

APPENDIX REPORT

Project No.	SHT2005099304EW	Radio Specification	WIFI 5G
Test sample No.	YPHT20050993021	Model No.	TE580PD
Start test date	2020/7/9	Finish date	2020/7/9
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	<i>William.wang</i>

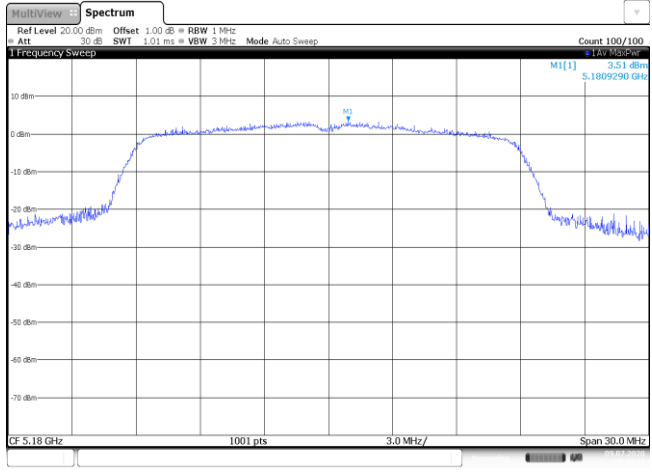
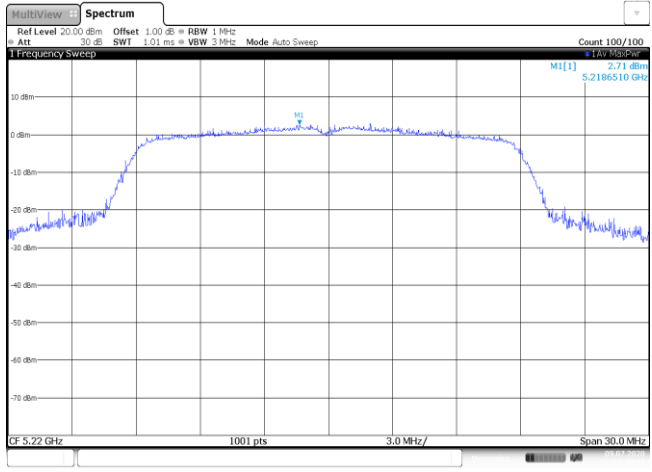
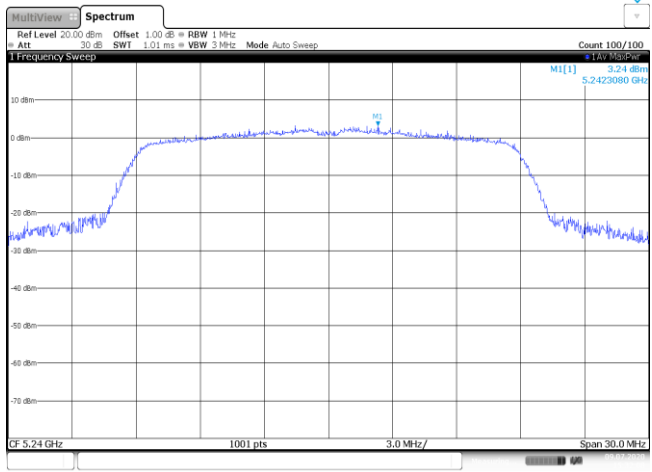
Appendix clause	Test item	Result
A	Maximum Conducted Output Power	PASS
B	Maximum Power Spectral Density	PASS
C	26 dB Bandwidth	PASS
D	99% Occupy bandwidth	PASS
E	6 dB Bandwidth	PASS
F	Band Edge	PASS
G	Frequency stability	PASS

Appendix A: Maximum Conducted Output Power

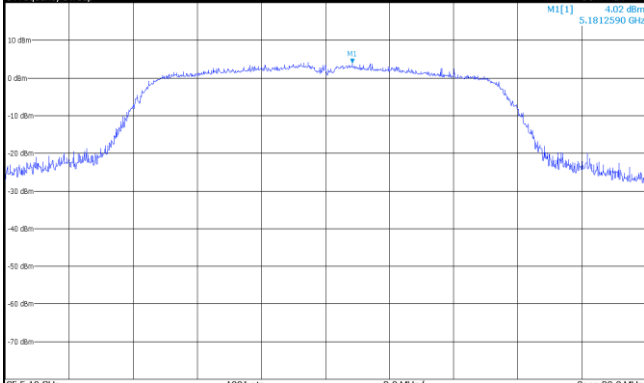
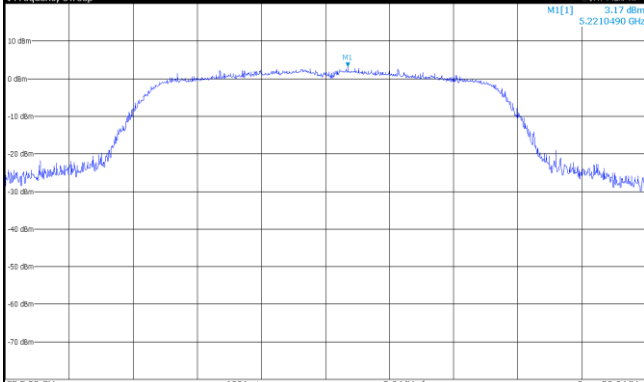
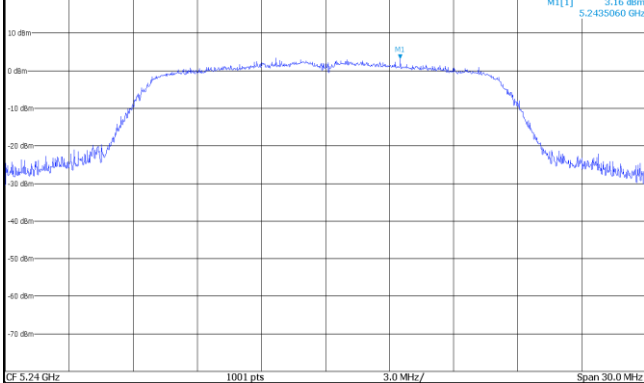
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Conducted Output Power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH _L	12.82	97.18	0.12	12.94	24.00	Pass
			CH _M	12.75	97.18	0.12	12.87		
			CH _H	13.11	97.18	0.12	13.23		
		802.11n	CH _L	12.74	97.18	0.12	12.86	24.00	Pass
			CH _M	12.72	97.18	0.12	12.84		
			CH _H	13.02	97.18	0.12	13.14		
		802.11a	CH _L	13.82	97.36	0.12	13.94	24.00	Pass
			CH _M	12.74	97.36	0.12	12.86		
			CH _H	13.03	97.36	0.12	13.15		
	40	802.11ac	CH _L	12.94	94.74	0.23	13.17	24.00	Pass
			CH _H	13.30	94.65	0.24	13.54		
		802.11n	CH _L	13.02	94.74	0.23	13.25	24.00	Pass
			CH _H	13.38	94.74	0.23	13.61		
IV	20	802.11ac	CH _L	15.89	97.18	0.12	16.01	30.00	Pass
			CH _M	15.08	97.18	0.12	15.20		
			CH _H	14.36	97.18	0.12	14.48		
		802.11n	CH _L	15.99	97.18	0.12	16.11	30.00	Pass
			CH _M	15.05	97.18	0.12	15.17		
			CH _H	14.47	97.18	0.12	14.59		
		802.11a	CH _L	15.88	97.36	0.12	16.00	30.00	Pass
			CH _M	15.10	97.36	0.12	15.22		
			CH _H	14.32	97.36	0.12	14.44		
	40	802.11ac	CH _L	16.02	94.74	0.23	16.25	30.00	Pass
			CH _H	15.30	94.74	0.23	15.53		
		802.11n	CH _L	16.15	94.74	0.23	16.38	30.00	Pass
			CH _H	15.28	94.74	0.23	15.51		

Appendix B: Maximum Power Spectral Density

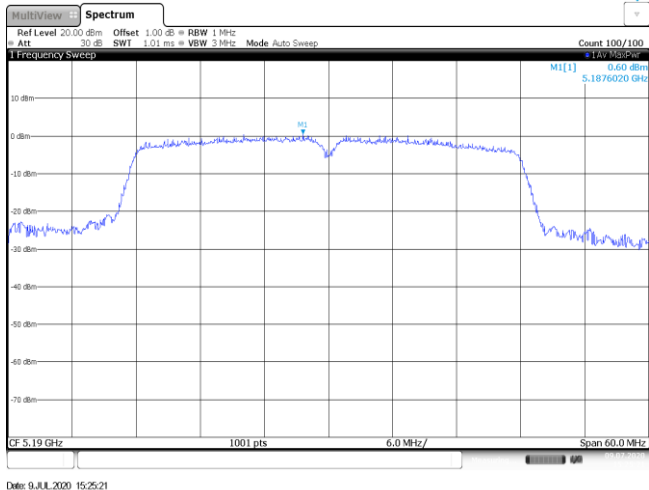
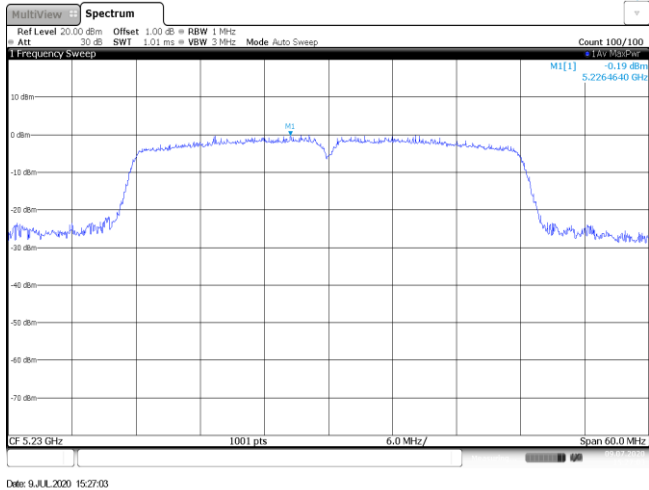
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11ac	CH _L	3.51	97.18	0.12	3.63	11.00	Pass
			CH _M	2.71	97.18	0.12	2.83		
			CH _H	3.24	97.18	0.12	3.36		
		802.11n	CH _L	3.43	97.18	0.12	3.55	11.00	Pass
			CH _M	2.94	97.18	0.12	3.06		
			CH _H	3.27	97.18	0.12	3.39		
		802.11a	CH _L	4.02	97.36	0.12	4.14	11.00	Pass
			CH _M	3.17	97.36	0.12	3.29		
			CH _H	3.16	97.36	0.12	3.28		
	40	802.11ac	CH _L	0.89	94.74	0.23	1.12	11.00	Pass
			CH _H	-0.06	94.65	0.24	0.18		
		802.11n	CH _L	0.60	94.74	0.23	0.83	11.00	Pass
			CH _H	-0.19	94.74	0.23	0.04		
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	4.55	97.18	0.12	4.67	30.00	Pass
			CH _M	3.87	97.18	0.12	3.99		
			CH _H	2.35	97.18	0.12	2.47		
		802.11n	CH _L	4.54	97.18	0.12	4.66	30.00	Pass
			CH _M	3.56	97.18	0.12	3.68		
			CH _H	3.51	97.18	0.12	3.63		
		802.11a	CH _L	4.45	97.36	0.12	4.57	30.00	Pass
			CH _M	4.16	97.36	0.12	4.28		
			CH _H	3.05	97.36	0.12	3.17		
	40	802.11ac	CH _L	1.03	94.74	0.23	1.26	30.00	Pass
			CH _H	-0.14	94.74	0.23	0.09		
		802.11n	CH _L	1.39	94.74	0.23	1.62	30.00	Pass
			CH _H	0.49	94.74	0.23	0.72		

Band I	802.11ac (HT20)
CH _L	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 M1[1] 3.51 dBm 5.1899250 GHz 1 Frequency Sweep CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9 JUL 2020 15:28:50
CH _M	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 M1[1] 2.71 dBm 5.2186510 GHz 1 Frequency Sweep CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9 JUL 2020 15:30:41
CH _H	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 M1[1] 3.24 dBm 5.2423080 GHz 1 Frequency Sweep CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9 JUL 2020 15:32:08

Band I		802.11n (HT20)	
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 3.43 dBm 5.1785610 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.18 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9.JUL.2020 15:20:12		
CH _M	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 2.94 dBm 5.2199400 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.22 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9.JUL.2020 15:21:56		
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 3.27 dBm 5.2396700 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.24 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 9.JUL.2020 15:23:30		

Band I	802.11a
CH _L	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1]4.02 dBm5.1812590 GHz  CF 5.18 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 9.JUL.2020 15:13:26
CH _M	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1]3.17 dBm5.2219490 GHz  CF 5.22 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 9.JUL.2020 15:16:37
CH _H	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1]3.16 dBm5.2435590 GHz  CF 5.24 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 9.JUL.2020 15:18:09

Band I		802.11ac (HT40)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -0.99 dBm 5.1832270 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.19 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 9.JUL.2020 15:33:56	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -0.06 dBm 5.2365540 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.23 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 9.JUL.2020 15:35:54	

Band I		802.11n (HT40)
CH _L		
CH _H		

Band IV		802.11ac (HT20)	
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 4.55 dBm 5.7438310 GHz 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: 9 JUL 2020 16:09:47		
CH _M	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 3.97 dBm 5.7841610 GHz 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: 9 JUL 2020 16:11:03		
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 2.35 dBm 5.8240710 GHz 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: 9 JUL 2020 16:24:49		

Band IV		802.11n (HT20)	
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 4.54 dBm 5.7461690 GHz M2 0 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: 9.JUL.2020 16:03:23		
CH _M	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 3.56 dBm 5.7856290 GHz M2 0 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: 9.JUL.2020 16:04:41		
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 3.51 dBm 5.8258690 GHz M2 0 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: 9.JUL.2020 16:05:41		

Band IV		802.11a
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm </	

Band IV		802.11ac (HT40)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 1.03 dBm 5.7608740 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: 9 JUL 2020 16:26:05	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -0.14 dBm 5.7896050 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: 9 JUL 2020 16:27:13	

