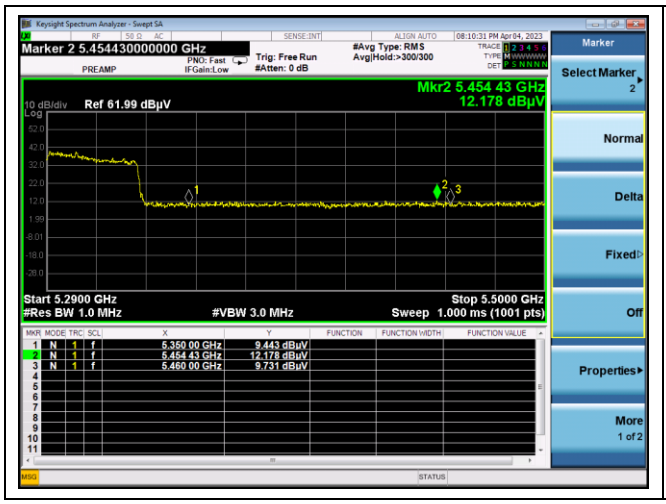
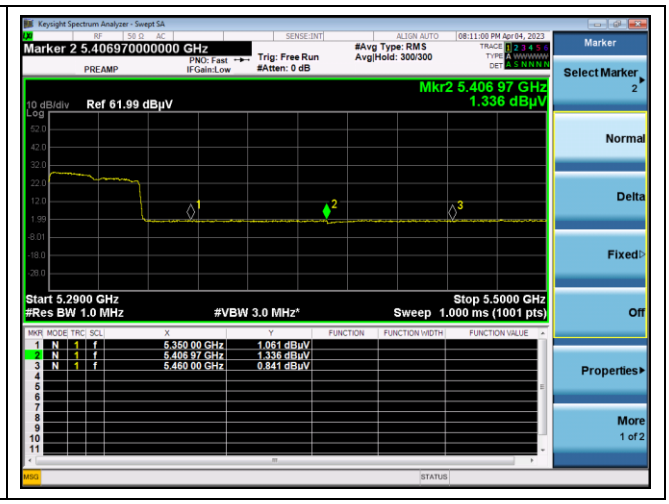
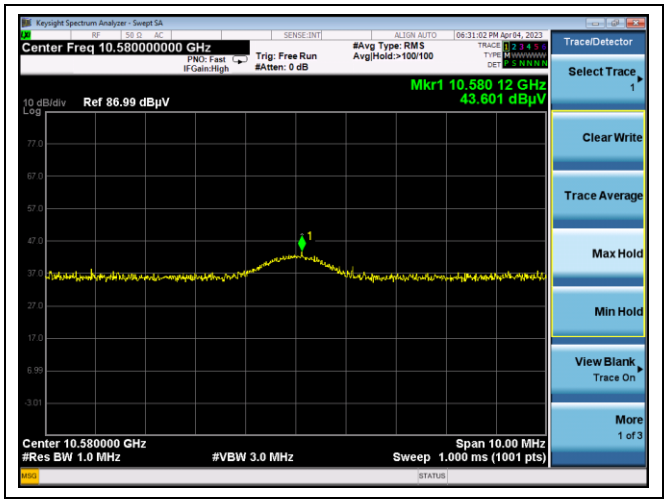
Middle channel Band edge (Peak) - Band 2A



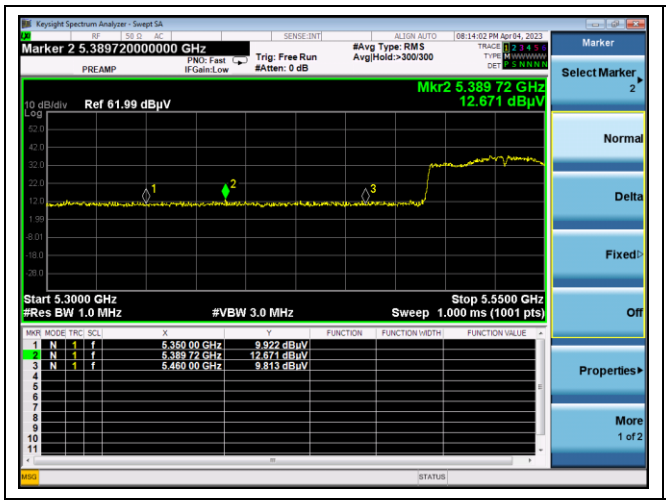
Middle channel Band edge (Average) - Band 2A



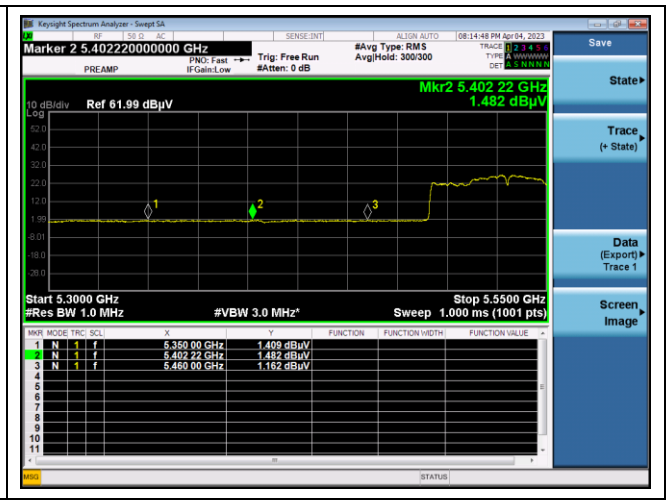
Middle channel 2nd Harmonic (Peak) – Band 2A



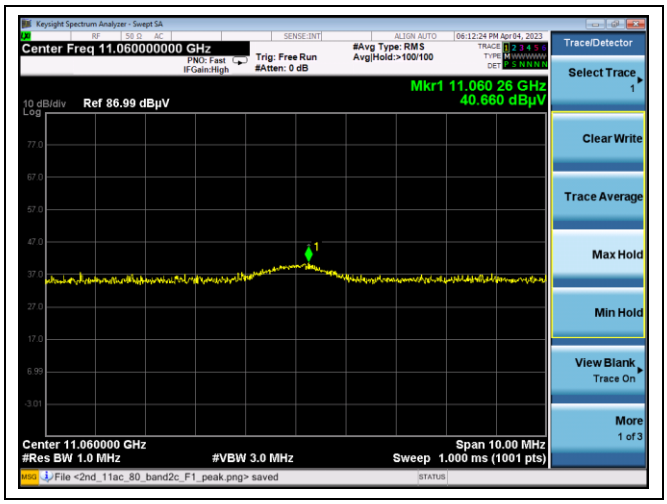
Low channel Band edge (Peak) - Band 2C



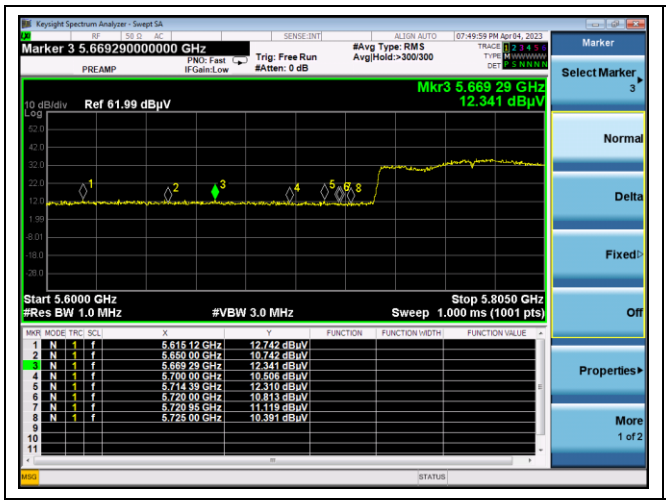
Low channel Band edge (Average) - Band 2C



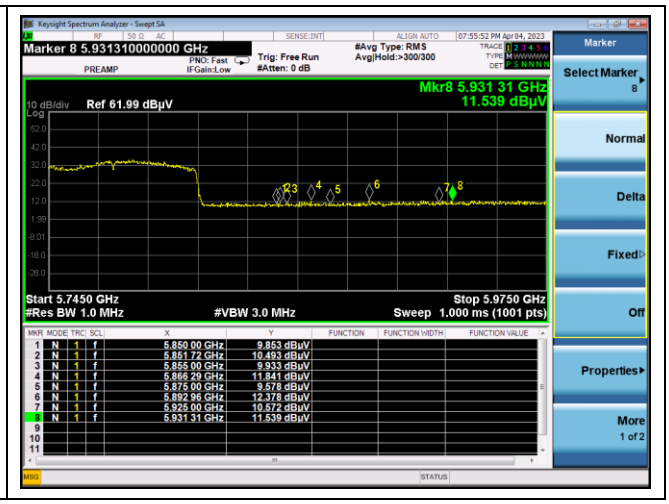
Low channel 2nd Harmonic (Peak) – Band 2C



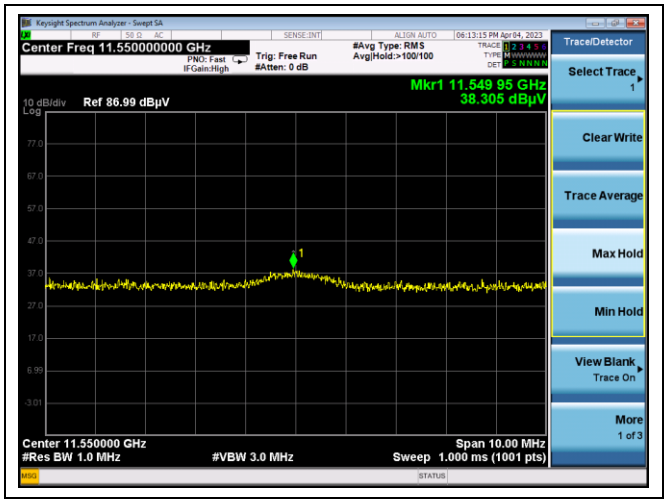
Middle channel Band edge (Peak) - Band 3



Middle channel Band edge (Peak) - Band 3

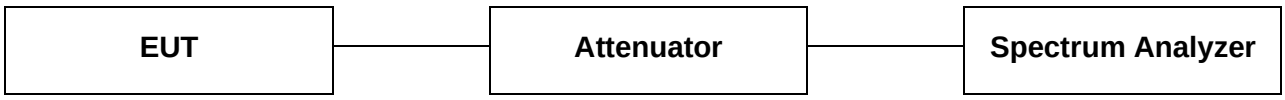


Middle channel 2nd Harmonic (Peak) – Band 3



3. 26 ㏈ Bandwidth & 99 % Bandwidth

3.1. Test Setup



3.2. Limit

None; for reporting purpose only.

