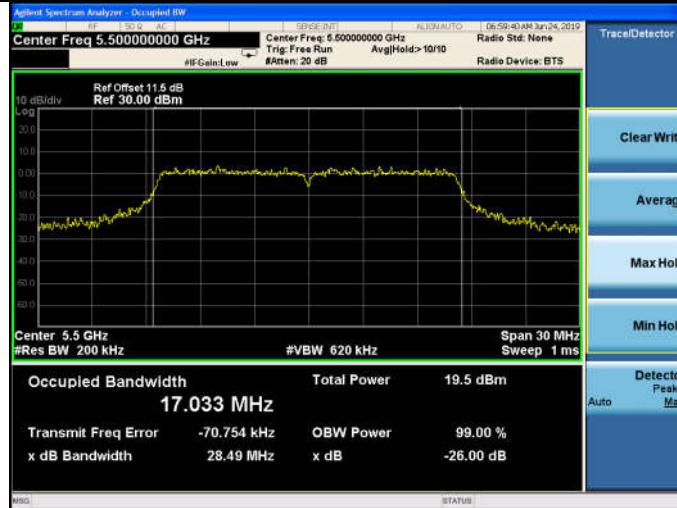
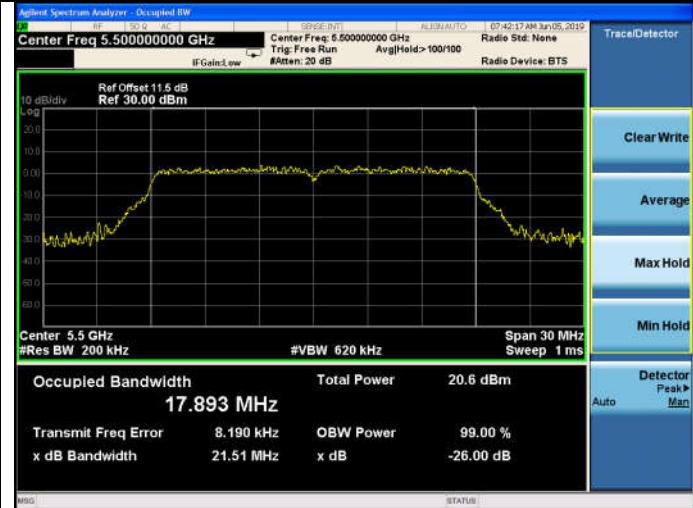
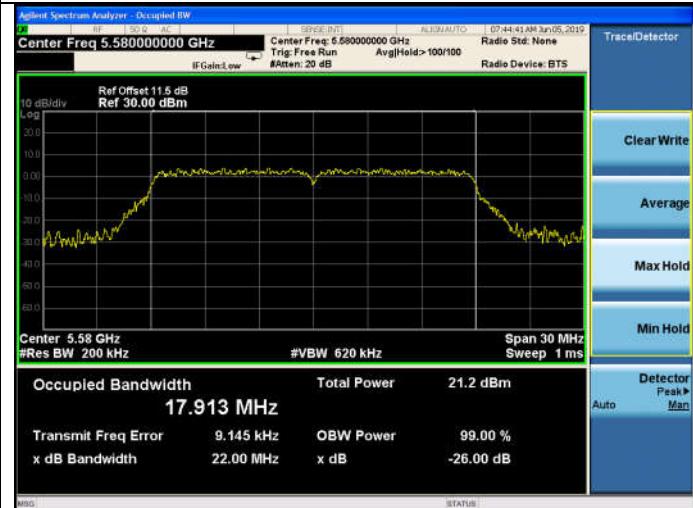
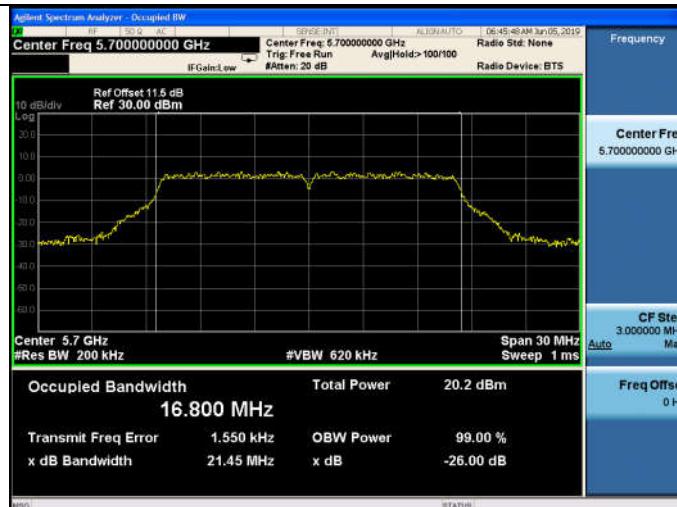
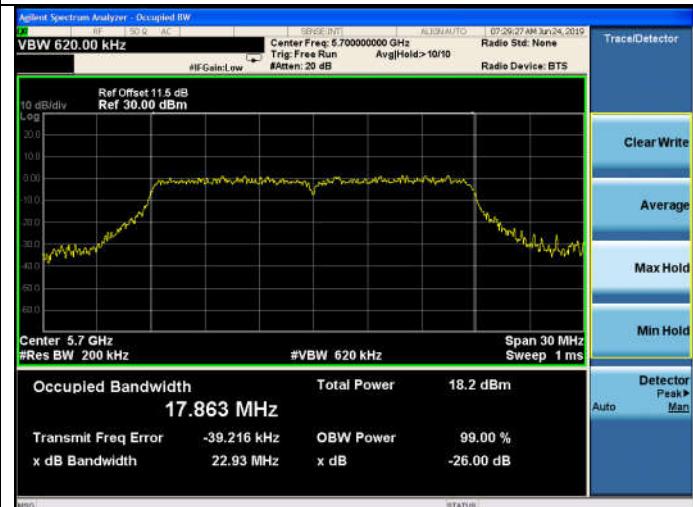
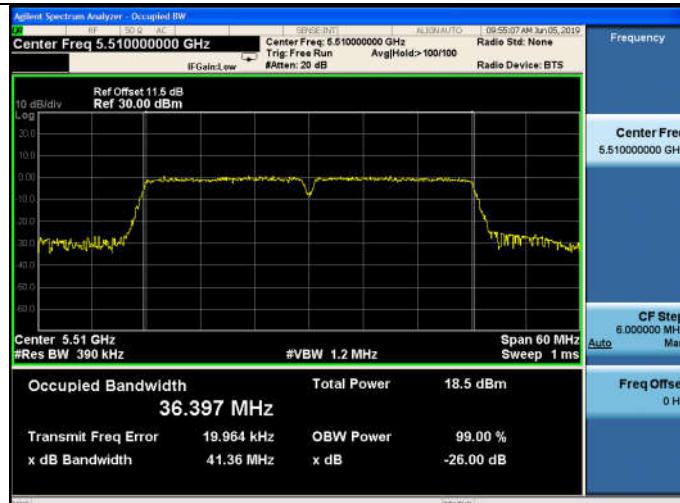
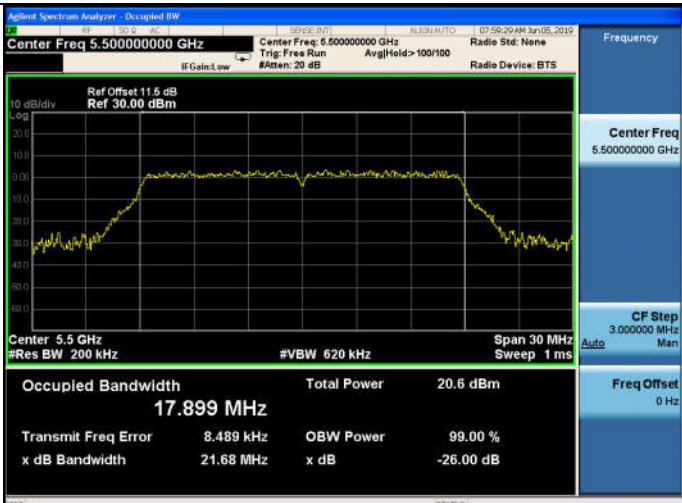
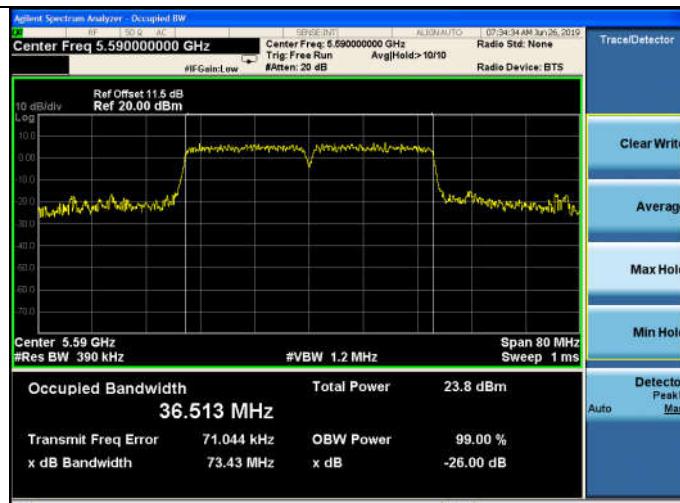
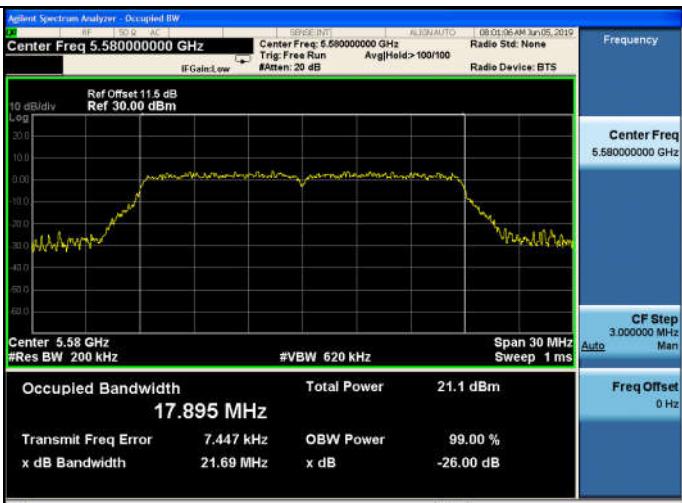
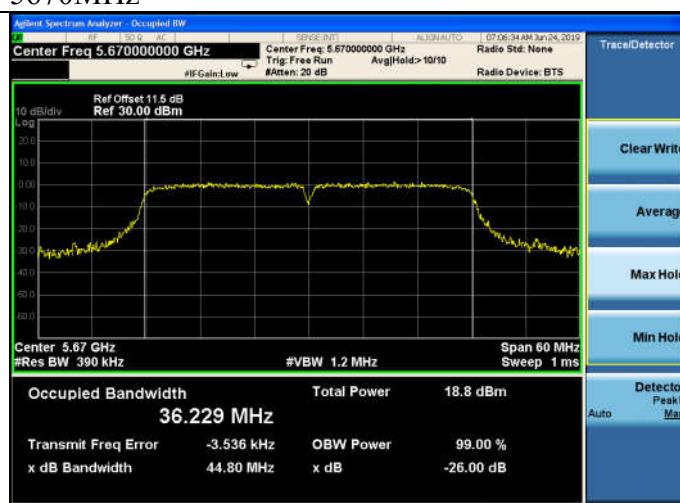
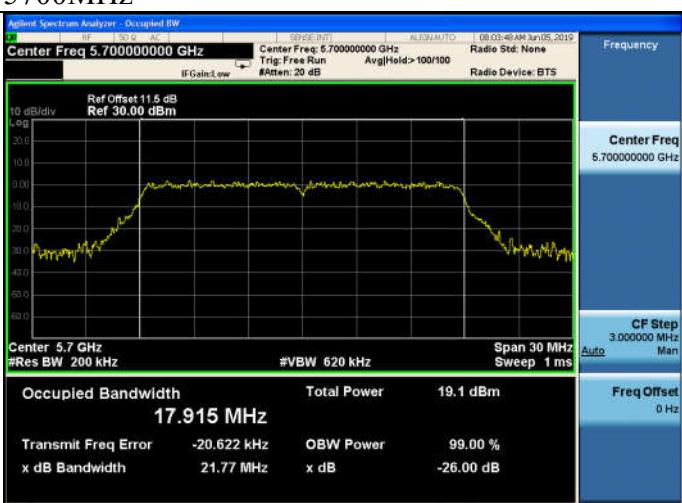


FCC ID: VOB-P2571

U-NII-2C Band:
ANT1
26dB bandwidth & 99% Occupied bandwidth
11a
5500MHz

11n HT20
5500MHz

5580MHz

5580MHz

5700MHz

5700MHz


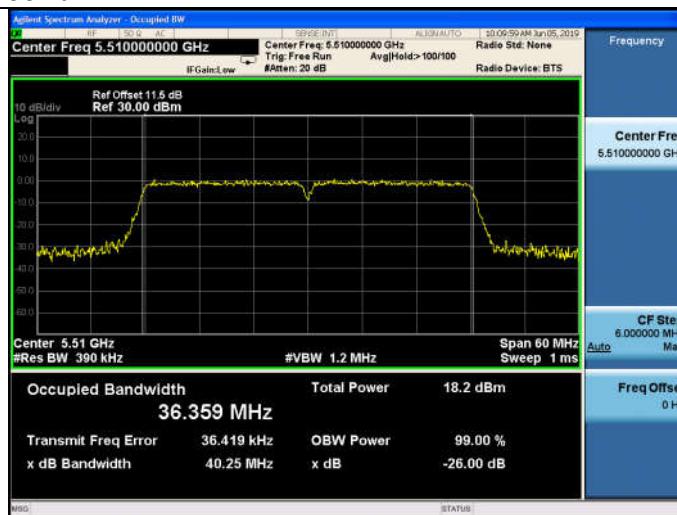
FCC ID: VOB-P2571

11n HT40
5510MHz

11ac VHT20
5500MHz

5590MHz

5580MHz

5670MHz

5700MHz


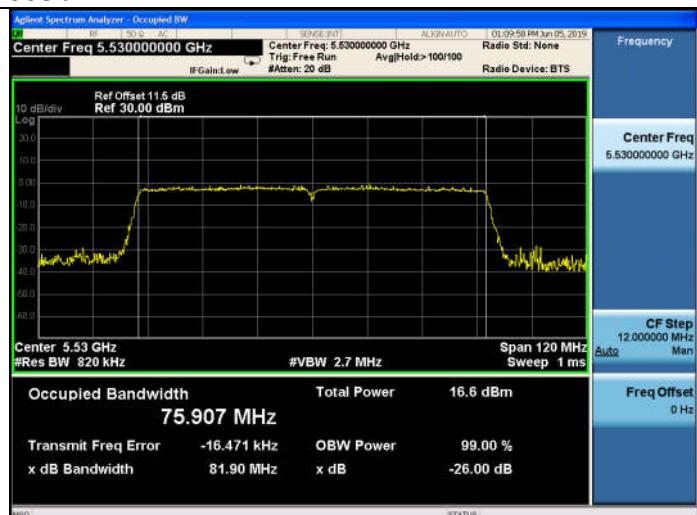
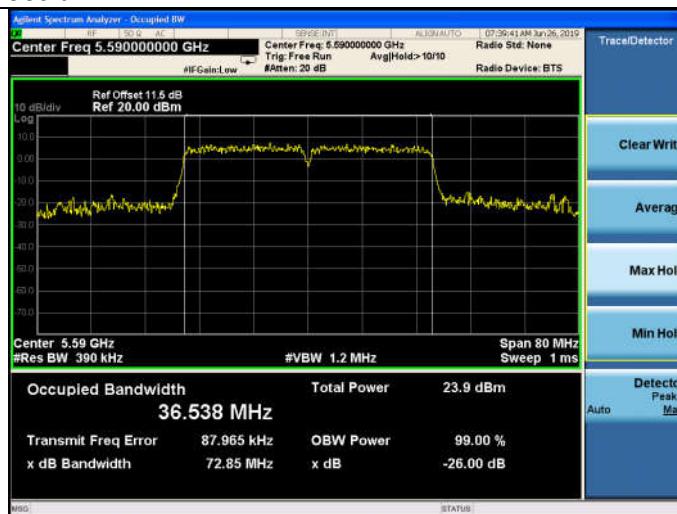
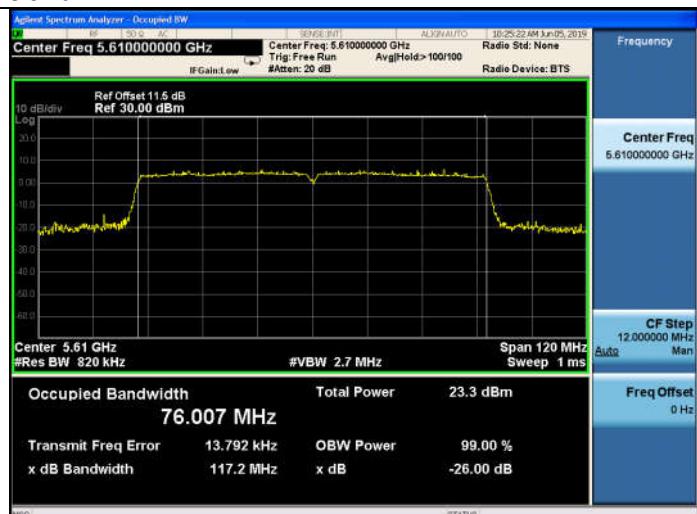
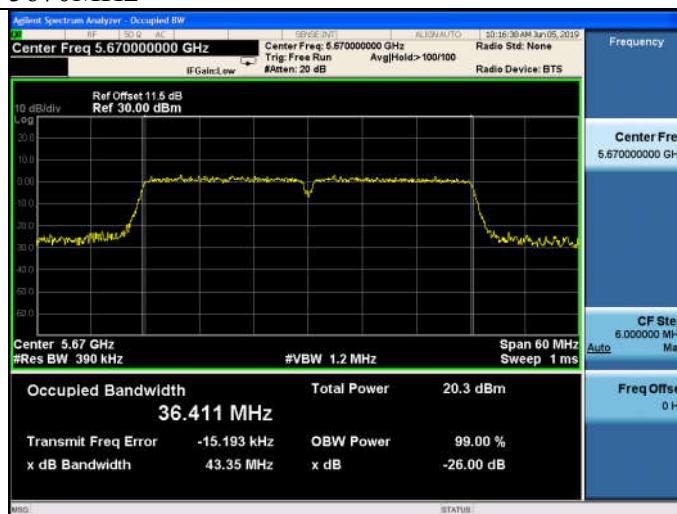
FCC ID: VOB-P2571

11ac VHT40

5510MHz

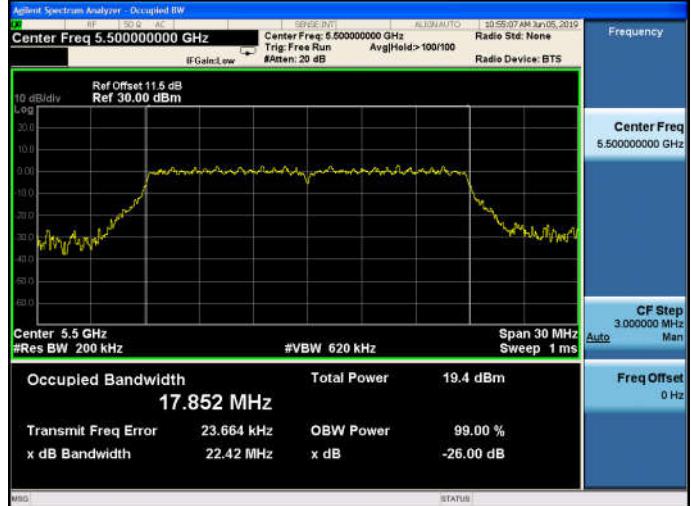
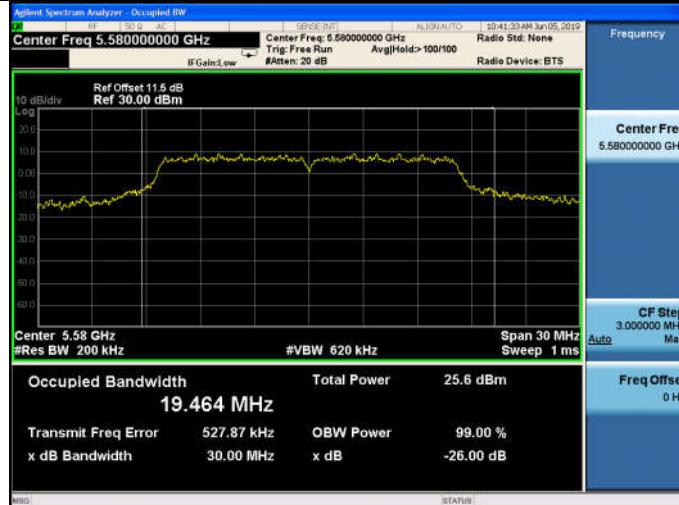
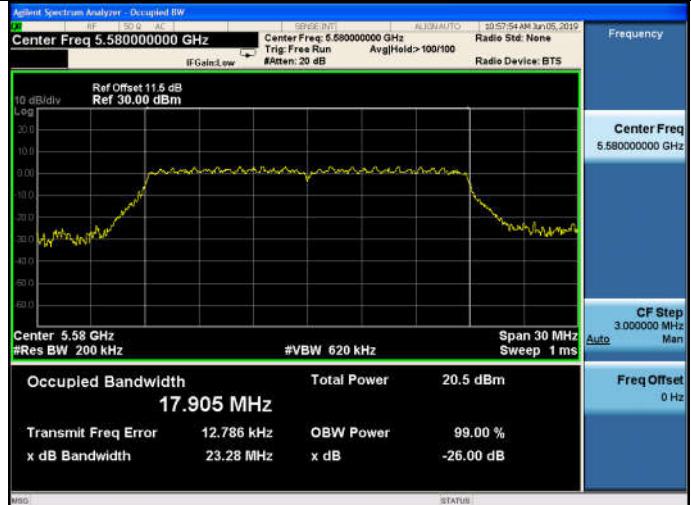
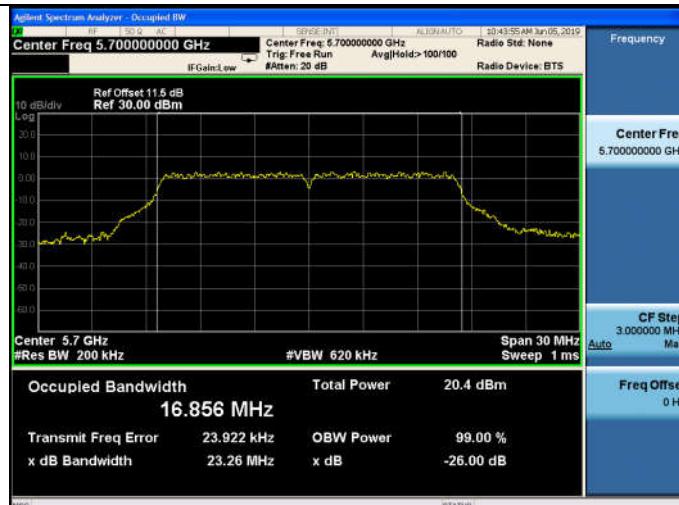
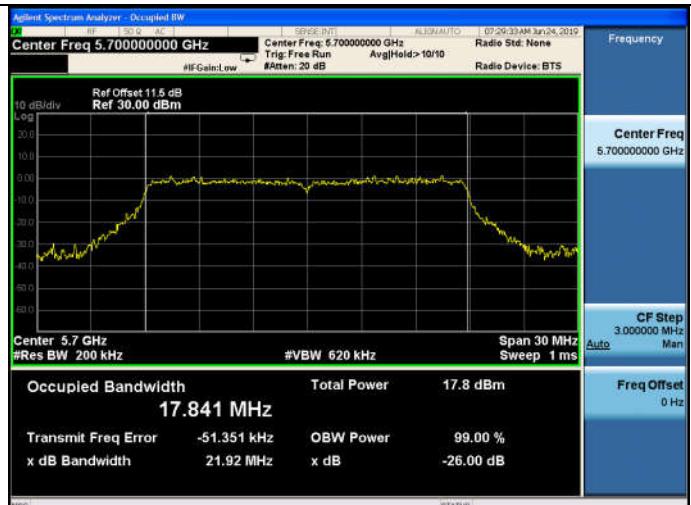

