

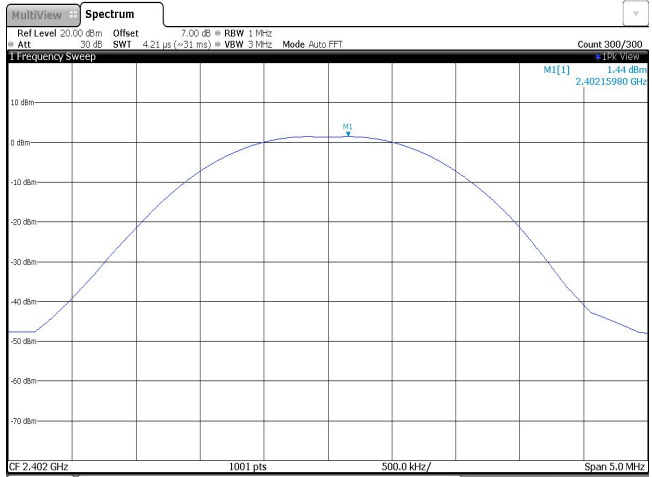
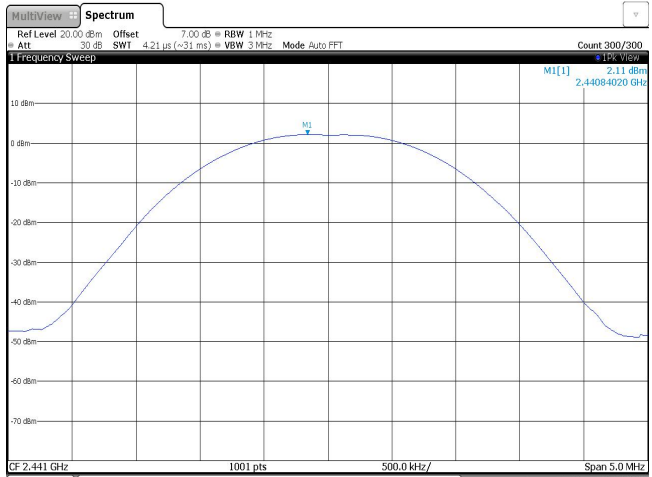
APPENDIX REPORT

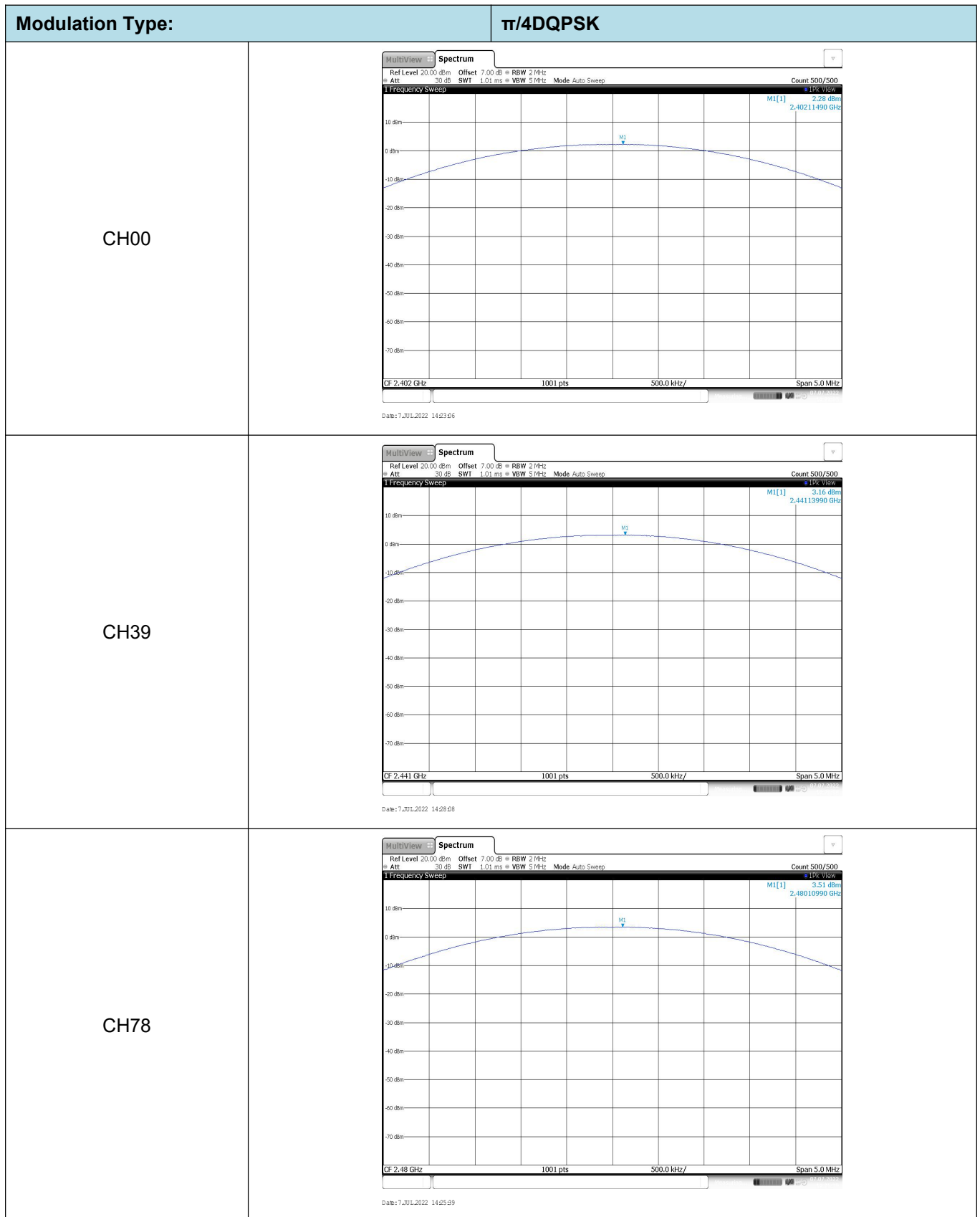
Project No.	SHT2206096801EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT22060968002	Model No.	S301A
Start test date	2022-07-07	Finish date	2022-07-07
Temperature	25.2℃	Humidity	33%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

