

Appendix A

RF Test Data for BT(BLE) (Conducted Measurement)

Product Name: 4K HDMI dongle

Trade Mark: /

Test Model: SN8BADE

FCC ID: 2AOVU-SN8BADX

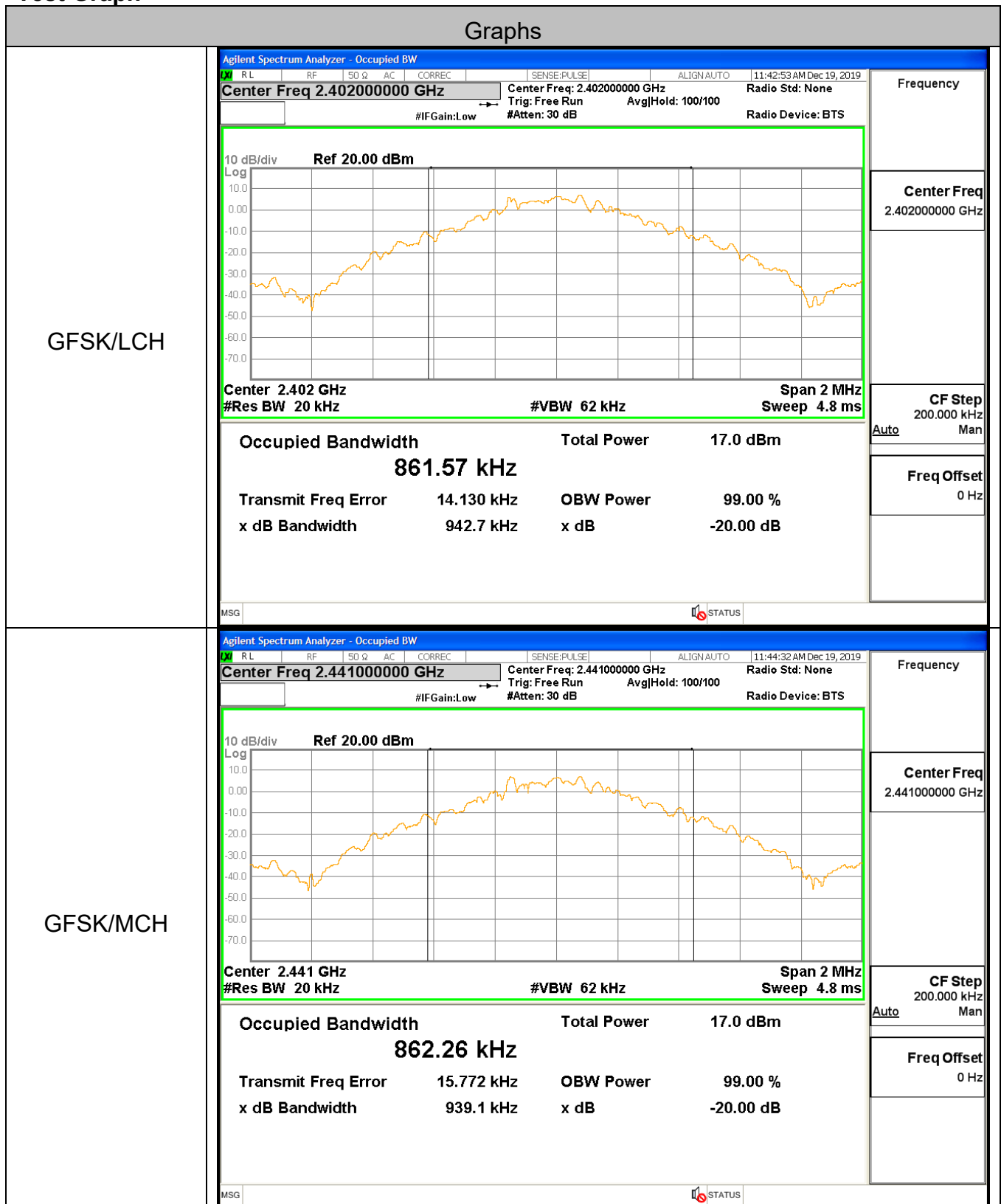
Environmental Conditions

Temperature:	24.4° C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

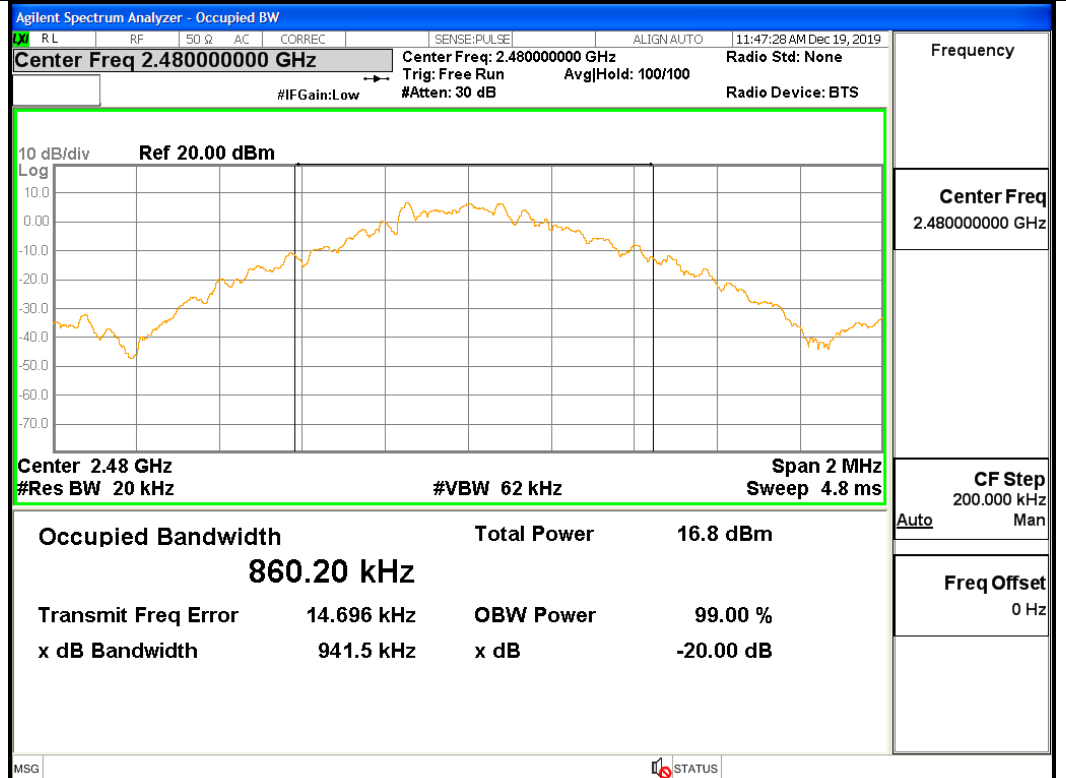
A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.943	Not Specified	PASS
GFSK	MCH	0.939	Not Specified	PASS
GFSK	HCH	0.942	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.265	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.305	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.308	Not Specified	PASS
8DPSK	LCH	1.255	Not Specified	PASS
8DPSK	MCH	1.259	Not Specified	PASS
8DPSK	HCH	1.289	Not Specified	PASS

