

Appendix A

RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: Move Sports Wireless Earphones

Trade Mark: N/A

Test Model: 34440

Environmental Conditions

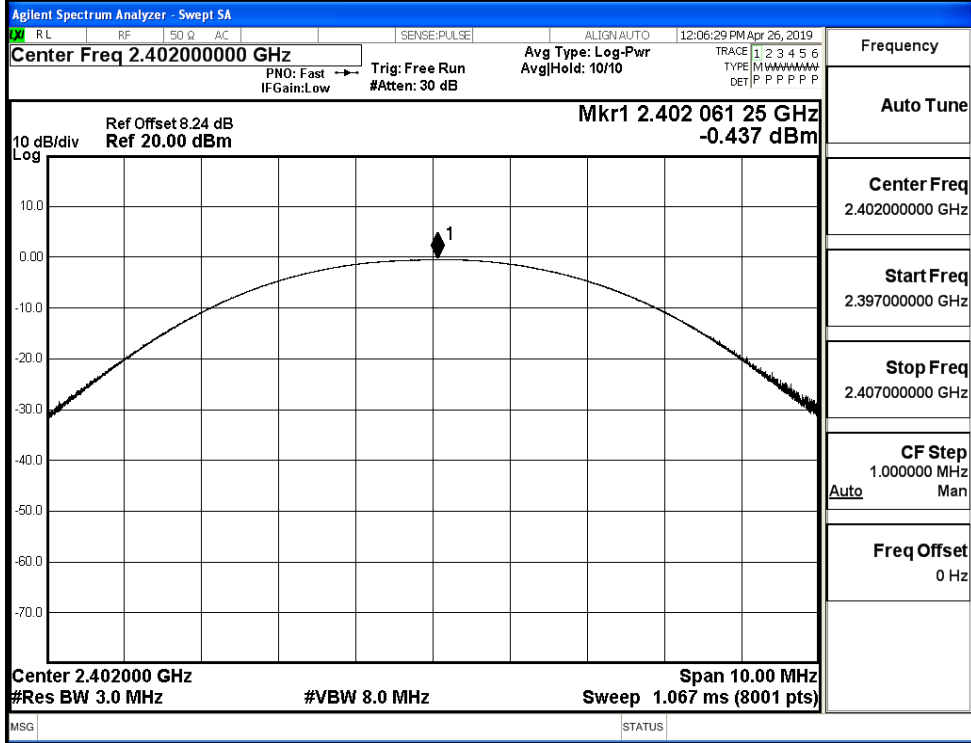
Temperature:	23.8 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Tom.Liu

A.1 Maxmum Conducted Peak Output Power

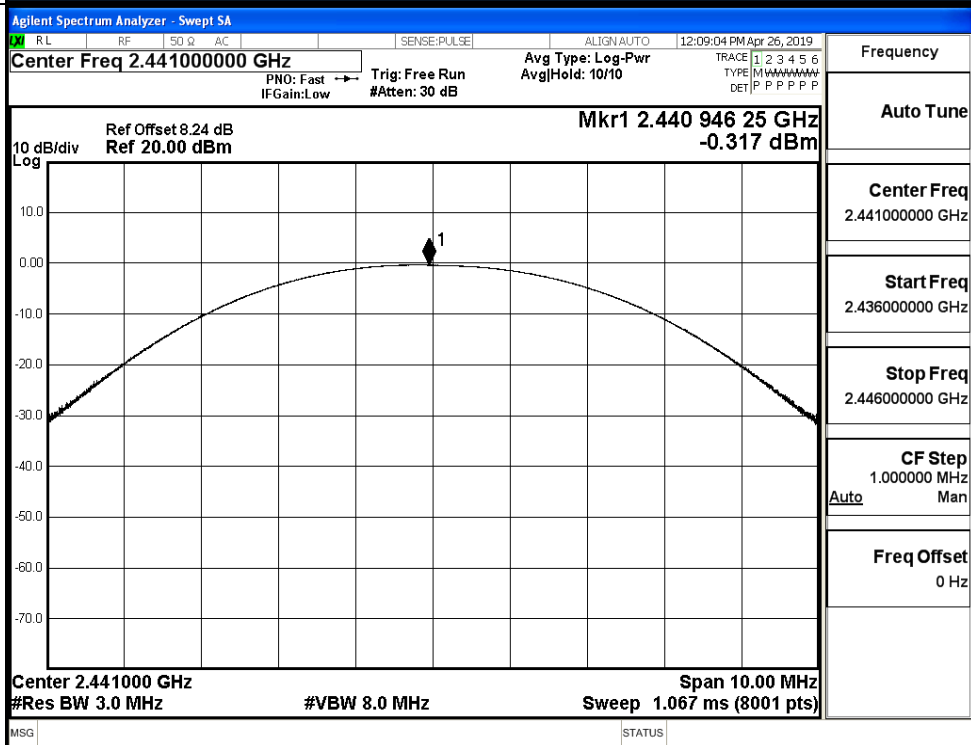
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.437	30	PASS
	MCH	-0.317	30	PASS
	HCH	-0.794	30	PASS
$\pi/4$ DQPSK	LCH	-2.130	21	PASS
	MCH	-1.157	21	PASS
	HCH	-2.397	21	PASS
8DPSK	LCH	-1.900	21	PASS
	MCH	-0.933	21	PASS
	HCH	-2.094	21	PASS