11ac VHT80

5530MHz

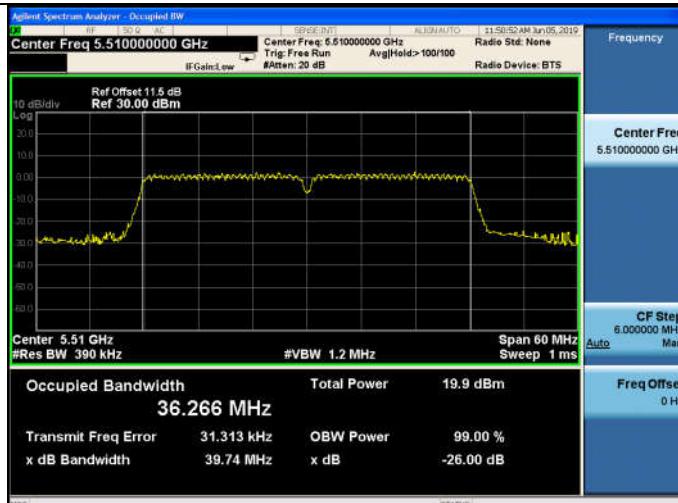
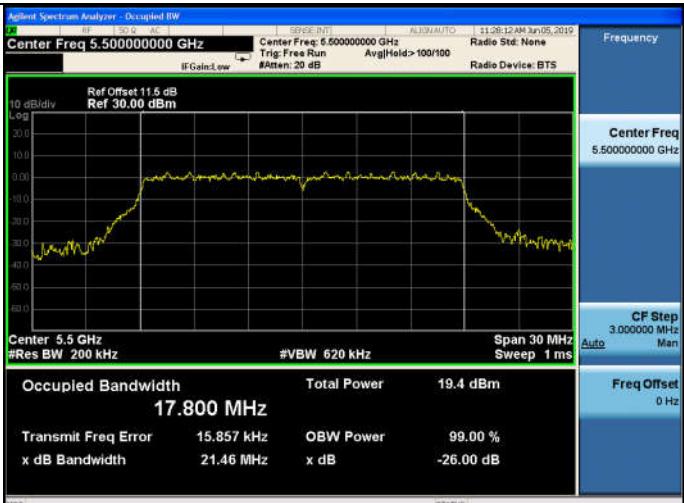
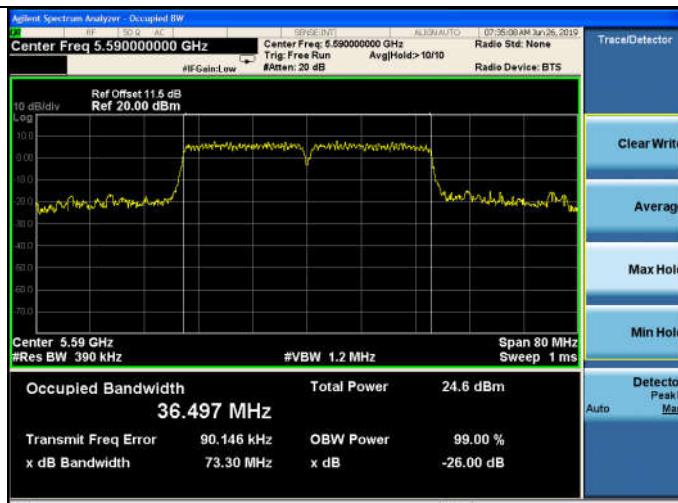
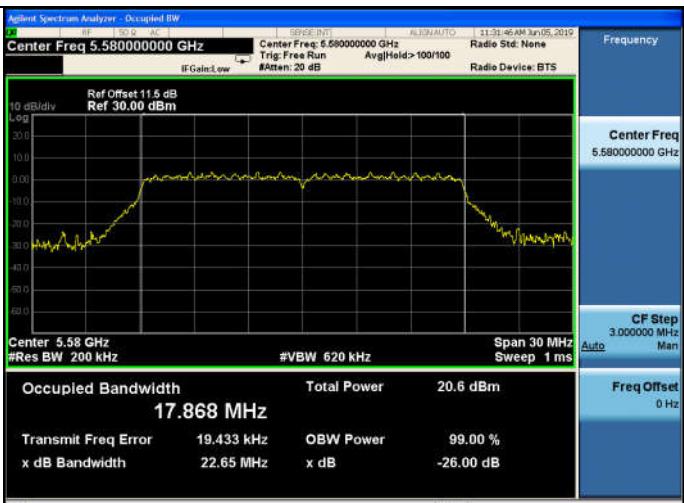
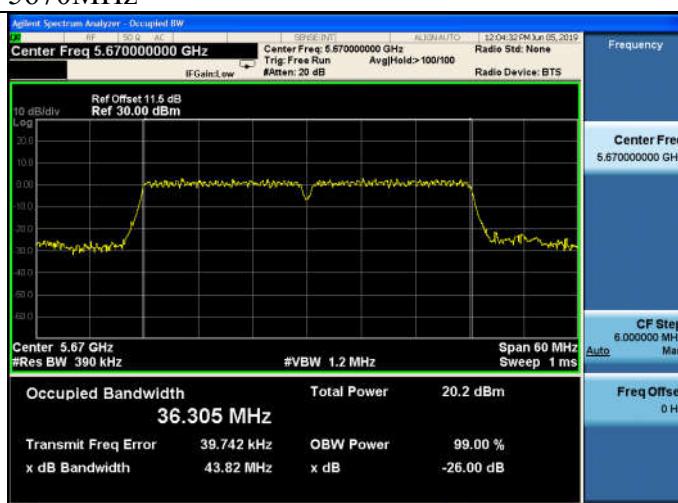

5590MHz

5610MHz

5670MHz


FCC ID: VOB-P2571

U-NII-2C Band:
ANT2
26dB bandwidth & 99% Occupied bandwidth
11a
5500MHz

11n HT20
5500MHz

5580MHz

5580MHz

5700MHz

5700MHz


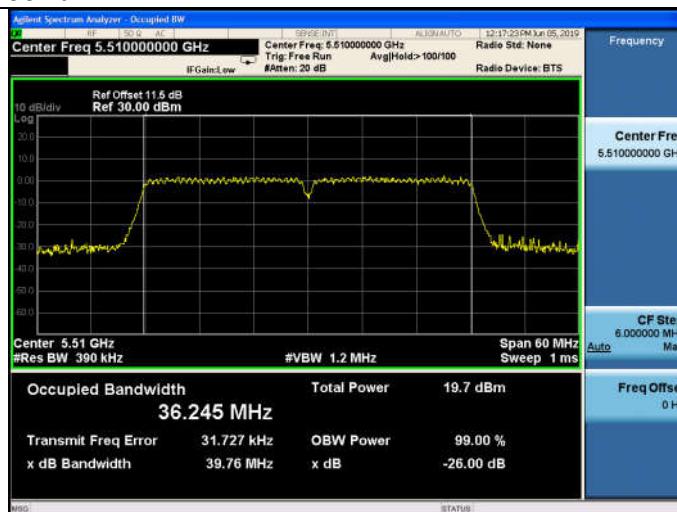
FCC ID: VOB-P2571

11n HT40
5510MHz

11ac VHT20
5500MHz

5590MHz

5580MHz

5670MHz

5700MHz

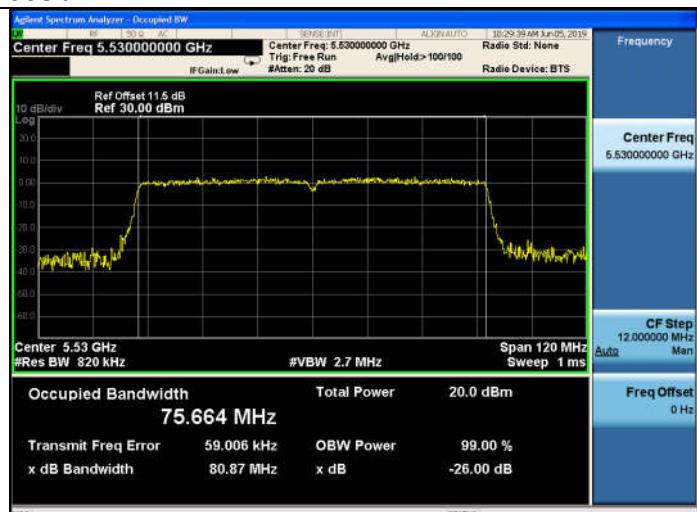
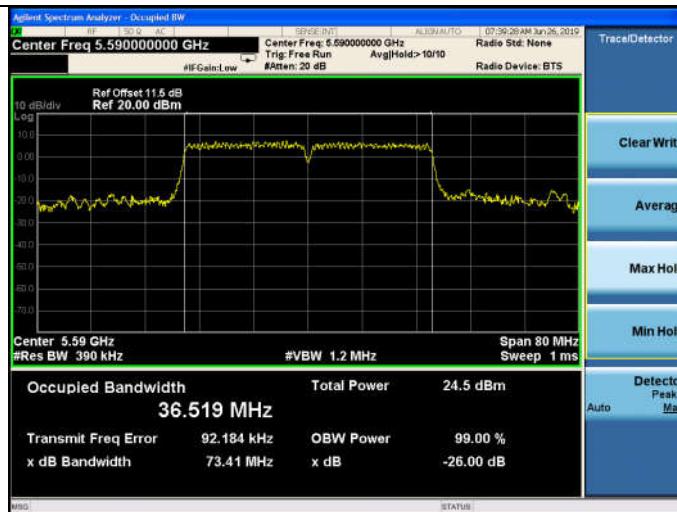
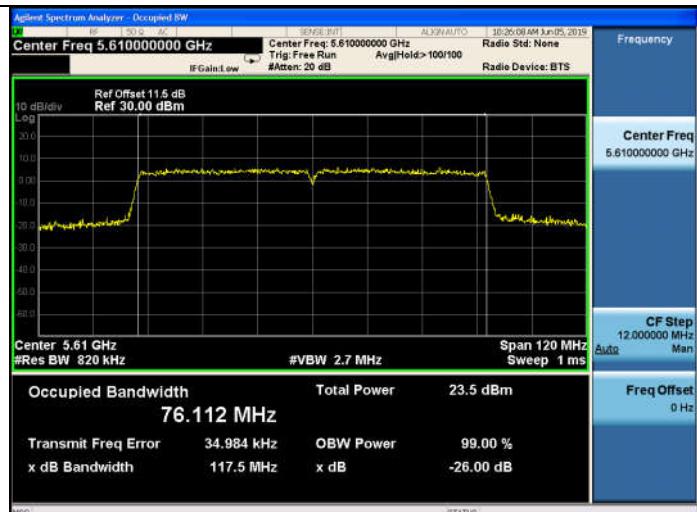
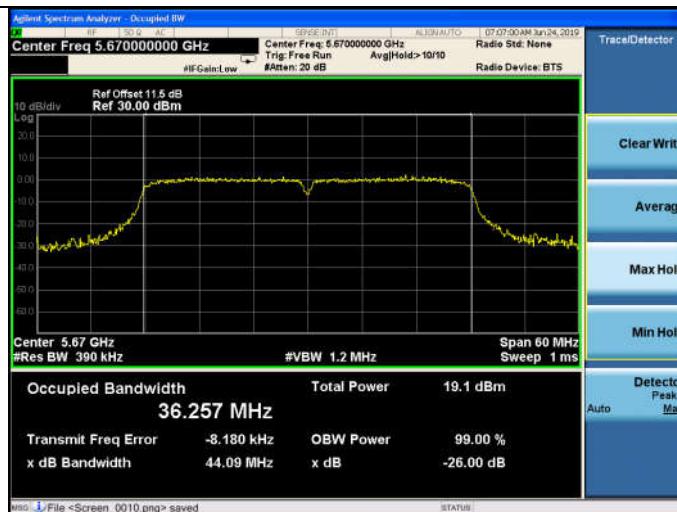

FCC ID: VOB-P2571

11ac VHT40

5510MHz


11ac VHT80

5530MHz


5590MHz

5610MHz

5670MHz


7. OUTPUT POWER TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Rohode&Schwarz	FSV7	102493	Oct.14,18	1 Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Oct.14,18	1 Year
3.	Power sensor	Anritsu	MA2491A	033005	Oct.13,18	1 Year
4.	Attenuator	Agilent	8491B	MY39262165	Oct.14,18	1 Year
5.	RF Cable	EMCI	EMC102-K M-KM 3500	170702	May.13,19	1 Year

7.2. Limit

For the band 5.15–5.25 GHz.

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(23.98dBm) provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W(30dBm).

7.3. Test Procedure

1. Connected the EUT's antenna port to measure device by 20dB attenuator.
2. Use the test method described in ANSI C63.10 clause 12.3 Method SA-1
 - 1) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
 - 2) Set RBW = 1 MHz.
 - 3) Set VBW ≥ 3 MHz.
 - 4) Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
 - 5) Sweep time = auto.
 - 6) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
 - 7) 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.”
 - 8) Trace average at least 100 traces in power averaging (rms) mode.
 - 9) 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.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

7.4. Test Results

U-NII-2A Band:

EUT: Complex Set-Top Box	
M/N: P2571	
Test date: 2019-05-22~23	Pressure: 102.1±1.0 kpa
Tested by: Lynn	Test site: RF site

Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)						Limit (dBm)	
		ANT1	ANT2	Duty Cycle Correction	ANT1	ANT2	Total	ANT1	ANT2
11a	5260	19.29	17.86	0.27	19.56	18.13	N/A	23.89	23.05
	5300	18.51	17.89	0.27	18.78	18.16	N/A		
	5320	15.20	15.25	0.27	15.47	15.52	N/A		
11n HT20	5260	15.32	15.36	0.28	15.60	15.64	18.63	20.45	20.45
	5300	15.14	15.07	0.28	15.42	15.35	18.40		
	5320	14.33	14.21	0.28	14.61	14.49	17.56		
11n HT40	5270	16.34	15.91	0.56	16.90	16.47	19.70	20.45	20.45
	5310	12.04	11.47	0.56	12.60	12.03	15.33		
11ac VHT20	5260	15.01	15.05	0.28	15.29	15.33	18.32	20.45	20.45
	5300	14.89	15.16	0.28	15.17	15.44	18.32		
	5320	14.11	14.26	0.28	14.39	14.54	17.48		
11ac VHT40	5270	16.49	15.91	0.56	17.05	16.47	19.78	20.45	20.45
	5310	11.54	10.80	0.56	12.1	11.36	14.76		
11ac VHT80	5290	10.79	10.24	1.05	11.84	11.29	14.58	20.45	20.45
Conclusion: PASS									

Notes:

- Antenna 1 Gain= 6.09dBi>6dBi;
Antenna 2 Gain= 6.93dBi>6dBi;
Directional Gain= $10 \log[(10^{6.09/20} + 10^{6.93/20})^2/2] \text{ dBi} = 9.53 \text{ dBi} > 6 \text{ dBi}$.
- The transmit signals are correlated.

U-NII-2C Band:

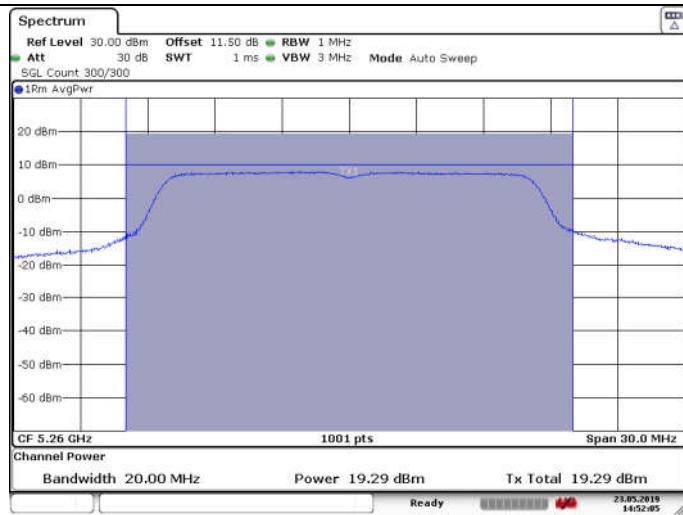
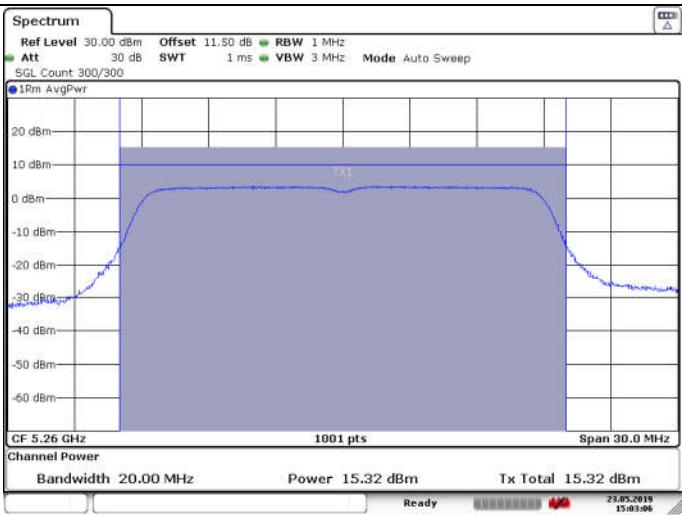
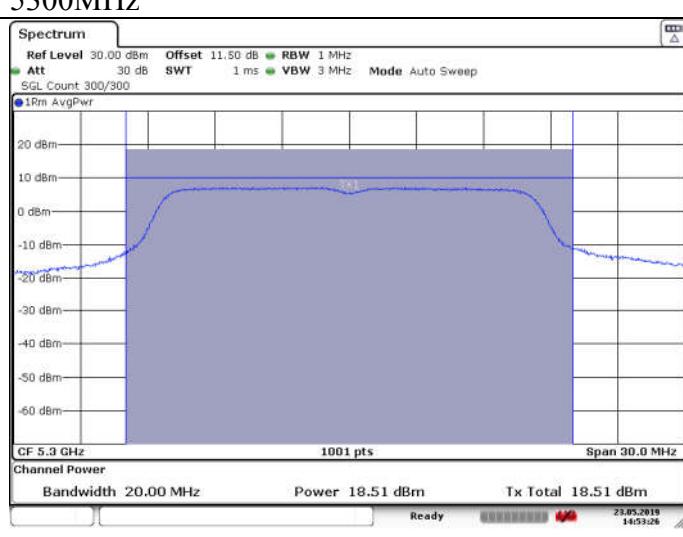
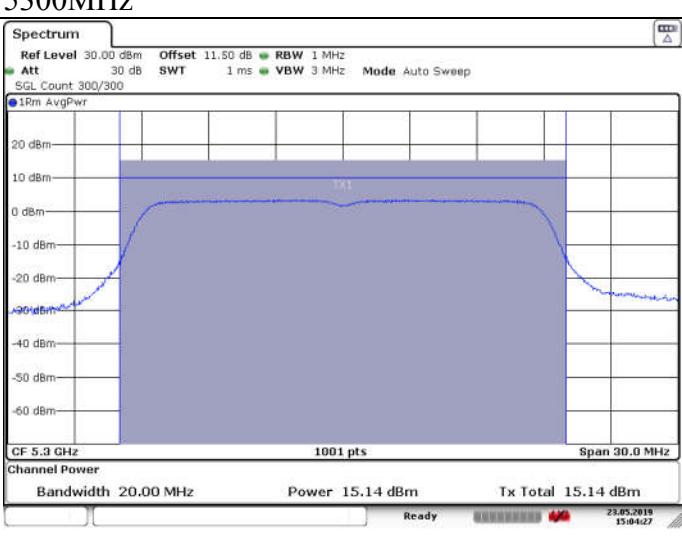
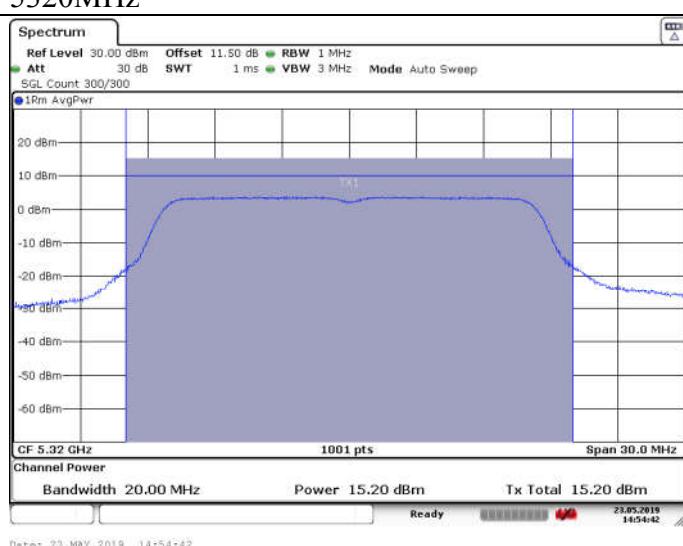
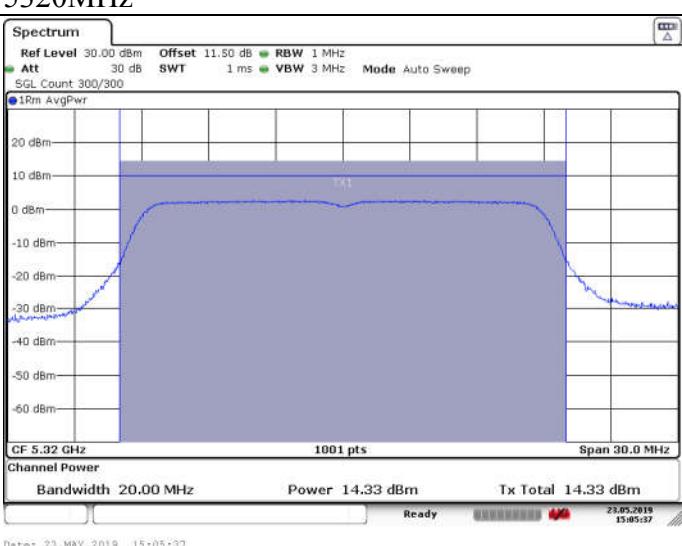
EUT: Complex Set-Top Box							
M/N: P2571							
Test date: 2019-05-23~28		Pressure: 102.1±1.0 kpa		Humidity: 51.1±3.0%			
Tested by: Lynn		Test site: RF site		Temperature: 22.8±0.6 °C			

