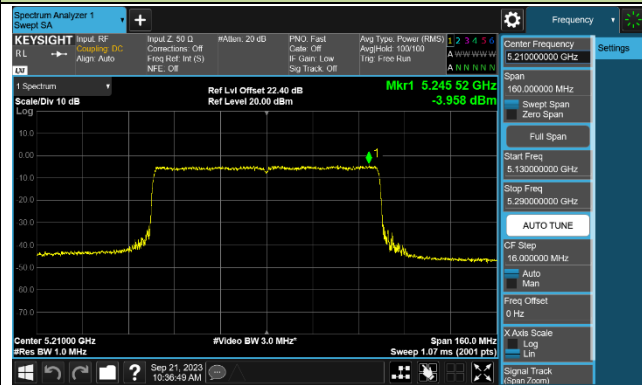
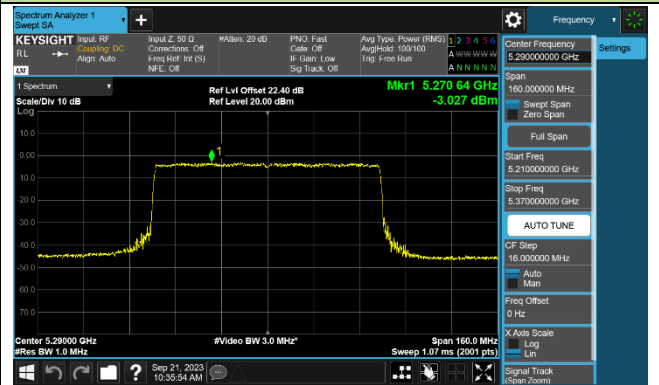


## 802.11ax-HE80 Power Spectral Density - Ant 0

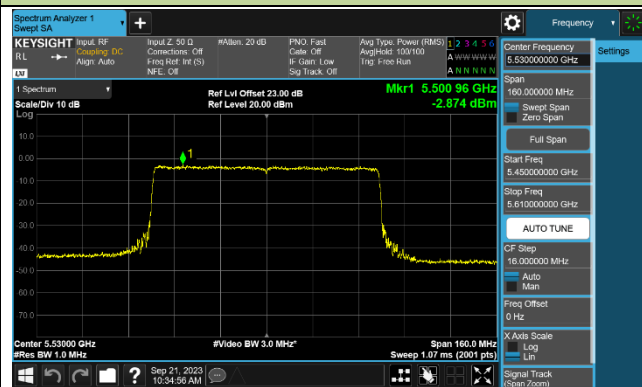
Channel 42 (5210MHz)



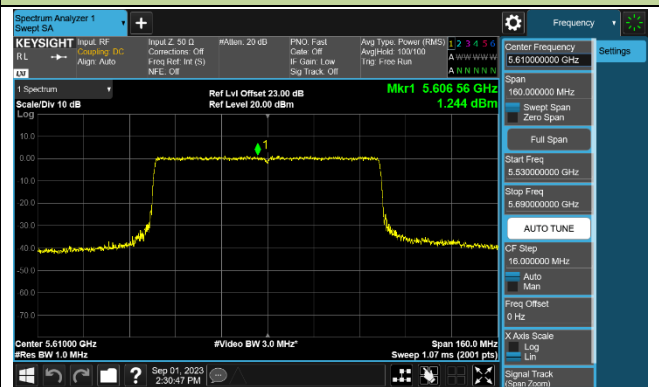
Channel 58 (5290MHz)



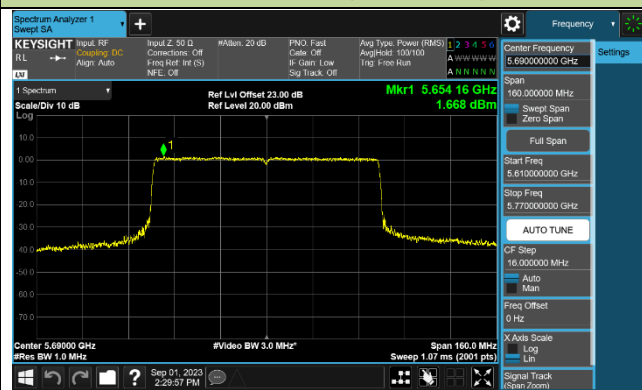
Channel 106 (5530MHz)



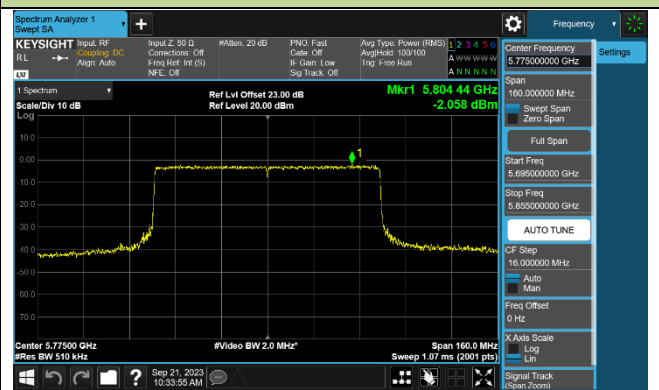
Channel 122 (5610MHz)



Channel 138 (5690MHz)

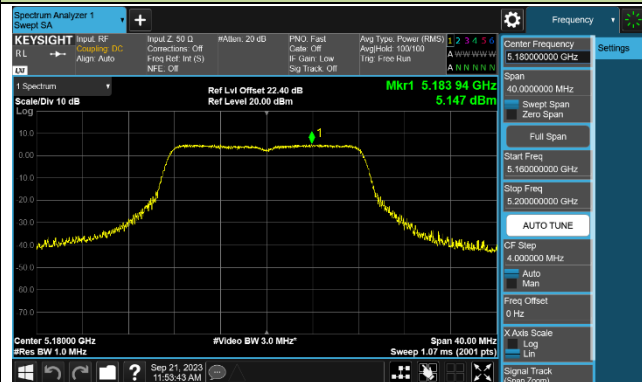


Channel 155 (5775MHz)



## 802.11a Power Spectral Density - Ant 1

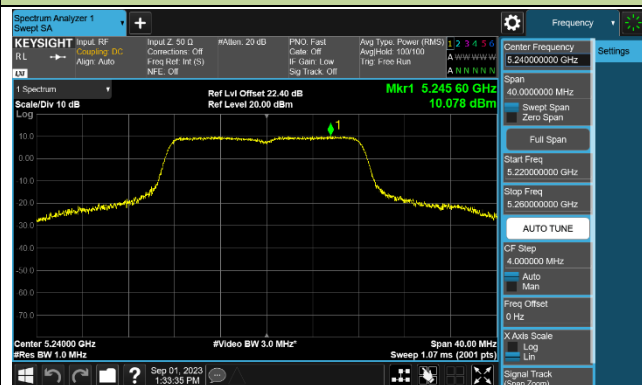
Channel 36 (5180MHz)



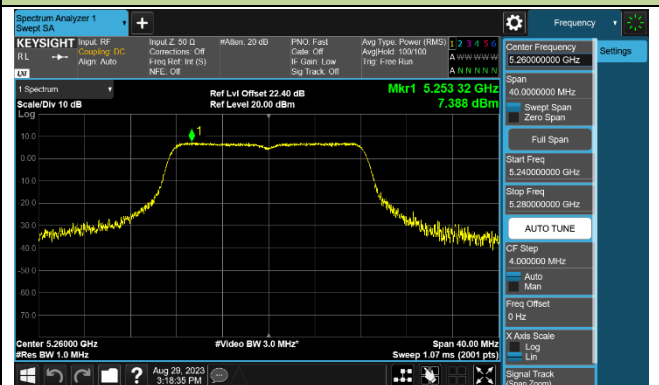
Channel 44 (5220MHz)



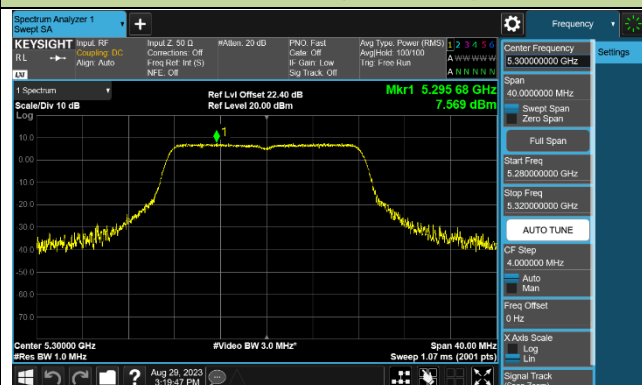
Channel 48 (5240MHz)



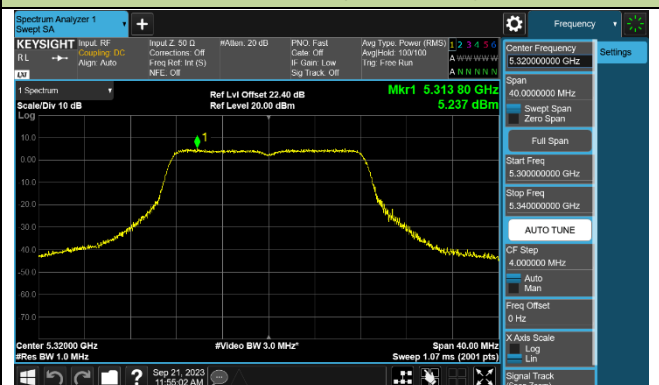
Channel 52 (5260MHz)



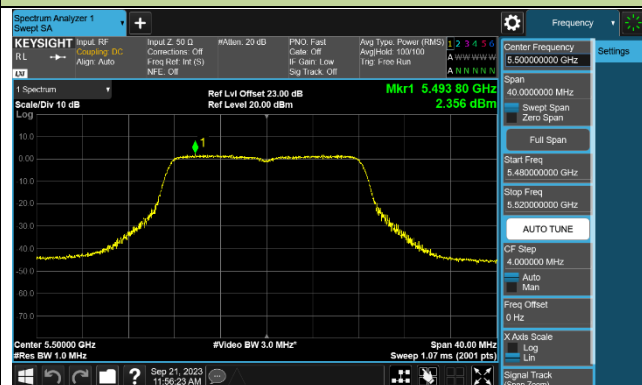
Channel 60 (5300MHz)



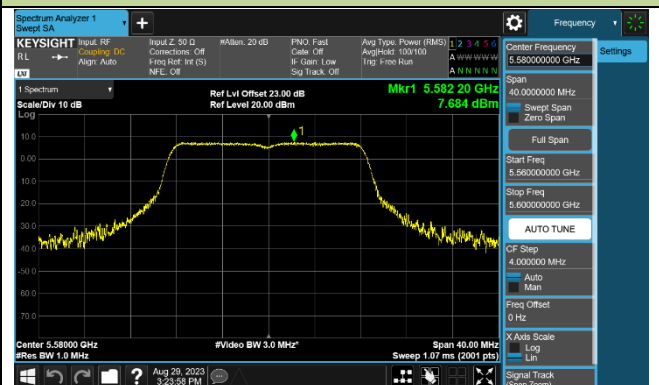
Channel 64 (5320MHz)

