

APPENDIX REPORT

Project No.	SHT2011036601EW	Radio Specification	WIFI 5G
Test sample No.	YPHT 20110366003	Model No.	HEV-10W
Start test date	2020/11/20	Finish date	2020/11/23
Temperature	25°C	Humidity	50%
Test Engineer	Qizhi Zhang	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	14.46	58.59	2.32	16.78	24.00	Pass
			CH _M	15.21	58.59	2.32	17.53		
			CH _H	15.52	58.59	2.32	17.84		
		802.11n	CH _L	14.57	61.14	2.14	16.71	24.00	Pass
			CH _M	15.26	61.14	2.14	17.40		
			CH _H	15.57	60.66	2.17	17.74		
		802.11a	CH _L	14.69	93.03	0.31	15.00	24.00	Pass
			CH _M	14.99	93.03	0.31	15.30		
			CH _H	15.73	93.11	0.31	16.04		
	40	802.11ac	CH _L	14.34	49.37	3.07	17.41	24.00	Pass
			CH _H	15.23	49.37	3.07	18.3		
		802.11n	CH _L	14.48	49.37	3.07	17.55	24.00	Pass
			CH _H	15.21	49.37	3.07	18.28		
	80	802.11ac	CH _M	14.41	38.72	4.12	18.53	24.00	Pass
II	20	802.11ac	CH _L	14.31	58.59	2.32	16.63	24.00	Pass
			CH _M	14.52	58.59	2.32	16.84		
			CH _H	14.76	58.59	2.32	17.08		
		802.11n	CH _L	15.05	61.14	2.14	17.19	24.00	Pass
			CH _M	15.49	61.14	2.14	17.63		
			CH _H	15.55	61.14	2.14	17.69		
		802.11a	CH _L	15.06	93.11	0.31	15.37	24.00	Pass
			CH _M	15.47	93.12	0.31	15.78		
			CH _H	15.44	93.11	0.31	15.75		
	40	802.11ac	CH _L	14.72	46.15	3.36	18.08	24.00	Pass
			CH _H	15.28	46.15	3.36	18.64		
		802.11n	CH _L	14.39	49.37	3.07	17.46	24.00	Pass
			CH _H	14.95	49.37	3.07	18.02		
	80	802.11ac	CH _M	14.20	38.77	4.12	18.32	24.00	Pass

Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Conducted Output Power (dBm)	Limit (dBm)	Result
III	20	802.11ac	CH _L	14.29	58.59	2.32	16.61	24.00	Pass
			CH _M	14.63	58.59	2.32	16.95		
			CH _H	14.70	58.59	2.32	17.02		
		802.11n	CH _L	14.47	60.95	2.15	16.62	24.00	Pass
			CH _M	14.89	61.14	2.14	17.03		
			CH _H	15.06	61.14	2.14	17.20		
		802.11a	CH _L	14.80	62.73	2.03	16.83	24.00	Pass
			CH _M	15.53	62.73	2.03	17.56		
			CH _H	15.09	62.73	2.03	17.12		
	40	802.11ac	CH _L	14.58	49.67	3.04	17.62	24.00	Pass
			CH _M	15.03	49.67	3.04	18.07		
			CH _H	15.19	49.67	3.04	18.23		
		802.11n	CH _L	14.81	49.49	3.05	17.86	24.00	Pass
			CH _M	15.07	49.49	3.05	18.12		
	80	802.11ac	CH _L	14.67	38.82	4.11	18.78	24.00	Pass
			CH _M	14.60	38.82	4.11	18.71		
			CH _H	14.64	38.82	4.11	18.75		
IV	20	802.11ac	CH _L	15.67	58.59	2.32	17.99	30.00	Pass
			CH _M	14.88	58.08	2.36	17.24		
			CH _H	14.71	58.59	2.32	17.03		
		802.11n	CH _L	14.88	61.14	2.14	17.02	30.00	Pass
			CH _M	14.28	61.14	2.14	16.42		
			CH _H	14.11	61.14	2.14	16.25		
		802.11a	CH _L	15.13	62.73	2.03	17.16	30.00	Pass
			CH _M	14.43	62.73	2.03	16.46		
			CH _H	14.10	62.44	2.05	16.15		
	40	802.11ac	CH _L	14.76	46.35	3.34	18.10	30.00	Pass
			CH _H	14.31	46.35	3.34	17.65		
		802.11n	CH _L	14.84	48.54	3.14	17.98	30.00	Pass
			CH _H	14.15	48.54	3.14	17.29		
	80	802.11ac	CH _M	14.05	38.47	4.15	18.20	30.00	Pass

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

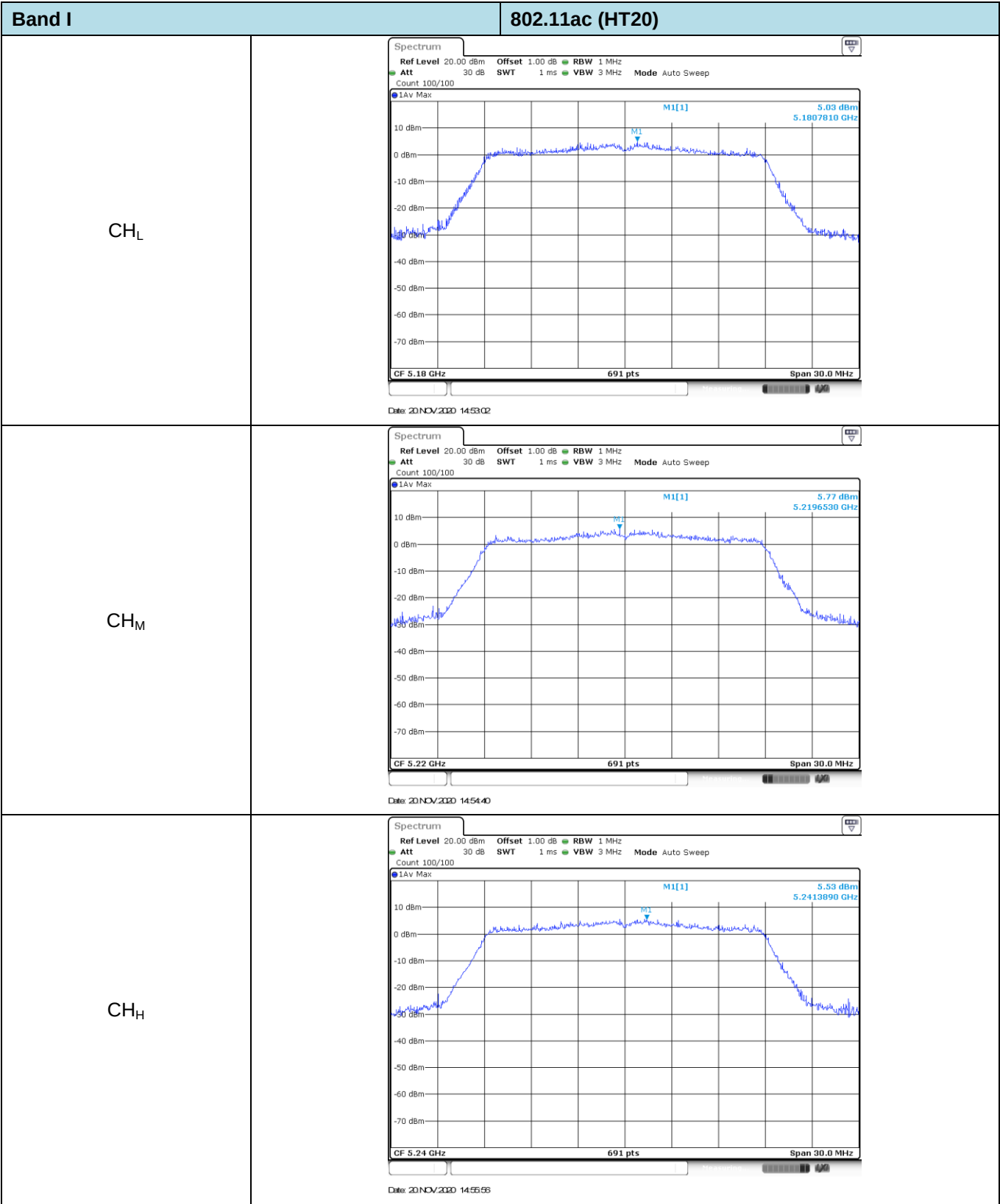
Appendix B: Maximum Power Spectral Density

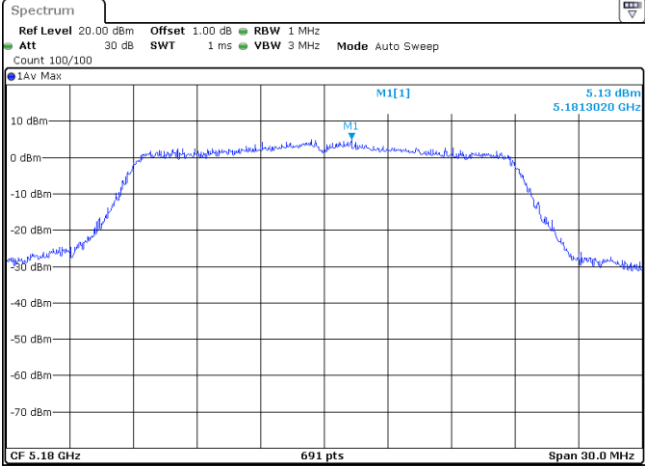
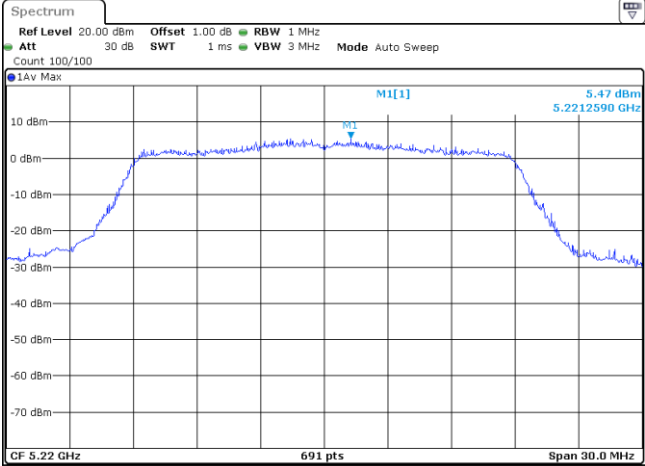
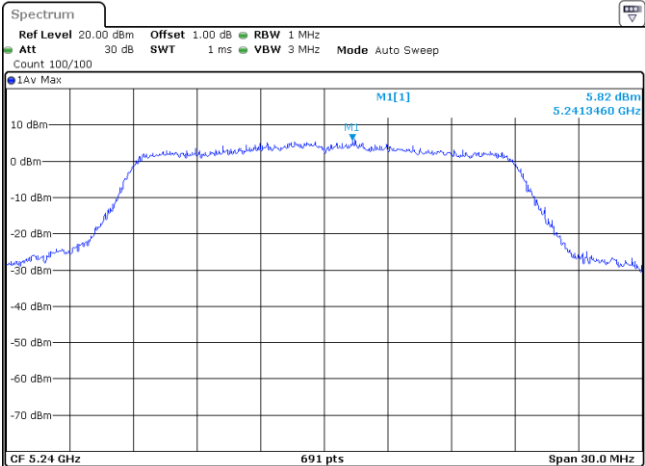
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11ac	CH _L	5.03	58.59	2.32	7.35	11.00	Pass
			CH _M	5.77	58.59	2.32	8.09		
			CH _H	5.53	58.59	2.32	7.85		
		802.11n	CH _L	5.13	61.14	2.14	7.27	11.00	Pass
			CH _M	5.47	61.14	2.14	7.61		
			CH _H	5.82	60.66	2.17	7.99		
		802.11a	CH _L	4.71	93.03	0.31	5.02	11.00	Pass
			CH _M	5.05	93.03	0.31	5.36		
			CH _H	5.50	93.11	0.31	5.81		
	40	802.11ac	CH _L	1.99	49.37	3.07	5.06	11.00	Pass
			CH _H	2.04	49.37	3.07	5.11		
		802.11n	CH _L	1.07	49.37	3.07	4.14	11.00	Pass
			CH _H	2.10	49.37	3.07	5.17		
	80	802.11ac	CH _M	-1.03	38.72	4.12	3.09	11.00	Pass

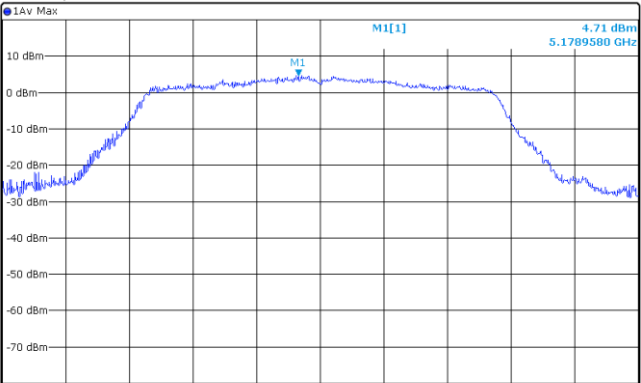
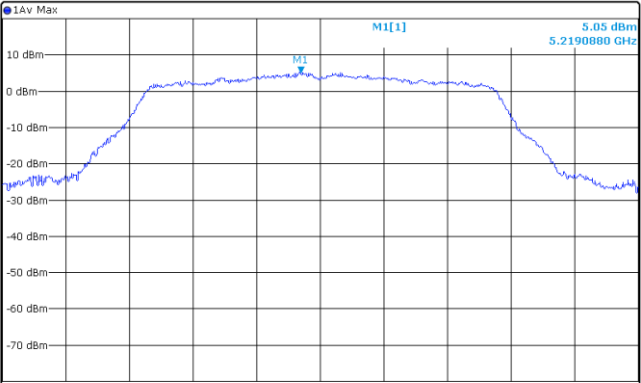
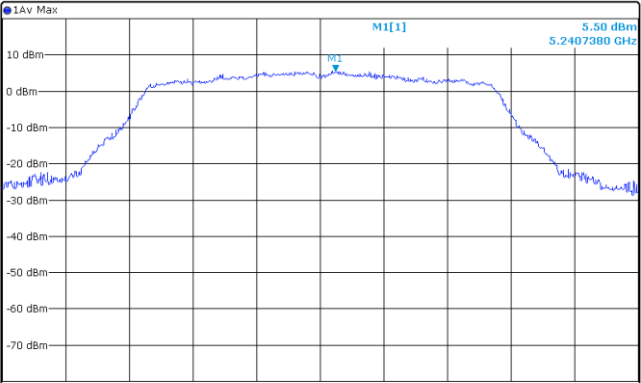
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
II	20	802.11ac	CH _L	4.80	58.59	2.32	7.12	11.00	Pass
			CH _M	4.65	58.59	2.32	6.97		
			CH _H	5.55	58.59	2.32	7.87		
		802.11n	CH _L	5.23	61.14	2.14	7.37	11.00	Pass
			CH _M	5.88	61.14	2.14	8.02		
			CH _H	5.41	61.14	2.14	7.55		
		802.11a	CH _L	5.13	93.11	0.31	5.44	11.00	Pass
			CH _M	5.68	93.12	0.31	5.99		
			CH _H	5.12	93.11	0.31	5.43		
	40	802.11ac	CH _L	2.03	46.15	3.36	5.39	11.00	Pass
			CH _H	2.52	46.15	3.36	5.88		
		802.11n	CH _L	1.76	49.37	3.07	4.83	11.00	Pass
			CH _H	1.90	49.37	3.07	4.97		
	80	802.11ac	CH _M	-1.67	38.77	4.12	2.45	11.00	Pass

