FCC ID: RWO-RZ090239

## 26dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.5±1.0 kpa	Humidity: 53.1±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.6±0.6 ℃

Test Mode	Frequency	-26 bandwidth (MHz)		Limit
	(MHz)	ANT0	ANT1	(MHz)
	5180	18.20	18.25	N/A
11a	5200	18.19	18.17	N/A
	5240	18.06	18.31	N/A
	5180	18.83	18.83	N/A
11n HT20	5200	18.82	18.87	N/A
	5240	18.84	18.85	N/A
11n	5190	38.07	38.16	N/A
HT40	5230	38.00	38.09	N/A
	5180	18.83	18.80	N/A
11ac VHT20	5200	18.83	18.86	N/A
	5240	18.81	18.85	N/A
11ac VHT40	5190	38.03	37.92	N/A
	5230	38.33	38.09	N/A
11ac VHT80	5210	78.76	78.67	N/A

# 5260-5320MHz Band: 6dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.3±1.0 kpa	Humidity: 51.6±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.5±0.6 °C

T (M)	Frequency	6dB band	width (MHz)	Limit
Test Mode	(MHz)	ANT0	ANT1	(KHz)
	5260	15.34	15.11	≥ 500
11a	5300	15.34	15.29	≥ 500
	5320	15.33	15.11	≥ 500
	5260	15.02	15.15	≥ 500
11n HT20	5300	15.16	15.17	≥ 500
	5320	15.16	15.14	≥ 500
11n	5270	35.14	33.87	≥ 500
HT40	5310	35.17	35.15	≥ 500
	5260	15.16	15.17	≥ 500
11ac VHT20	5300	15.11	15.16	≥ 500
	5320	15.13	15.17	≥ 500
11ac VHT40	5270	35.13	35.16	≥ 500
	5310	35.15	35.15	≥ 500
11ac VHT80	5290	75.22	75.15	≥ 500
Conclusion: PA	SS			

## 99% bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.3±1.0 kpa	Humidity: 51.6±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.5±0.6 °C

T () ( )	Frequency	99% band	width (MHz)	Limit
Test Mode	(MHz)	ANT0	ANT1	(MHz)
	5260	16.237	16.234	N/A
11a	5300	16.218	16.238	N/A
	5320	16.229	16.232	N/A
	5260	17.387	17.397	N/A
11n HT20	5300	17.367	17.381	N/A
	5320	17.352	17.382	N/A
11n HT40	5270	35.666	35.674	N/A
	5310	35.674	35.659	N/A
	5260	17.373	17.356	N/A
11ac VHT20	5300	17.370	17.368	N/A
	5320	17.376	17.373	N/A
11ac VHT40	5270	35.658	35.661	N/A
	5310	35.668	35.671	N/A
11ac VHT80	5290	75.026	74.987	N/A
Conclusion: PA	SS		·	

## 26dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.3±1.0 kpa	Humidity: 51.6±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.5±0.6 °C

T () ( )	Frequency	-26 band	width(MHz)	Limit
Test Mode	(MHz)	ANT0	ANT1	(MHz)
	5260	18.28	18.31	N/A
11a	5300	18.28	18.10	N/A
	5320	18.07	18.20	N/A
	5260	18.82	18.83	N/A
11n HT20	5300	18.82	18.83	N/A
	5320	18.84	18.81	N/A
11n HT40	5270	38.02	38.11	N/A
	5310	38.12	38.10	N/A
	5260	18.85	18.86	N/A
11ac VHT20	5300	18.83	18.85	N/A
	5320	18.84	18.83	N/A
11ac	5270	37.84	38.03	N/A
VHT40	5310	38.06	38.00	N/A
11ac VHT80	5290	78.53	78.40	N/A
Conclusion: PA	SS			

# 5500-5700MHz Band: 6dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.8±1.0 kpa	Humidity: 51.8±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.2±0.6 ℃

Test Mode	Frequency	6dB bandwi	dth (MHz)	Limit
1 est Mode	(MHz)	ANT0	ANT1	(KHz)
	5500	15.33	15.16	≥ 500
11a	5600	15.12	14.69	≥ 500
	5700	15.15	15.34	≥ 500
	5500	15.15	15.16	≥ 500
11n HT20	5600	15.14	15.40	≥ 500
	5700	15.48	15.14	≥ 500
	5510	35.15	35.18	≥ 500
11n HT40	5590	35.14	35.10	≥ 500
	5670	35.15	35.14	≥ 500
	5500	15.15	15.16	≥ 500
11ac VHT20	5600	15.14	15.14	≥ 500
	5700	15.17	15.16	≥ 500
	5510	35.16	35.16	≥ 500
11ac VHT40	5590	35.15	35.15	≥ 500
	5670	35.14	35.14	≥ 500
11ac	5530	75.23	75.25	≥ 500
VHT80	5610	75.18	75.17	≥ 500
Conclusion: PA	ASS			

## 99% bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.8±1.0 kpa	Humidity: 51.8±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.2±0.6 ℃

Test Mode	Frequency	99% band	99% bandwidth (MHz)	
	(MII-)	ANT0	ANT1	(MHz)
	5500	16.233	16.232	N/A
11a	5600	16.248	16.236	N/A
	5700	16.222	16.229	N/A
	5500	17.381	17.390	N/A
11n HT20	5600	17.417	17.402	N/A
	5700	17.374	17.395	N/A
	5510	35.673	35.712	N/A
11n HT40	5590	35.666	35.664	N/A
	5670	35.656	35.671	N/A
	5500	17.376	17.383	N/A
11ac VHT20	5600	17.391	17.392	N/A
	5700	17.367	17.392	N/A
	5510	35.681	35.681	N/A
11ac VHT40	5590	35.697	35.697	N/A
VIII 10	5670	35.673	35.673	N/A
11ac	5530	75.022	75.038	N/A
VHT80	5610	75.008	75.008	N/A

## 26dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.8±1.0 kpa	Humidity: 51.8±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.2±0.6 ℃

Frequency (MHz)			Limit
(MHz)	ANT0	ANT1	(MHz)
5500	18.16	18.19	N/A
5600	18.26	18.30	N/A
5700	18.15	18.21	N/A
5500	18.85	18.82	N/A
5600	18.82	18.84	N/A
5700	18.86	18.84	N/A
5510	38.08	38.16	N/A
5590	38.07	38.10	N/A
5670	38.09	38.15	N/A
5500	18.82	18.78	N/A
5600	18.83	18.86	N/A
5700	18.84	18.81	N/A
5510	37.99	38.15	N/A
5590	37.96	37.88	N/A
5670	38.12	38.00	N/A
5530	78.63	78.48	N/A
5610	78.64	78.30	N/A
	5600 5700 5500 5600 5700 5510 5590 5670 5500 5600 5700 5510 5590 5670 5530	5600       18.26         5700       18.15         5500       18.85         5600       18.82         5700       18.86         5510       38.08         5590       38.07         5670       38.09         5500       18.82         5600       18.83         5700       18.84         5510       37.99         5590       37.96         5670       38.12         5530       78.63         5610       78.64	5600         18.26         18.30           5700         18.15         18.21           5500         18.85         18.82           5600         18.82         18.84           5700         18.86         18.84           5510         38.08         38.16           5590         38.07         38.10           5670         38.09         38.15           5500         18.82         18.78           5600         18.83         18.86           5700         18.84         18.81           5510         37.99         38.15           5590         37.96         37.88           5670         38.12         38.00           5530         78.63         78.48           5610         78.64         78.30

# 5745-5825MHz Band: 6dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.7±1.0 kpa	Humidity: 54.1±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.4±0.6 ℃

T 4M 1	Frequency	ency 6dB bandwidth (MHz)		Limit	
Test Mode	(MHz)	ANT0	ANT1	(KHz)	
	5745	15.32	15.14	≥ 500	
11a	5785	15.32	15.28	≥ 500	
	5825	15.35	15.30	≥ 500	
	5745	15.12	15.15	≥ 500	
11n HT20	5785	15.15	15.48	≥ 500	
	5825	15.11	15.15	≥ 500	
11n HT40	5755	35.16	35.04	≥ 500	
	5795	35.15	35.15	≥ 500	
11ac VHT20	5745	15.09	15.18	≥ 500	
	5785	15.07	15.13	≥ 500	
	5825	15.15	15.12	≥ 500	
11ac VHT40	5755	35.15	35.14	≥ 500	
	5795	35.10	35.12	≥ 500	
11ac VHT80	5775	75.24	75.21	≥ 500	
Conclusion: PASS					

## 99% bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.7±1.0 kpa	Humidity: 54.1±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.4±0.6 °C

Test Mode	Frequency	99% bandwidth (MHz)		Limit
	(MHz)	ANT0	ANT1	(MHz)
	5745	16.246	16.239	N/A
11a	5785	16.239	16.236	N/A
	5825	16.238	16.234	N/A
	5745	17.393	17.384	N/A
11n HT20	5785	17.378	17.383	N/A
	5825	17.405	17.373	N/A
11n HT40	5755	35.649	35.669	N/A
	5795	35.655	35.655	N/A
11ac VHT20	5745	17.379	17.388	N/A
	5785	17.394	17.387	N/A
	5825	17.385	17.394	N/A
11ac VHT40	5755	35.653	35.669	N/A
	5795	35.697	35.700	N/A
11ac VHT80	5775	75.021	74.999	N/A
Conclusion: PA	SS			

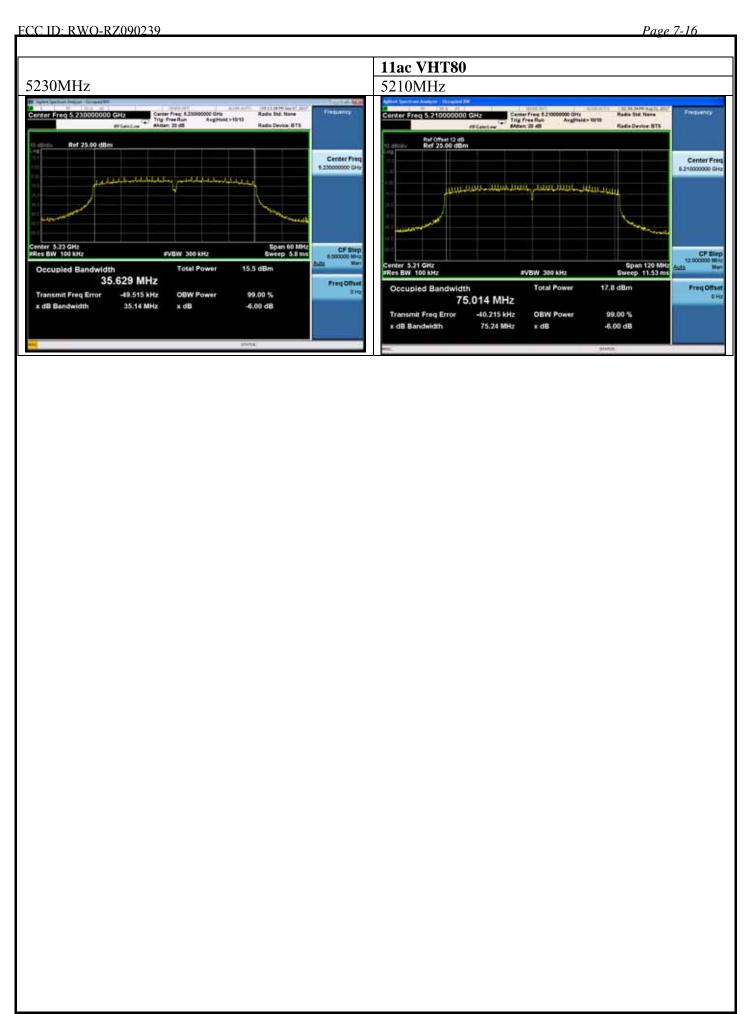
## 26dB bandwidth

EUT: Notebook PC		
M/N: RZ09-0239		
Test date: 2017-08-30~09-07	Pressure: 102.7±1.0 kpa	Humidity: 54.1±3.0%
Tested by: Kebo	Test site: RF site	Temperature:23.4±0.6 °C

