

APPENDIX REPORT

Project No.	SHT2102033002EW	Radio Specification	Bluetooth EDR
Test sample No.	YPHT21020330003	Model No.	VT980
Start test date	2021-03-03	Finish date	2021-03-03
Temperature	22.8°C	Humidity	52%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhuo

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	5.27	5.26	≤ 30.00	Pass
	39	6.12	6.10		
	78	2.23	2.19		
$\pi/4$ DQPSK	00	5.47	4.86	≤ 21.00	Pass
	39	6.23	5.62		
	78	2.41	1.78		
8DPSK	00	5.74	5.03	≤ 21.00	Pass
	39	6.68	5.94		
	78	2.84	2.10		

Appendix report page: 3 of 41

Modulation Type:		$\pi/4$ DQPSK
CH00	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWI 1.01 ms VBW 5 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1 5.47 dBm 2.40214490 GHz CF 2.402 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:00:09	
CH39	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWI 1.01 ms VBW 5 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1 6.23 dBm 2.44112490 GHz CF 2.441 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:03:56	
CH78	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWI 1.01 ms VBW 5 kHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1 2.41 dBm 2.47988510 GHz CF 2.48 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:06:27	

Modulation Type: 8DPSK	
CH00	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] 5.74 dBm 2.40198000 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.402 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:24:15
CH39	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] 6.68 dBm 2.44099500 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.441 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:27:47
CH78	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 2 MHz Att 30 dB SWT 1.01 ms VBW 5 MHz Mode Auto Sweep Count 500/500 1 Frequency Sweep M1[1] 2.84 dBm 2.48005000 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.48 GHz 1001 pts 500.0 kHz/ Span 5.0 MHz Date: 3 MAR 2021 14:29:37

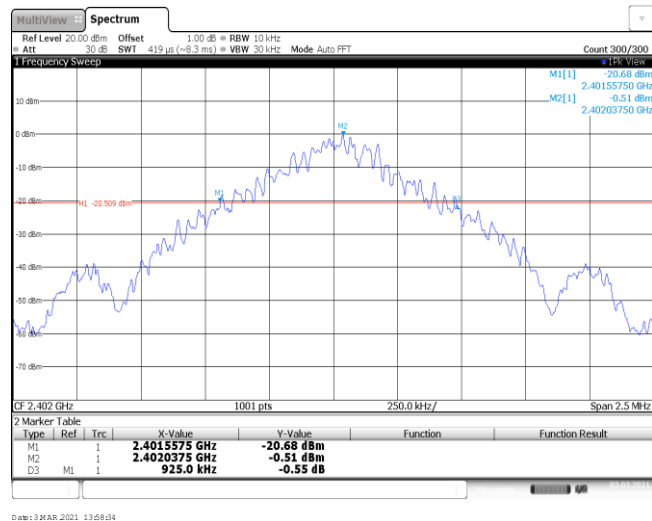
Appendix B : 20 dB Bandwidth

Modulation type	Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
GFSK	00	925.00	-	Pass
	39	927.50		
	78	927.50		
$\pi/4$ DQPSK	00	1292.50	-	Pass
	39	1317.50		
	78	1317.50		
8DPSK	00	1302.50	-	Pass
	39	1305.00		
	78	1300.00		

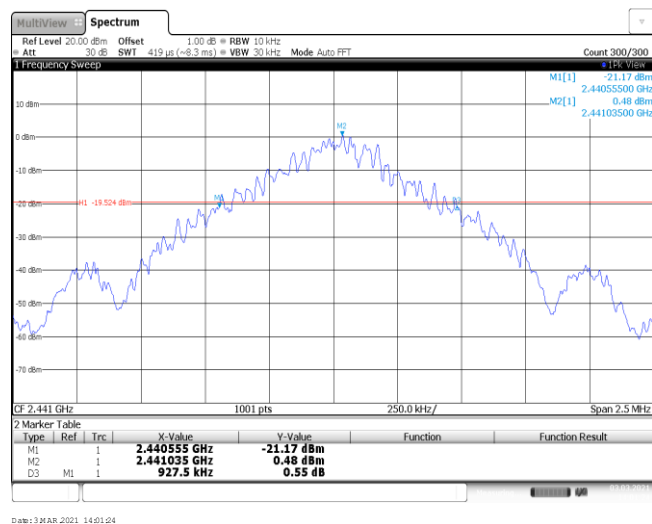
Modulation Type:

GFSK

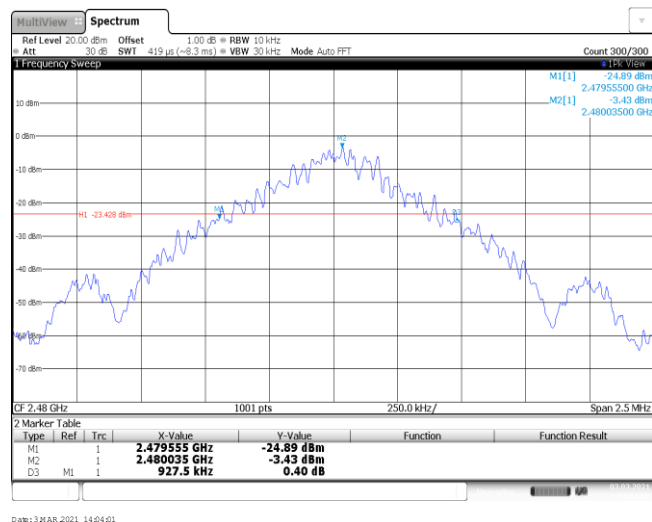
CH00



CH39



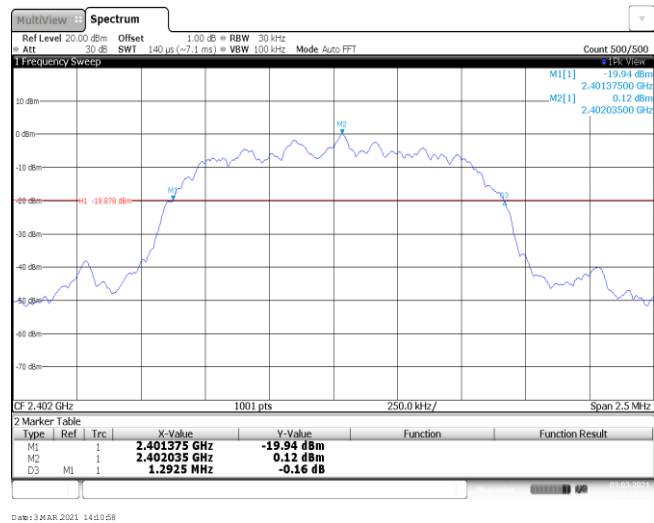
CH78



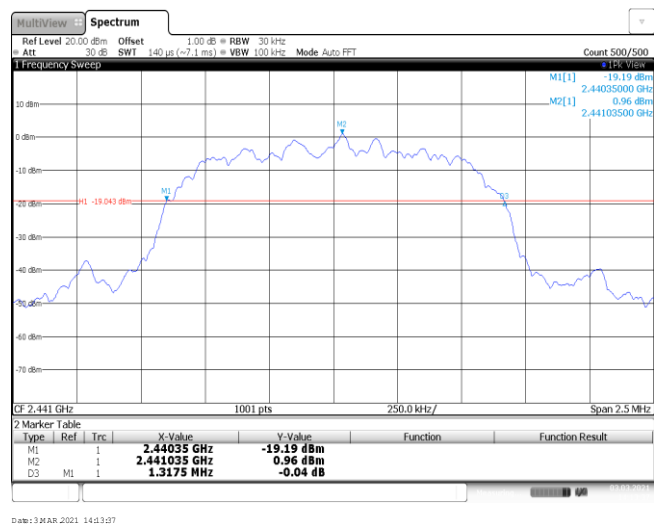
Modulation Type:

 $\pi/4$ DQPSK

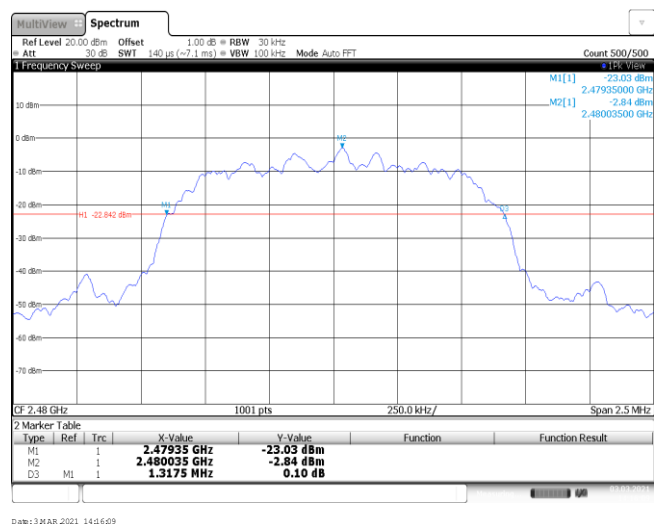
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CH39



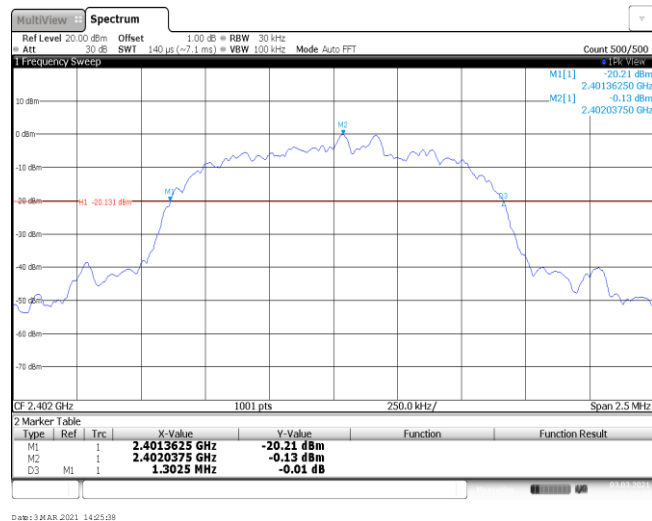
CH78



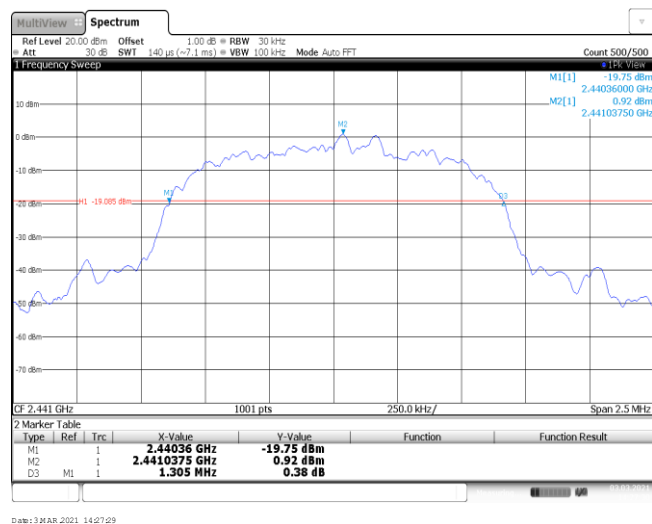
Modulation Type:

8DPSK

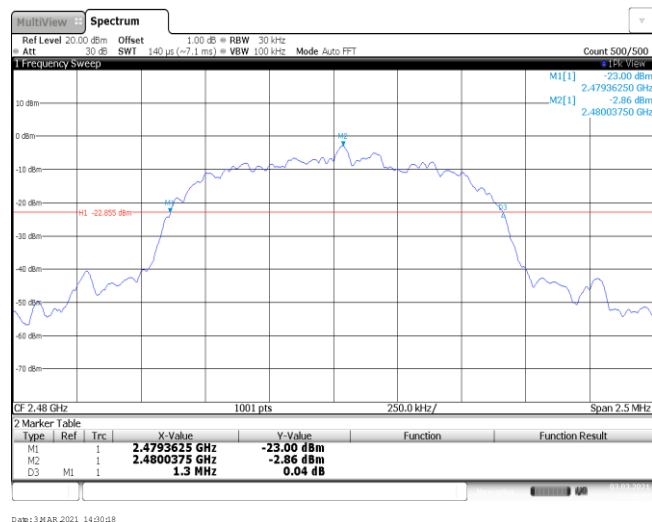
CH00



CH39

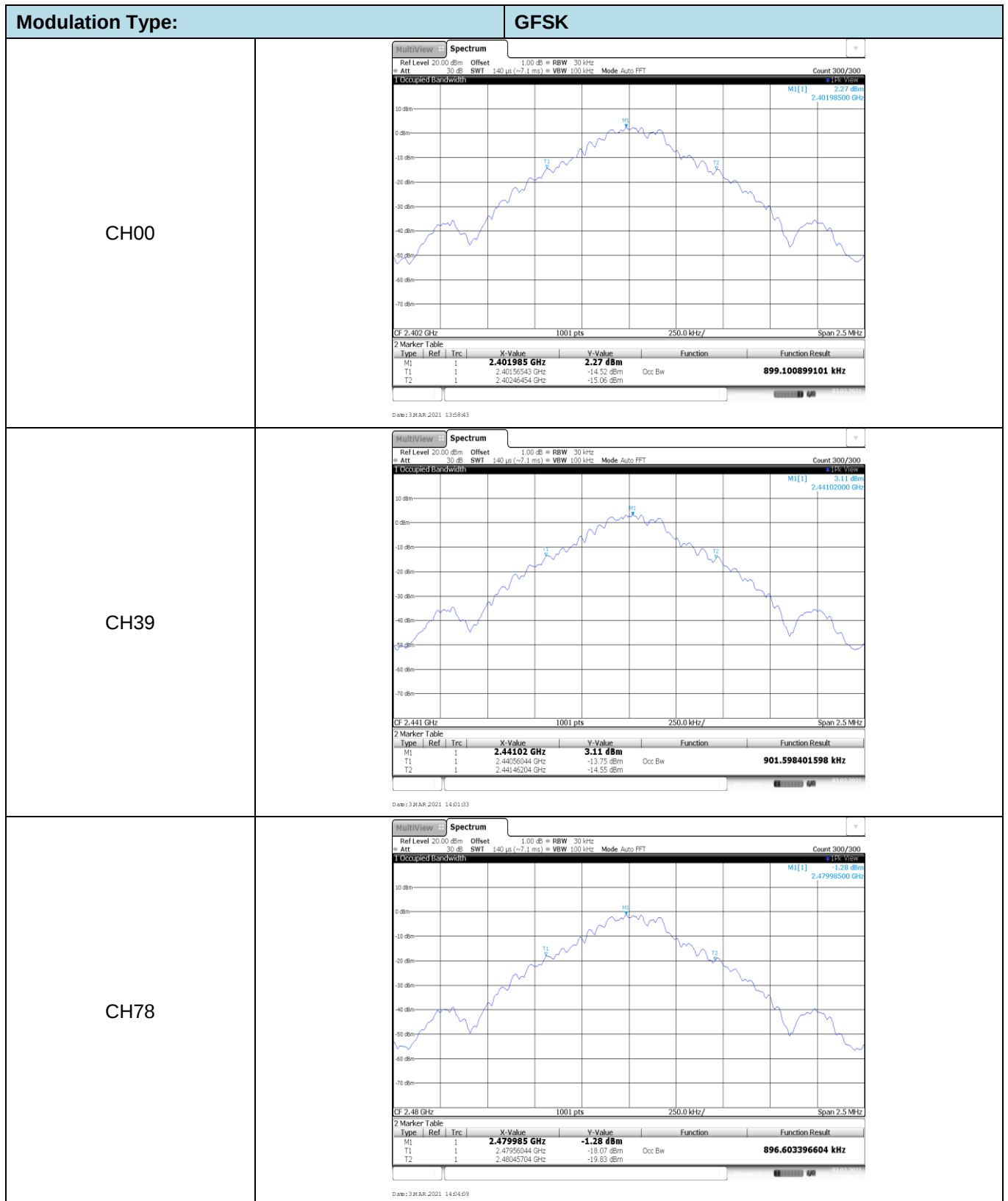


CH78

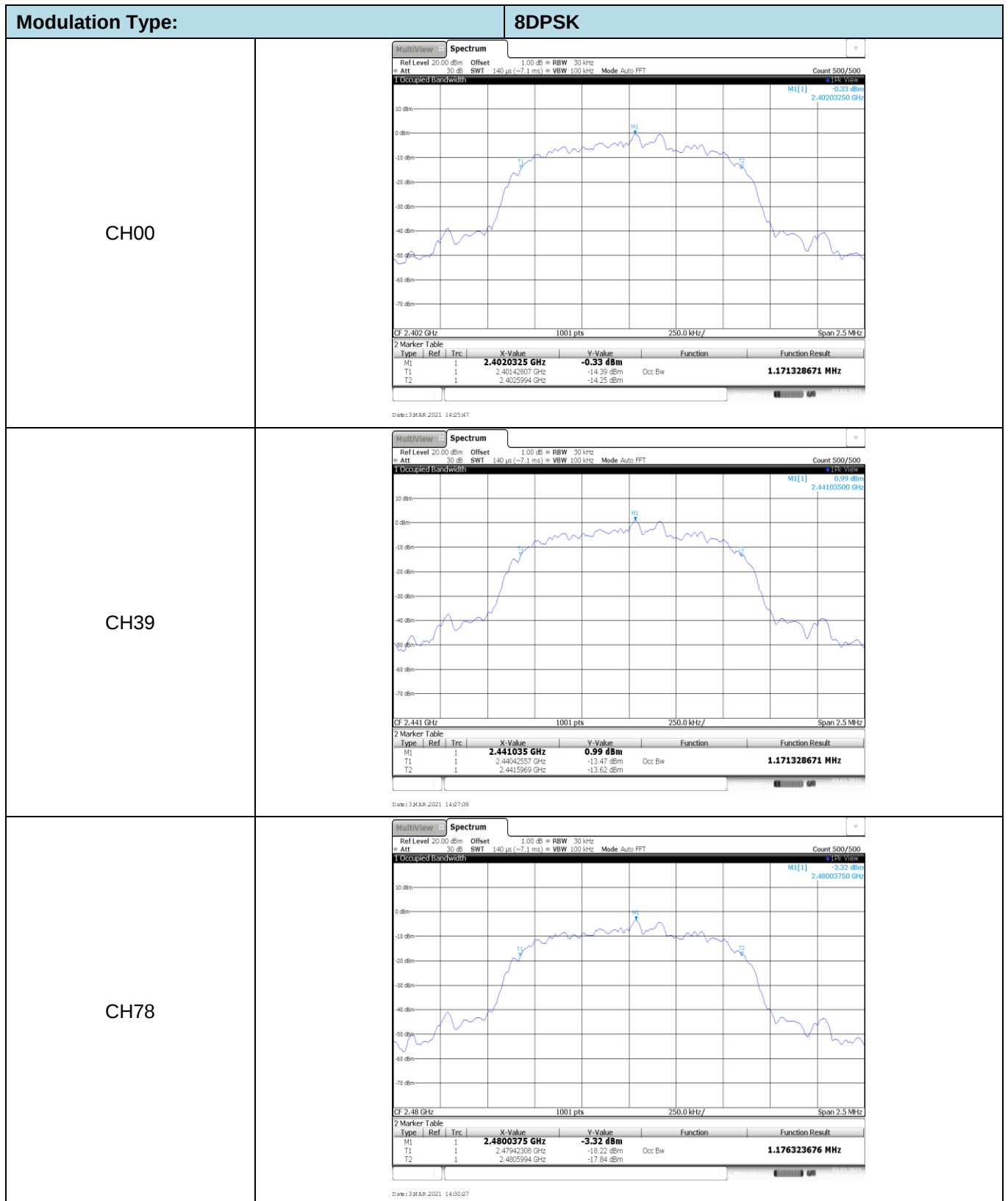


Appendix C: 99% Occupied Bandwidth

Modulation type	Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
GFSK	00	0.90	-	Pass
	39	0.90		
	78	0.90		
$\pi/4$ DQPSK	00	1.18	-	Pass
	39	1.17		
	78	1.17		
8DPSK	00	1.17	-	Pass
	39	1.17		
	78	1.18		



Appendix report page: 12 of 41



Appendix D: Carrier Frequencies Separation

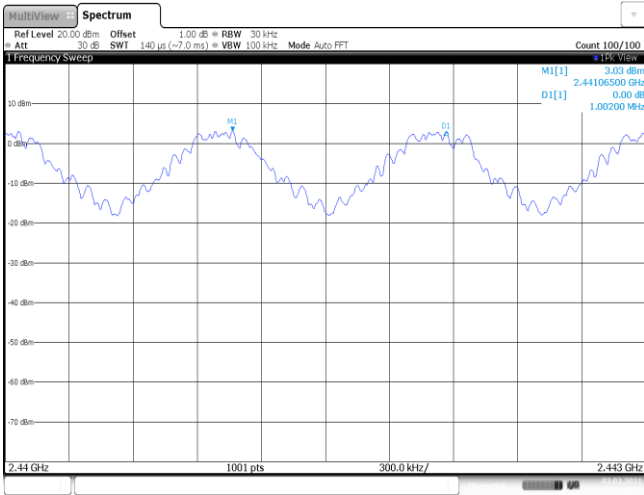
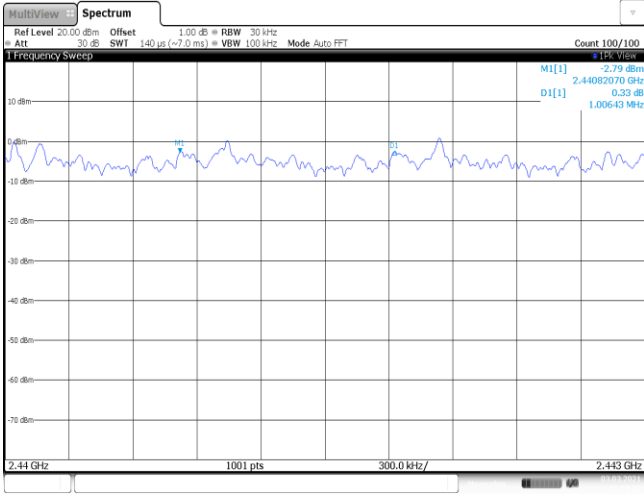
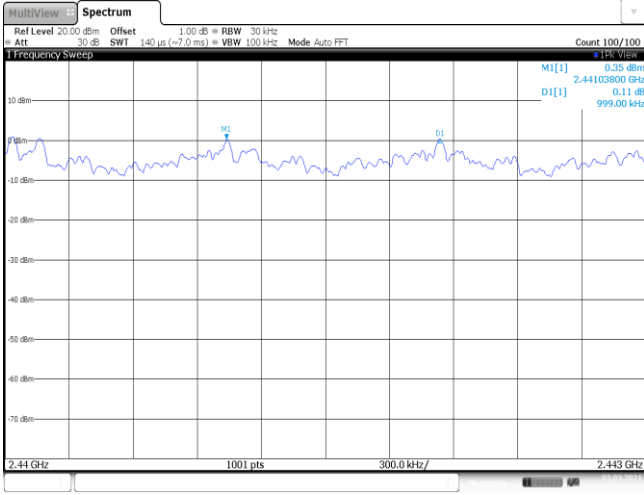
Modulation type	Channel	Carrier Frequencies Separation (MHz)	Limit (kHz) *	Result
GFSK	39	1.00	≥927.50	Pass
π/4DQPSK	39	1.01	≥878.33	Pass
8DPSK	39	1.00	≥870.00	Pass

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.

