

APPENDIX REPORT

Project No.	SHT2009040902EW	Radio Specification	WIFI 5G
Test sample No.	YPHT 20090409001	Model No.	CRESCENT
Start test date	2020/9/21	Finish date	2020/9/22
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	Xiaodong Zheo

Appendix clause	Test item	Result
A	Maximum Conducted Output Power	PASS
B	Maximum Power Spectral Density	PASS
C	26 dB Bandwidth	PASS
D	99% Occupy bandwidth	PASS
E	6 dB Bandwidth	PASS
F	Band Edge	PASS
G	Frequency stability	PASS

Appendix A: Maximum Conducted Output Power

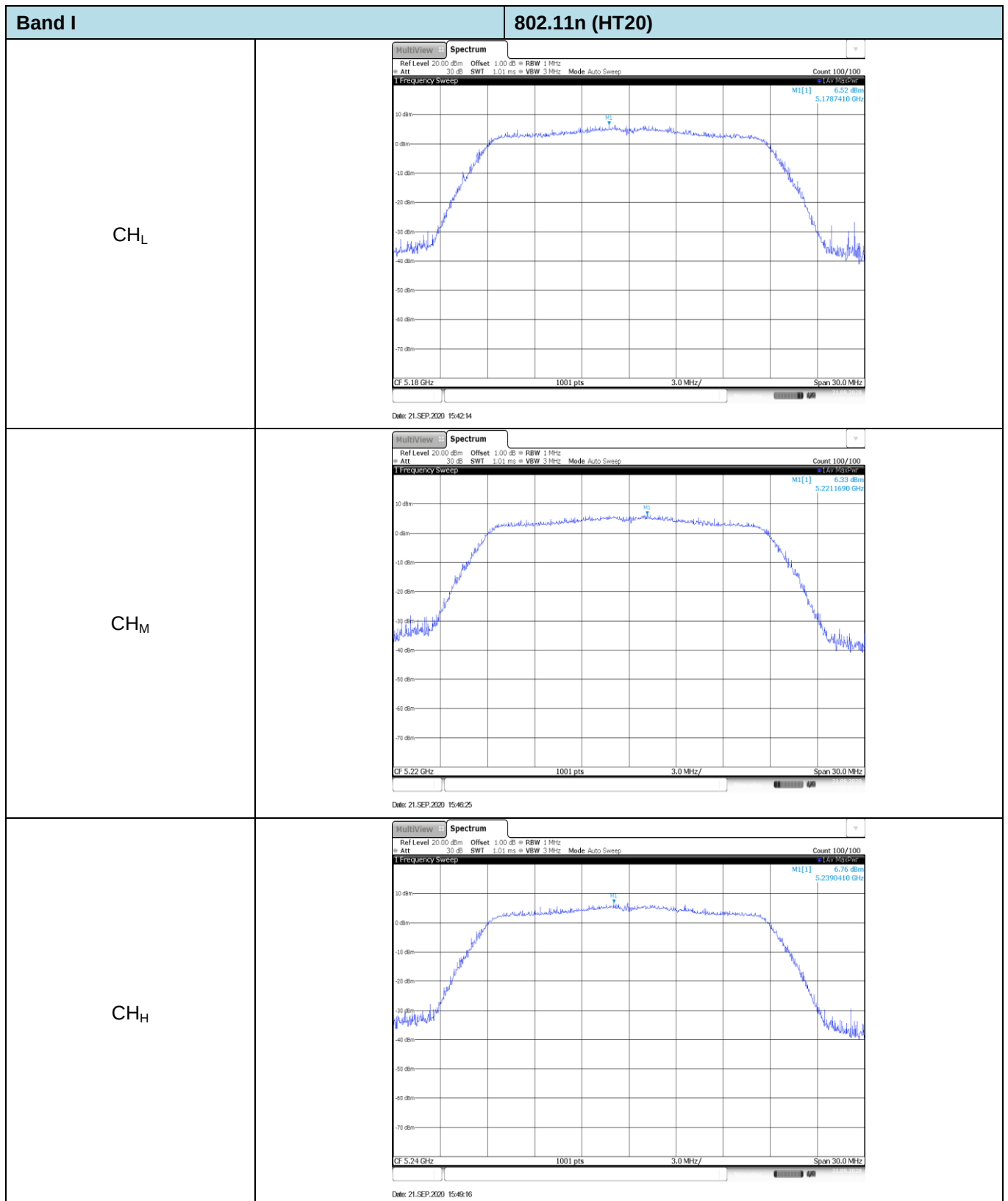
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Conducted Output Power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH _L	15.77	92.74	0.33	16.10	24.00	Pass
			CH _M	16.13	92.74	0.33	16.46		
			CH _H	16.30	92.65	0.33	16.63		
		802.11n	CH _L	15.72	92.61	0.33	16.05	24.00	Pass
			CH _M	16.12	92.70	0.33	16.45		
			CH _H	16.22	92.70	0.33	16.55		
		802.11a	CH _L	15.95	93.04	0.31	16.26	24.00	Pass
			CH _M	16.25	93.04	0.31	16.56		
			CH _H	16.40	93.13	0.31	16.71		
	40	802.11ac	CH _L	15.79	86.67	0.62	16.41	24.00	Pass
			CH _H	15.90	86.67	0.62	16.52		
		802.11n	CH _L	15.71	86.49	0.63	16.34	24.00	Pass
			CH _H	15.97	86.49	0.63	16.60		
	80	802.11ac	CH _M	15.45	76.19	1.18	16.63	24.00	Pass
IV	20	802.11ac	CH _L	15.56	92.74	0.33	15.89	30.00	Pass
			CH _M	15.59	92.74	0.33	15.92		
			CH _H	15.57	92.74	0.33	15.90		
		802.11n	CH _L	15.64	92.61	0.33	15.97	30.00	Pass
			CH _M	15.52	92.70	0.33	15.85		
			CH _H	15.38	92.61	0.33	15.71		
		802.11a	CH _L	15.78	93.04	0.31	16.09	30.00	Pass
			CH _M	15.69	93.04	0.31	16.00		
			CH _H	15.77	93.04	0.31	16.08		
	40	802.11ac	CH _L	15.47	86.67	0.62	16.09	30.00	Pass
			CH _H	15.54	86.67	0.62	16.16		
		802.11n	CH _L	15.49	86.49	0.63	16.12	30.00	Pass
			CH _H	15.34	86.49	0.63	15.97		
	80	802.11ac	CH _M	15.13	76.19	1.18	16.31	30.00	Pass

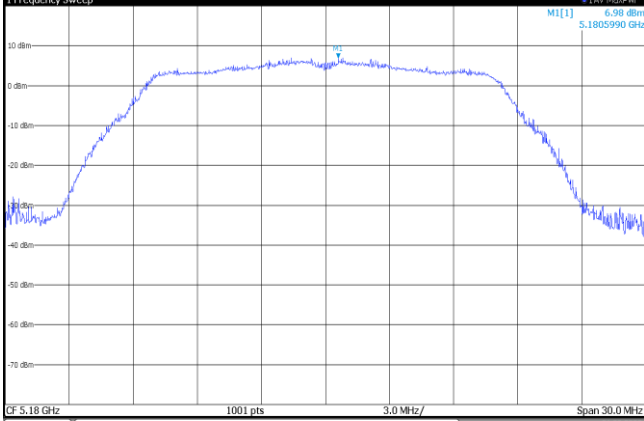
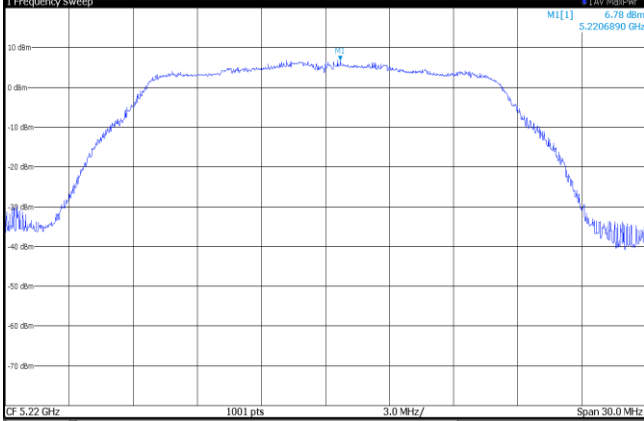
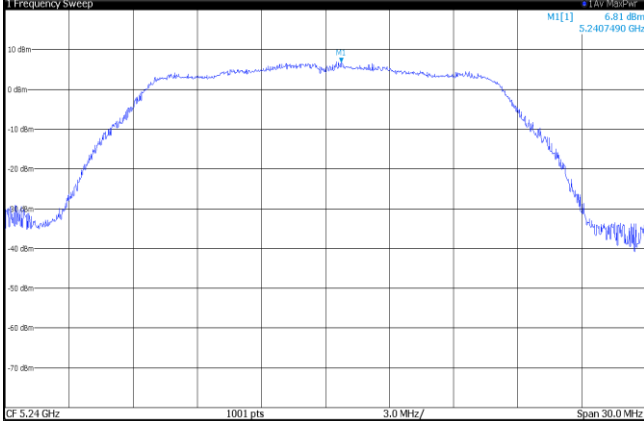
NOTE: duty cycle factor =10LOG(1/ duty cycle)

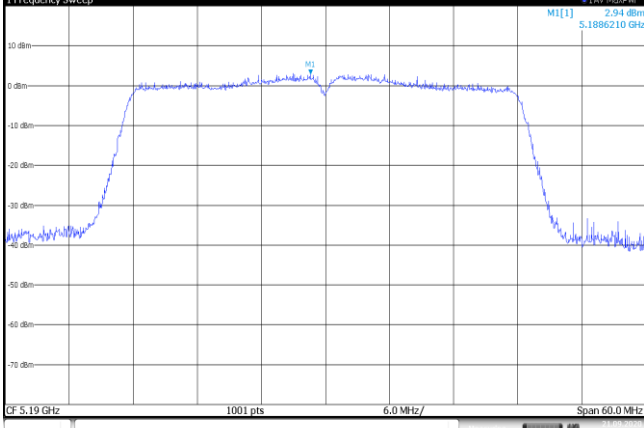
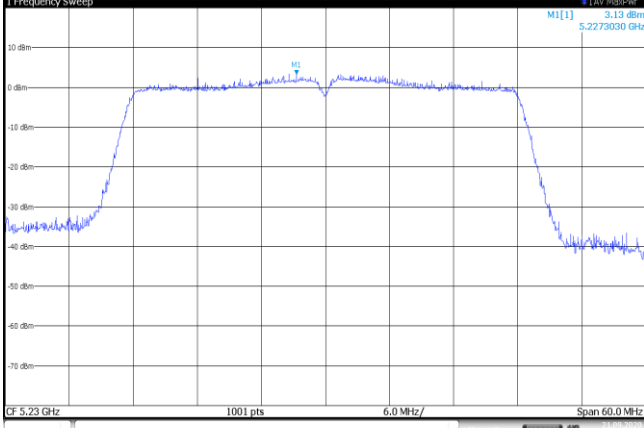
Appendix B: Maximum Power Spectral Density

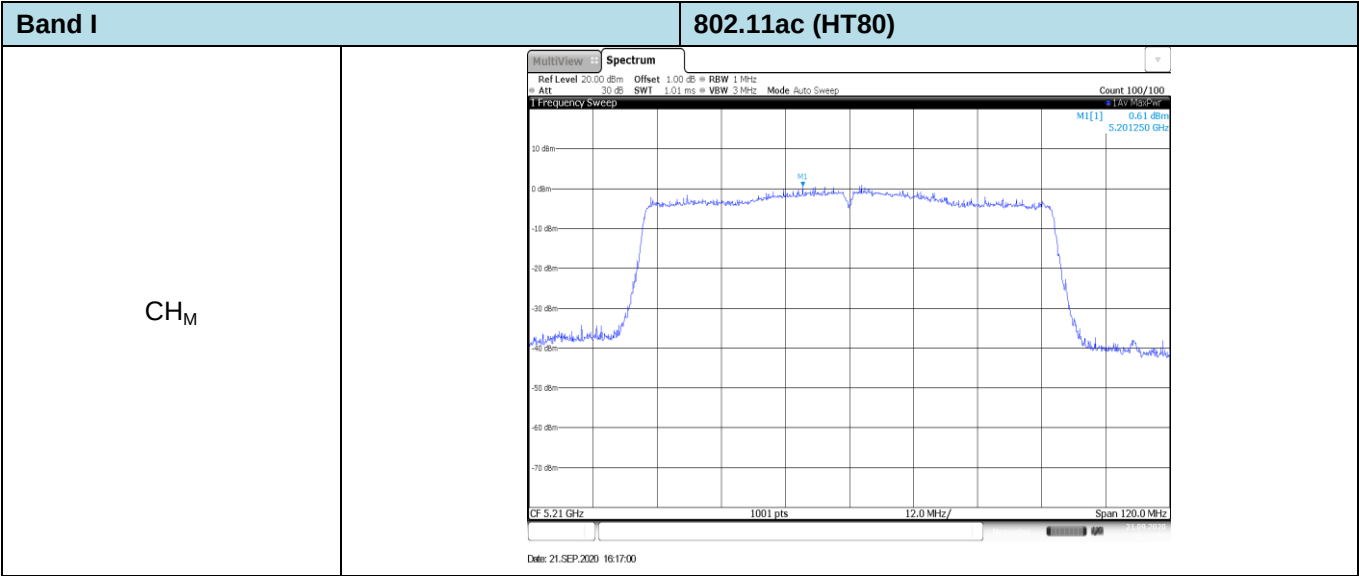
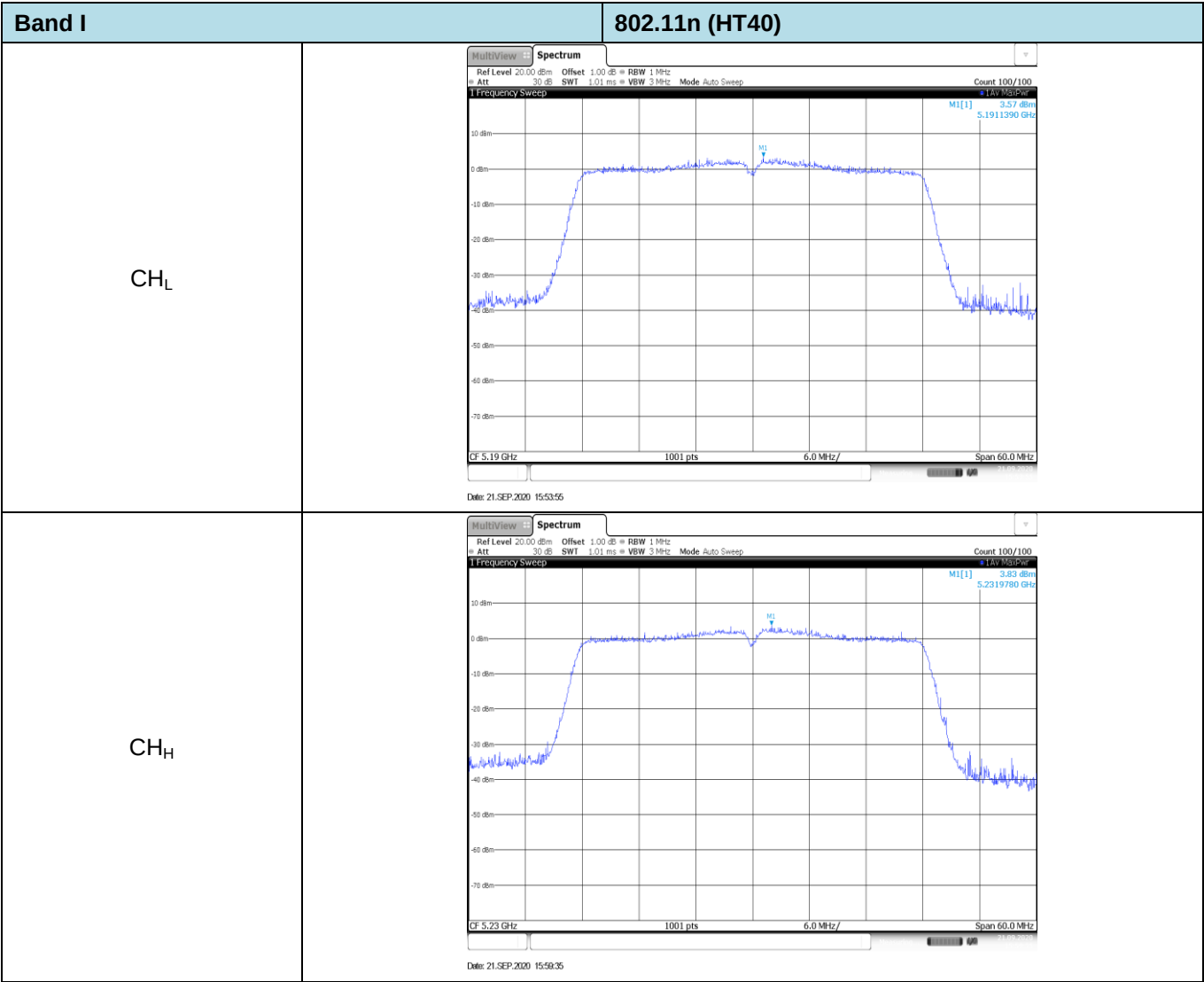
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11ac	CH _L	6.93	92.74	0.33	7.26	11.00	Pass
			CH _M	6.05	92.74	0.33	6.38		
			CH _H	7.12	92.65	0.33	7.45		
		802.11n	CH _L	6.52	92.61	0.33	6.85	11.00	Pass
			CH _M	6.33	92.70	0.33	6.66		
			CH _H	6.76	92.70	0.33	7.09		
		802.11a	CH _L	6.98	93.04	0.31	7.29	11.00	Pass
			CH _M	6.78	93.04	0.31	7.09		
			CH _H	6.81	93.13	0.31	7.12		
	40	802.11ac	CH _L	2.94	86.67	0.62	3.56	11.00	Pass
			CH _H	3.13	86.67	0.62	3.75		
		802.11n	CH _L	3.57	86.49	0.63	4.20	11.00	Pass
			CH _H	3.83	86.49	0.63	4.46		
	80	802.11ac	CH _M	0.61	76.19	1.18	1.79	11.00	Pass
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/500KHz)	Limit (dBm/500KHz)	Result
IV	20	802.11ac	CH _L	3.97	92.74	0.33	4.30	30.00	Pass
			CH _M	4.32	92.74	0.33	4.65		
			CH _H	4.22	92.74	0.33	4.55		
		802.11n	CH _L	4.99	92.61	0.33	5.32	30.00	Pass
			CH _M	3.64	92.70	0.33	3.97		
			CH _H	4.05	92.61	0.33	4.38		
		802.11a	CH _L	4.37	93.04	0.31	4.68	30.00	Pass
			CH _M	3.94	93.04	0.31	4.25		
			CH _H	4.55	93.04	0.31	4.86		
	40	802.11ac	CH _L	1.48	86.67	0.62	2.10	30.00	Pass
			CH _H	0.97	86.67	0.62	1.59		
		802.11n	CH _L	1.28	86.49	0.63	1.91	30.00	Pass
			CH _H	0.98	86.49	0.63	1.61		
	80	802.11ac	CH _M	-2.75	76.19	1.18	-1.57	30.00	Pass

