

Appendix A

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

Product Name: Bluetooth Speaker

Trade Mark: MVMT

Test Model: SP3563

FCC ID: 2AMD8SP3563

Environmental Conditions

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

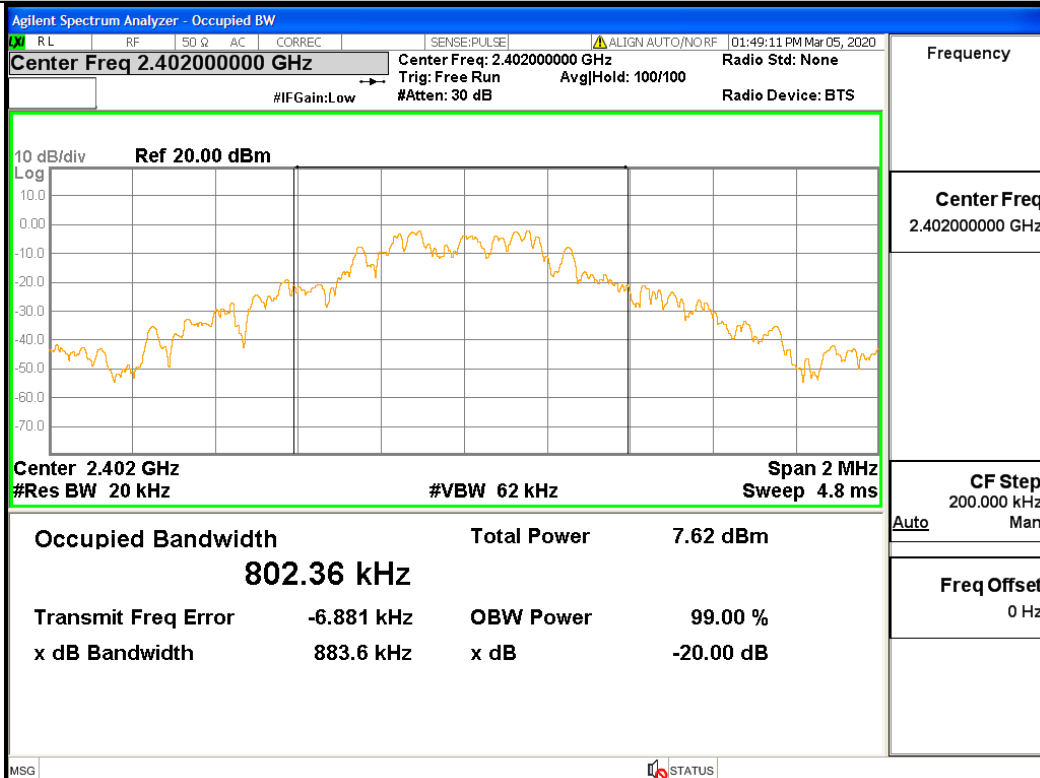
A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.884	Not Specified	PASS
GFSK	MCH	0.941	Not Specified	PASS
GFSK	HCH	0.942	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.314	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.361	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.264	Not Specified	PASS
8DPSK	LCH	1.311	Not Specified	PASS
8DPSK	MCH	1.295	Not Specified	PASS
8DPSK	HCH	1.262	Not Specified	PASS

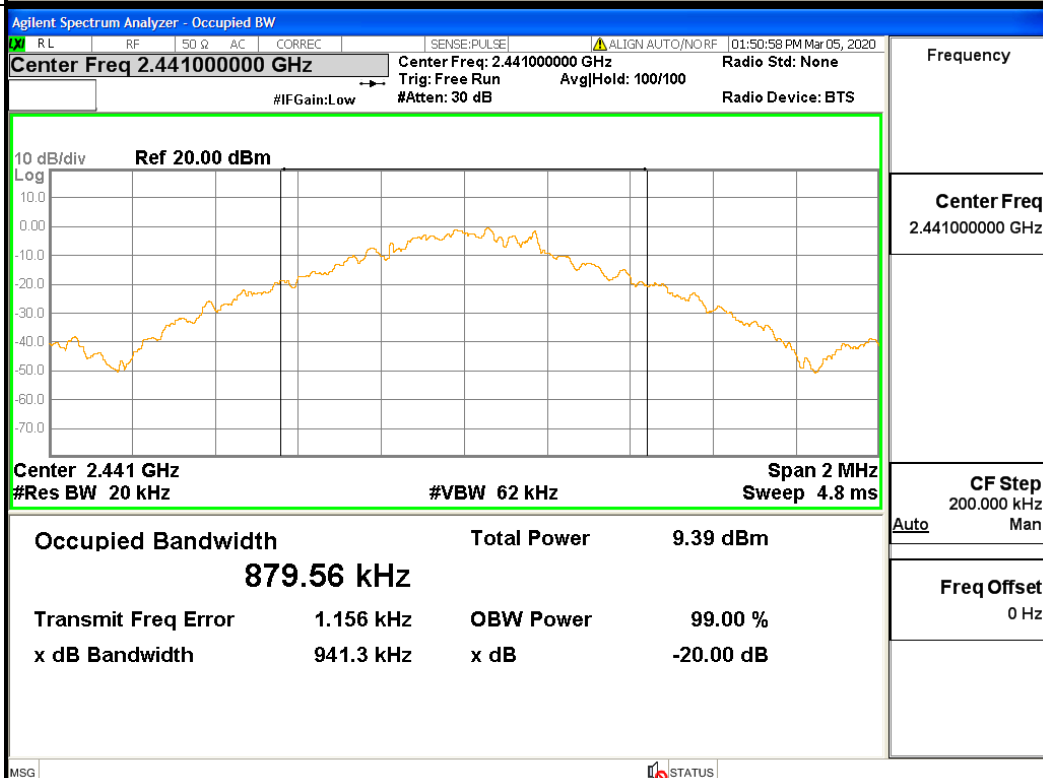
Test Graph

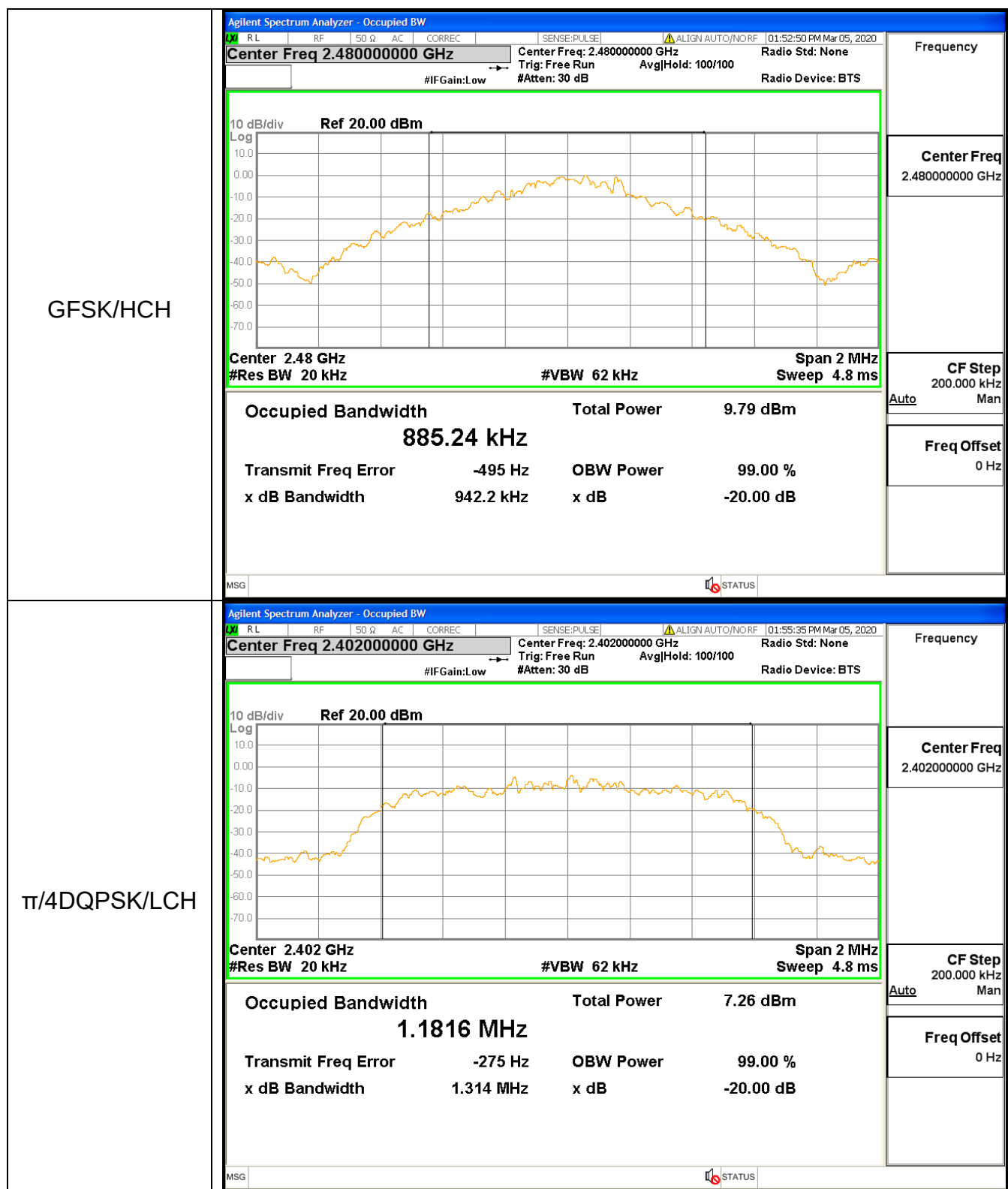
Graphs

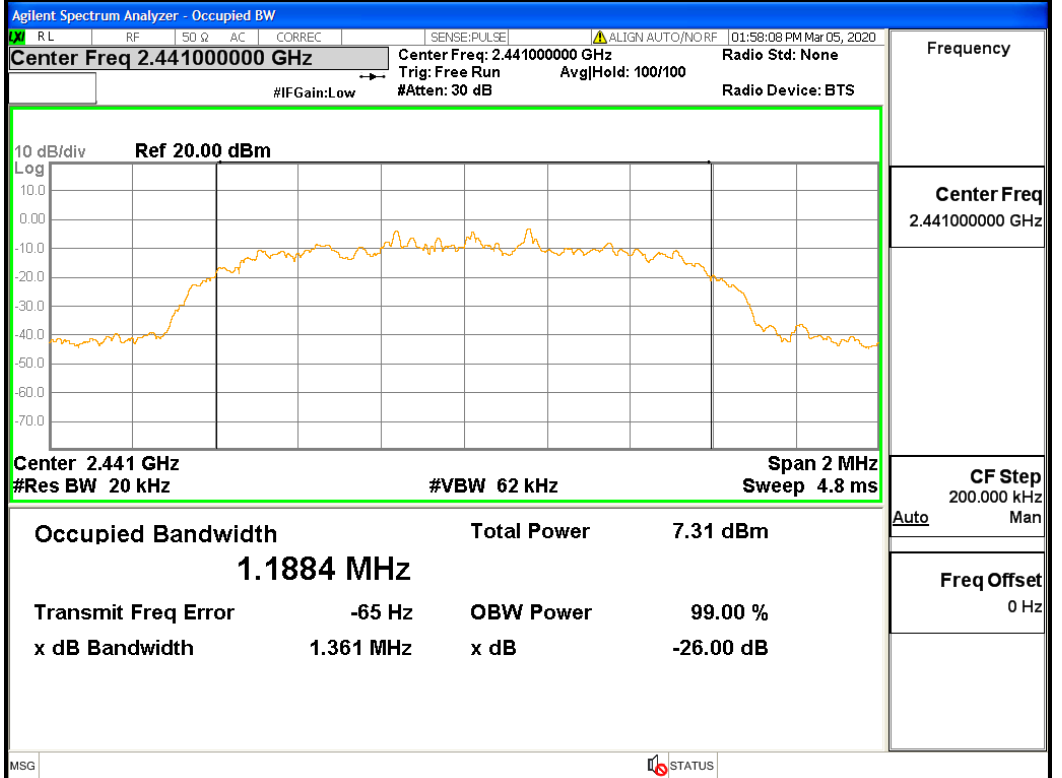
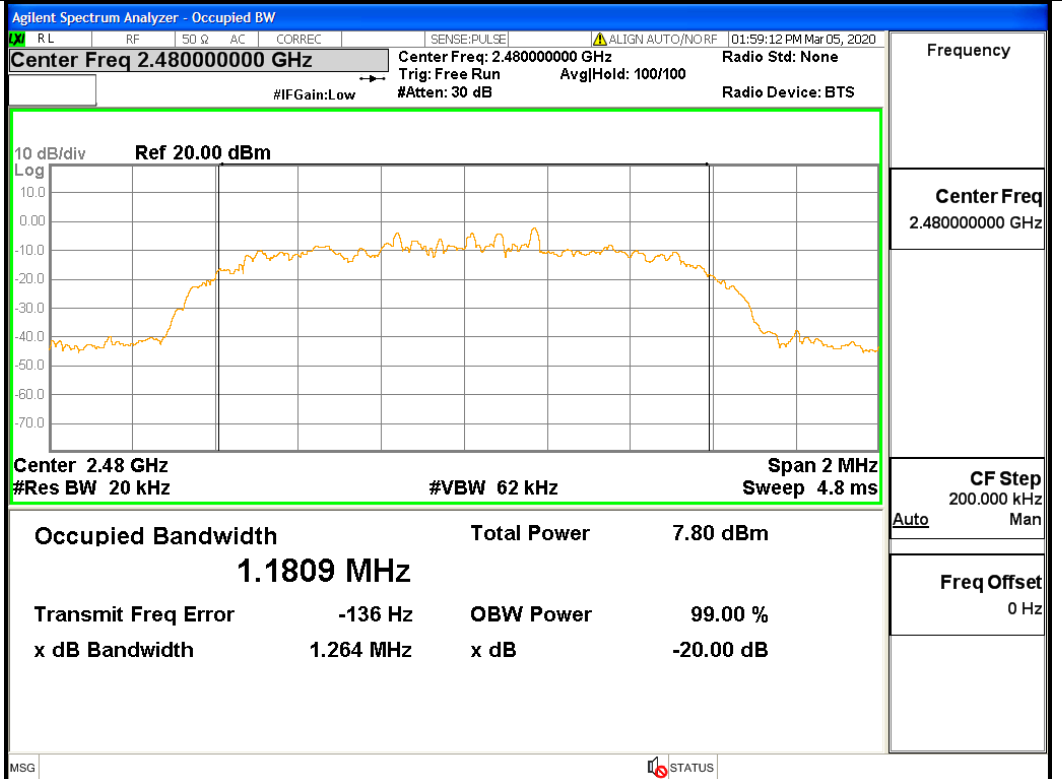
GFSK/LCH



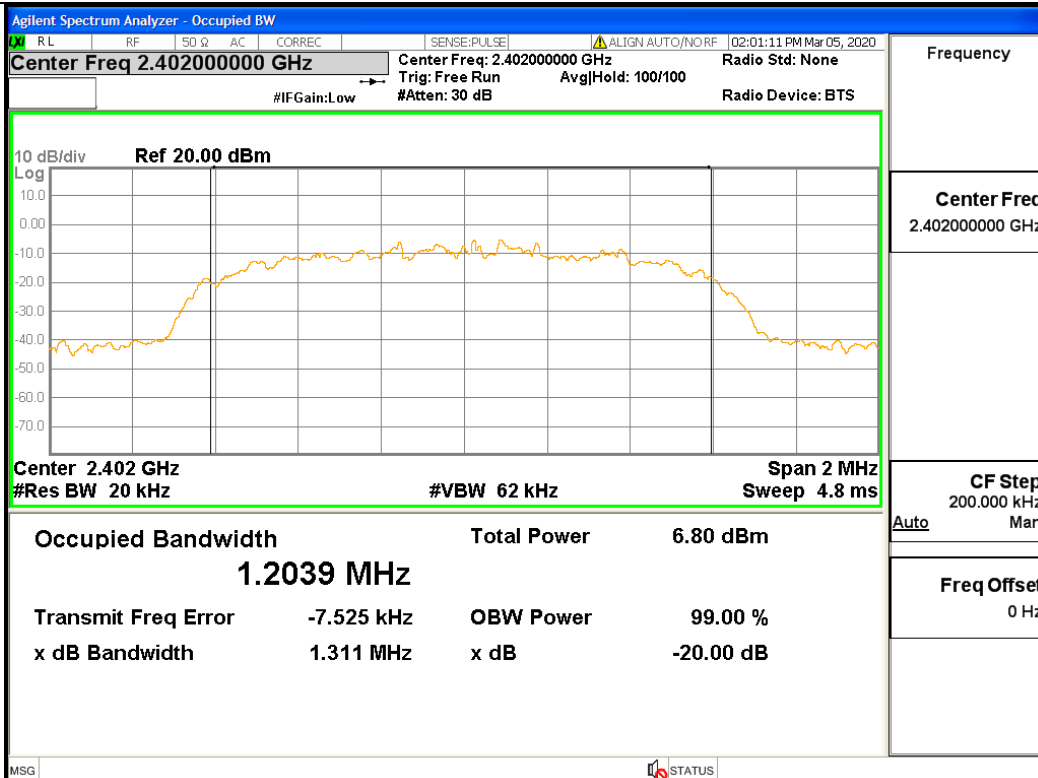
GFSK/MCH





π /4DQPSK/MCH π /4DQPSK/HCH

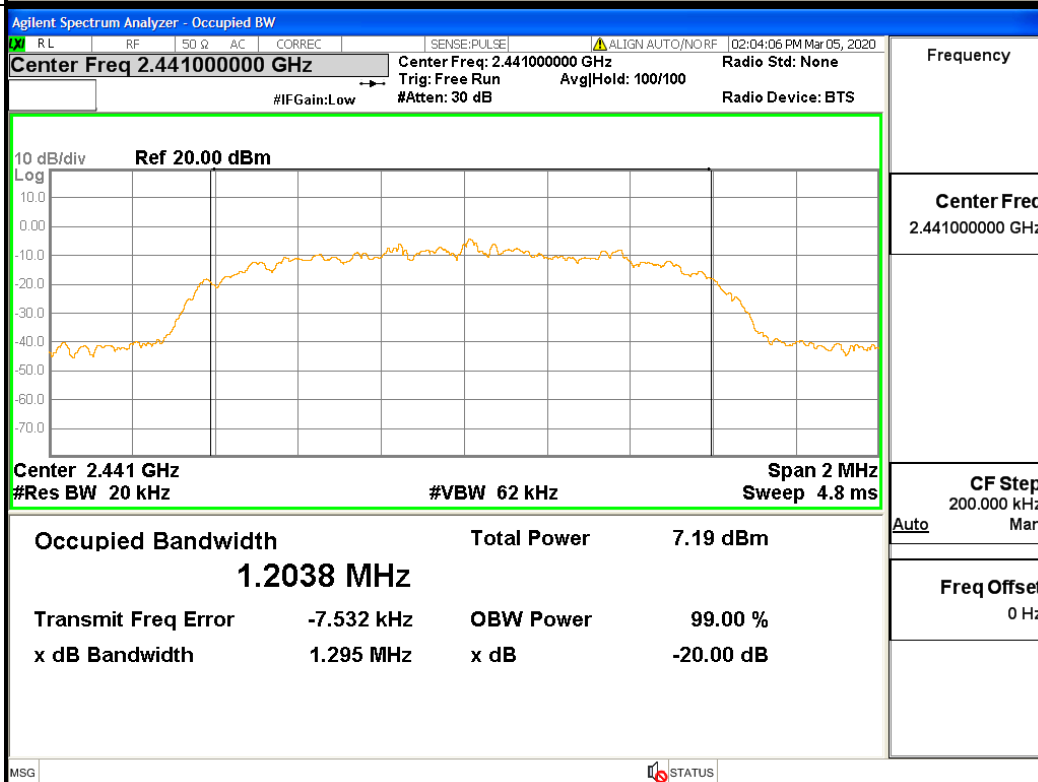
8DPSK/LCH



Frequency

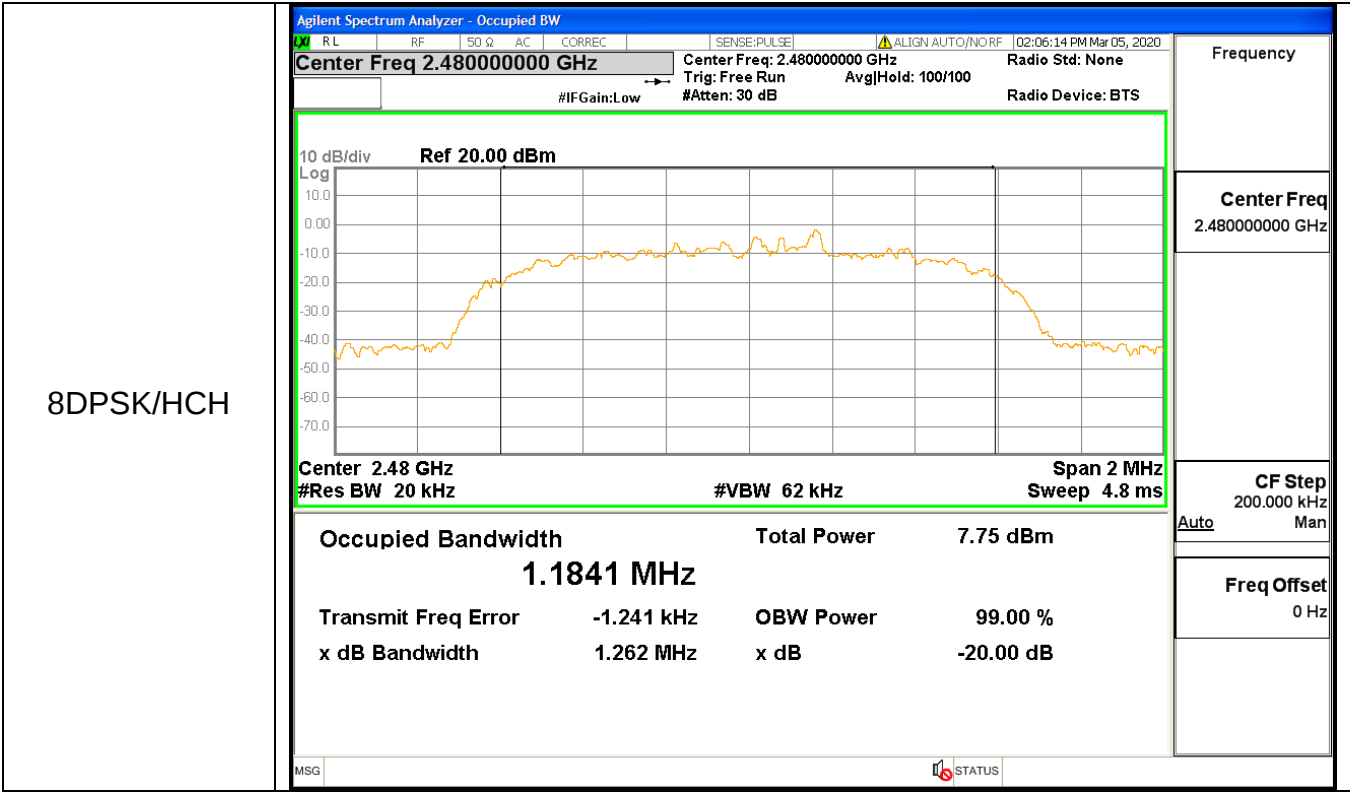
Center Freq
2.402000000 GHzCF Step
200.000 kHz
Auto ManFreq Offset
0 Hz

