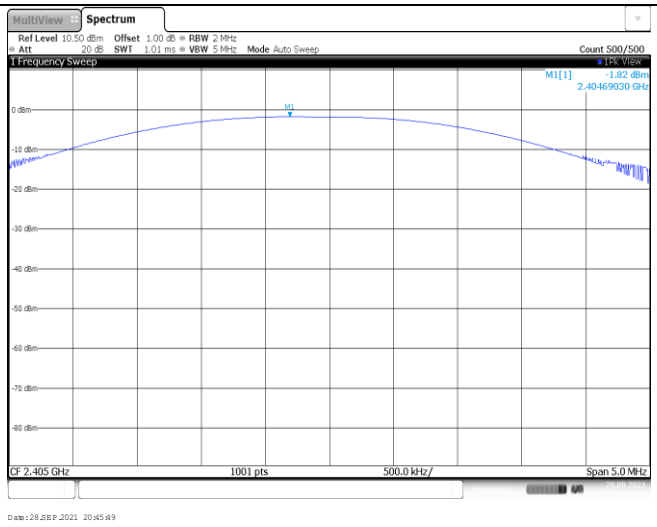
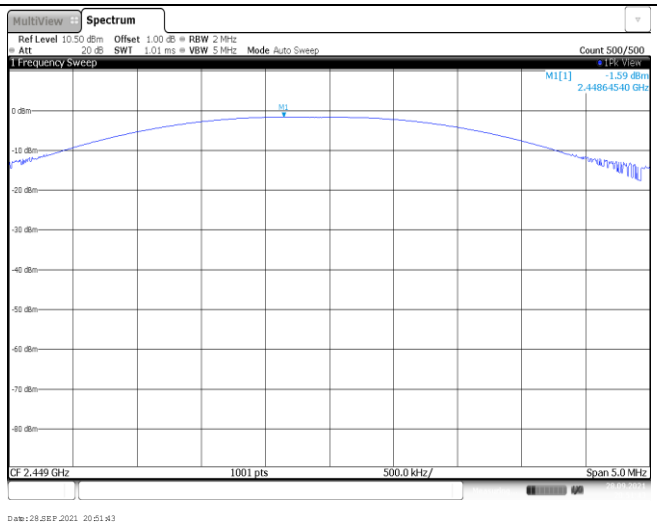
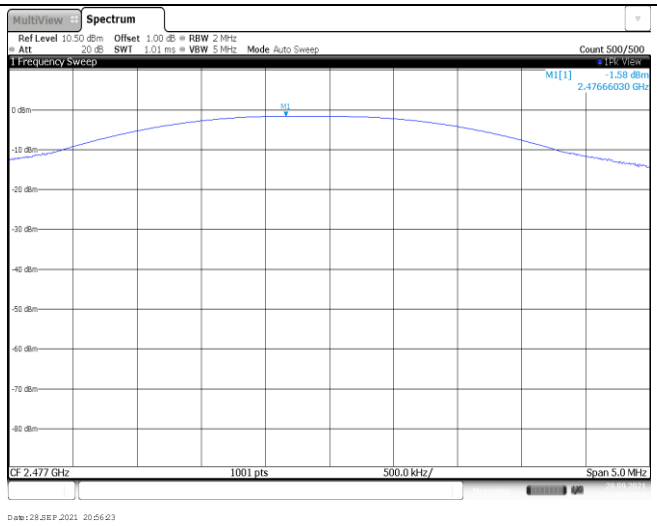
APPENDIX REPORT

Project No.	SHT2109034504EW	Radio Specification	2.4GHz Device
Test sample No.	YPHT21090345007	Model No.	85810(5785-W)-Vehicle-1
Start test date	2021-09-28	Finish date	2021-09-29
Temperature	26.7℃	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