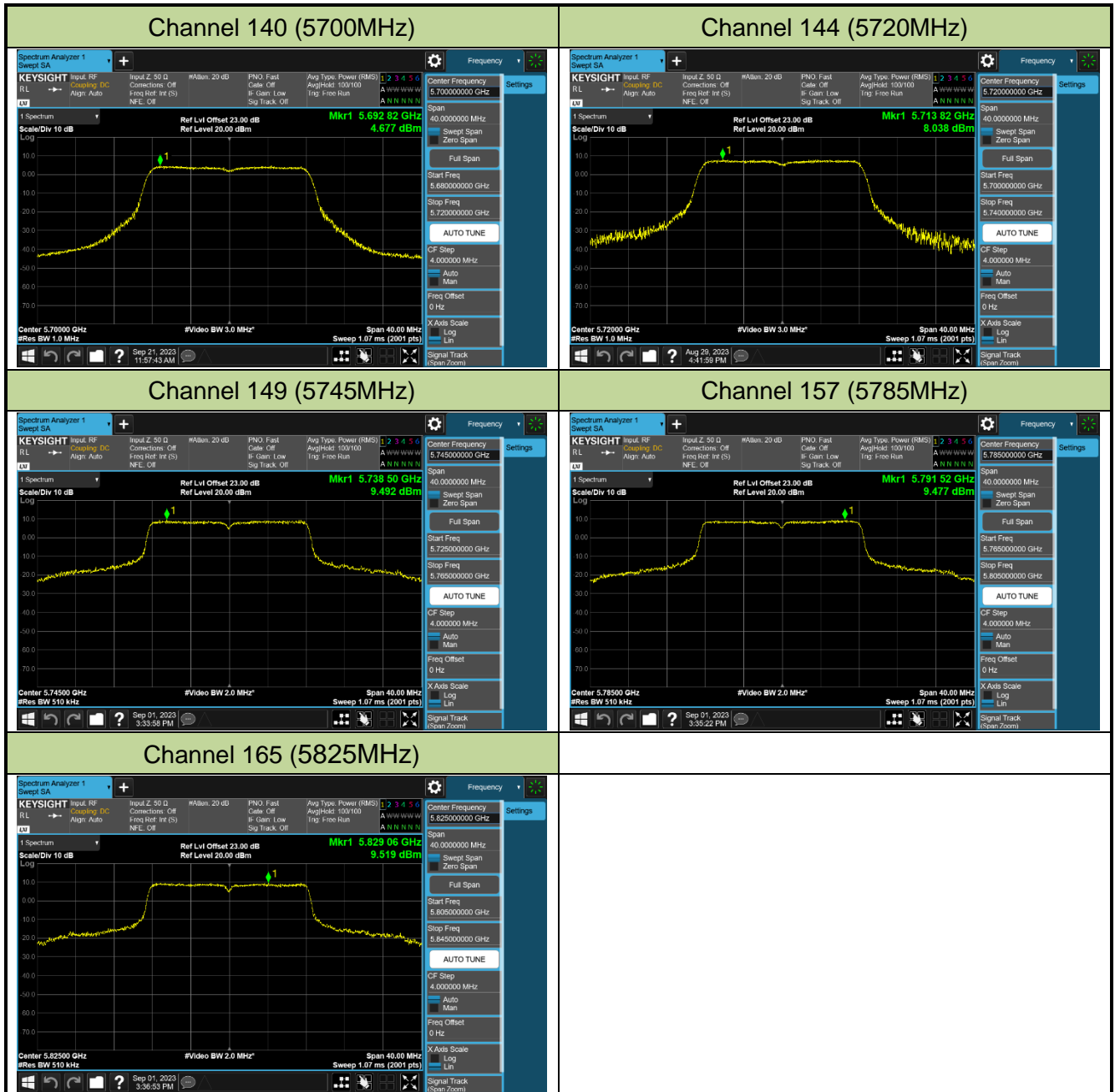


Channel 100 (5500MHz)



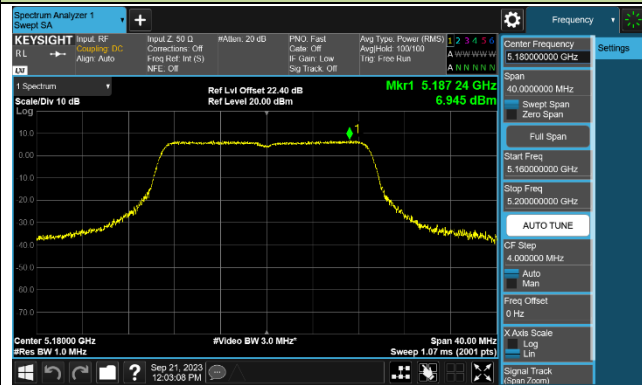
Channel 116 (5580MHz)



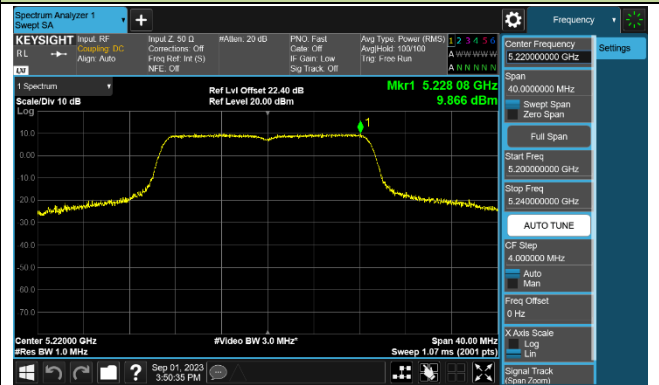


### 802.11ac-VHT20 Power Spectral Density - Ant 1

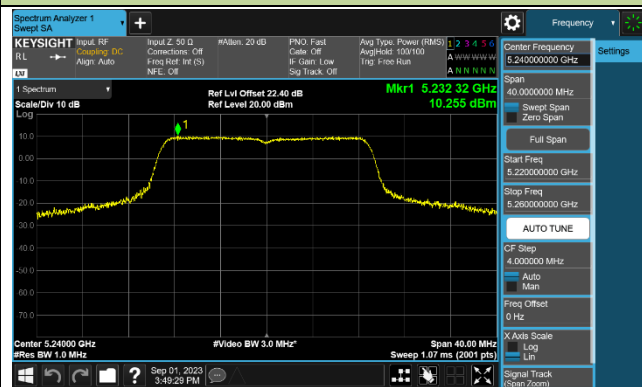
Channel 36 (5180MHz)



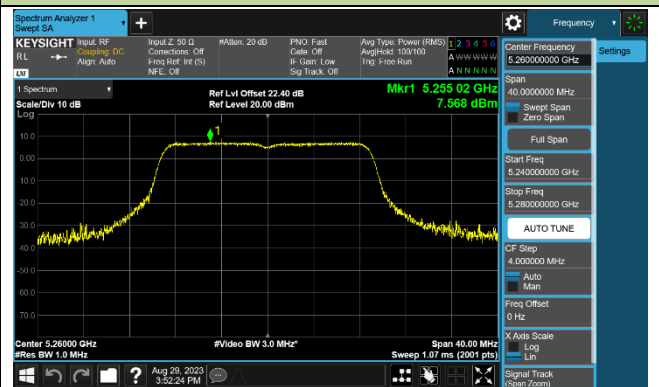
Channel 44 (5220MHz)



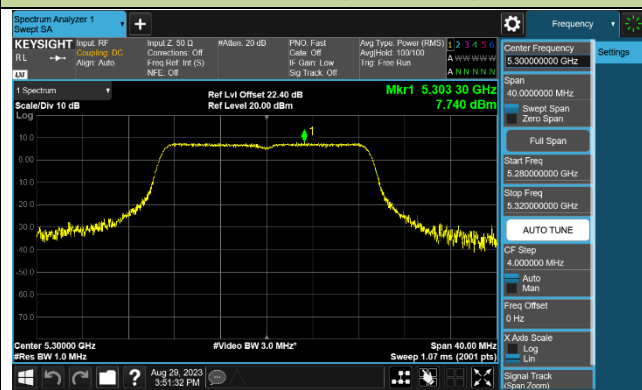
Channel 48 (5240MHz)



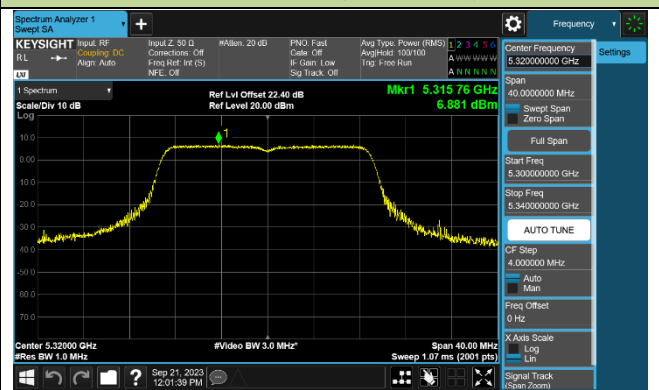
Channel 52 (5260MHz)

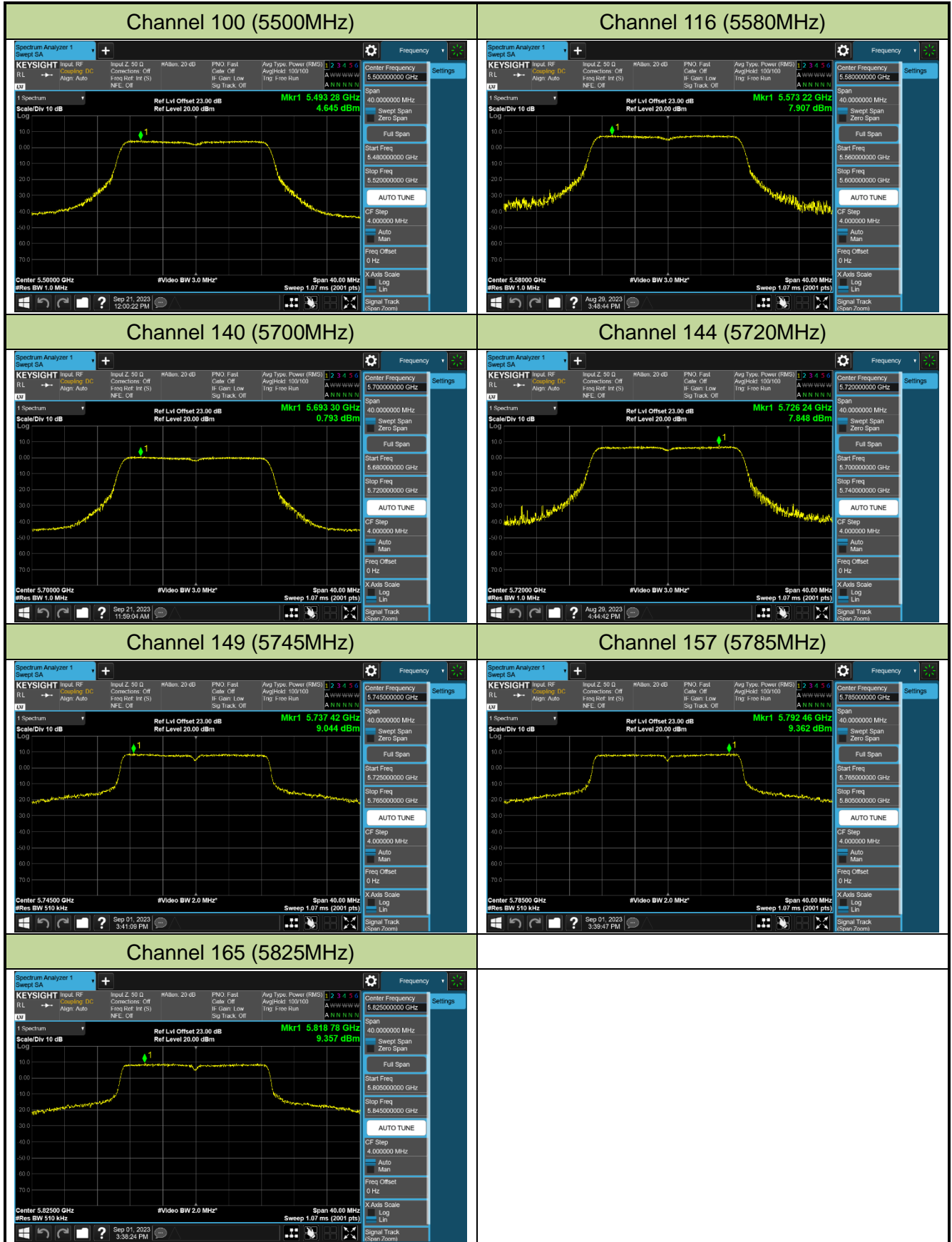


Channel 60 (5300MHz)



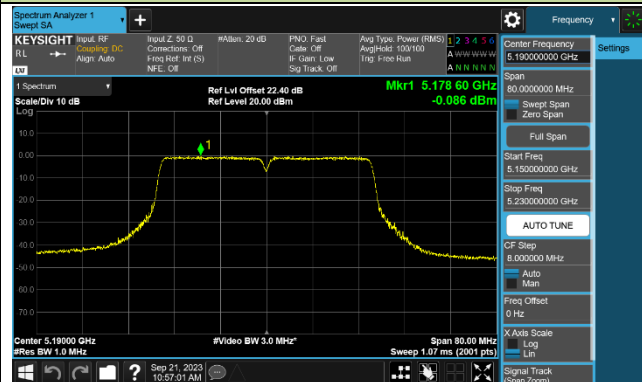
Channel 64 (5320MHz)