8DPSK/MCH



Frequency

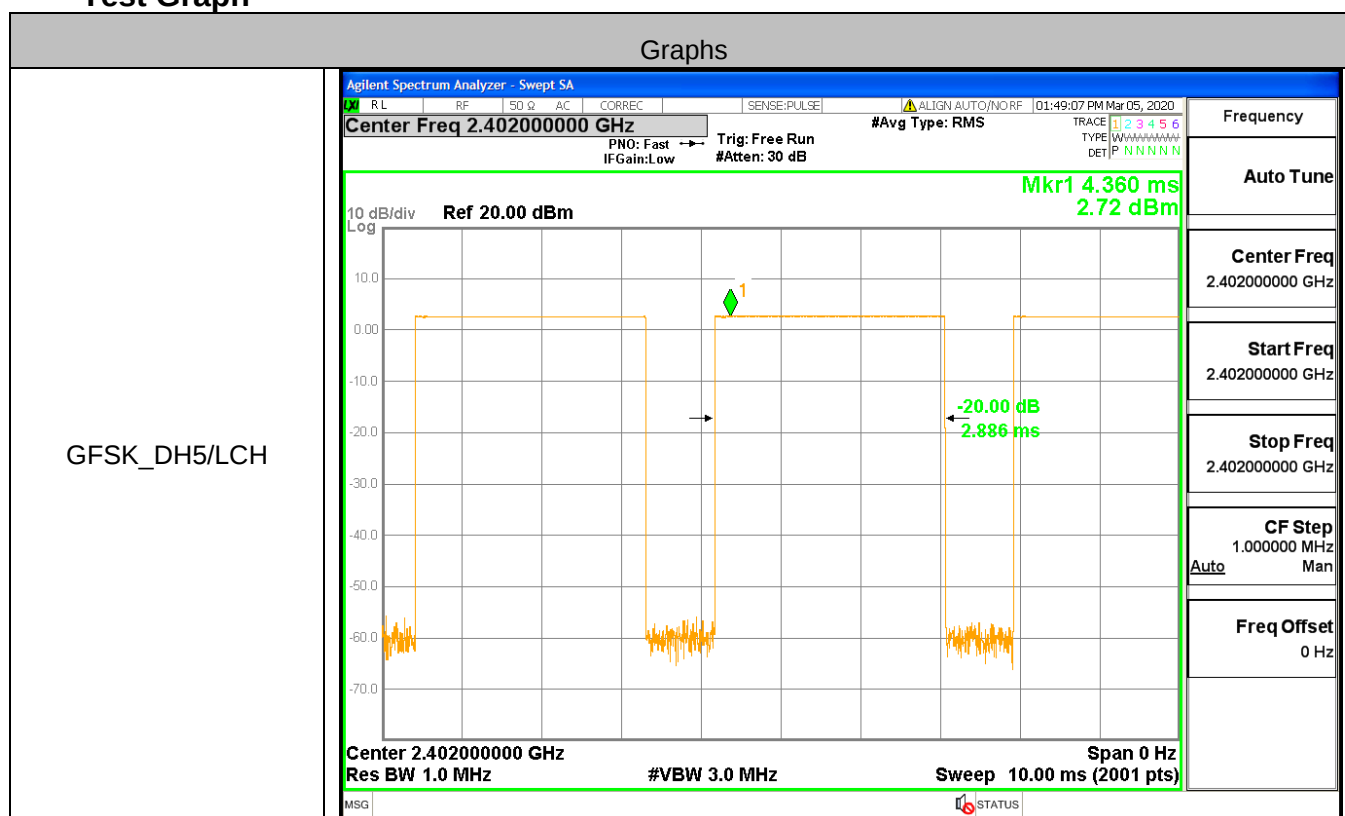
Center Freq
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200.000 kHz
Auto ManFreq Offset
0 Hz

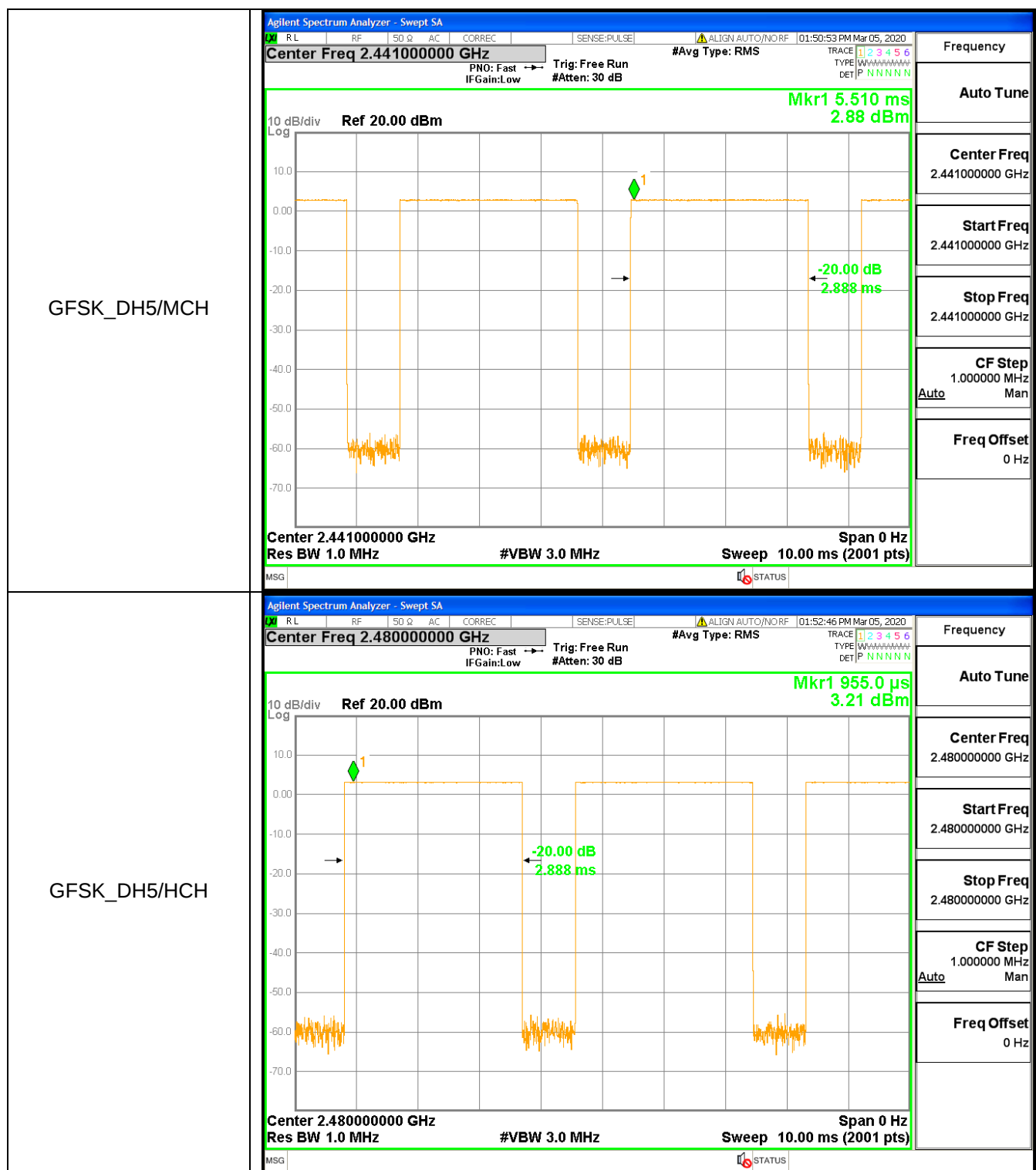


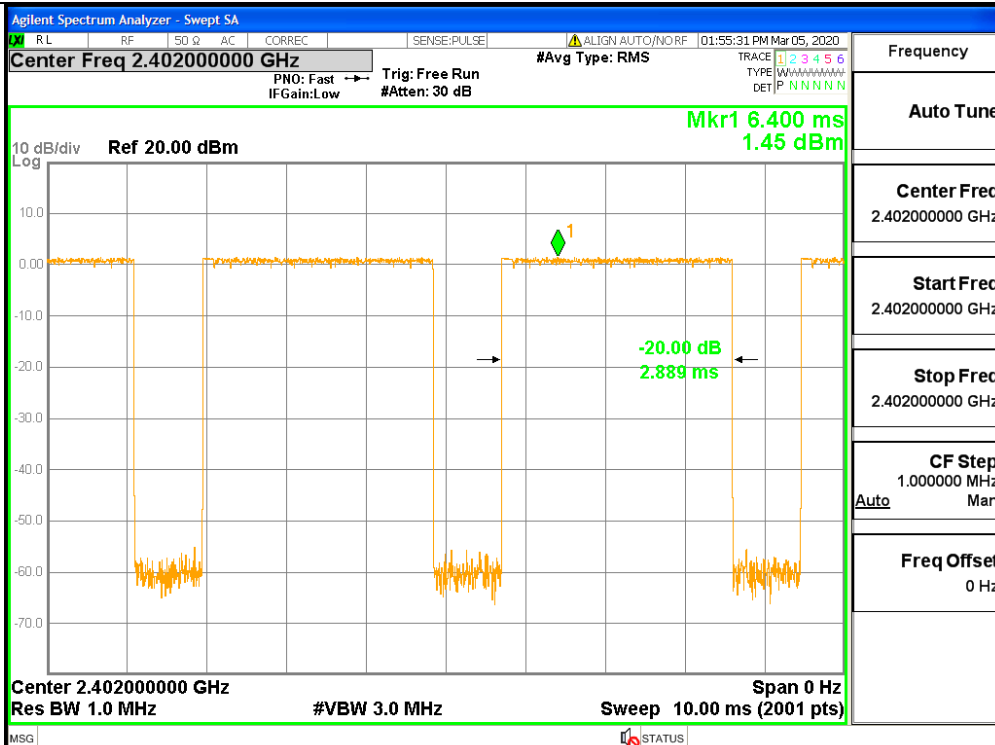
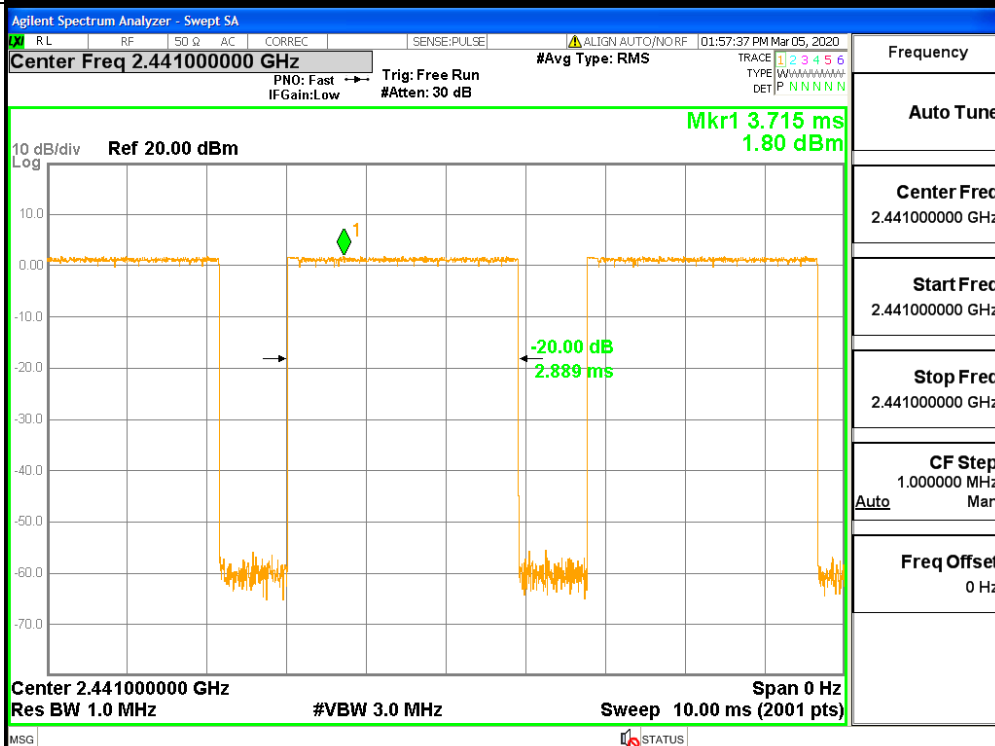
A.2 Dwell Time

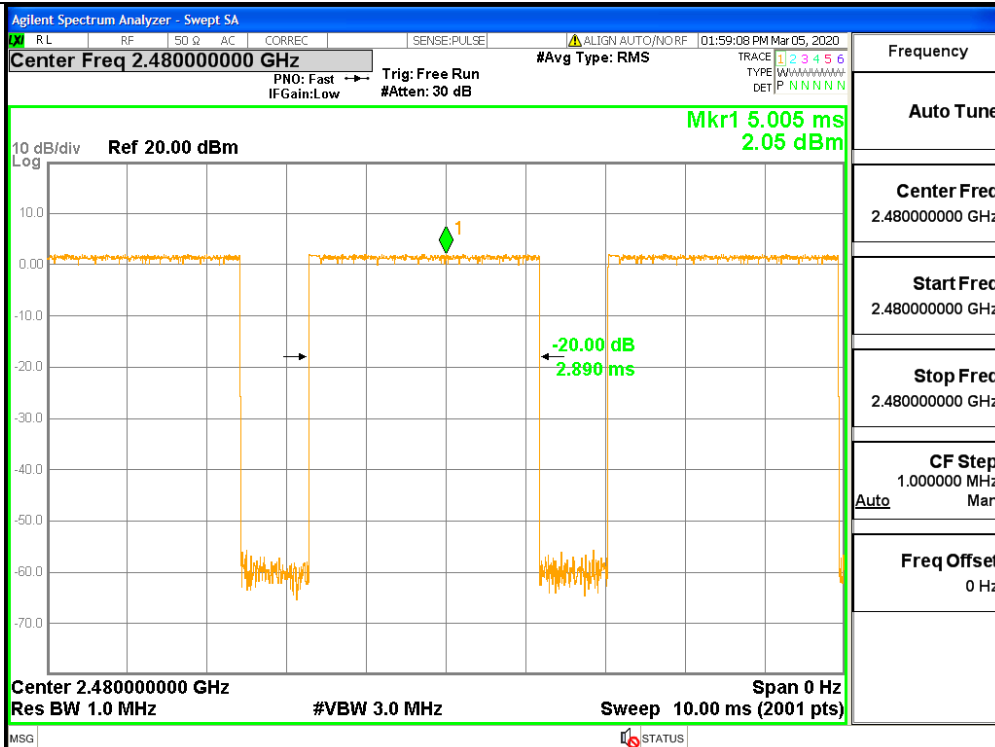
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.886	106.7	0.308	0.4	PASS
GFSK	DH5	MCH	2.888	106.7	0.308	0.4	PASS
GFSK	DH5	HCH	2.888	106.7	0.308	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.889	106.7	0.308	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	2.889	106.7	0.308	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	2.890	106.7	0.308	0.4	PASS
8DPSK	3DH5	LCH	2.893	106.7	0.309	0.4	PASS
8DPSK	3DH5	MCH	2.889	106.7	0.308	0.4	PASS
8DPSK	3DH5	HCH	2.893	106.7	0.309	0.4	PASS