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	1.44	1.40	≤ 30.00	Pass
	39	2.11	1.93		
	78	2.48	2.44		
$\pi/4$ DQPSK	00	2.28	1.72	≤ 21.00	Pass
	39	3.16	2.66		
	78	3.51	2.98		
8DPSK	00	3.13	2.50	≤ 21.00	Pass
	39	4.02	3.39		
	78	4.42	3.82		

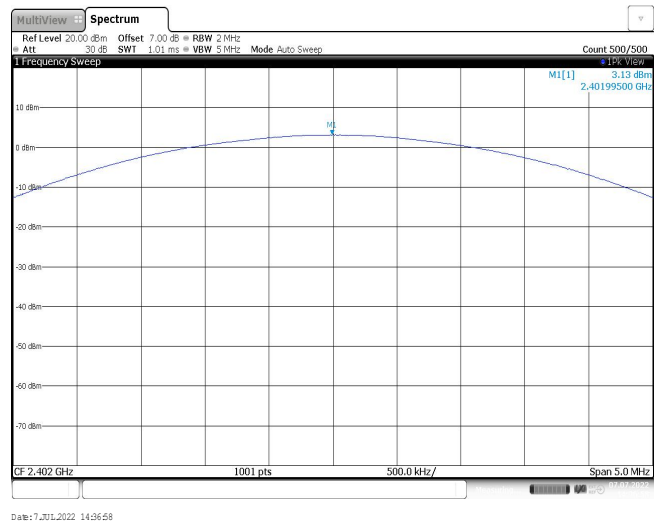
Modulation Type:	GFSK
CH00	 MultiView Spectrum Ref Level 20.00 dBm Offset 7.00 dB RBW 1 MHz Att 30 dB SWI 4.21 us (<31 ms) VBW 3 MHz Mode Auto FFT Count 300/300 1 Frequency Sweep M1 1.44 dBm 2.40215980 GHz CF 2.402 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 7 JUL 2022 13:56:11
CH39	 MultiView Spectrum Ref Level 20.00 dBm Offset 7.00 dB RBW 1 MHz Att 30 dB SWI 4.21 us (<31 ms) VBW 3 MHz Mode Auto FFT Count 300/300 1 Frequency Sweep M1 2.11 dBm 2.44084020 GHz CF 2.441 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 7 JUL 2022 14:01:40
CH78	 MultiView Spectrum Ref Level 20.00 dBm Offset 7.00 dB RBW 1 MHz Att 30 dB SWI 4.21 us (<31 ms) VBW 3 MHz Mode Auto FFT Count 300/300 1 Frequency Sweep M1 2.48 dBm 2.48015980 GHz CF 2.48 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 7 JUL 2022 13:58:49



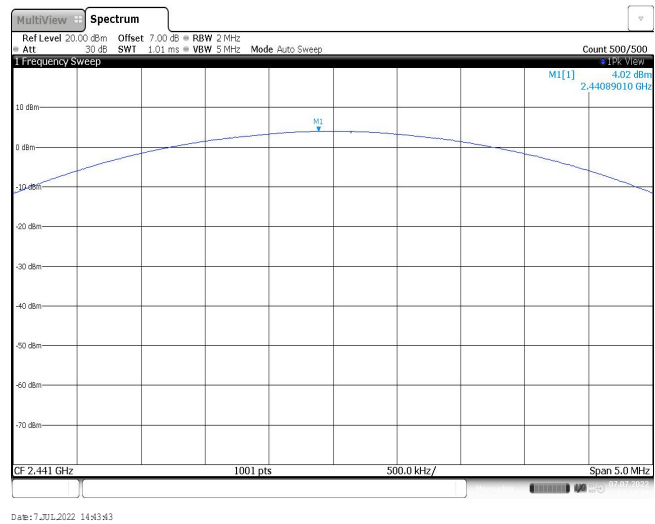
Modulation Type:

8DPSK

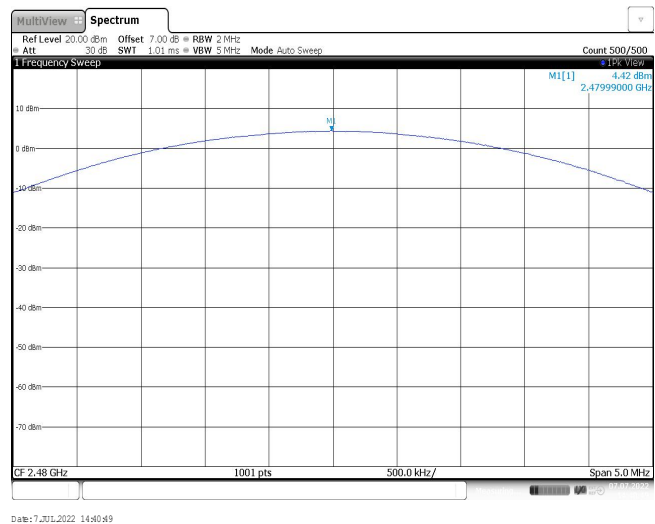
CH00



CH39



CH78



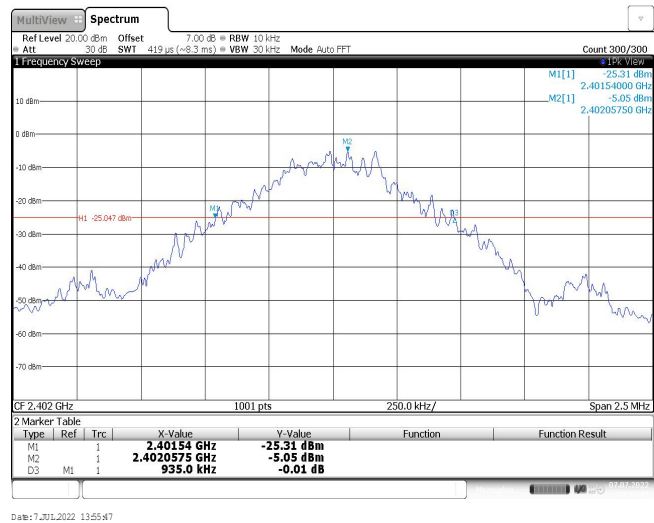
Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	935.00	-	Pass
	39	935.00		
	78	935.00		
$\pi/4$ DQPSK	00	1340.00	-	Pass
	39	1335.00		
	78	1337.50		
8DPSK	00	1332.50	-	Pass
	39	1332.50		
	78	1332.50		

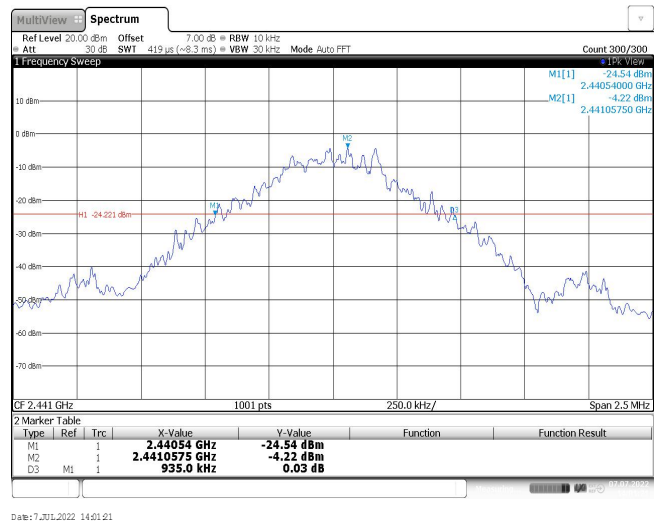
Modulation Type:

GFSK

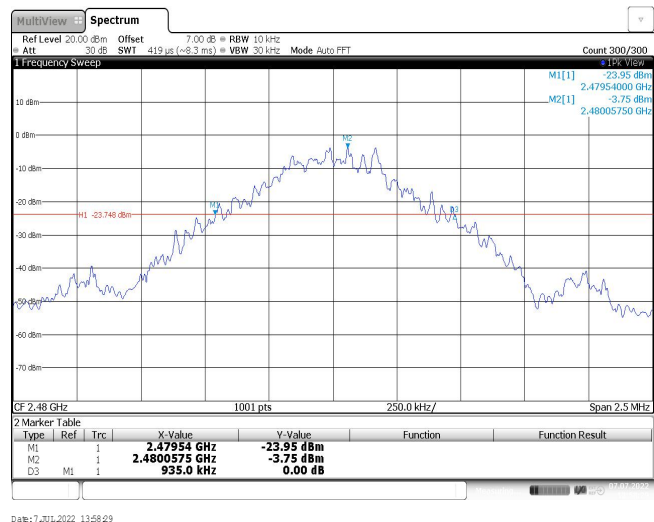
CH00



CH39



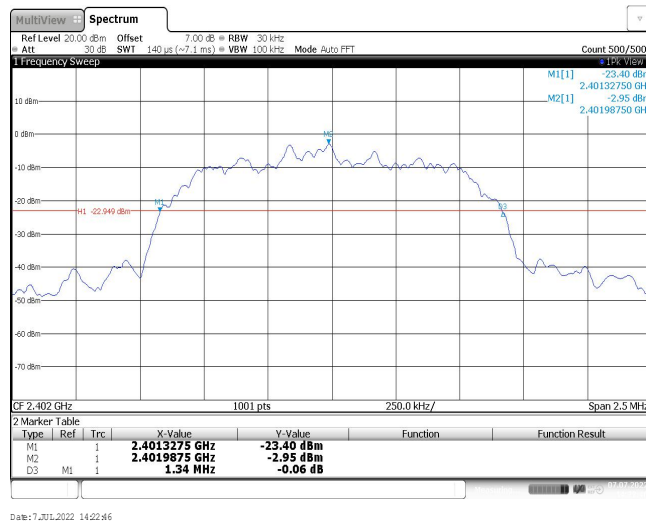
CH78



Modulation Type:

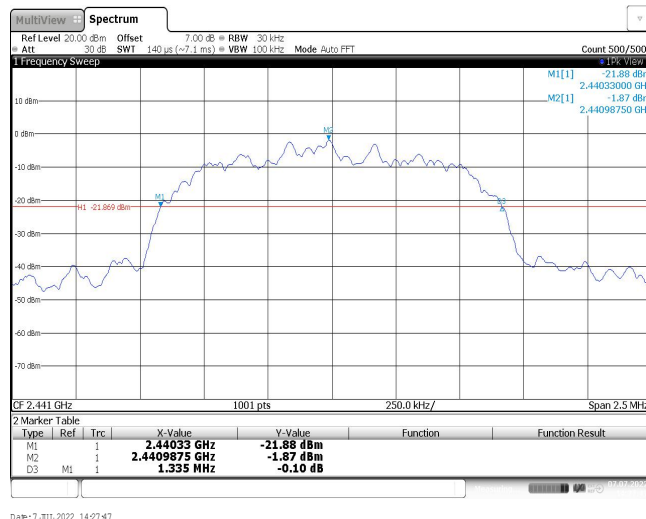
 $\pi/4$ DQPSK

CH00



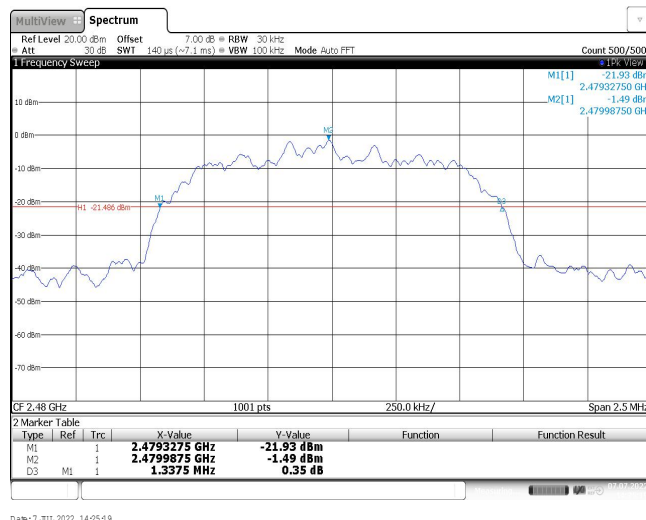
Date: 7 JUL 2022 14:22:46

CH39



Date: 7 JUL 2022 14:27:47

CH78

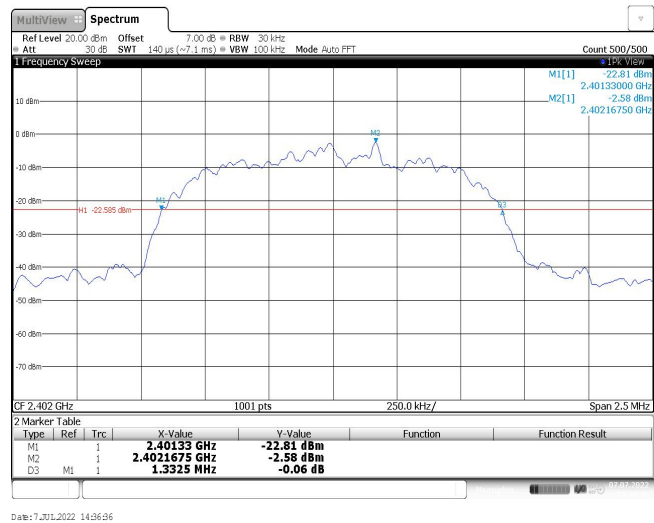


Date: 7 JUL 2022 14:25:19

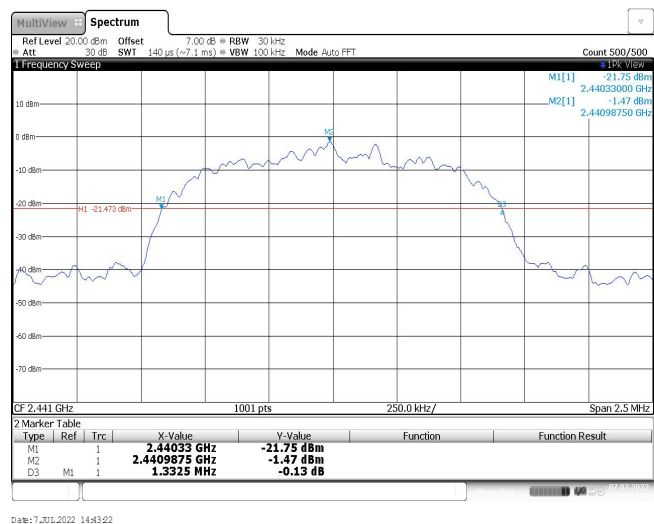
Modulation Type:

8DPSK

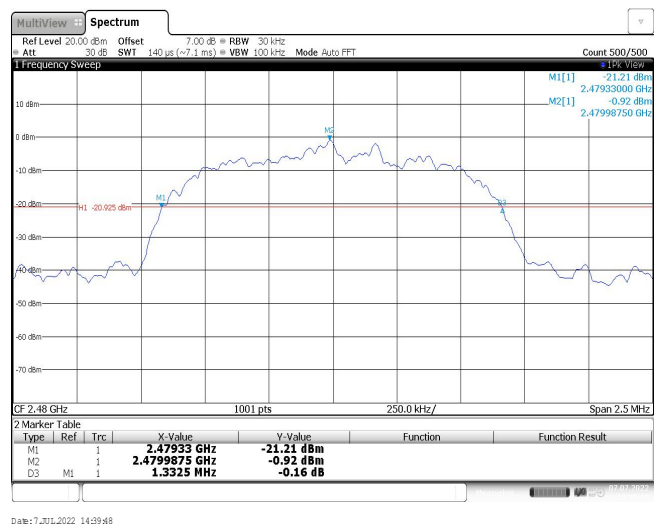
CH00



CH39



CH78



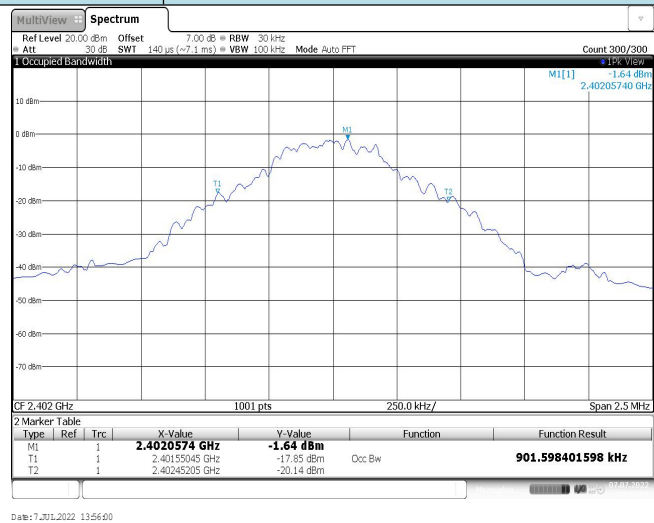
Appendix C: 99% Occupied Bandwidth

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

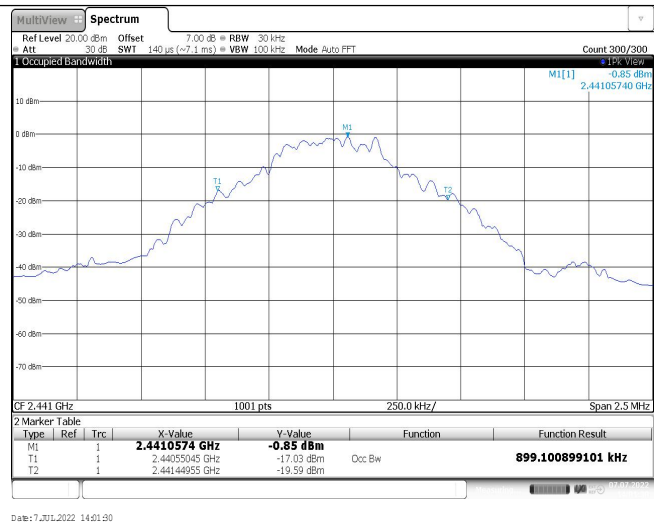
Modulation Type:

GFSK

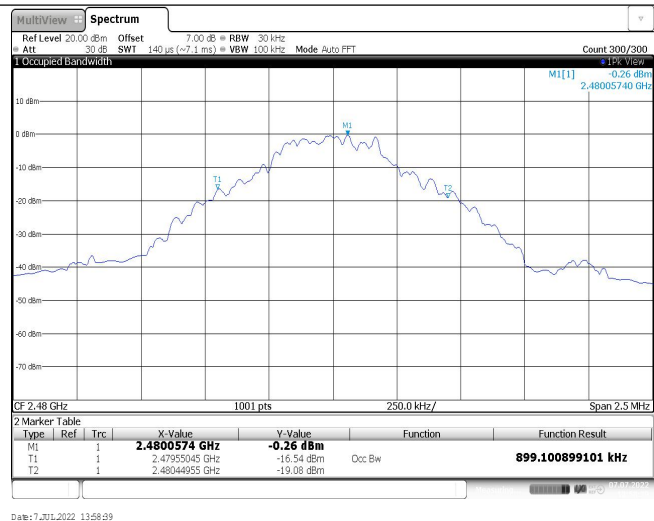
CH00



CH39



CH78



Modulation Type:

 $\pi/4$ DQPSK

CH00



Date: 7/01/2022 14:22:55

CH39



Date: 7/01/2022 14:27:57

CH78



Date: 7/01/2022 14:25:29

Modulation Type:

8DPSK

CH00



Date: 7/01/2022 14:36:47

CH39



Date: 7/01/2022 14:33:31

CH78



Date: 7/01/2022 14:39:57

Appendix D: Carrier Frequencies Separation

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥935.00	Pass
π/4DQPSK	39	1.00	≥893.33	Pass
8DPSK	39	1.00	≥888.33	Pass

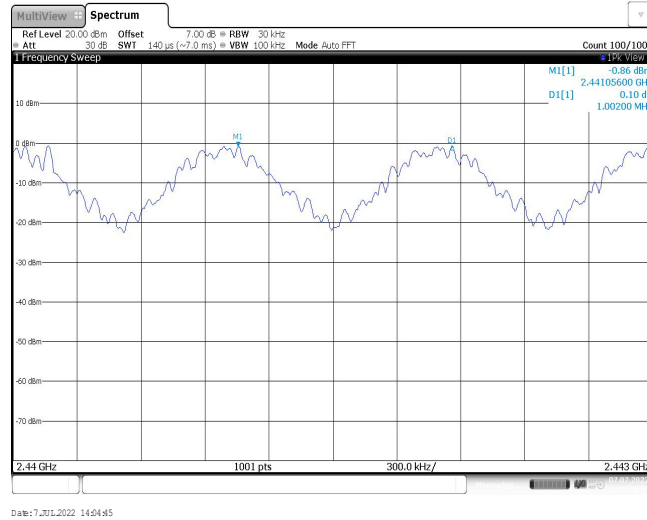
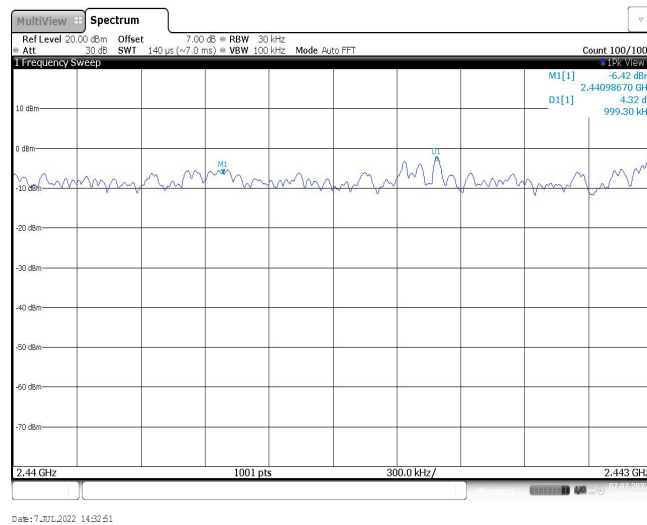
Note:

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

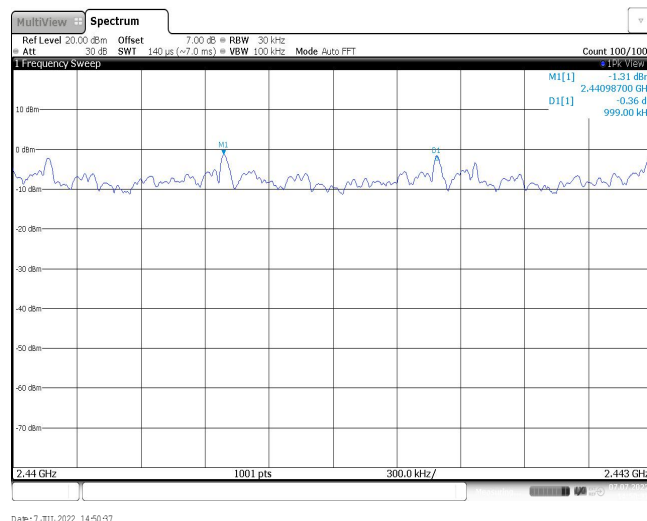
π/4DQPSK limit = 2/3 * The maximum 20 dB Bandwidth for π/4DQPSK modulation on the appendix B.