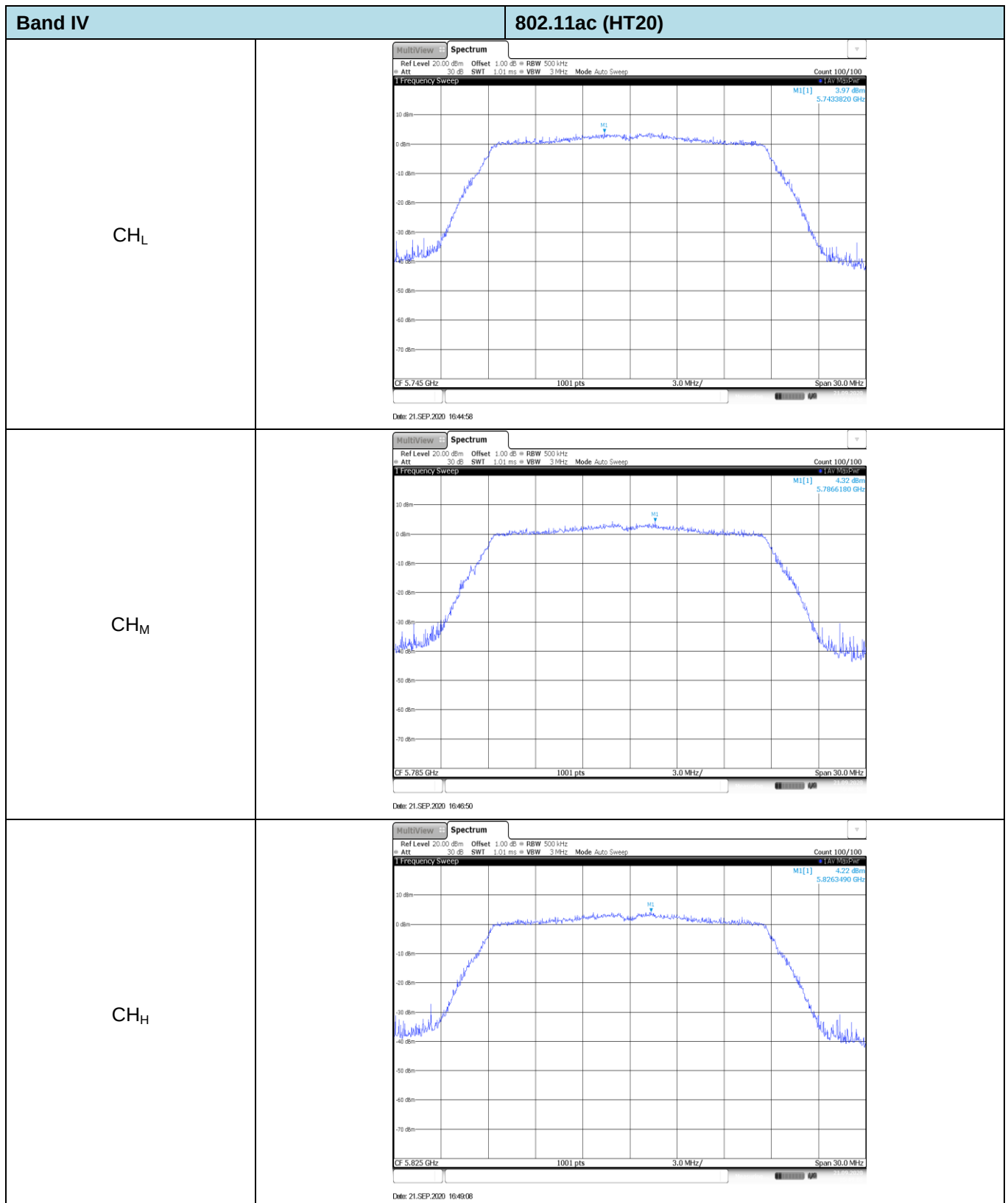
Band I		802.11ac (HT20)
CH _L	<	



Band I		802.11a
CH _L	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 TAT MS&PW Frequency Sweep  CF 5.18 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21.SEP.2020 15:28:12	
CH _M	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 TAT MS&PW Frequency Sweep  CF 5.22 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21.SEP.2020 15:36:37	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 TAT MS&PW Frequency Sweep  CF 5.24 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21.SEP.2020 15:39:01	

Band I		802.11ac (HT40)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] 2.94 dBm 5.1886210 GHz  CF 5.19 GHz1001 pts6.0 MHz/Span 60.0 MHz Date: 21.SEP.2020 16:10:45	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWF 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] 3.13 dBm 5.2273030 GHz  CF 5.23 GHz1001 pts6.0 MHz/Span 60.0 MHz Date: 21.SEP.2020 16:13:44	

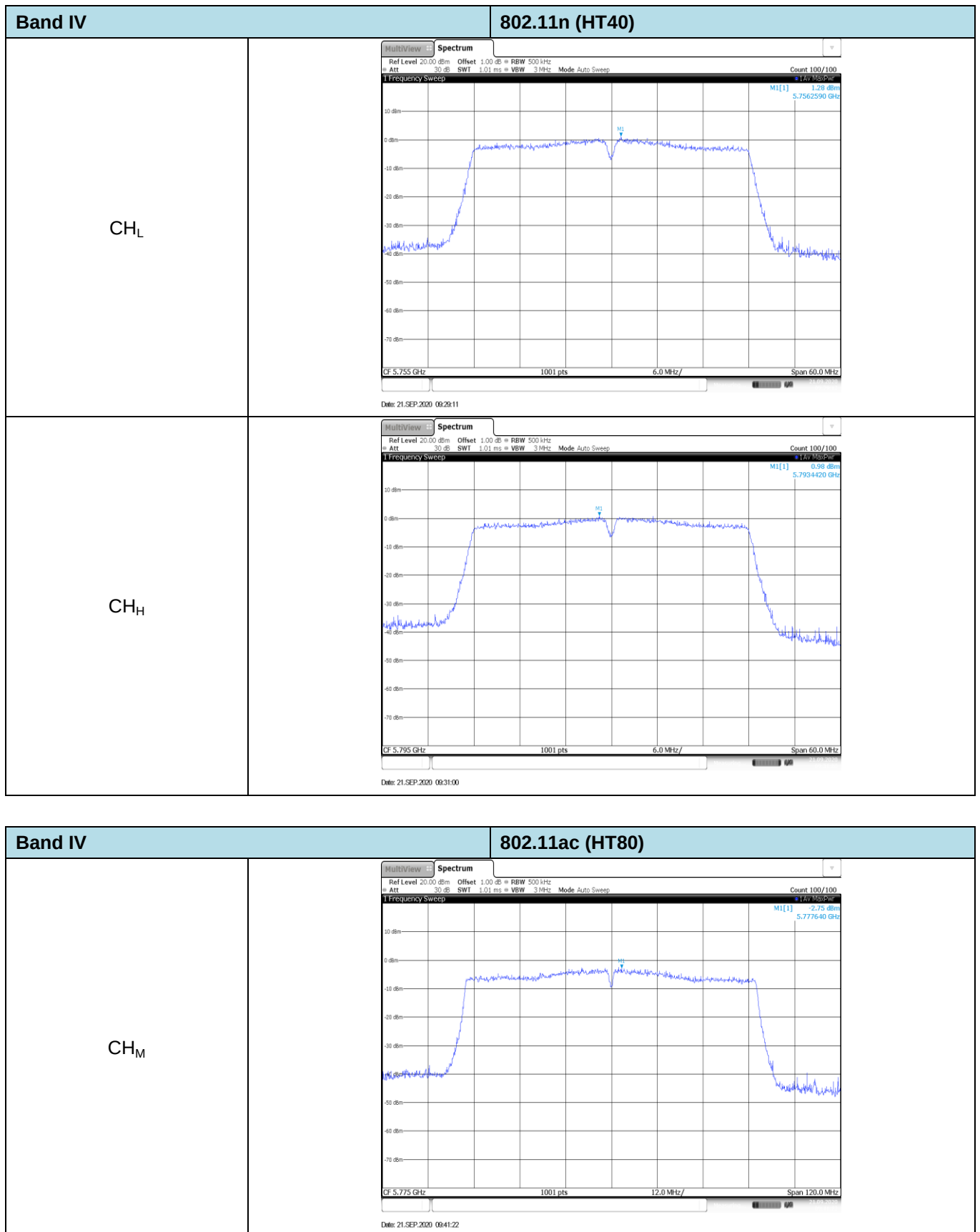




Band IV		802.11n (HT20)
CH _L	MultView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 500 kHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 5.7472780 GHz 11.325 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21.SEP.2020 16:30:54	
CH _M	MultView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 500 kHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 5.7842510 GHz 9.64 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21.SEP.2020 16:41:39	
CH _H	MultView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 500 kHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 5.8239510 GHz 4.05 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21.SEP.2020 16:43:05	

Band IV		802.11a
CH _L		

Band IV		802.11ac (HT40)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Att 30.00 Offset 1.00 dB RBW 500 kHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] 1.48 dBm 5.7514040 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.755 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 21.SEP.2020 09:38:27	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Att 30.00 Offset 1.00 dB RBW 500 kHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] 0.97 dBm 5.7915230 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.795 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 21.SEP.2020 09:38:52	

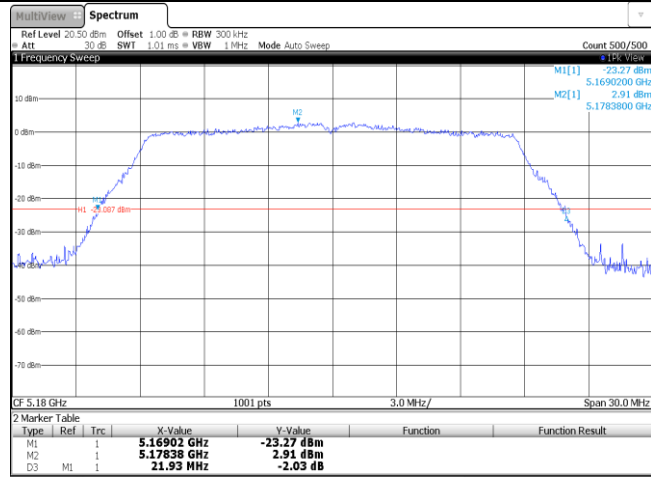


Appendix C: 26dB bandwidth

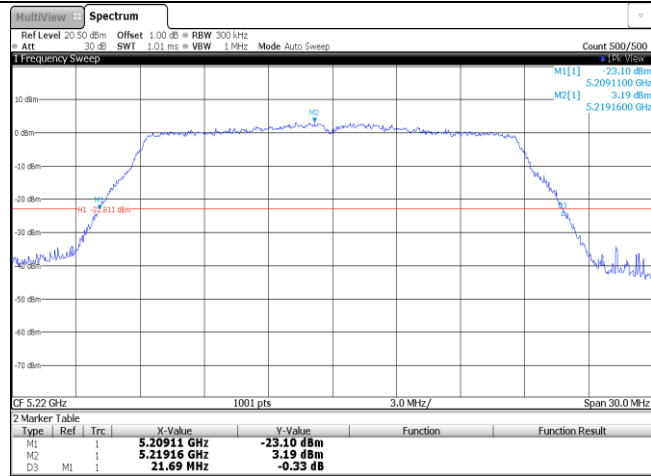
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH _L	21.93	Pass
			CH _M	21.69	
			CH _H	21.69	
		802.11n	CH _L	21.78	Pass
			CH _M	21.93	
			CH _H	21.66	
		802.11a	CH _L	21.63	Pass
			CH _M	21.57	
			CH _H	21.63	
	40	802.11ac	CH _L	40.02	Pass
			CH _H	40.08	
		802.11n	CH _L	40.08	Pass
			CH _H	40.20	
	80	802.11ac	CH _M	81.96	Pass

Band I

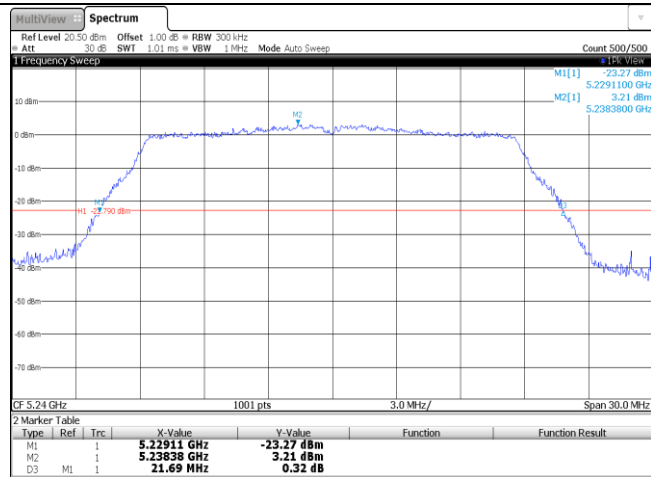
802.11ac (HT20)

