

Appendix A

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

Product Name: Bluetooth earbuds

Trade Mark: N/A

Test Model: D05

FCC ID: 2AJN6-D05

Environmental Conditions

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

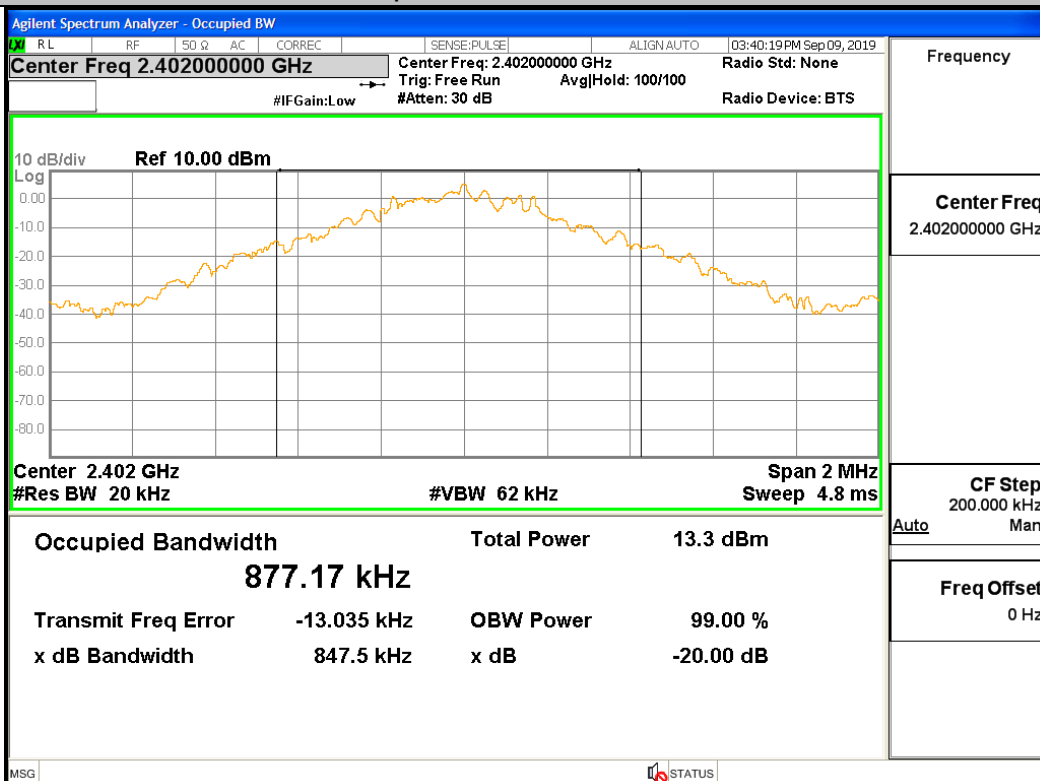
A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.848	Not Specified	PASS
GFSK	MCH	0.853	Not Specified	PASS
GFSK	HCH	0.796	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.204	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.204	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.201	Not Specified	PASS
8DPSK	LCH	1.246	Not Specified	PASS
8DPSK	MCH	1.245	Not Specified	PASS
8DPSK	HCH	1.332	Not Specified	PASS

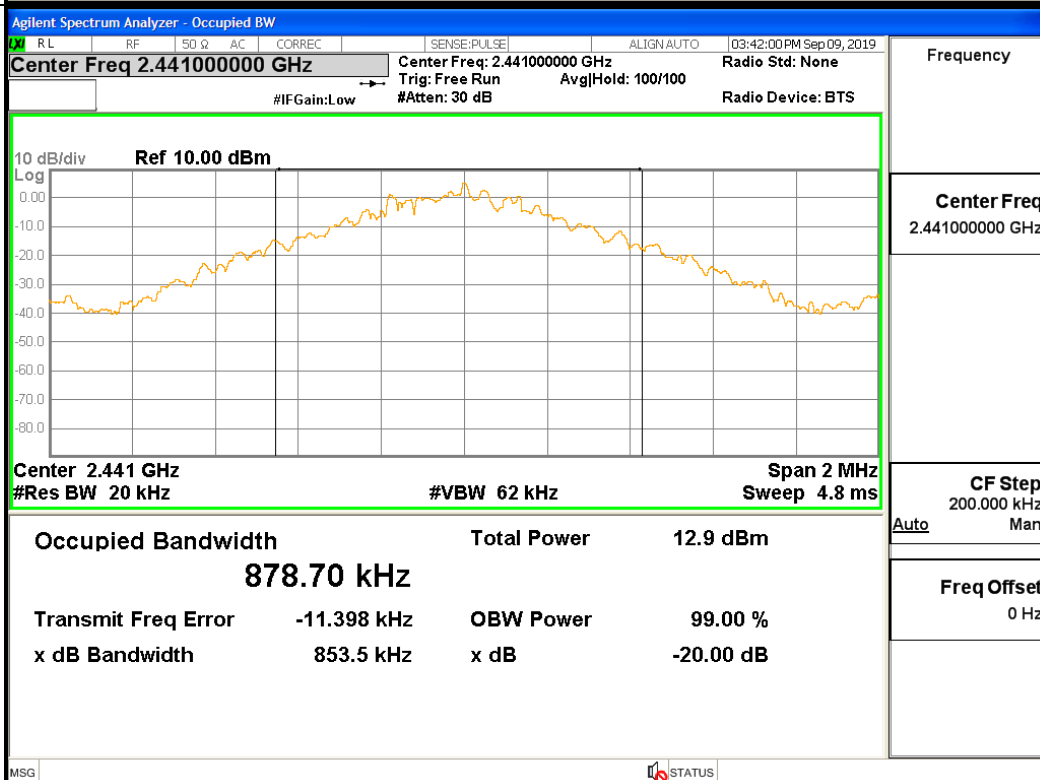
Test Graph

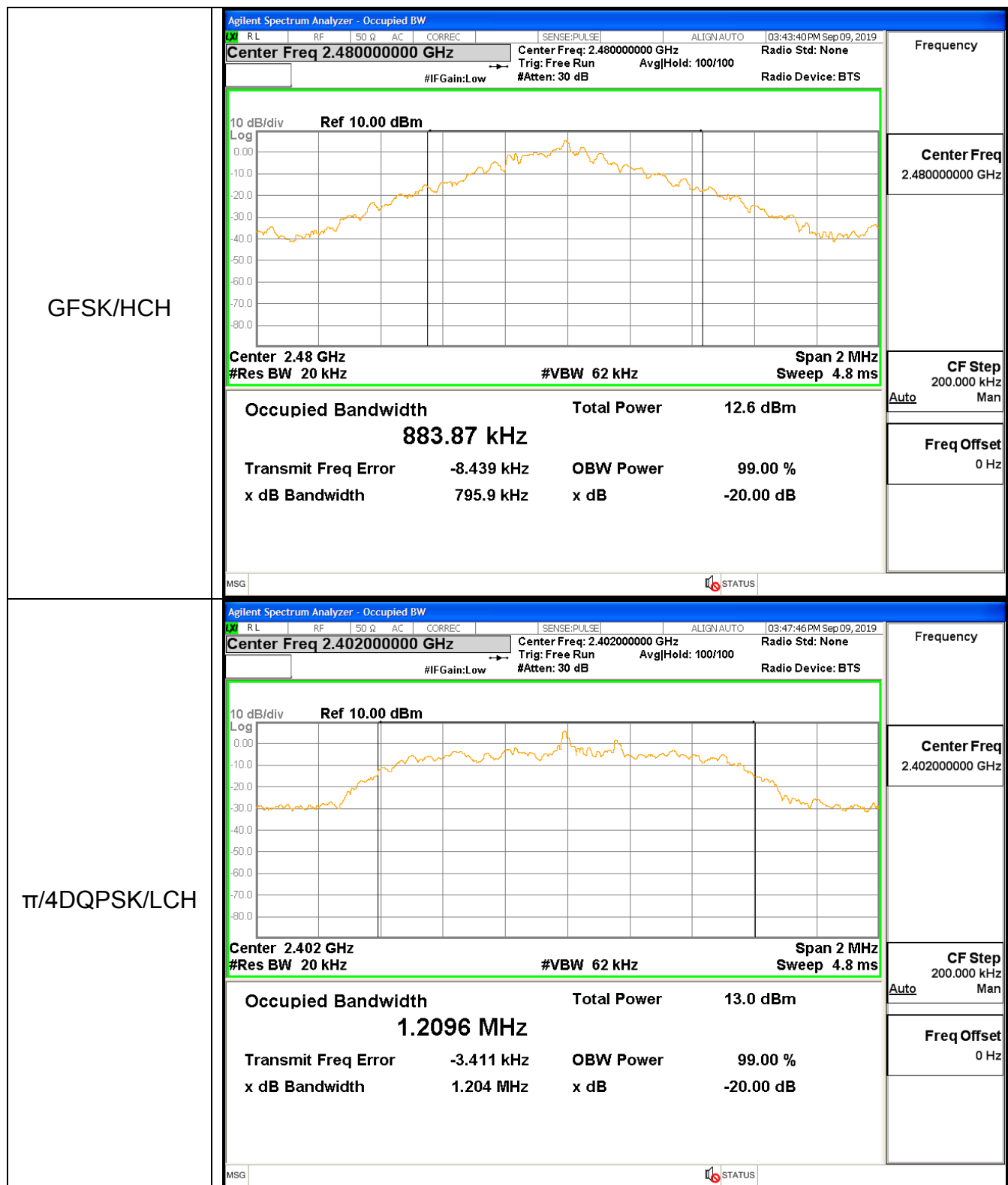
Graphs

GFSK/LCH



GFSK/MCH

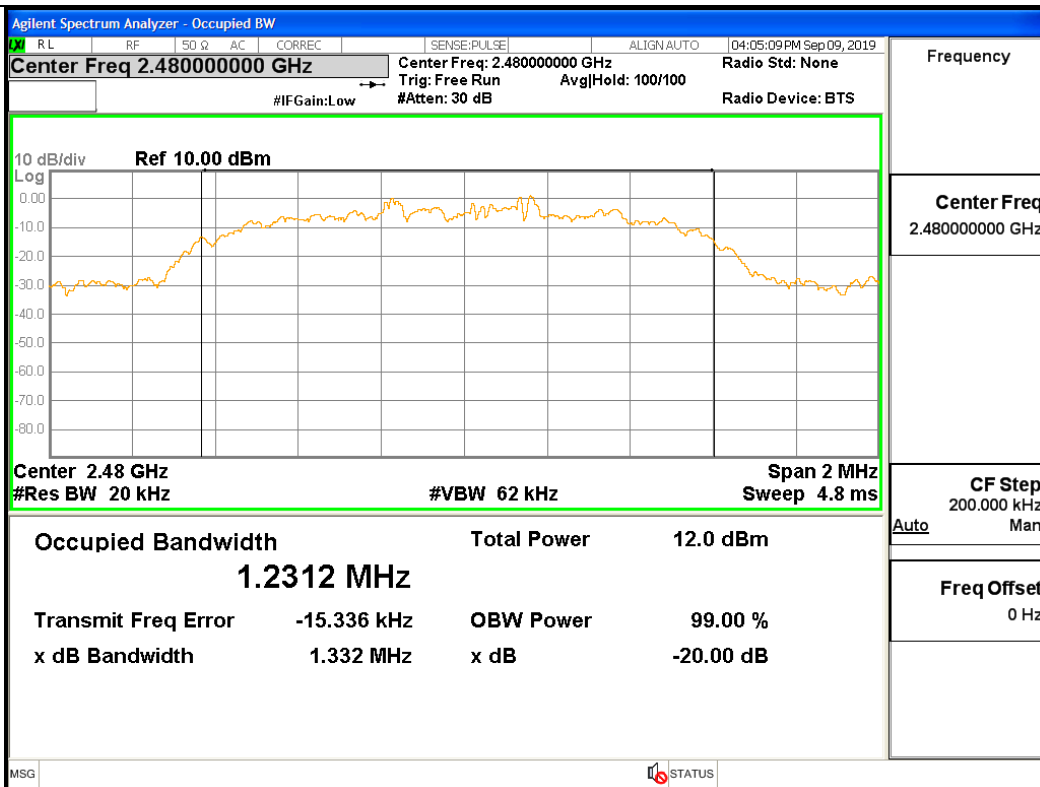








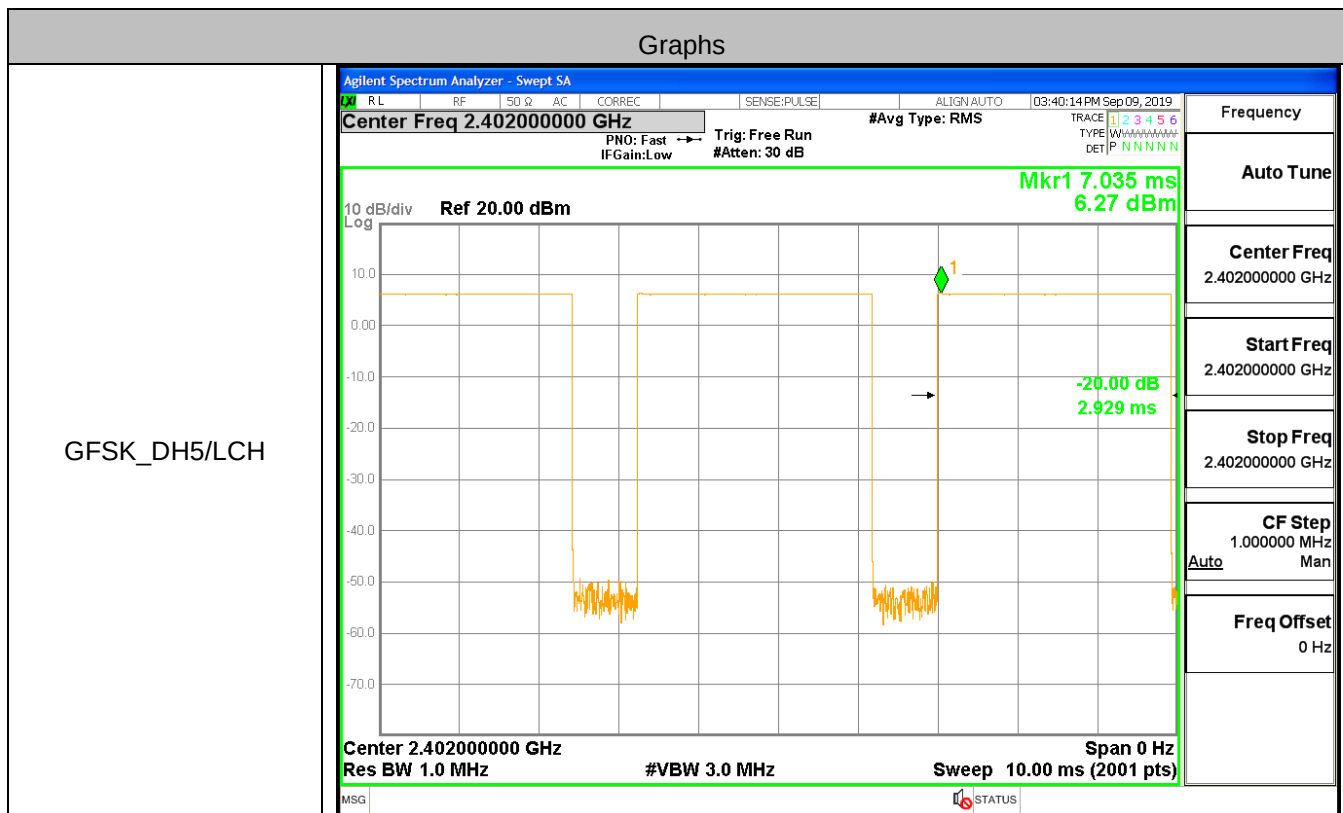
8DPSK/HCH

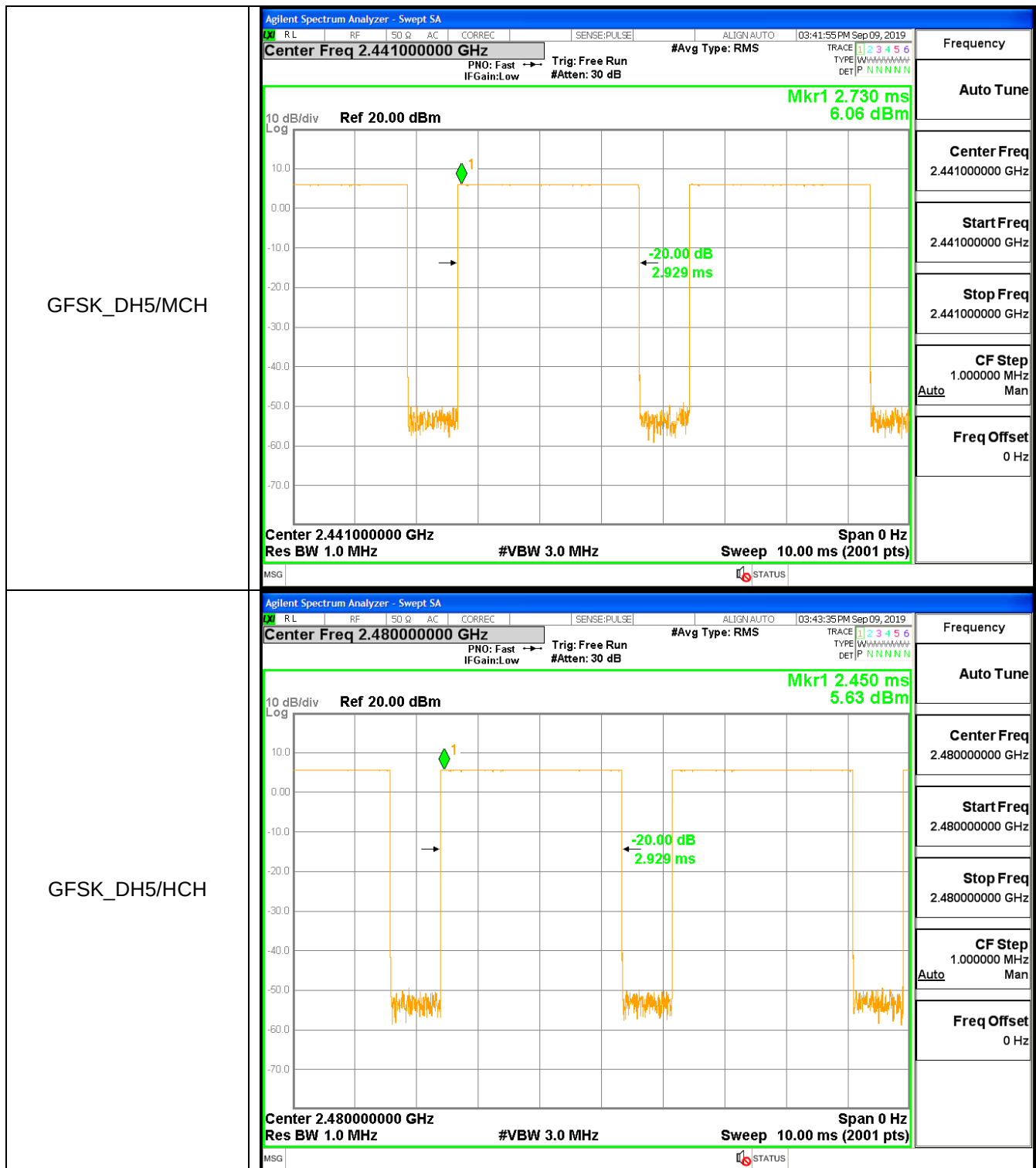


A.2 Dwell Time

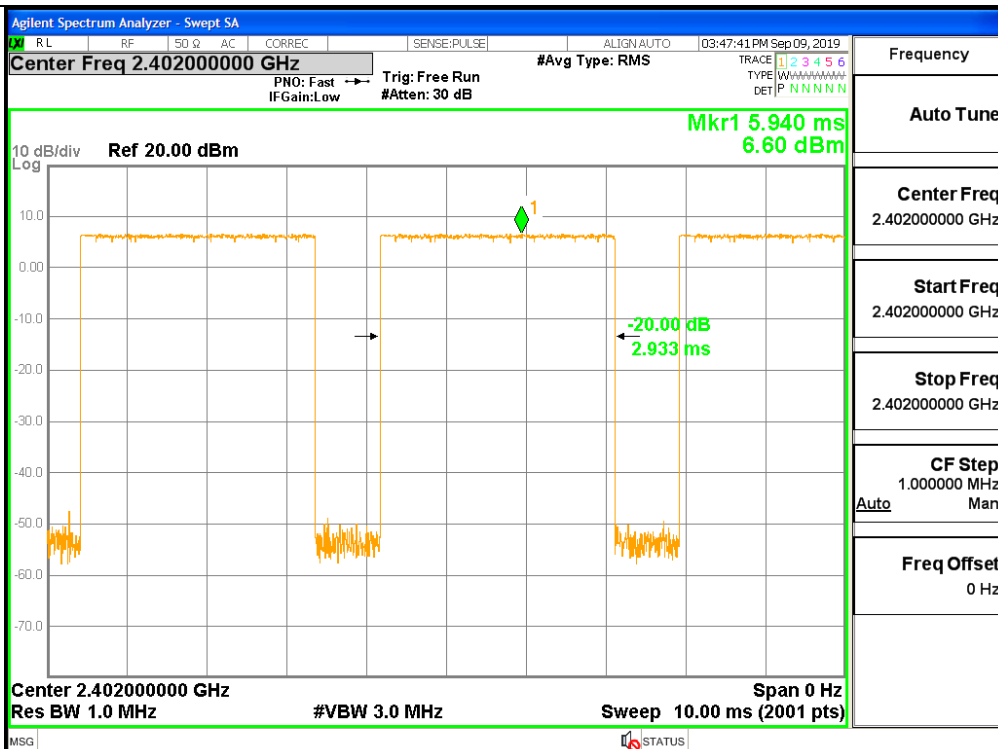
Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002929	106.7	0.312485	0.4	PASS
GFSK	DH5	MCH	0.002929	106.7	0.312478	0.4	PASS
GFSK	DH5	HCH	0.002929	106.7	0.312488	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.002933	106.7	0.312974	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.002935	106.7	0.313149	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002934	106.7	0.313034	0.4	PASS
8DPSK	3DH5	LCH	0.002937	106.7	0.313326	0.4	PASS
8DPSK	3DH5	MCH	0.002938	106.7	0.313482	0.4	PASS
8DPSK	3DH5	HCH	0.002938	106.7	0.313494	0.4	PASS