3.3. Test Procedure

3.3.1. 26 ㏈ Bandwidth

1. This measurement settings are specified in section Ⅱ.C.1 of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = approximately 1 % of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 ㏈ down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Remark;

In case of band crossing channels 138, 142 and 144, the measurement is complied with section Ⅲ.A of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

3.3.2. 99 % Bandwidth

1. This measurement settings are specified in section Ⅱ.D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5 % of the OBW.
5. Set VBW ≥ 3 x RBW.
6. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
7. Use the 99 % power bandwidth function of the instrument (if available).
8. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % occupied bandwidth is the difference between these two frequencies.

In the result,
- DFS requirements are not applicable in the 5 150 ㎒ ~ 5 250 ㎒.

3.4. Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

- SISO

Test mode: 11a

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 180	36	6	21.019	21.299	-	-
	5 220	44		20.979	21.099	-	-
	5 240	48		21.179	21.059	17.103	17.103
U-NII 2A	5 260	52		20.899	21.179	-	-
	5 300	60		21.099	21.259	-	-
	5 320	64		21.179	21.139	-	-
U-NII 2C	5 500	100		20.939	21.099	-	-
	5 580	116		21.219	20.979	-	-
	5 700	140		21.059	21.019	-	-
U-NII 3	5 745	149		20.859	21.179	-	-
	5 785	157		21.179	21.019	-	-
	5 825	165		21.139	20.979	-	-

Test mode: 11ac_VHT20

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 180	36	MCS0	21.459	21.419	-	-
	5 220	44		21.658	21.339	-	-
	5 240	48		21.459	21.419	18.102	18.182
U-NII 2A	5 260	52		21.379	21.419	-	-
	5 300	60		21.259	21.339	-	-
	5 320	64		21.539	21.578	-	-
U-NII 2C	5 500	100		21.738	21.459	-	-
	5 580	116		21.578	21.539	-	-
	5 700	140		21.379	21.539	-	-
U-NII 3	5 745	149		21.658	21.459	-	-
	5 785	157		21.459	21.459	-	-
	5 825	165		21.539	21.419	-	-

Test mode: 11n_HT40

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 190	38	MCS0	40.520	40.280	-	-
	5 230	46		40.120	40.040	36.364	36.284
U-NII 2A	5 270	54		40.360	40.440	-	-
	5 310	62		40.200	40.520	-	-
U-NII 2C	5 510	102		40.120	40.440	-	-
	5 550	110		40.360	40.280	-	-
	5 670	134		40.360	40.520	-	-
U-NII 3	5 755	151		40.200	40.360	-	-
	5 795	159		40.360	40.440	-	-

Test mode: 11ac_VHT80

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 210	42	MCS0	82.158	81.838	75.764	75.764
U-NII 2A	5 290	58		82.797	82.318	-	-
U-NII 2C	5 530	106		82.637	82.318	-	-
U-NII 3	5 775	155		82.318	82.318	-	-

- MIMO

Test mode: 11ac_VHT20

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 180	36	MCS0	21.219	21.259	-	-
	5 220	44		21.259	21.499	-	-
	5 240	48		21.339	21.219	18.142	17.822
U-NII 2A	5 260	52		21.179	21.339	-	-
	5 300	60		21.499	21.139	-	-
	5 320	64		21.499	21.299	-	-
U-NII 2C	5 500	100		21.379	21.179	-	-
	5 580	116		21.459	21.259	-	-
	5 700	140		21.299	21.539	-	-
U-NII 3	5 745	149		21.459	21.019	-	-
	5 785	157		21.339	21.179	-	-
	5 825	165		21.459	21.419	-	-

Test mode: 11ac_VHT40

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 190	38	MCS0	40.040	39.560	-	-
	5 230	46		40.280	39.481	36.284	36.044
U-NII 2A	5 270	54		40.200	39.321	-	-
	5 310	62		40.200	39.640	-	-
U-NII 2C	5 510	102		40.120	39.800	-	-
	5 550	110		40.360	39.560	-	-
	5 670	134		40.120	39.720	-	-
U-NII 3	5 755	151		40.120	39.640	-	-
	5 795	159		40.040	39.800	-	-

Test mode: 11ac_VHT80

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)		99 % Bandwidth (㎒)	
				Core 0	Core 1	Core 0	Core 1
U-NII 1	5 210	42	MCS0	82.158	81.518	75.604	75.445
U-NII 2A	5 290	58		81.838	81.678	-	-
U-NII 2C	5 530	106		82.797	81.359	-	-
U-NII 3	5 775	155		82.318	81.838	-	-

Band-crossing channel

SISO

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)	
				Core 0	Core 1
11a	5 720	144	6	15.470	15.589
11ac_VHT20	5 720	144	MCS0	15.629	15.869
11n_HT40	5 710	142	MCS0	35.140	35.220
11ac_VHT80	5 690	138	MCS0	75.919	76.399

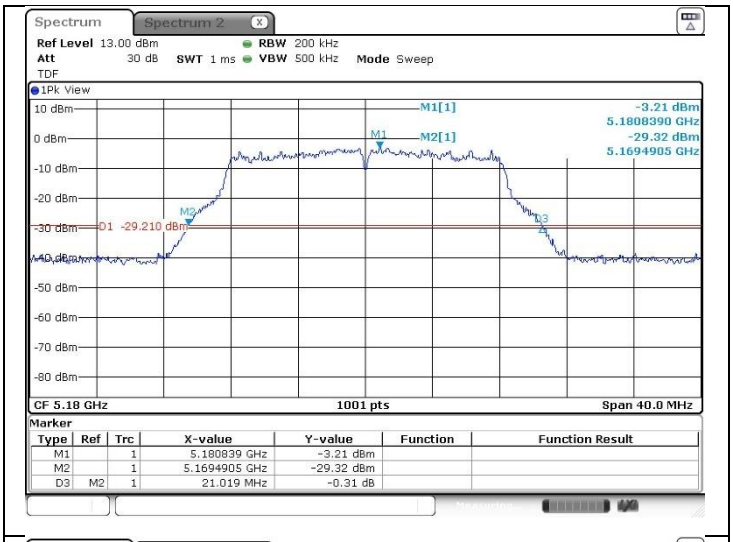
MIMO

Band	Frequency (㎒)	Ch.	Data Rate (Mbps)	26 ㏈ Bandwidth (㎒)	
				Core 0	Core 1
11ac_VHT20	5 720	144	MCS0	15.589	15.629
11ac_VHT40	5 710	142	MCS0	35.060	34.820
11ac_VHT80	5 690	138	MCS0	75.759	75.919

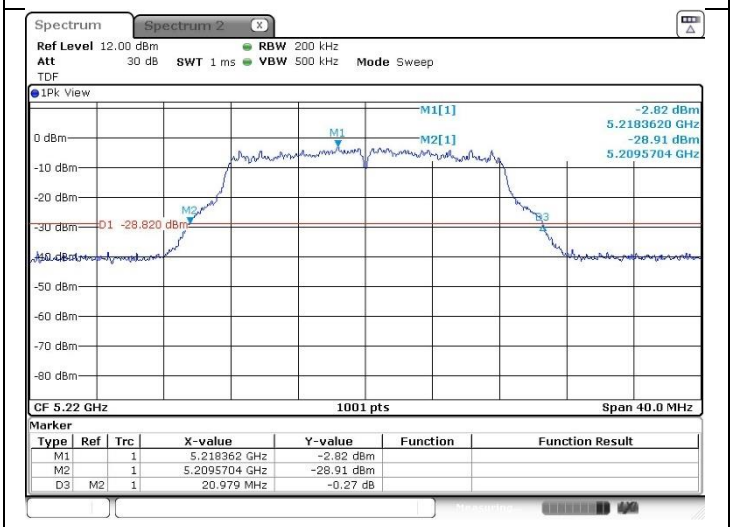
- Test plots
26 dB Bandwidth

SISO_Core 0
802.11a (Band 1)

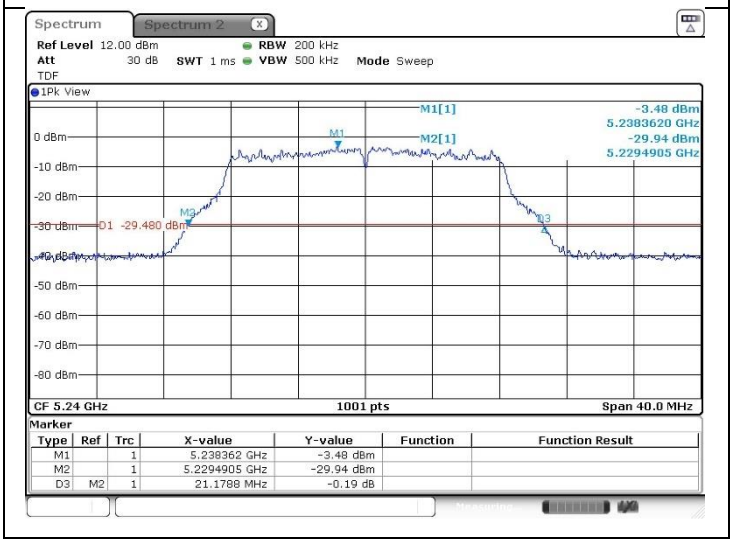
Low Channel
(5 180 ㎒)



Middle Channel
(5 220 ㎒)

