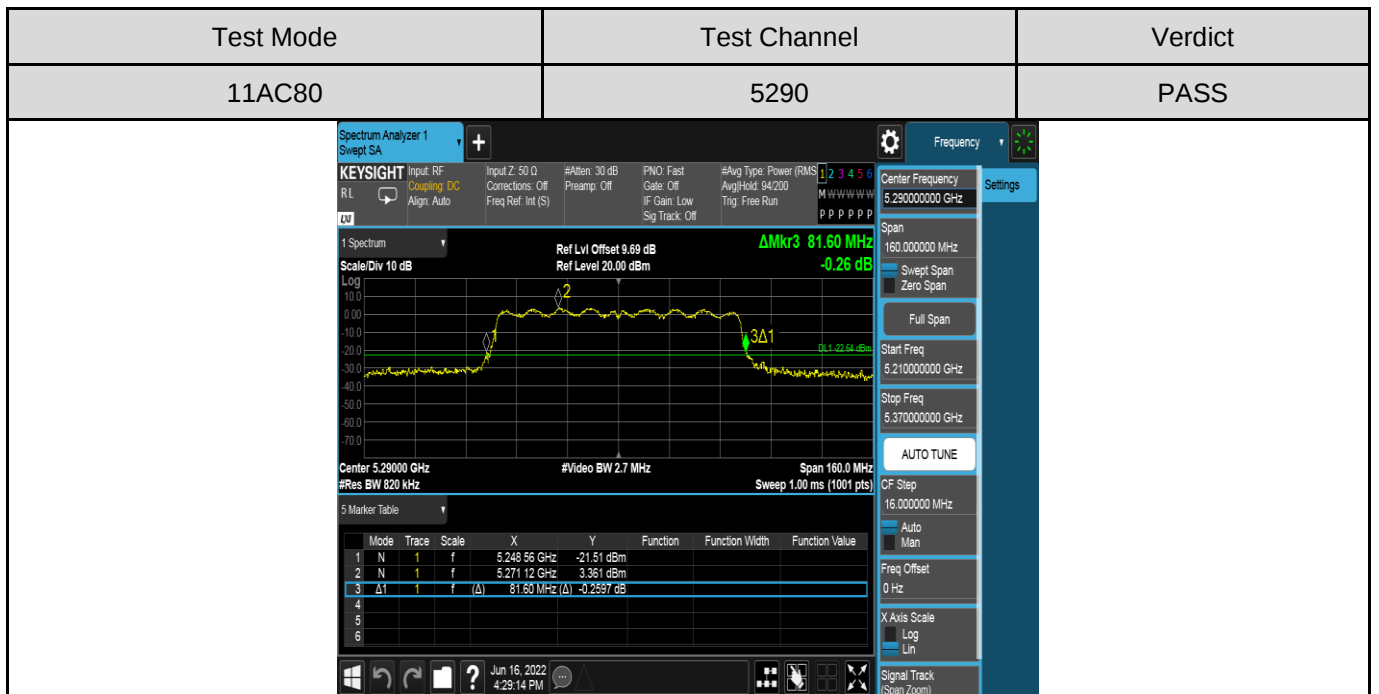
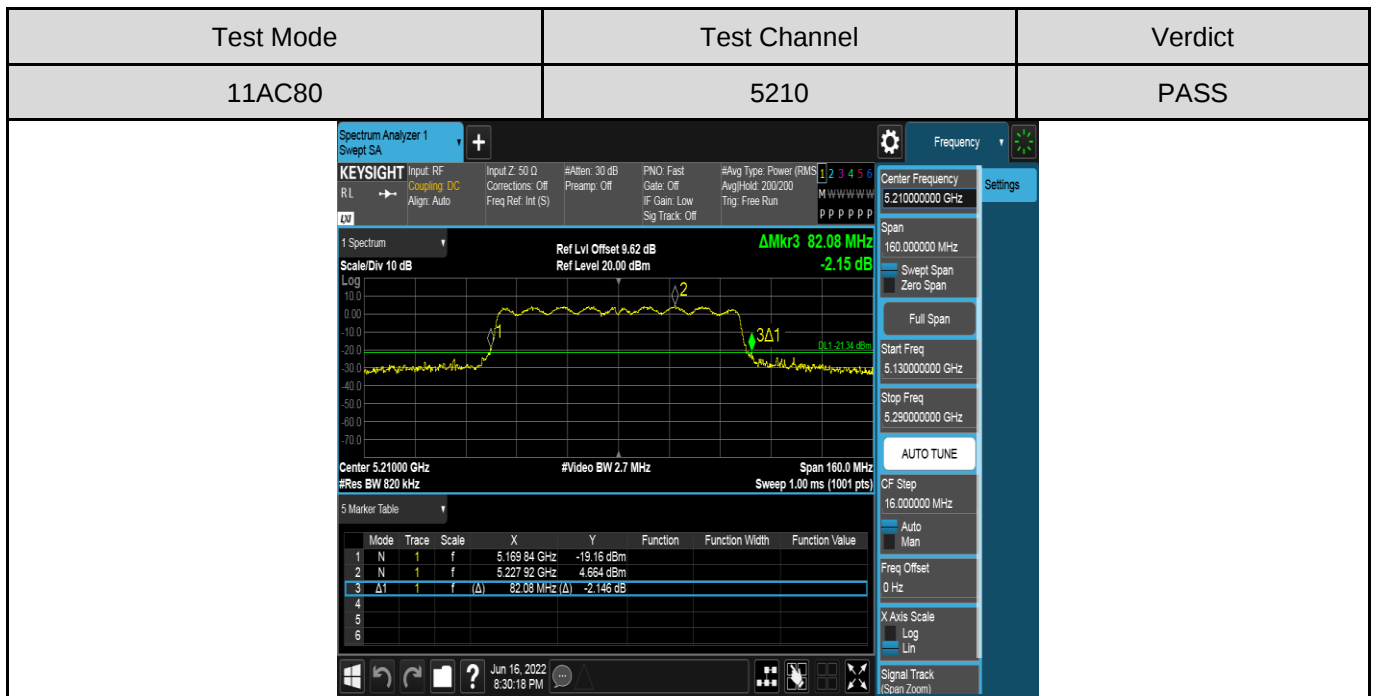
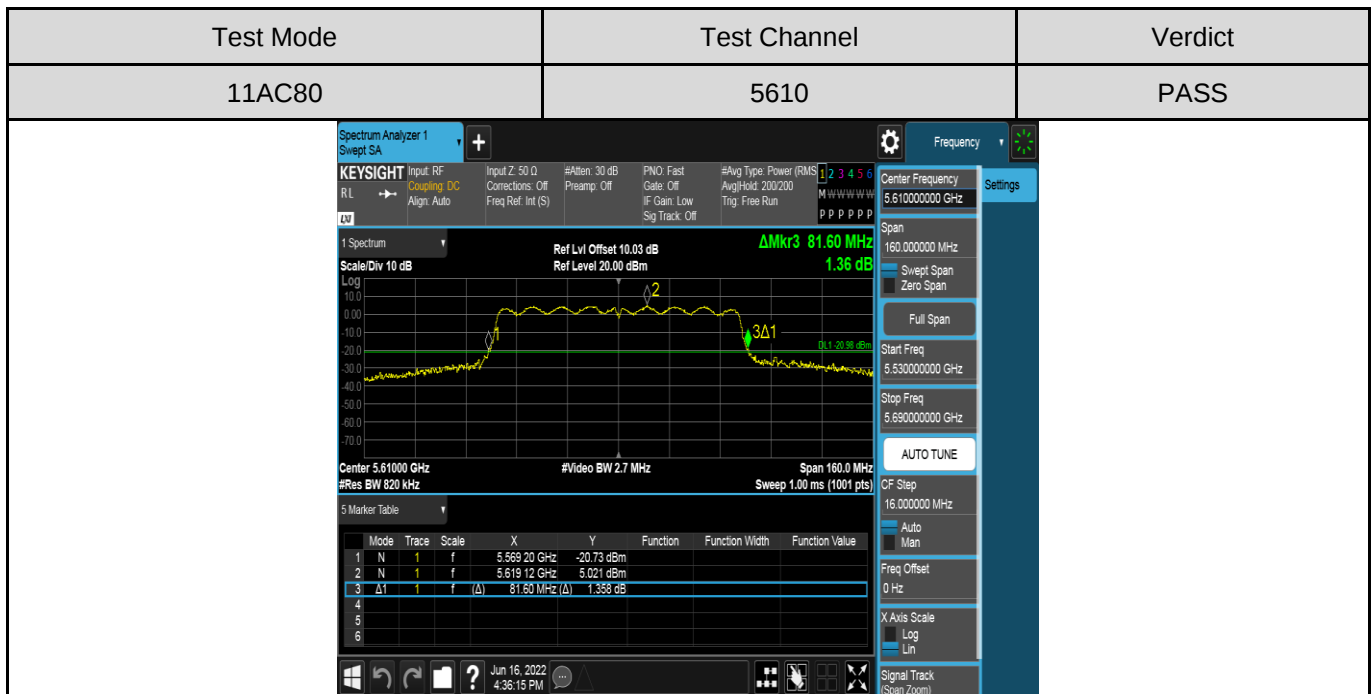
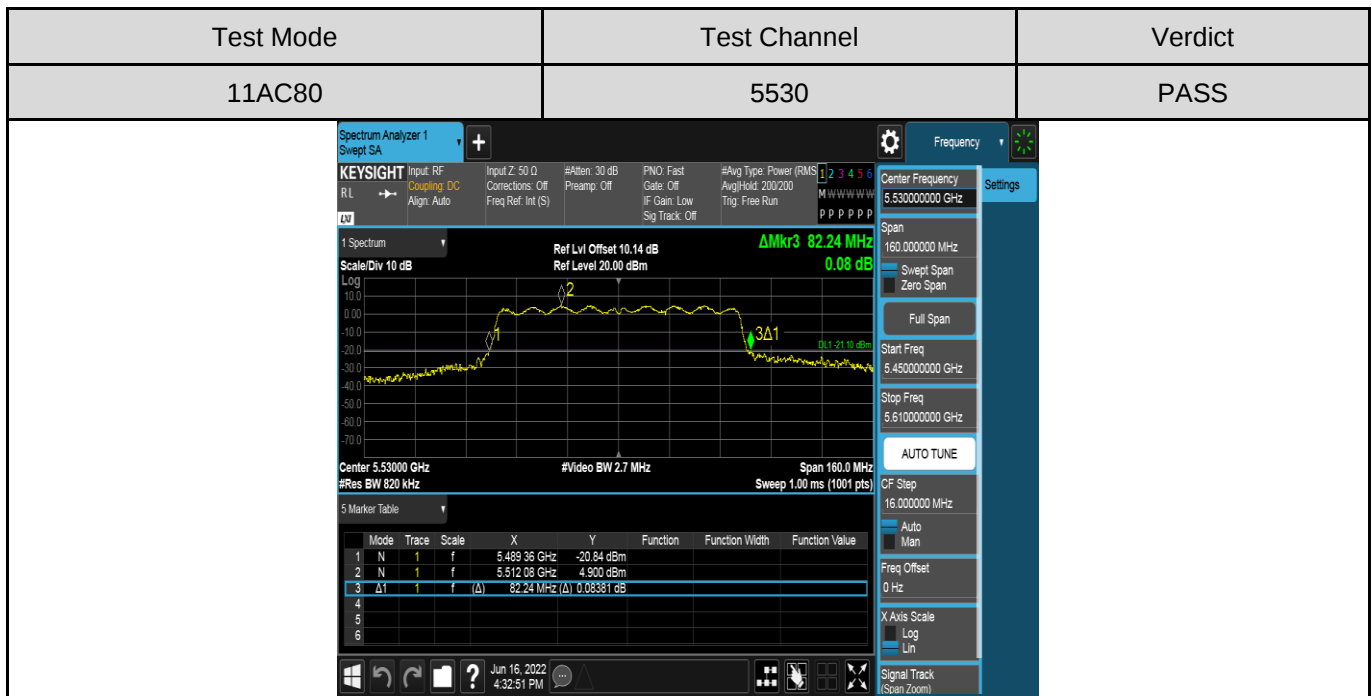
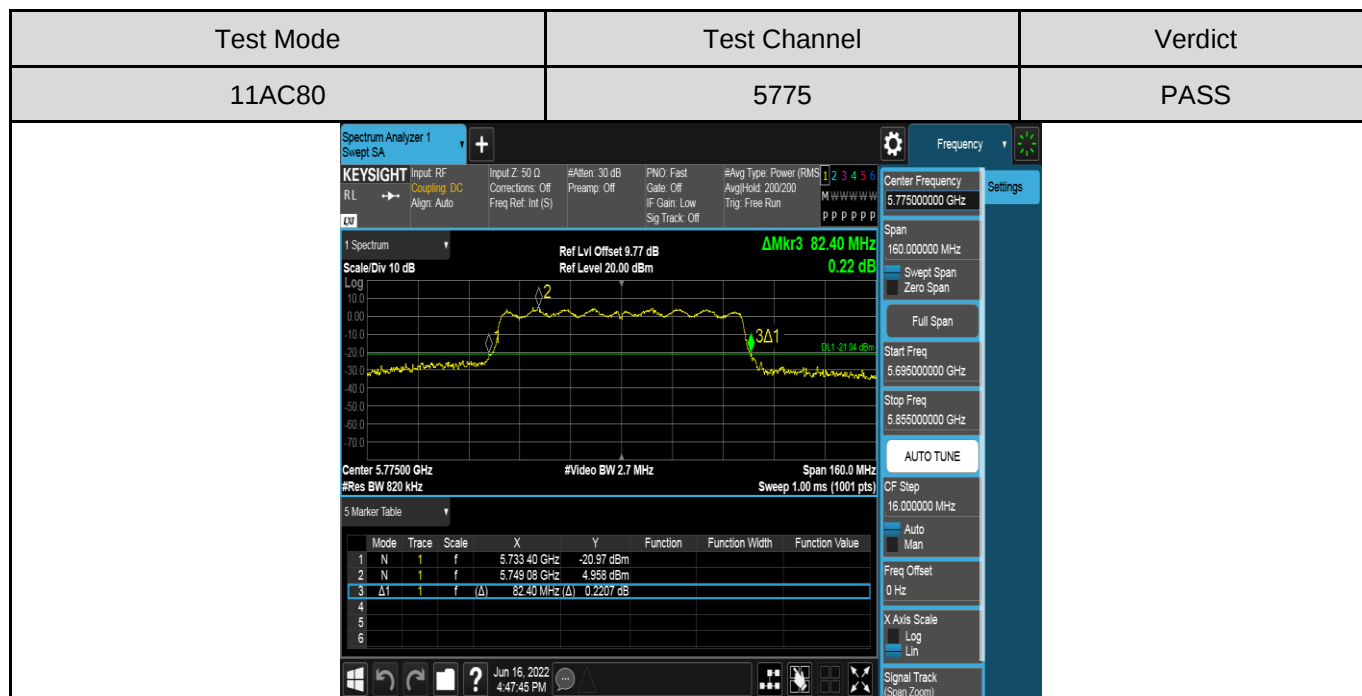
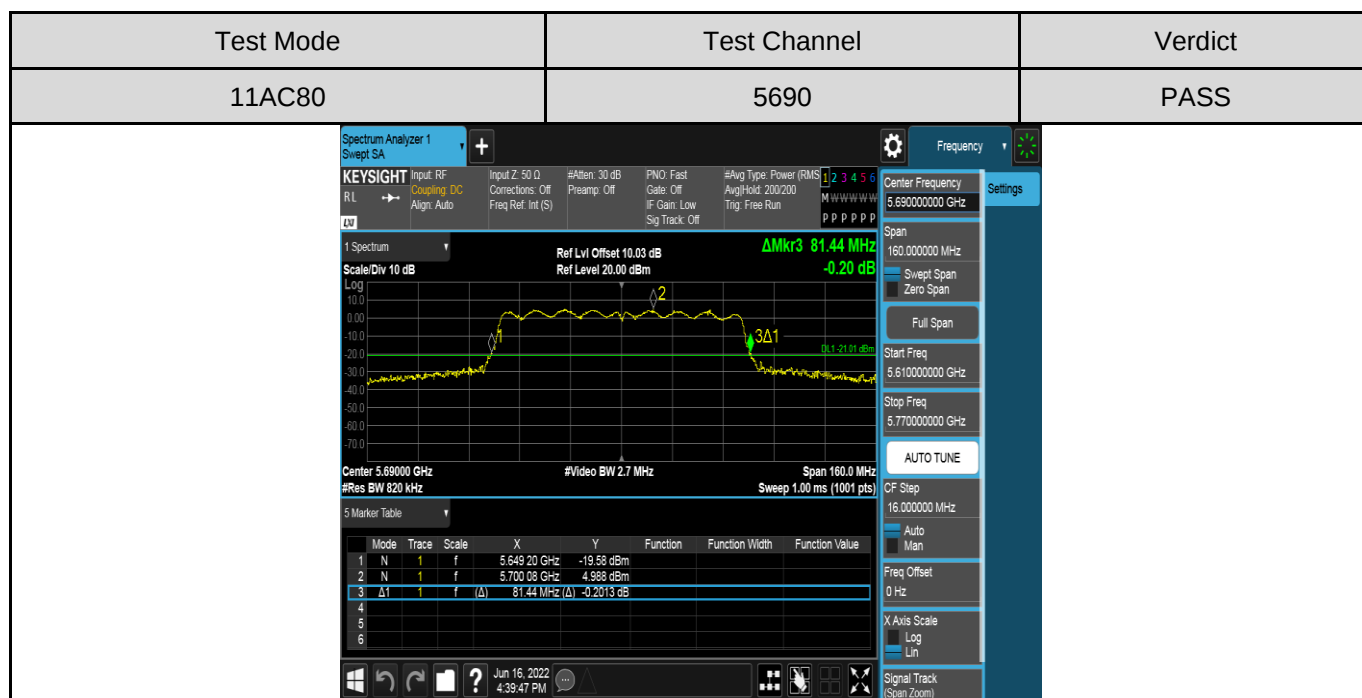
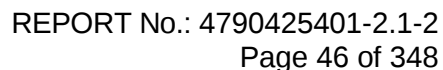






