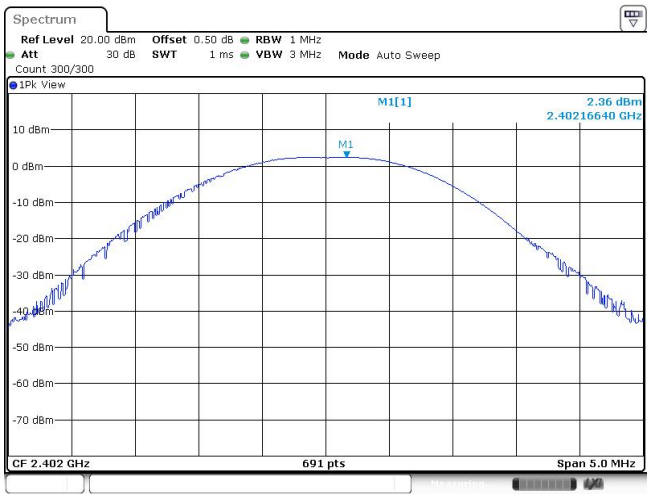
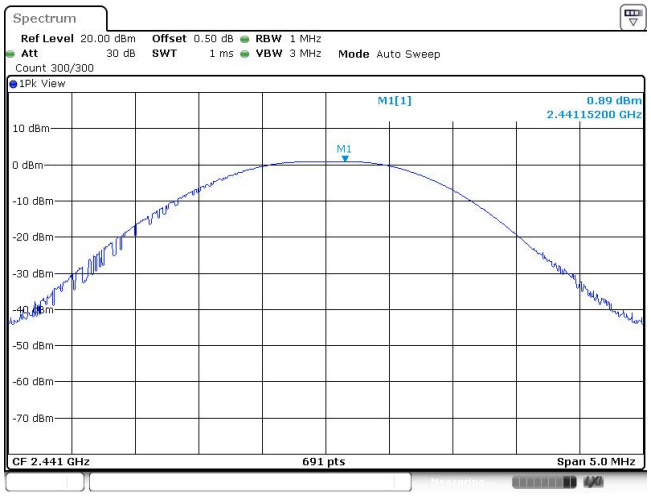
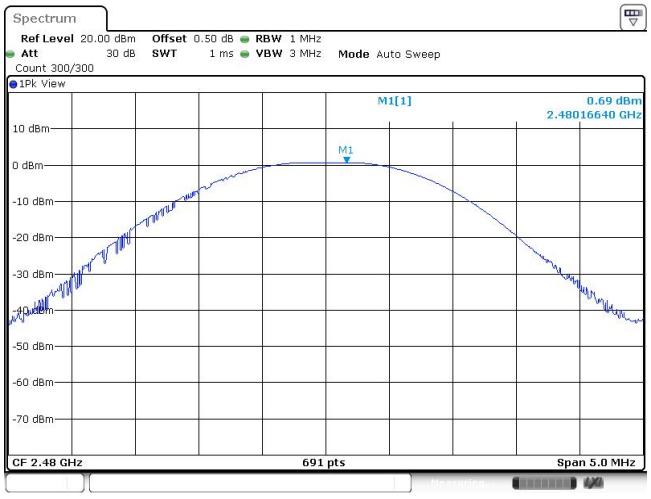
APPENDIX REPORT

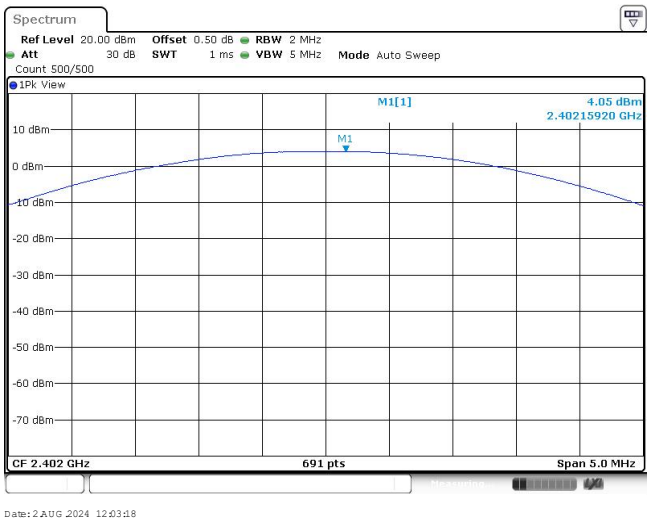
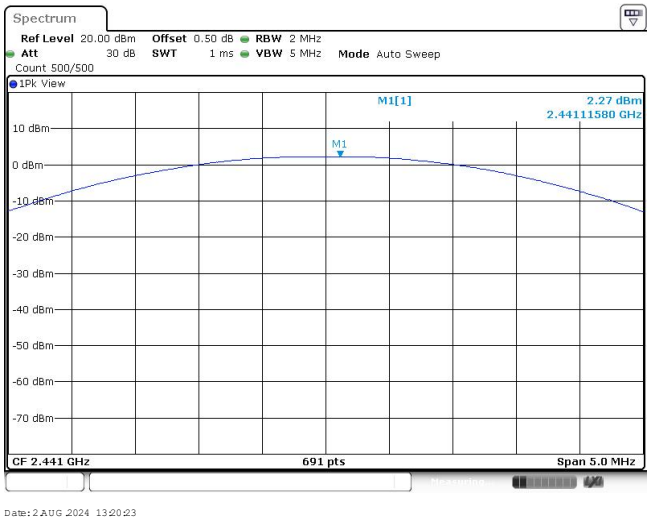
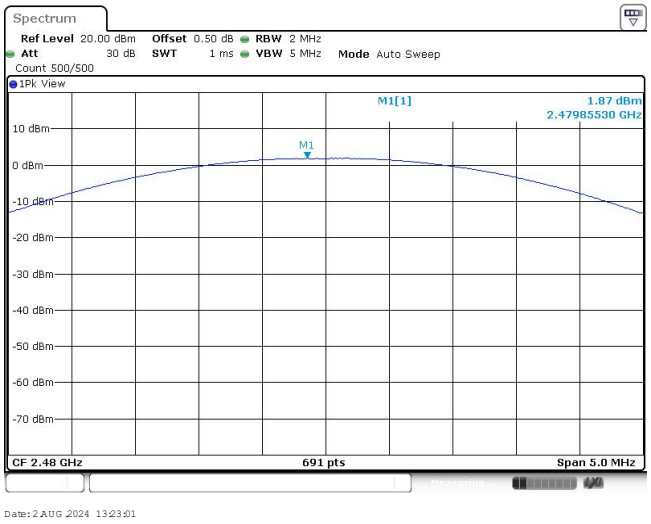
Project No.	SHT2407091302W	Radio Specification	Bluetooth EDR
Test sample No.	YPHT24070913001_01	Model No.	GT32
Start test date	2024-08-02	Finish date	2024-08-05
Temperature	24.6℃	Humidity	50%
Test Engineer	Chenxin Ling	Auditor	Xiaodong Zhao

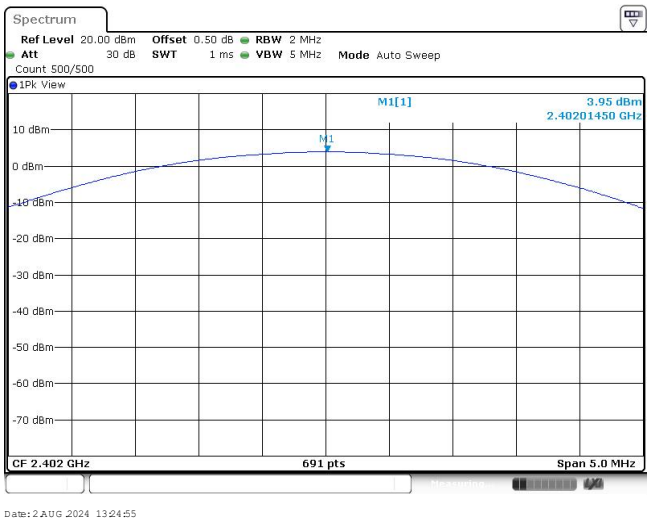
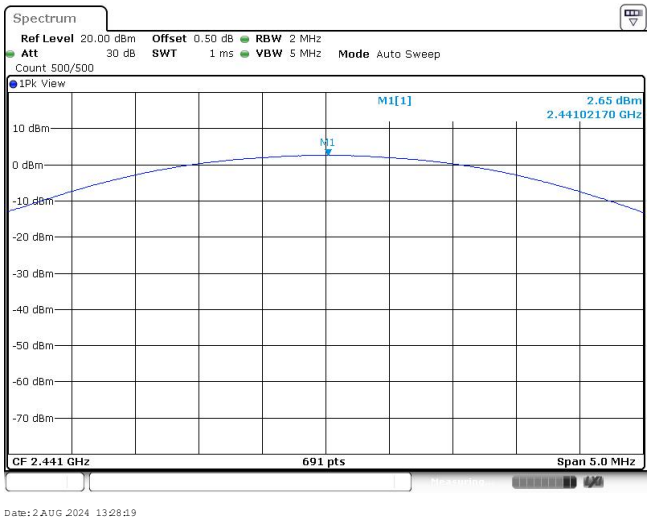
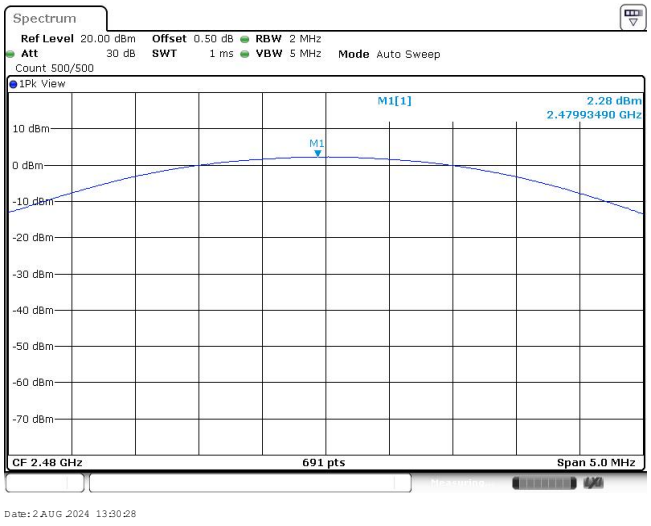
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	20 dB Bandwidth	PASS
C	99% Occupied Bandwidth	PASS
D	Carrier Frequencies Separation	PASS
E	Hopping Channel Number	PASS
F	Dwell Time	PASS
G	Duty Cycle Correction Factor (DCCF)	PASS
H	Band edge and Spurious Emissions(coducted)	PASS