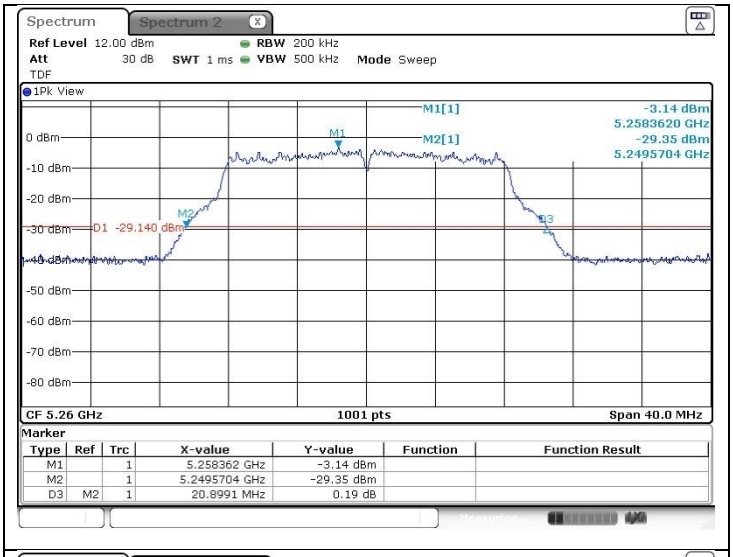


High Channel
(5 240 ㎒)

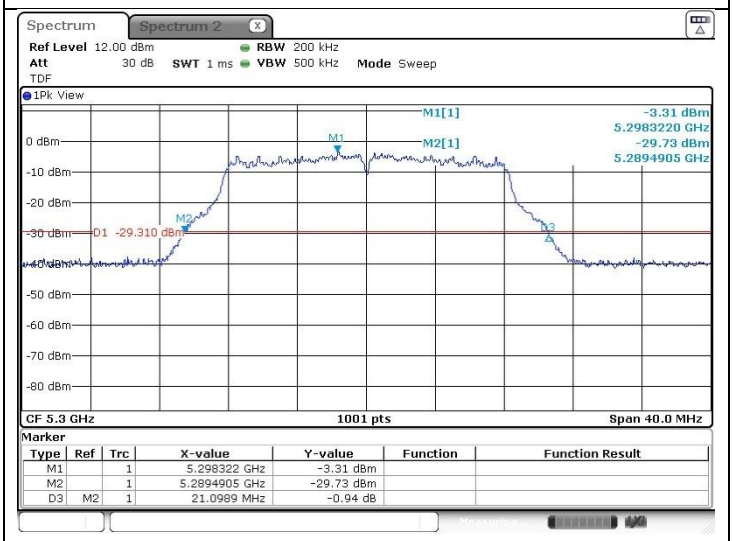


802.11a (Band 2A)

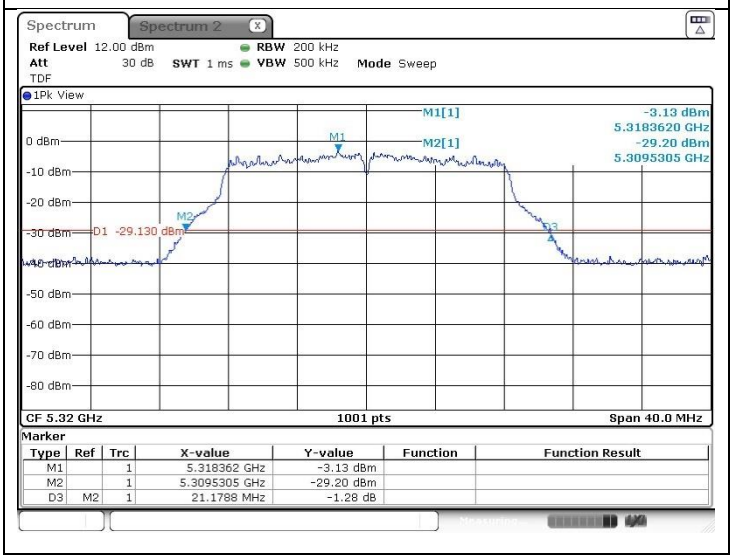
Low Channel
(5 260 ㎒)



Middle Channel
(5 300 ㎒)

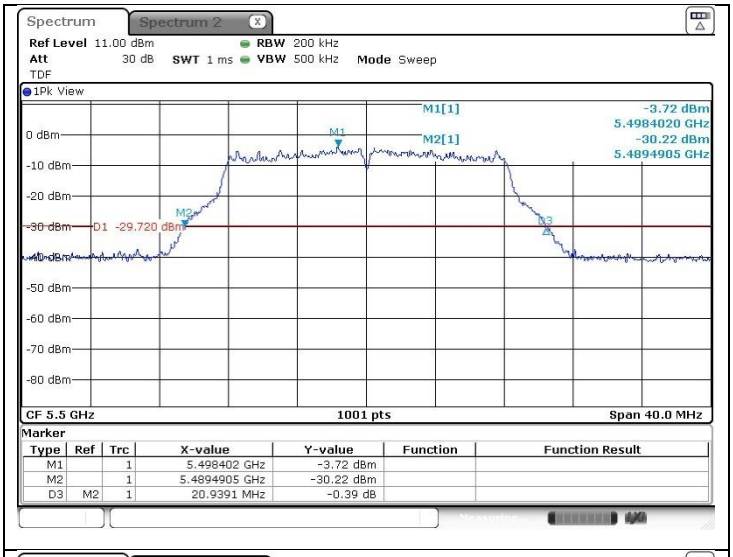


High Channel
(5 320 ㎒)

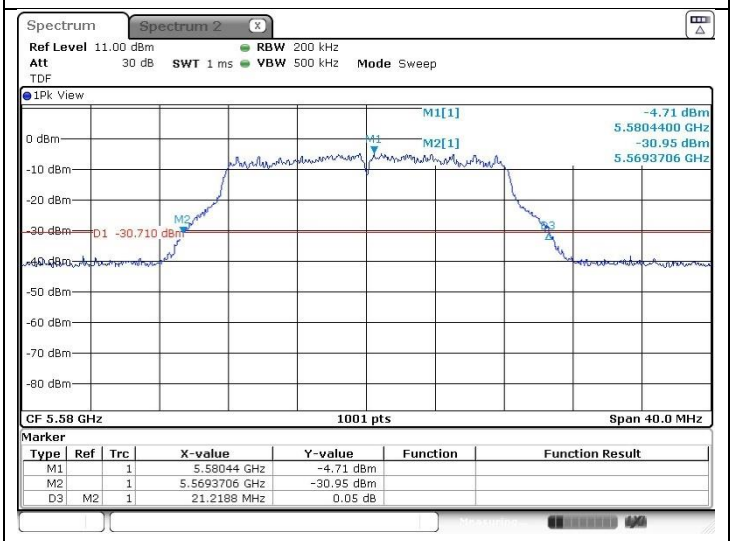


802.11a (Band 2C)

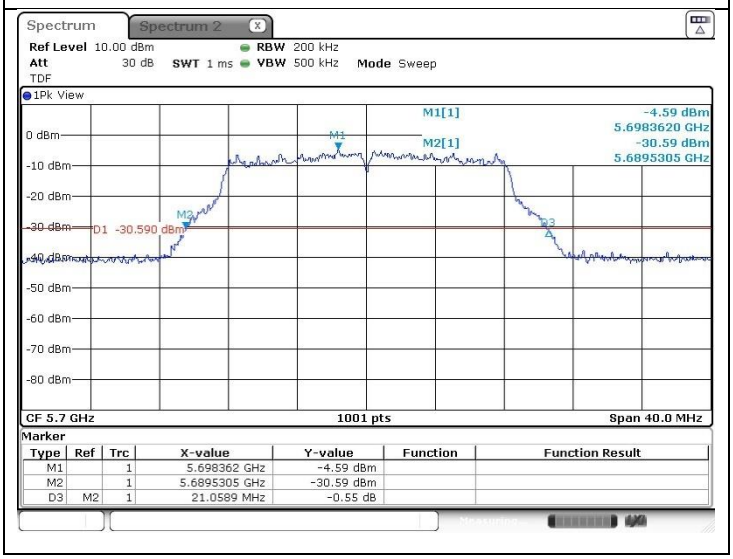
Low Channel
(5 500 ㎒)



Middle Channel
(5 580 ㎒)

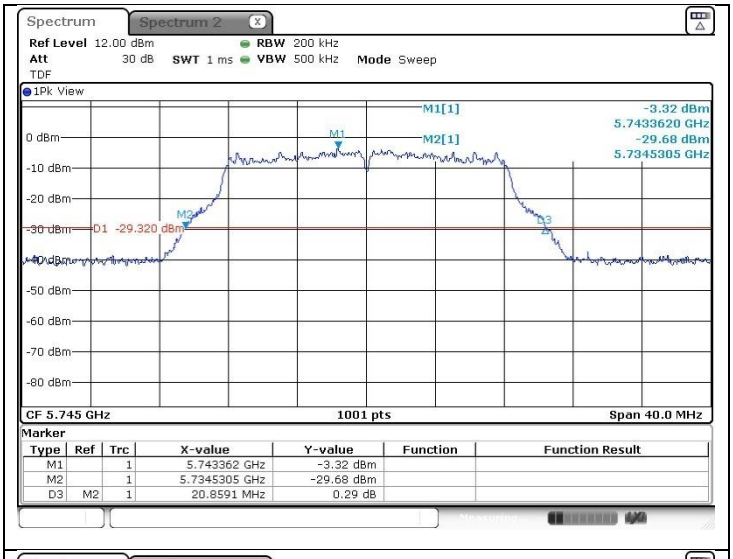


High Channel
(5 700 ㎒)