Test Graph

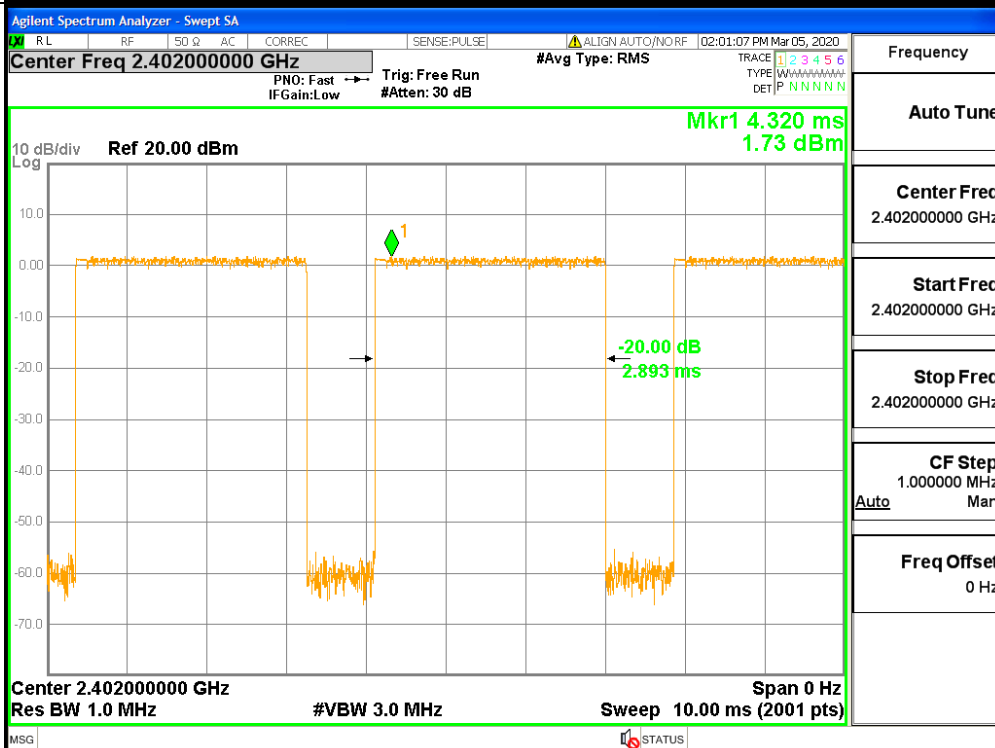


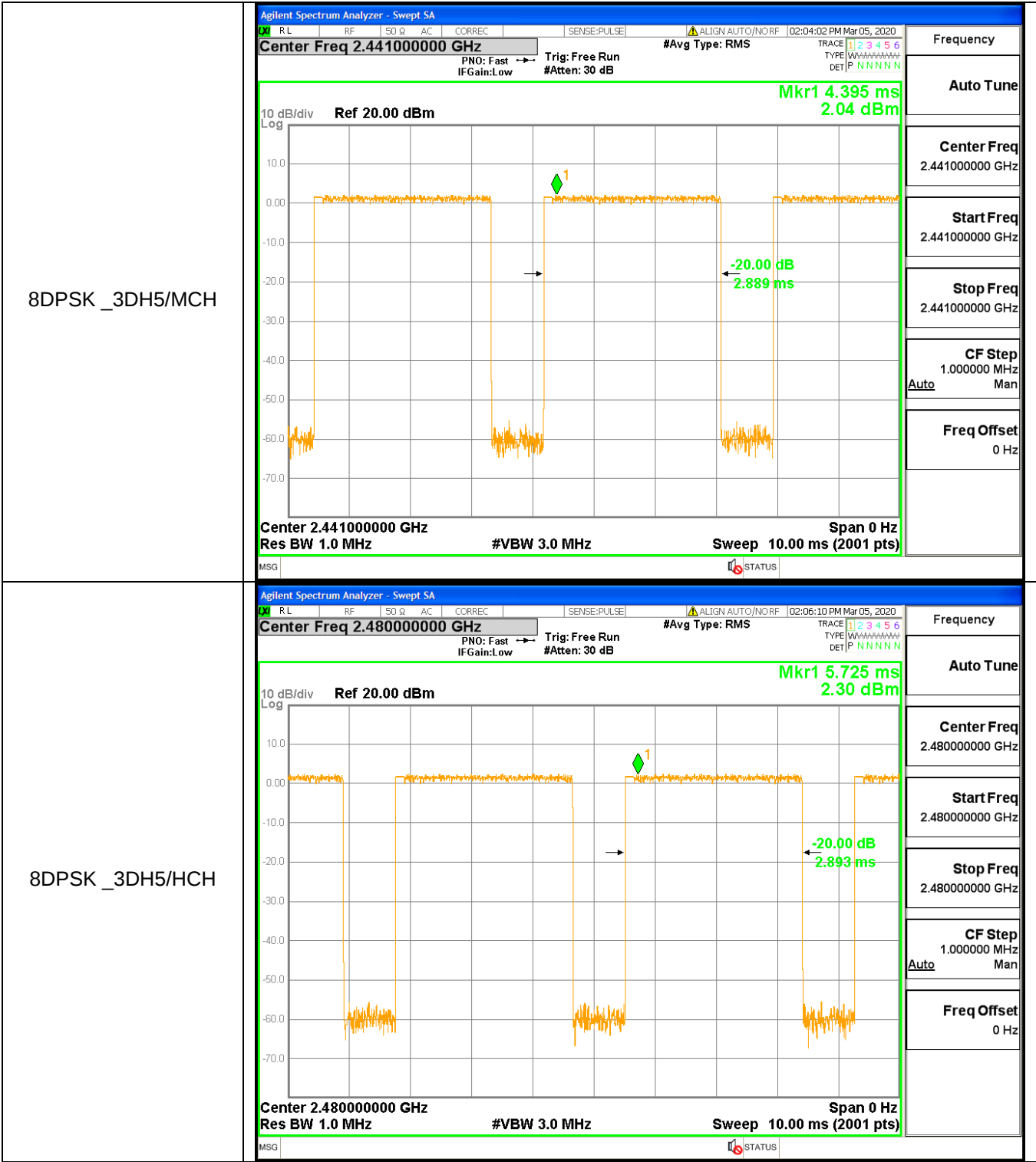


$\pi/4$ DQPSK
_2DH5/LCH $\pi/4$ DQPSK
_2DH5/MCH

$\pi/4$ DQPSK
_2DH5/HCH

8DPSK _3DH5/LCH

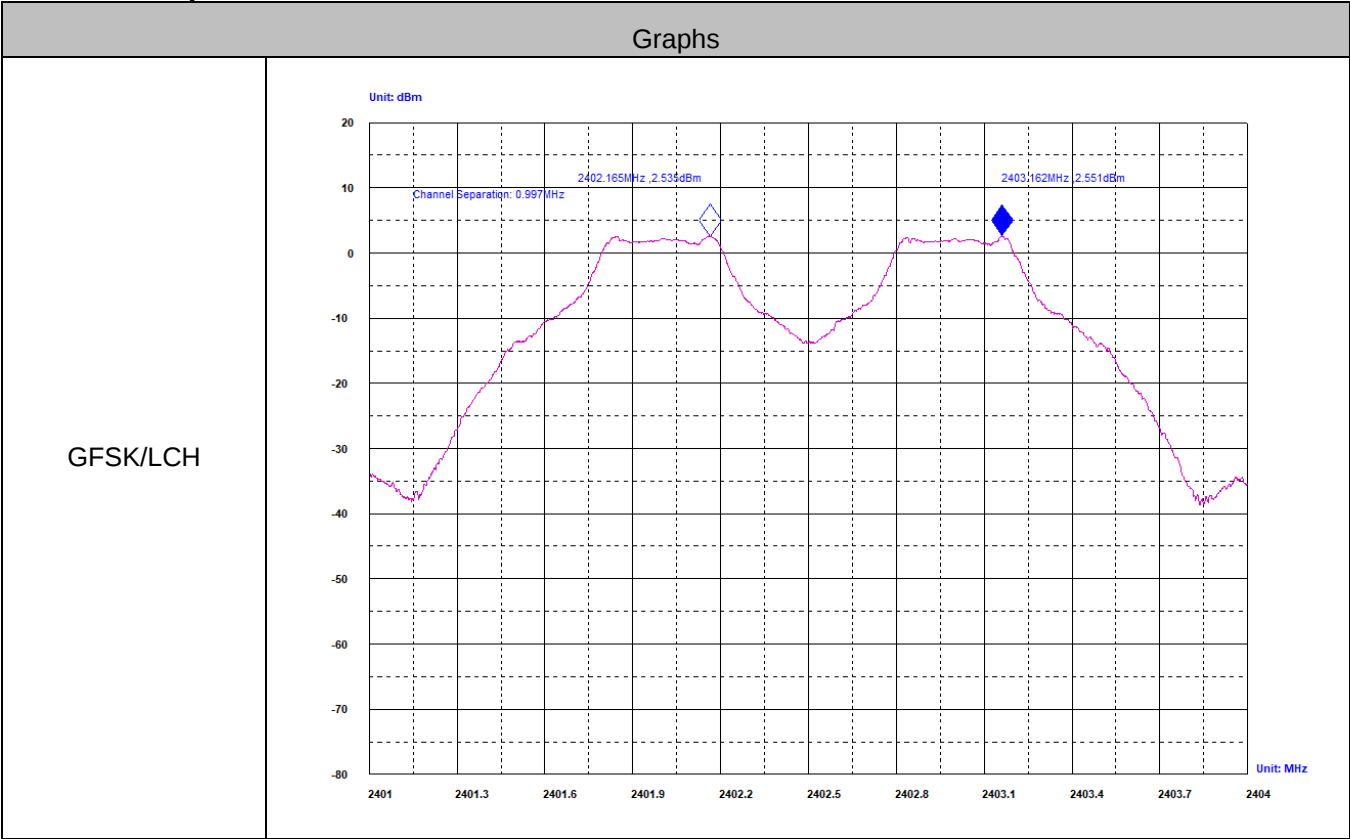


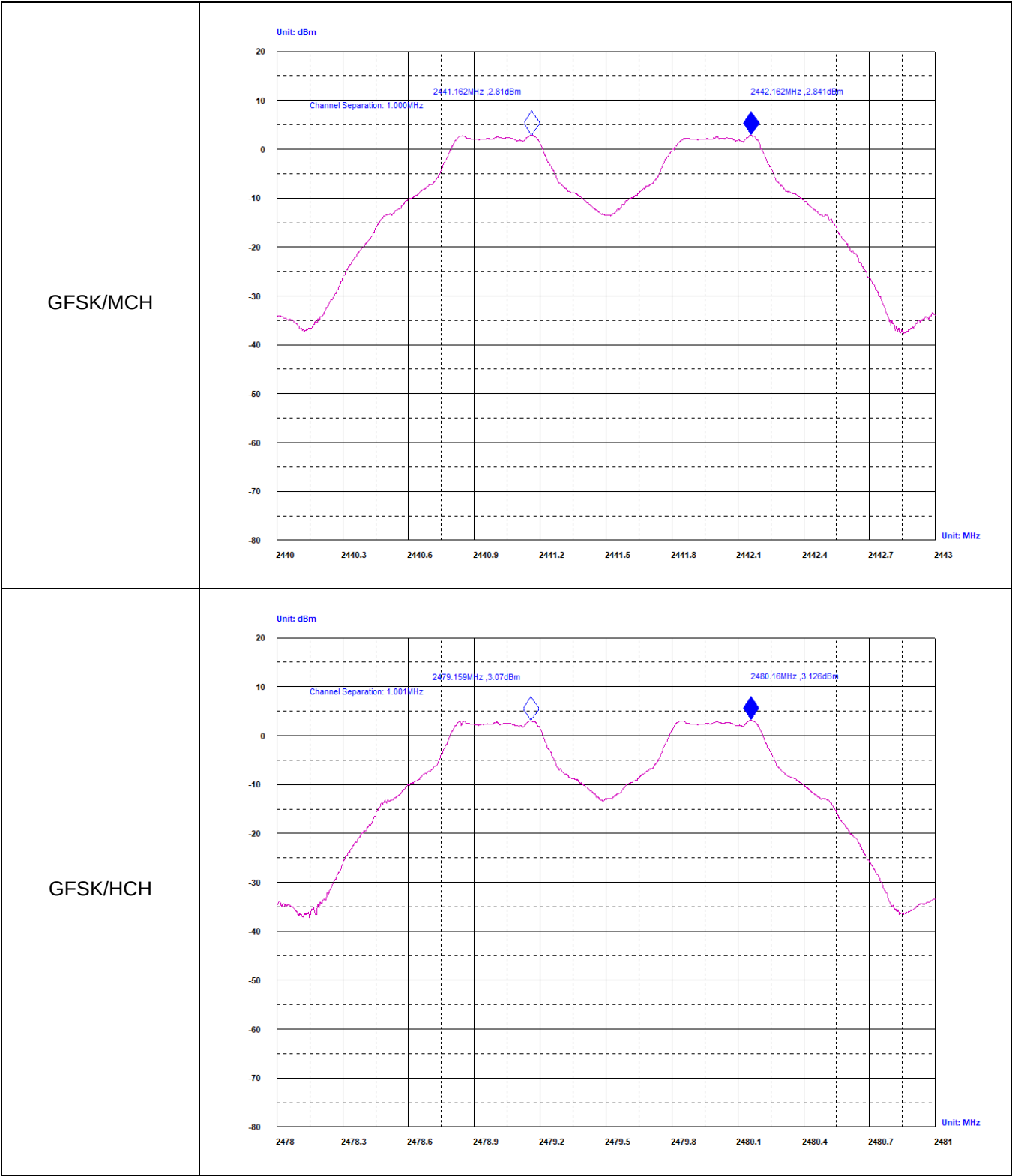


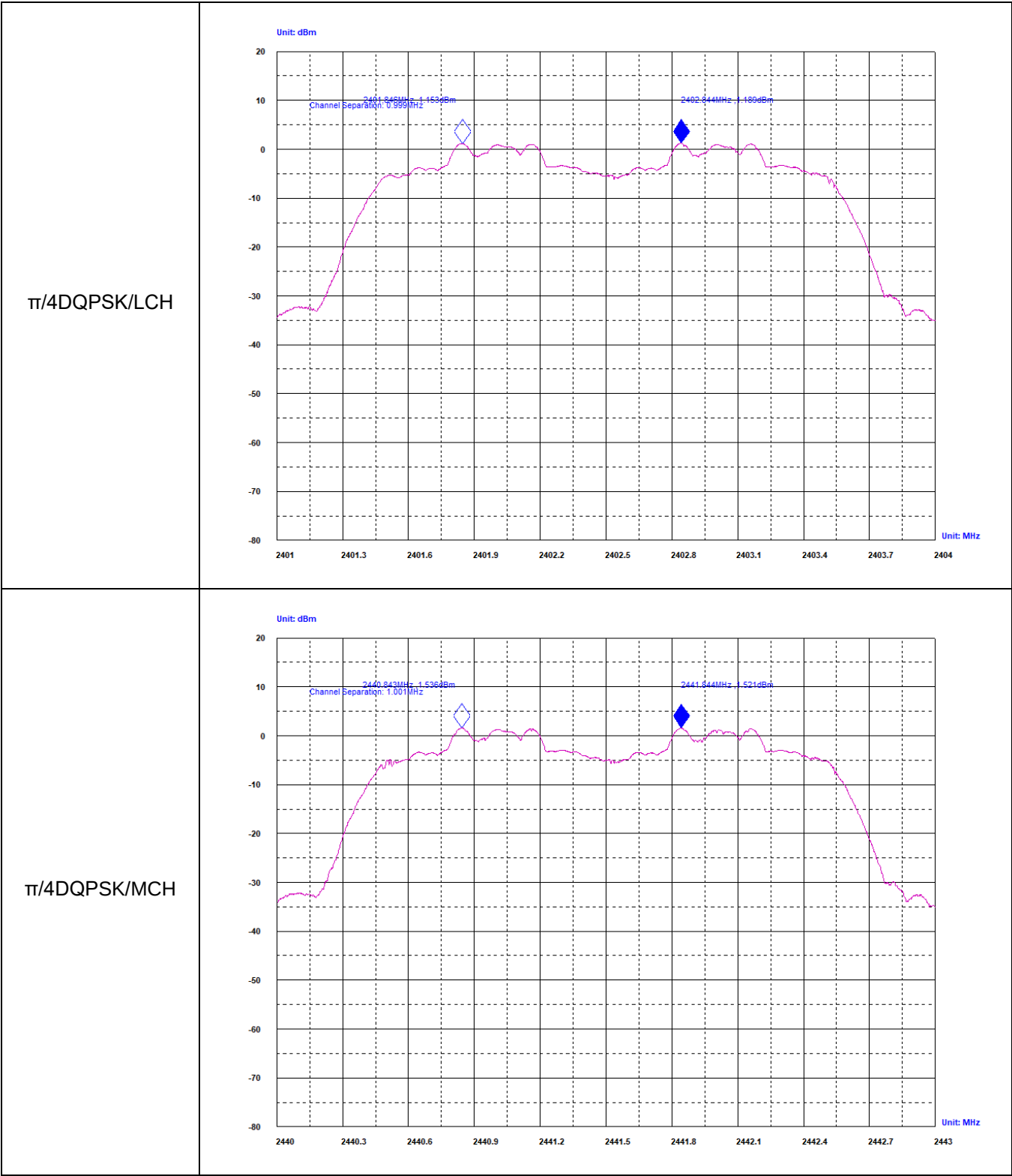
A.3 Carrier Frequency Separation

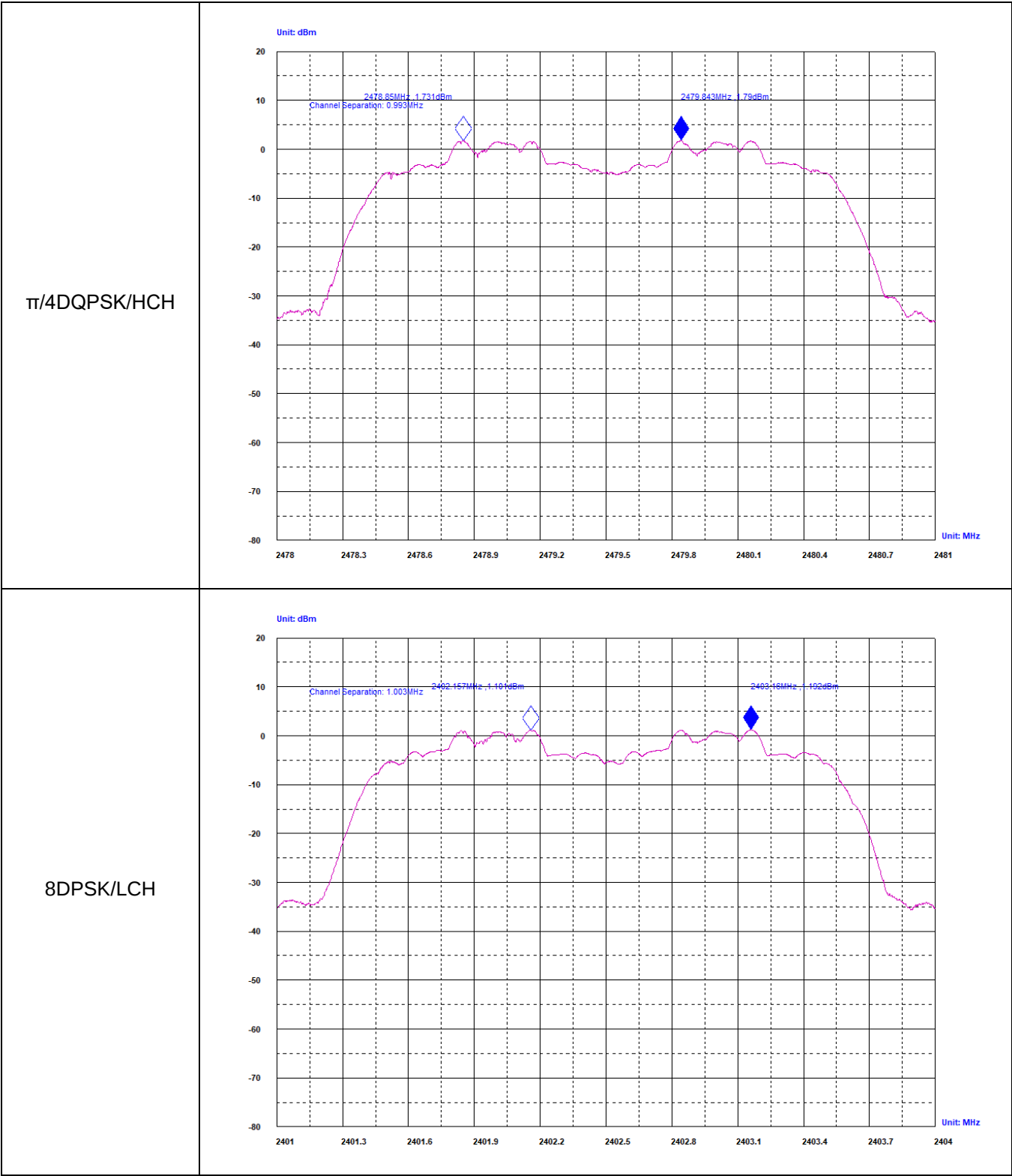
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.997	0.589	PASS
GFSK	MCH	1.000	0.627	PASS
GFSK	HCH	1.001	0.628	PASS
$\pi/4$ DQPSK	LCH	0.999	0.876	PASS
$\pi/4$ DQPSK	MCH	1.001	0.875	PASS
$\pi/4$ DQPSK	HCH	0.993	0.843	PASS
8DPSK	LCH	1.003	0.874	PASS
8DPSK	MCH	1.000	0.863	PASS
8DPSK	HCH	0.999	0.841	PASS

