

Appendix A

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

Product Name: ANC Bluetooth headphone

Trade Mark: N/A

Test Model: NC-1031

FCC ID: 2AAHX-NC-1031

Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.941	Not Specified	PASS
GFSK	MCH	0.940	Not Specified	PASS
GFSK	HCH	0.940	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.218	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.231	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.236	Not Specified	PASS
8DPSK	LCH	1.260	Not Specified	PASS
8DPSK	MCH	1.253	Not Specified	PASS
8DPSK	HCH	1.253	Not Specified	PASS

Test Graph

Graphs

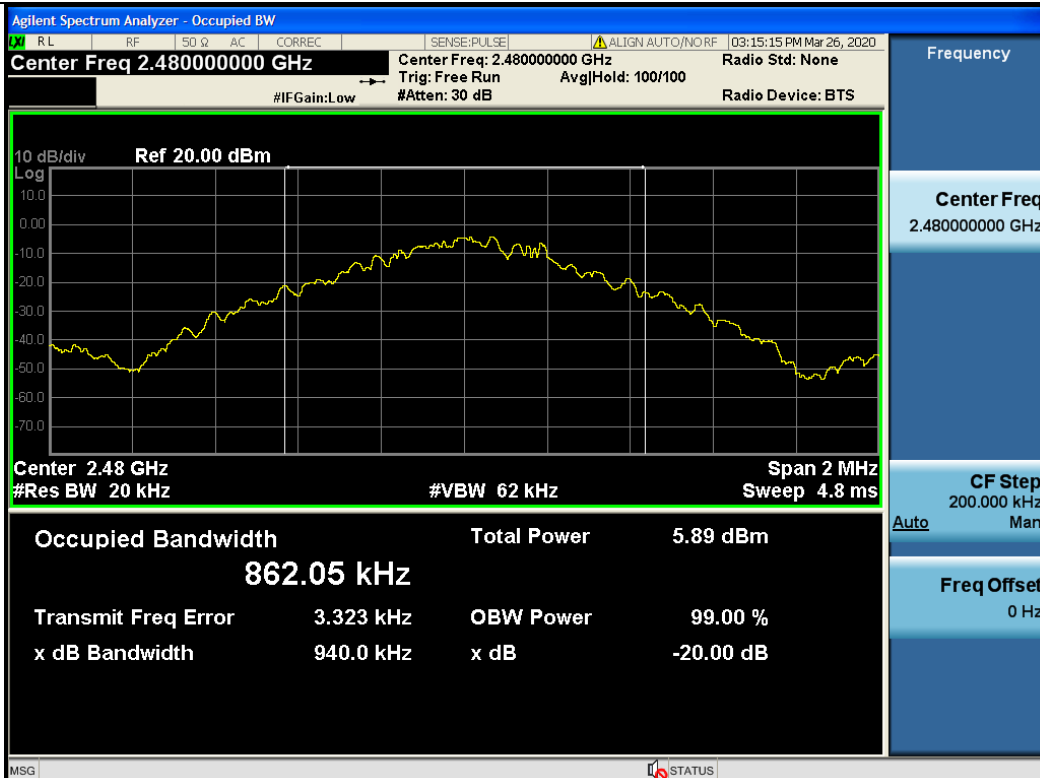
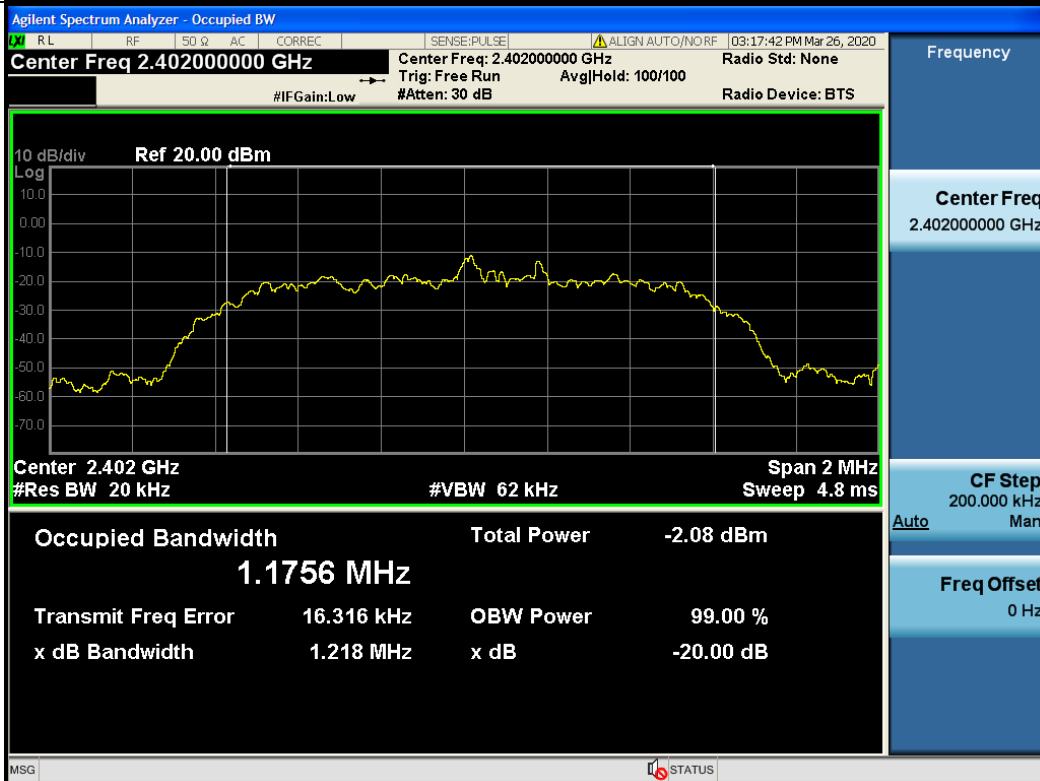
GFSK/LCH

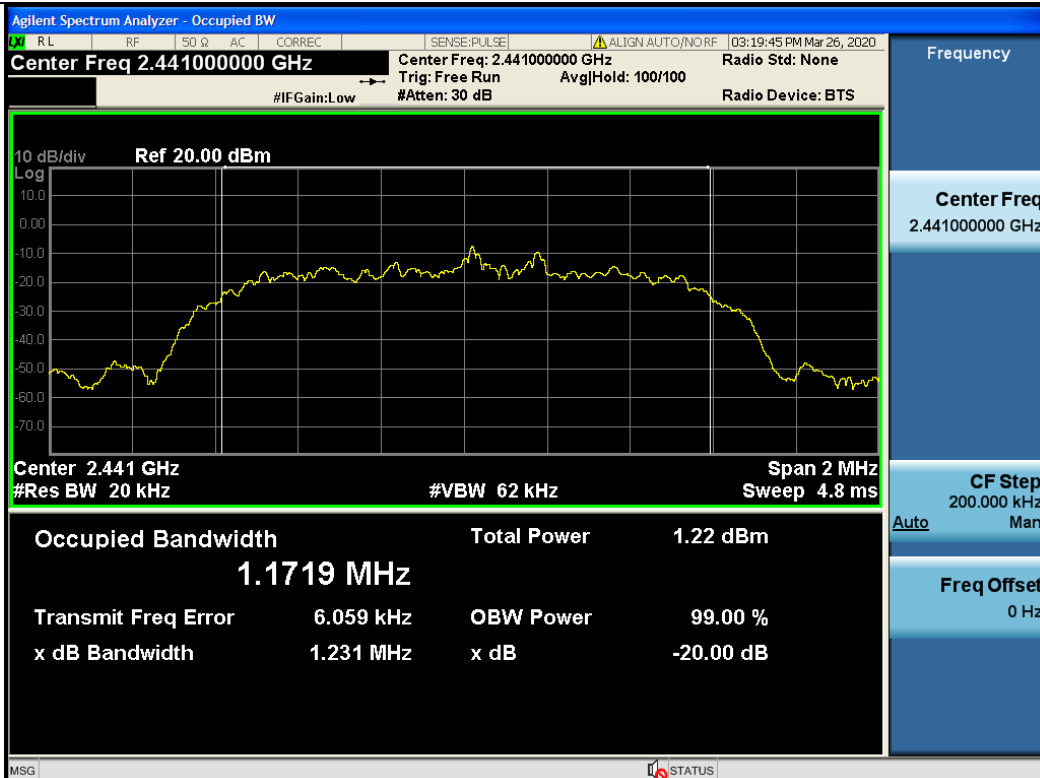
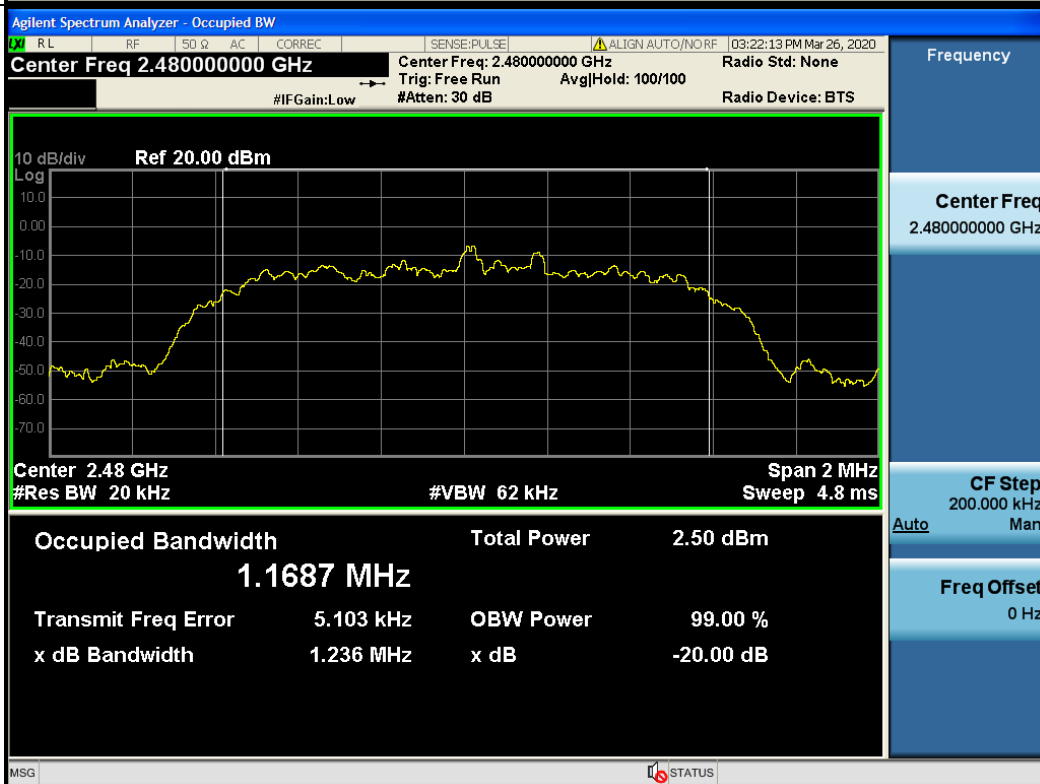


GFSK/MCH

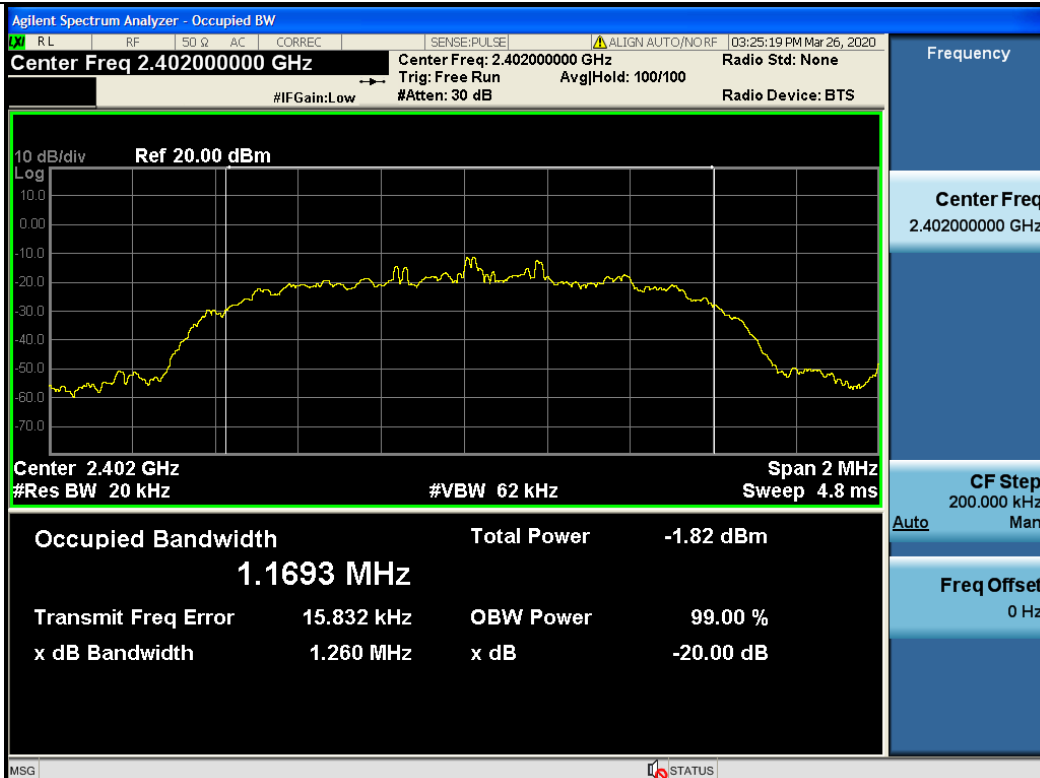


GFSK/HCH

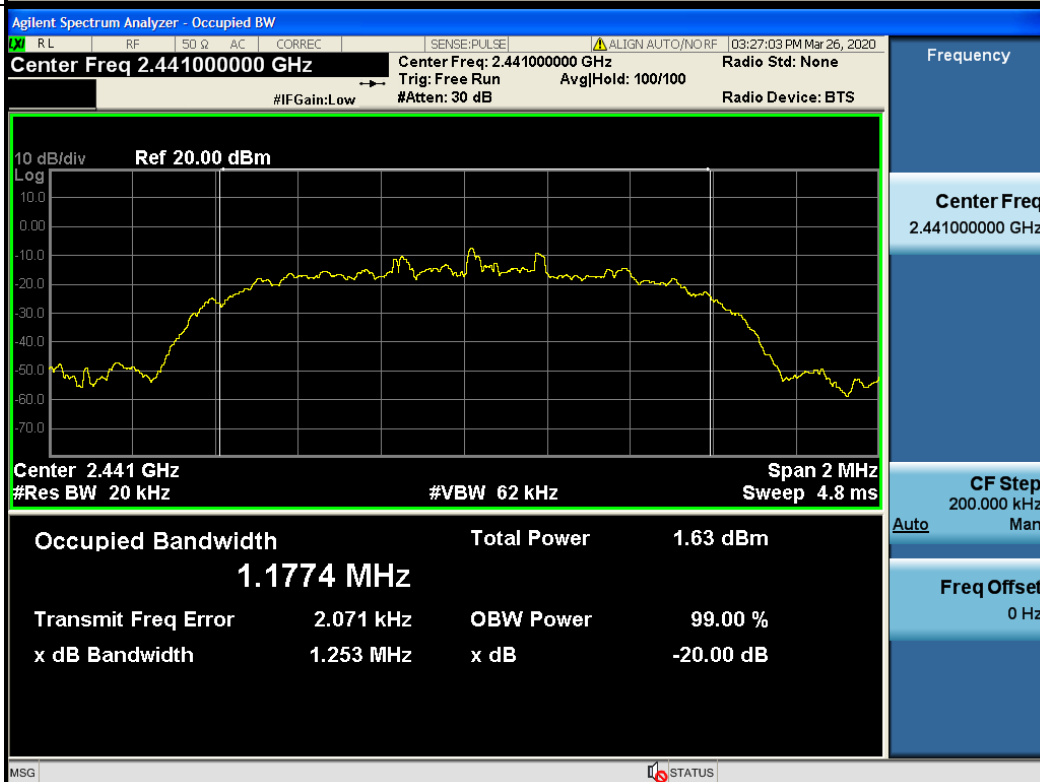
 π /4DQPSK/LCH

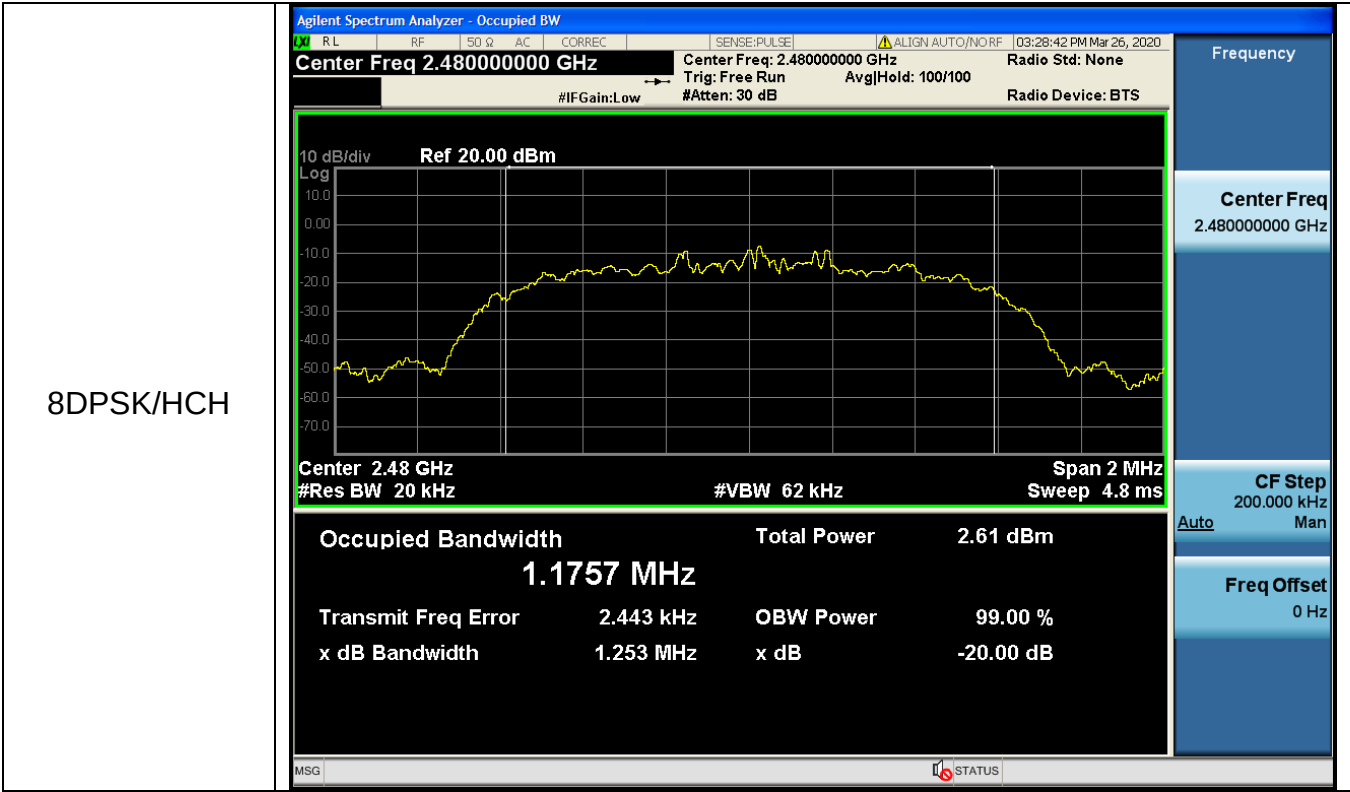
π /4DQPSK/MCH π /4DQPSK/HCH

8DPSK/LCH



8DPSK/MCH

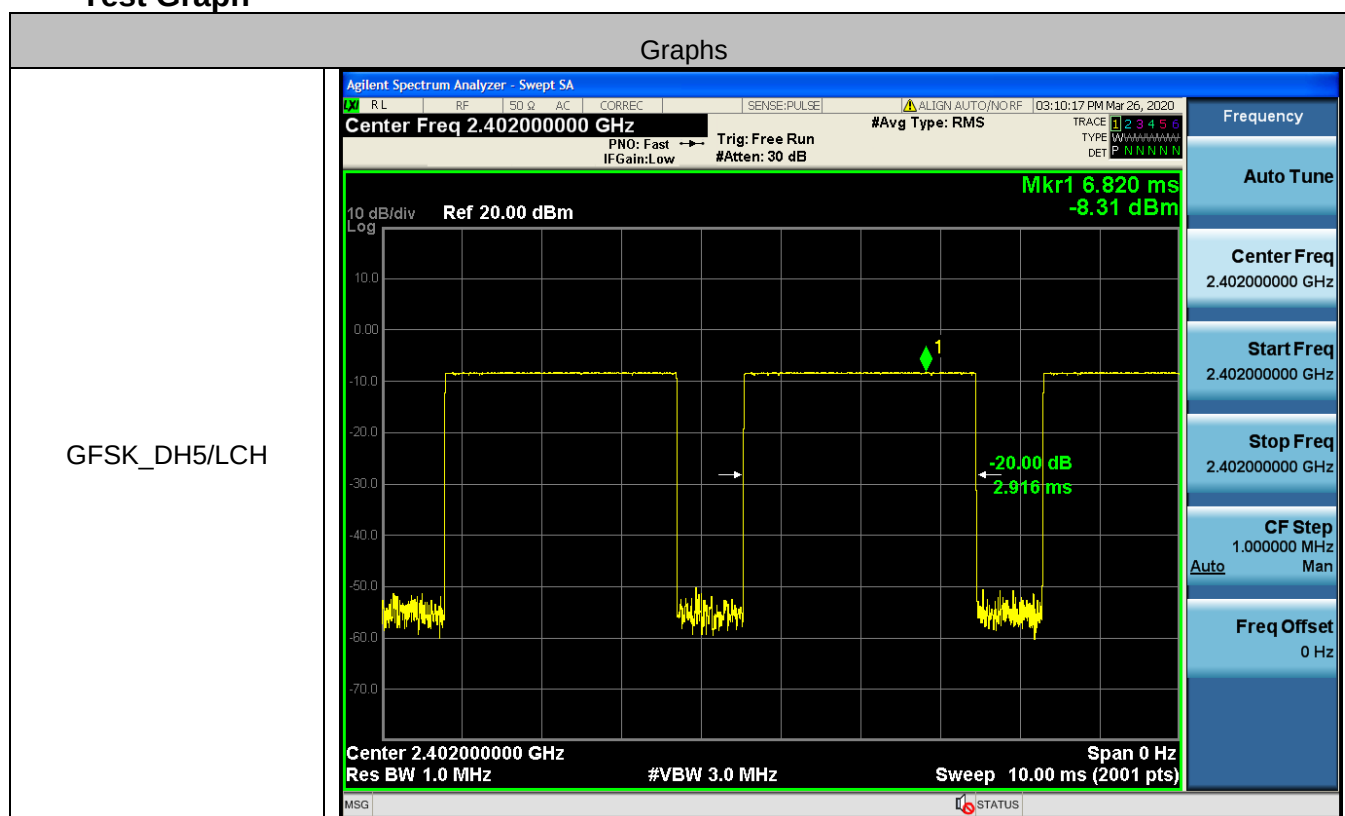




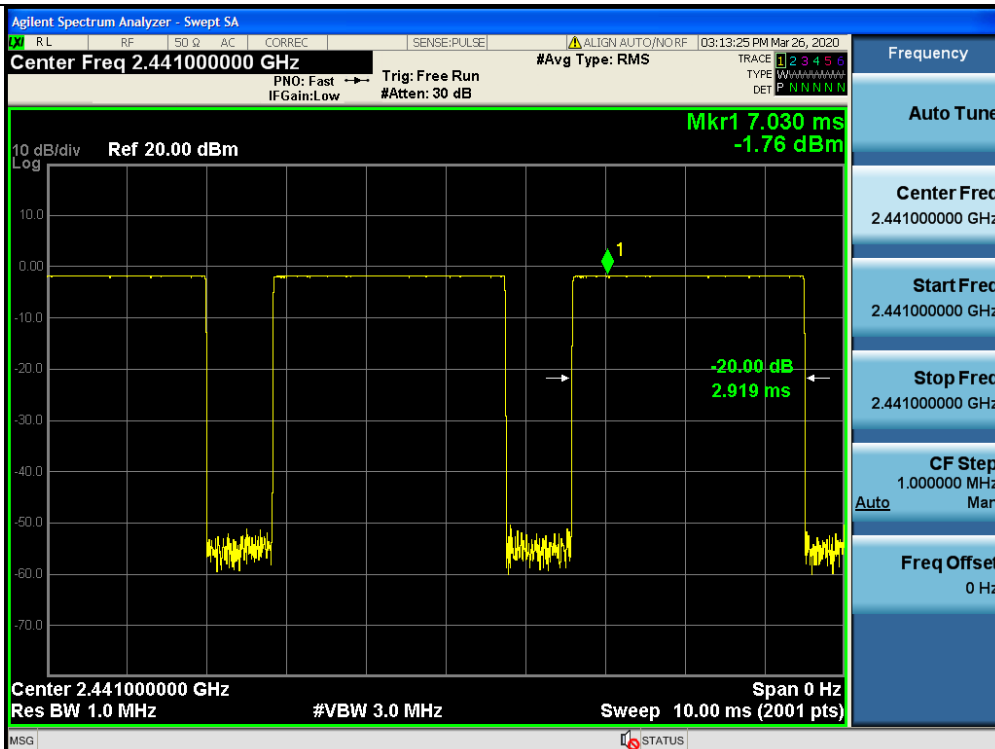
A.2 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.916	106.7	0.311	0.4	PASS
GFSK	DH5	MCH	2.919	106.7	0.311	0.4	PASS
GFSK	DH5	HCH	2.920	106.7	0.312	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.927	106.7	0.312	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	2.927	106.7	0.312	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	2.927	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.927	106.7	0.312	0.4	PASS
8DPSK	3DH5	MCH	2.927	106.7	0.312	0.4	PASS
8DPSK	3DH5	HCH	2.928	106.7	0.312	0.4	PASS