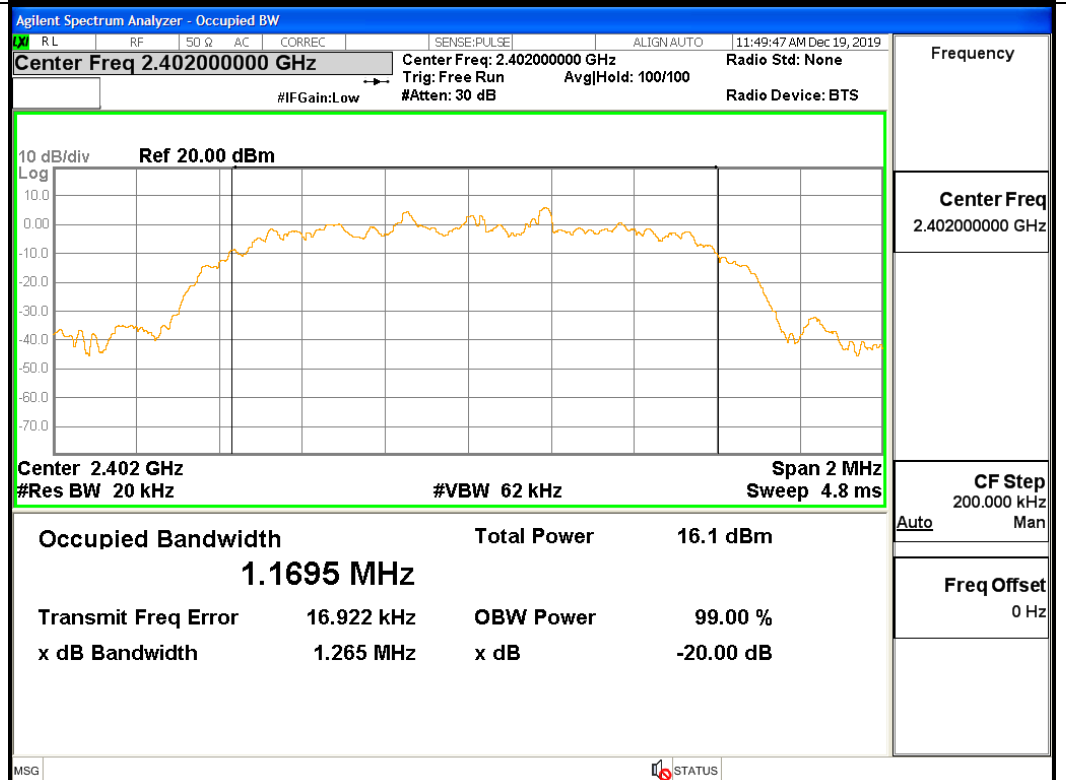
Test Graph



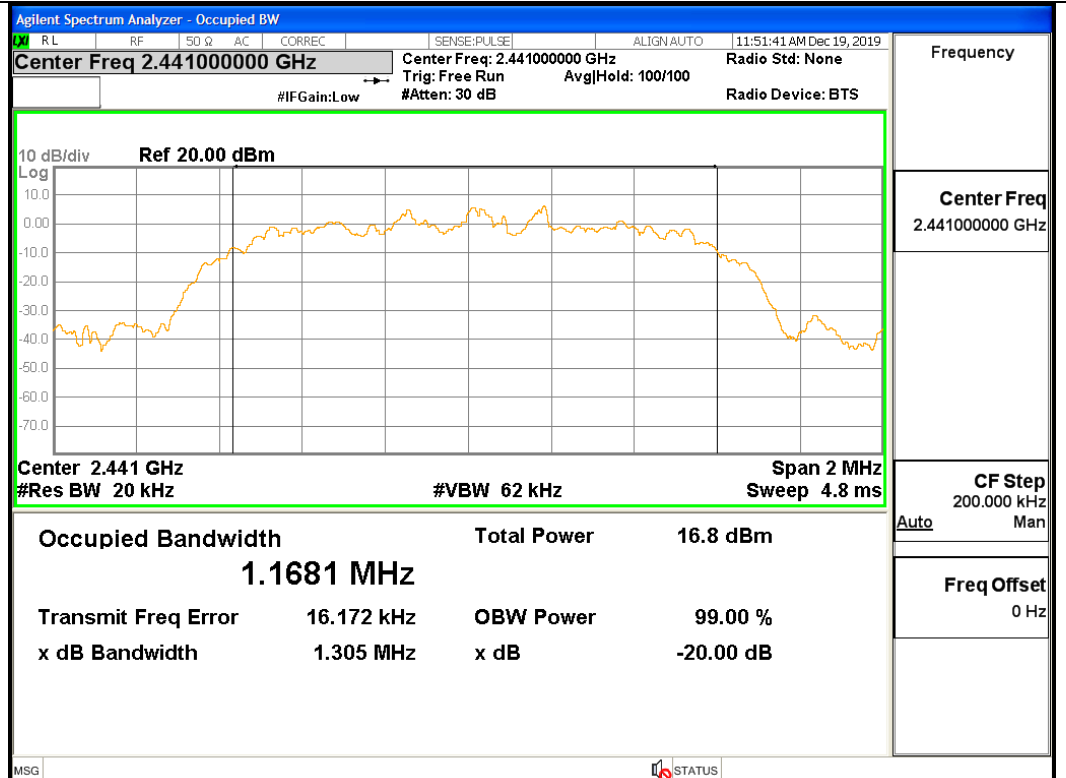
GFSK/HCH



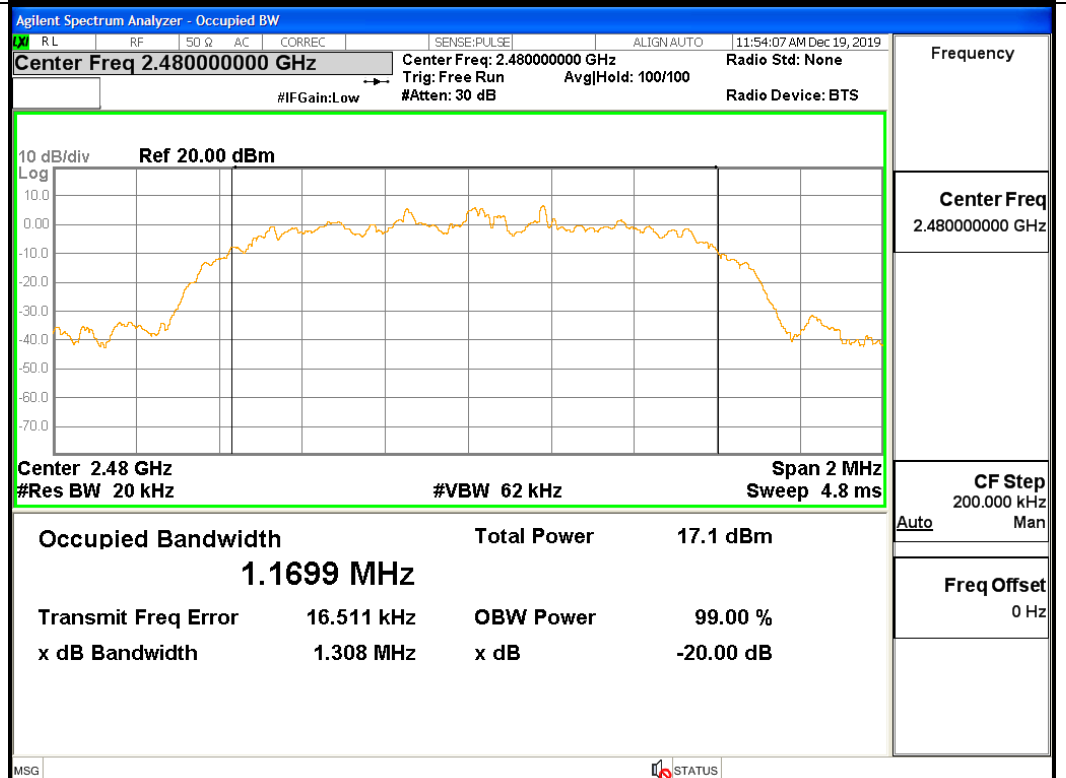
π /4DQPSK/LCH



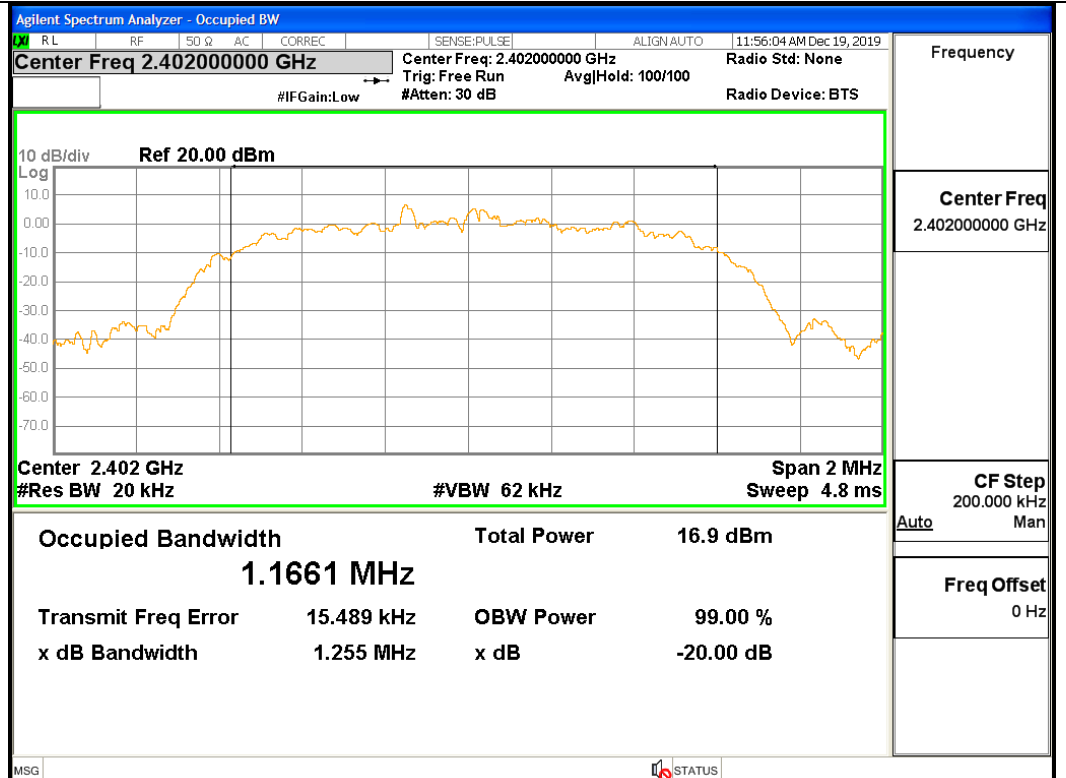
$\pi/4$ DQPSK/MCH



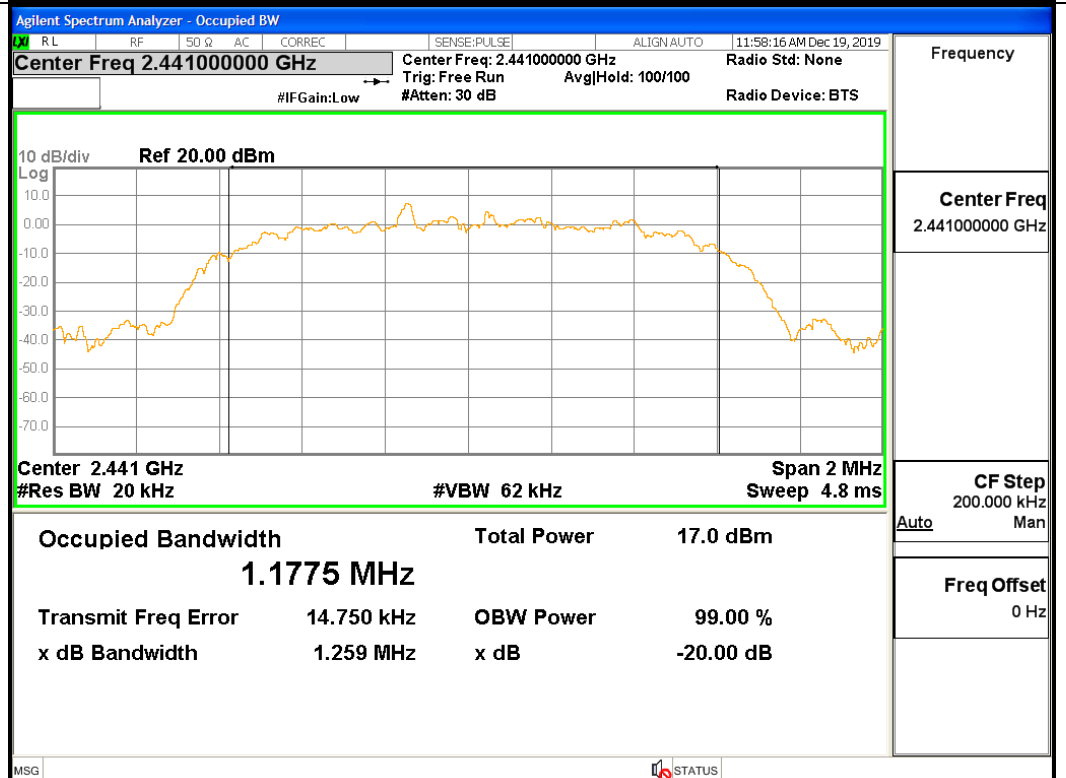
$\pi/4$ DQPSK/HCH

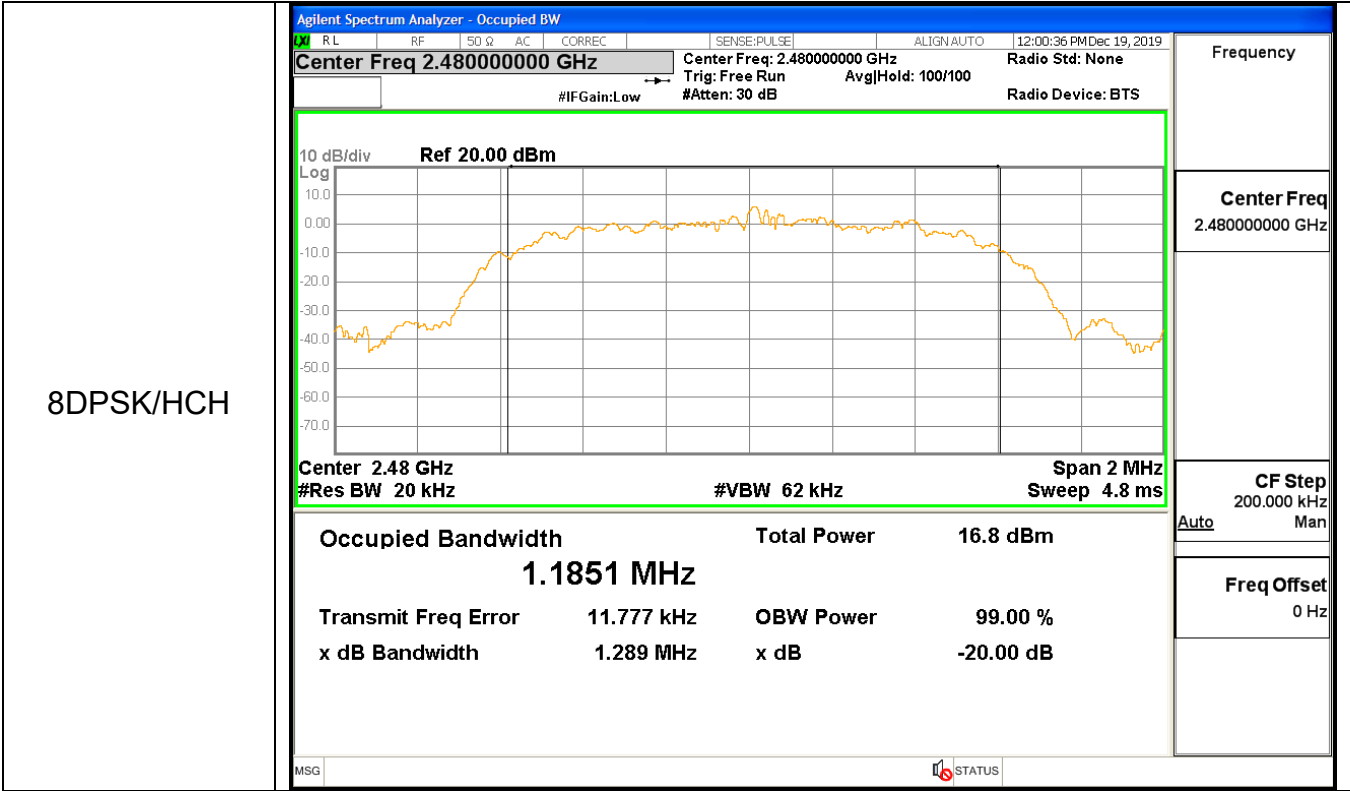


8DPSK/LCH



8DPSK/MCH

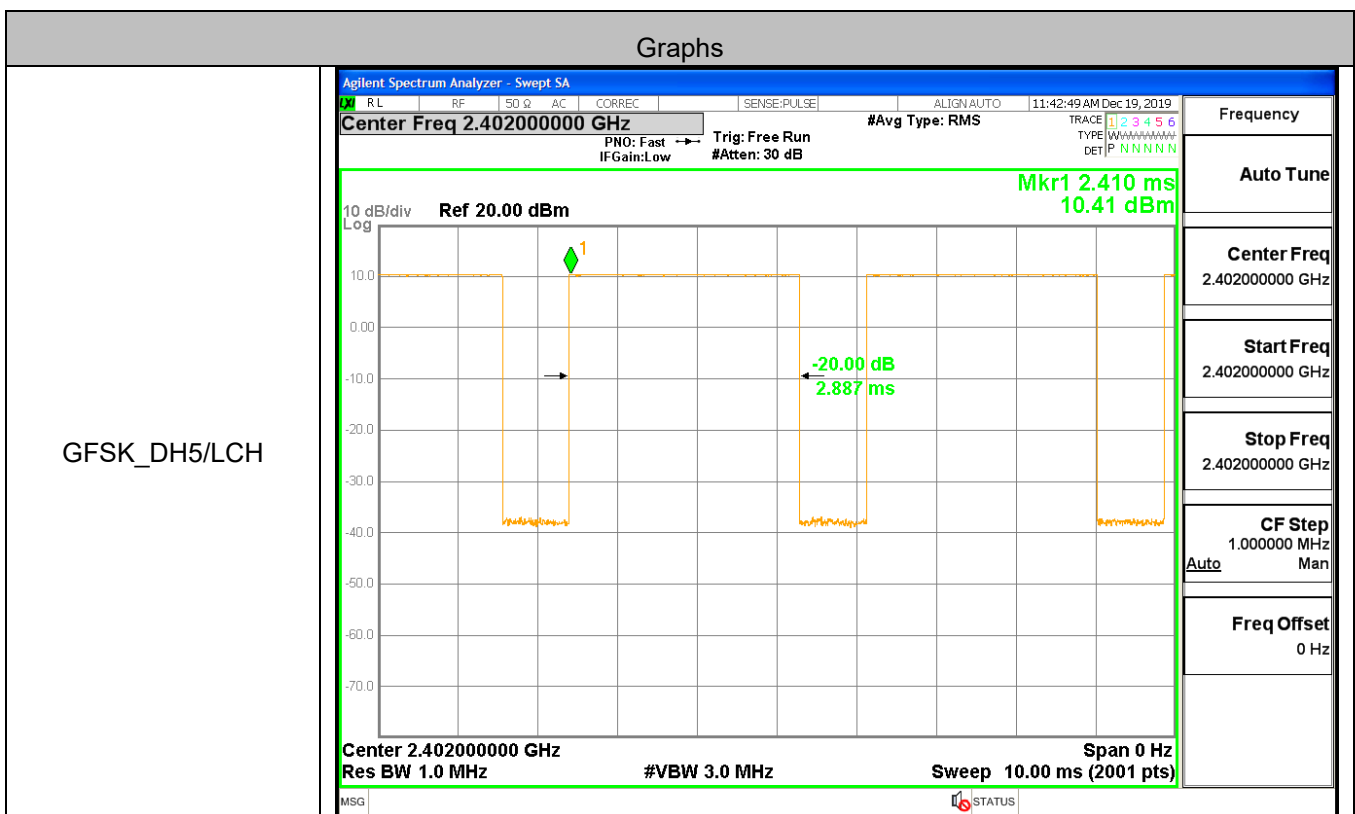




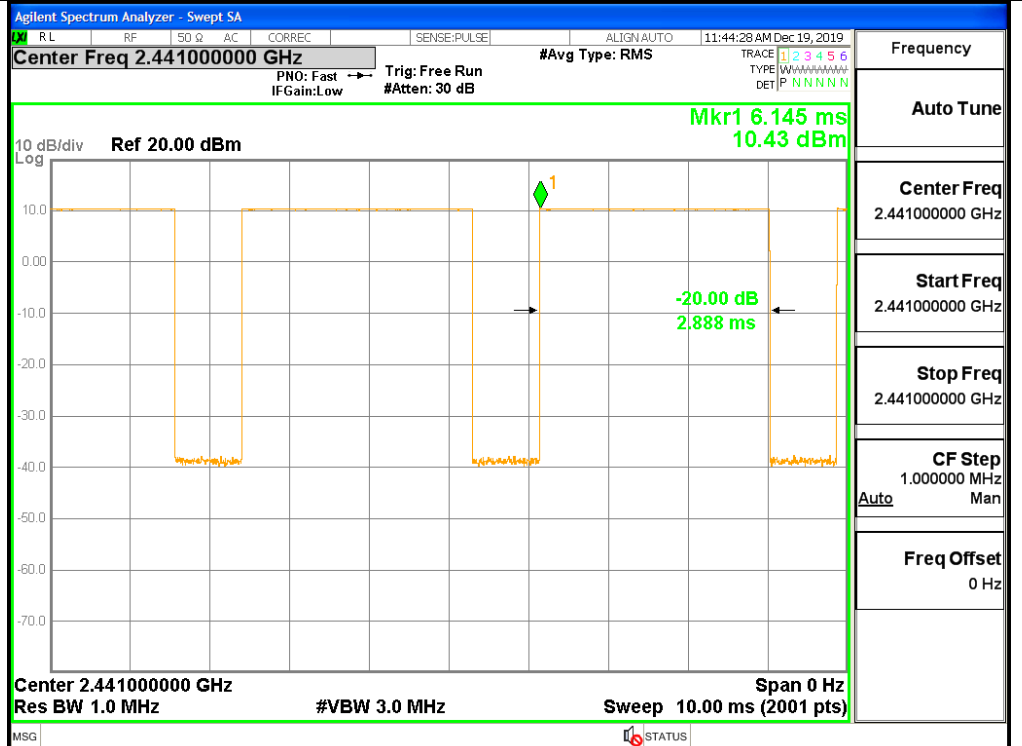
A.2 Dwell Time

Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002887	106.7	0.308094	0.4	PASS
GFSK	DH5	MCH	0.002888	106.7	0.308201	0.4	PASS
GFSK	DH5	HCH	0.002889	106.7	0.308287	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.00289	106.7	0.308322	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.00289	106.7	0.308358	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002894	106.7	0.308785	0.4	PASS
8DPSK	3DH5	LCH	0.002894	106.7	0.308813	0.4	PASS
8DPSK	3DH5	MCH	0.002894	106.7	0.308771	0.4	PASS
8DPSK	3DH5	HCH	0.002894	106.7	0.30877	0.4	PASS

