

APPENDIX REPORT

Project No.	SHT2106014501EW	Radio Specification	WIFI 5G
Test sample No.	YPHT21060145004	Model No.	T650m
Start test date	2021-06-22	Finish date	2021-06-22
Temperature	26.3°C	Humidity	62%
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	13.83	86.38	0.64	14.47	24.00	Pass
			CH _M	14.54	86.54	0.63	15.17		
			CH _H	14.68	86.46	0.63	15.31		
		802.11a	CH _L	13.76	87.22	0.59	14.35	24.00	Pass
			CH _M	13.81	87.23	0.59	14.40		
			CH _H	14.73	87.15	0.60	15.33		
	40	802.11n	CH _L	11.98	76.17	1.18	13.16	24.00	Pass
			CH _H	13.02	76.17	1.18	14.20		
II	20	802.11n	CH _L	11.34	86.54	0.63	11.97	24.00	Pass
			CH _M	13.13	86.38	0.64	13.77		
			CH _H	14.32	86.47	0.63	14.95		
		802.11a	CH _L	12.30	87.30	0.59	12.89	24.00	Pass
			CH _M	13.27	87.22	0.59	13.86		
			CH _H	14.28	87.15	0.60	14.88		
	40	802.11n	CH _L	7.21	76.17	1.18	8.39	24.00	Pass
			CH _H	10.76	76.13	1.18	11.94		
III	20	802.11n	CH _L	13.61	86.38	0.64	14.25	24.00	Pass
			CH _M	11.81	86.46	0.63	12.44		
			CH _H	10.34	86.46	0.63	10.97		
		802.11a	CH _L	13.40	87.15	0.60	14.00	24.00	Pass
			CH _M	11.50	87.22	0.59	12.09		
			CH _H	10.59	87.15	0.60	11.19		
	40	802.11n	CH _L	11.40	76.11	1.19	12.59	24.00	Pass
			CH _M	11.11	76.13	1.18	12.29		
			CH _H	10.48	76.13	1.18	11.66		
IV	20	802.11n	CH _L	13.49	86.47	0.63	14.12	30.00	Pass
			CH _M	13.27	86.38	0.64	13.91		
			CH _H	12.81	86.47	0.63	13.44		
		802.11a	CH _L	13.44	87.15	0.60	14.04	30.00	Pass
			CH _M	13.07	87.23	0.59	13.66		
			CH _H	12.69	87.15	0.60	13.29		
	40	802.11n	CH _L	12.16	76.05	1.19	13.35	30.00	Pass
			CH _H	11.29	76.17	1.18	12.47		

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

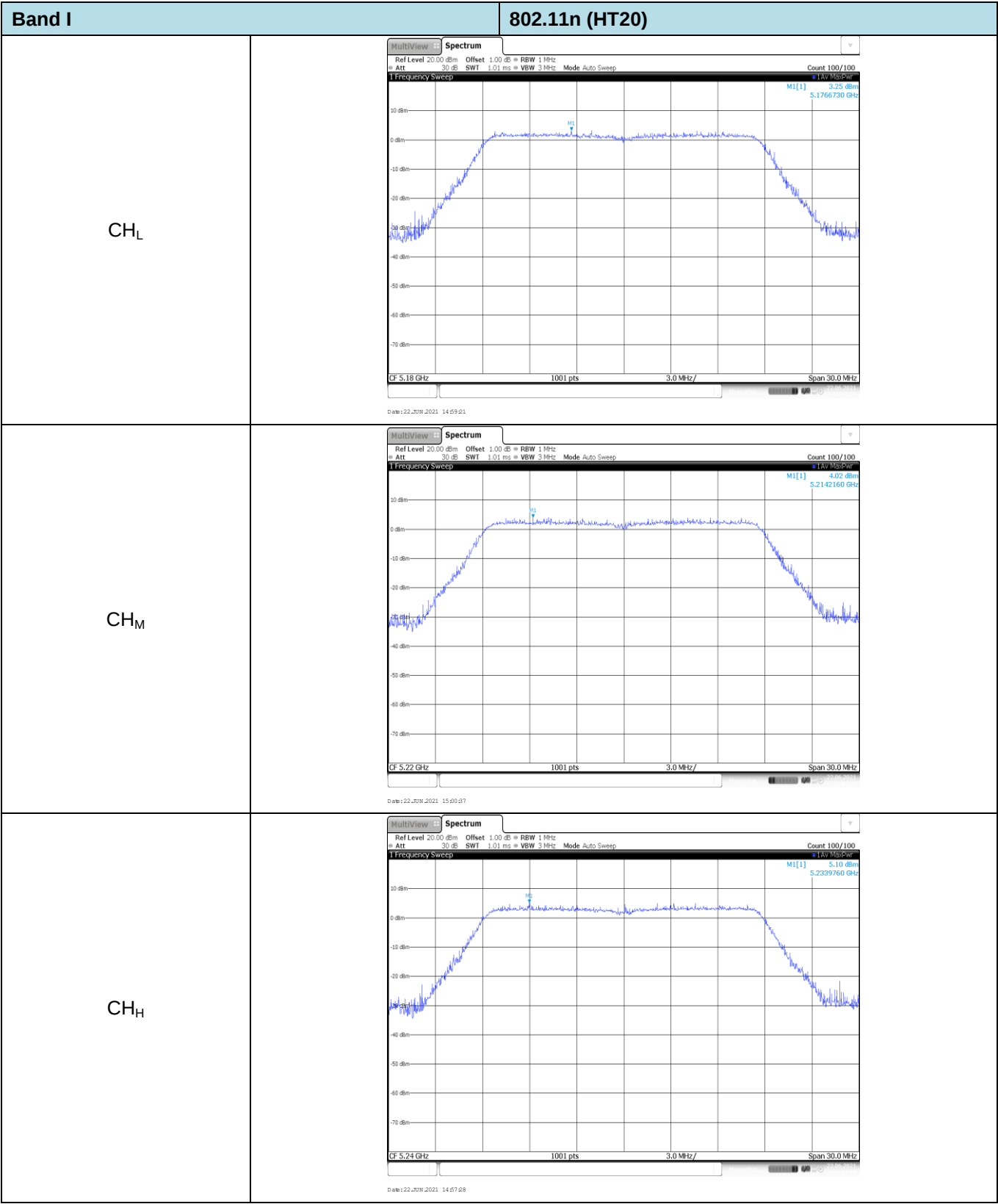
Appendix B: Maximum Power Spectral Density

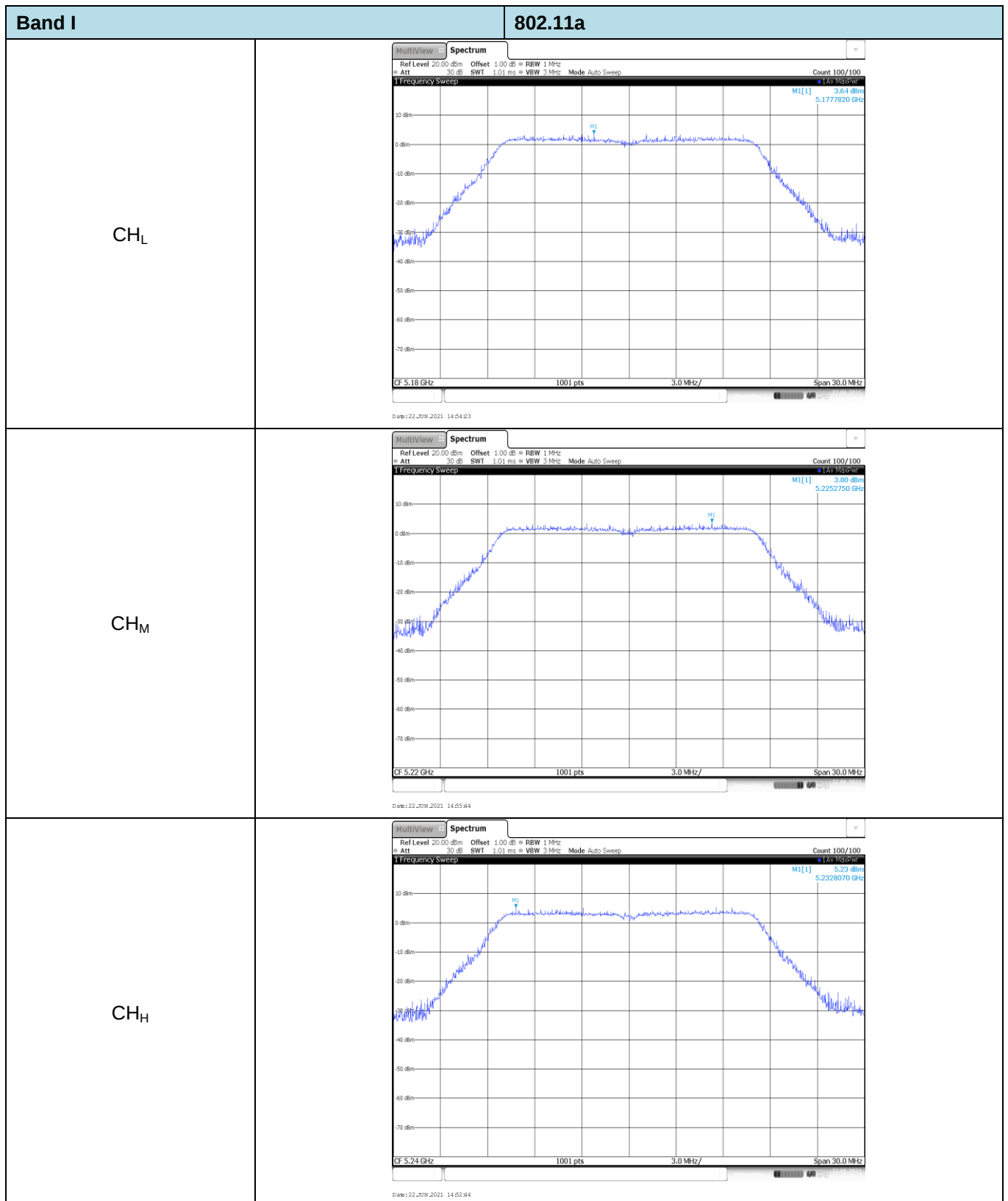
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11n	CH _L	3.25	86.38	0.64	3.89	11.00	Pass
			CH _M	4.02	86.54	0.63	4.65		
			CH _H	5.10	86.46	0.63	5.73		
		802.11a	CH _L	3.64	87.22	0.59	4.23	11.00	Pass
			CH _M	3.80	87.23	0.59	4.39		
			CH _H	5.23	87.15	0.60	5.83		
	40	802.11n	CH _L	-1.06	76.17	1.18	0.12	11.00	Pass
			CH _H	1.33	76.17	1.18	2.51		

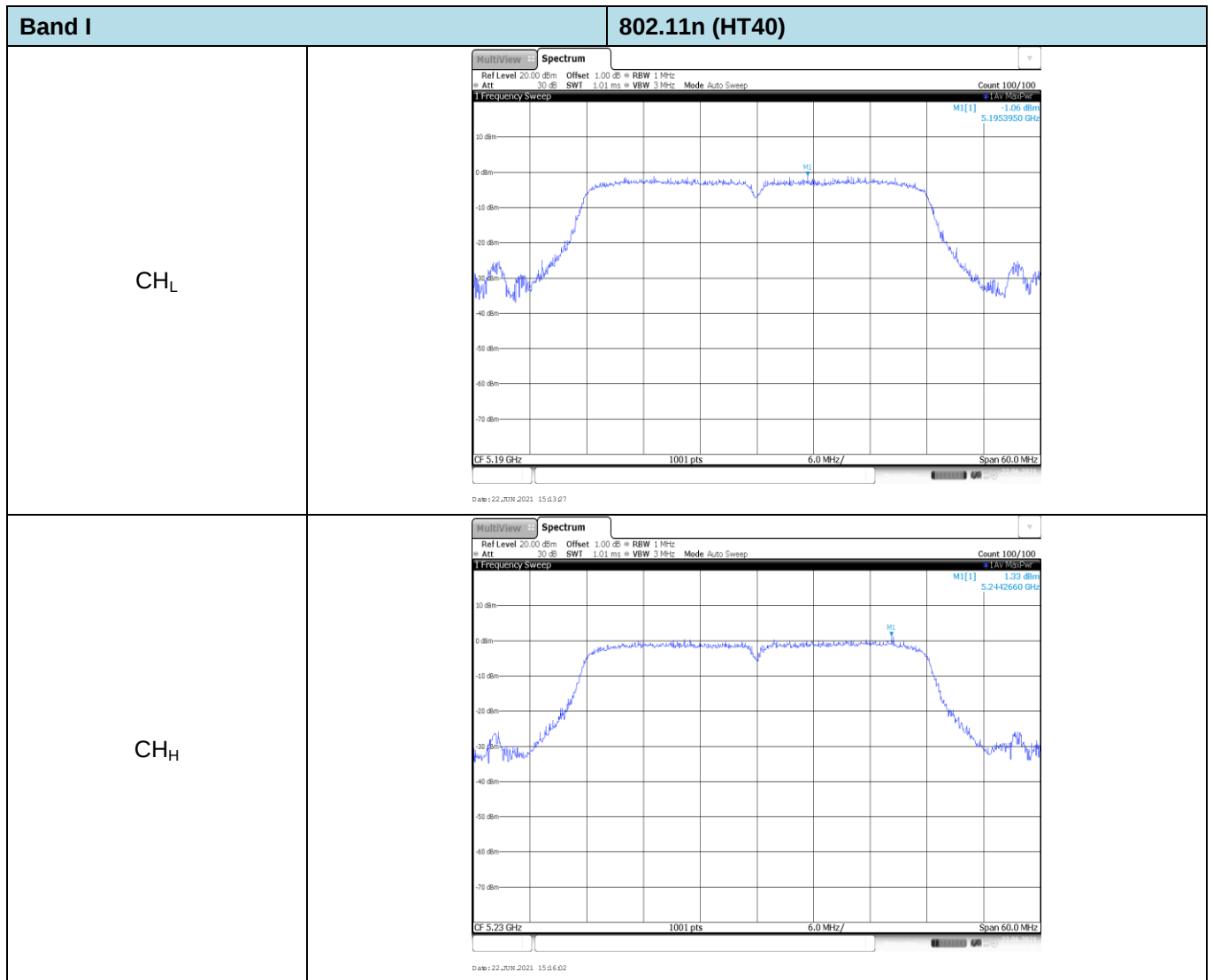
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
II	20	802.11n	CH _L	1.66	86.54	0.63	2.29	11.00	Pass
			CH _M	3.26	86.38	0.64	3.90		
			CH _H	3.99	86.47	0.63	4.62		
		802.11a	CH _L	3.23	87.30	0.59	3.82	11.00	Pass
			CH _M	3.62	87.22	0.59	4.21		
			CH _H	4.53	87.15	0.60	5.13		
	40	802.11n	CH _L	-6.06	76.17	1.18	-4.88	11.00	Pass
			CH _H	-1.74	76.13	1.18	-0.56		
III	20	802.11n	CH _L	3.09	86.38	0.64	3.73	11.00	Pass
			CH _M	1.15	86.46	0.63	1.78		
			CH _H	0.96	86.46	0.63	1.59		
		802.11a	CH _L	3.06	87.15	0.60	3.66	11.00	Pass
			CH _M	1.63	87.22	0.59	2.22		
			CH _H	1.17	87.15	0.60	1.77		
	40	802.11n	CH _L	-1.82	76.11	1.19	-0.63	11.00	Pass
			CH _M	-1.33	76.13	1.18	-0.15		
			CH _H	-2.89	76.13	1.18	-1.71		

