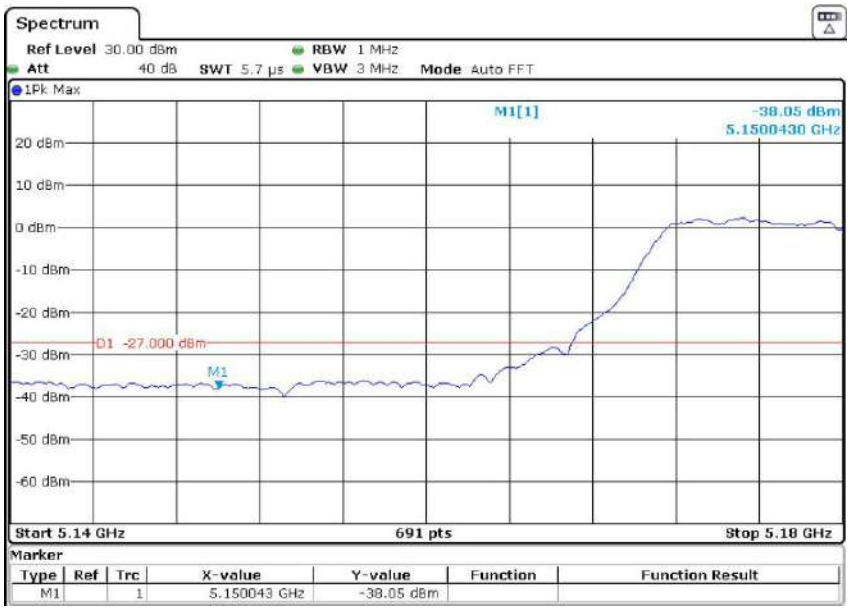
802.11n(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz



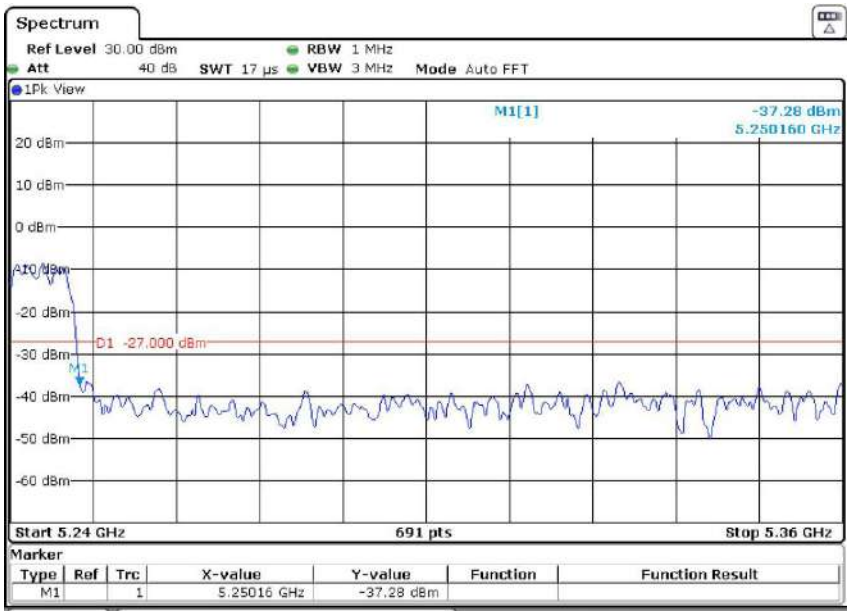
802.11n(40M) (5.15GHz-5.25GHz)
The High Channel 46: 5230MHz



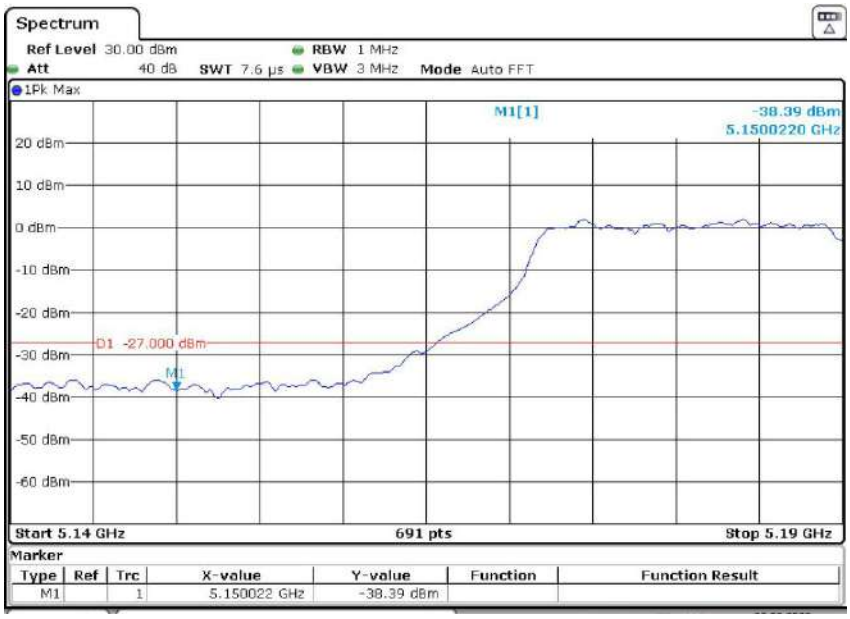
802.11ac(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz



