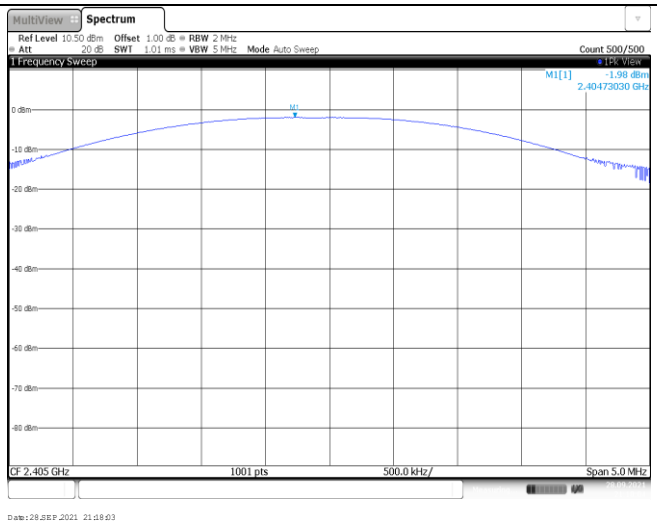
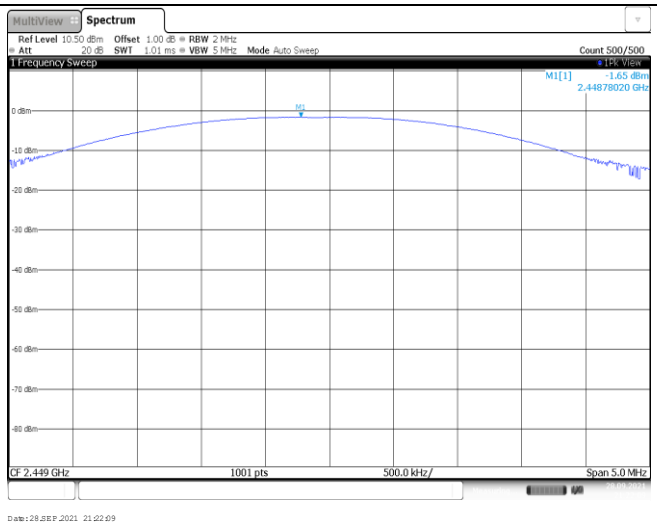
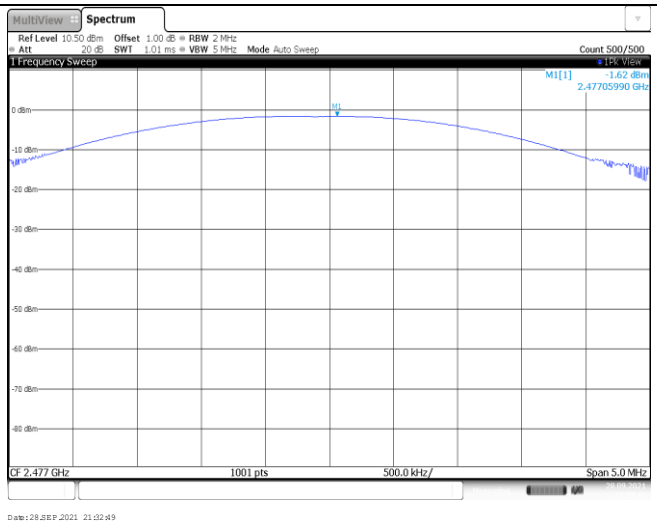
APPENDIX REPORT

Project No.	SHT2109034501EW	Radio Specification	2.4GHz Device
Test sample No.	YPHT21090345002	Model No.	18100(5788-W)-Controller
Start test date	2021-09-28	Finish date	2021-09-29
Temperature	26.4℃	Humidity	30%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhao

Appendix clause	Test item	Result
A	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

