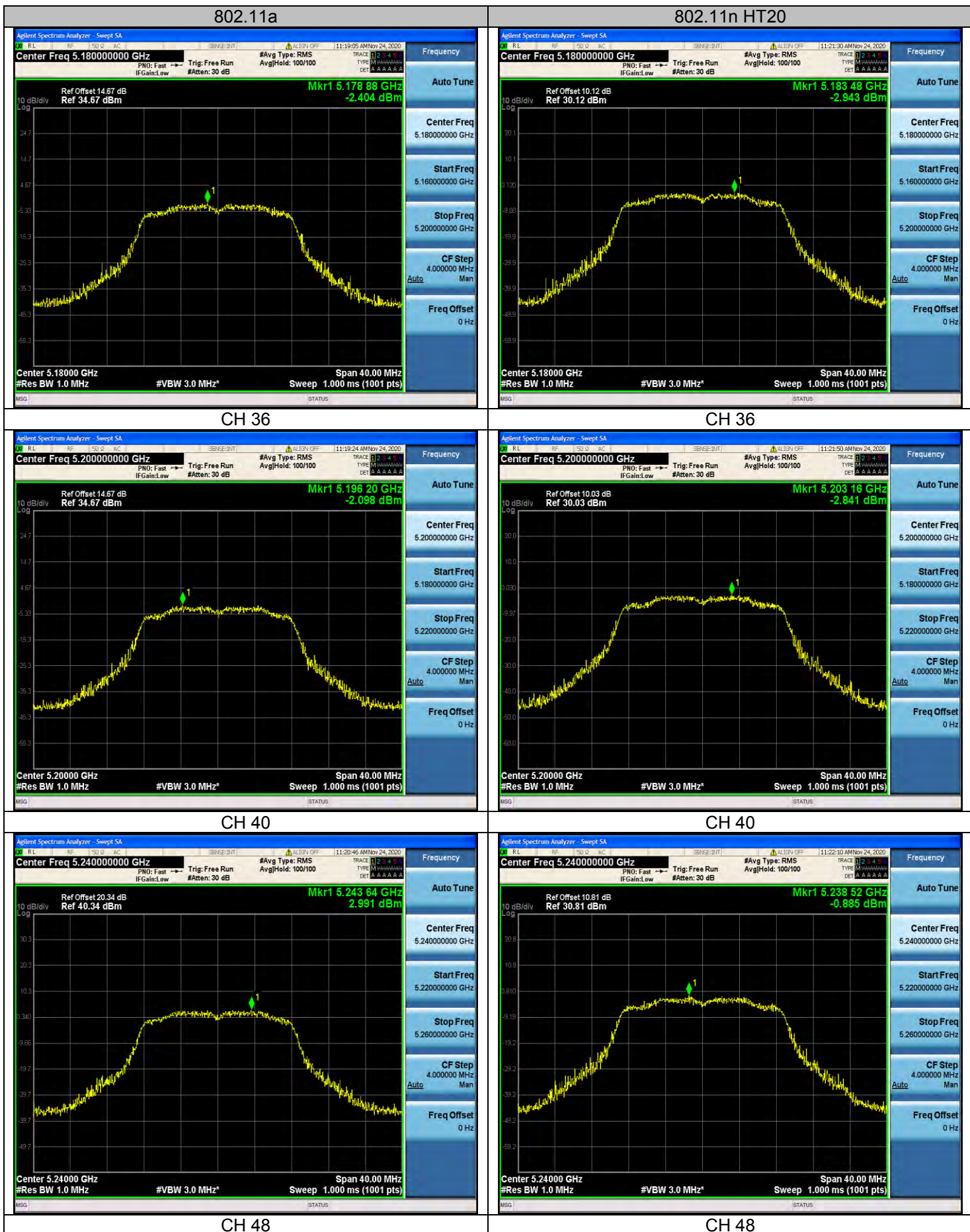
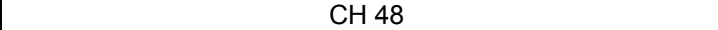
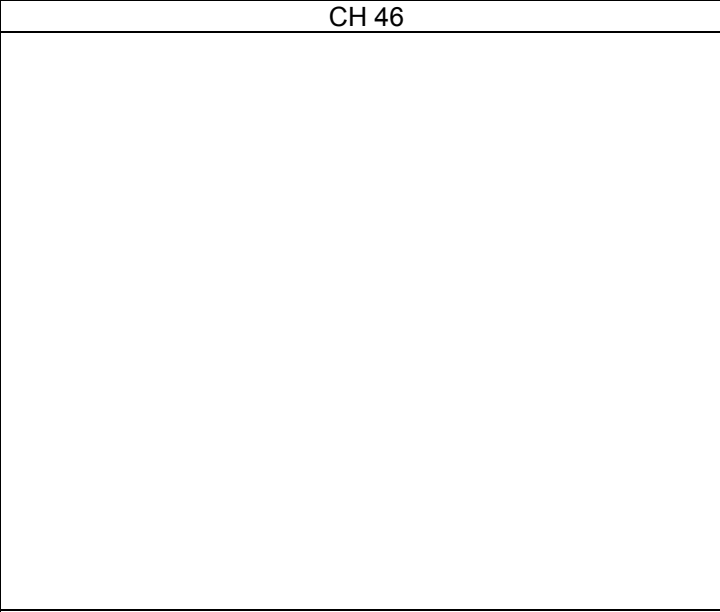
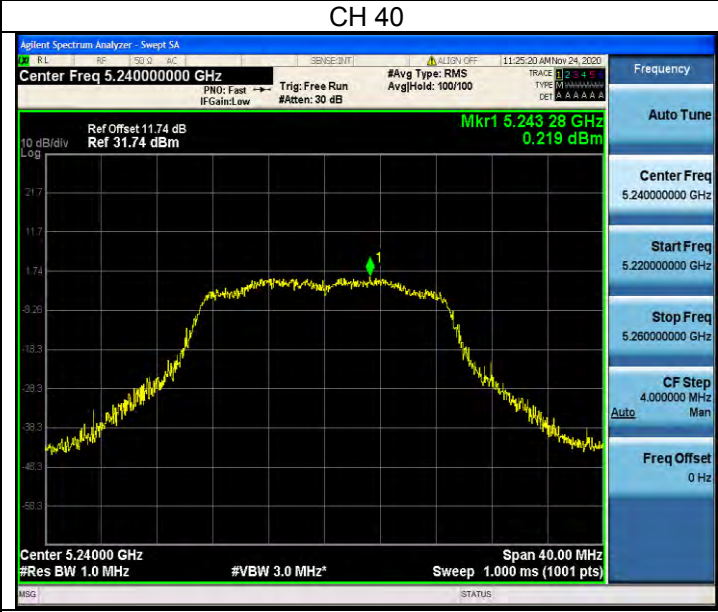
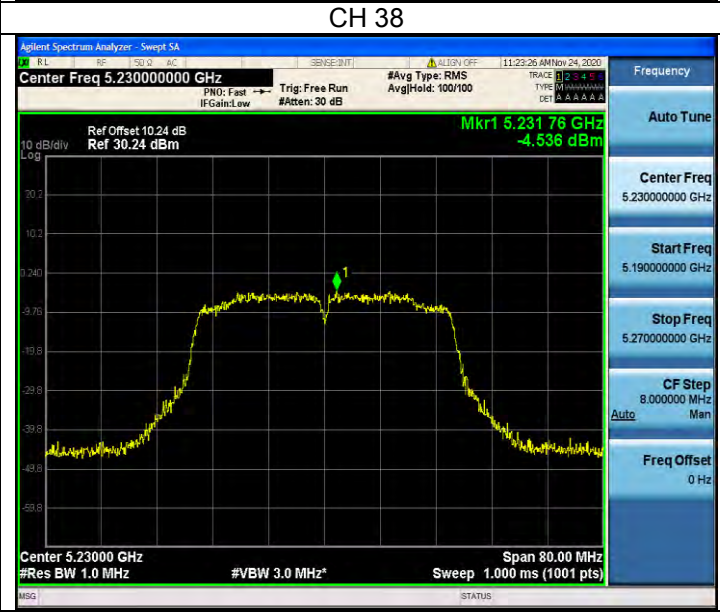
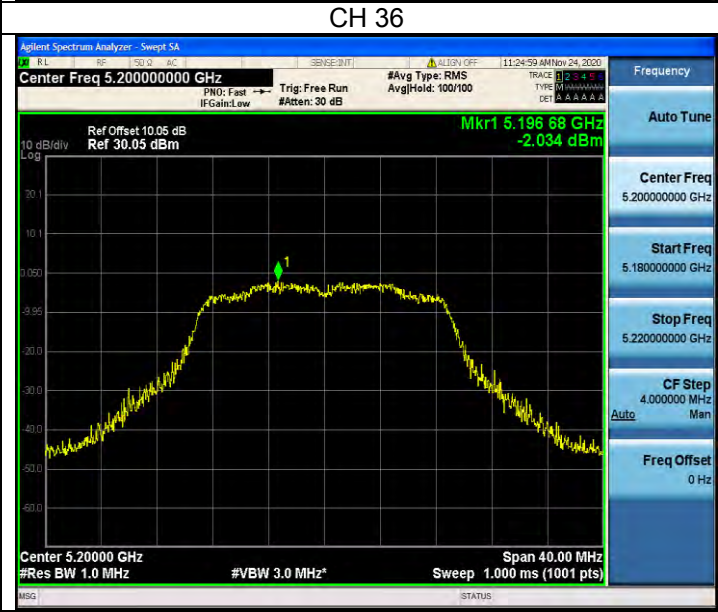
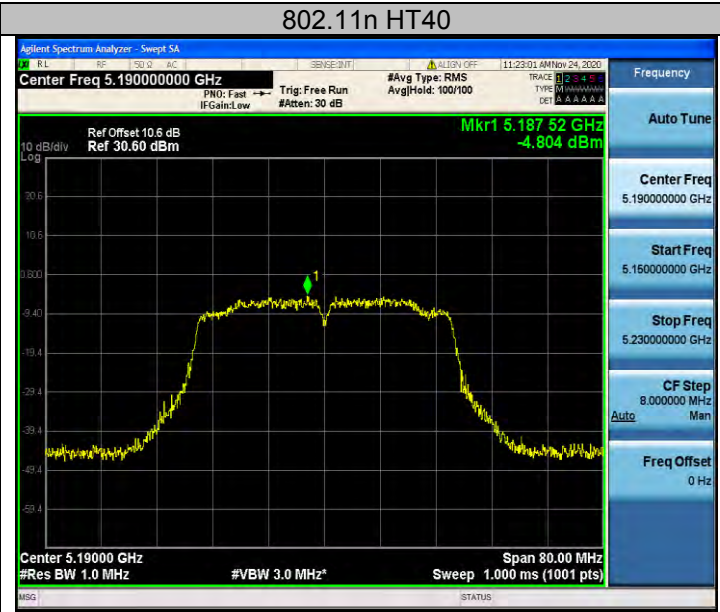
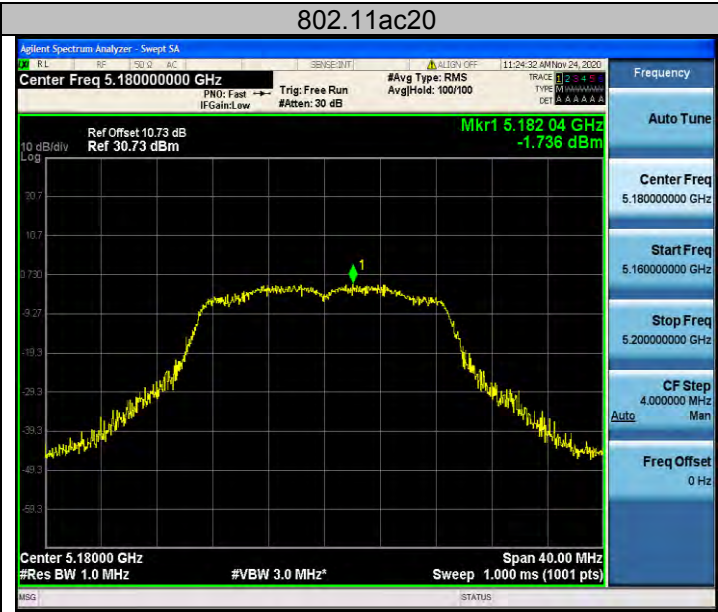
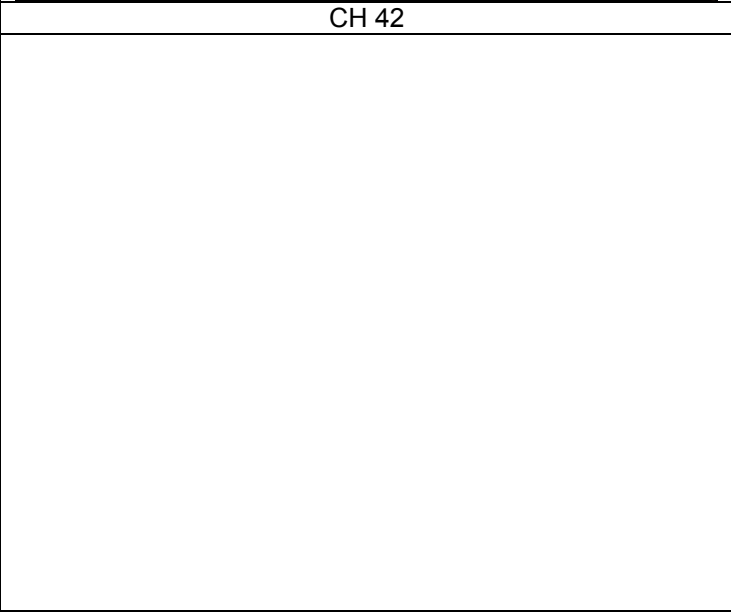
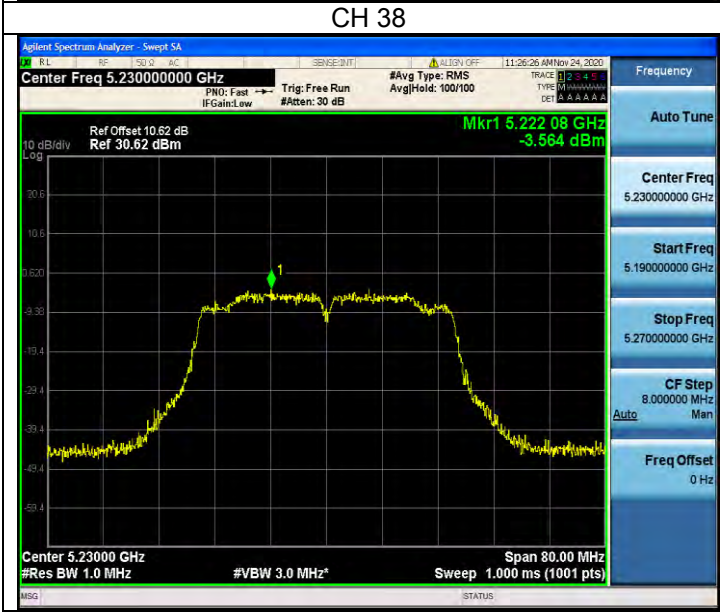
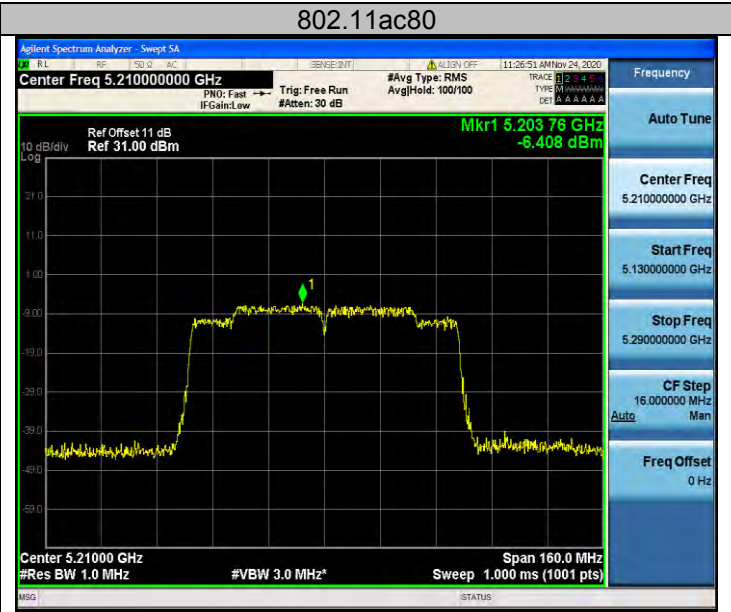
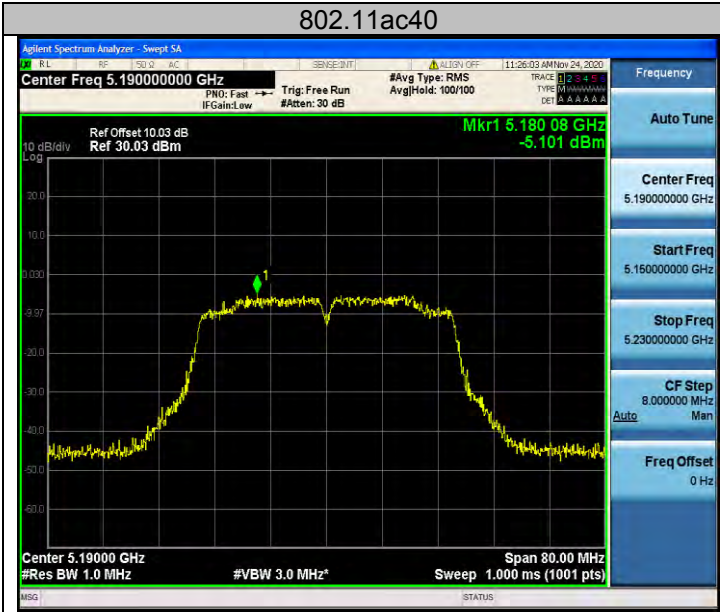