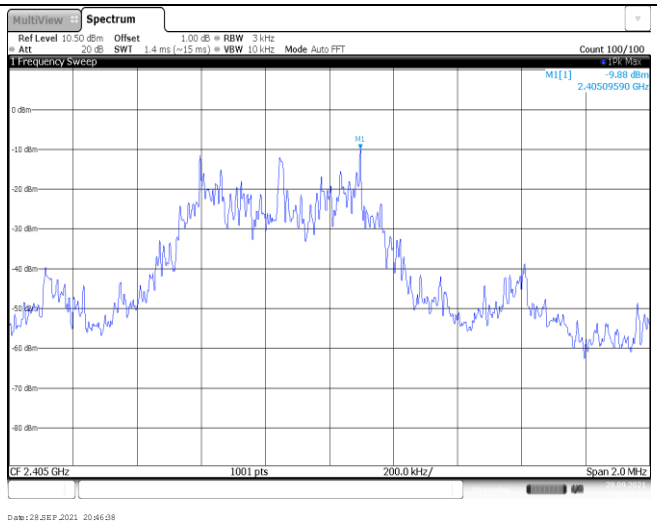
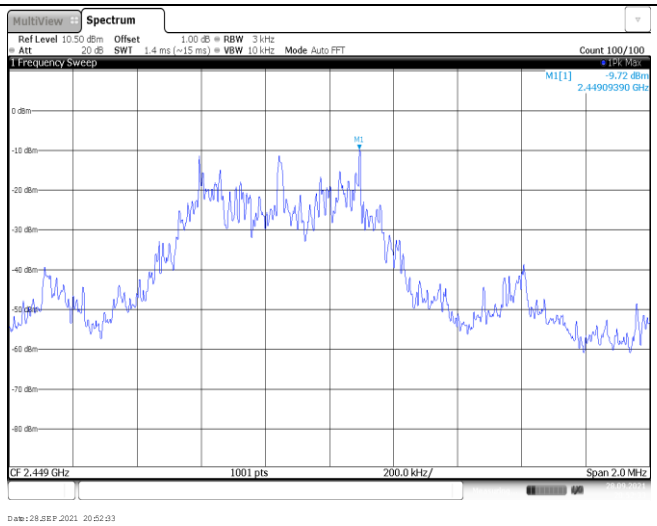
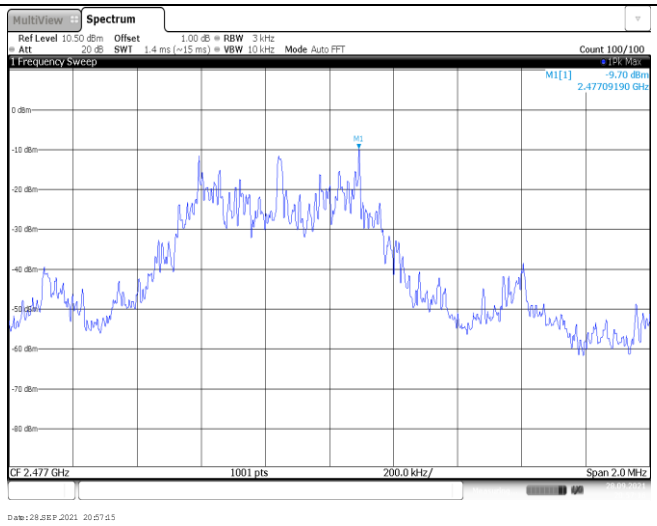
Appendix A：Peak Output Power

Channel	Peak Output power (dBm)	Limit (dBm)	Result
CH_L	-1.82	≤ 30.00	Pass
CH_M	-1.59		
CH_H	-1.58		

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] -1.82 dBm 2.40469030 GHz CF 2.405 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz
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] -1.59 dBm 2.44864540 GHz CF 2.449 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz
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] -1.58 dBm 2.47666030 GHz CF 2.477 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz

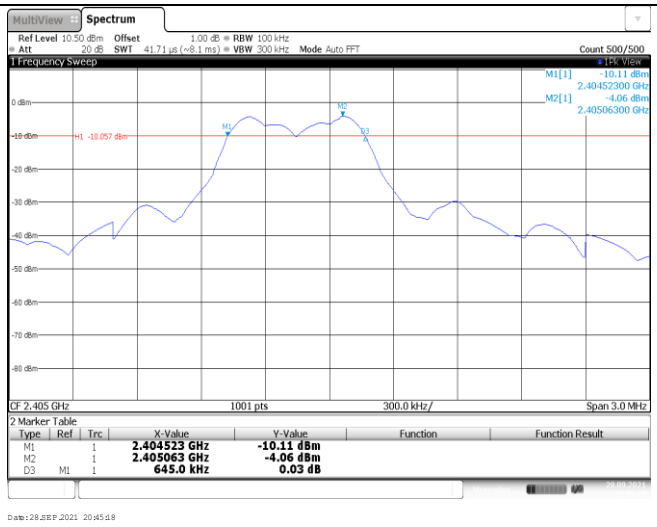
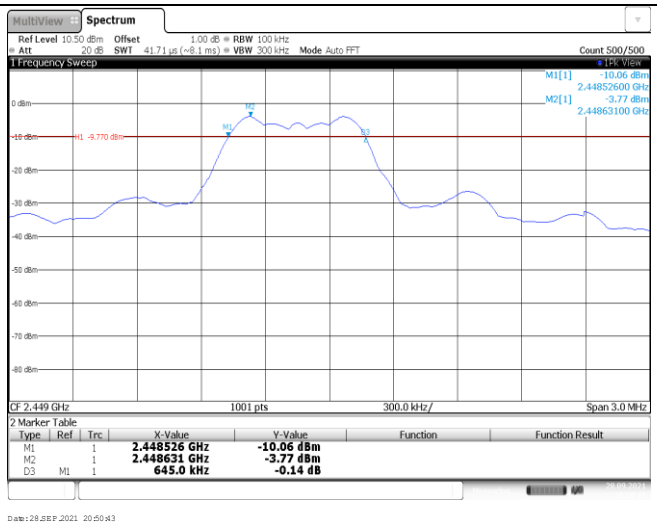
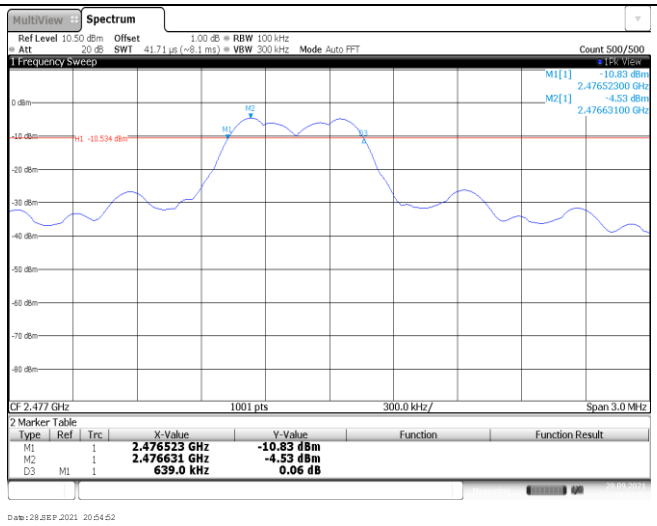
Appendix B：Power Spectral Density

Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
CH_L	-9.88	≤8.00	Pass
CH_M	-9.72		
CH_H	-9.70		

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] -9.88 dBm 2.40509590 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] -9.72 dBm 2.44909390 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] -9.70 dBm 2.47709190 GHz CF 2.477 GHz 1001 pts 200.0 kHz/ Span 2.0 MHz