Test Graph

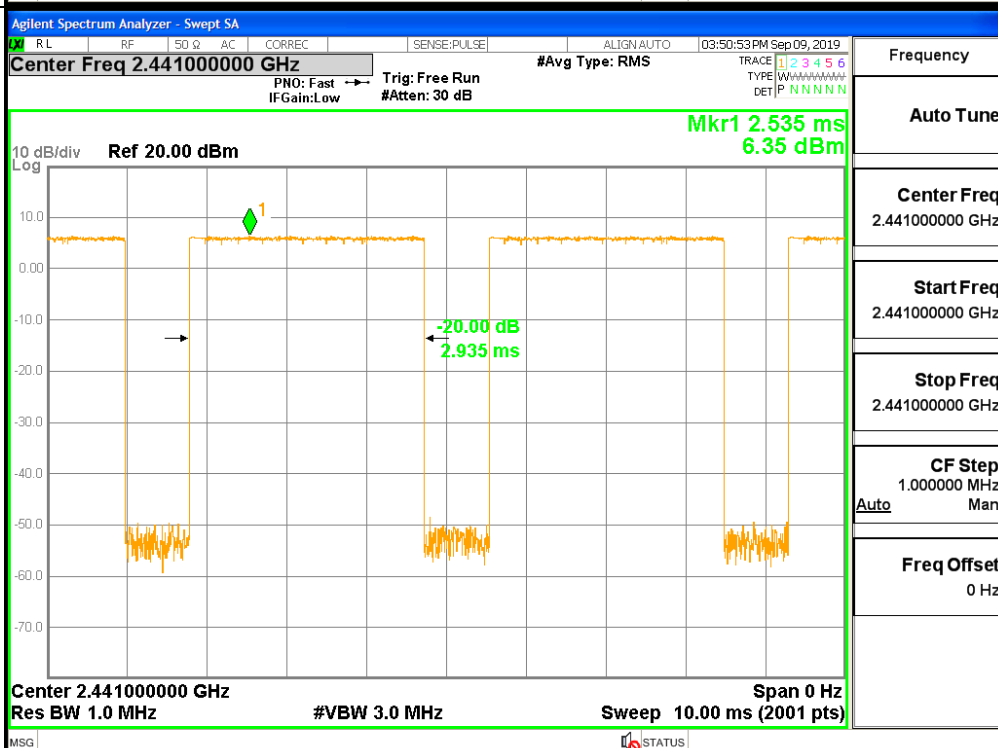




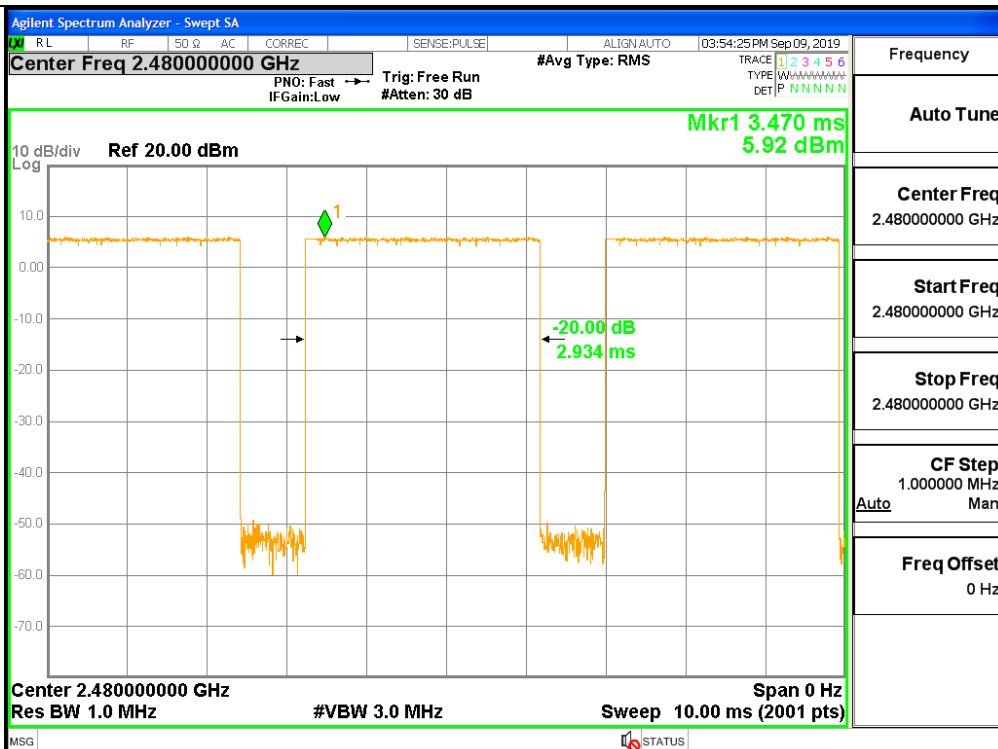
$\pi/4$ DQPSK
_2DH5/LCH



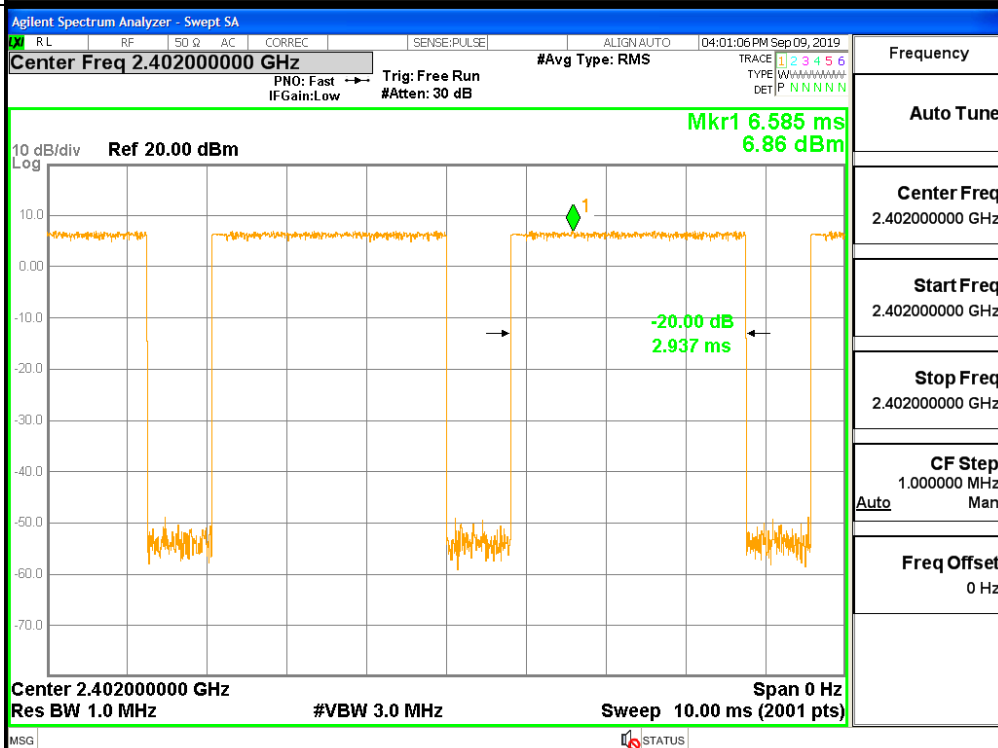
$\pi/4$ DQPSK
_2DH5/MCH

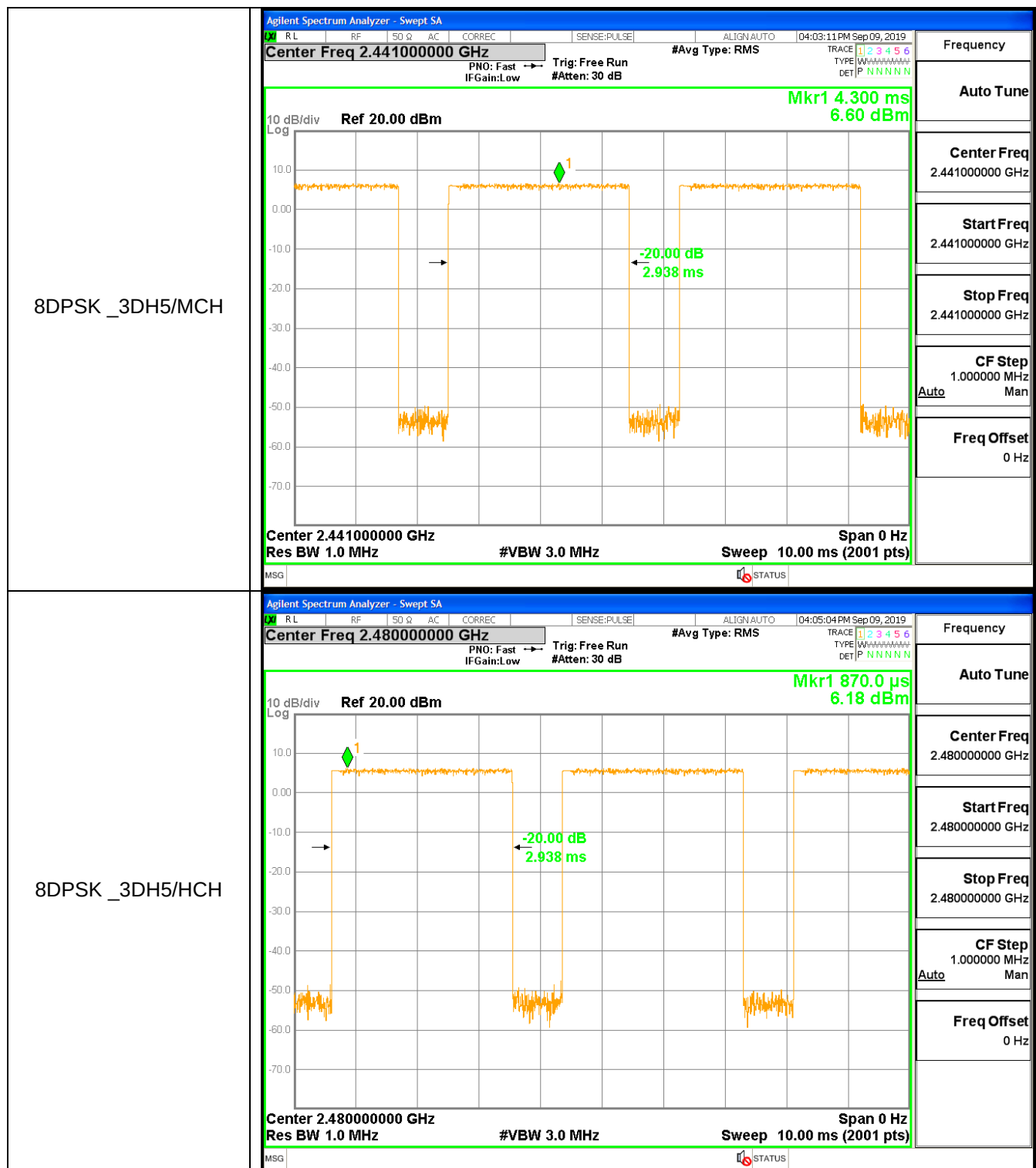


$\pi/4$ DQPSK
_2DH5/HCH



8DPSK_3DH5/LCH

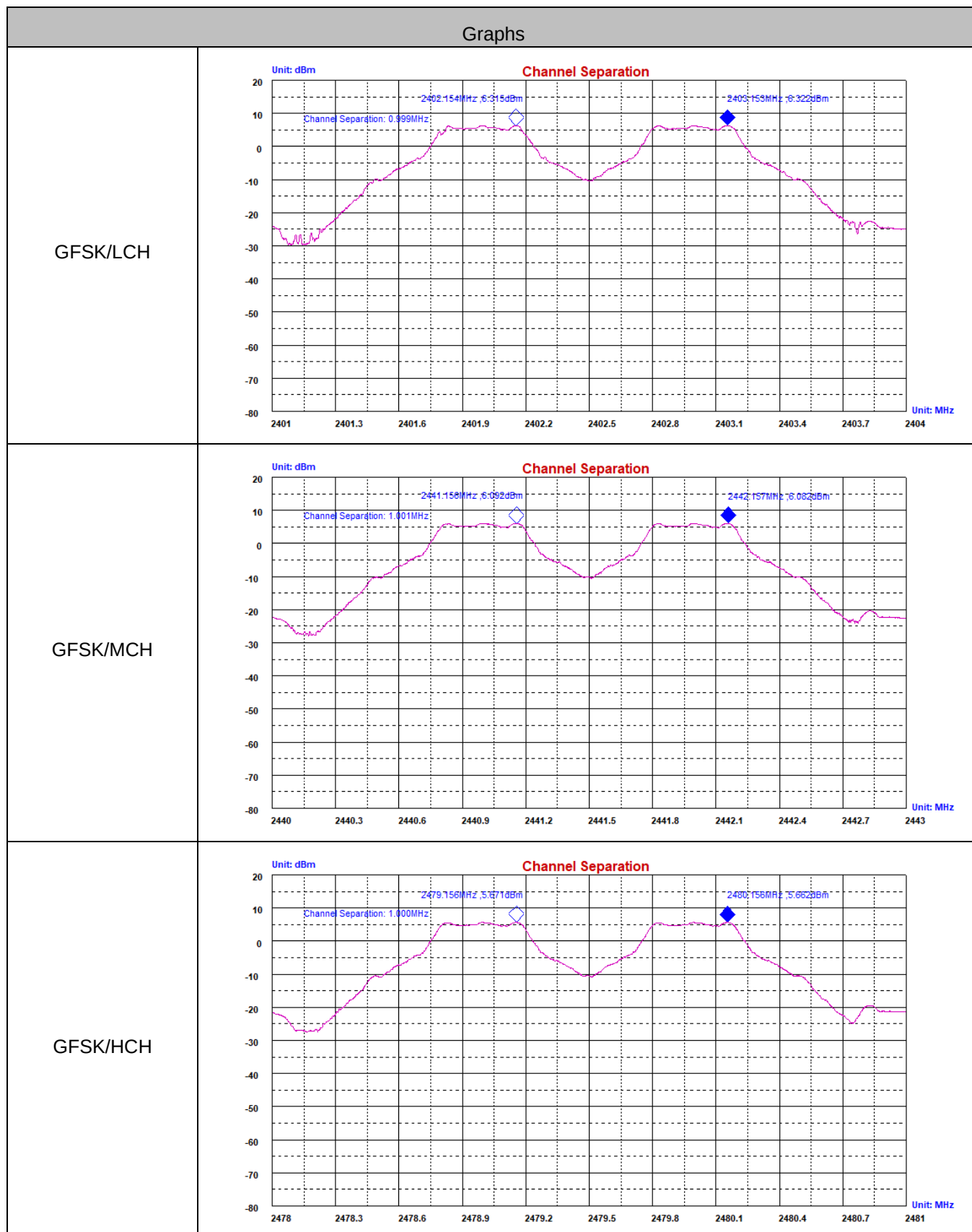


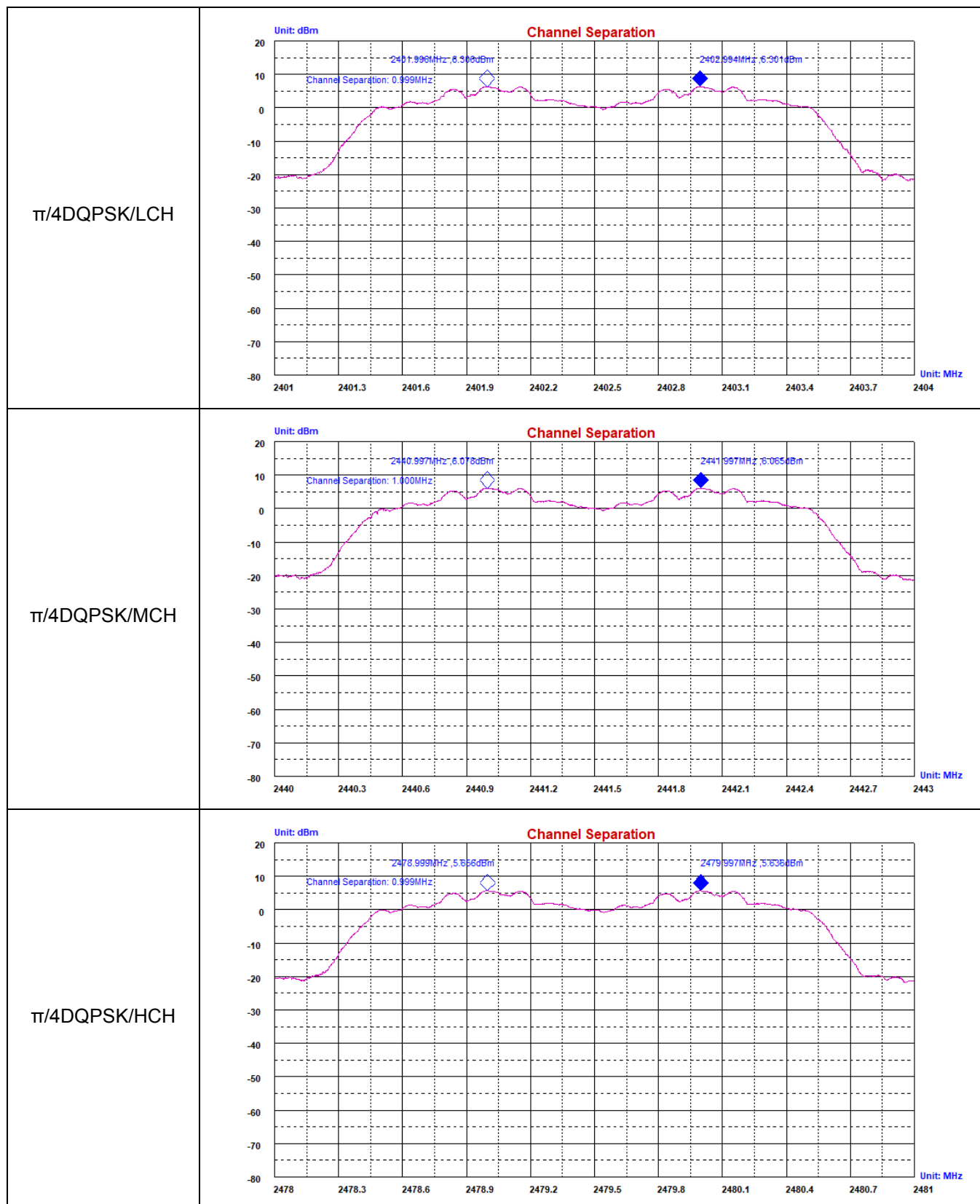


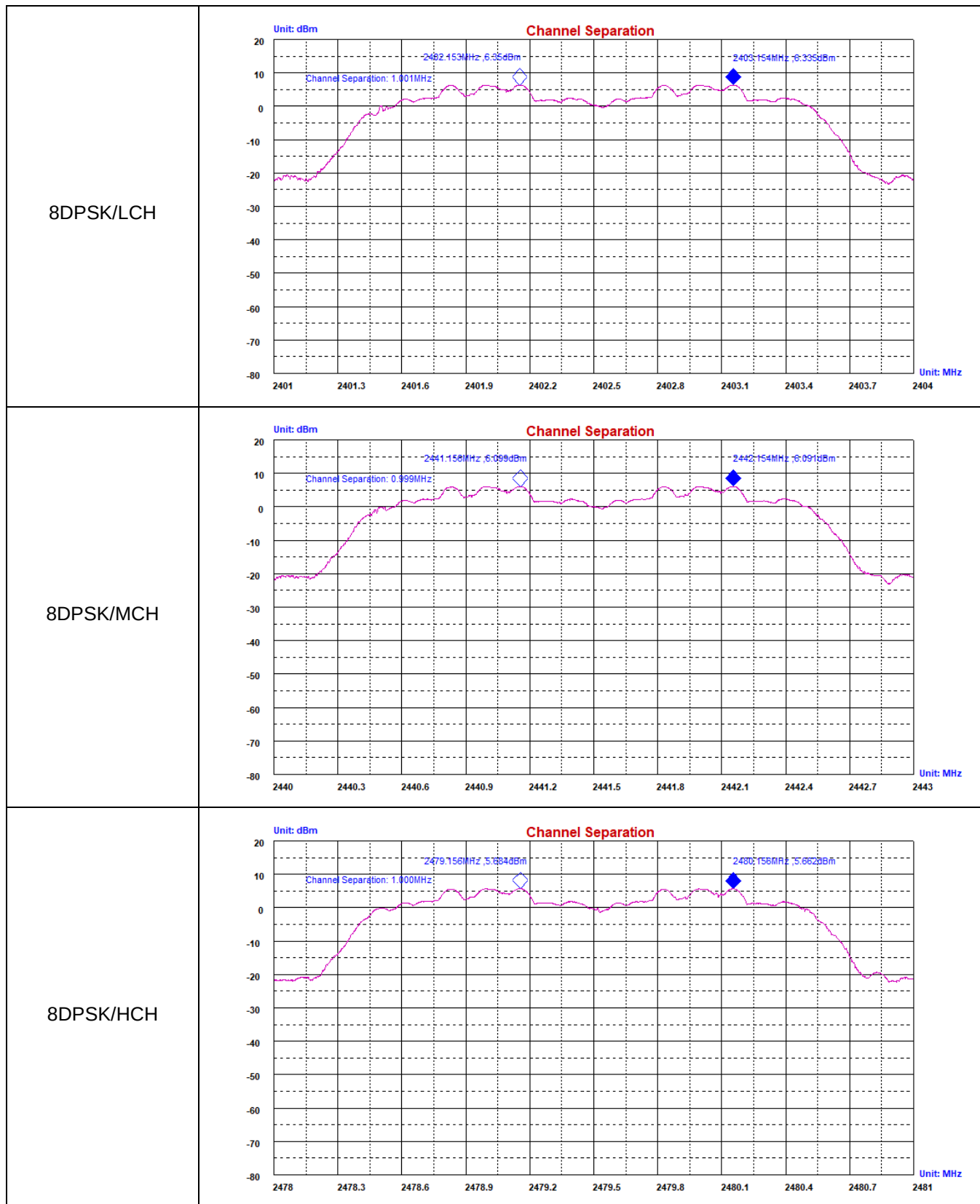
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.999	0.565	PASS
GFSK	MCH	1.001	0.569	PASS
GFSK	HCH	1.000	0.531	PASS
$\pi/4$ DQPSK	LCH	0.999	0.803	PASS
$\pi/4$ DQPSK	MCH	1.000	0.803	PASS
$\pi/4$ DQPSK	HCH	0.999	0.801	PASS
8DPSK	LCH	1.001	0.831	PASS
8DPSK	MCH	0.999	0.830	PASS
8DPSK	HCH	1.000	0.888	PASS

