

APPENDIX REPORT

Project No.	SHT2206102301EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22061023001	Model No.	Star10 3G
Start test date	2022-07-13	Finish date	2022-07-13
Temperature	25.1℃	Humidity	32%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhao

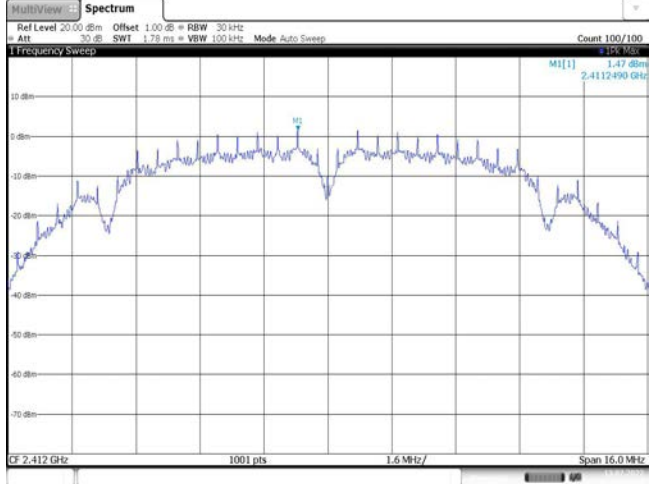
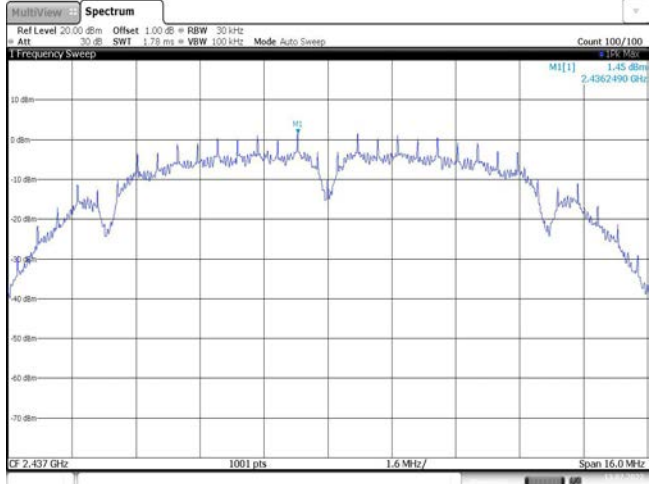
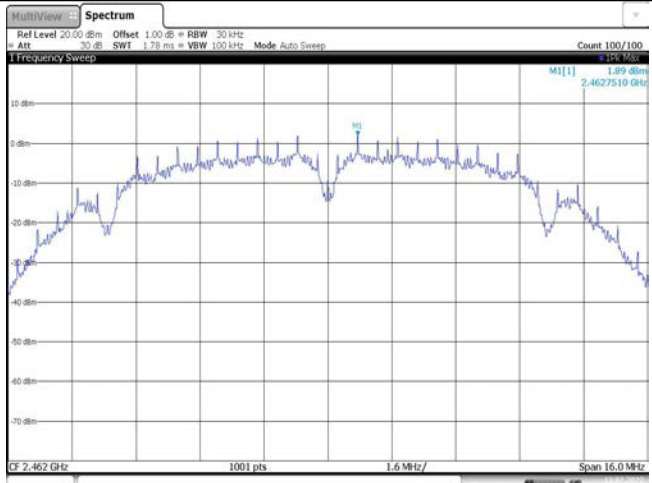
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

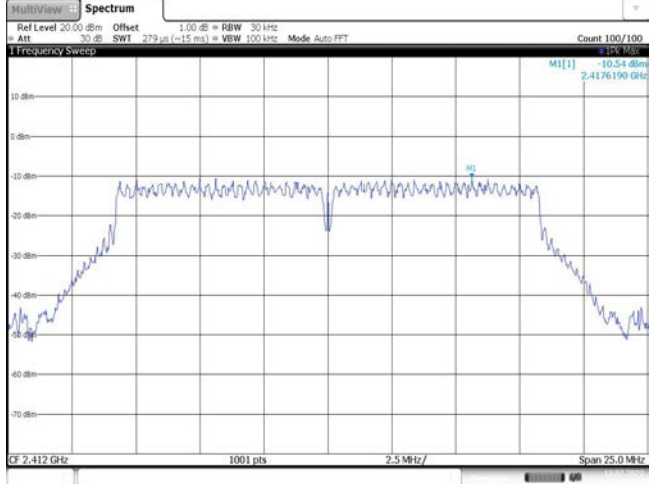
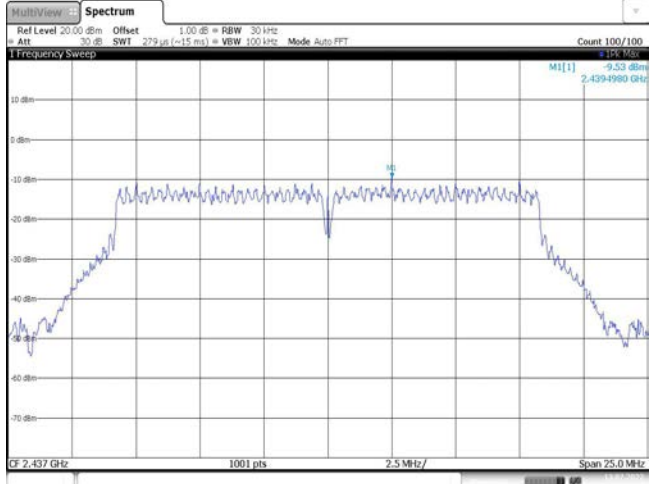
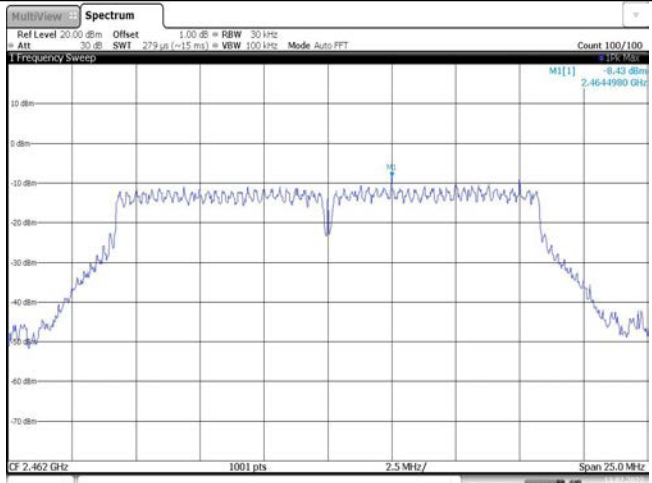
Appendix A: Conducted Peak Output Power

