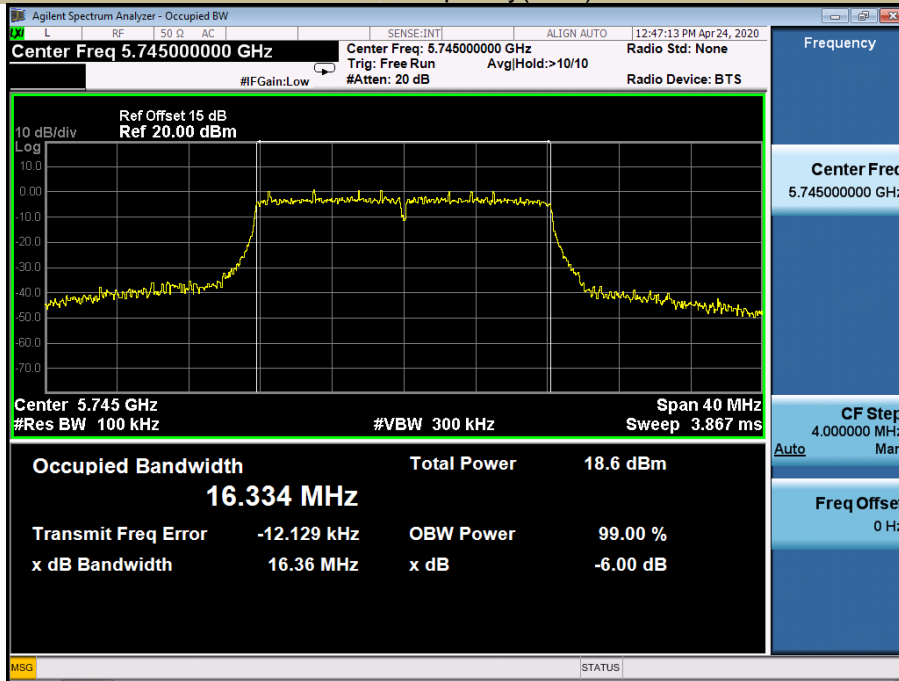


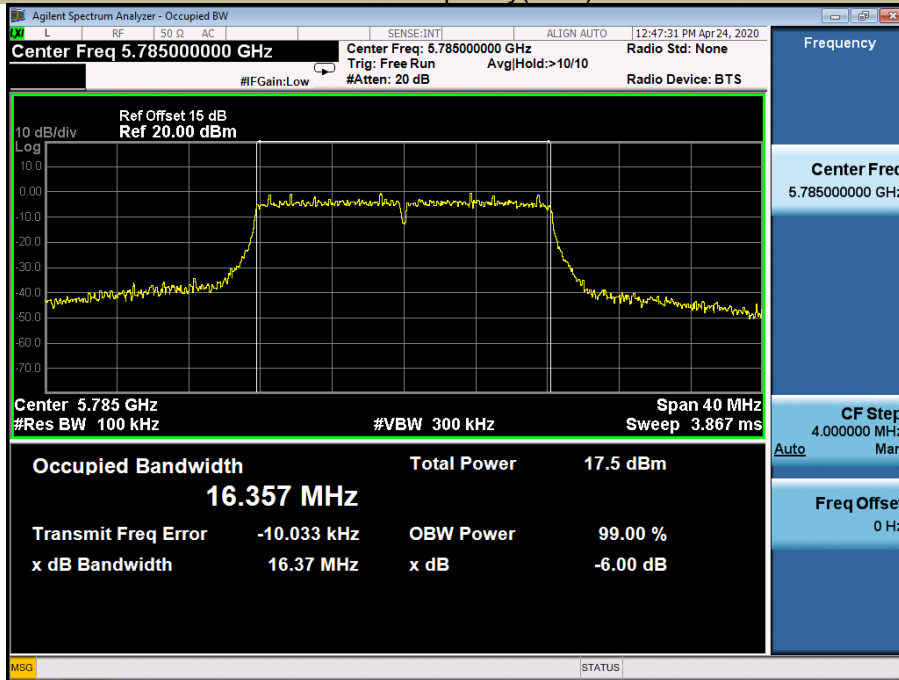
5725-5850MHz

Test Mode	Test Channel MHz		6 dB Bandwidth MHz	99% Bandwidth MHz	Limit kHz
802.11a	CH149	5745	16.36	16.334	≥500
	CH157	5785	16.37	16.357	≥500
	CH165	5825	16.13	16.350	≥500
802.11n-HT20	CH149	5745	17.61	17.569	≥500
	CH157	5785	17.58	17.558	≥500
	CH165	5825	17.55	17.547	≥500
802.11ac(VHT20)	CH149	5745	17.55	17.556	≥500
	CH157	5785	17.55	17.567	≥500
	CH165	5825	17.35	17.557	≥500
802.11n-HT40	CH151	5755	35.22	35.907	≥500
	CH159	5795	35.57	36.039	≥500
802.11ac(VHT40)	CH151	5755	35.18	35.875	≥500
	CH159	5795	35.18	35.998	≥500
802.11ac(VHT80)	CH155	5775	75.20	74.944	≥500

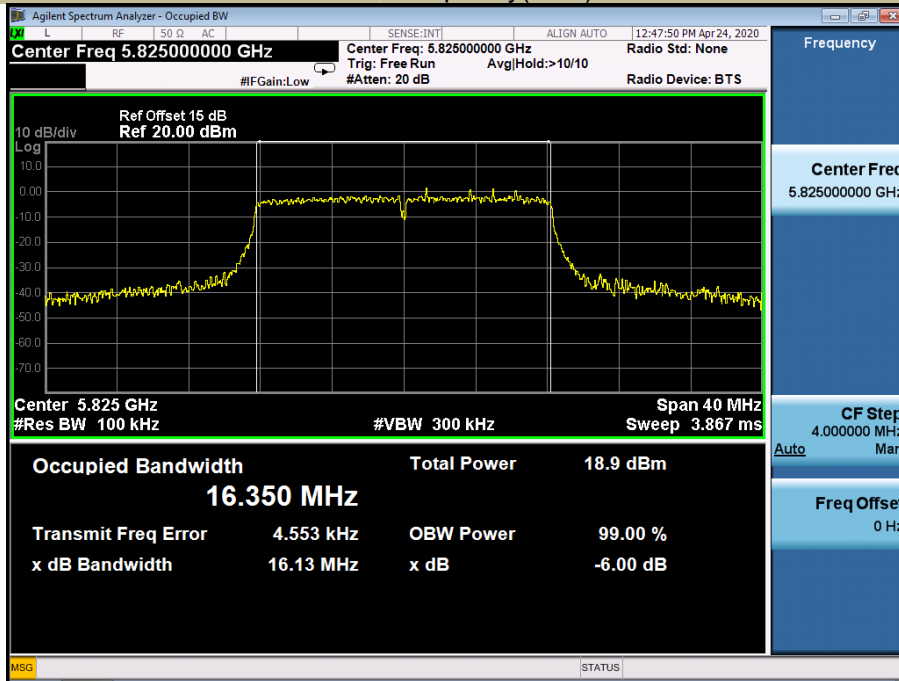
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11a Frequency(MHz) 5745



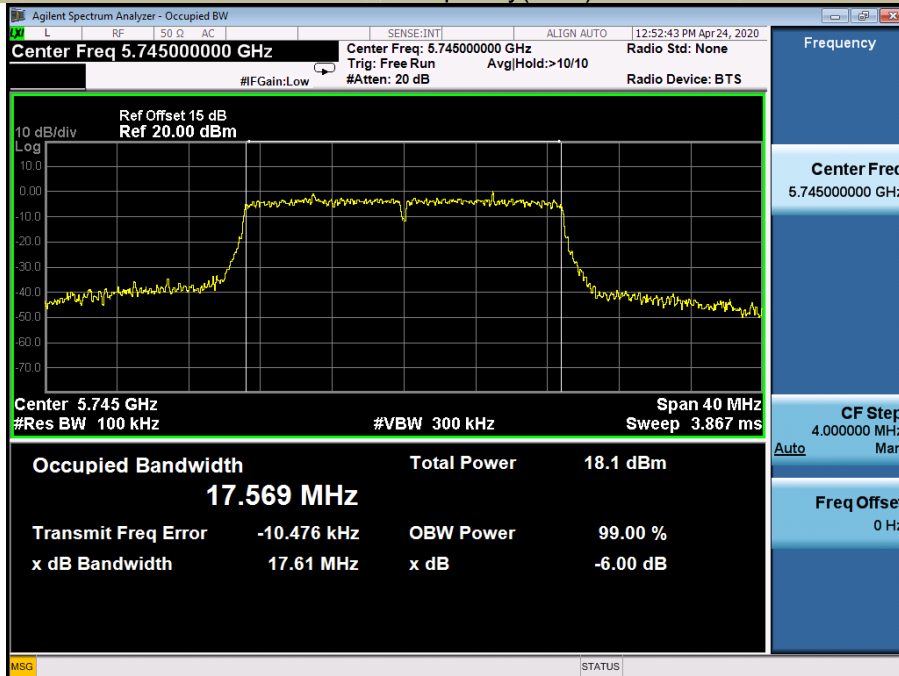
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11a Frequency(MHz) 5785



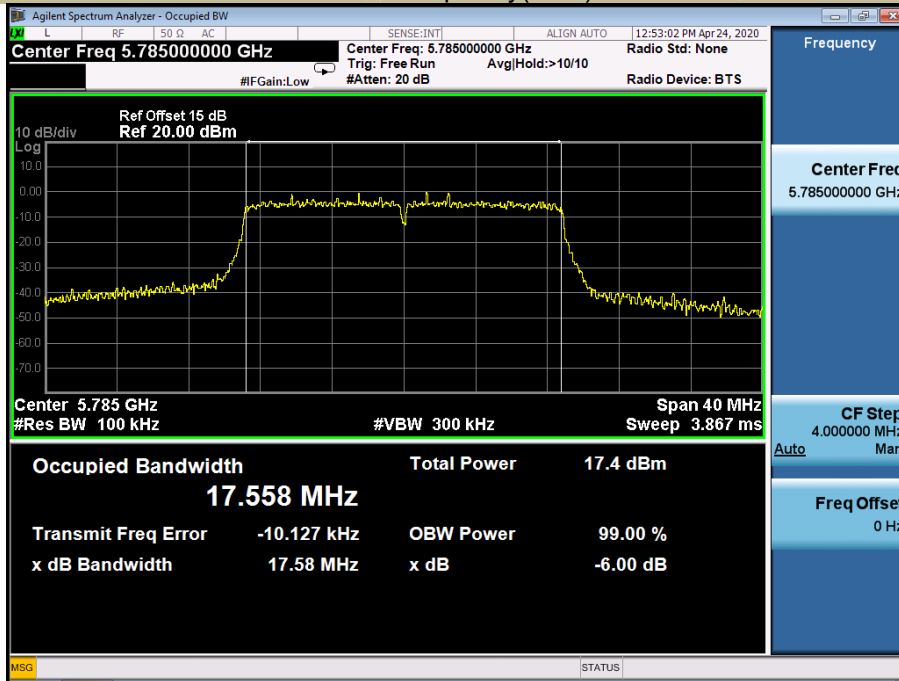
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11a Frequency(MHz) 5825



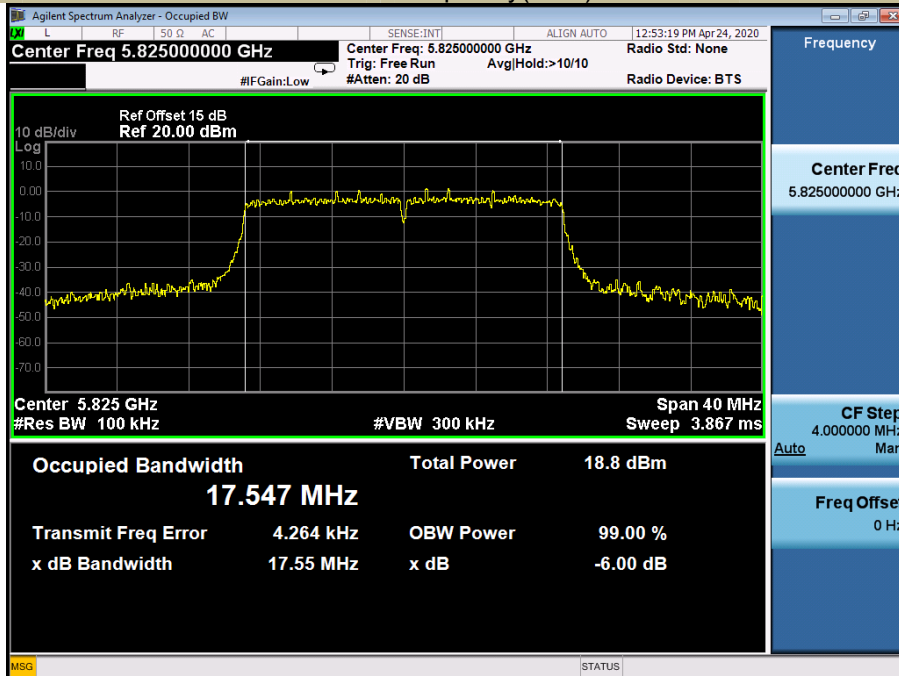
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11n-HT20 Frequency(MHz) 5745



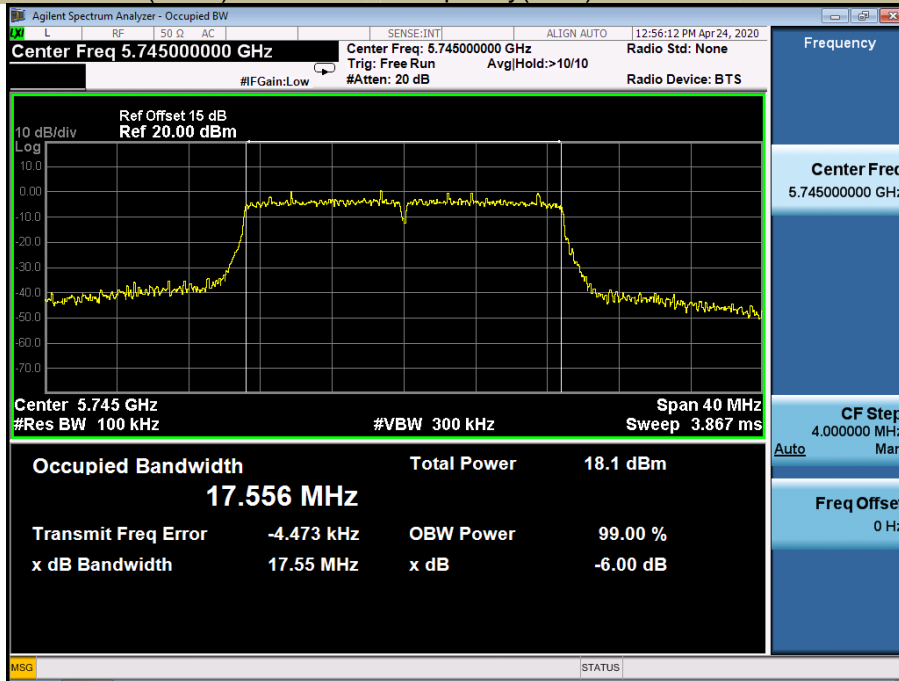
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11n-HT20 Frequency(MHz) 5785