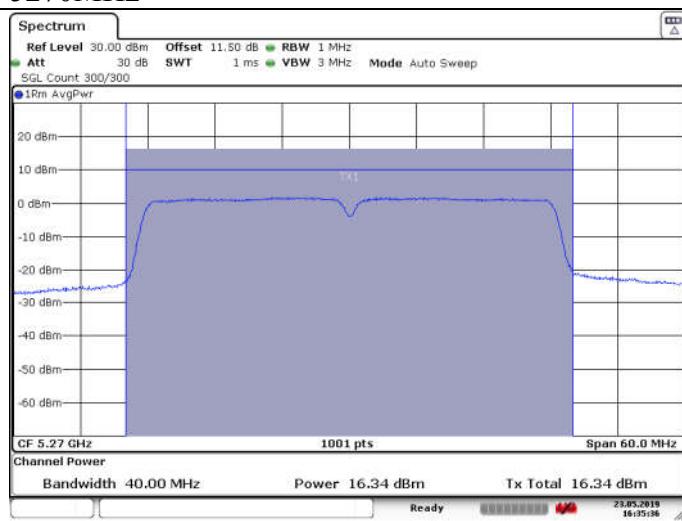
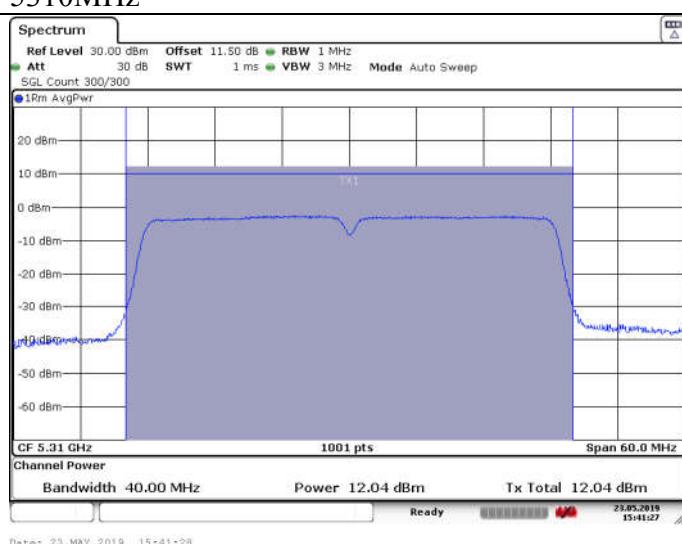
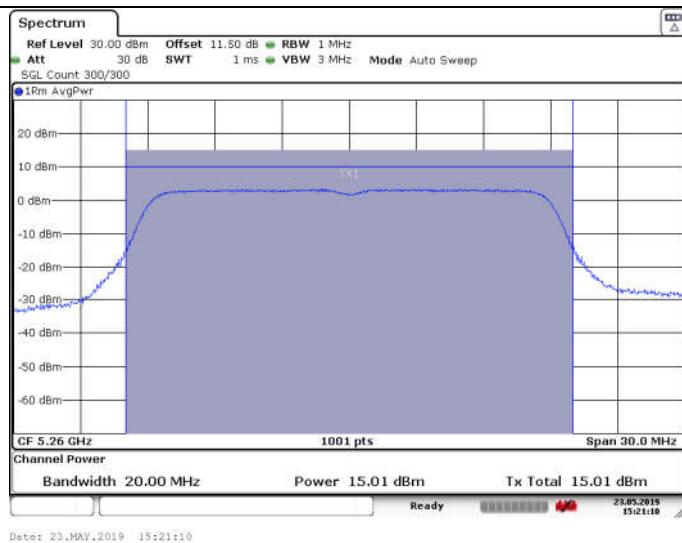
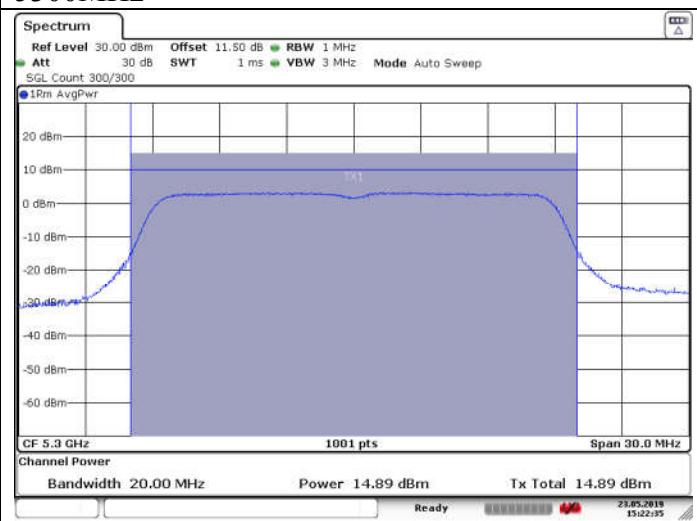
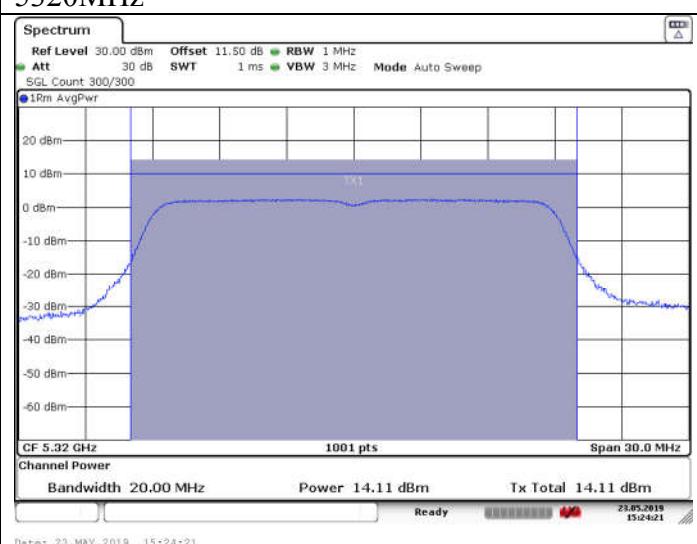
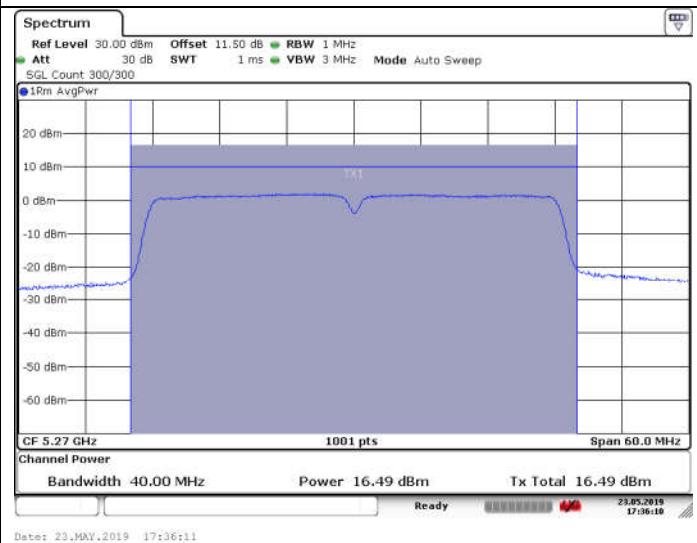
Test Mode	Frequency (MHz)	Maximum Conducted output power (dBm)						Limit (dBm)	
		ANT1	ANT2	Duty Cycle Correction	ANT1	ANT2	Total	ANT1	ANT2
11a	5500	16.72	16.96	0.27	16.99	17.23	N/A	23.90	22.67
	5580	19.61	19.94	0.27	19.88	20.21	N/A		
	5700	14.12	13.86	0.27	14.39	14.13	N/A		
11n HT20	5500	13.65	13.67	0.28	13.93	13.95	16.95	20.25	20.25
	5580	15.17	15.04	0.28	15.45	15.32	18.40		
	5700	12.68	12.35	0.28	12.96	12.63	15.81		
11n HT40	5510	11.07	10.51	0.56	11.63	11.07	14.37	20.25	20.25
	5590	16.13	15.96	0.56	16.69	16.52	19.62		
	5670	13.31	12.74	0.56	13.87	13.3	16.60		
11ac VHT20	5500	13.43	13.58	0.28	13.71	13.86	16.80	20.25	20.25
	5580	14.63	14.37	0.28	14.91	14.65	17.79		
	5700	12.96	12.19	0.28	13.24	12.47	15.88		
11ac VHT40	5510	11.23	10.87	0.56	11.79	11.43	14.62	20.25	20.25
	5590	16.06	15.99	0.56	16.62	16.55	19.60		
	5670	14.24	13.84	0.56	14.8	14.4	17.61		
11ac VHT80	5530	11.75	11.16	1.05	12.8	12.21	15.53	20.25	20.25
	5610	15.65	15.25	1.05	16.7	16.3	19.51		
Conclusion: PASS									

Notes:

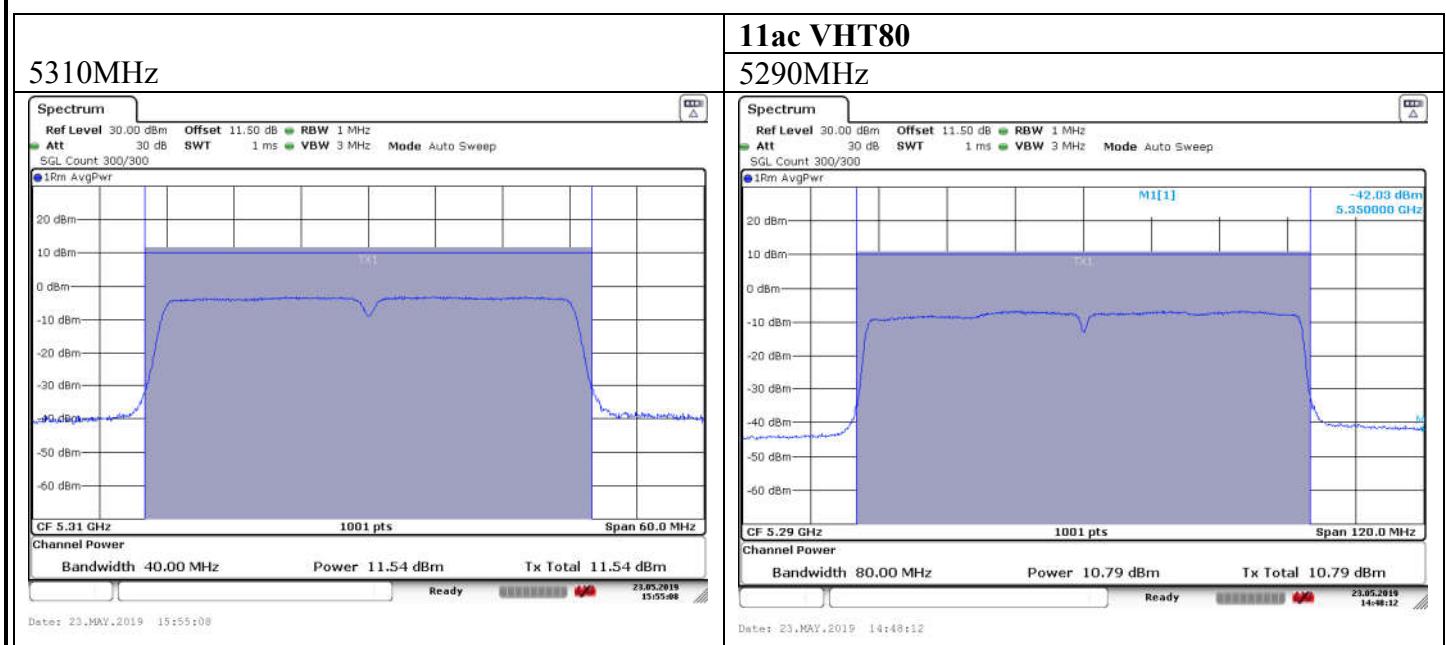
- Antenna 1 Gain= 6.08dBi>6dBi;
Antenna 2 Gain= 7.31dBi>6dBi;
Directional Gain= $10 \log[(10^{6.08/20}+10^{7.31/20})^2/2] \text{dBi} = 9.73 \text{dBi} > 6 \text{dBi}$.
- The transmit signals are correlated.

FCC ID: VOB-P2571

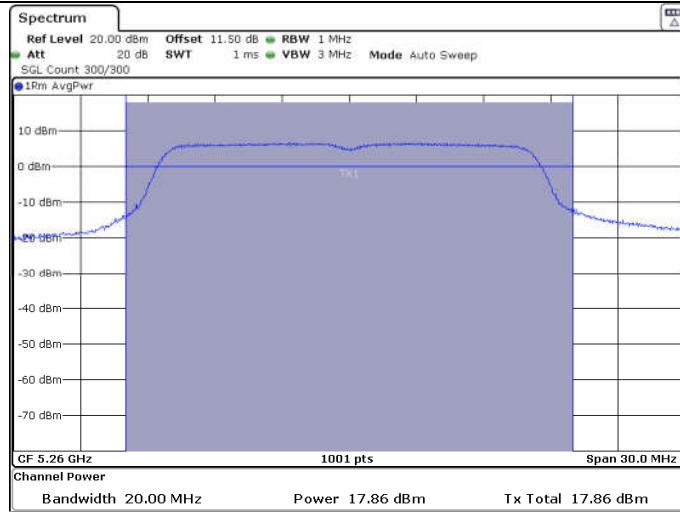
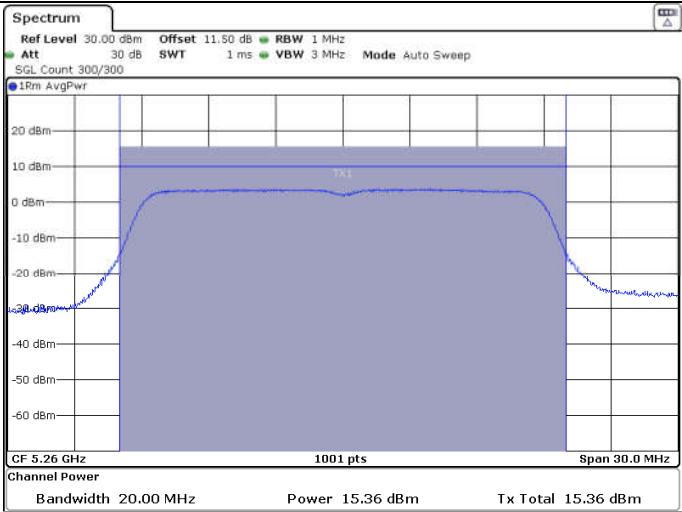
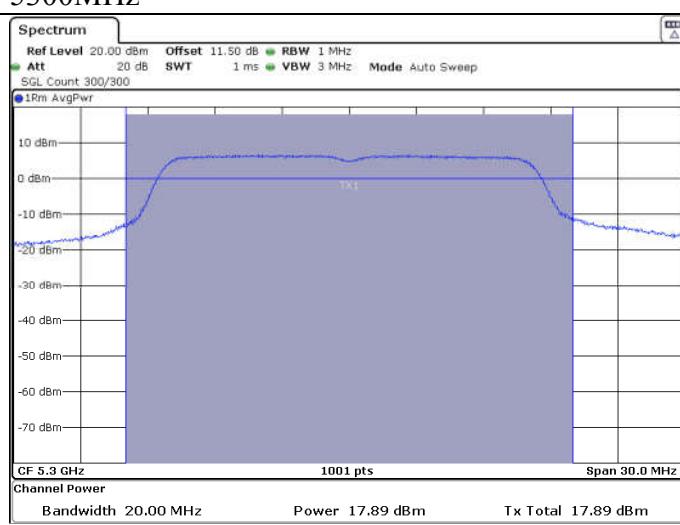
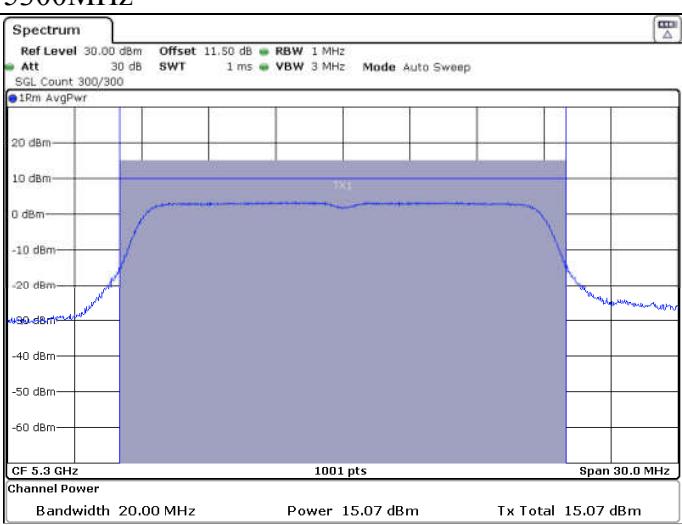
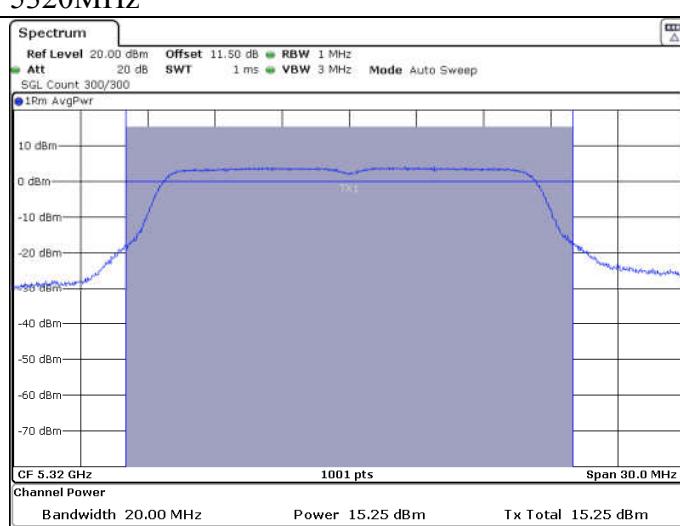
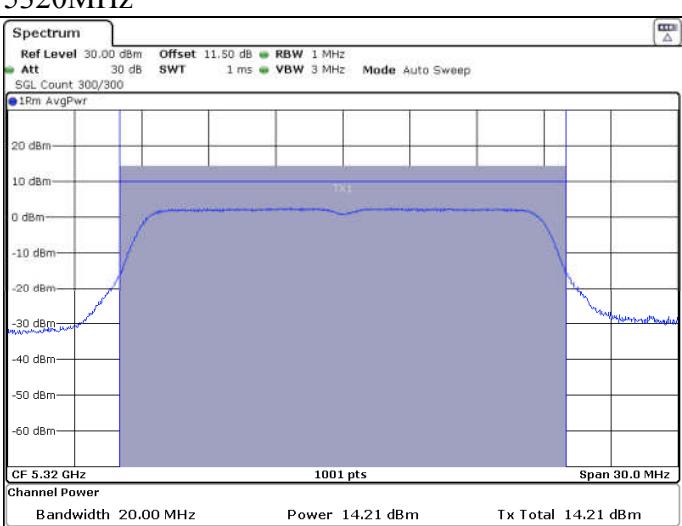
U-NII-2A Band:
ANT1
11a
5260MHz

11n HT20
5260MHz

5300MHz

5300MHz

5320MHz

5320MHz


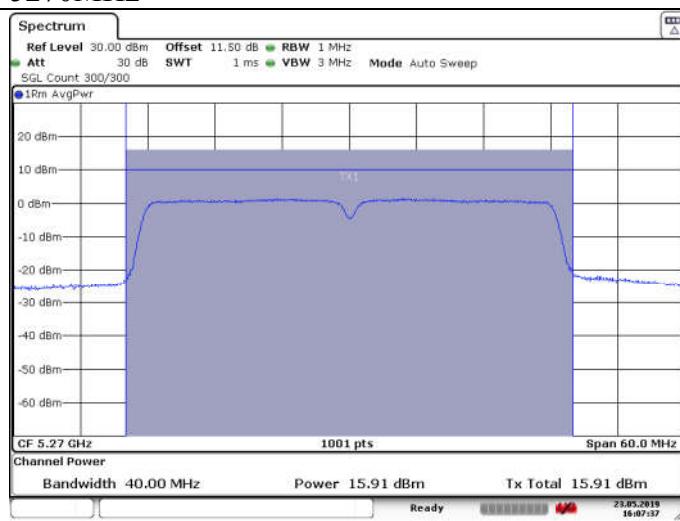
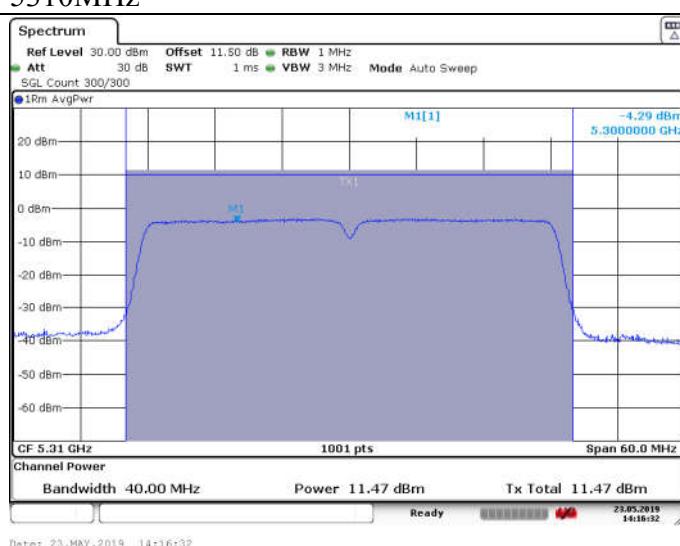
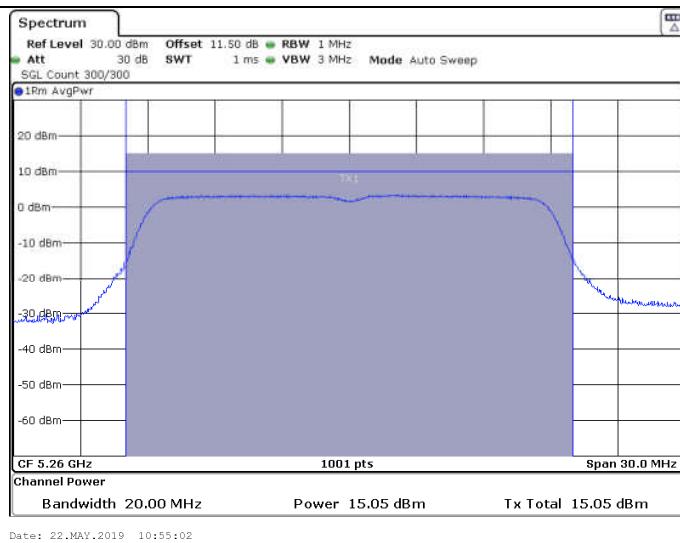
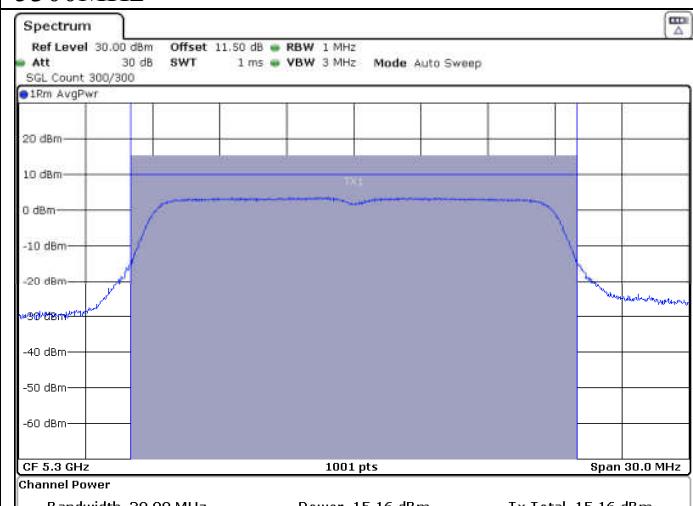
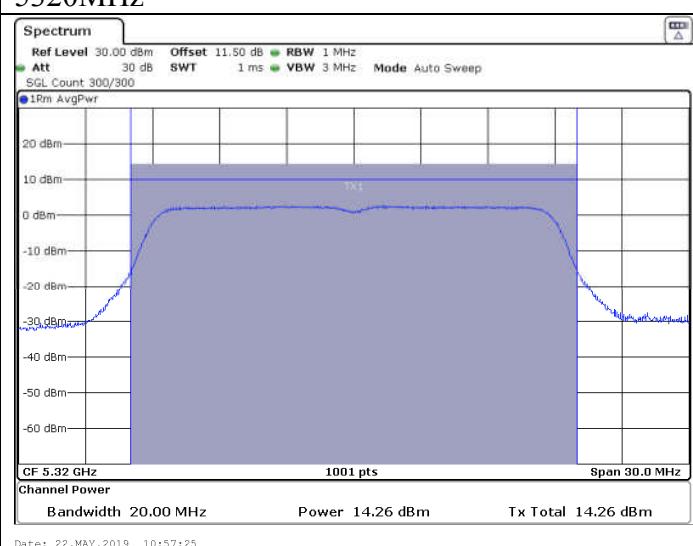
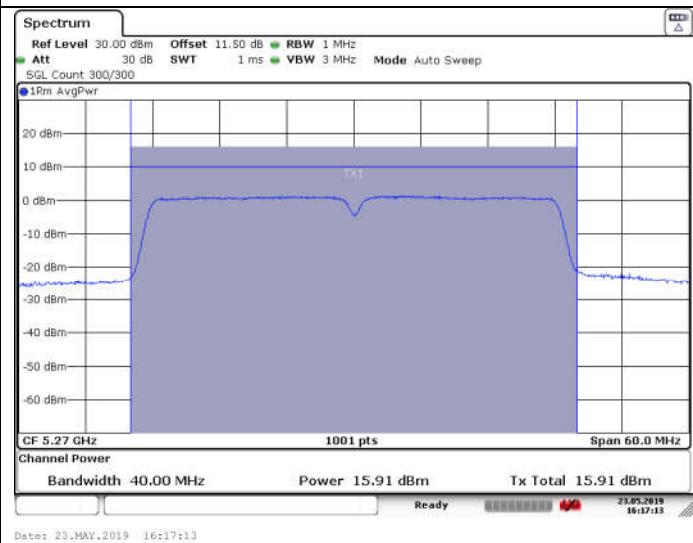
11n HT40
5270MHz