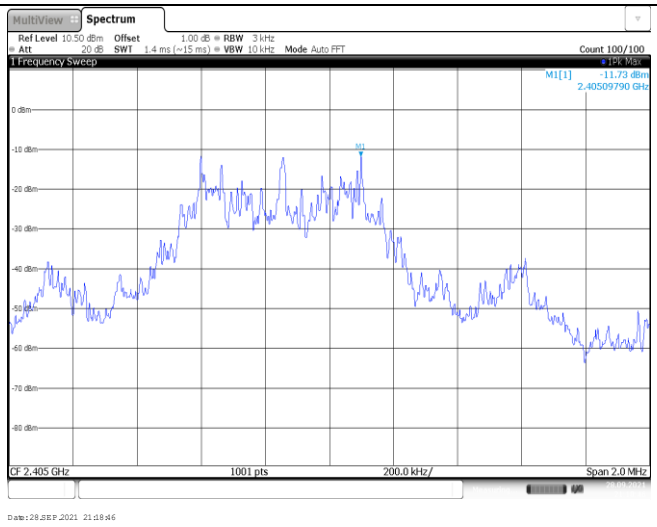
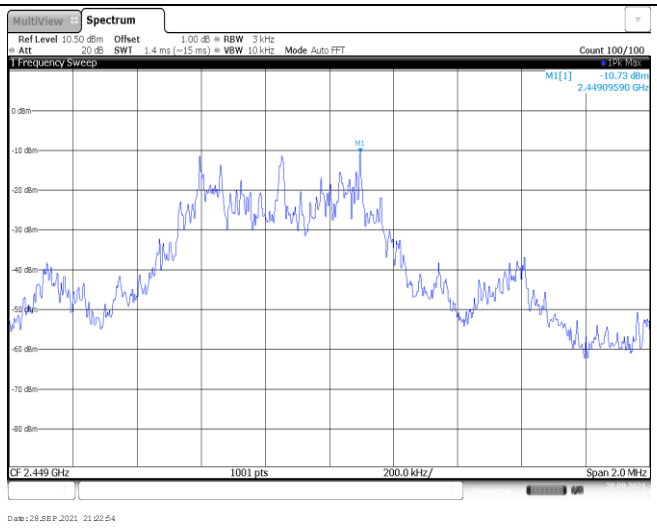
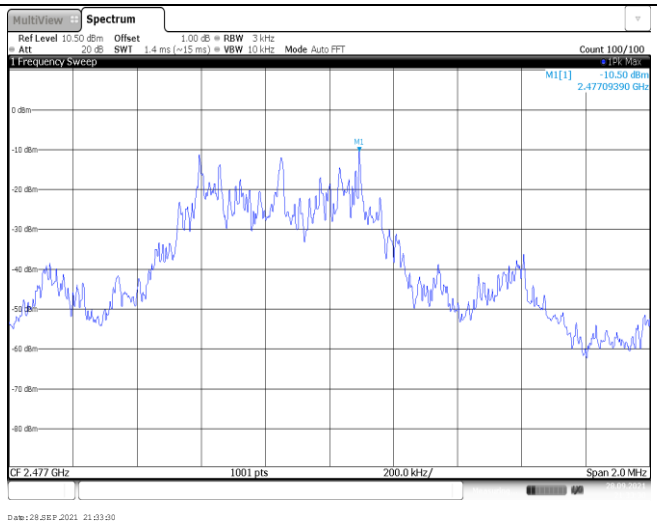
Appendix A：Peak Output Power

Channel	Peak Output power (dBm)	Limit (dBm)	Result
CH_L	-1.98	≤ 30.00	Pass
CH_M	-1.65		
CH_H	-1.62		

CH_L	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 1Pk View M1[1] -1.98 dBm 2.40473030 GHz CF 2.405 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 28.SEP.2021 21:18:03
CH_M	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 1Pk View M1[1] -1.65 dBm 2.44878020 GHz CF 2.449 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 28.SEP.2021 21:22:09
CH_H	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep 1Pk View M1[1] -1.62 dBm 2.47705990 GHz CF 2.477 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 28.SEP.2021 21:32:49