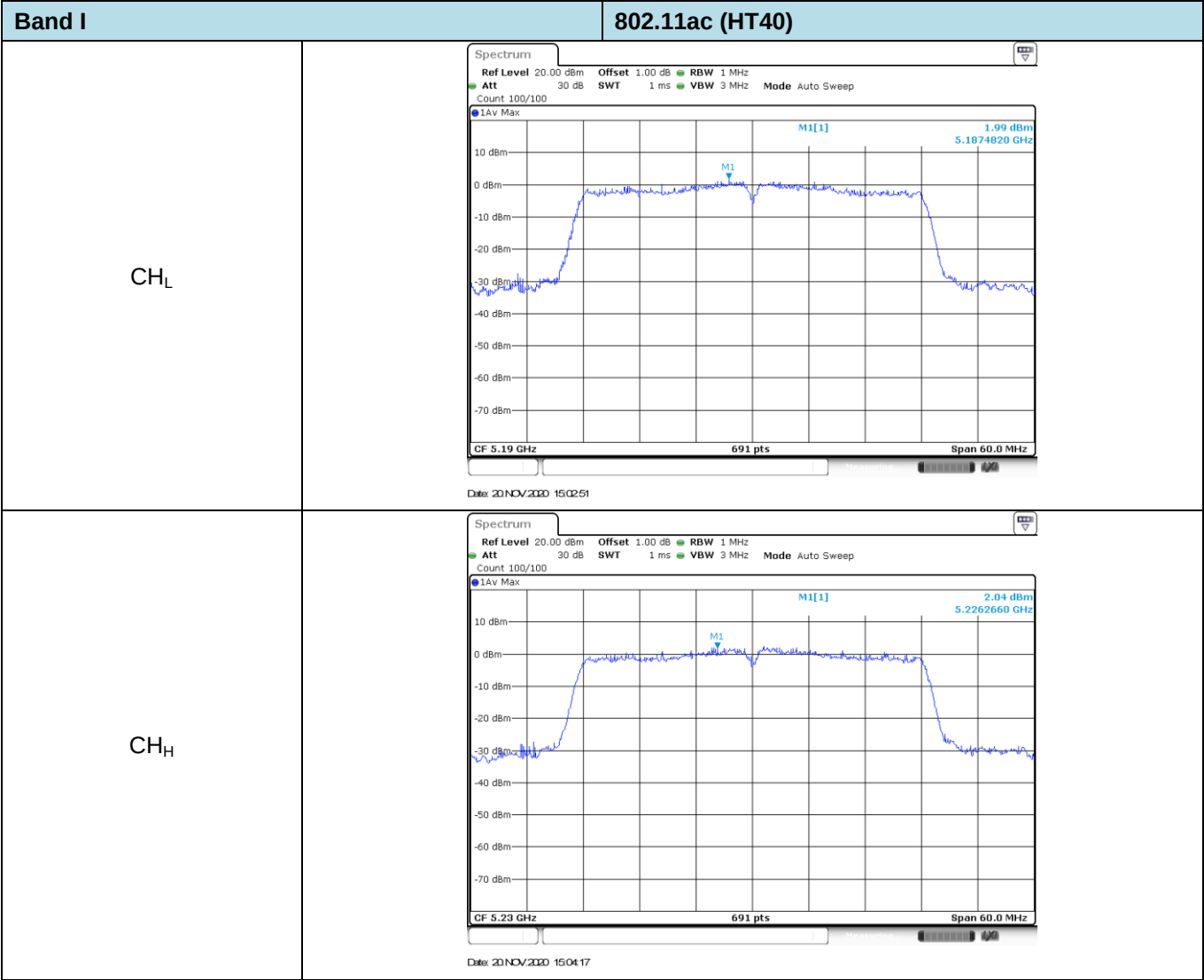
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
III	20	802.11a c	CH _L	4.39	58.59	2.32	6.71	11.00	Pass
			CH _M	4.46	58.59	2.32	6.78		
			CH _H	5.40	58.59	2.32	7.72		
		802.11n	CH _L	4.80	60.95	2.15	6.95	11.00	Pass
			CH _M	5.45	61.14	2.14	7.59		
			CH _H	5.18	61.14	2.14	7.32		
		802.11a	CH _L	5.20	62.73	2.03	7.23	11.00	Pass
			CH _M	6.09	62.73	2.03	8.12		
			CH _H	5.62	62.73	2.03	7.65		
	40	802.11a c	CH _L	2.15	49.67	3.04	5.19	11.00	Pass
			CH _M	2.60	49.67	3.04	5.64		
			CH _H	2.18	49.67	3.04	5.22		
		802.11n	CH _L	1.61	49.49	3.05	4.66	11.00	Pass
			CH _M	2.15	49.49	3.05	5.20		
			CH _H	2.97	49.49	3.05	6.02		
	80	802.11a c	CH _L	-1.26	38.82	4.11	2.85	11.00	Pass
			CH _M	-1.03	38.82	4.11	3.08		
			CH _H	-1.06	38.82	4.11	3.05		
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/500 kHz)	Limit (dBm/500 kHz)	Result
IV	20	802.11a c	CH _L	4.40	58.59	2.32	6.72	30.00	Pass
			CH _M	4.28	58.08	2.36	6.64		
			CH _H	3.30	58.59	2.32	5.62		
		802.11n	CH _L	3.84	61.14	2.14	5.98	30.00	Pass
			CH _M	2.91	61.14	2.14	5.05		
			CH _H	2.96	61.14	2.14	5.10		
		802.11a	CH _L	3.75	62.73	2.03	5.78	30.00	Pass
			CH _M	3.23	62.73	2.03	5.26		
			CH _H	2.87	62.44	2.05	4.92		
	40	802.11a c	CH _L	0.04	46.35	3.34	3.38	30.00	Pass
			CH _H	0.27	46.35	3.34	3.61		
		802.11n	CH _L	1.12	48.54	3.14	4.26	30.00	Pass
			CH _H	1.54	48.54	3.14	4.68		
	80	802.11a c	CH _M	-2.98	38.47	4.15	1.17	30.00	Pass

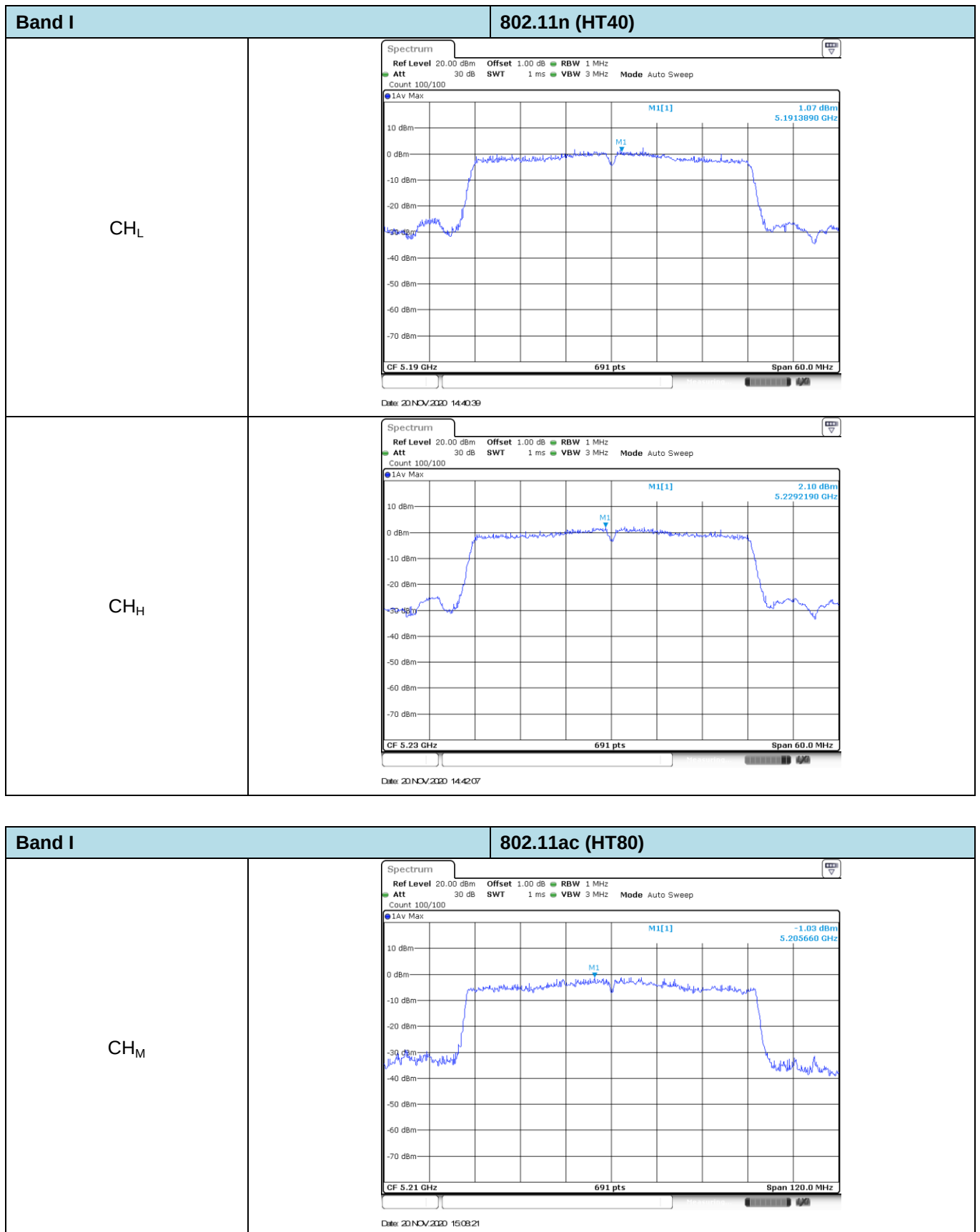
Test plot as follows:

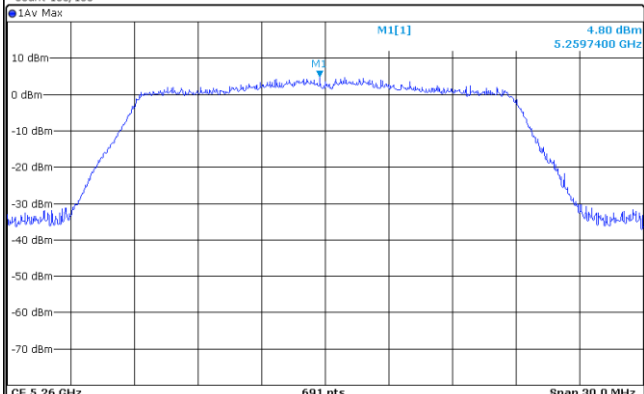
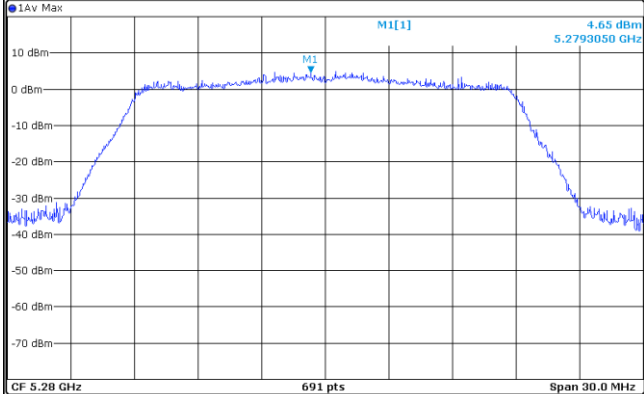
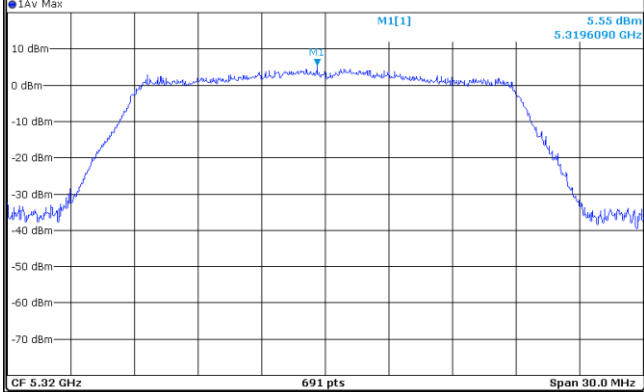


Band I	802.11n (HT20)
CH _L	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max MI[1] 5.13 dBm 5.1813020 GHz CF 5.18 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 14:26:25
CH _M	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max MI[1] 5.47 dBm 5.2212590 GHz CF 5.22 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 14:27:58
CH _H	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max MI[1] 5.82 dBm 5.2413460 GHz CF 5.24 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 14:29:09

Band I	802.11a
CH _L	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.18 GHz691 ptsSpan 30.0 MHz Date: 20 NOV 2020 14:12:46
CH _M	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.22 GHz691 ptsSpan 30.0 MHz Date: 20 NOV 2020 14:14:29
CH _H	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.24 GHz691 ptsSpan 30.0 MHz Date: 20 NOV 2020 14:15:43





Band II		802.11ac (HT20)
CH _L	Spectrum Ref Level 20.00 dBm Att 30 dB Count 100/100 Offset 1.00 dB SWT 1 ms RBW 1 MHz VBW 3 MHz Mode Auto Sweep IAV Max MI[1] 4.80 dBm 5.2597400 GHz  CF 5.26 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 16:04:34	
CH _M	Spectrum Ref Level 20.00 dBm Att 30 dB Count 100/100 Offset 1.00 dB SWT 1 ms RBW 1 MHz VBW 3 MHz Mode Auto Sweep IAV Max MI[1] 4.65 dBm 5.2793050 GHz  CF 5.28 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 16:03:32	
CH _H	Spectrum Ref Level 20.00 dBm Att 30 dB Count 100/100 Offset 1.00 dB SWT 1 ms RBW 1 MHz VBW 3 MHz Mode Auto Sweep IAV Max MI[1] 5.55 dBm 5.3196090 GHz  CF 5.32 GHz 691 pts Span 30.0 MHz Date: 20 NOV 2020 16:07:45	

Band II

802.11n (HT20)

CH_L

Spectrum plot for CH_L channel. The plot shows a signal centered at 5.26 GHz with a peak level of 5.23 dBm. The signal is measured at 5.2616060 GHz. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, an offset of 1.00 dB, a resolution bandwidth (RBW) of 1 MHz, a sweep time (SWT) of 1 ms, and a video bandwidth (VBW) of 3 MHz. The mode is set to Auto Sweep. The plot also shows the signal level at 1 Av Max.

Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz
Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep
Count 100/100
1Av Max
M1[1]
5.23 dBm
5.2616060 GHz
CF 5.26 GHz 691 pts Span 30.0 MHz
Date: 20 NOV 2020 15:41:42

CH_M

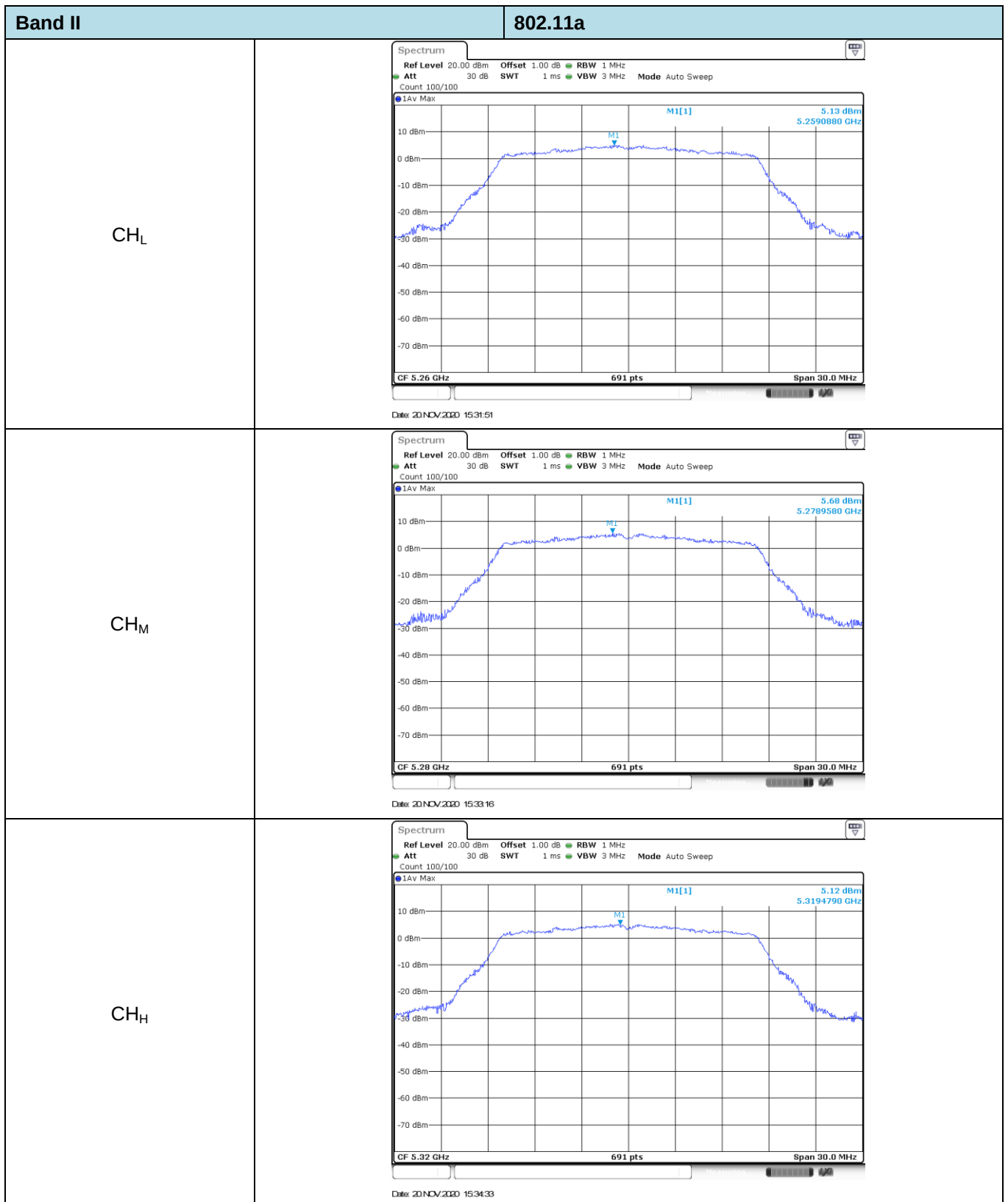
Spectrum plot for CH_M channel. The plot shows a signal centered at 5.28 GHz with a peak level of 5.88 dBm. The signal is measured at 5.2795660 GHz. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, an offset of 1.00 dB, a resolution bandwidth (RBW) of 1 MHz, a sweep time (SWT) of 1 ms, and a video bandwidth (VBW) of 3 MHz. The mode is set to Auto Sweep. The plot also shows the signal level at 1 Av Max.

