

**Appendix A**  
**RF Test Data for BT(BDR/EDR) (Conducted Measurement)**

**Product Name: Bluetooth Headset**

**Trade Mark: GoodLark**

**Test Model: GT100**

**FCC ID: 2ASKNGT100**

**Environmental Conditions**

Temperature:	22.7 °C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

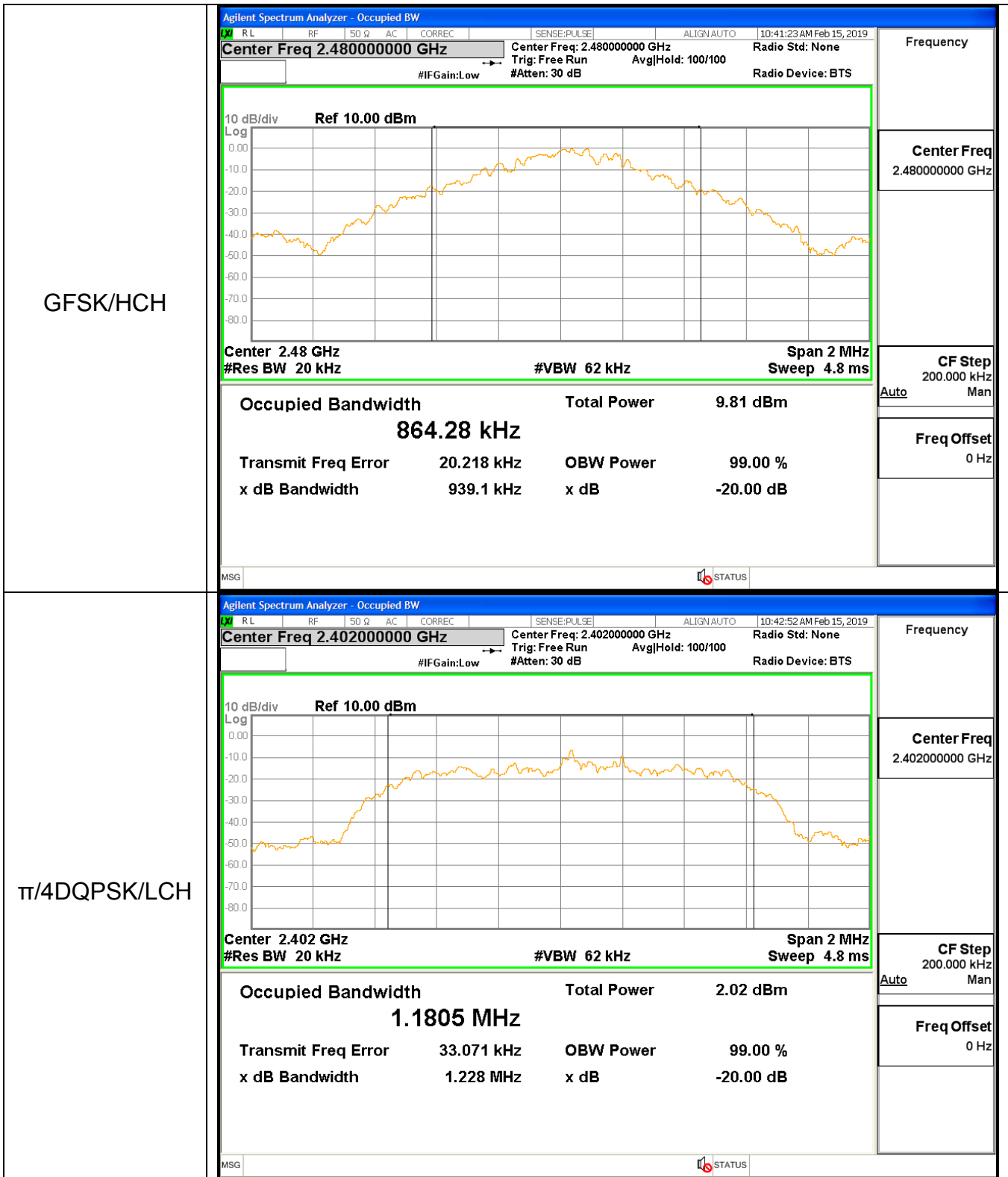
**A.1 20 dB Bandwidth**

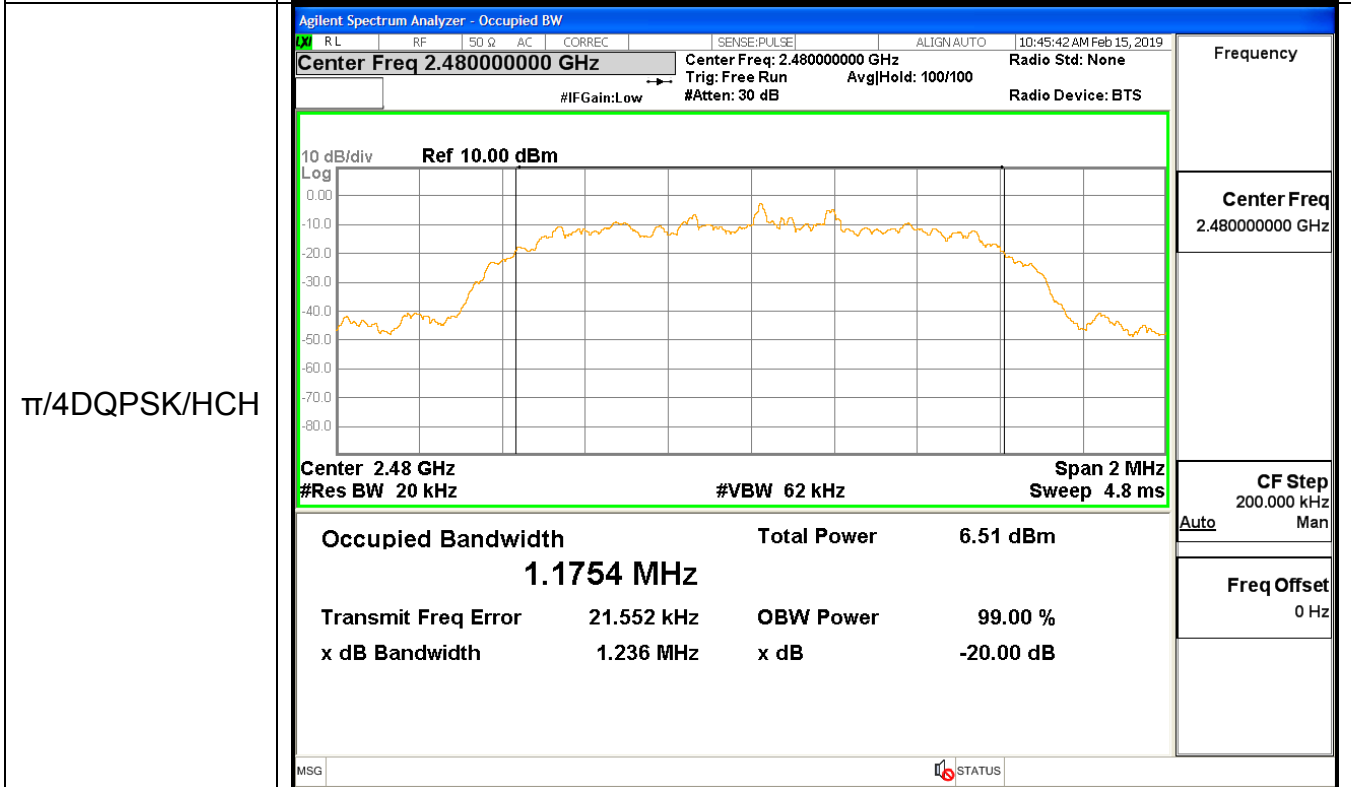
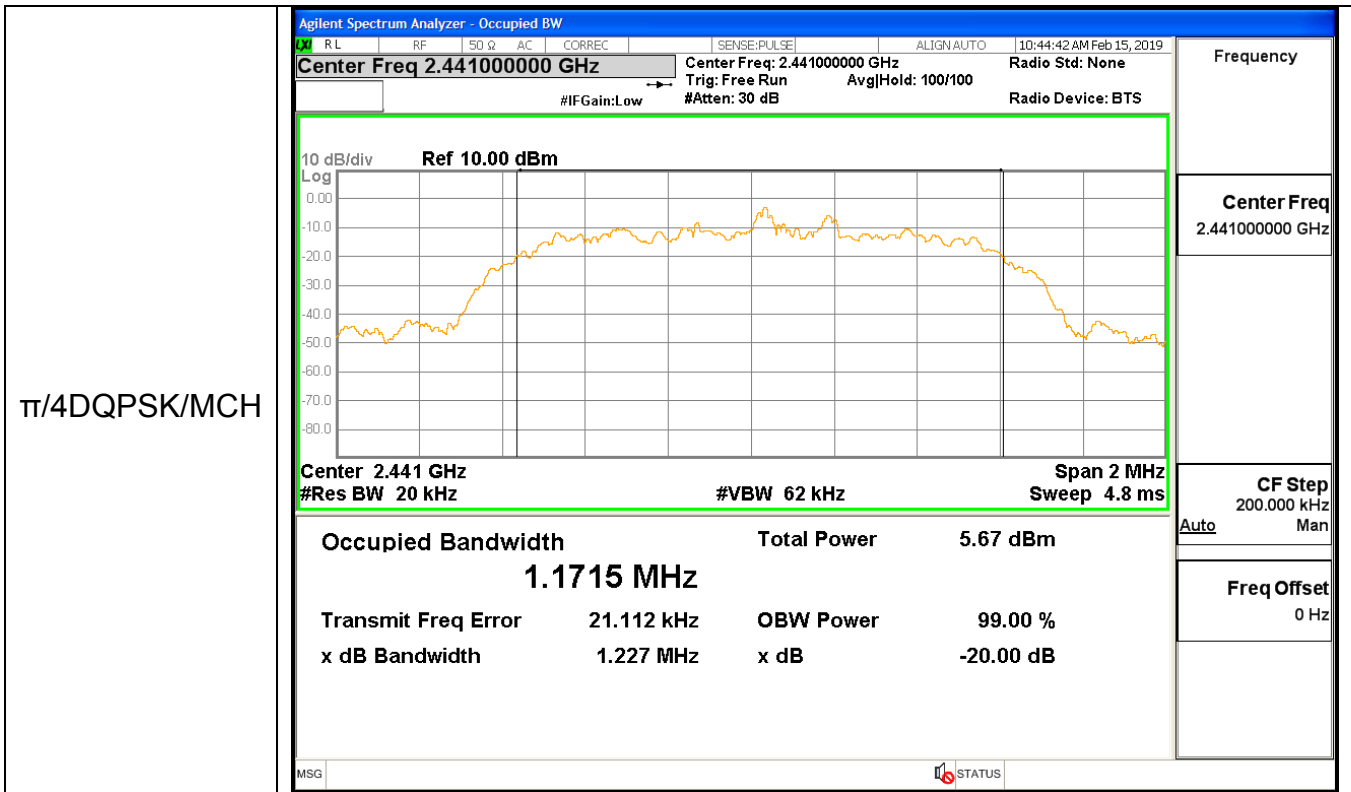
Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.939	Not Specified	PASS
GFSK	MCH	0.944	Not Specified	PASS
GFSK	HCH	0.939	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.228	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.227	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.236	Not Specified	PASS
8DPSK	LCH	1.253	Not Specified	PASS
8DPSK	MCH	1.254	Not Specified	PASS
8DPSK	HCH	1.258	Not Specified	PASS

Test Graph

Graphs

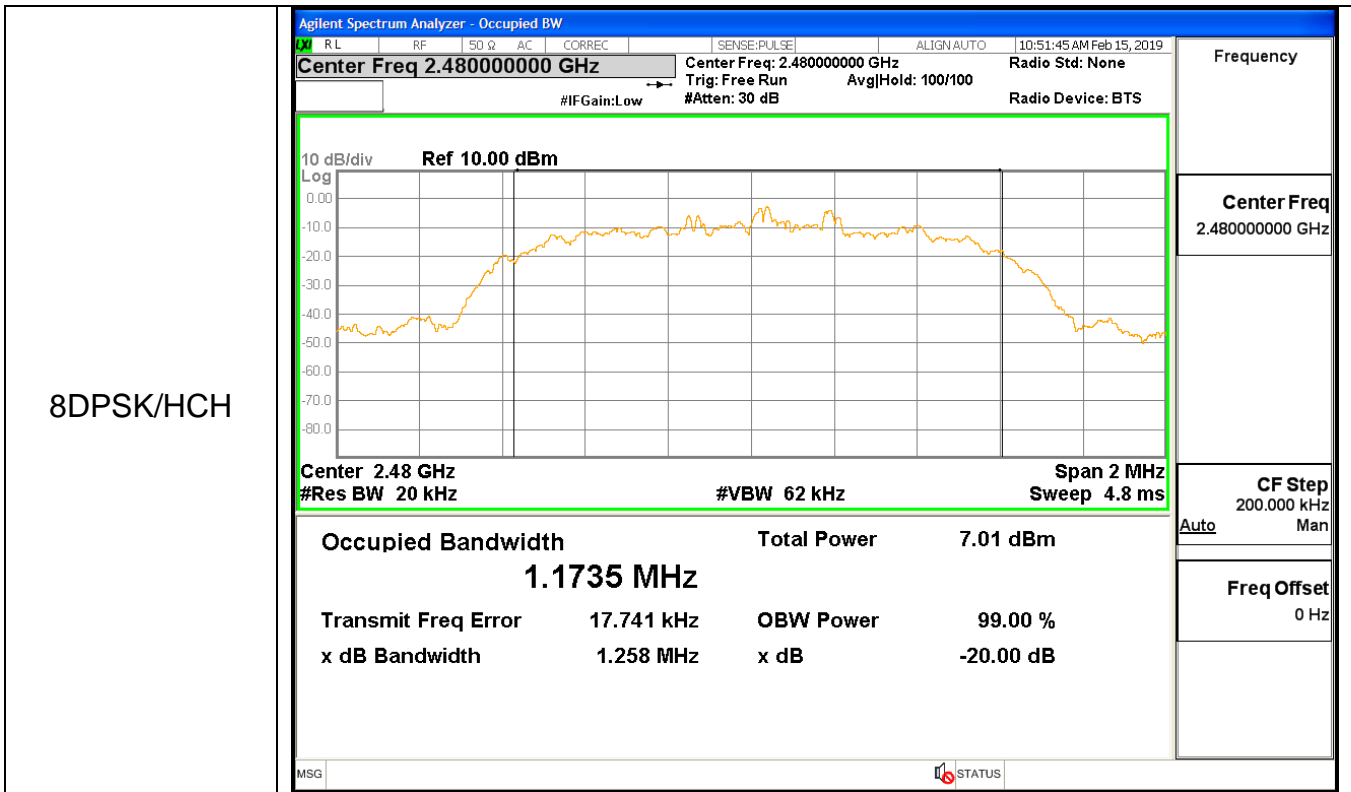
GFSK/LCH	Agilent Spectrum Analyzer - Occupied BW Center Freq <b>2.40200000 GHz</b> Center Freq: 2.40200000 GHz    Radio Std: None Trig: Free Run    Avg Hold: 100/100    Radio Device: BTS #IFGain:Low    #Atten: 30 dB			Frequency Center Freq 2.40200000 GHz											
	<p>10 dB/div    Ref 10.00 dBm</p> <p>Center 2.402 GHz    #Res BW 20 kHz    #VBW 62 kHz    Span 2 MHz    Sweep 4.8 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td><b>857.32 kHz</b></td> <td>Total Power</td> <td><b>6.02 dBm</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>32.841 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>939.4 kHz</td> <td>x dB</td> <td>-20.00 dB</td> </tr> </table>			Occupied Bandwidth	<b>857.32 kHz</b>	Total Power	<b>6.02 dBm</b>	Transmit Freq Error	32.841 kHz	OBW Power	99.00 %	x dB Bandwidth	939.4 kHz	x dB	-20.00 dB
Occupied Bandwidth	<b>857.32 kHz</b>	Total Power	<b>6.02 dBm</b>												
Transmit Freq Error	32.841 kHz	OBW Power	99.00 %												
x dB Bandwidth	939.4 kHz	x dB	-20.00 dB												
GFSK/MCH	Agilent Spectrum Analyzer - Occupied BW Center Freq <b>2.44100000 GHz</b> Center Freq: 2.44100000 GHz    Radio Std: None Trig: Free Run    Avg Hold: 100/100    Radio Device: BTS #IFGain:Low    #Atten: 30 dB			Frequency Center Freq 2.44100000 GHz											
	<p>10 dB/div    Ref 10.00 dBm</p> <p>Center 2.441 GHz    #Res BW 20 kHz    #VBW 62 kHz    Span 2 MHz    Sweep 4.8 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td><b>865.52 kHz</b></td> <td>Total Power</td> <td><b>8.92 dBm</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>19.180 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>943.7 kHz</td> <td>x dB</td> <td>-20.00 dB</td> </tr> </table>			Occupied Bandwidth	<b>865.52 kHz</b>	Total Power	<b>8.92 dBm</b>	Transmit Freq Error	19.180 kHz	OBW Power	99.00 %	x dB Bandwidth	943.7 kHz	x dB	-20.00 dB
Occupied Bandwidth	<b>865.52 kHz</b>	Total Power	<b>8.92 dBm</b>												
Transmit Freq Error	19.180 kHz	OBW Power	99.00 %												
x dB Bandwidth	943.7 kHz	x dB	-20.00 dB												





8DPSK/LCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC CORREC SENSE:PULSE ALIGN:AUTO 10:47:23 AM Feb 15, 2019			Frequency
	Center Freq <b>2.40200000 GHz</b>		Center Freq: 2.40200000 GHz Trig: Free Run AvgHold: 100/100 #IFGain:Low #Atten: 30 dB Radio Std: None Radio Device: BTS	
	Center 2.402 GHz #Res BW 20 kHz		Span 2 MHz Sweep 4.8 ms #VBW 62 kHz	
	<b>Occupied Bandwidth</b> <b>1.1732 MHz</b>		<b>Total Power</b> 2.43 dBm <b>Transmit Freq Error</b> 29.838 kHz <b>x dB Bandwidth</b> 1.253 MHz	

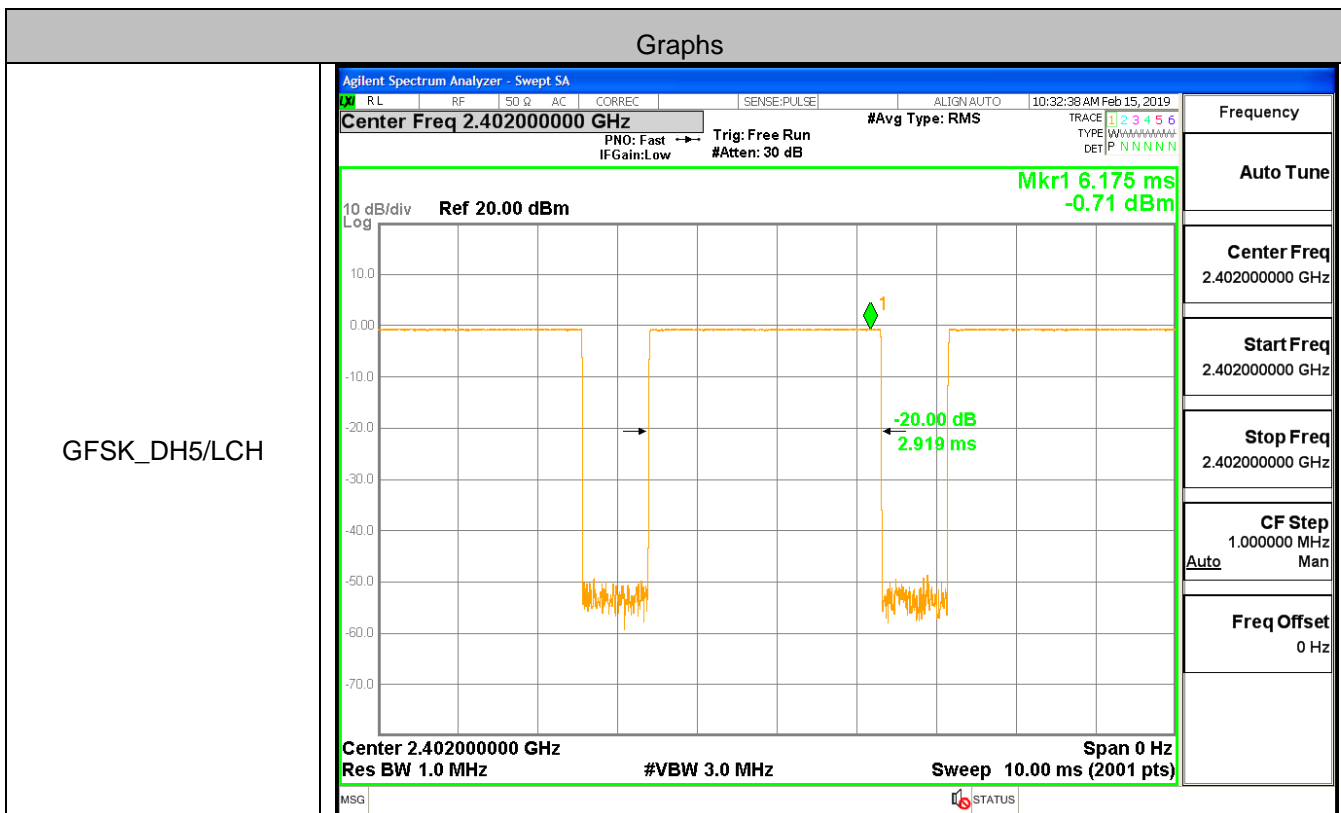
8DPSK/MCH	Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC CORREC SENSE:PULSE ALIGN:AUTO 10:48:58 AM Feb 15, 2019			Frequency
	Center Freq <b>2.44100000 GHz</b>		Center Freq: 2.44100000 GHz Trig: Free Run AvgHold: 100/100 #IFGain:Low #Atten: 30 dB Radio Std: None Radio Device: BTS	
	Center 2.441 GHz #Res BW 20 kHz		Span 2 MHz Sweep 4.8 ms #VBW 62 kHz	
	<b>Occupied Bandwidth</b> <b>1.1835 MHz</b>		<b>Total Power</b> 5.55 dBm <b>Transmit Freq Error</b> 16.001 kHz <b>x dB Bandwidth</b> 1.254 MHz	