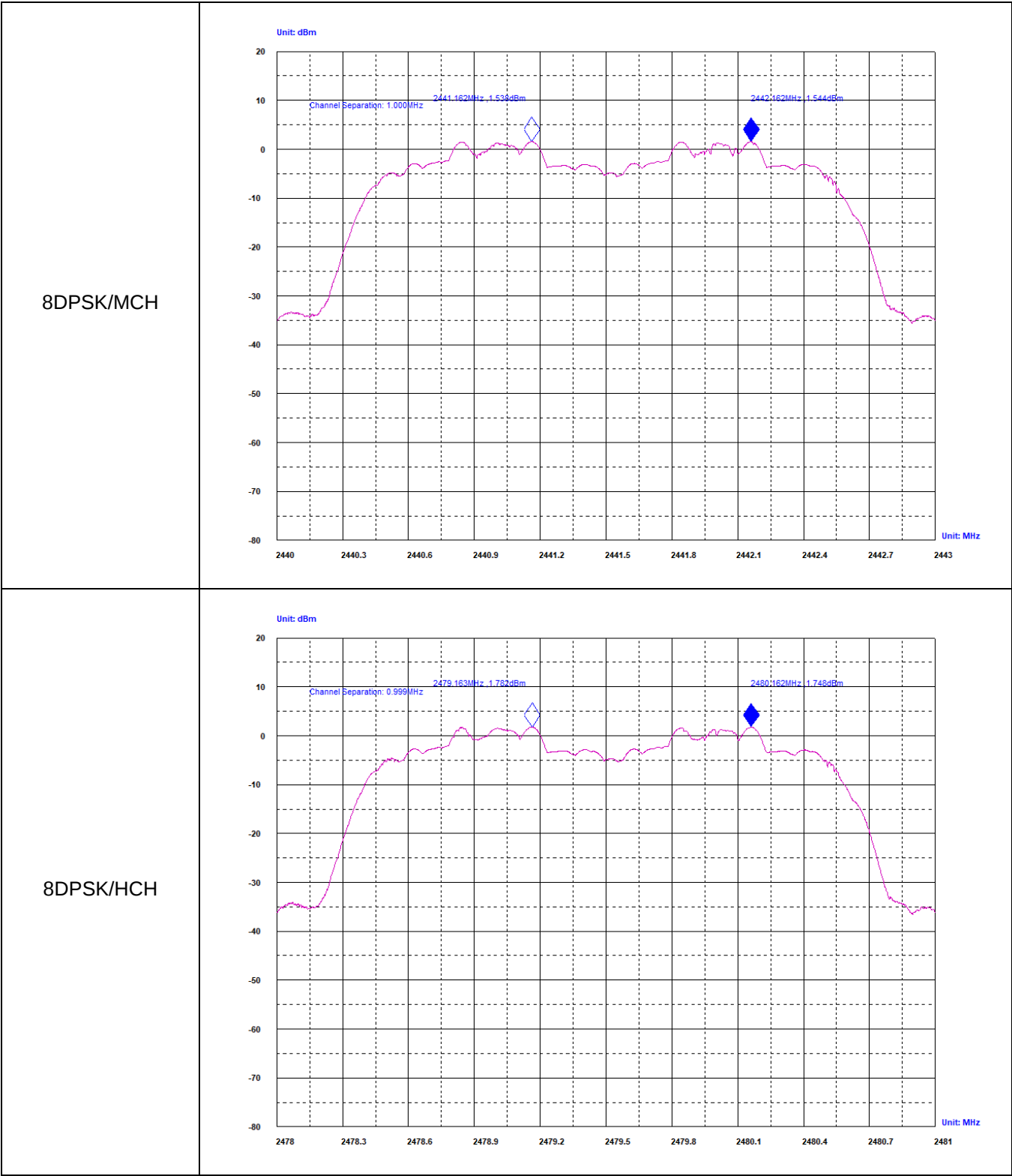
Test Graph







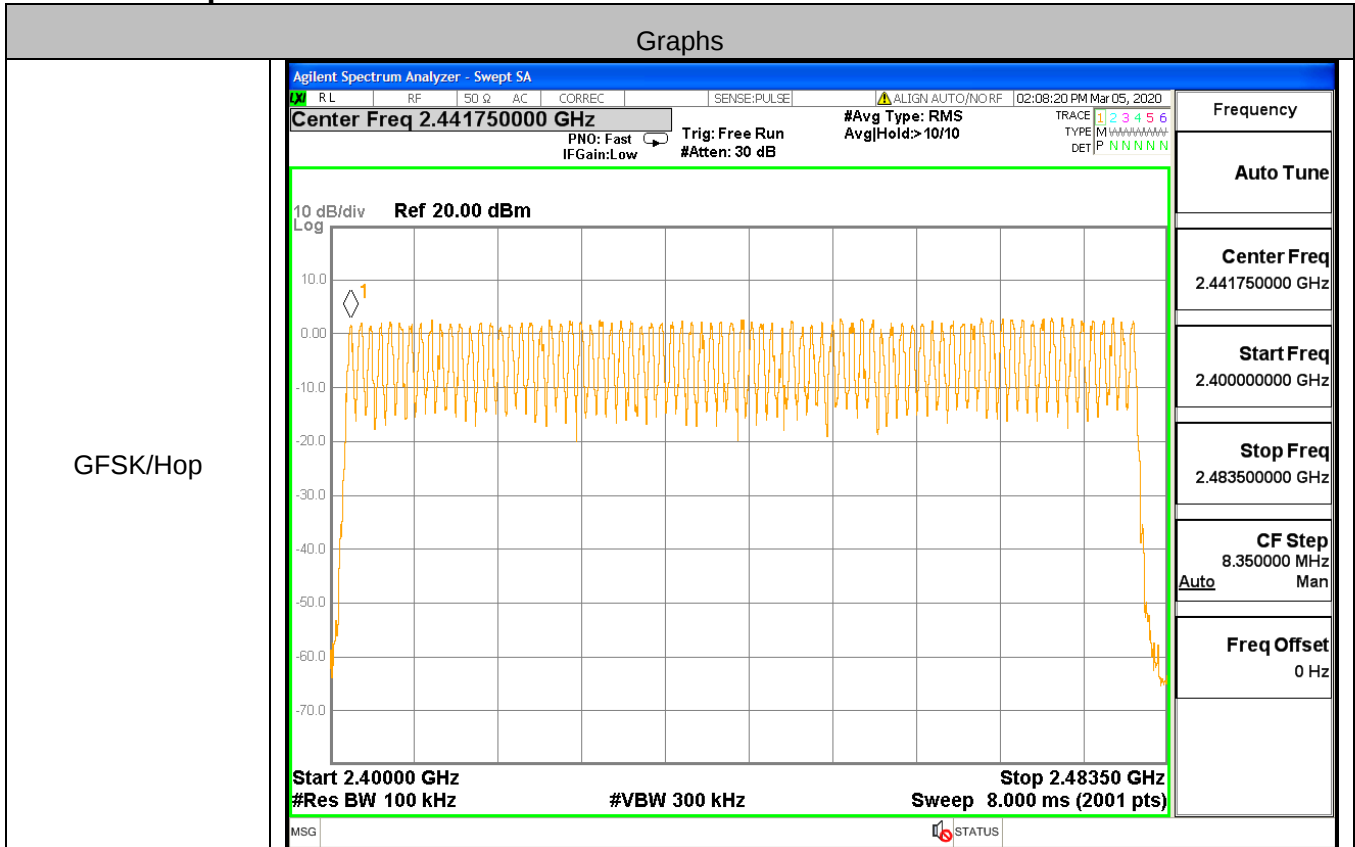


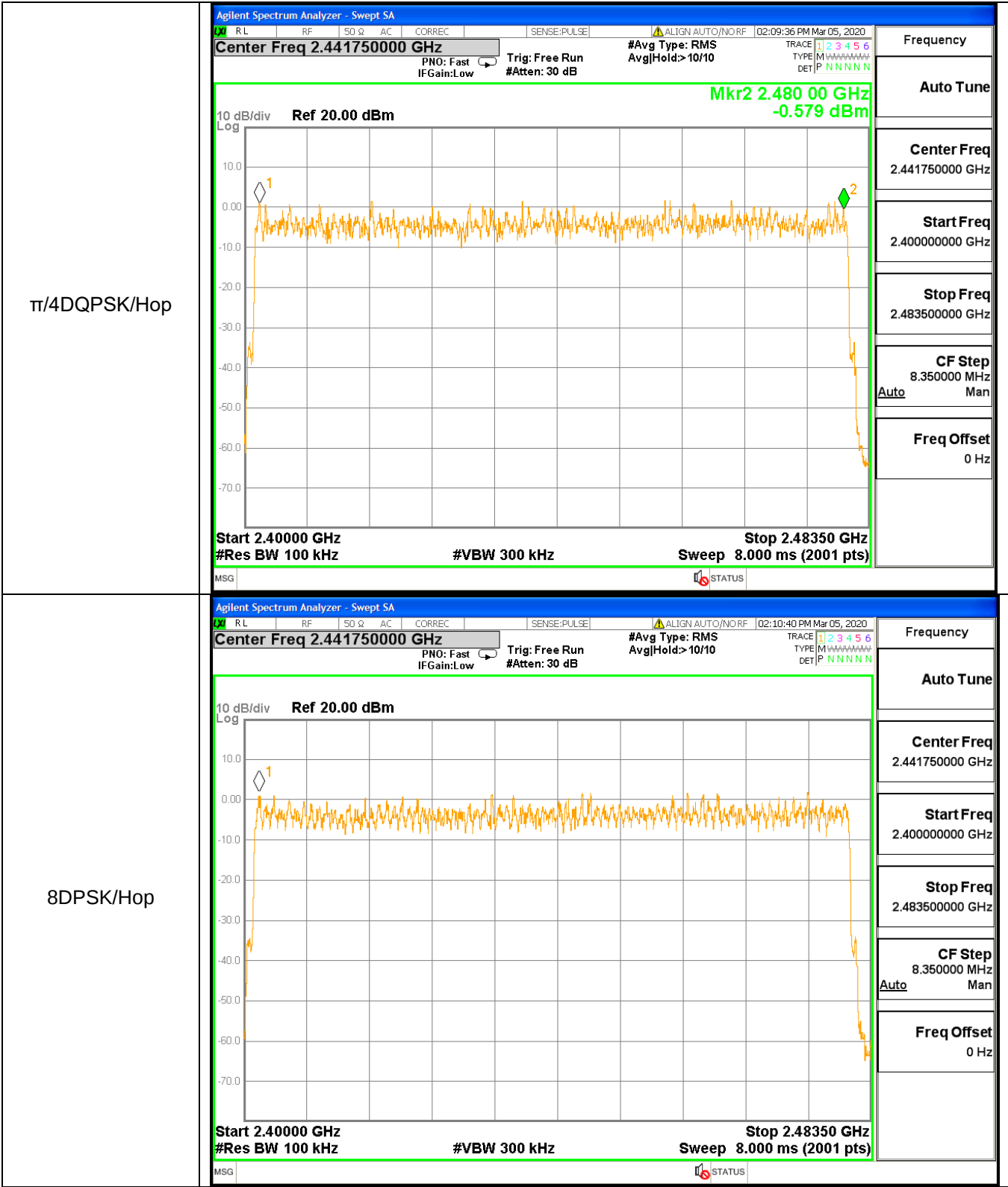


A.4 Hopping Channel Number

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

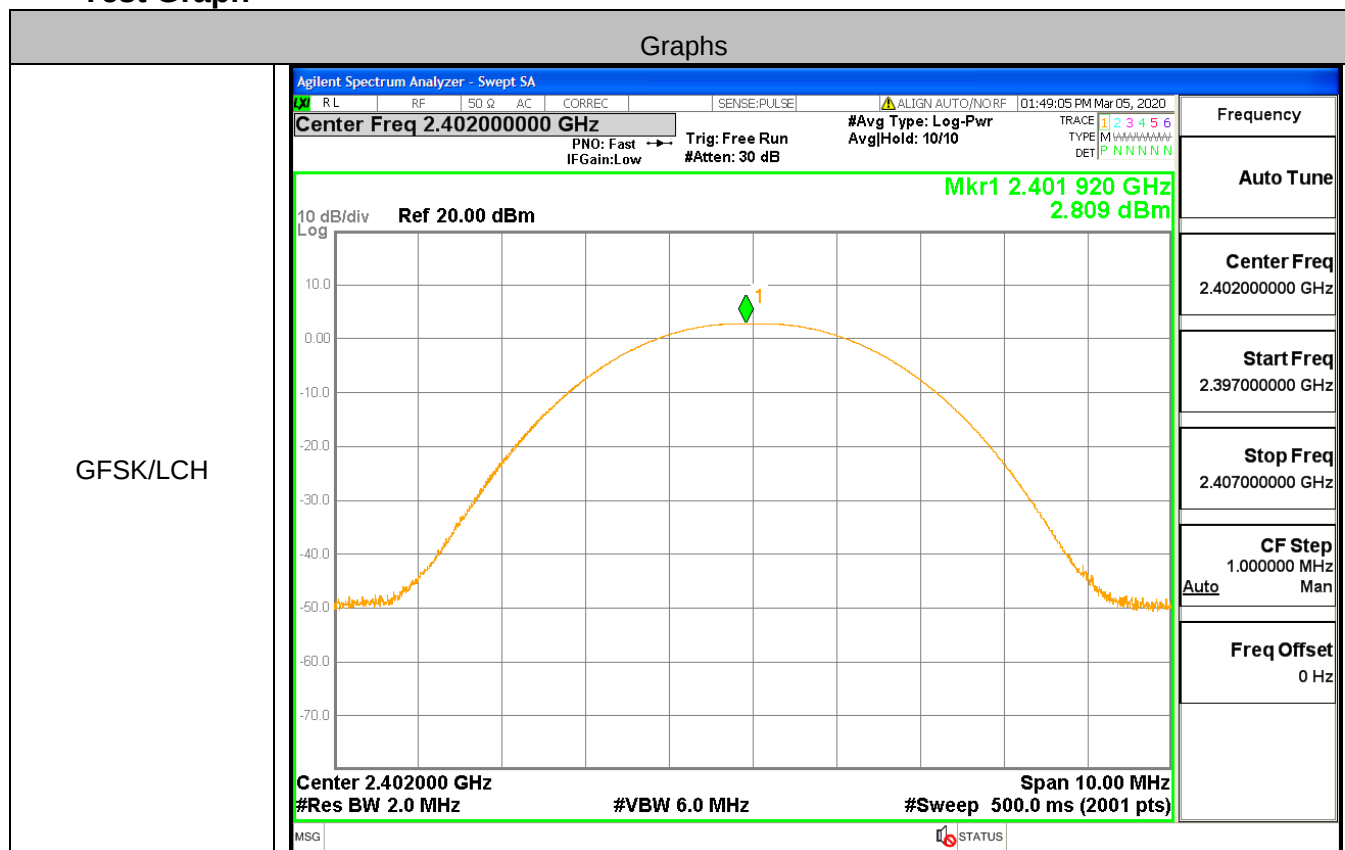


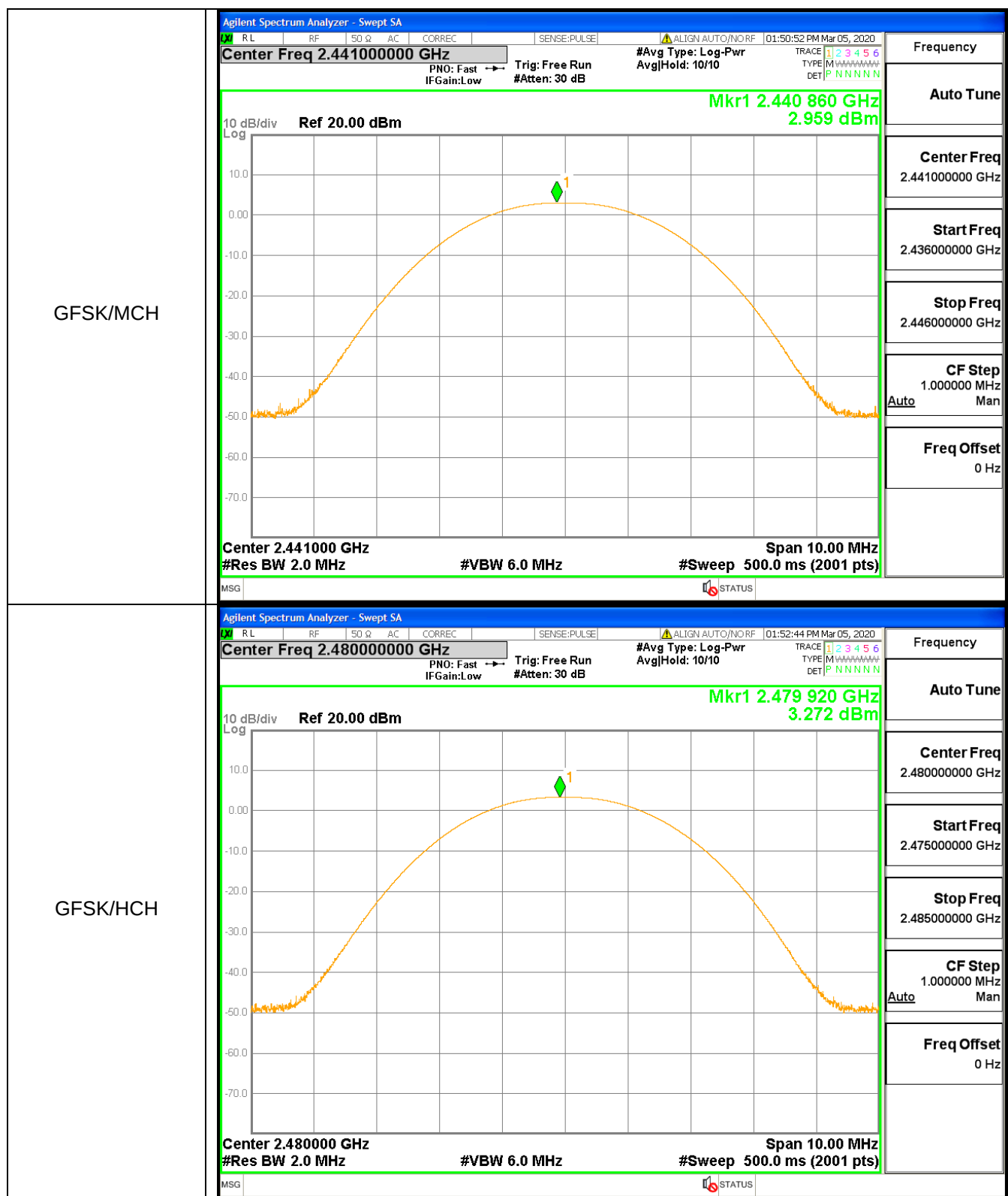


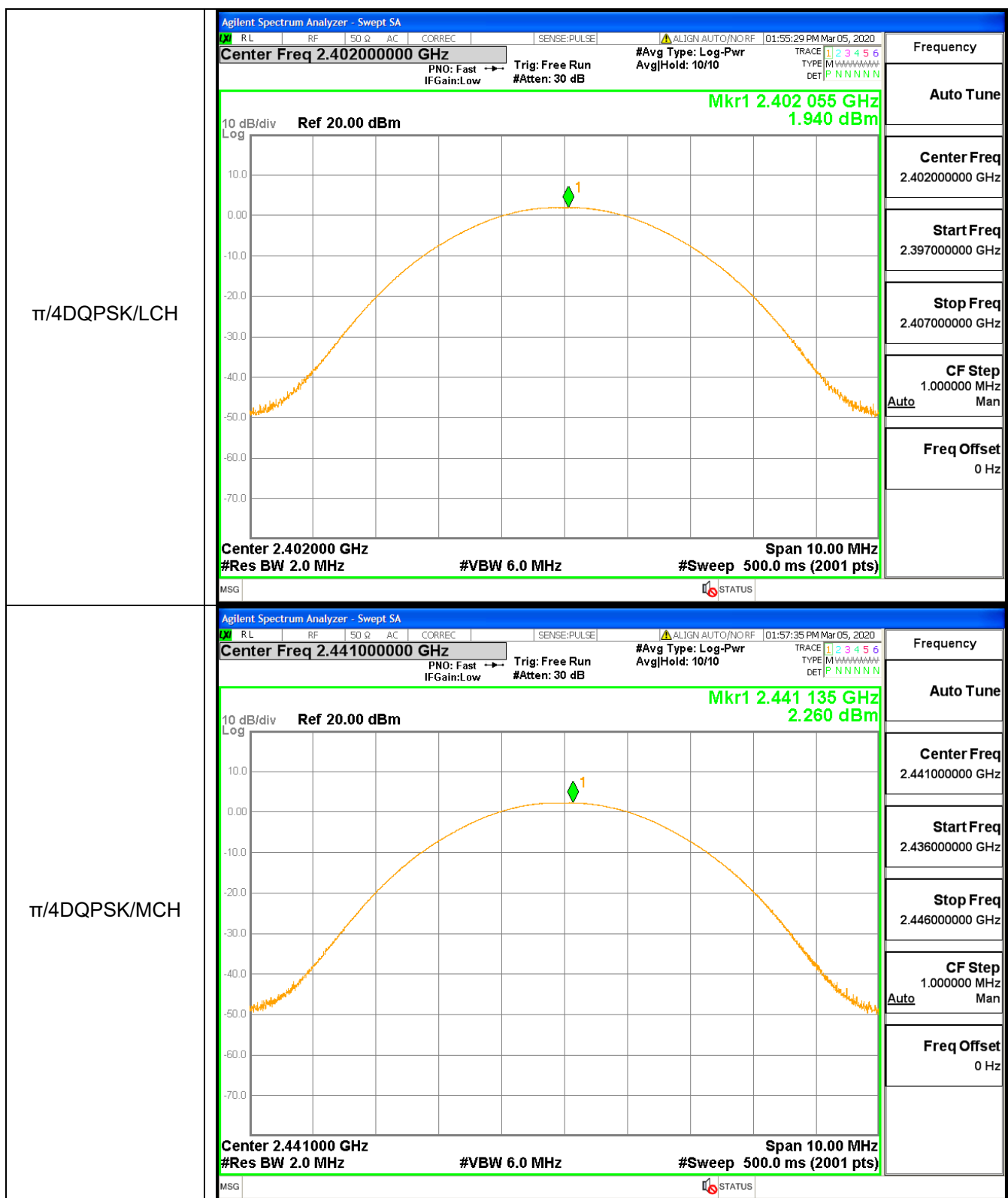
A.5 Conducted Peak Output Power

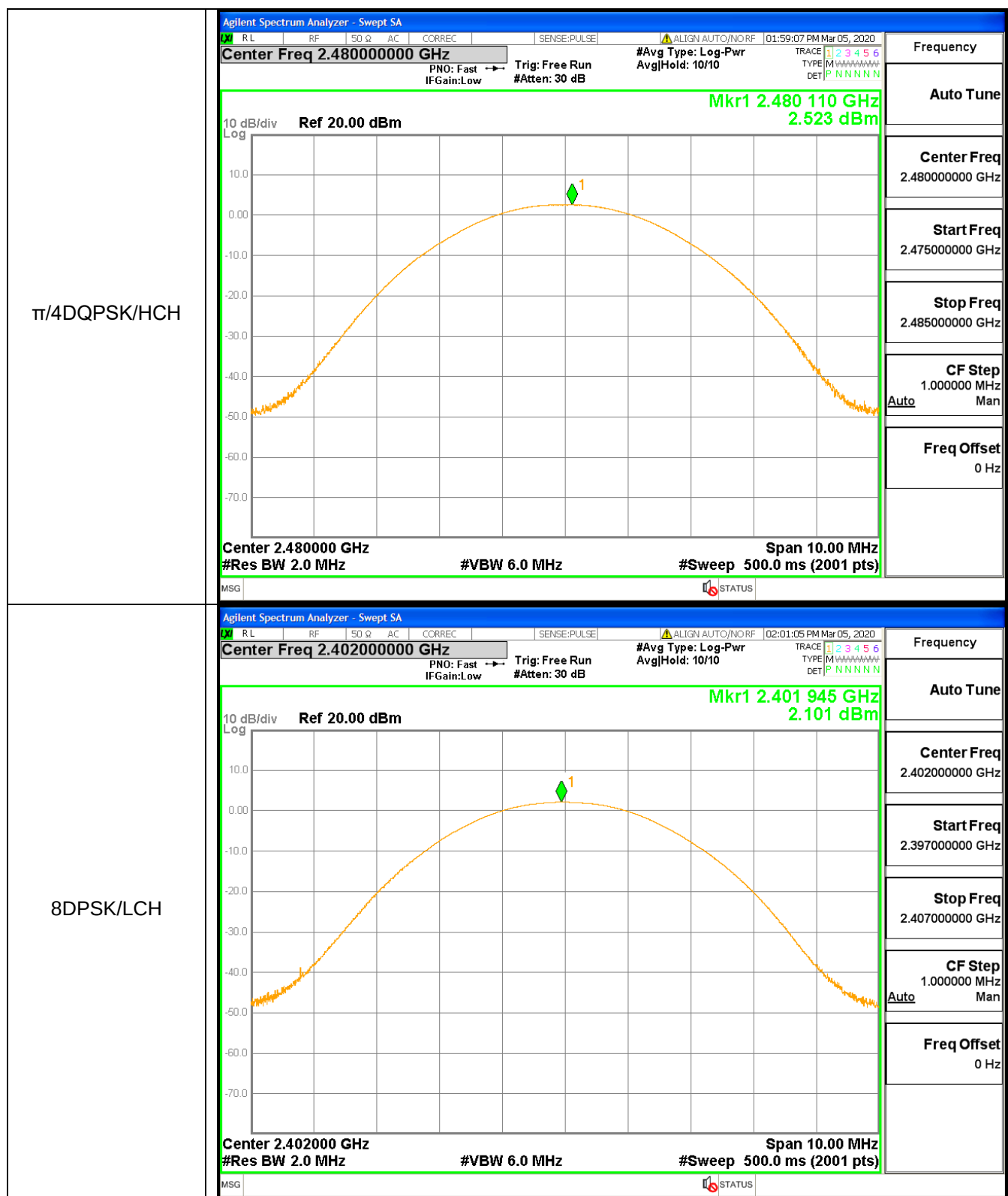
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.809	21	PASS
GFSK	MCH	2.959	21	PASS
GFSK	HCH	3.272	21	PASS
$\pi/4$ DQPSK	LCH	1.940	21	PASS
$\pi/4$ DQPSK	MCH	2.260	21	PASS
$\pi/4$ DQPSK	HCH	2.523	21	PASS
8DPSK	LCH	2.101	21	PASS
8DPSK	MCH	2.399	21	PASS
8DPSK	HCH	2.666	21	PASS

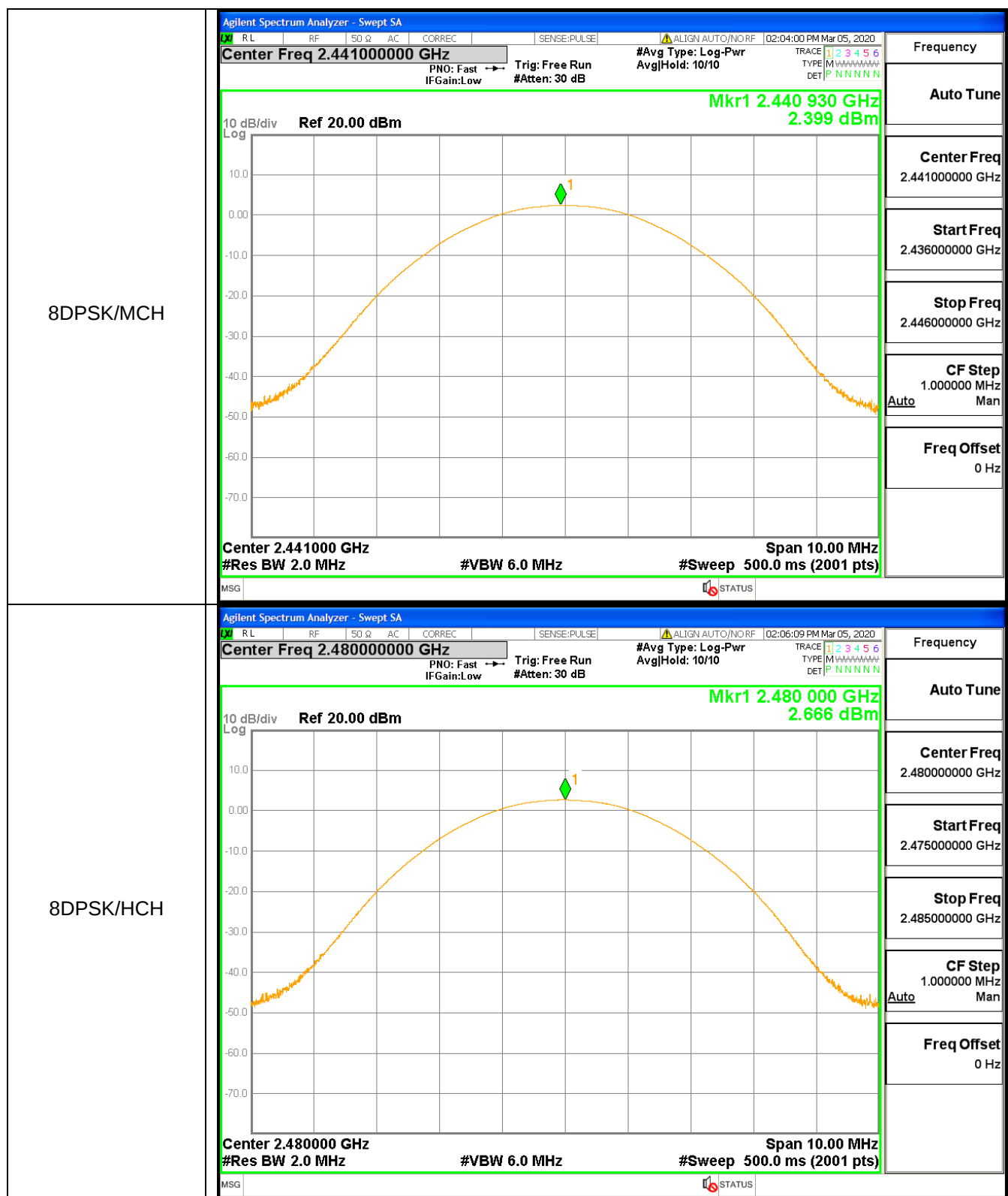
Test Graph











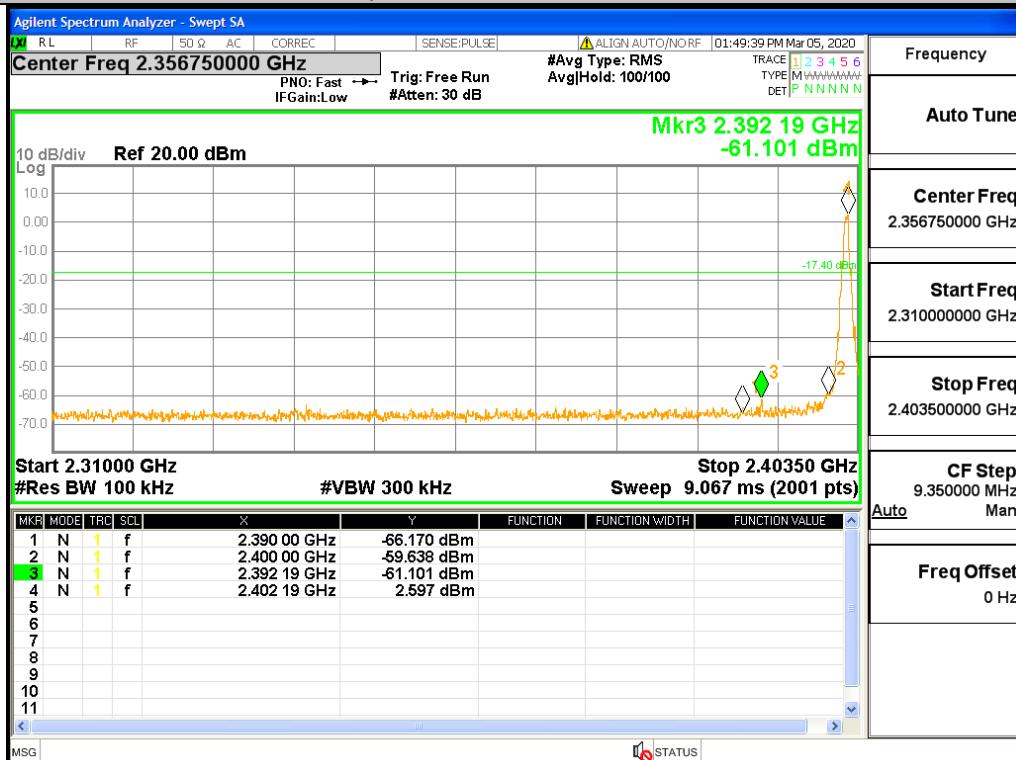
A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	2.597	-59.64	-17.403	Pass
1DH5	2480	2484.38	2.803	-61.259	-17.197	Pass
2DH5	2402	2400	-0.077	-56.4	-20.077	Pass
2DH5	2480	2489.196	0.534	-62.248	-19.466	Pass
3DH5	2402	2400	-0.758	-57.02	-20.758	Pass
3DH5	2480	2483.5	-0.020	-63.32	-20.020	Pass
1DH5-Hopping	2402	2400	2.301	-64.83	-17.699	Pass
1DH5-Hopping	2480	2483.77	2.808	-58.873	-17.192	Pass
2DH5-Hopping	2402	2400	0.872	-62.55	-19.128	Pass
2DH5-Hopping	2480	2483.5	0.320	-64.27	-19.680	Pass
3DH5-Hopping	2402	2400	1.183	-58.82	-18.817	Pass
3DH5-Hopping	2480	2483.5	1.543	-63.92	-18.457	Pass