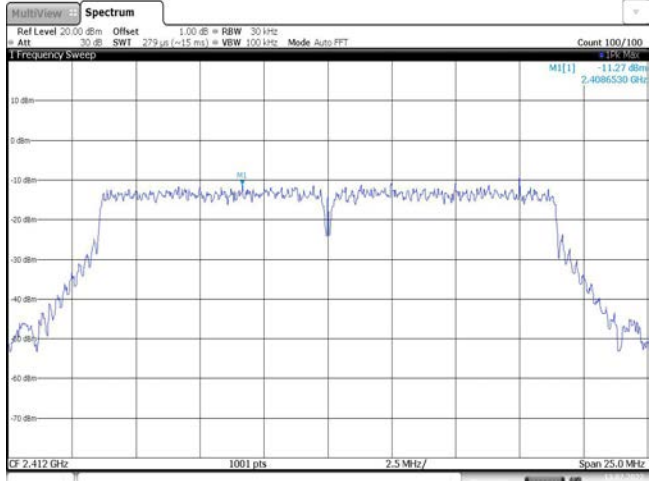
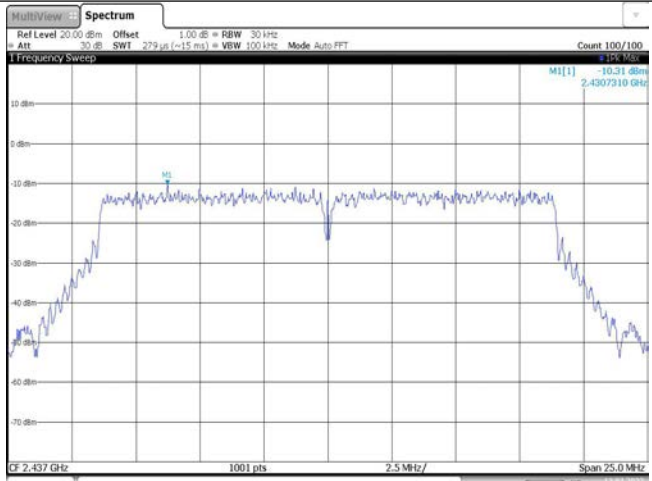
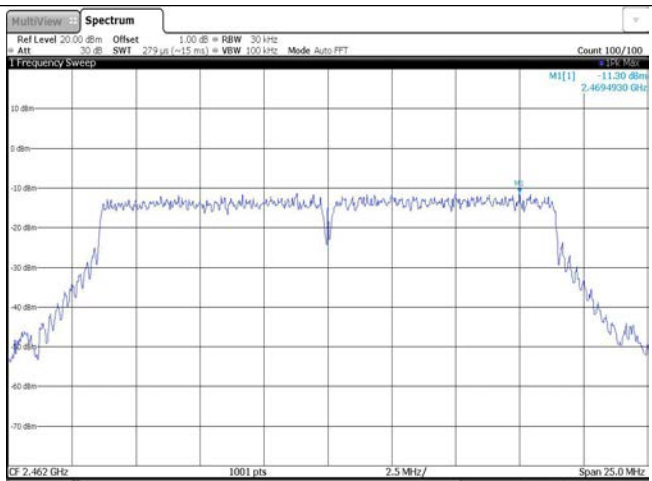
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	15.01	12.62	≤ 30.00	Pass
	06	14.91	12.44		
	11	15.74	13.24		
802.11g	01	14.67	11.96	≤ 30.00	Pass
	06	14.52	11.74		
	11	15.16	12.40		
802.11n (HT20)	01	15.07	13.40	≤ 30.00	Pass
	06	14.88	13.22		
	11	15.23	13.56		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	1.47	≤8.00	Pass
	06	1.45		
	11	1.89		
802.11g	01	-10.54	≤8.00	Pass
	06	-9.53		
	11	-8.43		
802.11n(HT20)	01	-11.27	≤8.00	Pass
	06	-10.31		
	11	-11.30		

Type:	802.11 b
CH01	 Date:13 JUL 2022 13:53:54
CH06	 Date:13 JUL 2022 13:55:59
CH11	 Date:13 JUL 2022 13:51:54

Type:	802.11 g
CH01	 Ref Level 20.00 dBm Offset 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.54 dBm 2.4176190 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:02:45
CH06	 Ref Level 20.00 dBm Offset 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -9.53 dBm 2.4394980 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:04:52
CH11	 Ref Level 20.00 dBm Offset 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -8.42 dBm 2.4644980 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:00:58

Type:	802.11n(HT20)
CH01	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB = RBW 30 kHz Att 30 dB SWI 279 μs (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 M1[1] -11.27 dBm 2.4086530 GHz Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:51:03
CH06	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB = RBW 30 kHz Att 30 dB SWI 279 μs (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 M1[1] -10.31 dBm 2.4307910 GHz Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:53:01
CH11	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB = RBW 30 kHz Att 30 dB SWI 279 μs (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 M1[1] -11.30 dBm 2.4694930 GHz Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 13 JUL 2022 14:59:16

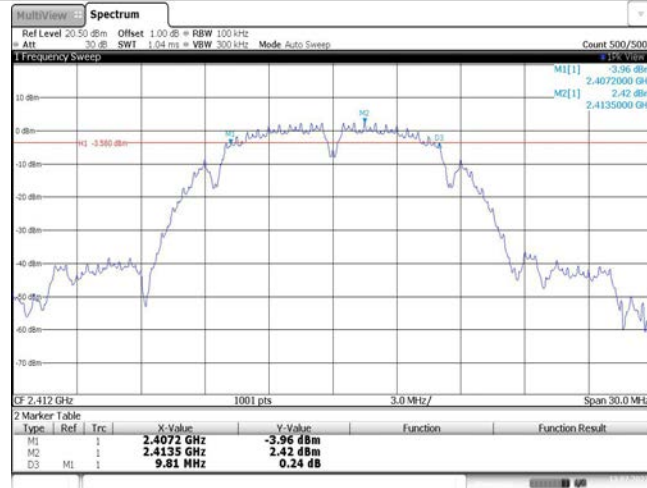
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	9.81	≥0.5	Pass
	06	9.15		
	11	9.60		
802.11g	01	16.41	≥0.5	Pass
	06	16.41		
	11	16.38		
802.11n(HT20)	01	17.64	≥0.5	Pass
	06	17.64		
	11	17.64		

Type:

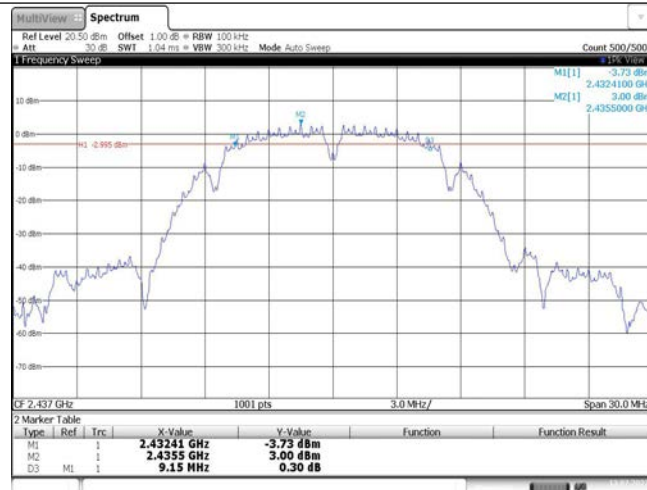
802.11 b

CH01



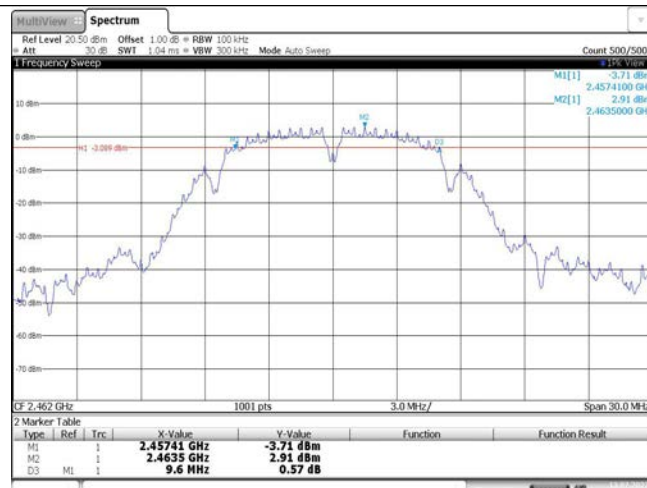
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CH06



Date:13 JUL 2022 13:55:42

CH11

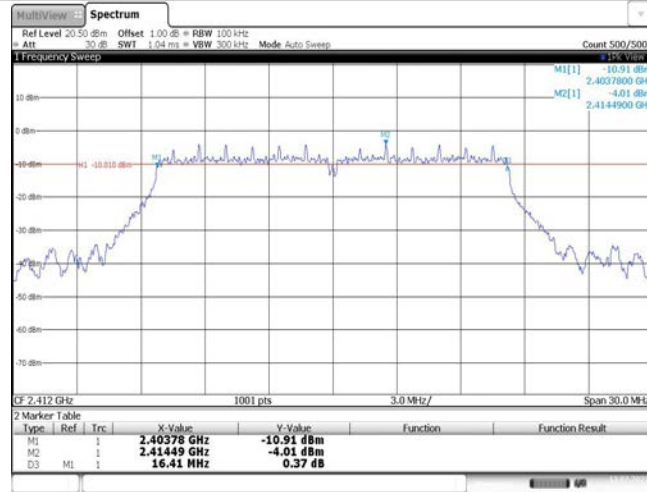


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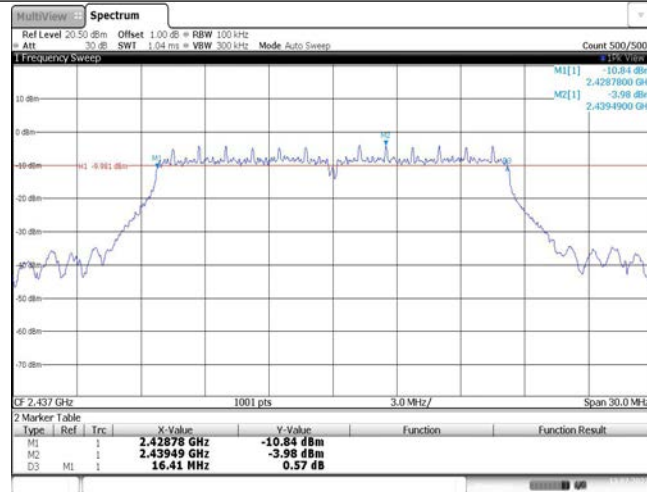
802.11 g