CH_L

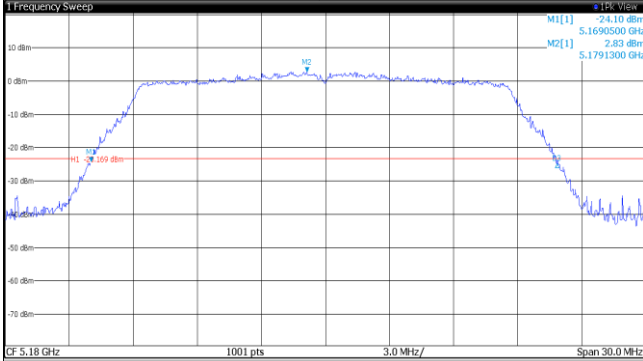
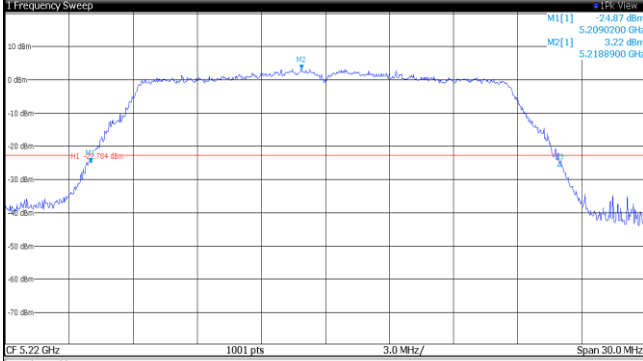
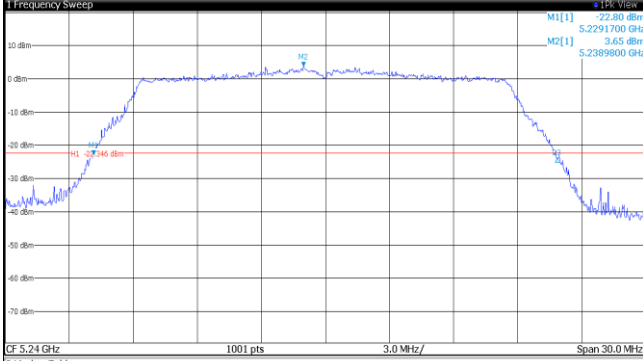
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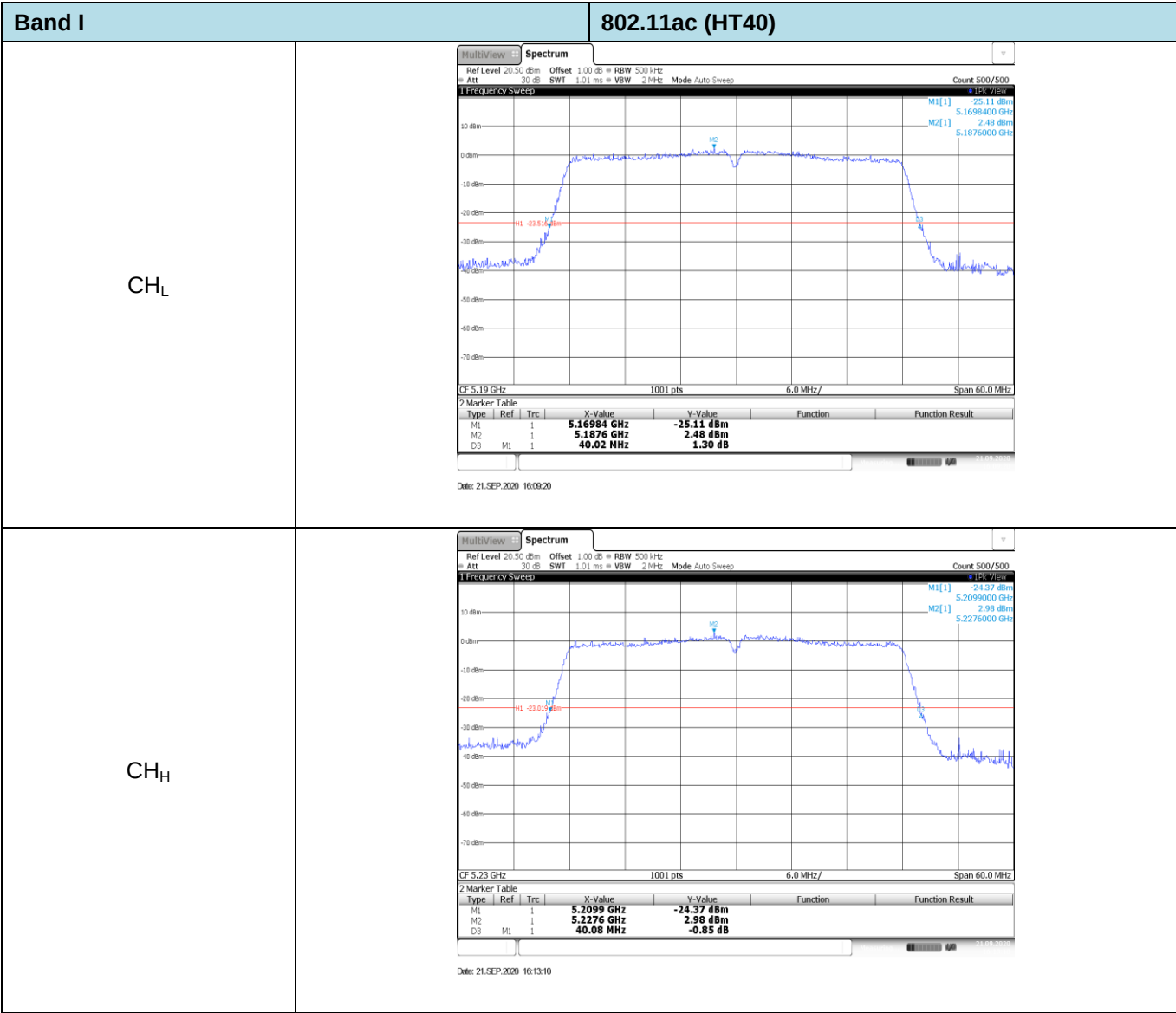
CH_M

Date: 21.SEP.2020 16:04:05

CH_H

Date: 21.SEP.2020 16:07:02

Band I		802.11n (HT20)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWF 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.16905 GHz</td><td>-24.10 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.17913 GHz</td><td>2.83 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>21.78 MHz</td><td>-0.58 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:44:26	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.16905 GHz	-24.10 dBm			M2	1		5.17913 GHz	2.83 dBm			D3	M1	1	21.78 MHz	-0.58 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.16905 GHz	-24.10 dBm																									
M2	1		5.17913 GHz	2.83 dBm																									
D3	M1	1	21.78 MHz	-0.58 dB																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWF 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.20902 GHz</td><td>-24.87 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.21889 GHz</td><td>3.22 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>21.93 MHz</td><td>0.12 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:45:51	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.20902 GHz	-24.87 dBm			M2	1		5.21889 GHz	3.22 dBm			D3	M1	1	21.93 MHz	0.12 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.20902 GHz	-24.87 dBm																									
M2	1		5.21889 GHz	3.22 dBm																									
D3	M1	1	21.93 MHz	0.12 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWF 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.22917 GHz</td><td>-22.80 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.23898 GHz</td><td>3.65 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>21.66 MHz</td><td>-1.03 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:48:44	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.22917 GHz	-22.80 dBm			M2	1		5.23898 GHz	3.65 dBm			D3	M1	1	21.66 MHz	-1.03 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.22917 GHz	-22.80 dBm																									
M2	1		5.23898 GHz	3.65 dBm																									
D3	M1	1	21.66 MHz	-1.03 dB																									



Band I

802.11n (HT40)

CH_L

Marker Table:

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.16996 GHz	-24.20 dBm		
M2	1		5.19144 GHz	2.83 dBm		
D3	M1	1	40.08 MHz	0.85 dB		

Date: 21.SEP.2020 15:55:27

CH_H

Marker Table:

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.20978 GHz	-24.33 dBm		
M2	1		5.23192 GHz	2.34 dBm		
D3	M1	1	40.2 MHz	0.13 dB		

Date: 21.SEP.2020 15:58:12

Band I

802.11ac (HT80)

CH_M

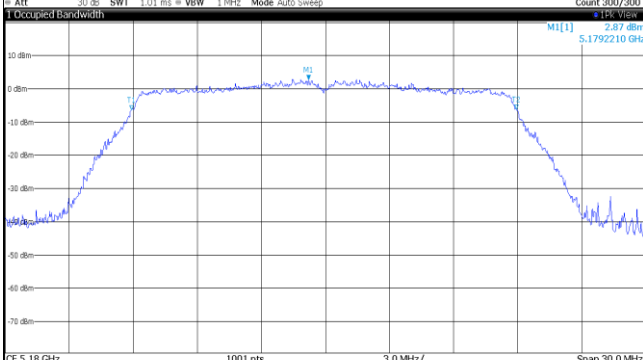
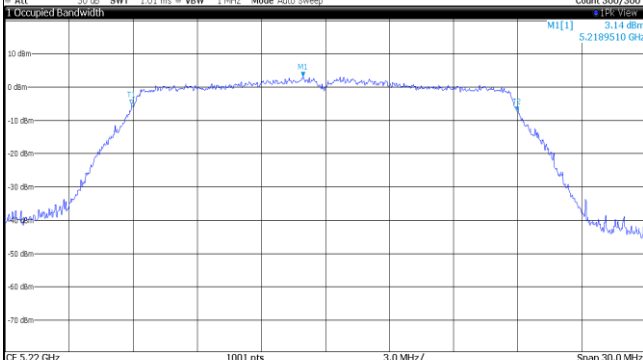
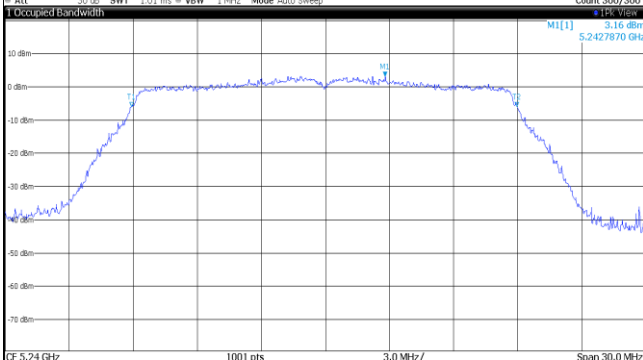
Marker Table:

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.16908 GHz	-25.09 dBm		
M2	1		5.21312 GHz	1.50 dBm		
D3	M1	1	81.96 MHz	0.02 dB		

Date: 21.SEP.2020 16:15:20

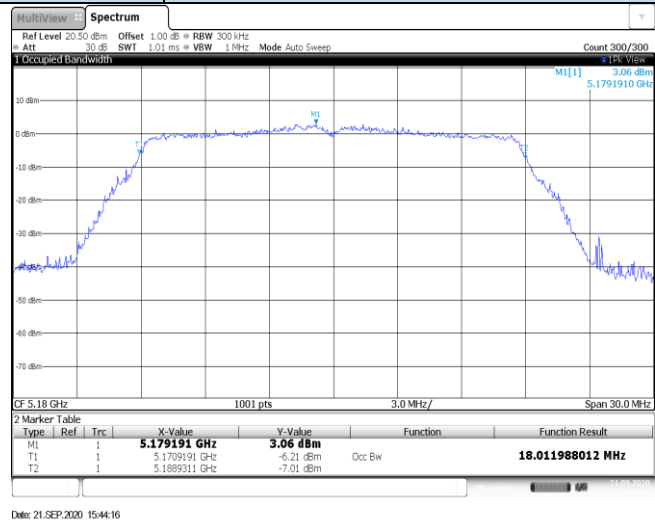
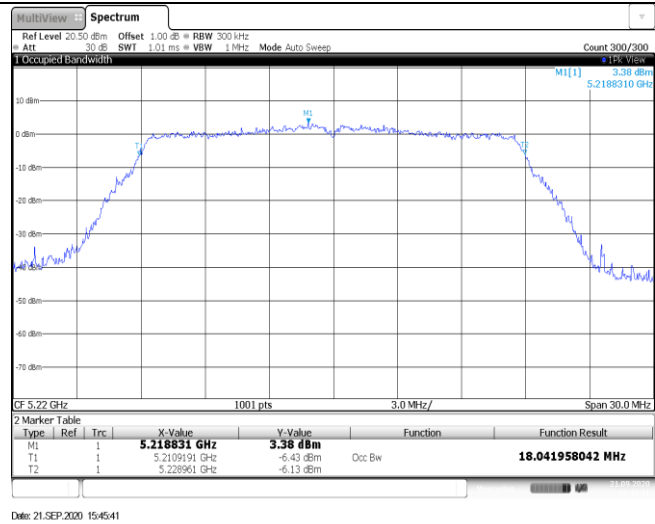
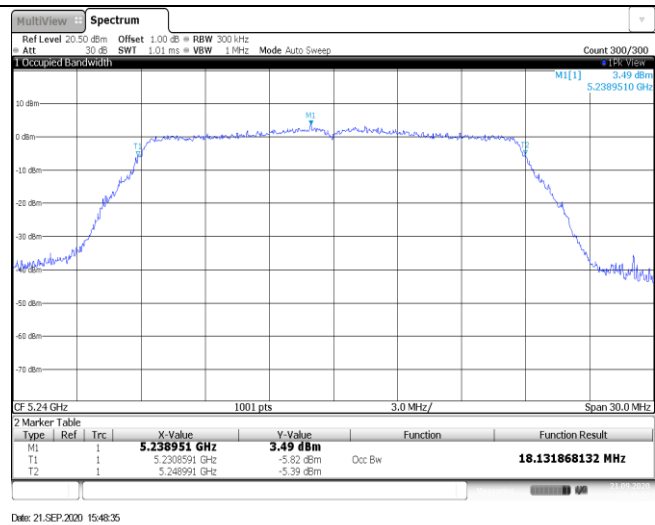
Appendix D: 99% Occupy bandwidth

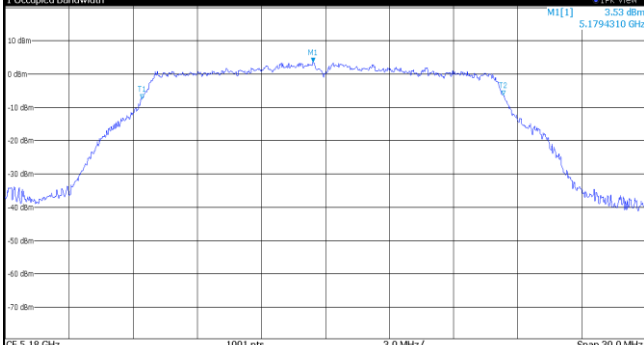
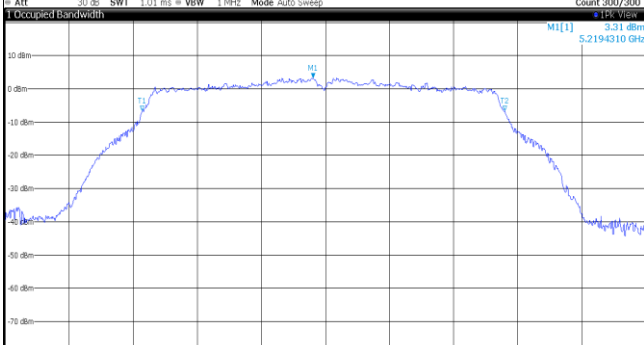
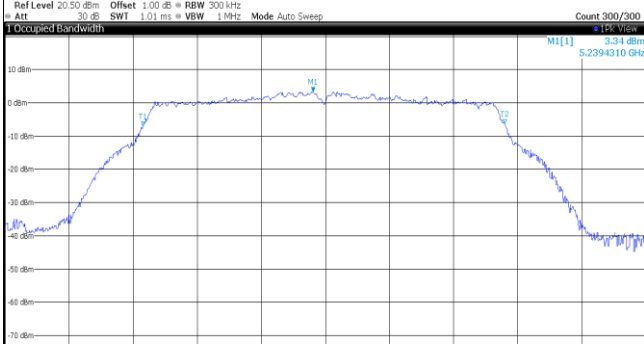
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11ac	CH _L	18.01	Pass
			CH _M	18.04	
			CH _H	18.04	
		802.11n	CH _L	18.01	Pass
			CH _M	18.04	
			CH _H	18.13	
		802.11a	CH _L	16.90	Pass
			CH _M	16.96	
			CH _H	16.93	
	40	802.11ac	CH _L	36.26	Pass
			CH _H	36.38	
		802.11n	CH _L	36.26	Pass
			CH _H	36.38	
	80	802.11ac	CH _M	75.52	Pass
IV	20	802.11ac	CH _L	18.07	Pass
			CH _M	18.04	
			CH _H	18.07	
		802.11n	CH _L	18.07	Pass
			CH _M	18.04	
			CH _H	18.04	
		802.11a	CH _L	16.93	Pass
			CH _M	16.93	
			CH _H	16.93	
	40	802.11ac	CH _L	36.32	Pass
			CH _H	36.26	
		802.11n	CH _L	36.30	Pass
			CH _H	36.30	
	80	802.11ac	CH _M	75.52	Pass

