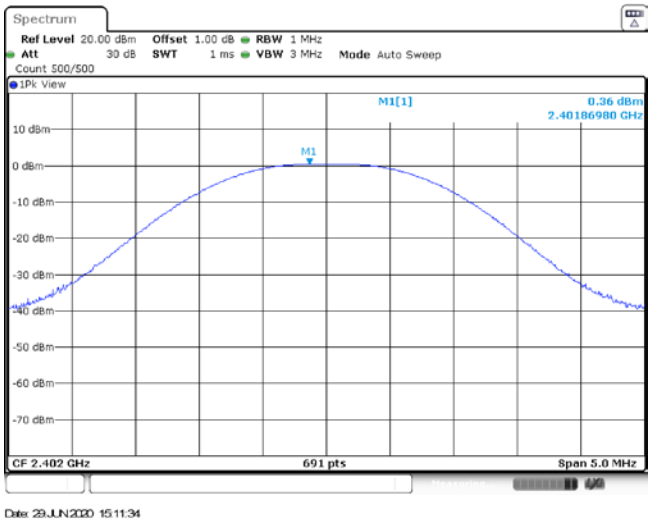
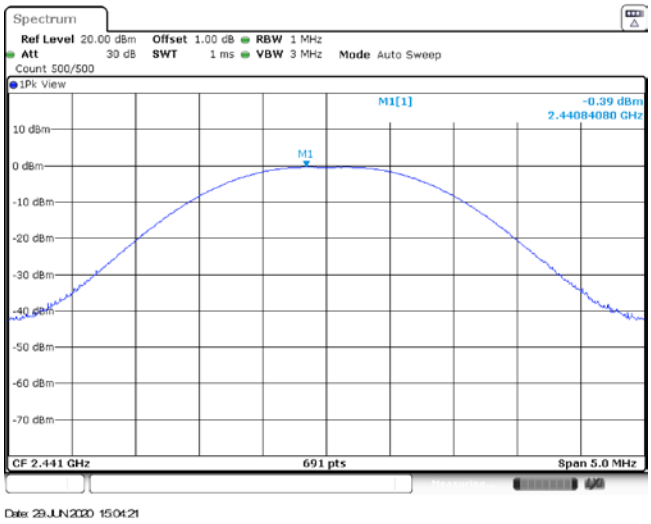
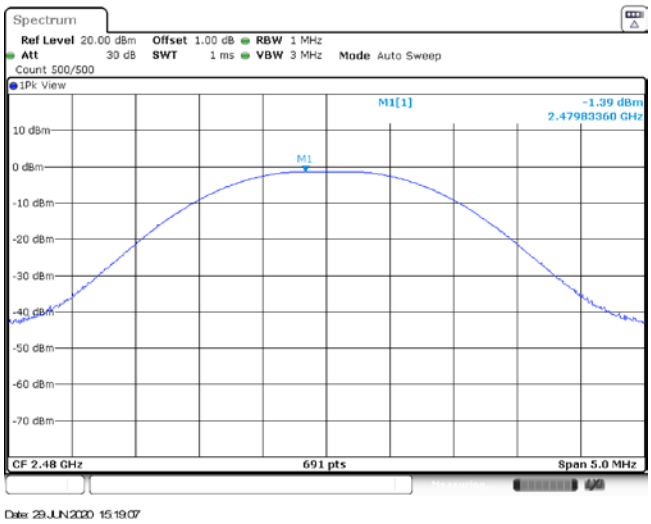
APPENDIX REPORT

Project No.	SHT2006066501EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT20060665002	Model No.	CT90
Start test date	2020/6/29	Finish date	2020/6/29
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	