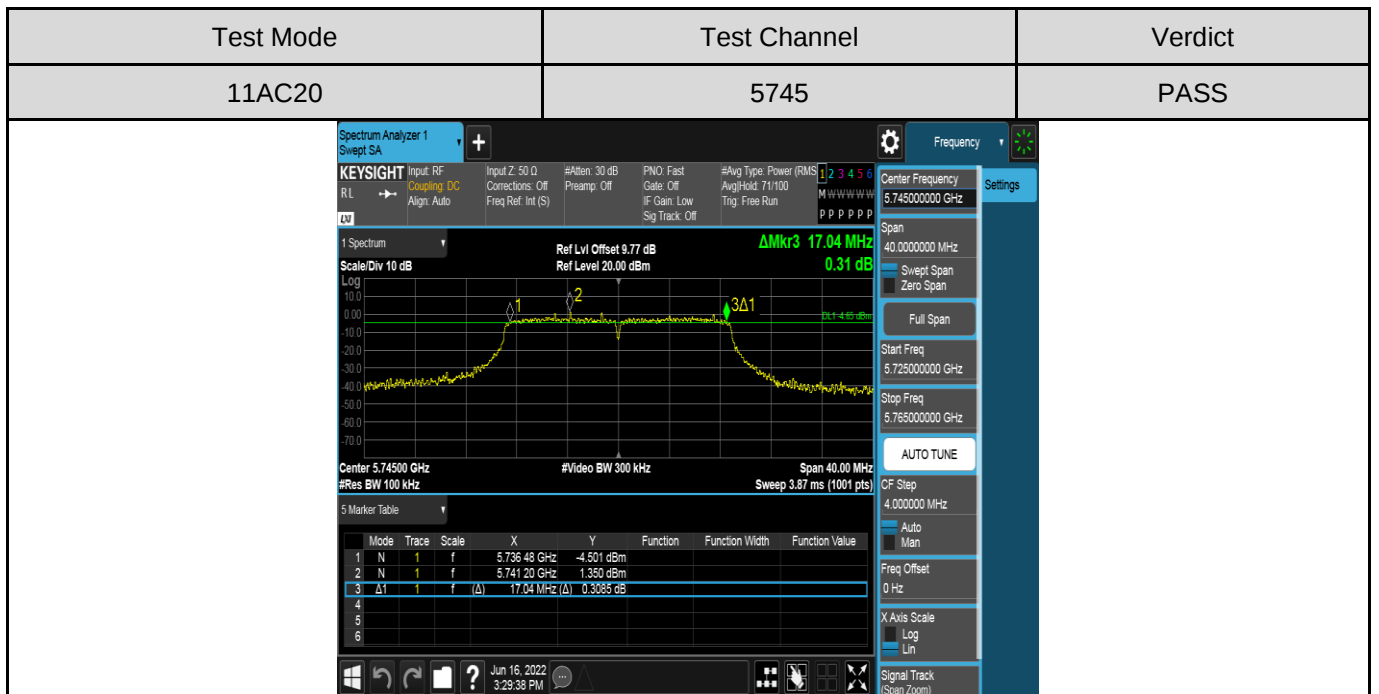
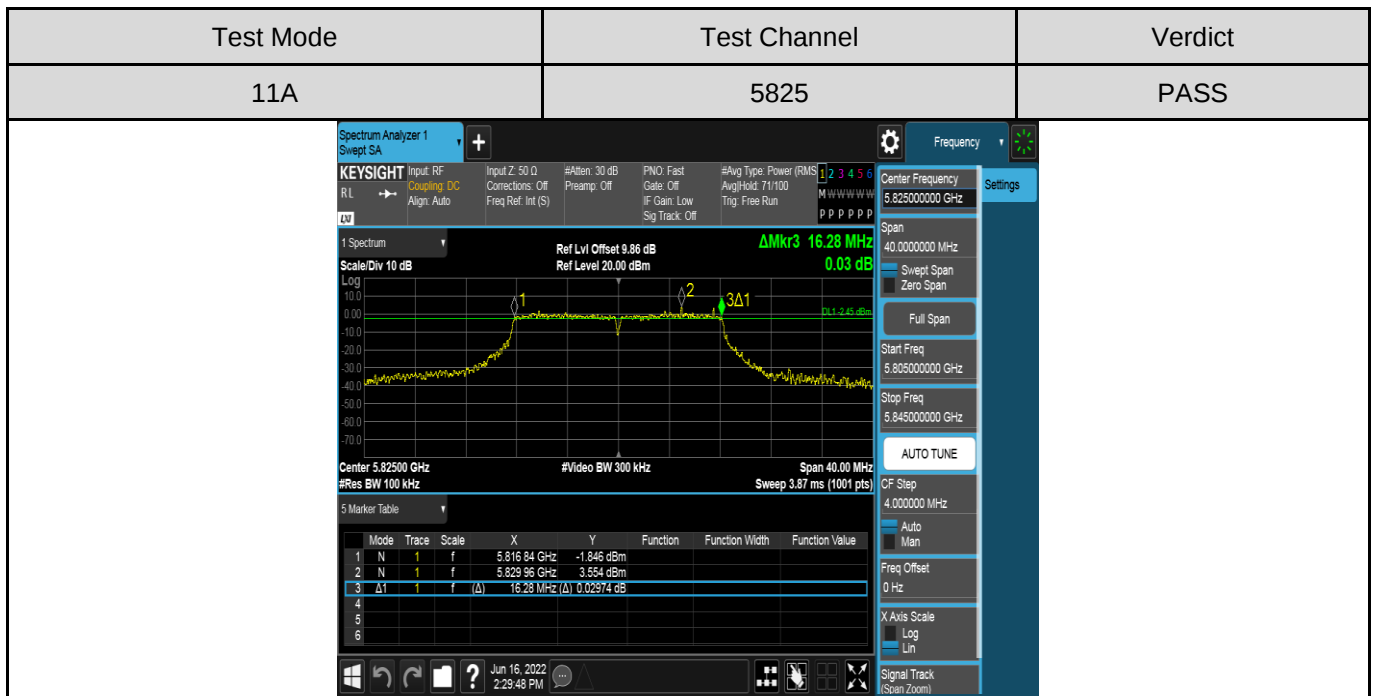


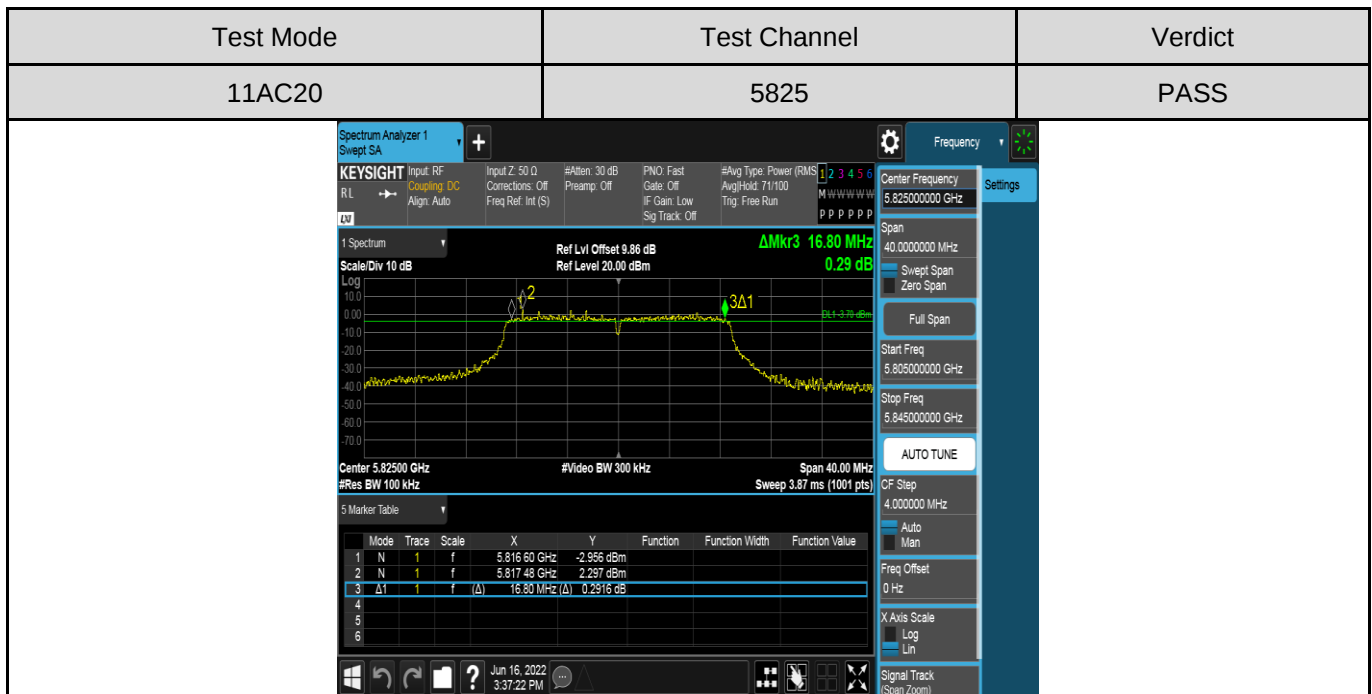
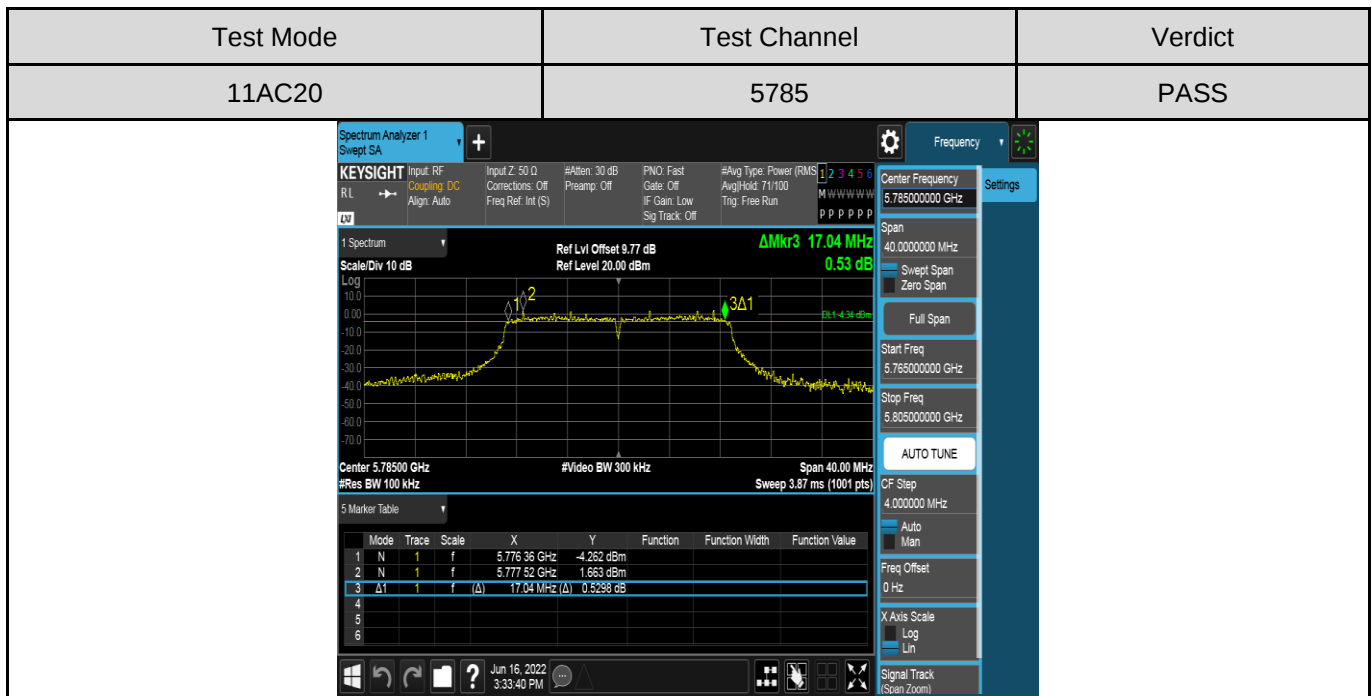


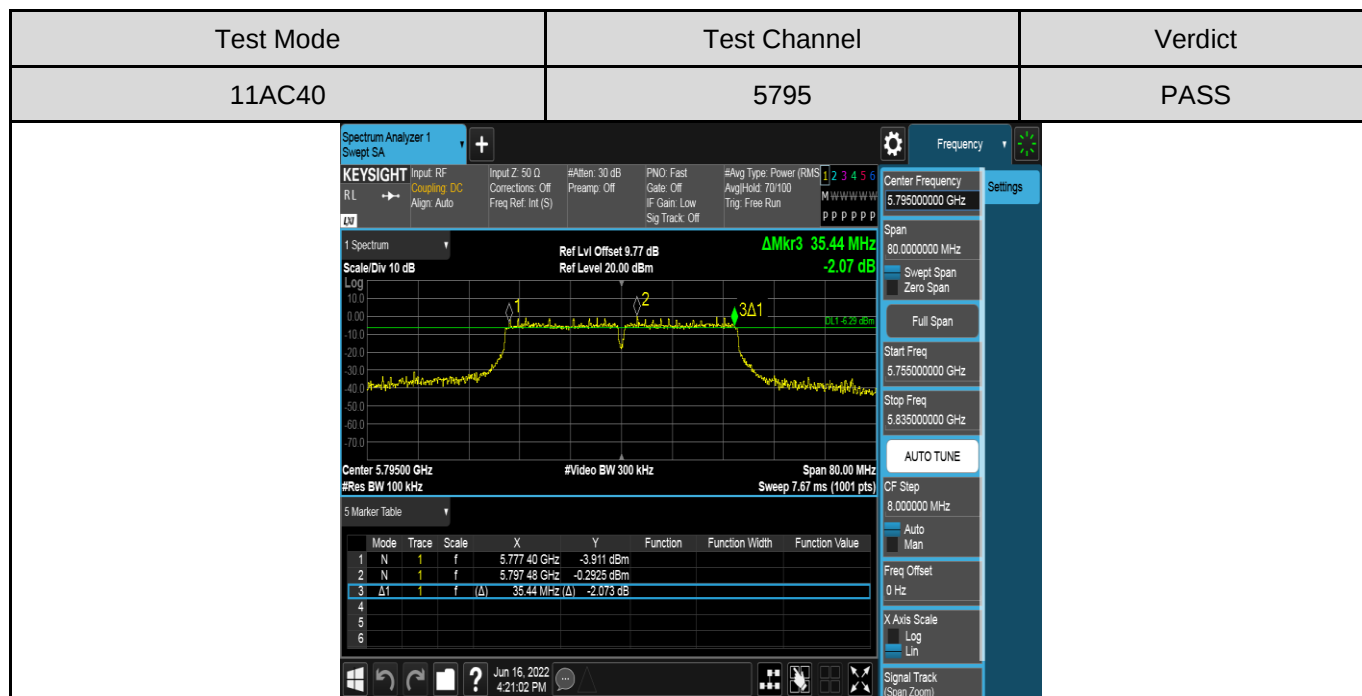
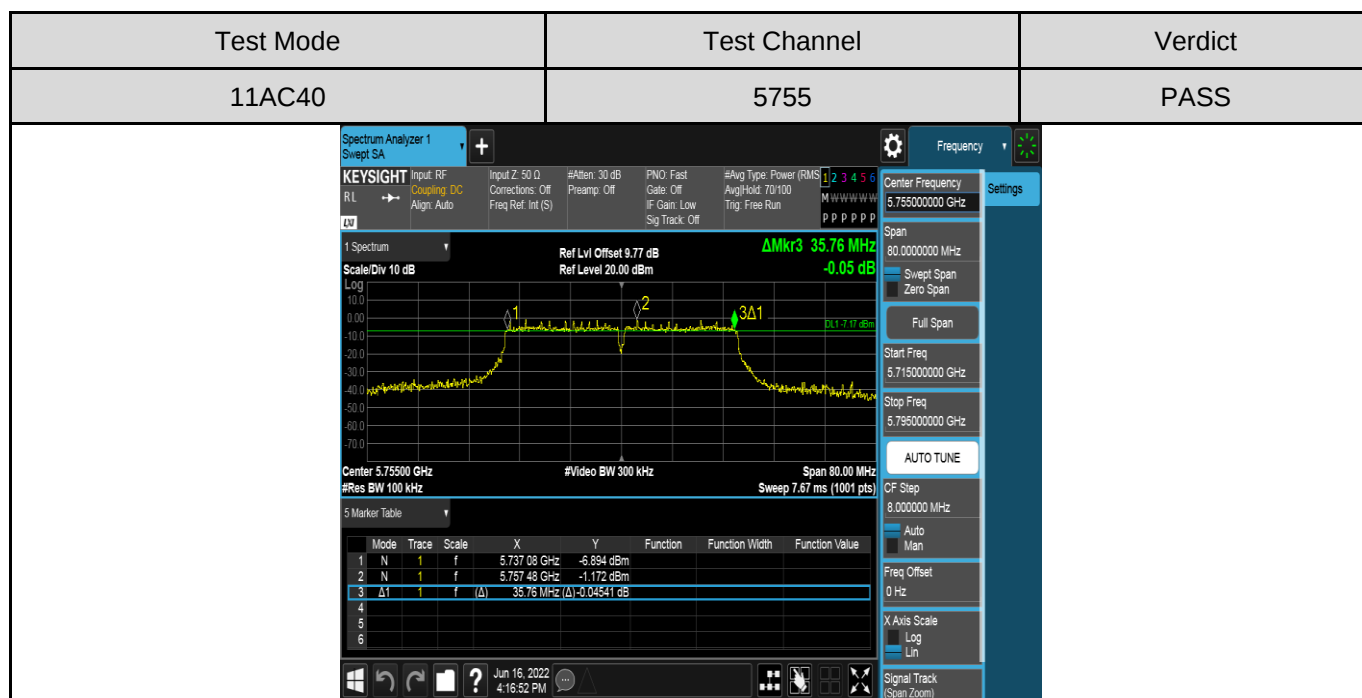
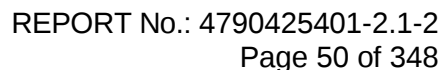
For 6 dB Emission Bandwidth Part:

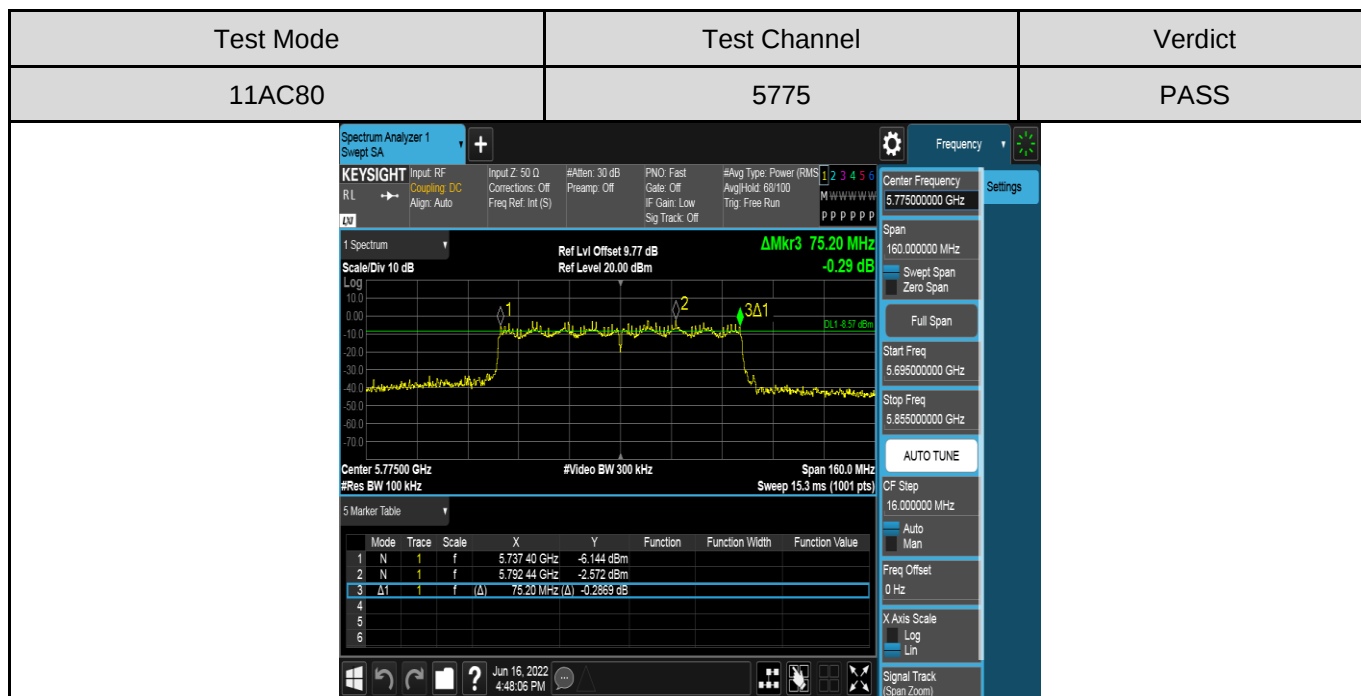
Test Mode	Test Channel	Verdict
11A	5745	PASS

Test Mode	Test Channel	Verdict
11A	5785	PASS











6.4. MAXIMUM CONDUCTED AVERAGE OUTPUT POWER

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm) ☐ Indoor Access Point: 1 W (30 dBm) ☐ Fixed Point-To-Point Access Points: 1 W (30 dBm) ☒ Client Devices: 250 mW (24 dBm)	5150 ~ 5250
	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250 ~ 5350 5470 ~ 5725
	Shall not exceed 1 Watt (30 dBm).	5725 ~ 5850

Remark:

The above limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.E.

Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):

- (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (ii) Set RBW = 1 MHz.
- (iii) Set VBW $\geq$ 3 MHz.
- (iv) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- (v) Sweep time = auto.
- (vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
- (vii) If transmit duty cycle $< 98\%$, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."
- (viii) Trace average at least 100 traces in power averaging (rms) mode.
- (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

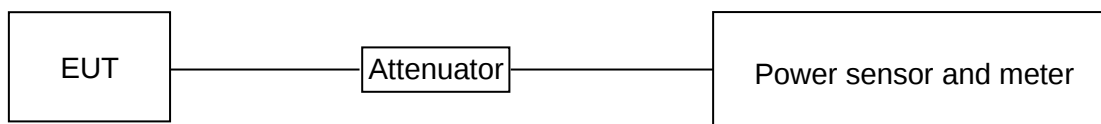
Method PM (Measurement using an RF average power meter):

- (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
 - a. The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
 - b. At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
 - c. The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- (ii) If the transmitter does not transmit continuously, measure the duty cycle, x , of the transmitter output signal as described in II.B.
- (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- (iv) Adjust the measurement in dBm by adding $10 \log (1/x)$ where x is the duty cycle (e.g., $10 \log (1/0.25)$ if the duty cycle is 25 %).

Straddle channel power was measured using spectrum analyzer.



TEST SETUP



TEST RESULT TABLE

Mode	Frequency (MHz)	Average Conducted Output Power (dBm)	Correct Factor (dB)	Final Output Power (dBm)		Total	FCC Conducted Power Limit (dBm)
		ANT 1		ANT 1	ANT 2		
802.11a	5180	15.06	0.26	15.32	/	/	24.00
	5200	14.59	0.26	14.85	/	/	24.00
	5240	14.46	0.26	14.72	/	/	24.00
	5260	14.59	0.26	14.85	/	/	23.55
	5280	14.58	0.26	14.84	/	/	23.55
	5320	14.05	0.26	14.31	/	/	23.55
	5500	15.79	0.26	16.05	/	/	23.55
	5580	15.02	0.26	15.28	/	/	23.55
	5700	14.56	0.26	14.82	/	/	23.55
	5720_UNII-2C	12.68	0.26	12.94	/	/	23.55
	5720_UNII-3	6.43	0.26	6.69	/	/	30.00
	5745	13.54	0.26	13.80	/	/	30.00
	5785	14.12	0.26	14.38	/	/	30.00
	5825	14.39	0.26	14.65	/	/	30.00

- Remark: 1. Only the antenna1 can transmit at the 11a mode.
2. Average EIRP = Average Conducted Output Power + Antenna gain/Directional gain.
3. The test results have already included the duty cycle correction factor. About correction Factor please refer to section 6.2.
4. MIMO mode use the same power setting, only the worst EIRP data was recorded in the report, for more about the antenna gain/directional gain, please refer to clause 5.4.



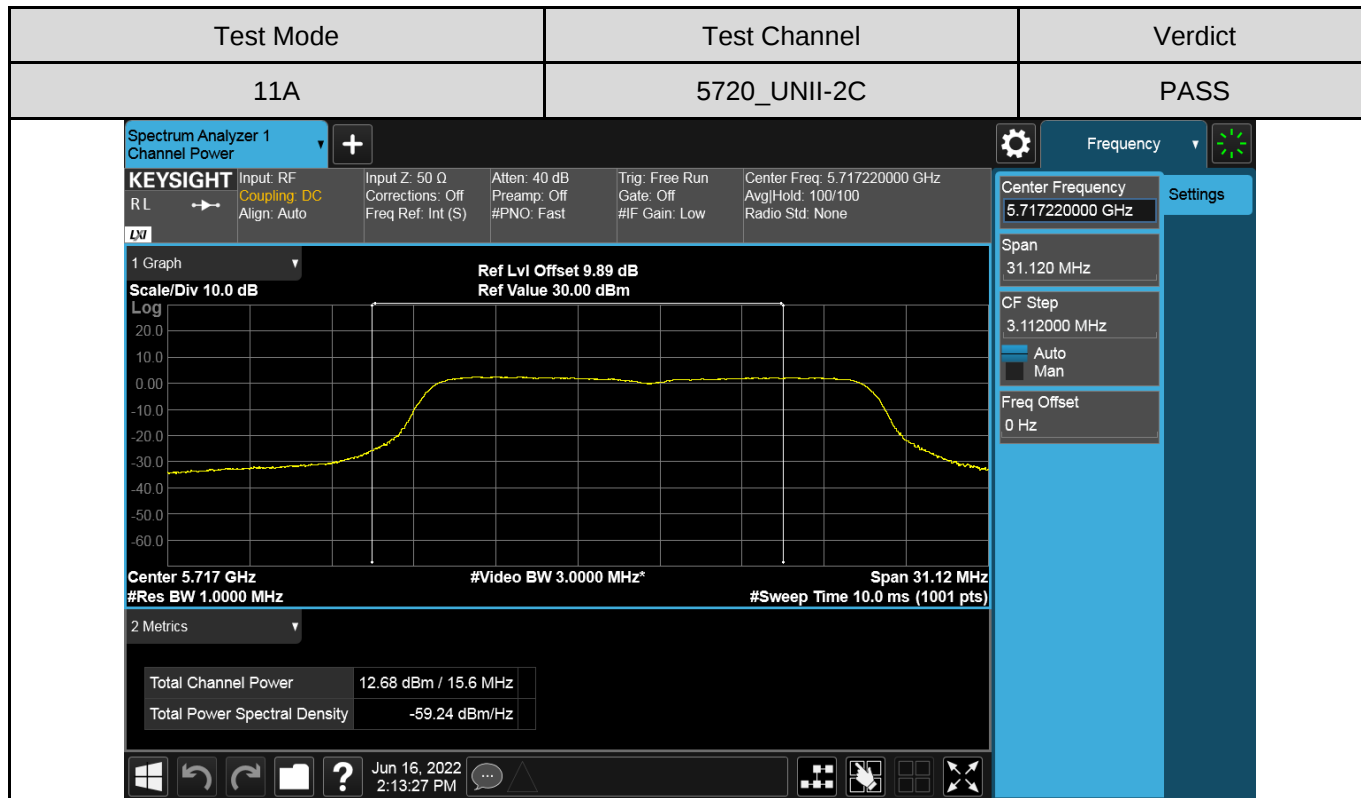
Mode	Frequency (MHz)	Average Conducted Output Power (dBm)		Correct Factor (dB)	Final Output Power (dBm)		Total Power (dBm)	FCC Conducted Power Limit (dBm)
		ANT 1	ANT 2		ANT 1	ANT 2		
802.11 ac VHT20 MIMO	5180	13.44	3.77	0.26	13.70	4.03	14.14	24.00
	5200	13.53	2.41	0.26	13.79	2.67	14.11	24.00
	5240	13.52	0.27	0.26	13.78	0.53	13.98	24.00
	5260	13.45	-0.34	0.26	13.71	-0.08	13.89	24.00
	5280	13.57	0.28	0.26	13.83	0.54	14.03	24.00
	5320	13.16	-1.12	0.26	13.42	-0.86	13.58	24.00
	5500	14.96	-1.26	0.26	15.22	-1.00	15.32	24.00
	5580	14.08	-4.02	0.26	14.34	-3.76	14.41	24.00
	5700	13.68	-6.50	0.26	13.94	-6.24	13.98	24.00
	5720_UNII-2C	11.86	-5.92	0.26	12.12	-5.66	12.19	24.00
	5720_UNII-3	5.89	-11.73	0.26	6.15	-11.47	6.22	30.00
	5745	12.64	-6.99	0.26	12.90	-6.73	12.94	30.00
	5785	13.38	-6.99	0.26	13.64	-6.73	13.68	30.00
	5825	13.60	-7.10	0.26	13.86	-6.84	13.90	30.00
802.11 ac VHT40 MIMO	5190	14.28	4.76	0.40	14.68	5.16	15.14	24.00
	5230	14.05	2.70	0.40	14.45	3.10	14.76	24.00
	5270	14.24	1.69	0.40	14.64	2.09	14.87	24.00
	5310	13.69	0.26	0.40	14.09	0.66	14.28	24.00
	5510	15.45	-1.61	0.40	15.85	-1.21	15.93	24.00
	5550	14.39	-1.10	0.40	14.79	-0.70	14.91	24.00
	5670	14.83	-2.29	0.40	15.23	-1.89	15.31	24.00
	5710_UNII-2C	13.28	-3.61	0.40	13.68	-3.21	13.77	24.00
	5710_UNII-3	1.99	-14.40	0.40	2.39	-14.00	2.49	30.00
	5755	13.05	-3.05	0.40	13.45	-2.65	13.56	30.00
	5795	13.88	-4.81	0.40	14.28	-4.41	14.34	30.00
802.11 ac VHT80 MIMO	5210	13.66	4.17	0.61	14.27	4.78	14.73	24.00
	5290	12.96	0.53	0.61	13.57	1.14	13.81	24.00
	5530	14.23	-1.49	0.61	14.84	-0.88	14.95	24.00
	5610	13.91	-2.33	0.61	14.52	-1.72	14.62	24.00
	5690_UNII-2C	13.56	-4.16	0.61	14.17	-3.55	14.24	24.00
	5690_UNII-3	-2.36	-19.14	0.61	-1.75	-18.53	-1.66	30.00
	5775	12.56	-4.75	0.61	13.17	-4.14	13.25	30.00