Test Graphs

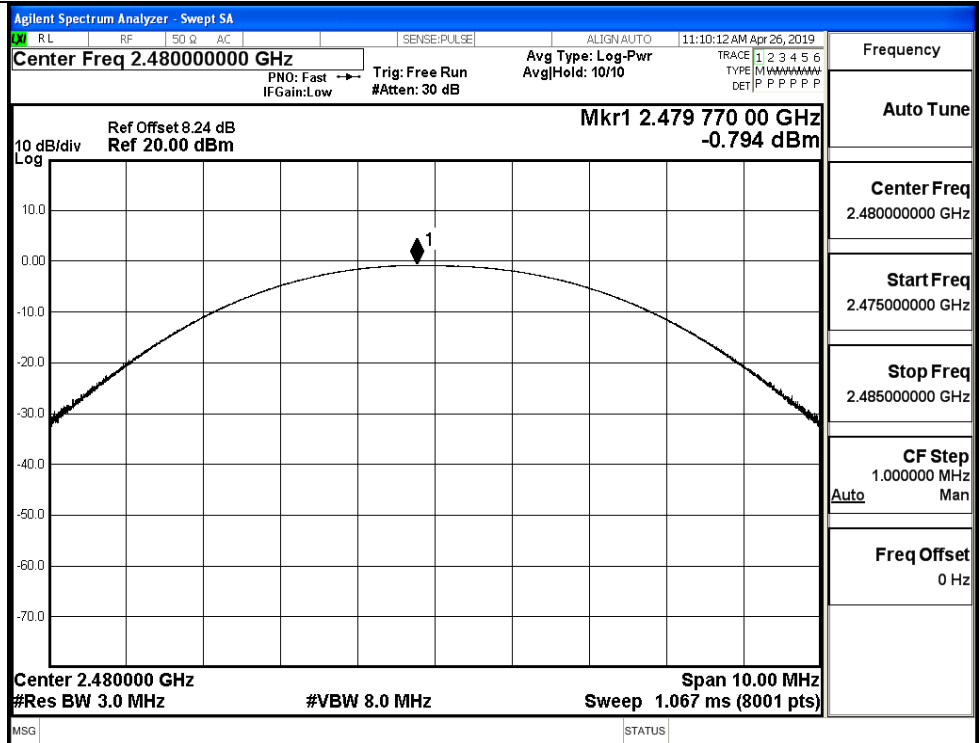
GFSK/LCH



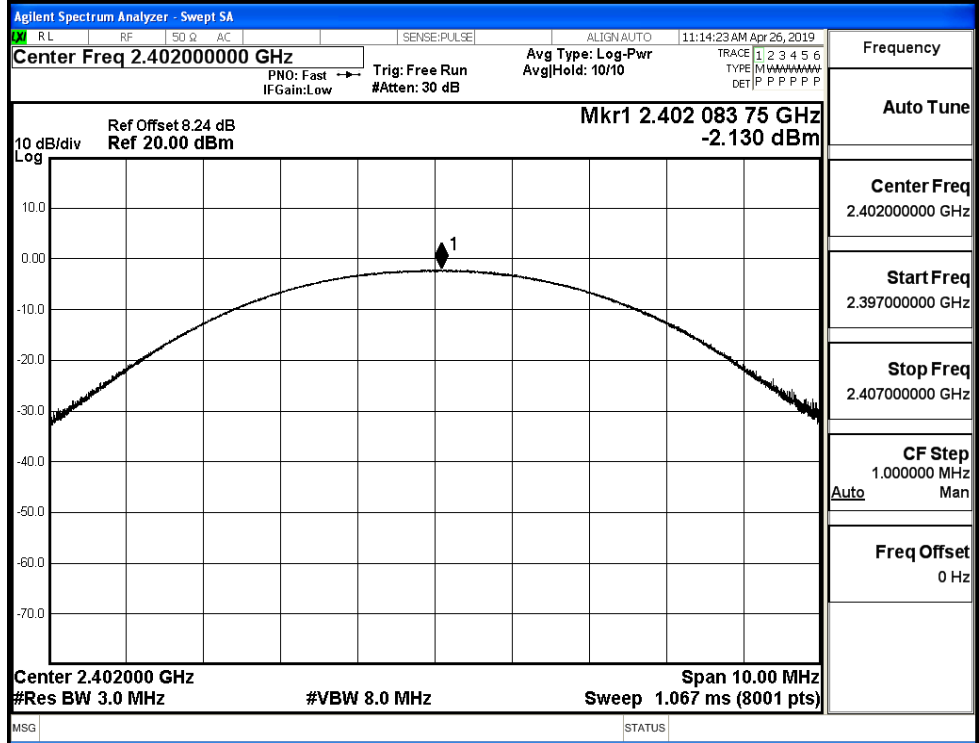
GFSK/MCH



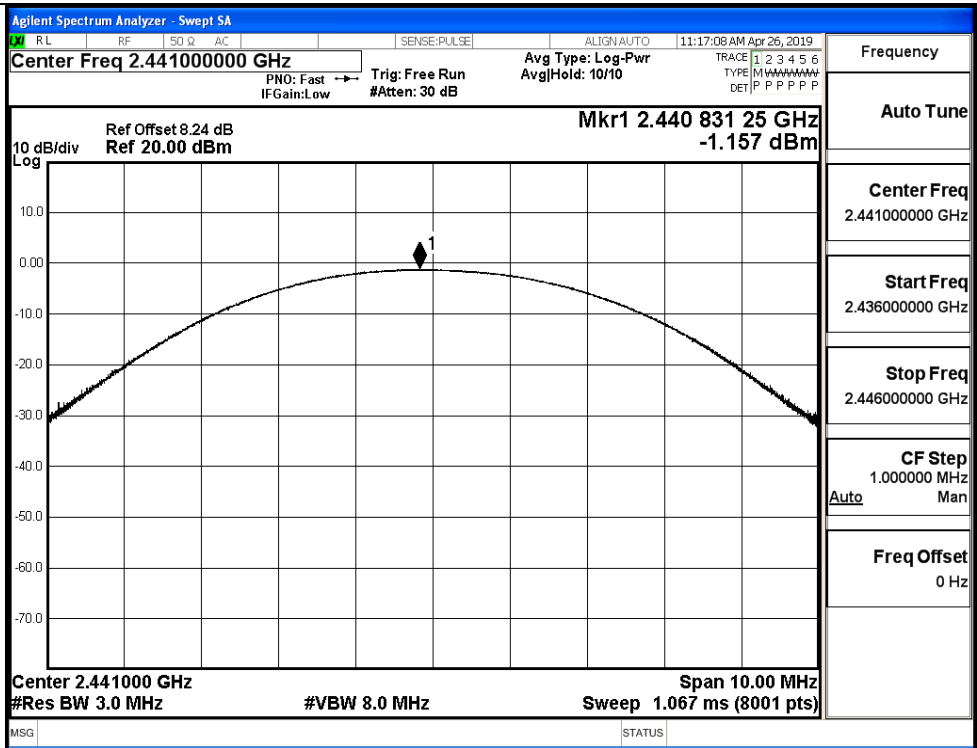
GFSK/HCH



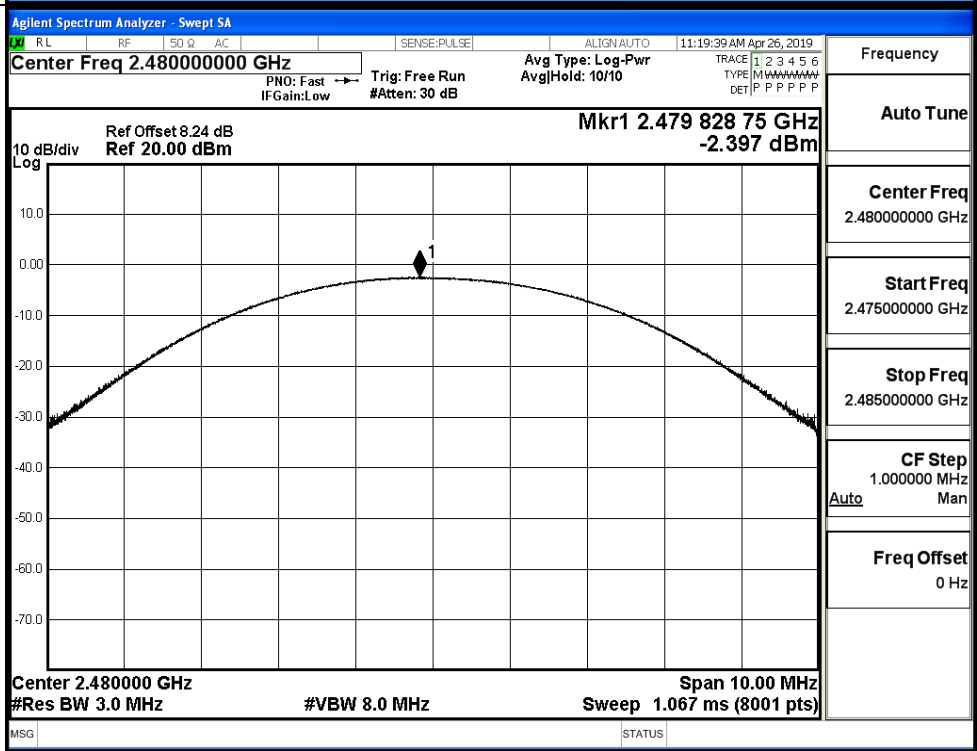
$\pi/4$ DQPSK/LCH



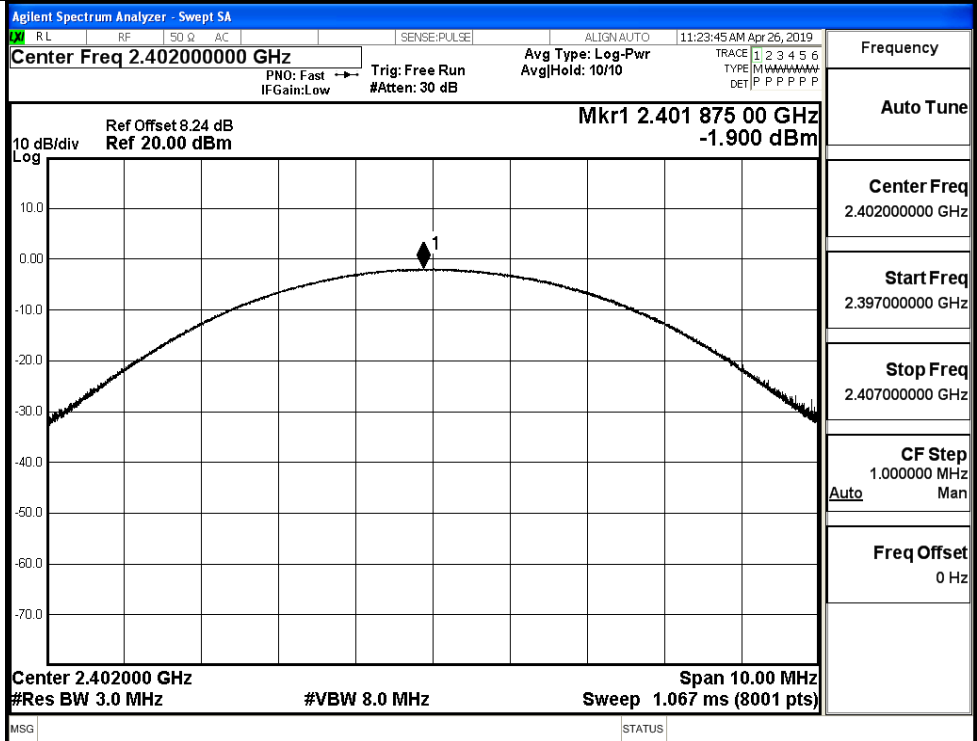
π /4DQPSK/MCH



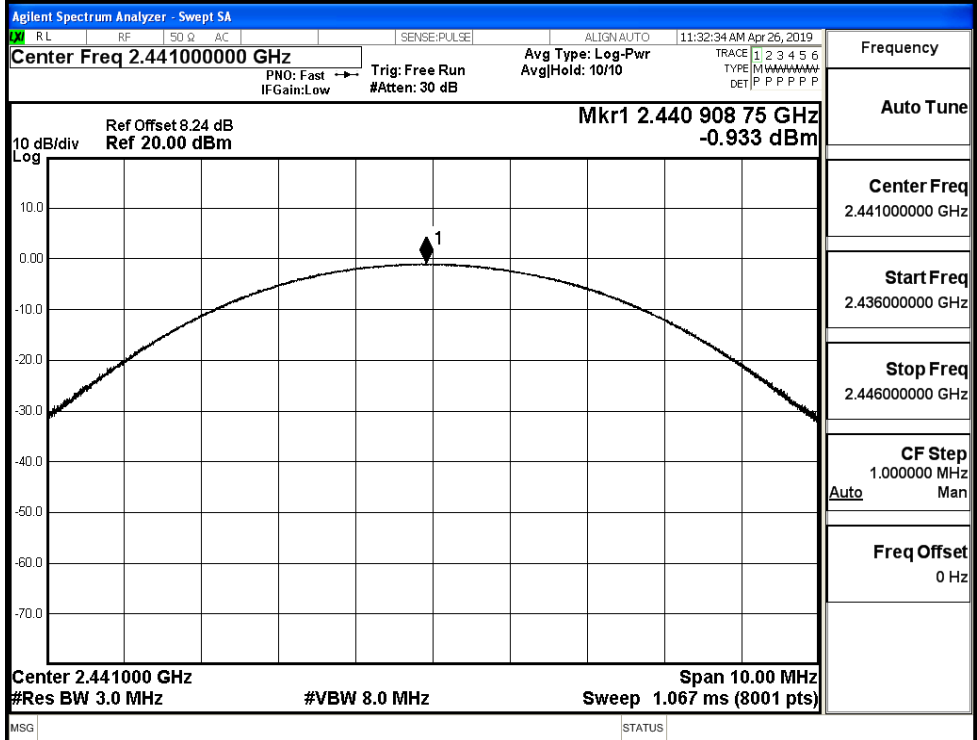
π /4DQPSK/HCH



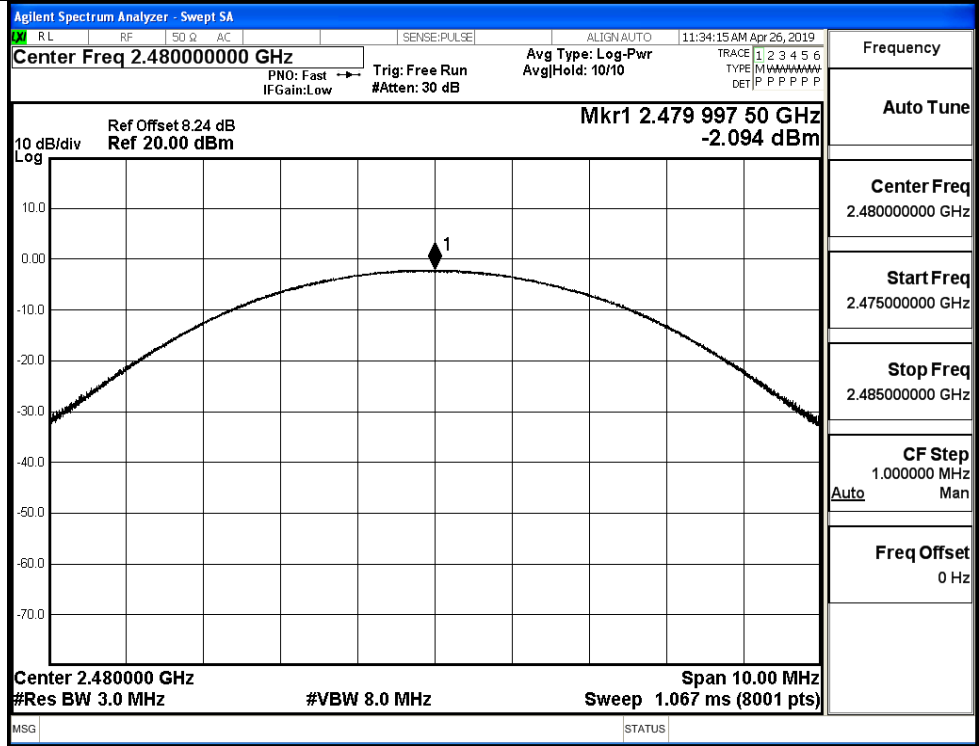
8DPSK/LCH



8DPSK/MCH

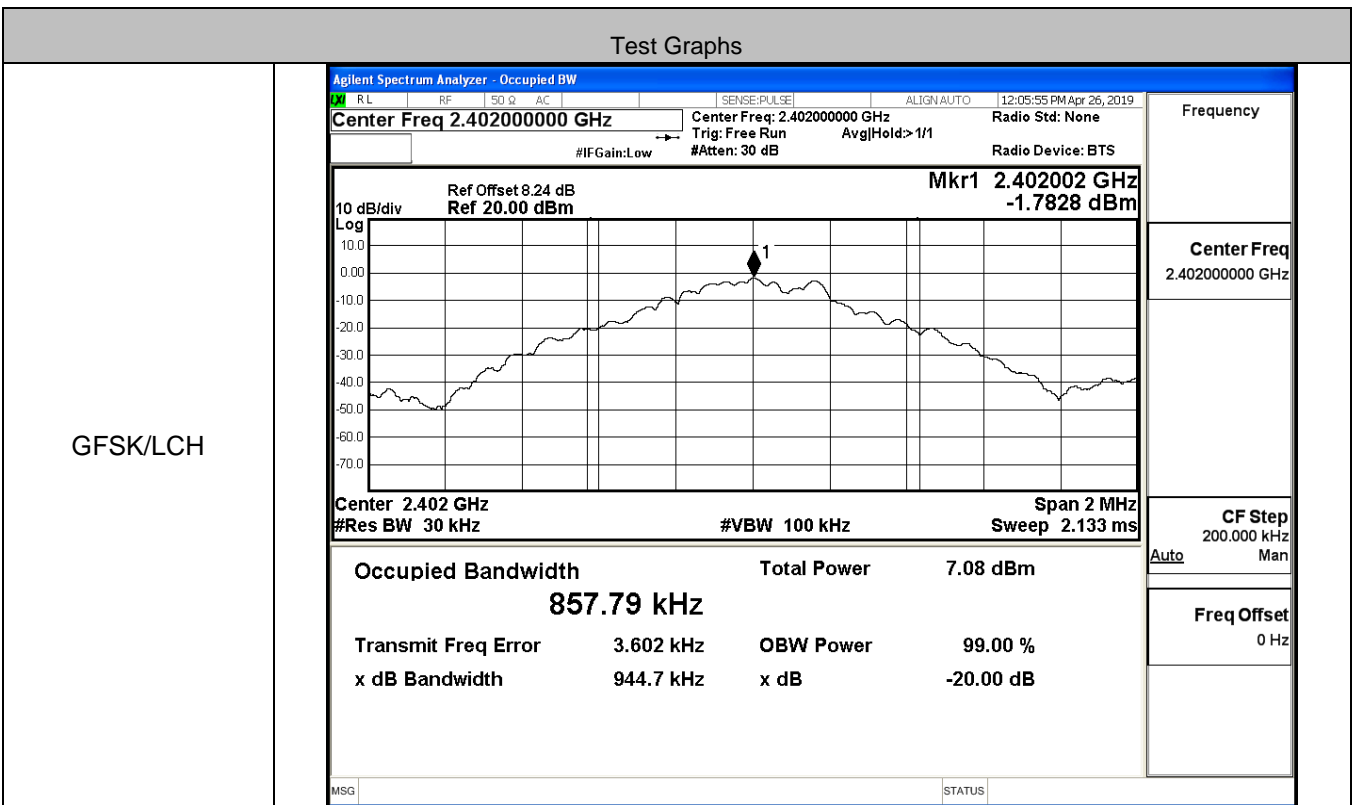


8DPSK/HCH

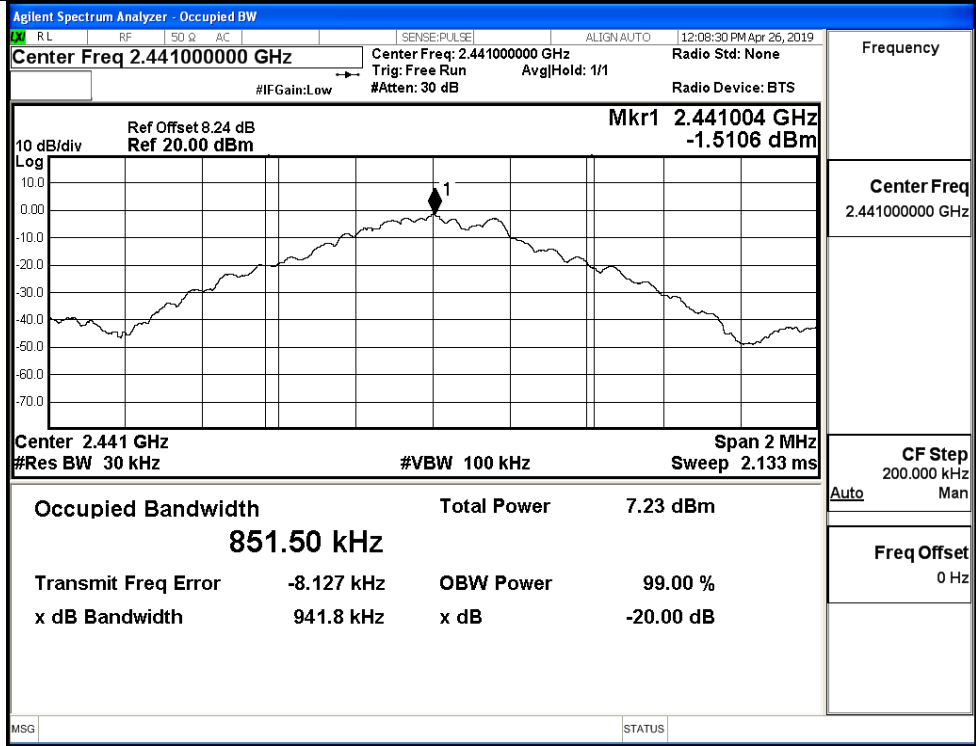


A.2 20dB Bandwidth

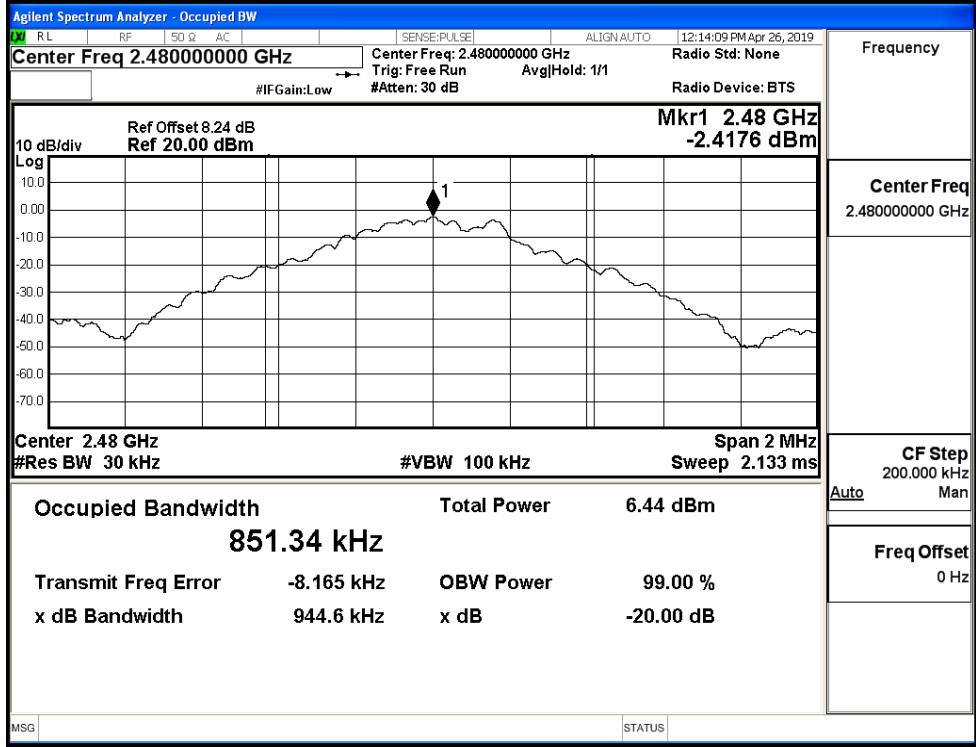
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9447	Not Specified	PASS
	MCH	0.9418	Not Specified	PASS
	HCH	0.9446	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.259	Not Specified	PASS
	MCH	1.229	Not Specified	PASS
	HCH	1.229	Not Specified	PASS
8DPSK	LCH	1.275	Not Specified	PASS
	MCH	1.261	Not Specified	PASS
	HCH	1.261	Not Specified	PASS



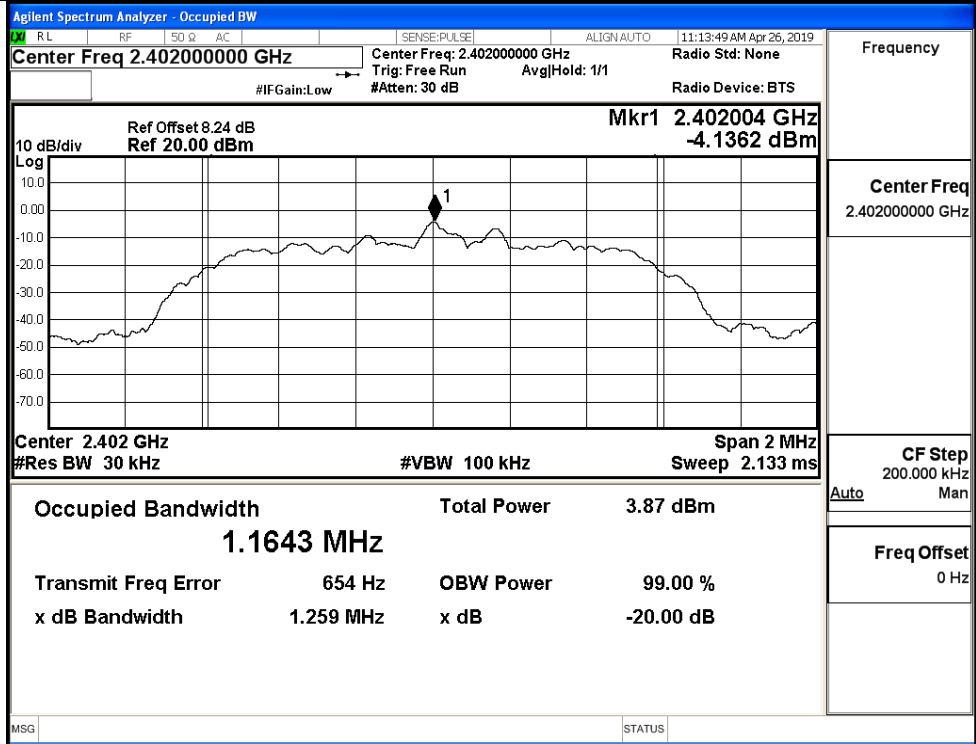
GFSK/MCH



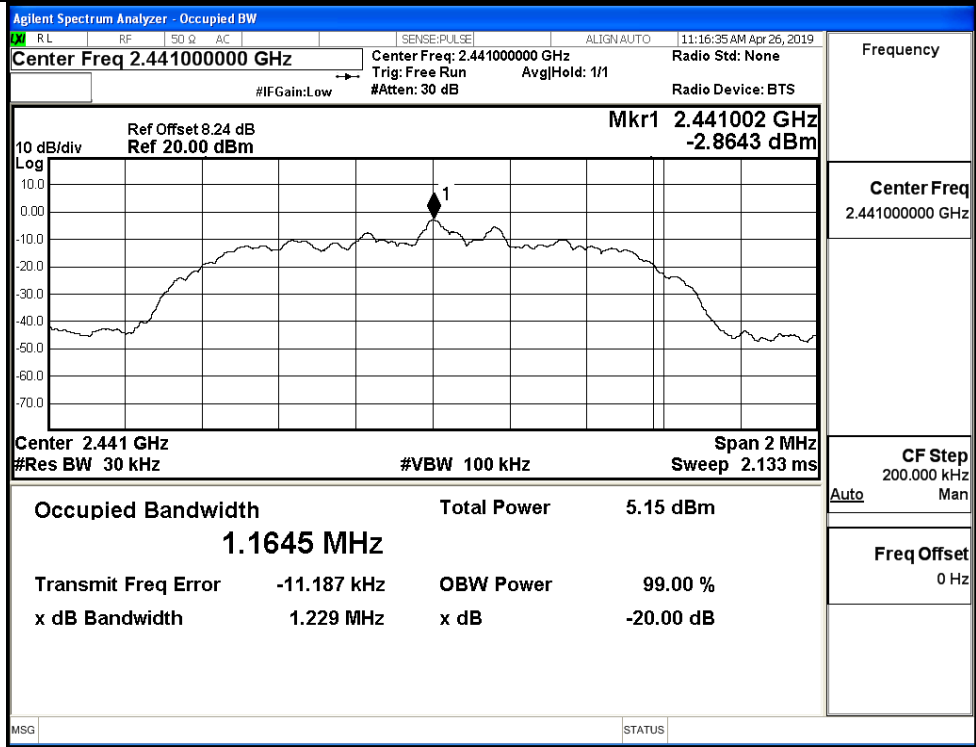
GFSK/HCH



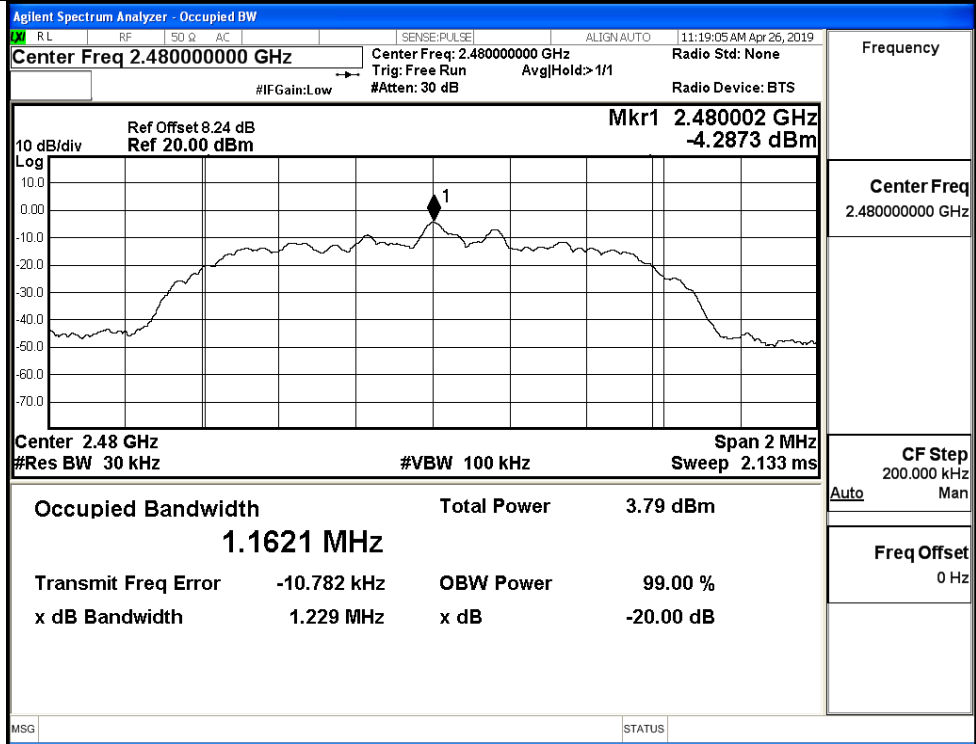
$\pi/4$ DQPSK/LCH



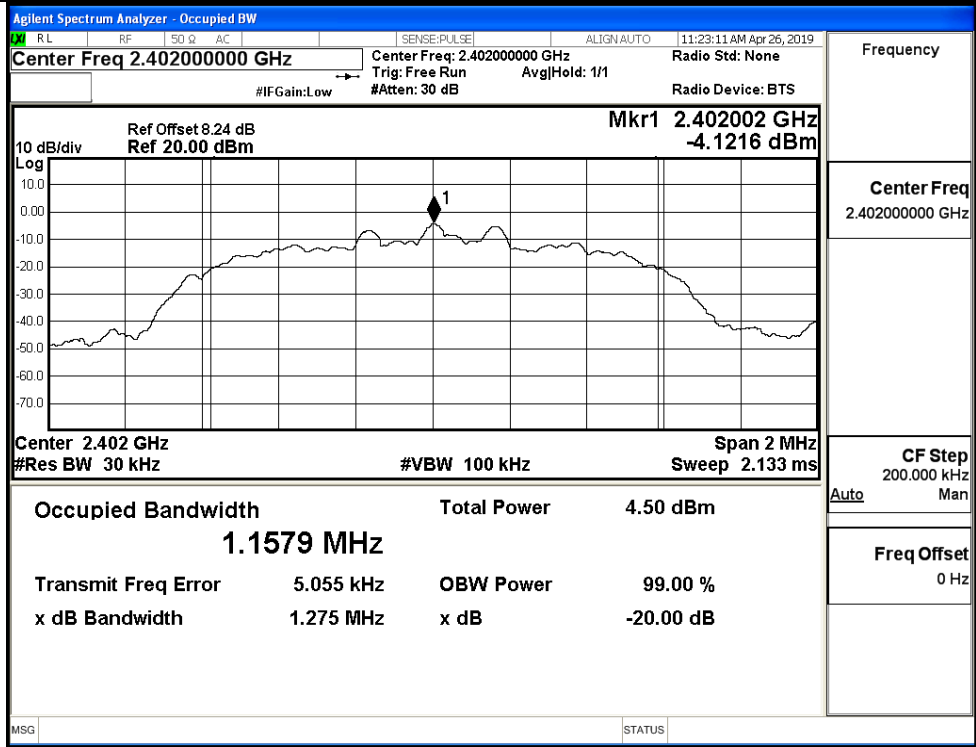
$\pi/4$ DQPSK/MCH



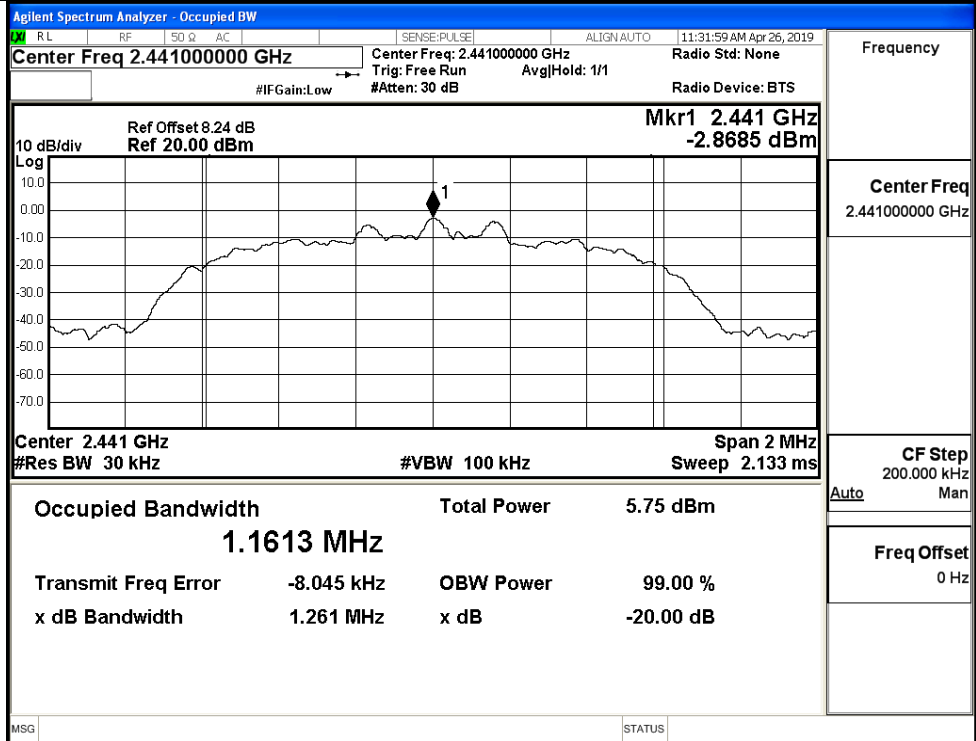
$\pi/4$ DQPSK/HCH



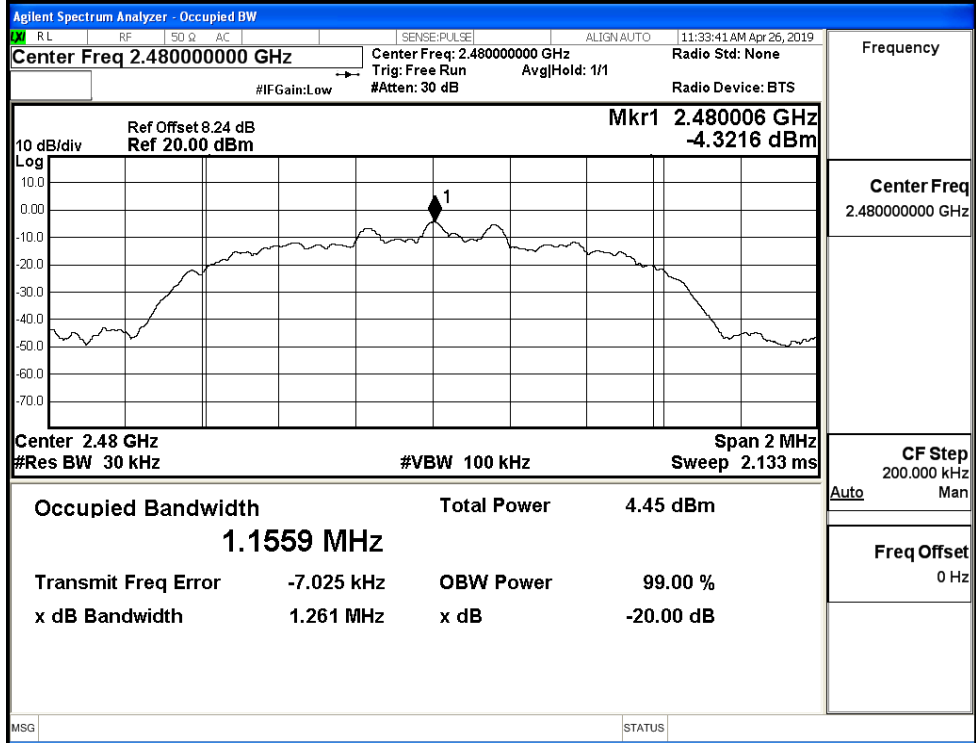
8DPSK/LCH



8DPSK/MCH

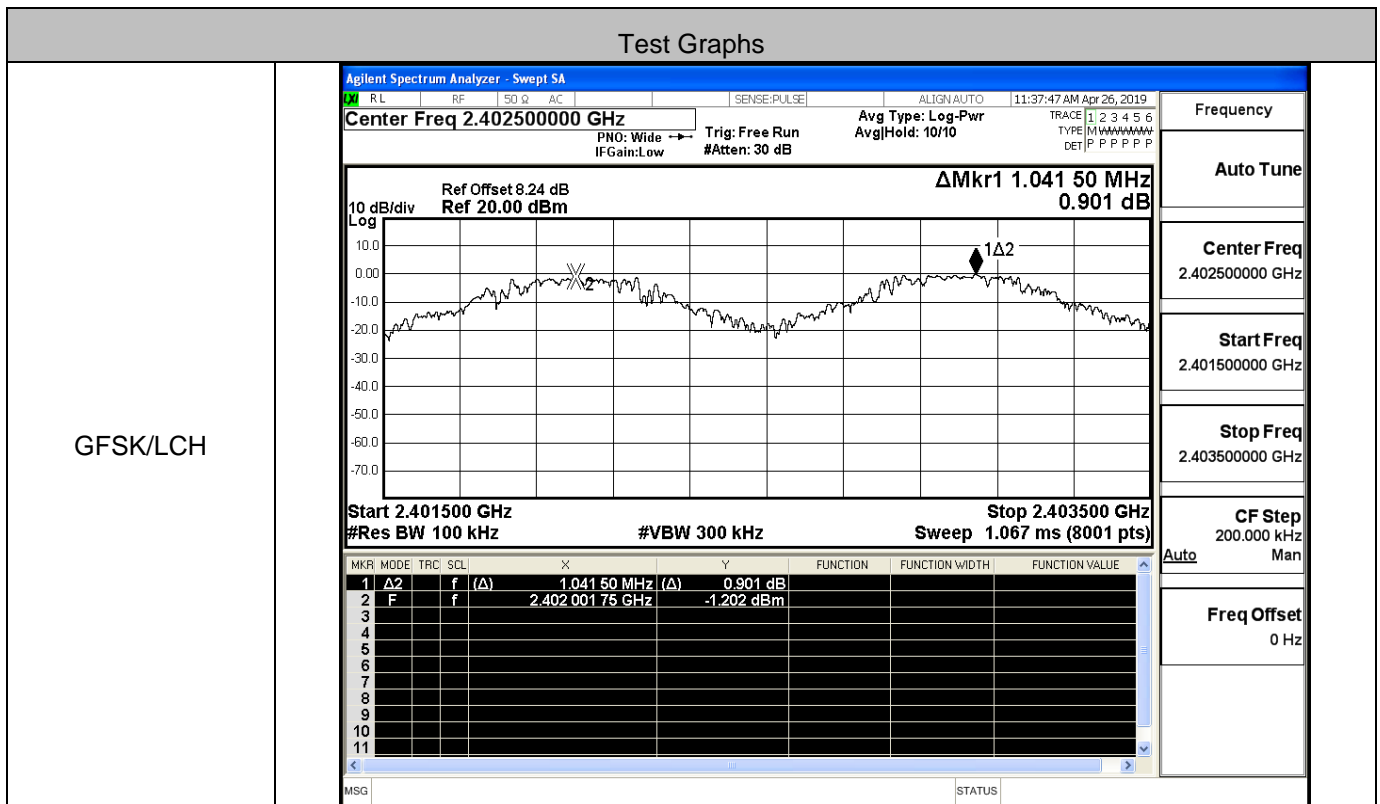


8DPSK/HCH

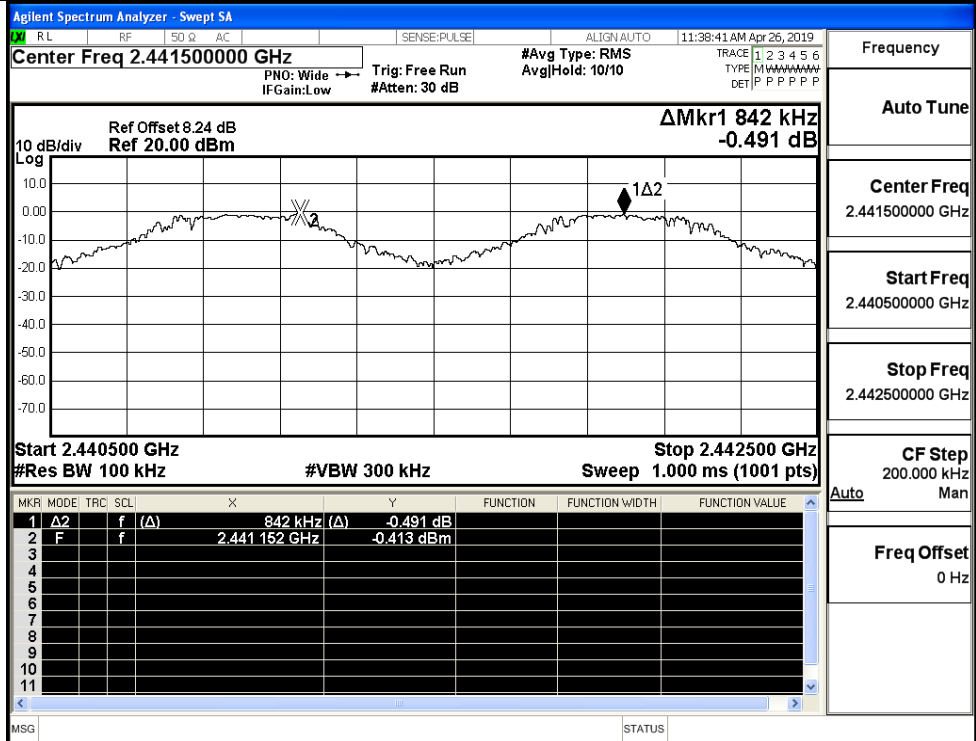


A.3 Carrier Frequency Separation

Mode	Channel	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.042	0.604	PASS
	MCH	0.842	0.604	PASS
	HCH	0.984	0.604	PASS
π/4DQPSK	LCH	1.008	0.839	PASS
	MCH	1.292	0.839	PASS
	HCH	1.196	0.839	PASS
8DPSK	LCH	1.038	0.850	PASS
	MCH	1.158	0.850	PASS
	HCH	1.186	0.850	PASS

