

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

**Product Name: Mobile phone**

**Trade Mark: SAGI**

**Test Model: E5501**

**FCC ID: 2AUES-SAGIE5501**

**Environmental Conditions**

Temperature:	23.8° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

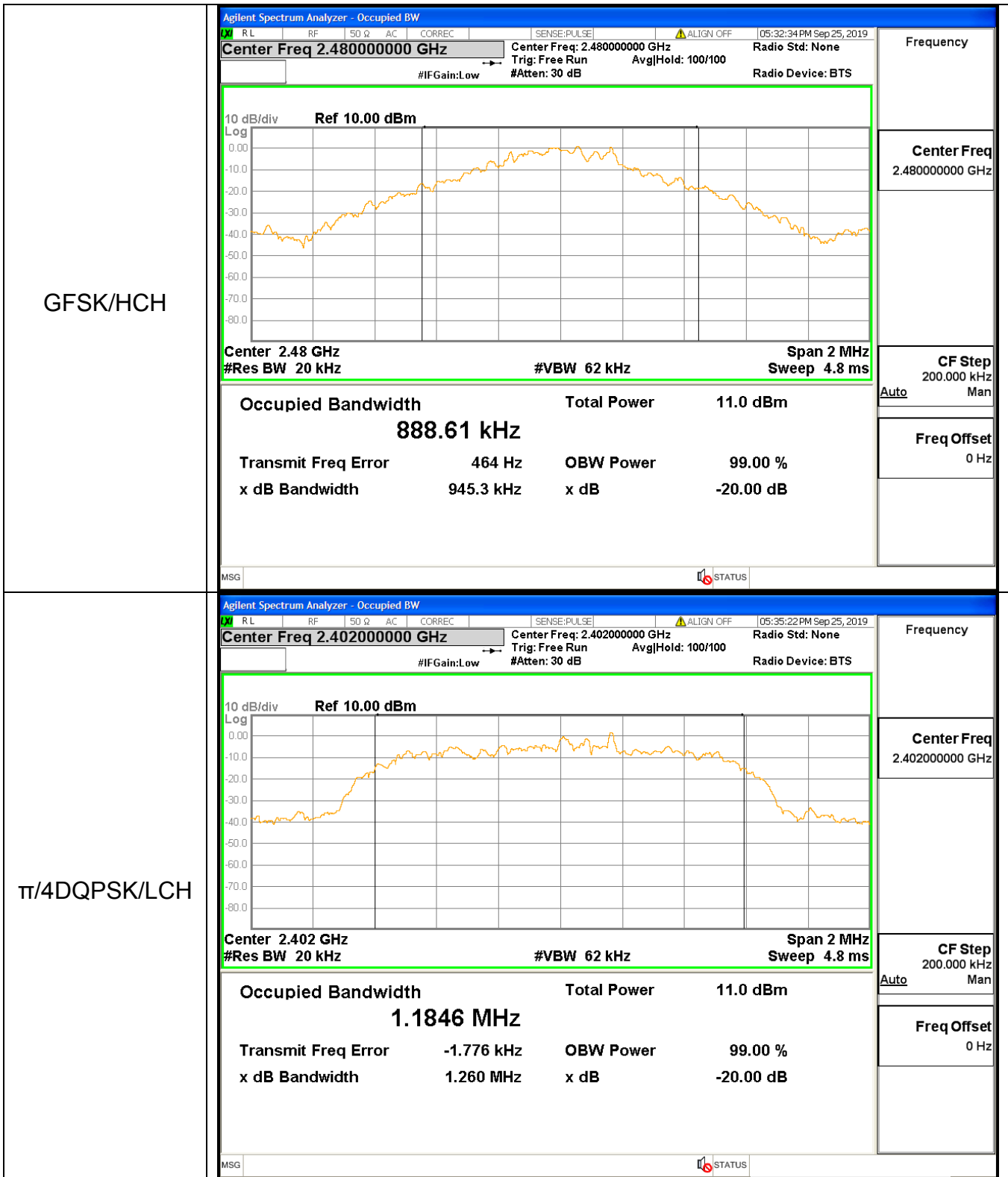
**A.1 20 dB Bandwidth**

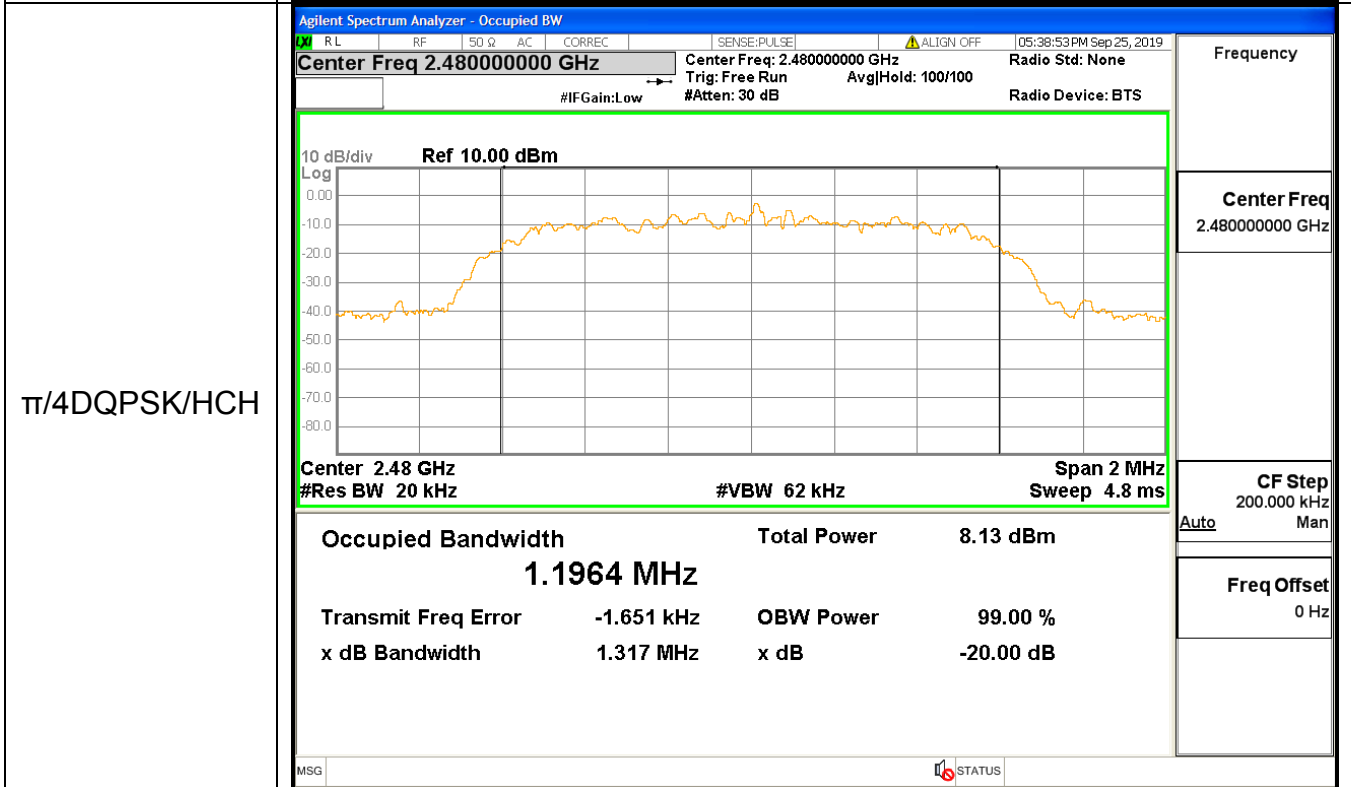
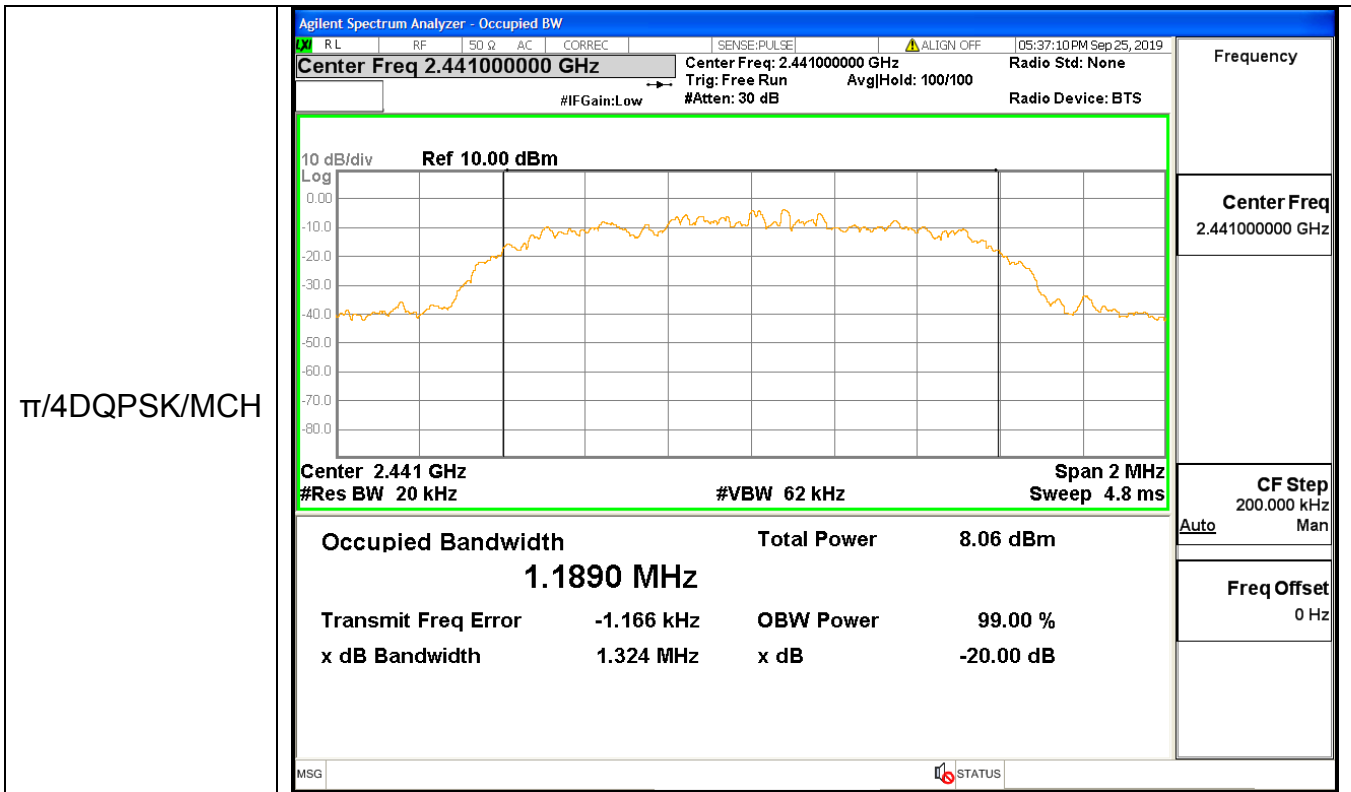
Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.937	Not Specified	PASS
GFSK	MCH	0.942	Not Specified	PASS
GFSK	HCH	0.945	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.260	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.324	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.317	Not Specified	PASS
8DPSK	LCH	1.271	Not Specified	PASS
8DPSK	MCH	1.271	Not Specified	PASS
8DPSK	HCH	1.274	Not Specified	PASS

### Test Graph

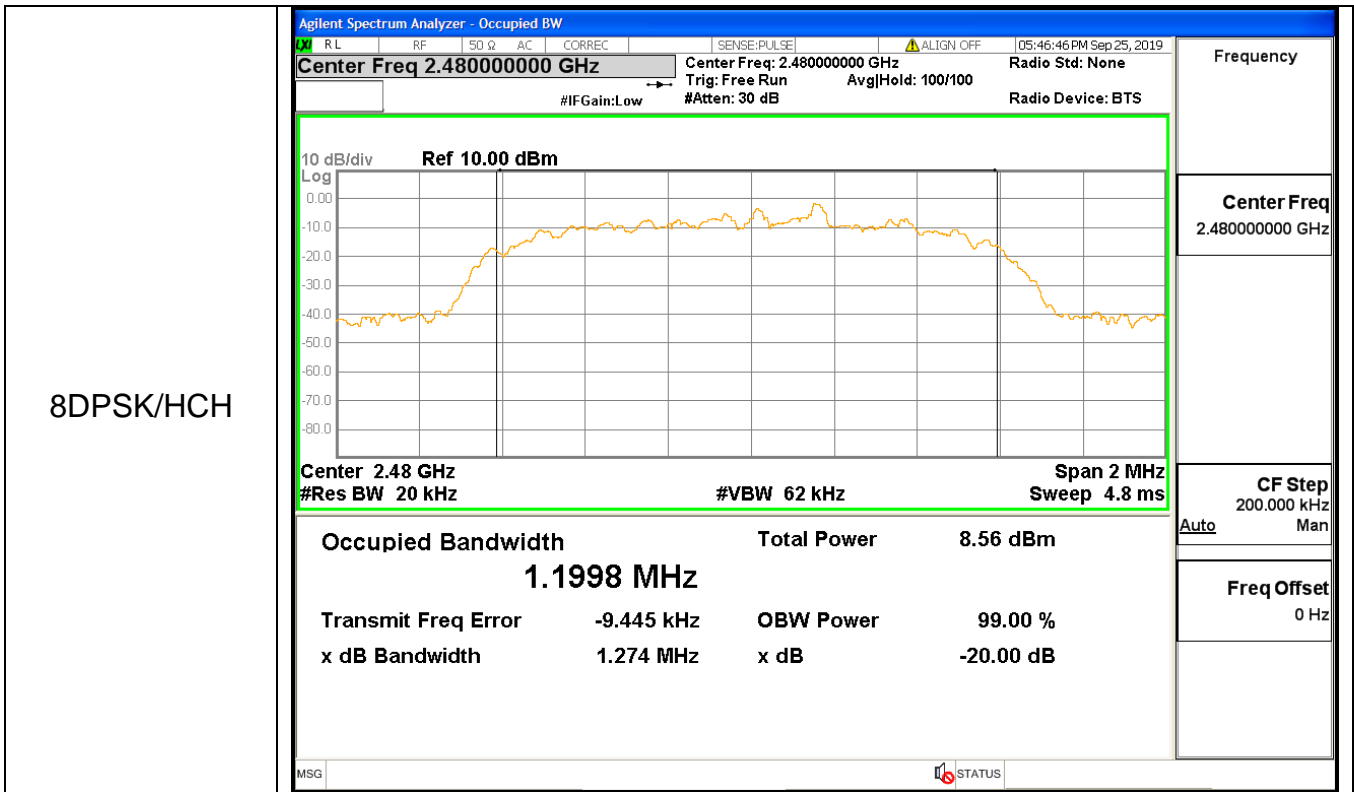
#### Graphs

GFSK/LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 15%;"><input checked="" type="checkbox"/> RL</td> <td style="width: 15%;"><input type="checkbox"/> RF</td> <td style="width: 15%;"><input type="checkbox"/> 50 Ω</td> <td style="width: 15%;"><input type="checkbox"/> AC</td> <td style="width: 15%;"><input type="checkbox"/> CORREC</td> <td style="width: 15%;"><input type="checkbox"/> SENSE:PULSE</td> <td style="width: 15%;"><input type="checkbox"/> ALIGN OFF</td> <td style="width: 15%; text-align: right;">05:27:03 PM Sep 25, 2019</td> </tr> </table> <p style="margin: 0;"><b>Center Freq 2.40200000 GHz</b>      Center Freq: 2.40200000 GHz      Radio Std: None                      Trig: Free Run      Avg Hold: 100/100                      #IFGain:Low      #Atten: 30 dB      Radio Device: BTS</p> <div style="border: 1px solid green; padding: 5px; margin: 5px 0;"> </div> <p style="font-size: x-small; margin: 0;">Center 2.402 GHz      #Res BW 20 kHz      #VBW 62 kHz      Span 2 MHz      Sweep 4.8 ms</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">12.4 dBm</td> </tr> <tr> <td style="text-align: center;"><b>910.69 kHz</b></td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-20.00 dB</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> </div>	<input checked="" type="checkbox"/> RL	<input type="checkbox"/> RF	<input type="checkbox"/> 50 Ω	<input type="checkbox"/> AC	<input type="checkbox"/> CORREC	<input type="checkbox"/> SENSE:PULSE	<input type="checkbox"/> ALIGN OFF	05:27:03 PM Sep 25, 2019	Occupied Bandwidth	Total Power	12.4 dBm	<b>910.69 kHz</b>			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-20.00 dB				Frequency  Center Freq 2.40200000 GHz  CF Step 200.000 kHz Auto Man  Freq Offset 0 Hz
	<input checked="" type="checkbox"/> RL	<input type="checkbox"/> RF	<input type="checkbox"/> 50 Ω	<input type="checkbox"/> AC	<input type="checkbox"/> CORREC	<input type="checkbox"/> SENSE:PULSE	<input type="checkbox"/> ALIGN OFF	05:27:03 PM Sep 25, 2019																	
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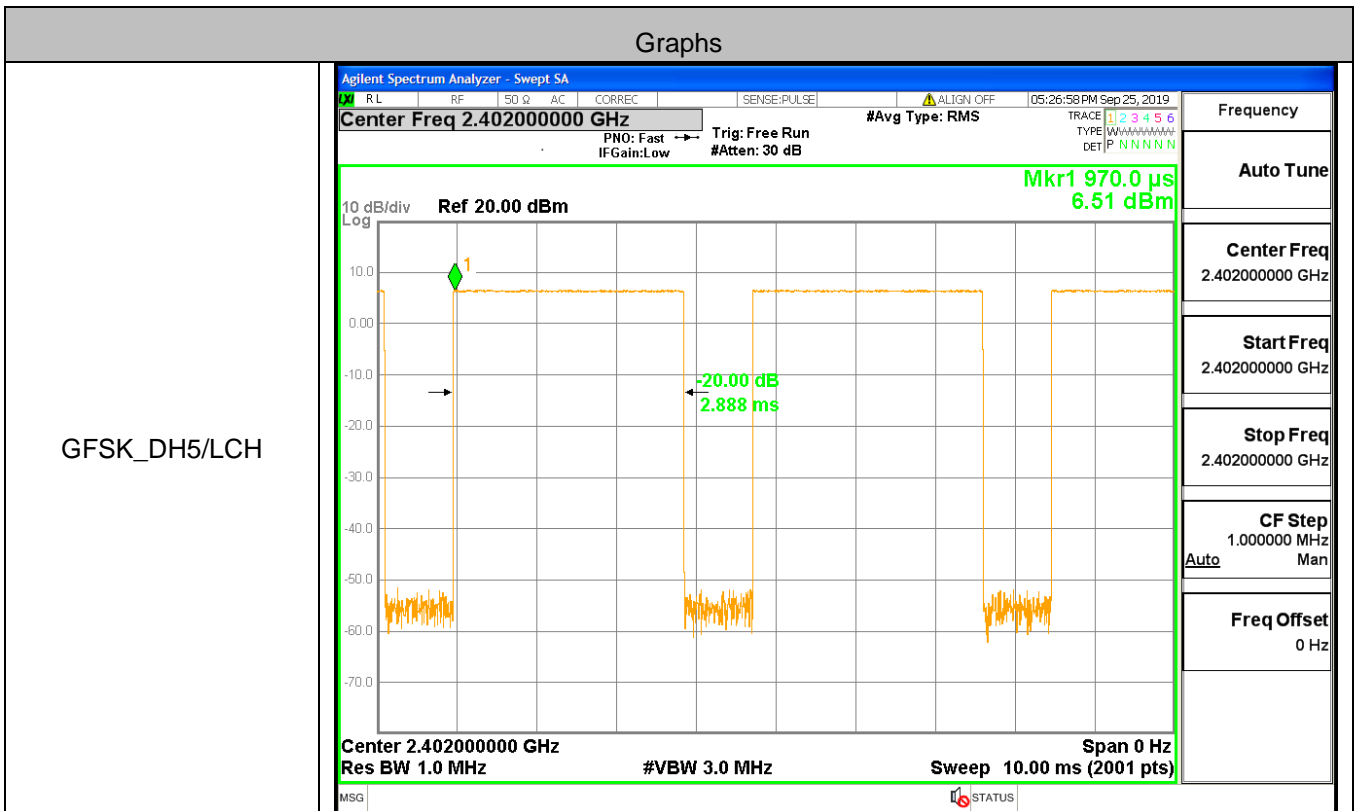
8DPSK/LCH	Agilent Spectrum Analyzer - Occupied BW Center Freq <b>2.40200000 GHz</b> Center Freq: 2.40200000 GHz    Radio Std: None #IFGain:Low    Trig: Free Run    AvgHold: 100/100    #Atten: 30 dB    Radio Device: BTS			Frequency																	
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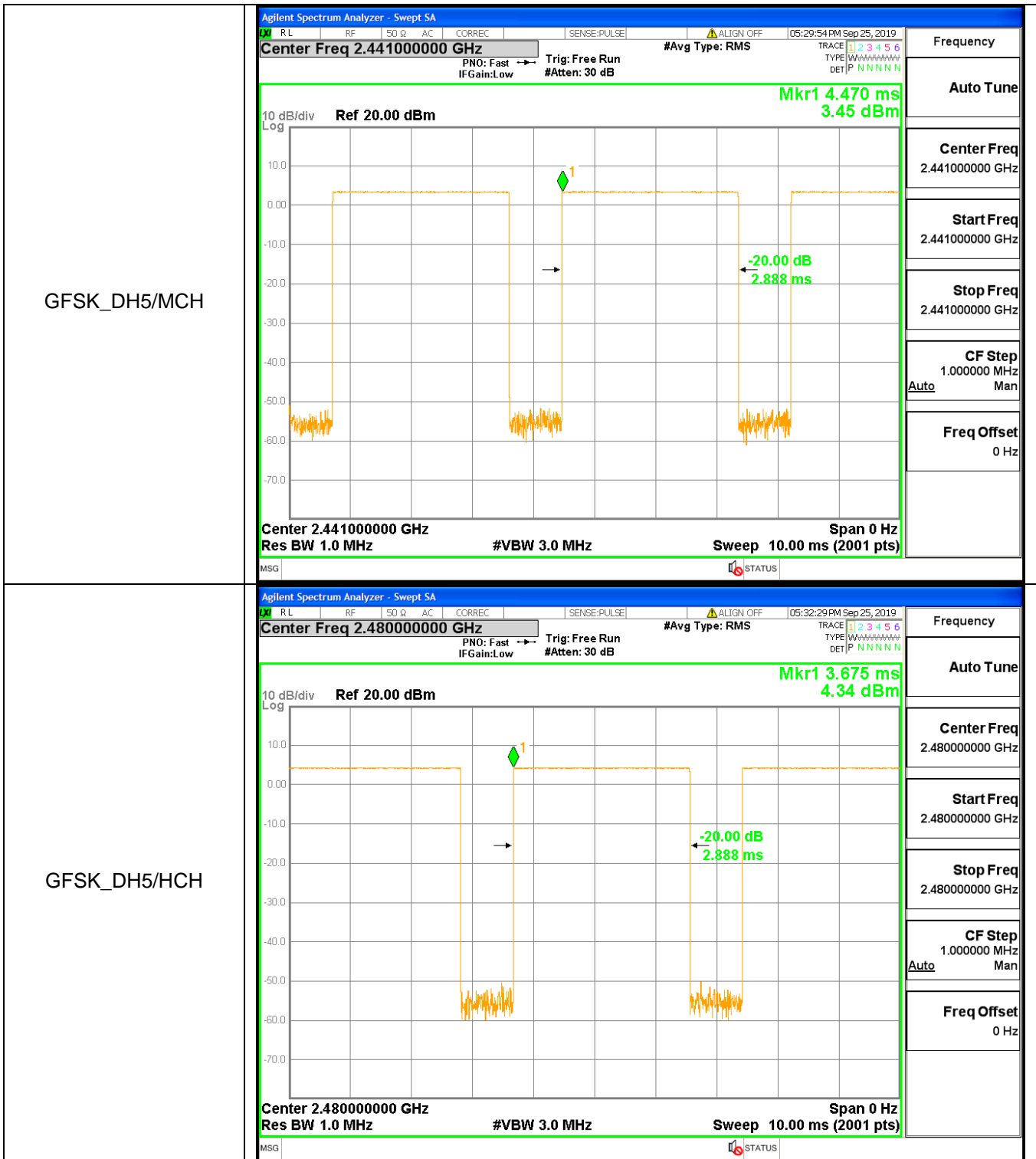