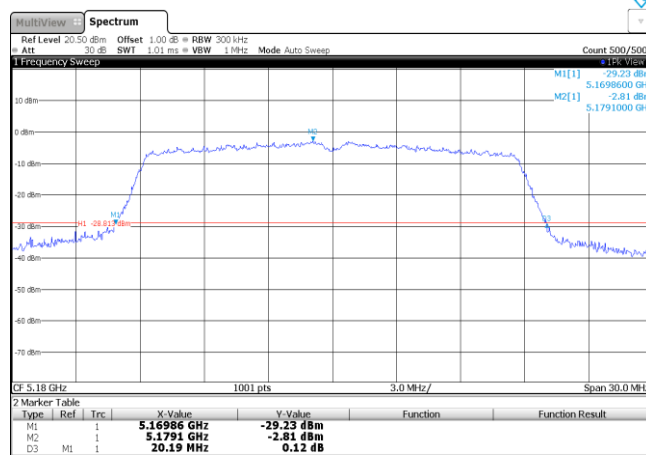
Band IV		802.11n (HT40)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 0.49 dBm 5.7478070 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.755 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 9 JUL 2020 16:07:06	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 0.49 dBm 5.7894260 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: 9 JUL 2020 16:08:20	

Appendix C: 26dB bandwidth

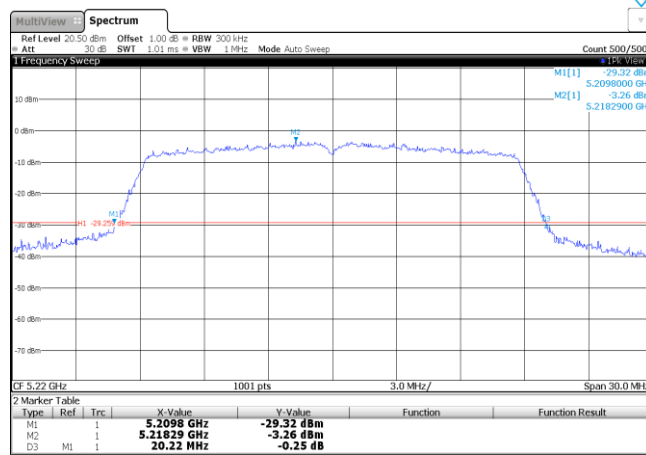
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH _L	20.19	Pass
			CH _M	20.22	
			CH _H	20.22	
		802.11n	CH _L	20.07	Pass
			CH _M	20.13	
			CH _H	20.07	
		802.11a	CH _L	19.89	Pass
			CH _M	19.83	
			CH _H	19.77	
	40	802.11ac	CH _L	40.74	Pass
			CH _H	40.98	
		802.11n	CH _L	40.74	Pass
			CH _H	40.14	

Band I

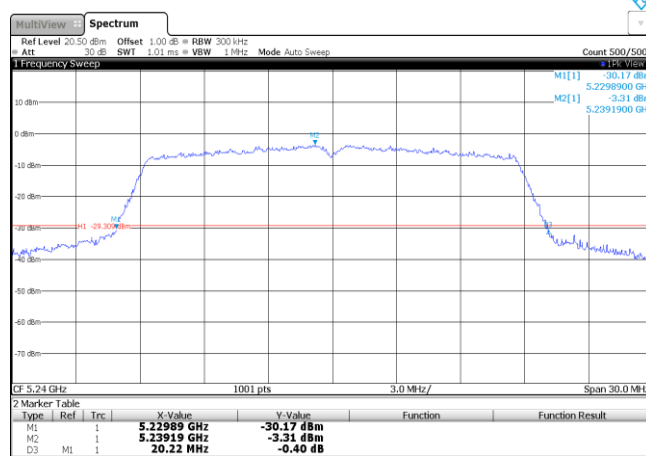
802.11ac (HT20)

$$\text{CH}_L$$


Date: 9-Jul-2020 15:29:25

$$\text{CH}_M$$


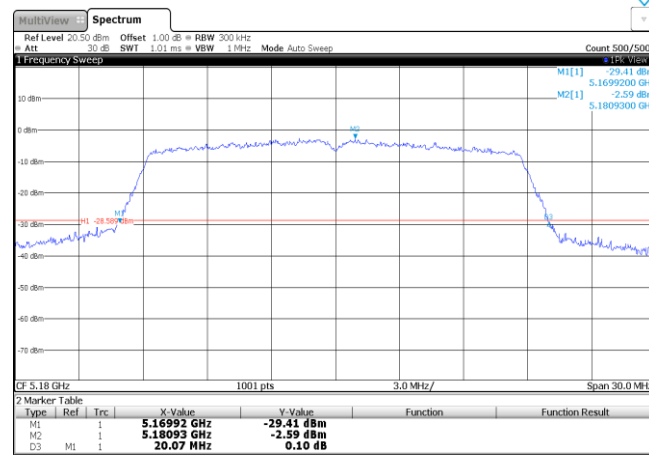
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$$\text{CH}_H$$


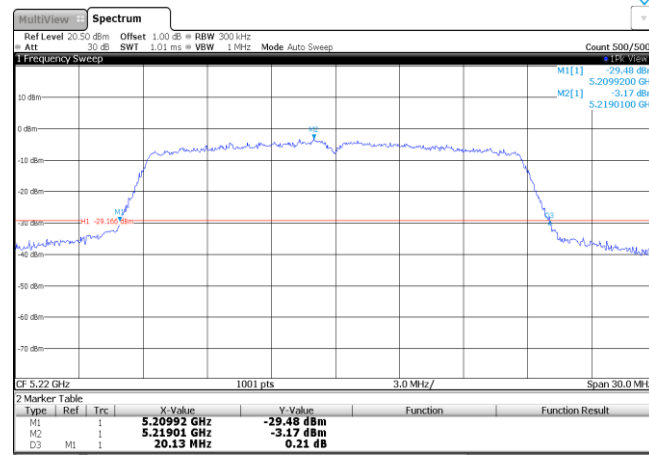
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Band I

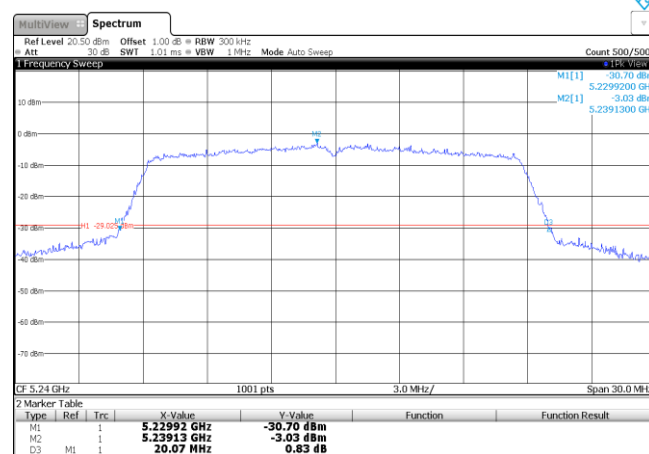
802.11n (HT20)

$$\text{CH}_L$$


Date: 9.JUL.2020 15:20:51

$$\text{CH}_M$$


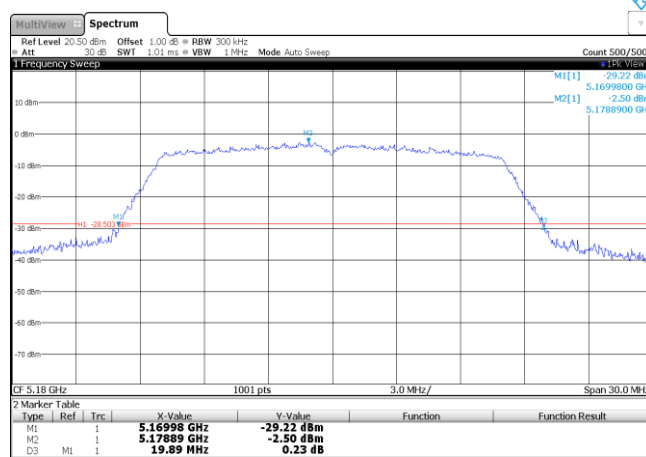
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$$\text{CH}_H$$


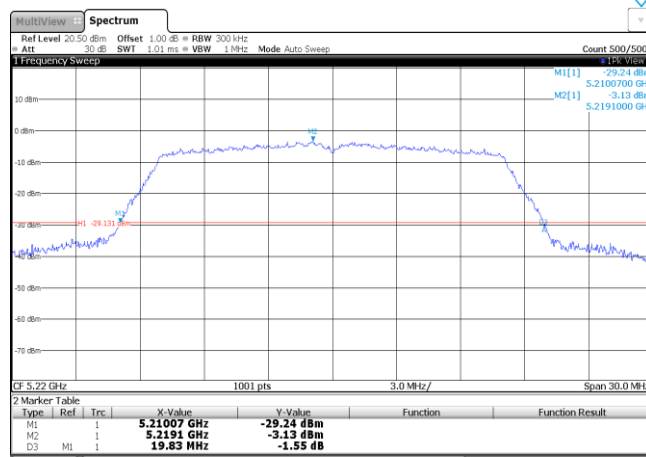
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Band I

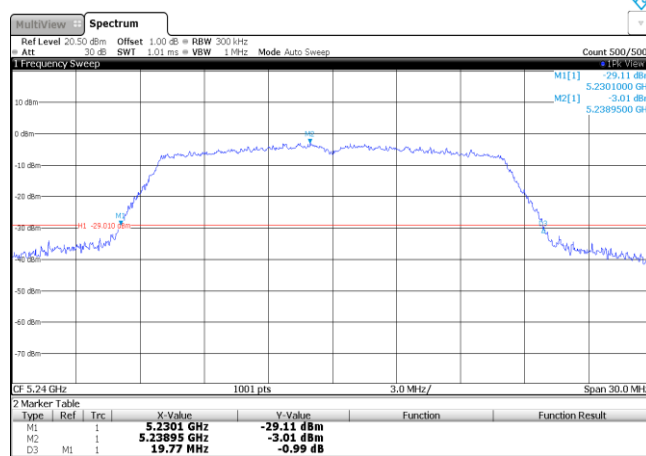
802.11a

$$\text{CH}_L$$


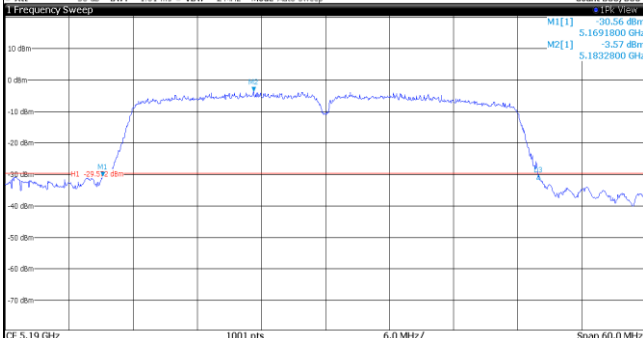
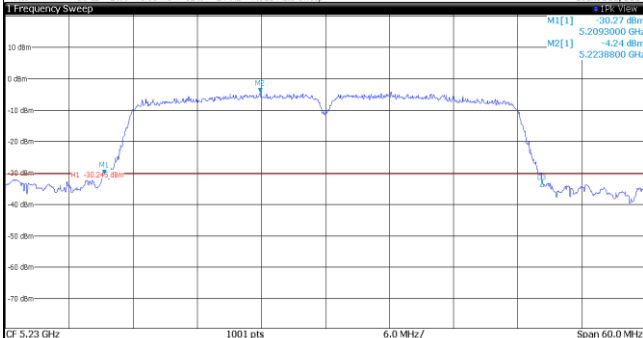
Date: 9 JUL 2020 15:15:37

 CH_M 

Date: 9 JUL 2020 15:17:13

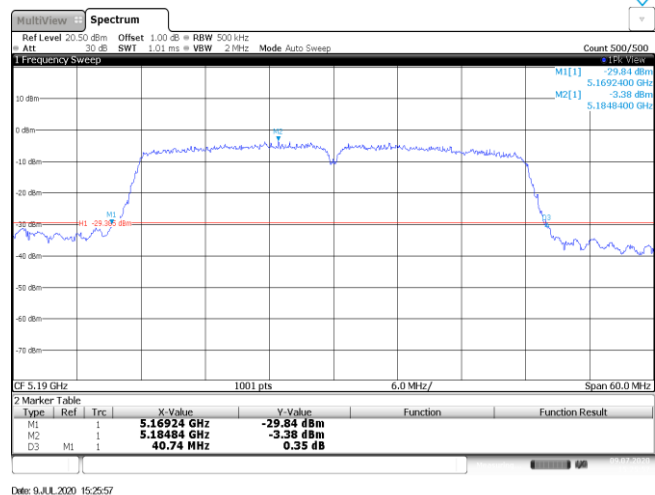
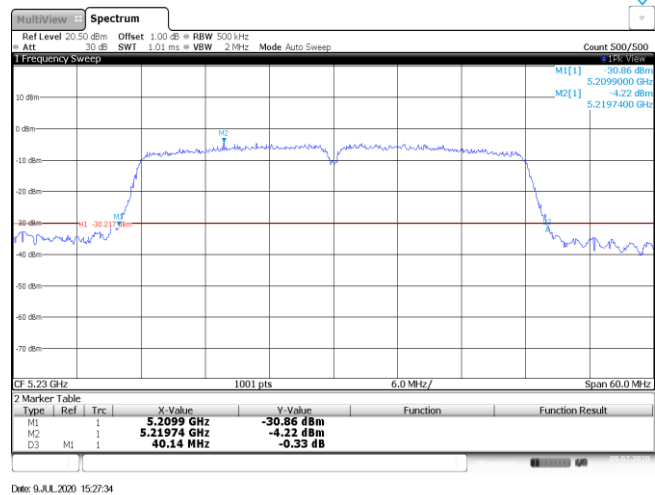
$$\text{CH}_H$$