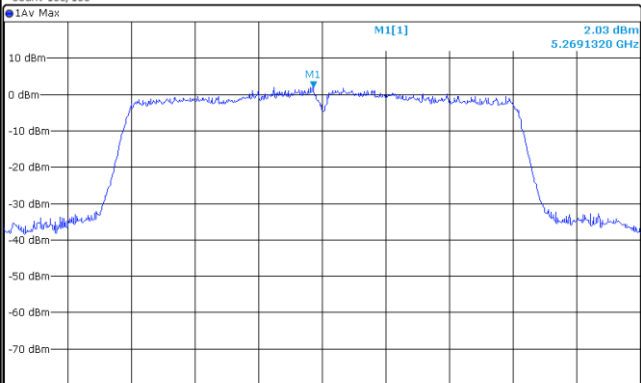
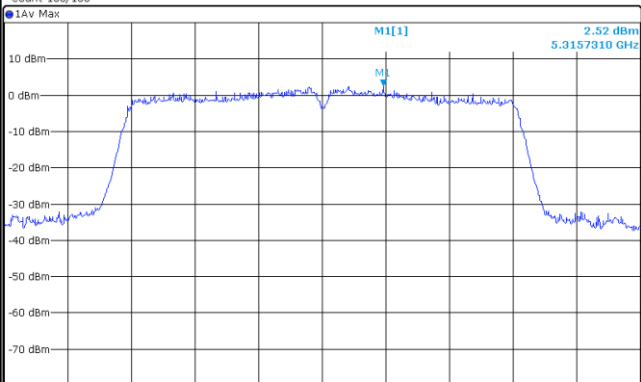
Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz
Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep
Count 100/100
1Av Max
M1[1]
5.88 dBm
5.2795660 GHz
CF 5.28 GHz 691 pts Span 30.0 MHz
Date: 20 NOV 2020 15:43:15

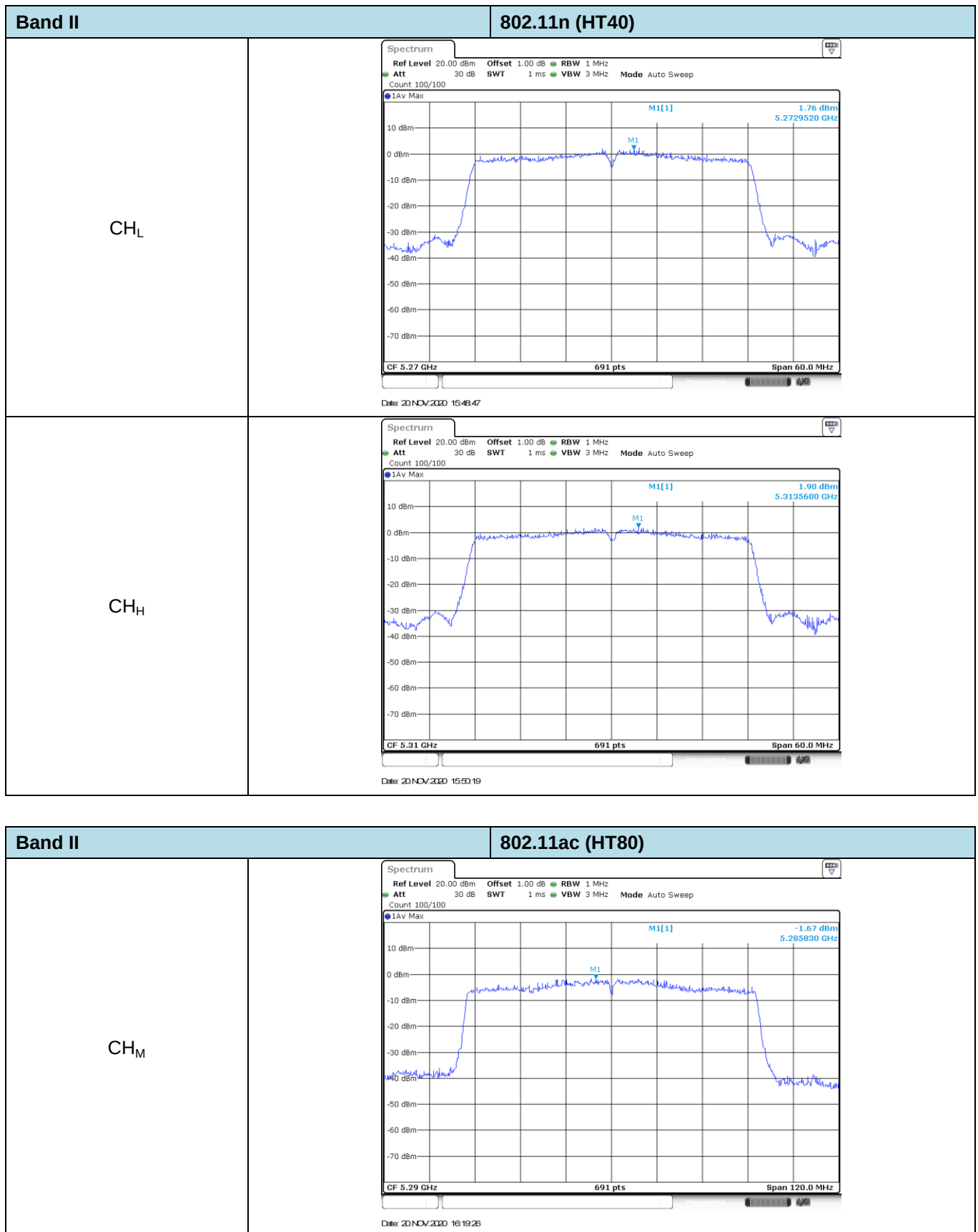
CH_H

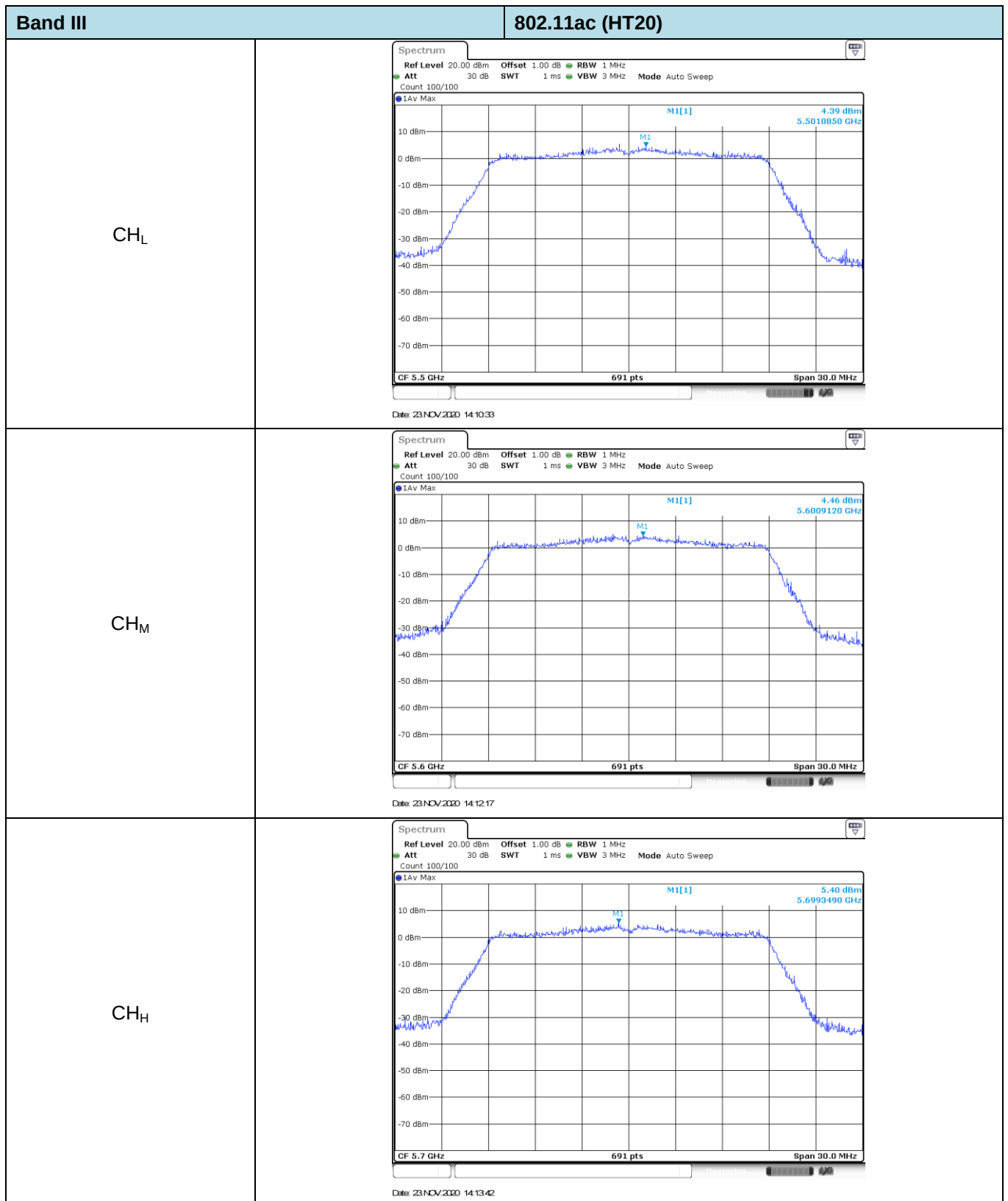
Spectrum plot for CH_H channel. The plot shows a signal centered at 5.32 GHz with a peak level of 5.41 dBm. The signal is measured at 5.3193050 GHz. The plot includes a reference level of 20.00 dBm, an attenuation of 30 dB, an offset of 1.00 dB, a resolution bandwidth (RBW) of 1 MHz, a sweep time (SWT) of 1 ms, and a video bandwidth (VBW) of 3 MHz. The mode is set to Auto Sweep. The plot also shows the signal level at 1 Av Max.

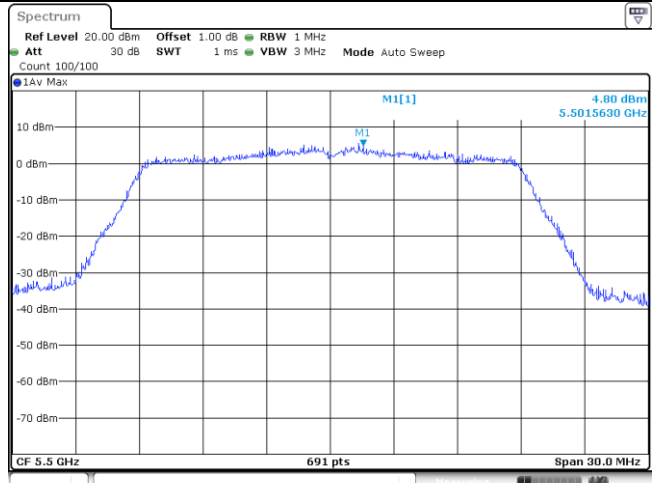
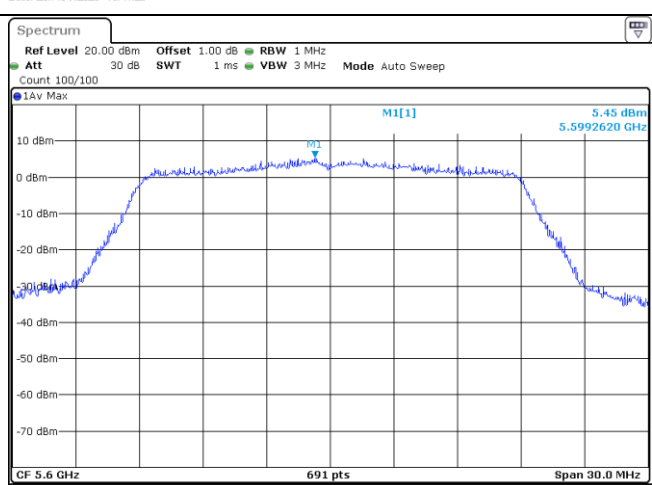
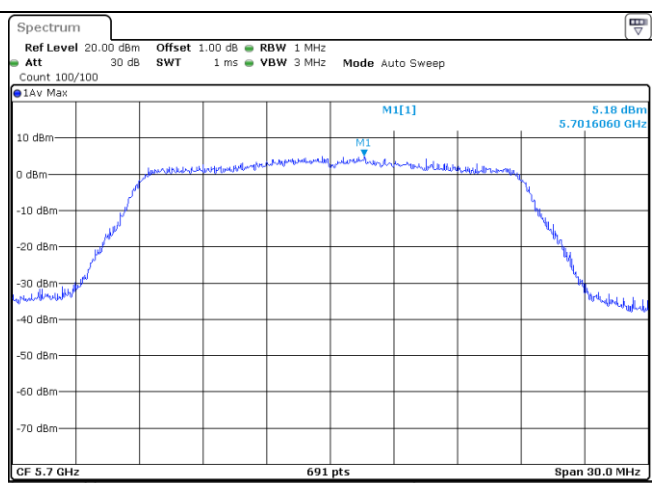
Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz
Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep
Count 100/100
1Av Max
M1[1]
5.41 dBm
5.3193050 GHz
CF 5.32 GHz 691 pts Span 30.0 MHz
Date: 20 NOV 2020 15:44:29

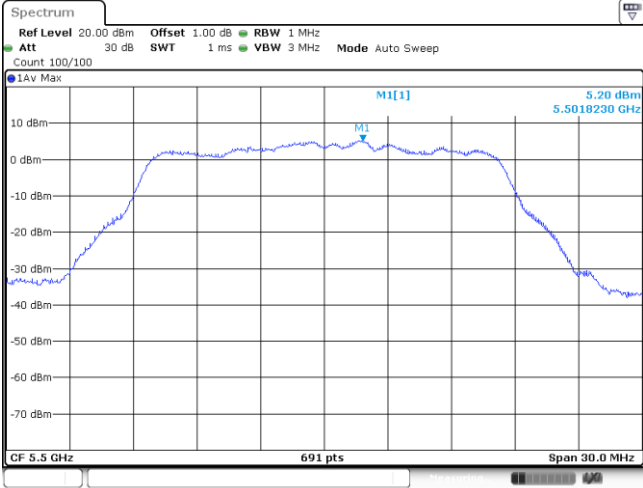
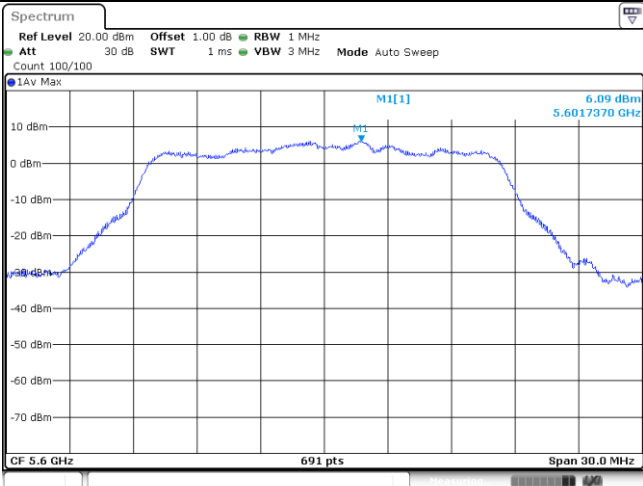
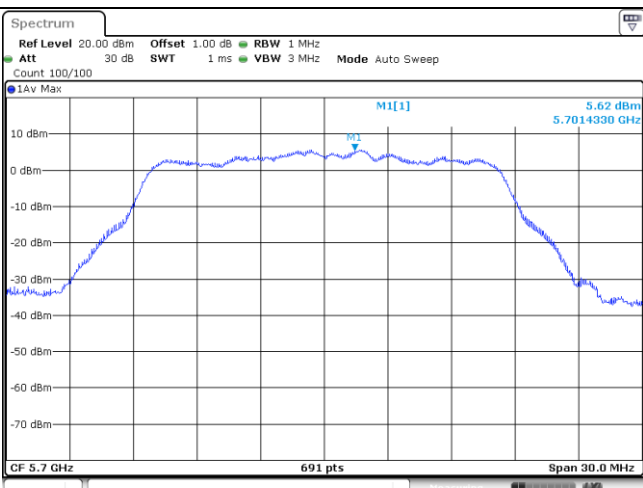


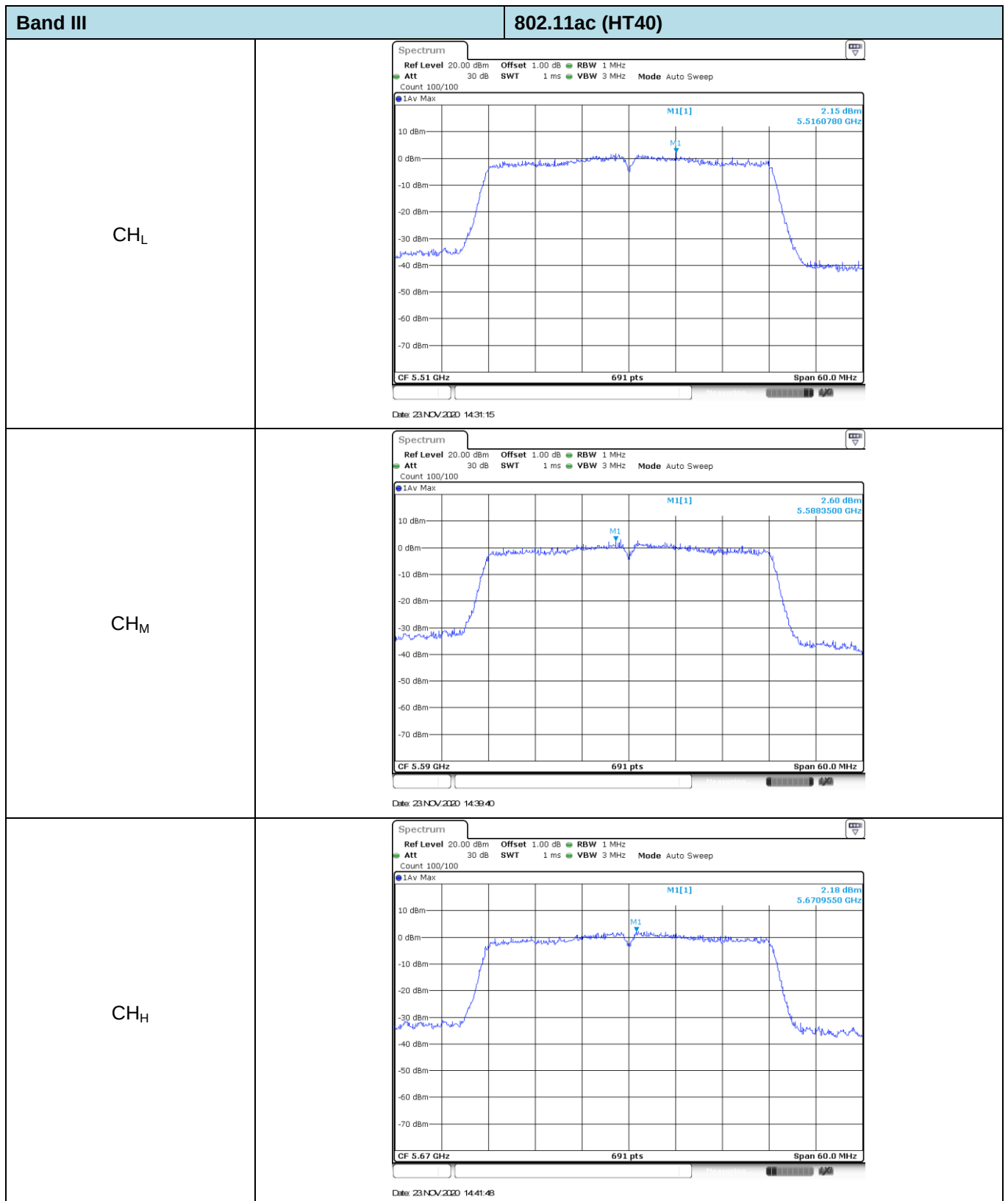
Band II		802.11ac (HT40)
CH _L	Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB SWT 1 ms RBW 1 MHz VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.27 GHz691 ptsSpan 60.0 MHz Date: 20 NOV 2020 16:12:05	
CH _H	Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB SWT 1 ms RBW 1 MHz VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.31 GHz691 ptsSpan 60.0 MHz Date: 20 NOV 2020 16:13:39	