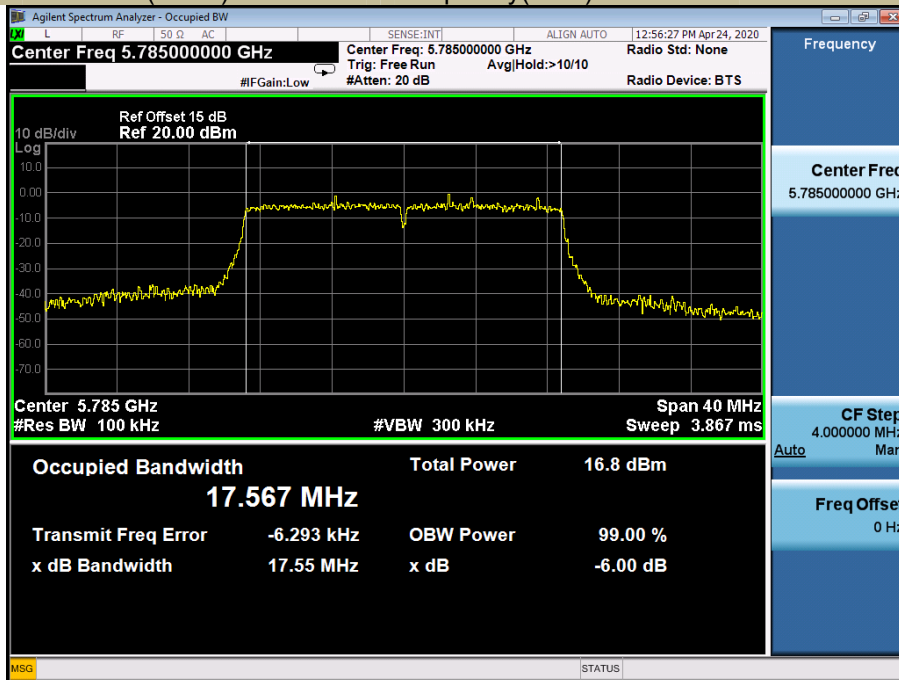
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11n-HT20 Frequency(MHz) 5825



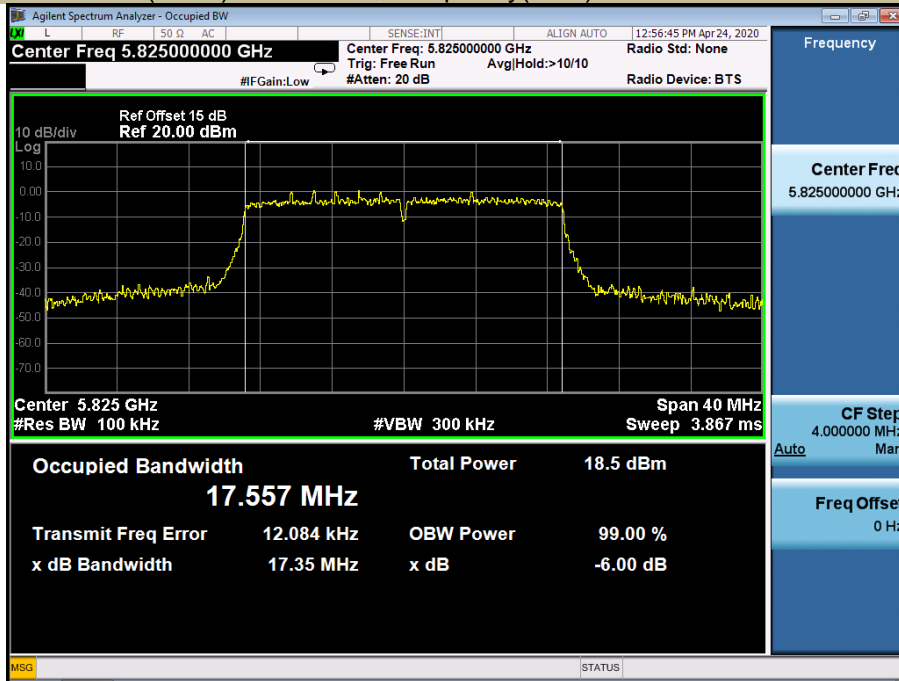
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac(HT20) Frequency(MHz) 5745



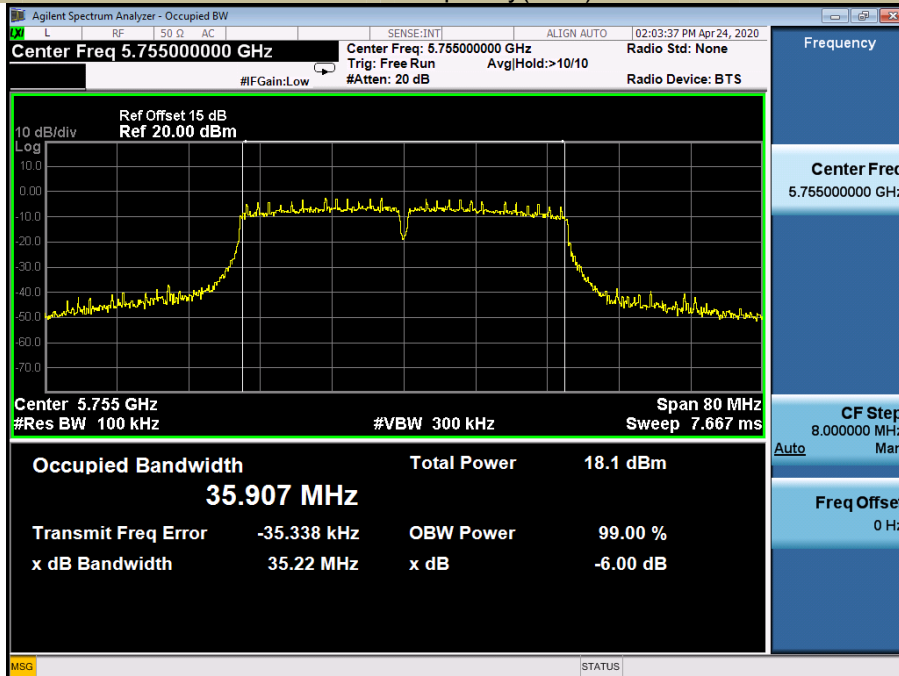
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac(HT20) Frequency(MHz) 5785



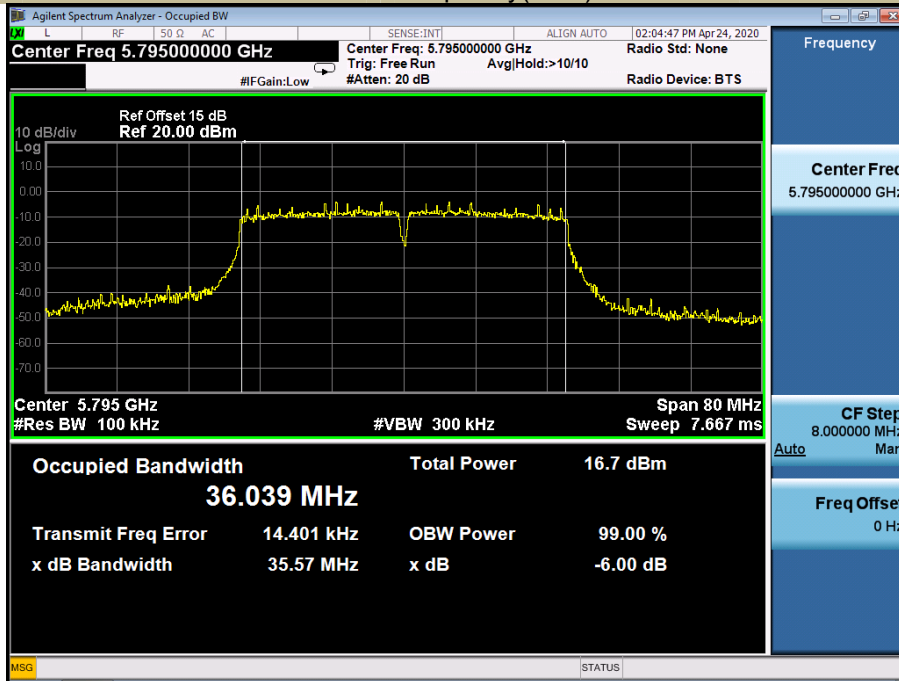
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac(HT20) Frequency(MHz) 5825



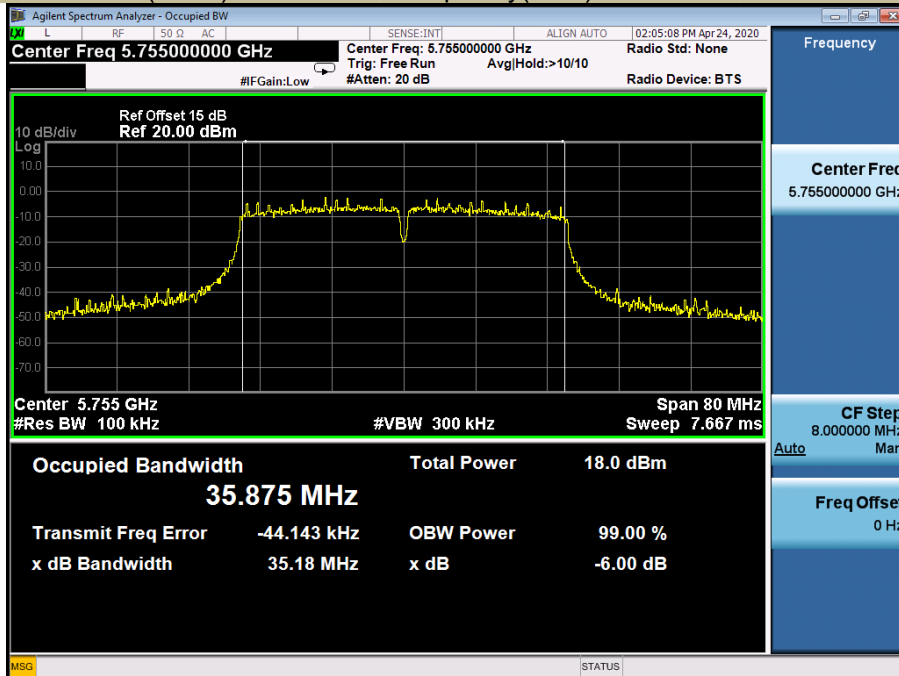
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11n-HT40 Frequency(MHz) 5755



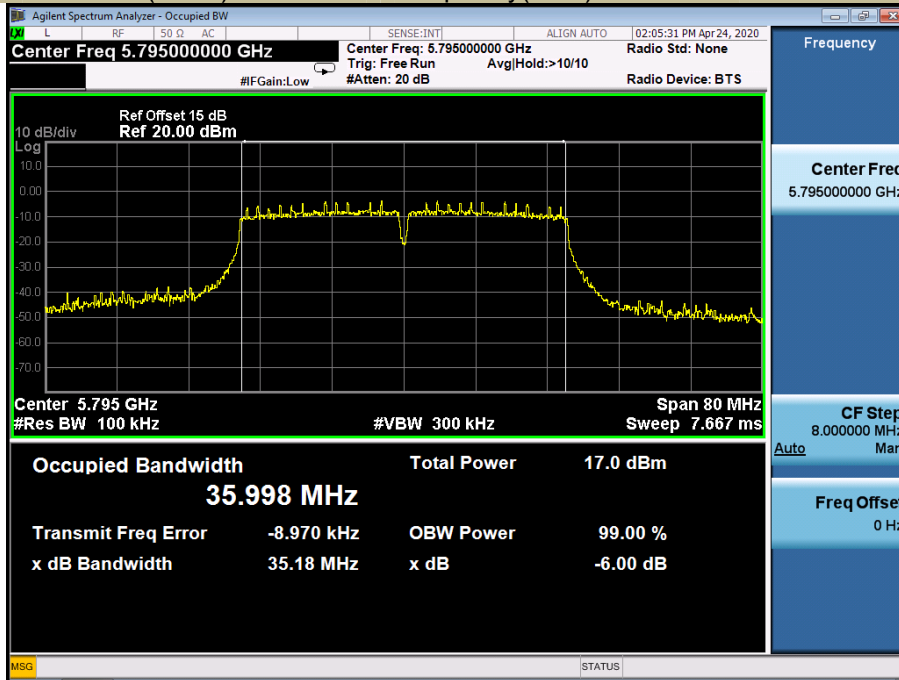
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11n-HT40 Frequency(MHz) 5795



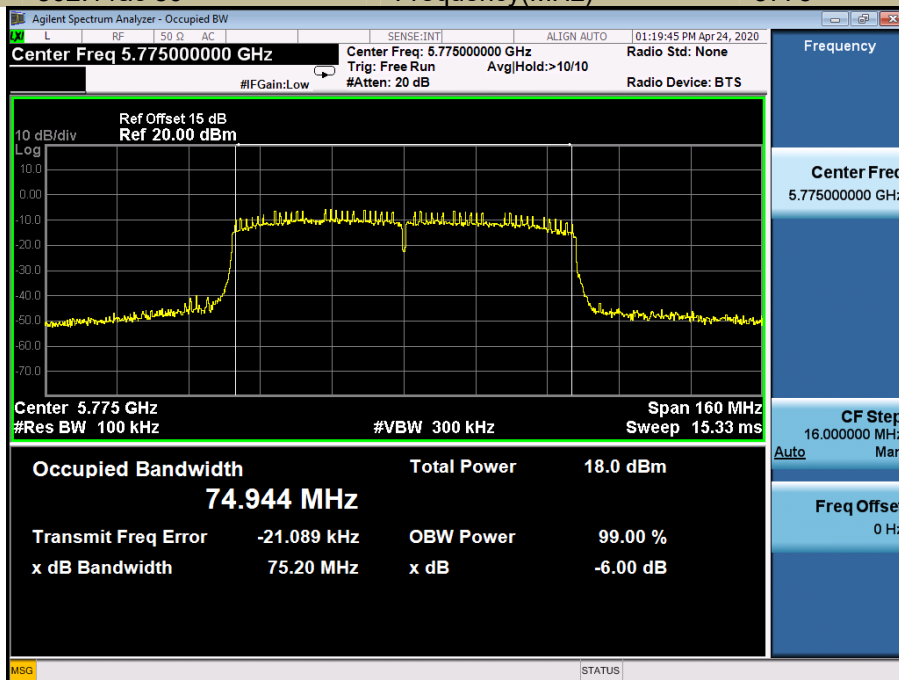
Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac(HT40) Frequency(MHz) 5755



Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac(HT40) Frequency(MHz) 5795



Emission Bandwidth&99% Occupied Bandwidth U-NII - 3
 Test Model 802.11ac 80 Frequency(MHz) 5775



8.2 MAXIMUM CONDUCTED OUTPUT POWER

8.2.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I

According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C

According to FCC Part 15.407(a)(3) for UNII Band III

According to 789033 D02 Section II(E)

According to KDB662911 D01 Multiple Transmitter Output

8.2.2 Conformance Limit

■ For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(a) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.2.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.2.4 Test Procedure

The maximum average conducted output power can be measured using Method PM-G (Measurement using a gated RF average power meter):

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

- a. The Transmitter output (antenna port) was connected to the power meter.
- b. Turn on the EUT and power meter and then record the power value.
- c. Repeat above procedures on all channels needed to be tested.

