

APPENDIX REPORT

Project No.	SHT2203065706EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22030657007	Model No.	PU100
Start test date	2022-06-06	Finish date	2022-06-24
Temperature	24.6℃	Humidity	34%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhao

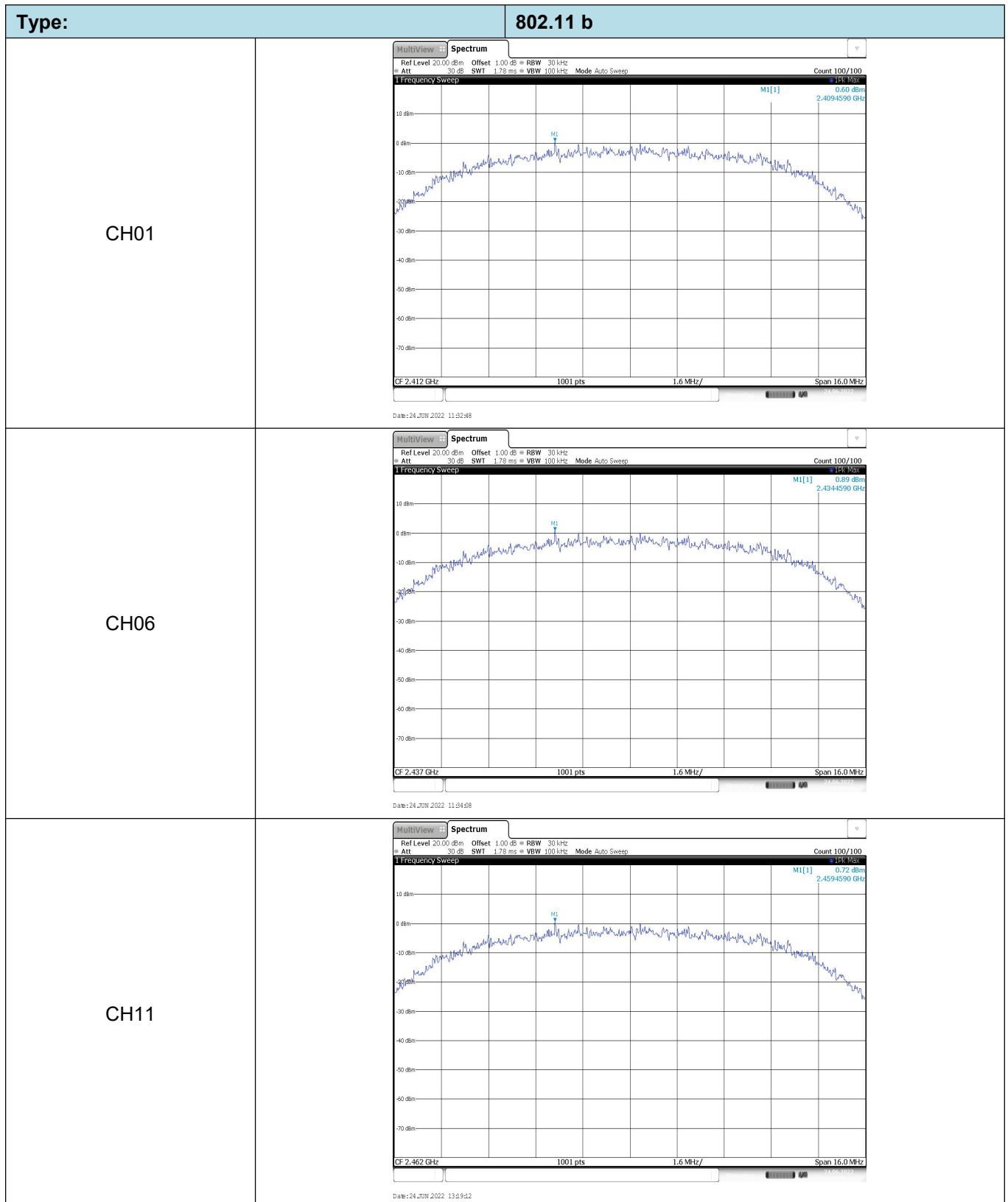
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