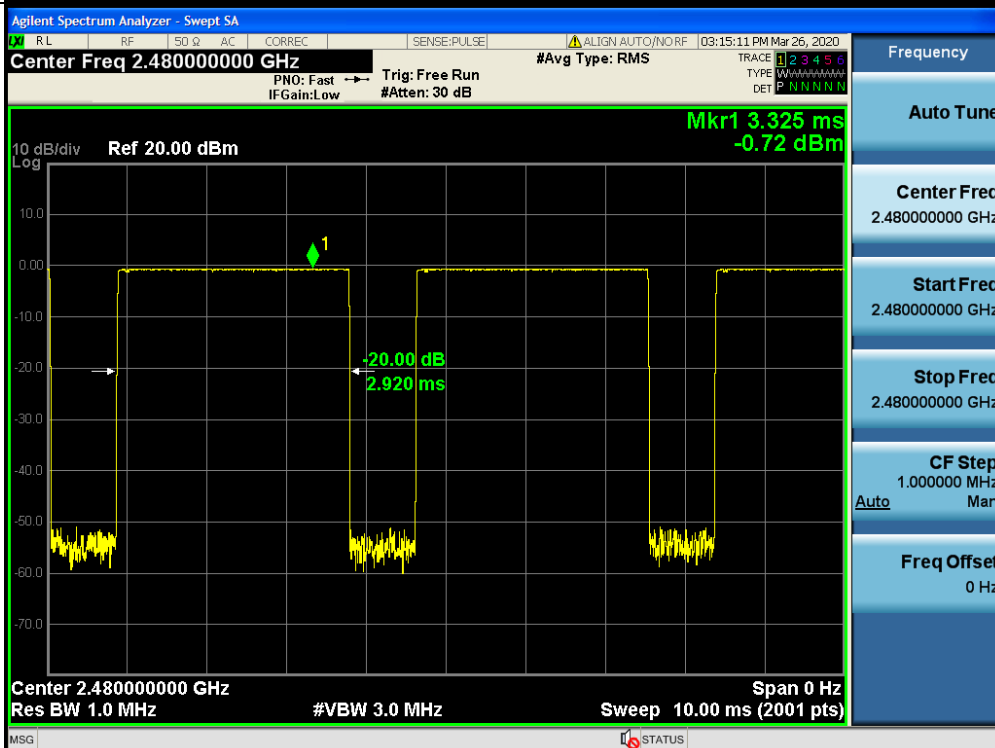
Test Graph

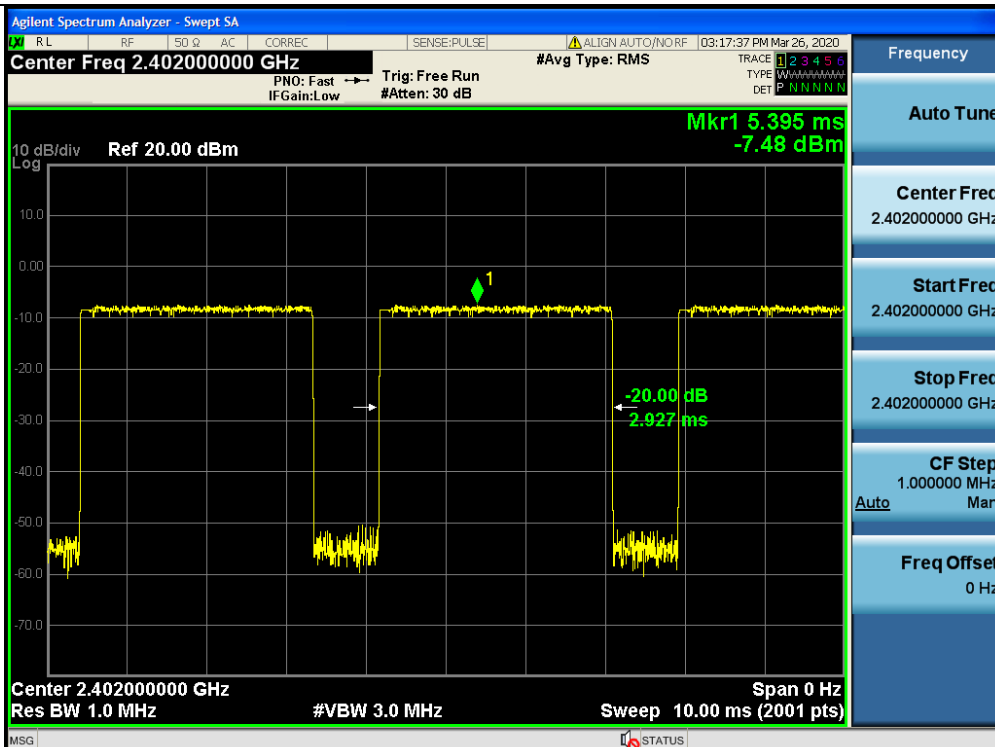
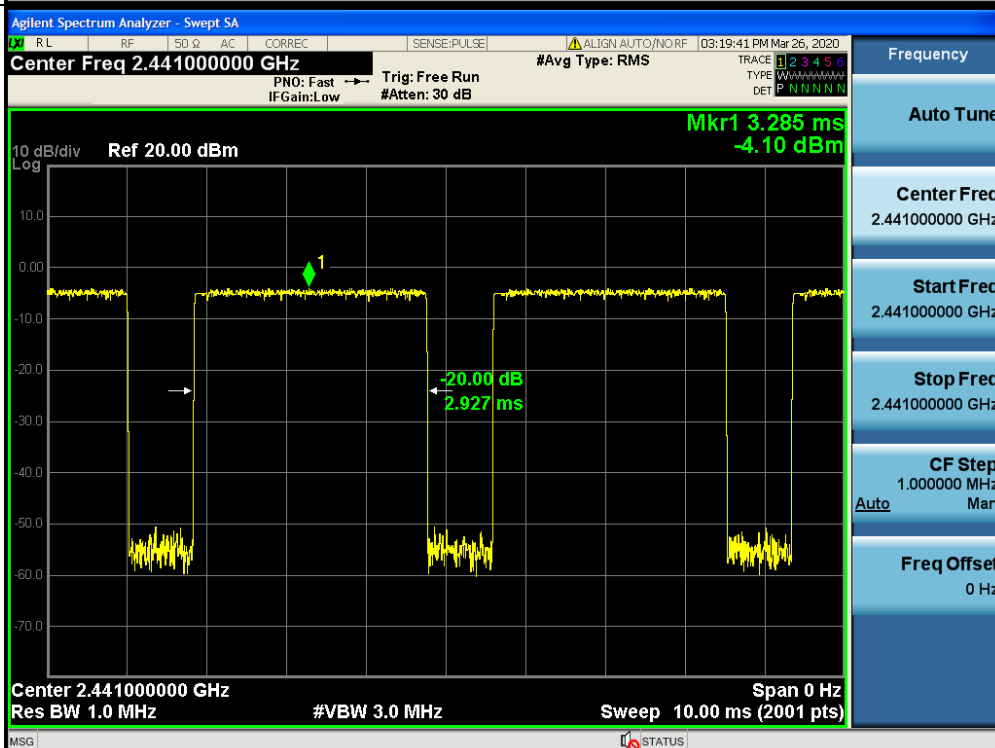


GFSK_DH5/MCH

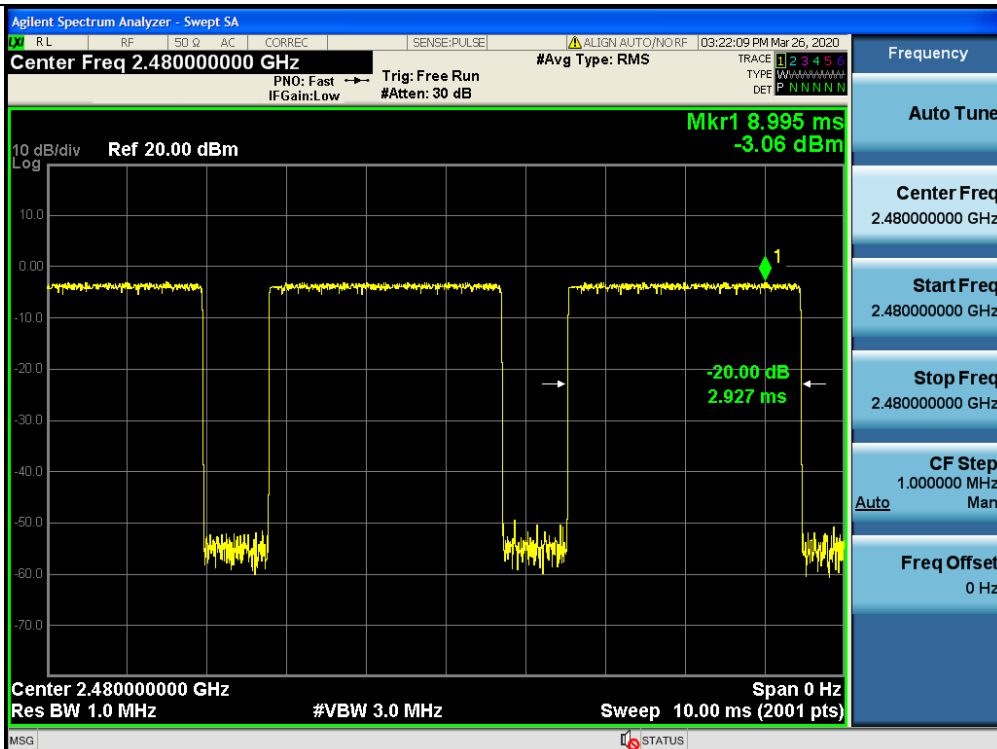


GFSK_DH5/HCH

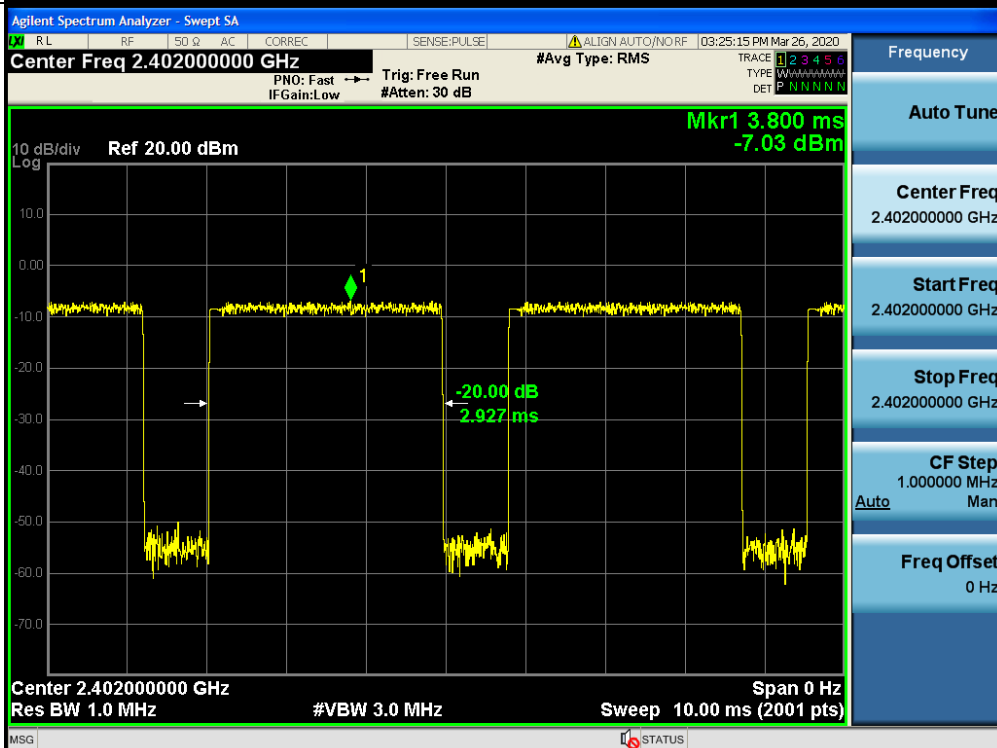


$\pi/4$ DQPSK
_2DH5/LCH $\pi/4$ DQPSK
_2DH5/MCH

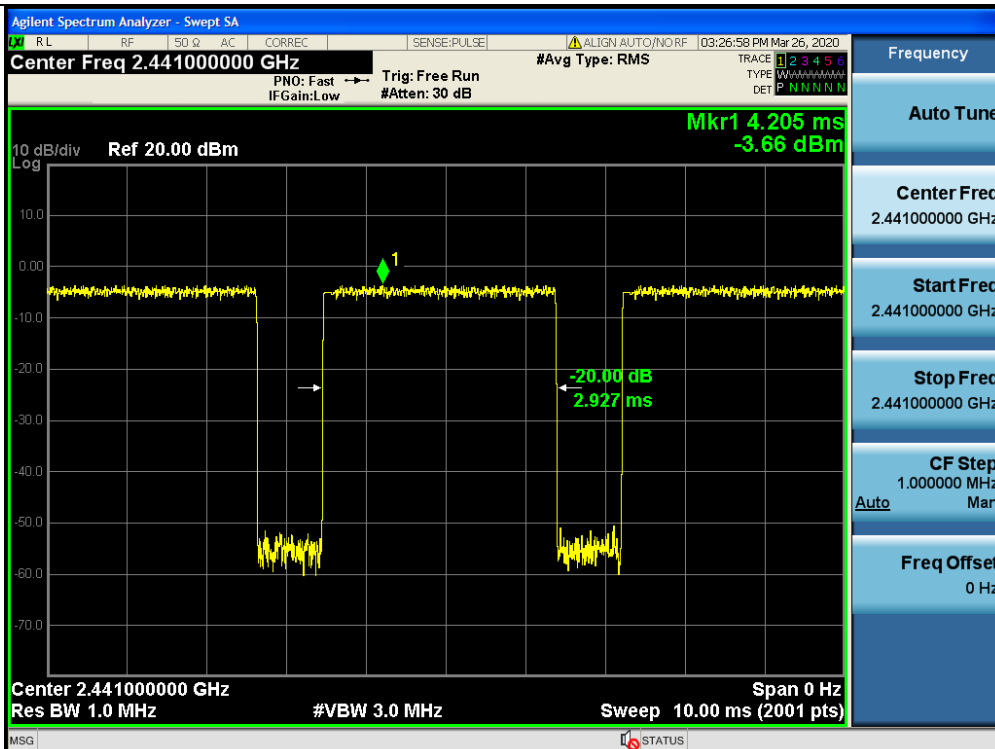
$\pi/4$ DQPSK
_2DH5/HCH



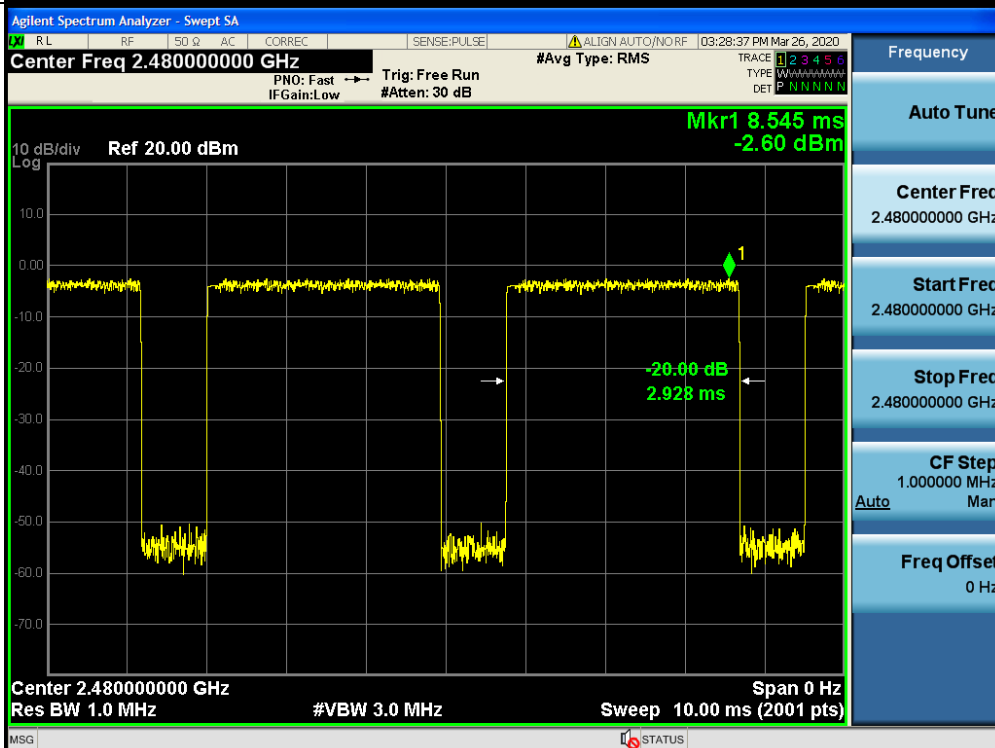
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



