

APPENDIX REPORT

Project No.	SHT2104027102EW	Radio Specification	WIFI 5G
Test sample No.	YPHT21040271011	Model No.	GP700Y
Start test date	2021-05-24	Finish date	2021-05-24
Temperature	24.8°C	Humidity	33%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhu

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	802.11n	CH _L	11.05	86.47	0.63	11.68	24.00	Pass
			CH _M	12.43	86.38	0.64	13.07		
			CH _H	13.07	86.46	0.63	13.70		
		802.11a	CH _L	10.96	87.15	0.60	11.56	24.00	Pass
			CH _M	12.47	87.23	0.59	13.06		
			CH _H	12.84	87.15	0.60	13.44		
	40	802.11n	CH _L	11.04	76.02	1.19	12.23	24.00	Pass
			CH _H	12.72	76.02	1.19	13.91		
II	20	802.11n	CH _L	12.82	86.38	0.64	13.46	24.00	Pass
			CH _M	12.61	86.38	0.64	13.25		
			CH _H	12.61	86.38	0.64	13.25		
		802.11a	CH _L	13.20	87.23	0.59	13.79	24.00	Pass
			CH _M	12.92	87.15	0.60	13.52		
			CH _H	13.04	87.15	0.60	13.64		
	40	802.11n	CH _L	12.49	76.02	1.19	13.68	24.00	Pass
			CH _H	12.49	75.94	1.20	13.69		
III	20	802.11n	CH _L	11.30	86.38	0.64	11.94	24.00	Pass
			CH _M	9.74	86.38	0.64	10.38		
			CH _H	7.61	86.38	0.64	8.25		
		802.11a	CH _L	11.28	87.15	0.60	11.88	24.00	Pass
			CH _M	9.78	87.15	0.60	10.38		
			CH _H	7.72	87.15	0.60	8.32		
	40	802.11n	CH _L	11.08	75.94	1.20	12.28	24.00	Pass
			CH _M	9.82	76.02	1.19	11.01		
			CH _H	8.00	76.02	1.19	9.19		
IV	20	802.11n	CH _L	11.31	86.46	0.63	11.94	30.00	Pass
			CH _M	10.67	86.38	0.64	11.31		
			CH _H	10.22	86.38	0.64	10.86		
		802.11a	CH _L	11.65	87.23	0.59	12.24	30.00	Pass
			CH _M	10.63	87.22	0.59	11.22		
			CH _H	10.30	87.23	0.59	10.89		
	40	802.11n	CH _L	11.38	75.94	1.20	12.58	30.00	Pass
			CH _H	10.79	76.02	1.19	11.98		

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

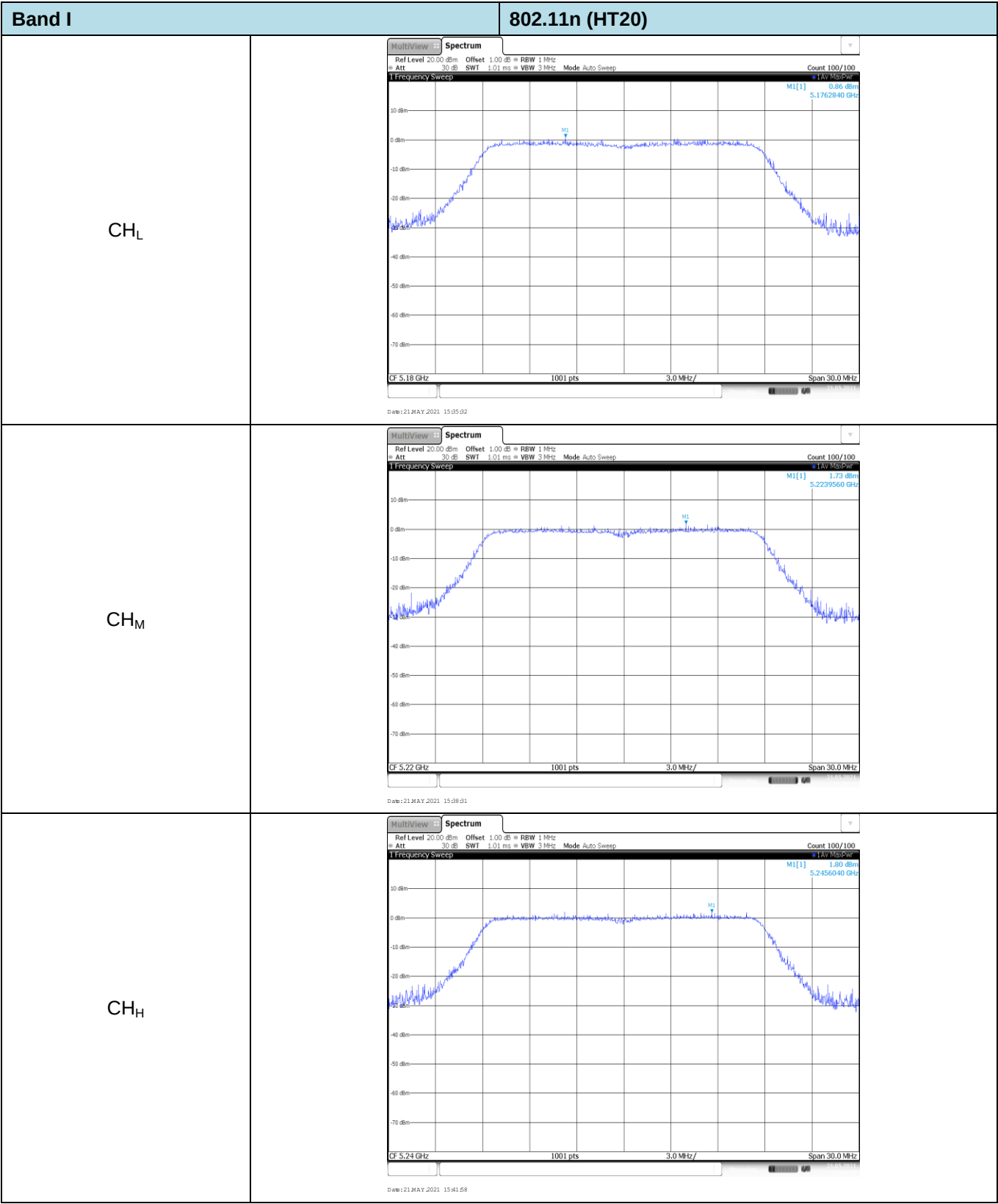
Appendix B: Maximum Power Spectral Density

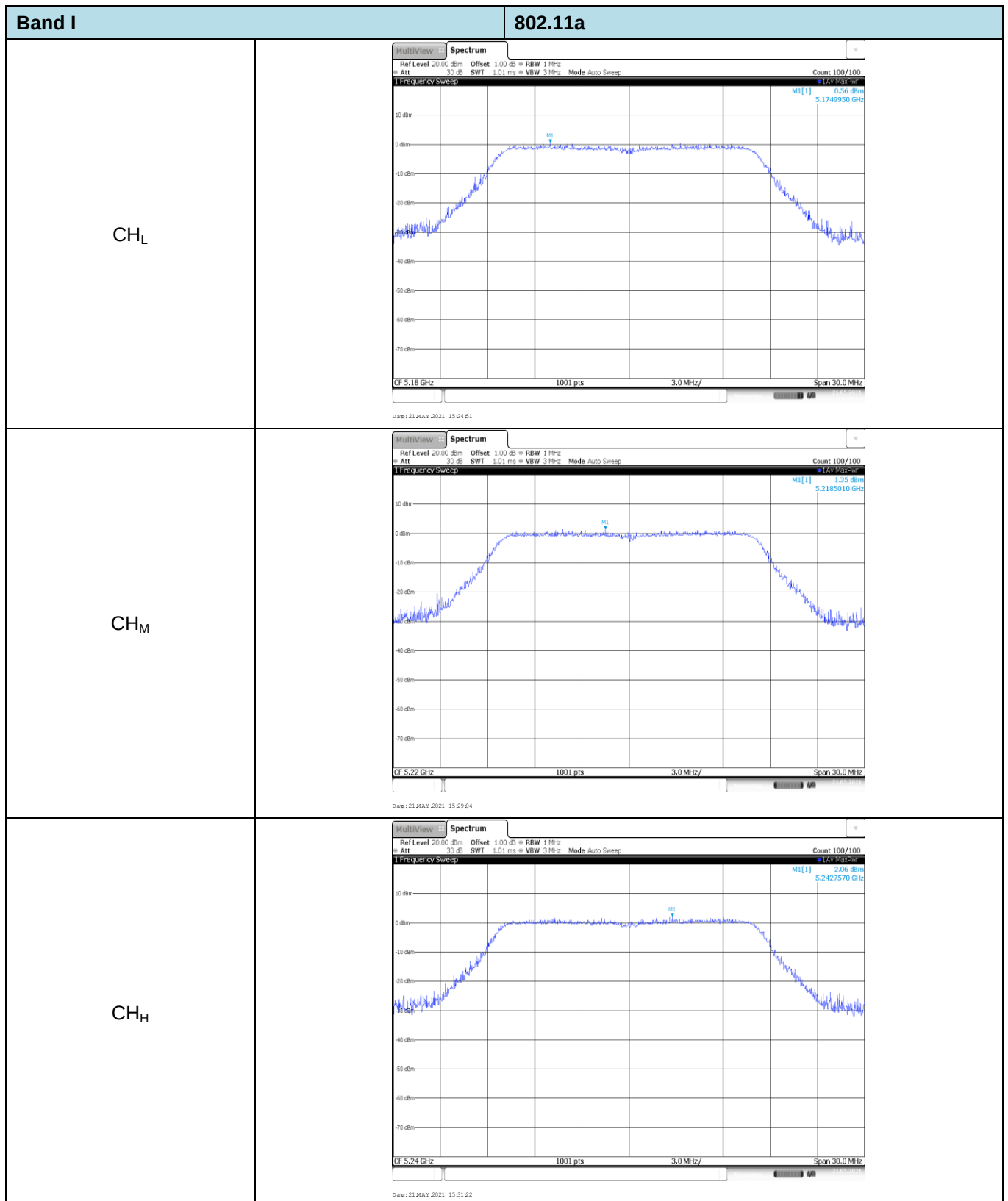
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11n	CH _L	0.86	86.47	0.63	1.49	11.00	Pass
			CH _M	1.73	86.38	0.64	2.37		
			CH _H	1.80	86.46	0.63	2.43		
		802.11a	CH _L	0.56	87.15	0.60	1.16	11.00	Pass
			CH _M	1.35	87.23	0.59	1.94		
			CH _H	2.06	87.15	0.60	2.66		
	40	802.11n	CH _L	-2.41	76.02	1.19	-1.22	11.00	Pass
			CH _H	-0.83	76.02	1.19	0.36		

Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
II	20	802.11n	CH _L	1.72	86.38	0.64	2.36	11.00	Pass
			CH _M	2.05	86.38	0.64	2.69		
			CH _H	1.58	86.38	0.64	2.22		
		802.11a	CH _L	2.64	87.23	0.59	3.23	11.00	Pass
			CH _M	3.38	87.15	0.60	3.98		
			CH _H	3.93	87.15	0.60	4.53		
	40	802.11n	CH _L	-1.09	76.02	1.19	0.10	11.00	Pass
			CH _H	-0.03	75.94	1.20	1.17		
III	20	802.11n	CH _L	1.20	86.38	0.64	1.84	11.00	Pass
			CH _M	-1.45	86.38	0.64	-0.81		
			CH _H	-3.85	86.38	0.64	-3.21		
		802.11a	CH _L	1.38	87.15	0.60	1.98	11.00	Pass
			CH _M	-1.18	87.15	0.60	-0.58		
			CH _H	-4.24	87.15	0.60	-3.64		
	40	802.11n	CH _L	-2.37	75.94	1.20	-1.17	11.00	Pass
			CH _M	-3.84	76.02	1.19	-2.65		
			CH _H	-6.19	76.02	1.19	-5.00		

Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Result
IV	20	802.11n	CH _L	-0.95	86.46	0.63	-0.32	30.00	Pass
			CH _M	-2.55	86.38	0.64	-1.91		
			CH _H	-3.17	86.38	0.64	-2.53		
		802.11a	CH _L	-0.27	87.23	0.59	0.32	30.00	Pass
			CH _M	-1.75	87.22	0.59	-1.16		
			CH _H	-2.74	87.23	0.59	-2.15		
	40	802.11n	CH _L	-3.35	75.94	1.20	-2.15	30.00	Pass
			CH _H	-5.06	76.02	1.19	-3.87		

Test plot as follows:





Band I

802.11n (HT40)