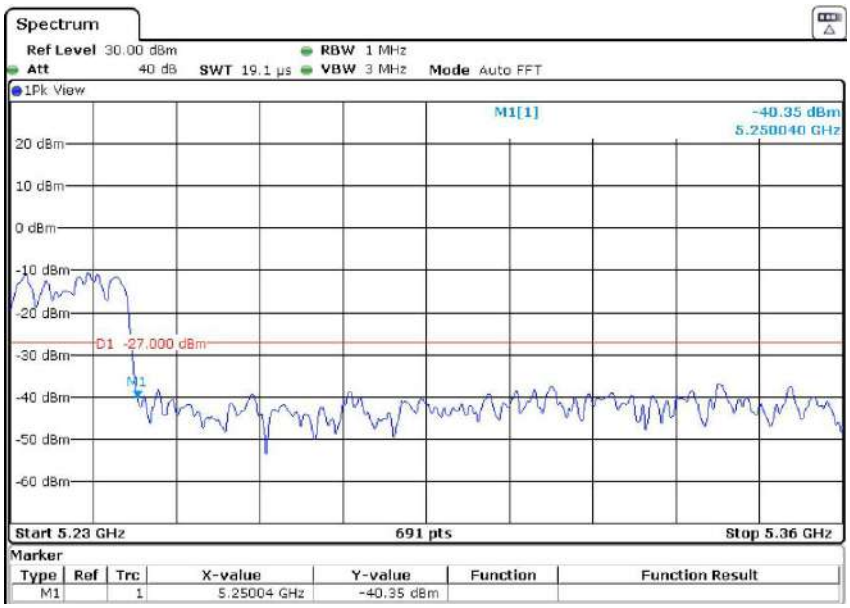
802.11ac(20M) (5.15GHz-5.25GHz)
The High Channel 48: 5240MHz



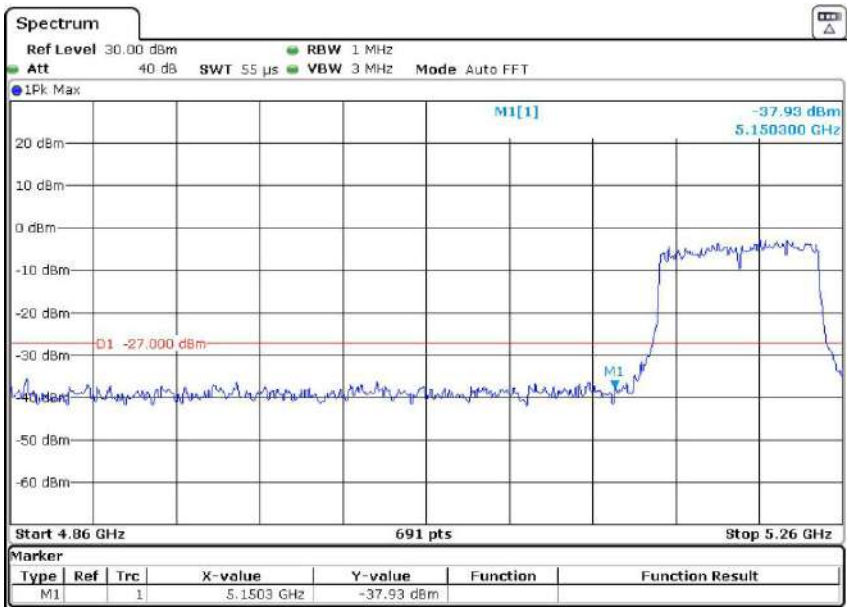
802.11ac(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz

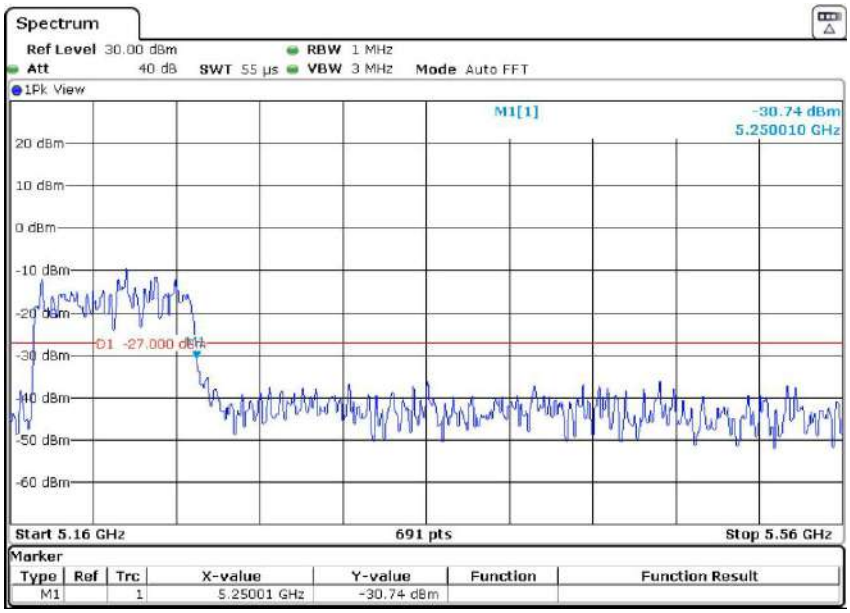


802.11ac(40M) (5.15GHz-5.25GHz)
The High Channel 46: 5230MHz

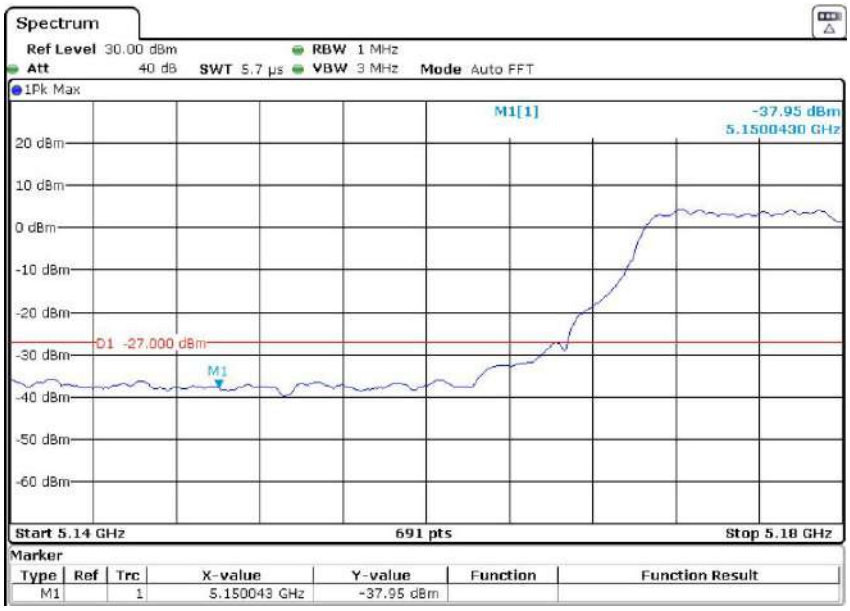


802.11ac(80M) (5.15GHz-5.25GHz)
The Lowest Channel 42: 5210MHz



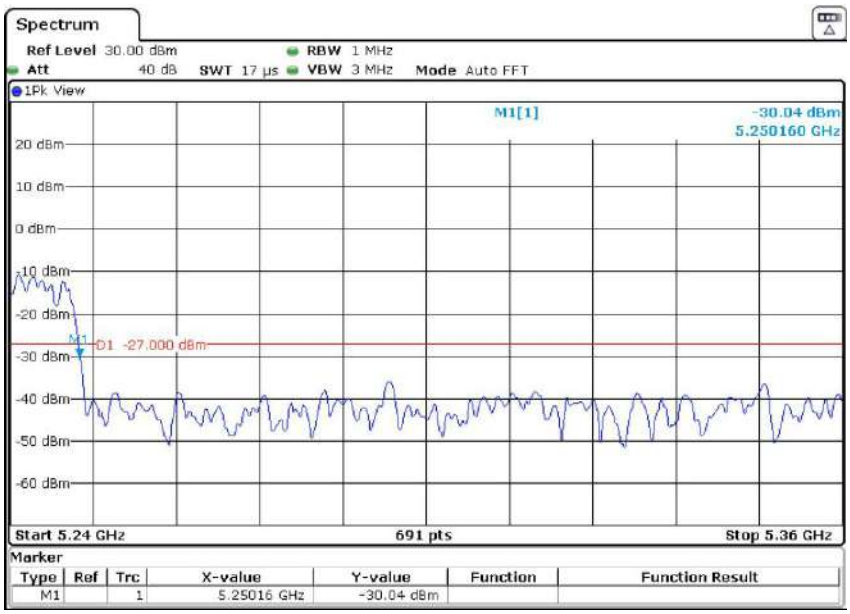


802.11ax(20M) (5.15GHz-5.25GHz)
The Lowest Channel 36: 5180MHz

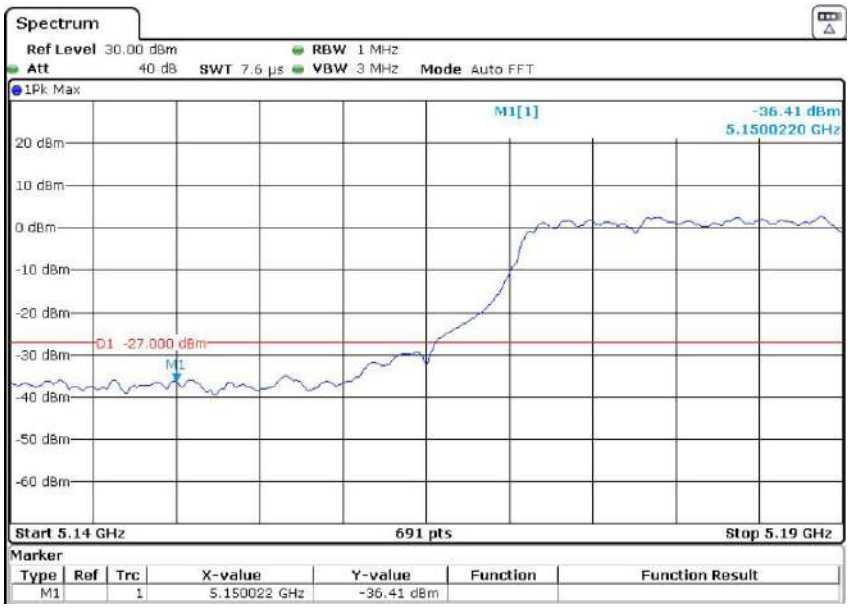


802.11ax(20M) (5.15GHz-5.25GHz)