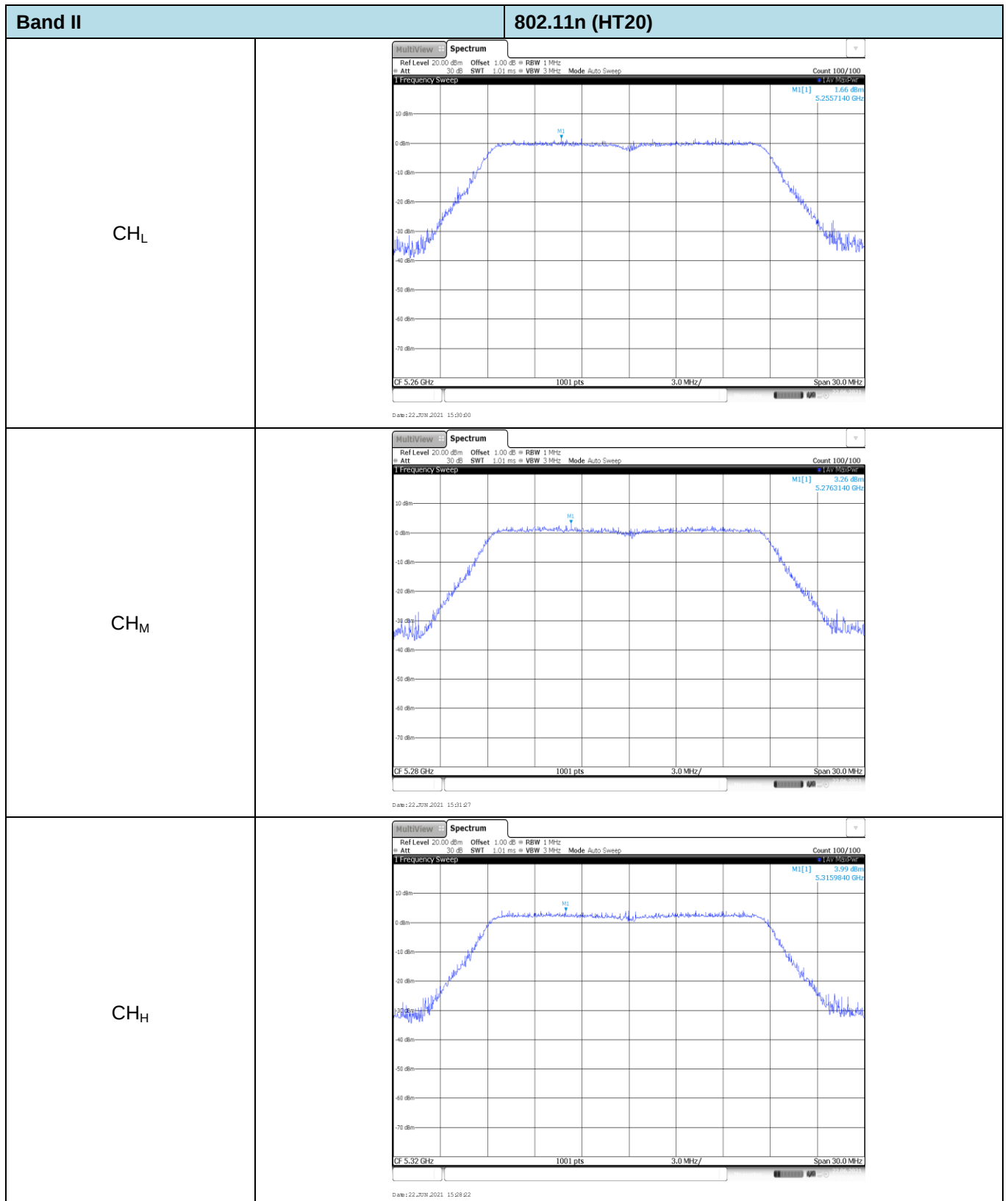
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Power Spectral Density (dBm/500 kHz)	Limit (dBm/500kHz)	Result
IV	20	802.11n	CH _L	1.38	86.47	0.63	2.01	30.00	Pass
			CH _M	0.97	86.38	0.64	1.61		
			CH _H	1.04	86.47	0.63	1.67		
		802.11a	CH _L	1.32	87.15	0.60	1.92	30.00	Pass
			CH _M	1.19	87.23	0.59	1.78		
			CH _H	1.24	87.15	0.60	1.84		
	40	802.11n	CH _L	-3.27	76.05	1.19	-2.08	30.00	Pass
			CH _H	-3.47	76.17	1.18	-2.29		

Test plot as follows:

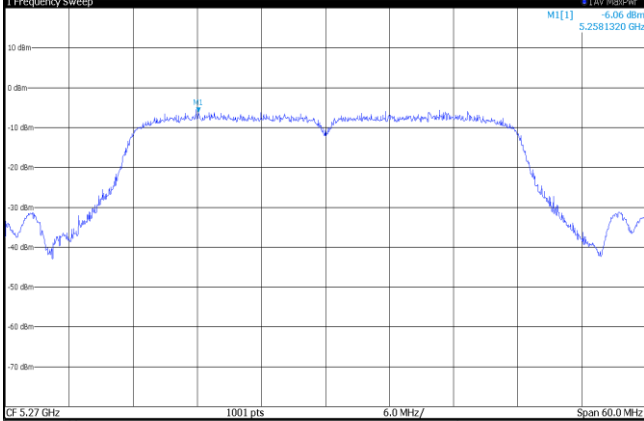
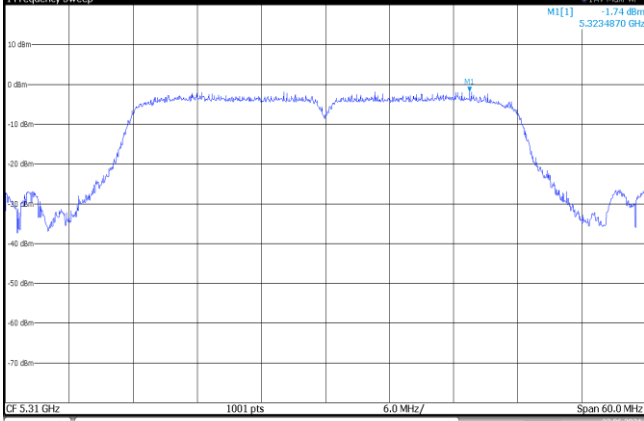


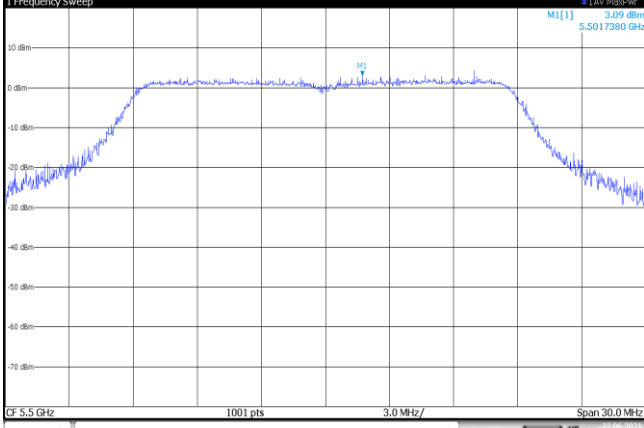
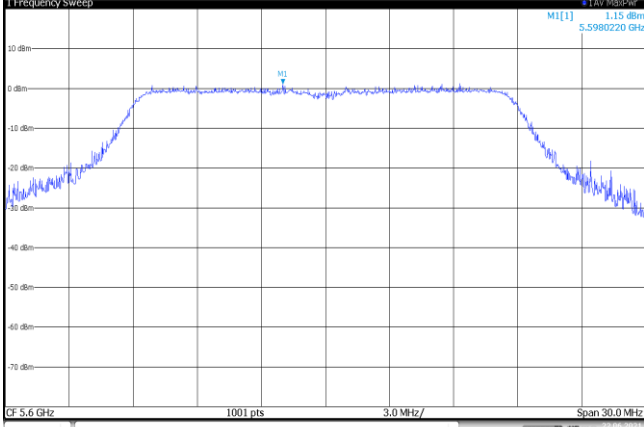
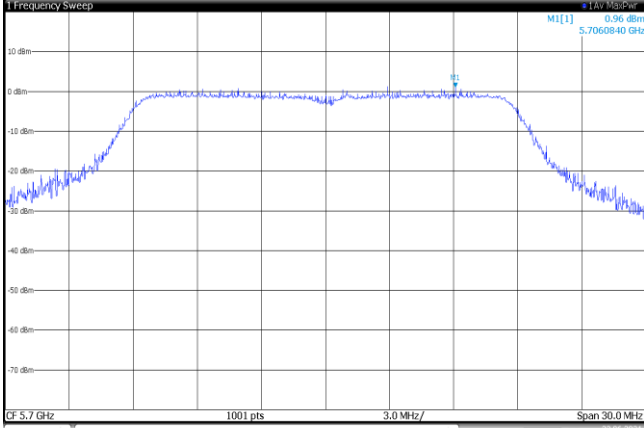


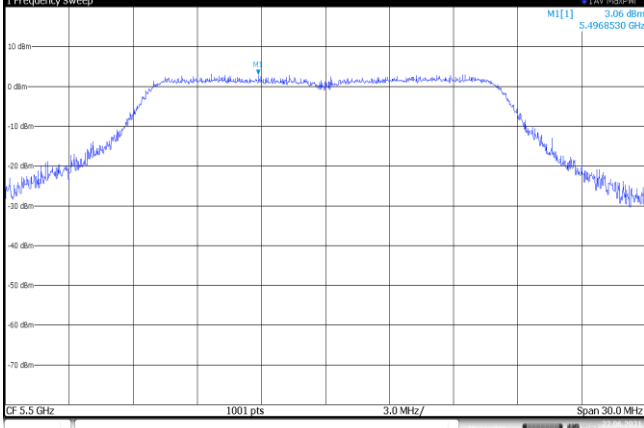
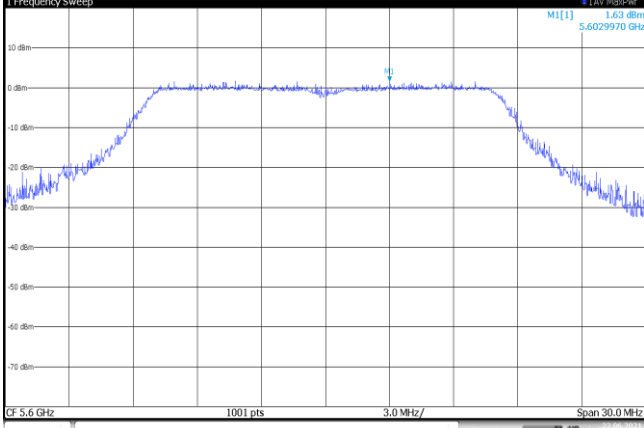
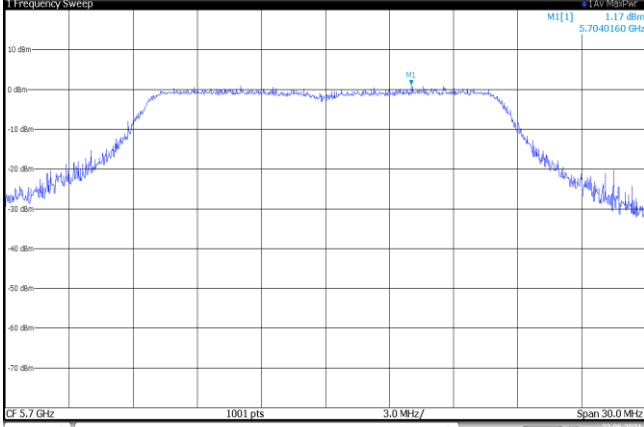