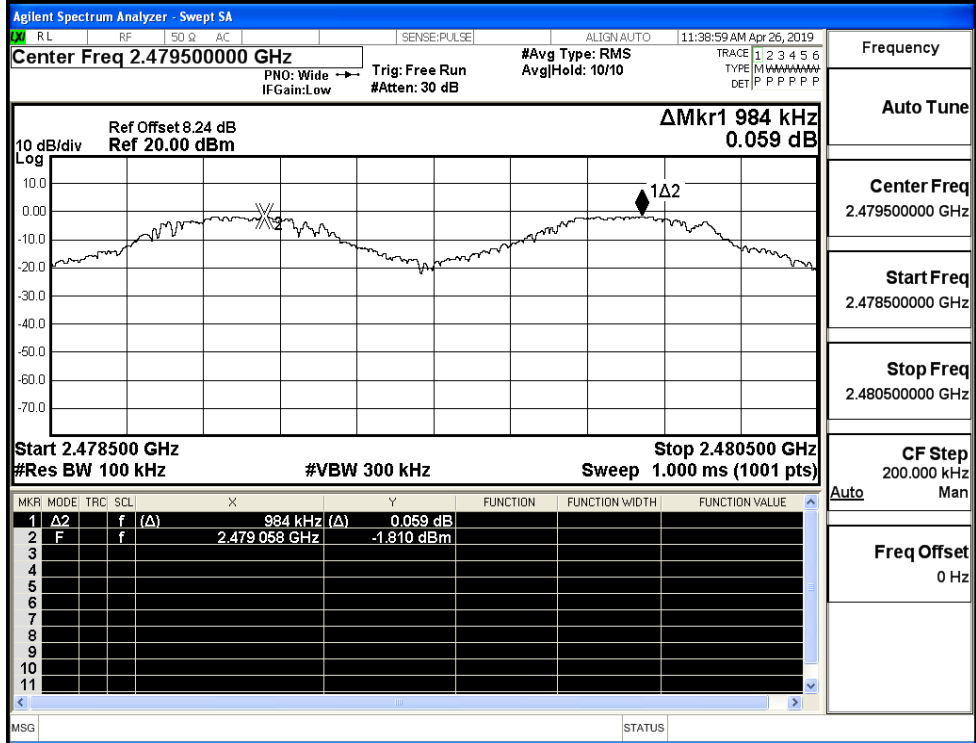


GFSK/MCH



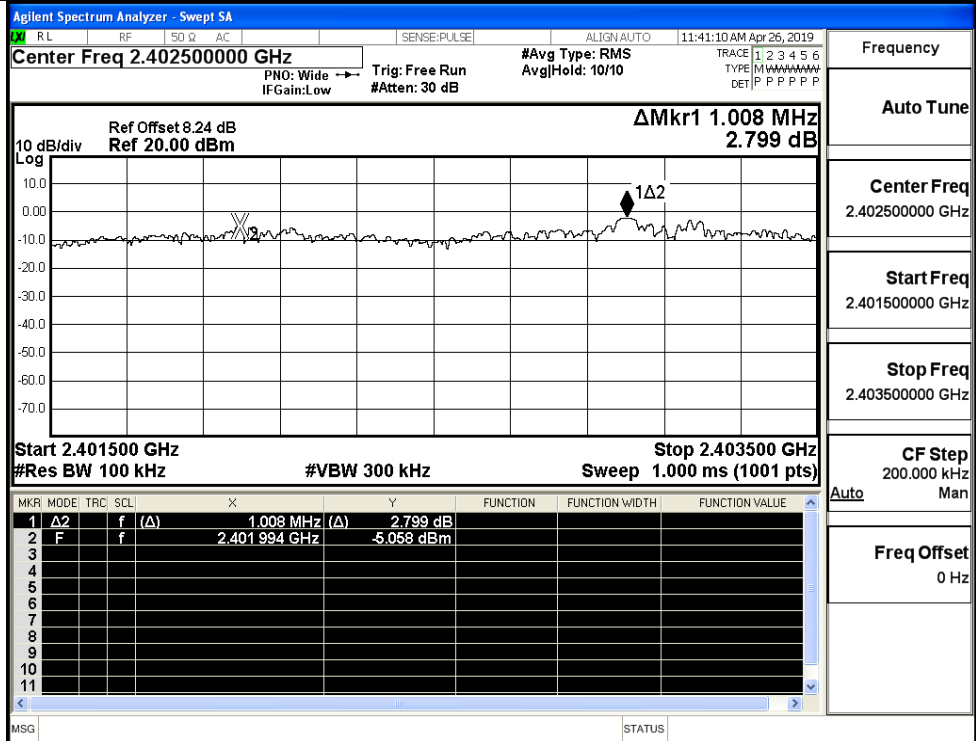
Frequency
Auto Tune
Center Freq 2.441500000 GHz
Start Freq 2.440500000 GHz
Stop Freq 2.442500000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

GFSK/HCH

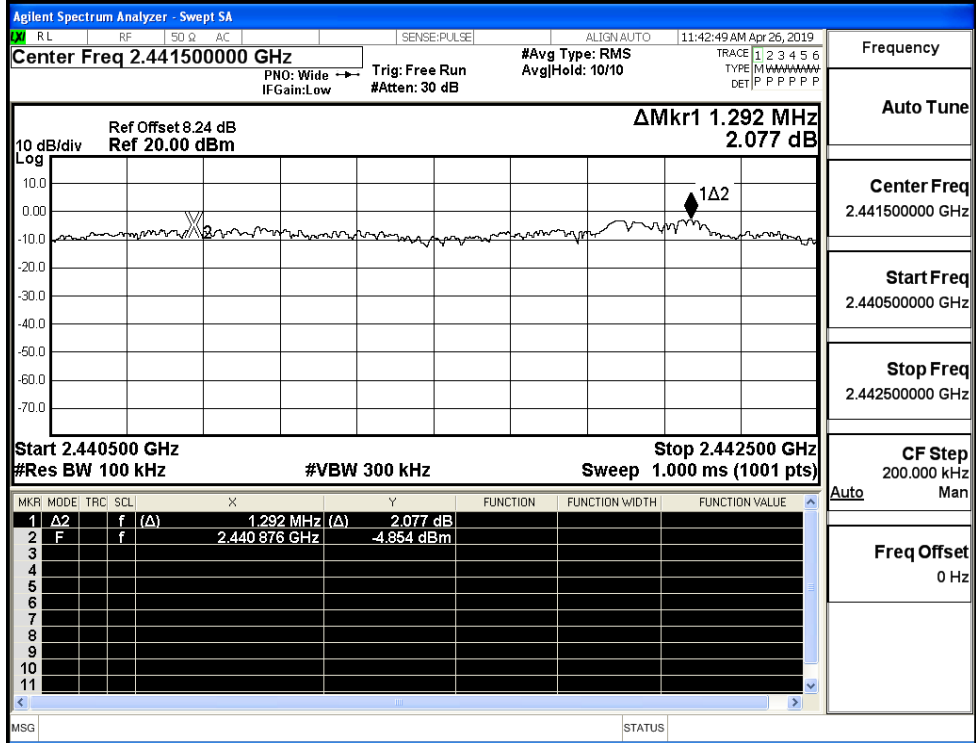


Frequency
Auto Tune
Center Freq 2.479500000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.480500000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

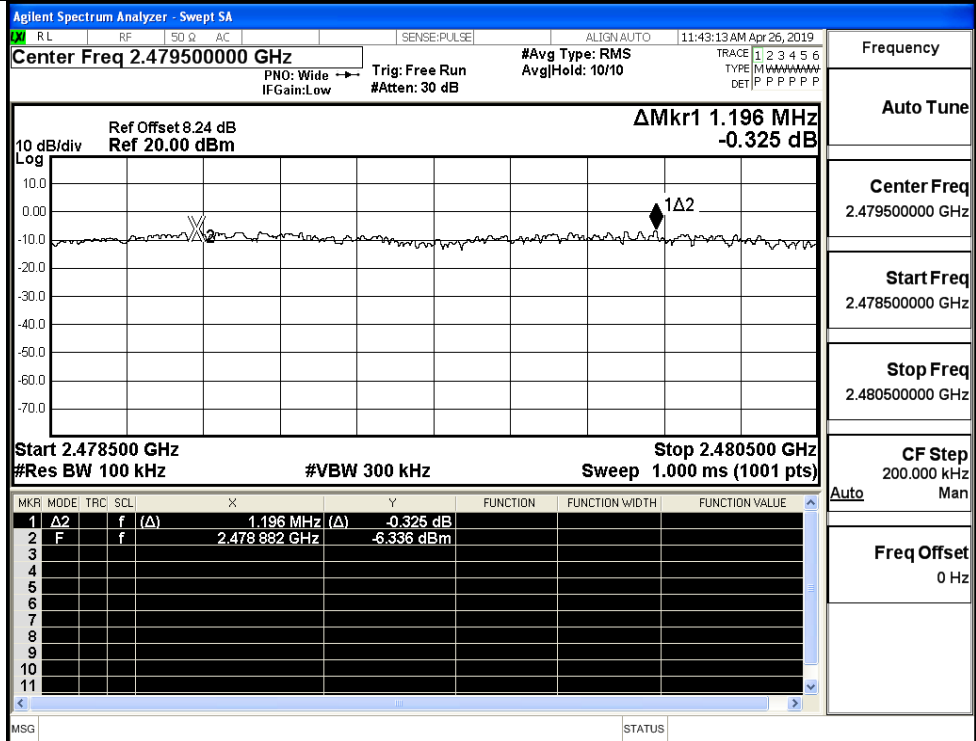
π /4DQPSK/LCH



π /4DQPSK/MCH

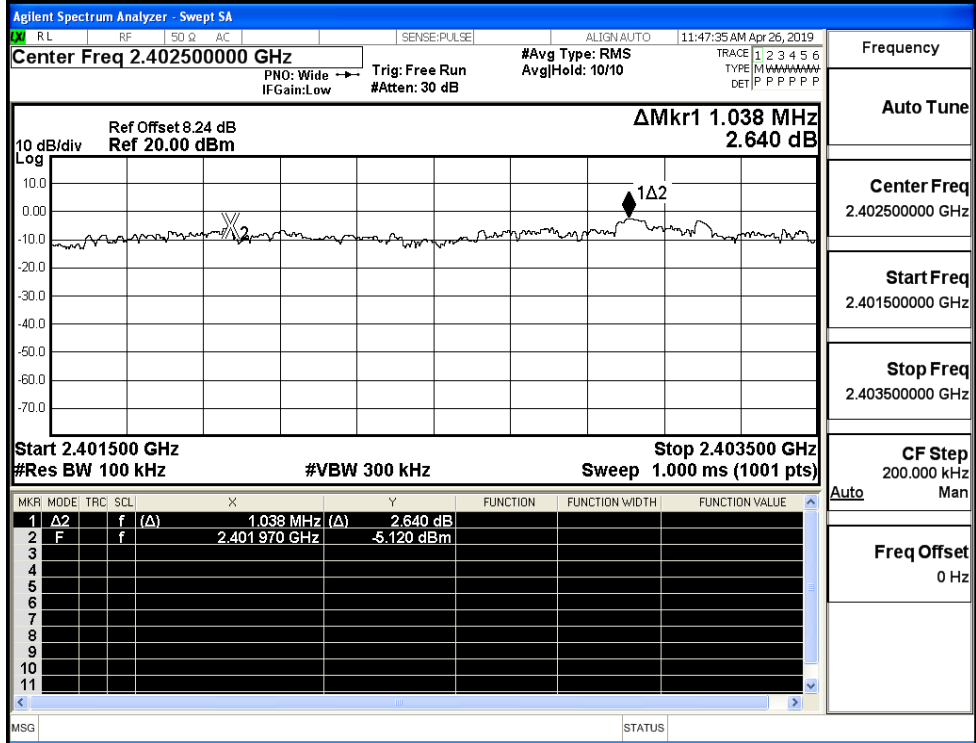


π/4DQPSK/HCH

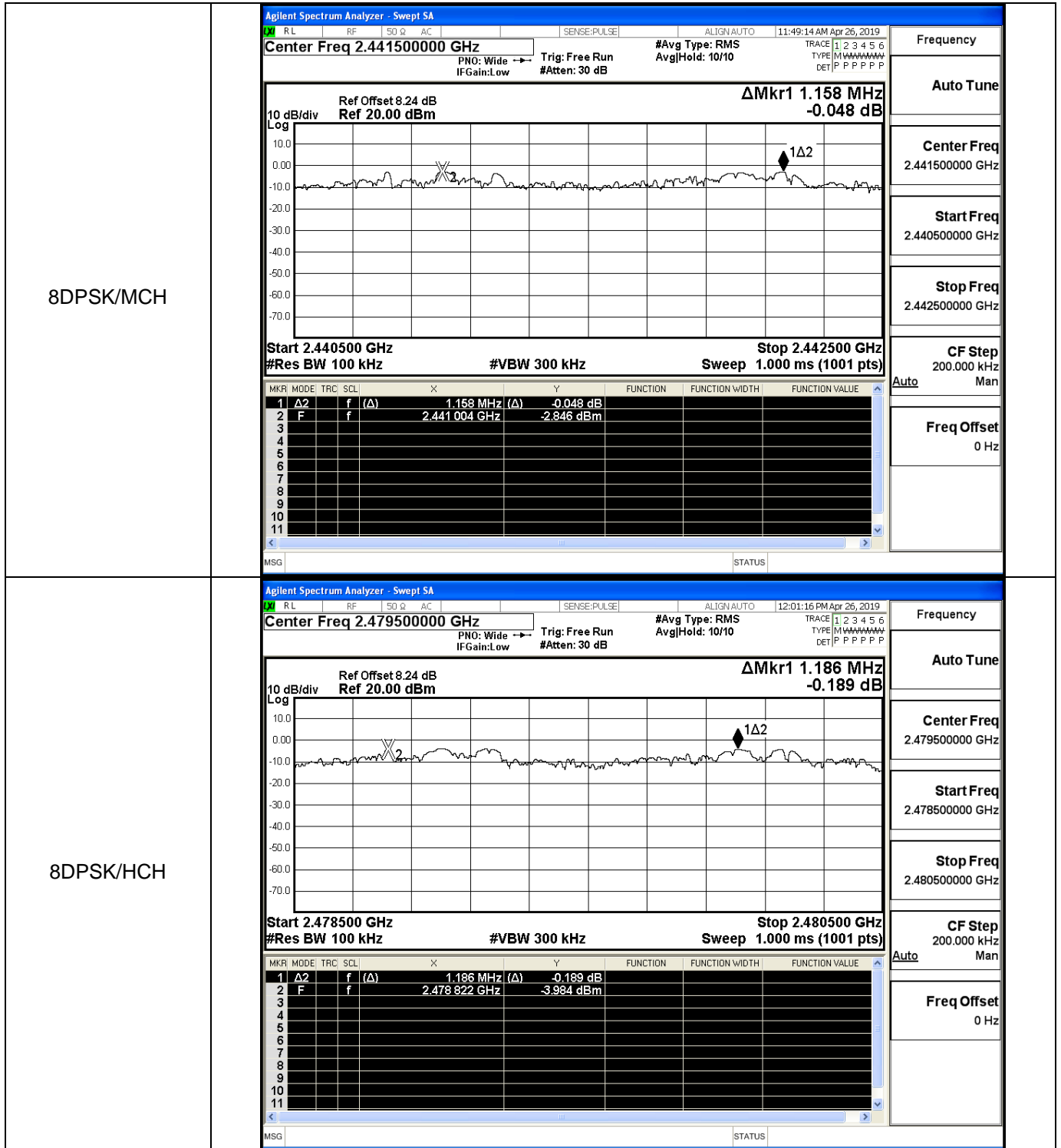


Frequency	2.479500000 GHz
Auto Tune	
Center Freq	2.479500000 GHz
Start Freq	2.478500000 GHz
Stop Freq	2.480500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

8DPSK/LCH



Frequency	2.402500000 GHz
Auto Tune	
Center Freq	2.402500000 GHz
Start Freq	2.401500000 GHz
Stop Freq	2.403500000 GHz
CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

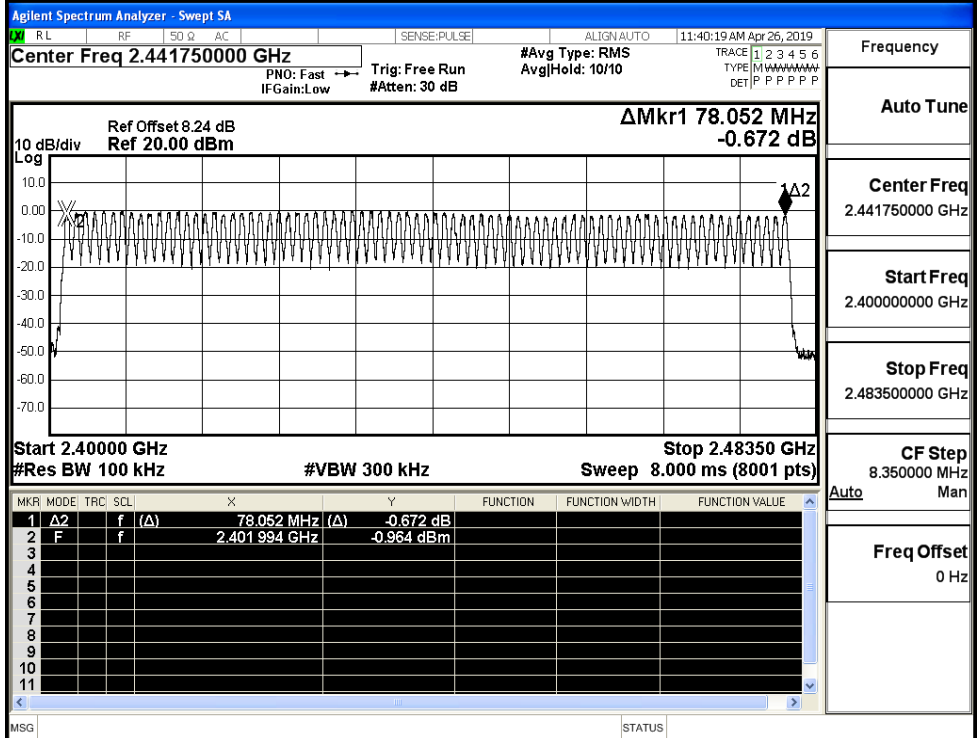


A.4 Hopping Channel Number

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 Graphs

GFSK/Hop



Frequency

Auto Tune

Center Freq
2.441750000 GHz

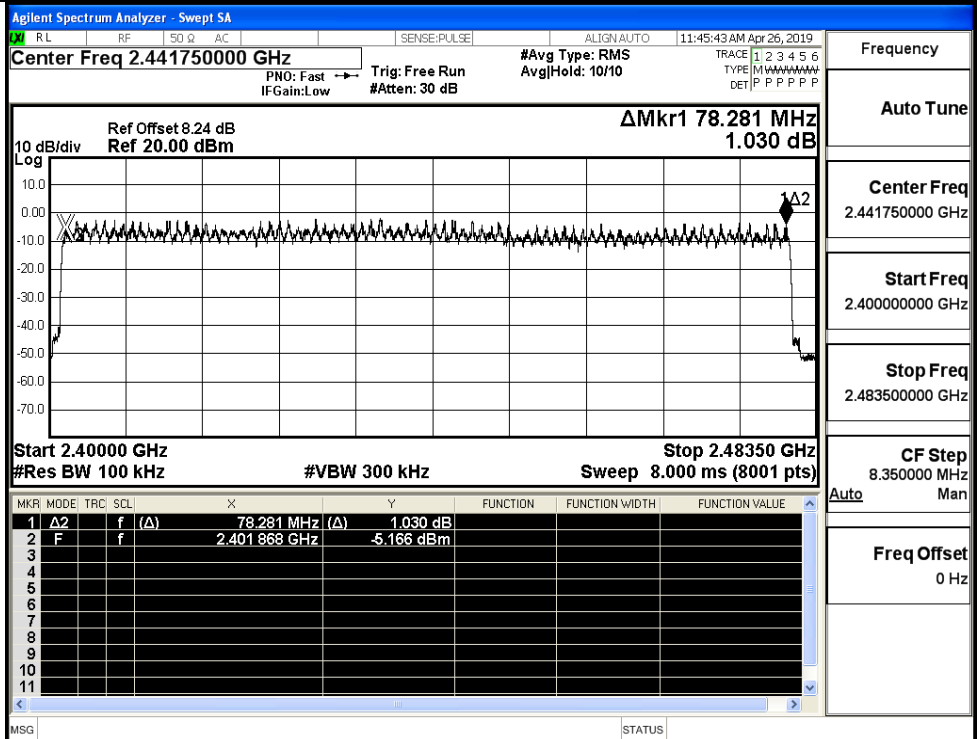
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/Hop



Frequency

Auto Tune

Center Freq
2.441750000 GHz

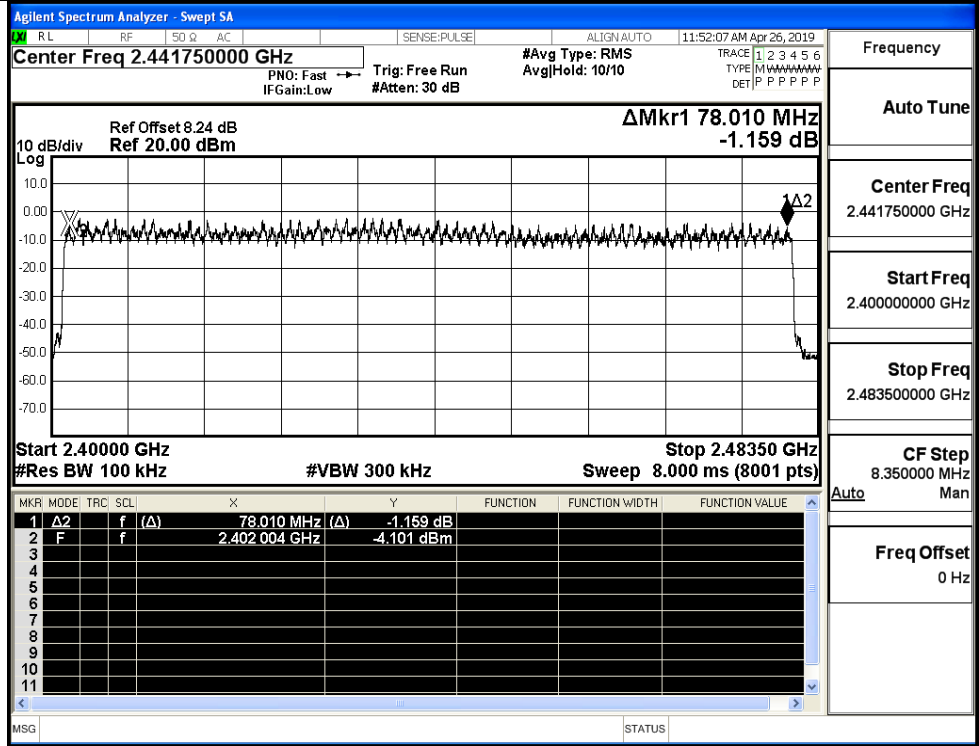
Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz