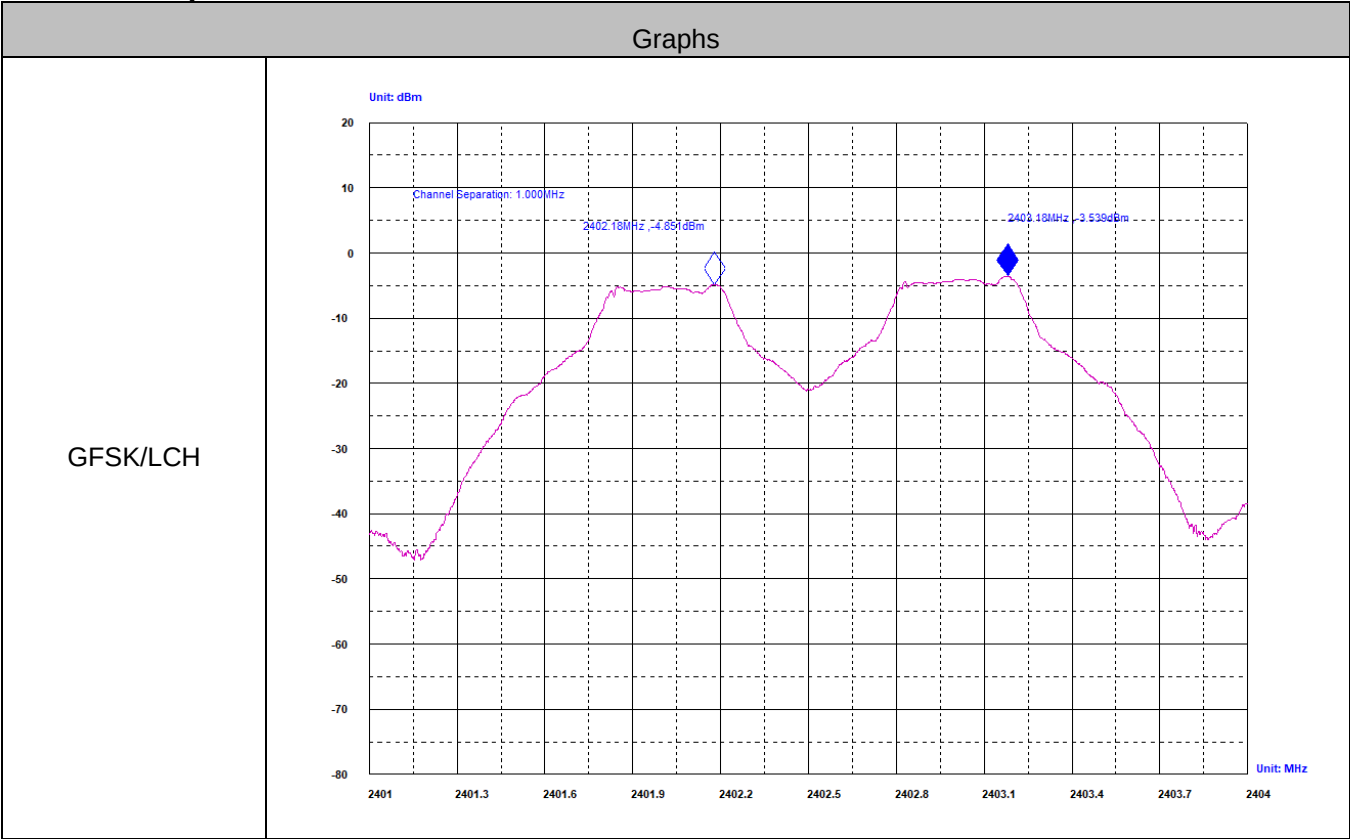
8DPSK_3DH5/HCH

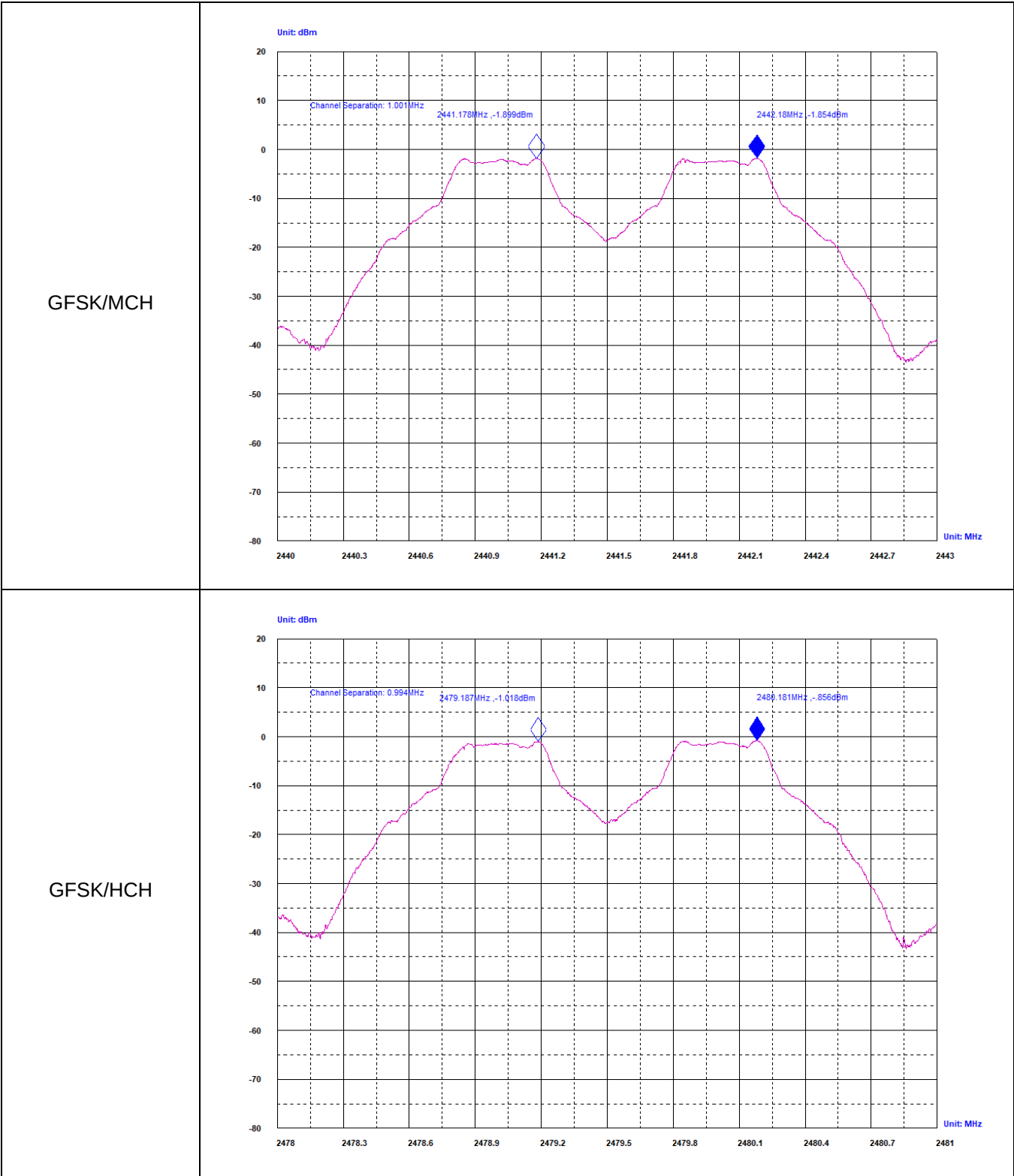


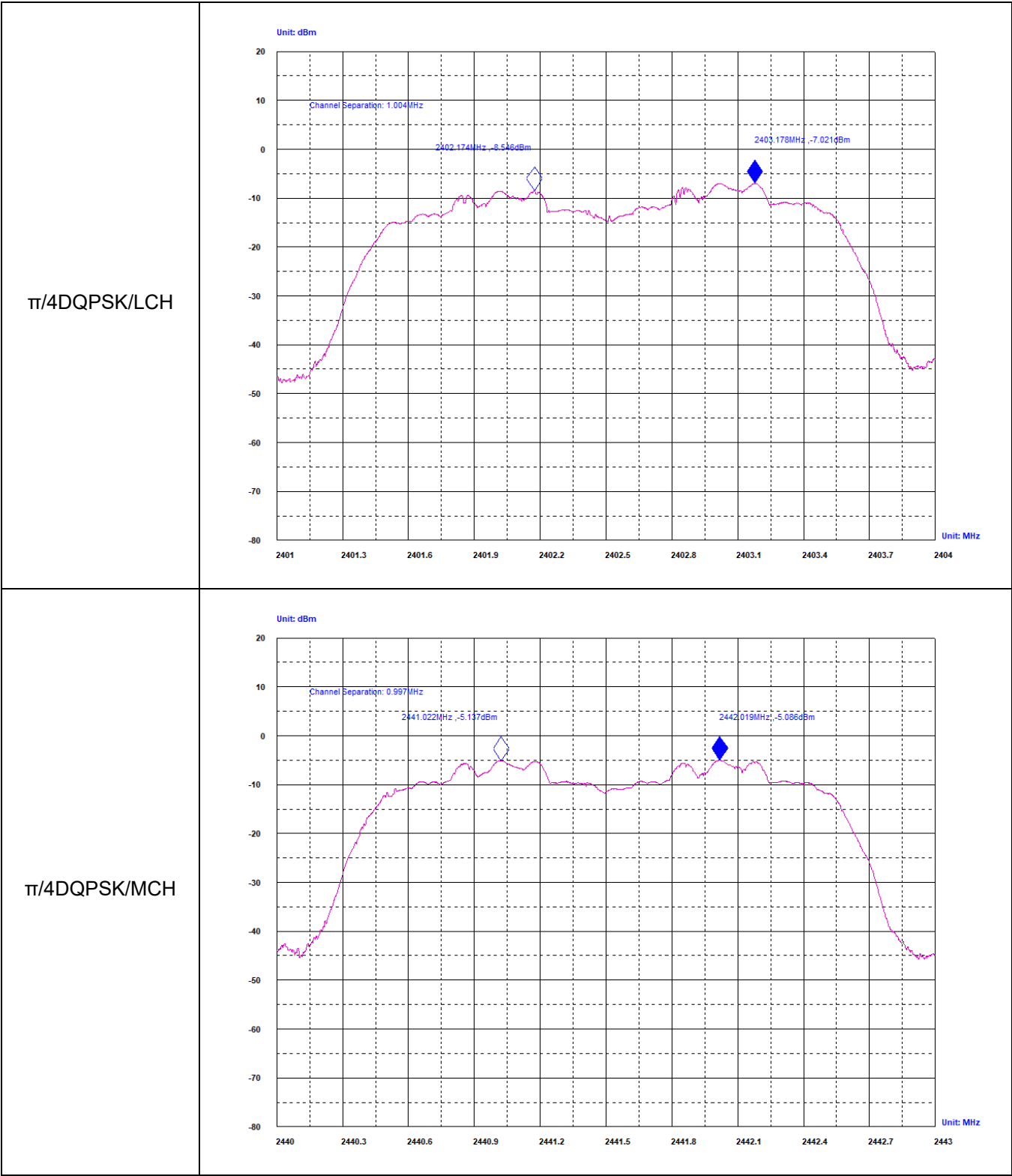
A.3 Carrier Frequency Separation

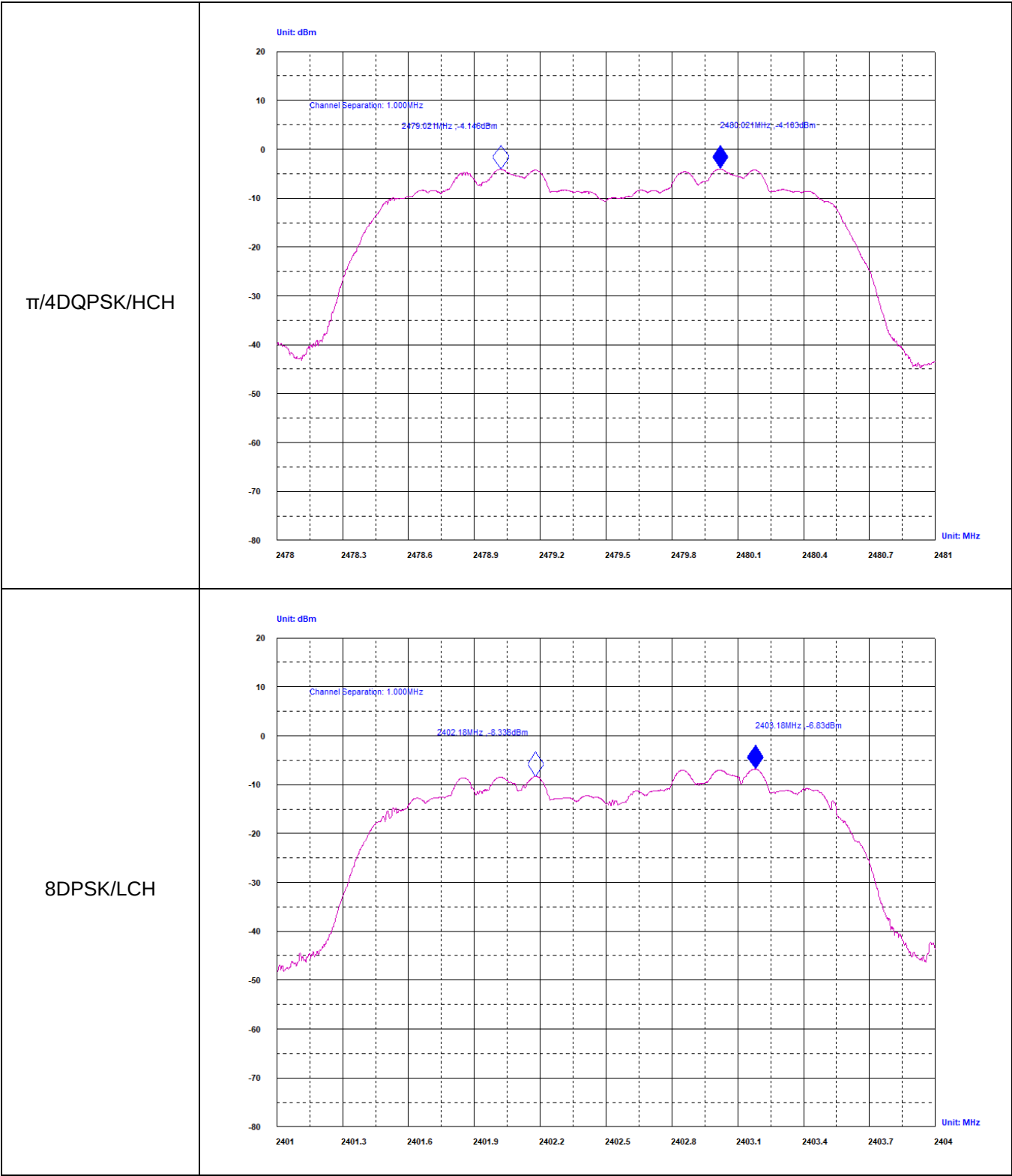
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.627	PASS
GFSK	MCH	1.001	0.627	PASS
GFSK	HCH	0.994	0.627	PASS
$\pi/4$ DQPSK	LCH	1.004	0.812	PASS
$\pi/4$ DQPSK	MCH	0.997	0.821	PASS
$\pi/4$ DQPSK	HCH	1.000	0.824	PASS
8DPSK	LCH	1.000	0.840	PASS
8DPSK	MCH	0.994	0.835	PASS
8DPSK	HCH	0.997	0.835	PASS