CH01



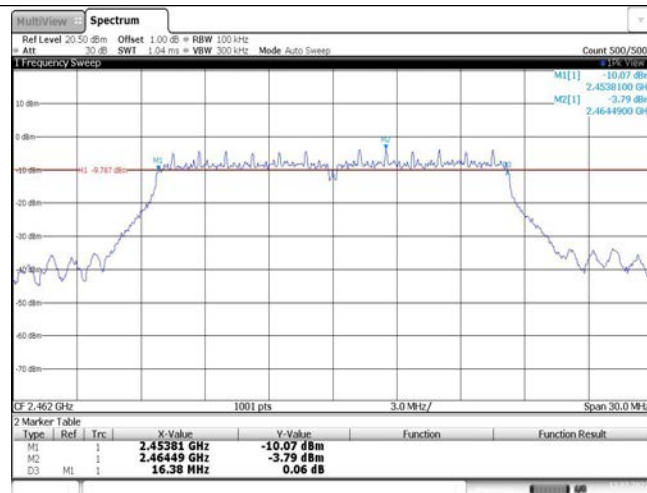
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CH06



Date:13 JUL 2022 14:04:35

CH11

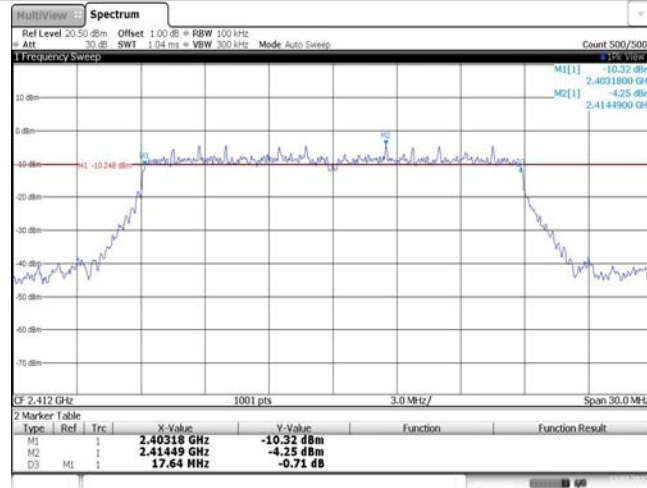


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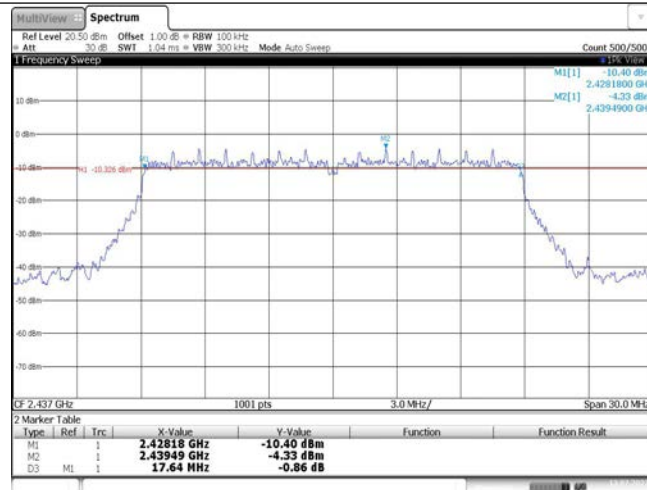
802.11n(HT20)

CH01



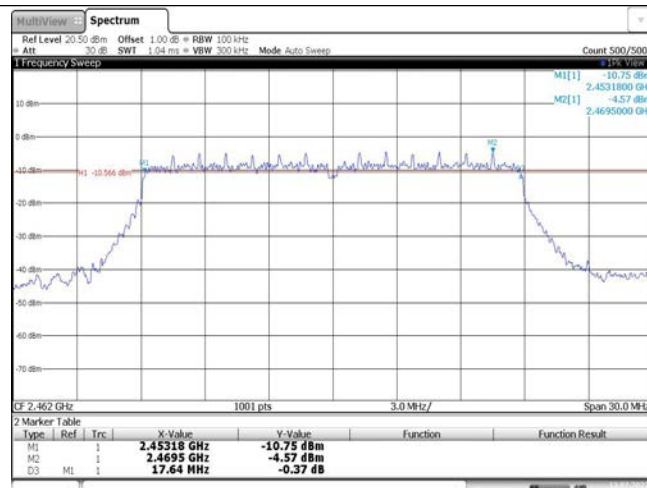
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CH06



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CH11



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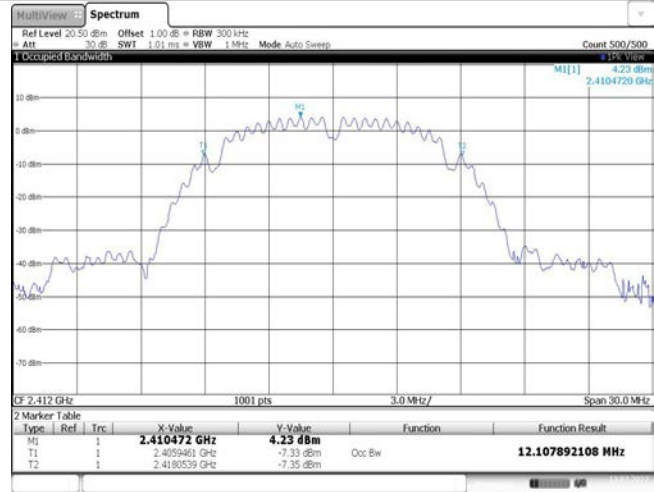
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	12.11	-	Pass
	06	12.11		
	11	12.14		
802.11g	01	17.23	-	Pass
	06	17.26		
	11	17.26		
802.11n(HT20)	01	17.86	-	Pass
	06	17.89		
	11	17.89		

Type:

802.11 b

CH01



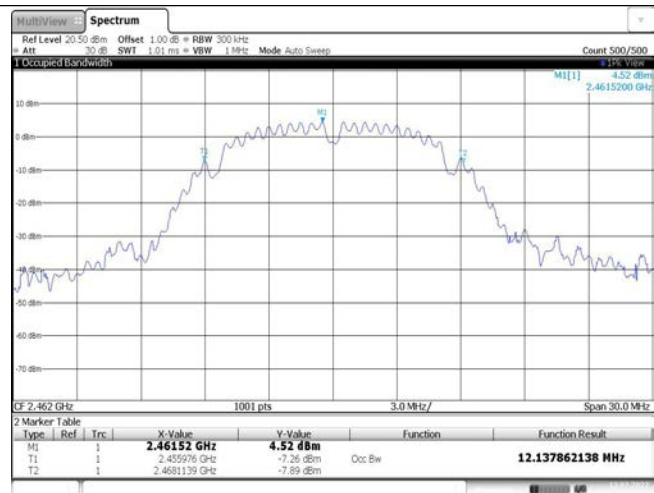
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CH06



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CH11



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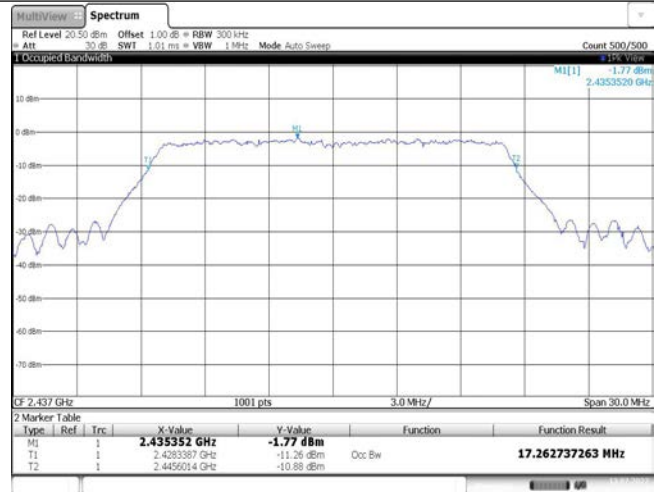
802.11 g