8.2.5 Test Results

Antenna 0

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.93	24	Pass
	CH40	5200	17.91	24	Pass
	CH48	5240	18.49	24	Pass

802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.42	24	Pass
	CH40	5200	17.46	24	Pass
	CH48	5240	18.00	24	Pass

802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.29	24	Pass
	CH40	5200	17.38	24	Pass
	CH48	5240	17.96	24	Pass

802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	16.97	24	Pass
	CH46	5230	17.44	24	Pass

802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	16.84	24	Pass
	CH46	5230	17.32	24	Pass

802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH42	5210	17.96	24	Pass

 802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	18.45	24	Pass
	CH60	5280	17.99	24	Pass
	CH64	5320	17.34	24	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	17.86	24	Pass
	CH60	5280	17.46	24	Pass
	CH64	5320	16.74	24	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	17.81	24	Pass
	CH60	5280	17.52	24	Pass
	CH64	5320	16.81	24	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	17.28	24	Pass
	CH62	5310	16.44	24	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	17.13	24	Pass
	CH62	5310	16.29	24	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH58	5290	17.50	24	Pass

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.78	24	Pass
	CH116	5600	13.19	24	Pass
	CH144	5700	13.26	24	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.28	24	Pass
	CH116	5600	12.74	24	Pass
	CH144	5700	12.79	24	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.31	24	Pass
	CH116	5600	12.81	24	Pass
	CH144	5700	12.85	24	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	13.22	24	Pass
	CH110	5550	12.50	24	Pass
	CH142	5710	12.43	24	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	13.12	24	Pass
	CH110	5590	12.43	24	Pass
	CH142	5670	12.32	24	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH106	5530	14.47	24	Pass
	CH138	5610	13.66	24	Pass

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	13.36	30	Pass
	CH157	5785	12.35	30	Pass
	CH165	5825	13.70	30	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	12.90	30	Pass
	CH157	5785	11.92	30	Pass
	CH165	5825	13.33	30	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	12.99	30	Pass
	CH157	5785	12.01	30	Pass
	CH165	5825	13.36	30	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	12.49	30	Pass
	CH159	5795	11.45	30	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	12.42	30	Pass
	CH159	5795	11.38	30	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH155	5775	12.83	30	Pass

Antenna 1

 802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.79	24	Pass
	CH40	5200	17.87	24	Pass
	CH48	5240	18.38	24	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.35	24	Pass
	CH40	5200	17.42	24	Pass
	CH48	5240	17.98	24	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	17.20	24	Pass
	CH40	5200	17.34	24	Pass
	CH48	5240	17.87	24	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	16.95	24	Pass
	CH46	5230	17.41	24	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	16.81	24	Pass
	CH46	5230	17.30	24	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH42	5210	17.92	24	Pass

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	18.31	24	Pass
	CH60	5280	17.88	24	Pass
	CH64	5320	17.26	24	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	17.84	24	Pass
	CH60	5280	17.42	24	Pass
	CH64	5320	16.74	24	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	17.78	24	Pass
	CH60	5280	17.43	24	Pass
	CH64	5320	16.73	24	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	17.24	24	Pass
	CH62	5310	16.41	24	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	17.12	24	Pass
	CH62	5310	16.27	24	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH58	5290	17.49	24	Pass

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.70	24	Pass
	CH116	5600	13.14	24	Pass
	CH144	5700	13.17	24	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.26	24	Pass
	CH116	5600	12.72	24	Pass
	CH144	5700	12.79	24	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	13.21	24	Pass
	CH116	5600	12.73	24	Pass
	CH144	5700	12.79	24	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	13.21	24	Pass
	CH110	5550	12.50	24	Pass
	CH142	5710	12.41	24	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	13.12	24	Pass
	CH110	5590	12.40	24	Pass
	CH142	5670	12.33	24	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH106	5530	14.45	24	Pass
	CH138	5690	13.65	24	Pass

802.11a mode

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	13.27	30	Pass
	CH157	5785	12.25	30	Pass
	CH165	5825	13.66	30	Pass

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	12.88	30	Pass
	CH157	5785	11.88	30	Pass
	CH165	5825	13.28	30	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	12.92	30	Pass
	CH157	5785	11.93	30	Pass
	CH165	5825	13.31	30	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	12.46	30	Pass
	CH159	5795	11.41	30	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	12.40	30	Pass
	CH159	5795	11.35	30	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH155	5775	12.82	30	Pass

Antenna 0+1

 802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	20.40	22.92	Pass
	CH40	5200	20.43	22.92	Pass
	CH48	5240	21.00	22.92	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH36	5180	20.26	22.92	Pass
	CH40	5200	20.37	22.92	Pass
	CH48	5240	20.93	22.92	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	19.97	22.92	Pass
	CH46	5230	20.44	22.92	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH38	5190	19.84	22.92	Pass
	CH46	5230	20.32	22.92	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII - 1	CH42	5210	20.95	22.92	Pass

Note: U-NII – 1 Limit (Antenna 0+1)= 24-(Gain-6)= 22.92 dBm

802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	20.86	22.92	Pass
	CH60	5280	20.45	22.92	Pass
	CH64	5320	19.75	22.92	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH52	5260	20.81	22.92	Pass
	CH60	5280	20.49	22.92	Pass
	CH64	5320	19.78	22.92	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	20.27	22.92	Pass
	CH62	5310	19.44	22.92	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH54	5270	20.14	22.92	Pass
	CH62	5310	19.29	22.92	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2A	CH58	5290	20.51	22.92	Pass

Note: U-NII –2A Limit (Antenna 0+1)= 24-(Gain-6)= 22.92 dBm

802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	16.28	22.92	Pass
	CH116	5580	15.74	22.92	Pass
	CH144	5720	15.80	22.92	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH100	5500	16.27	22.92	Pass
	CH116	5580	15.78	22.92	Pass
	CH144	5720	15.83	22.92	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	16.23	22.92	Pass
	CH110	5590	15.51	22.92	Pass
	CH142	5670	15.43	22.92	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH102	5510	16.13	22.92	Pass
	CH110	5590	15.43	22.92	Pass
	CH142	5670	15.34	22.92	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 2C	CH106	5530	17.47	22.92	Pass
	CH138	5690	16.67	22.92	Pass

Note: U-NII – 2C Limit (Antenna 0+1)= 24-(Gain-6)= 22.92 dBm

802.11n-HT20

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	15.90	28.92	Pass
	CH157	5785	14.91	28.92	Pass
	CH165	5825	16.32	28.92	Pass

 802.11 ac (VHT20)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH149	5745	15.97	28.92	Pass
	CH157	5785	14.98	28.92	Pass
	CH165	5825	16.35	28.92	Pass

 802.11n-HT40

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	15.49	28.92	Pass
	CH159	5795	14.44	28.92	Pass

 802.11 ac (VHT40)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH151	5755	15.42	28.92	Pass
	CH159	5795	14.38	28.92	Pass

 802.11 ac (VHT80)

Band	Channel Number	Channel Freq. (MHz)	Conducted Output Power(dBm)	Limit (dBm)	Verdict
U-NII – 3	CH155	5775	15.84	28.92	Pass

Note: U-NII – 3 Limit (Antenna 0+1)= 30-(Gain-6)= 28.92 dBm

8.3 MAXIMUM PEAK POWER DENSITY

8.3.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I
According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C
According to FCC Part 15.407(a)(3) for UNII Band III
According to 789033 D02 Section II(F)
According to KDB662911 D01 Multiple Transmitter Output

8.3.2 Conformance Limit

■ For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(b) (2) the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.3.4 Test Procedure

Methods refer to FCC KDB 789033

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ KHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since $RBW=100 \text{ KHz}$ is available on nearly all spectrum analyzers.

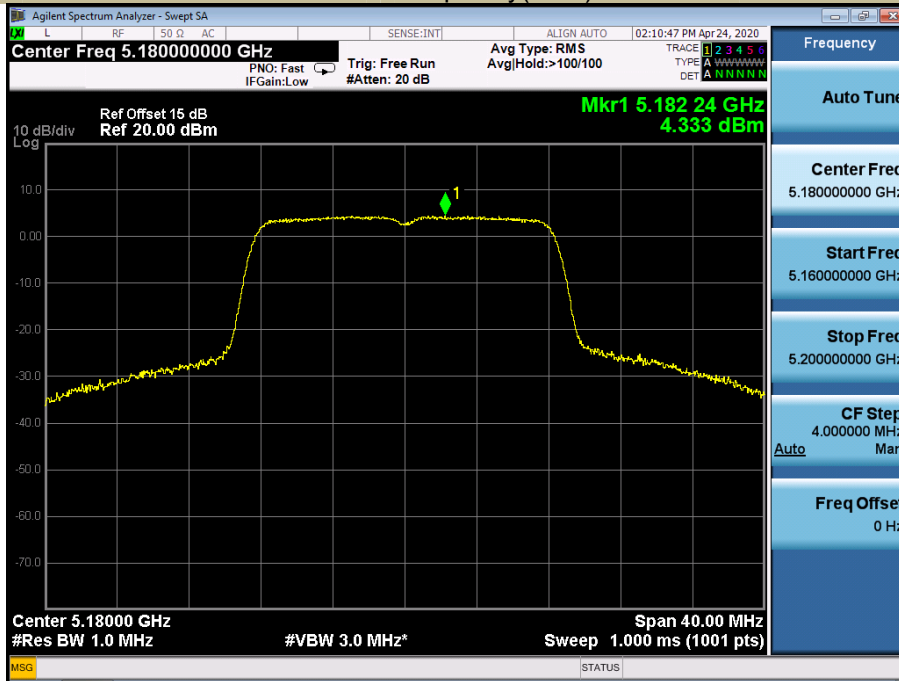
8.3.5 Test Results

Antenna 0

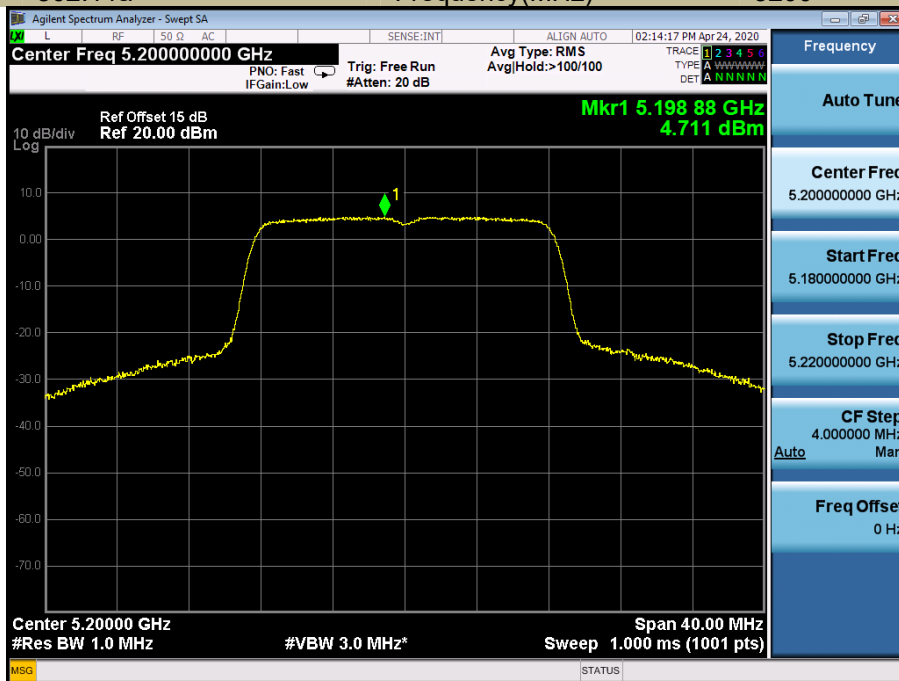
5150-5250MHz

Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	4.333	11
	5200	4.711	11
	5240	5.116	11
802.11n-HT20	5180	4.501	11
	5200	4.537	11
	5240	4.798	11
802.11ac(VHT20)	5180	4.286	11
	5200	4.530	11
	5240	5.031	11
802.11n-HT40	5190	1.384	11
	5230	2.128	11
802.11ac(VHT40)	5190	1.540	11
	5230	1.955	11
802.11ac(VHT80)	5210	-1.813	11

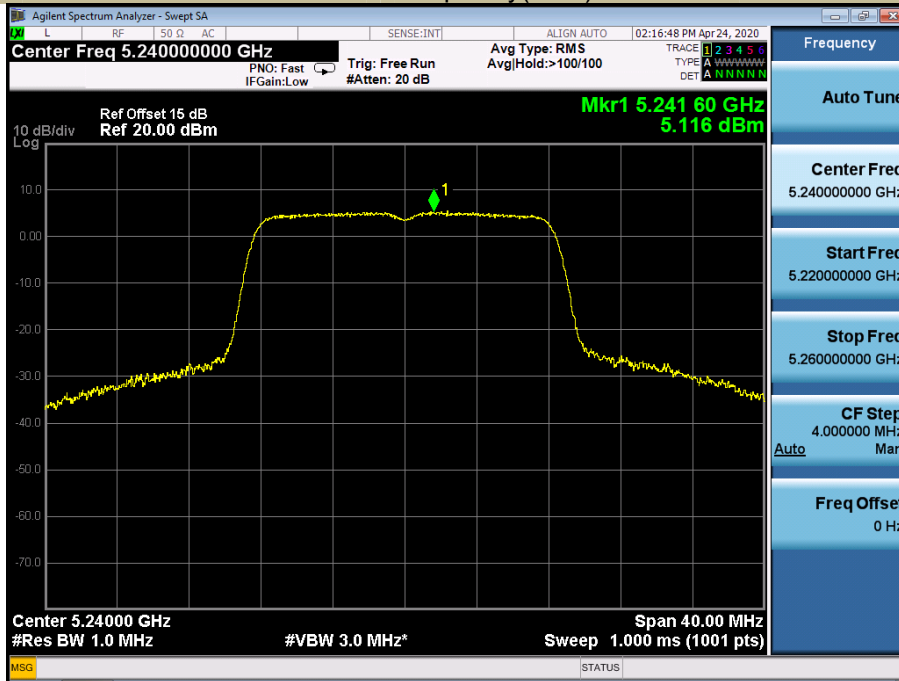
Power Spectral Density Test Model 802.11a U-NII - 1 Frequency(MHz) 5180



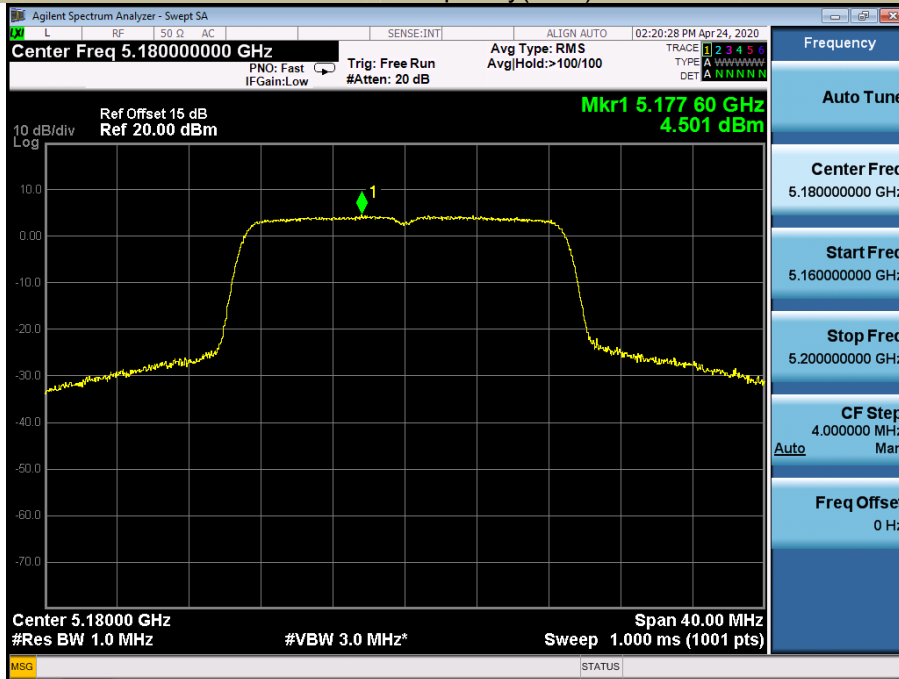
Power Spectral Density Test Model 802.11a U-NII - 1 Frequency(MHz) 5200