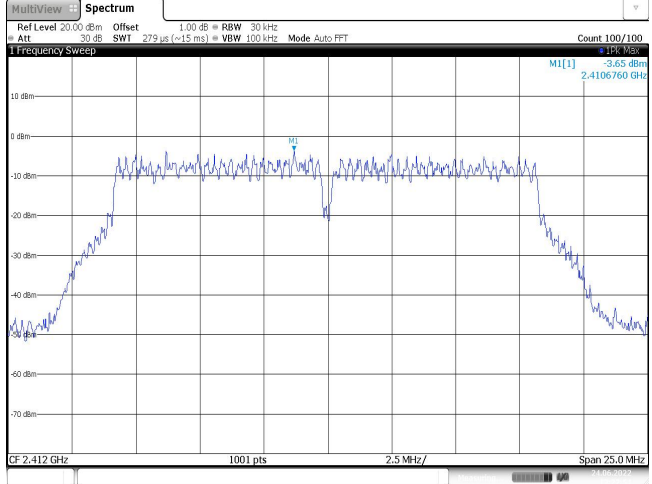
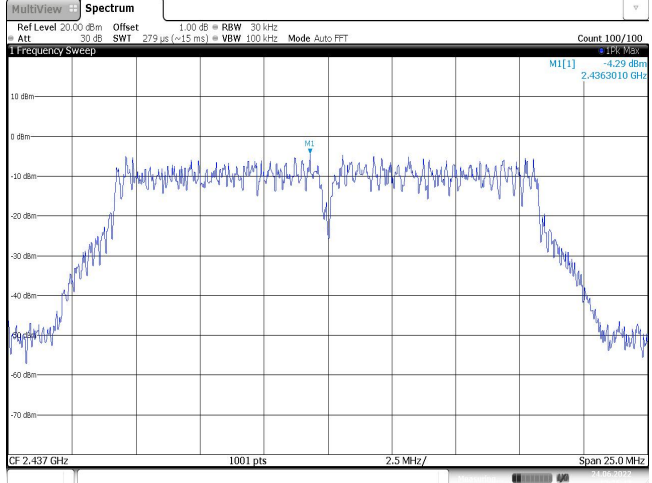
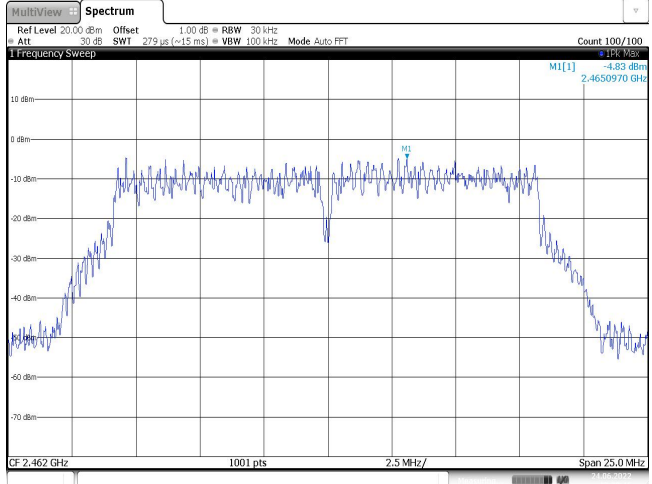
Appendix A: Conducted Peak Output Power

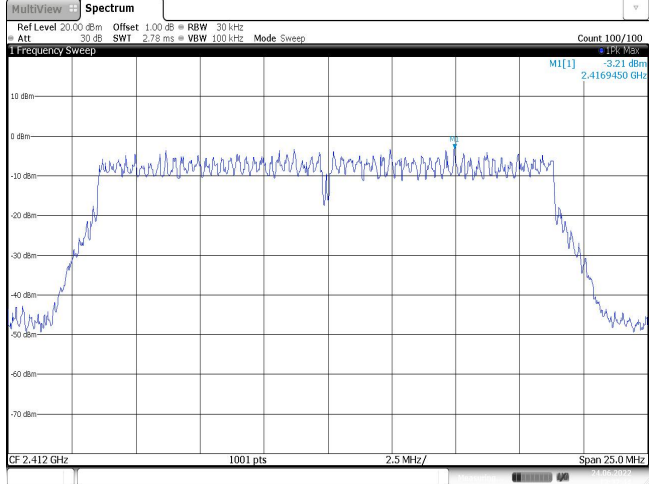
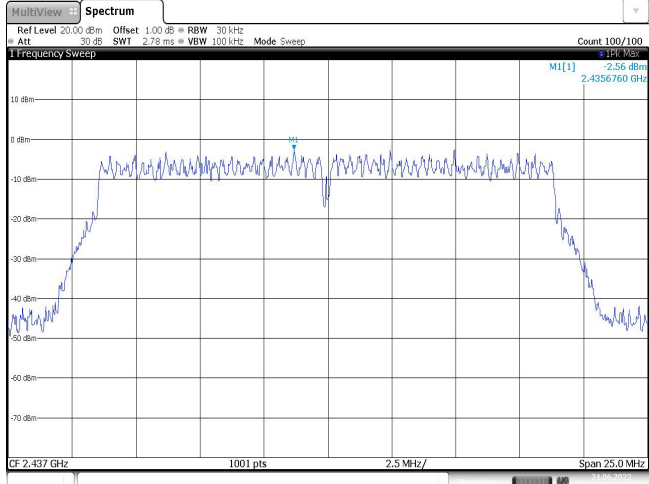
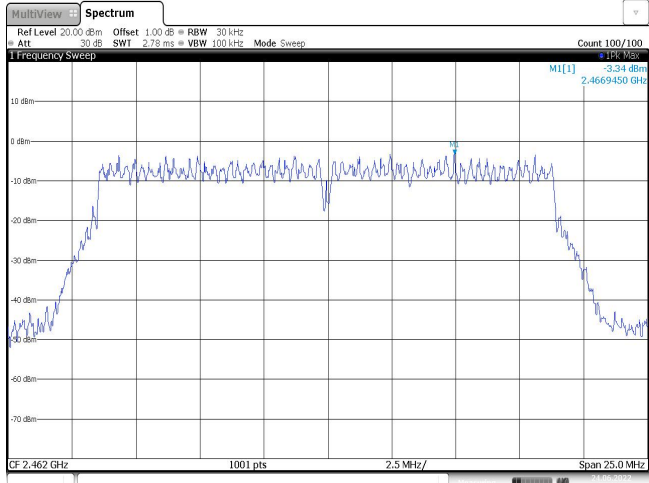
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	19.34	16.90	≤ 30.00	Pass
	06	20.00	17.60		
	11	20.05	17.70		
802.11g	01	20.30	16.94	≤ 30.00	Pass
	06	20.71	17.50		
	11	20.81	17.86		
802.11n (HT20)	01	19.74	16.62	≤ 30.00	Pass
	06	20.13	17.06		
	11	19.72	16.76		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	0.60	≤8.00	Pass
	06	0.89		
	11	0.72		
802.11g	01	-3.65	≤8.00	Pass
	06	-4.29		
	11	-4.83		
802.11n(HT20)	01	-3.21	≤8.00	Pass
	06	-2.56		
	11	-3.34		