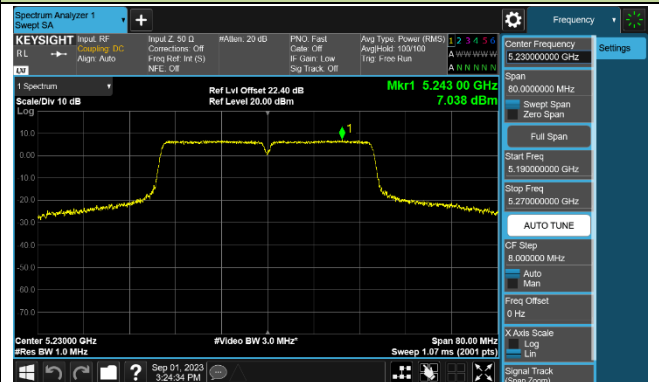


## 802.11ac-VHT40 Power Spectral Density - Ant 1

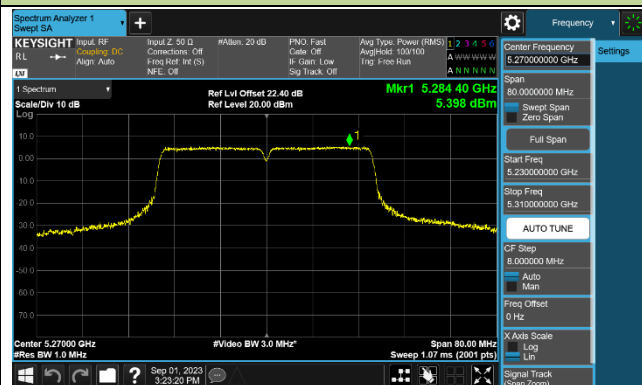
Channel 38 (5190MHz)



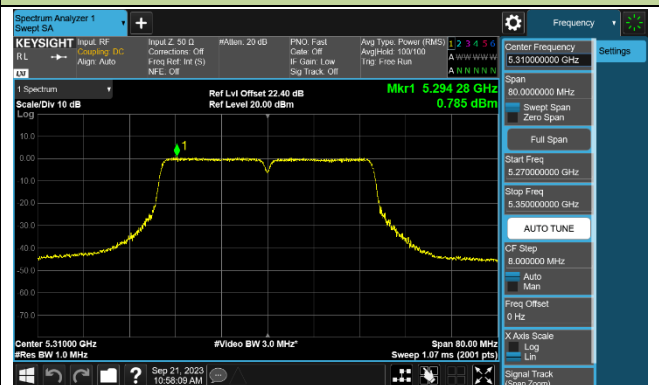
Channel 46 (5230MHz)



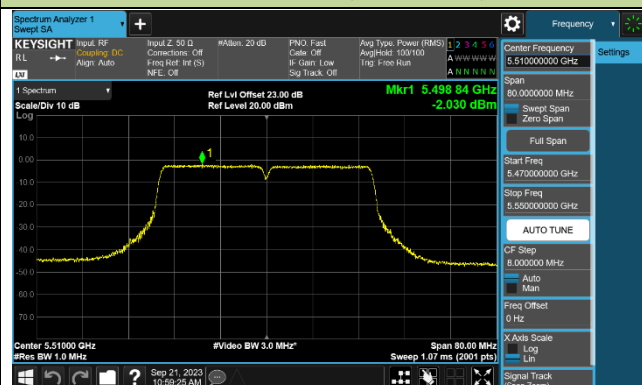
Channel 54 (5270MHz)



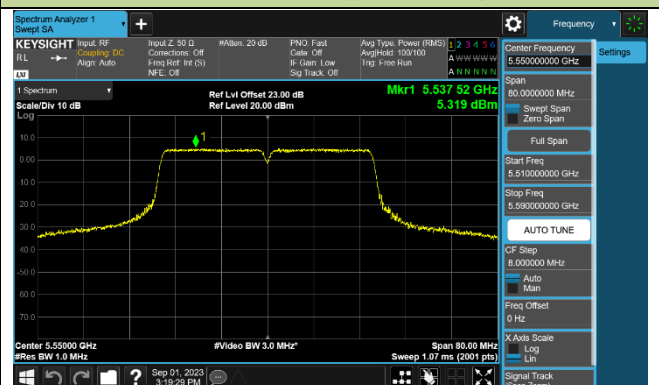
Channel 62 (5310MHz)



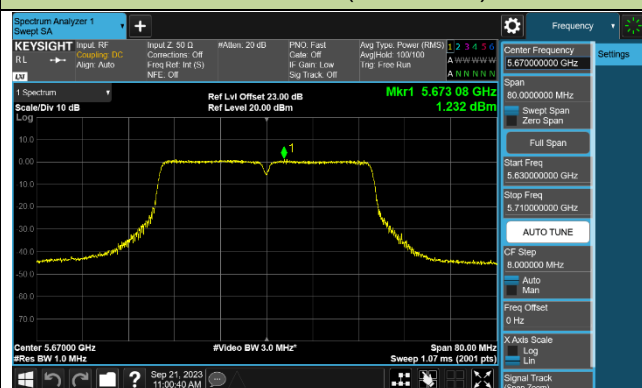
Channel 102 (5510MHz)



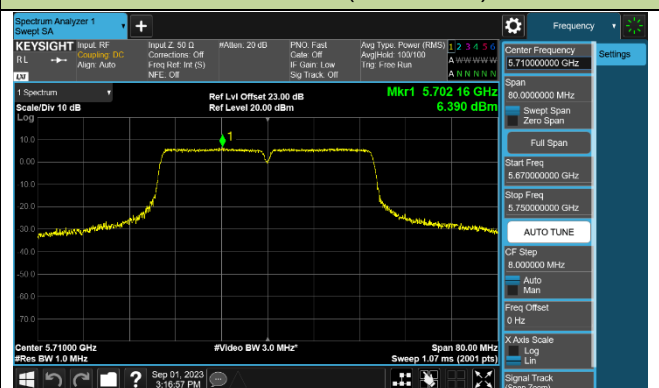
Channel 110 (5550MHz)

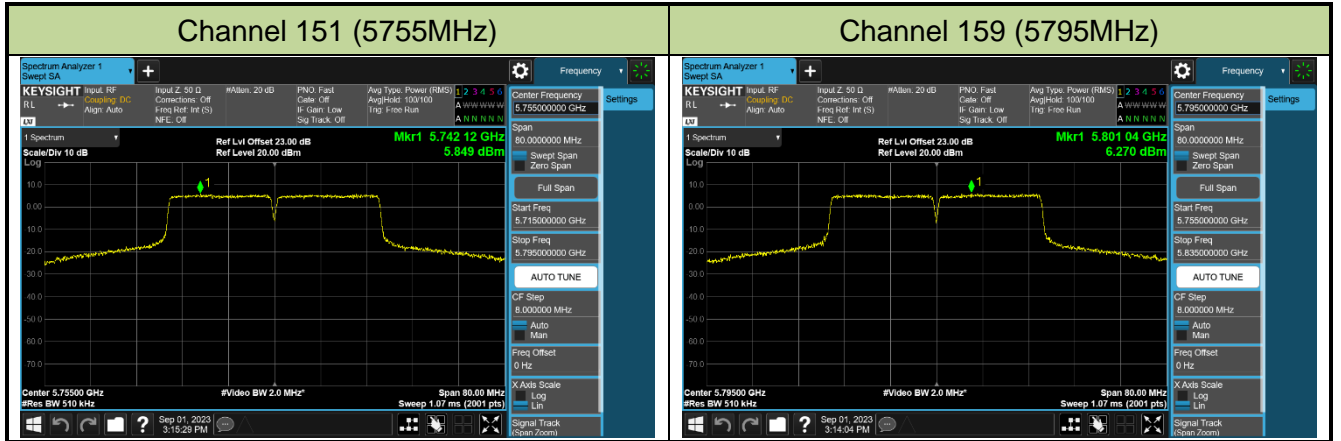


Channel 134 (5670MHz)



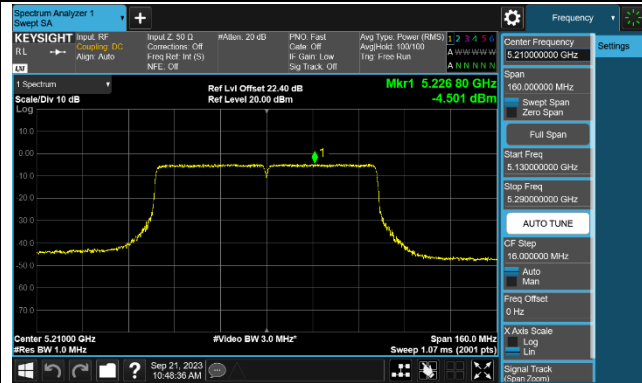
Channel 142 (5710MHz)



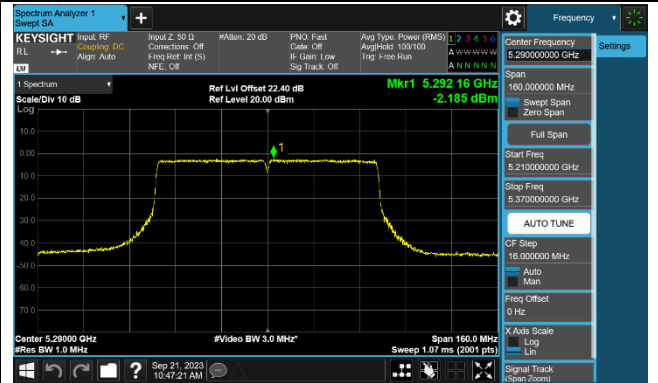


### 802.11ac-VHT80 Power Spectral Density - Ant 1

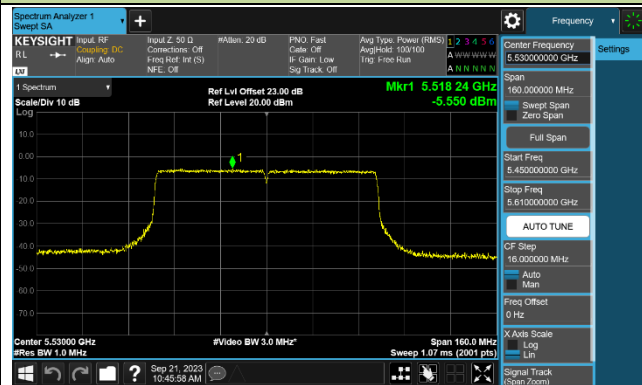
#### Channel 42 (5210MHz)



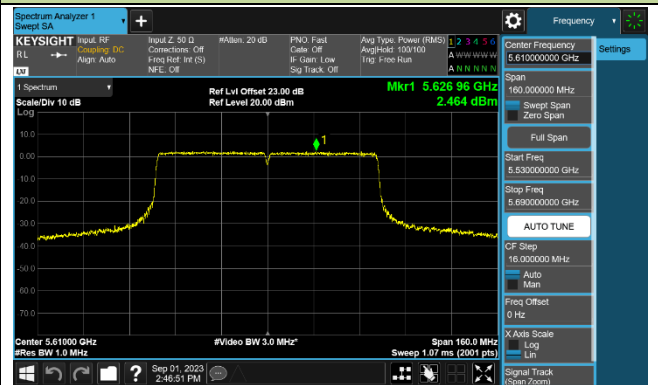
#### Channel 58 (5290MHz)



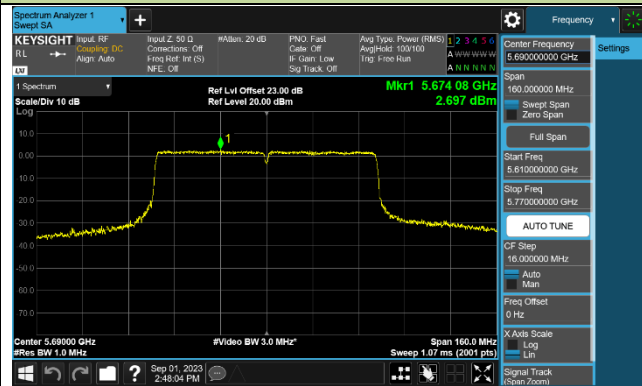
#### Channel 106 (5530MHz)