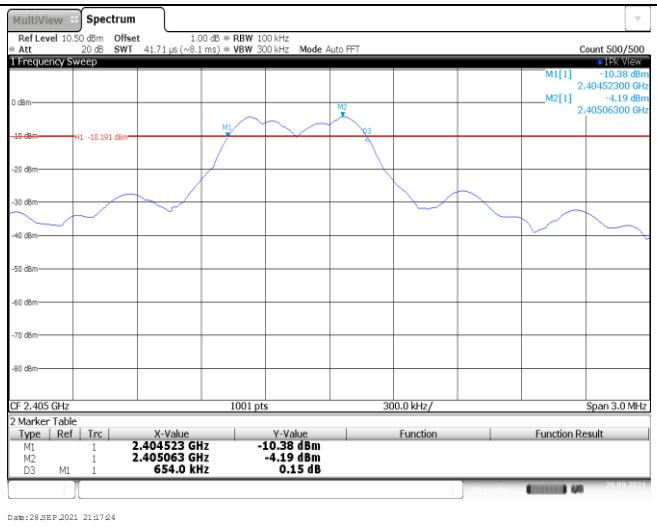
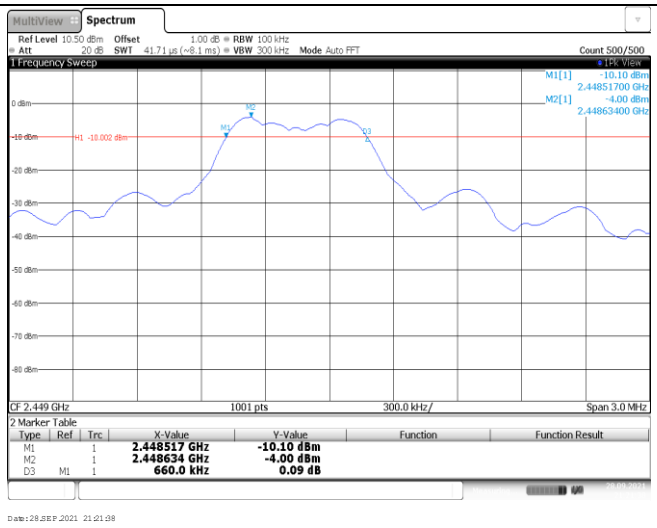
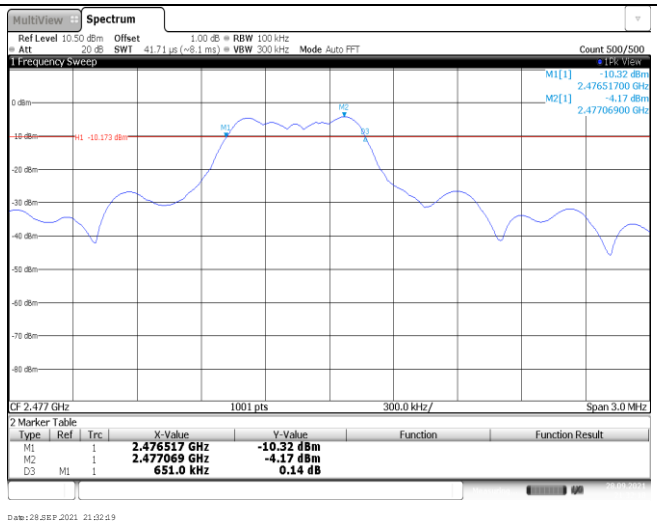
Appendix B：Power Spectral Density

Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
CH_L	-11.73	≤8.00	Pass
CH_M	-10.73		
CH_H	-10.50		

CH_L	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 1.4 ms (~15 ms) VBW 10 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep 1Pk Max M1[1] -11.73 dBm 2.40509790 GHz CF 2.405 GHz 1001 pts 200.0 kHz/ Span 2.0 MHz
CH_M	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 1.4 ms (~15 ms) VBW 10 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep 1Pk Max M1[1] -10.73 dBm 2.44909590 GHz CF 2.449 GHz 1001 pts 200.0 kHz/ Span 2.0 MHz
CH_H	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 1.4 ms (~15 ms) VBW 10 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep 1Pk Max M1[1] -10.50 dBm 2.47709390 GHz CF 2.477 GHz 1001 pts 200.0 kHz/ Span 2.0 MHz

