

Appendix A
RF Test Data for BT V4.0 (Conducted Measurement)
Product Name: TABLET PC
Trade Mark: FUSION5
Test Model: FWIN232 PLUS S2

Environmental Conditions

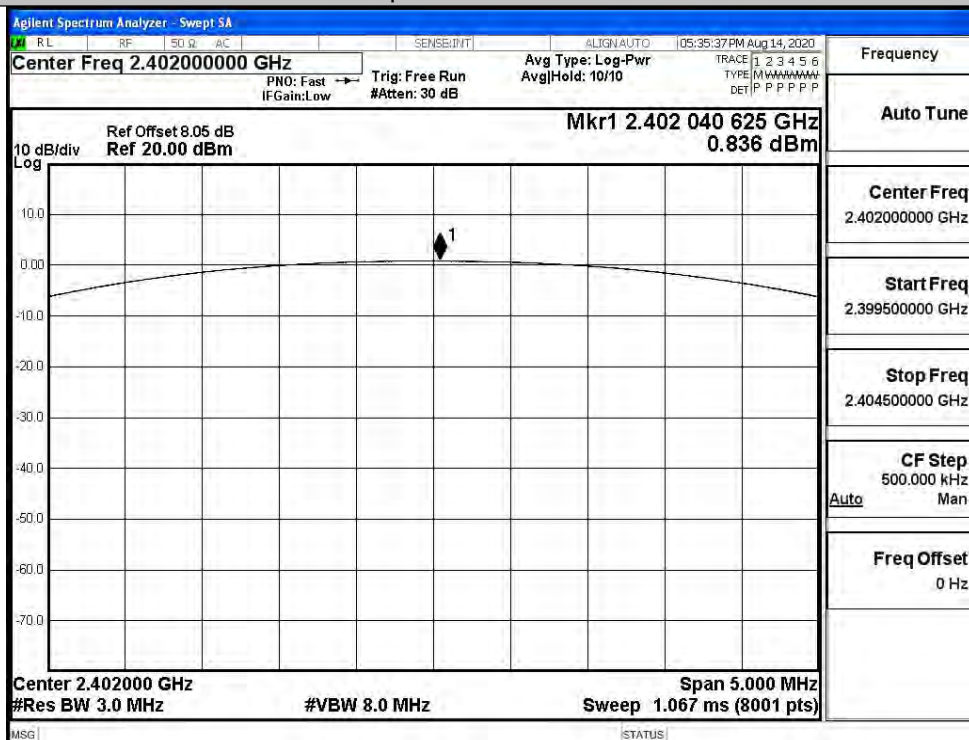
Temperature:	23.6 ° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Kar Hu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

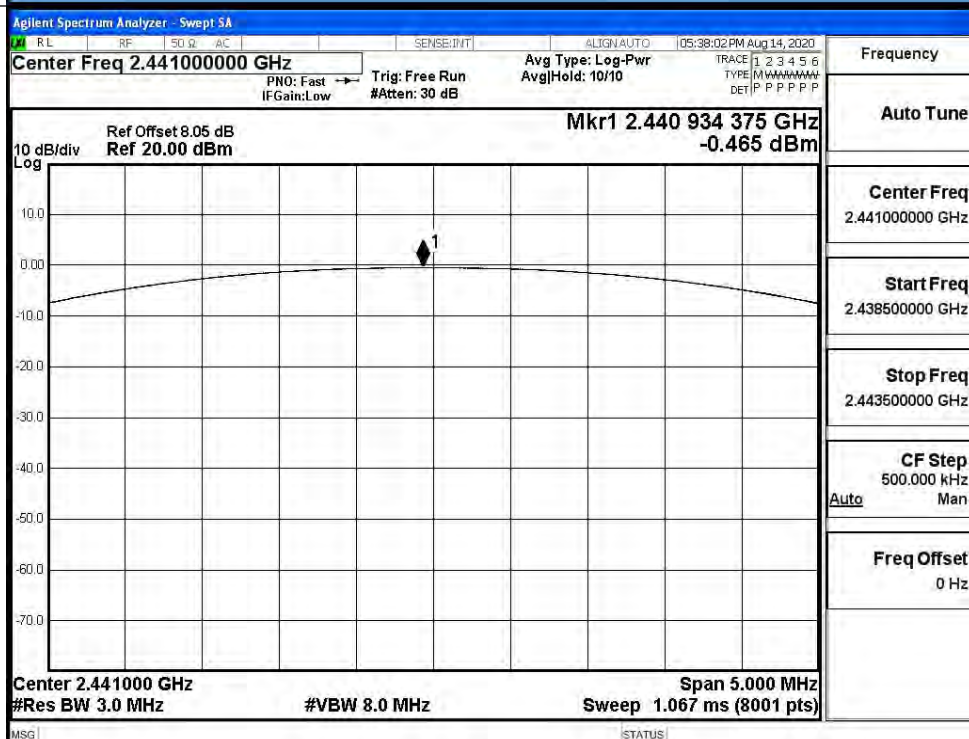
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.836	30	PASS
	MCH	-0.465	30	PASS
	HCH	-1.920	30	PASS
$\pi/4$ DQPSK	LCH	3.240	21	PASS
	MCH	1.925	21	PASS
	HCH	0.430	21	PASS
8DPSK	LCH	3.725	21	PASS
	MCH	2.389	21	PASS
	HCH	0.903	21	PASS

Test Graphs

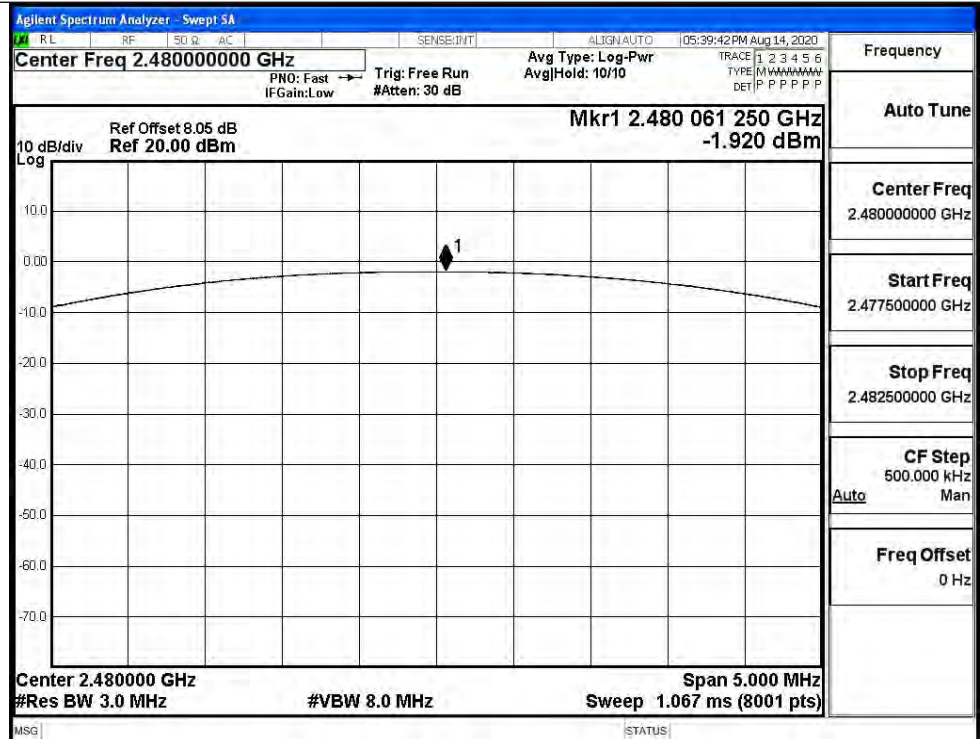
GFSK/LCH



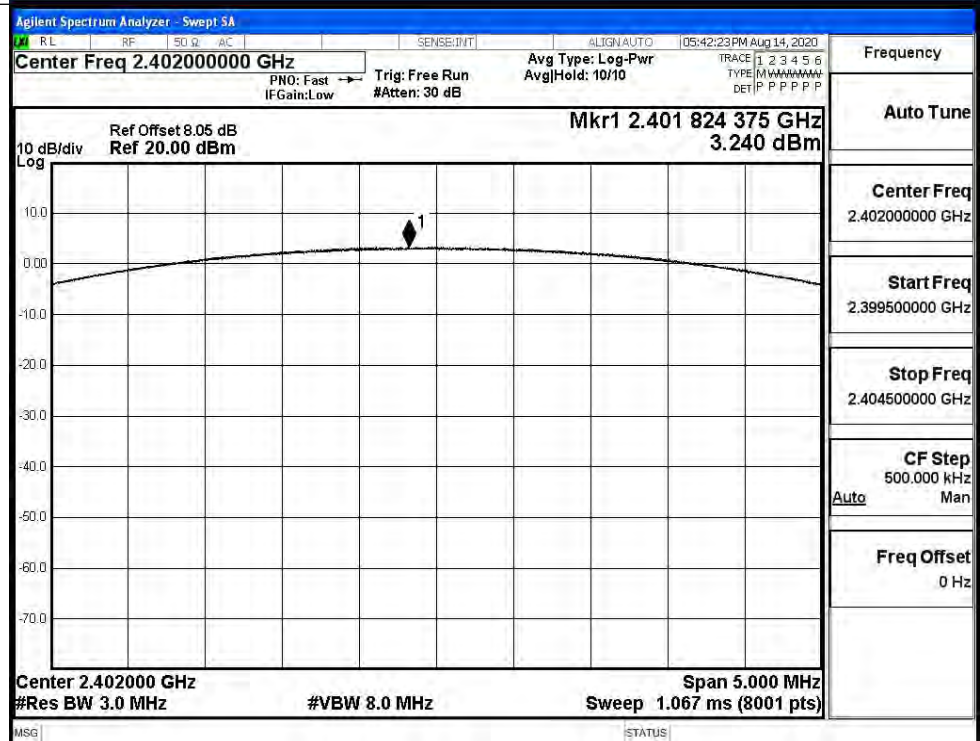
GFSK/MCH

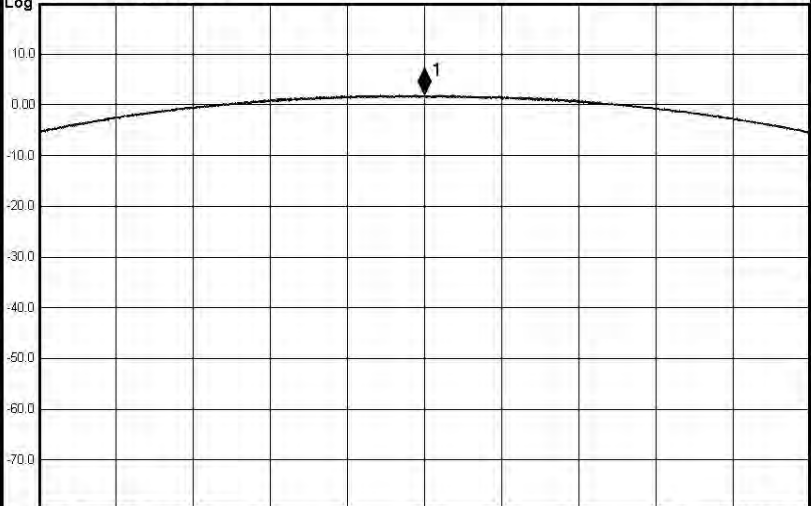
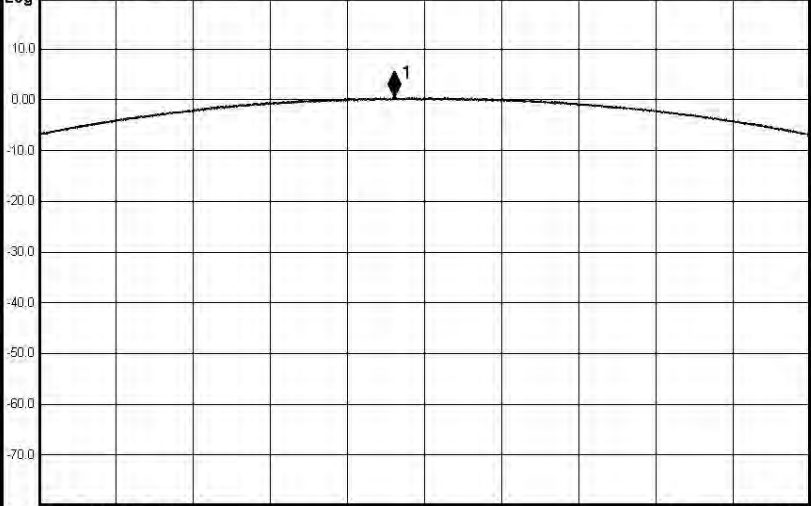


