

APPENDIX REPORT

Project No.	SHT2203115005EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT22031150007	Model No.	GT20
Start test date	2022-05-11	Finish date	2022-05-11
Temperature	24.2℃	Humidity	44%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

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

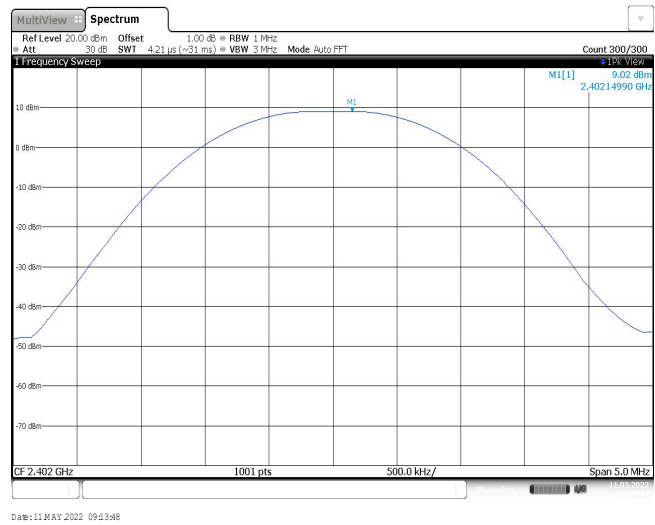
Appendix A: Peak Output Power

Modulation type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
GFSK	00	9.02	9.00	≤ 30.00	Pass
	39	9.82	9.81		
	78	9.09	9.06		
$\pi/4$ DQPSK	00	9.69	9.30	≤ 21.00	Pass
	39	10.72	10.25		
	78	9.97	9.55		
8DPSK	00	9.74	9.34	≤ 21.00	Pass
	39	10.85	10.35		
	78	10.05	9.58		

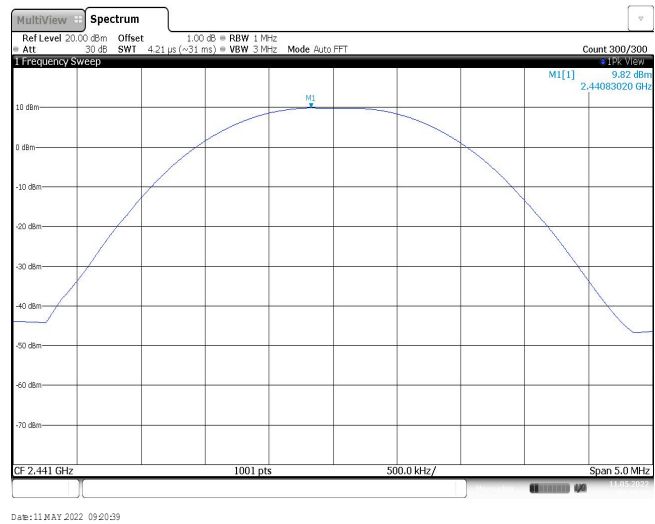
Modulation Type:

GFSK

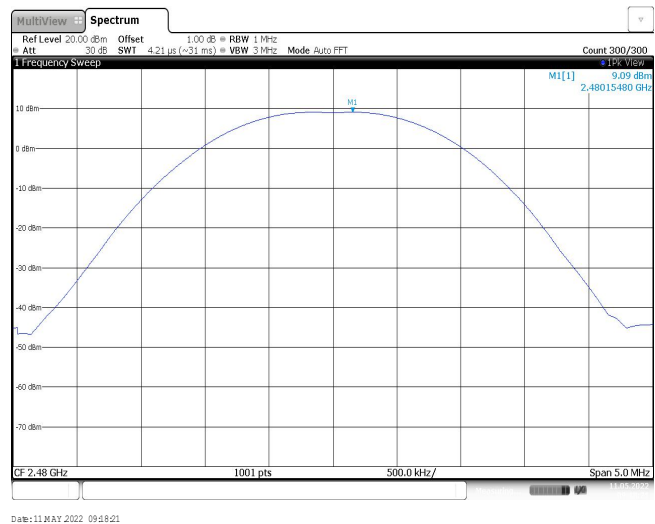
CH00



CH39



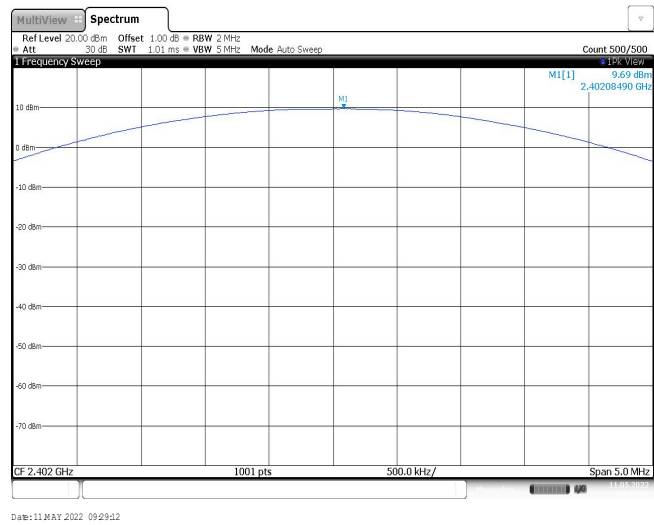
CH78



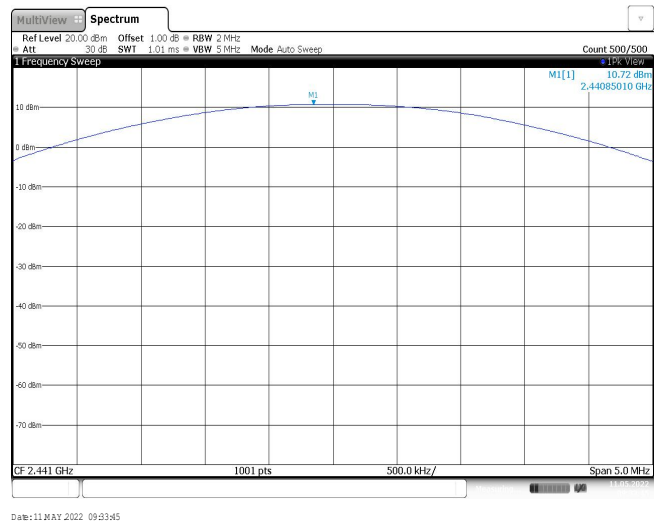
Modulation Type:

 $\pi/4$ DQPSK

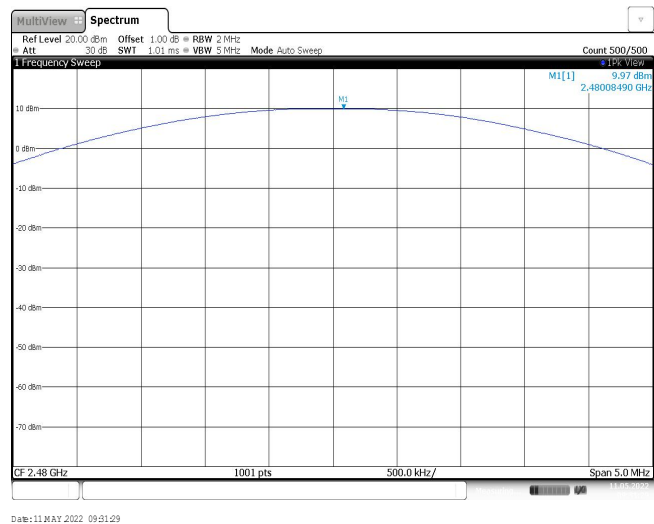
CH00



CH39



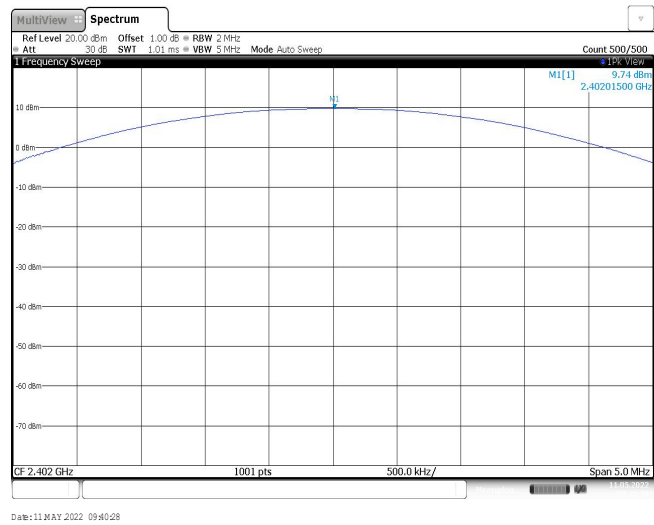
CH78



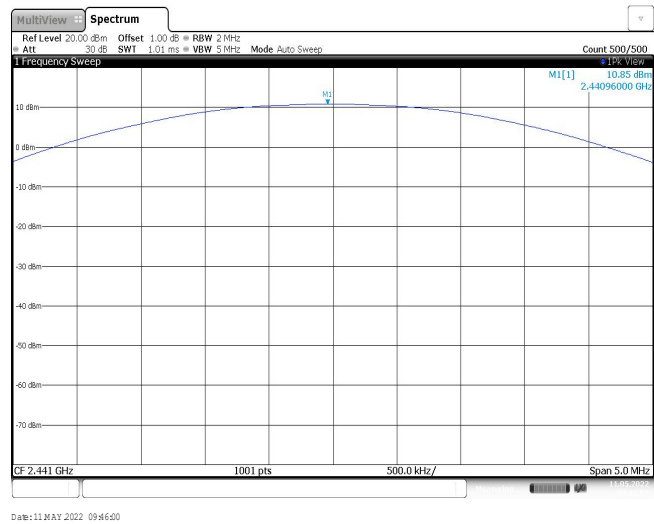
Modulation Type:

8DPSK

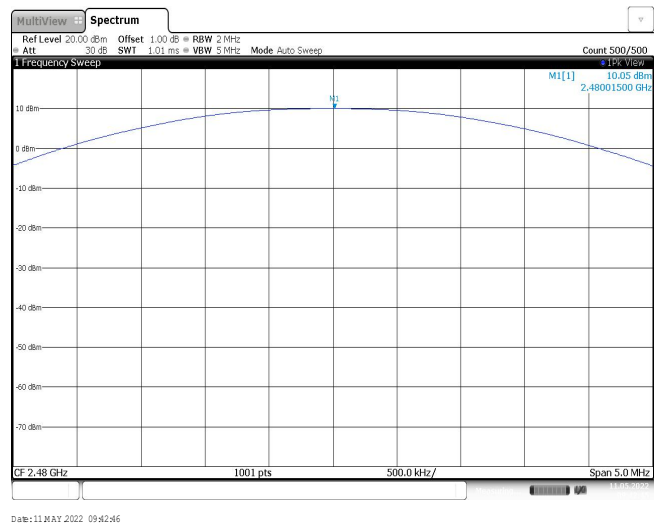
CH00



CH39



CH78



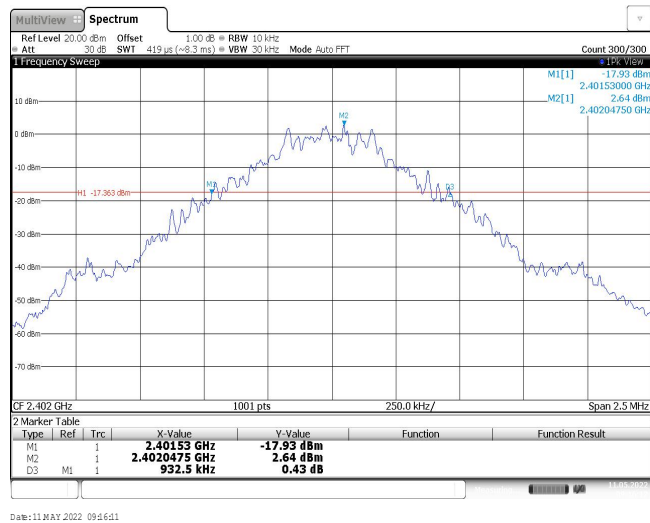
Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	932.50	-	Pass
	39	932.50		
	78	932.50		
$\pi/4$ DQPSK	00	1322.50	-	Pass
	39	1307.50		
	78	1305.00		
8DPSK	00	1305.00	-	Pass
	39	1300.00		
	78	1310.00		

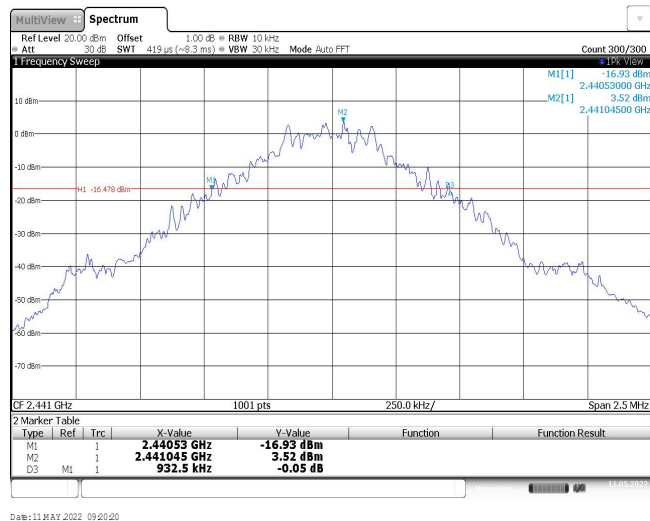
Modulation Type:

GFSK

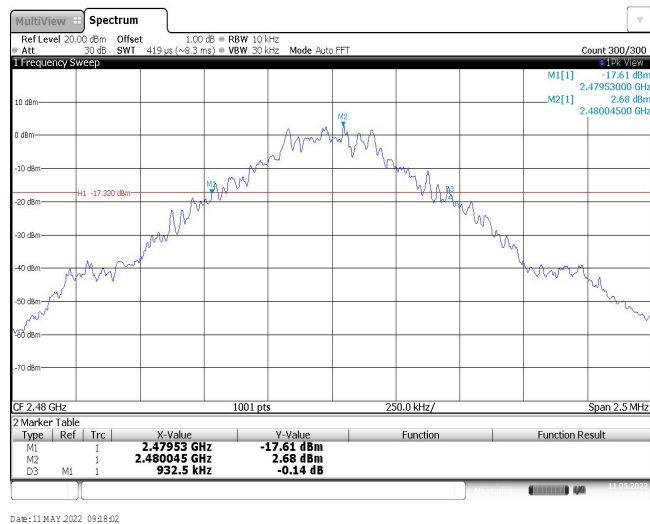
CH00



CH39



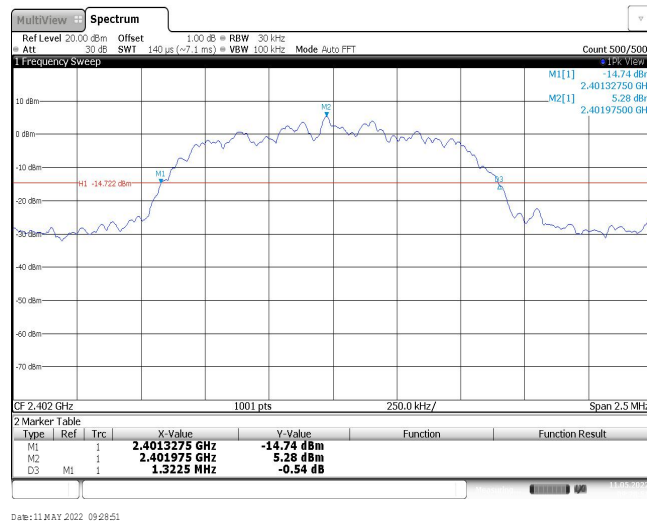
CH78



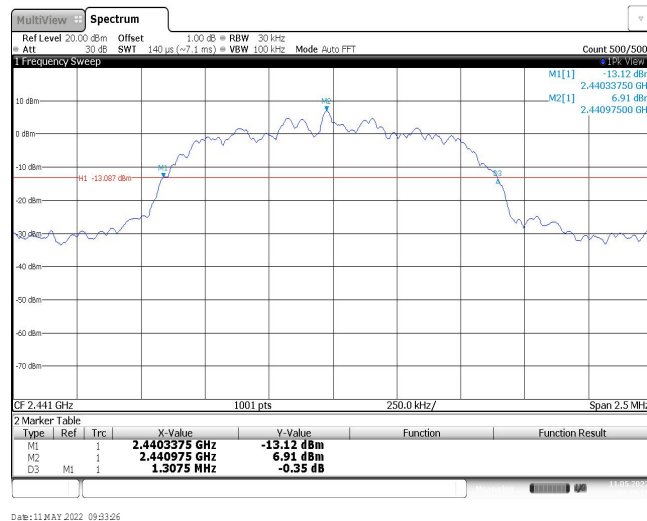
Modulation Type:

 $\pi/4$ DQPSK

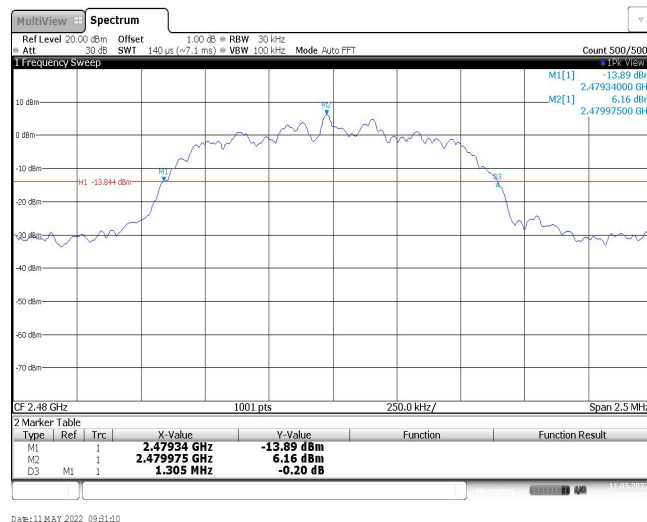
CH00



CH39



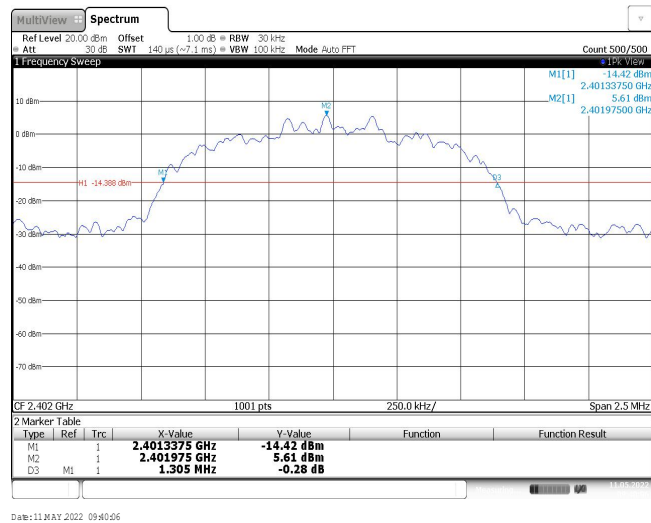
CH78



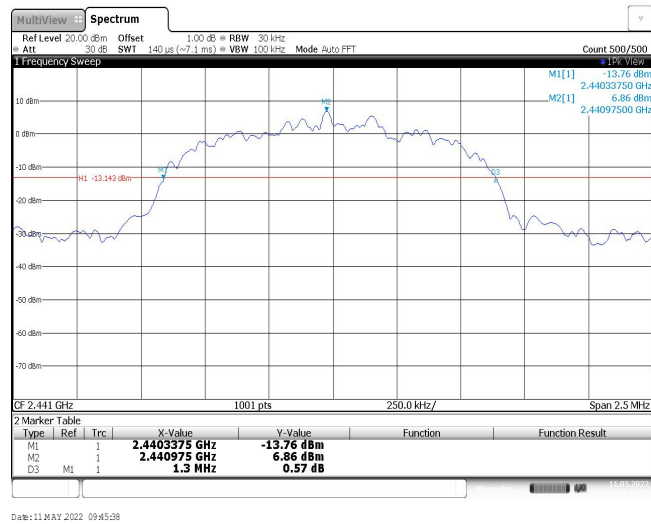
Modulation Type:

8DPSK

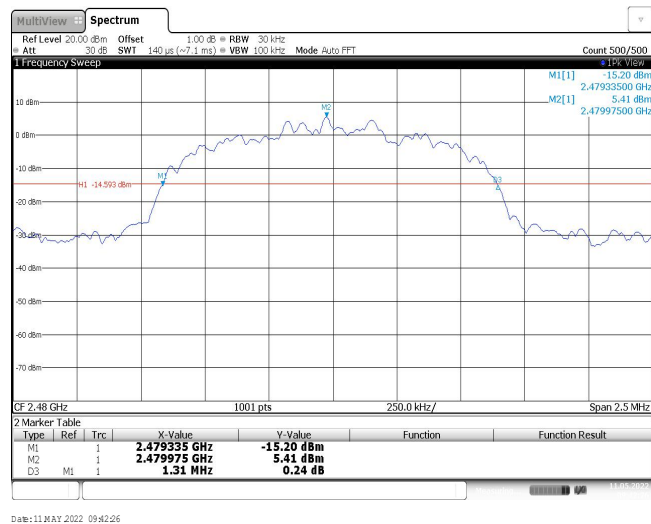
CH00



CH39



CH78



Appendix C: 99% Occupied Bandwidth

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.89	-	Pass
	39	0.90		
	78	0.90		
$\pi/4$ DQPSK	00	1.20	-	Pass
	39	1.19		
	78	1.19		
8DPSK	00	1.21	-	Pass
	39	1.20		
	78	1.20		

Modulation Type:

GFSK

CH00



Date: 11 MAY 2022 09:46:20

CH39



Date: 11 MAY 2022 09:20:30

CH78



Date: 11 MAY 2022 09:48:10

Modulation Type:

 $\pi/4$ DQPSK

CH00



CH39



CH78



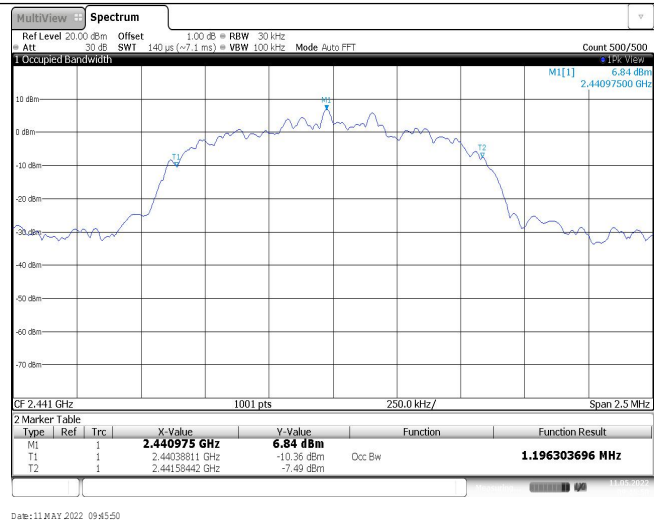
Modulation Type:

8DPSK

CH00



CH39



CH78



Appendix D: Carrier Frequencies Separation

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥932.50	Pass
π/4DQPSK	39	1.00	≥881.67	Pass
8DPSK	39	1.00	≥873.33	Pass

Note:

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

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

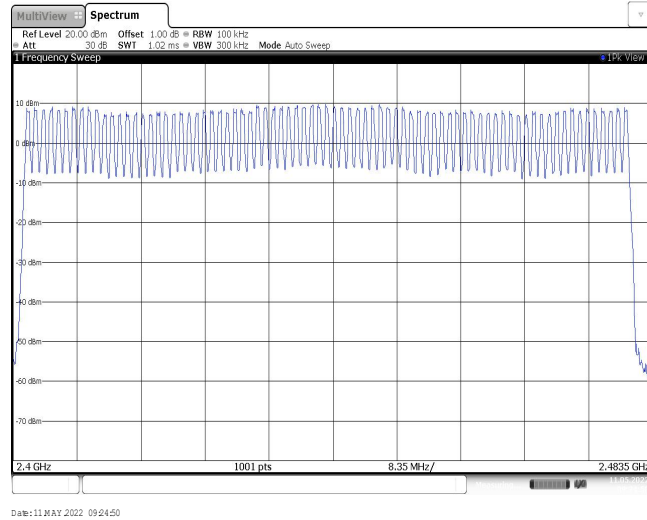
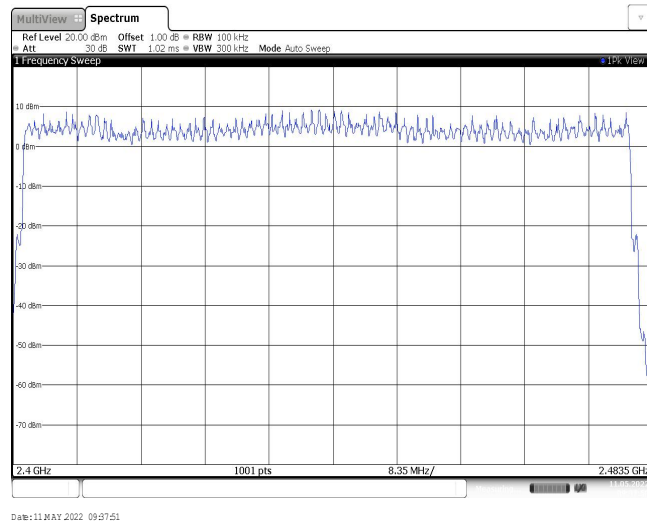
8DPSK limit = $\frac{2}{3}$ * The maximum 20 dB Bandwidth for 8DPSK modulation on the appendix B