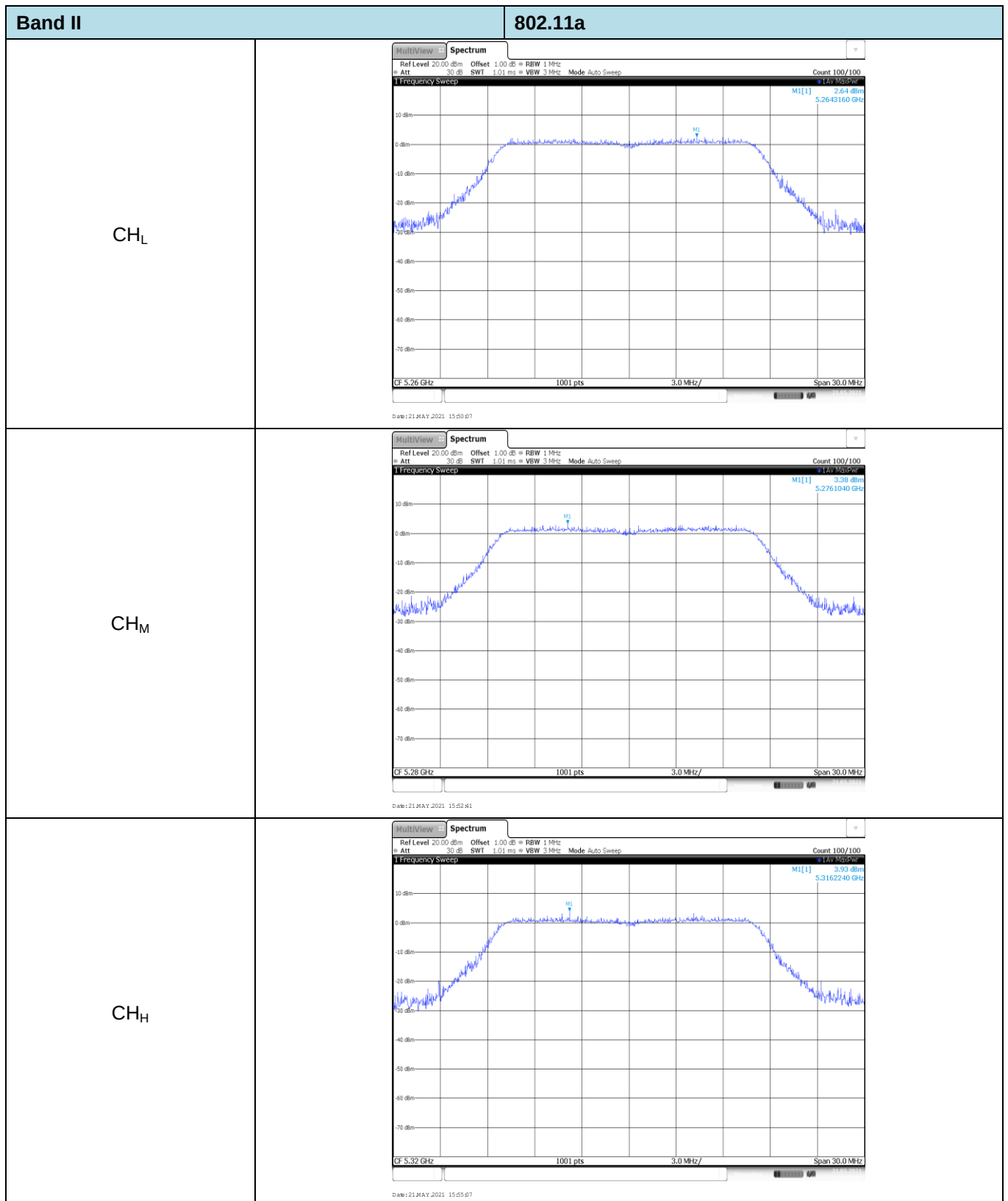
CH_L

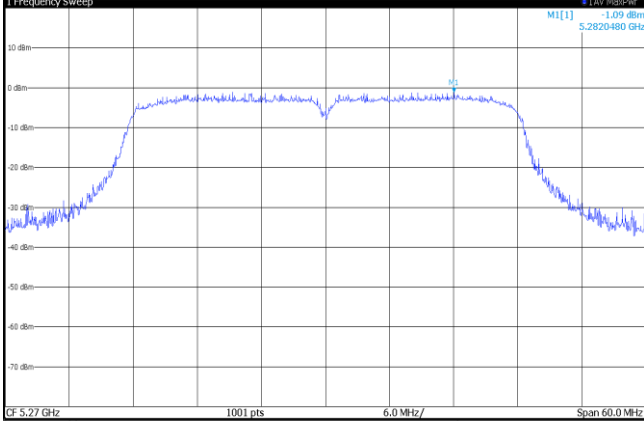
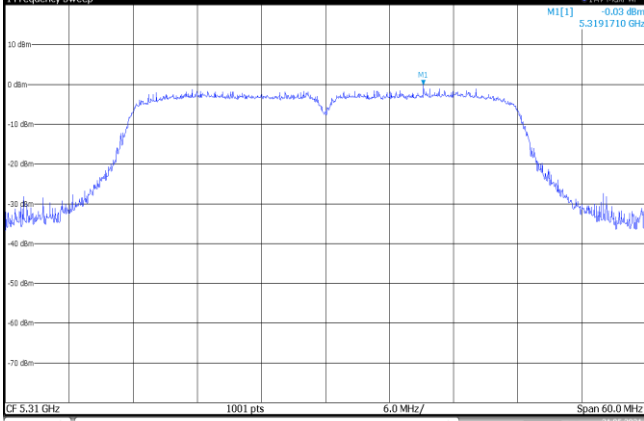
MultiView Spectrum
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Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100
1 Frequency Sweep
MI[1] -2.41 dBm
5.1983920 GHz
CF 5.19 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz
Date: 21 MAY 2021 15:44:53

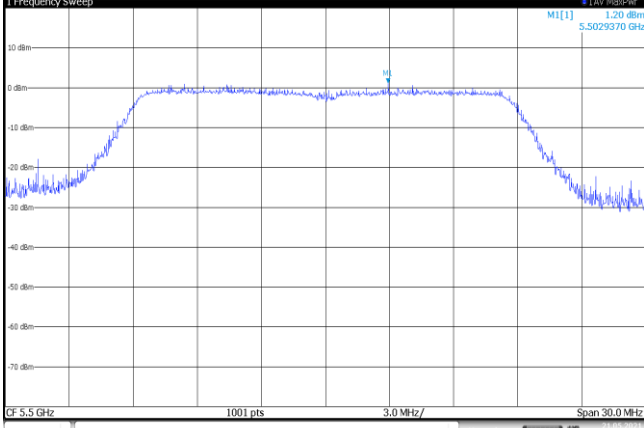
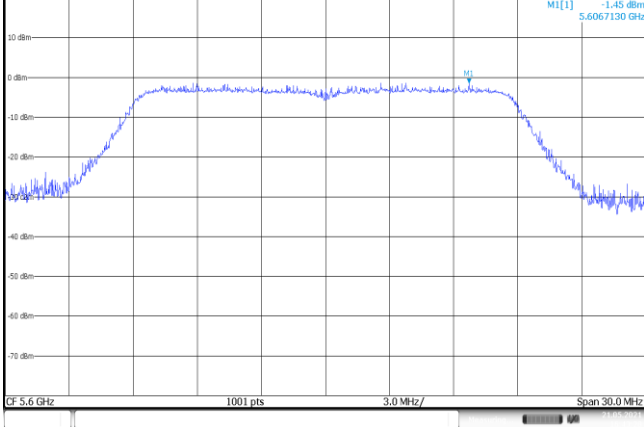
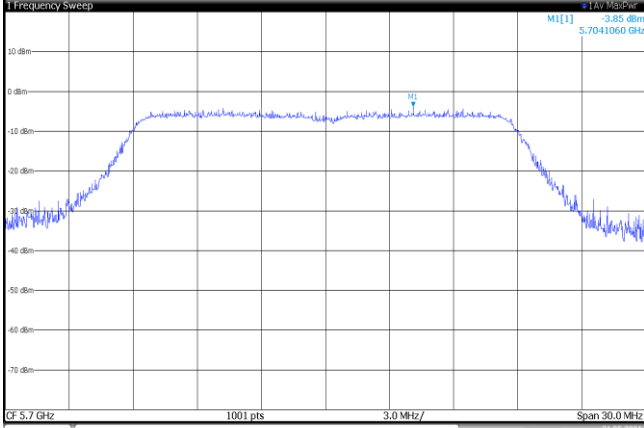
CH_H

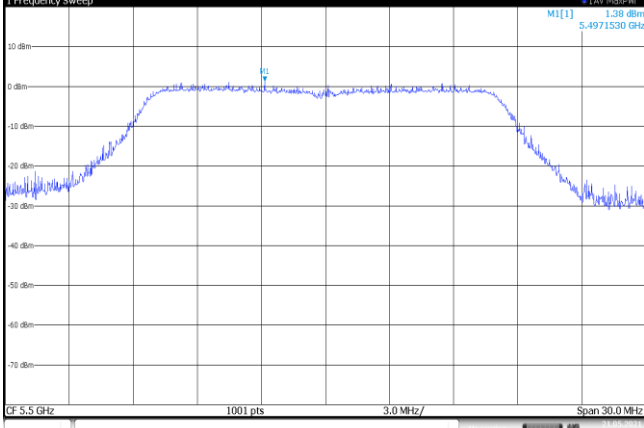
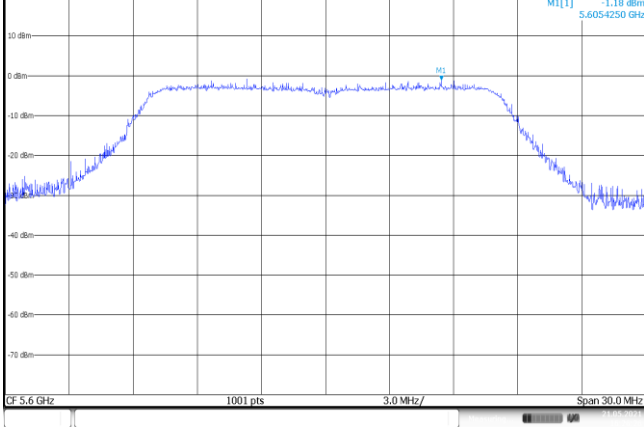
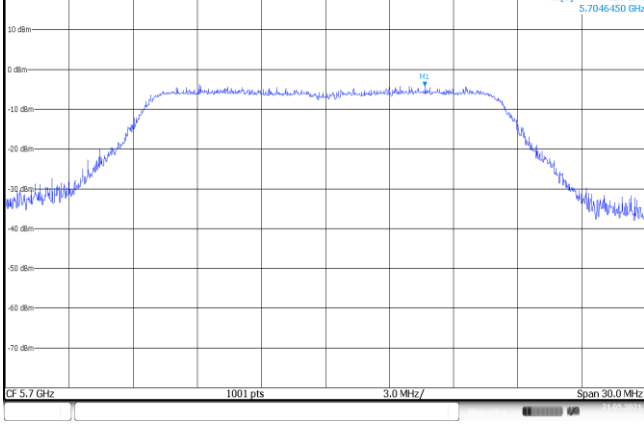
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Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100
1 Frequency Sweep
MI[1] 0.33 dBm
5.2401300 GHz
CF 5.23 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz
Date: 21 MAY 2021 15:47:29

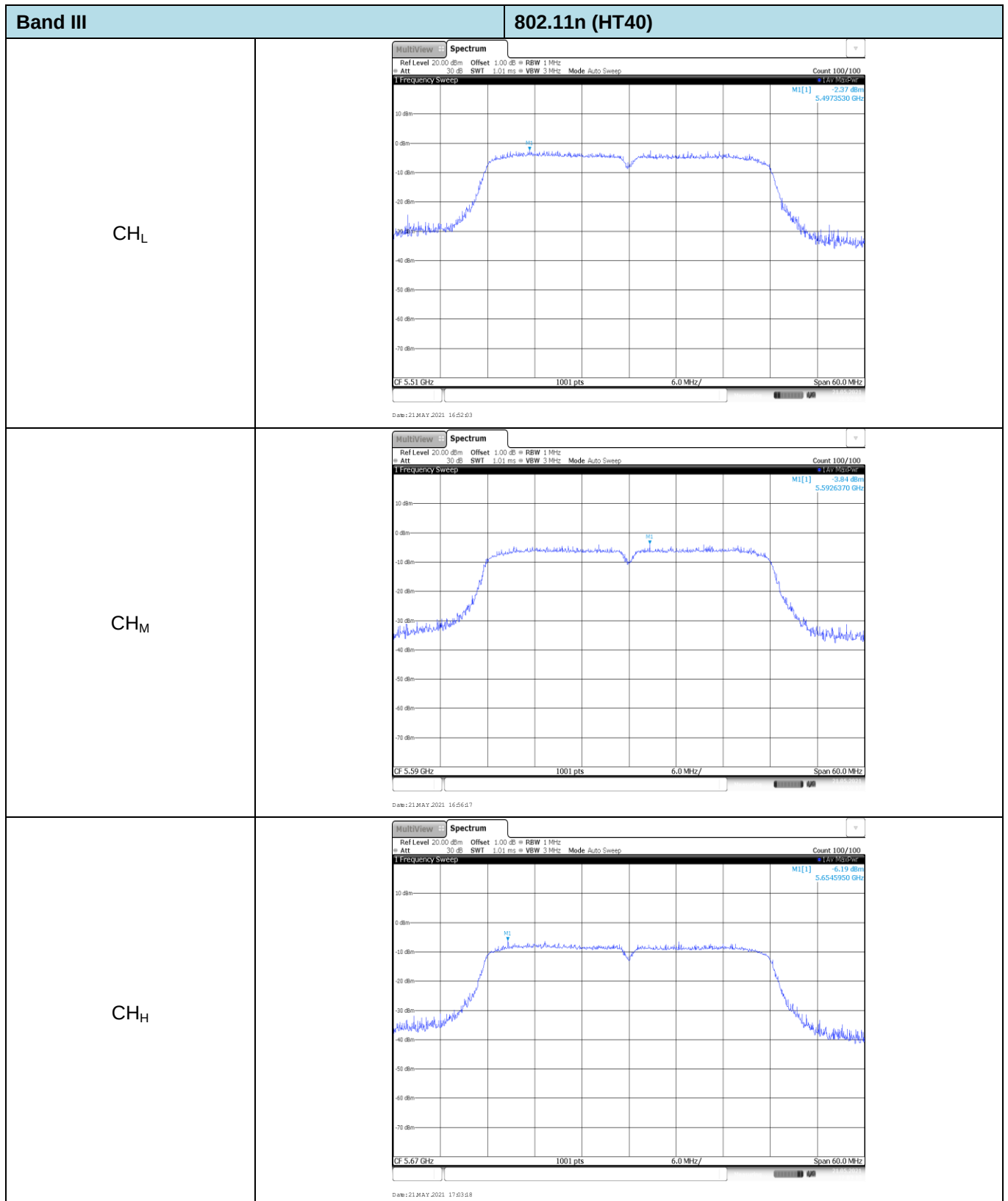
Band II		802.11n (HT20)
CH _L	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 1 MHz Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 1.72 dBm 5.2543660 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.26 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 15:57:53	
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] 2.05 dBm 5.2811990 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.28 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 15:59:58	
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] 1.58 dBm 5.3219480 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 5.32 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 16:03:41	