5300MHz

11ac VHT20
5260MHz

5300MHz

5310MHz

11ac VHT40
5270MHz


FCC ID: VOB-P2571

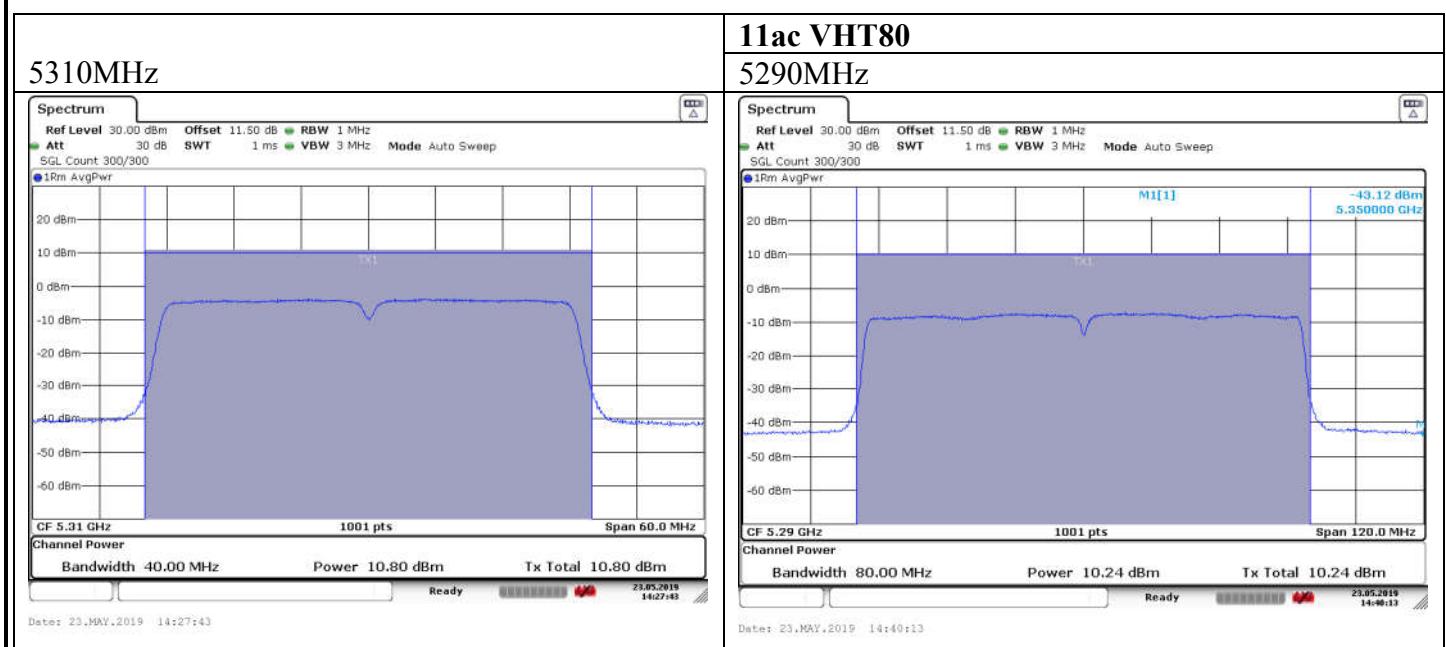


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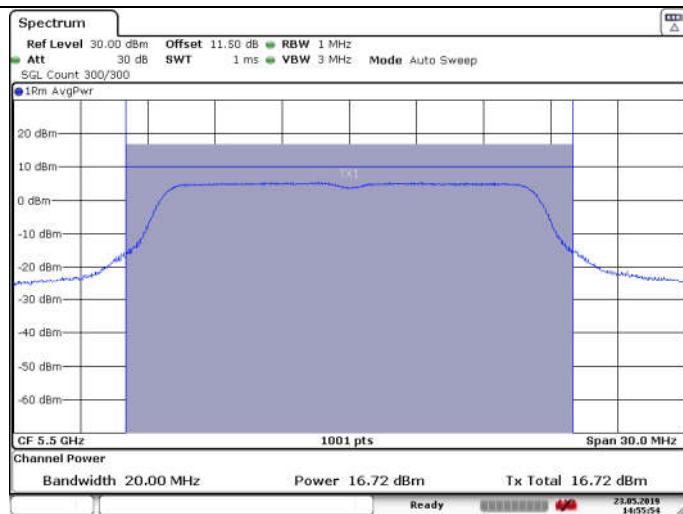
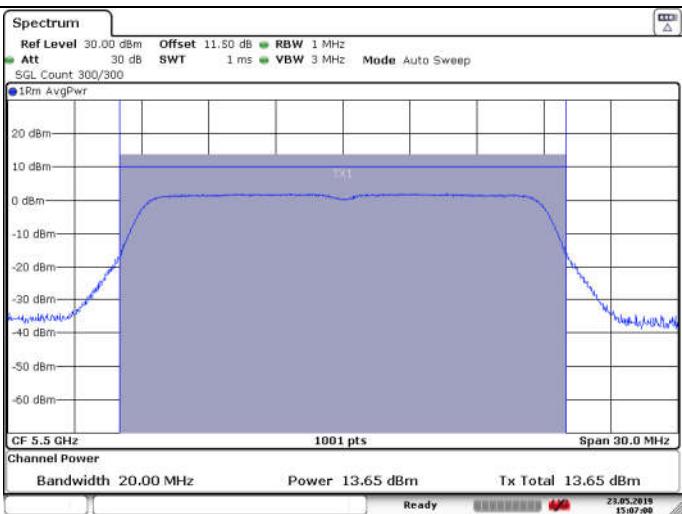
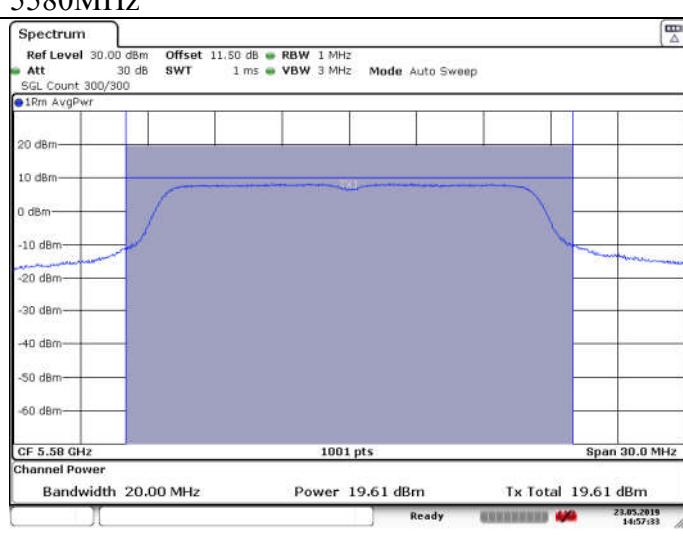
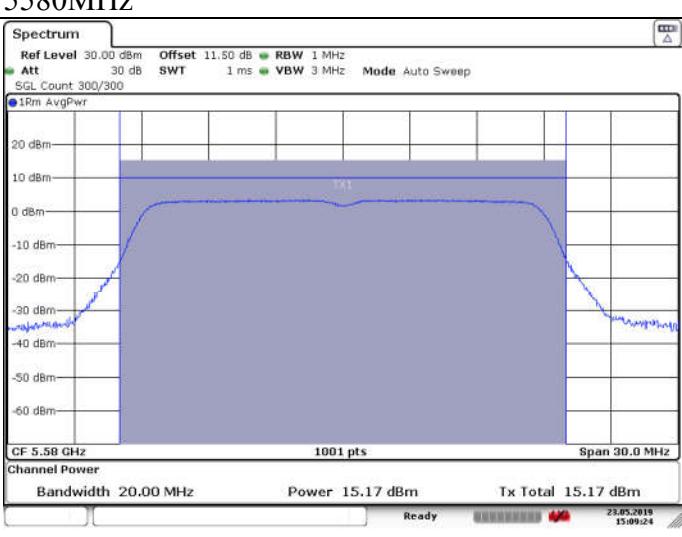
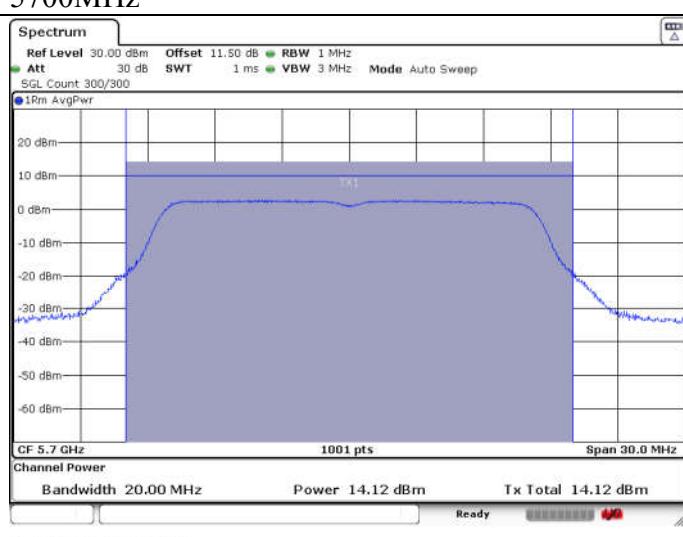
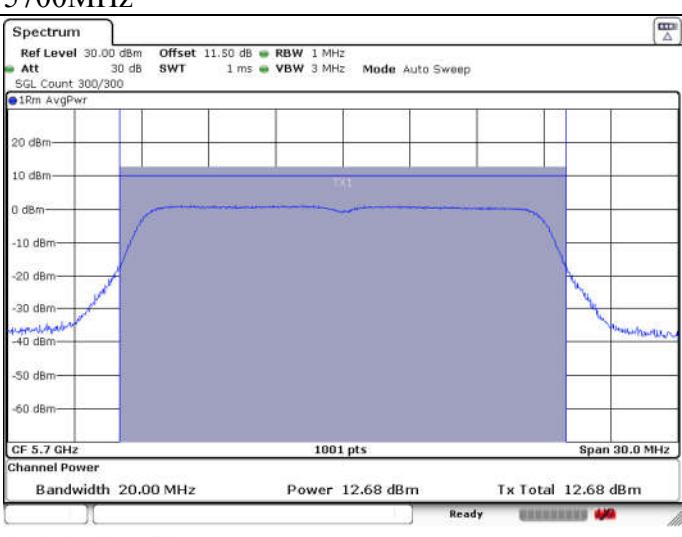
U-NII-2A Band:
ANT2
11a
5260MHz

11n HT20
5260MHz

5300MHz

5300MHz

5320MHz

5320MHz


11n HT40
5270MHz

5310MHz

11ac VHT20
5260MHz

5300MHz

5320MHz

11ac VHT40
5270MHz


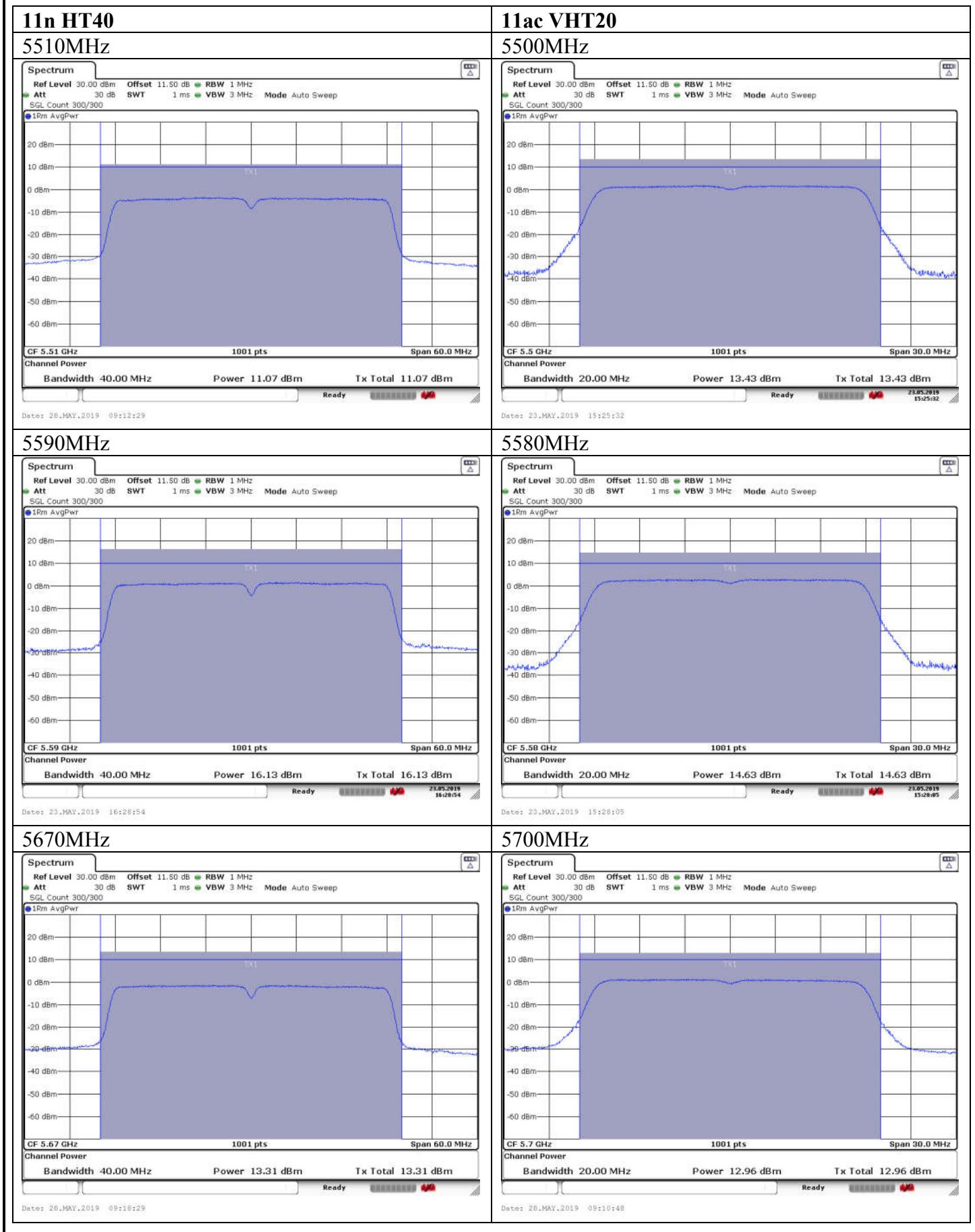
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FCC ID: VOB-P2571

U-NII-2C Band:
ANT1
11a
5500MHz

11n HT20
5500MHz

5580MHz

5580MHz

5700MHz

5700MHz


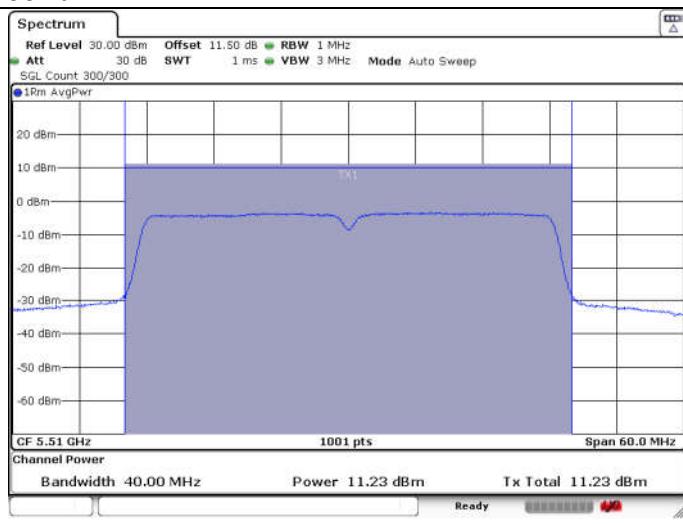
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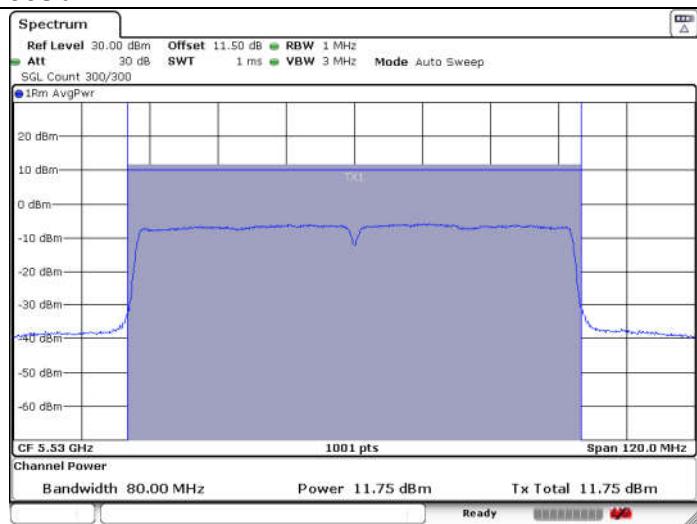
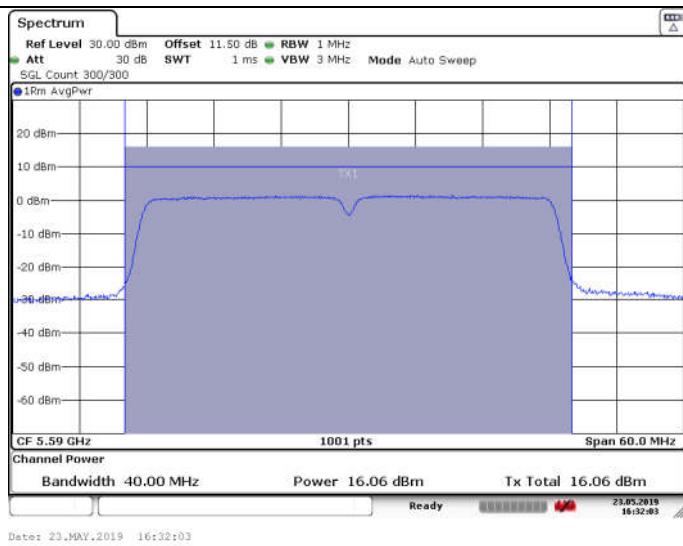
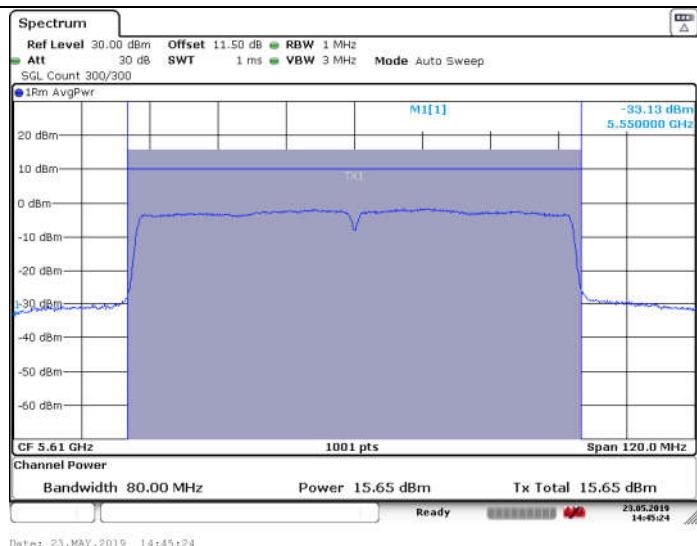
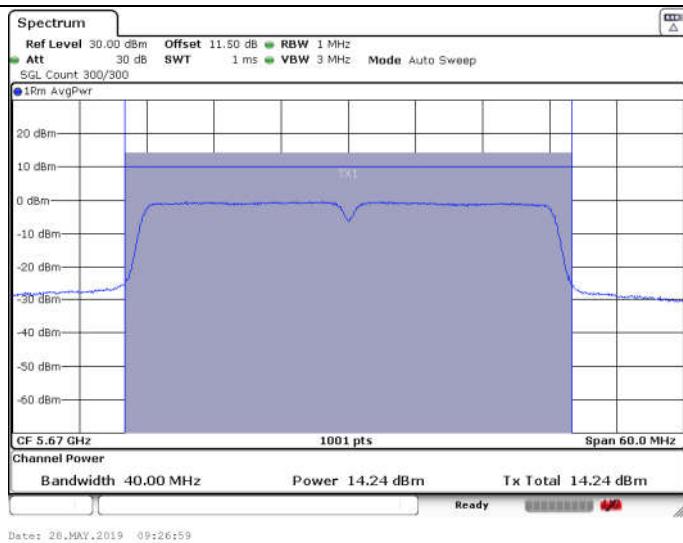
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11ac VHT40