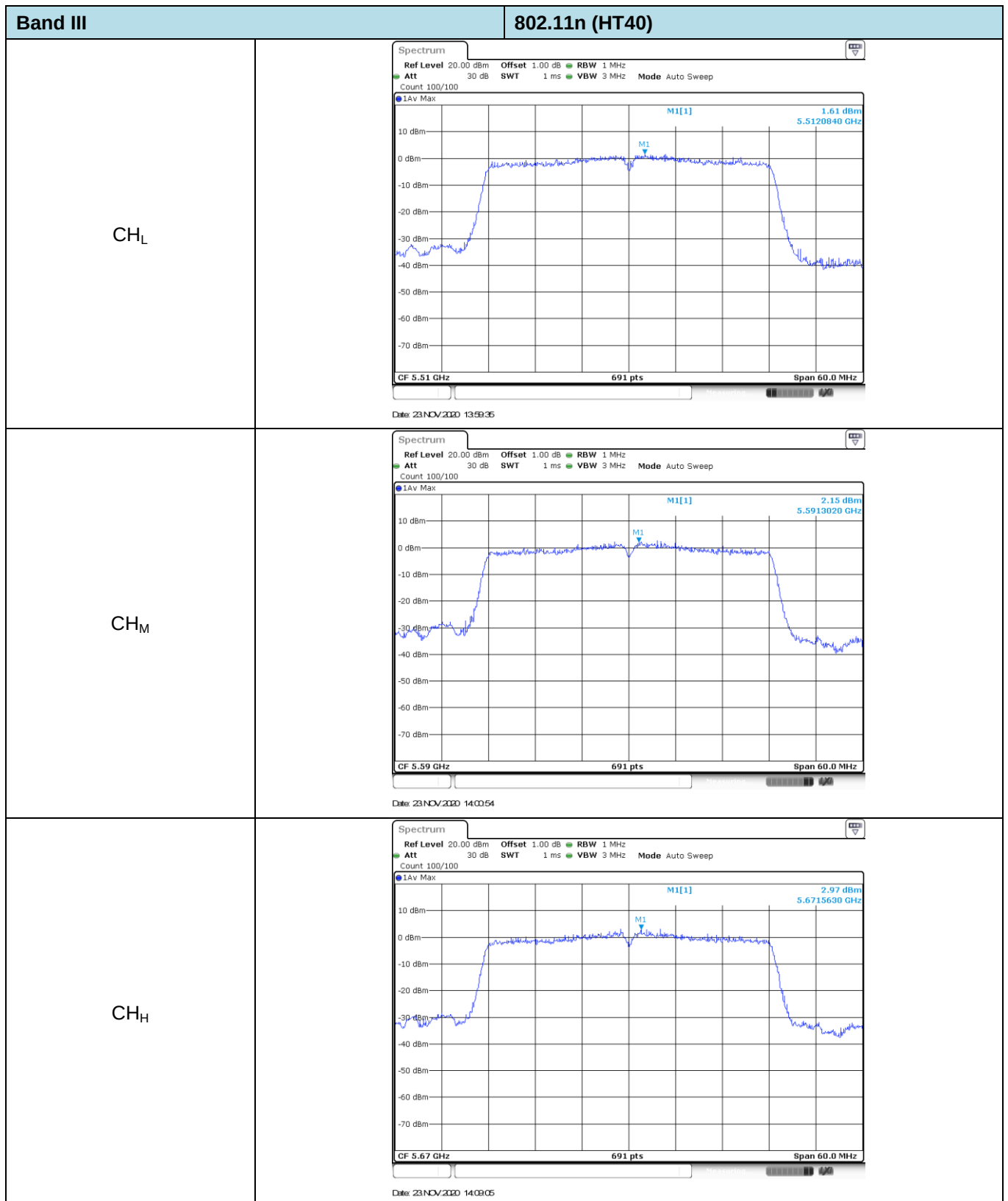




Band III	802.11n (HT20)
CH _L	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VSW 3 MHz Mode Auto Sweep Count 100/100 1Av Max 4.80 dBm 5.5015630 GHz CF 5.5 GHz Span 30.0 MHz Date: 23 NOV 2020 13:41:29
CH _M	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VSW 3 MHz Mode Auto Sweep Count 100/100 1Av Max 5.45 dBm 5.5992620 GHz CF 5.6 GHz Span 30.0 MHz Date: 23 NOV 2020 13:43:15
CH _H	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VSW 3 MHz Mode Auto Sweep Count 100/100 1Av Max 5.18 dBm 5.7016060 GHz CF 5.7 GHz Span 30.0 MHz Date: 23 NOV 2020 13:44:42

Band III	802.11a
CH _L	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 5.20 dBm 5.5018230 GHz CF 5.5 GHz 691 pts Span 30.0 MHz Date: 23 NOV/2020 13:32:05
CH _M	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 6.09 dBm 5.6017370 GHz CF 5.6 GHz 691 pts Span 30.0 MHz Date: 23 NOV/2020 13:35:18
CH _H	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 5.62 dBm 5.7014330 GHz CF 5.7 GHz 691 pts Span 30.0 MHz Date: 23 NOV/2020 13:35:29



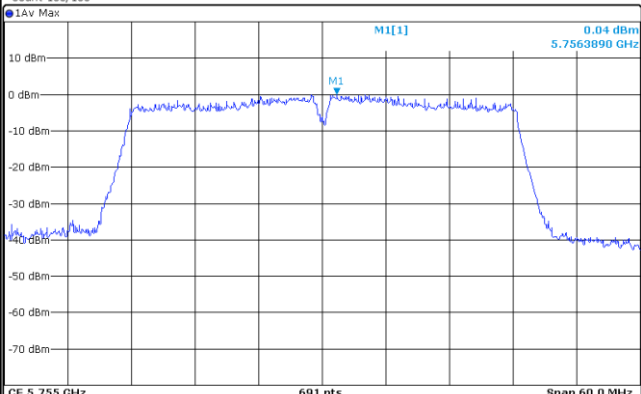
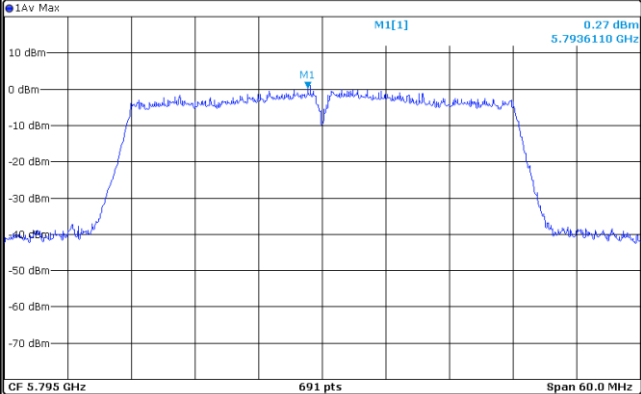


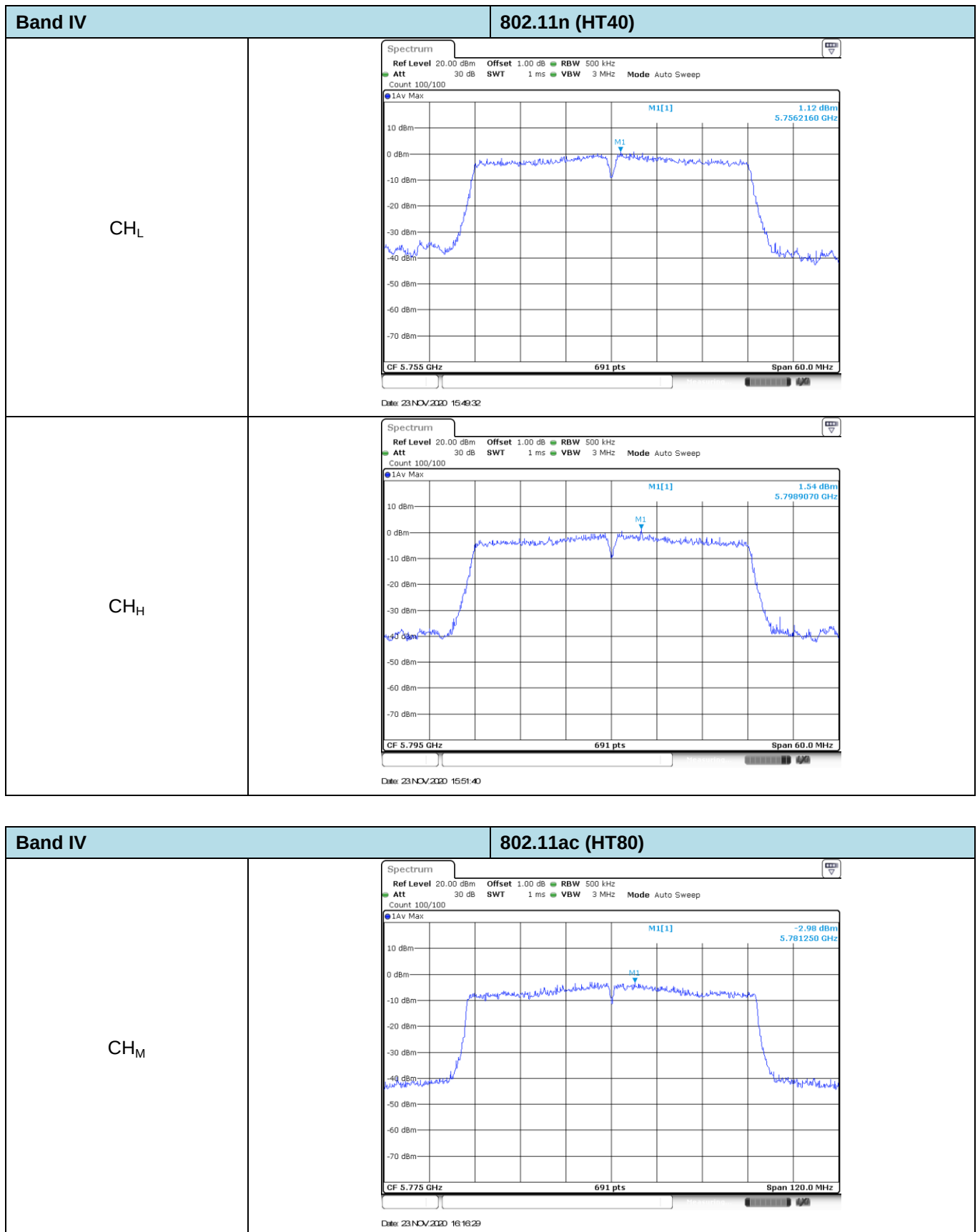
Band III		802.11ac (HT80)
CH _L	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] -1.26 dBm 5.532260 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.53 GHz 691 pts Span 120.0 MHz Date: 23 NOV 2020 14:47:16	
CH _M	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] -1.09 dBm 5.600620 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.61 GHz 691 pts Span 120.0 MHz Date: 23 NOV 2020 14:49:04	
CH _H	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] -1.06 dBm 5.686870 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.69 GHz 691 pts Span 120.0 MHz Date: 23 NOV 2020 14:50:55	

Band IV		802.11ac (HT20)
CH _L	Spectrum plot for CH_L channel. The plot shows a signal centered at 5.745 GHz. The peak level is 4.40 dBm. The signal is measured over a span of 30.0 MHz. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	
CH _M	Spectrum plot for CH_M channel. The plot shows a signal centered at 5.785 GHz. The peak level is 4.28 dBm. The signal is measured over a span of 30.0 MHz. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	
CH _H	Spectrum plot for CH_H channel. The plot shows a signal centered at 5.825 GHz. The peak level is 3.30 dBm. The signal is measured over a span of 30.0 MHz. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	

Band IV	802.11n (HT20)
CH _L	Spectrum plot for CH_L band. The plot shows a signal at 5.7433500 GHz with a power level of 3.84 dBm. The frequency range is from 5.745 GHz to 5.775 GHz (Span 30.0 MHz). The power level is 3.84 dBm. The plot includes a reference level of 20.00 dBm, an offset of 1.00 dB, and a resolution bandwidth (RBW) of 500 kHz. The mode is set to Auto Sweep. The plot also shows a peak at 5.7433500 GHz with a power level of 3.84 dBm. The date is 23 NOV 2020 15:41:59.
CH _M	Spectrum plot for CH_M band. The plot shows a signal at 5.7841750 GHz with a power level of 2.91 dBm. The frequency range is from 5.785 GHz to 5.815 GHz (Span 30.0 MHz). The power level is 2.91 dBm. The plot includes a reference level of 20.00 dBm, an offset of 1.00 dB, and a resolution bandwidth (RBW) of 500 kHz. The mode is set to Auto Sweep. The plot also shows a peak at 5.7841750 GHz with a power level of 2.91 dBm. The date is 23 NOV 2020 15:43:50.
CH _H	Spectrum plot for CH_H band. The plot shows a signal at 5.8245660 GHz with a power level of 2.96 dBm. The frequency range is from 5.825 GHz to 5.855 GHz (Span 30.0 MHz). The power level is 2.96 dBm. The plot includes a reference level of 20.00 dBm, an offset of 1.00 dB, and a resolution bandwidth (RBW) of 500 kHz. The mode is set to Auto Sweep. The plot also shows a peak at 5.8245660 GHz with a power level of 2.96 dBm. The date is 23 NOV 2020 15:45:24.

Band IV		802.11a
CH _L	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 3.75 dBm 5.7463890 GHz M1 CF 5.745 GHz 691 pts Span 30.0 MHz Date: 23 NOV 2020 15:34:14	
CH _M	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 3.23 dBm 5.7868230 GHz M1 CF 5.785 GHz 691 pts Span 30.0 MHz Date: 23 NOV 2020 15:36:38	
CH _H	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1Av Max M1[1] 2.87 dBm 5.8267800 GHz M1 CF 5.825 GHz 691 pts Span 30.0 MHz Date: 23 NOV 2020 15:38:16	

Band IV		802.11ac (HT40)
CH _L	Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB SWT 1 ms RBW 500 kHz VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.755 GHz 691 pts Span 60.0 MHz Date: 23 NOV 2020 16:09:58	
CH _H	Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB SWT 1 ms RBW 500 kHz VBW 3 MHz Mode Auto Sweep Count 100/100 IAV Max  CF 5.795 GHz 691 pts Span 60.0 MHz Date: 23 NOV 2020 16:11:49	



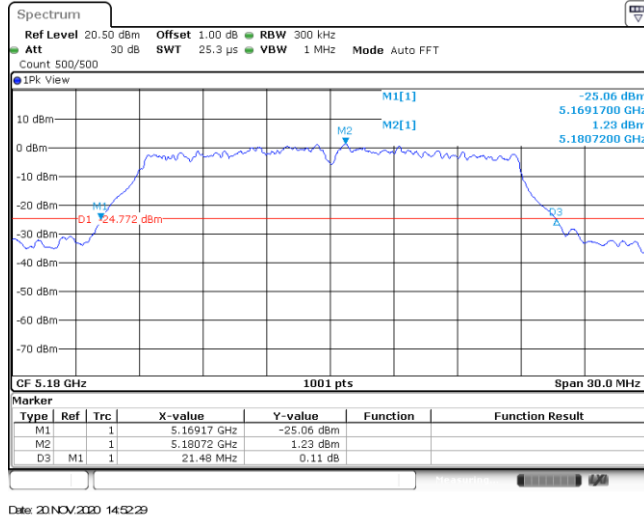
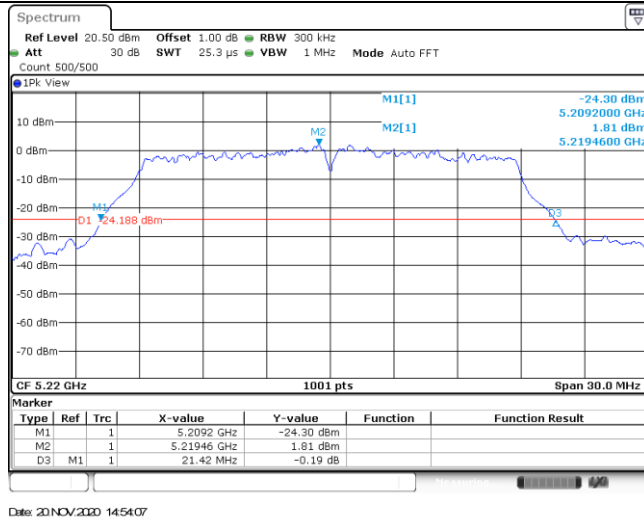
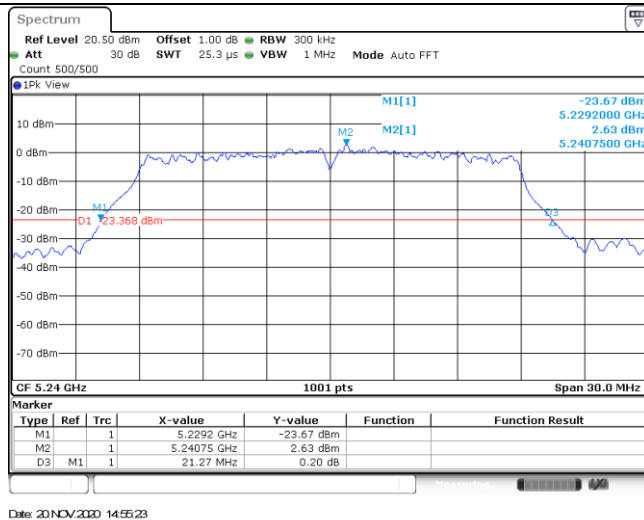
Appendix C: 26dB bandwidth