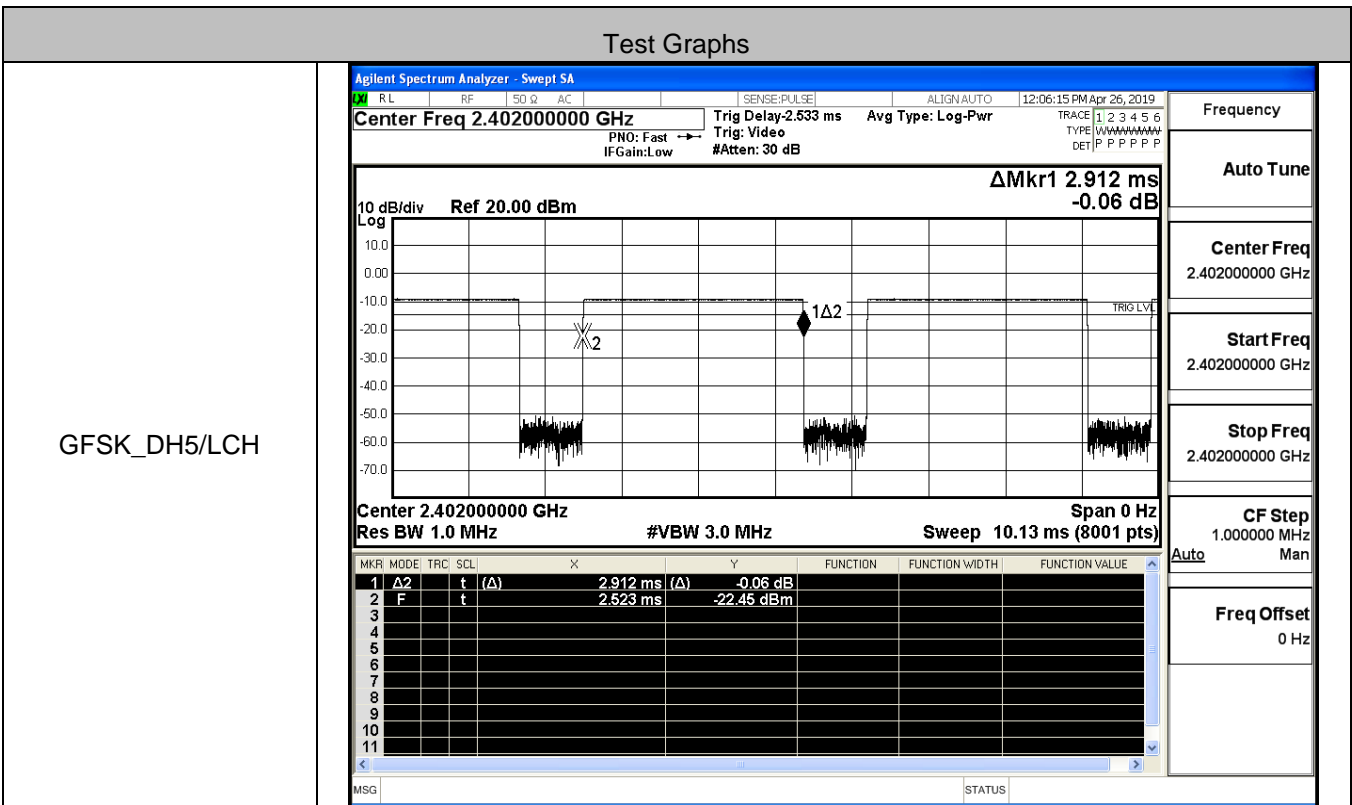
Freq Offset
0 Hz

8DPSK/Hop

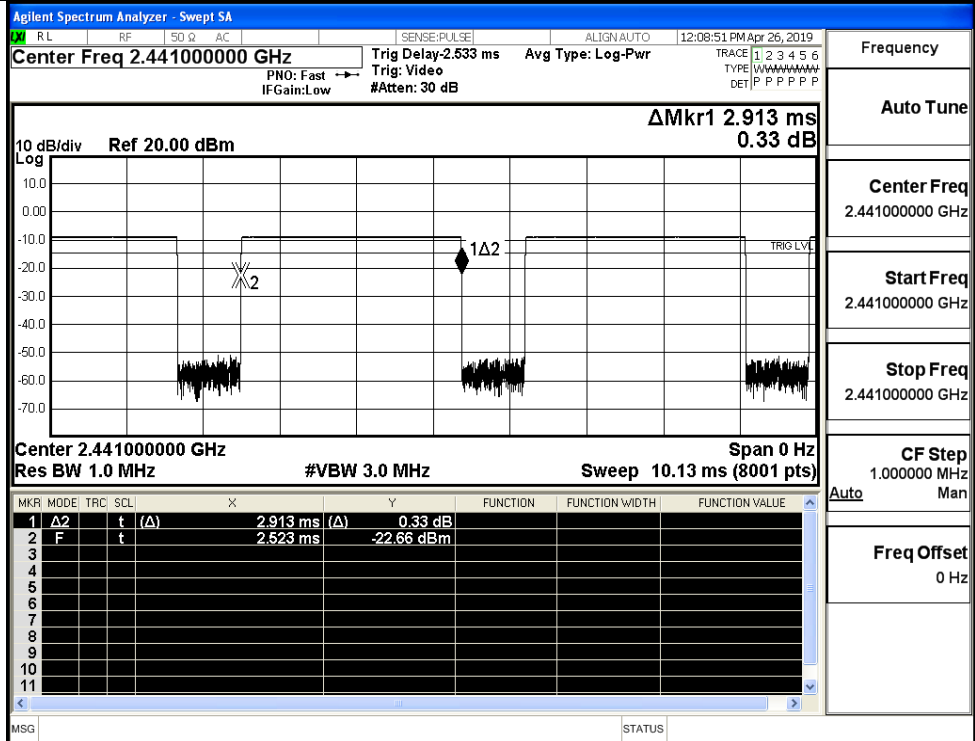


A.5 Dwell Time

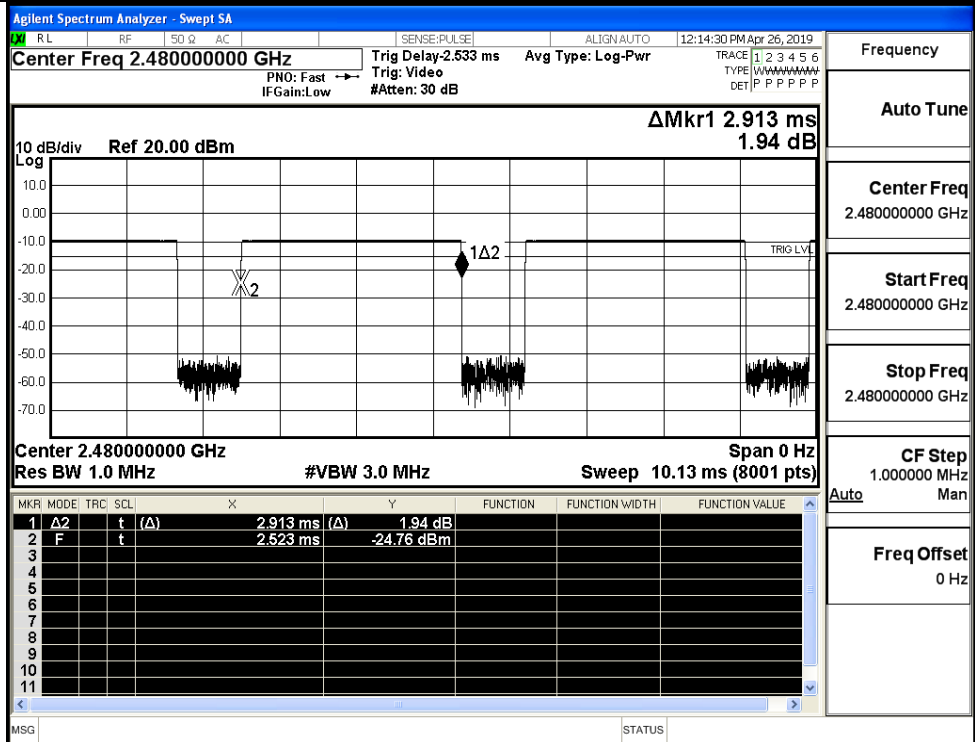
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.91	106.7	0.31	0.4	PASS
	DH5	MCH	2.91	106.7	0.31	0.4	PASS
	DH5	HCH	2.91	106.7	0.31	0.4	PASS
π/4DQPSK	2DH5	LCH	2.91	106.7	0.312	0.4	PASS
	2DH5	MCH	2.91	106.7	0.312	0.4	PASS
	2DH5	HCH	2.91	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.91	106.7	0.312	0.4	PASS
	3DH5	MCH	2.91	106.7	0.312	0.4	PASS
	3DH5	HCH	2.91	106.7	0.312	0.4	PASS



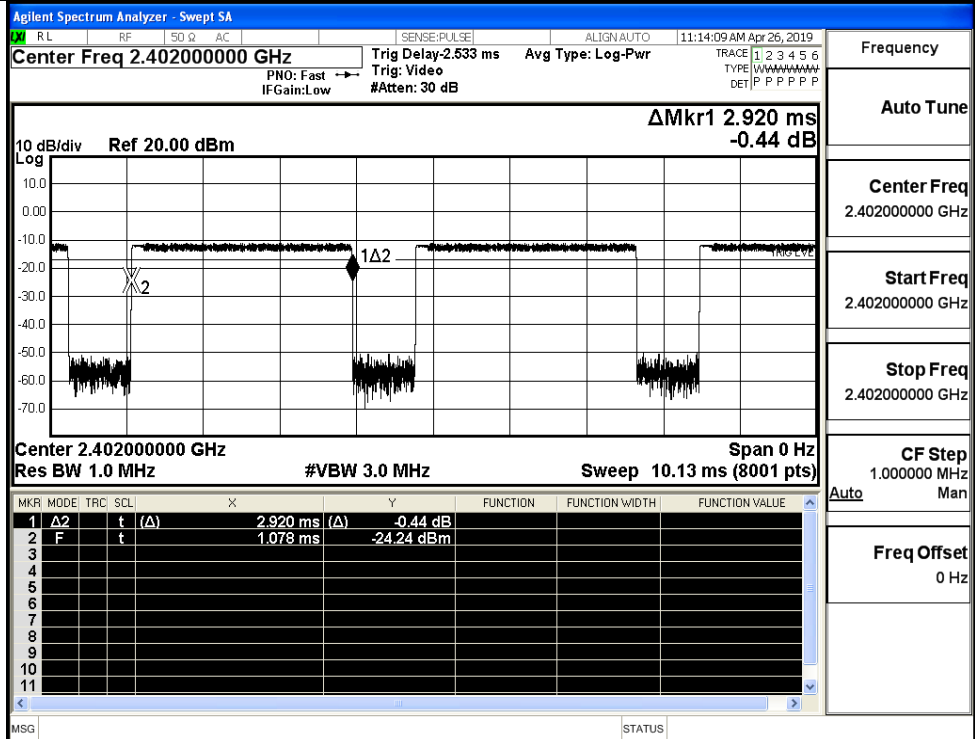
GFSK_DH5/MCH



GFSK_DH5/HCH

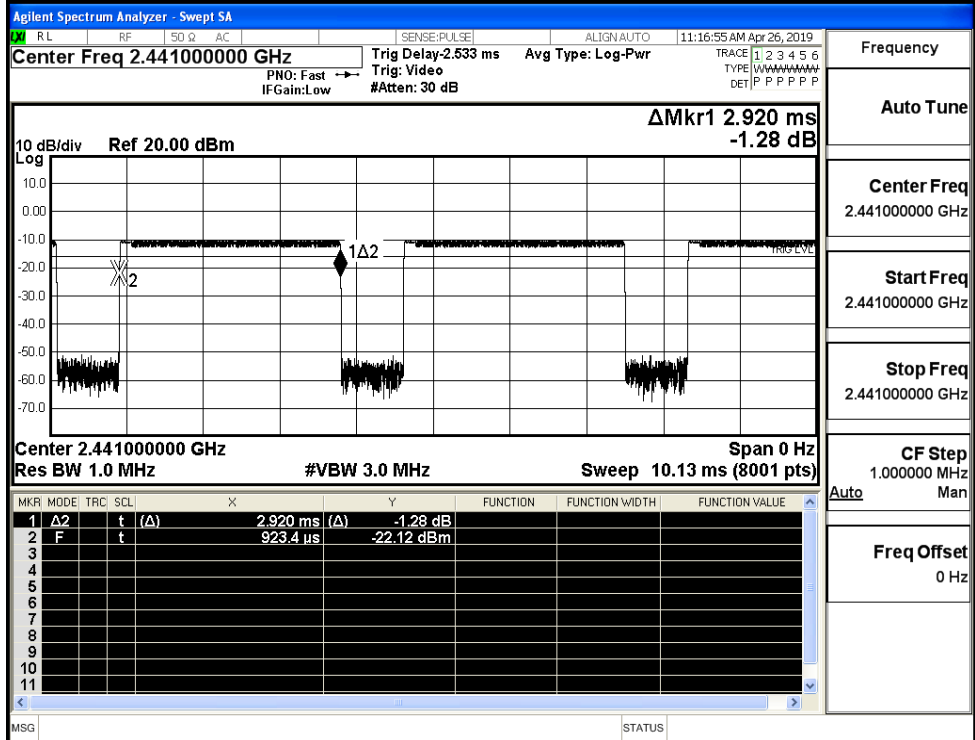


$\pi/4$ DQPSK
_2DH5/LCH



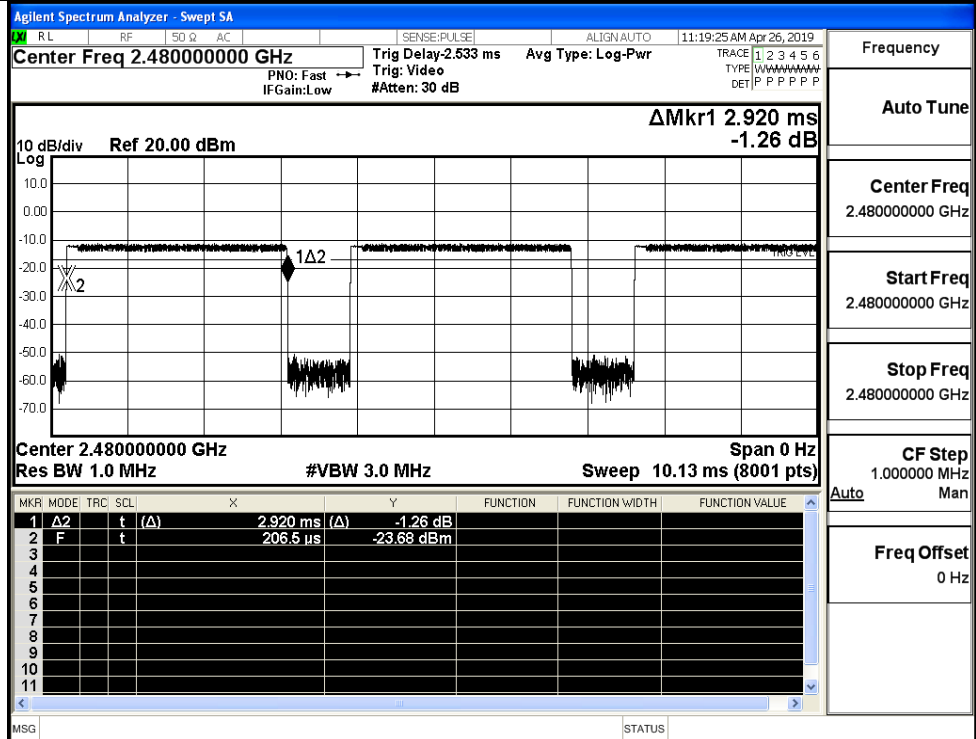
Frequency	2.402000000 GHz
Auto Tune	
Center Freq	2.402000000 GHz
Start Freq	2.402000000 GHz
Stop Freq	2.402000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

$\pi/4$ DQPSK
_2DH5/MCH

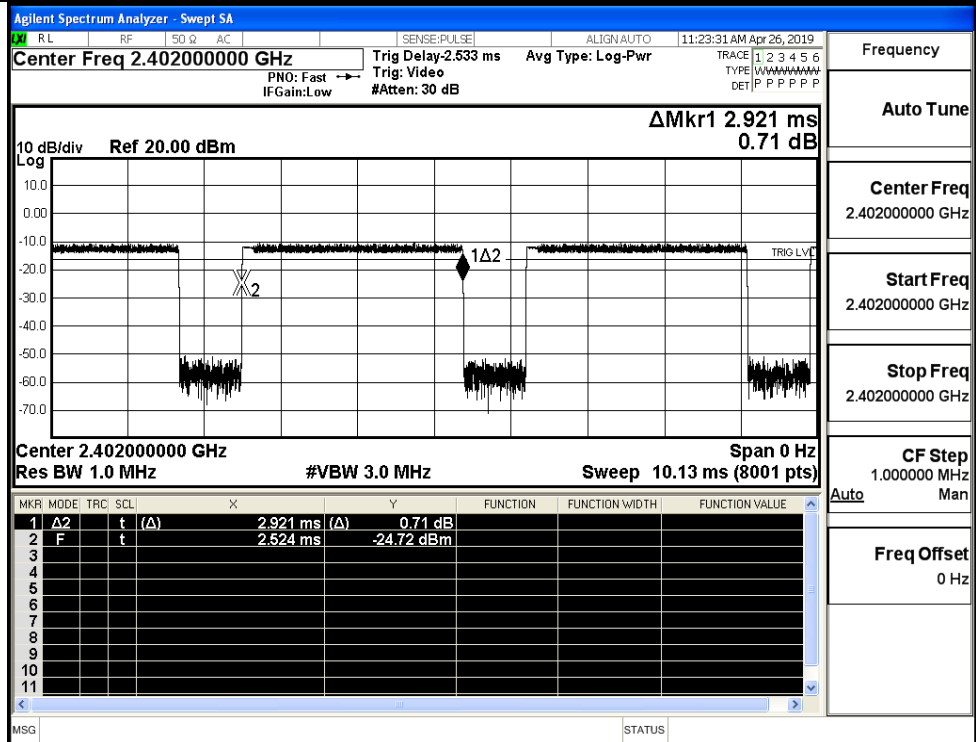


Frequency	2.441000000 GHz
Auto Tune	
Center Freq	2.441000000 GHz
Start Freq	2.441000000 GHz
Stop Freq	2.441000000 GHz
CF Step	1.000000 MHz
Auto	Man
Freq Offset	0 Hz

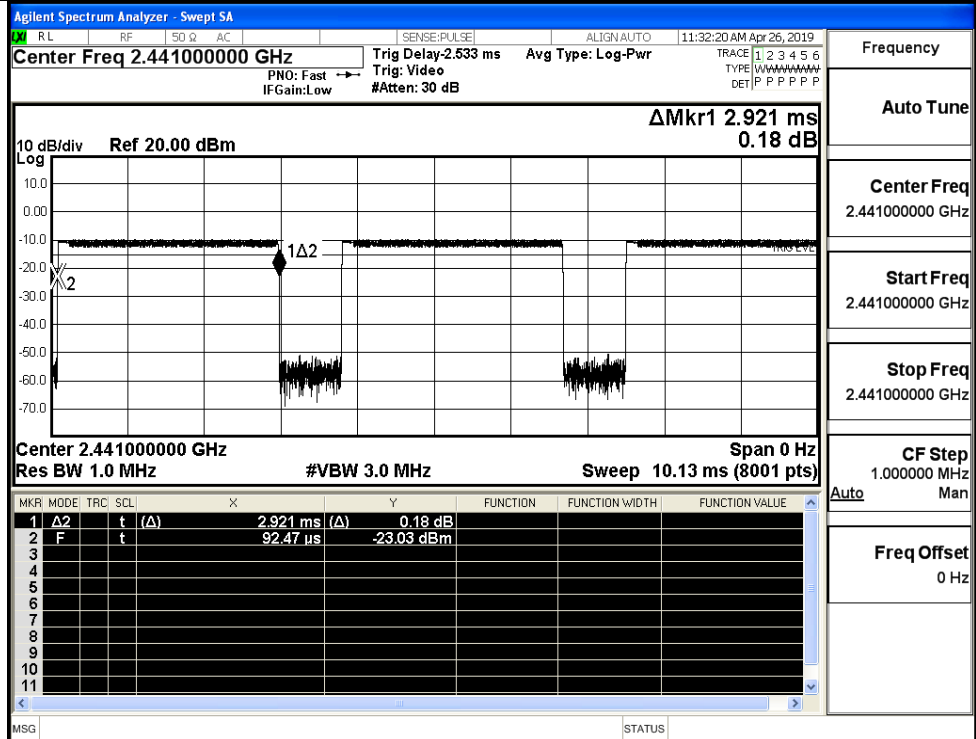
$\pi/4$ DQPSK
_2DH5/HCH



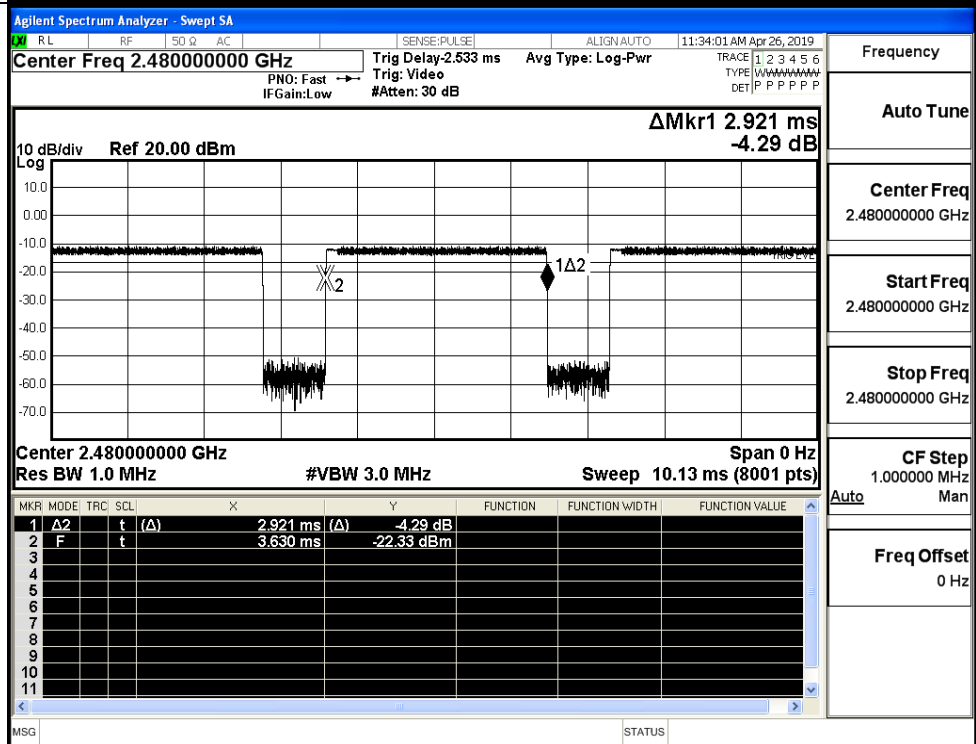
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