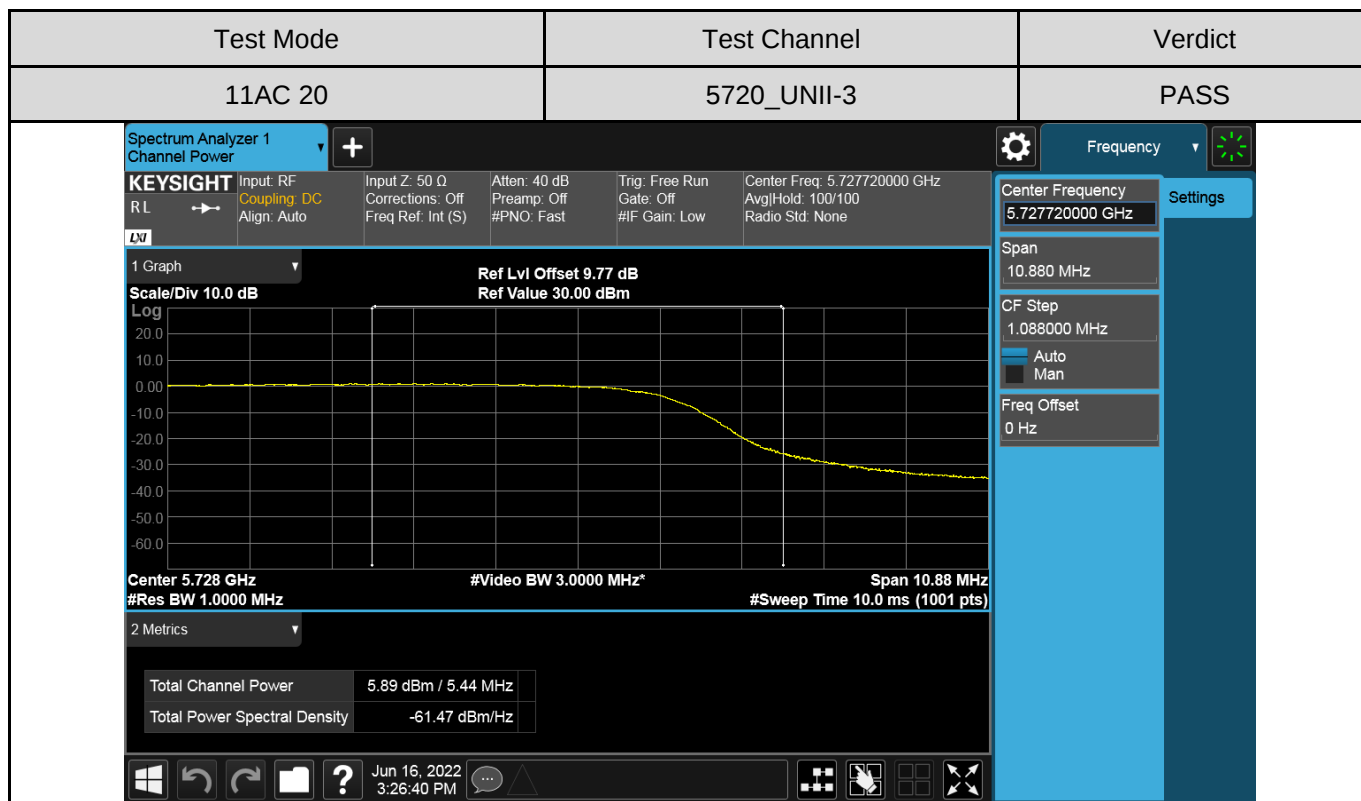
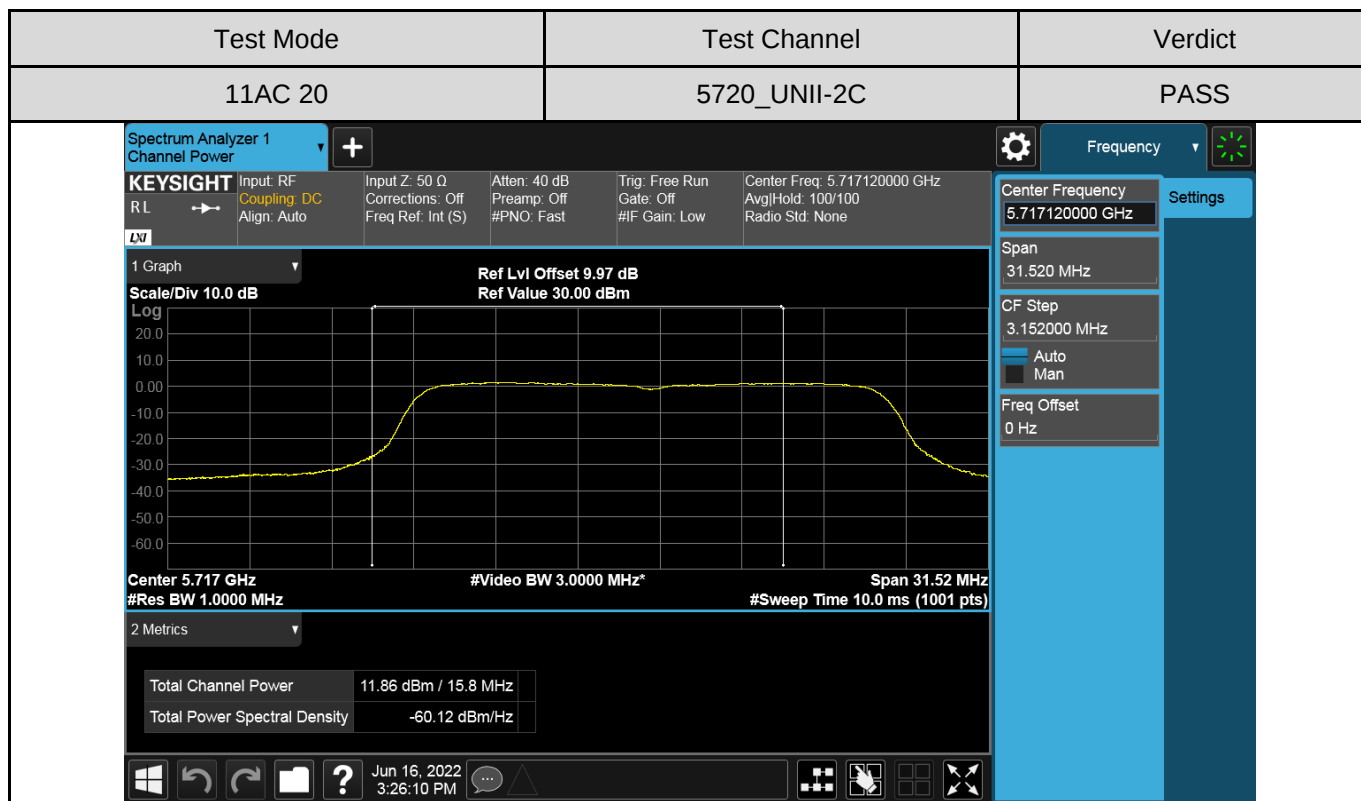
- Remark: 1. Only the antenna1 can transmit at the 11a mode.
2. Average EIRP = Average Conducted Output Power + Antenna gain/Directional gain.
3. The test results have already included the duty cycle correction factor. About correction Factor please refer to section 6.2.
4. MIMO mode use the same power setting, only the worst EIRP data was recorded in the report, for more about the antenna gain/directional gain, please refer to clause 5.4.

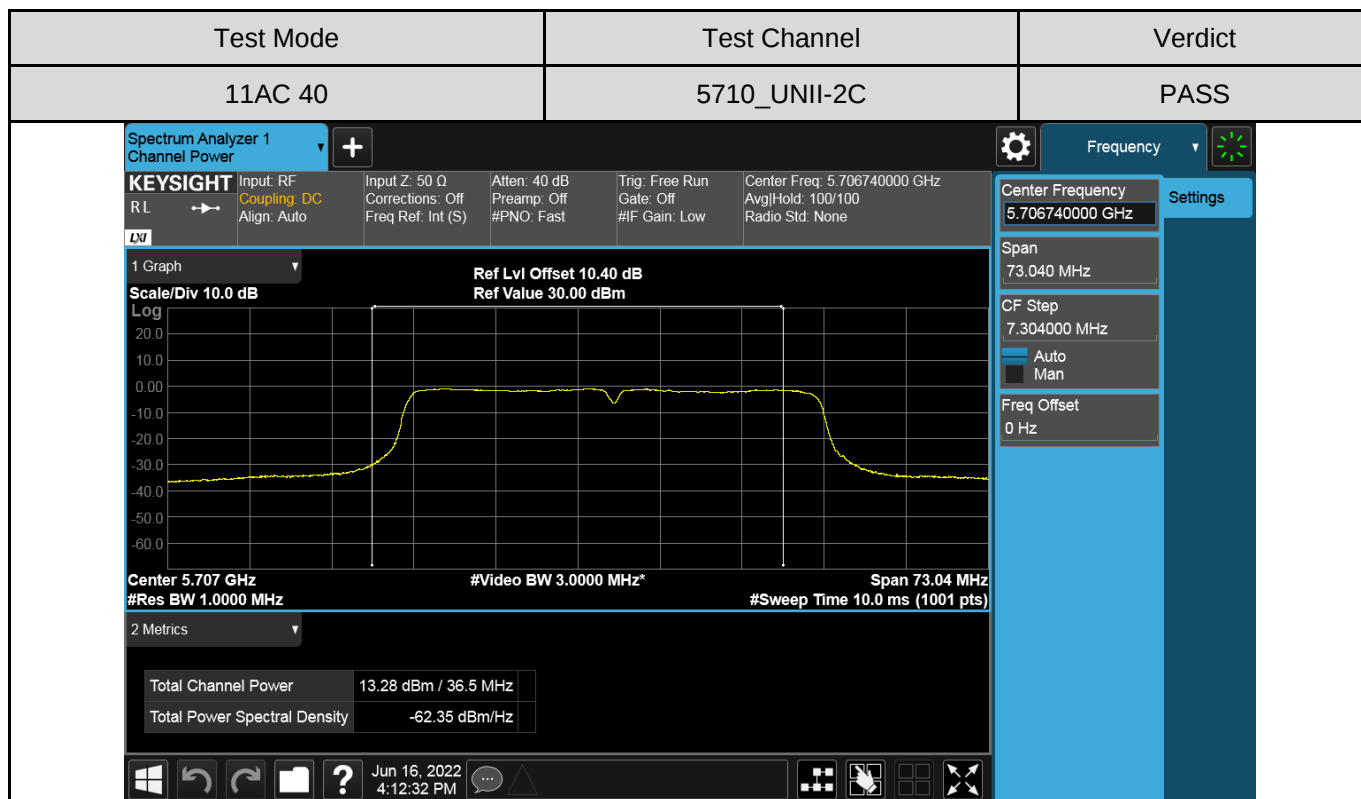


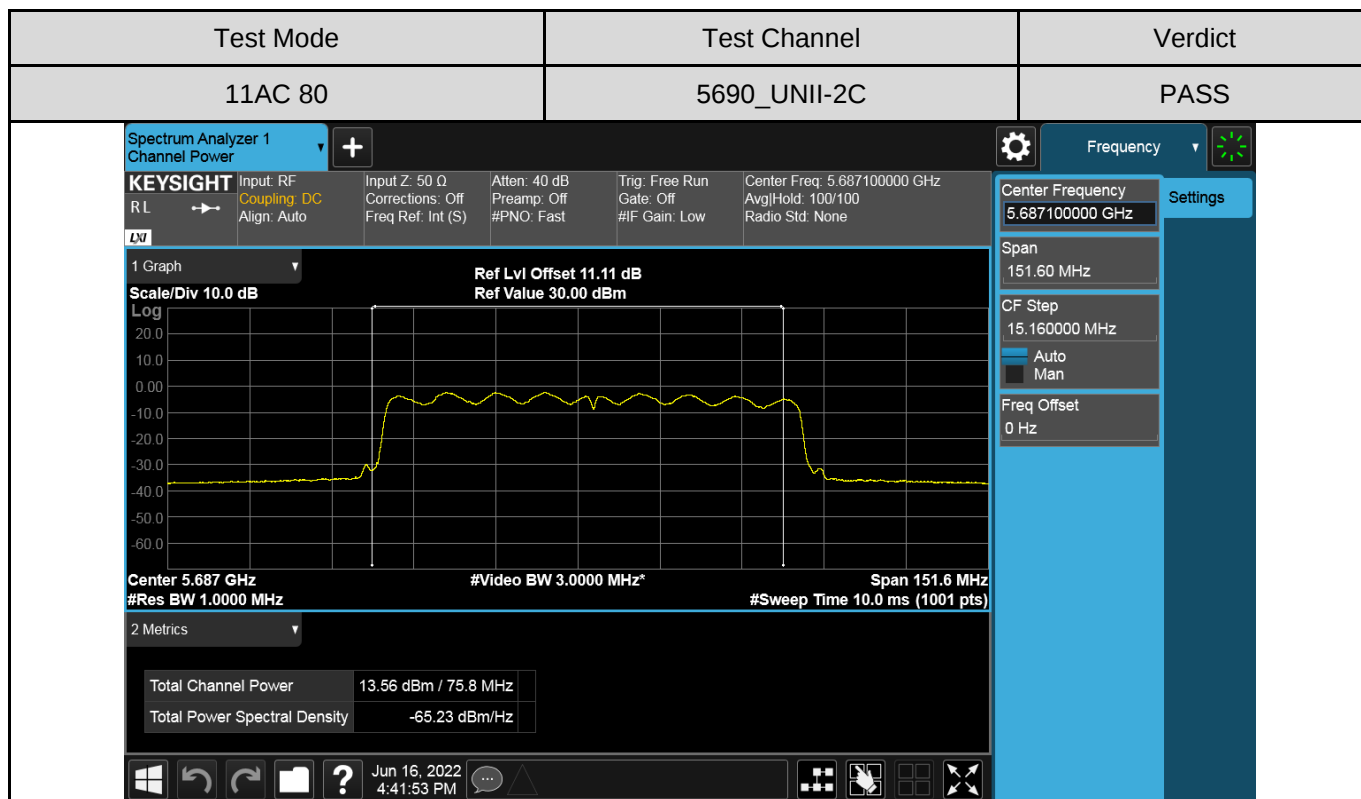
TEST GRAPHS for Overlapping channels

Antenna 1 Part:



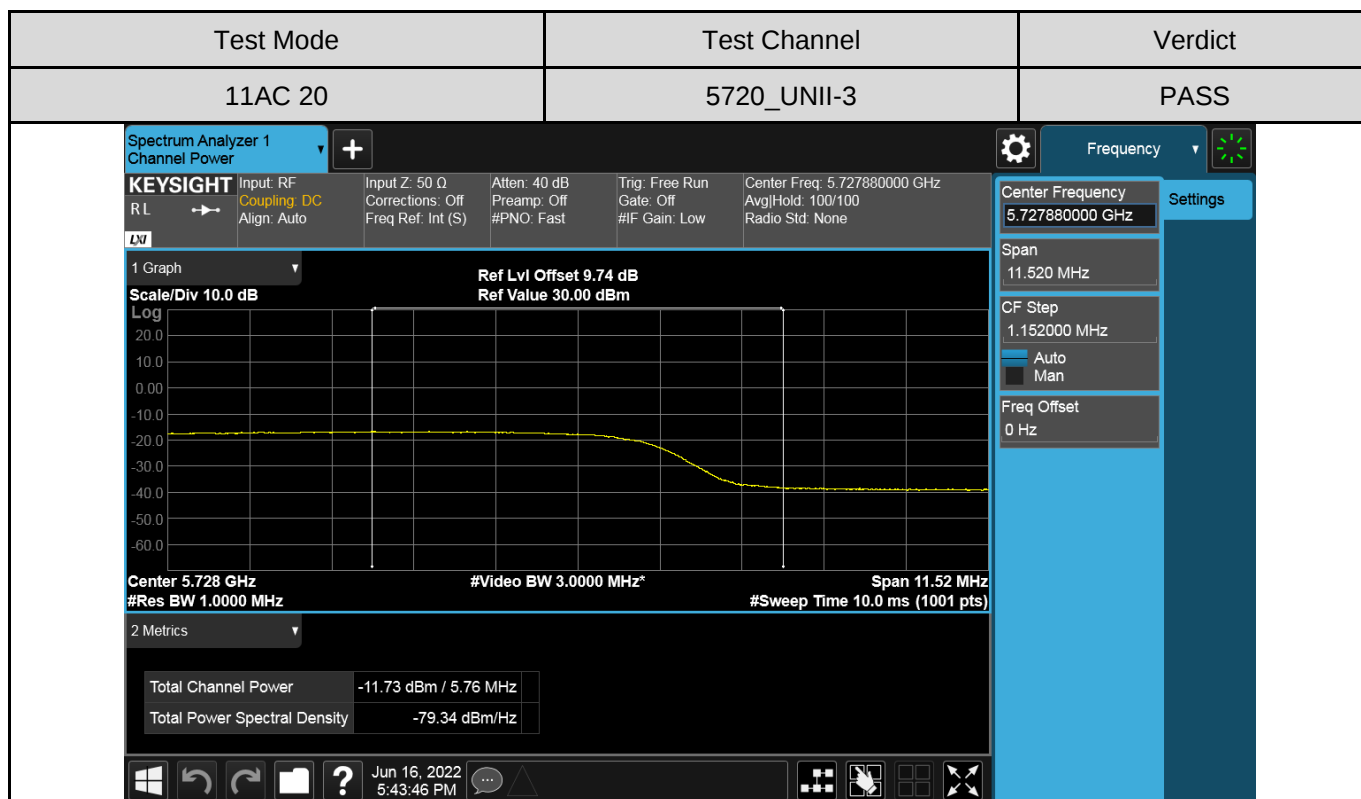
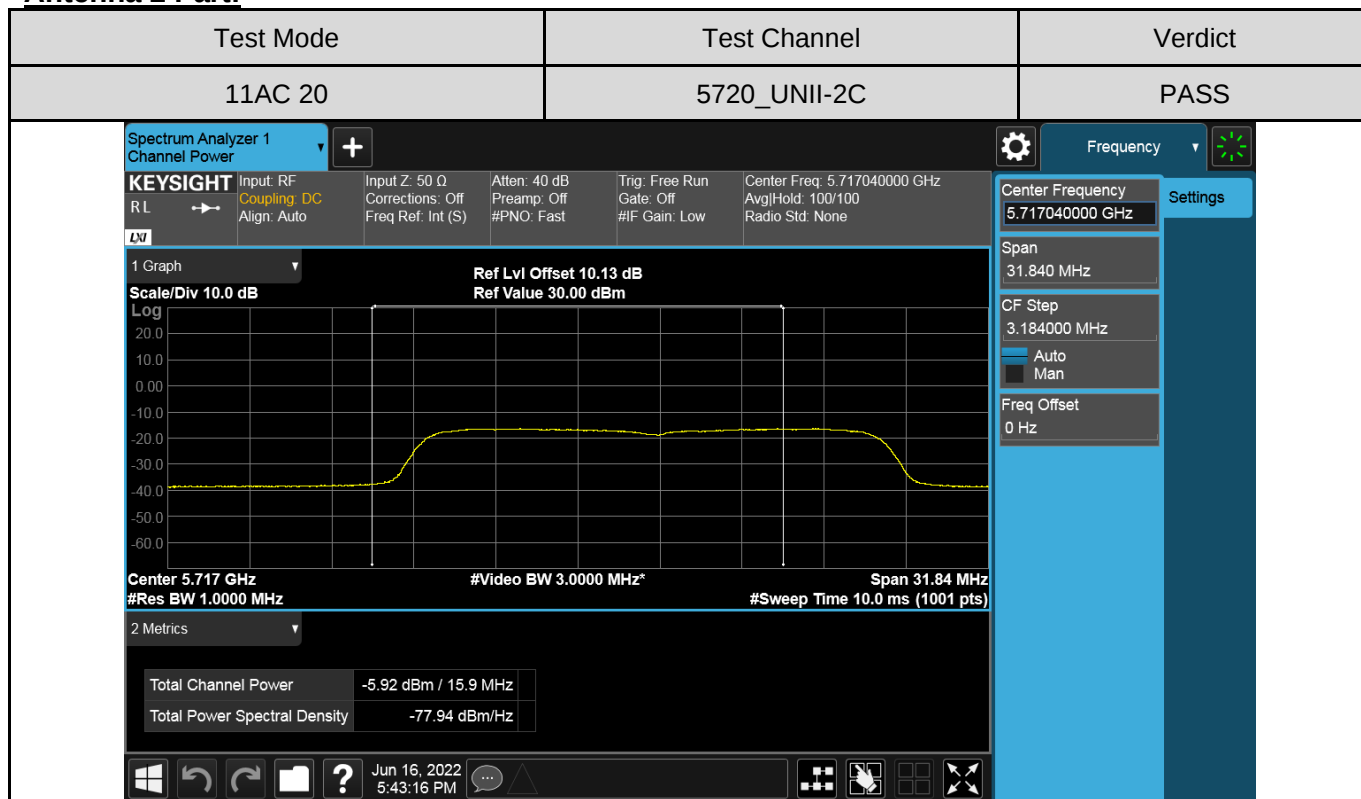