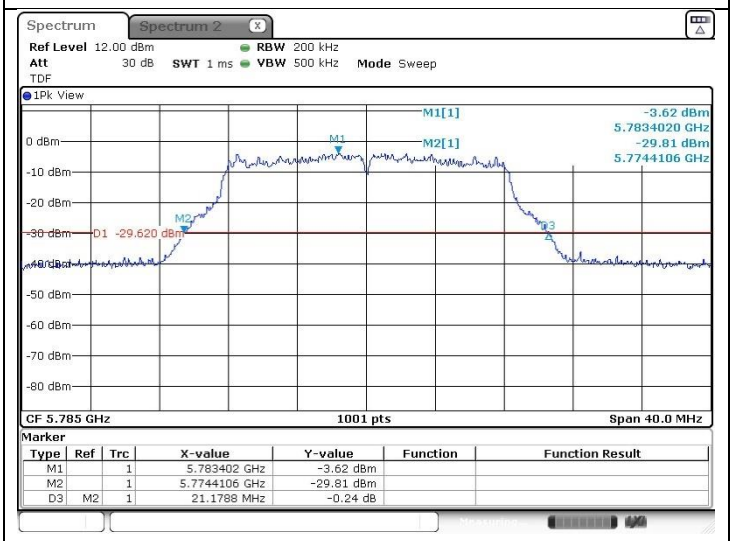


802.11a (Band 3)

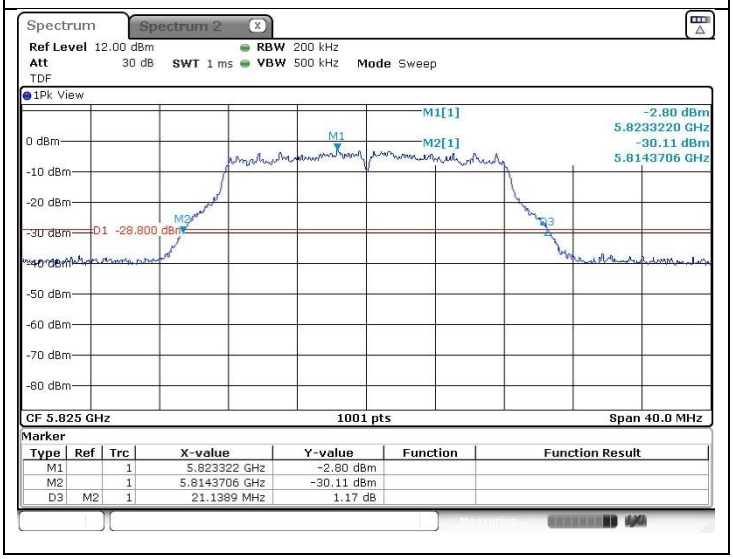
Low Channel
(5 745 ㎒)



Middle Channel
(5 785 ㎒)

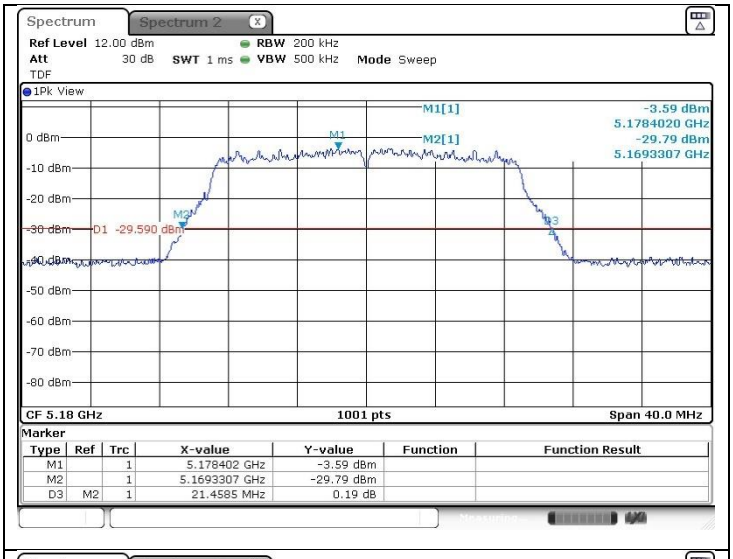


High Channel
(5 825 ㎒)

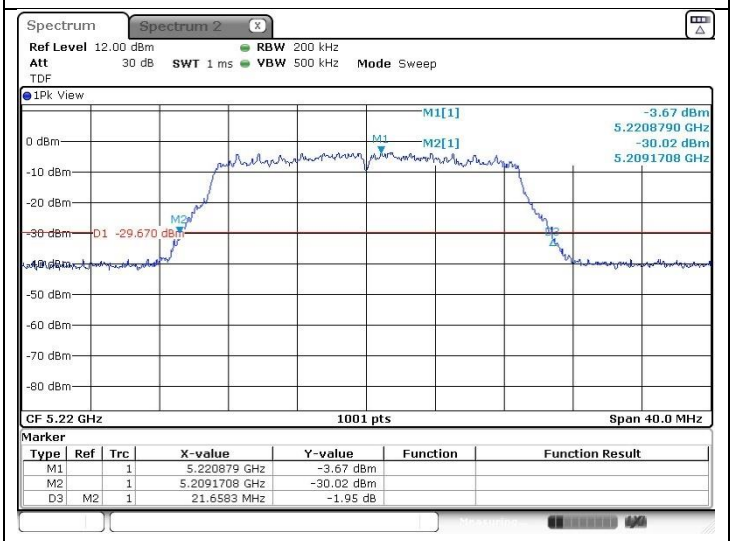


802.11ac_VHT20 (Band 1)

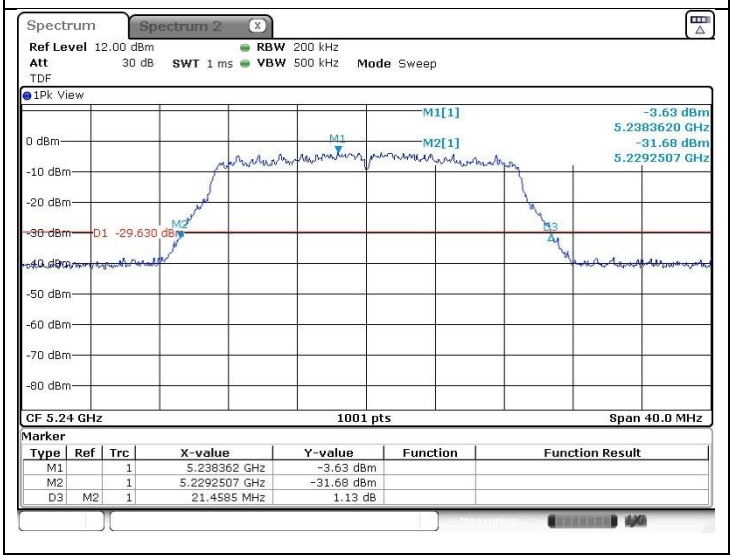
Low Channel
(5 180 ㎒)



Middle Channel
(5 220 ㎒)

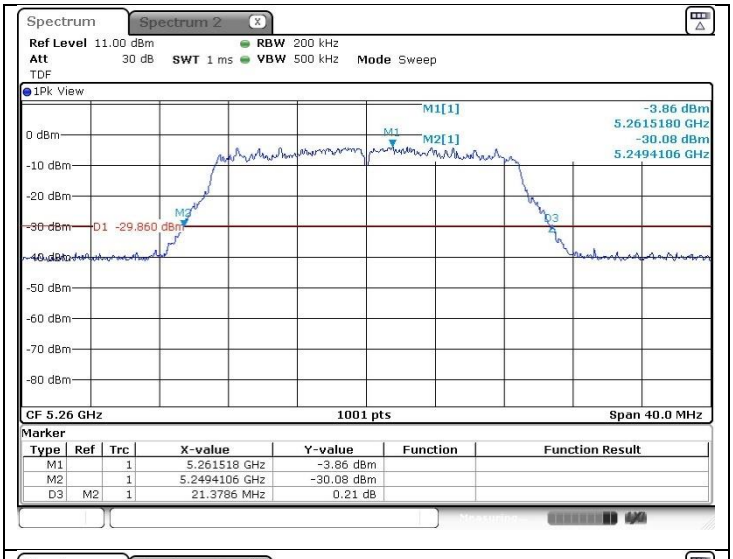


High Channel
(5 240 ㎒)

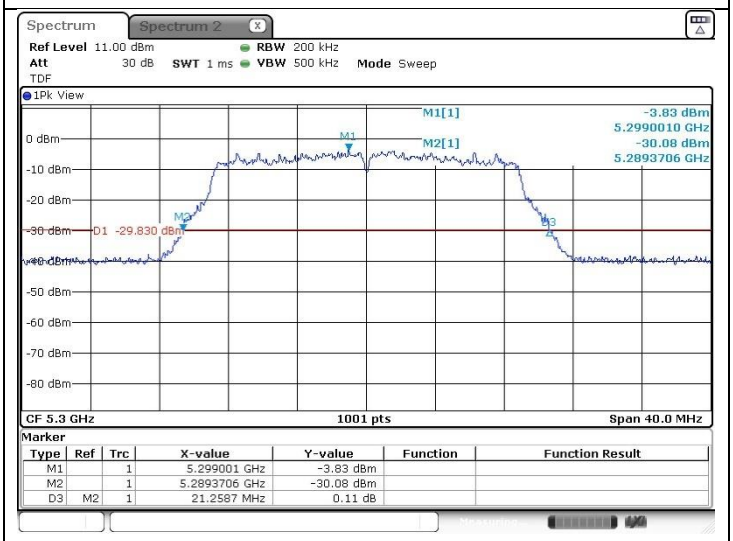


802.11ac_VHT20 (Band 2A)