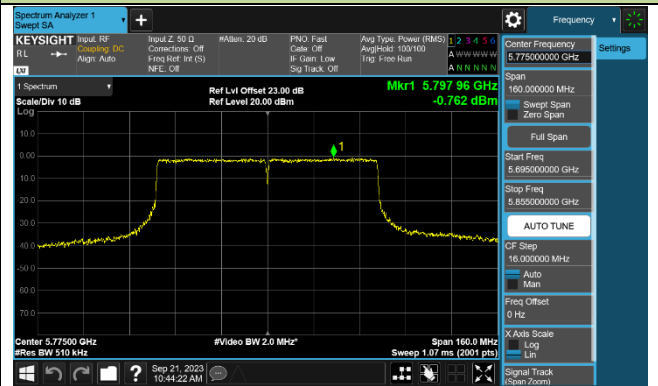
#### Channel 122 (5610MHz)



#### Channel 138 (5690MHz)



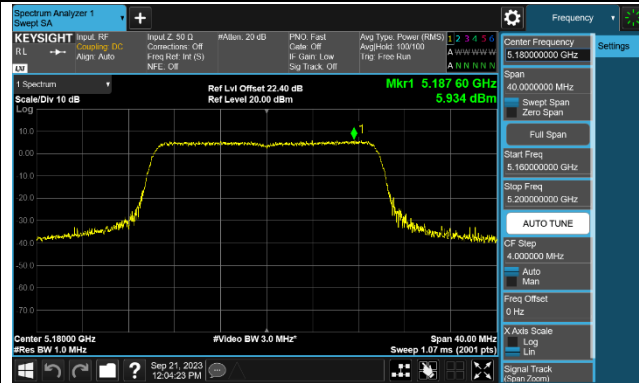
#### Channel 155 (5775MHz)



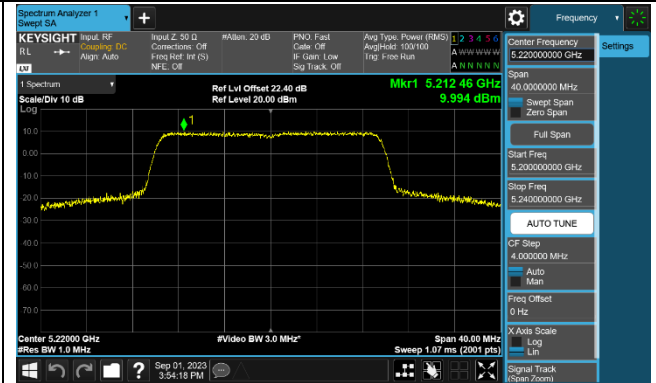


## 802.11ax-HE20 Power Spectral Density - Ant 1

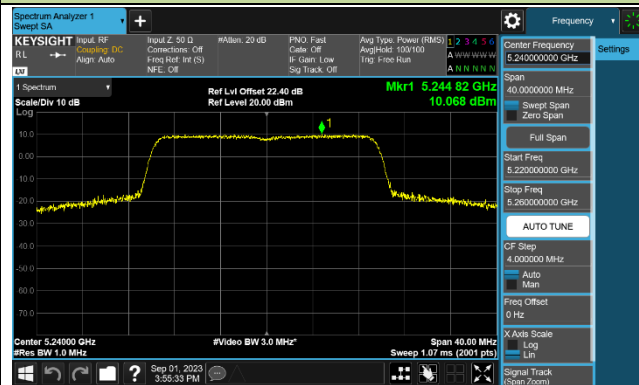
Channel 36 (5180MHz)



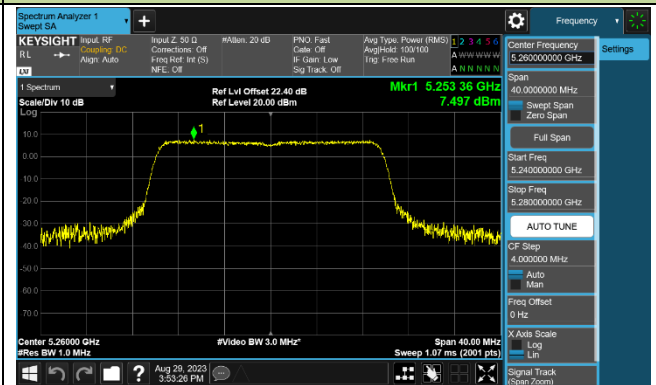
Channel 44 (5220MHz)



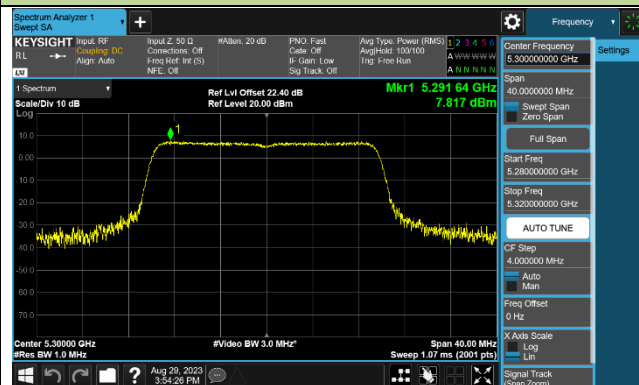
Channel 48 (5240MHz)



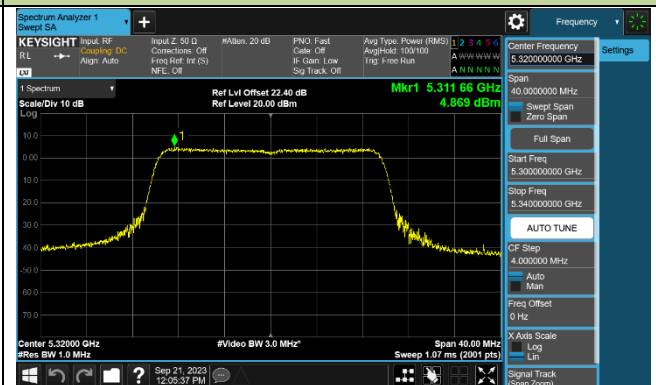
Channel 52 (5260MHz)



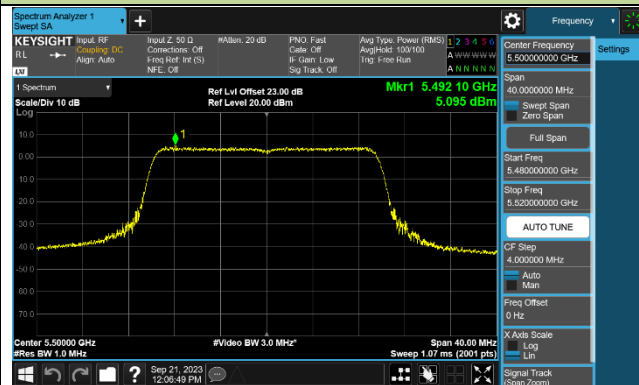
Channel 60 (5300MHz)



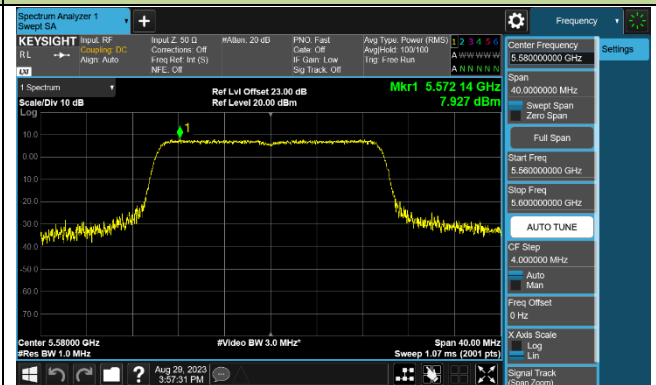
Channel 64 (5320MHz)

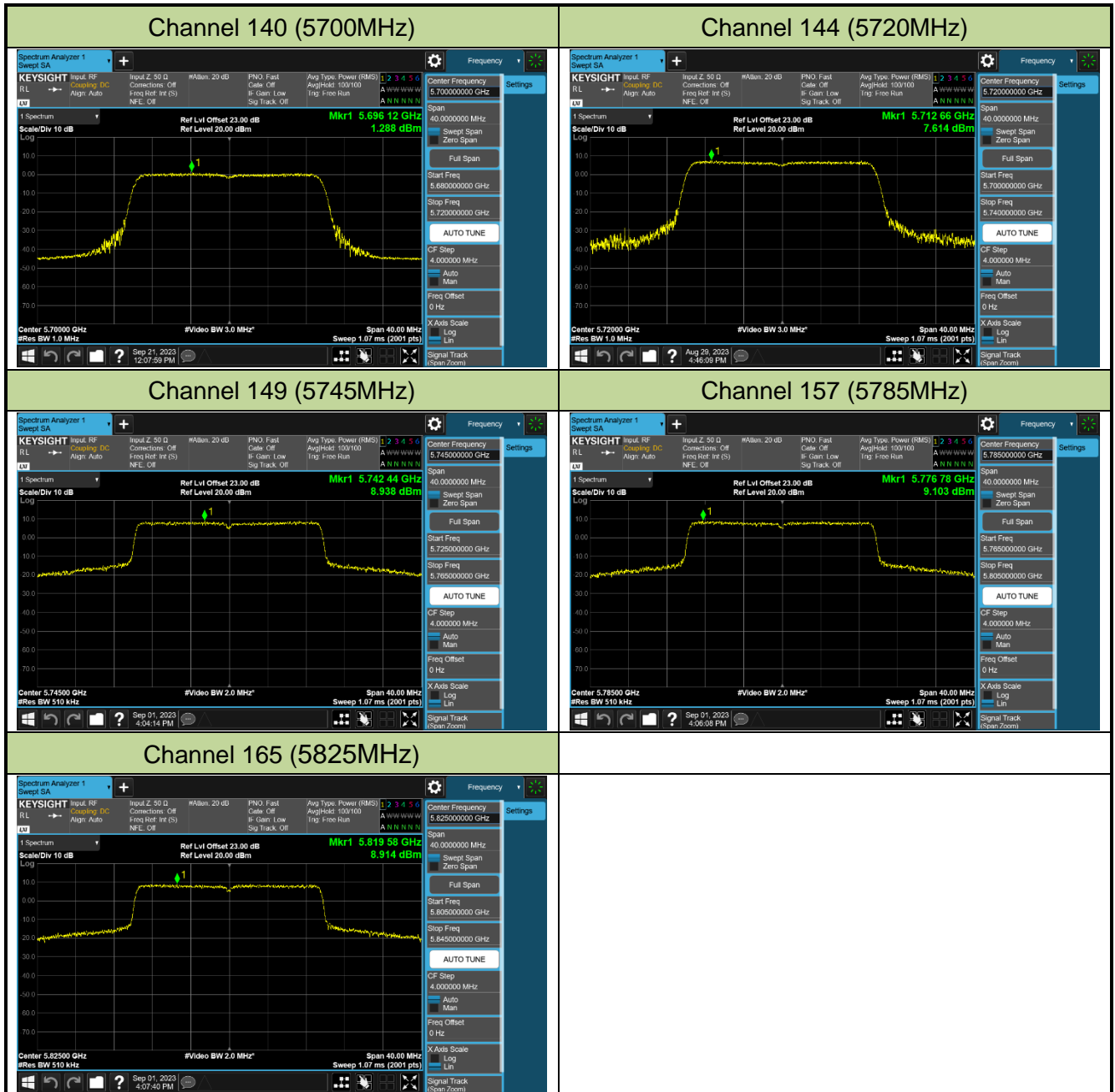


Channel 100 (5500MHz)



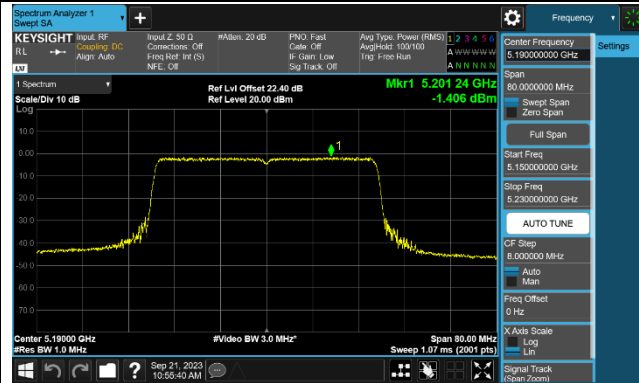
Channel 116 (5580MHz)