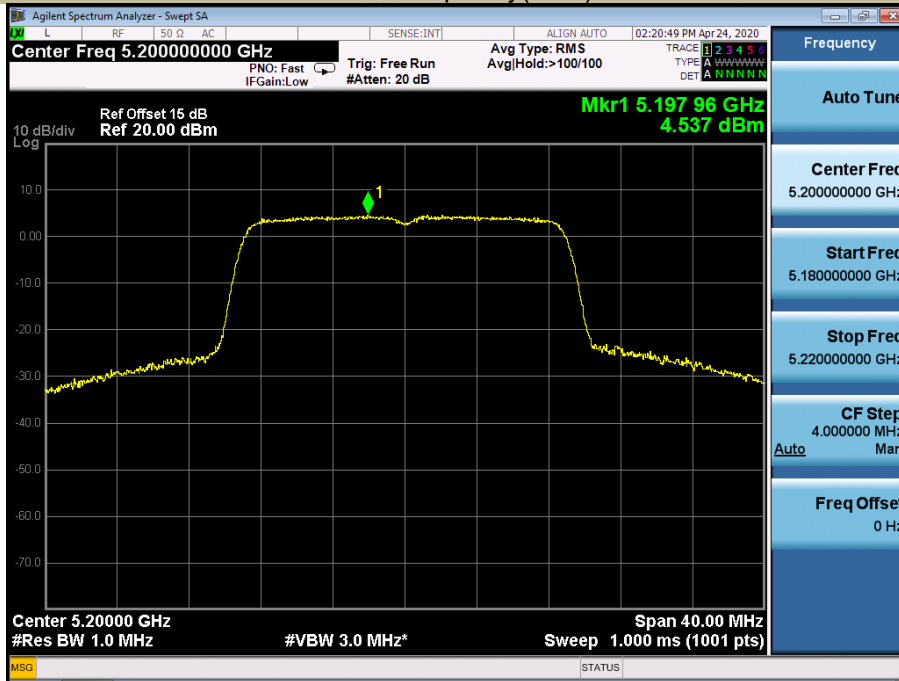
Power Spectral Density U-NII - 1
 Test Model 802.11a Frequency(MHz) 5240



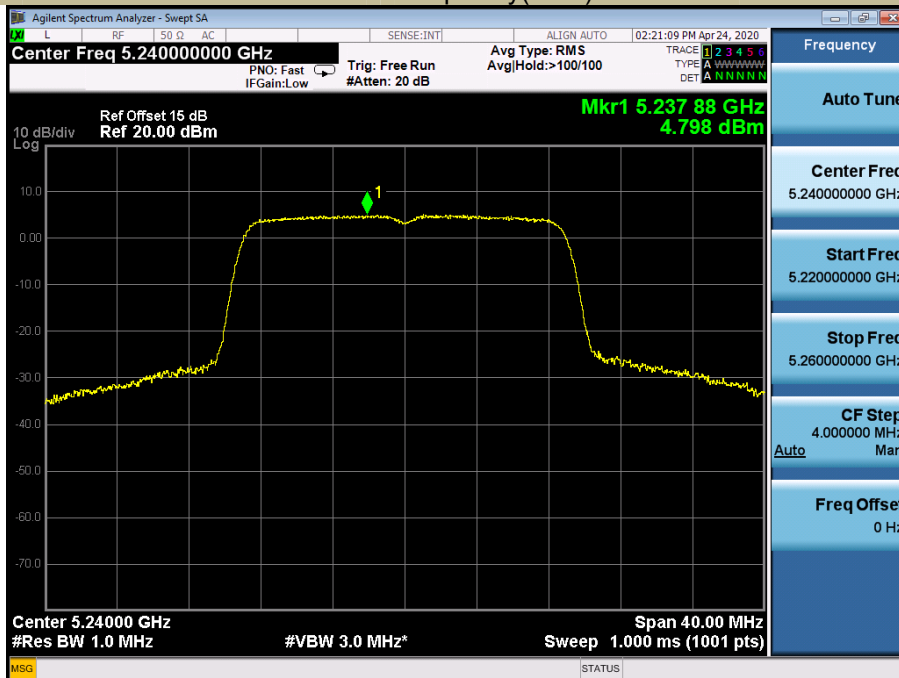
Power Spectral Density U-NII - 1
 Test Model 802.11n-HT20 Frequency(MHz) 5180



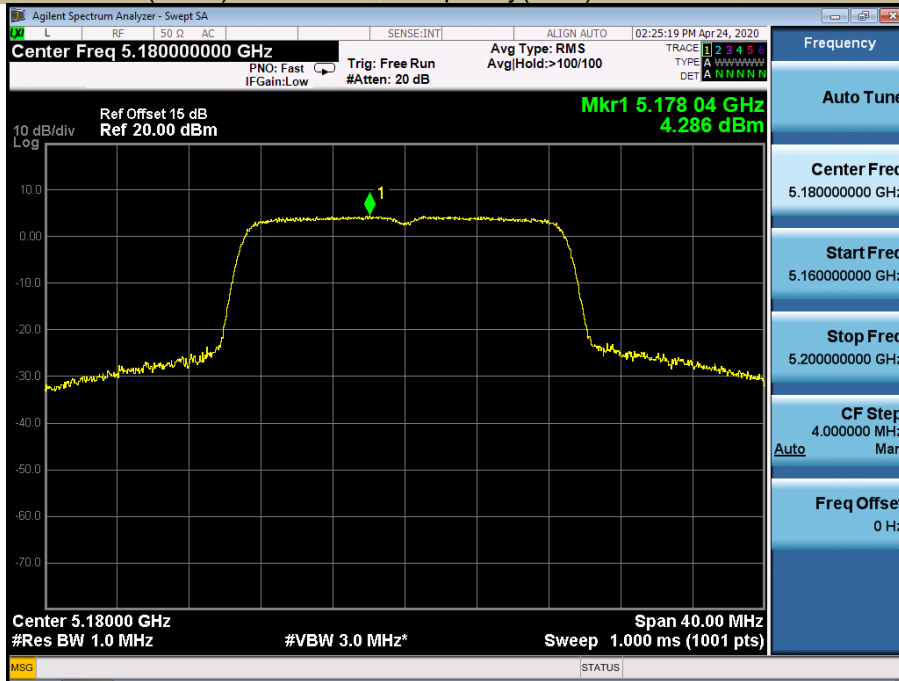
Power Spectral Density U-NII - 1
 Test Model 802.11n-HT20 Frequency(MHz) 5200



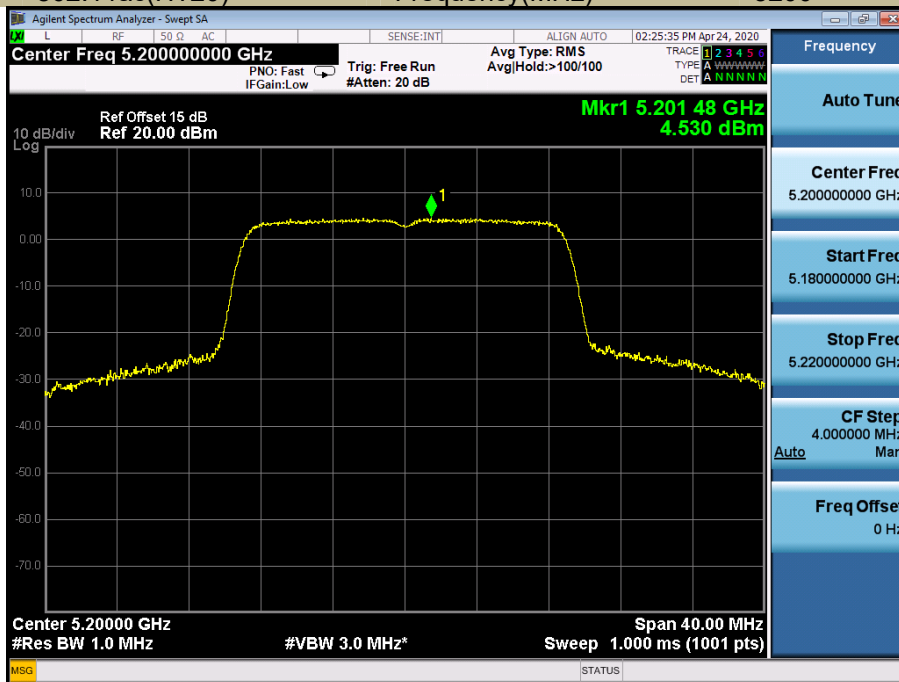
Power Spectral Density U-NII - 1
 Test Model 802.11n-HT20 Frequency(MHz) 5240



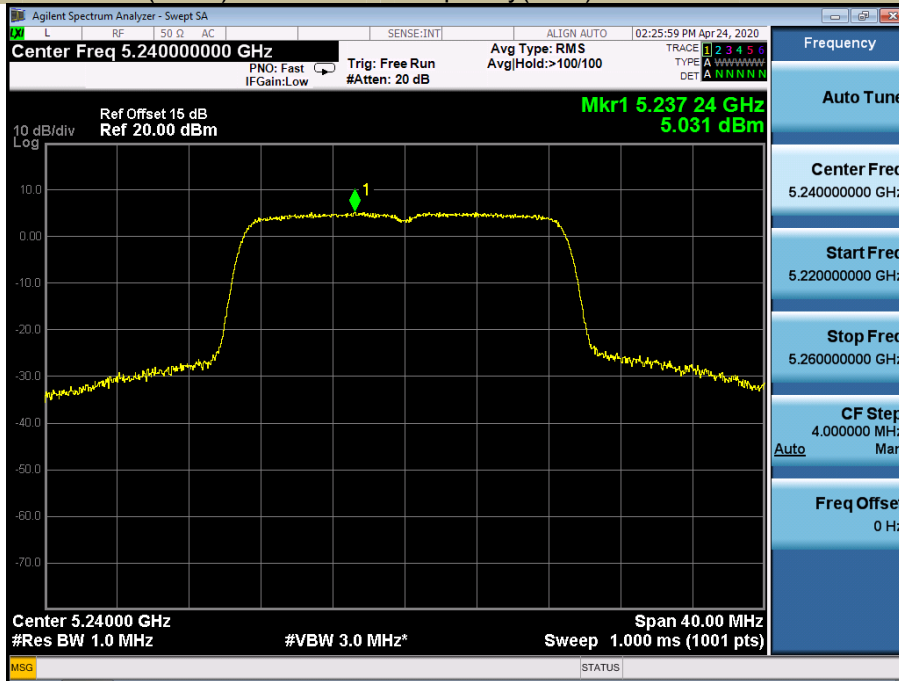
Power Spectral Density U-NII - 1
 Test Model 802.11ac(HT20) Frequency(MHz) 5180



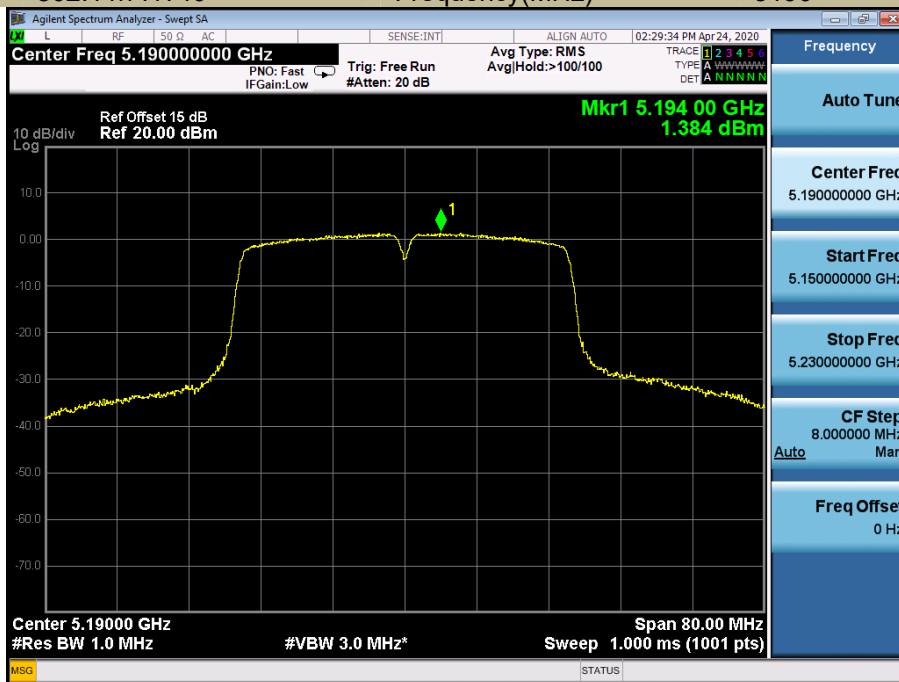
Power Spectral Density U-NII - 1
 Test Model 802.11ac(HT20) Frequency(MHz) 5200



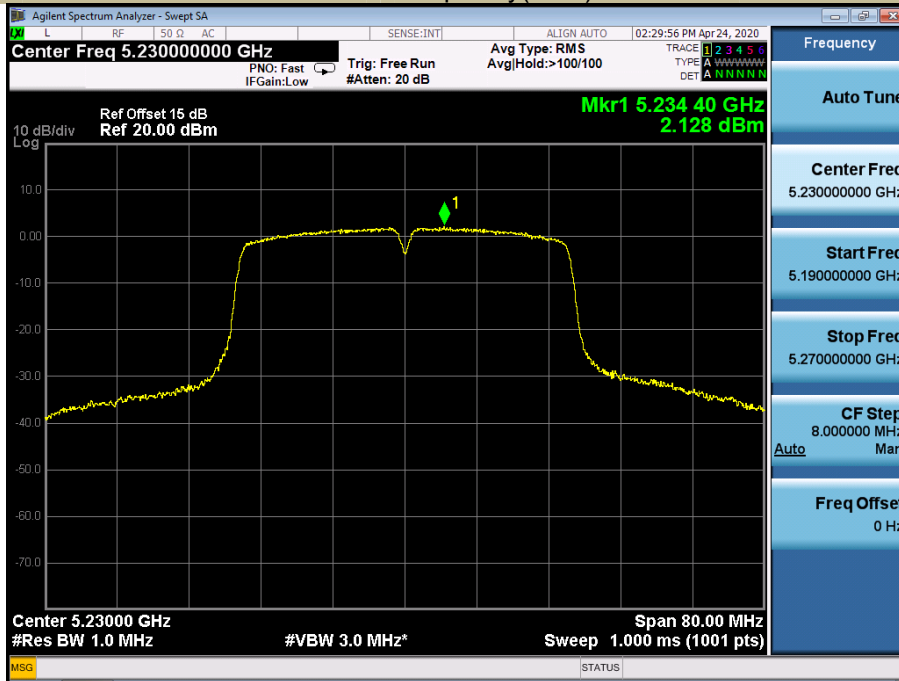
Power Spectral Density U-NII - 1
 Test Model 802.11ac(HT20) Frequency(MHz) 5240