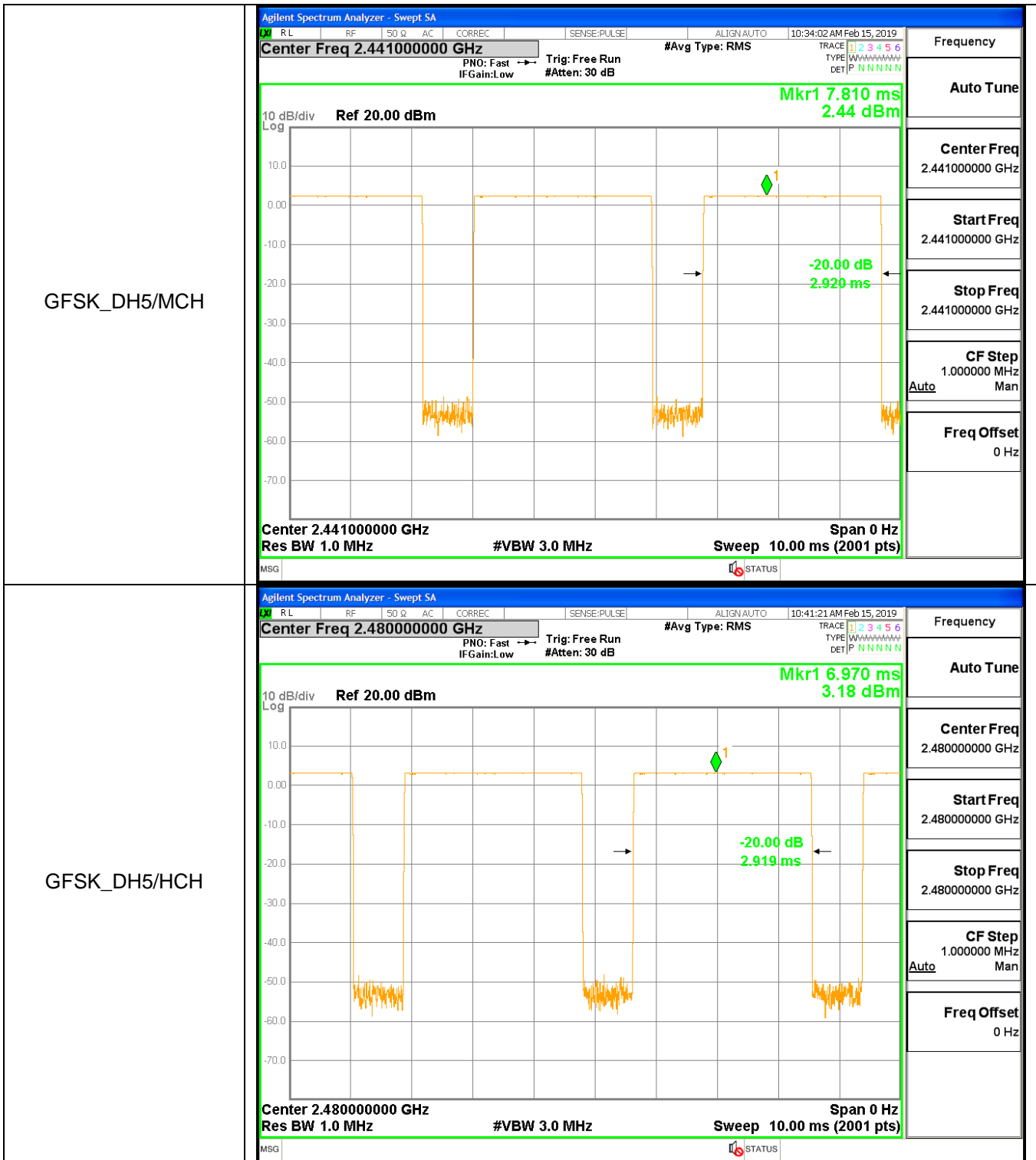


### A.2 Dwell Time

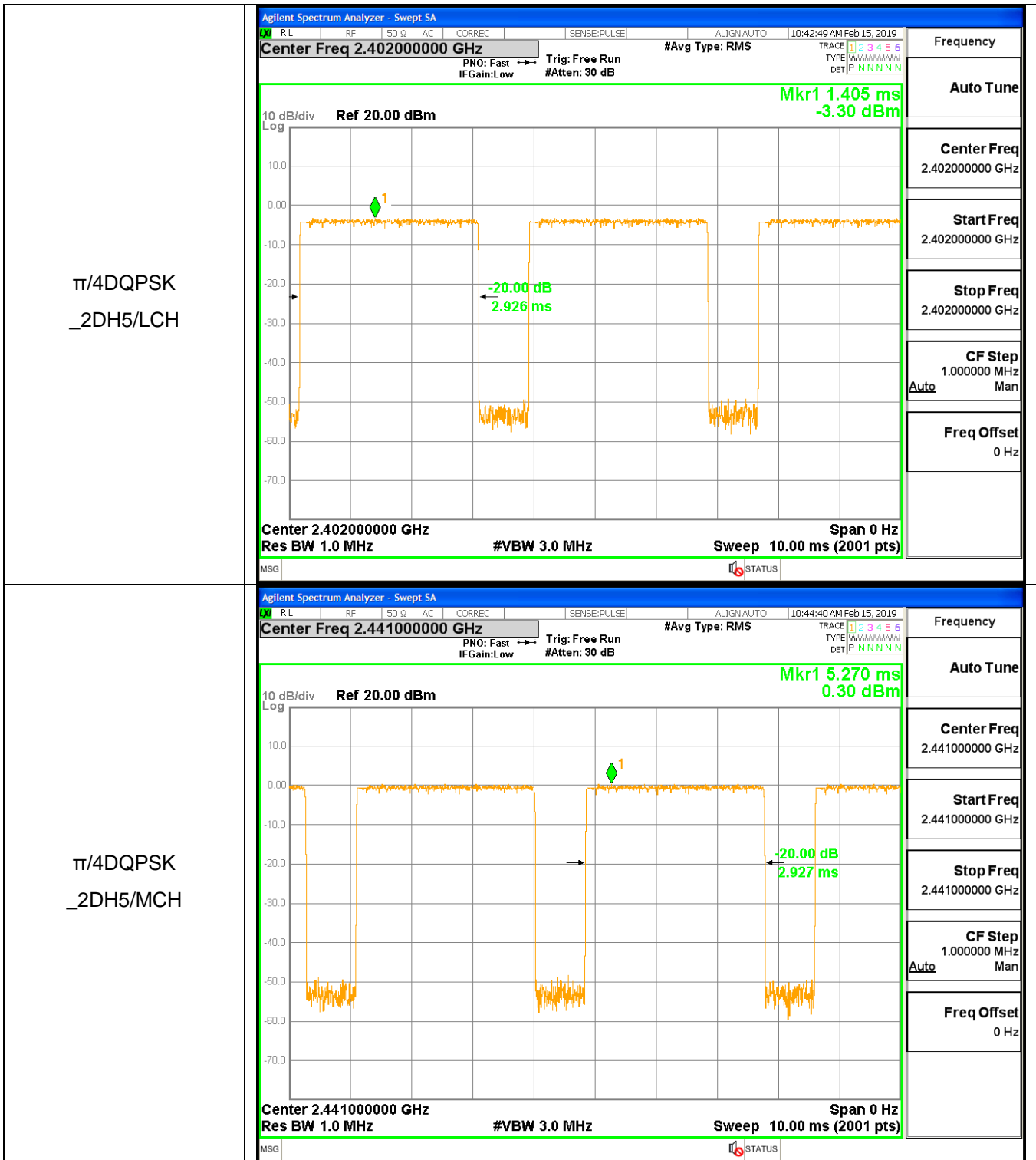
Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002918506	106.7	0.311404547	0.4	PASS
GFSK	DH5	MCH	0.002920427	106.7	0.311609604	0.4	PASS
GFSK	DH5	HCH	0.002919184	106.7	0.311476948	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.002926442	106.7	0.312251389	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.002927057	106.7	0.312316935	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002927068	106.7	0.31231815	0.4	PASS
8DPSK	3DH5	LCH	0.00292731	106.7	0.312344015	0.4	PASS
8DPSK	3DH5	MCH	0.00292755	106.7	0.312369565	0.4	PASS
8DPSK	3DH5	HCH	0.002927053	106.7	0.312316514	0.4	PASS

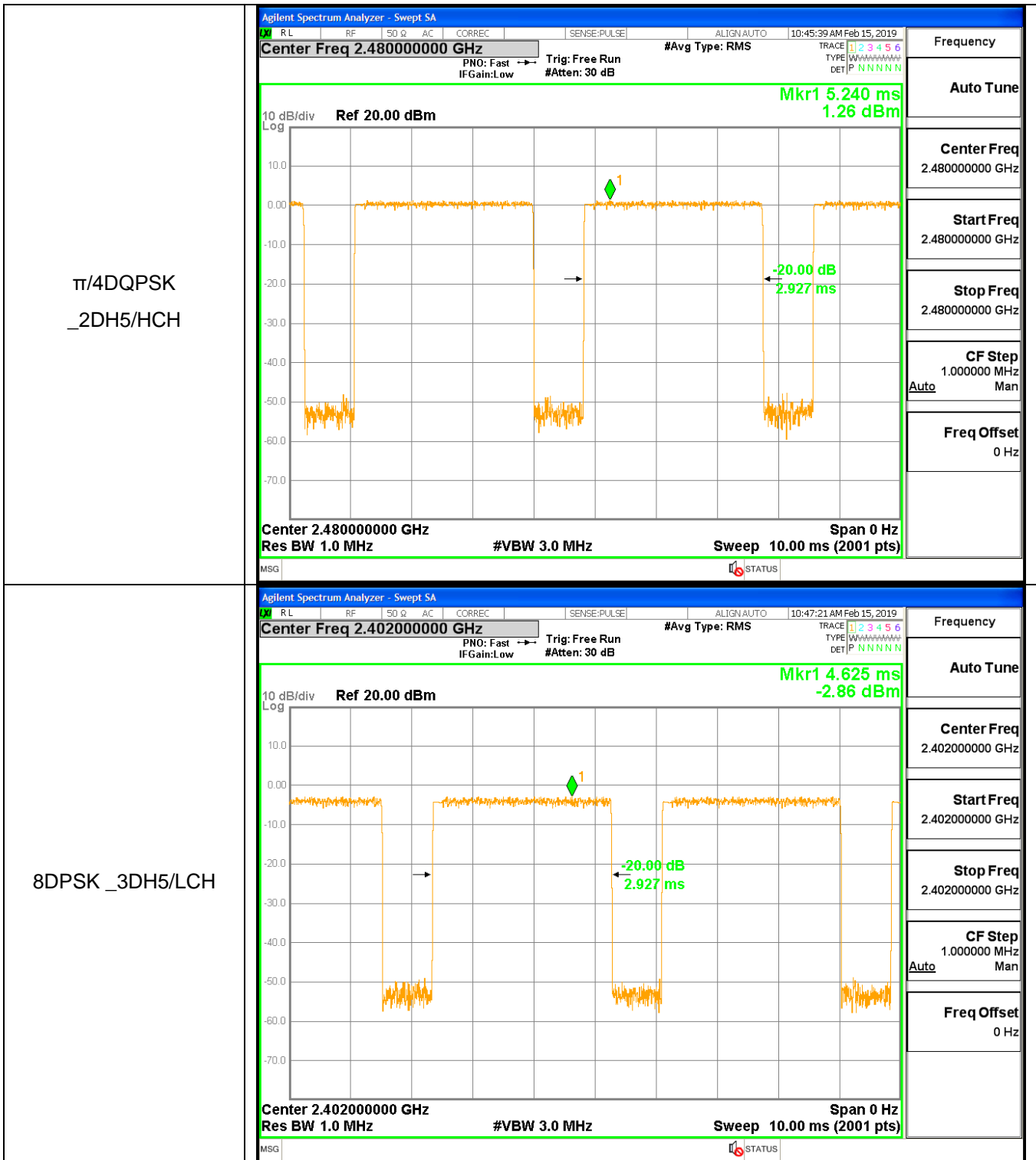
### Test Graph

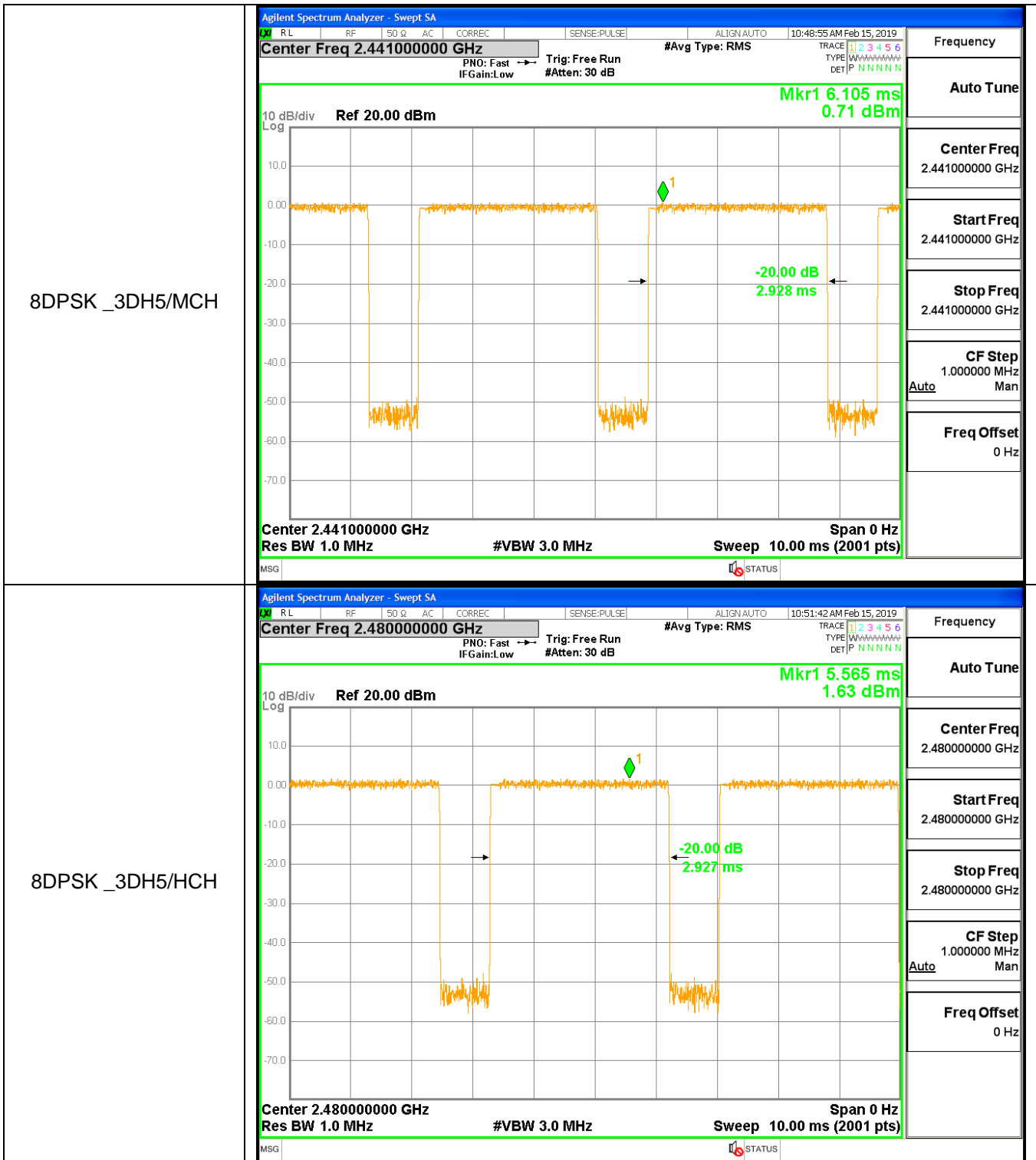








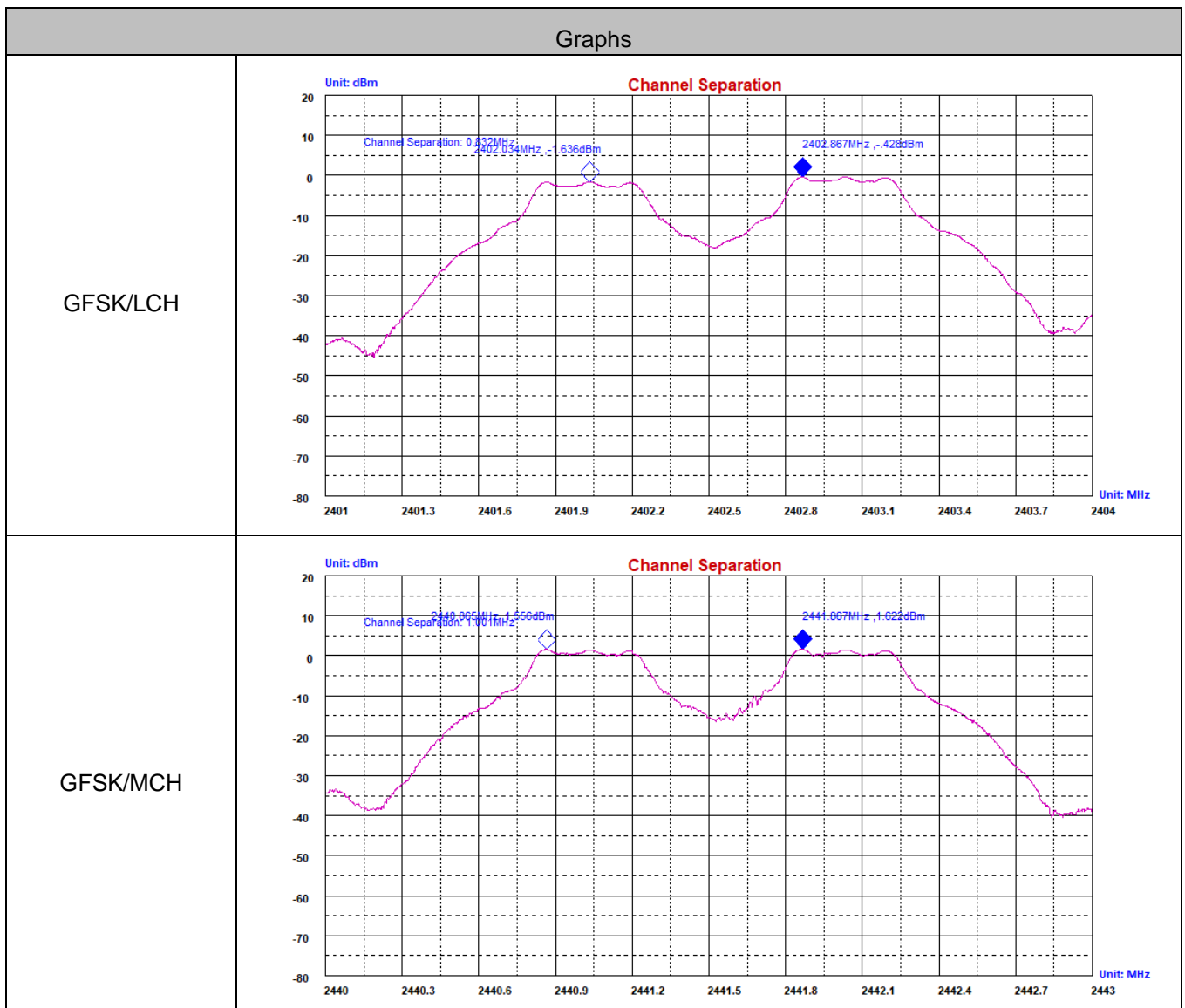


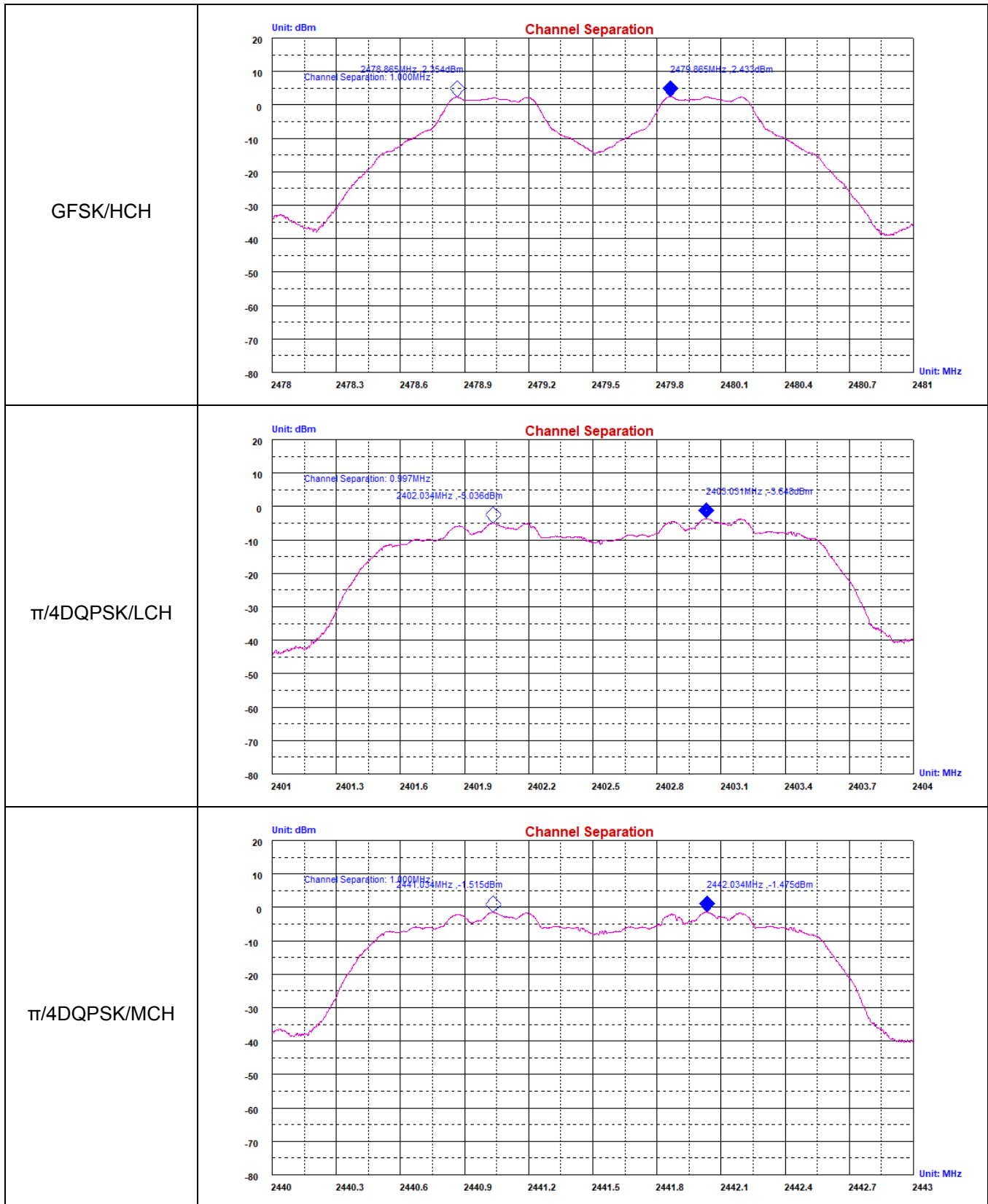


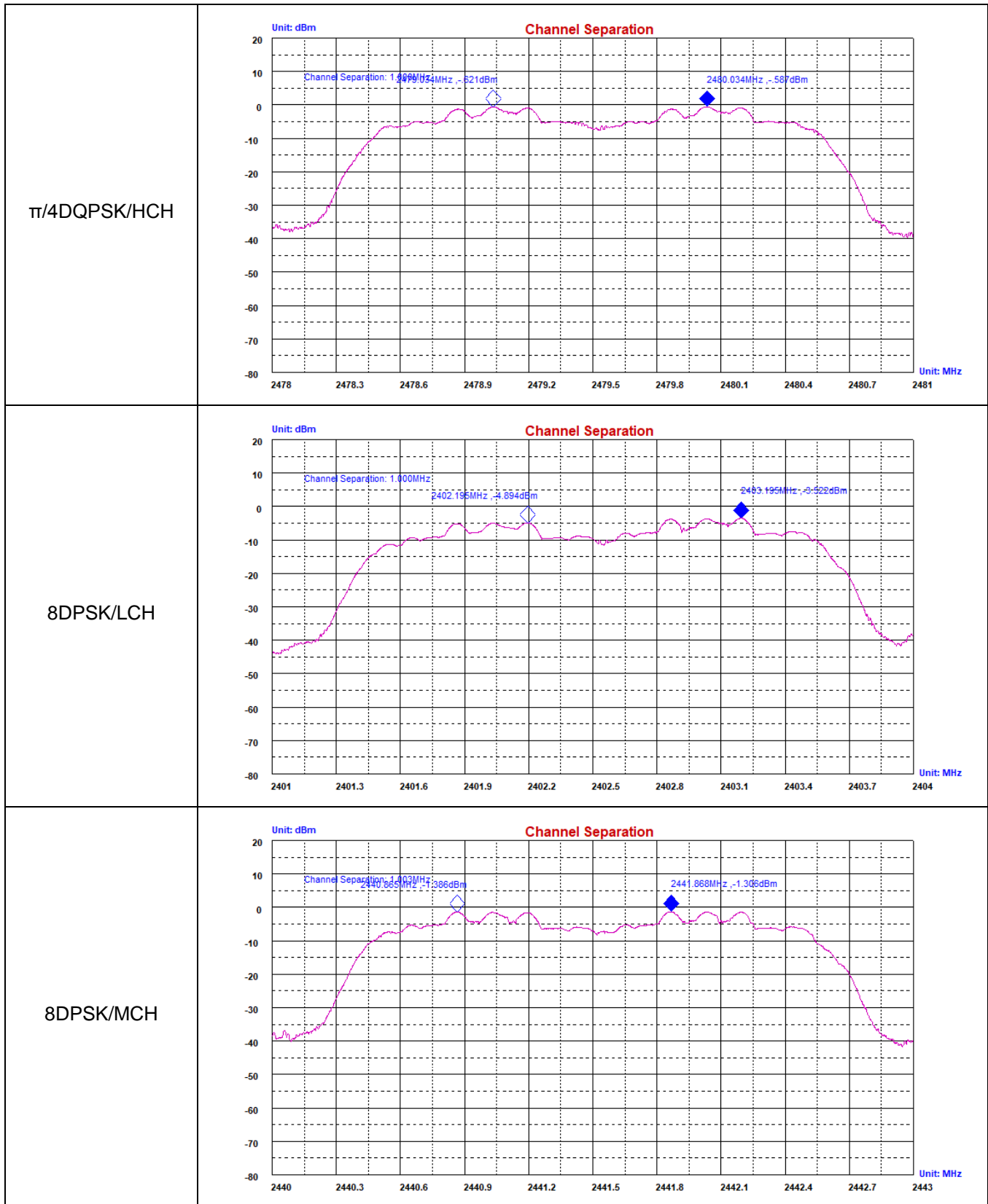
### A.3 Carrier Frequency Separation

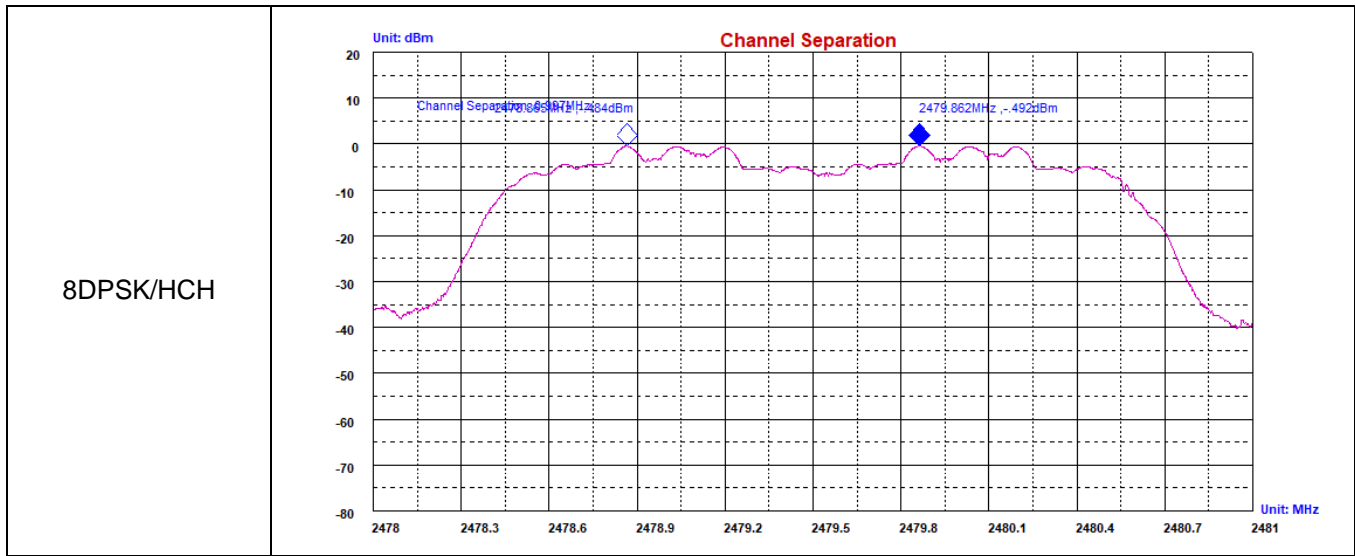
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.832	0.626	PASS
GFSK	MCH	1.001	0.629	PASS
GFSK	HCH	1.000	0.626	PASS
$\pi/4$ DQPSK	LCH	0.997	0.819	PASS
$\pi/4$ DQPSK	MCH	1.000	0.818	PASS
$\pi/4$ DQPSK	HCH	1.000	0.824	PASS
8DPSK	LCH	1.000	0.835	PASS
8DPSK	MCH	1.003	0.836	PASS
8DPSK	HCH	0.997	0.839	PASS