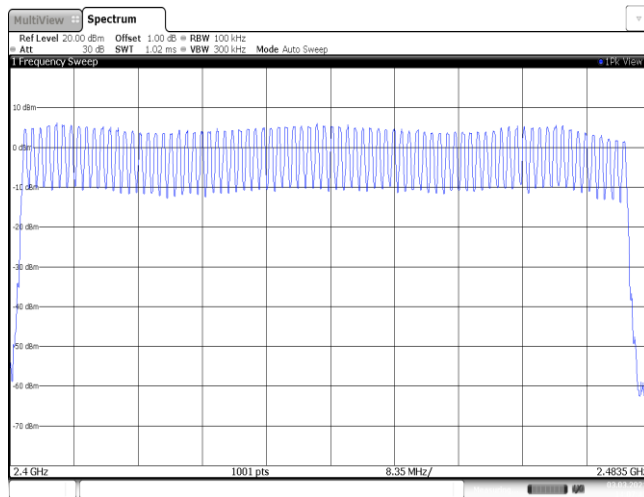
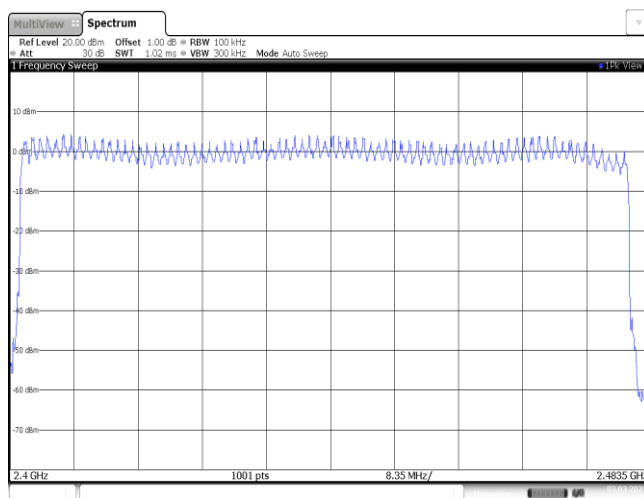
8DPSK limit = 2/3 * The maximum 20 dB Bandwidth for 8DPSK modulation on the appendix B

GFSK	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 140 μs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 100/100 Frequency Sweep M1[1] 3.00 dBm 2.44106500 GHz D1[1] 0.00 dB 1.00200 MHz 2.44 GHz 1001 pts 300.0 kHz/ 2.443 GHz Date: 3 MAR 2021 14:06:39
π /4DQPSK	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 140 μs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 100/100 Frequency Sweep M1[1] 2.75 dBm 2.44082070 GHz D1[1] 0.33 dB 1.00643 MHz 2.44 GHz 1001 pts 300.0 kHz/ 2.443 GHz Date: 3 MAR 2021 14:19:20
8DPSK	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 140 μs (~7.0 ms) VBW 100 kHz Mode Auto FFT Count 100/100 Frequency Sweep M1[1] 0.35 dBm 2.44103800 GHz D1[1] 0.11 dB 999.00 kHz 2.44 GHz 1001 pts 300.0 kHz/ 2.443 GHz Date: 3 MAR 2021 14:32:55

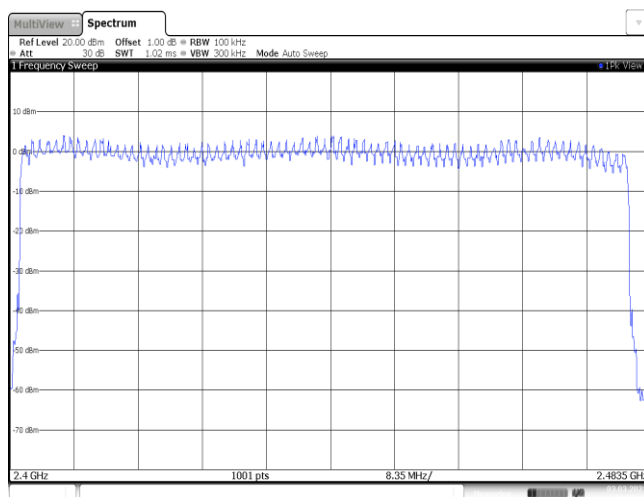
Appendix E: Hopping Channel Number

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

GFSK

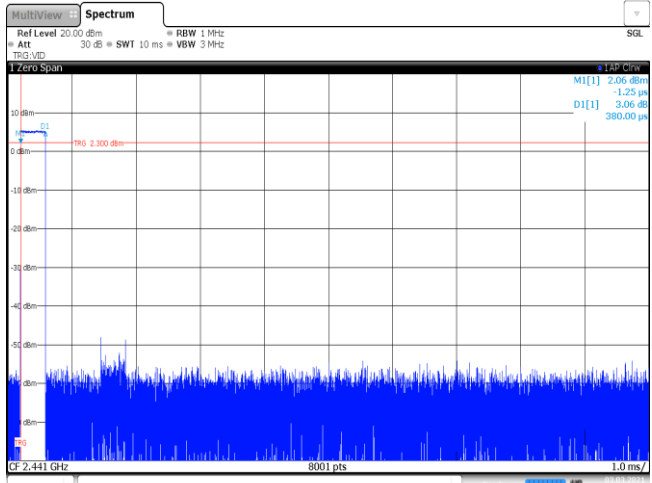
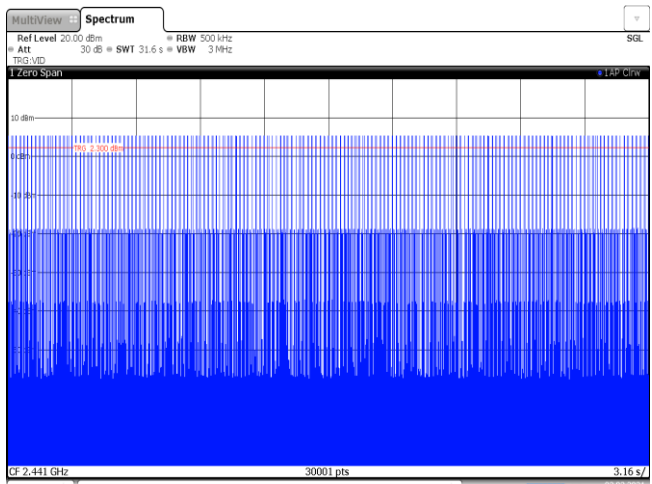
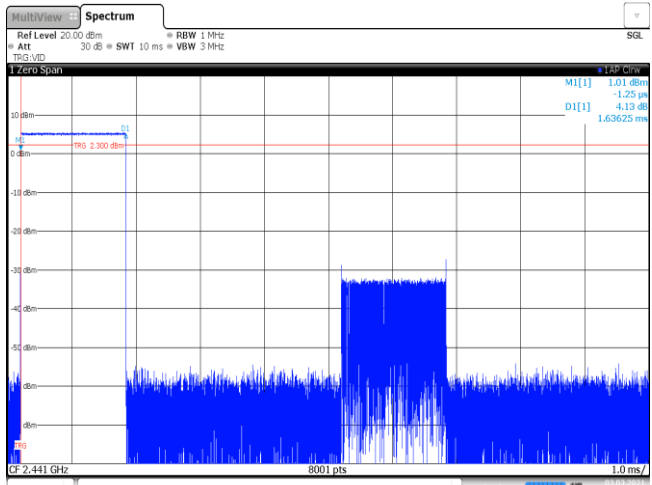
 $\pi/4$ DQPSK

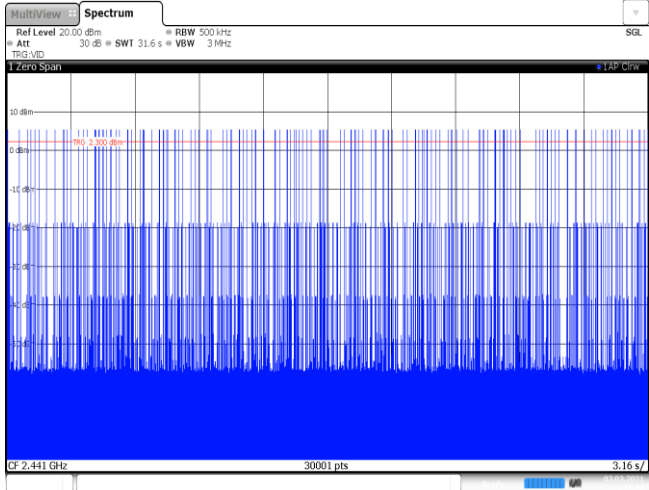
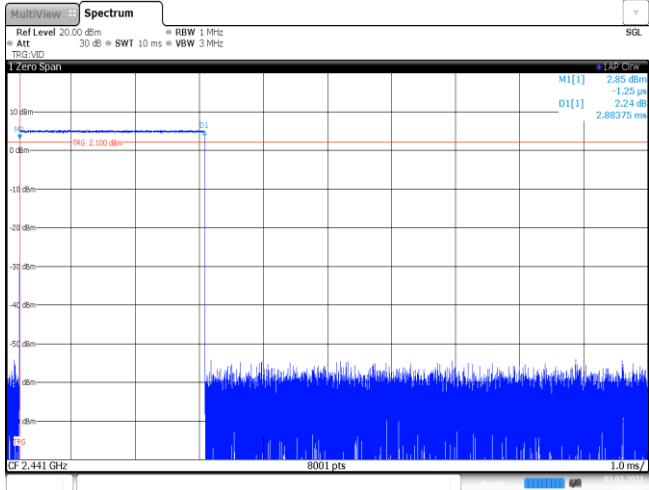
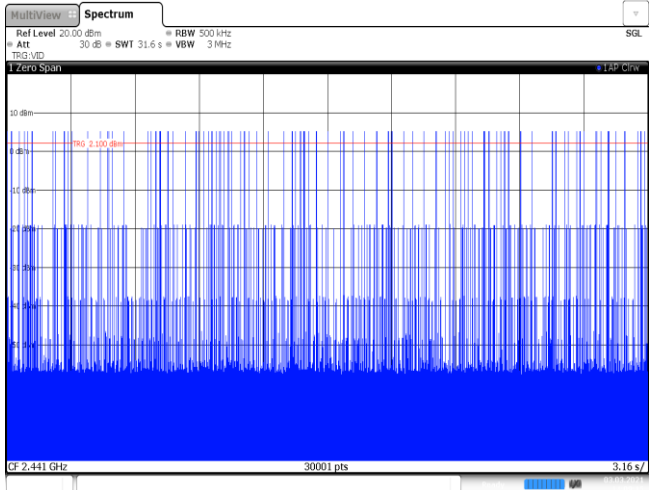
8DPSK



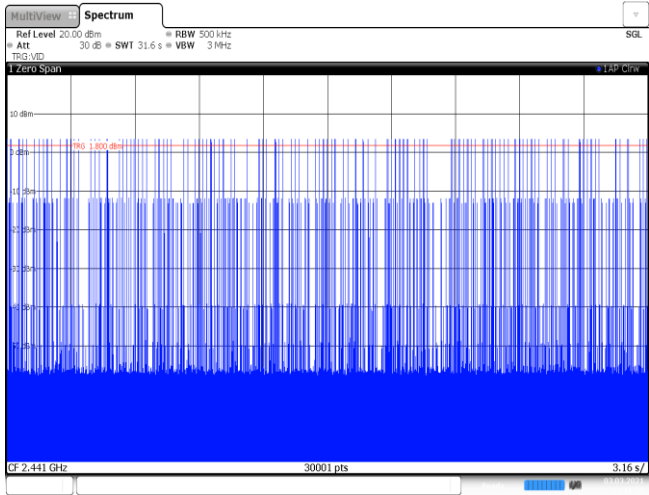
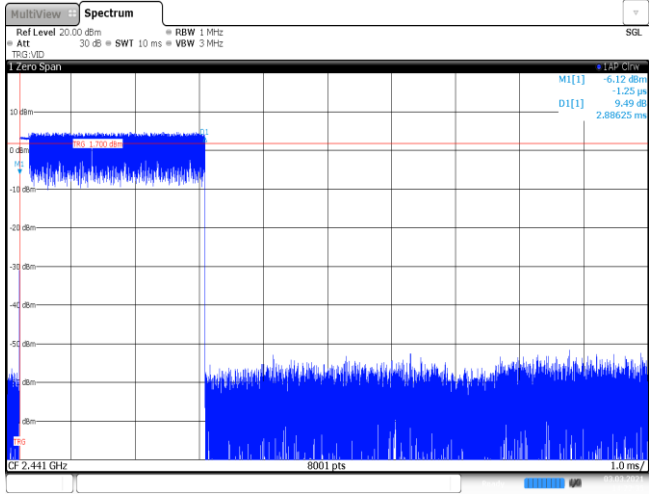
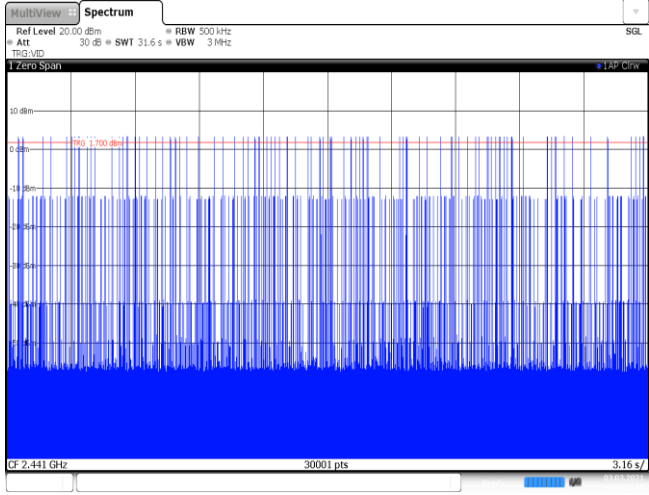
Appendix F: Dwell Time