Appendix A：Peak Output Power

Modulation type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
GFSK	00	2.36	2.15	≤ 30.00	Pass
	39	0.89	0.72		
	78	0.69	0.58		
π/4DQPSK	00	4.05	3.84	≤ 21.00	Pass
	39	2.27	2.03		
	78	1.87	1.66		
8DPSK	00	3.95	3.76	≤ 21.00	Pass
	39	2.65	2.42		
	78	2.28	2.08		

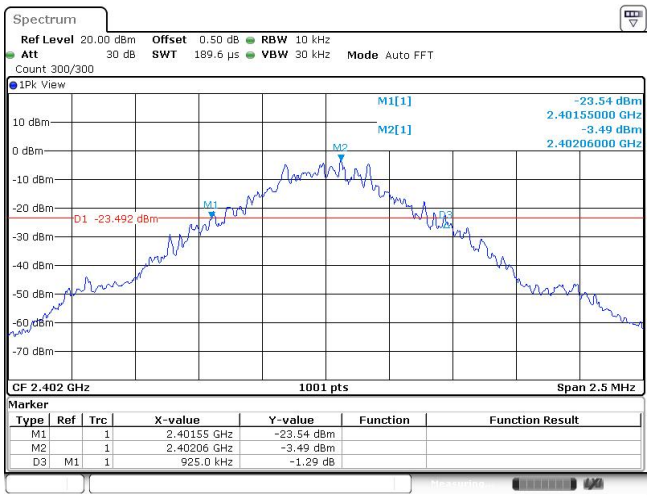
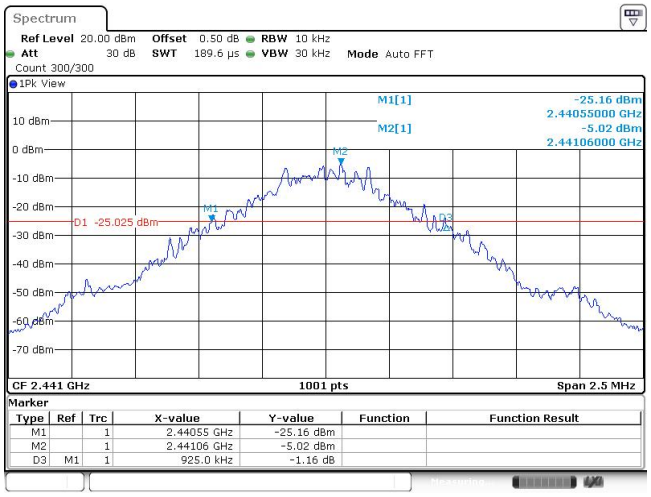
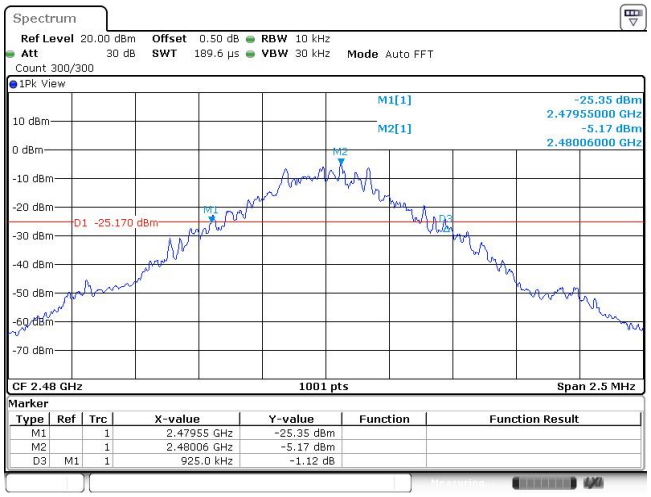
Modulation Type:	GFSK
CH00	
CH39	
CH78	

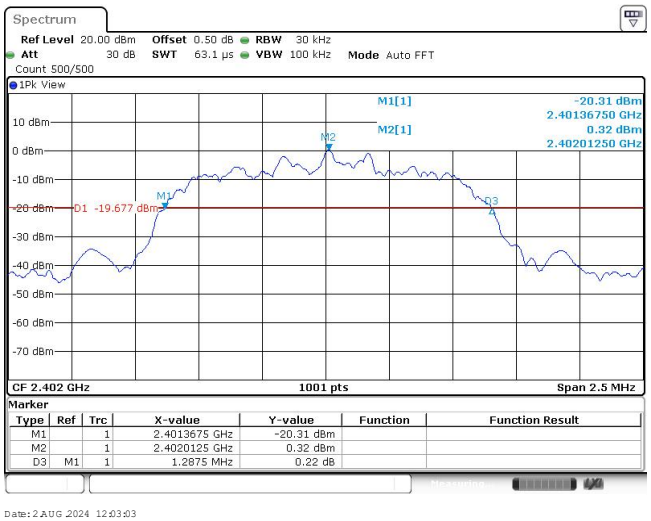
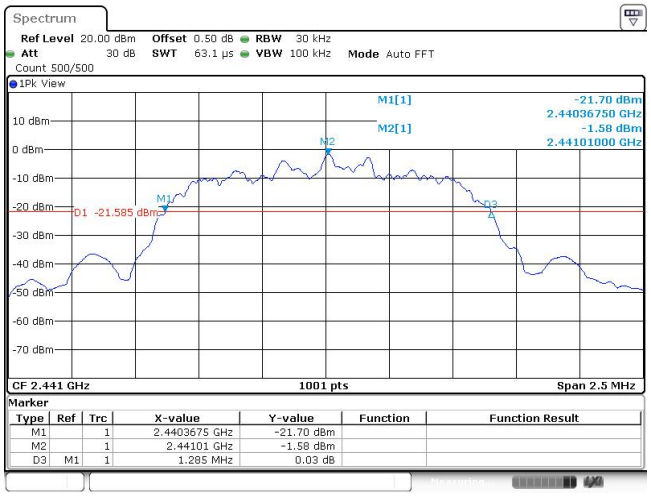
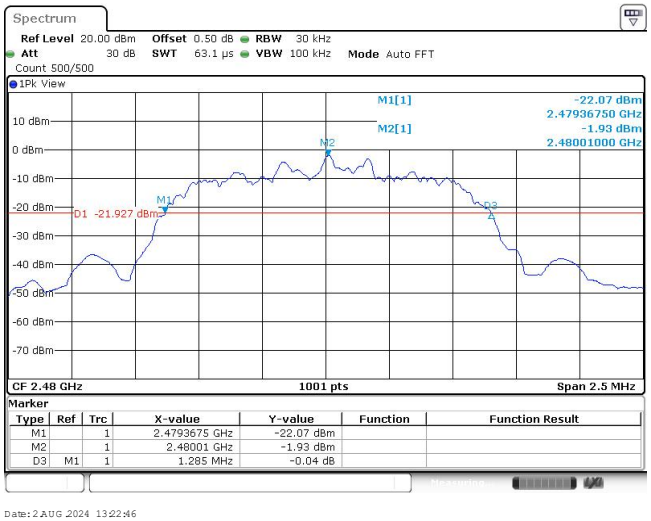
Modulation Type:	π/4DQPSK
CH00	
CH39	
CH78	

