

Appendix B. Test Plots

Right

Out of Band Conducted Spurious Emission

BT_GFSK

Low ch



Mid ch



High ch



BT_8DPSK

Low ch



Mid ch



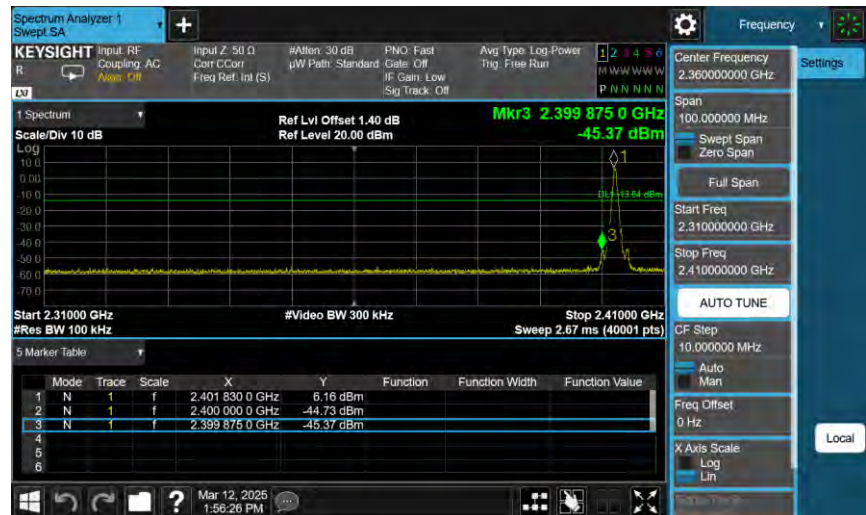
High ch



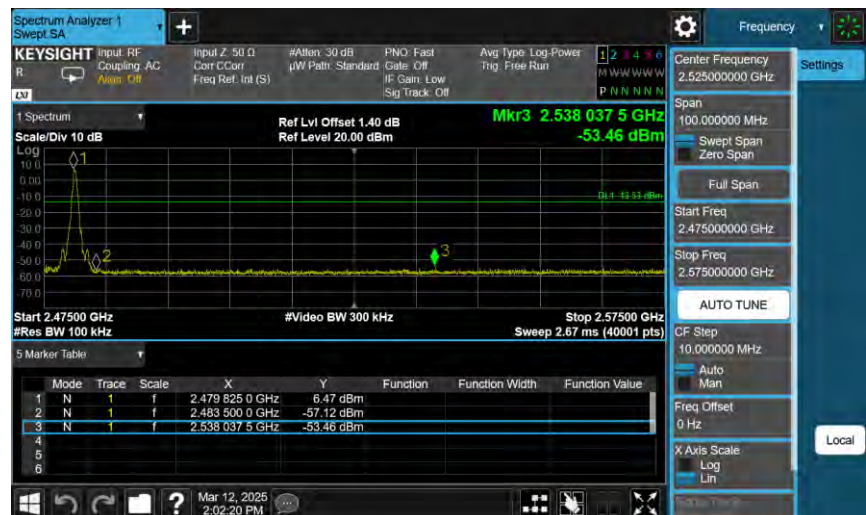
Conducted Band Edge

BT_GFSK_Non-Hopping

Low ch

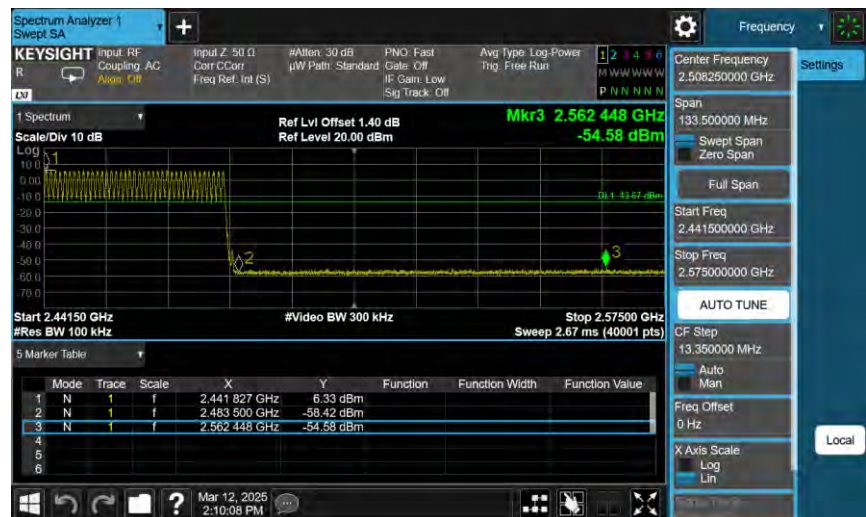
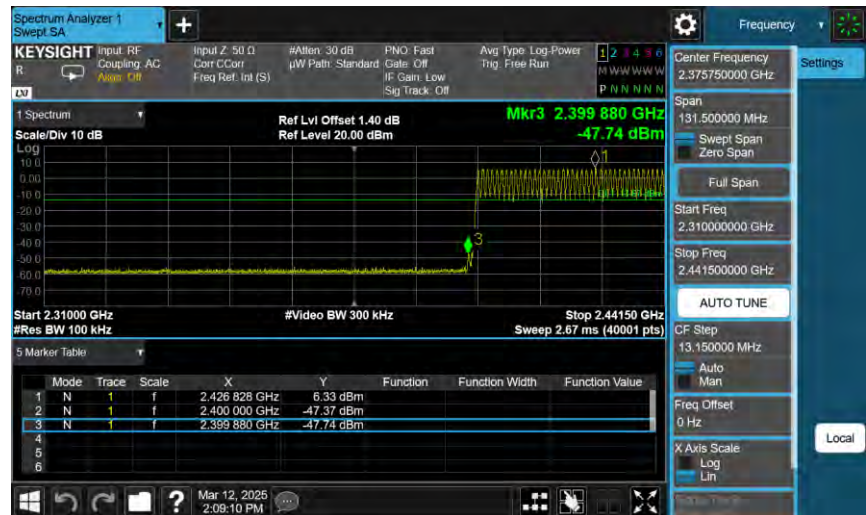