GFSK/HCH

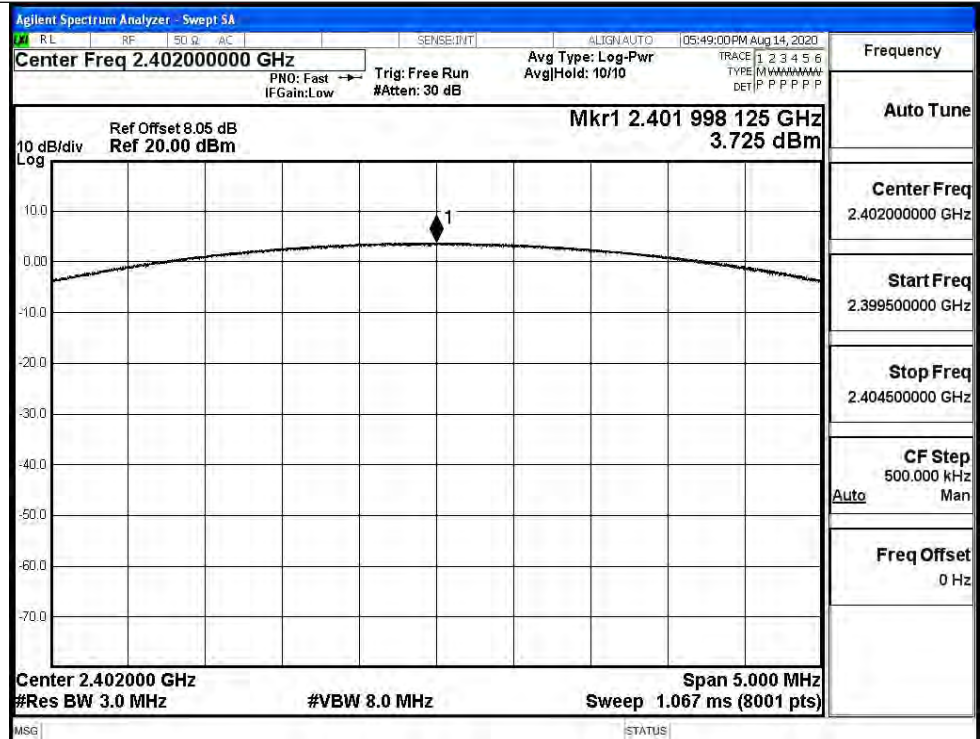


$\pi/4$ DQPSK/LCH

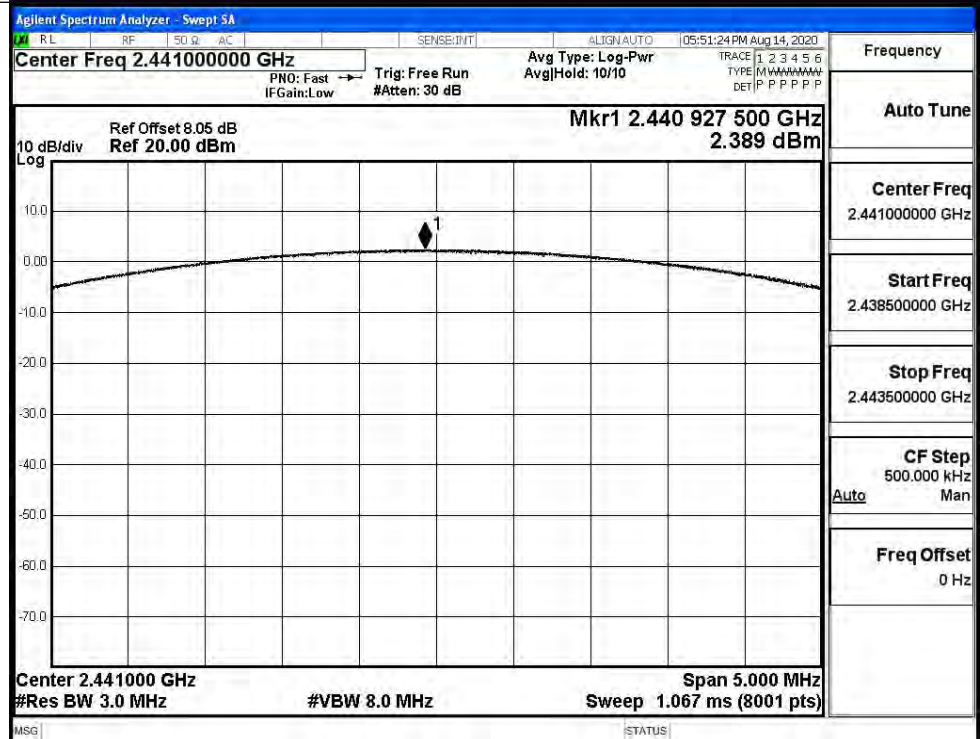


$\pi/4$DQPSK/MCH	Agilent Spectrum Analyzer - Swept SA Center Freq 2.441000000 GHz Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.440 998 125 GHz 1.925 dBm  Center 2.441000 GHz #Res BW 3.0 MHz #VBW 8.0 MHz Sweep 1.067 ms (8001 pts) Frequency Auto Tune Center Freq 2.441000000 GHz Start Freq 2.438500000 GHz Stop Freq 2.443500000 GHz CF Step 500.000 kHz Auto Man Freq Offset 0 Hz
$\pi/4$DQPSK/HCH	Agilent Spectrum Analyzer - Swept SA Center Freq 2.480000000 GHz Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.479 804 375 GHz 0.430 dBm  Center 2.480000 GHz #Res BW 3.0 MHz #VBW 8.0 MHz Sweep 1.067 ms (8001 pts) Frequency Auto Tune Center Freq 2.480000000 GHz Start Freq 2.477500000 GHz Stop Freq 2.482500000 GHz CF Step 500.000 kHz Auto Man Freq Offset 0 Hz

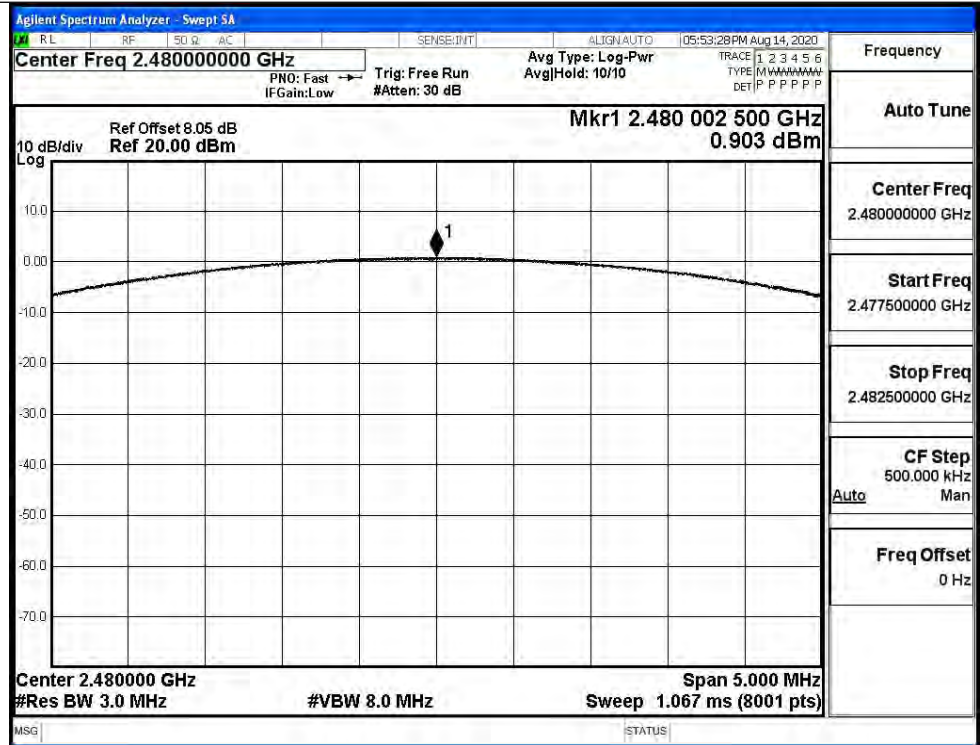
8DPSK/LCH



8DPSK/MCH



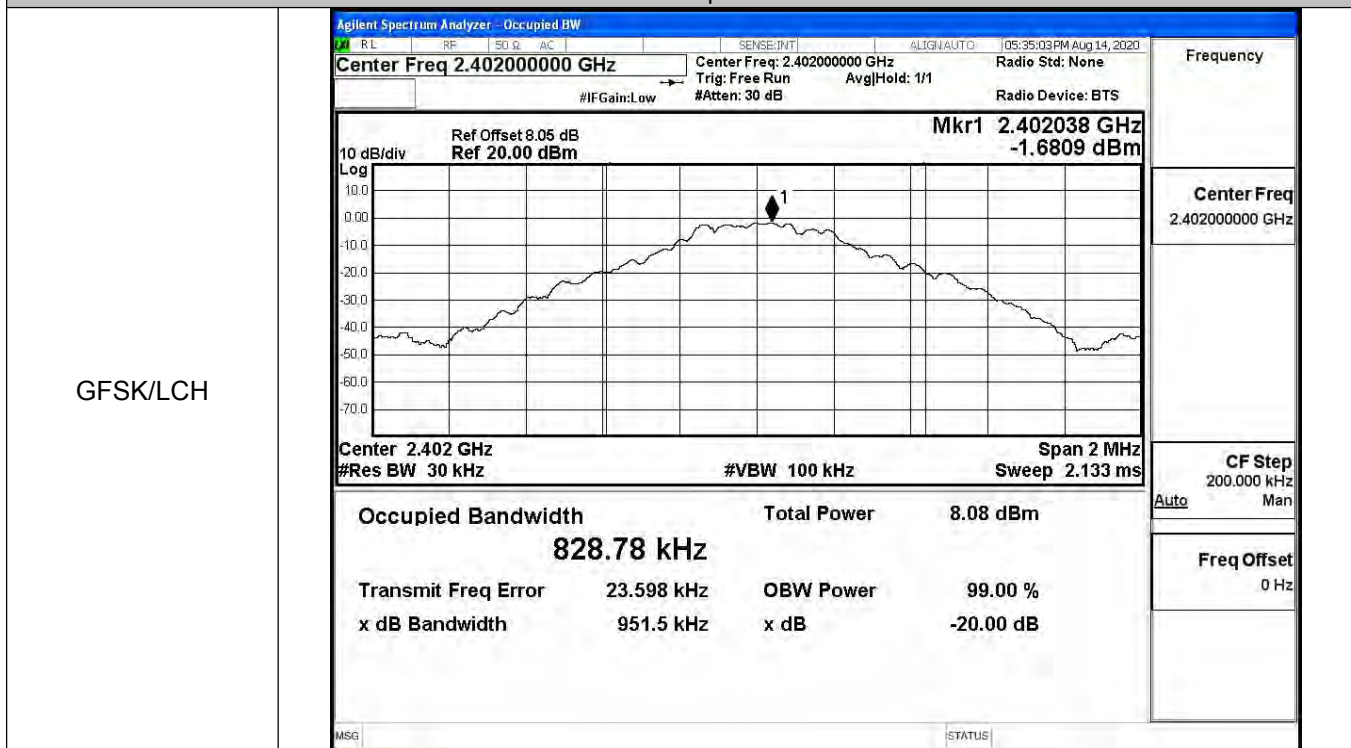
8DPSK/HCH



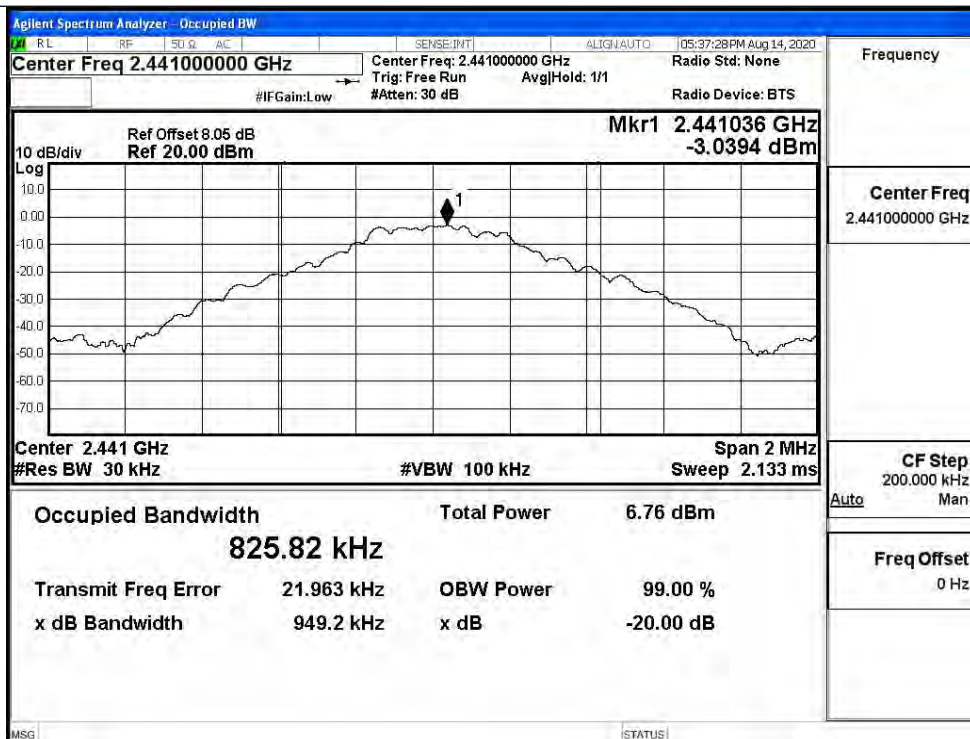
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.9515	Not Specified	PASS
	MCH	0.9492	Not Specified	PASS
	HCH	0.9484	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.316	Not Specified	PASS
	MCH	1.317	Not Specified	PASS
	HCH	1.316	Not Specified	PASS
8DPSK	LCH	1.312	Not Specified	PASS
	MCH	1.314	Not Specified	PASS
	HCH	1.315	Not Specified	PASS