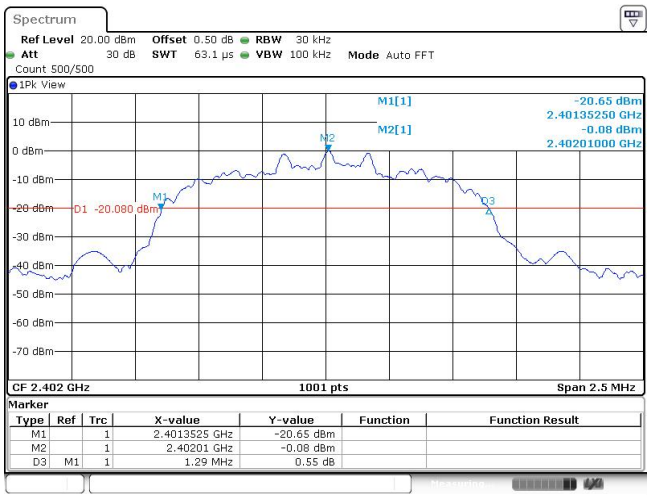
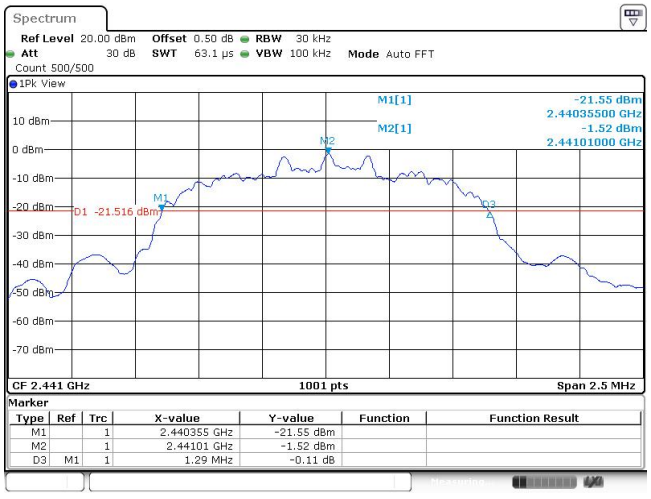
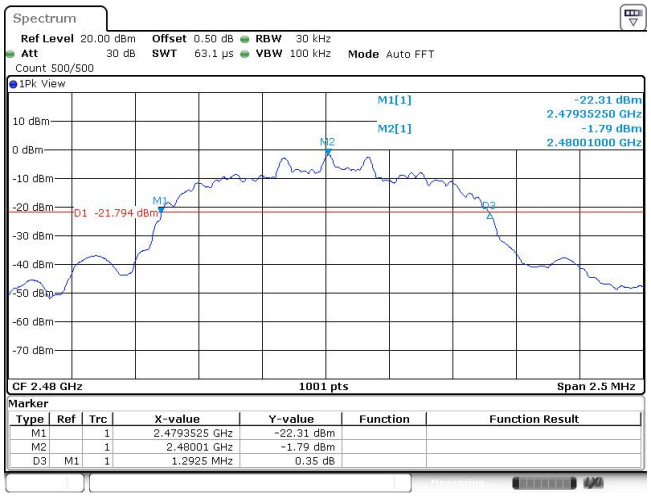
Modulation Type:	8DPSK
CH00	
CH39	
CH78	

Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	925.00	-	Pass
	39	925.00		
	78	925.00		
π/4DQPSK	00	1288.00	-	Pass
	39	1285.00		
	78	1285.00		
8DPSK	00	1290.00	-	Pass
	39	1290.00		
	78	1293.00		

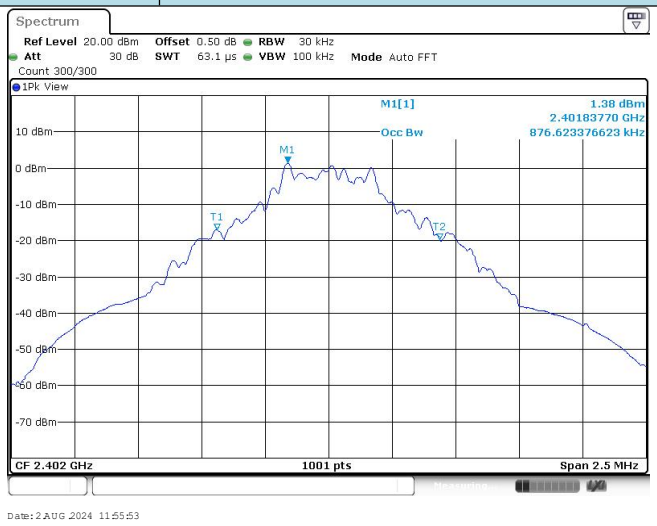
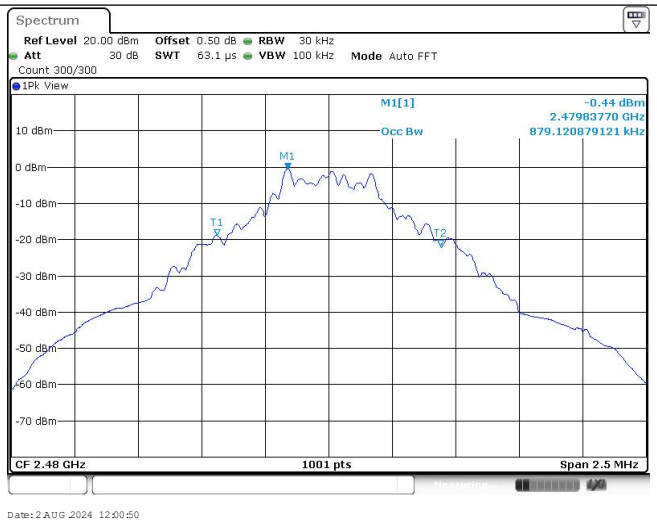
Modulation Type:	GFSK
CH00	
CH39	
CH78	

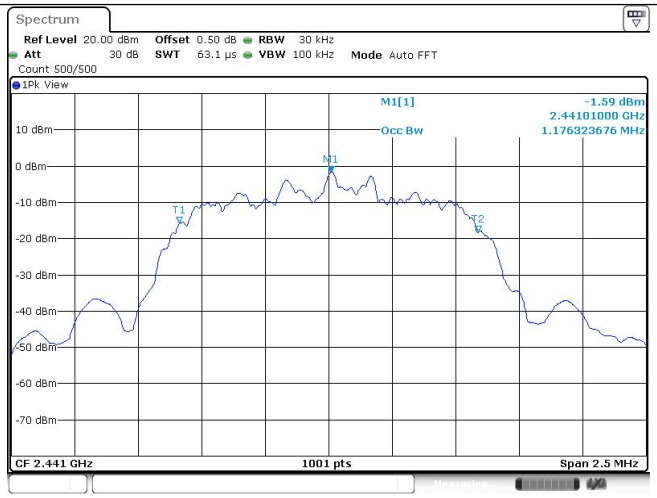
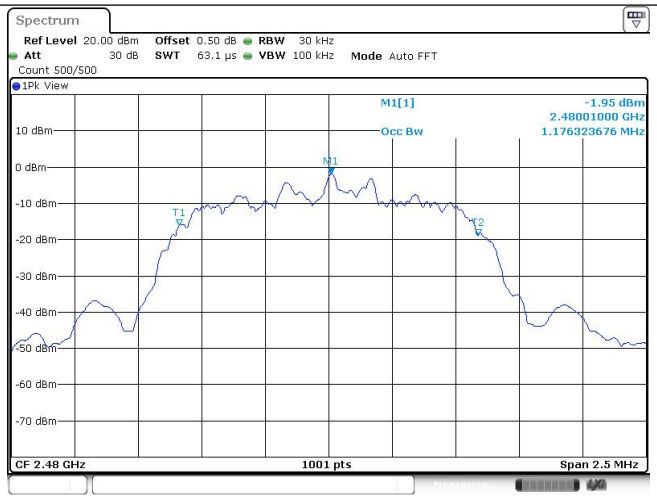
Modulation Type:	π/4DQPSK
CH00	
CH39	
CH78	

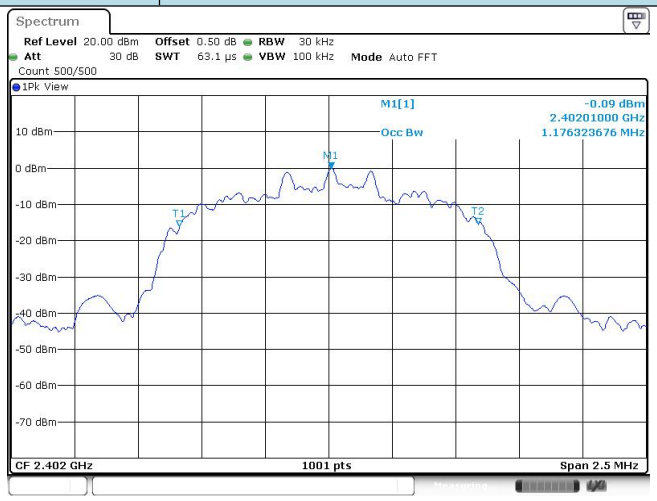
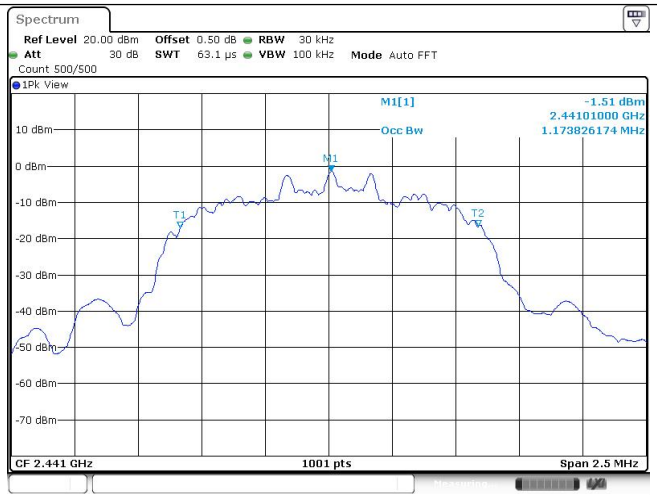
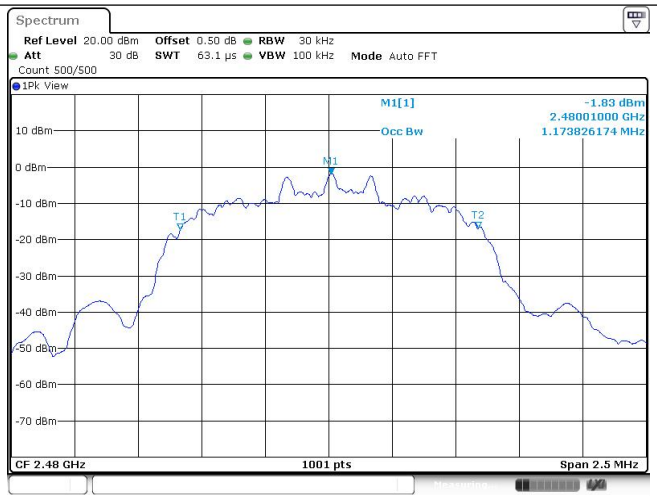
Modulation Type:	8DPSK
CH00	
CH39	
CH78	