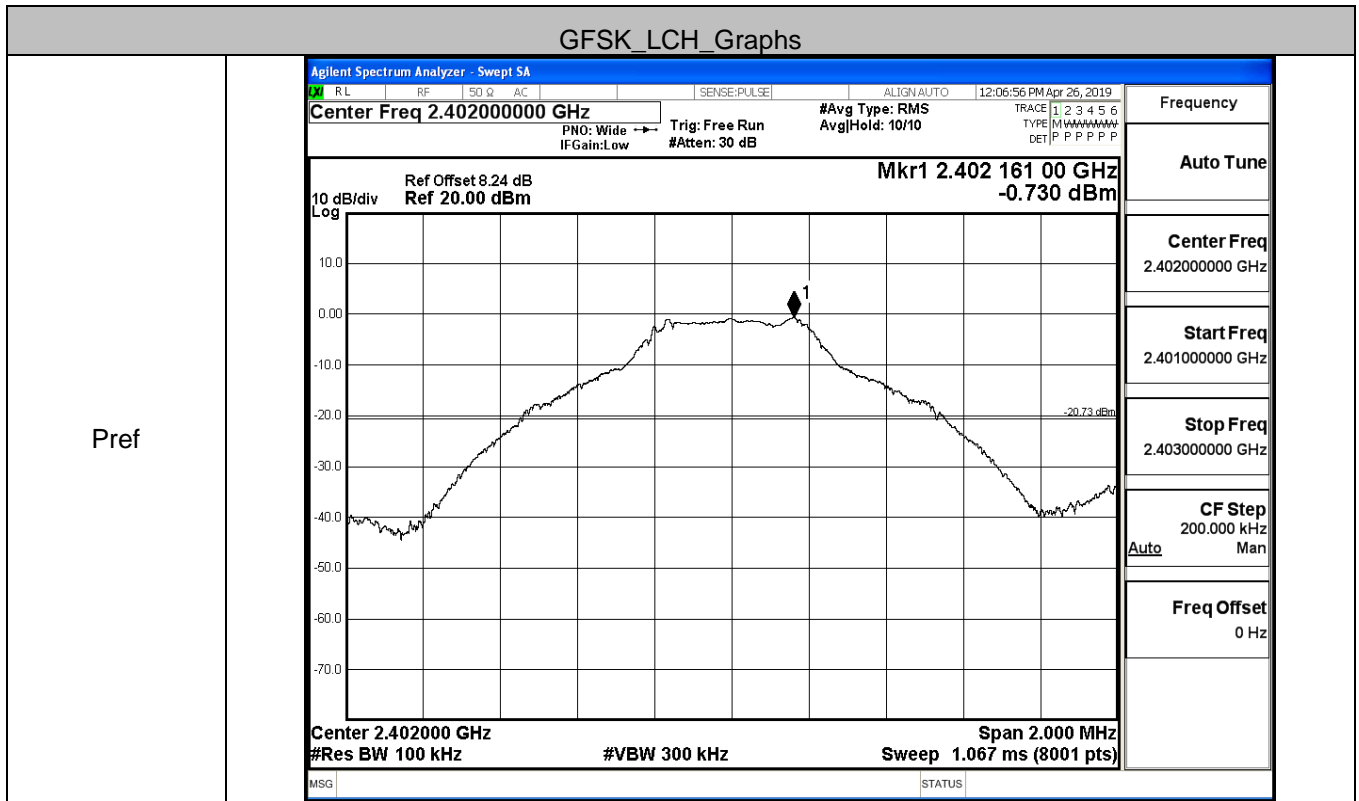
8DPSK_3DH5/HCH



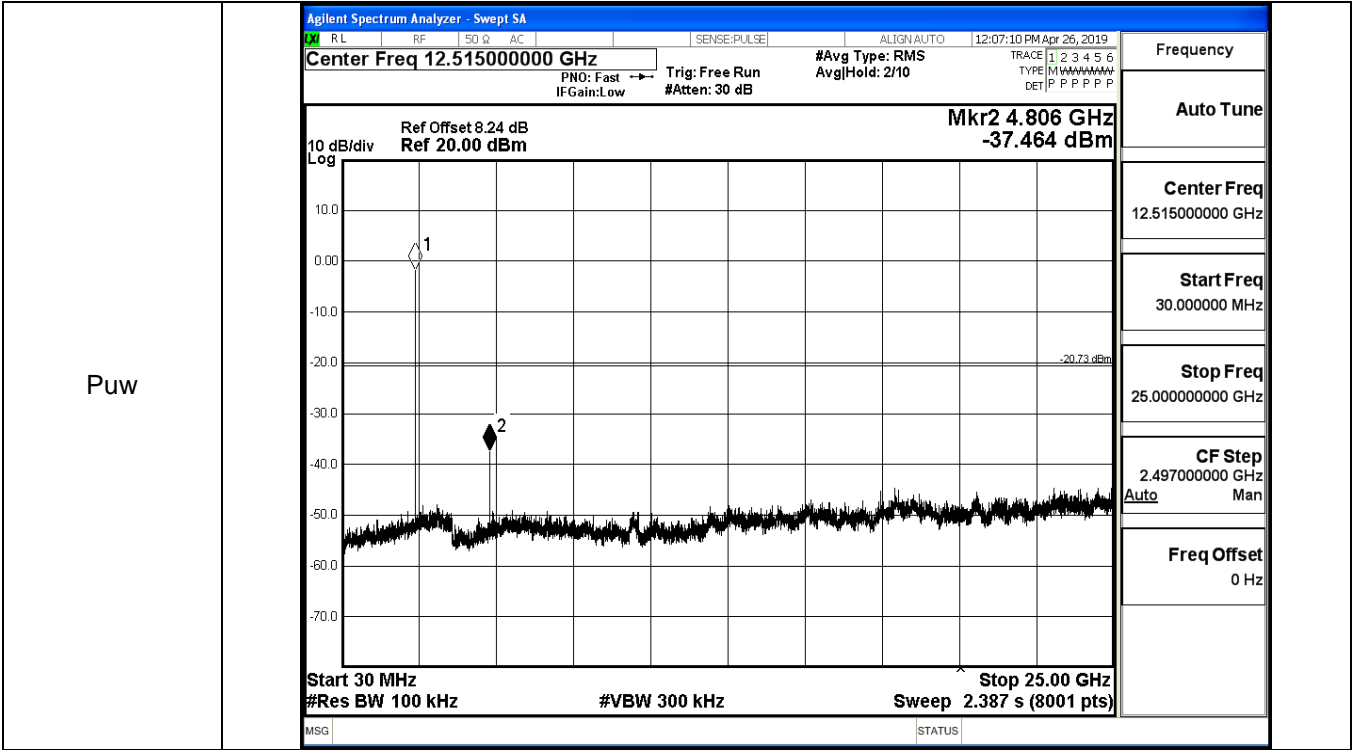
A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.73	-37.464	-20.730	PASS
	MCH	-0.724	-32.498	-20.724	PASS
	HCH	-1.471	-31.997	-21.471	PASS
π /4DQPSK	LCH	-3.764	-41.604	-23.764	PASS
	MCH	-2.691	-42.439	-22.691	PASS
	HCH	-3.904	-28.375	-23.904	PASS
8DPSK	LCH	-3.632	-43.864	-23.632	PASS
	MCH	-2.637	-40.620	-22.637	PASS
	HCH	-3.749	-38.857	-23.749	PASS

GFSK_LCH_Graphs

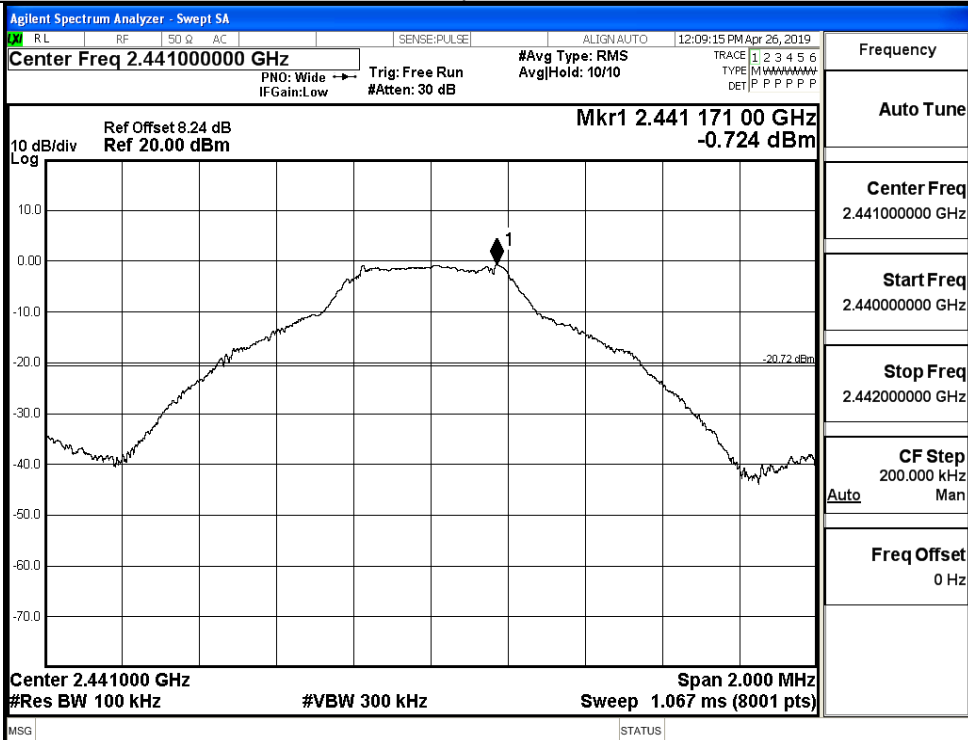


Pref

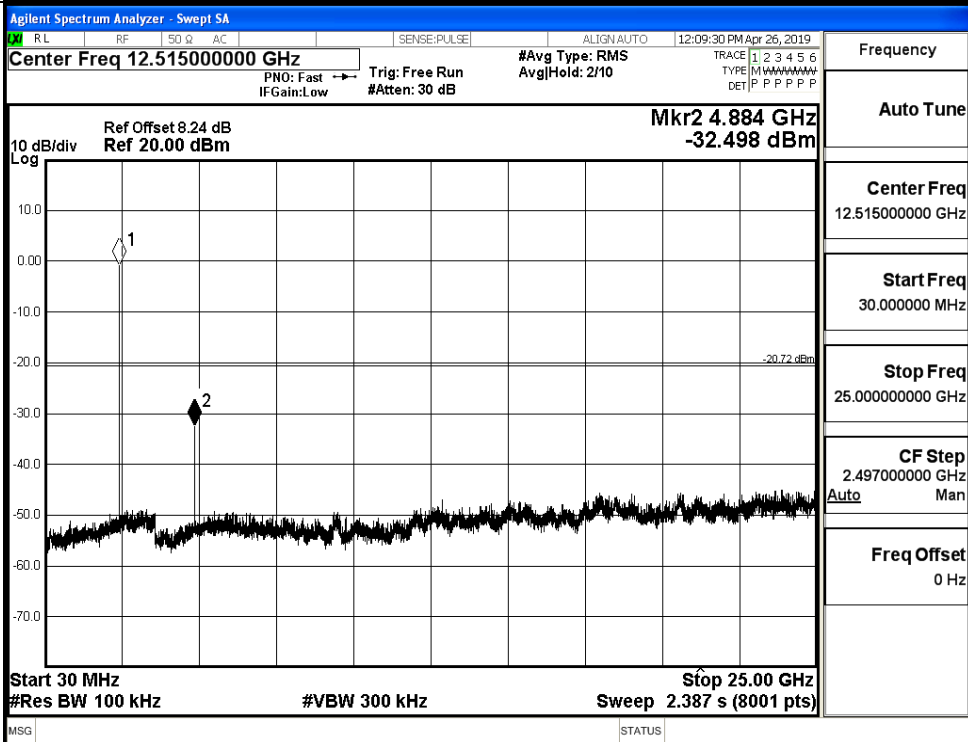


GFSK_MCH_Graphs

Pref

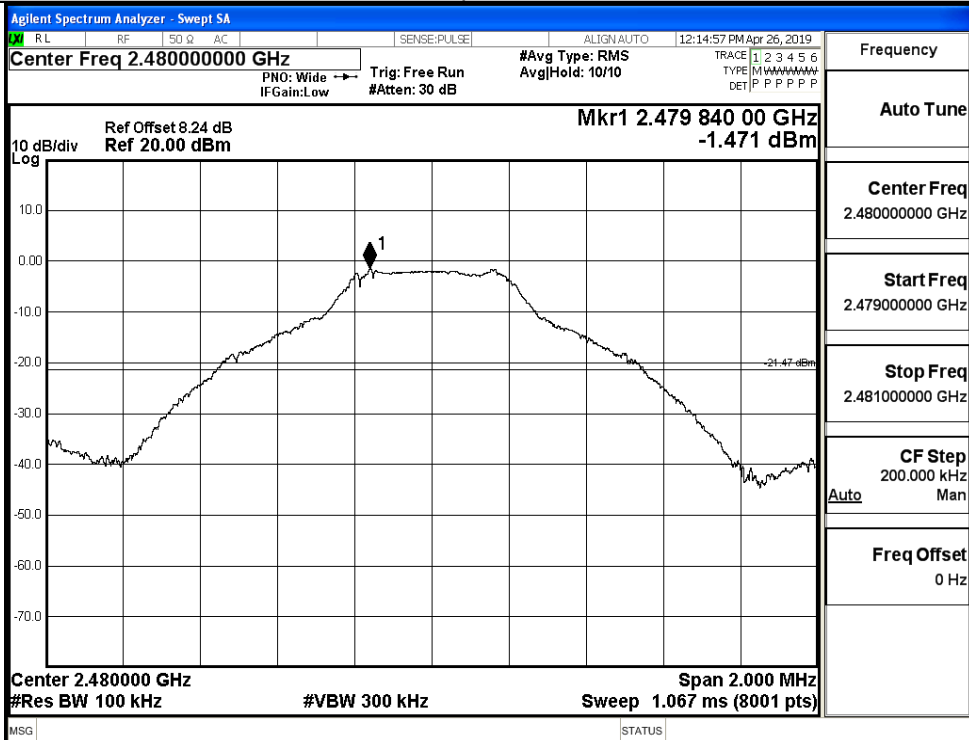


Puw

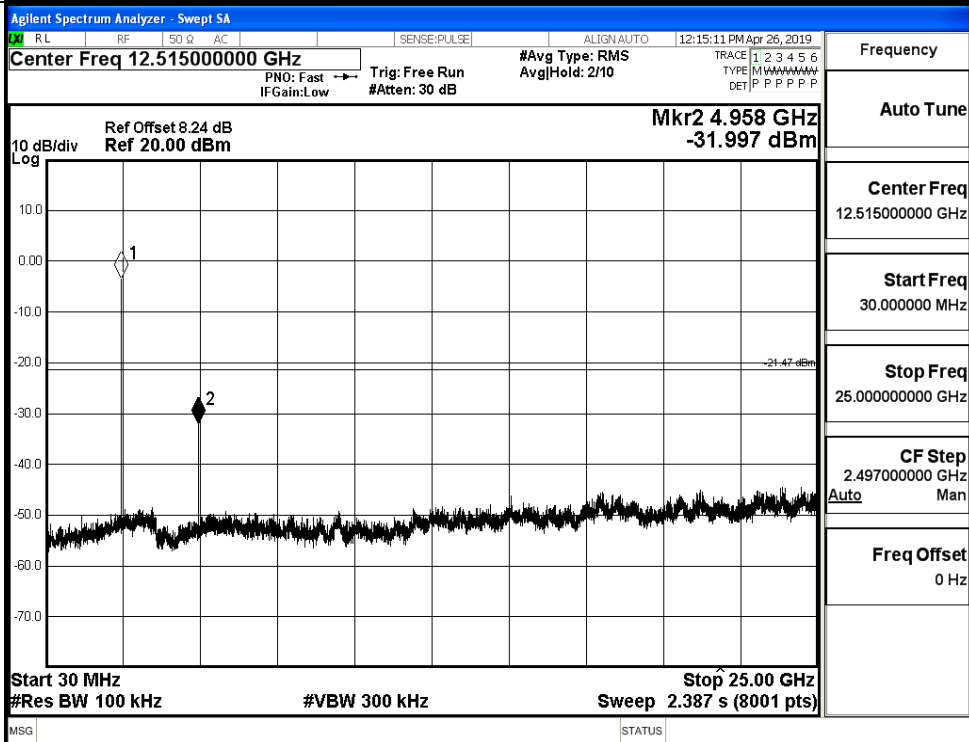


GFSK_HCH_Graphs

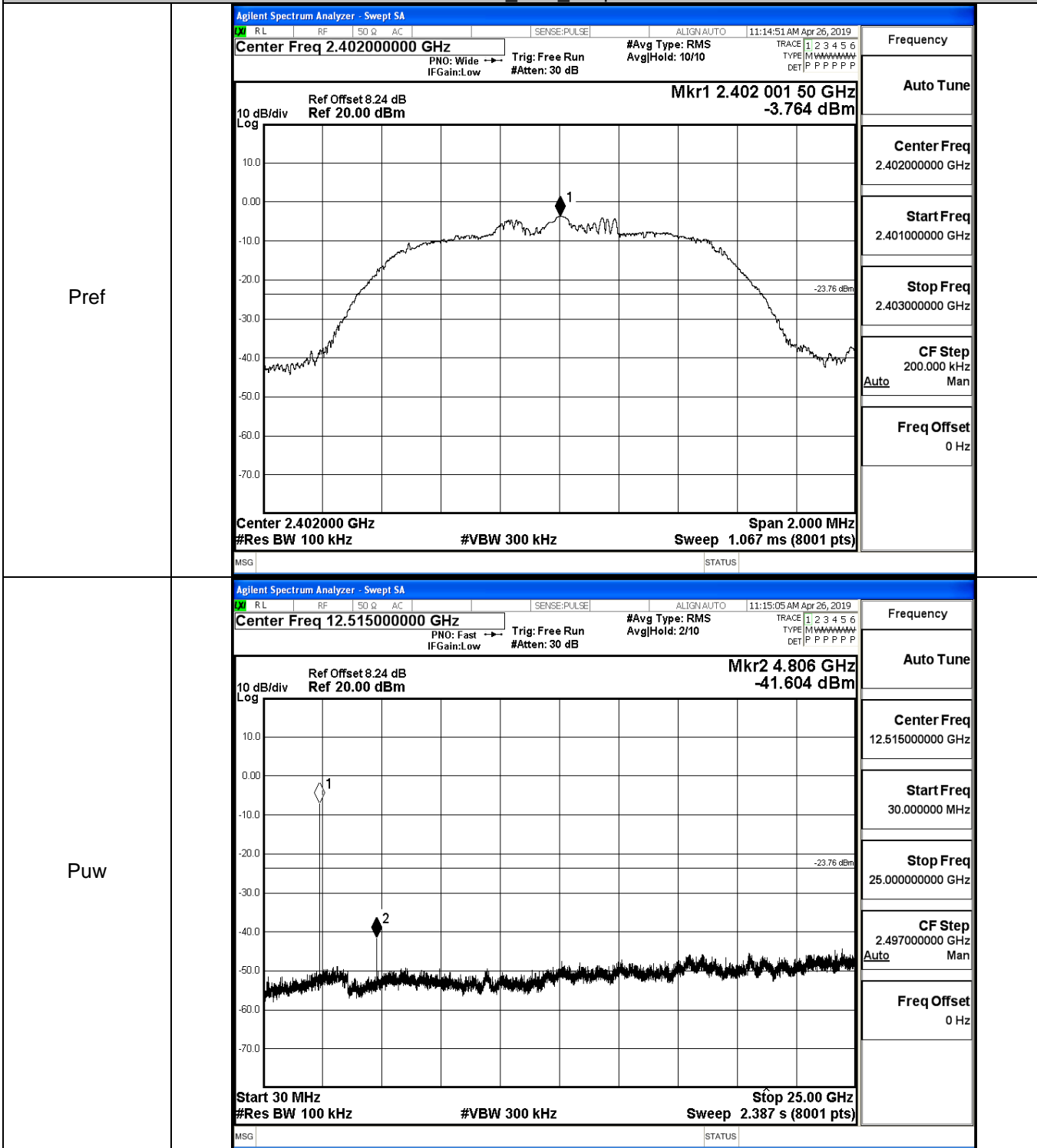
Pref



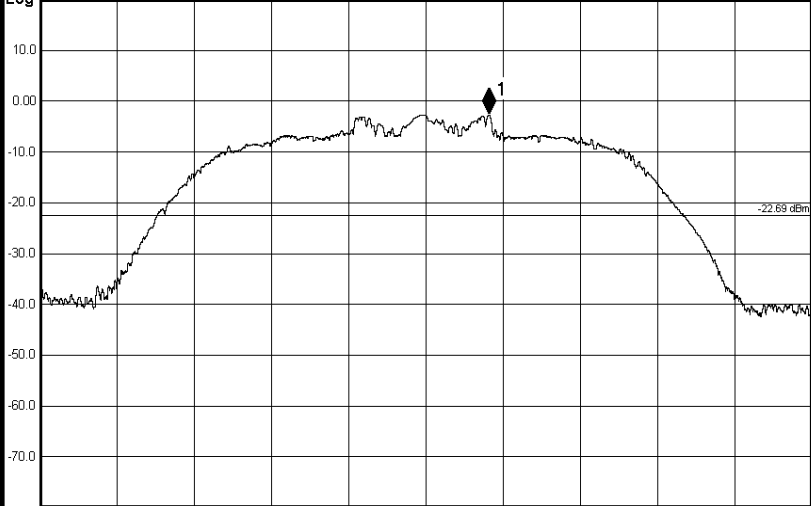
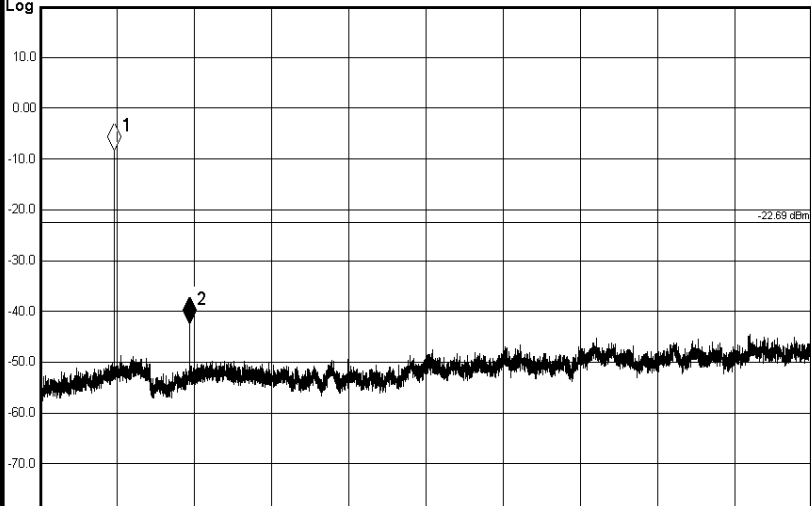
Puw