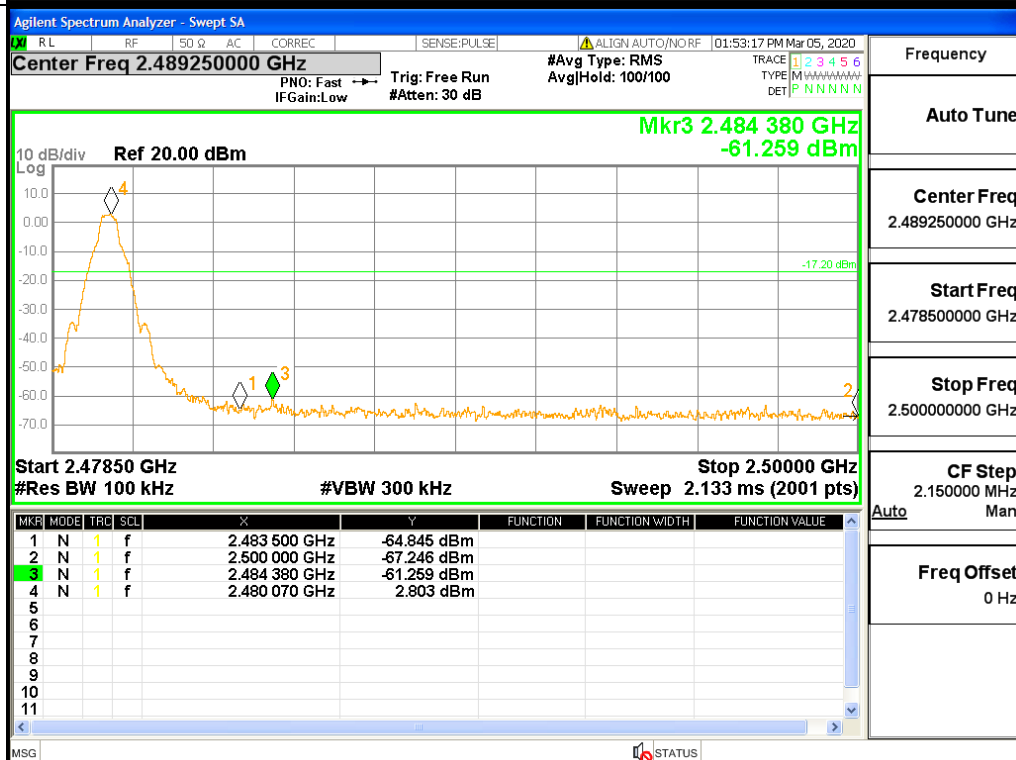
Test Graph

Graphs

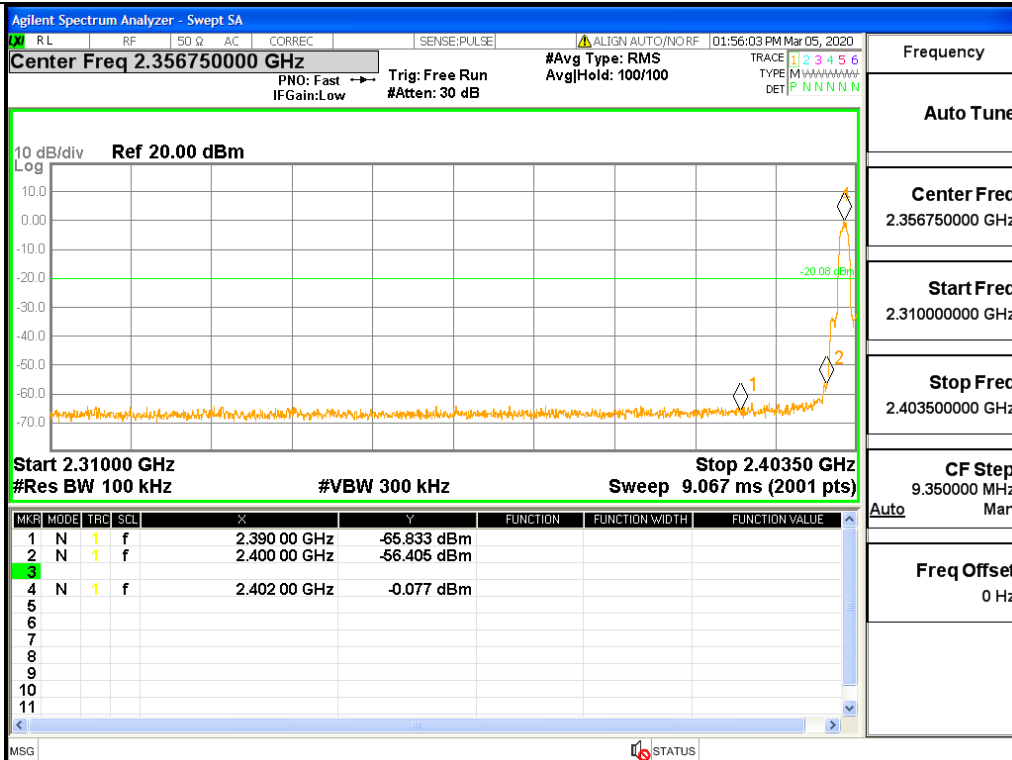
GFSK/LCH/No Hop



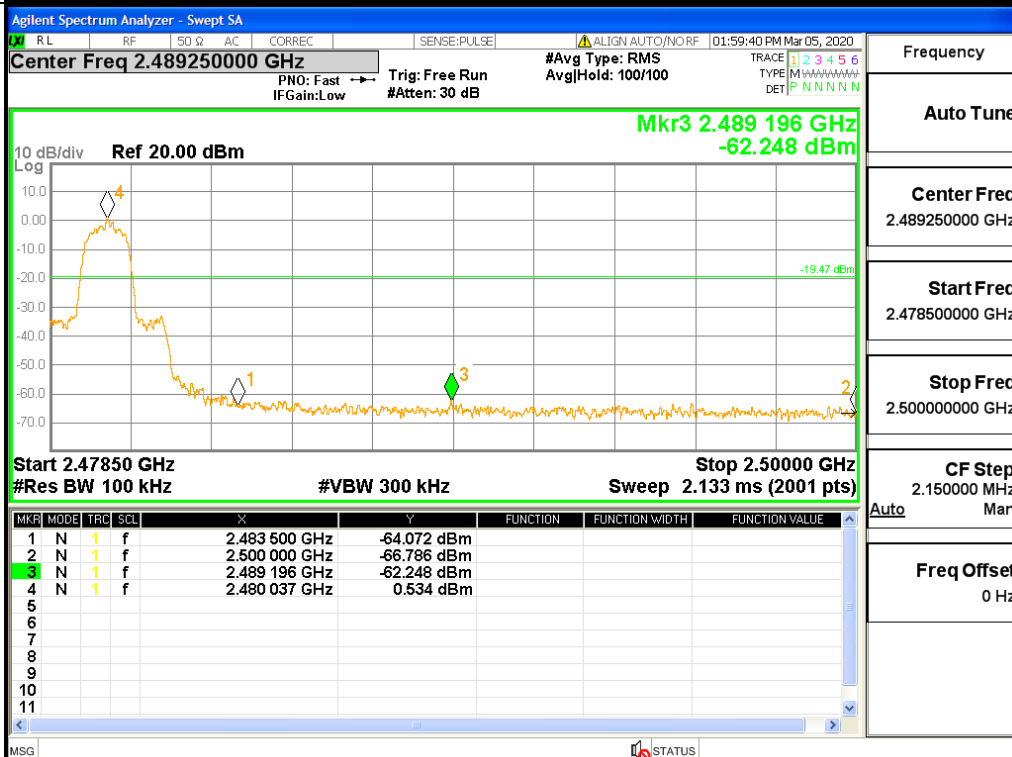
GFSK/HCH/No Hop



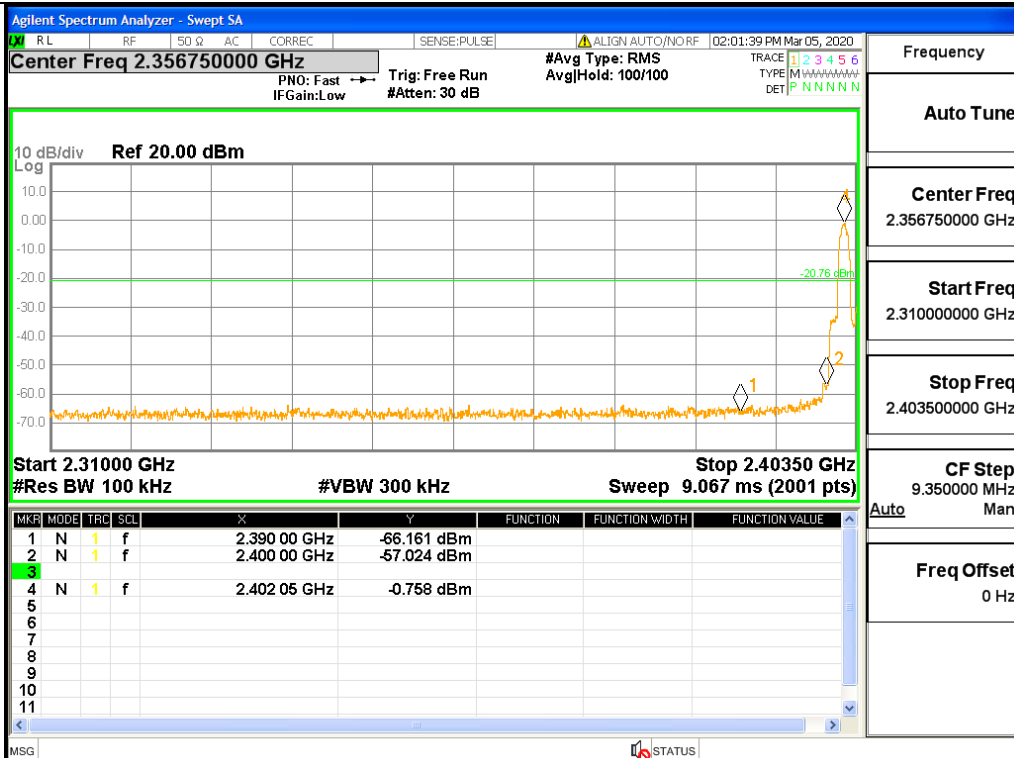
$\pi/4$ DQPSK/LCH/No
Hop



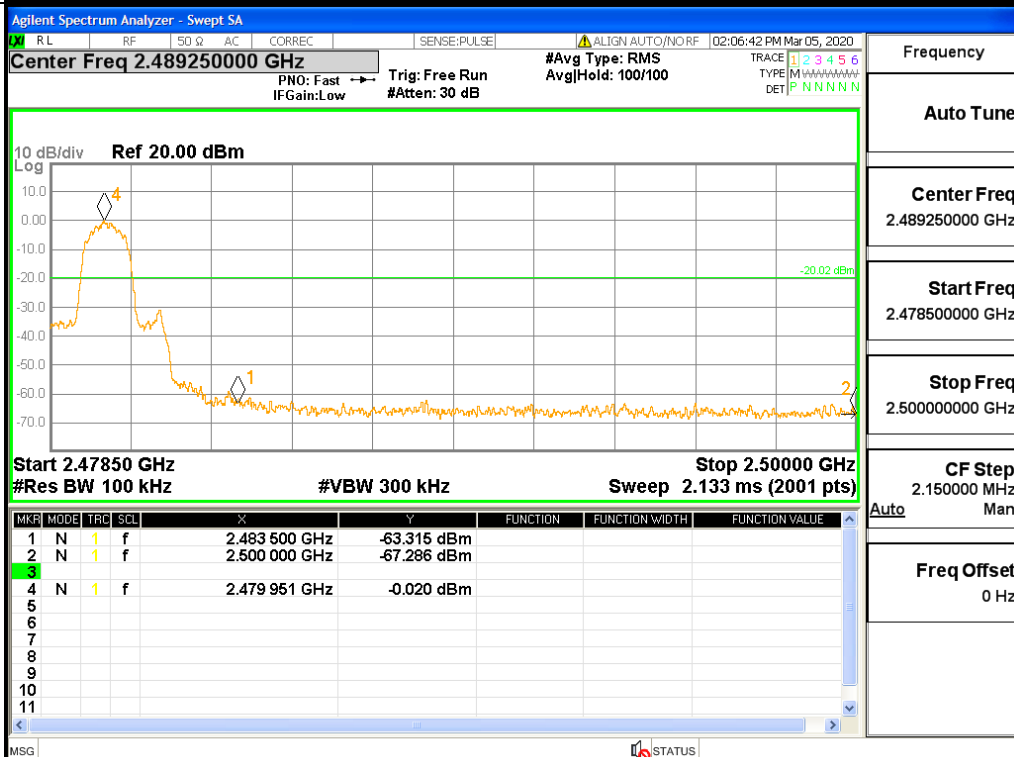
$\pi/4$ DQPSK/HCH/No
Hop



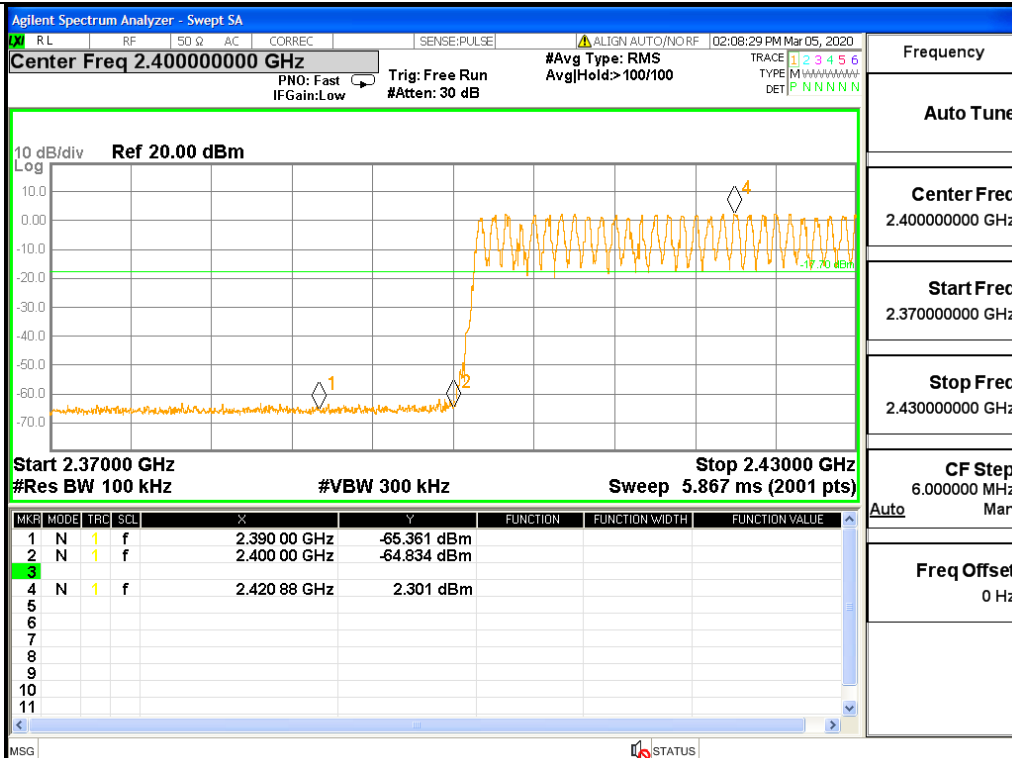
8DPSK/LCH/No Hop



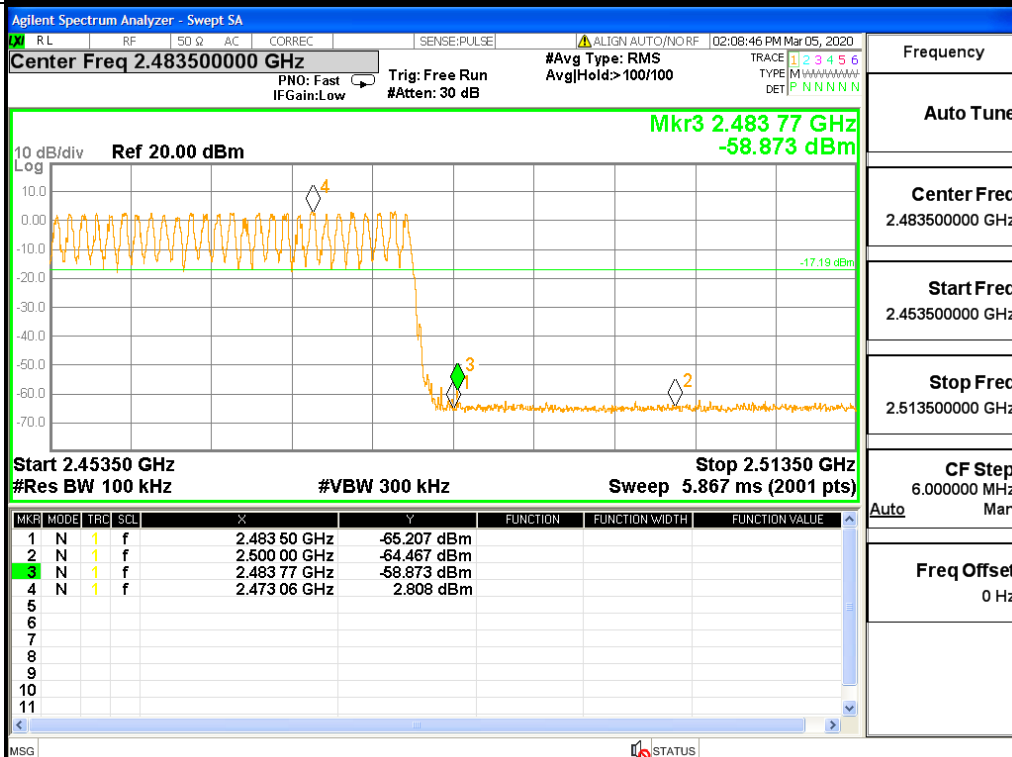
8DPSK/HCH/ No Hop

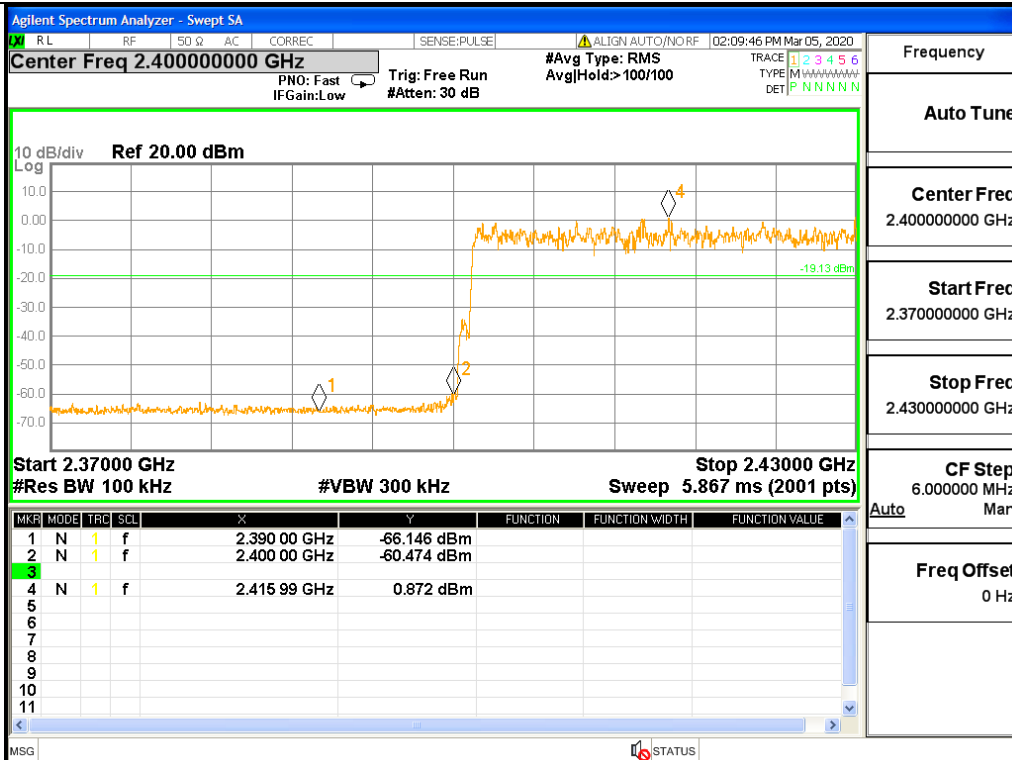
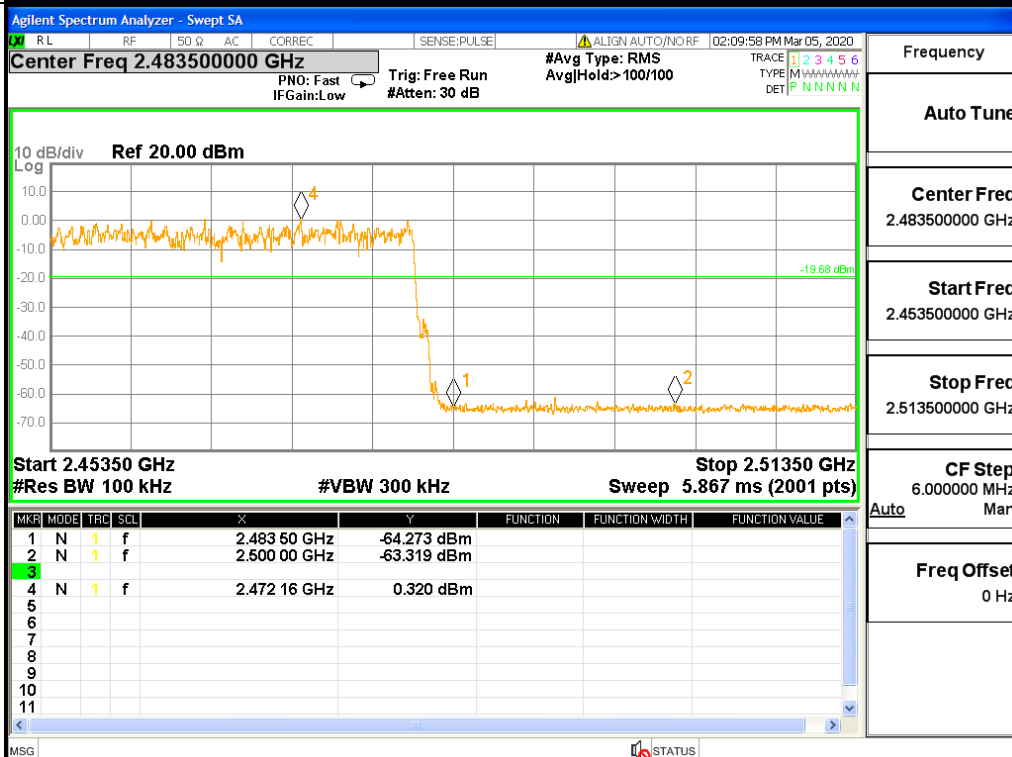