Appendix C：99% Occupied Bandwidth

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.88	-	Pass
	39	0.88		
	78	0.88		
π/4DQPSK	00	1.18	-	Pass
	39	1.18		
	78	1.18		
8DPSK	00	1.18	-	Pass
	39	1.17		
	78	1.17		

Modulation Type:	GFSK
CH00	
CH39	
CH78	

Modulation Type:	π/4DQPSK
CH00	
CH39	
CH78	

Modulation Type:	8DPSK
CH00	
CH39	
CH78	

Appendix D：Carrier Frequencies Separation

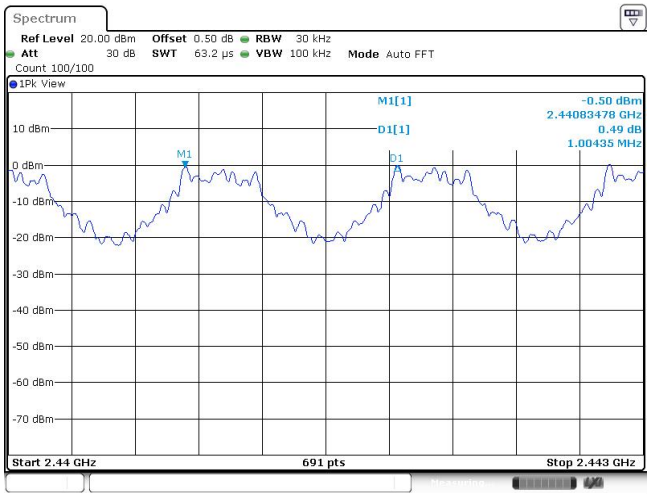
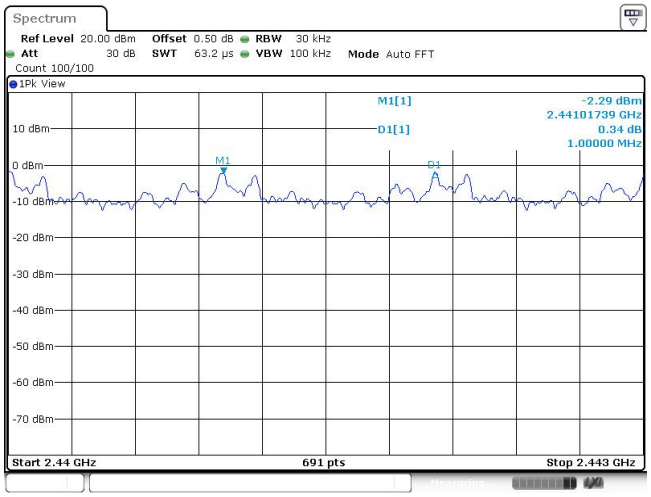
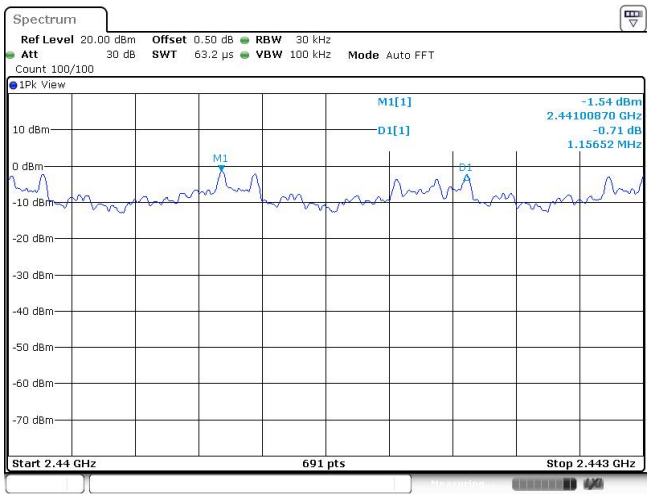
Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥925.00	Pass
π/4DQPSK	39	1.00	≥858.67	Pass
8DPSK	39	1.16	≥862.00	Pass

Note:

*: GFSK limit = The maximum 20 dB Bandwidth for GFSK modulation on the appendix B.

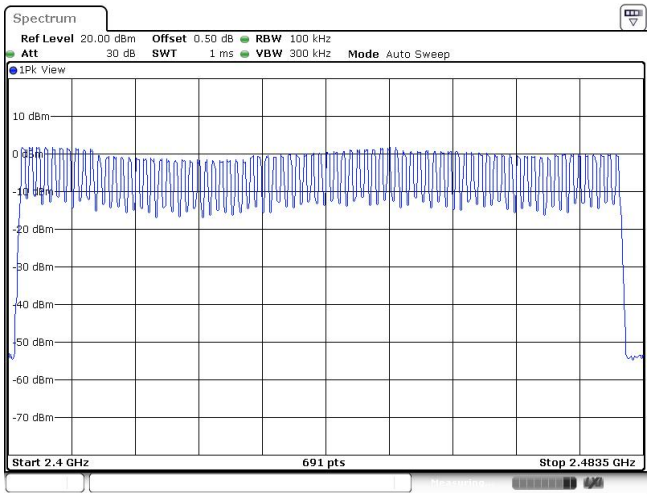
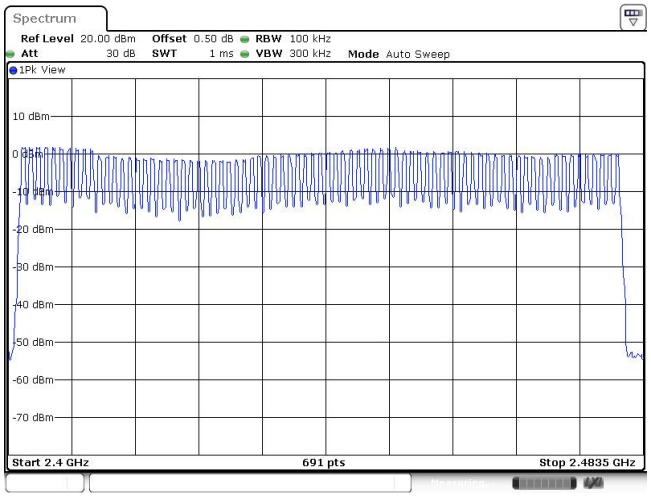
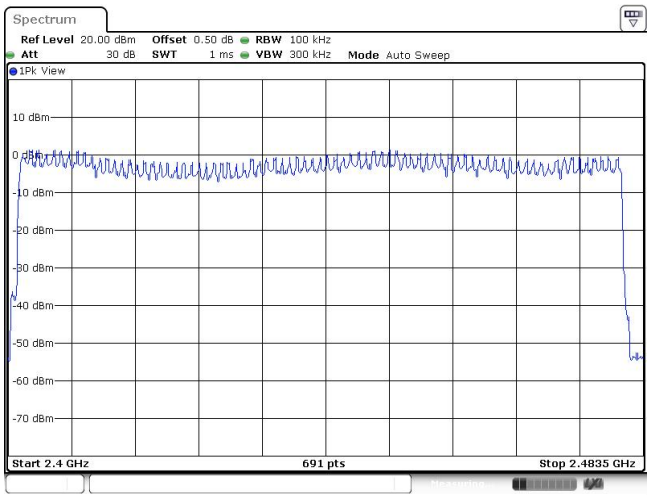
π/4DQPSK limit = 2/3 * The maximum 20 dB Bandwidth for π/4DQPSK modulation on the appendix B.