Date: 9 JUL 2020 15:18:46

Band I		802.11ac (HT40)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Att 30 dB Offset 1.00 dB RBW 500 kHz SWT 1.01 ms VBW 2 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  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>5.16918 GHz</td><td>-30.56 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.18328 GHz</td><td>-3.57 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>40.74 MHz</td><td>0.40 dB</td><td></td><td></td></tr></table> Date: 9.JUL.2020 15:34:28	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.16918 GHz	-30.56 dBm			M2	1		5.18328 GHz	-3.57 dBm			D3	M1	1	40.74 MHz	0.40 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.16918 GHz	-30.56 dBm																									
M2	1		5.18328 GHz	-3.57 dBm																									
D3	M1	1	40.74 MHz	0.40 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Att 30 dB Offset 1.00 dB RBW 500 kHz SWT 1.01 ms VBW 2 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep  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>5.2093 GHz</td><td>-30.27 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.22388 GHz</td><td>-4.24 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>40.98 MHz</td><td>-2.62 dB</td><td></td><td></td></tr></table> Date: 9.JUL.2020 15:36:32	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.2093 GHz	-30.27 dBm			M2	1		5.22388 GHz	-4.24 dBm			D3	M1	1	40.98 MHz	-2.62 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.2093 GHz	-30.27 dBm																									
M2	1		5.22388 GHz	-4.24 dBm																									
D3	M1	1	40.98 MHz	-2.62 dB																									

Band I

802.11n (HT40)

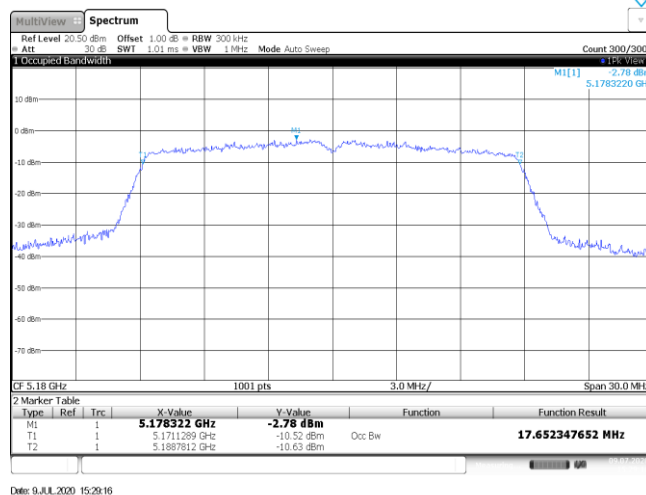
$$\text{CH}_L$$

$$\text{CH}_H$$


Appendix D: 99% Occupy bandwidth

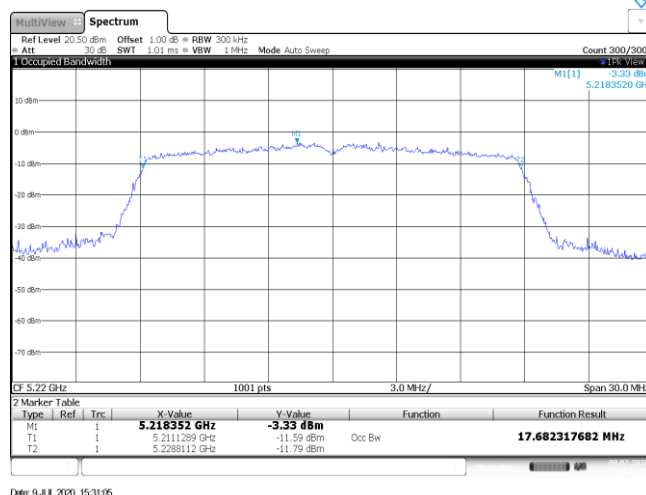
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11ac	CH _L	17.65	Pass
			CH _M	17.68	
			CH _H	17.68	
		802.11n	CH _L	17.68	Pass
			CH _M	17.65	
			CH _H	17.71	
		802.11a	CH _L	16.75	Pass
			CH _M	16.75	
			CH _H	16.75	
	40	802.11ac	CH _L	36.08	Pass
			CH _H	36.08	
		802.11n	CH _L	36.14	Pass
			CH _H	36.08	
IV	20	802.11ac	CH _L	18.10	Pass
			CH _M	18.07	
			CH _H	18.16	
		802.11n	CH _L	18.16	Pass
			CH _M	18.10	
			CH _H	18.22	
		802.11a	CH _L	17.29	Pass
			CH _M	17.29	
			CH _H	17.35	
	40	802.11ac	CH _L	36.56	Pass
			CH _H	36.62	
		802.11n	CH _L	36.56	Pass
			CH _H	36.64	

Band I

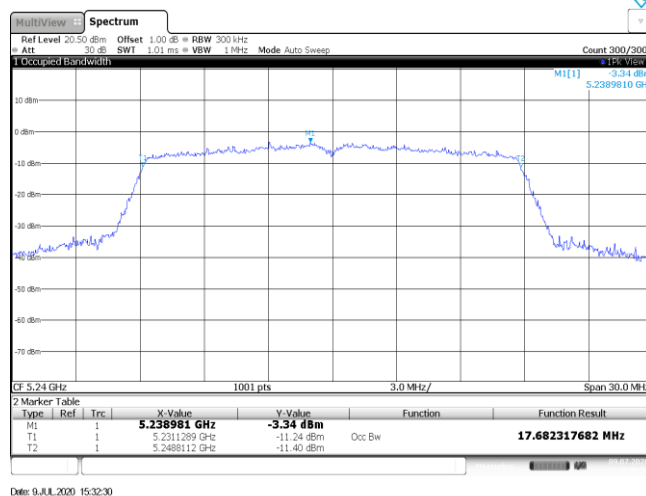
802.11ac (HT20)

$$\text{CH}_L$$


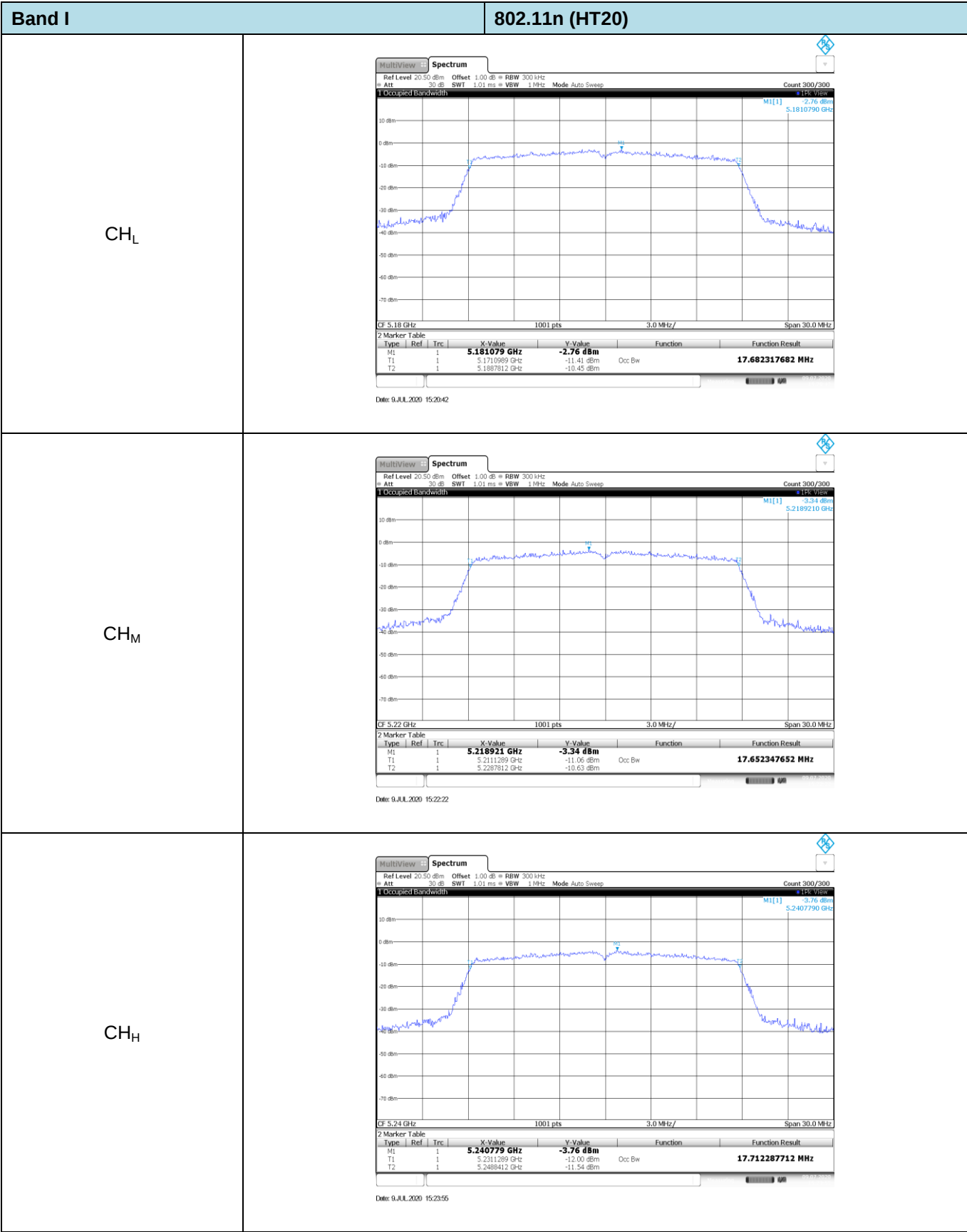
Date: 9 JUL 2020 15:29:16

$$\text{CH}_M$$


Date: 9 JUL 2020 15:31:05

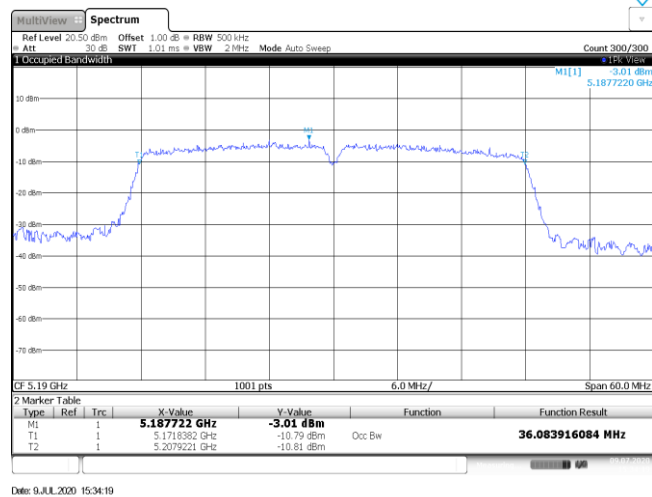
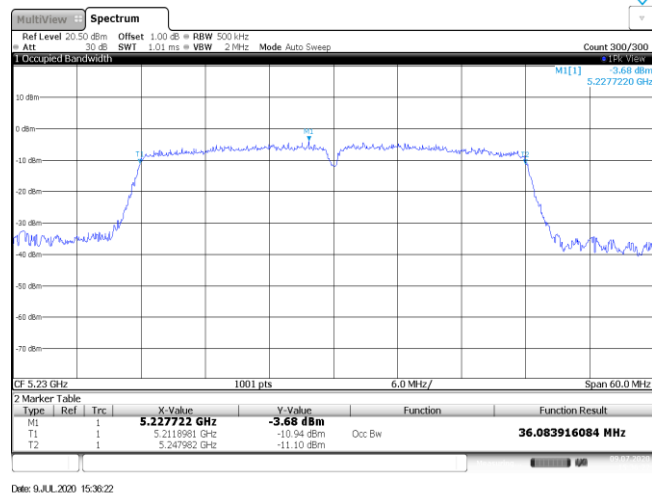
$$\text{CH}_H$$


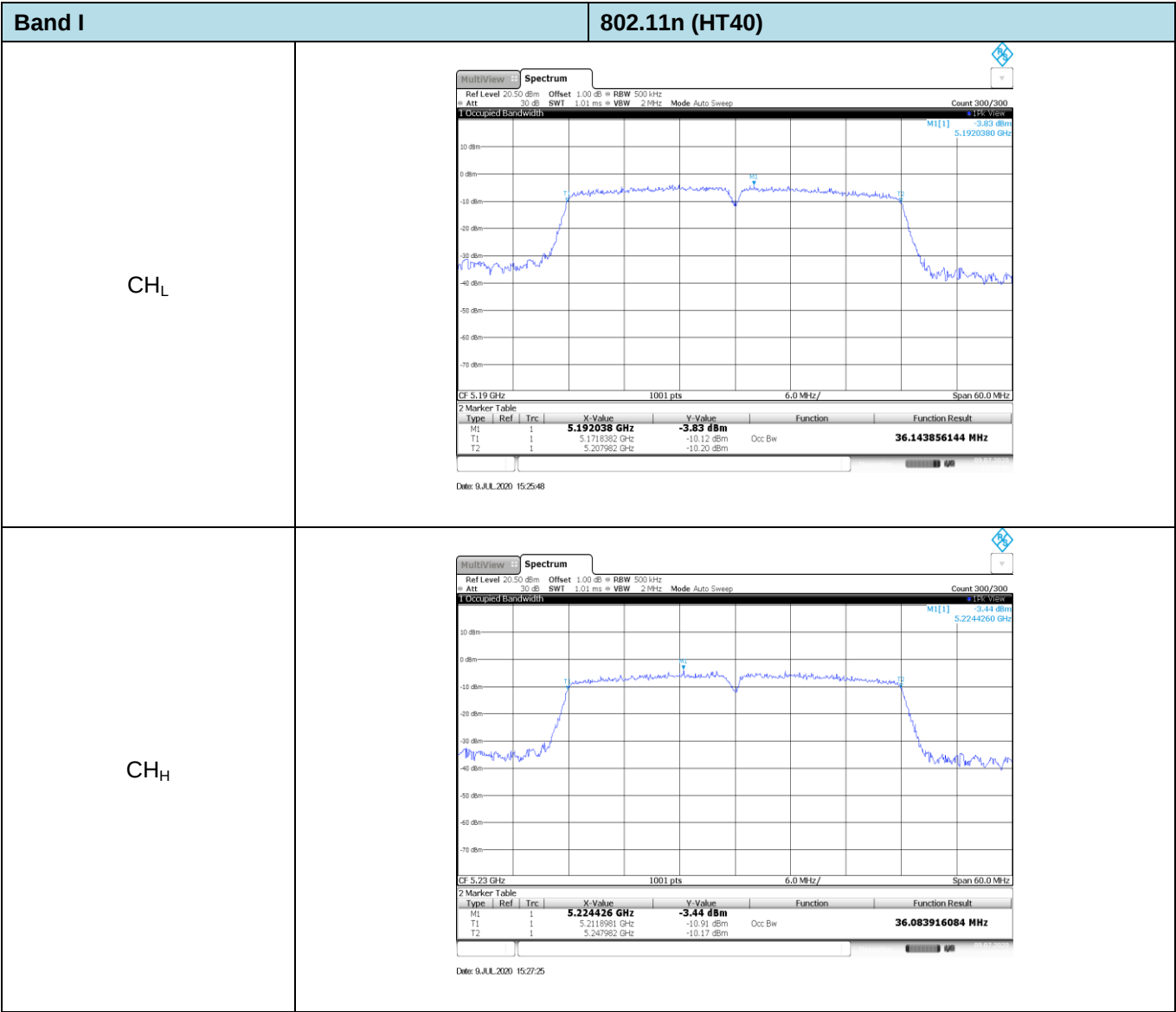
Date: 9 JUL 2020 15:32:30



Band I

802.11ac (HT40)

$$\text{CH}_L$$

$$\text{CH}_H$$




Band IV

802.11ac (HT20)