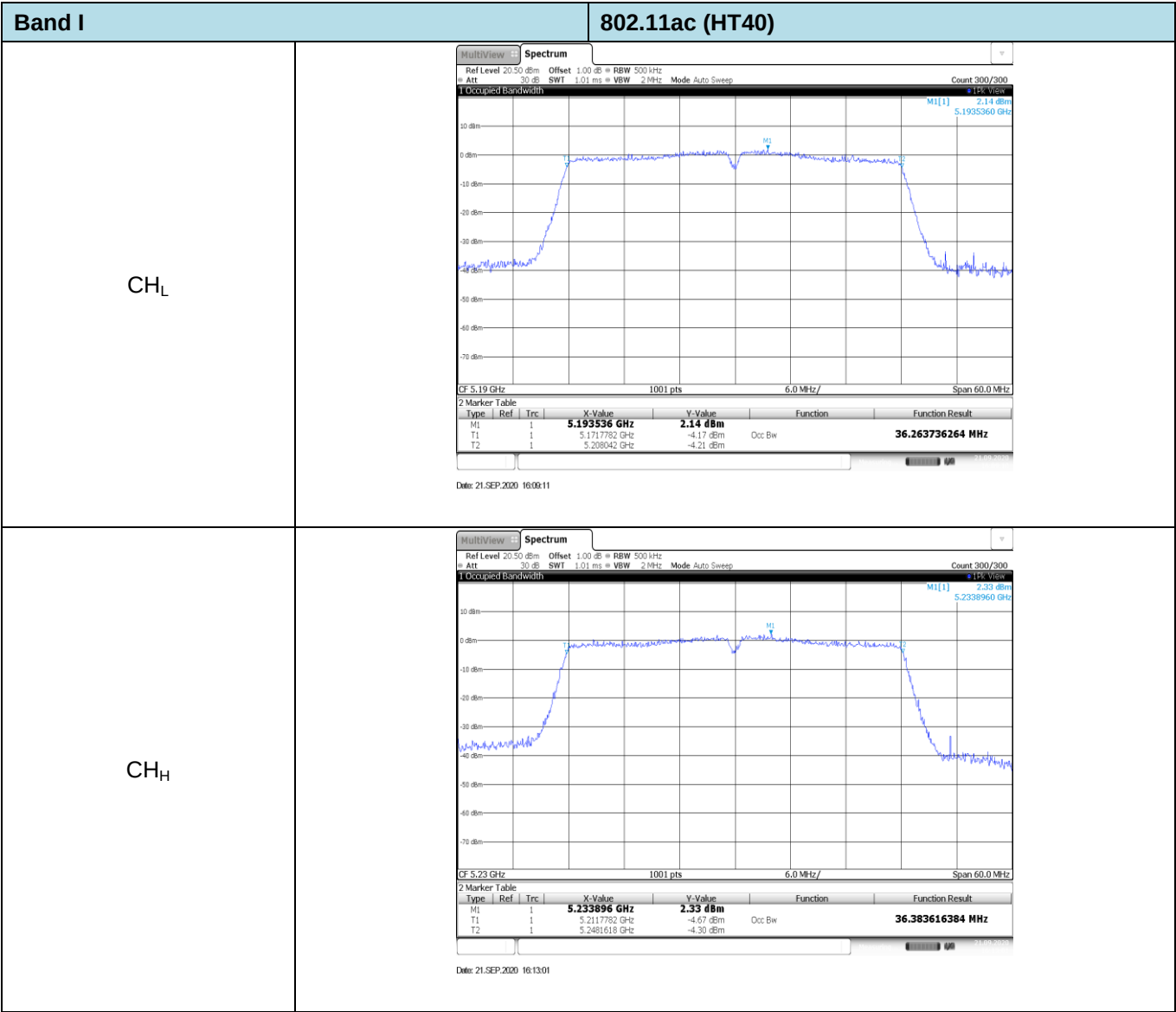
Band I		802.11ac (HT20)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Att 30 dB SWI 1.01 ms RBW 300 kHz Offset 1.00 dB VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth M1[1] 5.1792210 GHz 2.87 dBm  CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.179221 GHz</td><td>2.87 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.1709191 GHz</td><td>-6.31 dBm</td><td>Occ Bw</td><td>18.011988012 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.1889311 GHz</td><td>-6.04 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:01:38	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.179221 GHz	2.87 dBm			T1	1		5.1709191 GHz	-6.31 dBm	Occ Bw	18.011988012 MHz	T2	1		5.1889311 GHz	-6.04 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.179221 GHz	2.87 dBm																									
T1	1		5.1709191 GHz	-6.31 dBm	Occ Bw	18.011988012 MHz																							
T2	1		5.1889311 GHz	-6.04 dBm																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Att 30 dB SWI 1.01 ms RBW 300 kHz Offset 1.00 dB VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth M1[1] 5.2189510 GHz 3.14 dBm  CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.218951 GHz</td><td>3.14 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.2109191 GHz</td><td>-5.28 dBm</td><td>Occ Bw</td><td>18.041958042 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.228961 GHz</td><td>-7.22 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:03:56	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.218951 GHz	3.14 dBm			T1	1		5.2109191 GHz	-5.28 dBm	Occ Bw	18.041958042 MHz	T2	1		5.228961 GHz	-7.22 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.218951 GHz	3.14 dBm																									
T1	1		5.2109191 GHz	-5.28 dBm	Occ Bw	18.041958042 MHz																							
T2	1		5.228961 GHz	-7.22 dBm																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Att 30 dB SWI 1.01 ms RBW 300 kHz Offset 1.00 dB VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth M1[1] 5.2427870 GHz 3.16 dBm  CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.242787 GHz</td><td>3.16 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.2309191 GHz</td><td>-5.87 dBm</td><td>Occ Bw</td><td>18.041958042 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.248961 GHz</td><td>-6.02 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:06:53	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.242787 GHz	3.16 dBm			T1	1		5.2309191 GHz	-5.87 dBm	Occ Bw	18.041958042 MHz	T2	1		5.248961 GHz	-6.02 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.242787 GHz	3.16 dBm																									
T1	1		5.2309191 GHz	-5.87 dBm	Occ Bw	18.041958042 MHz																							
T2	1		5.248961 GHz	-6.02 dBm																									

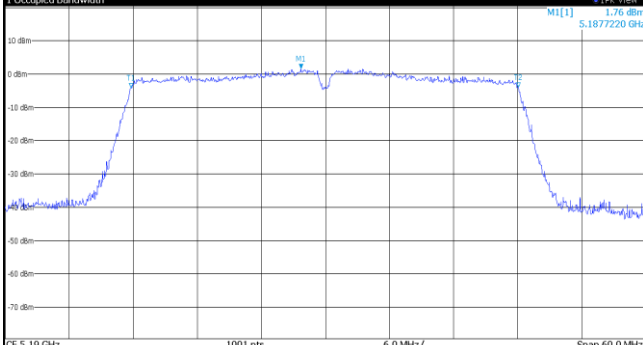
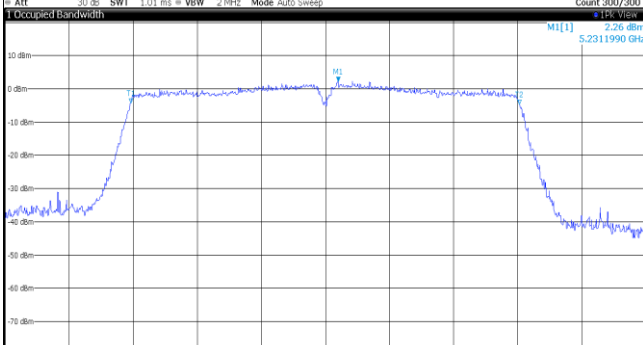
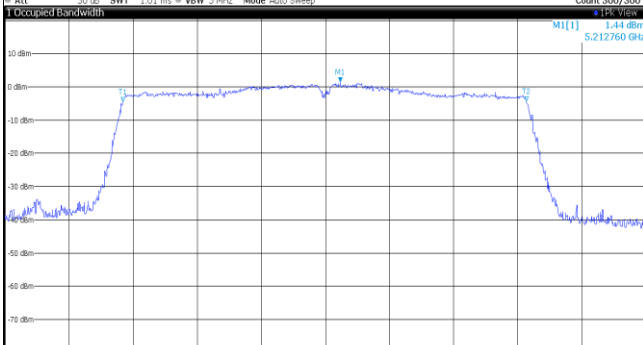
Band I

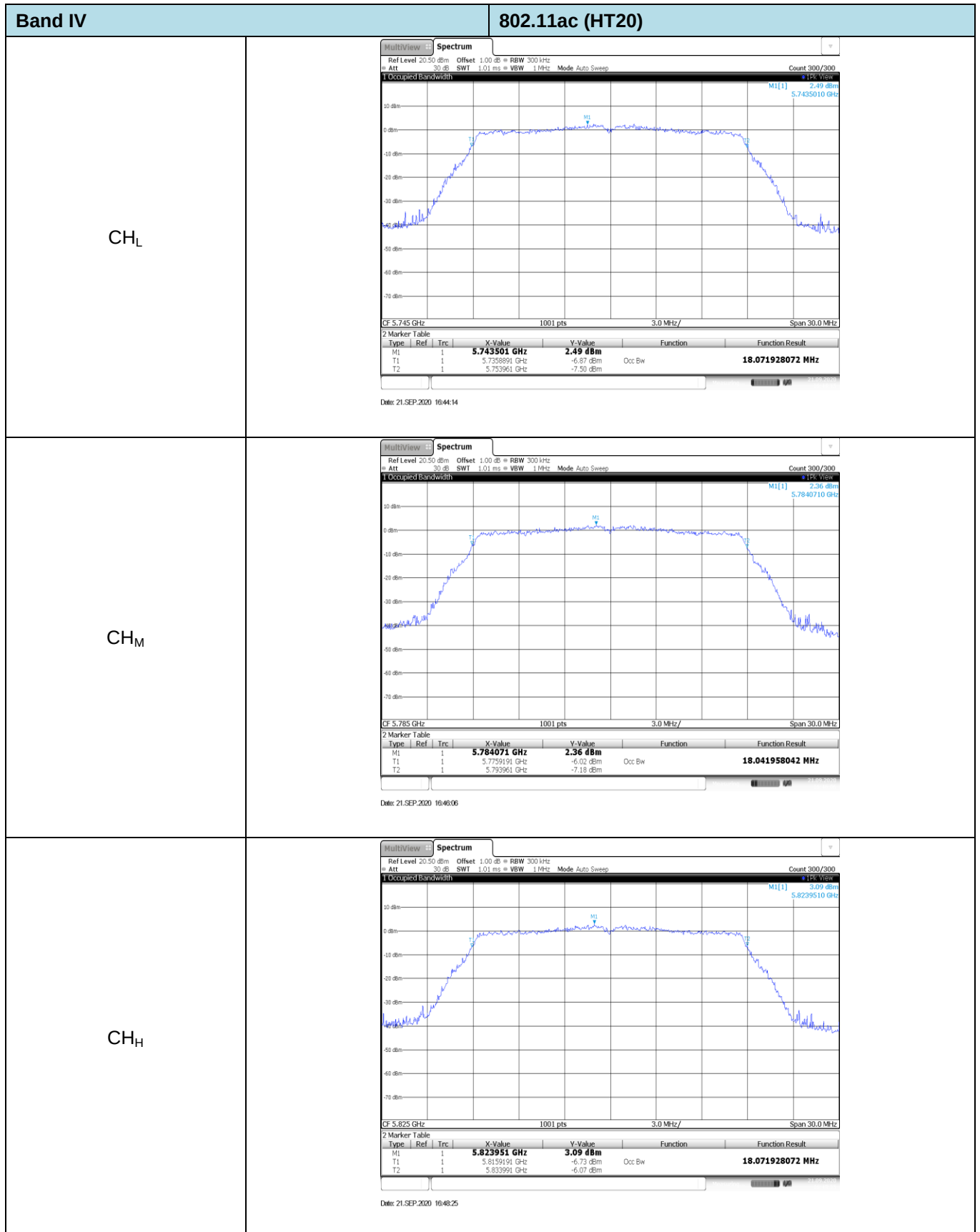
802.11n (HT20)

CH_LCH_MCH_H

Band I		802.11a																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.18 GHz1001 pts3.0 MHz/Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.179431 GHz</td><td>3.53 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.1714286 GHz</td><td>-7.39 dBm</td><td>Occ Bw</td><td>16.903096903 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.1883317 GHz</td><td>-6.33 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:32:26	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.179431 GHz	3.53 dBm			T1	1		5.1714286 GHz	-7.39 dBm	Occ Bw	16.903096903 MHz	T2	1		5.1883317 GHz	-6.33 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.179431 GHz	3.53 dBm																									
T1	1		5.1714286 GHz	-7.39 dBm	Occ Bw	16.903096903 MHz																							
T2	1		5.1883317 GHz	-6.33 dBm																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.22 GHz1001 pts3.0 MHz/Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.219431 GHz</td><td>3.31 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.2114286 GHz</td><td>-6.51 dBm</td><td>Occ Bw</td><td>16.963036963 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.2283916 GHz</td><td>-6.53 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:35:54	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.219431 GHz	3.31 dBm			T1	1		5.2114286 GHz	-6.51 dBm	Occ Bw	16.963036963 MHz	T2	1		5.2283916 GHz	-6.53 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.219431 GHz	3.31 dBm																									
T1	1		5.2114286 GHz	-6.51 dBm	Occ Bw	16.963036963 MHz																							
T2	1		5.2283916 GHz	-6.53 dBm																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.24 GHz1001 pts3.0 MHz/Span 30.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.239431 GHz</td><td>3.34 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.2314585 GHz</td><td>-7.02 dBm</td><td>Occ Bw</td><td>16.933066933 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.2483916 GHz</td><td>-6.30 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:38:18	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.239431 GHz	3.34 dBm			T1	1		5.2314585 GHz	-7.02 dBm	Occ Bw	16.933066933 MHz	T2	1		5.2483916 GHz	-6.30 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.239431 GHz	3.34 dBm																									
T1	1		5.2314585 GHz	-7.02 dBm	Occ Bw	16.933066933 MHz																							
T2	1		5.2483916 GHz	-6.30 dBm																									

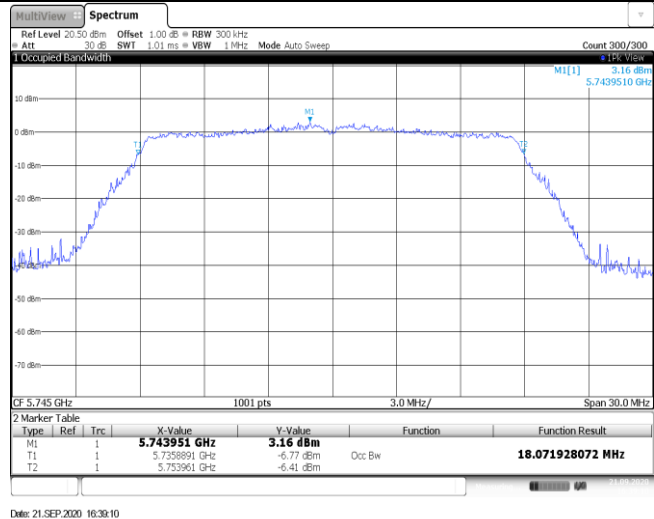
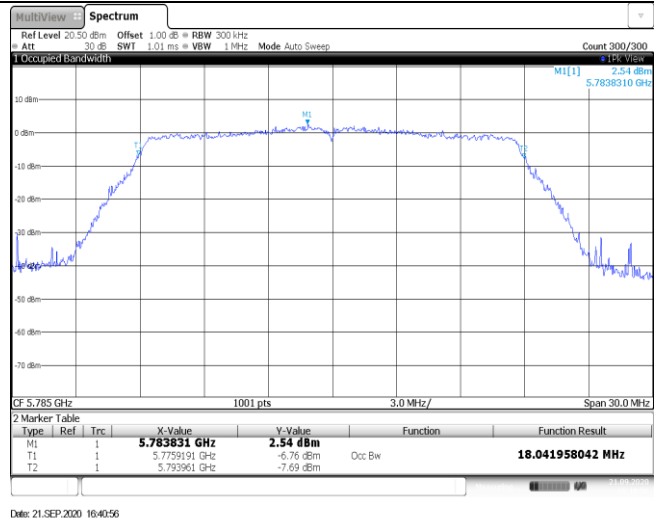
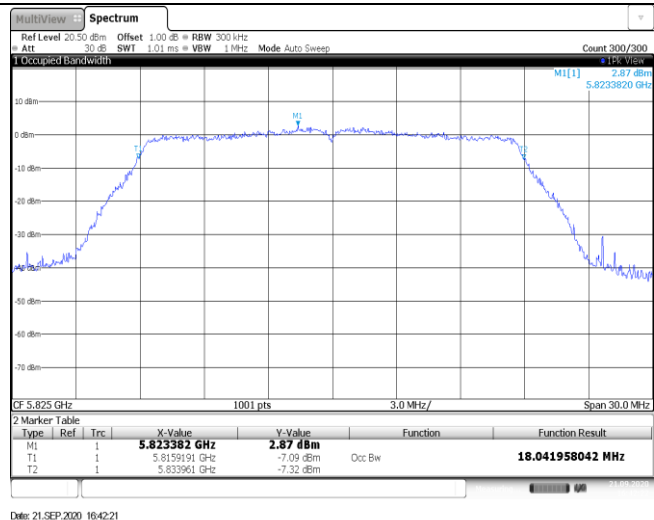