8DPSK limit = 2/3 * The maximum 20 dB Bandwidth for 8DPSK modulation on the appendix B

GFSK	
π/4DQPSK	
8DPSK	

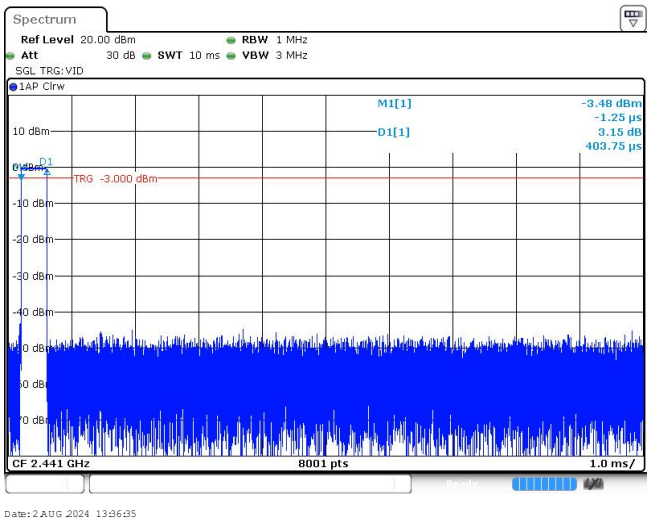
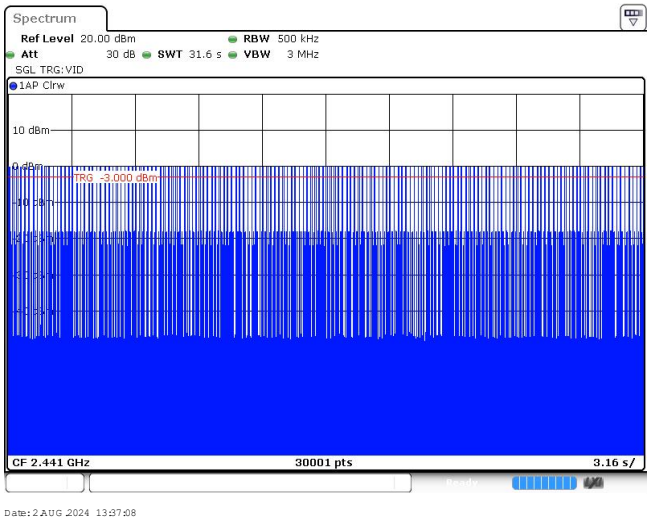
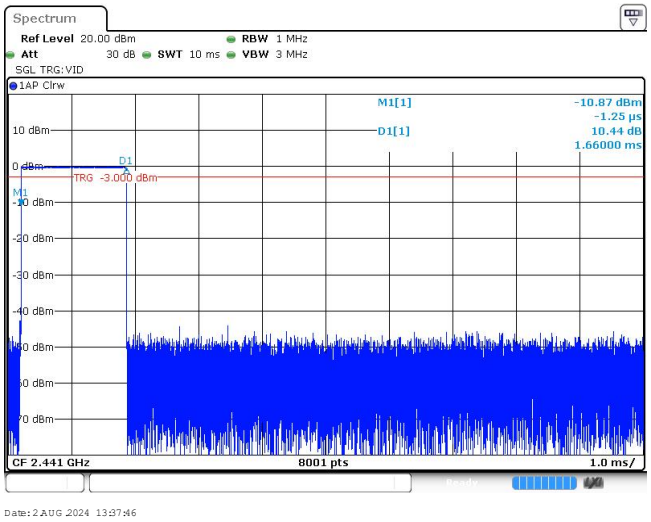
Appendix E：Hopping Channel Number

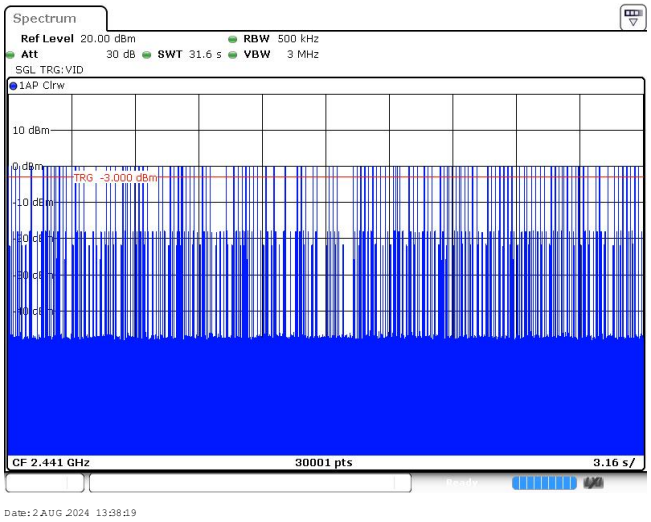
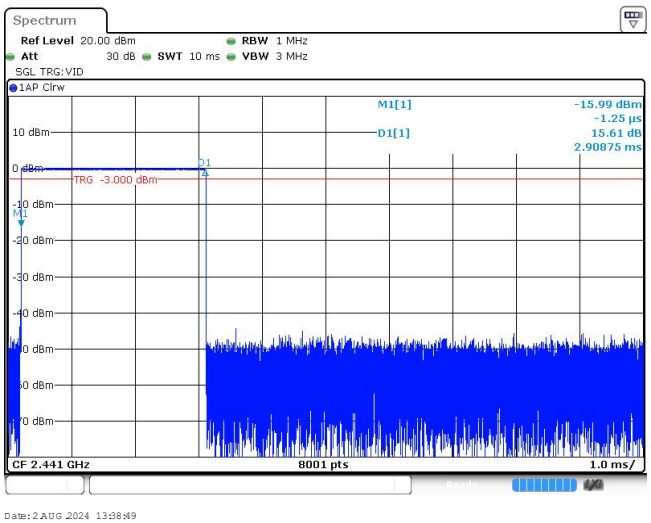
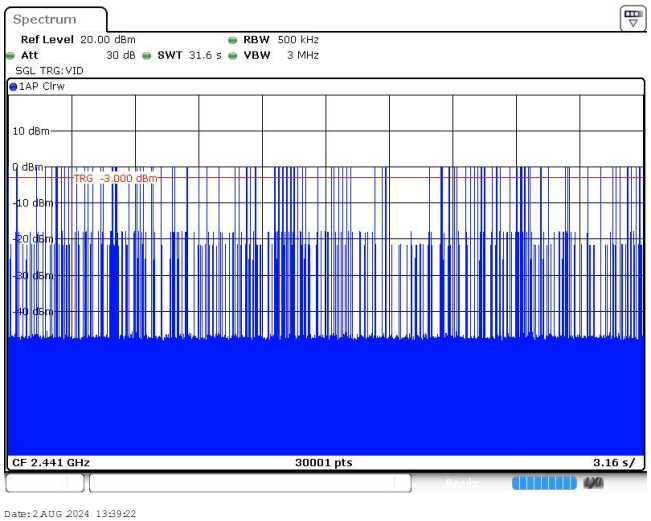
Modulation type	Channel number	Limit	Result
GFSK	79	≥15.00	Pass
π/4DQPSK	79		
8DPSK	79		

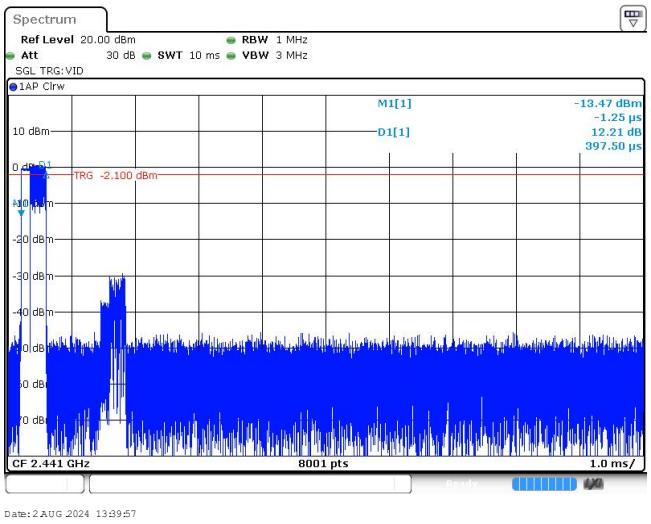
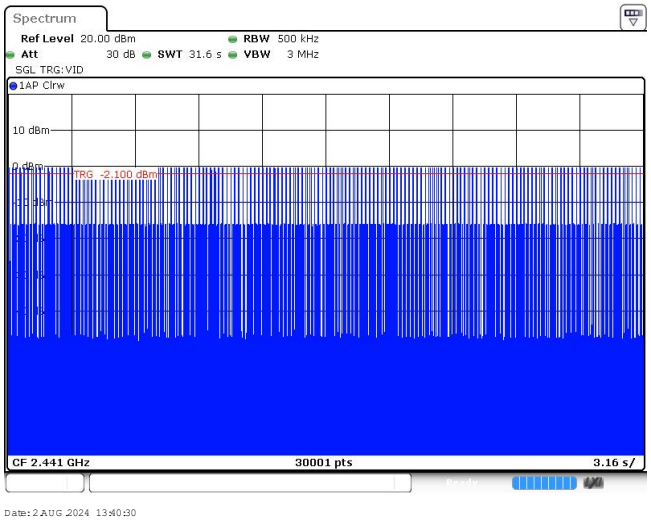
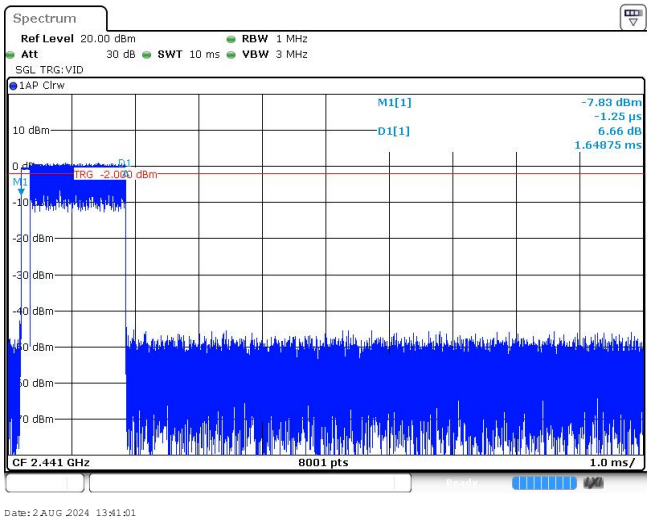
GFSK	
π/4DQPSK	
8DPSK	