Appendix report page: 15 of 41

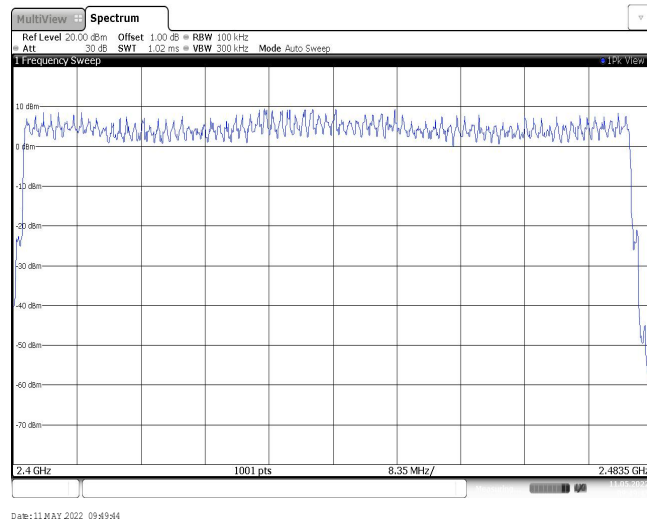
Appendix E: Hopping Channel Number

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

GFSK

 $\pi/4$ DQPSK

8DPSK

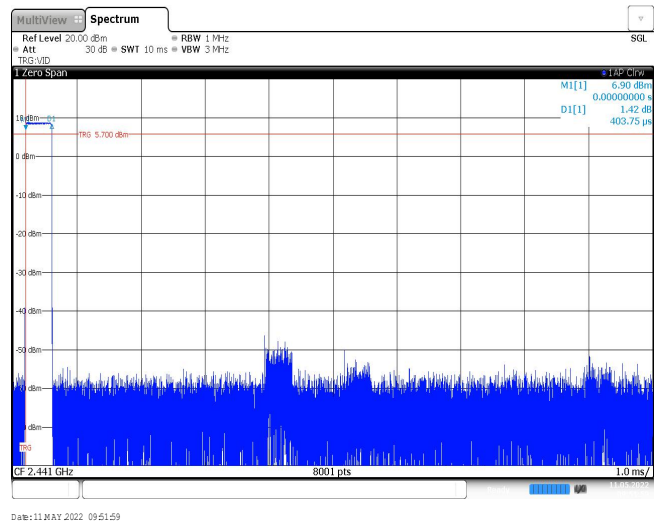
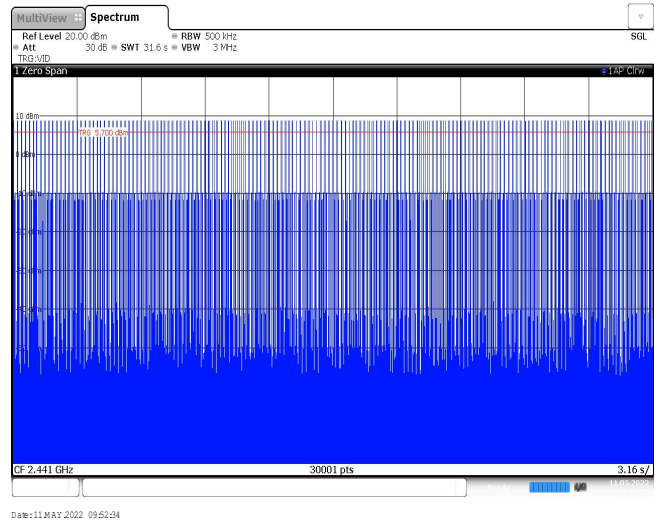
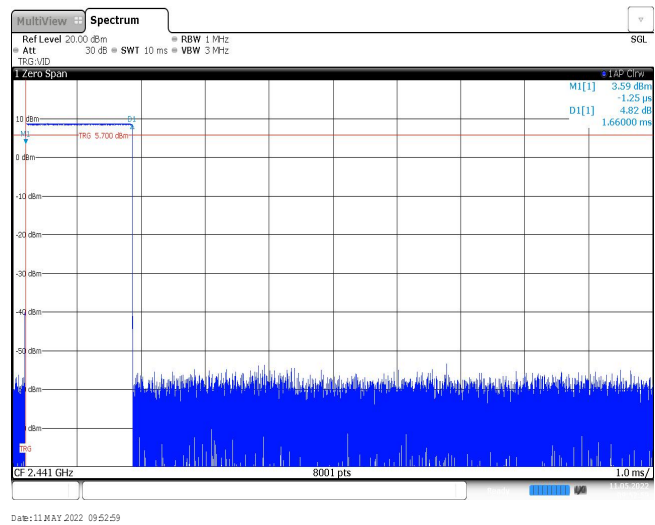


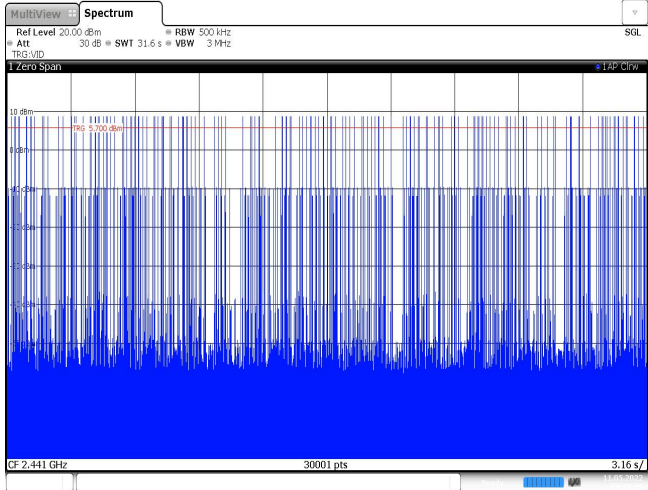
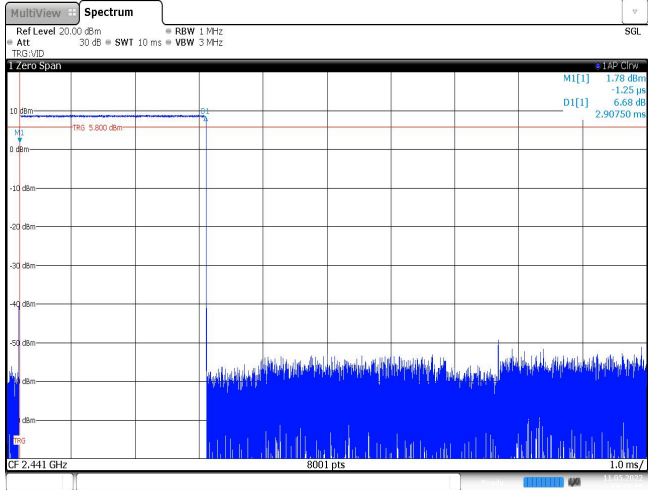
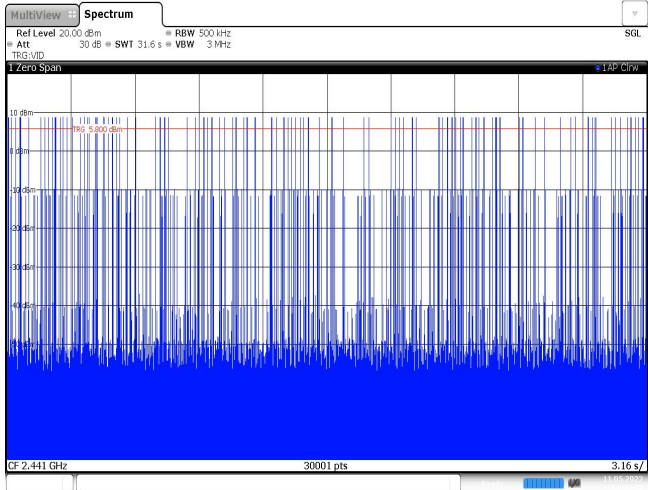
Appendix F: Dwell Time

Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.40	321	0.13	≤ 0.40	Pass
	DH3	1.66	157	0.26		
	DH5	2.91	113	0.33		
$\pi/4$ DQPSK	2DH1	0.40	320	0.13	≤ 0.40	Pass
	2DH3	1.65	152	0.25		
	2DH5	2.90	103	0.30		
8DPSK	3DH1	0.39	315	0.12	≤ 0.40	Pass
	3DH3	1.65	169	0.28		
	3DH5	2.90	108	0.31		

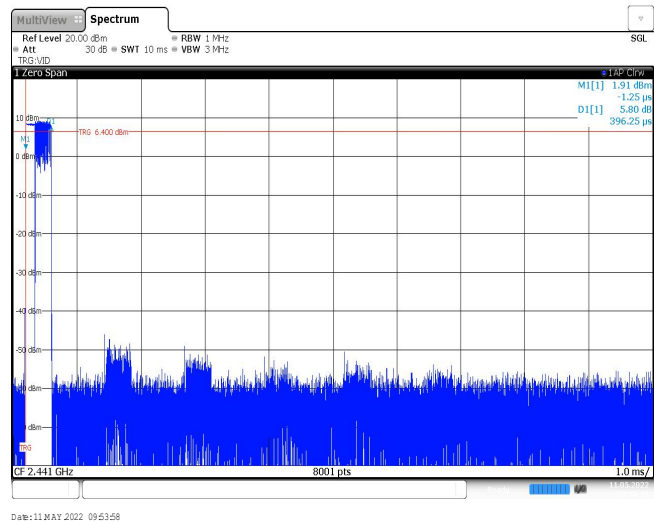
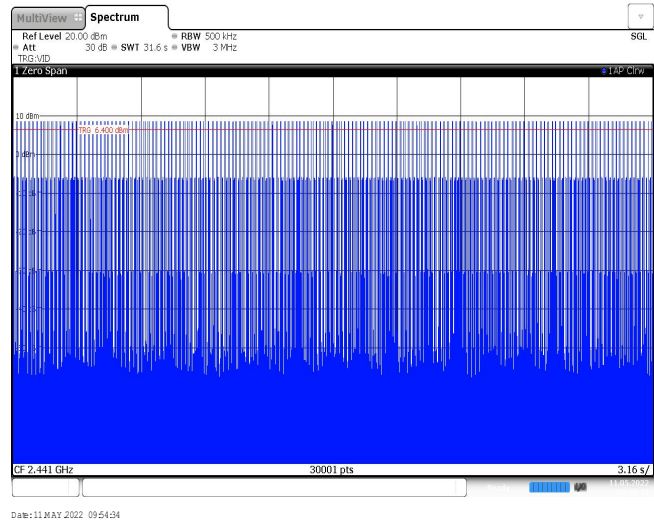
Modulation Type:

GFSK

DH1
Burst widthDH1
Burst numberDH3
Burst width

DH3 Burst number	 The screenshot shows a spectrum analyzer interface with the title 'Spectrum'. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, centered at 2.441 GHz. A red horizontal line is drawn at approximately 10 dBm. The plot shows a dense, noisy signal across the entire frequency range. The status bar at the bottom indicates 'CF 2.441 GHz', '30001 pts', and '3.16 s'.
DH5 Burst width	 The screenshot shows a spectrum analyzer interface with the title 'Spectrum'. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, centered at 2.441 GHz. A red horizontal line is drawn at approximately 10 dBm. The plot shows a dense, noisy signal across the entire frequency range. The status bar at the bottom indicates 'CF 2.441 GHz', '8001 pts', and '1.0 ms'.
DH5 Burst number	 The screenshot shows a spectrum analyzer interface with the title 'Spectrum'. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in GHz, centered at 2.441 GHz. A red horizontal line is drawn at approximately 10 dBm. The plot shows a dense, noisy signal across the entire frequency range. The status bar at the bottom indicates 'CF 2.441 GHz', '30001 pts', and '3.16 s'.

Modulation Type:

 $\pi/4$ DQPSK2DH1
Burst width2DH1
Burst number2DH3
Burst width