Type:	802.11 g
CH01	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -3.65 dBm 2.4106760 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:22:54
CH06	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -4.29 dBm 2.4363010 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:25:47
CH11	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -4.83 dBm 2.4650970 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:30:46

Type:	802.11n(HT20)
CH01	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 2.78 ms VBW 100 kHz Mode Sweep Count 100/100 MI[1] -32.1 dBm 2.4169450 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:37:44
CH06	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 2.78 ms VBW 100 kHz Mode Sweep Count 100/100 MI[1] -2.56 dBm 2.4356760 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:39:33
CH11	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 2.78 ms VBW 100 kHz Mode Sweep Count 100/100 MI[1] -3.34 dBm 2.4669450 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 24 JUN 2022 13:43:59

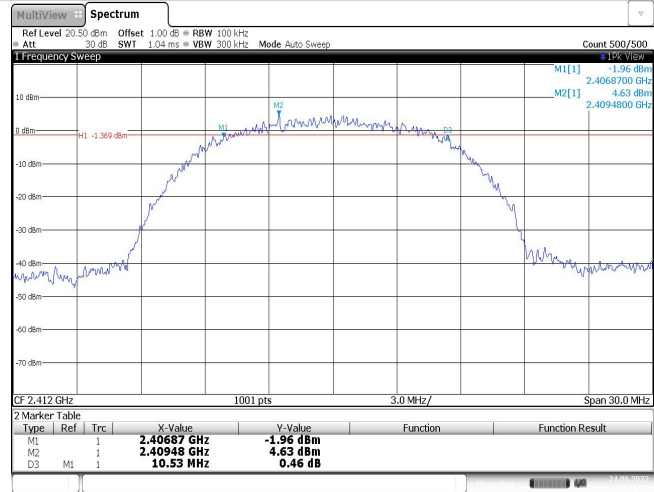
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	10.53	≥0.5	Pass
	06	10.11		
	11	10.11		
802.11g	01	16.50	≥0.5	Pass
	06	16.53		
	11	16.53		
802.11n(HT20)	01	17.76	≥0.5	Pass
	06	17.73		
	11	17.73		

Type:

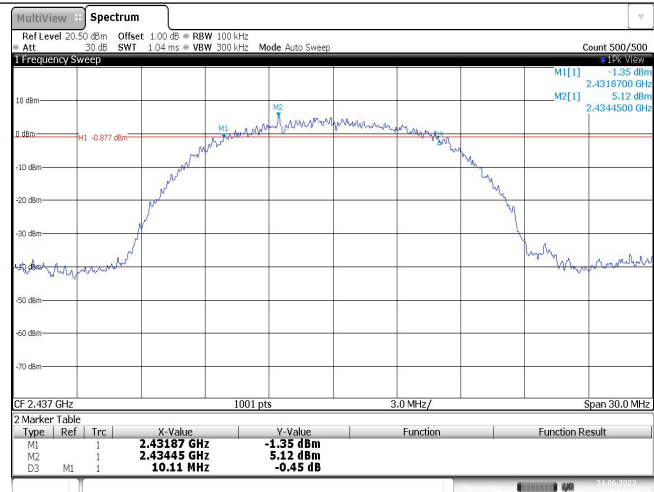
802.11 b

CH01



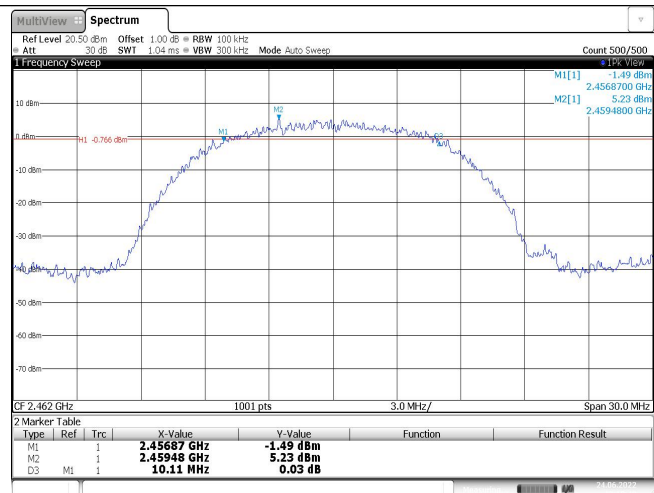
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CH06



Date: 24 JUN 2022 11:33:43

CH11

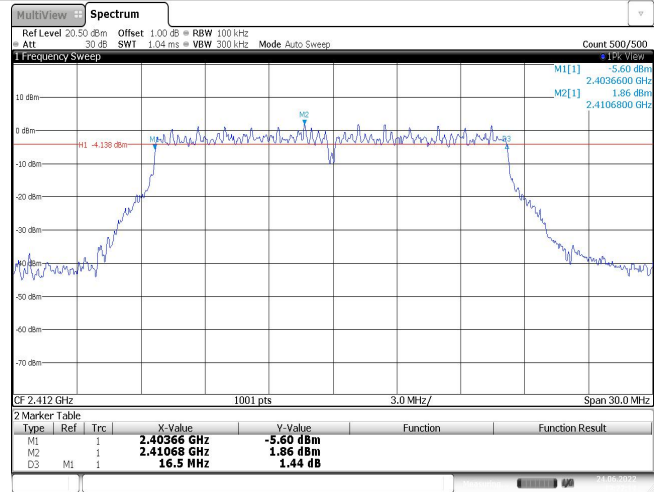


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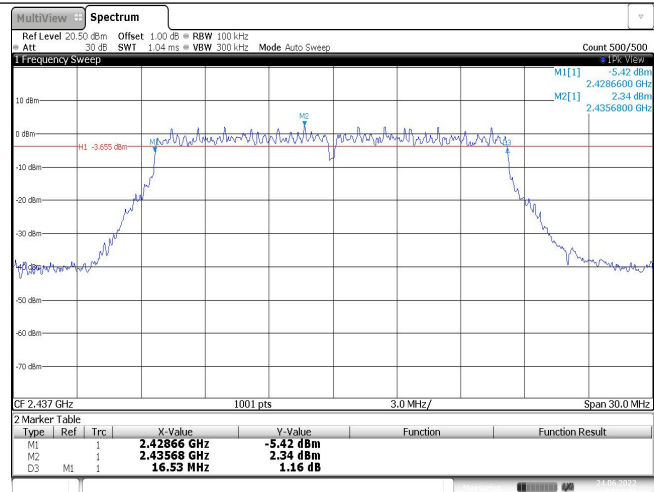
802.11 g

CH01



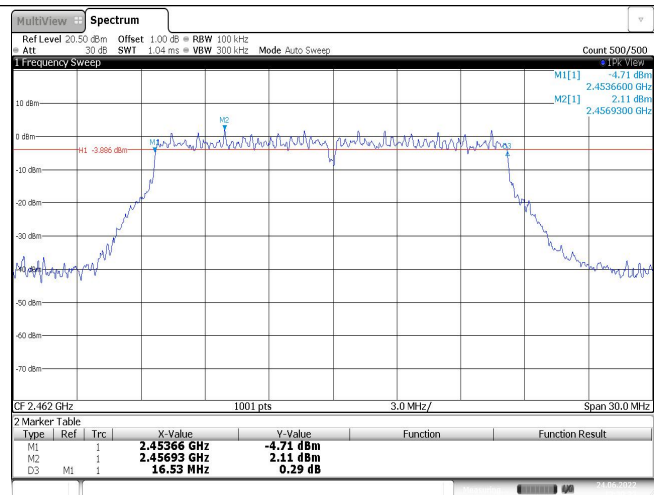
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CH06



