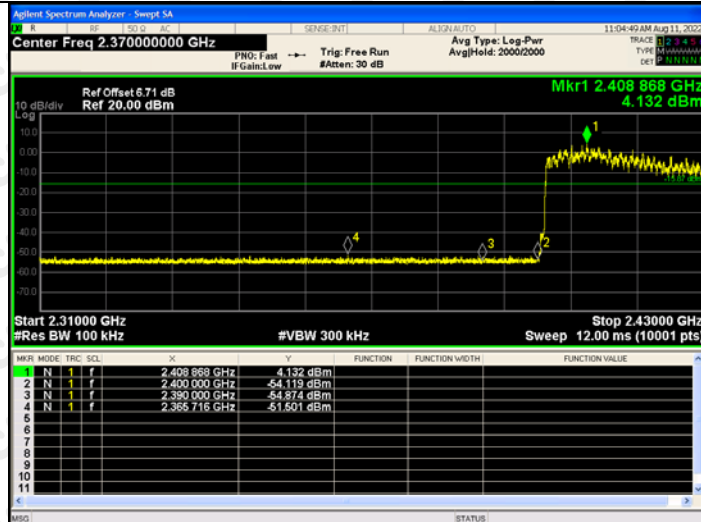
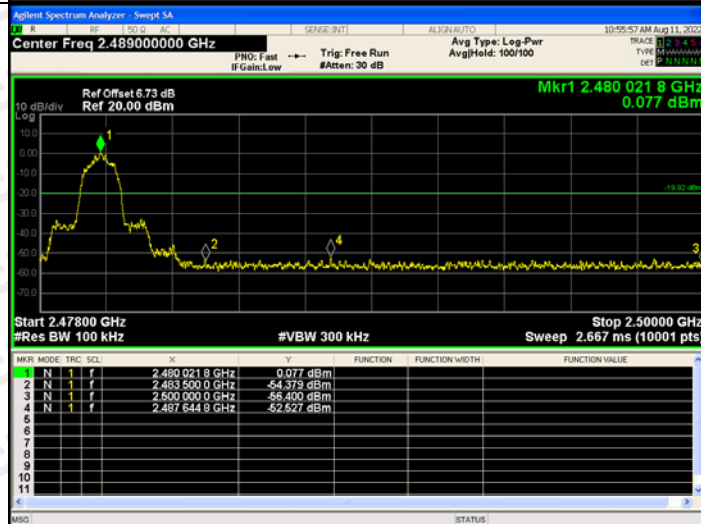