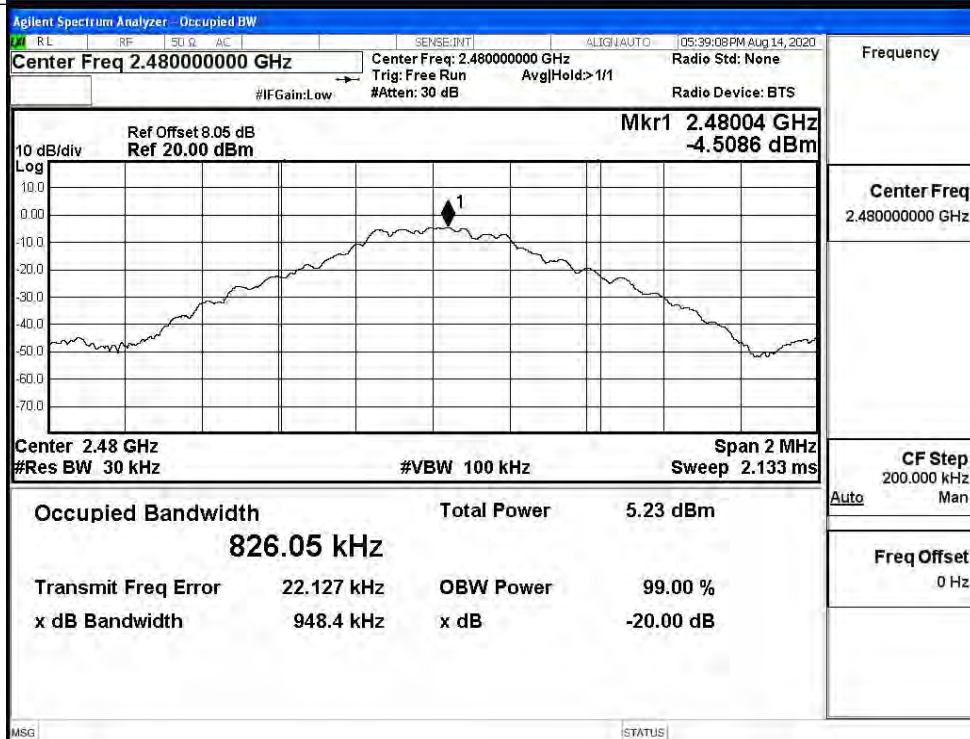
Test Graphs



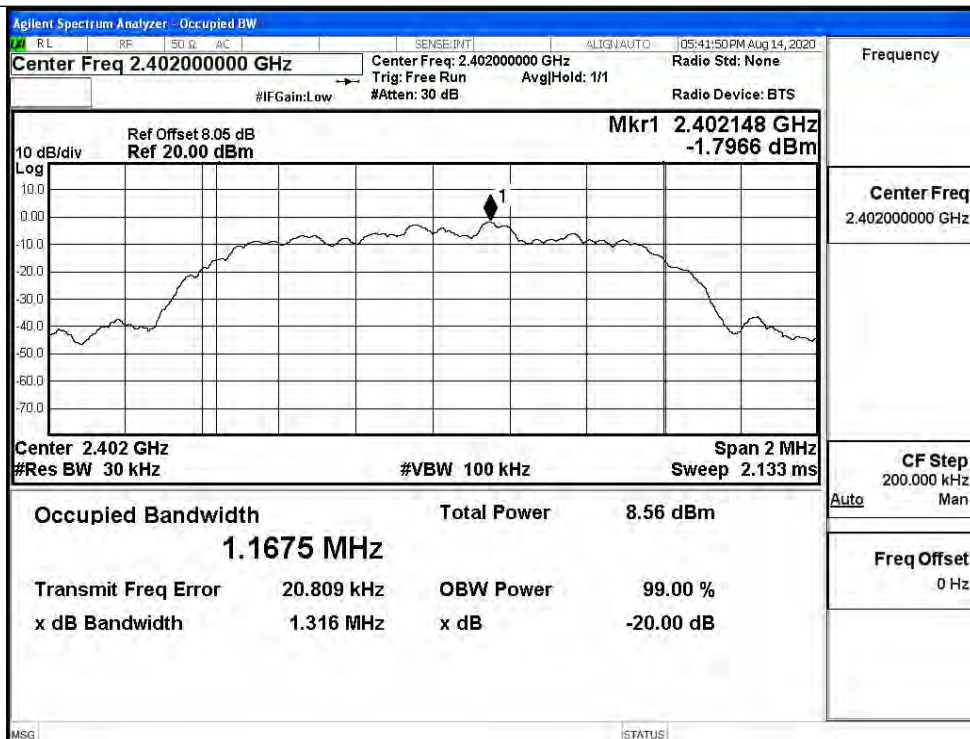
GFSK/MCH



GFSK/HCH



$\pi/4$ DQPSK/LCH



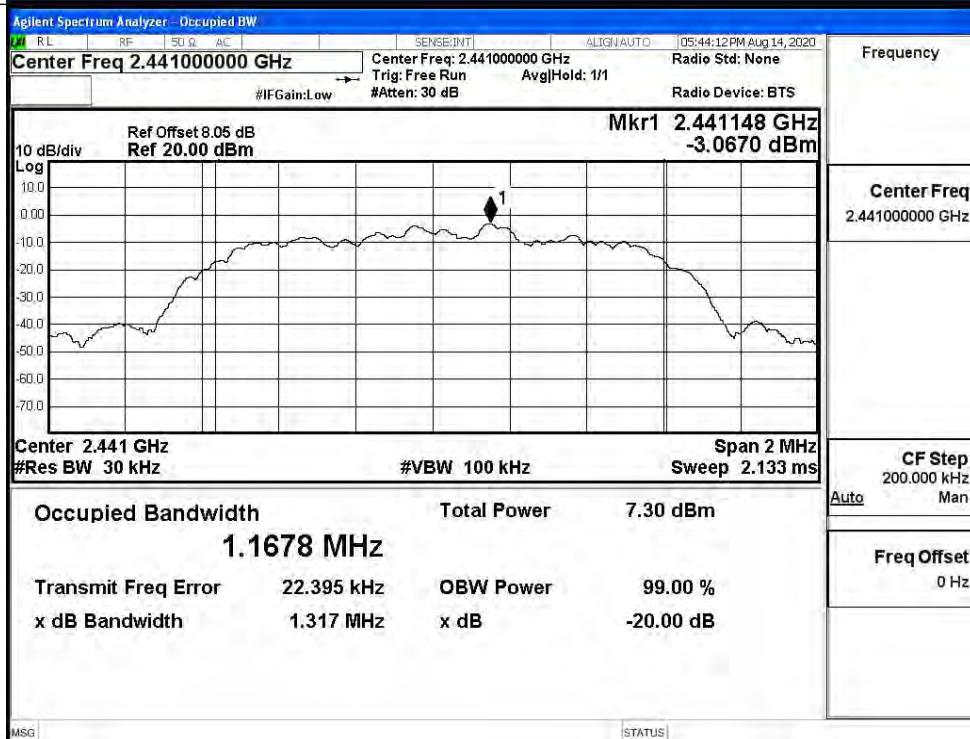
Frequency

Center Freq
2.402000000 GHz

CF Step
200.000 kHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/MCH



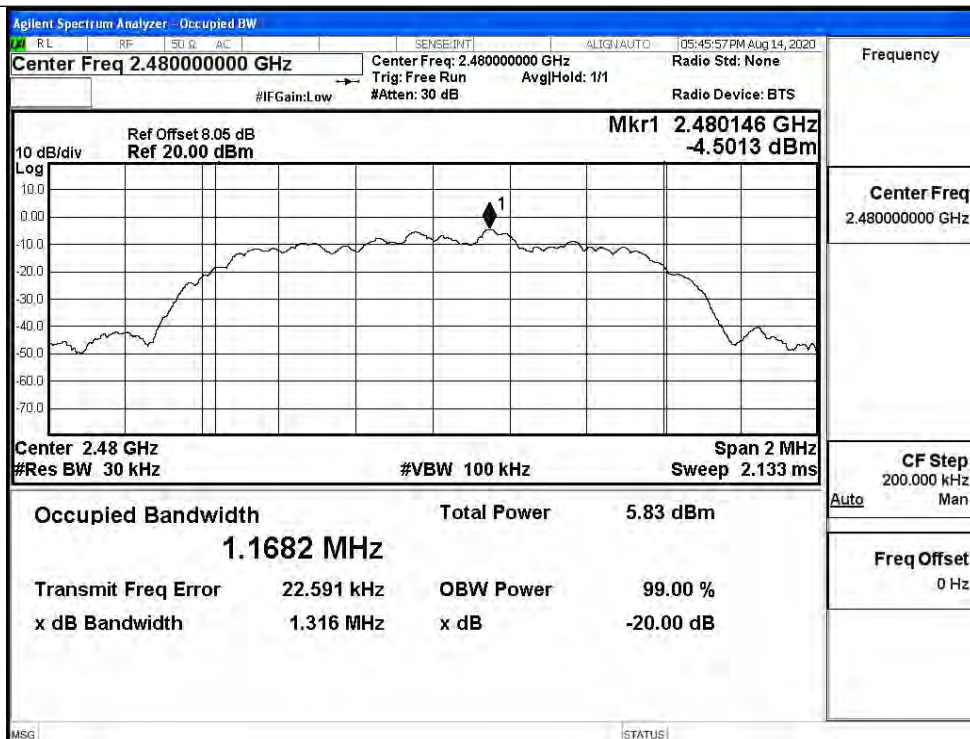
Frequency

Center Freq
2.441000000 GHz

CF Step
200.000 kHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH



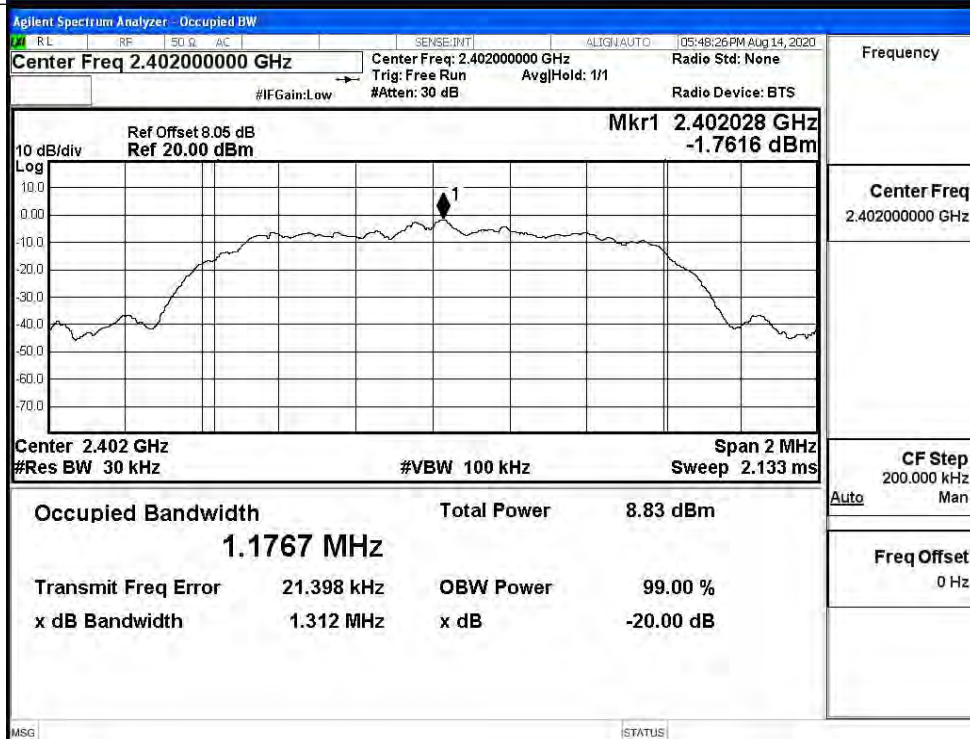
Frequency

Center Freq
2.480000000 GHz

CF Step
200.000 kHz

Freq Offset
0 Hz

8DPSK/LCH



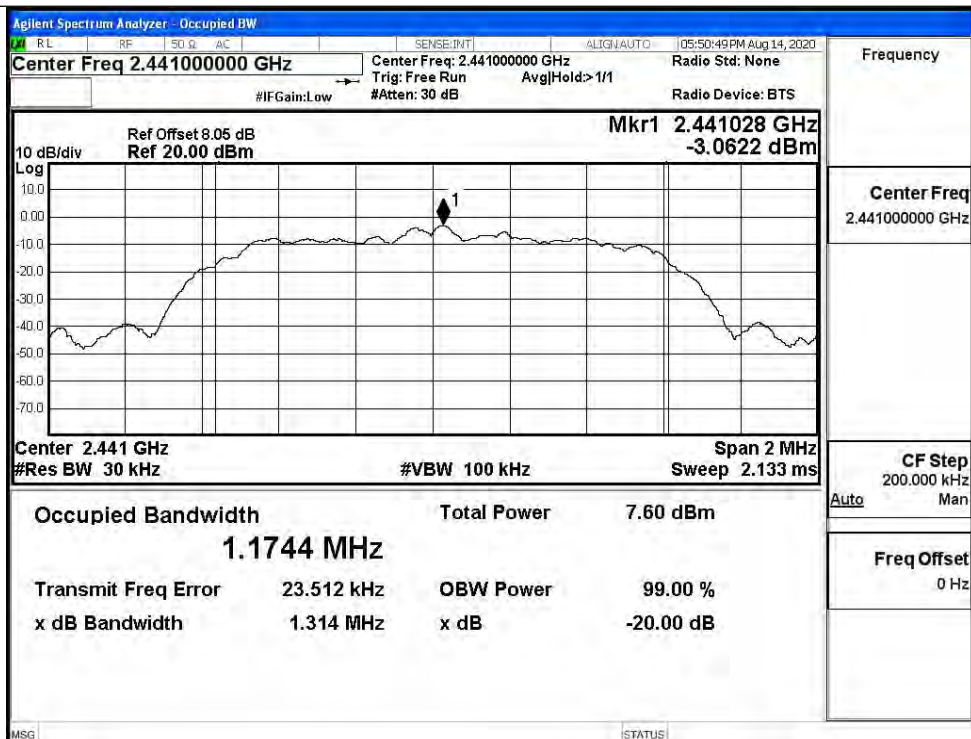
Frequency

Center Freq
2.402000000 GHz

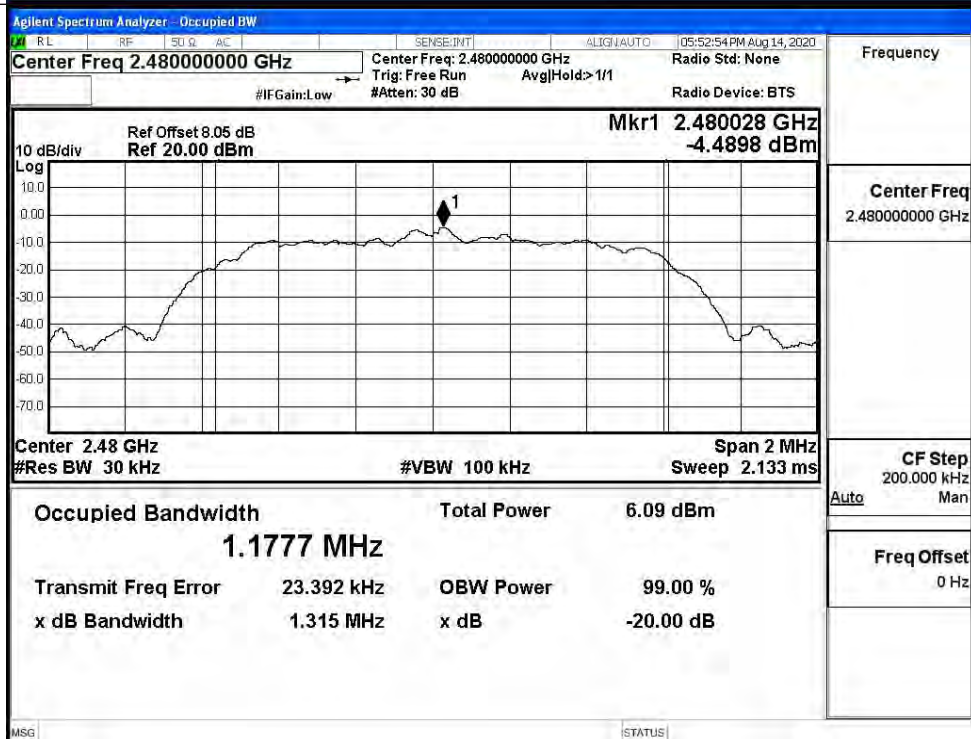
CF Step
200.000 kHz

Freq Offset
0 Hz

8DPSK/MCH

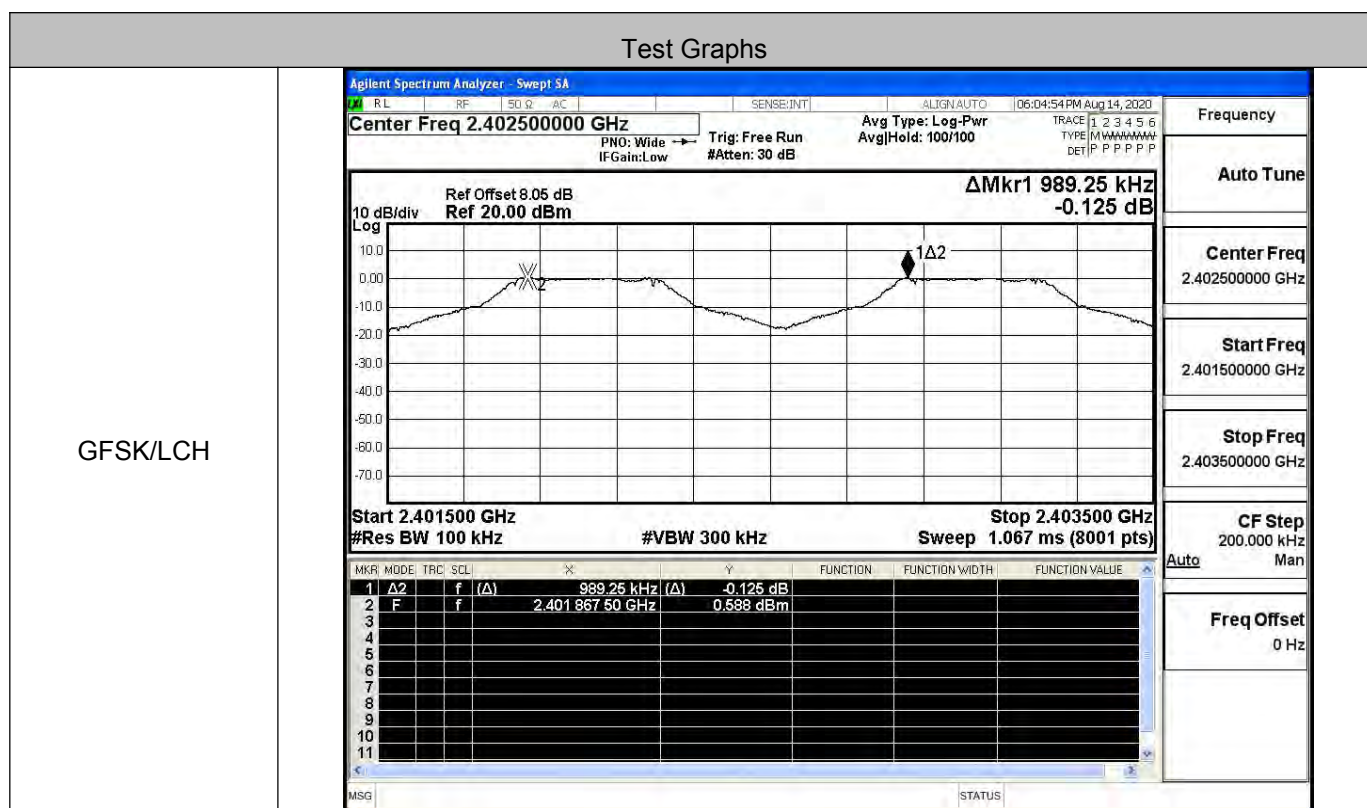


8DPSK/HCH

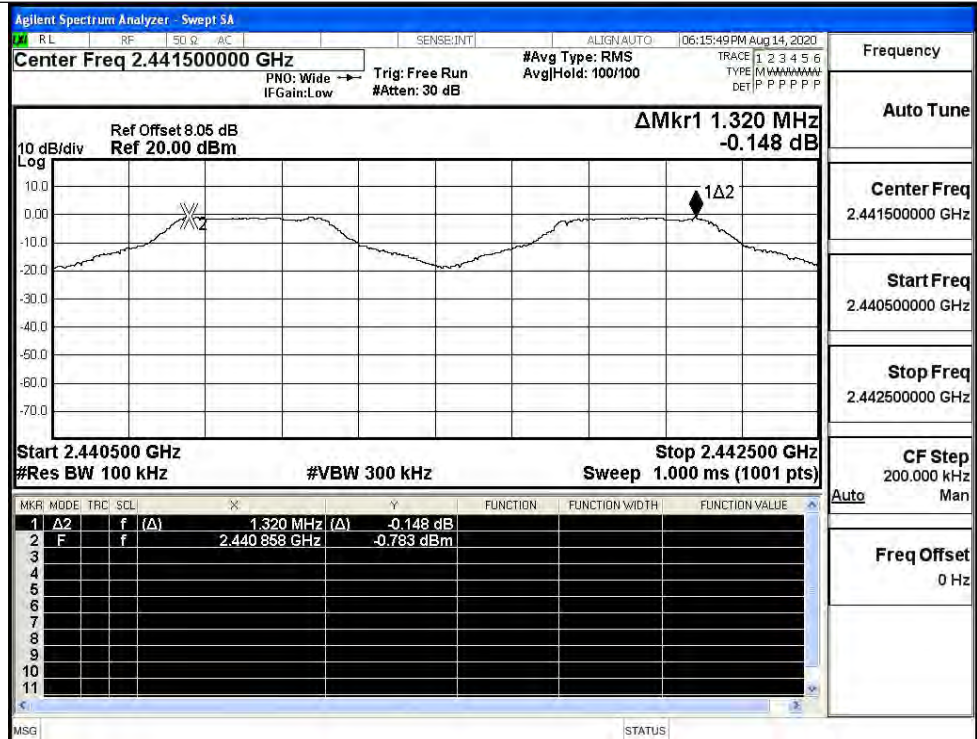


A.3 Carrier Frequency Separation