CH01



Date:13 JUL 2022 14:02:37

CH06



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CH11

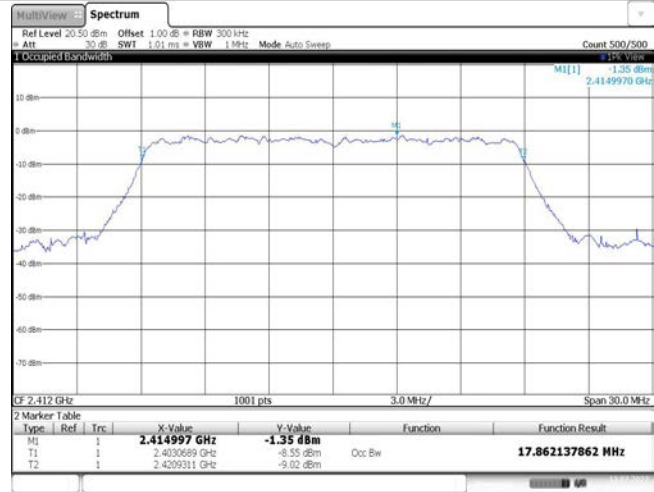


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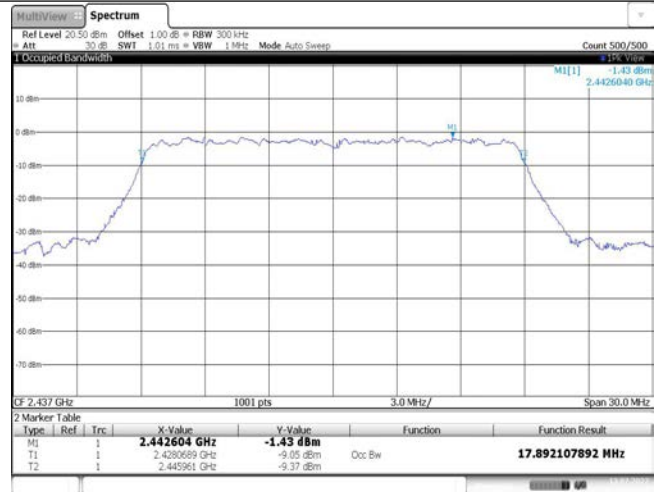
802.11n(HT20)

CH01



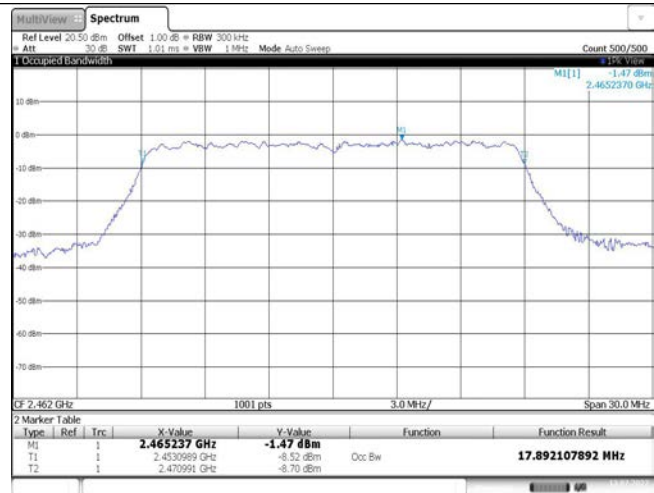
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CH06



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CH11

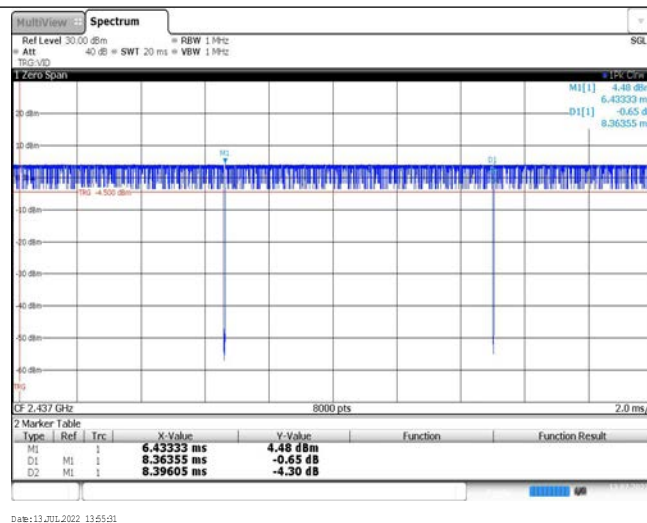


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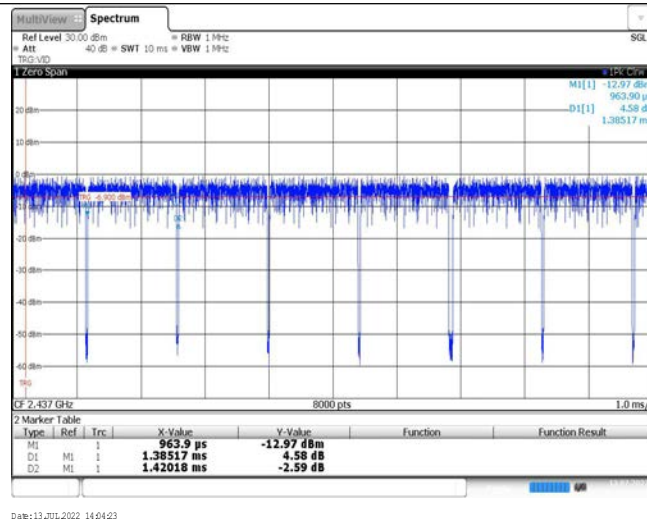
Appendix E: Duty Cycle

Modulation Type	Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
11b	2437	8.36	8.40	99.5%	0.1
11g	2437	1.39	1.42	97.9%	0.7
11n20	2437	1.17	1.20	97.5%	0.9

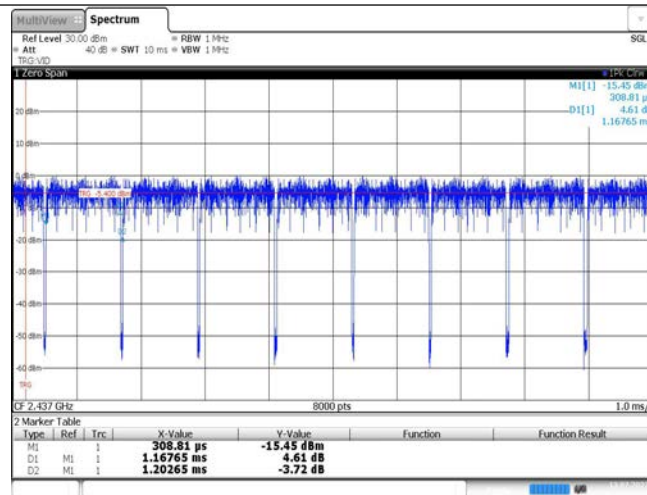
11b



11g

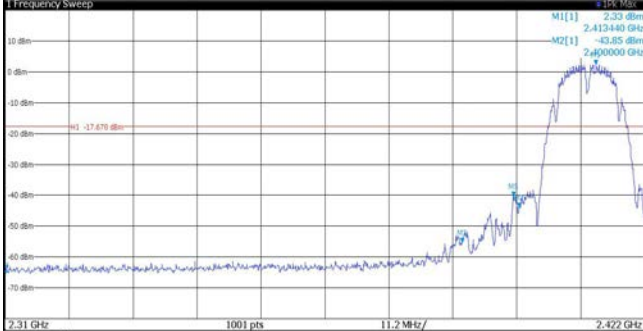
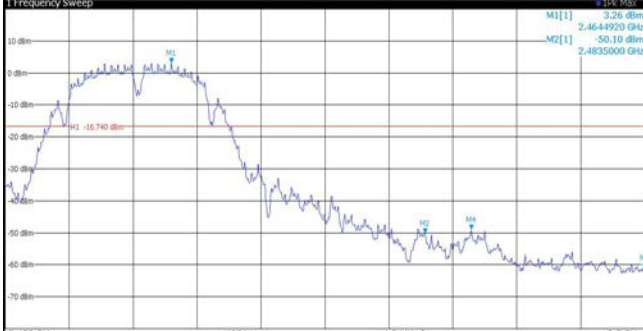


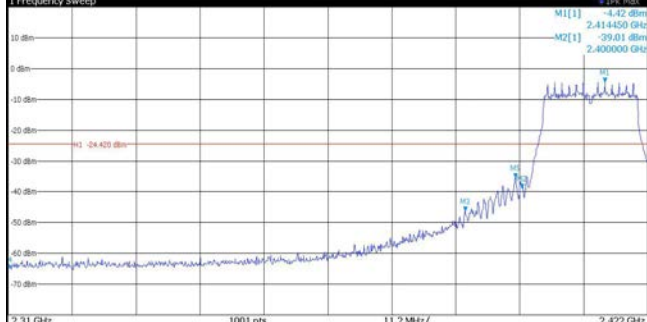
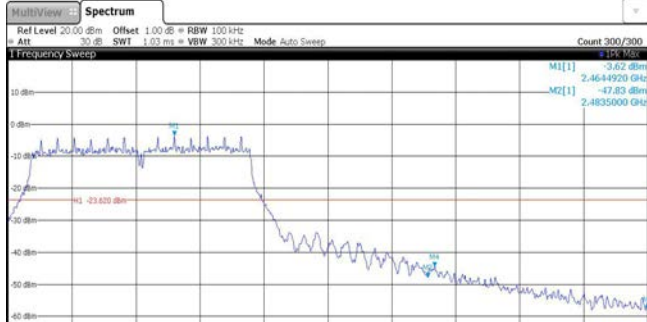
11n20