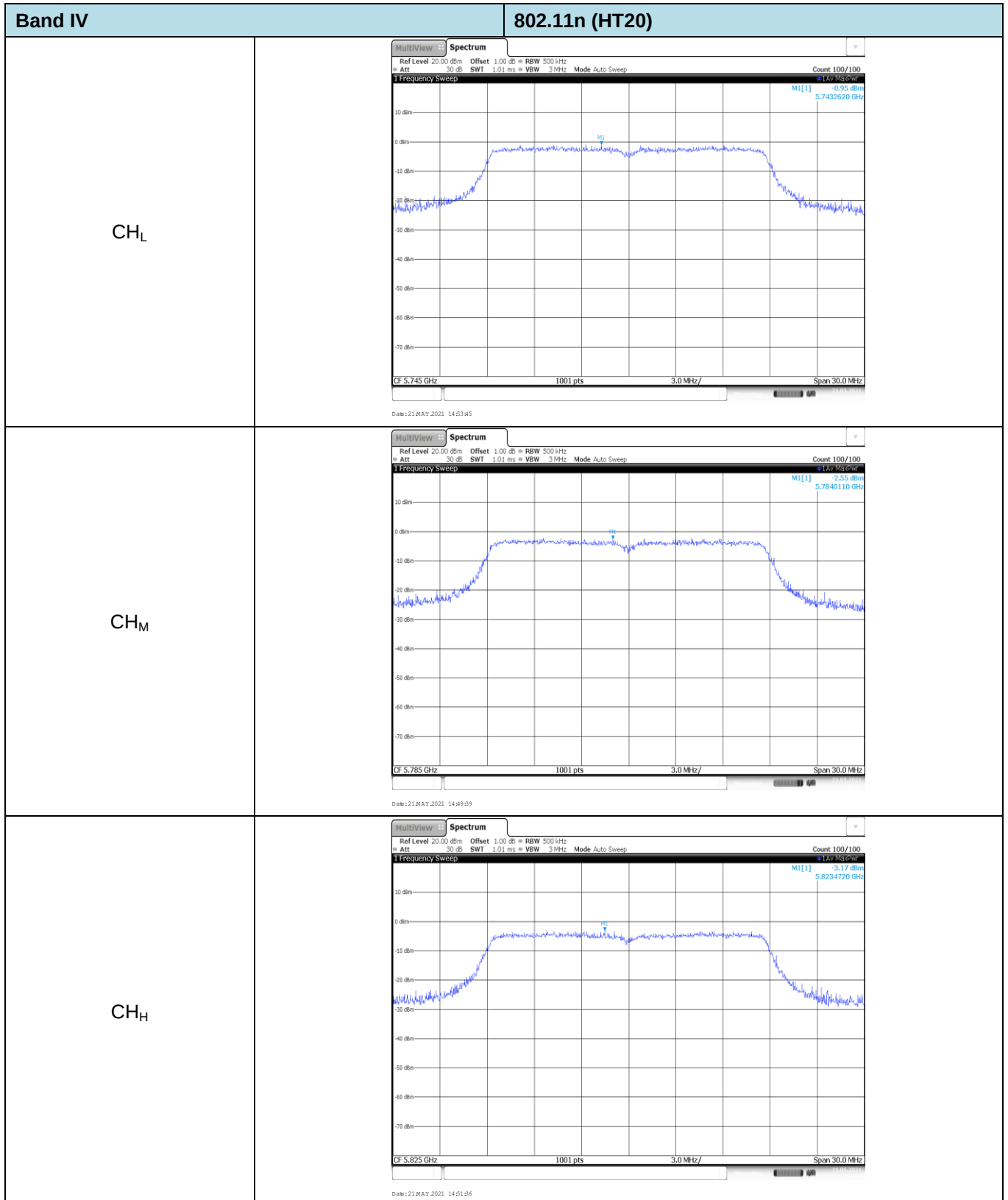


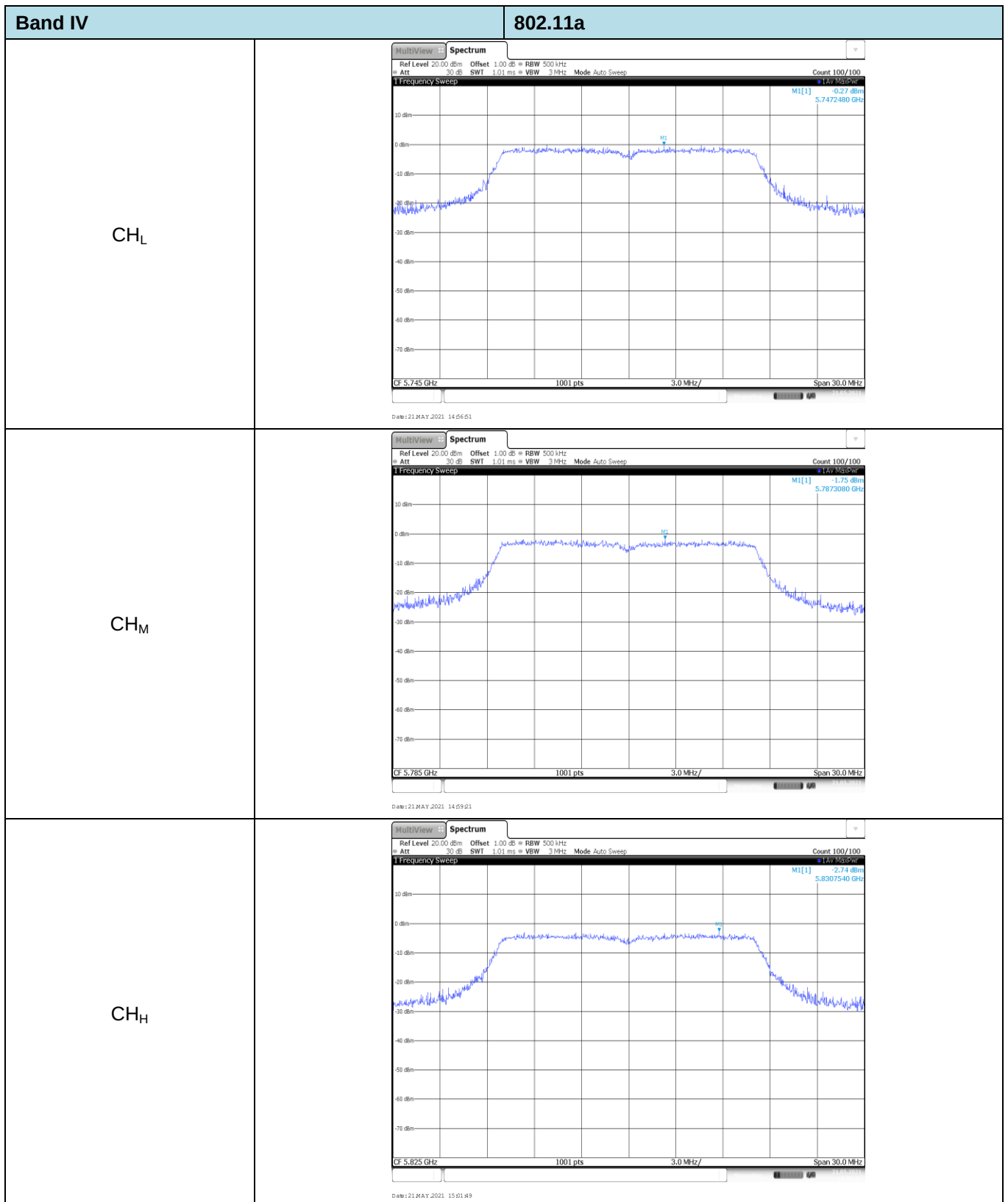
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CH _L	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI[1] -1.09 dBm 5.2820480 GHz  CF 5.27 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 21.MAY.2021 16:07:26	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz SWI 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MI[1] -0.03 dBm 5.3191710 GHz  CF 5.31 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 21.MAY.2021 16:11:01	

Band III		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 ↑ 1AY MSdPwr 1 Frequency Sweep MU[1] 1.20 dBm 5.5029370 GHz  CF 5.5 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21 MAY 2021 16:07:51	
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 ↑ 1AY MSdPwr 1 Frequency Sweep MU[1] -1.45 dBm 5.6067130 GHz  CF 5.6 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21 MAY 2021 16:03:28	
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 ↑ 1AY MSdPwr 1 Frequency Sweep MU[1] -3.85 dBm 5.7041060 GHz  CF 5.7 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 21 MAY 2021 16:07:09	

Band III		802.11a
CH _L	MultiView Spectrum Ref Level 20.00 dBm Att 30.0 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 ↑TAT M50Pw 1 Frequency Sweep M1[1] 1.38 dBm 5.4971530 GHz  CF 5.5 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 16:20:46	
CH _M	MultiView Spectrum Ref Level 20.00 dBm Att 30.0 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 ↑TAT M50Pw 1 Frequency Sweep M1[1] -1.18 dBm 5.6054250 GHz  CF 5.6 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 16:26:26	
CH _H	MultiView Spectrum Ref Level 20.00 dBm Att 30.0 dB Offset 1.00 dB RBW 1 MHz SWT 1.01 ms VBW 3 MHz Mode Auto Sweep Count 100/100 ↑TAT M50Pw 1 Frequency Sweep M1[1] -4.24 dBm 5.7046450 GHz  CF 5.7 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 21 MAY 2021 16:32:49	