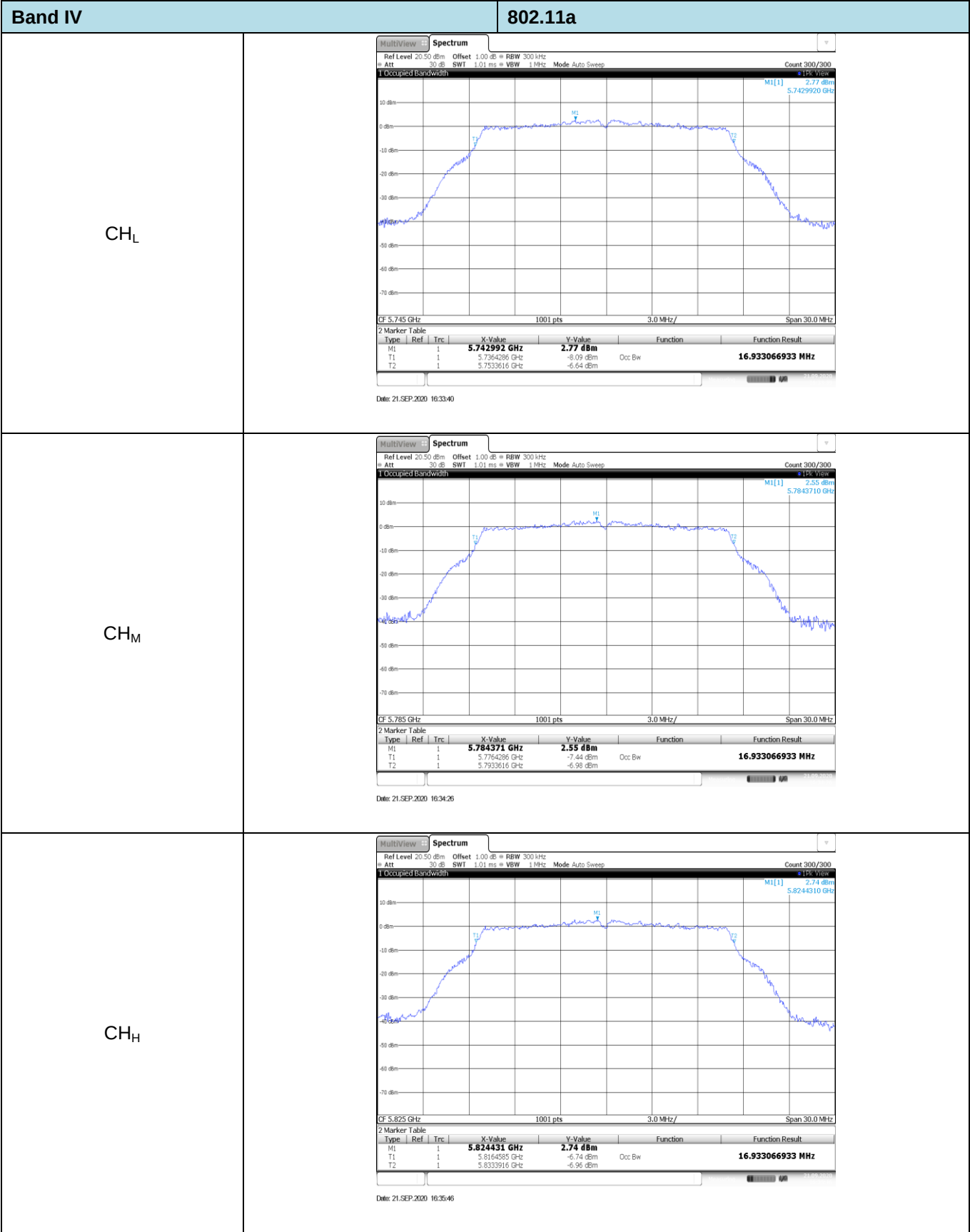
Band I		802.11n (HT40)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWI 1.01 ms VBW 2 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.19 GHz1001 pts6.0 MHz/Span 60.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.187722 GHz</td><td>1.76 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.1717782 GHz</td><td>-4.14 dBm</td><td>Occ Bw</td><td>36.263736264 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.208042 GHz</td><td>-3.87 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:55:17	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.187722 GHz	1.76 dBm			T1	1		5.1717782 GHz	-4.14 dBm	Occ Bw	36.263736264 MHz	T2	1		5.208042 GHz	-3.87 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.187722 GHz	1.76 dBm																									
T1	1		5.1717782 GHz	-4.14 dBm	Occ Bw	36.263736264 MHz																							
T2	1		5.208042 GHz	-3.87 dBm																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWI 1.01 ms VBW 2 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.23 GHz1001 pts6.0 MHz/Span 60.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.231199 GHz</td><td>2.26 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.2117782 GHz</td><td>-4.33 dBm</td><td>Occ Bw</td><td>36.383616384 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.2481618 GHz</td><td>-4.71 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 15:58:03	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.231199 GHz	2.26 dBm			T1	1		5.2117782 GHz	-4.33 dBm	Occ Bw	36.383616384 MHz	T2	1		5.2481618 GHz	-4.71 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.231199 GHz	2.26 dBm																									
T1	1		5.2117782 GHz	-4.33 dBm	Occ Bw	36.383616384 MHz																							
T2	1		5.2481618 GHz	-4.71 dBm																									
Band I		802.11ac (HT80)																											
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth  CF 5.21 GHz1001 pts12.0 MHz/Span 120.0 MHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.21276 GHz</td><td>1.44 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.172118 GHz</td><td>-4.42 dBm</td><td>Occ Bw</td><td>75.524475524 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.247642 GHz</td><td>-4.29 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:15:11	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.21276 GHz	1.44 dBm			T1	1		5.172118 GHz	-4.42 dBm	Occ Bw	75.524475524 MHz	T2	1		5.247642 GHz	-4.29 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.21276 GHz	1.44 dBm																									
T1	1		5.172118 GHz	-4.42 dBm	Occ Bw	75.524475524 MHz																							
T2	1		5.247642 GHz	-4.29 dBm																									

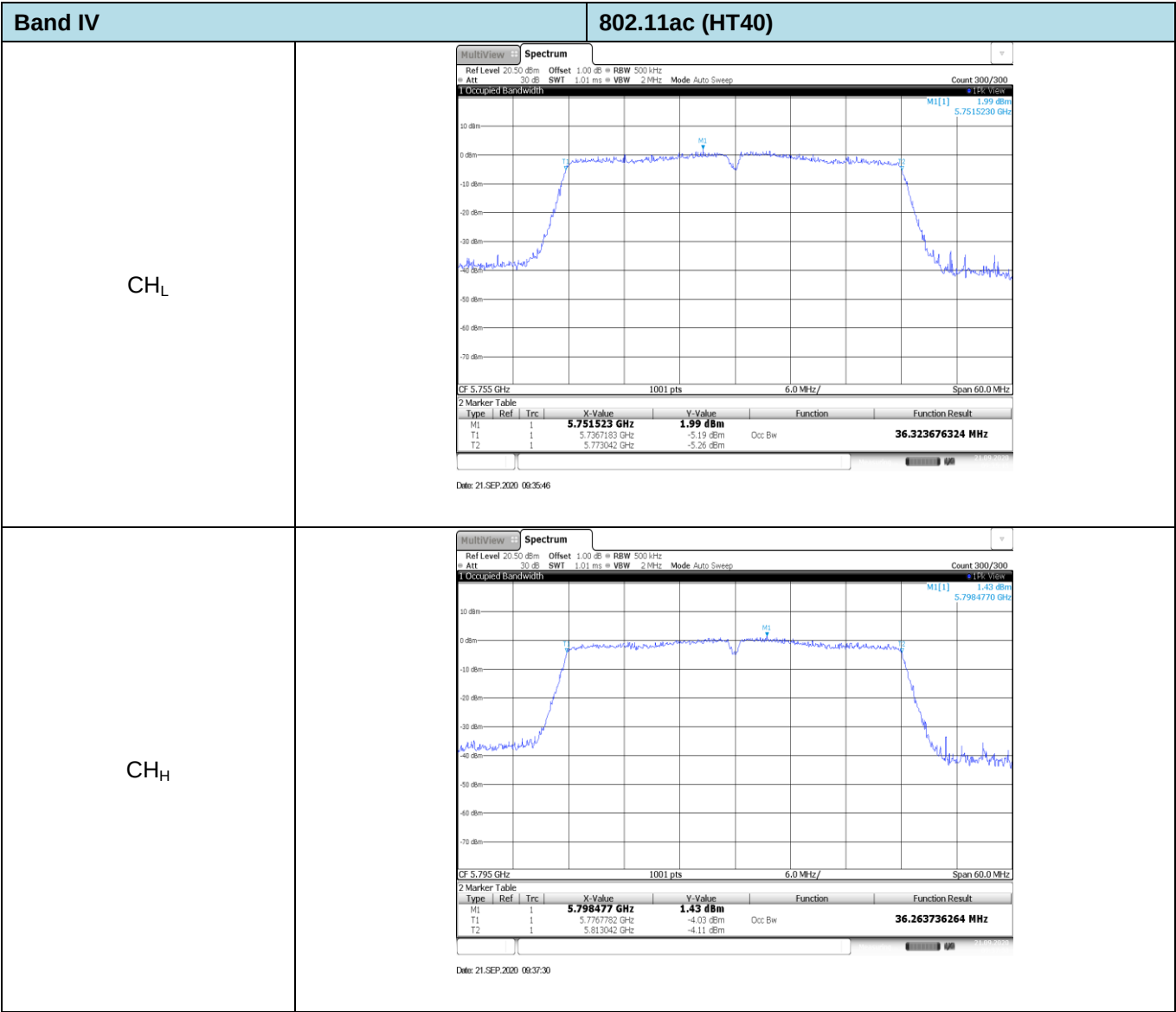


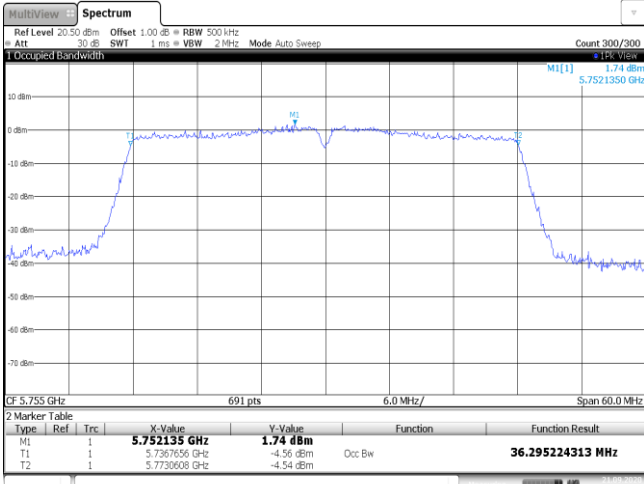
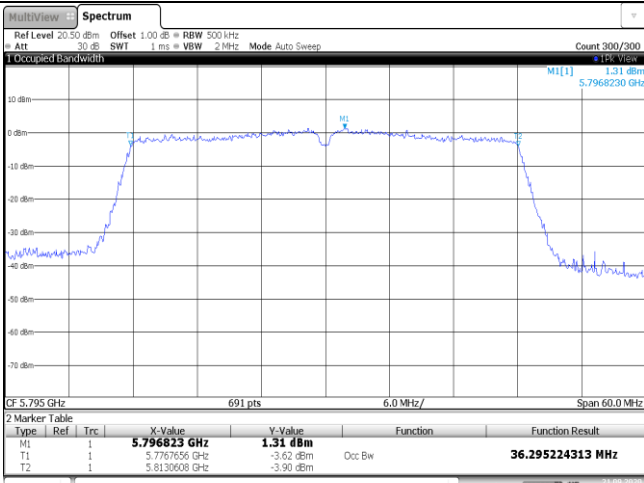
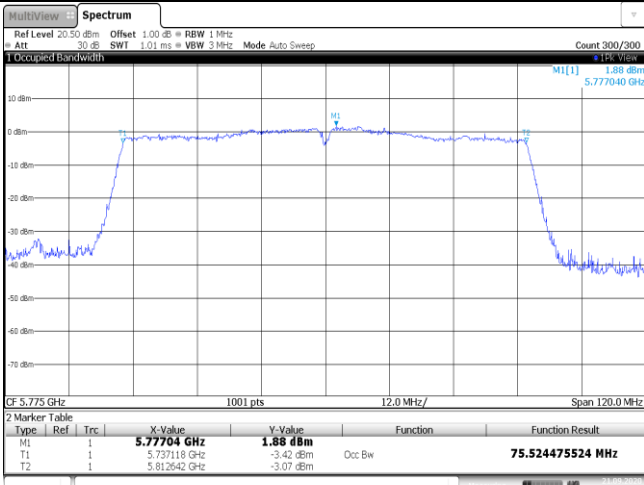
Band IV

802.11n (HT20)

CH_LCH_MCH_H



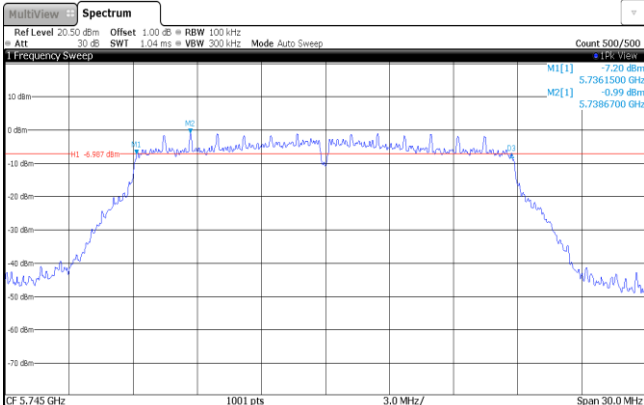
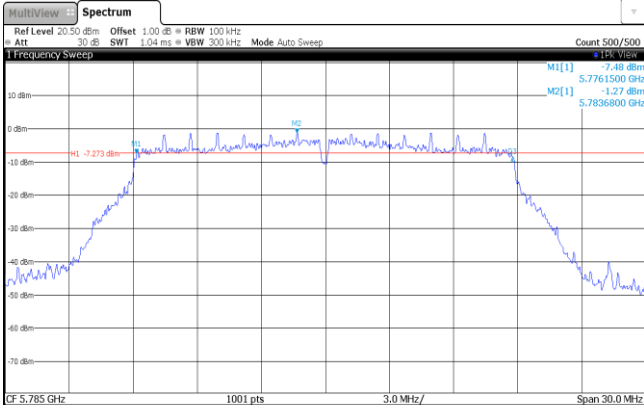
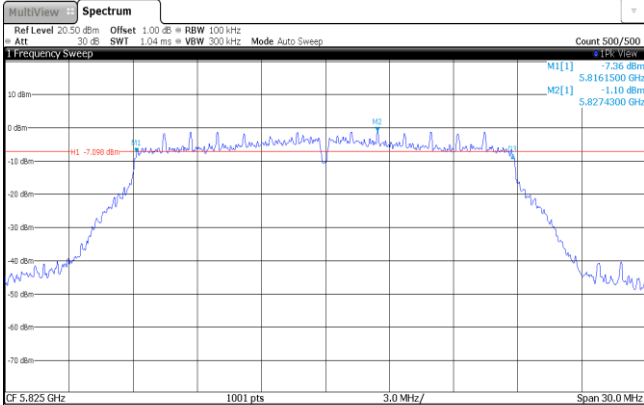


Band IV		802.11n (HT40)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1 ms VBW 2 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.752135 GHz</td><td>-1.74 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.7367656 GHz</td><td>-4.56 dBm</td><td>Occ Bw</td><td>36.295224313 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.7730608 GHz</td><td>-4.54 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 08:27:05	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.752135 GHz	-1.74 dBm			T1	1		5.7367656 GHz	-4.56 dBm	Occ Bw	36.295224313 MHz	T2	1		5.7730608 GHz	-4.54 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.752135 GHz	-1.74 dBm																									
T1	1		5.7367656 GHz	-4.56 dBm	Occ Bw	36.295224313 MHz																							
T2	1		5.7730608 GHz	-4.54 dBm																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1 ms VBW 2 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.796823 GHz</td><td>-1.31 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.7767656 GHz</td><td>-3.62 dBm</td><td>Occ Bw</td><td>36.295224313 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.8130608 GHz</td><td>-3.90 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 09:30:17	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.796823 GHz	-1.31 dBm			T1	1		5.7767656 GHz	-3.62 dBm	Occ Bw	36.295224313 MHz	T2	1		5.8130608 GHz	-3.90 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.796823 GHz	-1.31 dBm																									
T1	1		5.7767656 GHz	-3.62 dBm	Occ Bw	36.295224313 MHz																							
T2	1		5.8130608 GHz	-3.90 dBm																									
Band IV		802.11ac (HT80)																											
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 300/300 1 Occupied Bandwidth <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.77704 GHz</td><td>-1.88 dBm</td><td></td><td></td></tr><tr><td>T1</td><td>1</td><td></td><td>5.737118 GHz</td><td>-3.42 dBm</td><td>Occ Bw</td><td>75.524475524 MHz</td></tr><tr><td>T2</td><td>1</td><td></td><td>5.812642 GHz</td><td>-3.07 dBm</td><td></td><td></td></tr></table> Date: 21.SEP.2020 09:40:01	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.77704 GHz	-1.88 dBm			T1	1		5.737118 GHz	-3.42 dBm	Occ Bw	75.524475524 MHz	T2	1		5.812642 GHz	-3.07 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.77704 GHz	-1.88 dBm																									
T1	1		5.737118 GHz	-3.42 dBm	Occ Bw	75.524475524 MHz																							
T2	1		5.812642 GHz	-3.07 dBm																									

Appendix E: 6dB Bandwidth

Band	Bandwidth (MHz)	Type	Channel	6dB bandwidth (MHz)	Result
IV	20	802.11ac	CH _L	17.61	Pass
			CH _M	17.61	
			CH _H	17.61	
		802.11n	CH _L	17.58	Pass
			CH _M	17.61	
			CH _H	17.61	
		802.11a	CH _L	16.38	Pass
			CH _M	16.38	
			CH _H	16.38	
	40	802.11ac	CH _L	36.06	Pass
			CH _H	36.18	
		802.11n	CH _L	36.09	Pass
			CH _H	36.44	
	80	802.11ac	CH _M	75.48	Pass