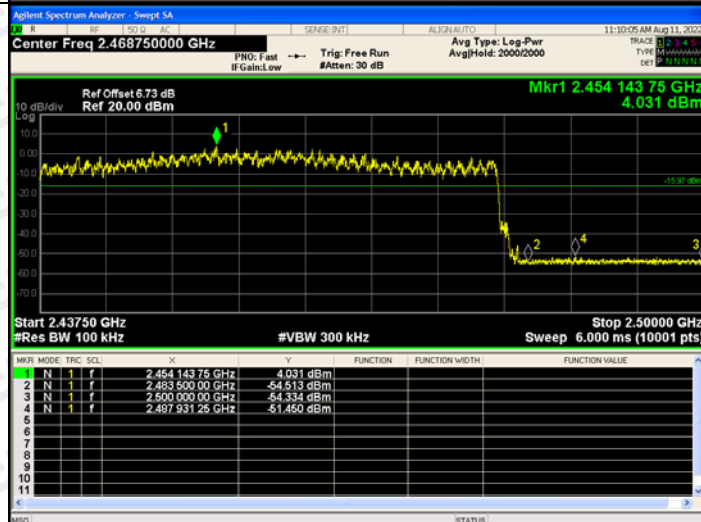
8DPSK
/LCH/Hop



8DPSK /HCH/No
Hop

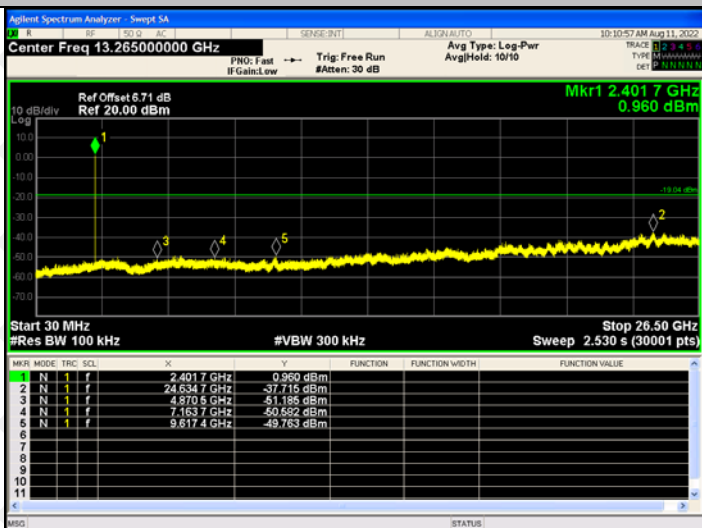


8DPSK
/HCH/Hop

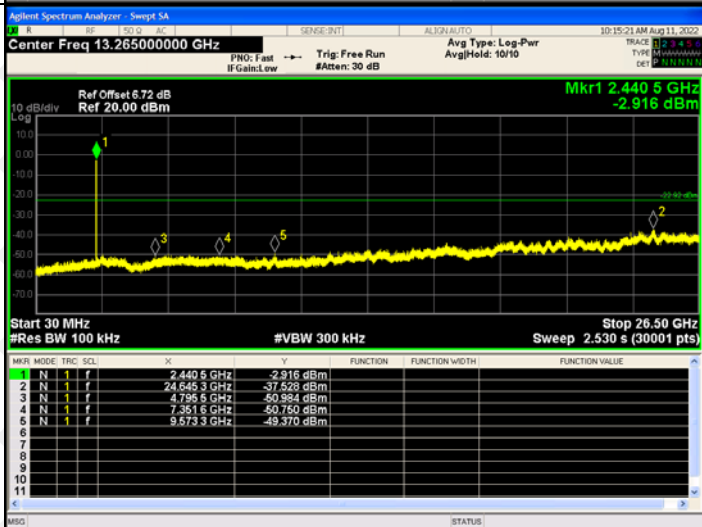


RF Conducted Spurious Emissions Graphs

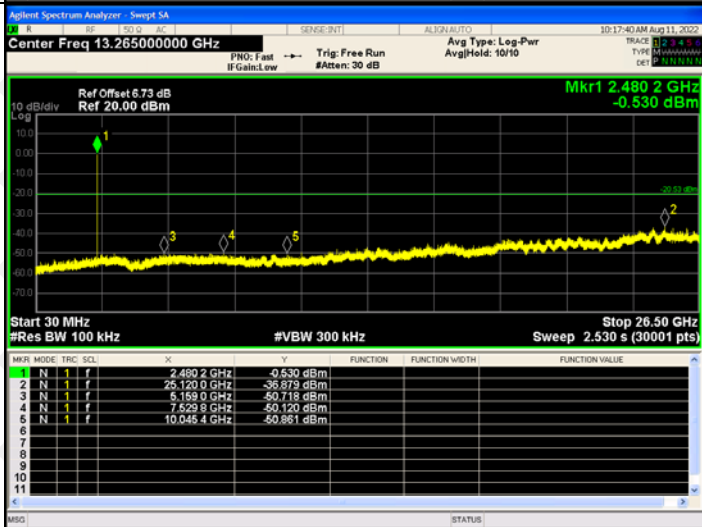
GFSK/LCH



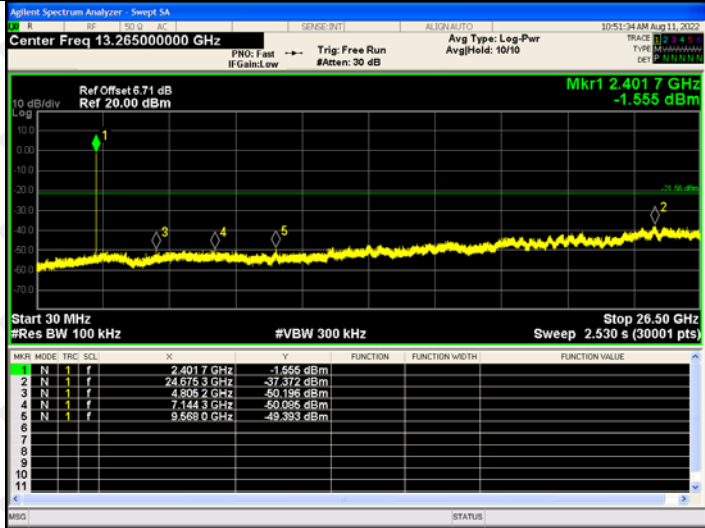
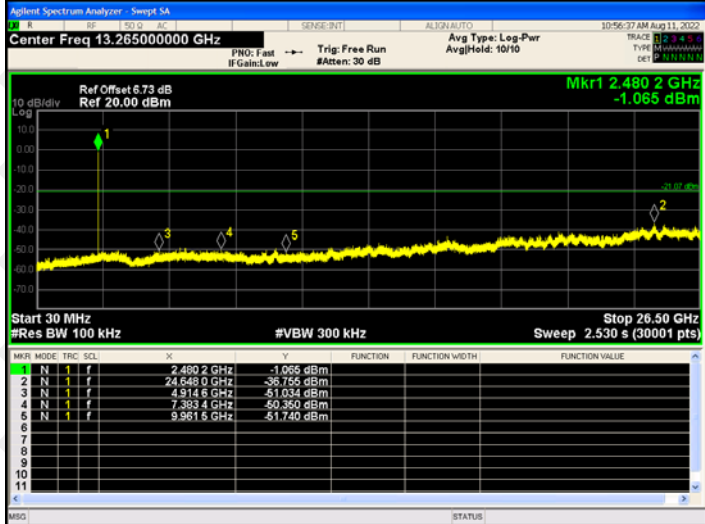
GFSK/MCH



GFSK/HCH

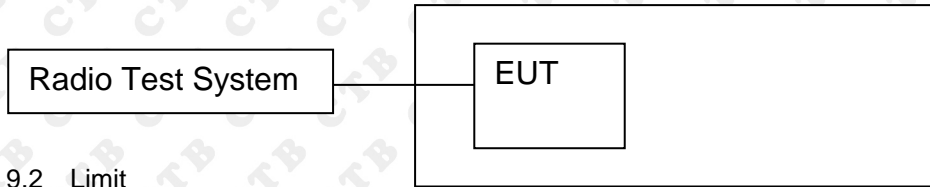


<p>$\pi/4$DQPSK /LCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SC1</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>1</td> <td>f</td> <td>2.4017 GHz</td> <td>-0.705 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>24.1353 GHz</td> <td>-37.547 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>4.8248 GHz</td> <td>-51.193 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.3428 GHz</td> <td>-50.591 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.5010 GHz</td> <td>-50.519 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.4017 GHz	-0.705 dBm				2	N	1	f	24.1353 GHz	-37.547 dBm				3	N	1	f	4.8248 GHz	-51.193 dBm				4	N	1	f	7.3428 GHz	-50.591 dBm				5	N	1	f	9.5010 GHz	-50.519 dBm			
MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.4017 GHz	-0.705 dBm																																																		
2	N	1	f	24.1353 GHz	-37.547 dBm																																																		
3	N	1	f	4.8248 GHz	-51.193 dBm																																																		
4	N	1	f	7.3428 GHz	-50.591 dBm																																																		
5	N	1	f	9.5010 GHz	-50.519 dBm																																																		
<p>$\pi/4$DQPSK/MCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SC1</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>f</td> <td>2.4405 GHz</td> <td>-2.282 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>24.6418 GHz</td> <td>-37.475 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>4.8285 GHz</td> <td>-50.544 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.2113 GHz</td> <td>-50.805 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.5954 GHz</td> <td>-51.223 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.4405 GHz	-2.282 dBm				2	N	1	f	24.6418 GHz	-37.475 dBm				3	N	1	f	4.8285 GHz	-50.544 dBm				4	N	1	f	7.2113 GHz	-50.805 dBm				5	N	1	f	9.5954 GHz	-51.223 dBm			
MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.4405 GHz	-2.282 dBm																																																		
2	N	1	f	24.6418 GHz	-37.475 dBm																																																		
3	N	1	f	4.8285 GHz	-50.544 dBm																																																		
4	N	1	f	7.2113 GHz	-50.805 dBm																																																		
5	N	1	f	9.5954 GHz	-51.223 dBm																																																		
<p>$\pi/4$DQPSK/HCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SC1</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>f</td> <td>2.4802 GHz</td> <td>-2.942 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>24.6903 GHz</td> <td>-37.255 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>5.1381 GHz</td> <td>-51.210 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.2987 GHz</td> <td>-50.440 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.9827 GHz</td> <td>-51.433 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.4802 GHz	-2.942 dBm				2	N	1	f	24.6903 GHz	-37.255 dBm				3	N	1	f	5.1381 GHz	-51.210 dBm				4	N	1	f	7.2987 GHz	-50.440 dBm				5	N	1	f	9.9827 GHz	-51.433 dBm			
MKR	MODE	TRC	SC1	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.4802 GHz	-2.942 dBm																																																		
2	N	1	f	24.6903 GHz	-37.255 dBm																																																		
3	N	1	f	5.1381 GHz	-51.210 dBm																																																		
4	N	1	f	7.2987 GHz	-50.440 dBm																																																		
5	N	1	f	9.9827 GHz	-51.433 dBm																																																		