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

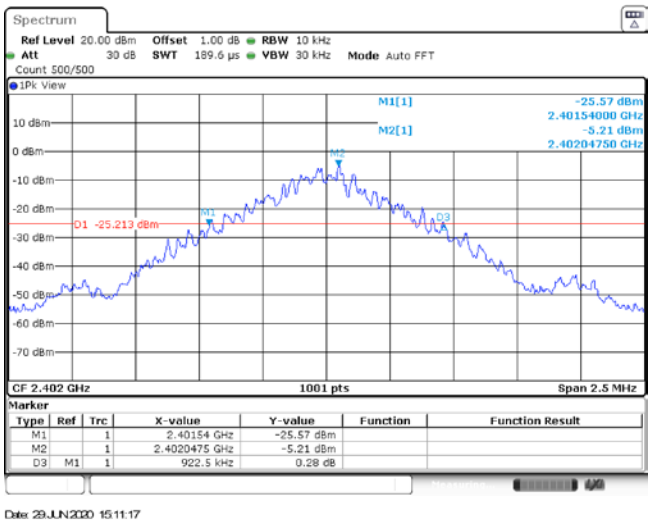
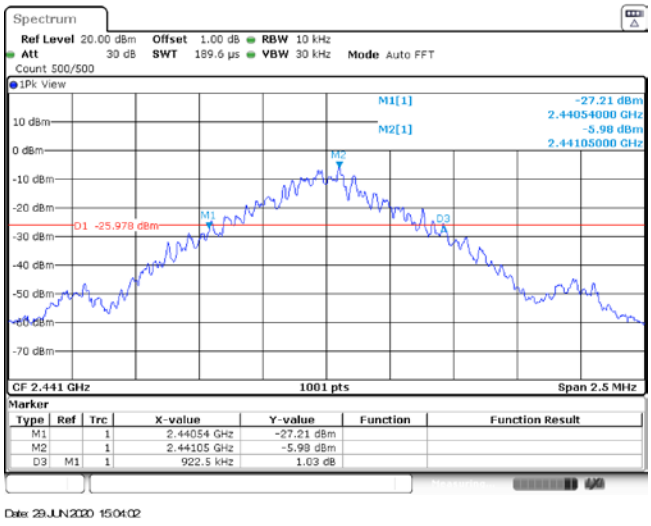
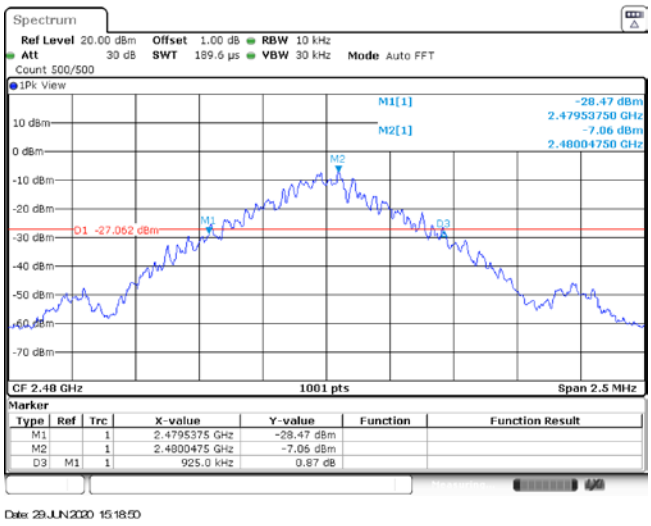
Appendix A：Peak Output Power

Modulation type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
GFSK	00	0.36	0.32	≤ 30.00	Pass
	39	-0.39	-0.40		
	78	-1.39	-1.41		