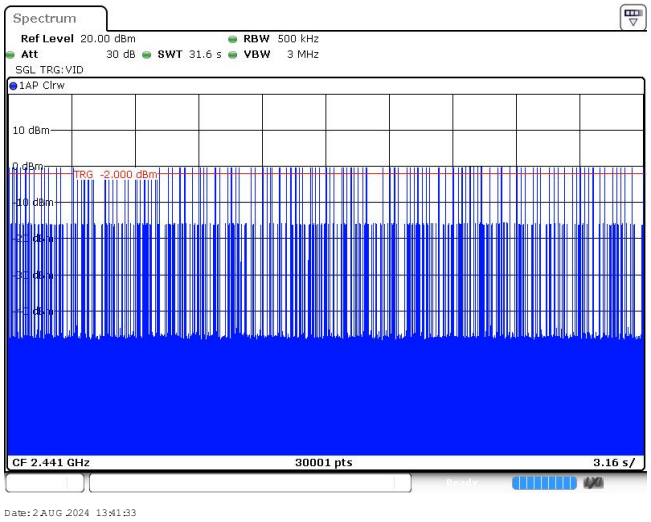
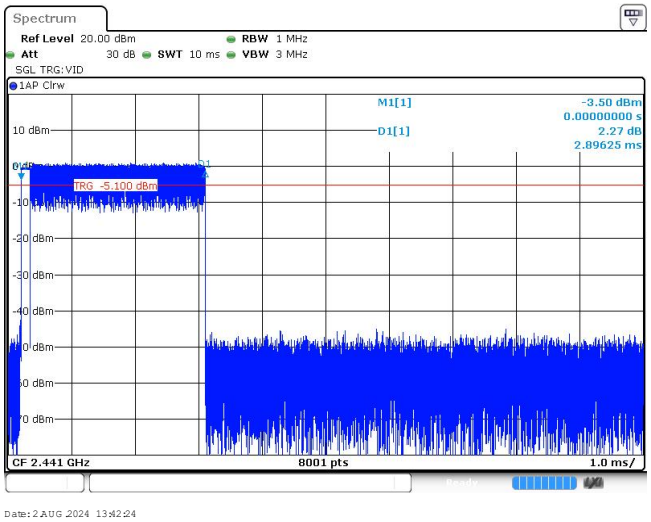
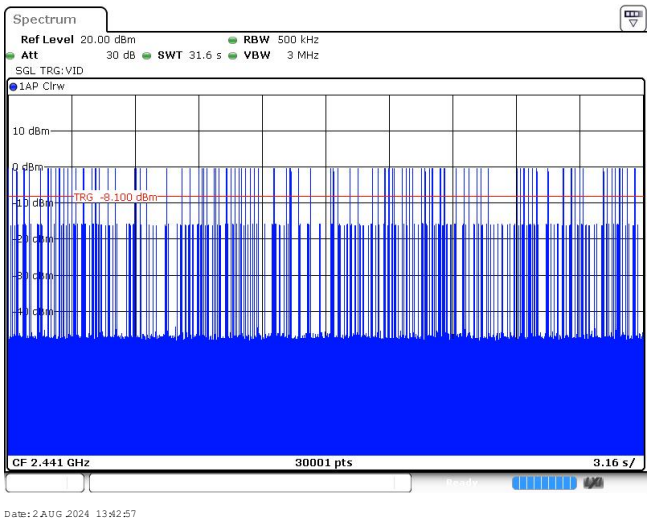
Appendix F：Dwell Time

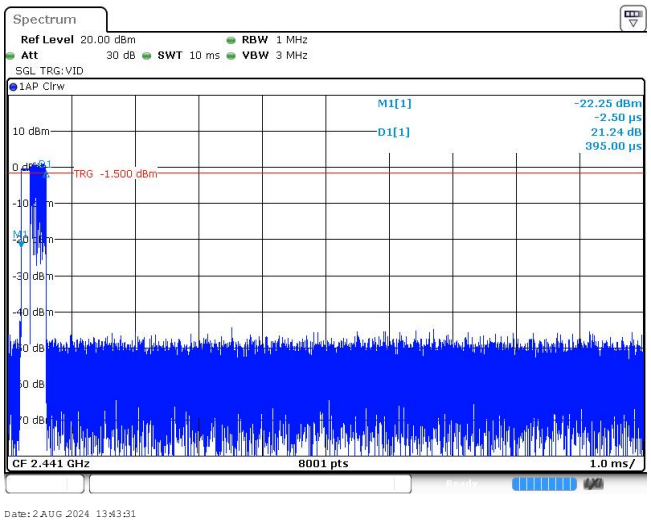
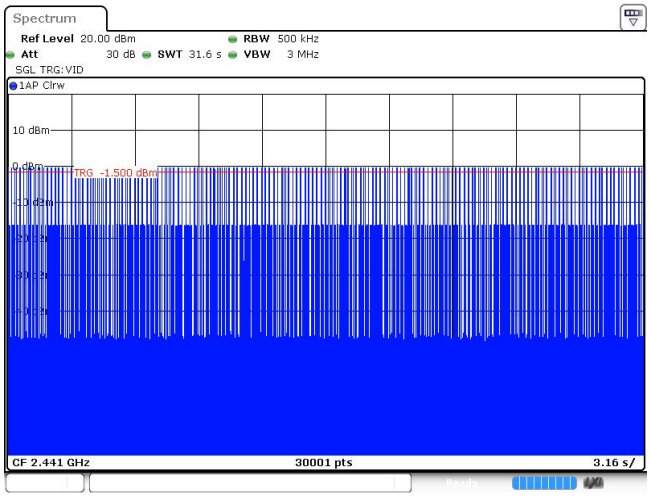
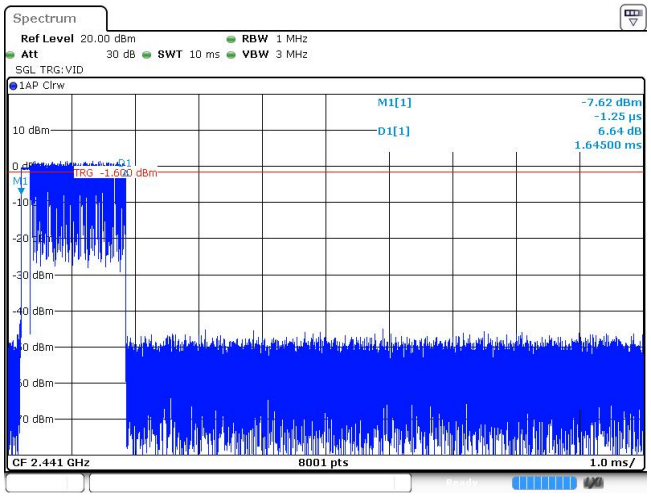
Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.40	316.00	0.13	≤ 0.40	Pass
	DH3	1.66	164.00	0.27		
	DH5	2.91	113.00	0.33		
π/4DQPSK	2DH1	0.40	318.00	0.13	≤ 0.40	Pass
	2DH3	1.65	160.00	0.26		
	2DH5	2.90	113.00	0.33		
8DPSK	3DH1	0.40	320.00	0.13	≤ 0.40	Pass
	3DH3	1.65	153.00	0.25		
	3DH5	2.90	106.00	0.31		