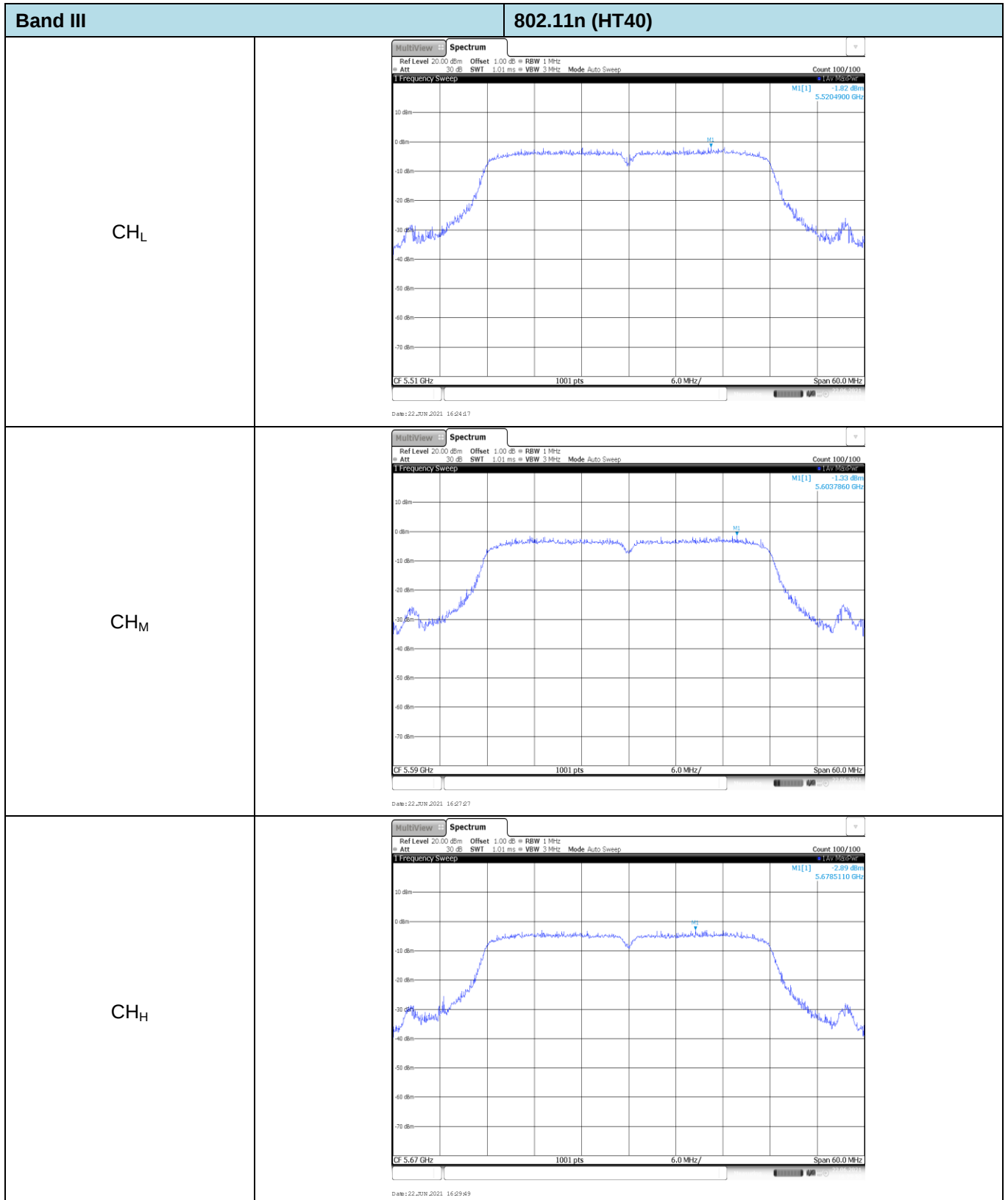


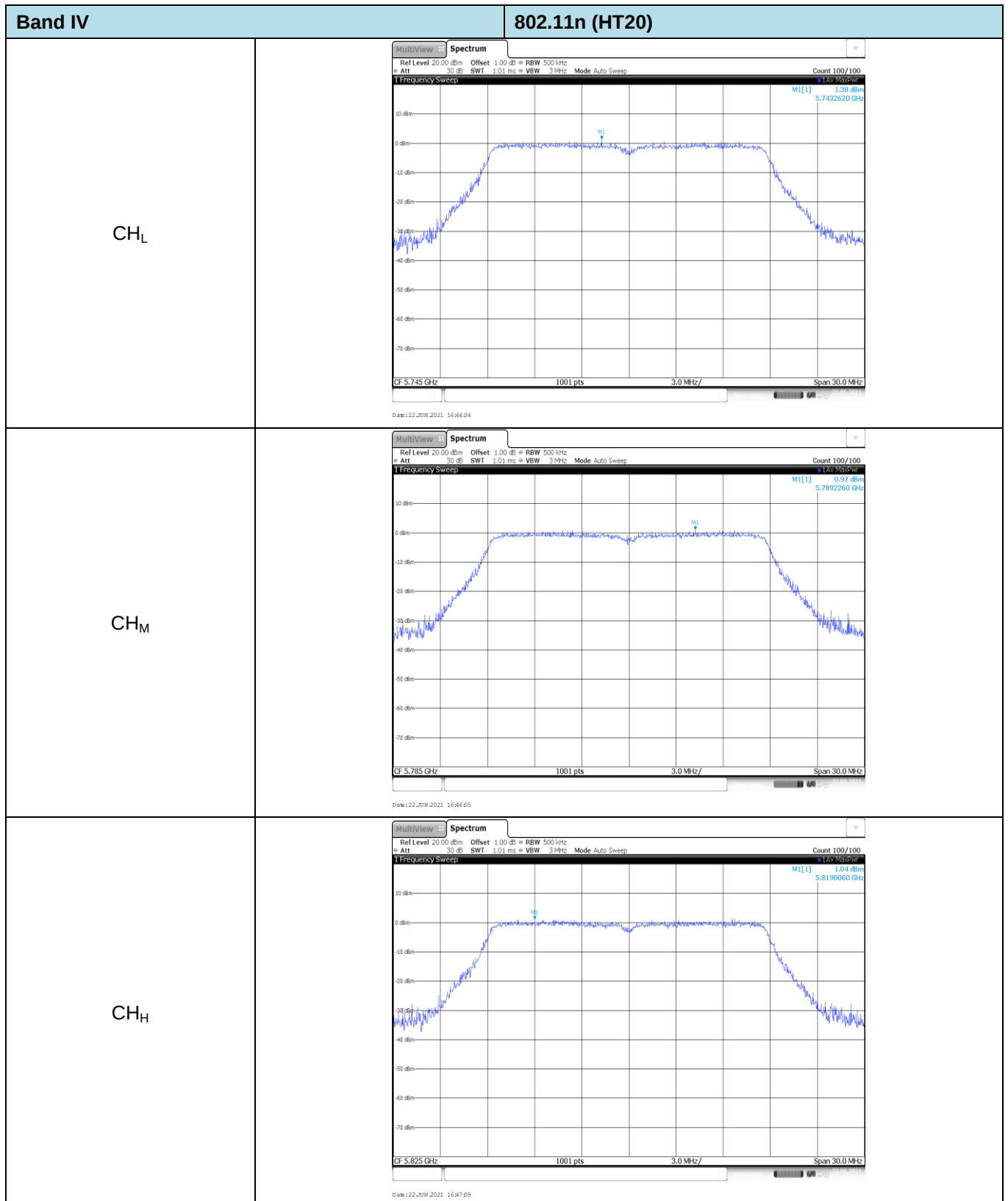
Band II		802.11a
CH_L	The spectrum plot for CH_L shows a signal centered at 5.26 GHz. The frequency range is from 5.25 GHz to 5.27 GHz, with a span of 30.0 MHz. The signal level is approximately -10 dBm. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	
CH_M	The spectrum plot for CH_M shows a signal centered at 5.28 GHz. The frequency range is from 5.27 GHz to 5.29 GHz, with a span of 30.0 MHz. The signal level is approximately -10 dBm. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	
CH_H	The spectrum plot for CH_H shows a signal centered at 5.32 GHz. The frequency range is from 5.31 GHz to 5.33 GHz, with a span of 30.0 MHz. The signal level is approximately -10 dBm. The plot includes a grid and various measurement parameters such as Ref Level, Offset, RBW, and Mode.	

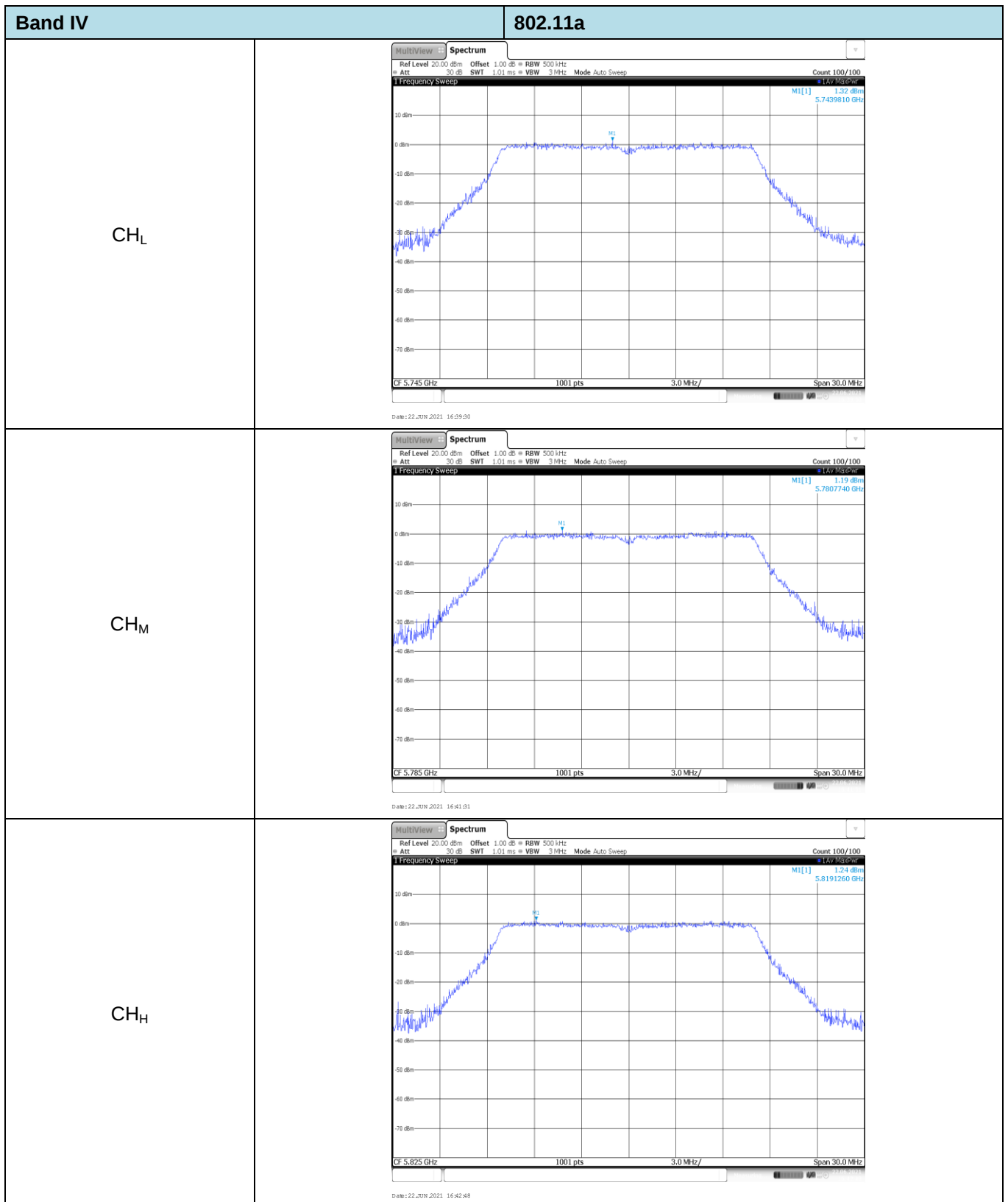
Band II		802.11n (HT40)	
CH _L	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz Mode Auto Sweep Count 100/100 MI[1] -6.06 dBm 5.2581320 GHz 1 Frequency Sweep  CF 5.27 GHz1001 pts6.0 MHz/Span 60.0 MHz Date: 22 JUN 2021 15:50:63		
	CH _H	MultiView Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 1 MHz Mode Auto Sweep Count 100/100 MI[1] -1.74 dBm 5.3234870 GHz 1 Frequency Sweep  CF 5.31 GHz1001 pts6.0 MHz/Span 60.0 MHz Date: 22 JUN 2021 15:40:66	

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 1 Frequency Sweep M1[1] 3.09 dBm 5.5017380 GHz  CF 5.5 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22 JUN 2021 16:06:07	
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] 1.15 dBm 5.5980220 GHz  CF 5.6 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22 JUN 2021 16:07:50	
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] 0.96 dBm 5.7060840 GHz  CF 5.7 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22 JUN 2021 16:09:01	

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 1AV MSOPwr 1 Frequency Sweep  CF 5.5 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 22_JUN_2021 15:56:20	
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 1AV MSOPwr 1 Frequency Sweep  CF 5.6 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 22_JUN_2021 15:57:56	
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 1AV MSOPwr 1 Frequency Sweep  CF 5.7 GHz1001 pts3.0 MHz/Span 30.0 MHz Date: 22_JUN_2021 16:00:53	







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
MI[1] -3.27 dBm
5.7608140 GHz
Frequency Sweep
CF 5.755 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz

Date: 22 JUN 2021 16:49:46

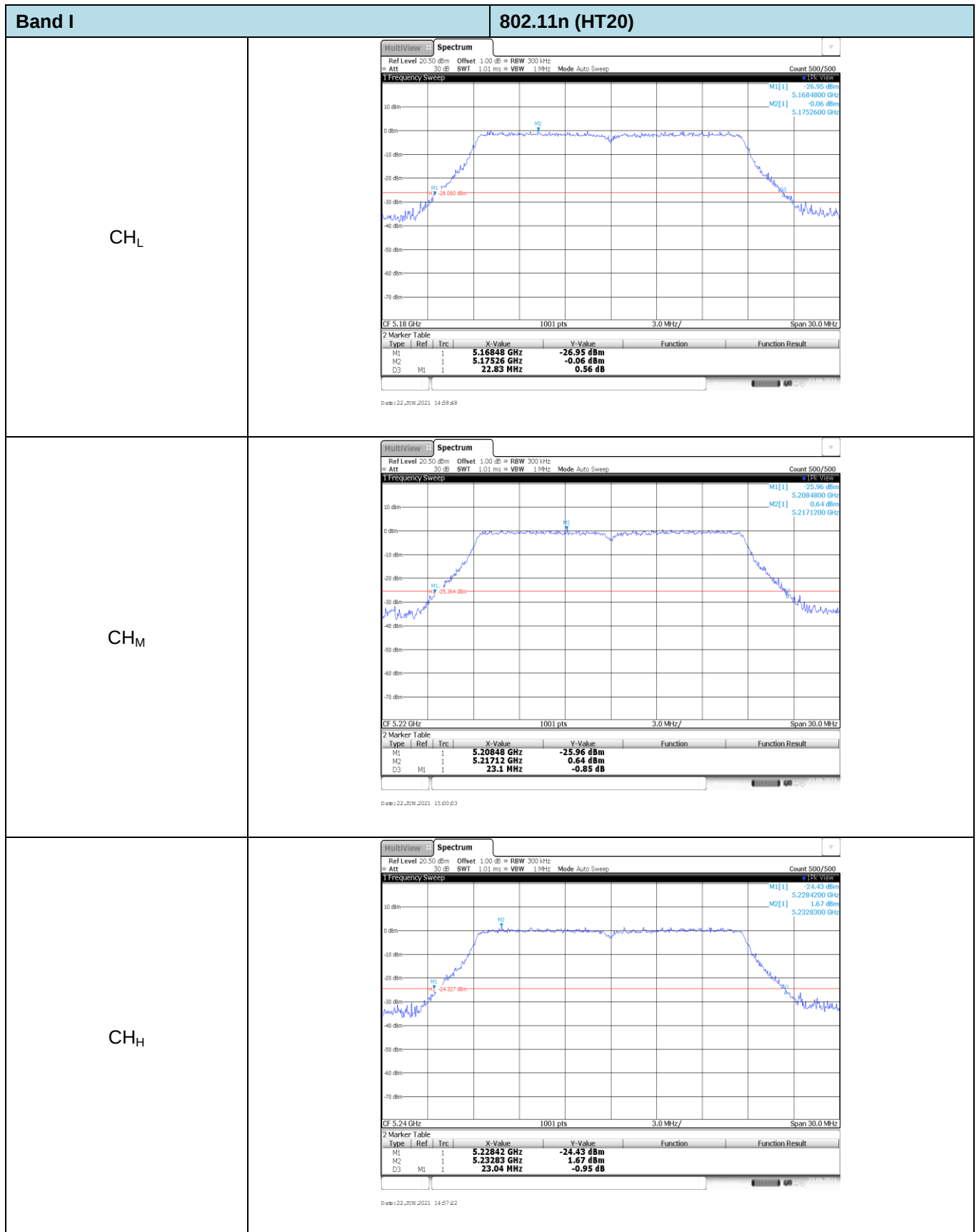
CH_H

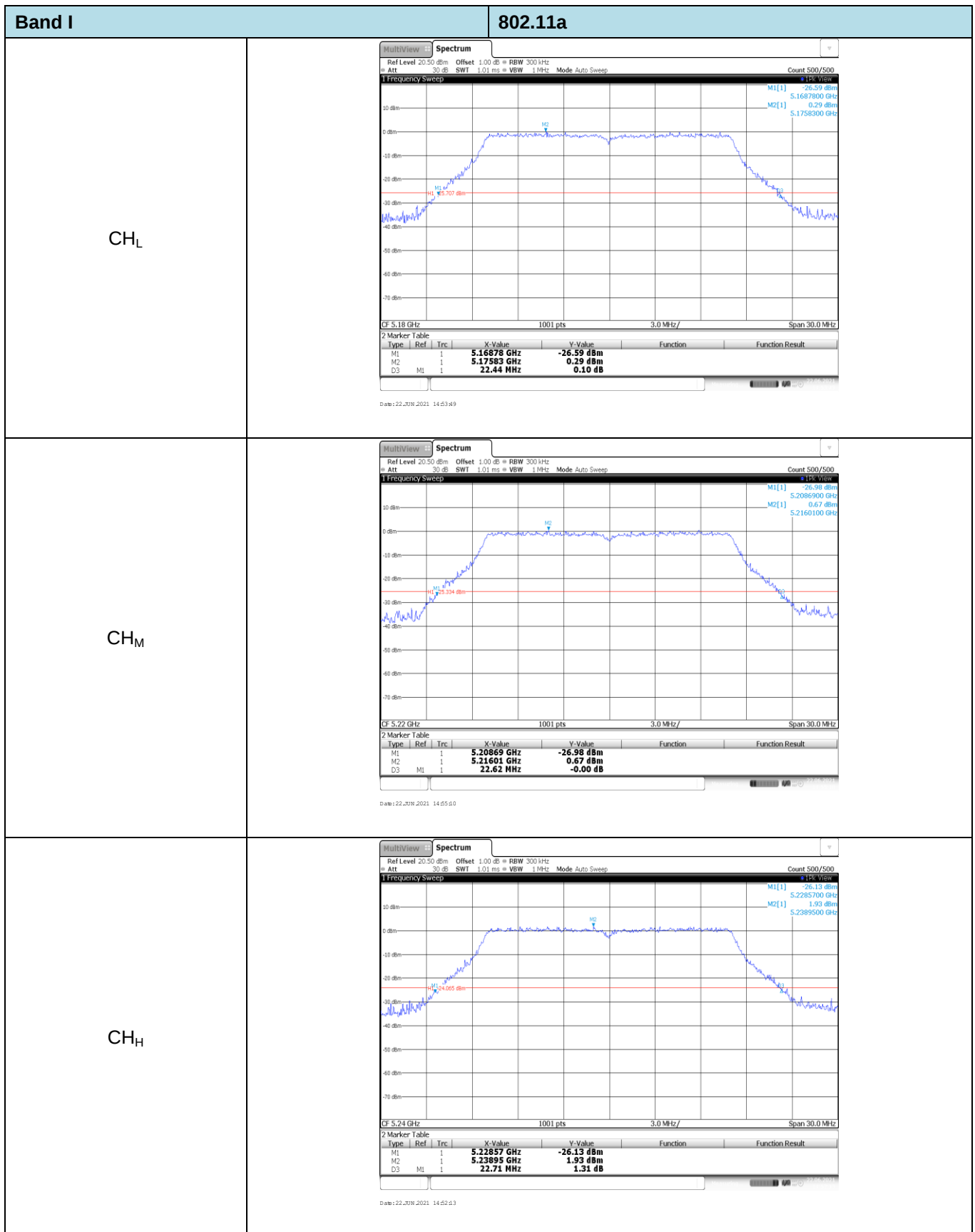
MultiView Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 500 kHz
Att 30 dB SWT 1.01 ms VBW 3 MHz Mode Auto Sweep
Count 100/100
MI[1] -3.47 dBm
5.8065080 GHz
Frequency Sweep
CF 5.795 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz

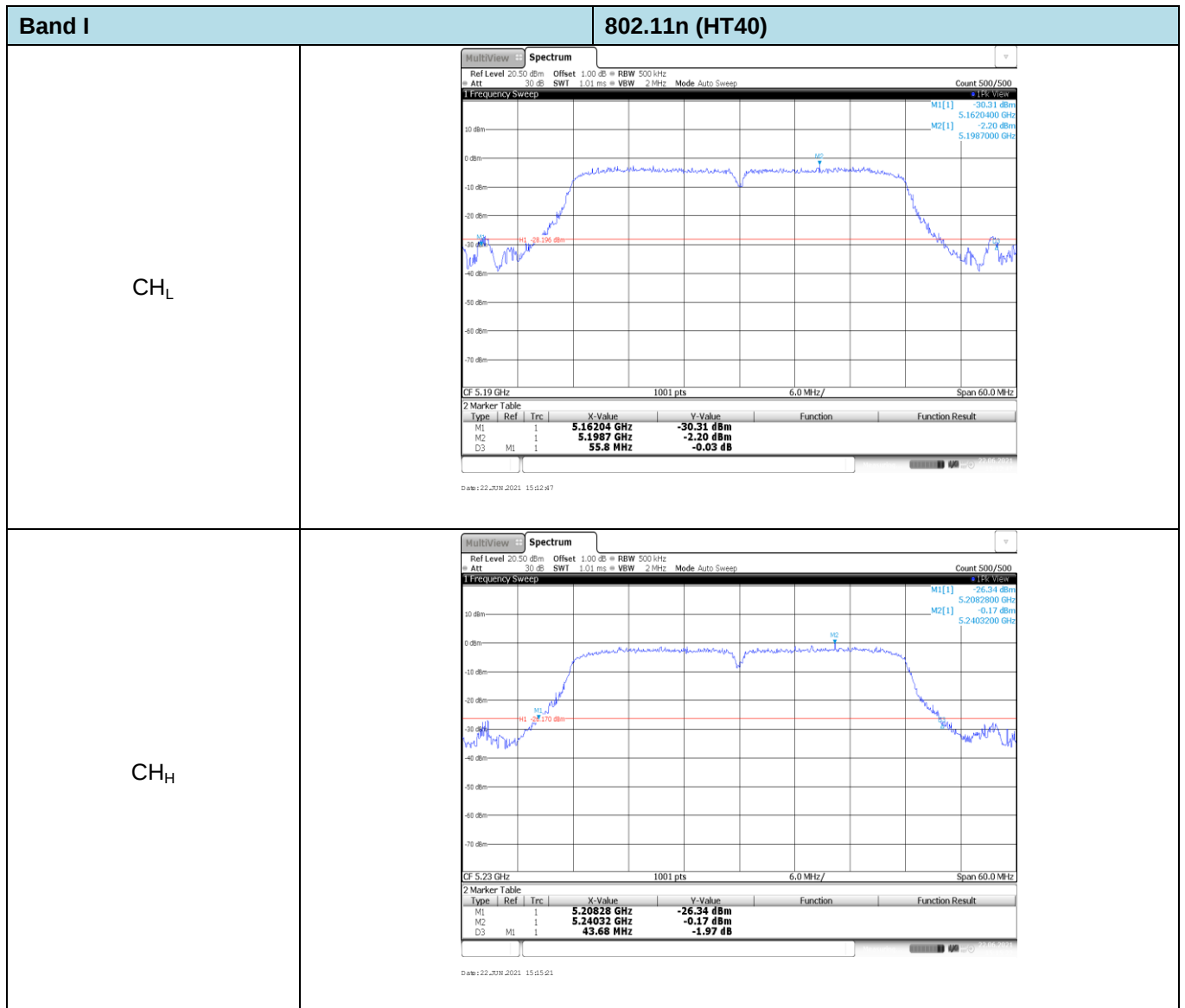
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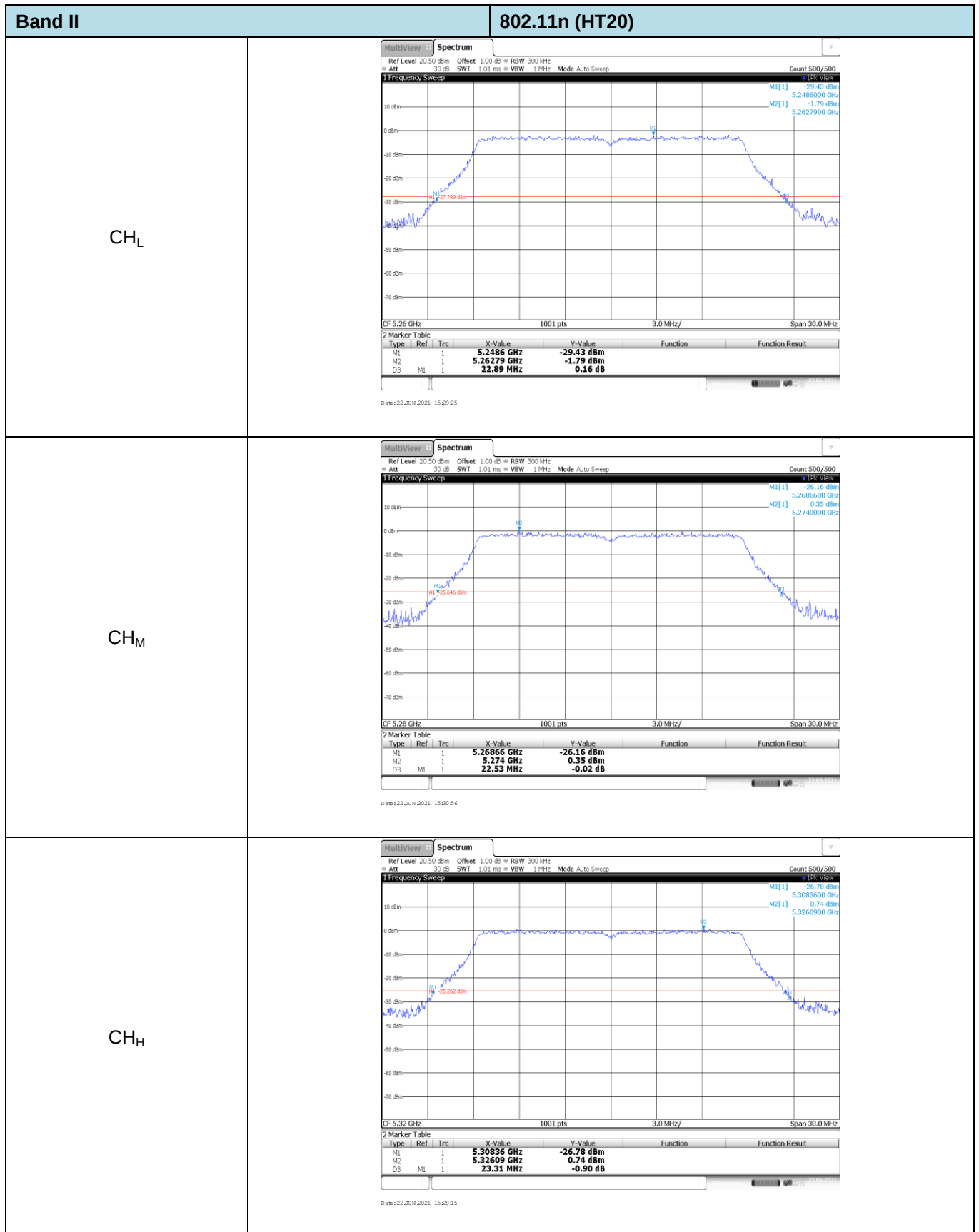
Appendix C: 26dB bandwidth

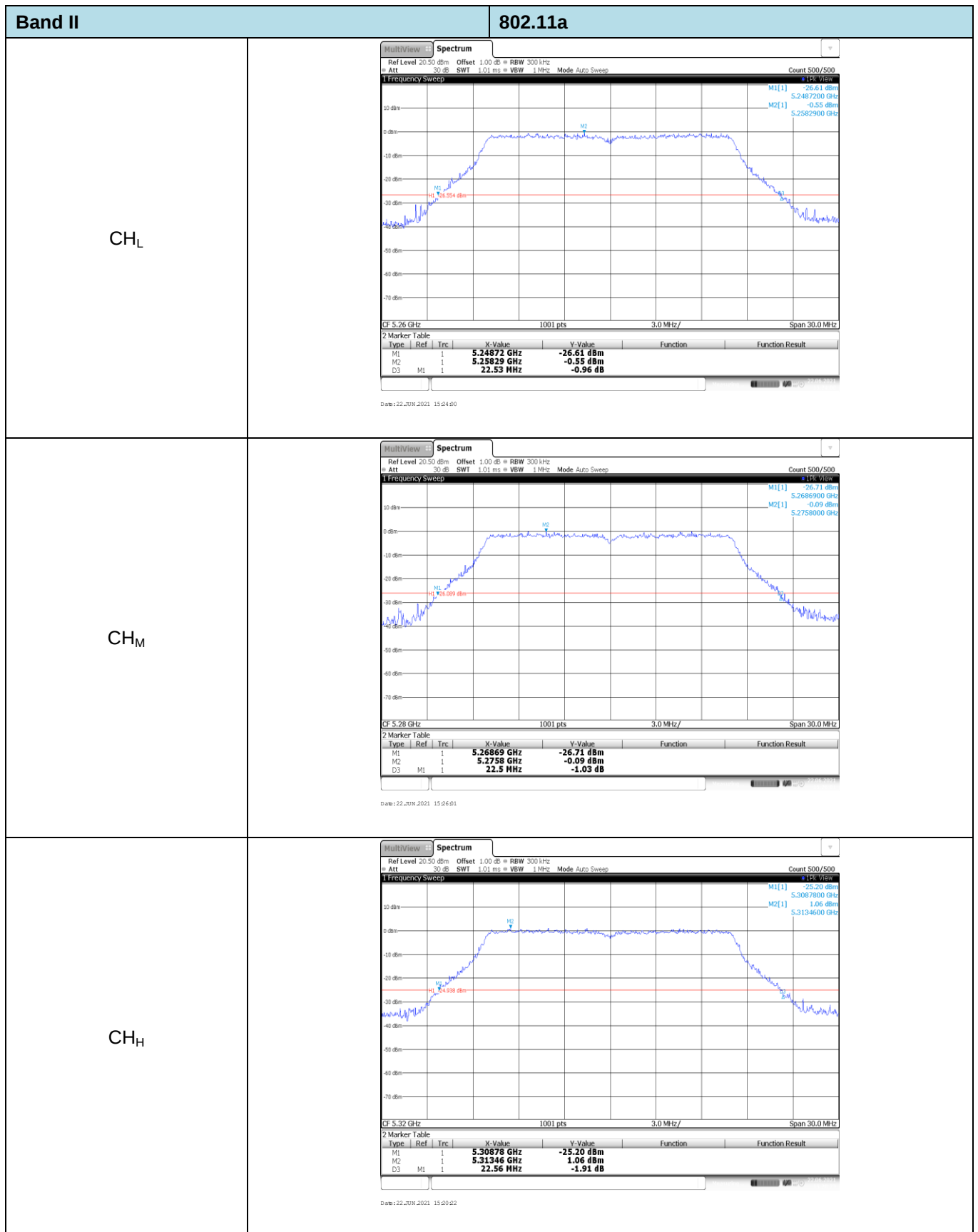
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11n	CH _L	22.83	Pass
			CH _M	23.10	
			CH _H	23.04	
		802.11a	CH _L	22.44	Pass
			CH _M	22.62	
			CH _H	22.71	
	40	802.11n	CH _L	55.80	Pass
			CH _H	43.68	
II	20	802.11n	CH _L	22.89	Pass
			CH _M	22.53	
			CH _H	23.31	
		802.11a	CH _L	22.53	Pass
			CH _M	22.50	
			CH _H	22.56	
	40	802.11n	CH _L	43.44	Pass
			CH _H	57.41	
III	20	802.11n	CH _L	26.85	Pass
			CH _M	27.06	
			CH _H	27.36	
		802.11a	CH _L	26.13	Pass
			CH _M	26.52	
			CH _H	26.64	
	40	802.11n	CH _L	51.06	Pass
			CH _M	55.74	
			CH _H	55.68	