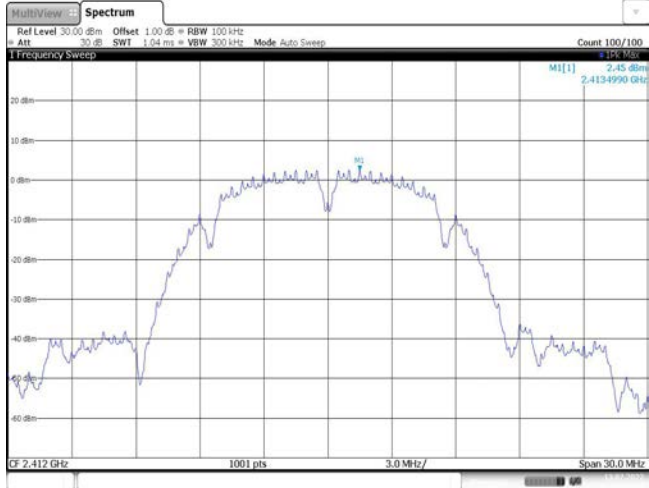
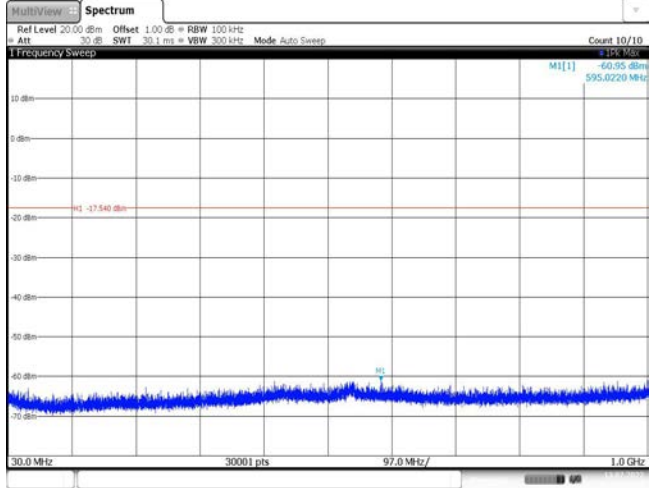
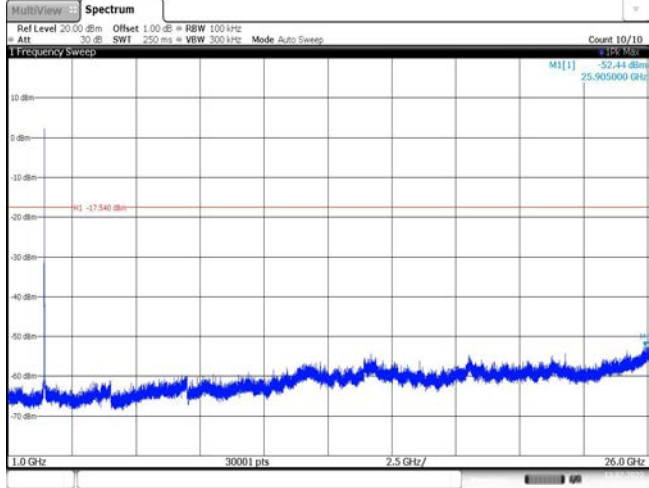
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Appendix F: Band edge and Spurious Emissions (conducted)

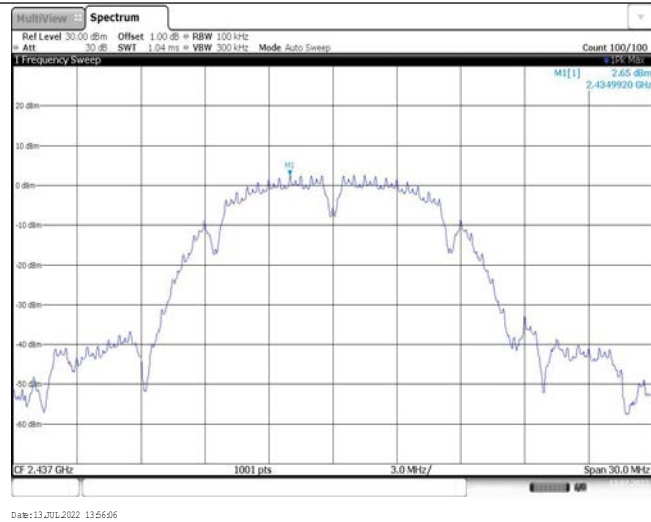
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep  M1[1] 2.33 dBm 2.413440 GHz M2[1] -43.85 dBm 2.400000 GHz 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz 2 Marker Table <table><thead><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></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.41344 GHz</td><td>2.33 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-43.85 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-55.45 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.69 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39904 GHz</td><td>-40.31 dBm</td><td></td><td></td></tr></tbody></table> Date: 13 JUL 2022 13:54:05			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41344 GHz	2.33 dBm			M2	1		2.4 GHz	-43.85 dBm			M3	1		2.39 GHz	-55.45 dBm			M4	1		2.31 GHz	-64.69 dBm			M5	1		2.39904 GHz	-40.31 dBm		
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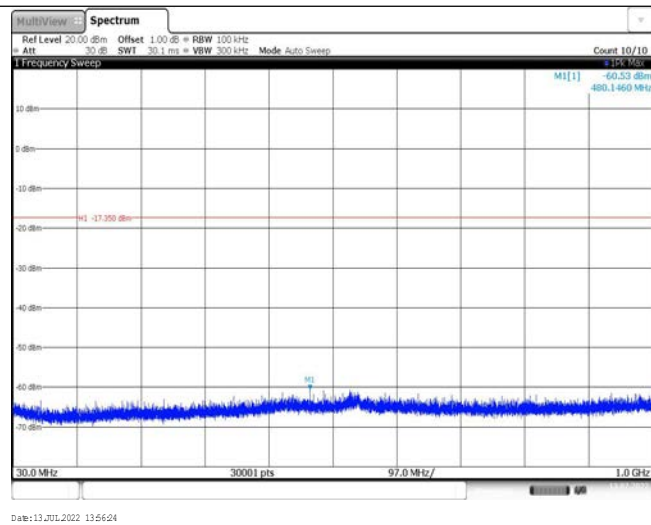
Test Item:	Bandedge	Type:	802.11 n(HT20)
CH01	</		

Test Item:	Spurious Emissions	Type:	802.11 b
CH01 Reference level	 Date:13 JUL 2022 13:54:12		
CH01 30MHz~1000MHz	 Date:13 JUL 2022 13:54:31		
CH01 1GHz~26GHz	 Date:13 JUL 2022 13:54:49		

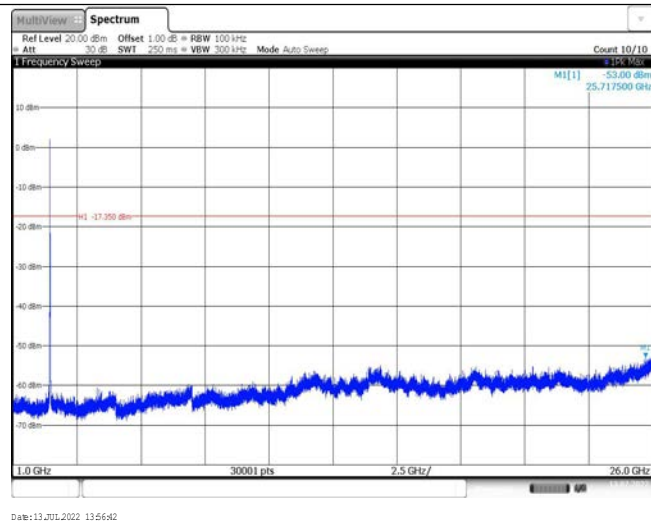
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Reference level