### Test Graph





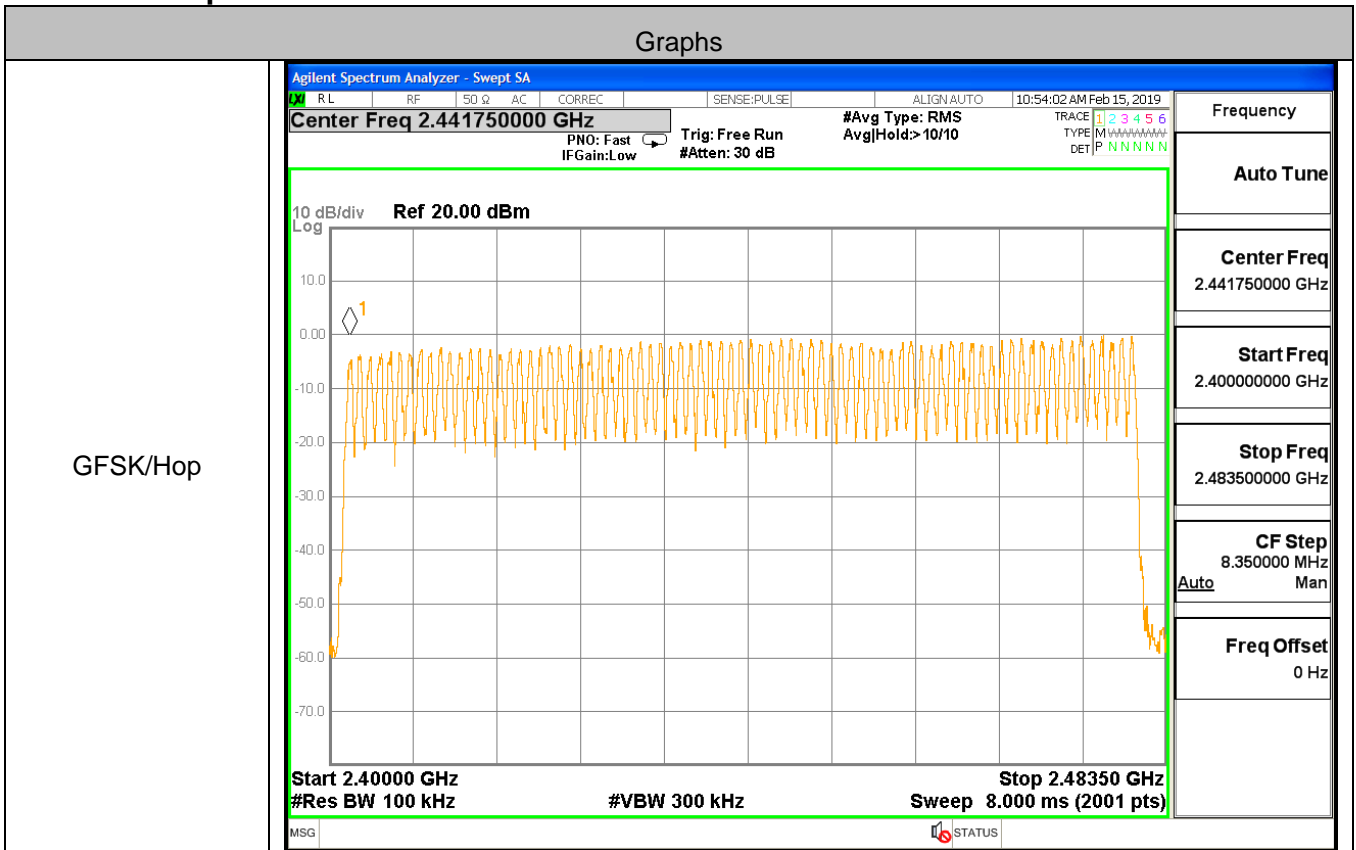




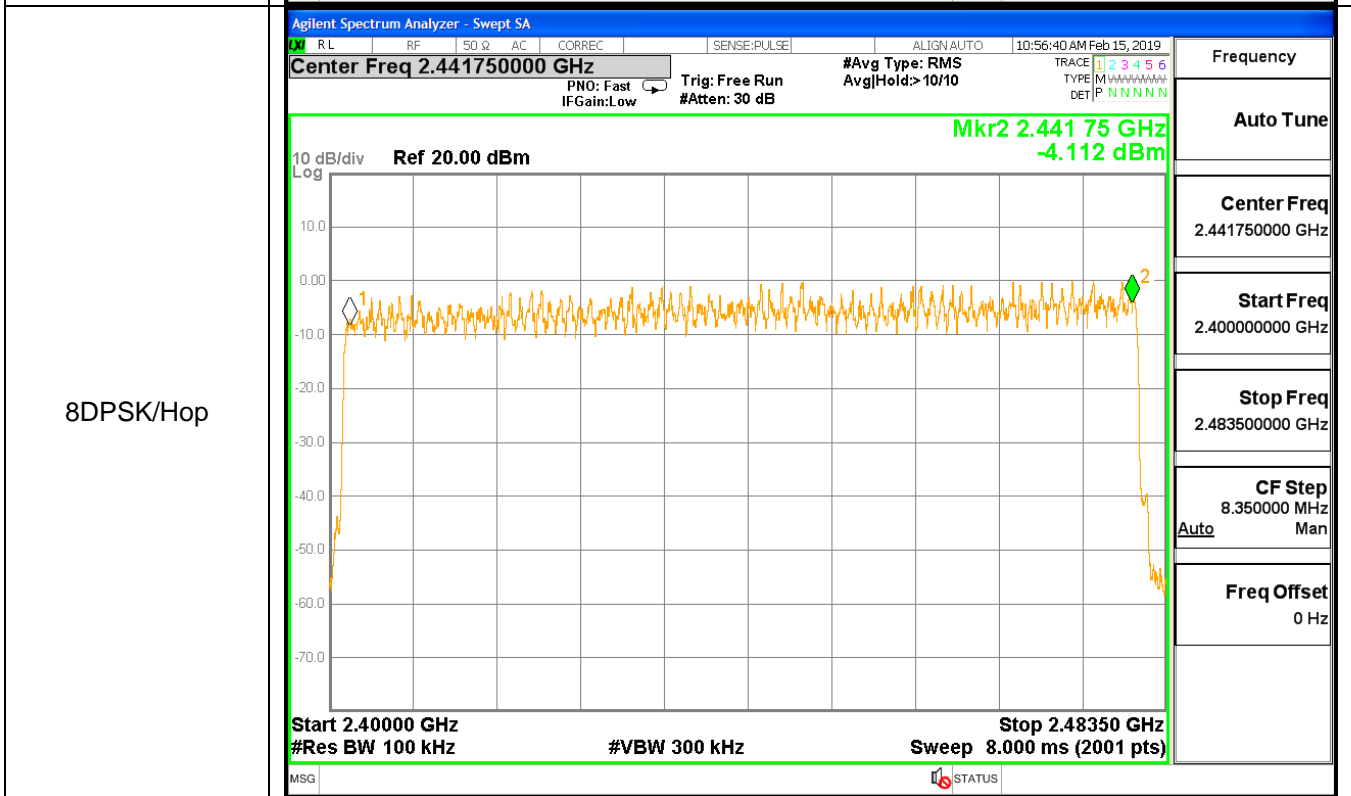
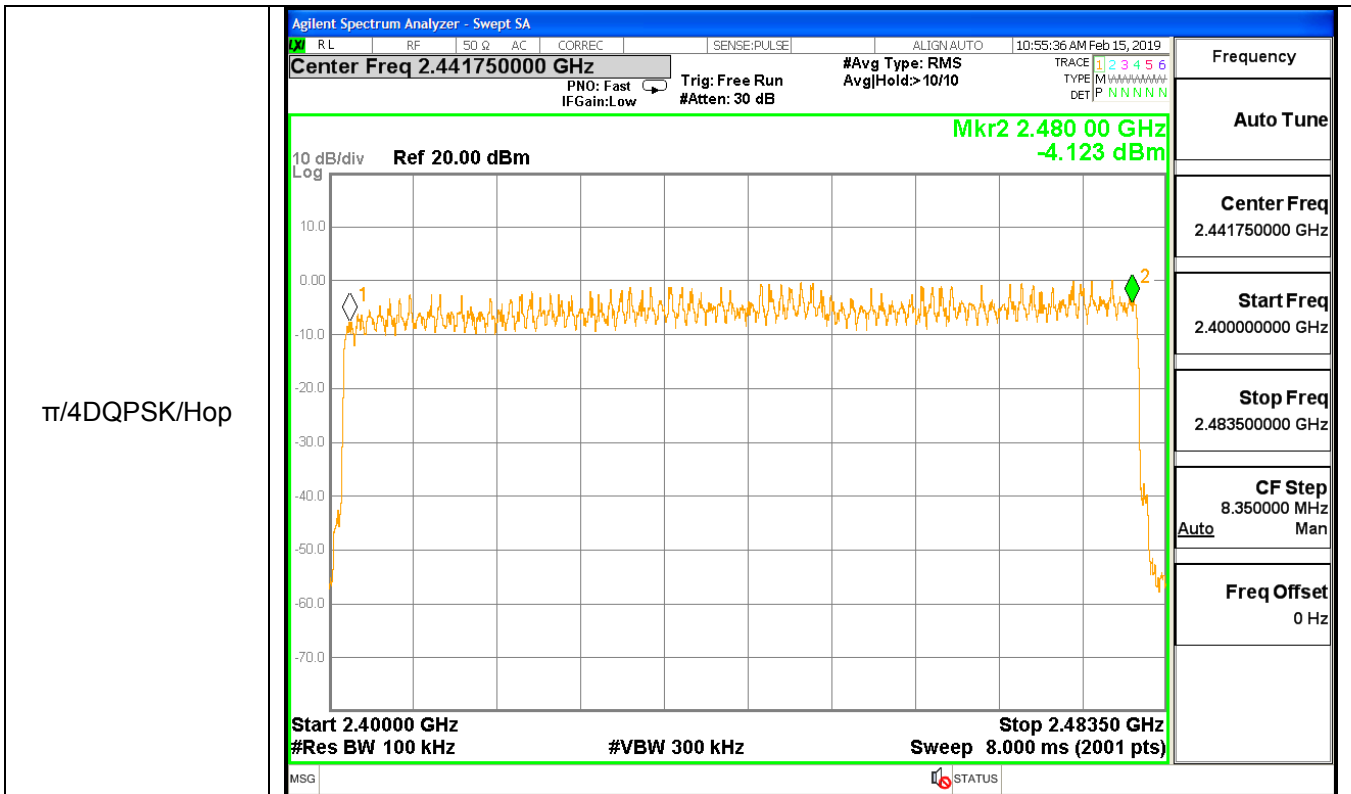
### A.4 Hopping Channel Number

Mode	Channel.	Number of Hopping Channel[N]	Limit[N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

### Test Graph



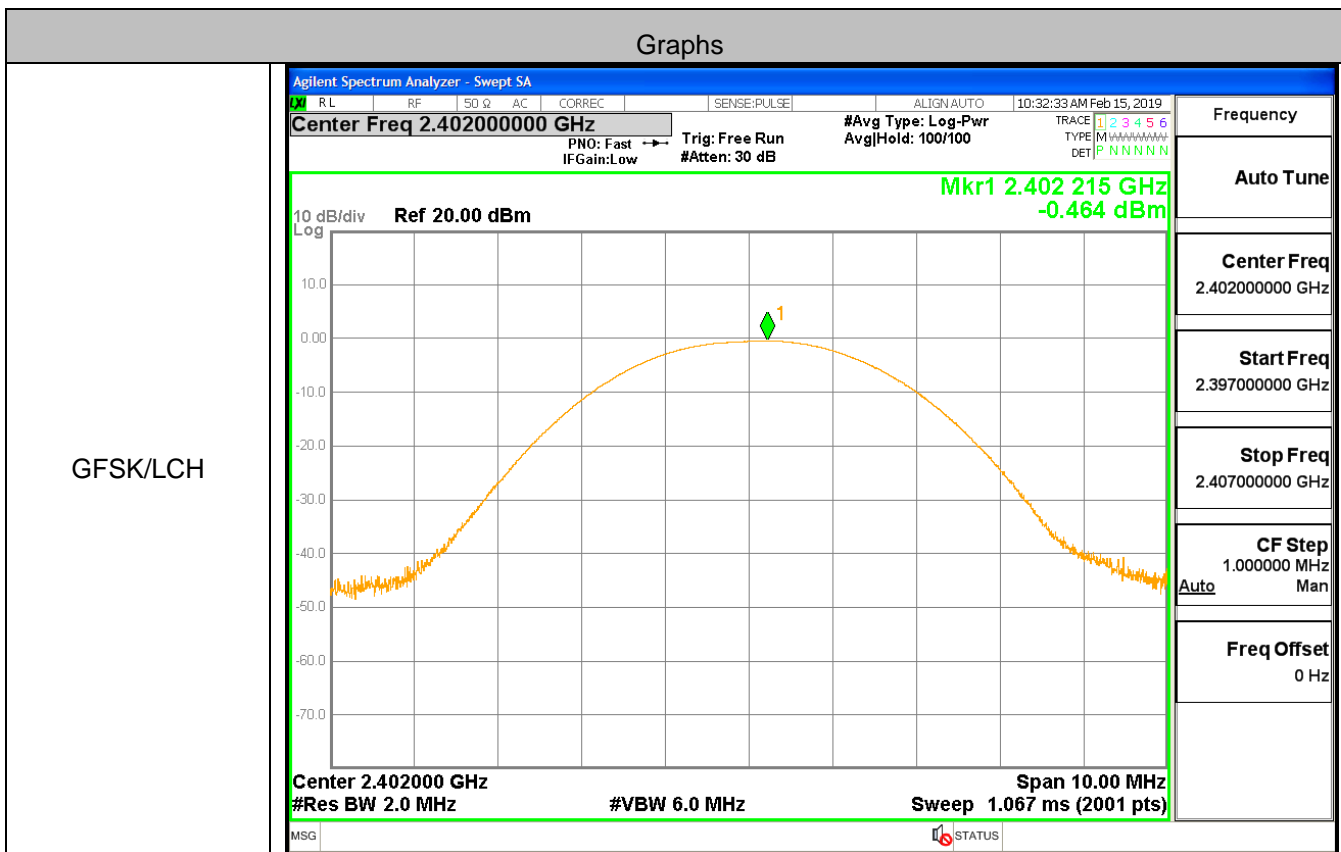


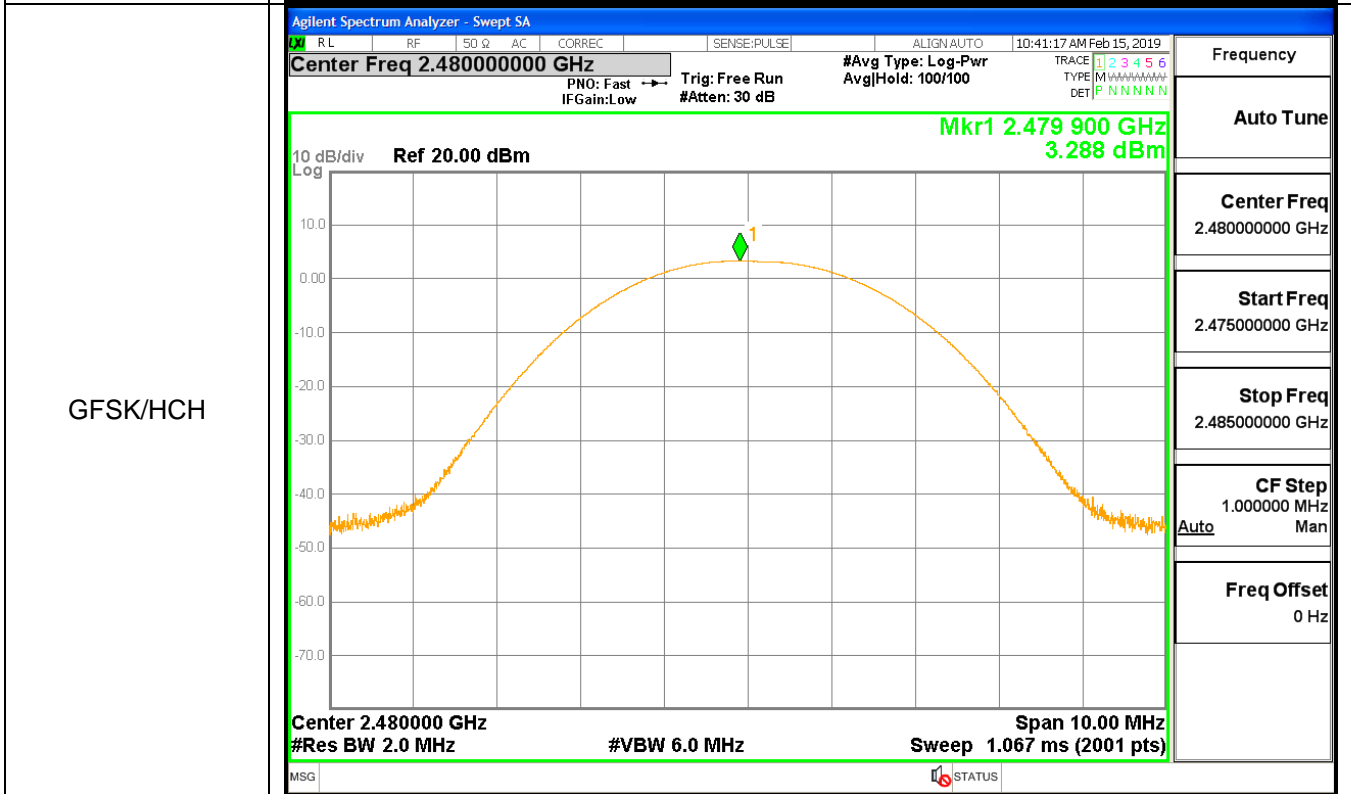
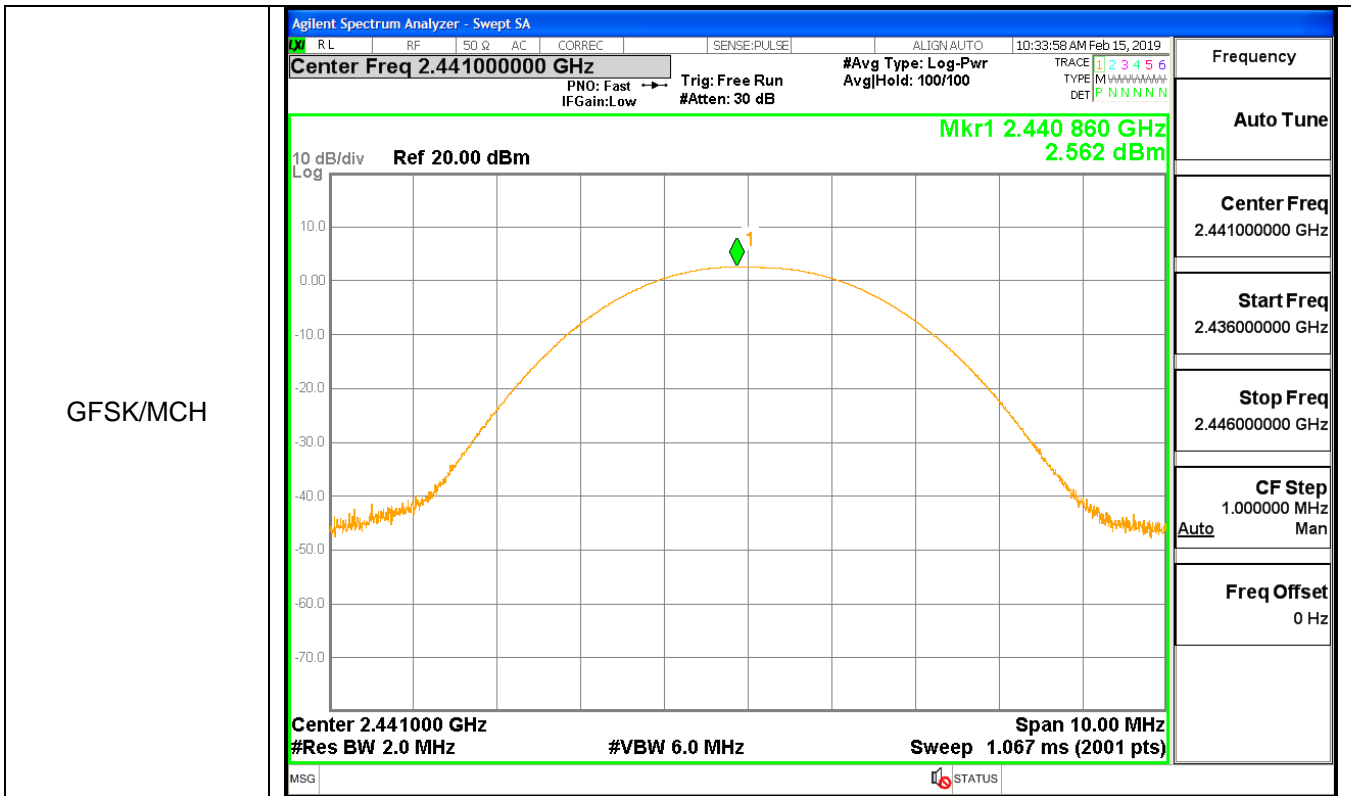