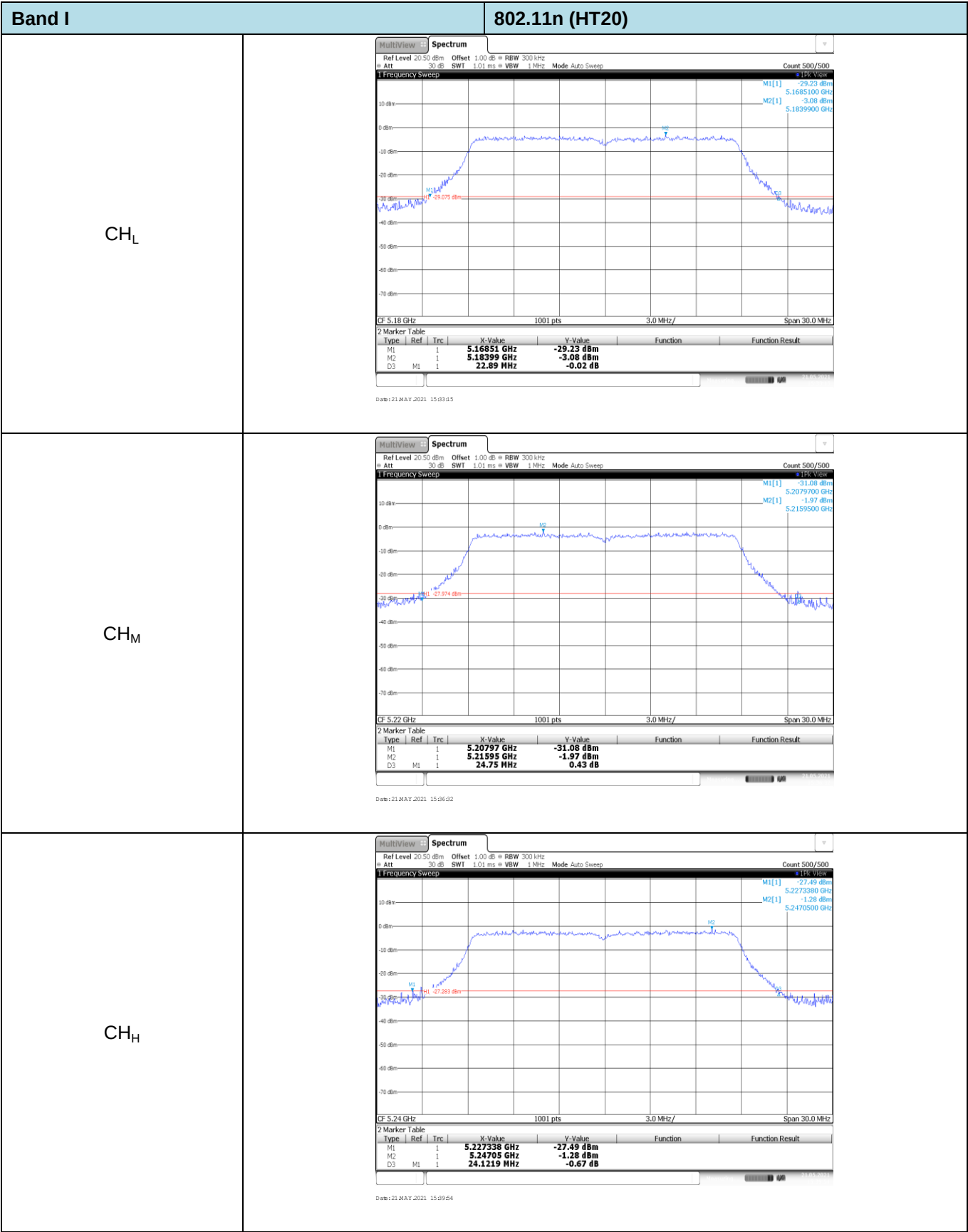


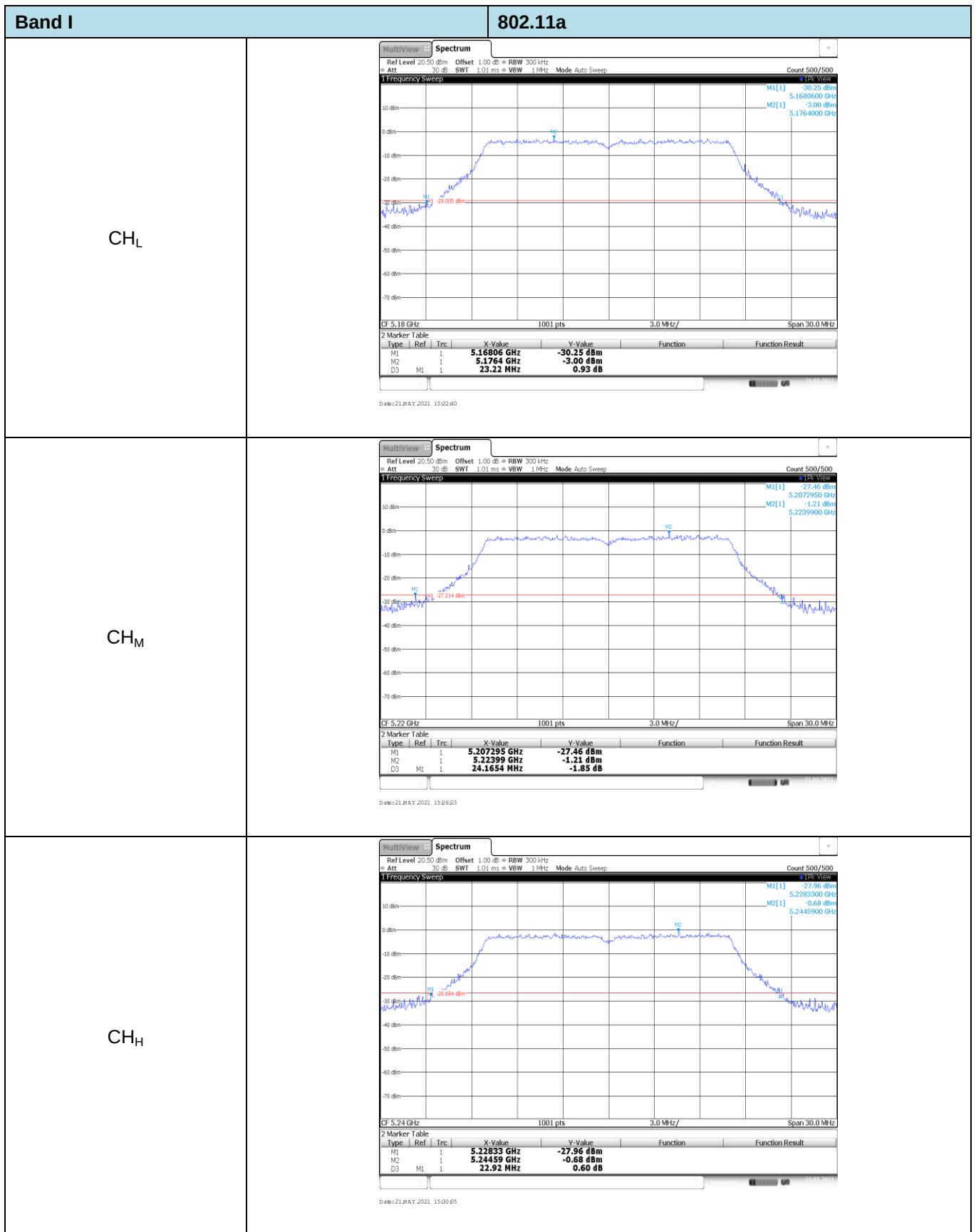


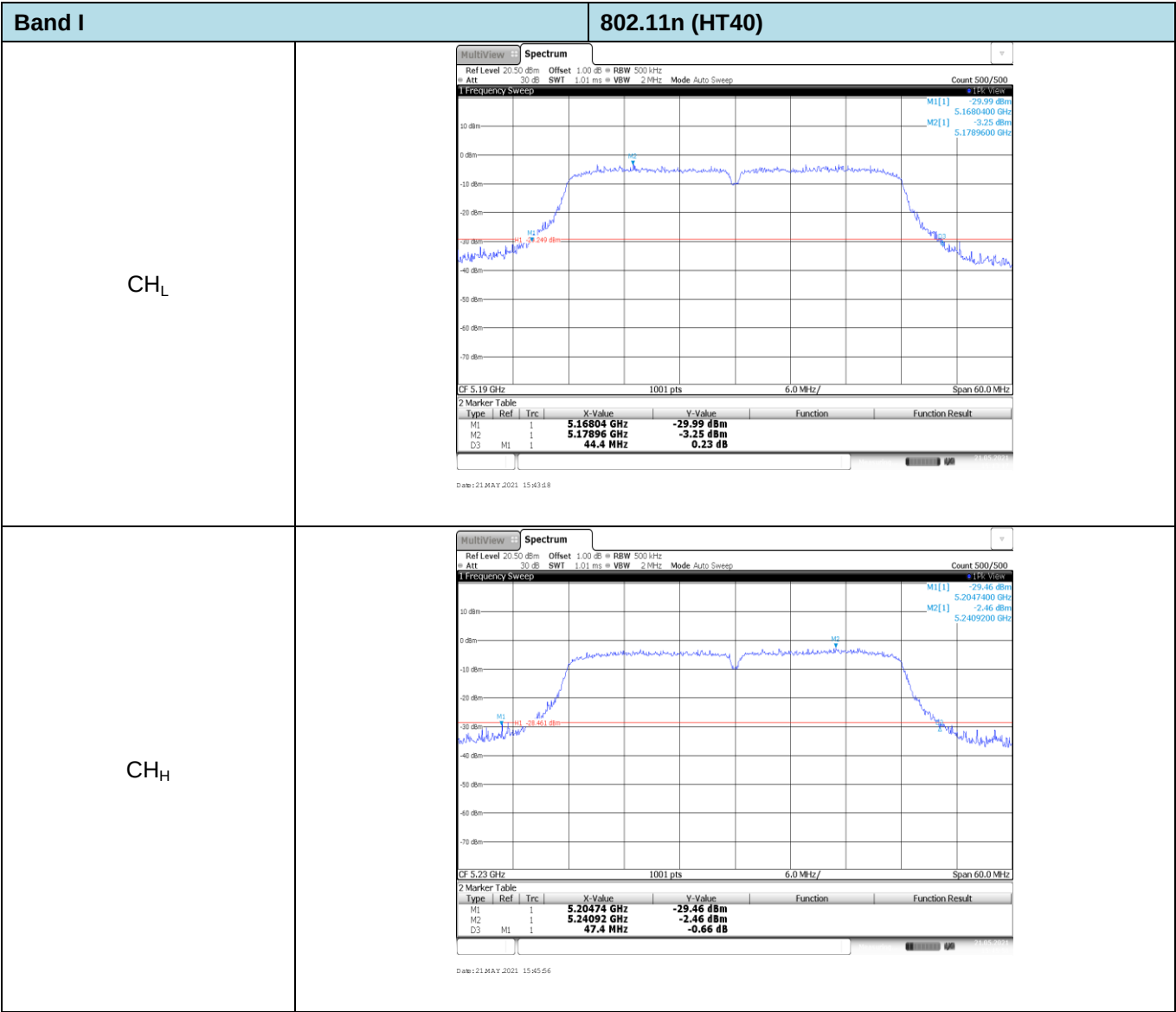


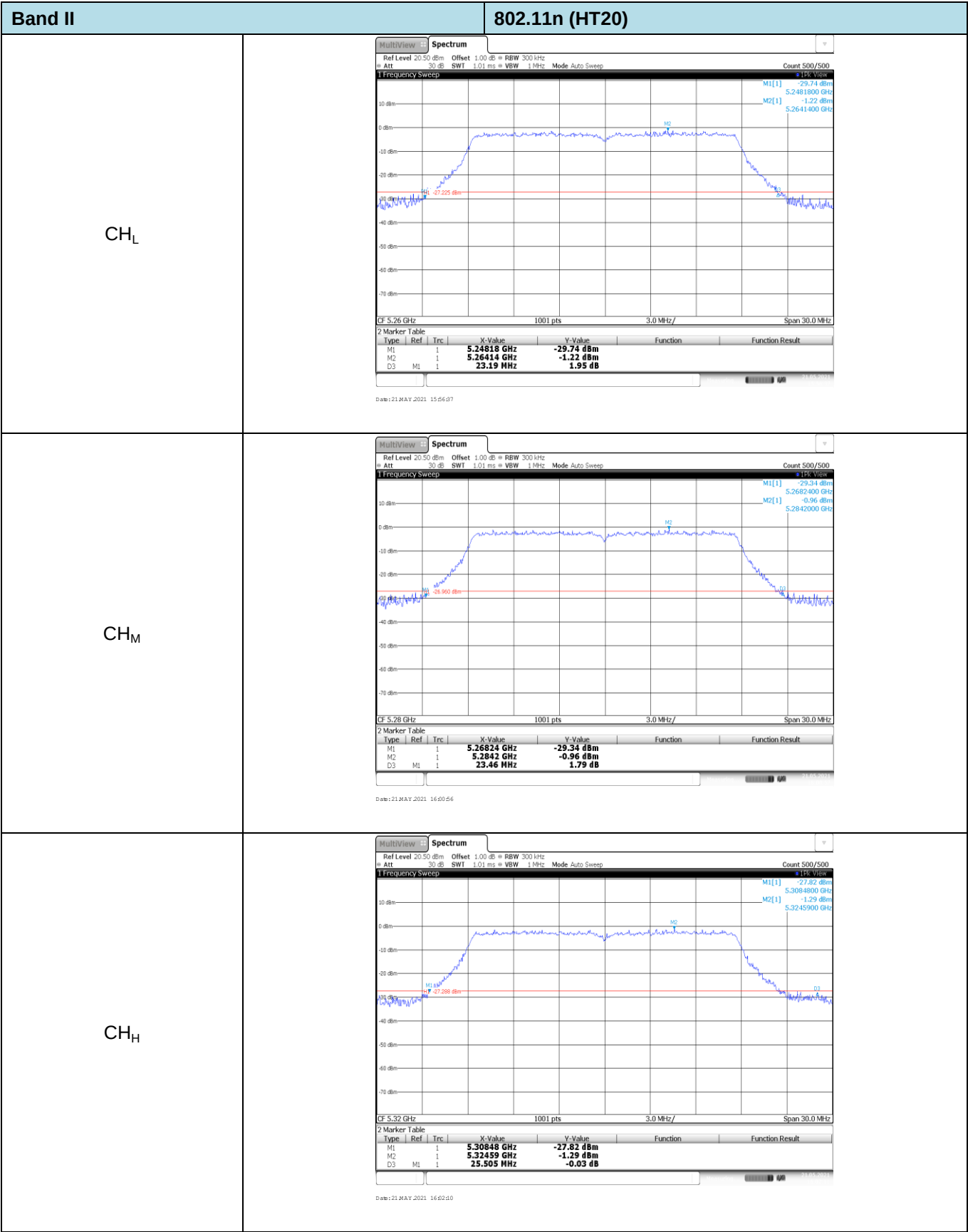
Appendix C: 26dB bandwidth

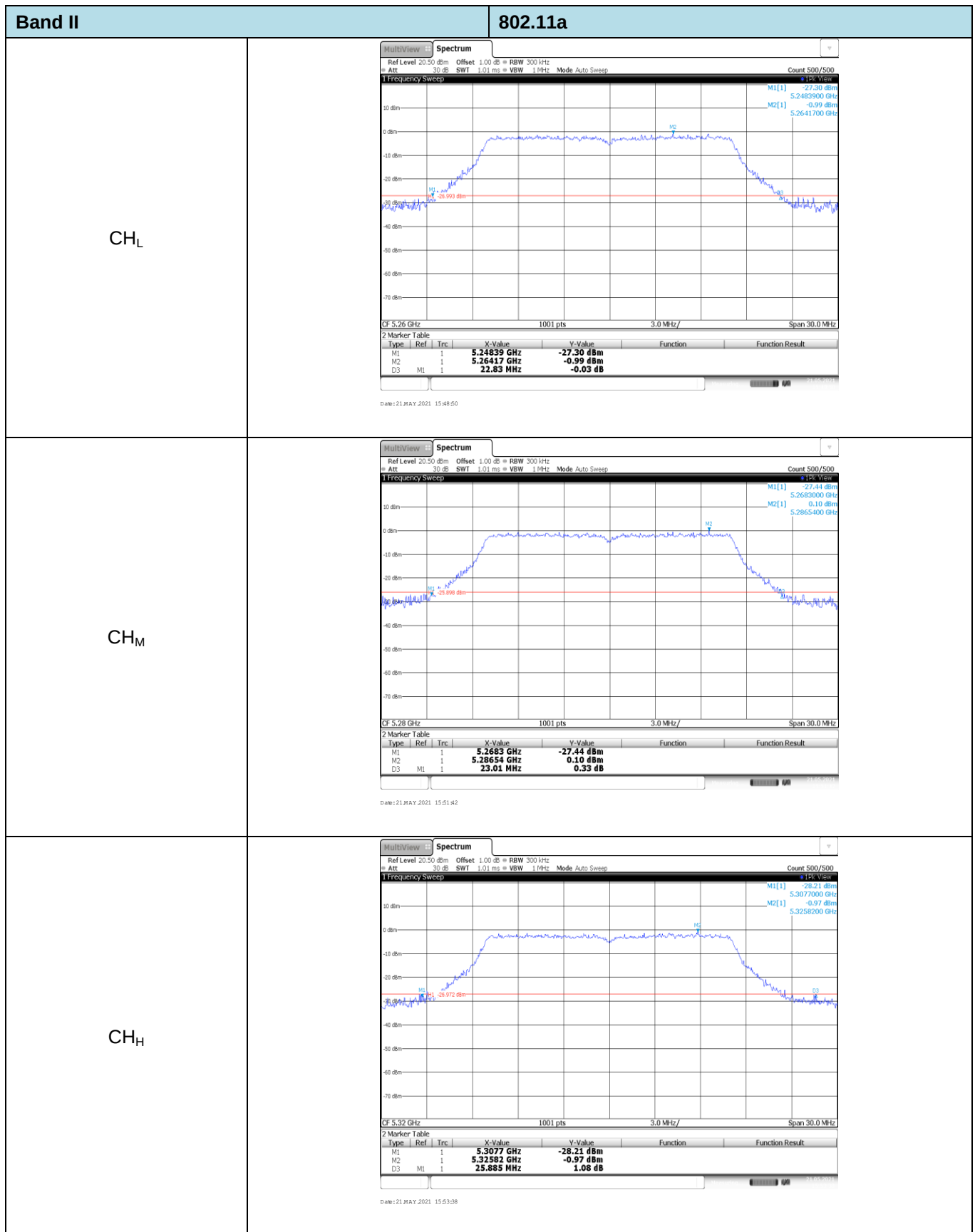
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11n	CH _L	22.89	Pass
			CH _M	24.75	
			CH _H	24.12	
		802.11a	CH _L	23.22	Pass
			CH _M	24.17	
			CH _H	22.92	
	40	802.11n	CH _L	44.40	Pass
			CH _H	47.40	
II	20	802.11n	CH _L	23.19	Pass
			CH _M	23.46	
			CH _H	25.51	
		802.11a	CH _L	22.83	Pass
			CH _M	23.01	
			CH _H	25.89	
	40	802.11n	CH _L	44.76	Pass
			CH _H	46.82	
III	20	802.11n	CH _L	25.35	Pass
			CH _M	24.97	
			CH _H	26.97	
		802.11a	CH _L	25.74	Pass
			CH _M	25.27	
			CH _H	23.66	
	40	802.11n	CH _L	47.94	Pass
			CH _M	50.04	
			CH _H	47.16	