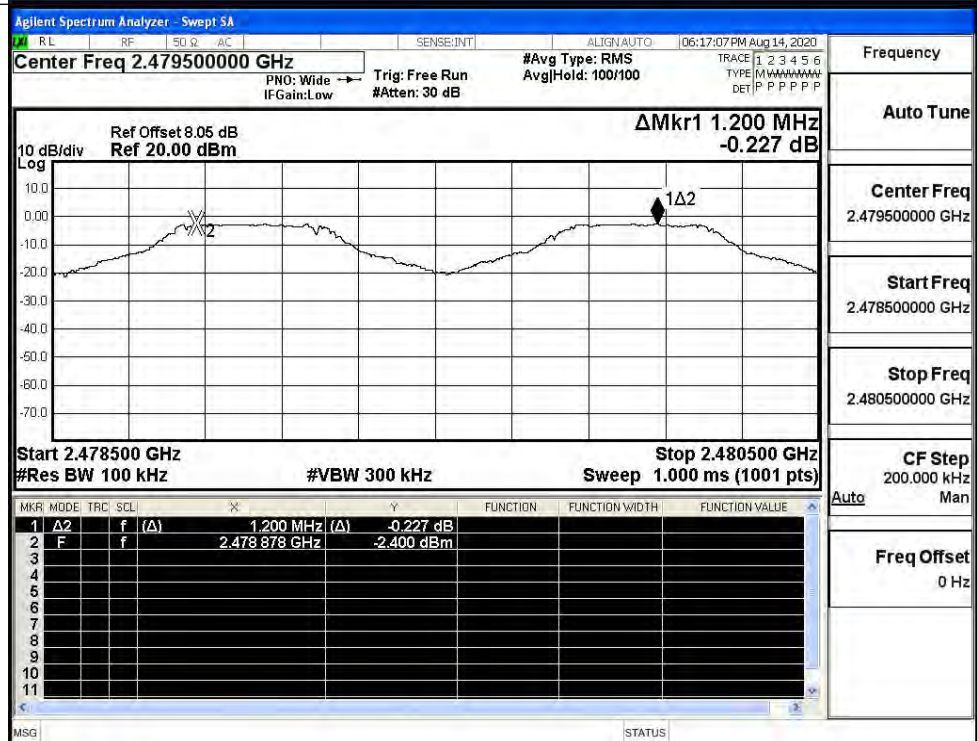
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.989	0.634	PASS
	MCH	1.320	0.634	PASS
	HCH	1.200	0.634	PASS
$\pi/4$ DQPSK	LCH	1.002	0.878	PASS
	MCH	1.000	0.878	PASS
	HCH	1.000	0.878	PASS
8DPSK	LCH	1.000	0.877	PASS
	MCH	1.168	0.877	PASS
	HCH	1.000	0.877	PASS



GFSK/MCH

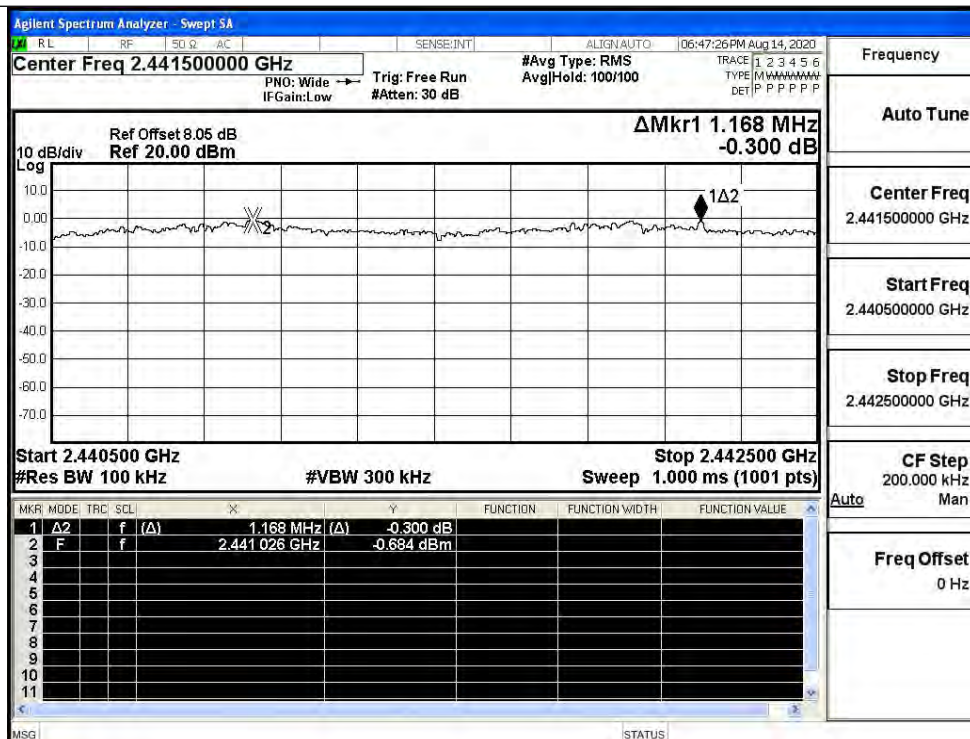


GFSK/HCH

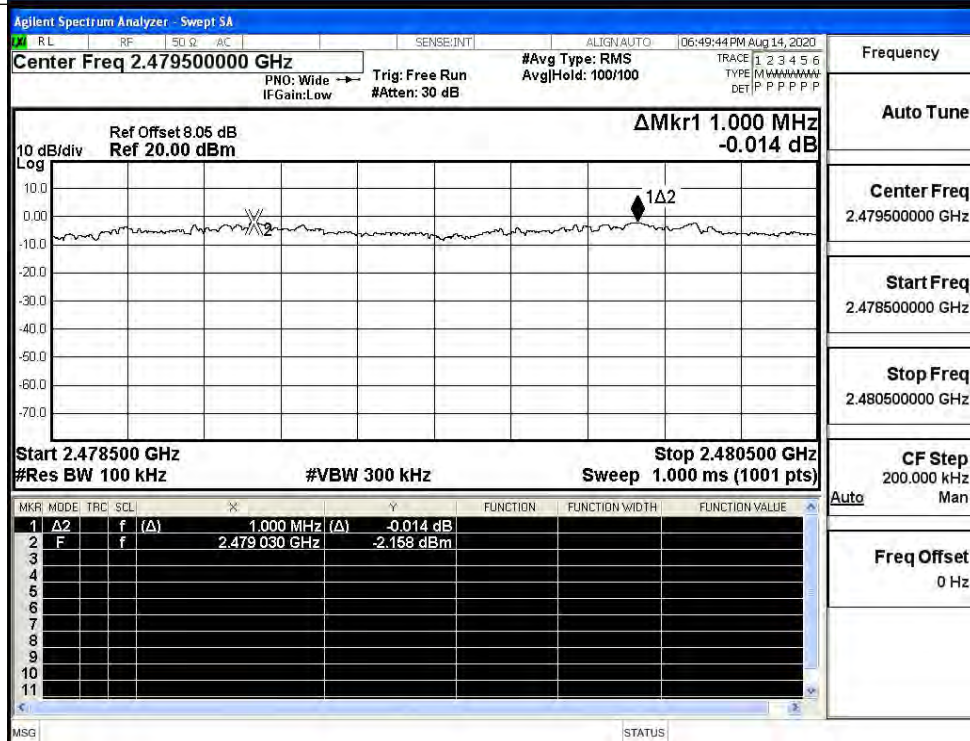


$\pi/4$ DQPSK/LCH	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 06:20:47 PM Aug 14, 2020 Center Freq 2.402500000 GHz PNO: Wide IF Gain: Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS Avg/Hold: 100/100 TRACE 1 2 3 4 5 6 TYPE [M] [W] [H] [A] [H] DET [P] [P] [P] [P] [P] Ref Offset 8.05 dB Ref 20.00 dBm 10 dB/div Log
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8DPSK/MCH



8DPSK/HCH

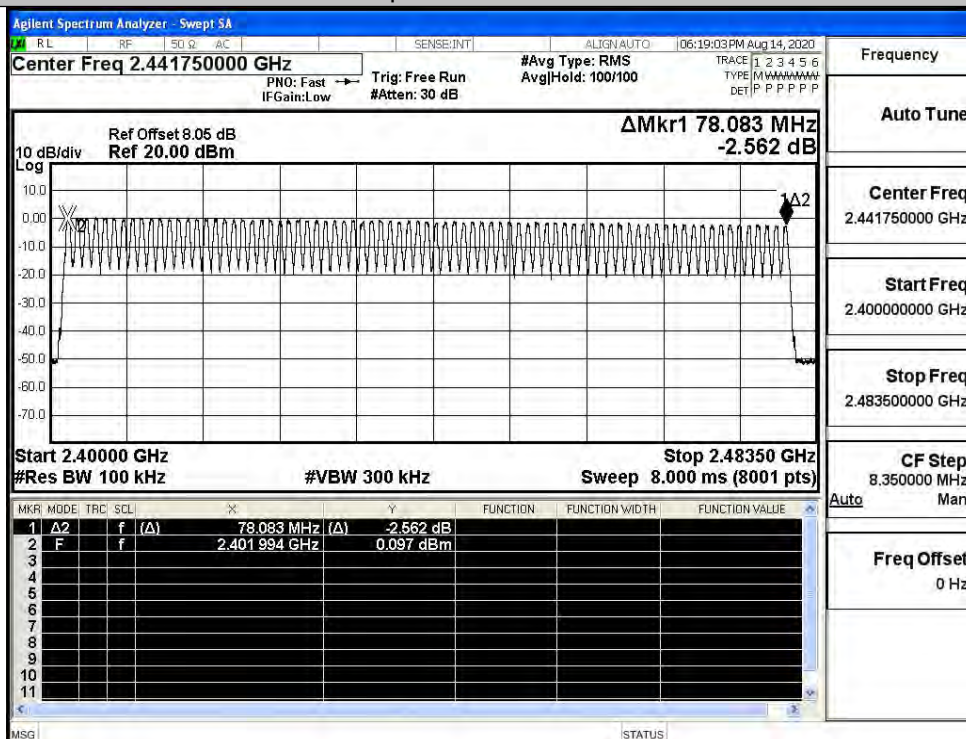
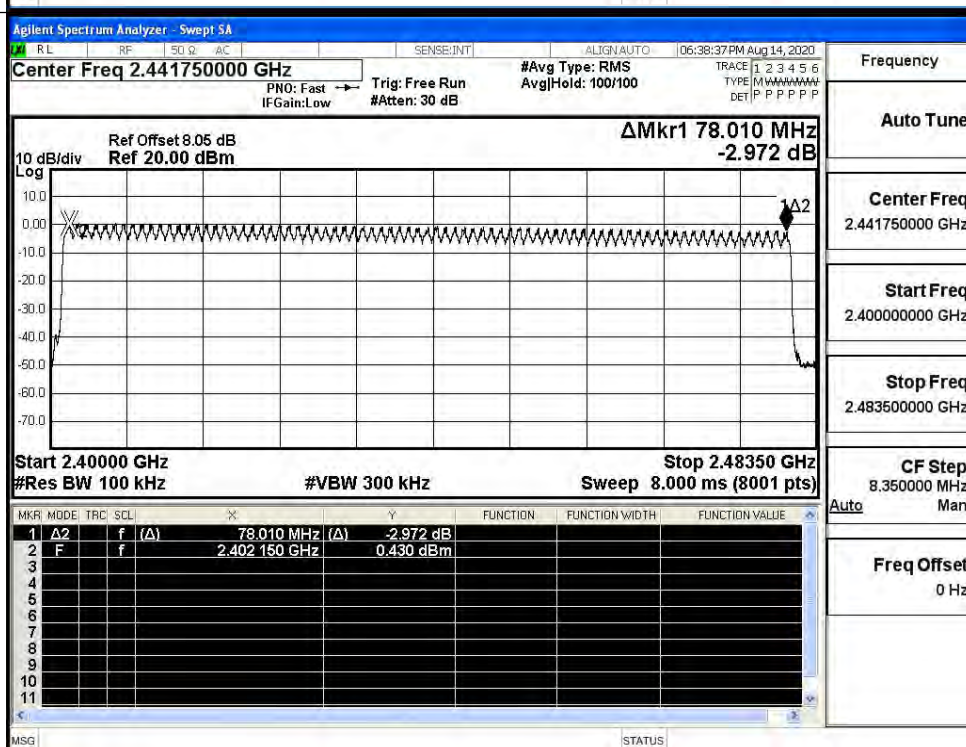