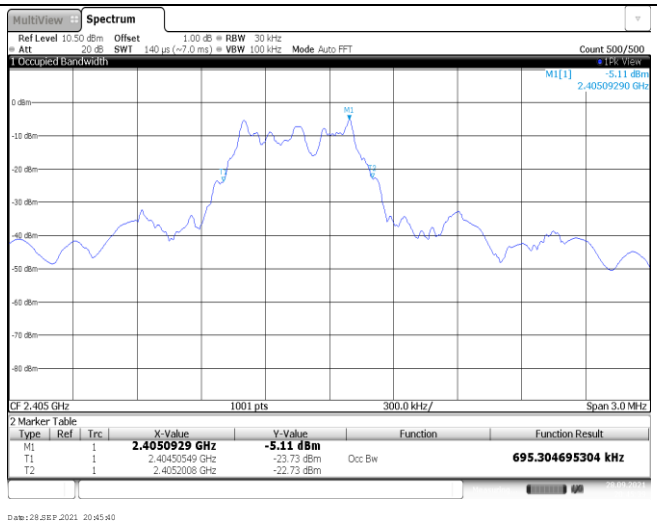
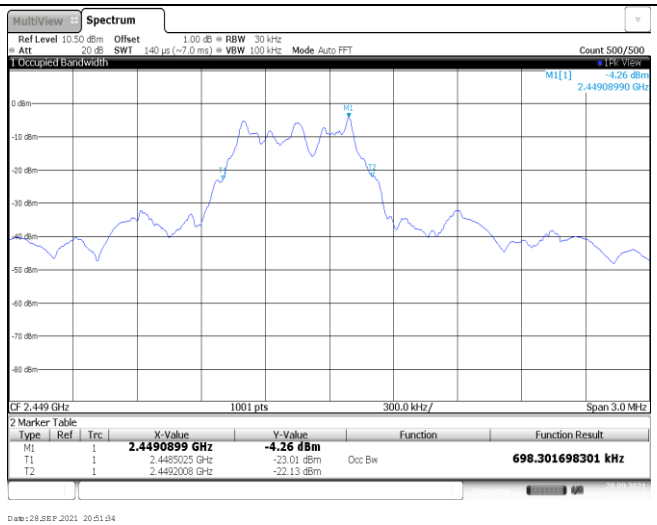
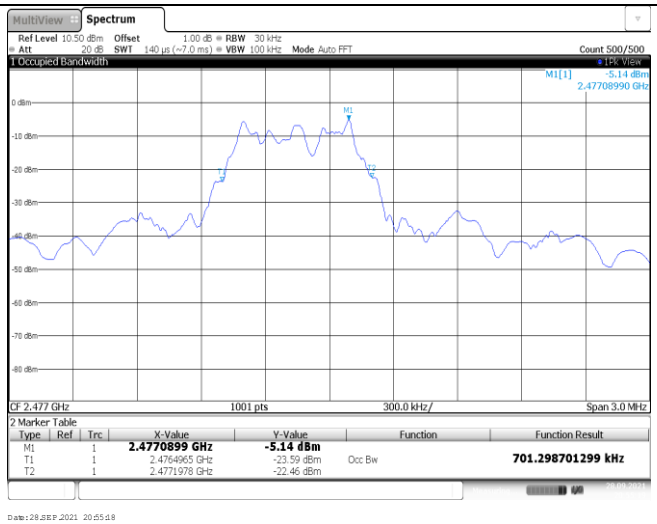
Appendix C：6dB bandwidth

Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
CH_L	645.00	≥500	Pass
CH_M	645.00		
CH_H	639.00		

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] -10.11 dBm 2.40452300 GHz M2[1] -4.06 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 -10.11 dBm M2 1 2.405063 GHz -4.06 dBm D3 M1 1 645.0 kHz 0.03 dB Date: 28.SEP.2021 20:45:18
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] -10.06 dBm 2.44852600 GHz M2[1] -3.77 dBm 2.44863100 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 2.448526 GHz -10.06 dBm M2 1 2.448631 GHz -3.77 dBm D3 M1 1 645.0 kHz -0.14 dB Date: 28.SEP.2021 20:50:43
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] -10.83 dBm 2.47652300 GHz M2[1] -4.53 dBm 2.47663100 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 2.476523 GHz -10.83 dBm M2 1 2.476631 GHz -4.53 dBm D3 M1 1 639.0 kHz 0.06 dB Date: 28.SEP.2021 20:54:52