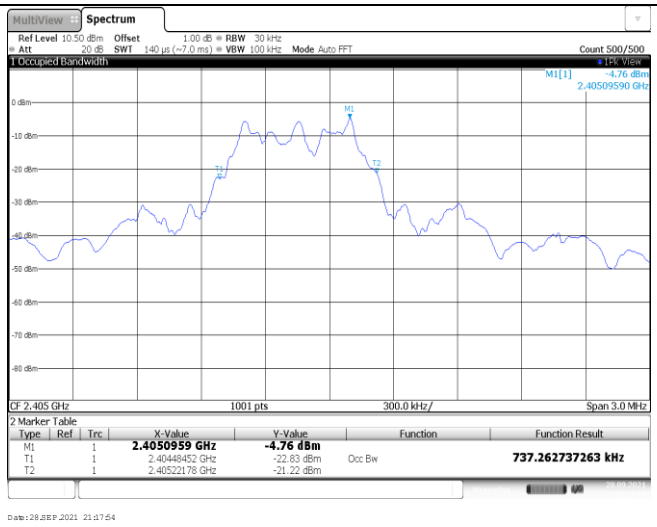
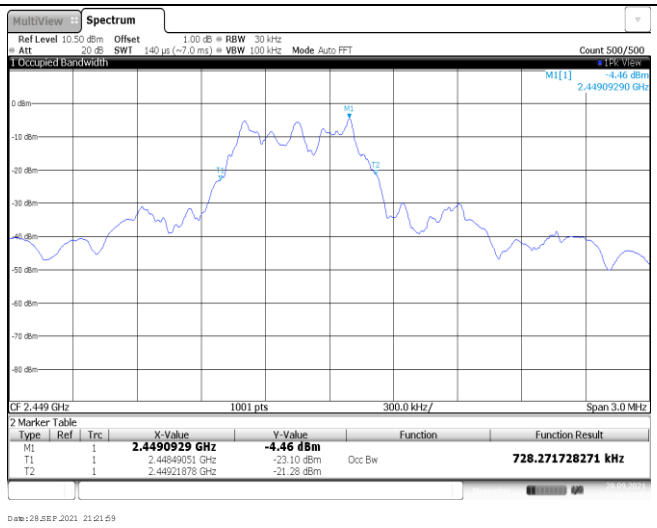
Appendix C：6dB bandwidth

Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
CH_L	654.00	≥500	Pass
CH_M	660.00		
CH_H	651.00		

CH_L	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 41.71 µs (~8.1 ms) VBW 300 kHz Mode Auto FFT Count 500/500 1 Frequency Sweep 1Pk View M1[1] -10.38 dBm 2.40452300 GHz M2[1] -4.19 dBm 2.40506300 GHz CF 2.405 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.404523 GHz -10.38 dBm M2 1 2.405063 GHz -4.19 dBm D3 M1 1 654.0 kHz 0.15 dB Date: 28.SEP.2021 21:17:24
CH_M	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 41.71 µs (~8.1 ms) VBW 300 kHz Mode Auto FFT Count 500/500 1 Frequency Sweep 1Pk View M1[1] -10.10 dBm 2.44851700 GHz M2[1] -4.00 dBm 2.44863400 GHz CF 2.449 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.448517 GHz -10.10 dBm M2 1 2.448634 GHz -4.00 dBm D3 M1 1 660.0 kHz 0.09 dB Date: 28.SEP.2021 21:21:38
CH_H	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 41.71 µs (~8.1 ms) VBW 300 kHz Mode Auto FFT Count 500/500 1 Frequency Sweep 1Pk View M1[1] -10.32 dBm 2.47651700 GHz M2[1] -4.17 dBm 2.47706900 GHz CF 2.477 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.476517 GHz -10.32 dBm M2 1 2.477069 GHz -4.17 dBm D3 M1 1 651.0 kHz 0.14 dB Date: 28.SEP.2021 21:32:19