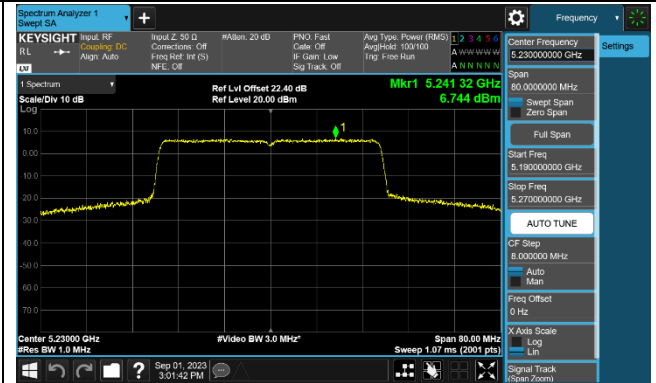


## 802.11ax-HE40 Power Spectral Density - Ant 1

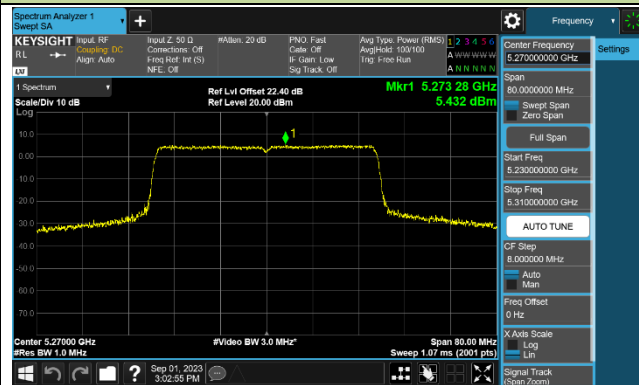
Channel 38 (5190MHz)



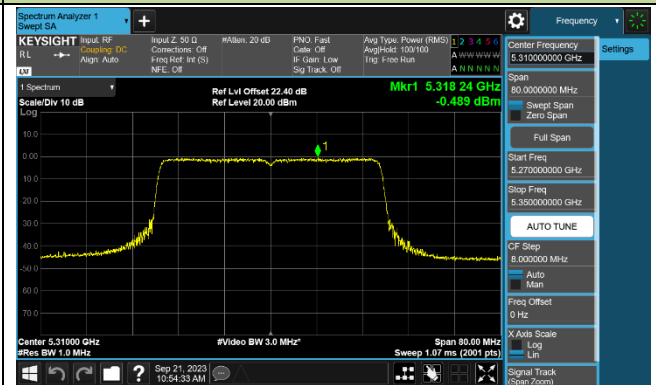
Channel 46 (5230MHz)



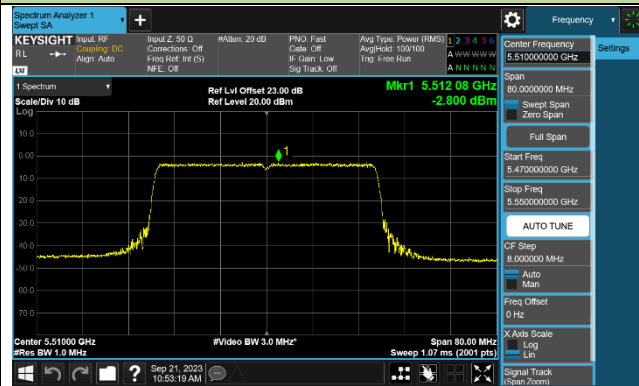
Channel 54 (5270MHz)



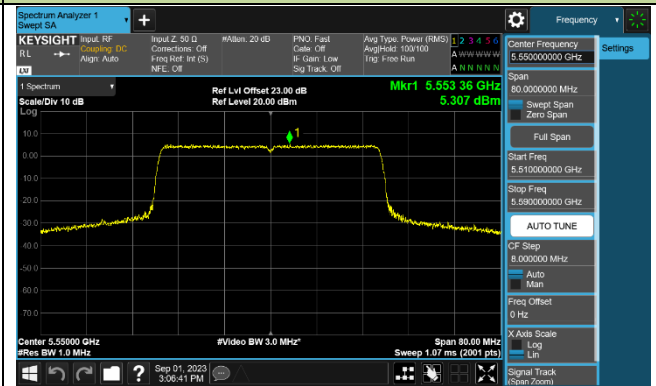
Channel 62 (5310MHz)



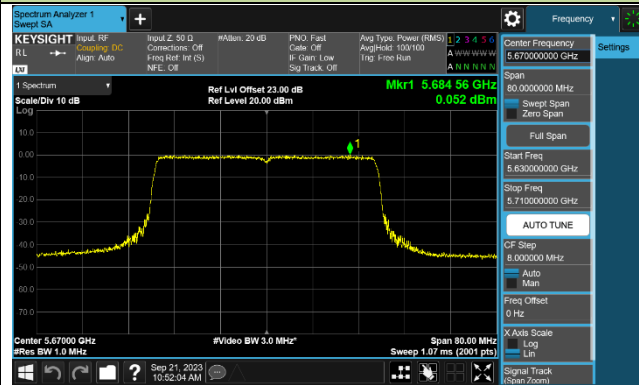
Channel 102 (5510MHz)



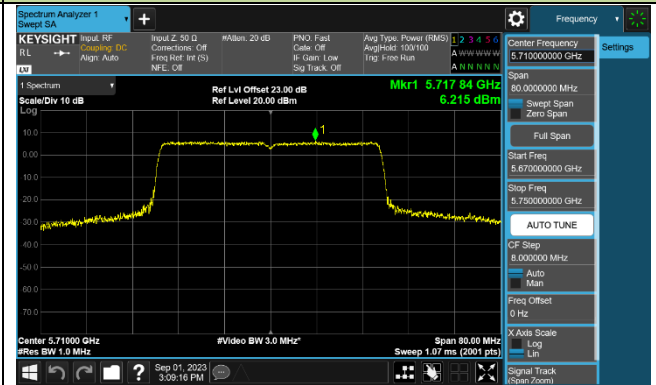
Channel 110 (5550MHz)

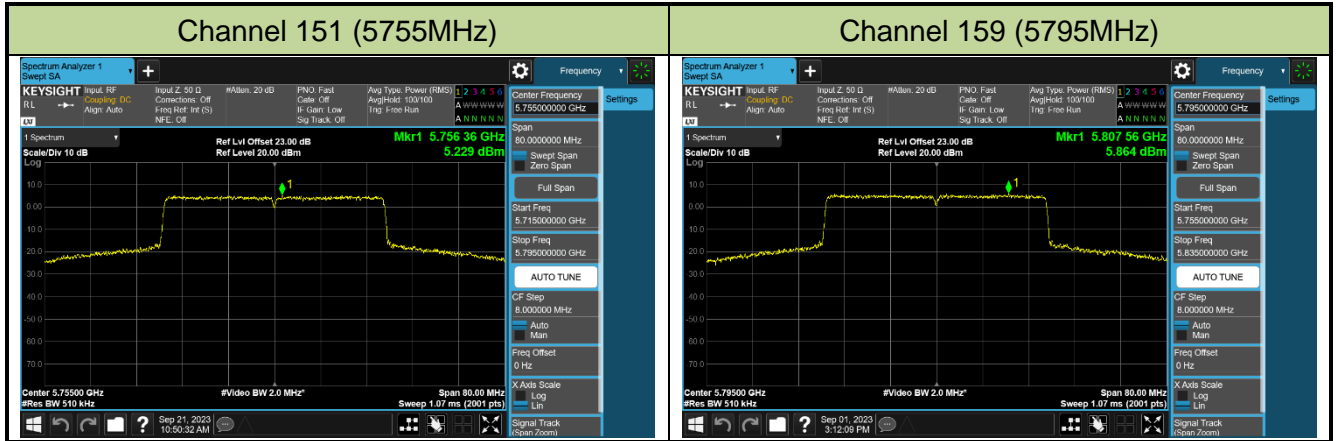


Channel 134 (5670MHz)



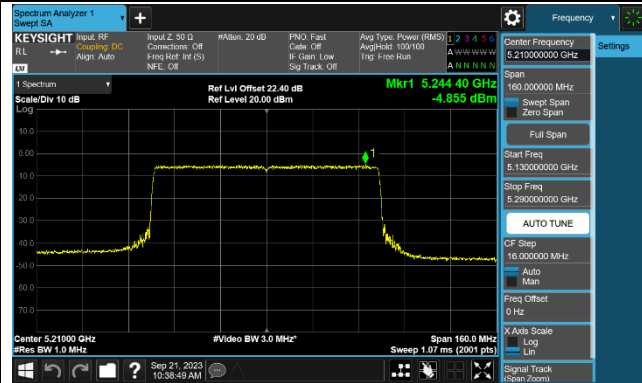
Channel 142 (5710MHz)



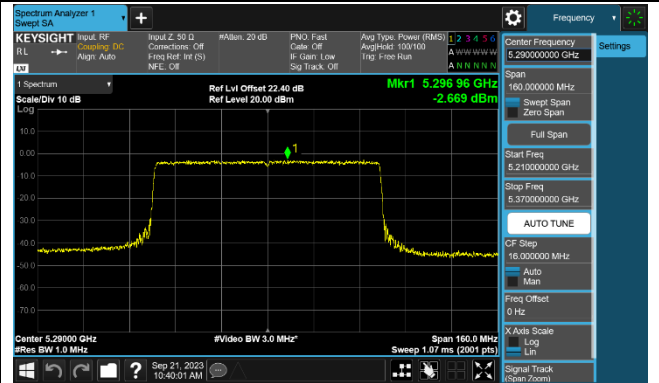


## 802.11ax-HE80 Power Spectral Density - Ant 1

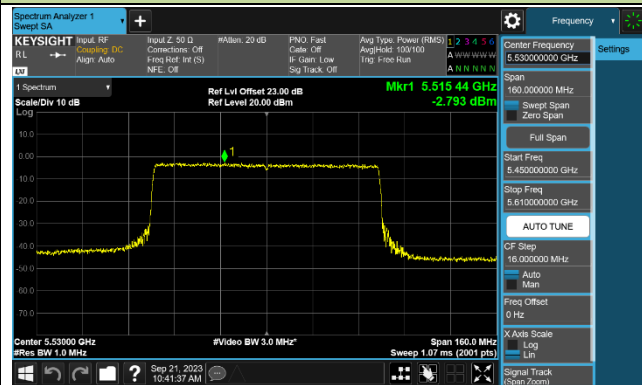
Channel 42 (5210MHz)



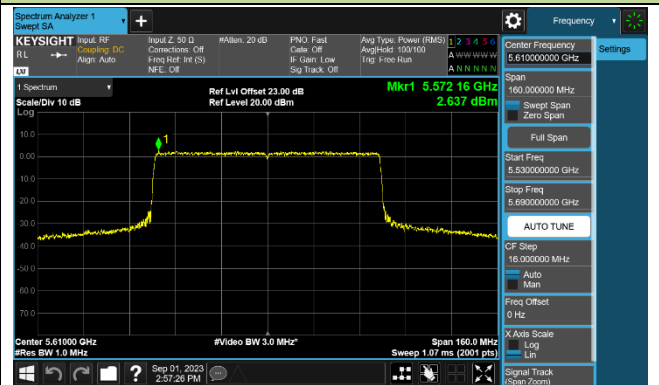
Channel 58 (5290MHz)



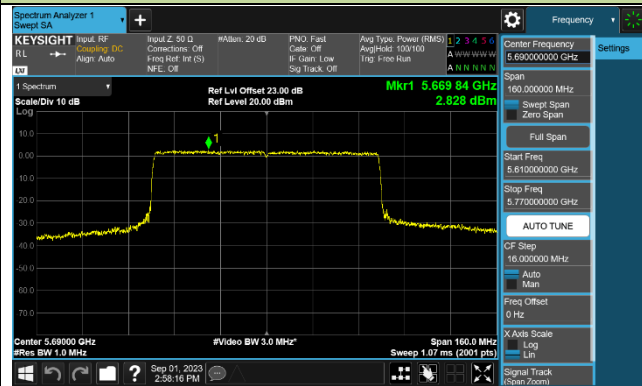
Channel 106 (5530MHz)



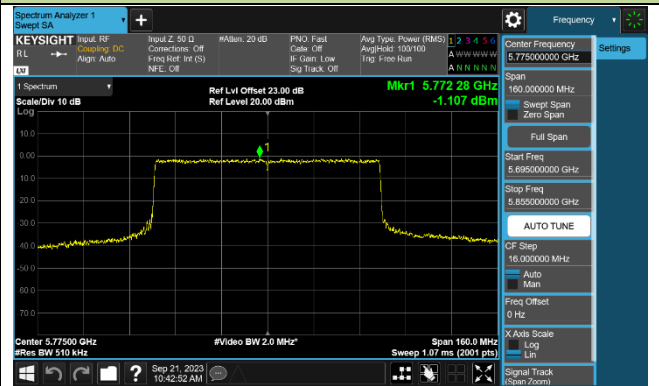
Channel 122 (5610MHz)



Channel 138 (5690MHz)



Channel 155 (5775MHz)



## 7.7. Frequency Stability Measurement

### 7.7.1. Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be  $\pm 20$  ppm maximum for the 5GHz band (IEEE 802.11 specification).