Test Graph



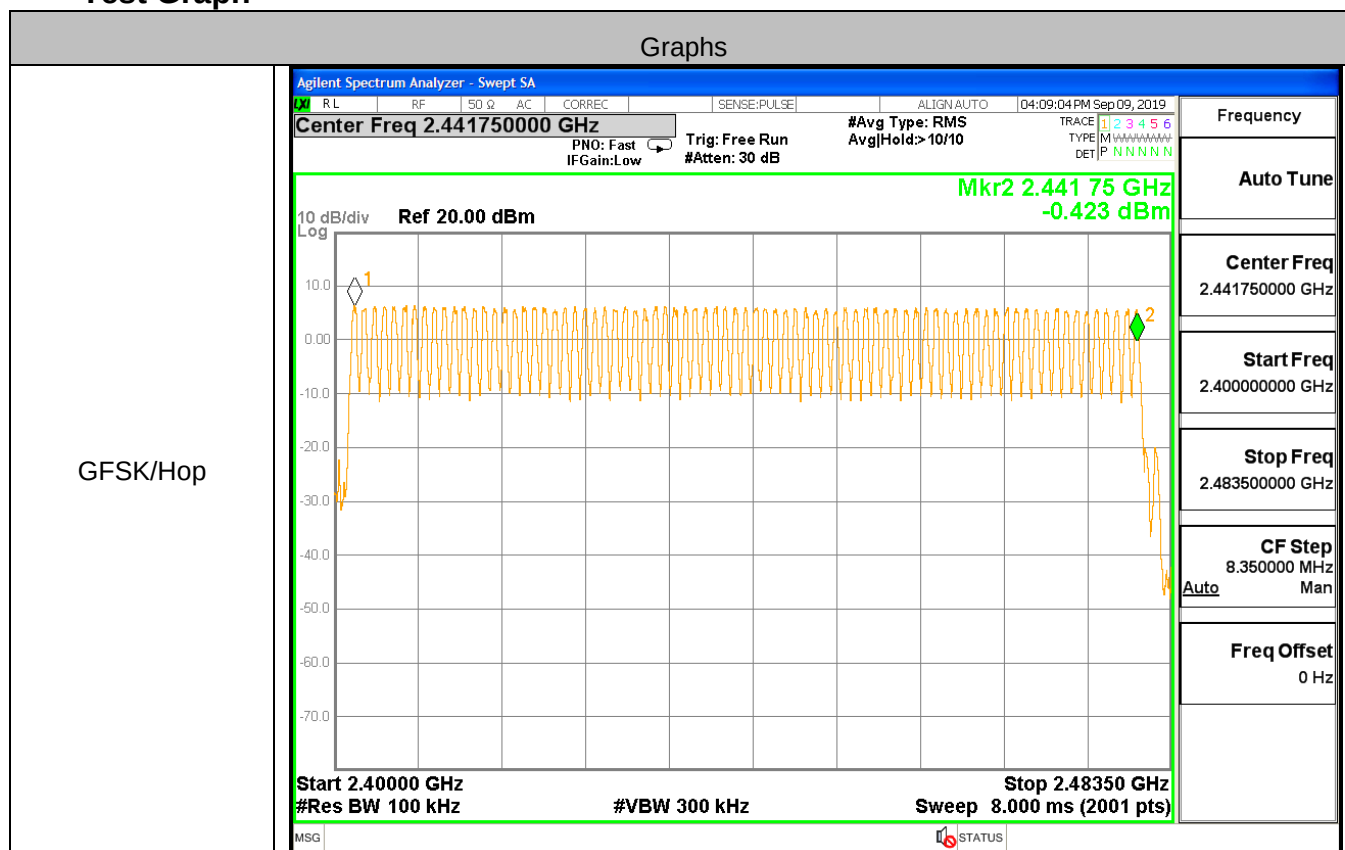


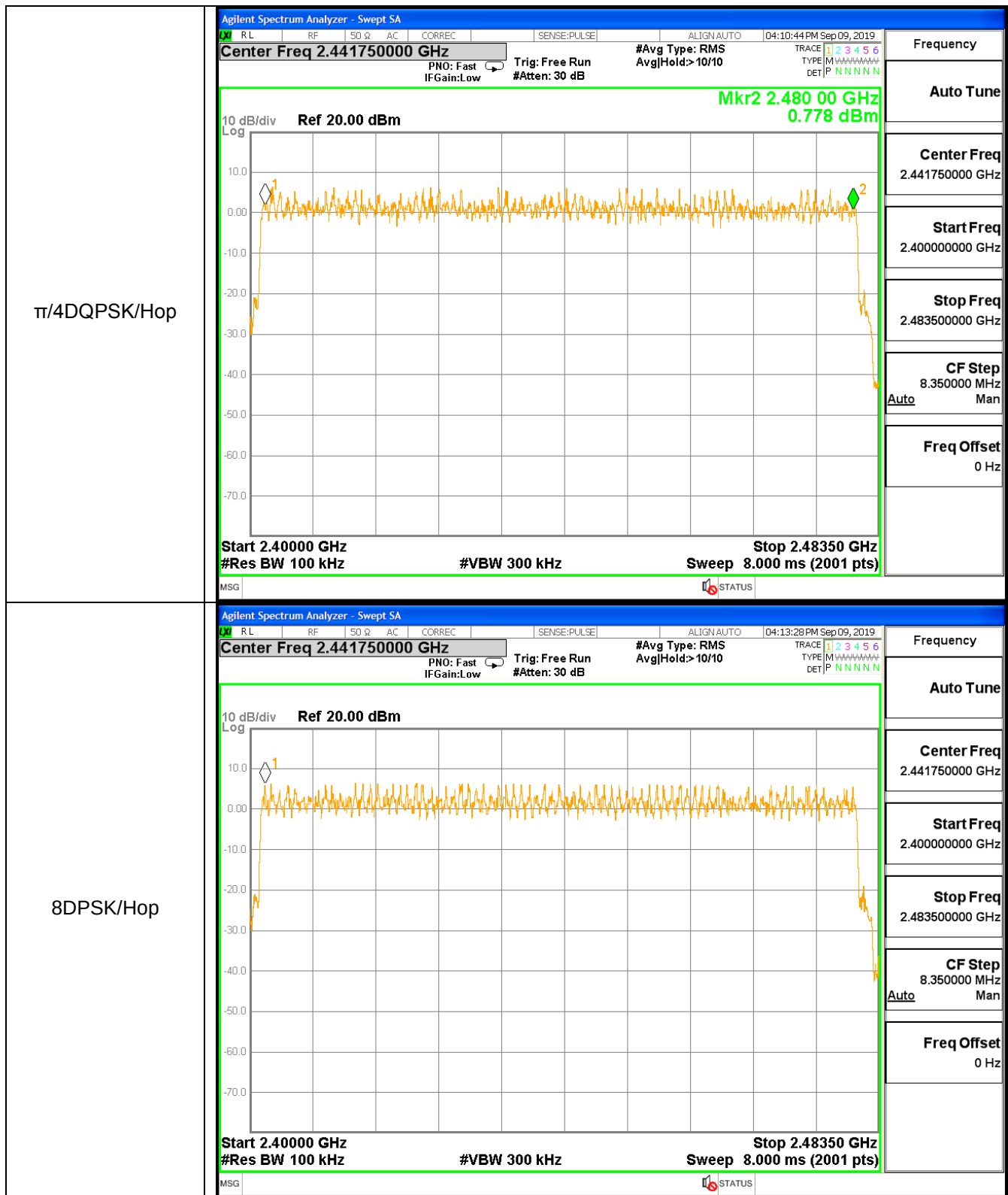


A.4 Hopping Channel Number

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

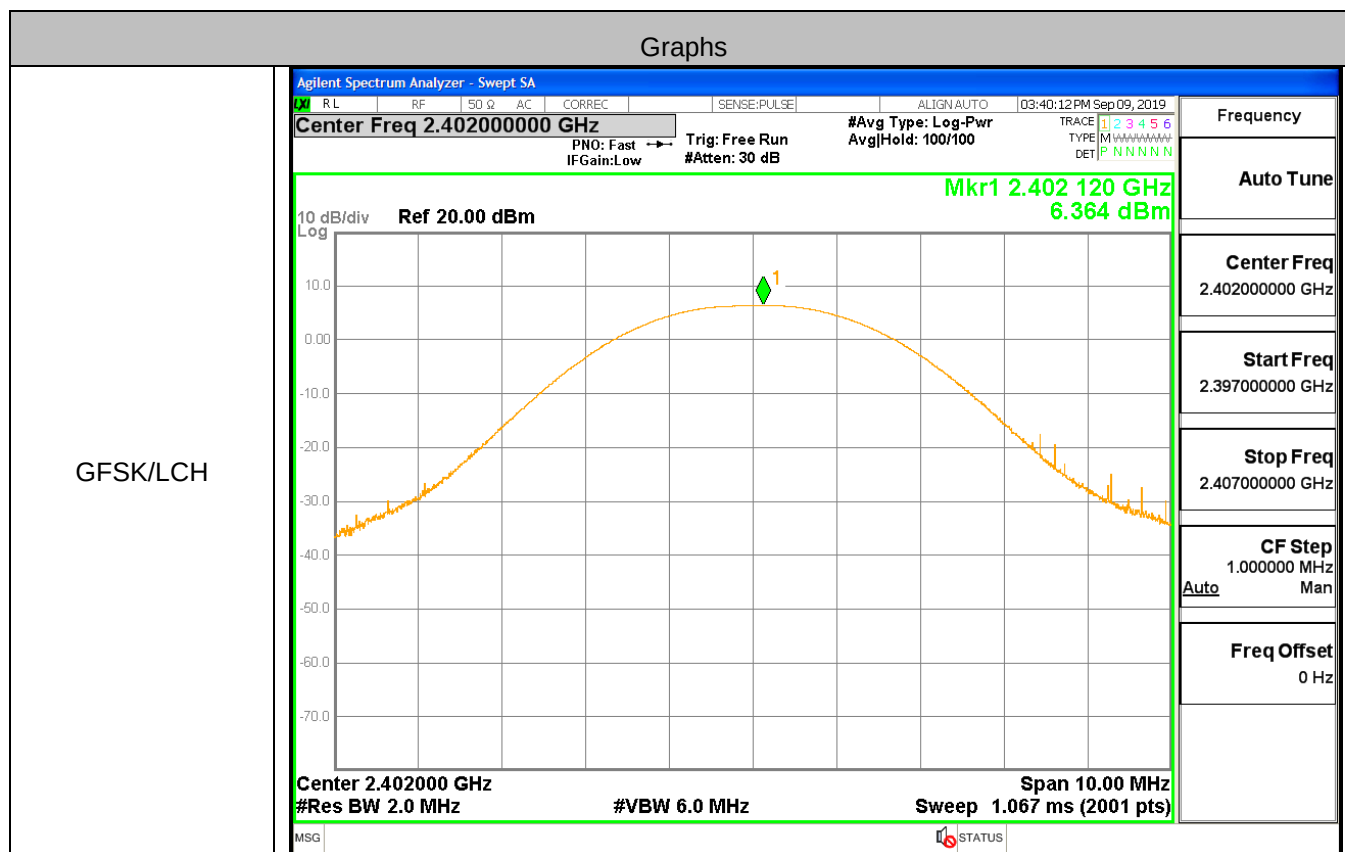


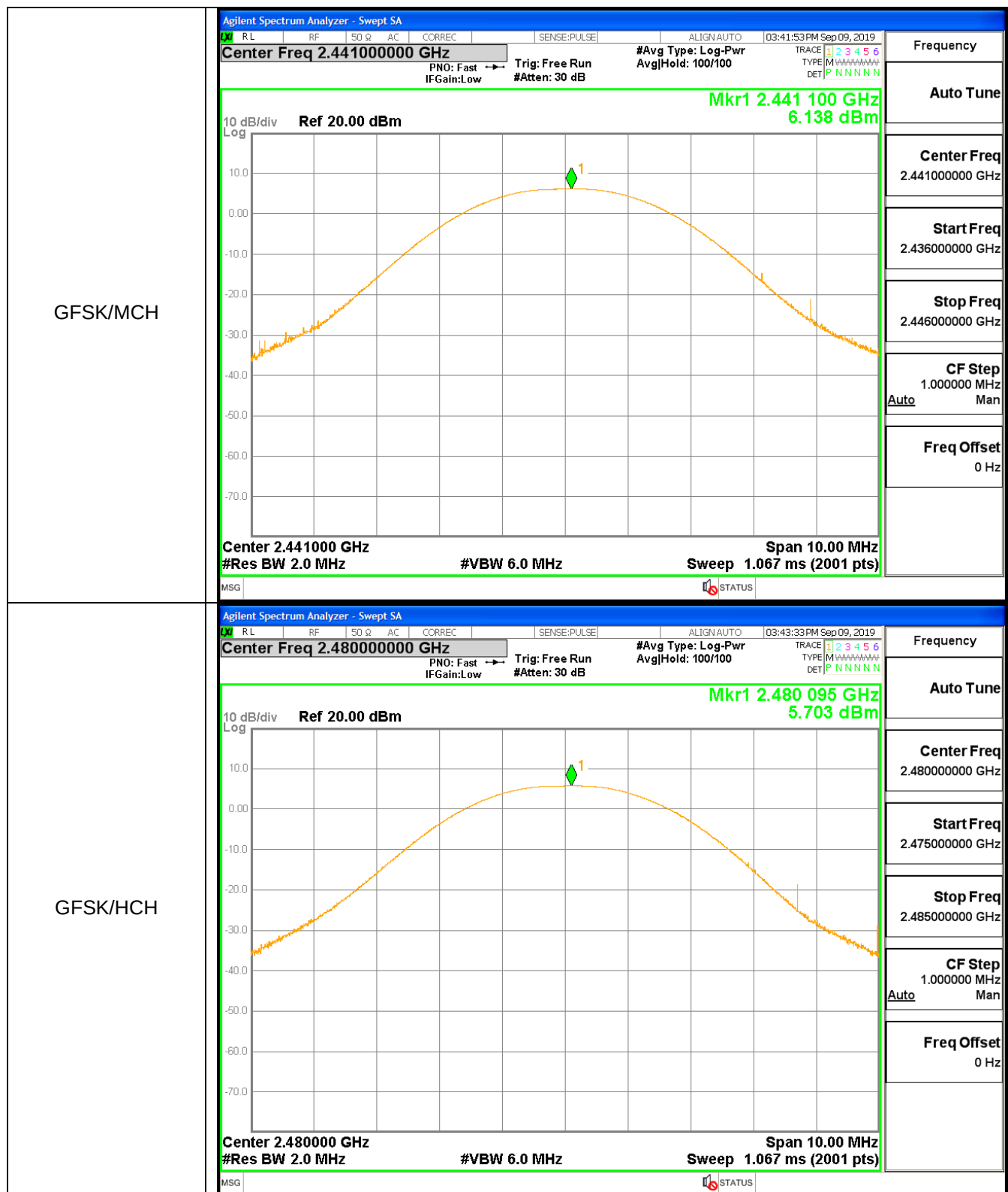


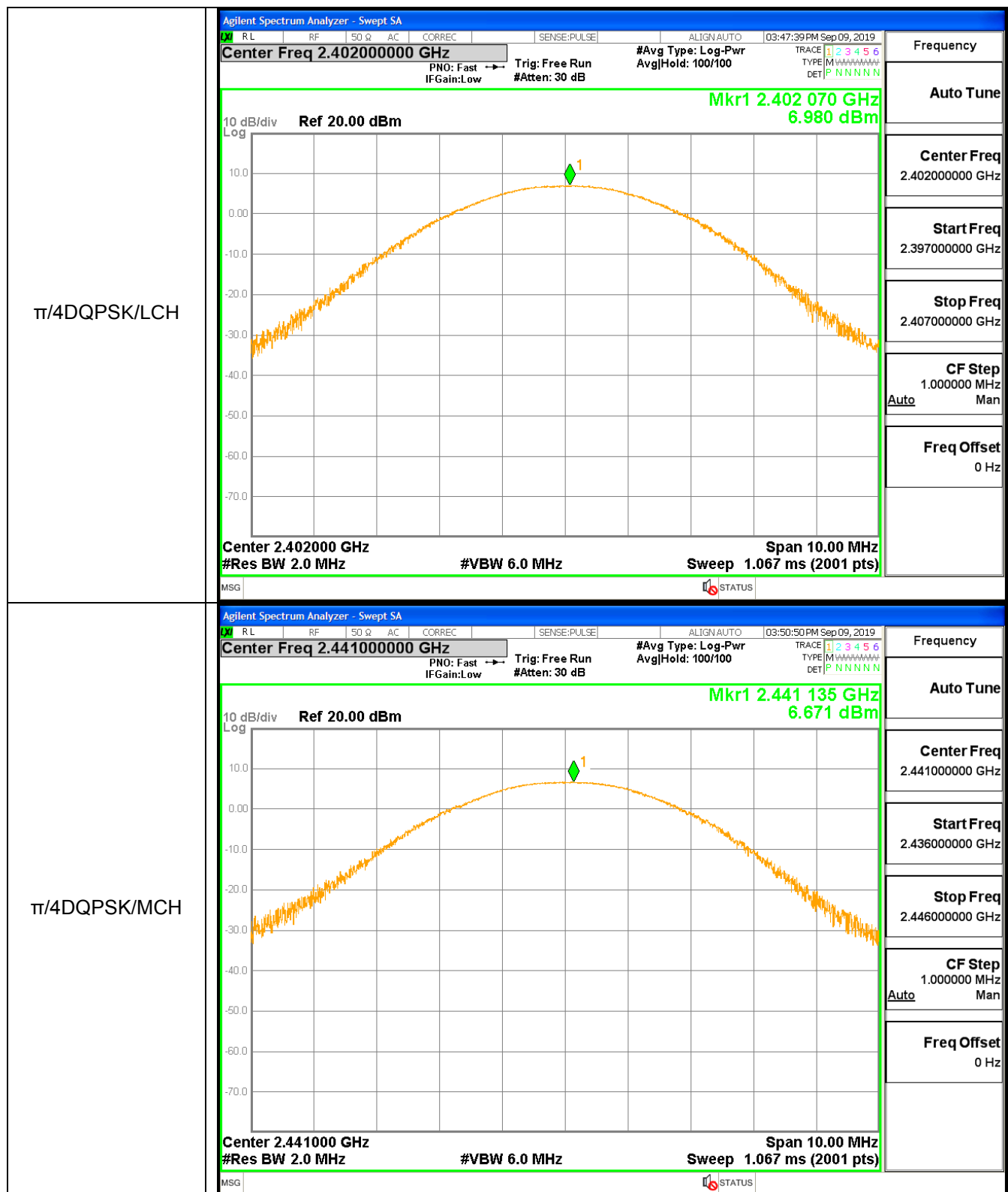
A.5 Conducted Peak Output Power

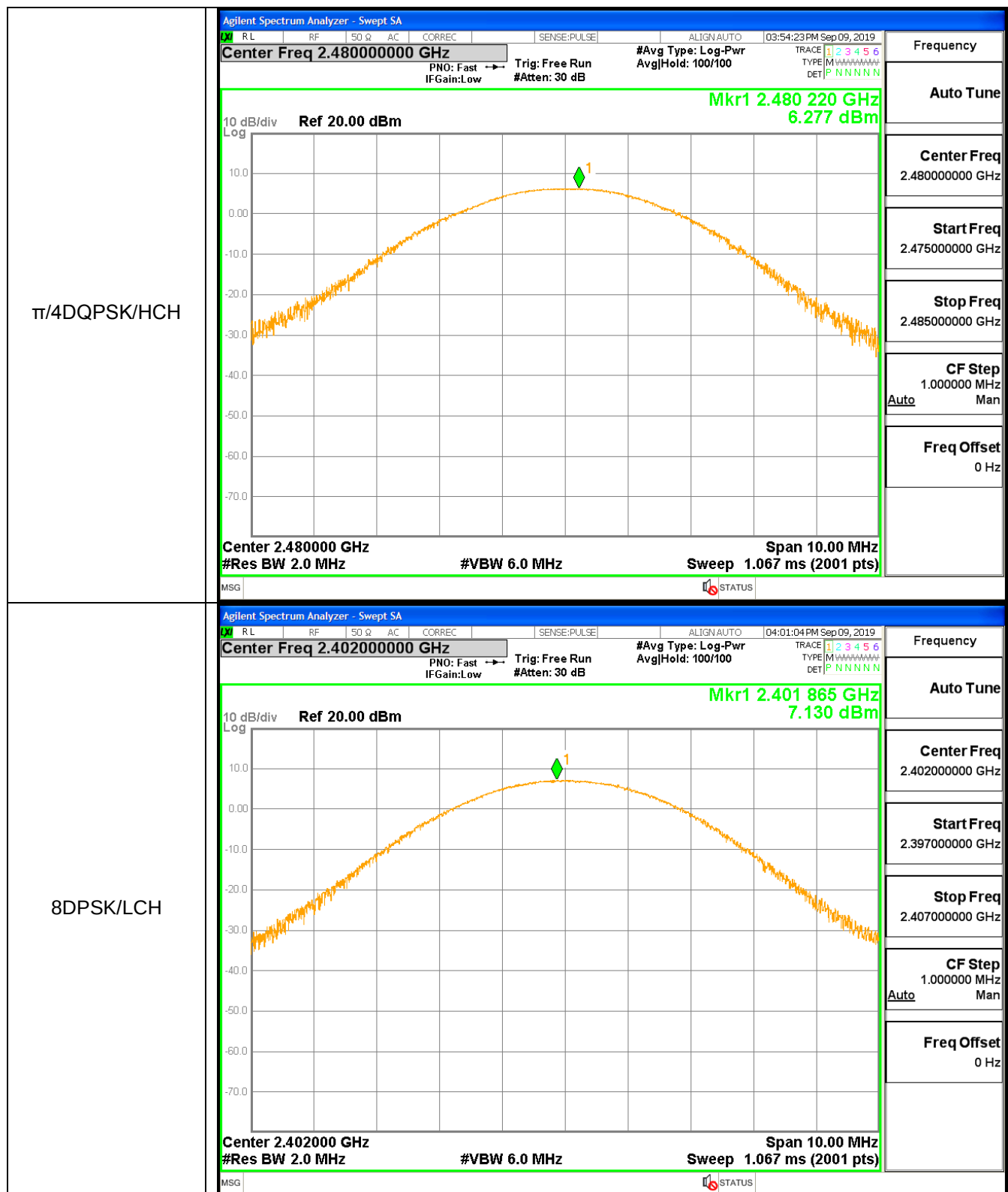
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	6.364	21	PASS
GFSK	MCH	6.138	21	PASS
GFSK	HCH	5.703	21	PASS
$\pi/4$ DQPSK	LCH	6.980	21	PASS
$\pi/4$ DQPSK	MCH	6.671	21	PASS
$\pi/4$ DQPSK	HCH	6.277	21	PASS
8DPSK	LCH	7.130	21	PASS
8DPSK	MCH	6.837	21	PASS
8DPSK	HCH	6.439	21	PASS