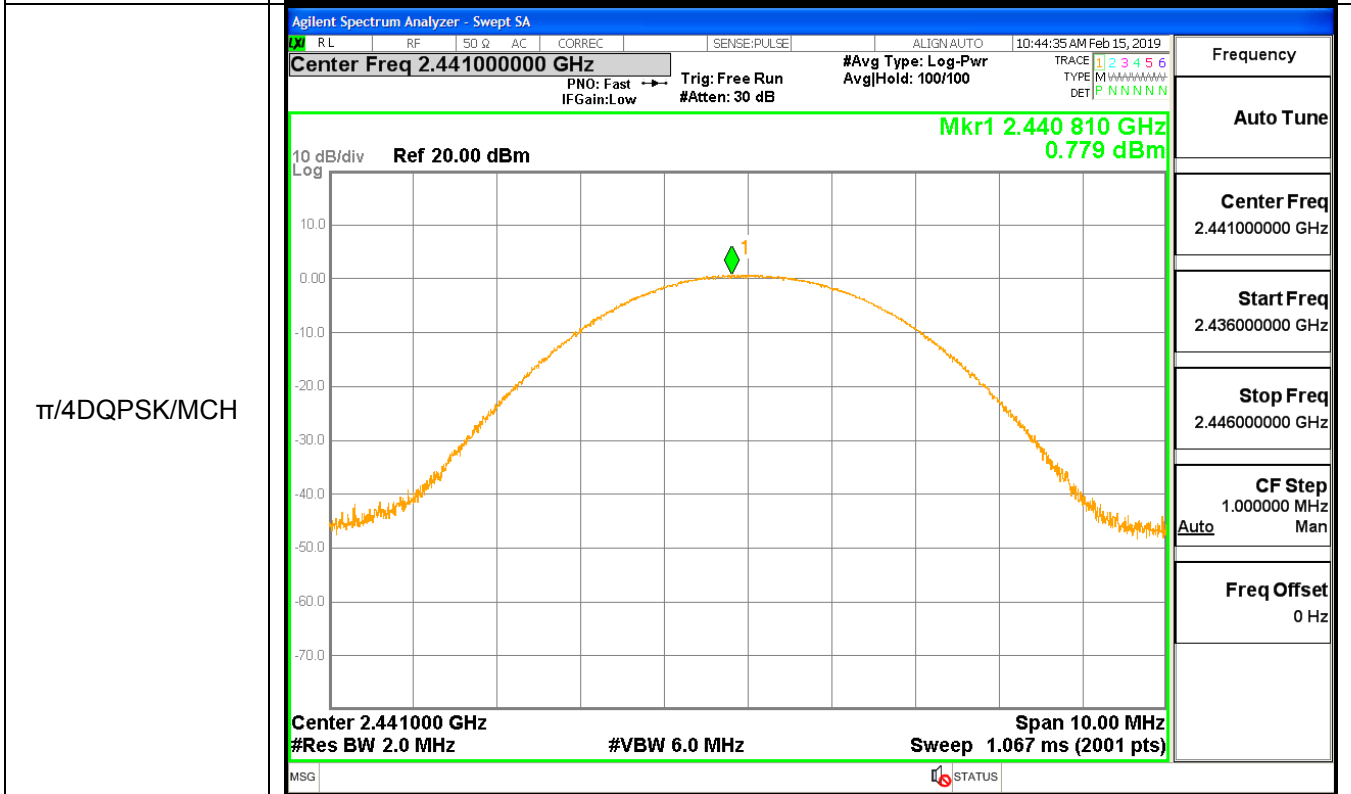
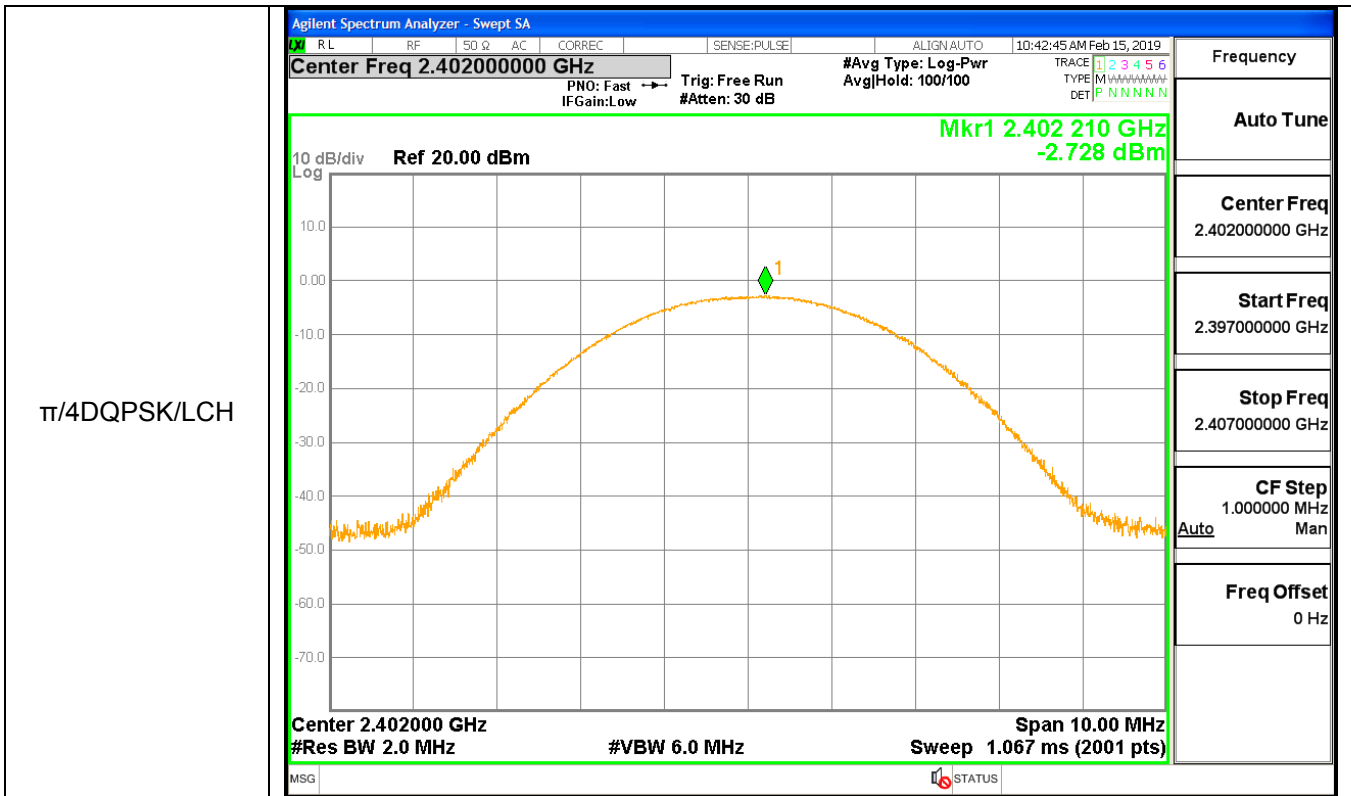
### A.5 Conducted Peak Output Power

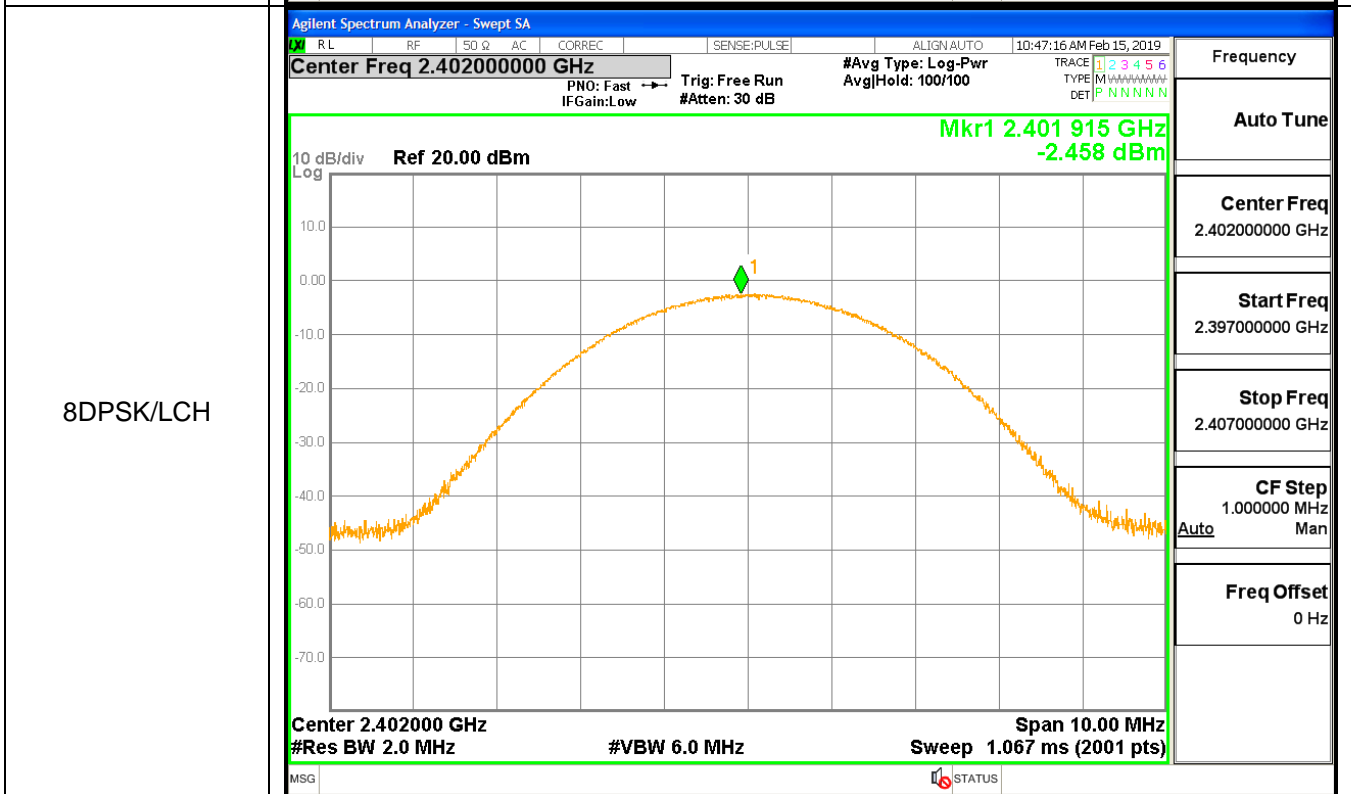
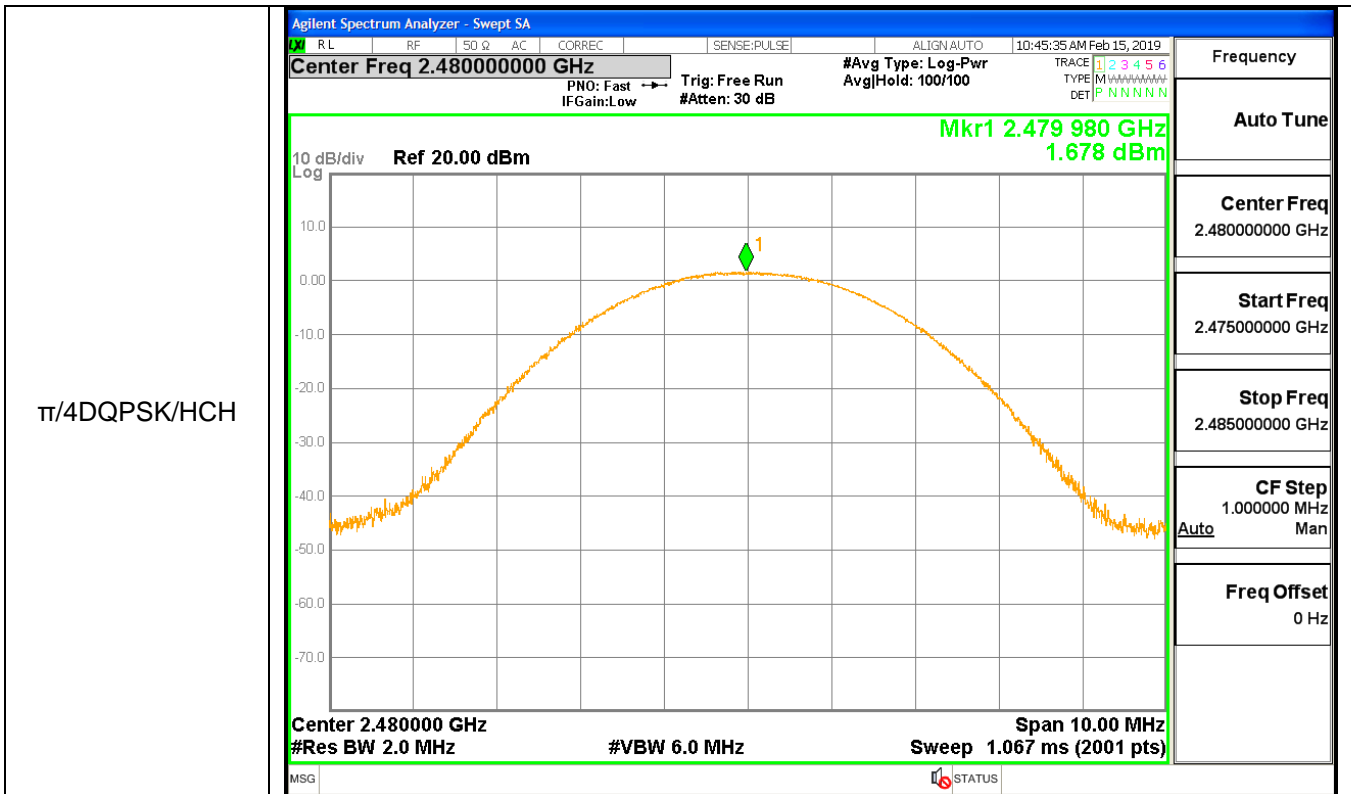
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.464	21	PASS
GFSK	MCH	2.562	21	PASS
GFSK	HCH	3.288	21	PASS
$\pi/4$ DQPSK	LCH	-2.728	21	PASS
$\pi/4$ DQPSK	MCH	0.779	21	PASS
$\pi/4$ DQPSK	HCH	1.678	21	PASS
8DPSK	LCH	-2.458	21	PASS
8DPSK	MCH	1.159	21	PASS
8DPSK	HCH	2.083	21	PASS

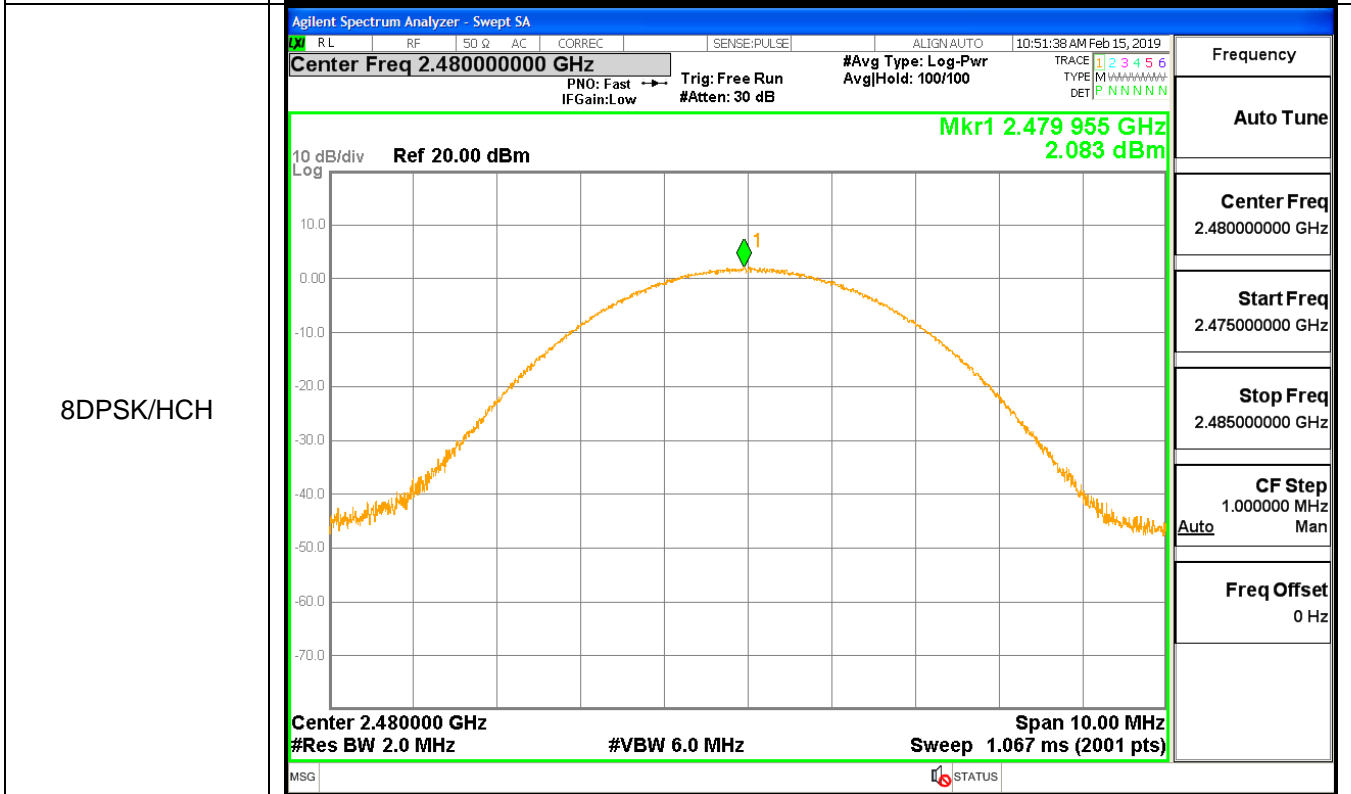
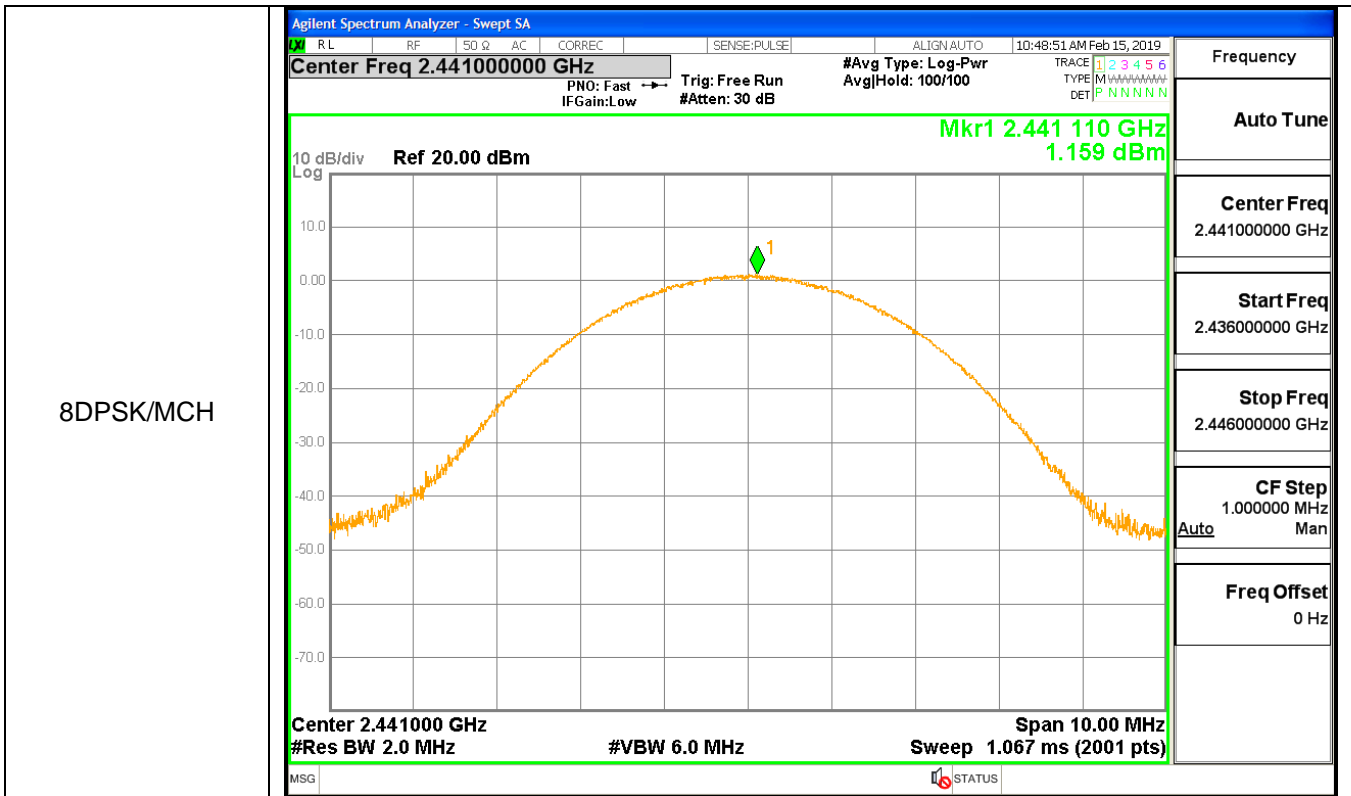
### Test Graph











**A.6 Band-edge for RF Conducted Emissions**

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2390	-0.73	-60.94	-20.73	Pass
1DH5	2402	2400	-0.73	-52.98	-20.73	Pass
1DH5-Hopping	2402	2390	-2.15	-58.34	-22.15	Pass
1DH5-Hopping	2402	2400	-2.15	-59.49	-22.15	Pass
1DH5	2480	2483.5	2.55	-59.16	-17.45	Pass
1DH5	2480	2500	2.55	-57.69	-17.45	Pass
1DH5-Hopping	2480	2483.5	0.05	-58.75	-19.95	Pass
1DH5-Hopping	2480	2500	0.05	-54.25	-19.95	Pass
2DH5	2402	2390	-6.89	-61.78	-26.89	Pass
2DH5	2402	2400	-6.89	-56.47	-26.89	Pass
2DH5-Hopping	2480	2483.5	-0.65	-58.16	-20.65	Pass
2DH5-Hopping	2480	2500	-0.65	-58.41	-20.65	Pass
2DH5	2480	2483.5	-2.51	-58.33	-22.51	Pass
2DH5	2480	2500	-2.51	-59.95	-22.51	Pass
2DH5-Hopping	2402	2390	-1.51	-58.66	-21.51	Pass
2DH5-Hopping	2402	2400	-1.51	-58.55	-21.51	Pass
3DH5	2402	2390	-4.15	-58.9	-24.15	Pass
3DH5	2402	2400	-4.15	-56.94	-24.15	Pass
3DH5-Hopping	2402	2390	-1.39	-59.09	-21.39	Pass
3DH5-Hopping	2402	2400	-1.39	-58.9	-21.39	Pass
3DH5	2480	2483.5	0.12	-59.3	-19.88	Pass
3DH5	2480	2500	0.12	-58.59	-19.88	Pass
3DH5-Hopping	2480	2483.5	0.09	-57.96	-19.91	Pass
3DH5-Hopping	2480	2500	0.09	-55.21	-19.91	Pass

### Test Graph

#### Graphs

GFSK/LCH/No Hop

**Agilent Spectrum Analyzer - Swept SA**  
 Center Freq **2.356750000 GHz**  
 #Avg Type: RMS AvgHold: 100/100  
 PNO: Fast IFGain: Low Trig: Free Run #Atten: 30 dB

10 dB/div Ref 20.00 dBm  
 Mkr2 2.400 00 GHz -52.982 dBm  
 Start 2.31000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.40350 GHz Sweep 9.067 ms (2001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.390 00 GHz	-60.935 dBm			
2	N	1	f	2.400 00 GHz	-52.982 dBm			
3	N	1	f	2.402 19 GHz	-0.728 dBm			