Modulation Type:	GFSK
CH00	
CH39	
CH78	

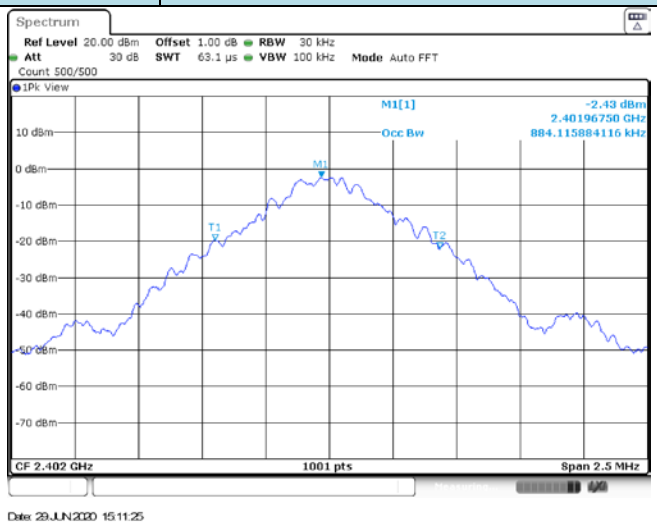
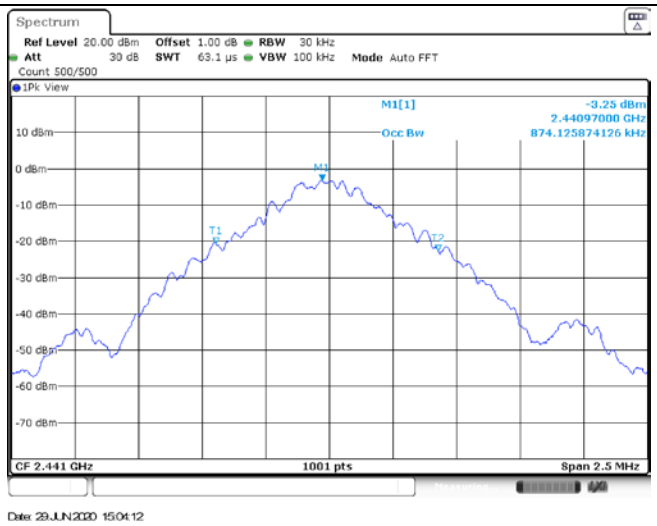
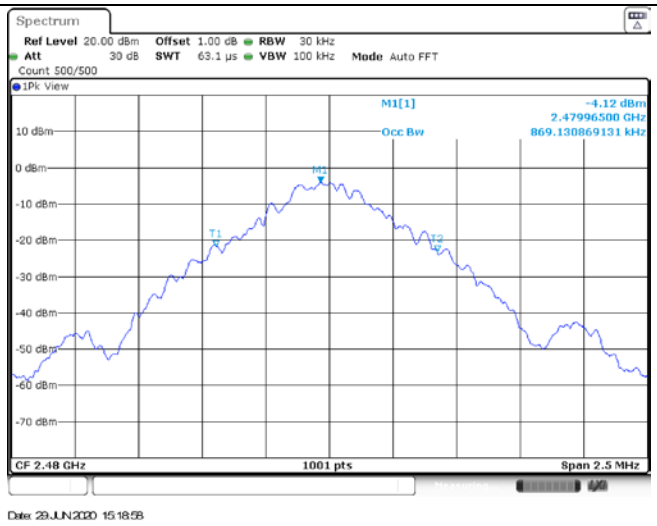
Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	922.50	-	Pass
	39	922.50		
	78	925.00		

Modulation Type:	GFSK
CH00	
CH39	
CH78	

Appendix C：99% Occupied Bandwidth

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.88	-	Pass
	39	0.87		
	78	0.87		

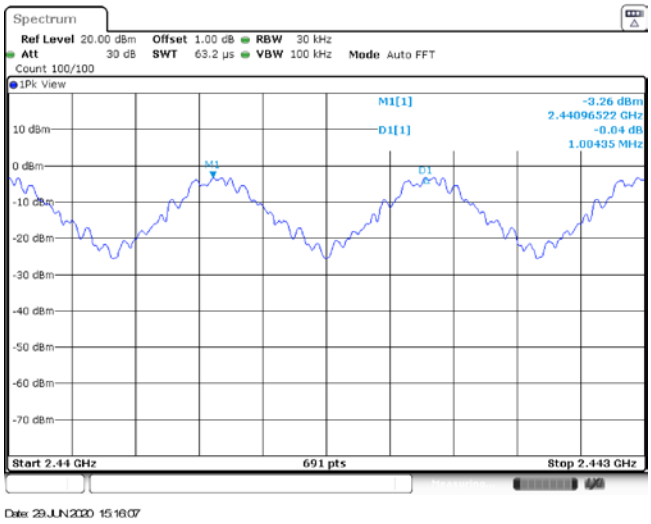
Modulation Type:	GFSK
CH00	
CH39	
CH78	

Appendix D：Carrier Frequencies Separation

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥925	Pass

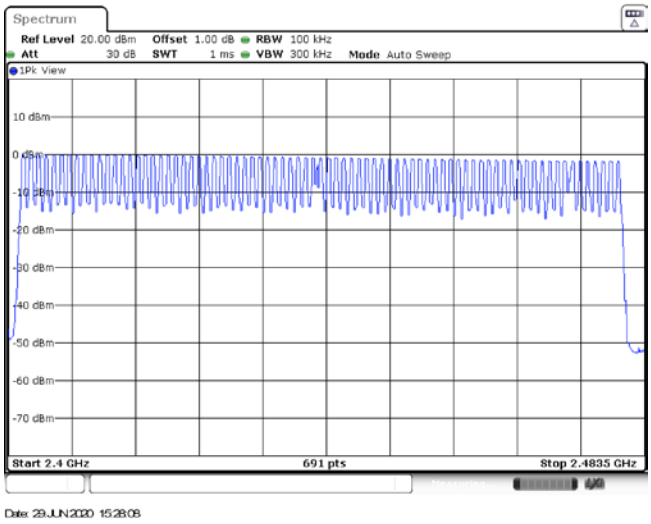
Note:

*: 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	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 63.2 µs VBW 100 kHz Mode Auto FFT Count 100/100 1Pk View M1[1] -3.26 dBm 2.44096522 GHz D1[1] -0.04 dB 1.00435 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 2.44 GHz 691 pts Stop 2.443 GHz Date: 29.JUN.2020 15:16:07

Appendix E：Hopping Channel Number

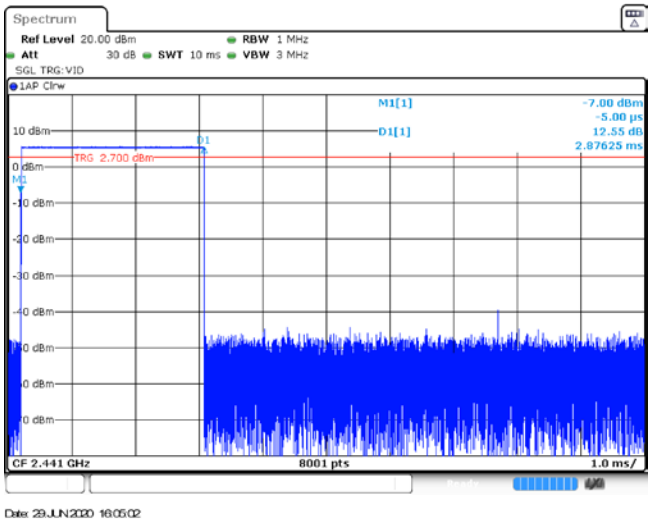
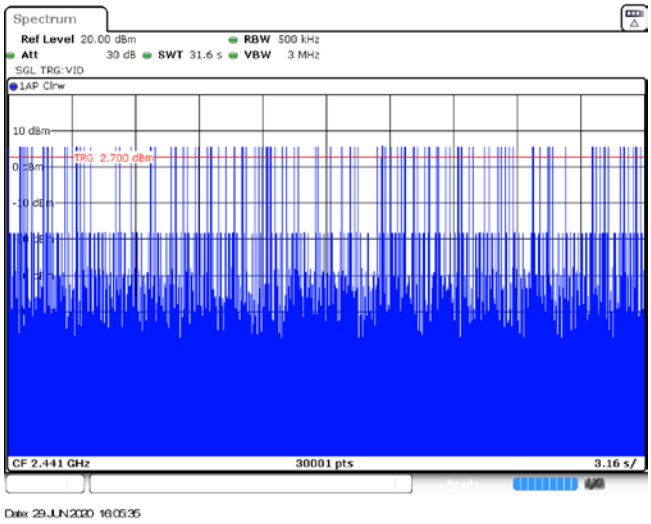
Modulation type	Channel number	Limit	Result
GFSK	79	≥15.00	Pass

GFSK	

Spectrum
Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz
Att 30 dB SWT 1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
Start 2.4 GHz
691 pts
Stop 2.4835 GHz
Date: 29.JUN.2020 15:28:08