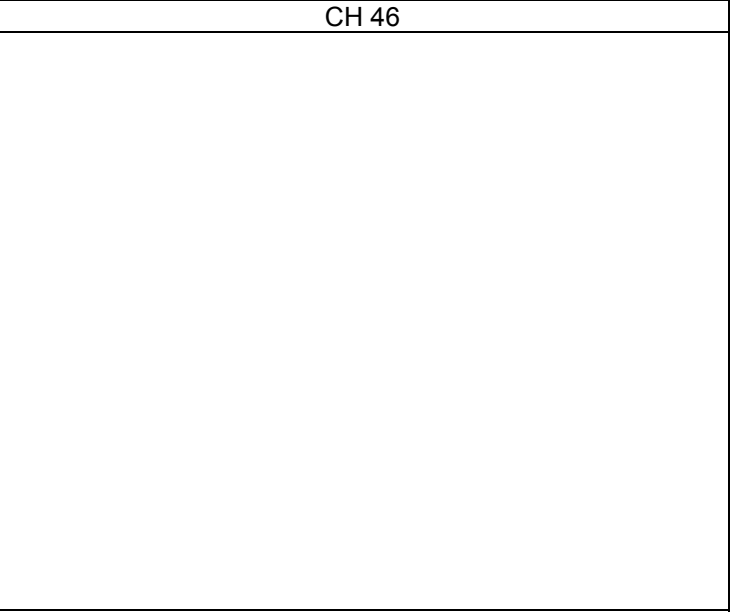
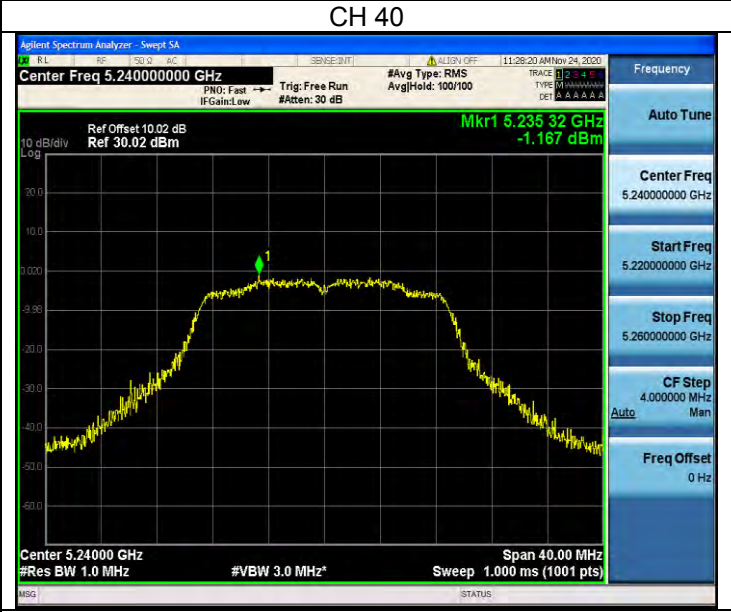
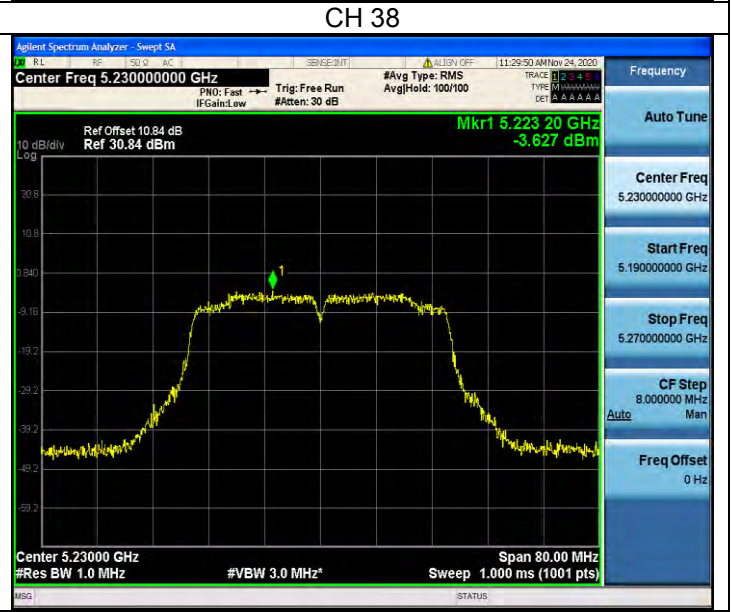
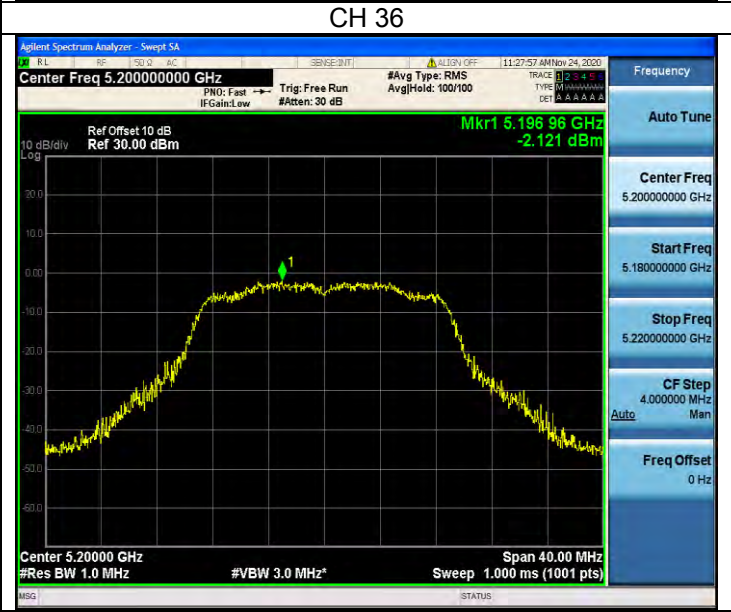
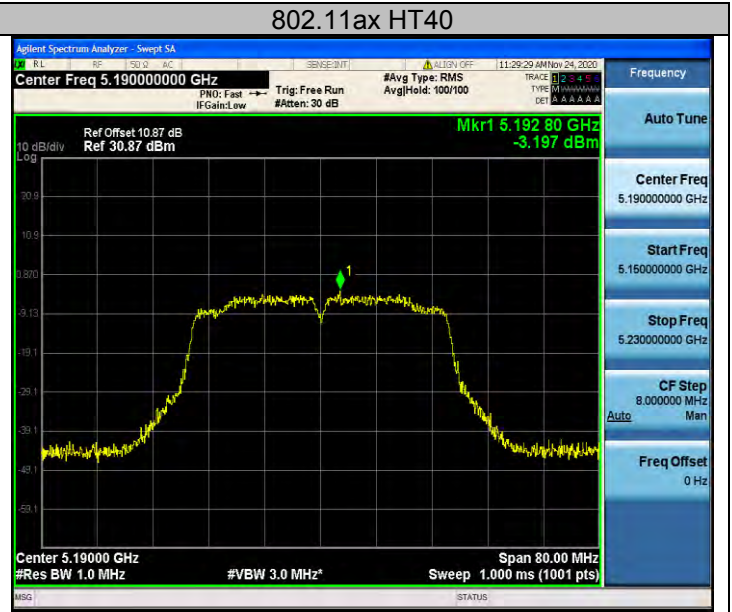
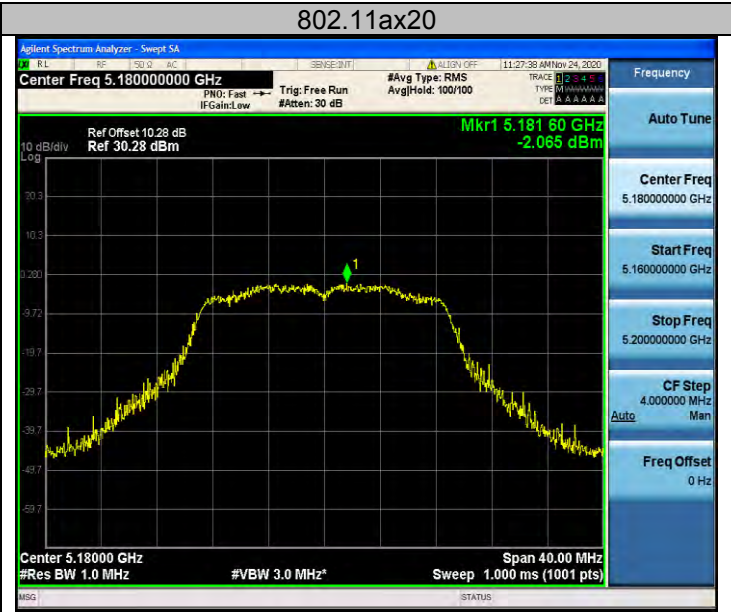
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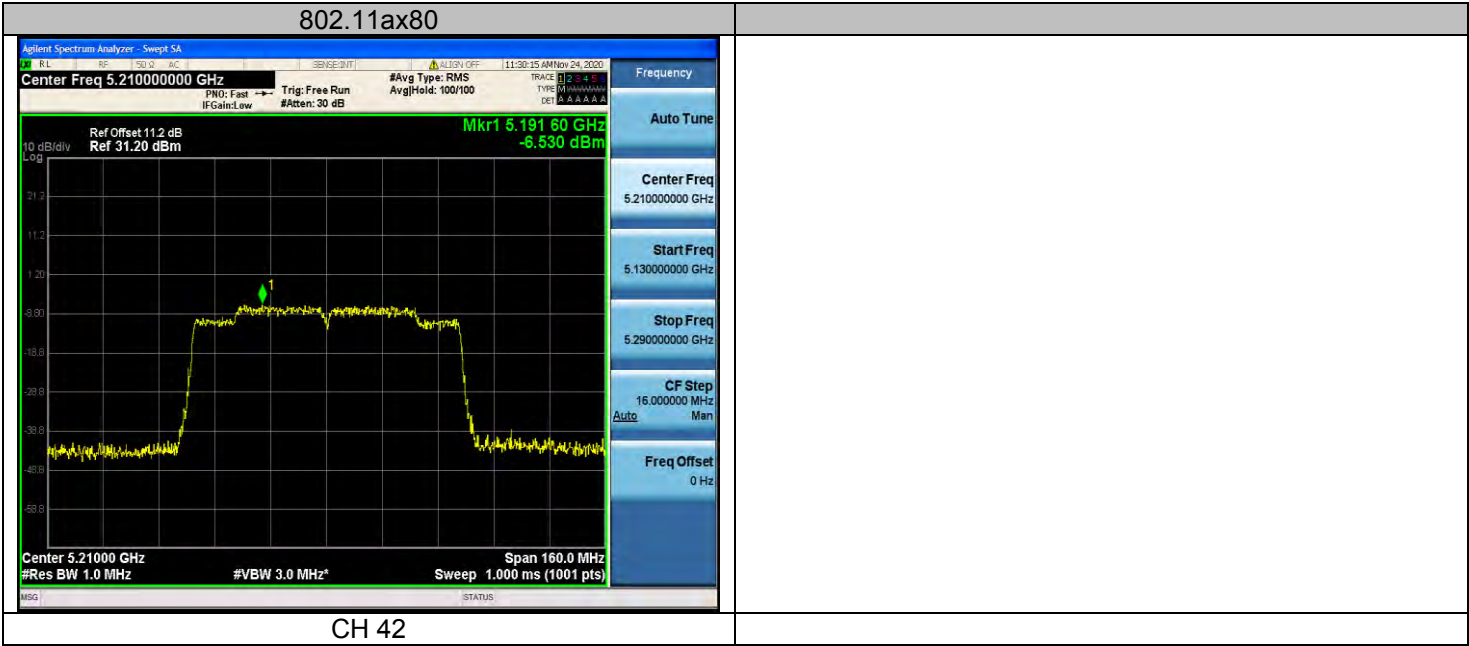