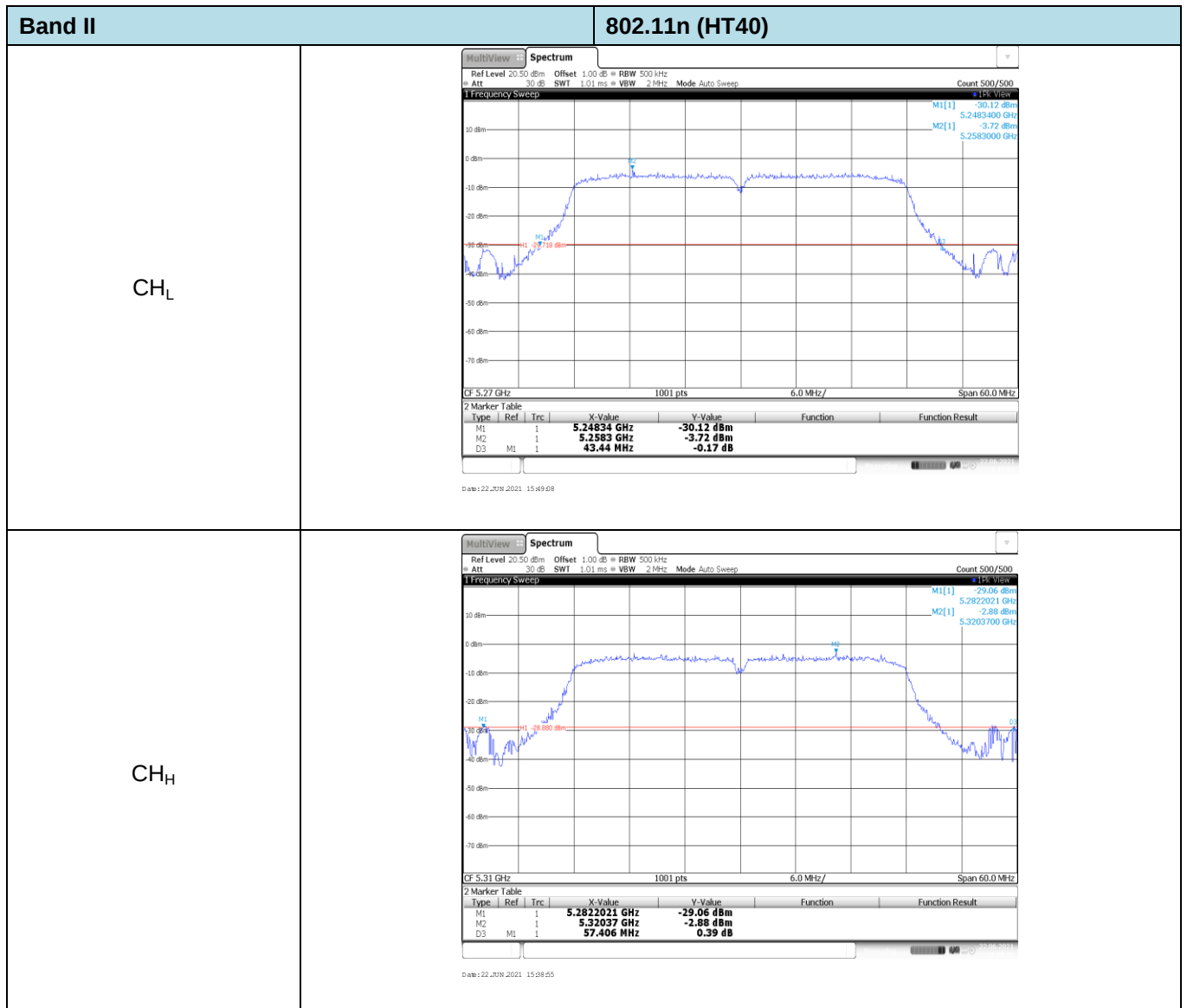


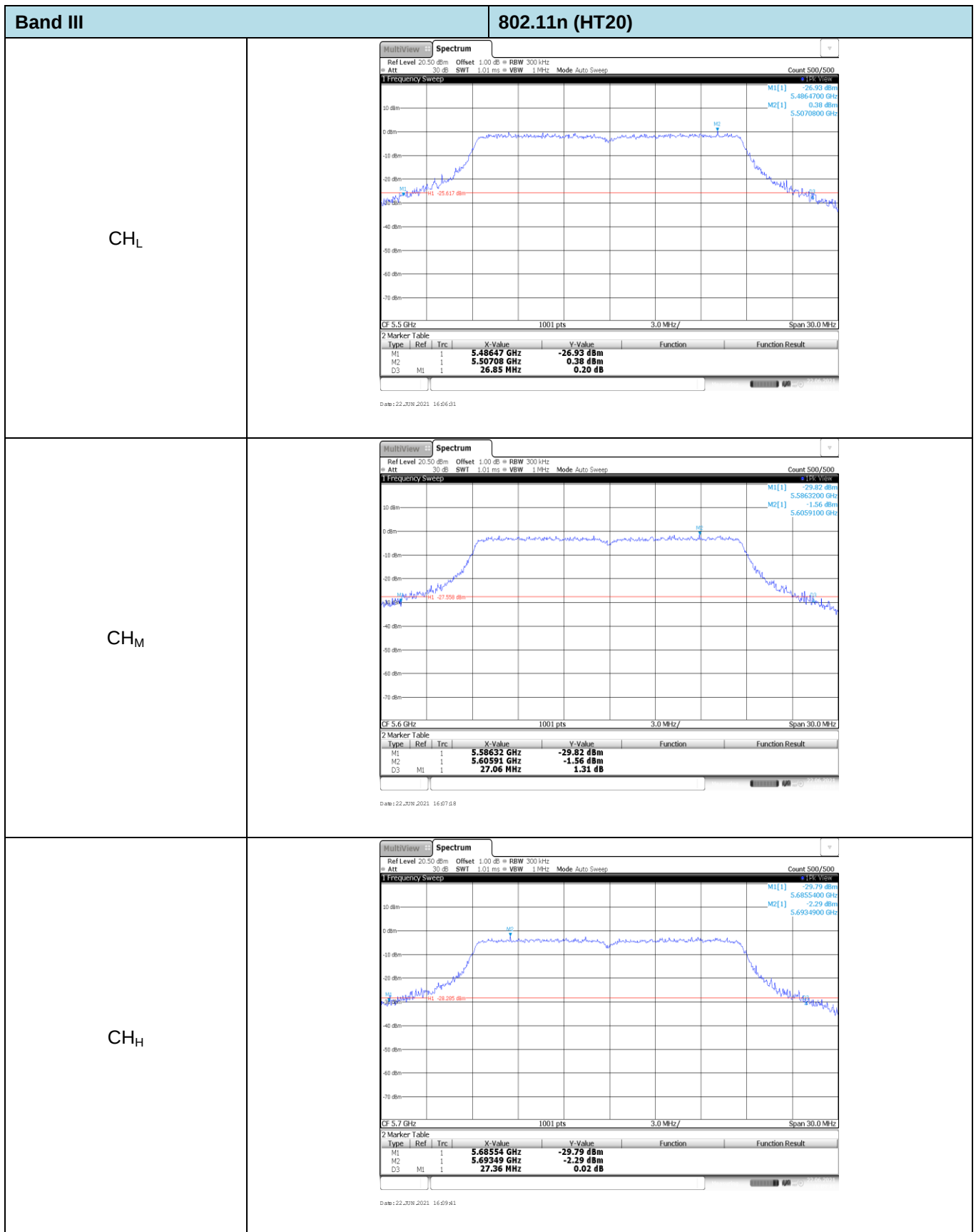


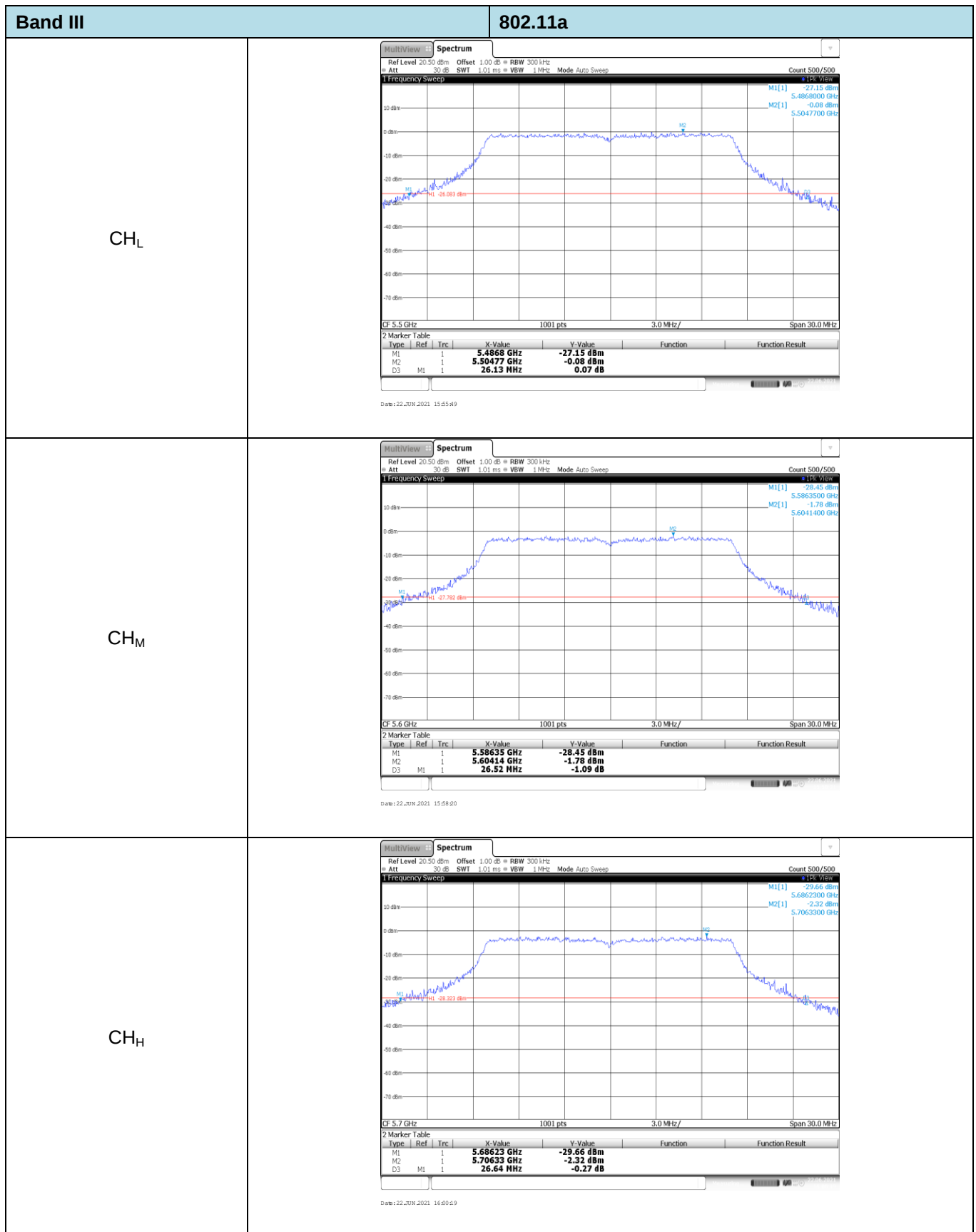


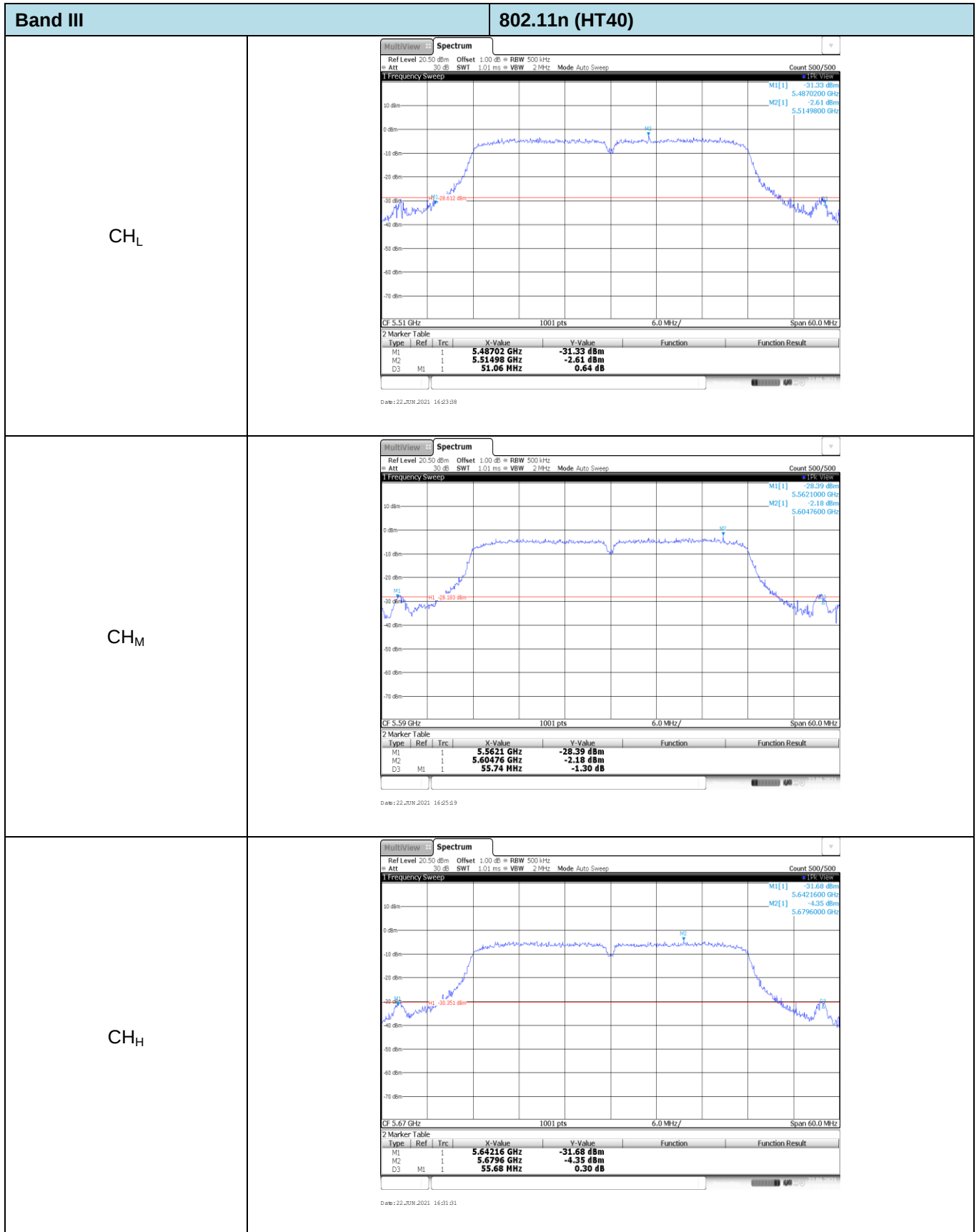






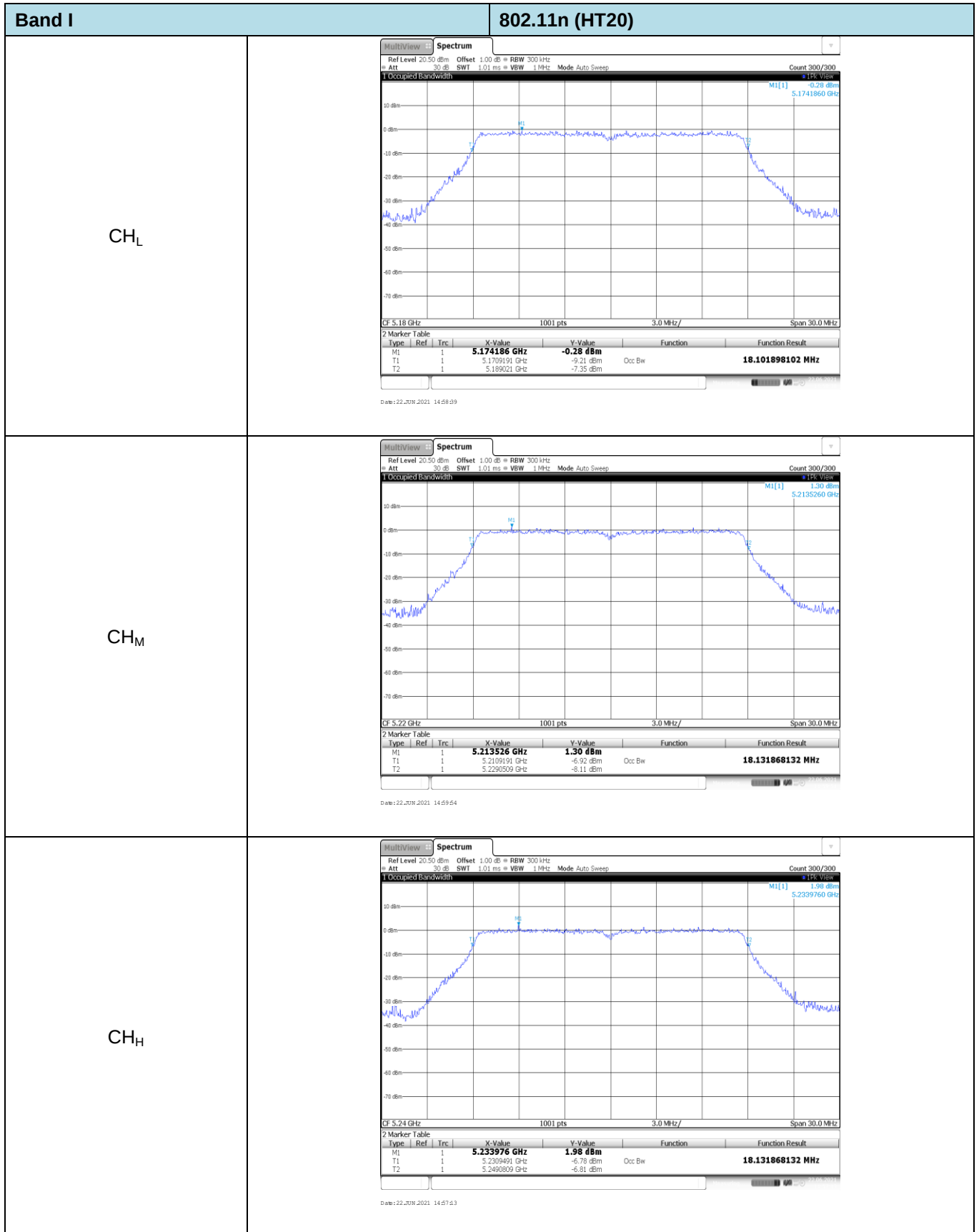


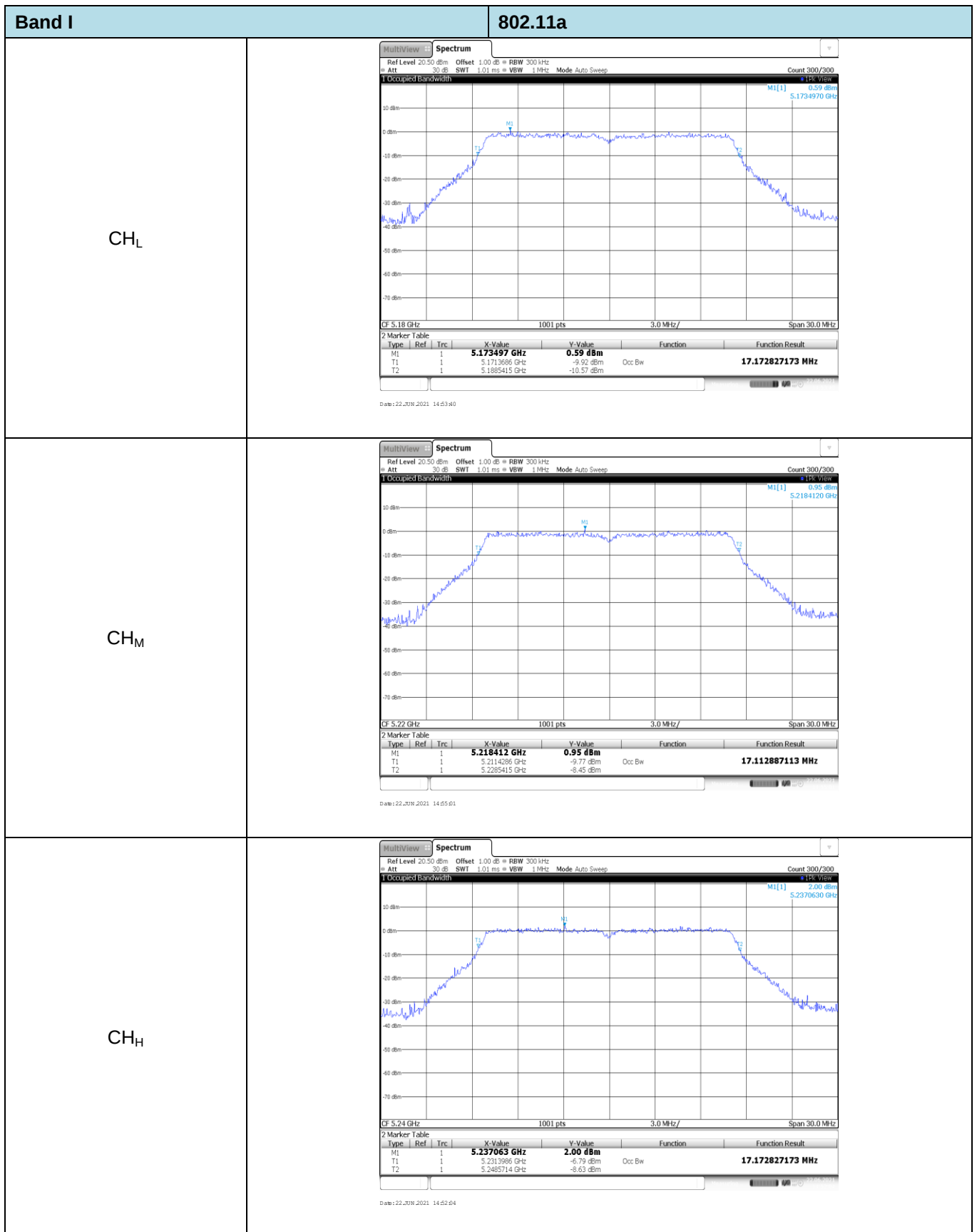


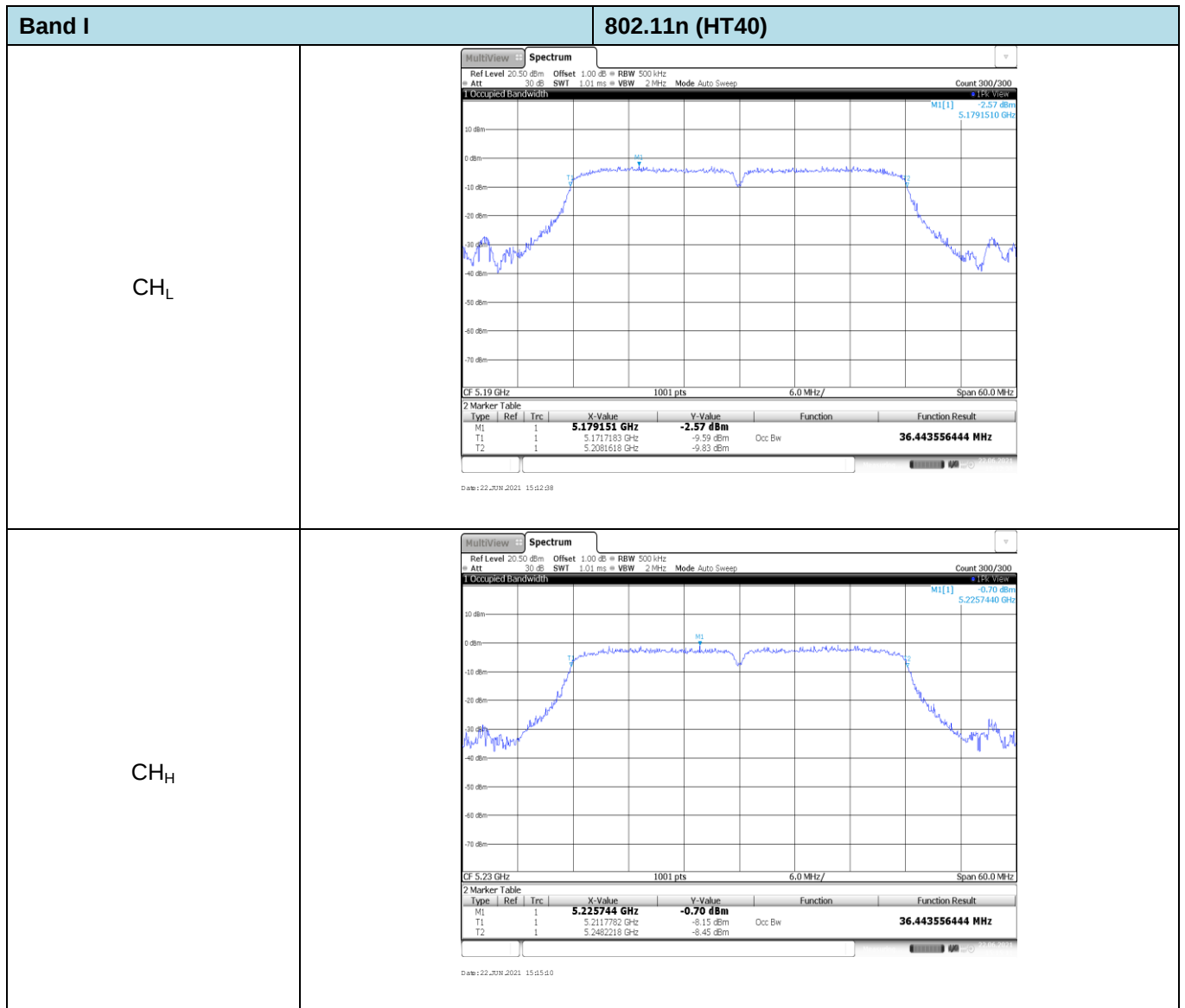


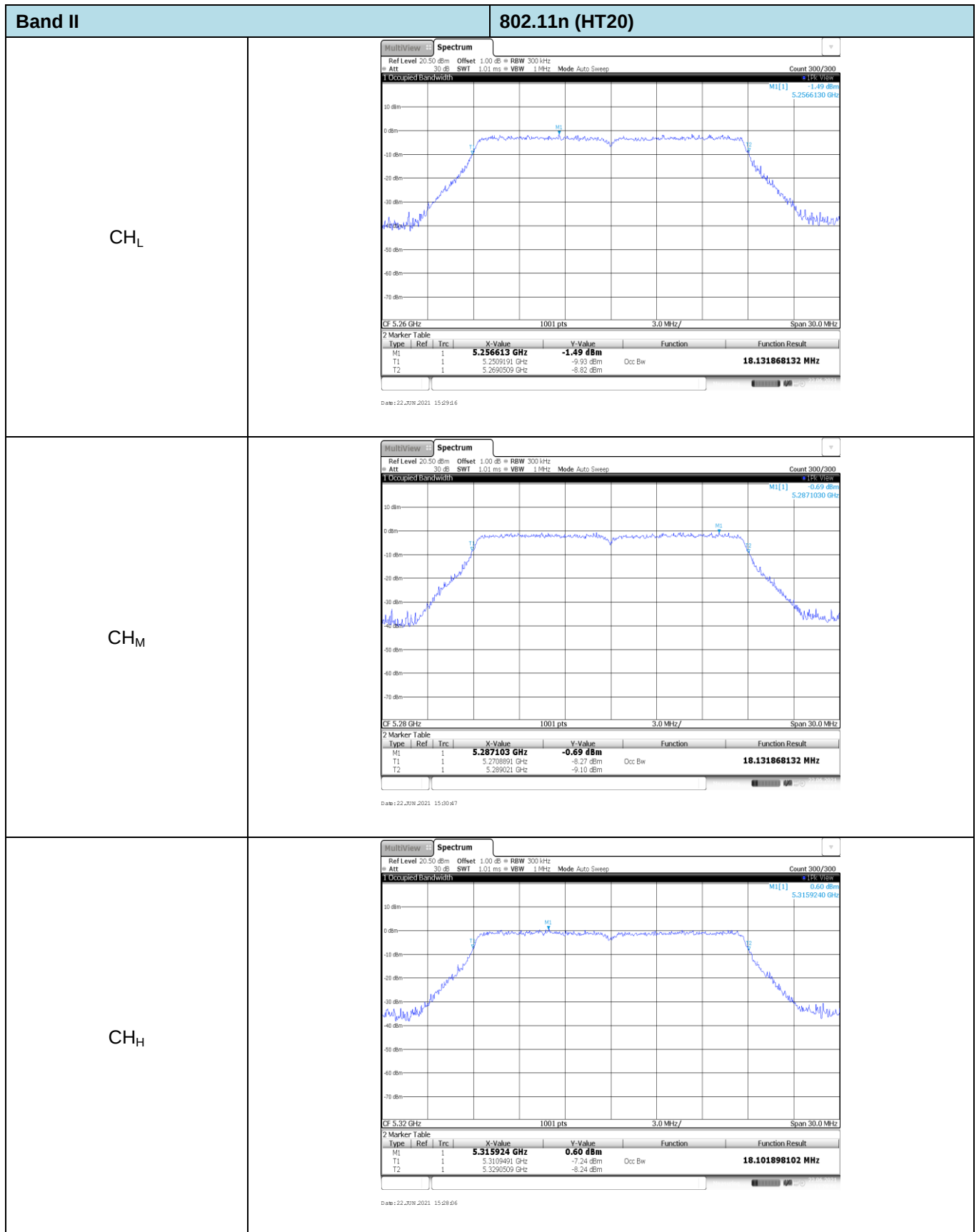
Appendix D: 99% Occupy bandwidth

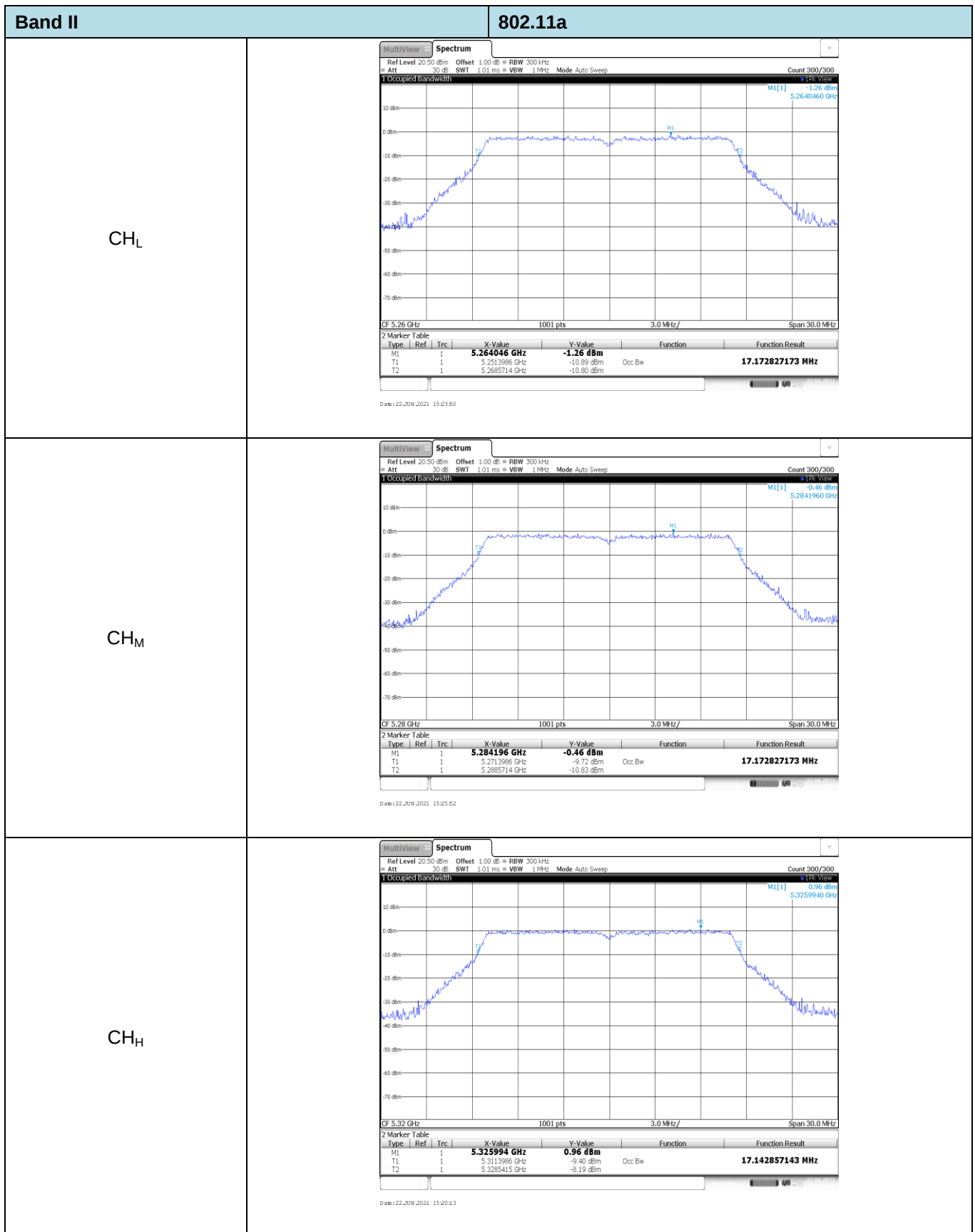
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11n	CH _L	18.10	Pass
			CH _M	18.13	
			CH _H	18.13	
		802.11a	CH _L	17.17	Pass
			CH _M	17.11	
			CH _H	17.17	
	40	802.11n	CH _L	36.44	Pass
			CH _H	36.44	
II	0	802.11n	CH _L	18.13	Pass
			CH _M	18.13	
			CH _H	18.10	
		802.11a	CH _L	17.17	Pass
			CH _M	17.17	
			CH _H	17.14	
	40	802.11n	CH _L	36.44	Pass
			CH _H	36.44	
III	20	802.11n	CH _L	18.25	Pass
			CH _M	18.28	
			CH _H	18.37	
		802.11a	CH _L	17.41	Pass
			CH _M	17.41	
			CH _H	17.47	
	40	802.11n	CH _L	36.38	Pass
			CH _M	36.44	
			CH _H	36.44	
IV	20	802.11n	CH _L	18.13	Pass
			CH _M	18.16	
			CH _H	18.13	
		802.11a	CH _L	17.20	Pass
			CH _M	17.17	
			CH _H	17.20	
	40	802.11n	CH _L	36.30	Pass
			CH _H	36.38	