GFSK/LCH/Hop

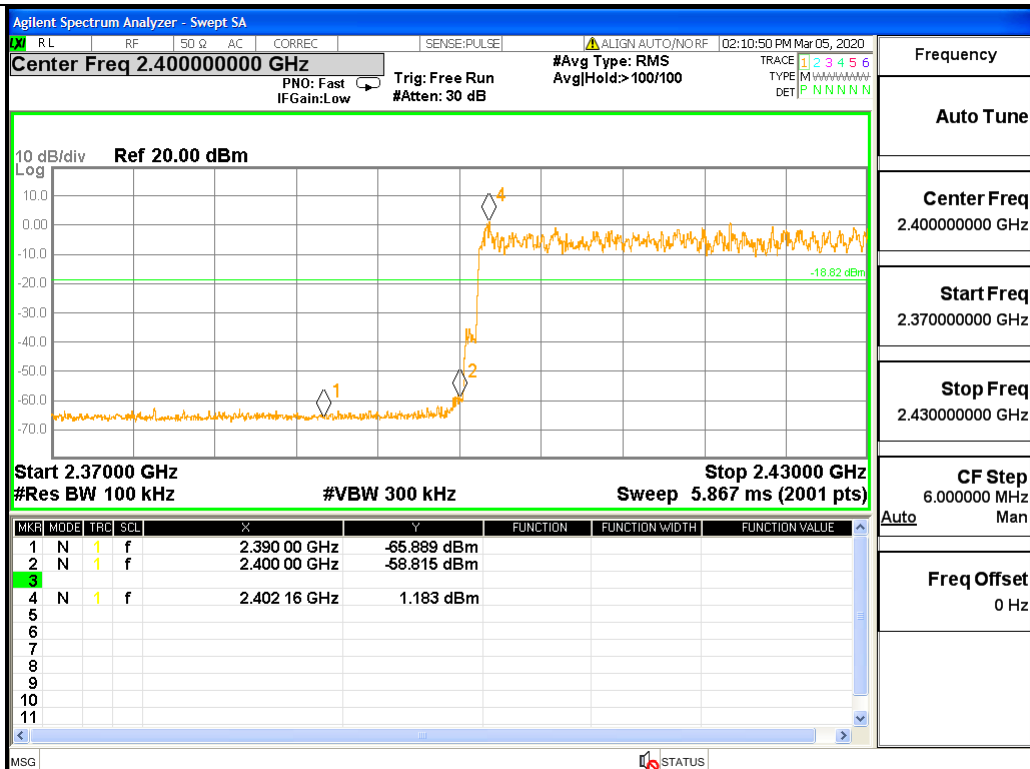


GFSK/HCH/Hop

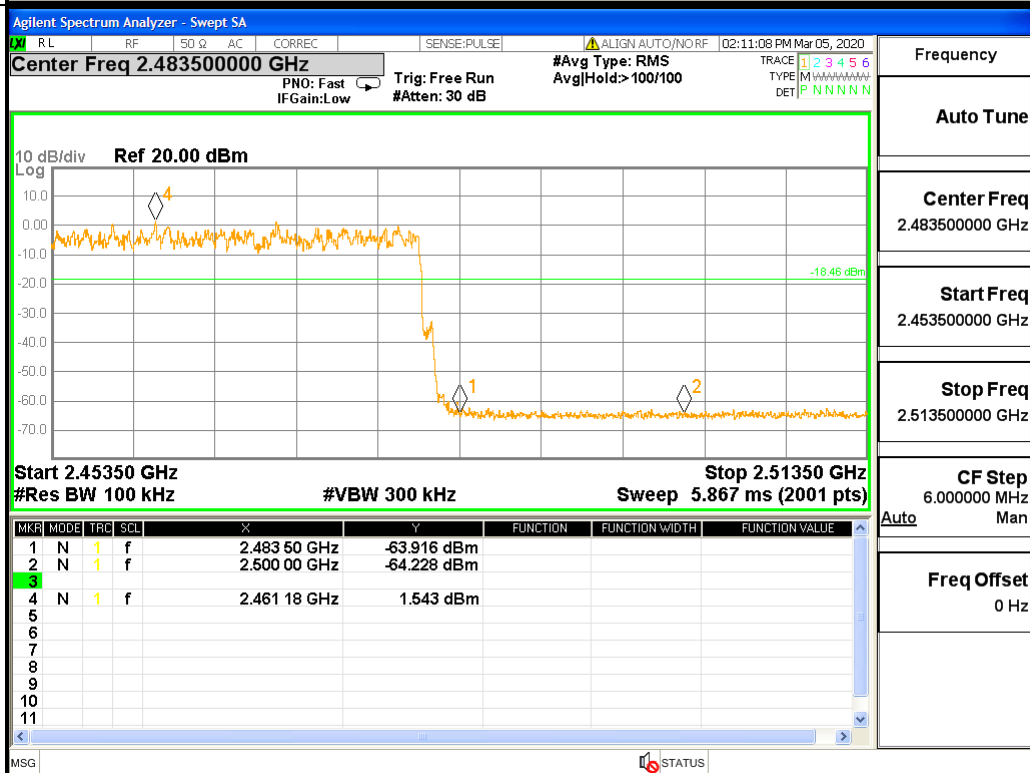


$\pi/4$ DQPSK/LCH/Hop $\pi/4$ DQPSK/HCH/Hop

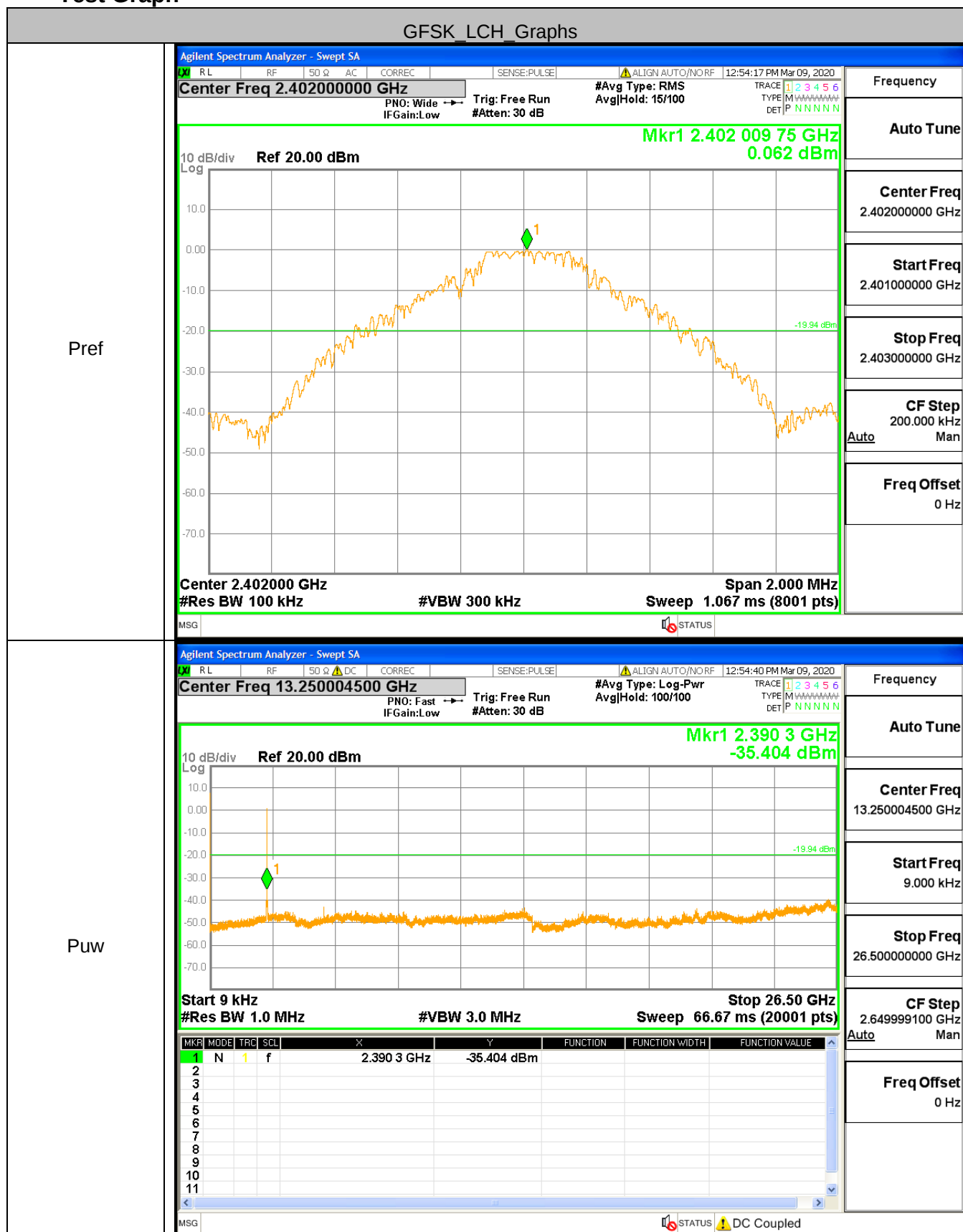
8DPSK/LCH/Hop



8DPSK/HCH/Hop

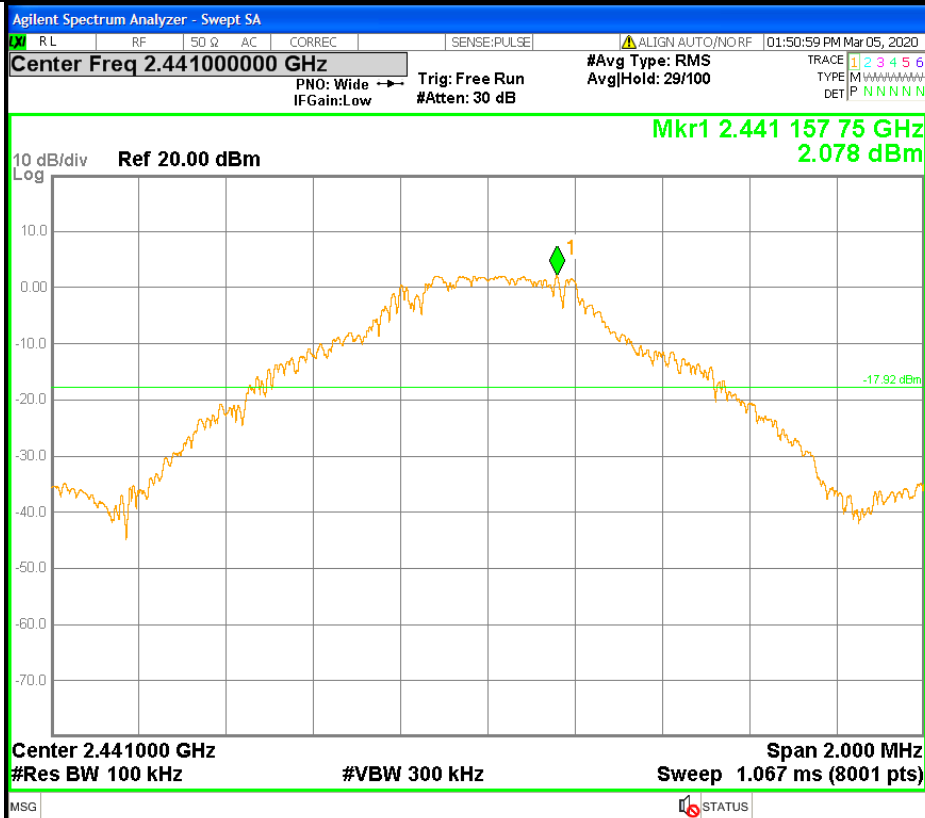


A.7 RF Conducted Spurious Emissions Test Graph

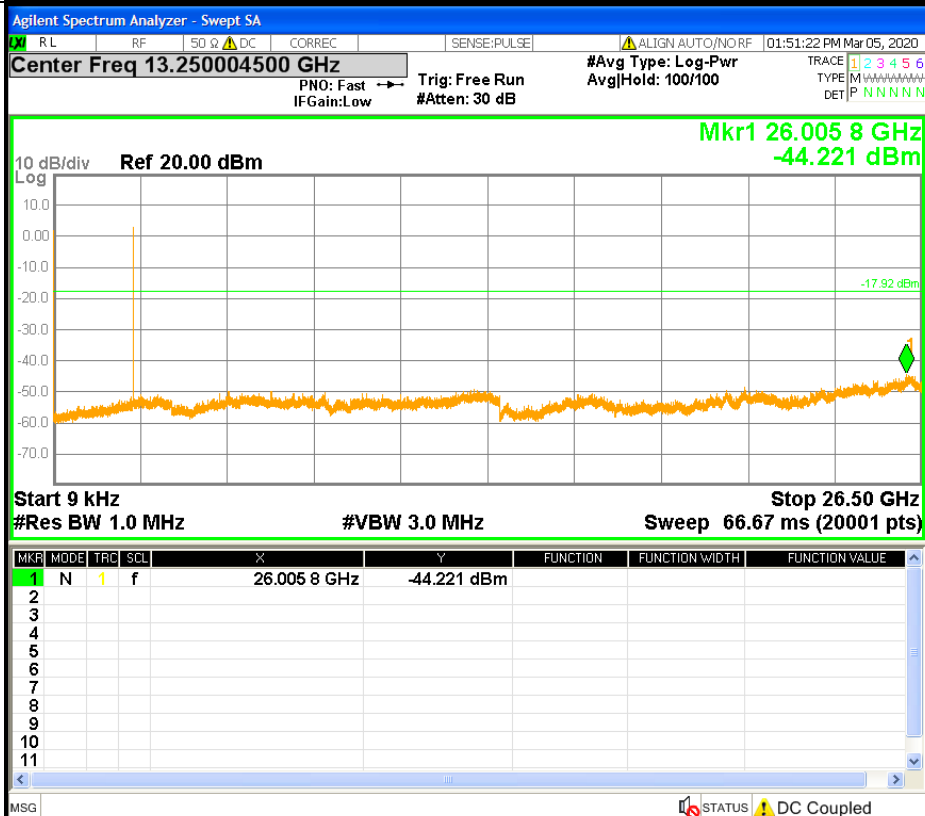


GFSK MCH Graphs

Pref

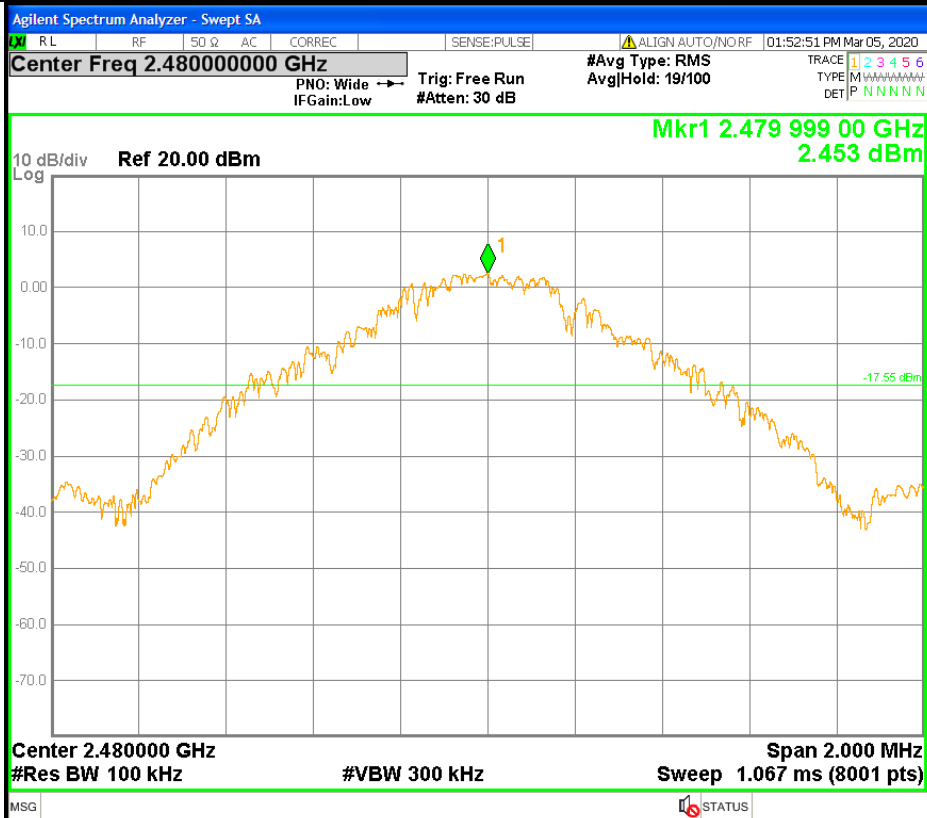


Puw

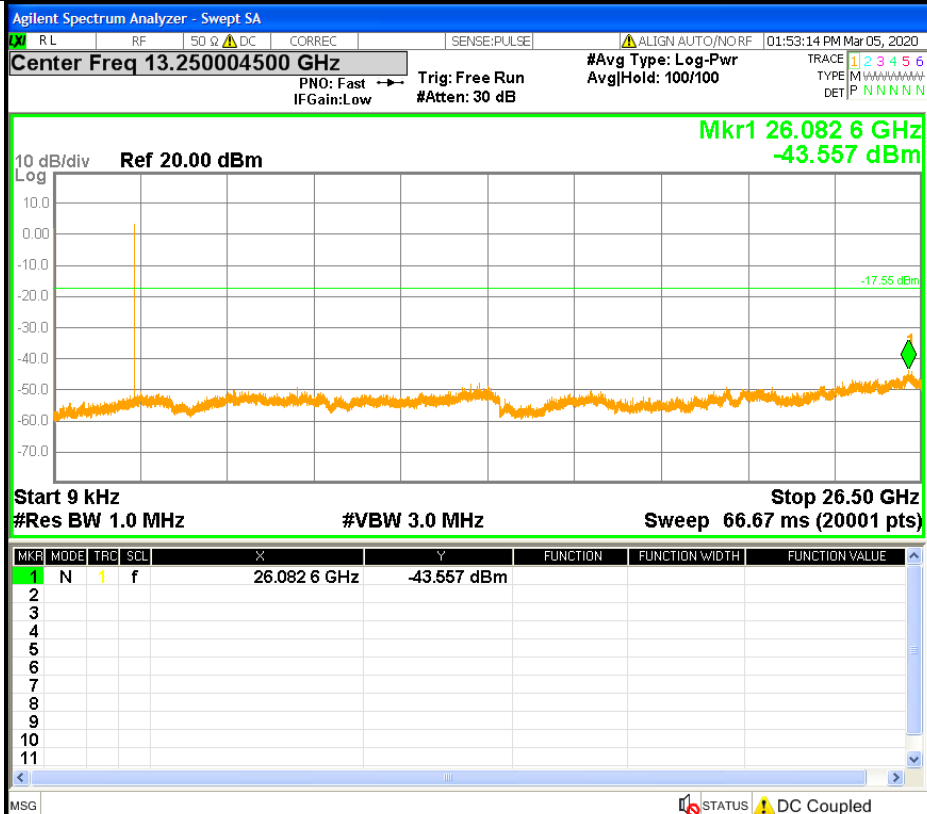


GFSK HCH Graphs

Pref

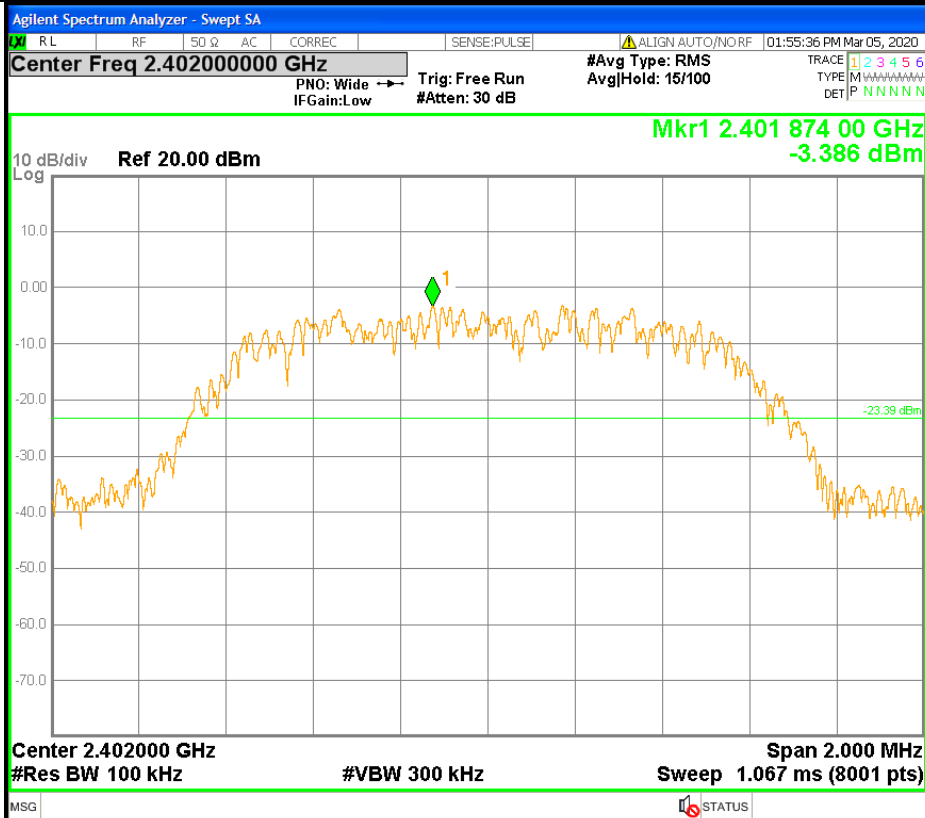


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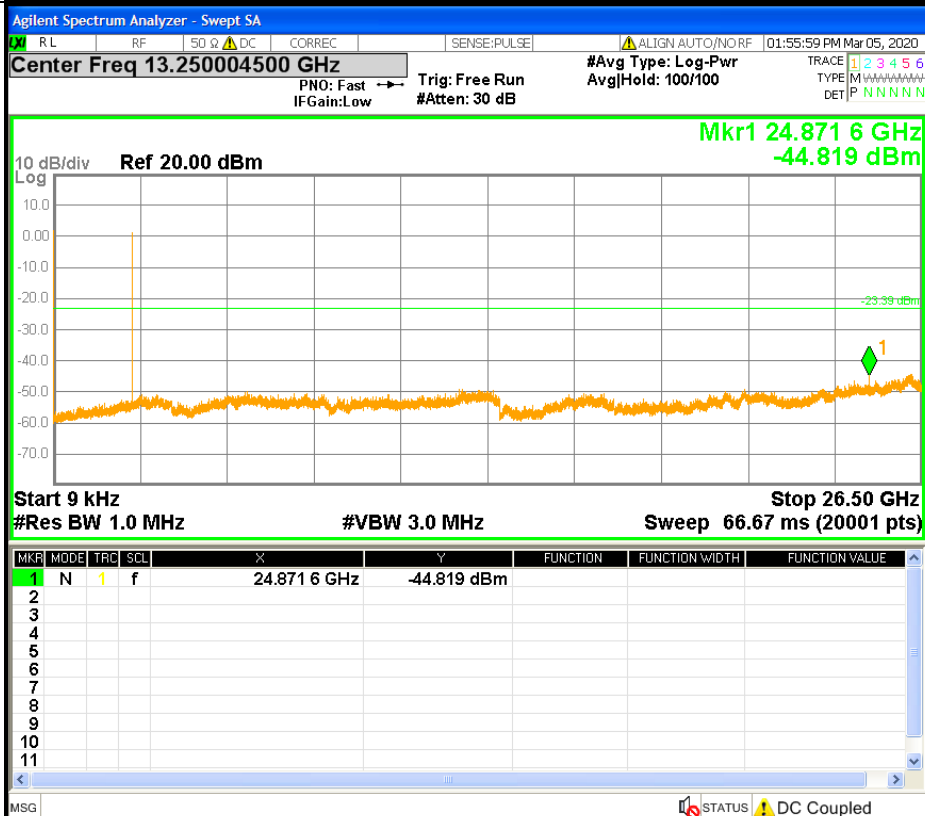