A.4 Hopping Channel Number

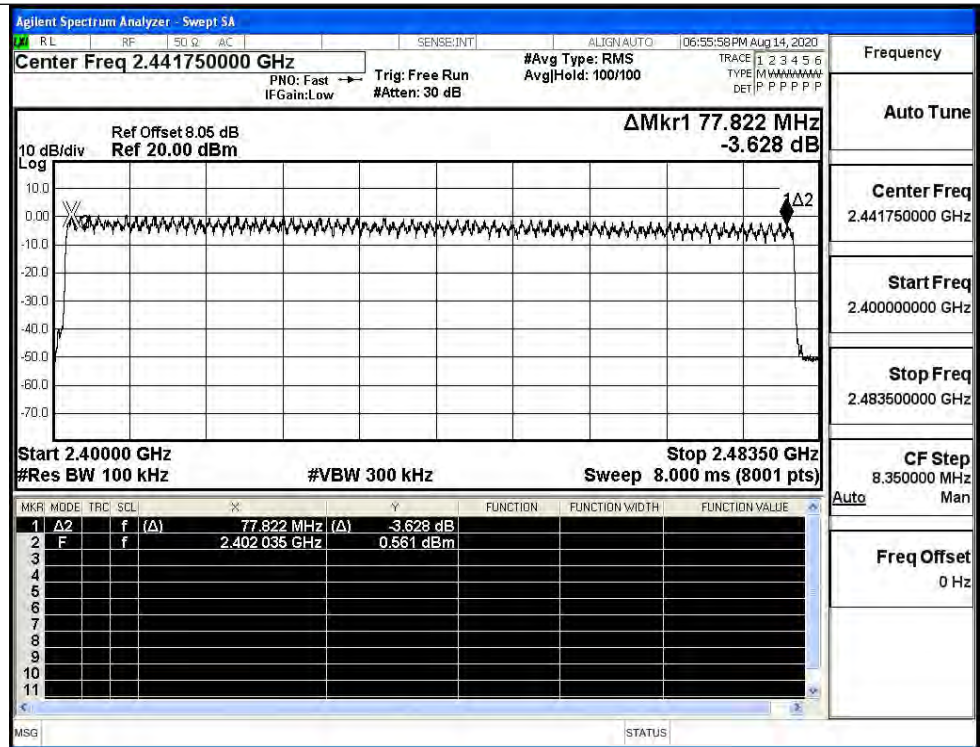
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

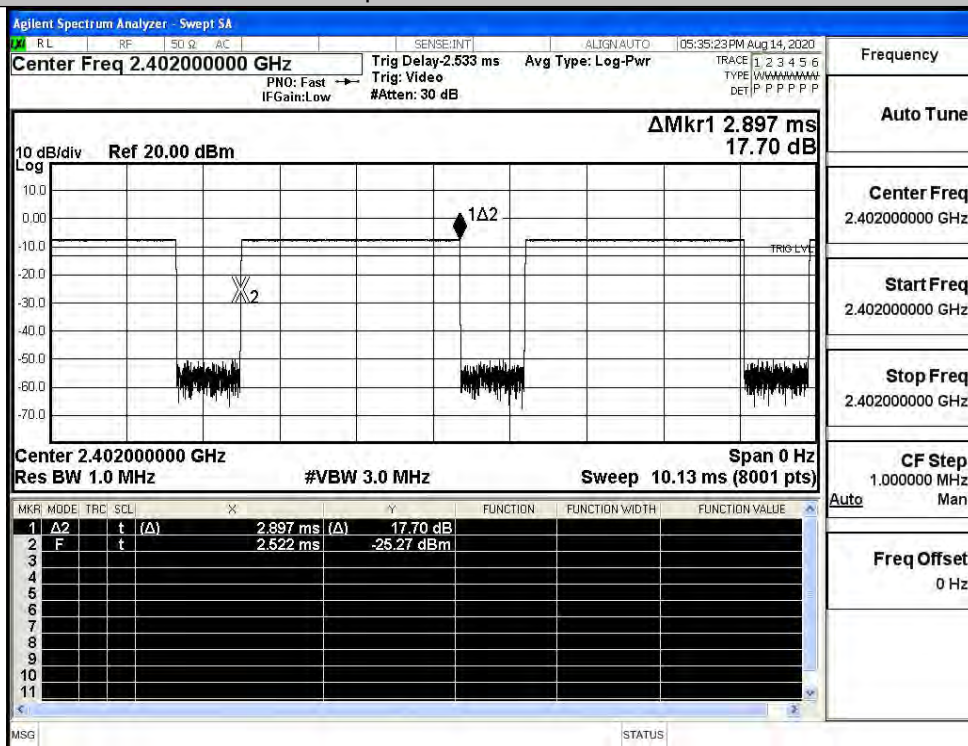


A.5 Dwell Time

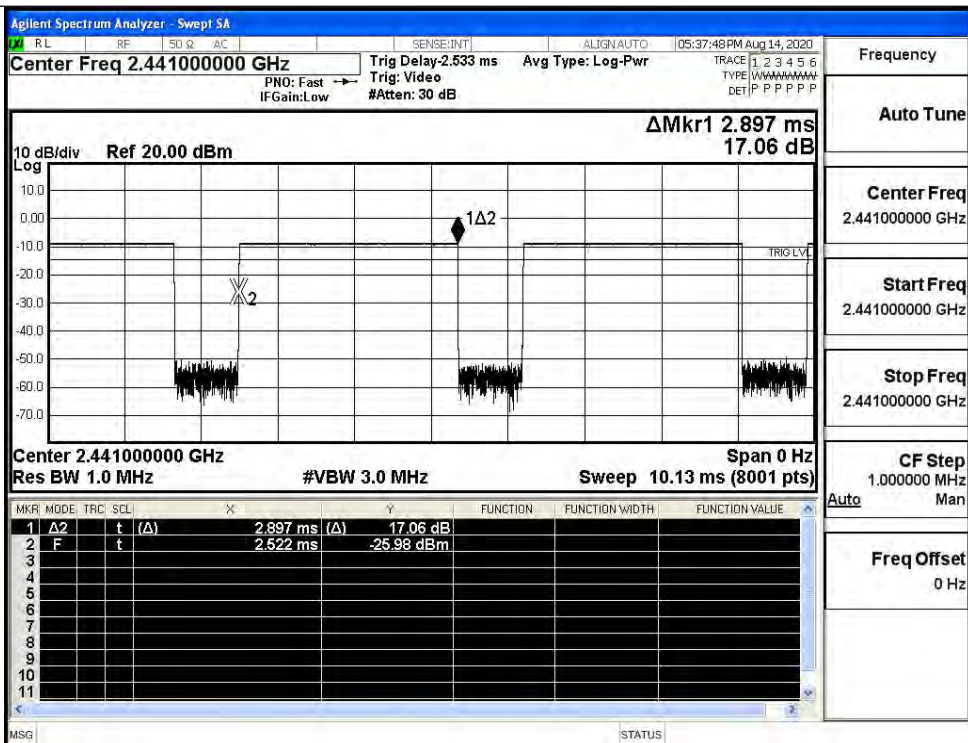
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.9	106.7	0.309	0.4	PASS
	DH5	MCH	2.9	106.7	0.309	0.4	PASS
	DH5	HCH	2.9	106.7	0.309	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.9	106.7	0.309	0.4	PASS
	2DH5	MCH	2.9	106.7	0.309	0.4	PASS
	2DH5	HCH	2.9	106.7	0.309	0.4	PASS
8DPSK	3DH5	LCH	2.9	106.7	0.309	0.4	PASS
	3DH5	MCH	2.9	106.7	0.309	0.4	PASS
	3DH5	HCH	2.9	106.7	0.309	0.4	PASS