Date: 24 JUN 2022 13:25:24

CH11

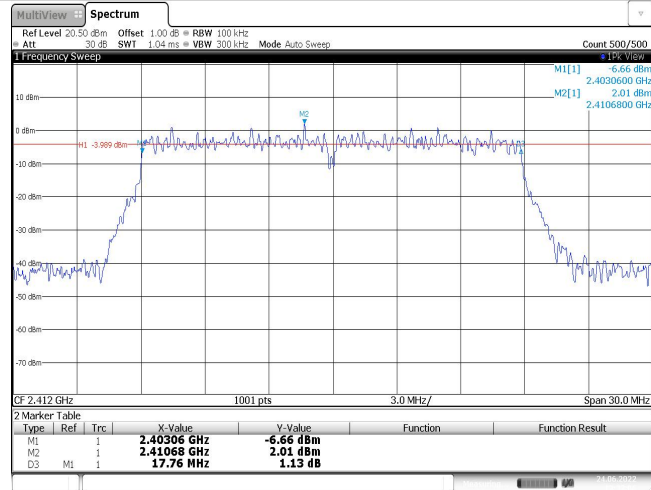


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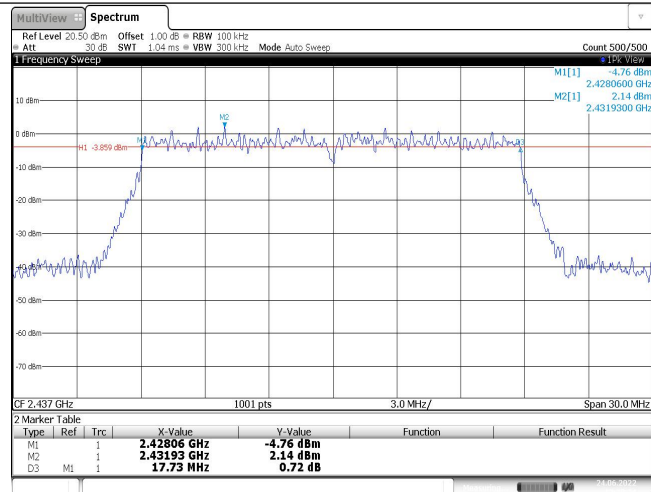
802.11n(HT20)

CH01



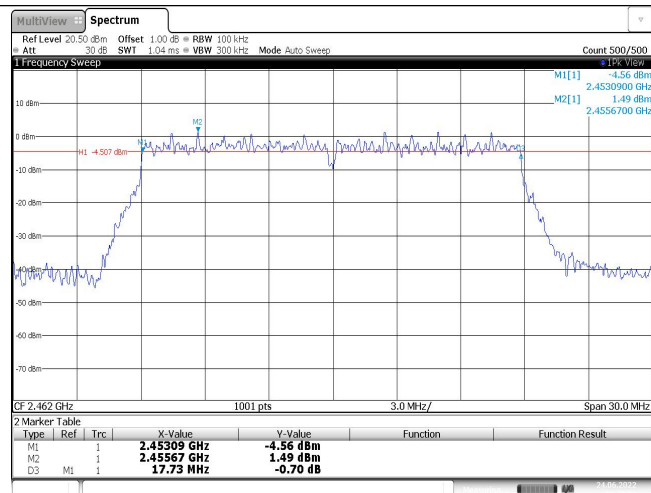
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CH06



Date: 24 JUN 2022 13:38:34

CH11



Date: 24 JUN 2022 13:43:22

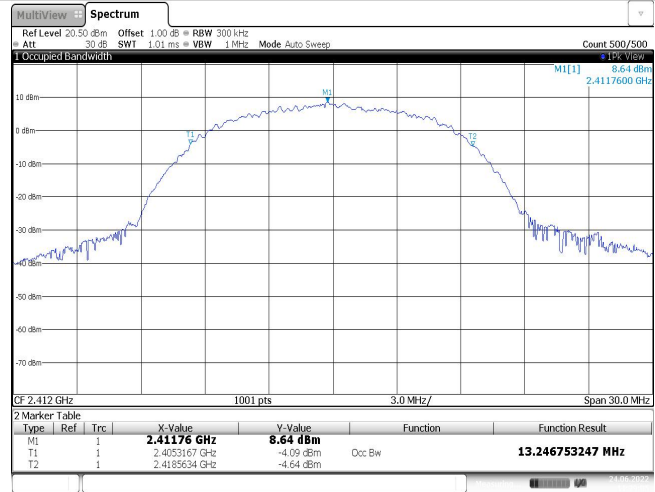
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	13.25	-	Pass
	06	13.28		
	11	13.28		
802.11g	01	16.72	-	Pass
	06	16.72		
	11	16.75		
802.11n(HT20)	01	17.86	-	Pass
	06	17.83		
	11	17.89		

Type:

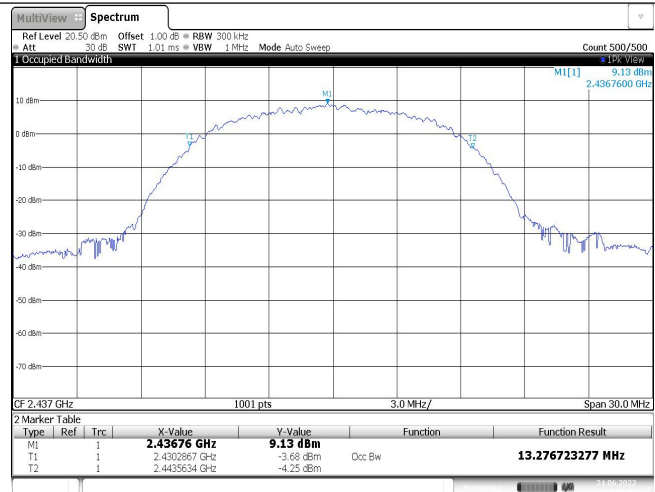
802.11 b

CH01



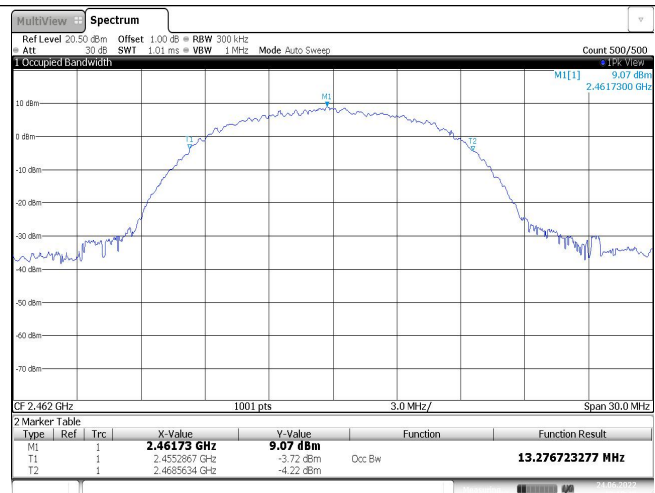
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CH06



Date: 24 JUN 2022 11:31:52

CH11

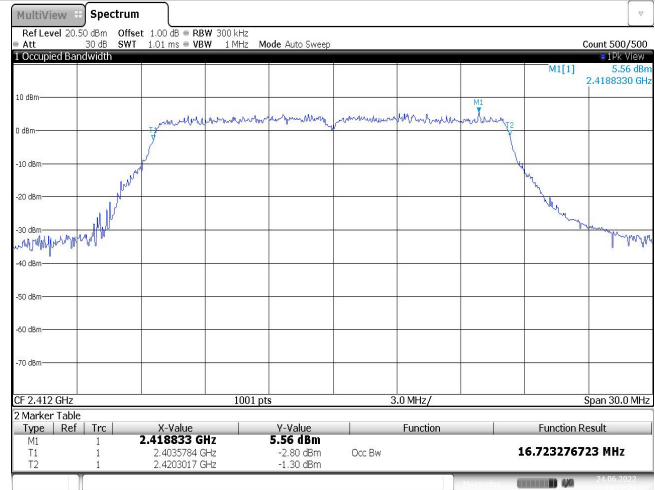


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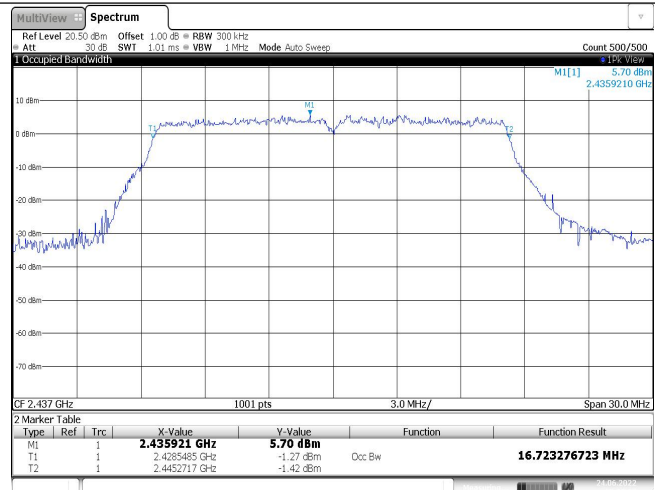
Type:

802.11 g

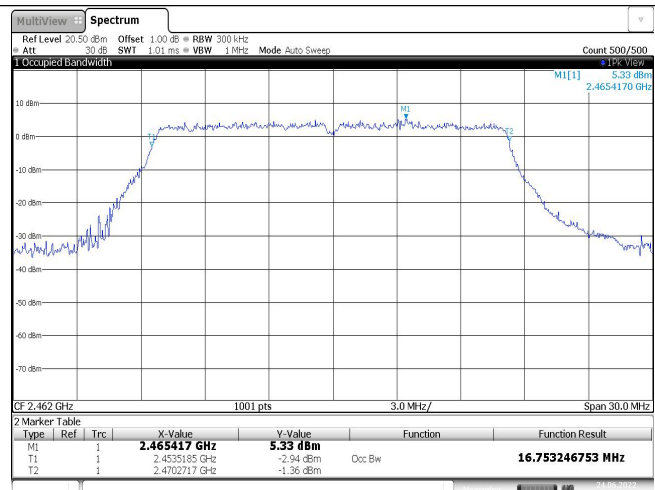
CH01



CH06



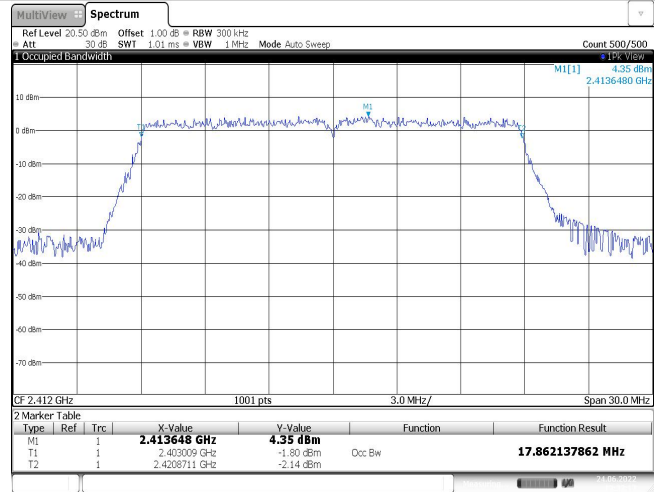
CH11



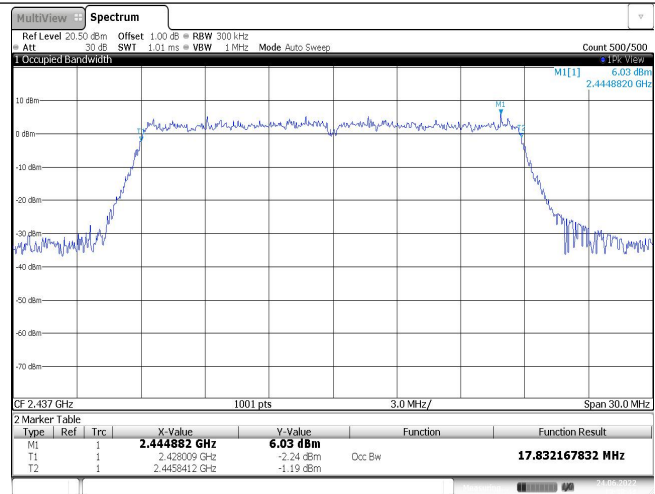
Type:

802.11n(HT20)