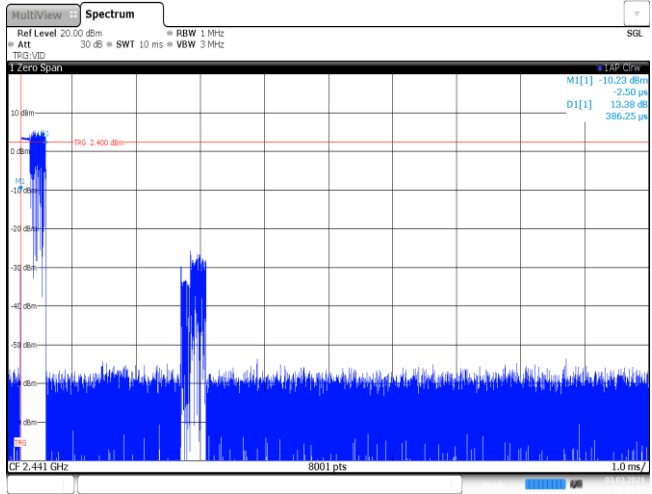
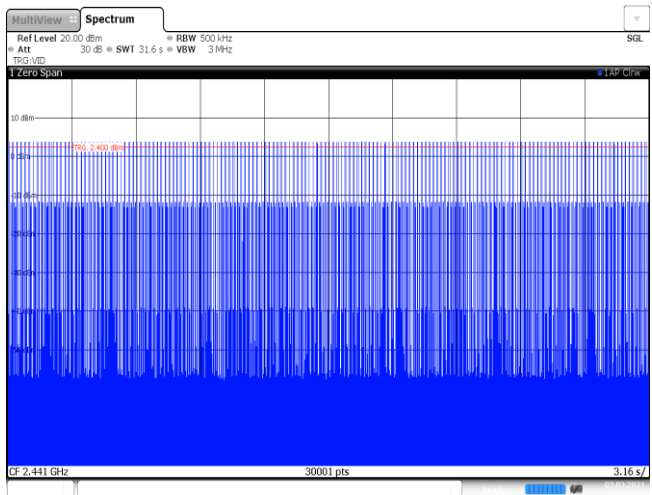
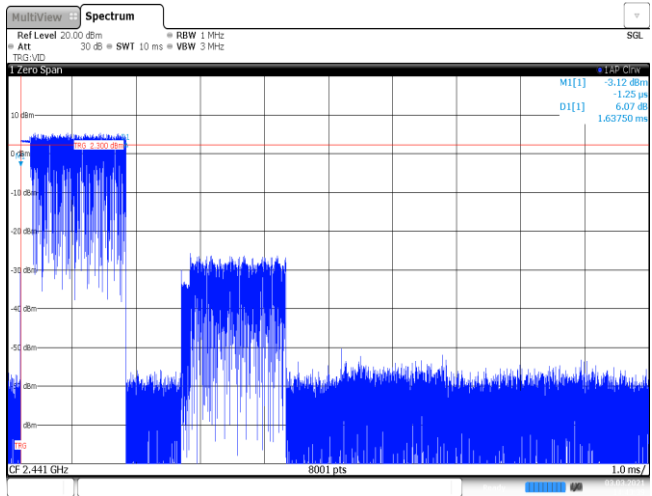
Modulation type	Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
GFSK	DH1	0.38	316	0.12	≤ 0.40	Pass
	DH3	1.64	151	0.25		
	DH5	2.88	110	0.32		
$\pi/4$ DQPSK	2DH1	0.39	315	0.12	≤ 0.40	Pass
	2DH3	1.64	149	0.24		
	2DH5	2.89	95	0.27		
8DPSK	3DH1	0.39	310	0.12	≤ 0.40	Pass
	3DH3	1.64	156	0.26		
	3DH5	2.89	99	0.29		

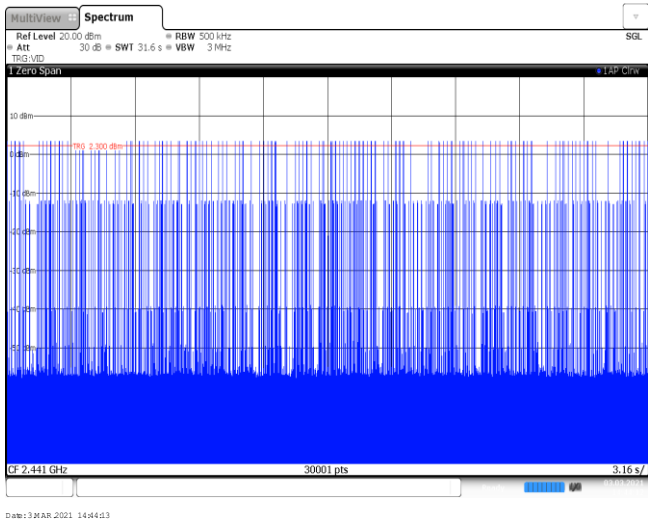
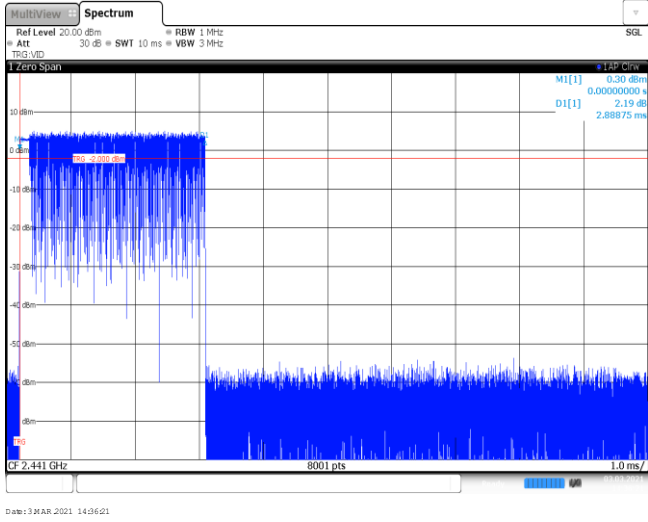
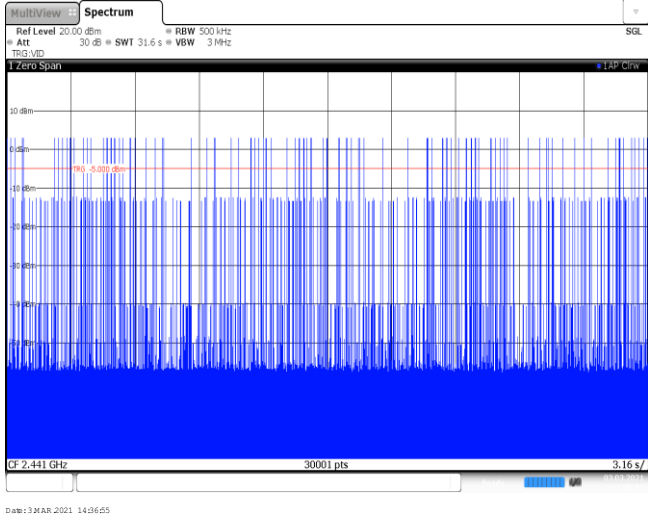
Modulation Type:	GFSK
DH1 Burst width	 The spectrum plot shows a signal at 2.441 GHz with a bandwidth of 8001 pts. The y-axis represents power in dBm, ranging from -60 to 10. A red line indicates a reference level at -30 dBm. The signal is a narrowband burst. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 1 MHz, SWT 10 ms, VBW 3 MHz. The signal is identified as M1[1] with a duration of 2.05 dBm, -1.25 ps, and a power of 3.06 dBm. The signal is also identified as D1[1] with a duration of 380.00 ps.
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 -60 to 10. A red line indicates a reference level at -30 dBm. The signal is a narrowband burst. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 500 kHz, SWT 31.6 s, VBW 3 MHz. The signal is identified as M1[1] with a duration of 1.01 dBm, -1.25 ps, and a power of 4.13 dBm. The signal is also identified as D1[1] with a duration of 1.63625 ms.
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 -60 to 10. A red line indicates a reference level at -30 dBm. The signal is a narrowband burst. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 1 MHz, SWT 10 ms, VBW 3 MHz. The signal is identified as M1[1] with a duration of 1.01 dBm, -1.25 ps, and a power of 4.13 dBm. The signal is also identified as D1[1] with a duration of 1.63625 ms.

DH3 Burst number	 The spectrum plot shows a signal centered at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in MHz, ranging from 2.435 to 2.447. The plot shows a dense signal with a peak level of approximately 0 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 500 kHz, SWT 31.6 s, VBW 3 MHz. The plot is dated 3 MAR 2021 14:39:28.
DH5 Burst width	 The spectrum plot shows a signal centered at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in MHz, ranging from 2.435 to 2.447. The plot shows a signal with a peak level of approximately 0 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 1 MHz, SWT 10 ms, VBW 3 MHz. The plot is dated 3 MAR 2021 14:09:41.
DH5 Burst number	 The spectrum plot shows a signal centered at 2.441 GHz. The y-axis represents power in dBm, ranging from -50 to 10. The x-axis represents frequency in MHz, ranging from 2.435 to 2.447. The plot shows a dense signal with a peak level of approximately 0 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Att 30 dB, RBW 500 kHz, SWT 31.6 s, VBW 3 MHz. The plot is dated 3 MAR 2021 14:09:15.

Modulation Type: $\pi/4$ DQPSK	
2DH1 Burst width	
2DH1 Burst number	
2DH3 Burst width	

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

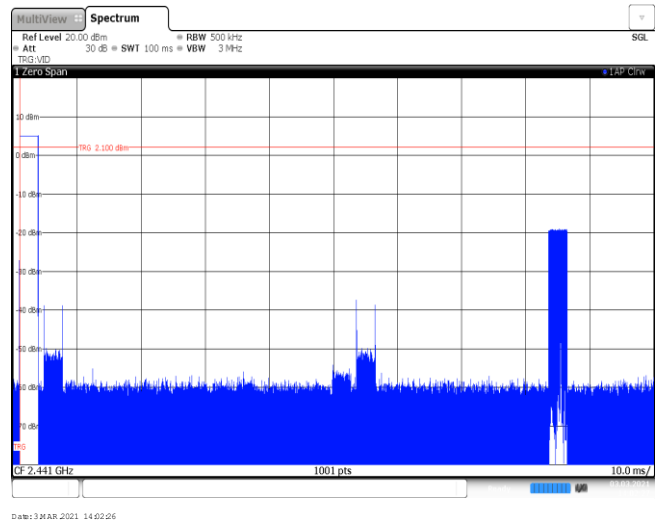
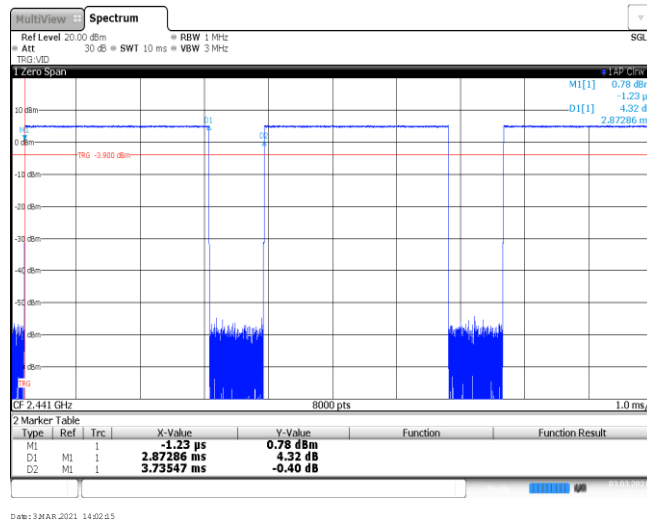
Modulation Type:	8DPSK
3DH1 Burst width	 The spectrum plot shows a signal burst at 2.441 GHz. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents frequency in MHz, ranging from 2.440 to 2.442. A red horizontal line indicates a reference level at -2.400 dBm. The signal burst is visible as a blue trace. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 10 ms, RBW 1 MHz, VBW 3 MHz. The signal is identified as 1AP Chirp. The plot shows a burst of signal at 2.441 GHz, with a peak power of approximately -2.400 dBm. The signal is identified as 1AP Chirp. The plot shows a burst of signal at 2.441 GHz, with a peak power of approximately -2.400 dBm. The signal is identified as 1AP Chirp.
3DH1 Burst number	 The spectrum plot shows a signal burst at 2.441 GHz. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents frequency in MHz, ranging from 2.440 to 2.442. A red horizontal line indicates a reference level at -2.400 dBm. The signal burst is visible as a blue trace. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 31.6 s, RBW 500 kHz, VBW 3 MHz. The signal is identified as 1AP Chirp. The plot shows a burst of signal at 2.441 GHz, with a peak power of approximately -2.400 dBm. The signal is identified as 1AP Chirp.
3DH3 Burst width	 The spectrum plot shows a signal burst at 2.441 GHz. The y-axis represents power in dBm, ranging from -60 to 10. The x-axis represents frequency in MHz, ranging from 2.440 to 2.442. A red horizontal line indicates a reference level at -2.400 dBm. The signal burst is visible as a blue trace. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, SWT 10 ms, RBW 1 MHz, VBW 3 MHz. The signal is identified as 1AP Chirp. The plot shows a burst of signal at 2.441 GHz, with a peak power of approximately -2.400 dBm. The signal is identified as 1AP Chirp.