CH_L

1 Occupied Bandwidth
MI[1] 3.20 dBm
5.7464690 GHz

Type	Ref	Trc	X-Value	V-Value	Function	Function Result
M1	1		5.746469 GHz	3.20 dBm		
T1	1		5.7359191 GHz	-6.89 dBm	Occ Bw	18.101898102 MHz
T2	1		5.754021 GHz	-7.31 dBm		

Date: 9.AUG.2020 16:08:04

CH_M

1 Occupied Bandwidth
MI[1] 2.15 dBm
5.7839510 GHz

Type	Ref	Trc	X-Value	V-Value	Function	Function Result
M1	1		5.783951 GHz	2.15 dBm		
T1	1		5.7759191 GHz	-6.17 dBm	Occ Bw	18.071928072 MHz
T2	1		5.7939501 GHz	-7.77 dBm		

Date: 9.AUG.2020 16:10:19

CH_H

1 Occupied Bandwidth
MI[1] 1.28 dBm
5.8235010 GHz

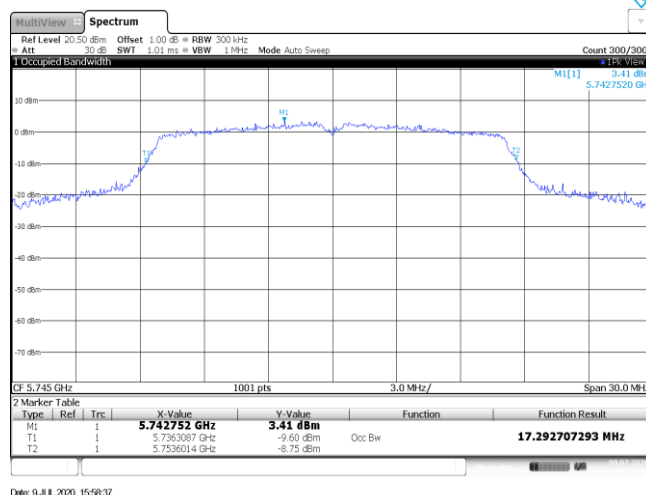
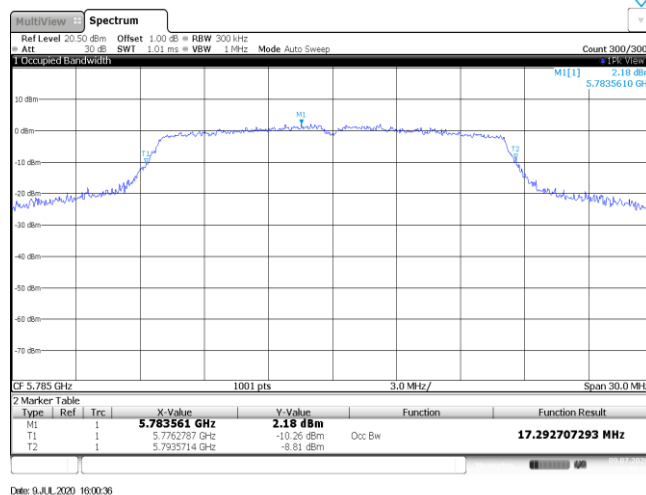
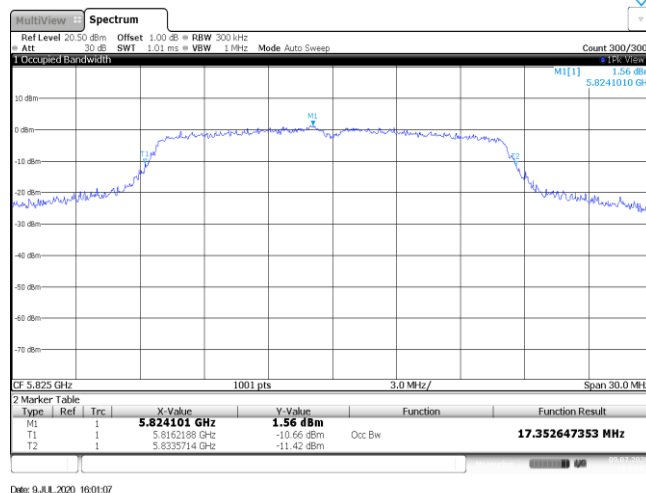
Type	Ref	Trc	X-Value	V-Value	Function	Function Result
M1	1		5.823501 GHz	1.28 dBm		
T1	1		5.8158591 GHz	-10.74 dBm	Occ Bw	18.161838162 MHz
T2	1		5.834021 GHz	-9.89 dBm		