<p>8DPSK /LCH</p>	 <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>f</td> <td>2.401 7 GHz</td> <td>-1.555 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>24.675 3 GHz</td> <td>-37.372 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>4.905 2 GHz</td> <td>-50.136 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.144 3 GHz</td> <td>-50.085 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.568 0 GHz</td> <td>-49.393 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.401 7 GHz	-1.555 dBm				2	N	1	f	24.675 3 GHz	-37.372 dBm				3	N	1	f	4.905 2 GHz	-50.136 dBm				4	N	1	f	7.144 3 GHz	-50.085 dBm				5	N	1	f	9.568 0 GHz	-49.393 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.401 7 GHz	-1.555 dBm																																																		
2	N	1	f	24.675 3 GHz	-37.372 dBm																																																		
3	N	1	f	4.905 2 GHz	-50.136 dBm																																																		
4	N	1	f	7.144 3 GHz	-50.085 dBm																																																		
5	N	1	f	9.568 0 GHz	-49.393 dBm																																																		
<p>8DPSK /MCH</p>	 <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>f</td> <td>2.441 4 GHz</td> <td>-1.961 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>25.082 1 GHz</td> <td>-37.315 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>4.192 8 GHz</td> <td>-51.485 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.157 5 GHz</td> <td>-50.644 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.694 5 GHz</td> <td>-50.609 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.441 4 GHz	-1.961 dBm				2	N	1	f	25.082 1 GHz	-37.315 dBm				3	N	1	f	4.192 8 GHz	-51.485 dBm				4	N	1	f	7.157 5 GHz	-50.644 dBm				5	N	1	f	9.694 5 GHz	-50.609 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.441 4 GHz	-1.961 dBm																																																		
2	N	1	f	25.082 1 GHz	-37.315 dBm																																																		
3	N	1	f	4.192 8 GHz	-51.485 dBm																																																		
4	N	1	f	7.157 5 GHz	-50.644 dBm																																																		
5	N	1	f	9.694 5 GHz	-50.609 dBm																																																		
<p>8DPSK /HCH</p>	 <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>f</td> <td>2.480 2 GHz</td> <td>-1.055 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>1</td> <td>f</td> <td>24.648 0 GHz</td> <td>-36.755 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>1</td> <td>f</td> <td>4.514 6 GHz</td> <td>-51.034 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>1</td> <td>f</td> <td>7.383 4 GHz</td> <td>-50.950 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>N</td> <td>1</td> <td>f</td> <td>9.981 5 GHz</td> <td>-51.740 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.480 2 GHz	-1.055 dBm				2	N	1	f	24.648 0 GHz	-36.755 dBm				3	N	1	f	4.514 6 GHz	-51.034 dBm				4	N	1	f	7.383 4 GHz	-50.950 dBm				5	N	1	f	9.981 5 GHz	-51.740 dBm			
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																															
1	N	1	f	2.480 2 GHz	-1.055 dBm																																																		
2	N	1	f	24.648 0 GHz	-36.755 dBm																																																		
3	N	1	f	4.514 6 GHz	-51.034 dBm																																																		
4	N	1	f	7.383 4 GHz	-50.950 dBm																																																		
5	N	1	f	9.981 5 GHz	-51.740 dBm																																																		

9. COUDUCTED PEAK OUTPUT POWER

9.1 Block Diagram Of Test Setup



9.2 Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 2MHz. VBW = 6MHz. Sweep = auto; Detector Function = Peak.
3. Keep the EUT in transmitting at lowest, middle and highest channel individually. Record the max value.

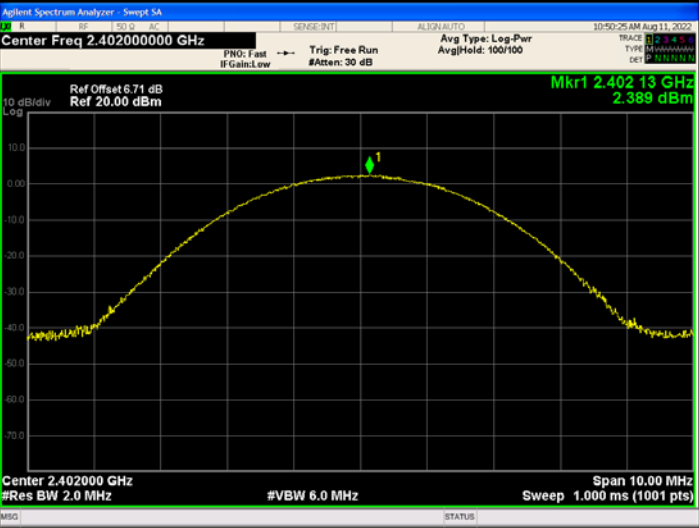
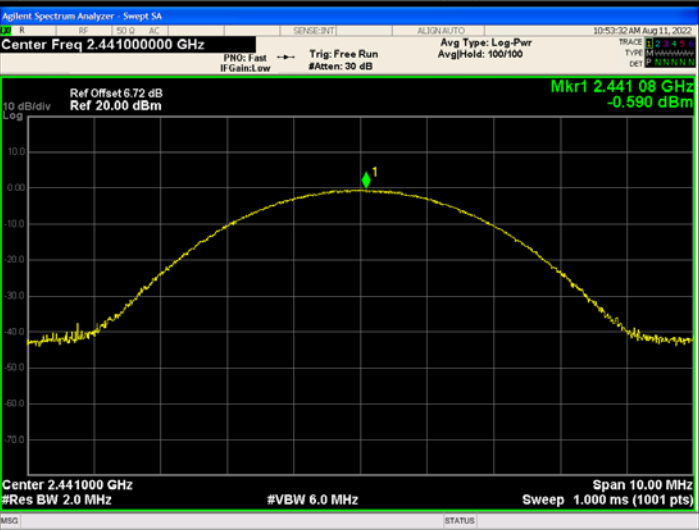
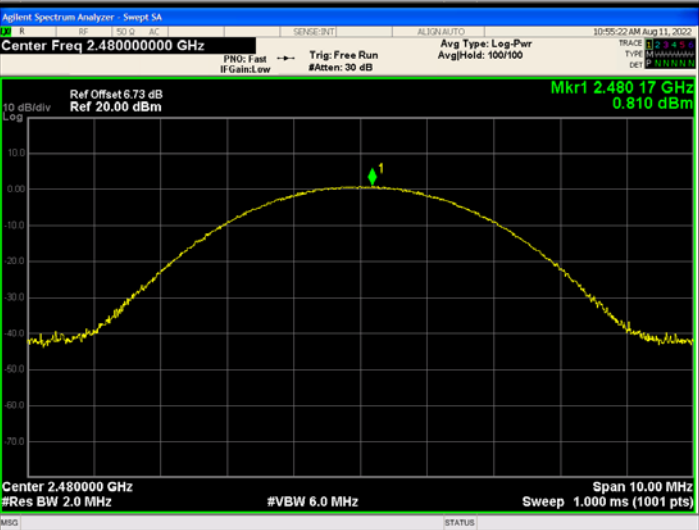
9.4 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Verdict
EDR mode (GFSK)	LCH	2.616	PASS
	MCH	-0.436	PASS
	HCH	0.952	PASS
EDR mode ($\pi/4$ DQPSK)	LCH	2.271	PASS
	MCH	-0.536	PASS
	HCH	0.738	PASS
EDR mode (8DPSK)	LCH	2.389	PASS
	MCH	-0.59	PASS
	HCH	0.81	PASS

Test Graph:

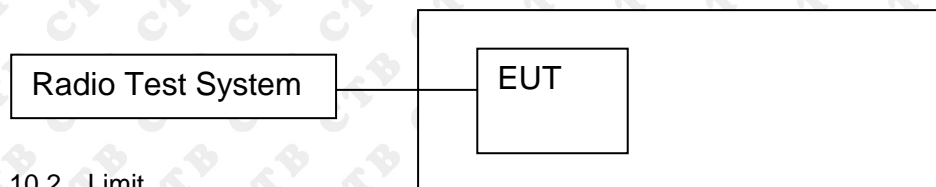
Graphs	
GFSK/LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.40200000 GHz Ref Offset 6.71 dB Ref 20.00 dBm Mkr1 2.402 08 GHz 2.616 dBm Center 2.402000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>
GFSK/MCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.44100000 GHz Ref Offset 6.72 dB Ref 20.00 dBm Mkr1 2.441 07 GHz -0.436 dBm Center 2.441000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>
GFSK/HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.48000000 GHz Ref Offset 6.73 dB Ref 20.00 dBm Mkr1 2.479 89 GHz 0.952 dBm Center 2.480000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>