### A.2 Dwell Time

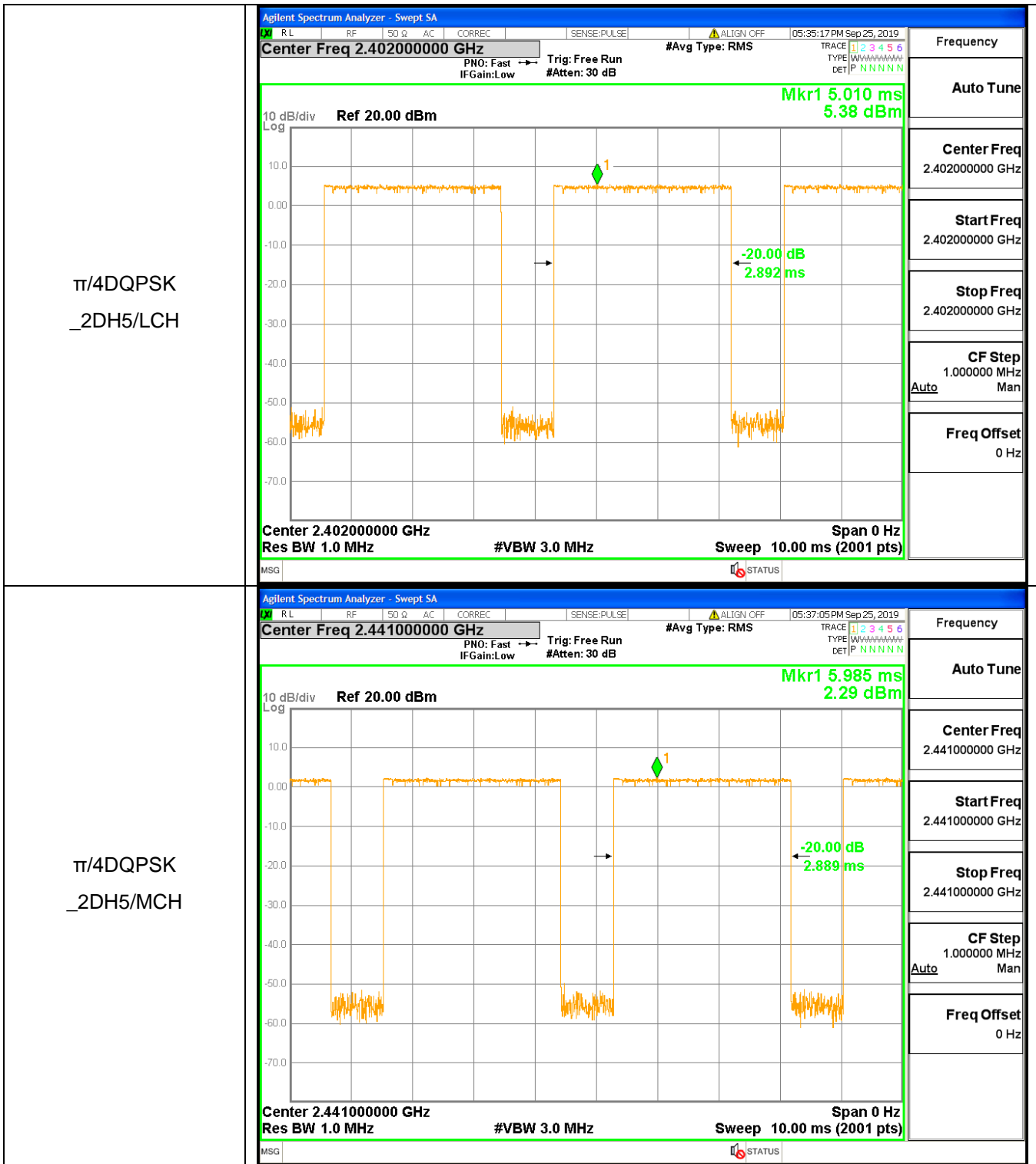
Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002888	106.7	0.308108	0.4	PASS
GFSK	DH5	MCH	0.002888	106.7	0.308195	0.4	PASS
GFSK	DH5	HCH	0.002888	106.7	0.308177	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.002892	106.7	0.308569	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.002889	106.7	0.308213	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002889	106.7	0.308232	0.4	PASS
8DPSK	3DH5	LCH	0.002893	106.7	0.308703	0.4	PASS
8DPSK	3DH5	MCH	0.002892	106.7	0.308596	0.4	PASS
8DPSK	3DH5	HCH	0.002889	106.7	0.308252	0.4	PASS