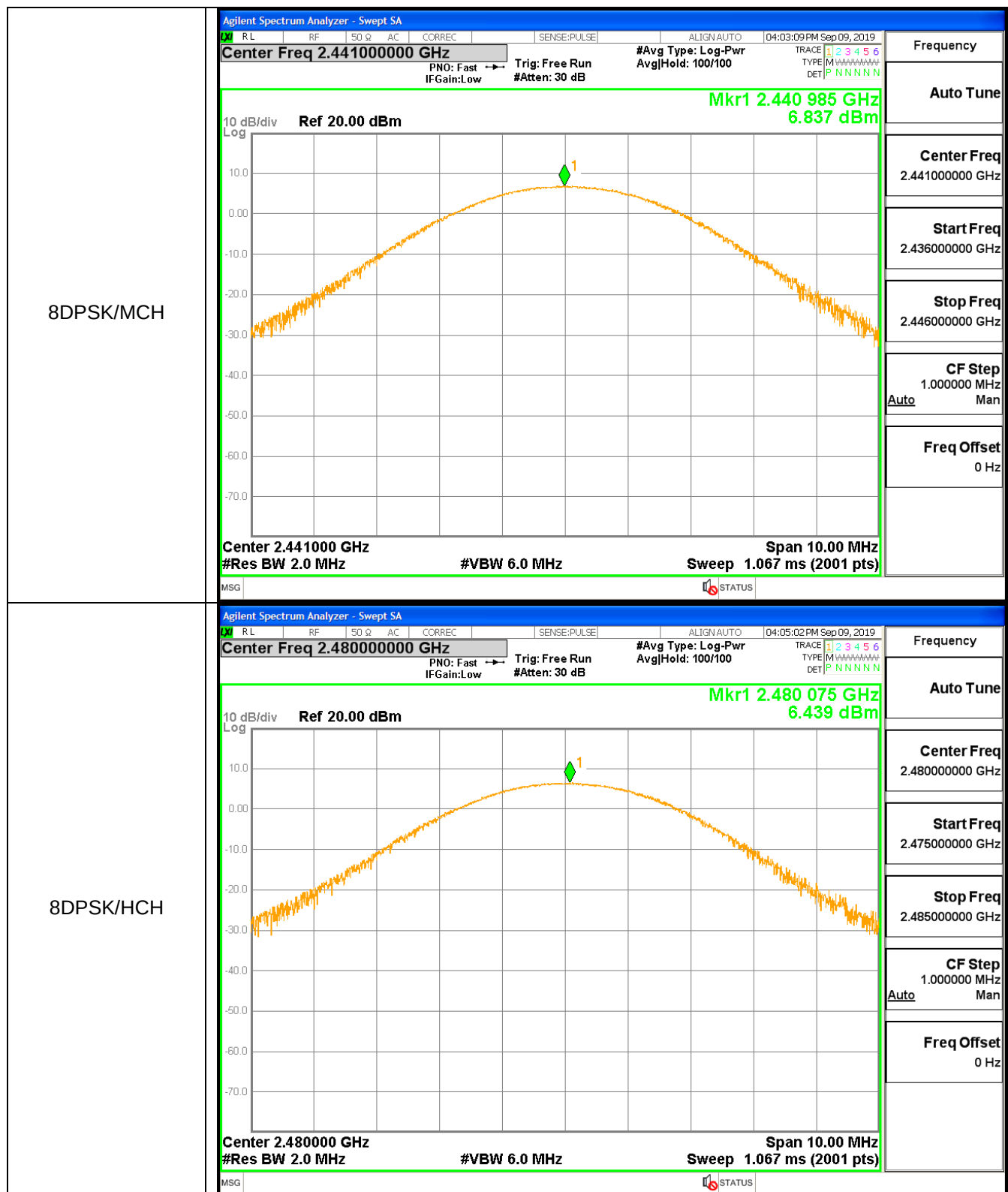
Test Graph











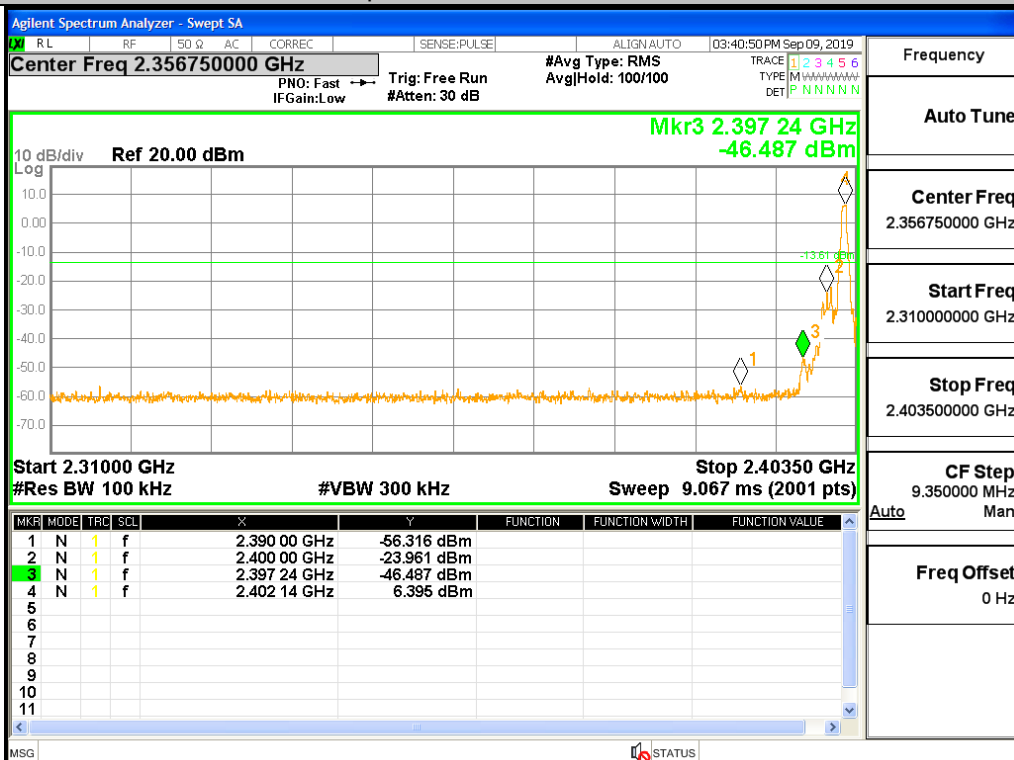
A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	6.395	-23.96	-13.605	Pass
1DH5	2480	2483.51	5.169	-41.784	-14.831	Pass
2DH5	2402	2400	6.336	-24.26	-13.664	Pass
2DH5	2480	2483.993	5.564	-40.762	-14.436	Pass
3DH5	2402	2400	6.207	-27.5	-13.793	Pass
3DH5	2480	2483.5	5.701	-38.83	-14.299	Pass
1DH5-Hopping	2402	2400	6.381	-24.038	-13.619	Pass
1DH5-Hopping	2480	2483.5	5.994	-41.677	-14.006	Pass
2DH5-Hopping	2402	2400	6.300	-24.03	-13.700	Pass
2DH5-Hopping	2480	2483.5	5.784	-40.12	-14.216	Pass
3DH5-Hopping	2402	2400	6.323	-28.4	-13.677	Pass
3DH5-Hopping	2480	2483.5	5.943	-42.01	-14.057	Pass