CH 46

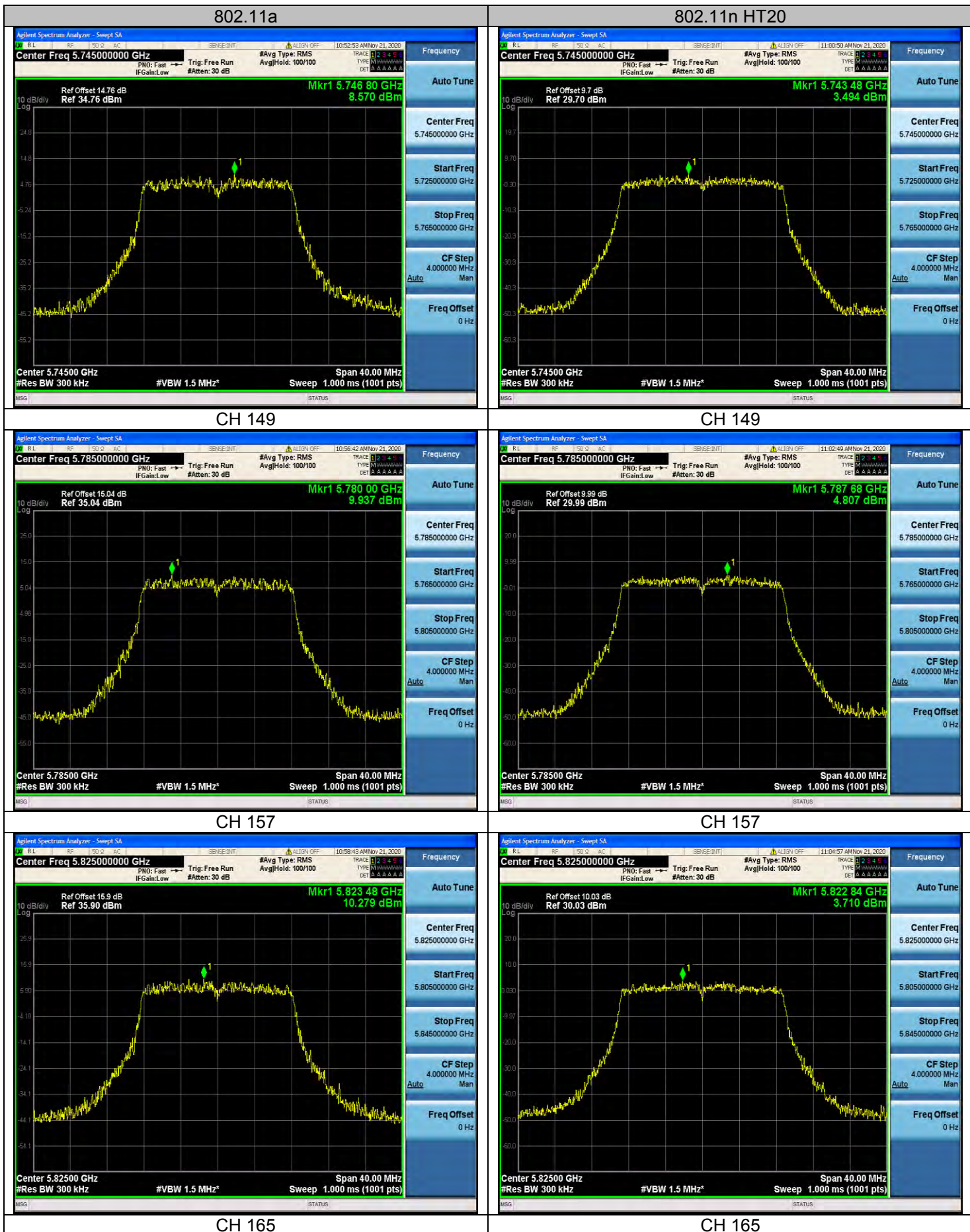


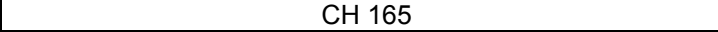
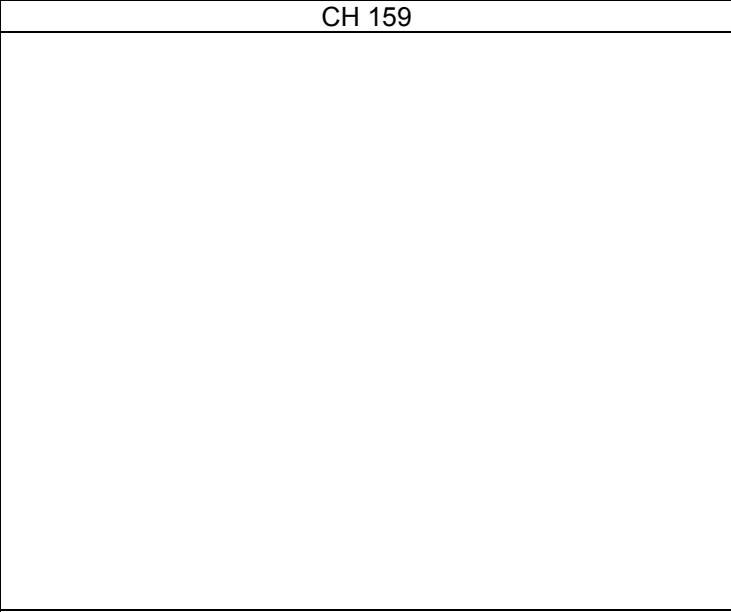
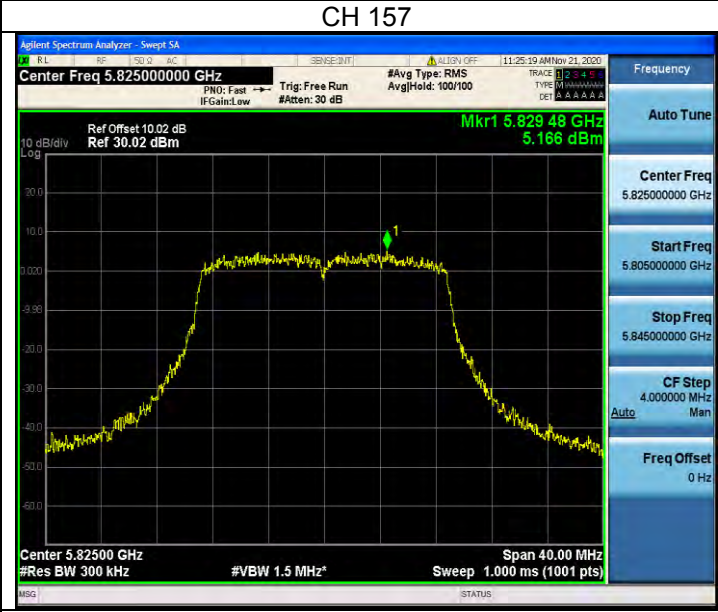
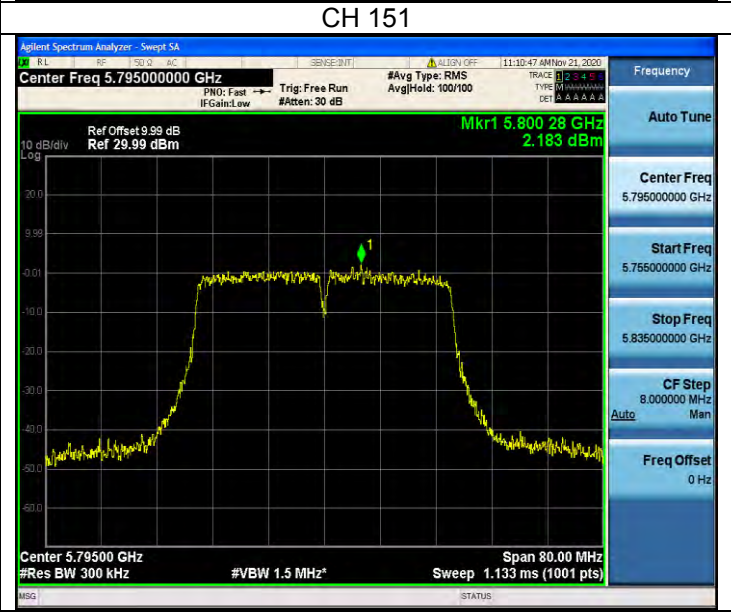
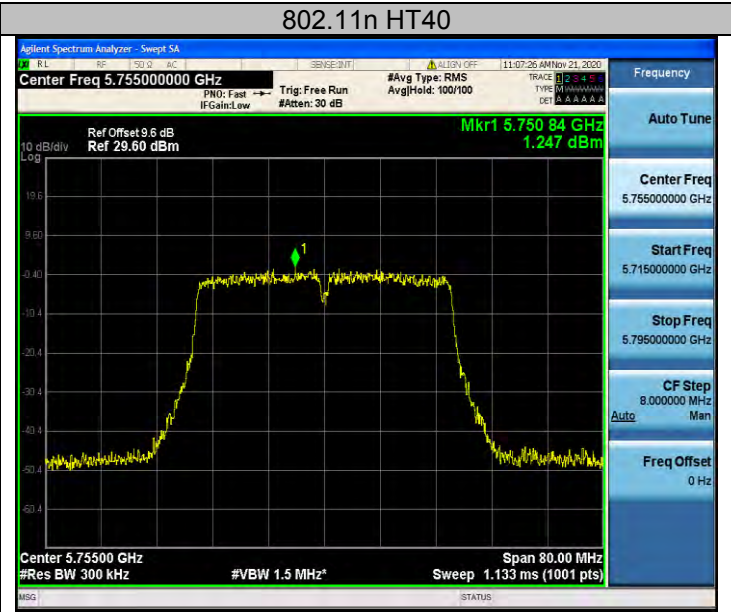
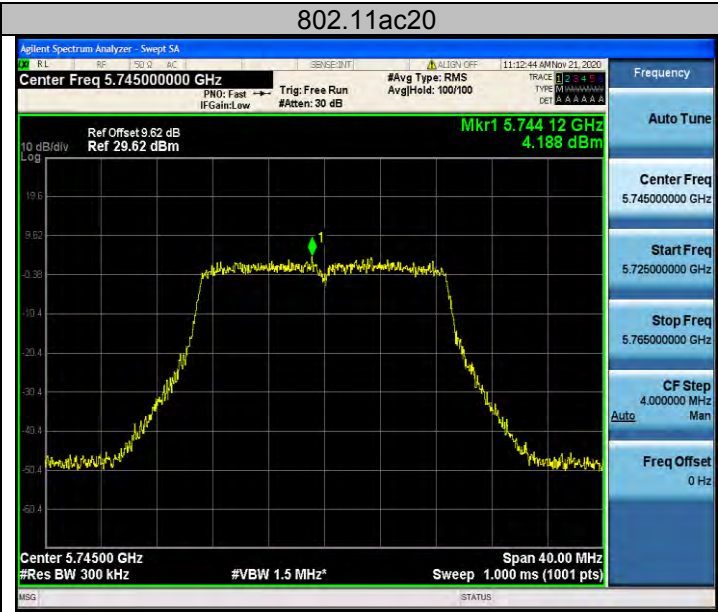
CH 48