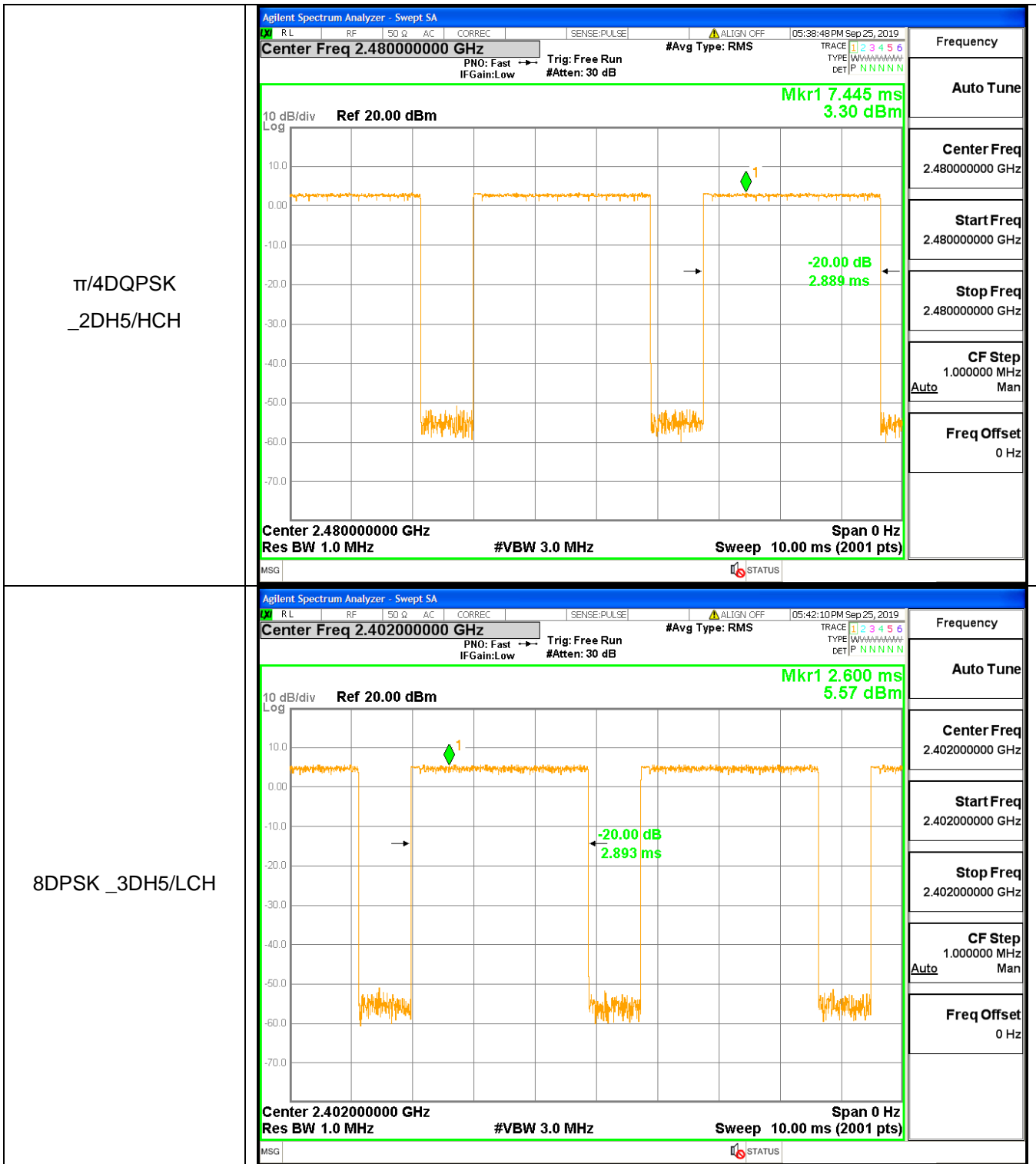
Test Graph

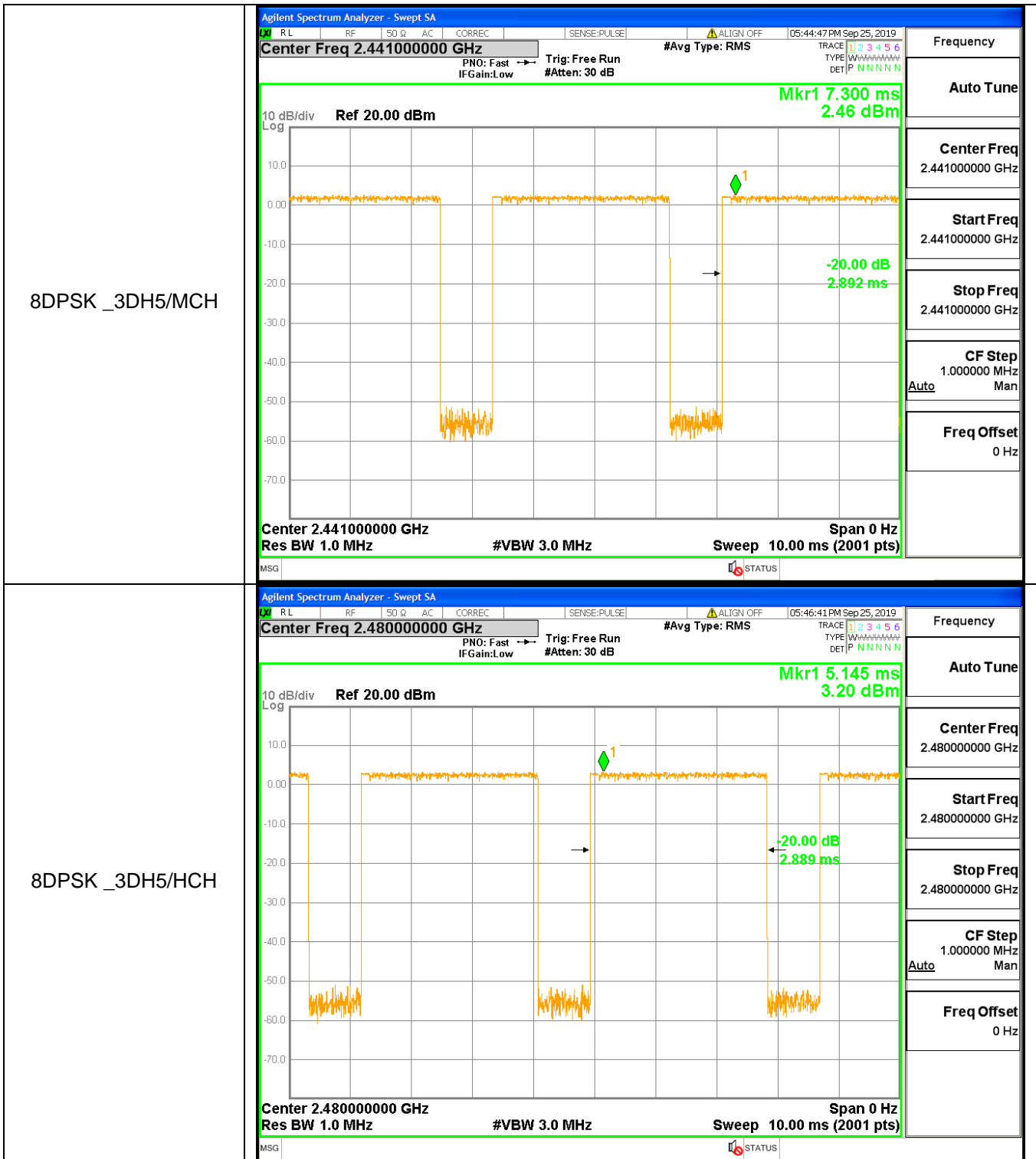








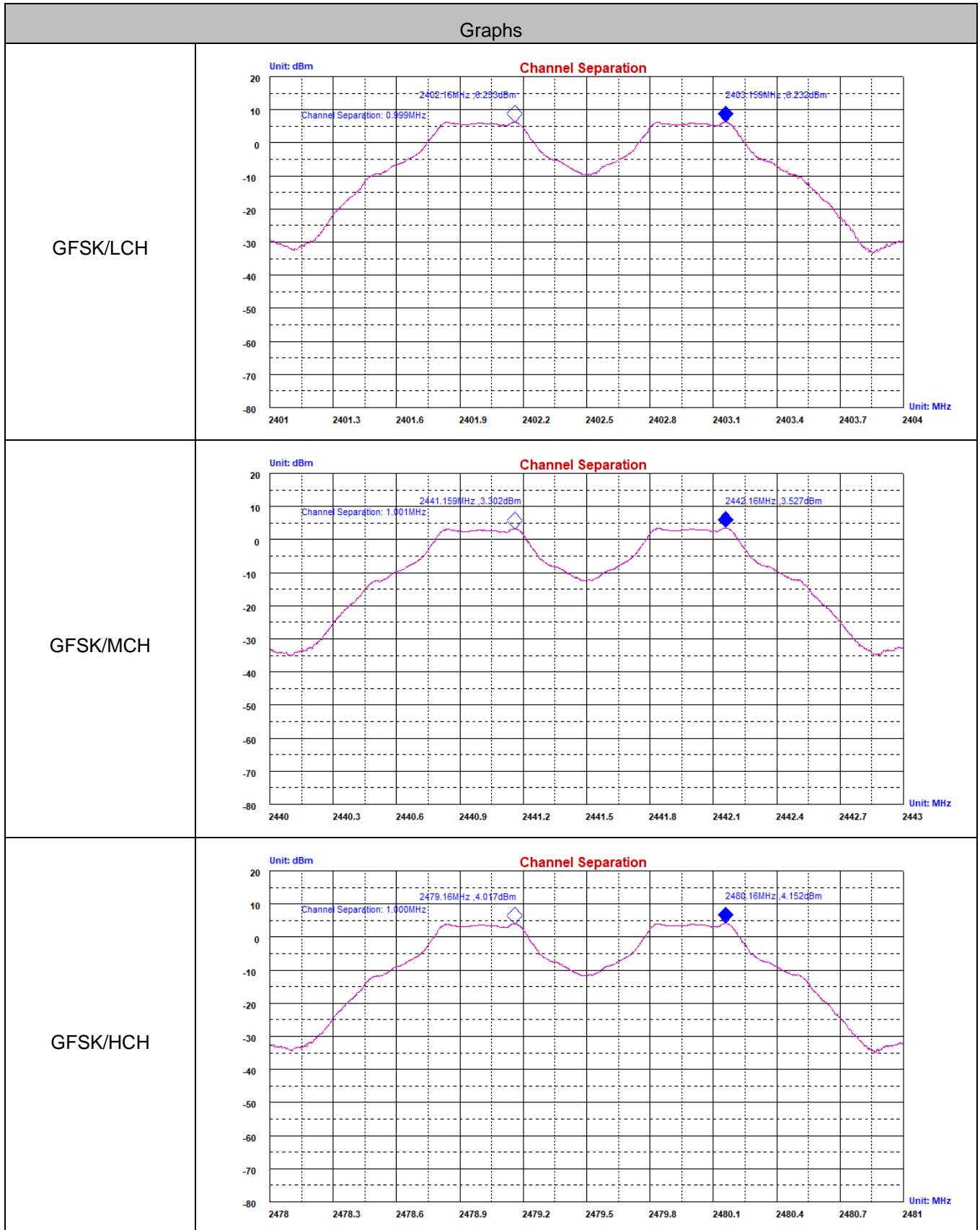


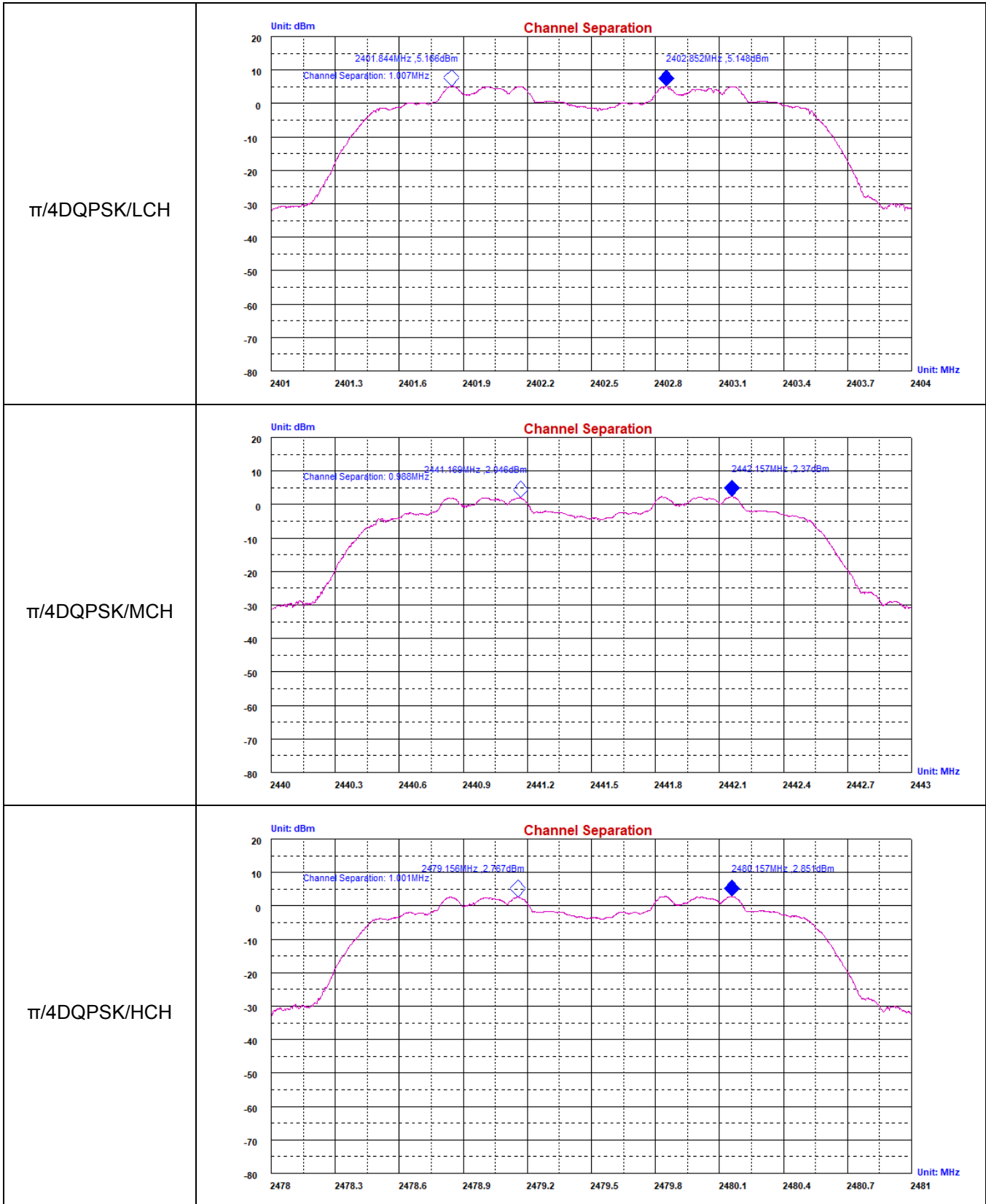


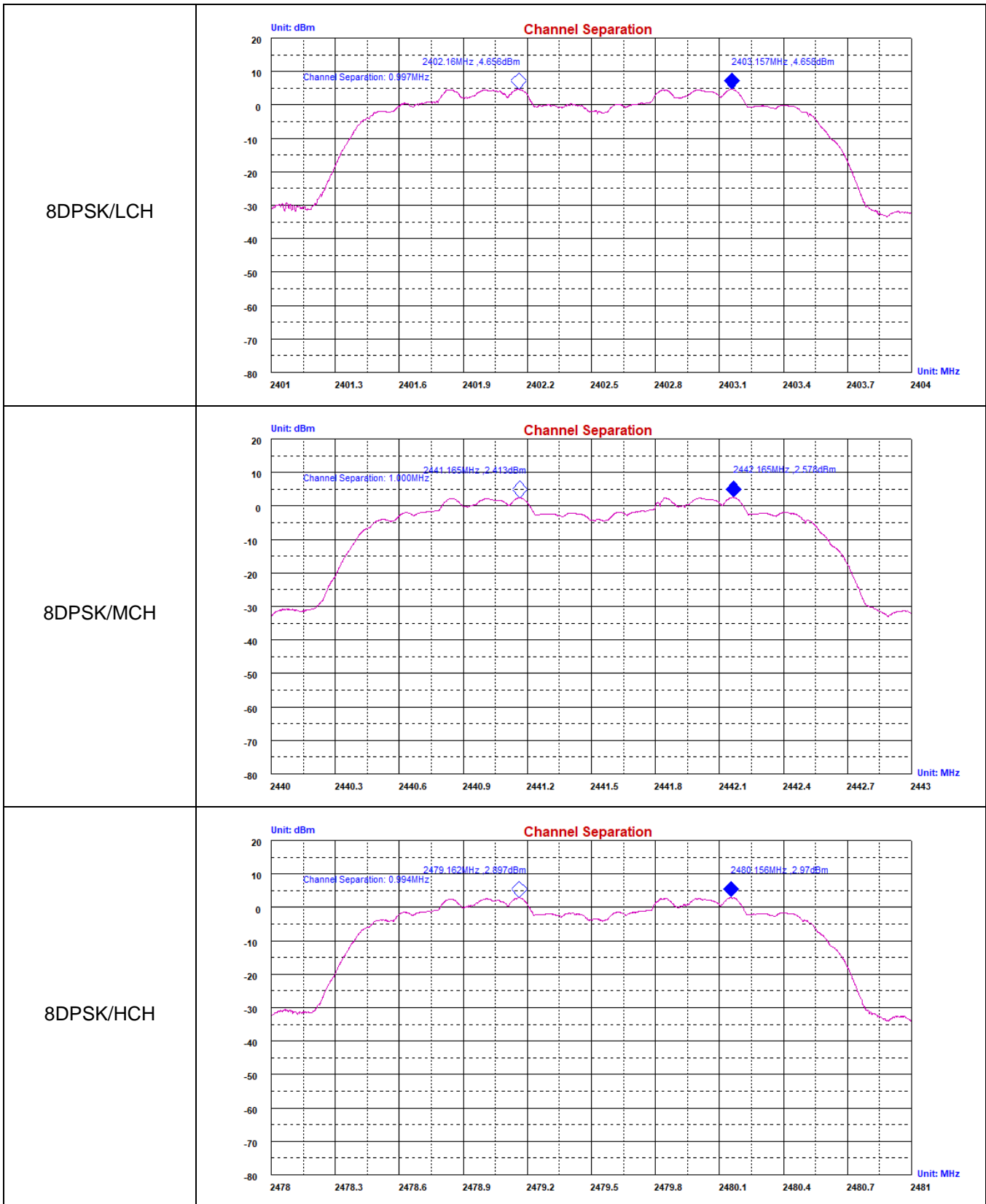
### A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.999	0.625	PASS
GFSK	MCH	1.001	0.628	PASS
GFSK	HCH	1.000	0.630	PASS
$\pi/4$ DQPSK	LCH	1.007	0.840	PASS
$\pi/4$ DQPSK	MCH	0.988	0.883	PASS
$\pi/4$ DQPSK	HCH	1.001	0.878	PASS
8DPSK	LCH	0.997	0.847	PASS
8DPSK	MCH	1.000	0.847	PASS
8DPSK	HCH	0.994	0.849	PASS

### Test Graph



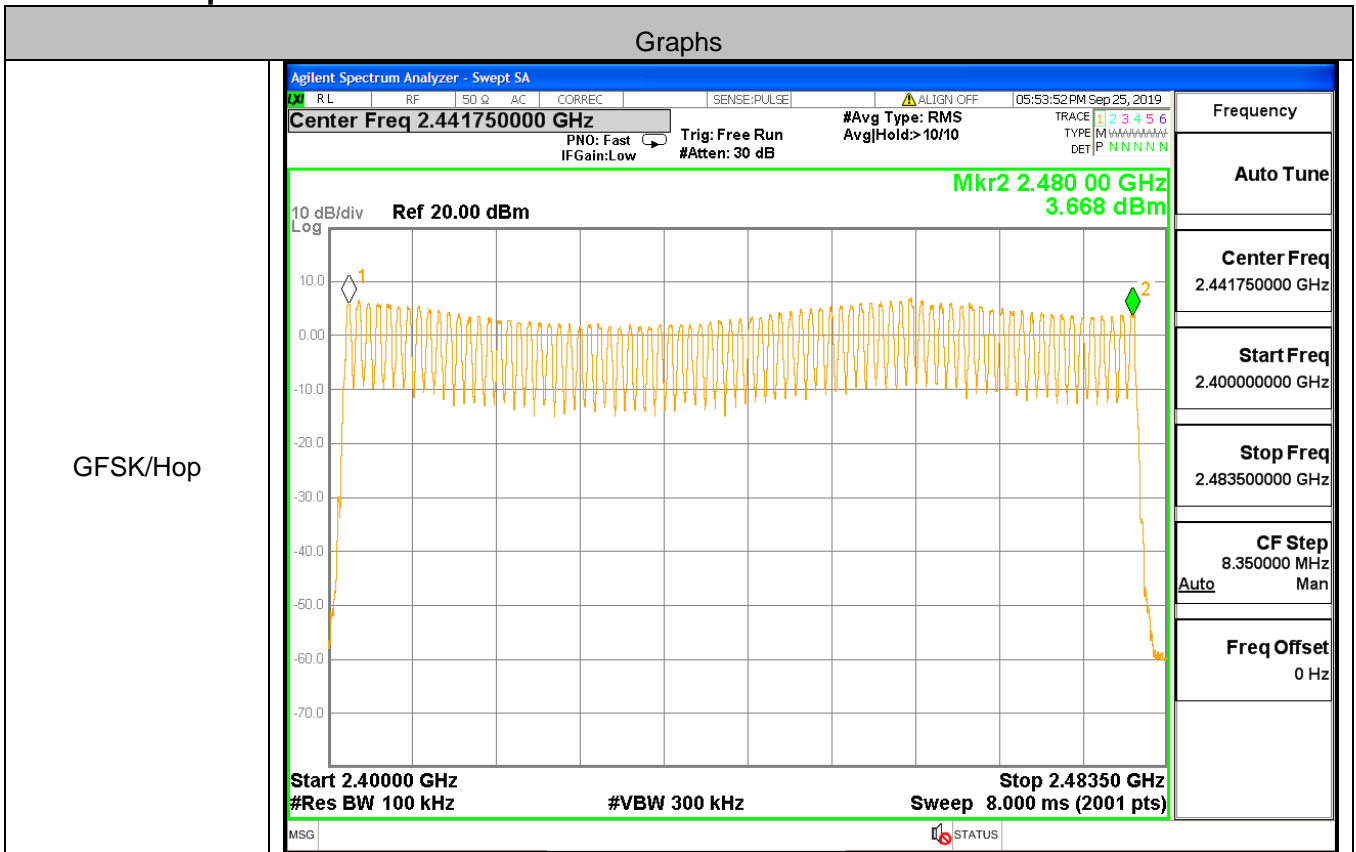




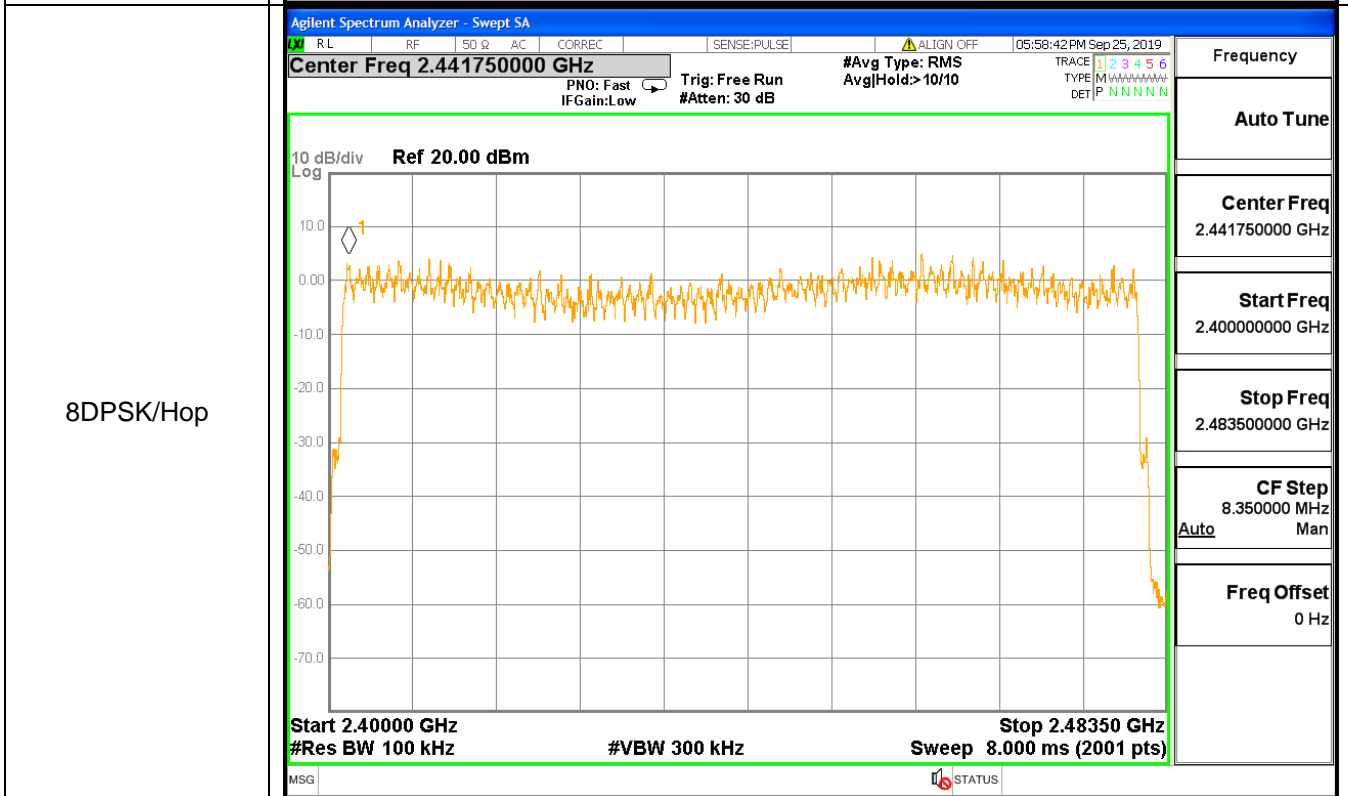
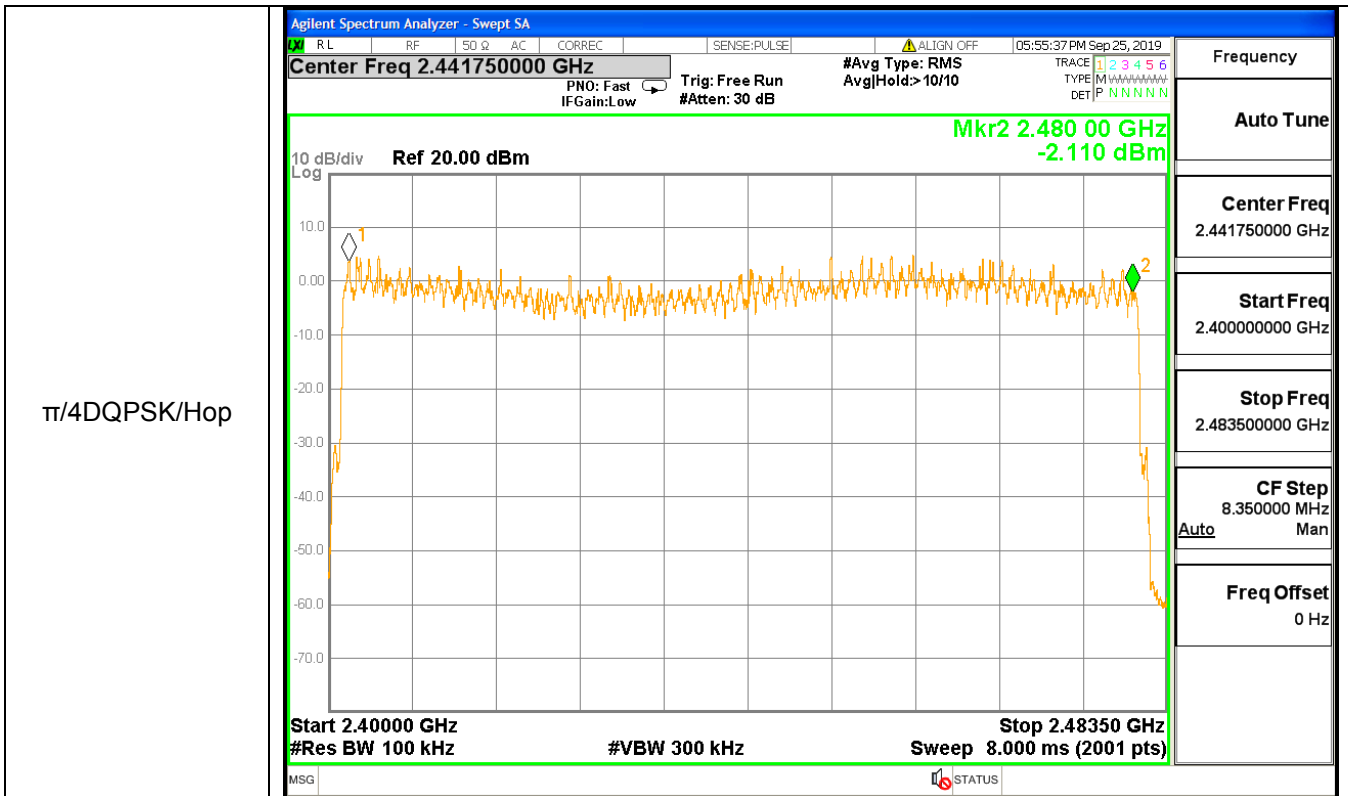
### A.4 Hopping Channel Number