T (M 1	Frequency	-26 bandwidth (MHz)		Limit
Test Mode	(MHz)	ANT0	ANT1	(MHz)
	5745	18.34	18.34	N/A
11a	5785	18.50	18.41	N/A
	5825	18.39	14.49	N/A
	5745	18.83	18.83	N/A
11n HT20	5785	18.83	18.86	N/A
	5825	18.84	18.85	N/A
11n HT40	5755	38.02	38.04	N/A
	5795	38.10	38.08	N/A
11ac VHT20	5745	18.85	18.86	N/A
	5785	18.84	18.89	N/A
	5825	18.84	18.85	N/A
11ac VHT40	5755	37.89	38.05	N/A
	5795	37.86	37.98	N/A
11ac VHT80	5775	78.27	78.53	N/A
Conclusion: PA	SS			

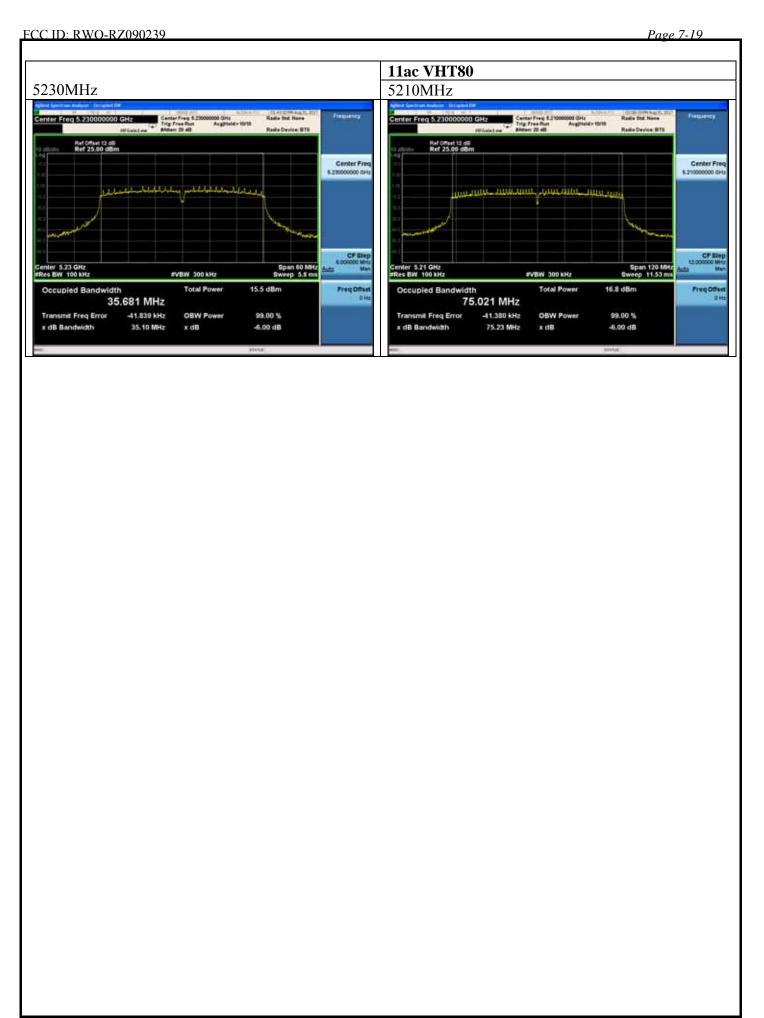
FCC ID: RWO-RZ090239 Page 7-14 5180-5240MHz Band: 6dB & 99% bandwidth ANT0 11a 11n HT20 5180MHz 5180MHz 16.235 MHz 17.364 MHz -28.412 kHz 15.15 MHz 5200MHz 5200MHz Ref 25.00 dBm Ref 25.00 dBm Center Free Center Fre 16.216 MHz 17.393 MHz -42.118 kHz 99.00 % -25.424 kHz 15.15 MHz -6.00 dB 15.09 MHz -6.00 dB 5240MHz 5240MHz Center Fre Center Freq 16.227 MHz 17.363 MHz 42.425 kHz 99.00 % -21.813 kHz 99.00 % 15.35 MHz -6:00 dB 15.17 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-15 11n HT40 5190MHz 5200MHz Center Fre Center Fre #VBW 300 kHz 17.399 MHz 35.654 MHz -29.518 kHz -19.882 kHz 99.00 % smit Freq Error 35,12 MHz 15,11 MHz x dB Bandwidth 5230MHz 5240MHz Ref 25.00 dB Ref 25.00 dl Occupied Bandwidth 35.648 MHz 17.399 MHz 45.912 kHz -22.178 kHz 99.00 % 99.00 % 35.15 MHz 15.11 MHz 11ac VHT20 11ac VHT40 5180MHz 5190MHz Center Fre Center Free 17.380 MHz 35,652 MHz 8.638 kHz 38.172 kHz 15.09 MHz



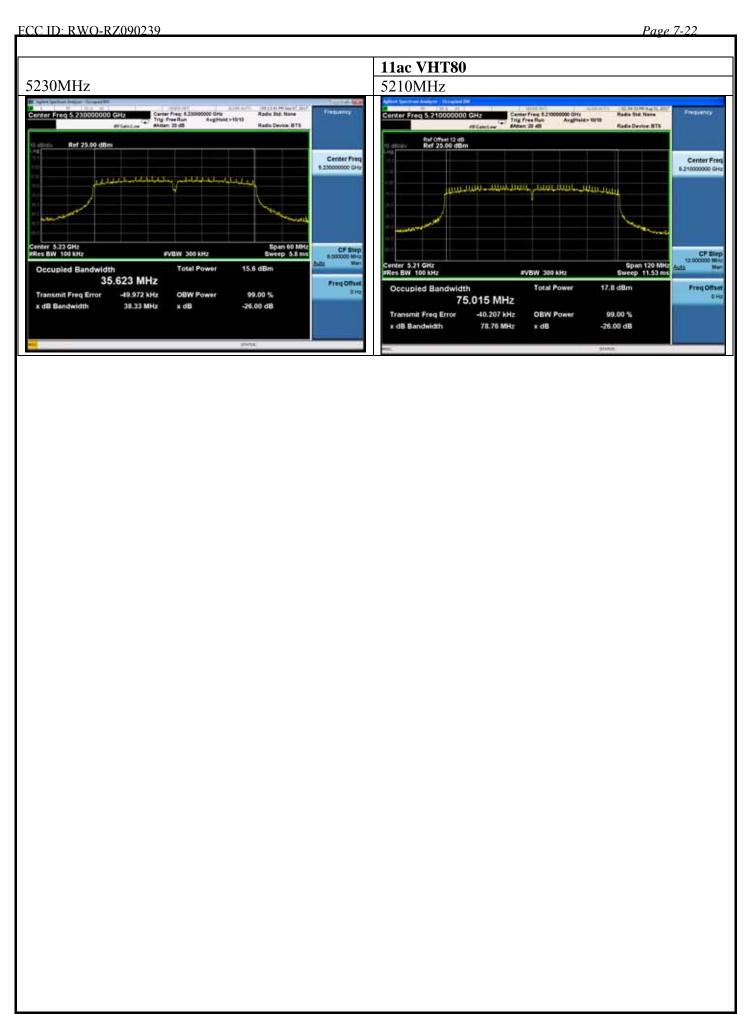
FCC ID: RWO-RZ090239 Page 7-17 5180-5240MHz Band: 6dB & 99% bandwidth ANT 1 11n HT20 11a 5180MHz 5180MHz Ref Offset 12 dB Ref 25.00 dBm #VBW 300 KHZ 16.224 MHz Occupied Bandwidth 17.369 MHz 46.950 kHz Transmit Freq Error 99.00 % **OBW Power** 15.16 MHz x dB Bandwidth -6.00 dB 5200MHz 5200MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.236 MHz Occupied Bandwidth -52.088 kHz 99.00 % 17.392 MHz 15.17 MHz -52.378 kHz **OBW Power** 99.00 % 15.45 MHz -6.00 dB x dB 5240MHz 5240MHz 16.220 MHz -55.514 kHz 99.00 % **OBW Power** 17.369 MHz 15.16 MHz x dB -6.00 dB 41.740 kHz 99.00 % 15.14 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-18 11n HT40 5190MHz 5200MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25,00 dBn Center Free Center Free CF Ste Span 60 MHz weep 5.8 ms enter 5.2 GHz Res BW 100 kHz Span 30 MHz eep 2.933 ms #VBW 300 KH2 #VBW 300 kHz Occupied Bandwidth 15.9 dBm 35.668 MHz 17.379 MHz mit Freq Error -71.181 kHz **OBW Power** 99.00 % Transmit Freq Error -13.316 kHz **OBW Powe** 99.00 % 35.16 MHz 15.86 MHz 6.00 dB 5230MHz 5240MHz Ref 25.00 dBm Ref Offset 12 dB Ref 25.00 dBm #VBW 300 KHZ #VBW 300 kHz 35.654 MHz 17.374 MHz Transmit Freq Error -51.480 kHz **OBW Power** 99.00 % Transmit Freq Error -11.935 kHz **OBW Power** 99.00 % 35.17 MHz x dB -6.00 dB 15.15 MHz x dB -6.00 dB **11ac VHT20 11ac VHT40** 5180MHz 5190MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25.00 dBm Center Free Span 60 MHz Sweep 5.8 ms #VBW 300 kHz 15.8 dBm 16.1 dBm Occupied Bandwidth 17.391 MHz 35.671 MHz -13.360 kHz 99.00 % -56.047 kHz Transmit Freq Error **OBW Power** Transmit Freq Error **OBW Power** 99.00 % 15.45 MHz -6.00 dB 35.15 MHz -6.00 dB x dB x dB Bandwidth x dB