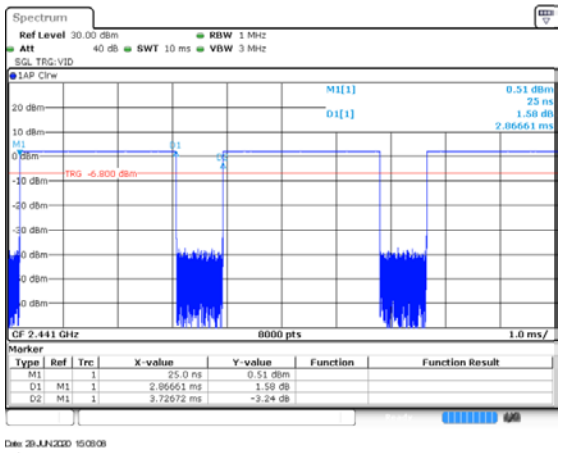
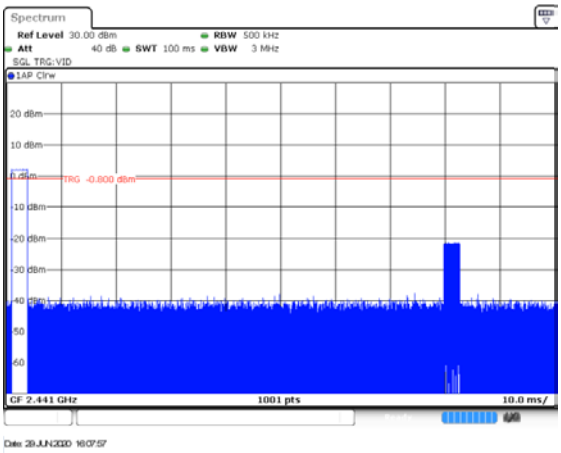
Appendix F：Dwell Time

Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
	DH5	2.88	117.00	0.34	≤ 0.40	PASS

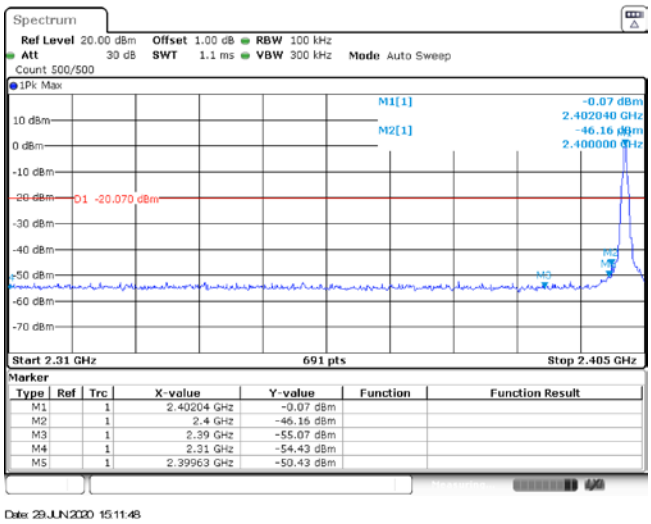
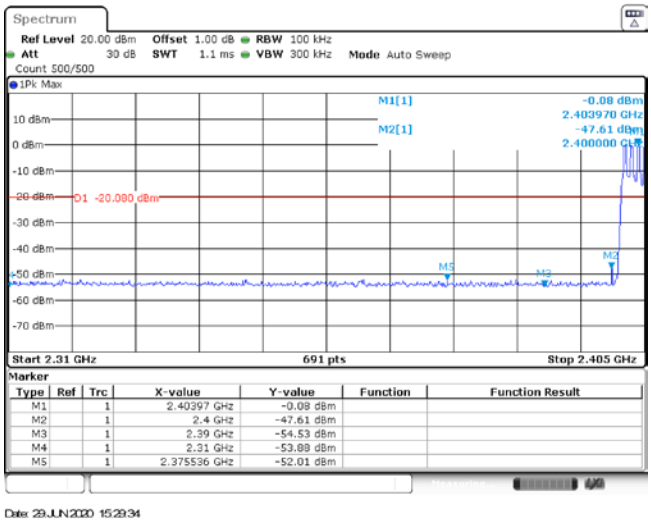
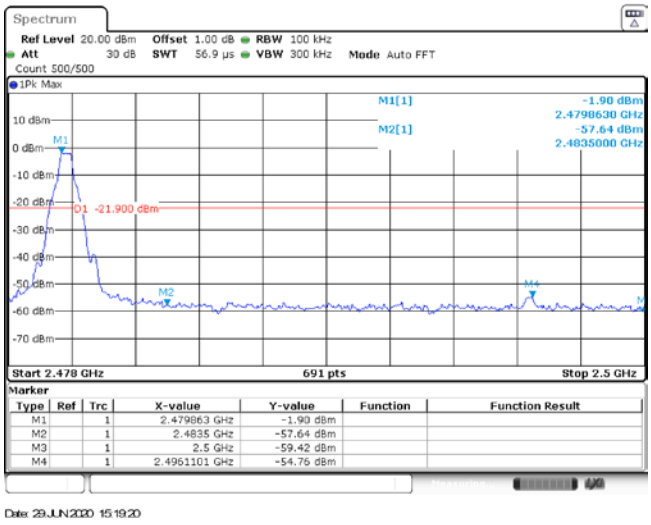
Modulation Type:	**GFSK**
DH5 Burst width	
DH5 Burst number	