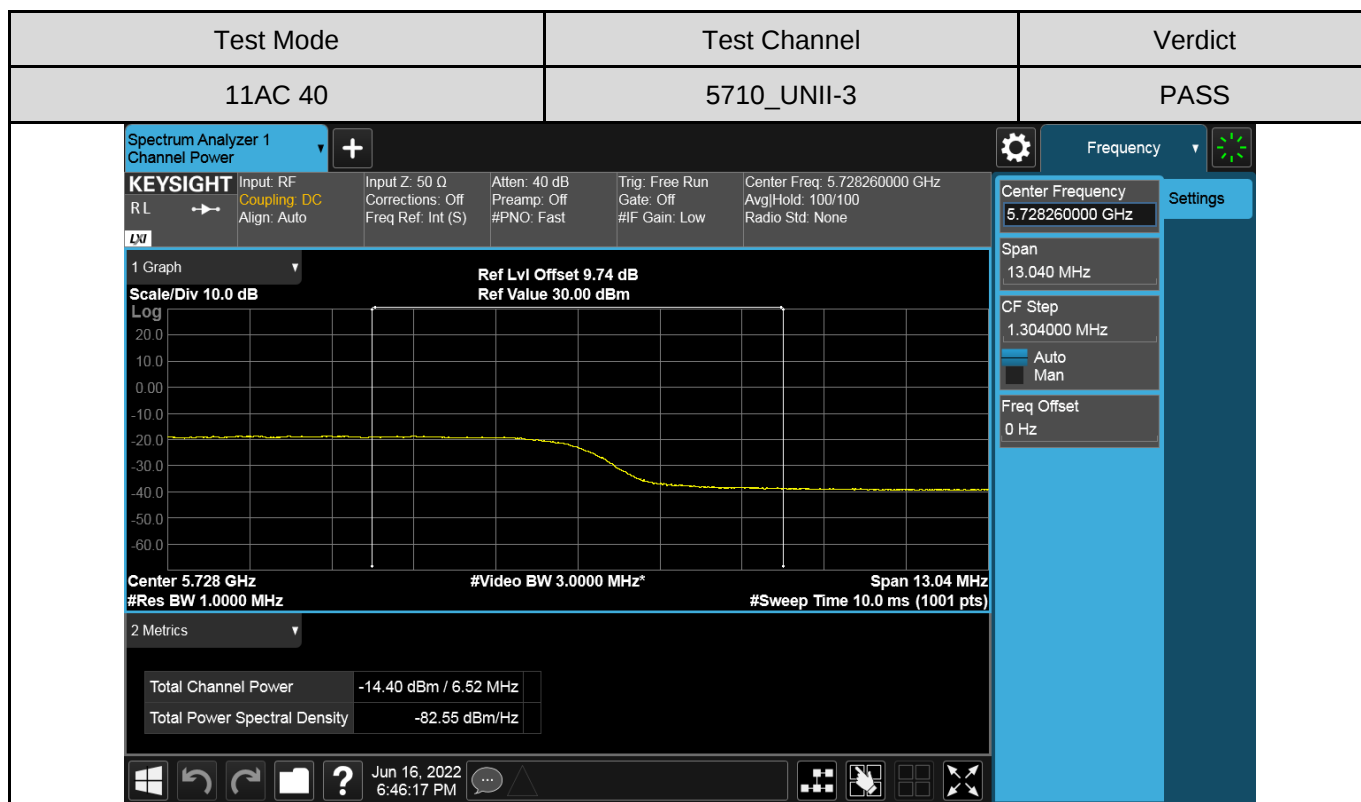
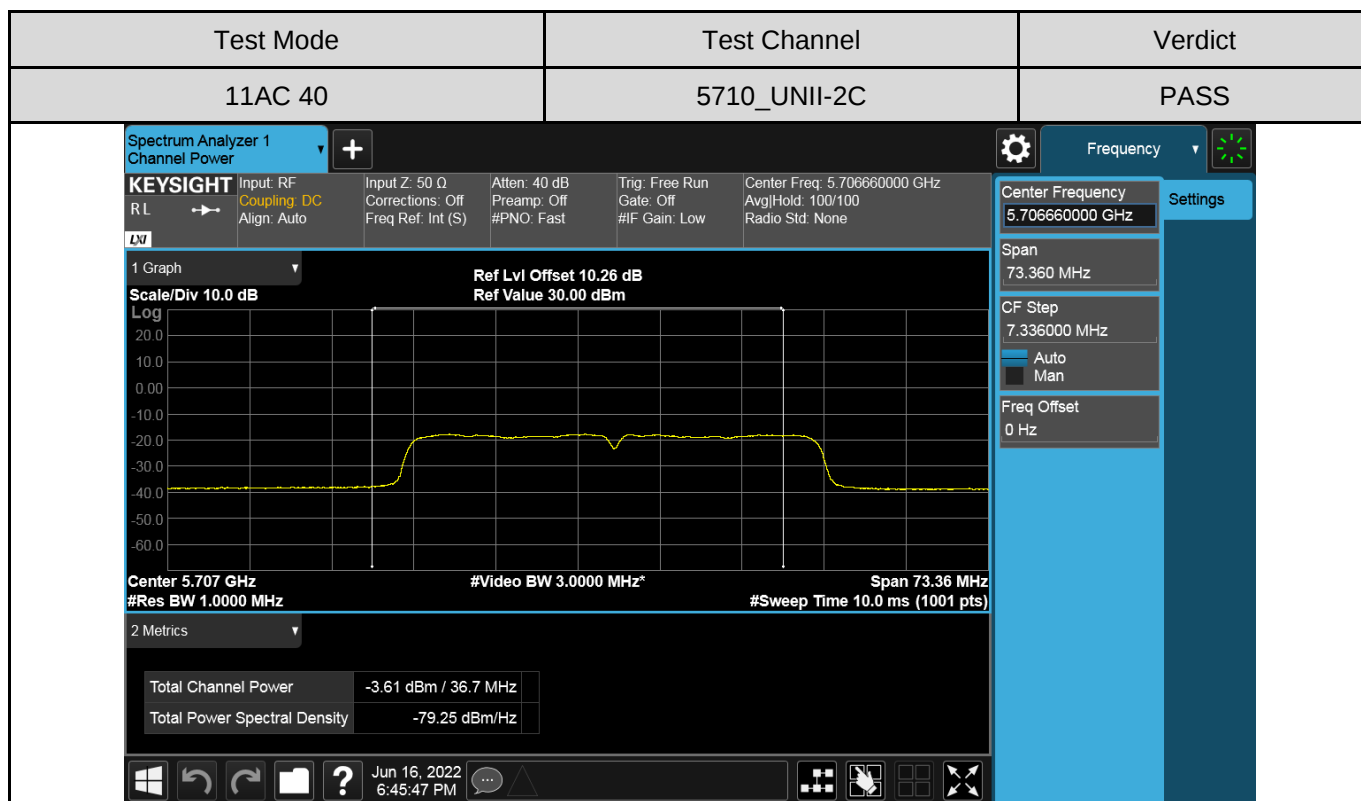


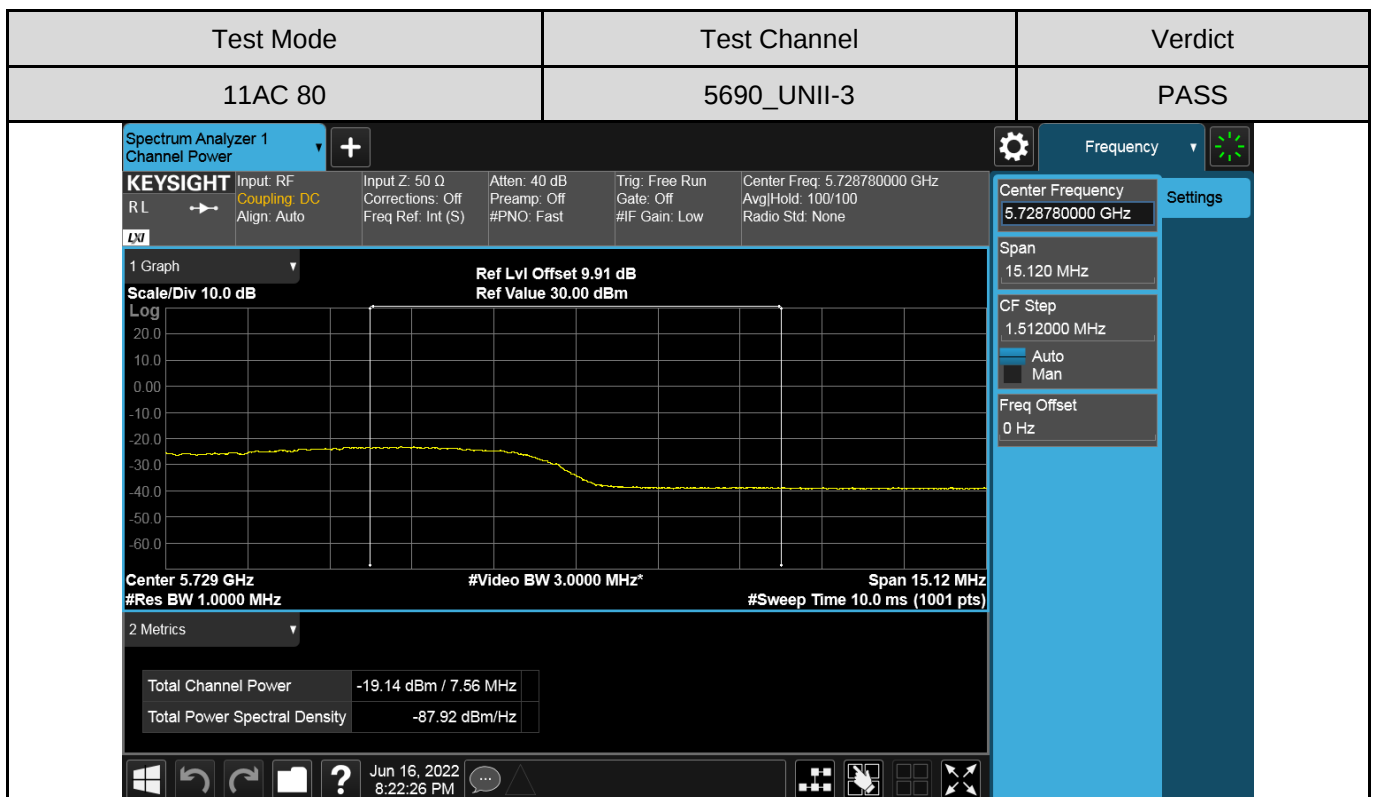
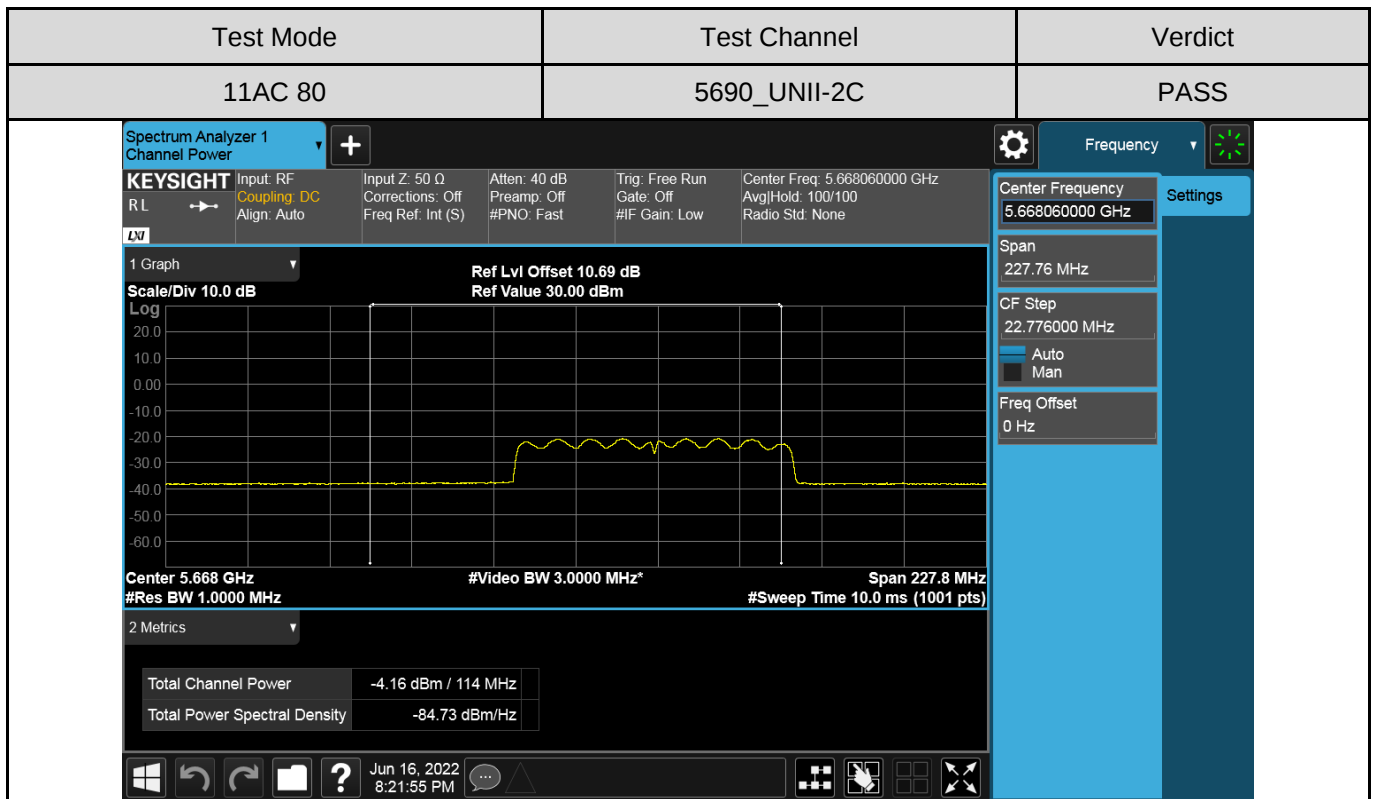




Antenna 2 Part:









6.5. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☒ Client Devices: 11 dBm/MHz	5150 ~ 5250
	11 dBm/MHz	5250 ~ 5350 5470 ~ 5725
	30 dBm/500kHz	5725 ~ 5850

Remark:

The above limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.F.



Connect the EUT to the spectrum analyser and use the following settings:

For U-NII-1, U-NII-2A and U-NII-2C band:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

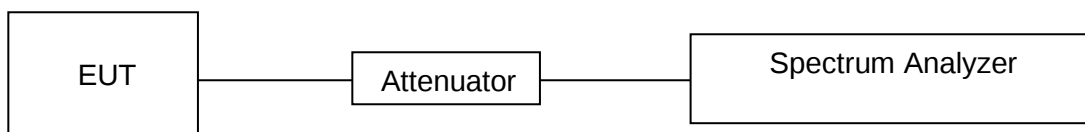
For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Allow trace to fully stabilize and Use the peak search function on the instrument to find the peak of the spectrum and record its value.

Add $10 \log (1/x)$, where x is the duty cycle, to the peak of the spectrum, the result is the Maximum PSD over 1 MHz / 500 kHz reference bandwidth.