High ch



BT_GFSK_Hopping

Low ch-High ch

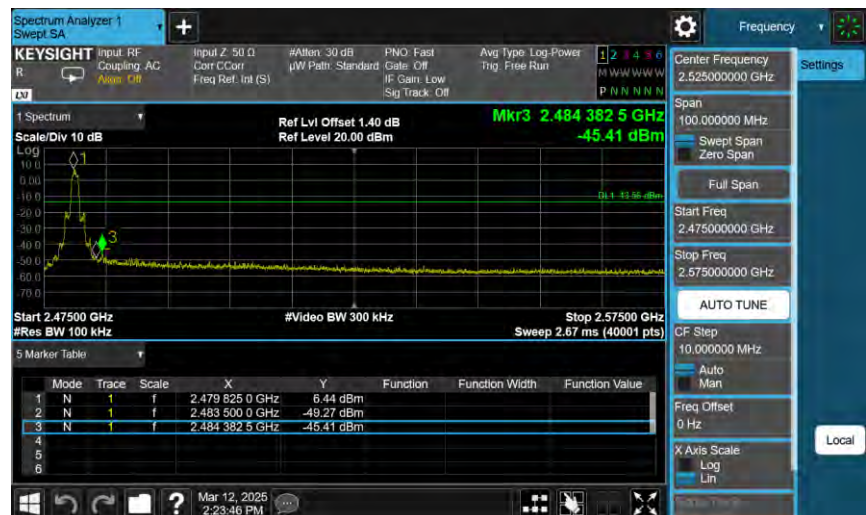


BT_8DPSK _Non-Hopping

Low ch

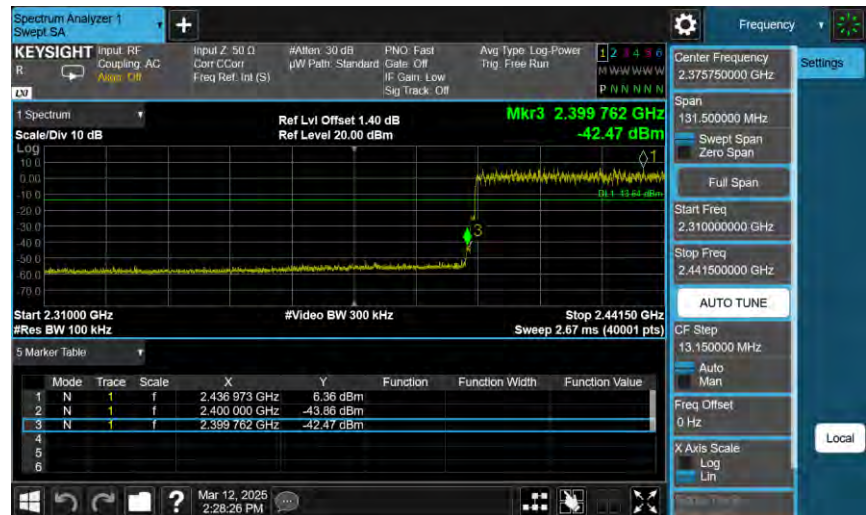


High ch



BT_8DPSK_Hopping

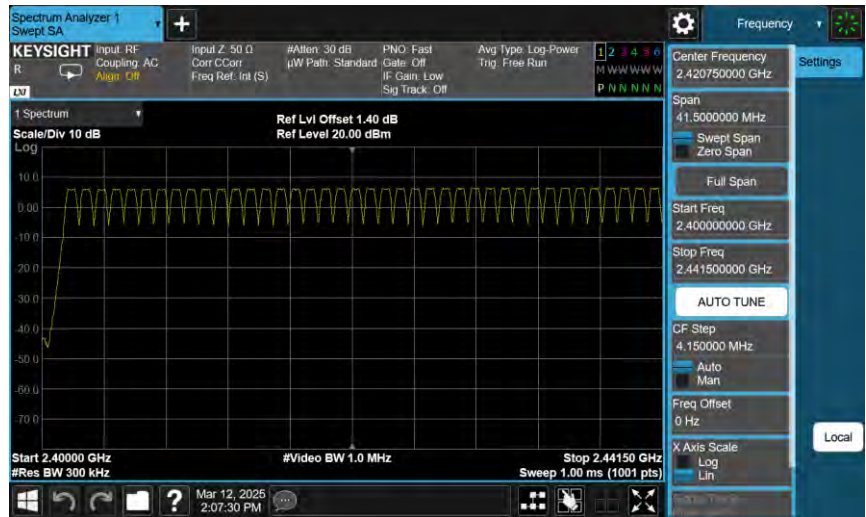
Low ch-High ch



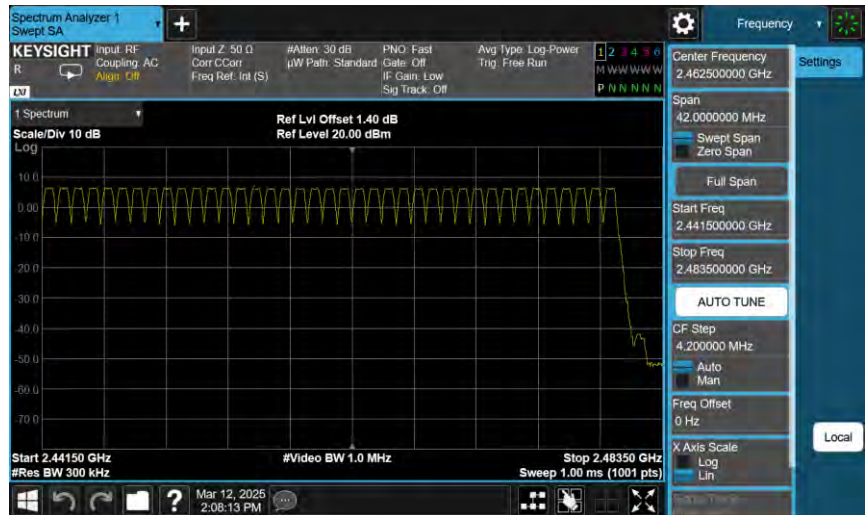
Number of Hopping

BT_GFSK

CH00 - CH39

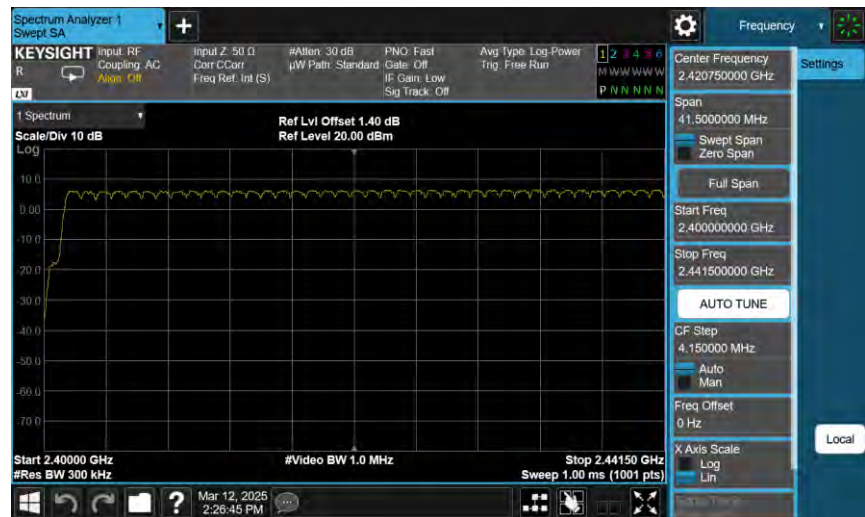


CH39- CH78

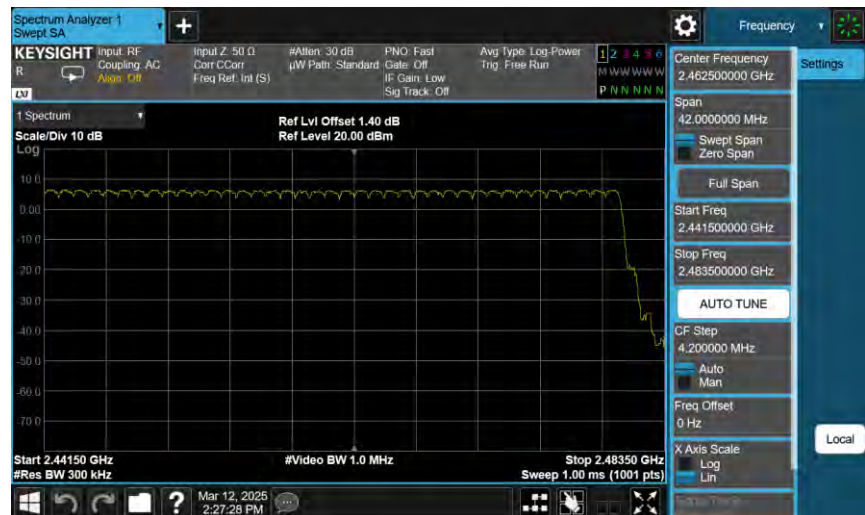


BT_8DPSK

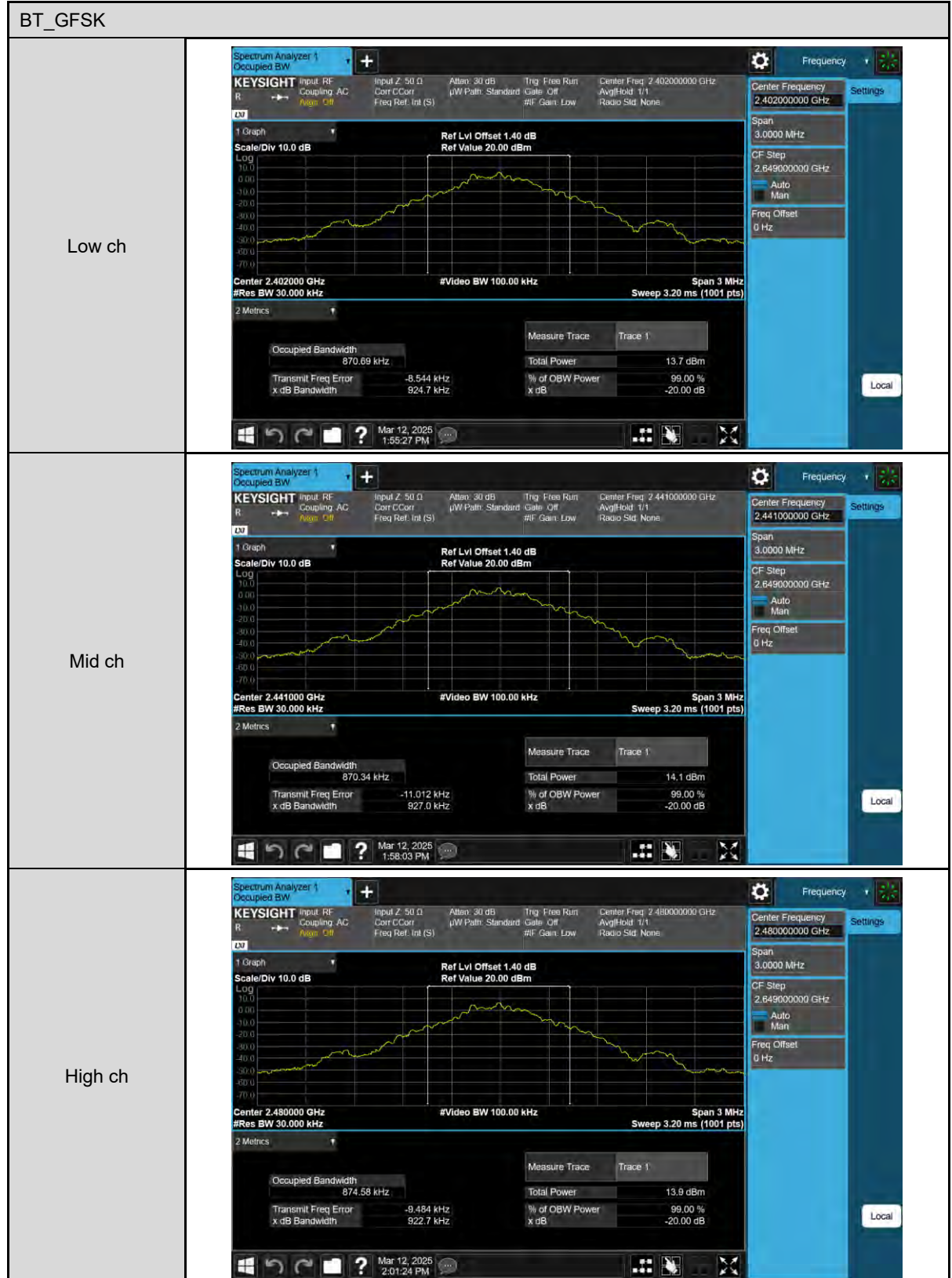
CH00 - CH39

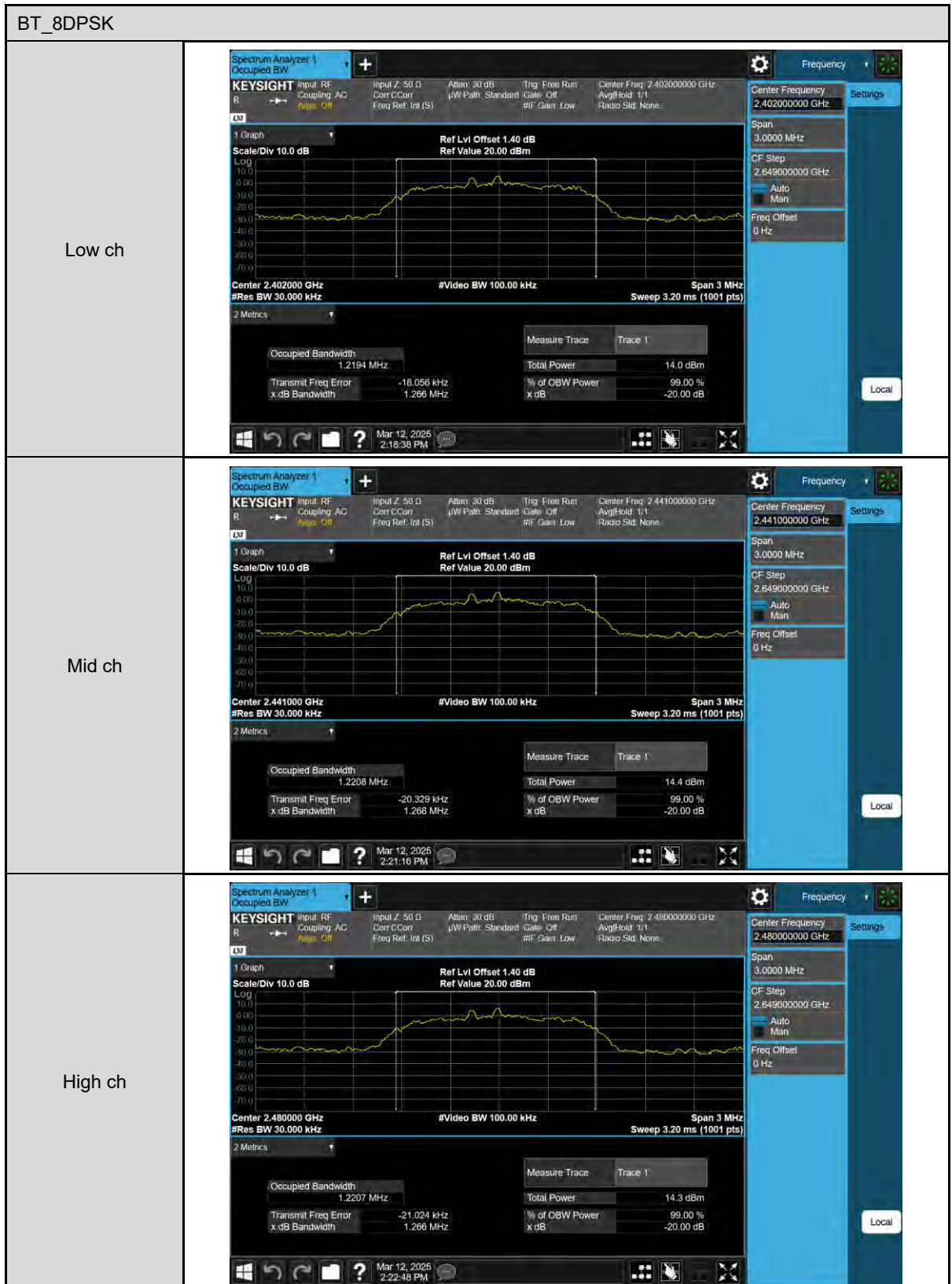


CH39- CH78



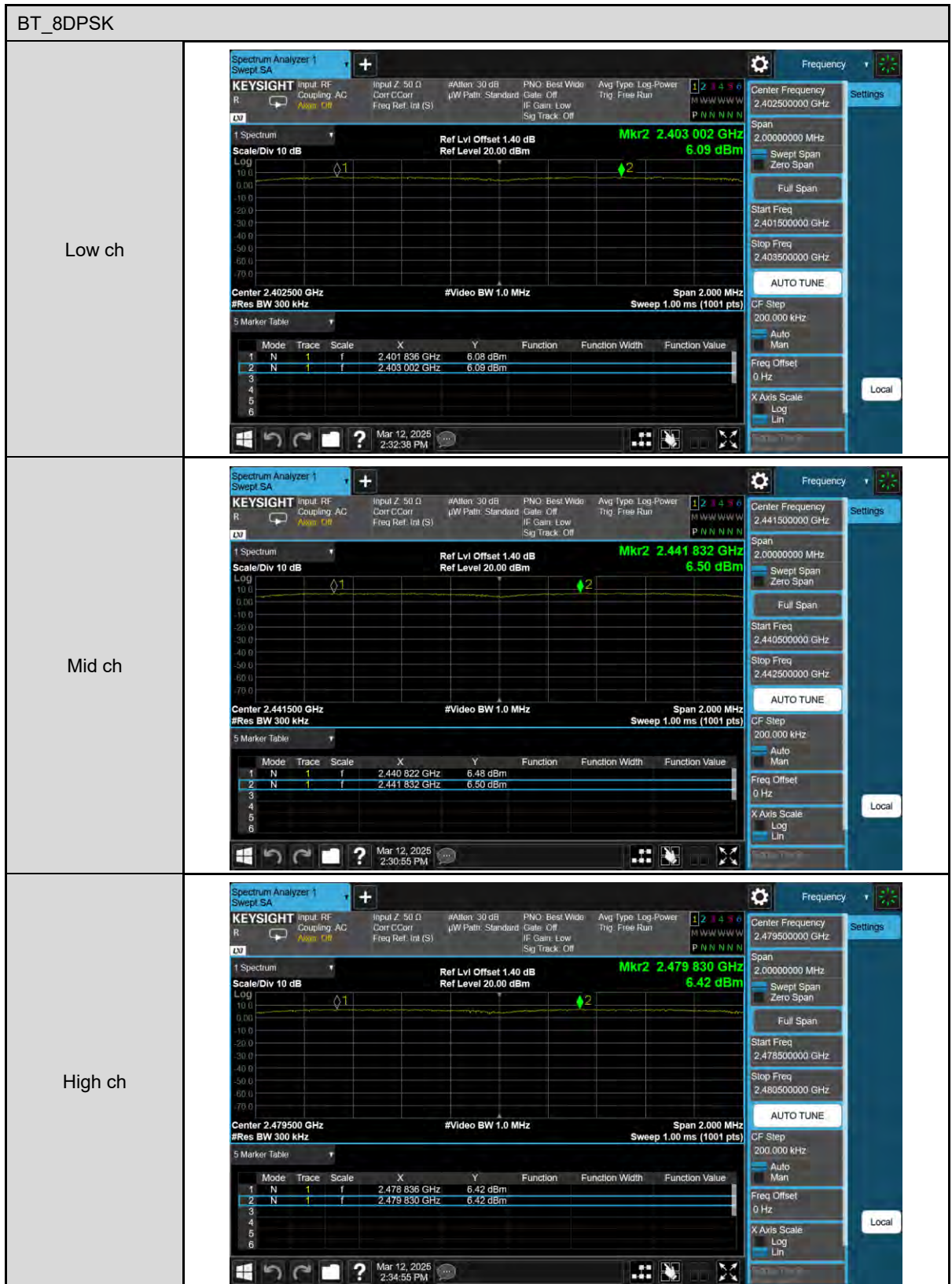
20 dB RF Bandwidth & 99 % Occupied Bandwidth





Carrier Frequency Separation

BT_GFSK Low ch	 The screenshot shows the Keysight Spectrum Analyzer interface for the Low channel. The center frequency is 2.402832 GHz, and the span is 2.000 MHz. The peak level is 6.09 dBm. The marker table shows two markers: Marker 1 at 2.401838 GHz (6.09 dBm) and Marker 2 at 2.402832 GHz (6.09 dBm).
Mid ch	 The screenshot shows the Keysight Spectrum Analyzer interface for the Mid channel. The center frequency is 2.441830 GHz, and the span is 2.000 MHz. The peak level is 6.50 dBm. The marker table shows two markers: Marker 1 at 2.440830 GHz (6.50 dBm) and Marker 2 at 2.441830 GHz (6.50 dBm).
High ch	 The screenshot shows the Keysight Spectrum Analyzer interface for the High channel. The center frequency is 2.480154 GHz, and the span is 2.000 MHz. The peak level is 6.44 dBm. The marker table shows two markers: Marker 1 at 2.479152 GHz (6.42 dBm) and Marker 2 at 2.480154 GHz (6.44 dBm).