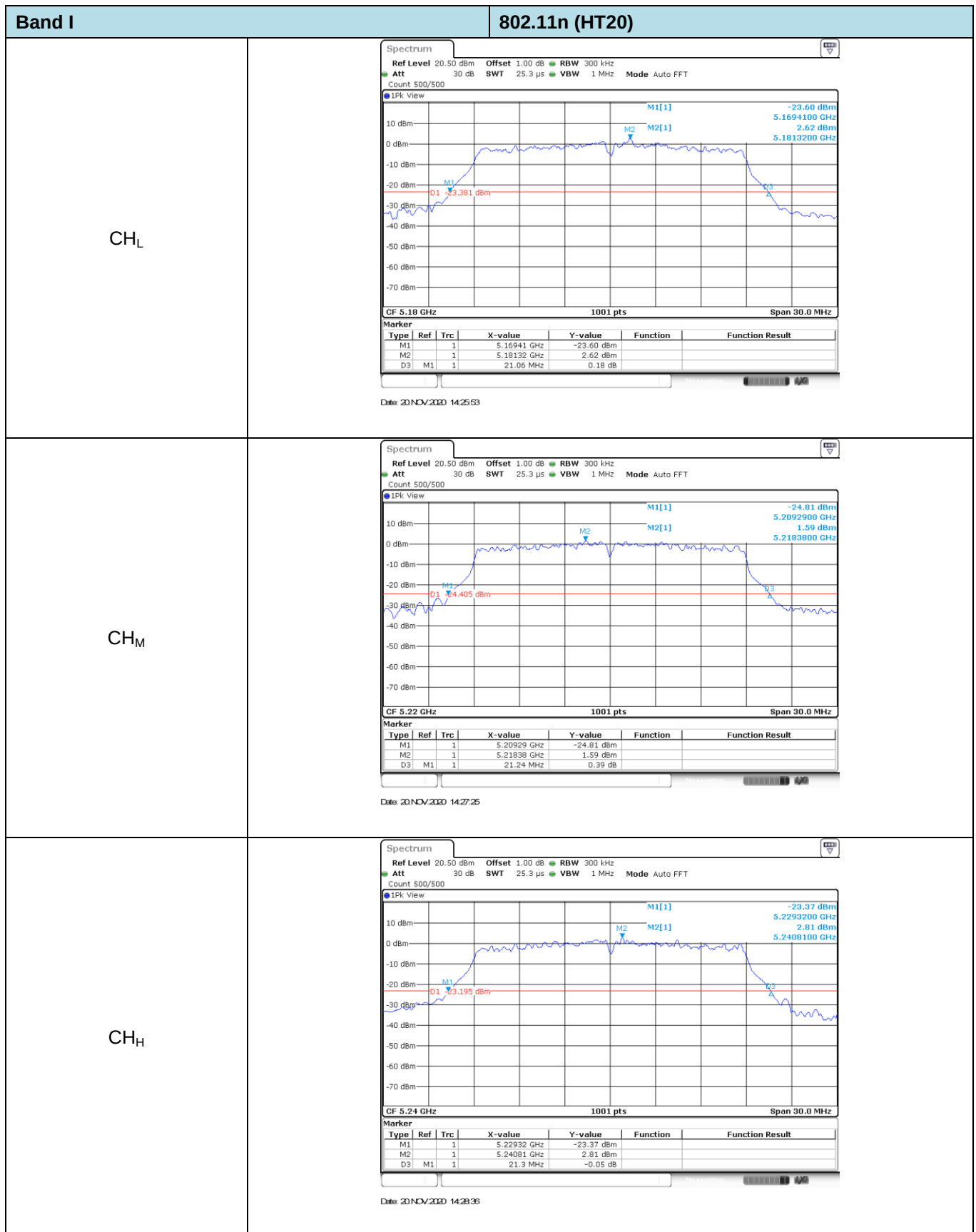
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH _L	21.48	Pass
			CH _M	21.42	
			CH _H	21.27	
		802.11n	CH _L	21.06	Pass
			CH _M	21.24	
			CH _H	21.30	
		802.11a	CH _L	21.36	Pass
			CH _M	21.33	
			CH _H	21.54	
	40	802.11ac	CH _L	39.90	Pass
			CH _H	40.38	
		802.11n	CH _L	39.96	Pass
			CH _H	39.84	
	80	802.11ac	CH _M	81.48	Pass
II	20	802.11ac	CH _L	21.27	Pass
			CH _M	21.30	
			CH _H	21.36	
		802.11n	CH _L	21.24	Pass
			CH _M	21.45	
			CH _H	21.33	
		802.11a	CH _L	21.18	Pass
			CH _M	21.33	
			CH _H	21.21	
	40	802.11ac	CH _L	39.90	Pass
			CH _H	39.84	
		802.11n	CH _L	39.66	Pass
			CH _H	39.72	
	80	802.11ac	CH _M	81.36	Pass

Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
III	20	802.11ac	CH _L	21.24	Pass
			CH _M	21.57	
			CH _H	21.36	
		802.11n	CH _L	20.97	Pass
			CH _M	21.54	
			CH _H	21.30	
		802.11a	CH _L	21.03	Pass
			CH _M	20.82	
			CH _H	20.97	
	40	802.11ac	CH _L	39.96	Pass
			CH _M	40.26	
			CH _H	40.26	
		802.11n	CH _L	39.78	Pass
			CH _M	39.72	
			CH _H	39.78	
	80	802.11ac	CH _L	81.00	Pass
			CH _M	81.36	
			CH _H	81.60	

Band I

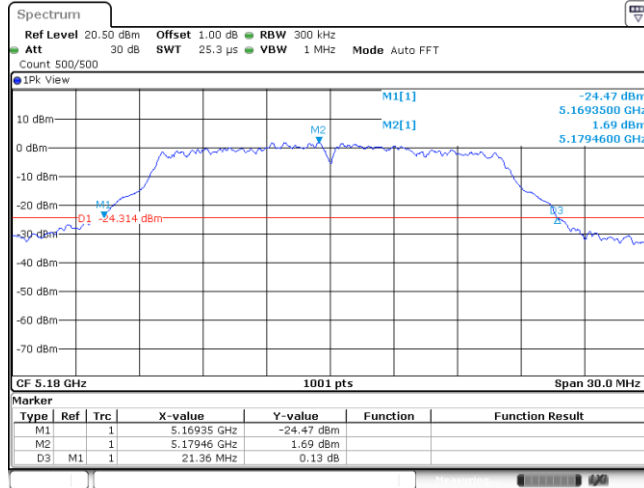
802.11ac (HT20)

CH_LCH_MCH_H

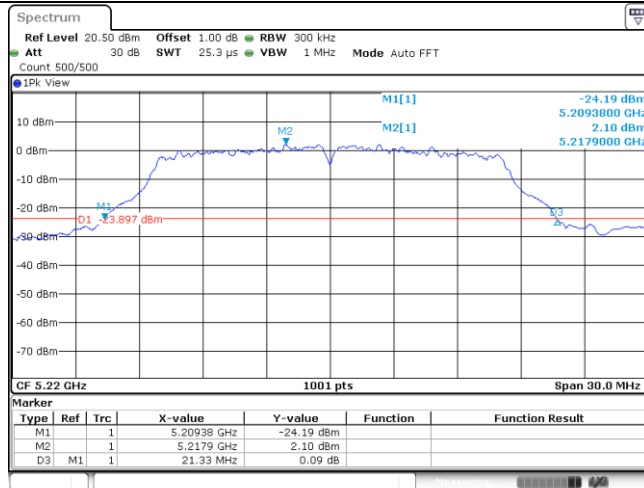


Band I

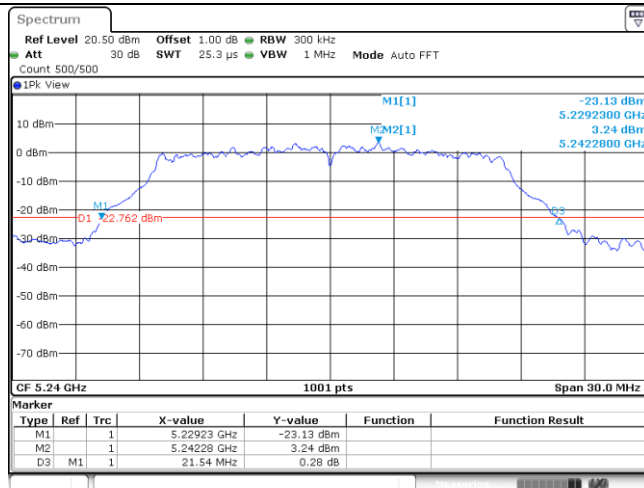
802.11a

CH_L

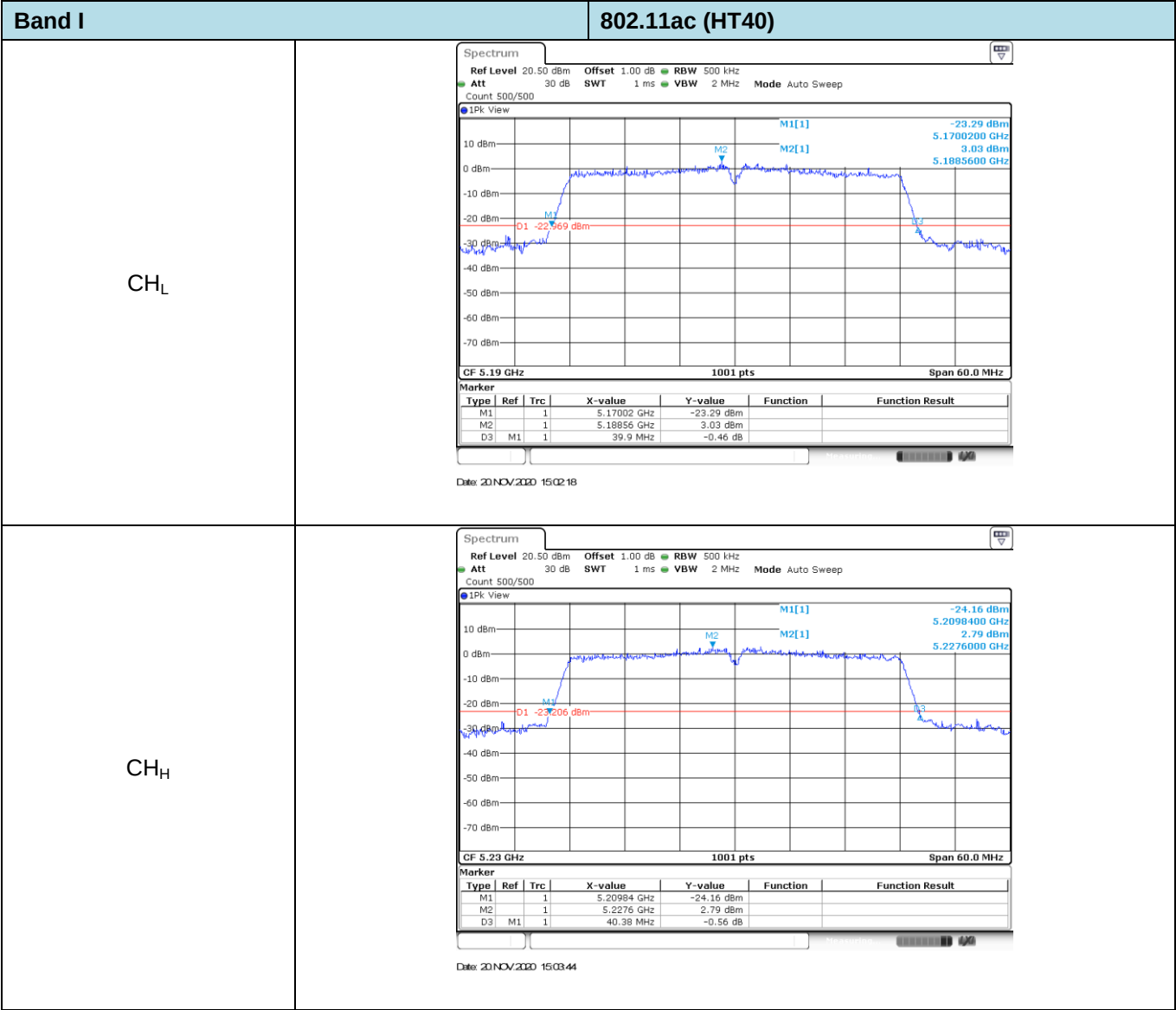
Date: 20 NOV 2020 14:12:15

CH_M

Date: 20 NOV 2020 14:13:55

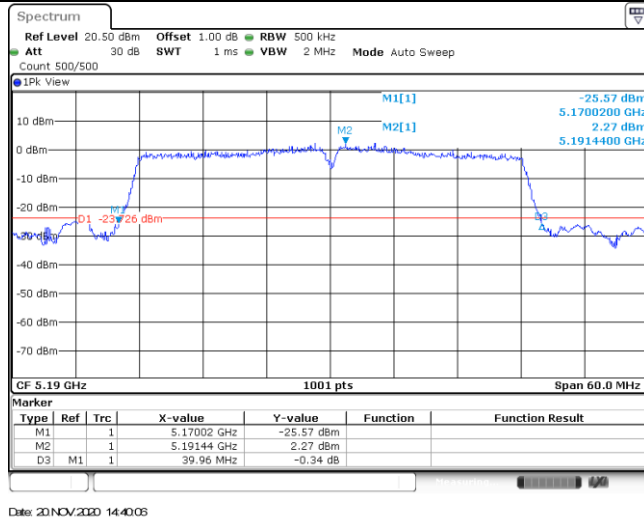
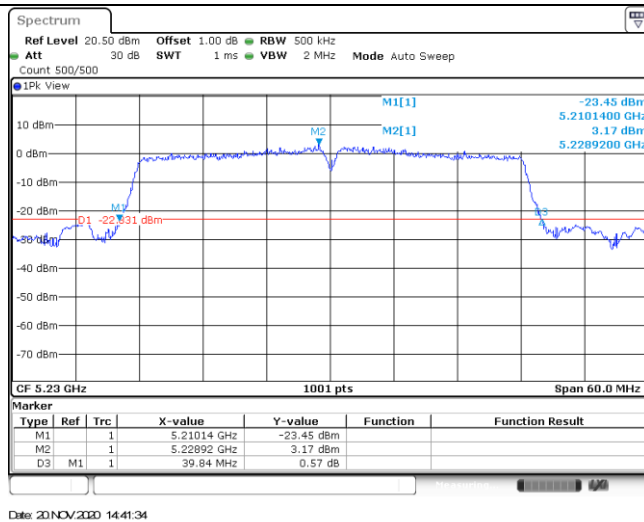
CH_H

Date: 20 NOV 2020 14:15:10



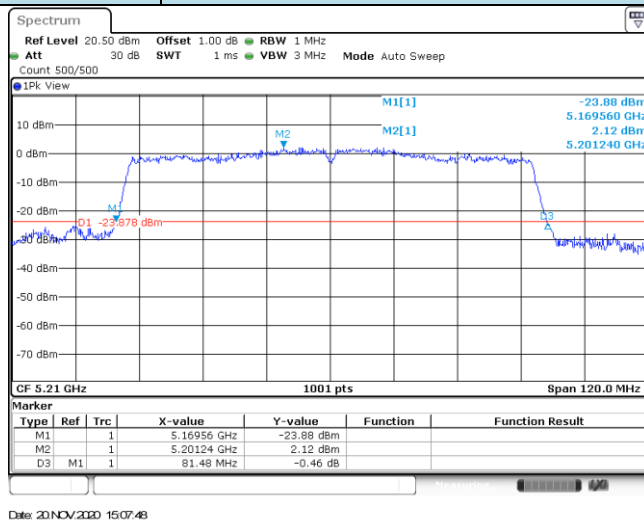
Band I

802.11n (HT40)