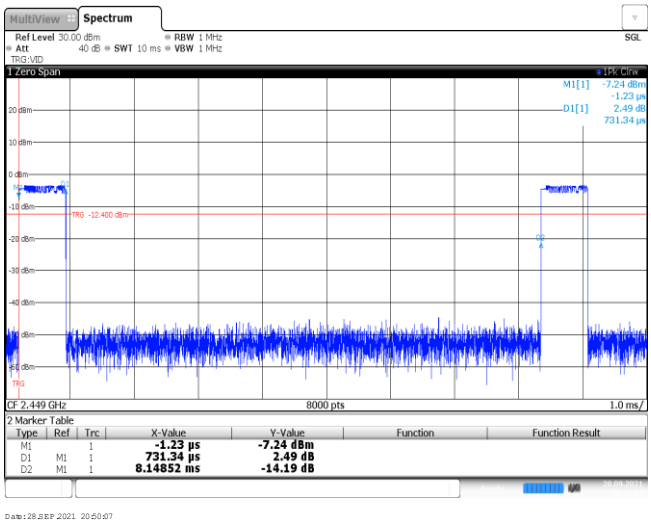
Appendix D：99% Occupied Bandwidth

Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
CH_L	0.70	-	Pass
CH_M	0.70		
CH_H	0.70		

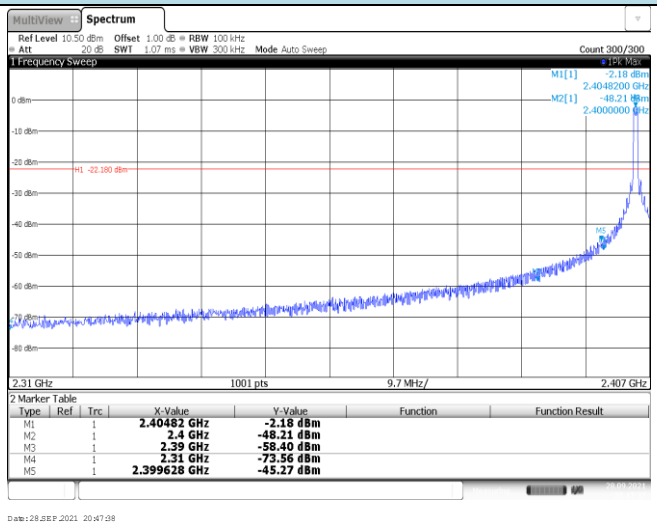
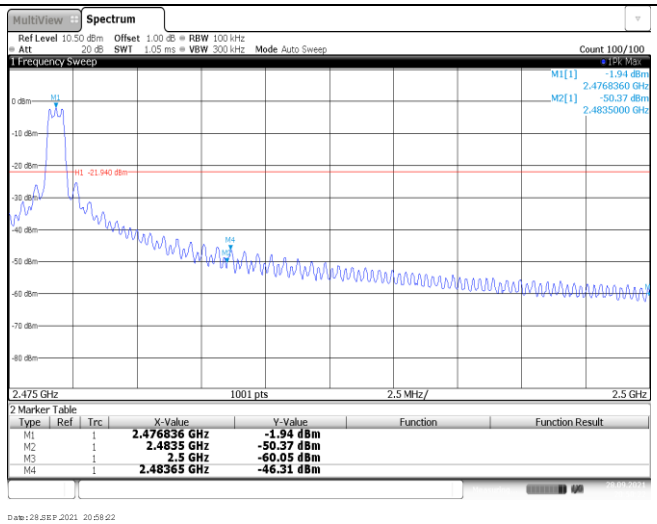
CH_L	 MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 30 kHz Att 20 dB SWT 140 µs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 500/500 1 Occupied Bandwidth 1Pk View M1[1] -5.11 dBm 2.40509290 GHz CF 2.405 GHz 1001 pts 300.0 kHz/ Span 3.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 2.4050929 GHz -5.11 dBm T1 1 2.4045054 9 GHz -23.73 dBm Occ Bw 695.304695304 kHz T2 1 2.4052008 GHz -22.73 dBm Date: 28.SEP.2021 20:45:40
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] -4.26 dBm 2.44908990 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 2.4490899 GHz -4.26 dBm T1 1 2.4485025 GHz -23.01 dBm Occ Bw 698.301698301 kHz T2 1 2.4492008 GHz -22.13 dBm Date: 28.SEP.2021 20:51:34
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] -5.14 dBm 2.47708990 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 2.4770899 GHz -5.14 dBm T1 1 2.4764965 GHz -23.59 dBm Occ Bw 701.298701299 kHz T2 1 2.4771978 GHz -22.46 dBm Date: 28.SEP.2021 20:55:18