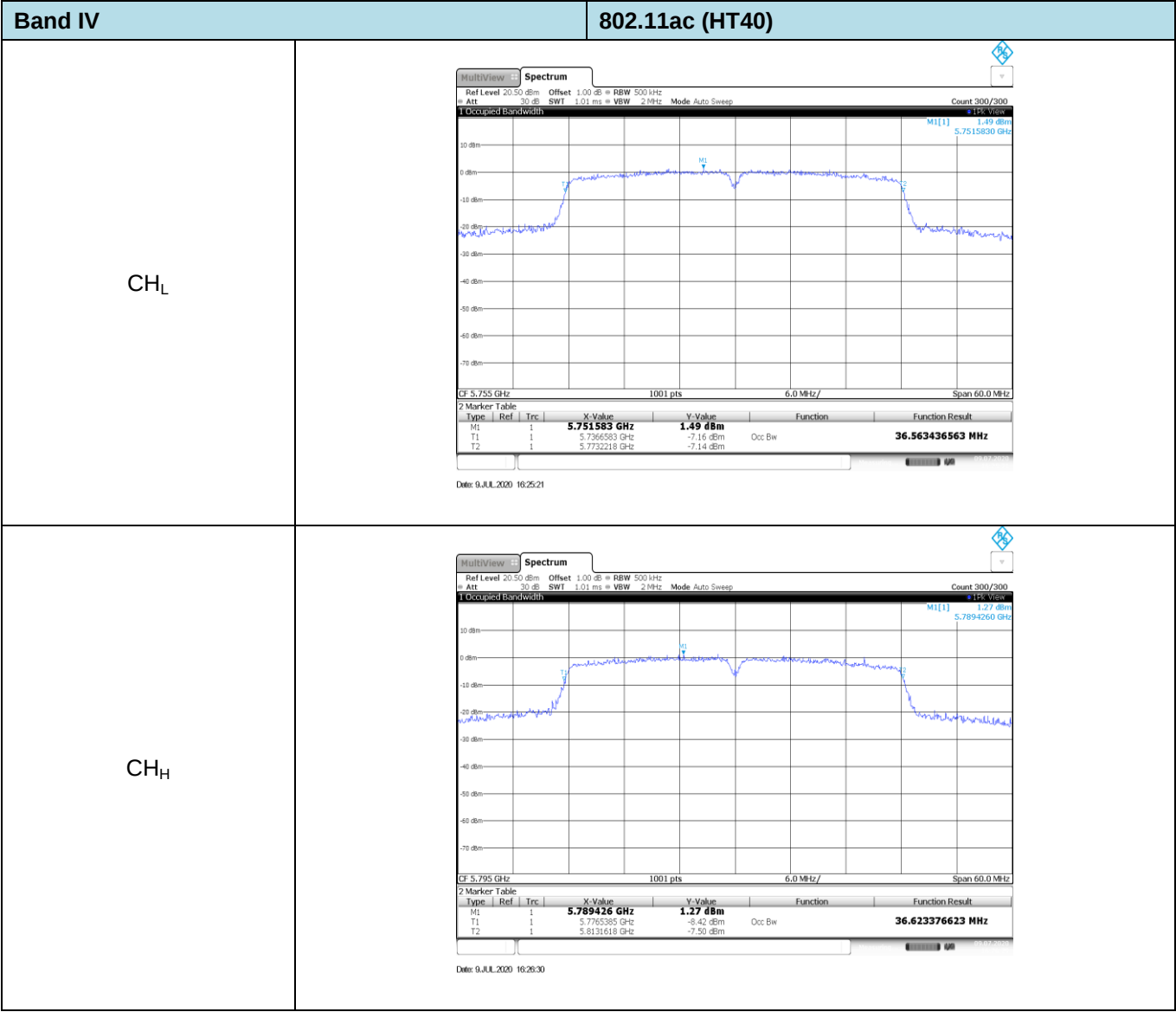
Date: 9.AUG.2020 16:24:04

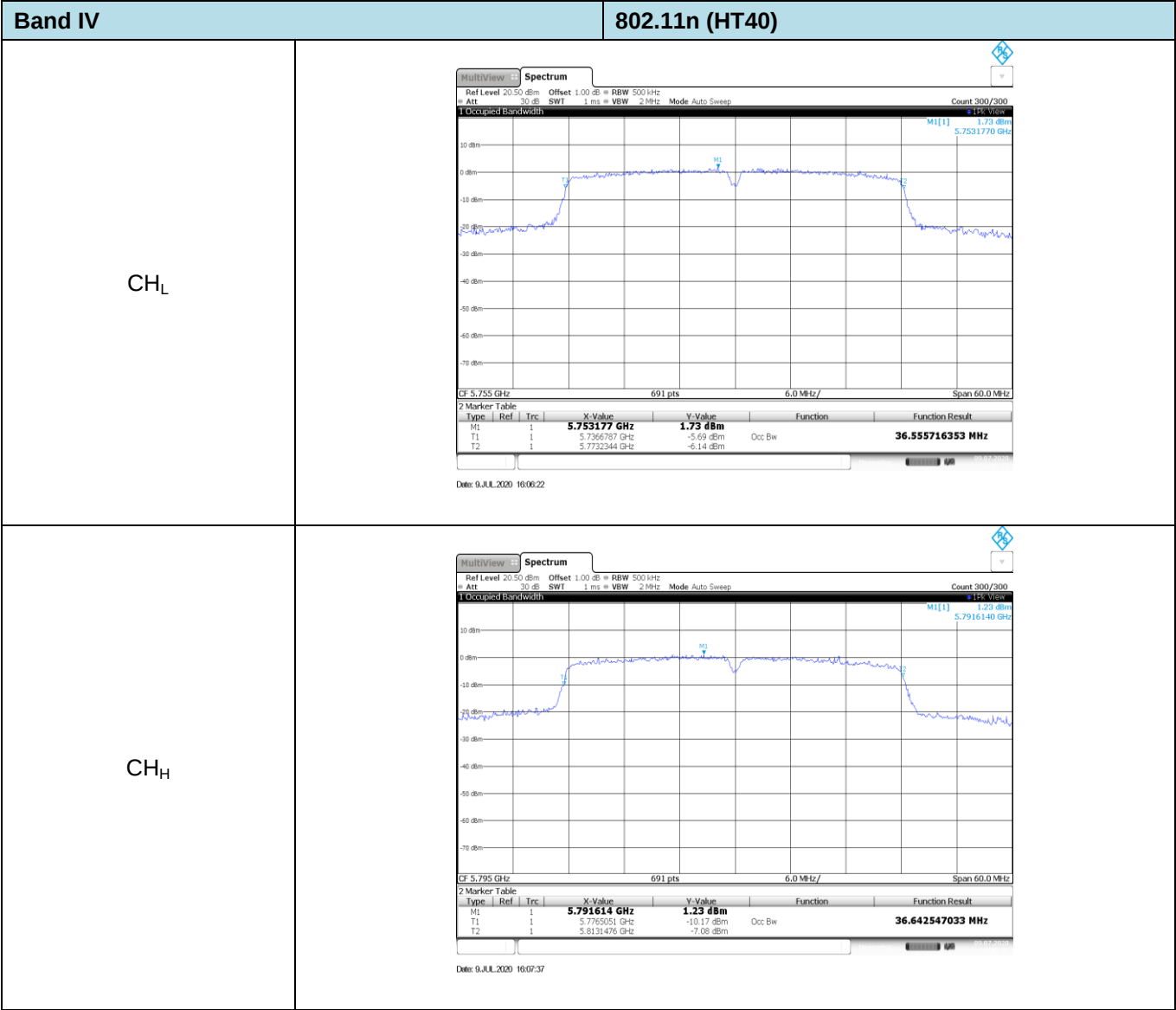
Band IV		802.11n (HT20)	
CH _L	</		

Band IV

802.11a

$$\text{CH}_L$$

$$\text{CH}_M$$

$$\text{CH}_H$$


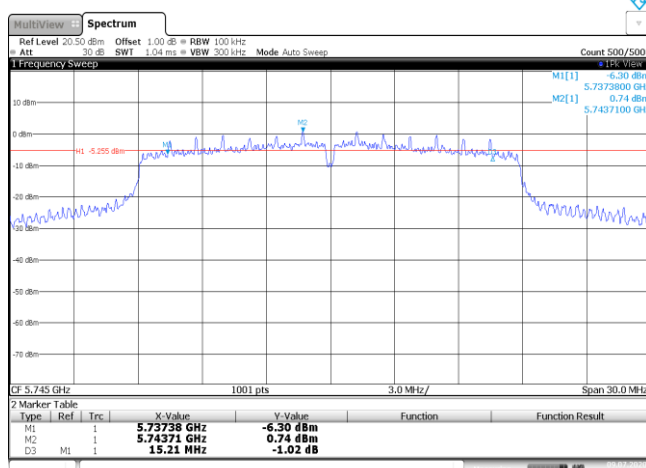


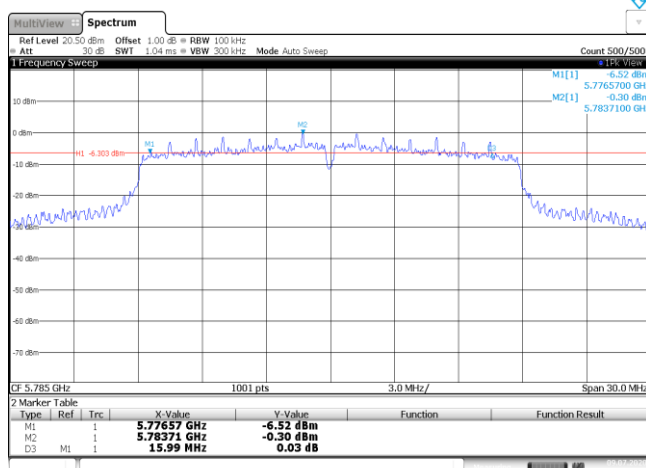


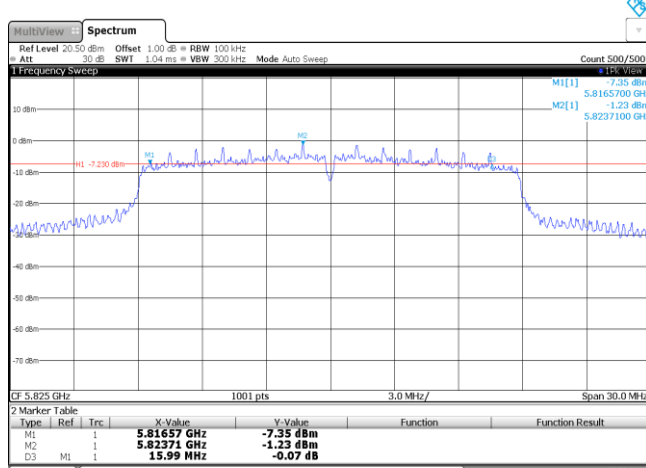
Appendix E: 6dB Bandwidth

Band	Bandwidth (MHz)	Type	Channel	6dB bandwidth (MHz)	Result
IV	20	802.11ac	CH _L	15.21	Pass
			CH _M	15.18	
			CH _H	15.99	
		802.11n	CH _L	15.21	Pass
			CH _M	15.99	
			CH _H	15.99	
		802.11a	CH _L	15.21	Pass
			CH _M	15.18	
			CH _H	15.36	
	40	802.11ac	CH _L	35.34	Pass
			CH _H	35.28	
		802.11n	CH _L	35.39	Pass
			CH _H	35.57	

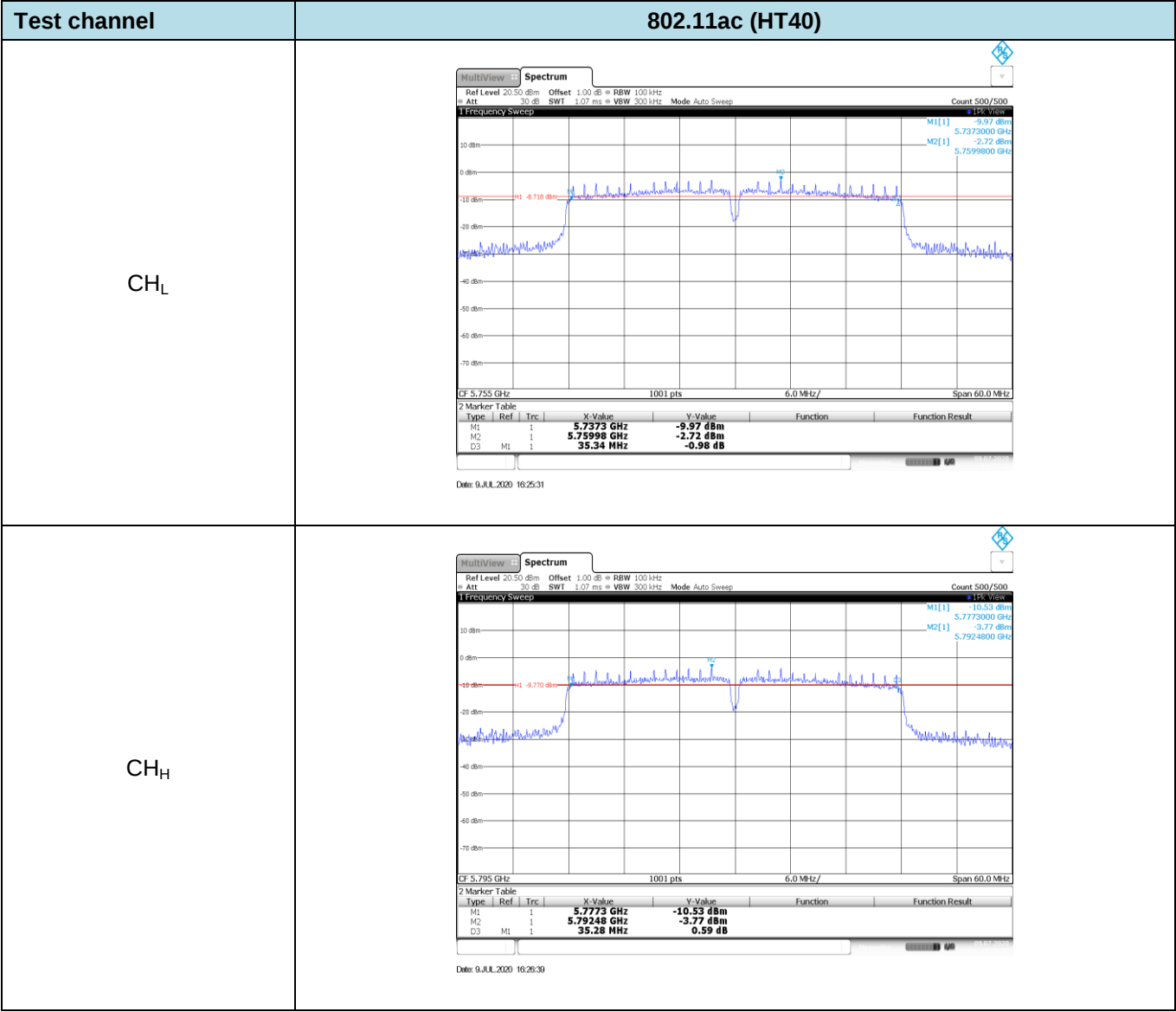
Test channel	802.11ac (HT20)																												
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M1 [1] M2 [1] -6.53 dBm 0.44 dBm 5.7373800 GHz 5.7437100 GHz CF 5.745 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>5.73738 GHz</td><td>-6.53 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.74371 GHz</td><td>0.44 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.21 MHz</td><td>-0.76 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 16:08:13	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.73738 GHz	-6.53 dBm			M2	1		5.74371 GHz	0.44 dBm			D3	M1	1	15.21 MHz	-0.76 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.73738 GHz	-6.53 dBm																									
M2	1		5.74371 GHz	0.44 dBm																									
D3	M1	1	15.21 MHz	-0.76 dB																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm M1 M2 M1 [1] M2 [1] -6.95 dBm -0.14 dBm 5.7773800 GHz 5.7862300 GHz CF 5.785 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>5.77738 GHz</td><td>-6.95 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.78623 GHz</td><td>-0.14 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.18 MHz</td><td>0.20 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 16:10:28	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.77738 GHz	-6.95 dBm			M2	1		5.78623 GHz	-0.14 dBm			D3	M1	1	15.18 MHz	0.20 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.77738 GHz	-6.95 dBm																									
M2	1		5.78623 GHz	-0.14 dBm																									
D3	M1	1	15.18 MHz	0.20 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -70 dBm M1 M2 M1 [1] M2 [1] -7.62 dBm -1.28 dBm 5.8165700 GHz 5.8237100 GHz CF 5.825 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>5.81657 GHz</td><td>-7.62 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.82371 GHz</td><td>-1.28 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.99 MHz</td><td>0.26 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 16:24:14	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.81657 GHz	-7.62 dBm			M2	1		5.82371 GHz	-1.28 dBm			D3	M1	1	15.99 MHz	0.26 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.81657 GHz	-7.62 dBm																									
M2	1		5.82371 GHz	-1.28 dBm																									
D3	M1	1	15.99 MHz	0.26 dB																									

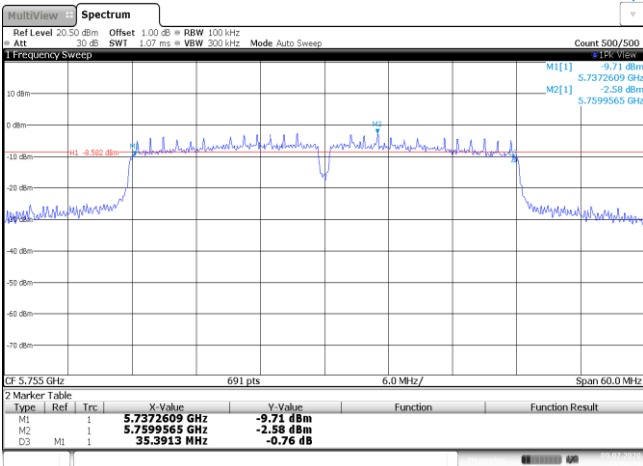
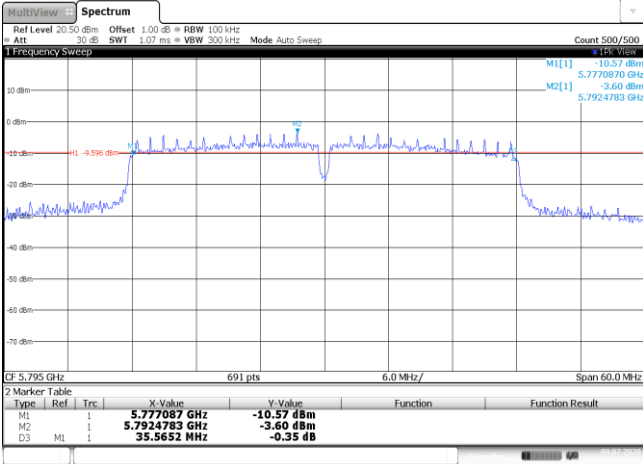
Test channel	802.11n (HT20)																												
CH _L	 Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.04 ms VW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz 2 Marker Table <table> <tr> <th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr> <tr> <td>M1</td><td>1</td><td></td><td>5.73738 GHz</td><td>-6.30 dBm</td><td></td><td></td></tr> <tr> <td>M2</td><td>1</td><td></td><td>5.74371 GHz</td><td>0.74 dBm</td><td></td><td></td></tr> <tr> <td>D3</td><td>M1</td><td>1</td><td>15.21 MHz</td><td>-1.02 dB</td><td></td><td></td></tr> </table> Date: 9 JUL 2020 16:02:40	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.73738 GHz	-6.30 dBm			M2	1		5.74371 GHz	0.74 dBm			D3	M1	1	15.21 MHz	-1.02 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.73738 GHz	-6.30 dBm																									
M2	1		5.74371 GHz	0.74 dBm																									
D3	M1	1	15.21 MHz	-1.02 dB																									

CH _M	 Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.04 ms VW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep CF 5.785 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>5.77657 GHz</td><td>-6.52 dBm</td><td></td><td></td></tr> <tr> <td>M2</td><td>1</td><td></td><td>5.78371 GHz</td><td>-0.30 dBm</td><td></td><td></td></tr> <tr> <td>D3</td><td>M1</td><td>1</td><td>15.99 MHz</td><td>0.03 dB</td><td></td><td></td></tr> </table> Date: 9 JUL 2020 16:04:07	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.77657 GHz	-6.52 dBm			M2	1		5.78371 GHz	-0.30 dBm			D3	M1	1	15.99 MHz	0.03 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.77657 GHz	-6.52 dBm																									
M2	1		5.78371 GHz	-0.30 dBm																									
D3	M1	1	15.99 MHz	0.03 dB																									