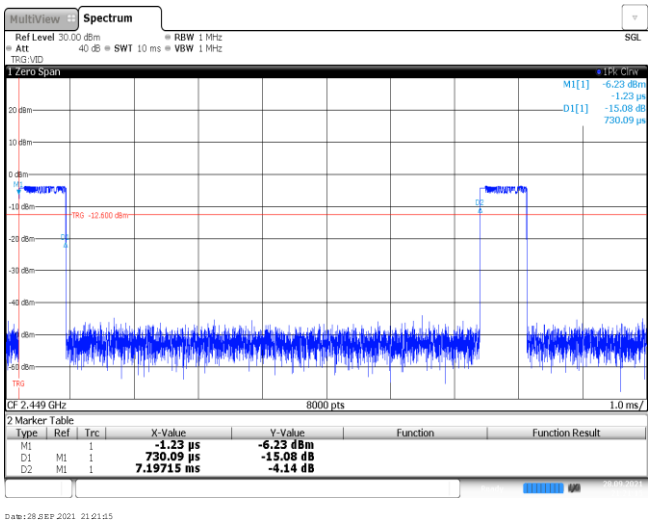
Appendix D：99% Occupied Bandwidth

Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
CH_L	0.74	-	Pass
CH_M	0.73		
CH_H	0.75		

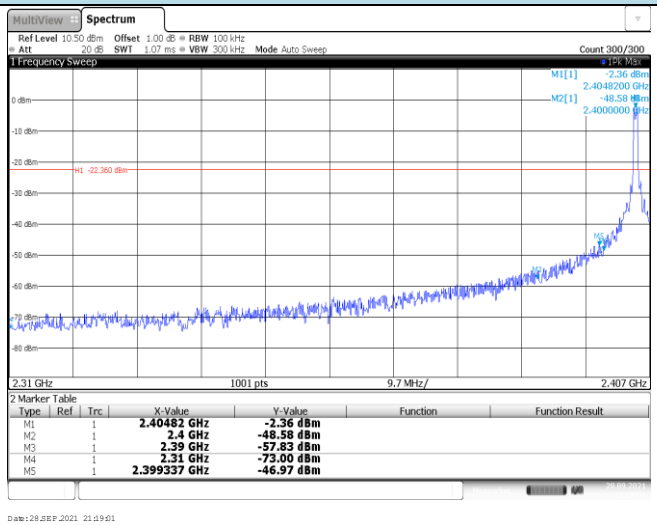
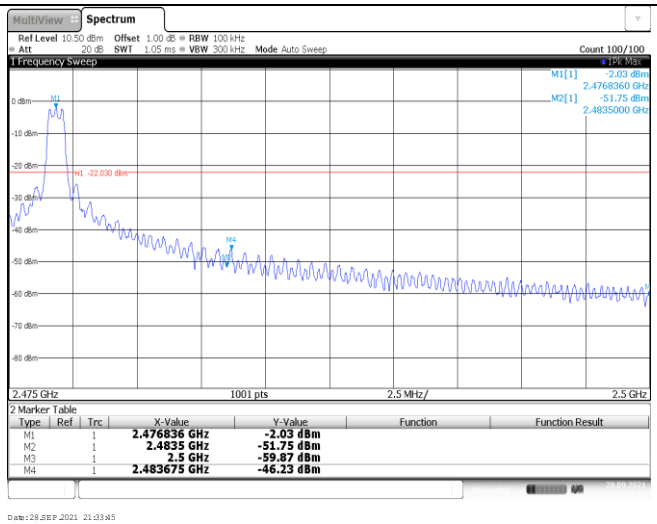
CH_L	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 30 kHz Att 20 dB SWT 140 µs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 500/500 1 Occupied Bandwidth 1Pk View M1[1] -4.76 dBm 2.40509590 GHz CF 2.405 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.4050959 GHz -4.76 dBm T1 1 2.40448452 GHz -22.83 dBm Occ Bw 737.262737263 kHz T2 1 2.40522178 GHz -21.22 dBm Date: 28.SEP.2021 21:17:54
CH_M	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 30 kHz Att 20 dB SWT 140 µs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 500/500 1 Occupied Bandwidth 1Pk View M1[1] -4.46 dBm 2.44909290 GHz CF 2.449 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.4490929 GHz -4.46 dBm T1 1 2.44849051 GHz -23.10 dBm Occ Bw 728.271728271 kHz T2 1 2.44921878 GHz -21.28 dBm Date: 28.SEP.2021 21:21:59
CH_H	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 30 kHz Att 20 dB SWT 140 µs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 500/500 1 Occupied Bandwidth 1Pk View M1[1] -5.01 dBm 2.47709290 GHz CF 2.477 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.4770929 GHz -5.01 dBm T1 1 2.47647253 GHz -22.61 dBm Occ Bw 746.253746253 kHz T2 1 2.47721878 GHz -21.68 dBm Date: 28.SEP.2021 21:32:39