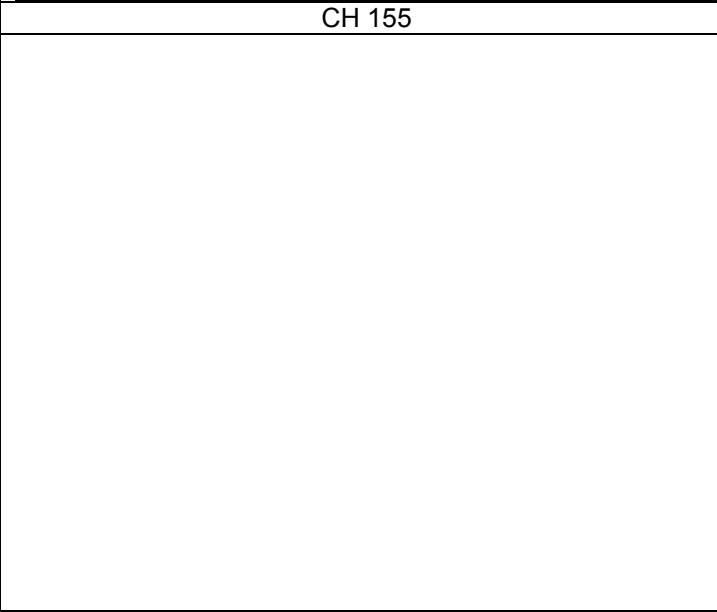
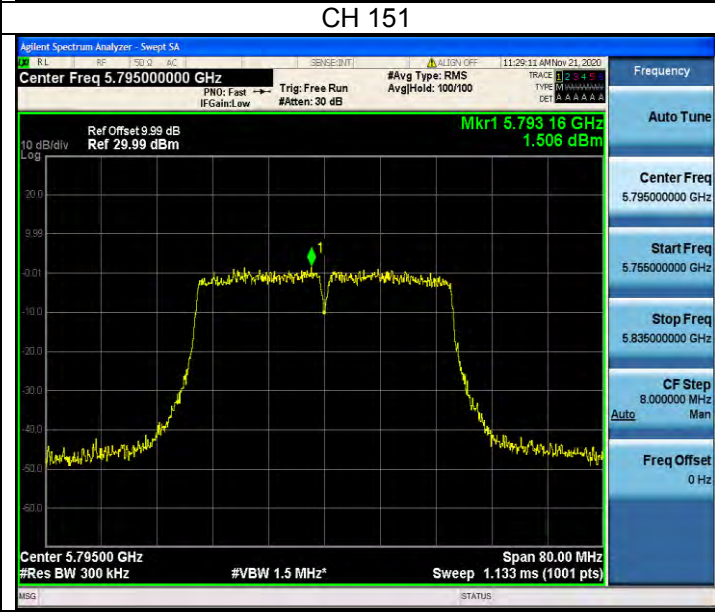
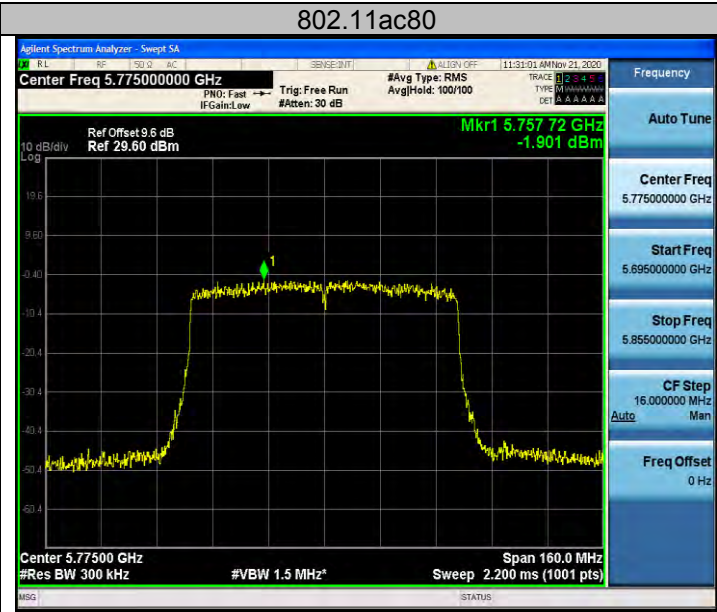
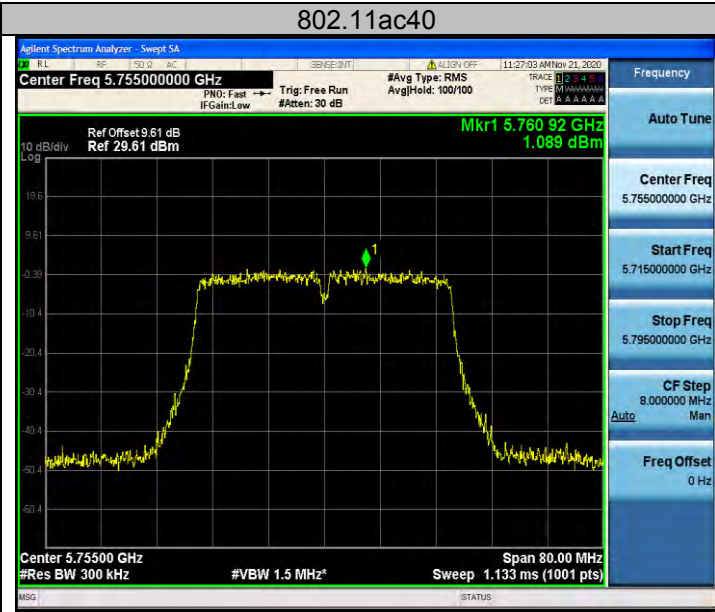


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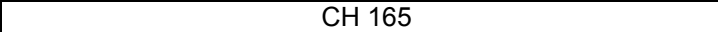
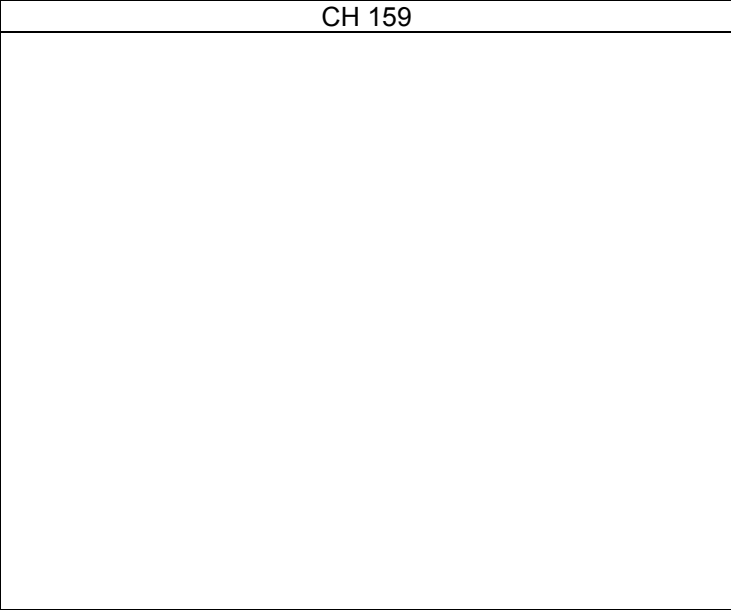
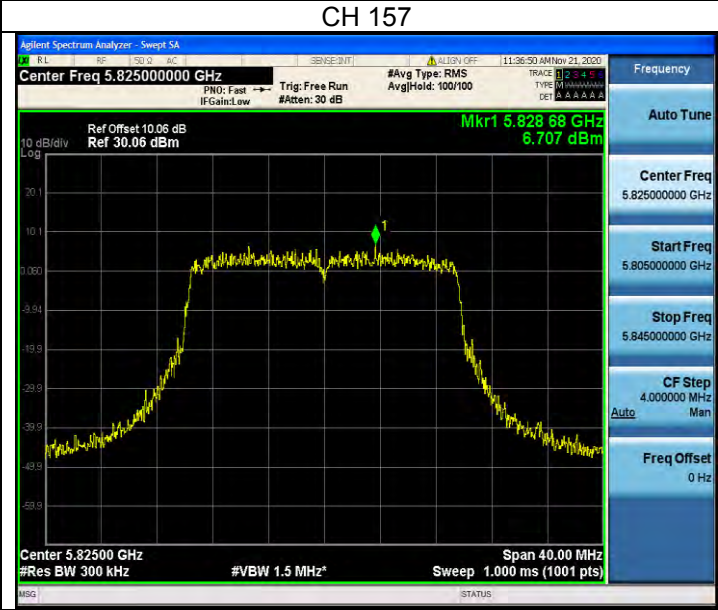
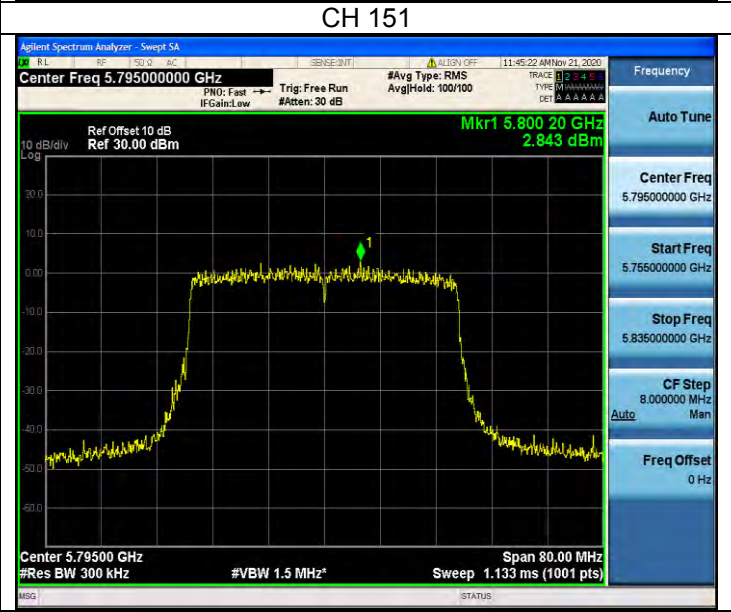
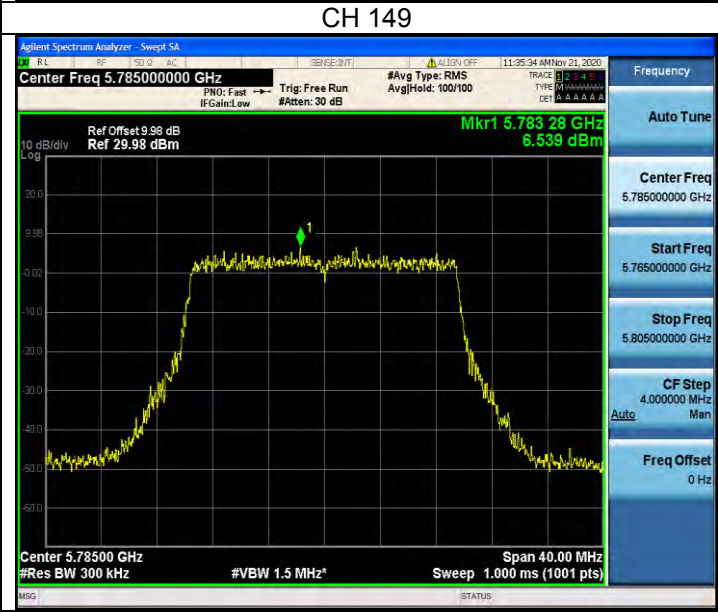
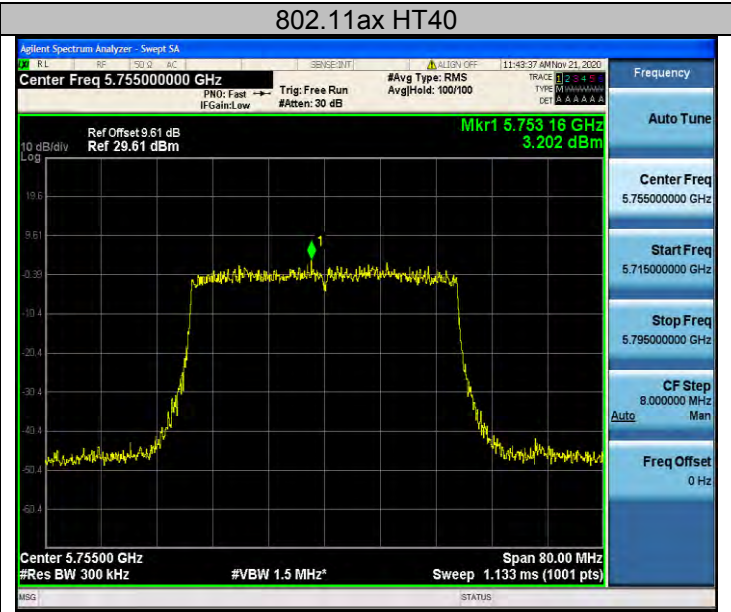
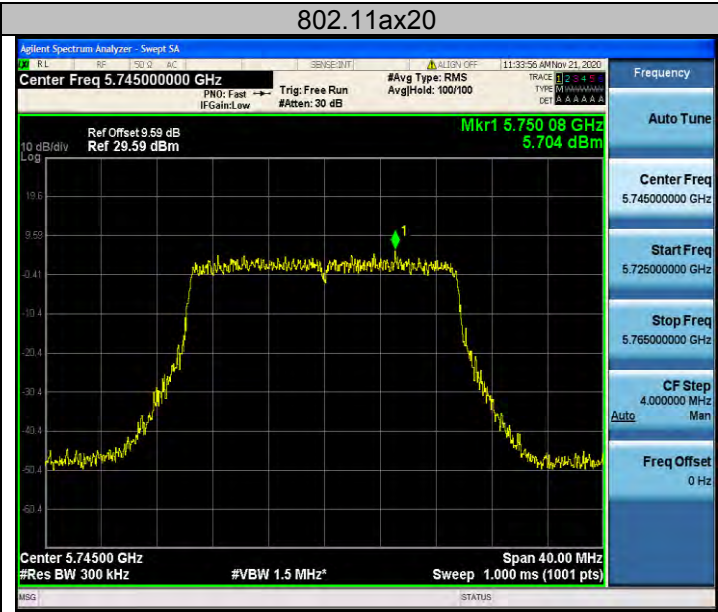
5725-5850MHz:

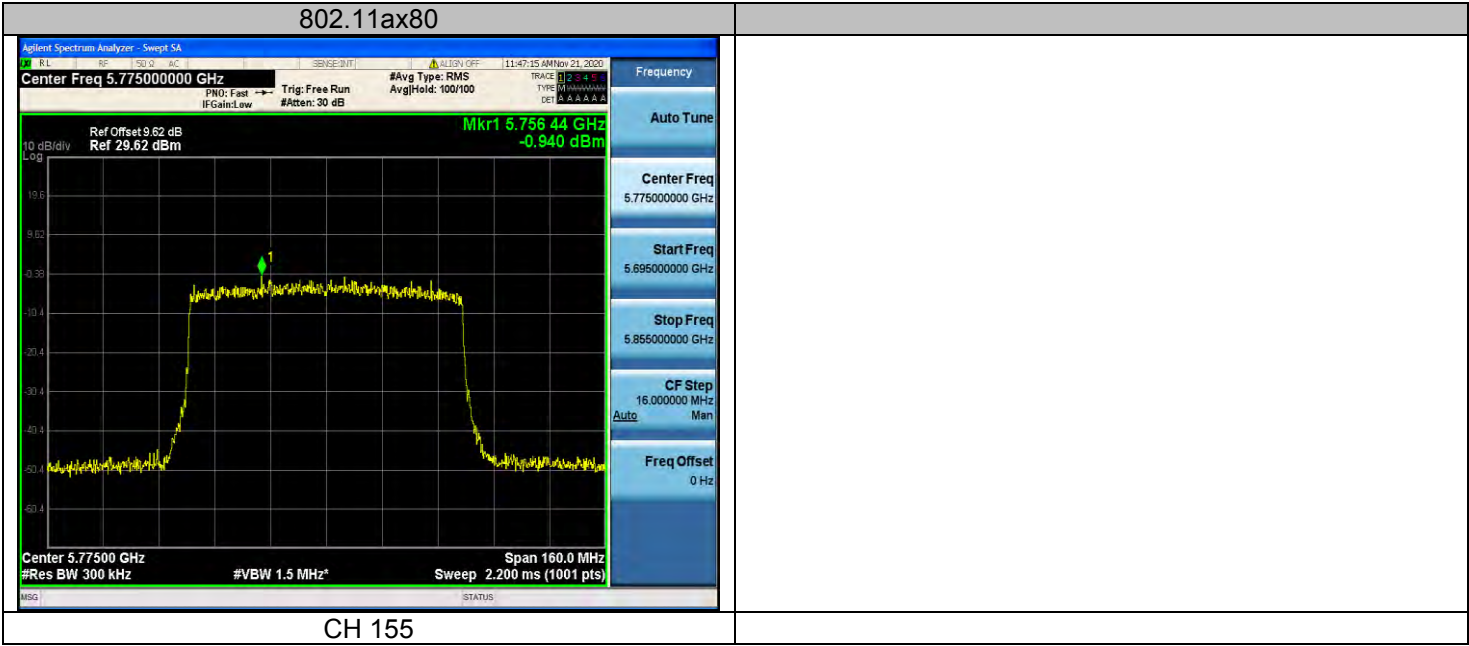






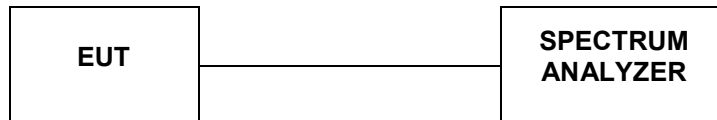
CH 159





4.6. 6dB Bandwidth

TEST CONFIGURATION



TEST PROCEDURE

According to KDB789033 D02 General UNII Test Procedures New Rules v01 for one of the following procedures may be used for section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

LIMIT

For Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz

TEST RESULTS

Temperature	23.6°C	Humidity	55.7%
Test Engineer	Moon Tan	Configurations	IEEE 802.11a/n/ac

Antenna 1:

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	16.579	16.440	≥500	Pass
	157	16.549	16.440		
	165	16.600	16.400		
802.11nHT20	149	17.711	17.600	≥500	Pass
	157	17.756	17.600		
	165	17.717	17.240		
802.11ac20	149	17.723	17.640	≥500	Pass
	157	17.717	17.640		
	165	17.672	17.640		
802.11n40	151	36.206	36.480	≥500	Pass
	159	36.242	36.240		
802.11ac40	151	36.261	36.480	≥500	Pass
	159	36.343	36.400		
802.11ac80	155	75.339	74.400	≥500	Pass
802.11ax20	149	19.012	18.920	≥500	Pass
	157	19.026	18.920		
	165	19.002	19.080		
802.11ax40	151	37.883	37.920	≥500	Pass
	159	37.903	38.160		
802.11ax80	155	77.177	77.920	≥500	Pass

Antenna 2:

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	16.834	16.440	≥500	Pass
	157	16.894	16.480		
	165	16.762	16.360		
802.11nHT20	149	17.717	17.640	≥500	Pass
	157	17.698	17.680		
	165	17.672	16.760		
802.11ac20	149	17.709	17.680	≥500	Pass
	157	17.660	17.640		
	165	17.659	17.600		
802.11n40	151	36.256	36.160	≥500	Pass
	159	36.211	36.400		
802.11ac40	151	36.287	36.480	≥500	Pass
	159	36.199	36.400		
802.11ac80	155	75.302	75.360	≥500	Pass
802.11ax20	149	19.001	19.000	≥500	Pass
	157	19.041	19.040		
	165	19.060	19.120		
802.11ax40	151	37.910	38.000	≥500	Pass
	159	37.818	37.840		
802.11ax80	155	77.110	77.920	≥500	Pass

Antenna 3:

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	16.579	16.440	≥500	Pass
	157	16.560	16.000		
	165	16.525	15.720		
802.11nHT20	149	17.755	17.640	≥500	Pass
	157	17.762	17.400		
	165	17.804	17.640		
802.11ac20	149	17.749	17.640	≥500	Pass
	157	17.792	17.660		
	165	17.775	17.600		
802.11n40	151	36.213	35.840	≥500	Pass
	159	36.178	36.240		
802.11ac40	151	36.287	35.840	≥500	Pass
	159	36.242	36.160		
802.11ac80	155	75.503	75.680	≥500	Pass
802.11ax20	149	19.001	19.040	≥500	Pass
	157	18.954	18.800		
	165	19.079	19.000		
802.11ax40	151	37.864	37.920	≥500	Pass
	159	37.865	38.000		
802.11ax80	155	77.149	76.960	≥500	Pass

Antenna 4:

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	16.574	16.360	≥500	Pass
	157	16.571	16.360		
	165	16.534	16.360		
802.11nHT20	149	17.754	17.680	≥500	Pass
	157	17.719	17.640		
	165	17.743	17.640		
802.11ac20	149	17.739	17.640	≥500	Pass
	157	17.705	17.640		
	165	17.673	17.640		
802.11n40	151	36.308	36.400	≥500	Pass
	159	36.241	36.000		
802.11ac40	151	36.280	36.480	≥500	Pass
	159	36.325	36.160		
802.11ac80	155	75.394	75.680	≥500	Pass
802.11ax20	149	19.020	19.000	≥500	Pass
	157	19.029	19.000		
	165	18.985	18.960		
802.11ax40	151	37.868	38.080	≥500	Pass
	159	37.816	38.080		
802.11ax80	155	77.170	77.440	≥500	Pass

Antenna 1:

99%Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157

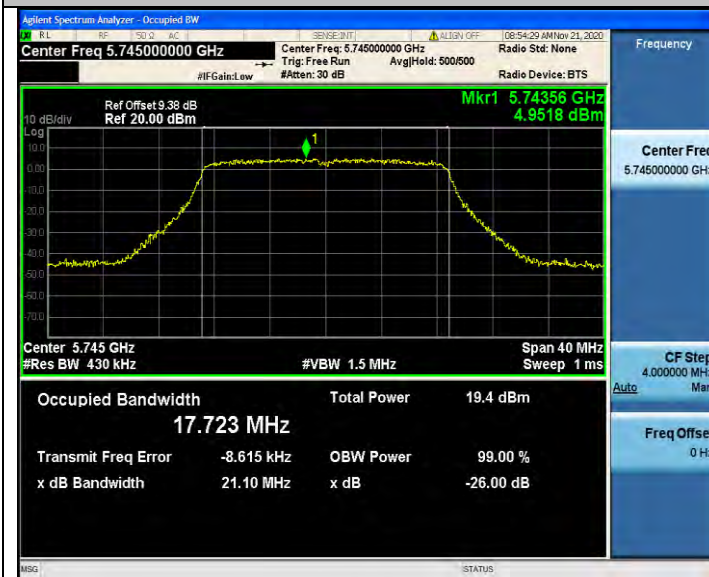


CH165

CH165

99%Bandwidth

802.11ac20



802.11n HT40



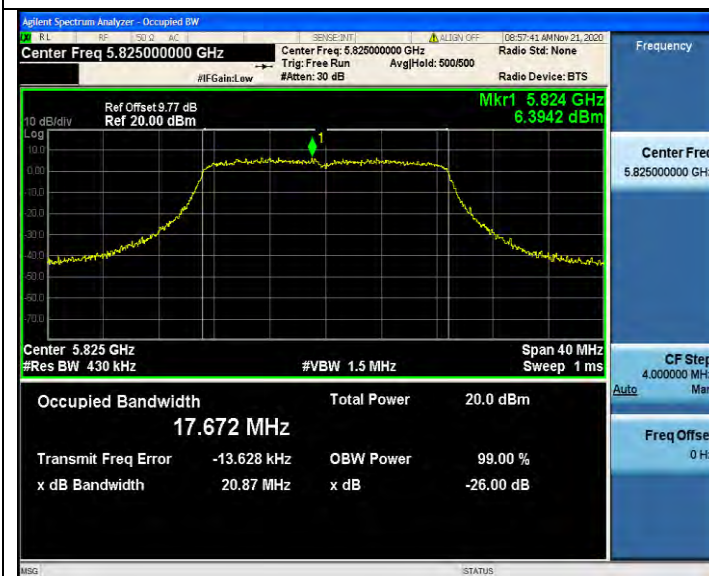
CH149



CH151



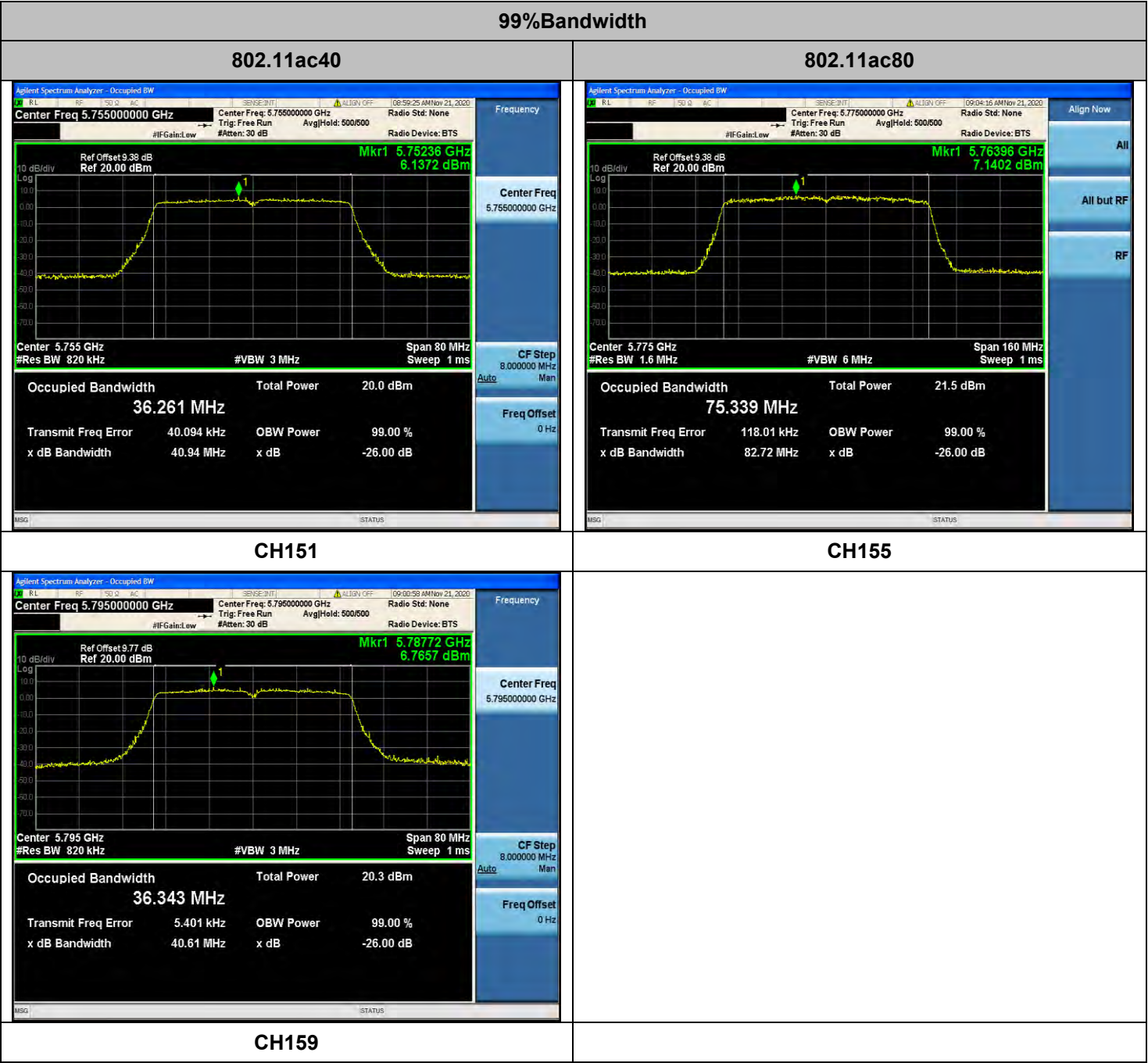
CH157



CH159

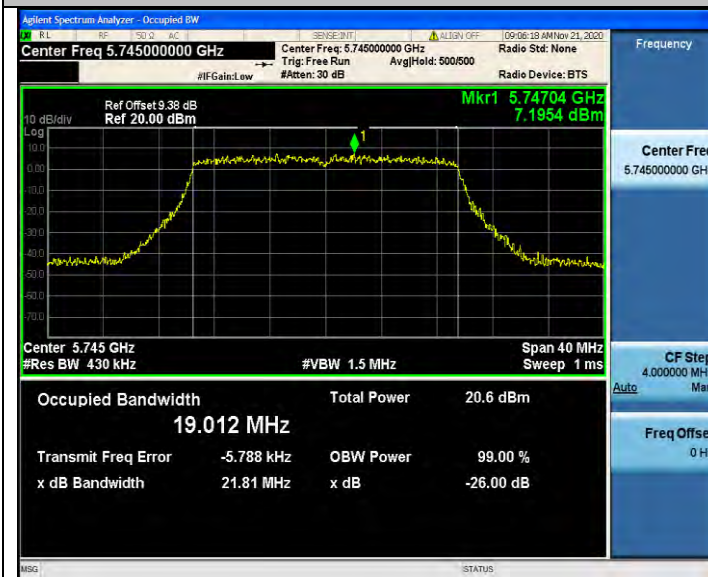


CH165



99%Bandwidth

802.11ax20



99%Bandwidth

802.11ax80

Agilent Spectrum Analyzer - Occupied BW

Center Freq 5.775000000 GHz

Center Freq: 5.775000000 GHz

Radio Std: None

Trig: Free Run

Avg/Hold: 500/500

#IF Gain: Low

#Atten: 30 dB

Radio Device: BTS

Ref Offset: 9.38 dB

Ref 20.00 dBm

Mkr1 5.77164 GHz

10.196 dBm

Center Freq 5.775 GHz

#Res BW 1.6 MHz

#VBW 6 MHz

Span 160 MHz

Sweep 1 ms

Occupied Bandwidth	Total Power	22.4 dBm
77.177 MHz		
Transmit Freq Error	130.78 kHz	OBW Power
		99.00 %
x dB Bandwidth	82.62 MHz	x dB
		-26.00 dB

Frequency

Center Freq 5.775000000 GHz

CF Step 16.000000 MHz

Auto Man

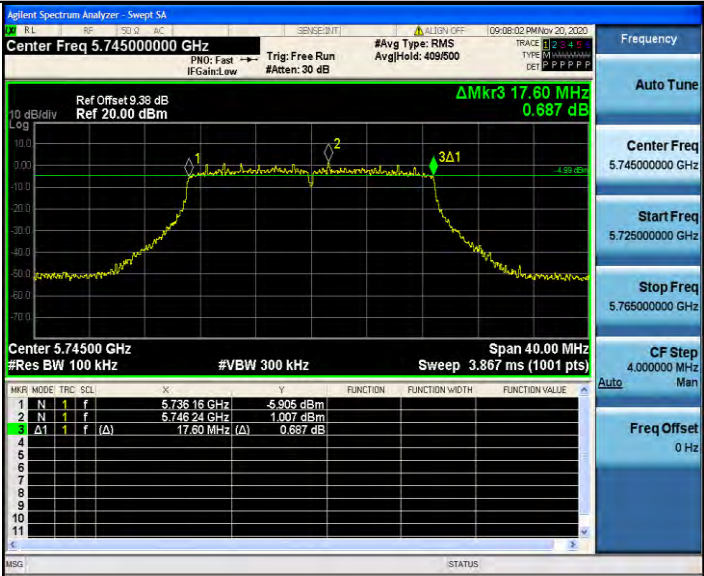
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CH155

6dB Bandwidth

802.11a

802.11n HT20



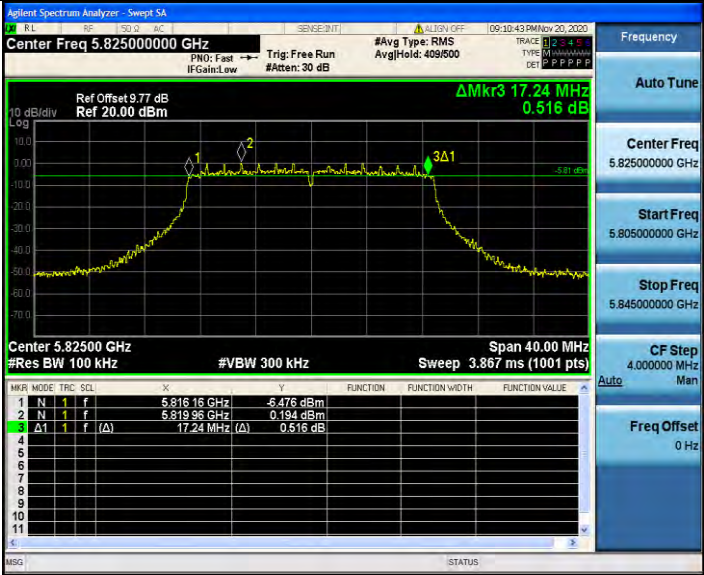
CH149

CH149



CH157

CH157



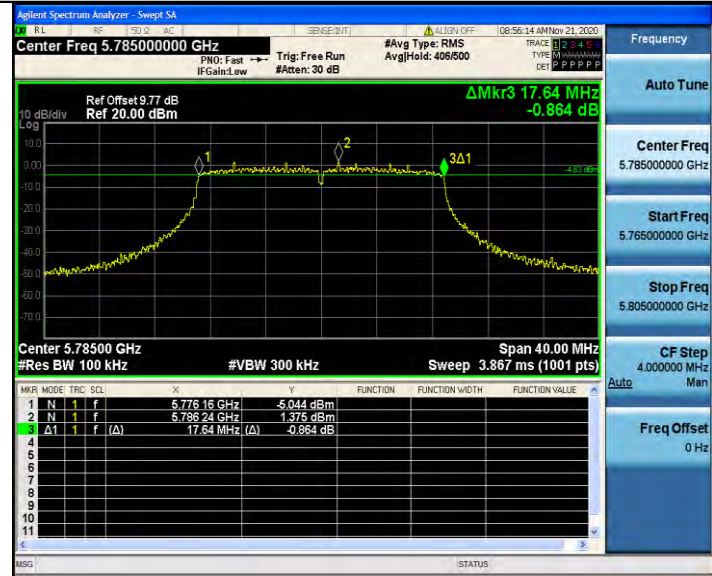
CH165

CH165

6dB Bandwidth

802.11ac20

802.11n HT40



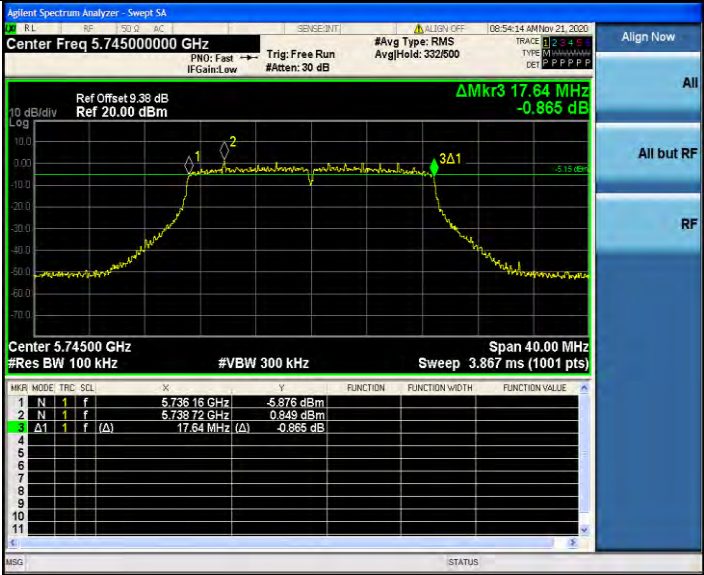
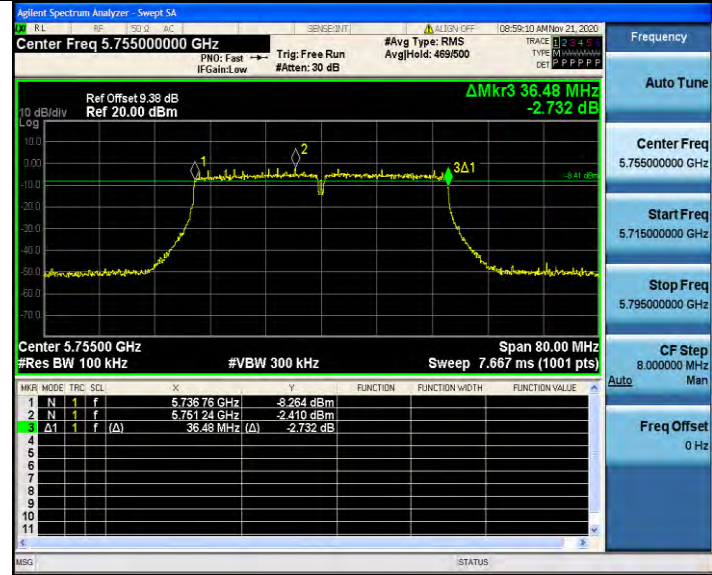
CH149