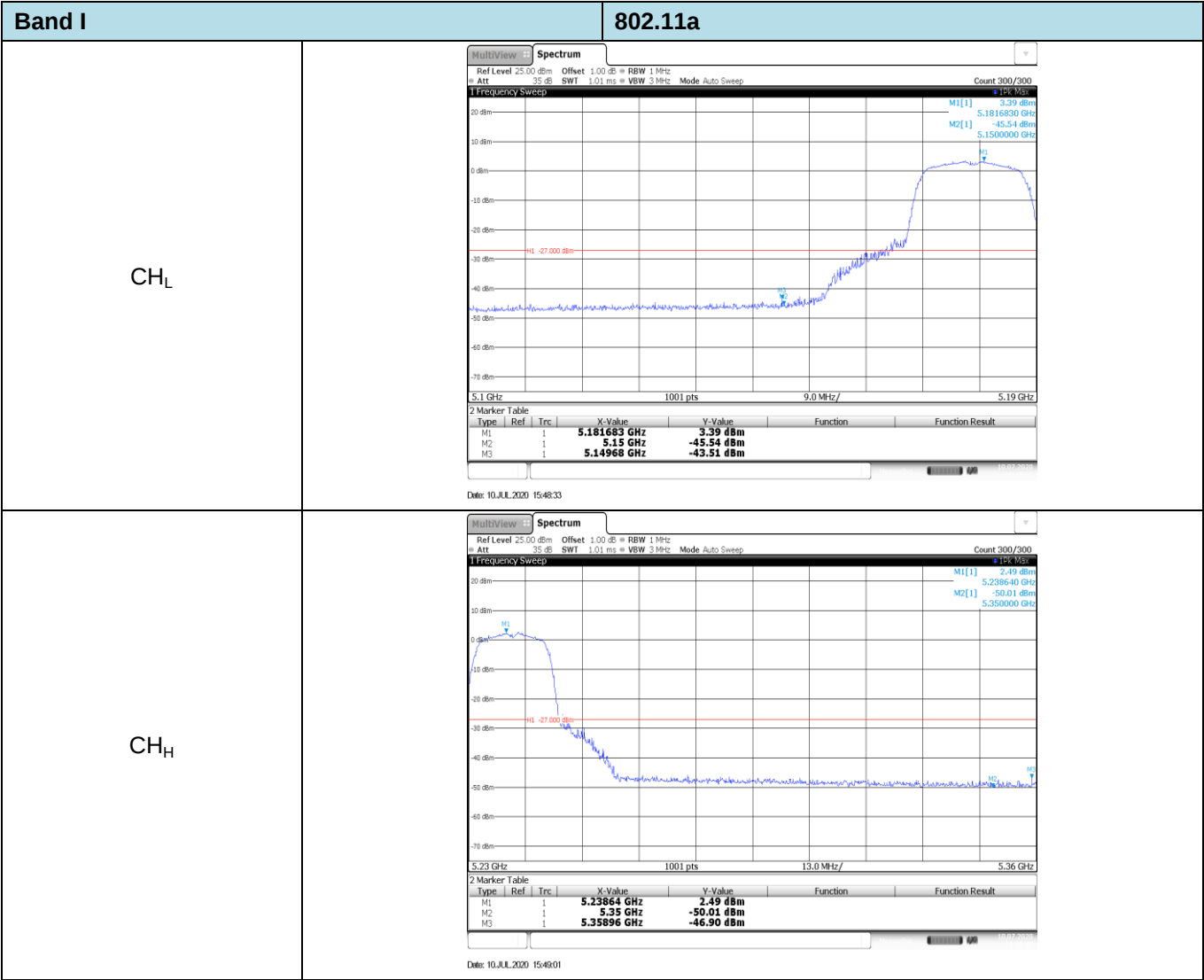
CH _H	 Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.04 ms VW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz 2 Marker Table <table> <tr> <th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr> <tr> <td>M1</td><td>1</td><td></td><td>5.81657 GHz</td><td>-7.35 dBm</td><td></td><td></td></tr> <tr> <td>M2</td><td>1</td><td></td><td>5.82371 GHz</td><td>-1.23 dBm</td><td></td><td></td></tr> <tr> <td>D3</td><td>M1</td><td>1</td><td>15.99 MHz</td><td>-0.07 dB</td><td></td><td></td></tr> </table> Date: 9 JUL 2020 16:05:07	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.81657 GHz	-7.35 dBm			M2	1		5.82371 GHz	-1.23 dBm			D3	M1	1	15.99 MHz	-0.07 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.81657 GHz	-7.35 dBm																									
M2	1		5.82371 GHz	-1.23 dBm																									
D3	M1	1	15.99 MHz	-0.07 dB																									

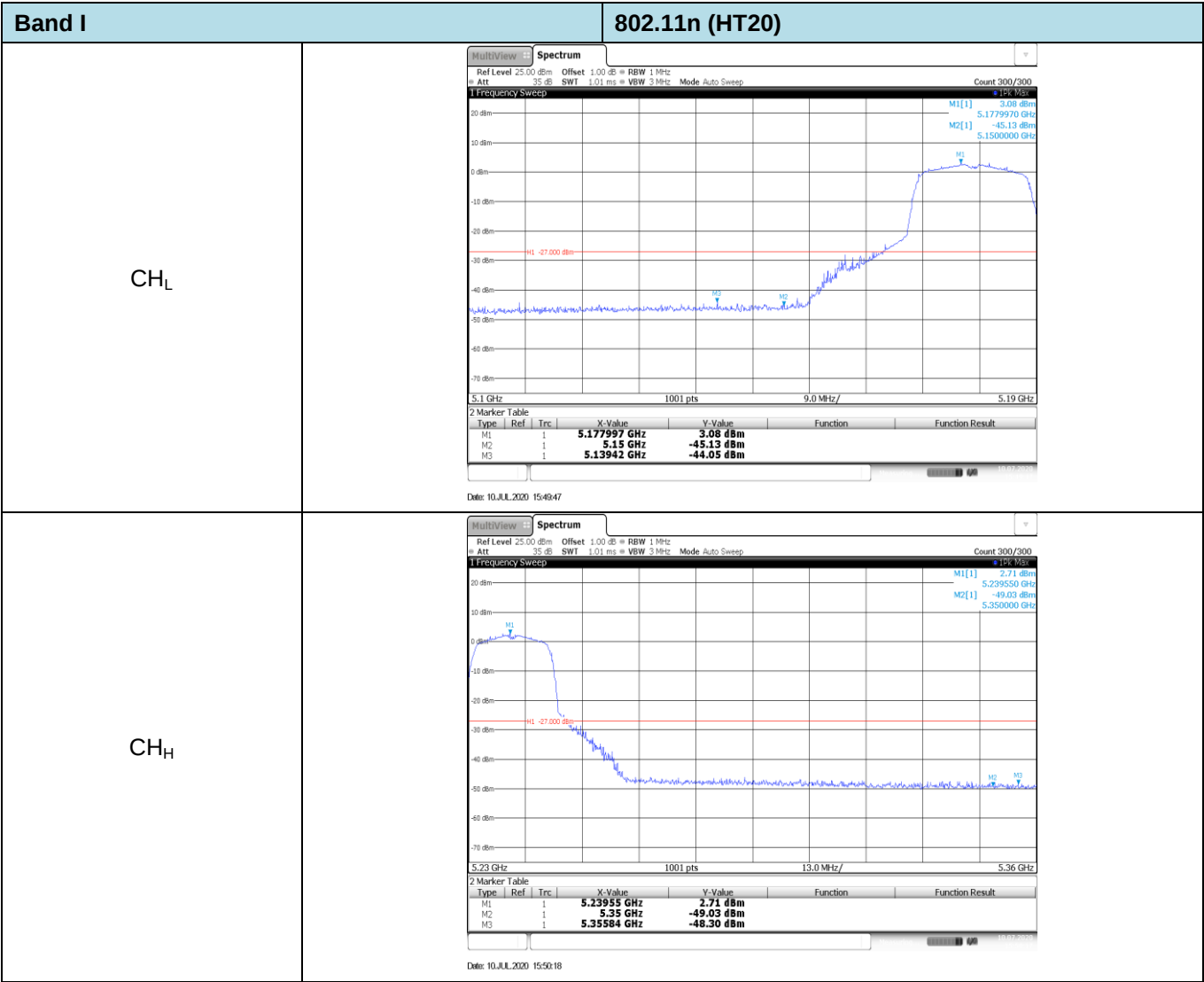
Test channel	802.11a																												
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.745 GHz1001 pts3.0 MHz/Span 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>5.73738 GHz</td><td>-5.58 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.74371 GHz</td><td>-0.83 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.21 MHz</td><td>0.50 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 15:58:46	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.73738 GHz	-5.58 dBm			M2	1		5.74371 GHz	-0.83 dBm			D3	M1	1	15.21 MHz	0.50 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.73738 GHz	-5.58 dBm																									
M2	1		5.74371 GHz	-0.83 dBm																									
D3	M1	1	15.21 MHz	0.50 dB																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.785 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>5.77738 GHz</td><td>-7.01 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.78371 GHz</td><td>-0.15 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.18 MHz</td><td>0.66 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 16:00:45	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.77738 GHz	-7.01 dBm			M2	1		5.78371 GHz	-0.15 dBm			D3	M1	1	15.18 MHz	0.66 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.77738 GHz	-7.01 dBm																									
M2	1		5.78371 GHz	-0.15 dBm																									
D3	M1	1	15.18 MHz	0.66 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.825 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>5.81722 GHz</td><td>-7.38 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>5.82371 GHz</td><td>-1.28 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>15.36 MHz</td><td>-0.26 dB</td><td></td><td></td></tr></table> Date: 9 JUL 2020 16:01:16	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.81722 GHz	-7.38 dBm			M2	1		5.82371 GHz	-1.28 dBm			D3	M1	1	15.36 MHz	-0.26 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.81722 GHz	-7.38 dBm																									
M2	1		5.82371 GHz	-1.28 dBm																									
D3	M1	1	15.36 MHz	-0.26 dB																									