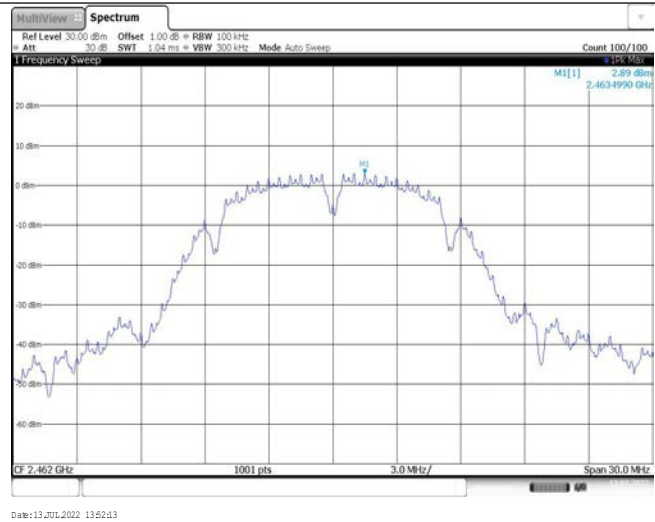
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30MHz~1000MHz



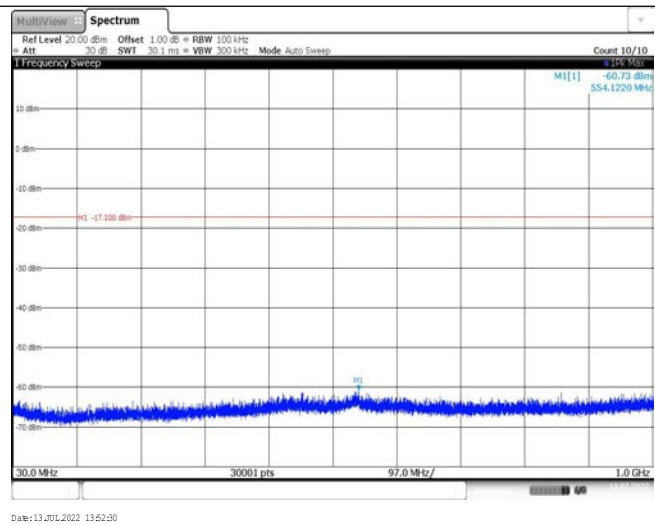
CH06
1GHz~26GHz



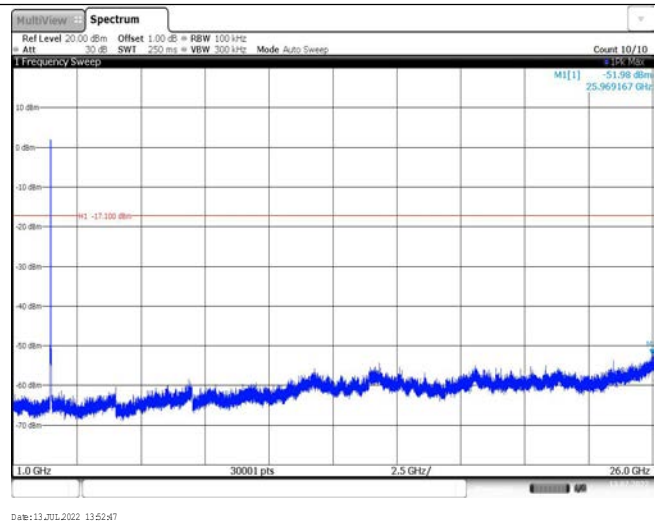
CH11
Reference level

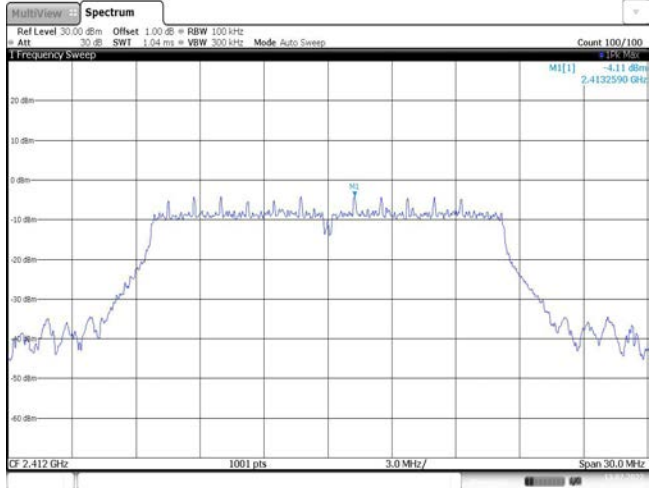
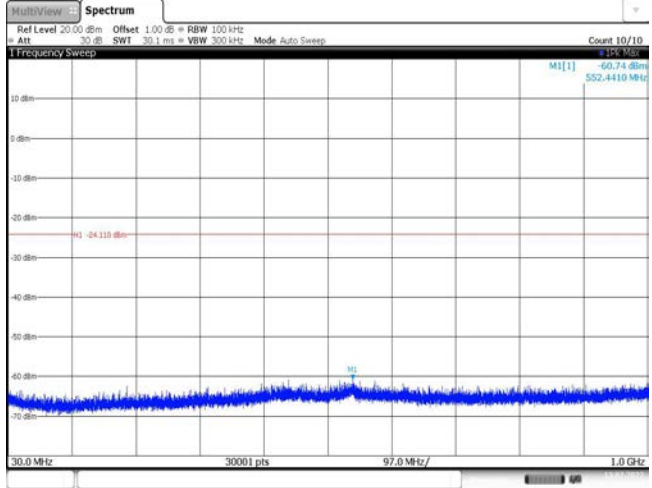
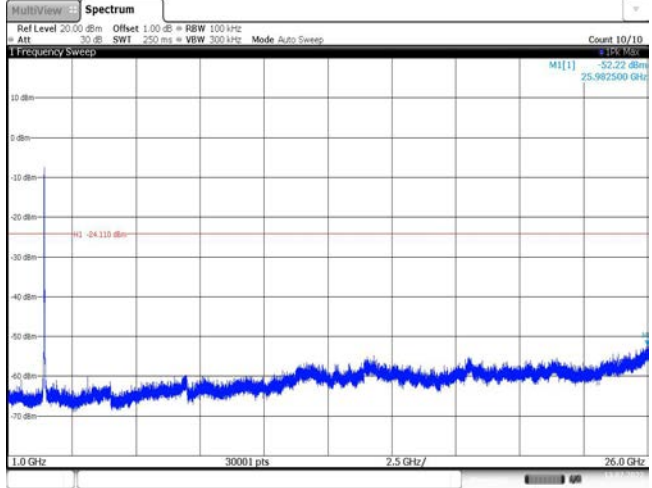


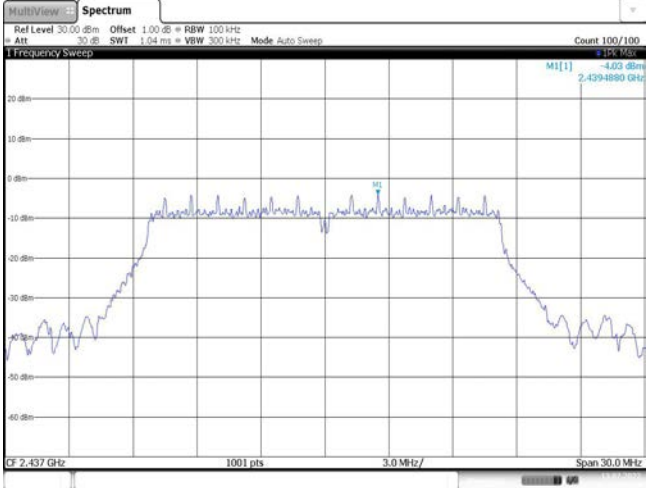
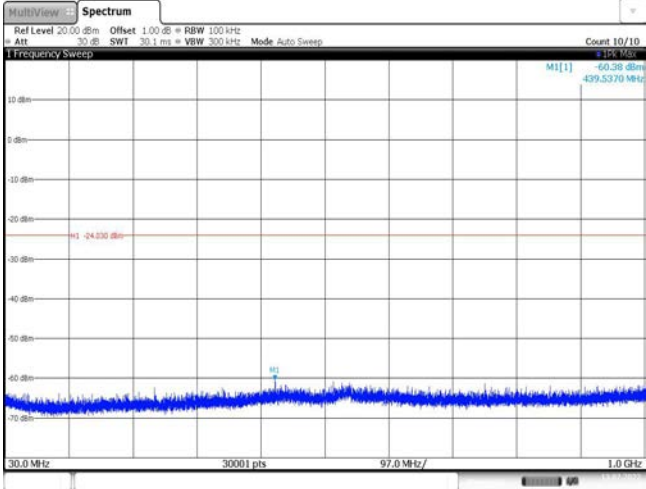
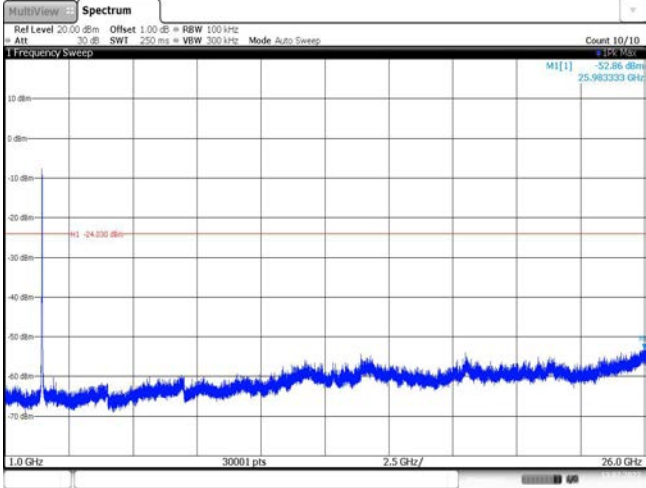
CH11
30MHz~1000MHz