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



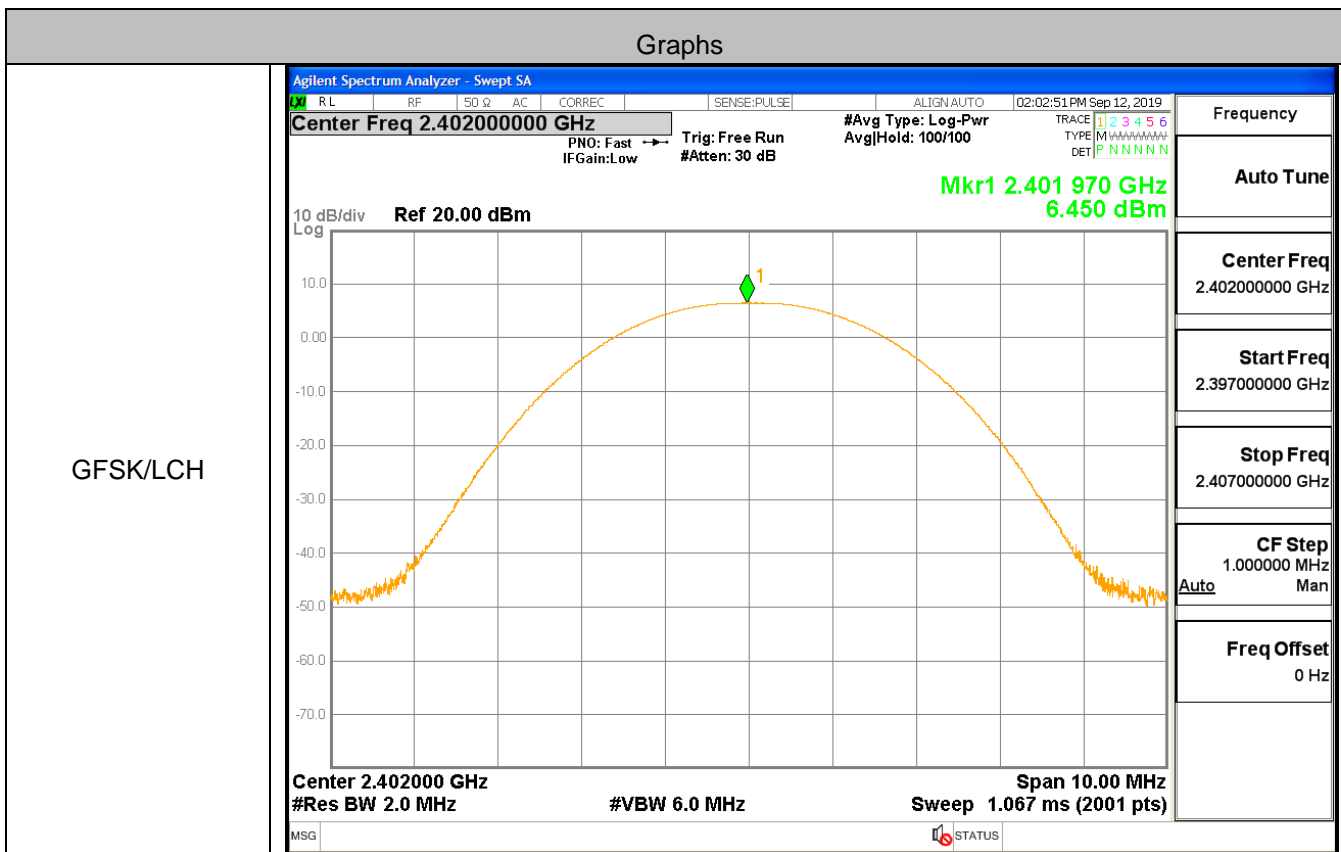


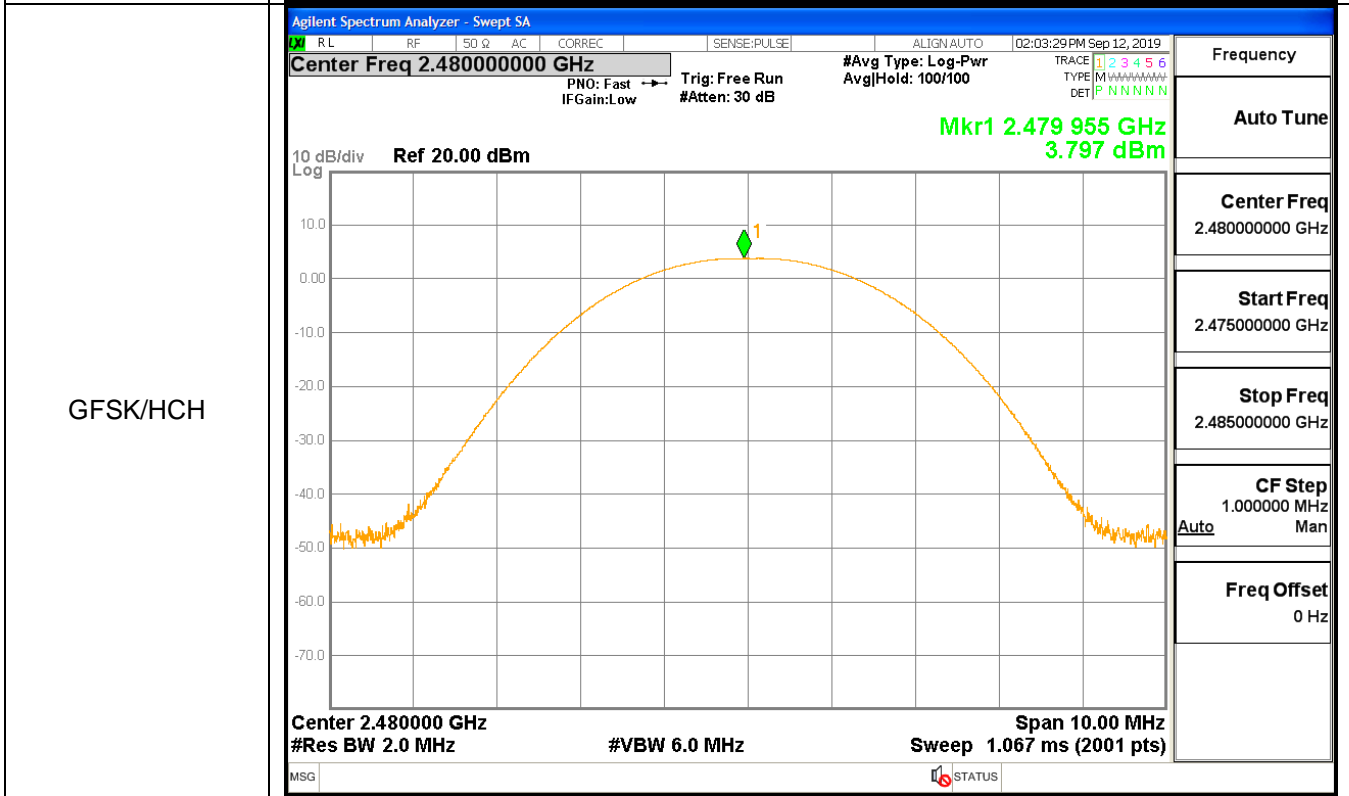
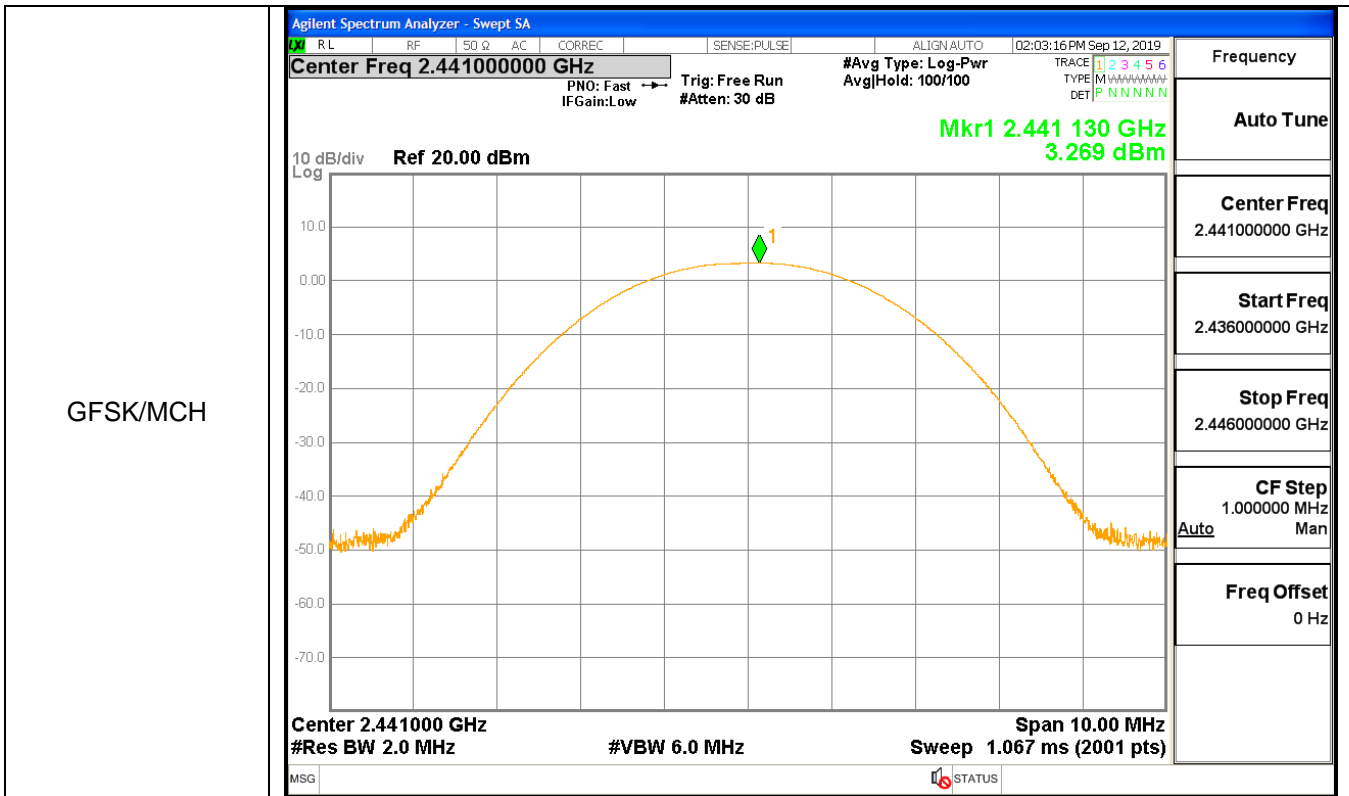


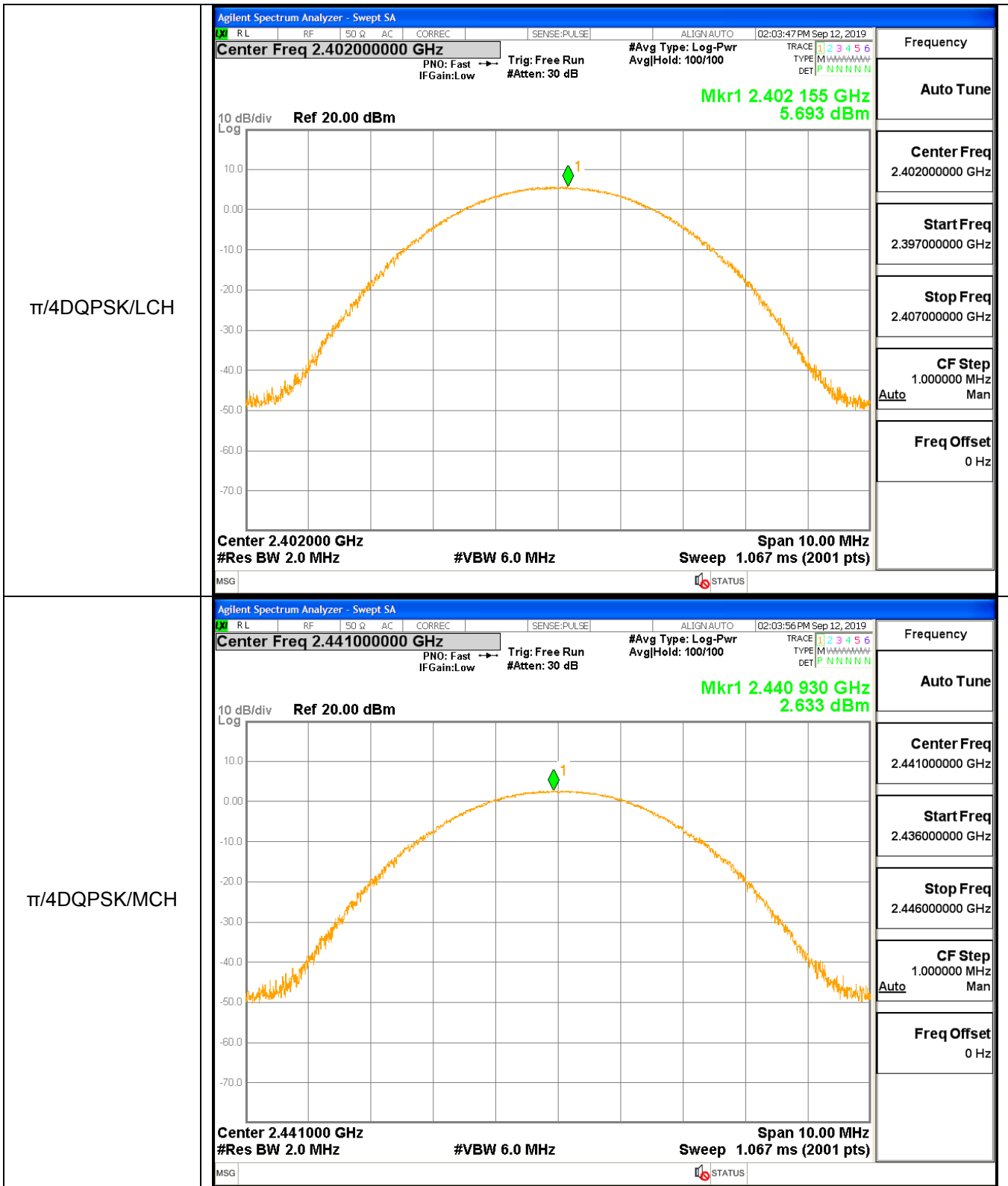
### A.5 Conducted Peak Output Power

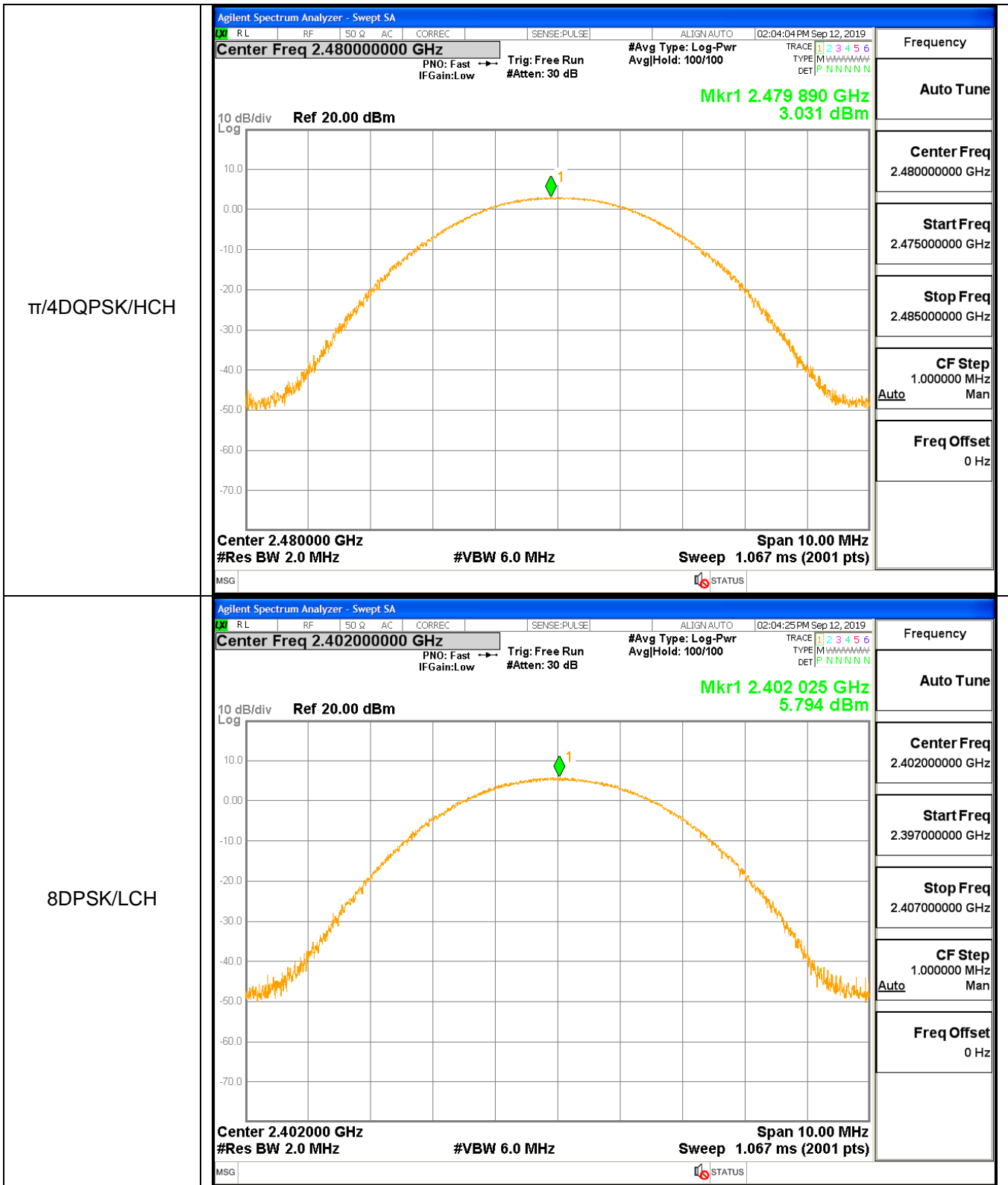
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	6.450	21	PASS
GFSK	MCH	3.269	21	PASS
GFSK	HCH	3.797	21	PASS
$\pi/4$ DQPSK	LCH	5.693	21	PASS
$\pi/4$ DQPSK	MCH	2.633	21	PASS
$\pi/4$ DQPSK	HCH	3.031	21	PASS
8DPSK	LCH	5.794	21	PASS
8DPSK	MCH	2.786	21	PASS
8DPSK	HCH	3.188	21	PASS

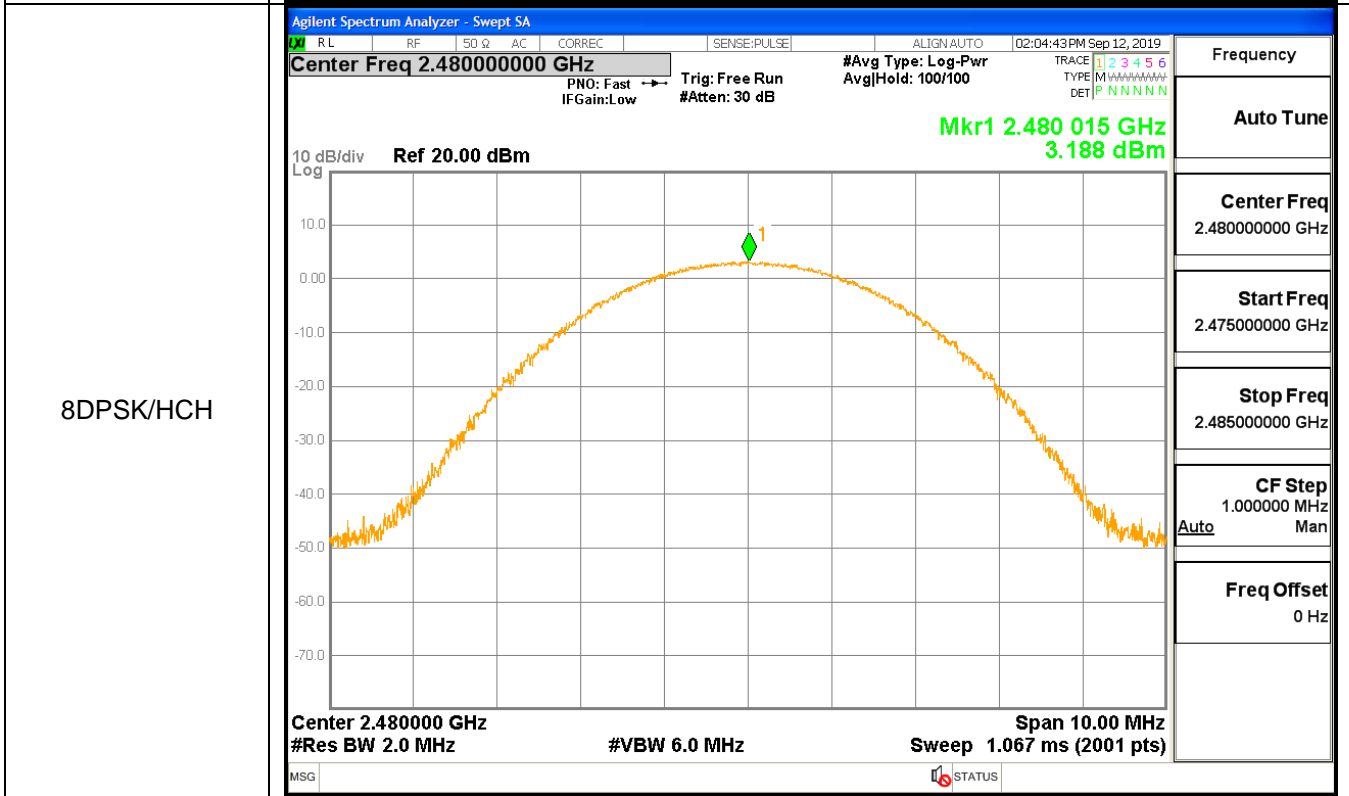
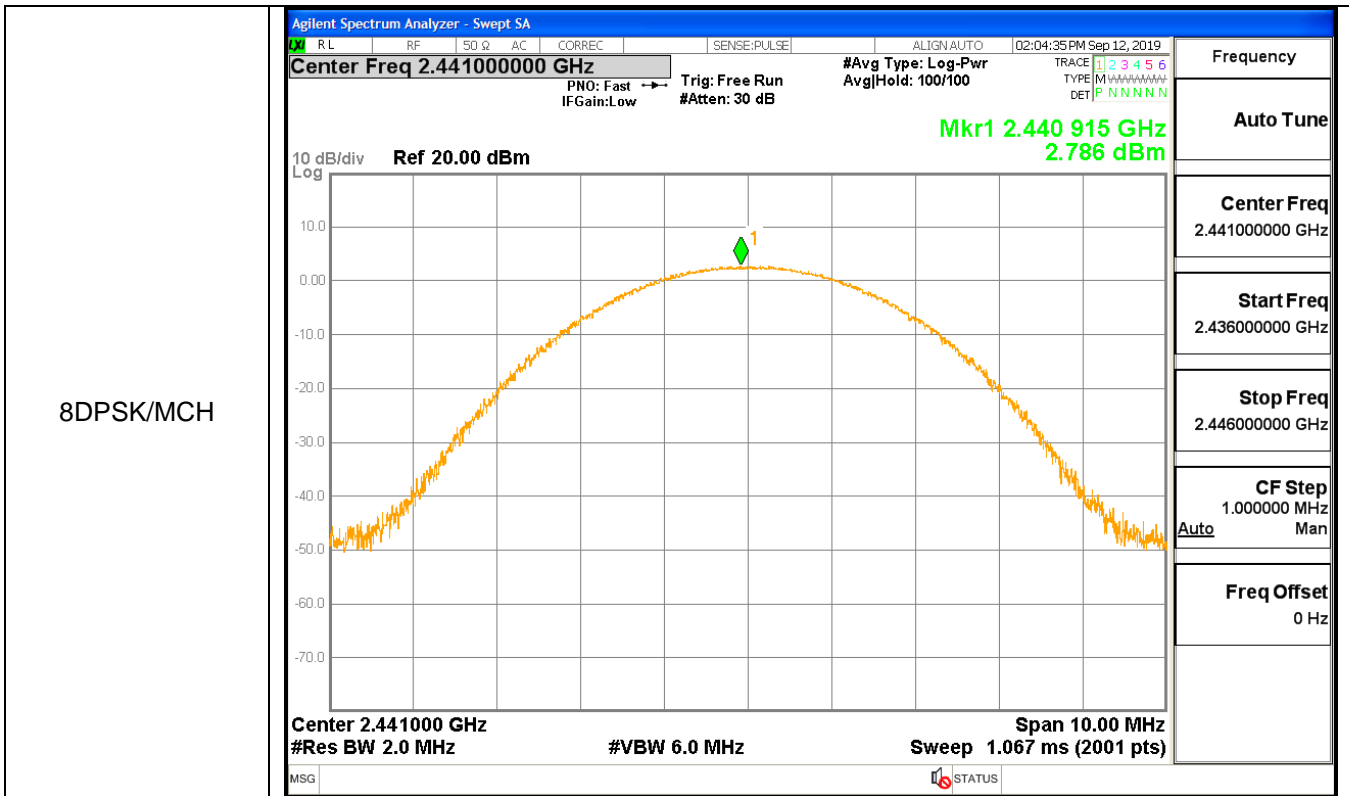
### Test Graph