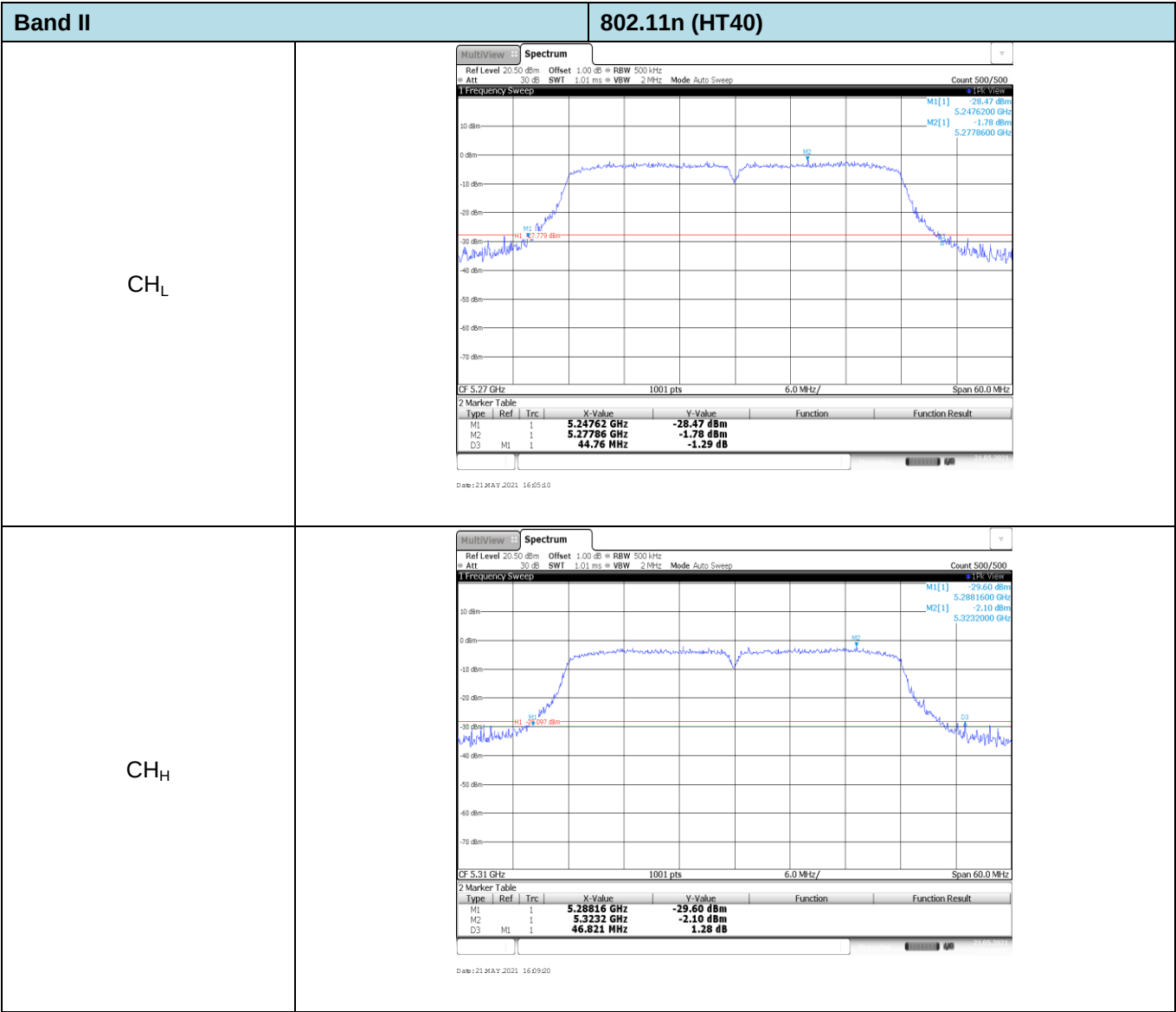




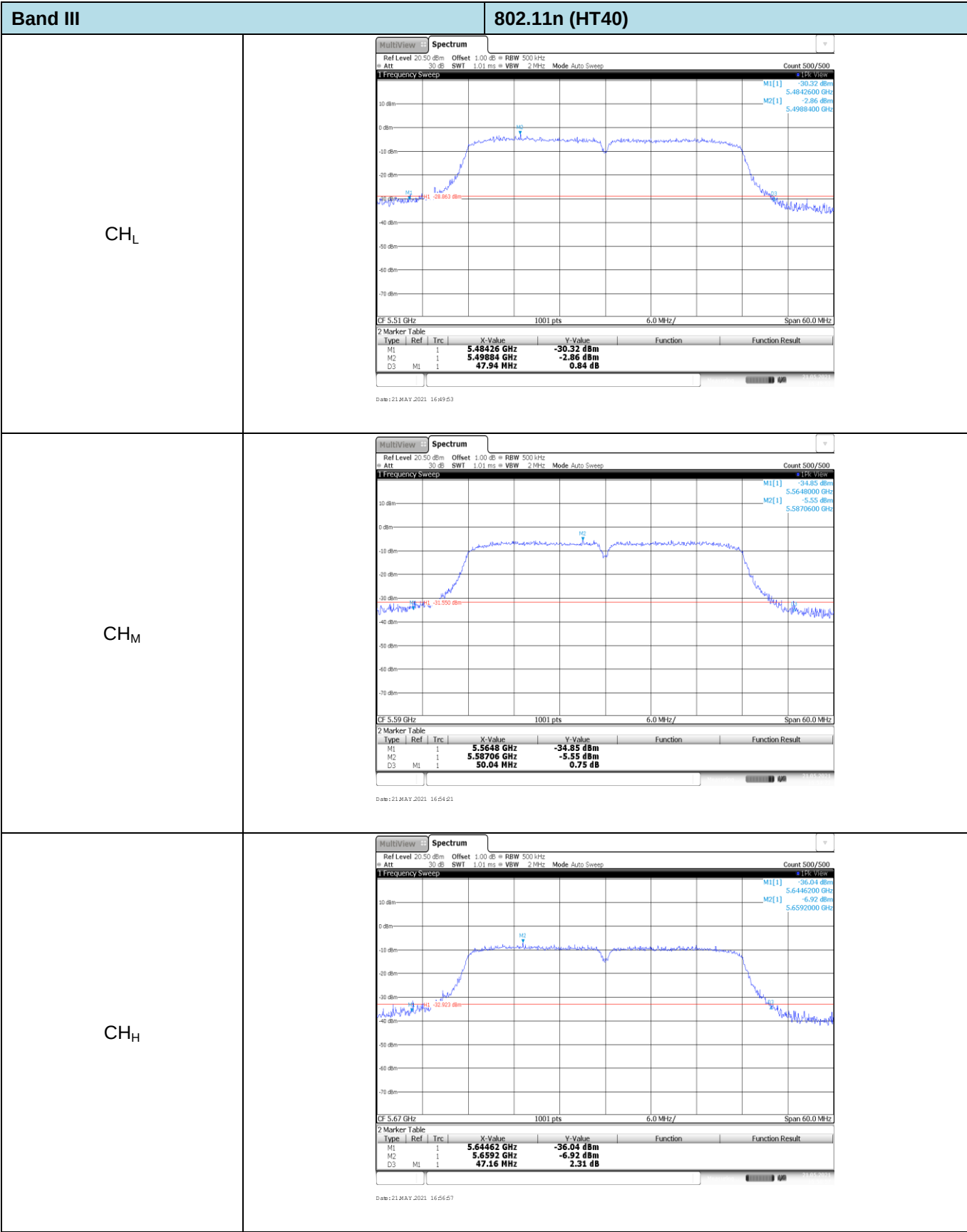






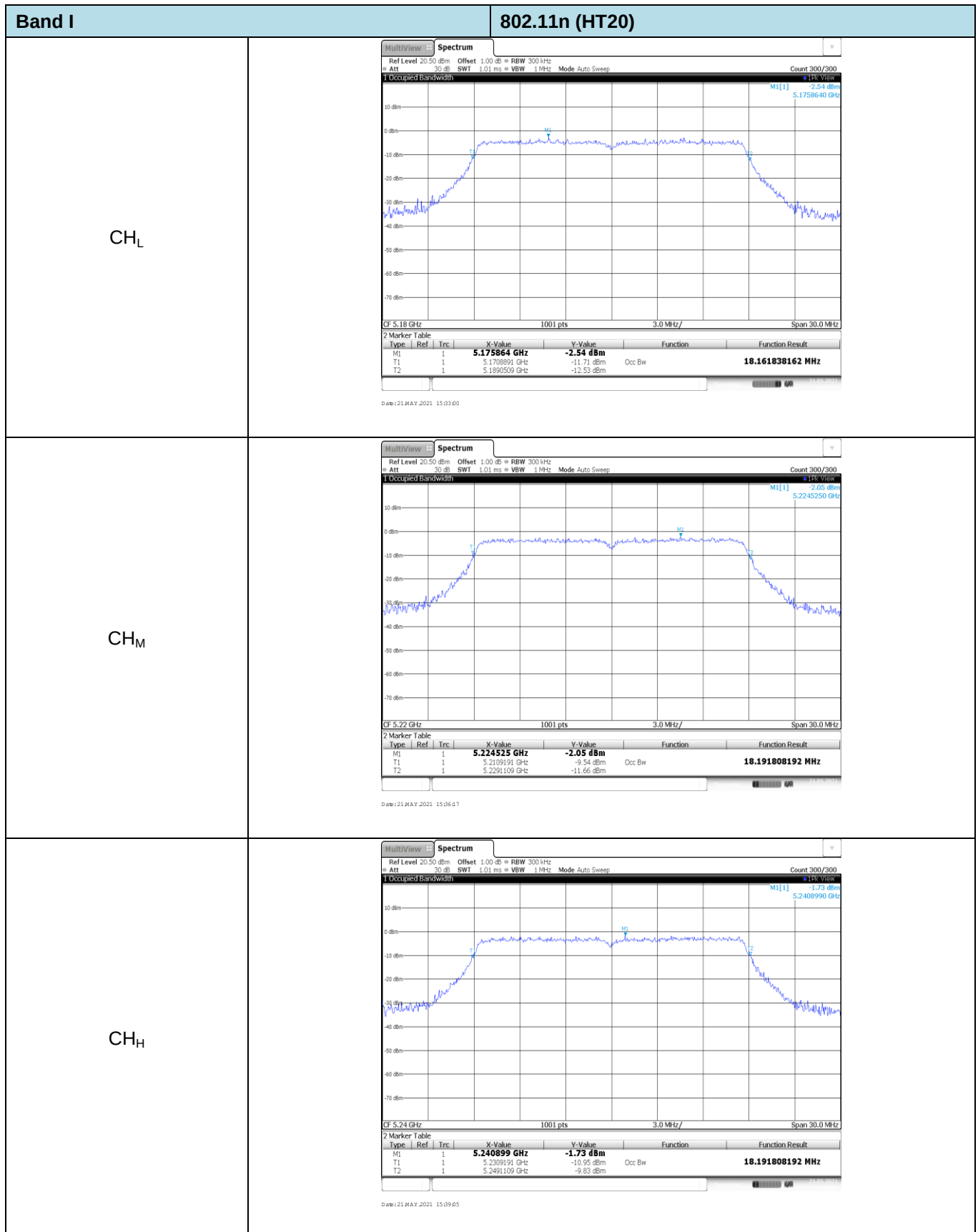


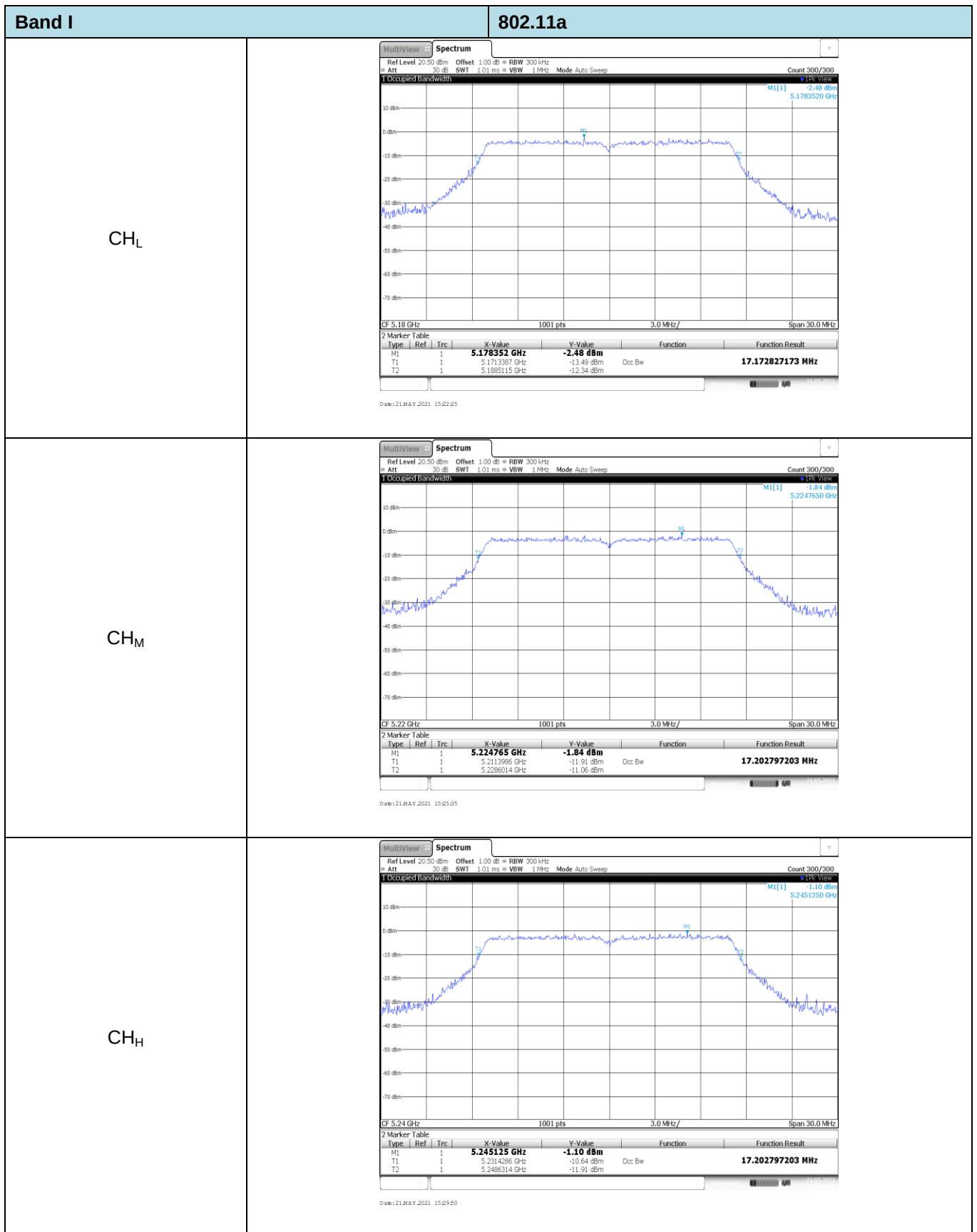
Band III		802.11n (HT20)																											
CH _L	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att -30.48 SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -28.94 dBm 5.4859120 GHz M2[1] -3.49 dBm 5.4939460 GHz CF 5.5 GHz 1001 pts 3.0 MHz/ Span 30.0 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></td><td>1</td><td>5.485912 GHz</td><td>-28.94 dBm</td><td></td><td></td></tr><tr><td>M2</td><td></td><td>1</td><td>5.493946 GHz</td><td>-3.49 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>25.3496 MHz</td><td>-0.48 dB</td><td></td><td></td></tr></table> Date: 21 MAY 2021 16:05:41	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1		1	5.485912 GHz	-28.94 dBm			M2		1	5.493946 GHz	-3.49 dBm			D3	M1	1	25.3496 MHz	-0.48 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1		1	5.485912 GHz	-28.94 dBm																									
M2		1	5.493946 GHz	-3.49 dBm																									
D3	M1	1	25.3496 MHz	-0.48 dB																									
CH _M	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att -30.48 SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -30.47 dBm 5.5865490 GHz M2[1] -4.26 dBm 5.6035100 GHz CF 5.6 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></td><td>1</td><td>5.586549 GHz</td><td>-30.47 dBm</td><td></td><td></td></tr><tr><td>M2</td><td></td><td>1</td><td>5.60351 GHz</td><td>-4.26 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>24.9711 MHz</td><td>-2.06 dB</td><td></td><td></td></tr></table> Date: 21 MAY 2021 16:09:36	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1		1	5.586549 GHz	-30.47 dBm			M2		1	5.60351 GHz	-4.26 dBm			D3	M1	1	24.9711 MHz	-2.06 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1		1	5.586549 GHz	-30.47 dBm																									
M2		1	5.60351 GHz	-4.26 dBm																									
D3	M1	1	24.9711 MHz	-2.06 dB																									
CH _H	MultiView Spectrum Ref Level 20.50 dBm Offset 1.00 dB RBW 300 kHz Att -30.48 SWI 1.01 ms VBW 1 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -36.28 dBm 5.6859600 GHz M2[1] -7.52 dBm 5.6946300 GHz CF 5.7 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></td><td>1</td><td>5.68596 GHz</td><td>-36.28 dBm</td><td></td><td></td></tr><tr><td>M2</td><td></td><td>1</td><td>5.69463 GHz</td><td>-7.52 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>26.97 MHz</td><td>2.06 dB</td><td></td><td></td></tr></table> Date: 21 MAY 2021 16:44:13	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1		1	5.68596 GHz	-36.28 dBm			M2		1	5.69463 GHz	-7.52 dBm			D3	M1	1	26.97 MHz	2.06 dB		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																							
M1		1	5.68596 GHz	-36.28 dBm																									
M2		1	5.69463 GHz	-7.52 dBm																									
D3	M1	1	26.97 MHz	2.06 dB																									