<p>$\pi/4$DQPSK/LCH</p>	
<p>$\pi/4$DQPSK/MCH</p>	
<p>$\pi/4$DQPSK/HCH</p>	

<p>8DPSK/LCH</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 2.40200000 GHz Ref Offset 6.71 dB Ref 20.00 dBm Mkr1 2.40213 GHz 2.389 dBm Center 2.402000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>
<p>8DPSK /MCH</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 2.44100000 GHz Ref Offset 6.72 dB Ref 20.00 dBm Mkr1 2.44108 GHz -0.590 dBm Center 2.441000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>
<p>8DPSK /HCH</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 2.48000000 GHz Ref Offset 6.73 dB Ref 20.00 dBm Mkr1 2.48017 GHz 0.810 dBm Center 2.480000 GHz #Res BW 2.0 MHz #VBW 6.0 MHz Span 10.00 MHz Sweep 1.000 ms (1001 pts)</p>

10. 20DB OCCUPIED BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 Limit

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mw.

10.3 Test procedure

1. Rem1. Set RBW = 30 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 Test Result

Test Mode	Frequency	20dB Bandwidth (MHz)	Result
GFSK	Low channel	0.957	PASS
	Mid channel	0.941	PASS
	High channel	0.938	PASS
$\pi/4$ DQPSK	Low channel	1.293	PASS
	Mid channel	1.325	PASS
	High channel	1.316	PASS
8DPSK	Low channel	1.305	PASS
	Mid channel	1.298	PASS
	High channel	1.304	PASS

Note: All modes of operation were Pre-scan and the worst-case emissions are reported.

Test Graph:

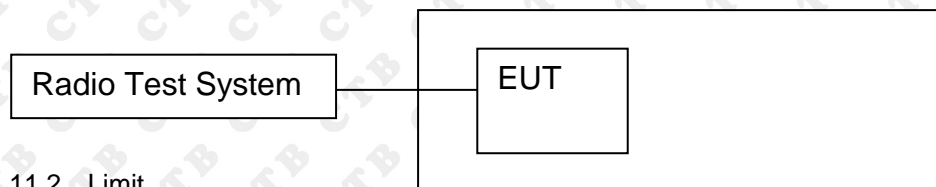
<p>GFSK Low channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.402000000 GHz Center Freq: 2.402000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Device: BTS</p> <p>Ref Offset: 6.71 dB Ref: 26.71 dBm Mkr3: 2.402485 GHz -20.955 dBm</p> <p>Center: 2.402 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <p>Occupied Bandwidth: 862.17 kHz Total Power: 7.97 dBm</p> <p>Transmit Freq Error: 6.597 kHz OBW Power: 99.00 % x dB Bandwidth: 956.8 kHz x dB: -20.00 dB</p>
<p>GFSK Mid channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.441000000 GHz Center Freq: 2.441000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Device: BTS</p> <p>Ref Offset: 6.72 dB Ref: 26.72 dBm Mkr3: 2.441479 GHz -23.044 dBm</p> <p>Center: 2.441 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <p>Occupied Bandwidth: 873.01 kHz Total Power: 5.41 dBm</p> <p>Transmit Freq Error: 8.906 kHz OBW Power: 99.00 % x dB Bandwidth: 940.8 kHz x dB: -20.00 dB</p>
<p>GFSK High channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.480000000 GHz Center Freq: 2.480000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Device: BTS</p> <p>Ref Offset: 6.73 dB Ref: 26.73 dBm Mkr3: 2.480473 GHz -21.008 dBm</p> <p>Center: 2.48 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <p>Occupied Bandwidth: 868.09 kHz Total Power: 6.96 dBm</p> <p>Transmit Freq Error: 4.293 kHz OBW Power: 99.00 % x dB Bandwidth: 937.9 kHz x dB: -20.00 dB</p>

<p>$\pi/4$-DQPSK Low channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.402000000 GHz</p> <p>Ref Offset: 6.71 dB Ref: 26.71 dBm</p> <p>Mkr3: 2.402653 GHz -20.867 dBm</p> <p>Center: 2.402 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>7.93 dBm</td> </tr> <tr> <td>1.1833 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>6.554 kHz</td> <td></td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>1.293 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	7.93 dBm	1.1833 MHz			Transmit Freq Error	OBW Power	99.00 %	6.554 kHz			x dB Bandwidth	x dB	-20.00 dB	1.293 MHz			
Occupied Bandwidth	Total Power	7.93 dBm																		
1.1833 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
6.554 kHz																				
x dB Bandwidth	x dB	-20.00 dB																		
1.293 MHz																				
<p>$\pi/4$-DQPSK Mid channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.441000000 GHz</p> <p>Ref Offset: 6.72 dB Ref: 26.72 dBm</p> <p>Mkr3: 2.441667 GHz -25.923 dBm</p> <p>Center: 2.441 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>4.60 dBm</td> </tr> <tr> <td>1.1972 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>3.996 kHz</td> <td></td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>1.325 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	4.60 dBm	1.1972 MHz			Transmit Freq Error	OBW Power	99.00 %	3.996 kHz			x dB Bandwidth	x dB	-20.00 dB	1.325 MHz			
Occupied Bandwidth	Total Power	4.60 dBm																		
1.1972 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
3.996 kHz																				
x dB Bandwidth	x dB	-20.00 dB																		
1.325 MHz																				
<p>$\pi/4$-DQPSK High channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.480000000 GHz</p> <p>Ref Offset: 6.73 dB Ref: 26.73 dBm</p> <p>Mkr3: 2.480667 GHz -24.530 dBm</p> <p>Center: 2.48 GHz #Res BW: 30 kHz #VBW: 100 kHz Span: 3 MHz Sweep: 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>6.08 dBm</td> </tr> <tr> <td>1.1977 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>8.928 kHz</td> <td></td> <td></td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>1.316 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	6.08 dBm	1.1977 MHz			Transmit Freq Error	OBW Power	99.00 %	8.928 kHz			x dB Bandwidth	x dB	-20.00 dB	1.316 MHz			
Occupied Bandwidth	Total Power	6.08 dBm																		
1.1977 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
8.928 kHz																				
x dB Bandwidth	x dB	-20.00 dB																		
1.316 MHz																				