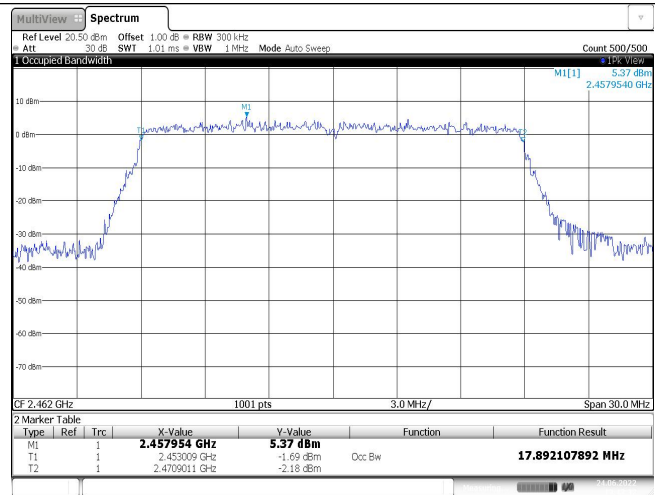
CH01



CH06



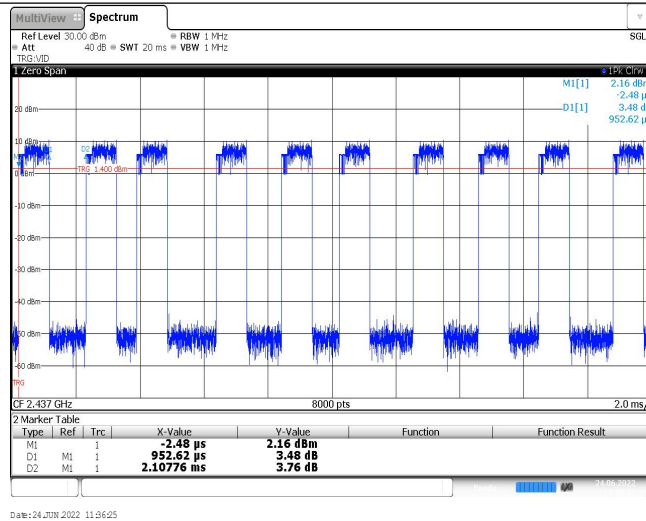
CH11



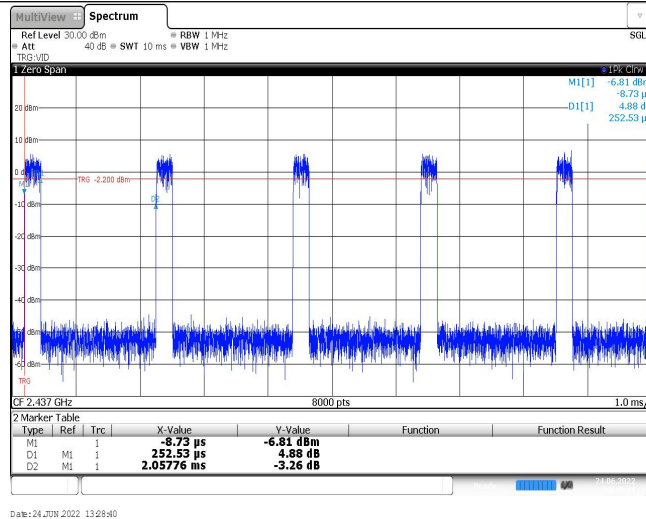
Appendix E: Duty Cycle

Modulation Type	Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
11b	2437	0.95	2.11	45.0%	1.1
11g	2437	0.25	2.06	12.1%	4.0
11n20	2437	0.23	5.74	4.0%	4.3

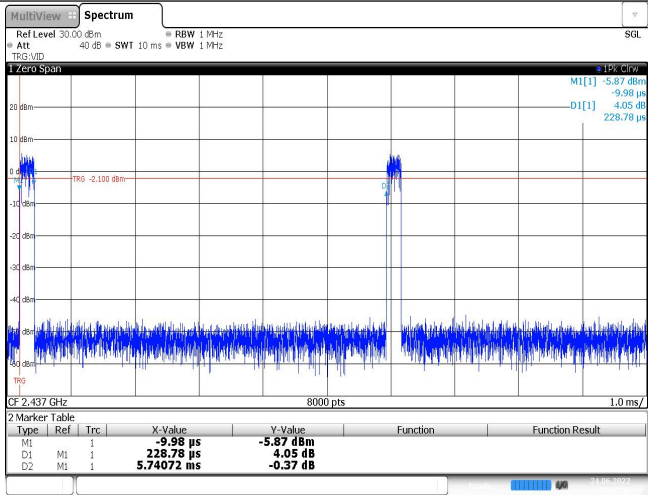
11b



11g



11n20



Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Bandedge	Type:	802.11 b																																										
CH01	MultiView Spectrum 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 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz M1 -15.560 dBm M1[1] 2.409410 GHz 4.44 dBm M2[1] 2.400000 GHz -44.21 dBm M3 -55.79 dBm M4 -63.53 dBm M5 -41.24 dBm <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>2.40941 GHz</td><td>4.44 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-44.21 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-55.79 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.53 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39904 GHz</td><td>-41.24 dBm</td><td></td><td></td></tr></table> Date: 24 JUN 2022 11:29:31			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40941 GHz	4.44 dBm			M2	1		2.4 GHz	-44.21 dBm			M3	1		2.39 GHz	-55.79 dBm			M4	1		2.31 GHz	-63.53 dBm			M5	1		2.39904 GHz	-41.24 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.40941 GHz	4.44 dBm																																									
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M4	1		2.31 GHz	-63.53 dBm																																									
M5	1		2.39904 GHz	-41.24 dBm																																									
CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz M1 4.91 dBm M1[1] 2.4594570 GHz 4.91 dBm M2[1] 2.4835000 GHz -52.11 dBm M3 -56.54 dBm M4 -51.60 dBm <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>2.459457 GHz</td><td>4.91 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-52.11 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-56.54 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.484208 GHz</td><td>-51.60 dBm</td><td></td><td></td></tr></table> Date: 24 JUN 2022 13:19:24			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.459457 GHz	4.91 dBm			M2	1		2.4835 GHz	-52.11 dBm			M3	1		2.5 GHz	-56.54 dBm			M4	1		2.484208 GHz	-51.60 dBm									
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Test Item:	Bandedge	Type:	802.11 g																																										
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Test Item:	Bandedge	Type:	802.11 n(HT20)																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 Linz Mode Auto Sweep Count 300/300 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M3 M4 M5 M1 M2 M3 M4 M5 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz <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>2.41064 GHz</td><td>1.82 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-42.86 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-42.30 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.18 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.392208 GHz</td><td>-37.43 dBm</td><td></td><td></td></tr></table> Date: 24 JUN 2022 13:35:58			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41064 GHz	1.82 dBm			M2	1		2.4 GHz	-42.86 dBm			M3	1		2.39 GHz	-42.30 dBm			M4	1		2.31 GHz	-63.18 dBm			M5	1		2.392208 GHz	-37.43 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M3 M4 M1 M2 M3 M4 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz <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>2.464444 GHz</td><td>1.28 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-40.97 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-60.19 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483584 GHz</td><td>-39.16 dBm</td><td></td><td></td></tr></table> Date: 24 JUN 2022 13:44:59			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.464444 GHz	1.28 dBm			M2	1		2.4835 GHz	-40.97 dBm			M3	1		2.5 GHz	-60.19 dBm			M4	1		2.483584 GHz	-39.16 dBm									
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