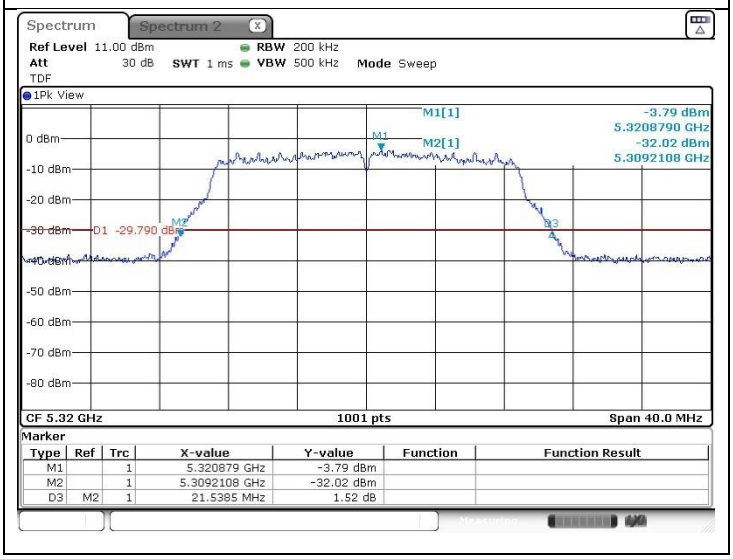
Low Channel
(5 260 ㎒)



Middle Channel
(5 300 ㎒)

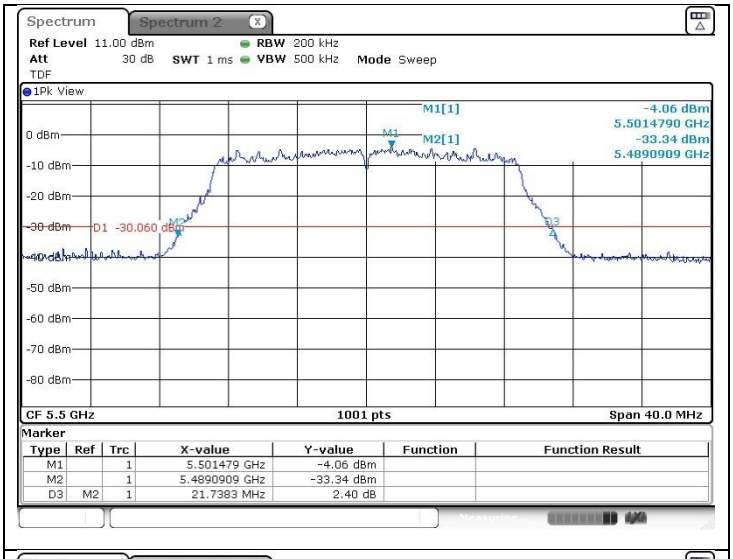


High Channel
(5 320 ㎒)

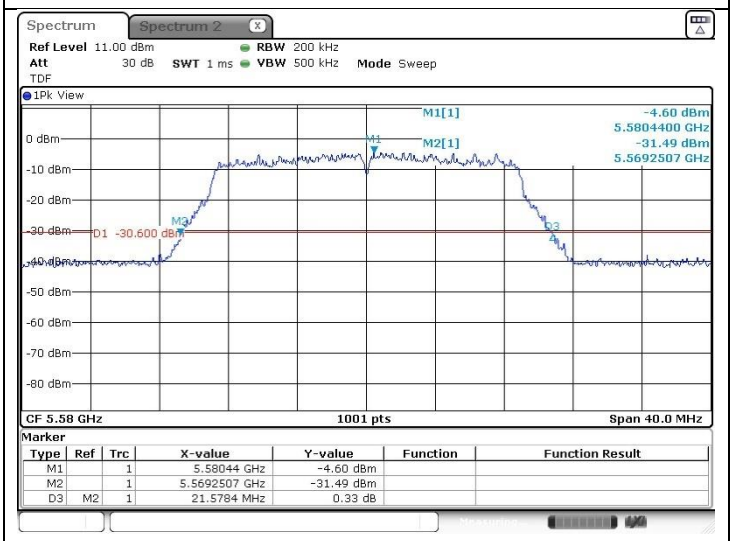


802.11ac_VHT20 (Band 2C)

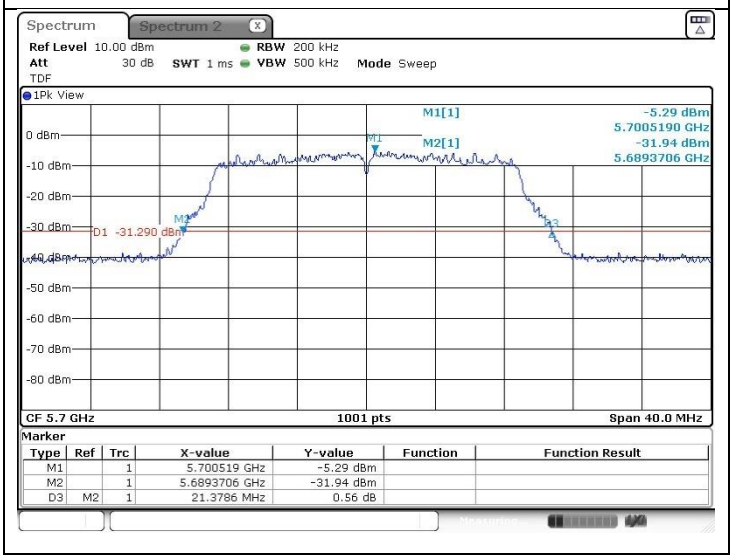
Low Channel
(5 500 ㎒)



Middle Channel
(5 580 ㎒)

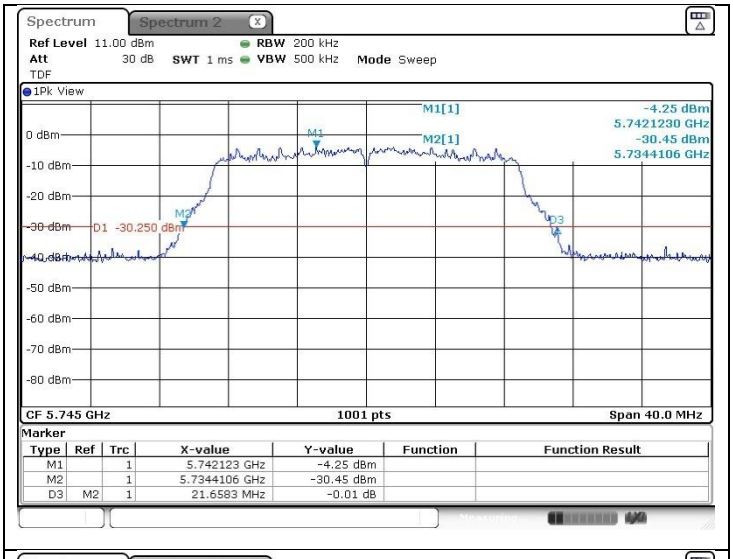


High Channel
(5 700 ㎒)

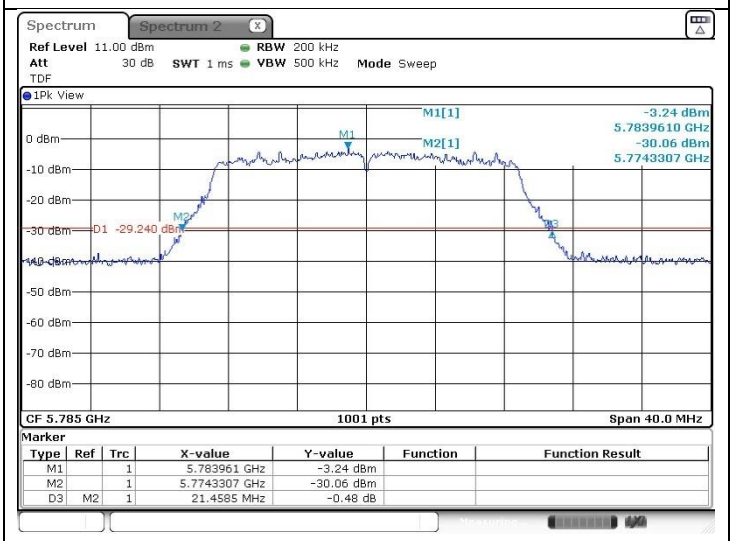


802.11ac_VHT20 (Band 3)

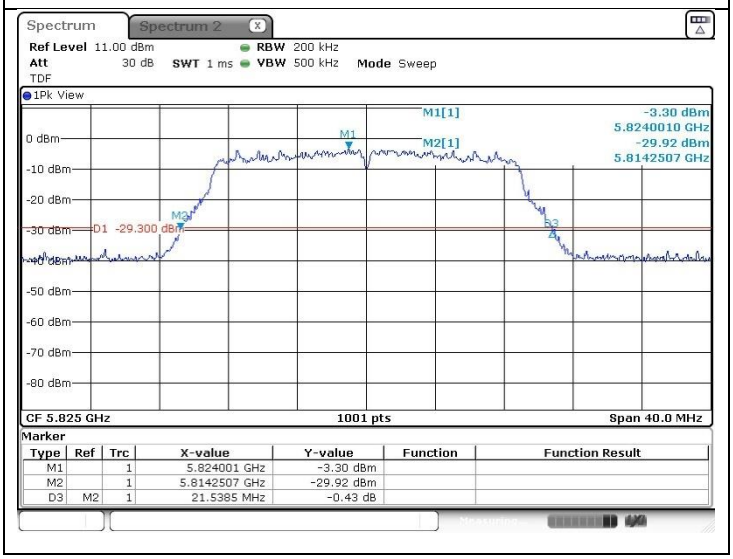
Low Channel
(5 745 ㎒)



Middle Channel
(5 785 ㎒)

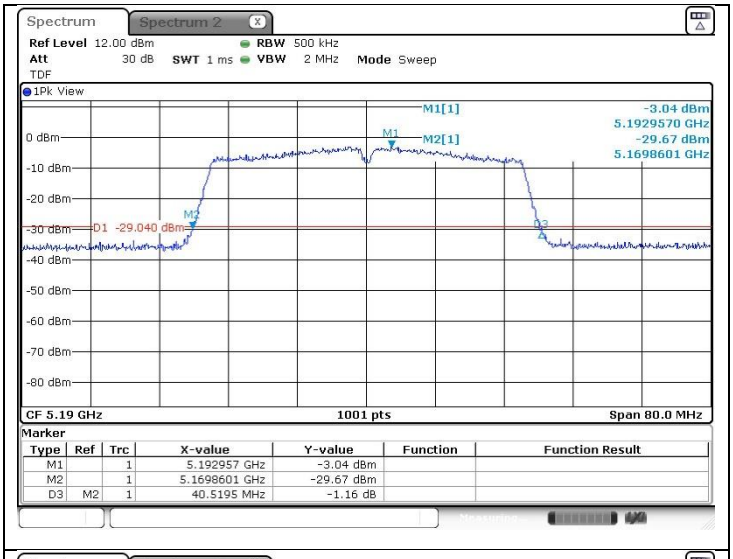


High Channel
(5 825 ㎒)