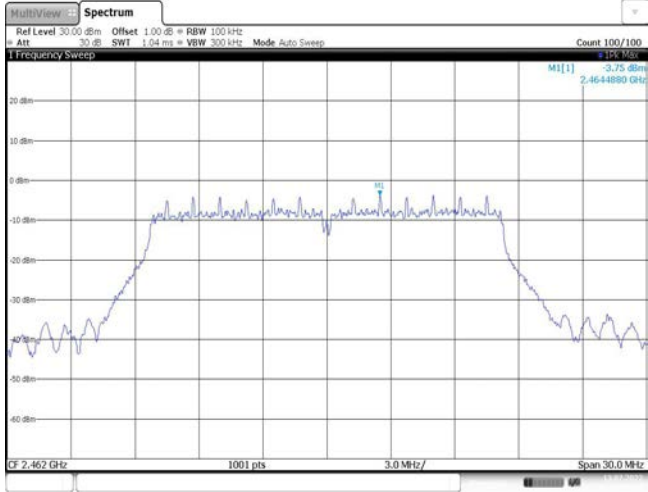
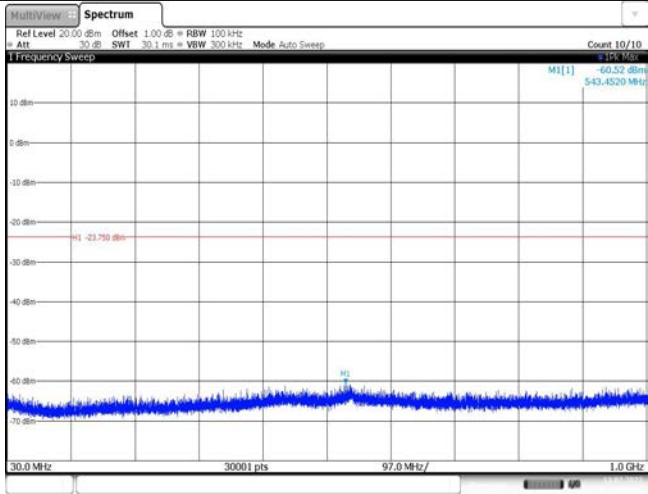
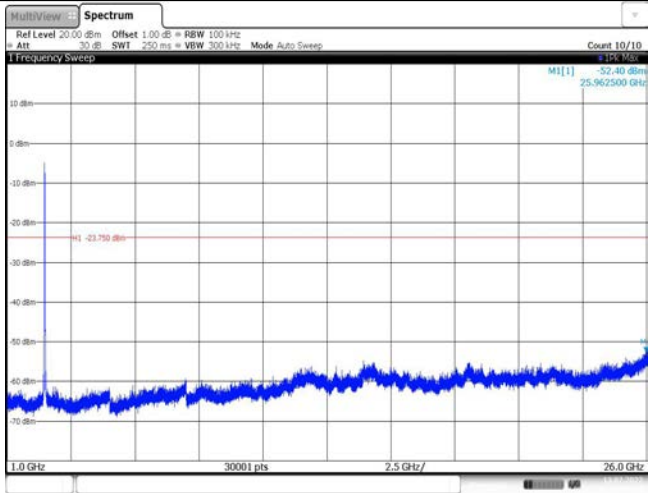


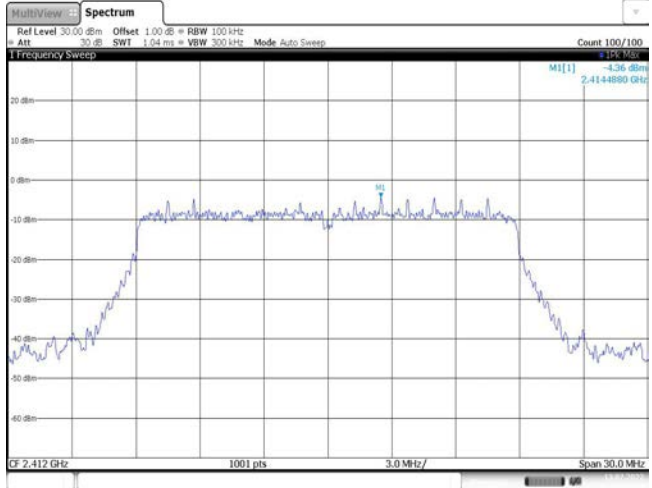
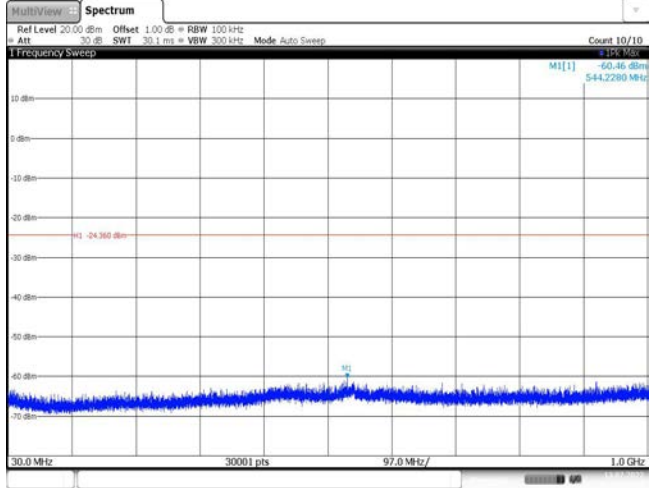
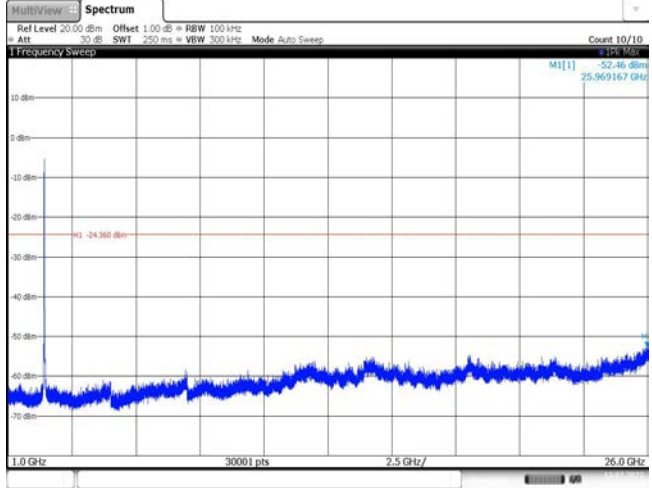
CH11
1GHz~26GHz