CH_LCH_H

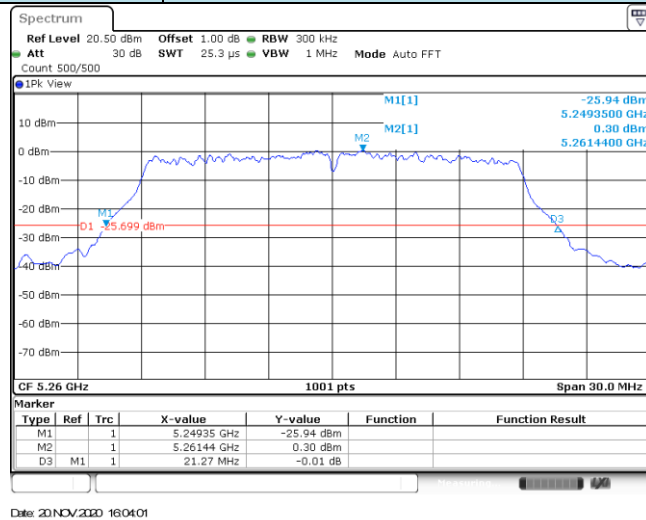
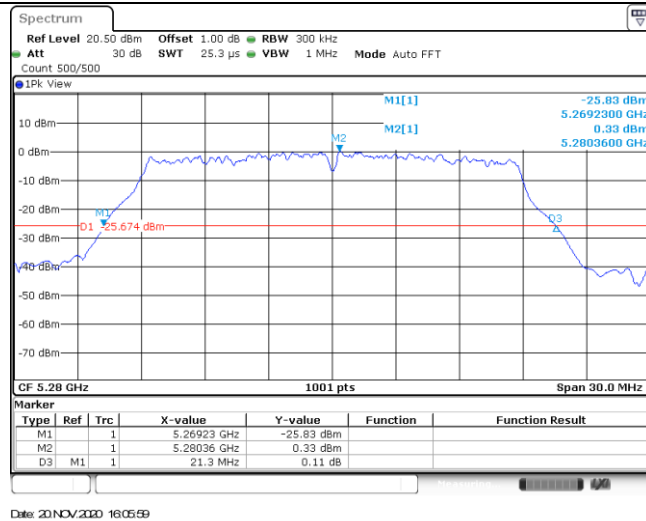
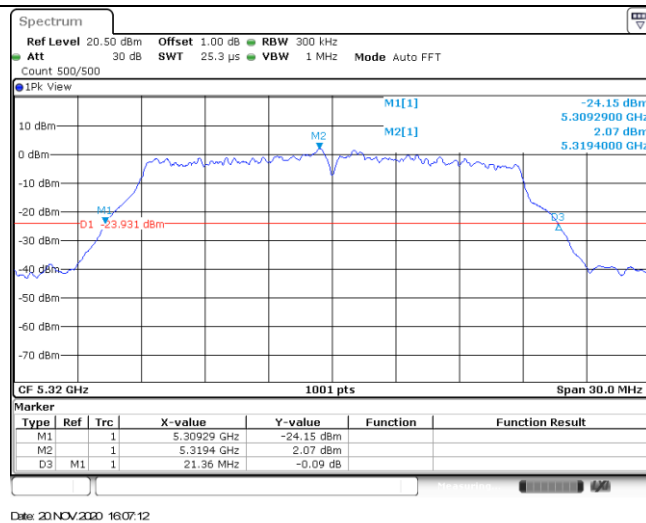
Band I

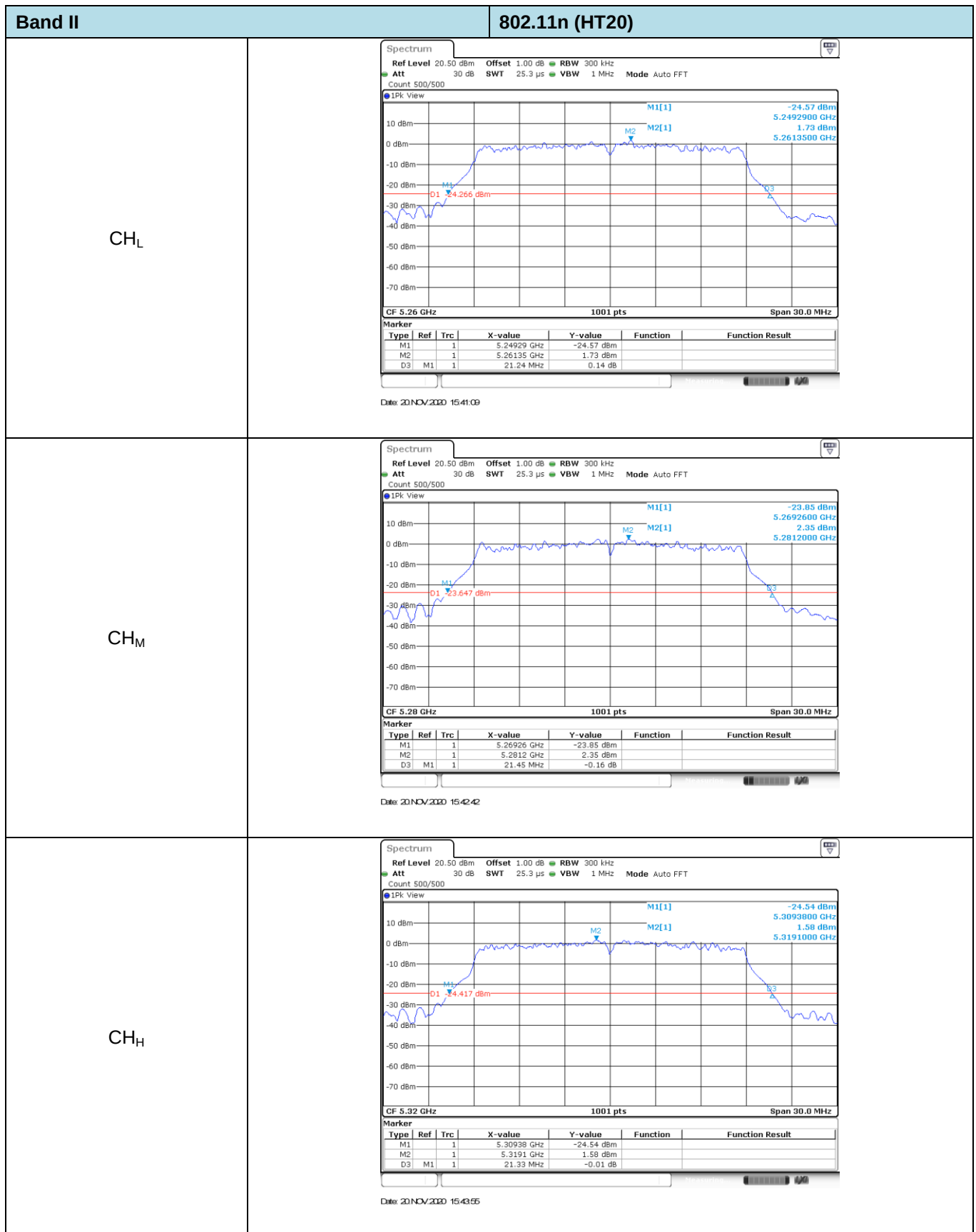
802.11ac (HT80)

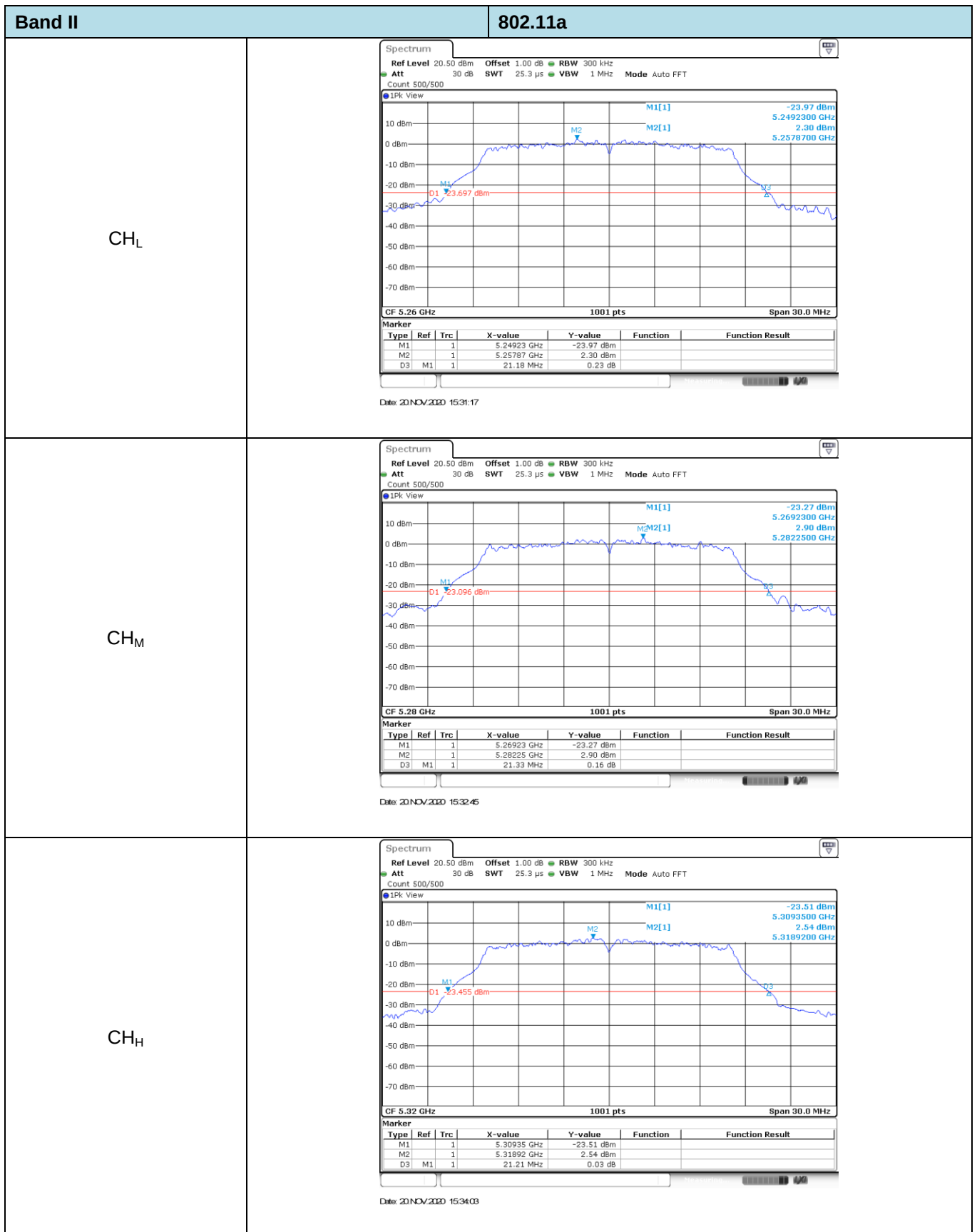
CH_M

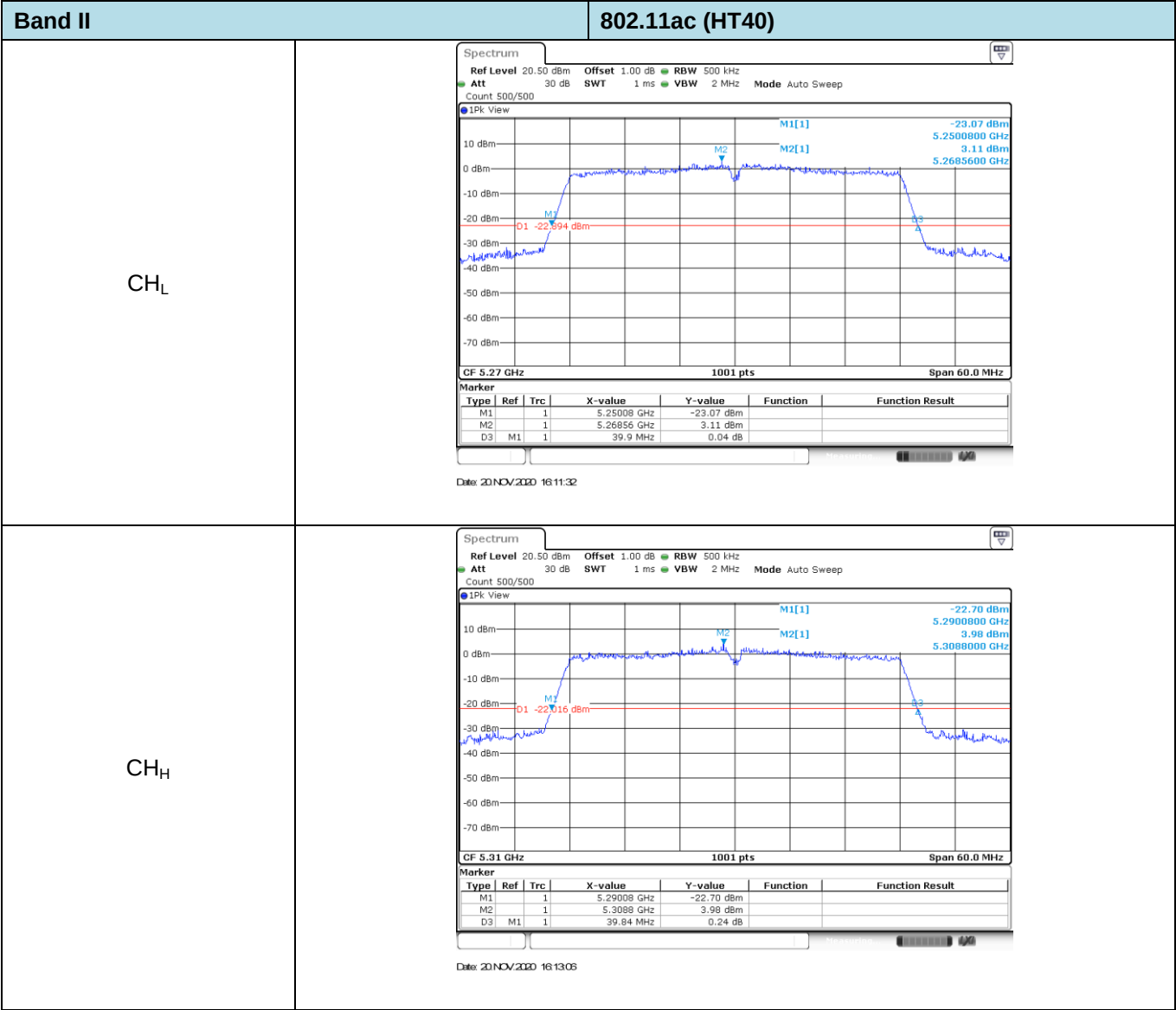
Band II

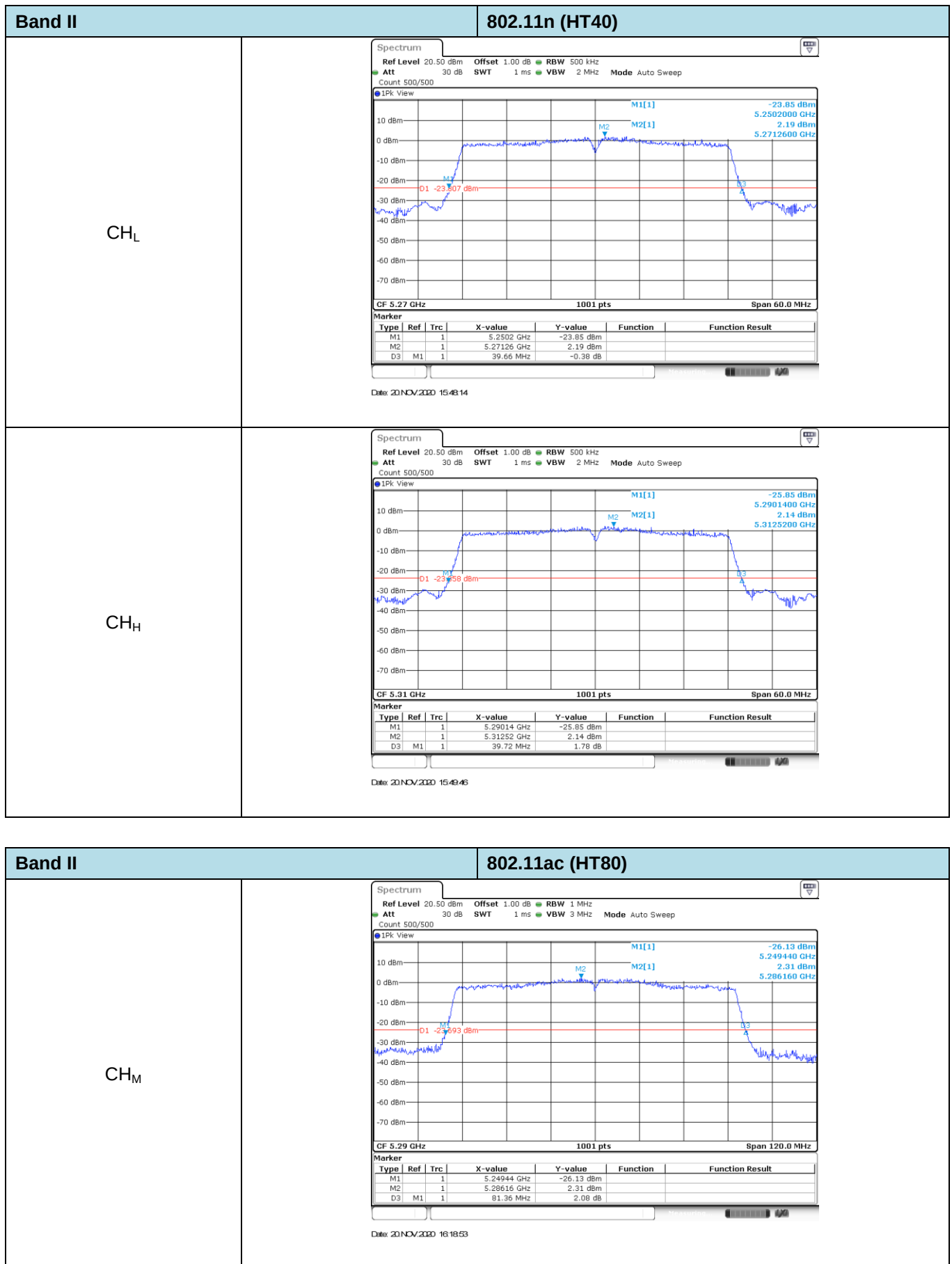
802.11ac (HT20)