Time of Occupancy (Dwell Time)

BT_GFSK																																																									
DH1	Keysight Spectrum Analyzer 1 Sweep SA Input RF Coupling AC Input Z 50 Ω Attain 30 dB PN0 Fast Avg Type Log-Power Thg Free Run Center Frequency 2.402000000 GHz Span 0.00000000 Hz Sweep Span Zero Span Full Span Start Freq 2.402000000 GHz Stop Freq 2.402000000 GHz AUTO TUNE CF Step 1.000000 MHz Auto Man Freq Offset 0 Hz X Axis Scale Log Lin Scale/Div 10 dB Ref Level 20.00 dBm ΔMkr3 1.586 ms -1.15 dB Center 2.402000000 GHz Video BW 1.0 MHz Span 0 Hz Res BW 1.0 MHz Sweep 6.00 ms (1001 pts) 5 Marker Table <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>340.0 μs</td><td>-52.63 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>491.0 μs (Δ)</td><td>-2.18 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>1.586 ms (Δ)</td><td>-1.15 dB</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Mar 07, 2025 8:00:55 AM	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	340.0 μs	-52.63 dBm			2	Δ1	1	t (Δ)	491.0 μs (Δ)	-2.18 dB			3	Δ1	1	t (Δ)	1.586 ms (Δ)	-1.15 dB			4								5								6							
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BT_8DPSK																																	
3DH1	Center Frequency 2.402000000 GHz Res BW 1.0 MHz Sweep 6.00 ms (1001 pts) <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>282.0 μs</td><td>-54.15 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>504.0 μs (Δ)</td><td>1.06 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>1.596 ms (Δ)</td><td>2.31 dB</td><td></td><td></td></tr></tbody></table>	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	282.0 μs	-54.15 dBm			2	Δ1	1	t (Δ)	504.0 μs (Δ)	1.06 dB			3	Δ1	1	t (Δ)	1.596 ms (Δ)	2.31 dB		
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3DH5	Center Frequency 2.402000000 GHz Res BW 1.0 MHz Sweep 15.0 ms (1001 pts) <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>1.282 ms</td><td>-54.41 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>3.014 ms (Δ)</td><td>1.08 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>4.081 ms (Δ)</td><td>0.95 dB</td><td></td><td></td></tr></tbody></table>	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	1.282 ms	-54.41 dBm			2	Δ1	1	t (Δ)	3.014 ms (Δ)	1.08 dB			3	Δ1	1	t (Δ)	4.081 ms (Δ)	0.95 dB		
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Left