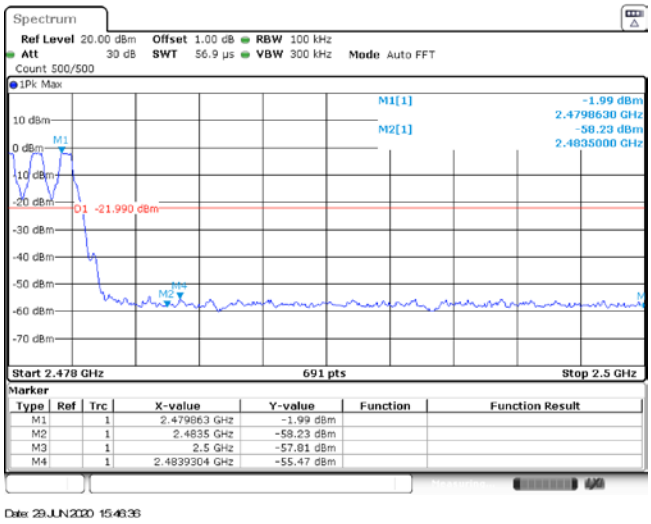
Appendix G：Duty Cycle Correction Factor (DCCF)

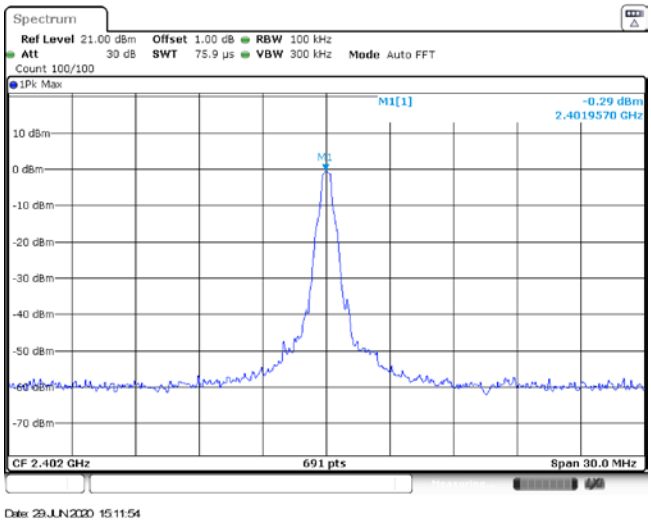
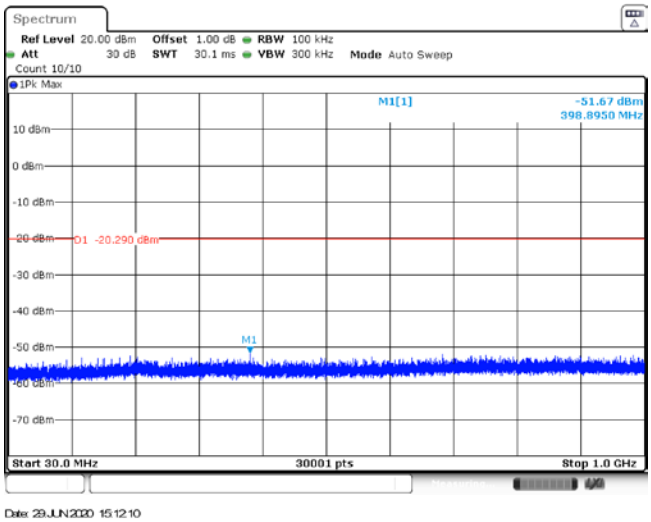
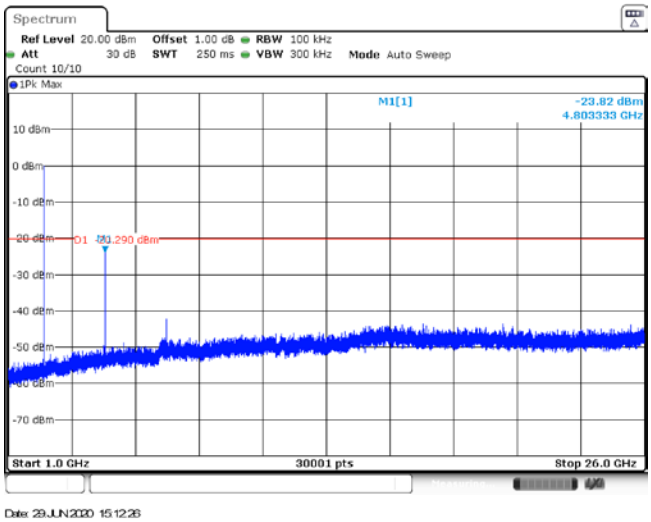
DCCF Calculate Formula					
DCCF=20 * Log(duty cycle) = 20 * Log($T_{on\ time}$ / T_{period})					
Modulation type	Test Frequency（MHz）	$T_{on\ time}$ for single burst [ms]	T_{period} [ms]	Burst Quantity	DCCF [dB]
GFSK	2441	2.87	100	2.00	-24.82