<p>8DPSK Low channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.402000000 GHz Center Freq: 2.402000000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS</p> <p>Ref Offset 6.71 dB Ref 26.71 dBm Mkr3 2.402658 GHz -21.524 dBm</p> <p>Center 2.402 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>7.69 dBm</td> </tr> <tr> <td>1.1908 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>6.130 kHz</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>1.305 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	7.69 dBm	1.1908 MHz			Transmit Freq Error	OBW Power	99.00 %	6.130 kHz	x dB	-20.00 dB	x dB Bandwidth			1.305 MHz		
Occupied Bandwidth	Total Power	7.69 dBm																	
1.1908 MHz																			
Transmit Freq Error	OBW Power	99.00 %																	
6.130 kHz	x dB	-20.00 dB																	
x dB Bandwidth																			
1.305 MHz																			
<p>8DPSK Mid channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.441000000 GHz Center Freq: 2.441000000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS</p> <p>Ref Offset 6.72 dB Ref 26.72 dBm Mkr3 2.441647 GHz -23.236 dBm</p> <p>Center 2.441 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>4.89 dBm</td> </tr> <tr> <td>1.2089 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>-2.211 kHz</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>1.298 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	4.89 dBm	1.2089 MHz			Transmit Freq Error	OBW Power	99.00 %	-2.211 kHz	x dB	-20.00 dB	x dB Bandwidth			1.298 MHz		
Occupied Bandwidth	Total Power	4.89 dBm																	
1.2089 MHz																			
Transmit Freq Error	OBW Power	99.00 %																	
-2.211 kHz	x dB	-20.00 dB																	
x dB Bandwidth																			
1.298 MHz																			
<p>8DPSK High channel</p>	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.480000000 GHz Center Freq: 2.480000000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS</p> <p>Ref Offset 6.73 dB Ref 26.73 dBm Mkr3 2.480653 GHz -25.589 dBm</p> <p>Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>6.13 dBm</td> </tr> <tr> <td>1.2060 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>743 Hz</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>1.304 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	6.13 dBm	1.2060 MHz			Transmit Freq Error	OBW Power	99.00 %	743 Hz	x dB	-20.00 dB	x dB Bandwidth			1.304 MHz		
Occupied Bandwidth	Total Power	6.13 dBm																	
1.2060 MHz																			
Transmit Freq Error	OBW Power	99.00 %																	
743 Hz	x dB	-20.00 dB																	
x dB Bandwidth																			
1.304 MHz																			

11. CARRIER FREQUENCIES SEPARATION

11.1 Block Diagram Of Test Setup



11.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

11.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz, Span = 2MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

11.4 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit(2/3 of the 20dB bandwidth MHz)	Verdict
GFSK	LCH	1.002	0.628	PASS
GFSK	MCH	1.000	0.623	PASS
GFSK	HCH	1.000	0.625	PASS
$\pi/4$ DQPSK	LCH	1.002	0.860	PASS
$\pi/4$ DQPSK	MCH	1.000	0.879	PASS
$\pi/4$ DQPSK	HCH	1.000	0.865	PASS
8DPSK	LCH	1.002	0.865	PASS
8DPSK	MCH	1.002	0.872	PASS
8DPSK	HCH	1.002	0.874	PASS

Test Graph

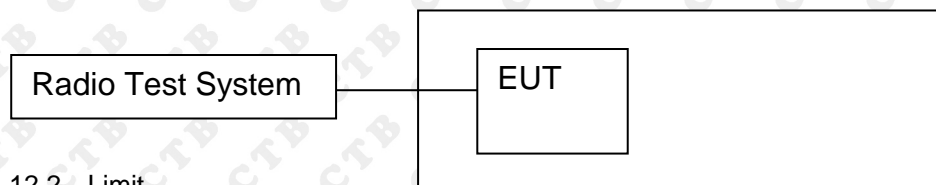
Graphs																									
GFSK/LCH	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.002000000 MHz</p> <p>Ref Offset: 6.71 dB Ref: 20.00 dBm</p> <p>ΔMkr1 1.002 MHz -0.259 dBm</p> <p>Center 2.402500 GHz #Res BW 30 kHz #VBW 100 kHz Span 2.000 MHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SQL</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>AZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.002 MHz (Δ)</td> <td>-0.259 dBm</td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.401838 GHz</td> <td>-0.054 dBm</td> <td></td> </tr> </tbody> </table>	MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	AZ	1	f	(Δ)	1.002 MHz (Δ)	-0.259 dBm		2	F	1	f		2.401838 GHz	-0.054 dBm	
MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																		
1	AZ	1	f	(Δ)	1.002 MHz (Δ)	-0.259 dBm																			
2	F	1	f		2.401838 GHz	-0.054 dBm																			
GFSK/MCH	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.000000000 MHz</p> <p>Ref Offset: 6.72 dB Ref: 20.00 dBm</p> <p>ΔMkr1 1.000 MHz 0.292 dBm</p> <p>Center 2.441500 GHz #Res BW 30 kHz #VBW 100 kHz Span 2.000 MHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SQL</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>AZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.000 MHz (Δ)</td> <td>0.292 dBm</td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.440914 GHz</td> <td>-4.868 dBm</td> <td></td> </tr> </tbody> </table>	MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	AZ	1	f	(Δ)	1.000 MHz (Δ)	0.292 dBm		2	F	1	f		2.440914 GHz	-4.868 dBm	
MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																		
1	AZ	1	f	(Δ)	1.000 MHz (Δ)	0.292 dBm																			
2	F	1	f		2.440914 GHz	-4.868 dBm																			
GFSK/HCH	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.000000000 MHz</p> <p>Ref Offset: 6.73 dB Ref: 20.00 dBm</p> <p>ΔMkr1 1.000 MHz 1.133 dBm</p> <p>Center 2.479500 GHz #Res BW 30 kHz #VBW 100 kHz Span 2.000 MHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR MODE</th> <th>TRC</th> <th>SQL</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>AZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.000 MHz (Δ)</td> <td>1.133 dBm</td> <td></td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.478838 GHz</td> <td>-2.573 dBm</td> <td></td> </tr> </tbody> </table>	MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	AZ	1	f	(Δ)	1.000 MHz (Δ)	1.133 dBm		2	F	1	f		2.478838 GHz	-2.573 dBm	
MKR MODE	TRC	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																		
1	AZ	1	f	(Δ)	1.000 MHz (Δ)	1.133 dBm																			
2	F	1	f		2.478838 GHz	-2.573 dBm																			

<p>$\pi/4$DQPSK/LCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>Δ2</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.002 MHz</td> <td>(Δ)</td> <td></td> <td>0.688 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.402022 GHz</td> <td></td> <td></td> <td>-2.912 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ 2	1	f	(Δ)	1.002 MHz	(Δ)		0.688 dB	2	F	1	f		2.402022 GHz			-2.912 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	1	f	(Δ)	1.002 MHz	(Δ)		0.688 dB																					
2	F	1	f		2.402022 GHz			-2.912 dBm																					
<p>$\pi/4$DQPSK/MCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>Δ2</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.000 MHz</td> <td>(Δ)</td> <td></td> <td>-2.059 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.441018 GHz</td> <td></td> <td></td> <td>-5.948 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ 2	1	f	(Δ)	1.000 MHz	(Δ)		-2.059 dB	2	F	1	f		2.441018 GHz			-5.948 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	1	f	(Δ)	1.000 MHz	(Δ)		-2.059 dB																					
2	F	1	f		2.441018 GHz			-5.948 dBm																					
<p>$\pi/4$DQPSK/HCH</p>	<table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>Δ2</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.000 MHz</td> <td>(Δ)</td> <td></td> <td>1.046 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.479024 GHz</td> <td></td> <td></td> <td>-6.690 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ 2	1	f	(Δ)	1.000 MHz	(Δ)		1.046 dB	2	F	1	f		2.479024 GHz			-6.690 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ 2	1	f	(Δ)	1.000 MHz	(Δ)		1.046 dB																					
2	F	1	f		2.479024 GHz			-6.690 dBm																					