Out of Band Conducted Spurious Emission

BT_GFSK

Low ch



Mid ch

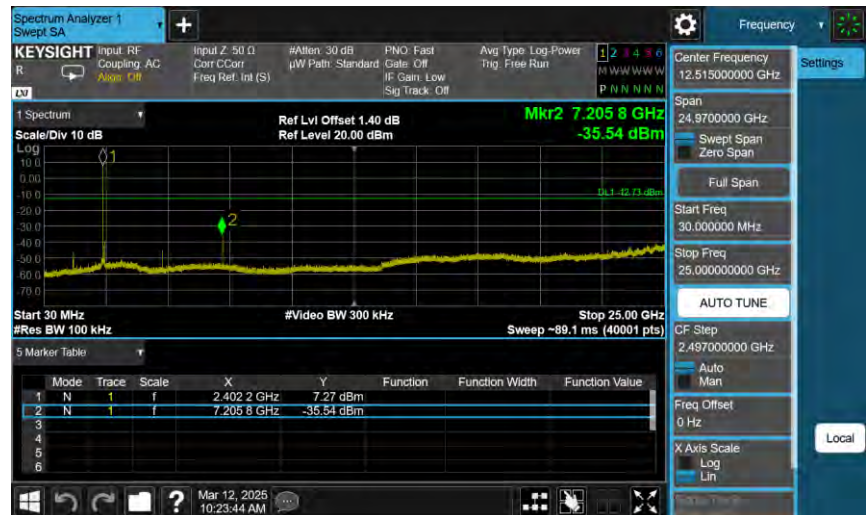


High ch



BT_8DPSK

Low ch



Mid ch



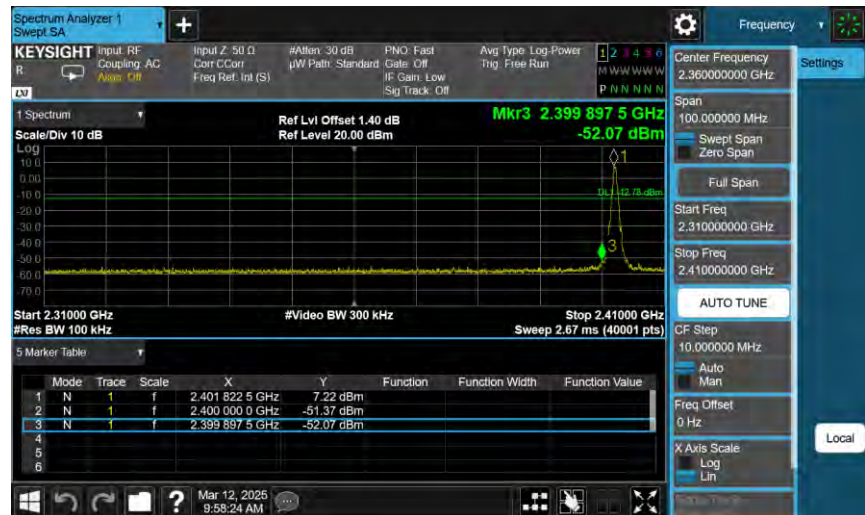
High ch



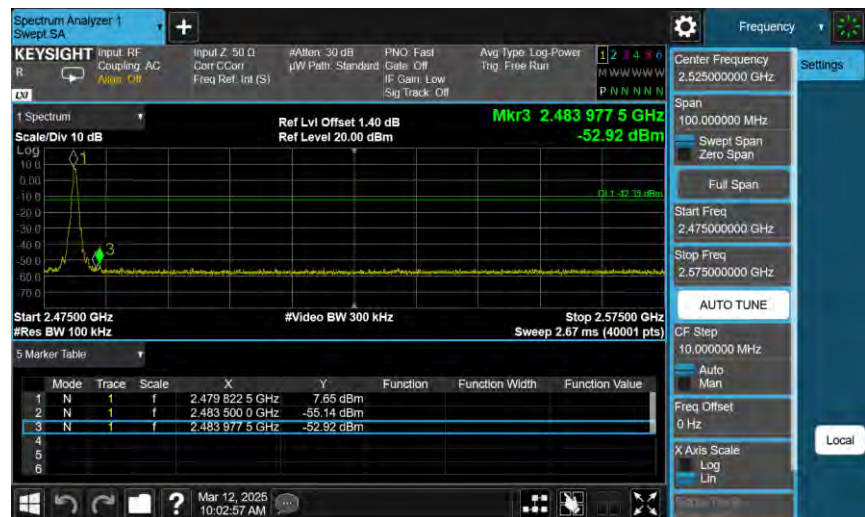
Conducted Band Edge

BT_GFSK_Non-Hopping

Low ch

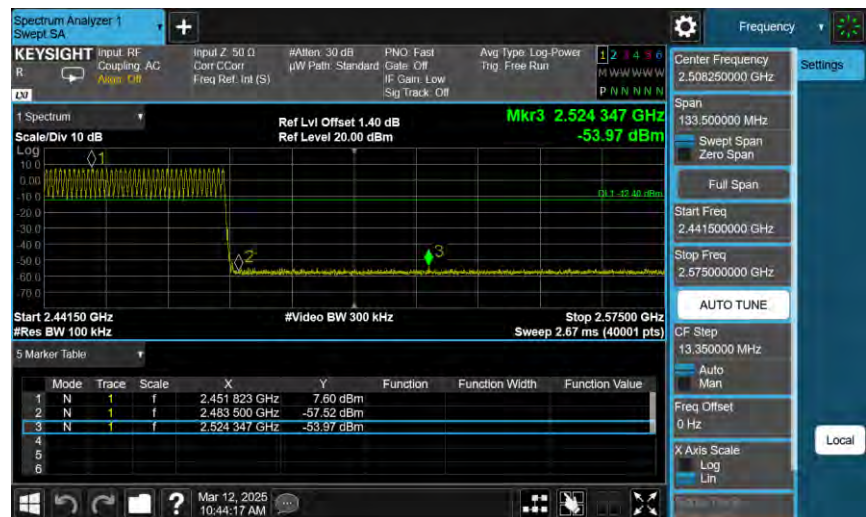
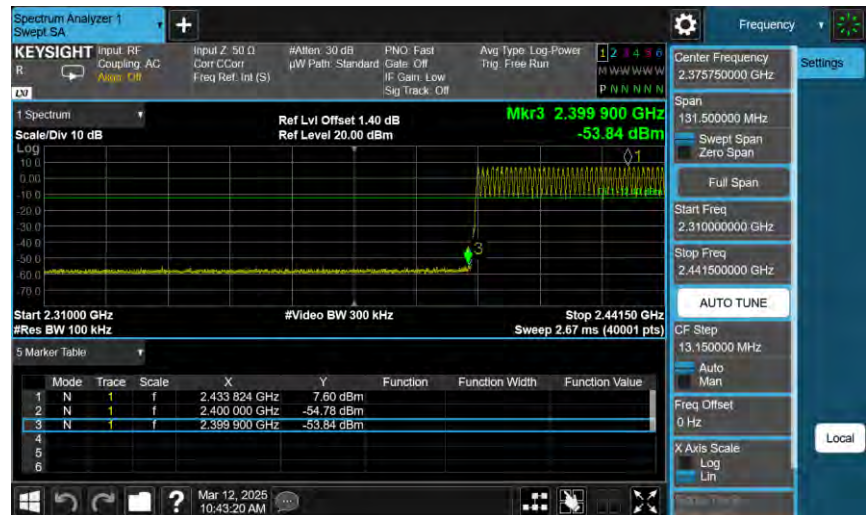