The High Channel 48: 5240MHz

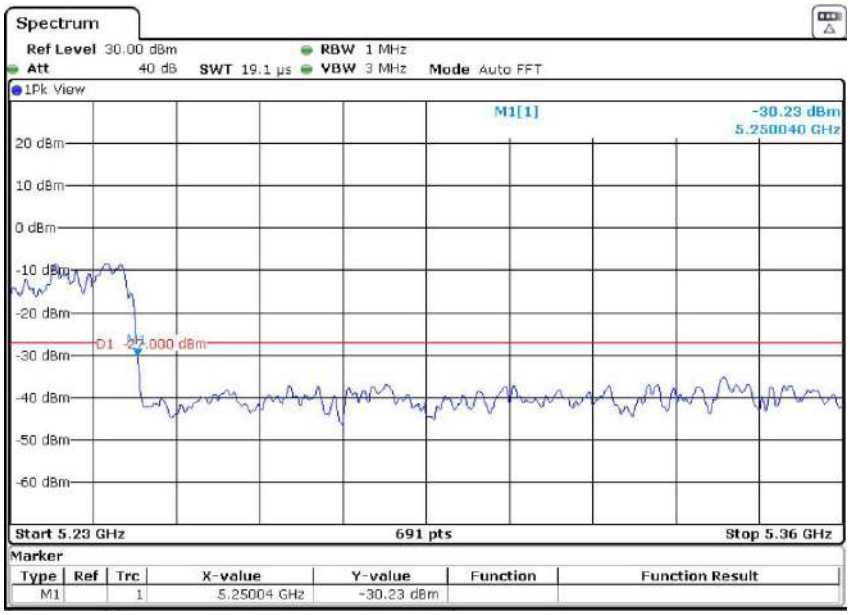


802.11ax(40M) (5.15GHz-5.25GHz)
The Lowest Channel 38: 5190MHz

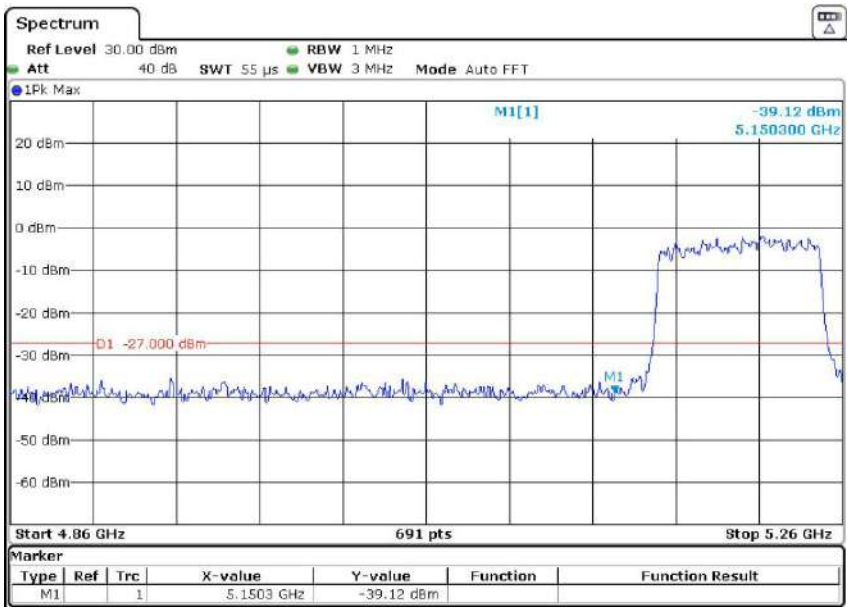


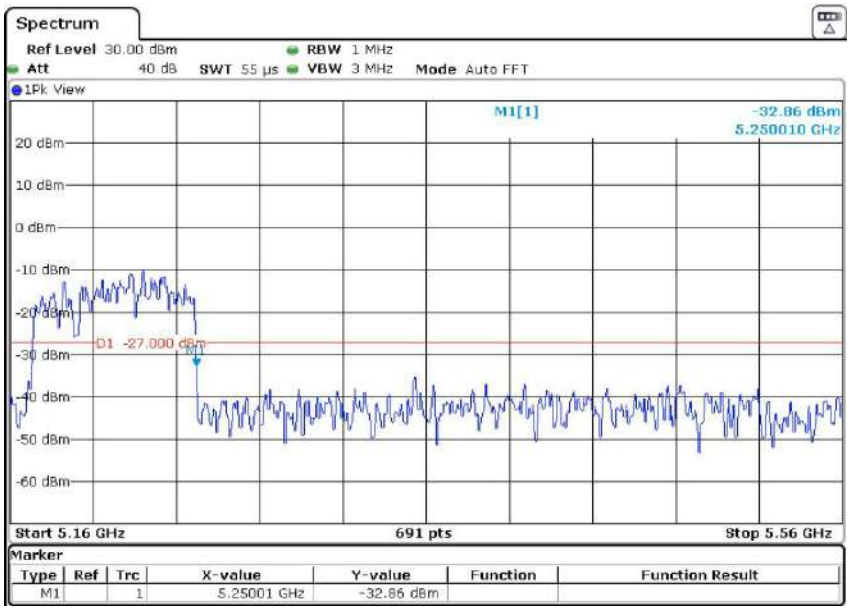
802.11ax(40M) (5.15GHz-5.25GHz)