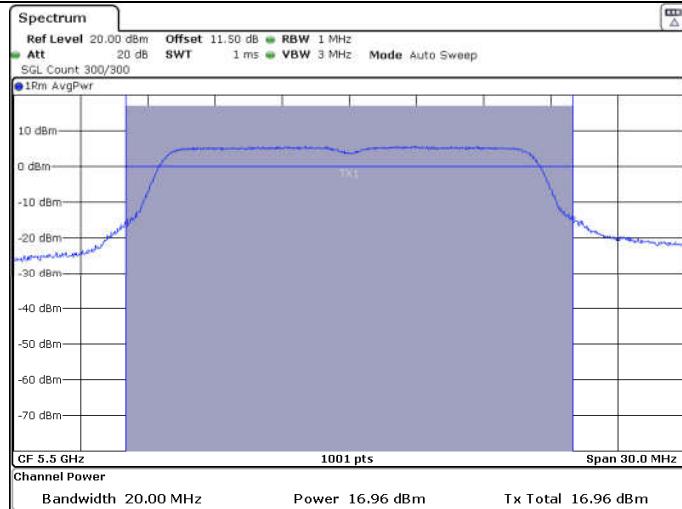
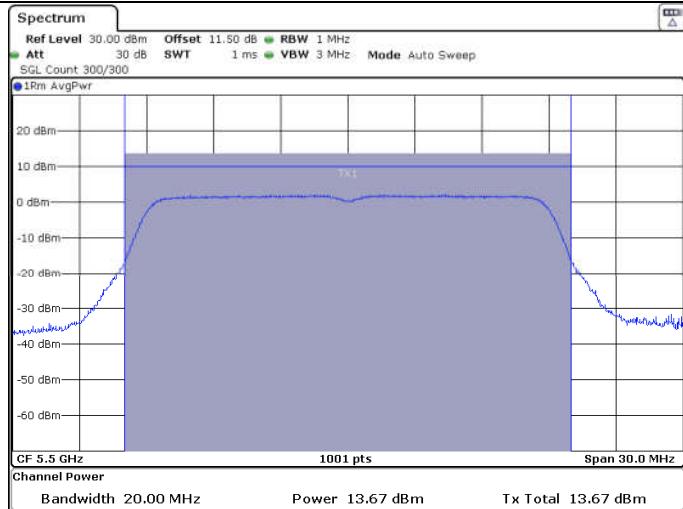
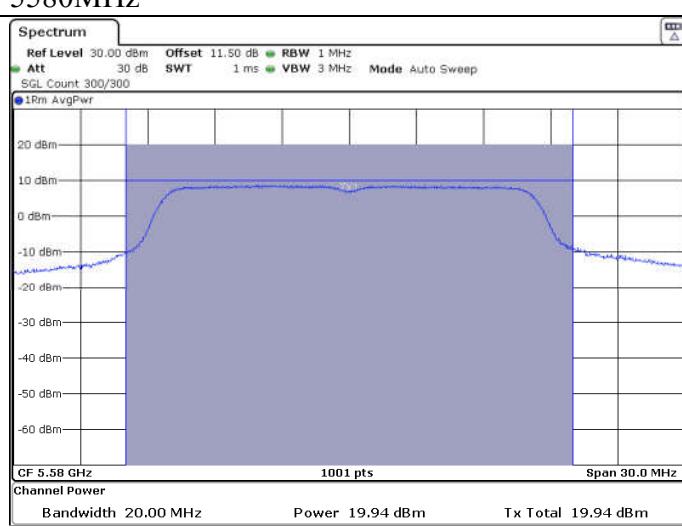
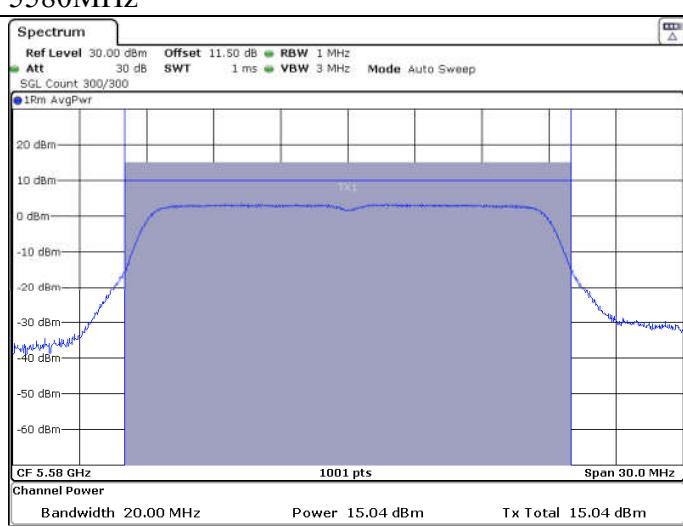
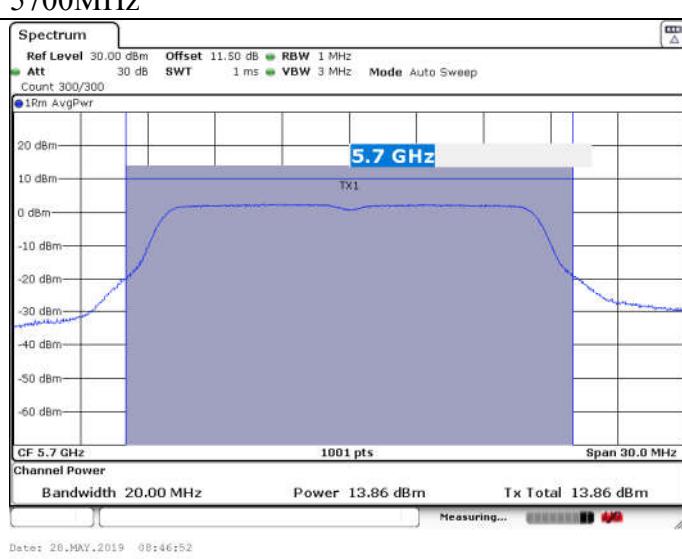
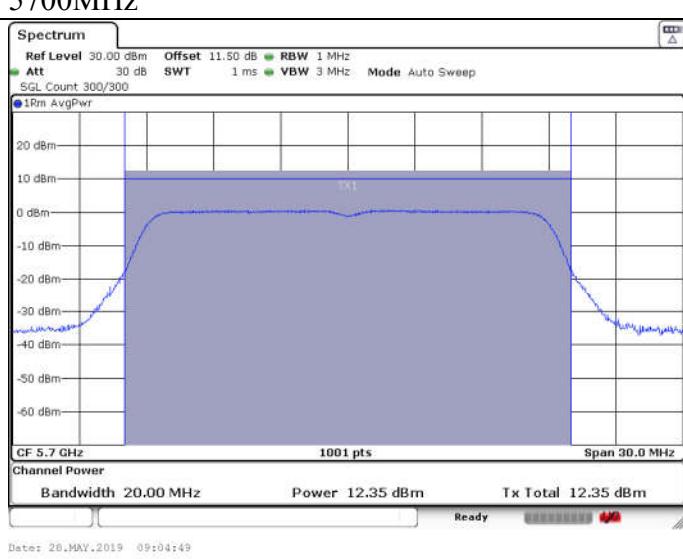
5510MHz


11ac VHT80

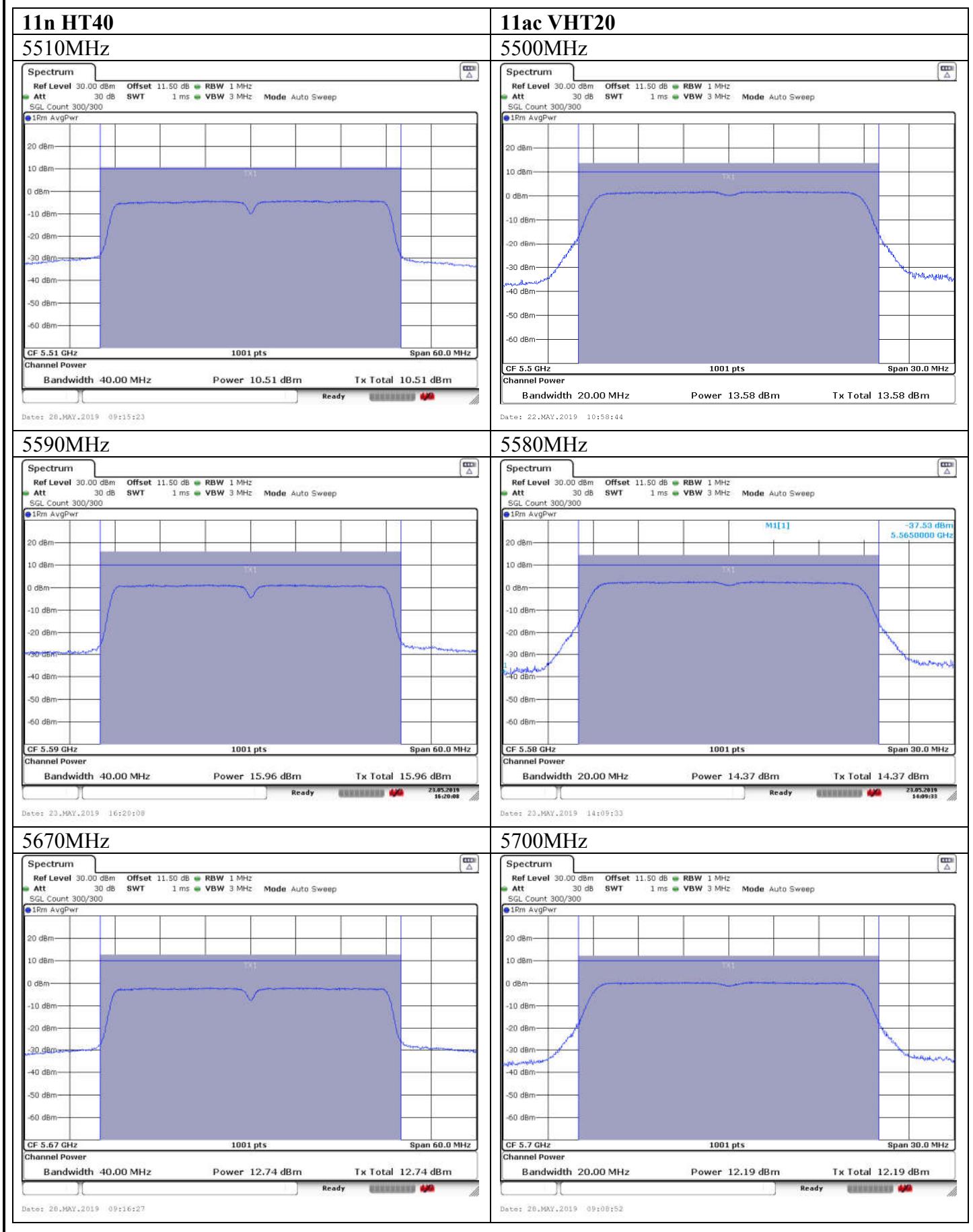
5530MHz


5590MHz

5610MHz

5670MHz


FCC ID: VOB-P2571

U-NII-2C Band:
ANT2
11a
5500MHz

11n HT20
5500MHz

5580MHz

5580MHz

5700MHz

5700MHz


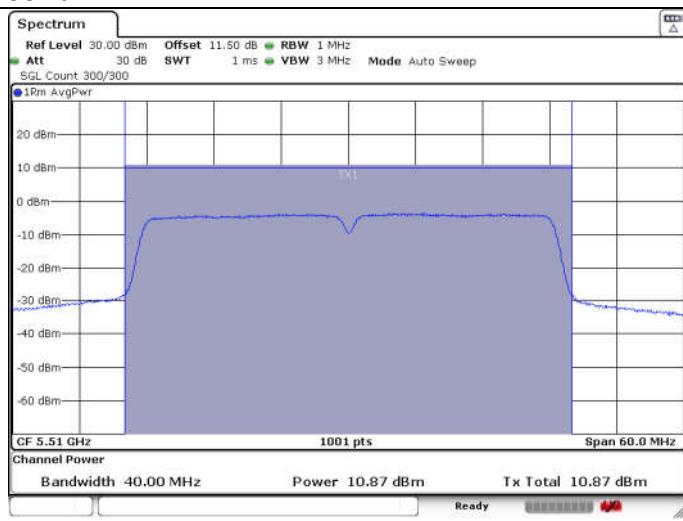
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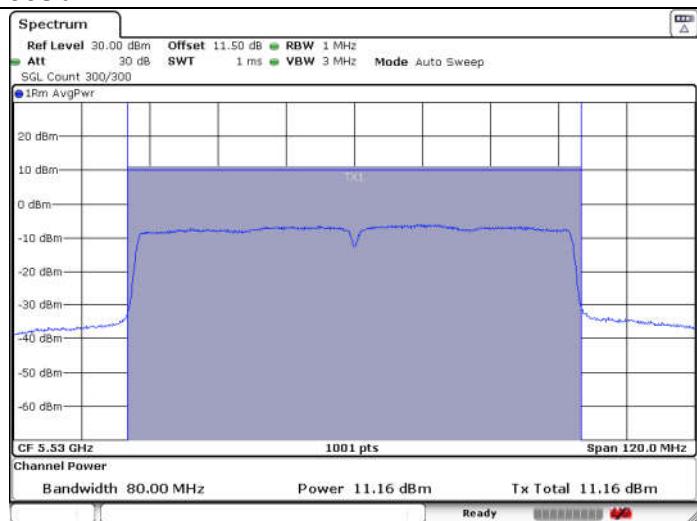
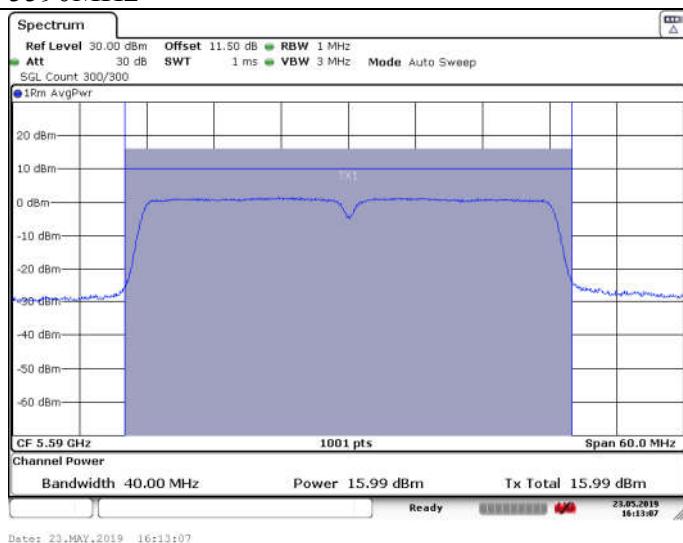
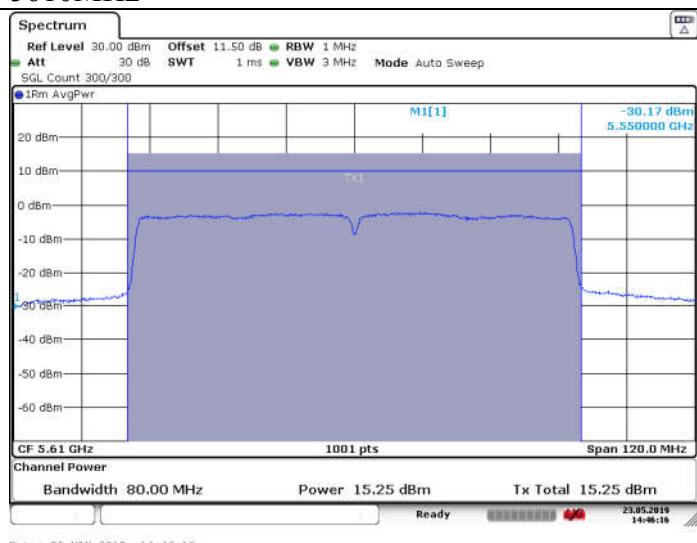
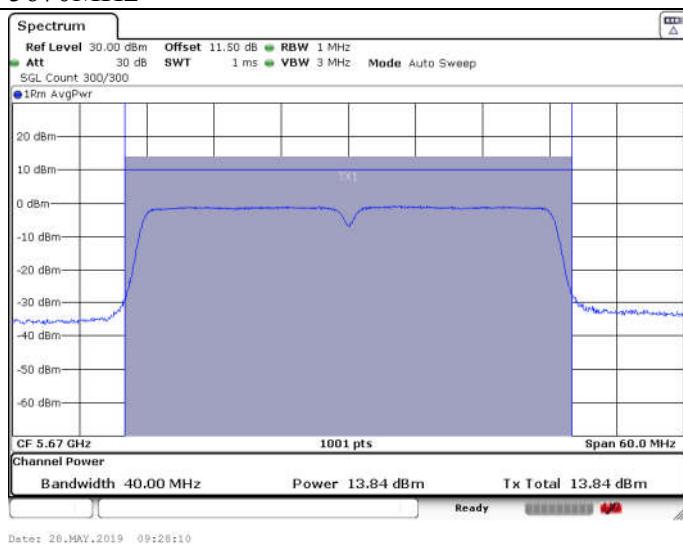
FCC ID: VOB-P2571

11ac VHT40

5510MHz


11ac VHT80

5530MHz


5590MHz

5610MHz

5670MHz


8. Equivalent Isotropic Radiated Power Test

8.1.Limit

Use the test method described in FCC Part 15.407(h) (1):

Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

8.2.Test Procedure

Use the test method described in ANSI C63.10 Annex G :

(1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator ,set the Spectrum Analyzer as below:

Span: Zero

RBW:100KHz

VBW:100KHz

Read out the duty cycle(X) of the transmitter and record as X

(2) The channel power measure function of spectrum Analyzer was used to measure out average output power of transmitter.

(3)Calculated e.i.r.p according to the formula: Read + Cable loss + Atten loss + Antenna Gain +
10log(1/x)

(4)Repeated test at the lowest, the middle, and the highest frequency of the stated frequency range.

8.3. Test Results

U-NII-2A Band:

EUT: Complex Set-Top Box		
M/N: P2571		
Test date: 2019-05-28	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	E.I.R.P (dBm)			Limit (dBm)	
		ANT1	ANT2	Total	ANT1	ANT2
11a	5260	25.65	25.06	N/A	29.28	29.29
	5300	24.87	25.09	N/A		
	5320	21.56	22.45	N/A		
11n HT20	5260	21.69	22.57	25.16	29.53	
	5300	21.51	22.28	24.92		
	5320	20.7	21.42	24.09		
11n HT40	5270	22.99	23.40	26.21	30	
	5310	18.69	18.96	21.84		
11ac VHT20	5260	21.38	22.26	24.85	29.53	
	5300	21.26	22.37	24.86		
	5320	20.48	21.47	24.01		
11ac VHT40	5270	23.14	23.40	26.28	30	
	5310	18.19	18.29	21.25		
11ac VHT80	5290	17.93	18.22	21.09	30	
Conclusion: PASS						

Note: For 11a/11n HT20/11ac VHT20 Mode

$$\text{Limit} = 17 \text{ dBm} + 10 \log B$$

where B is the 99% emission bandwidth in megahertz.

For 11n HT40/11ac VHT40/ 11ac VHT80Mode

$$\text{Limit} = 30.00 \text{ dBm}$$

U-NII-2C Band:

EUT: Complex Set-Top Box		
M/N: P2571		
Test date: 2019-05-28	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	Frequency (MHz)	E.I.R.P (dBm)			Limit (dBm)		
		ANT1	ANT2	Total	ANT1	ANT2	
11a	5500	23.07	24.54	N/A	29.25	29.27	
	5580	25.96	27.52	N/A			
	5700	20.47	21.44	N/A			
11n HT20	5500	20.01	21.26	23.69	29.51		
	5580	21.53	22.63	25.13			
	5700	19.04	19.94	22.52			
11n HT40	5510	17.71	18.38	21.07	30		
	5550	22.81	23.87	26.38			
	5670	19.95	20.61	23.30			
11ac VHT20	5500	19.79	21.17	23.54	29.50		
	5580	20.99	21.96	24.51			
	5700	19.32	19.78	22.57			
11ac VHT40	5510	17.87	18.74	21.34	30		
	5550	22.93	23.83	26.41			
	5670	20.88	21.71	24.33			
11ac VHT80	5530	18.88	19.52	22.22	30		
Conclusion: PASS							

Note: For 11a/11n HT20/11ac VHT20 Mode

$$\text{Limit} = 17 \text{ dBm} + 10 \log B$$

where B is the 99% emission bandwidth in megahertz.

For 11n HT40/11ac VHT40/ 11ac VHT80Mode

$$\text{Limit} = 30.00 \text{ dBm}$$

9. SPECTRAL DENSITY TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Rohode&Schwarz	FSV7	102493	Oct.14,18	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	Oct.14,18	1 Year
3.	RF Cable	Mini-Circuits	CBL-1M-SMSM+	No.4	Oct.14,18	1 Year

9.2. Limit

Band 5150-5250 MHz:

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

Band 5250-5350 MHz:

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

Band 5470-5725 MHz:

The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

Band 5725-5850 MHz:

The power spectral density shall not exceed 30 dBm in any 500 KHz band.

9.3. Test Procedure

Use the test method described in ANSI C63.10 clause 12.5:

For the Band 5.15-5.35GHz; 5.47-5.725 GHz:

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW; Detector: RMS mode.

For the band 5.725-5.85 GHz:

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW,RMS Detector.

So use the test method described in KDB789033 clause E

- 1) Set the RBW=100kHz and VBW =3MHz
- 2) Number of points in sweep \geq 2 Span / RBW.(This ensures that bin-to-bin spacing is \leq RBW/2 so that narrowband signals are not lost between frequency bins.)
- 3) Sweep time = auto
- 4) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- 5) Use the “peak search” function of spectrum analyzer find the max value, then add $10\log(500\text{kHz}/\text{RBW})$ to the measured result.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

9.4. Test Results

U-NII-2A Band:

EUT: Complex Set-Top Box	
M/N: P2571	
Test date: 2019-05-21~23	Pressure: 102.3±1.0 kpa
Tested by: Lynn	Test site: RF site

Test Mode	Frequency (MHz)	Power density (dBm/MHz)						Limit (dBm/MHz)	
		ANT1	ANT2	Duty Cycle Correction	ANT1	ANT2	Total	ANT1	ANT2
11a	5260	8.23	6.57	0.27	8.5	6.84	N/A	10.91	10.07
	5300	7.85	6.52	0.27	8.12	6.79	N/A		
	5320	4.02	3.85	0.27	4.29	4.12	N/A		
11n HT20	5260	3.91	3.42	0.28	4.19	3.70	6.96	7.47	7.47
	5300	3.74	3.40	0.28	4.02	3.68	6.86		
	5320	2.86	2.48	0.28	3.14	2.76	5.96		
11n HT40	5270	2.18	1.36	0.56	2.74	1.92	5.36	7.47	7.47
	5310	-2.16	-2.51	0.56	-1.60	-1.95	1.24		
11ac VHT20	5260	3.81	3.39	0.28	4.09	3.67	6.90	7.47	7.47
	5300	3.71	3.29	0.28	3.99	3.57	6.80		
	5320	2.77	2.36	0.28	3.05	2.64	5.86		
11ac VHT40	5270	2.06	1.50	0.56	2.62	2.06	5.36	7.47	7.47
	5310	-2.36	-3.15	0.56	-1.8	-2.59	0.83		
11ac VHT80	5290	-6.05	-6.75	1.05	-5.00	-5.70	-2.33	7.47	7.47
Conclusion: PASS									

Notes:

- Antenna 1 Gain= 6.09dBi>6dBi;
Antenna 2 Gain= 6.93dBi>6dBi;
Directional Gain= $10 \log[(10^{6.09/20}+10^{6.93/20})^2/2] \text{ dBi} = 9.53 \text{ dBi} > 6 \text{ dBi}$.
- The transmit signals are correlated.