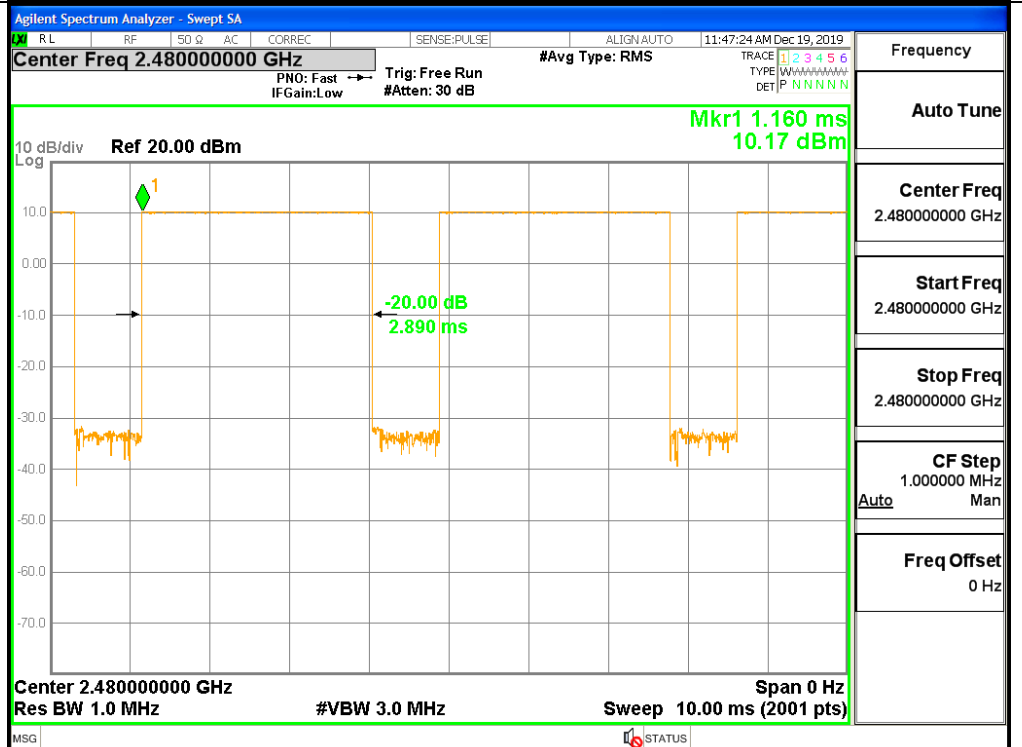
Test Graph

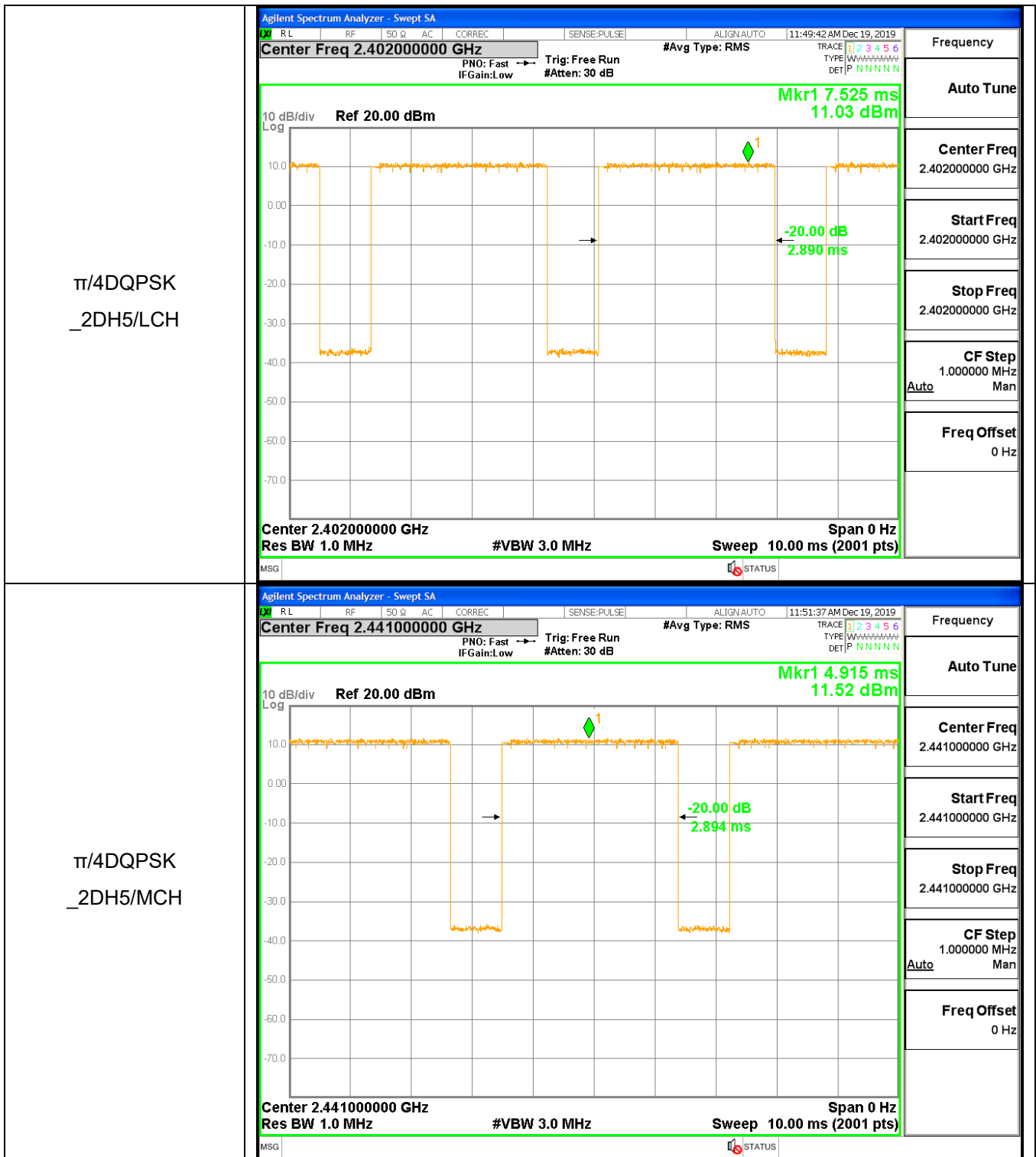


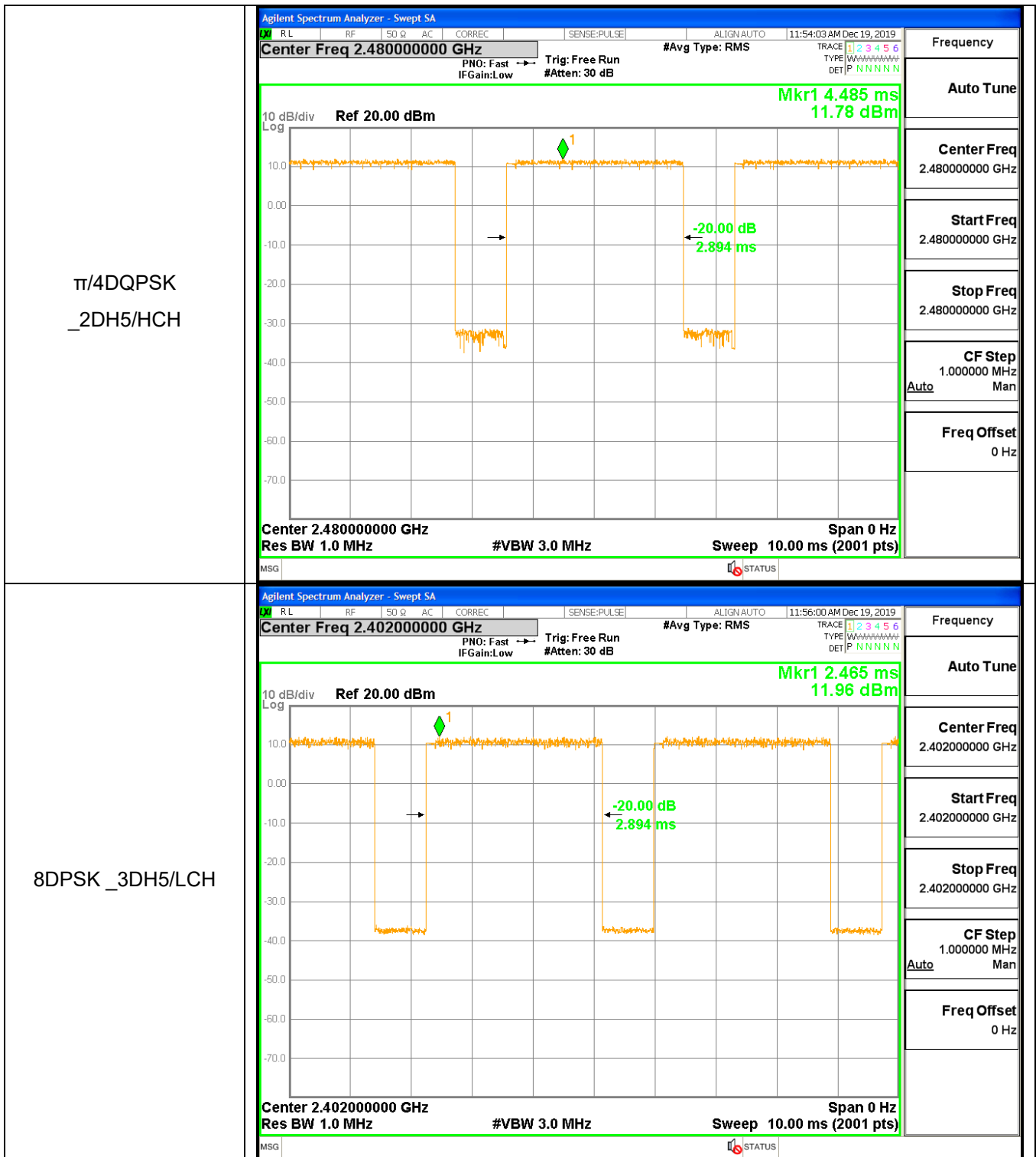
GFSK_DH5/MCH

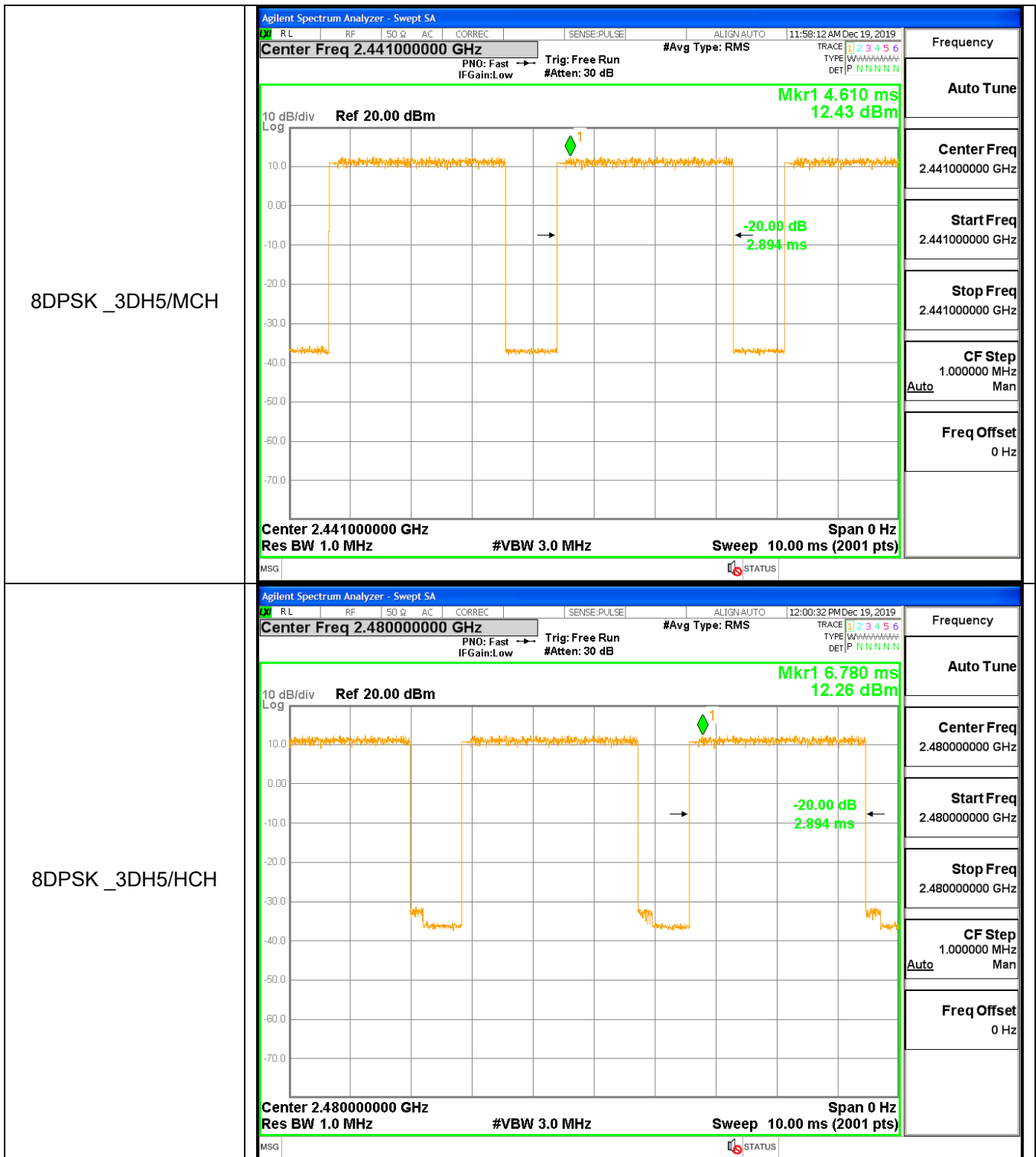


GFSK_DH5/HCH





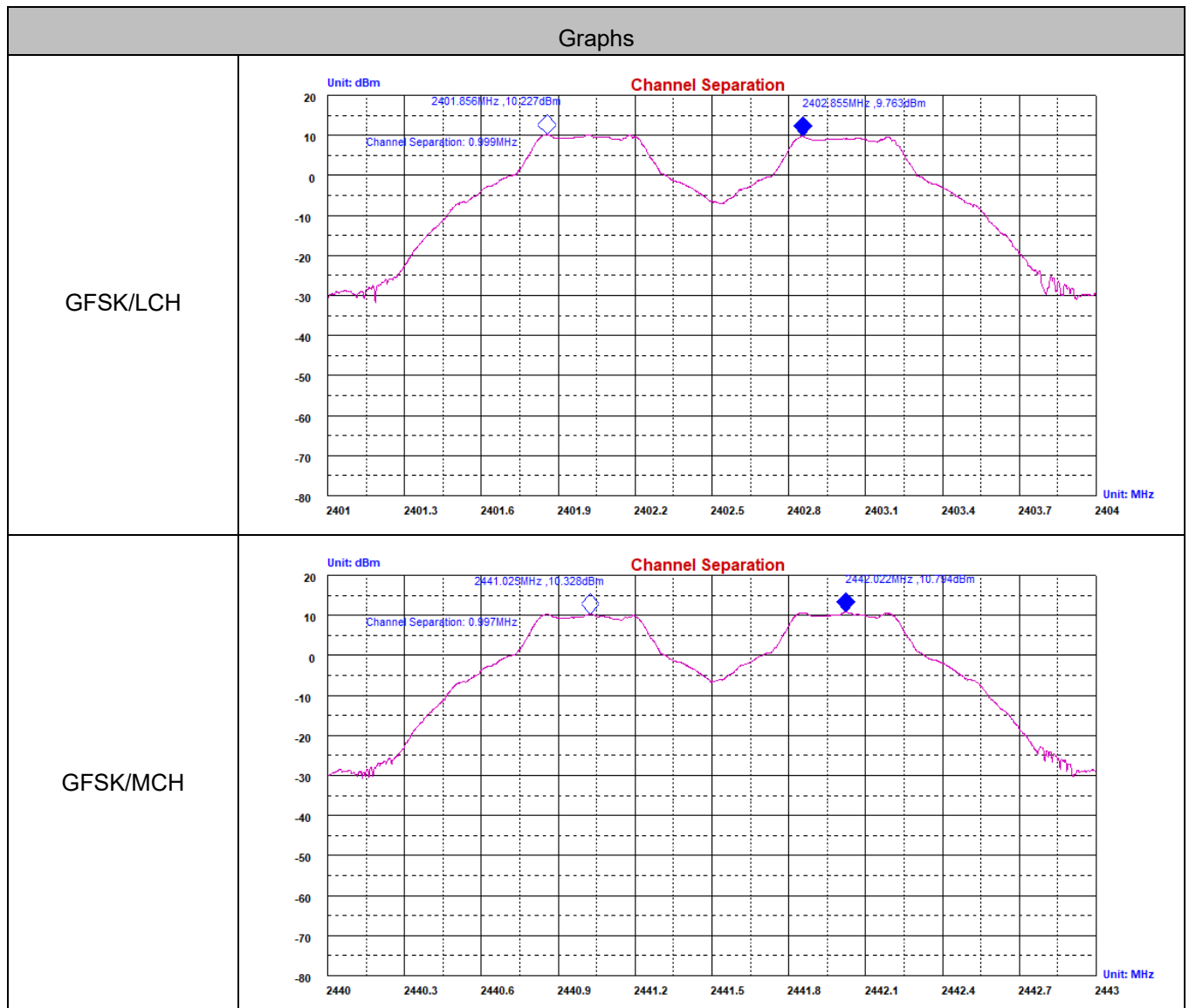


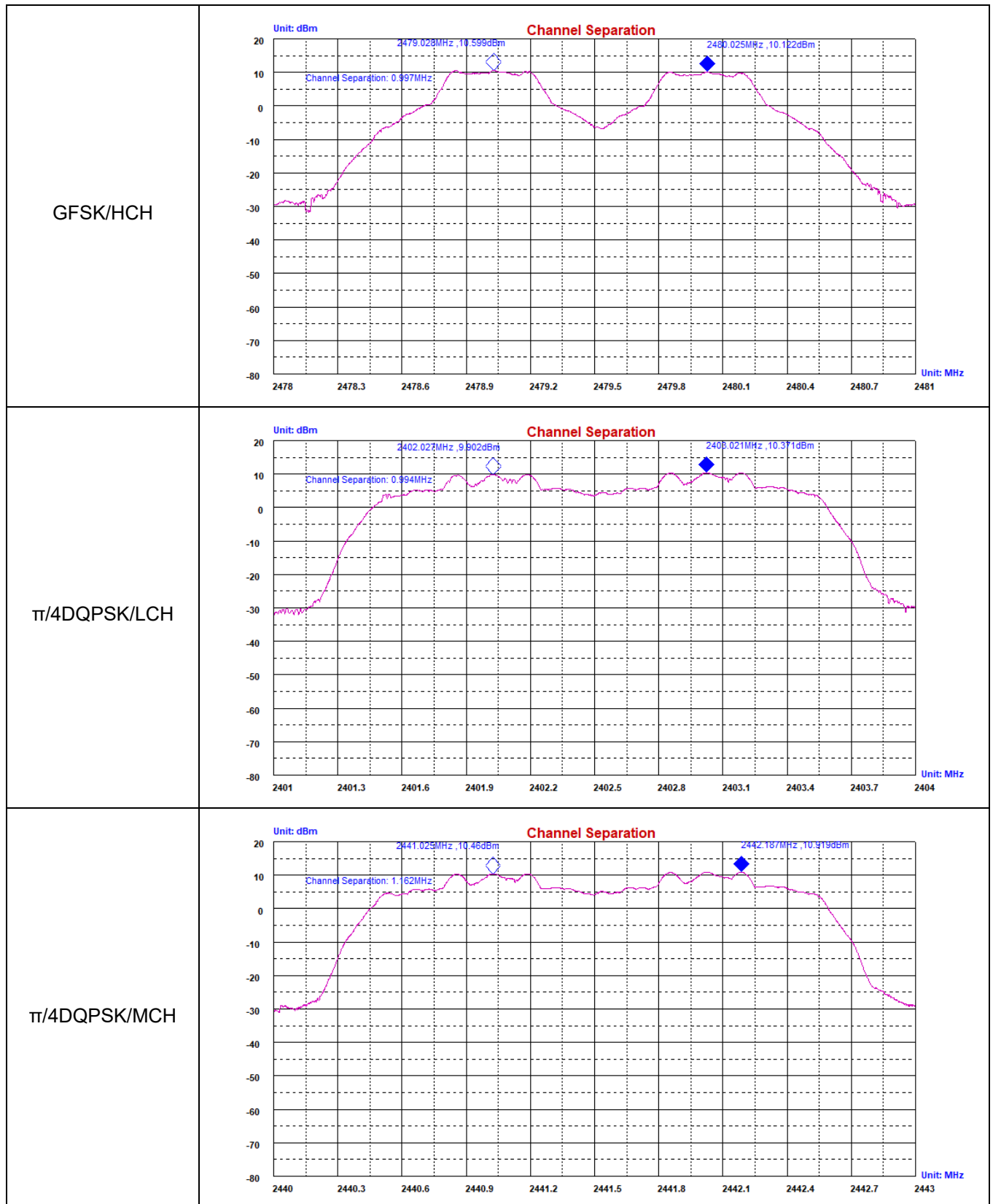


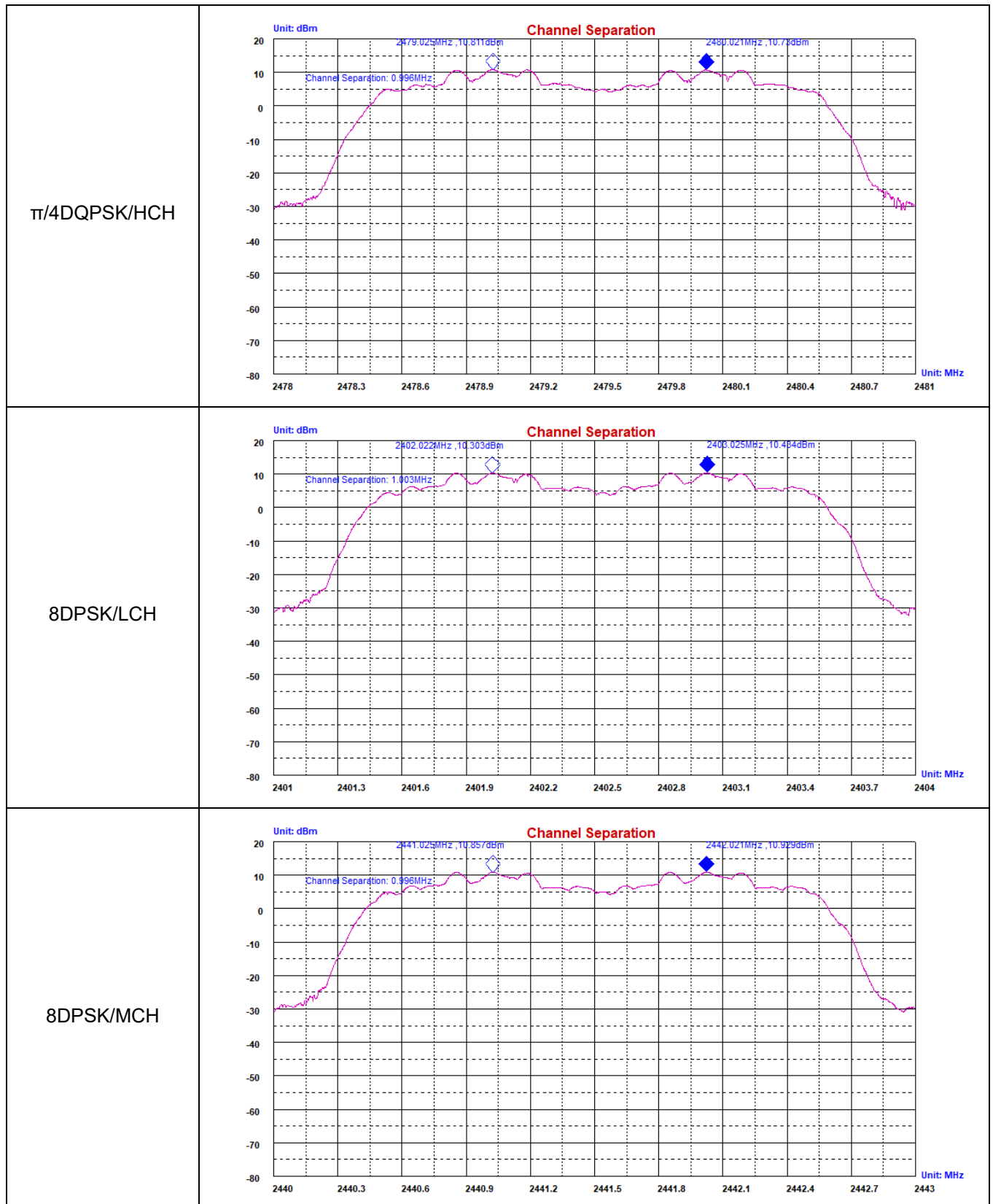
A.3 Carrier Frequency Separation

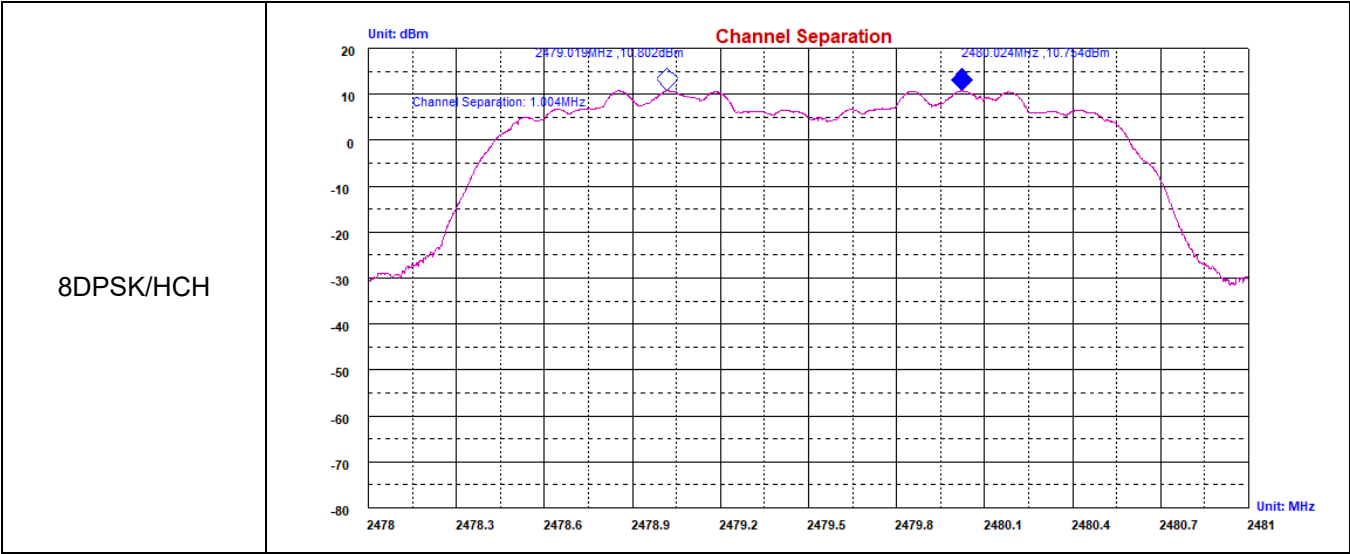
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.999	0.629	PASS
GFSK	MCH	0.997	0.626	PASS
GFSK	HCH	0.997	0.628	PASS
$\pi/4$ DQPSK	LCH	0.994	0.843	PASS
$\pi/4$ DQPSK	MCH	1.162	0.870	PASS
$\pi/4$ DQPSK	HCH	0.996	0.872	PASS
8DPSK	LCH	1.003	0.837	PASS
8DPSK	MCH	0.996	0.839	PASS
8DPSK	HCH	1.004	0.859	PASS