$\pi/4$ DQPSK LCH_Graphs

Pref

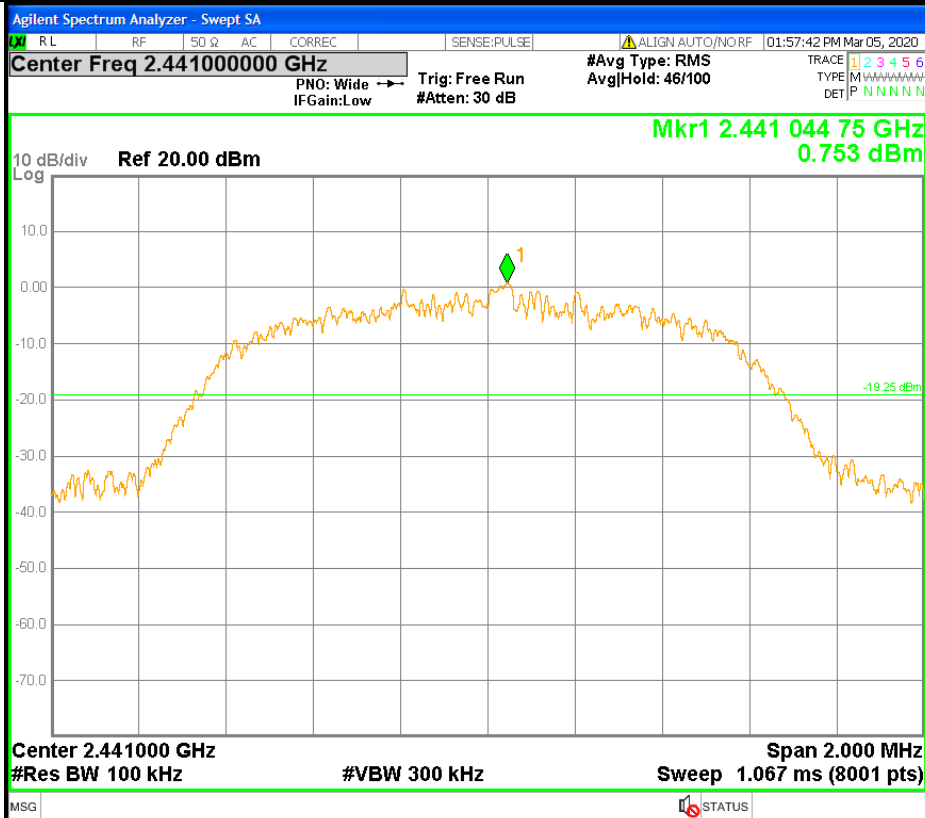


Puw

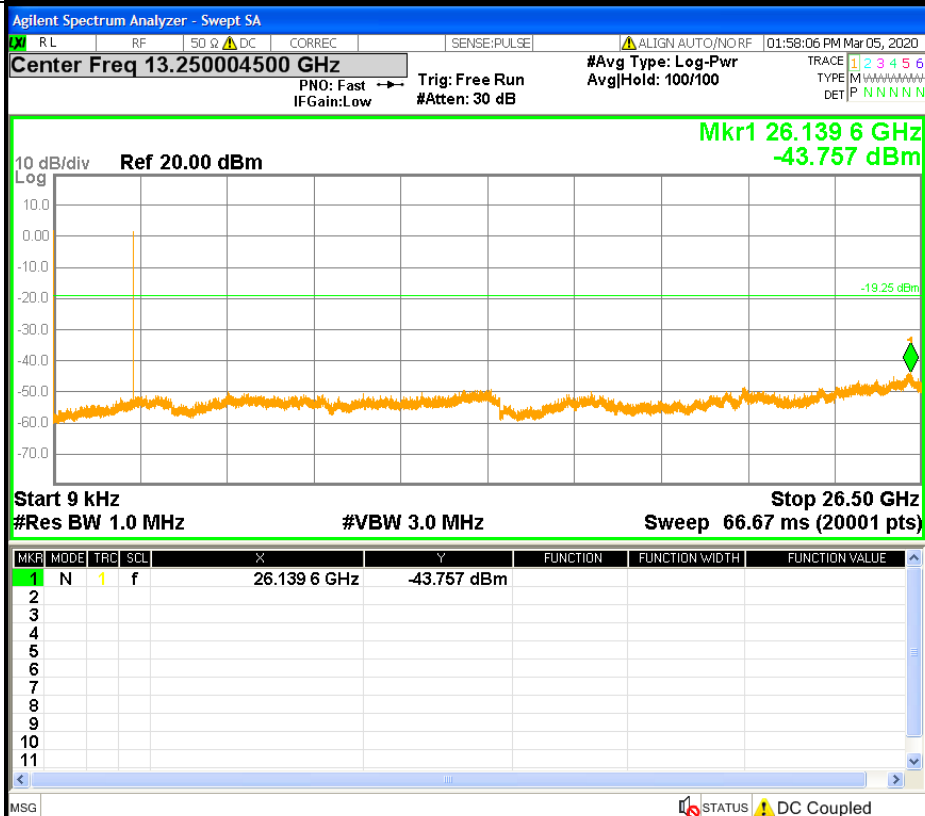


$\pi/4$ DQPSK MCH Graphs

Pref

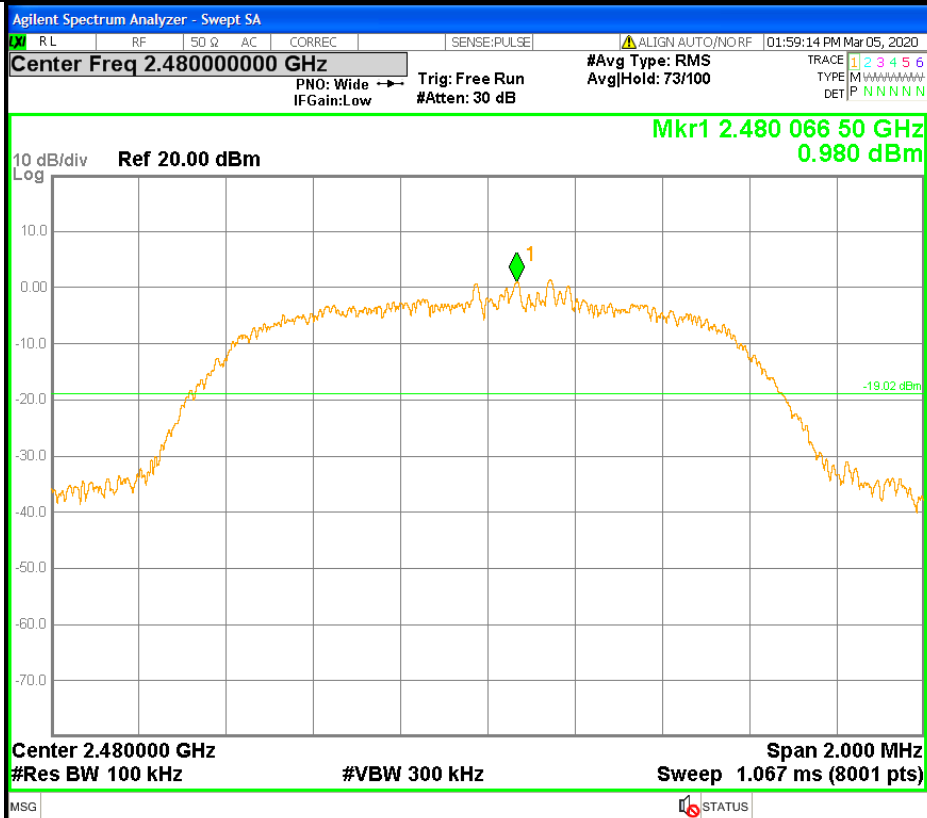


Puw

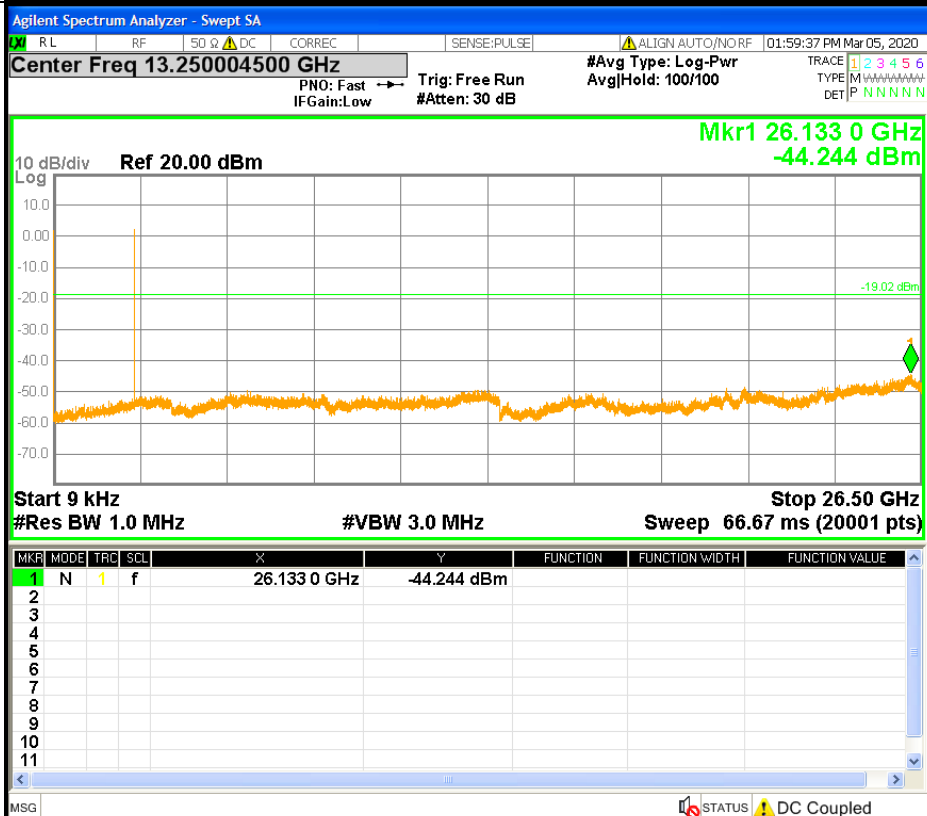


$\pi/4$ DQPSK HCH Graphs

Pref

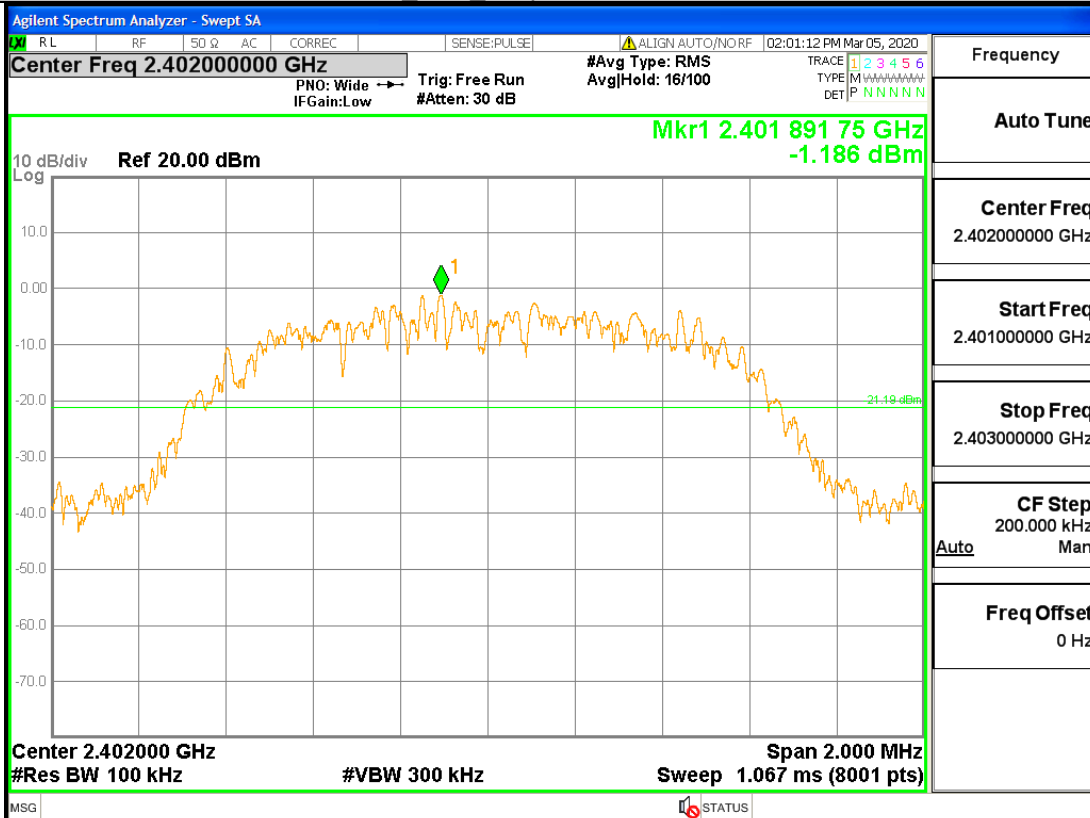


Puw

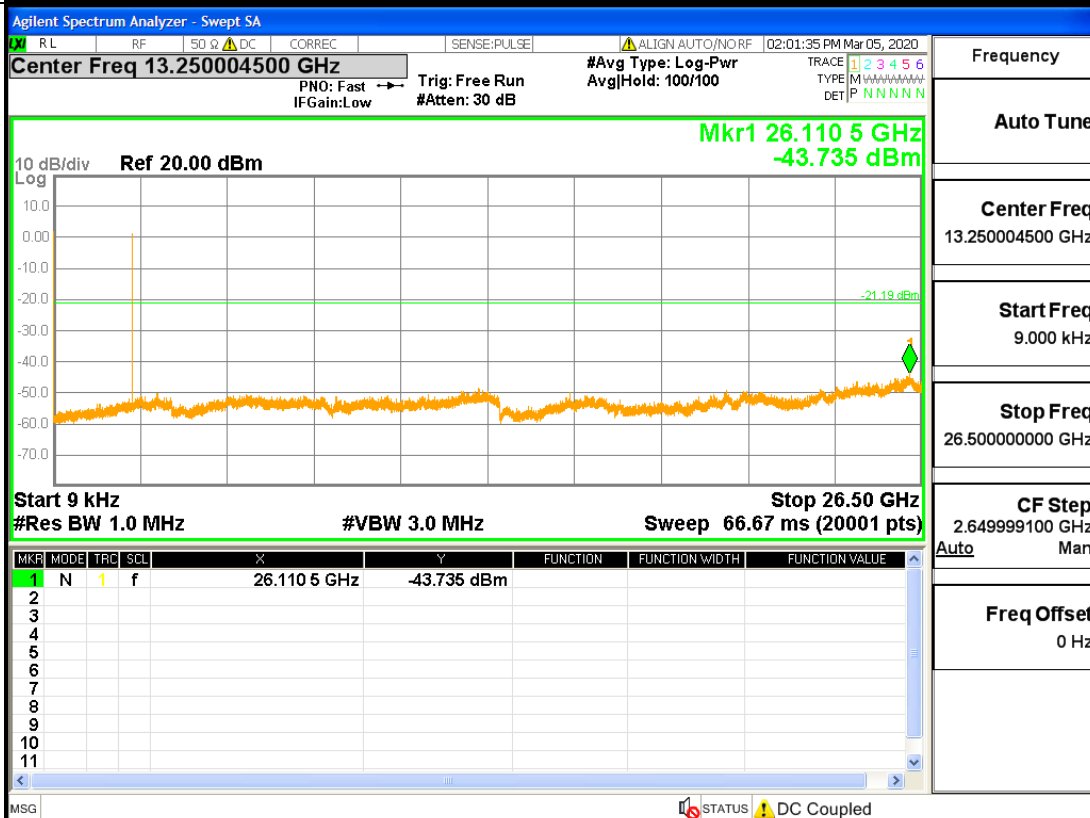


8DPSK LCH_Graphs

Pref

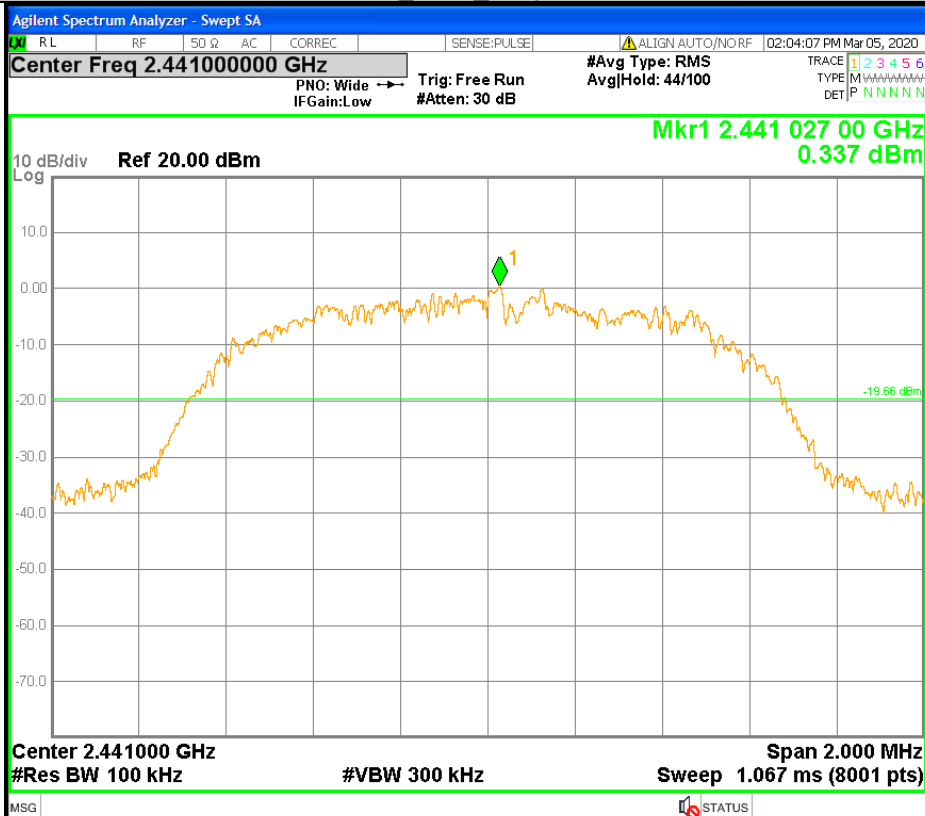


Puw

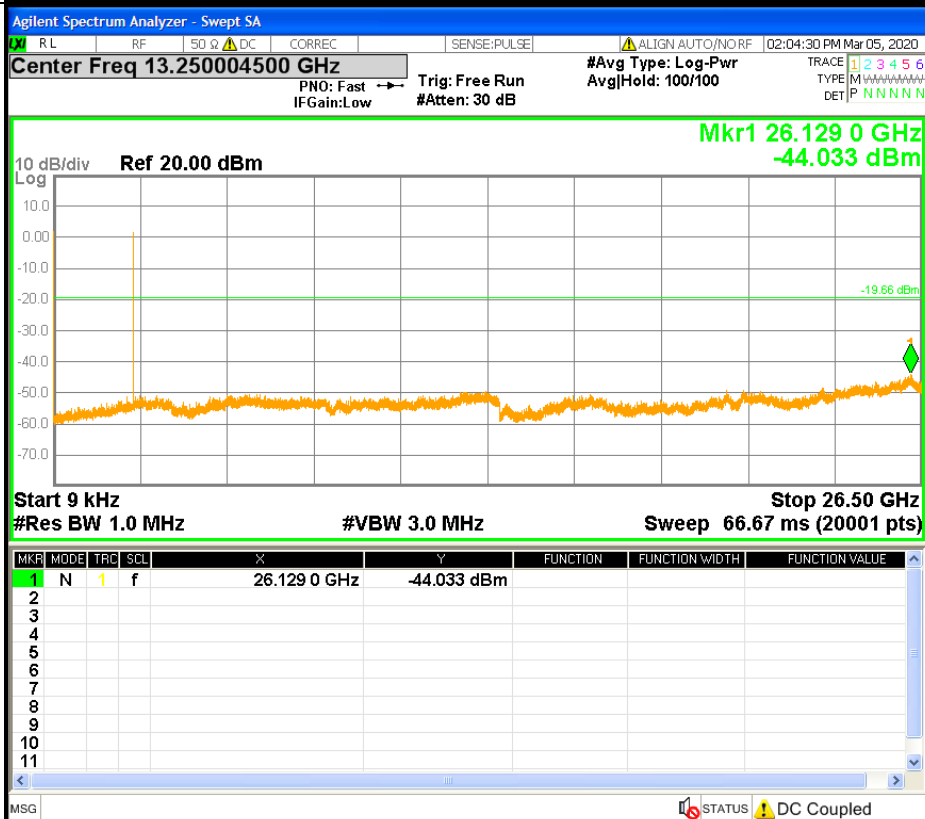


8DPSK_MCH_Graphs

Pref

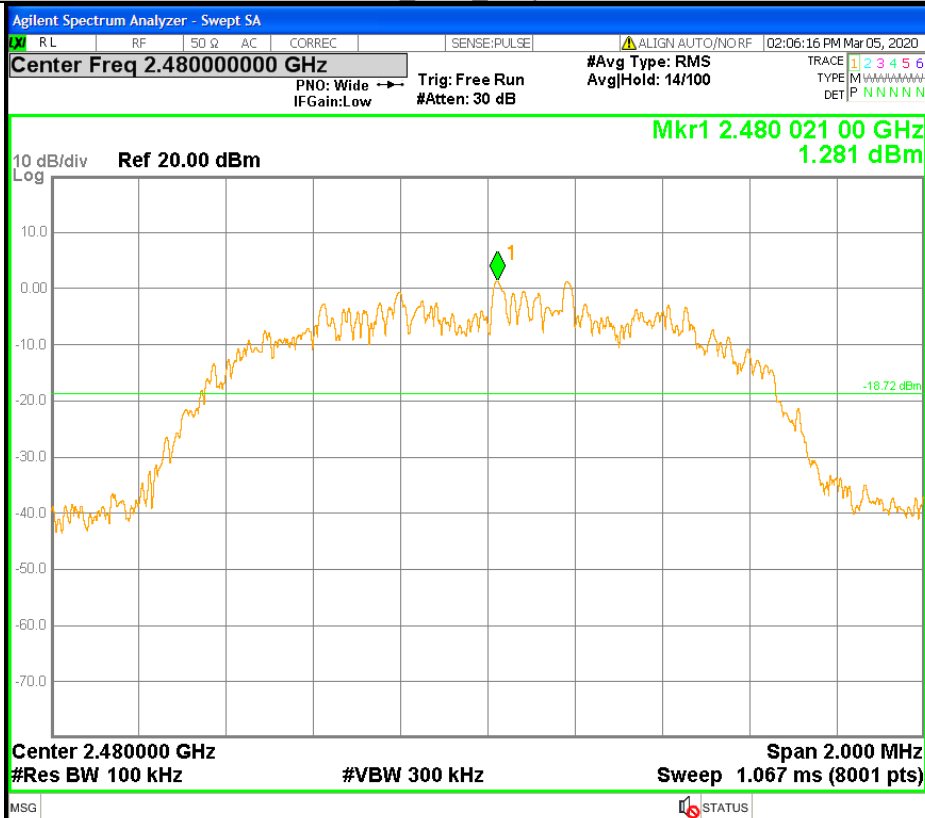


Puw

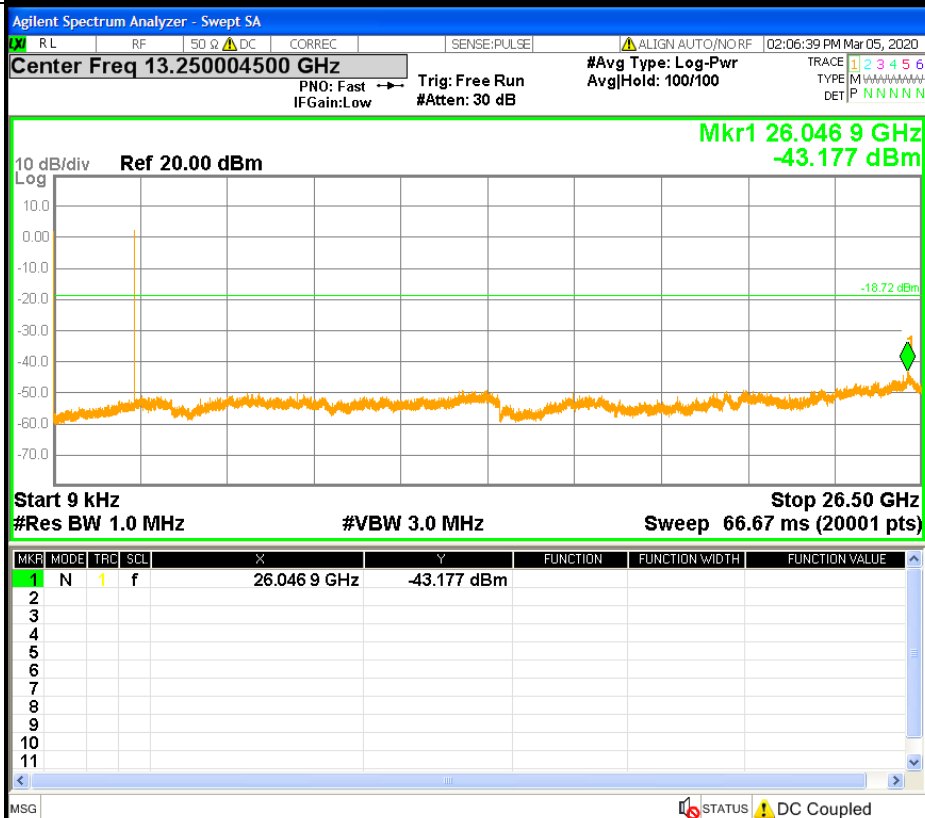


8DPSK_HCH_Graphs

Pref



Puw

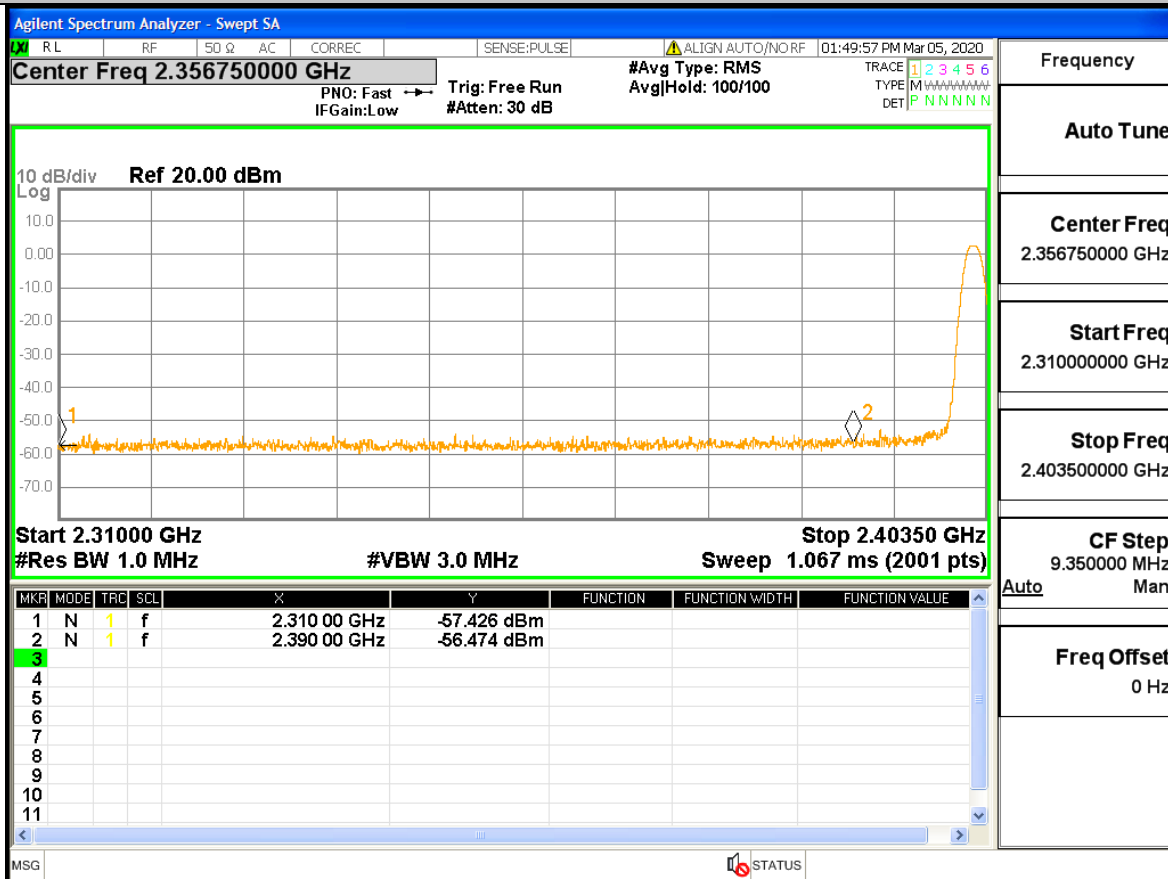


A.8 Restrict-band band-edge measurements

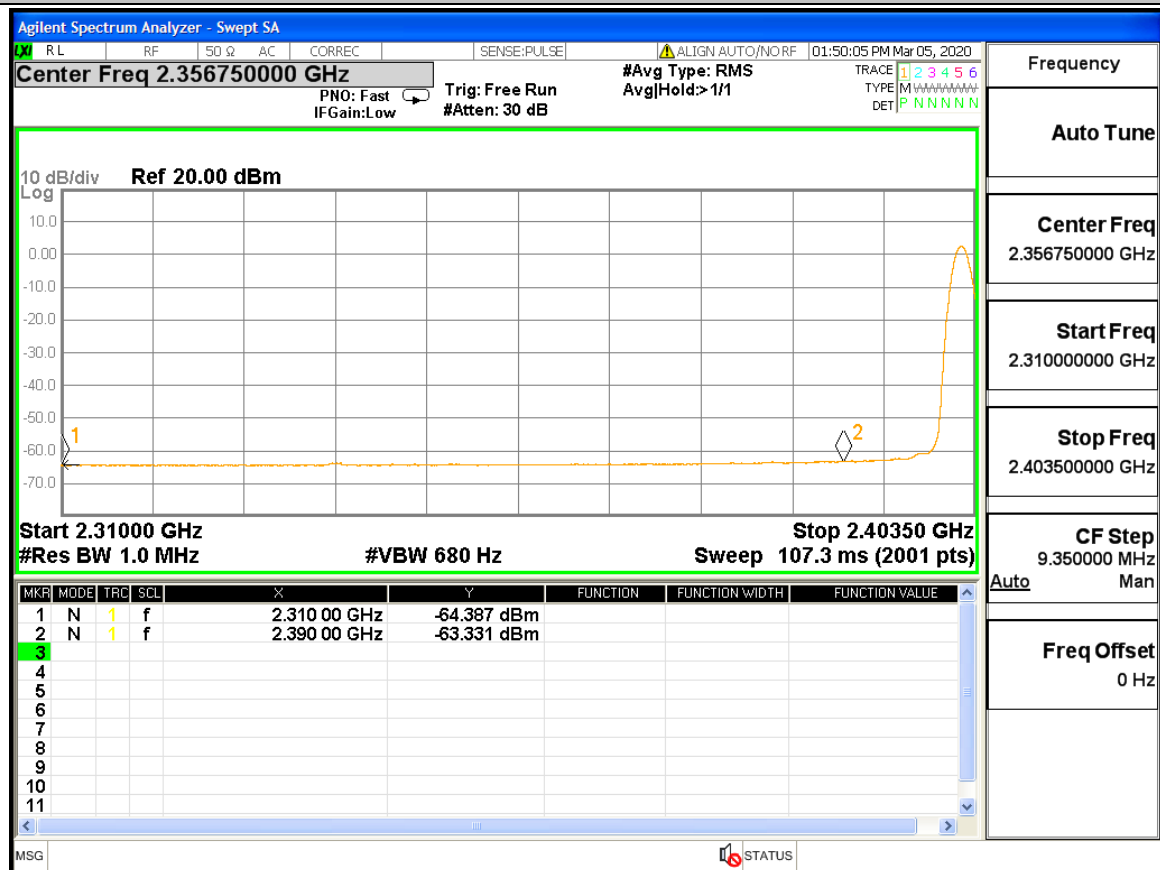
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390	2.00	0.00	-56.474	40.726	74	Pass
1DH5	2480	2483.5	2.00	0.00	-54.324	42.876	74	Pass
2DH5	2402	2310	2.00	0.00	-57.784	39.416	74	Pass
2DH5	2480	2483.5	2.00	0.00	-53.91	43.29	74	Pass
3DH5	2402	2390	2.00	0.00	-56.586	40.614	74	Pass
3DH5	2480	2483.5	2.00	0.00	-50.127	47.073	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	-63.331	33.869	54	Pass
1DH5	2480	2483.5	2.00	0.00	-54.102	43.098	54	Pass
2DH5	2402	2310	2.00	0.00	-63.275	33.925	54	Pass
2DH5	2480	2483.5	2.00	0.00	-53.914	43.286	54	Pass
3DH5	2402	2390	2.00	0.00	-63.017	34.183	54	Pass
3DH5	2480	2483.5	2.00	0.00	-53.873	43.327	54	Pass