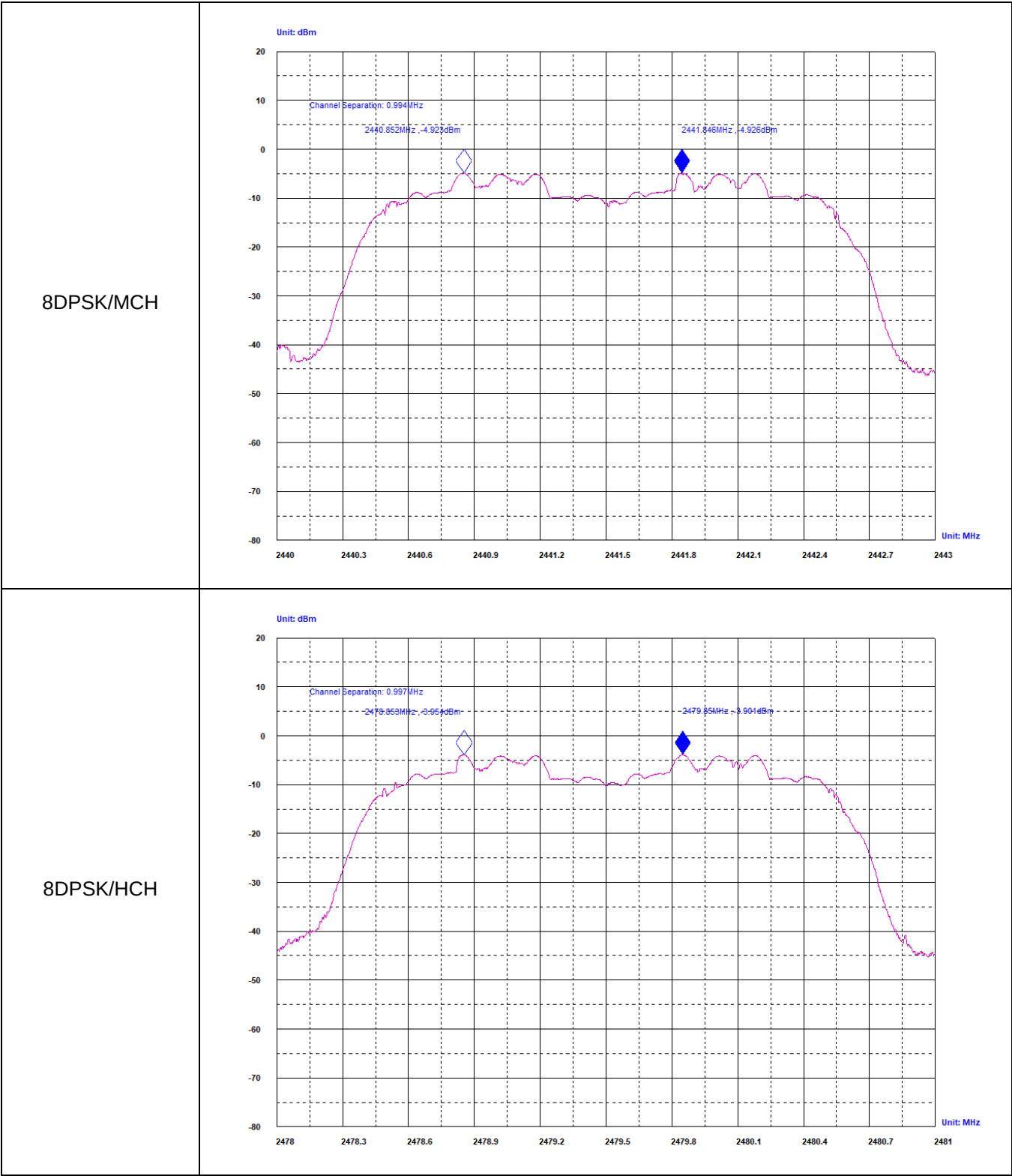
Test Graph







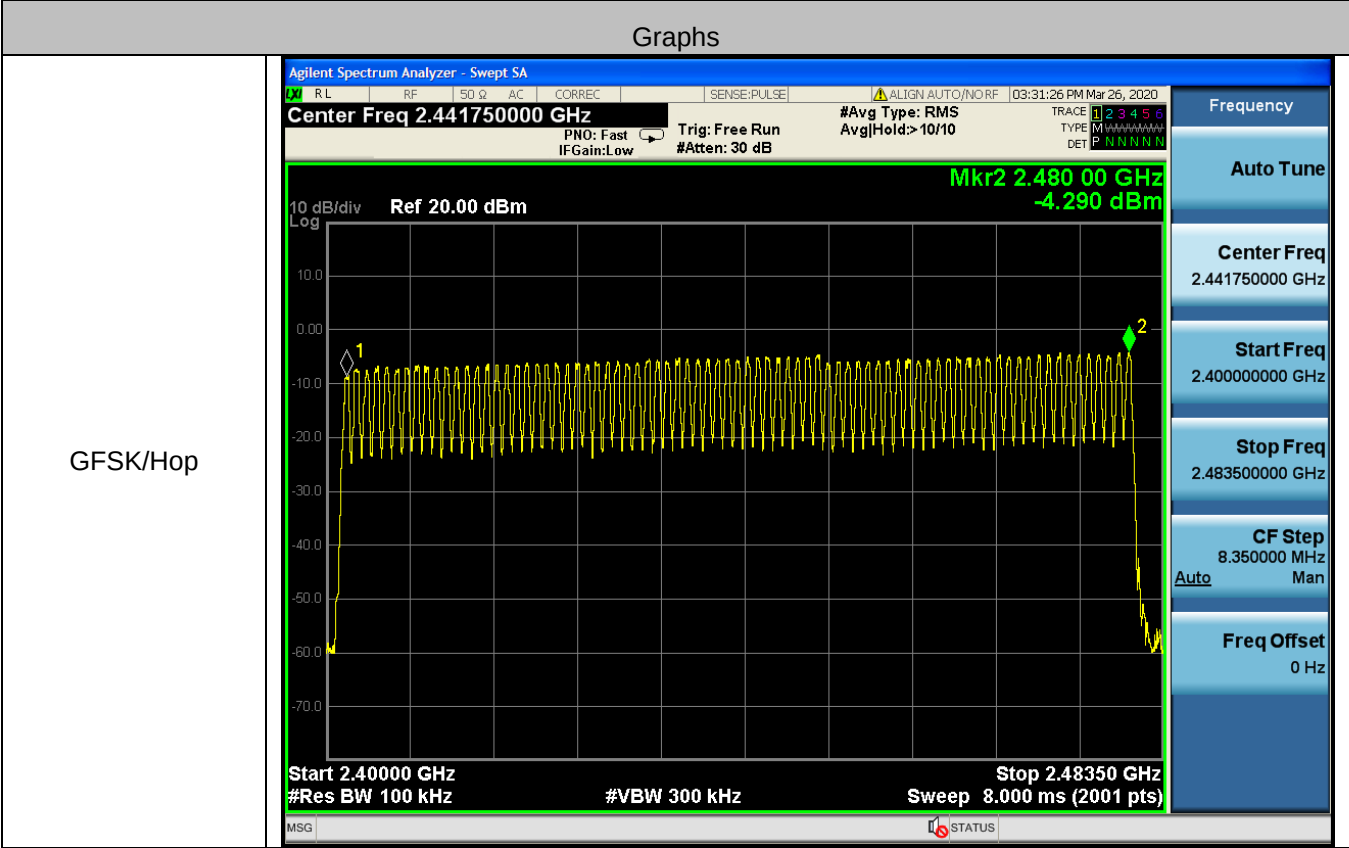


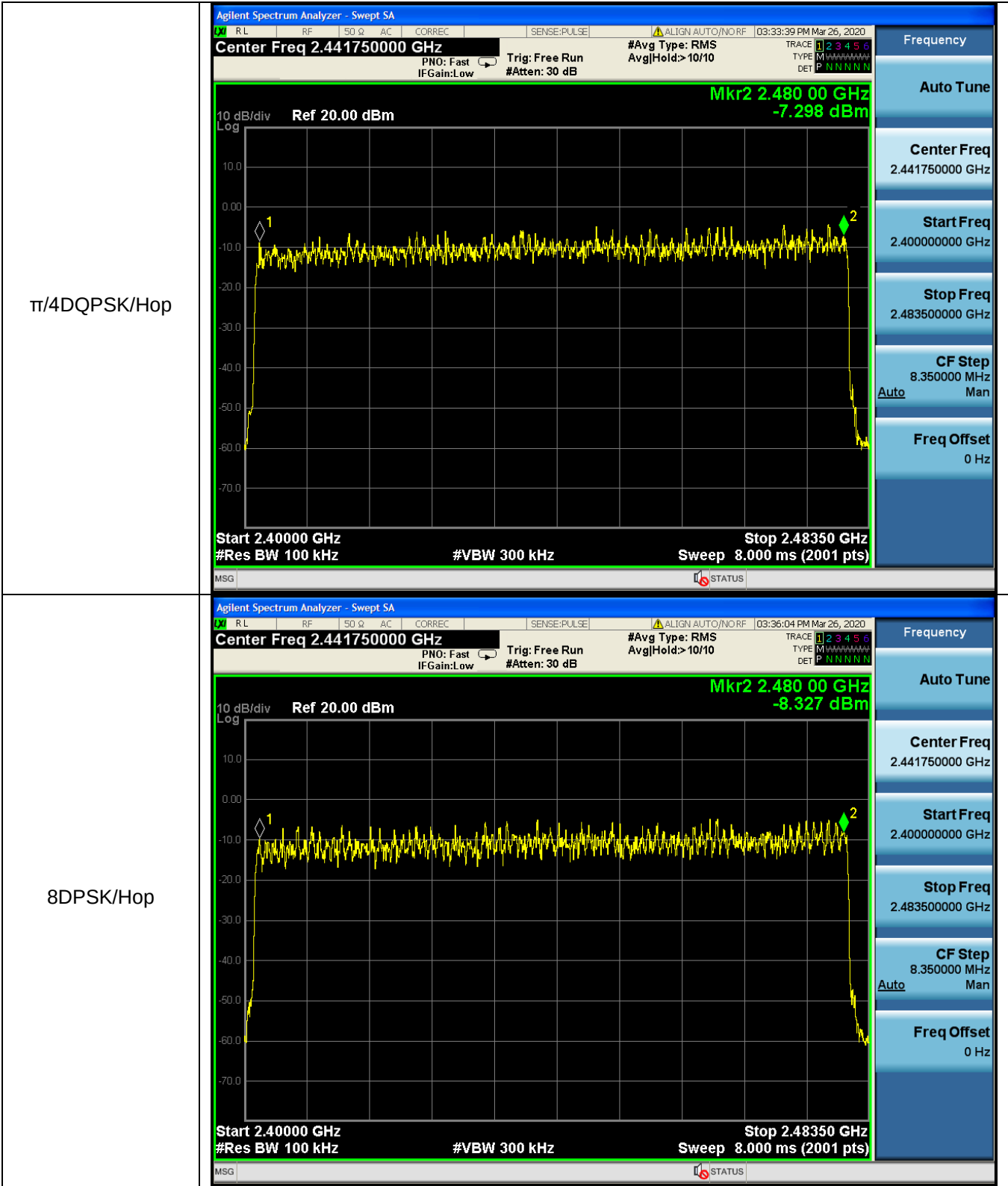


A.4 Hopping Channel Number

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

Test Graph

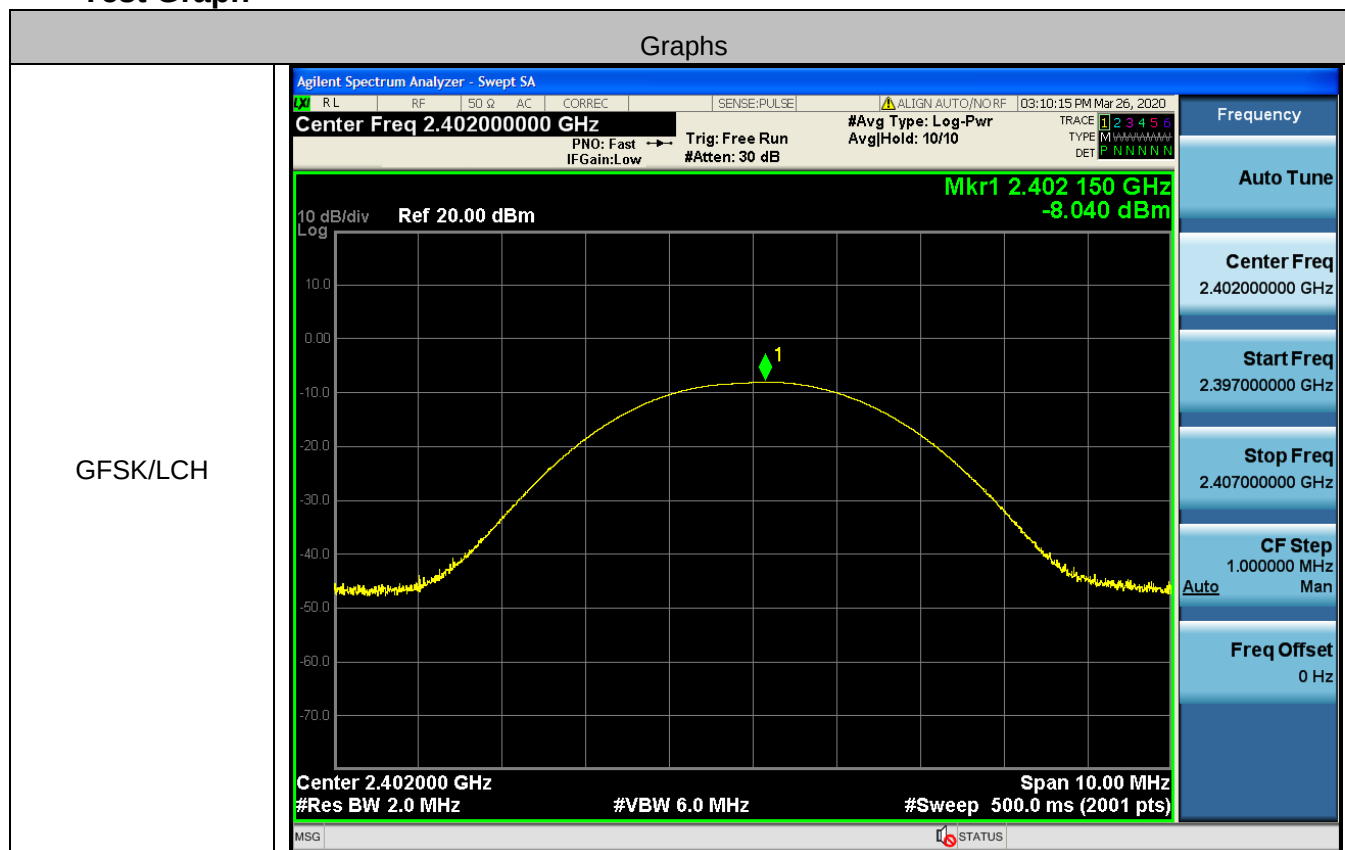




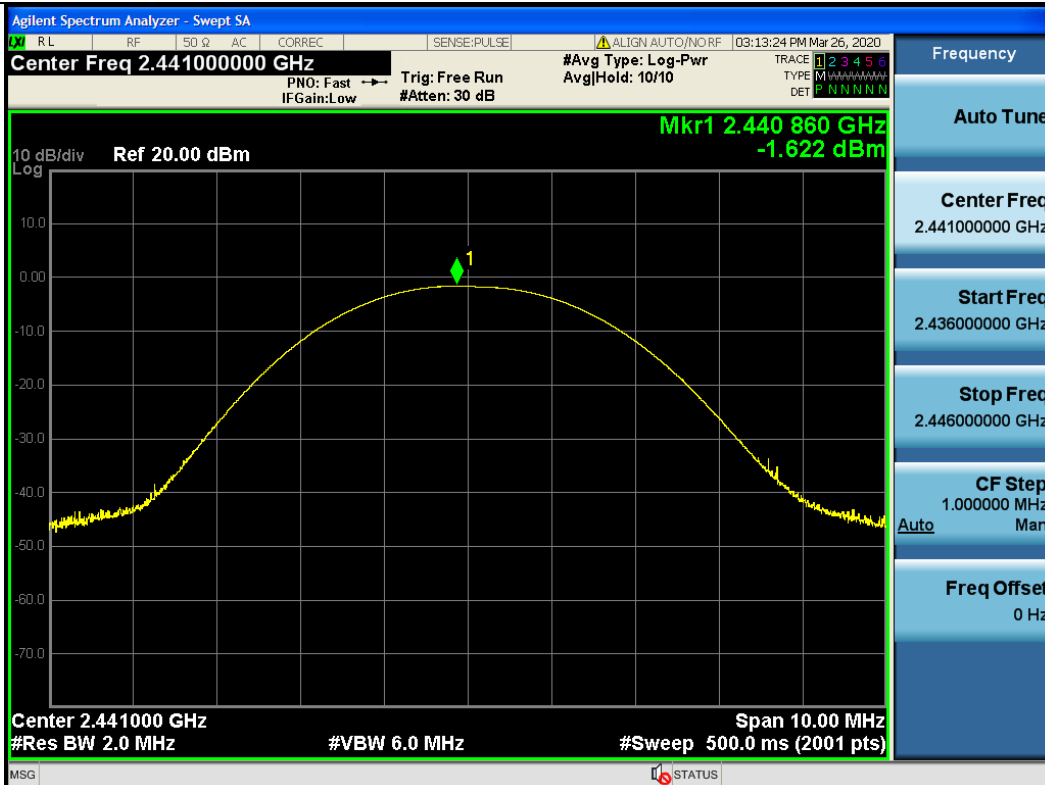
A.5 Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-8.040	21	PASS
GFSK	MCH	-1.622	21	PASS
GFSK	HCH	-0.561	21	PASS
$\pi/4$ DQPSK	LCH	-6.948	21	PASS
$\pi/4$ DQPSK	MCH	-3.529	21	PASS
$\pi/4$ DQPSK	HCH	-2.519	21	PASS
8DPSK	LCH	-6.559	21	PASS
8DPSK	MCH	-3.150	21	PASS
8DPSK	HCH	-2.106	21	PASS

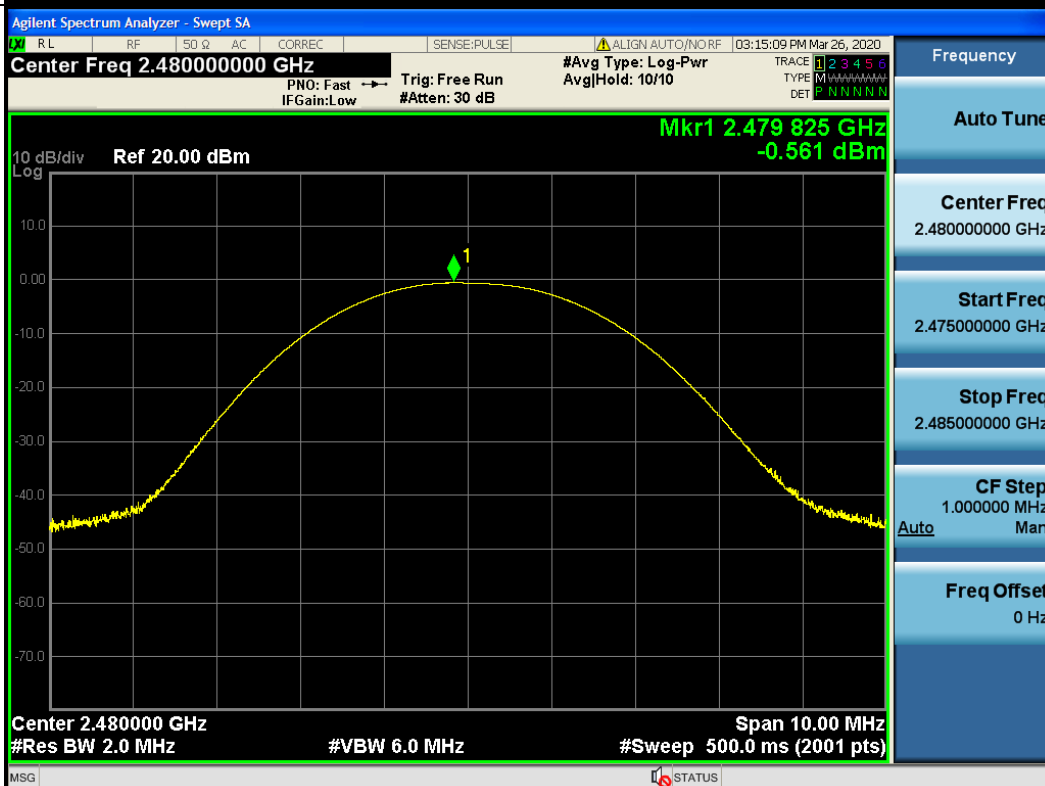
Test Graph

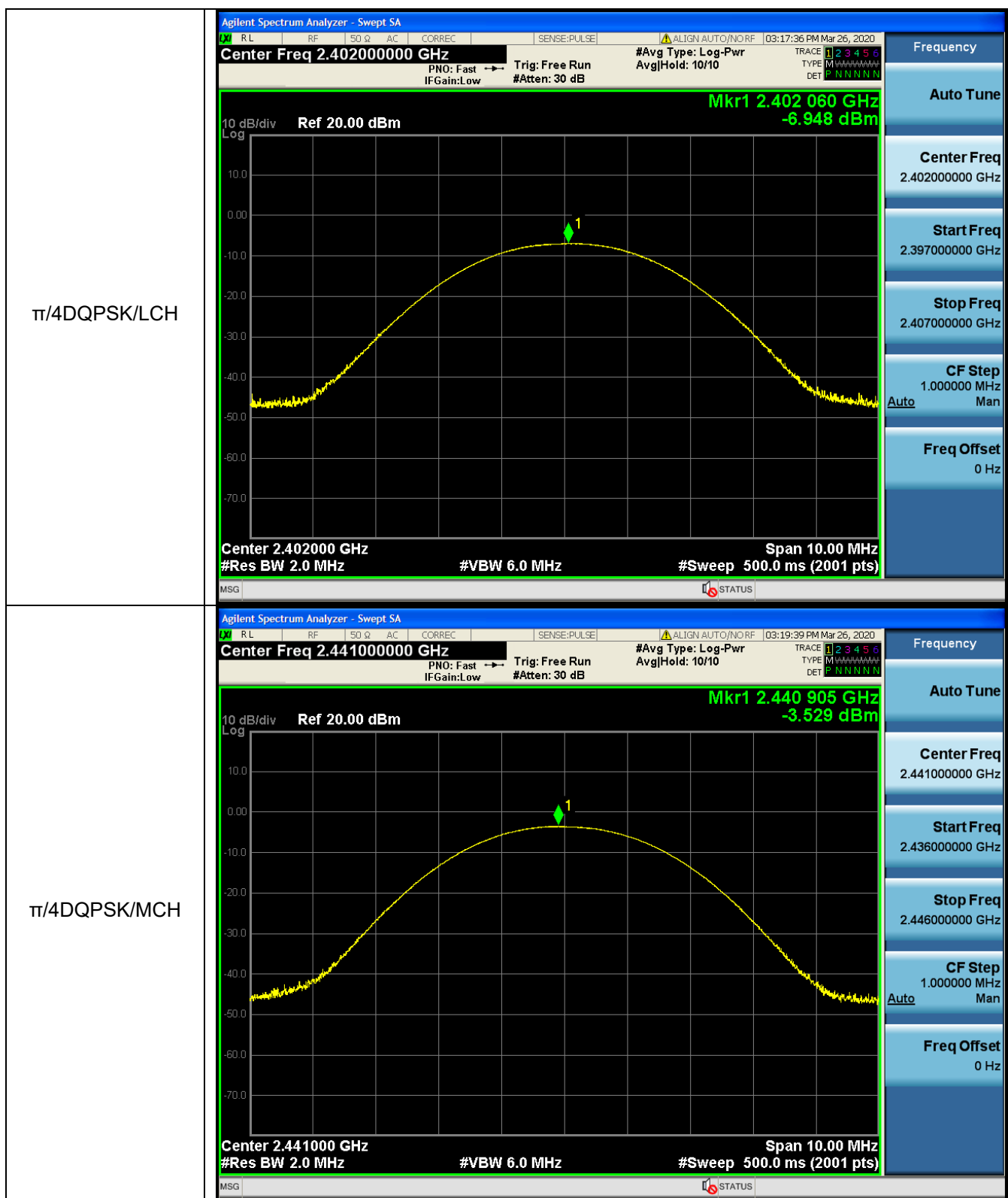


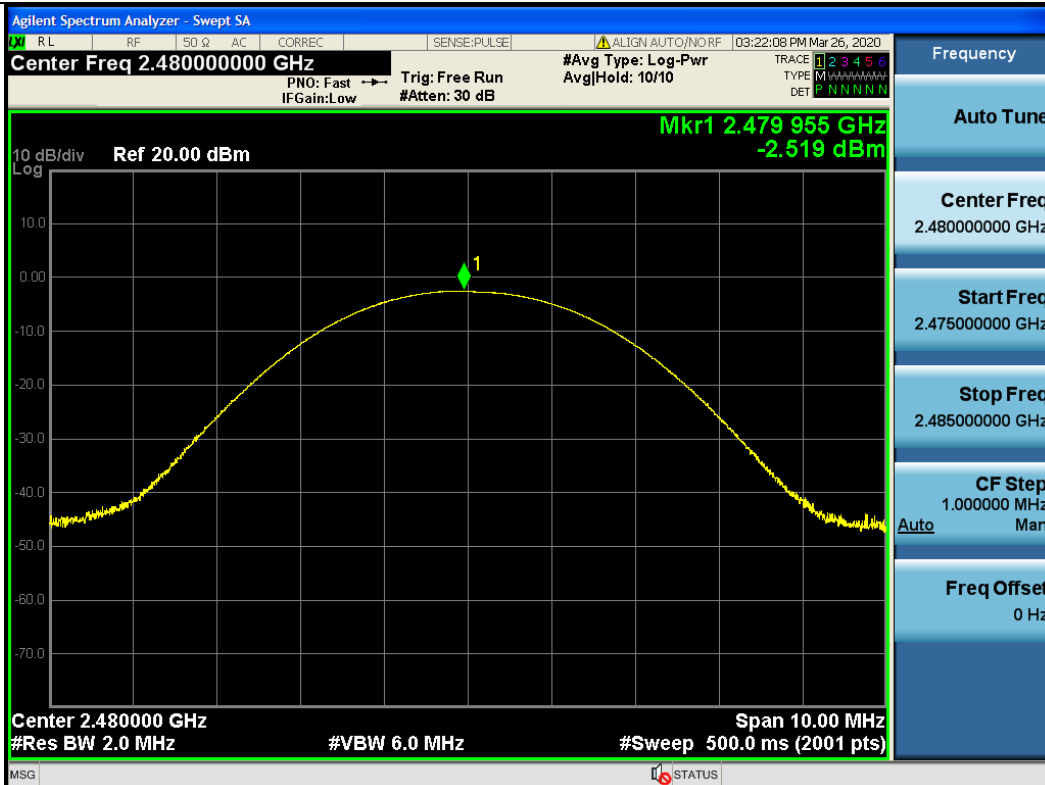
GFSK/MCH



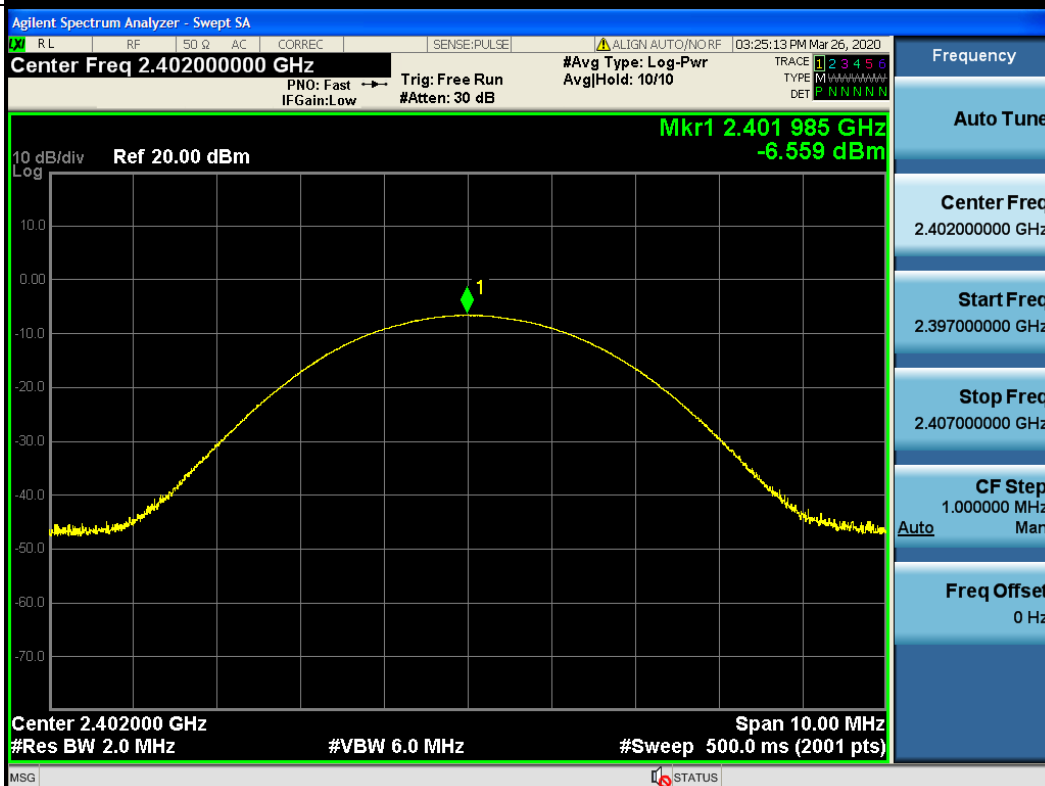
GFSK/HCH



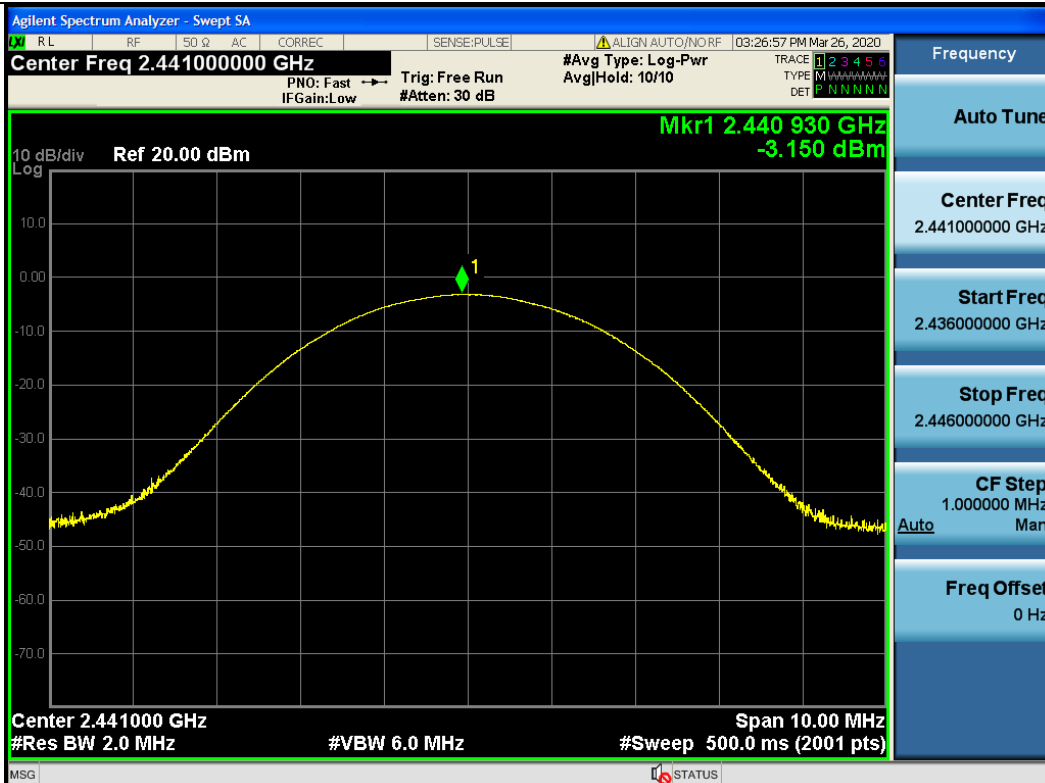


$\pi/4$ DQPSK/HCH

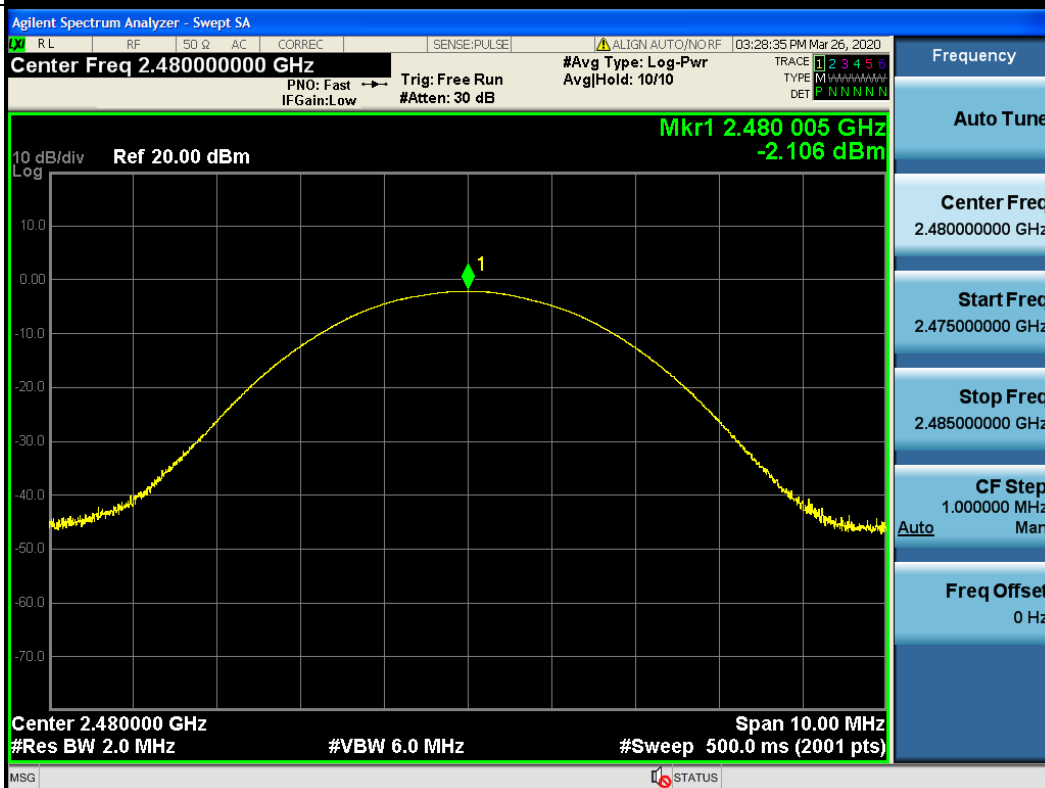
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