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

Appendix G: Duty Cycle Correction Factor (DCCF)

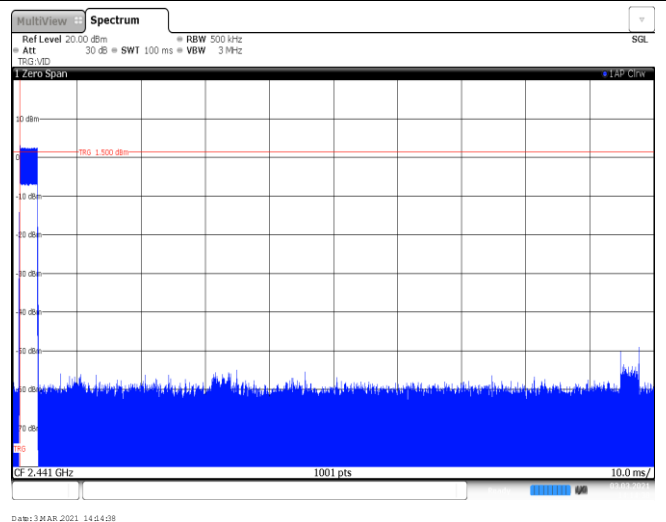
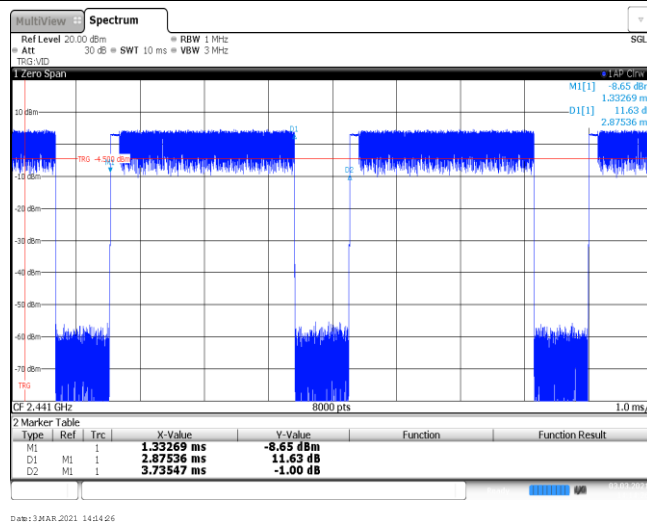
DCCF Calculate Formula					
$DCCF = 20 * \text{Log}(\text{duty cycle}) = 20 * \text{Log}(T_{\text{on time}} / T_{\text{period}})$					
Modulation type	Test Frequency (MHz)	$T_{\text{on time}}$ for single burst [ms]	T_{period} [ms]	Burst Quantity	DCCF [dB]
GFSK	2441	2.87	100	2	-24.82
$\pi/4$ DQPSK	2441	2.88	100	1	-30.81
8DPSK	2441	2.88	100	1	-30.81

GFSK



Ton time for single burst

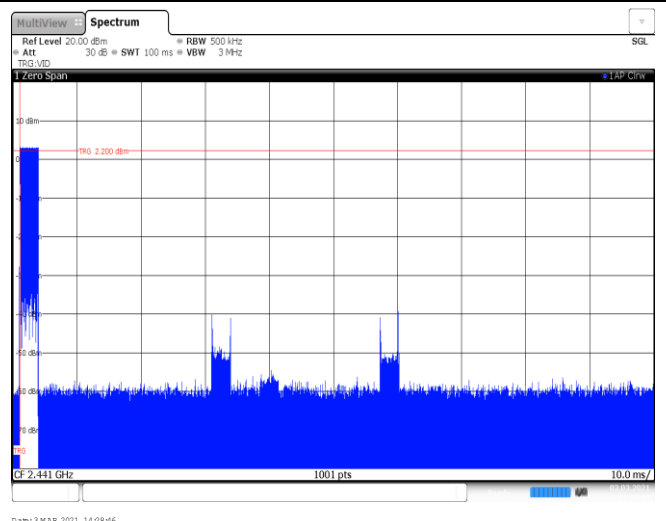
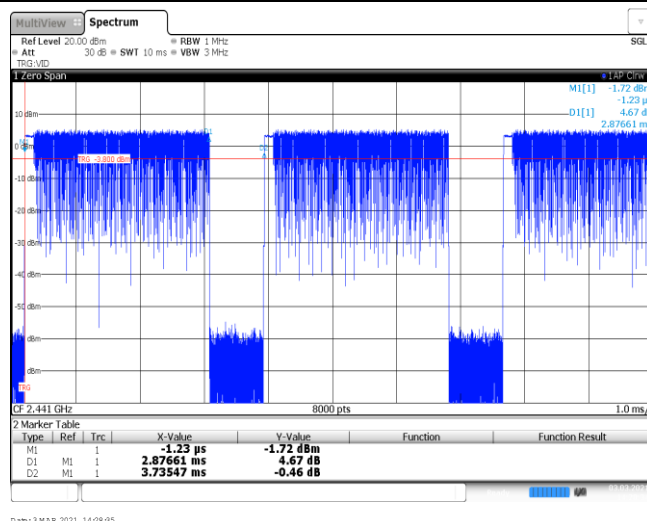
Burst Quantity

 $\pi/4$ DQPSK

Ton time for single burst

Burst Quantity

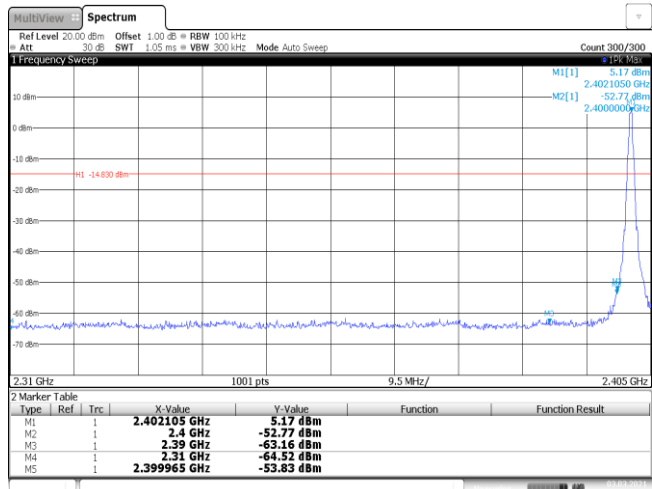
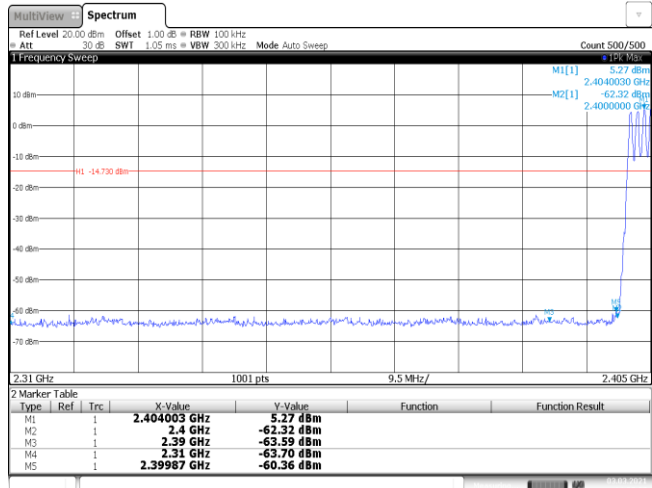
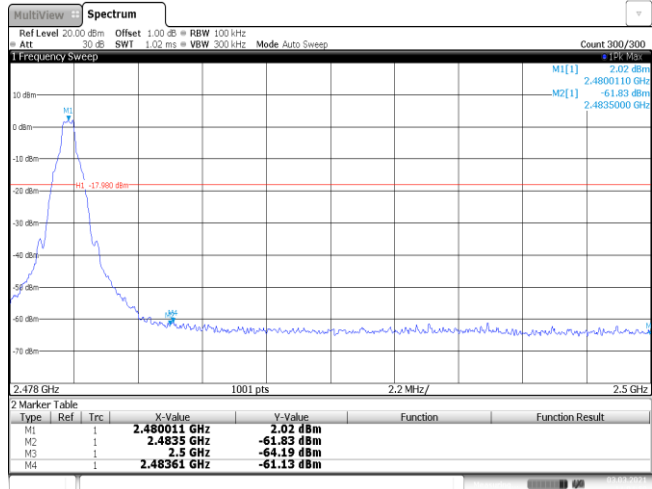
8DPSK



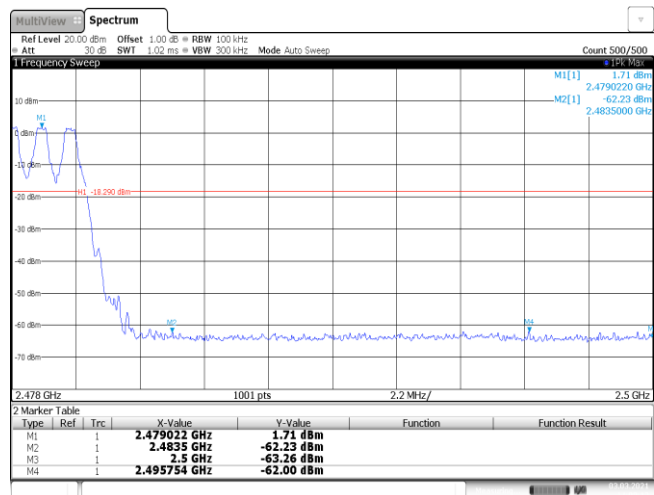
Ton time for single burst

Burst Quantity

Appendix H: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Modulation type:	GFSK																																										
CH00 No hopping mode	 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>2.402105 GHz</td><td>5.17 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-52.77 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.16 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.52 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399965 GHz</td><td>-53.83 dBm</td><td></td><td></td></tr></table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.402105 GHz	5.17 dBm			M2	1		2.4 GHz	-52.77 dBm			M3	1		2.39 GHz	-63.16 dBm			M4	1		2.31 GHz	-64.52 dBm			M5	1		2.399965 GHz	-53.83 dBm				
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.402105 GHz	5.17 dBm																																									
M2	1		2.4 GHz	-52.77 dBm																																									
M3	1		2.39 GHz	-63.16 dBm																																									
M4	1		2.31 GHz	-64.52 dBm																																									
M5	1		2.399965 GHz	-53.83 dBm																																									
CH00 Hopping mode	 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>2.404003 GHz</td><td>5.27 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-62.32 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.59 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.70 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39987 GHz</td><td>-60.36 dBm</td><td></td><td></td></tr></table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.404003 GHz	5.27 dBm			M2	1		2.4 GHz	-62.32 dBm			M3	1		2.39 GHz	-63.59 dBm			M4	1		2.31 GHz	-63.70 dBm			M5	1		2.39987 GHz	-60.36 dBm				
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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CH78 No hopping mode	 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>2.480011 GHz</td><td>2.02 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-61.83 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-64.19 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.48361 GHz</td><td>-61.13 dBm</td><td></td><td></td></tr></table>	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.480011 GHz	2.02 dBm			M2	1		2.4835 GHz	-61.83 dBm			M3	1		2.5 GHz	-64.19 dBm			M4	1		2.48361 GHz	-61.13 dBm											
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M4	1		2.48361 GHz	-61.13 dBm																																									