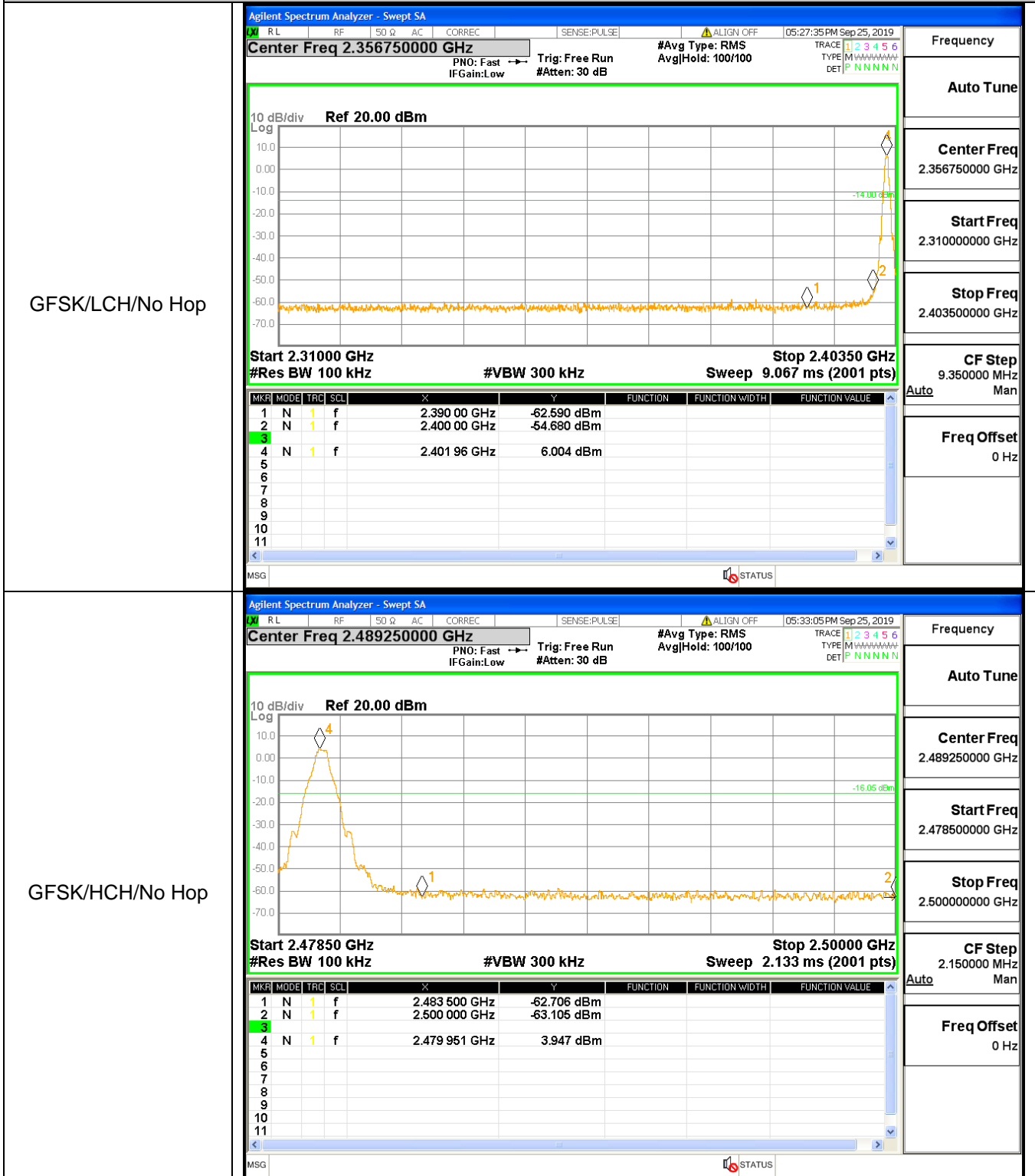


### A.6 Band-edge for RF Conducted Emissions

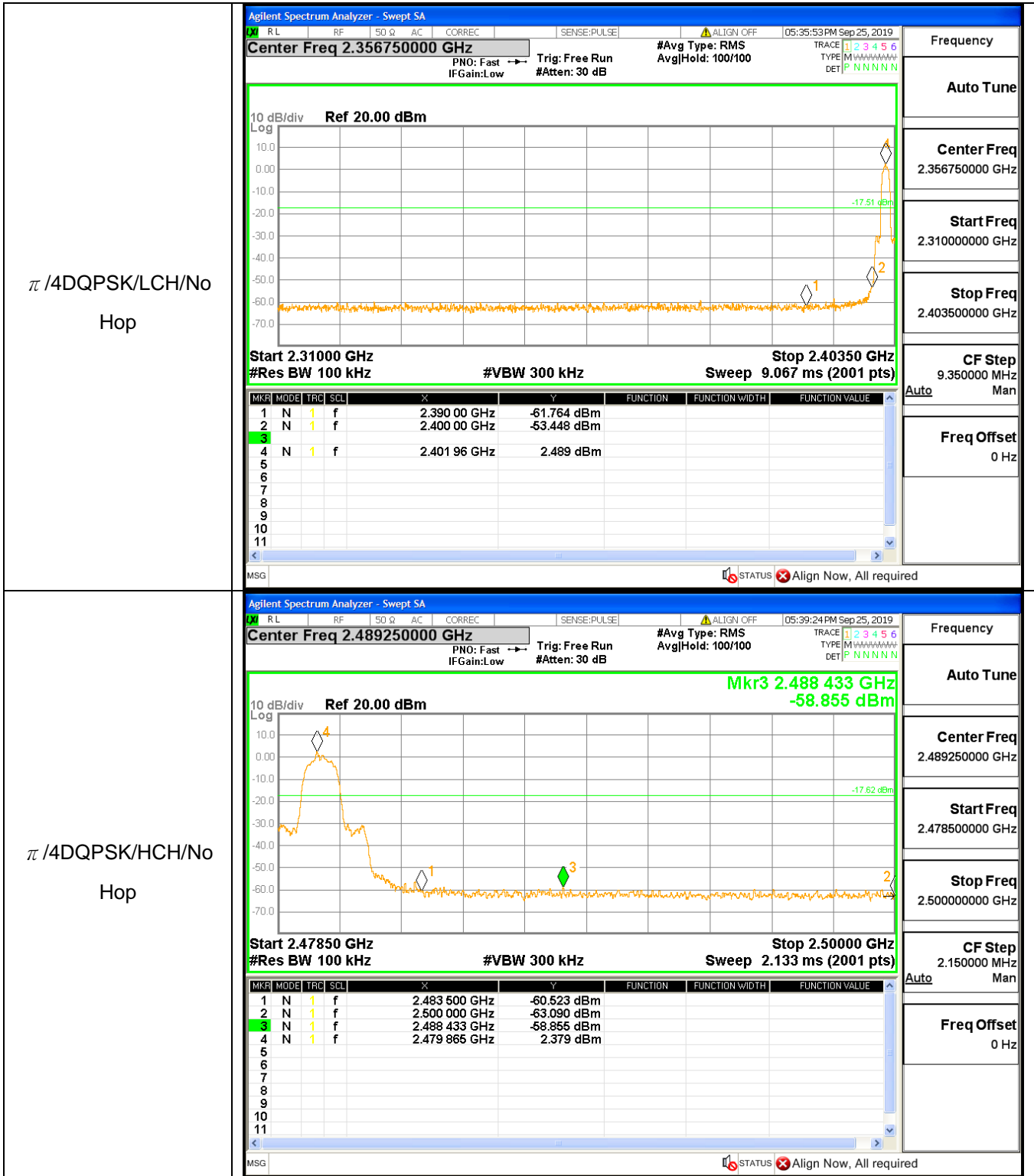
Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	6.004	-54.68	-13.996	Pass
1DH5	2480	2483.5	3.947	-62.71	-16.053	Pass
2DH5	2402	2400	2.489	-53.45	-17.511	Pass
2DH5	2480	2488.433	2.379	-58.855	-17.621	Pass
3DH5	2402	2400	4.138	-53.37	-15.862	Pass
3DH5	2480	2483.5	2.481	-60.72	-17.519	Pass
1DH5-Hopping	2402	2400	5.964	-53.92	-14.036	Pass
1DH5-Hopping	2480	2400	6.11	-53.94	-13.89	Pass
2DH5-Hopping	2402	2483.5	6.465	-60.3	-13.535	Pass
2DH5-Hopping	2480	2400	4.119	-56.03	-15.881	Pass
3DH5-Hopping	2402	2500	5.145	-60.45	-14.855	Pass
3DH5-Hopping	2480	2400	4.318	-55.75	-15.682	Pass