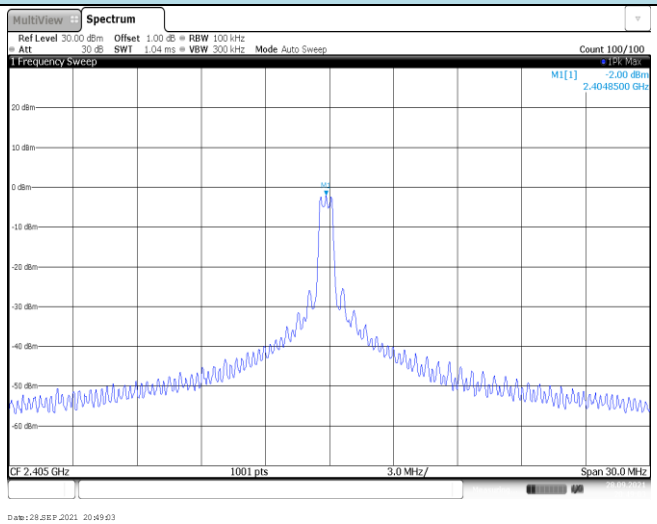
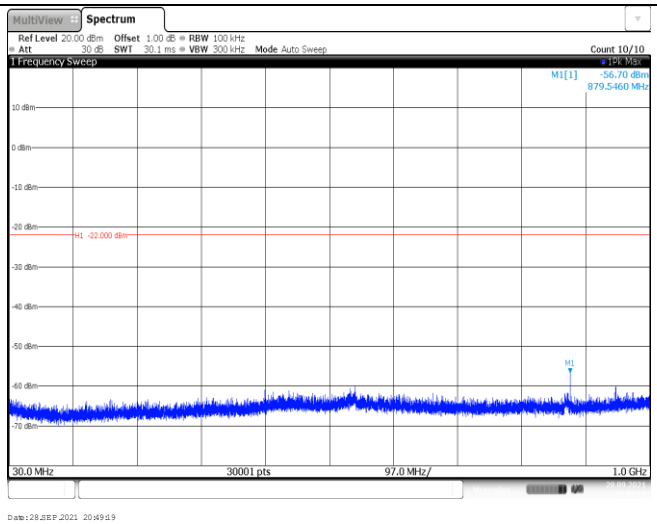
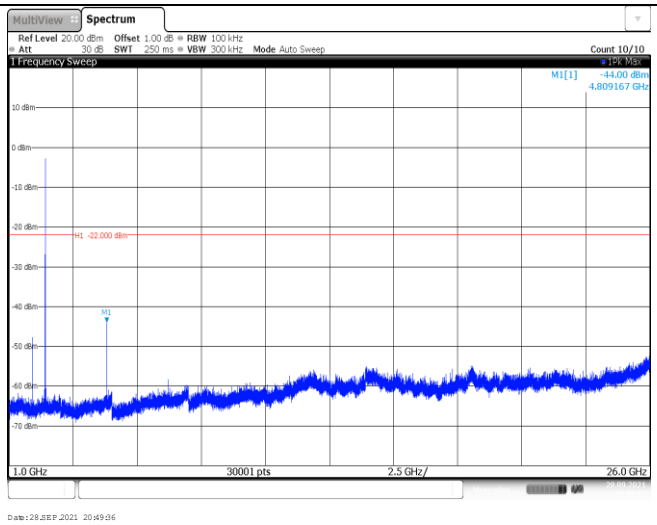
Appendix E：Duty cycle

