

APPENDIX REPORT

Project No.	SHT2302000902EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT23020009001	Model No.	8A.04.9.024.8320
Start test date	2023-02-15	Finish date	2023-02-16
Temperature	26℃	Humidity	29%
Test Engineer	Xiaoxiao 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

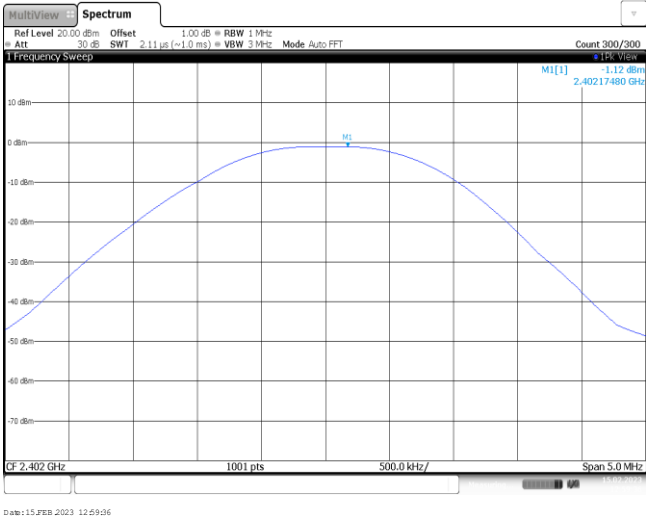
Appendix A: Peak Output Power

Modulation type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
GFSK	00	-1.12	-1.16	≤ 30.00	Pass
	39	-1.38	-1.40		
	78	-1.80	-1.81		
$\pi/4$ DQPSK	00	-1.08	-1.15	≤ 21.00	Pass
	39	-1.56	-1.59		
	78	-1.85	-1.94		
8DPSK	00	-1.10	-1.17	≤ 21.00	Pass
	39	-1.44	-1.50		
	78	-1.84	-1.92		

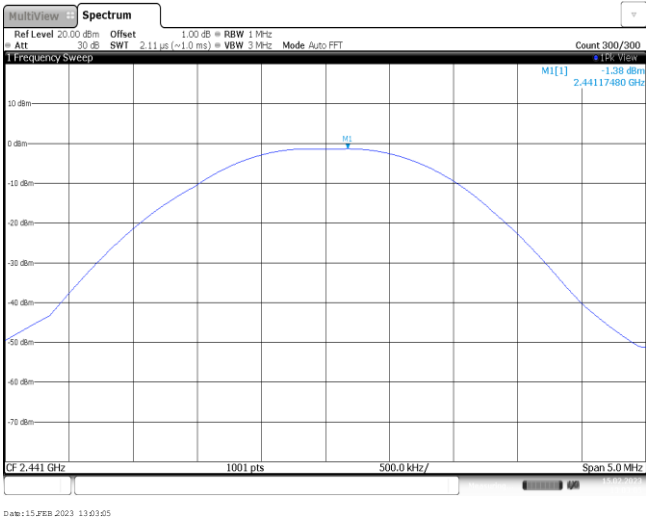
Modulation Type:

GFSK

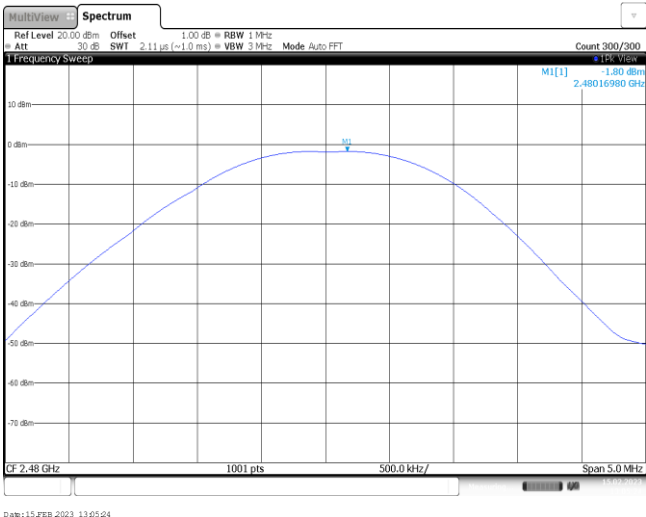
CH00



CH39



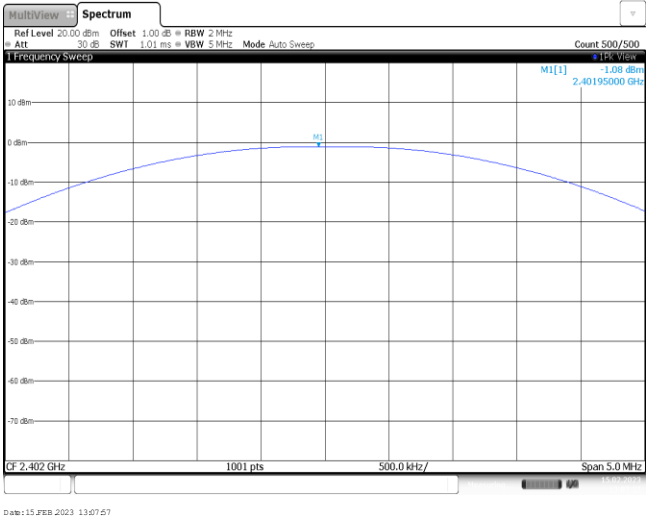
CH78



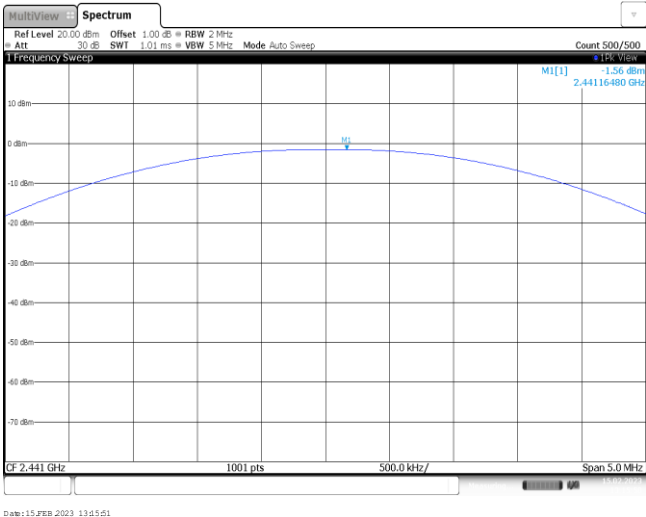
Modulation Type:

$\pi/4$ DQPSK

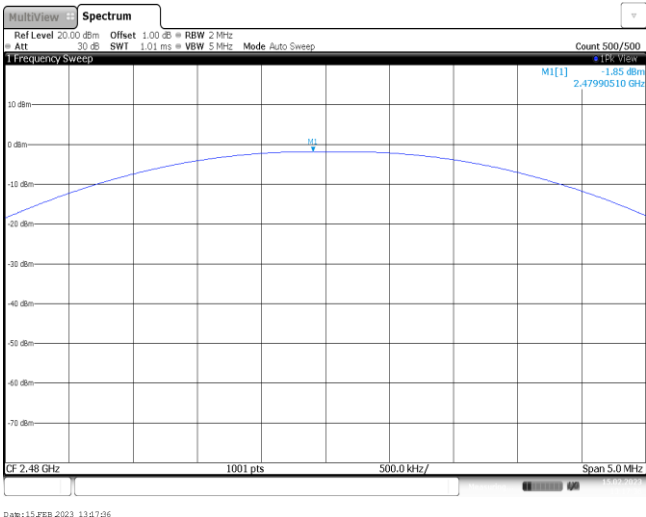
CH00



CH39



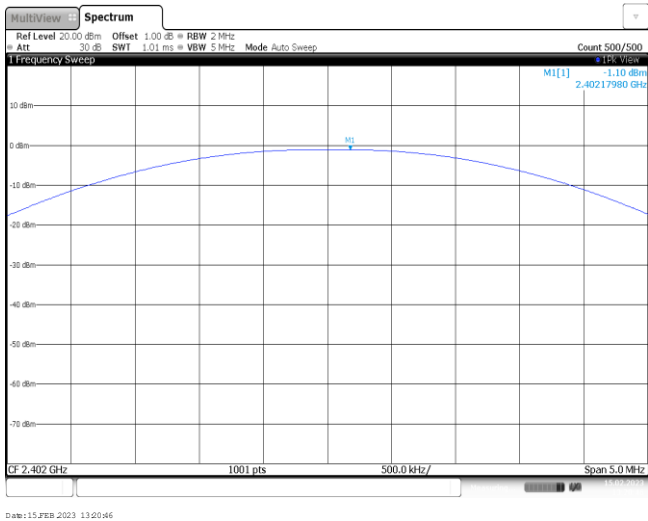
CH78



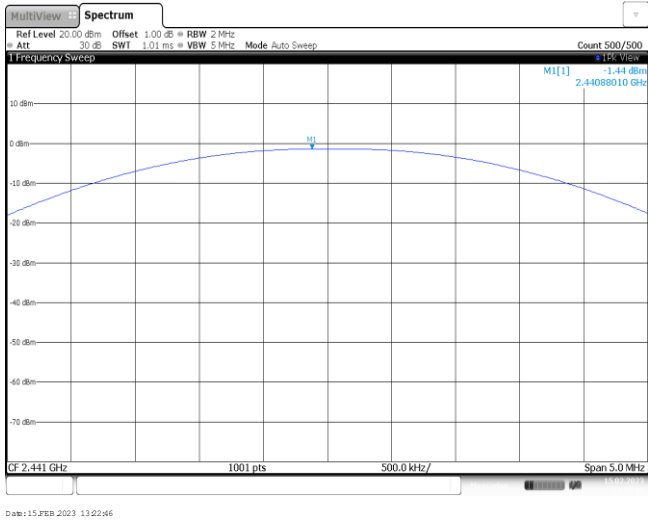
Modulation Type:

8DPSK

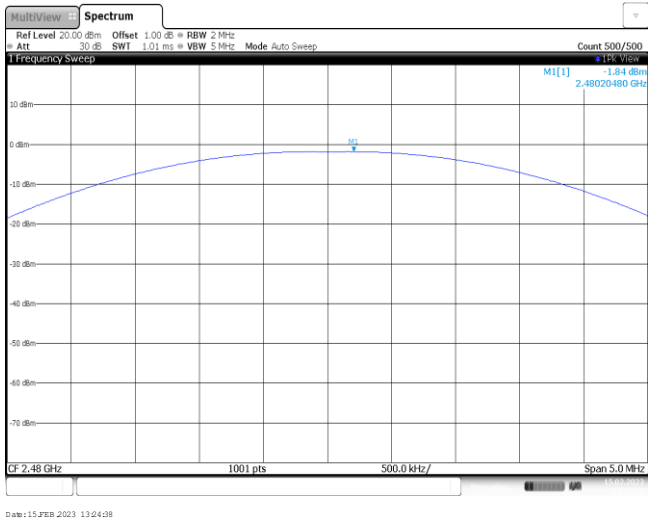
CH00



CH39



CH78



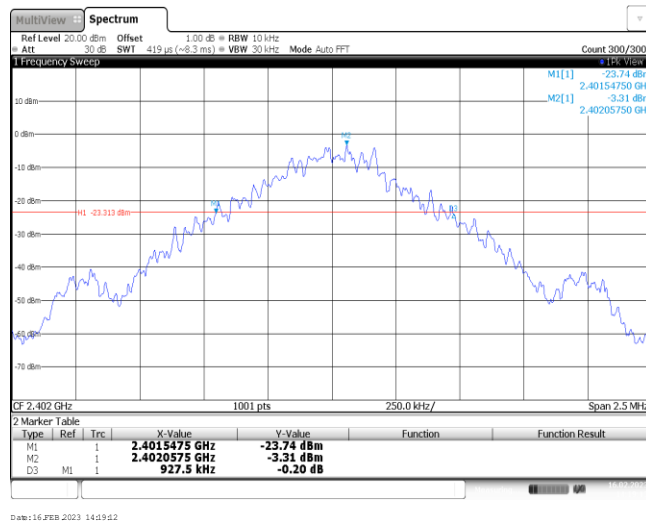
Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	927.50	-	Pass
	39	927.50		
	78	927.50		
$\pi/4$ DQPSK	00	1310.00	-	Pass
	39	1322.50		
	78	1307.50		
8DPSK	00	1285.00	-	Pass
	39	1252.50		
	78	1282.50		