High ch



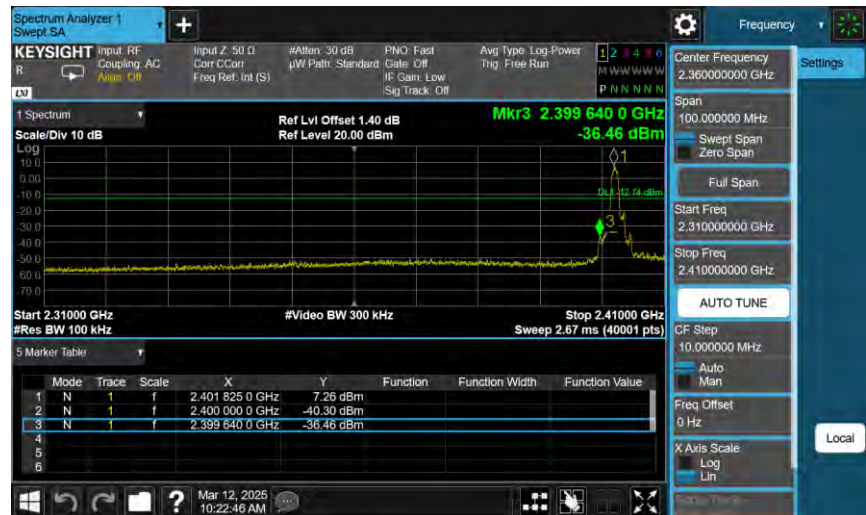
BT_GFSK_Hopping

Low ch-High ch

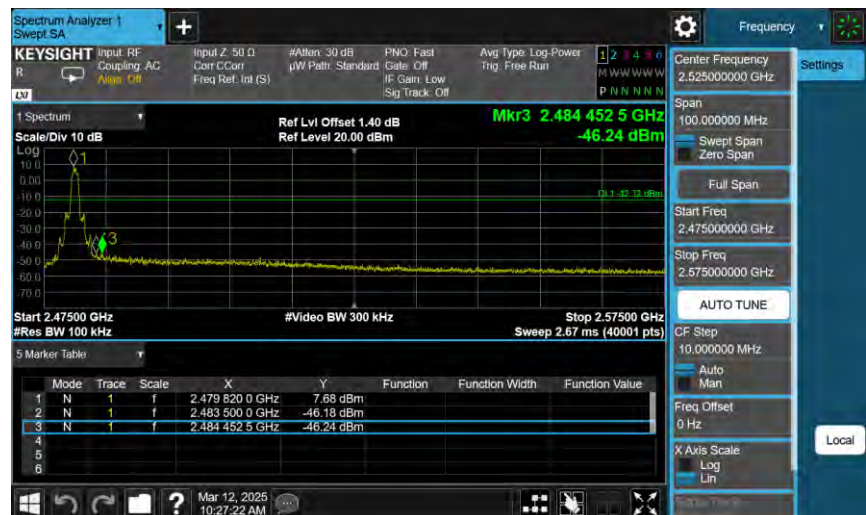


BT_8DPSK _Non-Hopping

Low ch

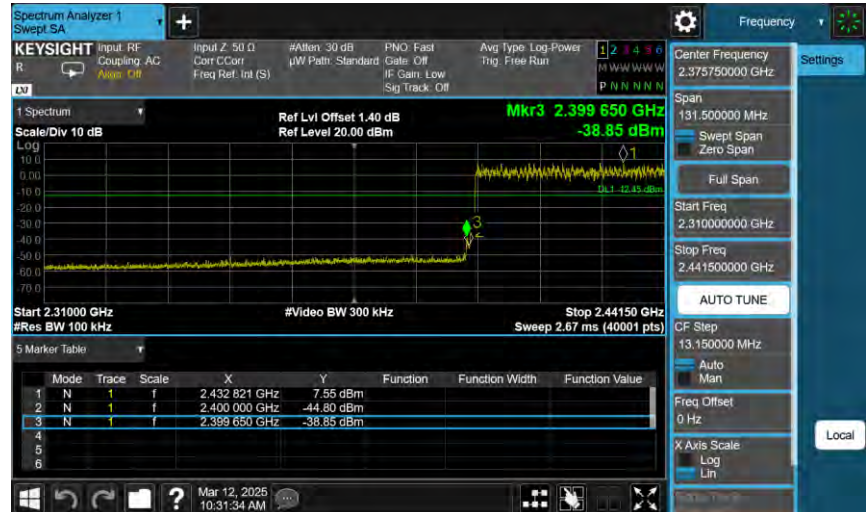


High ch



BT_8DPSK_Hopping

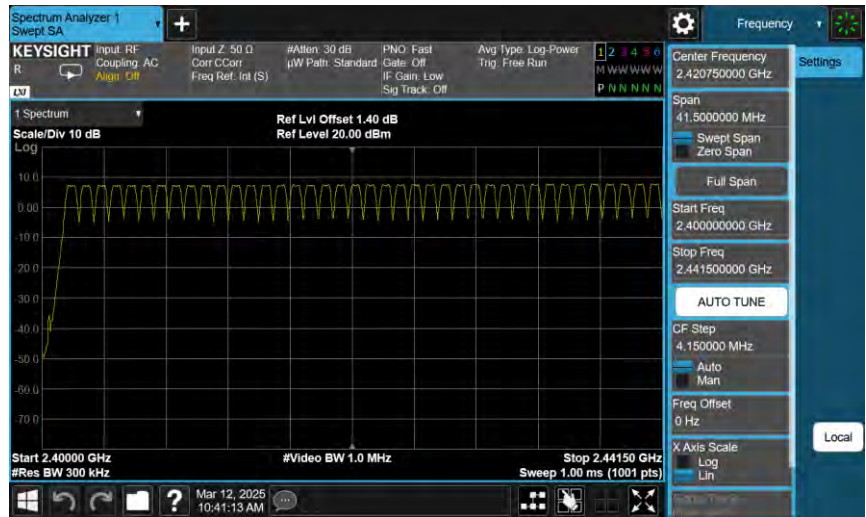
Low ch-High ch



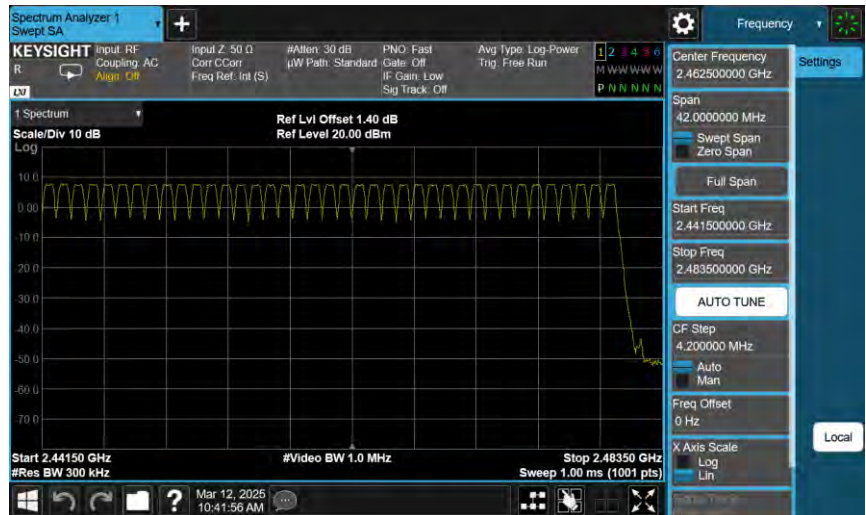
Number of Hopping

BT_GFSK

CH00 - CH39

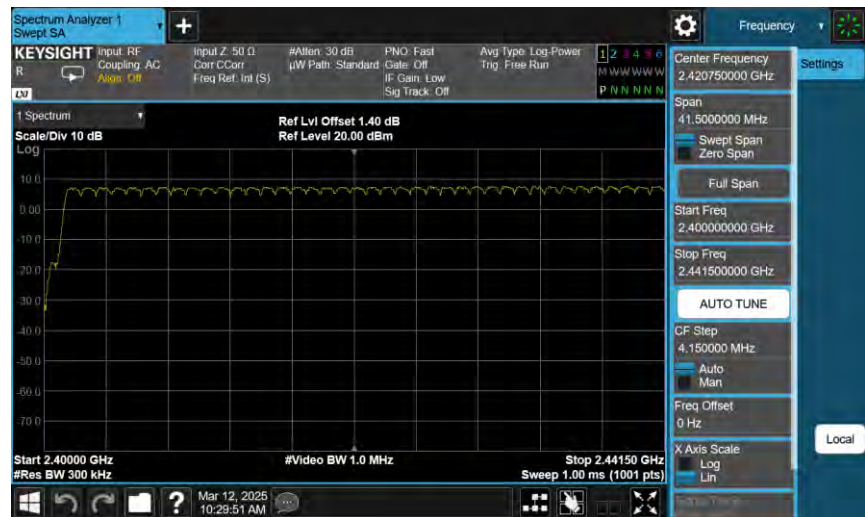


CH39- CH78

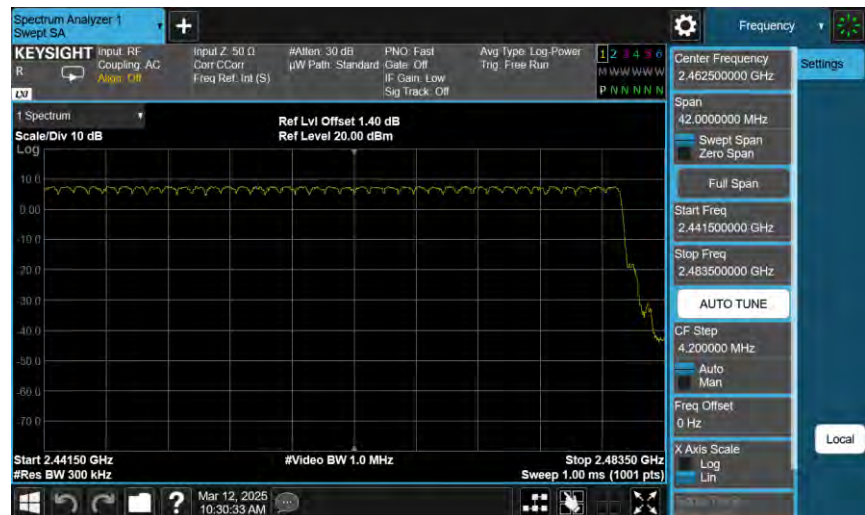


BT_8DPSK

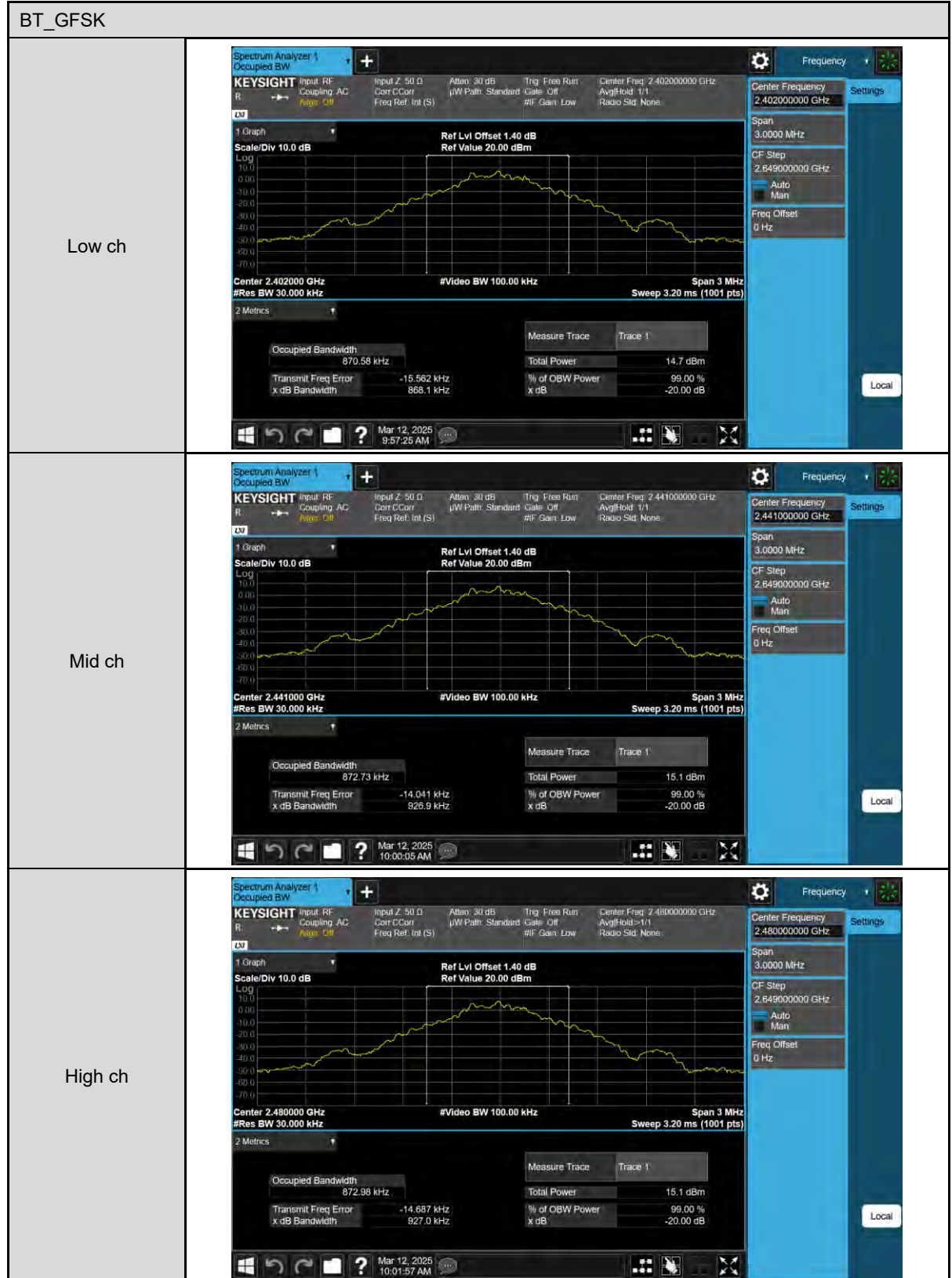
CH00 - CH39

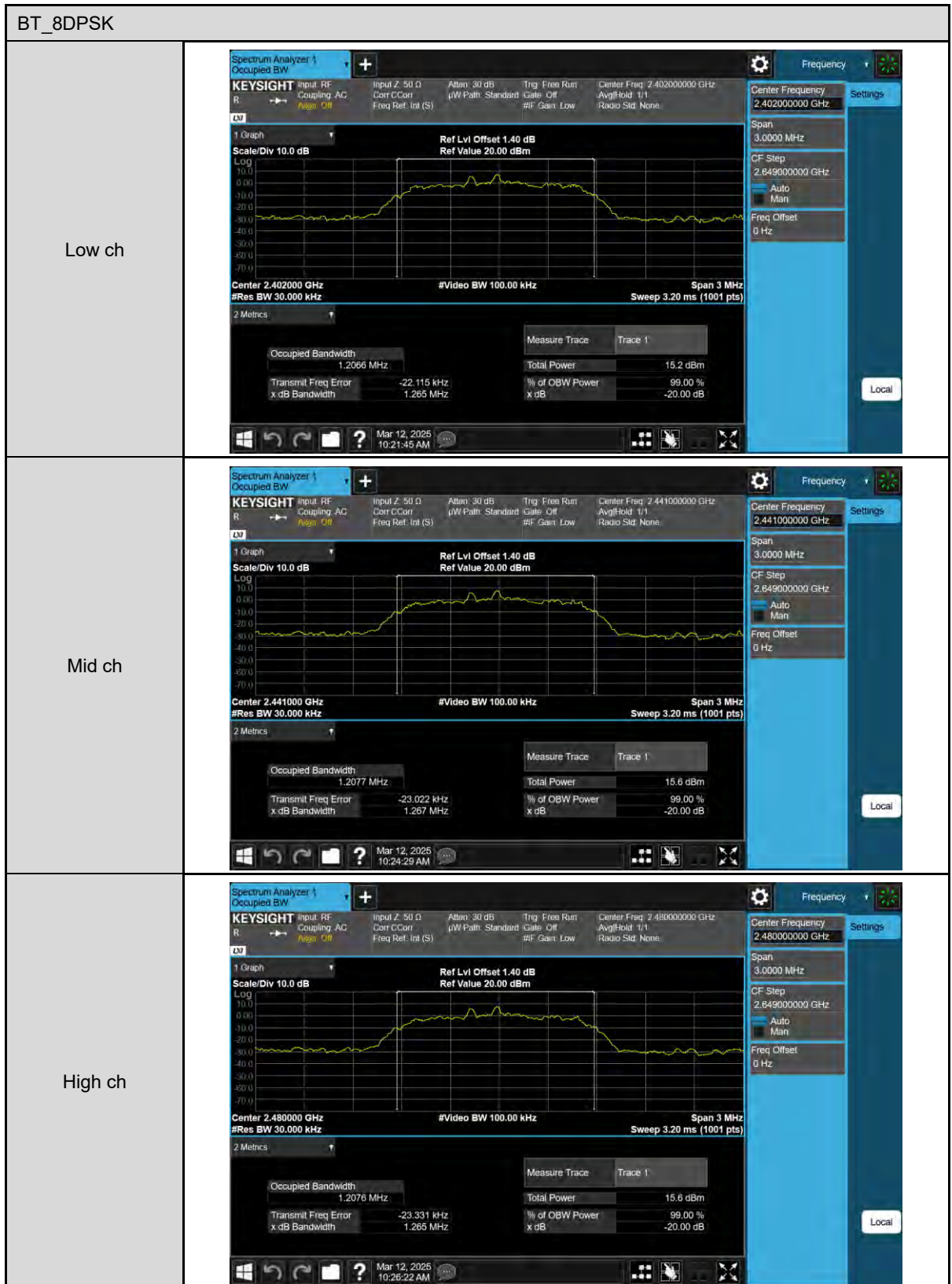


CH39- CH78

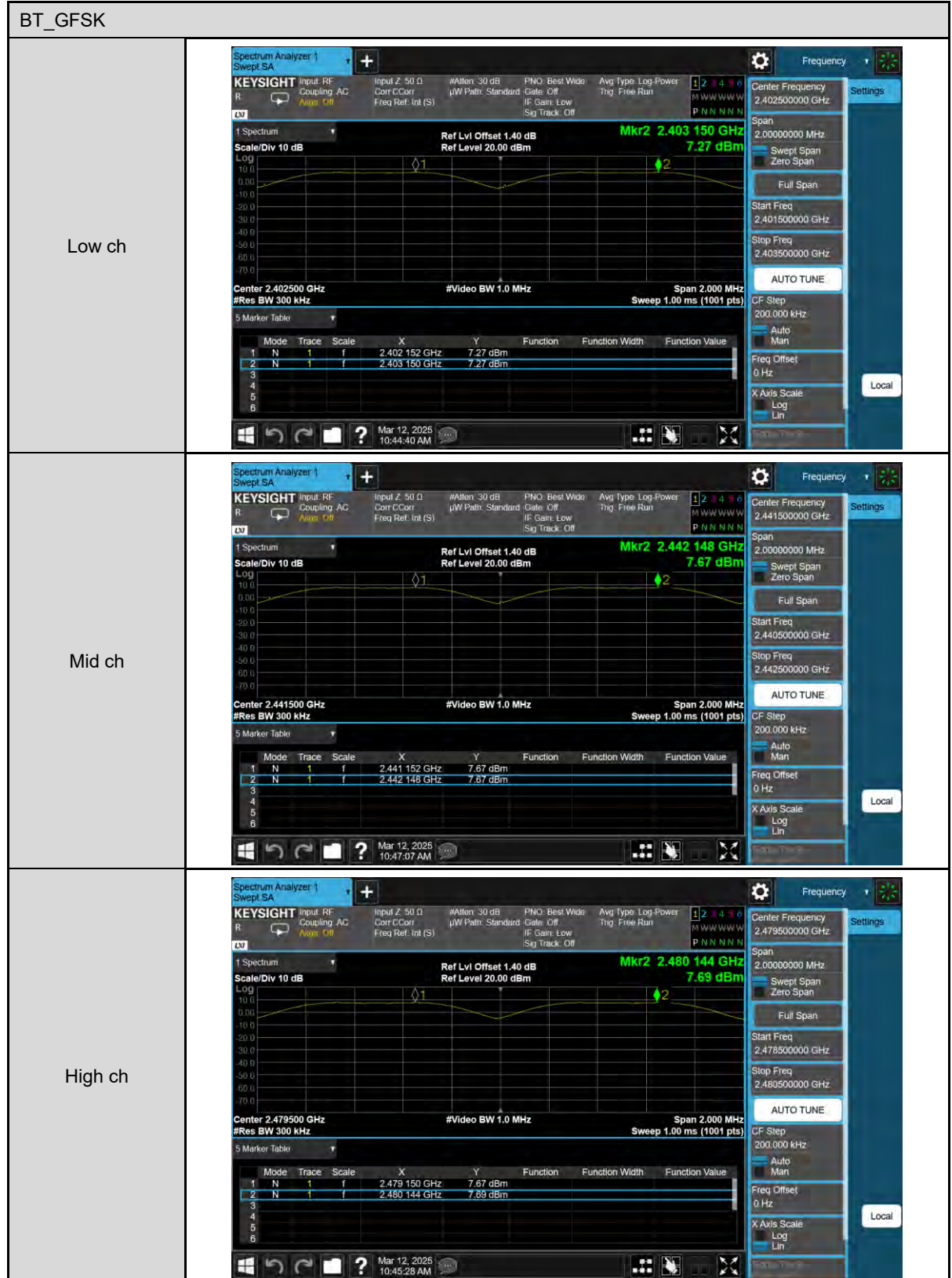


20 dB RF Bandwidth & 99 % Occupied Bandwidth





Carrier Frequency Separation



BT_8DPSK

Low ch



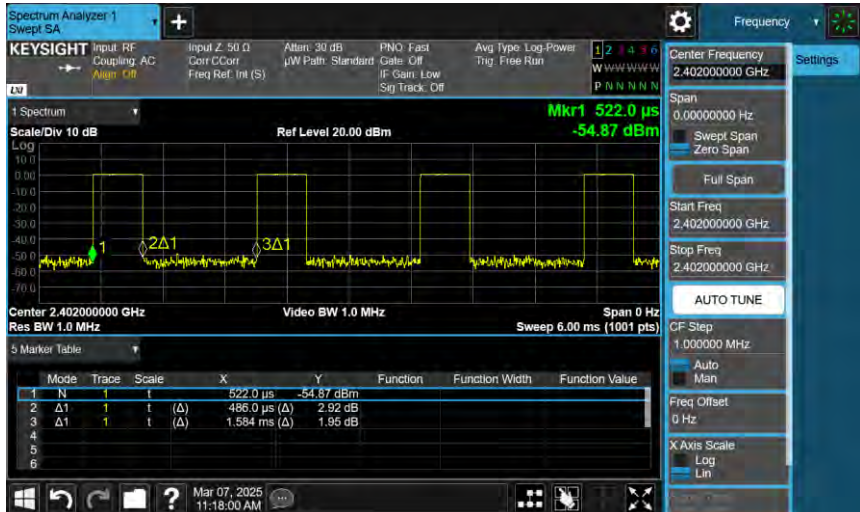
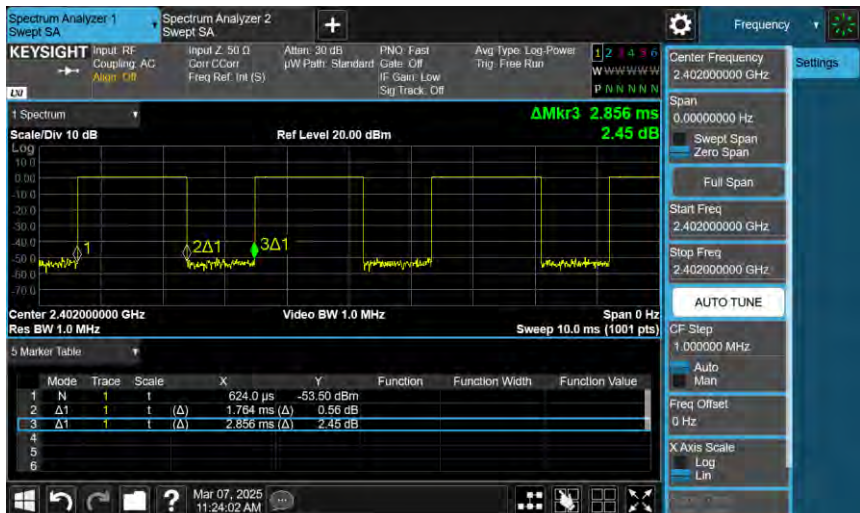
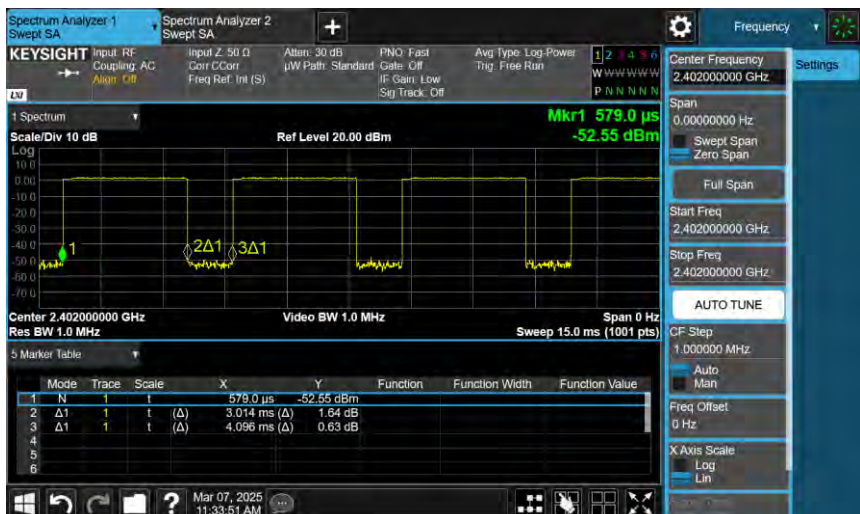
Mid ch



High ch

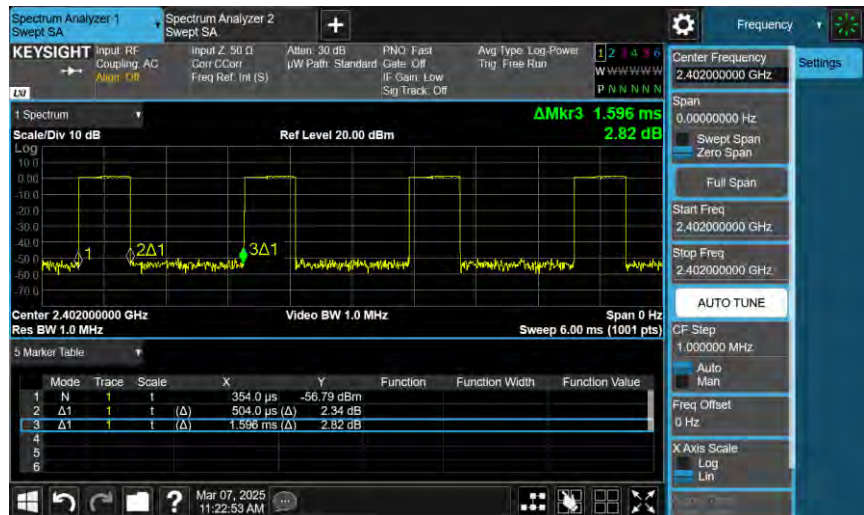


Time of Occupancy (Dwell Time)

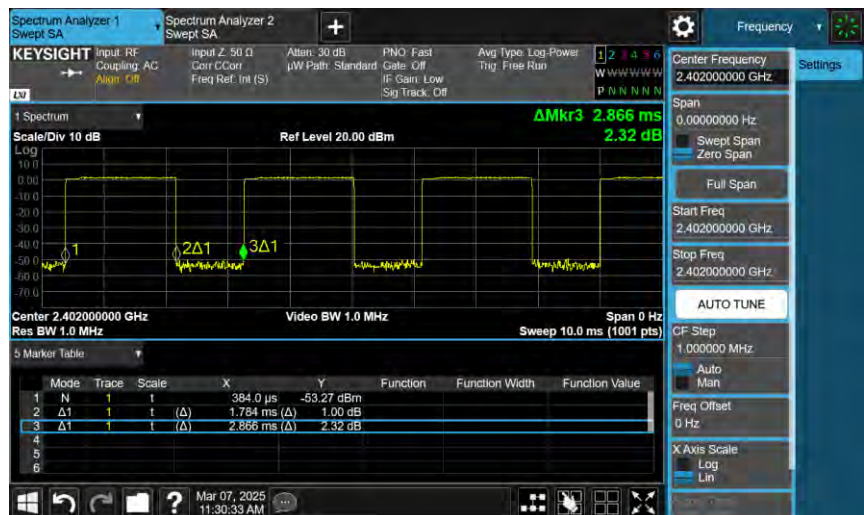
BT_GFSK																																																									
DH1	 1 Spectrum Analyzer 1 Sweep SA KEYSIGHT Input RF Coupling AC Align Off Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) Attenu: 30 dB μW Path: Standard PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Thresh: Free Run Center Frequency 2.402000000 GHz Span 0.00000000 Hz Scale/Div 10 dB Ref Level 20.00 dBm Mkr1 522.0 μs -54.87 dBm 2 Δ1 486.0 μs (Δ) 2.92 dB 3 Δ1 1.584 ms (Δ) 