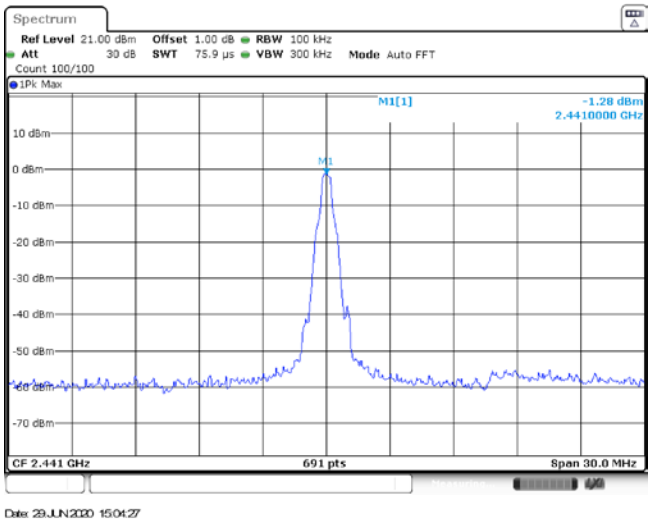
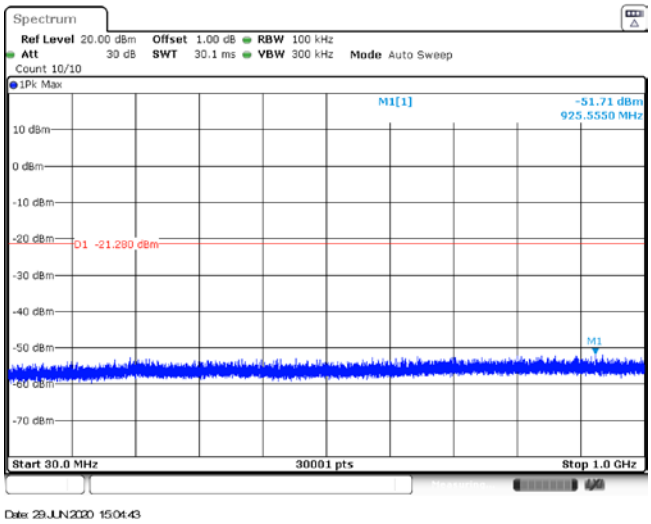
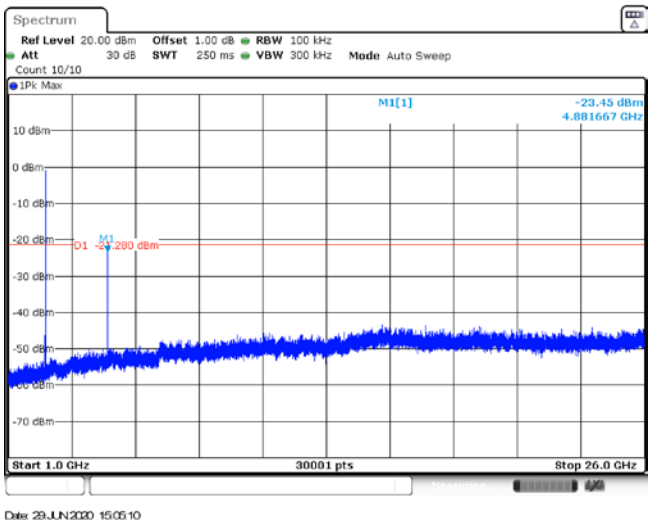
GFSK	
	