CH_LCH_MCH_H



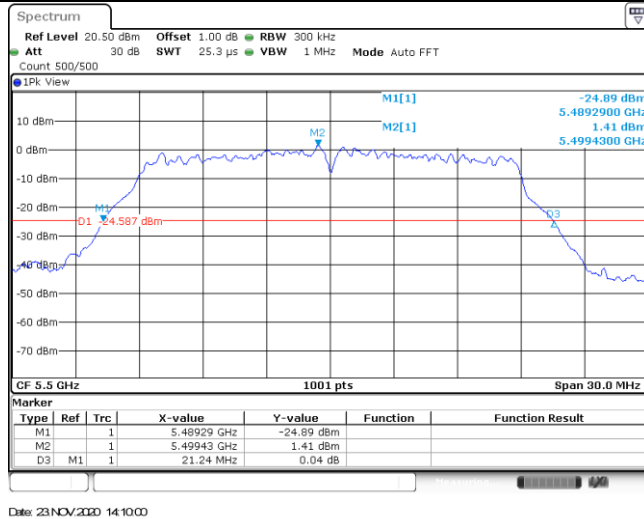
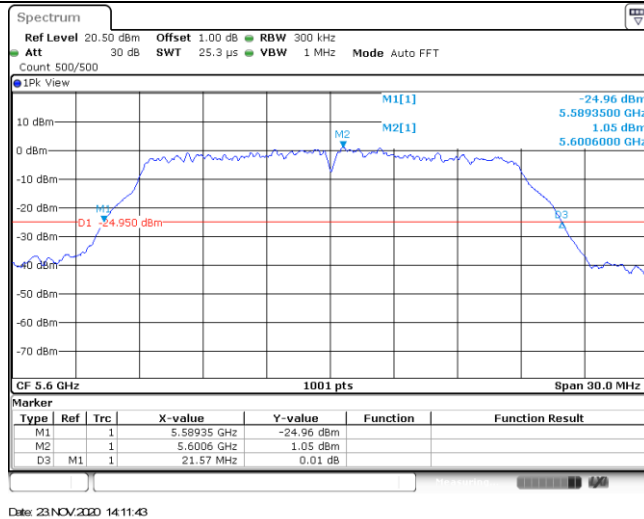
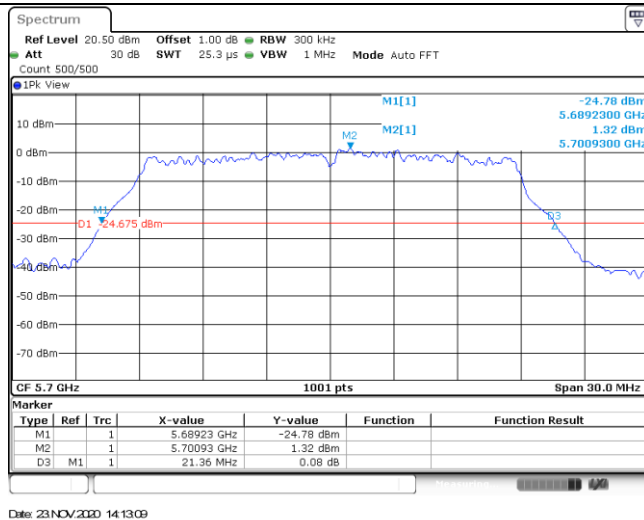






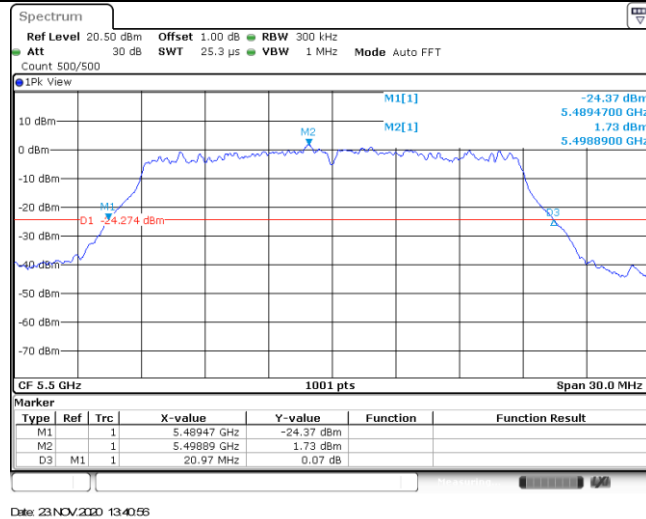
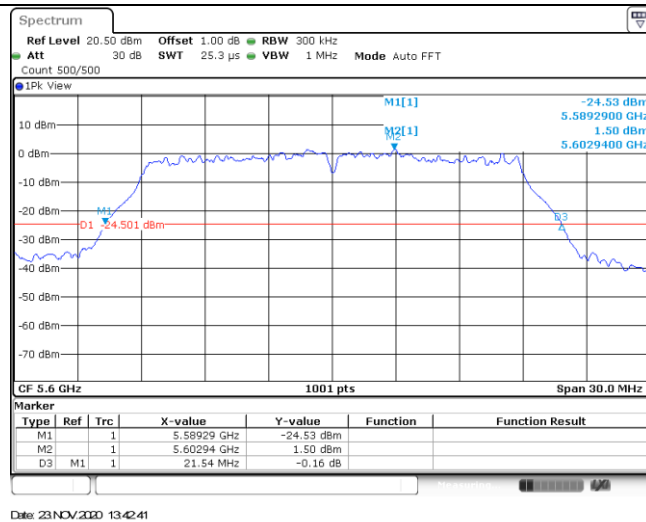
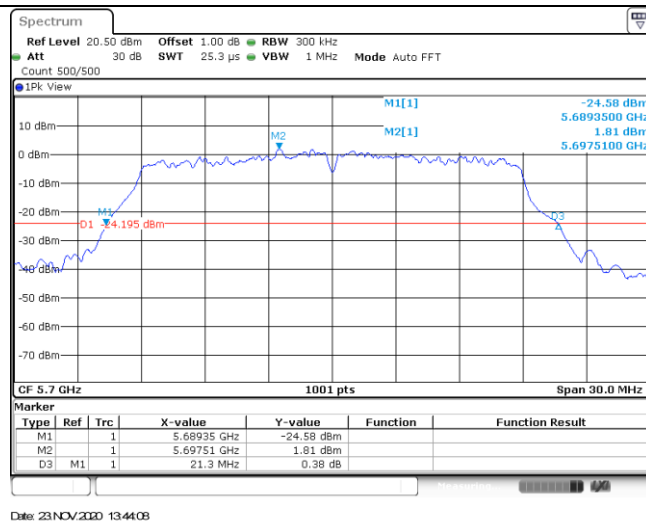
Band III

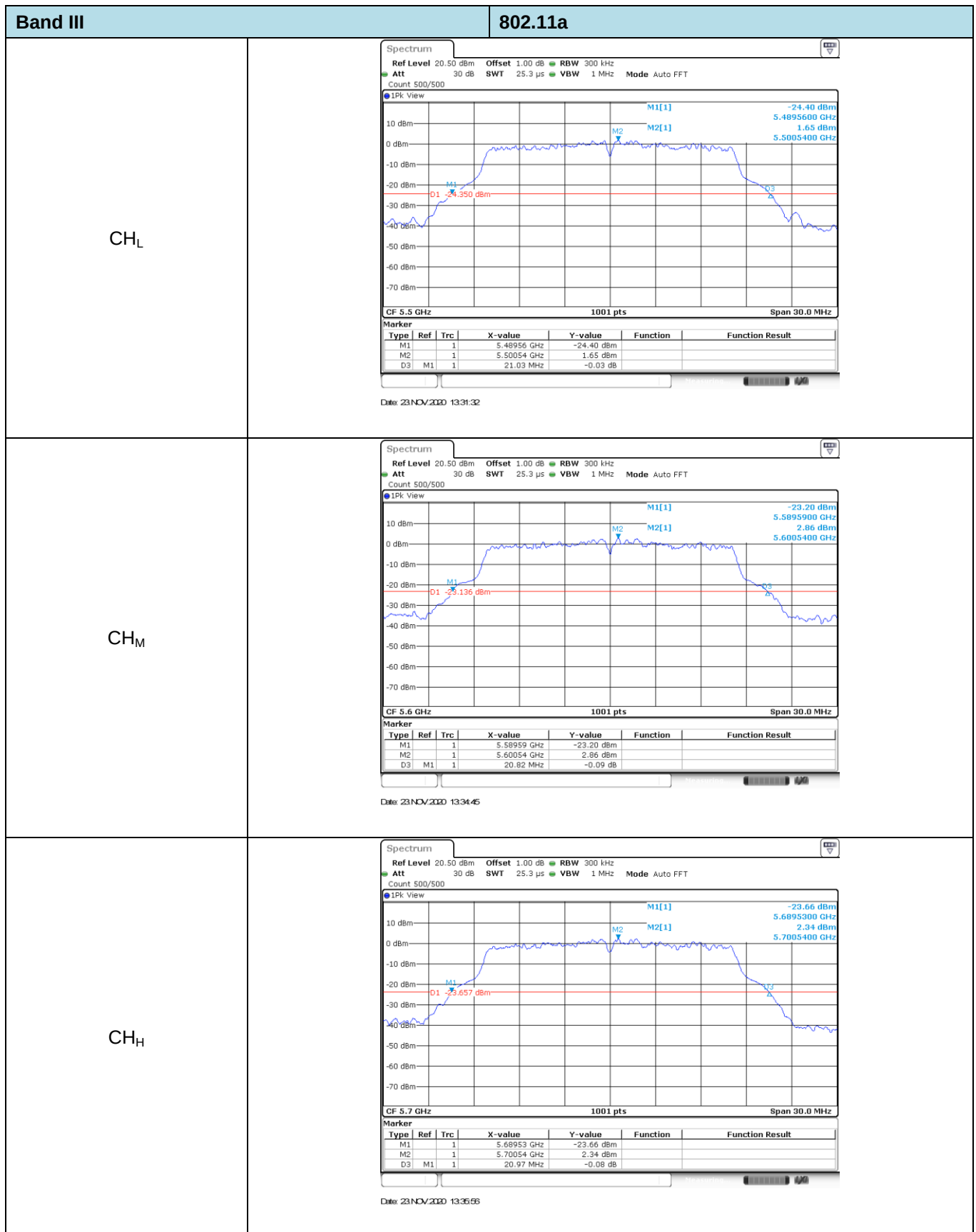
802.11ac (HT20)

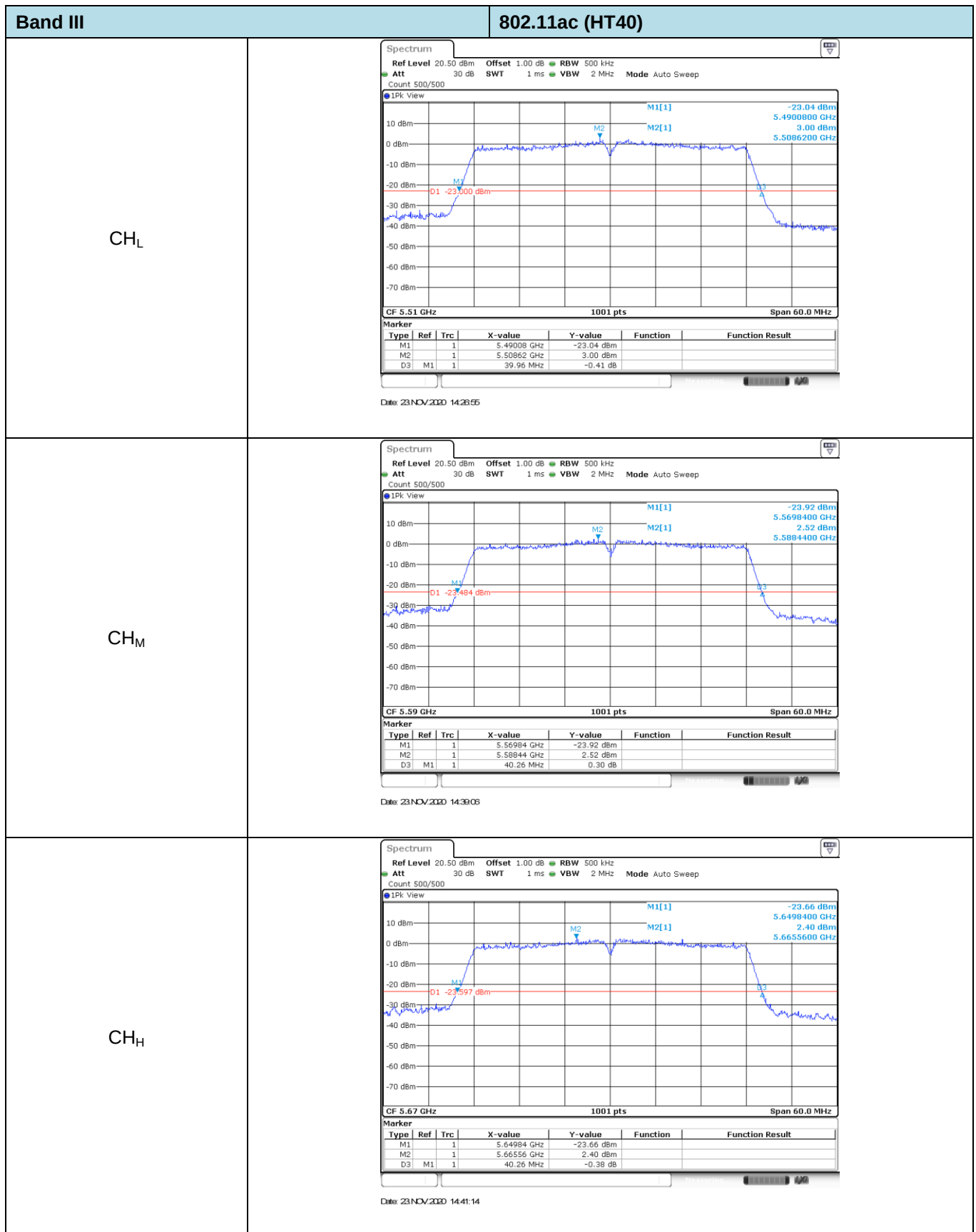
CH_LCH_MCH_H

Band III

802.11n (HT20)

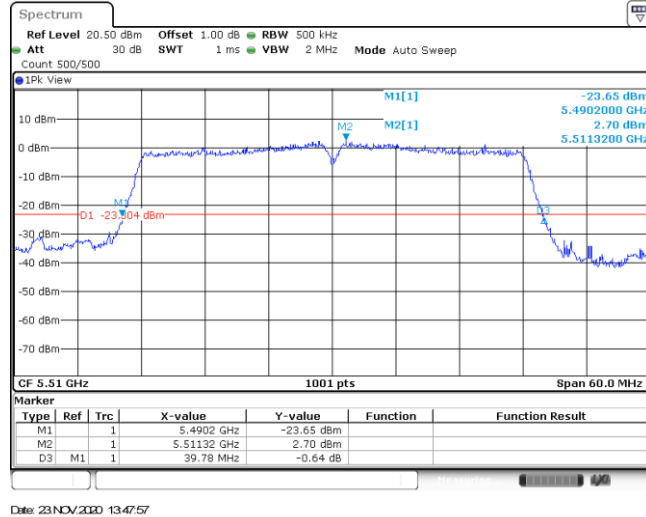
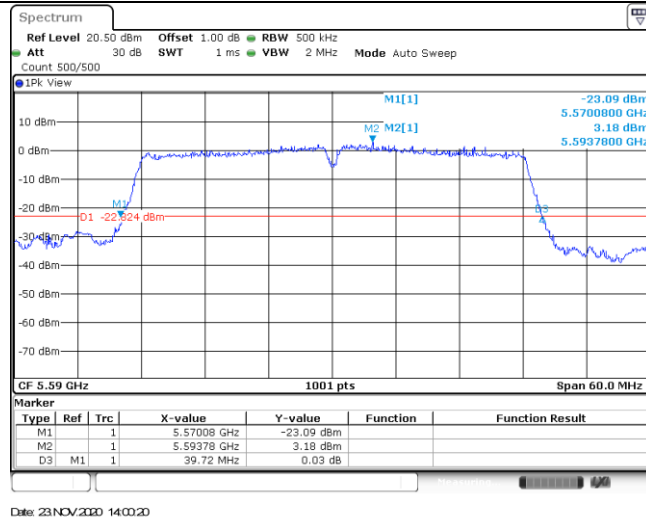
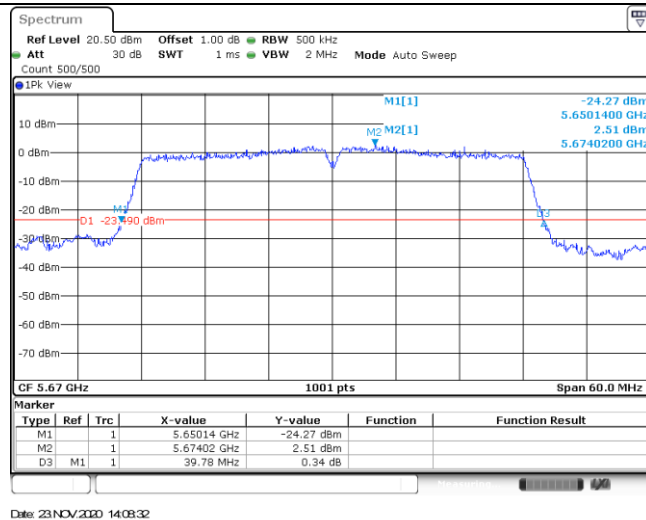
CH_LCH_MCH_H