Test channel	802.11ac (HT20)
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz ATT 30 dB SWT 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep <

Test channel	802.11n (HT20)																												
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.745 GHz1001 pts3.0 MHz/Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.73615 GHz</td><td>-7.20 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.73867 GHz</td><td>-0.99 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>17.58 MHz</td><td>0.11 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:38:19	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.73615 GHz	-7.20 dBm			M2	1		5.73867 GHz	-0.99 dBm			D3	M1	1	17.58 MHz	0.11 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.73615 GHz	-7.20 dBm																									
M2	1		5.73867 GHz	-0.99 dBm																									
D3	M1	1	17.58 MHz	0.11 dB																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.785 GHz1001 pts3.0 MHz/Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.77615 GHz</td><td>-7.48 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.78368 GHz</td><td>-1.27 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>17.61 MHz</td><td>-0.89 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:41:05	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.77615 GHz	-7.48 dBm			M2	1		5.78368 GHz	-1.27 dBm			D3	M1	1	17.61 MHz	-0.89 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.77615 GHz	-7.48 dBm																									
M2	1		5.78368 GHz	-1.27 dBm																									
D3	M1	1	17.61 MHz	-0.89 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  CF 5.825 GHz1001 pts3.0 MHz/Span 30.0 MHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>5.81615 GHz</td><td>-7.36 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.82743 GHz</td><td>-1.10 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>17.61 MHz</td><td>-0.59 dB</td><td></td><td></td></tr></table> Date: 21.SEP.2020 16:42:31	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.81615 GHz	-7.36 dBm			M2	1		5.82743 GHz	-1.10 dBm			D3	M1	1	17.61 MHz	-0.59 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.81615 GHz	-7.36 dBm																									
M2	1		5.82743 GHz	-1.10 dBm																									
D3	M1	1	17.61 MHz	-0.59 dB																									

Test channel	802.11a
CH _L	

Test channel

802.11ac (HT40)

CH_L

1 Frequency Sweep

Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz
Att 30.0 dB SWI 1.07 ms VBW 300 kHz Mode Auto Sweep

Count 500/500

M1[1] -11.85 dBm
5.7367000 GHz
M2[1] -3.95 dBm
5.7474400 GHz

CF 5.755 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.7367 GHz	-11.85 dBm		
M2	1		5.74744 GHz	-3.95 dBm		
D3	M1	1	36.06 MHz	1.40 dB		

Date: 21.SEP.2020 09:35:55

CH_H

1 Frequency Sweep

Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz
Att 30.0 dB SWI 1.07 ms VBW 300 kHz Mode Auto Sweep

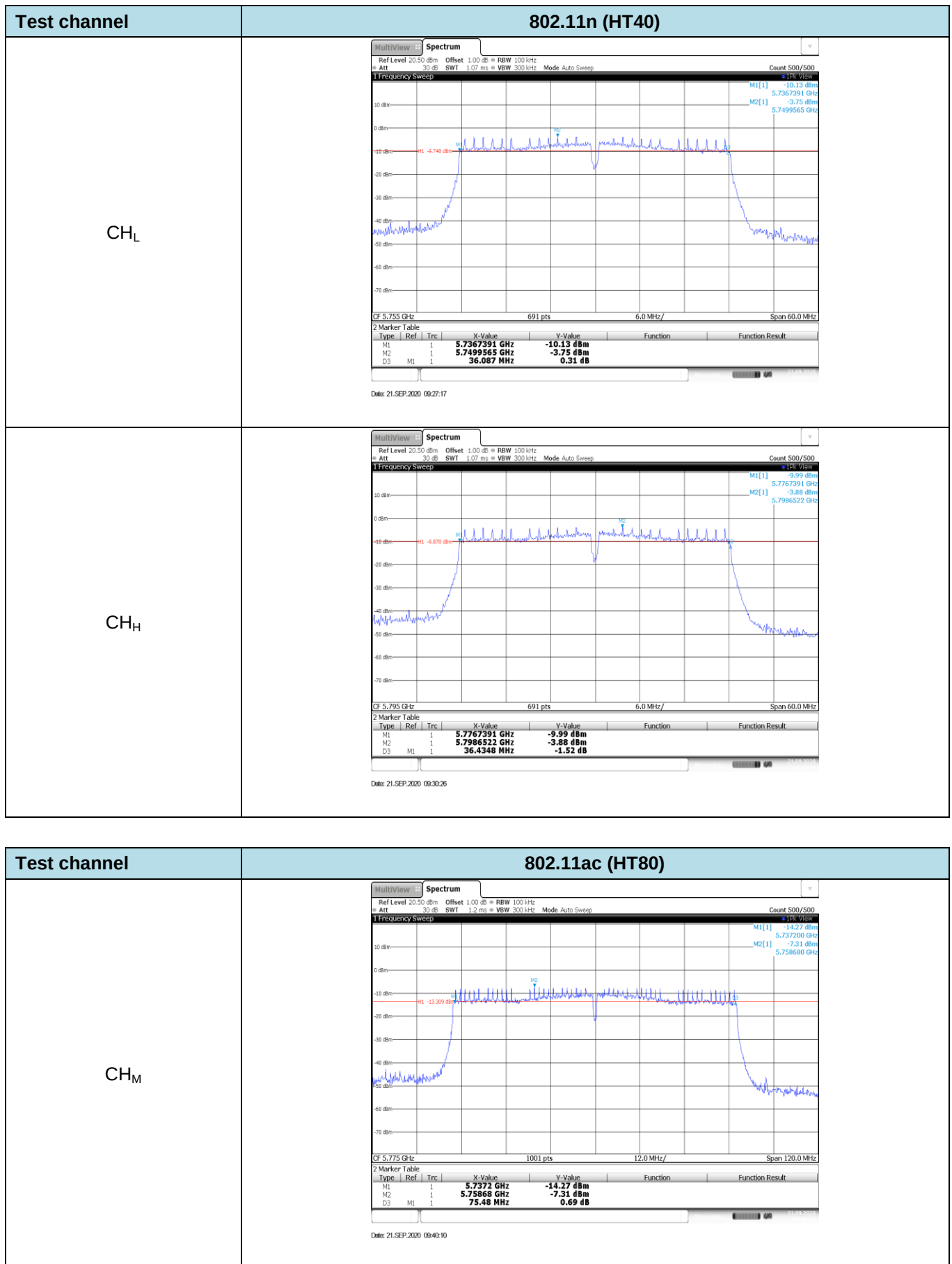
Count 500/500

M1[1] -10.80 dBm
5.7769400 GHz
M2[1] -3.97 dBm
5.7924200 GHz

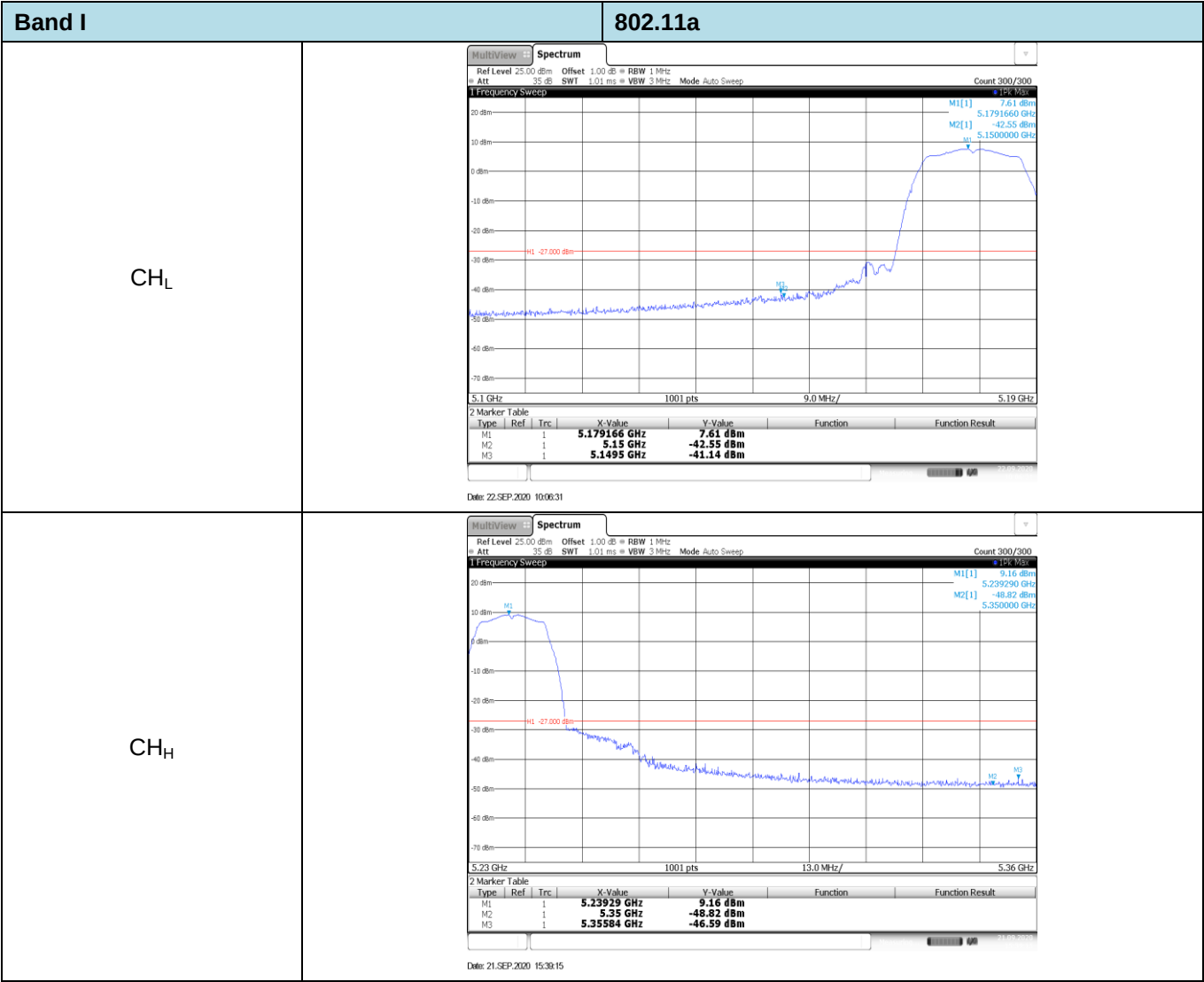
CF 5.795 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz

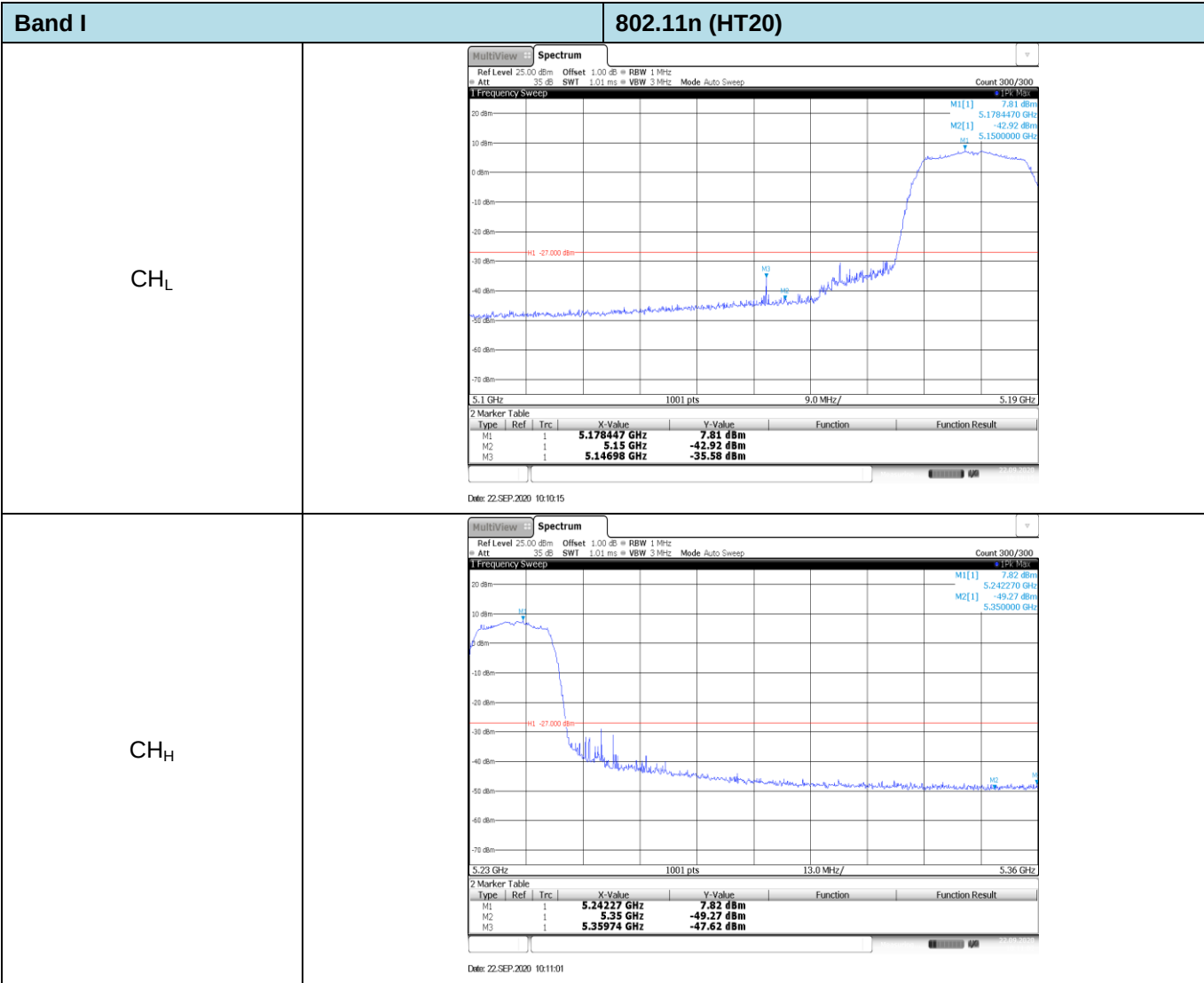
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.77694 GHz	-10.80 dBm		
M2	1		5.79242 GHz	-3.97 dBm		
D3	M1	1	36.18 MHz	0.75 dB		