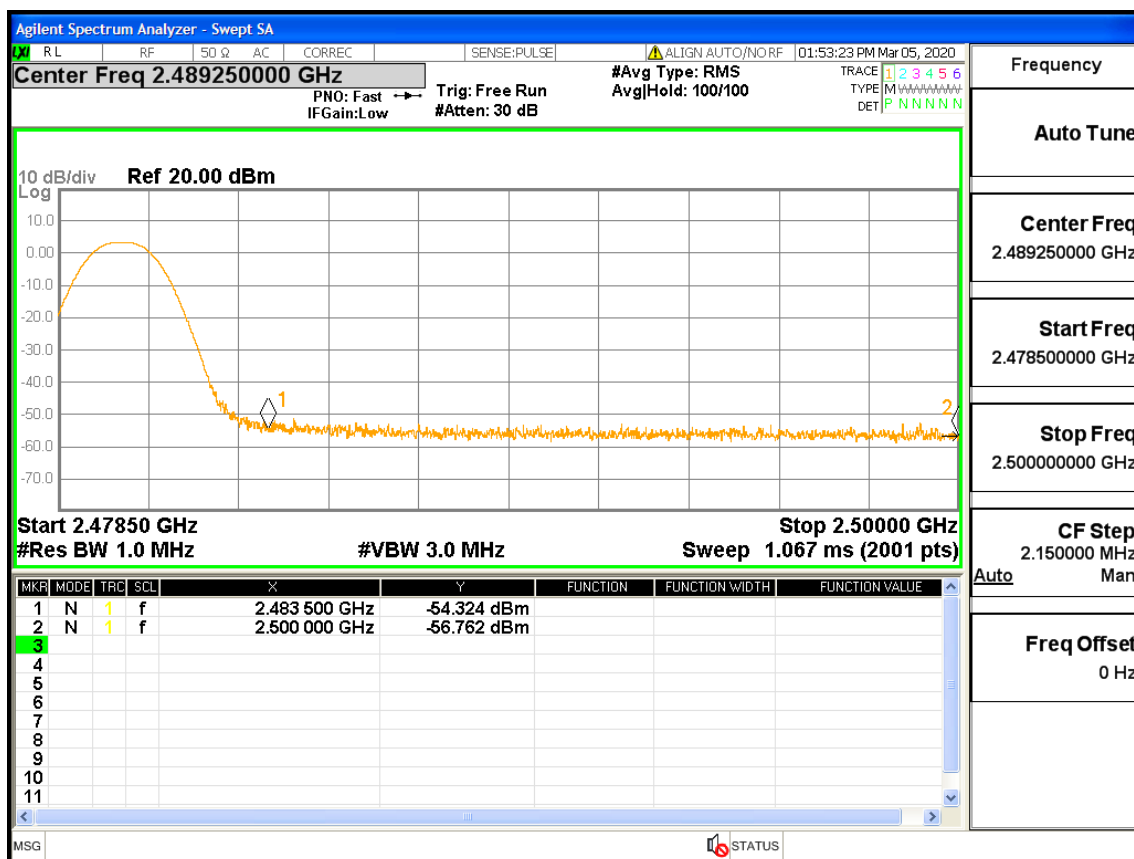
Restrict-band band-edge measurements_2402_PEAK_DH5



Restrict-band band-edge measurements_2402_AV_DH5



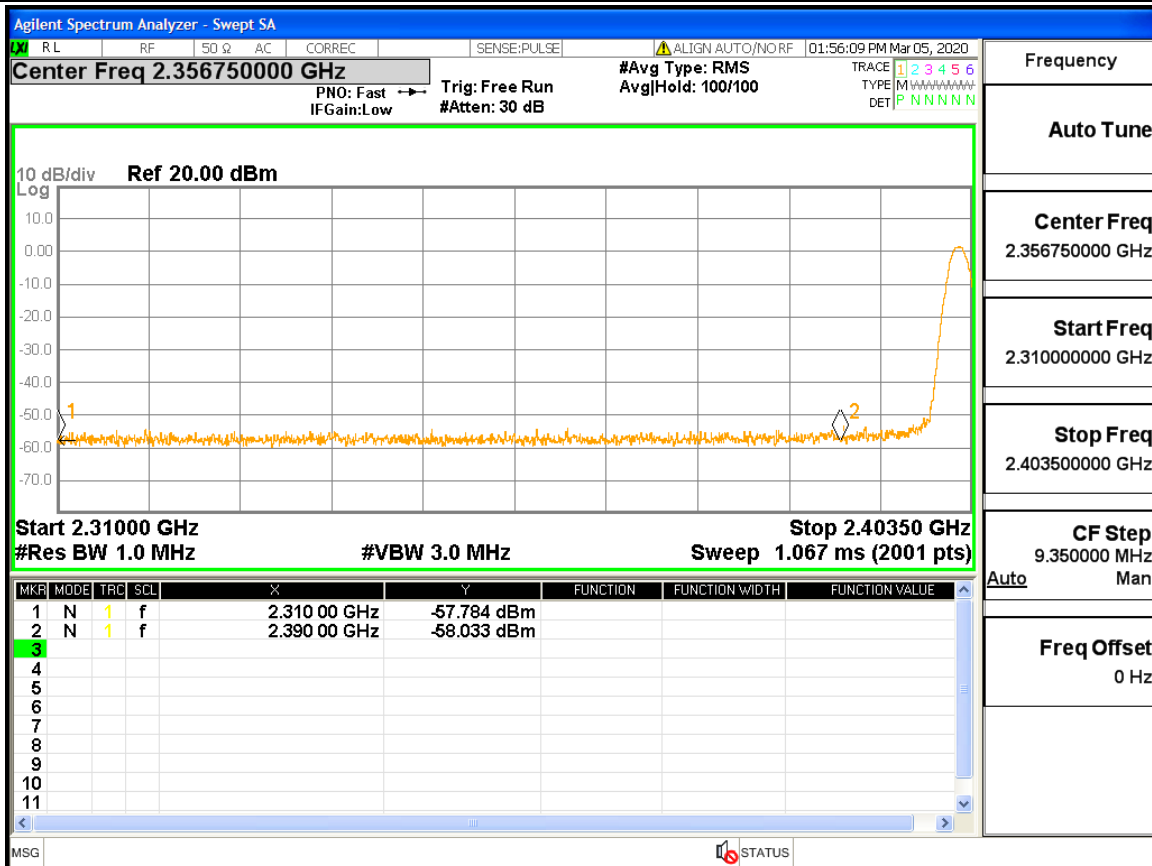
Restrict-band band-edge measurements_2480_PEAK_DH5



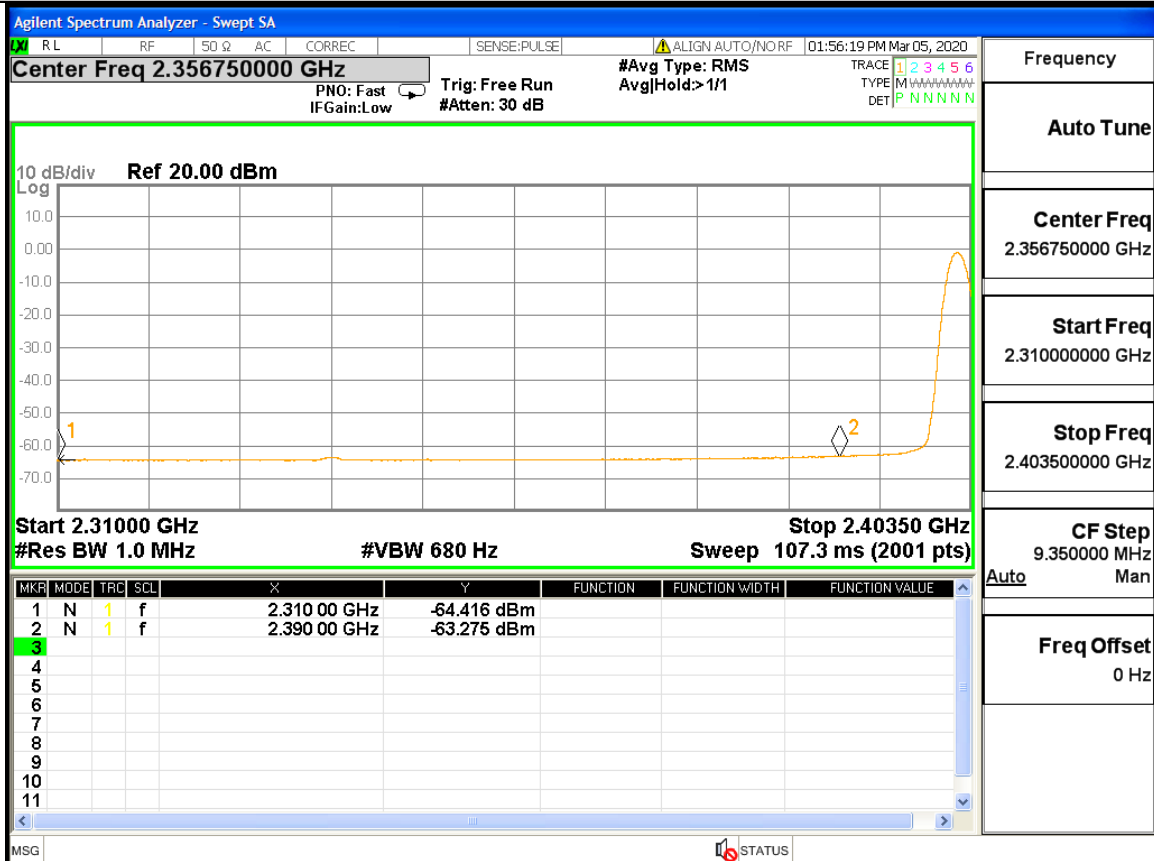
Restrict-band band-edge measurements_2480_AV_DH5



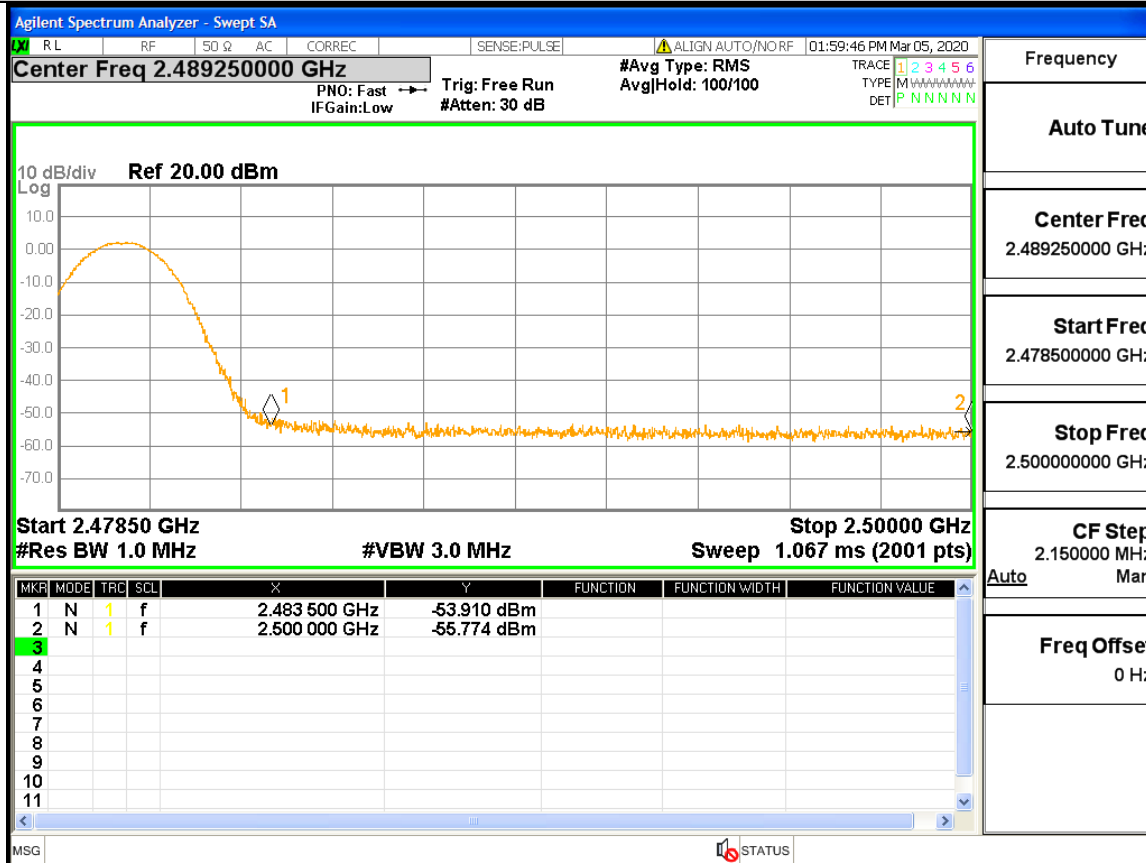
Restrict-band band-edge measurements_2402_PEAK_2DH5



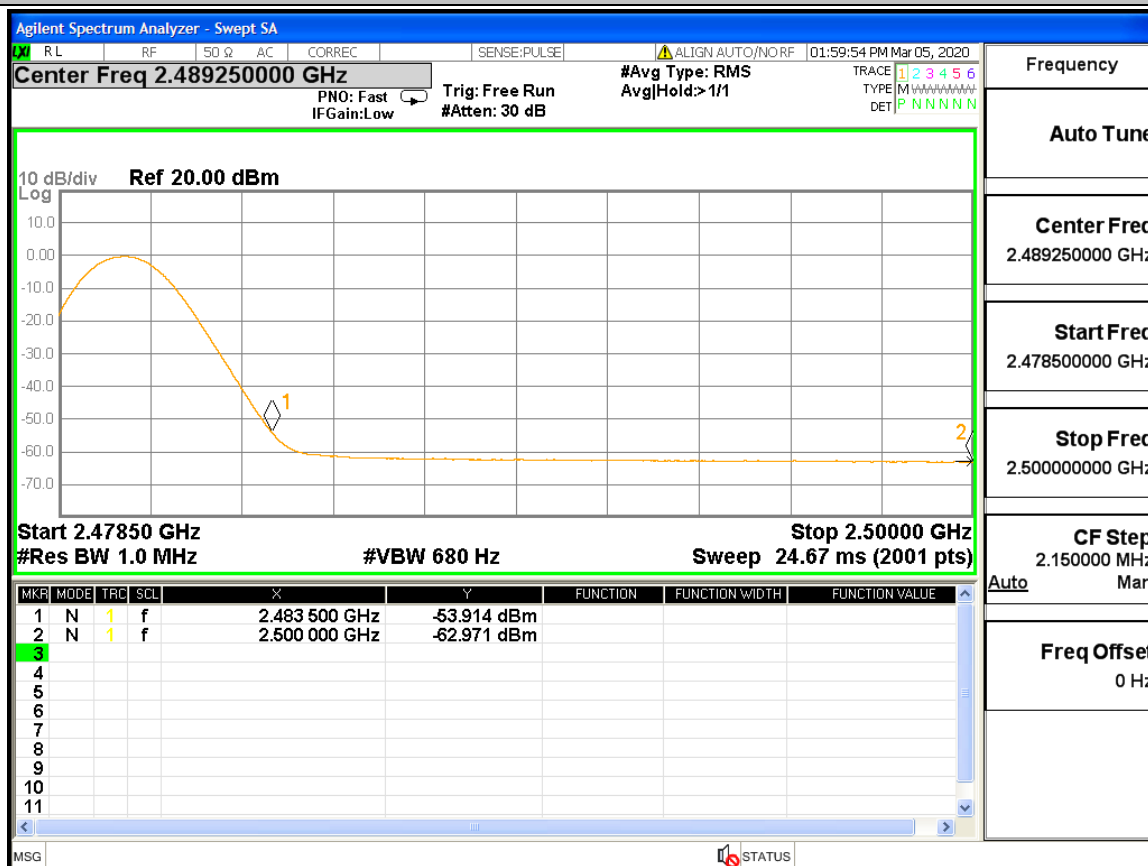
Restrict-band band-edge measurements_2402_AV_2DH5



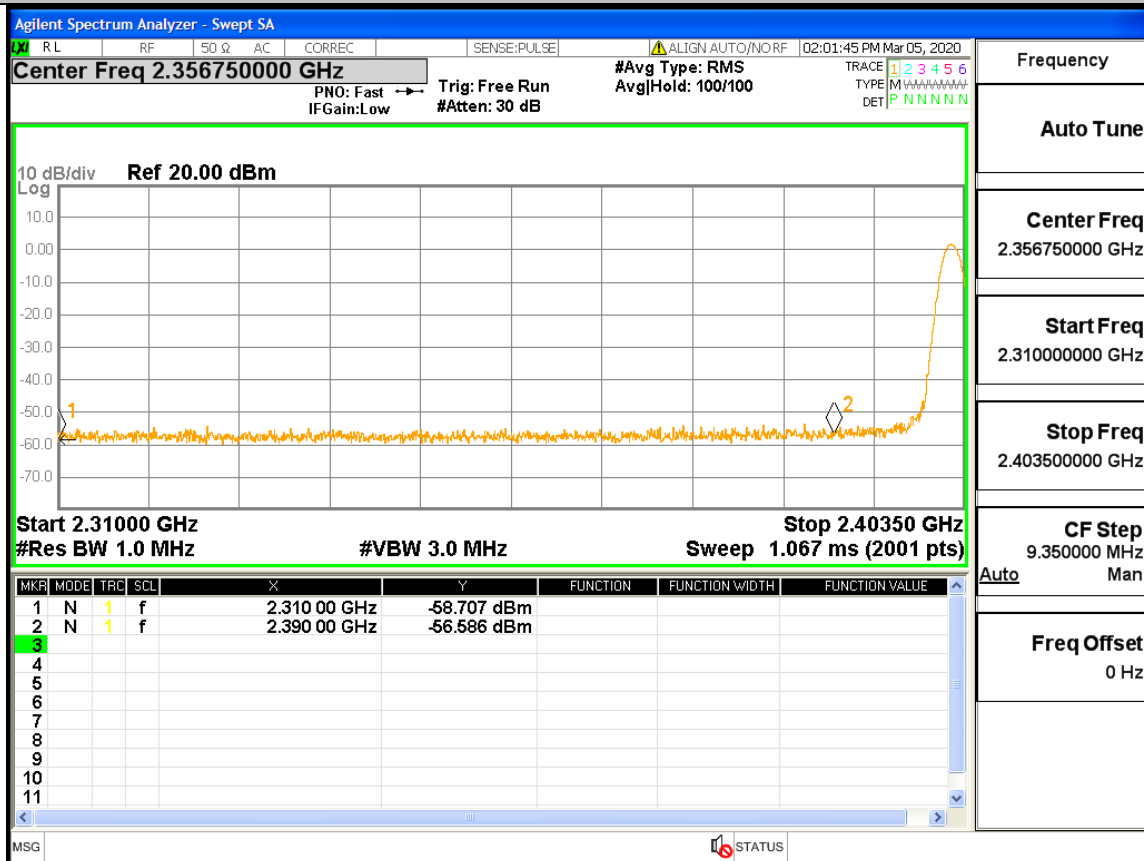
Restrict-band band-edge measurements_2480_PEAK_2DH5



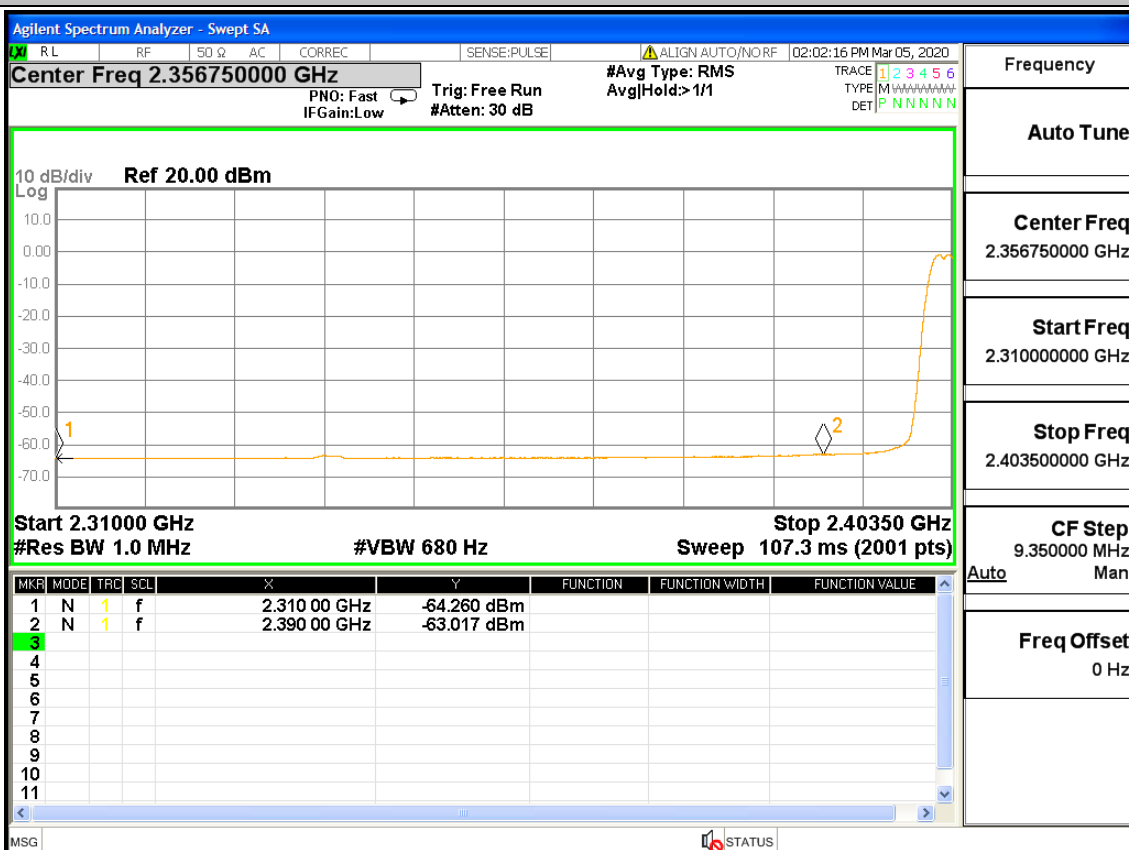
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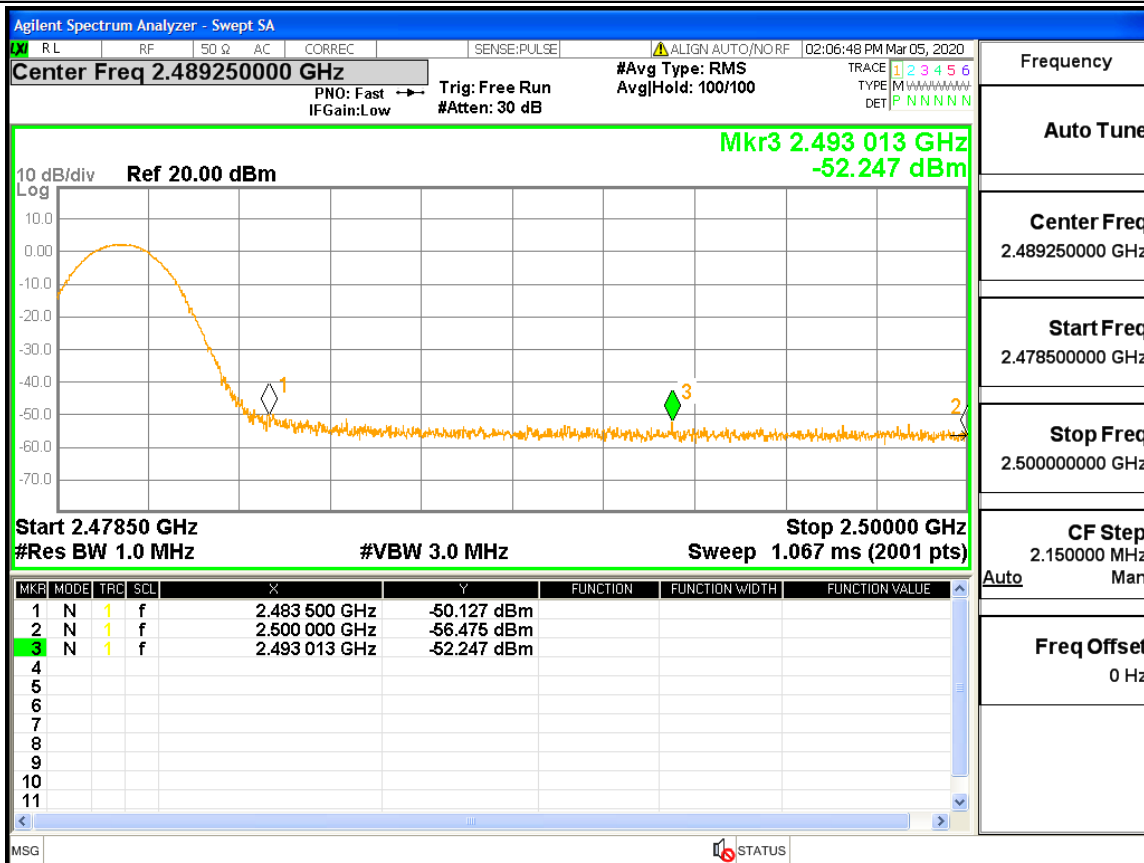
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