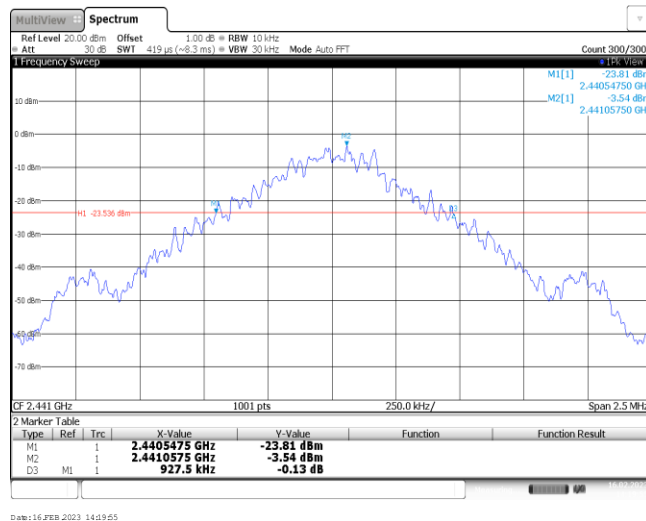
Modulation Type:

GFSK

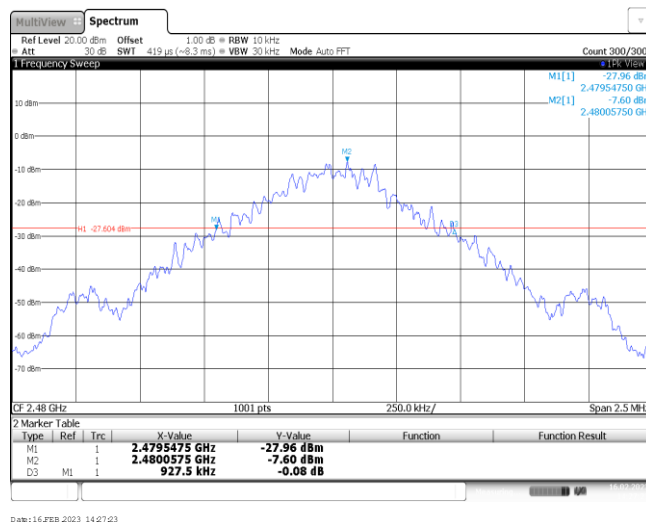
CH00



CH39



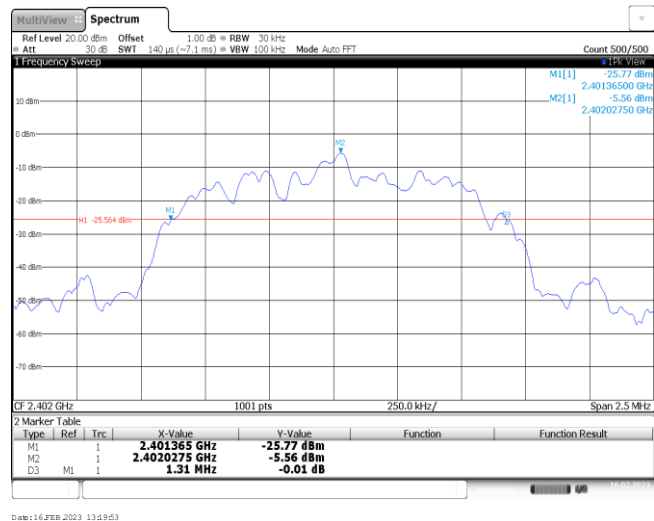
CH78



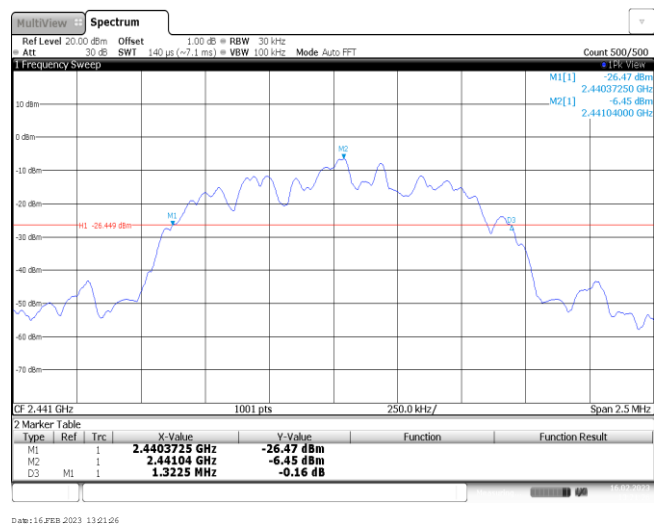
Modulation Type:

 $\pi/4$ DQPSK

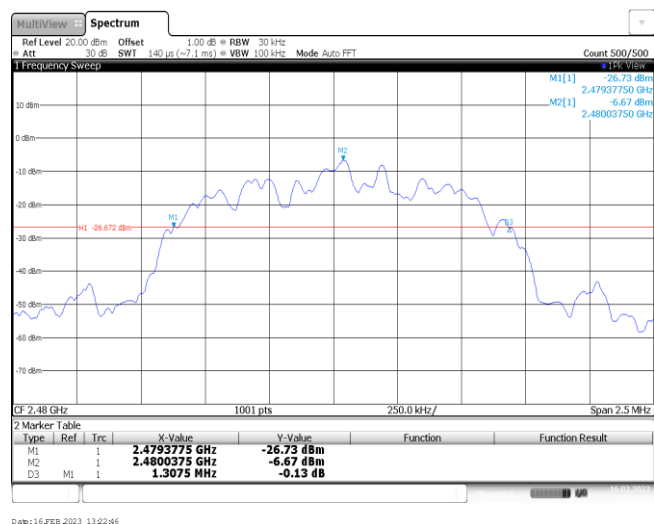
CH00



CH39



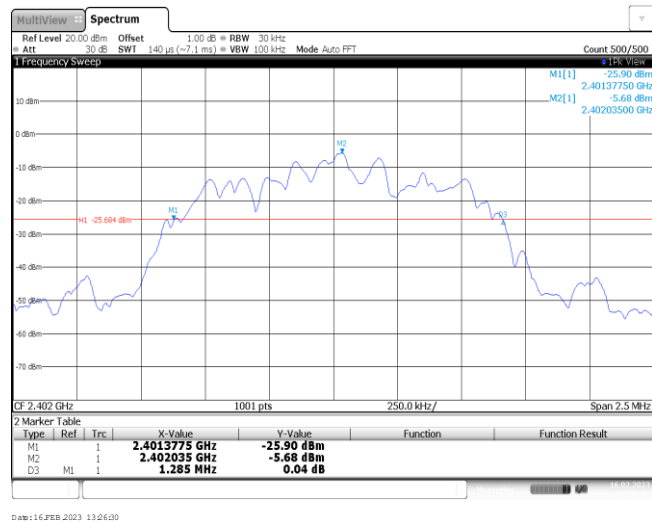
CH78



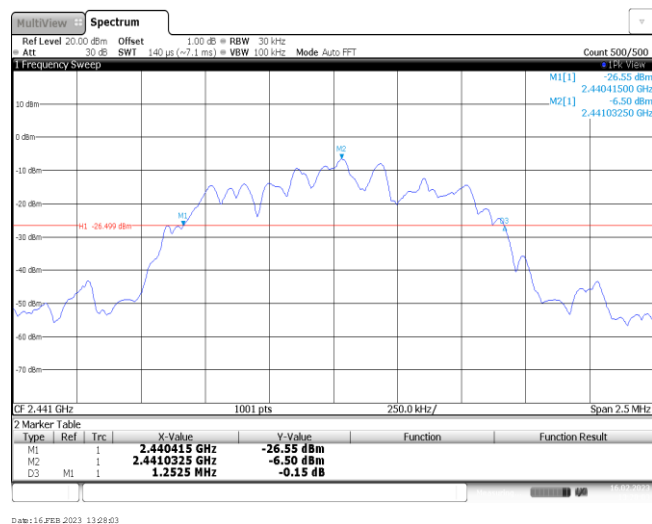
Modulation Type:

8DPSK

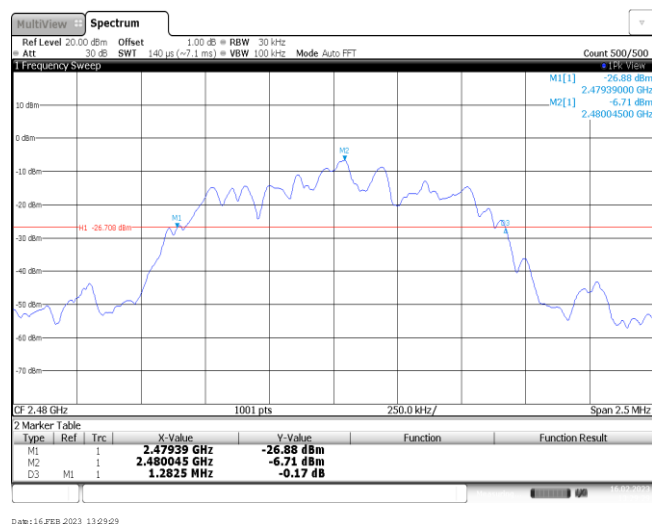
CH00



CH39



CH78



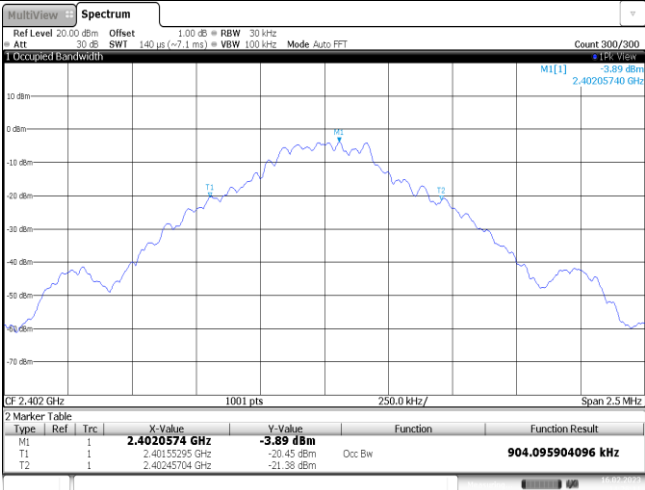
Appendix C: 99% Occupied Bandwidth

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.90	-	Pass
	39	0.91		
	78	0.91		
$\pi/4$ DQPSK	00	1.20	-	Pass
	39	1.20		
	78	1.19		
8DPSK	00	1.16	-	Pass
	39	1.16		
	78	1.16		

Modulation Type:

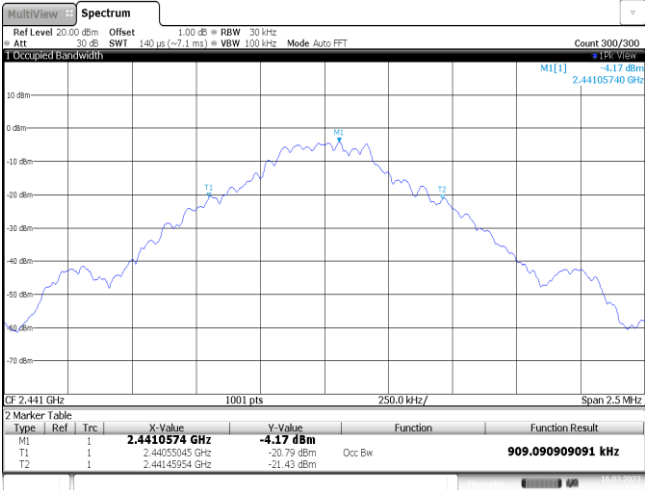
GFSK

CH00



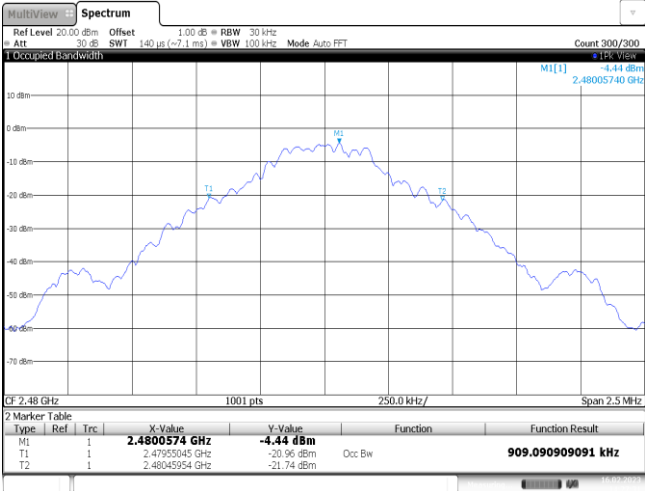
Date:16.FEB.2023 14:26:11

CH39



Date:16.FEB.2023 14:26:48

CH78



Date:16.FEB.2023 14:27:31

Modulation Type:

 $\pi/4$ DQPSK

CH00



Date:16.FEB.2023 13:20:01

CH39



Date:16.FEB.2023 13:21:05

CH78



Date:16.FEB.2023 13:22:05

Modulation Type:

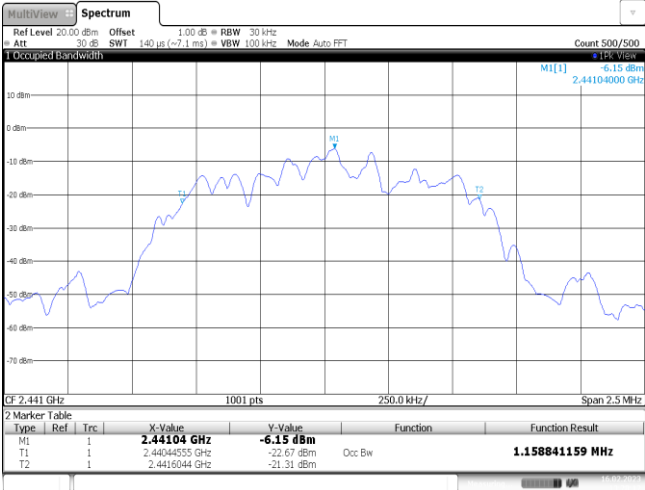
8DPSK

CH00



Date:16.FEB.2023 13:26:39

CH39



Date:16.FEB.2023 13:28:12

CH78



Date:16.FEB.2023 13:29:38

Appendix D: Carrier Frequencies Separation

Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥927.50	Pass
π/4DQPSK	39	1.00	≥881.67	Pass
8DPSK	39	1.00	≥856.67	Pass

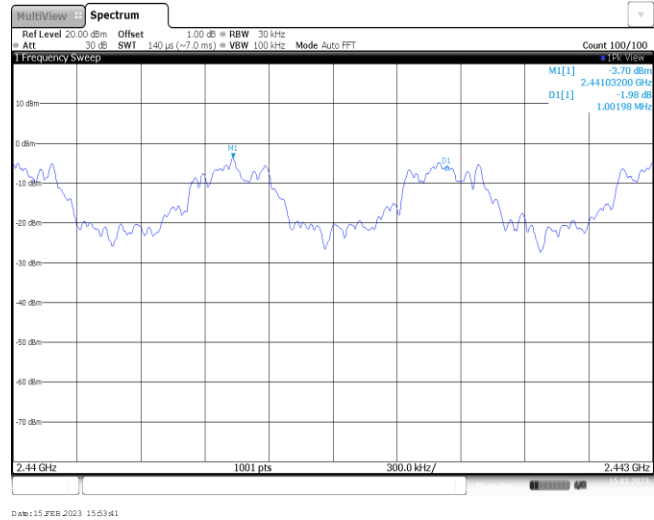
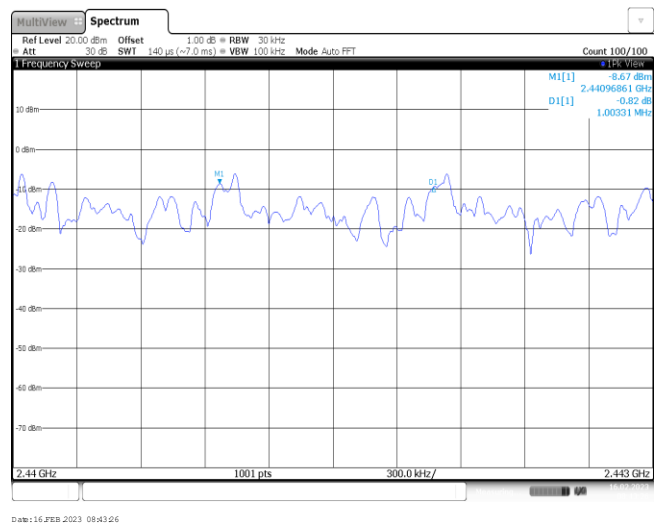
Note:

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

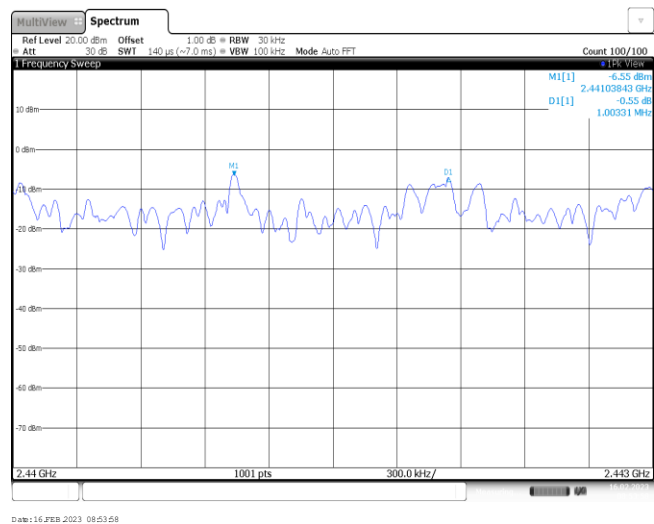
π/4DQPSK limit = 2/3 * The maximum 20 dB Bandwidth for π/4DQPSK modulation on the appendix B.

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

GFSK

 $\pi/4$ DQPSK

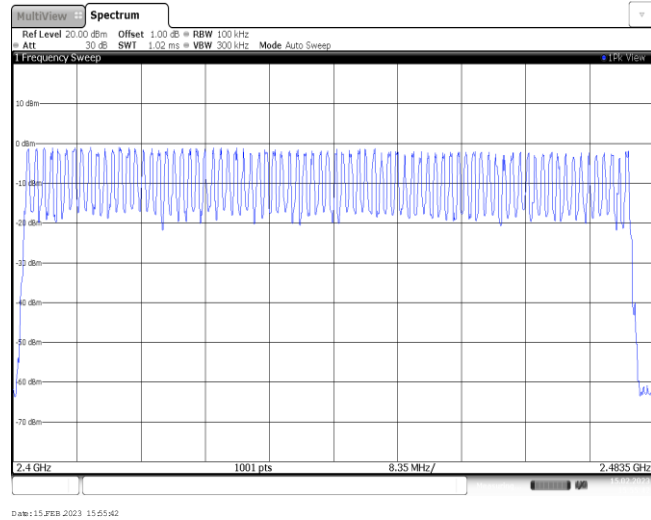
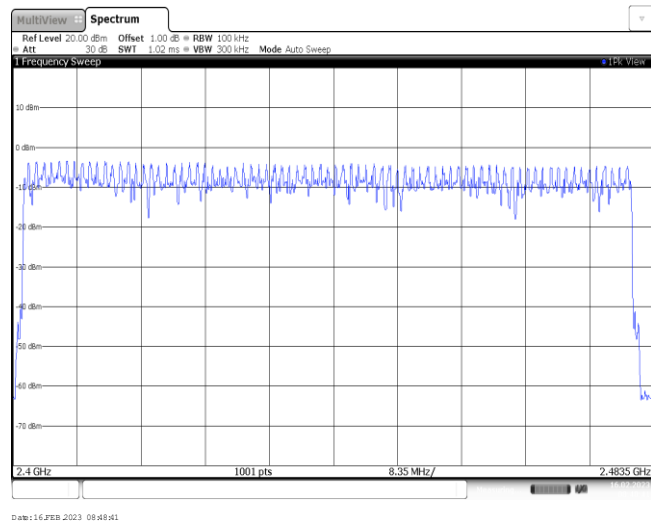
8DPSK



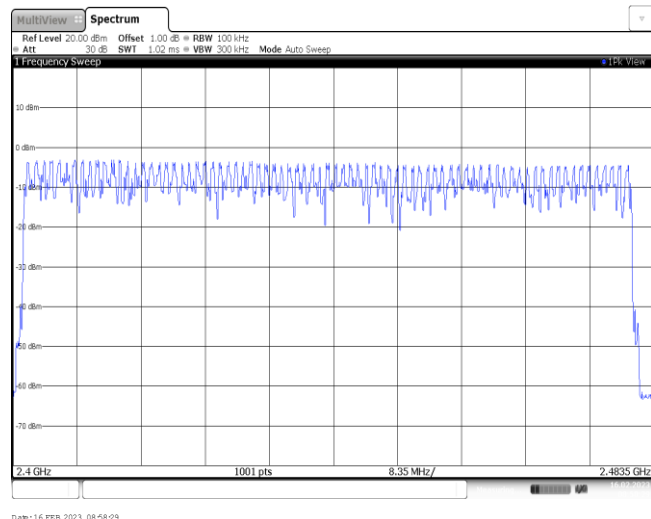
Appendix E: Hopping Channel Number

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

GFSK

 $\pi/4$ DQPSK

8DPSK



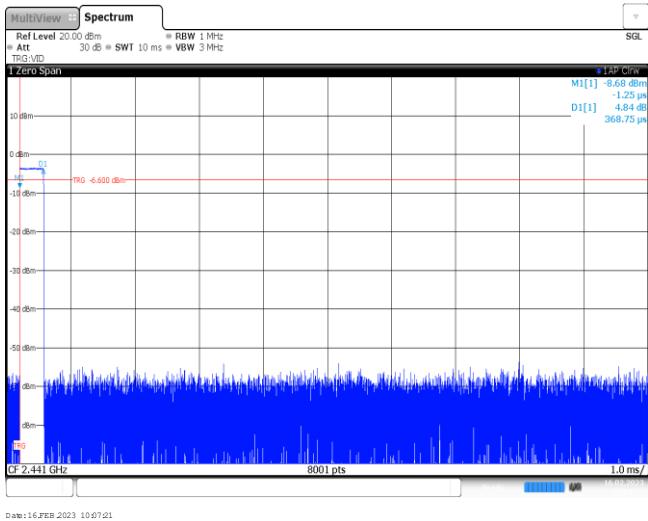
Appendix F: Dwell Time

Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.37	315	0.12	≤ 0.40	Pass
	DH3	1.63	157	0.26		
	DH5	2.87	106	0.31		
$\pi/4$ DQPSK	2DH1	0.38	315	0.12	≤ 0.40	Pass
	2DH3	1.63	160	0.26		
	2DH5	2.88	103	0.30		
8DPSK	3DH1	0.38	315	0.12	≤ 0.40	Pass
	3DH3	1.63	159	0.26		
	3DH5	2.88	106	0.31		

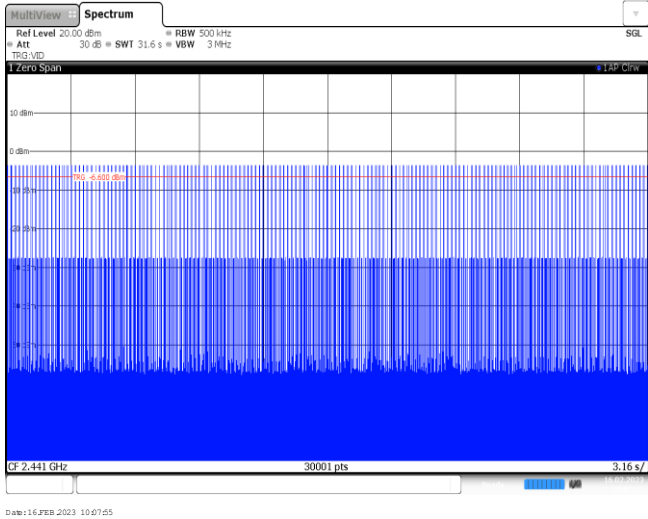
Modulation Type:

GFSK

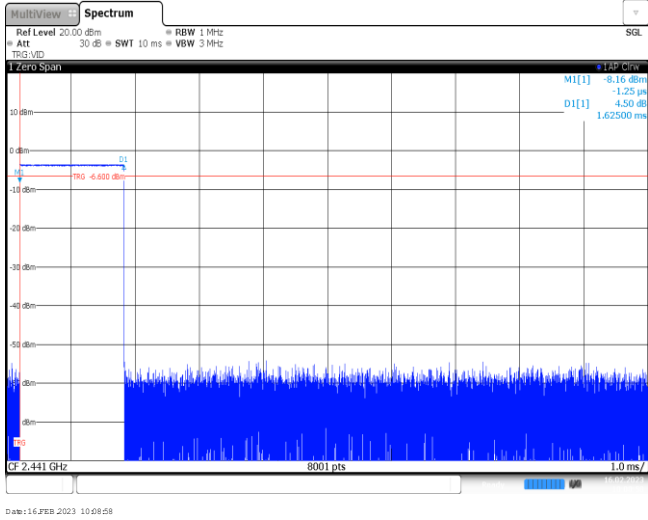
DH1
Burst width

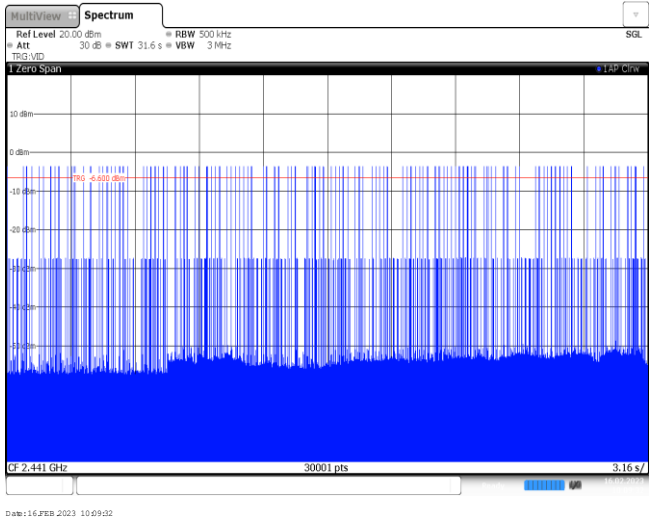
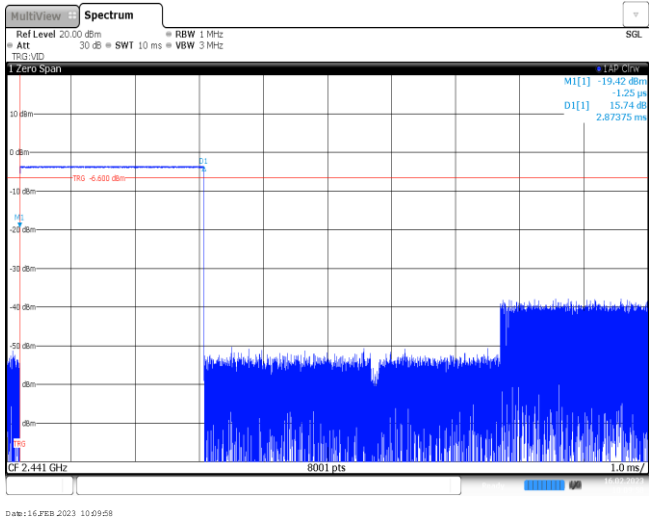
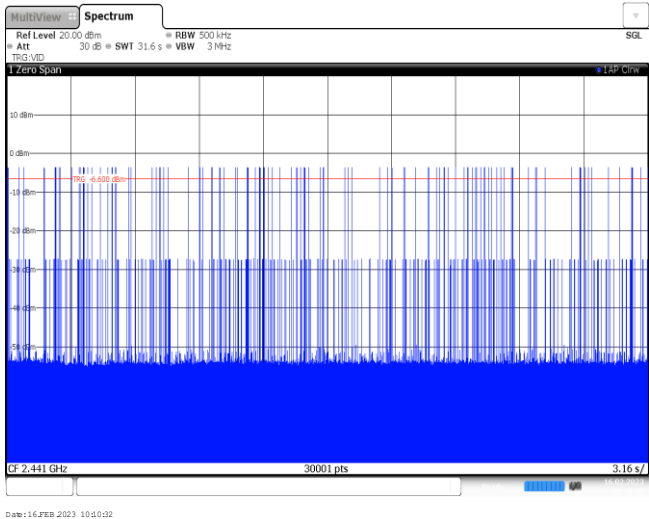


DH1
Burst number

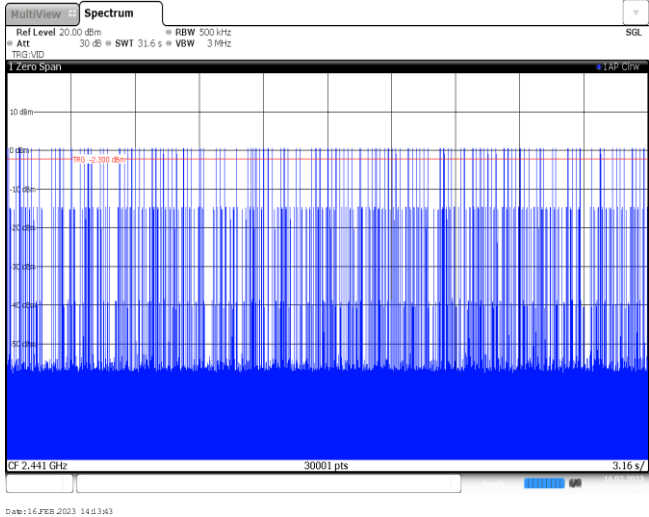
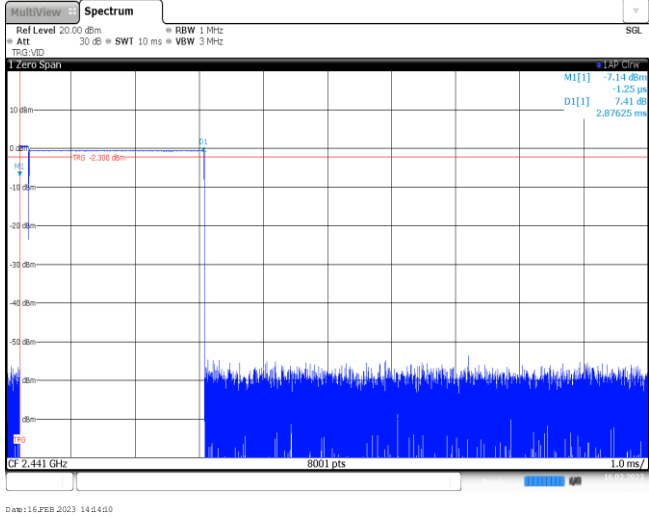
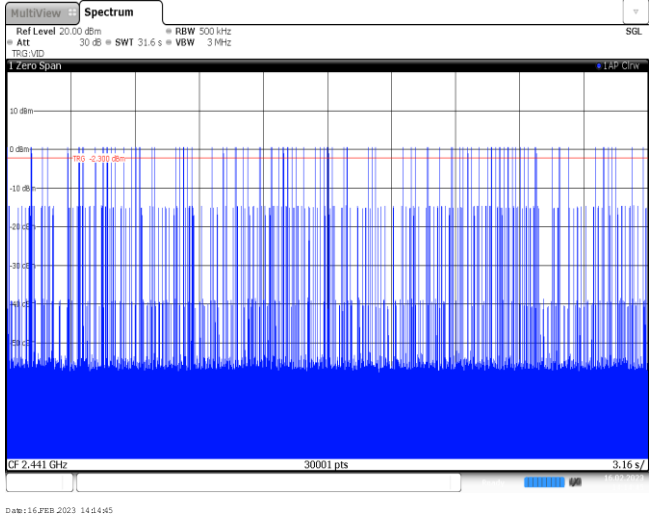


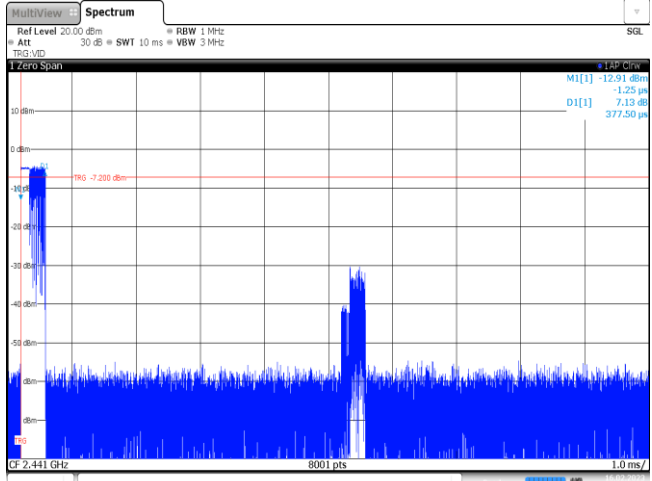
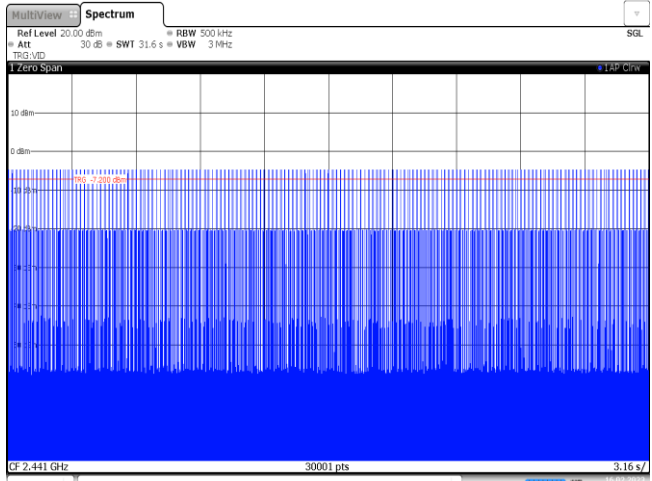
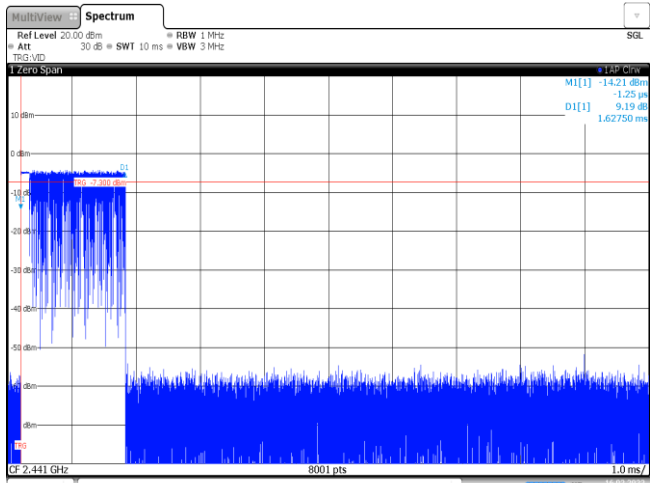
DH3
Burst width

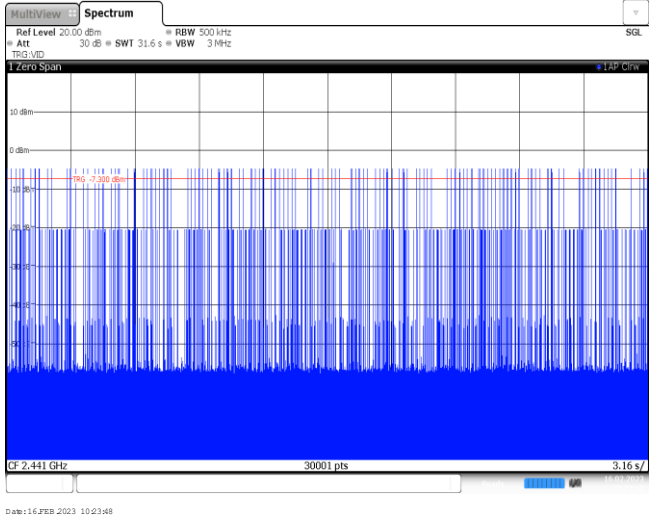
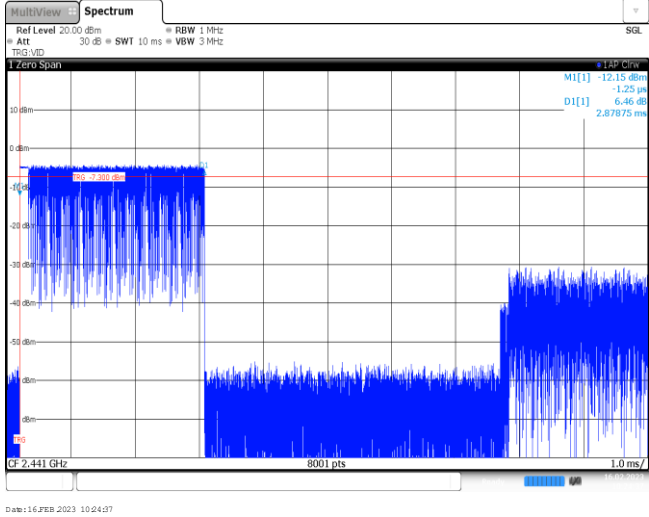
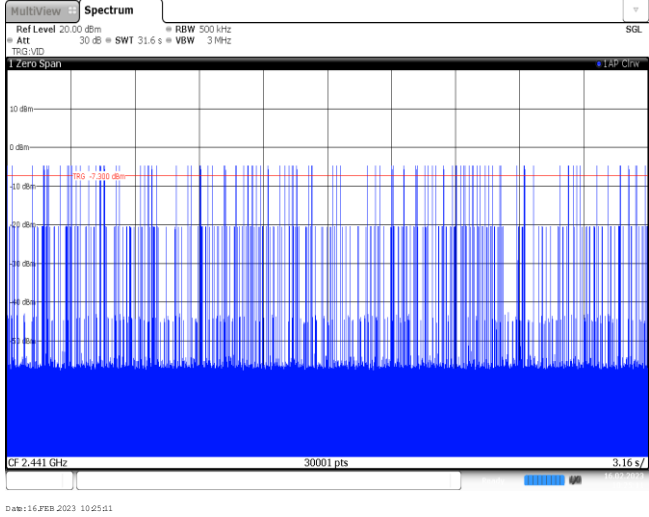


DH3 Burst number	 Date:16.FEB.2023 10:09:02
DH5 Burst width	 Date:16.FEB.2023 10:09:08
DH5 Burst number	 Date:16.FEB.2023 10:09:02

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

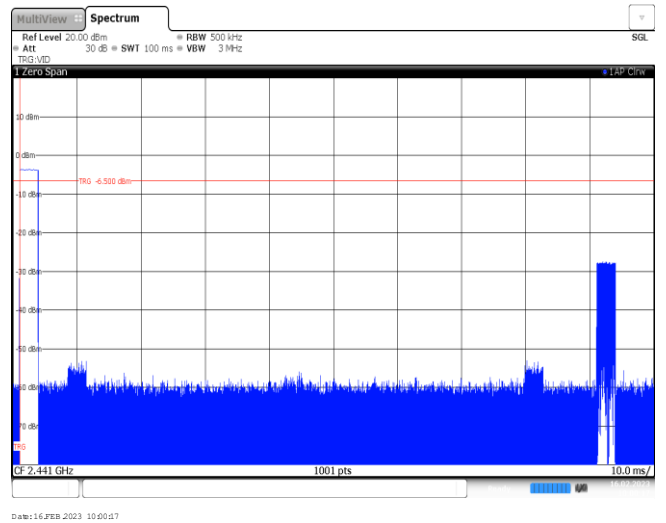
Modulation Type:	8DPSK
3DH1 Burst width	 The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -60 to 10. A red horizontal line indicates a reference level at -7.200 dBm. The signal is characterized by a sharp peak at the center frequency. The plot includes a 'Zero Span' view and a 'Spectrum' view. The date is 16.FEB.2023 10:22:01.
3DH1 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 -60 to 10. A red horizontal line indicates a reference level at -7.200 dBm. The signal is characterized by a dense, continuous burst of energy across the entire bandwidth. The plot includes a 'Zero Span' view and a 'Spectrum' view. The date is 16.FEB.2023 10:22:25.
3DH3 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 -60 to 10. A red horizontal line indicates a reference level at -7.200 dBm. The signal is characterized by a sharp peak at the center frequency. The plot includes a 'Zero Span' view and a 'Spectrum' view. The date is 16.FEB.2023 10:23:14.