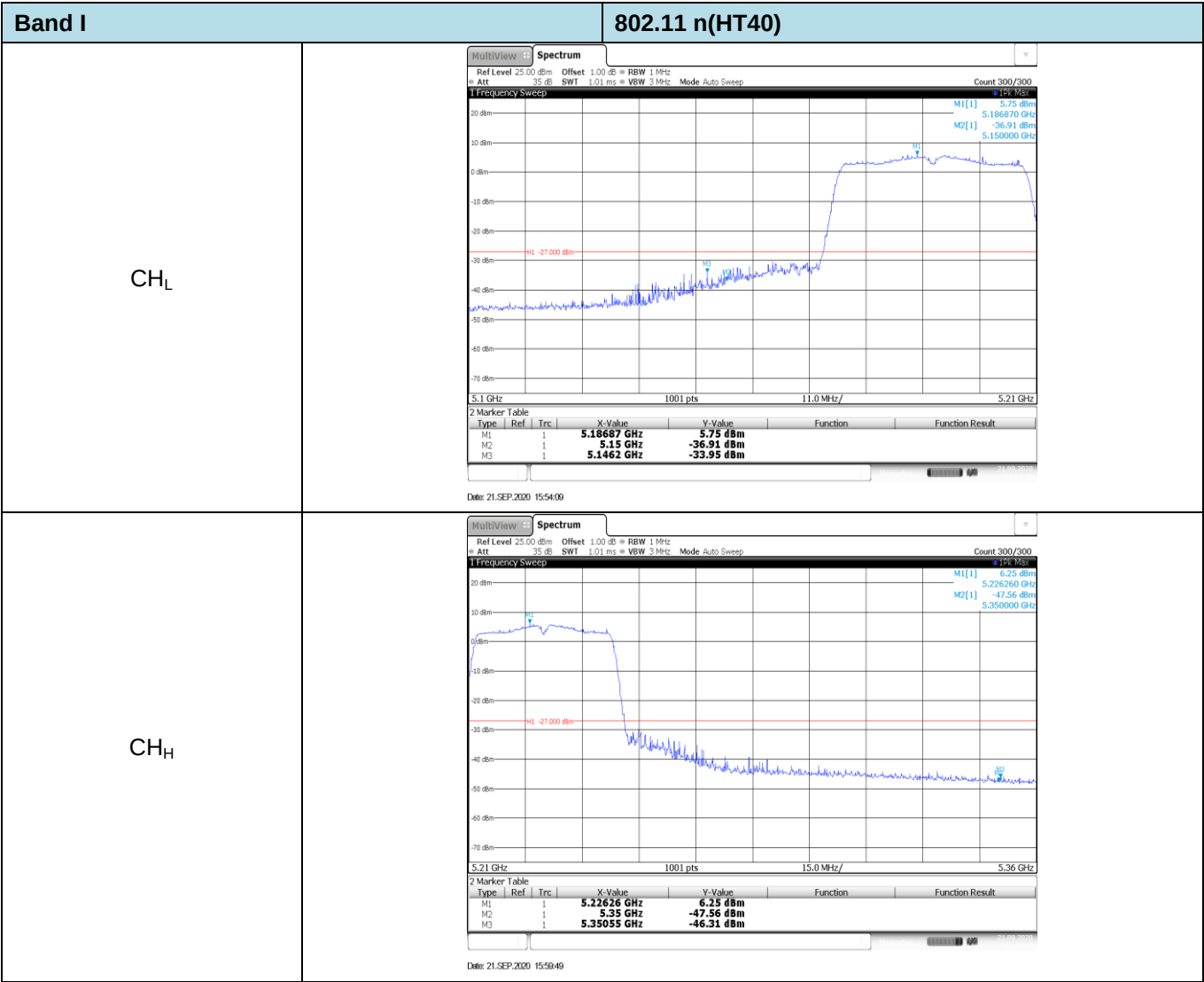
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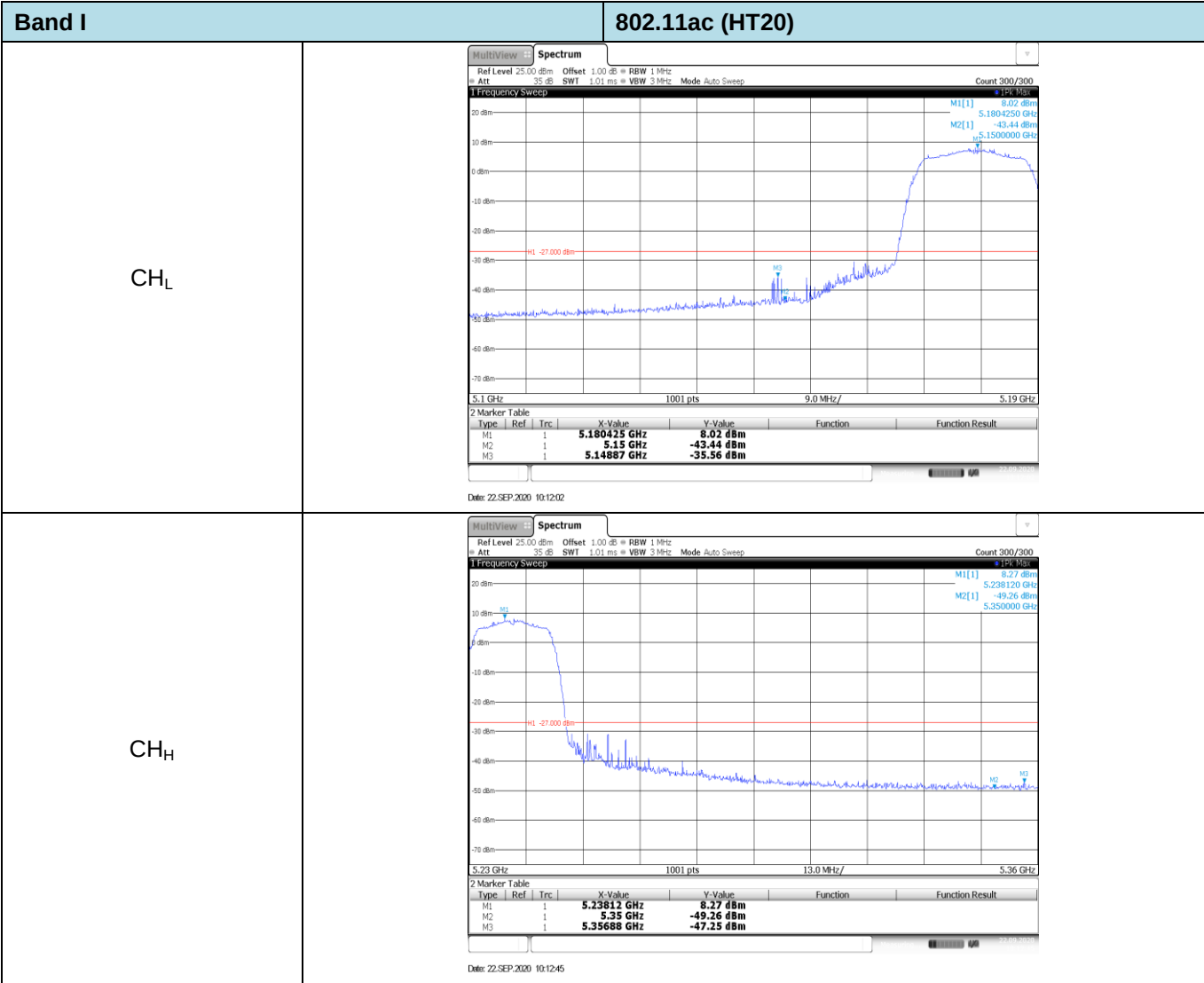