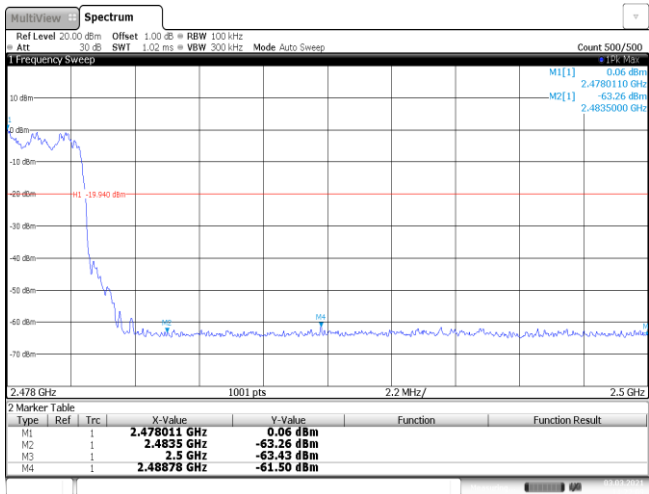
CH78
Hopping mode



Date: 3 MAR 2021 14:28:13

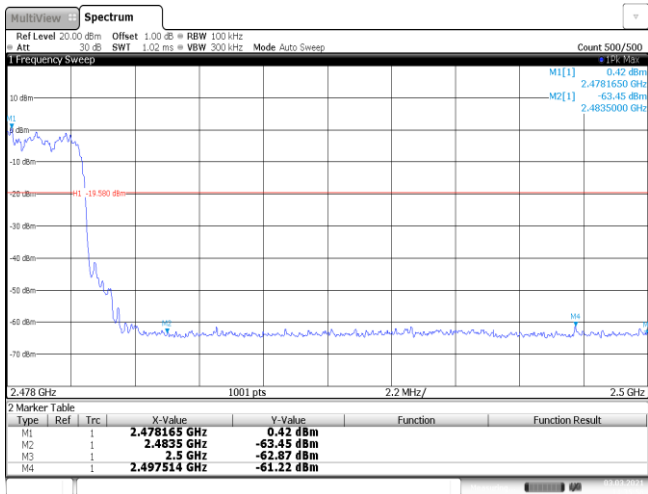
Test Item:	Band edge	Modulation type:	$\pi/4$ DQPSK
CH00 No hopping mode	<		

CH78
Hopping mode

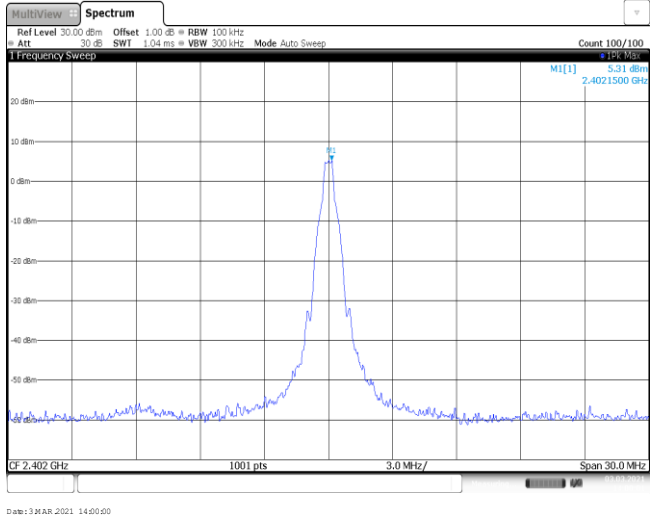
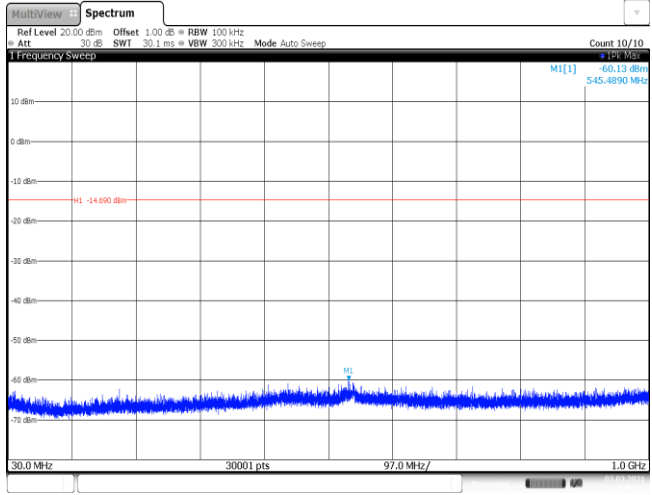
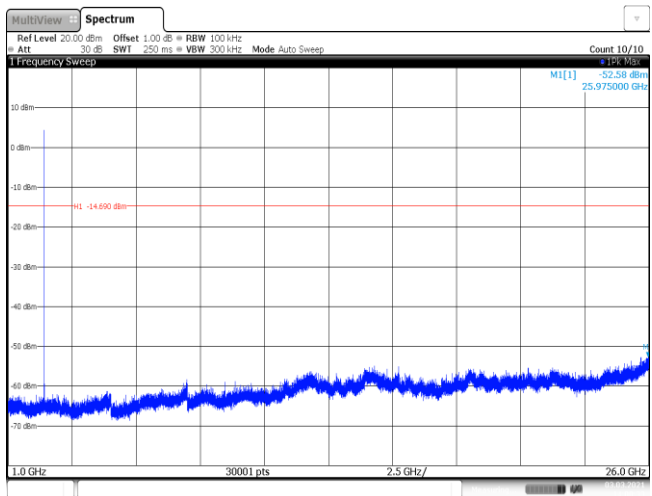


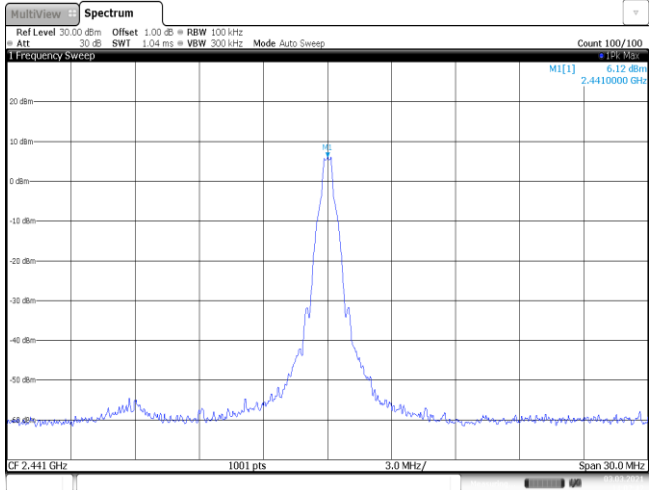
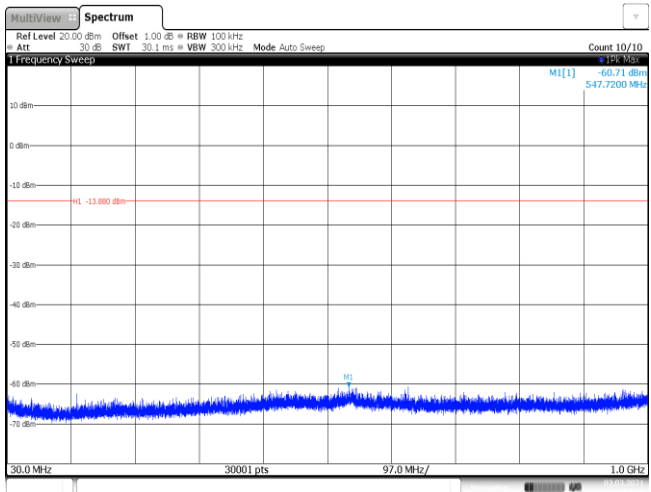
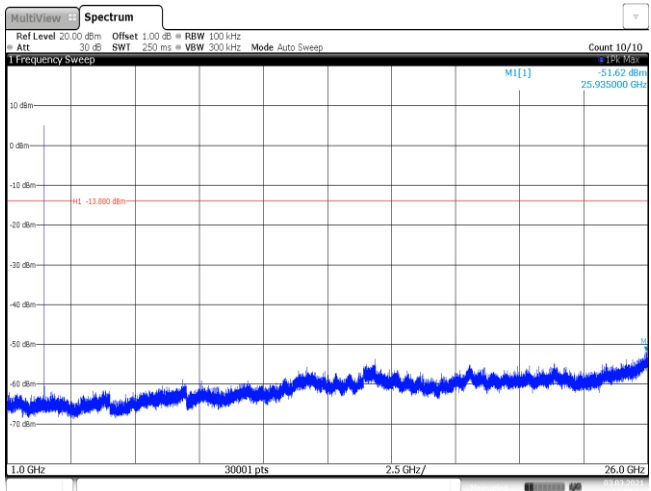
Test Item:	Band edge	Modulation type:	8DPSK																																										
CH00 No hopping mode	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.05 ms VBW 300 kHz Mode Auto Sweep Count 500/500 Frequency Sweep M1[1] 3.24 dBm 2.402105 GHz M2[1] -54.88 dBm 2.400000 GHz 10 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 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>2.402105 GHz</td><td>3.24 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-54.88 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.42 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.24 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399965 GHz</td><td>-55.94 dBm</td><td></td><td></td></tr></table> Date: 3 MAR 2021 14:26:01			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.402105 GHz	3.24 dBm			M2	1		2.4 GHz	-54.88 dBm			M3	1		2.39 GHz	-63.42 dBm			M4	1		2.31 GHz	-63.24 dBm			M5	1		2.399965 GHz	-55.94 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M2	1		2.4 GHz	-54.88 dBm																																									
M3	1		2.39 GHz	-63.42 dBm																																									
M4	1		2.31 GHz	-63.24 dBm																																									
M5	1		2.399965 GHz	-55.94 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] 2.72 dBm 2.404003 GHz M2[1] -61.03 dBm 2.400000 GHz 10 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 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>2.404003 GHz</td><td>2.72 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-61.03 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.46 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.44 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39968 GHz</td><td>-60.64 dBm</td><td></td><td></td></tr></table> Date: 3 MAR 2021 14:35:02			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.404003 GHz	2.72 dBm			M2	1		2.4 GHz	-61.03 dBm			M3	1		2.39 GHz	-63.46 dBm			M4	1		2.31 GHz	-64.44 dBm			M5	1		2.39968 GHz	-60.64 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.404003 GHz	2.72 dBm																																									
M2	1		2.4 GHz	-61.03 dBm																																									
M3	1		2.39 GHz	-63.46 dBm																																									
M4	1		2.31 GHz	-64.44 dBm																																									
M5	1		2.39968 GHz	-60.64 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 Frequency Sweep M1[1] 0.17 dBm 2.480011 GHz M2[1] -62.64 dBm 2.483500 GHz 10 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 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>2.480011 GHz</td><td>0.17 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-62.64 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-62.69 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.49318 GHz</td><td>-62.02 dBm</td><td></td><td></td></tr></table> Date: 3 MAR 2021 14:31:11			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.480011 GHz	0.17 dBm			M2	1		2.4835 GHz	-62.64 dBm			M3	1		2.5 GHz	-62.69 dBm			M4	1		2.49318 GHz	-62.02 dBm									
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M4	1		2.49318 GHz	-62.02 dBm																																									