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

GFSK

 $\pi/4$ DQPSK

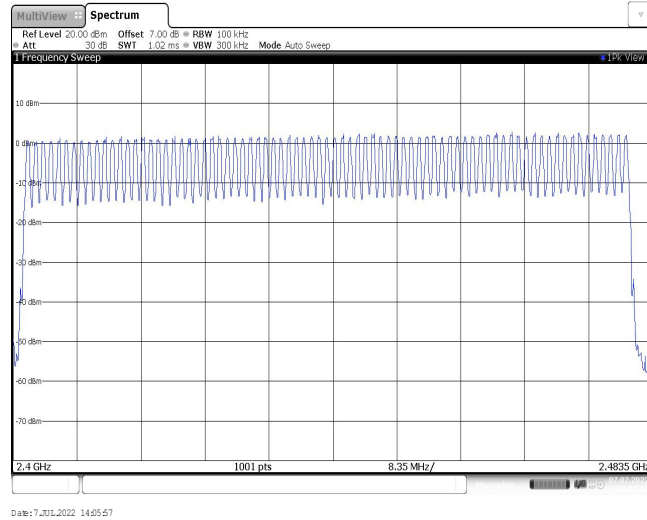
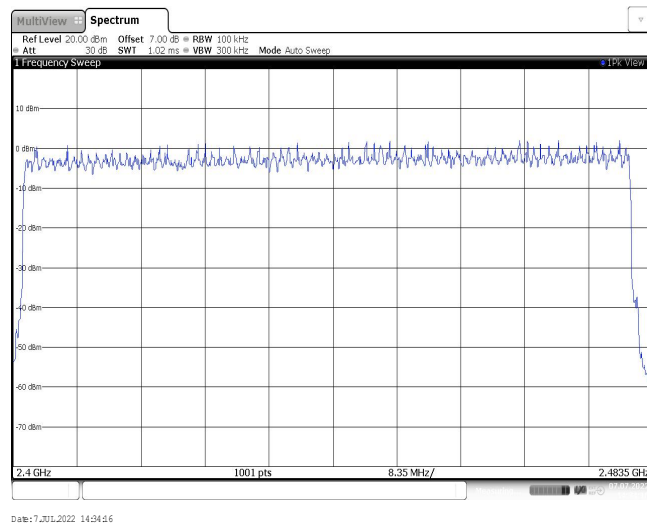
8DPSK



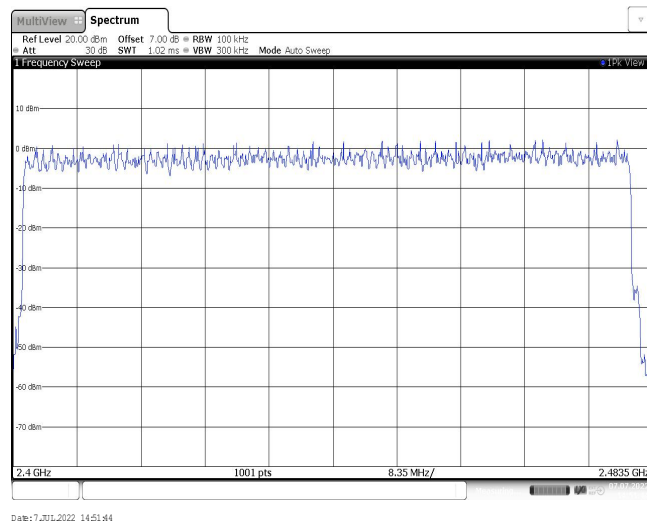
Appendix E: Hopping Channel Number

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

GFSK

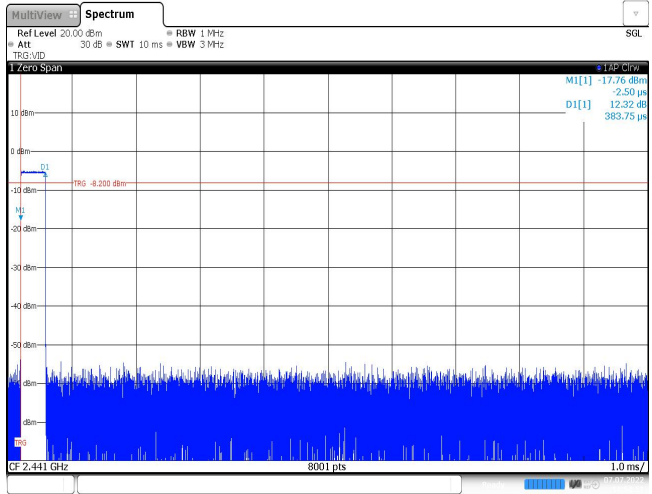
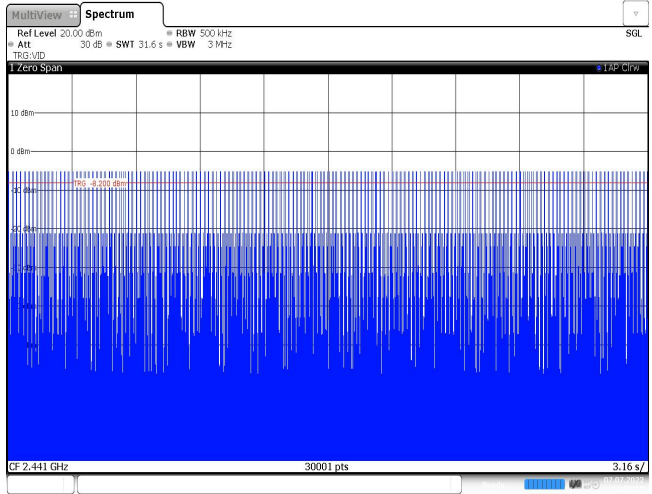
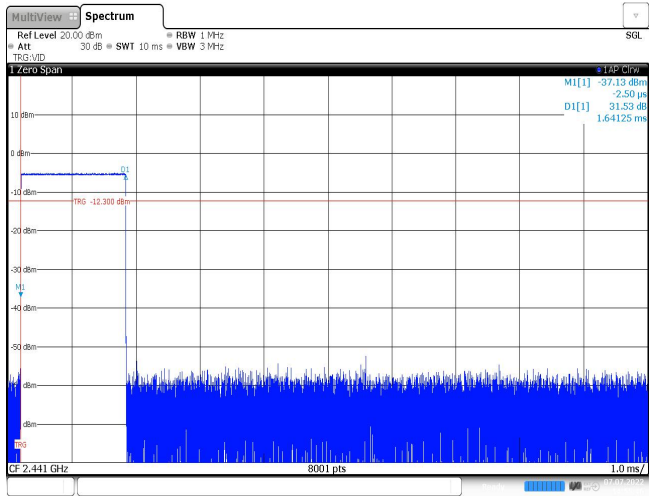
 $\pi/4$ DQPSK