The High Channel 46: 5230MHz

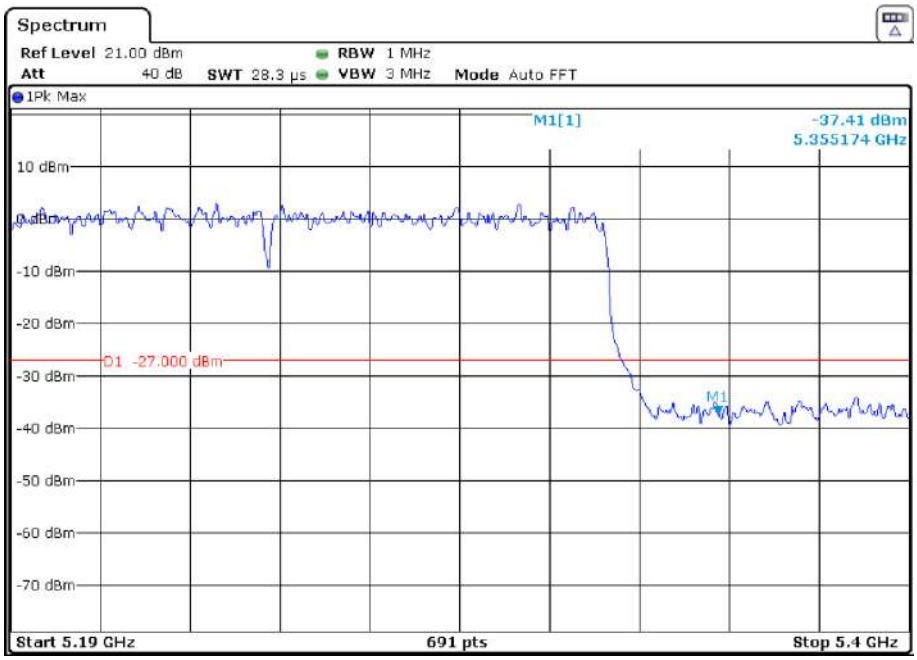


802.11ax(80M) (5.15GHz-5.25GHz)
The Lowest Channel 42: 5210MHz



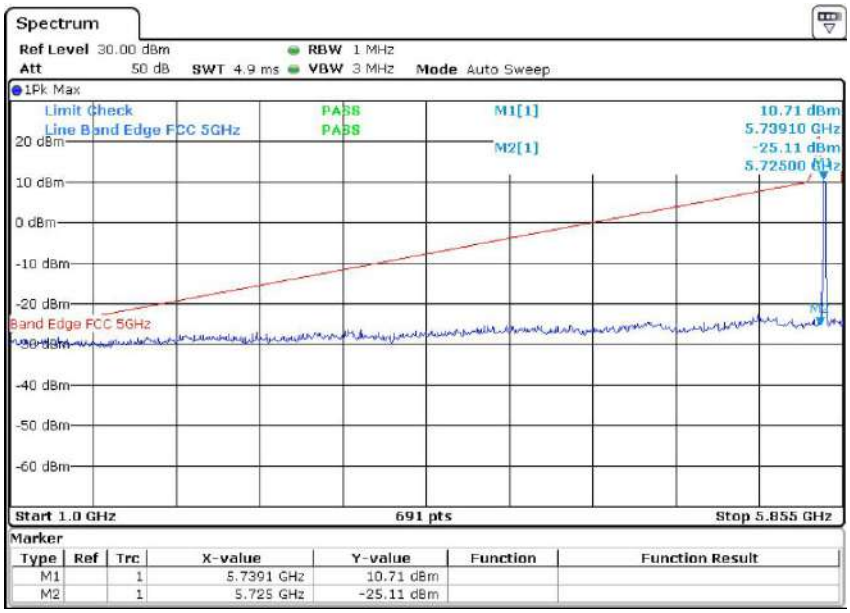


802.11ax(80M) (5.15GHz-5.25GHz)
The Lowest Channel 42: 5210MHz

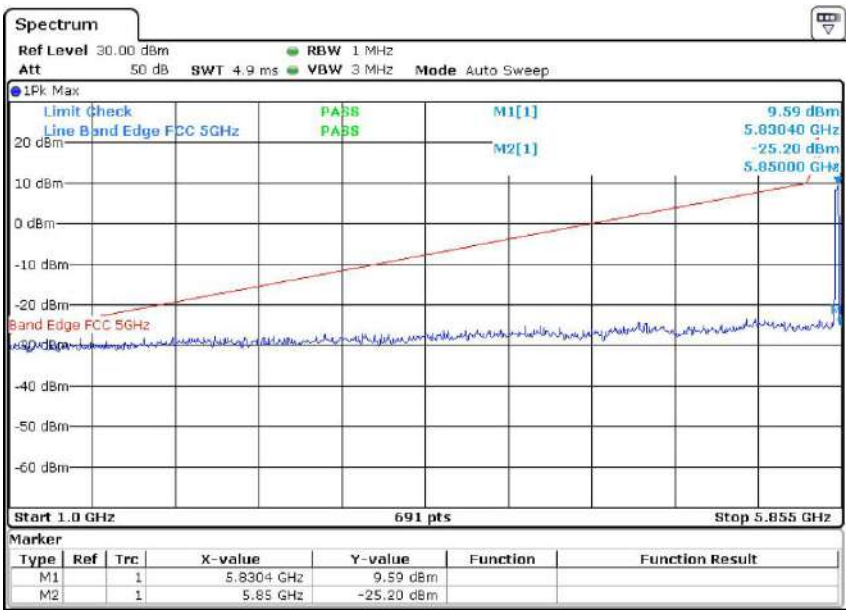


TEST RESULT ANT CHAIN 0

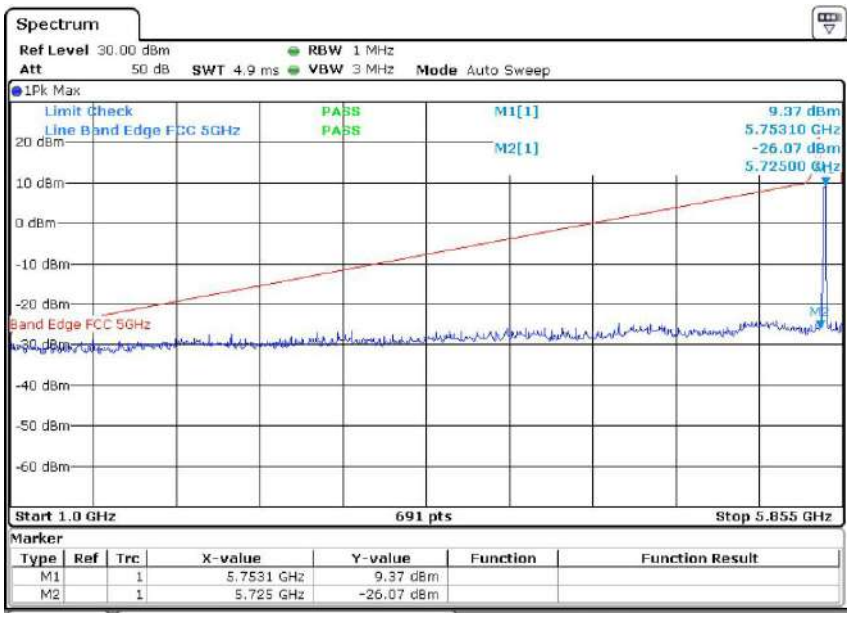
802.11a (5.725GHz-5.85GHz)
The Low Channel 149: 5745MHz