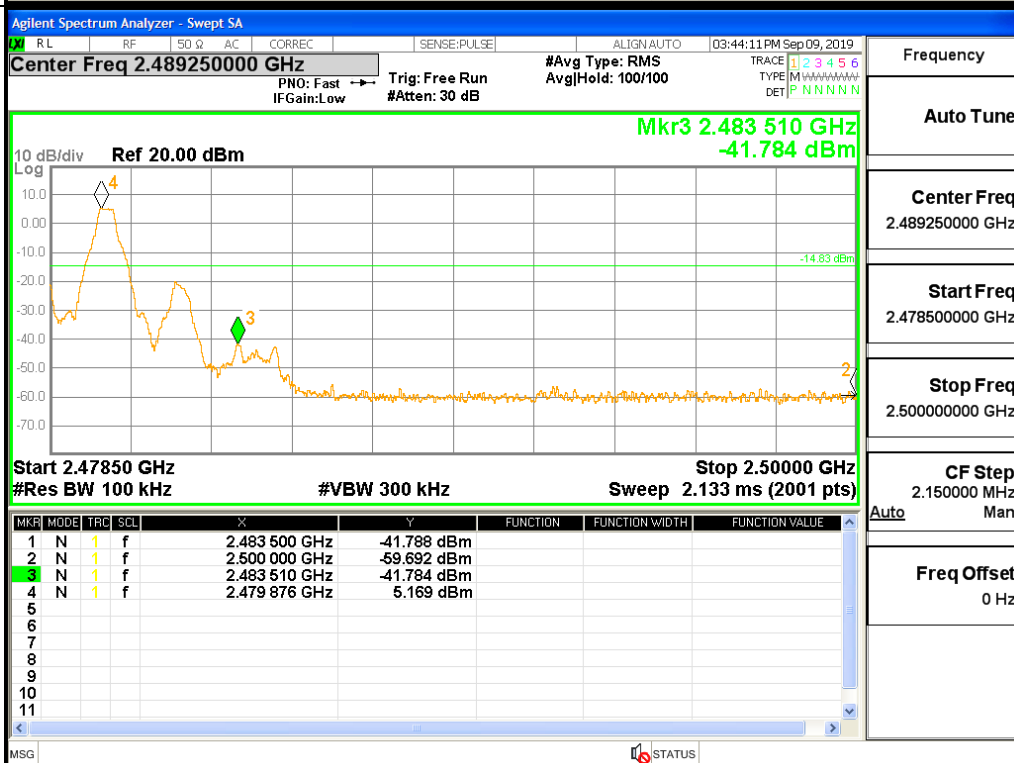
Test Graph

Graphs

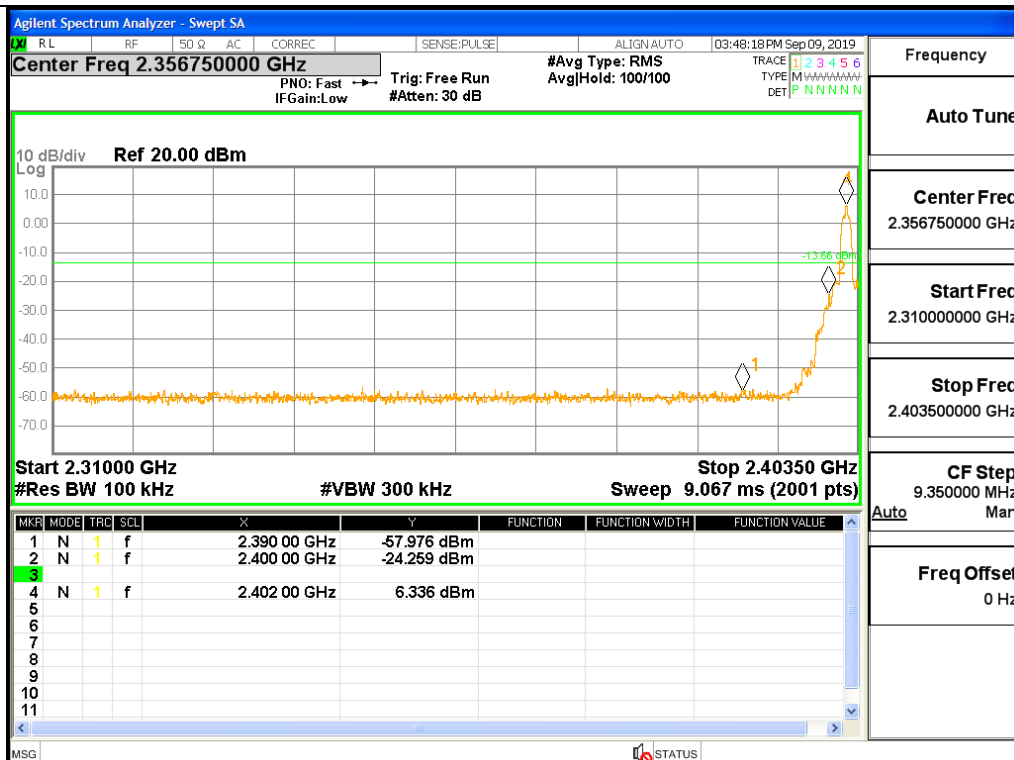
GFSK/LCH/No Hop



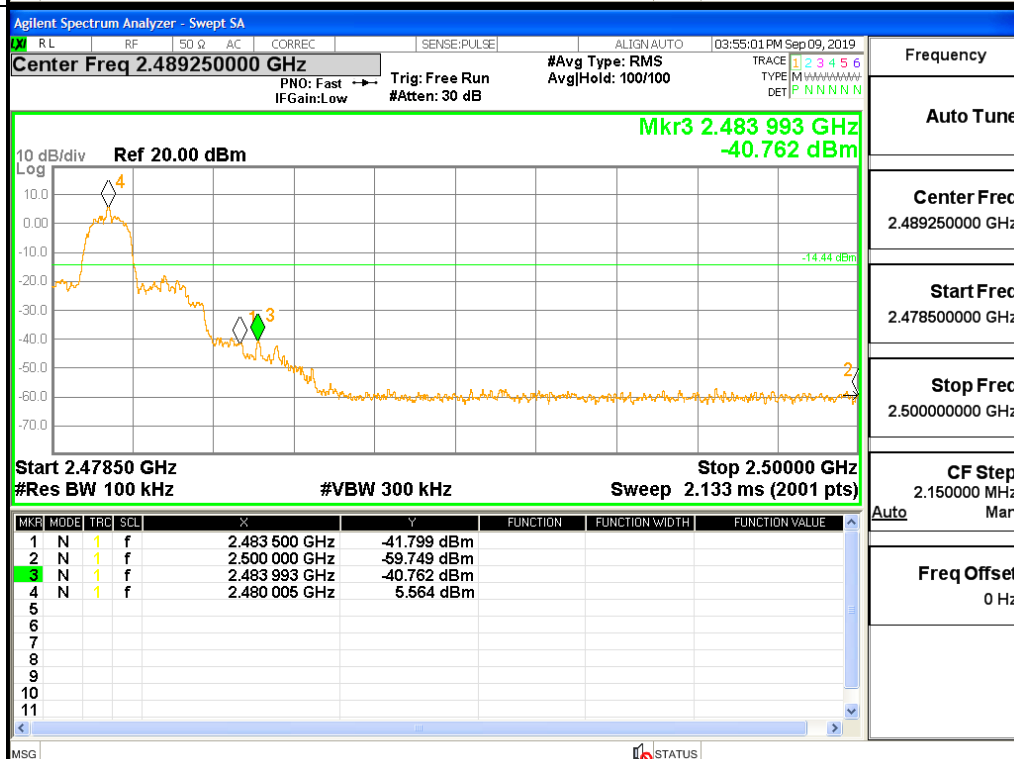
GFSK/HCH/No Hop



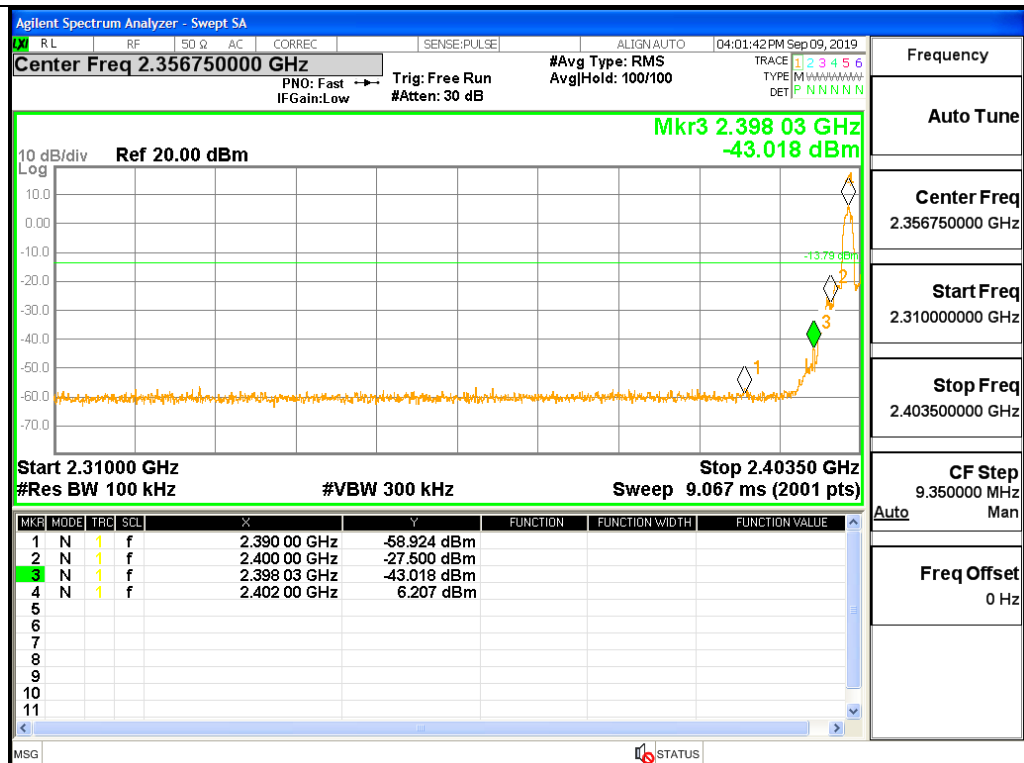
π /4DQPSK/LCH/No
Hop



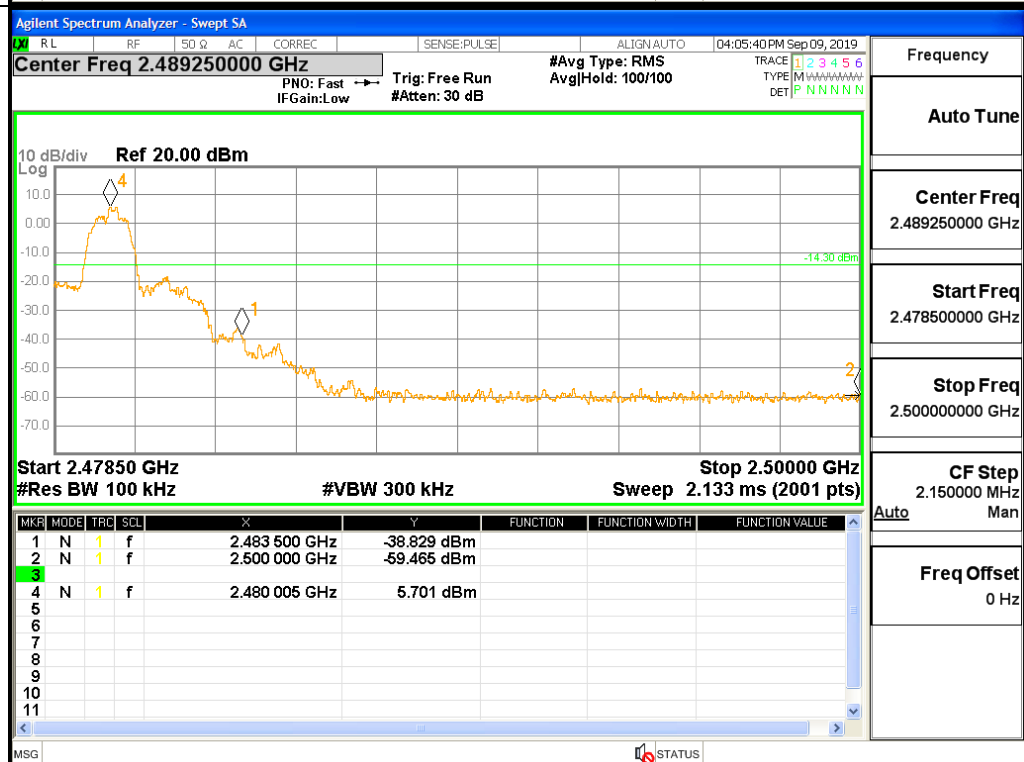
π /4DQPSK/HCH/No
Hop



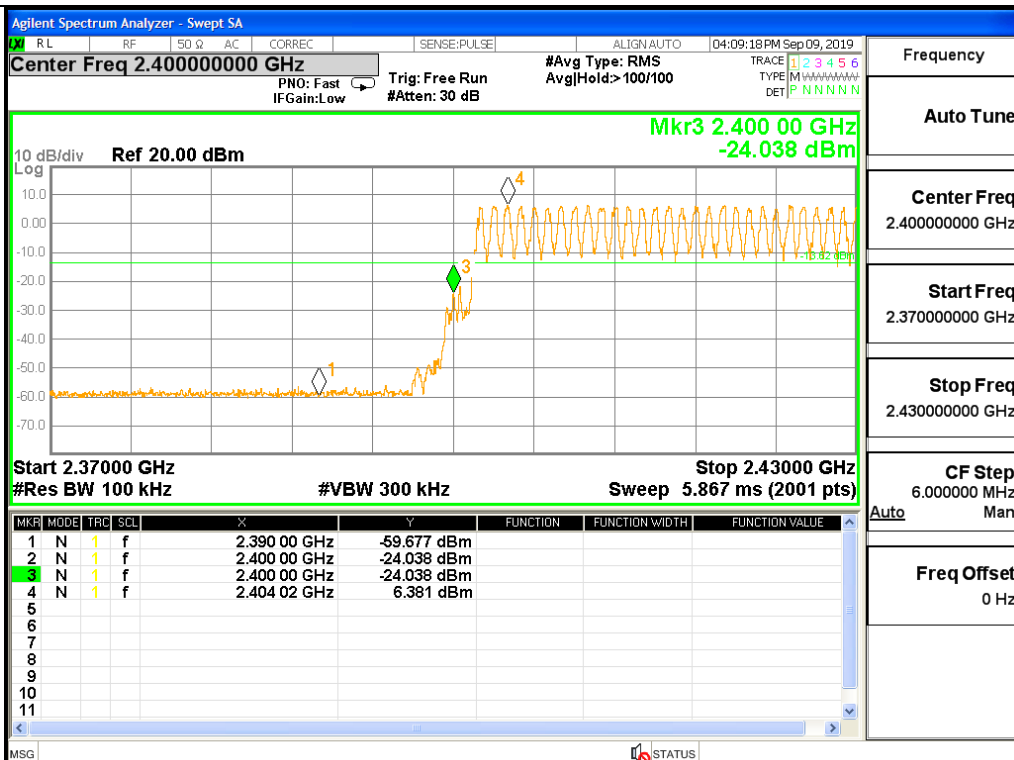
8DPSK/LCH/No Hop



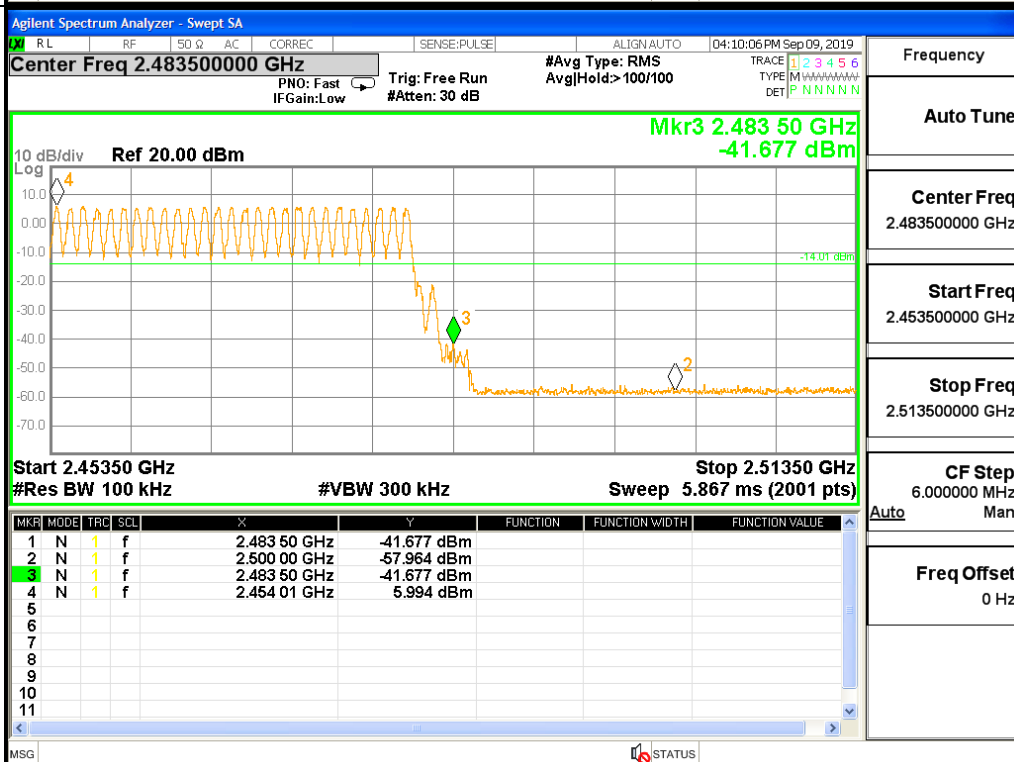
8DPSK/HCH/No Hop



GFSK/LCH/Hop

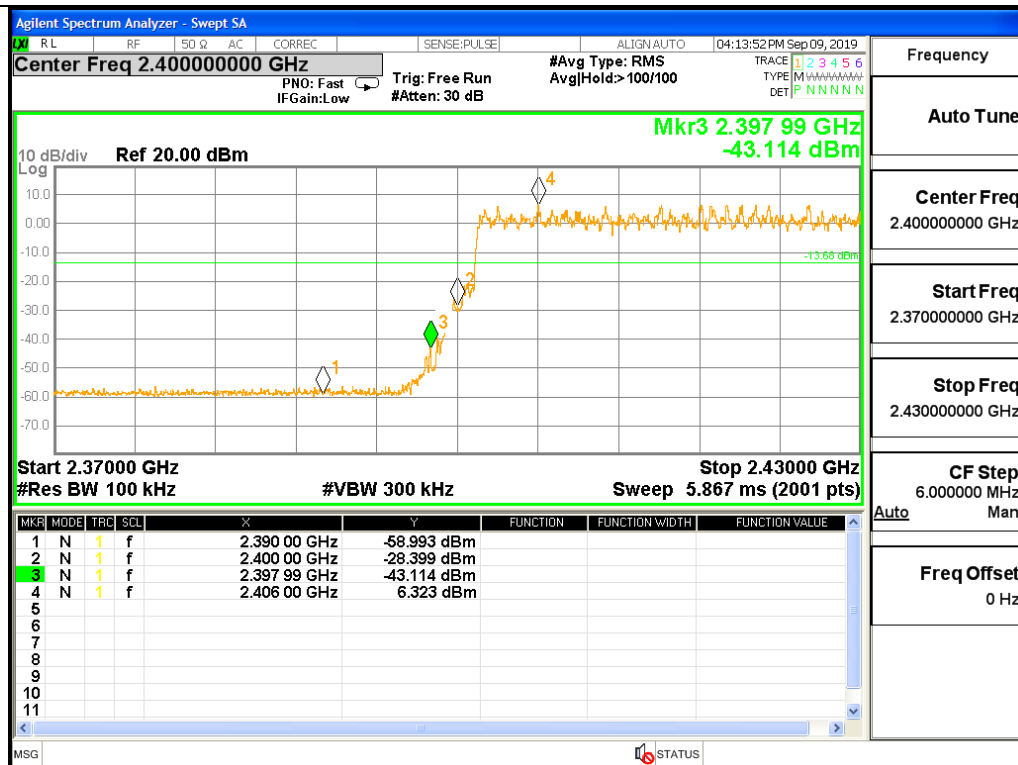


GFSK/HCH/Hop



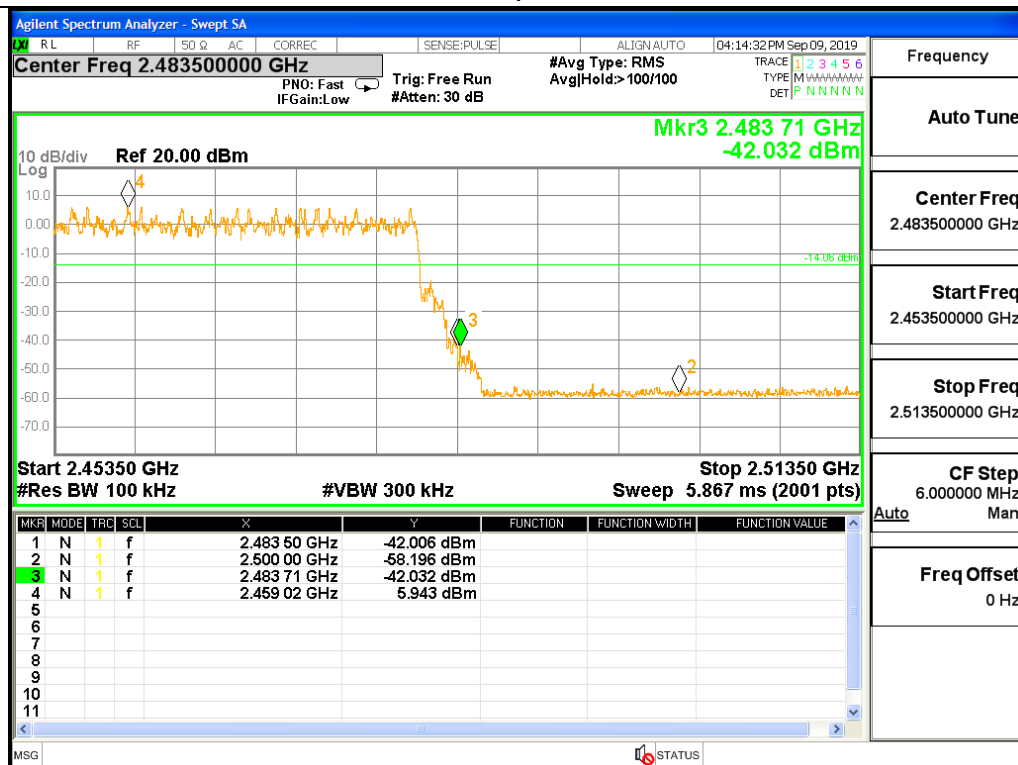


8DPSK/LCH/Hop

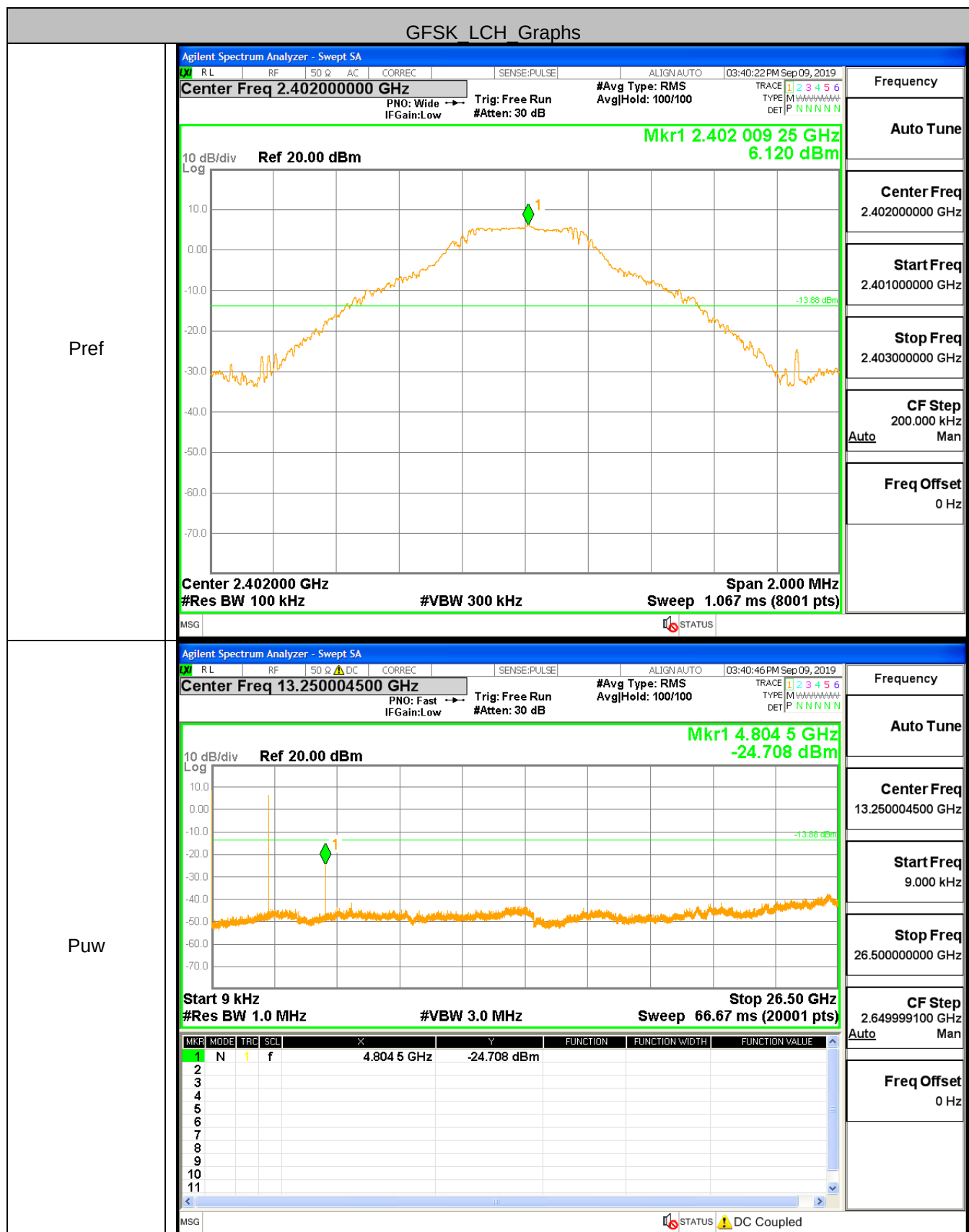


V

8DPSK/HCH/Hop

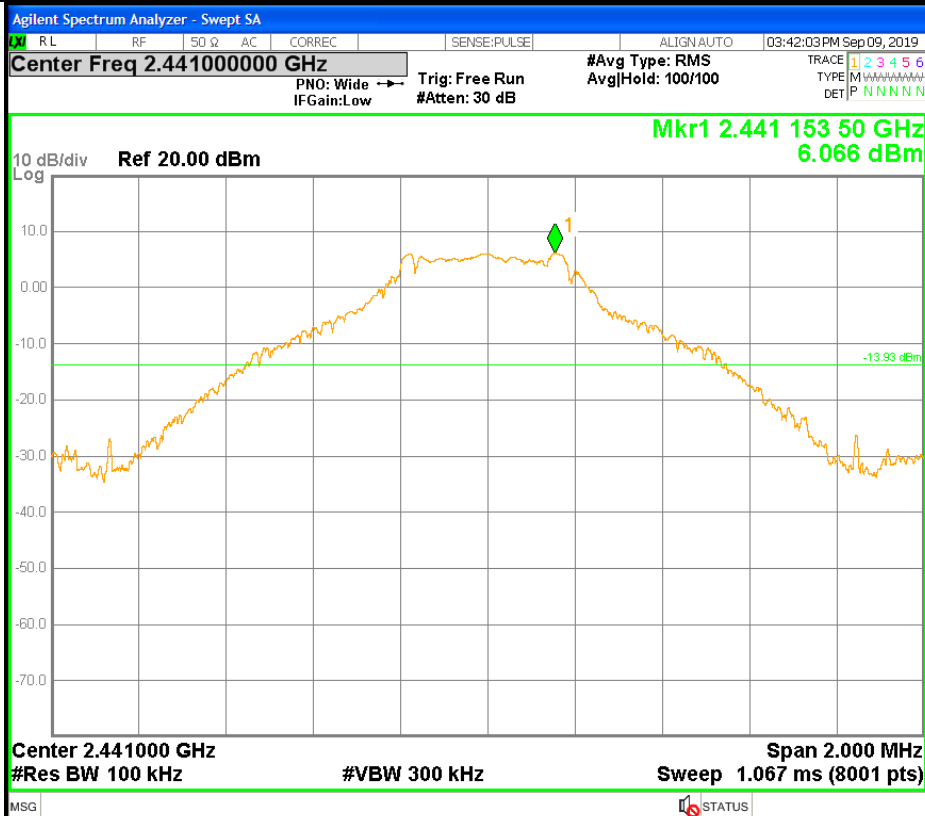


A.7 RF Conducted Spurious Emissions Test Graph



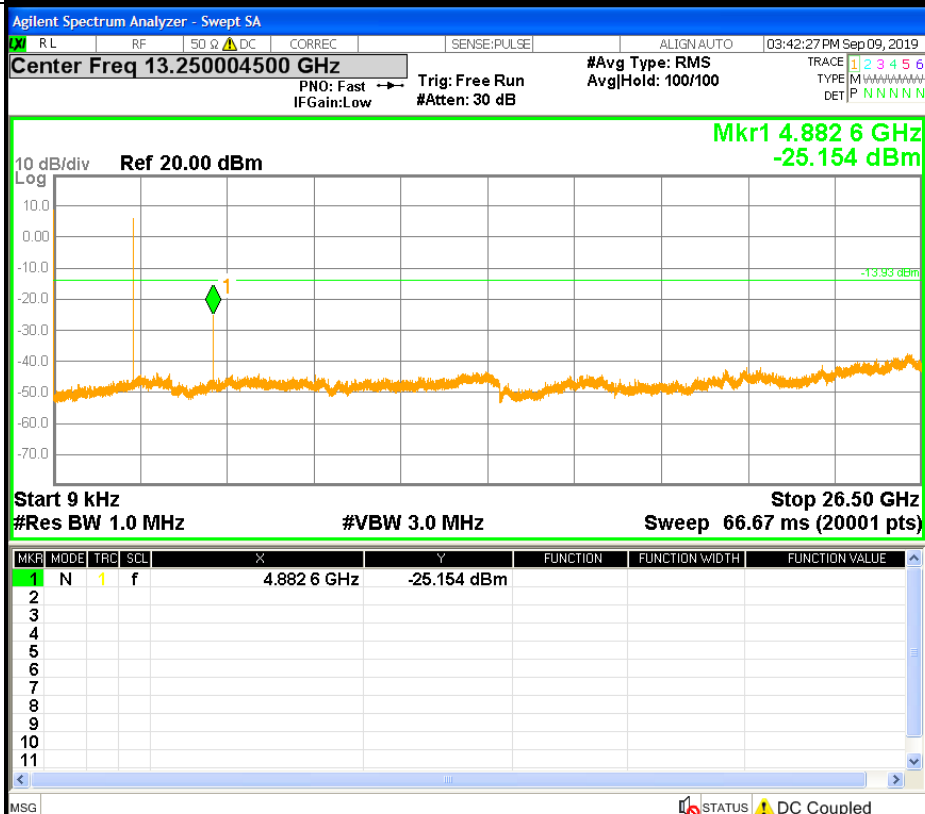
GFSK MCH Graphs

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

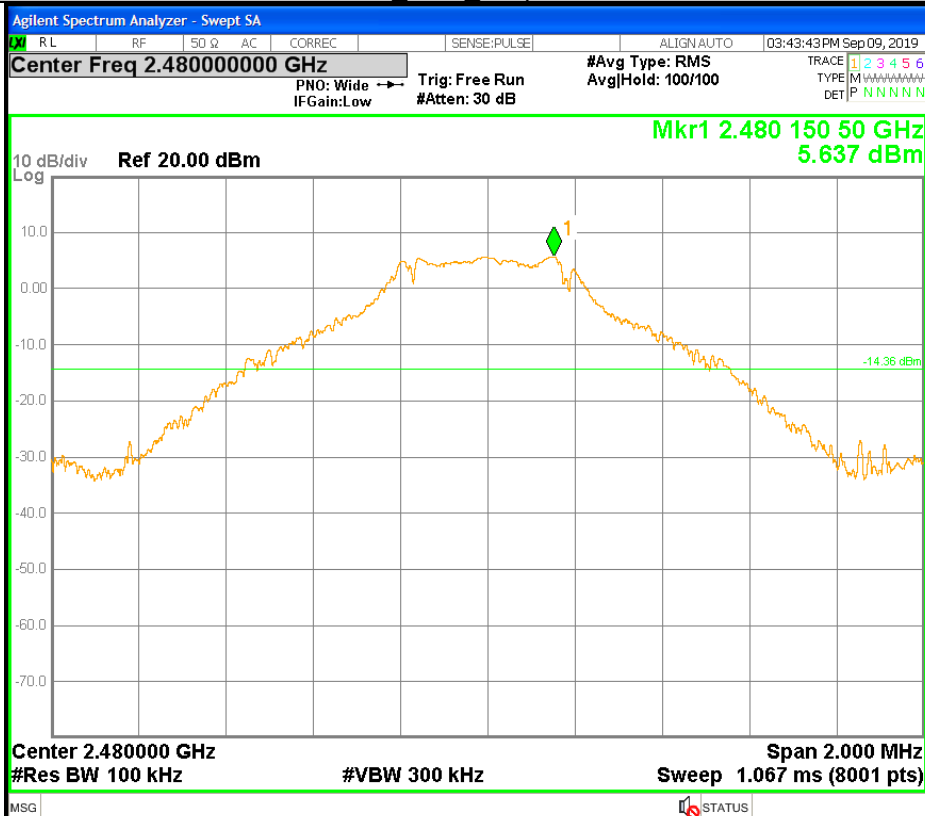
Puw



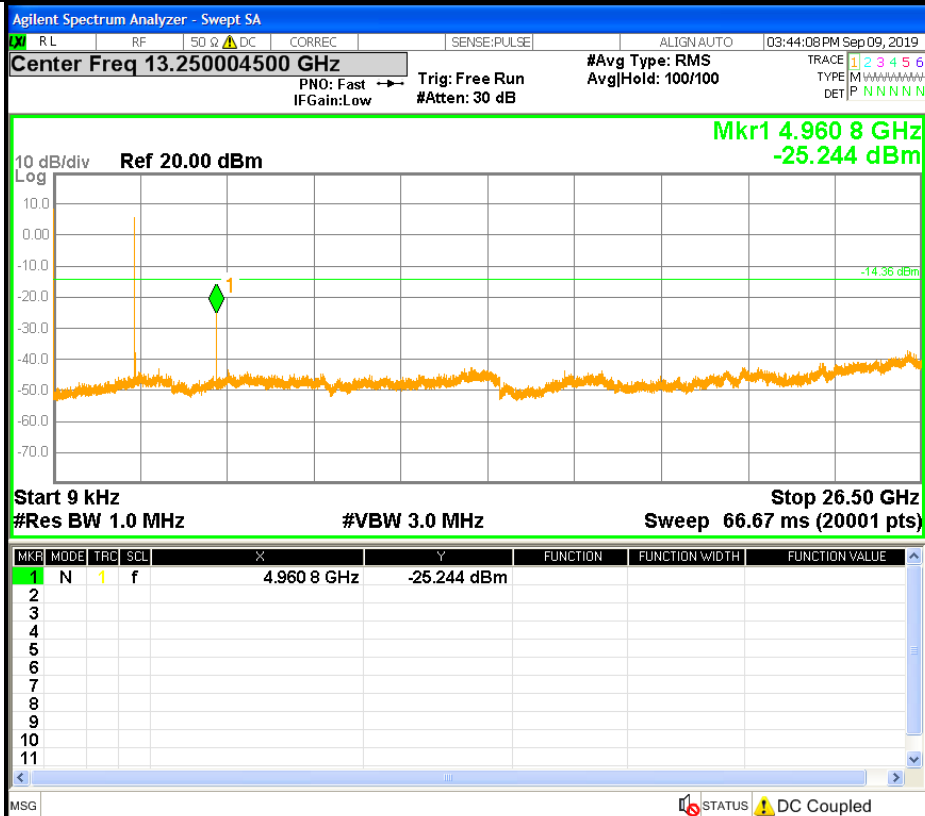
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