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

Appendix G: Duty Cycle Correction Factor (DCCF)

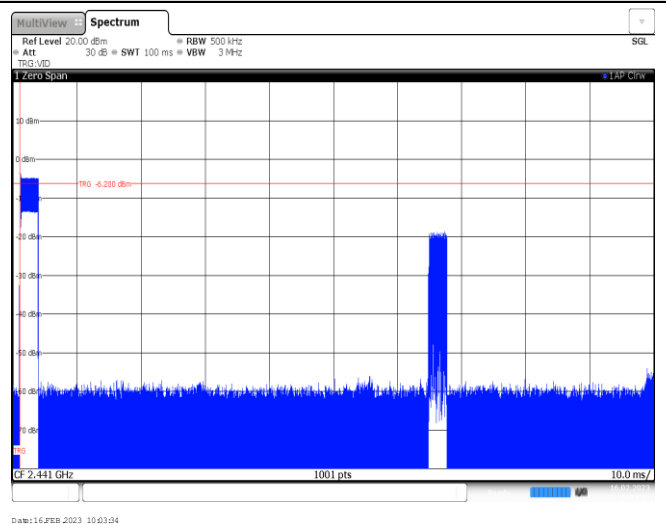
DCCF Calculate Formula					
DCCF=20 * Log(duty cycle) = 20 * Log($T_{\text{on time}} / T_{\text{period}}$)					
Modulation type	Test Frequency (MHz)	$T_{\text{on time}}$ for single burst [ms]	T_{period} [ms]	Burst Quantity	DCCF [dB]
GFSK	2441	2.86	100	2	-24.85
$\pi/4$ DQPSK	2441	2.87	100	2	-24.82
8DPSK	2441	2.87	100	2	-24.82

GFSK



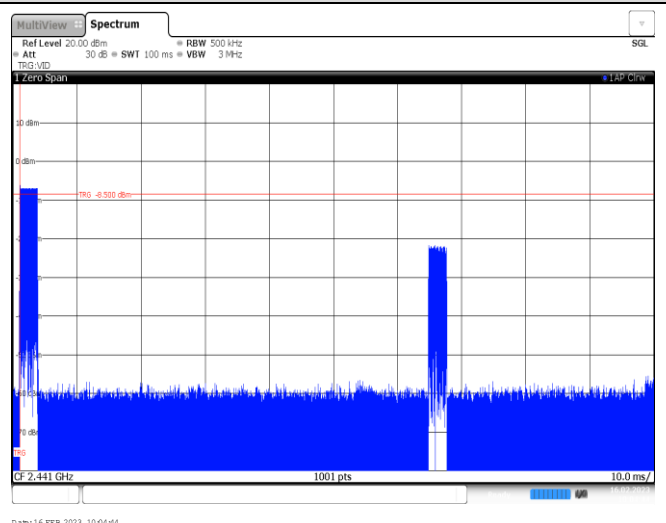
Burst Quantity

$\pi/4$ DQPSK



Burst Quantity

8DPSK

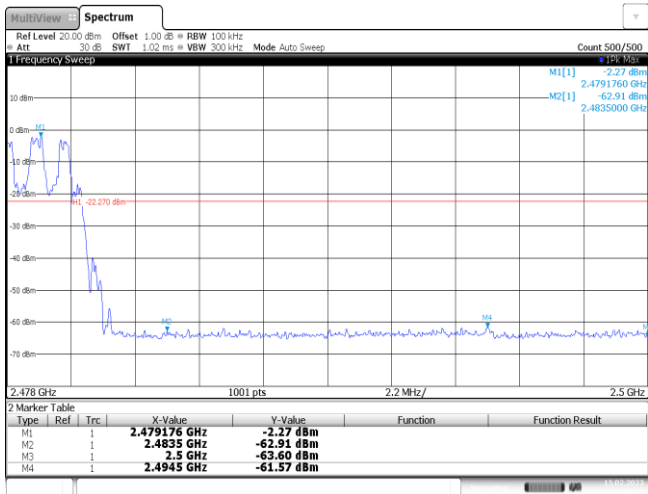


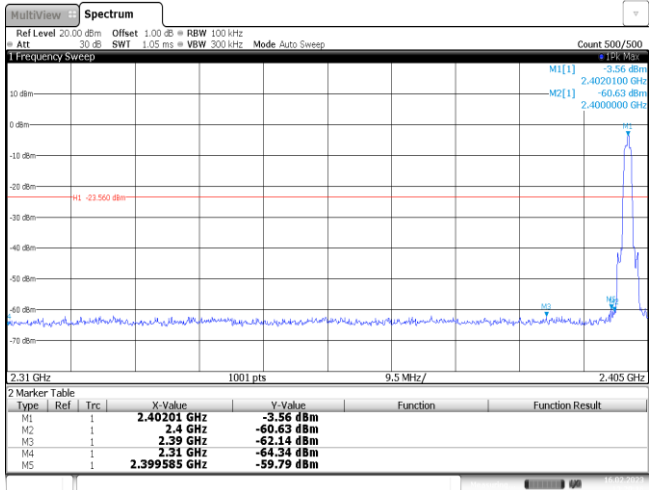
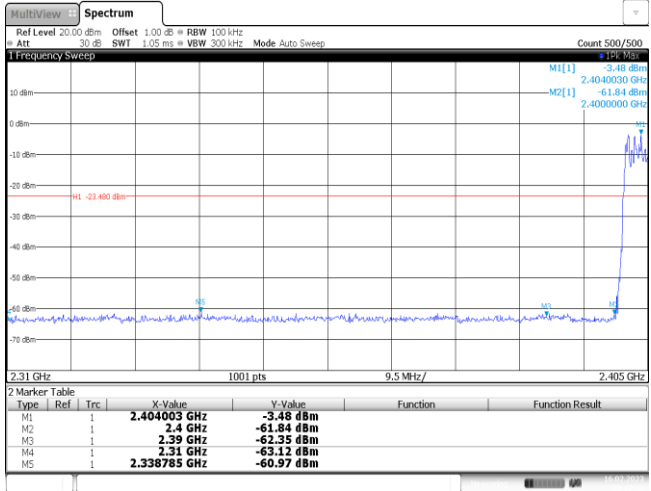
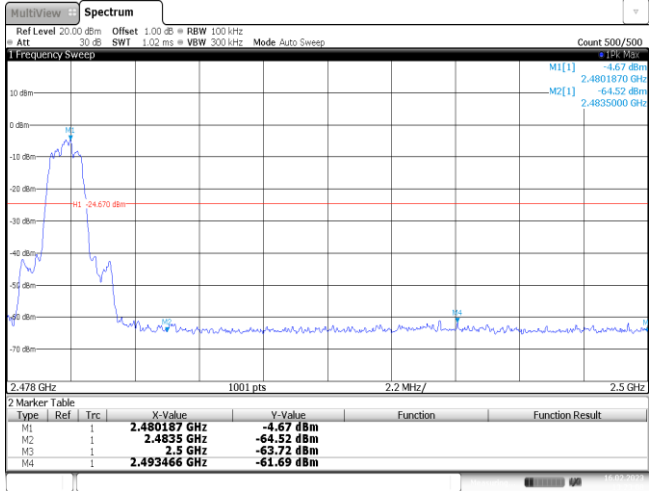
Burst Quantity

Appendix H: Band edge and Spurious Emissions (conducted)

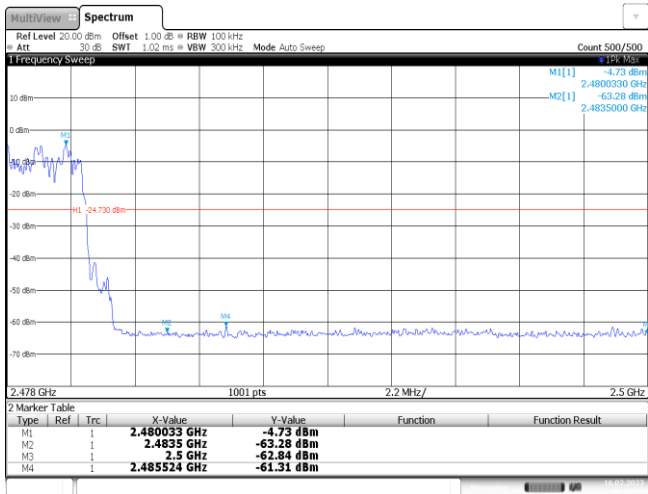
Test Item:	Band edge	Modulation type:	GFSK																																										
CH00 No hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz ATT 30 dB SW 1.05 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep M1 [1] -1.83 dBm 2.401821 GHz M2 [1] -61.44 dBm 2.4000000 GHz 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.401821 GHz</td><td>-1.83 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-61.44 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-64.09 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.79 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.325865 GHz</td><td>-61.11 dBm</td><td></td><td></td></tr></table> Date: 15.FEB 2023 12:59:50			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.401821 GHz	-1.83 dBm			M2	1		2.4 GHz	-61.44 dBm			M3	1		2.39 GHz	-64.09 dBm			M4	1		2.31 GHz	-64.79 dBm			M5	1		2.325865 GHz	-61.11 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.401821 GHz	-1.83 dBm																																									
M2	1		2.4 GHz	-61.44 dBm																																									
M3	1		2.39 GHz	-64.09 dBm																																									
M4	1		2.31 GHz	-64.79 dBm																																									
M5	1		2.325865 GHz	-61.11 dBm																																									
CH00 Hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz ATT 30 dB SW 1.05 ms VBW 300 kHz Mode Auto Sweep Count 500/500 Frequency Sweep M1 [1] -1.56 dBm 2.4049530 GHz M2 [1] -63.39 dBm 2.4000000 GHz 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.404953 GHz</td><td>-1.56 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-63.39 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-62.81 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.76 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.324155 GHz</td><td>-61.45 dBm</td><td></td><td></td></tr></table> Date: 15.FEB 2023 15:56:05			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.404953 GHz	-1.56 dBm			M2	1		2.4 GHz	-63.39 dBm			M3	1		2.39 GHz	-62.81 dBm			M4	1		2.31 GHz	-63.76 dBm			M5	1		2.324155 GHz	-61.45 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.404953 GHz	-1.56 dBm																																									
M2	1		2.4 GHz	-63.39 dBm																																									
M3	1		2.39 GHz	-62.81 dBm																																									
M4	1		2.31 GHz	-63.76 dBm																																									
M5	1		2.324155 GHz	-61.45 dBm																																									
CH78 No hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz ATT 30 dB SW 1.02 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep M1 [1] -2.04 dBm 2.4801870 GHz M2 [1] -60.94 dBm 2.4835000 GHz 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.478 GHz 1001 pts 2.2 MHz/ 2.5 GHz <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.480187 GHz</td><td>-2.04 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-60.94 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-64.75 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483632 GHz</td><td>-58.48 dBm</td><td></td><td></td></tr></table> Date: 15.FEB 2023 13:05:55			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.480187 GHz	-2.04 dBm			M2	1		2.4835 GHz	-60.94 dBm			M3	1		2.5 GHz	-64.75 dBm			M4	1		2.483632 GHz	-58.48 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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CH78
Hopping mode