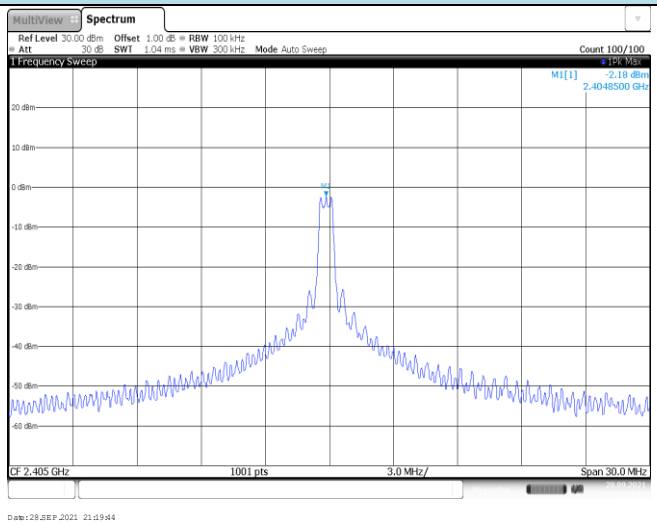
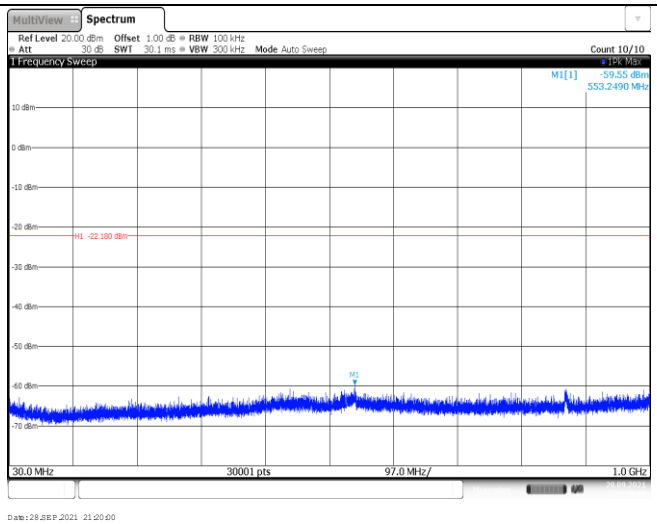
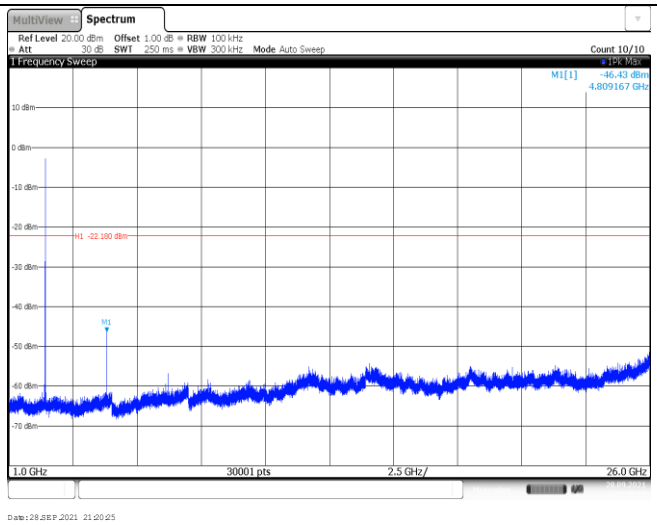
Appendix E：Duty cycle