Test Graphs

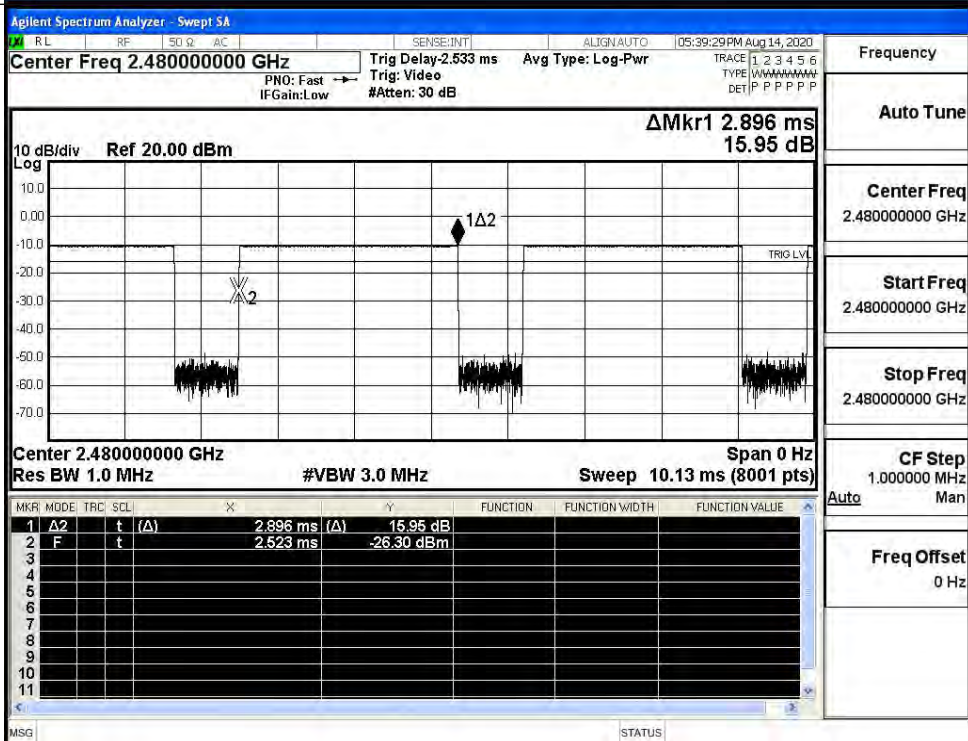
GFSK_DH5/LCH



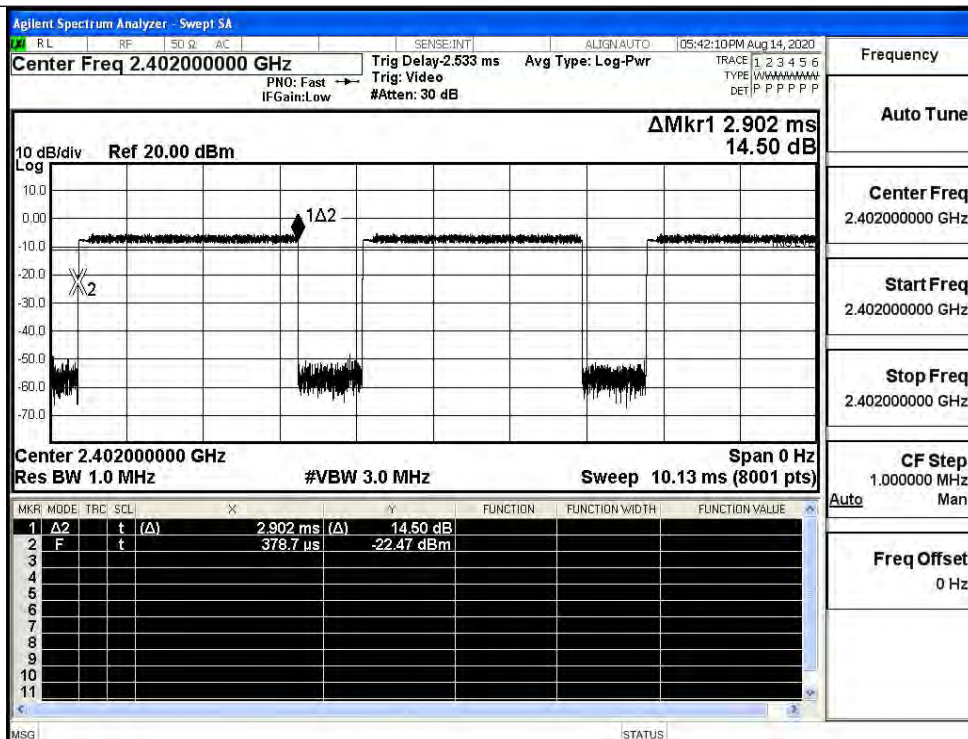
GFSK_DH5/MCH



GFSK_DH5/HCH

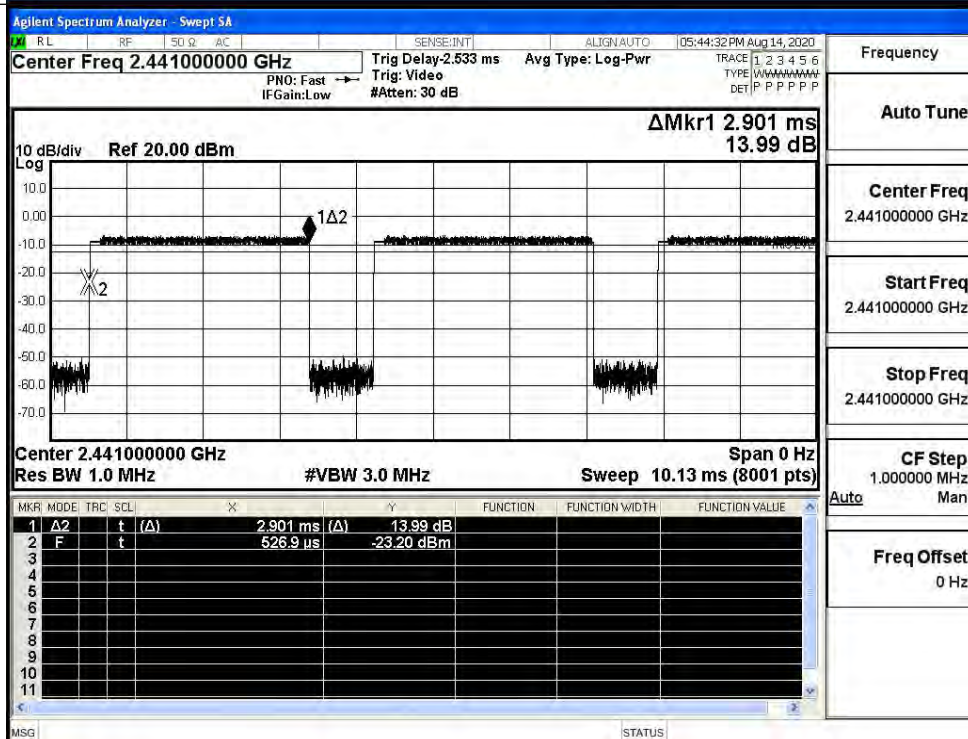


$\pi/4$ DQPSK
_2DH5/LCH



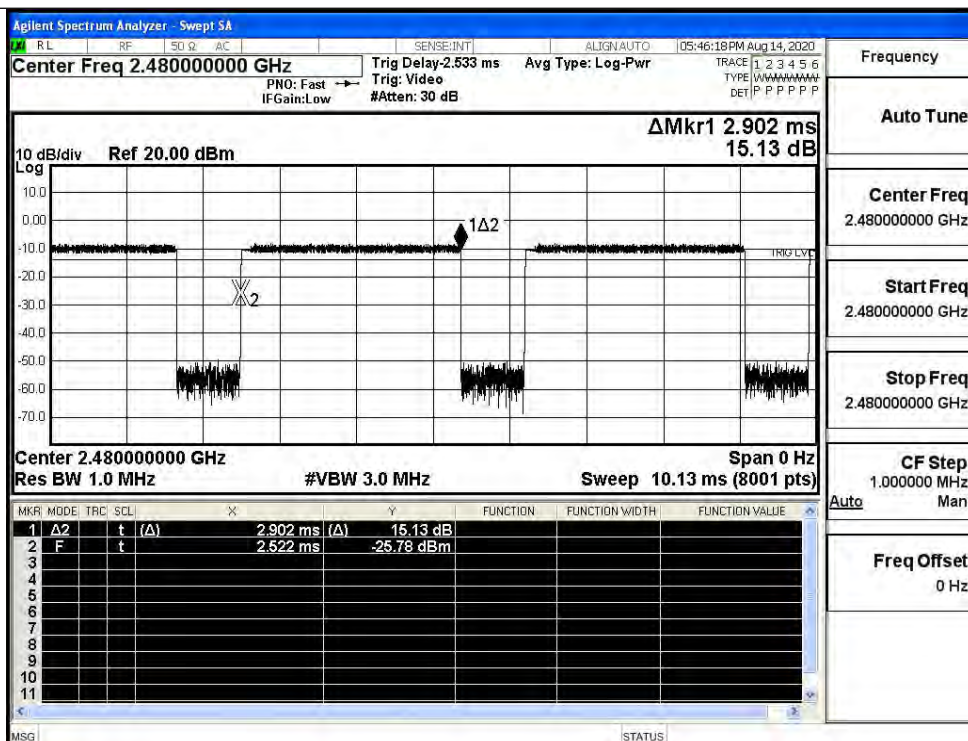
Frequency
Auto Tune
Center Freq 2.402000000 GHz
Start Freq 2.402000000 GHz
Stop Freq 2.402000000 GHz
CF Step 1.000000 MHz Man
Freq Offset 0 Hz

$\pi/4$ DQPSK
_2DH5/MCH

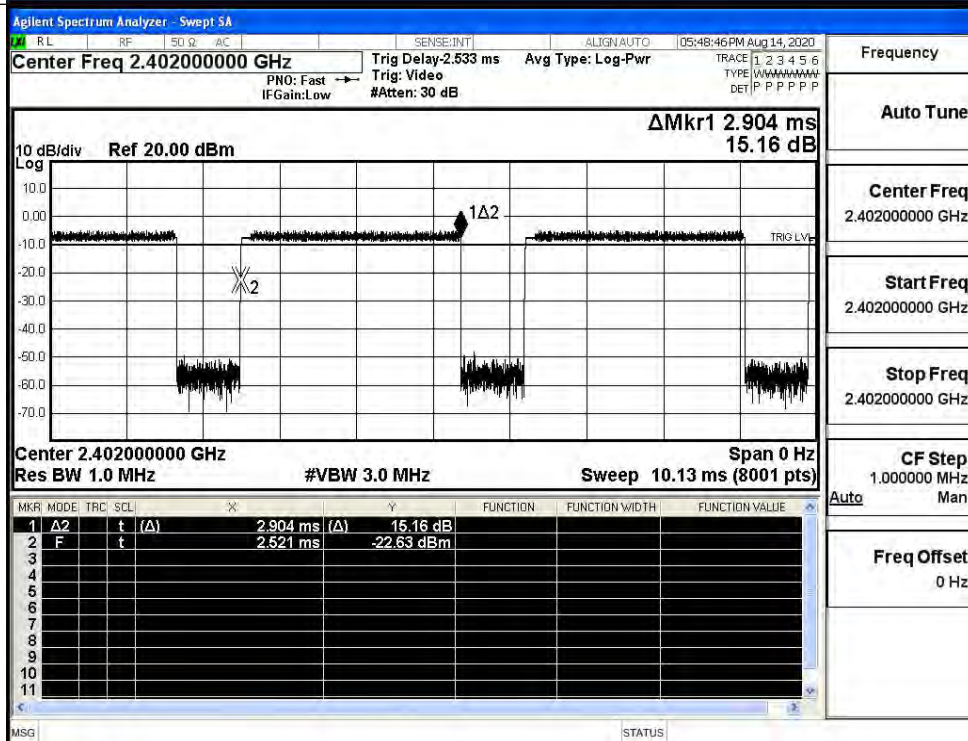


Frequency
Auto Tune
Center Freq 2.441000000 GHz
Start Freq 2.441000000 GHz
Stop Freq 2.441000000 GHz
CF Step 1.000000 MHz Man
Freq Offset 0 Hz

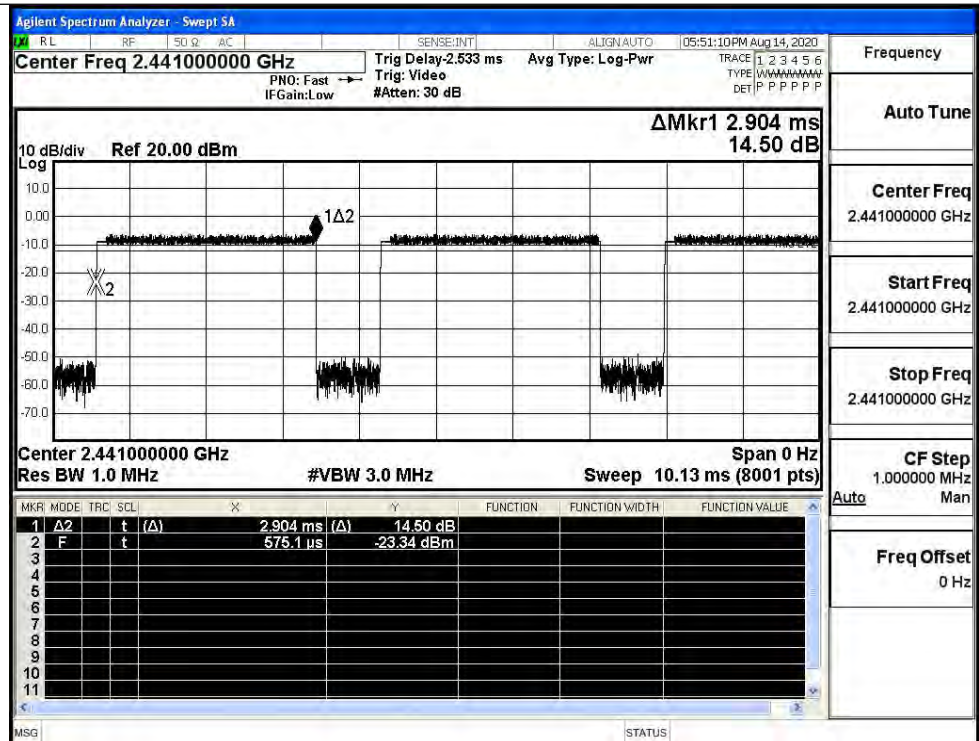
$\pi/4$ DQPSK
_2DH5/HCH



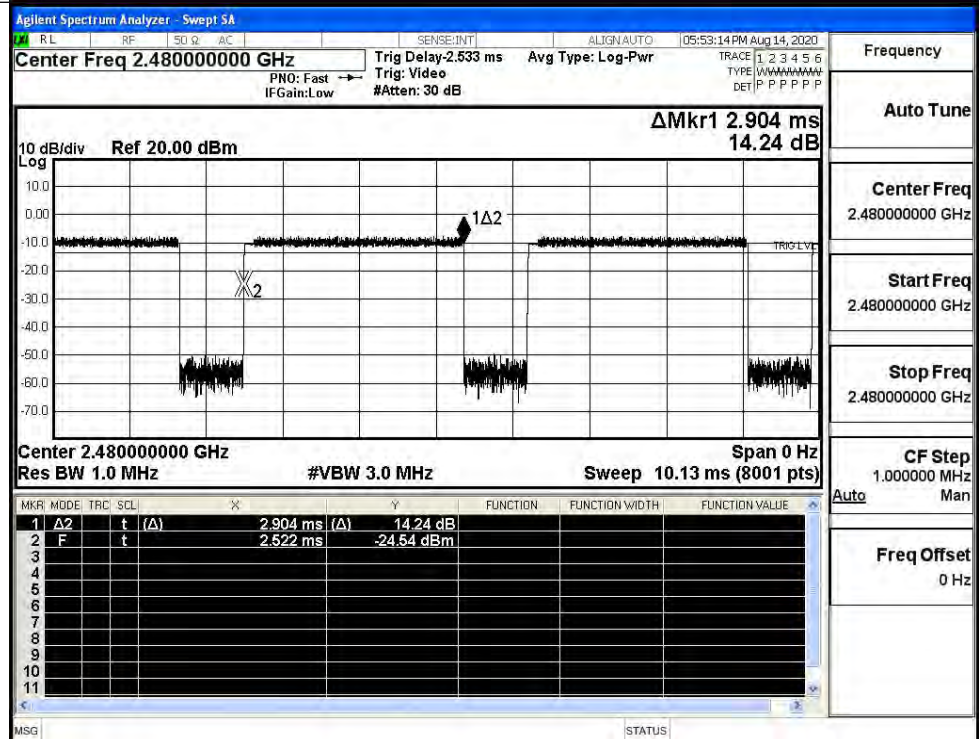
8DPSK_3DH5/LCH



8DPSK_3DH5/MCH



8DPSK_3DH5/HCH

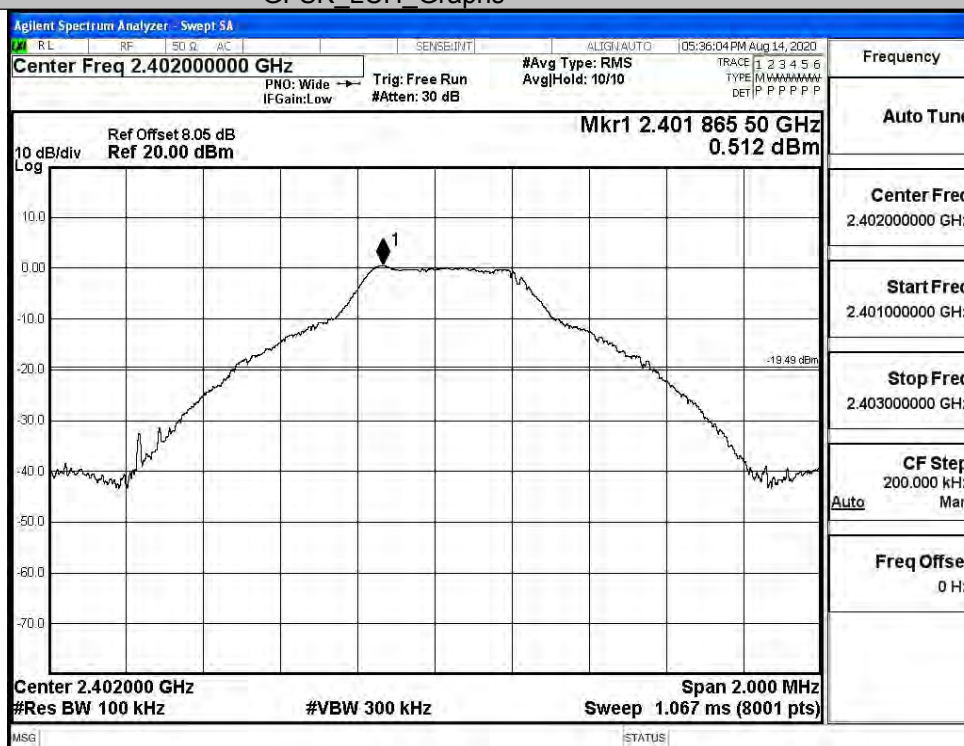


A.6 RF Conducted Spurious Emissions

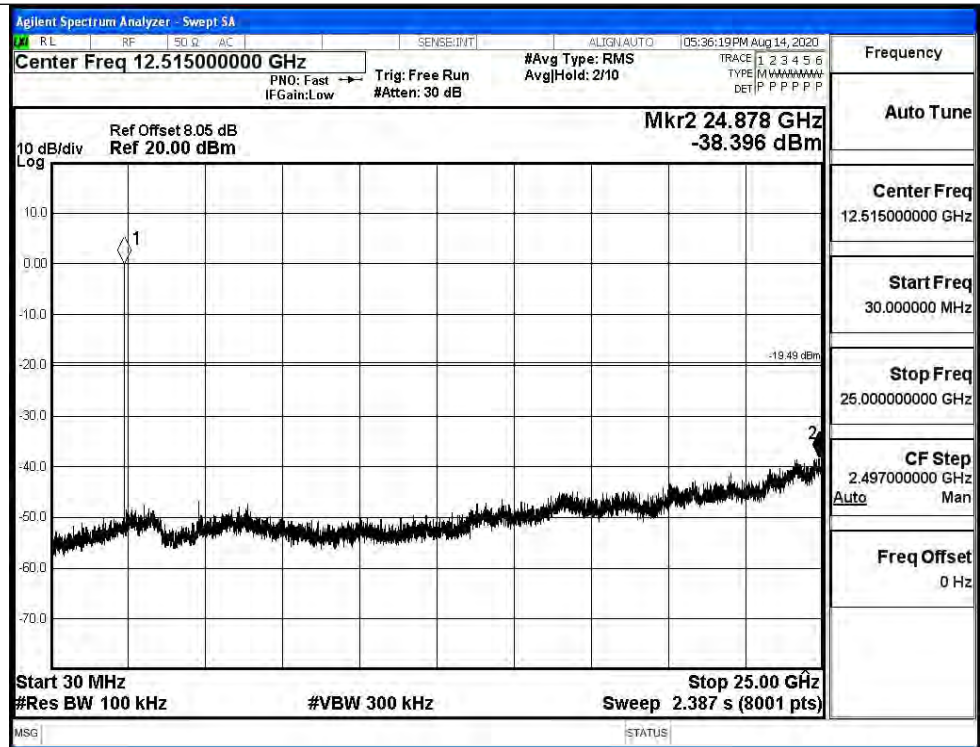
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.512	-38.396	-19.488	PASS
	MCH	-0.82	-32.030	-20.820	PASS
	HCH	-2.293	-37.616	-22.293	PASS
$\pi/4$ DQPSK	LCH	0.432	-37.431	-19.568	PASS
	MCH	-0.823	-37.630	-20.823	PASS
	HCH	-2.445	-37.152	-22.445	PASS
8DPSK	LCH	0.341	-36.815	-19.659	PASS
	MCH	-0.932	-36.850	-20.932	PASS
	HCH	-2.24	-37.827	-22.240	PASS