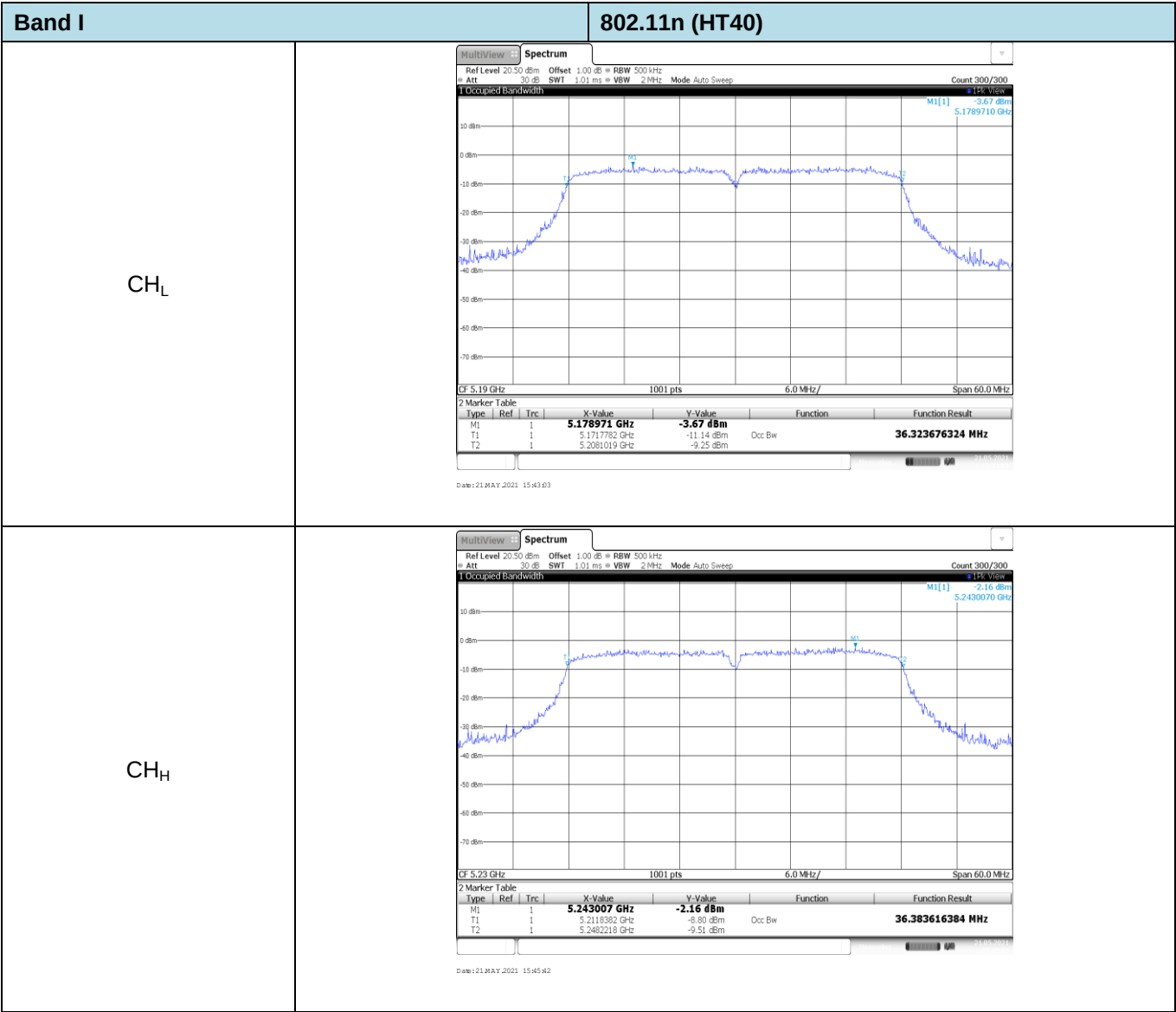


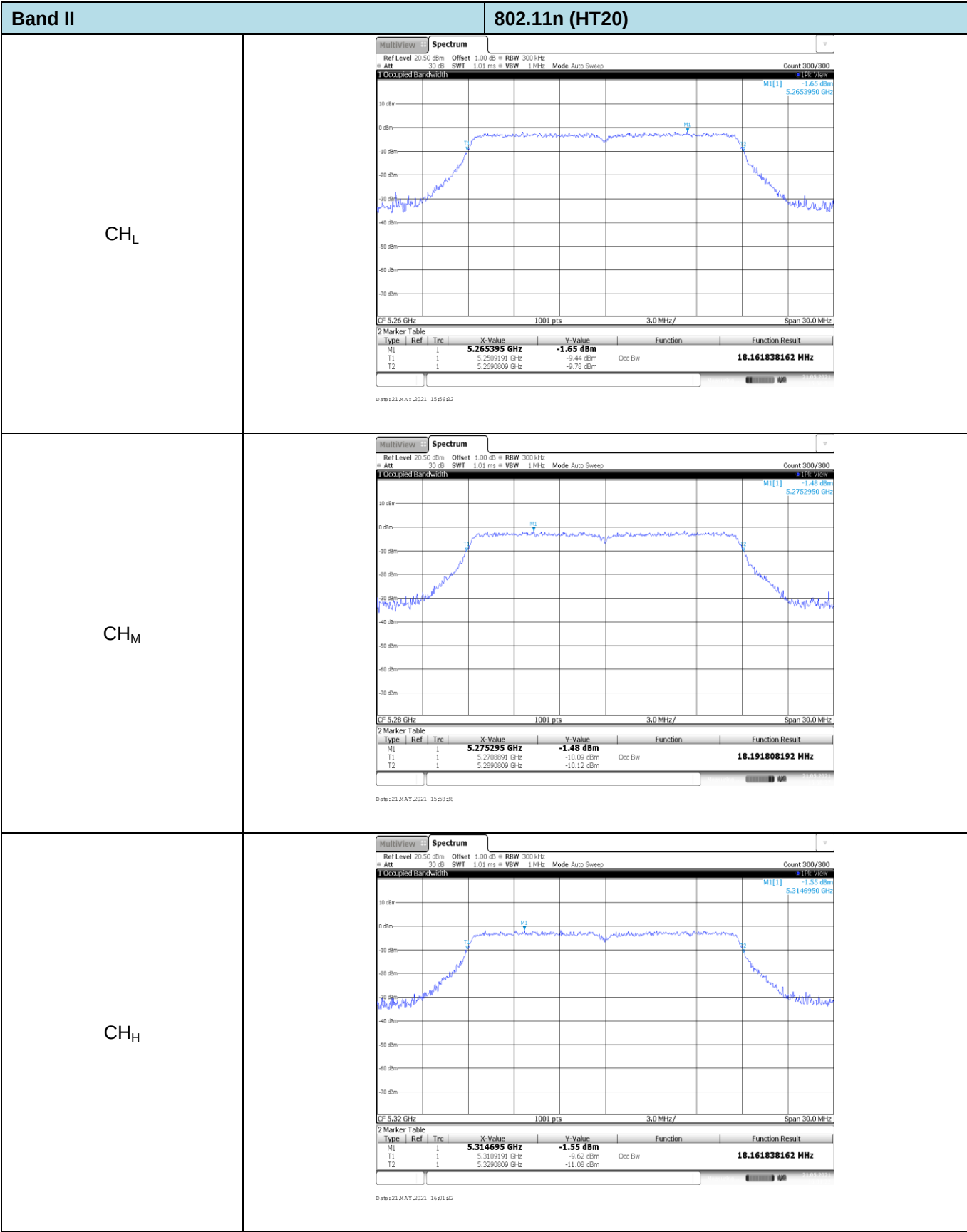
Appendix D: 99% Occupy bandwidth

Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11n	CH _L	18.16	Pass
			CH _M	18.19	
			CH _H	18.19	
		802.11a	CH _L	17.17	Pass
			CH _M	17.20	
			CH _H	17.20	
	40	802.11n	CH _L	36.32	Pass
			CH _H	36.38	
II	0	802.11n	CH _L	18.16	Pass
			CH _M	18.19	
			CH _H	18.16	
		802.11a	CH _L	17.26	Pass
			CH _M	17.20	
			CH _H	17.26	
	40	802.11n	CH _L	36.32	Pass
			CH _H	36.32	
III	20	802.11n	CH _L	18.22	Pass
			CH _M	18.16	
			CH _H	18.19	
		802.11a	CH _L	17.20	Pass
			CH _M	17.20	
			CH _H	17.23	
	40	802.11n	CH _L	36.38	Pass
			CH _M	36.38	
			CH _H	36.44	
IV	20	802.11n	CH _L	19.21	Pass
			CH _M	18.73	
			CH _H	18.52	
		802.11a	CH _L	18.88	Pass
			CH _M	18.25	
			CH _H	17.77	
	40	802.11n	CH _L	37.42	Pass
			CH _H	37.25	









Band II

802.11a

CH_L

Ref Level 20.50 dBm Offset 1.00 dB BW 300 kHz
Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep
Count 300/300

Occupied Bandwidth

CF 5.26 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1	1	5.265245 GHz	-0.61 dBm		
T1	1	1	5.2513686 GHz	-10.64 dBm	Occ BW	17.262737263 MHz
T2	1	1	5.2686314 GHz	-11.26 dBm		

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CH_M

Ref Level 20.50 dBm Offset 1.00 dB BW 300 kHz
Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep
Count 300/300

Occupied Bandwidth

CF 5.28 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1	1	5.285814 GHz	-0.41 dBm		
T1	1	1	5.2713686 GHz	-11.42 dBm	Occ BW	17.202797203 MHz
T2	1	1	5.2885714 GHz	-10.31 dBm		

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CH_H

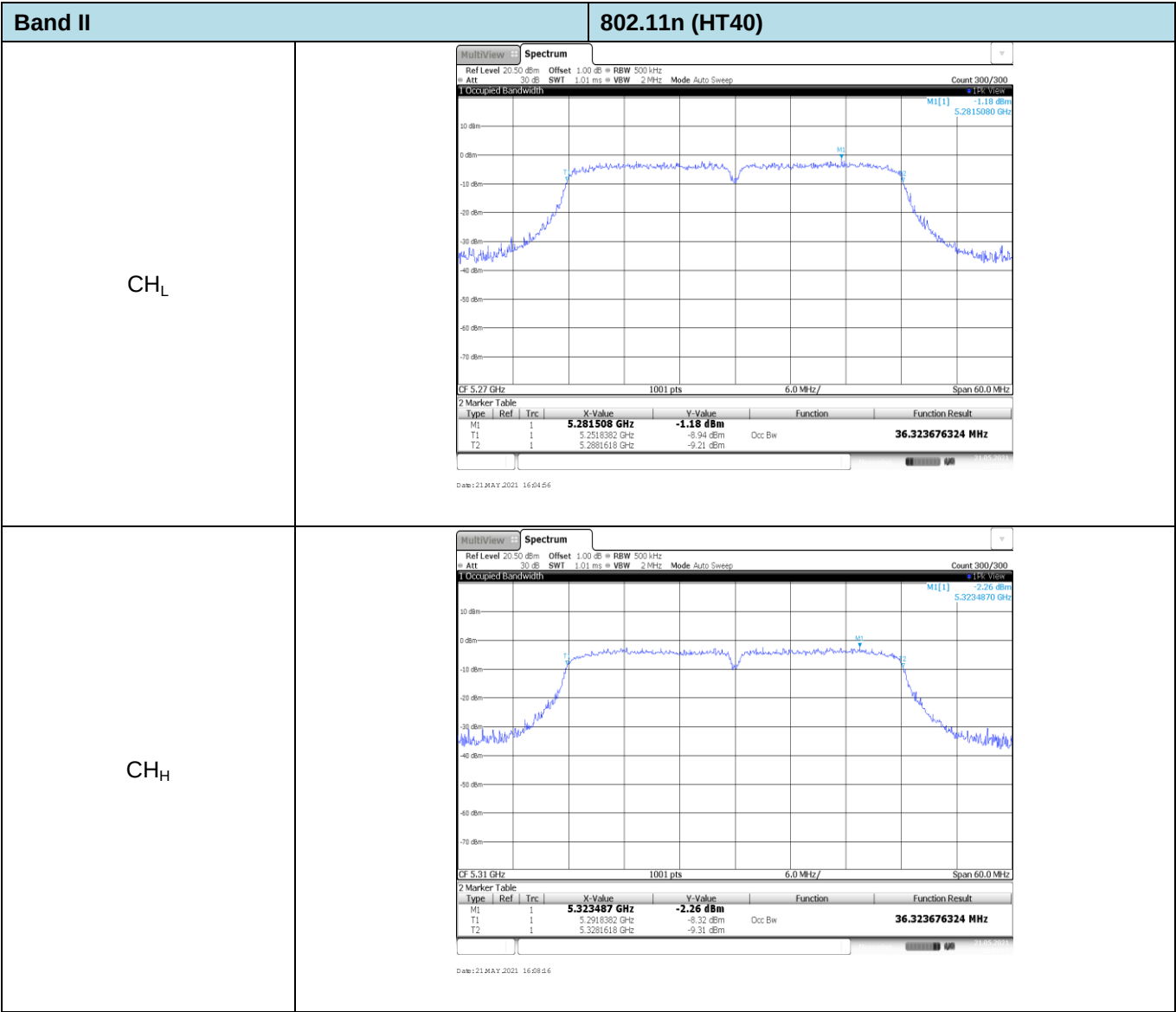
Ref Level 20.50 dBm Offset 1.00 dB BW 300 kHz
Att 30 dB SWT 1.01 ms VBW 1 MHz Mode Auto Sweep
Count 300/300