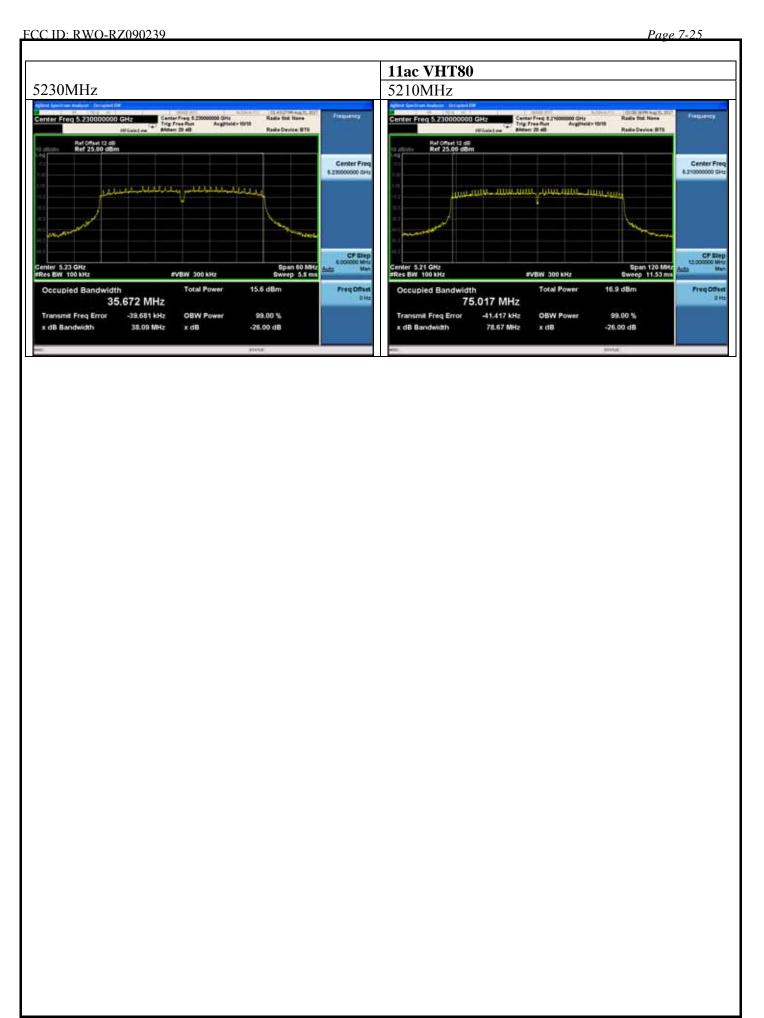
FCC ID: RWO-RZ090239 Page 7-20 5180-5240MHz Band: 26dB bandwidth ANT 0 11a 11n HT20 5180MHz 5180MHz 16.237 MHz 17.363 MHz -36.080 kHz -33.747 kHz 18.83 MHz 5200MHz 5200MHz Ref 25.00 dBm Ref 25.00 dBm Center Free Center Fre 16.216 MHz 17.388 MHz 41.862 kHz 99.00 % -26.180 kHz 99.00 % 18.19 MHz -26.00 dB 18.82 MHz -26.00 dB 5240MHz 5240MHz Center Fre Center Freq 16.229 MHz 17.363 MHz 41.310 kHz -21.982 kHz 99.00 % 99.00 % 18.06 MHz -26.00 dB 18.84 MHz

FCC ID: RWO-RZ090239 Page 7-21 11n HT40 5190MHz 5200MHz Center Fre Center Free #VBW 300 kHz 17.389 MHz 35.661 MHz 45.335 kHz -21.026 kHz 99.00 % smit Freq Error 18.83 MHz 38.07 MHz x dB Bandwidth 5230MHz 5240MHz Ref 25.00 dB Ref 25.00 dl Occupied Bandwidth 35.645 MHz 17.401 MHz -21.119 kHz 45.606 kHz 99.00 % 99.00 % nit Freq Error 38.00 MHz 18.81 MHz 11ac VHT20 11ac VHT40 5180MHz 5190MHz Ref 25.00 dB Center Fre Full Spa LastSpa 17.389 MHz 35,654 MHz -8.794 kHz 18.83 MHz



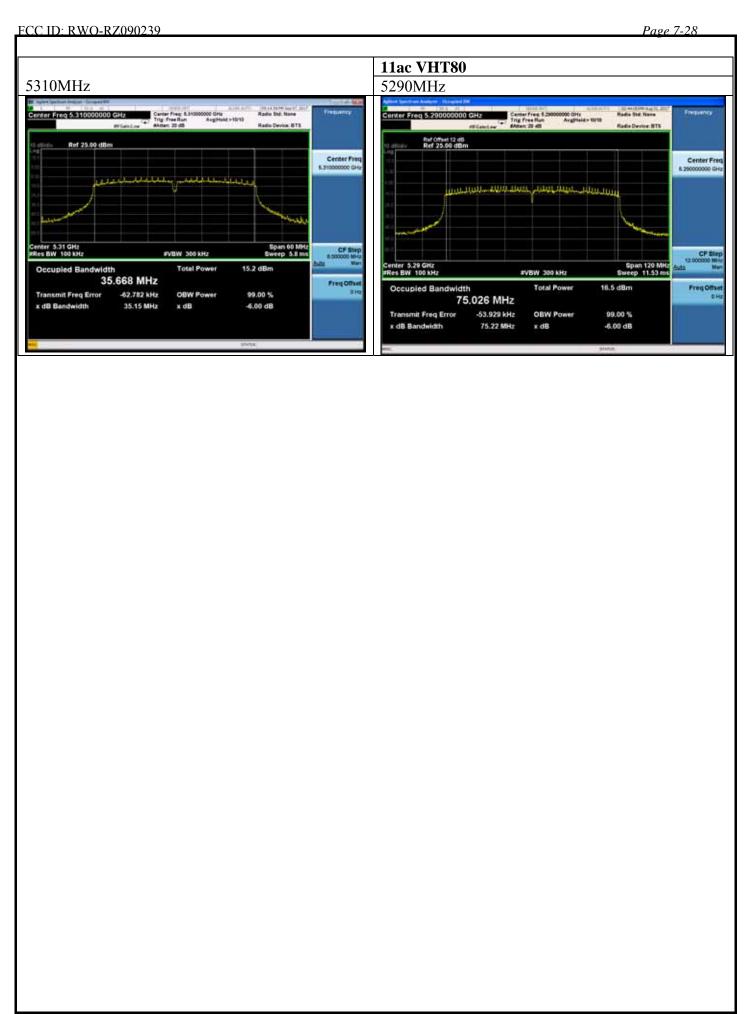
FCC ID: RWO-RZ090239 Page 7-23 5180-5240MHz Band: 26dB bandwidth ANT 1 11a 11n HT20 5180MHz 5180MHz Ref Offset 12 dB Ref 25.00 dBm #VBW 300 KHZ 16.224 MHz Occupied Bandwidth 17.370 MHz 48.298 kHz Transmit Freq Error 99.00 % **OBW Power** 18.83 MHz x dB Bandwidth -26.00 dB 5200MHz 5200MHz Ref Offset 12 dB Ref 25,00 dBm Ref 25.00 dBm Center Free 16.241 MHz Occupied Bandwidth -52.386 kHz 99.00 % 17.386 MHz 18.17 MHz -56.139 kHz **OBW Power** 99.00 % 18.87 MHz -26.00 dB x dB 5240MHz 5240MHz FVBW 300 kHz 16.219 MHz -55.386 kHz 99.00 % **OBW Power** 17.388 MHz 18.31 MHz x dB -26.00 dB 41.379 kHz 18.85 MHz

FCC ID: RWO-RZ090239 Page 7-24 11n HT40 5190MHz 5200MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25,00 dBn Center Free Center Free CF Ste Span 60 MH. Weep 5.8 mm enter 5.2 GHz Res BW 100 kHz Span 30 MHz eep 2.933 ms #VBW 300 KH2 #VBW 300 kHz 18.5 dRm Occupied Bandwidth 15.9 dBm 35.673 MHz 17.379 MHz mit Freq Error -68.148 kHz **OBW Power** 99.00 % Transmit Freq Error -13.316 kHz **OBW Powe** 99.00 % 38.16 MHz -26.00 dB 18.86 MHz -26.00 dB 5230MHz 5240MHz Ref Offset 12 die Ref 25,00 dBm Ref 25.00 dBm #VBW 300 KHZ #VBW 300 kHz 35.655 MHz 17.384 MHz -12.575 kHz Transmit Freq Error 49.156 kHz **OBW Power** 99.00 % Transmit Freq Error **OBW Power** 99.00 % 38.09 MHz x dB -26.00 dB 18.85 MHz x dB -26.00 dB 11ac VHT40 **11ac VHT20** 5180MHz 5190MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25.00 dBm Center Free enter 5.18 GHz Res BW 100 kHz Span 60 MHz Sweep 5.8 ms #VBW 300 kHz #VBW 300 kHz 16.0 dBm 16.0 dBm Occupied Bandwidth Occupied Bandwidth 35.689 MHz 17.385 MHz -18.712 kHz 99.00 % -55.328 kHz Transmit Freq Error **OBW Power** Transmit Freq Error **OBW Power** 99.00 % 18.80 MHz -26.00 dB 37.92 MHz -26.00 dB x dB x dB Bandwidth x dB



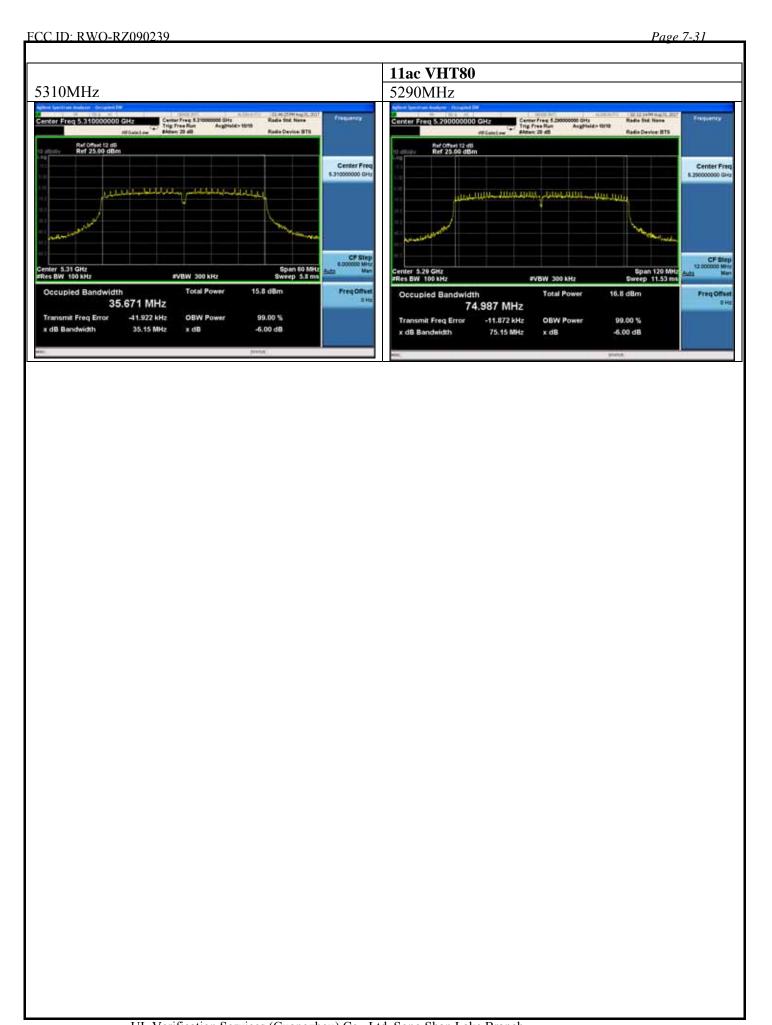
FCC ID: RWO-RZ090239 Page 7-26 5260-5320MHz Band: 6dB & 99% bandwidth ANT 0 11n HT20 11a 5260MHz 5260MHz 16.237 MHz 17.387 MHz -35.735 kHz -29,189 kHz 15.34 MHz 15.02 MHz 5300MHz 5300MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.218 MHz 17.367 MHz 43.892 kHz 99.00 % -27.440 kHz 15.34 MHz -6.00 dB 15.16 MHz -6.00 dB 5320MHz 5320MHz Center Freq 16.229 MHz 17.352 MHz 40.722 kHz 99.00 % -32.839 kHz 99.00 % 15.33 MHz -6:00 dB 15.16 MHz -6.00 dB