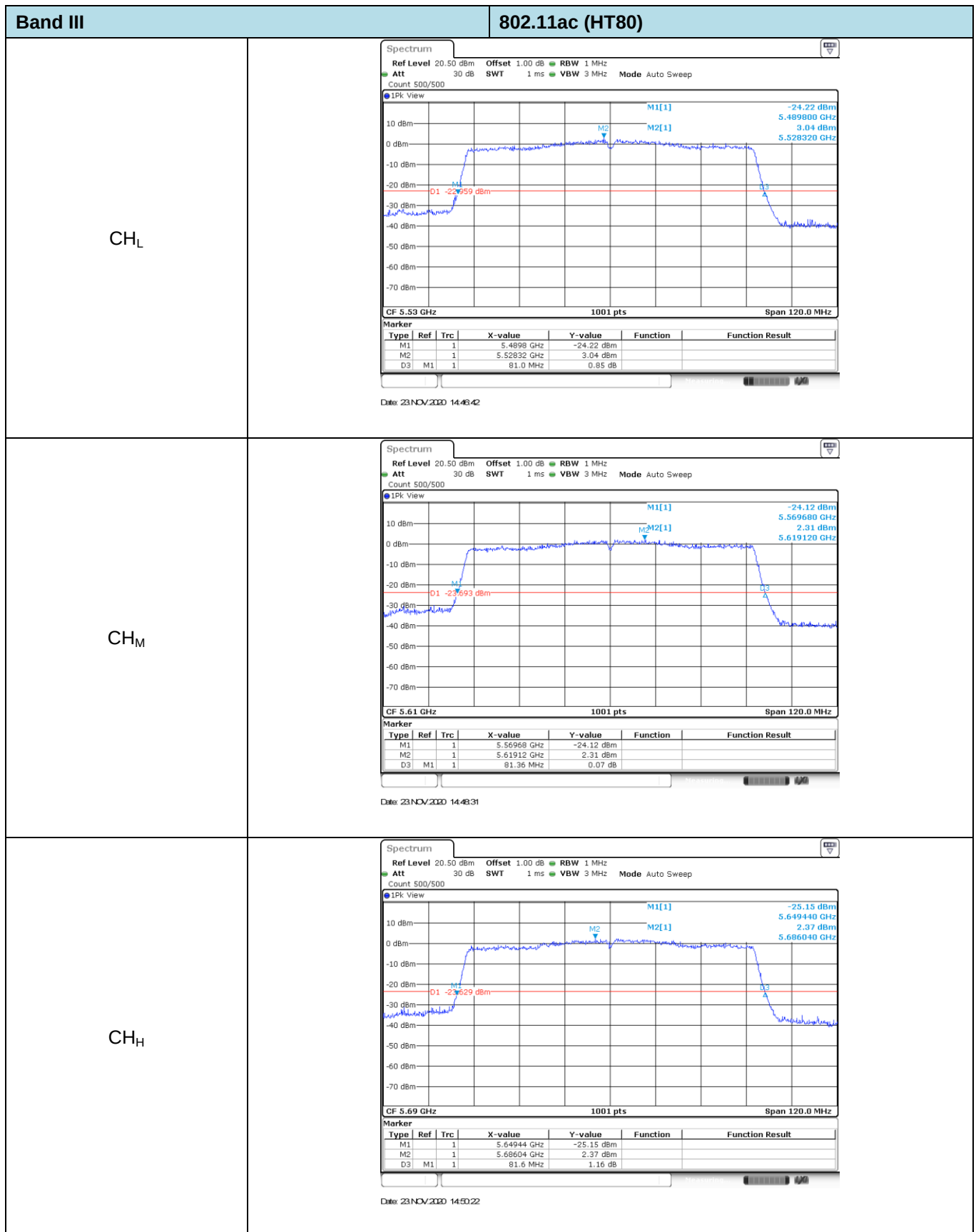




Band III

802.11n (HT40)

CH_LCH_MCH_H



Appendix D: 99% Occupy bandwidth

Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11ac	CH _L	17.74	Pass
			CH _M	18.07	
			CH _H	17.95	
		802.11n	CH _L	17.89	Pass
			CH _M	17.83	
			CH _H	17.98	
		802.11a	CH _L	17.02	Pass
			CH _M	16.93	
			CH _H	16.96	
	40	802.11ac	CH _L	36.56	Pass
			CH _H	36.50	
		802.11n	CH _L	36.26	Pass
			CH _H	36.32	
	80	802.11ac	CH _M	75.64	Pass
II	20	802.11ac	CH _L	17.83	Pass
			CH _M	17.80	
			CH _H	17.95	
		802.11n	CH _L	17.71	Pass
			CH _M	17.83	
			CH _H	17.83	
		802.11a	CH _L	16.87	Pass
			CH _M	16.75	
			CH _H	16.75	
	40	802.11ac	CH _L	36.50	Pass
			CH _H	36.50	
		802.11n	CH _L	36.26	Pass
			CH _H	36.26	
	80	802.11ac	CH _M	75.52	Pass

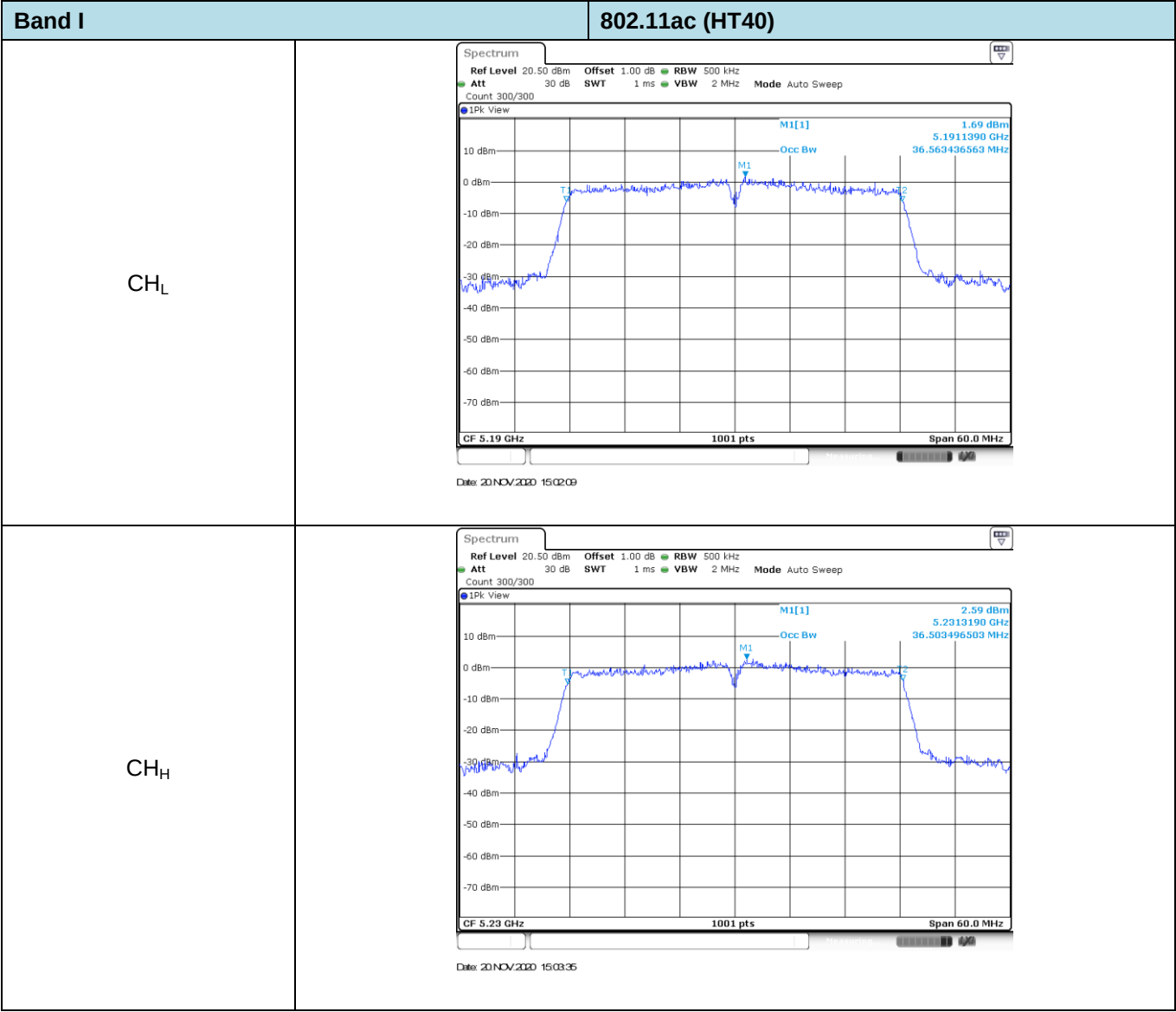
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
III	20	802.11ac	CH _L	17.95	Pass
			CH _M	17.86	
			CH _H	17.74	
		802.11n	CH _L	17.80	Pass
			CH _M	17.80	
			CH _H	17.77	
		802.11a	CH _L	16.57	Pass
			CH _M	16.57	
			CH _H	16.48	
	40	802.11ac	CH _L	36.44	Pass
			CH _M	36.44	
			CH _H	36.50	
		802.11n	CH _L	36.20	Pass
			CH _M	36.32	
			CH _H	36.26	
	80	802.11ac	CH _L	75.52	Pass
			CH _M	75.64	
			CH _H	75.41	

Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
IV	20	802.11ac	CH _L	17.92	Pass
			CH _M	18.07	
			CH _H	17.98	
		802.11n	CH _L	17.86	Pass
			CH _M	17.89	
			CH _H	17.83	
		802.11a	CH _L	16.54	Pass
			CH _M	16.54	
			CH _H	16.51	
	40	802.11ac	CH _L	36.50	Pass
			CH _H	36.44	
		802.11n	CH _L	36.30	Pass
			CH _H	36.30	
	80	802.11ac	CH _M	75.41	Pass

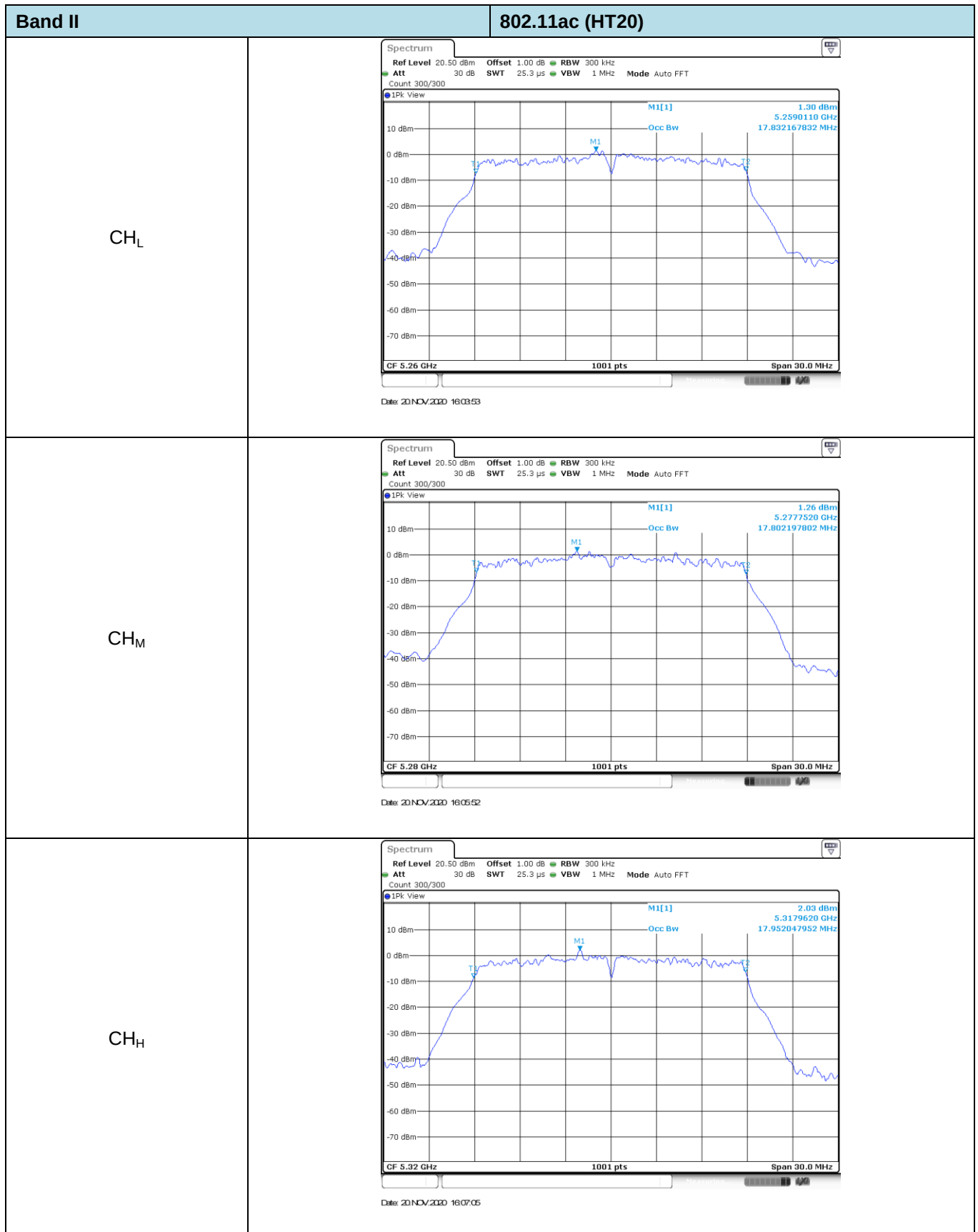
Band I		802.11ac (HT20)
CH _L	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 0.96 dBm 5.1806290 GHz 17.742257742 MHz Occ Bw M1 M2 CF 5.18 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:52:21	
CH _M	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 1.44 dBm 5.2189510 GHz 18.071928072 MHz Occ Bw M1 M2 CF 5.22 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:53:59	
CH _H	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 1.86 dBm 5.2409590 GHz 17.952047952 MHz Occ Bw M1 M2 CF 5.24 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:55:15	

Band I		802.11n (HT20)
CH _L	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1 M1[1] Occ Bw 0.68 dBm 5.1784720 GHz 17.892107892 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.18 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:32:55	
CH _M	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1 M1[1] Occ Bw 2.85 dBm 5.2206290 GHz 17.832167832 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.22 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:27:18	
CH _H	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1 M1[1] Occ Bw 1.54 dBm 5.2391610 GHz 17.982017982 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.24 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:28:29	

Band I		802.11a
CH _L	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 1.56 dBm 5.1805390 GHz 17.022977023 MHz Occ Bw M1 T1 T2 CF 5.18 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:12:08	
CH _M	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 2.40 dBm 5.2207790 GHz 16.933066933 MHz Occ Bw M1 T1 T2 CF 5.22 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:13:48	
CH _H	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View M1[1] 3.21 dBm 5.2405990 GHz 16.963036963 MHz Occ Bw M1 T1 T2 CF 5.24 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 14:15:03	



Band I		802.11n (HT40)
CH _L	Spectrum plot for CH_L channel. The plot shows a signal level around 0 dBm with a peak at 5.1889610 GHz. The span is 60.0 MHz. The plot is titled 'Spectrum' and includes parameters: 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. The plot is titled '1Pk View' and includes parameters: M1[1] 1.36 dBm, 5.1889610 GHz, 36.263736264 MHz. The plot is titled 'CF 5.19 GHz' and includes parameters: 1001 pts, Span 60.0 MHz. The plot is titled 'Date: 20 NOV 2020 14:39:57'.	
CH _H	Spectrum plot for CH_H channel. The plot shows a signal level around 0 dBm with a peak at 5.2336560 GHz. The span is 60.0 MHz. The plot is titled 'Spectrum' and includes parameters: 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. The plot is titled '1Pk View' and includes parameters: M1[1] 2.47 dBm, 5.2336560 GHz, 36.323676324 MHz. The plot is titled 'CF 5.23 GHz' and includes parameters: 1001 pts, Span 60.0 MHz. The plot is titled 'Date: 20 NOV 2020 14:41:25'.	
Band I		802.11ac (HT80)
CH _M	Spectrum plot for CH_M channel. The plot shows a signal level around 0 dBm with a peak at 5.203410 GHz. The span is 120.0 MHz. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.50 dBm, Offset 1.00 dB, RBW 1 MHz, Att 30 dB, SWT 1 ms, VBW 3 MHz, Mode Auto Sweep, Count 300/300. The plot is titled '1Pk View' and includes parameters: M1[1] 2.72 dBm, 5.203410 GHz, 75.644355644 MHz. The plot is titled 'CF 5.21 GHz' and includes parameters: 1001 pts, Span 120.0 MHz. The plot is titled 'Date: 20 NOV 2020 15:07:39'.	



Band II		802.11n (HT20)	
CH _L	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] 1.73 dBm 5.2596100 GHz 17.712287712 MHz M1 Occ Bw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.26 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 15:41:01		
CH _M	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] 2.98 dBm 5.2792510 GHz 17.832167832 MHz M1 Occ Bw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.28 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 15:42:34		
CH _H	Spectrum Ref Level 20.50 dBm Att 30 dB Count 300/300 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] 2.90 dBm 5.3212890 GHz 17.832167832 MHz M1 Occ Bw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.32 GHz 1001 pts Span 30.0 MHz Date: 20 NOV 2020 15:43:48		