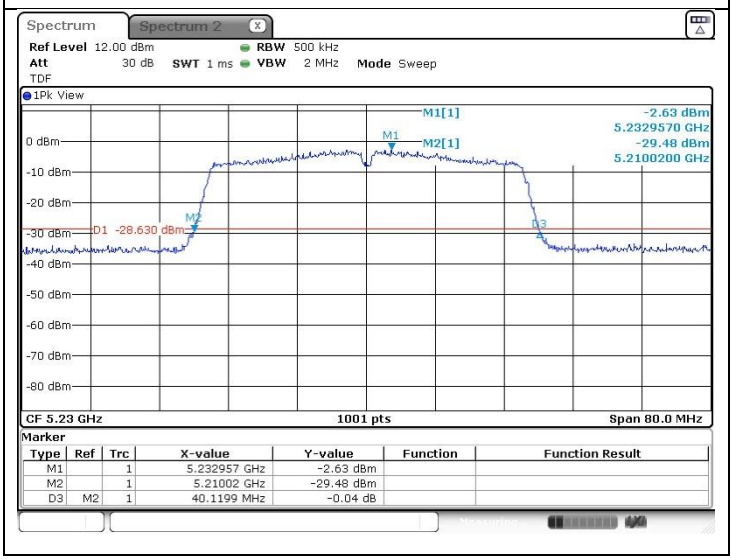


802.11n_HT40 (Band 1)

Low Channel
(5 190 ㎒)

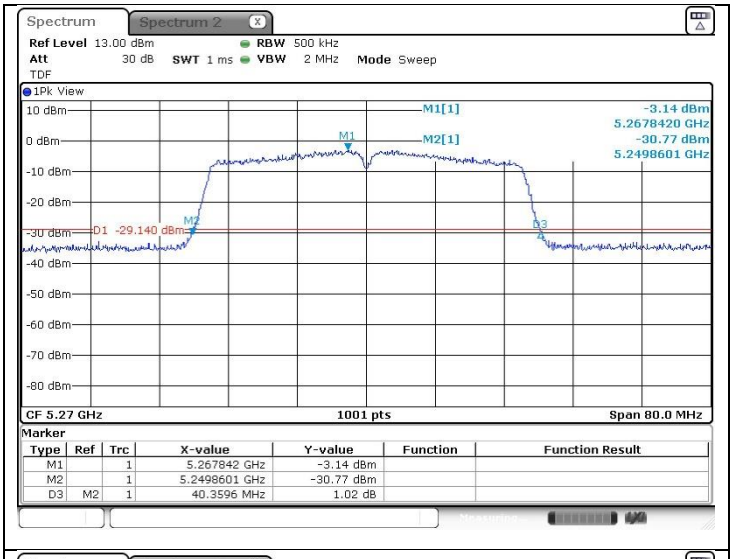


High Channel
(5 230 ㎒)

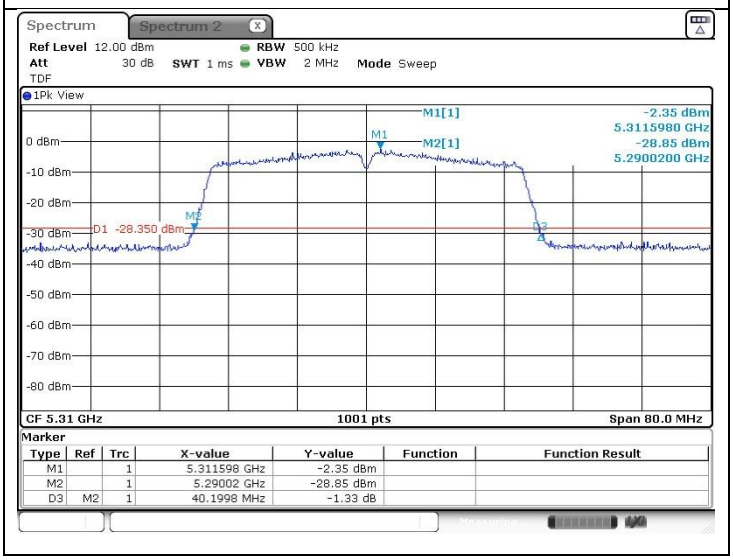


802.11n_HT40 (Band 2A)

Low Channel
(5 270 ㎒)

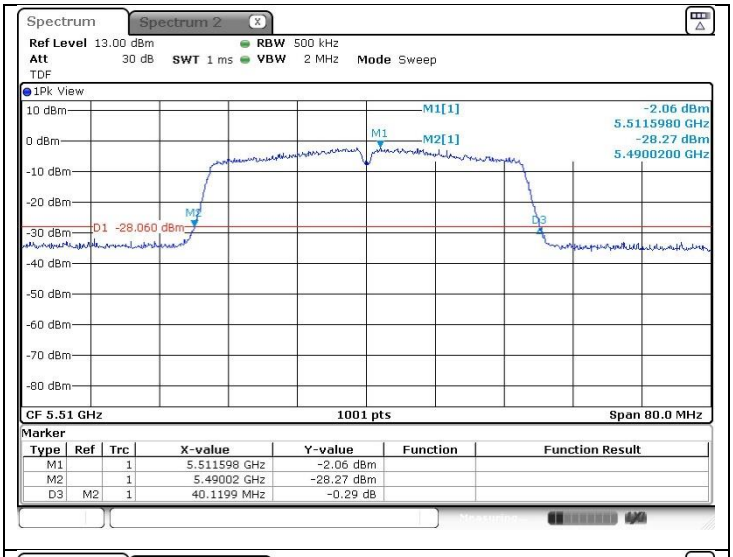


High Channel
(5 310 ㎒)

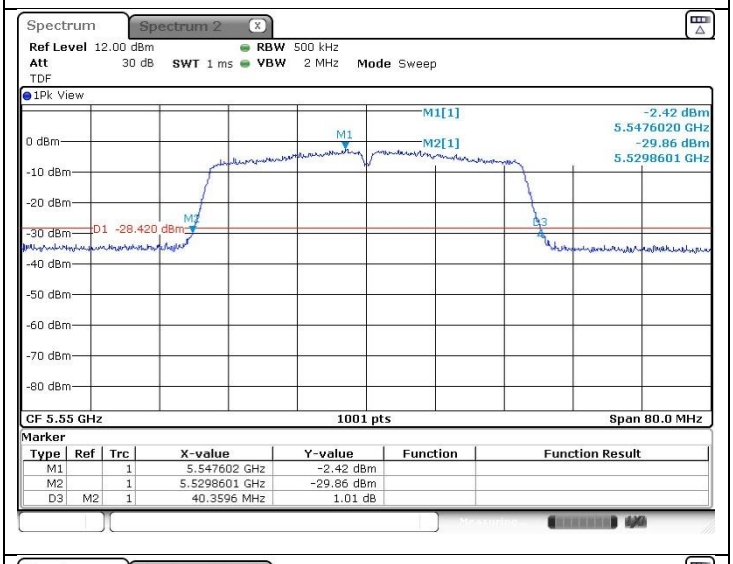


802.11n_HT40 (Band 2C)

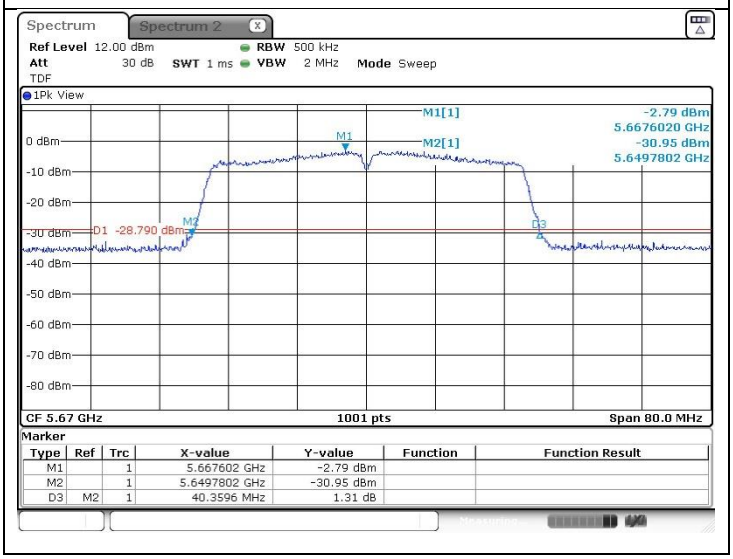
Low Channel
(5 510 ㎒)



Middle Channel
(5 550 ㎒)

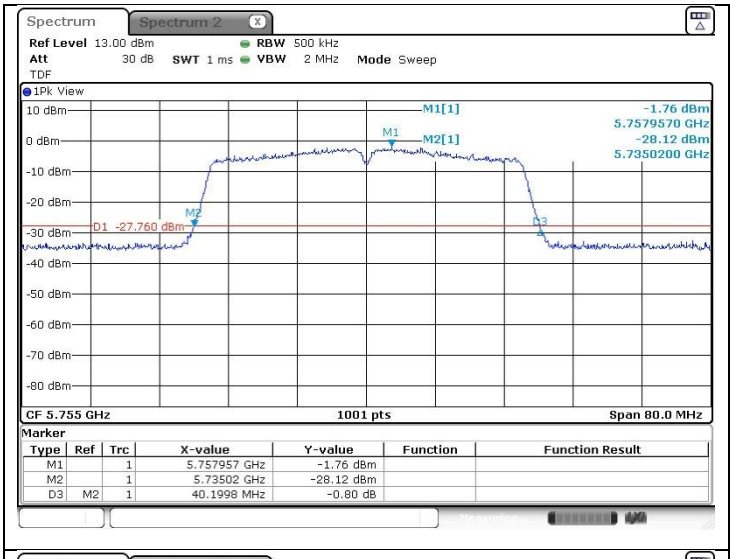


High Channel
(5 670 ㎒)