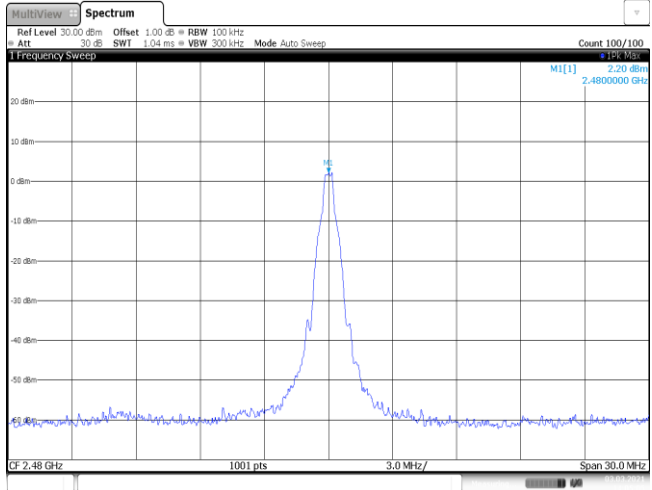
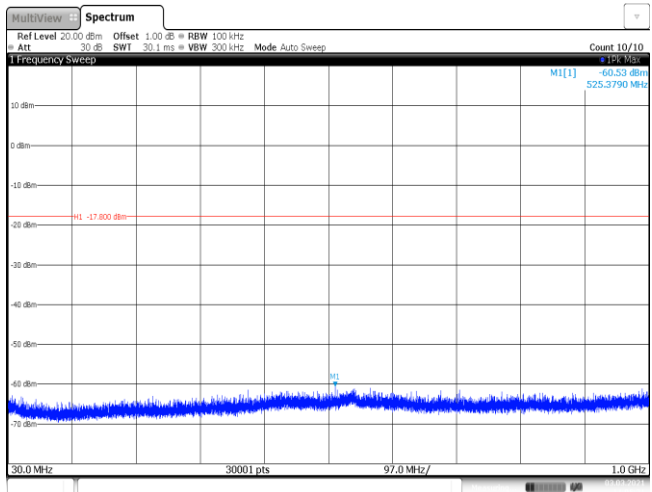
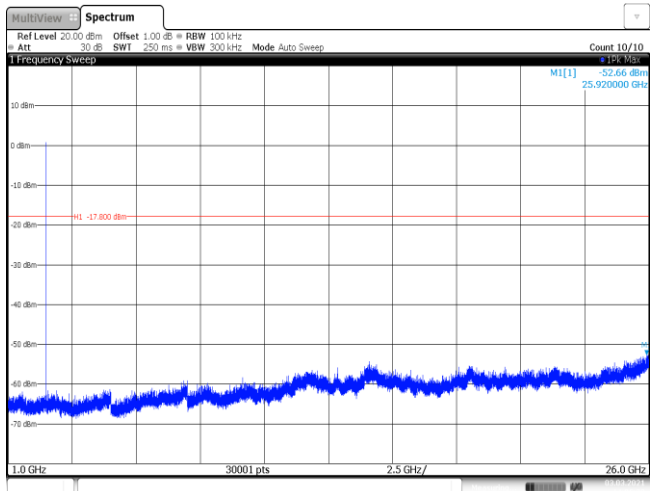
CH78
Hoppig mode

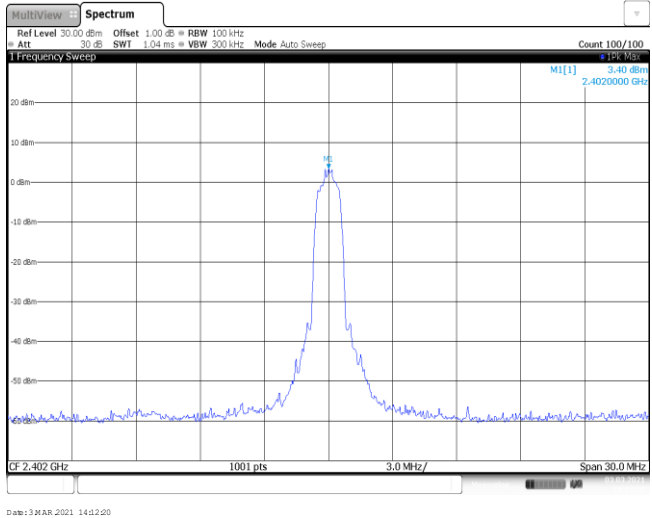
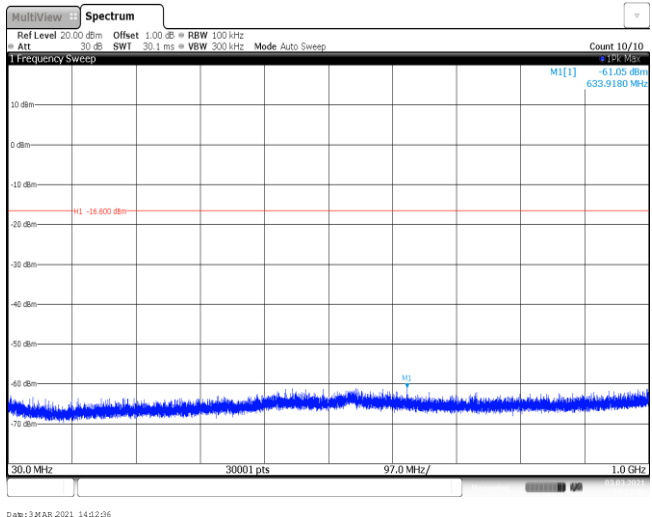
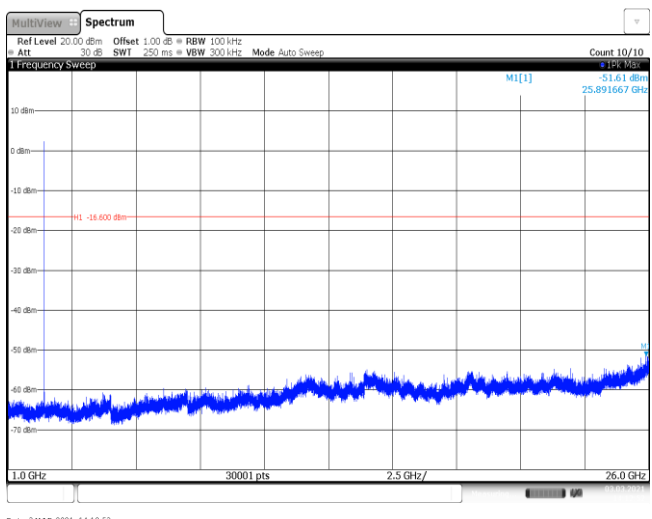


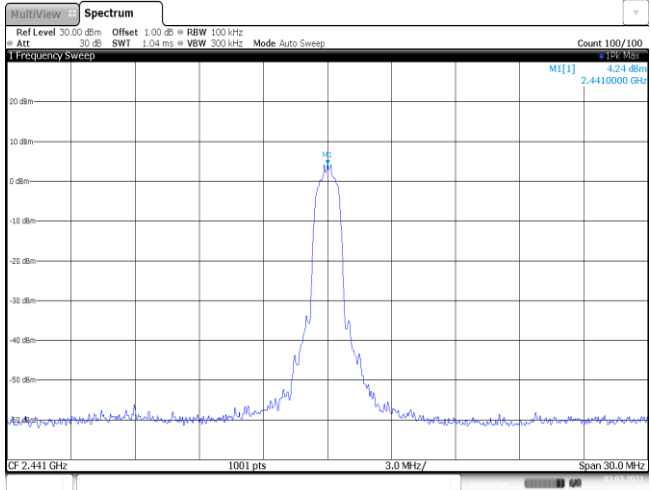
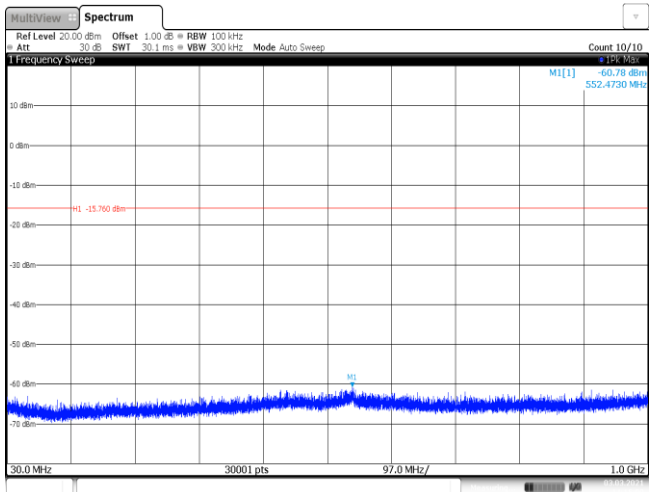
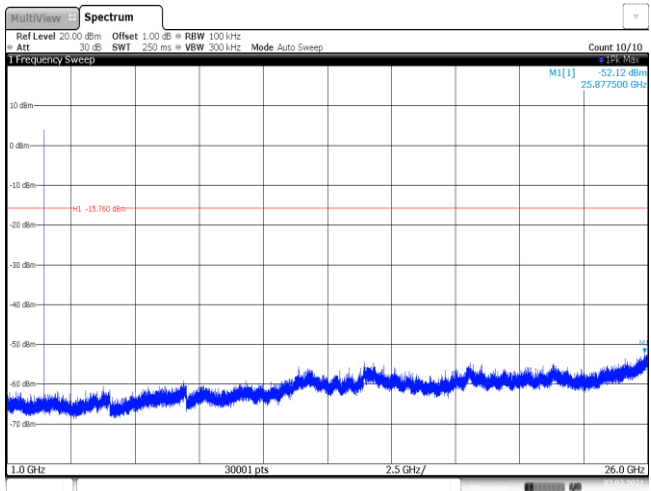
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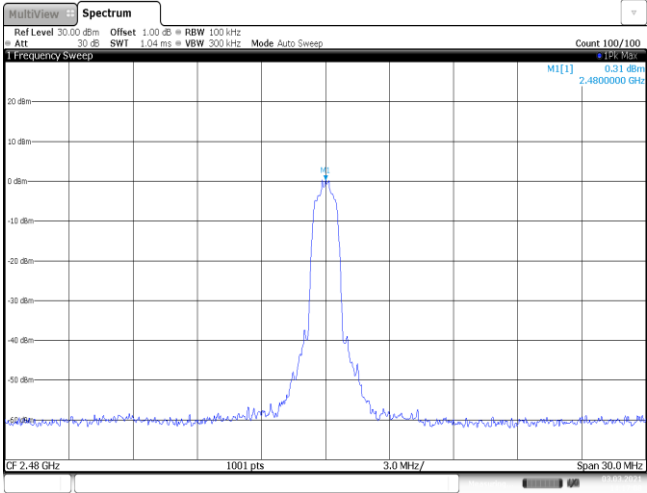
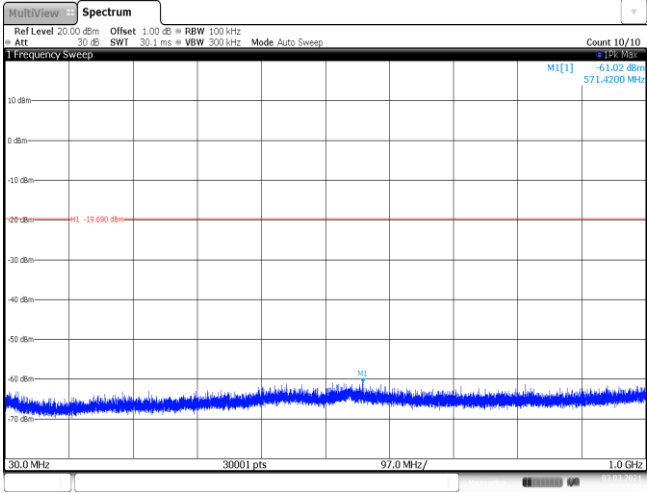
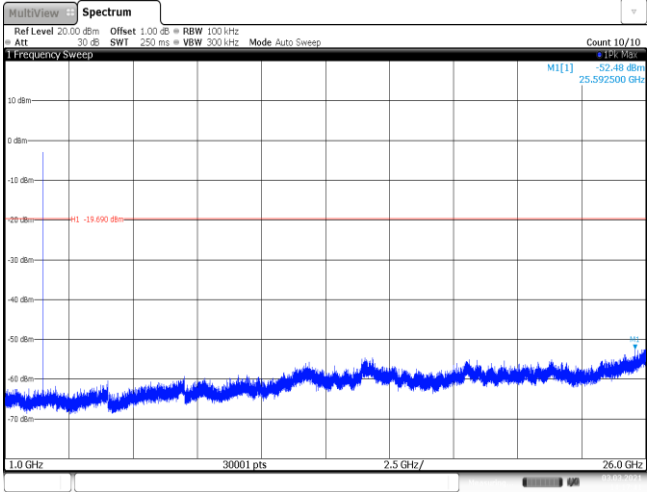
Test Item:	Spurious Emission	Modulation type:	GFSK
CH00 Reference level			
CH00 30MHz~1000MHz			
CH00 1GHz~26GHz			