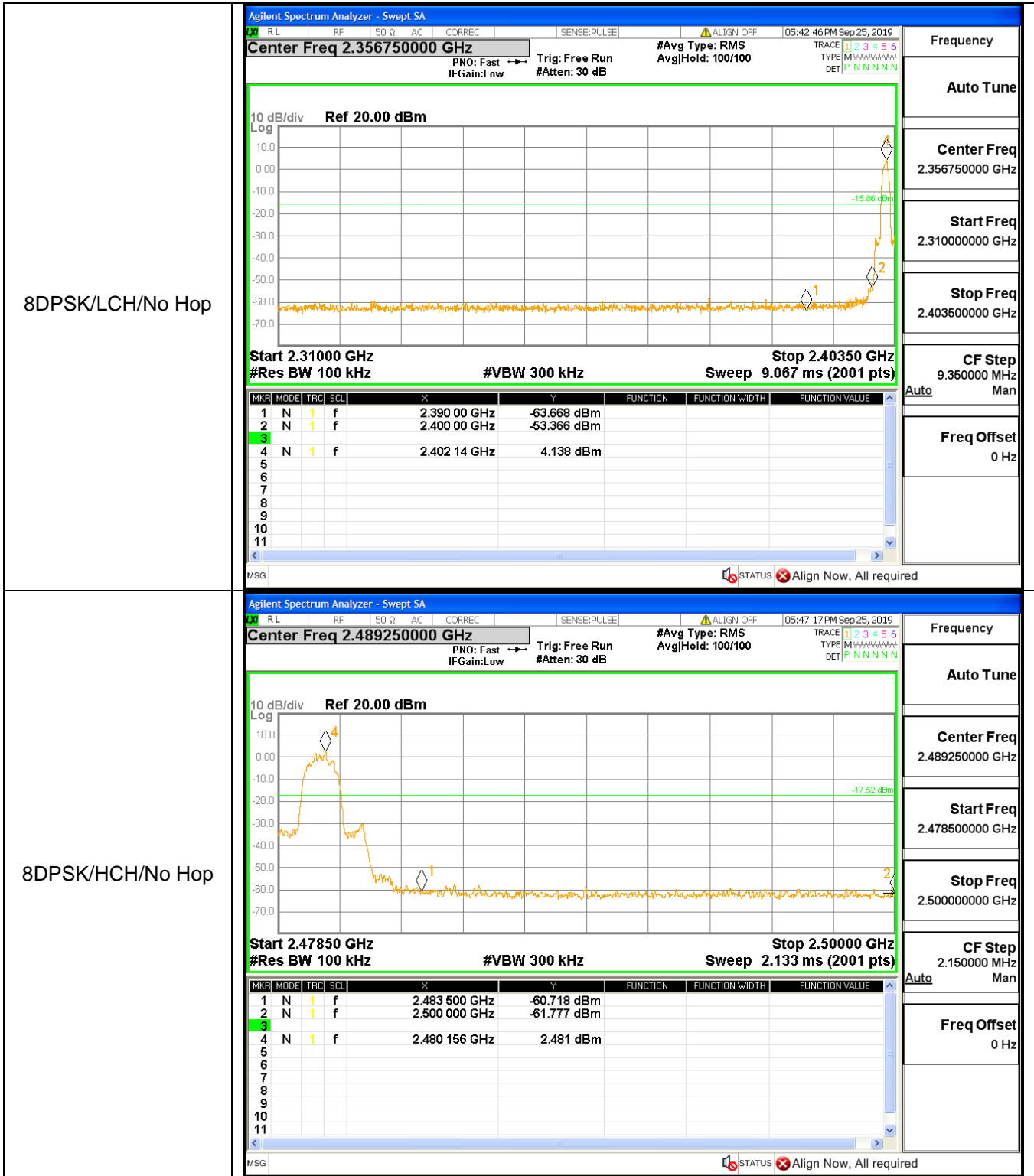
### Test Graph

#### Graphs

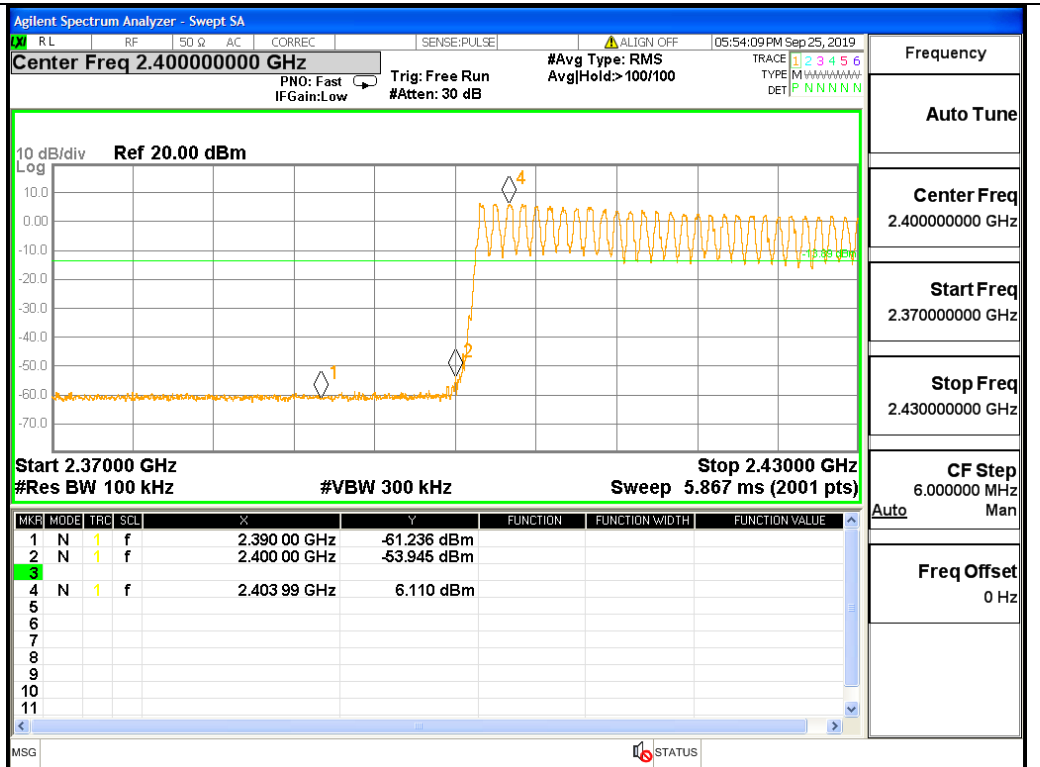




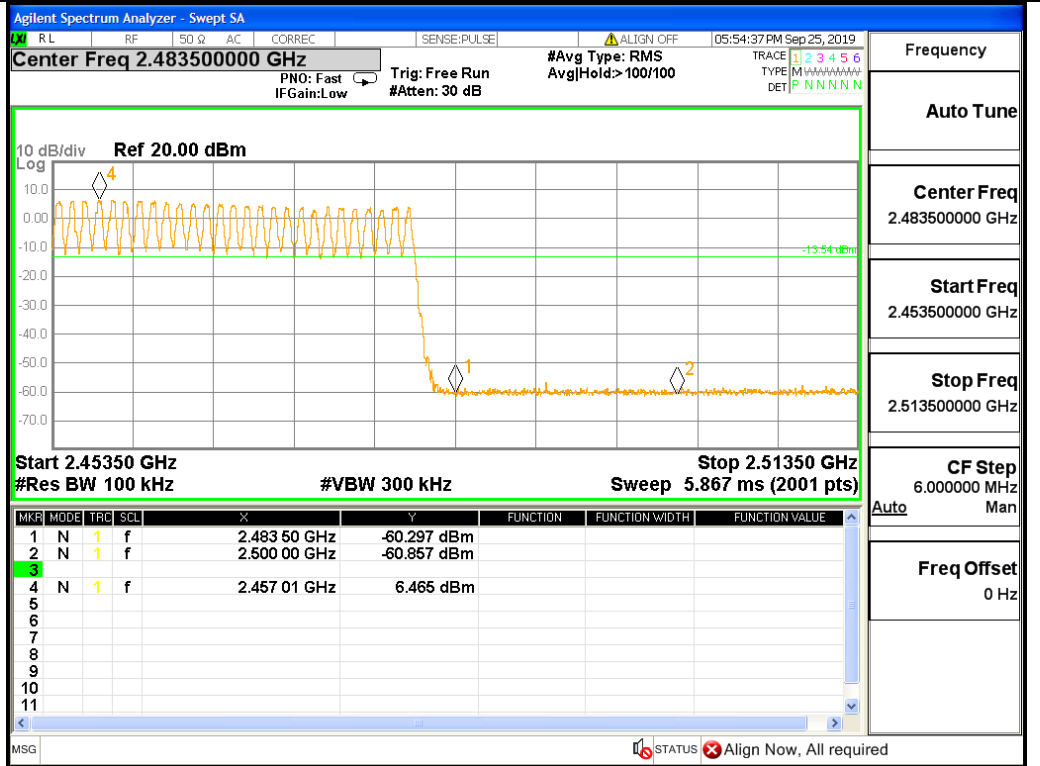


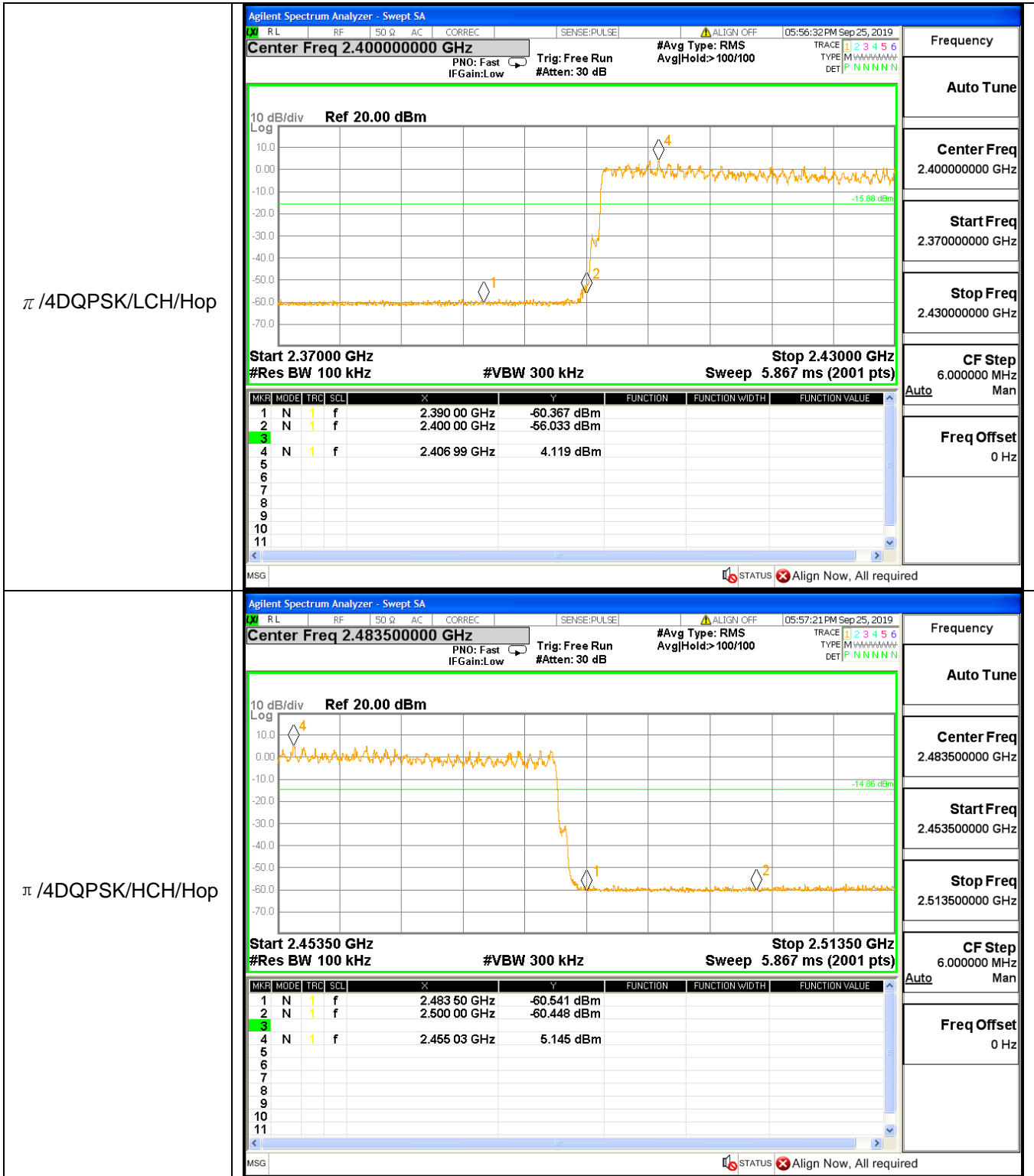


GFSK/LCH/Hop

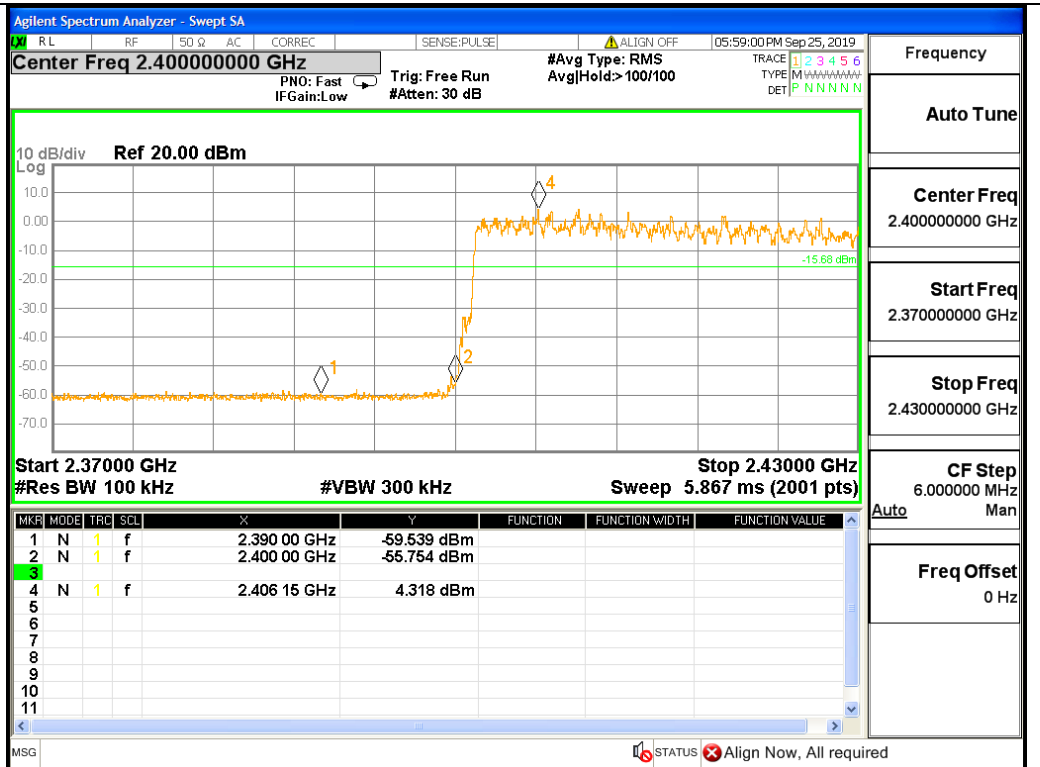


GFSK/HCH/Hop

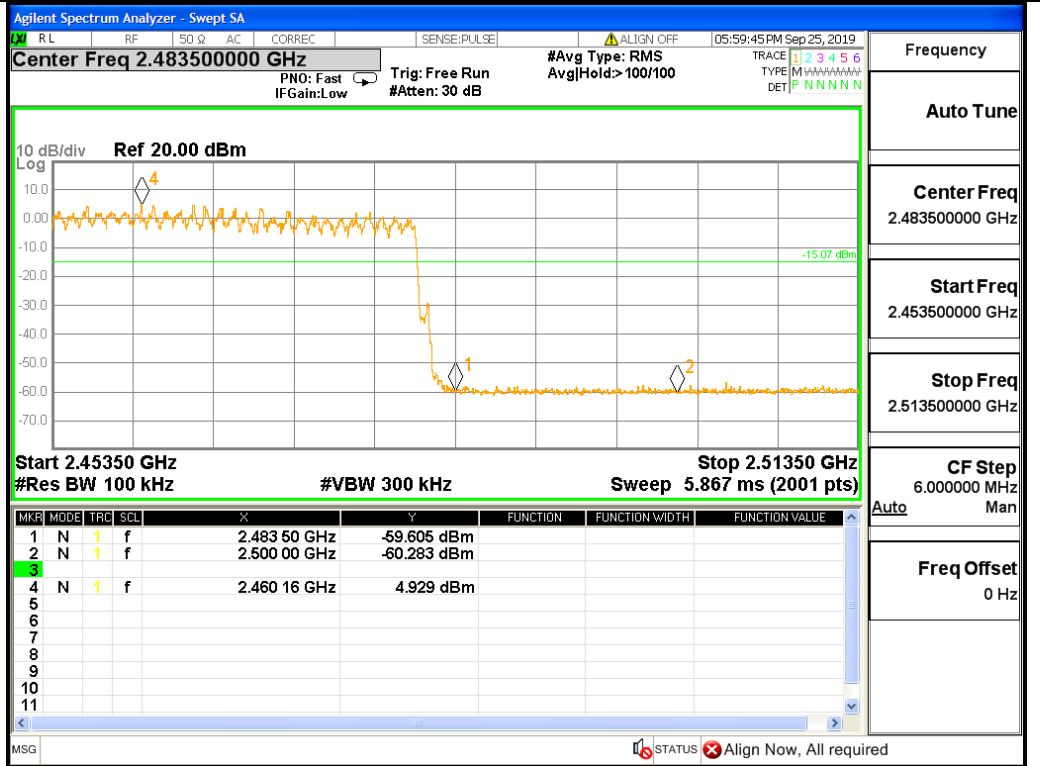




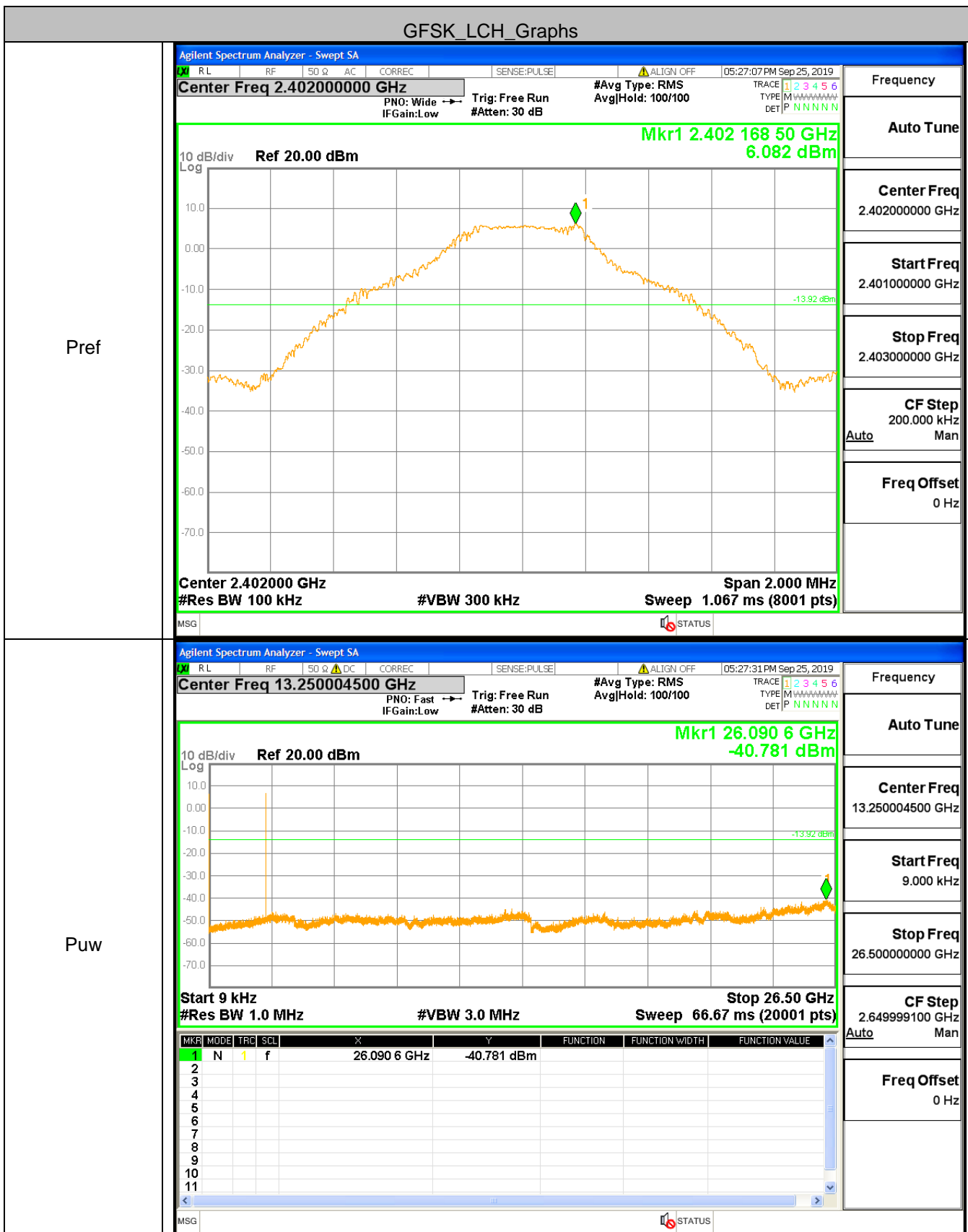
8DPSK/LCH/Hop



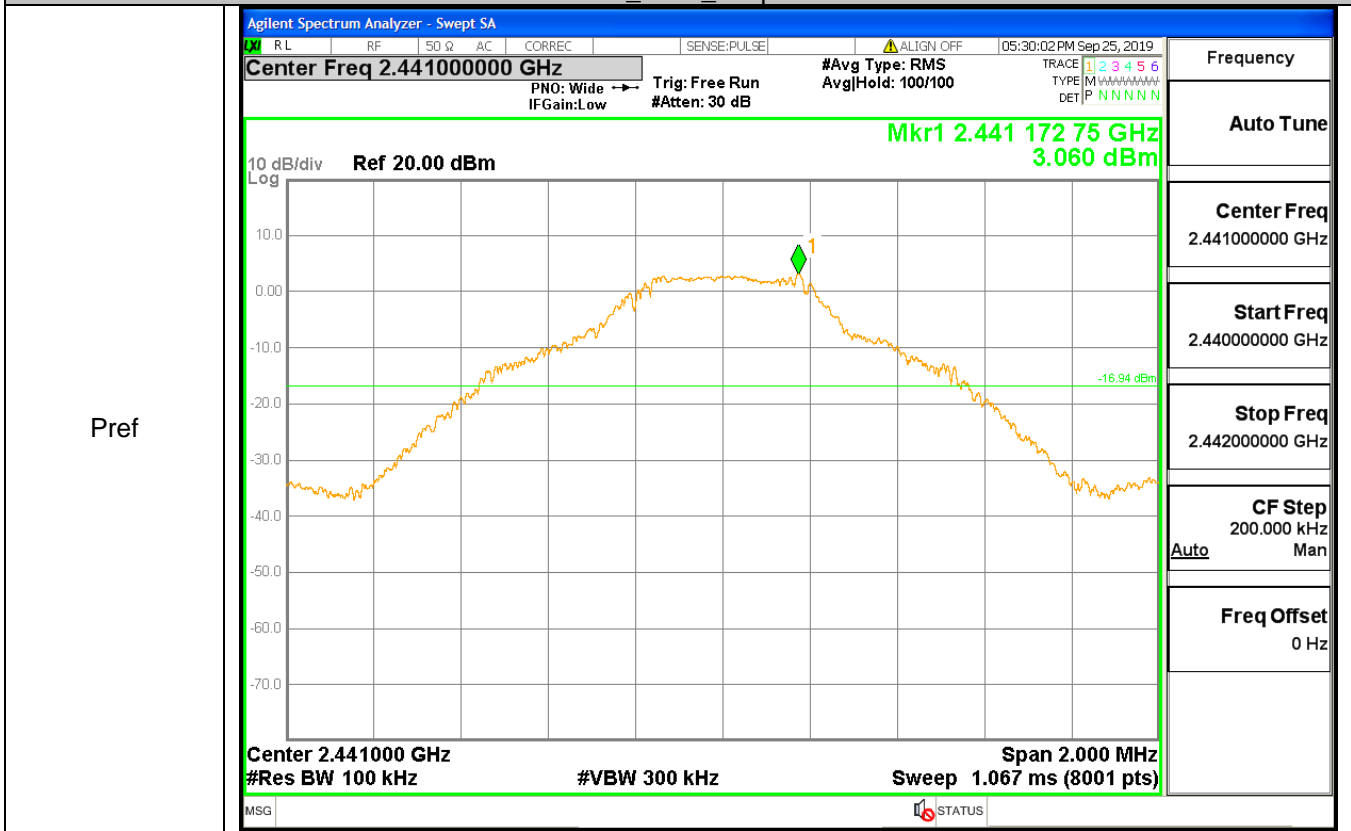
8DPSK/HCH/Hop



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

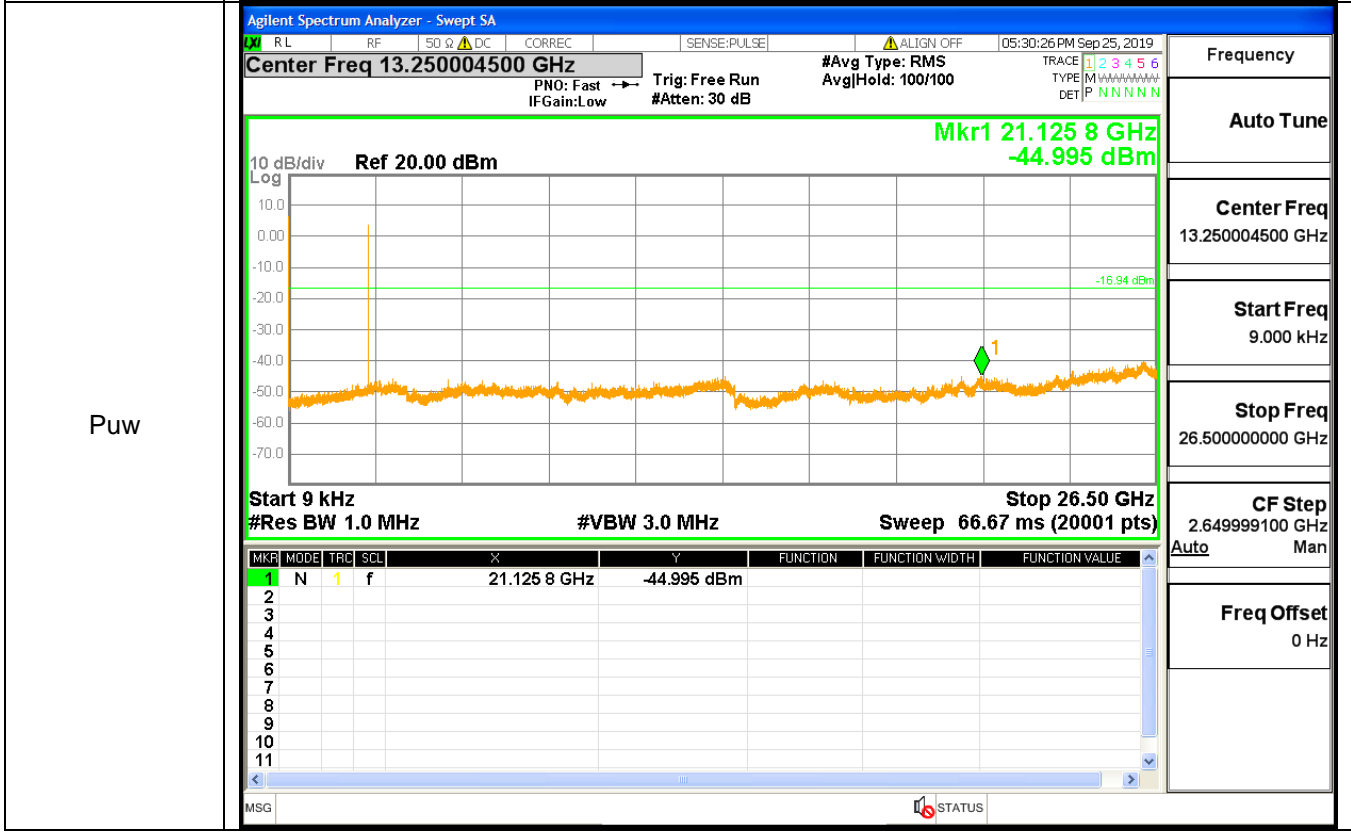


GFSK\_MCH\_Graphs



Pref

Frequency
Auto Tune
Center Freq 2.441000000 GHz
Start Freq 2.440000000 GHz
Stop Freq 2.442000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz



Puw

Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

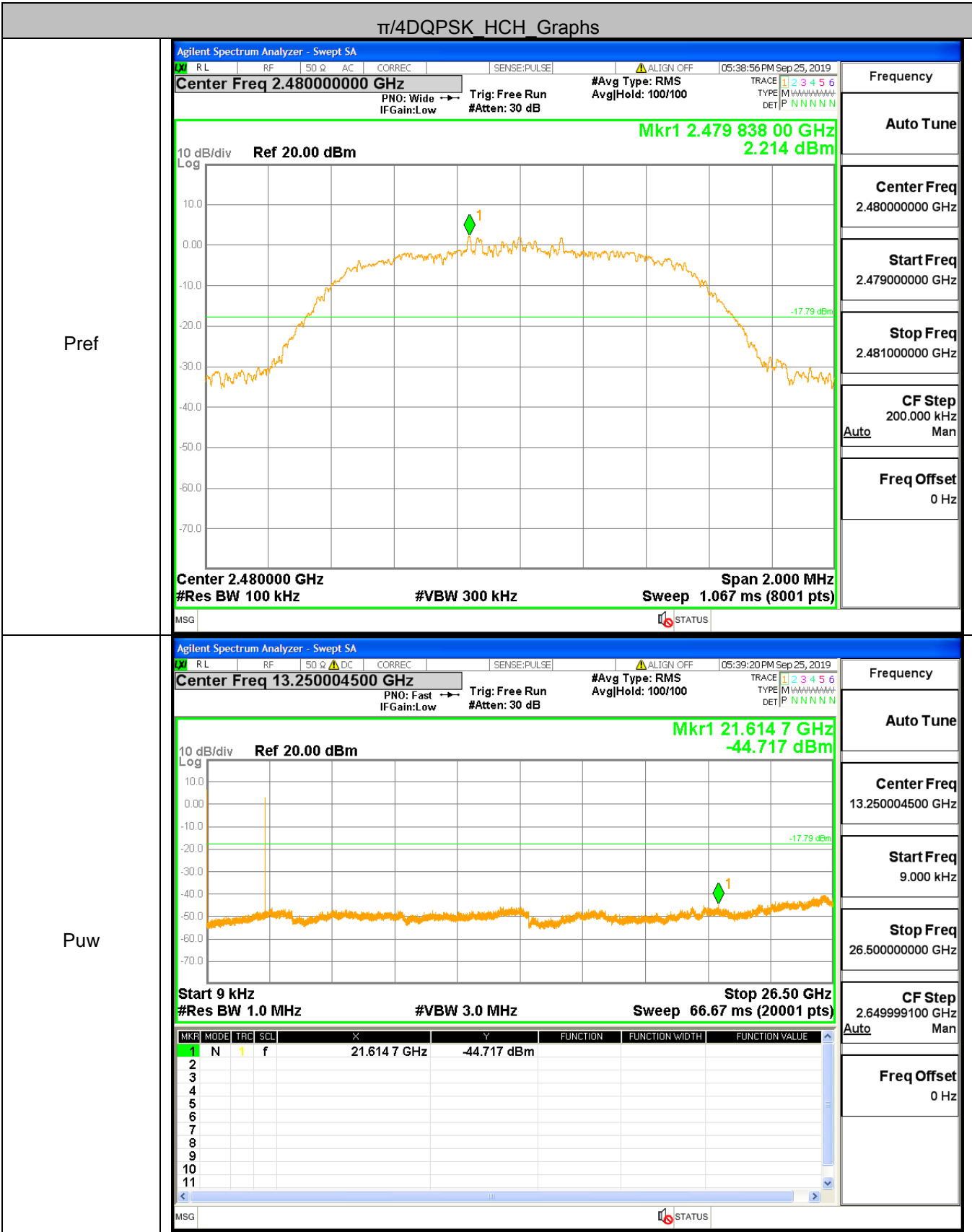




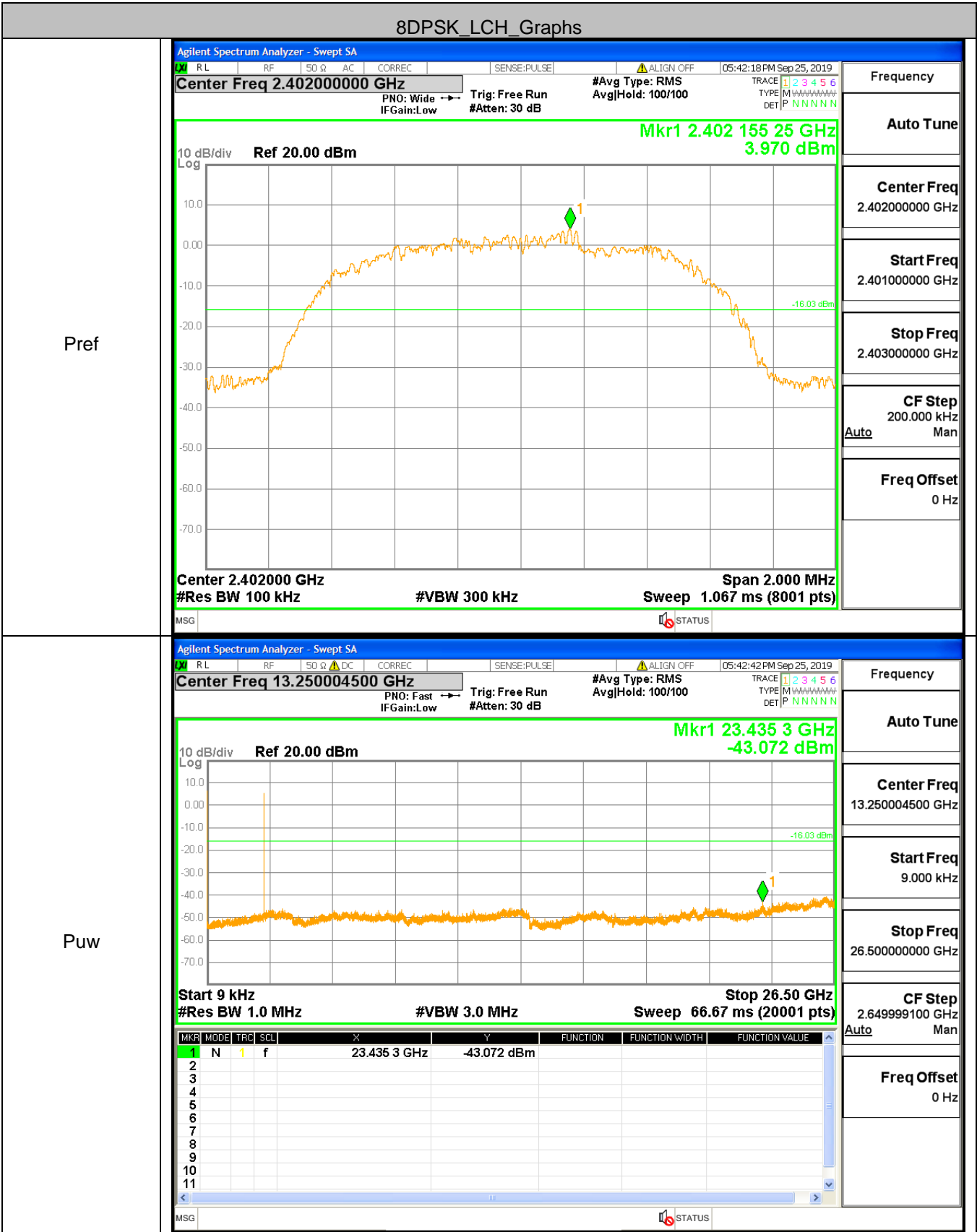




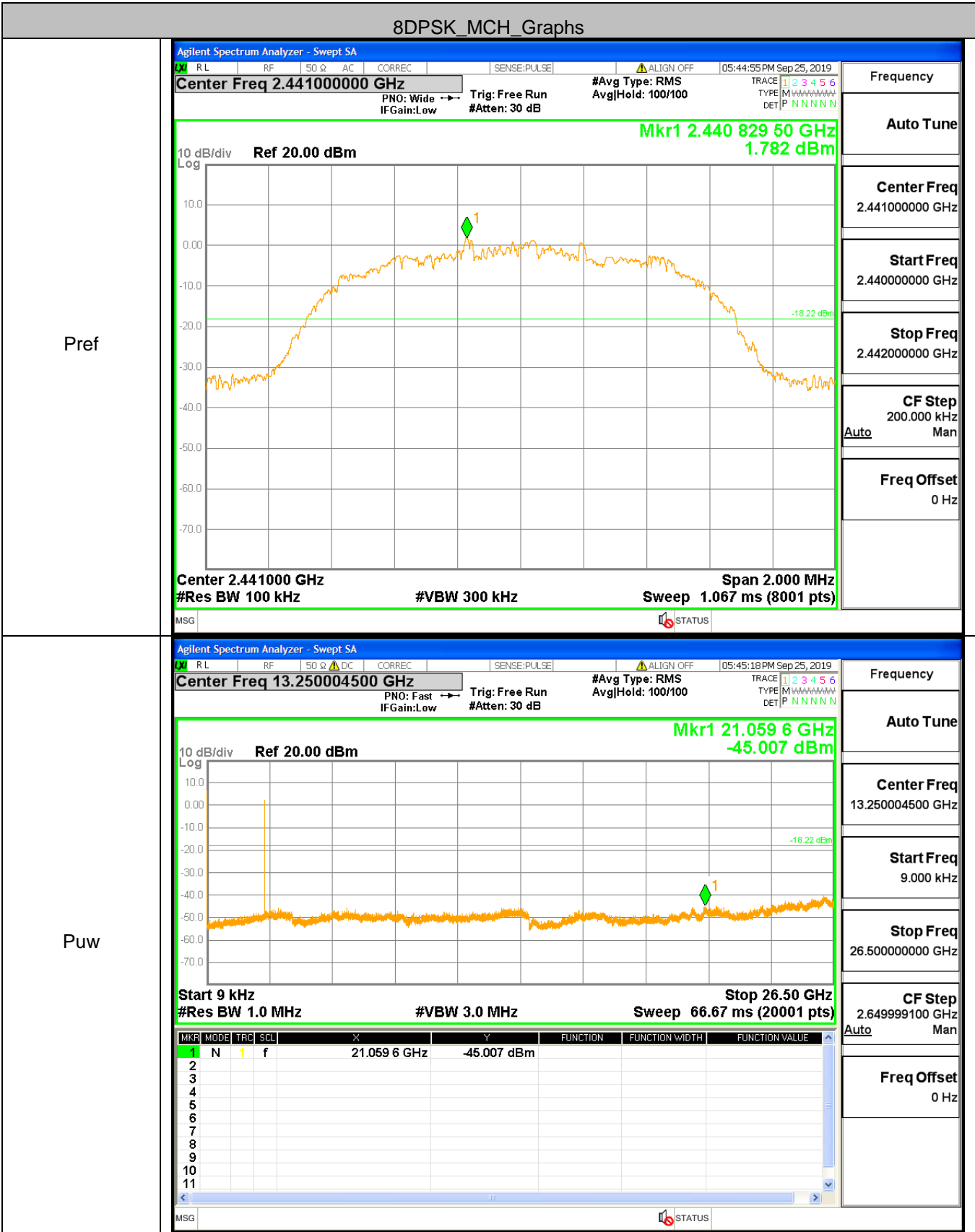
π/4DQPSK HCH Graphs



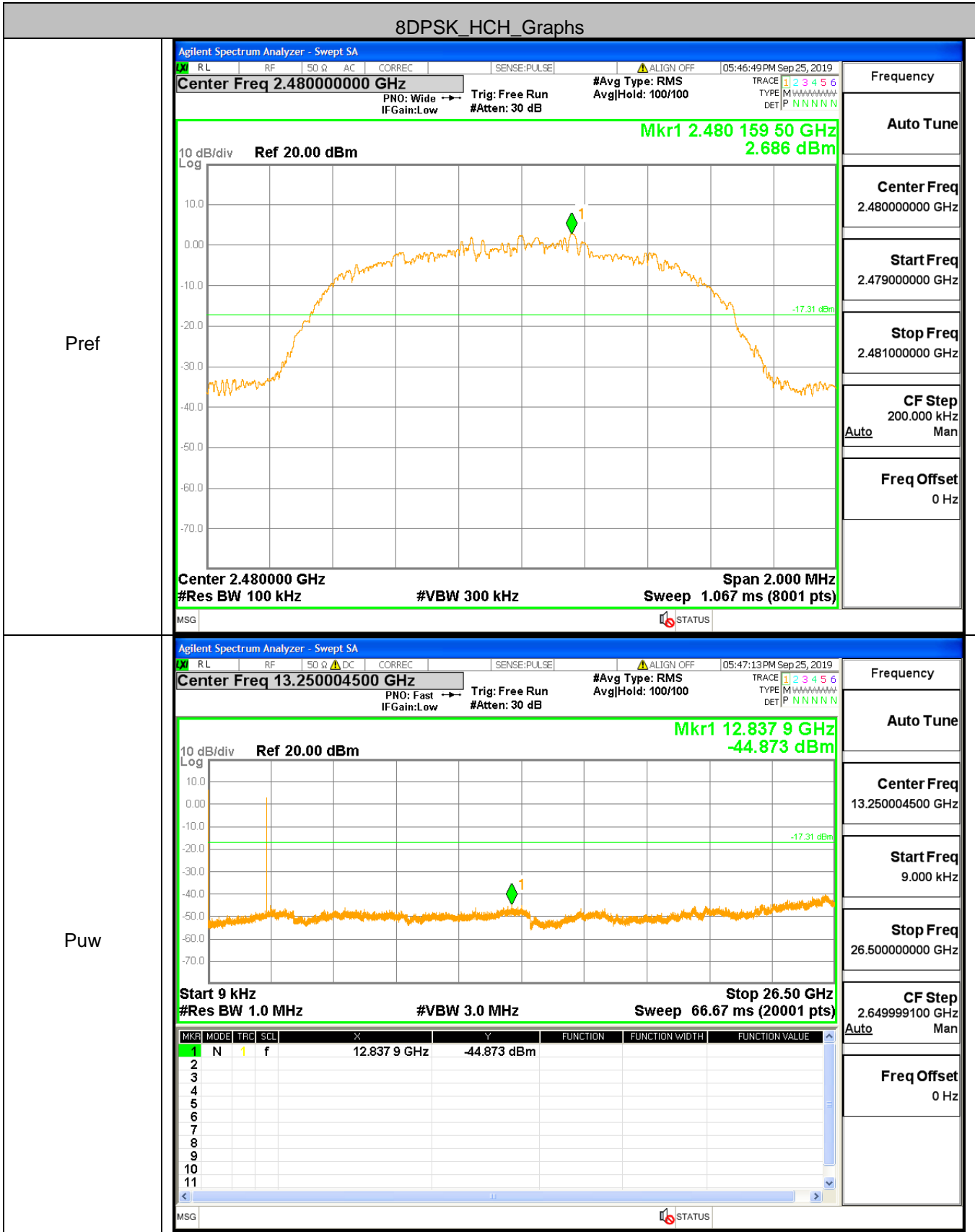
8DPSK\_LCH\_Graphs



8DPSK\_MCH\_Graphs



8DPSK\_HCH\_Graphs

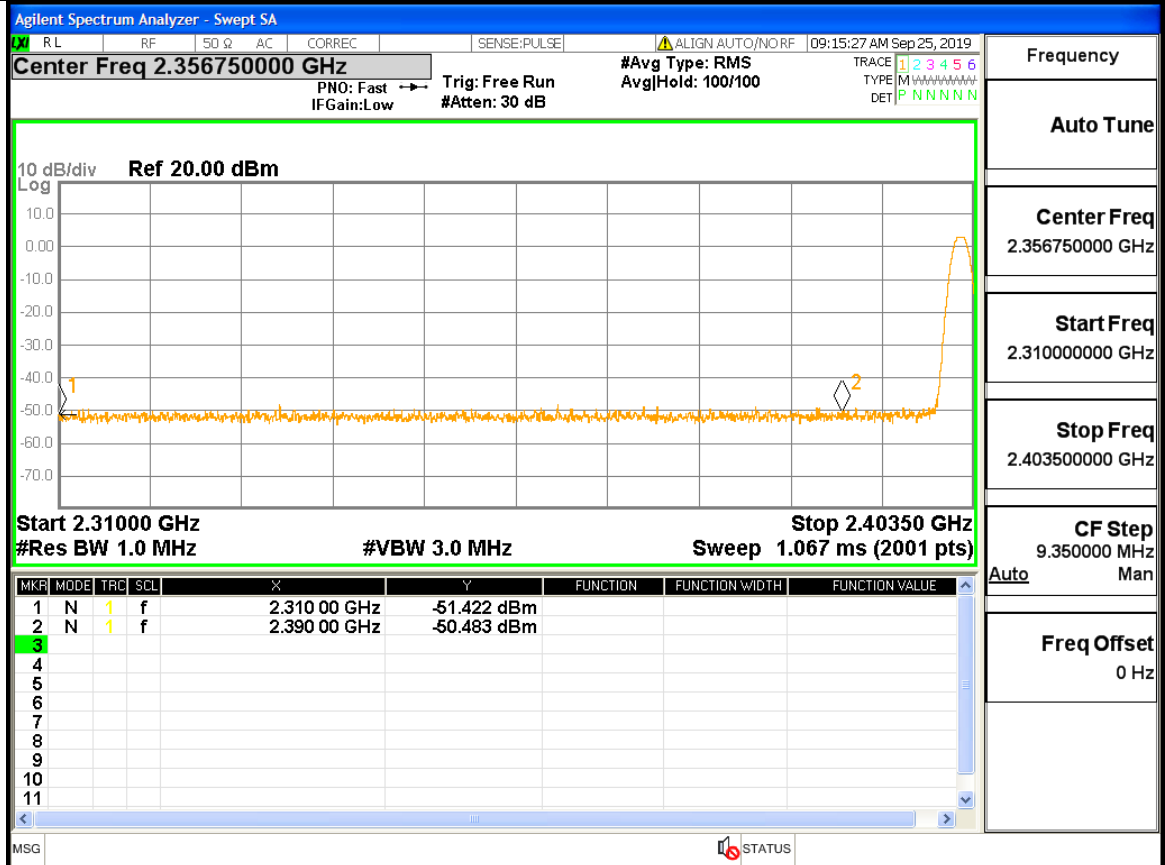


### A.8 Restrict-band band-edge measurements

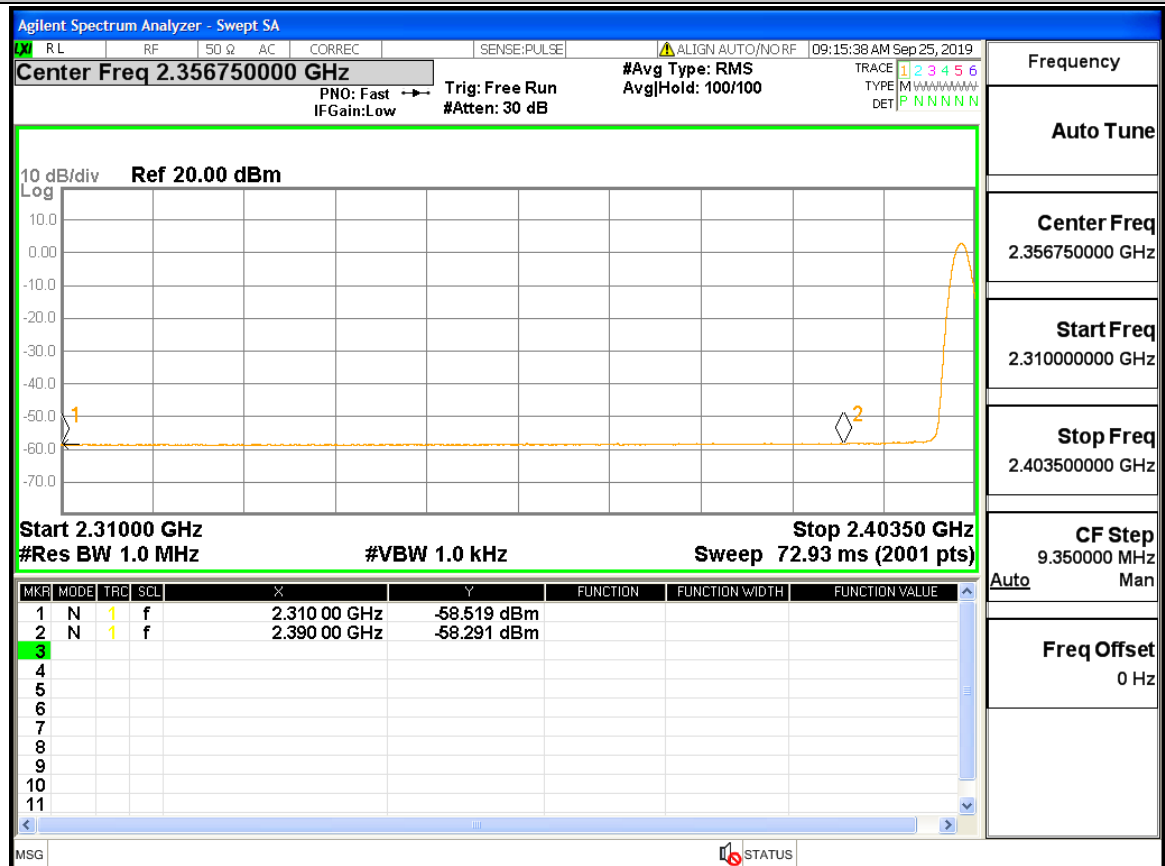
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390	2.00	0.00	-50.48	46.72	74	Pass
1DH5	2480	2496.313	2.00	0.00	-47.32	49.88	74	Pass
2DH5	2402	2390	2.00	0.00	-52.47	44.73	74	Pass
2DH5	2480	2483.5	2.00	0.00	-49.75	47.45	74	Pass
3DH5	2402	2390	2.00	0.00	-51.74	45.46	74	Pass
3DH5	2480	2483.5	2.00	0.00	-50.8	46.4	74	Pass

Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390	2.00	0.00	-58.29	38.91	54	Pass
1DH5	2480	2496.313	2.00	0.00	-53.79	43.41	54	Pass
2DH5	2402	2390	2.00	0.00	-58.02	39.18	54	Pass
2DH5	2480	2483.5	2.00	0.00	-53.15	44.05	54	Pass
3DH5	2402	2390	2.00	0.00	-58.18	39.02	54	Pass
3DH5	2480	2483.5	2.00	0.00	-55.93	41.27	54	Pass

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

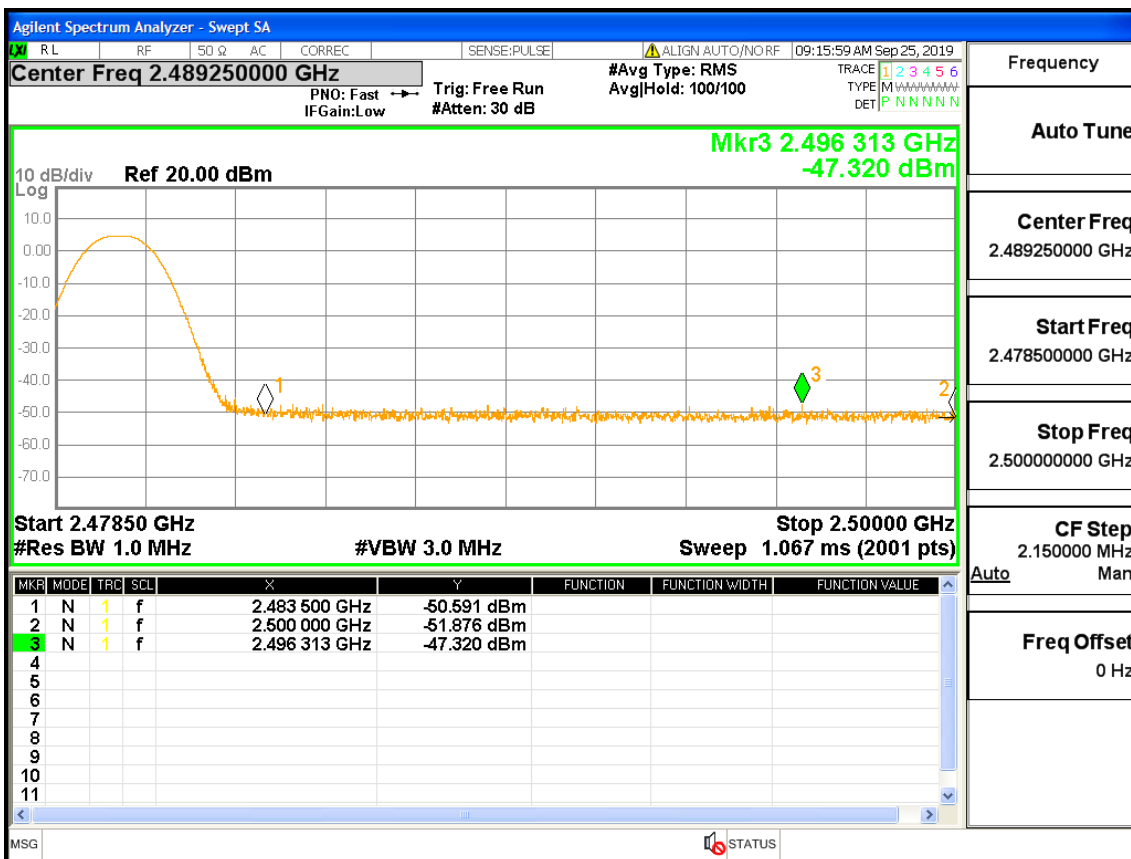


Restrict-band band-edge measurements\_2402\_AV\_DH5

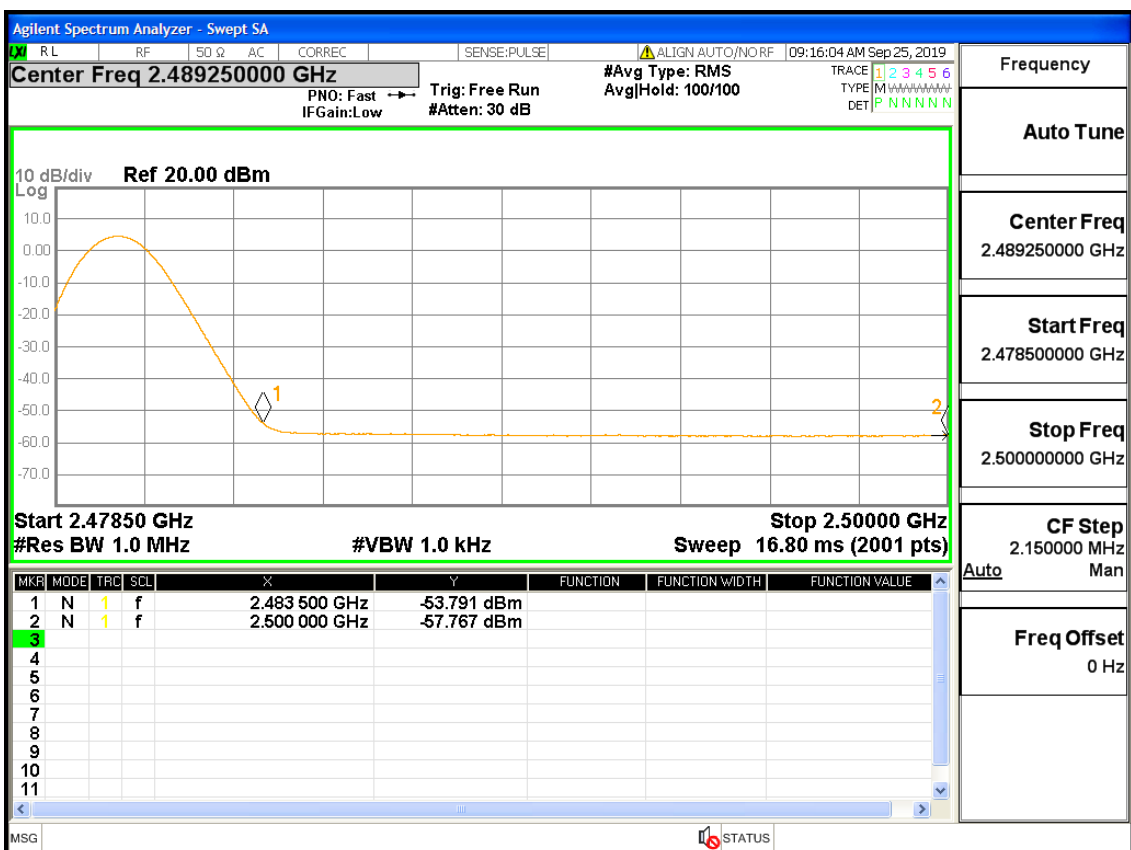




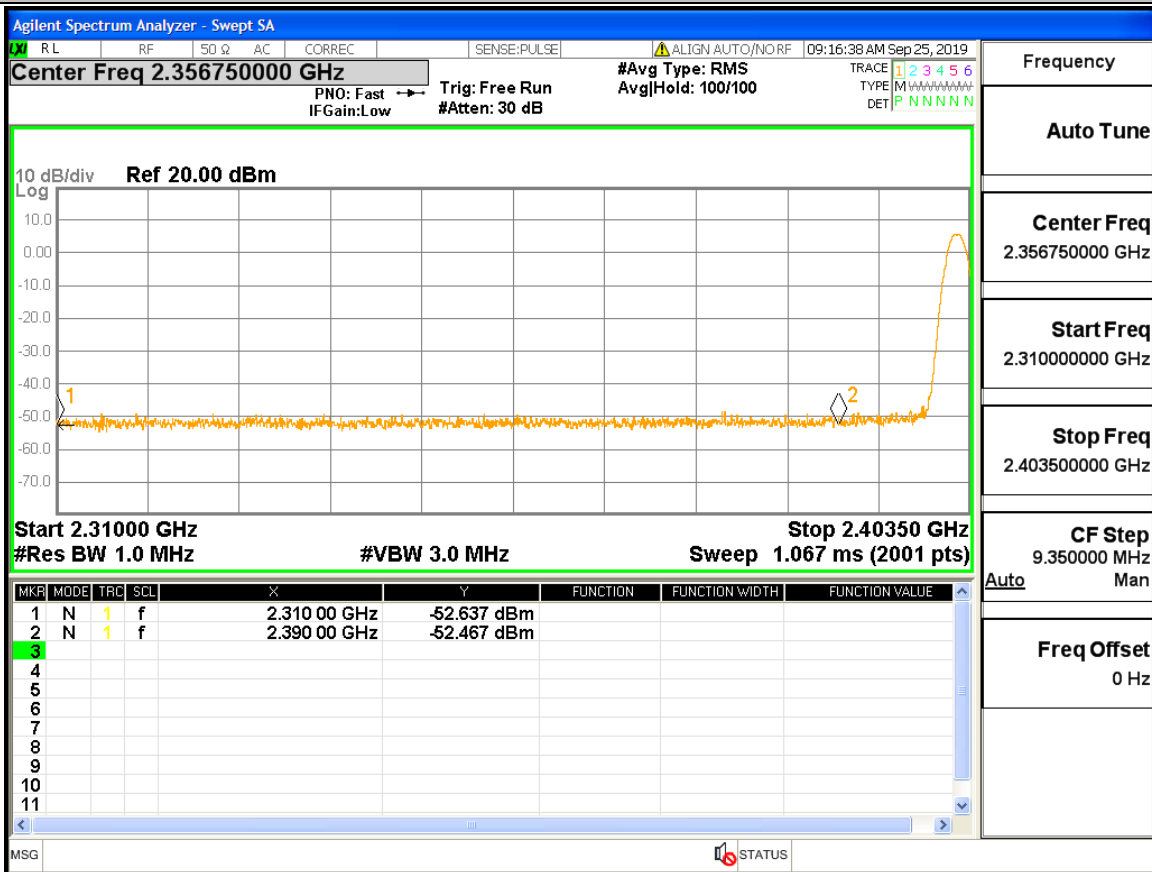
Restrict-band band-edge measurements\_2480\_PEAK\_DH5