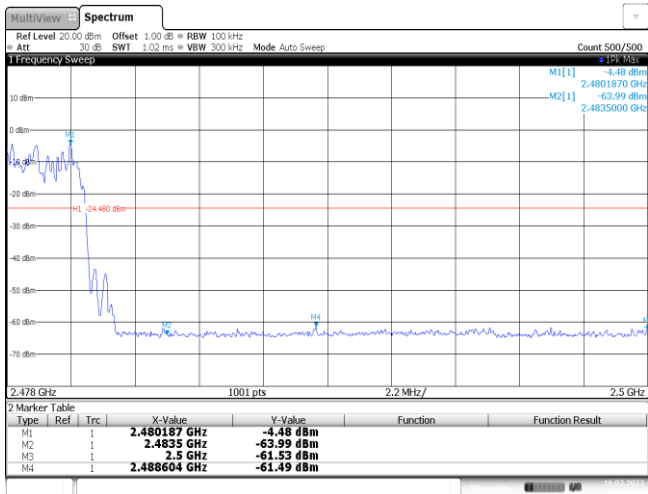
Test Item:	Band edge	Modulation type:	$\pi/4$ DQPSK																																										
CH00 No hopping mode	 <table border="1"><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.40201 GHz</td><td>-3.56 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-60.63 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-62.14 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.34 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399585 GHz</td><td>-59.79 dBm</td><td></td><td></td></tr></tbody></table> Date: 16.FEB.2023 13:20:16			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40201 GHz	-3.56 dBm			M2	1		2.4 GHz	-60.63 dBm			M3	1		2.39 GHz	-62.14 dBm			M4	1		2.31 GHz	-64.34 dBm			M5	1		2.399585 GHz	-59.79 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.40201 GHz	-3.56 dBm																																									
M2	1		2.4 GHz	-60.63 dBm																																									
M3	1		2.39 GHz	-62.14 dBm																																									
M4	1		2.31 GHz	-64.34 dBm																																									
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CH00 Hopping mode	 <table border="1"><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.404003 GHz</td><td>-3.48 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-61.84 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-62.35 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.12 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.338765 GHz</td><td>-60.97 dBm</td><td></td><td></td></tr></tbody></table> Date: 16.FEB.2023 08:49:55			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.404003 GHz	-3.48 dBm			M2	1		2.4 GHz	-61.84 dBm			M3	1		2.39 GHz	-62.35 dBm			M4	1		2.31 GHz	-63.12 dBm			M5	1		2.338765 GHz	-60.97 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M2	1		2.4 GHz	-61.84 dBm																																									
M3	1		2.39 GHz	-62.35 dBm																																									
M4	1		2.31 GHz	-63.12 dBm																																									
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CH78 No hopping mode	 <table border="1"><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.480187 GHz</td><td>-4.67 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-64.52 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-63.72 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.493466 GHz</td><td>-61.69 dBm</td><td></td><td></td></tr></tbody></table> Date: 16.FEB.2023 13:23:09			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.480187 GHz	-4.67 dBm			M2	1		2.4835 GHz	-64.52 dBm			M3	1		2.5 GHz	-63.72 dBm			M4	1		2.493466 GHz	-61.69 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.480187 GHz	-4.67 dBm																																									
M2	1		2.4835 GHz	-64.52 dBm																																									
M3	1		2.5 GHz	-63.72 dBm																																									
M4	1		2.493466 GHz	-61.69 dBm																																									

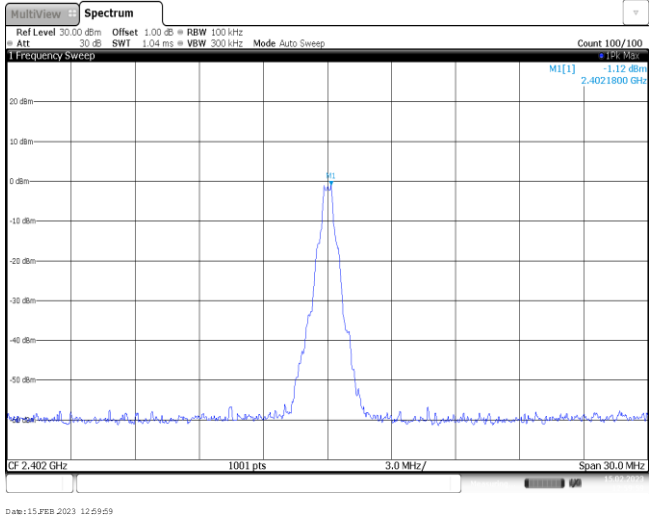
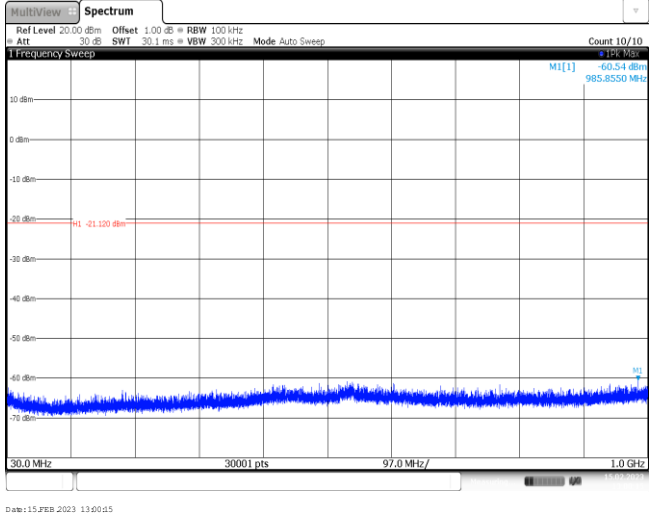
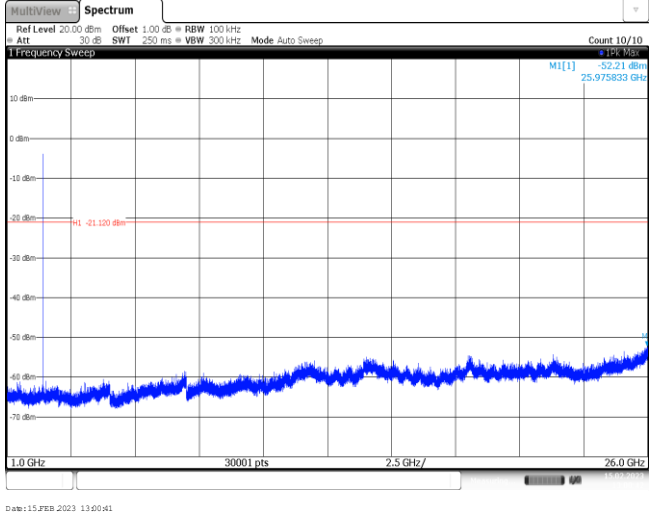
CH78
Hopping mode

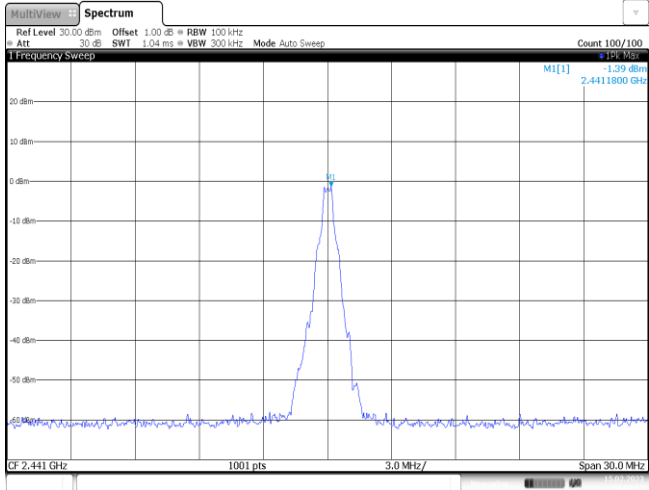
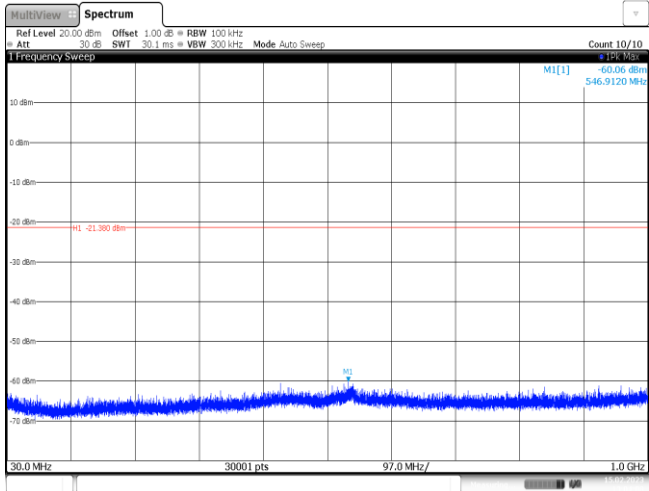
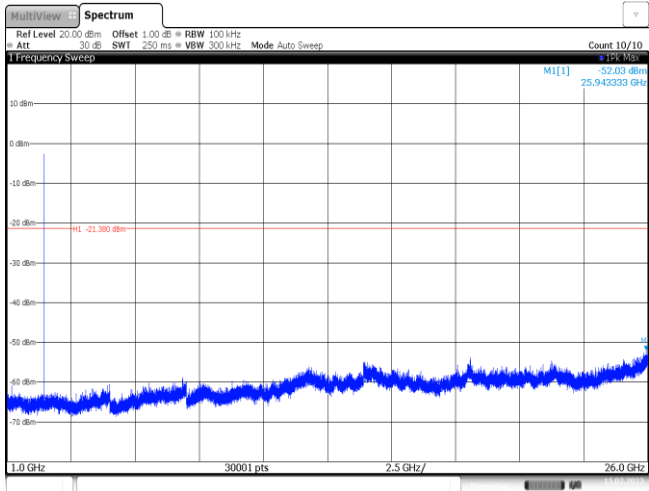


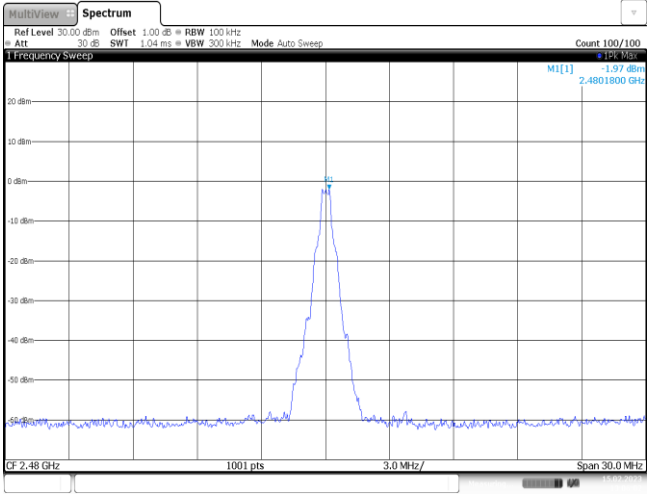
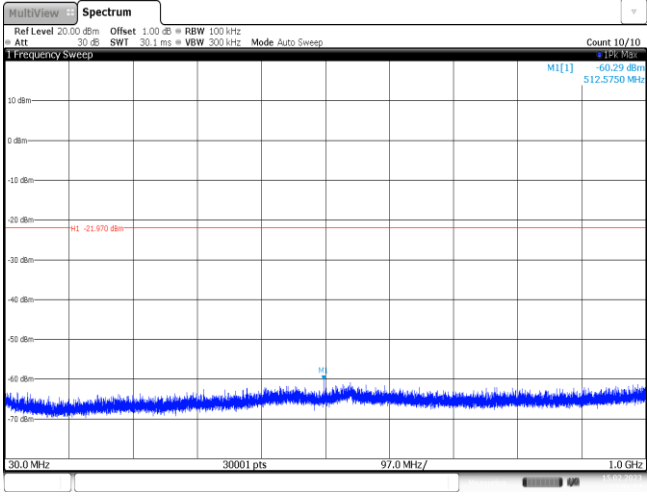
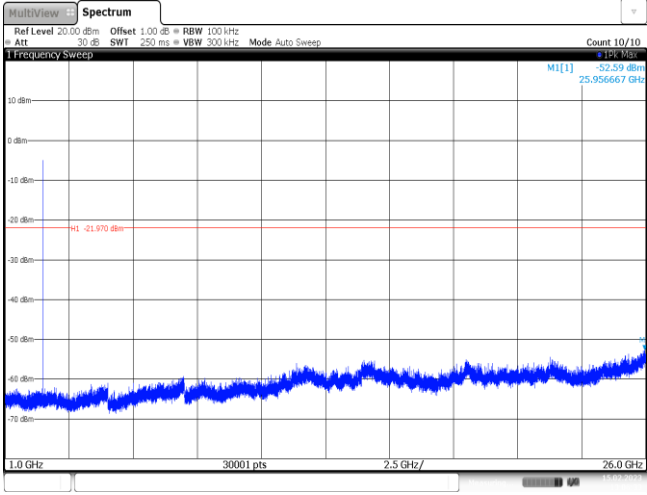
Test Item:	Band edge	Modulation type:	8DPSK																																										
CH00 No hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.05 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -3.39 dBm 2.4022000 GHz M2[1] -60.97 dBm 2.4000000 GHz 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.4022 GHz</td><td>-3.39 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-60.97 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.74 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.78 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39987 GHz</td><td>-59.33 dBm</td><td></td><td></td></tr></table> Date: 16.FEB.2023 13:26:53			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.4022 GHz	-3.39 dBm			M2	1		2.4 GHz	-60.97 dBm			M3	1		2.39 GHz	-63.74 dBm			M4	1		2.31 GHz	-64.78 dBm			M5	1		2.39987 GHz	-59.33 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M4	1		2.31 GHz	-64.78 dBm																																									
M5	1		2.39987 GHz	-59.33 dBm																																									
CH00 Hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.05 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -3.43 dBm 2.4022000 GHz M2[1] -63.67 dBm 2.4000000 GHz 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.4022 GHz</td><td>-3.43 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-63.67 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.34 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.61 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.34249 GHz</td><td>-61.11 dBm</td><td></td><td></td></tr></table> Date: 16.FEB.2023 08:59:02			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.4022 GHz	-3.43 dBm			M2	1		2.4 GHz	-63.67 dBm			M3	1		2.39 GHz	-63.34 dBm			M4	1		2.31 GHz	-64.61 dBm			M5	1		2.34249 GHz	-61.11 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.4022 GHz	-3.43 dBm																																									
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M3	1		2.39 GHz	-63.34 dBm																																									
M4	1		2.31 GHz	-64.61 dBm																																									
M5	1		2.34249 GHz	-61.11 dBm																																									
CH78 No hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.02 ms VBW 300 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] -4.51 dBm 2.4801870 GHz M2[1] -64.16 dBm 2.4835000 GHz 2.478 GHz 1001 pts 2.2 MHz/ 2.5 GHz 2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.480187 GHz</td><td>-4.51 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-64.16 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-64.91 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483764 GHz</td><td>-61.46 dBm</td><td></td><td></td></tr></table> Date: 16.FEB.2023 13:29:51			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.480187 GHz	-4.51 dBm			M2	1		2.4835 GHz	-64.16 dBm			M3	1		2.5 GHz	-64.91 dBm			M4	1		2.483764 GHz	-61.46 dBm									
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M3	1		2.5 GHz	-64.91 dBm																																									
M4	1		2.483764 GHz	-61.46 dBm																																									