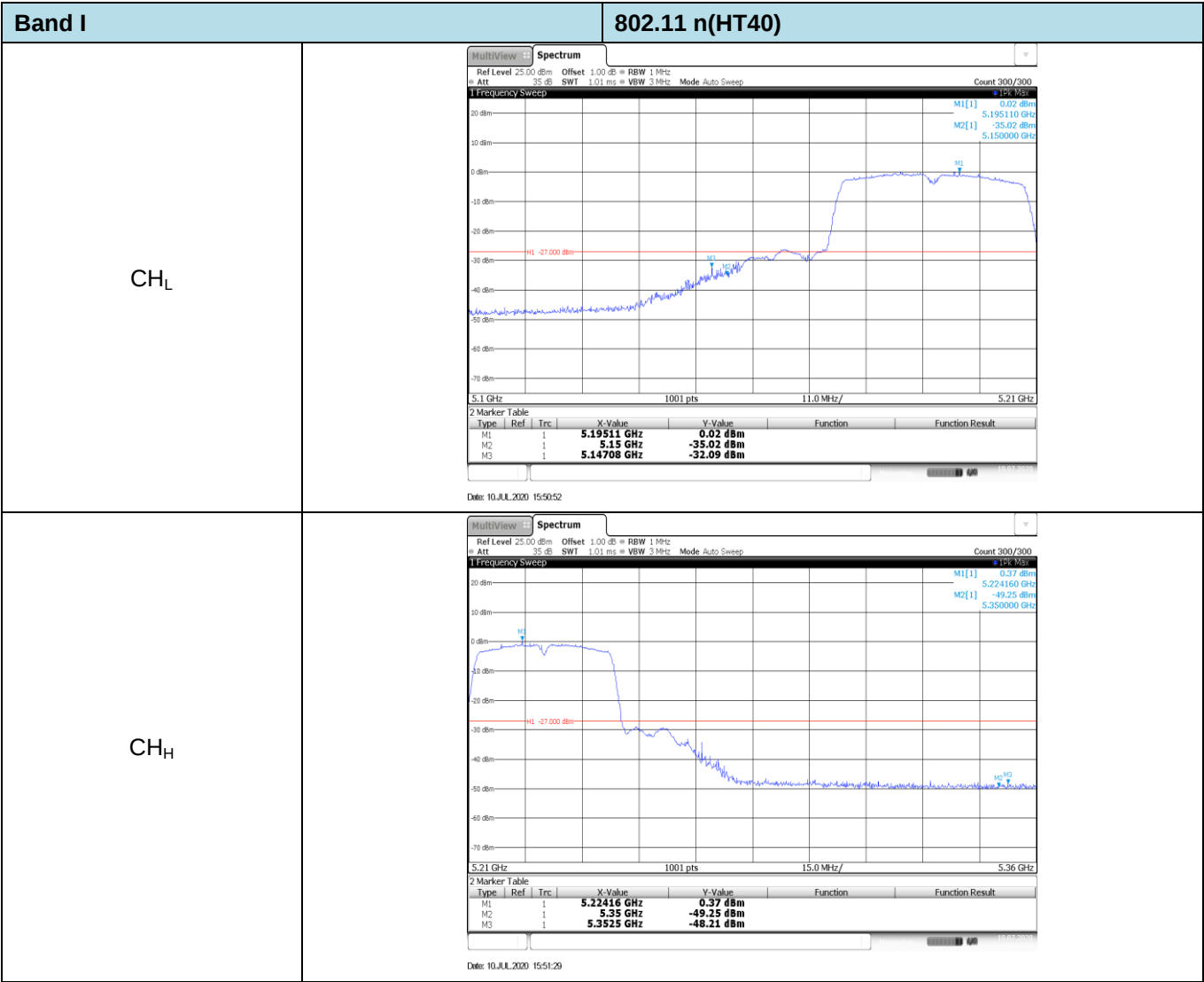


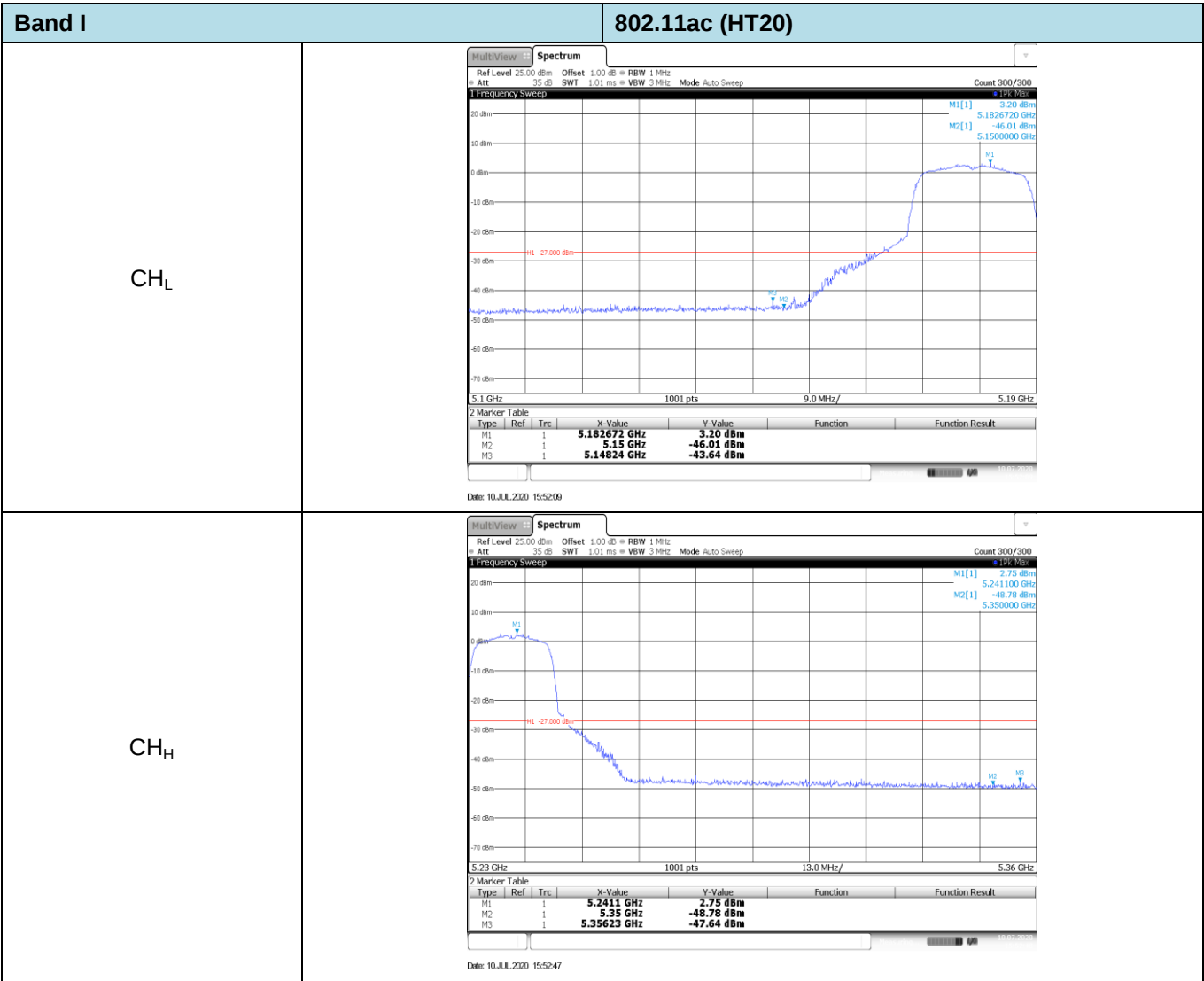
Test channel	802.11n (HT40)																												
CH _L	 Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.07 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1 -9.556 dBm M1[1] -9.71 dBm M2[1] 5.7372609 GHz M3[1] 5.7599565 GHz CF 5.755 GHz 691 pts 6.0 MHz/ Span 60.0 MHz 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>5.7372609 GHz</td><td>-9.71 dBm</td><td></td><td></td></tr> <tr> <td>M2</td><td>1</td><td></td><td>5.7599565 GHz</td><td>-2.58 dBm</td><td></td><td></td></tr> <tr> <td>D3</td><td>M1</td><td>1</td><td>35.3913 MHz</td><td>-0.76 dB</td><td></td><td></td></tr> </table> Date: 9 JUL 2020 16:06:32	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.7372609 GHz	-9.71 dBm			M2	1		5.7599565 GHz	-2.58 dBm			D3	M1	1	35.3913 MHz	-0.76 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1	1		5.7372609 GHz	-9.71 dBm																									
M2	1		5.7599565 GHz	-2.58 dBm																									
D3	M1	1	35.3913 MHz	-0.76 dB																									
CH _H	 Ref Level 20.50 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.07 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1 -9.556 dBm M1[1] -10.57 dBm M2[1] 5.7770870 GHz M3[1] 5.7924783 GHz CF 5.795 GHz 691 pts 6.0 MHz/ Span 60.0 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>5.777087 GHz</td><td>-10.57 dBm</td><td></td><td></td></tr> <tr> <td>M2</td><td>1</td><td></td><td>5.7924783 GHz</td><td>-3.60 dBm</td><td></td><td></td></tr> <tr> <td>D3</td><td>M1</td><td>1</td><td>35.5652 MHz</td><td>-0.35 dB</td><td></td><td></td></tr> </table> Date: 9 JUL 2020 16:07:46	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		5.777087 GHz	-10.57 dBm			M2	1		5.7924783 GHz	-3.60 dBm			D3	M1	1	35.5652 MHz	-0.35 dB		
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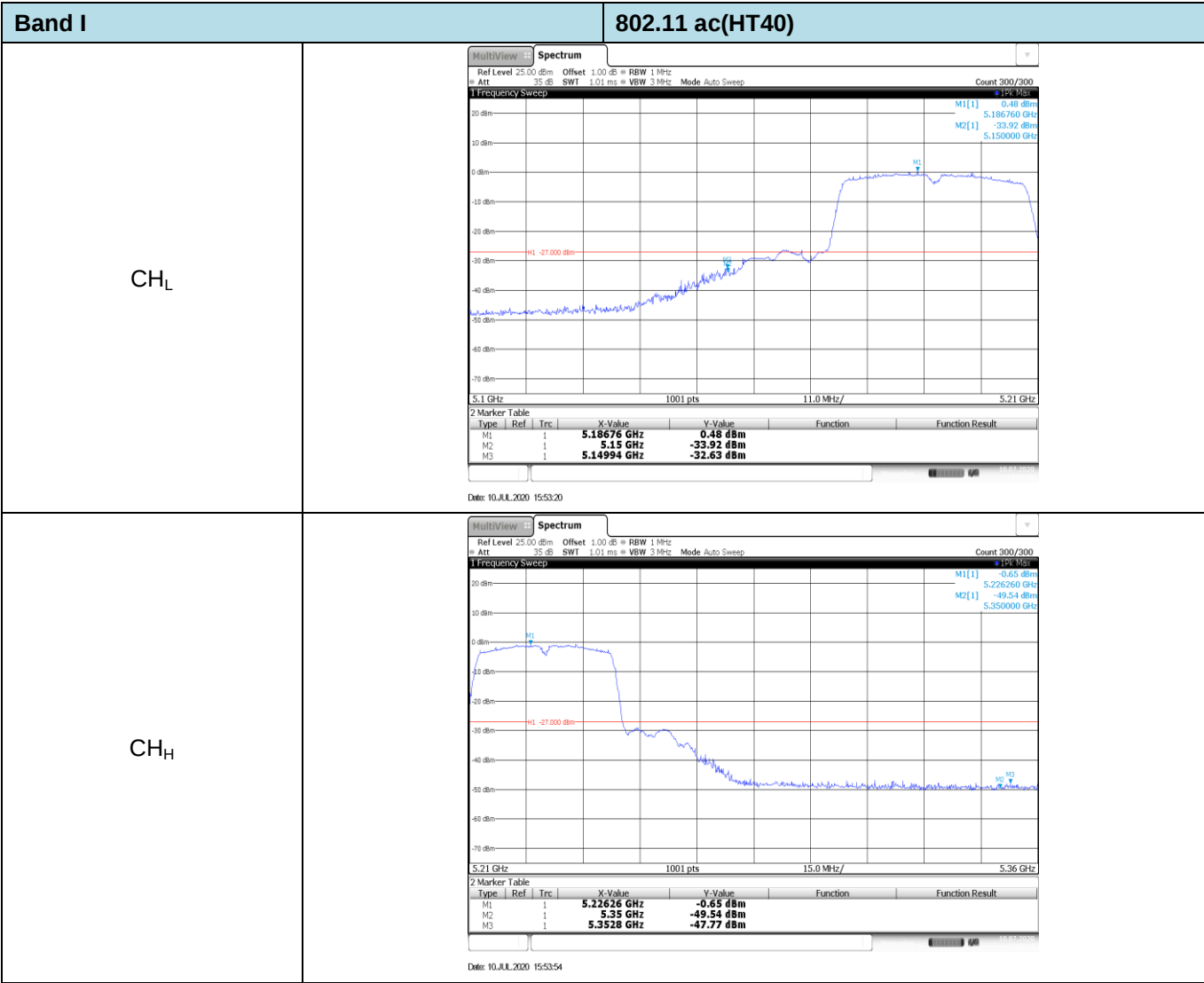
Appendix F: Band edge