GFSK HCH Graphs

Pref

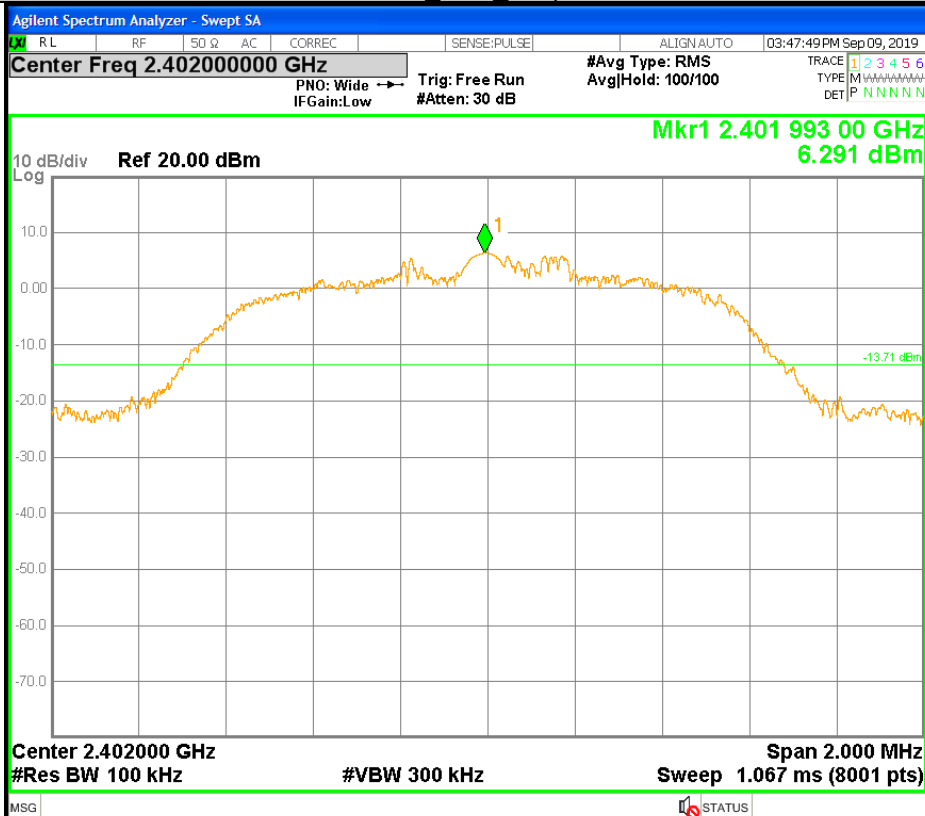


Puw



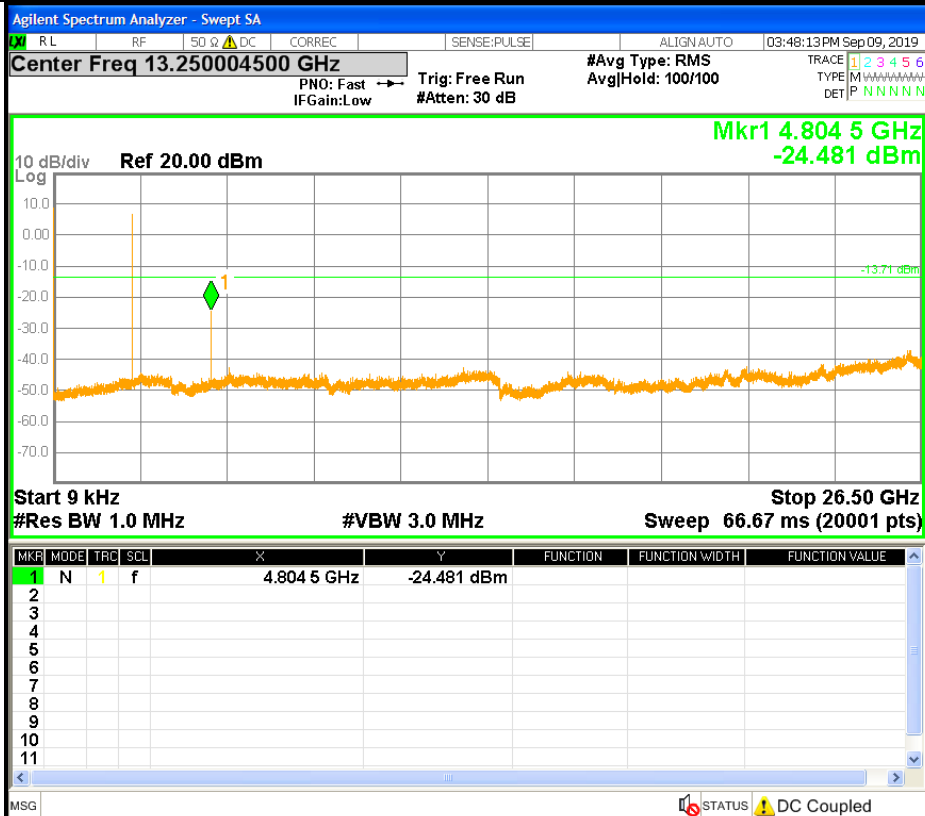
$\pi/4$ DQPSK LCH Graphs

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

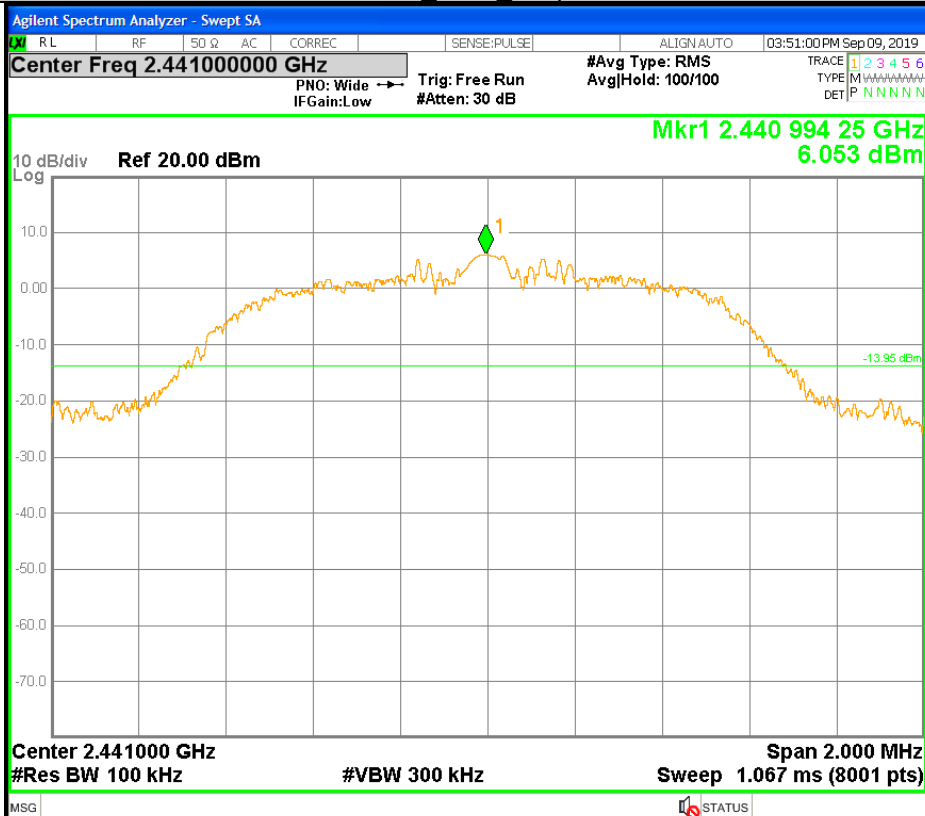
Puw



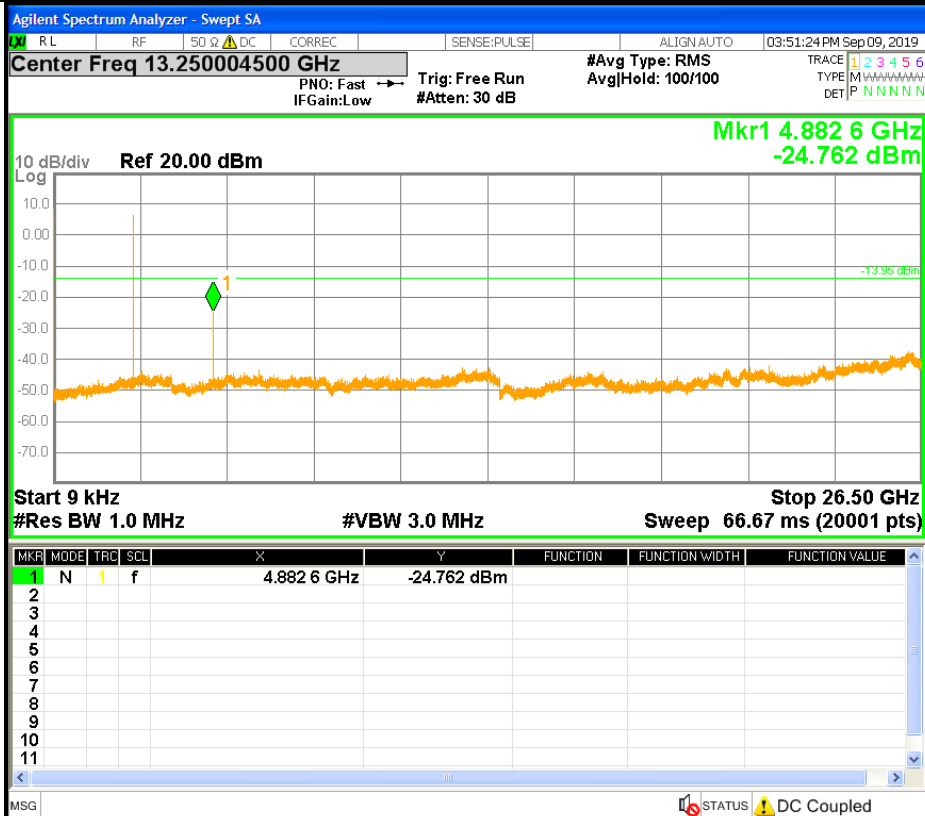
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

$\pi/4$ DQPSK MCH Graphs

Pref

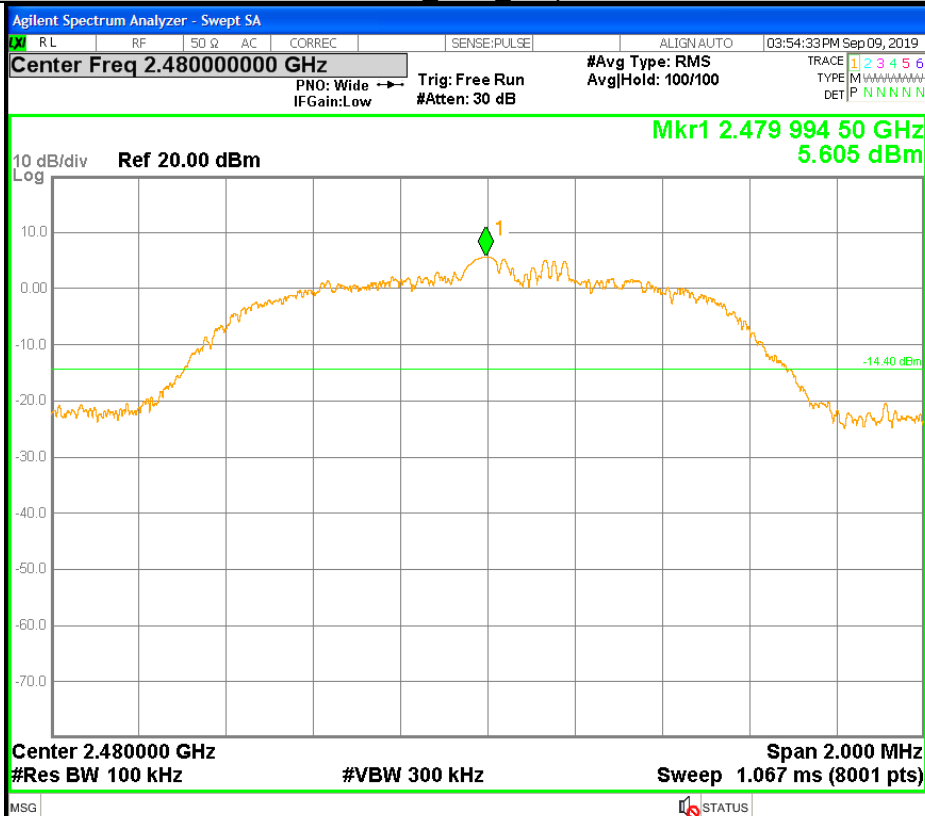


Puw



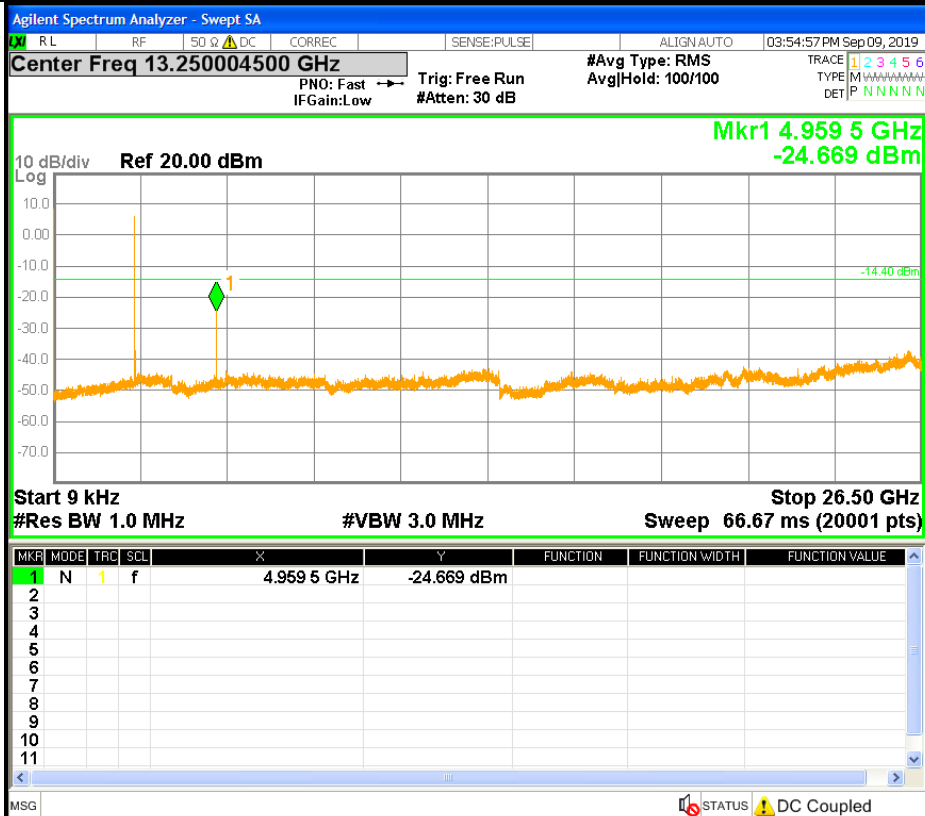
$\pi/4$ DQPSK HCH Graphs

Pref



Frequency
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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

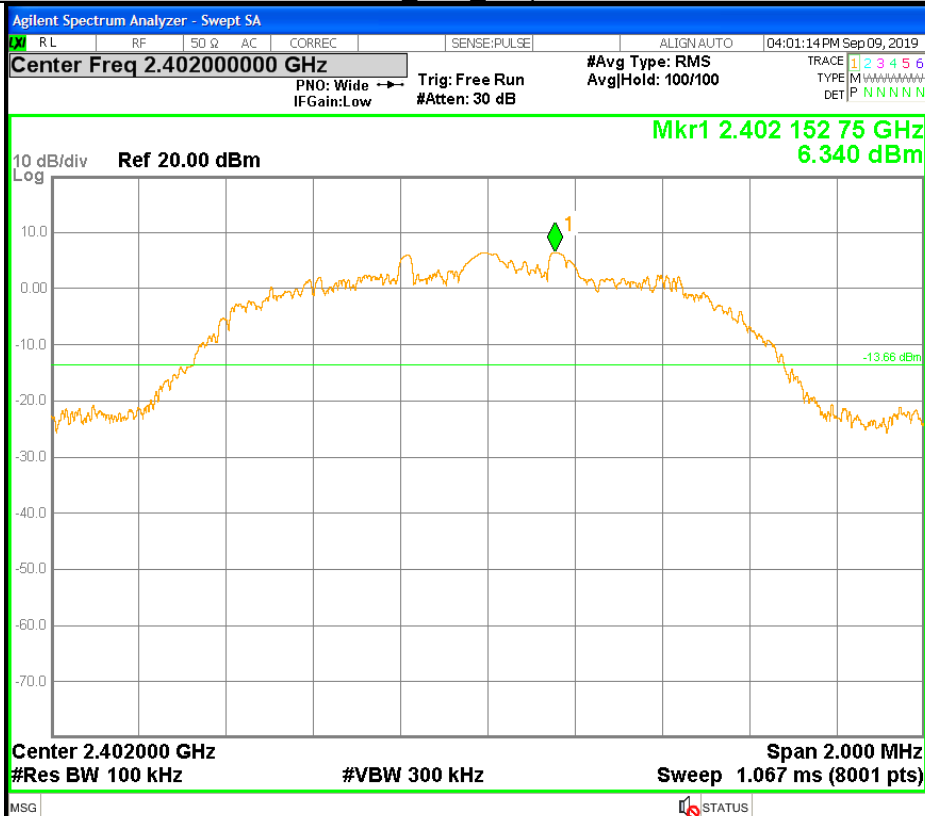
Puw



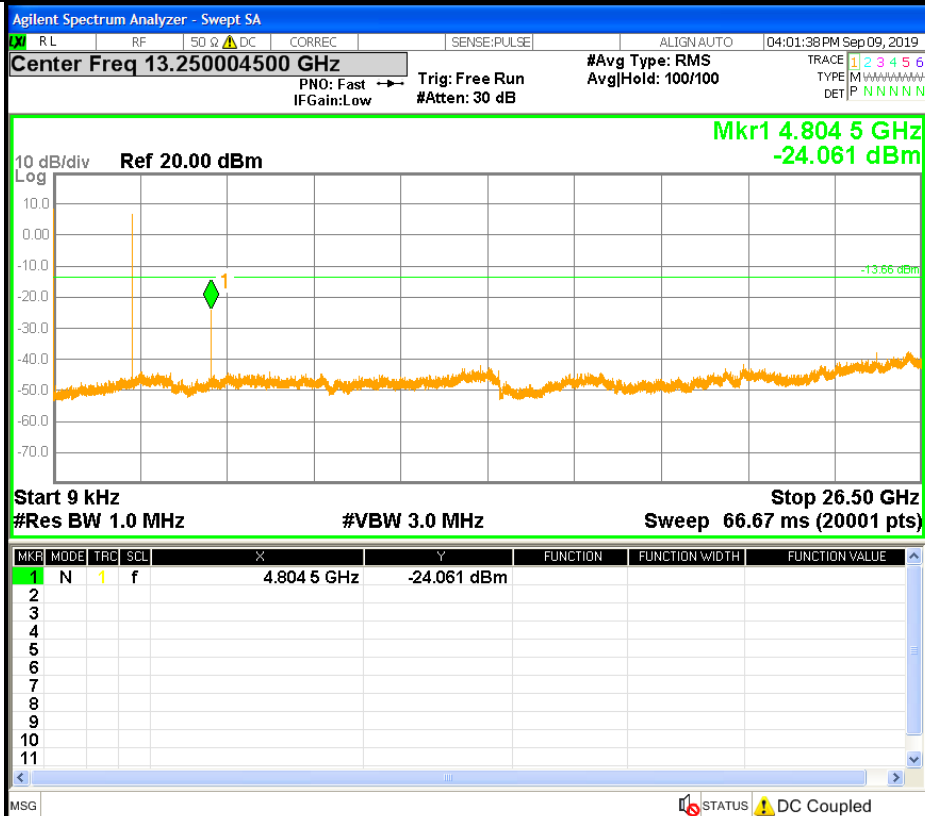
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