$T_{on\ time}$ for single burst	Burst Quantity

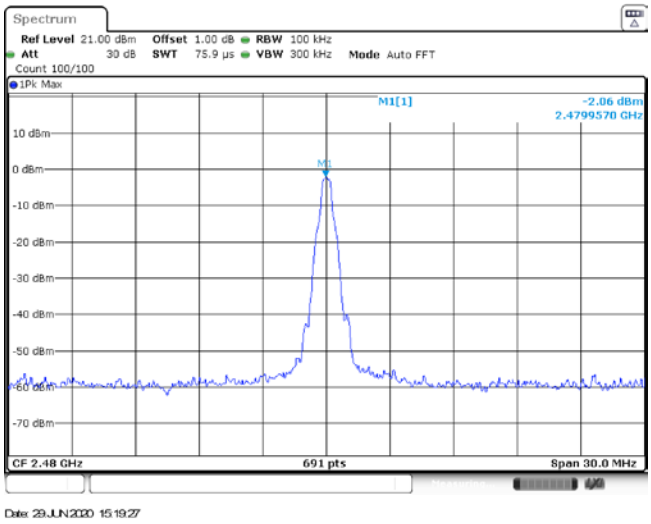
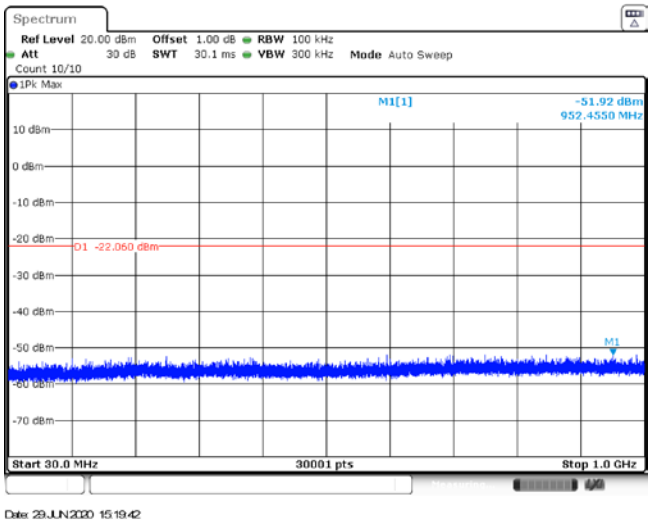
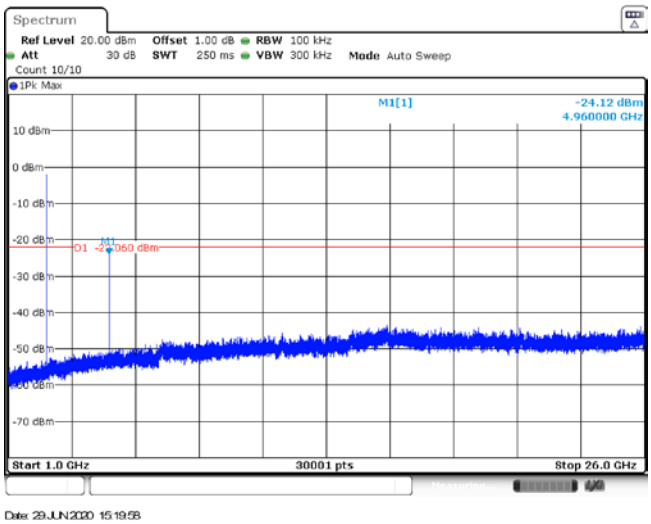
Appendix H：Band edge and Spurious Emissions (conducted)

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

CH78 Hopping mode	

Test Item:	Spurious Emission	Modulation type:	GFSK
CH00 Reference level			
CH00 30MHz~1000MHz			
CH00 1GHz~26GHz			

CH39 Reference level	
CH39 30MHz~1000MHz	
CH39 1GHz~26GHz	

CH78 Reference level	
CH78 30MHz~1000MHz	
CH78 1GHz~26GHz	

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