Frequency

Auto Tune

Center Freq  
2.356750000 GHz

Start Freq  
2.310000000 GHz

Stop Freq  
2.403500000 GHz

CF Step  
9.350000 MHz

Auto Man

Freq Offset  
0 Hz

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GFSK/LCH/Hop

**Agilent Spectrum Analyzer - Swept SA**  
 Center Freq **2.400000000 GHz**  
 #Avg Type: RMS AvgHold: 100/100  
 PNO: Fast IFGain: Low Trig: Free Run #Atten: 30 dB

10 dB/div Ref 20.00 dBm  
 Mkr2 2.400 00 GHz -59.491 dBm  
 Start 2.37000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.43000 GHz Sweep 5.867 ms (2001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.390 00 GHz	-58.343 dBm			
2	N	1	f	2.400 00 GHz	-59.491 dBm			
3	N	1	f	2.426 13 GHz	-2.153 dBm			

Frequency

Auto Tune

Center Freq  
2.400000000 GHz

Start Freq  
2.370000000 GHz

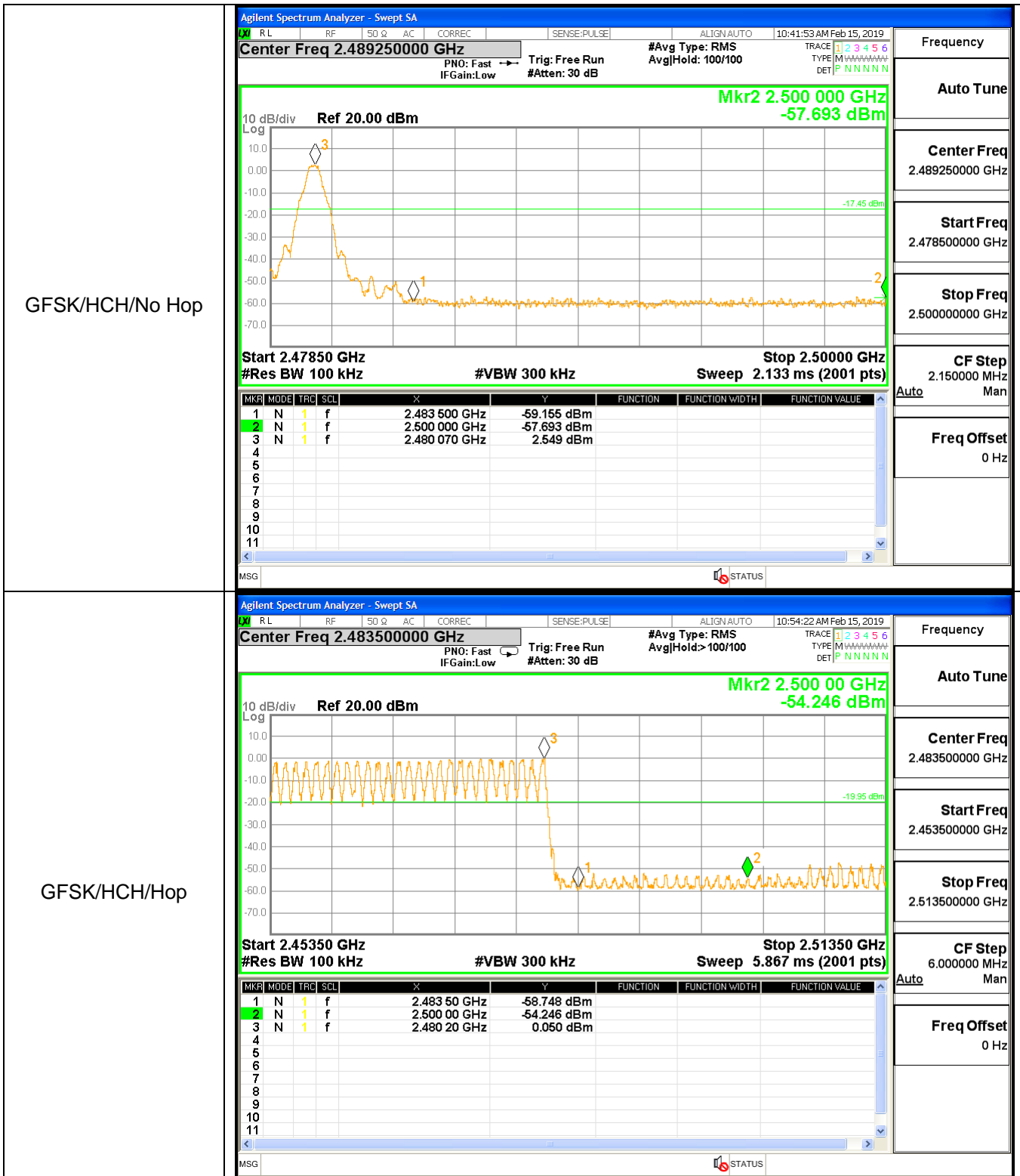
Stop Freq  
2.430000000 GHz

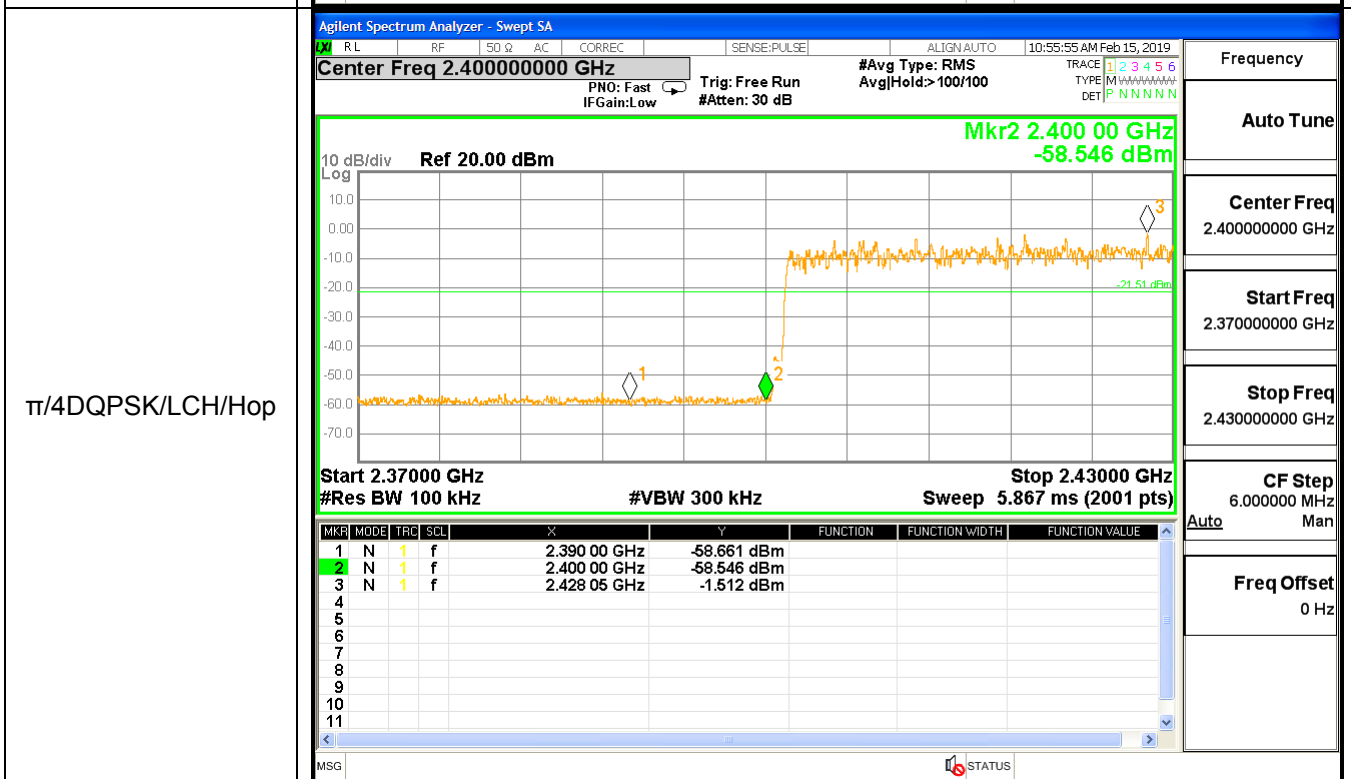
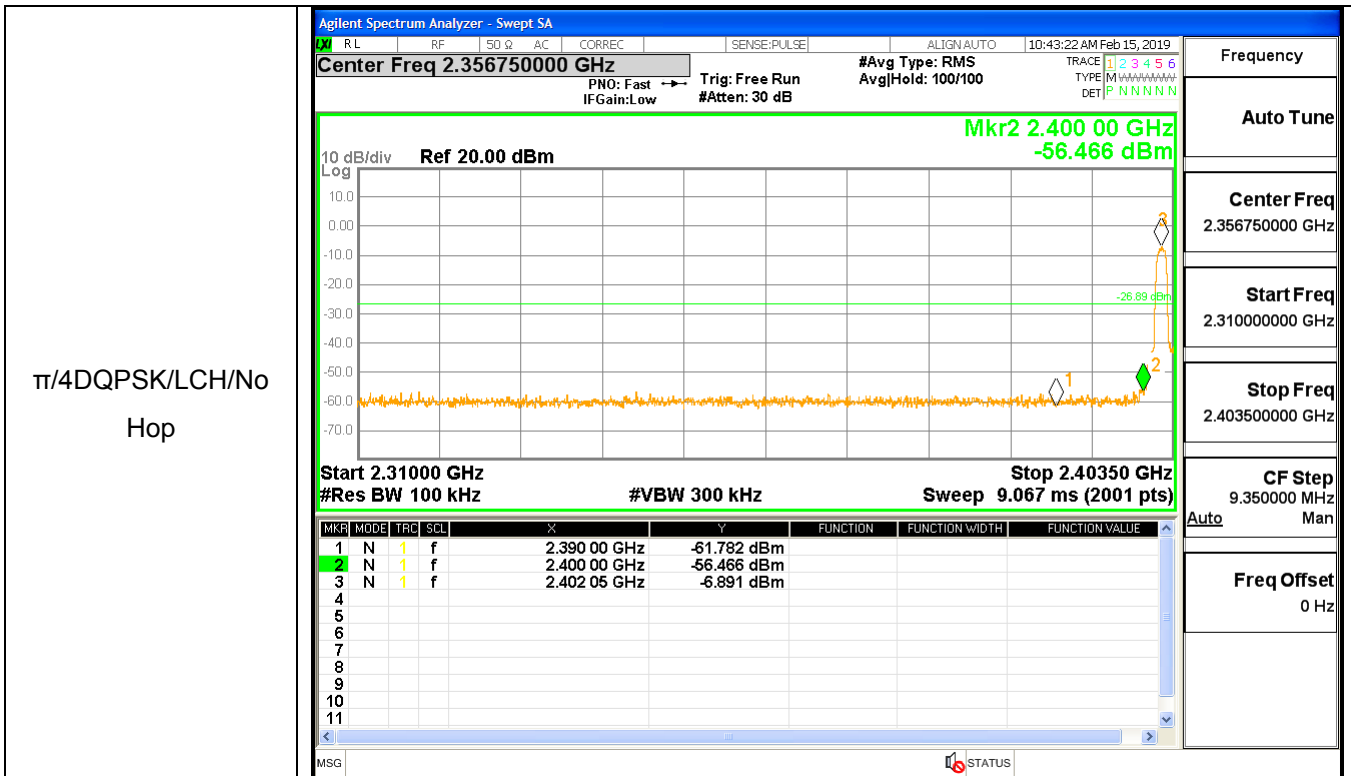
CF Step  
6.000000 MHz

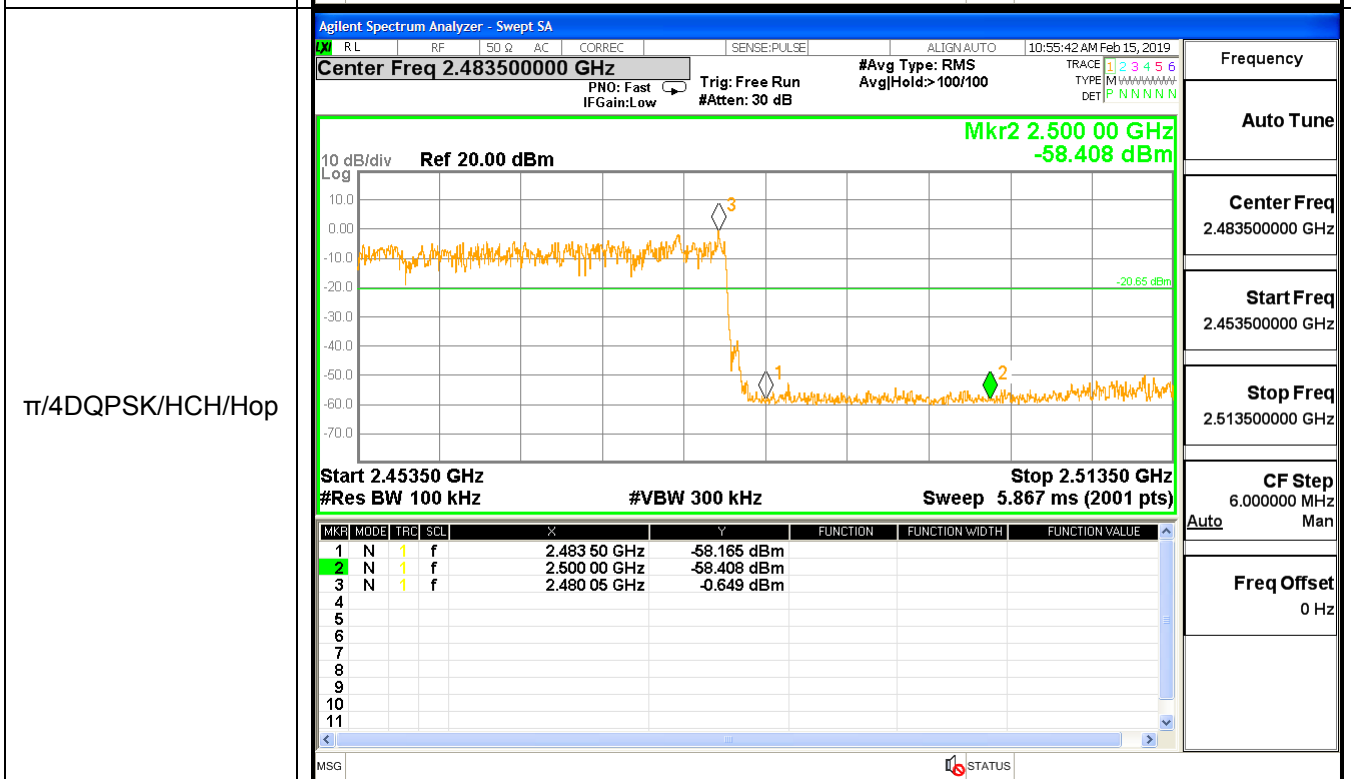
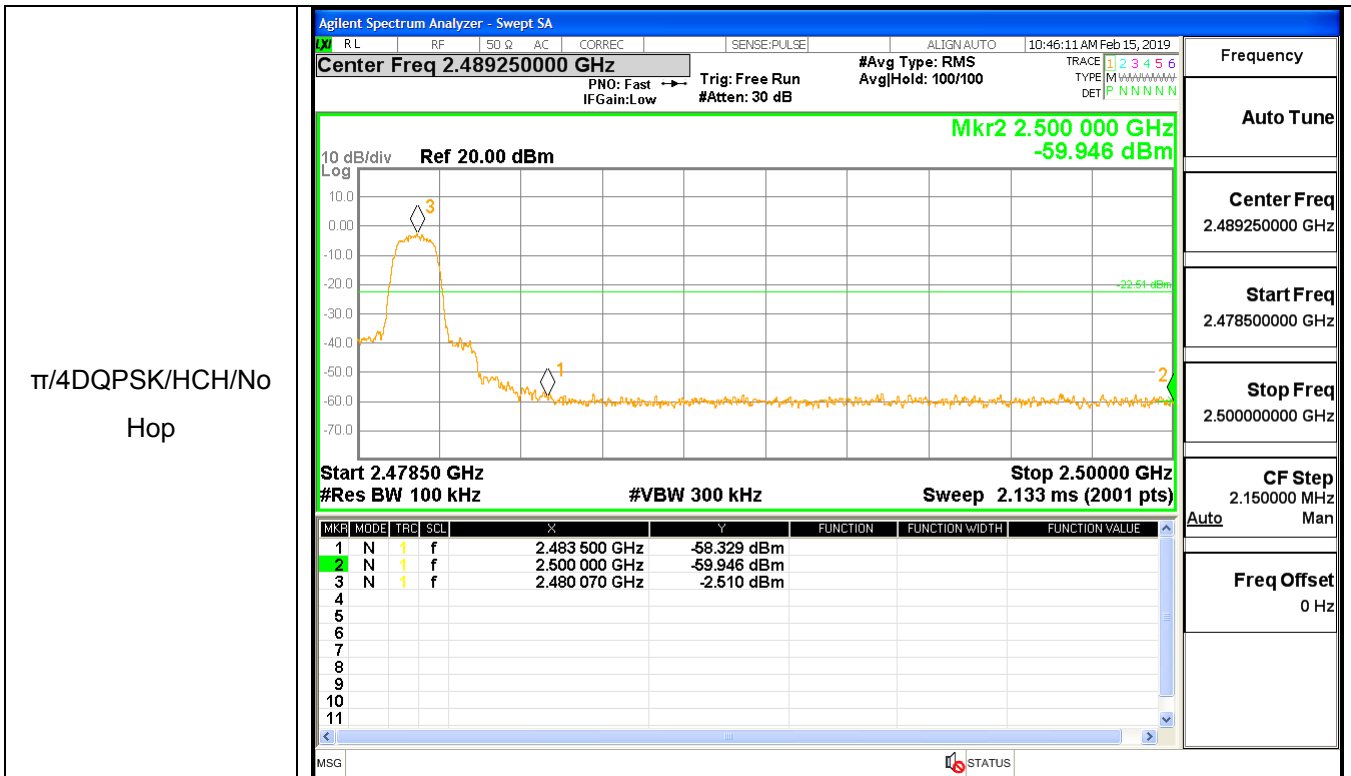
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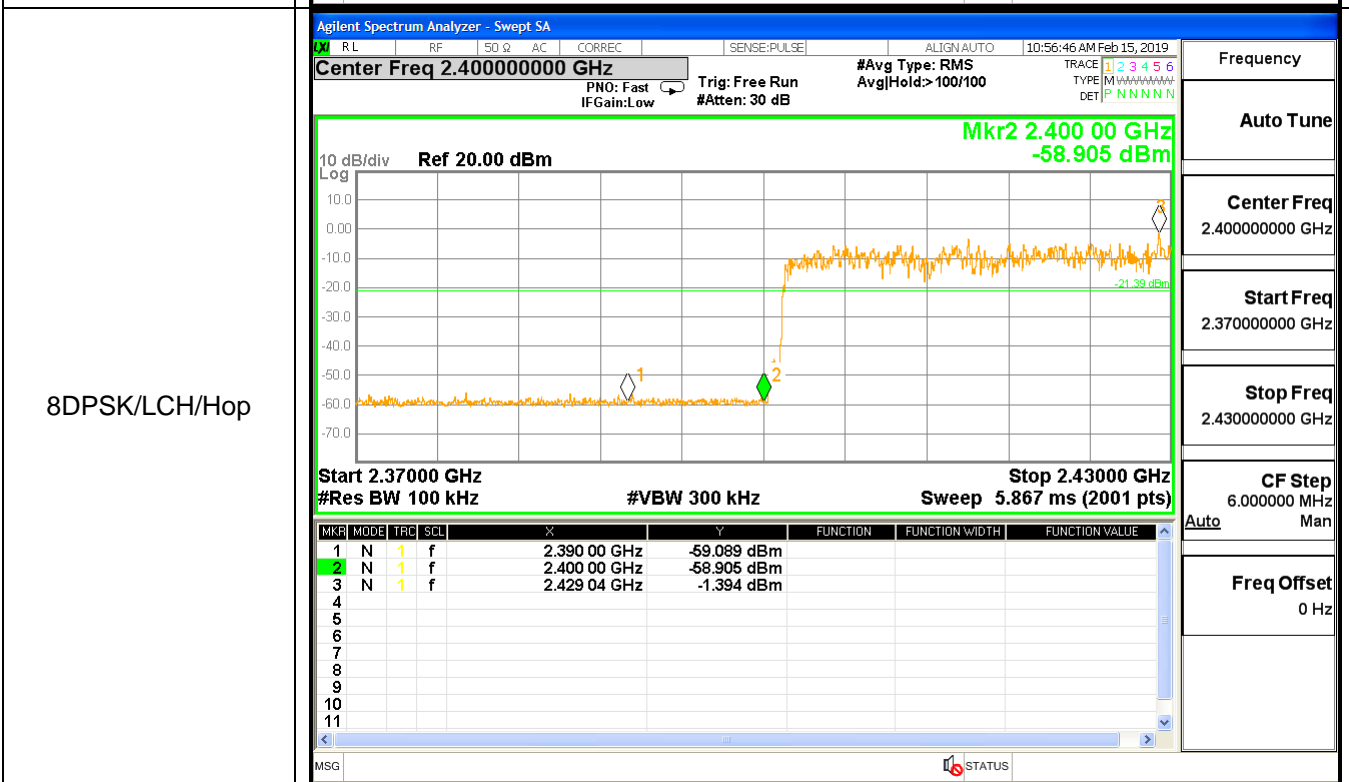
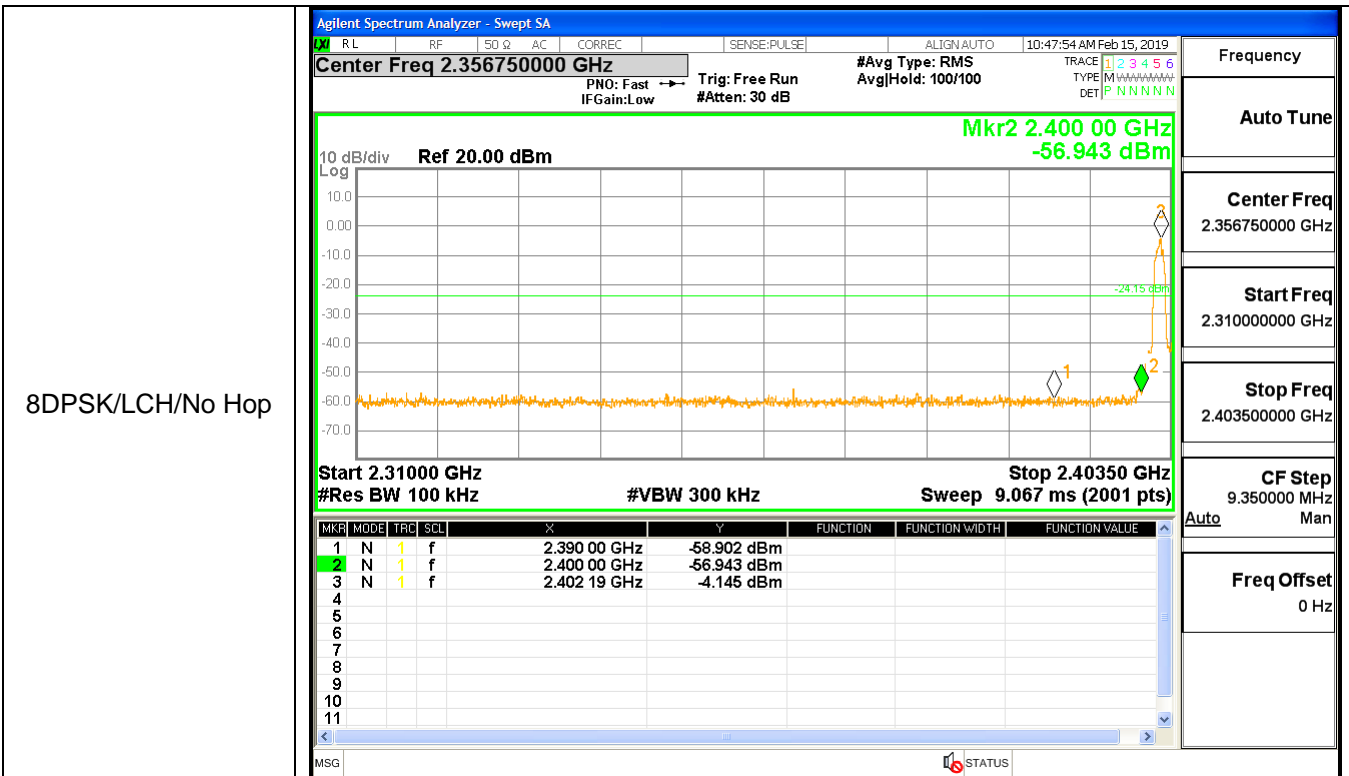
Freq Offset  
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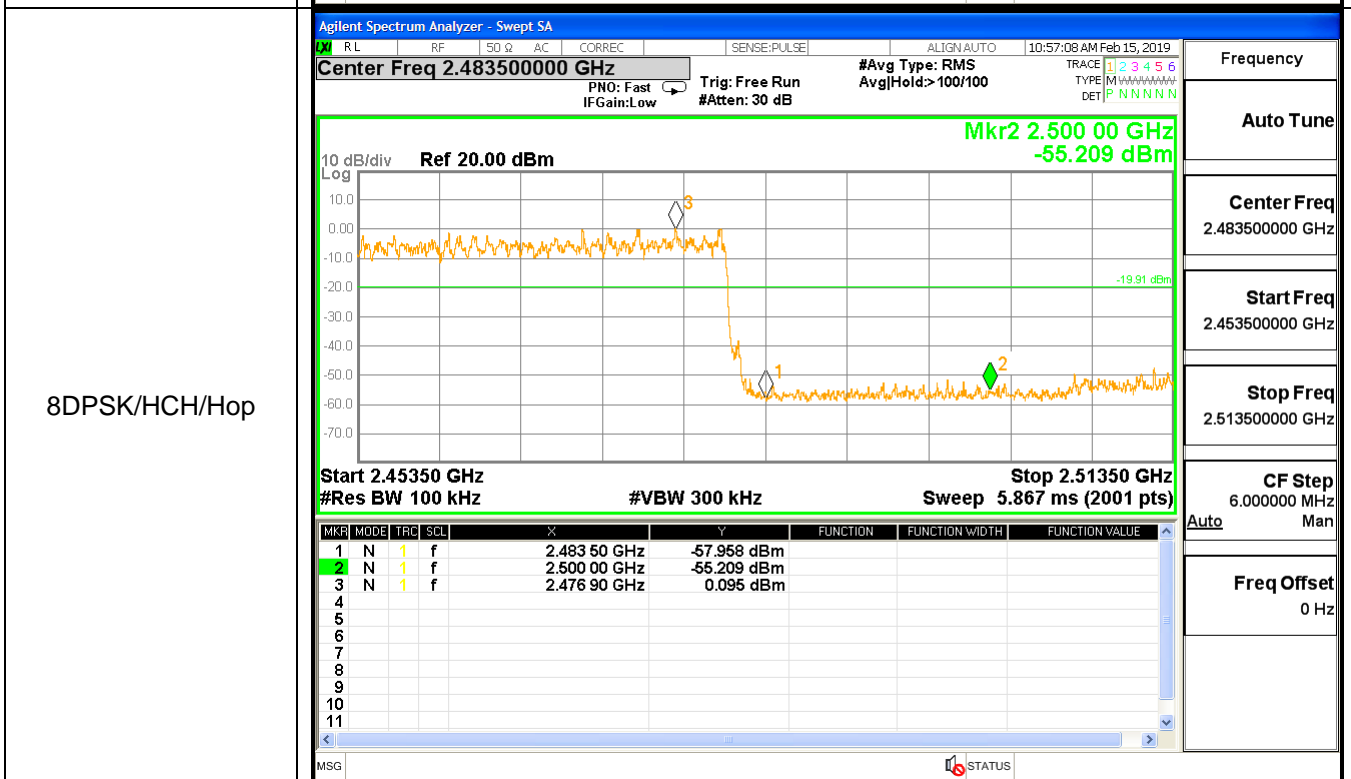
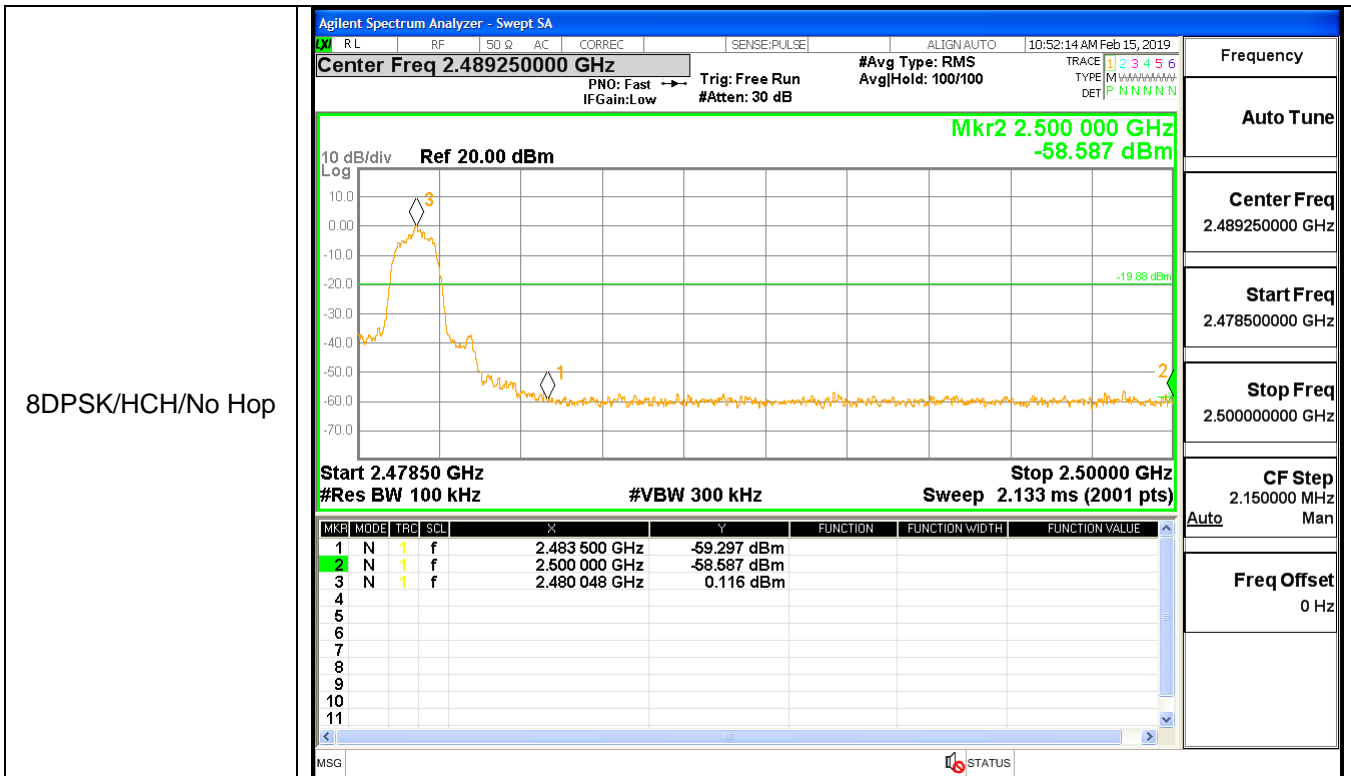