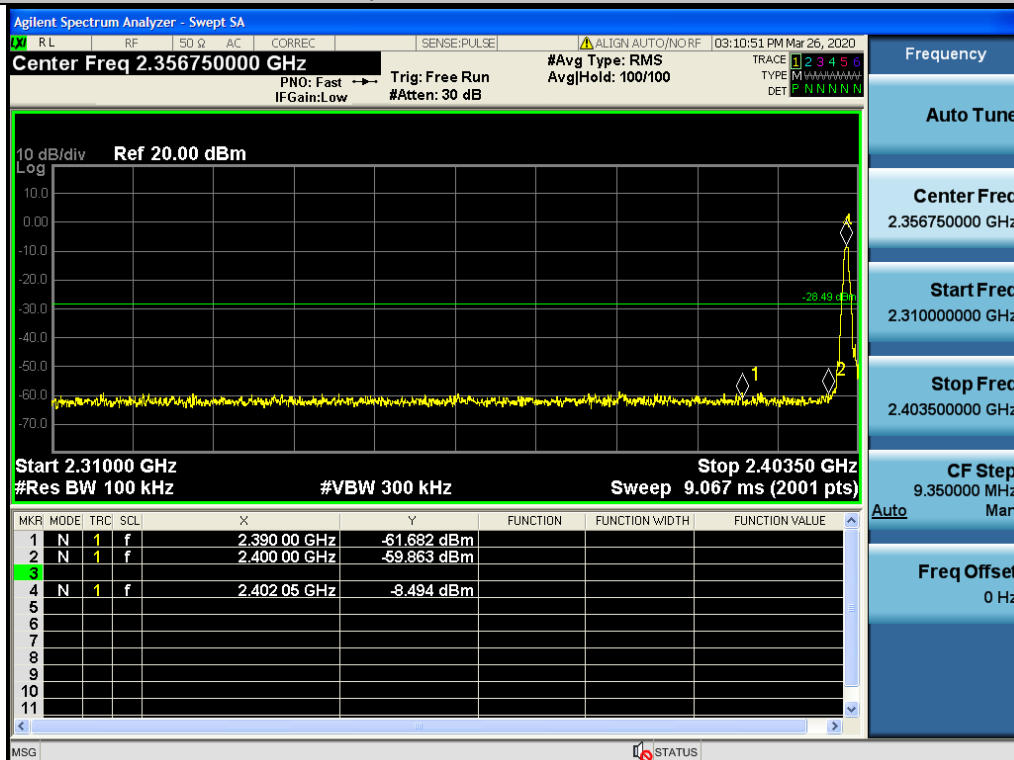
A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	-8.494	-59.86	-28.494	Pass
1DH5	2480	2498.151	-0.717	-58.472	-20.717	Pass
2DH5	2402	2400	-8.52	-59	-28.52	Pass
2DH5	2480	2483.5	-7.089	-60.21	-27.089	Pass
3DH5	2402	2400	-9.64	-56.82	-29.64	Pass
3DH5	2480	2500	-4.078	-59.84	-24.078	Pass
1DH5-Hopping	2402	2390	-5.619	-59.82	-25.619	Pass
1DH5-Hopping	2480	2500	-4.114	-56.2	-24.114	Pass
2DH5-Hopping	2402	2400	-5.827	-60.03	-25.827	Pass
2DH5-Hopping	2480	2500	-4.255	-57.06	-24.255	Pass
3DH5-Hopping	2402	2400	-6.04	-58.42	-26.04	Pass
3DH5-Hopping	2480	2483.5	-4.344	-59.76	-24.344	Pass

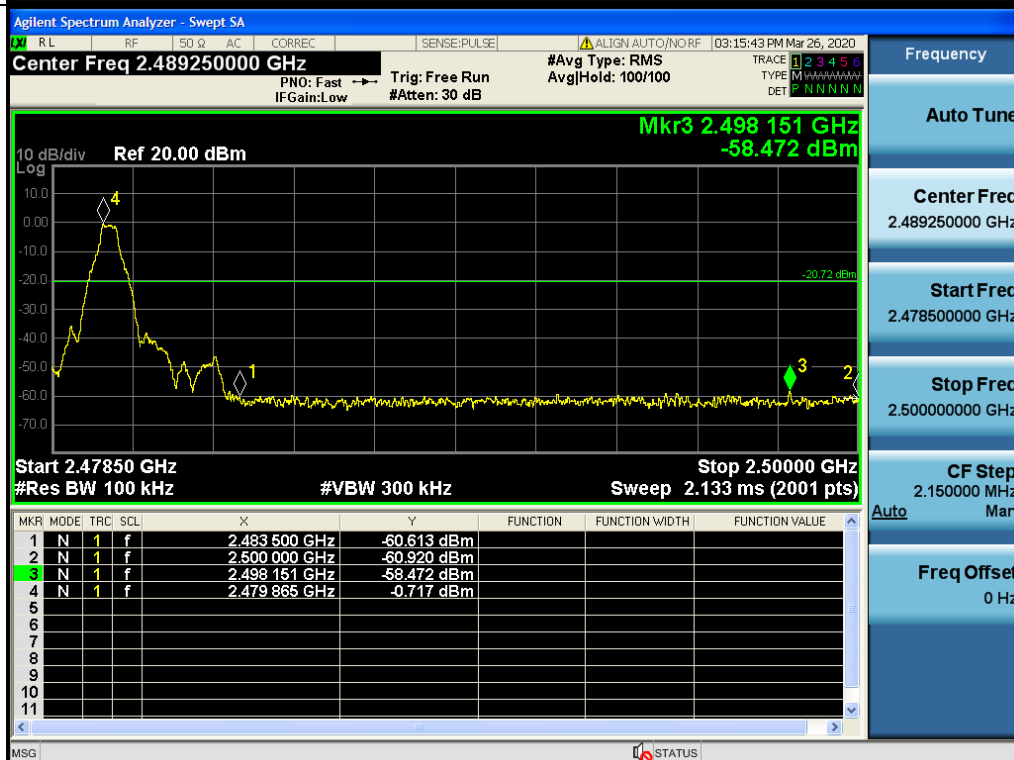
Test Graph

Graphs

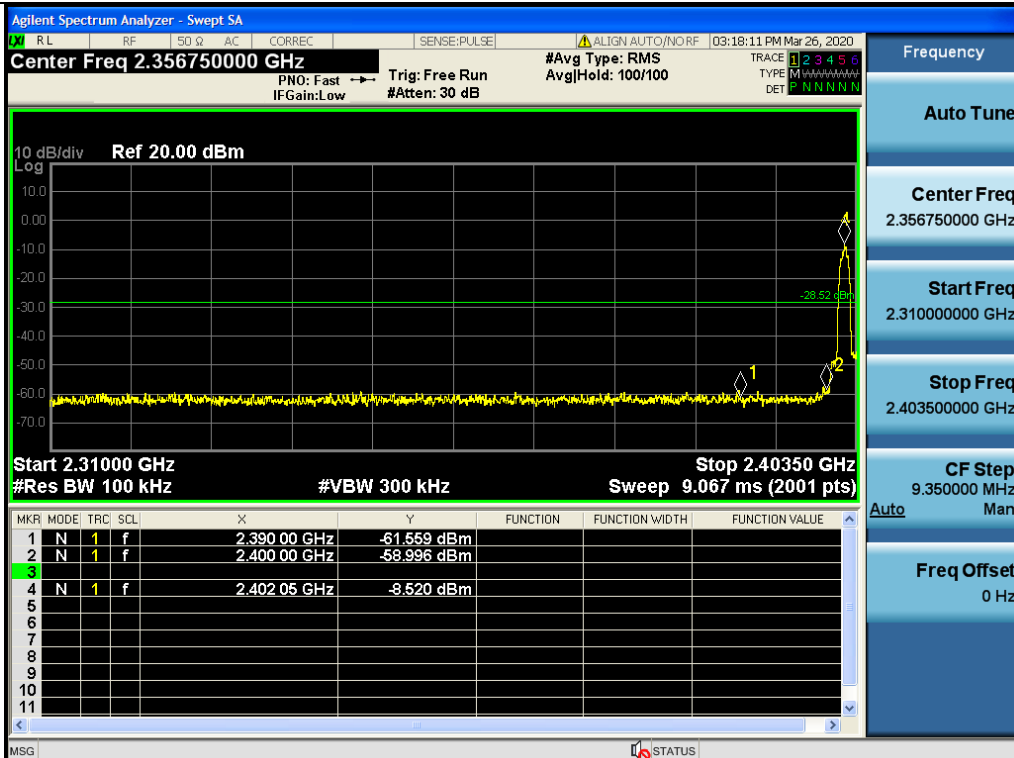
GFSK/LCH/No Hop



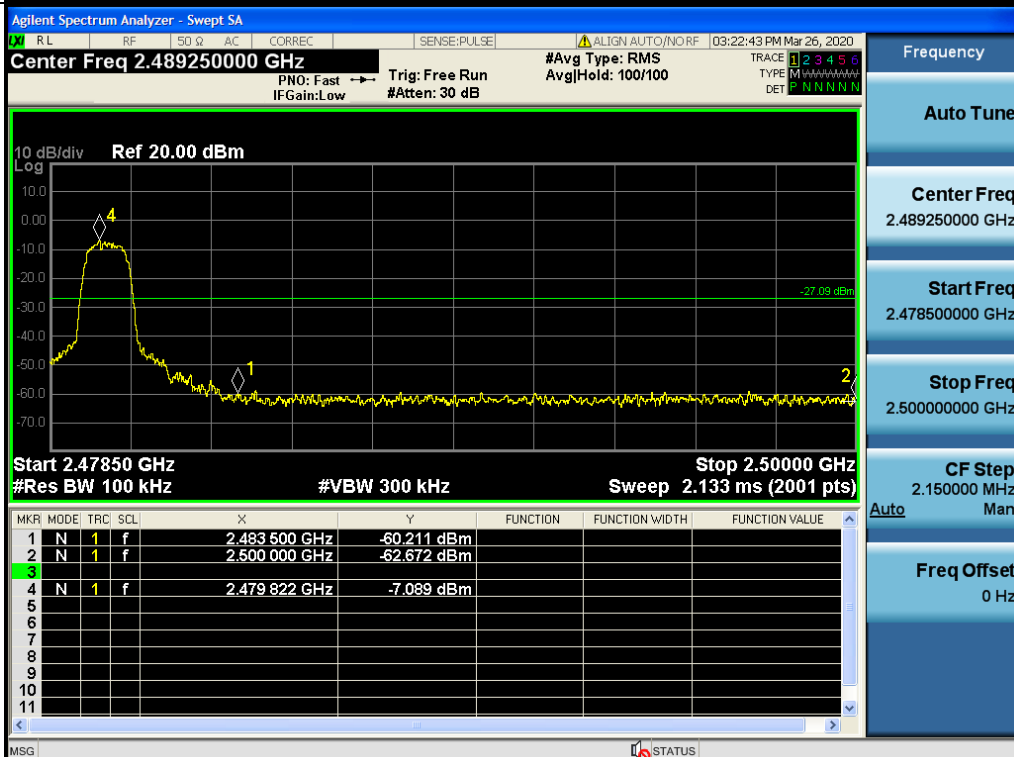
GFSK/HCH/No Hop



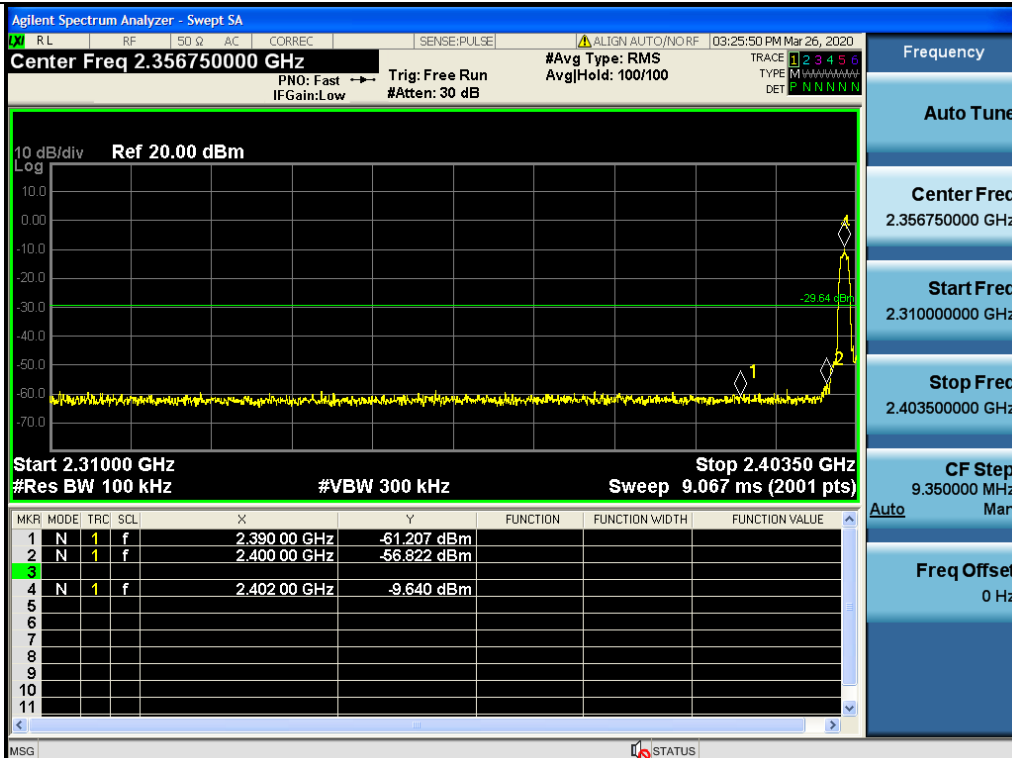
$\pi/4$ DQPSK/LCH/No
Hop



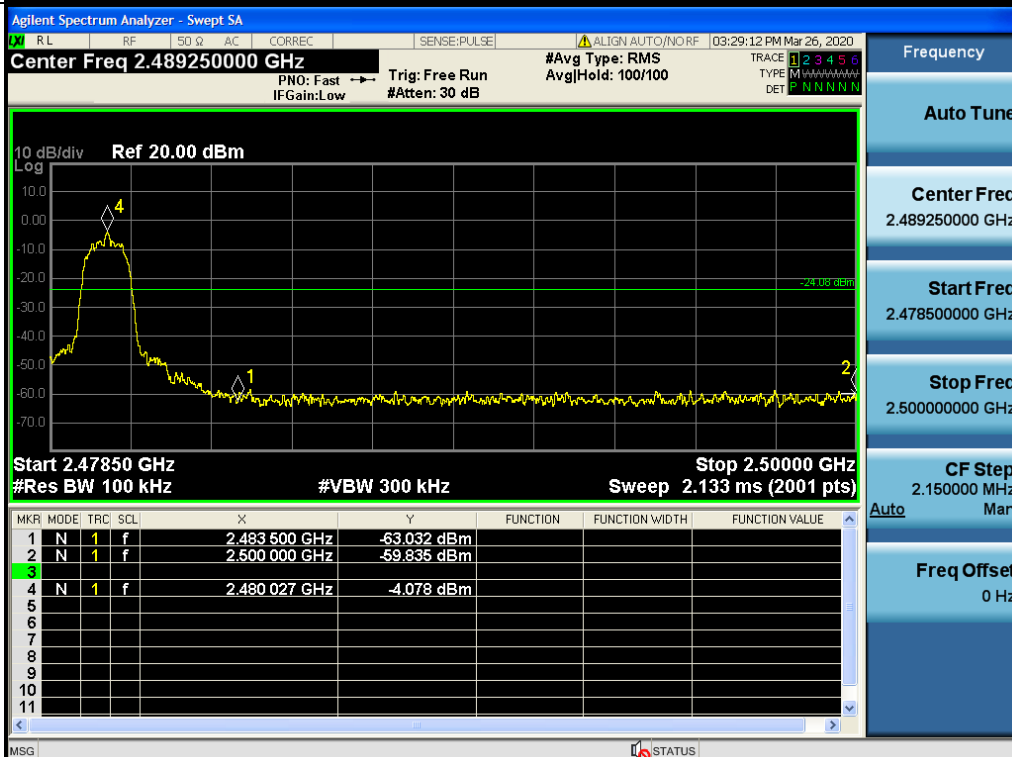
$\pi/4$ DQPSK/HCH/No
Hop



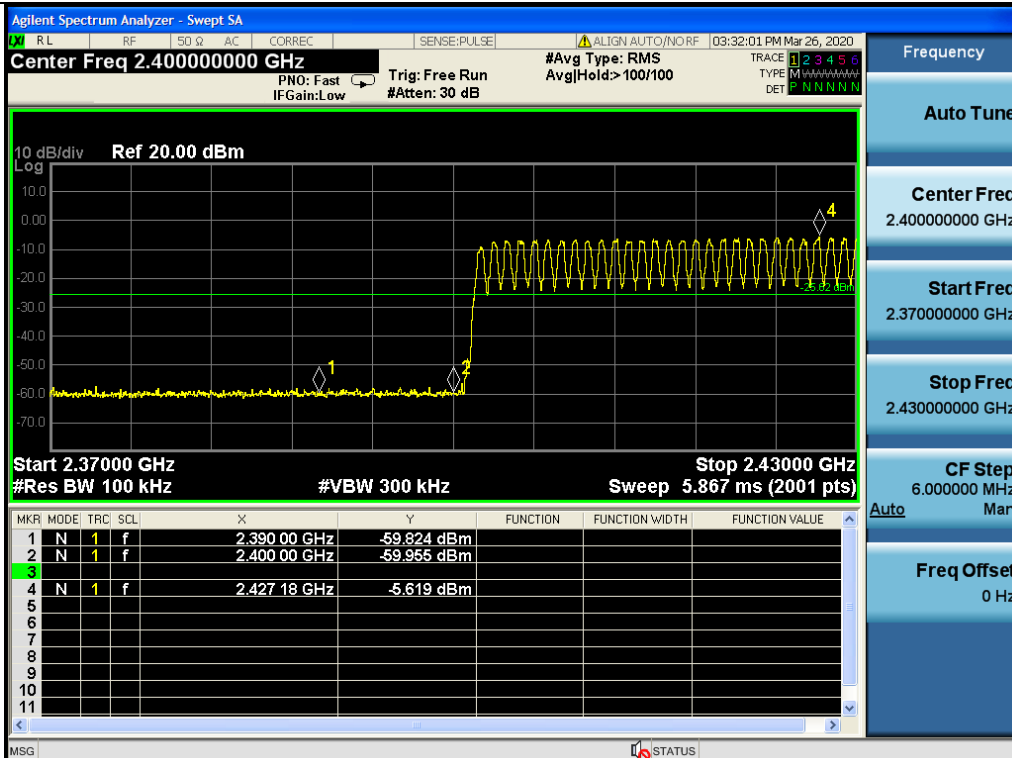
8DPSK/LCH/No Hop



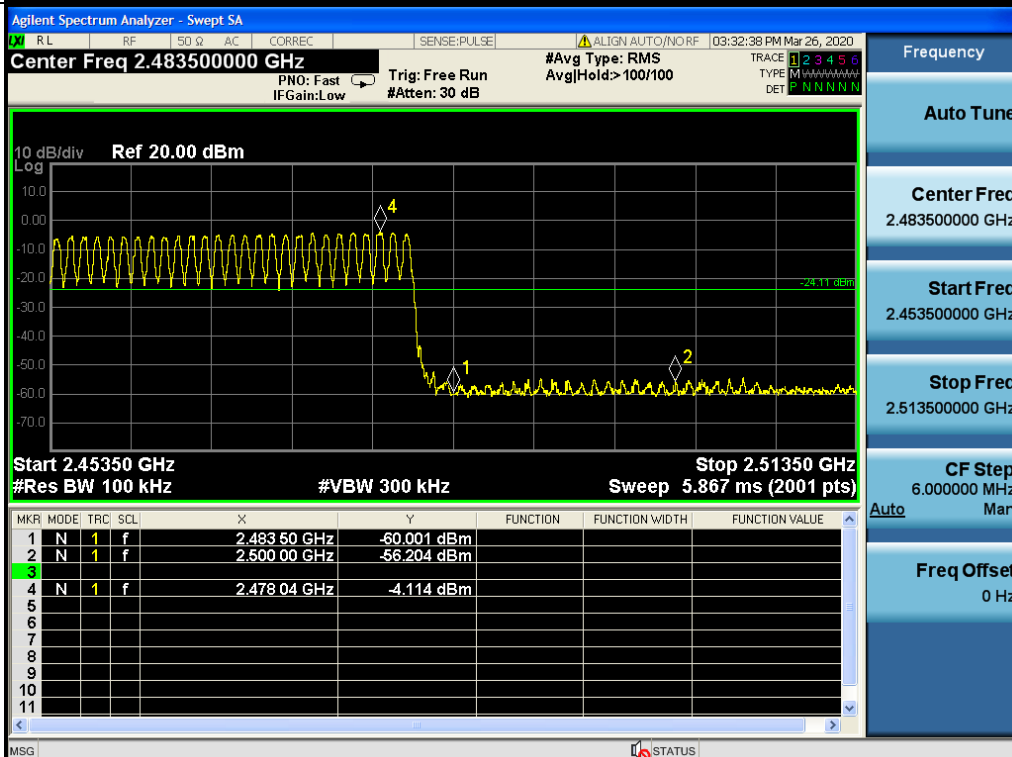
8DPSK/HCH/ No Hop

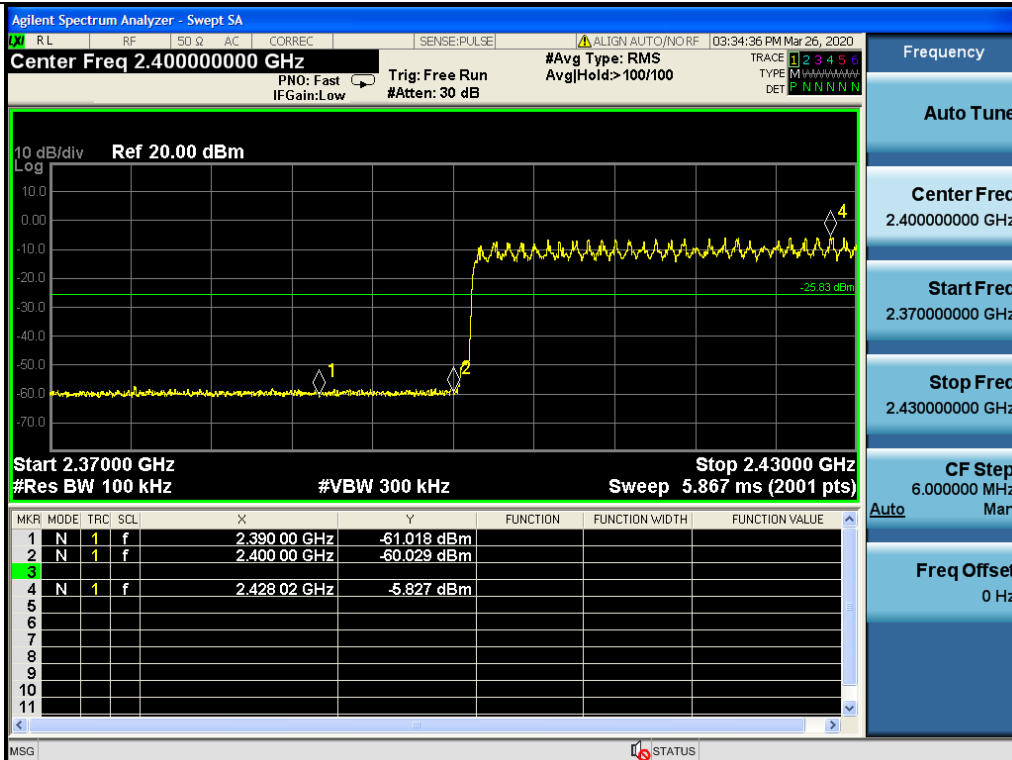
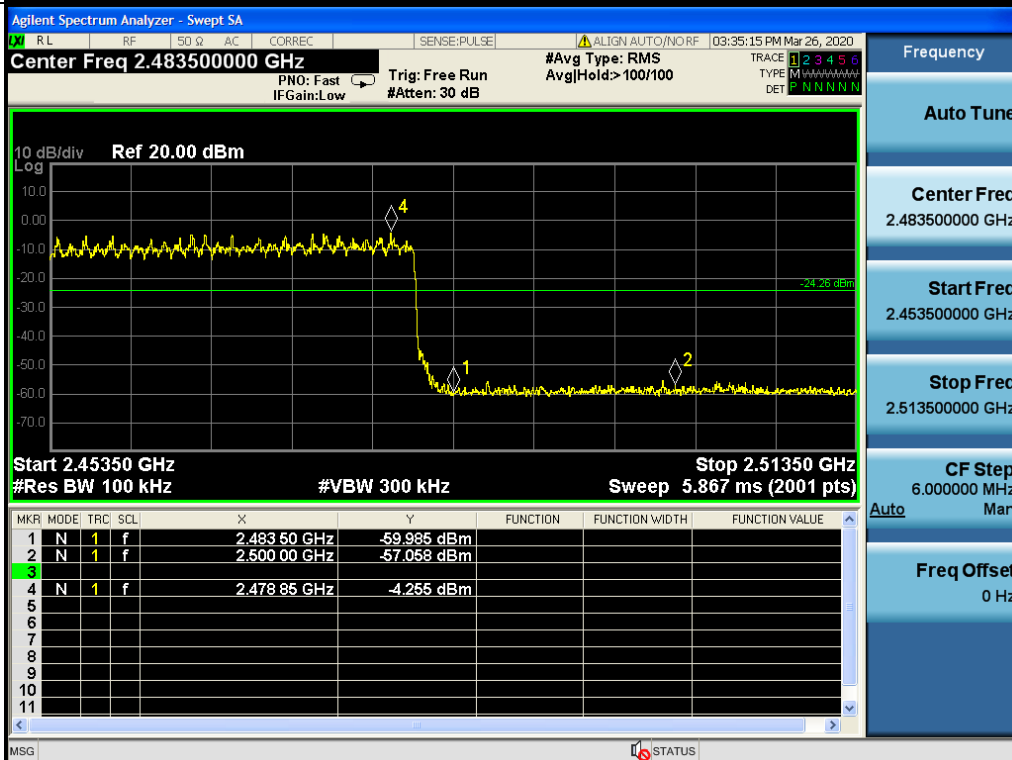