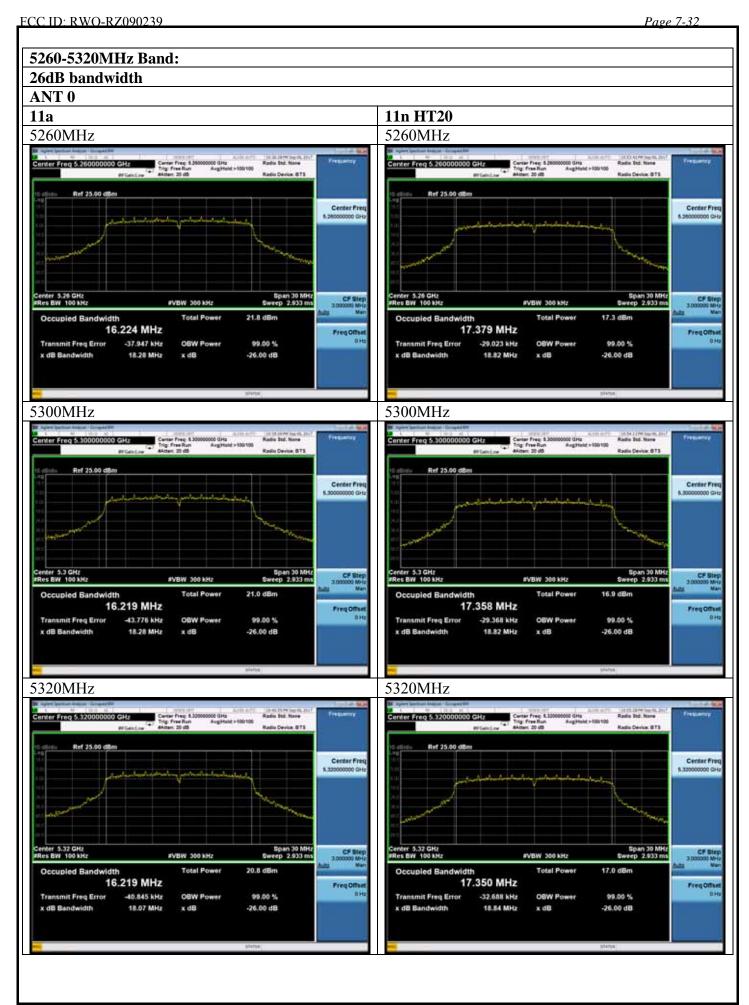
FCC ID: RWO-RZ090239 Page 7-27 11n HT40 5270MHz 5300MHz Center Fre 5.270000000 GH Center Free #VBW 300 kHz 35.666 MHz 17.370 MHz -67.870 kHz -30.357 kHz 99.00 % smit Freq Error 35.14 MHz 15.11 MHz -6.00 dB x dB Bandwidth 5310MHz 5320MHz Ref 25.00 dl Ref 25.00 d Occupied Bandwidth 35.674 MHz 17.376 MHz 48.128 kHz -31.641 kHz 99.00 % 99.00 % nit Freq Error 35.17 MHz 15.13 MHz 11ac VHT20 11ac VHT40 5260MHz 5270MHz Center Fre Center Free 17.373 MHz 35,658 MHz 34.962 kHz 15.16 MHz 35.13 MHz



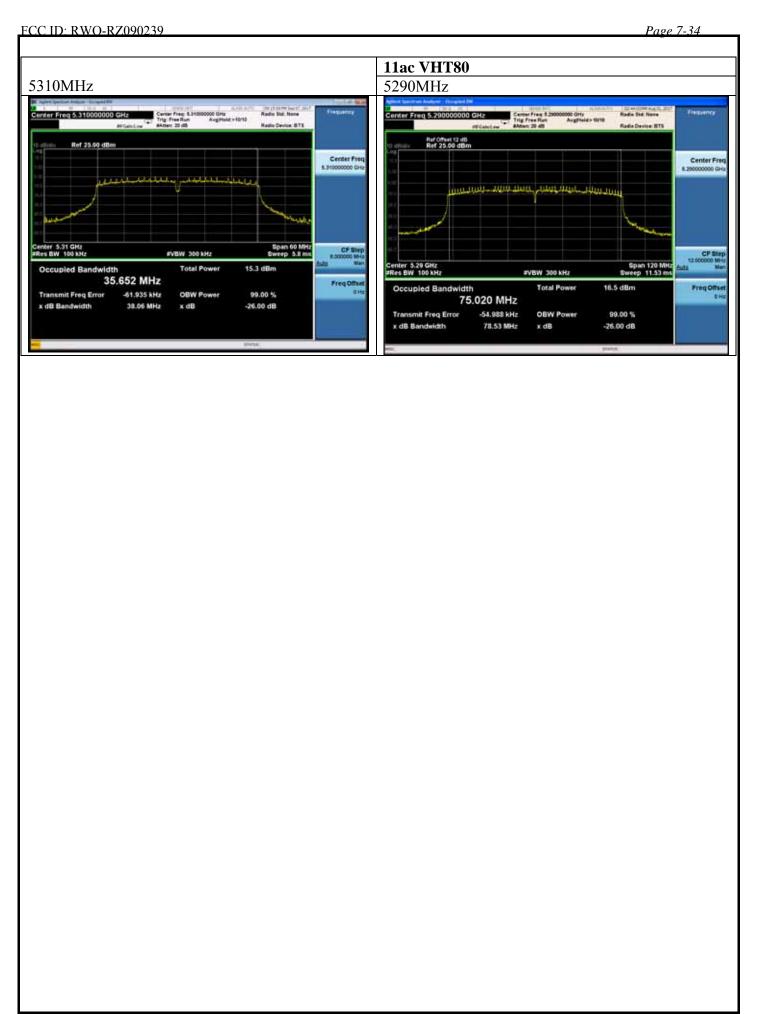
FCC ID: RWO-RZ090239 Page 7-29 5260-5320MHz Band: 6dB & 99% bandwidth ANT 1 11n HT20 11a 5260MHz 5260MHz Ref Offset 12 dB Ref 25.00 dBm #VBW 300 KHZ 16.234 MHz Occupied Bandwidth 17.397 MHz 46.501 kHz Transmit Freq Error 99.00 % **OBW Powe** 15.15 MHz x dB Bandwidth -6.00 dB 5300MHz 5300MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.238 MHz Occupied Bandwidth -50.758 kHz 99.00 % 17.381 MHz 15.29 MHz 50.038 kHz 15.17 MHz -6.00 dB x dB 5320MHz 5320MHz 16.232 MHz 47.362 kHz 99.00 % **OBW Power** 17.382 MHz 15.11 MHz x dB -6.00 dB -50.577 kHz 99.00 % 15.14 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-30 11n HT40 5270MHz 5300MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25,00 dBn Center Free Center Free \$.270000000 GH CF Ste Span 60 MH. Weep 5.8 mm enter 5.3 GHz Res BW 100 kHz Span 30 MHz eep 2.933 ms #VBW 300 KH2 #VBW 300 kHz Occupied Bandwidth 15.7 dBm 35.674 MHz 17.368 MHz mit Freq Error -50.675 kHz **OBW Power** 99.00 % Transmit Freq Error -12.765 kHz **OBW Powe** 99.00 % 33.87 MHz 15.16 MHz -6,00 dB 5310MHz 5320MHz Ref Offset 12 die Ref 25,00 dBm Ref 25.00 dBm #VBW 300 KHZ #VBW 300 kHz 35,659 MHz 17.373 MHz Transmit Freq Error -65.244 kHz **OBW Power** 99.00 % Transmit Freq Error -13.820 kHz **OBW Power** 99.00 % 35.15 MHz x dB -6.00 dB 15.17 MHz x dB -6.00 dB **11ac VHT20 11ac VHT40** 5260MHz 5270MHz Radio Std. None Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25.00 dBm enter 5.26 GHz Res BW 100 kHz enter 5.27 GHz Res BW 100 kHz Span 60 MHz Sweep 5.8 ms #VBW 300 kHz 16.4 dBm 16.2 dBm Occupied Bandwidth Occupied Bandwidth 17.356 MHz 35.661 MHz -7.925 kHz 99.00 % 40.552 kHz Transmit Freq Error **OBW Power** Transmit Freq Error **OBW Power** 99.00 % 15.17 MHz -6.00 dB 35.16 MHz -6.00 dB x dB x dB Bandwidth x dB