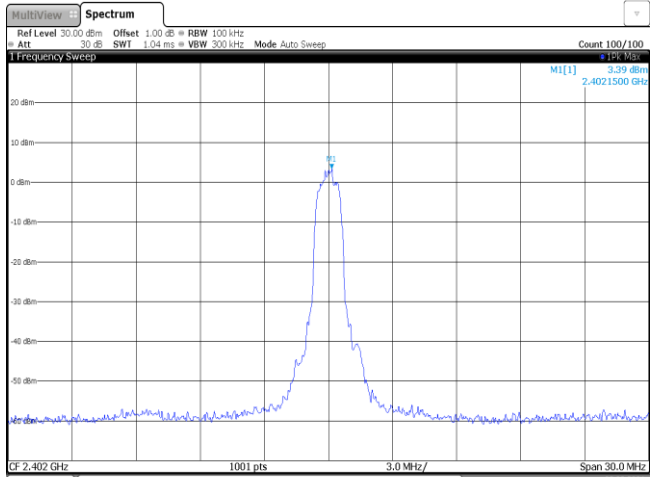
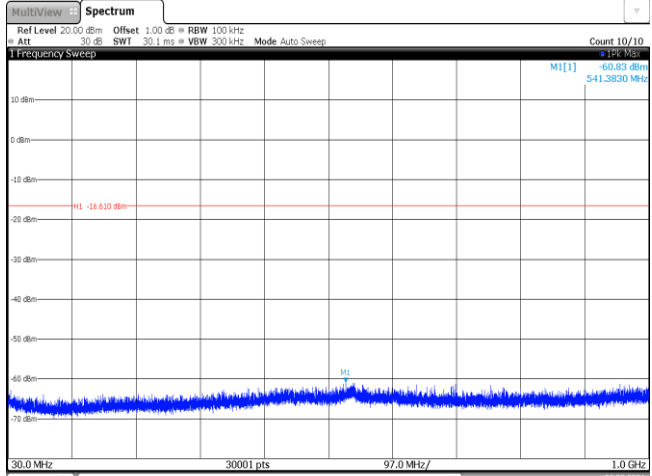
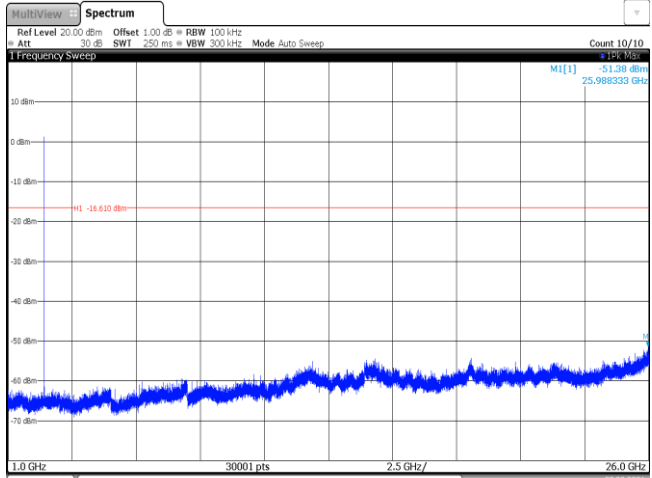
CH39 Reference level	 The spectrum plot shows a single sharp peak at 2.441 GHz. The y-axis represents power in dBm, ranging from -40 to 20. The x-axis represents frequency in MHz, ranging from 2.4 GHz to 2.5 GHz. The peak is labeled with a value of 6.12 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Mode Auto Sweep, Count 100/100, and Span 30.0 MHz.
CH39 30MHz~1000MHz	 The spectrum plot shows a noisy baseline across the 30 MHz to 1000 MHz range. 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. A red horizontal line is drawn at -13.000 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Mode Auto Sweep, Count 10/10, and Span 97.0 MHz.
CH39 1GHz~26GHz	 The spectrum plot shows a noisy baseline across the 1 GHz to 26 GHz range. 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. A red horizontal line is drawn at -13.000 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Mode Auto Sweep, Count 10/10, and Span 2.5 GHz.

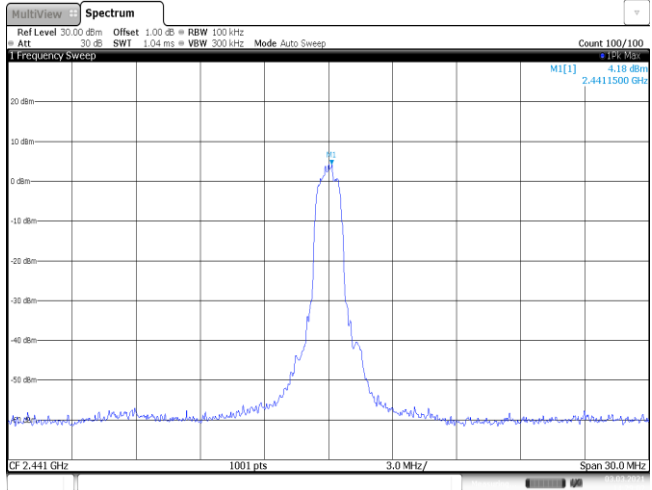
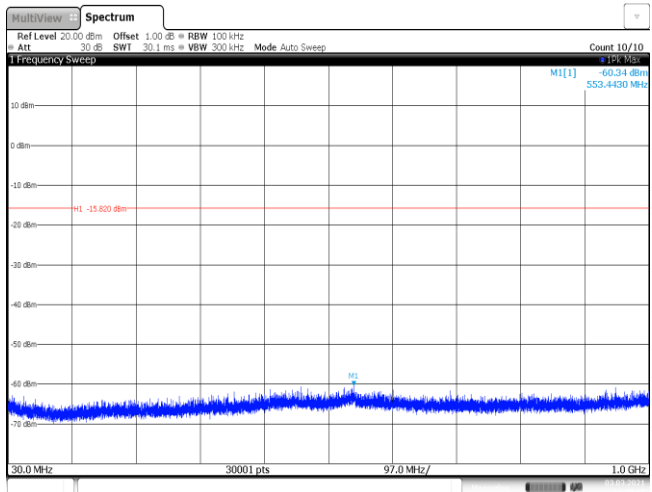
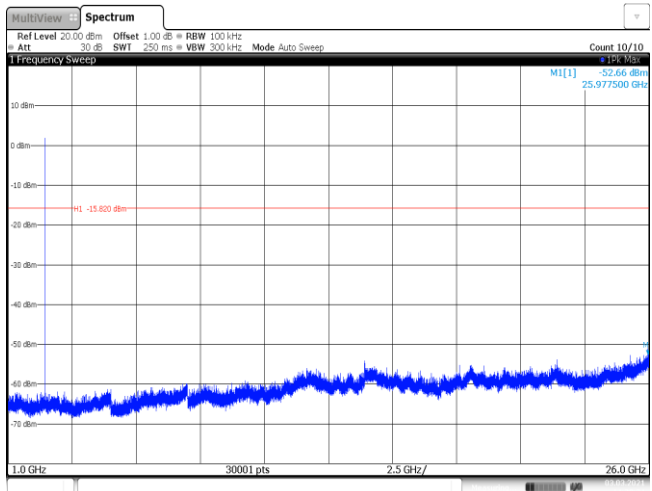
CH78 Reference level	 The spectrum plot shows a single sharp peak at 2.48 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The peak is labeled with a count of 100/100 and a value of 2.20 dBm at 2.480000 GHz. The plot is 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 3 MAR 2021 14:05:05.
CH78 30MHz~1000MHz	 The spectrum plot shows a noisy baseline across the 30 MHz to 1000 MHz range. The y-axis ranges from -70 to 10 dBm. The x-axis ranges from 30.0 MHz to 1.0 GHz. A red horizontal line is drawn at -17.800 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. The date is 3 MAR 2021 14:05:21.
CH78 1GHz~26GHz	 The spectrum plot shows a noisy baseline across the 1 GHz to 26 GHz range. The y-axis ranges from -70 to 10 dBm. The x-axis ranges from 1.0 GHz to 26.0 GHz. A red horizontal line is drawn at -17.800 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. The date is 3 MAR 2021 14:05:28.

Test Item:	Spurious Emission	Modulation type:	$\pi/4$ DQPSK
CH00 Reference level			
CH00 30MHz~1000MHz			
CH00 1GHz~26GHz			

CH39 Reference level	 The spectrum plot shows a single sharp peak at 2.441 GHz. The y-axis represents power in dBm, ranging from -80 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 4.24 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 3 MAR 2021 14:14:53.
CH39 30MHz~1000MHz	 The spectrum plot shows a noisy baseline across the 30 MHz to 1000 MHz range. The y-axis ranges from -80 to 10 dBm. The x-axis ranges from 30.0 MHz to 1.0 GHz. A red horizontal line is drawn at -15.700 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. The date is 3 MAR 2021 14:15:09.
CH39 1GHz~26GHz	 The spectrum plot shows a noisy baseline across the 1 GHz to 26 GHz range. The y-axis ranges from -80 to 10 dBm. The x-axis ranges from 1.0 GHz to 26.0 GHz. A red horizontal line is drawn at -15.700 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. The date is 3 MAR 2021 14:15:25.

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 -60 to 20. The x-axis represents frequency in GHz, ranging from 2.4 to 2.5. The peak is labeled with a count of 100/100 and a power level of 0.31 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 3 MAR 2021 14:17:08.
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 GHz, ranging from 0.3 to 1.0. A red horizontal line is drawn at -19.60 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. The date is 3 MAR 2021 14:17:24.
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, ranging from 1.0 to 26.0. A red horizontal line is drawn at -19.60 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. The date is 3 MAR 2021 14:17:41.

Test Item:	Spurious Emission	Modulation type:	8DPSK
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] 3.39 dBm 2.4021500 GHz CF 2.402 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 3 MAR 2021 14:26:09		
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] -60.83 dBm 541.3830 MHz M1 -16.610 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 3 MAR 2021 14:26:25		
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] -51.38 dBm 25.986333 GHz M1 -16.610 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 3 MAR 2021 14:26:41		

CH39 Reference level	 The spectrum plot shows a single sharp peak at 2.441 GHz. The y-axis represents power in dBm, ranging from -80 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 power level of 4.18 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 3 MAR 2021 14:29:02.
CH39 30MHz~1000MHz	 The spectrum plot shows a wideband signal from 30 MHz to 1000 MHz. The y-axis represents power in dBm, ranging from -80 to 10. The x-axis represents frequency in MHz, with a span of 97.0 MHz. 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 3 MAR 2021 14:29:18.
CH39 1GHz~26GHz	 The spectrum plot shows a wideband signal from 1 GHz to 26 GHz. The y-axis represents power in dBm, ranging from -80 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 3 MAR 2021 14:29:25.

CH78 Reference level	This spectrum plot shows a single sharp peak at 2.48 GHz. The y-axis represents power in dBm, ranging from -80 to 20. The x-axis represents frequency in GHz, with a span of 30.0 MHz. The peak is labeled with a value of 0.37 dBm. The plot includes a reference level of 30.00 dBm and a noise floor around -75 dBm.
CH78 30MHz~1000MHz	This spectrum plot shows a noise floor across the 30 MHz to 1000 MHz range. The y-axis ranges from -80 to 10 dBm. The x-axis ranges from 30.0 MHz to 1.0 GHz. The noise floor is approximately -75 dBm. A reference level of 20.00 dBm is shown. The plot includes a noise floor of -75.00 dBm and a peak level of -60.35 dBm.
CH78 1GHz~26GHz	This spectrum plot shows a noise floor across the 1 GHz to 26 GHz range. The y-axis ranges from -80 to 10 dBm. The x-axis ranges from 1.0 GHz to 26.0 GHz. The noise floor is approximately -75 dBm. A reference level of 20.00 dBm is shown. The plot includes a noise floor of -75.00 dBm and a peak level of -52.31 dBm.

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