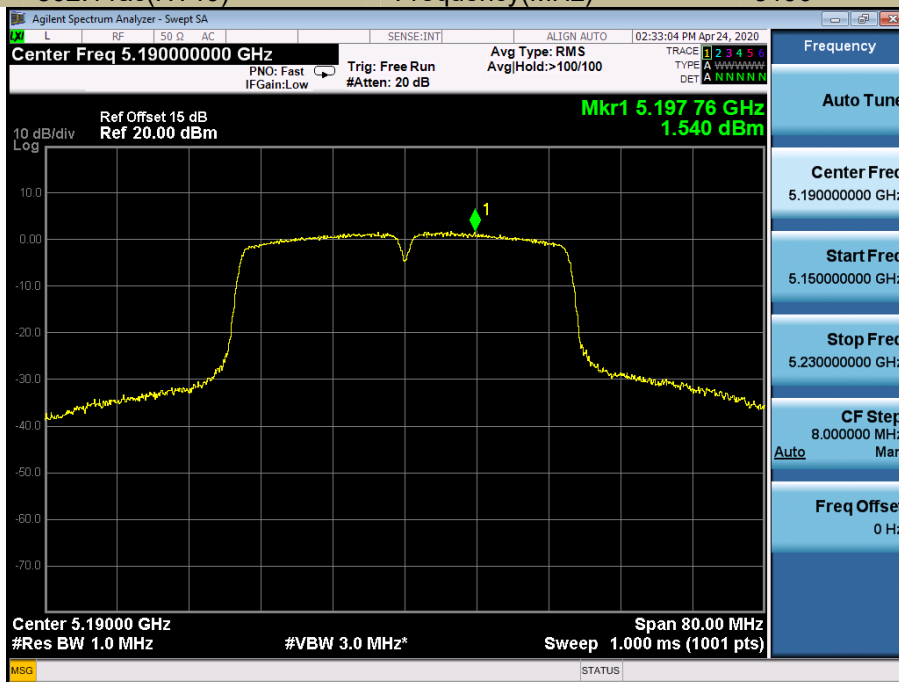
Power Spectral Density U-NII - 1
 Test Model 802.11n-HT40 Frequency(MHz) 5190



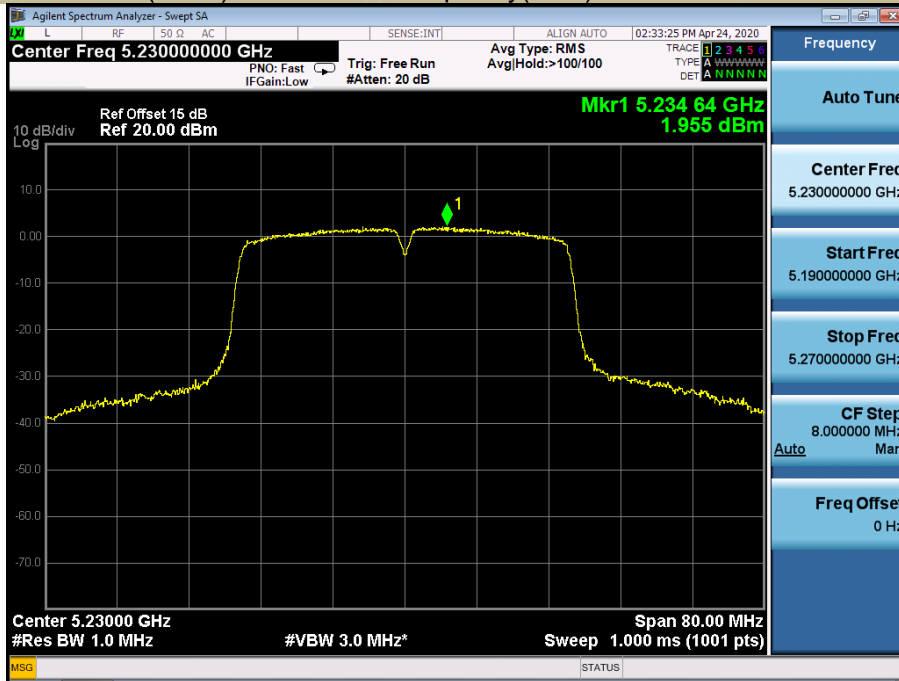
Power Spectral Density U-NII - 1
 Test Model 802.11n-HT40 Frequency(MHz) 5230



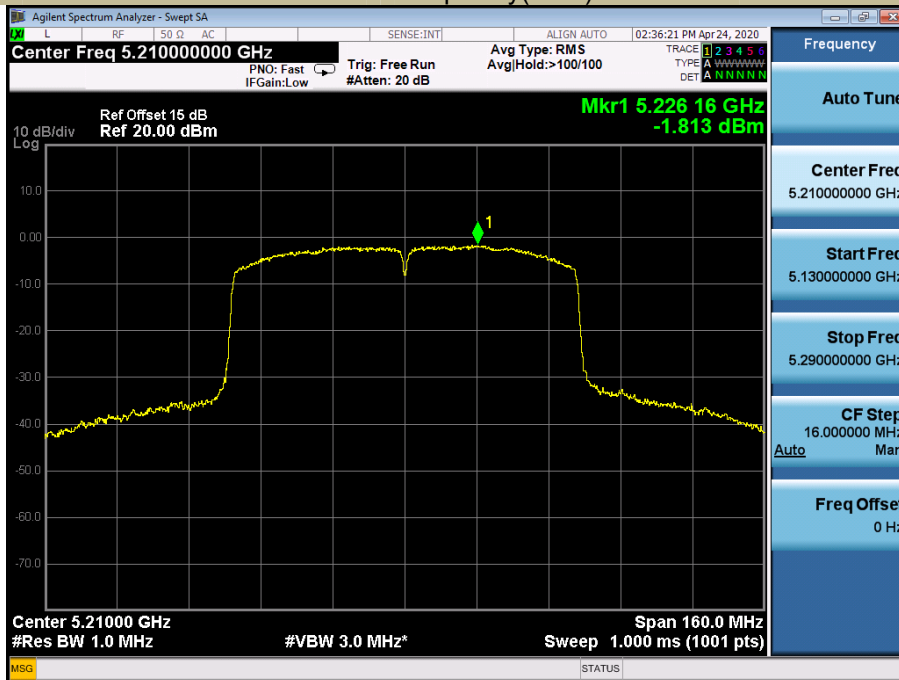
Power Spectral Density U-NII - 1
 Test Model 802.11ac(HT40) Frequency(MHz) 5190



Power Spectral Density U-NII - 1
 Test Model 802.11ac(HT40) Frequency(MHz) 5230



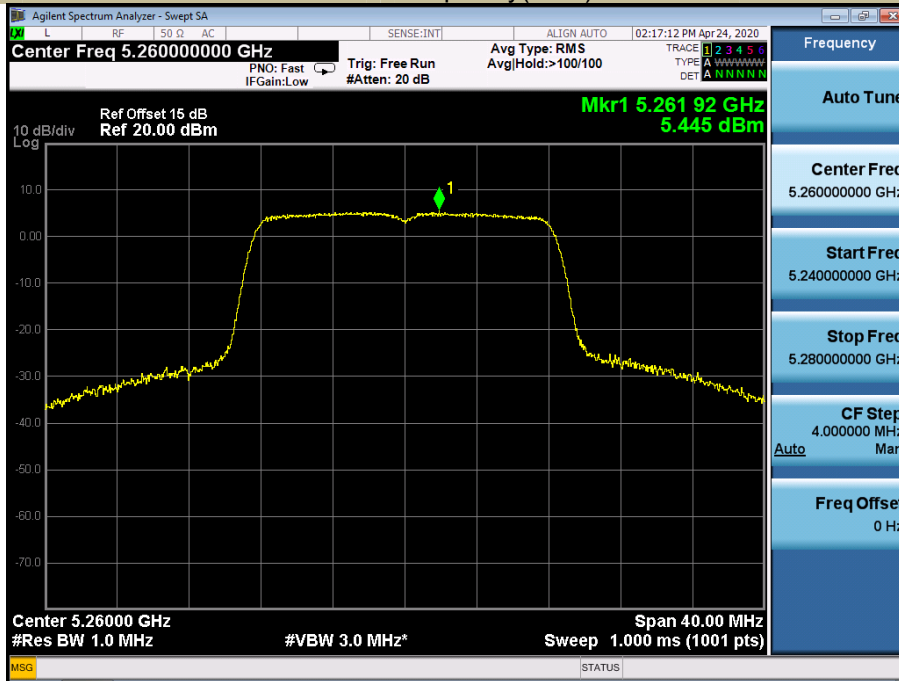
Power Spectral Density U-NII - 1
 Test Model 802.11ac 80 Frequency(MHz) 5210



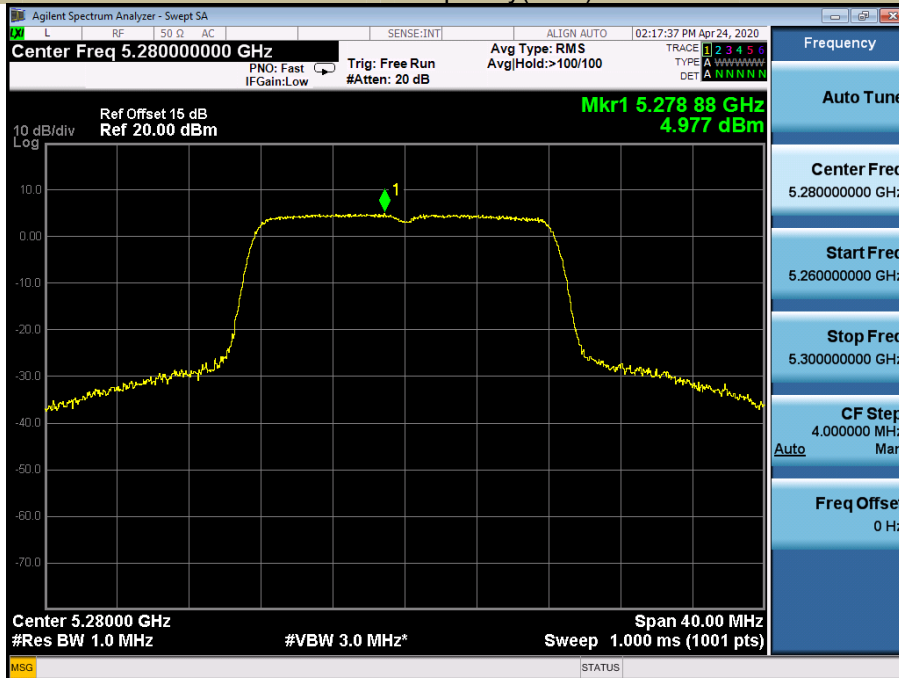
Antenna 0
 5250-5350MHz

Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5260	5.445	11
	5280	4.997	11
	5320	3.865	11
802.11n-HT20	5260	5.056	11
	5280	4.383	11
	5320	3.959	11
802.11ac(VHT20)	5260	4.886	11
	5280	4.686	11
	5320	3.630	11
802.11n-HT40	5270	1.776	11
	5310	0.946	11
802.11ac(VHT40)	5270	1.547	11
	5310	0.862	11
802.11ac(VHT80)	5290	-2.169	11

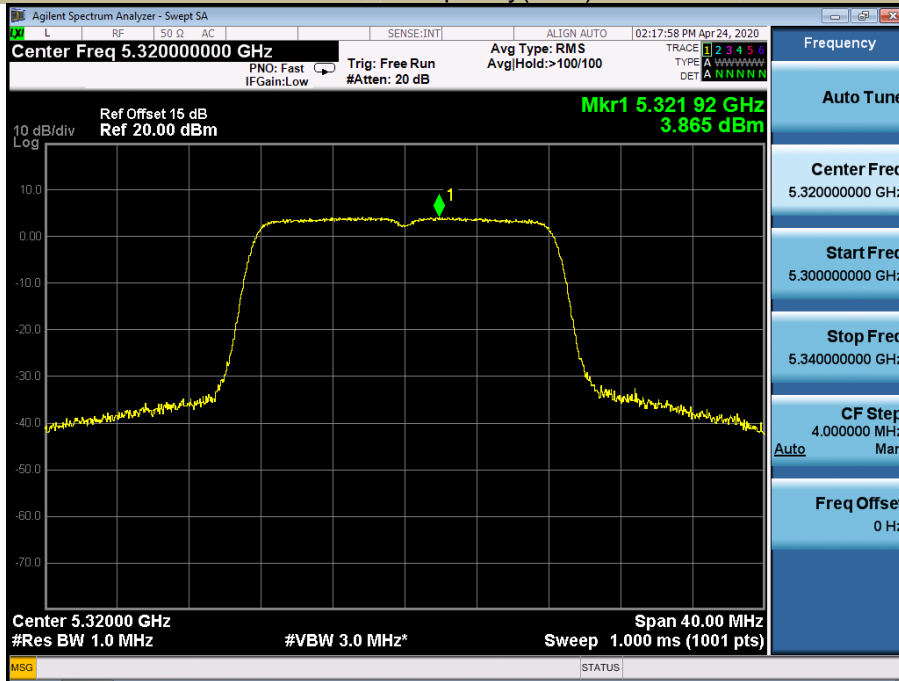
Power Spectral Density U-NII – 2A
 Test Model 802.11a Frequency(MHz) 5260



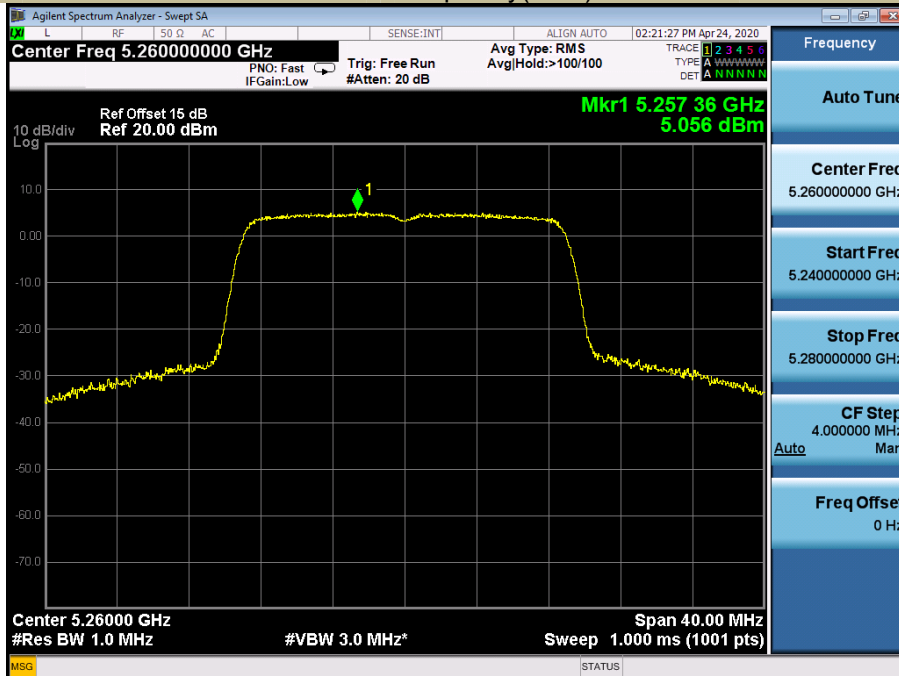
Power Spectral Density U-NII – 2A
 Test Model 802.11a Frequency(MHz) 5280