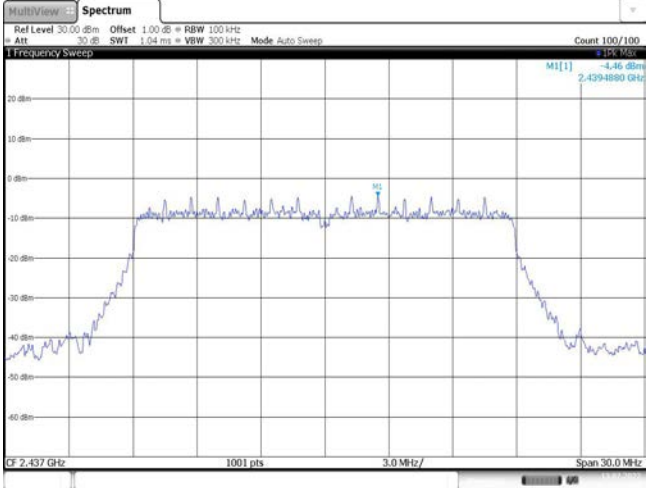
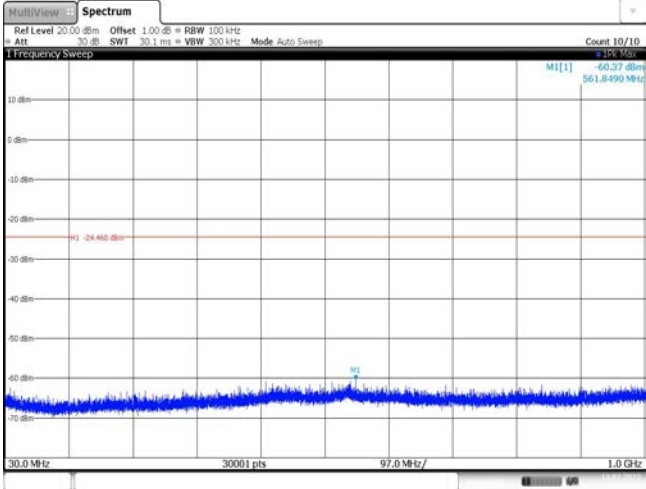
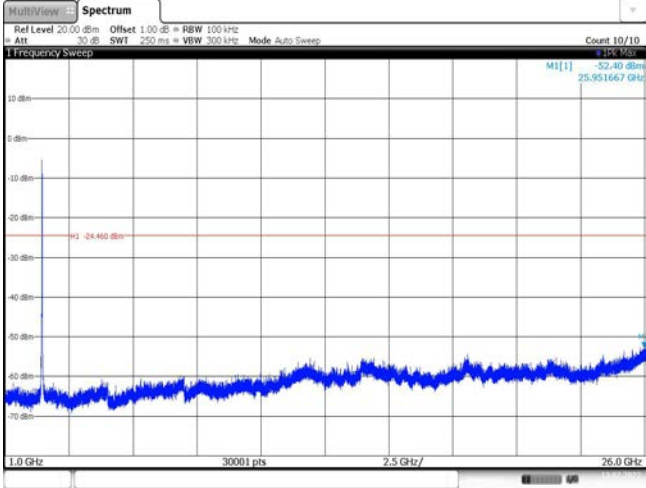


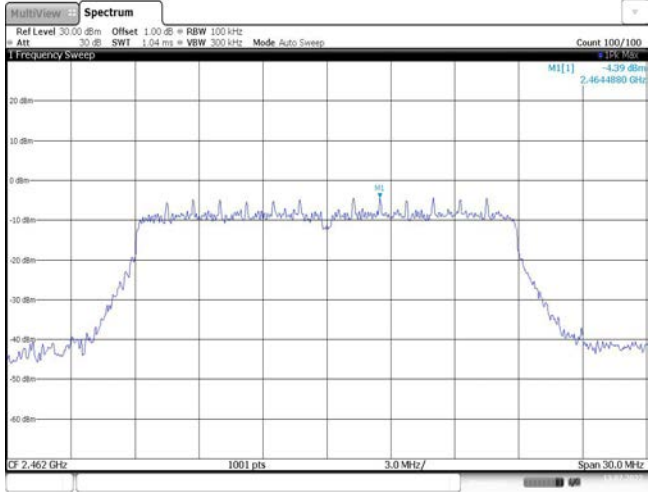
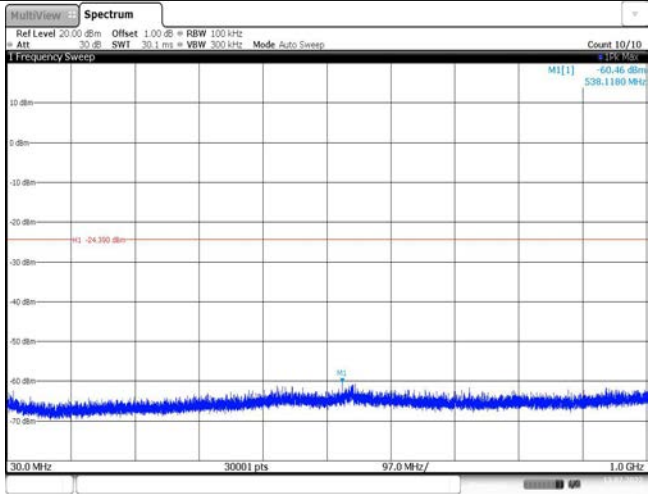
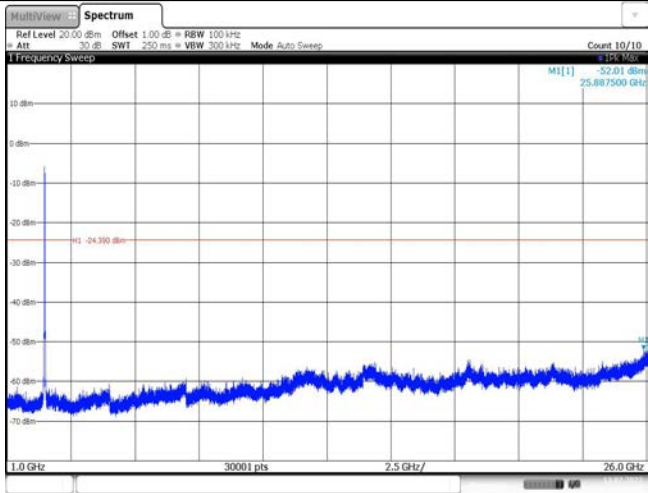
Test Item:	Spurious Emissions	Type:	802.11 g
CH01 Reference level	 Date:13.JUL.2022 14:03:08		
CH01 30MHz~1000MHz	 Date:13.JUL.2022 14:03:25		
CH01 1GHz~26GHz	 Date:13.JUL.2022 14:03:43		

CH06 Reference level	 The spectrum plot shows a signal centered around 2.437 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The signal is a noisy burst with a peak level around -10 dBm. The plot includes a grid and various measurement parameters at the top. Date:13.JUL.2022 14:05:08
CH06 30MHz~1000MHz	 The spectrum plot shows a signal centered around 439.5370 MHz. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents frequency in MHz, with a span of 1.0 GHz. The signal is a noisy burst with a peak level around -60 dBm. The plot includes a grid and various measurement parameters at the top. Date:13.JUL.2022 14:05:25
CH06 1GHz~26GHz	 The spectrum plot shows a signal centered around 25.963333 GHz. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents frequency in GHz, with a span of 26.0 GHz. The signal is a noisy burst with a peak level around -52 dBm. The plot includes a grid and various measurement parameters at the top. Date:13.JUL.2022 14:05:43

CH11 Reference level	 Date:13 JUL 2022 14:01:49
CH11 30MHz~1000MHz	 Date:13 JUL 2022 14:01:36
CH11 1GHz~26GHz	 Date:13 JUL 2022 14:01:55

Test Item:	Spurious Emissions	Type:	802.11 n(HT20)
CH01 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWI 1.04 ms = VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -43.6 dBm 2.4144880 GHz 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date:13 JUL 2022 14:11:22		
CH01 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWI 30.1 ms = VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.46 dBm 544.2289 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date:13 JUL 2022 14:11:40		
CH01 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWI 250 ms = VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -52.46 dBm 25.969167 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date:13 JUL 2022 14:11:58		

CH06 Reference level	 The spectrum plot shows a signal centered at 2.437 GHz with a span of 30.0 MHz. The y-axis represents power in dBm, ranging from -60 to 20. The signal is a broad peak with some noise. The plot includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 1.04 ms, VSW 300 kHz, Mode Auto Sweep, Count 100/100, MI[1] -4.46 dBm, 2.4394890 GHz. Date:13.JUL.2022 14:13:08
CH06 30MHz~1000MHz	 The spectrum plot shows a signal centered at 561.8490 MHz with a span of 1.0 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The signal is a broad peak with some noise. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 30.1 ms, VSW 300 kHz, Mode Auto Sweep, Count 10/10, MI[1] -60.37 dBm, 561.8490 MHz. Date:13.JUL.2022 14:13:25
CH06 1GHz~26GHz	 The spectrum plot shows a signal centered at 25.951667 GHz with a span of 26.0 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The signal is a broad peak with some noise. The plot includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 250 ms, VSW 300 kHz, Mode Auto Sweep, Count 10/10, MI[1] -52.40 dBm, 25.951667 GHz. Date:13.JUL.2022 14:13:44

CH11 Reference level	 Date:13.JUL.2022 14:09:36
CH11 30MHz~1000MHz	 Date:13.JUL.2022 14:09:53
CH11 1GHz~26GHz	 Date:13.JUL.2022 14:00:11

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