U-NII-2C Band:

EUT: Complex Set-Top Box	
M/N: P2571	
Test date: 2019-05-21~28	Pressure: 102.8±1.0 kpa
Tested by: Lynn	Test site: RF site

Test Mode	Frequency (MHz)	Power density (dBm/MHz)						Limit (dBm/MHz)	
		ANT1	ANT2	Duty Cycle Correction	ANT1	ANT2	Total	ANT1	ANT2
11a	5500	5.97	5.84	0.27	6.24	6.11	N/A	10.92	9.69
	5580	8.78	8.56	0.27	9.05	8.83	N/A		
	5700	2.62	2.34	0.27	2.89	2.61	N/A		
11n HT20	5500	2.34	1.91	0.28	2.62	2.19	5.42	7.27	7.27
	5580	3.69	3.13	0.28	3.97	3.41	6.71		
	5700	1.03	0.63	0.28	1.31	0.91	4.12		
11n HT40	5510	-2.97	-3.28	0.56	-2.41	-2.72	0.45	7.27	7.27
	5590	1.96	1.56	0.56	2.52	2.12	5.33		
	5670	-1.18	-1.44	0.56	-0.62	-0.88	2.26		
11ac VHT20	5500	2.47	1.98	0.28	2.75	2.26	5.52	7.27	7.27
	5580	3.41	3.06	0.28	3.69	3.34	6.53		
	5700	1.39	0.77	0.28	1.67	1.05	4.38		
11ac VHT40	5510	-2.98	-3.02	0.56	-2.42	-2.46	0.57	7.27	7.27
	5590	1.88	1.58	0.56	2.44	2.14	5.30		
	5670	-0.21	-0.66	0.56	0.35	-0.10	3.14		
11ac VHT80	5530	-5.24	-6.00	1.05	-4.19	-4.95	-1.54	7.27	7.27
	5610	-0.27	-0.77	1.05	0.78	0.28	3.55		
Conclusion: PASS									

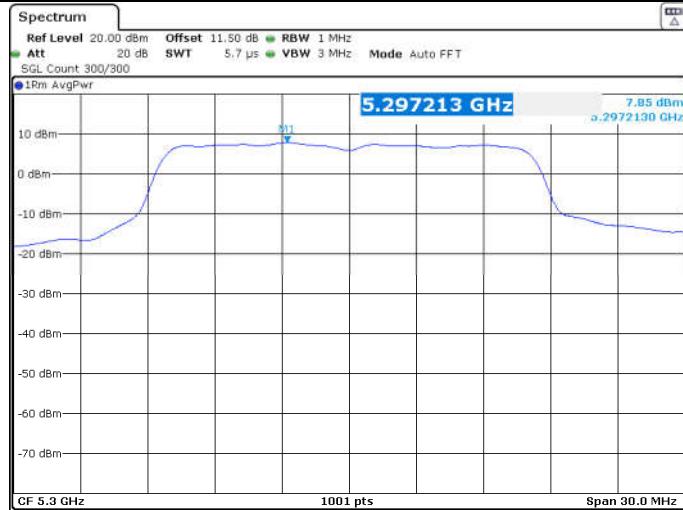
Notes:

1. Antenna 1 Gain= 6.08dBi>6dBi;
Antenna 2 Gain= 7.31dBi>6dBi;
Directional Gain= $10 \log[(10^{6.08/20} + 10^{7.31/20})^2 / 2] \text{dBi} = 9.73 \text{dBi} > 6 \text{dBi}$.
2. The transmit signals are correlated.

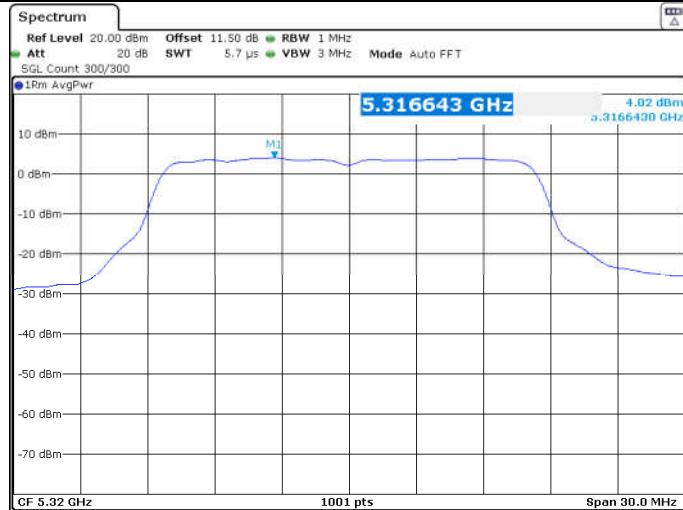
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U-NII-2A Band:
ANT1
11a
5260MHz

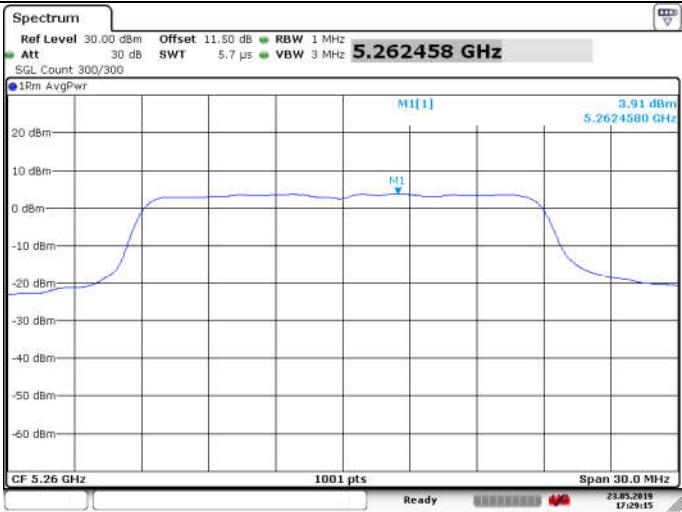

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5300MHz


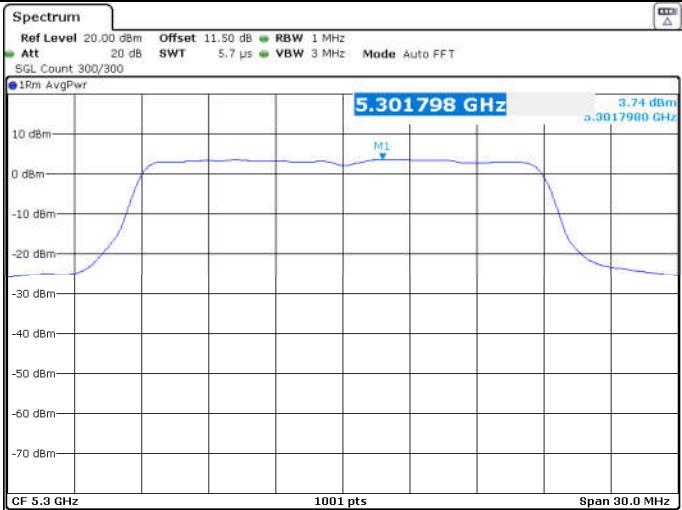
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5320MHz


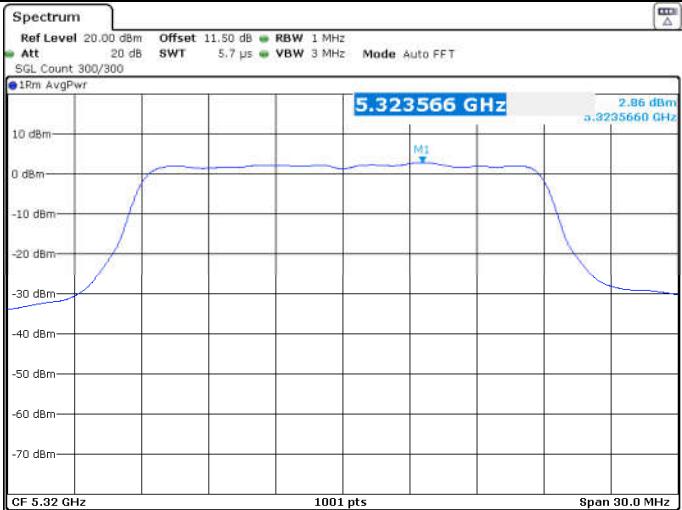
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11n HT20
5260MHz


Date: 23.MAY.2019 17:29:15

5300MHz


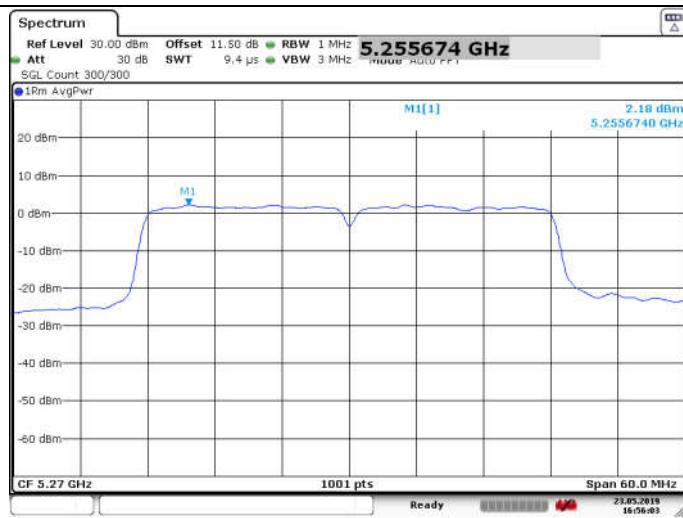
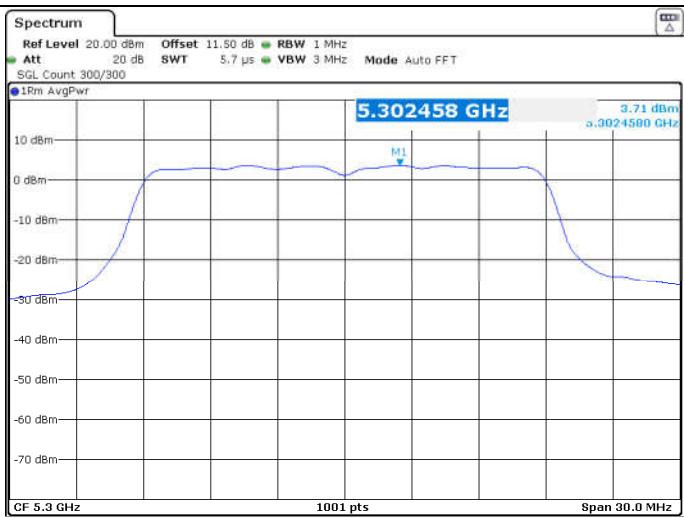
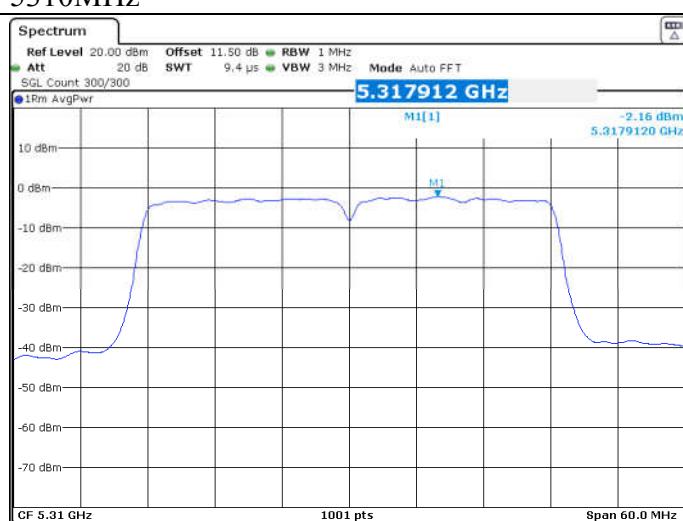
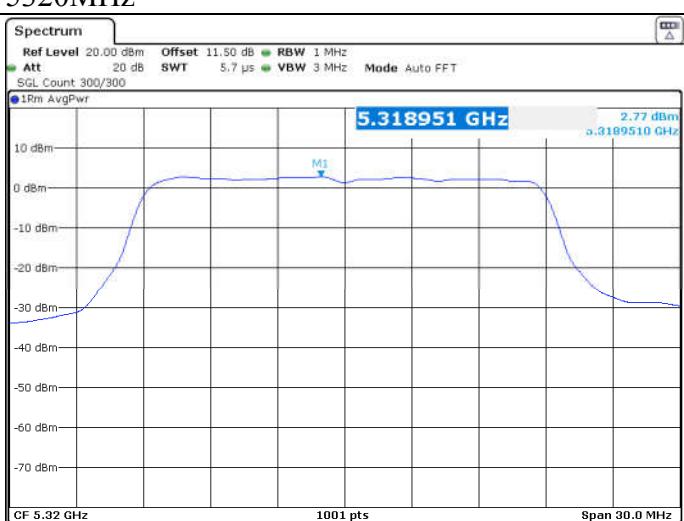
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5320MHz


Date: 21.MAY.2019 10:27:13

11n HT40

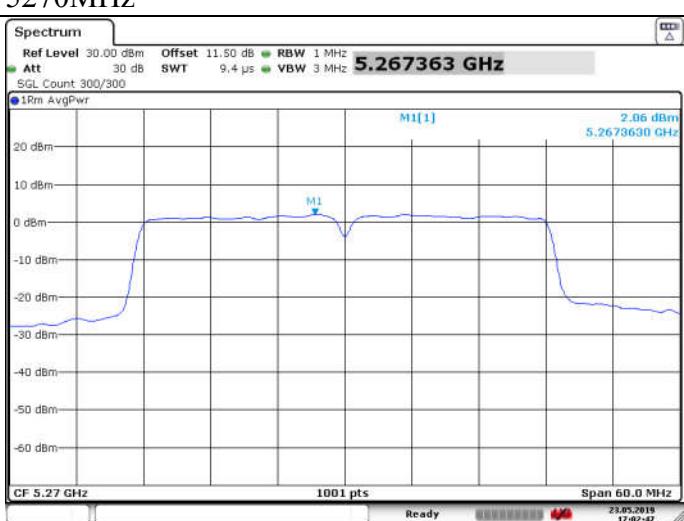
5270MHz

**5300MHz****5310MHz****5320MHz****11ac VHT20**

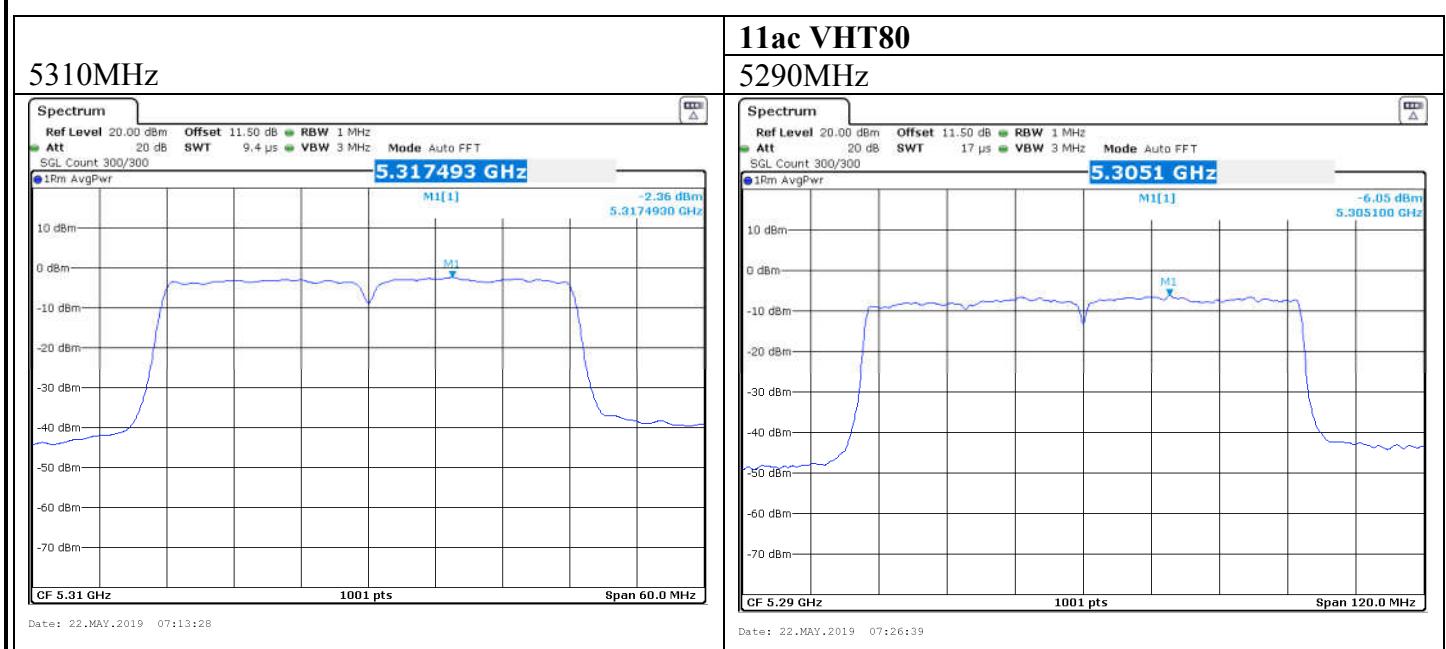
5260MHz

**11ac VHT40**

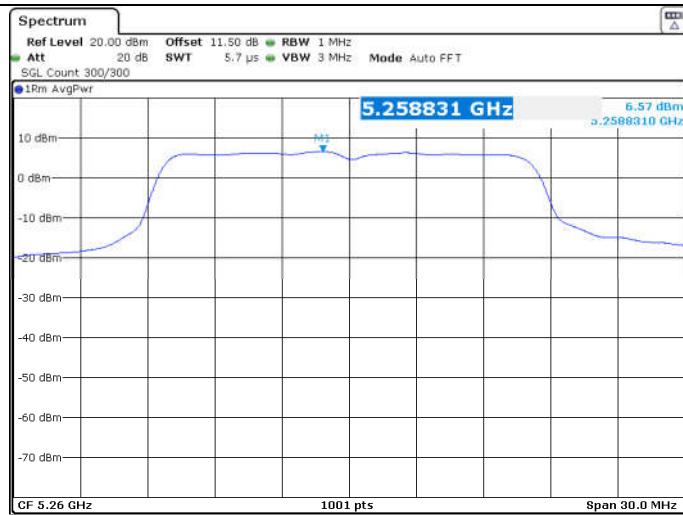
5270MHz



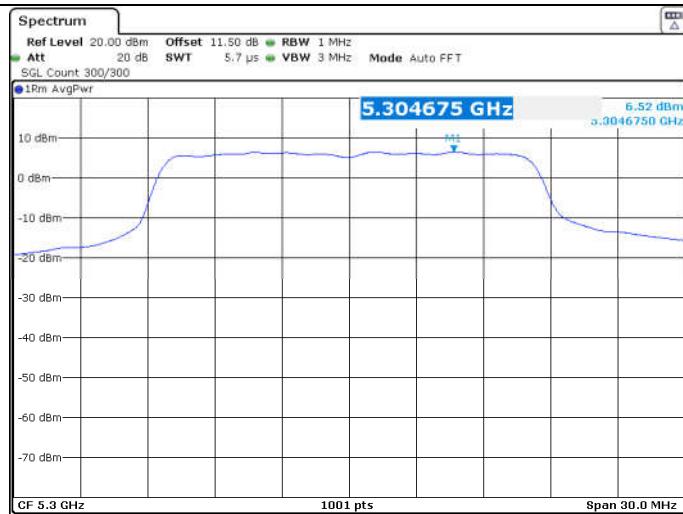
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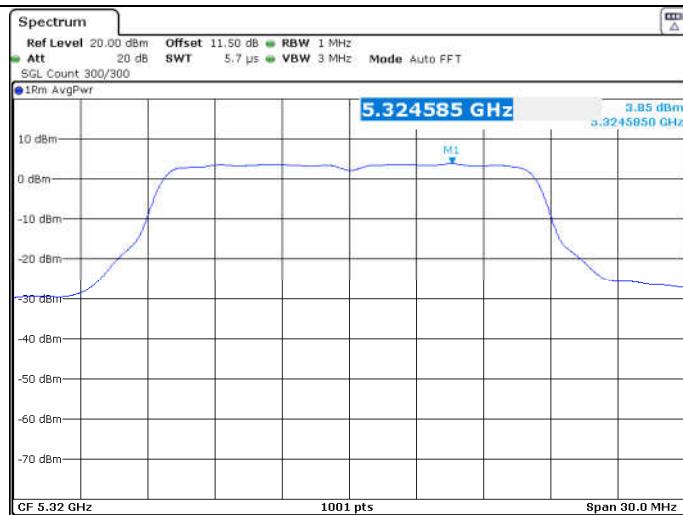
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U-NII-2A Band:
ANT2
11a
5260MHz


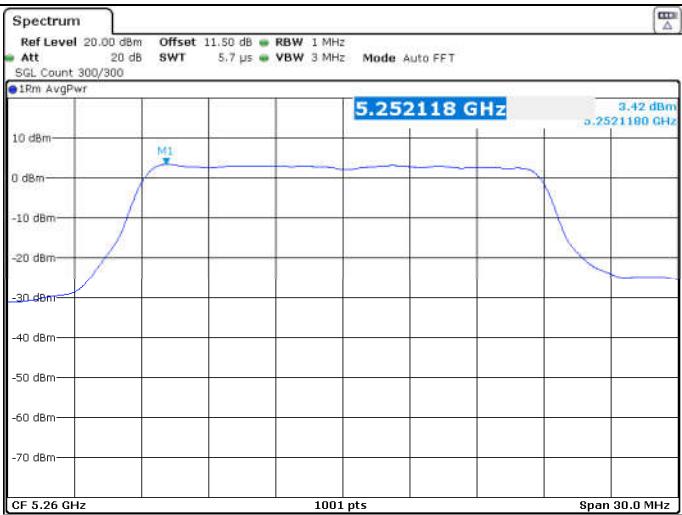
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5300MHz


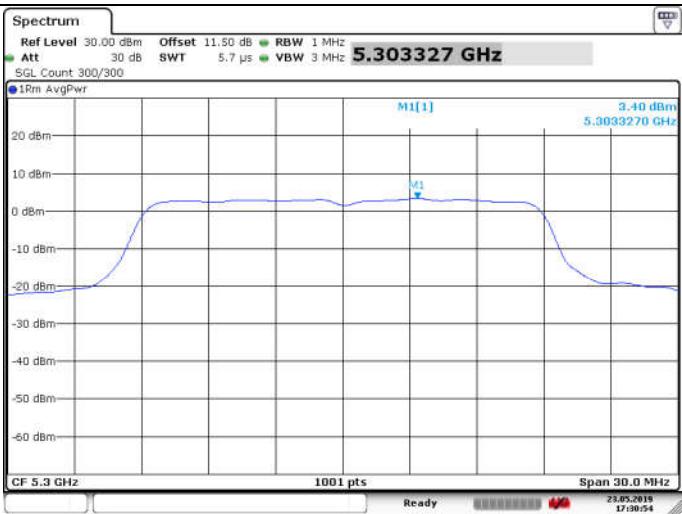
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5320MHz