<p>8DPSK/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.002000000 MHz</p> <p>Ref Offset: 6.71 dB Ref 20.00 dBm</p> <p>ΔMkr1 1.002 MHz -5.218 dB</p> <p>Center 2.402500 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>ΔZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.002 MHz</td> <td>(Δ)</td> <td></td> <td>-5.218 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.402 154 GHz</td> <td></td> <td></td> <td>-1.472 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		-5.218 dB	2	F	1	f		2.402 154 GHz			-1.472 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		-5.218 dB																					
2	F	1	f		2.402 154 GHz			-1.472 dBm																					
<p>8DPSK /MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.002000000 MHz</p> <p>Ref Offset: 6.72 dB Ref 20.00 dBm</p> <p>ΔMkr1 1.002 MHz 0.409 dB</p> <p>Center 2.441500 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>ΔZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.002 MHz</td> <td>(Δ)</td> <td></td> <td>0.409 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.440 848 GHz</td> <td></td> <td></td> <td>-6.627 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		0.409 dB	2	F	1	f		2.440 848 GHz			-6.627 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		0.409 dB																					
2	F	1	f		2.440 848 GHz			-6.627 dBm																					
<p>8DPSK /HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Marker 1 Δ 1.002000000 MHz</p> <p>Ref Offset: 6.73 dB Ref 20.00 dBm</p> <p>ΔMkr1 1.002 MHz 0.646 dB</p> <p>Center 2.479500 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms (1001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</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>ΔZ</td> <td>1</td> <td>f</td> <td>(Δ)</td> <td>1.002 MHz</td> <td>(Δ)</td> <td></td> <td>0.646 dB</td> </tr> <tr> <td>2</td> <td>F</td> <td>1</td> <td>f</td> <td></td> <td>2.479 018 GHz</td> <td></td> <td></td> <td>-5.086 dBm</td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		0.646 dB	2	F	1	f		2.479 018 GHz			-5.086 dBm	
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																					
1	Δ Z	1	f	(Δ)	1.002 MHz	(Δ)		0.646 dB																					
2	F	1	f		2.479 018 GHz			-5.086 dBm																					

12. HOPPING CHANNEL NUMBER

12.1 Block Diagram Of Test Setup



12.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

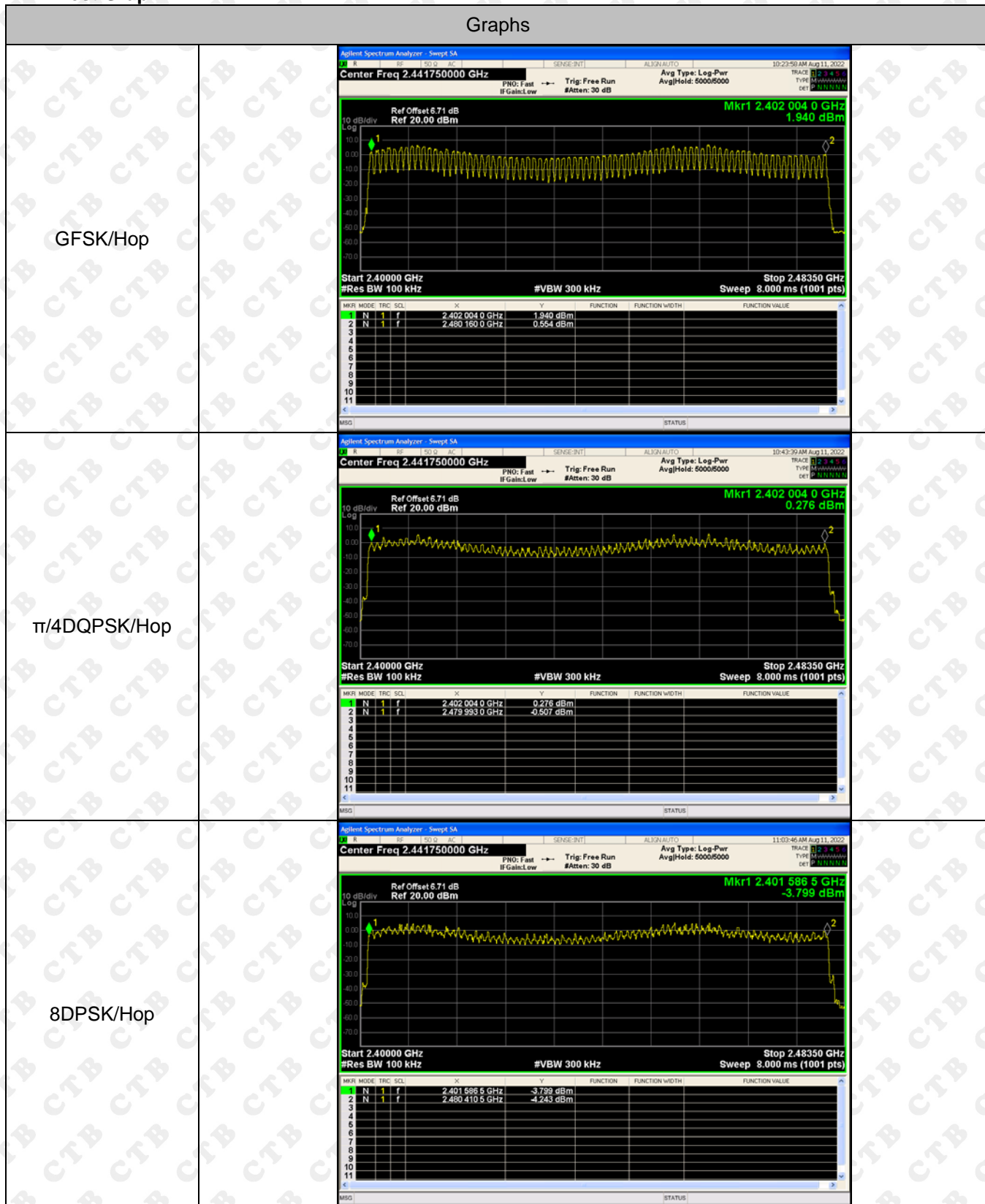
12.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.
4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

12.4 Test Result

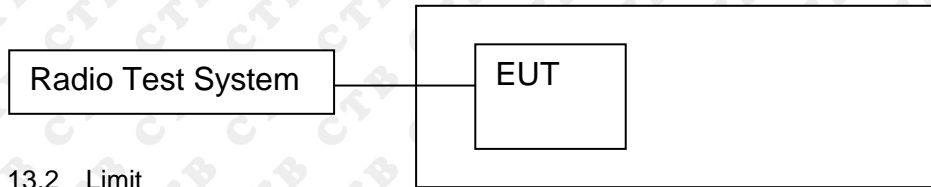
Mode	Channel.	Number of Hopping Channel	Verdict
GFSK	Hop	79	PASS
$\pi/4$ DQPSK	Hop	79	PASS
8DPSK	Hop	79	PASS

Test Graph



13. DWELL TIME

13.1 Block Diagram Of Test Setup



13.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

13.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set spectrum analyzer span = 0. Centred on a hopping channel;
3. Set RBW = 1MHz and VBW = 3MHz. Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.
4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

13.4 Test Result

Mode	Packet	Channel	Pulse Time (ms)	Total Dwell Time (ms)	Limit (ms)	Verdict
GFSK	DH1	LCH	0.378	120.96	400	PASS
	DH1	MCH	0.378	120.96	400	PASS
	DH1	HCH	0.378	120.96	400	PASS
	DH3	LCH	1.637	261.92	400	PASS
	DH3	MCH	1.637	261.92	400	PASS
	DH3	HCH	1.637	261.92	400	PASS
	DH5	LCH	2.887	307.947	400	PASS
	DH5	MCH	2.887	307.947	400	PASS
	DH5	HCH	2.888	308.053	400	PASS

Remark: DH5 Packet permit maximum 1600 / 79 / 6 hops per second in each channel (5 time slots RX, 1 time slot TX).