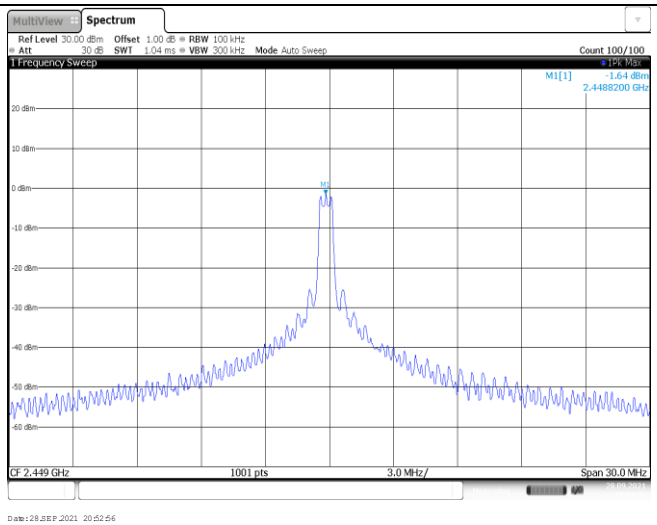
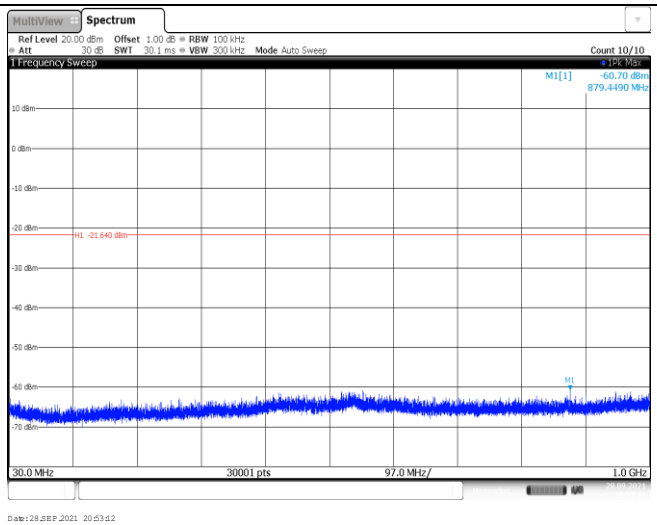
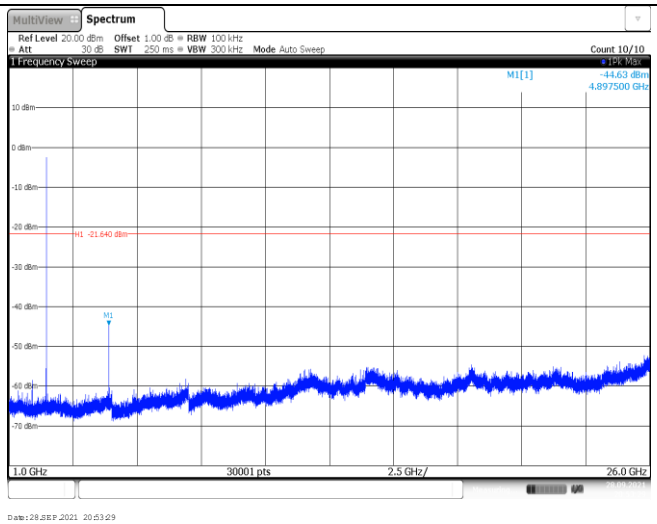
Test Frequency （MHz）	$T_{on\ time}$ for single burst (ms)	T_{period} (ms)	Duty cycle	$1/T_{on\ time}$ (kHz)
2449	0.73	8.15	9.0%	1.4