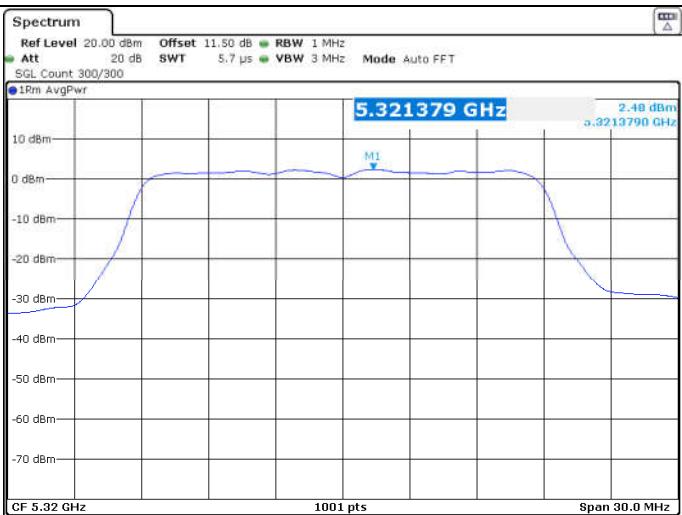
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11n HT20
5260MHz


Date: 21.MAY.2019 10:19:50

5300MHz


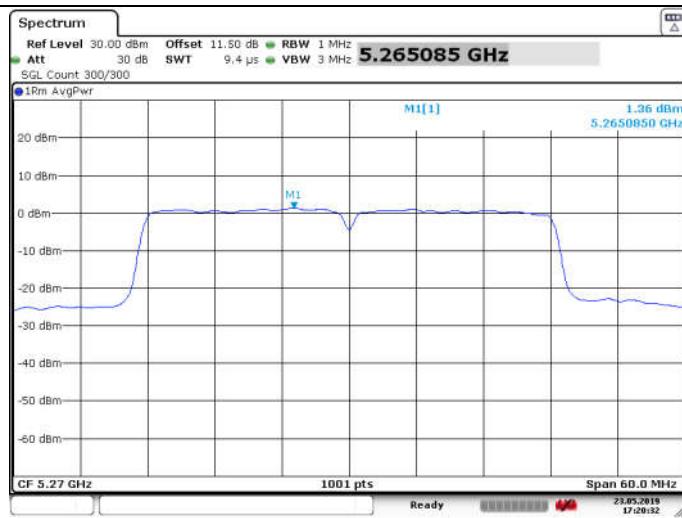
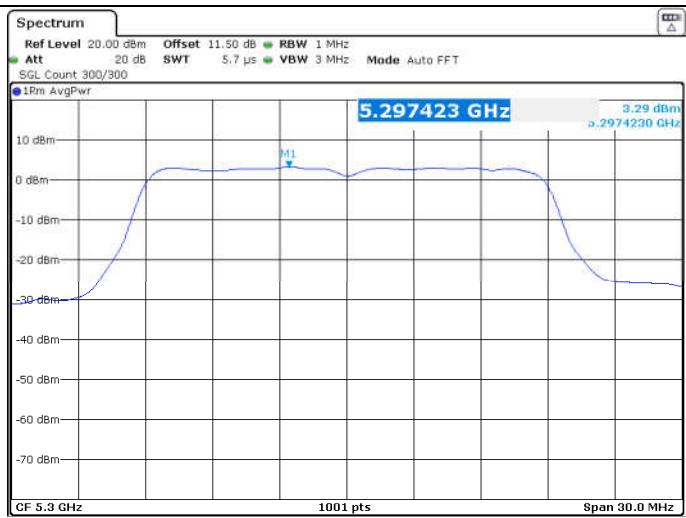
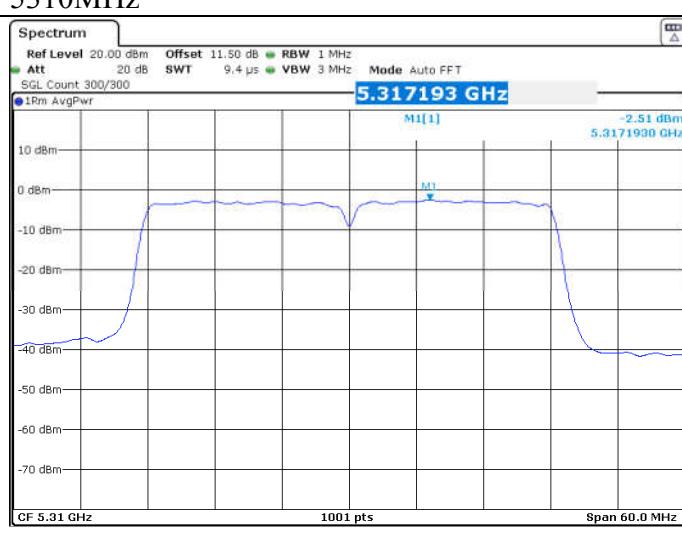
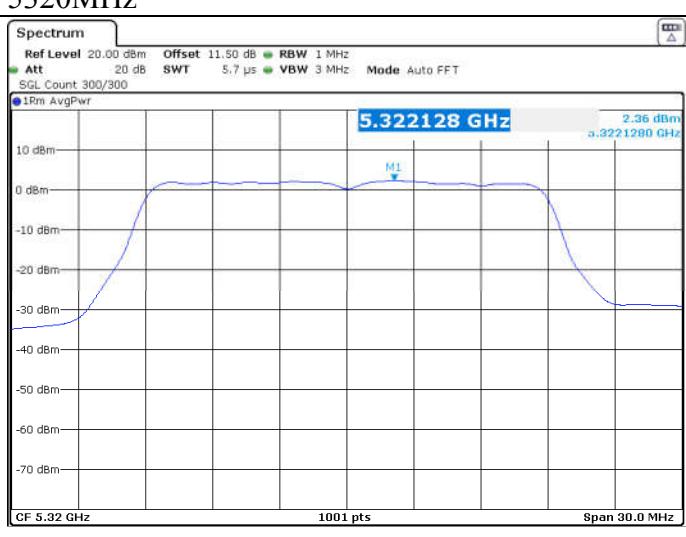
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5320MHz


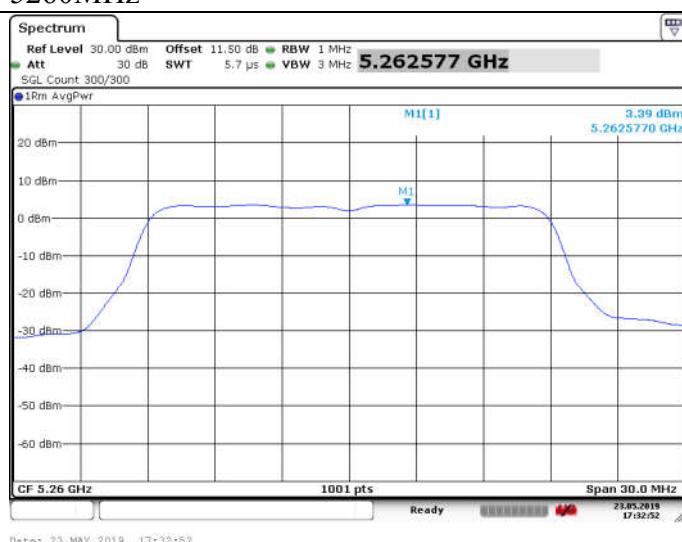
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11n HT40

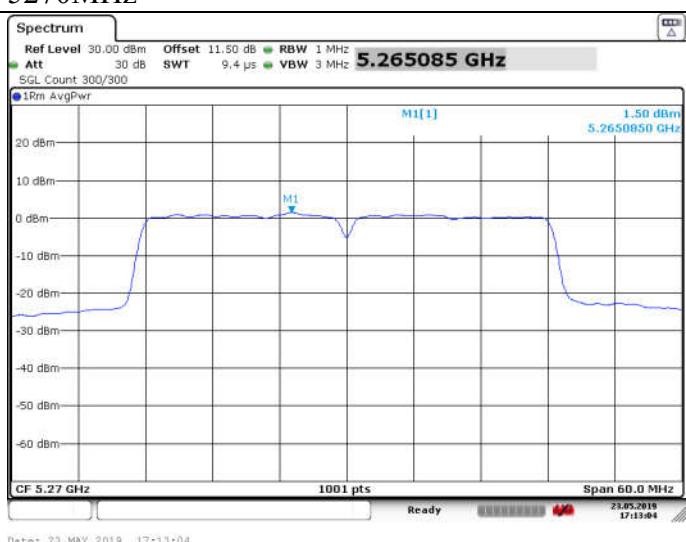
5270MHz

**5300MHz****5310MHz****5320MHz****11ac VHT20**

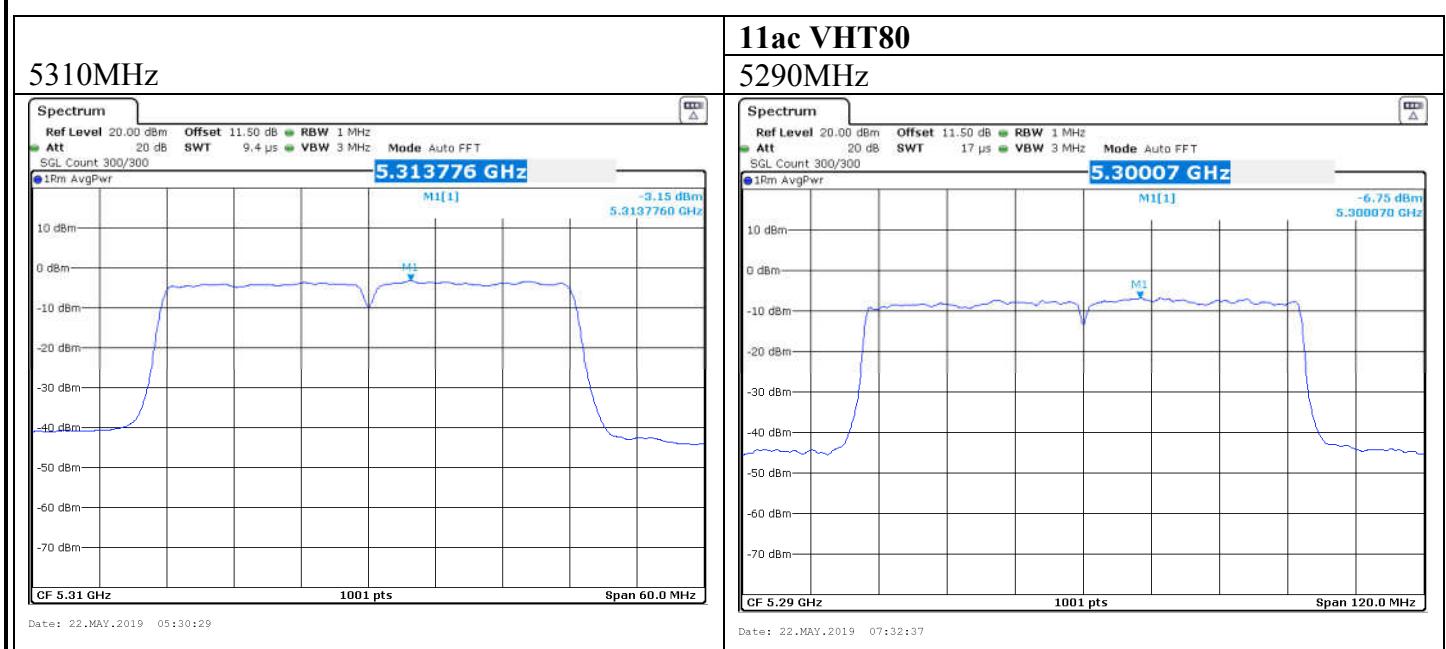
5260MHz

**11ac VHT40**

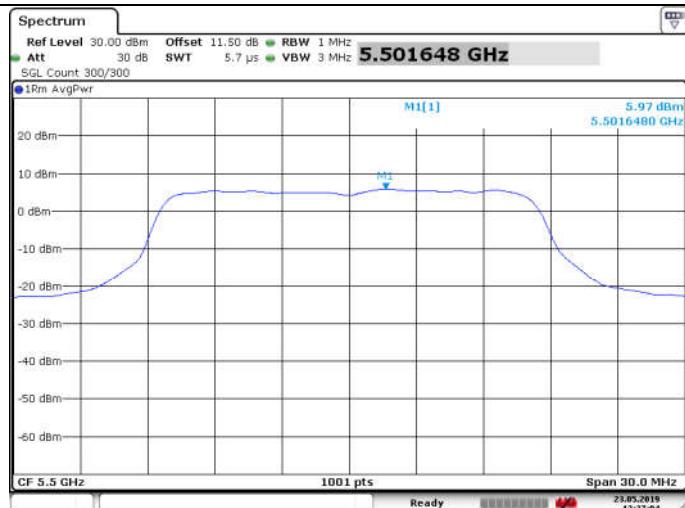
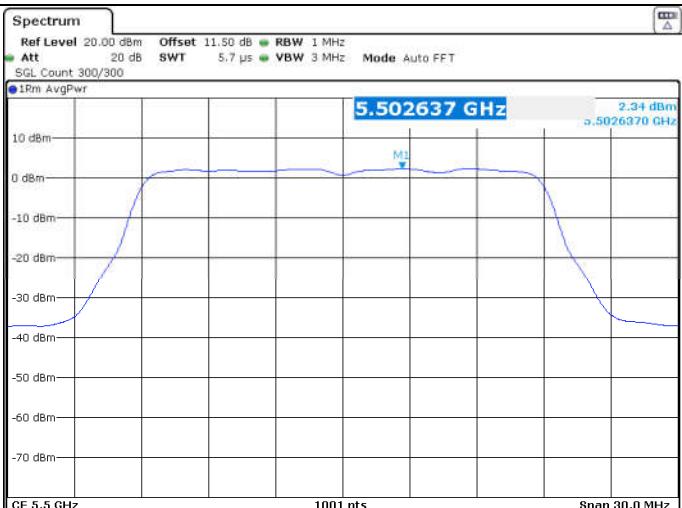
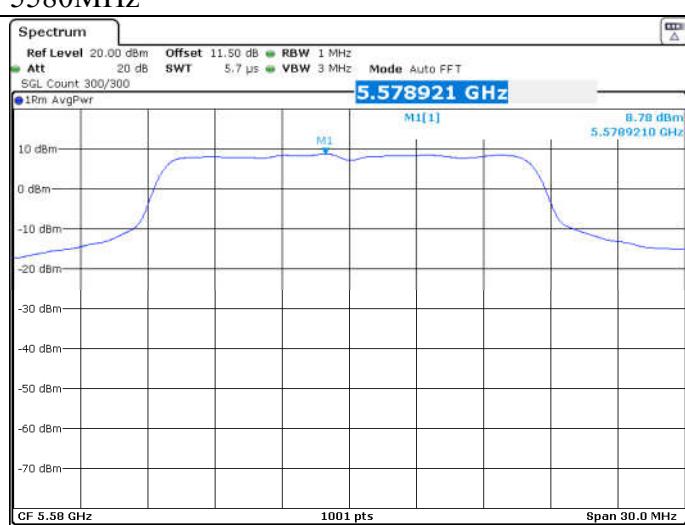
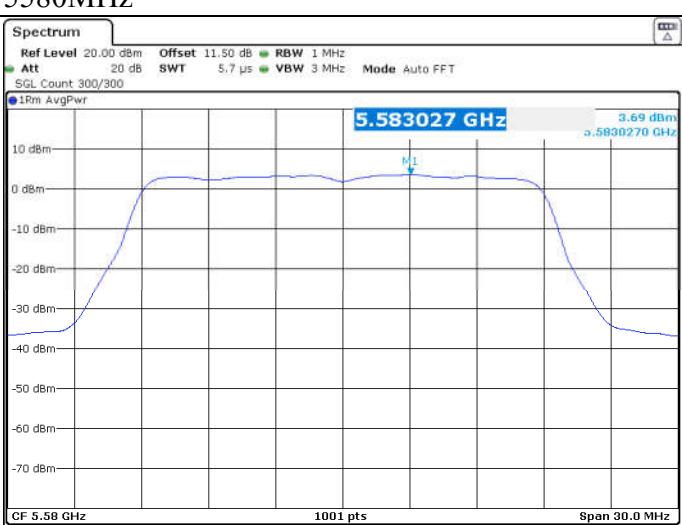
5270MHz