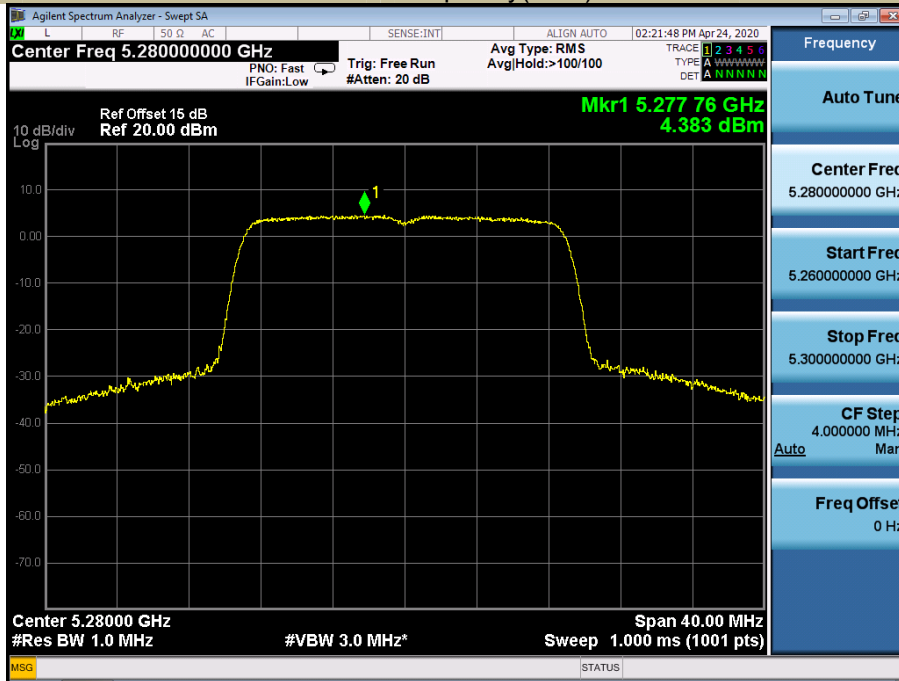
Power Spectral Density Test Model 802.11a U-NII – 2A Frequency(MHz) 5320



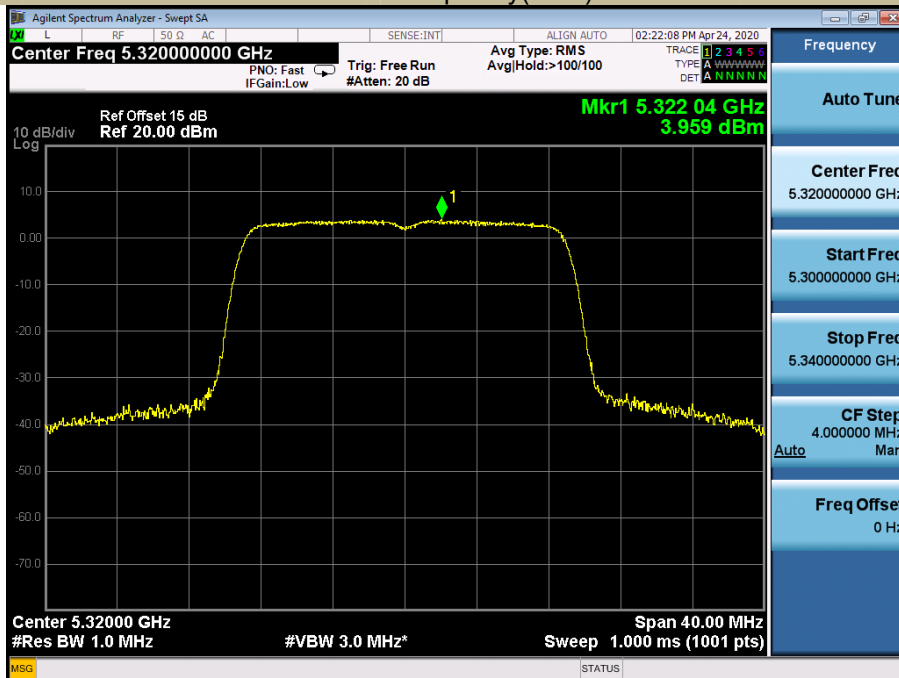
Power Spectral Density Test Model 802.11n-HT20 U-NII – 2A Frequency(MHz) 5260



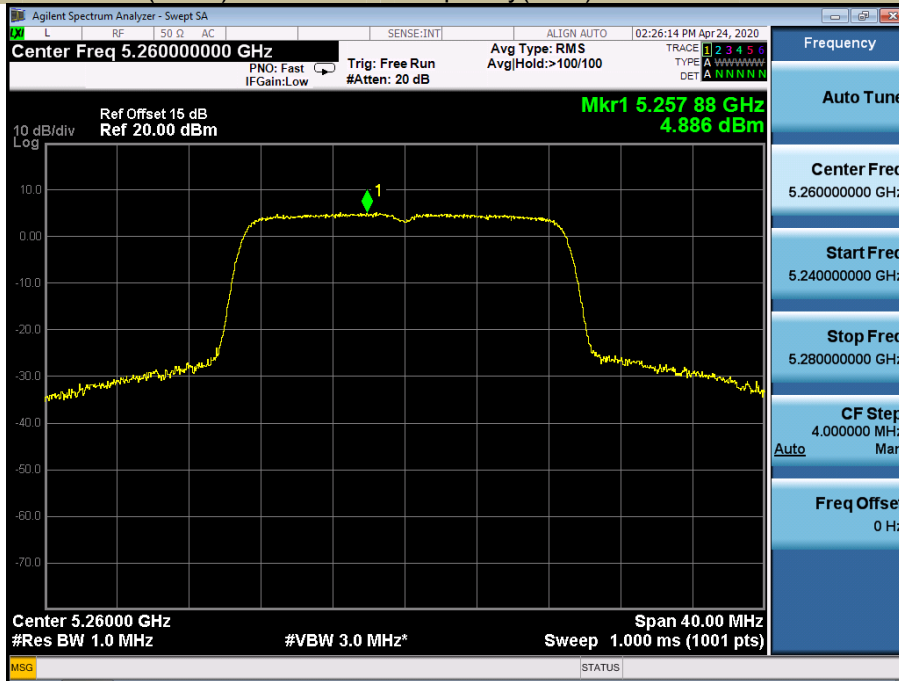
Power Spectral Density U-NII – 2A
 Test Model 802.11n-HT20 Frequency(MHz) 5280



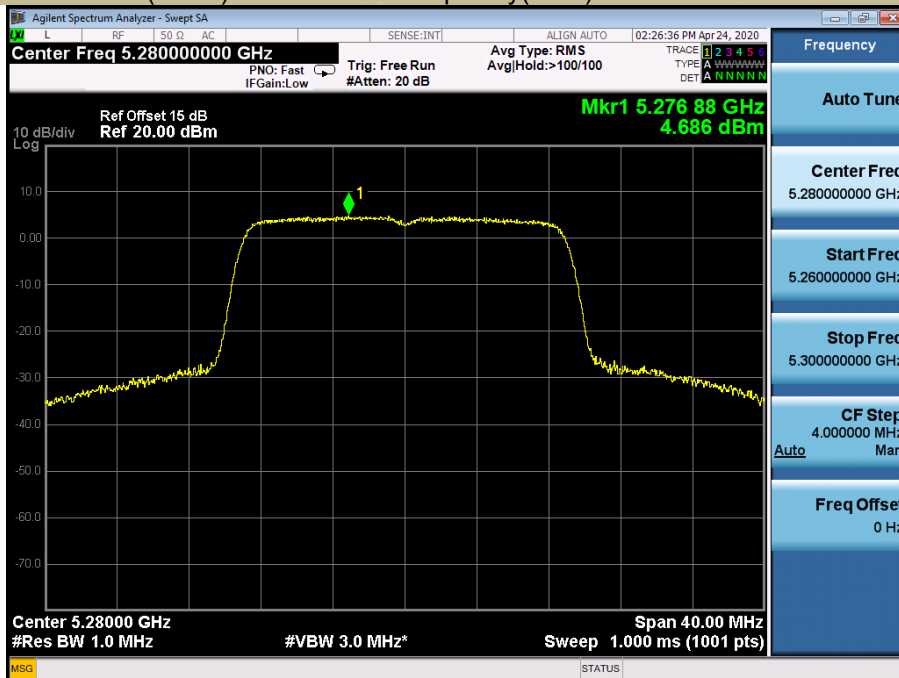
Power Spectral Density U-NII – 2A
 Test Model 802.11n-HT20 Frequency(MHz) 5320



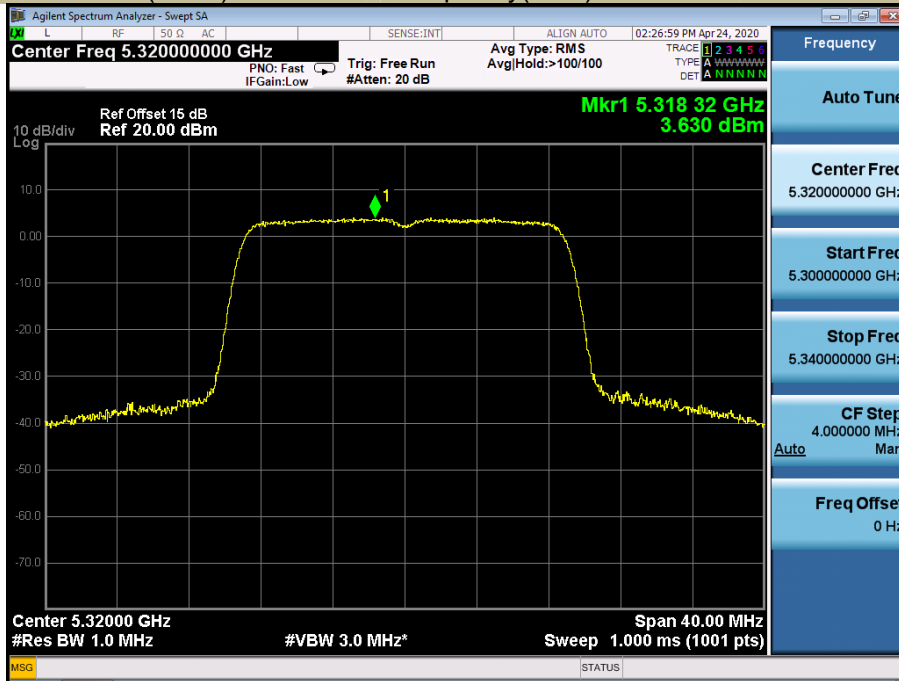
Power Spectral Density U-NII – 2A
 Test Model 802.11ac(HT20) Frequency(MHz) 5260



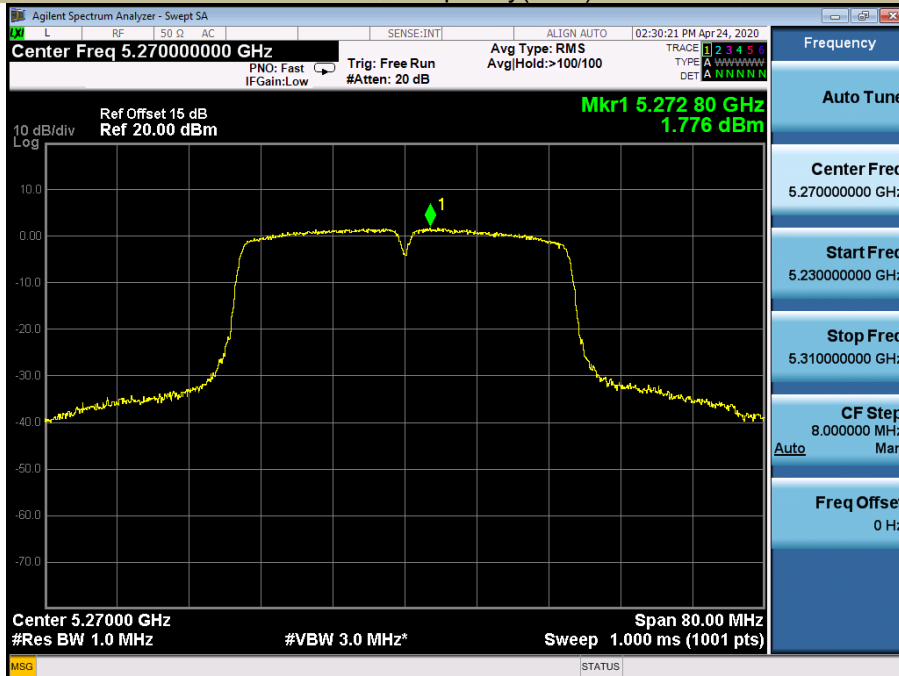
Power Spectral Density U-NII – 2A
 Test Model 802.11ac(HT20) Frequency(MHz) 5280



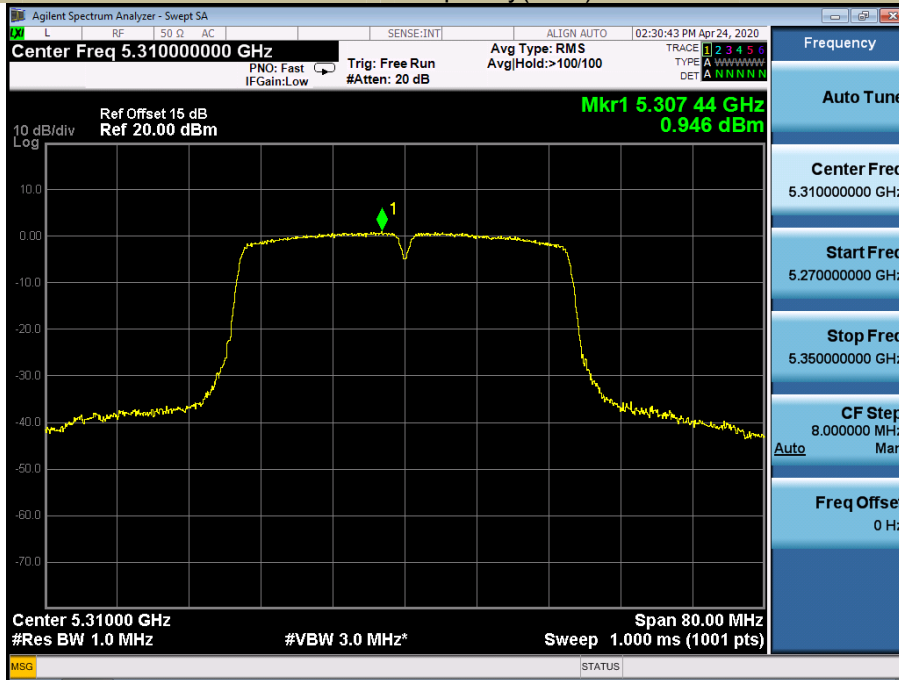
Power Spectral Density U-NII – 2A
 Test Model 802.11ac(HT20) Frequency(MHz) 5320