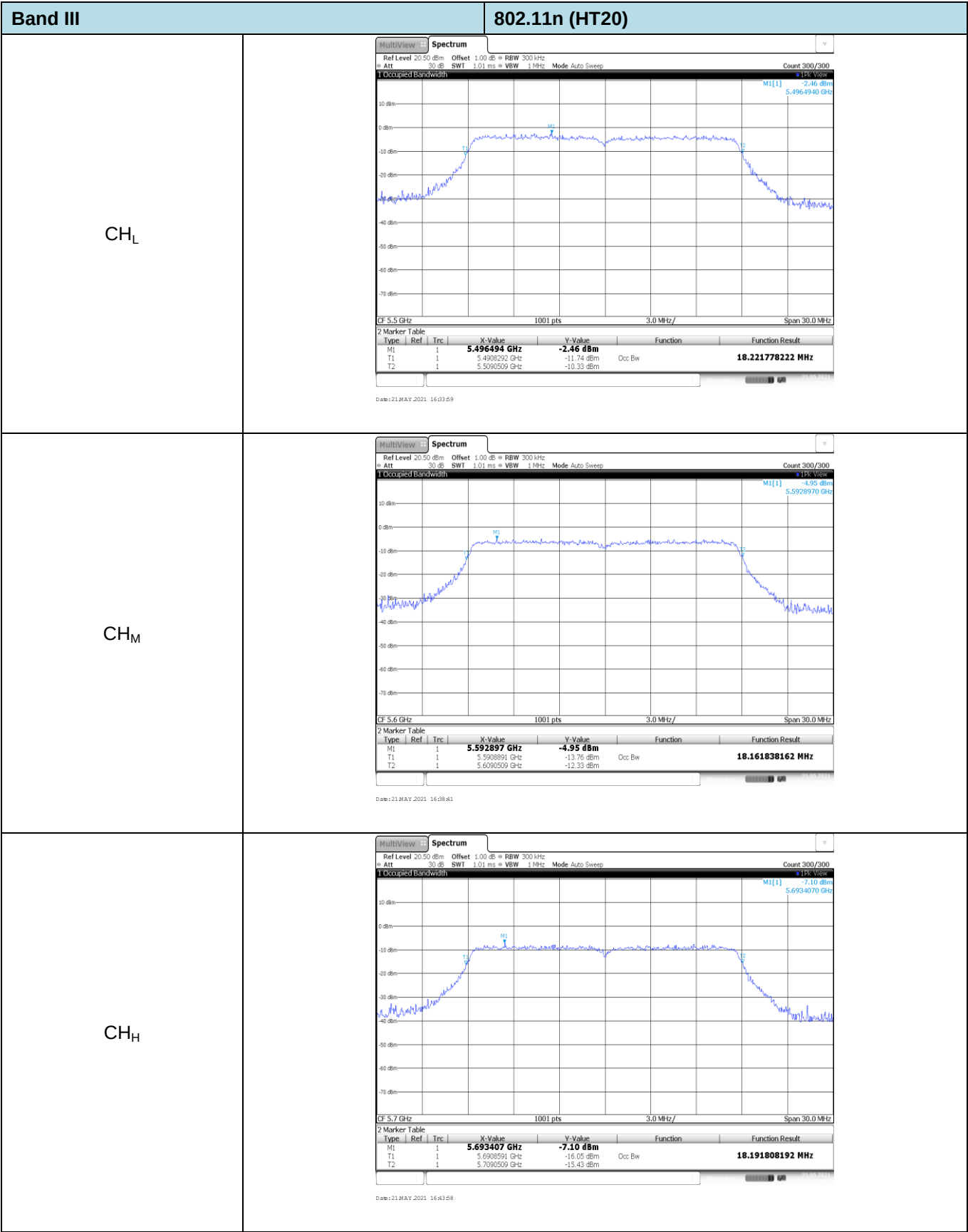
Occupied Bandwidth

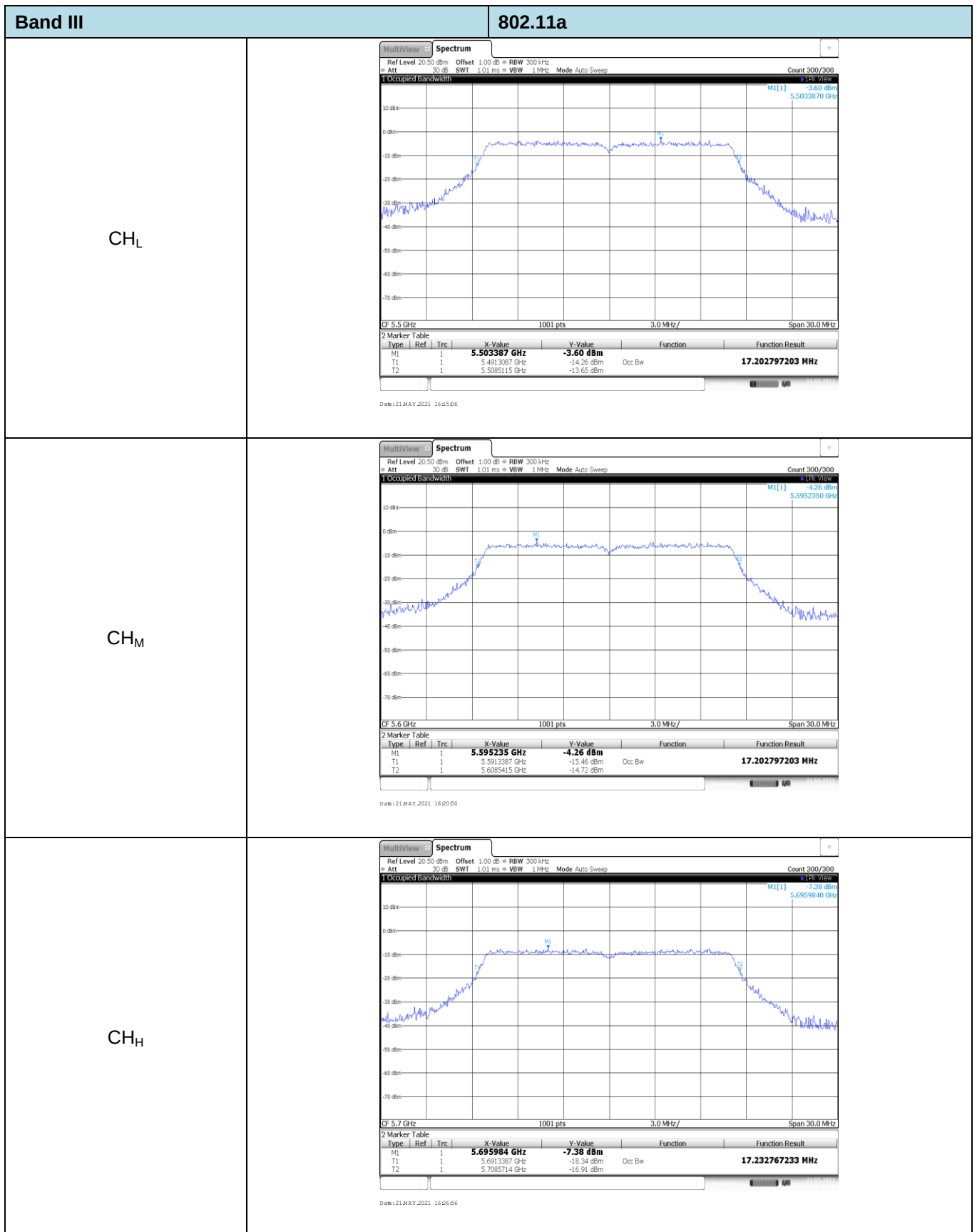
CF 5.32 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz

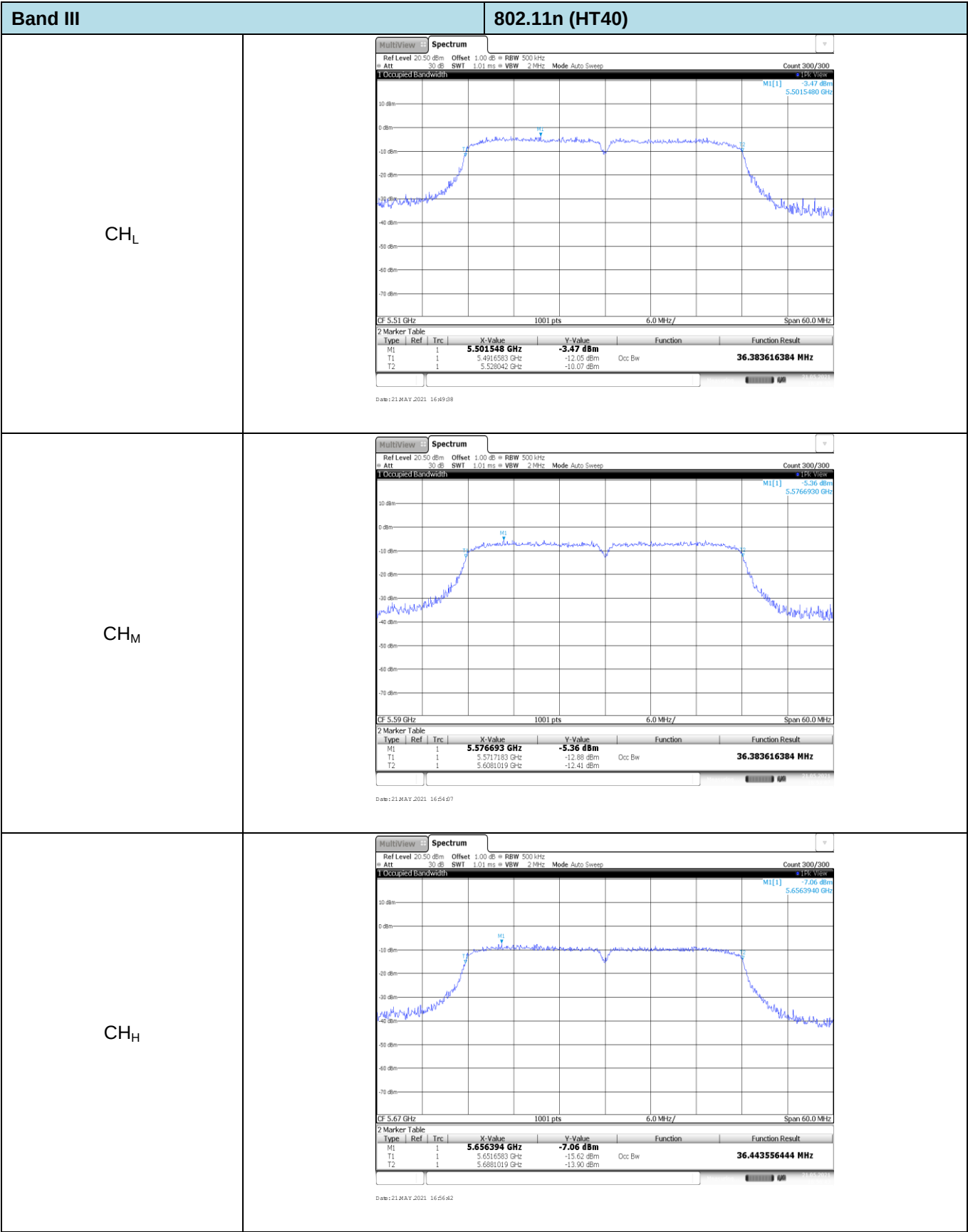
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1	1	5.318412 GHz	-0.59 dBm		
T1	1	1	5.3113387 GHz	-10.10 dBm	Occ BW	17.262737263 MHz
T2	1	1	5.3286014 GHz	-10.62 dBm		

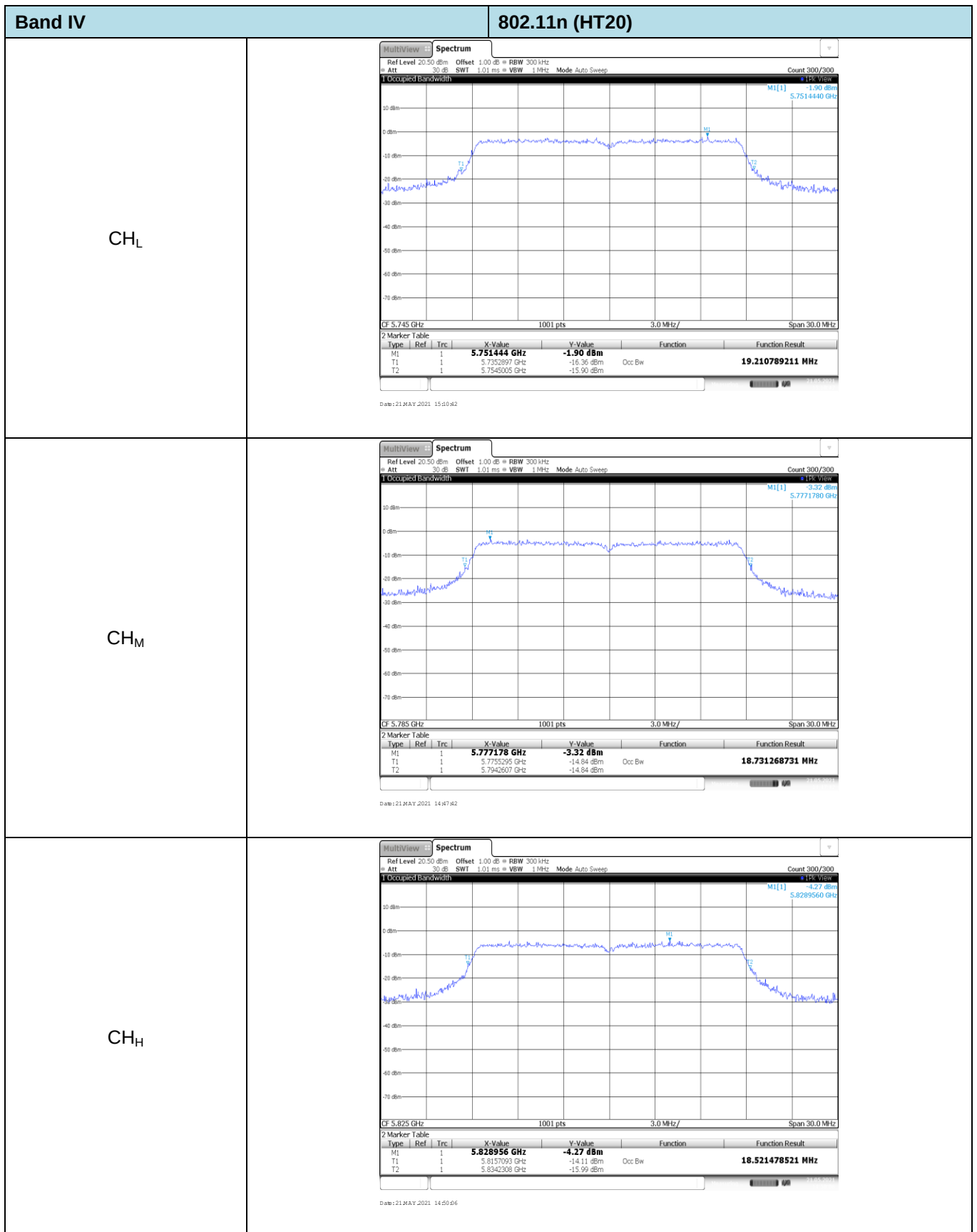
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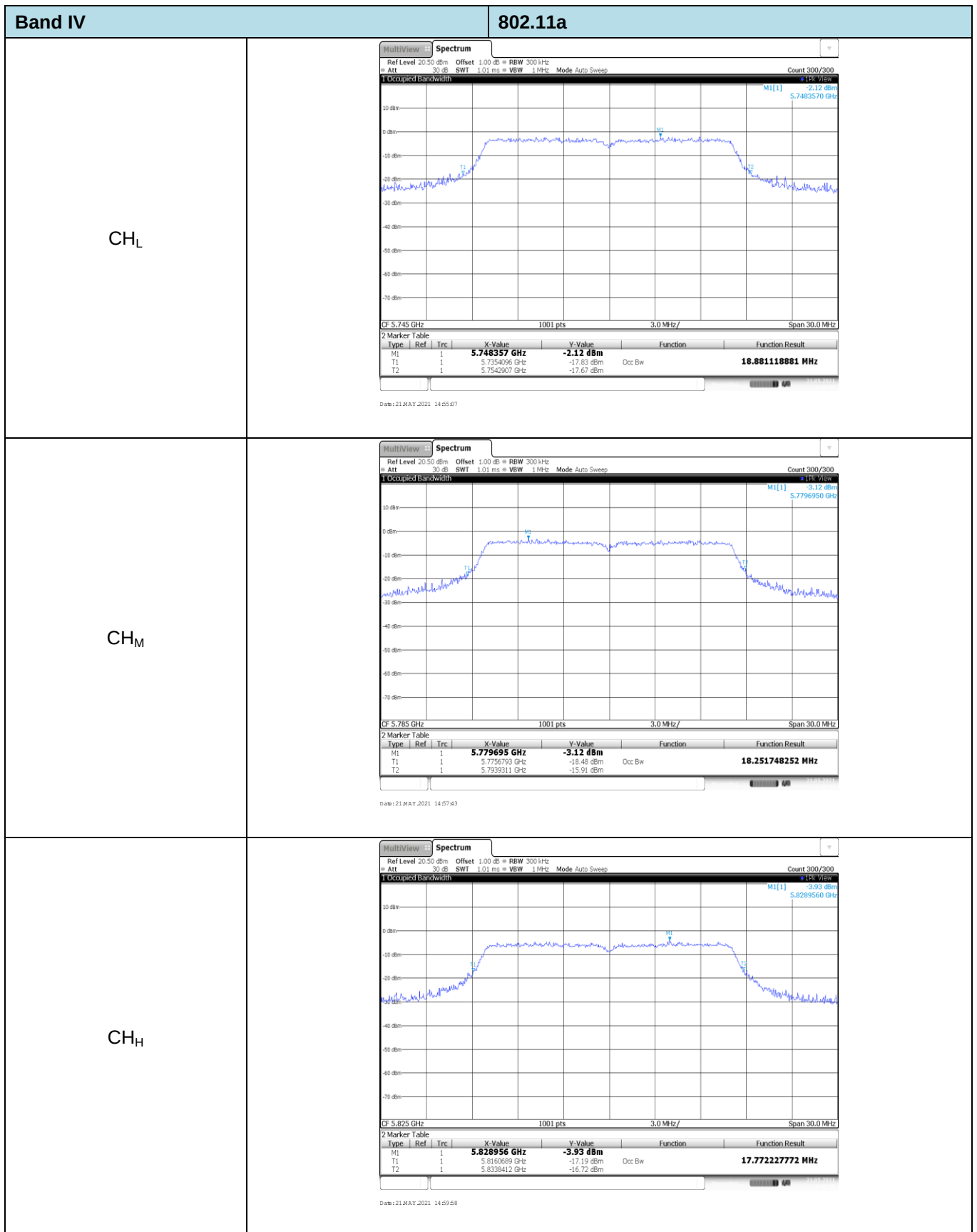