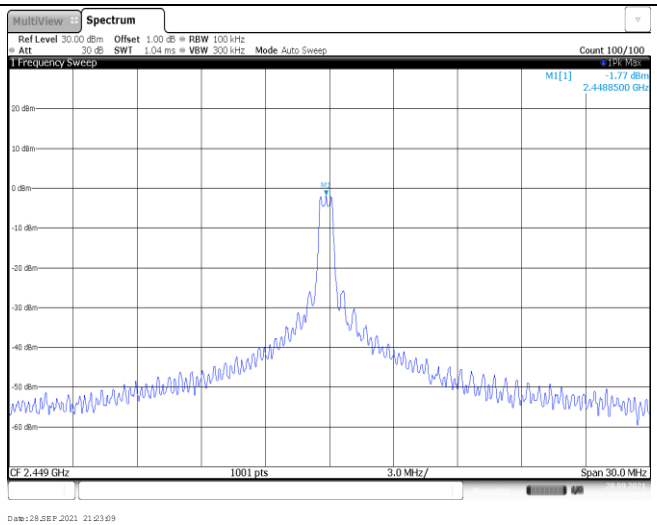
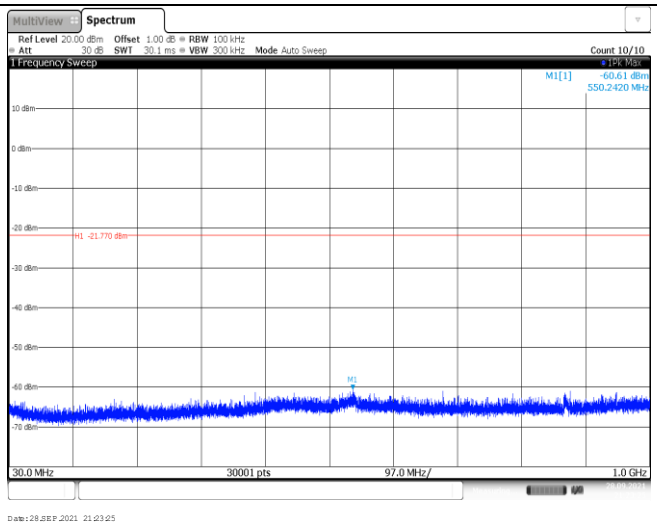
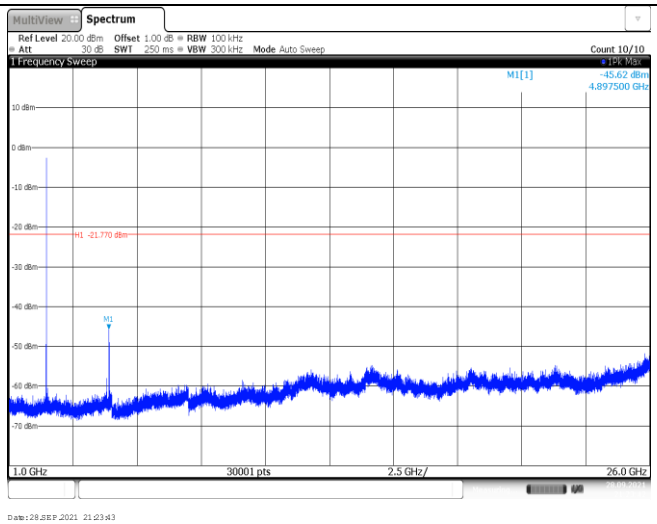
Test Frequency （MHz）	$T_{on\ time}$ for single burst (ms)	T_{period} (ms)	Duty cycle	$1/T_{on\ time}$ (kHz)
2449	0.73	7.20	10.1%	1.4