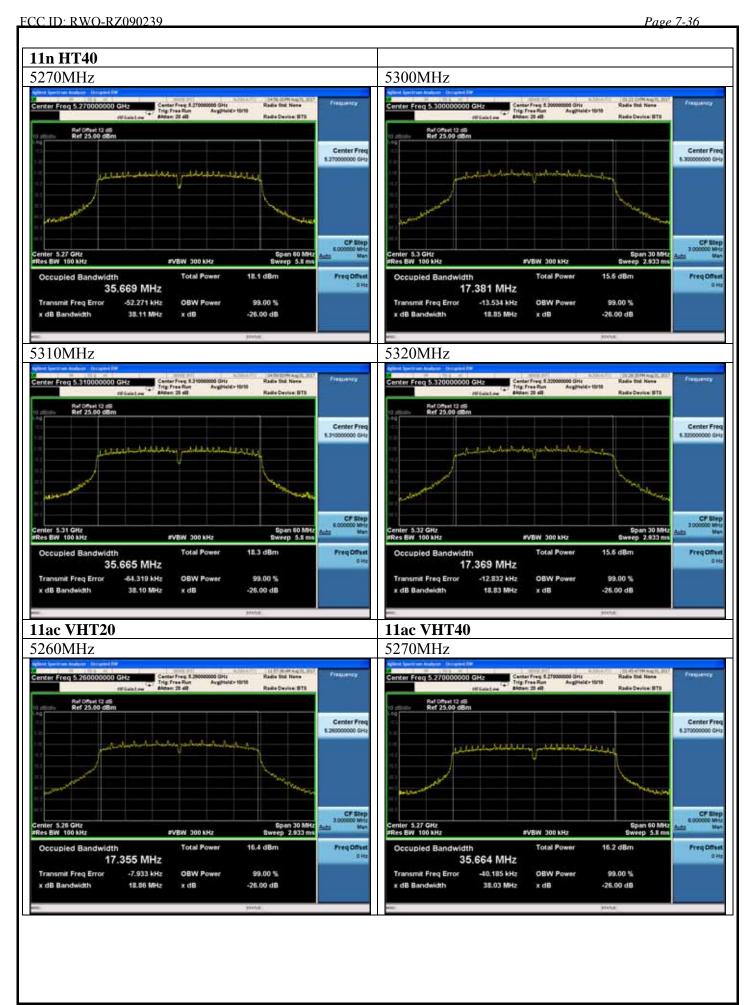


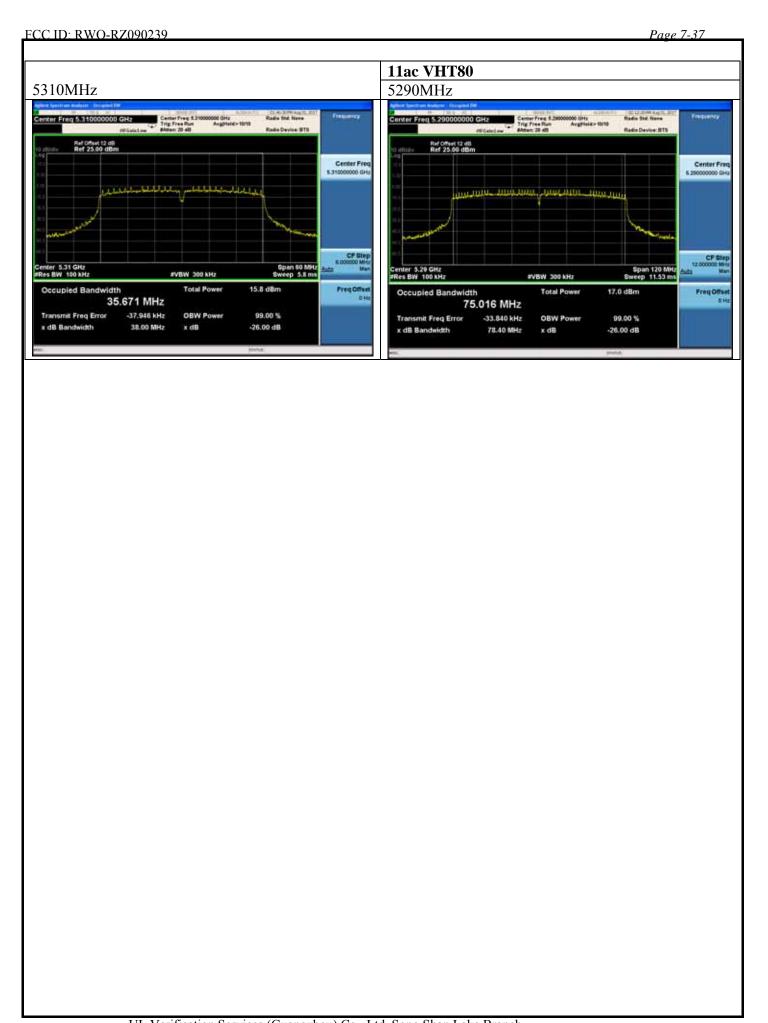


FCC ID: RWO-RZ090239 Page 7-33 11n HT40 5270MHz 5300MHz Center Fre 5.270000000 GH Center Free #VBW 300 kHz 17.375 MHz 35.671 MHz -61.868 kHz -30.096 kHz 99.00 % smit Freq Error 18.83 MHz 38.02 MHz -26.00 dB x dB Bandwidth 5310MHz 5320MHz Ref 25.00 dB Ref 25.00 d Occupied Bandwidth 35.663 MHz 17.373 MHz 47.855 kHz -32.192 kHz 99.00 % 99.00 % nit Freq Error 38.12 MHz 18.84 MHz 11ac VHT20 11ac VHT40 5260MHz 5270MHz Center Fre Center Free 17.370 MHz 35,681 MHz -34.627 kHz 61.213 kHz 18.85 MHz



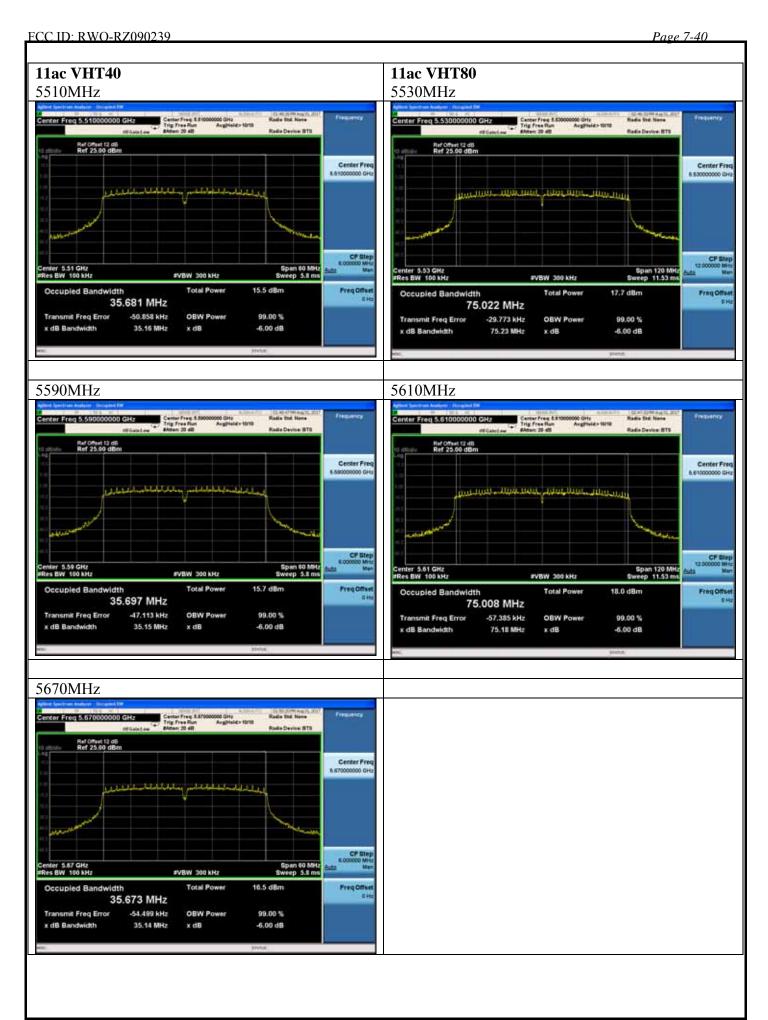
FCC ID: RWO-RZ090239 Page 7-35 5260-5320MHz Band: 26dB bandwidth ANT 1 11n HT20 11a 5260MHz 5260MHz Ref Offset 12 dB Ref 25.00 dBm #VBW 300 KHZ 16.219 MHz Occupied Bandwidth 17.387 MHz 46.721 kHz Transmit Freq Error 99.00 % **OBW Power** 18.83 MHz x dB Bandwidth -26.00 dB 5300MHz 5300MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.231 MHz Occupied Bandwidth -50.812 kHz 99.00 % 17.388 MHz 18.10 MHz 50.180 kHz 99.00 % x dB -26.00 dB 5320MHz 5320MHz 16.230 MHz 47.326 kHz 99.00 % **OBW Power** 17.376 MHz 18.20 MHz x dB -26.00 dB 47.948 kHz 99.00 % 18.81 MHz -26.00 dB





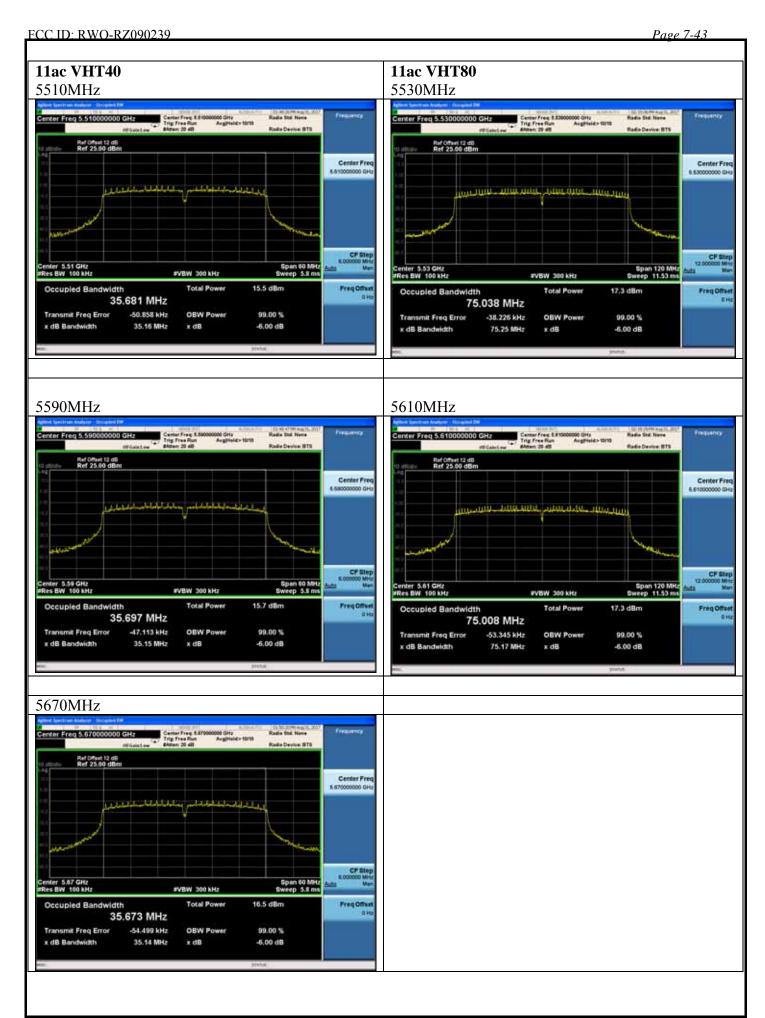
FCC ID: RWO-RZ090239 Page 7-38 5500-5700MHz Band: 6dB & 99% bandwidth ANT 0 11n HT20 11a 5500MHz 5500MHz 16.233 MHz 17.381 MHz -38.572 kHz -22.484 kHz 15.33 MHz 15.15 MHz 5600MHz 5600MHz Ref 25.00 dBn Ref 25.00 dBm Center Free 16.248 MHz 17.417 MHz 42.444 kHz 99.00 % -26.310 kHz 15.12 MHz -6.00 dB 15.14 MHz -6.00 dB 5700MHz 5700MHz Center Freq 16.222 MHz 17.374 MHz 45.393 kHz 99.00 % -35.625 kHz 99.00 % 15.15 MHz -6:00 dB 15.48 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-39 11n HT40 **11ac VHT20** 5500MHz 5510MHz Center Free 5.5100000000 GH Center Fre #VBW 300 kHz 35.673 MHz 17.376 MHz -23.188 kHz -30.223 kHz 99.00 % smit Freq Error 35.15 MHz 15.15 MHz x dB Bandwidth 5590MHz 5600MHz Ref 25.00 dl Occupied Bandwidth 35.666 MHz 17.391 MHz 44.743 kHz -31.271 kHz 99.00 % 35.14 MHz 15.14 MHz 5670MHz 5700MHz Center Fre Center Freq 35.656 MHz 17.367 MHz -56.021 kHz 41.353 kHz