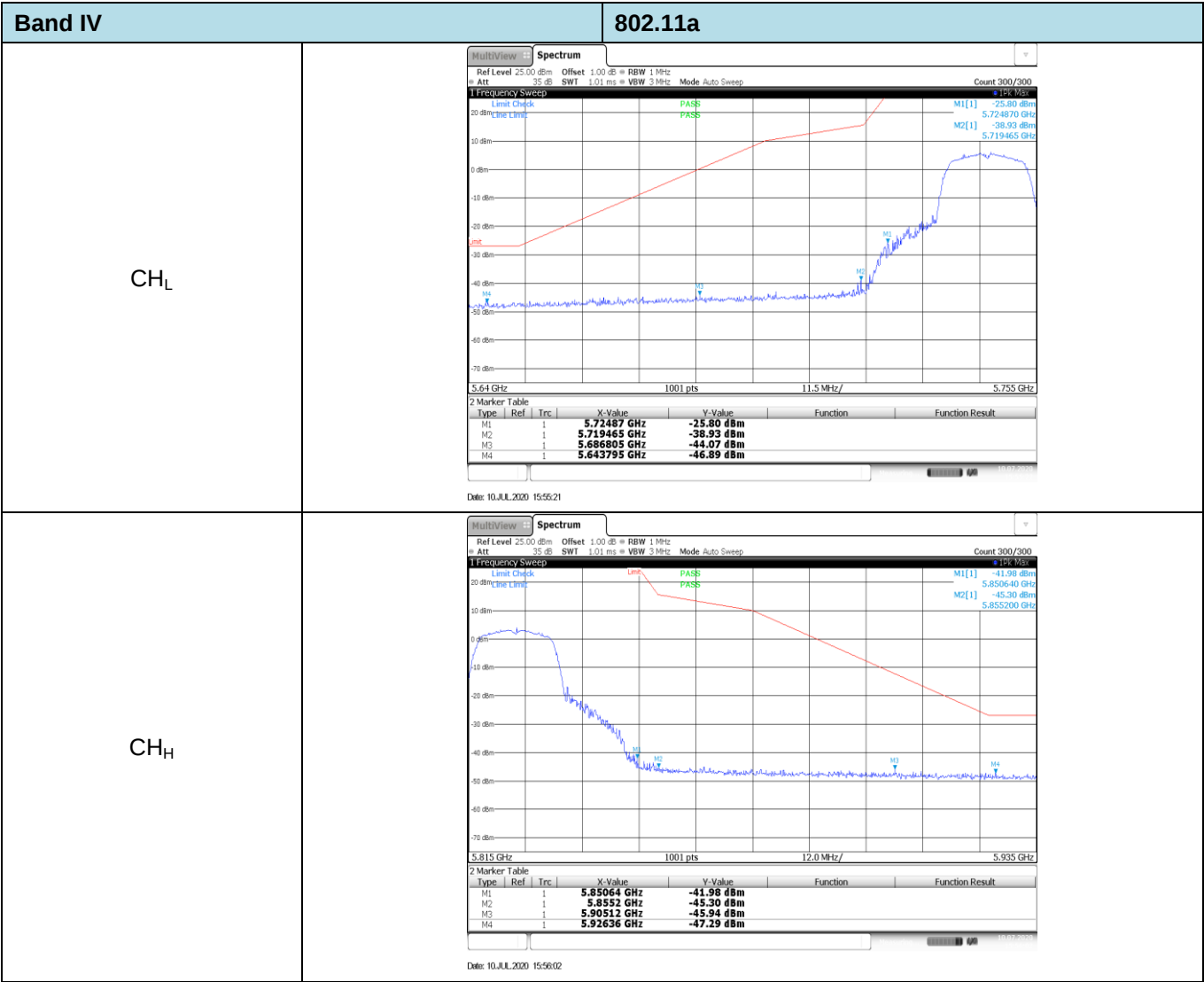


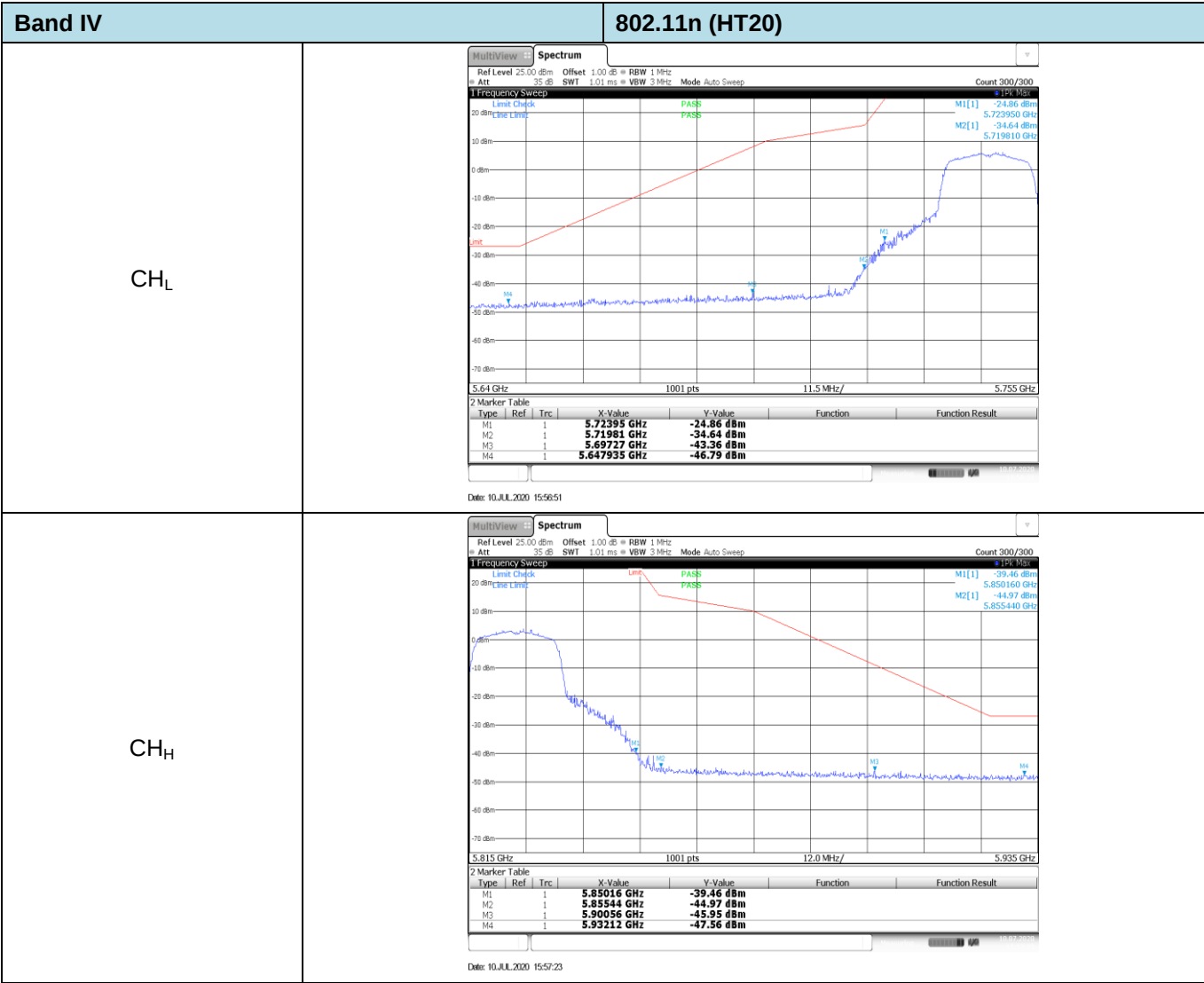


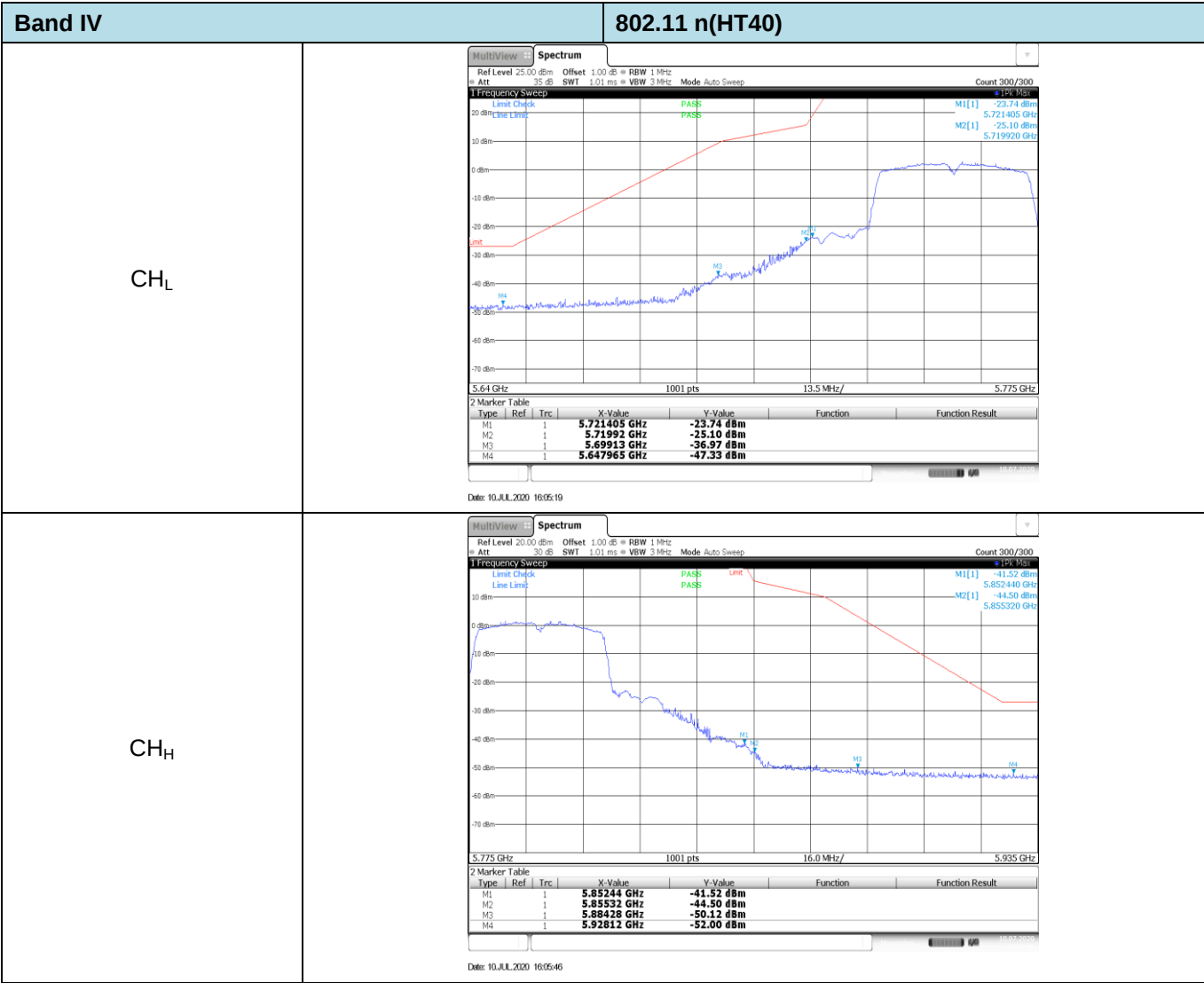


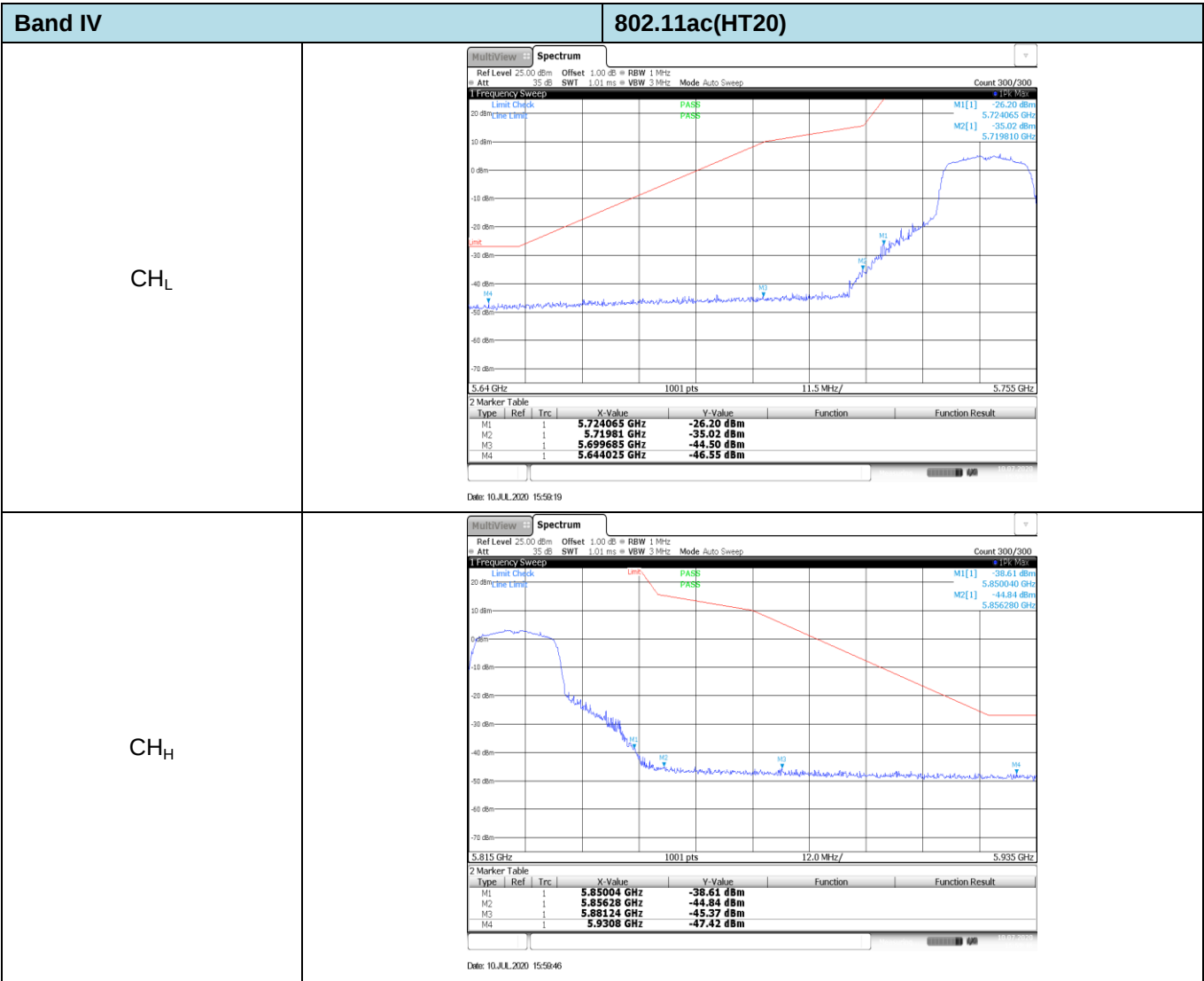


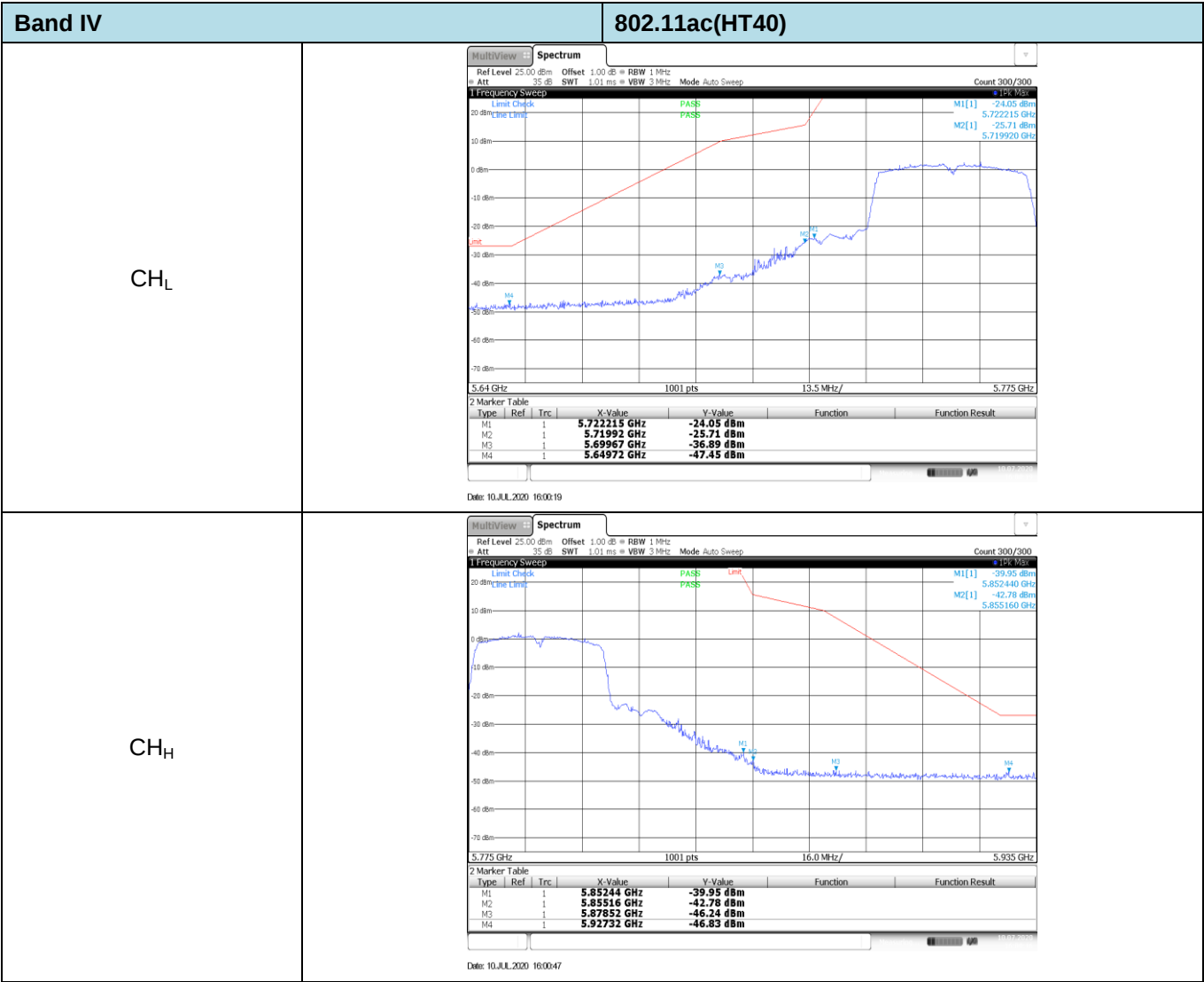












Appendix G: Frequency stability**Voltage VS Frequency stability**

Band: I			Test Frequency: 5180.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T _N	V _L	-13000.00	-2.50965	PASS
T _N	V _N	-13000.00	-2.50965	PASS
T _N	V _H	-14000.00	-2.70270	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (°C)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T _N	V _L	-17000.00	-2.95910	PASS
T _N	V _N	-17000.00	-2.95910	PASS
T _N	V _H	-17000.00	-2.95910	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	-14000.00	-2.70270	PASS
V _N	-10	-14000.00	-2.70270	PASS
V _N	0	-14000.00	-2.70270	PASS
V _N	10	-14000.00	-2.70270	PASS
V _N	20	-14000.00	-2.70270	PASS
V _N	30	-15000.00	-2.89575	PASS
V _N	40	-15000.00	-2.89575	PASS
V _N	50	-15000.00	-2.89575	PASS

Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V _N	-20	-17000.00	-2.95910	PASS
V _N	-10	-17000.00	-2.95910	PASS
V _N	0	-17000.00	-2.95910	PASS
V _N	10	-17000.00	-2.95910	PASS
V _N	20	-17000.00	-2.95910	PASS
V _N	30	-17000.00	-2.95910	PASS
V _N	40	-17000.00	-2.95910	PASS
V _N	50	-17000.00	-2.95910	PASS

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