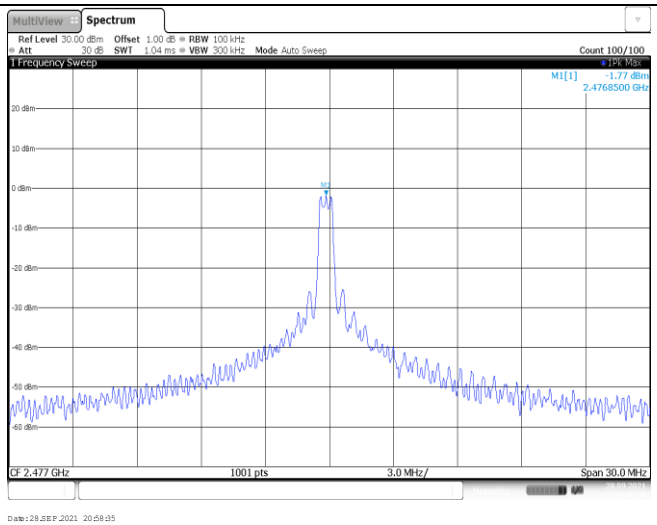
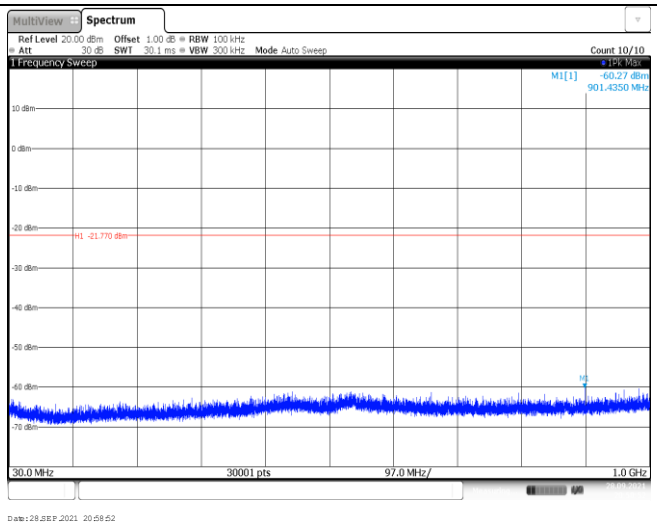
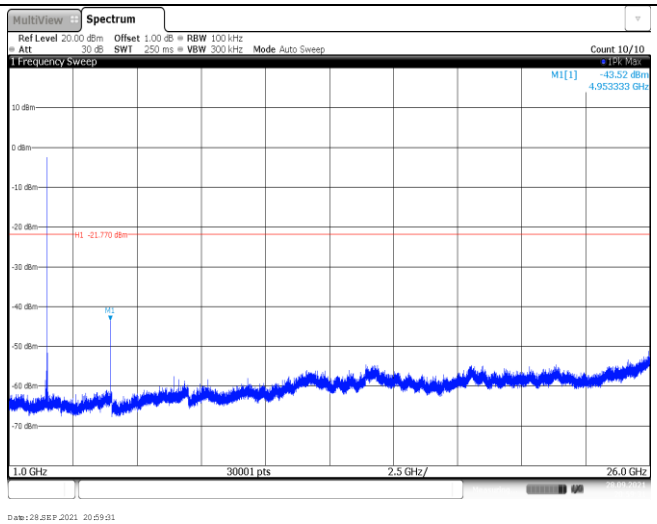


Appendix F：Band edge and Spurious Emissions (conducted)

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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