Test Graph





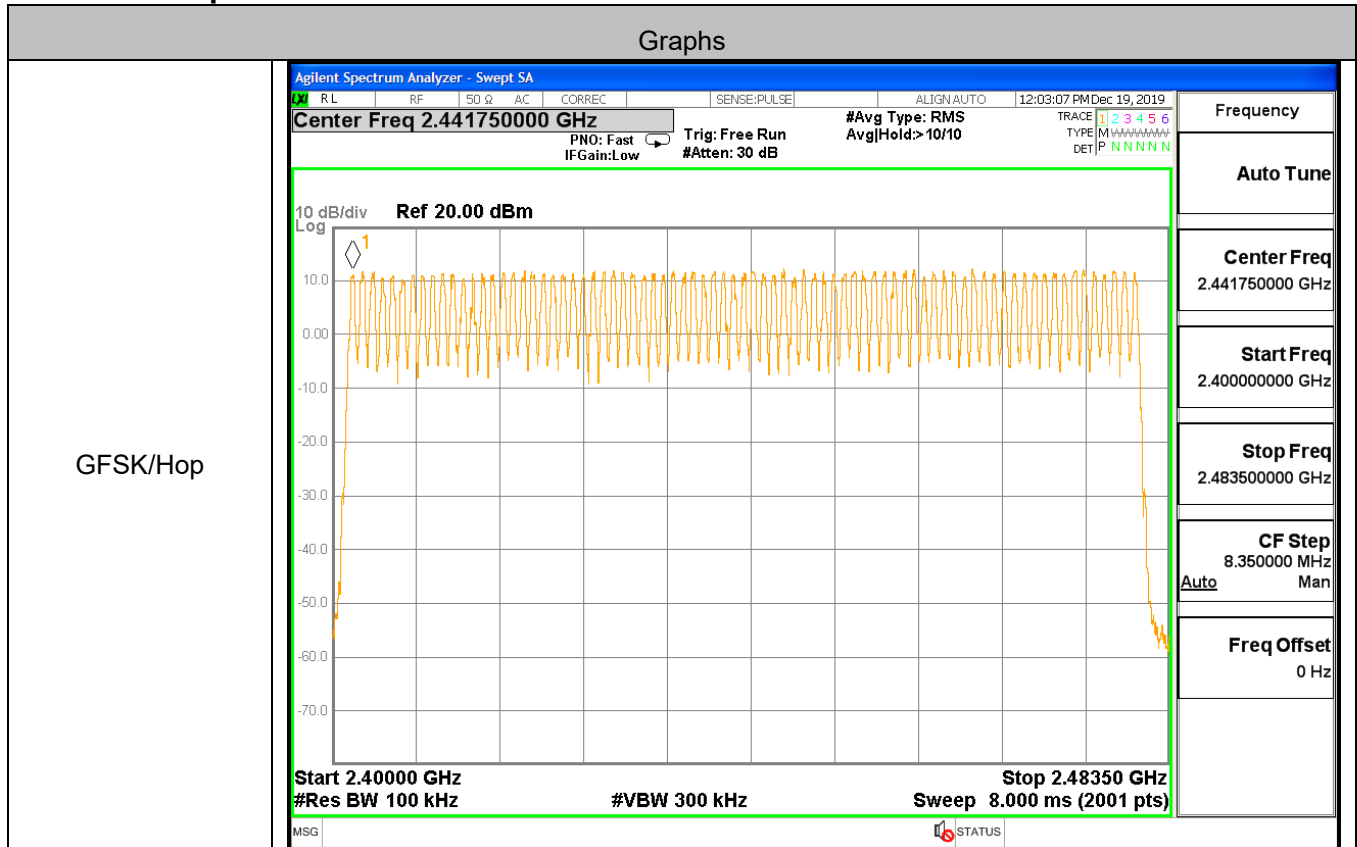


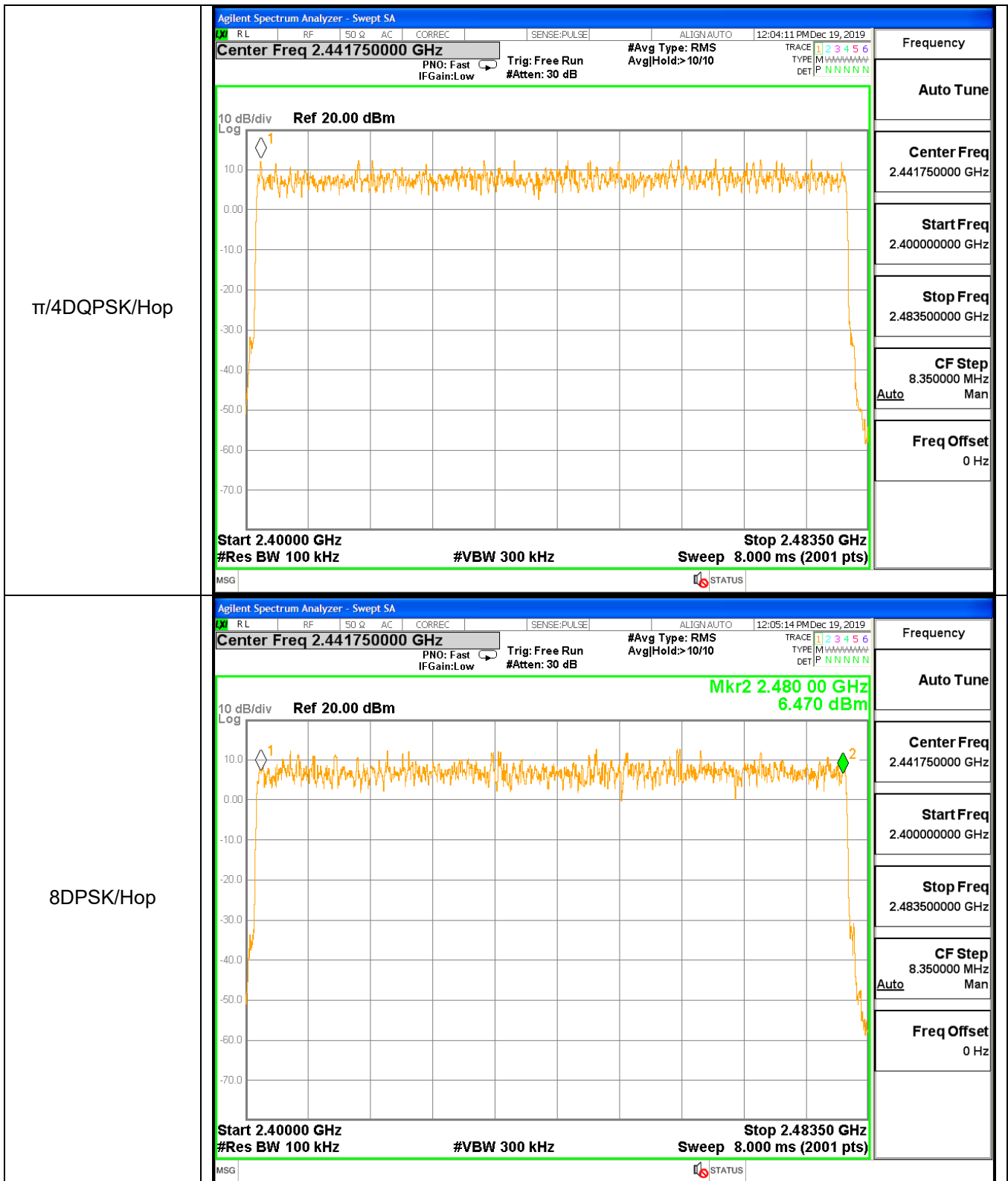


A.4 Hopping Channel Number

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

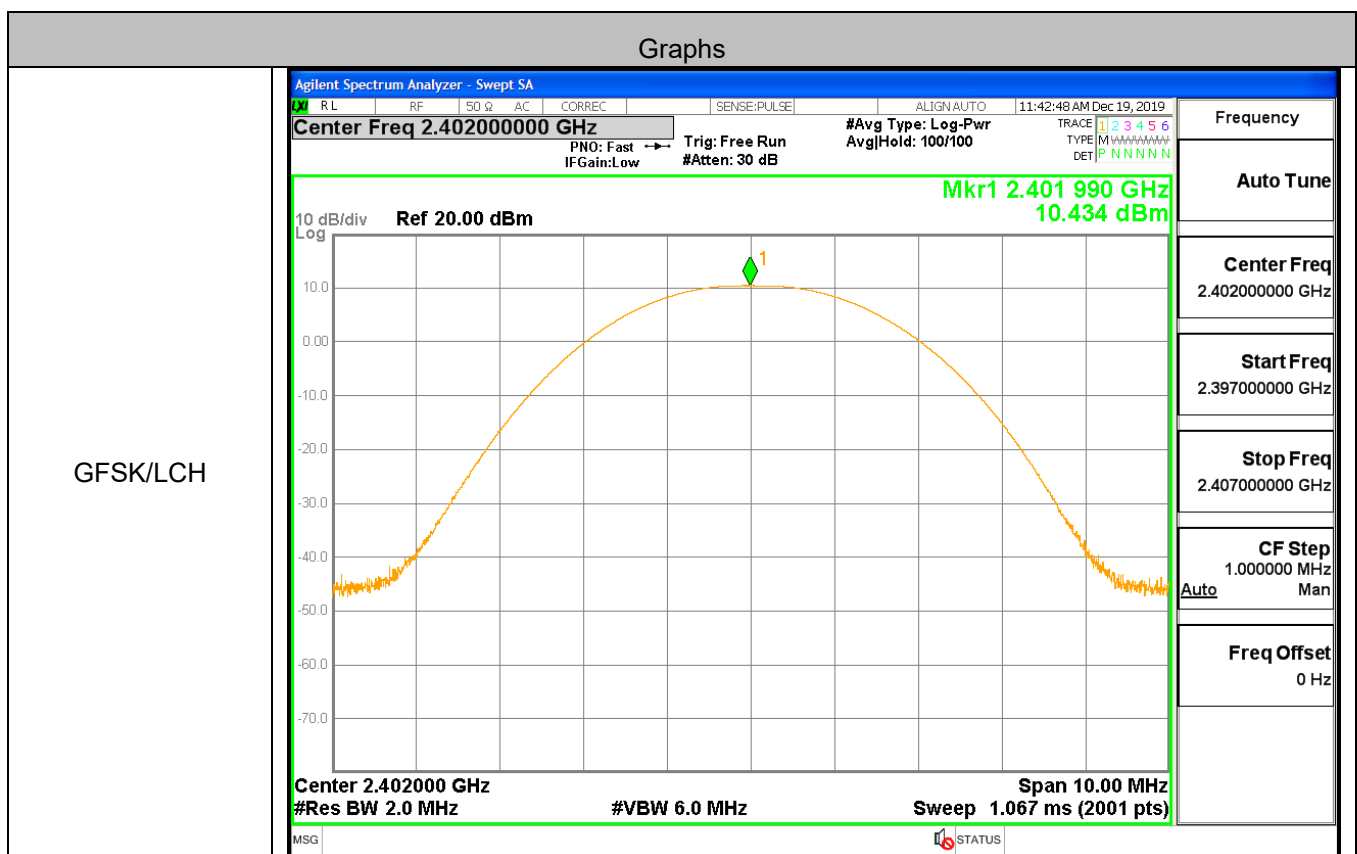


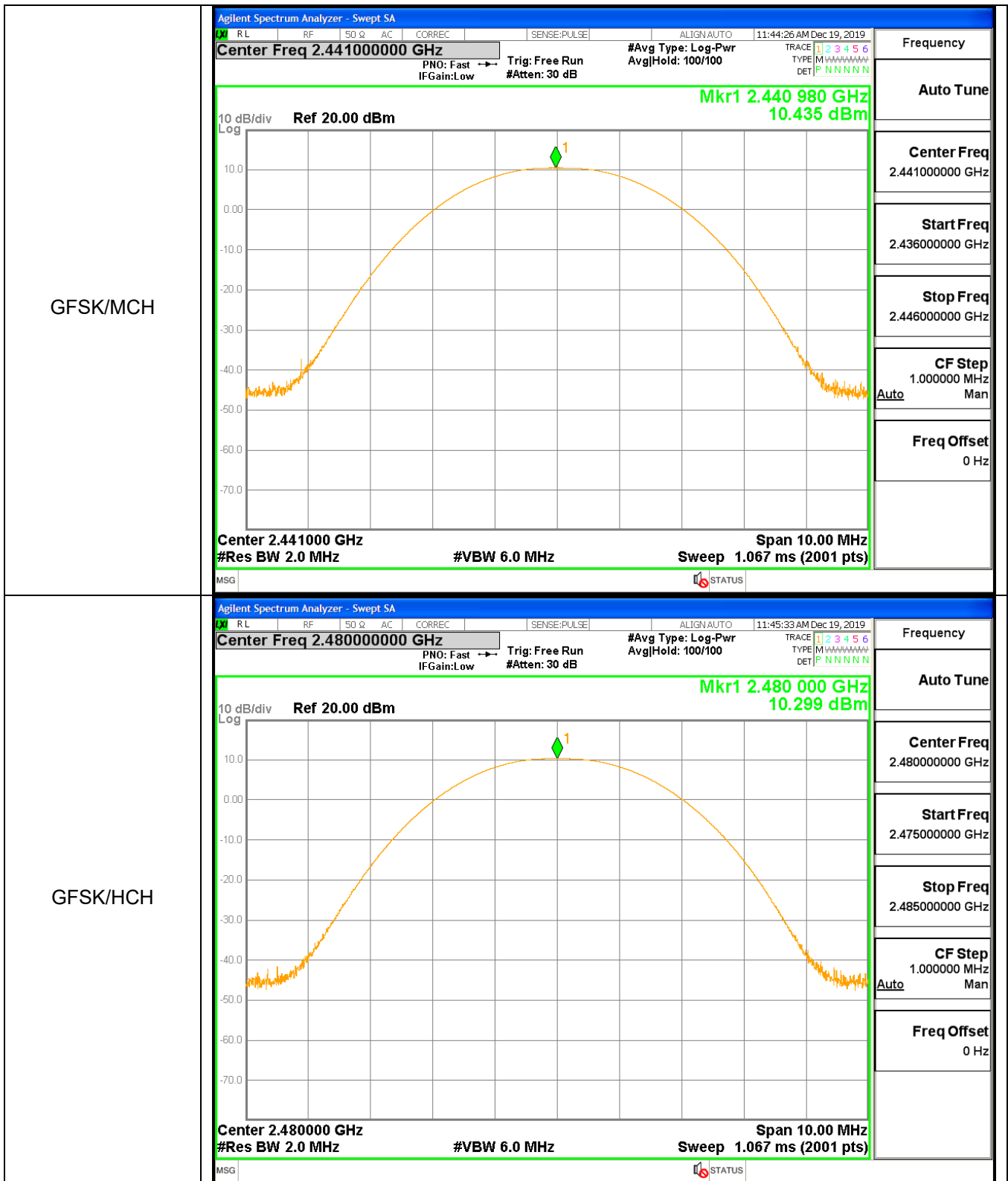


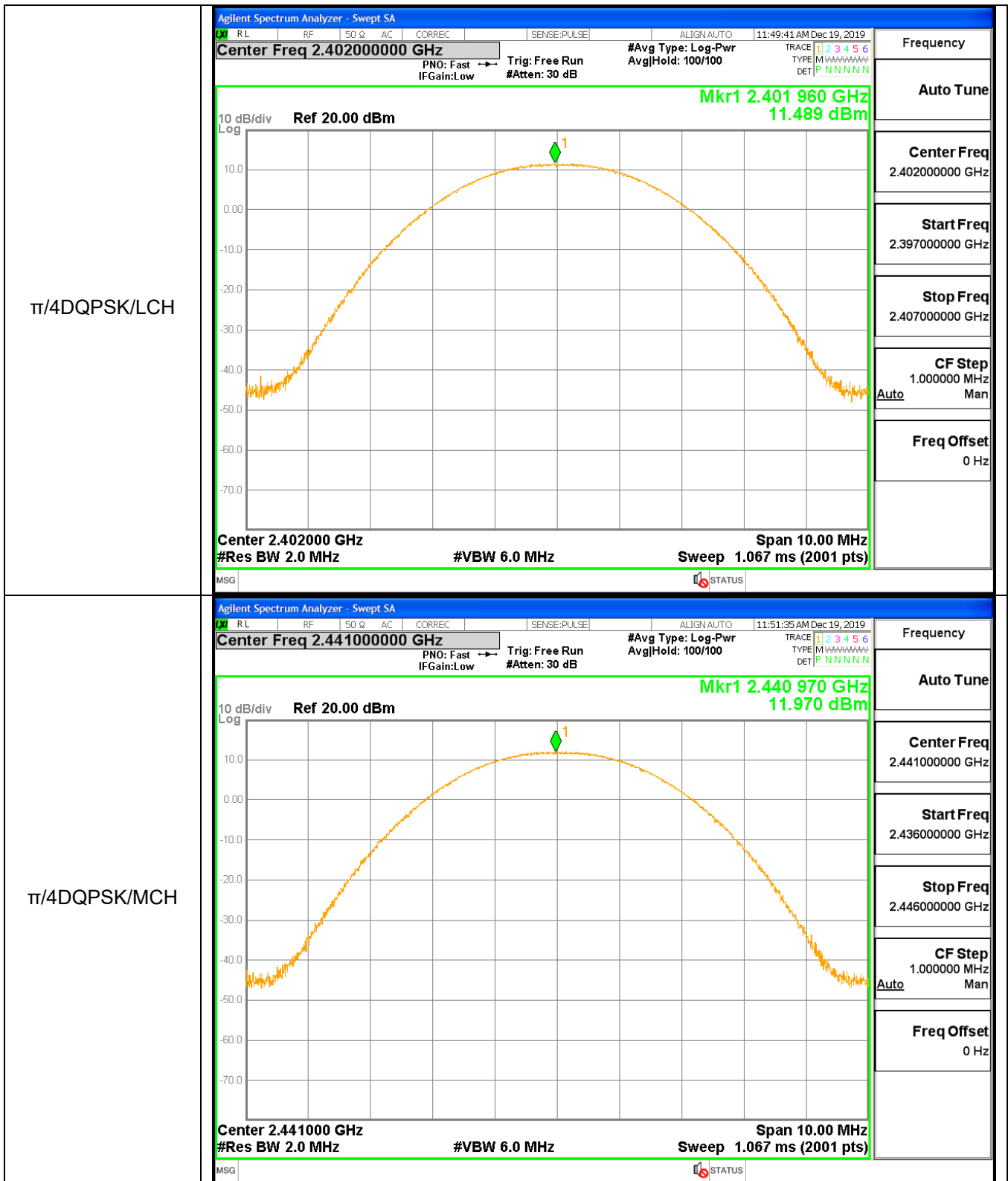
A.5 Conducted Peak Output Power

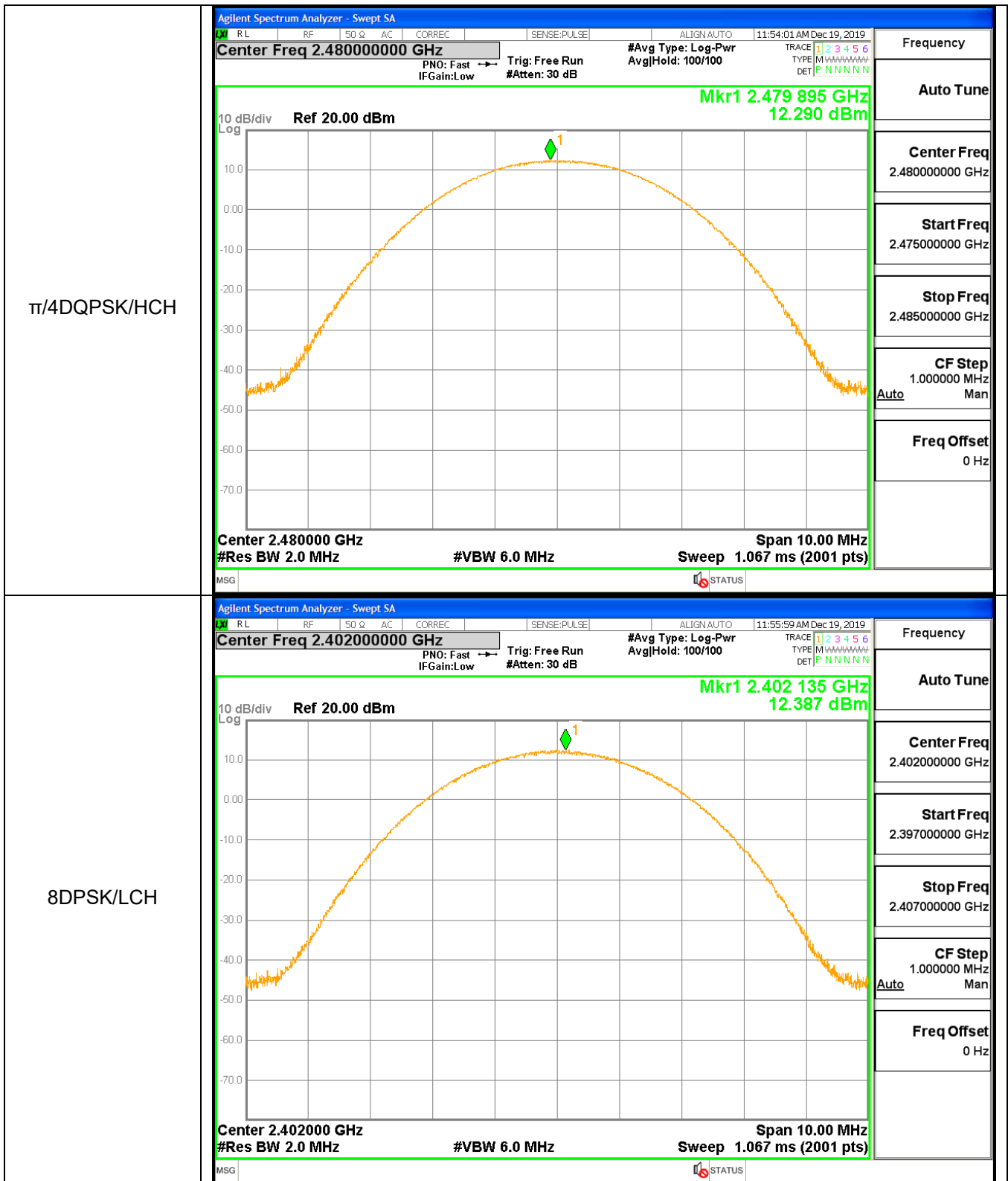
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	10.434	21	PASS
GFSK	MCH	10.435	21	PASS
GFSK	HCH	10.299	21	PASS
$\pi/4$ DQPSK	LCH	11.489	21	PASS
$\pi/4$ DQPSK	MCH	11.970	21	PASS
$\pi/4$ DQPSK	HCH	12.290	21	PASS
8DPSK	LCH	12.387	21	PASS
8DPSK	MCH	12.914	21	PASS
8DPSK	HCH	12.733	21	PASS

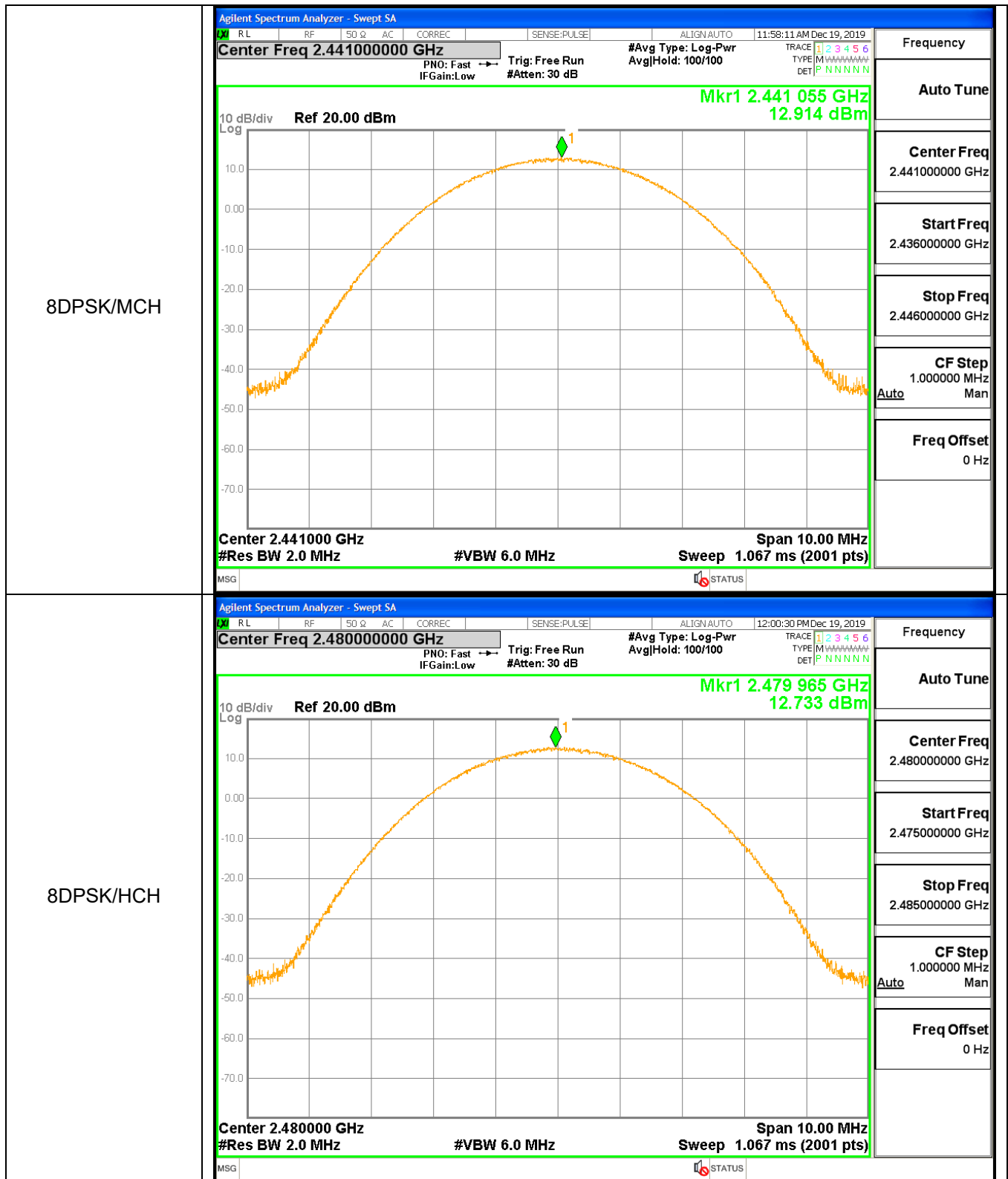
Test Graph







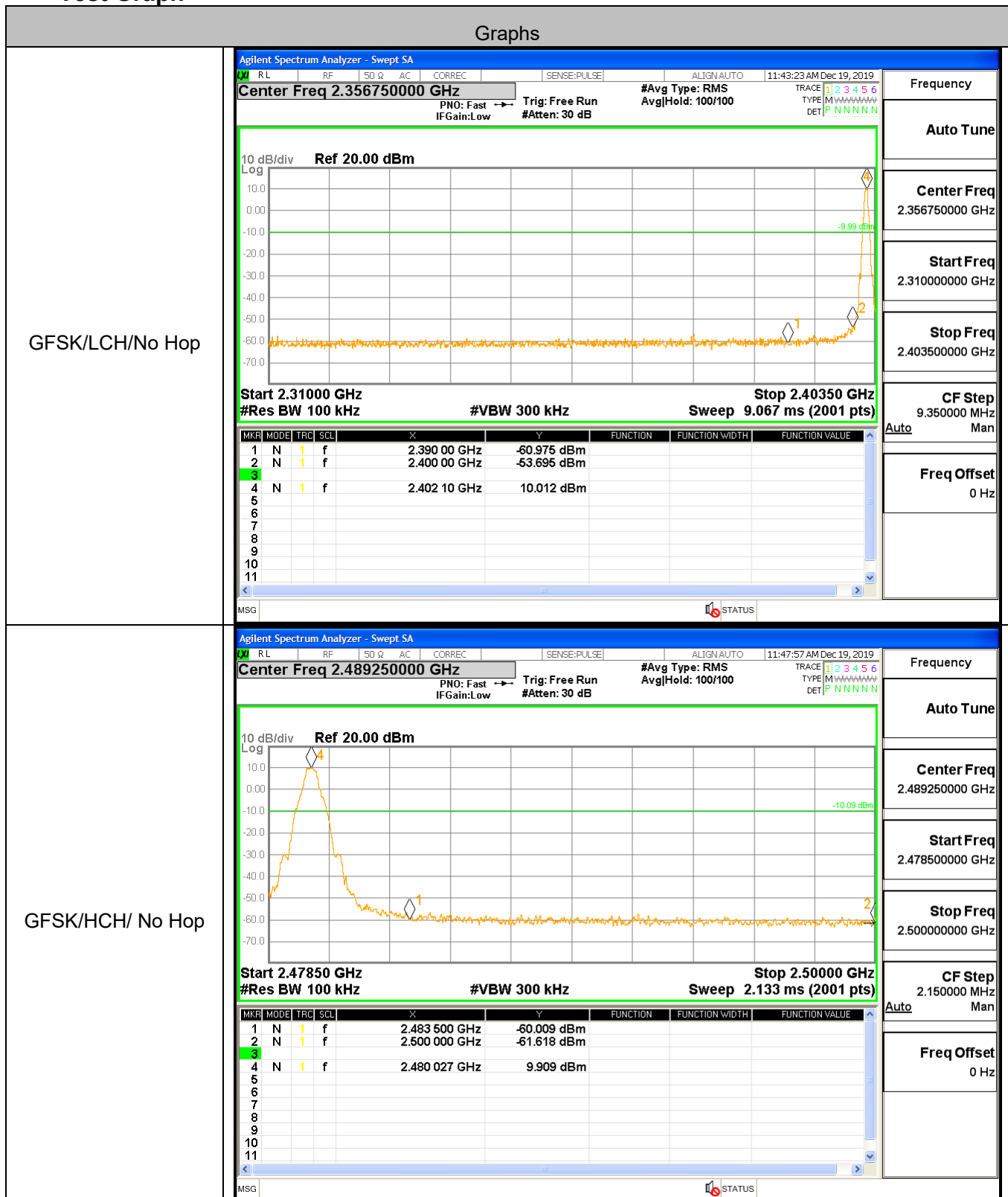


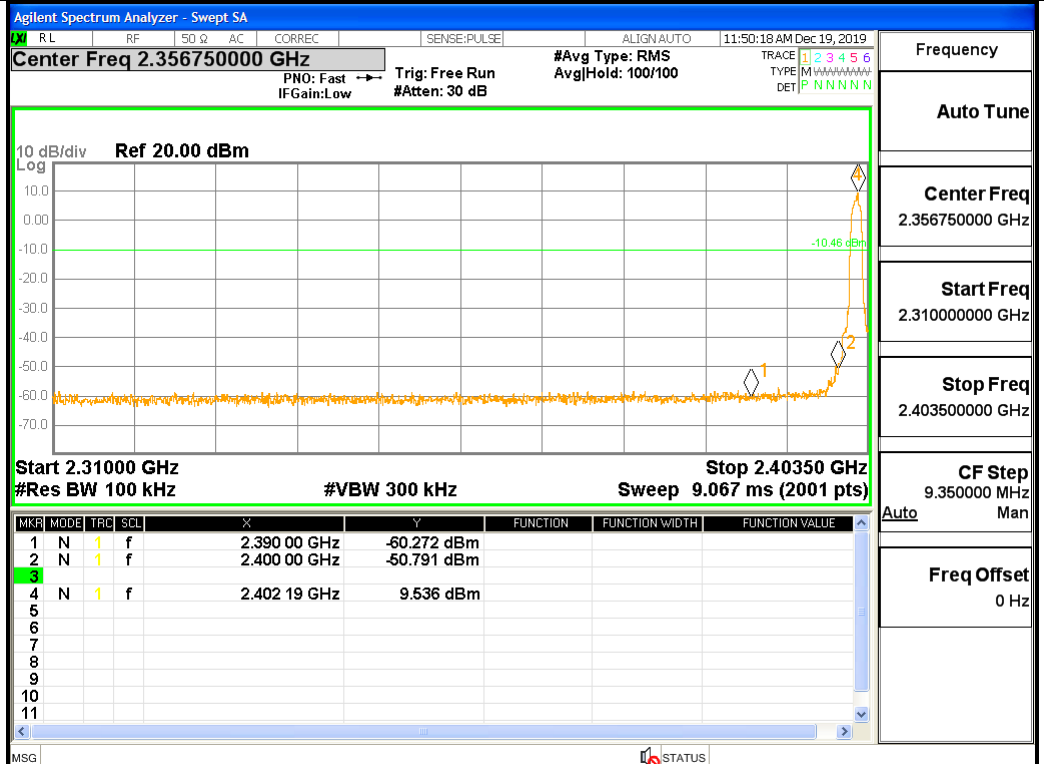
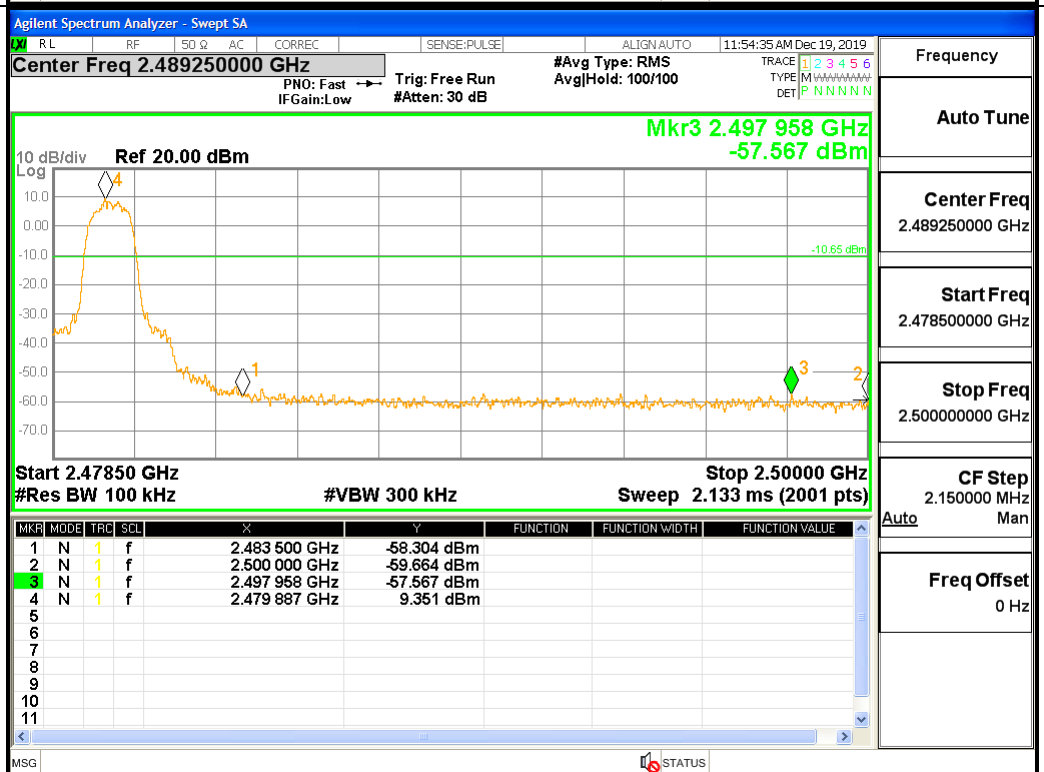