1.95 dB Center 2.402000000 GHz Video BW 1.0 MHz Sweep 6.00 ms (1001 pts) 5 Marker Table <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>522.0 μs</td><td>-54.87 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>486.0 μs (Δ)</td><td>2.92 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>1.584 ms (Δ)</td><td>1.95 dB</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Mar 07, 2025 11:18:00 AM	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	522.0 μs	-54.87 dBm			2	Δ1	1	t (Δ)	486.0 μs (Δ)	2.92 dB			3	Δ1	1	t (Δ)	1.584 ms (Δ)	1.95 dB			4								5								6							
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DH3	 1 Spectrum Analyzer 1 Sweep SA KEYSIGHT Input RF Coupling AC Align Off Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) Attenu: 30 dB μW Path: Standard PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Thresh: Free Run Center Frequency 2.402000000 GHz Span 0.00000000 Hz Scale/Div 10 dB Ref Level 20.00 dBm ΔMkr3 2.856 ms 2.45 dB 1 N 624.0 μs -53.50 dBm 2 Δ1 1.764 ms (Δ) 0.56 dB 3 Δ1 2.856 ms (Δ) 2.45 dB Center 2.402000000 GHz Video BW 1.0 MHz Sweep 10.0 ms (1001 pts) 5 Marker Table <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>624.0 μs</td><td>-53.50 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>1.764 ms (Δ)</td><td>0.56 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>2.856 ms (Δ)</td><td>2.45 dB</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Mar 07, 2025 11:24:02 AM	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	624.0 μs	-53.50 dBm			2	Δ1	1	t (Δ)	1.764 ms (Δ)	0.56 dB			3	Δ1	1	t (Δ)	2.856 ms (Δ)	2.45 dB			4								5								6							