GFSK LCH Graphs

Pref

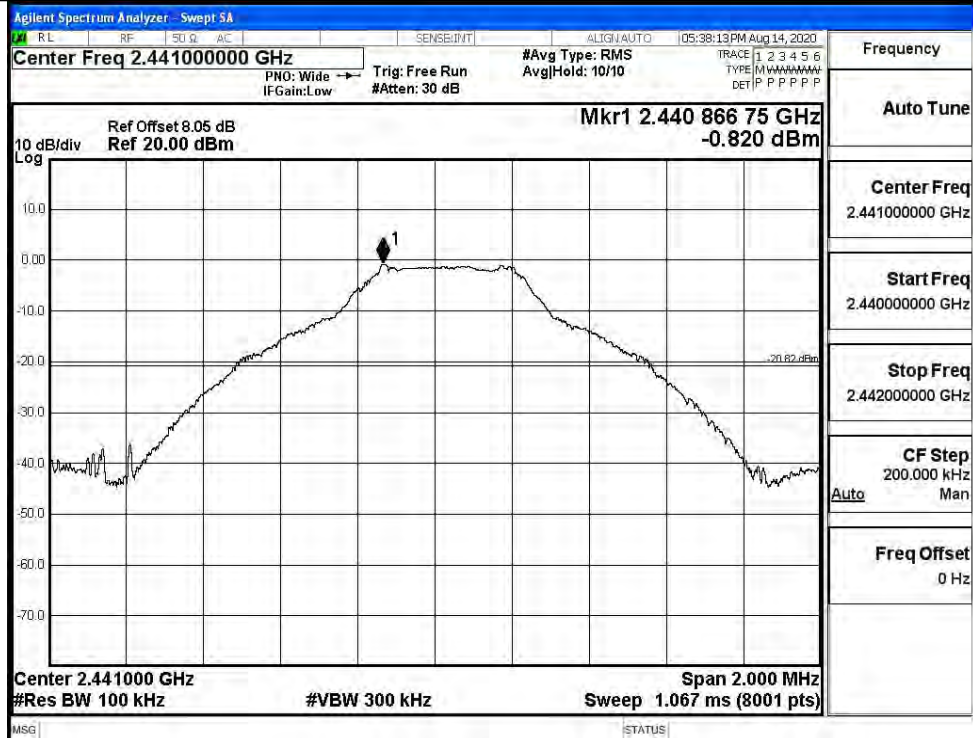


Puw

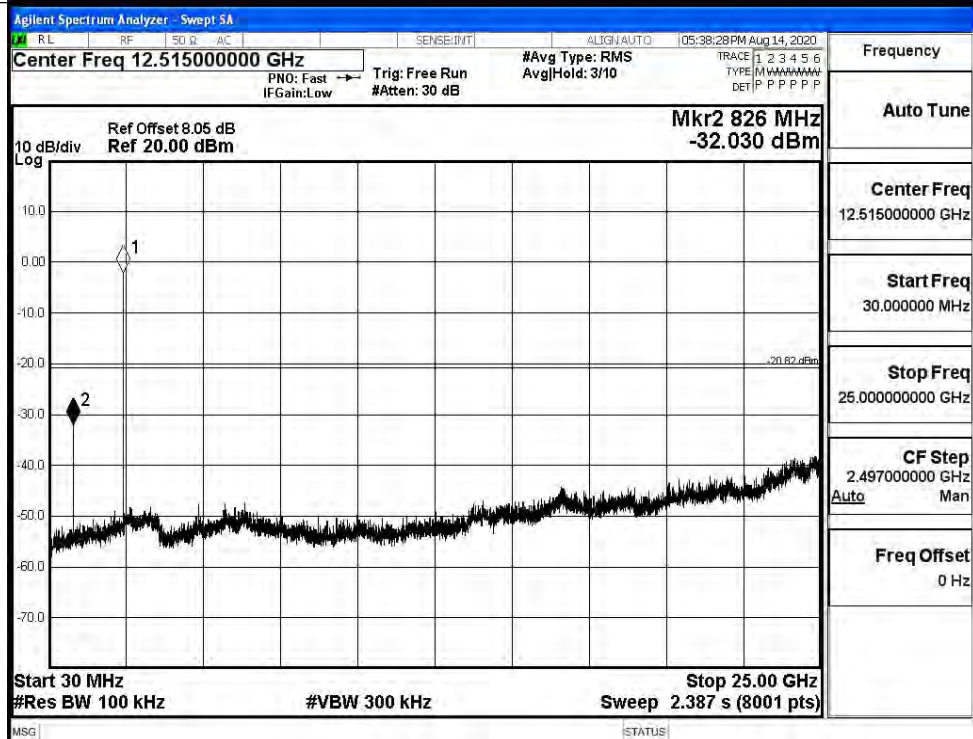


GFSK MCH_Graphs

Pref

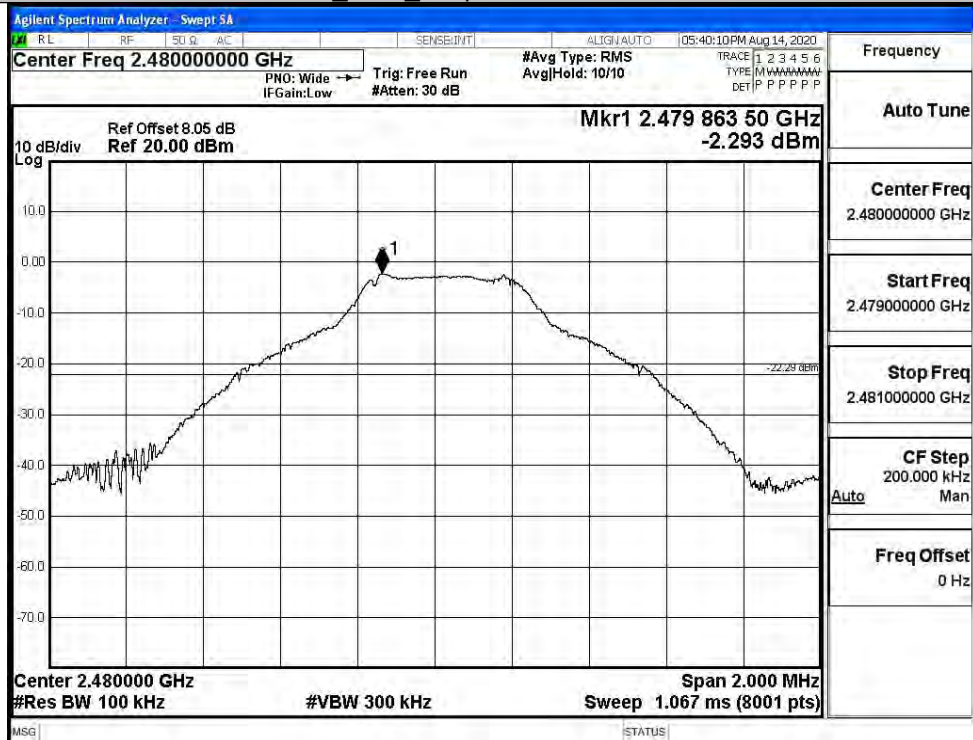


Puw

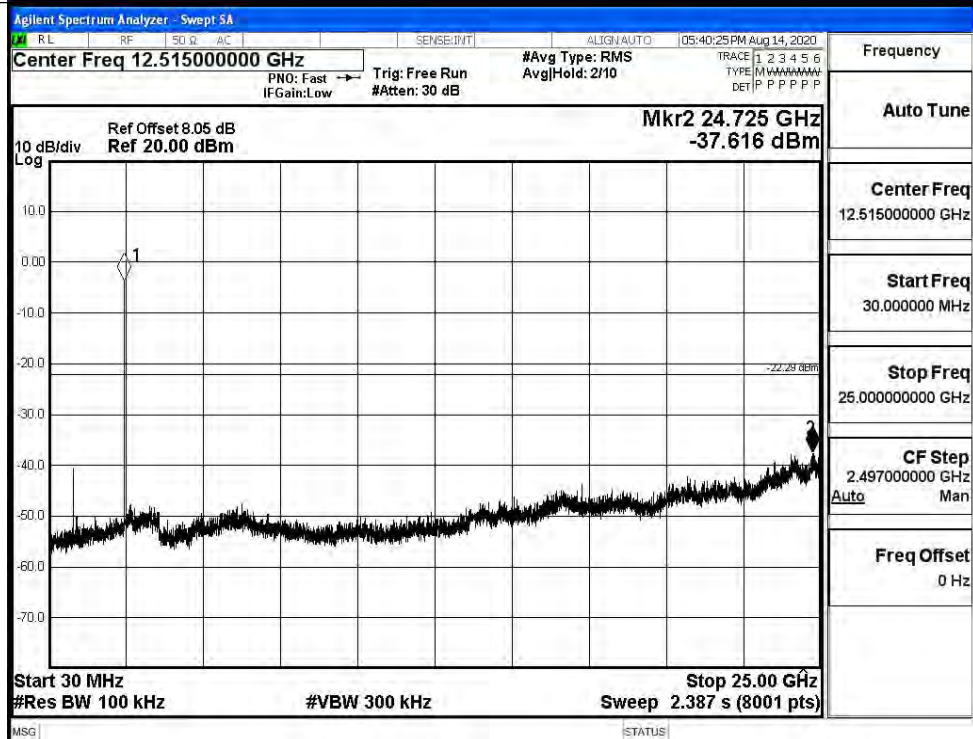


GFSK HCH_Graphs

Pref

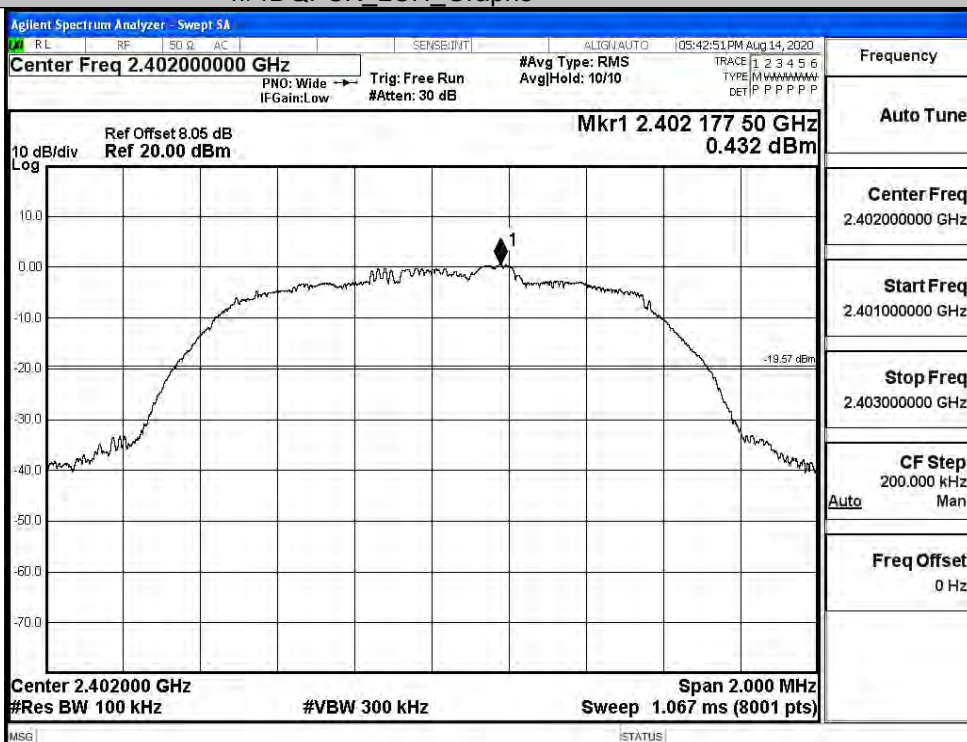


Puw



$\pi/4$ DQPSK LCH_Graphs

Pref

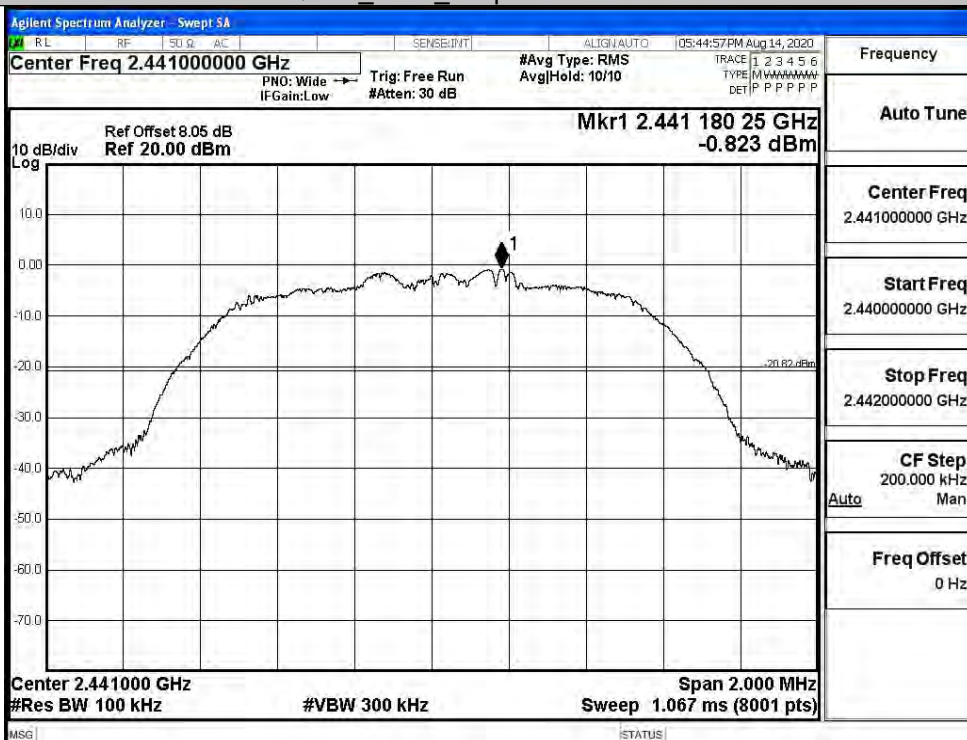