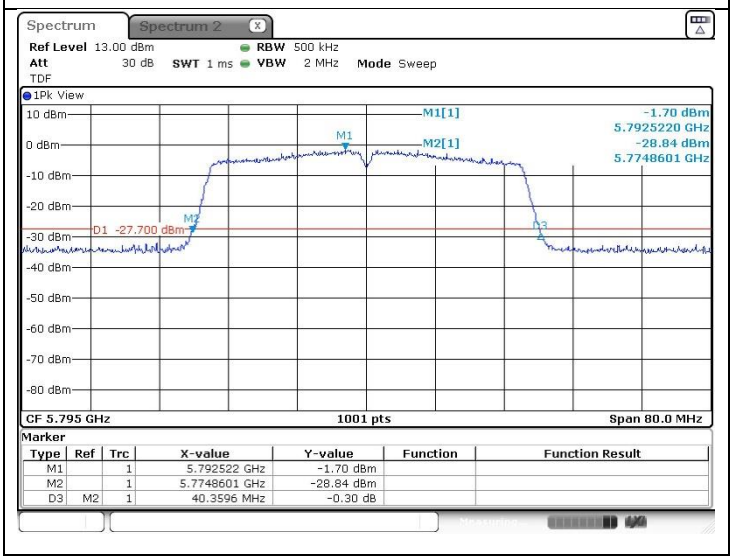


802.11n_HT40 (Band 3)

Low Channel
(5 755 ㎒)

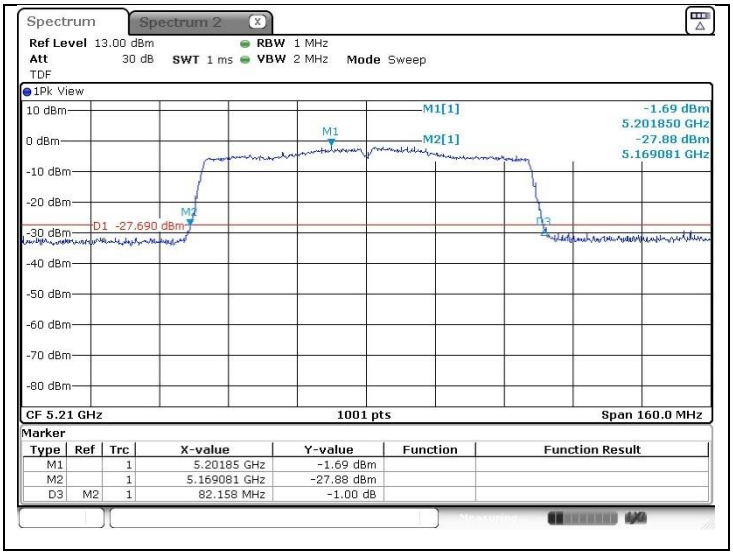


High Channel
(5 795 ㎒)



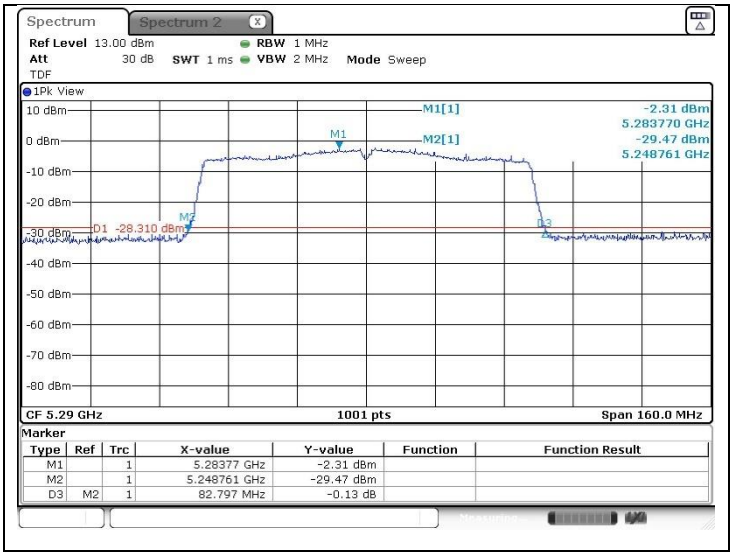
802.11ac_VHT80 (Band 1)

Middle Channel
(5 210 ㎒)



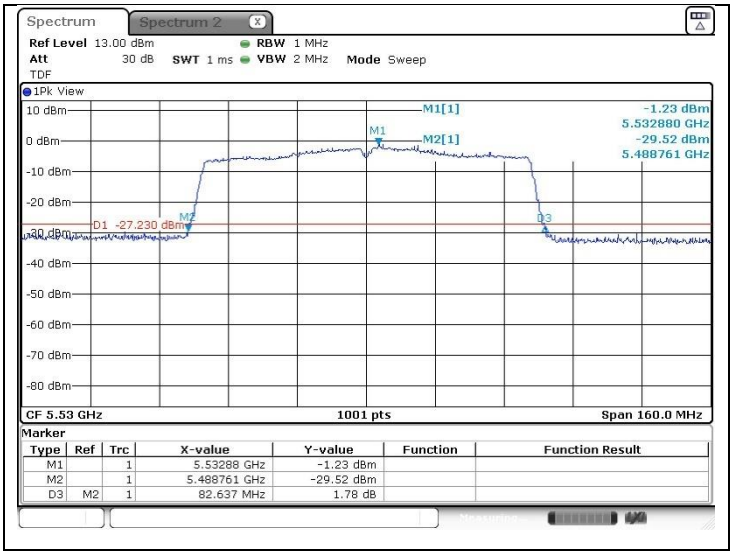
802.11ac_VHT80 (Band 2A)

Middle Channel
(5 290 ㎒)



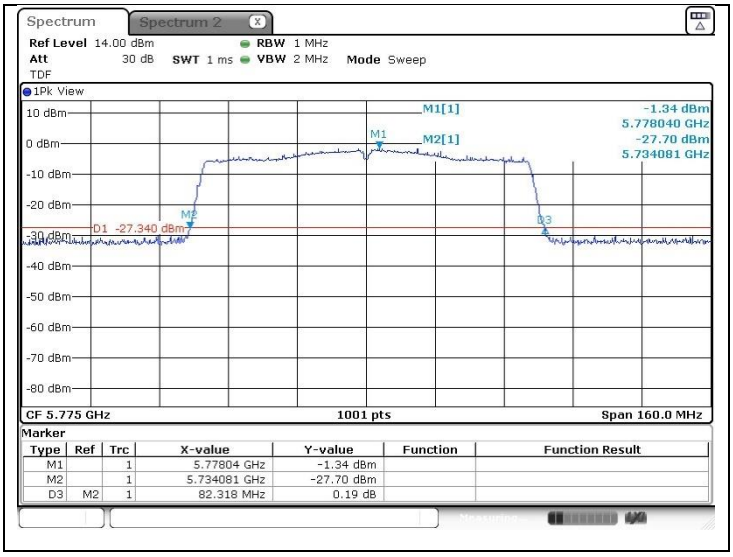
802.11ac_VHT80 (Band 2C)

Low Channel
(5 530 ㎒)



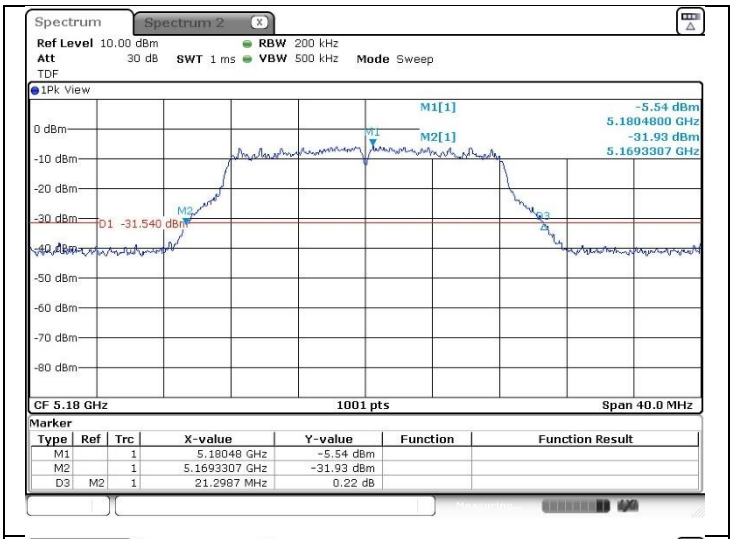
802.11ac_VHT80 (Band 3)

Middle Channel
(5 775 ㎒)

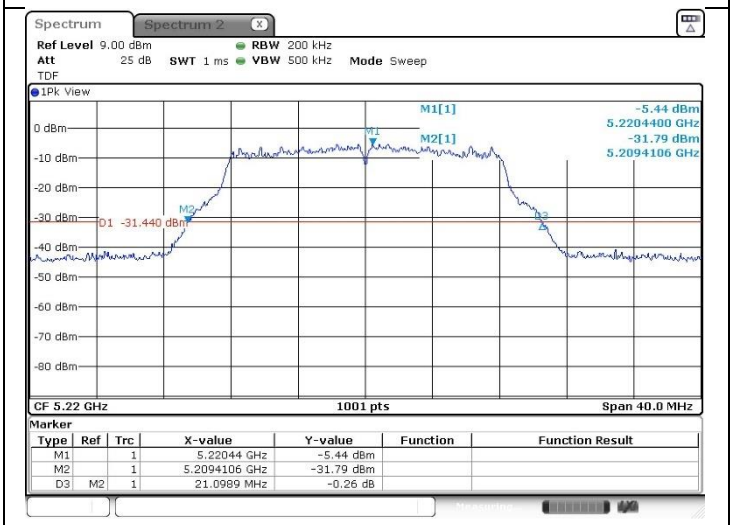


SISO_ Core 1
802.11a (Band 1)