A.6 Band-edge for RF Conducted Emissions

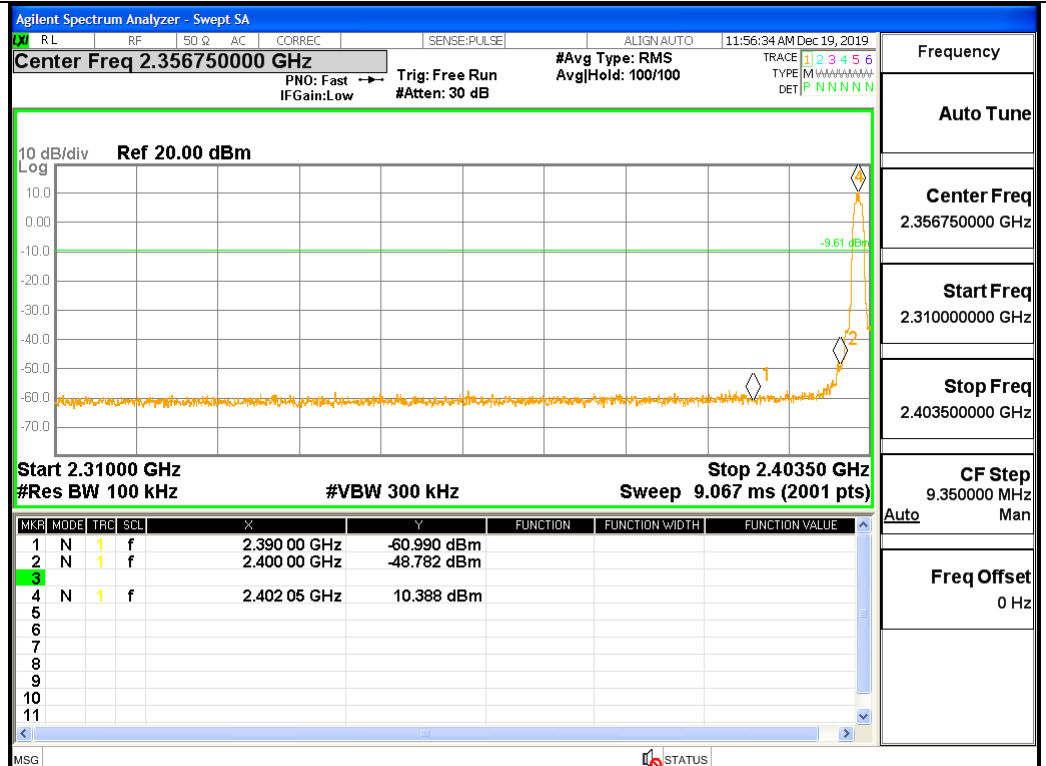
Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	10.012	-53.7	-9.988	Pass
1DH5	2480	2483.5	9.915	-57.84	-10.085	Pass
2DH5	2402	2483.5	9.909	-60.01	-10.091	Pass
2DH5	2480	2400	9.536	-50.79	-10.464	Pass
3DH5	2402	2497.958	9.351	-57.567	-10.649	Pass
3DH5	2480	2400	10.388	-48.78	-9.612	Pass
1DH5-Hopping	2402	2483.5	10.684	-56.36	-9.316	Pass
1DH5-Hopping	2480	2400	11.859	-56.94	-8.141	Pass
2DH5-Hopping	2402	2483.5	12.216	-59.38	-7.784	Pass
2DH5-Hopping	2480	2400	12.325	-49.74	-7.675	Pass
3DH5-Hopping	2402	2483.5	12.547	-58.68	-7.453	Pass
3DH5-Hopping	2480	2399.7	12.294	-45.511	-7.706	Pass

Test Graph

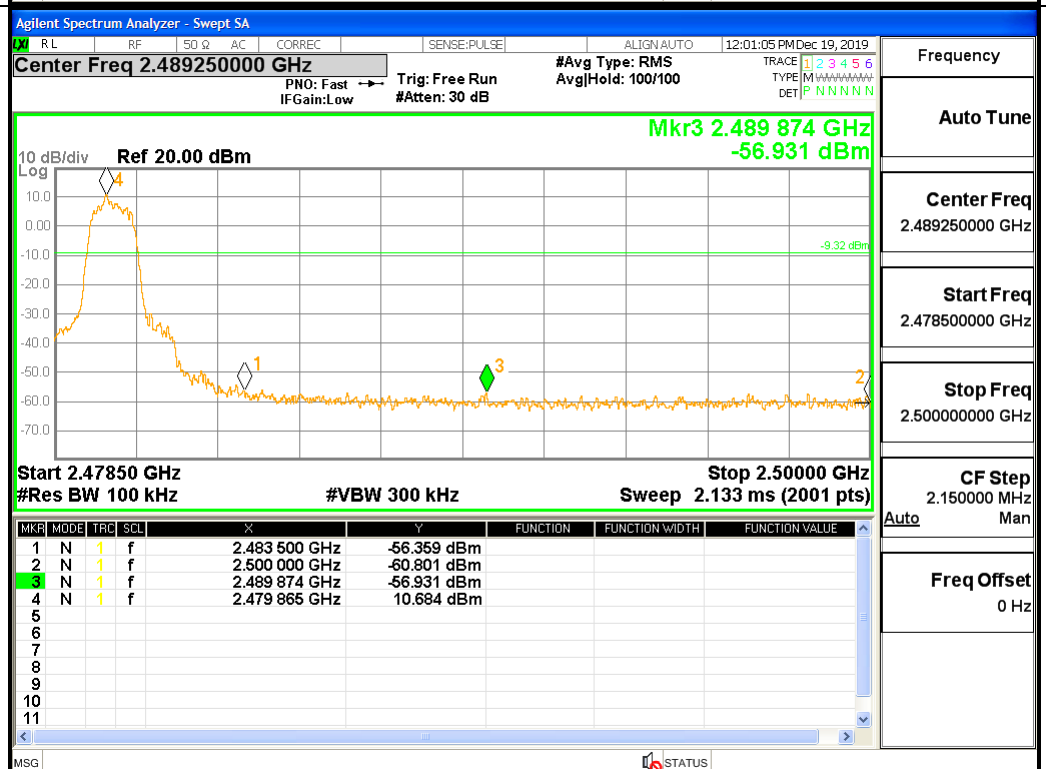


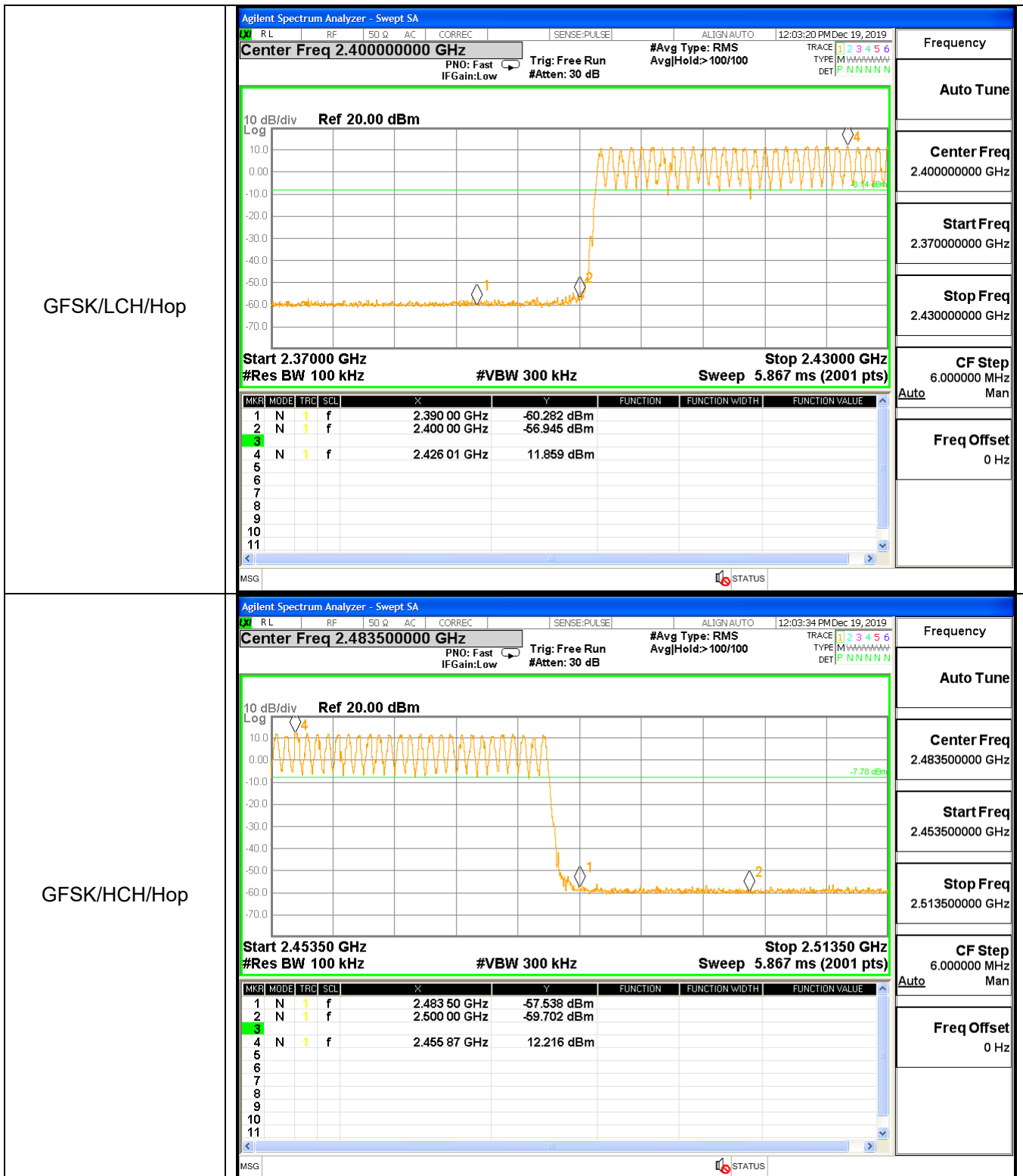
$\pi/4$ DQPSK/LCH/No
Hop $\pi/4$ DQPSK/HCH/No
Hop

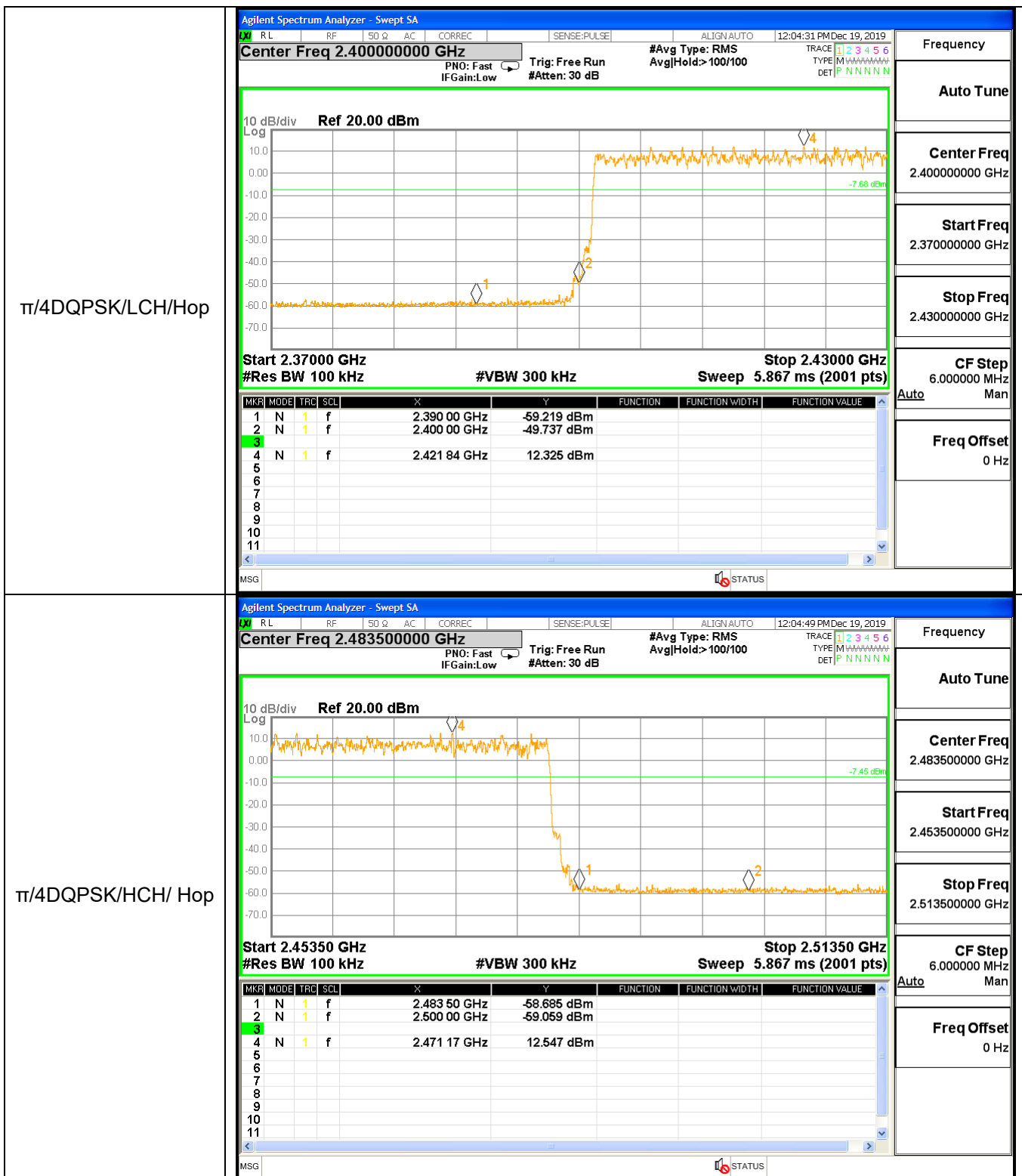
8DPSK/LCH/No Hop



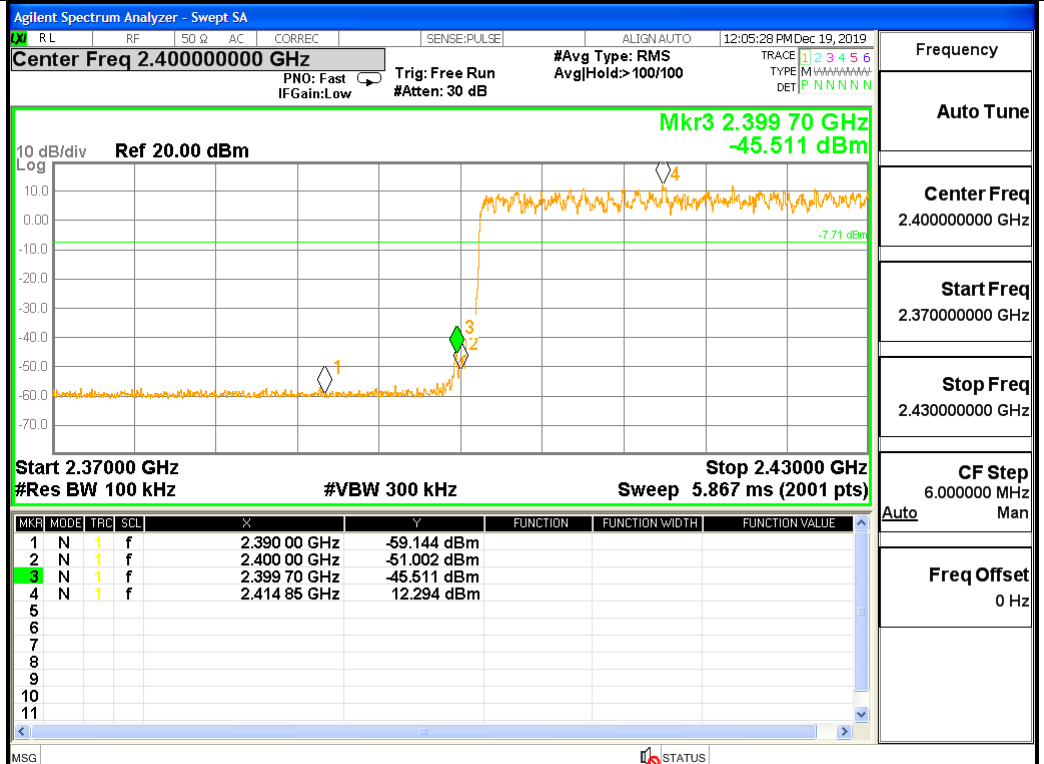
8DPSK/HCH/ No Hop



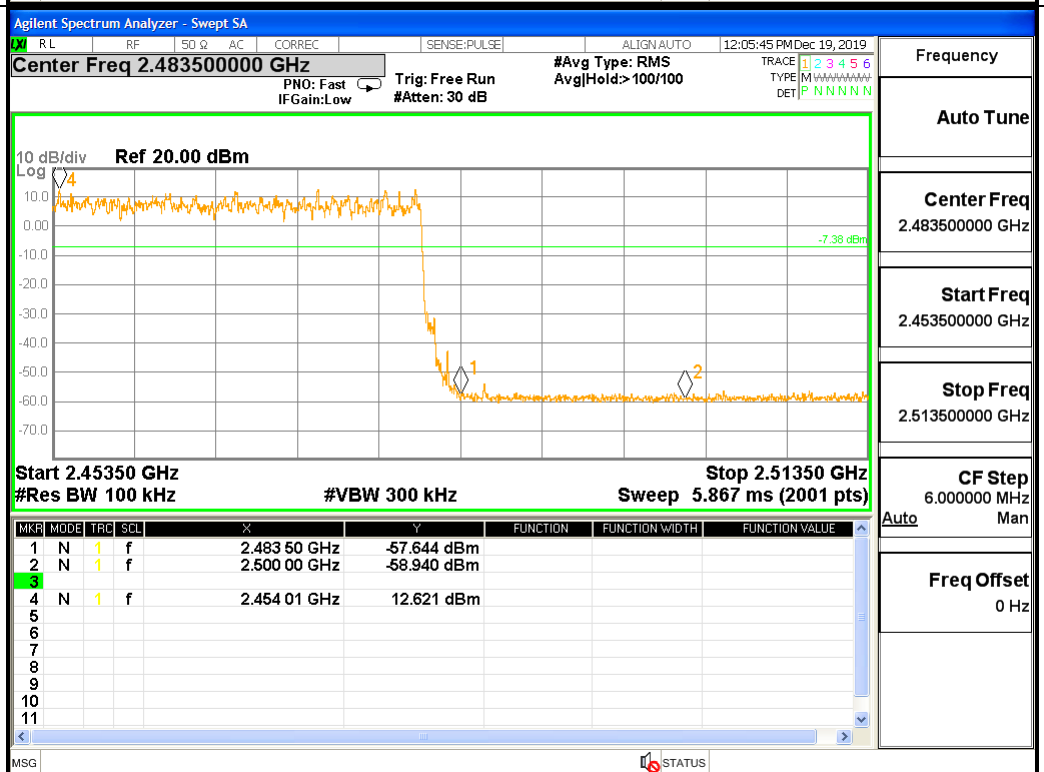




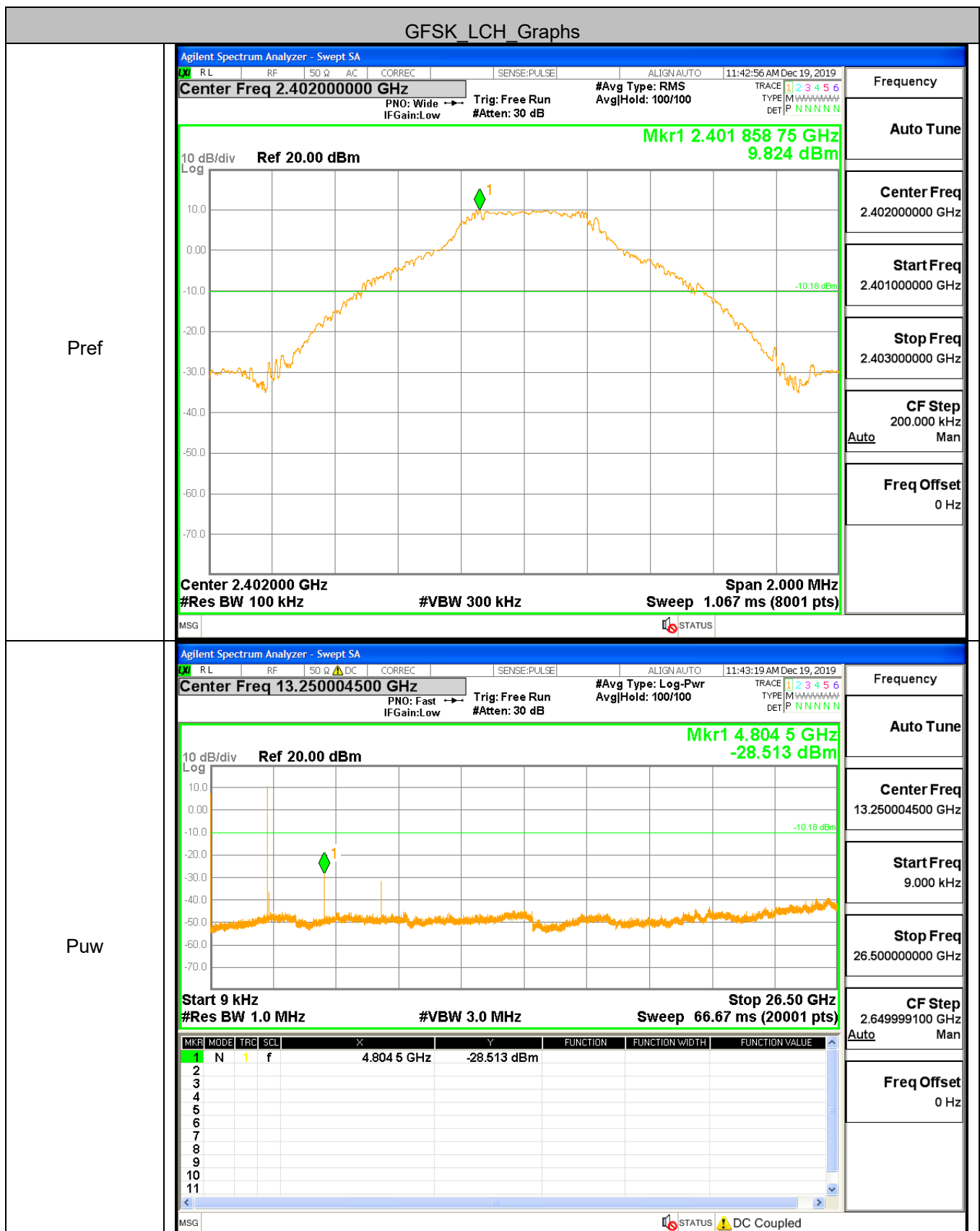
8DPSK/LCH/Hop



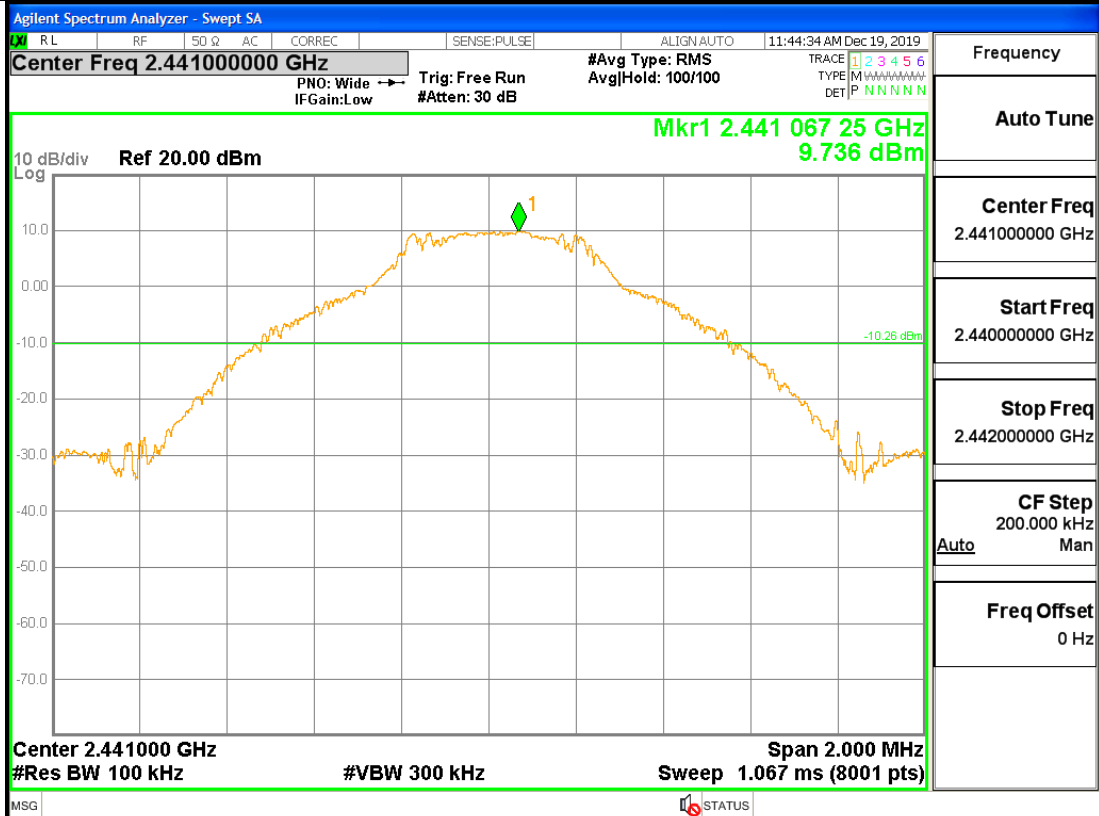
8DPSK/HCH/Hop



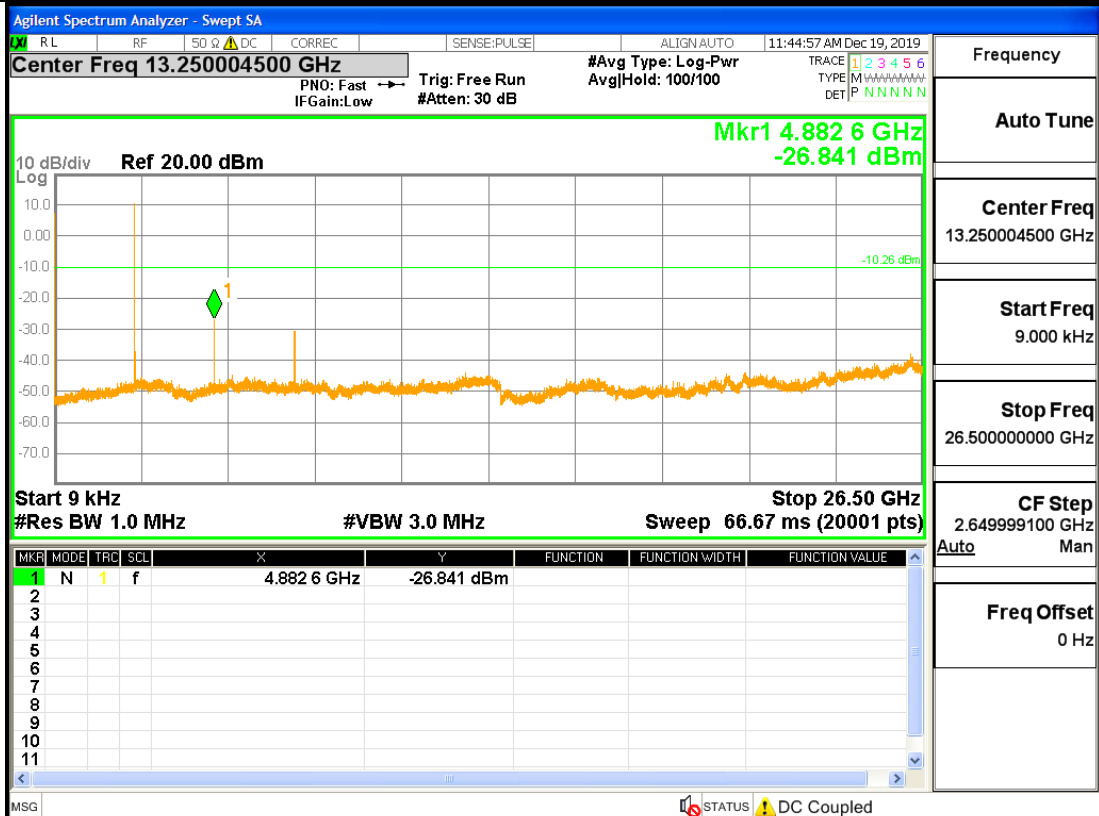
A.7 RF Conducted Spurious Emissions Test Graph