FCC ID: VOB-P2571



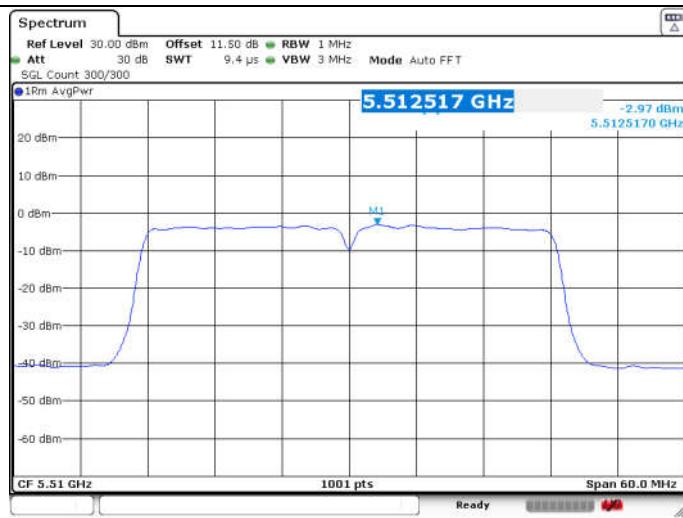
FCC ID: VOB-P2571

U-NII-2C Band:
ANT1
11a
5500MHz

11n HT20
5500MHz

5580MHz

5580MHz

5700MHz

5700MHz

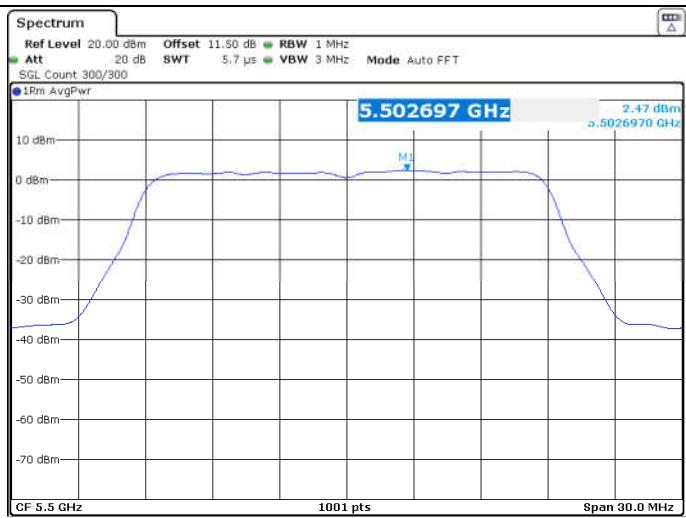

11n HT40

5510MHz

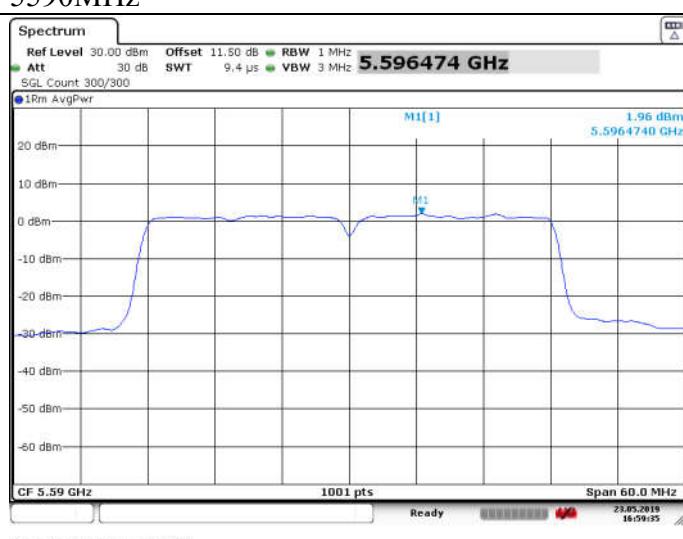


11ac VHT20

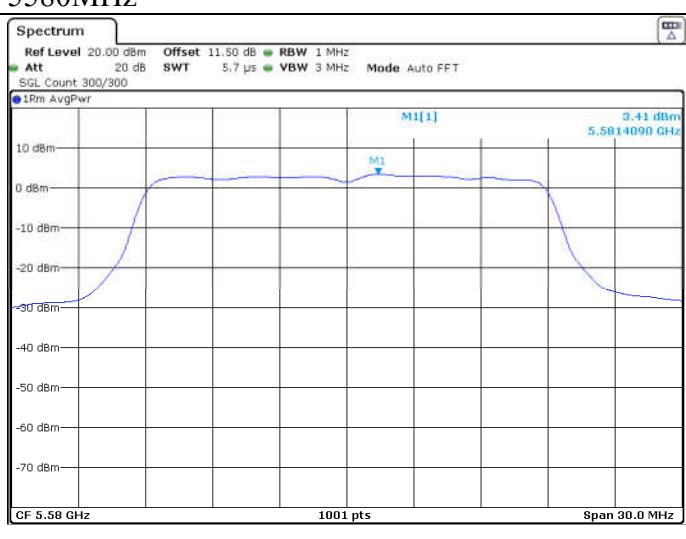
5500MHz



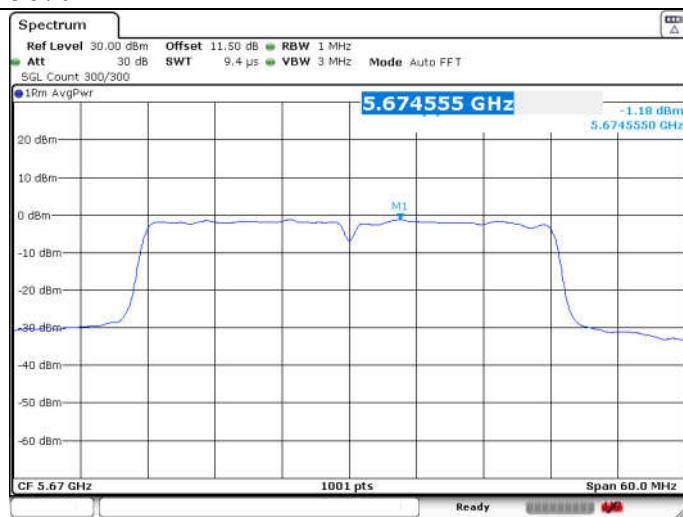
5590MHz



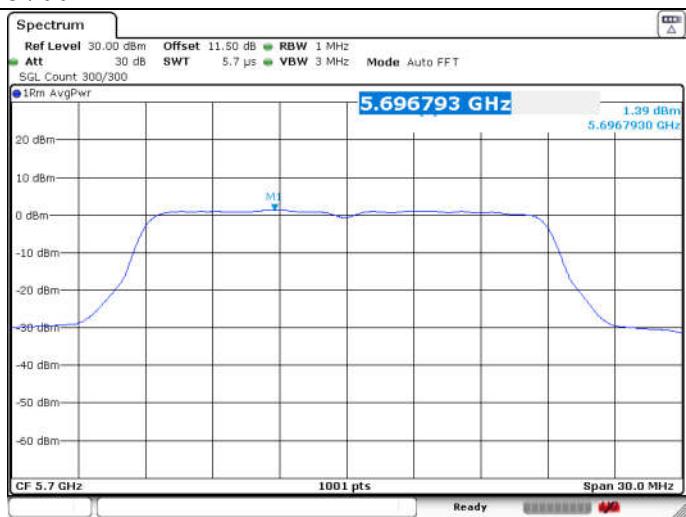
5580MHz



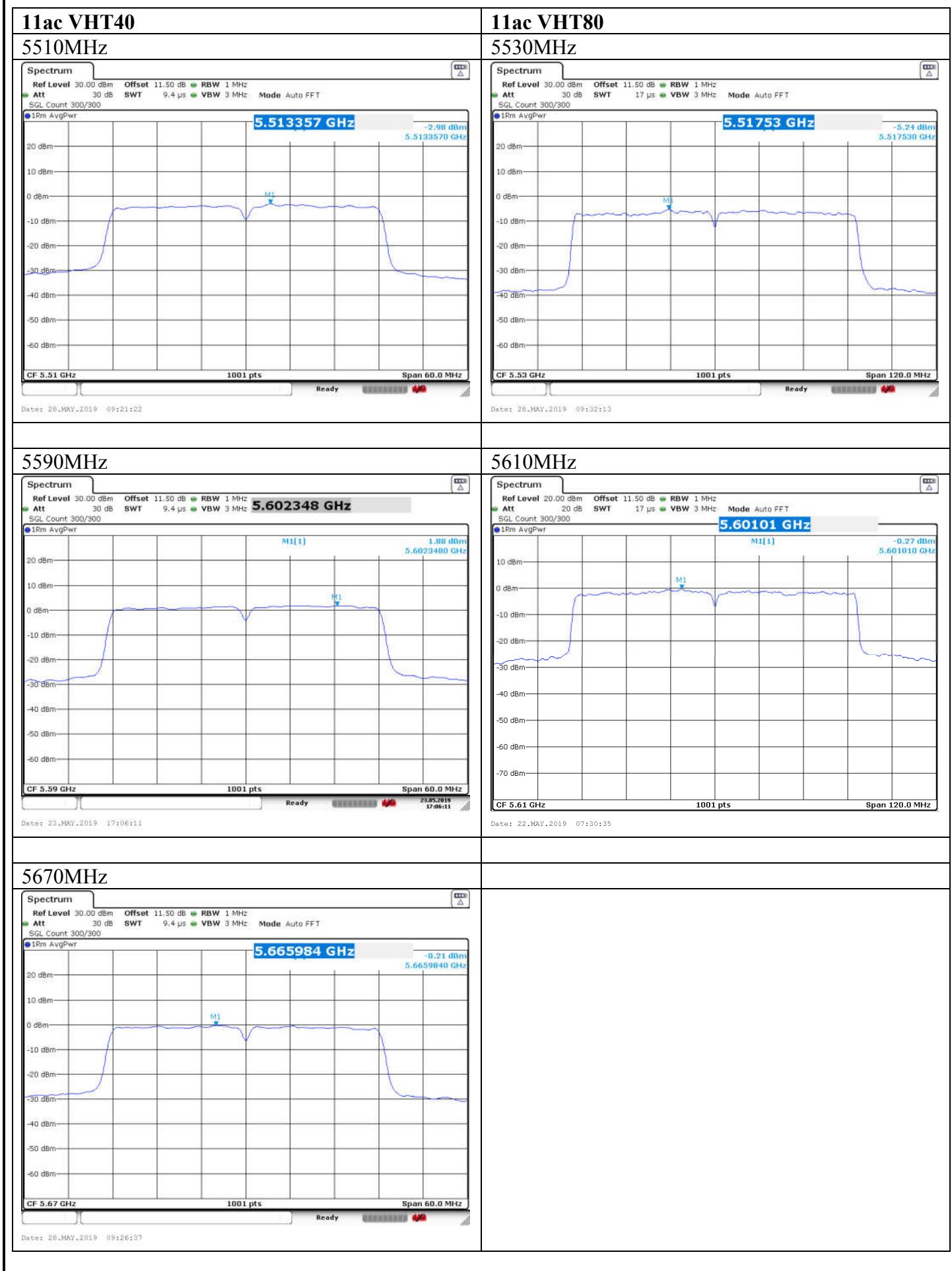
5670MHz



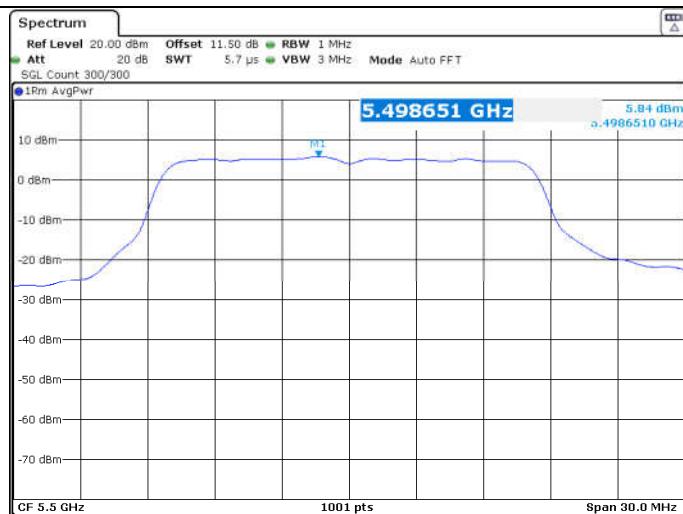
5700MHz



FCC ID: VOB-P2571



FCC ID: VOB-P2571

U-NII-2C Band:
ANT2
11a
5500MHz


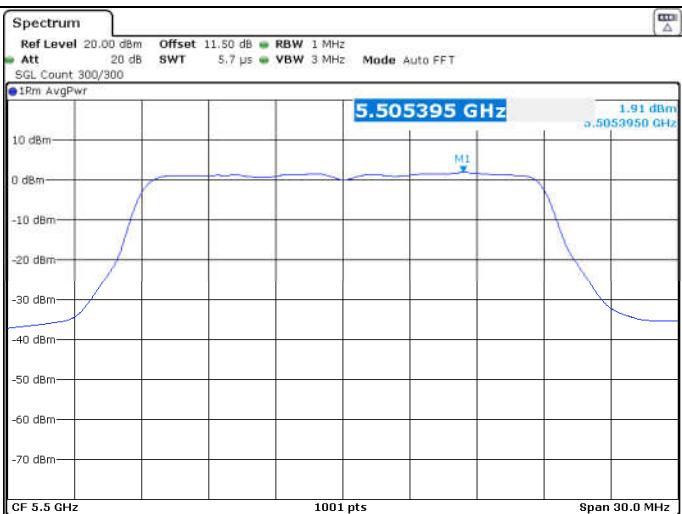
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5580MHz

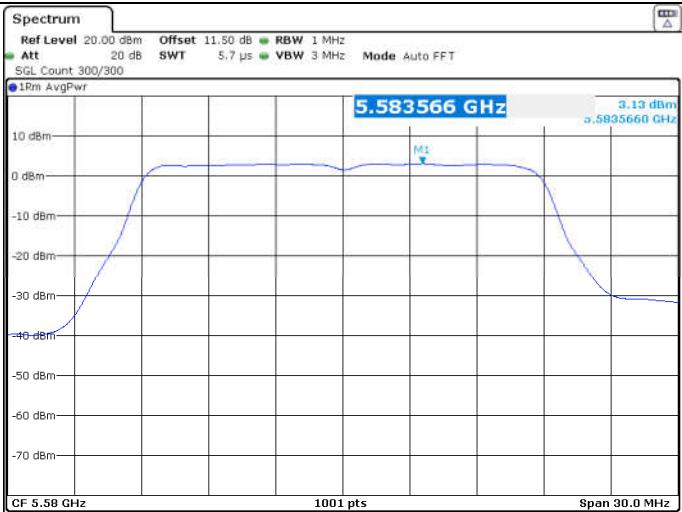

Date: 22.MAY.2019 08:33:53

5700MHz


Date: 26.MAY.2019 08:54:34

11n HT20
5500MHz


Date: 21.MAY.2019 10:53:30

5580MHz


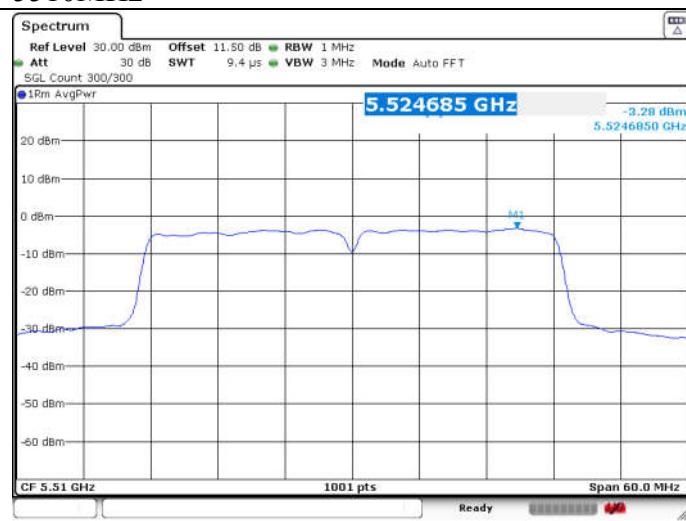
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5700MHz

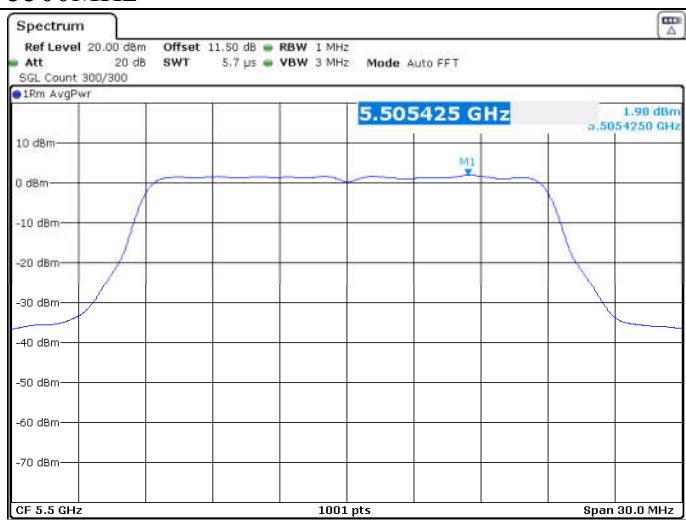
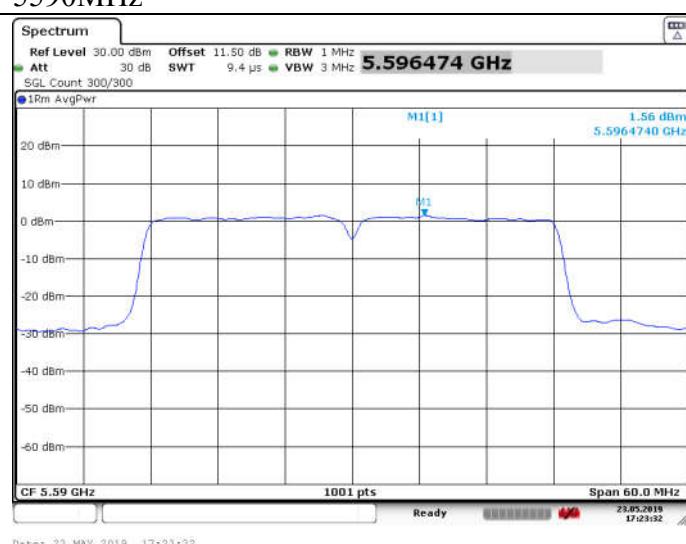
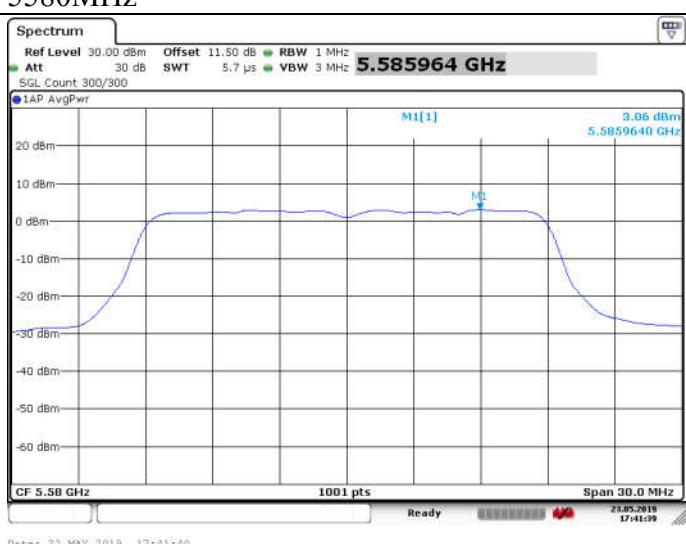

Date: 26.MAY.2019 09:04:20

11n HT40

5510MHz


11ac VHT20

5500MHz


5590MHz

5580MHz

5670MHz

5700MHz

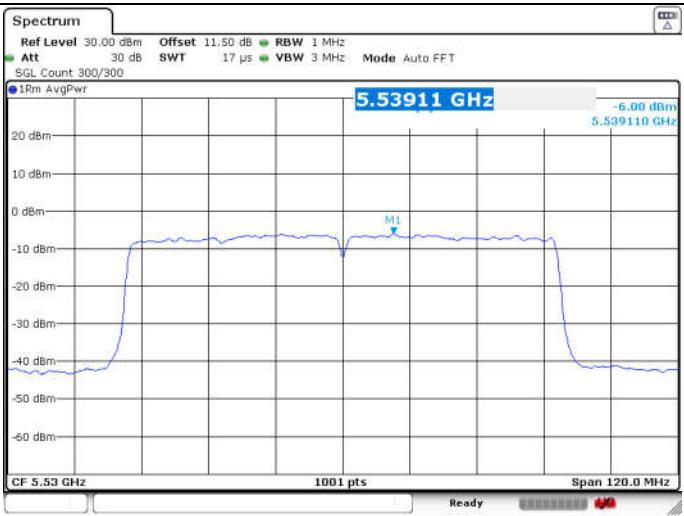
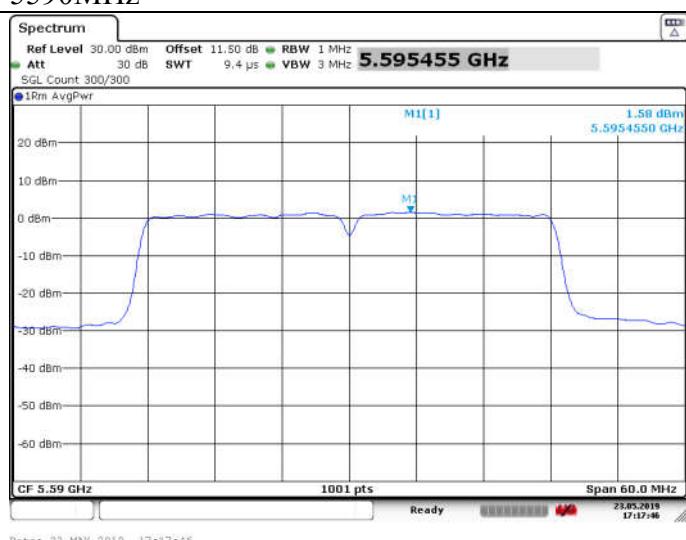
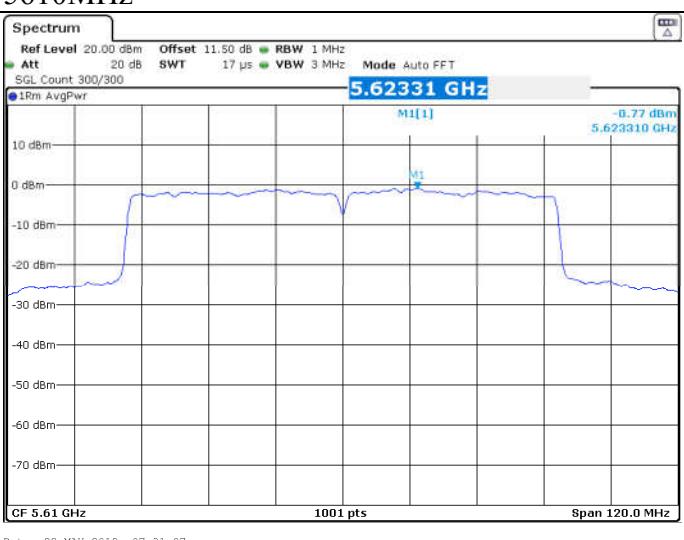
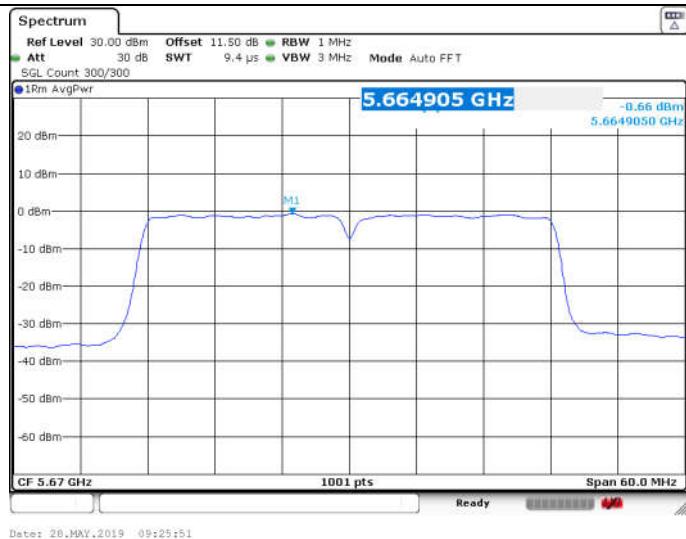

FCC ID: VOB-P2571

11ac VHT40

5510MHz


11ac VHT80

5530MHz


5590MHz

5610MHz

5670MHz


10.FREQUENCY STABILITY MEASUREMENT

10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Sep.08,18	1 Year
2.	Attenuator	Agilent	8491B	MY39262165	Oct.14,18	1 Year
3.	RF Cable	Mini-Circuits	CBL-1M-SMSM+	No.4	Oct.14,18	1 Year

10.2.Limit

Manufacturers 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.

10.3.Test Procedure

Use the test method described in ANSI C63.10 clause 6.8:

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
EUT have transmitted absence of modulation signal and fixed channelise. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and max hold settings. fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/f \times 10^{-6}$ ppm. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
2. Extreme temperature rule is -30°C~50°C.

10.4. Test Result

EUT: Complex Set-Top Box		
M/N: P2571		
Test date: 2019-06-05	Pressure: 102.7±1.0 kpa	Humidity: 52.5±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.7±0.6 °C

Frequency Stability vs. Voltage:

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 102V	20°C	CH52	5259.9152	5260	-16.12
		CH54	5269.9825	5270	-3.32
		CH58	5289.9162	5290	-15.84
		CH60	5299.9635	5300	-6.89
		CH62	5309.9712	5310	-5.42
		CH64	5319.9871	5320	-2.42
		CH100	5499.932	5500	-12.36
		CH102	5509.923	5510	-13.97
		CH106	5529.9767	5530	-4.21
		CH116	5579.9625	5580	-6.72
		CH118	5589.9715	5590	-5.10
		CH122	5609.9575	5610	-7.58
		CH134	5669.9825	5670	-3.09
		CH140	5699.971	5700	-5.09

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	20°C	CH52	5259.9272	5260	-13.84
		CH54	5270.0075	5270	1.42
		CH58	5289.9402	5290	-11.30
		CH60	5299.9515	5300	-9.15
		CH62	5309.9362	5310	-12.02
		CH64	5319.9731	5320	-5.06
		CH100	5499.944	5500	-10.18
		CH102	5509.919	5510	-14.70
		CH106	5529.9927	5530	-1.32
		CH116	5579.9755	5580	-4.39
		CH118	5589.9465	5590	-9.57
		CH122	5609.9645	5610	-6.33
		CH134	5669.9715	5670	-5.03
		CH140	5699.956	5700	-7.72
AC 138V	20°C	CH52	5259.985	5260	-2.85
		CH54	5269.9885	5270	-2.18
		CH58	5289.9895	5290	-1.98
		CH60	5299.943	5300	-10.75
		CH62	5309.9215	5310	-14.78
		CH64	5319.9605	5320	-7.42
		CH100	5499.977	5500	-4.18
		CH102	5509.9725	5510	-4.99
		CH106	5529.9785	5530	-3.89
		CH116	5579.9996	5580	-0.07
		CH118	5589.946	5590	-9.66
		CH122	5609.978	5610	-3.92
		CH134	5669.966	5670	-6.00
		CH140	5699.9465	5700	-9.39

Frequency Stability vs. Temperature:

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	0°C	CH52	5259.993	5260	-1.33
		CH54	5269.988	5270	-2.28
		CH58	5289.988	5290	-2.27
		CH60	5299.9525	5300	-8.96
		CH62	5309.9205	5310	-14.97
		CH64	5319.9595	5320	-7.61
		CH100	5499.9895	5500	-1.91
		CH102	5509.9625	5510	-6.81
		CH106	5529.9675	5530	-5.88
		CH116	5579.9817	5580	-3.28
		CH118	5589.9335	5590	-11.90
		CH122	5609.9675	5610	-5.79
		CH134	5669.975	5670	-4.41
		CH140	5699.946	5700	-9.47
AC 120V	10°C	CH52	5259.9835	5260	-3.14
		CH54	5269.989	5270	-2.09
		CH58	5289.988	5290	-2.27
		CH60	5299.9625	5300	-7.08
		CH62	5309.9605	5310	-7.44
		CH64	5319.959	5320	-7.71
		CH100	5499.98	5500	-3.64
		CH102	5509.974	5510	-4.72
		CH106	5529.9775	5530	-4.07
		CH116	5579.9916	5580	-1.51
		CH118	5589.952	5590	-8.59
		CH122	5609.9675	5610	-5.79
		CH134	5669.955	5670	-7.94
		CH140	5699.956	5700	-7.72

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	20°C	CH52	5259.9272	5260	-13.84
		CH54	5270.0075	5270	1.42
		CH58	5289.9402	5290	-11.30
		CH60	5299.9515	5300	-9.15
		CH62	5309.9362	5310	-12.02
		CH64	5319.9731	5320	-5.06
		CH100	5499.944	5500	-10.18
		CH102	5509.919	5510	-14.70
		CH106	5529.9927	5530	-1.32
		CH116	5579.9755	5580	-4.39
		CH118	5589.9465	5590	-9.57
		CH122	5609.9645	5610	-6.33
		CH134	5669.9715	5670	-5.03
		CH140	5699.956	5700	-7.72
AC 120V	30°C	CH52	5259.9755	5260	-4.66
		CH54	5269.959	5270	-7.78
		CH58	5289.9885	5290	-2.17
		CH60	5299.973	5300	-5.09
		CH62	5309.9325	5310	-12.71
		CH64	5319.969	5320	-5.83
		CH100	5499.9905	5500	-1.73
		CH102	5509.97	5510	-5.44
		CH106	5529.9775	5530	-4.07
		CH116	5579.9892	5580	-1.94
		CH118	5589.954	5590	-8.23
		CH122	5609.9775	5610	-4.01
		CH134	5669.9555	5670	-7.85
		CH140	5699.958	5700	-7.37

Test Voltage	Temperature	CH	Max. Reading (MHz)	Target Frequency (MHz)	Result (ppm)
AC 120V	40°C	CH52	5259.9775	5260	-4.28
		CH54	5269.989	5270	-2.09
		CH58	5289.989	5290	-2.08
		CH60	5299.955	5300	-8.49
		CH62	5309.9425	5310	-10.83
		CH64	5319.9495	5320	-9.49
		CH100	5499.9805	5500	-3.55
		CH102	5509.9465	5510	-9.71
		CH106	5529.988	5530	-2.17
		CH116	5579.9809	5580	-3.42
		CH118	5589.9445	5590	-9.93
		CH122	5609.9675	5610	-5.79
		CH134	5669.966	5670	-6.00
		CH140	5699.97	5700	-5.26

11. ANTENNA REQUIREMENT

11.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Antenna Connected Construction

The antennas used for this product are Dipole antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 7.31dBi.

12. DEVIATION TO TEST SPECIFICATIONS

[NONE]

..... End of Report