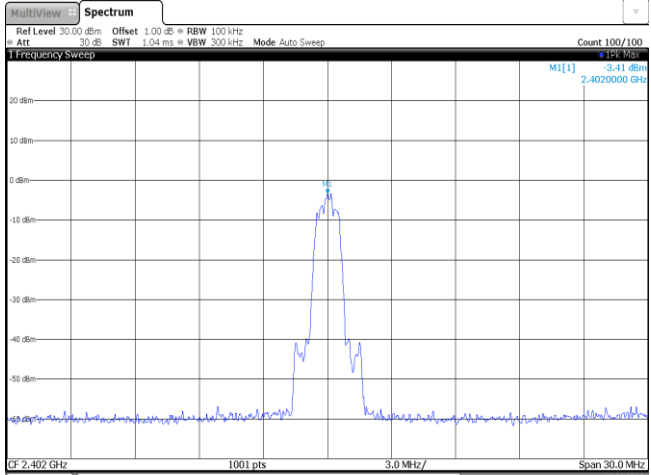
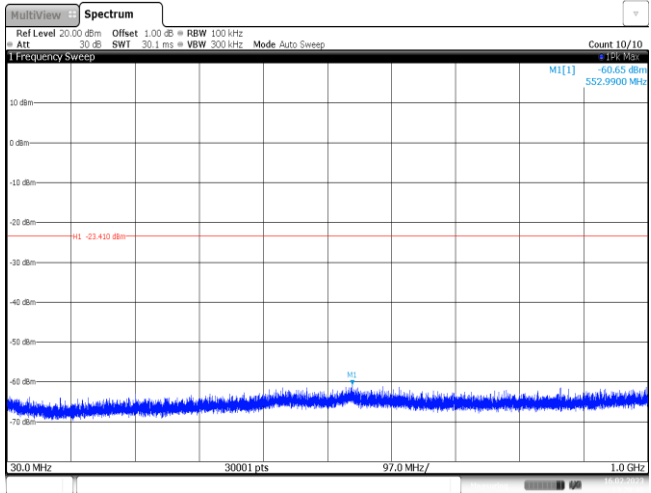
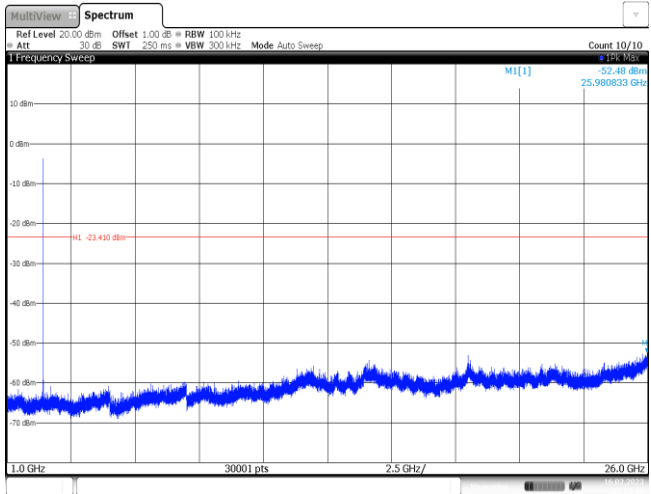
CH78
Hoppig mode



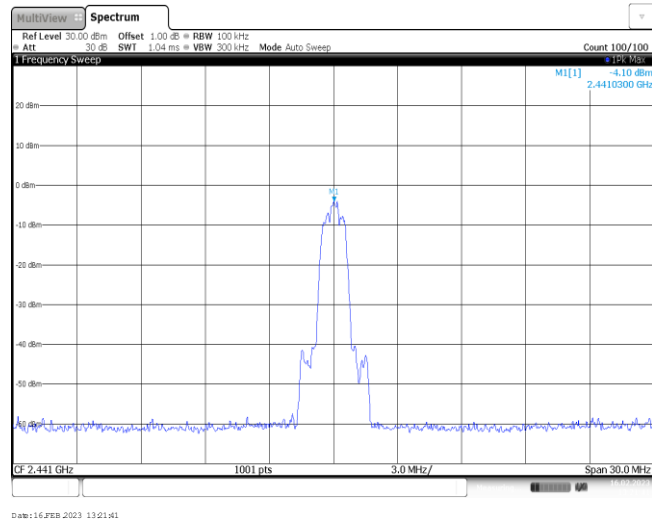
Test Item:	Spurious Emission	Modulation type:	GFSK
CH00 Reference level			
CH00 30MHz~1000MHz			
CH00 1GHz~26GHz			

CH39 Reference level	 The spectrum plot for CH39 Reference level shows a sharp peak at 2.441 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in MHz, ranging from 2.4 to 2.5. The peak is labeled with a count of 100/100 and a value of -1.39 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 1.04 ms, VBW 300 kHz, Mode Auto Sweep. The date is 15.FEB.2023 13:03:02.
CH39 30MHz~1000MHz	 The spectrum plot for CH39 30MHz~1000MHz shows a noisy baseline. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, ranging from 30.0 to 1000.0. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 30.1 ms, VBW 300 kHz, Mode Auto Sweep. The date is 15.FEB.2023 13:04:08.
CH39 1GHz~26GHz	 The spectrum plot for CH39 1GHz~26GHz shows a noisy baseline. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in GHz, ranging from 1.0 to 26.0. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 250 ms, VBW 300 kHz, Mode Auto Sweep. The date is 15.FEB.2023 13:04:24.

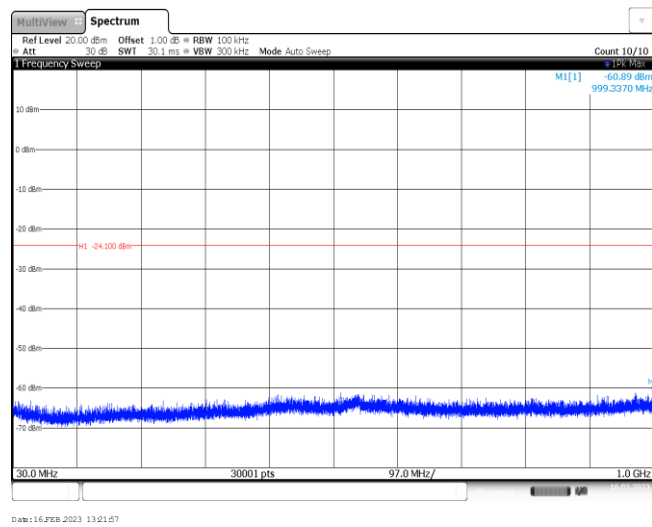
CH78 Reference level	 The spectrum plot for CH78 Reference level shows a single sharp peak at 2.48 GHz. The y-axis represents power in dBm, ranging from -50 to 20. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The peak is labeled with a count of 100/100 and a value of -1.97 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 1.04 ms, VBW 300 kHz, Mode Auto Sweep.
CH78 30MHz~1000MHz	 The spectrum plot for CH78 30MHz~1000MHz shows a noisy baseline across the frequency range. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 97.0 MHz. A red horizontal line is drawn at -21.970 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 30.1 ms, VBW 300 kHz, Mode Auto Sweep.
CH78 1GHz~26GHz	 The spectrum plot for CH78 1GHz~26GHz shows a noisy baseline across the frequency range. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in GHz, with a span of 2.5 GHz. A red horizontal line is drawn at -21.970 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 250 ms, VBW 300 kHz, Mode Auto Sweep.

Test Item:	Spurious Emission	Modulation type:	$\pi/4$ DQPSK
CH00 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -3.41 dBm 2.4020000 GHz CF 2.402 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 16.FEB.2023 13:20:24		
CH00 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.65 dBm 552.9900 MHz M1 -23.410 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 16.FEB.2023 13:20:41		
CH00 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -52.48 dBm 25.980833 GHz M1 -23.410 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 16.FEB.2023 13:20:57		

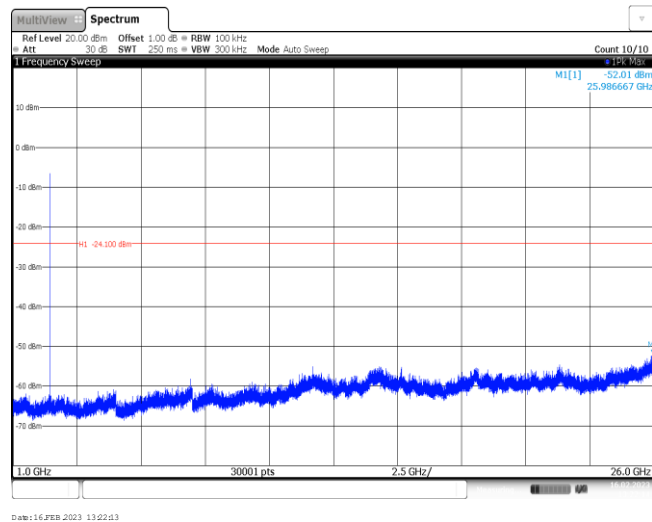
CH39
Reference level

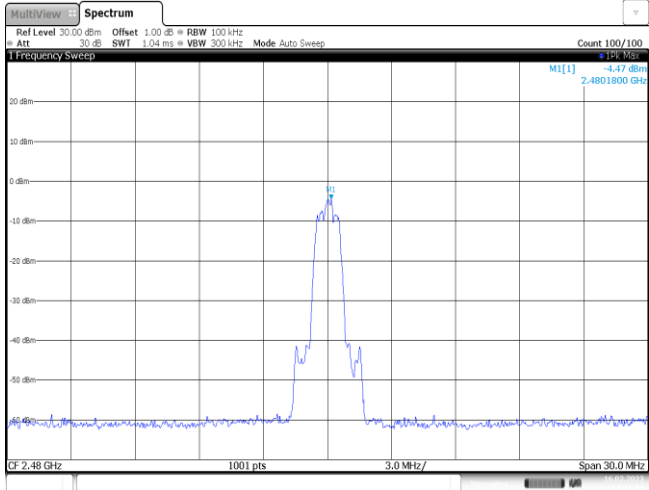
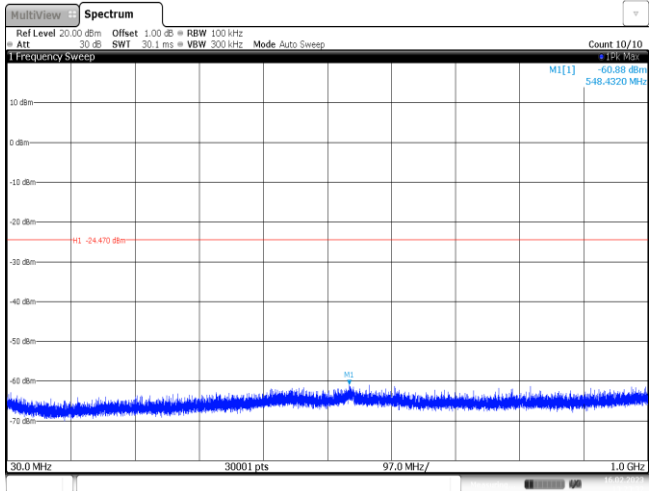
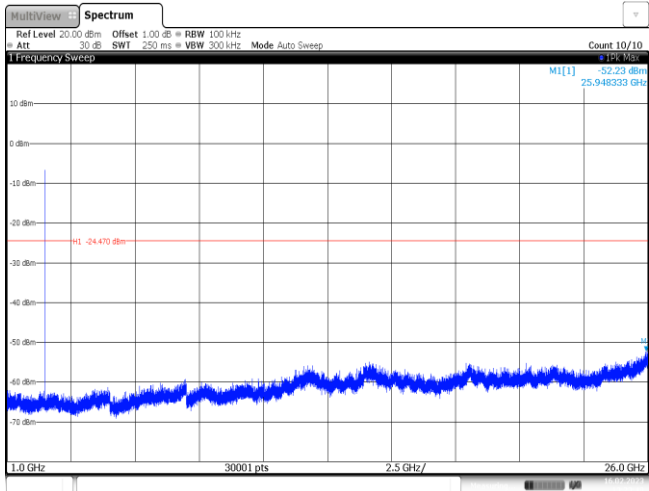