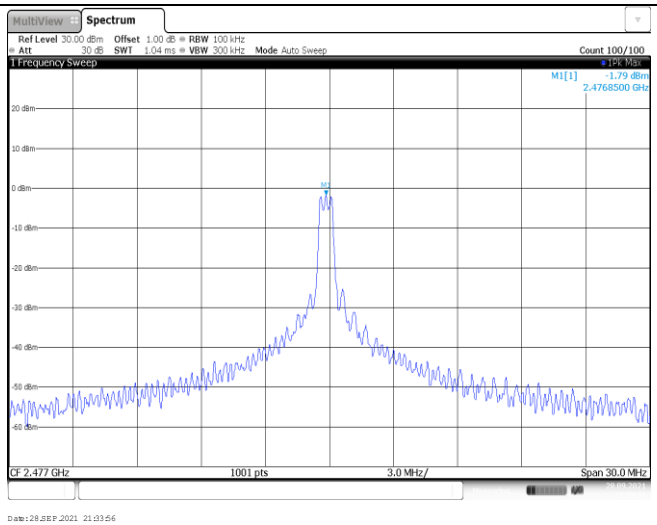
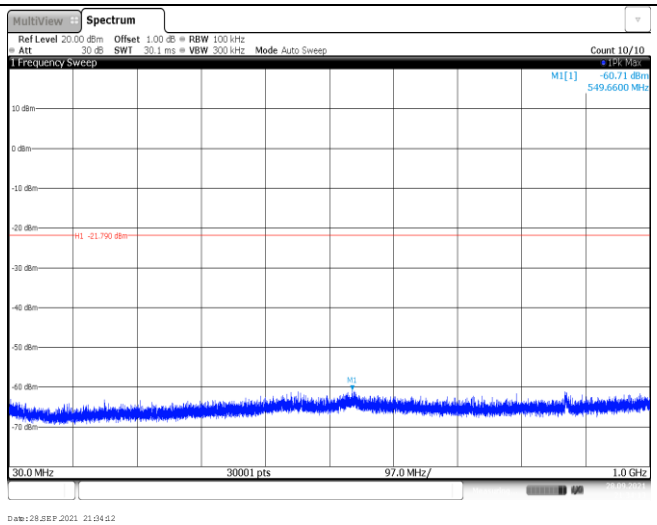
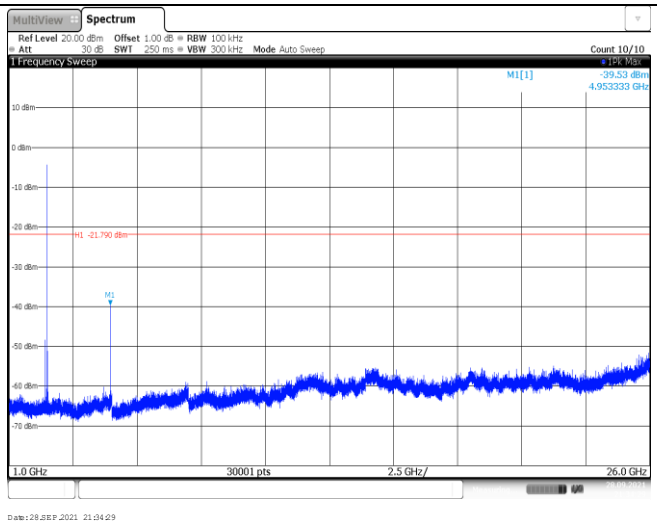


Appendix F：Band edge and Spurious Emissions (conducted)

Test Item:	Band edge
CH_L	
CH_H	

Test Item:	SE
CH_L Reference level	
CH_L 30MHz~1000MHz	
CH_L 1GHz~26GHz	

CH_M Reference level	
CH_M 30MHz~1000MHz	
CH_M 1GHz~26GHz	

CH_H Reference level	
CH_H 30MHz~1000MHz	
CH_H 1GHz~26GHz	

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