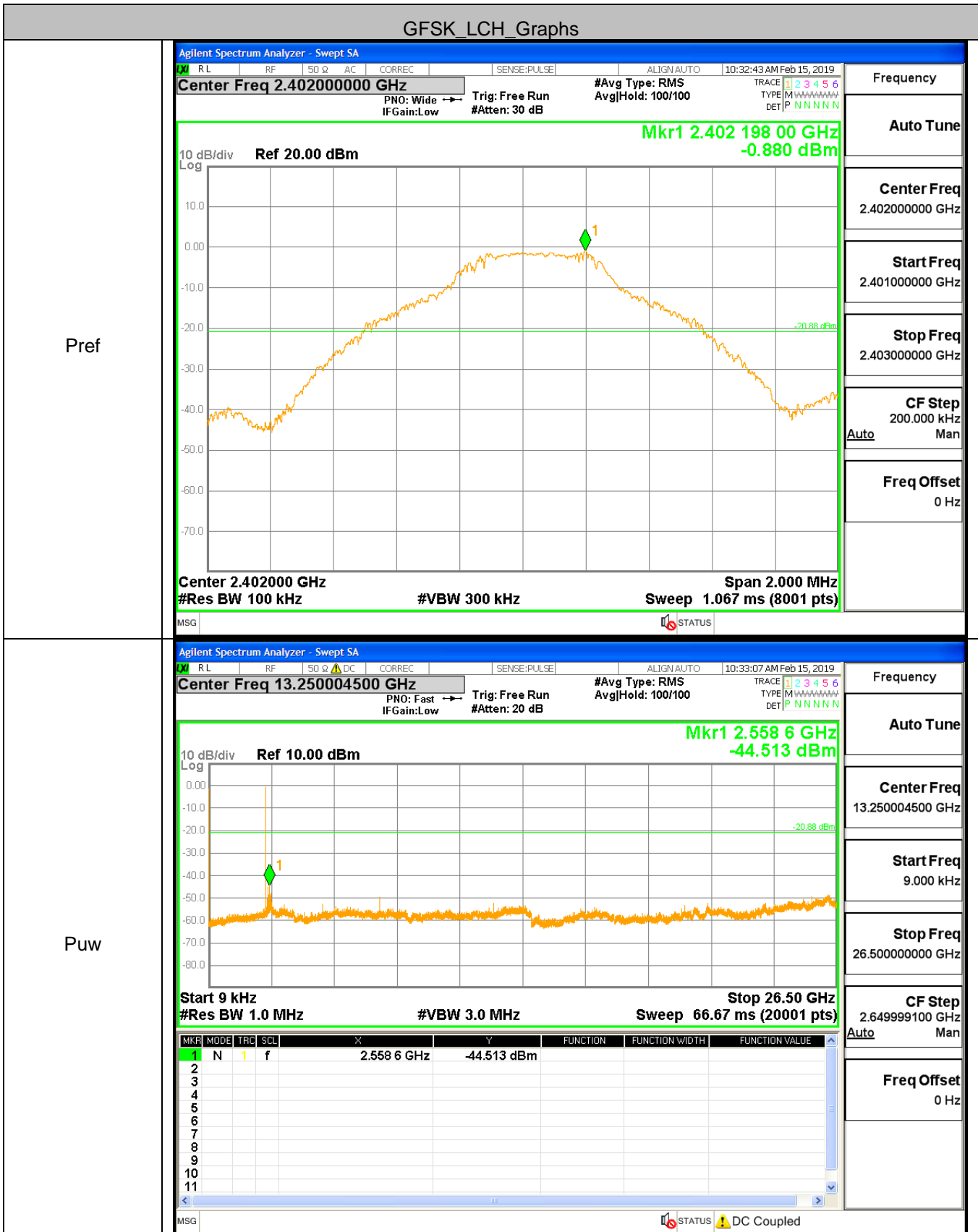


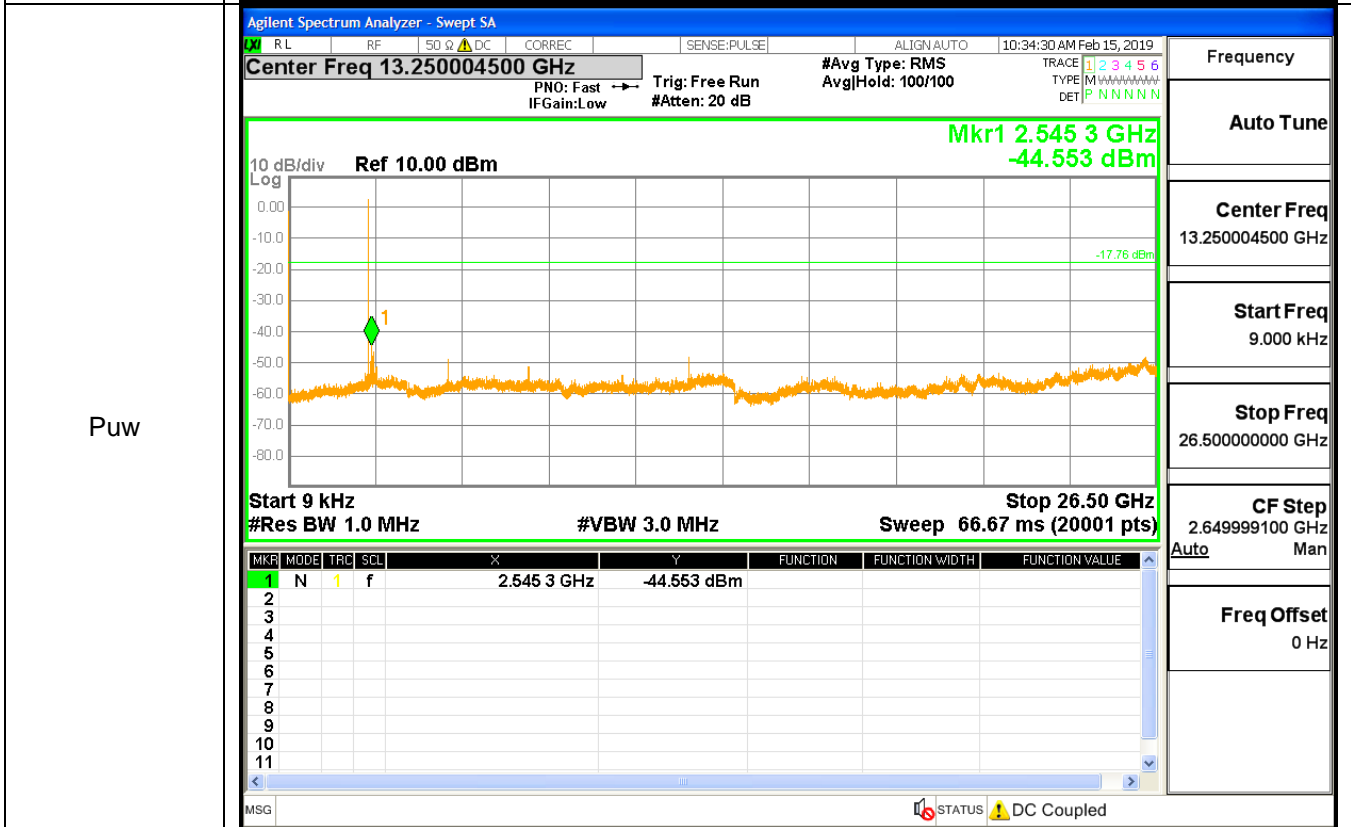
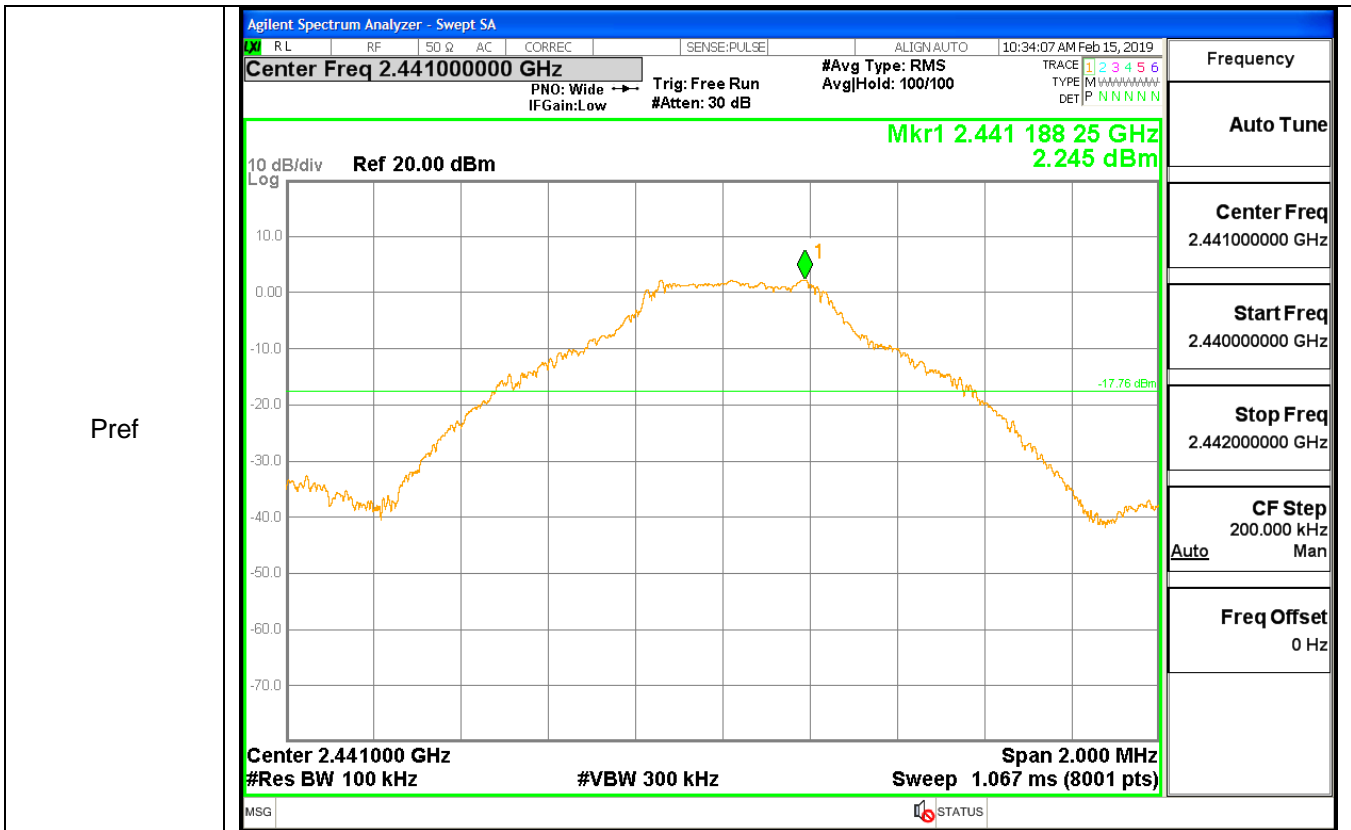