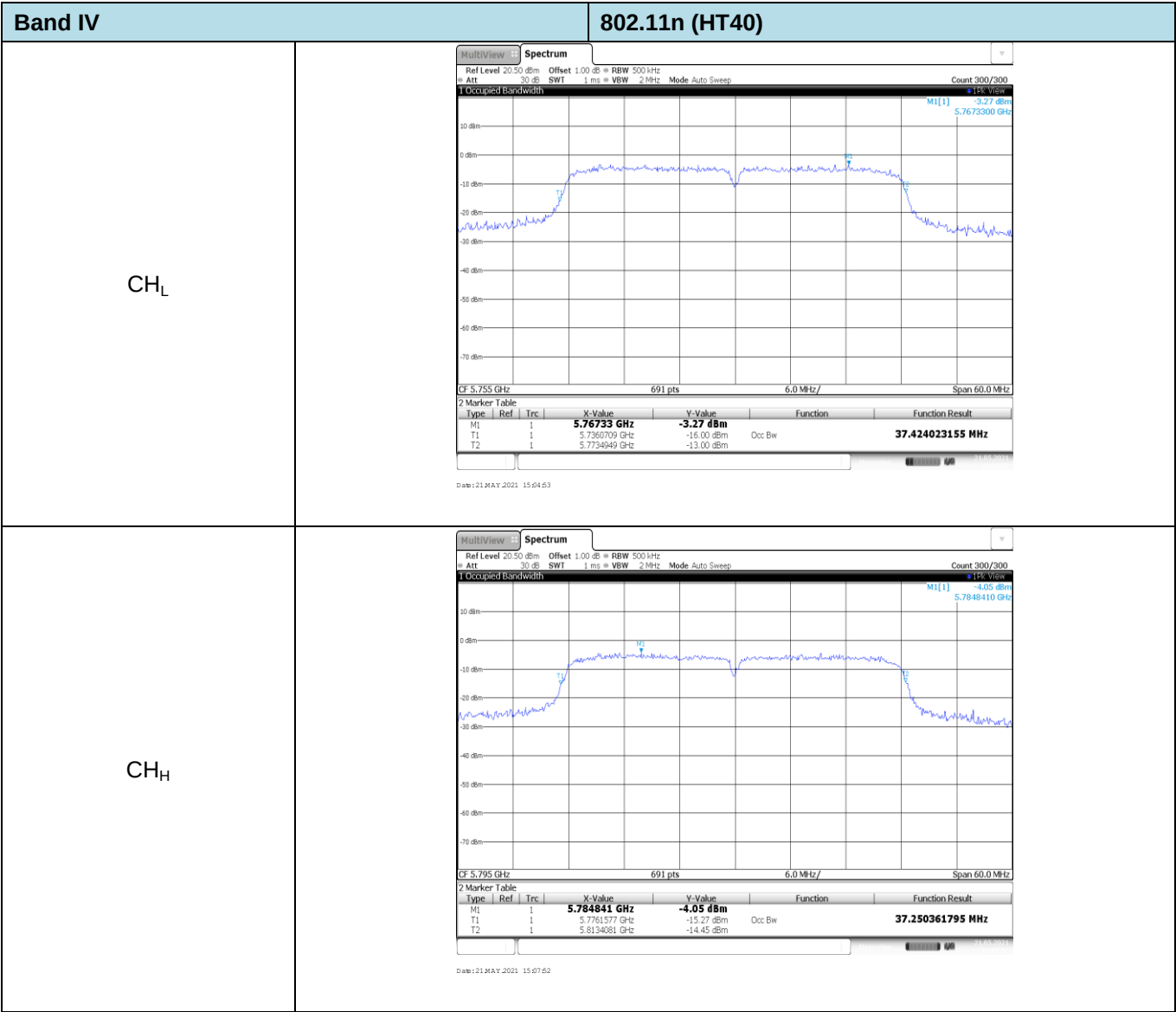






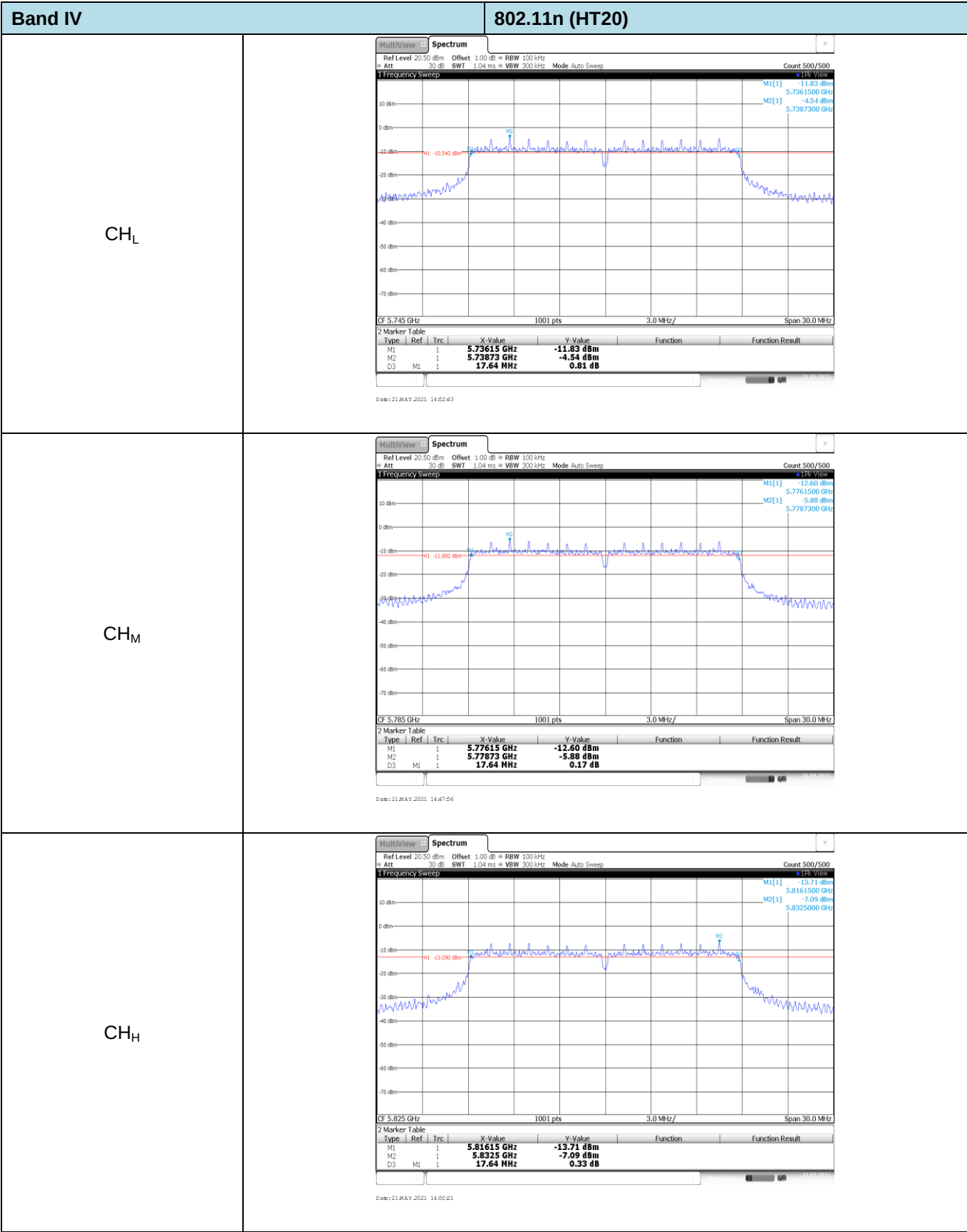


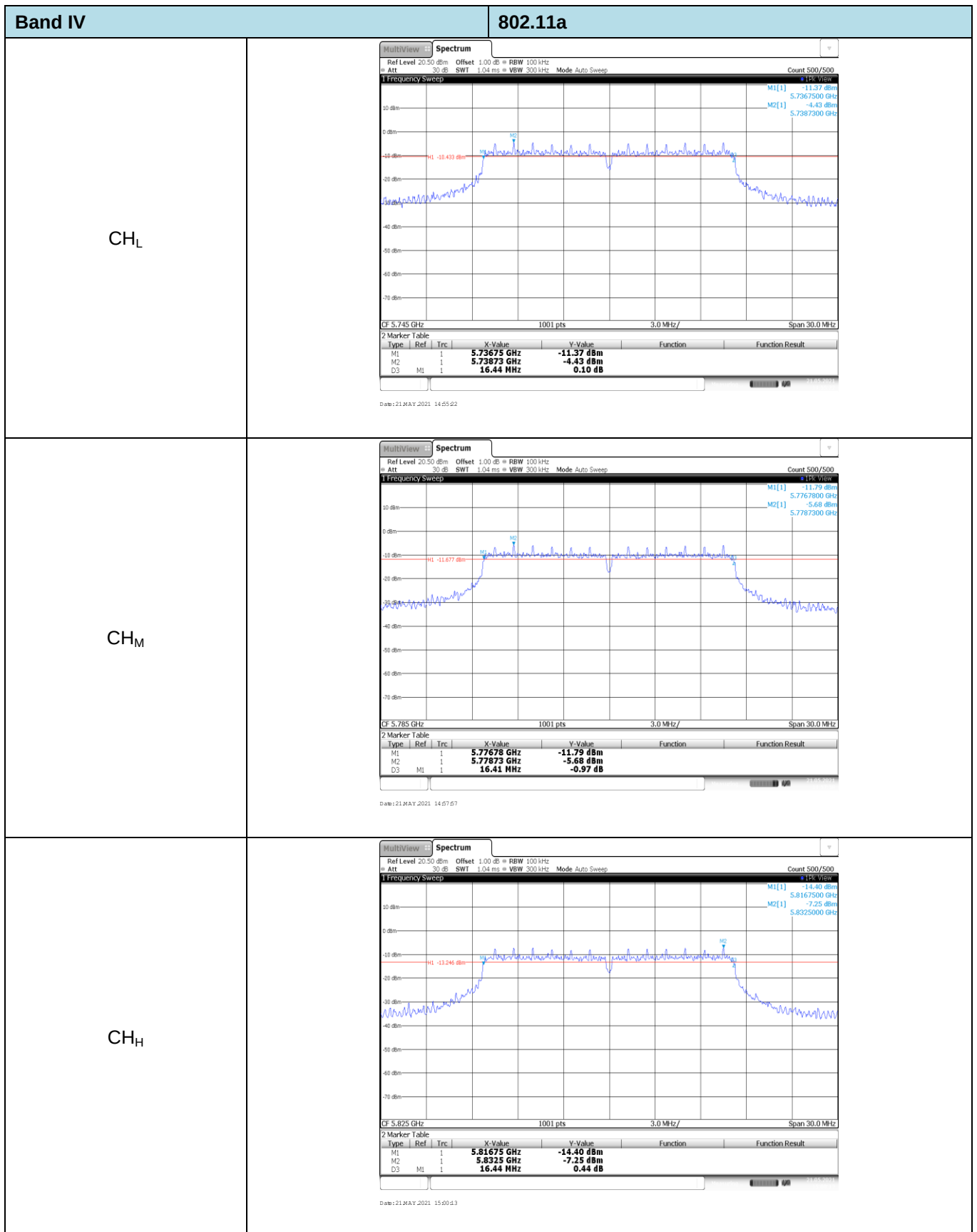


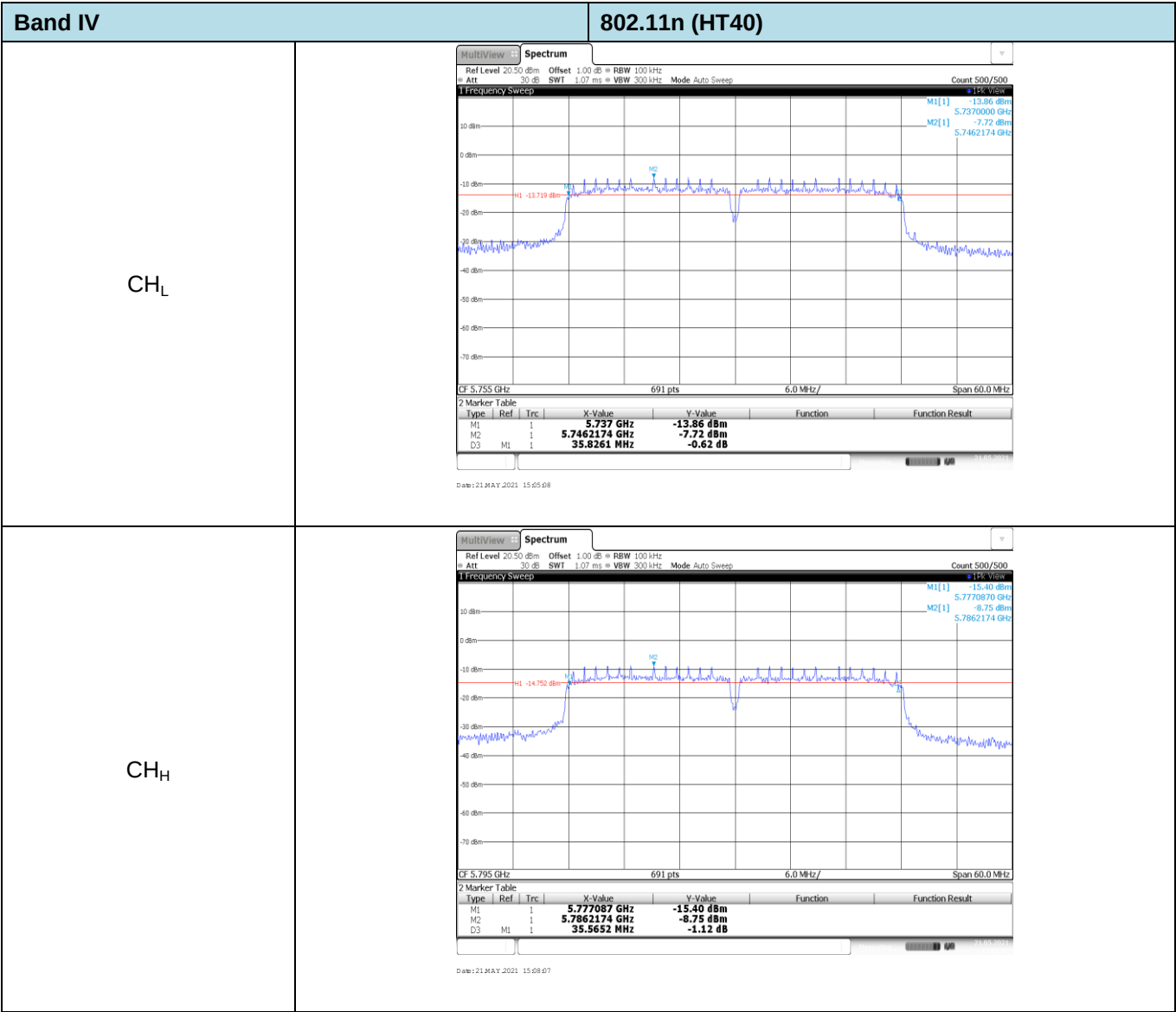


Appendix E: 6dB Bandwidth

Band	Bandwidth (MHz)	Type	Channel	6dB bandwidth (MHz)	Result
IV	20	802.11n	CH _L	17.64	Pass
			CH _M	17.64	
			CH _H	17.64	
		802.11a	CH _L	16.44	Pass
			CH _M	16.41	
			CH _H	16.44	
	40	802.11n	CH _L	35.83	Pass
			CH _H	35.57	







Appendix F: Band edge