GFSK/LCH/Hop

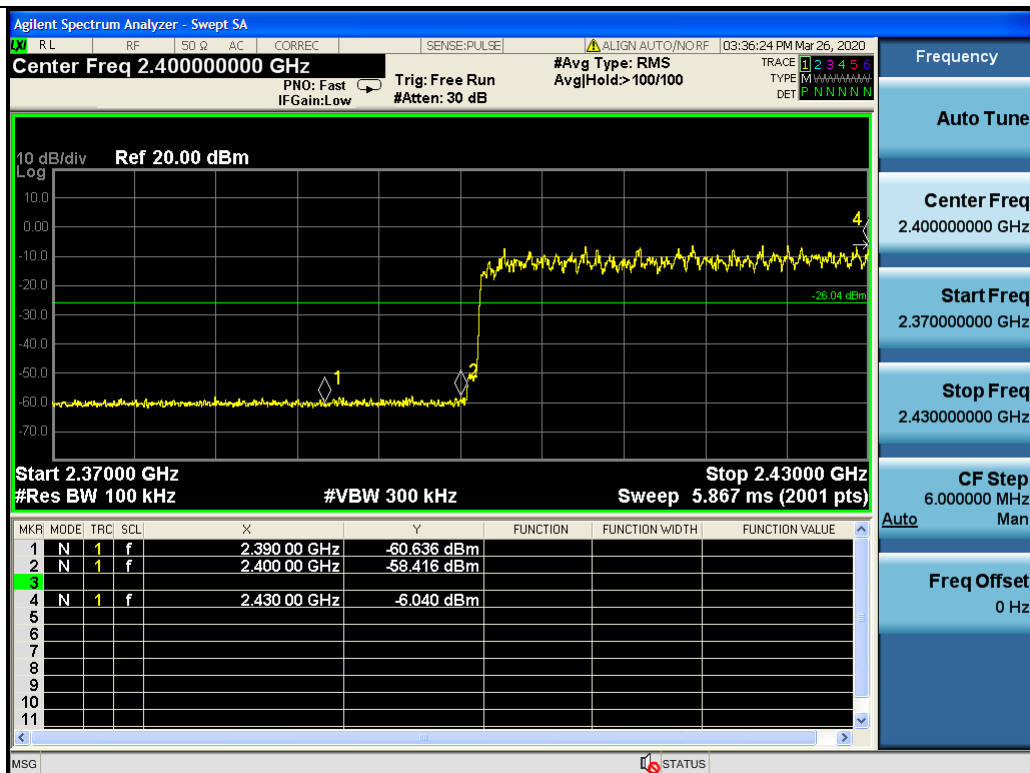


GFSK/HCH/Hop

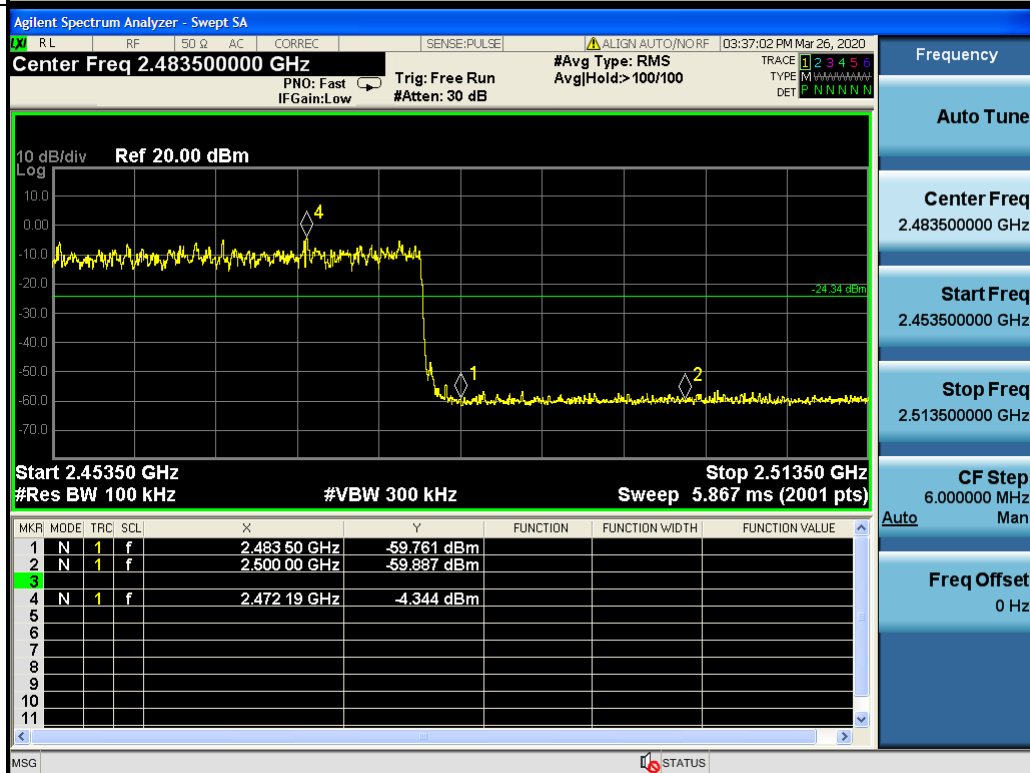


$\pi/4$ DQPSK/LCH/Hop $\pi/4$ DQPSK/HCH/Hop

8DPSK/LCH/Hop

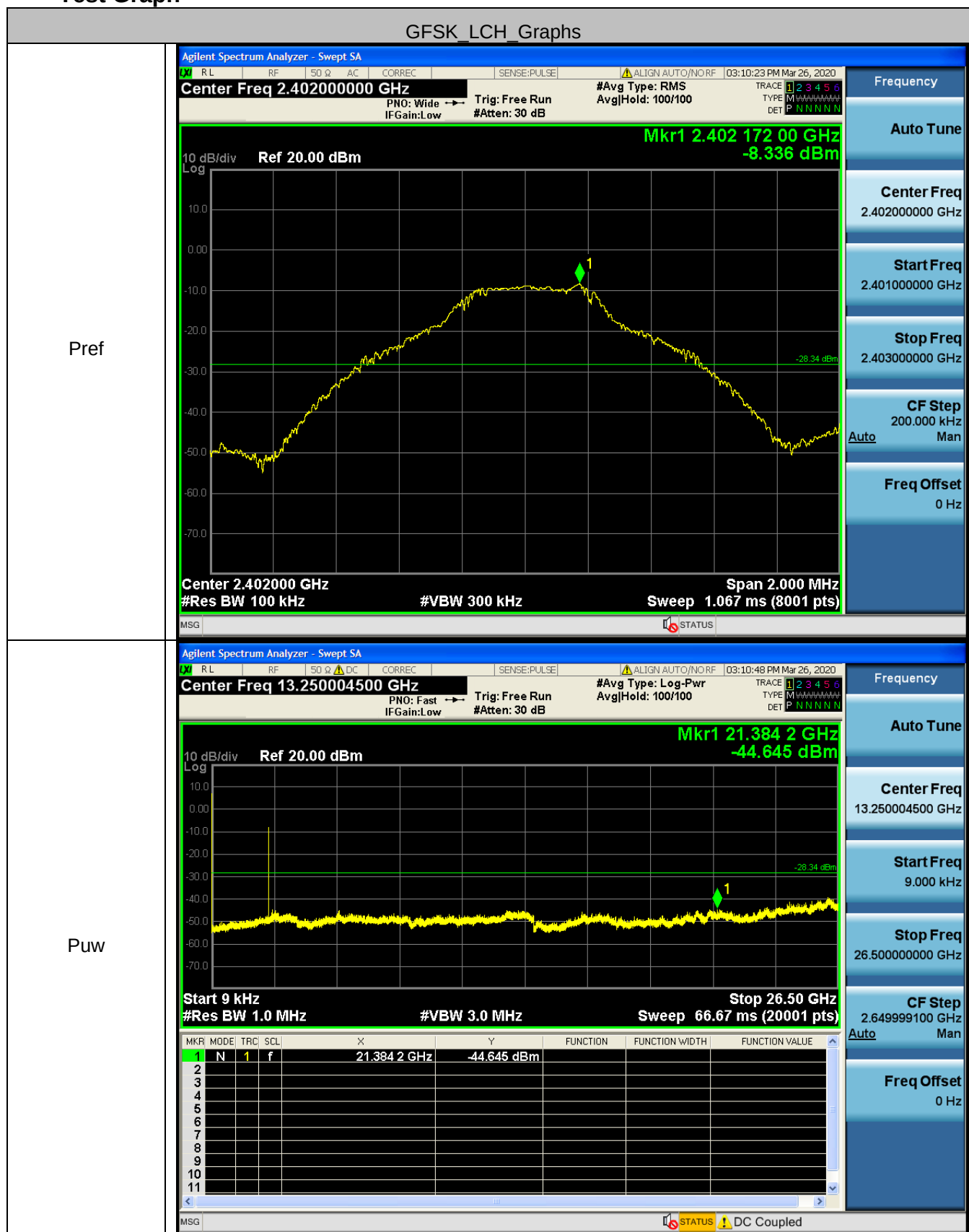


8DPSK/HCH/Hop



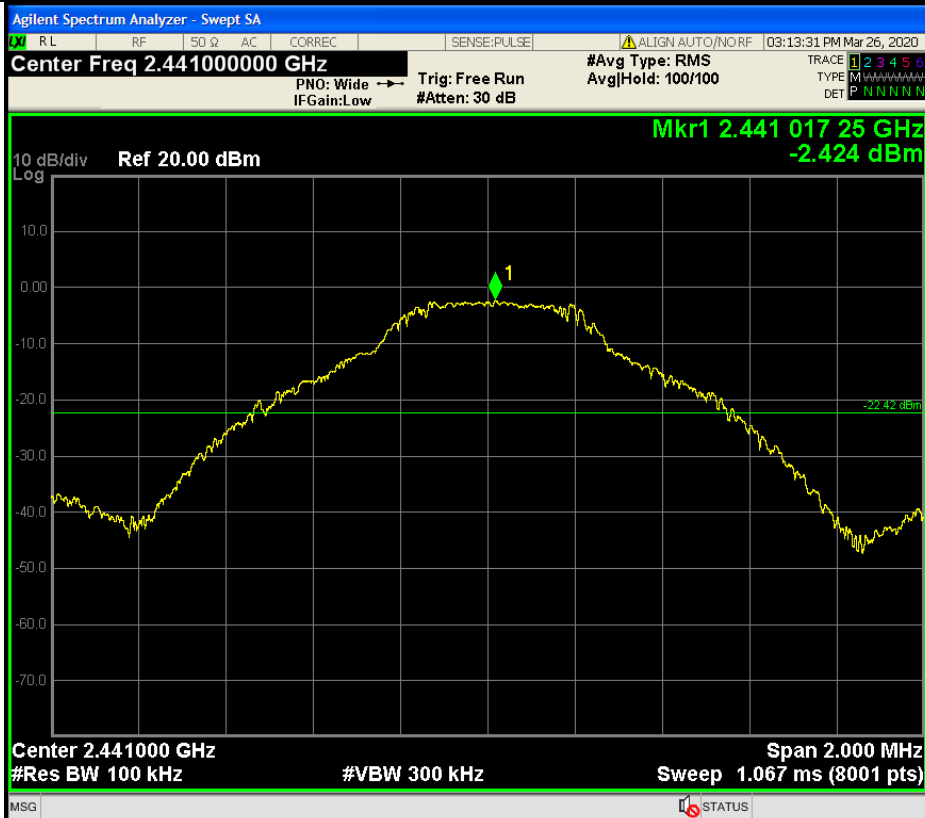
A.7 RF Conducted Spurious Emissions

Test Graph



GFSK MCH Graphs

Pref

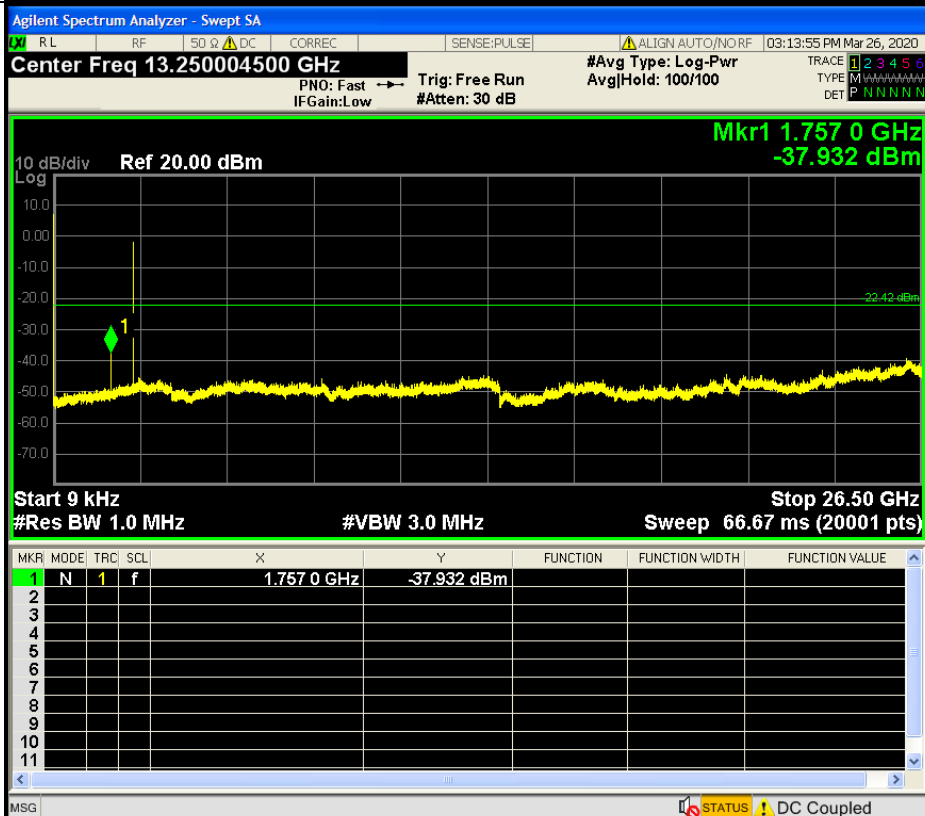


Frequency

Auto Tune

Center Freq
2.441000000 GHzStart Freq
2.440000000 GHzStop Freq
2.442000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

Puw



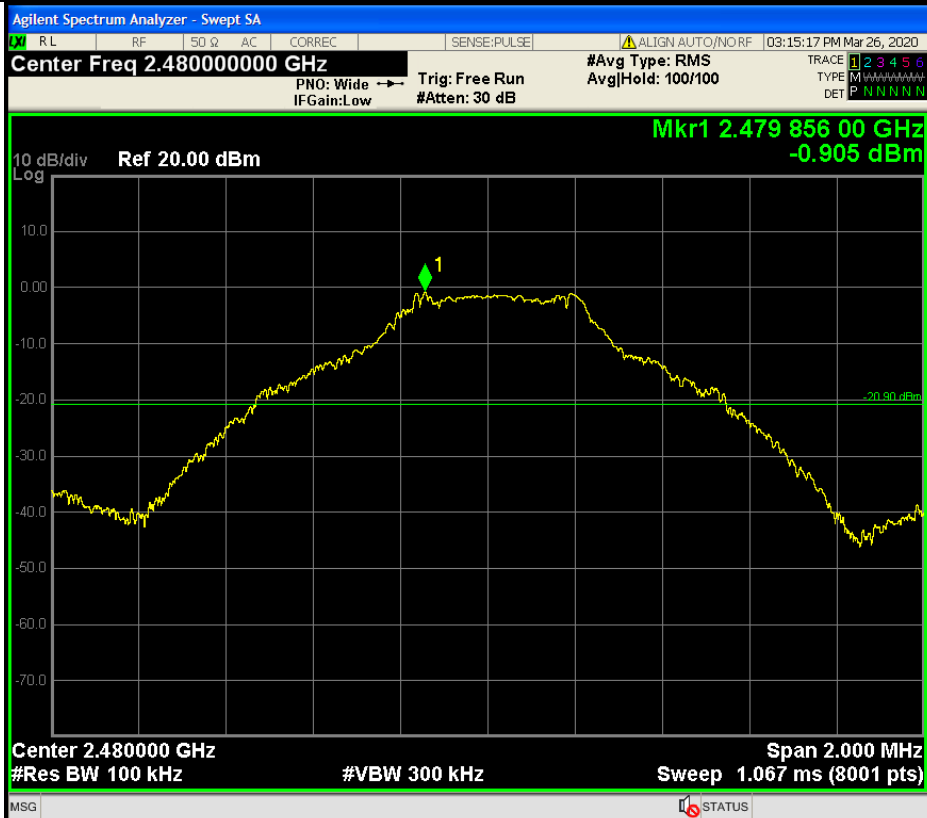
Frequency

Auto Tune

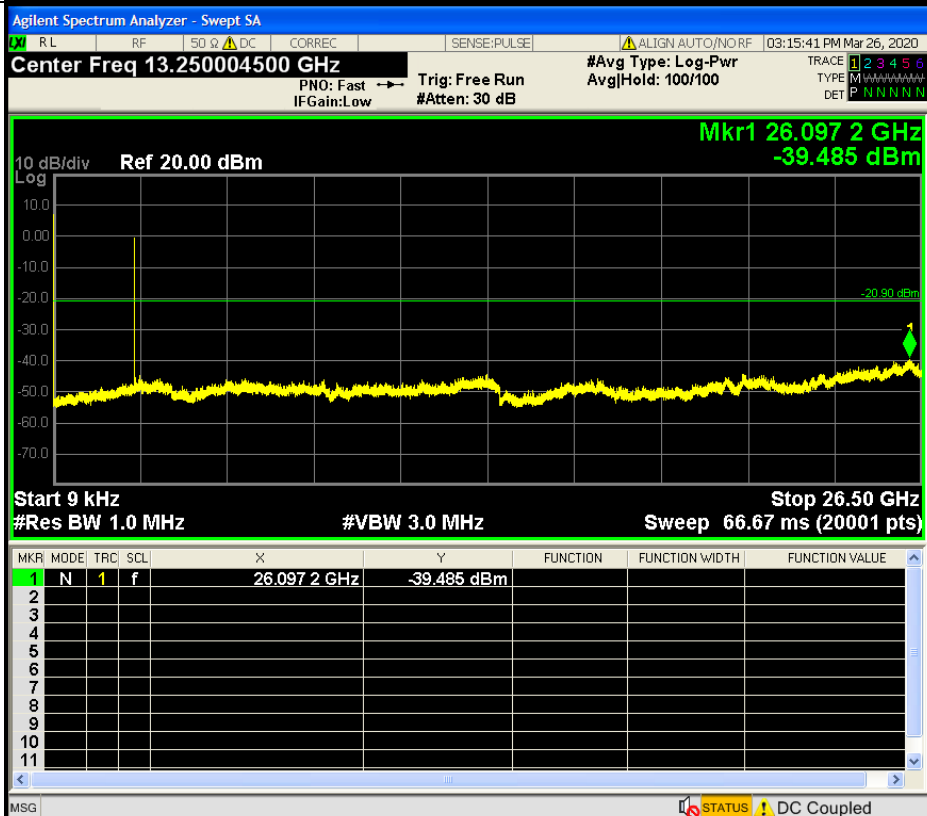
Center Freq
13.250004500 GHzStart Freq
9.000 kHzStop Freq
26.500000000 GHzCF Step
2.649999100 GHz
Auto ManFreq Offset
0 Hz

GFSK_HCH_Graphs

Pref



Puw



$\pi/4$ DQPSK LCH_Graphs

Pref

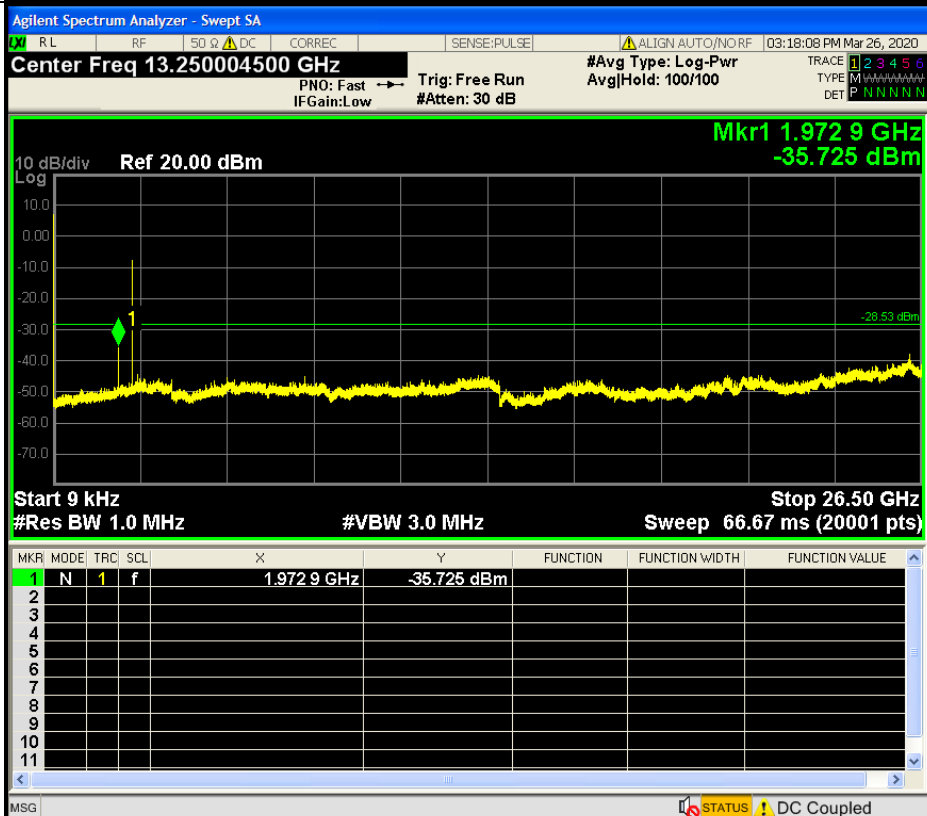


Frequency

Auto Tune

Center Freq
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2.401000000 GHzStop Freq
2.403000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