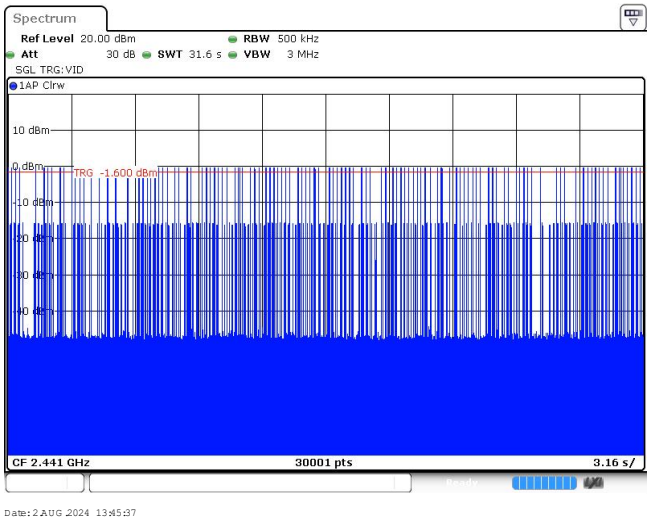
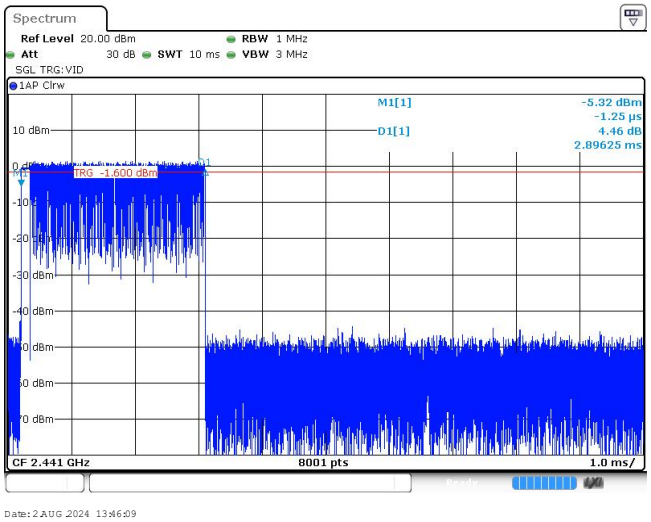
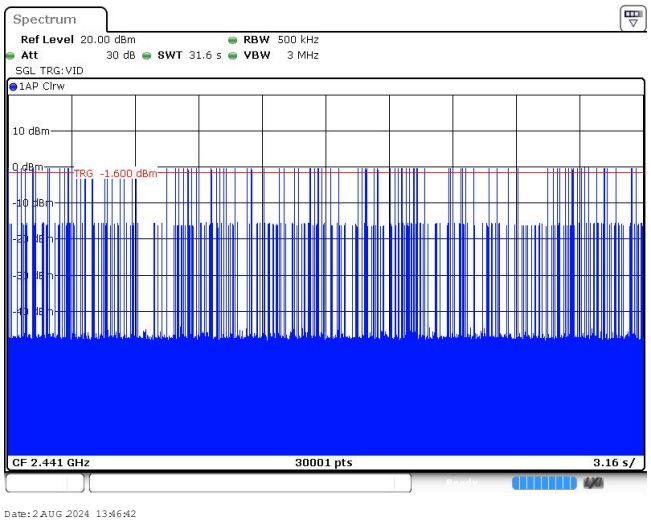
Modulation Type:	GFSK
DH1 Burst width	
DH1 Burst number	
DH3 Burst width	

DH3 Burst number	
DH5 Burst width	
DH5 Burst number	

Modulation Type:	π/4DQPSK
2DH1 Burst width	
2DH1 Burst number	
2DH3 Burst width	

2DH3 Burst number	
2DH5 Burst width	
2DH5 Burst number	

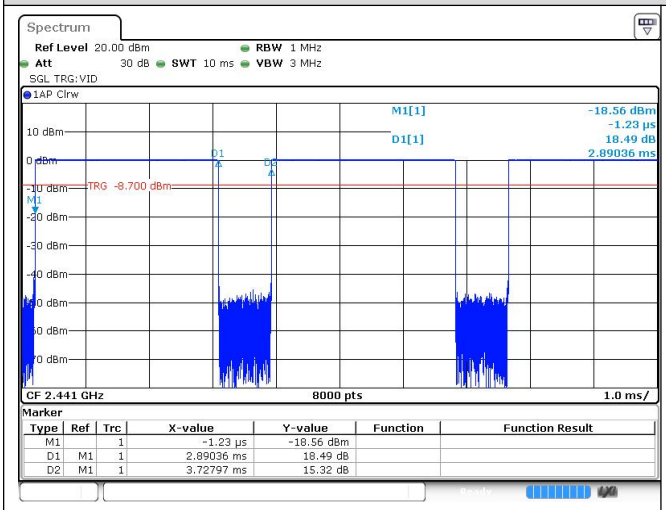
Modulation Type:	8DPSK
3DH1 Burst width	
3DH1 Burst number	
3DH3 Burst width	

3DH3 Burst number	
3DH5 Burst width	
3DH5 Burst number	

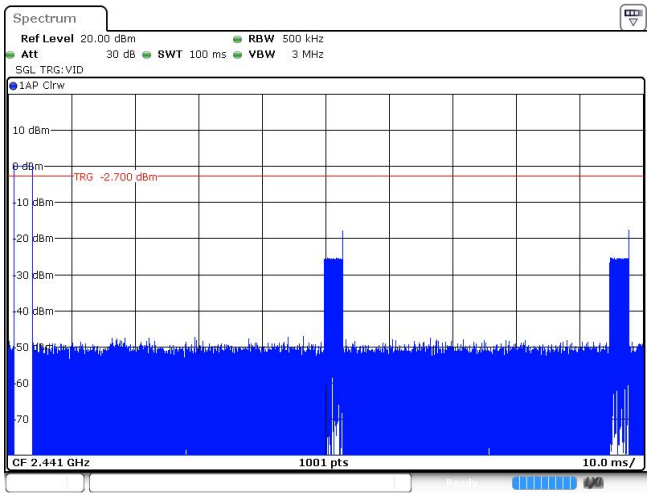
Appendix G：Duty Cycle Correction Factor (DCCF)

DCCF Calculate Formula					
DCCF=20 * Log(duty cycle) = 20 * Log($T_{on\ time}$ / T_{period})					
Modulation type	Test Frequency（MHz）	$T_{on\ time}$ for single burst [ms]	T_{period} [ms]	Burst Quantity	DCCF [dB]
GFSK	2441	2.89	100	1.00	-30.78
π/4 DQPSK	2441	2.74	100	1.00	-31.24
8DPSK	2441	2.74	100	1.00	-31.24