DH3 Packet permit maximum 1600 / 79 / 4 hops per second in each channel (3 time slots RX, 1 time slot TX).

DH1 Packet permit maximum 1600 / 79 / 2 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the Dwell Time can be calculated as follows:

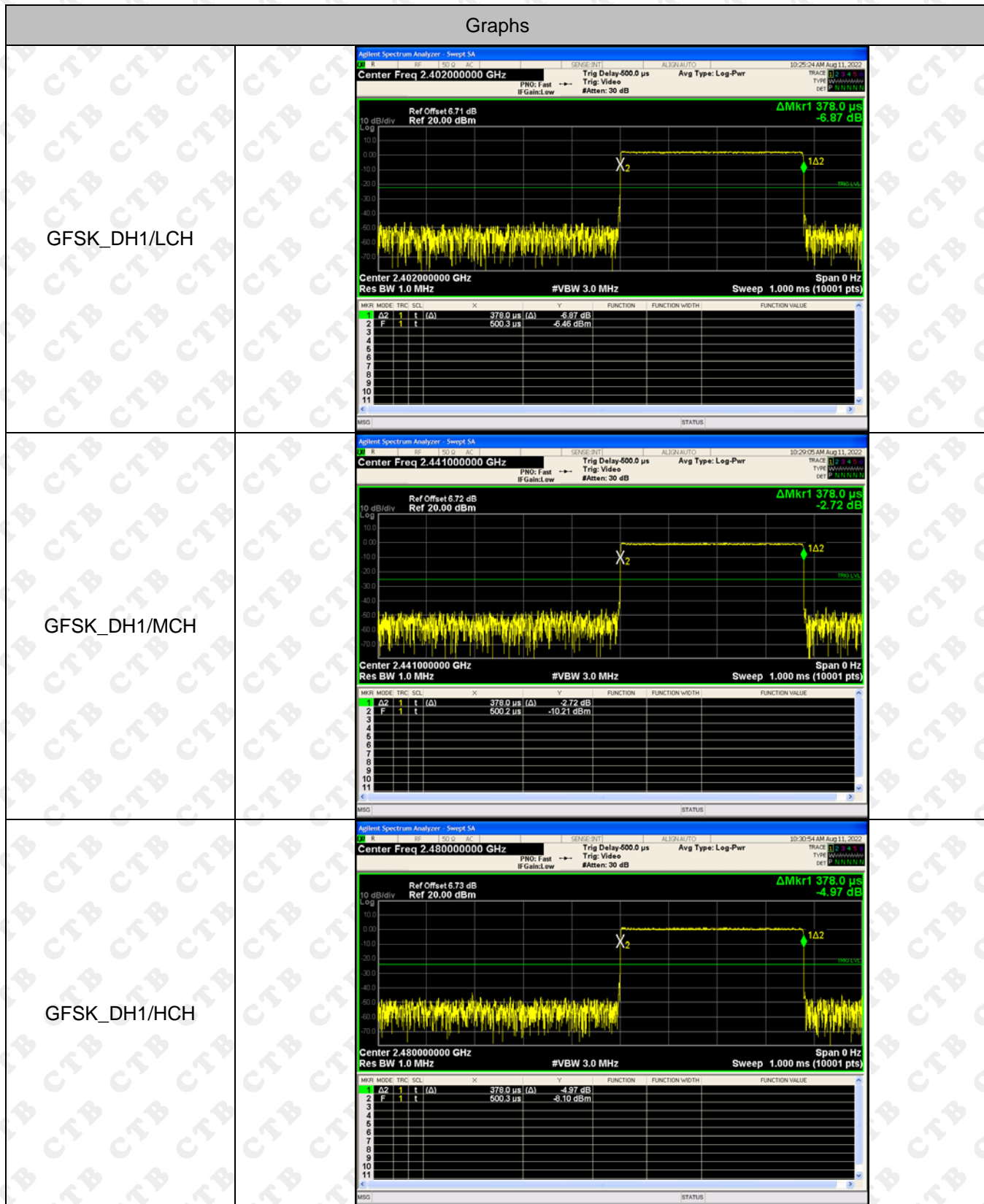
DH5: $1600/79/6*0.4*79*(MkrDelta)/1000$

DH3: $1600/79/4*0.4*79*(MkrDelta)/1000$

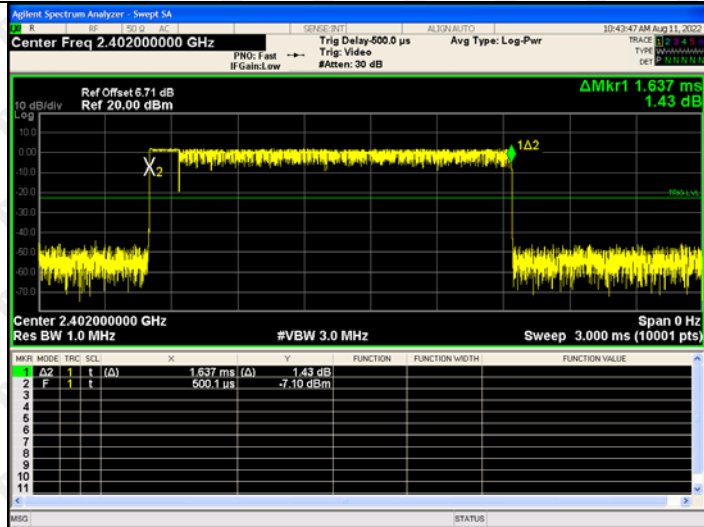
DH1: $1600/79/2*0.4*79*(MkrDelta)/1000$

Remark: Mkr Delta is once pulse time.