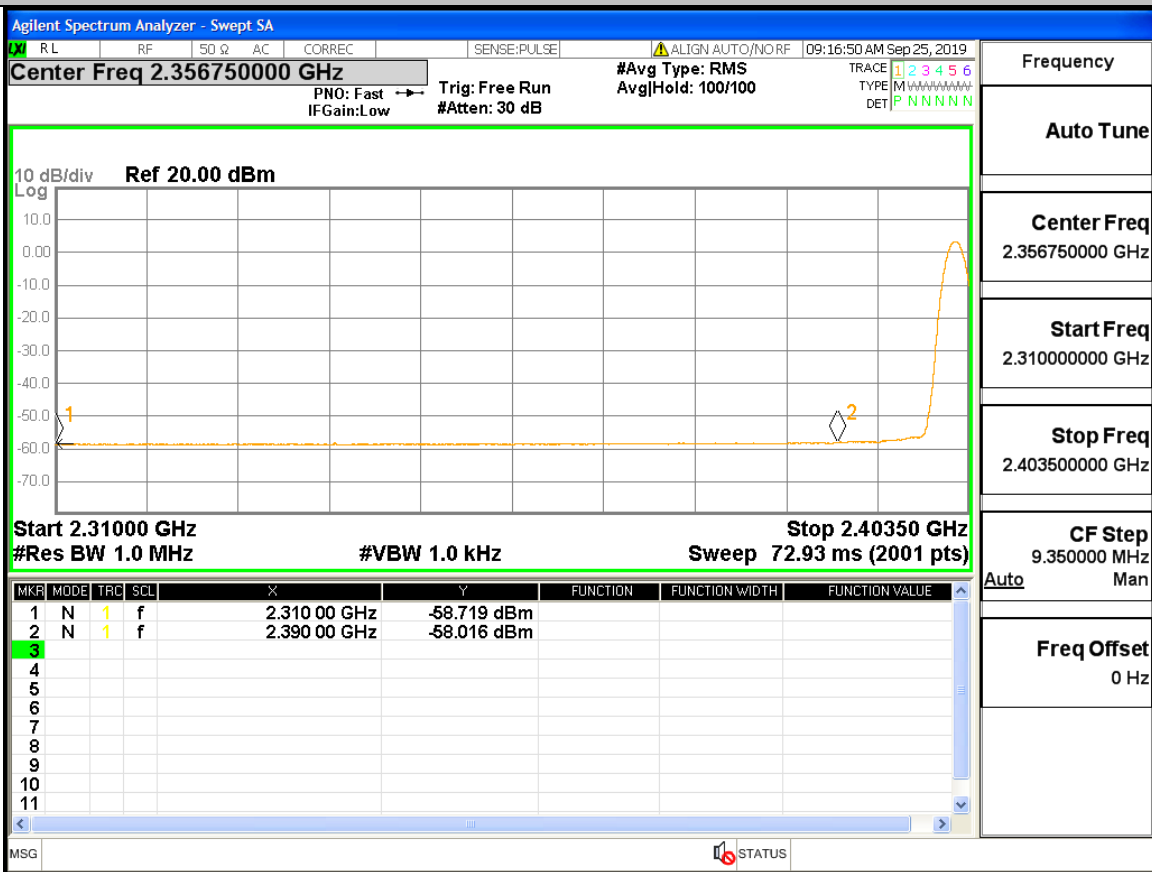
Restrict-band band-edge measurements\_2480\_AV\_DH5



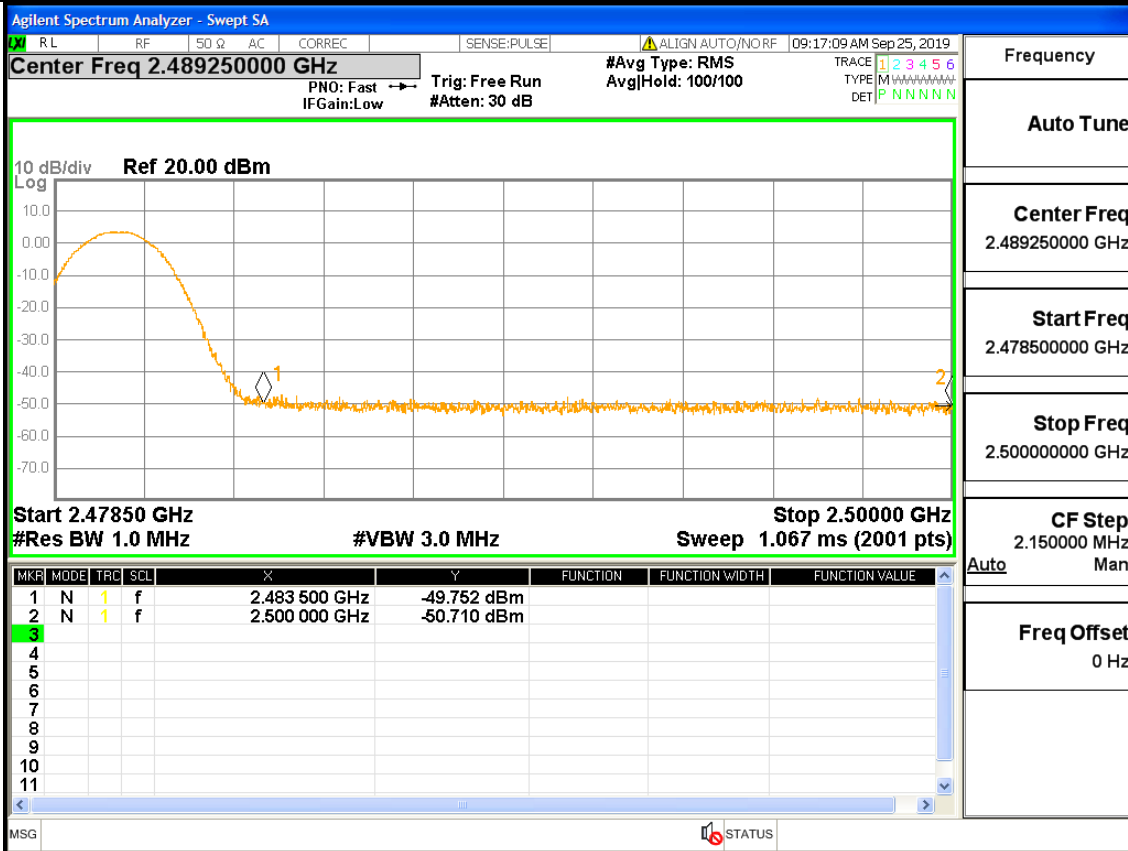
Restrict-band band-edge measurements\_2402\_PEAK\_2DH5



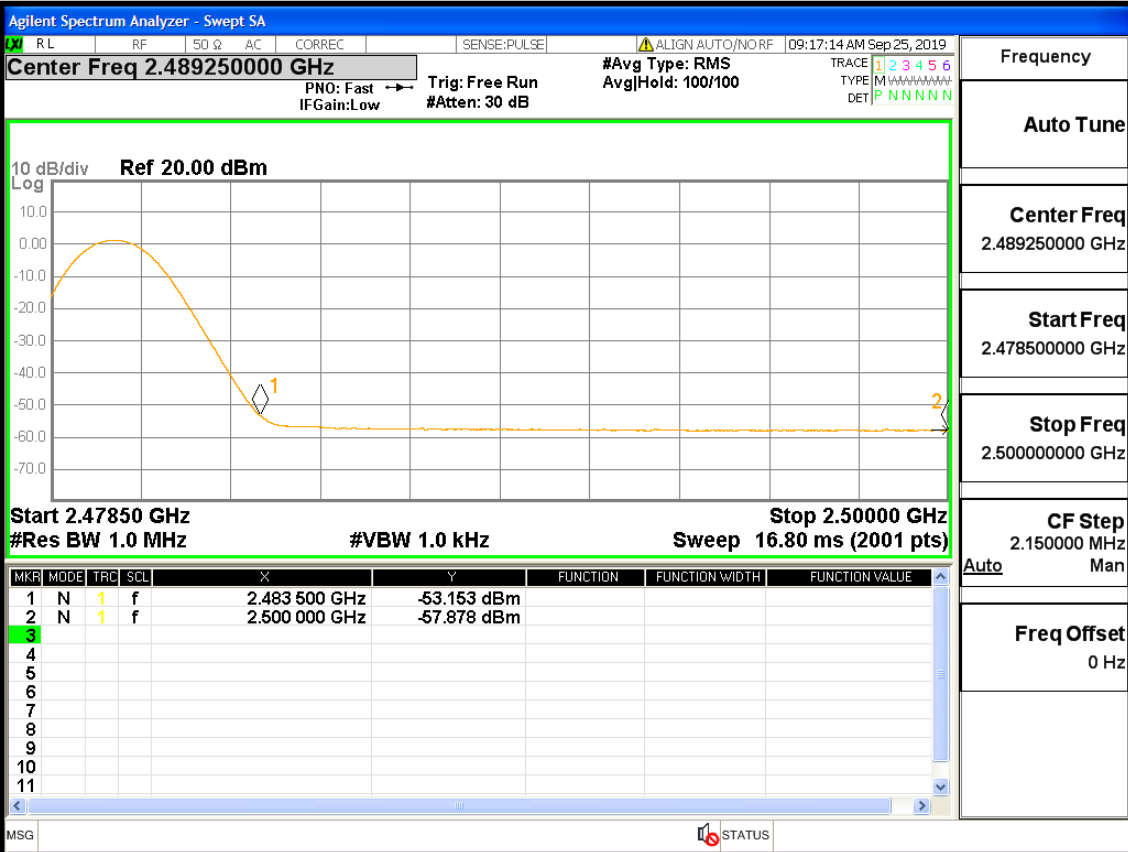
Restrict-band band-edge measurements\_2402\_AV\_2DH5



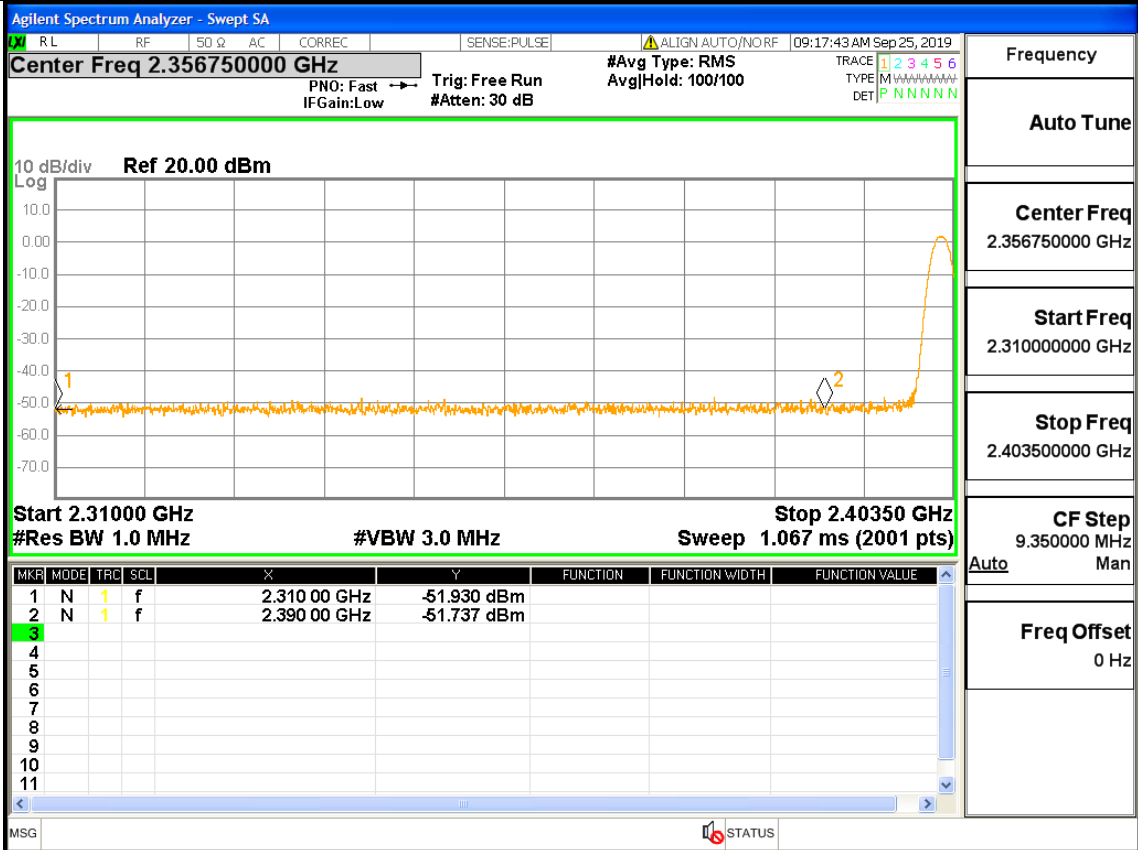
Restrict-band band-edge measurements\_2480\_PEAK\_2DH5



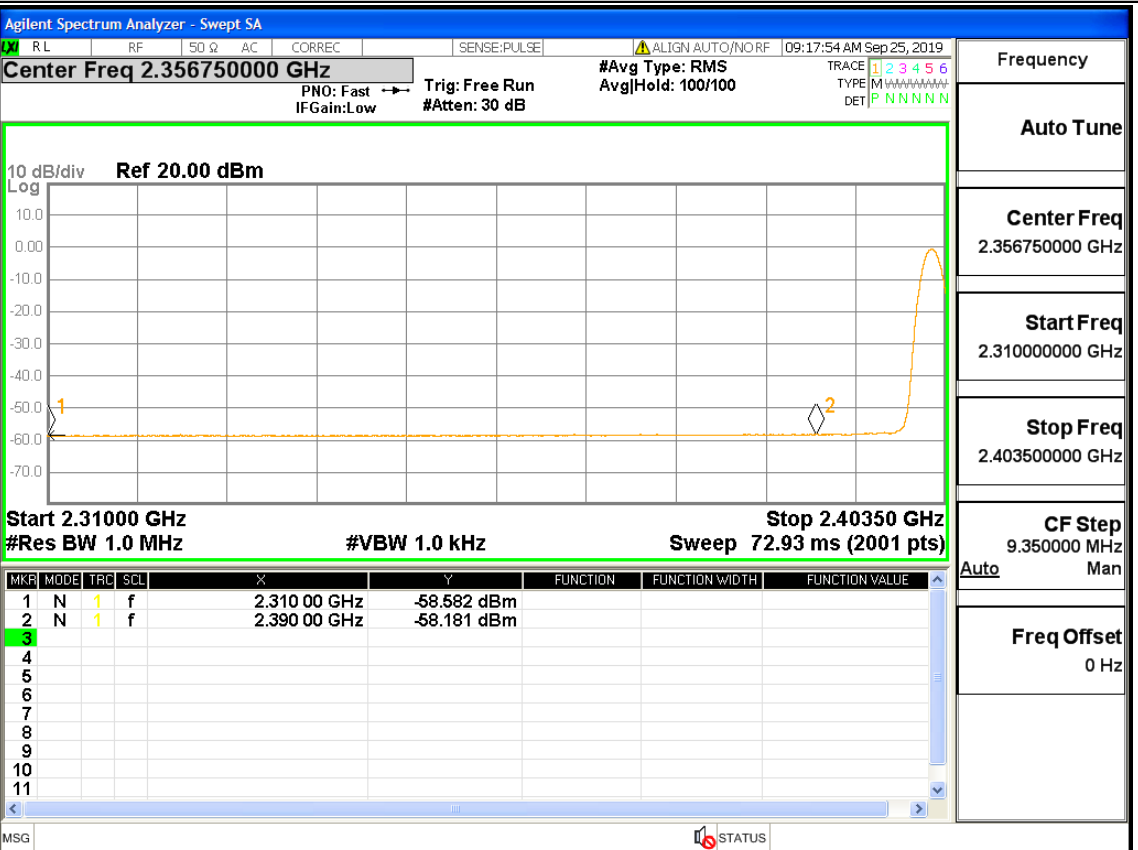
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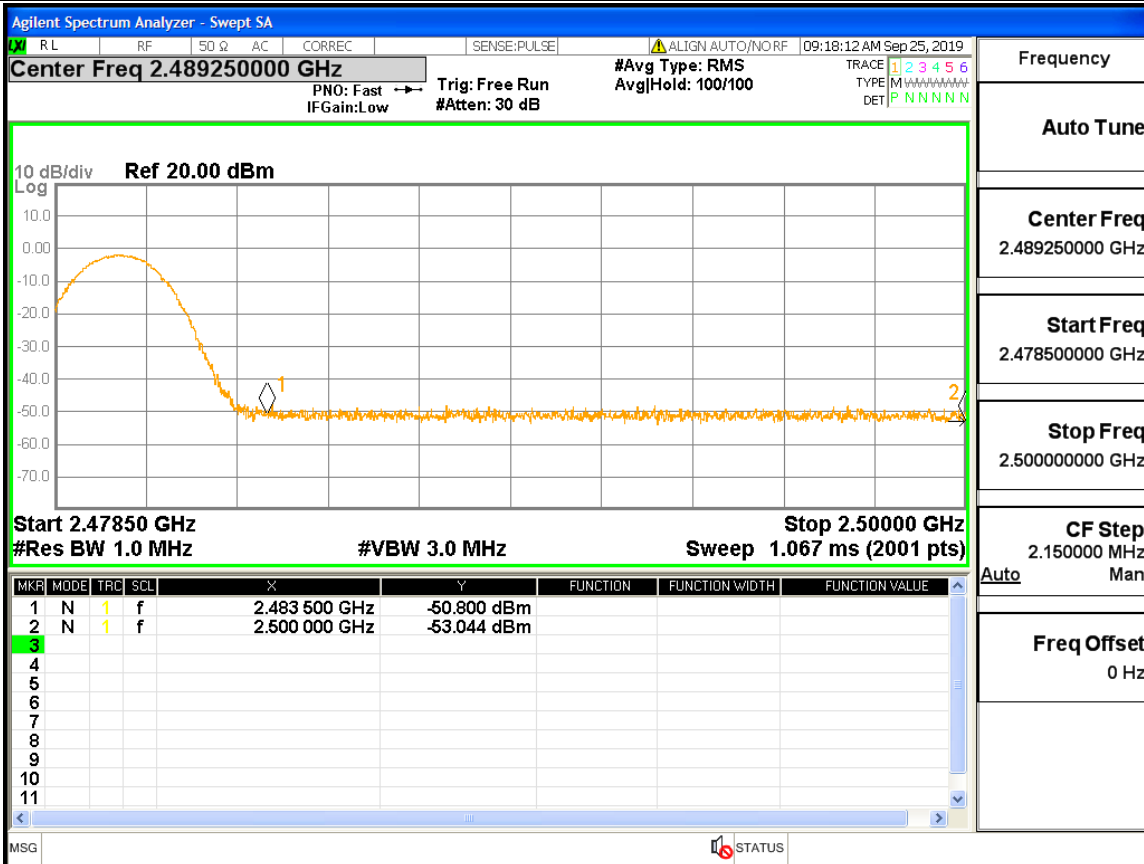
Restrict-band band-edge measurements\_2402\_PEAK\_3DH5



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



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



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