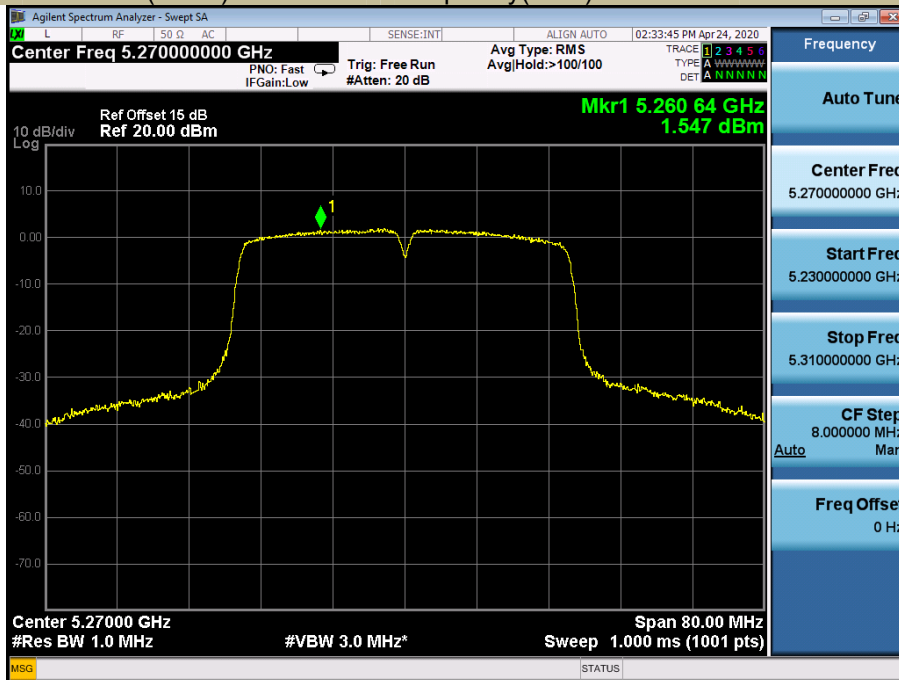
Power Spectral Density U-NII – 2A
 Test Model 802.11n-HT40 Frequency(MHz) 5270



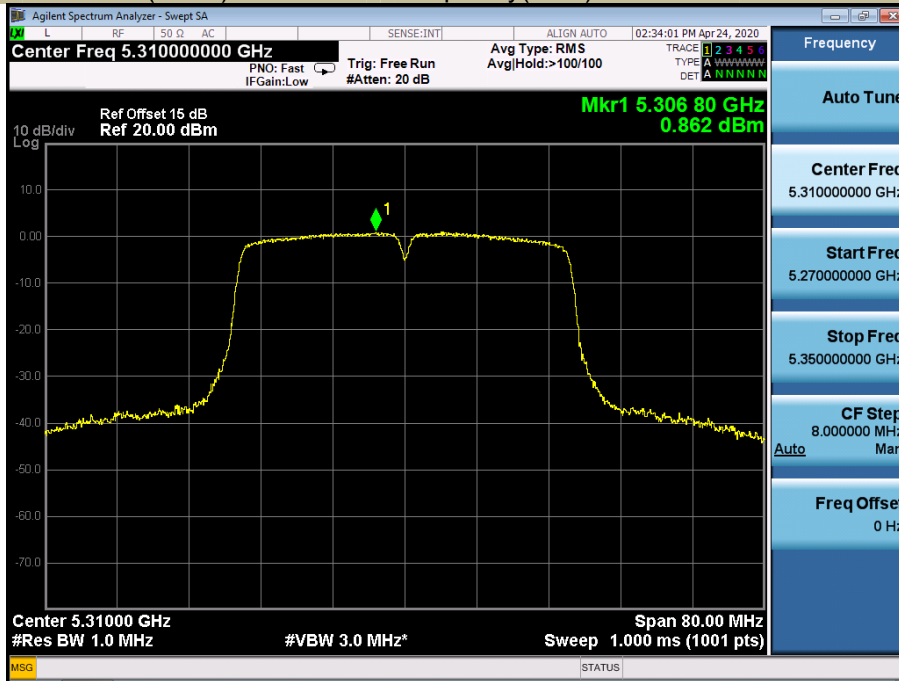
Power Spectral Density U-NII – 2A
 Test Model 802.11n-HT40 Frequency(MHz) 5310



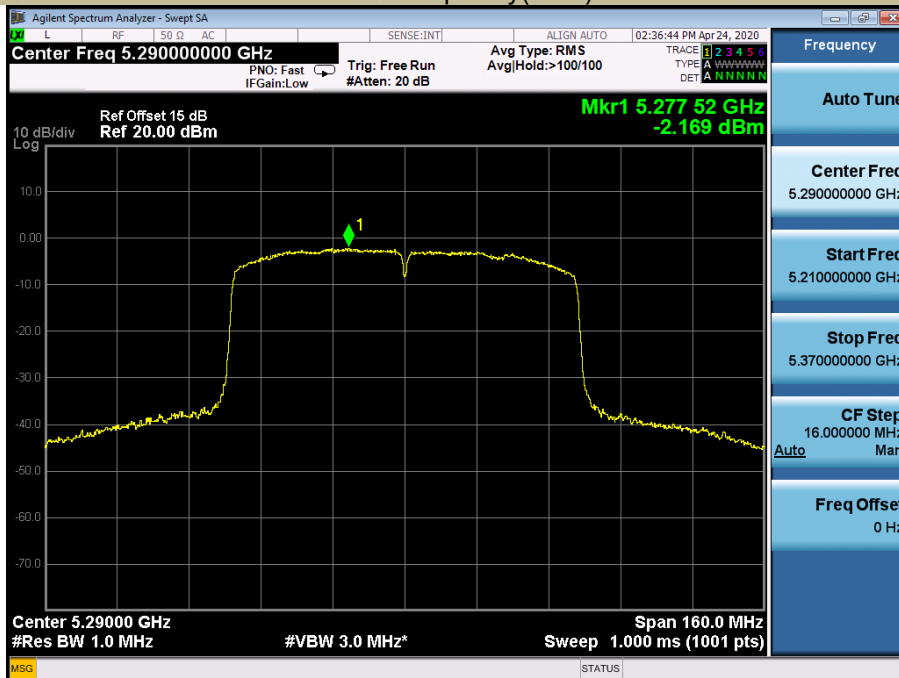
Power Spectral Density U-NII – 2A
 Test Model 802.11ac(HT40) Frequency(MHz) 5270



Power Spectral Density U-NII – 2A
 Test Model 802.11ac(HT40) Frequency(MHz) 5310



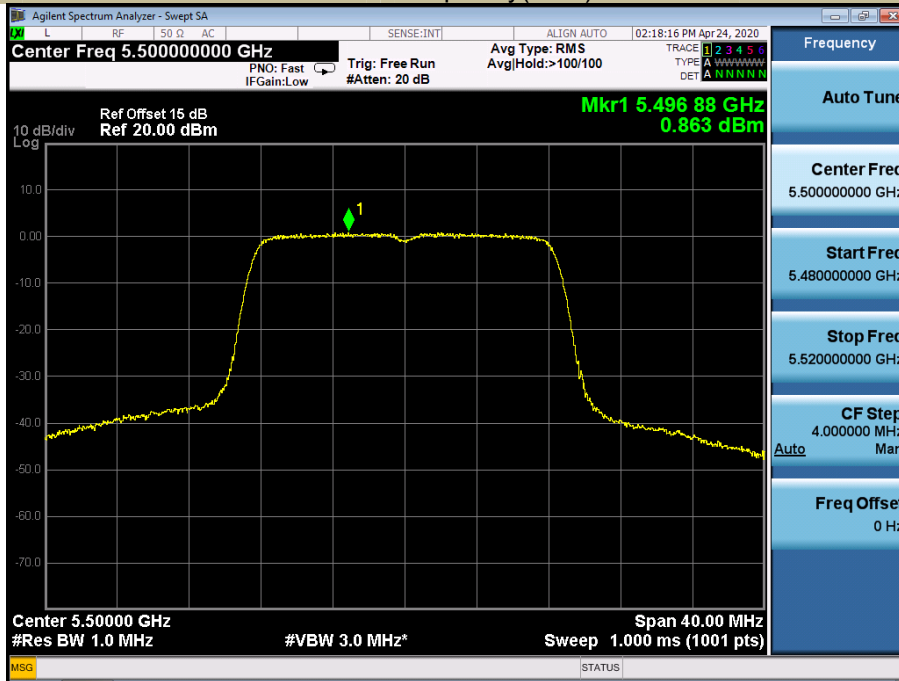
Power Spectral Density U-NII – 2A
 Test Model 802.11ac 80 Frequency(MHz) 5290



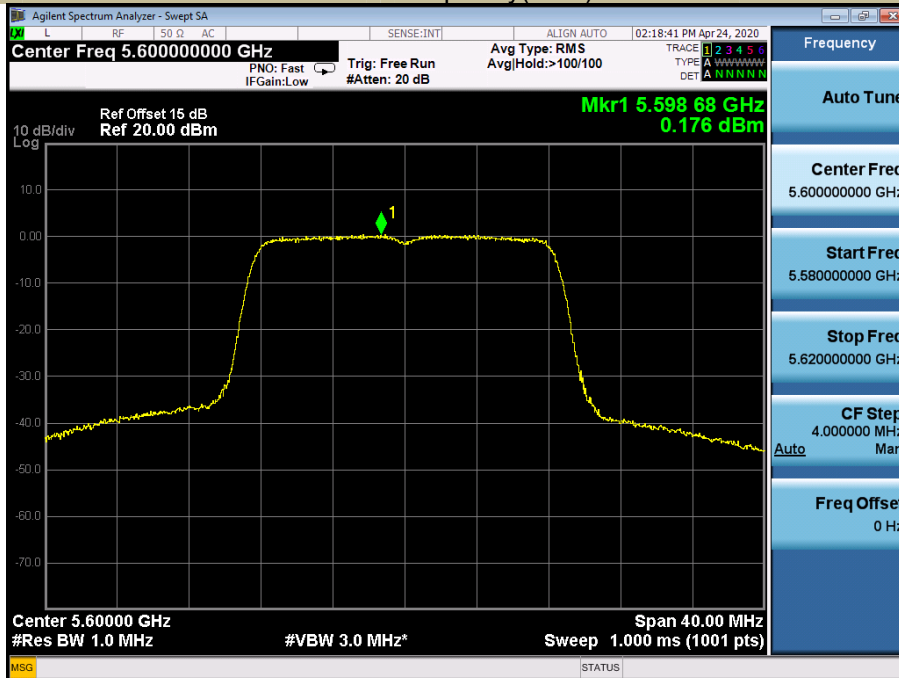
Antenna 0
 5470-5725MHz

Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5500	0.863	11
	5600	0.176	11
	5700	0.395	11
802.11n-HT20	5500	0.184	11
	5600	-0.188	11
	5700	-0.221	11
802.11ac(VHT20)	5500	0.296	11
	5600	-0.119	11
	5700	0.099	11
802.11n-HT40	5510	-2.290	11
	5590	-3.009	11
	5670	-2.962	11
802.11ac(VHT40)	5510	-2.081	11
	5590	-2.882	11
	5670	-3.059	11
802.11ac(VHT80)	5530	-4.852	11
	5610	-5.773	11

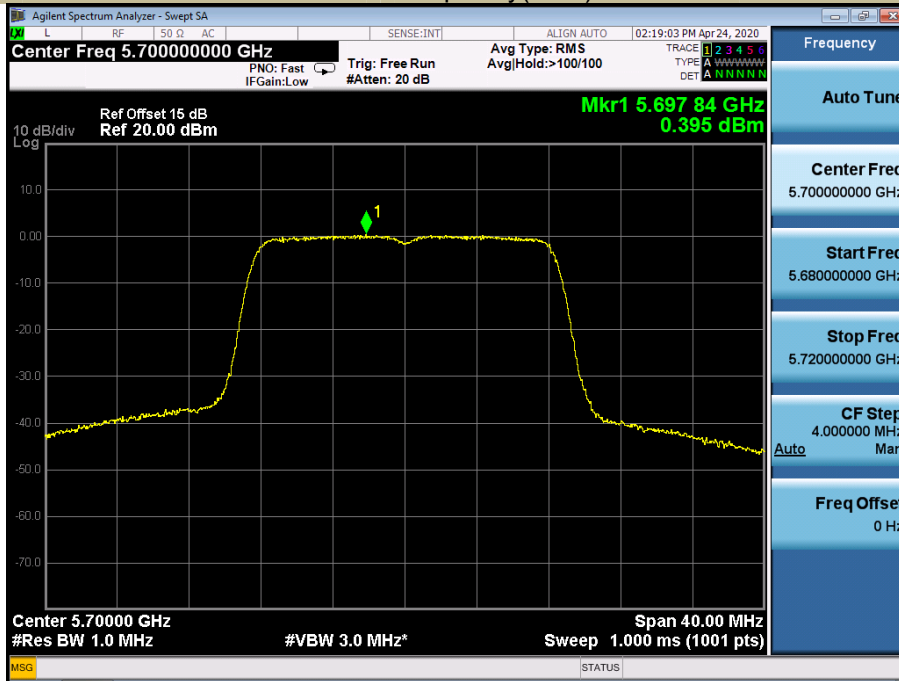
Power Spectral Density U-NII – 2C
 Test Model 802.11a Frequency(MHz) 5500



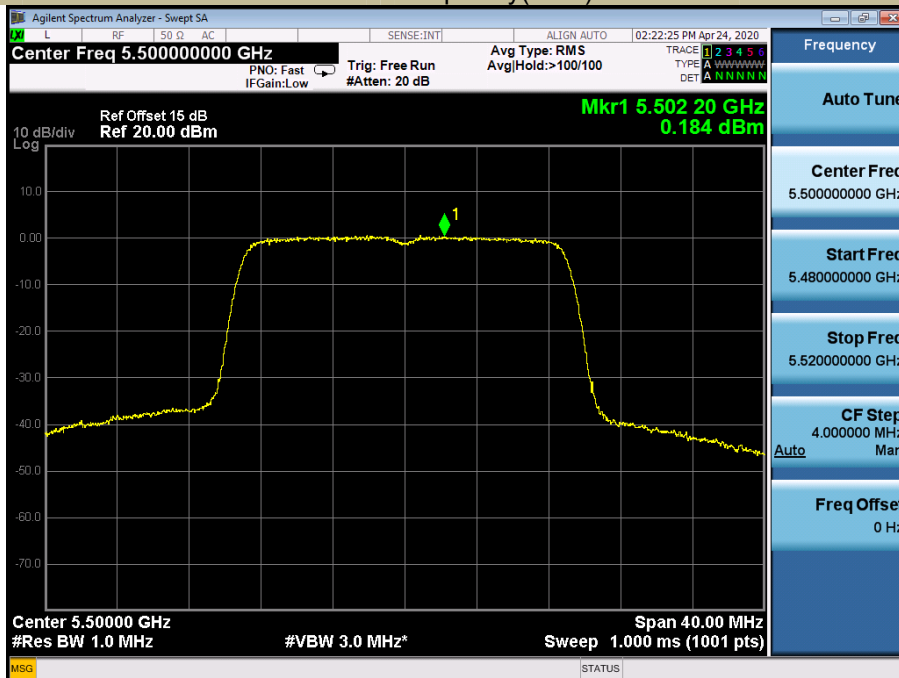
Power Spectral Density U-NII – 2C
 Test Model 802.11a Frequency(MHz) 5600