Puw



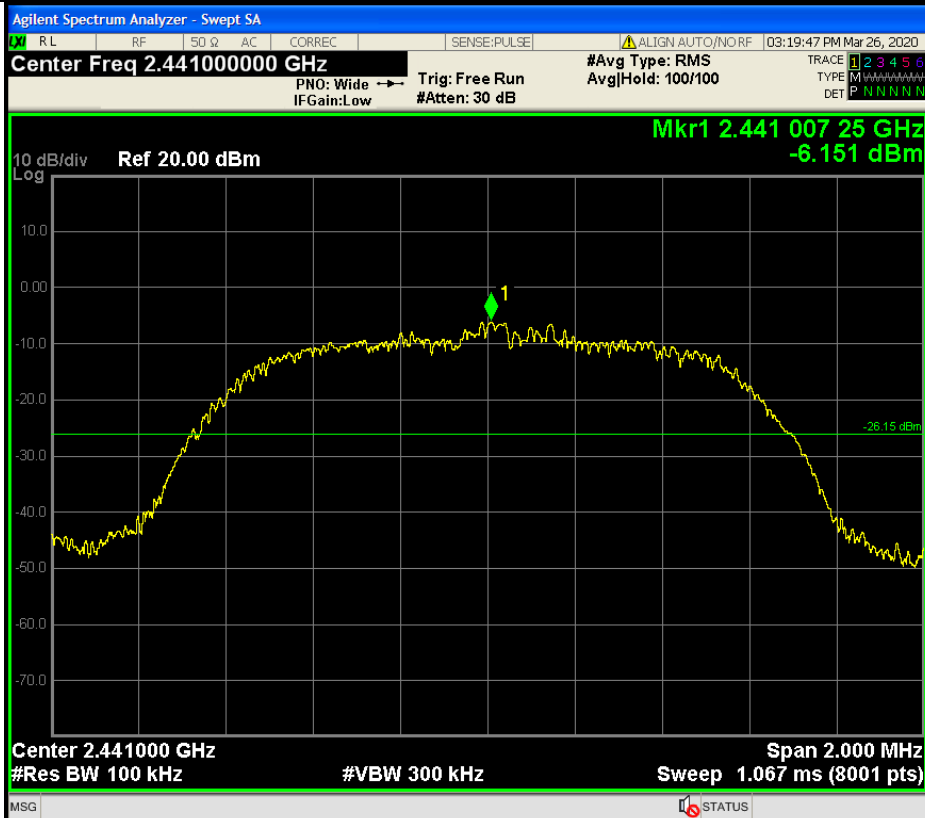
Frequency

Auto Tune

Center Freq
13.250004500 GHzStart Freq
9.000 kHzStop Freq
26.500000000 GHzCF Step
2.649999100 GHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK_MCH_Graphs

Pref



Frequency

Auto Tune

Center Freq

2.441000000 GHz

Start Freq

2.440000000 GHz

Stop Freq

2.442000000 GHz

CF Step

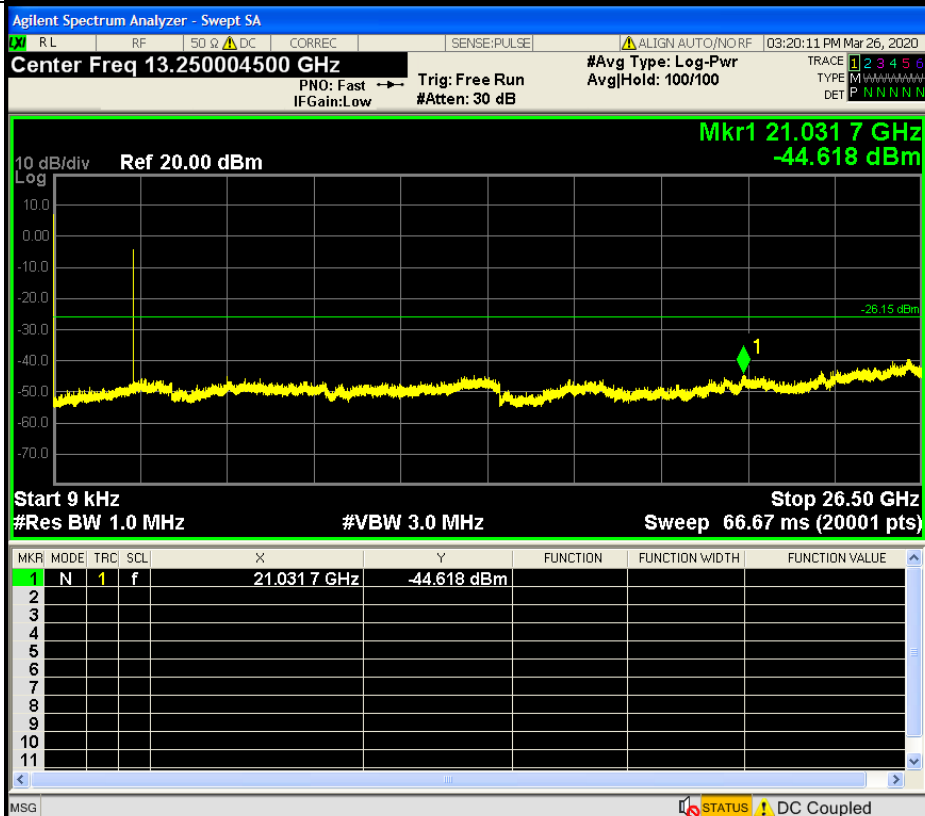
200.000 kHz

Auto

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

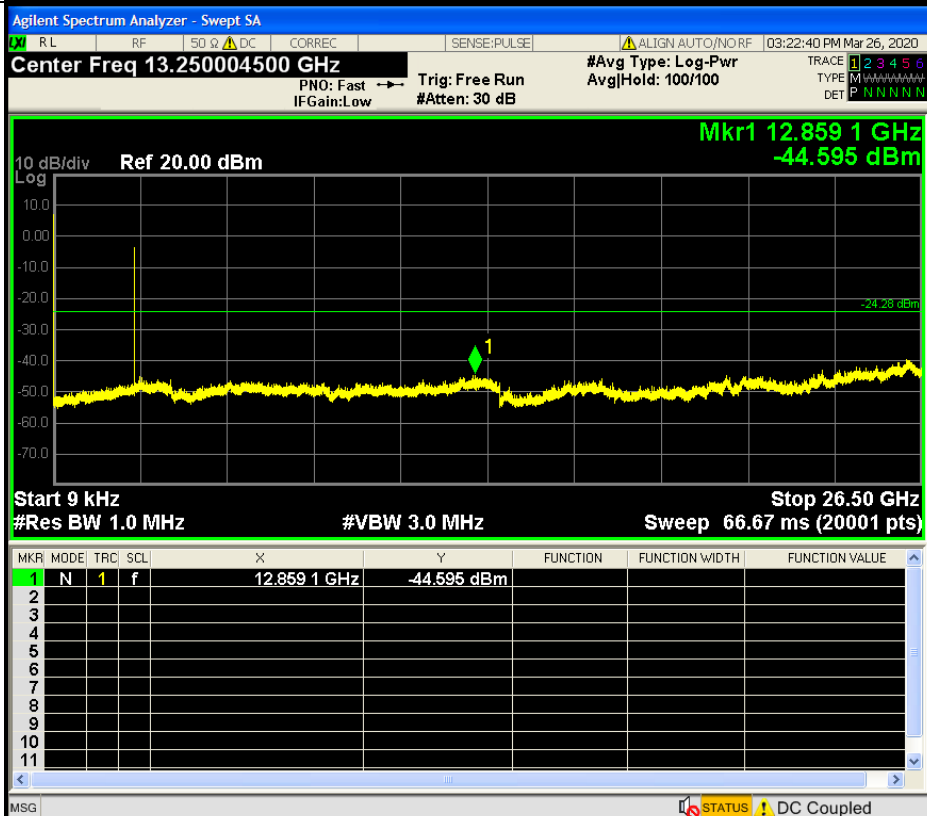
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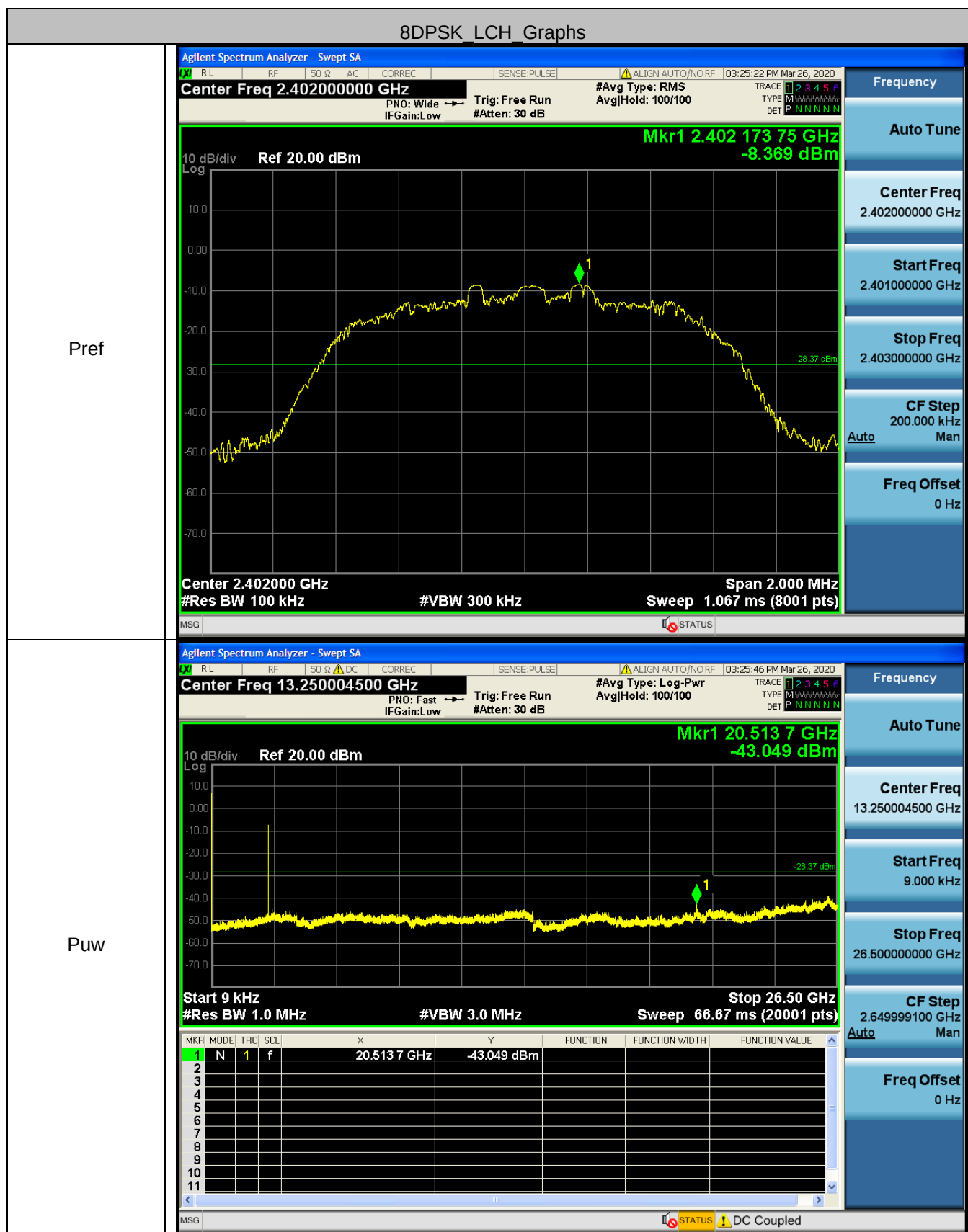
$\pi/4$ DQPSK HCH Graphs

Pref



Puw



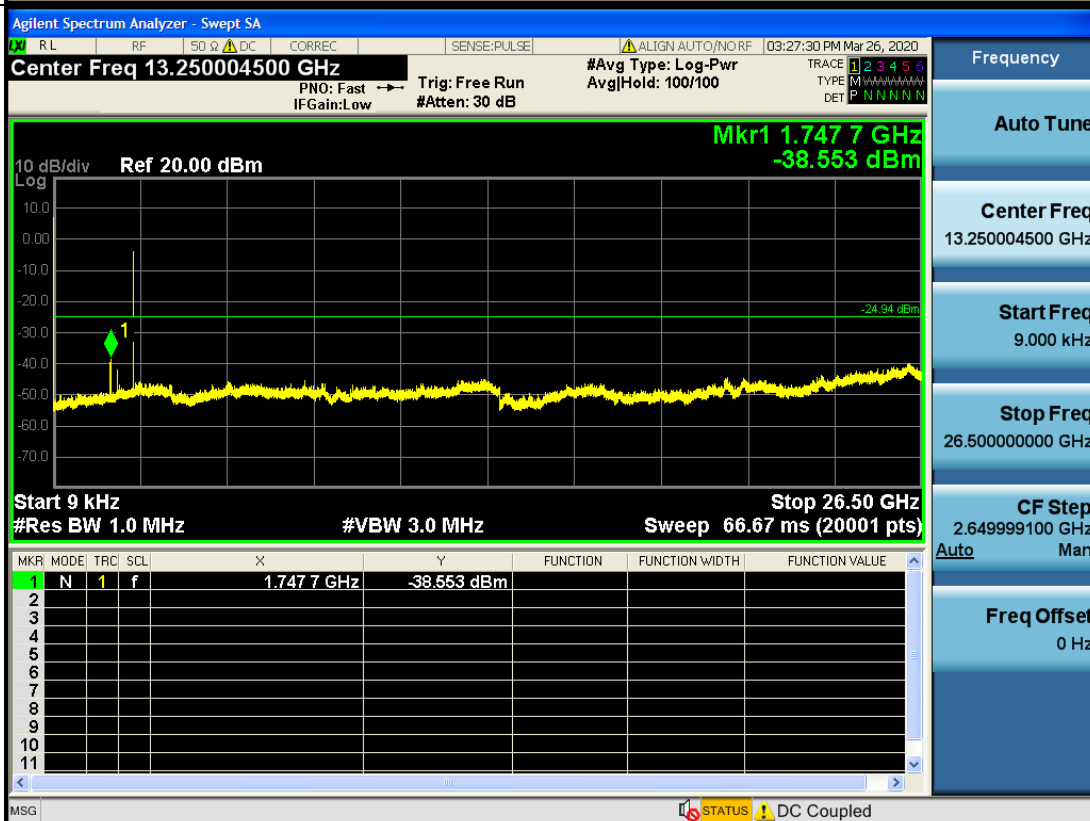


8DPSK_MCH_Graphs

Pref



Puw



8DPSK_HCH_Graphs

Pref

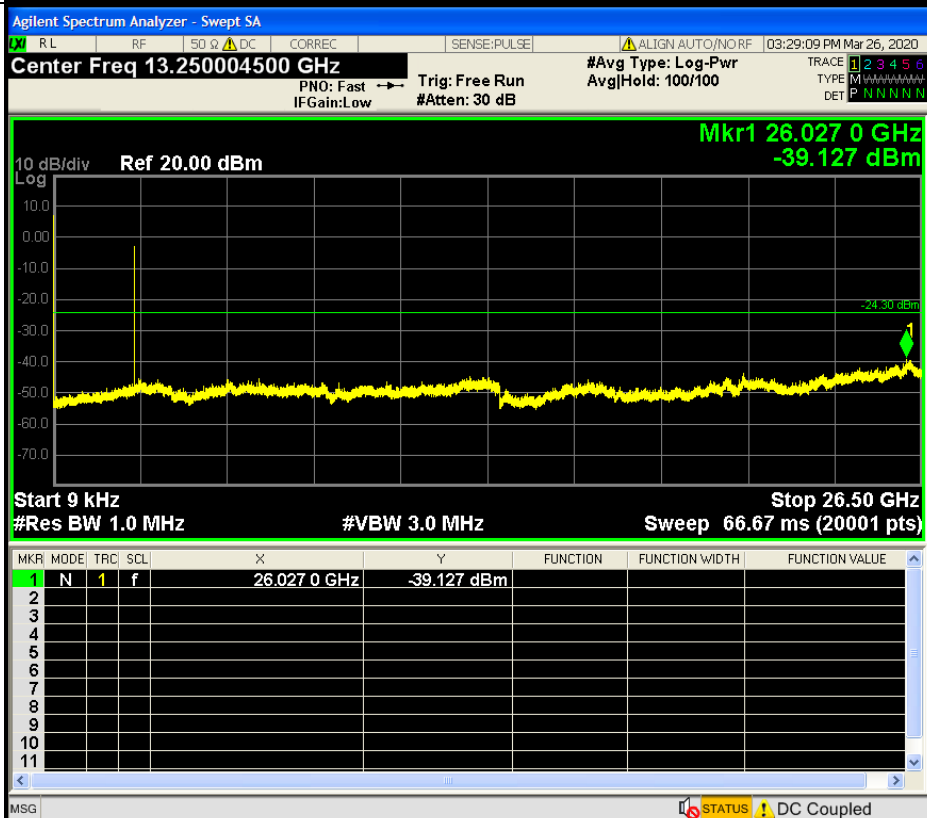


Frequency

Auto Tune

Center Freq
2.480000000 GHzStart Freq
2.479000000 GHzStop Freq
2.481000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

Puw



Frequency

Auto Tune

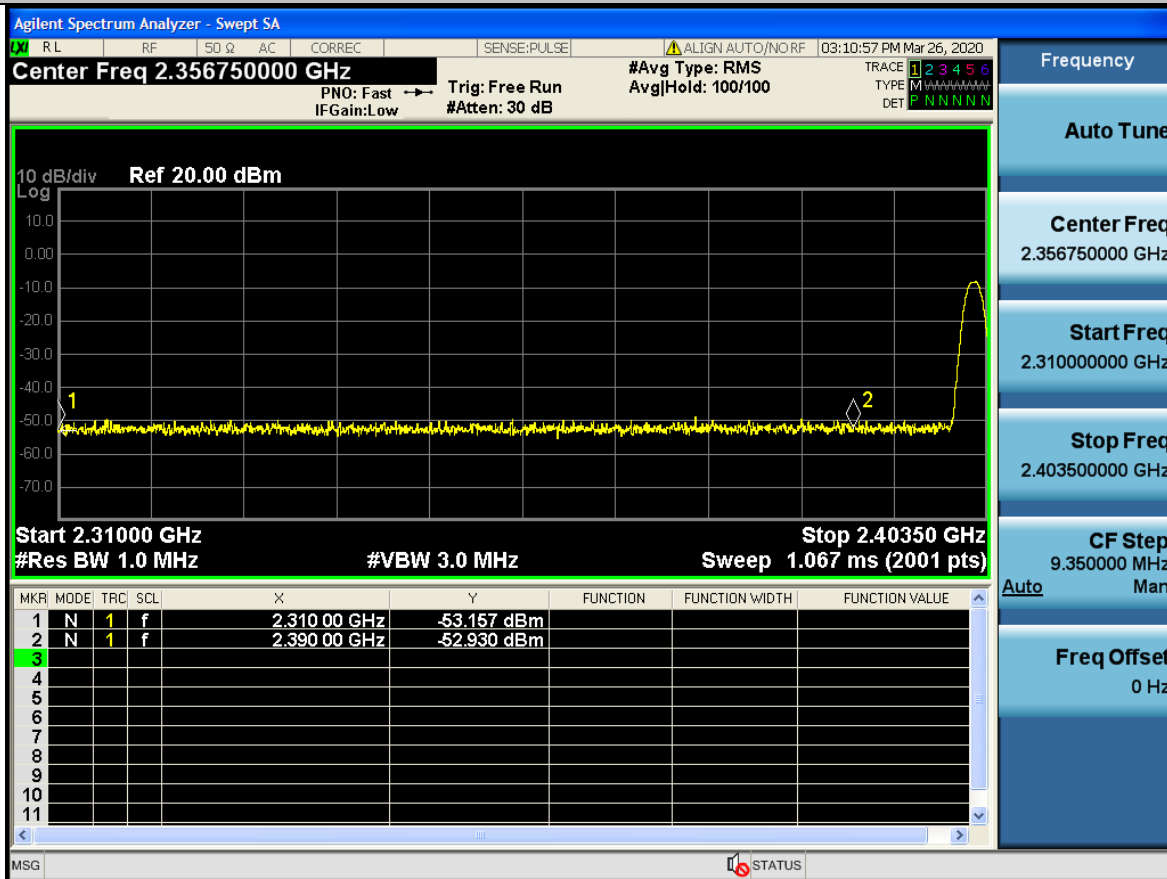
Center Freq
13.250004500 GHzStart Freq
9.000 kHzStop Freq
26.500000000 GHzCF Step
2.649999100 GHz
Auto ManFreq Offset
0 Hz

A.8 Restrict-band band-edge measurements

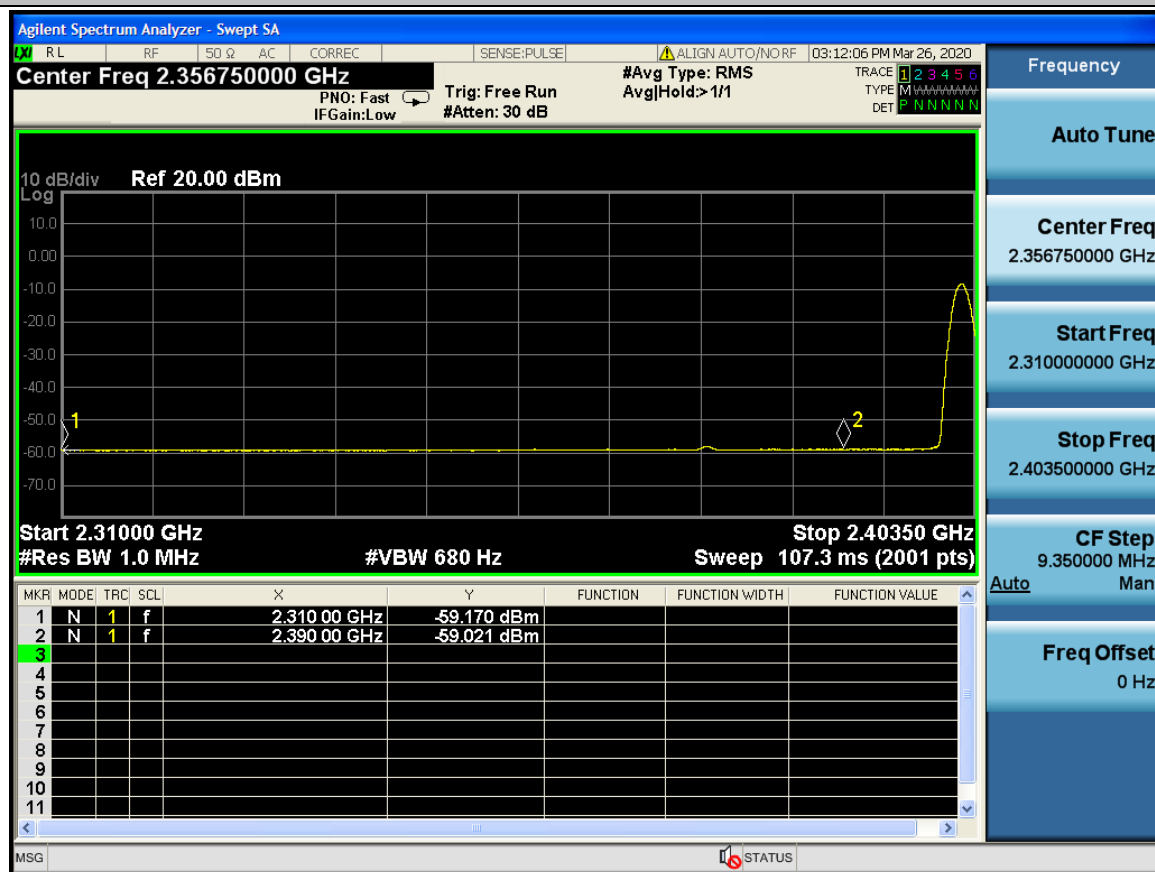
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390	2.00	0.00	-52.93	44.27	74	Pass
1DH5	2480	2483.5	2.00	0.00	-46.399	50.801	74	Pass
2DH5	2402	2310	2.00	0.00	-50.958	46.242	74	Pass
2DH5	2480	2483.5	2.00	0.00	-49.711	47.489	74	Pass
3DH5	2402	2310	2.00	0.00	-52.382	44.818	74	Pass
3DH5	2480	2483.5	2.00	0.00	-49.591	47.609	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	-59.021	38.179	54	Pass
1DH5	2480	2483.5	2.00	0.00	-51.492	45.708	54	Pass
2DH5	2402	2310	2.00	0.00	-59.13	38.07	54	Pass
2DH5	2480	2483.5	2.00	0.00	-55.634	41.566	54	Pass
3DH5	2402	2310	2.00	0.00	-59.128	38.072	54	Pass
3DH5	2480	2483.5	2.00	0.00	-55.616	41.584	54	Pass