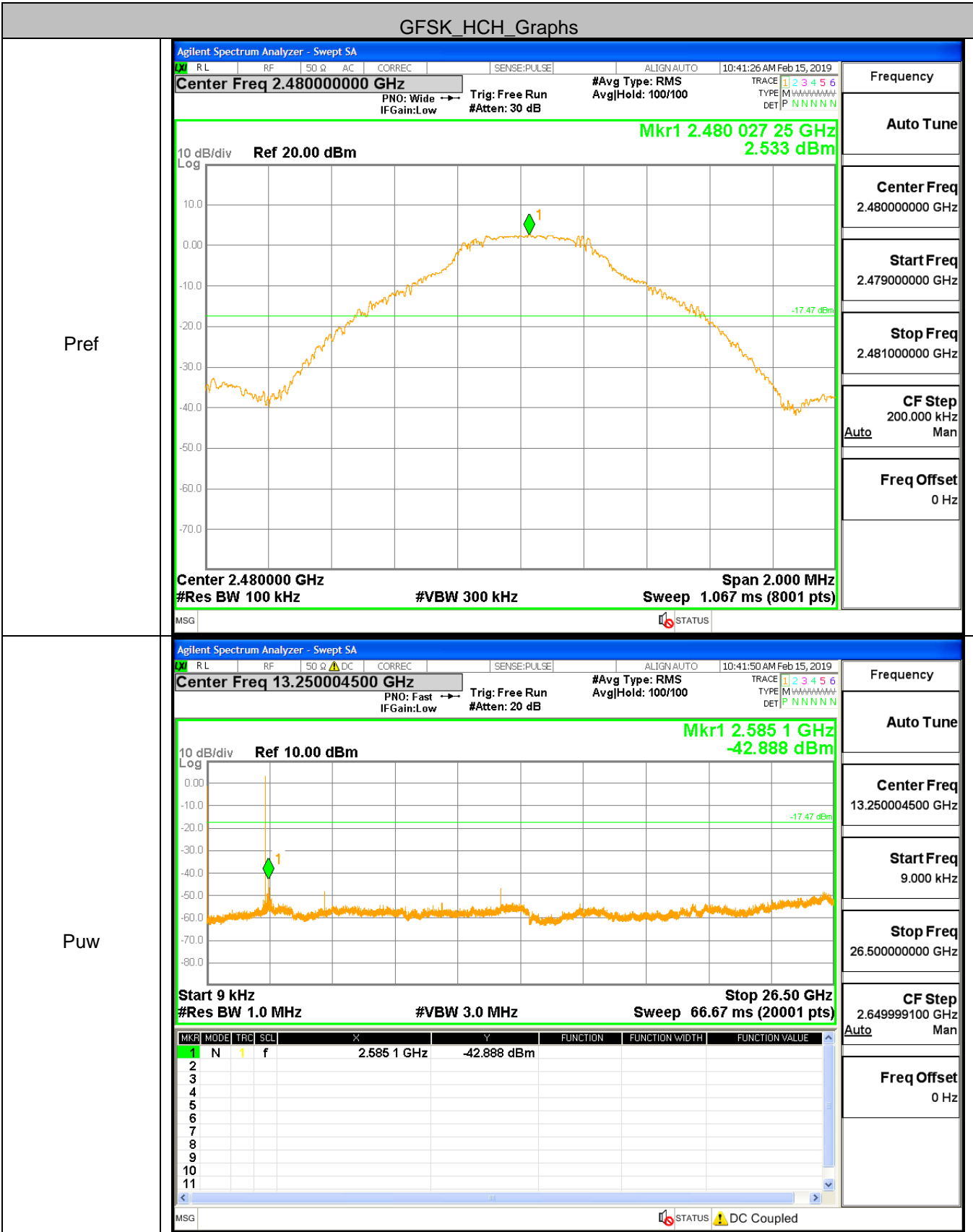


### A.7 RF Conducted Spurious Emissions Test Graph



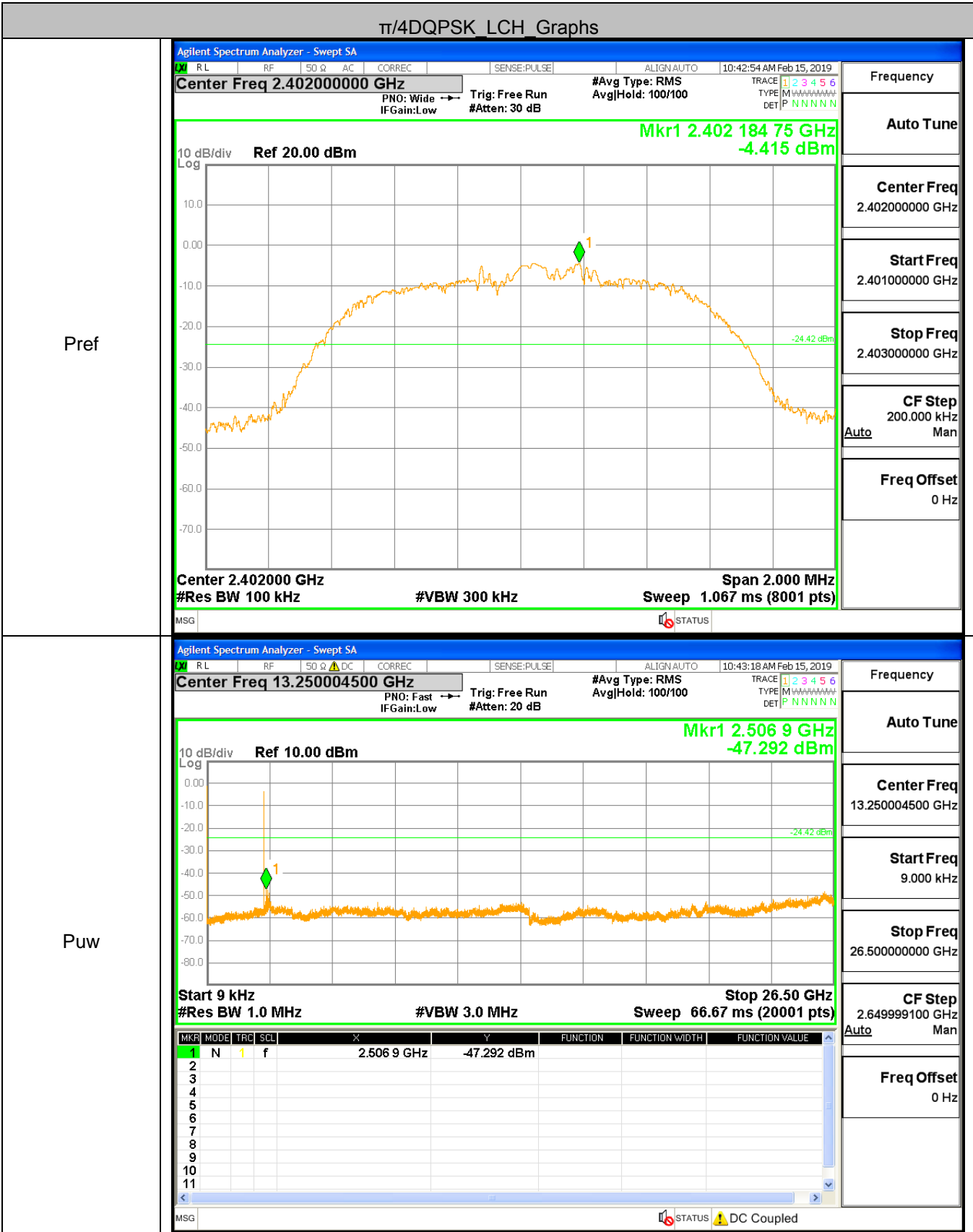


GFSK\_HCH\_Graphs

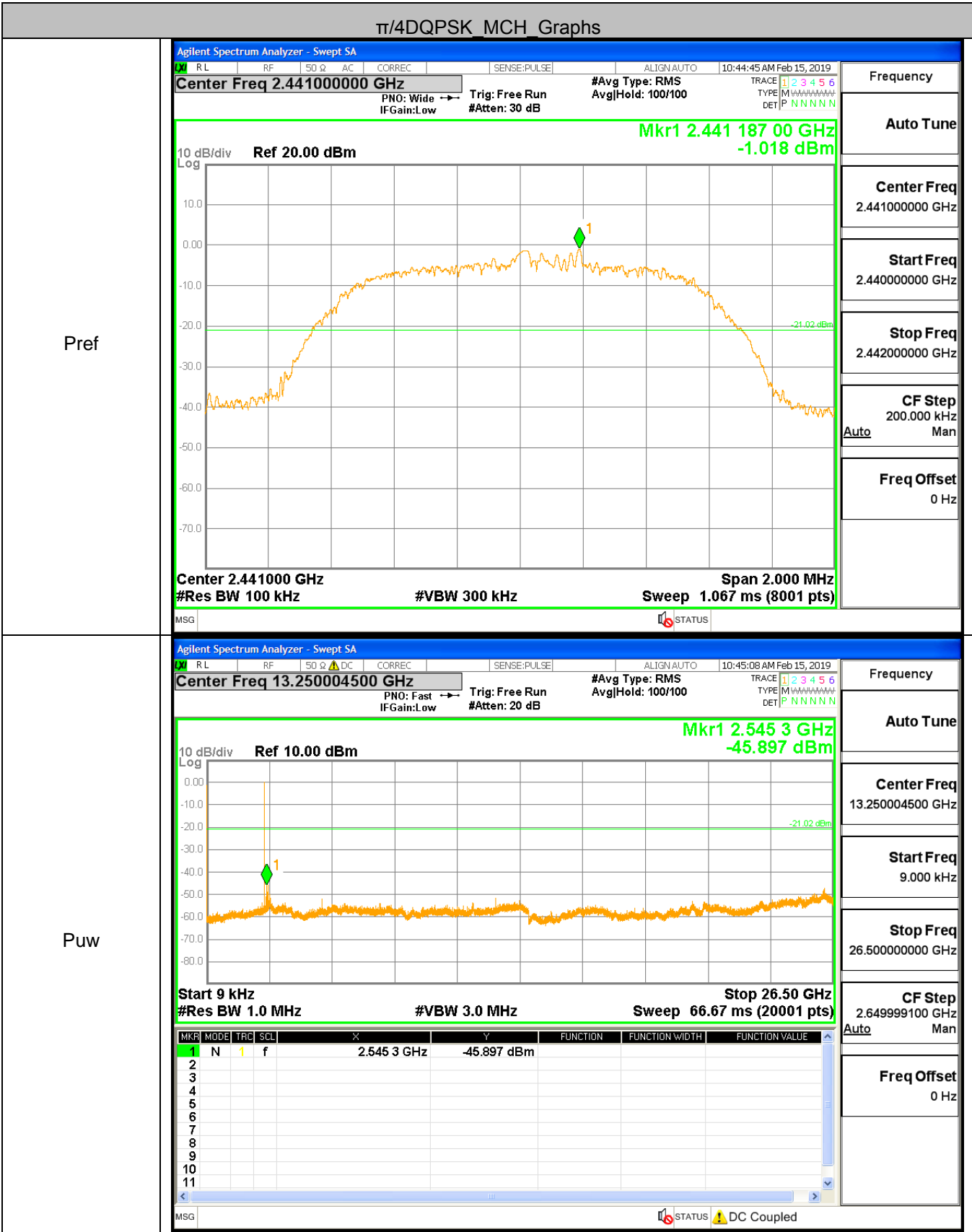




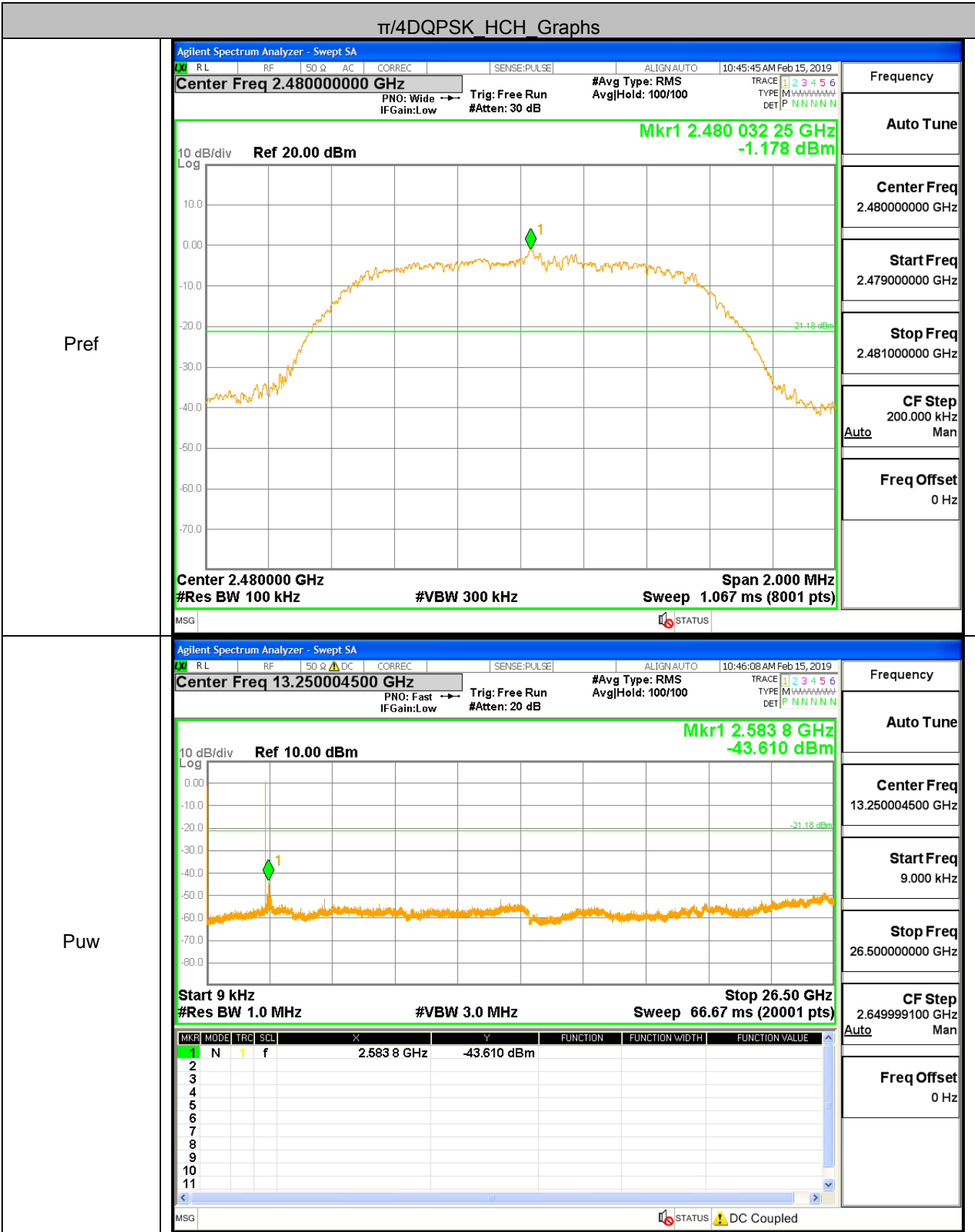
$\pi/4$ DQPSK LCH Graphs



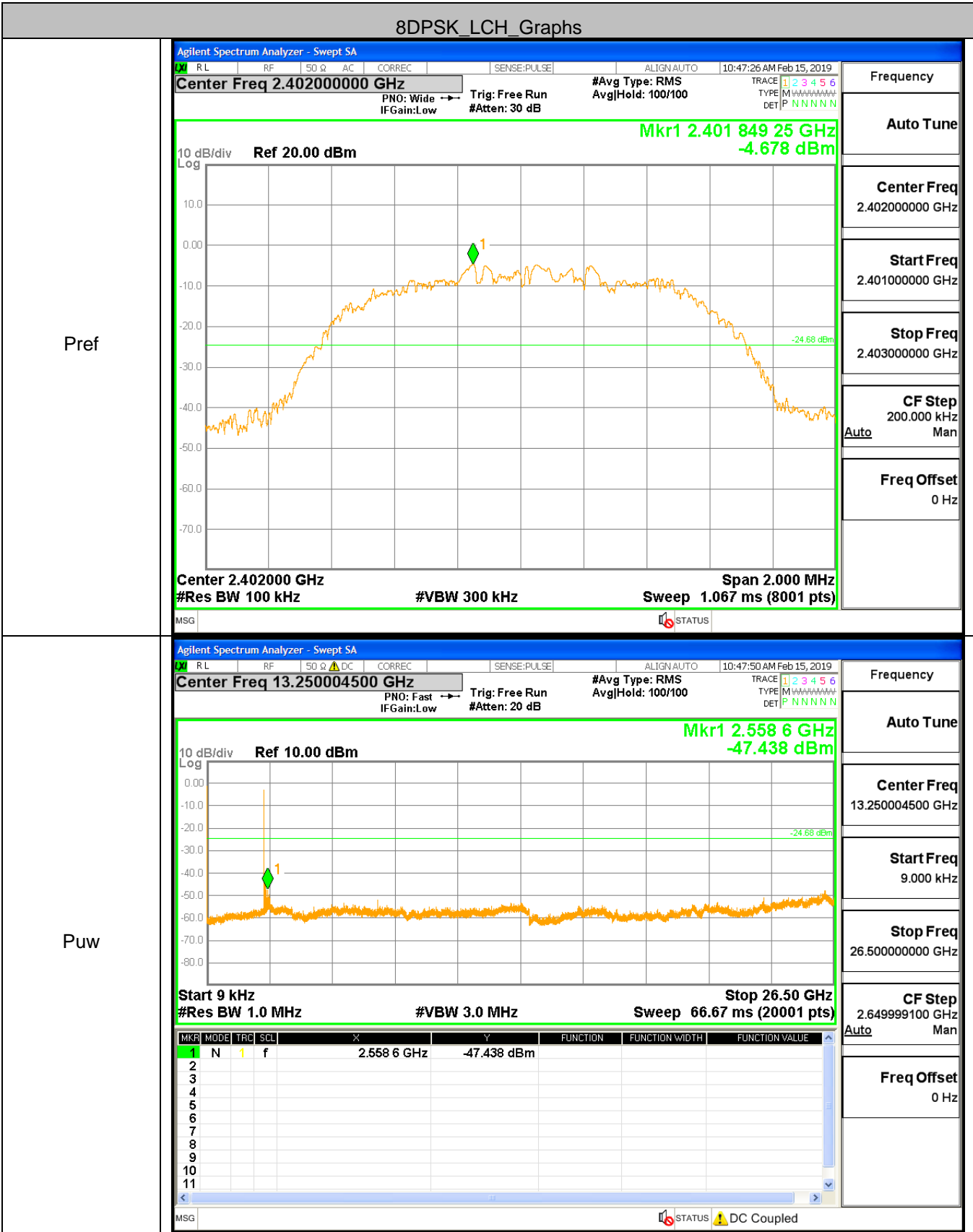
$\pi/4$ DQPSK MCH Graphs



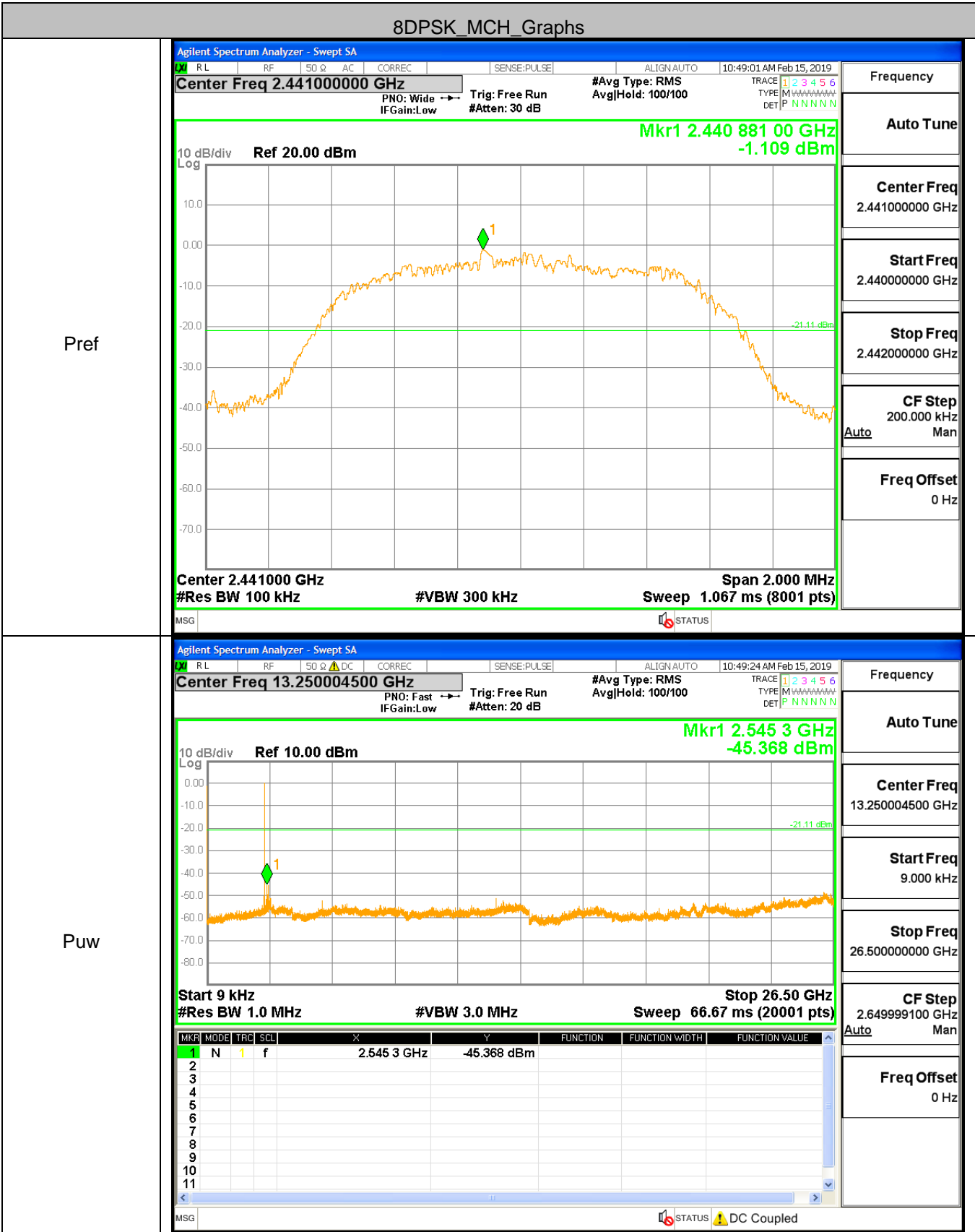
π/4DQPSK HCH Graphs



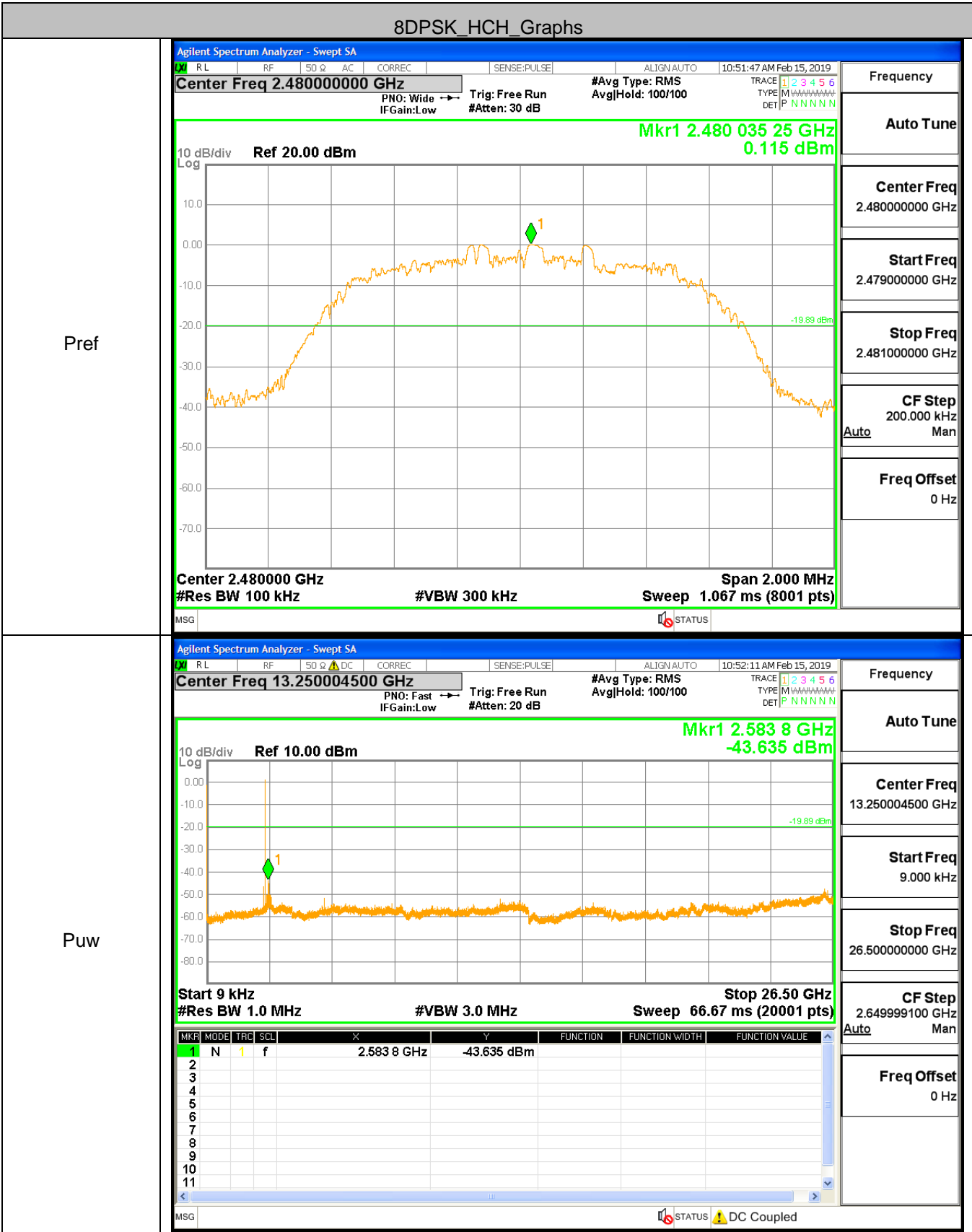
8DPSK\_LCH\_Graphs



8DPSK\_MCH\_Graphs



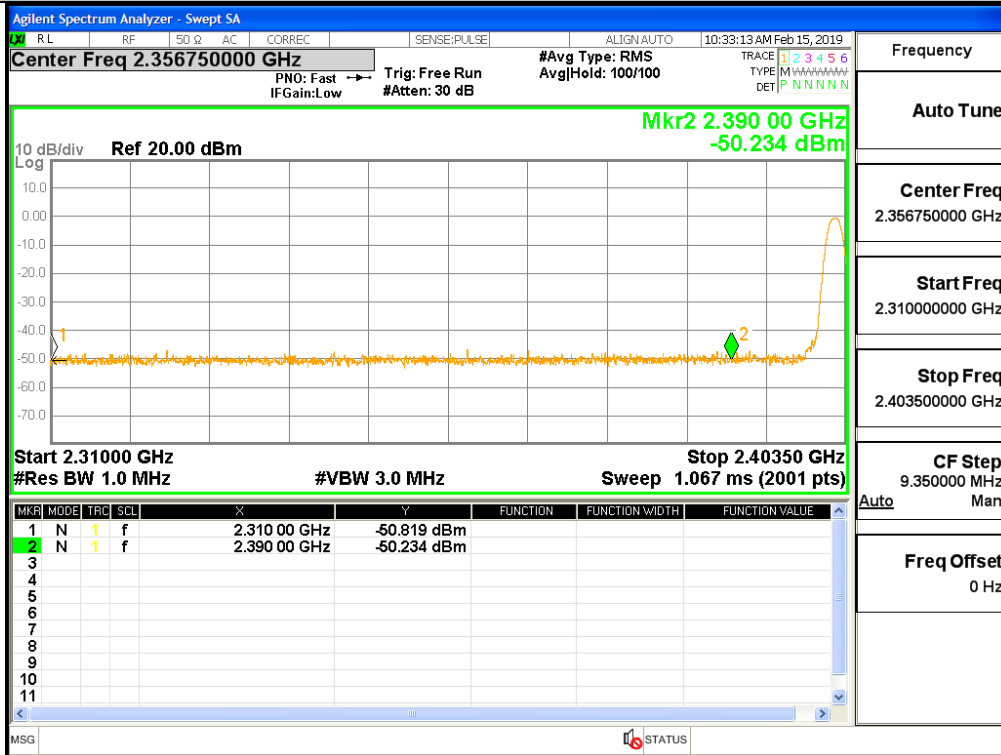
8DPSK\_HCH\_Graphs



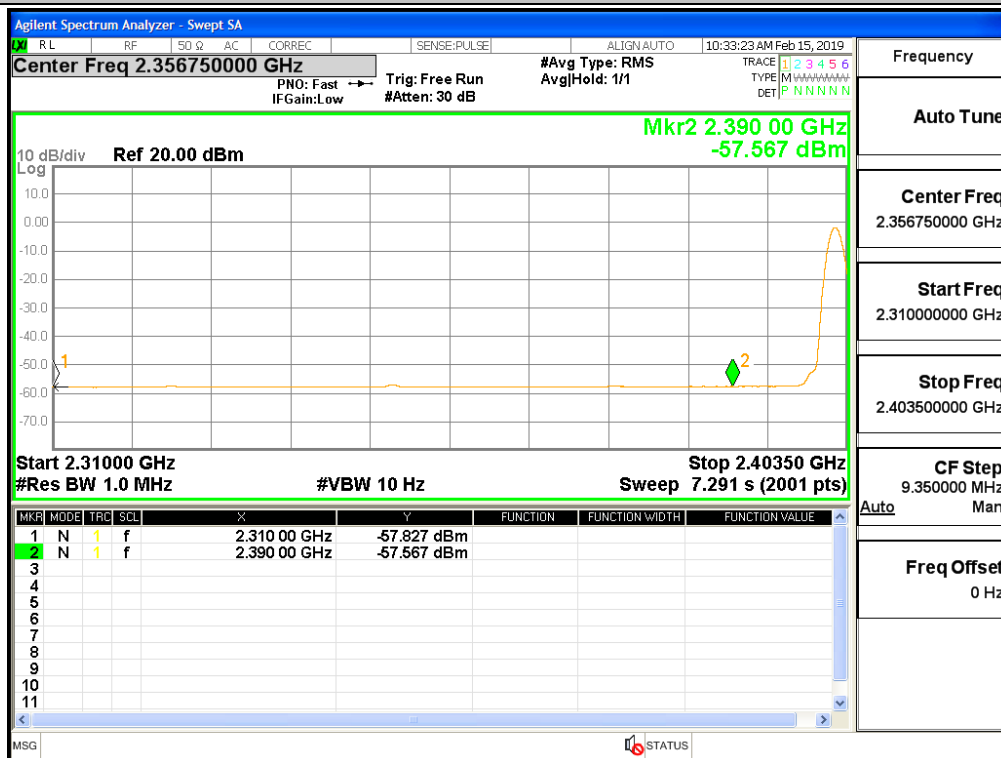
### A.8 Restrict-band band-edge measurements