TEST SETUP





RESULTS

Test Mode	Antenna	Channel	Power Spectral Density [dBm/MHz]	Correct Factor (dB)	Final Power Spectral Density [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	3.68	0.26	3.94	<=11	PASS
	Ant1	5200	3.37	0.26	3.63	<=11	PASS
	Ant1	5240	3.15	0.26	3.41	<=11	PASS
	Ant1	5260	3.27	0.26	3.53	<=11	PASS
	Ant1	5280	3.32	0.26	3.58	<=11	PASS
	Ant1	5320	2.77	0.26	3.03	<=11	PASS
	Ant1	5500	4.47	0.26	4.73	<=11	PASS
	Ant1	5580	3.86	0.26	4.12	<=11	PASS
	Ant1	5700	3.18	0.26	3.44	<=11	PASS
	Ant1	5720_UNII-2C	2.4	0.26	2.66	<=11	PASS
	Ant1	5720_UNII-3	-0.71	0.26	-0.45	<=30	PASS
	Ant1	5745	-0.68	0.26	-0.42	<=30	PASS
	Ant1	5785	-0.01	0.26	0.25	<=30	PASS
	Ant1	5825	0.19	0.26	0.45	<=30	PASS
11AC20MIMO	Ant1	5180	1.97	0.26	2.23	<=11	PASS
	Ant2		-7.48	0.26	-7.22	<=11	PASS
	total		2.44	0.26	2.70	<=11	PASS
	Ant1	5200	2.02	0.26	2.28	<=11	PASS
	Ant2		-8.85	0.26	-8.59	<=11	PASS
	total		2.36	0.26	2.62	<=11	PASS
	Ant1	5240	1.98	0.26	2.24	<=11	PASS
	Ant2		-11.11	0.26	-10.85	<=11	PASS
	total		2.19	0.26	2.45	<=11	PASS
	Ant1	5260	2.03	0.26	2.29	<=11	PASS
	Ant2		-10.59	0.26	-10.33	<=11	PASS
	total		2.26	0.26	2.52	<=11	PASS
	Ant1	5280	2.07	0.26	2.33	<=11	PASS
	Ant2		-11.13	0.26	-10.87	<=11	PASS
	total		2.27	0.26	2.53	<=11	PASS
	Ant1	5320	1.61	0.26	1.87	<=11	PASS
	Ant2		-12.49	0.26	-12.23	<=11	PASS
	total		1.78	0.26	2.04	<=11	PASS
	Ant1	5500	3.52	0.26	3.78	<=11	PASS
	Ant2		-12.75	0.26	-12.49	<=11	PASS
	total		3.62	0.26	3.88	<=11	PASS
	Ant1	5580	2.70	0.26	2.96	<=11	PASS
	Ant2		-15.52	0.26	-15.26	<=11	PASS
	total		2.76	0.26	3.02	<=11	PASS
	Ant1	5700	2.29	0.26	2.55	<=11	PASS
	Ant2		-18.14	0.26	-17.88	<=11	PASS
	total		2.33	0.26	2.59	<=11	PASS
	Ant1	5720_UNII-2C	1.44	0.26	1.70	<=11	PASS
	Ant2		-16.28	0.26	-16.02	<=11	PASS
	total		1.51	0.26	1.77	<=11	PASS
	Ant1	5720_UNII-3	-1.68	0.26	-1.42	<=30	PASS
	Ant2		-19.19	0.26	-18.93	<=30	PASS
	total		-1.60	0.26	-1.34	<=30	PASS
	Ant1	5745	-1.82	0.26	-1.56	<=30	PASS

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	Ant2		-18.32	0.26	-18.06	<=30	PASS
	total		-1.72	0.26	-1.46	<=30	PASS
	Ant1		-1.00	0.26	-0.74	<=30	PASS
	Ant2	5785	-19.22	0.26	-18.96	<=30	PASS
	total		-0.94	0.26	-0.68	<=30	PASS
	Ant1	5825	-0.85	0.26	-0.59	<=30	PASS
	Ant2		-21.45	0.26	-21.19	<=30	PASS
	total		-0.81	0.26	-0.55	<=30	PASS
	Ant1	5190	-0.41	0.40	-0.01	<=11	PASS
11AC40MIMO	Ant2		-9.12	0.40	-8.72	<=11	PASS
	total		0.14	0.40	0.54	<=11	PASS
	Ant1	5230	-0.60	0.40	-0.20	<=11	PASS
	Ant2		-11.42	0.40	-11.02	<=11	PASS
	total		-0.25	0.40	0.15	<=11	PASS
	Ant1	5270	-0.33	0.40	0.07	<=11	PASS
	Ant2		-12.70	0.40	-12.30	<=11	PASS
	total		-0.09	0.40	0.31	<=11	PASS
	Ant1	5310	-0.96	0.40	-0.56	<=11	PASS
	Ant2		-14.06	0.40	-13.66	<=11	PASS
	total		-0.75	0.40	-0.35	<=11	PASS
	Ant1	5510	0.95	0.40	1.35	<=11	PASS
	Ant2		-14.79	0.40	-14.39	<=11	PASS
	total		1.06	0.40	1.46	<=11	PASS
	Ant1	5550	-0.29	0.40	0.11	<=11	PASS
	Ant2		-15.80	0.40	-15.40	<=11	PASS
	total		-0.17	0.40	0.23	<=11	PASS
	Ant1	5670	0.09	0.40	0.49	<=11	PASS
	Ant2		-17.02	0.40	-16.62	<=11	PASS
	total		0.17	0.40	0.57	<=11	PASS
	Ant1	5710_UNII-2C	-0.93	0.40	-0.53	<=11	PASS
	Ant2		-18.04	0.40	-17.64	<=11	PASS
	total		-0.85	0.40	-0.45	<=11	PASS
	Ant1	5710_UNII-3	-4.25	0.40	-3.85	<=30	PASS
	Ant2		-21.07	0.40	-20.67	<=30	PASS
	total		-4.16	0.40	-3.76	<=30	PASS
	Ant1	5755	-4.53	0.40	-4.13	<=30	PASS
	Ant2		-20.62	0.40	-20.22	<=30	PASS
	total		-4.42	0.40	-4.02	<=30	PASS
	Ant1	5795	-3.61	0.40	-3.21	<=30	PASS
	Ant2		-22.03	0.40	-21.63	<=30	PASS
	total		-3.55	0.40	-3.15	<=30	PASS
11AC80MIMO	Ant1	5210	-2.40	0.61	-1.79	<=11	PASS
	Ant2		-11.59	0.61	-10.98	<=11	PASS
	total		-1.91	0.61	-1.30	<=11	PASS
	Ant1	5290	-3.27	0.61	-2.66	<=11	PASS
	Ant2		-15.82	0.61	-15.21	<=11	PASS
	total		-3.04	0.61	-2.43	<=11	PASS
	Ant1	5530	-2.03	0.61	-1.42	<=11	PASS
	Ant2		-17.85	0.61	-17.24	<=11	PASS
	total		-1.92	0.61	-1.31	<=11	PASS
	Ant1	5610	-2.54	0.61	-1.93	<=11	PASS
	Ant2		-18.69	0.61	-18.08	<=11	PASS
	total		-2.44	0.61	-1.83	<=11	PASS
	Ant1	5690_UNII-2C	-2.53	0.61	-1.92	<=11	PASS
	Ant2		-20.44	0.61	-19.83	<=11	PASS



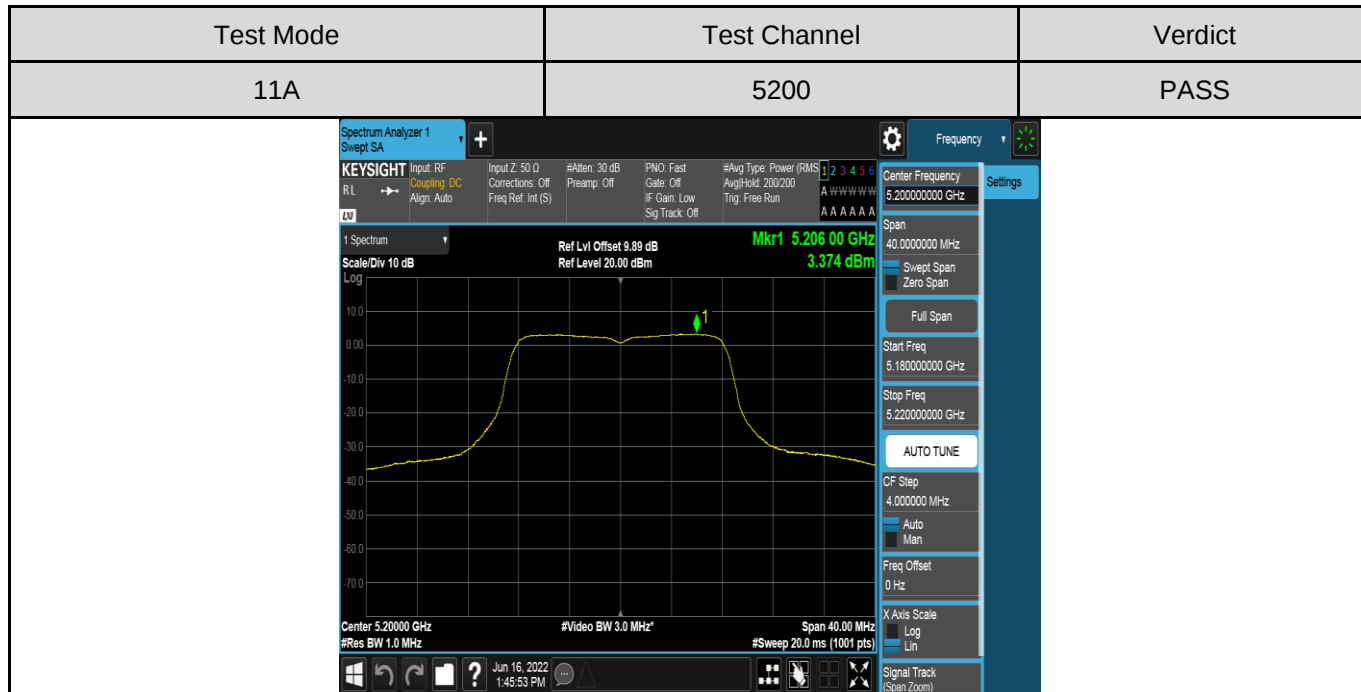
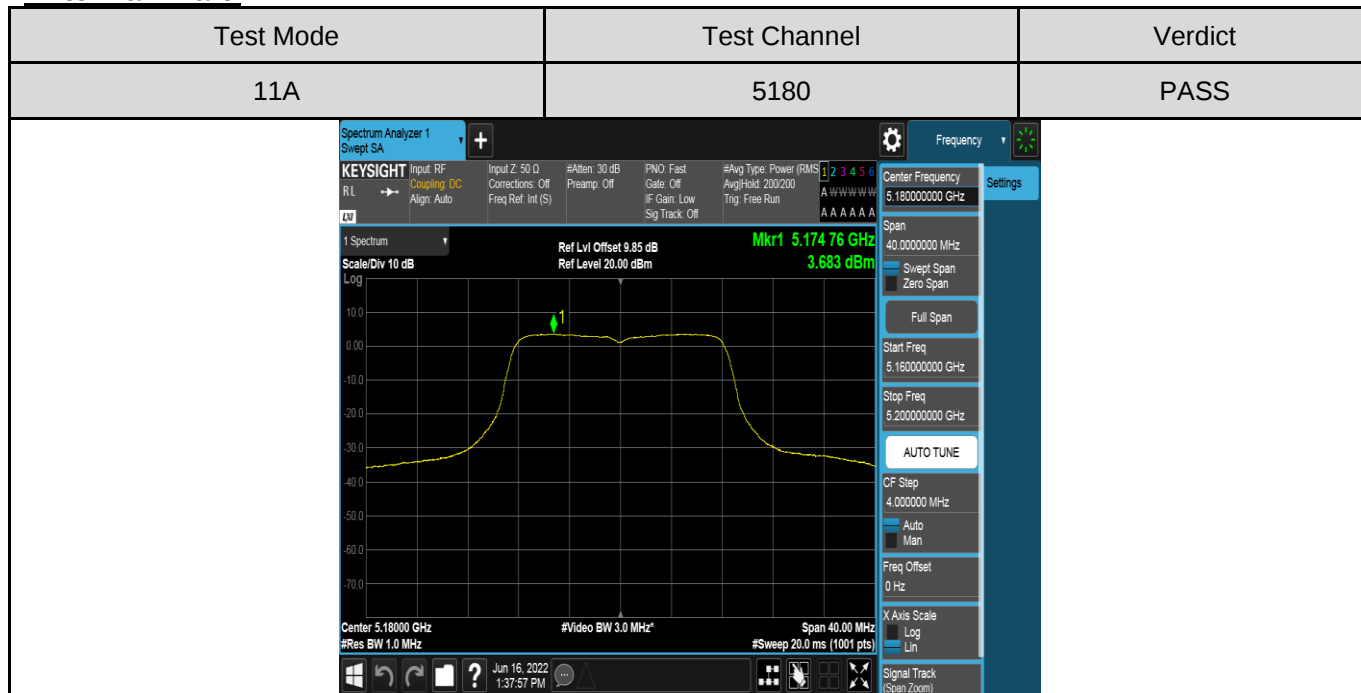
	total		-2.46	0.61	-1.85	<=11	PASS
	Ant1	5690_UNII-3	-7.93	0.61	-7.32	<=30	PASS
	Ant2		-25.27	0.61	-24.66	<=30	PASS
	total		-7.85	0.61	-7.24	<=30	PASS
	Ant1	5775	-6.45	0.61	-5.84	<=30	PASS
	Ant2		-23.54	0.61	-22.93	<=30	PASS
	total		-6.37	0.61	-5.76	<=30	PASS

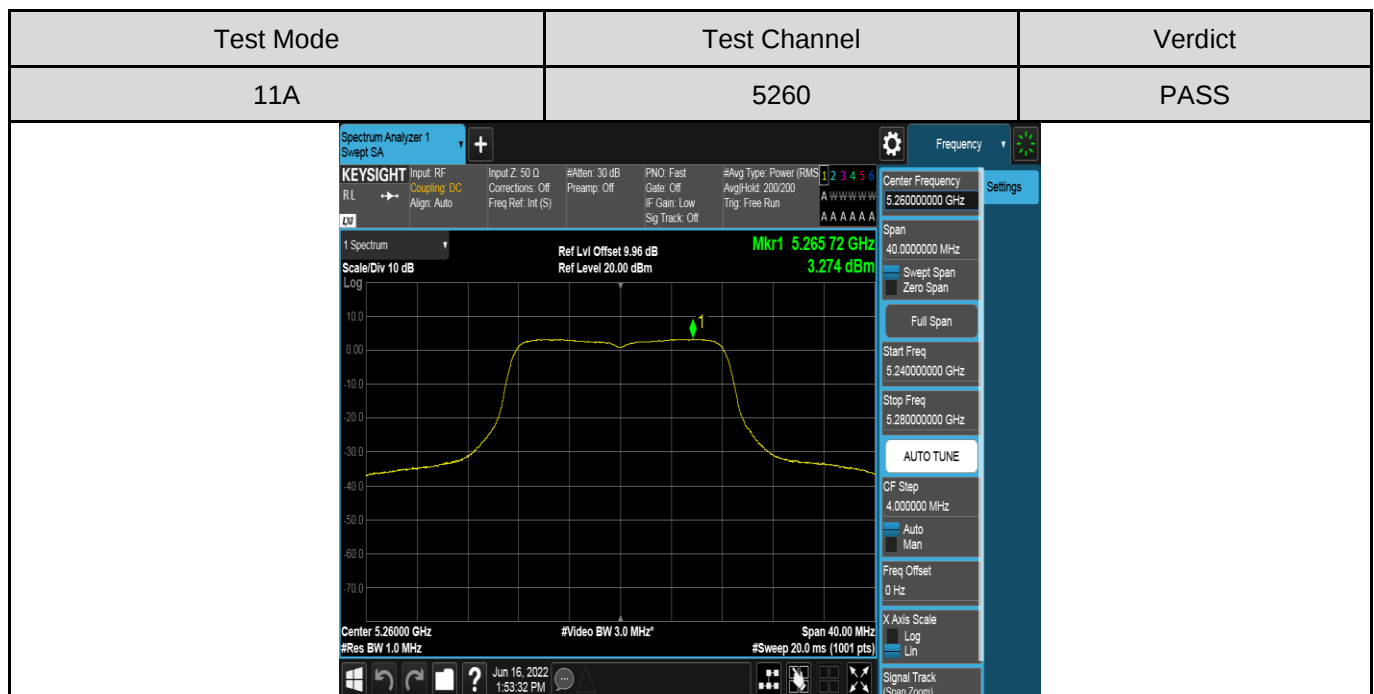
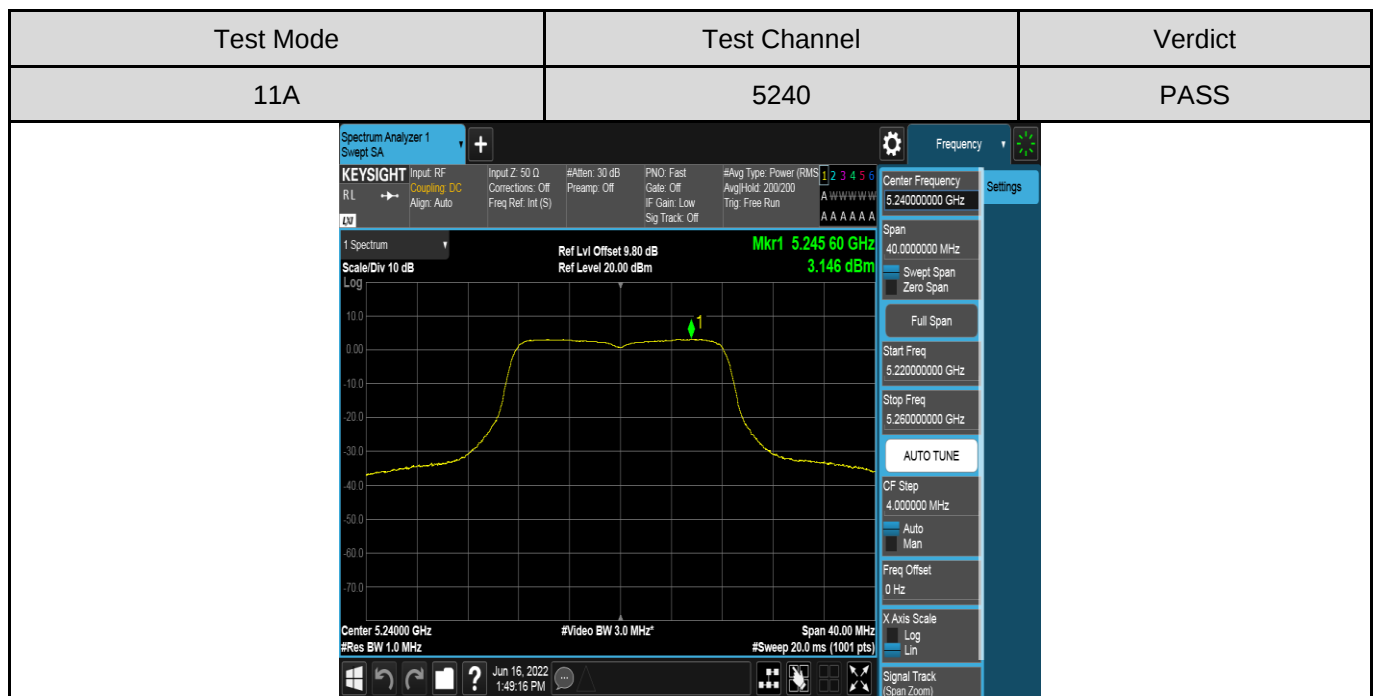
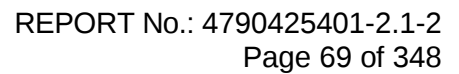
- Remark : 1. The Result and Limit Unit is dBm/500 kHz in the band 5.725 ~ 5.85 GHz.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. All the modes had been teste, but only the worst data was recorded in the report.
4. Only the antenna1 can transmit at the 11a mode.