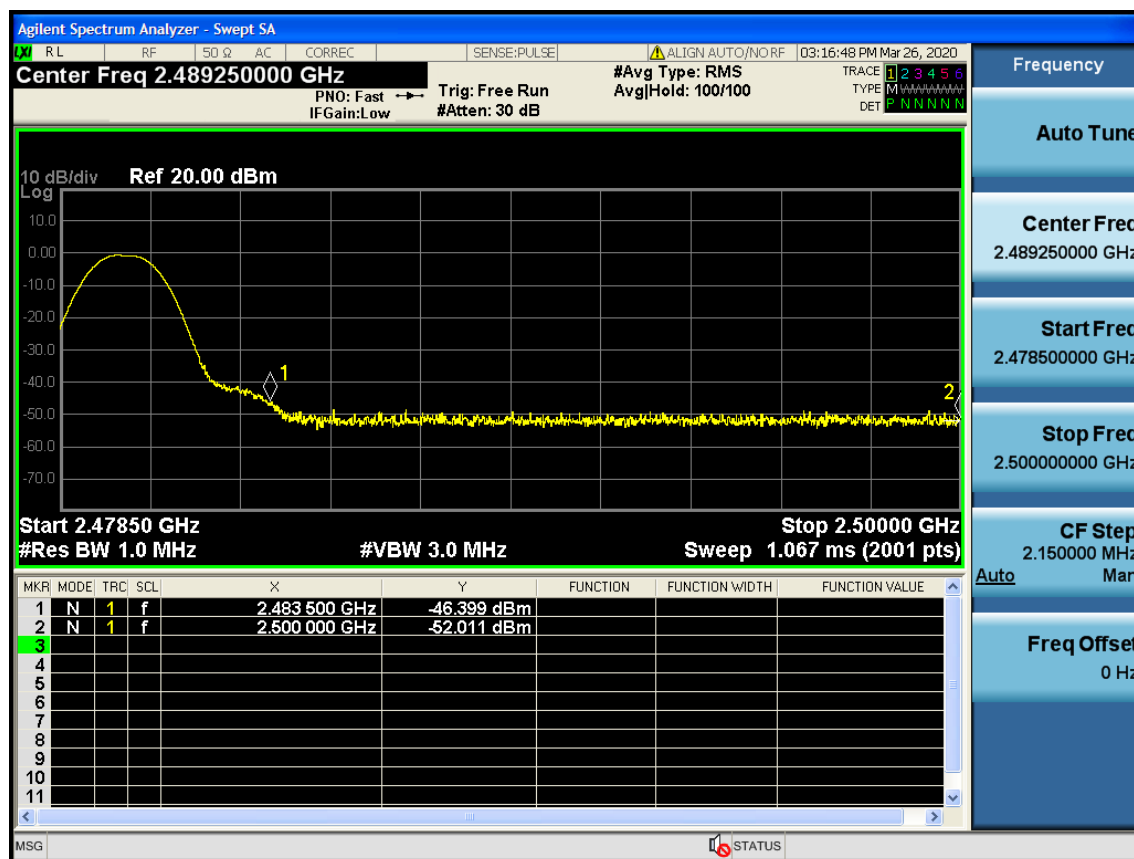
Restrict-band band-edge measurements_2402_PEAK_DH5



Restrict-band band-edge measurements_2402_AV_DH5



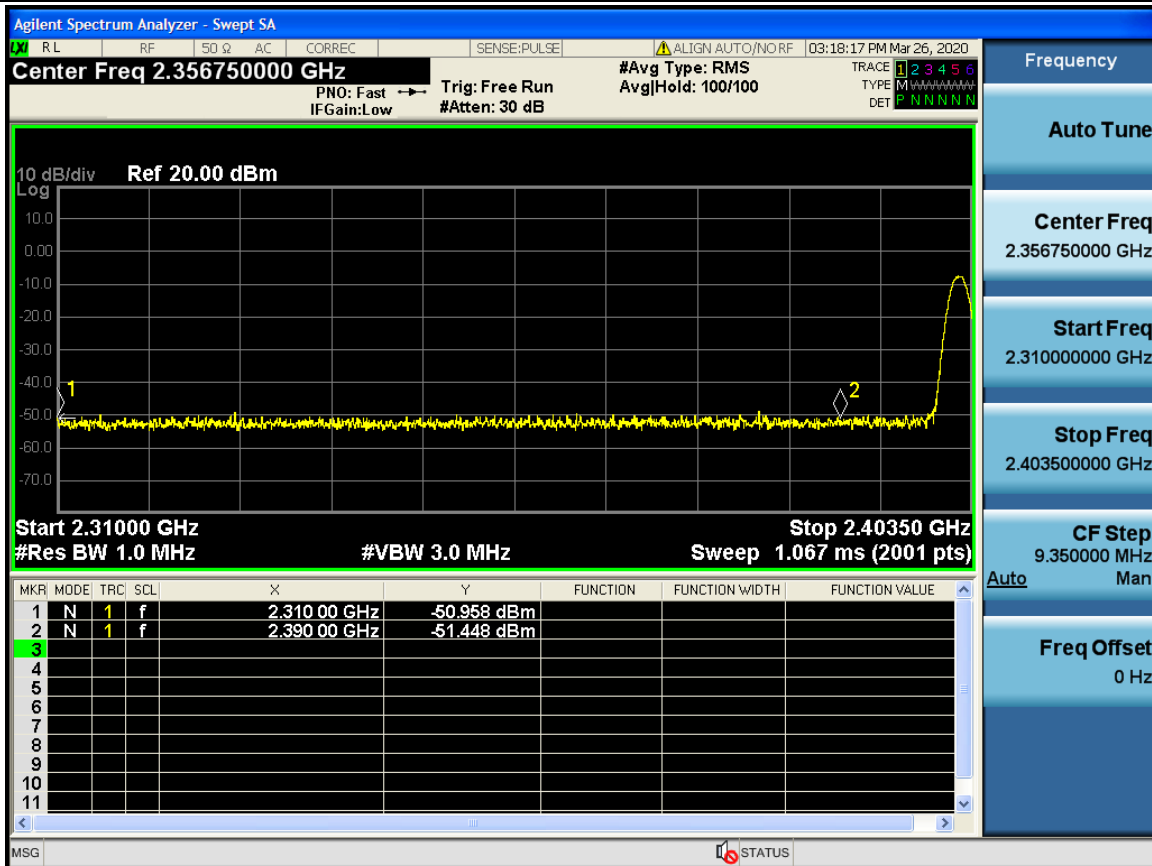
Restrict-band band-edge measurements_2480_PEAK_DH5



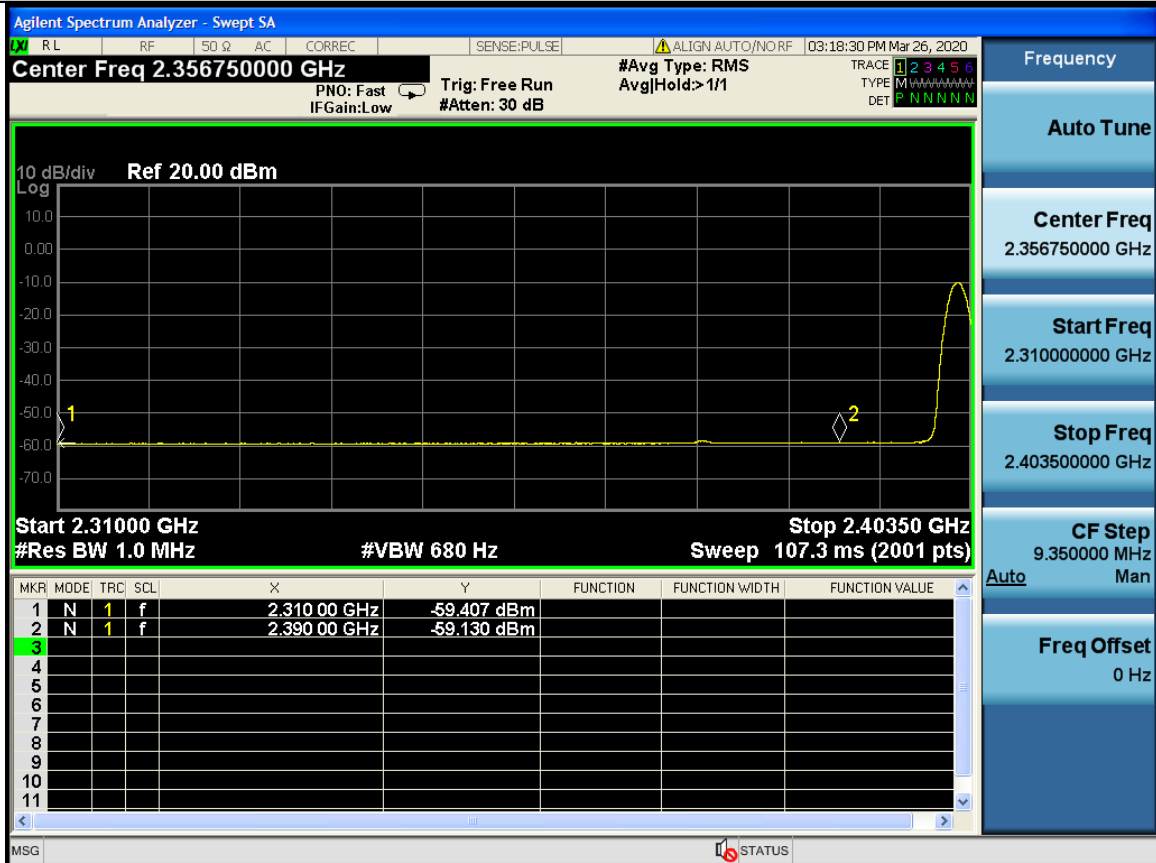
Restrict-band band-edge measurements_2480_AV_DH5



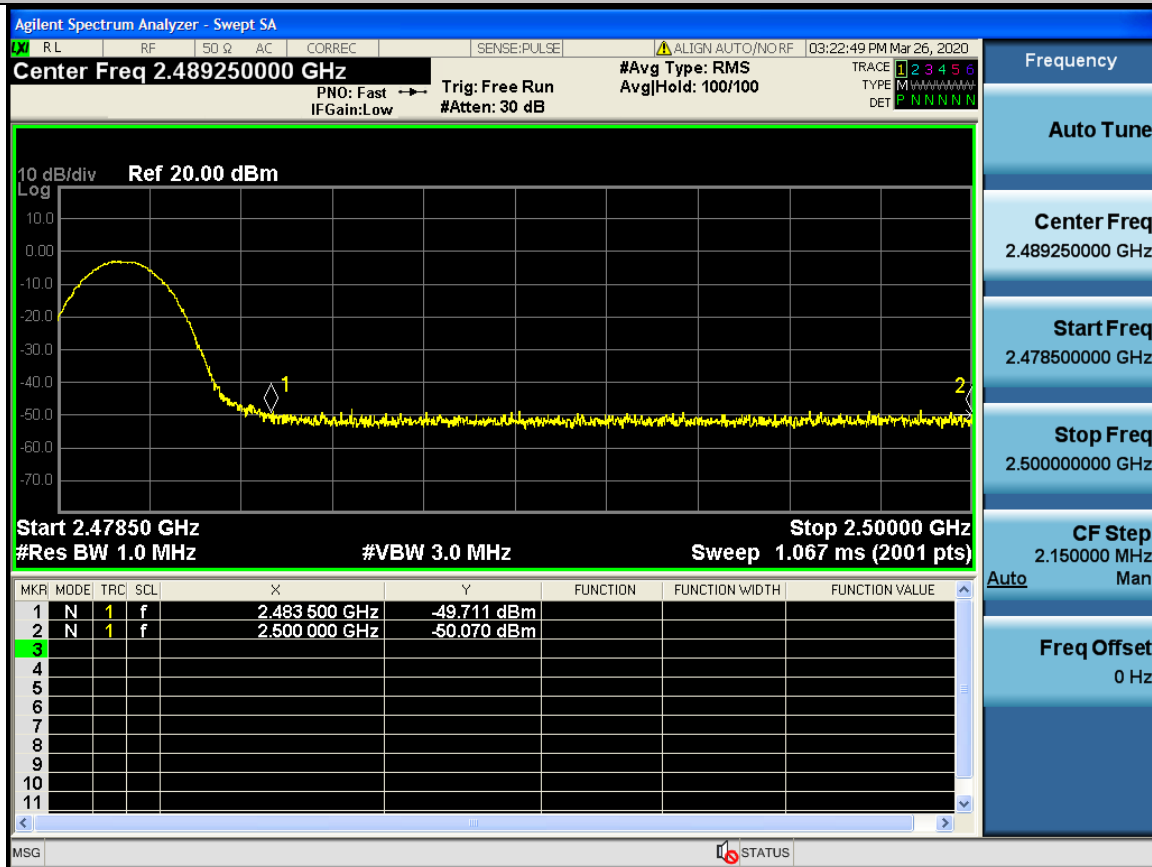
Restrict-band band-edge measurements_2402_PEAK_2DH5



Restrict-band band-edge measurements_2402_AV_2DH5



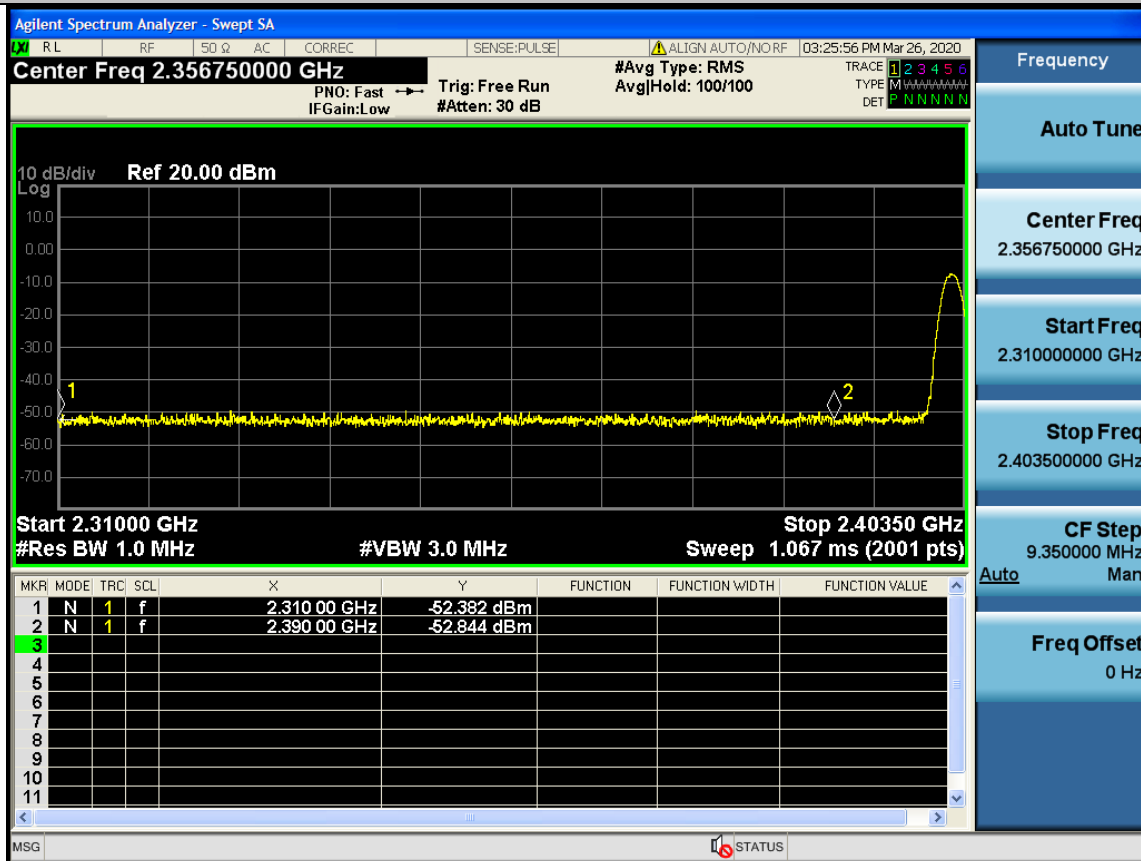
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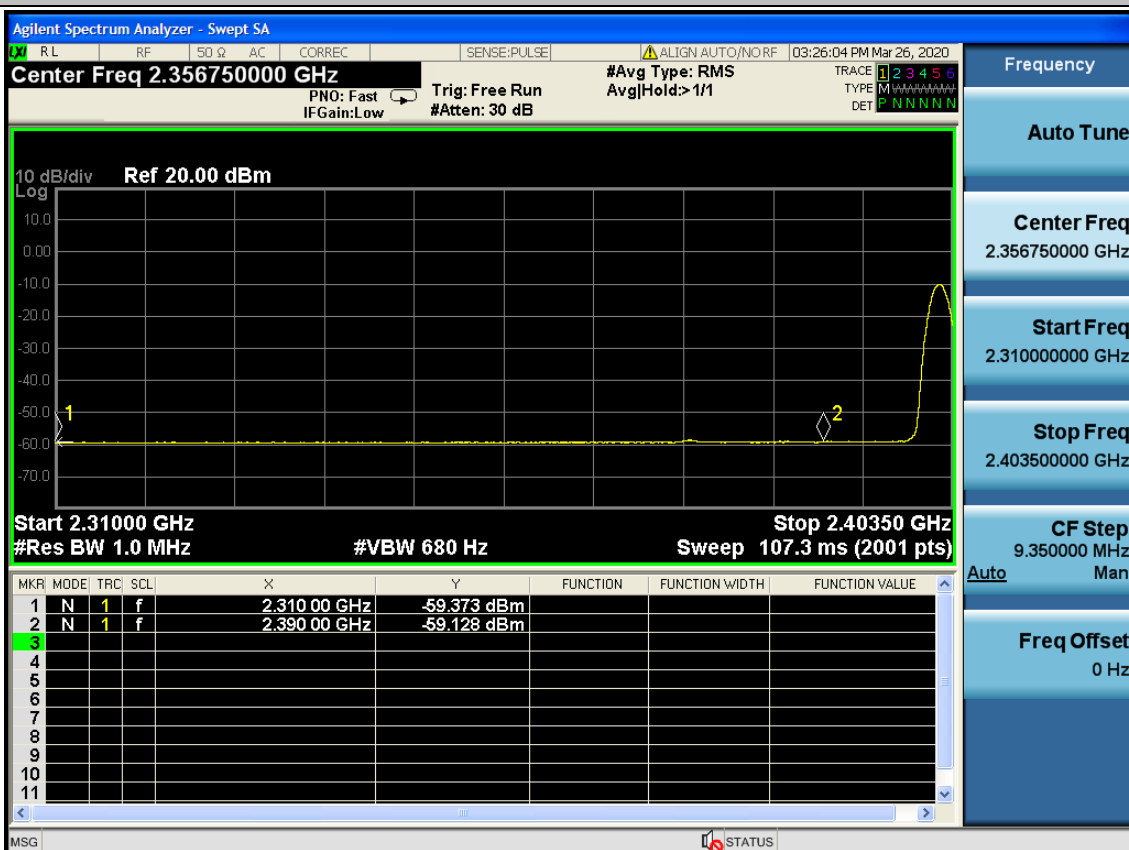
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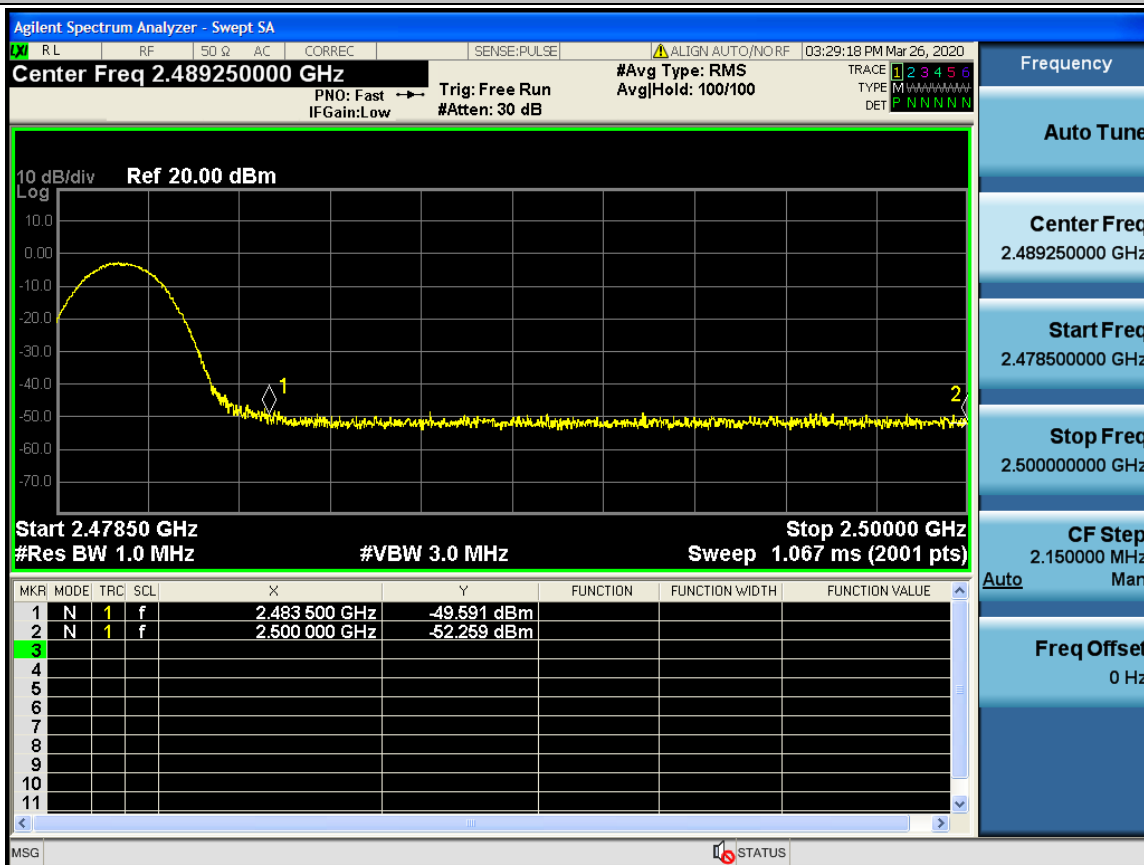
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