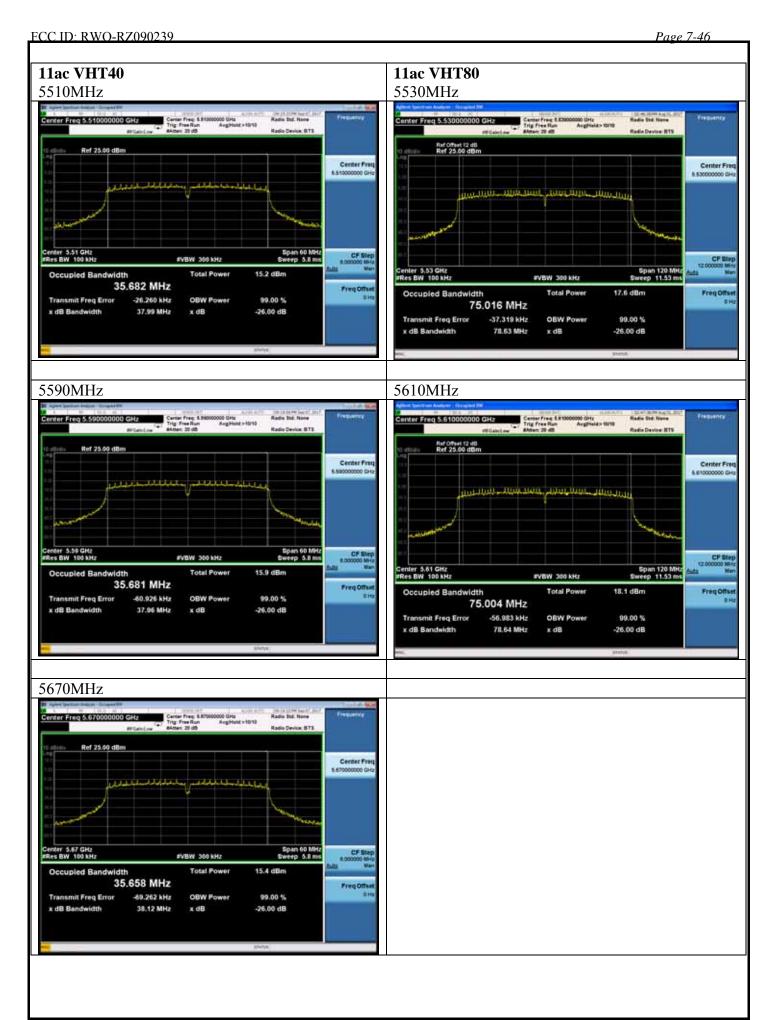
FCC ID: RWO-RZ090239 Page 7-41 5500-5700MHz Band: 6dB & 99% bandwidth ANT 1 11n HT20 11a 5500MHz 5500MHz Ref 25.00 dBm Center Fre #VBW 300 KHZ 16.232 MHz Occupied Bandwidth 17.390 MHz 48.979 kHz Transmit Freq Error 99.00 % **OBW Powe** 15.16 MHz x dB Bandwidth -6.00 dB 5600MHz 5600MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.236 MHz -51.106 kHz 99.00 % 17.402 MHz 14.69 MHz -51.078 kHz **OBW Power** 99.00 % 15.40 MHz -6.00 dB x dB 5700MHz 5700MHz 16.229 MHz -57.328 kHz 99.00 % **OBW Power** 17.395 MHz 15.34 MHz x dB -6.00 dB -58.264 kHz 99.00 % 15.14 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-42 11n HT40 11ac VHT20 5500MHz 5510MHz Ref Offset 12 dB Ref 25.00 dBm Ref Offset 12 dB Ref 25,00 dBn Center Free Center Free CF Ste Span 60 MH. Weep 5.8 mm enter 5.5 GHz Res BW 100 kHz #VBW 300 KH2 #VBW 300 kHz 17.7 d8m Occupied Bandwidth 15.4 dBm 35.712 MHz 17.383 MHz mit Freq Erro -64.264 kHz **OBW Power** 99.00 % Transmit Freq Error -28.240 kHz **OBW Powe** 99.00 % 35.18 MHz 15.16 MHz -6,00 dB 5590MHz 5600MHz Ref 25.00 dBm Ref 25.00 dBm #VBW 300 kHz #VBW 300 kHz 35.664 MHz 17.392 MHz smit Freq Error -71.995 kHz **OBW Power** 99.00 % Transmit Freq Error -17.987 kHz **OBW Power** 99.00 % 35.10 MHz x dB -6.00 dB 15.14 MHz x dB -6.00 dB 5700MHz 5670MHz Ref Offset 12 dli Ref 25.00 dBm Ref Offset 12 dil Ref 25,00 dBn Center Free #VBW 300 KHZ 18.9 dBm 35.671 MHz 17.392 MHz -70.469 kHz 99.00 % Transmit Freq Error -32.322 kHz mit Freq Error **OBW Power OBW Power** 99.00 % 35.14 MHz 15.16 MHz x dB -6.00 dB x dB -6.00 dB

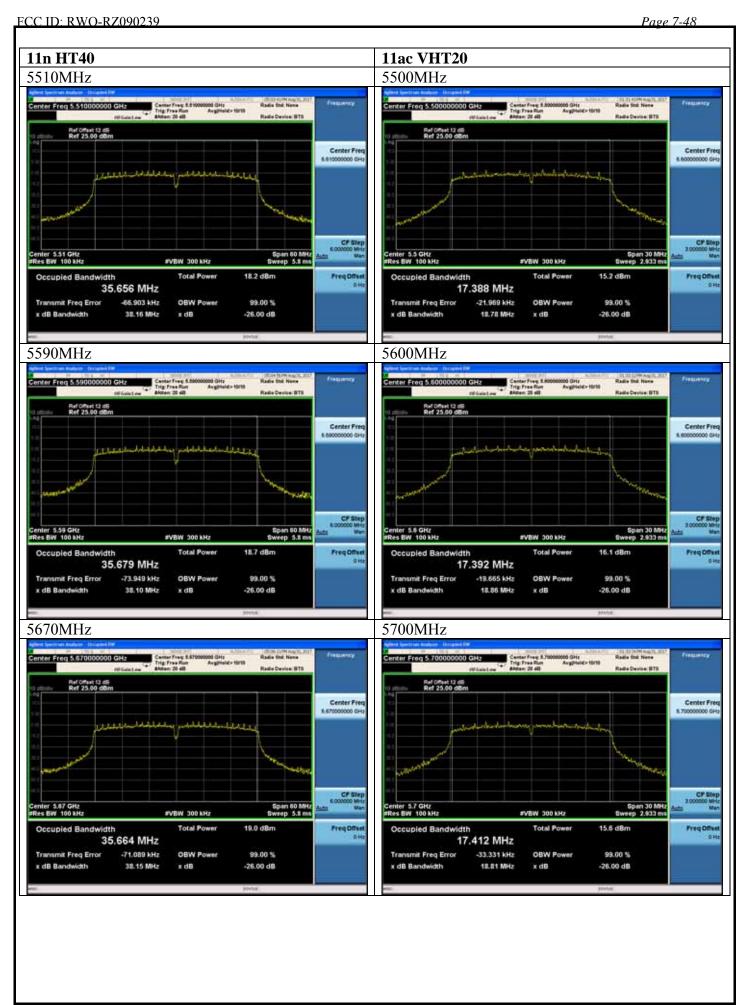


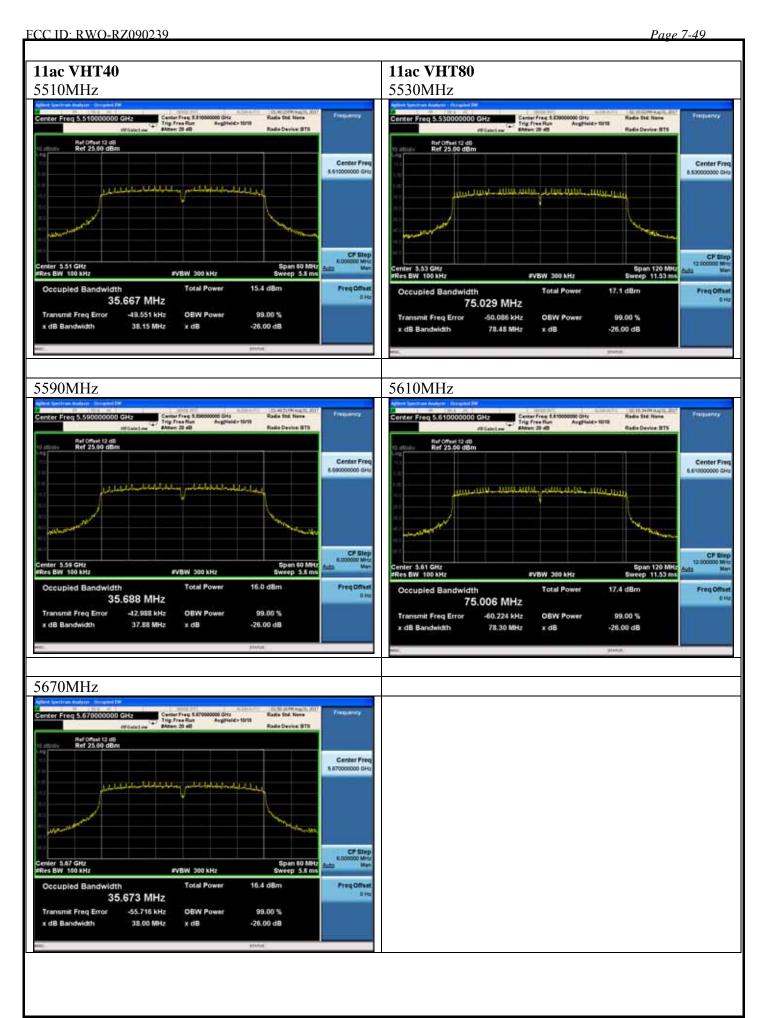
FCC ID: RWO-RZ090239 Page 7-44 5500-5700MHz Band: 26dB bandwidth ANT 0 11n HT20 11a 5500MHz 5500MHz 16.237 MHz 17.389 MHz -37.456 kHz -22.460 kHz 18.16 MHz 5600MHz 5600MHz Ref 25.00 dBm Ref 25.00 dBm Center Fre Center Free 16.234 MHz 17.406 MHz 43.426 kHz 99.00 % -26.500 kHz 99.00 % 18.26 MHz -26.00 dB 18.82 MHz -26.00 dB 5700MHz 5700MHz Center Freq 16.222 MHz 17.389 MHz 43.563 kHz 99.00 % -36.053 kHz 99.00 % 18.15 MHz -26.00 dB 18.86 MHz