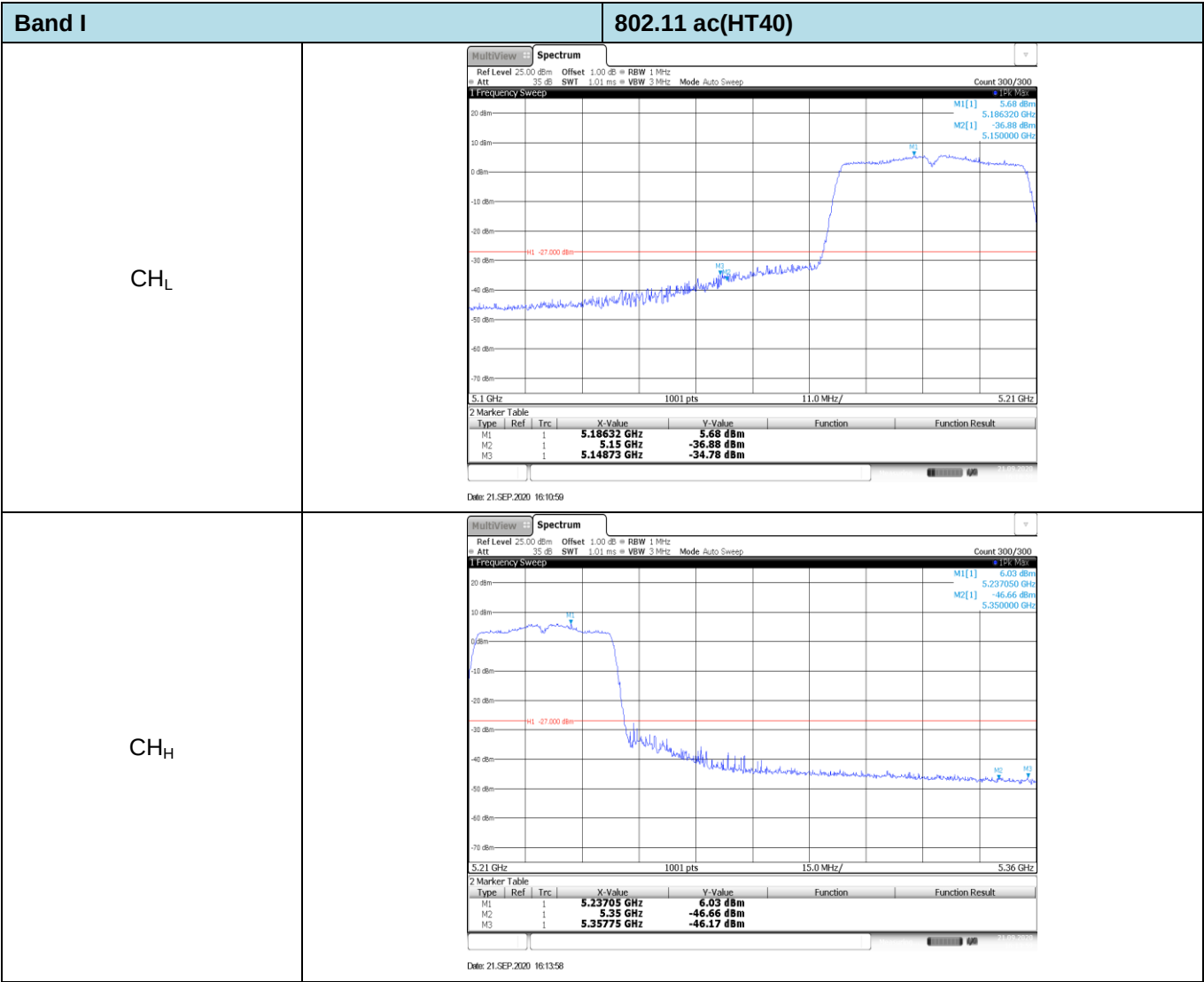
Appendix F: Band edge

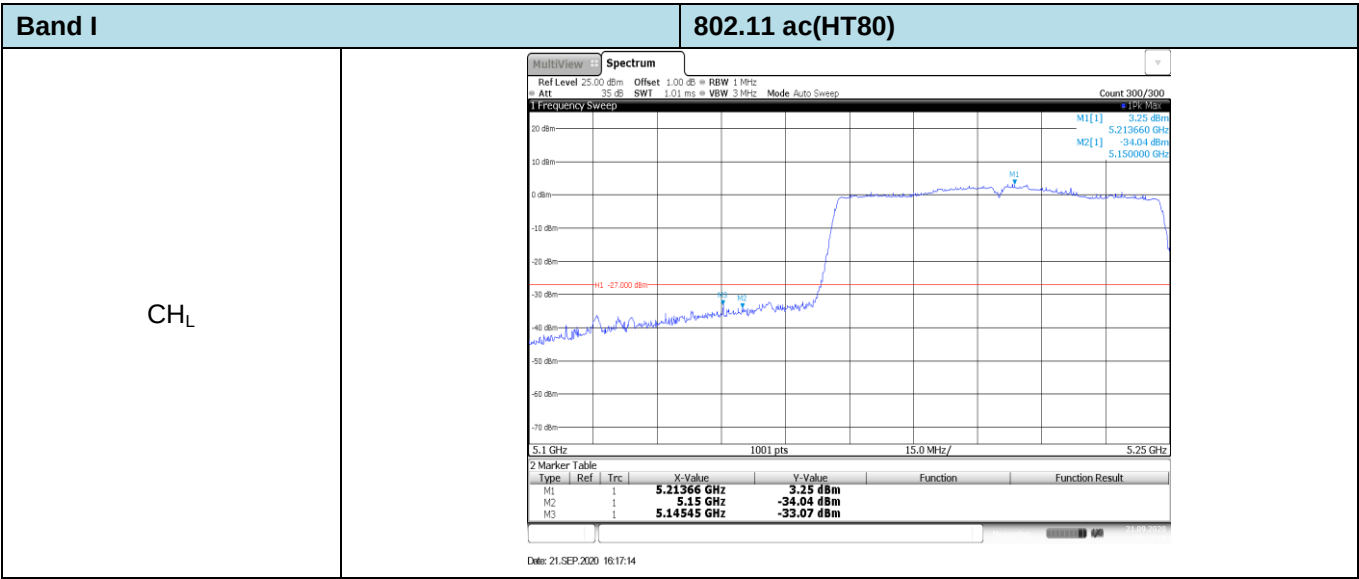


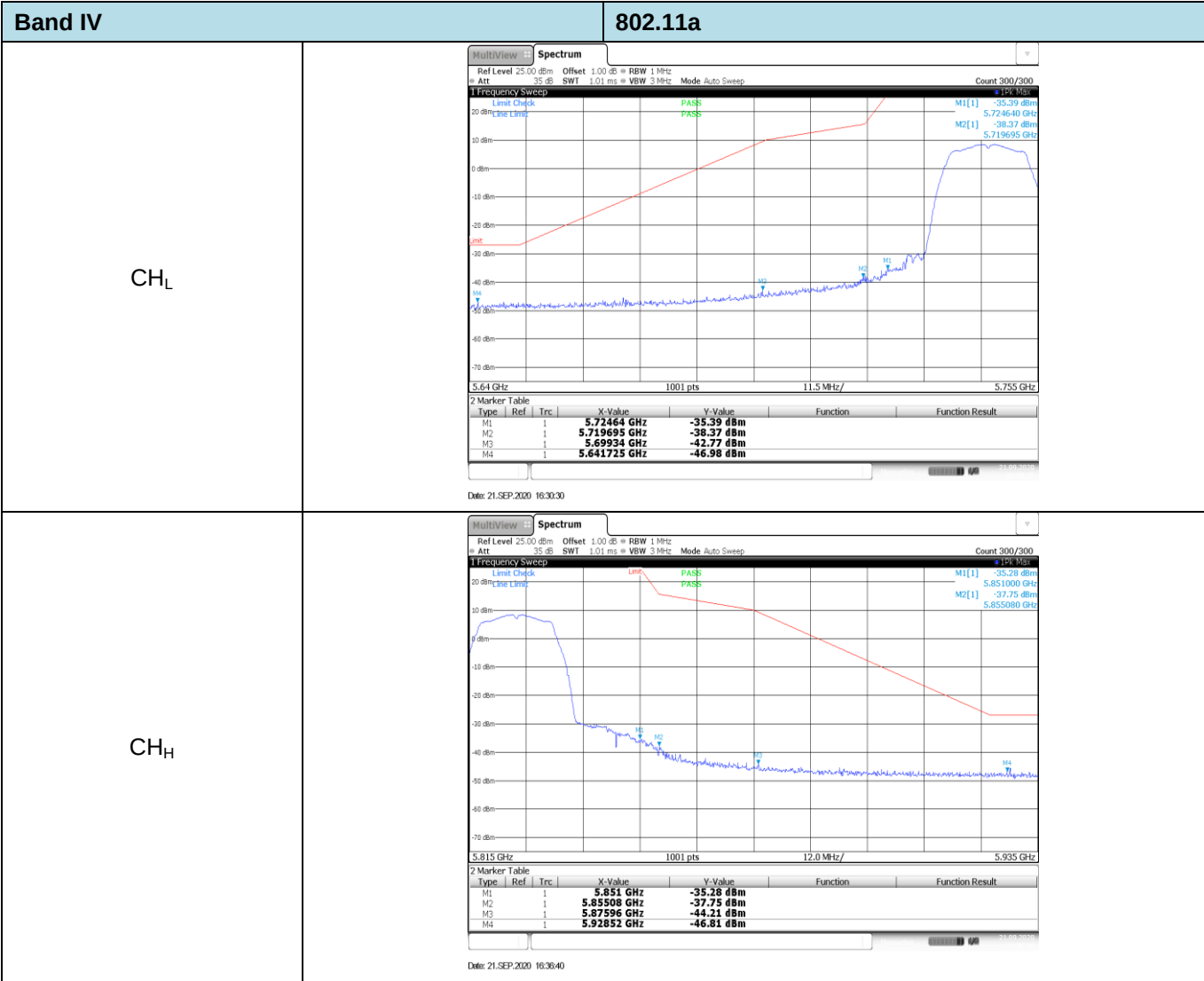


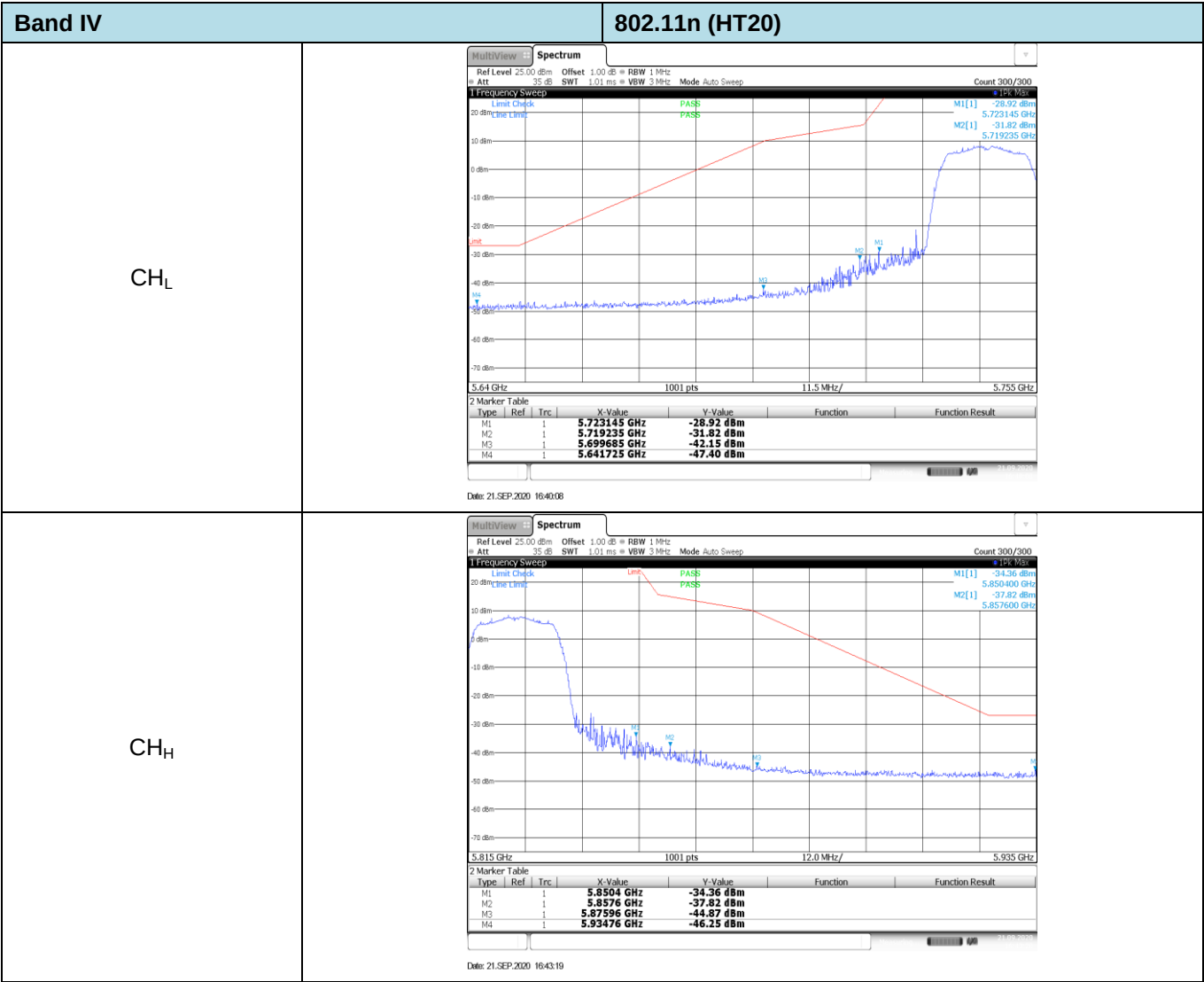


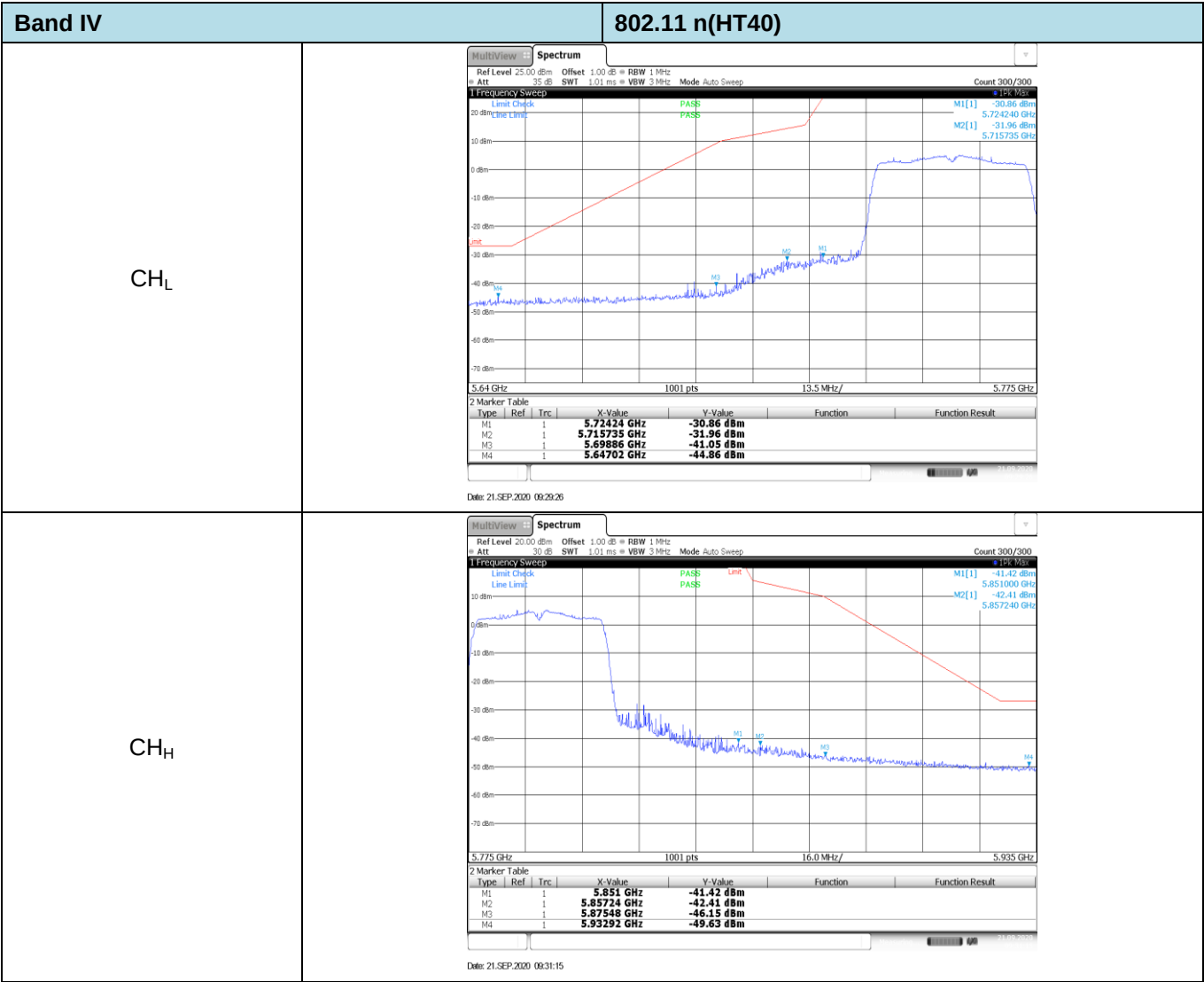


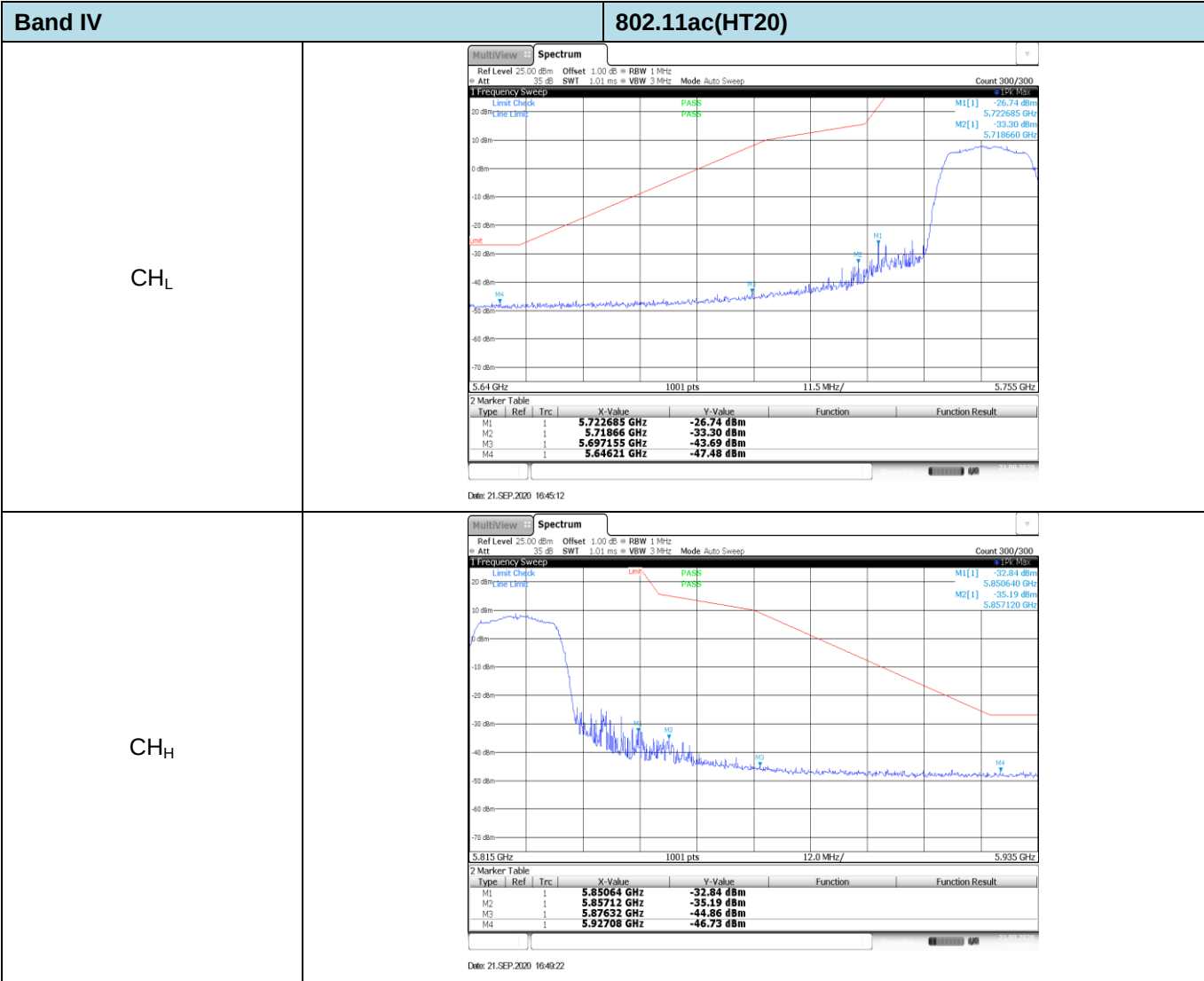


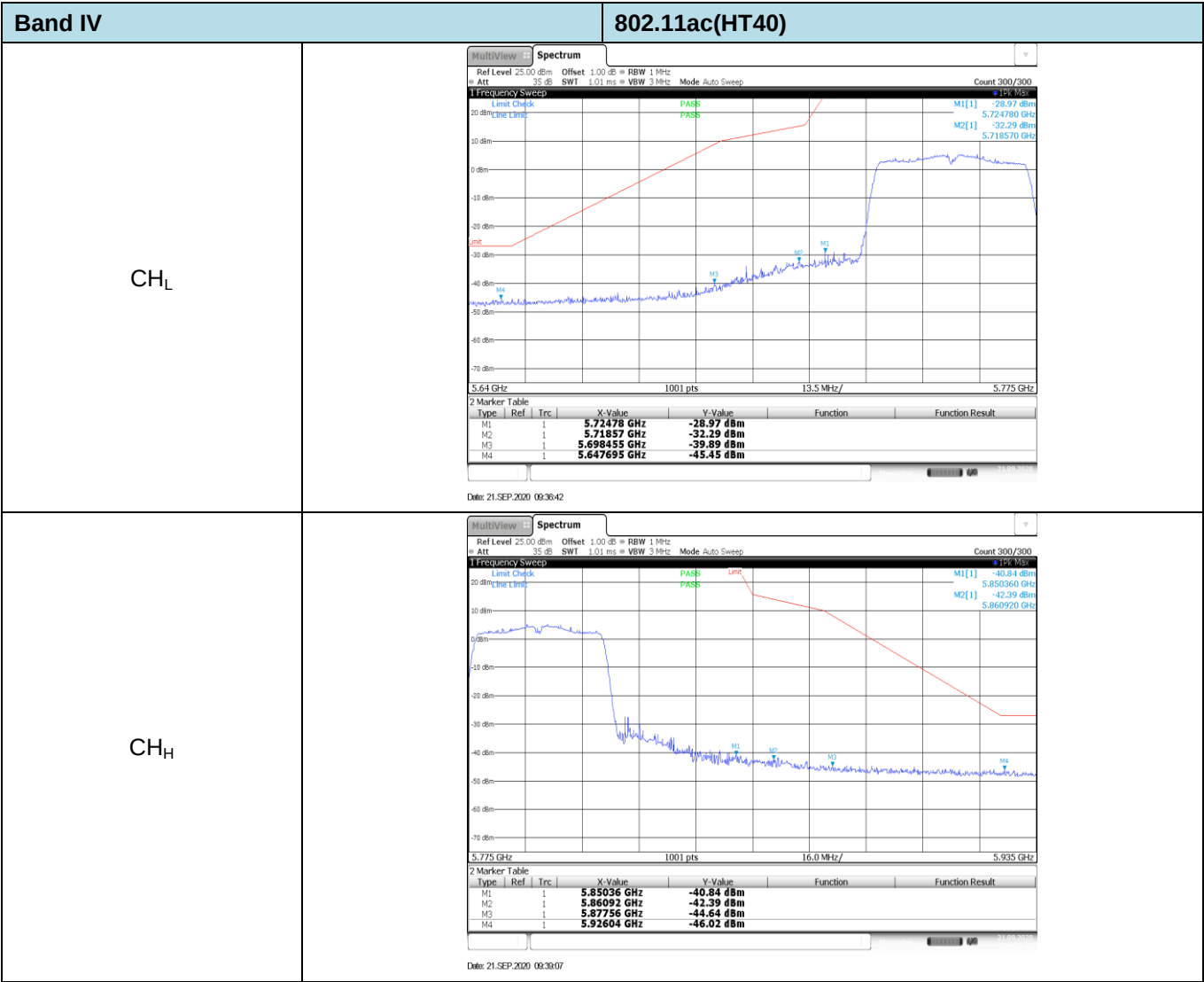


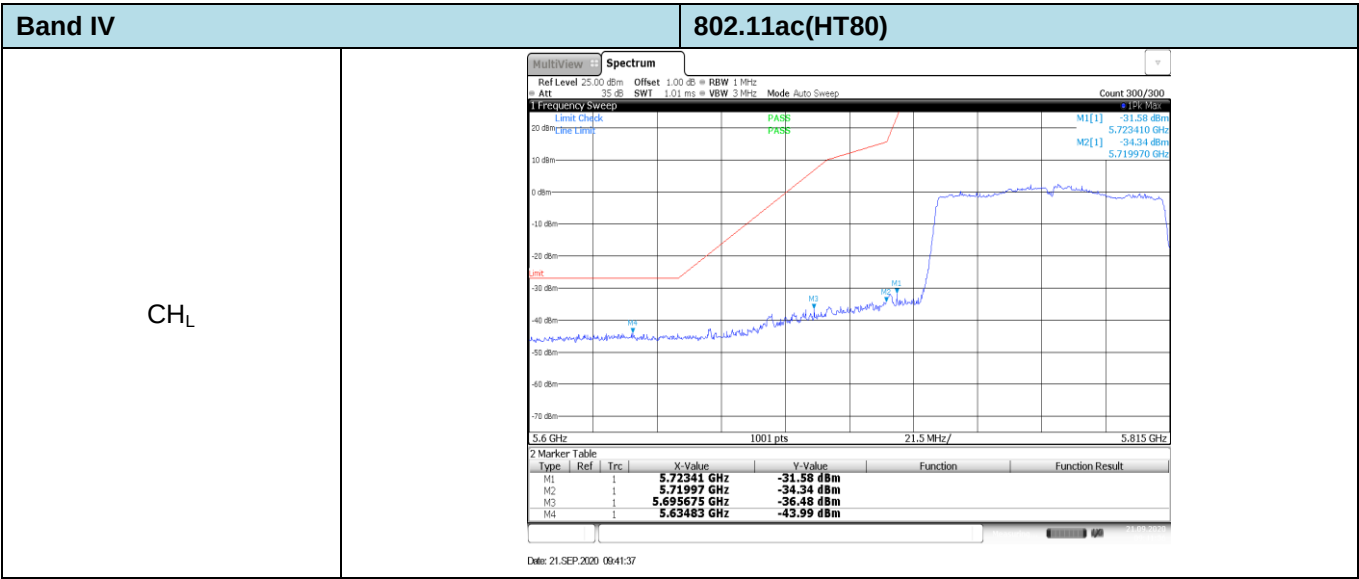












Appendix G: Frequency stability**Voltage VS Frequency stability**

Band: I			Test Frequency: 5180.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T _N	V _L	-42000.00	-8.10811	PASS
T _N	V _N	-42000.00	-8.10811	PASS
T _N	V _H	-42000.00	-8.10811	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T _N	V _L	-47000.00	-8.18103	PASS
T _N	V _N	-47000.00	-8.18103	PASS
T _N	V _H	-47000.00	-8.18103	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V _N	-20	-42000.00	-8.10811	PASS
V _N	-10	-42000.00	-8.10811	PASS
V _N	0	-43000.00	-8.30116	PASS
V _N	10	-42000.00	-8.10811	PASS
V _N	20	-42000.00	-8.10811	PASS
V _N	30	-42000.00	-8.10811	PASS
V _N	40	-42000.00	-8.10811	PASS
V _N	50	-42000.00	-8.10811	PASS

Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V _N	-20	-46000.00	-8.00696	PASS
V _N	-10	-46000.00	-8.00696	PASS
V _N	0	-47000.00	-8.18103	PASS
V _N	10	-46000.00	-8.00696	PASS
V _N	20	-47000.00	-8.18103	PASS
V _N	30	-47000.00	-8.18103	PASS
V _N	40	-47000.00	-8.18103	PASS
V _N	50	-47000.00	-8.18103	PASS

-----End of Report-----