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DH5	 1 Spectrum Analyzer 1 Sweep SA KEYSIGHT Input RF Coupling AC Align Off Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) Attenu: 30 dB μW Path: Standard PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Thresh: Free Run Center Frequency 2.402000000 GHz Span 0.00000000 Hz Scale/Div 10 dB Ref Level 20.00 dBm Mkr1 579.0 μs -52.55 dBm 2 Δ1 3.014 ms (Δ) 1.64 dB 3 Δ1 4.096 ms (Δ) 0.63 dB Center 2.402000000 GHz Video BW 1.0 MHz Sweep 15.0 ms (1001 pts) 5 Marker Table <table><thead><tr><th>Mode</th><th>Trace</th><th>Scale</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>t</td><td>579.0 μs</td><td>-52.55 dBm</td><td></td><td></td></tr><tr><td>2</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>3.014 ms (Δ)</td><td>1.64 dB</td><td></td><td></td></tr><tr><td>3</td><td>Δ1</td><td>1</td><td>t (Δ)</td><td>4.096 ms (Δ)</td><td>0.63 dB</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Mar 07, 2025 11:33:51 AM	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	1	N	1	t	579.0 μs	-52.55 dBm			2	Δ1	1	t (Δ)	3.014 ms (Δ)	1.64 dB			3	Δ1	1	t (Δ)	4.096 ms (Δ)	0.63 dB			4								5								6							
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BT_8DPSK

3DH1



3DH3



3DH5