CH151

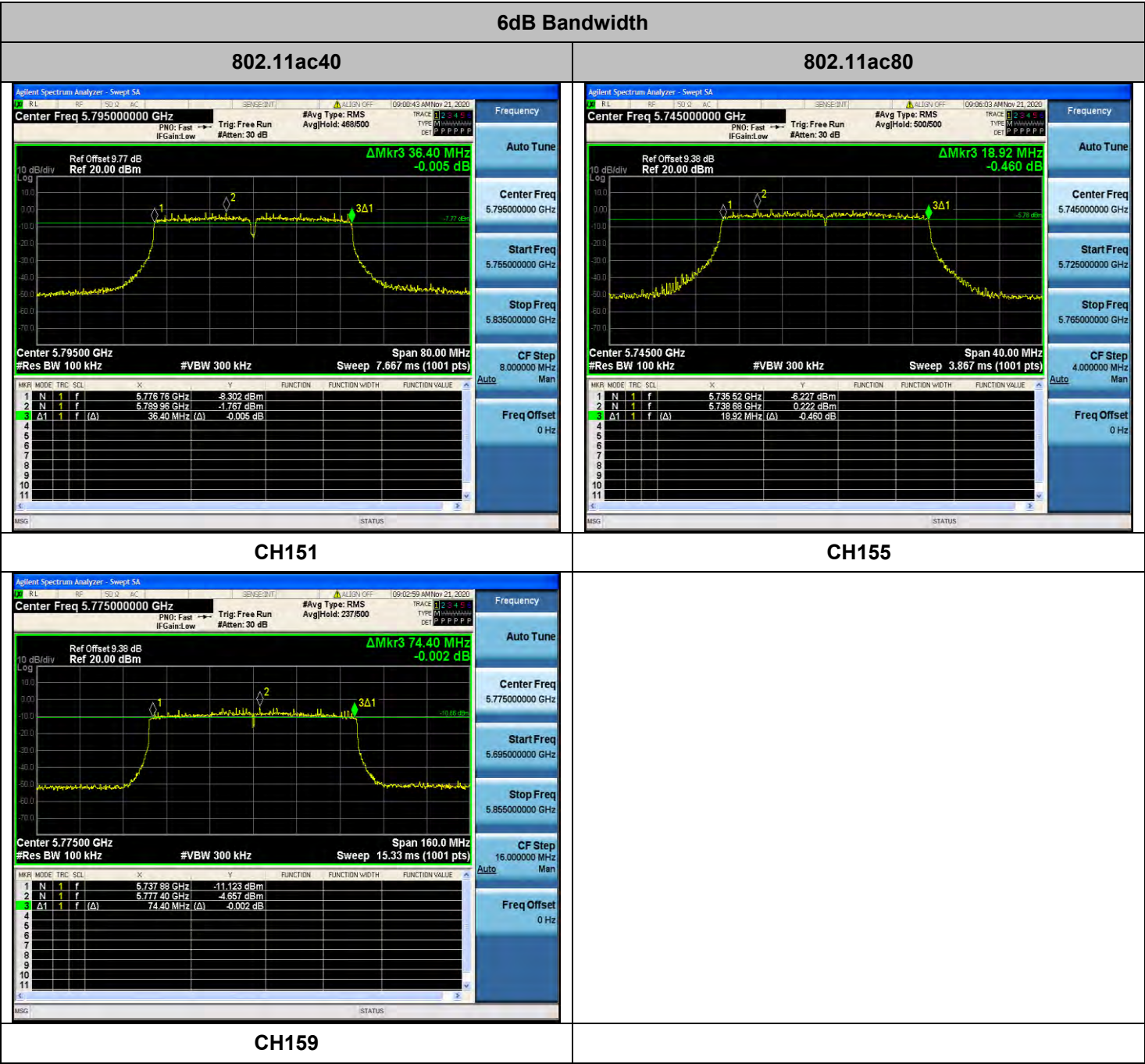


CH157

CH159

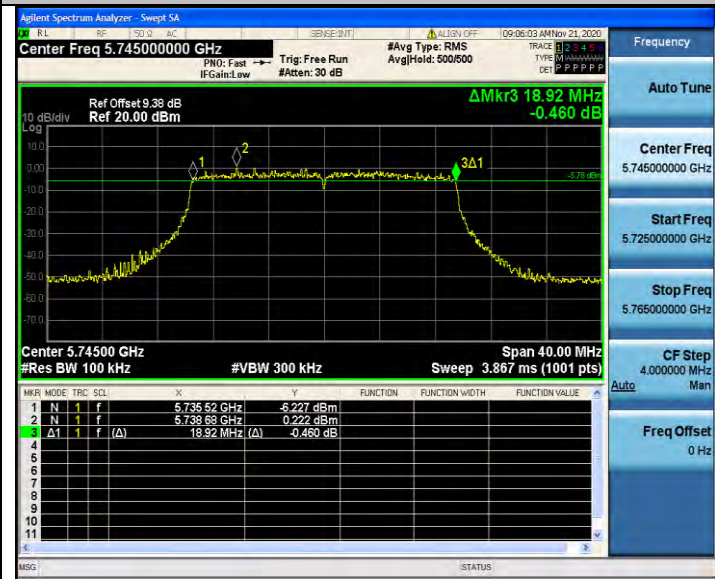


CH165

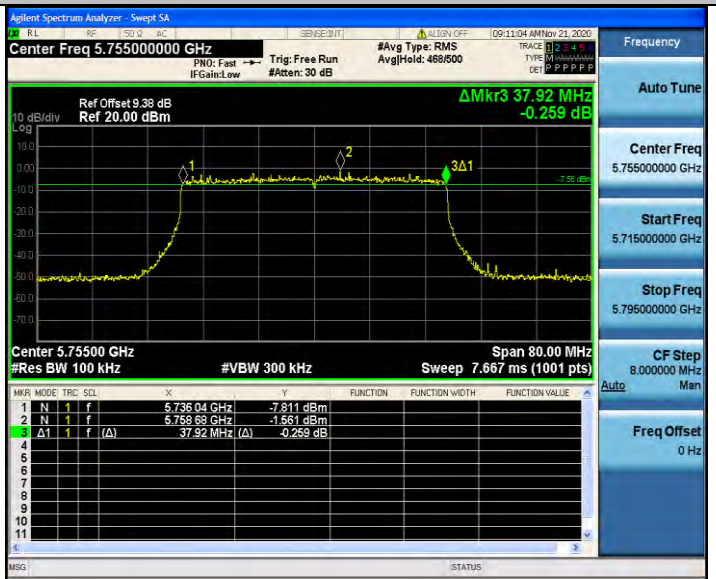


6dB Bandwidth

802.11ax20



802.11ax HT40



CH149



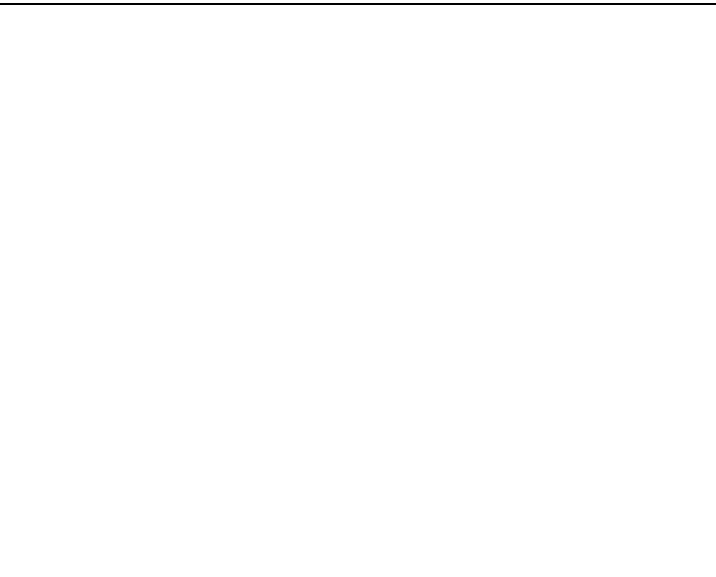
CH151



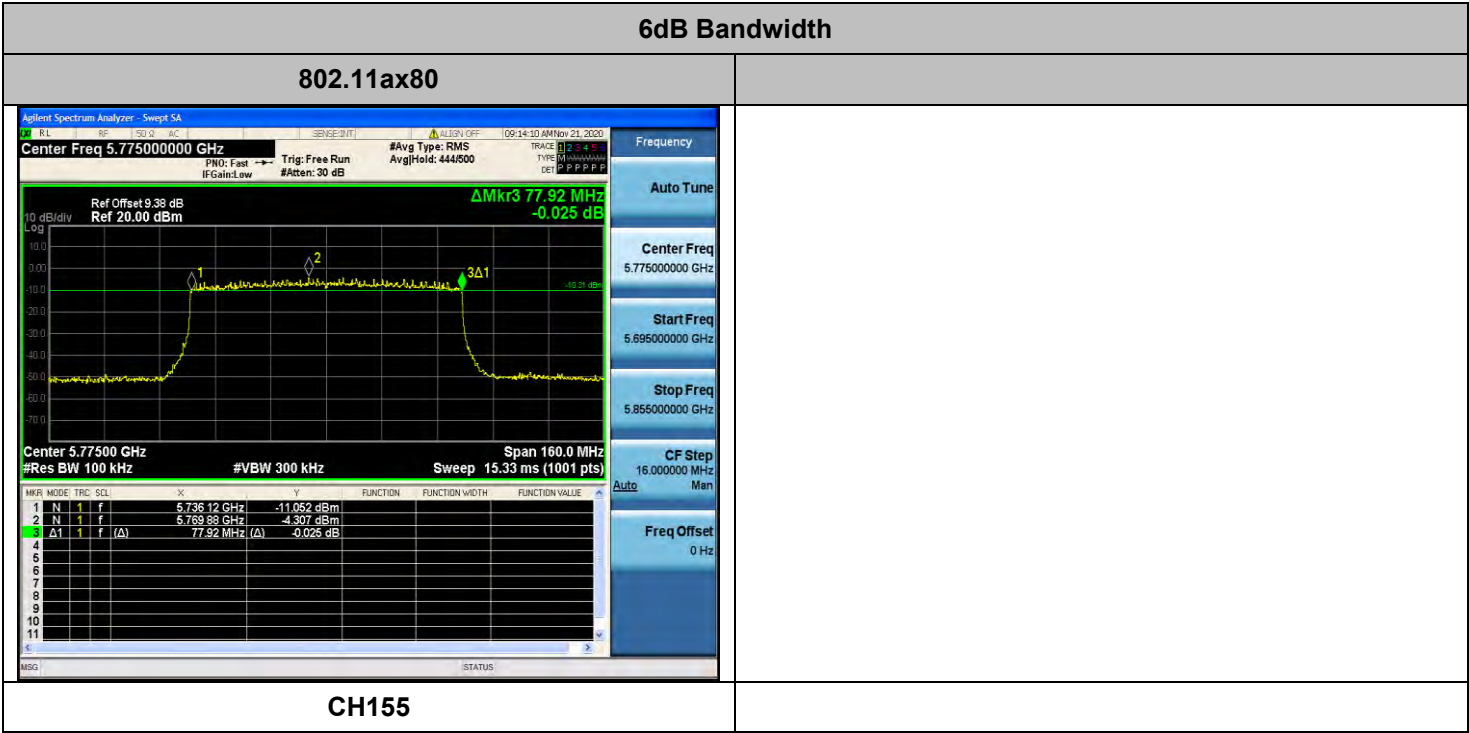
CH157



CH159



CH165

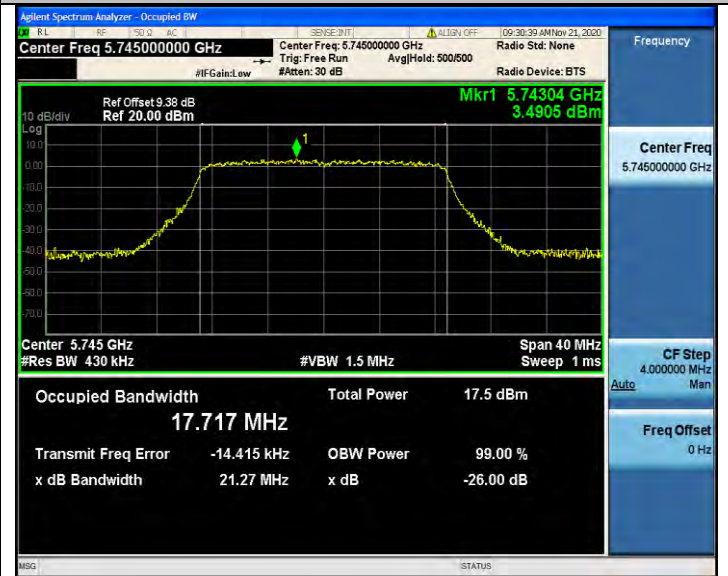


Antenna 2:

99%Bandwidth

802.11a

802.11n HT20



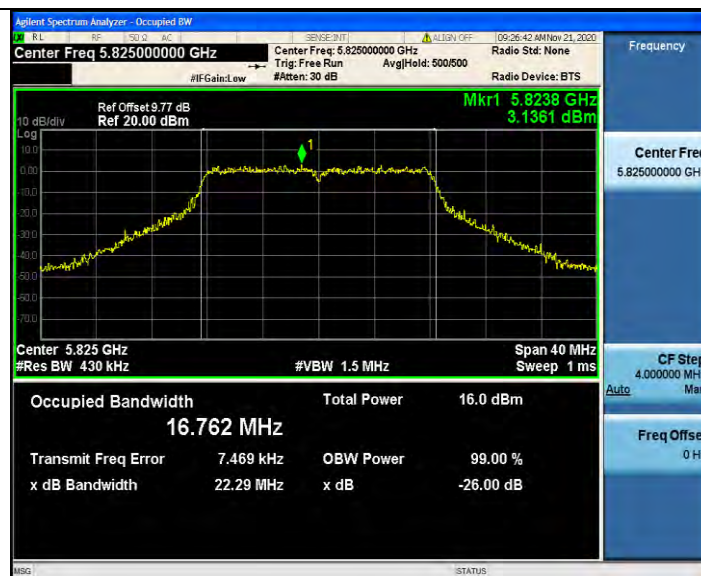
CH149

CH149



CH157

CH157

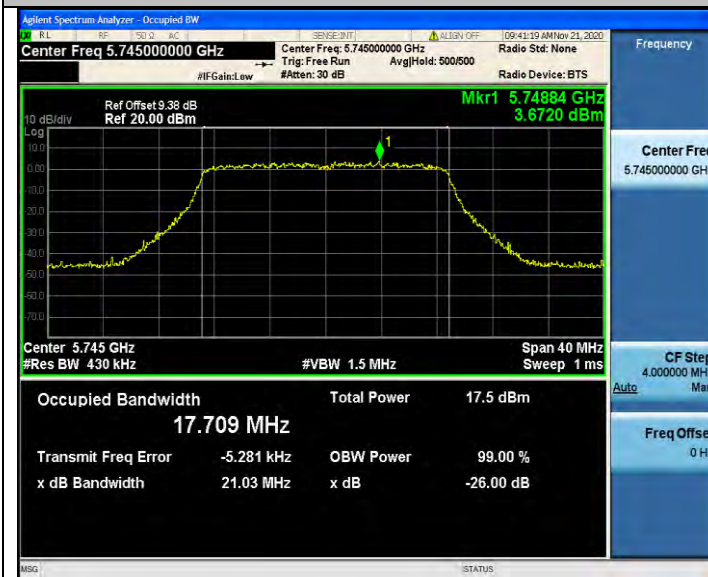


CH165

CH165

99%Bandwidth

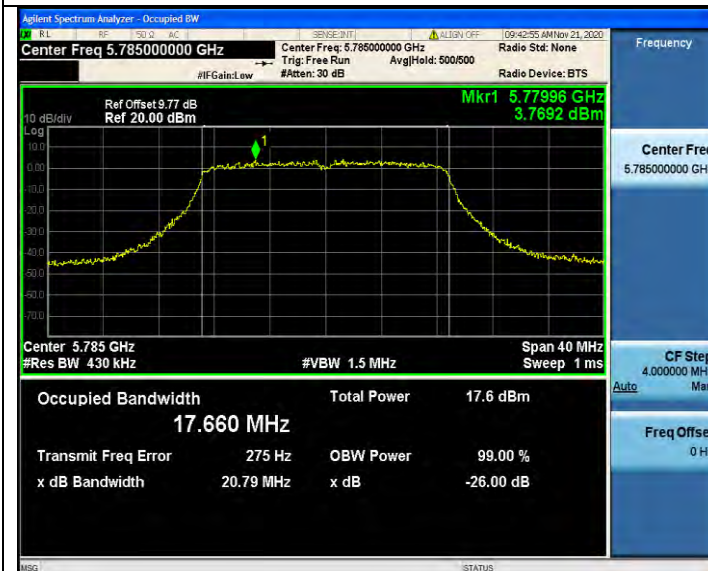
802.11ac20



802.11n HT40



CH149



CH151



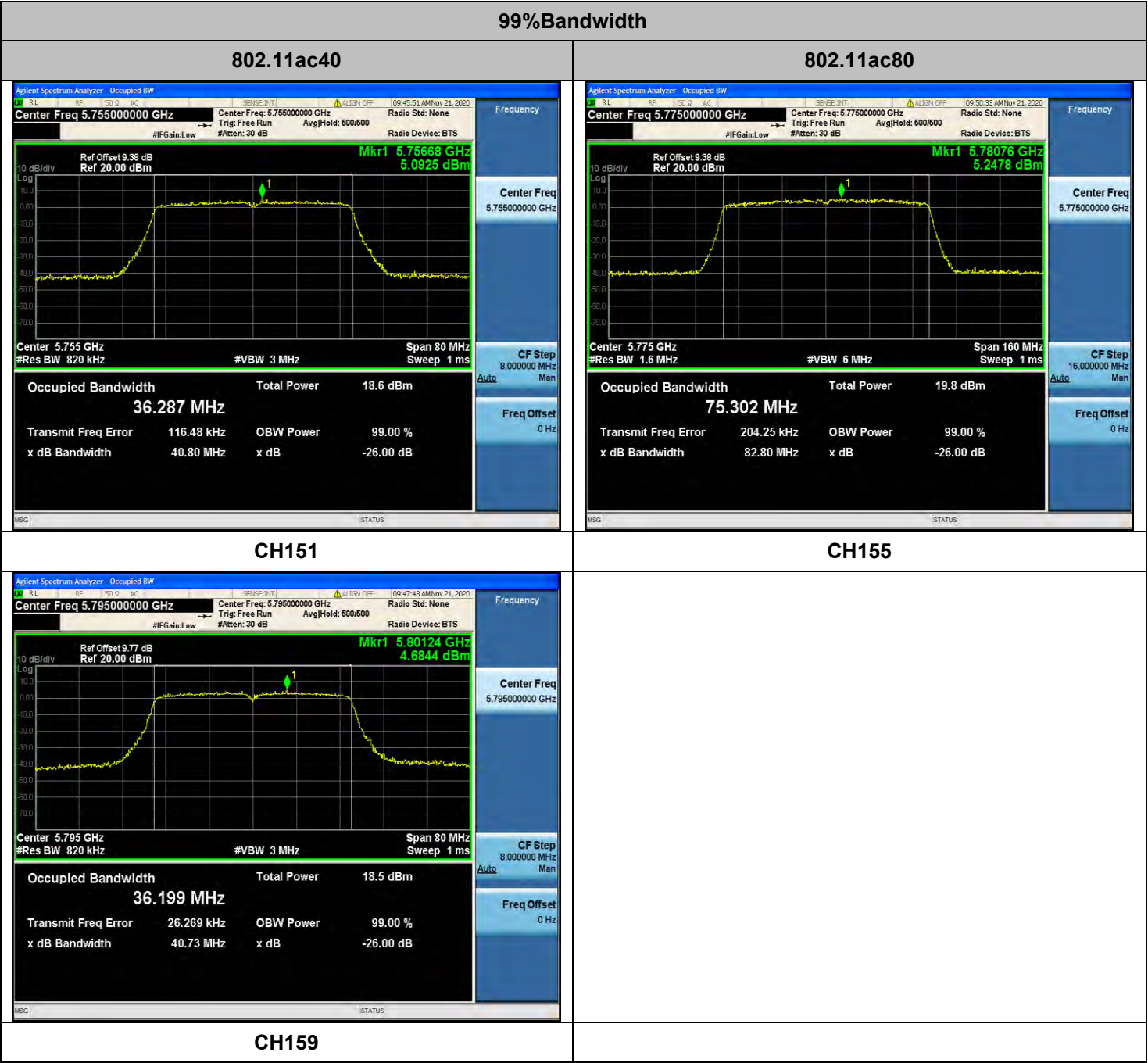
CH157



CH159



CH165



99%Bandwidth

802.11ax20



802.11ax HT40



CH149



CH151



CH157



CH159



CH165

99%Bandwidth

802.11ax80

Agilent Spectrum Analyzer - Occupied BW

RL

RF

150 Q

AC

SENSE:INT1

ALIGN OFF

10:01:57 AM Nov 21, 2020

Center Freq 5.775000000 GHz

Center Freq: 5.775000000 GHz

Radio Std: None

#IFGain:Low

Trig: Free Run

Avg/Hold: 500/500

Radio Device: BTS

Ref Offset: 9.38 dB

Ref 20.00 dBm

Mkr1 5.78764 GHz

6.3517 dBm

10 dB/div

Log



Center 5.775 GHz

Span 160 MHz

#Res BW 1.6 MHz

#VBW 6 MHz

Sweep 1 ms

Occupied Bandwidth

77.110 MHz

Total Power

20.3 dBm

Transmit Freq Error

245.15 kHz

OBW Power

99.00 %

x dB Bandwidth

83.46 MHz

x dB

-26.00 dB

Frequency

Center Freq

5.775000000 GHz

CF Step

16.000000 MHz

Auto

Man

Freq Offset

0 Hz

MSG STATUS

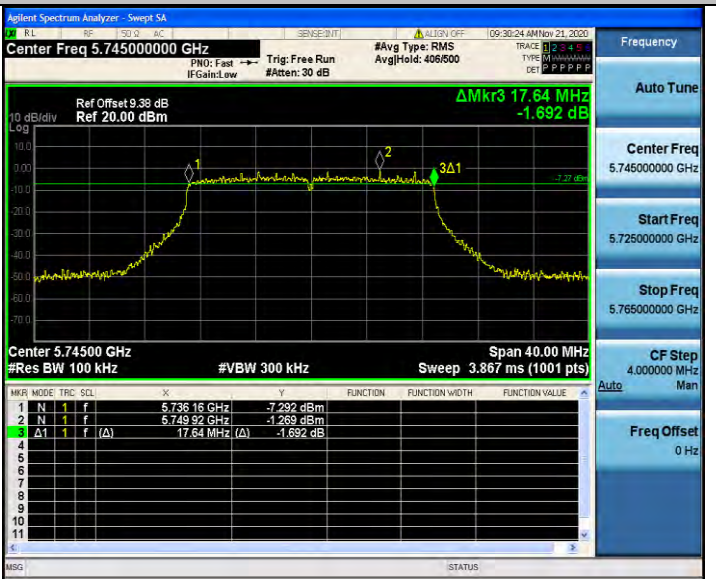
CH155

6dB Bandwidth

802.11a



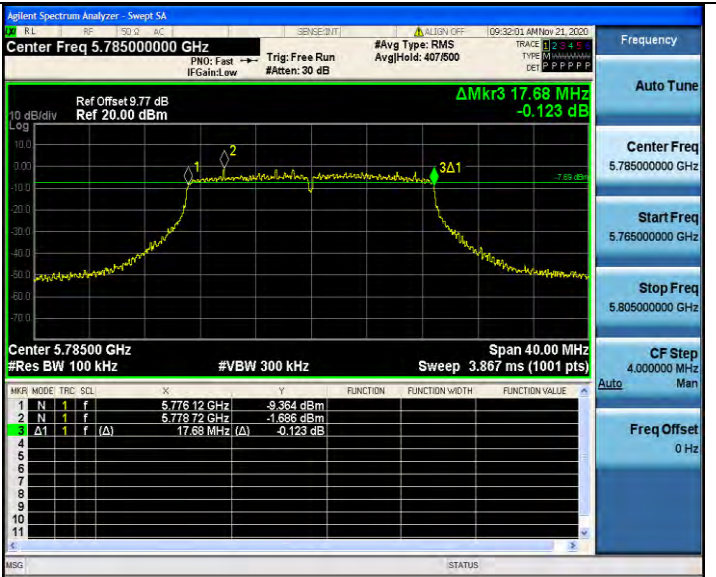
802.11n HT20



CH149



CH149



CH157



CH157



CH165

CH165