8DPSK

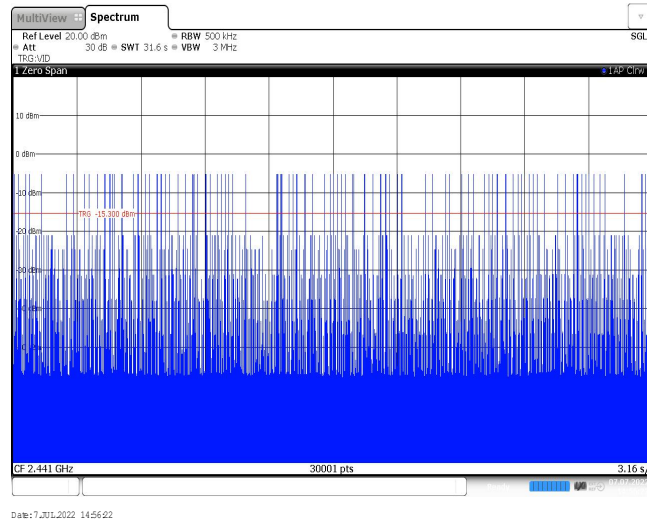


Appendix F: Dwell Time

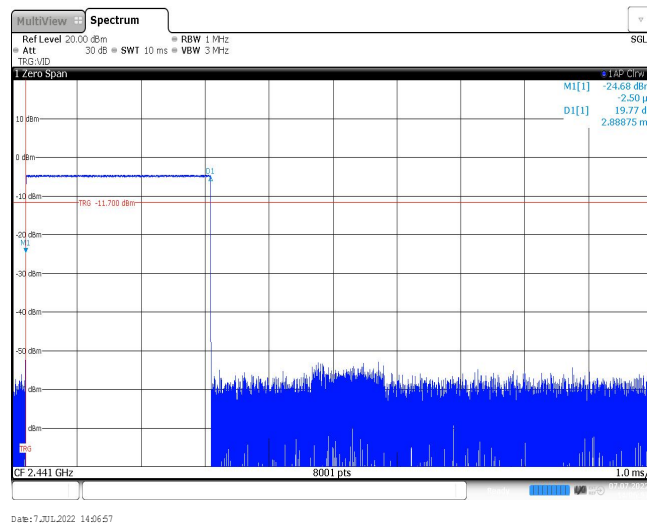
Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.38	321	0.12	≤ 0.40	Pass
	DH3	1.64	105	0.17		
	DH5	2.89	61	0.18		
$\pi/4$ DQPSK	2DH1	0.38	316	0.12	≤ 0.40	Pass
	2DH3	1.64	100	0.16		
	2DH5	2.88	64	0.19		
8DPSK	3DH1	0.38	319	0.12	≤ 0.40	Pass
	3DH3	1.63	107	0.18		
	3DH5	2.88	64	0.19		

Modulation Type:	GFSK
DH1 Burst width	 The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -100 to 10. The x-axis represents time in ms, ranging from 0 to 1.0 ms. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M1[1] with a power of -17.75 dBm and a duration of 2.50 μs. The signal is also identified as D1[1] with a power of 12.32 dB and a duration of 383.75 μs. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 10 ms, RBW 1 MHz, VBW 3 MHz, TRG VID, and SGL. Date: 7 JUL 2022 14:54:51
DH1 Burst number	 The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 30001 pts. The y-axis represents power in dBm, ranging from -100 to 10. The x-axis represents time in s, ranging from 0 to 3.16 s. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M1[1] with a power of -37.13 dBm and a duration of 2.50 μs. The signal is also identified as D1[1] with a power of 31.53 dB and a duration of 1.64125 ms. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 31.6 s, RBW 500 Hz, VBW 3 MHz, TRG VID, and SGL. Date: 7 JUL 2022 14:55:28
DH3 Burst width	 The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -100 to 10. The x-axis represents time in ms, ranging from 0 to 1.0 ms. The plot shows a burst of signal at the start, followed by a period of low power. The signal is identified as M1[1] with a power of -37.13 dBm and a duration of 2.50 μs. The signal is also identified as D1[1] with a power of 31.53 dB and a duration of 1.64125 ms. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 10 ms, RBW 1 MHz, VBW 3 MHz, TRG VID, and SGL. Date: 7 JUL 2022 14:55:47

DH3
Burst number



DH5
Burst width



DH5
Burst number