Pref

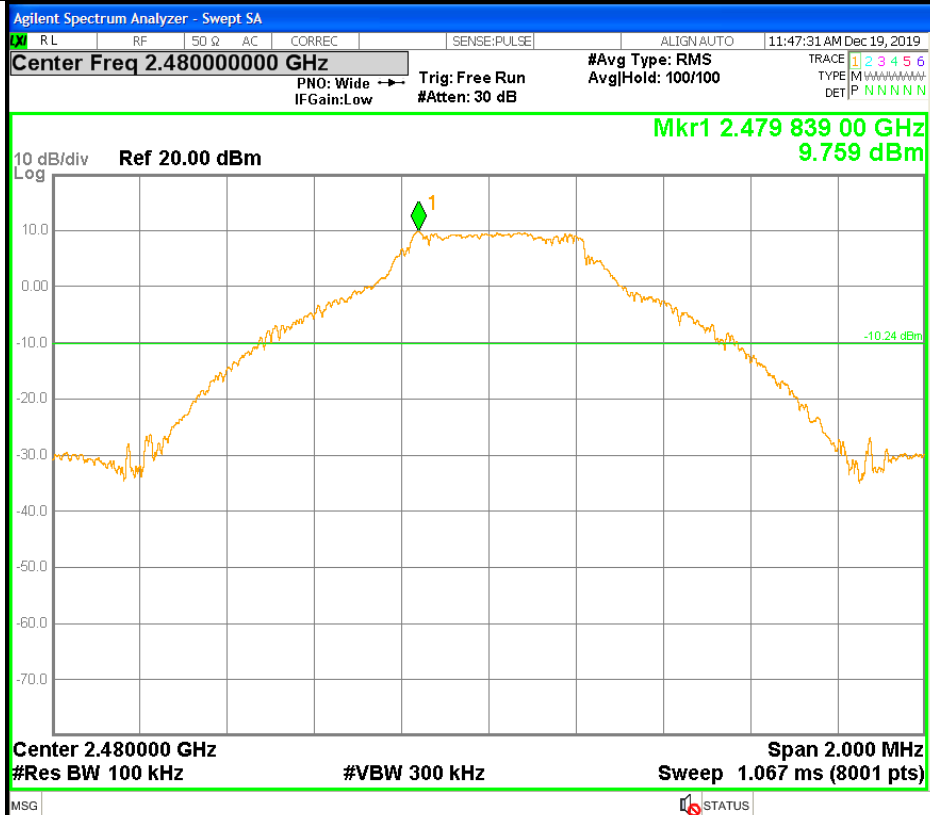


Puw



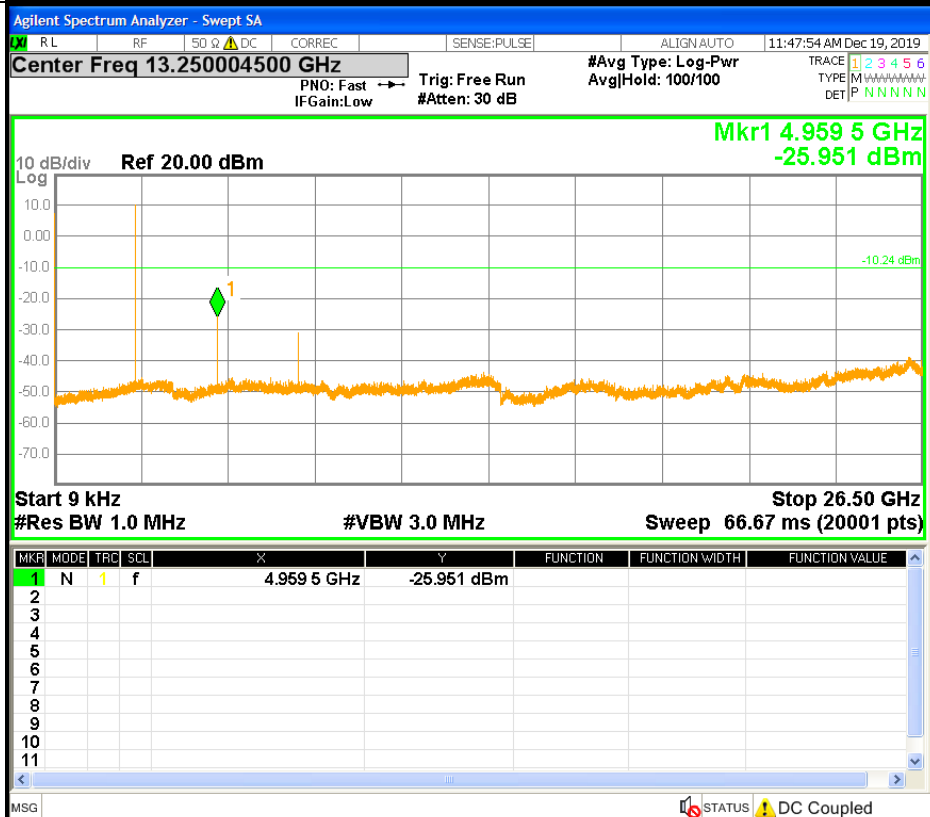
GFSK_HCH_Graphs

Pref



Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.479000000 GHz
Stop Freq 2.481000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

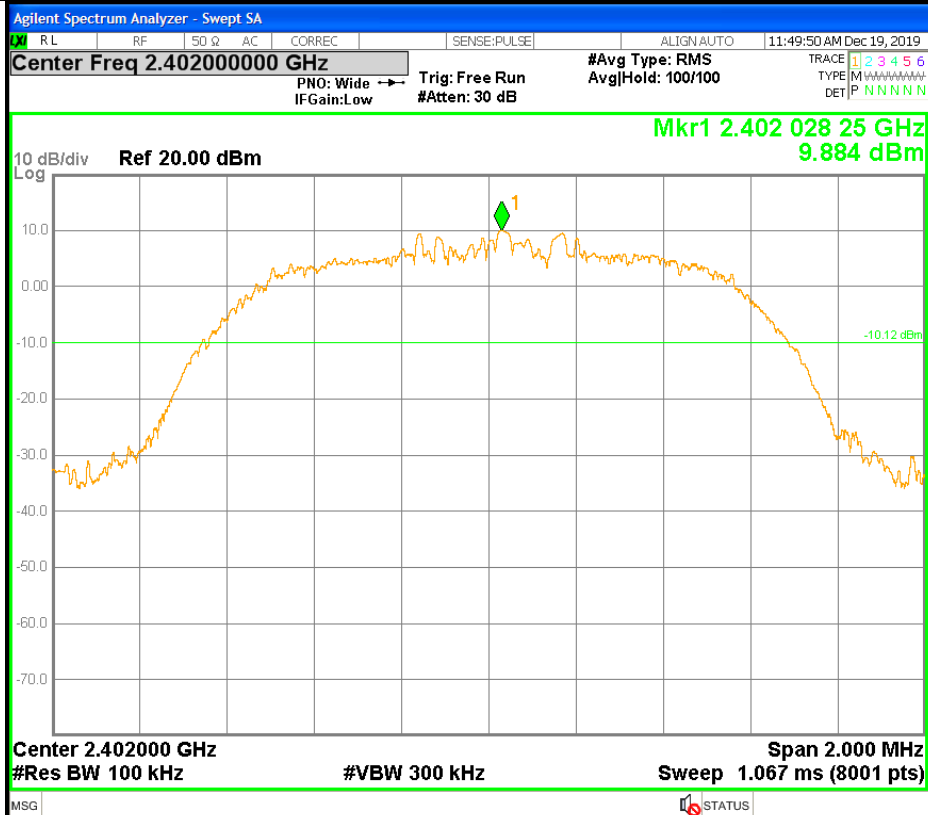
Puw



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

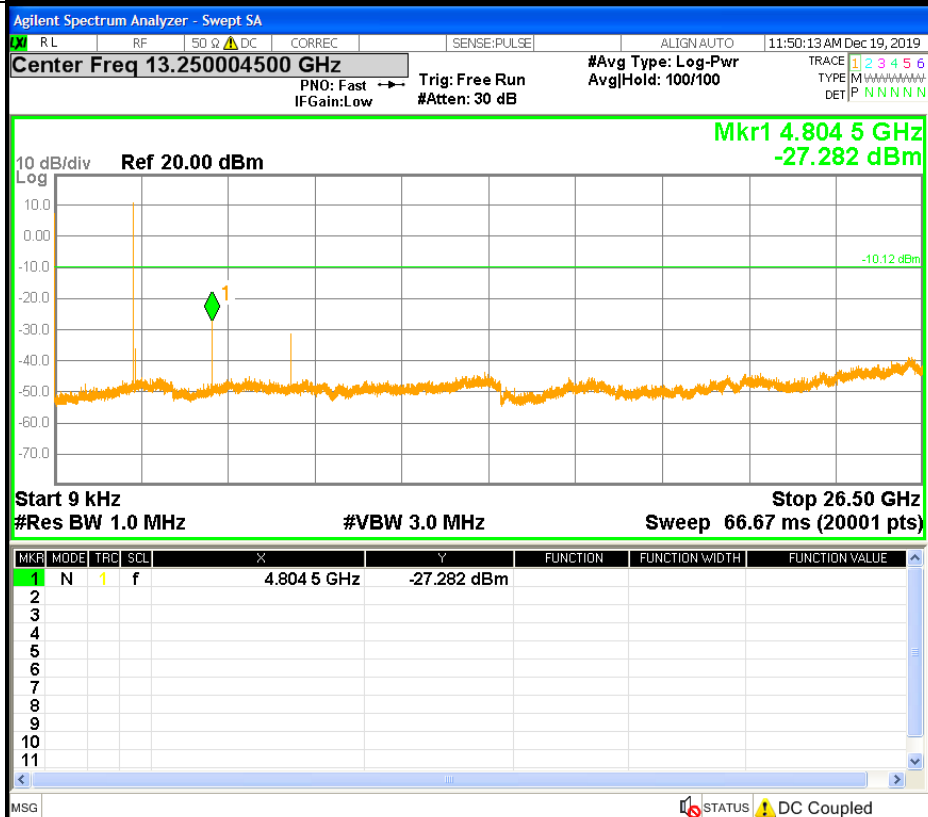
$\pi/4$ DQPSK_LCH_Graphs

Pref



Frequency
Auto Tune
Center Freq 2.402000000 GHz
Start Freq 2.401000000 GHz
Stop Freq 2.403000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

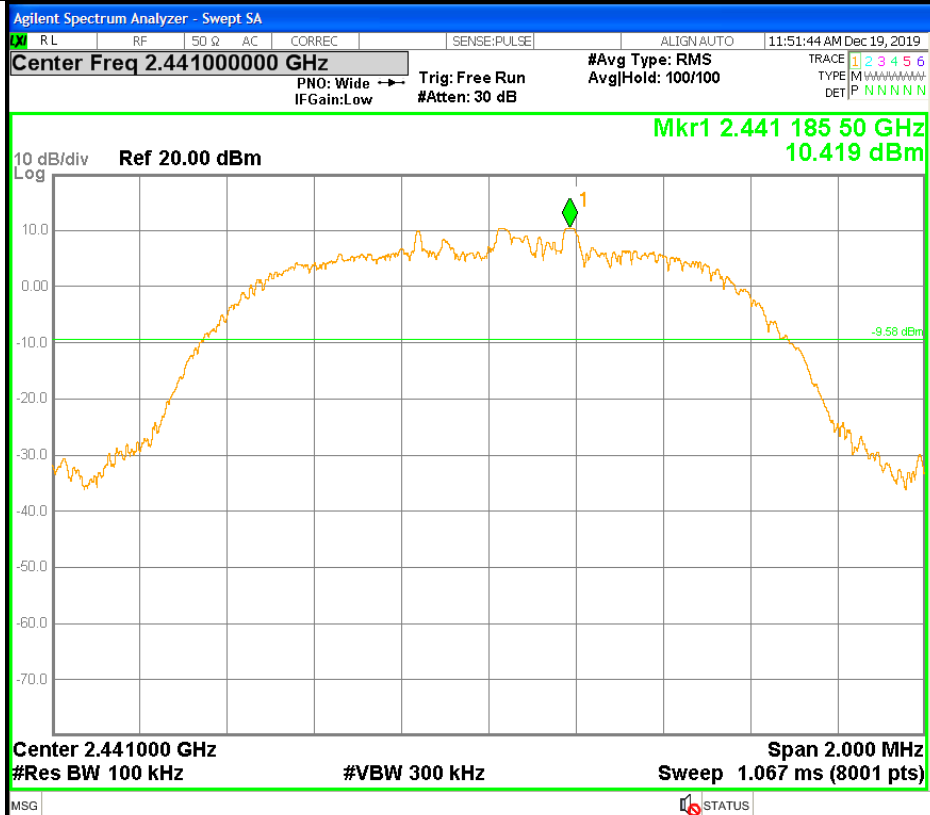
Puw



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

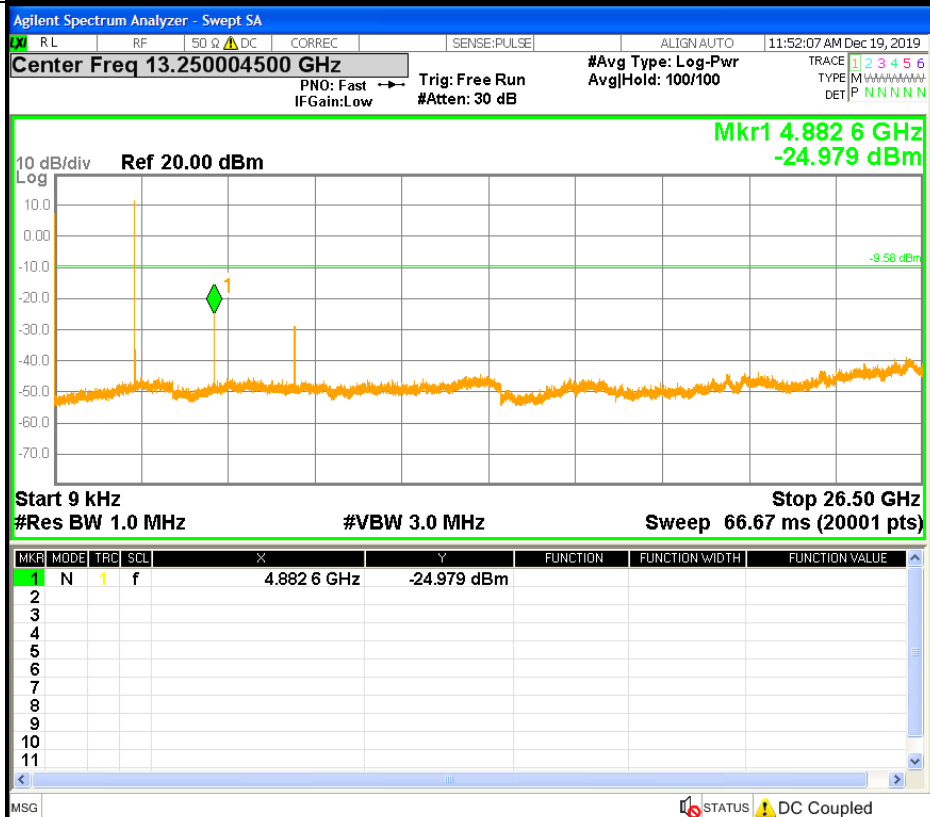
$\pi/4$ DQPSK_MCH_Graphs

Pref



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Start Freq 2.440000000 GHz
Stop Freq 2.442000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

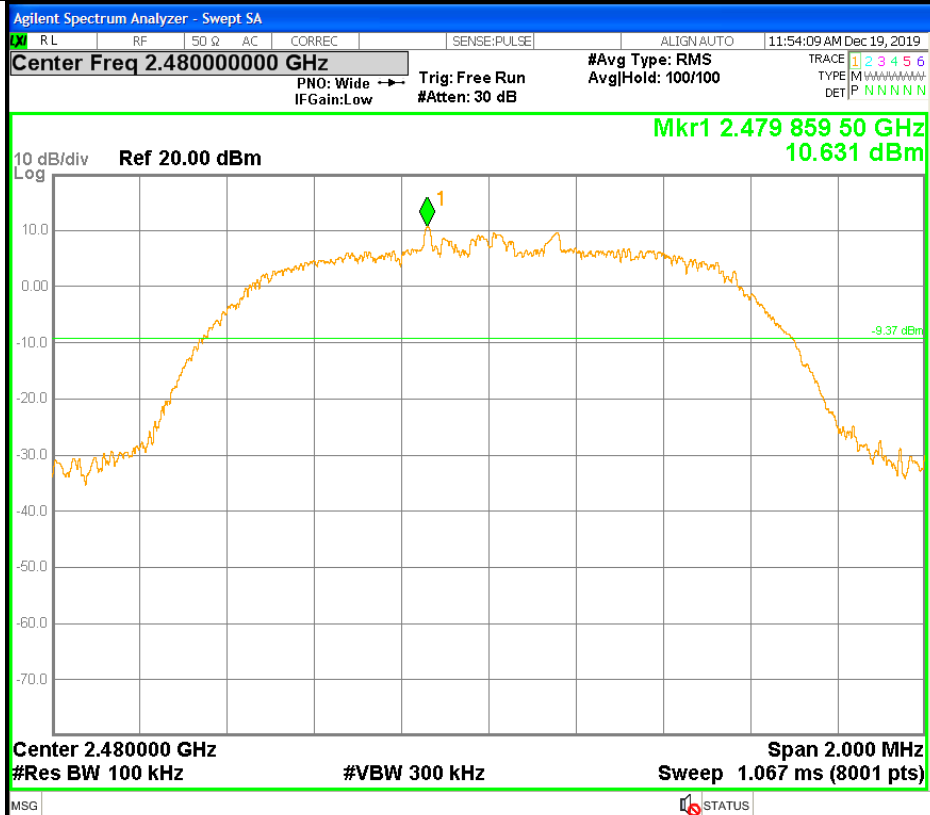
Puw



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

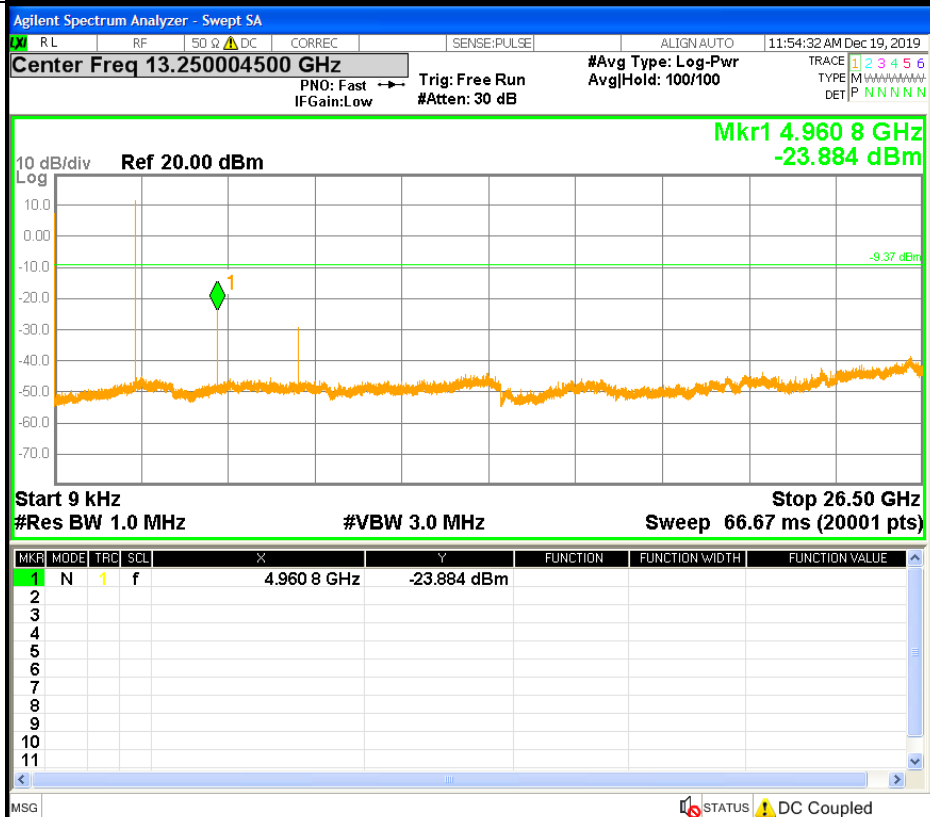
$\pi/4$ DQPSK_HCH_Graphs

Pref



Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.479000000 GHz
Stop Freq 2.481000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