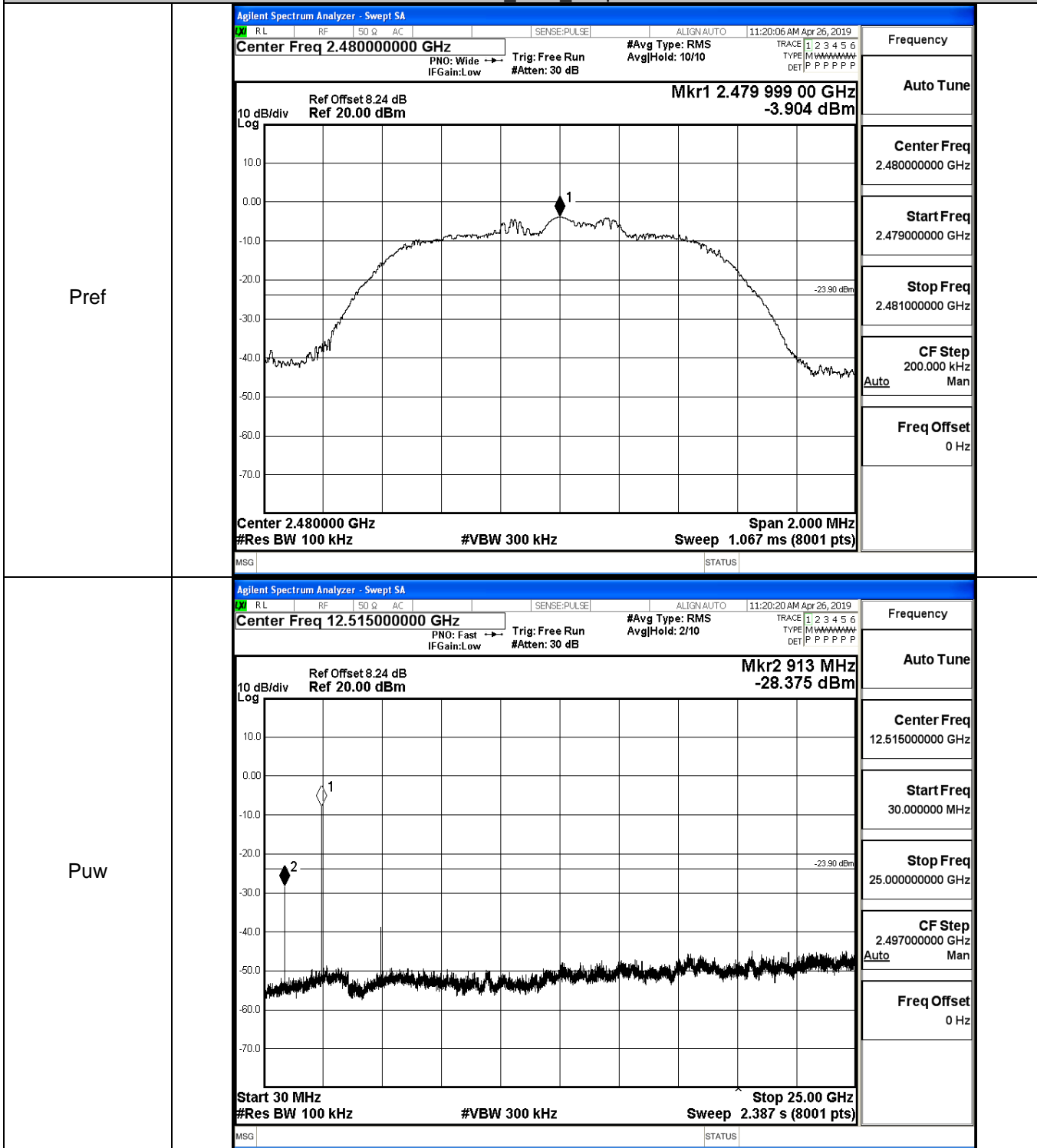
$\pi/4$ DQPSK_LCH_Graphs



$\pi/4$ DQPSK_MCH_Graphs

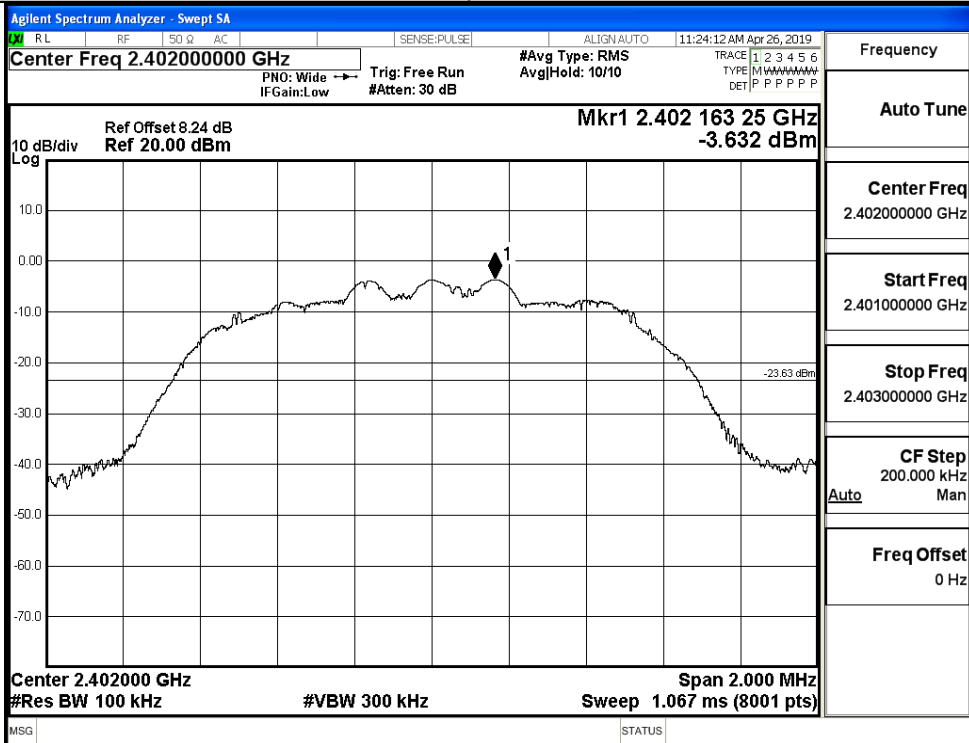
Pref	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.44100000 GHz</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p>  <p>Mkr1 2.441 162 75 GHz -2.691 dBm</p> <p>Center 2.441000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.441000000 GHz</p> <p>Start Freq 2.440000000 GHz</p> <p>Stop Freq 2.442000000 GHz</p> <p>CF Step 200.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
Puw	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 12.51500000 GHz</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p>  <p>Mkr2 4.880 GHz -42.439 dBm</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.387 s (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 2.497000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>

$\pi/4$ DQPSK_HCH_Graphs

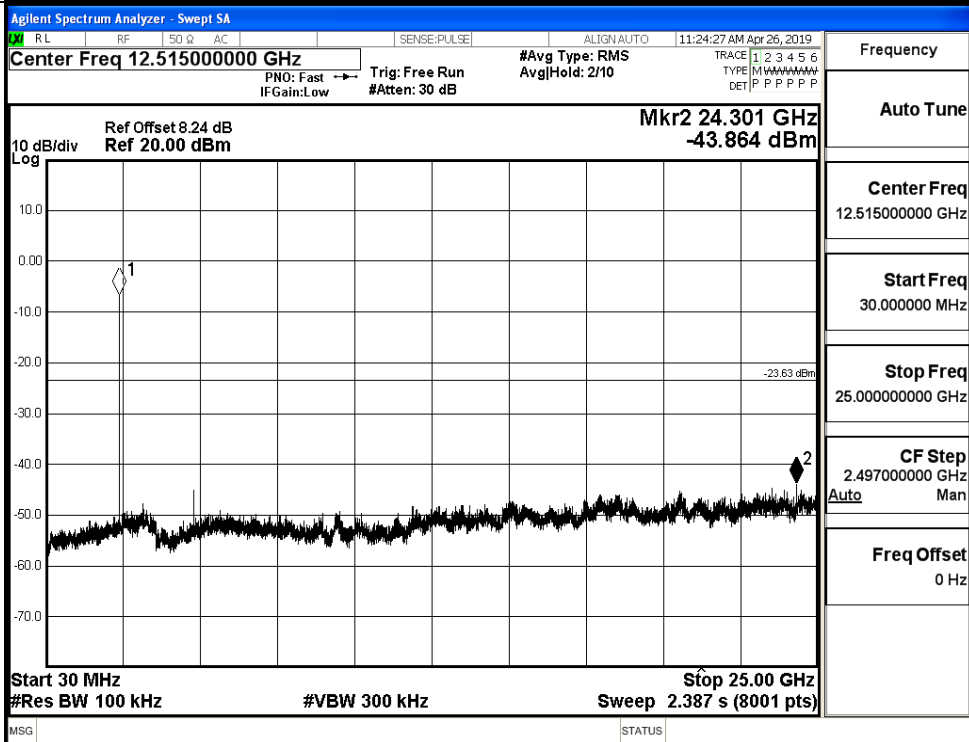


8DPSK_LCH_Graphs

Pref

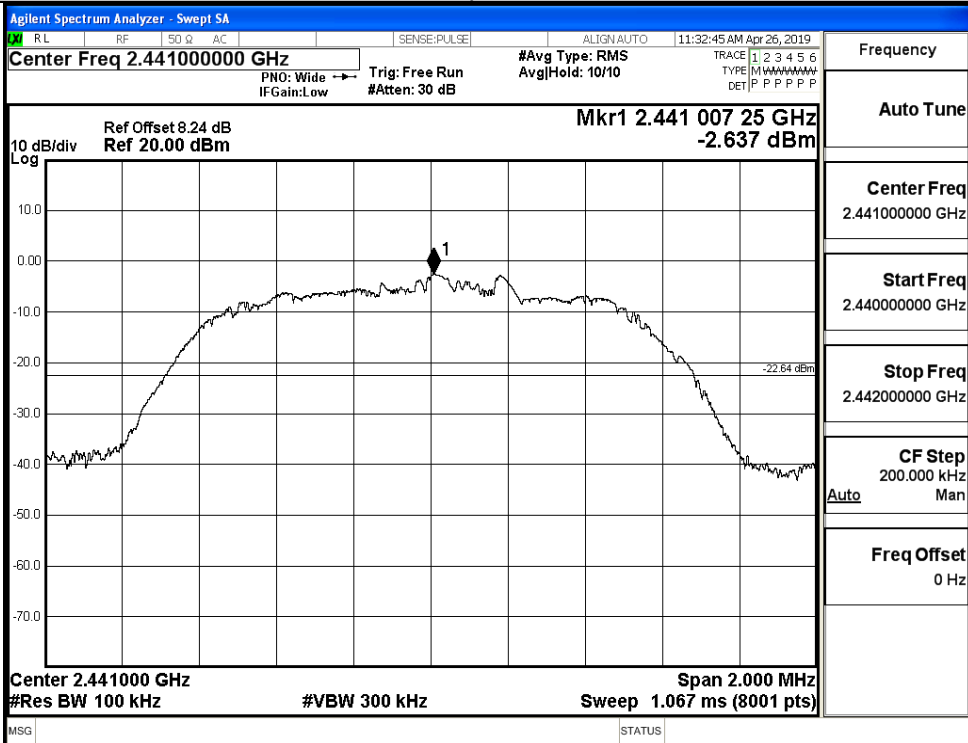


Puw

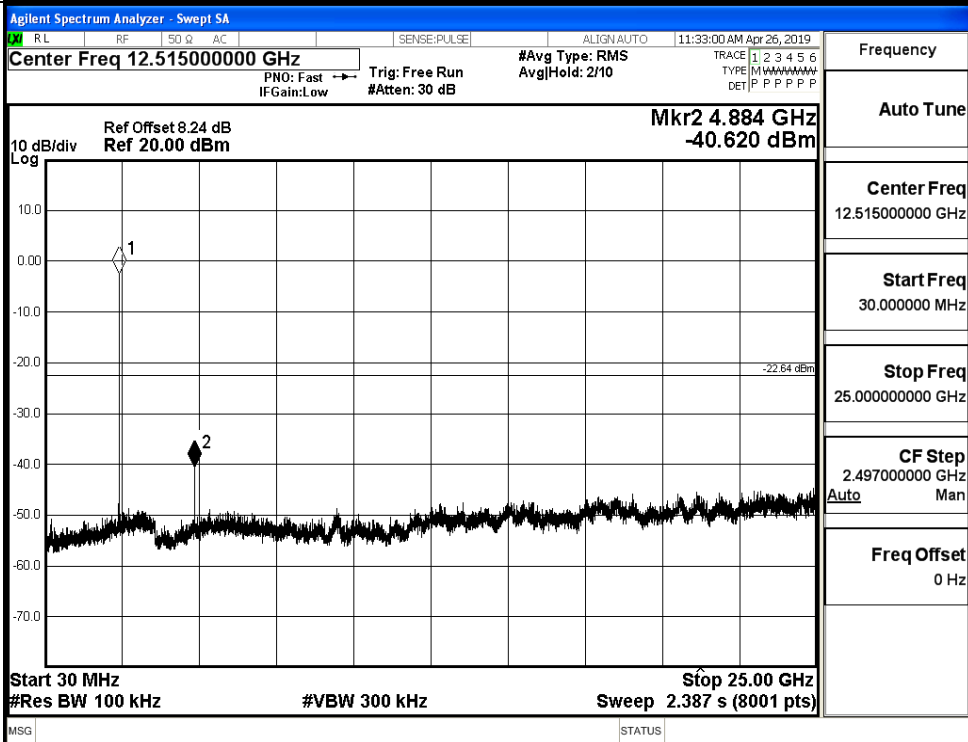


8DPSK_MCH_Graphs

Pref

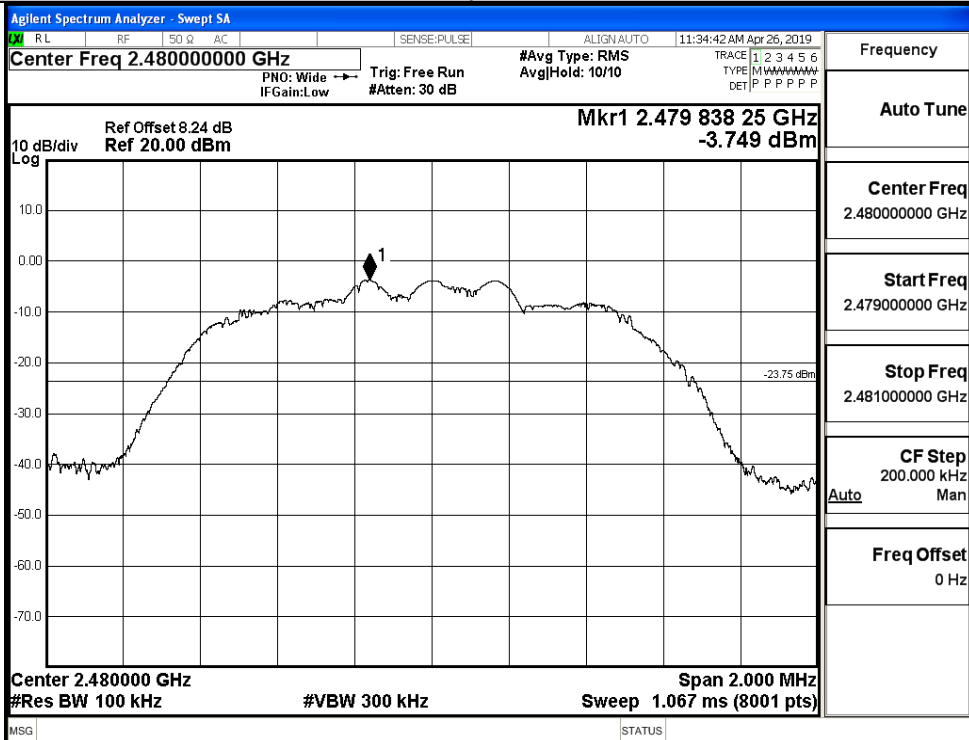


Puw

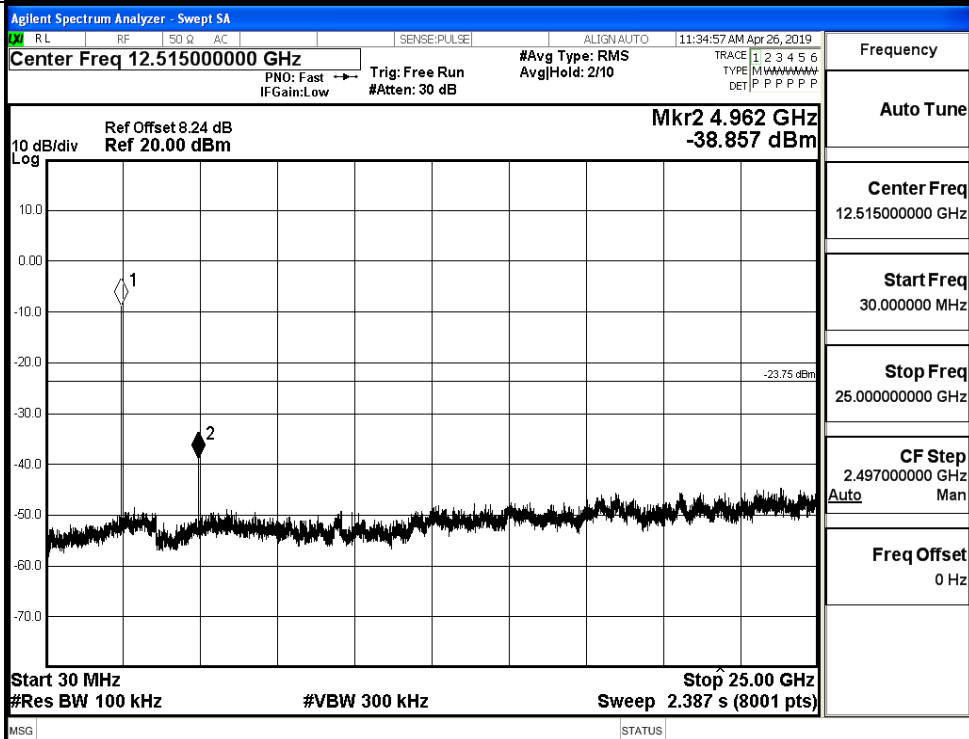


8DPSK_HCH_Graphs

Pref



Puw

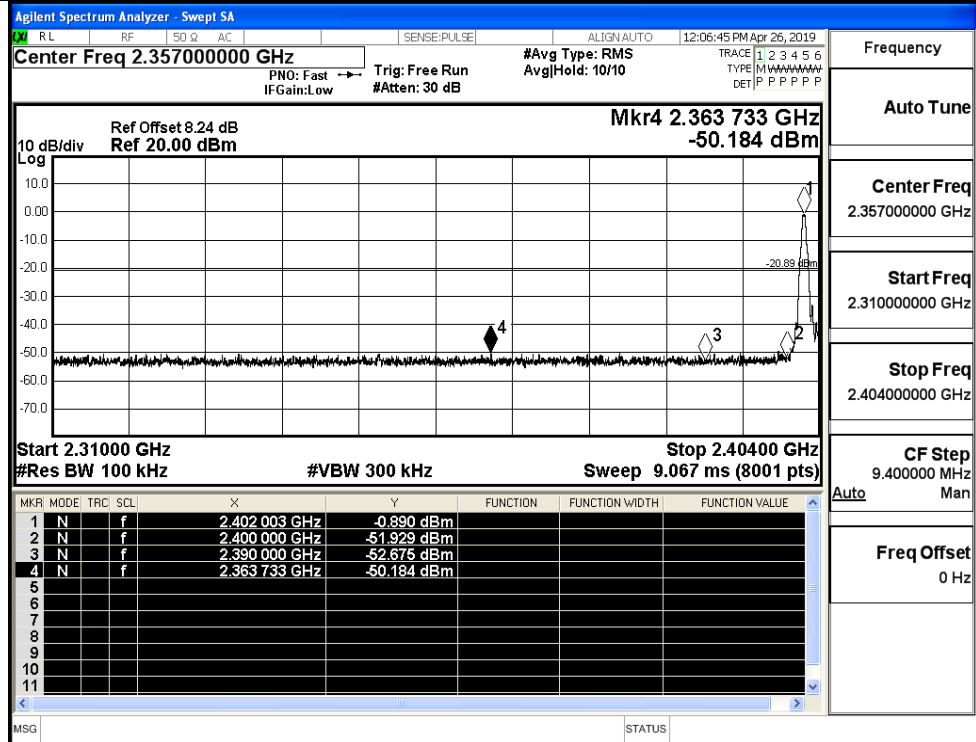


A.7 Band-edge for RF Conducted Emissions

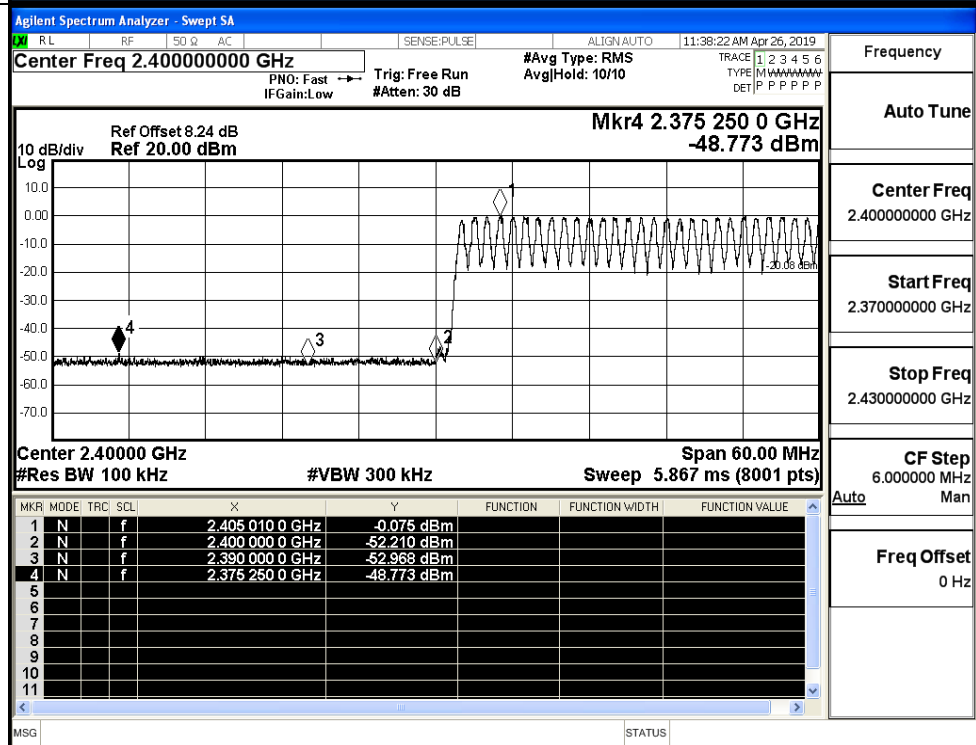
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.890	Off	-50.184	-20.89	PASS
			-0.075	On	-48.773	-20.08	PASS
	HCH	2480	-1.312	Off	-49.262	-21.31	PASS
			-1.206	On	-49.036	-21.21	PASS
$\pi/4$ DQPSK	LCH	2402	-4.376	Off	-49.778	-24.38	PASS
			-2.214	On	-49.532	-22.21	PASS
	HCH	2480	-3.835	Off	-48.218	-23.84	PASS
			-3.735	On	-49.285	-23.74	PASS
8DPSK	LCH	2402	-3.786	Off	-50.024	-23.79	PASS
			-2.370	On	-48.881	-22.37	PASS
	HCH	2480	-3.727	Off	-50.035	-23.73	PASS
			-3.824	On	-48.941	-23.82	PASS