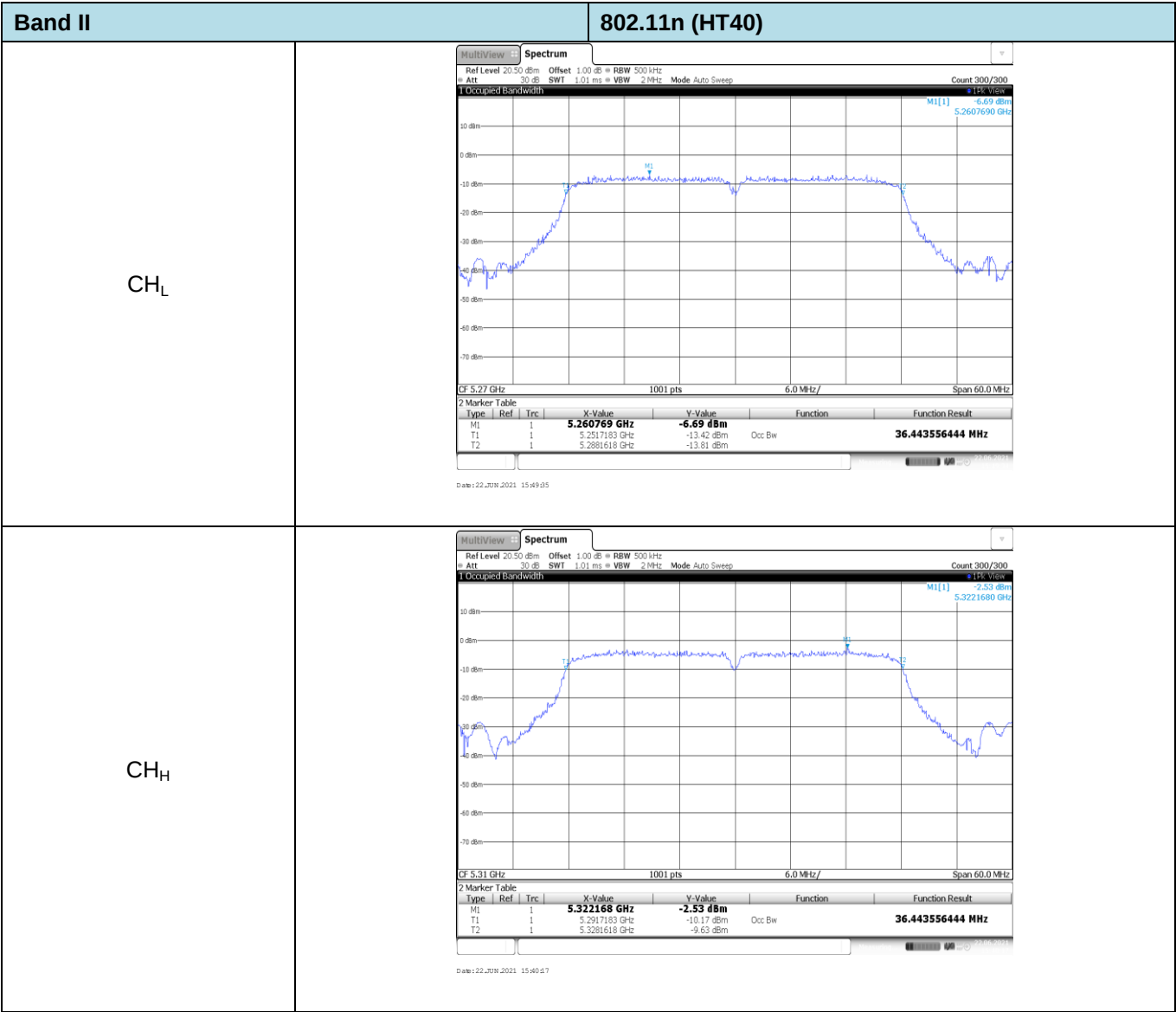


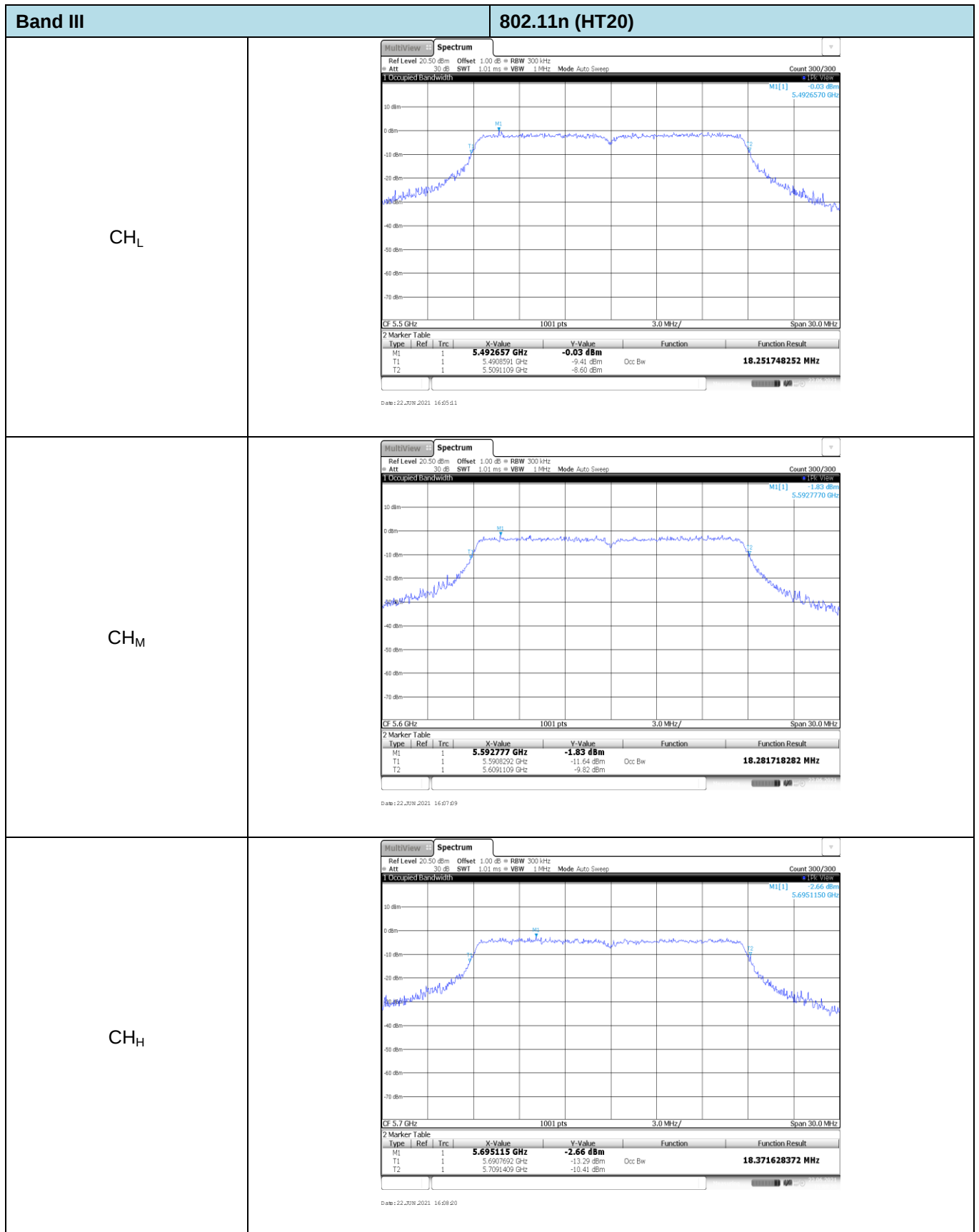


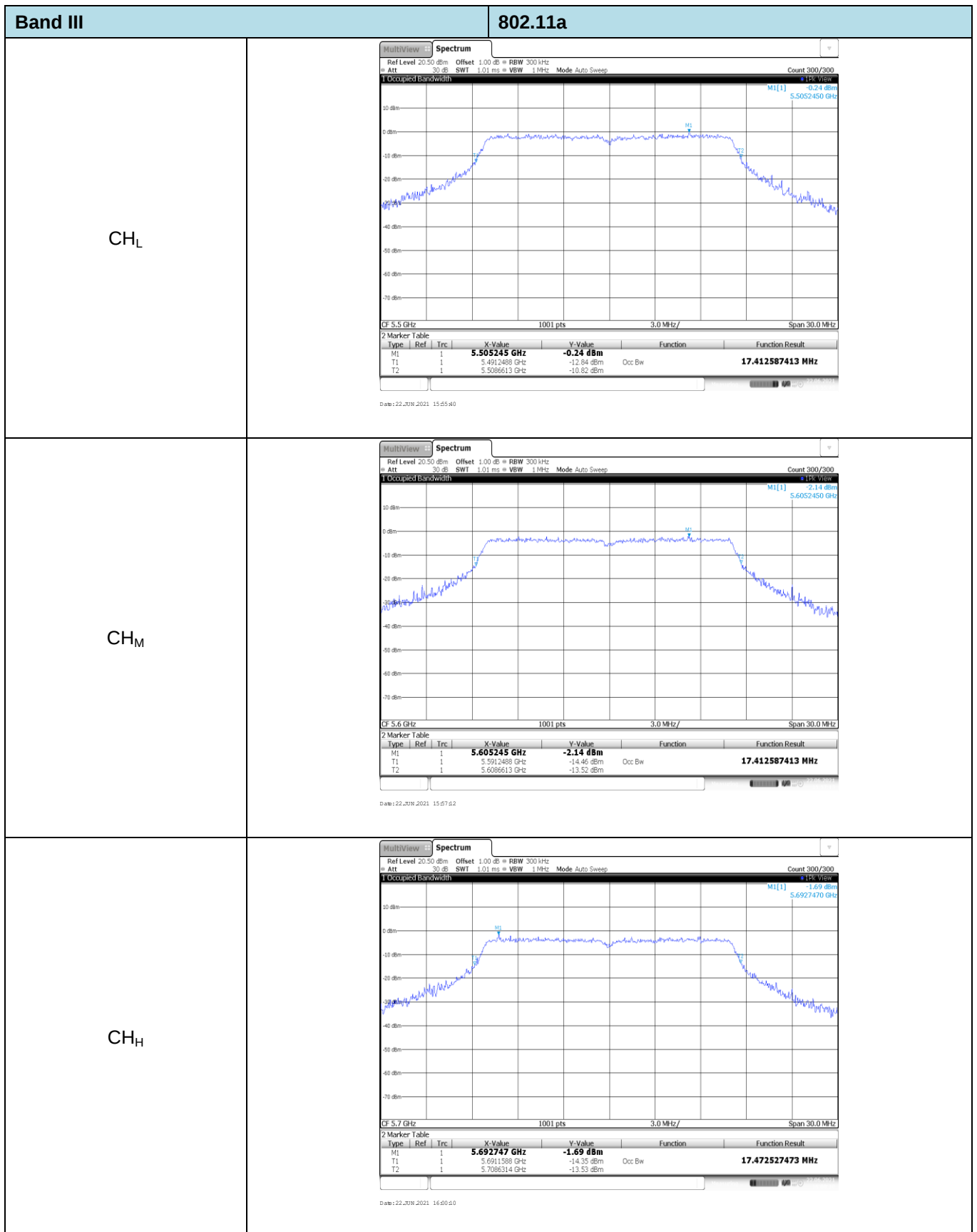


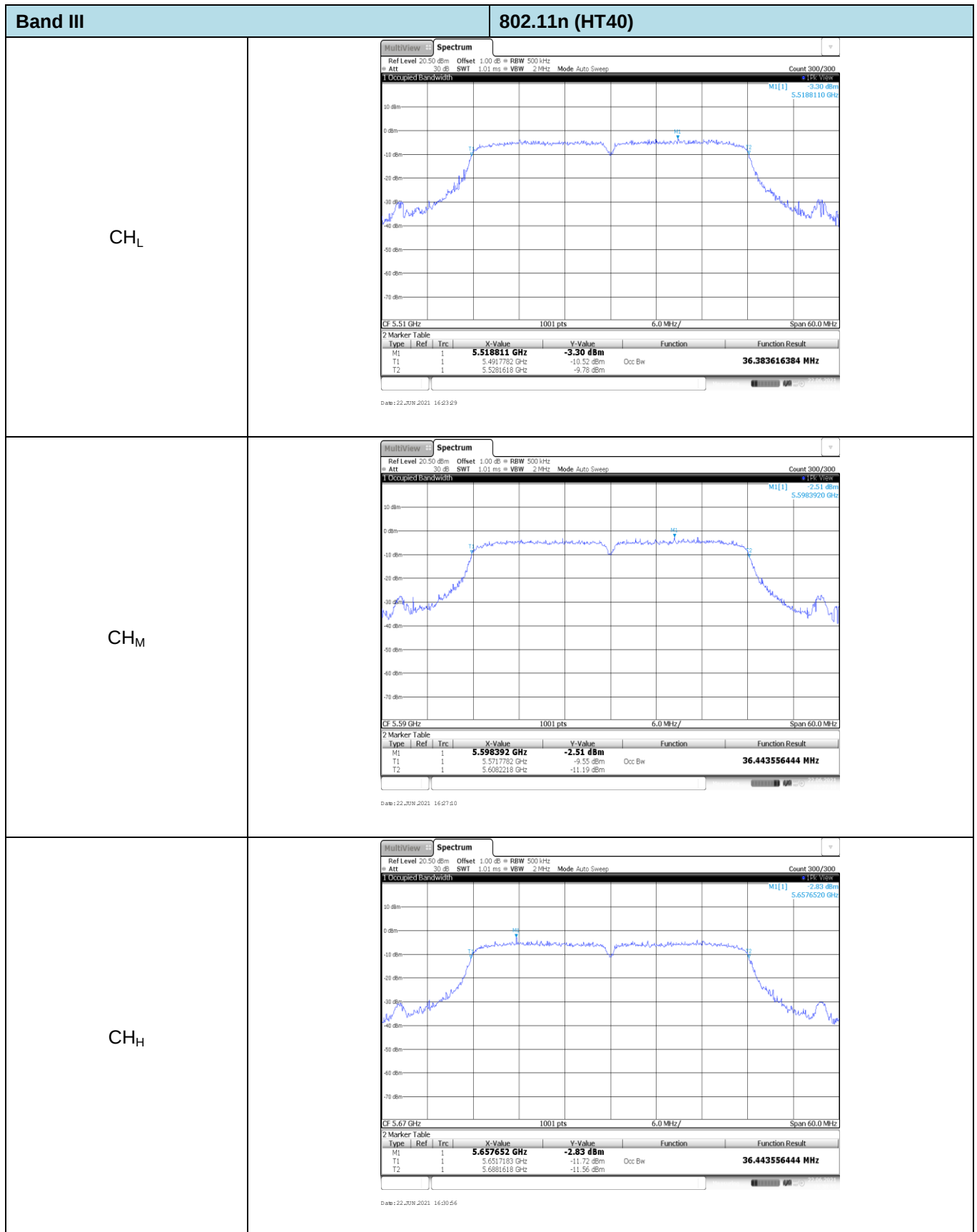












Band IV

802.11n (HT20)