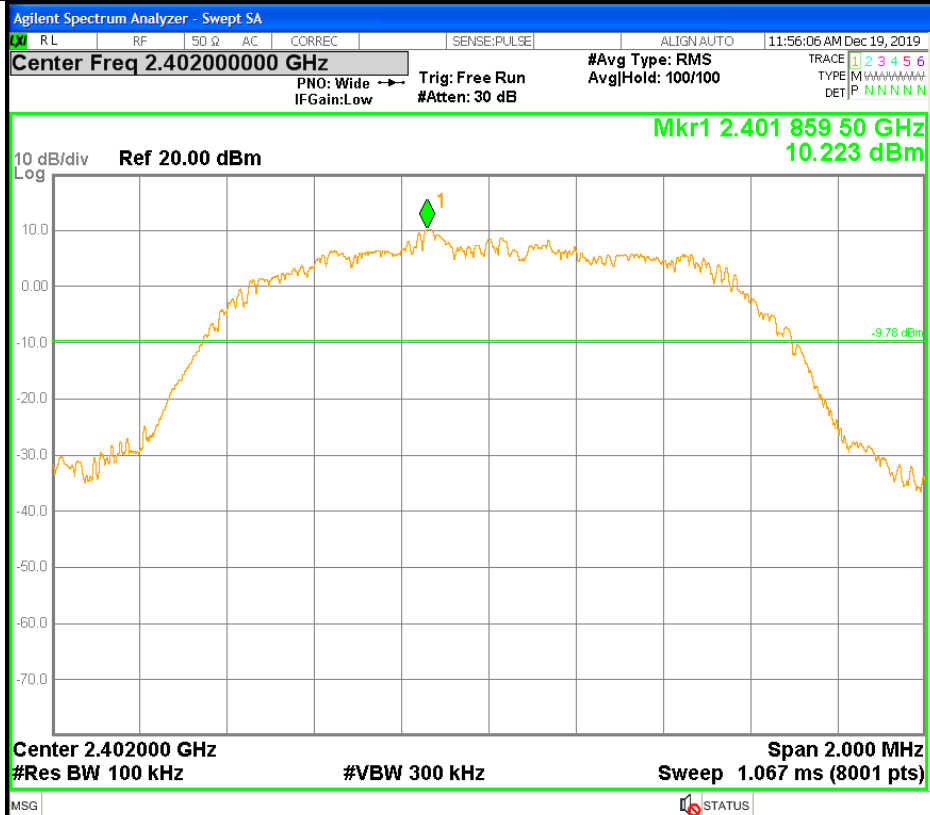
Puw



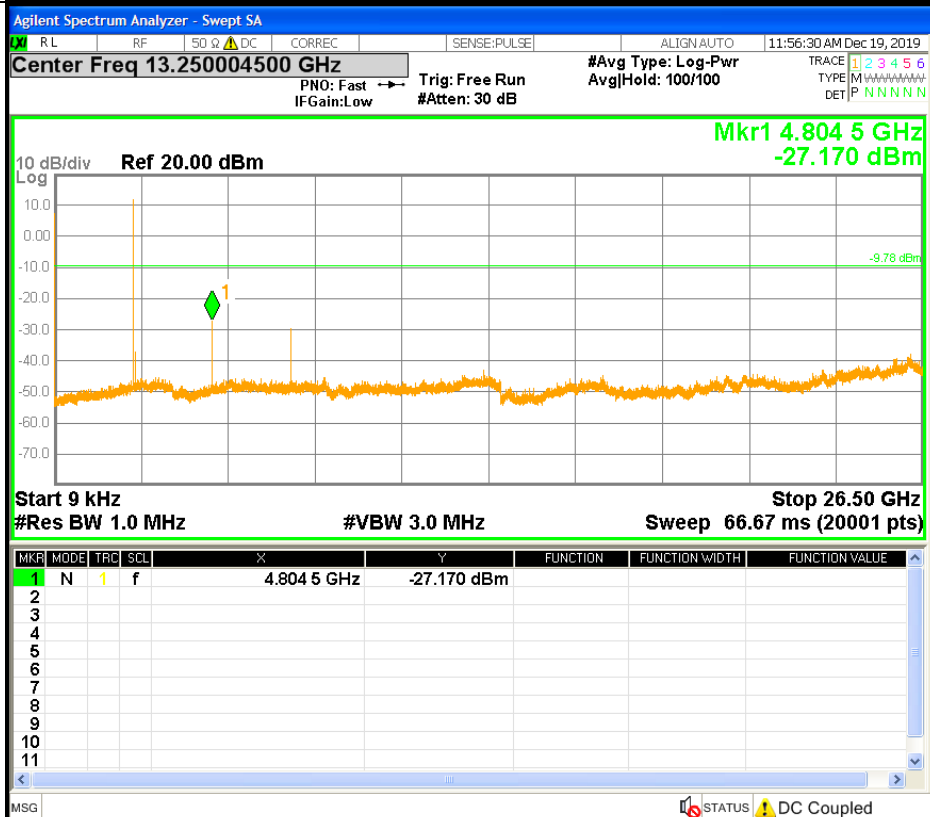
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

8DPSK LCH_Graphs

Pref

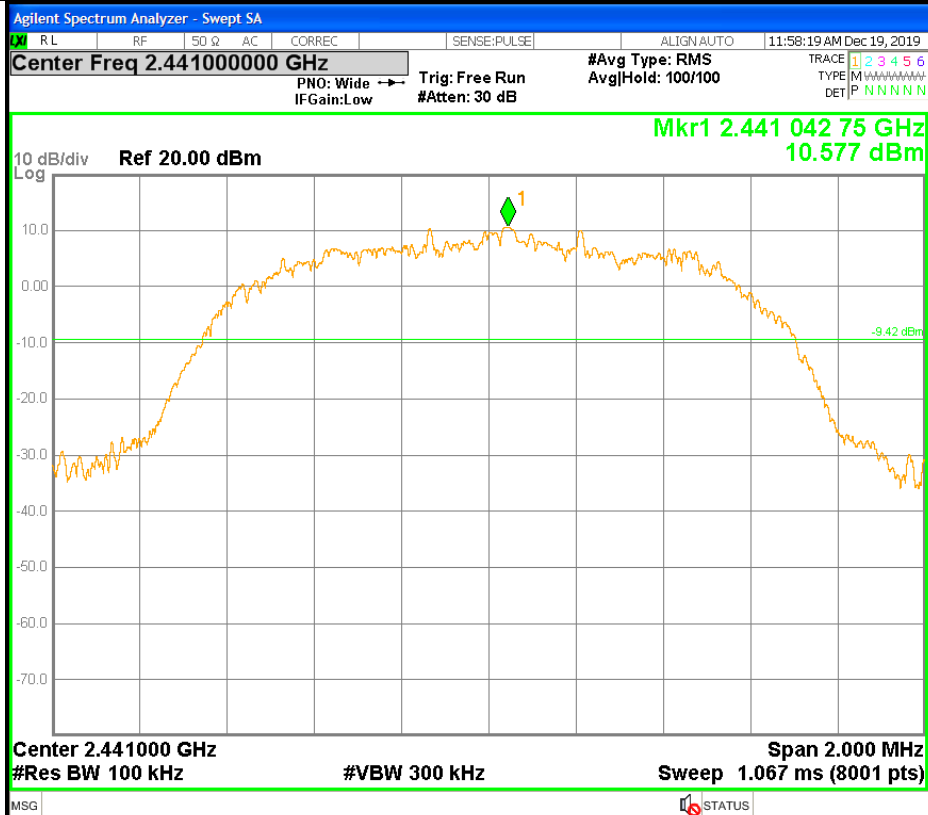


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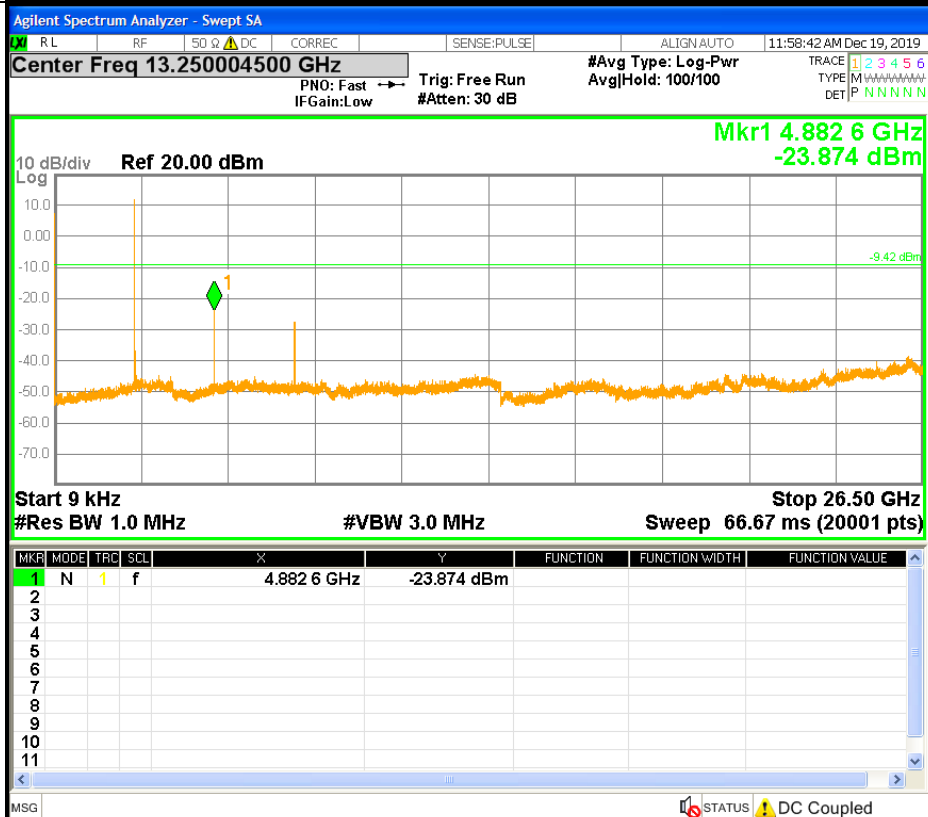
8DPSK_MCH_Graphs

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

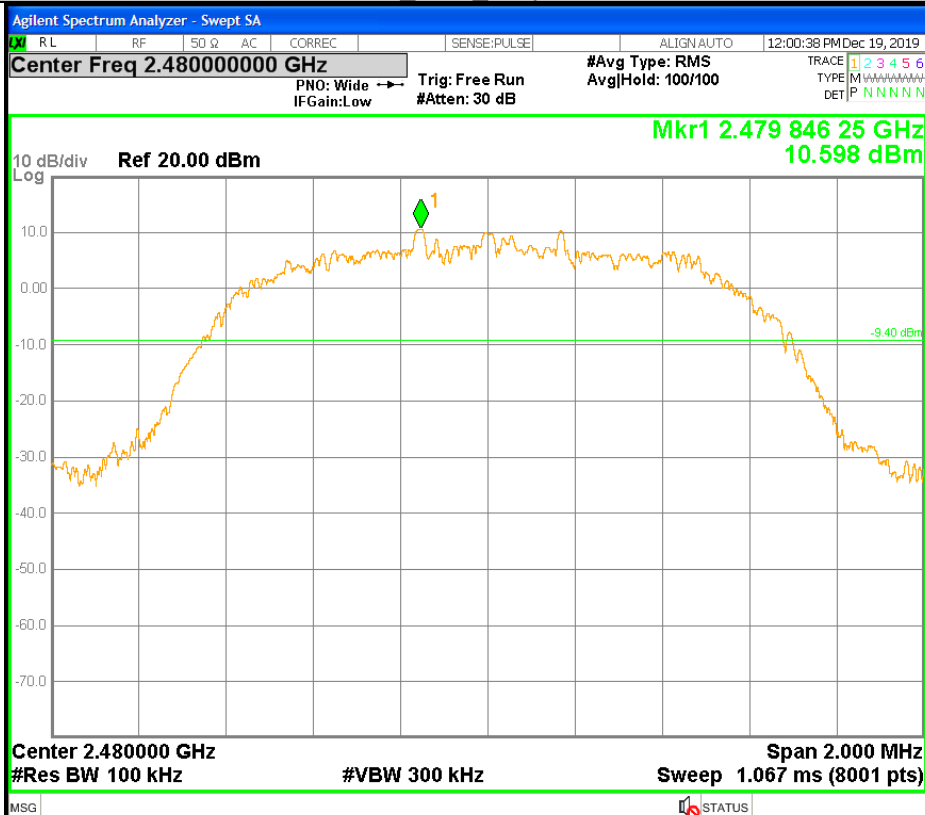
Puw



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

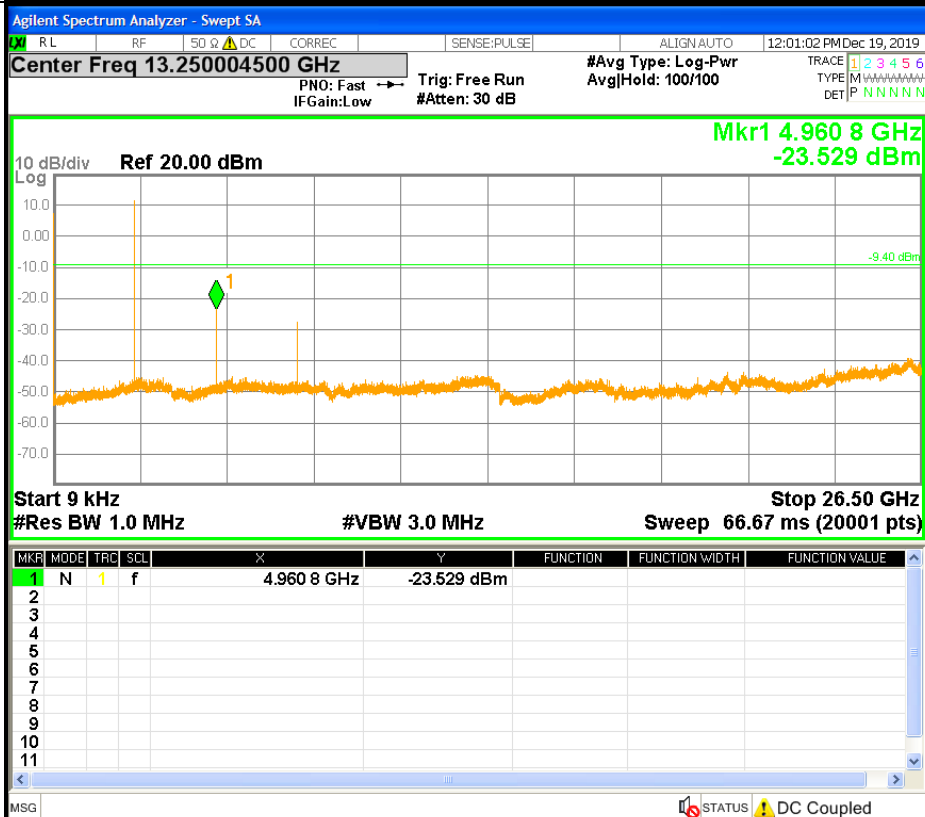
8DPSK_HCH_Graphs

Pref



Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.479000000 GHz
Stop Freq 2.481000000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

Puw



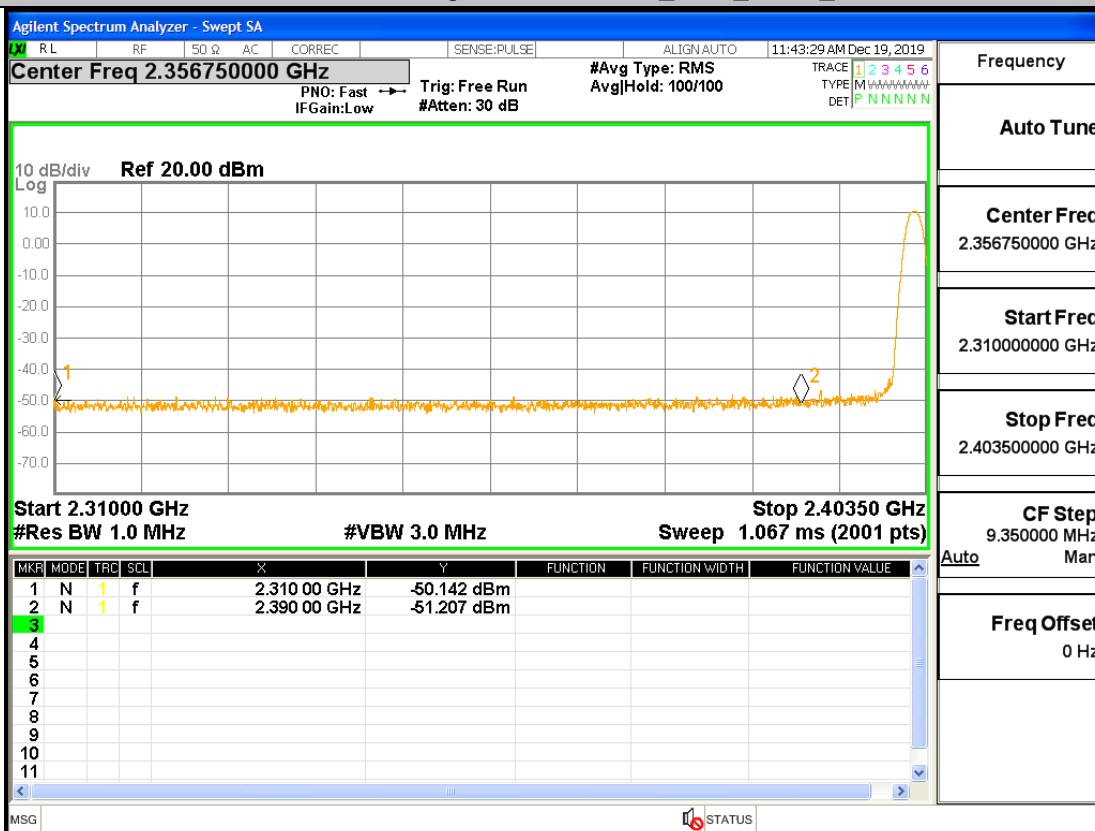
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto
Freq Offset 0 Hz

A.8 Restrict-band band-edge measurements

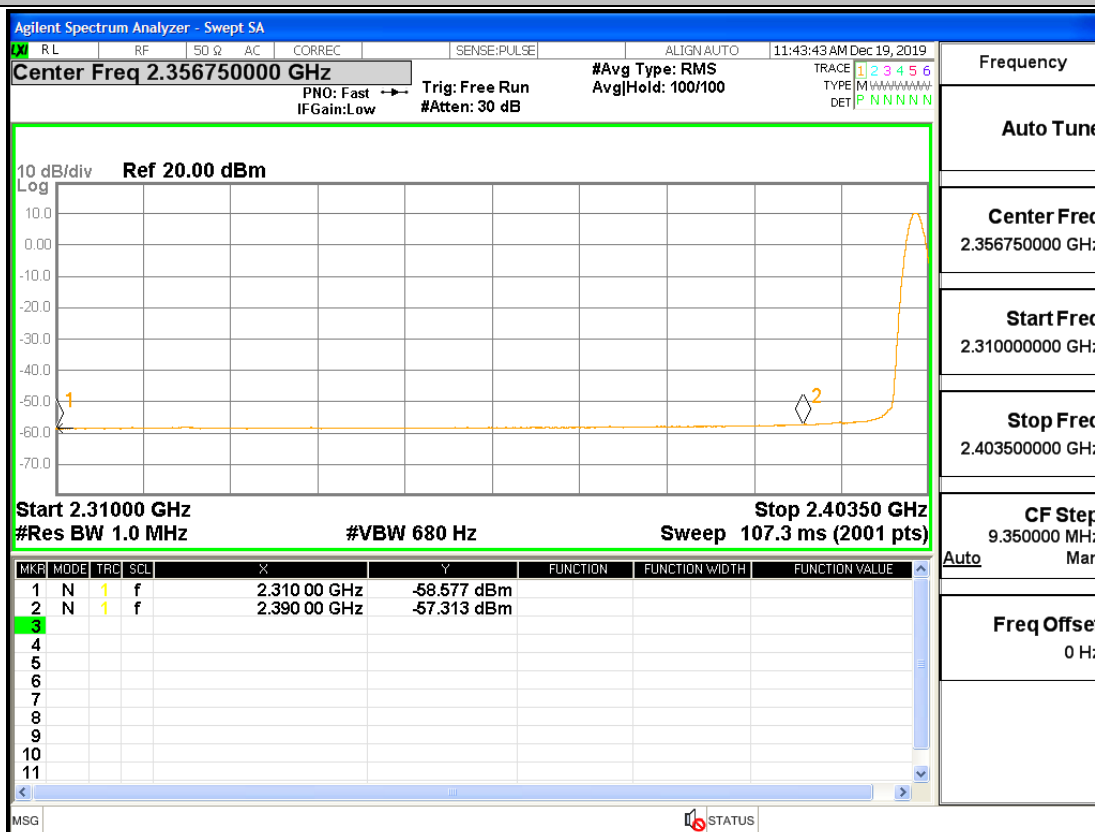
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2310	3.09	0.00	-50.142	48.148	74	Pass
1DH5	2480	2483.5	3.09	0.00	-45.541	52.749	74	Pass
2DH5	2402	2483.5	3.09	0.00	-47.787	50.503	74	Pass
2DH5	2480	2390	3.09	0.00	-50.834	47.456	74	Pass
3DH5	2402	2483.5	3.09	0.00	-47.273	51.017	74	Pass
3DH5	2480	2390	3.09	0.00	-52.04	46.25	74	Pass

Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2310	3.09	0.00	-57.313	40.977	54	Pass
1DH5	2480	2483.5	3.09	0.00	-47.028	51.262	54	Pass
2DH5	2402	2483.5	3.09	0.00	-47.072	51.218	54	Pass
2DH5	2480	2390	3.09	0.00	-57.283	41.007	54	Pass
3DH5	2402	2483.5	3.09	0.00	-45	53.29	54	Pass
3DH5	2480	2390	3.09	0.00	-57.38	40.91	54	Pass

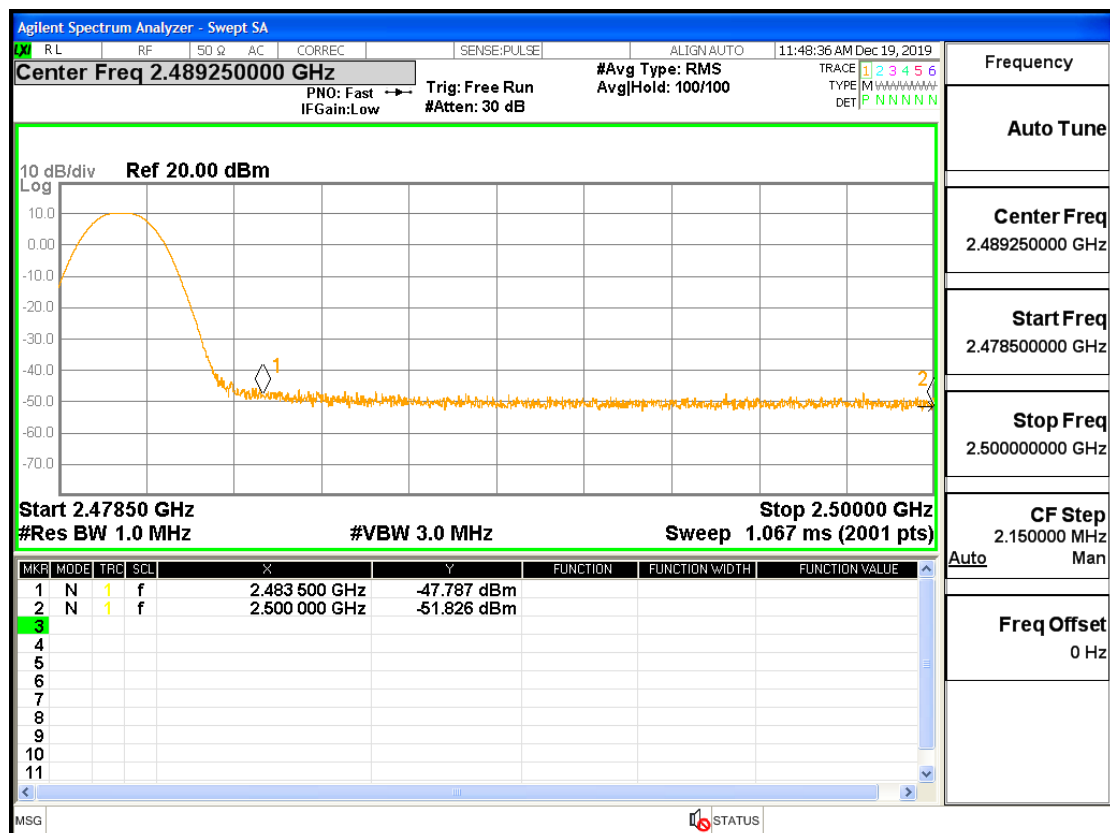
Restrict-band band-edge measurements_2402_PEAK_DH5