Test Graphs

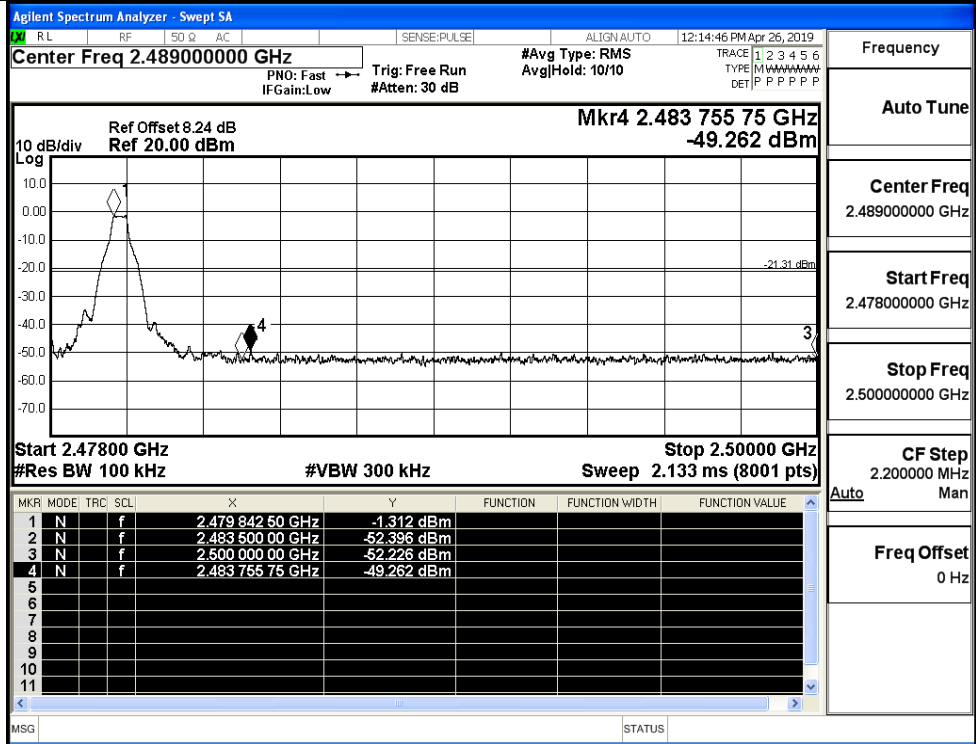
GFSK/LCH/No Hop



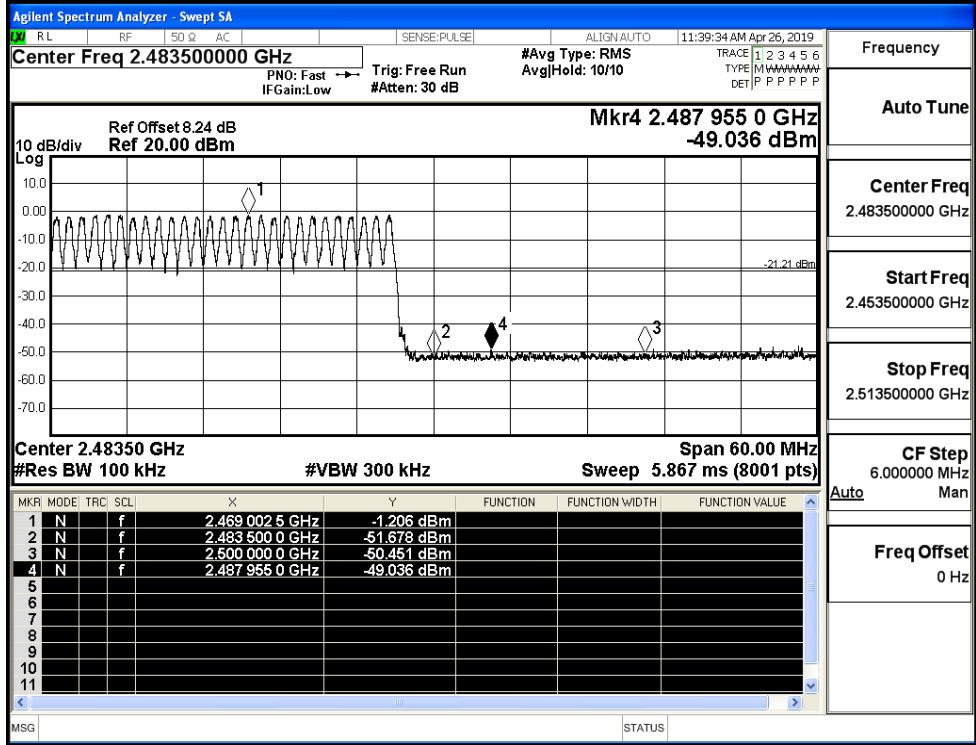
GFSK/LCH/Hop



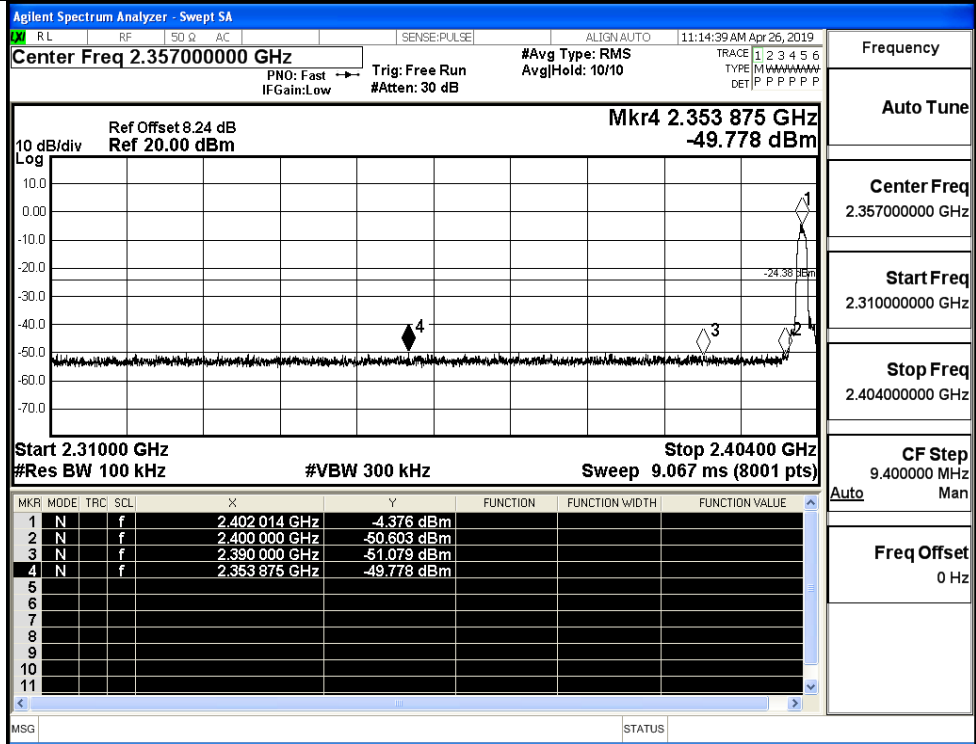
GFSK/HCH/No Hop



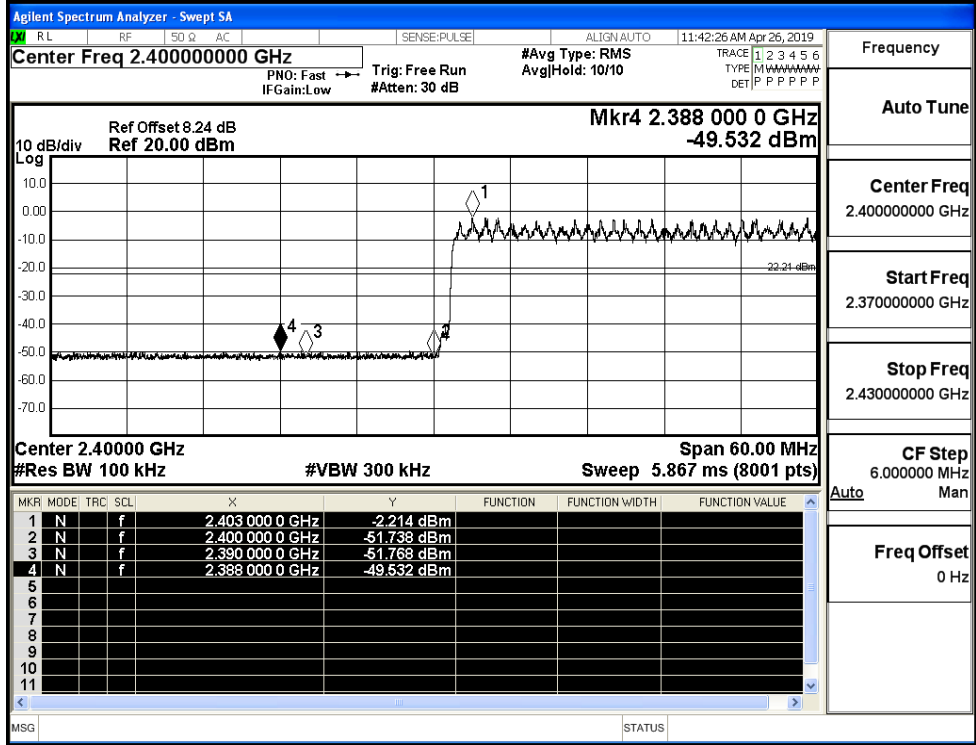
GFSK/HCH/Hop



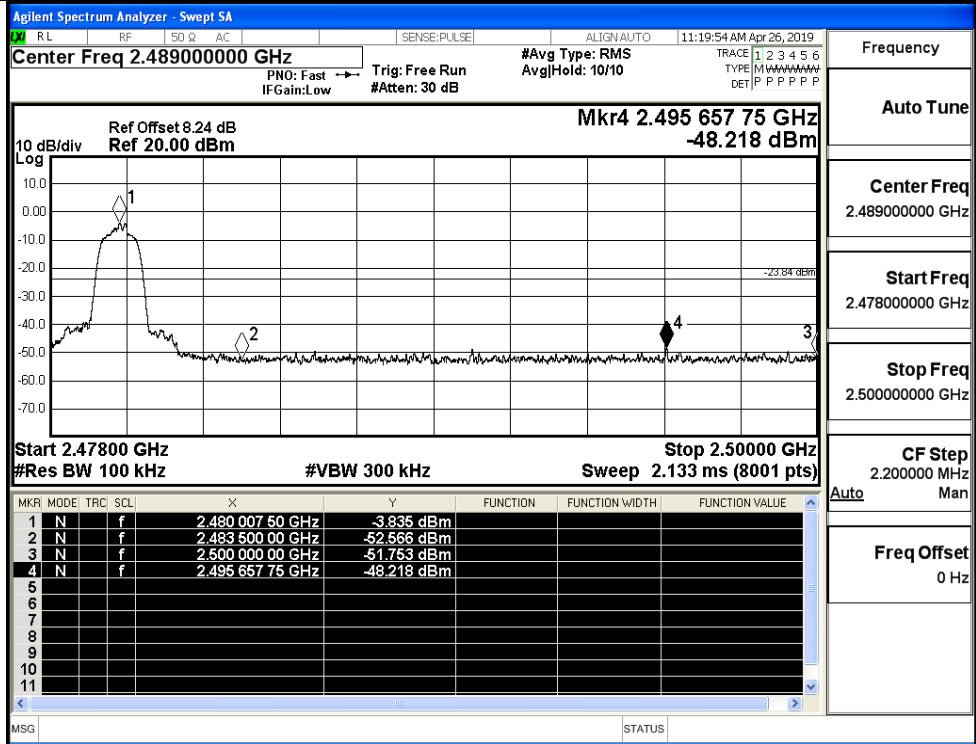
$\pi/4$ DQPSK/LCH/No Hop



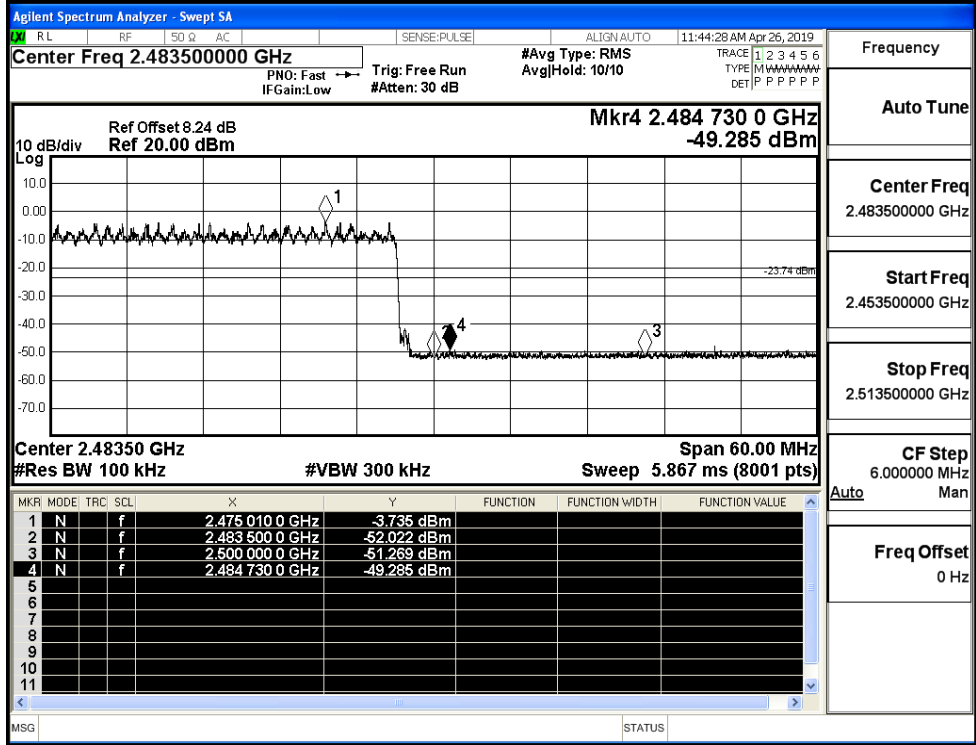
$\pi/4$ DQPSK/LCH/Hop



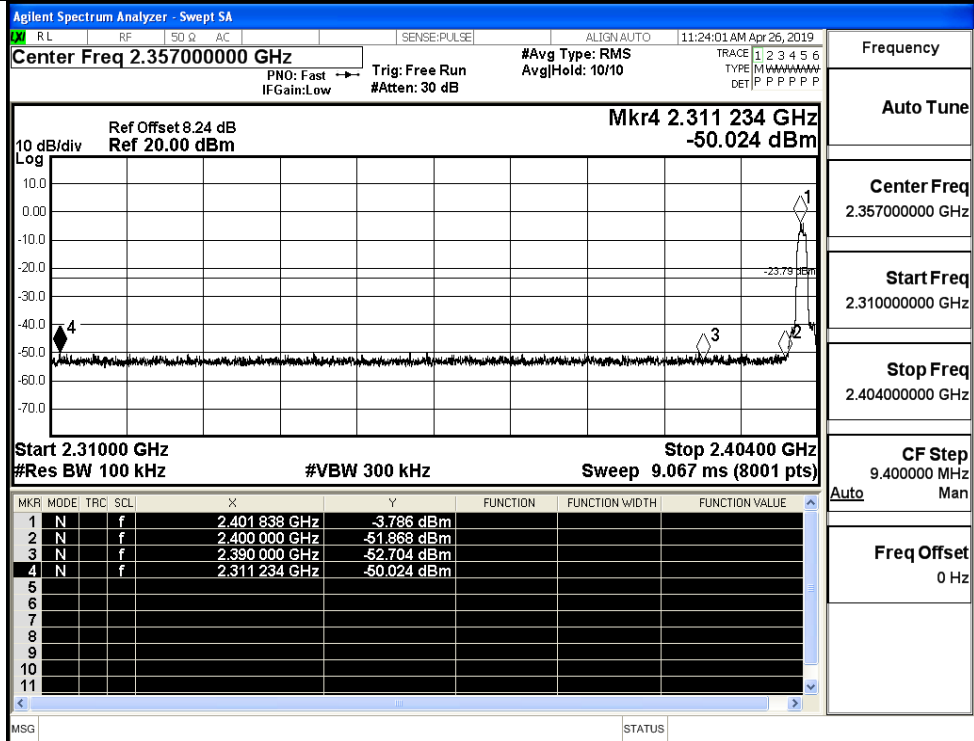
π /4DQPSK/HCH/No
Hop



π /4DQPSK/HCH/Hop

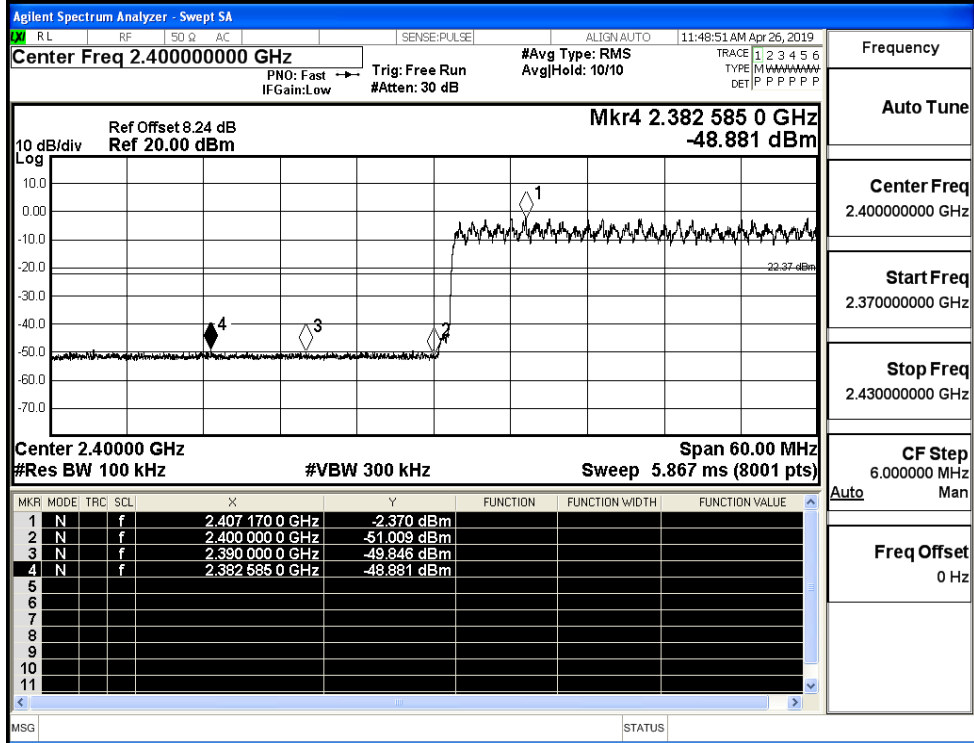


8DPSK/LCH/No Hop



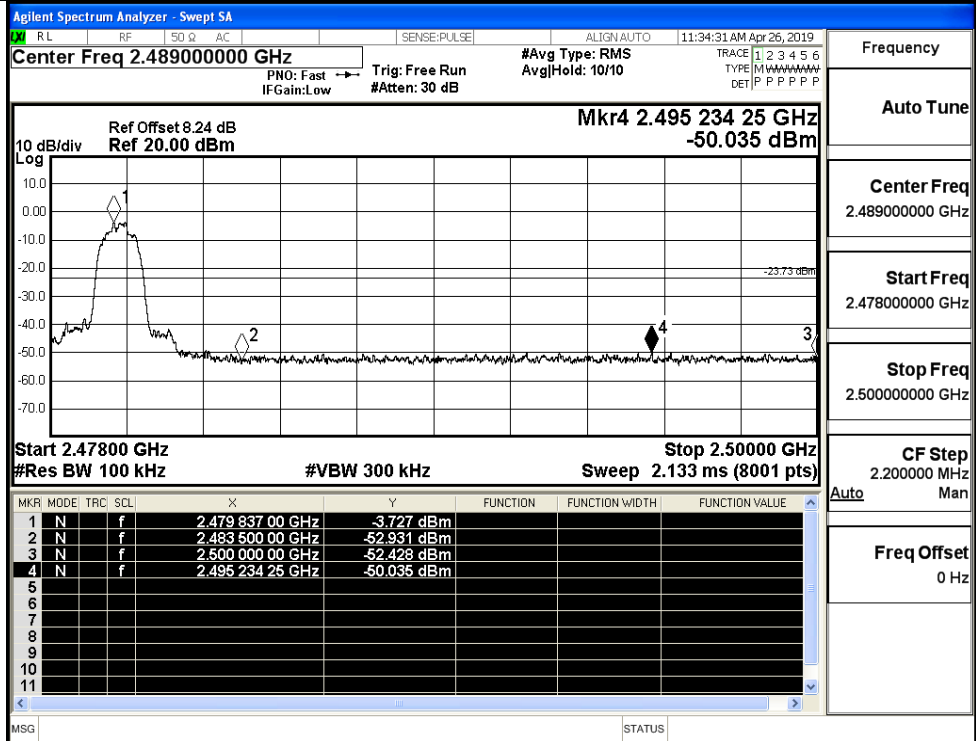
Frequency
Auto Tune
Center Freq
2.357000000 GHz
Start Freq
2.310000000 GHz
Stop Freq
2.404000000 GHz
CF Step
9.400000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/LCH/Hop



Frequency
Auto Tune
Center Freq
2.400000000 GHz
Start Freq
2.370000000 GHz
Stop Freq
2.430000000 GHz
CF Step
6.000000 MHz
Auto Man
Freq Offset
0 Hz

8DPSK/HCH/No Hop



Frequency

Auto Tune

Center Freq
2.489000000 GHz

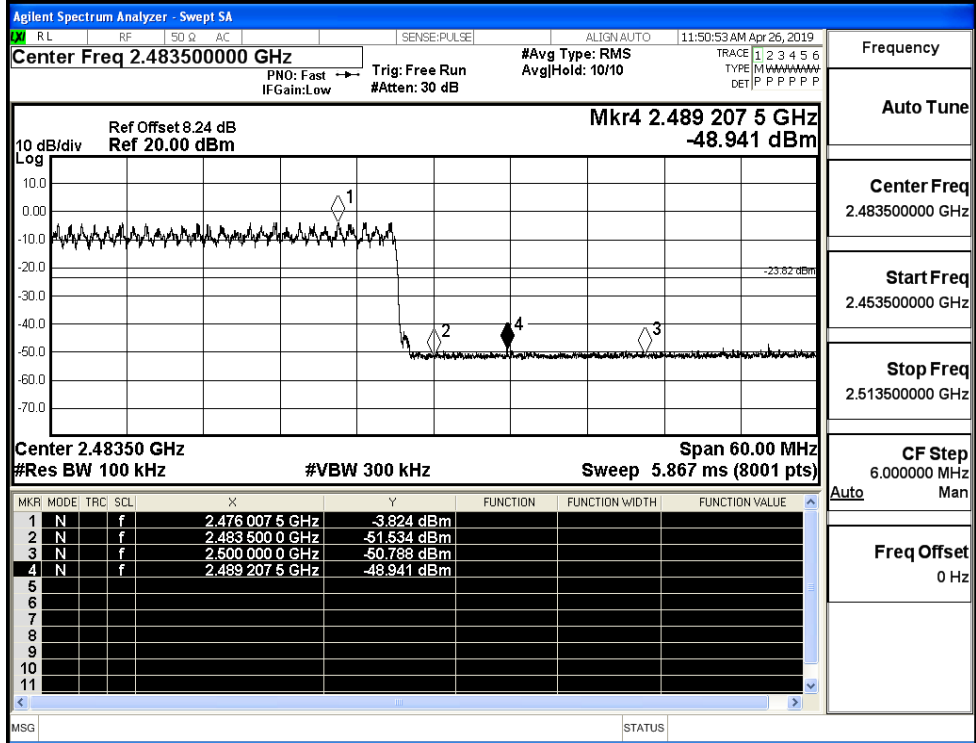
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Freq Offset
0 Hz

8DPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

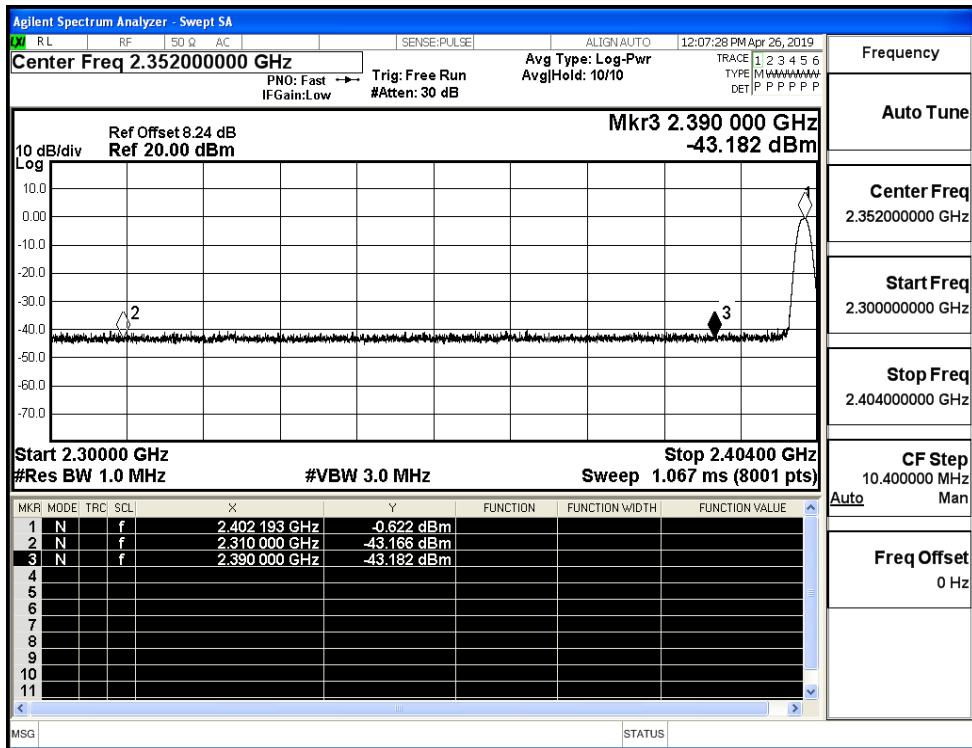
CF Step
6.000000 MHz

Freq Offset
0 Hz

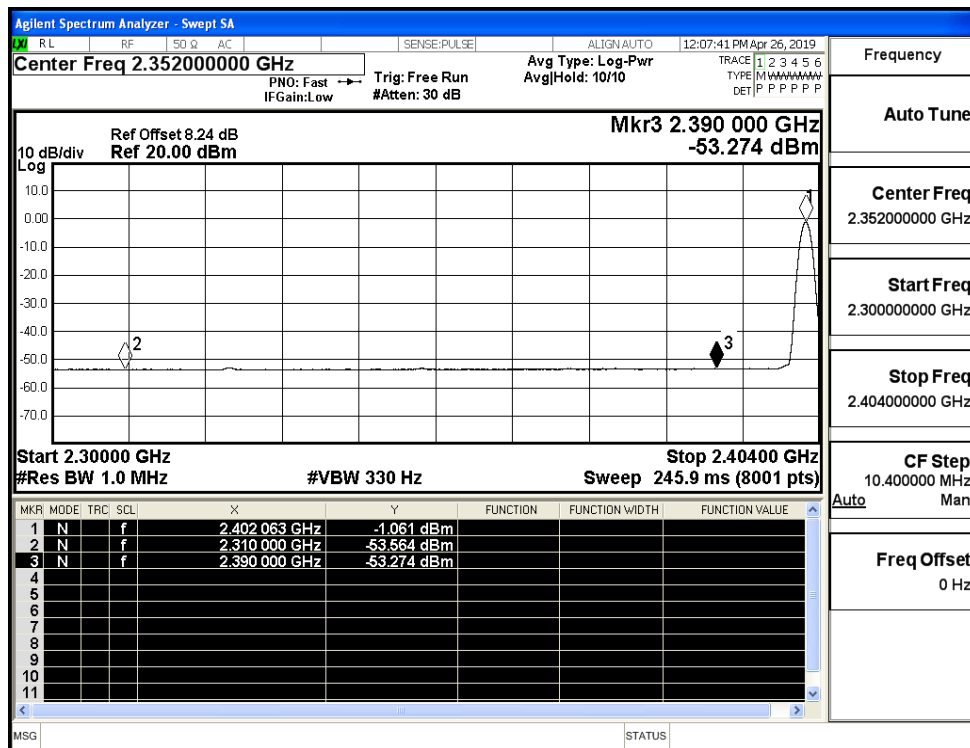
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.17	2.0	0	52.09	PEAK	74	PASS
	Off	2310.0	-53.56	2.0	0	41.69	AV	54	PASS
	Off	2390.0	-43.18	2.0	0	52.08	PEAK	74	PASS
	Off	2390.0	-53.27	2.0	0	41.98	AV	54	PASS
	Off	2483.5	-42.84	2.0	0	52.42	PEAK	74	PASS
	Off	2483.5	-52.75	2.0	0	42.50	AV	54	PASS
	Off	2500.0	-43.37	2.0	0	51.89	PEAK	74	PASS
	Off	2500.0	-52.94	2.0	0	42.31	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.15	2.0	0	52.11	PEAK	74	PASS
	Off	2310.0	-53.58	2.0	0	41.68	AV	54	PASS
	Off	2390.0	-43.86	2.0	0	51.40	PEAK	74	PASS
	Off	2390.0	-53.34	2.0	0	41.91	AV	54	PASS
	Off	2483.5	-42.67	2.0	0	52.59	PEAK	74	PASS
	Off	2483.5	-52.86	2.0	0	42.40	AV	54	PASS
	Off	2500.0	-43.06	2.0	0	52.20	PEAK	74	PASS
	Off	2500.0	-52.92	2.0	0	42.34	AV	54	PASS
8DPSK	Off	2310.0	-42.50	2.0	0	52.76	PEAK	74	PASS
	Off	2310.0	-53.41	2.0	0	41.85	AV	54	PASS
	Off	2390.0	-43.96	2.0	0	51.30	PEAK	74	PASS
	Off	2390.0	-53.15	2.0	0	42.11	AV	54	PASS
	Off	2483.5	-42.43	2.0	0	52.83	PEAK	74	PASS
	Off	2483.5	-52.85	2.0	0	42.41	AV	54	PASS
	Off	2500.0	-42.68	2.0	0	52.58	PEAK	74	PASS
	Off	2500.0	-52.84	2.0	0	42.42	AV	54	PASS

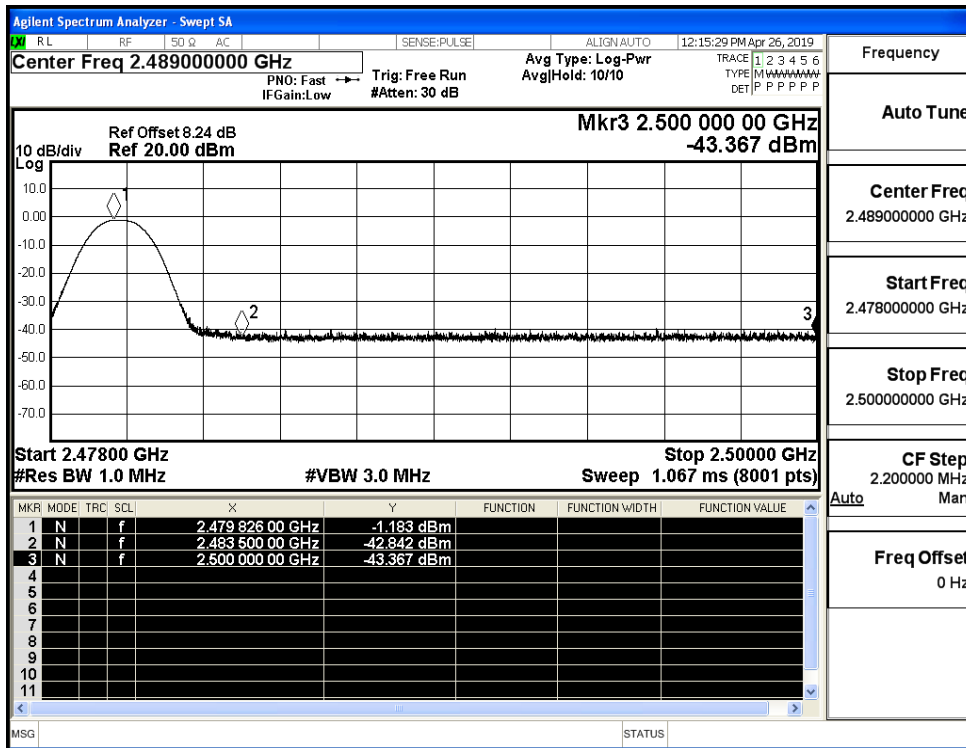
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



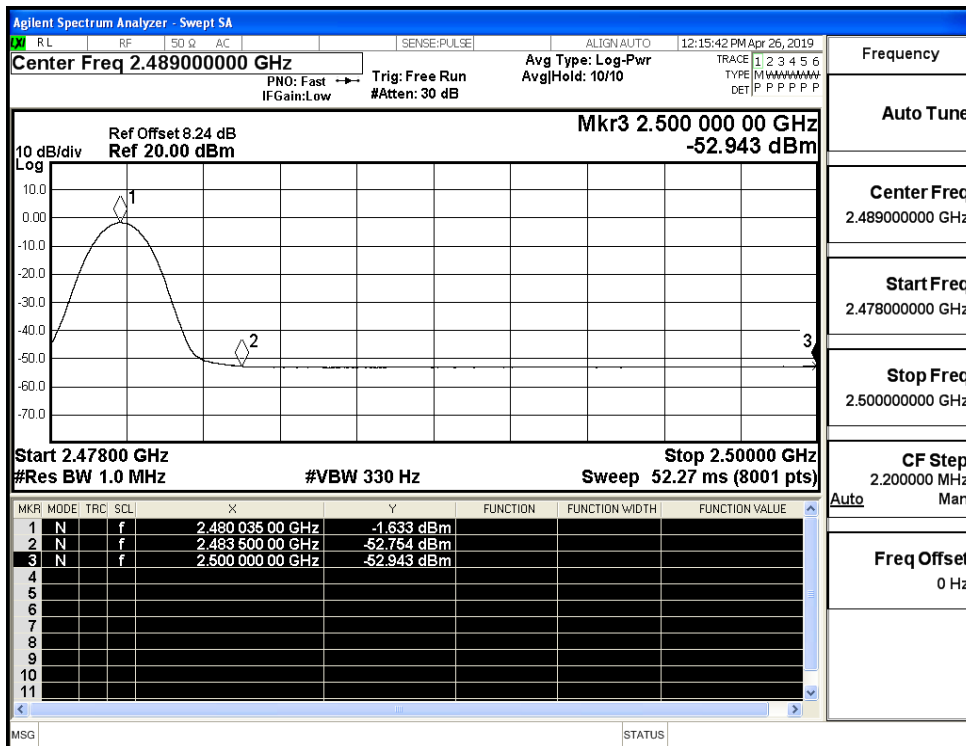
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



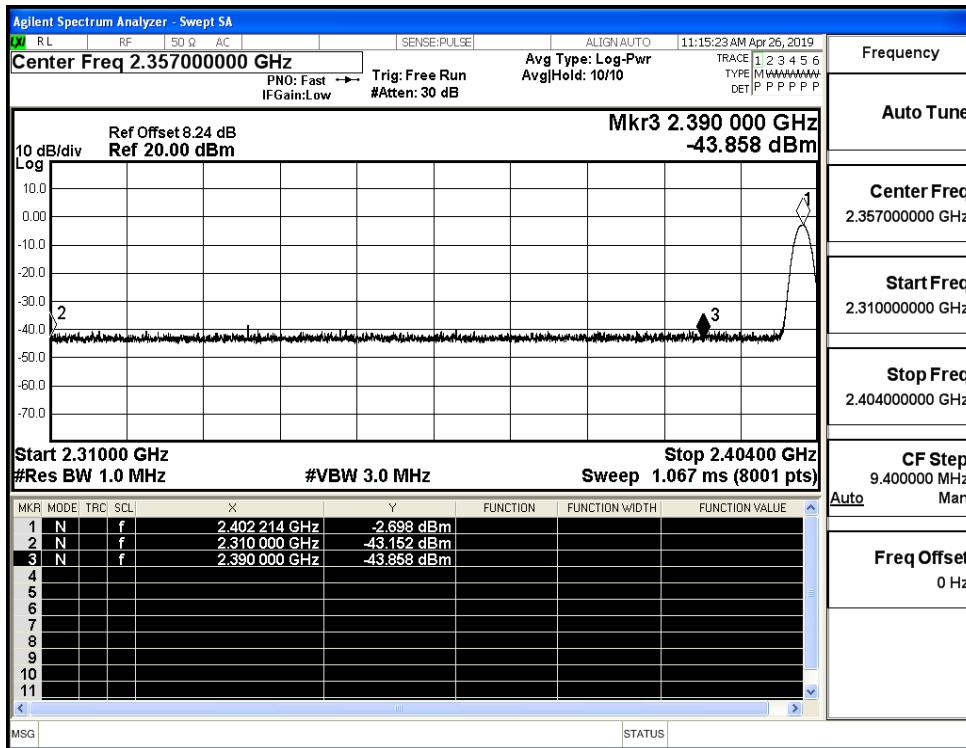
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



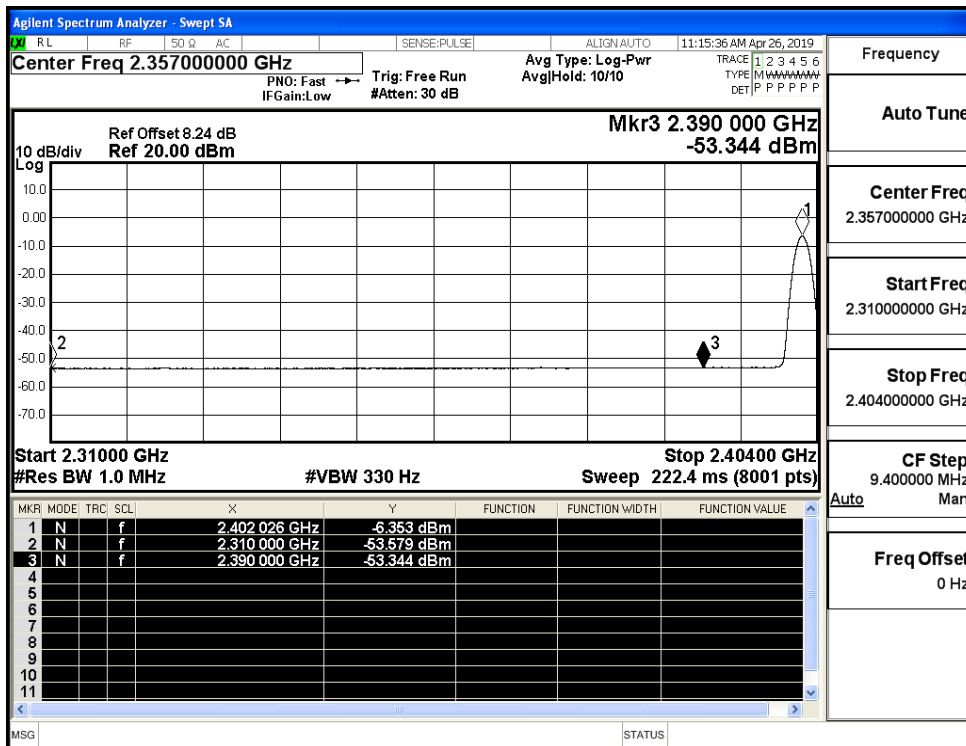
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



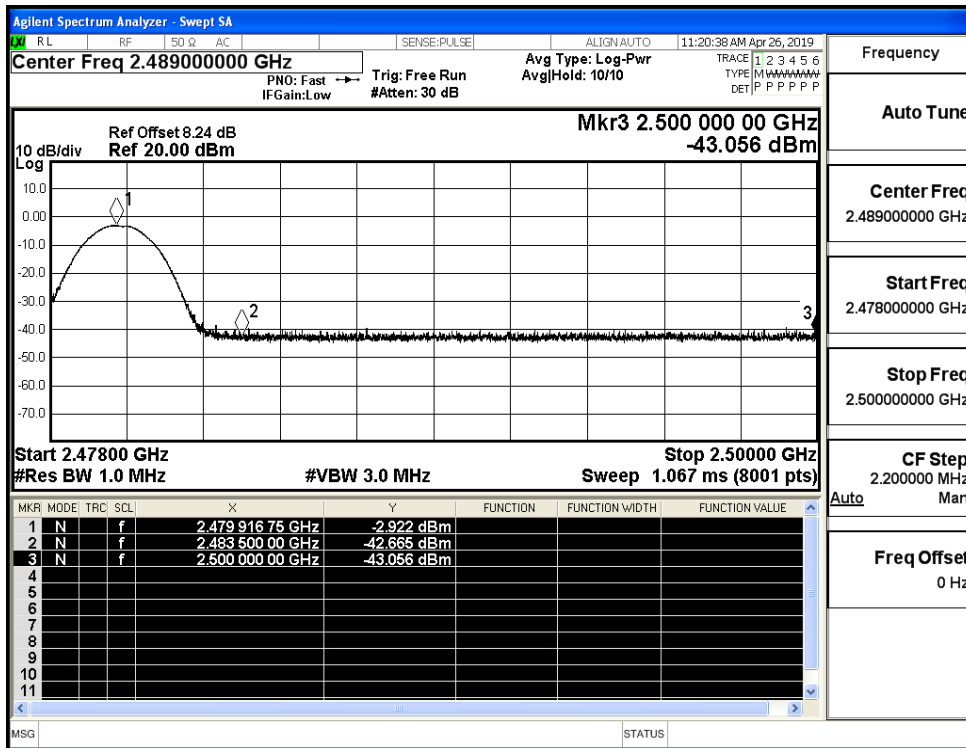
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)



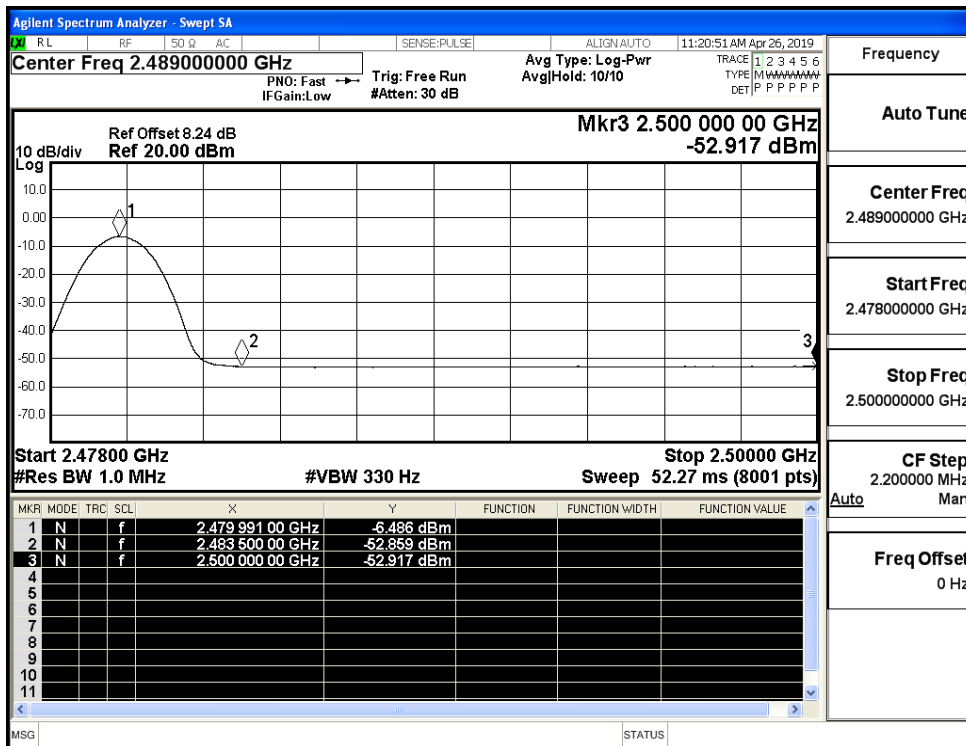
Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)



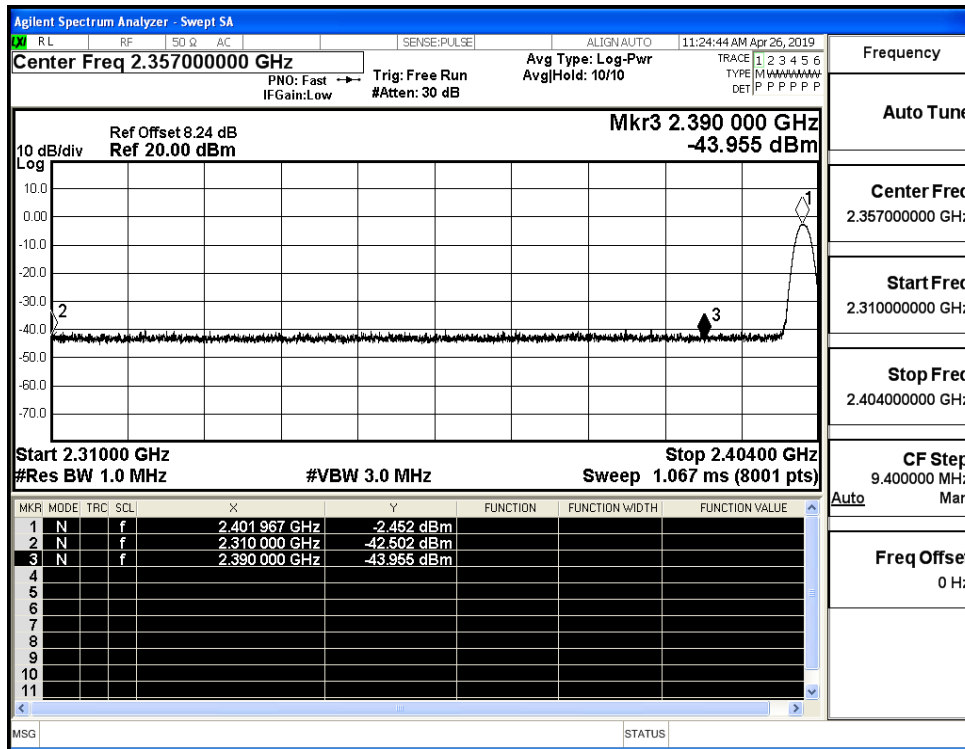
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



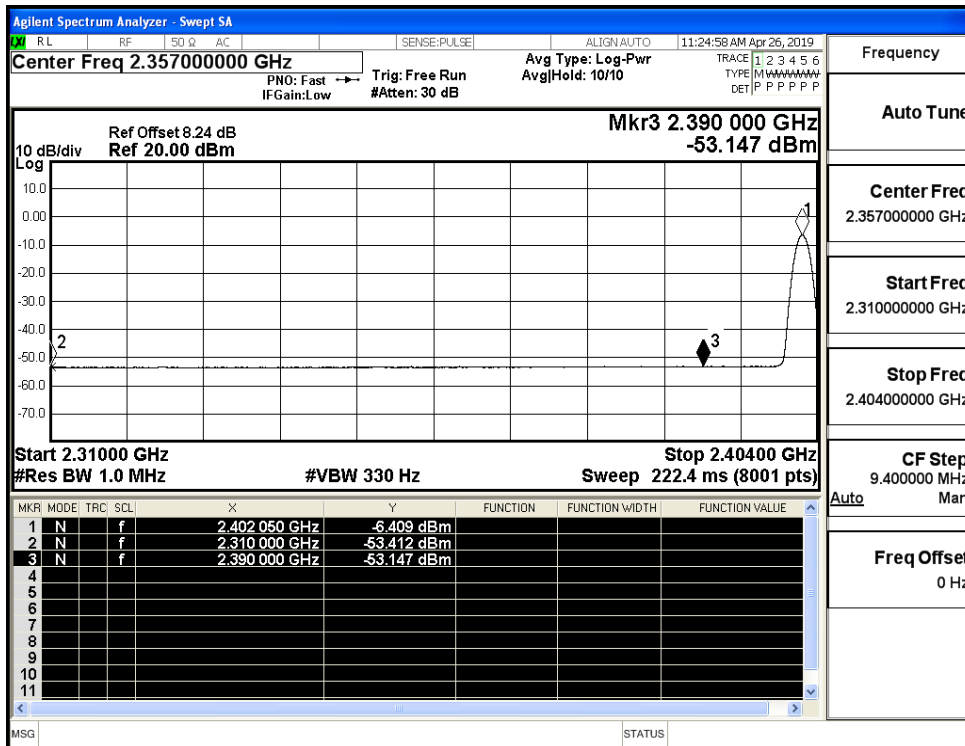
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



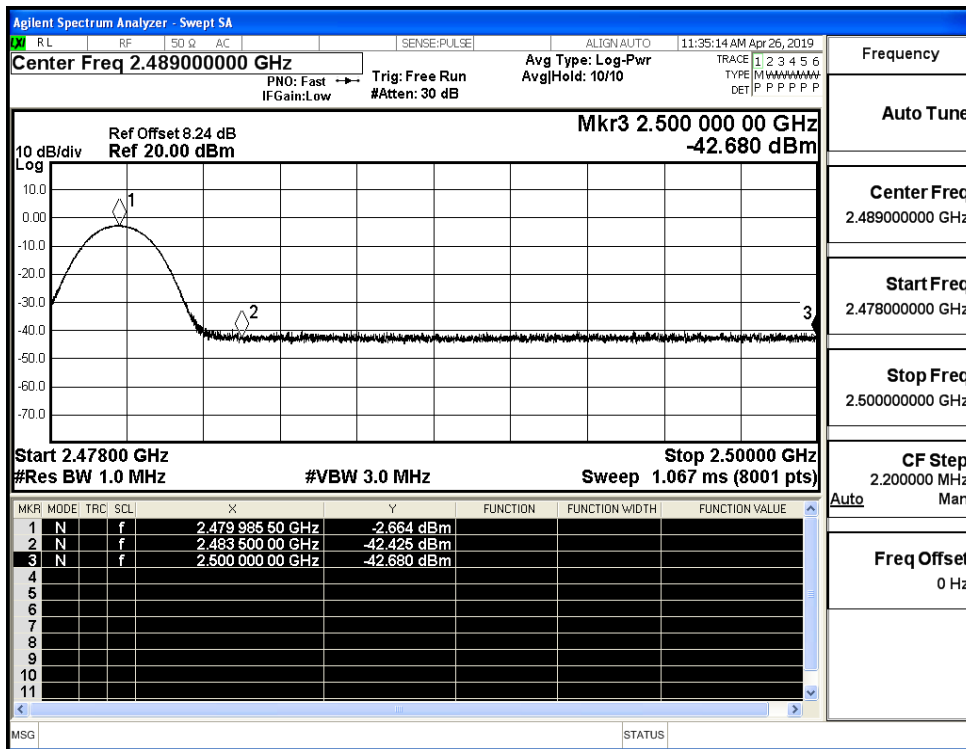
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (Low Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (High Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (High Channel)