Type	Carrier Frequency (MHz)	Frequency(MHz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2310	2.00	0.00	-50.82	46.98	74.00	-57.83	38.66	54	Pass
1DH5	2402	2390	2.00	0.00	-50.23	44.88	74.00	-57.57	38.7	54	Pass
1DH5	2480	2483.5	2.00	0.00	-47.20	52.06	74.00	-53.34	46.7	54	Pass
1DH5	2480	2500	2.00	0.00	-51.52	46.34	74.00	-57.00	39.22	54	Pass
2DH5	2402	2310	2.00	0.00	-50.45	45.46	74.00	-57.91	38.42	54	Pass
2DH5	2402	2390	2.00	0.00	-48.17	46.04	74.00	-57.60	38.65	54	Pass
2DH5	2480	2483.5	2.00	0.00	-48.37	48.40	74.00	-54.35	42.92	54	Pass
2DH5	2480	2500	2.00	0.00	-49.79	46.82	74.00	-57.02	39.18	54	Pass
3DH5	2402	2310	2.00	0.00	-50.75	43.97	74.00	-57.87	38.39	54	Pass
3DH5	2402	2390	2.00	0.00	-50.60	45.69	74.00	-57.56	38.63	54	Pass
3DH5	2480	2483.5	2.00	0.00	-46.95	49.62	74.00	-54.42	43.04	54	Pass
3DH5	2480	2500	2.00	0.00	-49.26	46.38	74.00	-57.03	39.15	54	Pass

Restrict-band band-edge measurements\_2402\_PEAK\_DH5

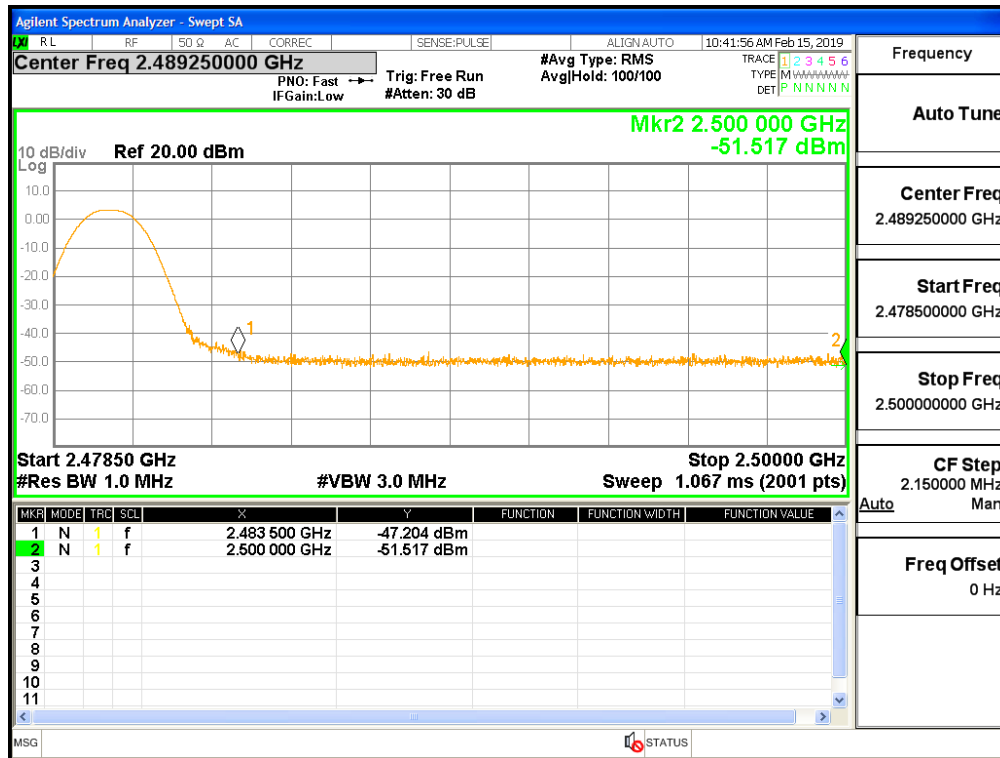


Restrict-band band-edge measurements\_2402\_AV\_DH5

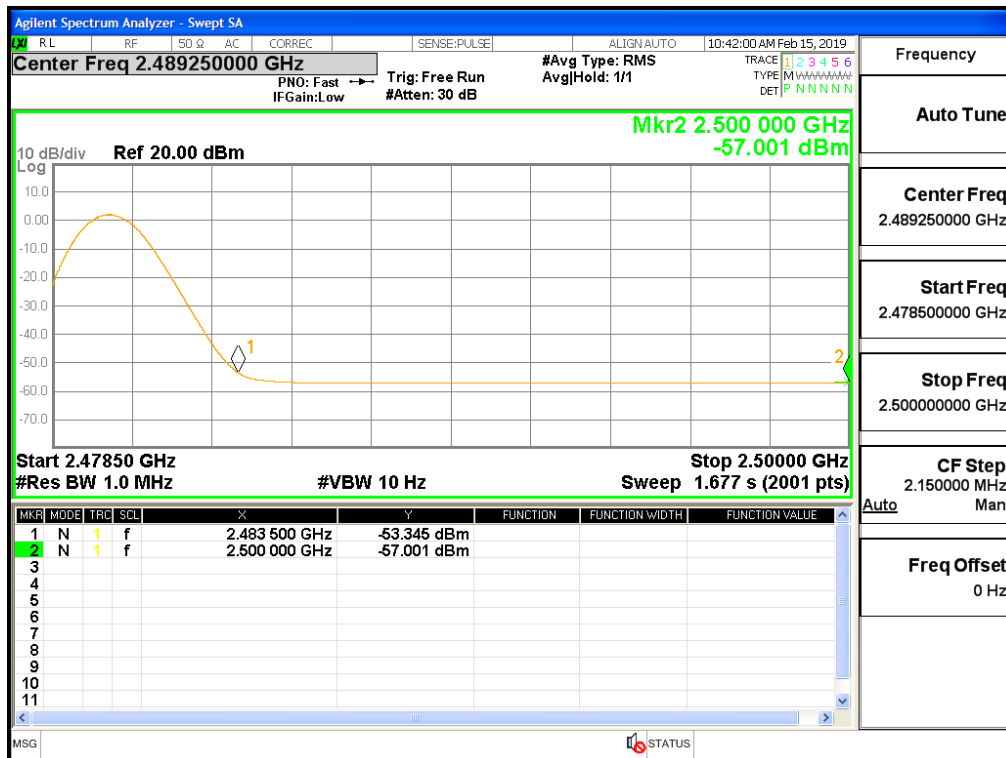




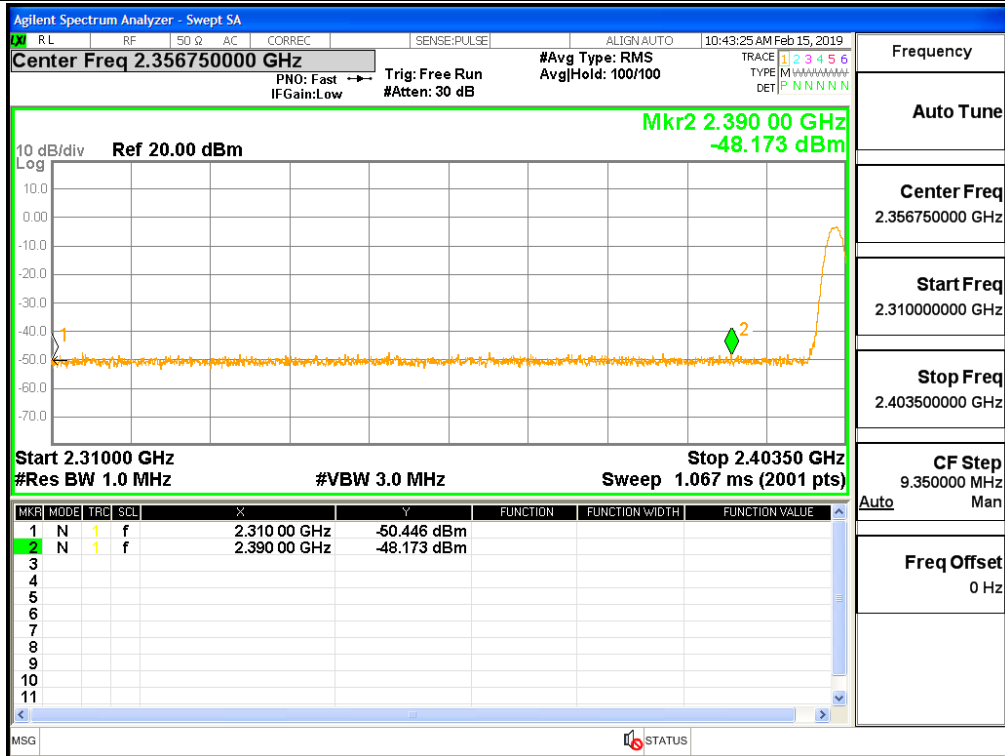
Restrict-band band-edge measurements\_2480\_PEAK\_DH5



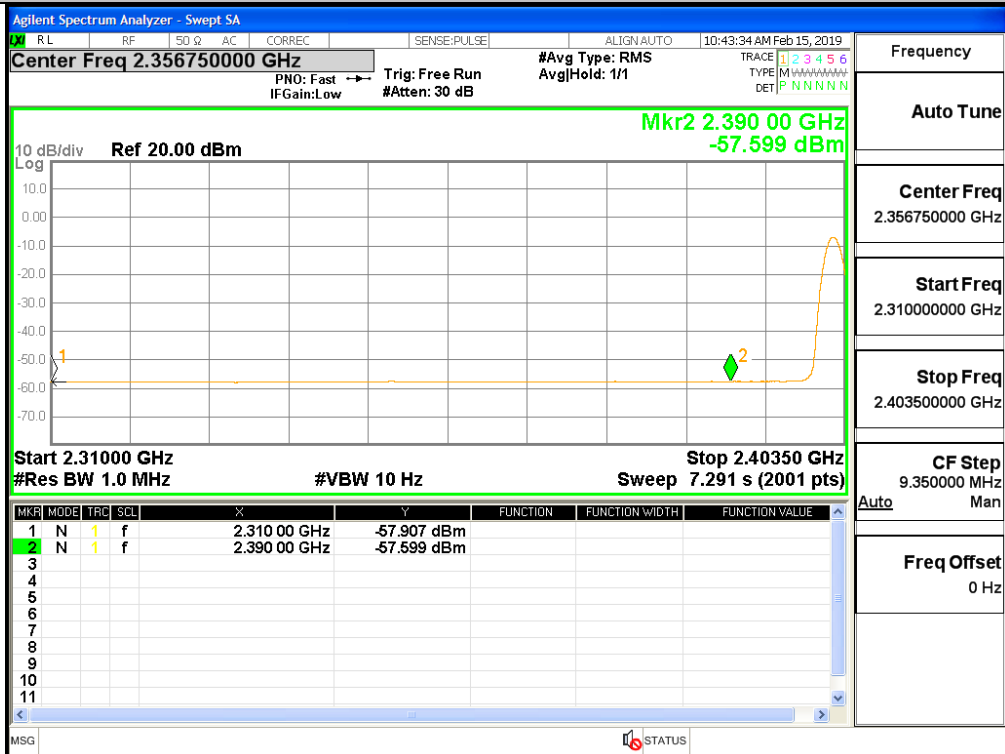
Restrict-band band-edge measurements\_2480\_AV\_DH5



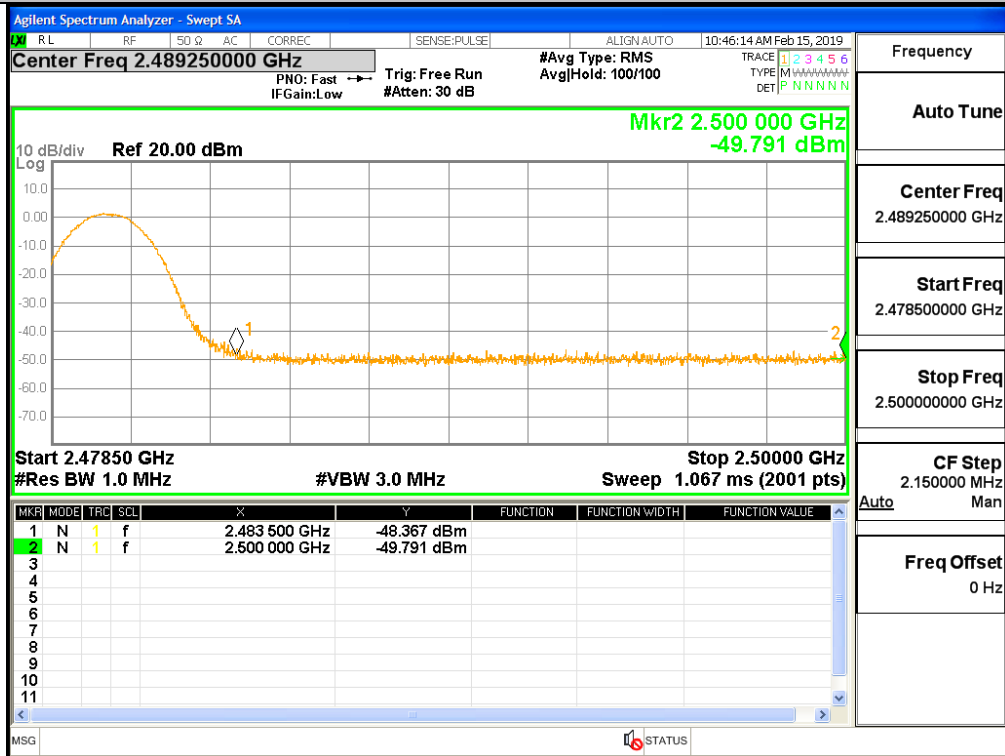
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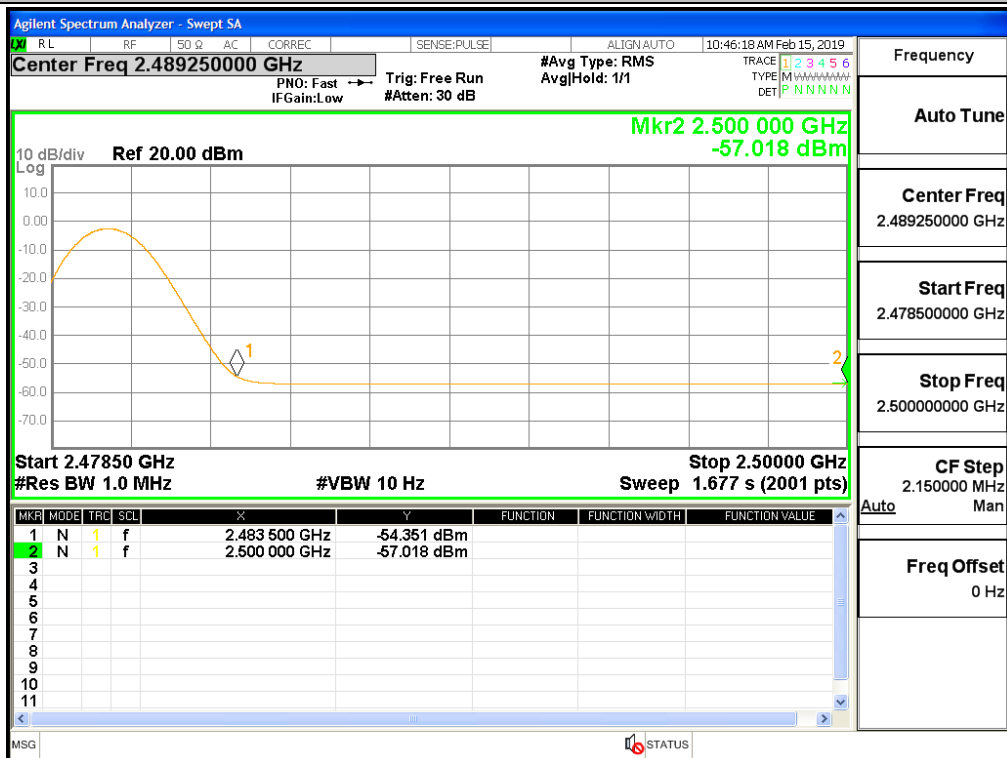
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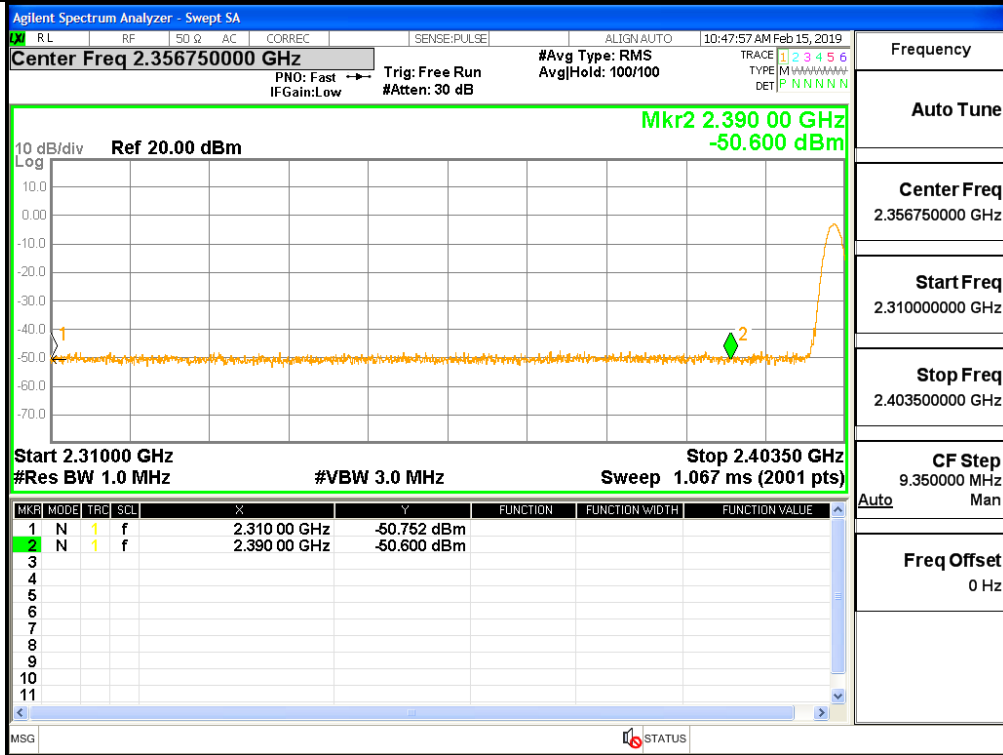
Restrict-band band-edge measurements\_2480\_PEAK\_2DH5



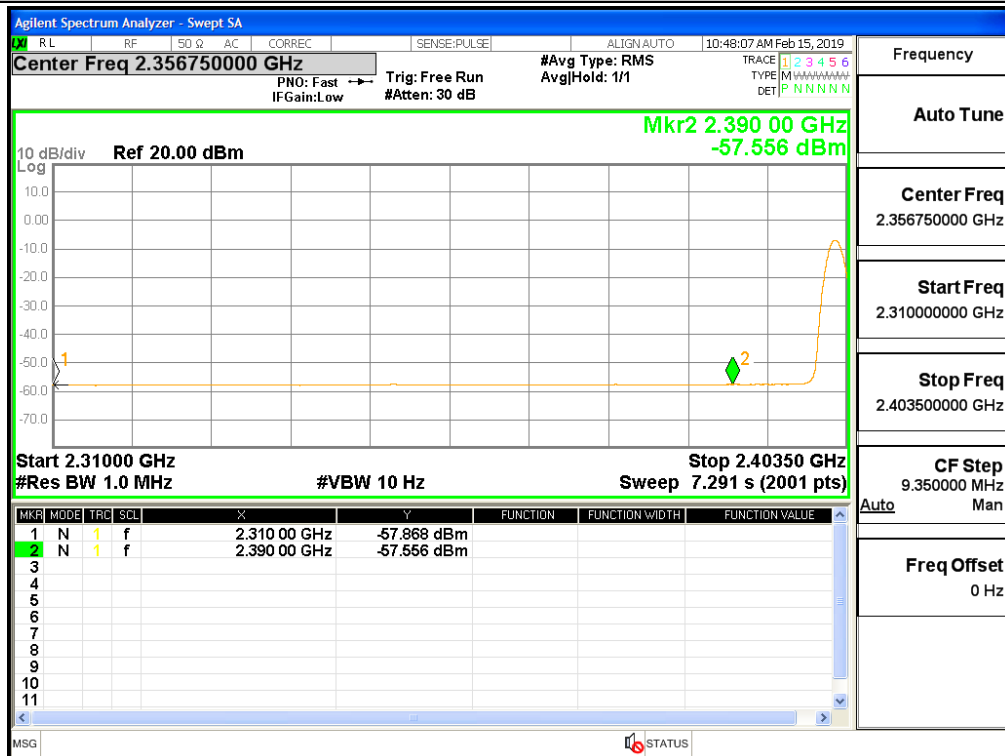
Restrict-band band-edge measurements\_2480\_AV\_2DH5



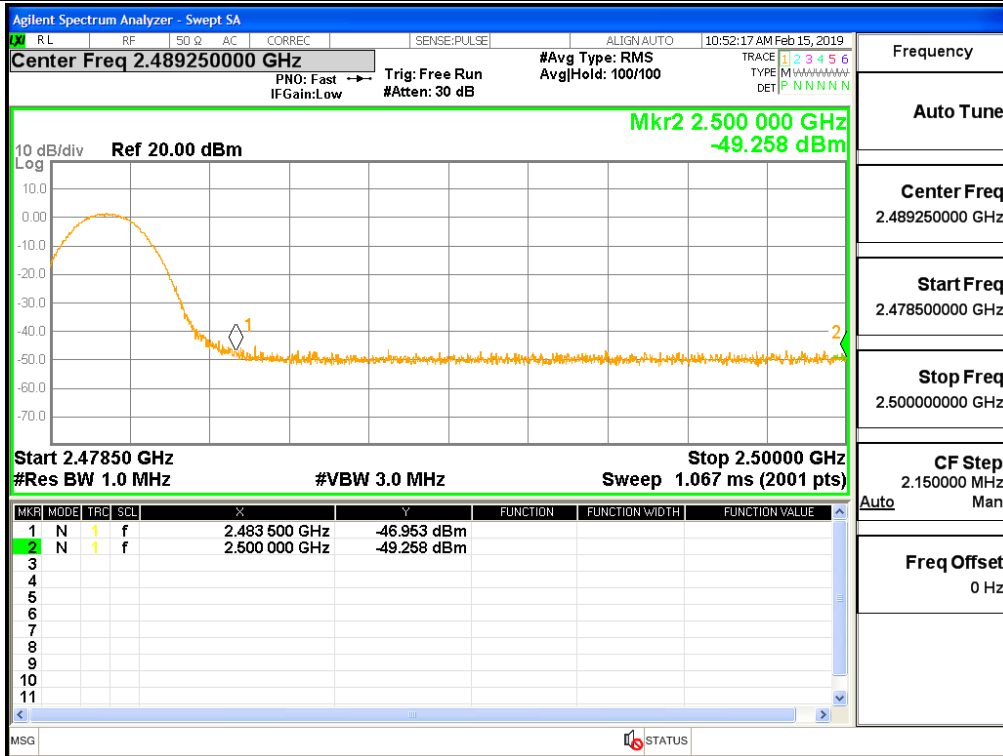
Restrict-band band-edge measurements\_2402\_PEAK\_3DH5



Restrict-band band-edge measurements\_2402\_AV\_3DH5



Restrict-band band-edge measurements\_2480\_PEAK\_3DH5



Restrict-band band-edge measurements\_2480\_AV\_3DH5