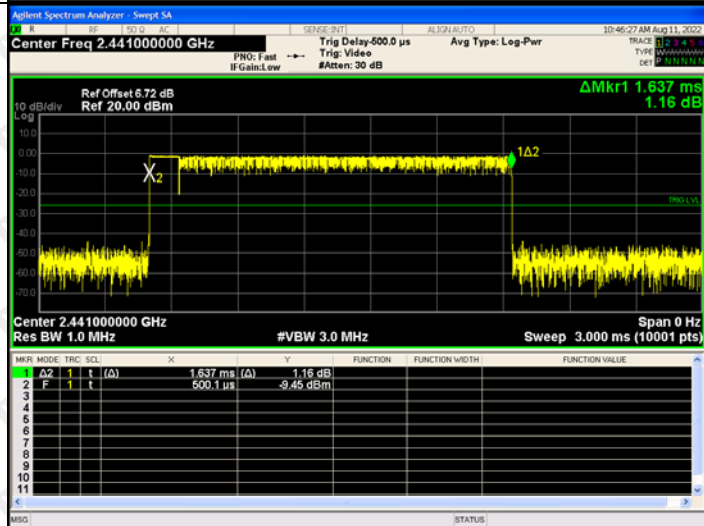
Test Graph



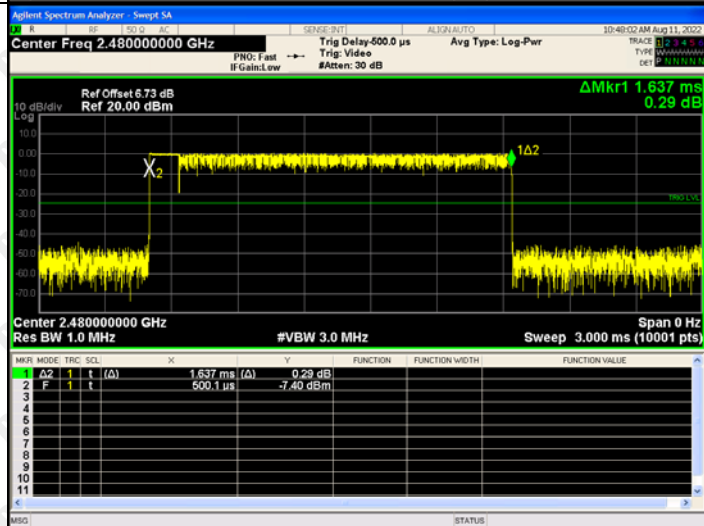
GFSK_DH3/LCH



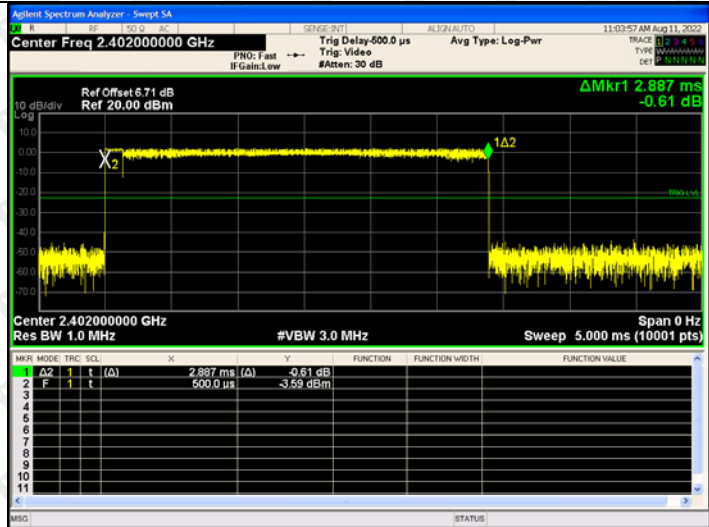
GFSK_DH3/MCH



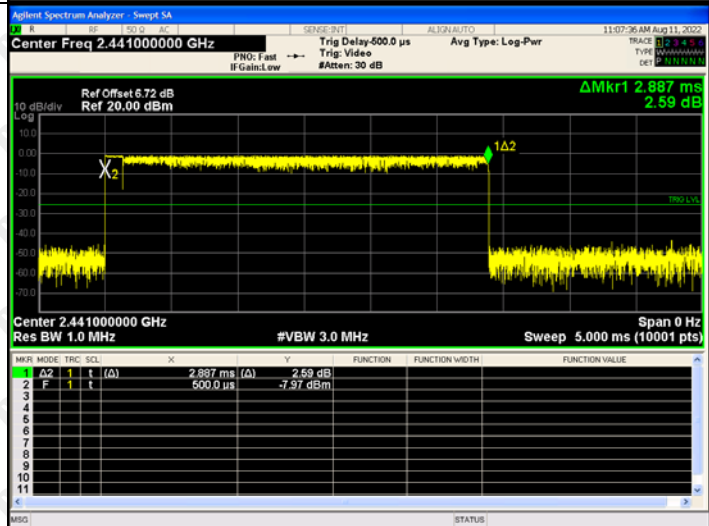
GFSK_DH3/HCH



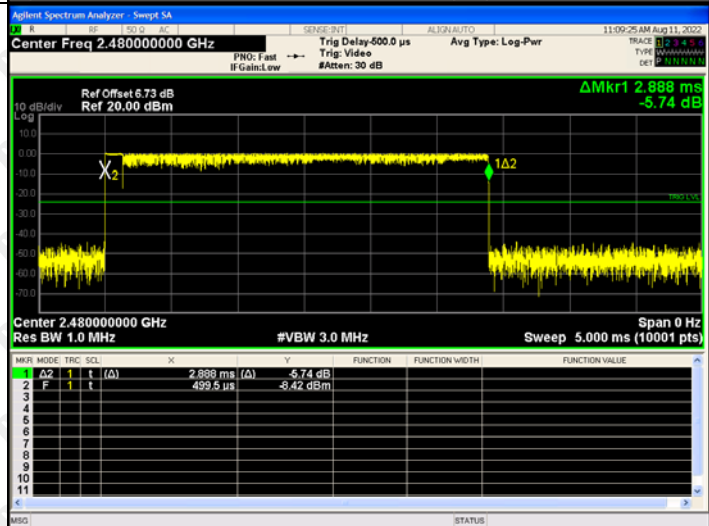
GFSK_DH5/LCH



GFSK_DH5/MCH



GFSK_DH5/HCH



14. PSEUDORANDOM FREQUENCY

14.1 Limit

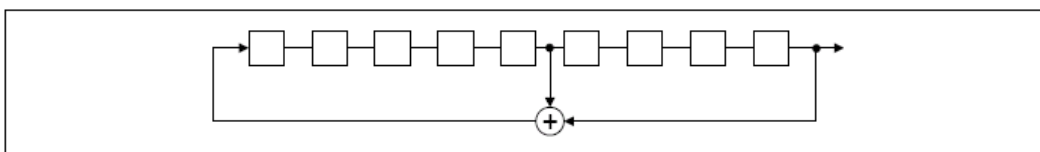
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

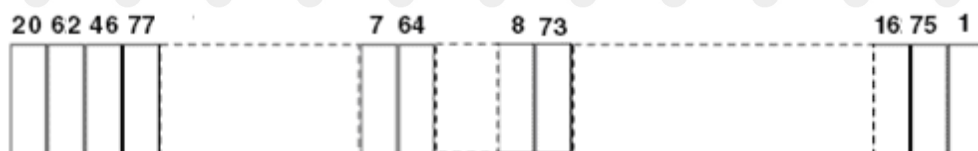
14.2 Test procedure

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONES; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: $2^9 - 1 = 511$ bits
- Longest sequence of zeros: 8 (non-inverted signal)



An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

14.3 Test Result

The device does not have the ability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

15. ANTENNA REQUIREMENT

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is Internal antenna. The best case gain of the antenna is 1dBi.

16. EUT TEST SETUP PHOTOGRAPHS

Radiated Emission

Below 1G



Above 1G



Conducted emissions



***** END OF REPORT *****