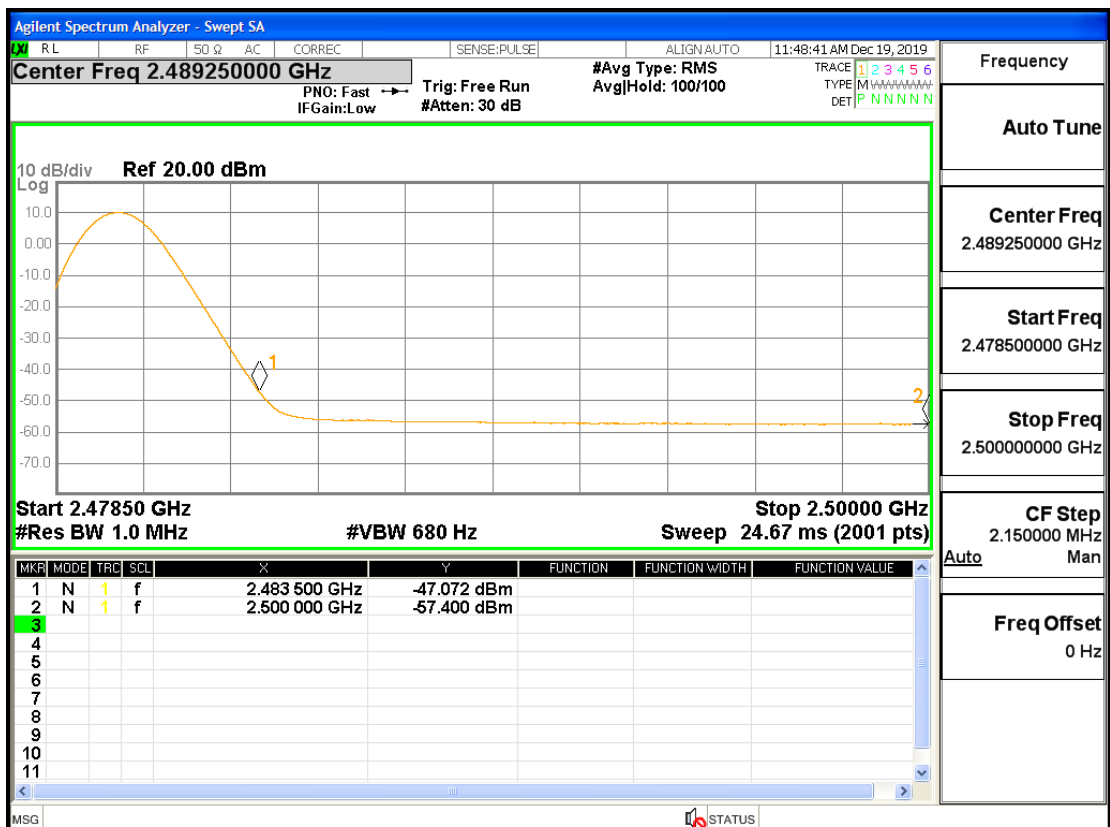
Restrict-band band-edge measurements_2402_AV_DH5



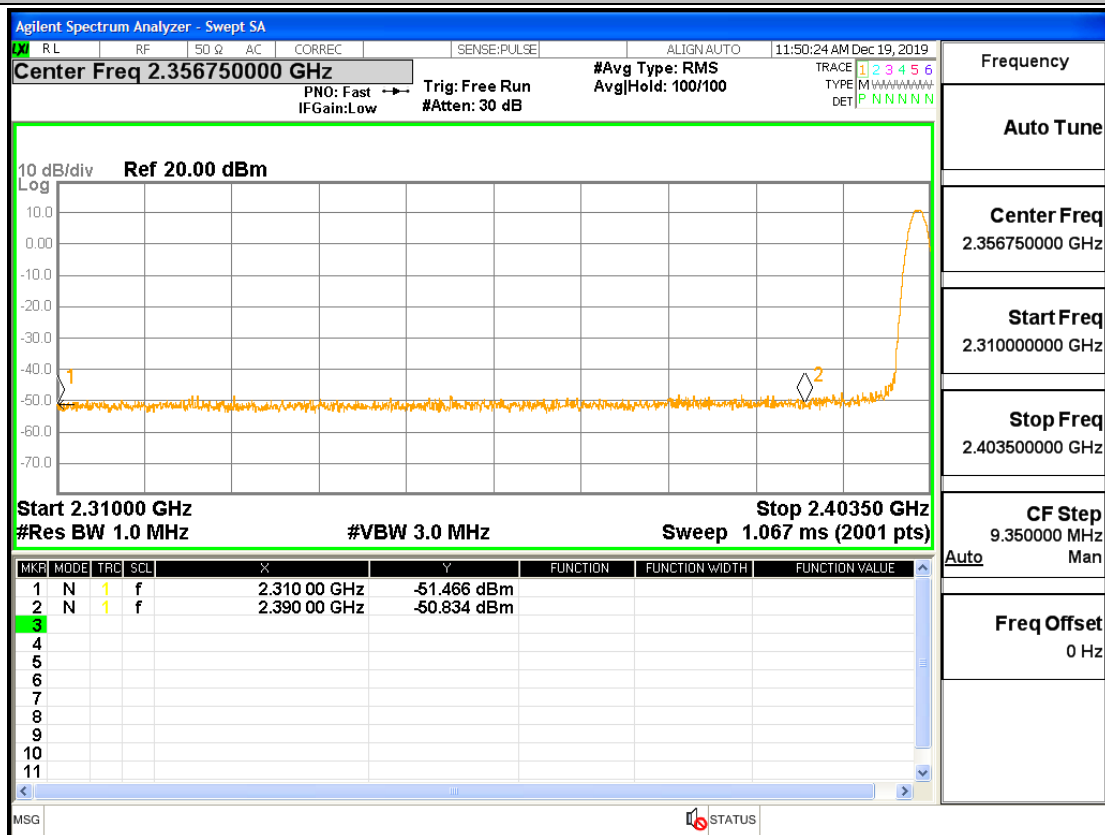
Restrict-band band-edge measurements_2480_PEAK_DH5



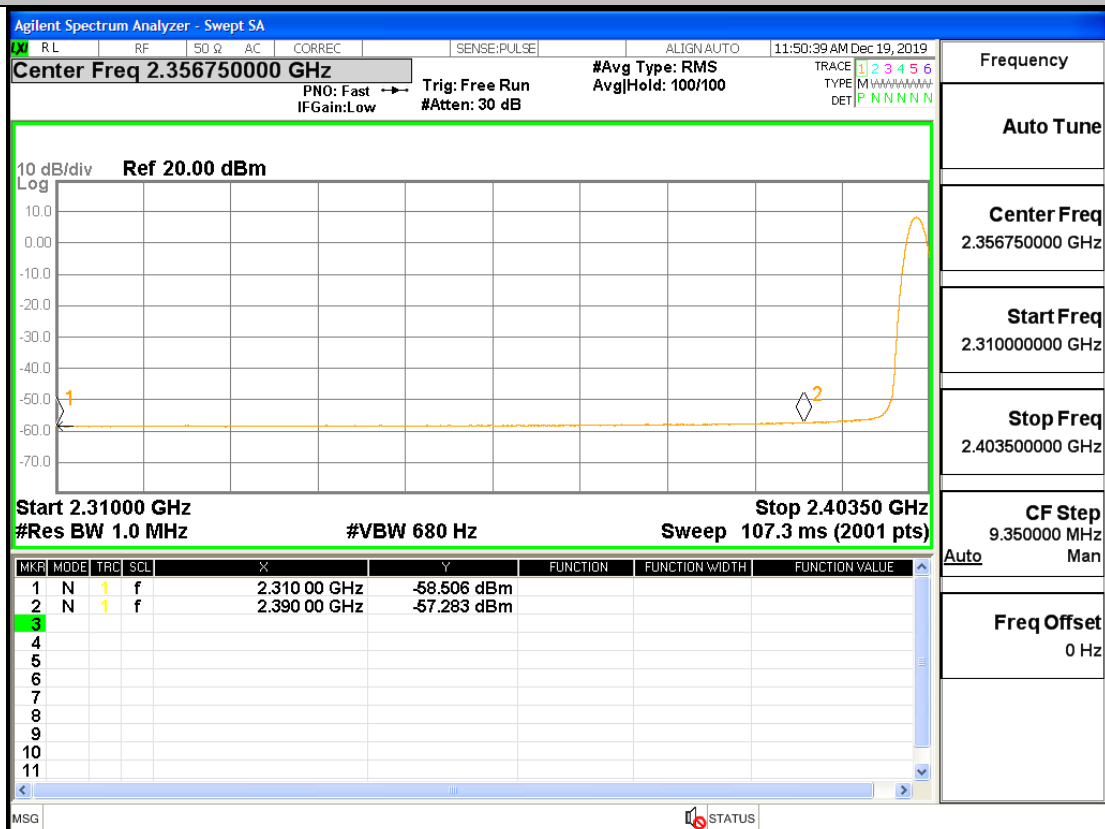
Restrict-band band-edge measurements_2480_AV_DH5



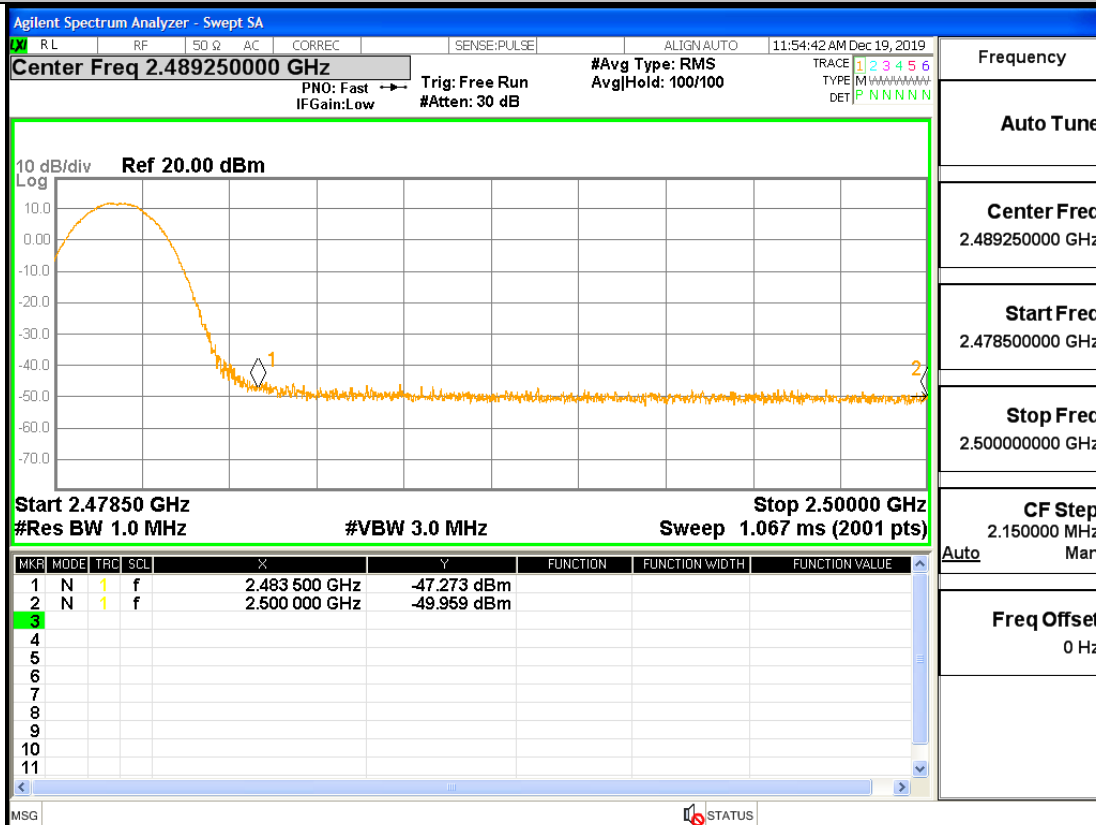
Restrict-band band-edge measurements_2402_PEAK_2DH5



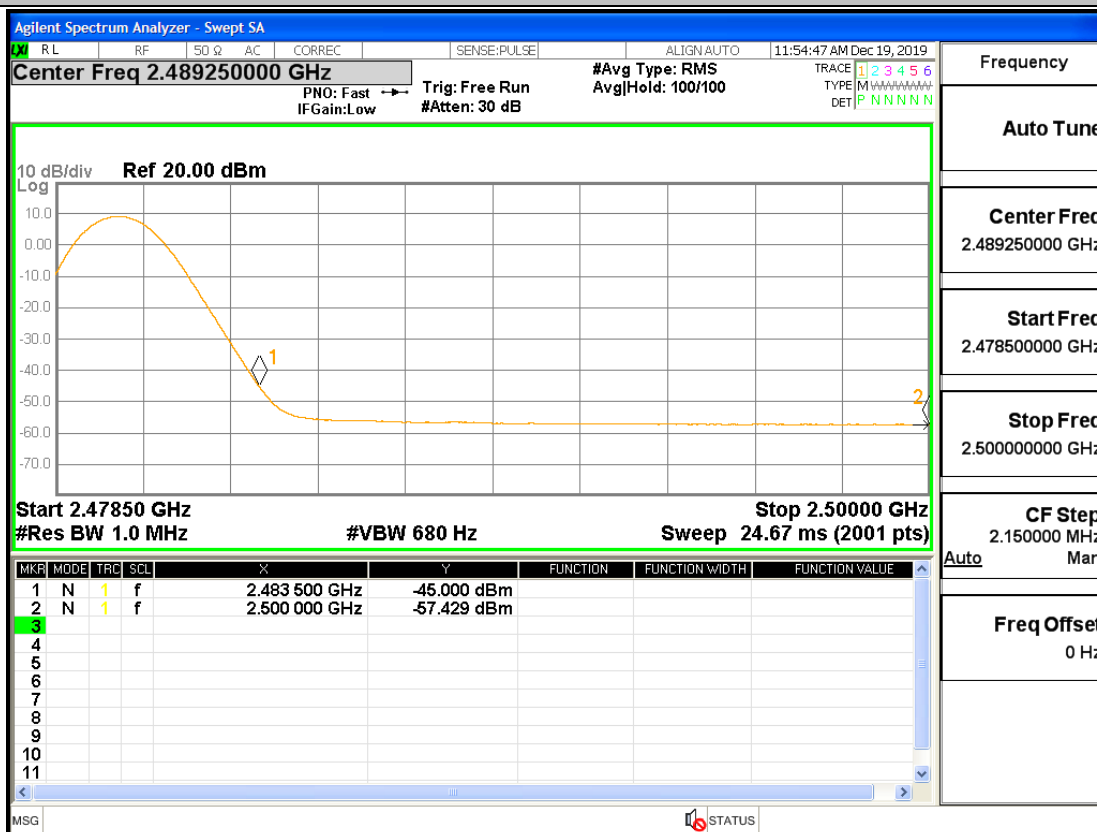
Restrict-band band-edge measurements_2402_AV_2DH5



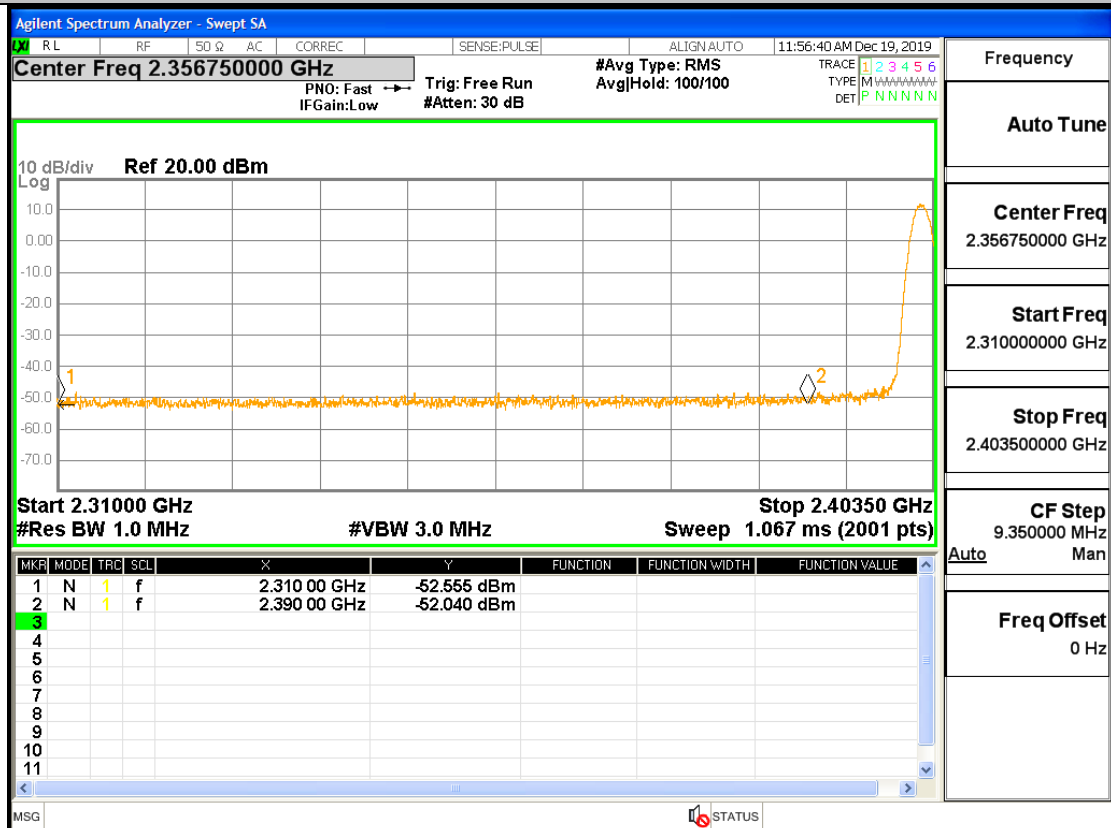
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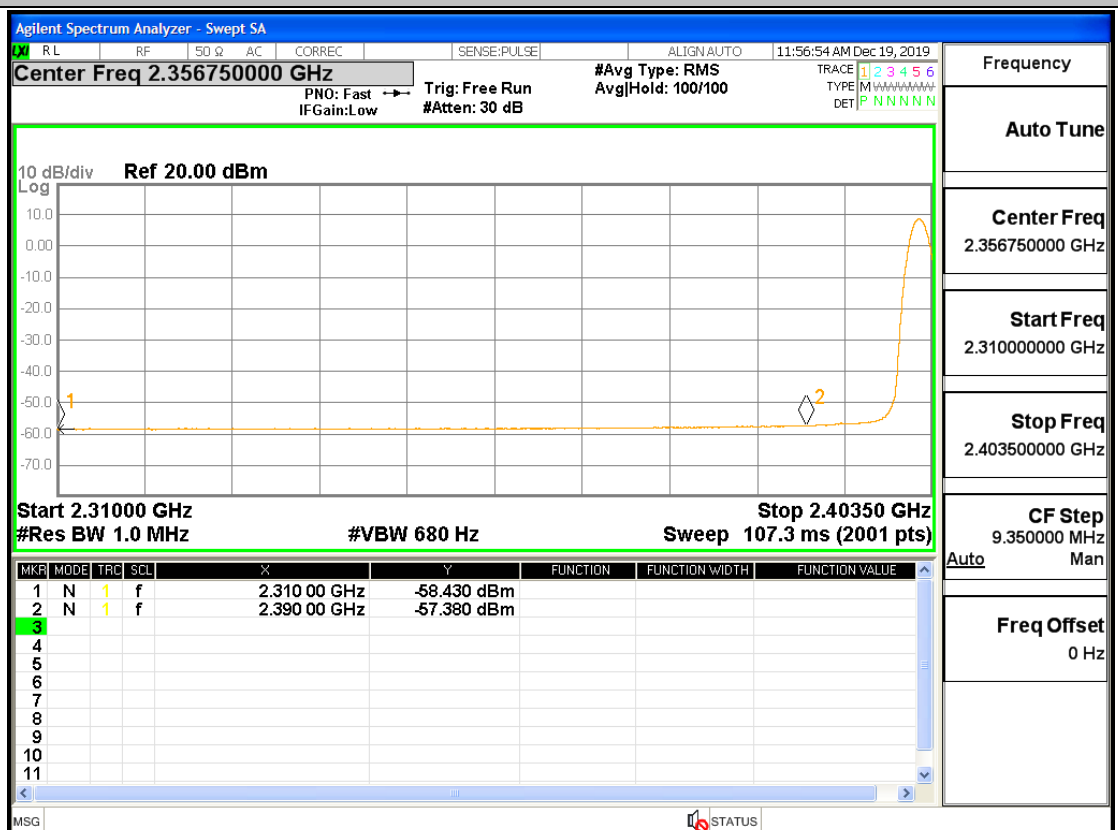
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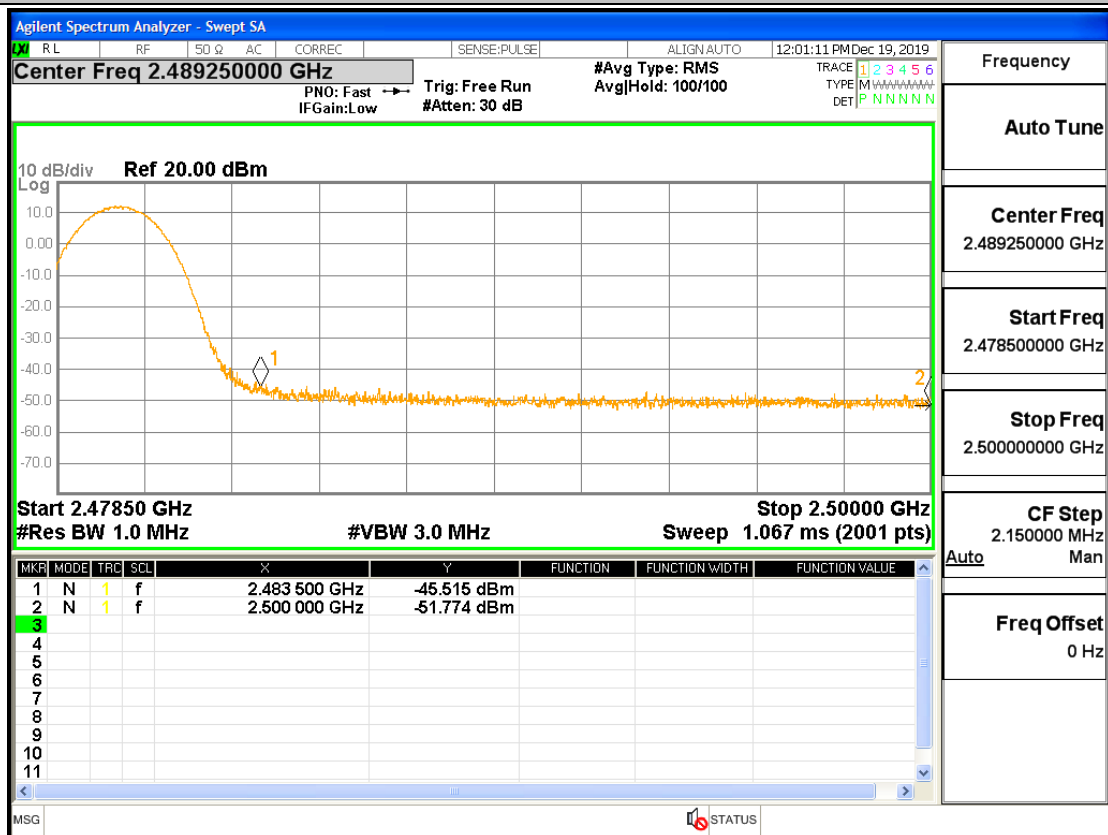
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