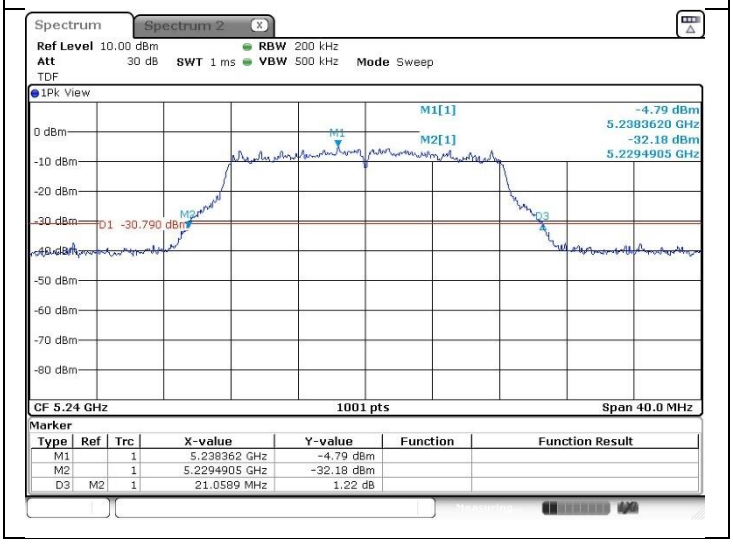
Low Channel
(5 180 ㎒)



Middle Channel
(5 220 ㎒)

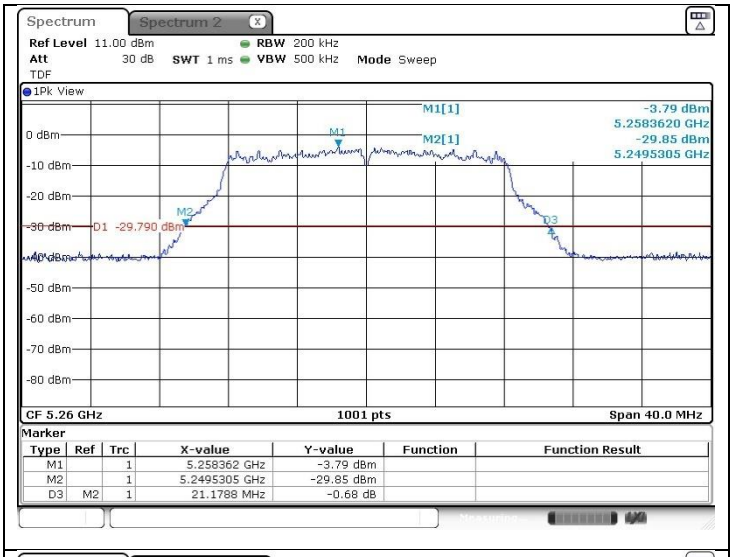


High Channel
(5 240 ㎒)

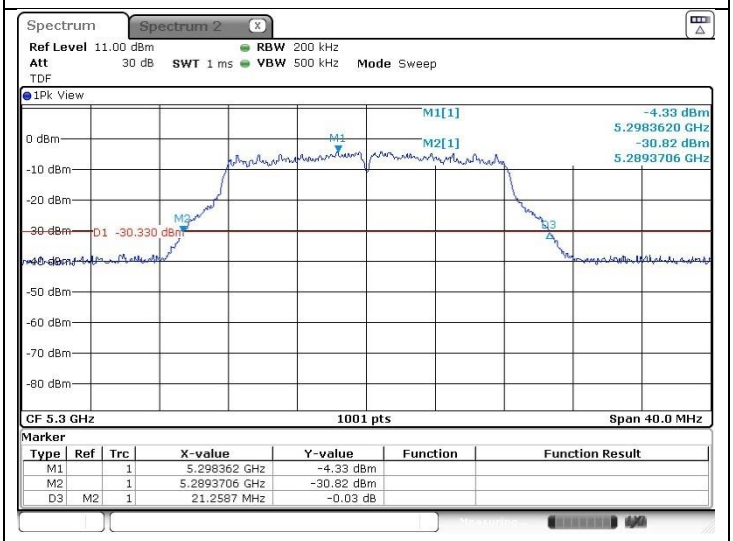


802.11a (Band 2A)

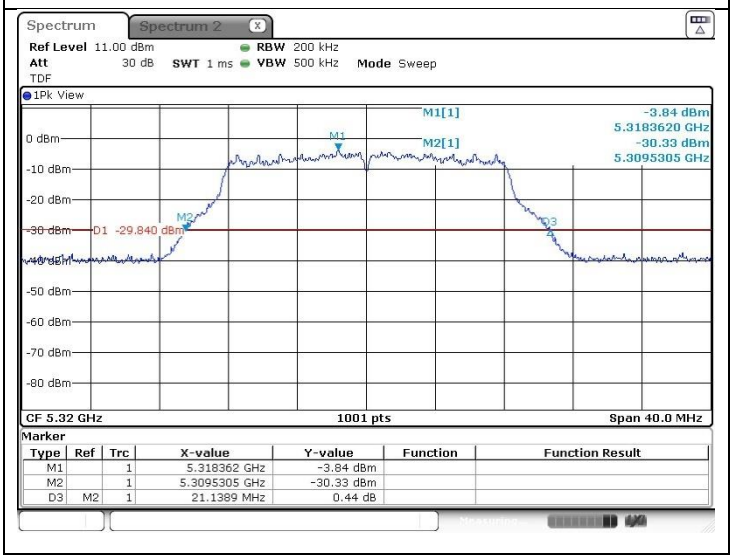
Low Channel
(5 260 ㎒)



Middle Channel
(5 300 ㎒)

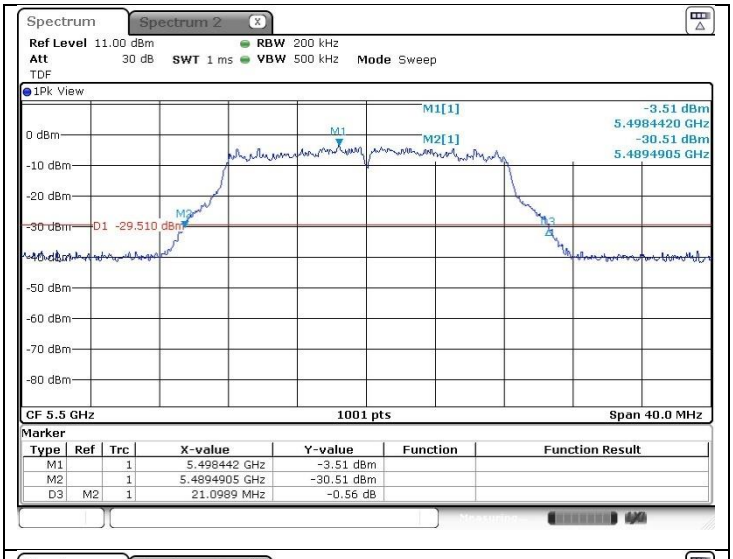


High Channel
(5 320 ㎒)

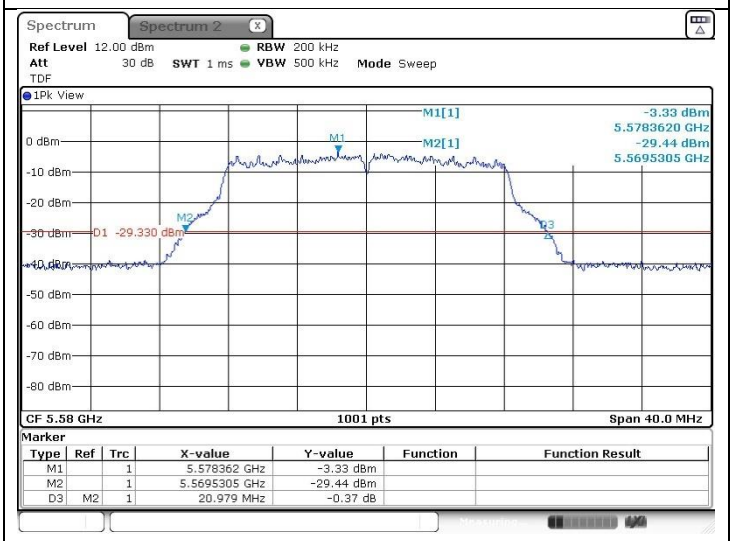
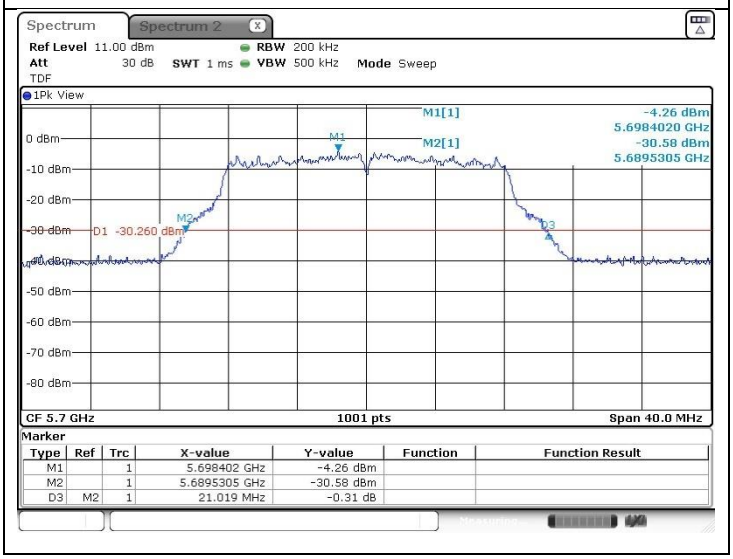


802.11a (Band 2C)

Low Channel
(5 500 ㎒)



Middle Channel
(5 580 ㎒)



High Channel
(5 700 ㎒)