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
M1 [1] -0.76 dBm
5.740385 GHz
CF 5.745 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz
2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.740385 GHz	-0.76 dBm		
T1	1		5.739891 GHz	-9.98 dBm	Occ Bw	18.131868132 MHz
T2	1		5.74021 GHz	-7.27 dBm		

Date: 22 JUN 2021 16:43:53

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
M1 [1] -0.45 dBm
5.790994 GHz
CF 5.785 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz
2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.790994 GHz	-0.45 dBm		
T1	1		5.7799191 GHz	-8.68 dBm	Occ Bw	18.161838162 MHz
T2	1		5.7940809 GHz	-9.38 dBm		

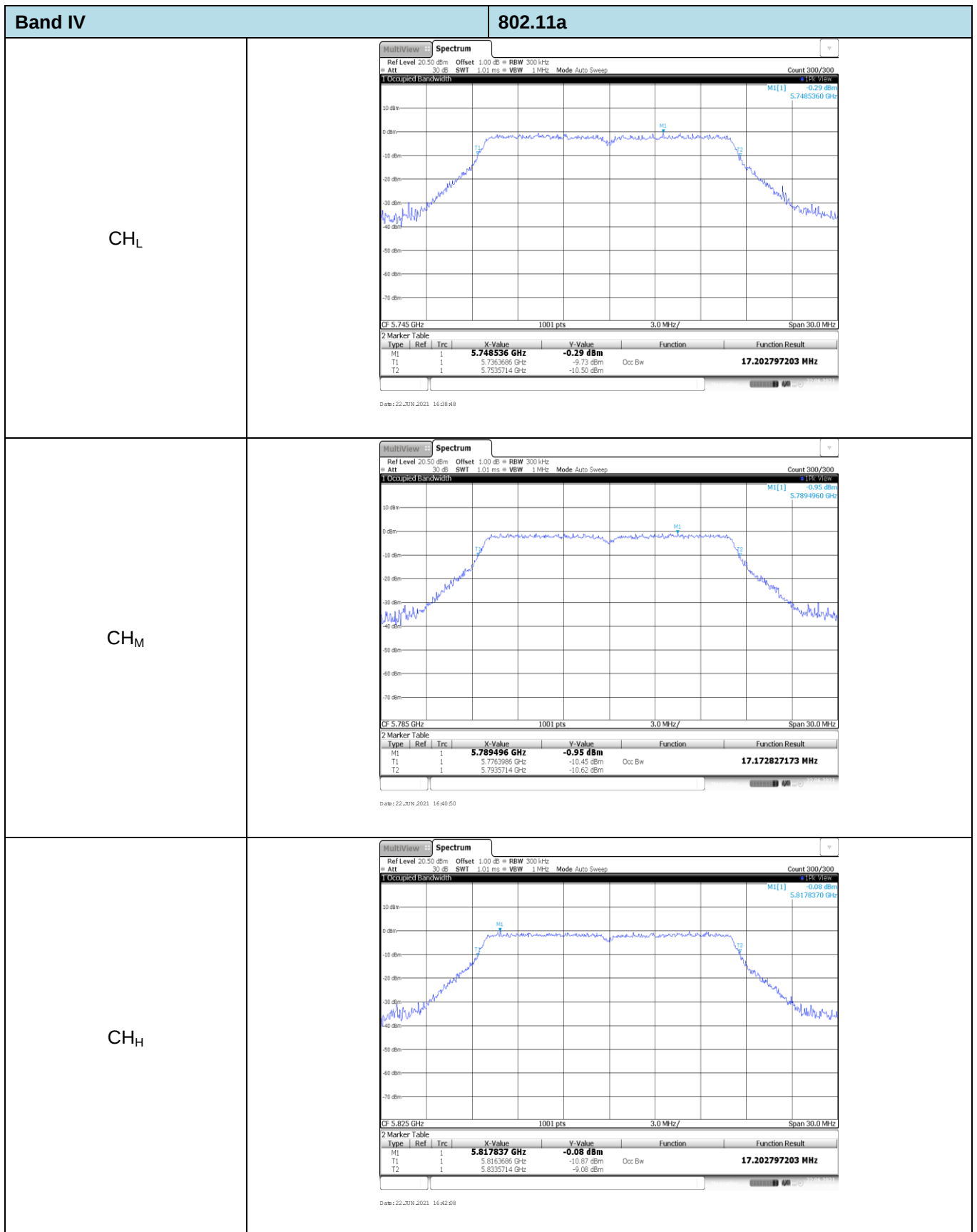
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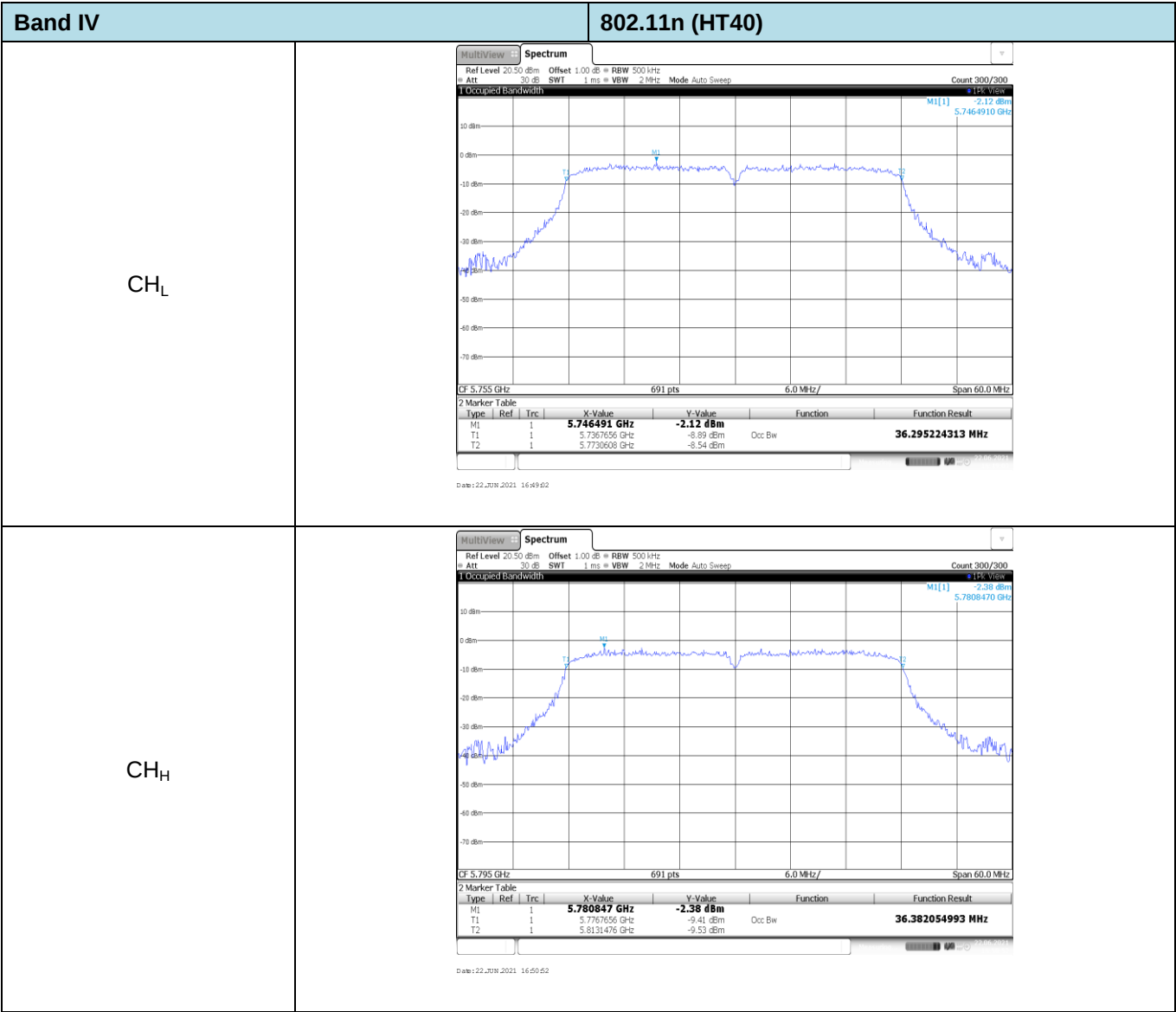
CH_H

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
M1 [1] -0.25 dBm
5.820954 GHz
CF 5.825 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz
2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.820954 GHz	-0.25 dBm		
T1	1		5.8199191 GHz	-8.99 dBm	Occ Bw	18.131868132 MHz
T2	1		5.8340509 GHz	-9.29 dBm		

Date: 22 JUN 2021 16:46:28



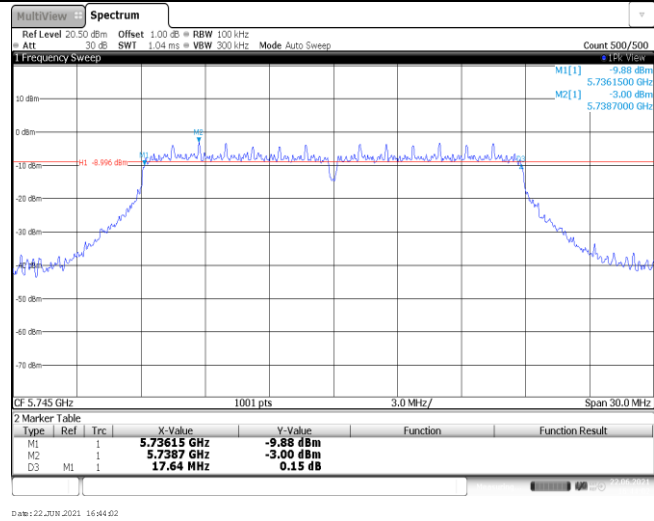
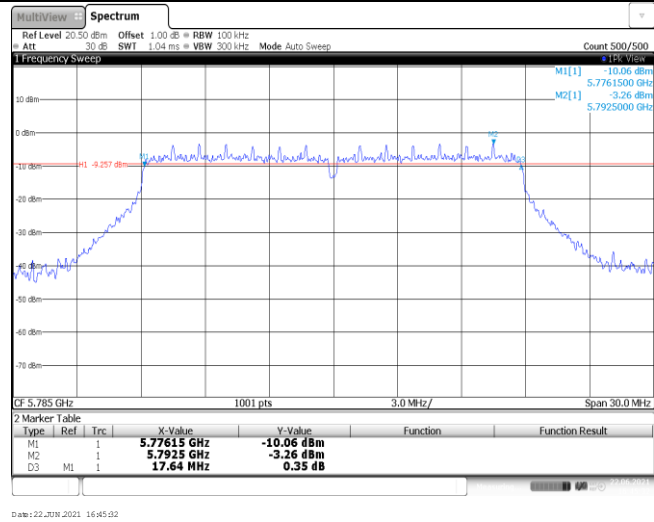
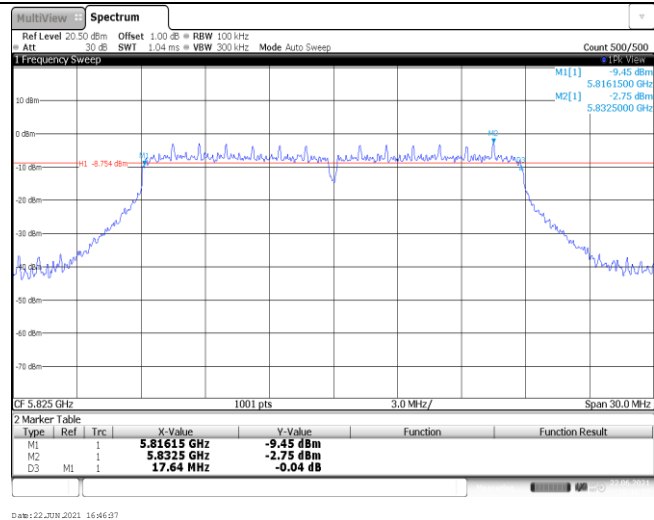


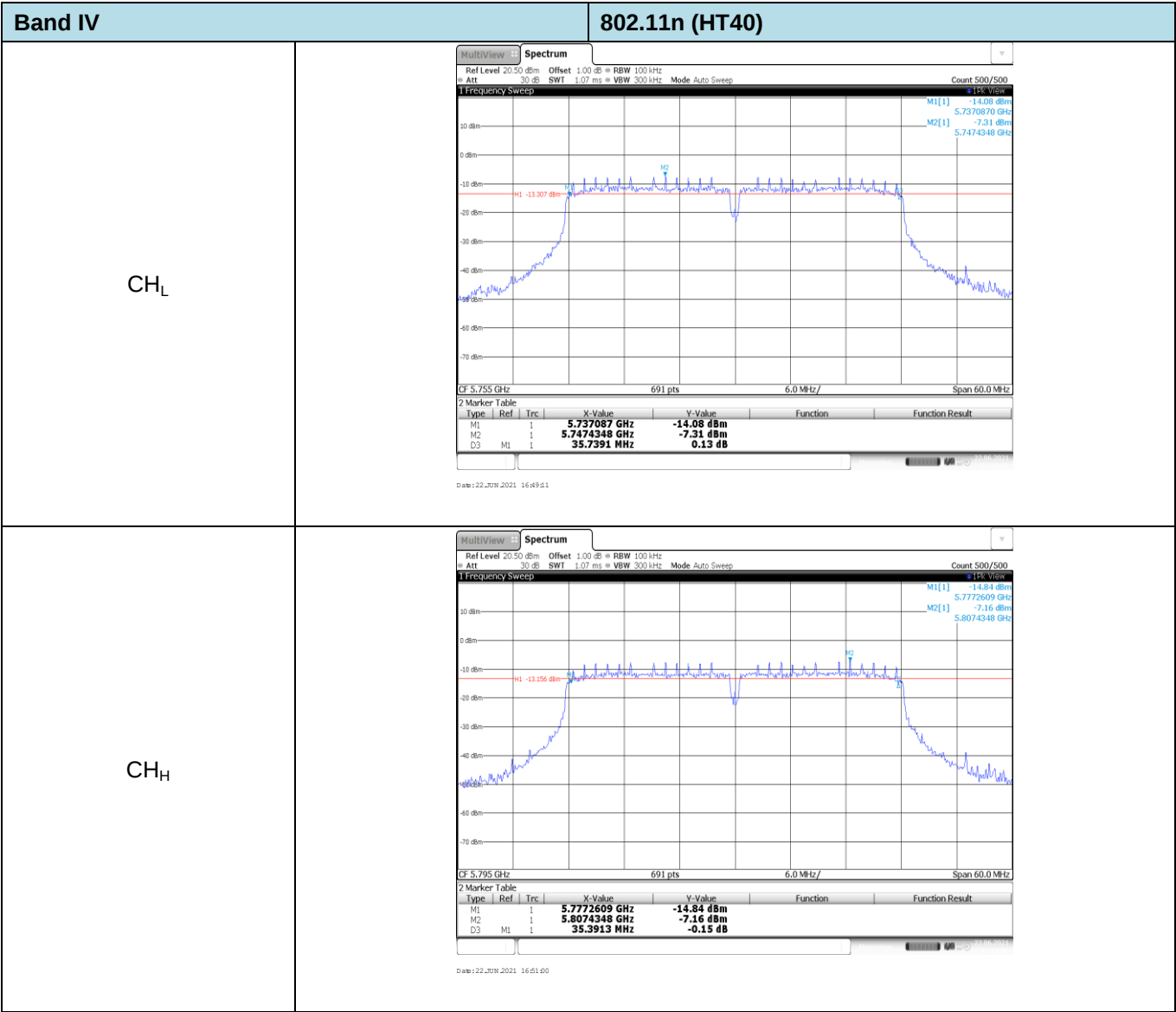
Appendix E: 6dB Bandwidth

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	16.41	Pass
			CH _M	16.41	
			CH _H	16.41	
	40	802.11n	CH _L	35.74	Pass
			CH _H	35.39	

Band IV

802.11n (HT20)

CH_LCH_MCH_H



Appendix F: Band edge