8DPSK LCH Graphs

Pref

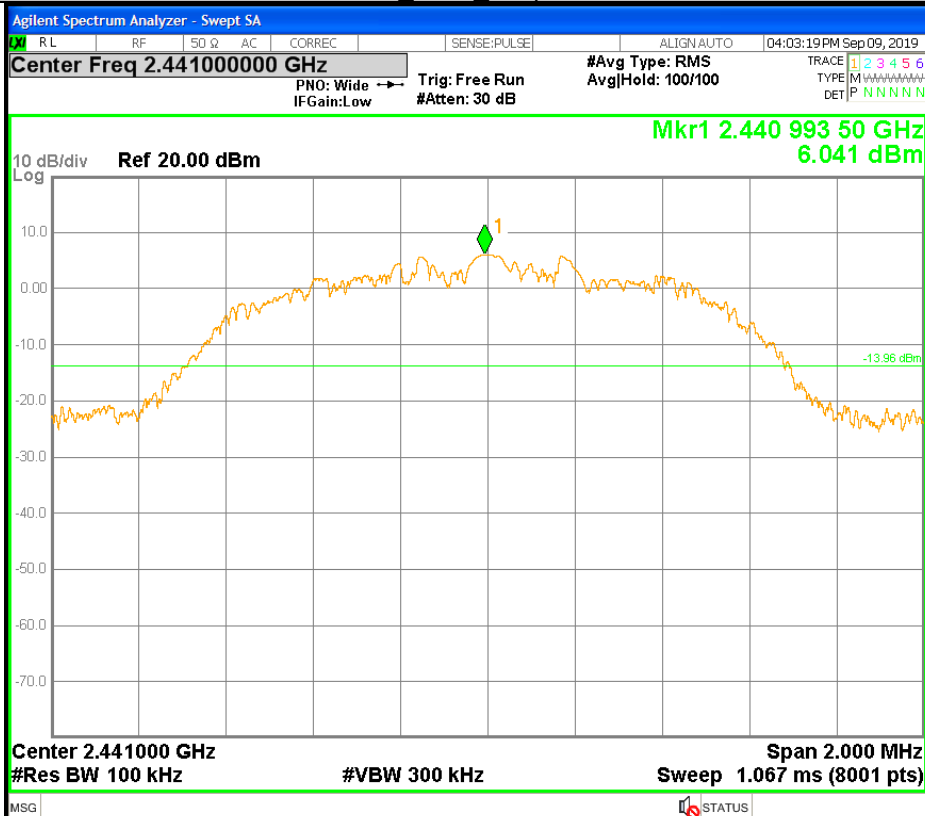


Puw



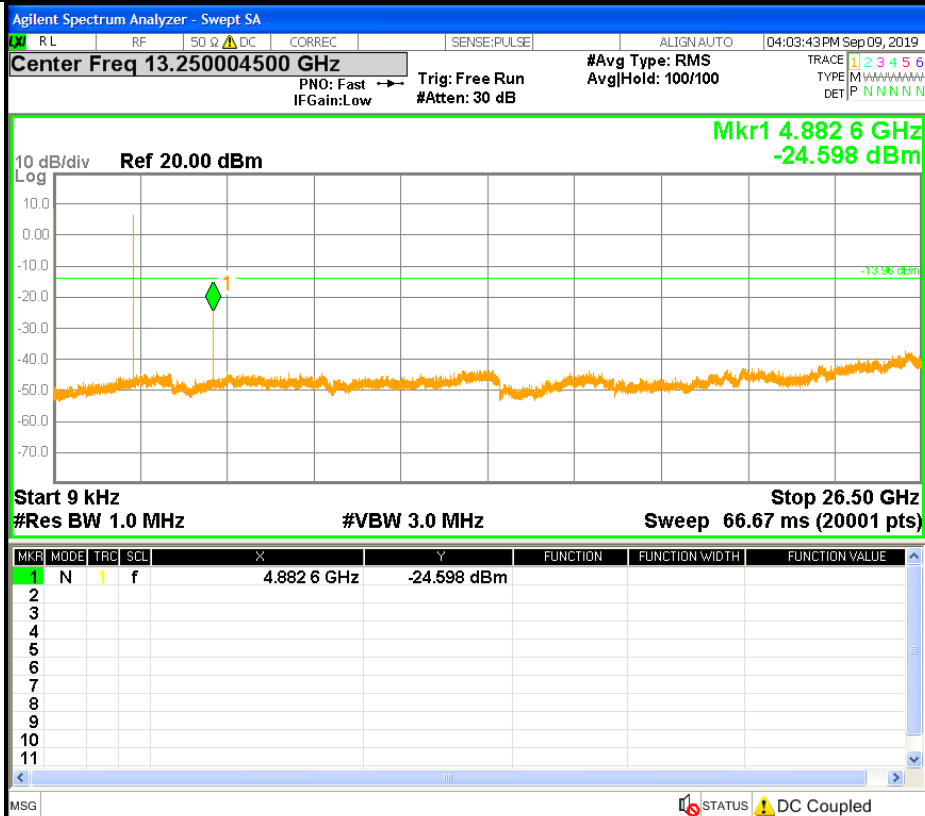
8DPSK MCH Graphs

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

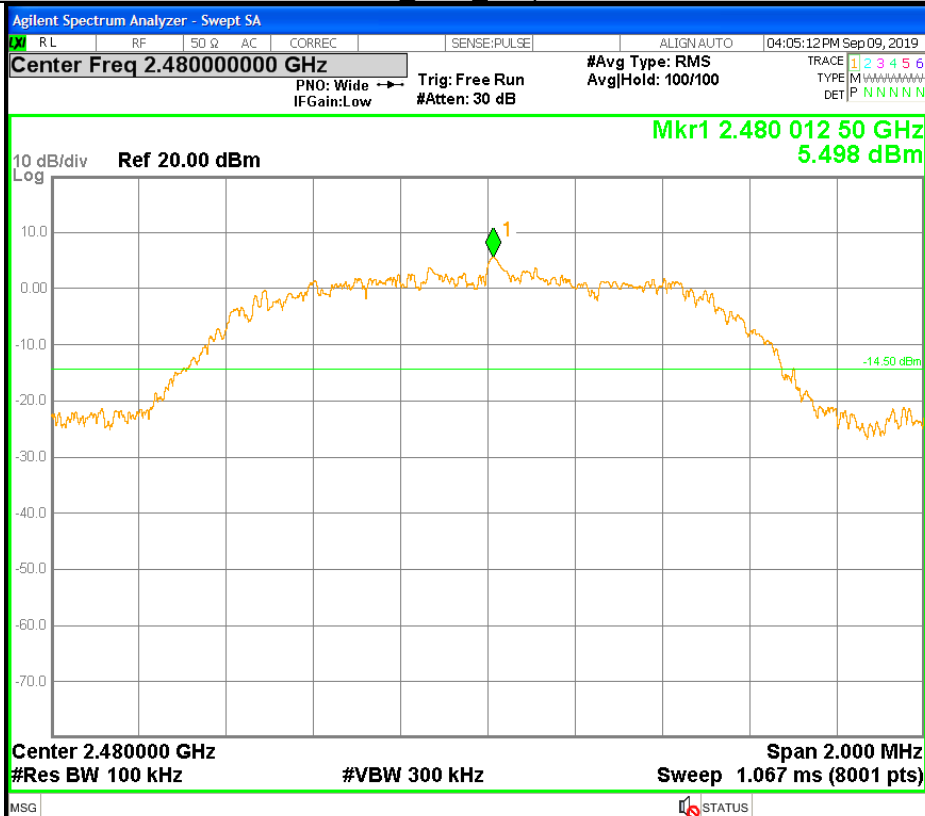
Puw



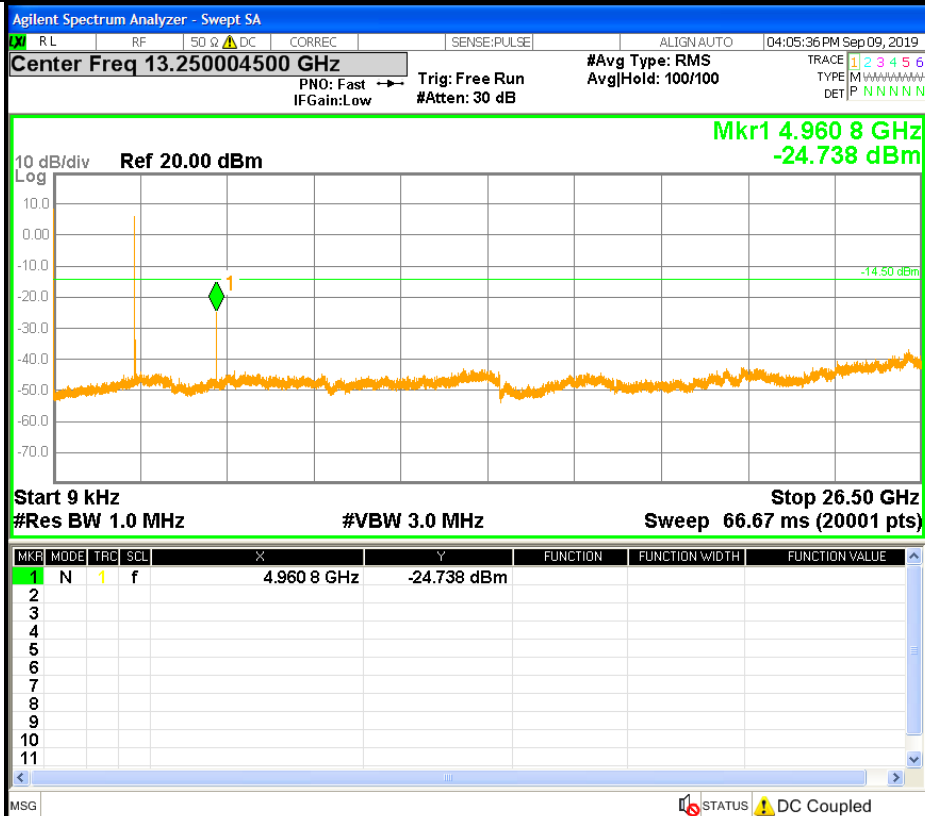
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

8DPSK HCH Graphs

Pref



Puw

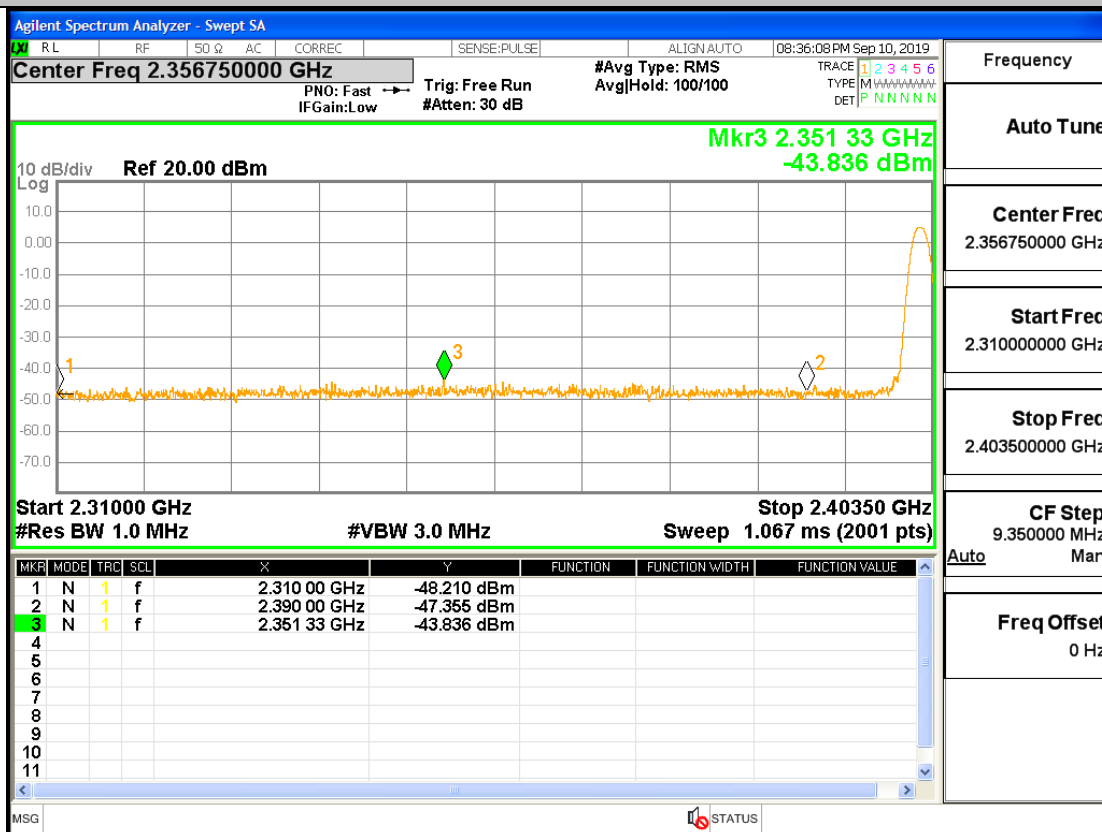


A.8 Restrict-band band-edge measurements

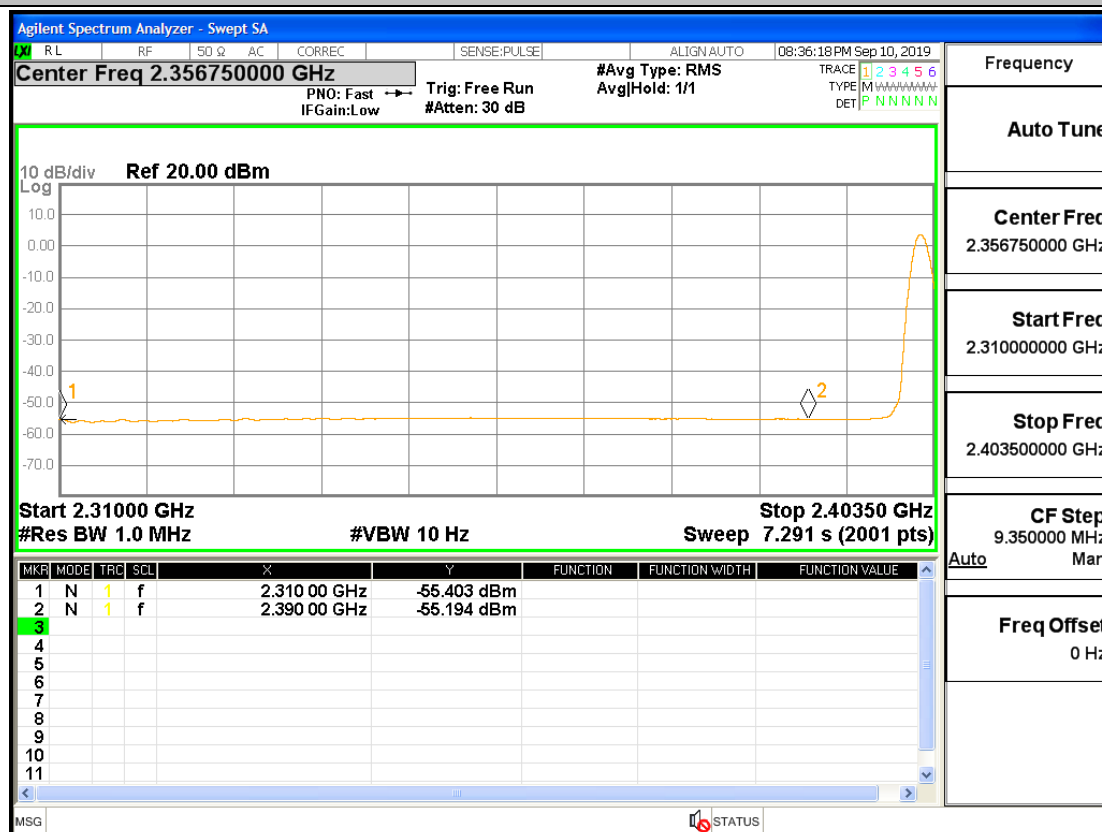
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2351.33	2.00	0.00	-43.84	53.36	74	Pass
1DH5	2480	2483.50	2.00	0.00	-44.73	52.47	74	Pass
2DH5	2402	2380.92	2.00	0.00	-44.41	52.79	74	Pass
2DH5	2480	2483.50	2.00	0.00	-47.04	50.16	74	Pass
3DH5	2402	2390.00	2.00	0.00	-47.62	49.58	74	Pass
3DH5	2480	2483.50	2.00	0.00	-46.84	50.36	74	Pass

Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2351.33	2.00	0.00	-55.19	42.01	54	Pass
1DH5	2480	2483.50	2.00	0.00	-52.78	44.42	54	Pass
2DH5	2402	2380.92	2.00	0.00	-55.60	41.60	54	Pass
2DH5	2480	2483.50	2.00	0.00	-52.72	44.48	54	Pass
3DH5	2402	2390.00	2.00	0.00	-55.58	41.62	54	Pass
3DH5	2480	2483.50	2.00	0.00	-52.72	44.48	54	Pass

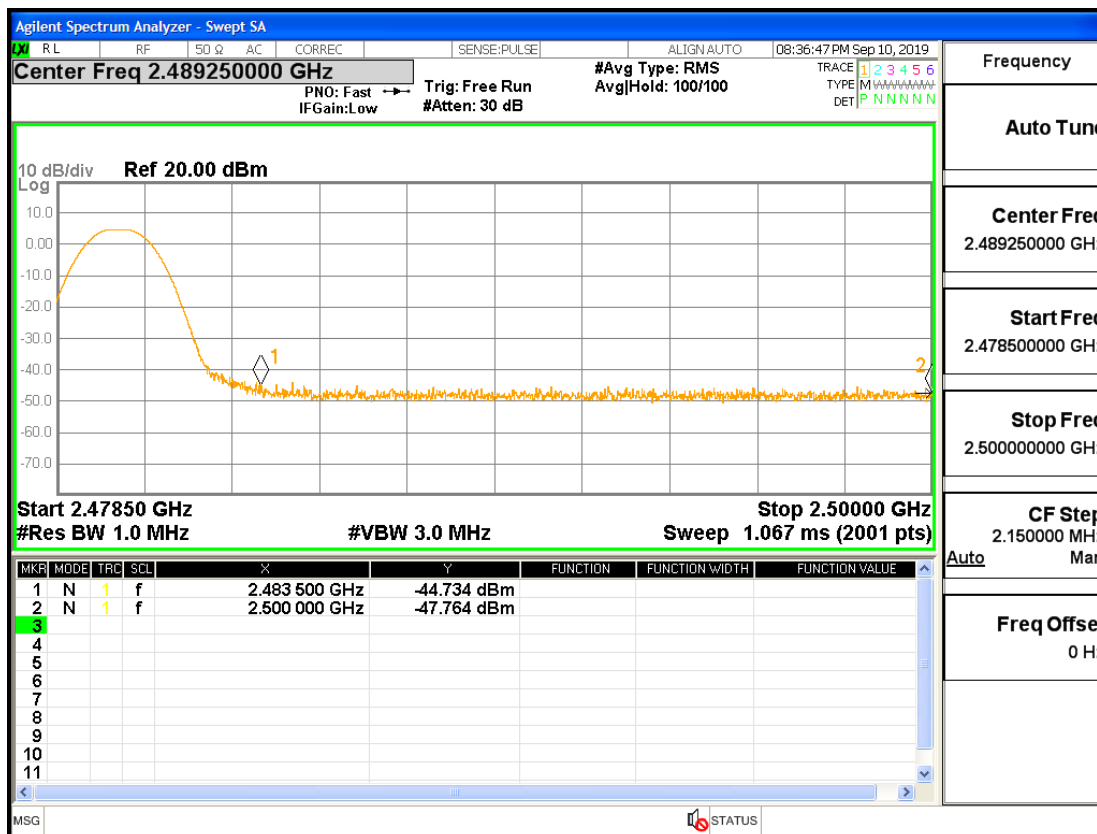
Restrict-band band-edge measurements_2402_PEAK_DH5



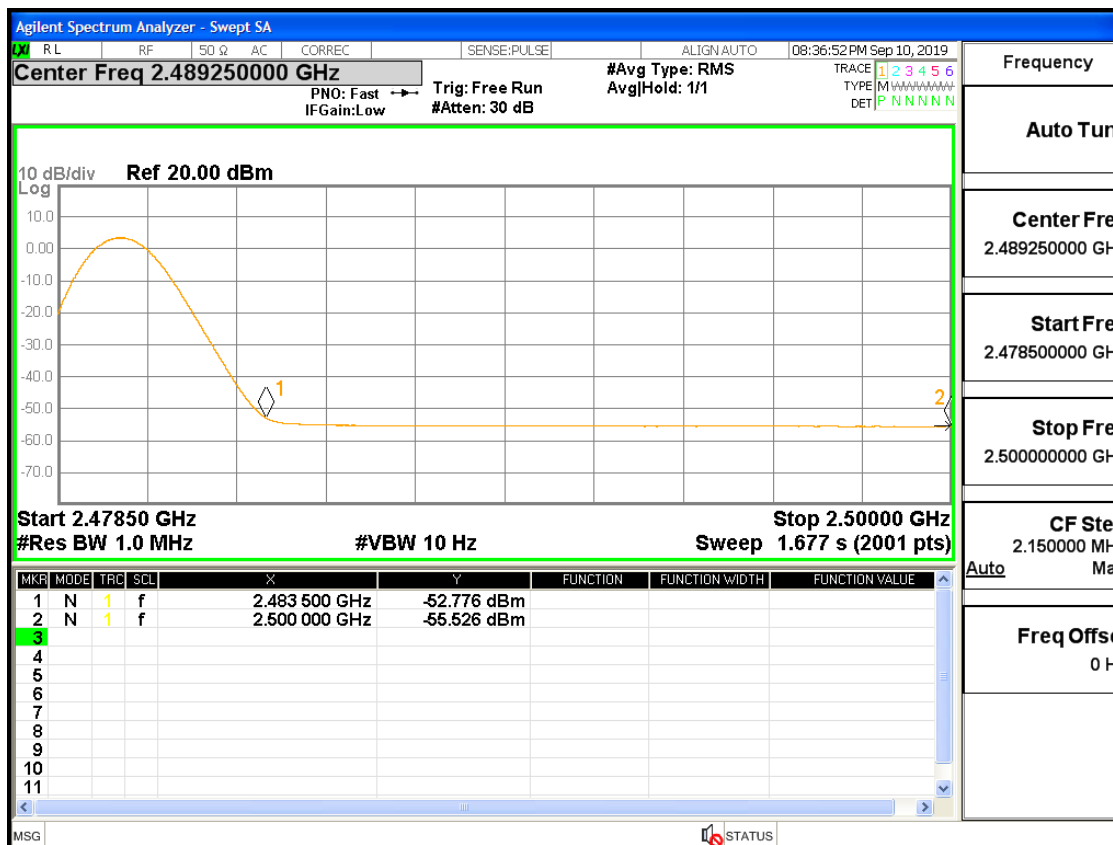
Restrict-band band-edge measurements_2402_AV_DH5