GFSK

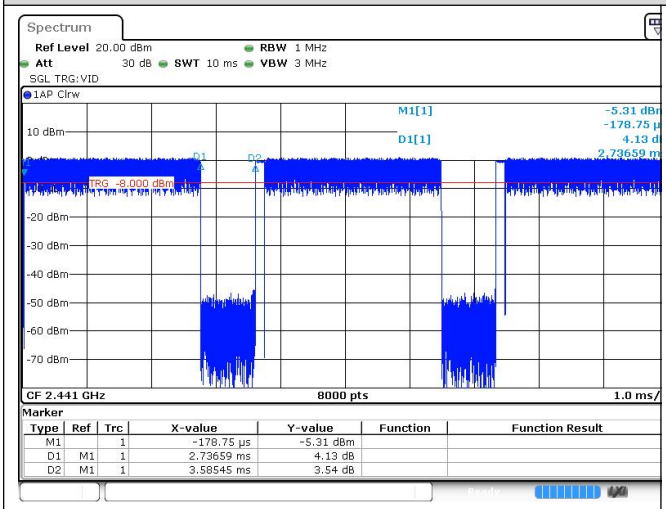


$T_{on\ time}$ for single burst

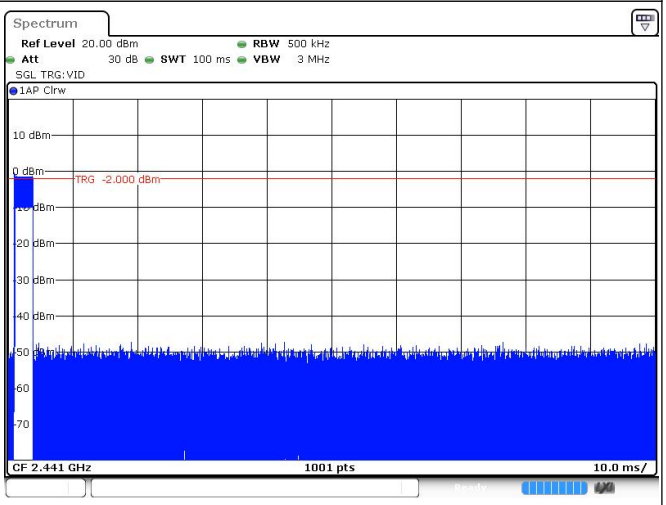


Burst Quantity

π/4 DQPSK

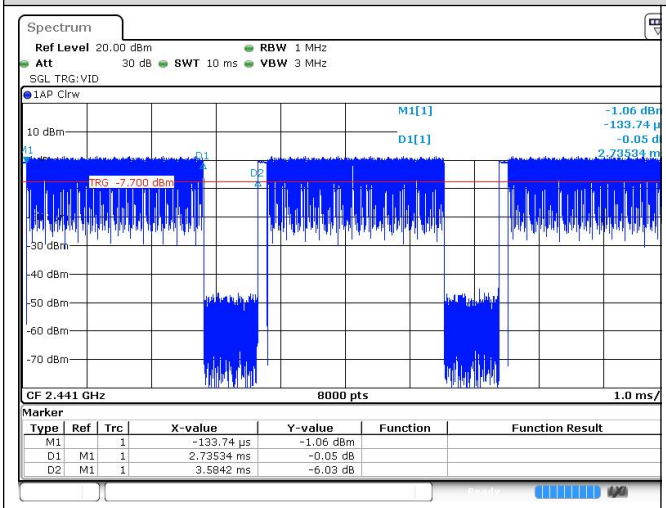


$T_{on\ time}$ for single burst

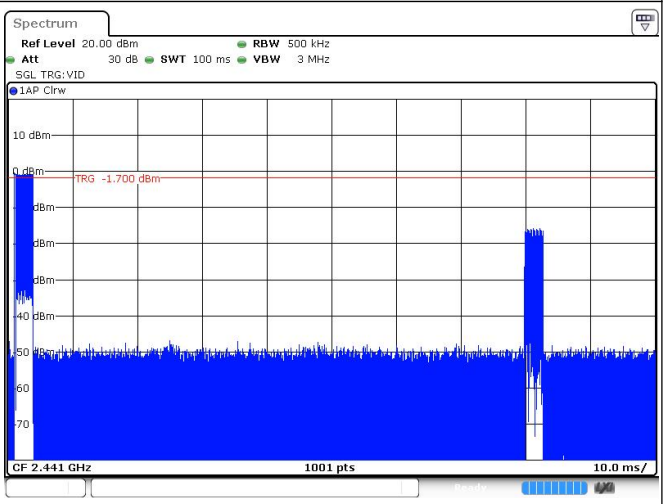


Burst Quantity

8DPSK

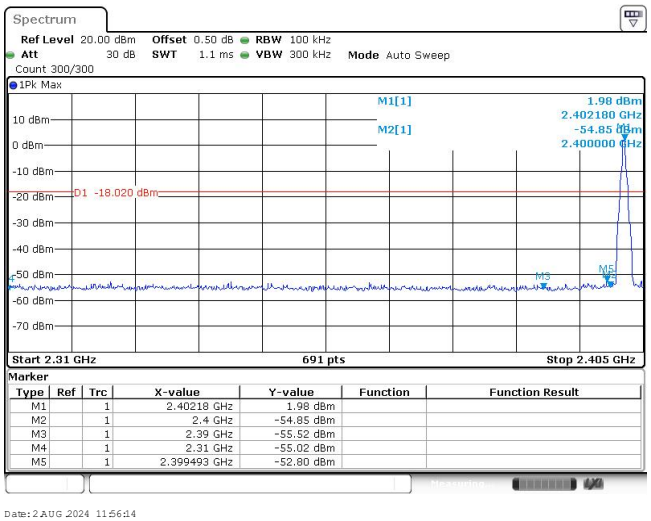
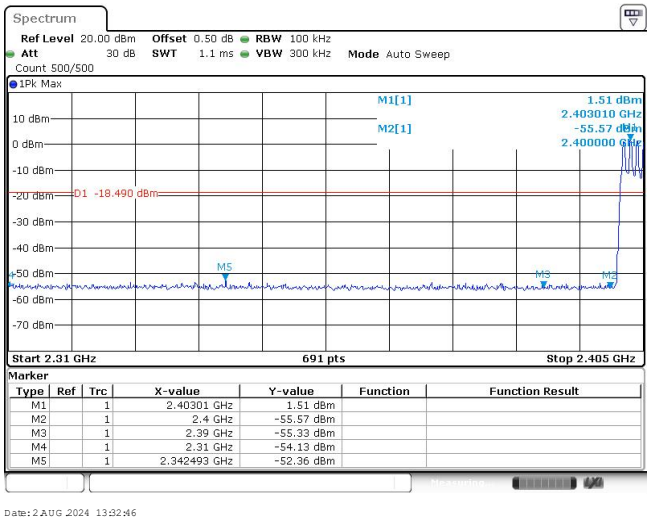
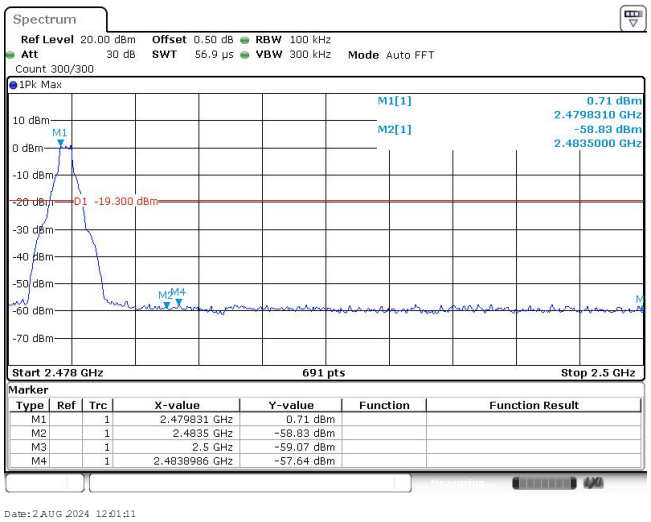


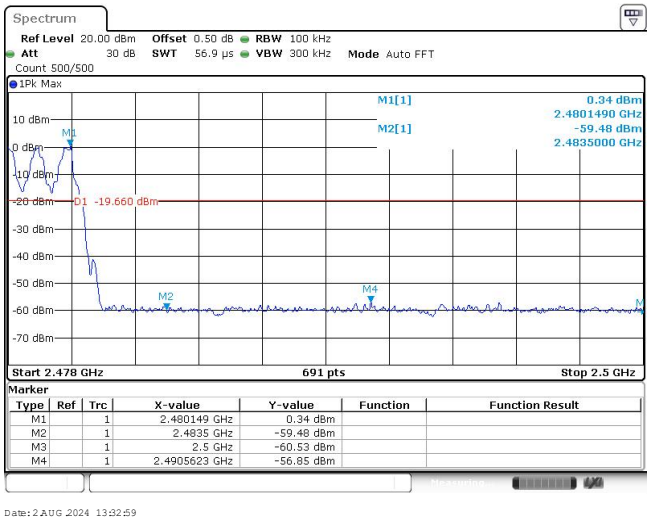
$T_{on\ time}$ for single burst

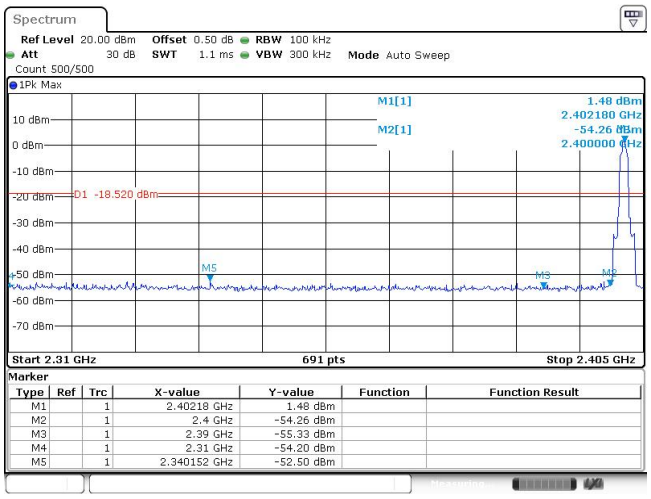
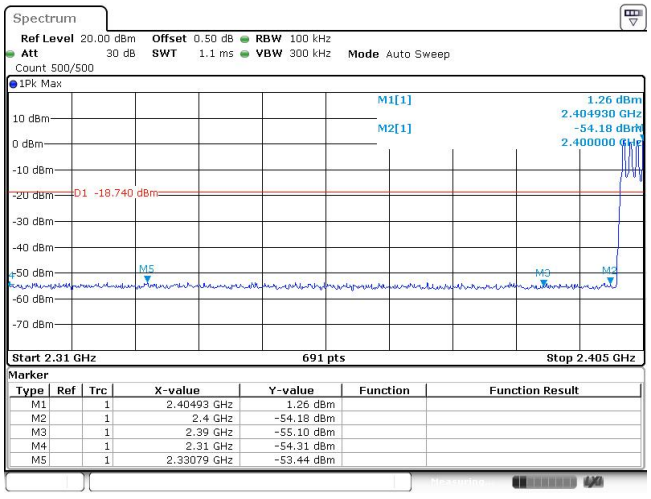
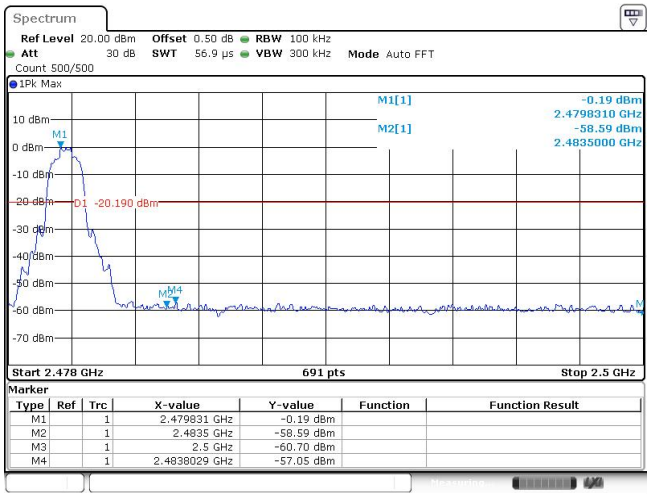


Burst Quantity

Appendix H：Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Modulation type:	GFSK
CH00 No hopping mode	
CH00 Hopping mode	
CH78 No hopping mode	

CH78 Hopping mode	

Test Item:	Band edge	Modulation type:	π/4DQPSK
CH00 No hopping mode			
CH00 Hopping mode			
CH78 No hopping mode			

CH78 Hopping mode