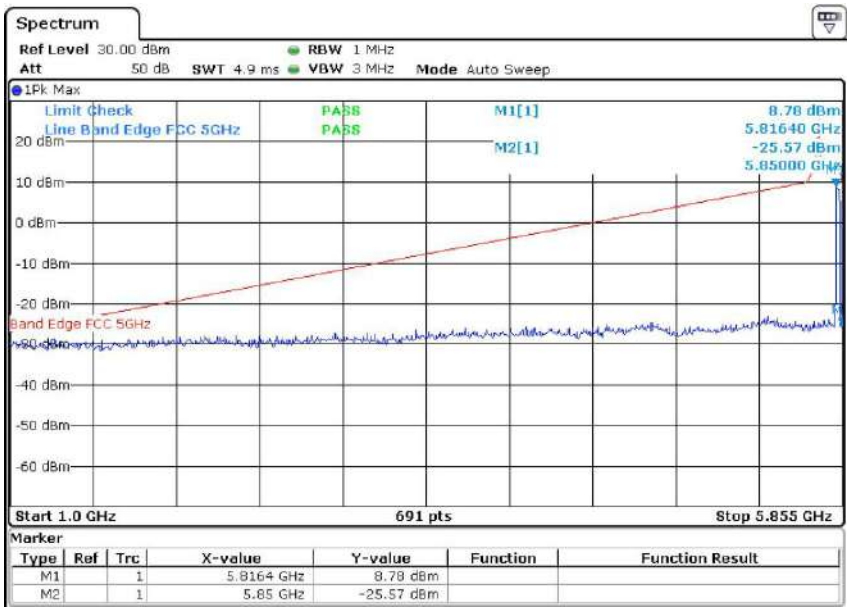
802.11a (5.725GHz-5.85GHz)
The High Channel 165: 5825MHz



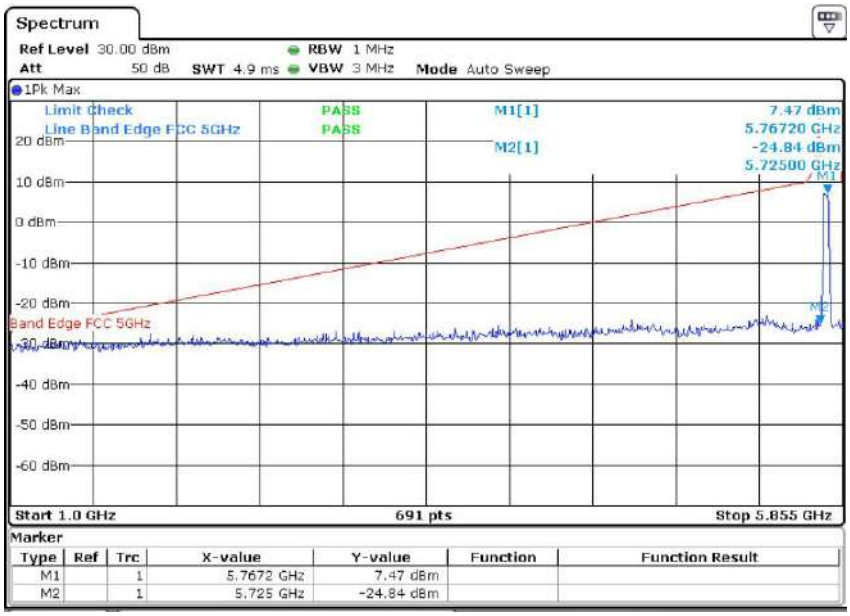
802.11n(20M) (5.725GHz-5.85GHz)
The Low Channel 149: 5745MHz



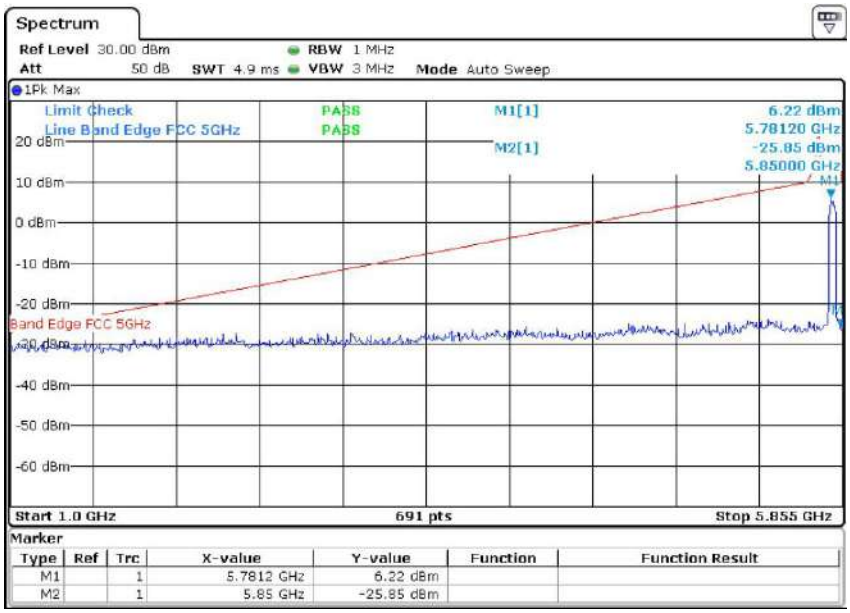
802.11n(20M) (5.725GHz-5.85GHz)
The High Channel 165: 5825MHz



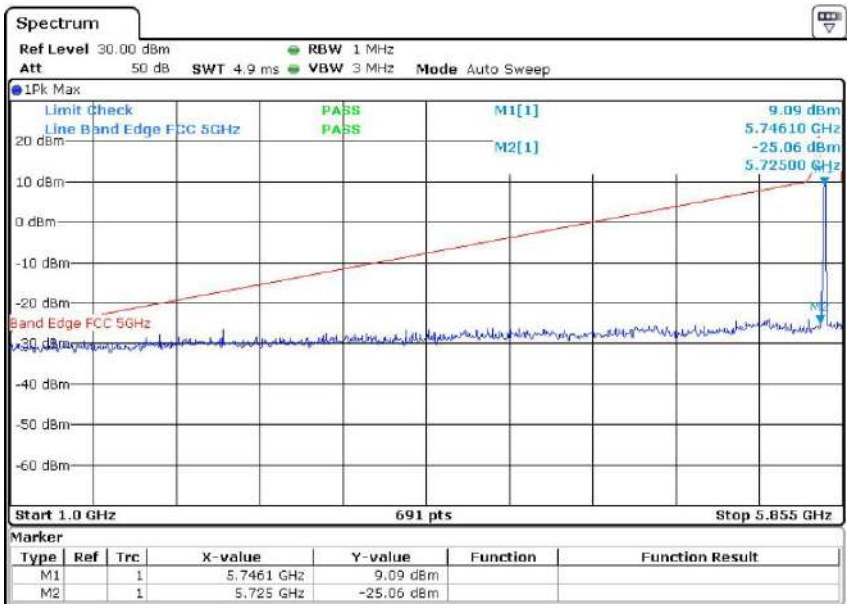
802.11n(40M) (5.725GHz-5.85GHz)
The Lowest Channel 151: 5755MHz