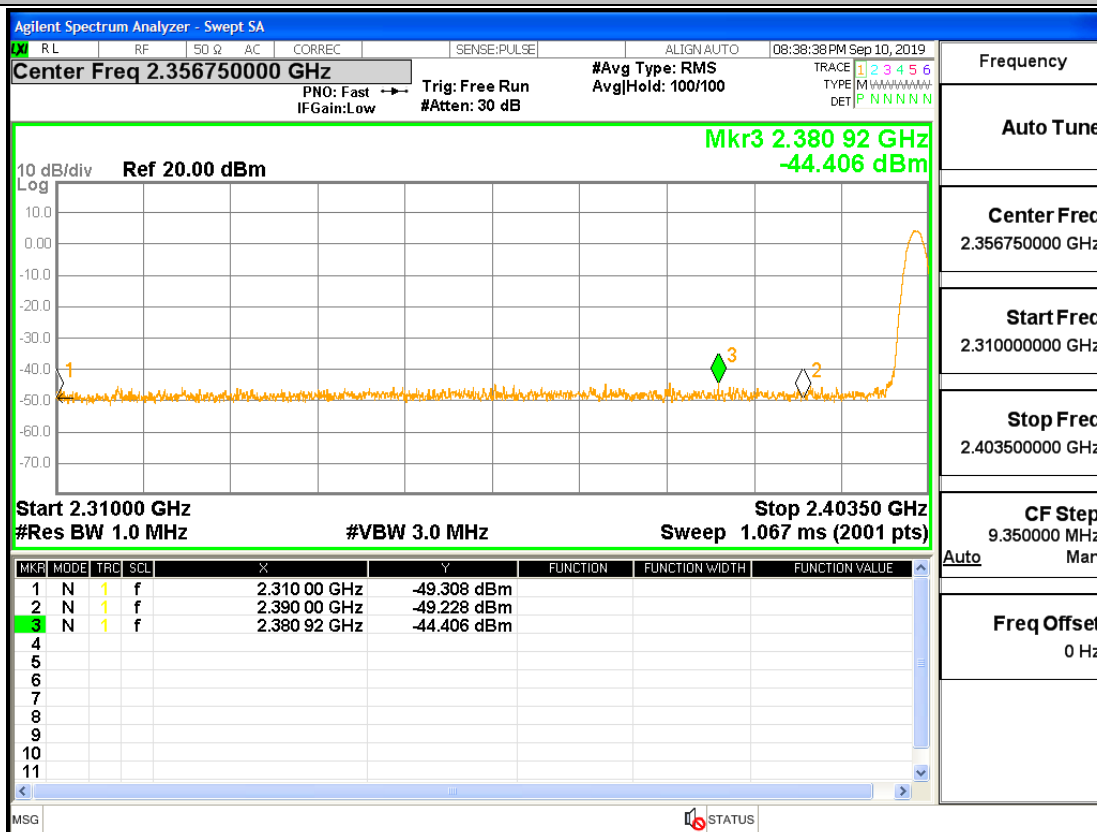
Restrict-band band-edge measurements_2480_PEAK_DH5



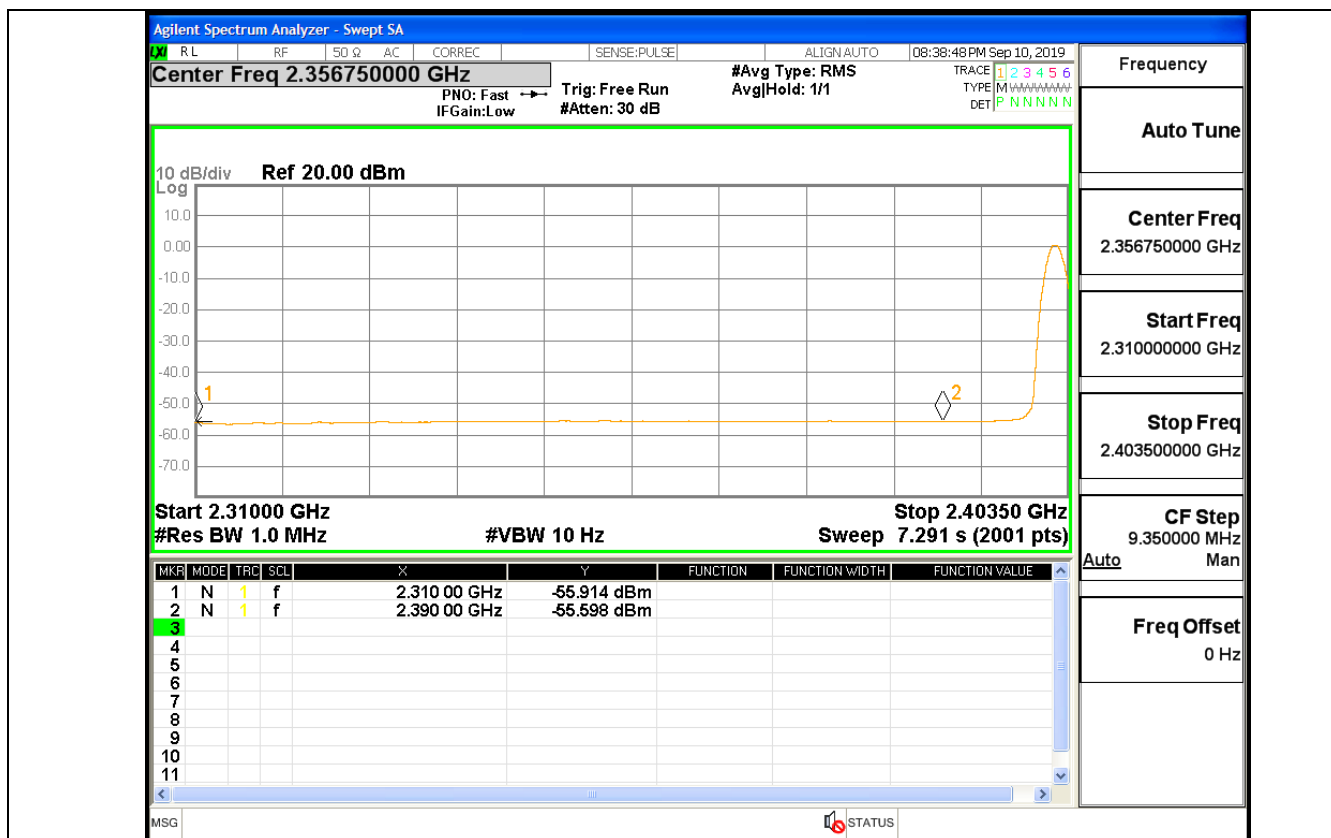
Restrict-band band-edge measurements_2480_AV_DH5



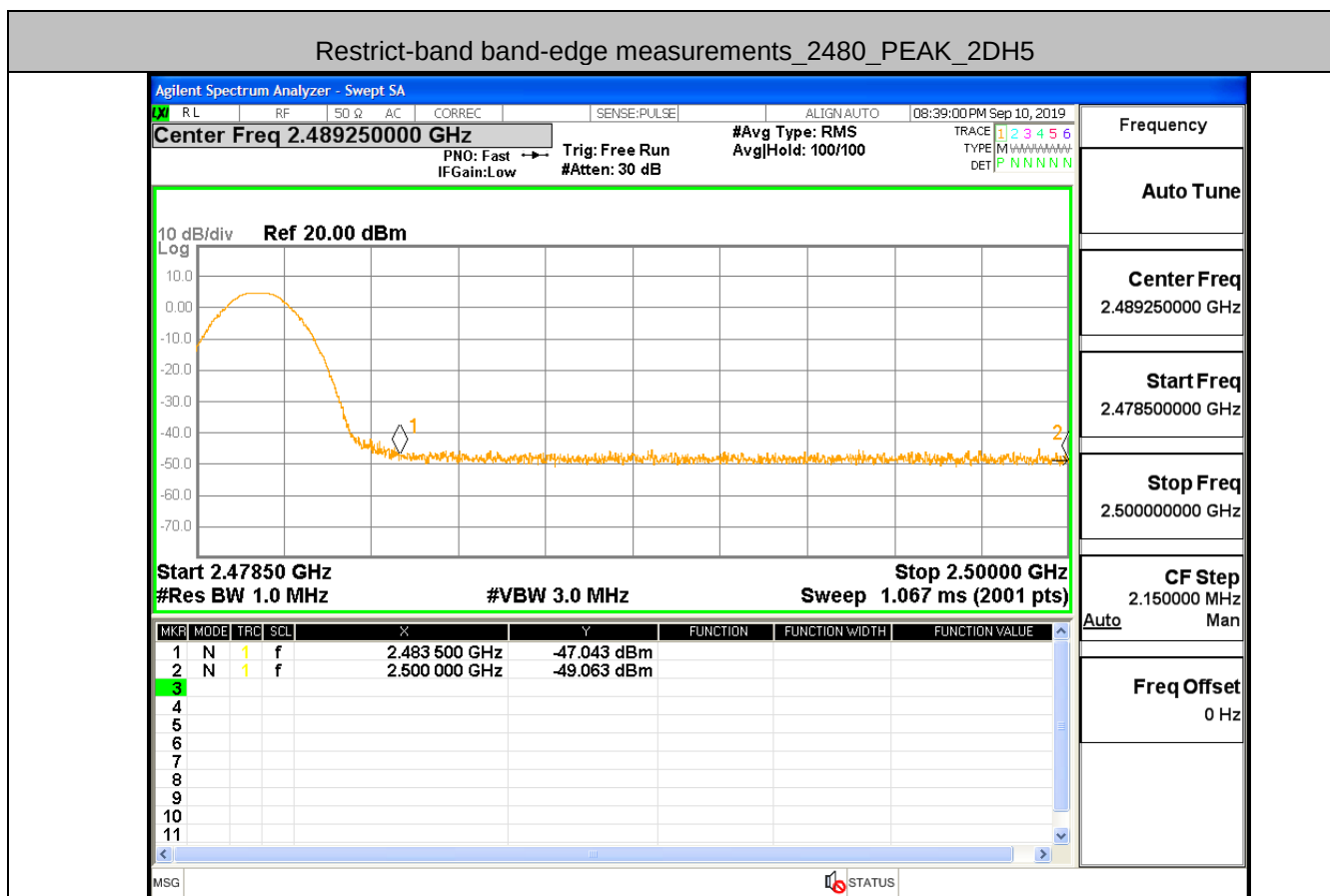
Restrict-band band-edge measurements_2402_PEAK_2DH5



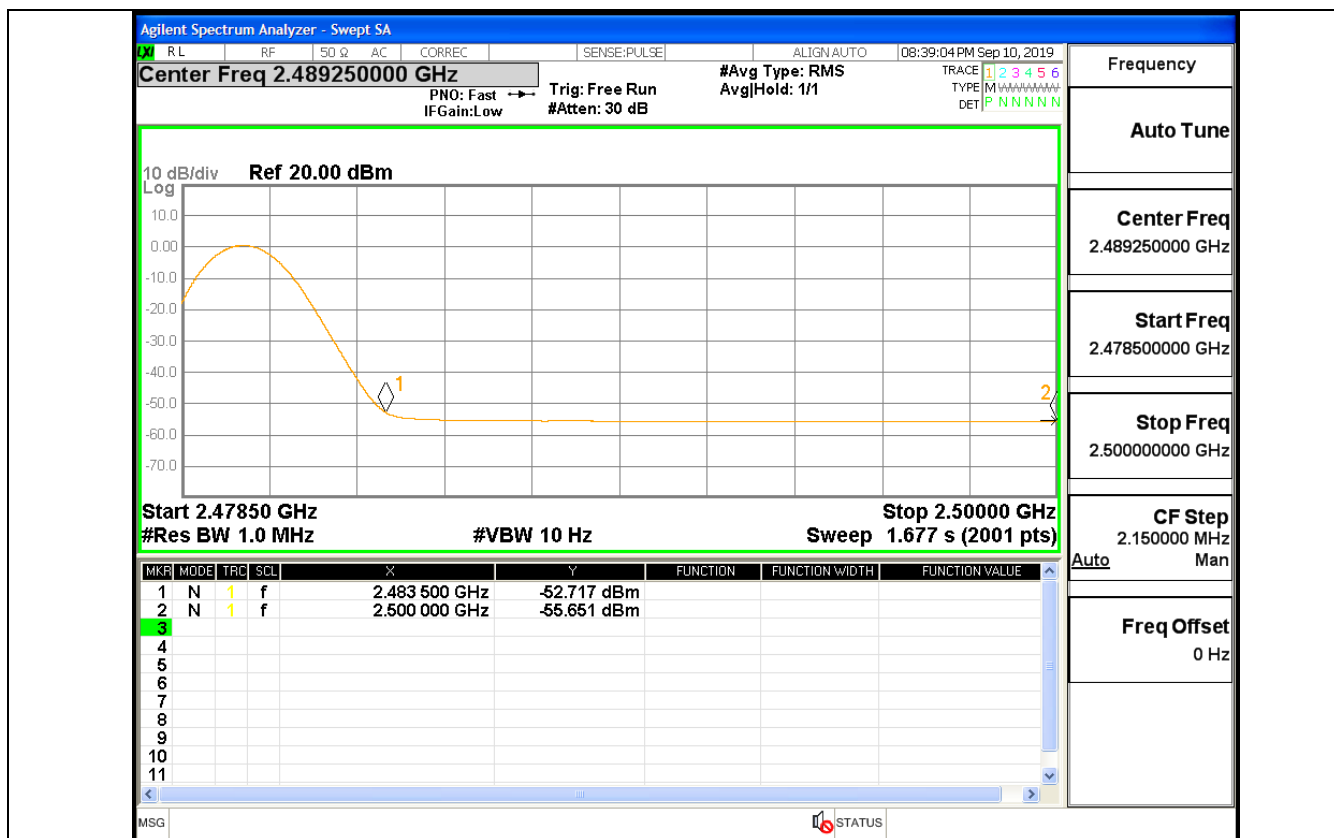
Restrict-band band-edge measurements_2402_AV_2DH5



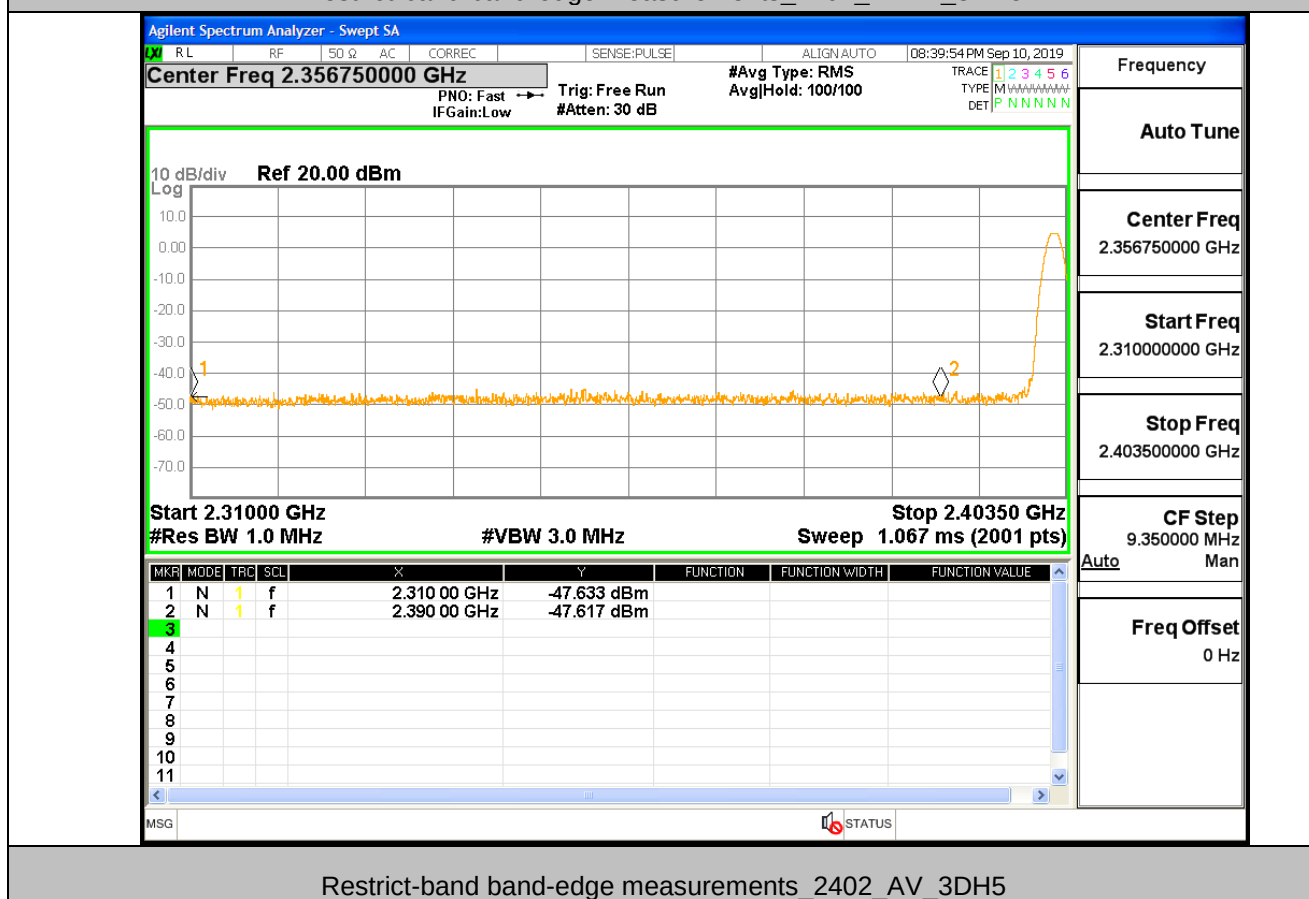
Restrict-band band-edge measurements_2480_PEAK_2DH5



Restrict-band band-edge measurements_2480_AV_2DH5



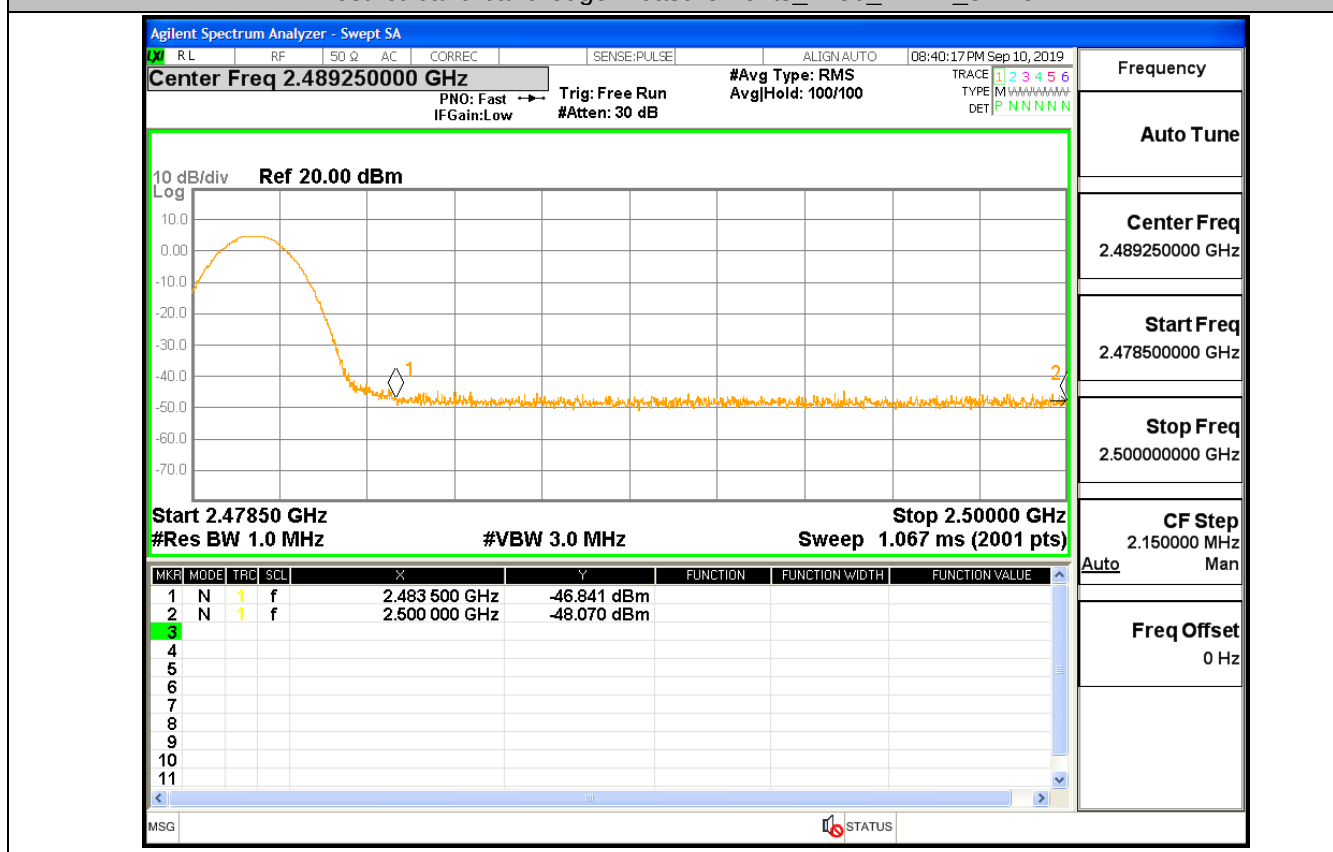
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