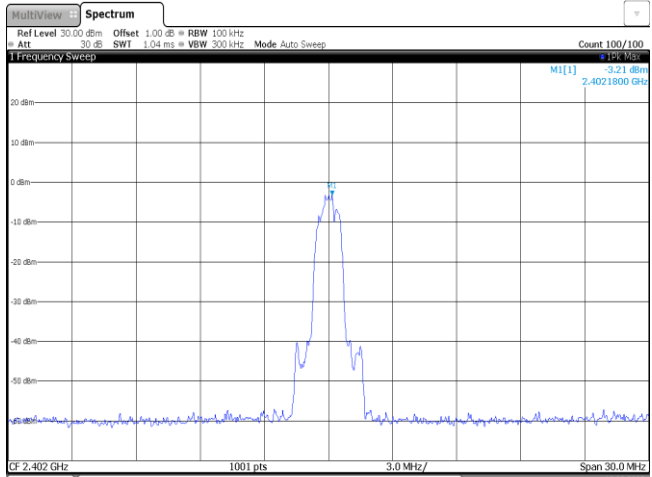
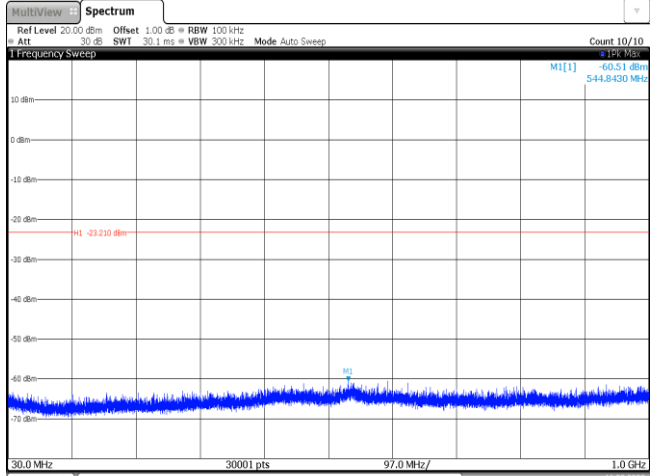
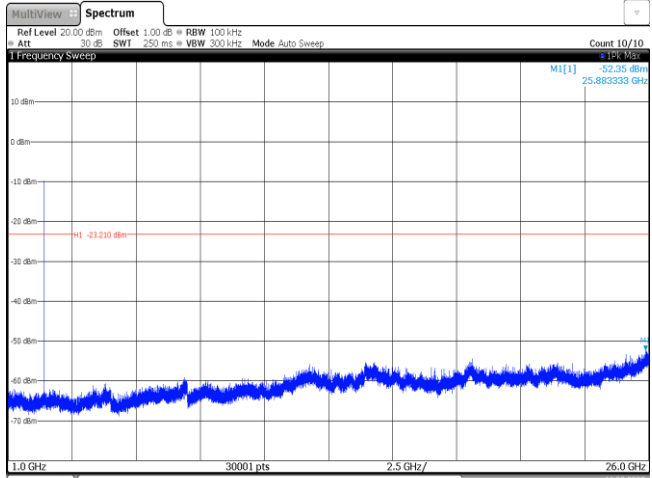
CH39
30MHz~1000MHz



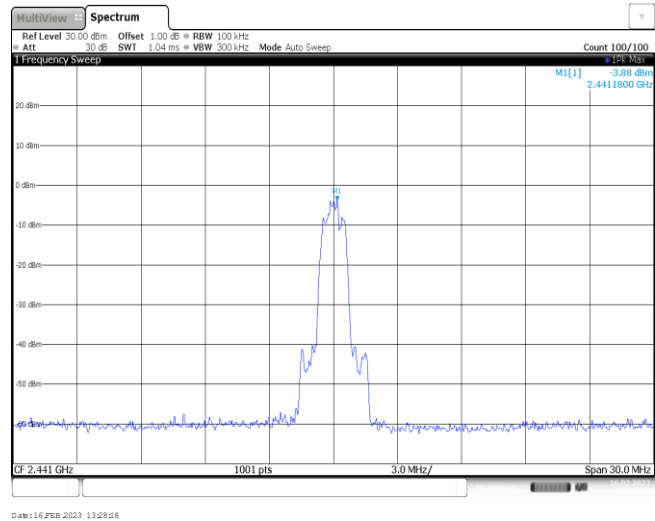
CH39
1GHz~26GHz



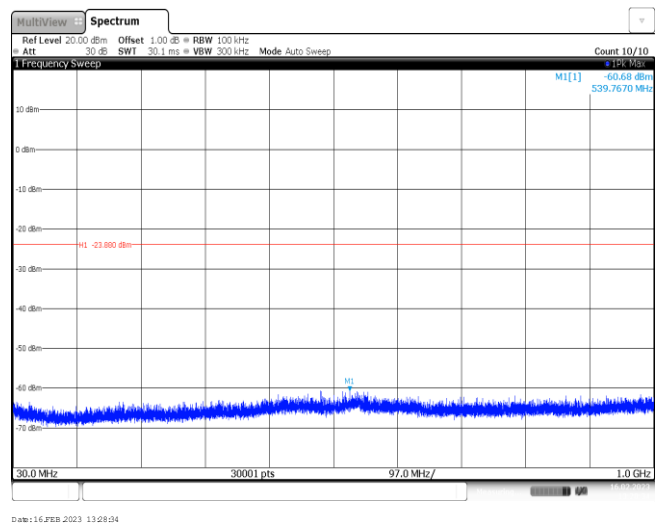
CH78 Reference level	 The spectrum plot shows a single sharp peak at 2.48 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The peak is labeled with a count of 100/100 and a value of -4.47 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 1.04 ms, VBW 300 kHz, Mode Auto Sweep. The date is 16.FEB.2023 13:23:55.
CH78 30MHz~1000MHz	 The spectrum plot shows a wideband signal from 30 MHz to 1000 MHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 1.0 GHz. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 30.1 ms, VBW 300 kHz, Mode Auto Sweep. The date is 16.FEB.2023 13:23:01.
CH78 1GHz~26GHz	 The spectrum plot shows a wideband signal from 1 GHz to 26 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in GHz, with a span of 2.5 GHz. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 250 ms, VBW 300 kHz, Mode Auto Sweep. The date is 16.FEB.2023 13:23:48.

Test Item:	Spurious Emission	Modulation type:	8DPSK
CH00 Reference level	 CH00 Reference level		
CH00 30MHz~1000MHz	 CH00 30MHz~1000MHz		
CH00 1GHz~26GHz	 CH00 1GHz~26GHz		

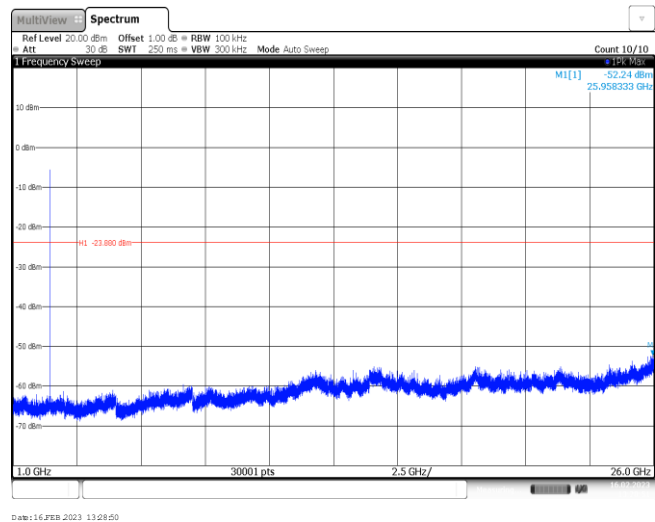
CH39
Reference level

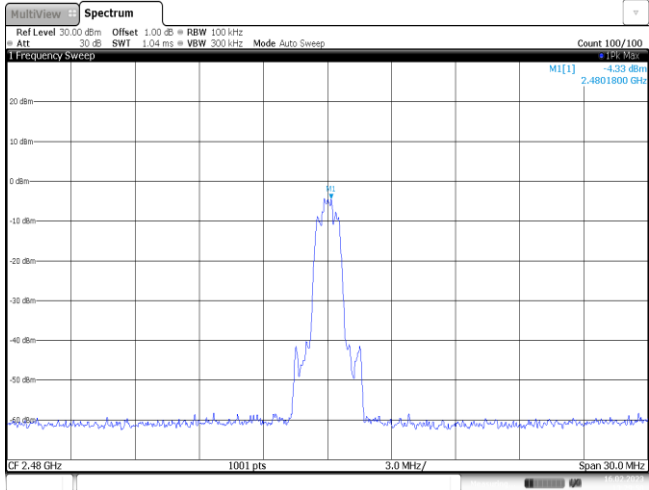
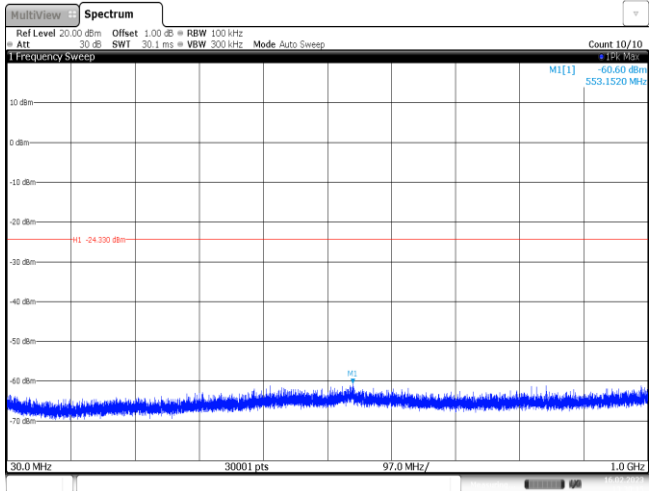
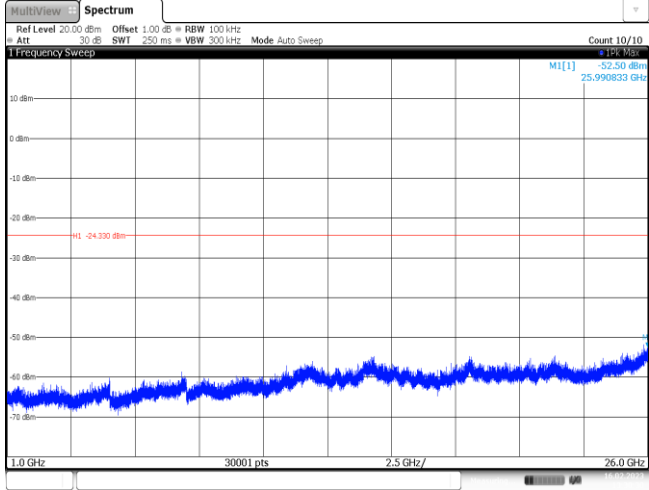


CH39
30MHz~1000MHz



CH39
1GHz~26GHz



CH78 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWF 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 MI[1] -4.33 dBm 2.4801800 GHz CF 2.48 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 16.FEB.2023 13:29:58
CH78 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWF 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -60.60 dBm 553.1520 MHz MI -24.330 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 16.FEB.2023 13:30:14
CH78 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWF 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -52.50 dBm 25.990833 GHz MI -24.330 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 16.FEB.2023 13:30:20

-----End of Report-----