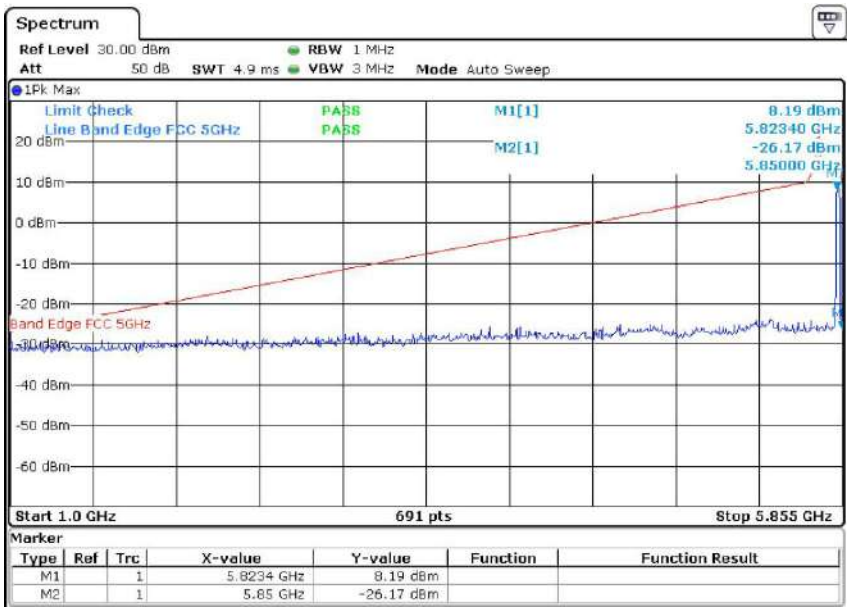
802.11n(40M) (5.725GHz-5.85GHz)
The High Channel 159: 5795MHz



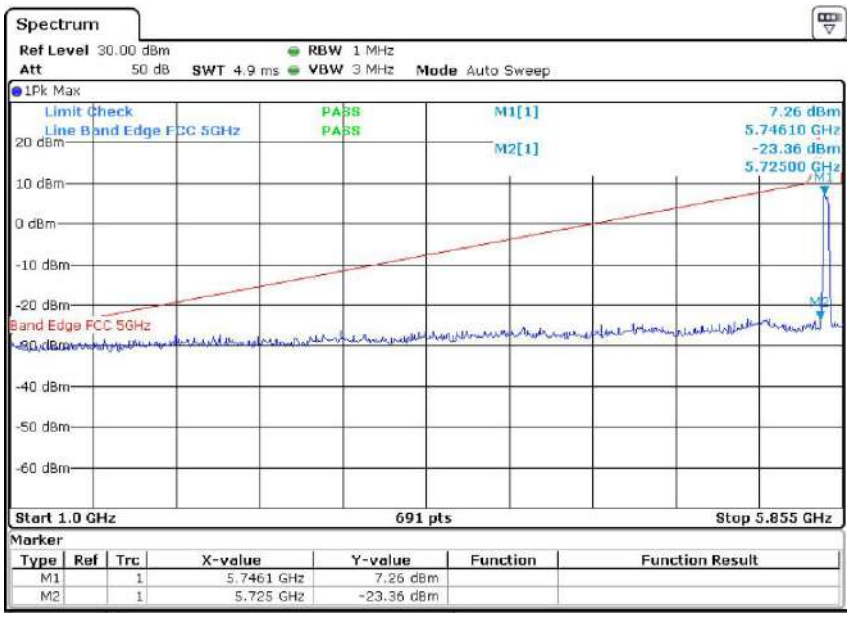
802.11ac(20M) (5.725GHz-5.85GHz)
The Low Channel 149: 5745MHz



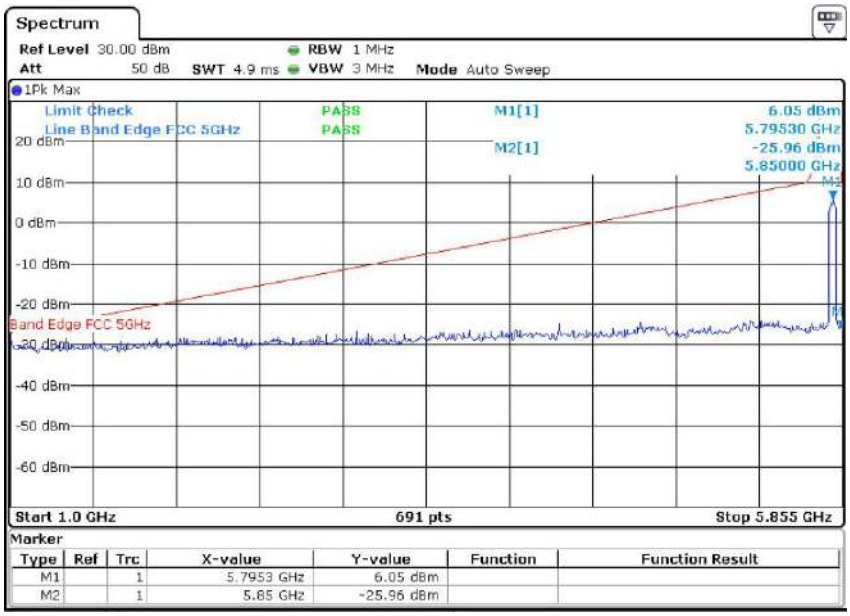
802.11ac(20M) (5.725GHz-5.85GHz)
The High Channel 165: 5825MHz