FCC ID: RWO-RZ090239 Page 7-45 11n HT40 **11ac VHT20** 5500MHz 5510MHz Center Free 5.5100000000 GH Center Fre #VBW 300 kHz 35.681 MHz 17.381 MHz -23,160 kHz -30.818 kHz 99.00 % smit Freq Error 38.08 MHz 18.82 MHz x dB Bandwidth 5590MHz 5600MHz Ref 25.00 dB Occupied Bandwidth 35.663 MHz 17.380 MHz 44.903 kHz -32.257 kHz 99.00 % 99.00 % 38.07 MHz 18.83 MHz 5670MHz 5700MHz Center Fre Center Freq 35.659 MHz 17.378 MHz



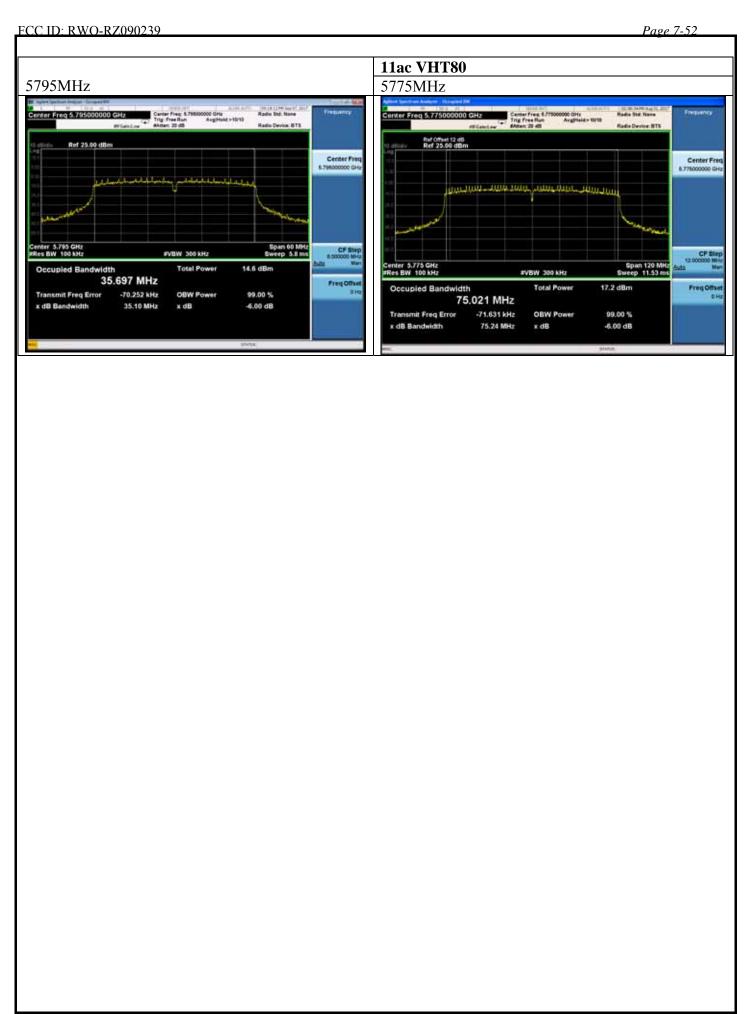
FCC ID: RWO-RZ090239 Page 7-47 5500-5700MHz Band: 26dB bandwidth ANT 1 11n HT20 11a 5500MHz 5500MHz Ref 25.00 dBm Center Fre #VBW 300 KHZ 16.234 MHz Occupied Bandwidth 17.385 MHz 47.146 kHz Transmit Freq Error 99.00 % **OBW Power** 18.82 MHz x dB Bandwidth -26.00 dB 5600MHz 5600MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.238 MHz Occupied Bandwidth -50.072 kHz 99.00 % 17.393 MHz 18.30 MHz 99.00 % **OBW Power** -26.00 dB x dB 5700MHz 5700MHz 16.233 MHz -57.989 kHz 99.00 % **OBW Power** 17.402 MHz 18.21 MHz x dB -26.00 dB -59.236 kHz 18.84 MHz





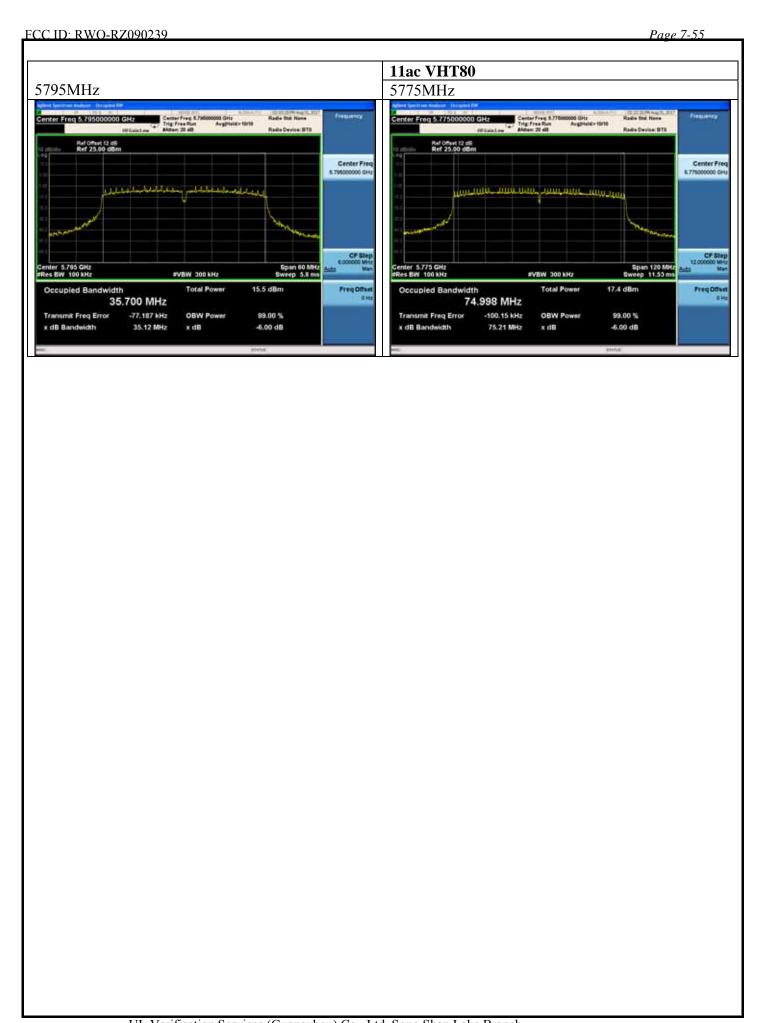
FCC ID: RWO-RZ090239 Page 7-50 5745-5825MHz Band: 6dB & 99% bandwidth ANT 0 11n HT20 11a 5745MHz 5745MHz 16.246 MHz 17.393 MHz -46,194 kHz -32.228 kHz 15.32 MHz 15.12 MHz 5785MHz 5785MHz Ref 25.00 dBm Ref 25.00 dBm Center Free 16.239 MHz 17.378 MHz 45.645 kHz 99.00 % -37.440 kHz 15.32 MHz -6.00 dB 15.15 MHz -6.00 dB 5825MHz 5825MHz Center Freq 16.238 MHz 17.405 MHz 43.890 kHz 99.00 % -27.643 kHz 99.00 % 15.35 MHz -6:00 dB 15.11 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-51 11n HT40 5755MHz 5785MHz Center Fre Center Free #VBW 300 kHz 17.394 MHz 35.649 MHz -67.774 kHz -36.796 kHz mit Freq Error 99.00 % smit Freq Error 35.16 MHz 15.07 MHz -6.00 dB x dB Bandwidth 5795MHz 5825MHz Ref 25.00 dB Ref 25.00 di Occupied Bandwidth 35.655 MHz 17.385 MHz -65.164 kHz -32.517 kHz 99.00 % 99.00 % nit Freq Error 35.15 MHz 15.15 MHz 11ac VHT20 11ac VHT40 5745MHz 5755MHz Center Free Center Free Center 5,745 GHz FRes BW 100 kHz Res BW 100 kHz 17.379 MHz 35,653 MHz -35.977 kHz 15.09 MHz



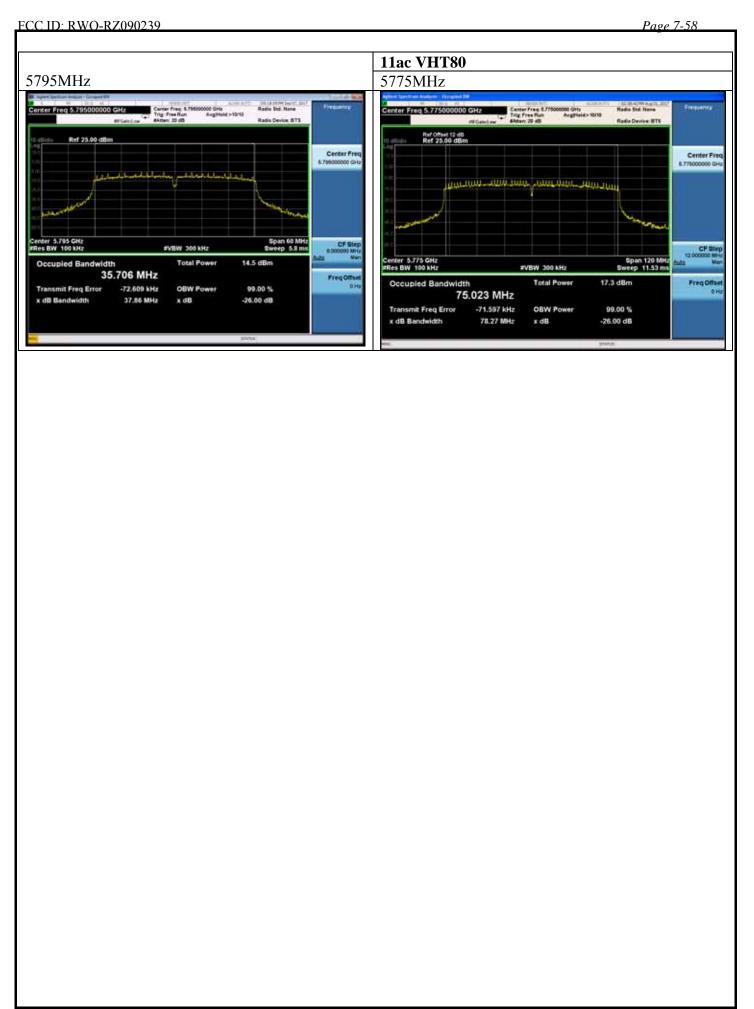
FCC ID: RWO-RZ090239 Page 7-53 5745-5825MHz Band: 6dB & 99% bandwidth ANT 1 11n HT20 11a 5745MHz 5745MHz Ref Offset 12 dB Ref 25.00 dBm Center Free #VBW 300 KHz 16.239 MHz Occupied Bandwidth 17.384 MHz -60.394 kHz Transmit Freq Error 99.00 % **OBW Powe** 15.15 MHz x dB Bandwidth -6.00 dB 5785MHz 5785MHz Ref Offset 12 dB Ref 25,00 dBm Ref 25.00 dBm Center Free 16.236 MHz -60.718 kHz 99.00 % 17.383 MHz 15.28 MHz -61.718 kHz **OBW Power** 99.00 % 15.48 MHz -6.00 dB x dB 5825MHz 5825MHz 16.234 MHz -56.241 kHz 99.00 % **OBW Power** 17.373 MHz 15.30 MHz x dB -6.00 dB -57.526 kHz 99.00 % 15.15 MHz -6.00 dB