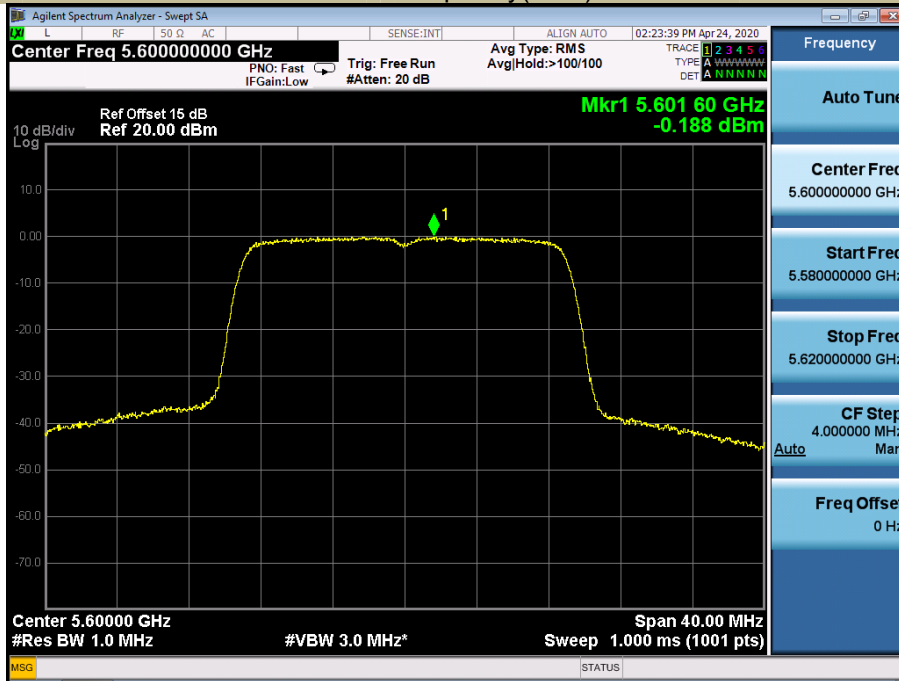
Power Spectral Density U-NII – 2C
 Test Model 802.11a Frequency(MHz) 5700



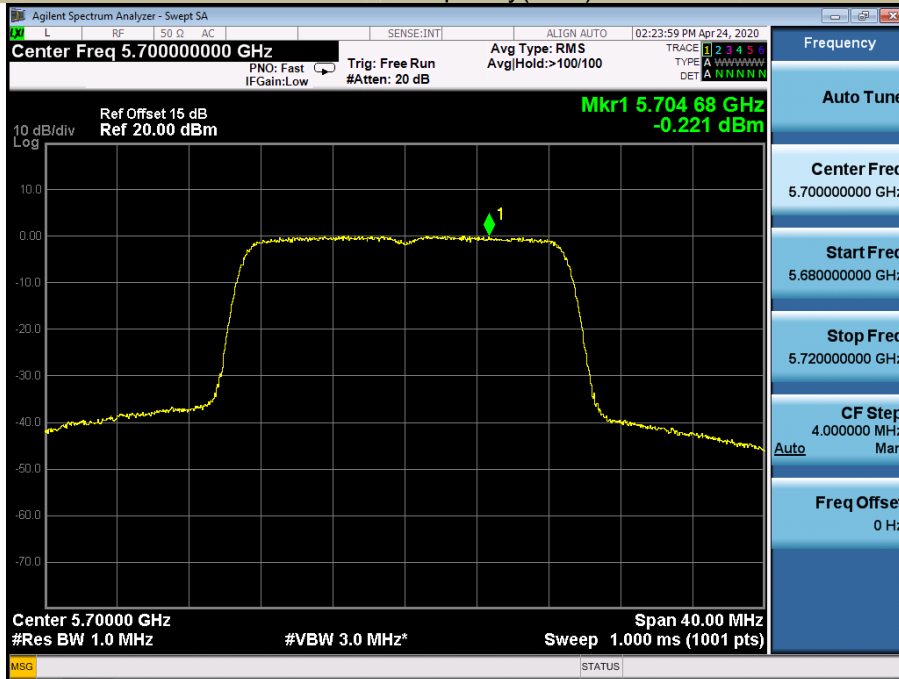
Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT20 Frequency(MHz) 5500



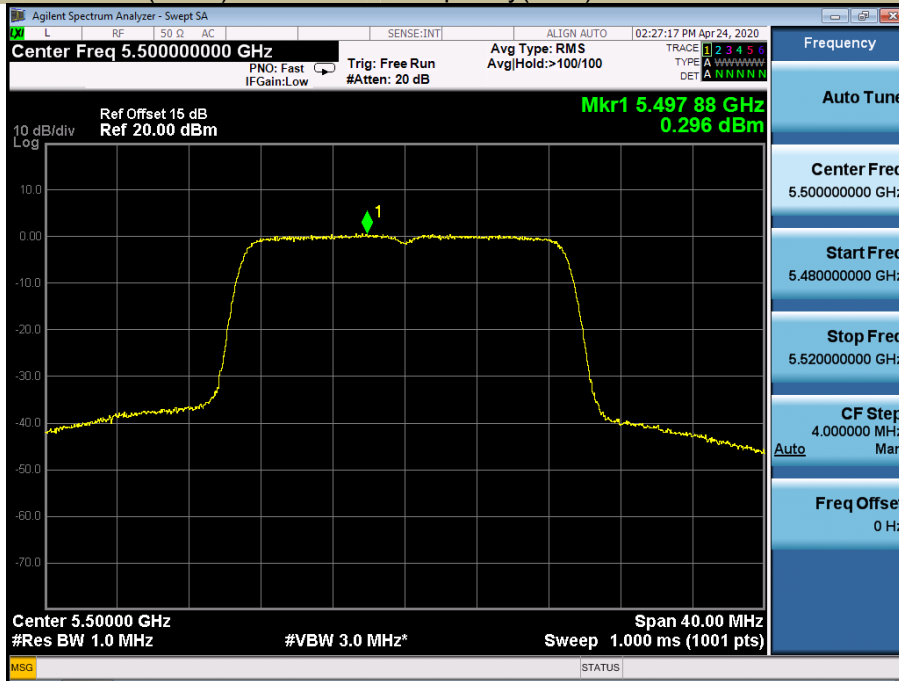
Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT20 Frequency(MHz) 5600



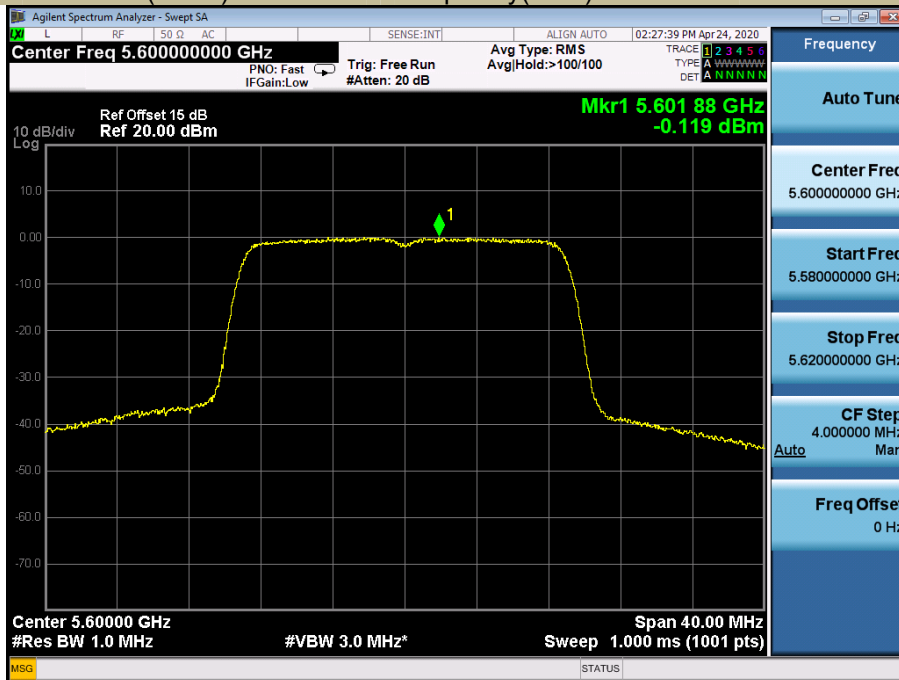
Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT20 Frequency(MHz) 5700



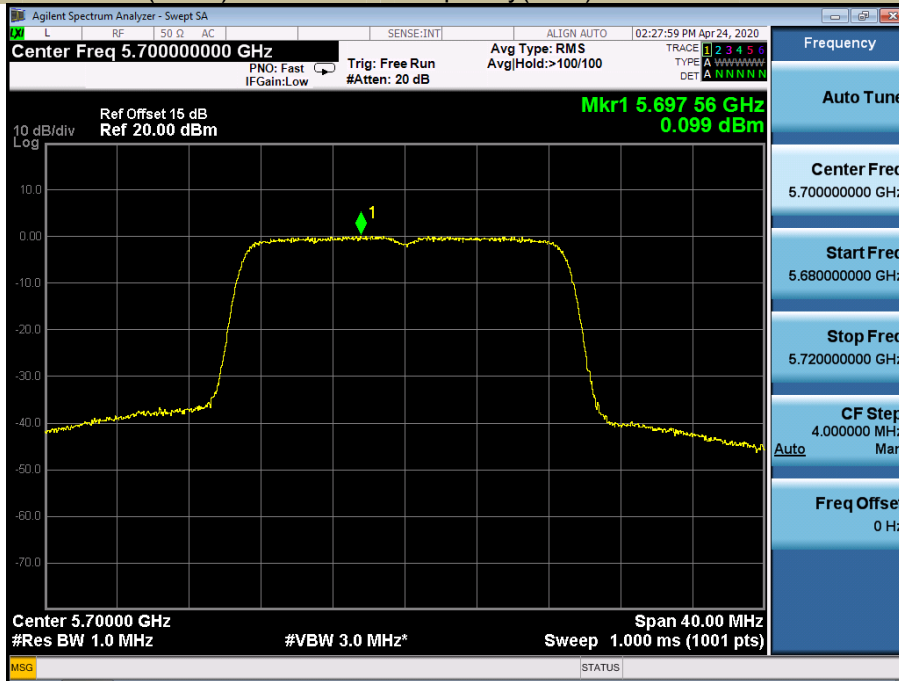
Power Spectral Density U-NII – 2C
 Test Model 802.11ac(HT20) Frequency(MHz) 5500



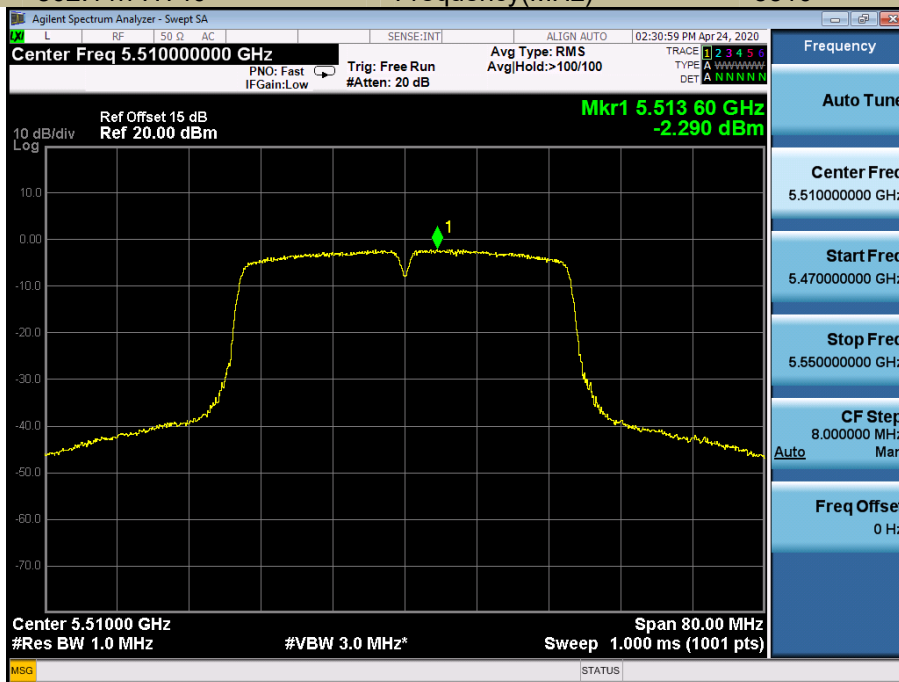
Power Spectral Density U-NII – 2C
 Test Model 802.11ac(HT20) Frequency(MHz) 5600



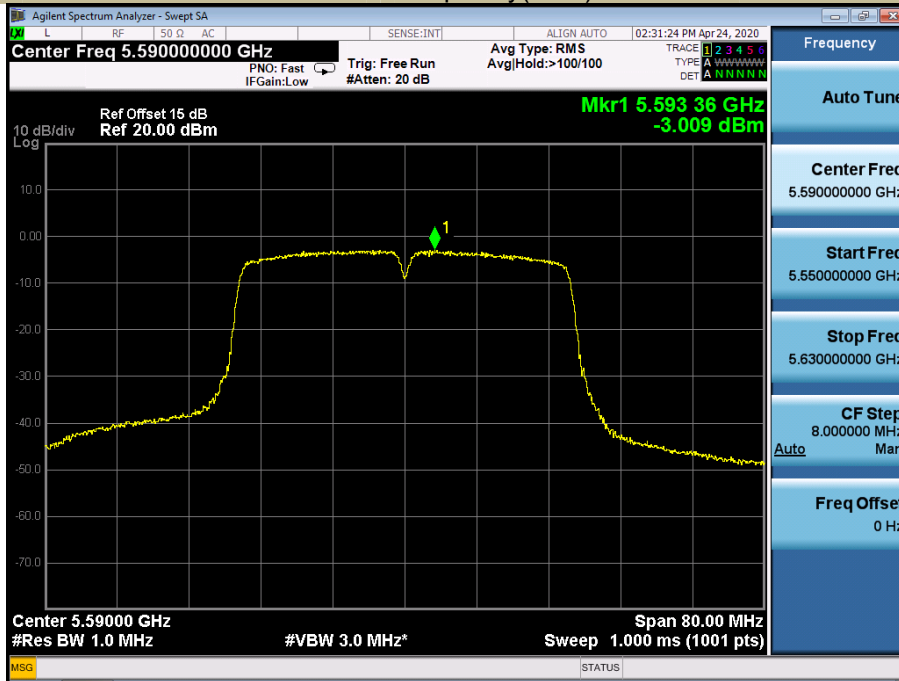
Power Spectral Density U-NII – 2C
 Test Model 802.11ac(HT20) Frequency(MHz) 5700



Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT40 Frequency(MHz) 5510



Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT40 Frequency(MHz) 5590



Power Spectral Density U-NII – 2C
 Test Model 802.11n-HT40 Frequency(MHz) 5670