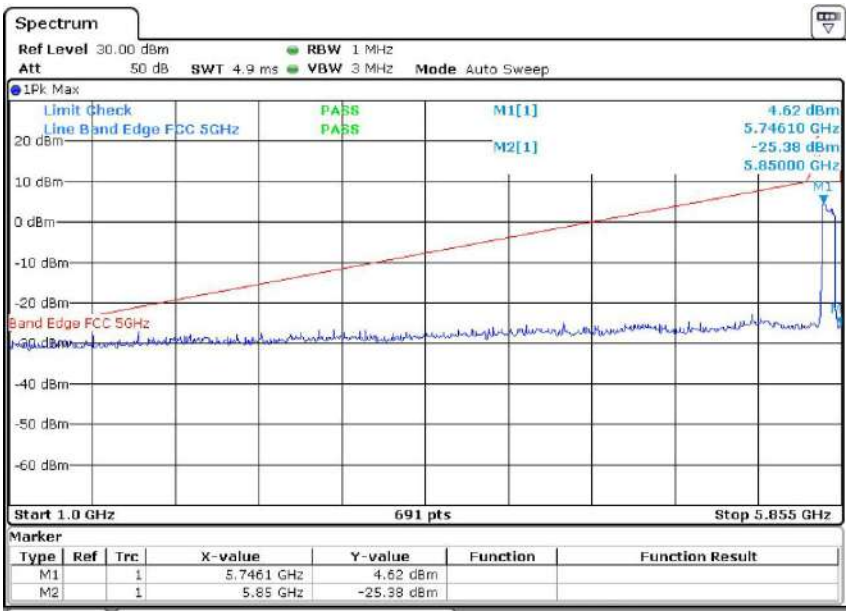
802.11ac(40M) (5.725GHz-5.85GHz)
The Lowest Channel 151: 5755MHz



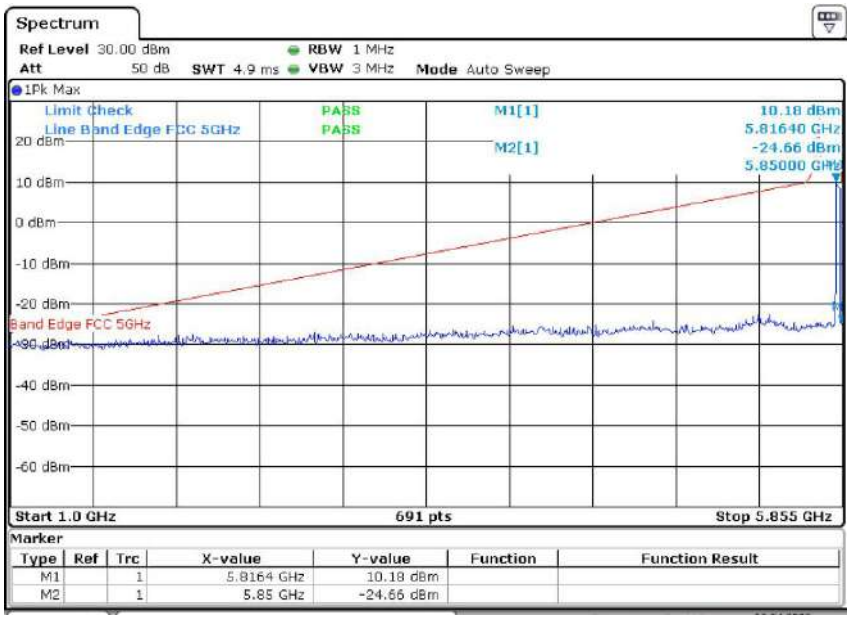
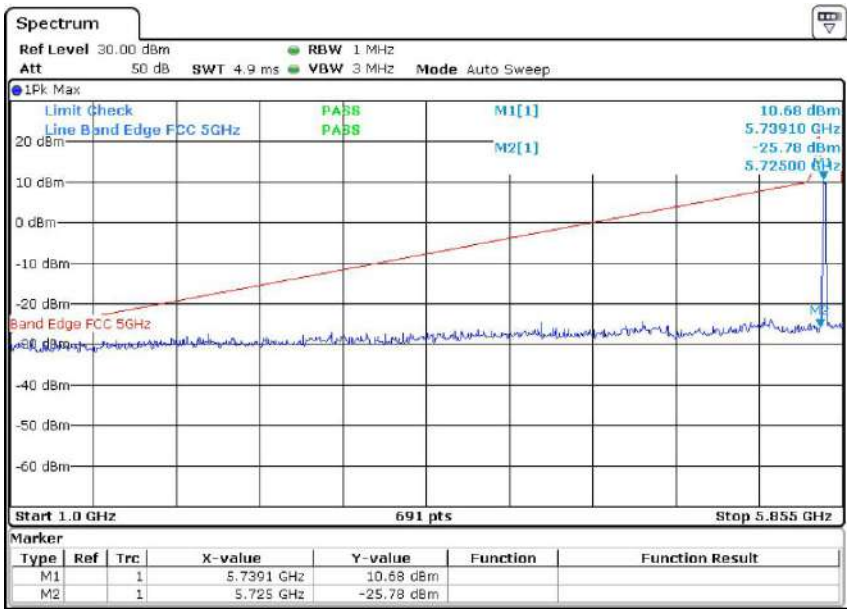
802.11ac(40M) (5.725GHz-5.85GHz)
The High Channel 159: 5795MHz



802.11ac(80M) (5.725GHz-5.85GHz)
The High Channel 155: 5775MHz



802.11ax(20M) (5.725GHz-5.85GHz)
The Low Channel 149: 5745MHz



802.11ax(20M) (5.725GHz-5.85GHz)
The High Channel 165: 5825MHz