### 7.7.2. Test Limit

#### **Frequency Stability Under Temperature Variations:**

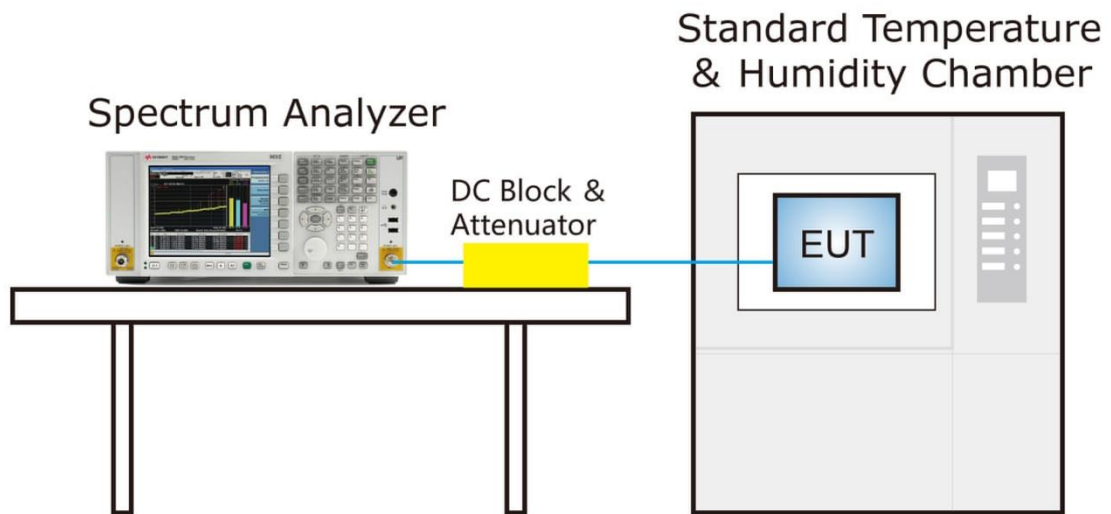
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

#### **Frequency Stability Under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

### 7.7.3. Test Setup



### 7.7.4. Test Result

Grantee ensure that the product meets e-CFR Title 47 section 15.407(g) and KDB 789033 D02v02r01 frequency stability such that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

## 7.8. Radiated Spurious Emission Measurement

### 7.8.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

### 7.8.2. Test Procedure Used

KDB 789033 D02v02r01- Section G

### 7.8.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
>1000 MHz	1 MHz



**Quasi-Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

**Peak Measurements above 1GHz**

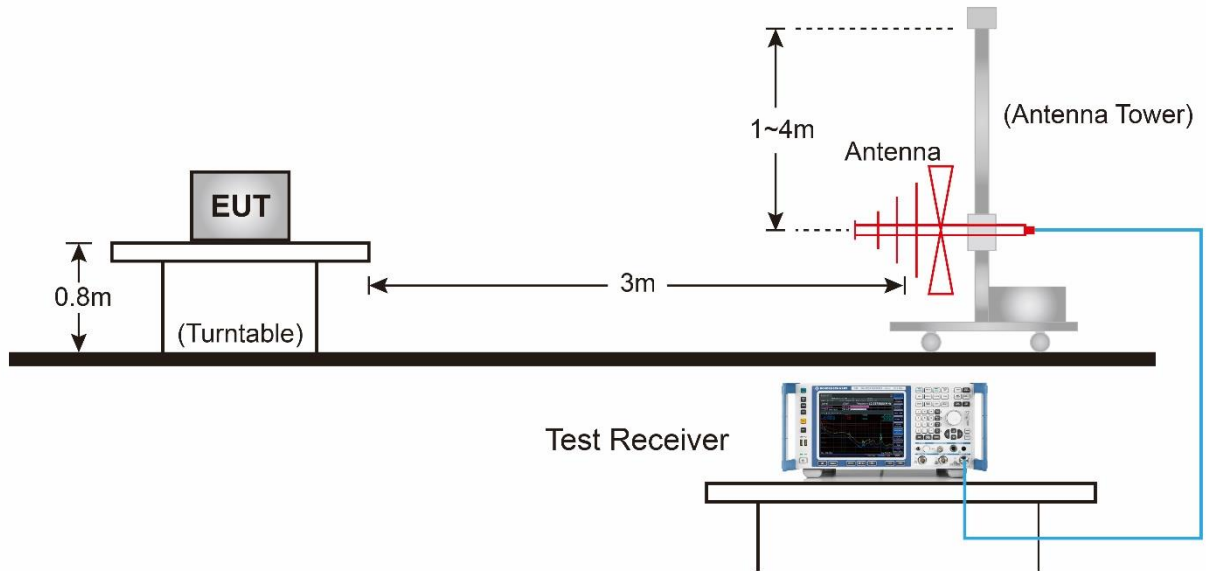
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

**Average Measurements above 1GHz (Method VB)**

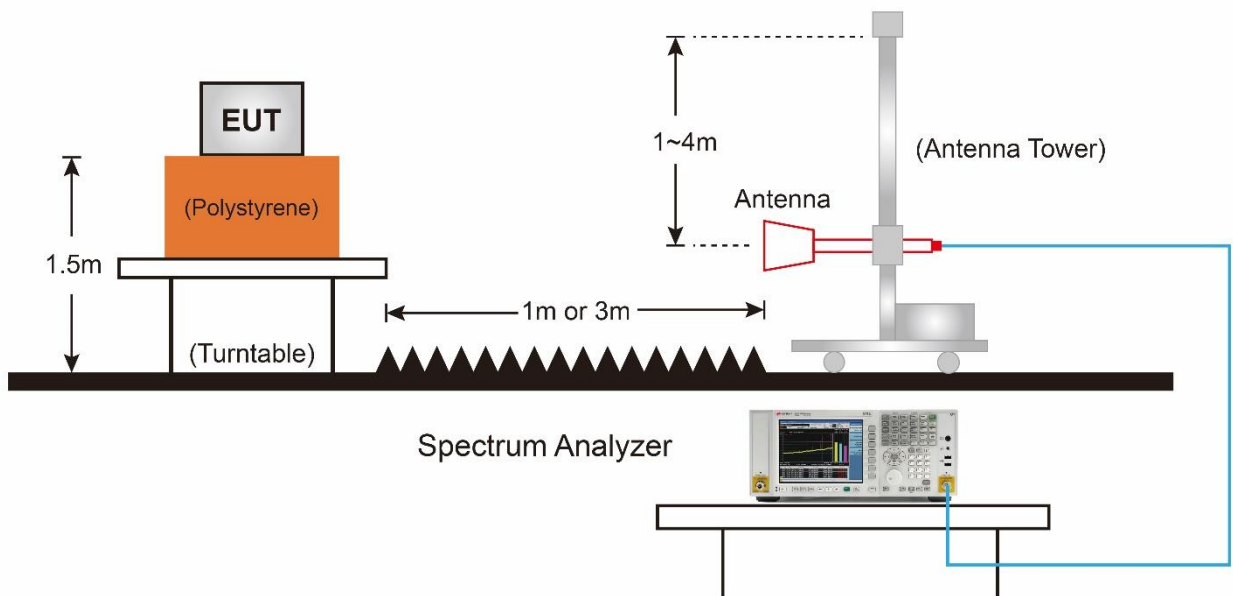
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle  $\geq 98\%$ , set VBW = 10 Hz.  
If the EUT duty cycle is  $< 98\%$ , set VBW  $\geq 1/T$ . T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

### 7.8.4. Test Setup

Below 1GHz Test Setup:

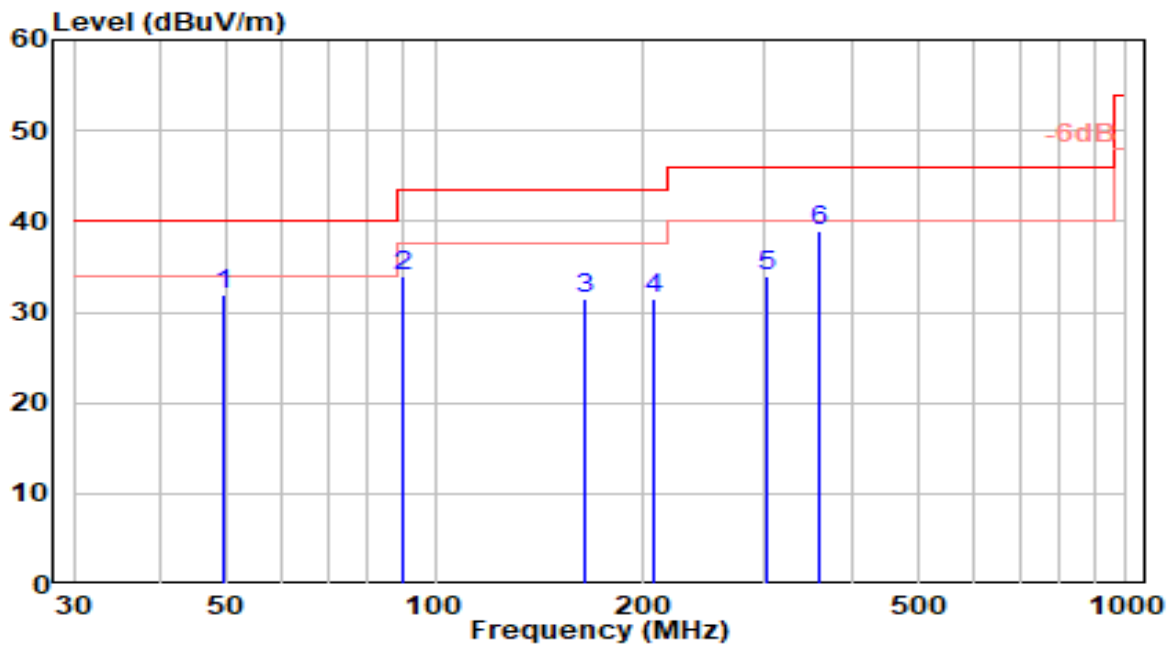


Above 1GHz Test Setup:



### 7.8.5. Test Result

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-05
Factor	VULB 9162	Temp. / Humidity	20°C /60%
Polarity	Horizontal	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11ac-20MHz_Band1_TX_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz

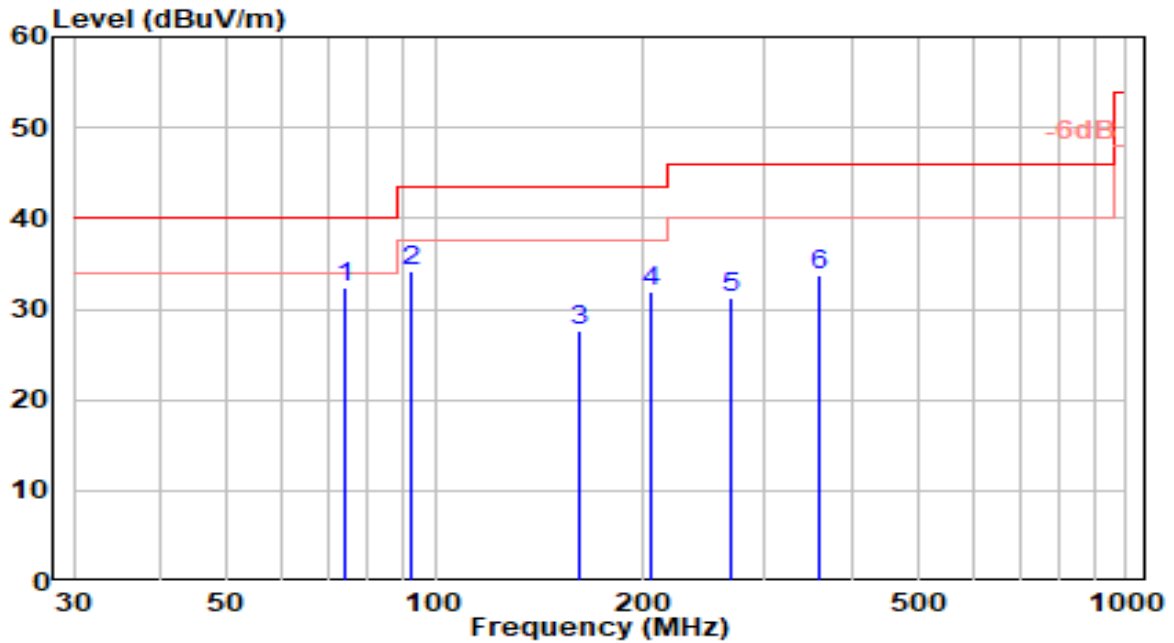


No	Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	49.510	10.76	21.07	31.83	-8.17	40.00	100	97	QP
2	90.020	16.80	17.08	33.88	-9.62	43.50	150	135	QP
3	164.540	15.60	15.90	31.51	-11.99	43.50	200	13	QP
4	206.510	13.36	18.13	31.49	-12.01	43.50	200	101	QP
5	302.140	13.02	20.94	33.96	-12.04	46.00	200	28	QP
6	* 358.760	16.12	22.89	39.01	-6.99	46.00	150	201	QP

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-05
Factor	VULB 9162	Temp. / Humidity	20°C /60%
Polarity	Vertical	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11ac-20MHz_Band1_TX_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz

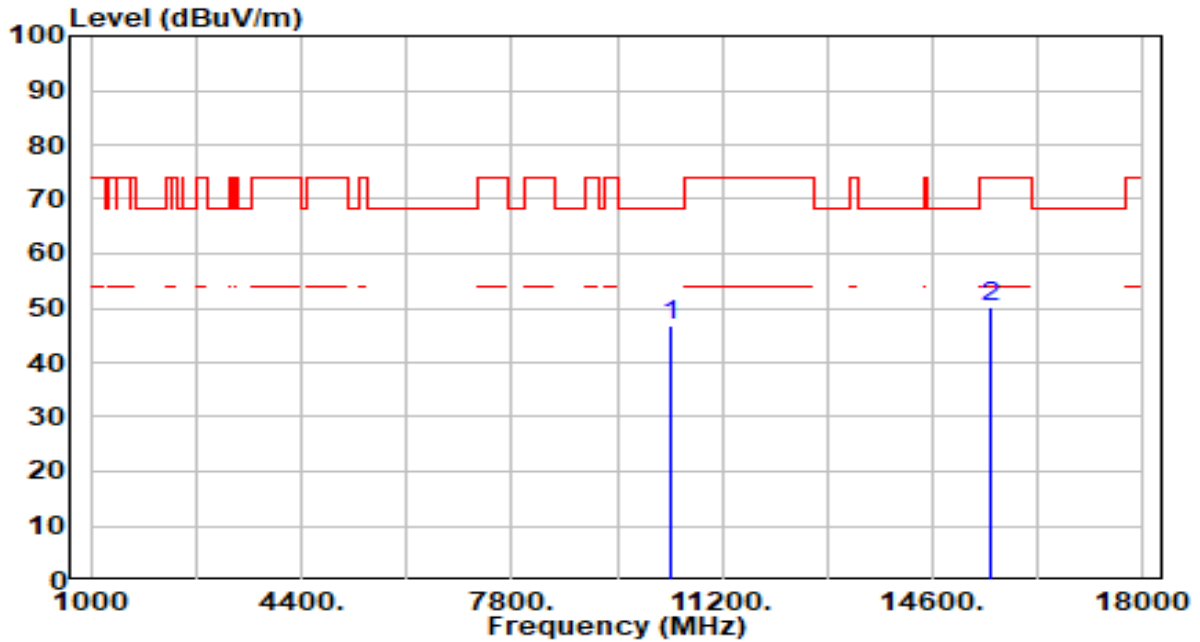


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)	
1	*	74.370	17.44	15.05	32.49	-7.51	40.00	150	14	QP
2		92.000	16.75	17.43	34.18	-9.32	43.50	200	109	QP
3		162.050	11.76	15.85	27.61	-15.89	43.50	100	42	QP
4		205.550	13.74	18.16	31.89	-11.61	43.50	200	8	QP
5		267.040	10.86	20.30	31.17	-14.83	46.00	150	14	QP
6		358.460	10.88	22.88	33.76	-12.24	46.00	100	216	QP

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Horizontal	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/60Hz

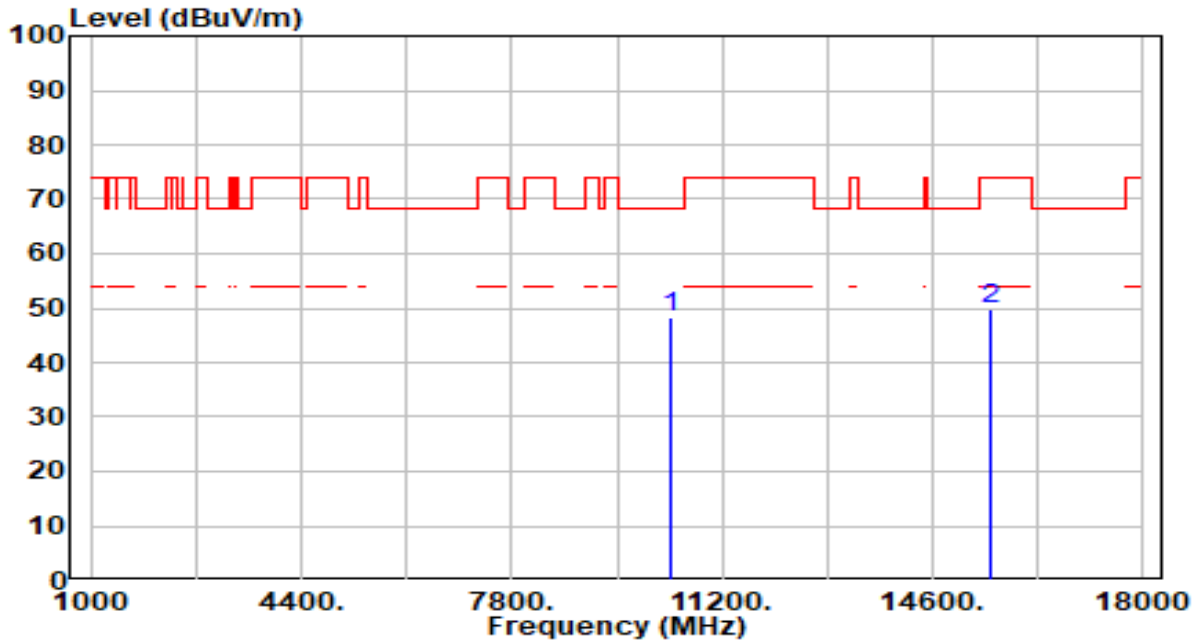


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 10360.000	43.87	2.81	46.68	-21.52	68.20	300	307	Peak
2	15540.000	45.70	4.52	50.23	-23.77	74.00	300	115	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Vertical	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/60Hz

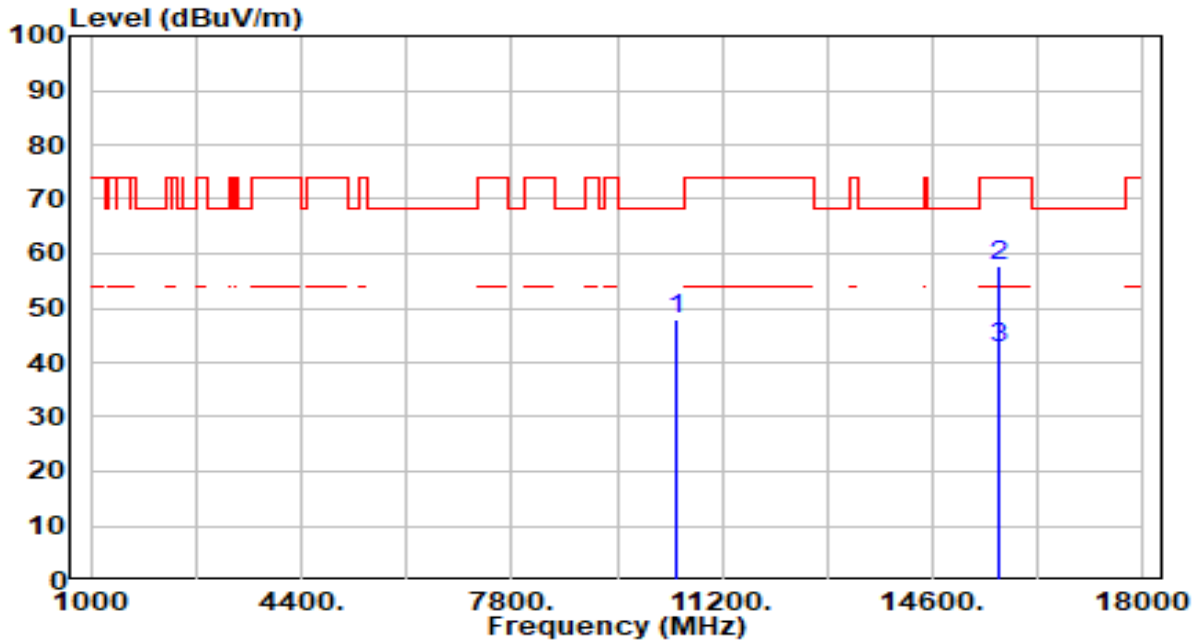


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 10360.000	45.66	2.81	48.47	-19.73	68.20	300	360	Peak
2	15540.000	45.23	4.52	49.75	-24.25	74.00	300	309	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Horizontal	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz

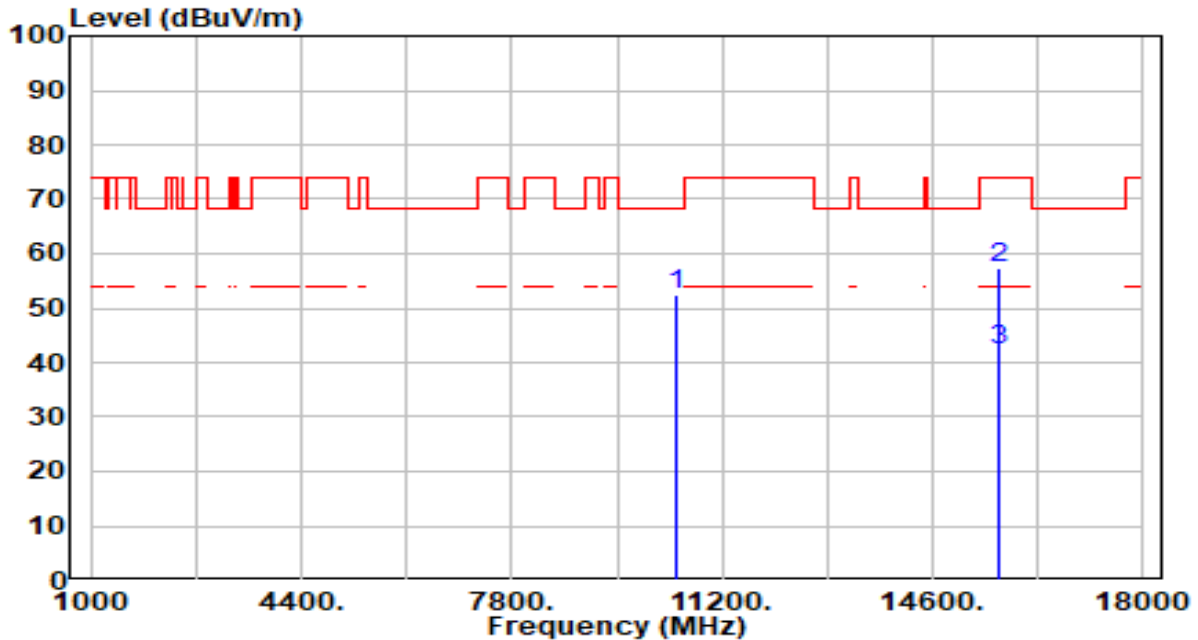


No	Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	10440.000	45.10	2.72	47.82	-20.38	68.20	300	292	Peak
2	15660.000	53.06	4.67	57.73	-16.27	74.00	300	0	Peak
3	* 15660.000	38.07	4.67	42.74	-11.26	54.00	300	0	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Vertical	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz



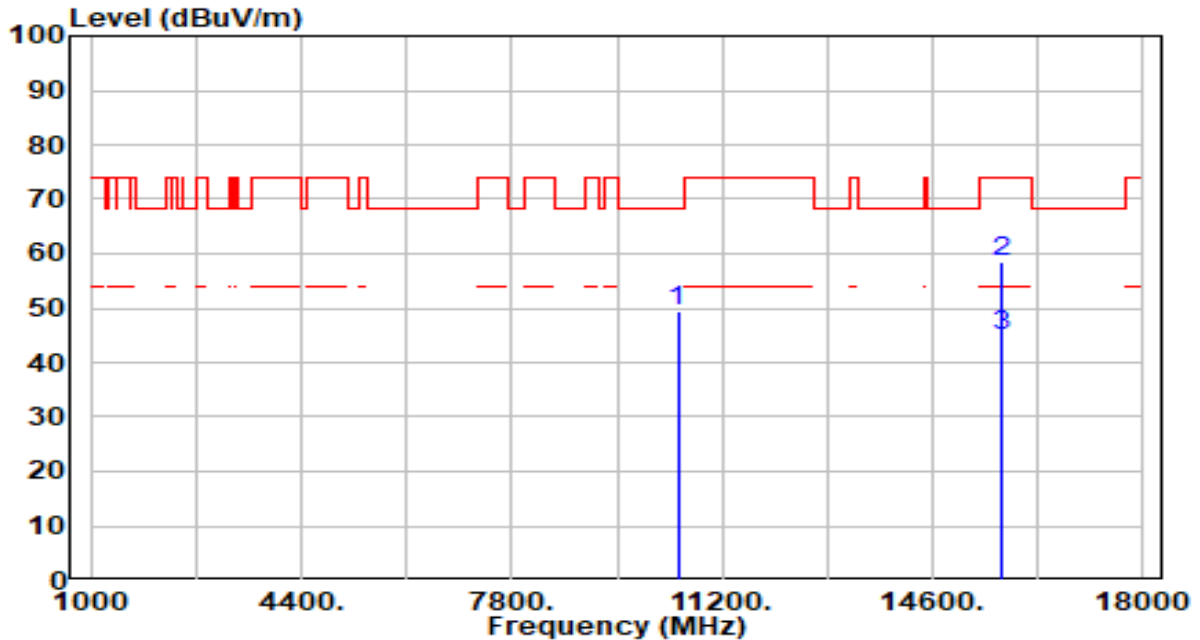
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	10440.000	49.57	2.72	52.29	-15.91	68.20	300	11	Peak
2	15660.000	52.52	4.67	57.19	-16.81	74.00	300	360	Peak
3	* 15660.000	37.73	4.67	42.40	-11.60	54.00	300	360	Average

Note:

- "\*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Horizontal	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/60Hz

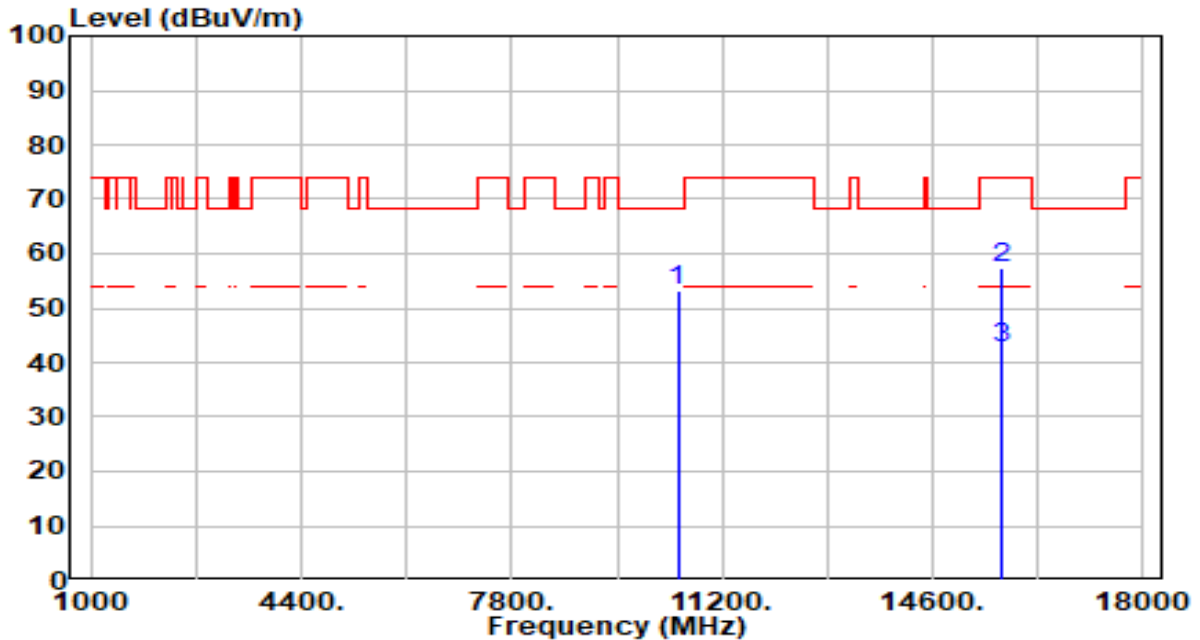


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	10480.000	46.76	2.68	49.43	-18.77	68.20	300	333	Peak
2	15720.000	53.68	4.84	58.52	-15.48	74.00	300	126	Peak
3	* 15720.000	40.03	4.84	44.87	-9.13	54.00	300	126	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Pre-amplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Vertical	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/60Hz

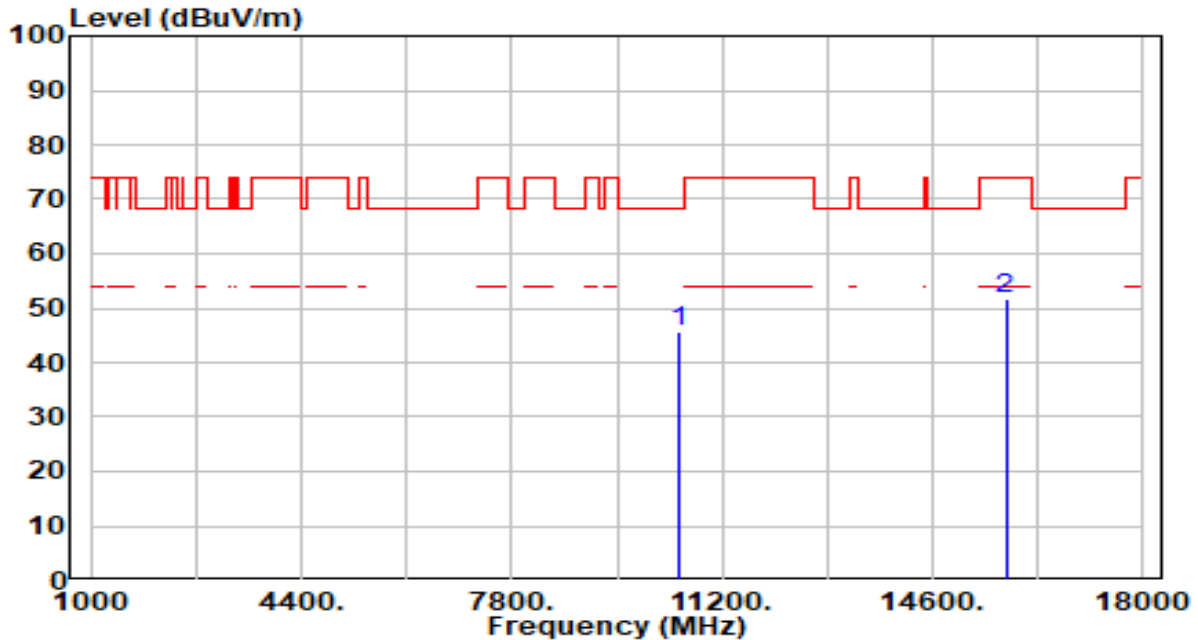


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	10480.000	50.60	2.68	53.28	-14.92	68.20	300	10	Peak
2	15720.000	52.36	4.84	57.20	-16.80	74.00	300	2	Peak
3	* 15720.000	37.97	4.84	42.81	-11.19	54.00	300	2	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Horizontal	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band2_CH 52_ANT 0+1	Test Voltage	AC 120V/60Hz

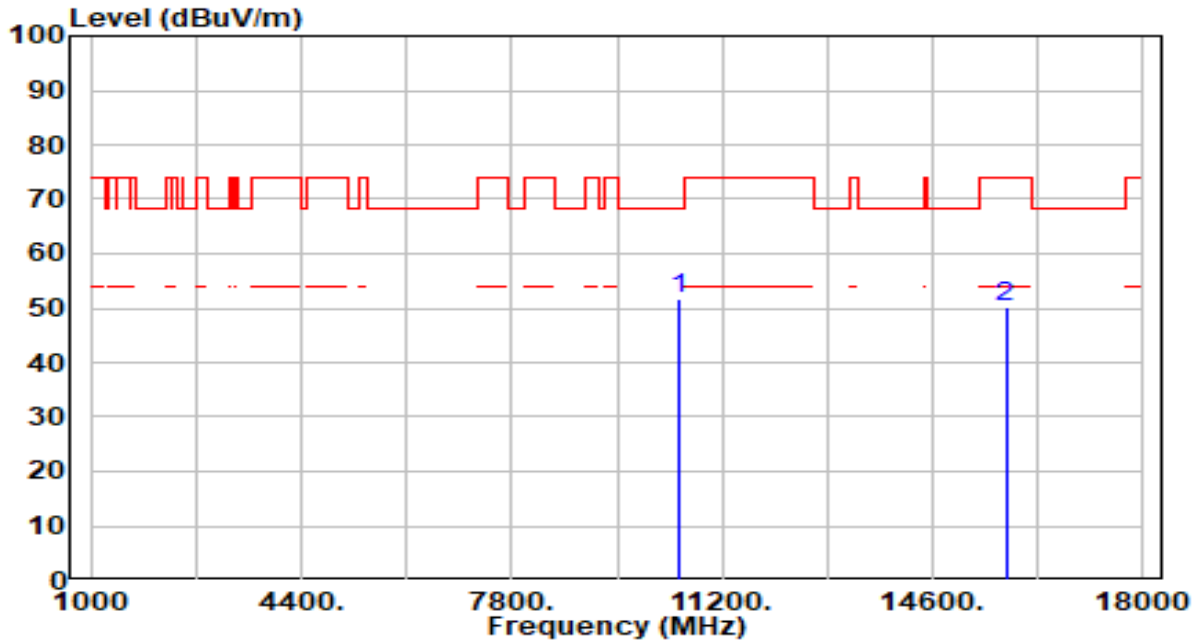


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	10520.000	43.09	2.64	45.74	-22.46	68.20	300	314	Peak
2	* 15780.000	46.65	5.00	51.65	-22.35	74.00	300	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	AX1800 Indoor/Outdoor Wi-Fi Access Point	Date of Test	2023-09-22
Factor	DRH18-E	Temp. / Humidity	20°C /60%
Polarity	Vertical	Site / Test Engineer	AC2 / Stanley
Test Mode	802.11a_TX_Band2_CH 52_ANT 0+1	Test Voltage	AC 120V/60Hz



No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 10520.000	48.87	2.64	51.51	-16.69	68.20	300	6	Peak
2	15780.000	45.07	5.00	50.07	-23.93	74.00	300	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.