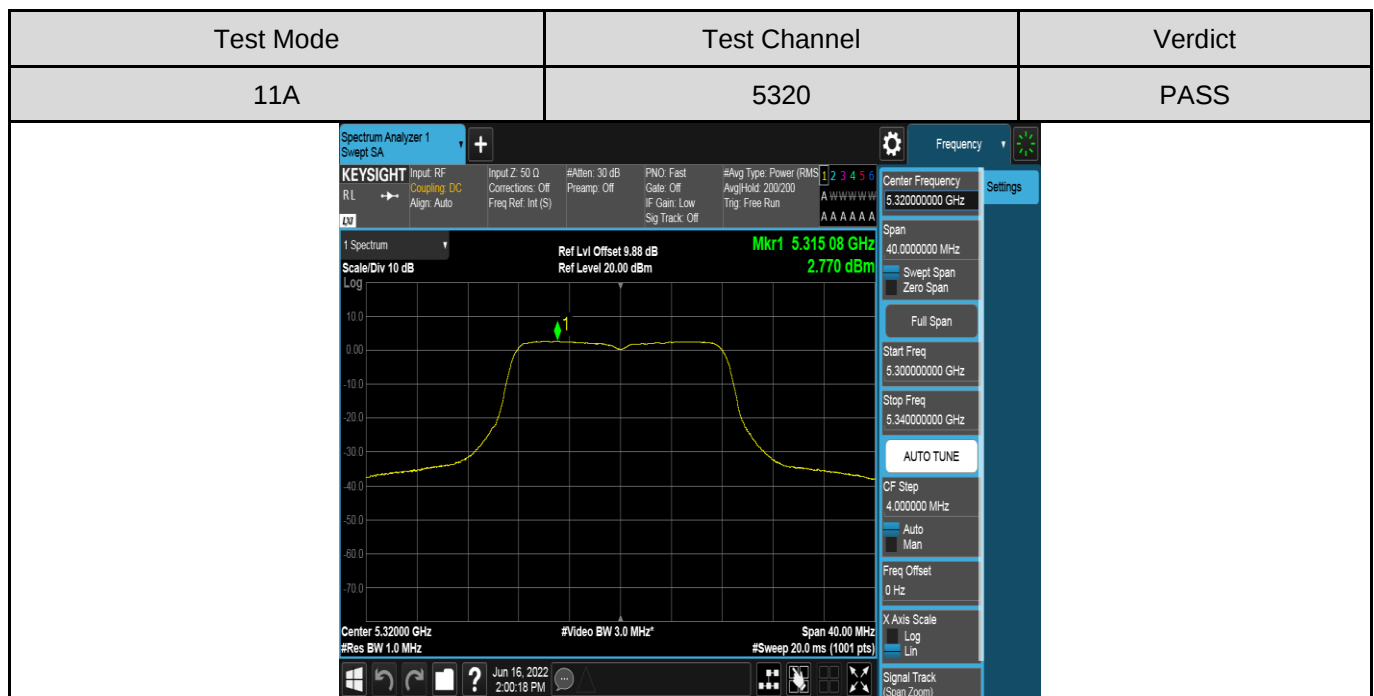
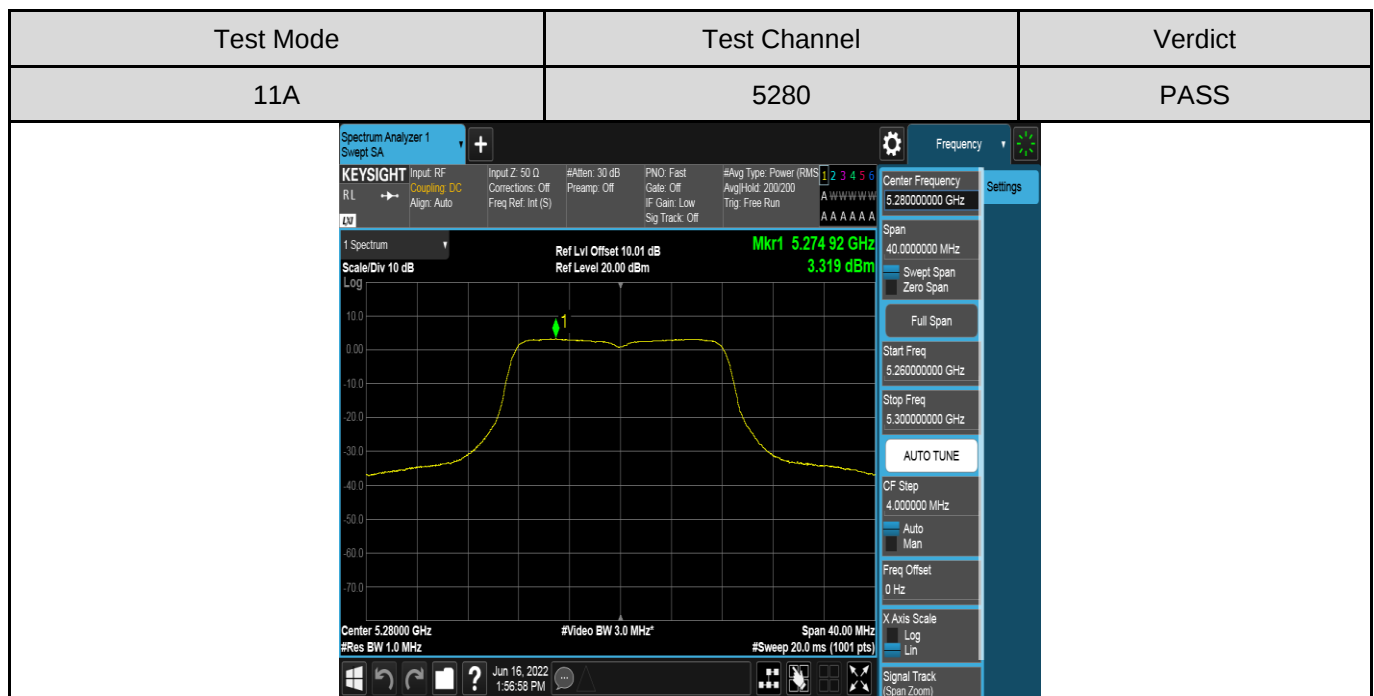
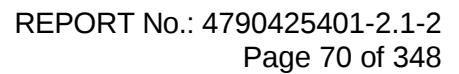


TEST GRAPHS

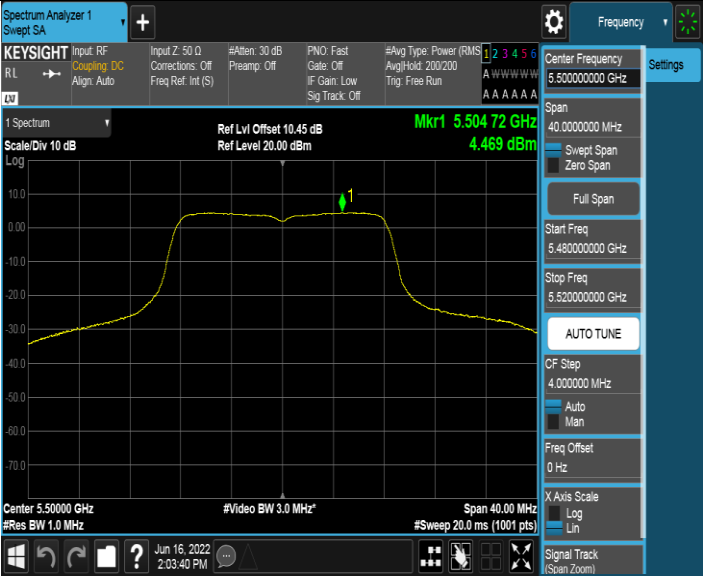
Antenna 1 Part:

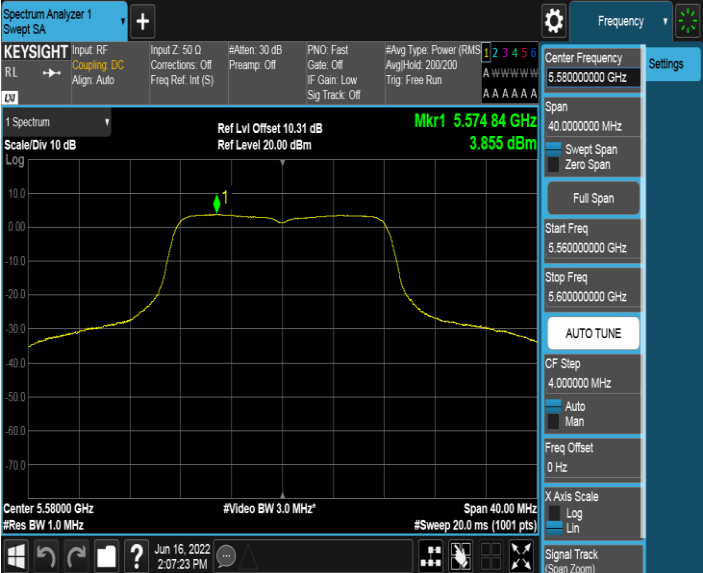




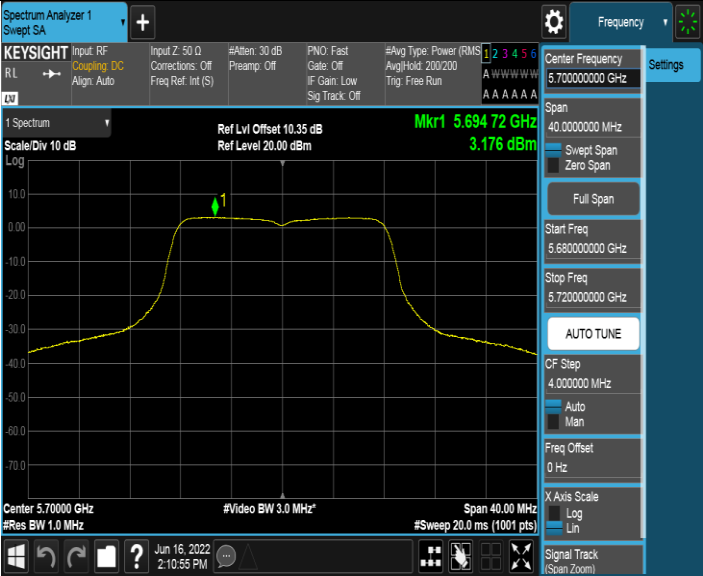


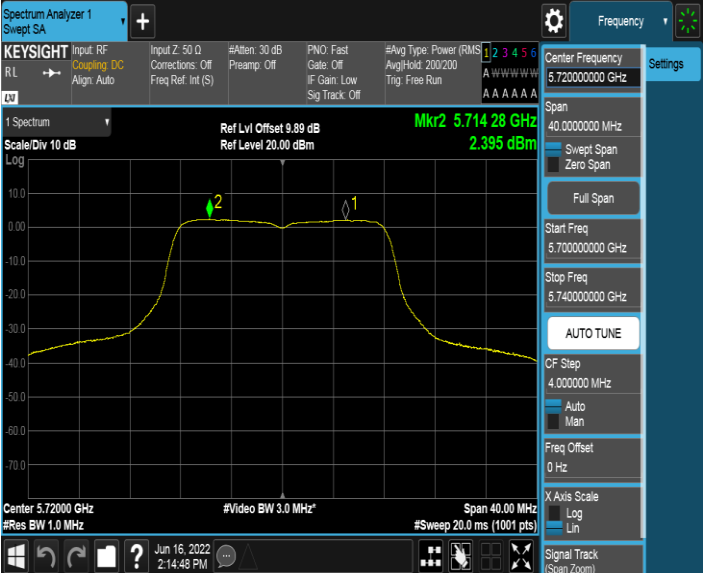


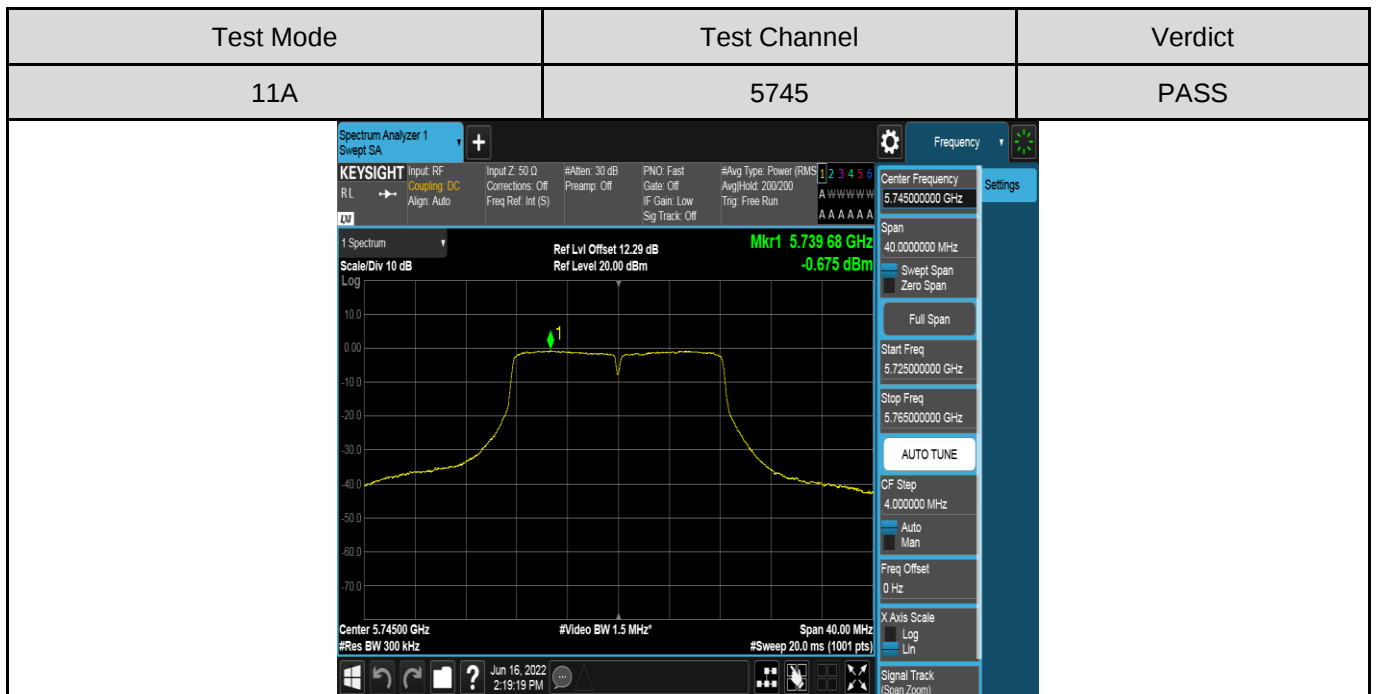
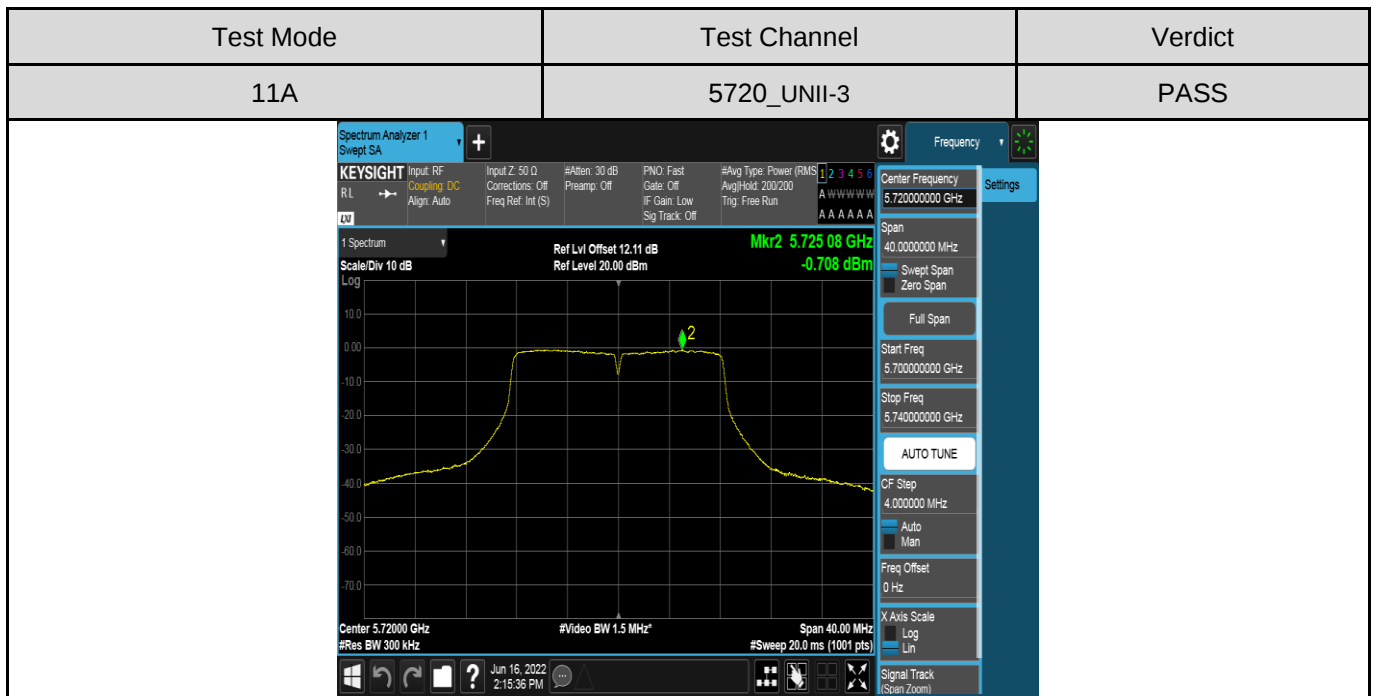
Test Mode	Test Channel	Verdict
11A	5500	PASS
		

Test Mode	Test Channel	Verdict
11A	5580	PASS
		

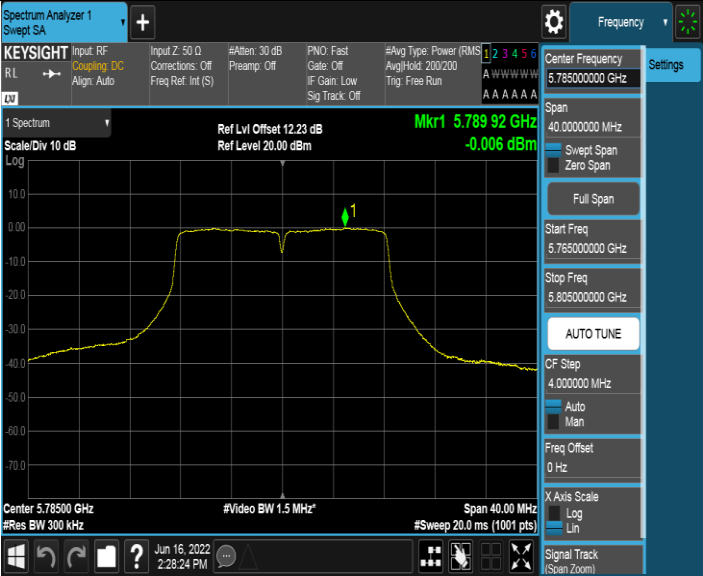


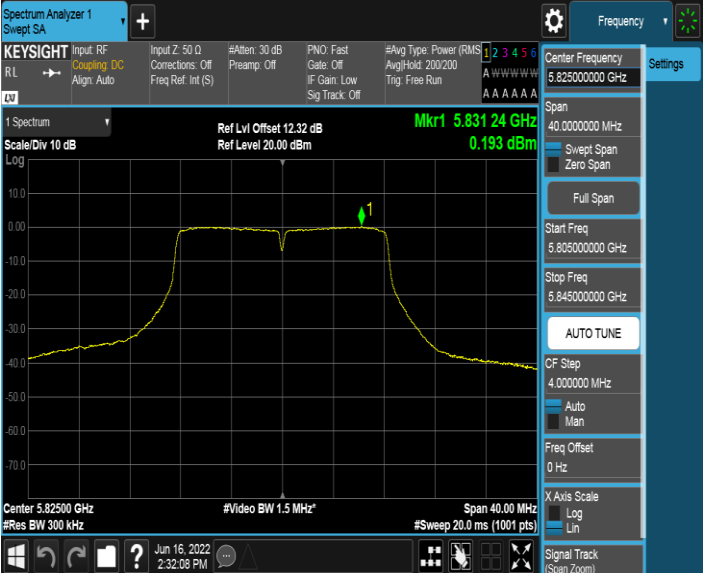
Test Mode	Test Channel	Verdict
11A	5700	PASS
		

Test Mode	Test Channel	Verdict
11A	5720_UNII-2C	PASS
		

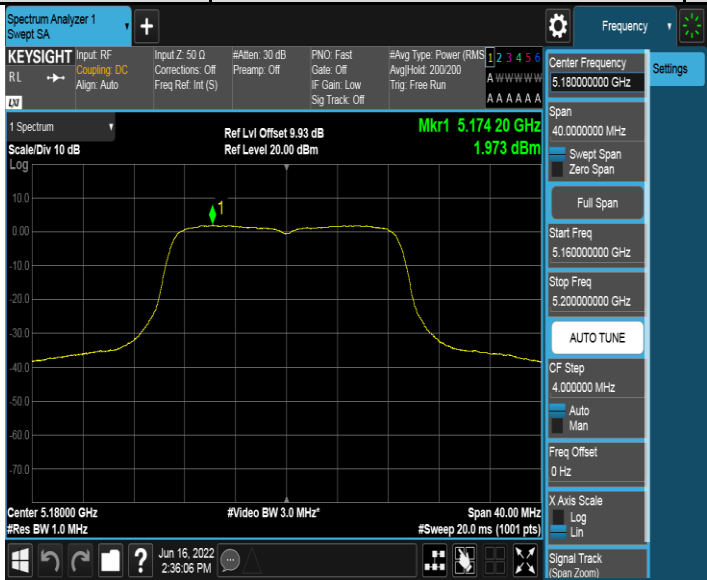


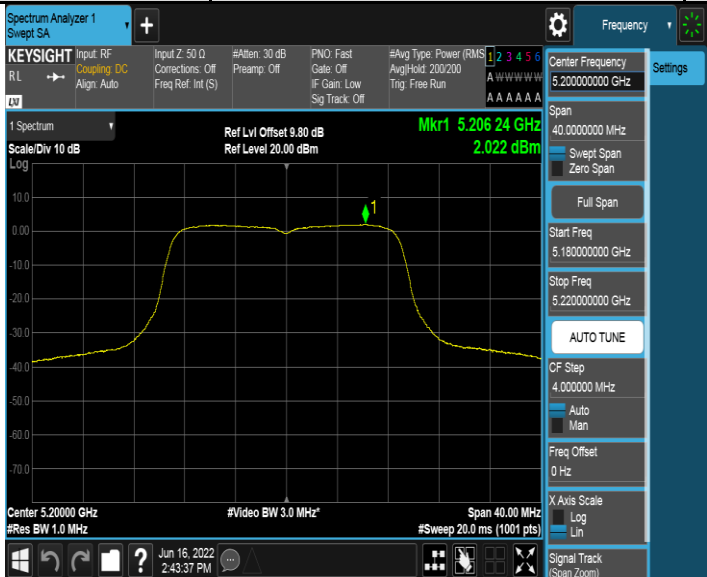


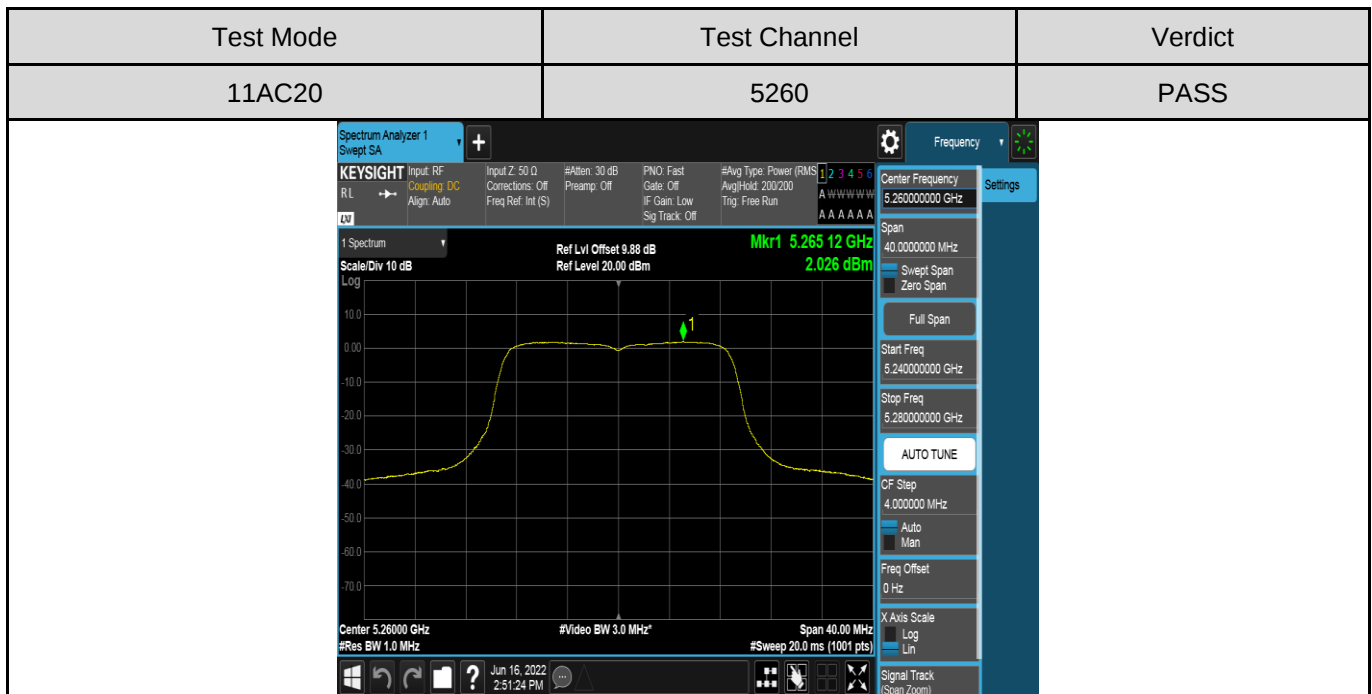
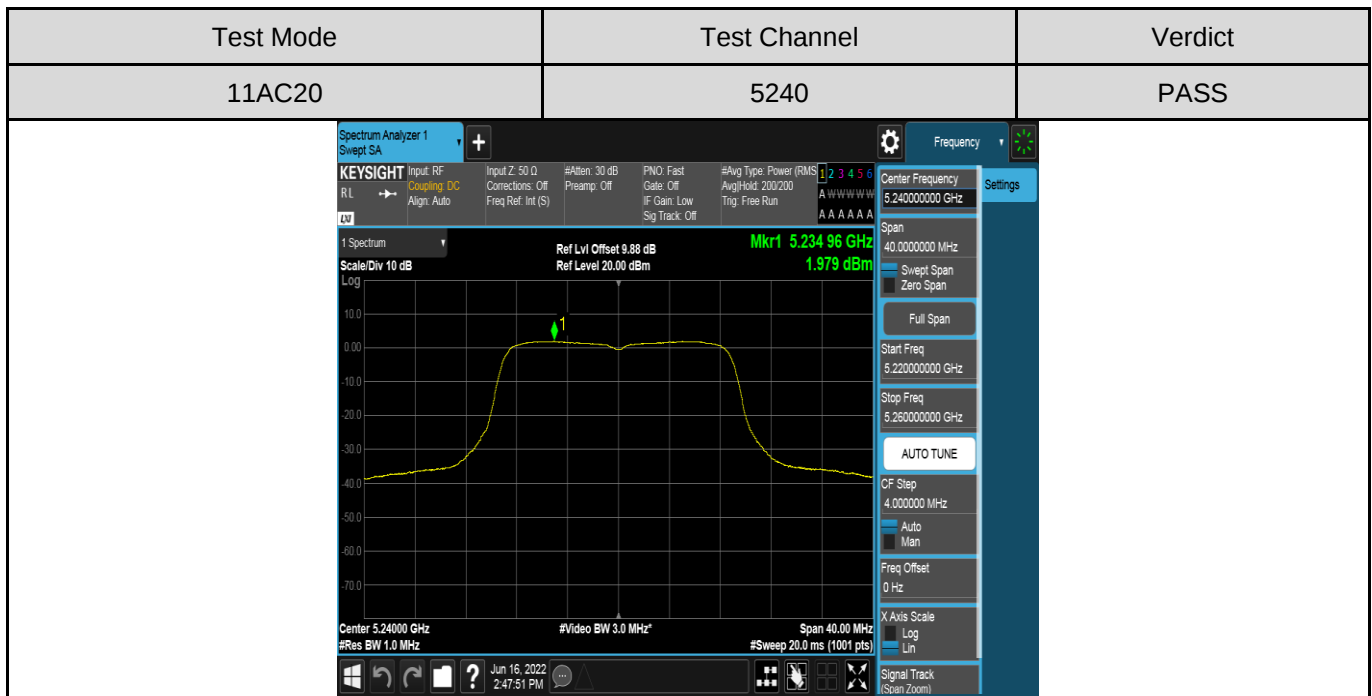
Test Mode	Test Channel	Verdict
11A	5785	PASS
		

Test Mode	Test Channel	Verdict
11A	5825	PASS
		

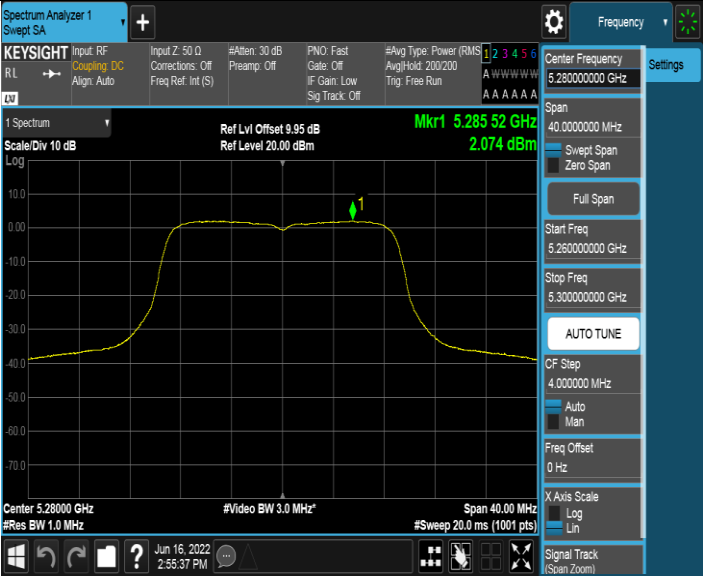


Test Mode	Test Channel	Verdict
11AC20	5180	PASS
		

Test Mode	Test Channel	Verdict
11AC20	5200	PASS
		





Test Mode	Test Channel	Verdict
11AC20	5280	PASS
		

Test Mode	Test Channel	Verdict
11AC20	5320	PASS