FCC ID: RWO-RZ090239 Page 7-54 11n HT40 5755MHz 5785MHz Ref Offset 12 dB Ref 25,00 dBn Center Free 8.785000000 GH Center Fre #VBW 300 kHz #VBW 300 kHz 35.669 MHz Occupied Bandwidth 15.3 dBm -86.769 kHz mit Freq Error 99.00 % 17.387 MHz 35.04 MHz -6.00 dB Transmit Freq Error 41.056 kHz **OBW Powe** 99.00 % 15.13 MHz -6,00 dB 5795MHz 5825MHz Ref 25.00 dBn Ref 25.00 dB Center Fre #VBW 300 KHz 35.655 MHz -103.77 kHz 99.00 % 17.394 MHz 35.15 MHz Transmit Freq Error -28.858 kHz **OBW Power** 99.00 % 15.12 MHz x dB -6.00 dB **11ac VHT40** 11ac VHT20 5745MHz 5755MHz Ref Offset 12 die Ref 25.00 dBm Ref 25.00 dBm Span 30 MHz Sweep 2.933 mm Span 60 MHz Sweep 5.8 ms #VBW 300 KHZ #VBW 300 KHZ 15.8 dRm 17.388 MHz 35.669 MHz -23.874 kHz -76.428 kHz nsmit Freq Error **OBW Power** 99.00 % Transmit Freq Error **OBW Powe** 99.00 % 15.18 MHz x dB -6.00 dB 35.14 MHz x dB -6.00 dB



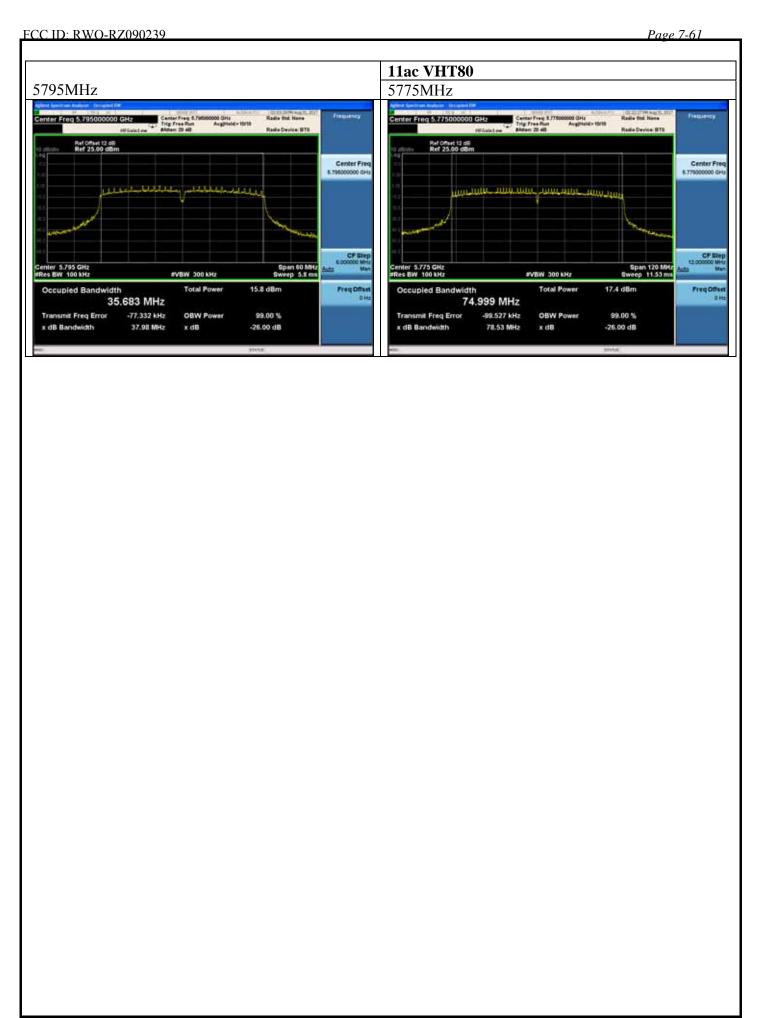
FCC ID: RWO-RZ090239 Page 7-56 5745-5825MHz Band: 26dB bandwidth ANT 0 11n HT20 11a 5745MHz 5745MHz 16.237 MHz 17.395 MHz 46.405 kHz -33.494 kHz 18.83 MHz 5785MHz 5785MHz Ref 25.00 dBm Ref 25.00 dBm Center Freq Center Fre 16.239 MHz 17.389 MHz -44.586 kHz -37.727 kHz 99.00 % 99.00 % 18.50 MHz -26.00 dB 18.83 MHz -26.00 dB 5825MHz 5825MHz Center Freq 16.232 MHz 17.391 MHz 43.725 kHz -29.426 kHz 99.00 % 99.00 % 18.39 MHz -26.00 dB 18.84 MHz

FCC ID: RWO-RZ090239 Page 7-57 11n HT40 5755MHz 5785MHz Center Fre Center Free #VBW 300 kHz 35.662 MHz 17.402 MHz -63.371 kHz -36.730 kHz mit Freq Error 99.00 % smit Freq Error 99.00 % 38.02 MHz -26.00 dB x dB Bandwidth 18.84 MHz 5795MHz 5825MHz Ref 25.00 dB Ref 25.00 di Occupied Bandwidth 35.657 MHz 17.380 MHz -65.392 kHz -33.355 kHz 99.00 % 99.00 % nit Freq Error 38.10 MHz 18.84 MHz 11ac VHT20 11ac VHT40 5745MHz 5755MHz Ref 25.00 dl Center Free Center Free Center 5,745 GHz FRes BW 100 kHz Res BW 100 kHz 17.372 MHz 35,654 MHz 36.194 kHz 69.012 kHz 18.85 MHz



FCC ID: RWO-RZ090239 Page 7-59 5745-5825MHz Band: 26dB bandwidth ANT 1 11n HT20 11a 5745MHz 5745MHz Ref Offset 12 dB Ref 25.00 dBm Center Free #VBW 300 KHZ 16.233 MHz Occupied Bandwidth 17.390 MHz -59.897 kHz Transmit Freq Error 99.00 % **OBW Power** 18.83 MHz x dB Bandwidth -26.00 dB 5785MHz 5785MHz Ref Offset 12 dB Ref 25,00 dBm Ref 25.00 dBm Center Free enter 5.785 GHz Res BW 100 kHz 16.245 MHz -60.250 kHz 99.00 % 17.380 MHz 18.41 MHz 59.891 kHz **OBW Power** 99.00 % -26.00 dB x dB 5825MHz 5825MHz FVBW 300 kHz 16.232 MHz -56.443 kHz 99.00 % 17.387 MHz 18.49 MHz x dB -26.00 dB -56.624 kHz 18.85 MHz

FCC ID: RWO-RZ090239 Page 7-60 11n HT40 5755MHz 5785MHz Ref Offset 12 dB Ref 25,00 dBn Center Free 8.785000000 GH Center Fre #VBW 300 kHz #VBW 300 kHz 35.669 MHz Occupied Bandwidth 15.1 dBm -86.769 kHz mit Freq Error 99.00 % 17.399 MHz 38.04 MHz -26.00 dB Transmit Freq Error 45.716 kHz **OBW Powe** 99.00 % 18.89 MHz -26.00 dB 5795MHz 5825MHz Ref 25.00 dBn Ref 25.00 dB Center Fre #VBW 300 KHz 35.651 MHz -104.31 kHz 99.00 % 17.383 MHz 38.08 MHz Transmit Freq Error -29.367 kHz **OBW Power** 99.00 % 18.85 MHz x dB -26.00 dB **11ac VHT40** 11ac VHT20 5745MHz 5755MHz Ref Offset 12 die Ref 25.00 dBm Ref 25.00 dBm Span 30 MHz Sweep 2.933 mm Span 60 MHz Sweep 5.8 ms #VBW 300 KHZ #VBW 300 KHZ 15.9 dBm 15.8 dBm 17.382 MHz 35.678 MHz -23.794 kHz -71.392 kHz nsmit Freq Error **OBW Power** 99.00 % Transmit Freq Error **OBW Powe** 99.00 % 18.86 MHz -26.00 dB 38.05 MHz x dB -26.00 dB



FCC ID: RWO-RZ090239 Page 8-1

# 8. OUTPUT POWER TEST

### 8.1.Limit

#### For 15.407:

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 max-imum 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 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).

#### **For RSS-247:**

For frequency band 5250-5350MHz;5470-5725MHz:

The maximum conducted output power shall not exceed 250 mW(23.98dBm) or 11 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz.

For frequency band 5725MHz-5850MHz:

The maximum conducted output power shall not exceed 1 W(30dBm).

FCC ID: RWO-RZ090239 Page 8-2

## 8.2.Test Procedure

- 1. Connected the EUT's antenna port to measure device by 20dB attenuator.
- 2. For IEEE 802.11a and IEEE802.11n HT20 and 802.11ac VHT20 mode, use a PK power meter which's bandwidth is 20MHz and above 26dB bandwidth of signal to measure out each test modes' PK output power.
- 3. For IEEE802.11n HT40 and IEEE802.11ac VHT40 and 802.11ac VHT80 mode, because the signal's bandwidth is about 40MHz and above 20MHz bandwidth of power sensor. So use the test method described in KBD789033 clause E Method SA-1
  - 1) Connect the antenna port to the spectrum analyzer and Set span of the spectrum to encompass the entire emission bandwidth (EBW) of the signal.
  - 2) Set the RBW=1MHz and VBW =3MHz
  - 3) Number of points in sweep  $\geq$  2 Span / RBW
  - 4) Detector = RMS
  - 5) Sweep time = auto couple

6) Allow the sweep to "free run" and set the Trace average at least 100 traces in power averaging (i.e., RMS) mode.
7) Compute power by integrating the spectrum across the 26 dB EBW of the signal using the instrument's band power measurement function with band limits set equal to the EBW band edges.
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.