Puw

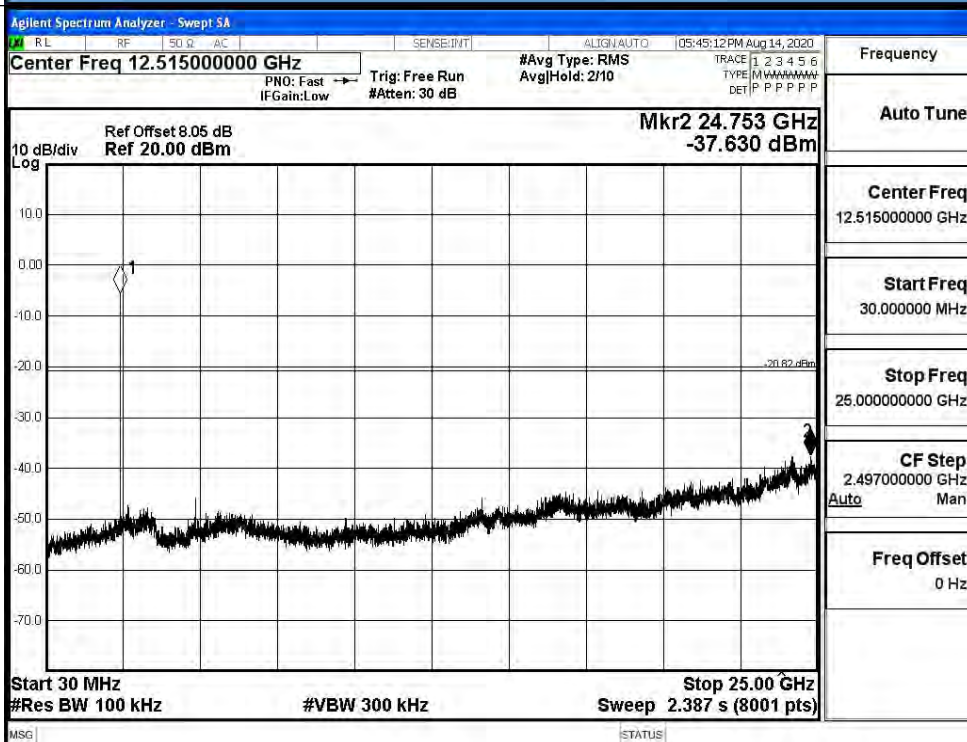


$\pi/4$ DQPSK_MCH_Graphs

Pref

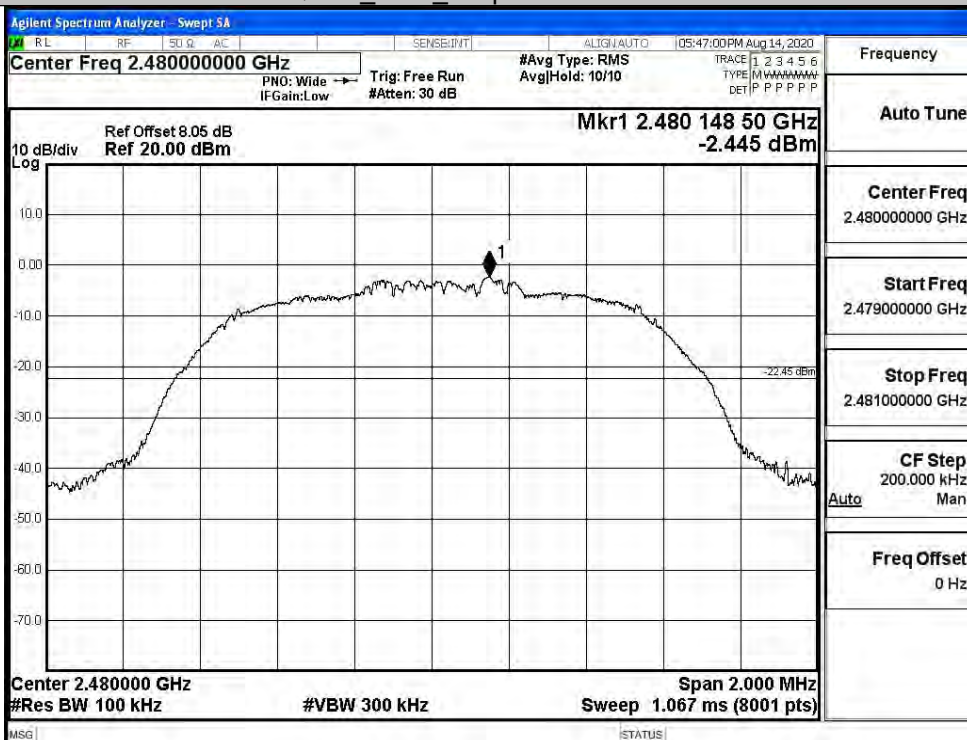


Puw

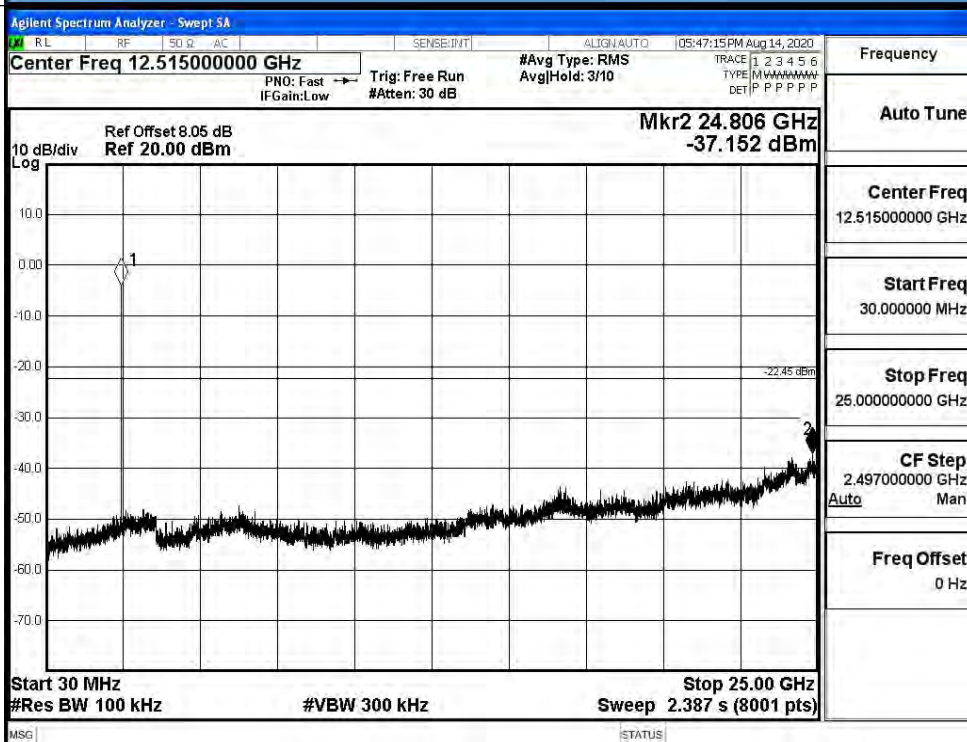


$\pi/4$ DQPSK HCH_Graphs

Pref

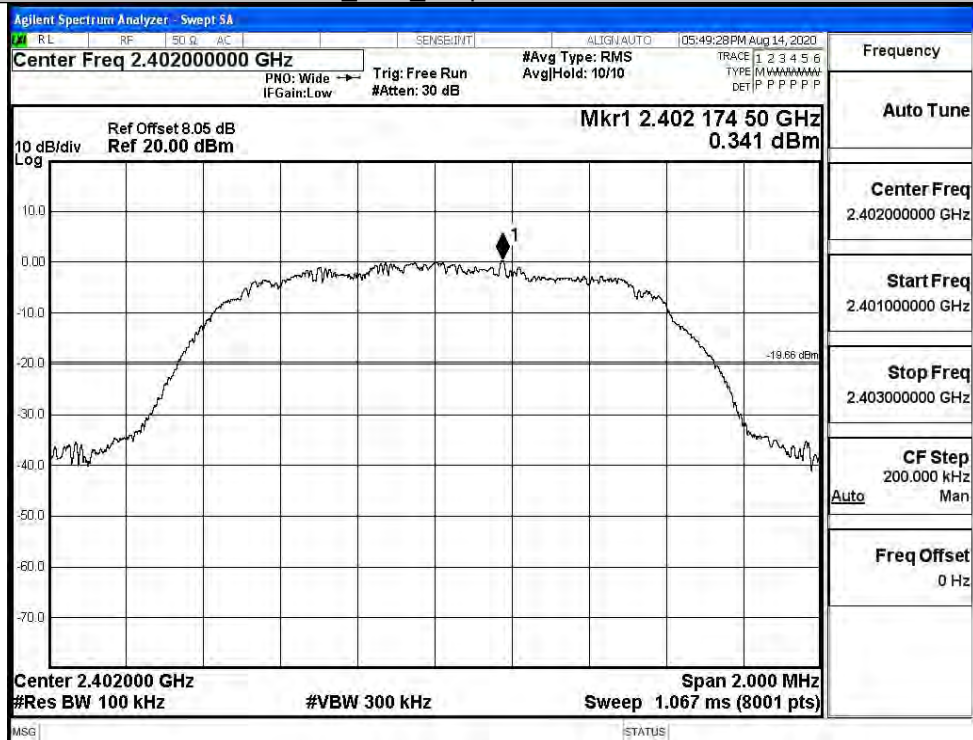


Puw

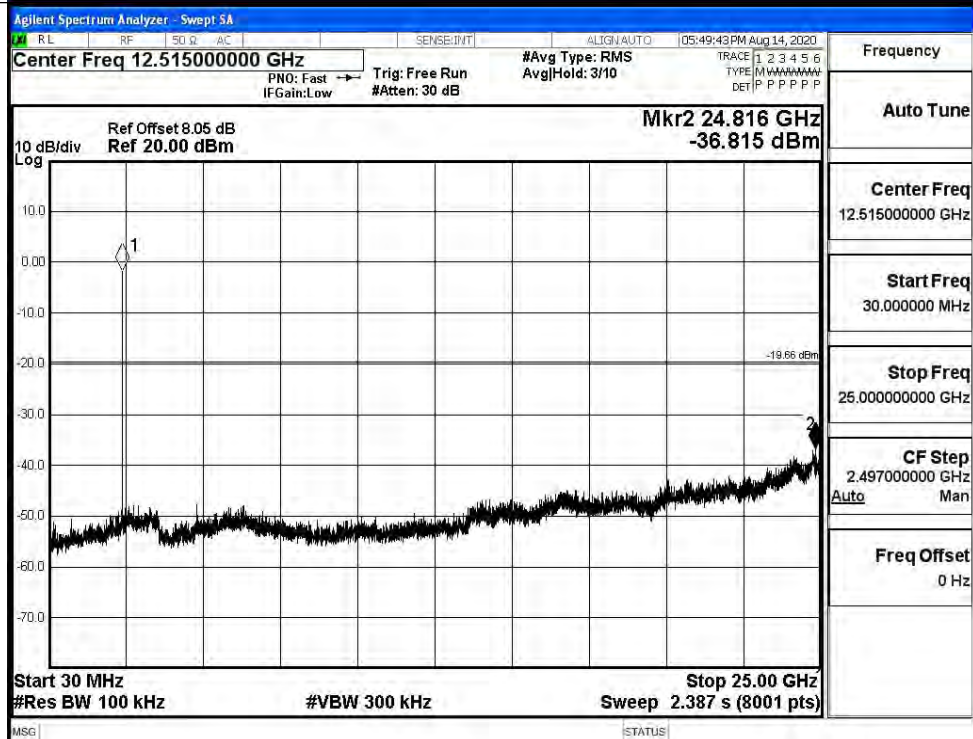


8DPSK_LCH_Graphs

Pref

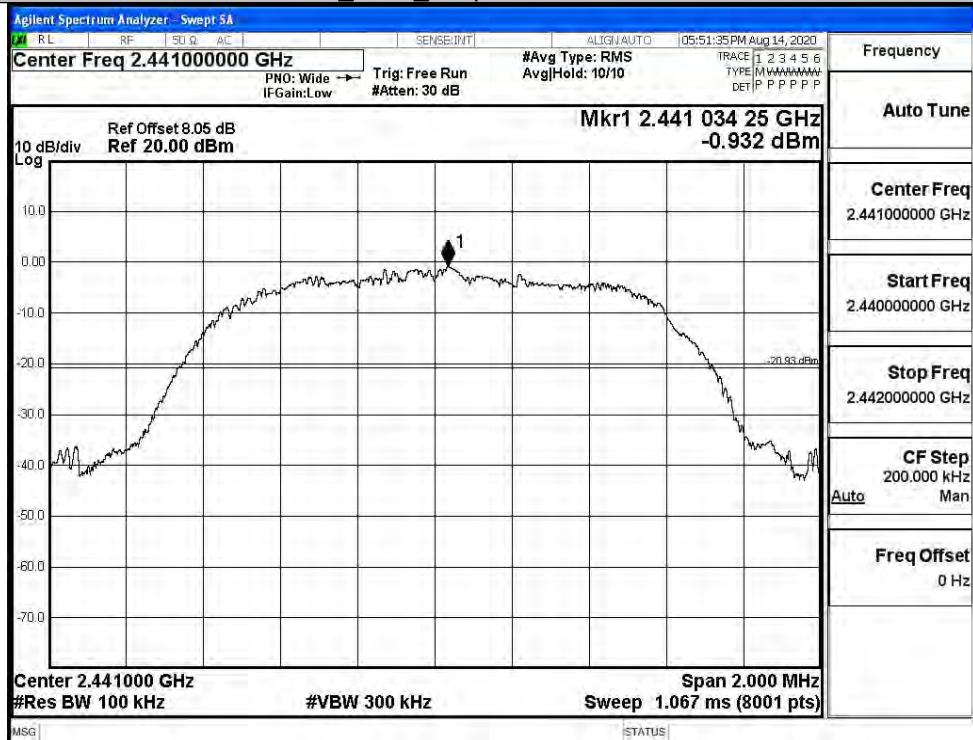


Puw

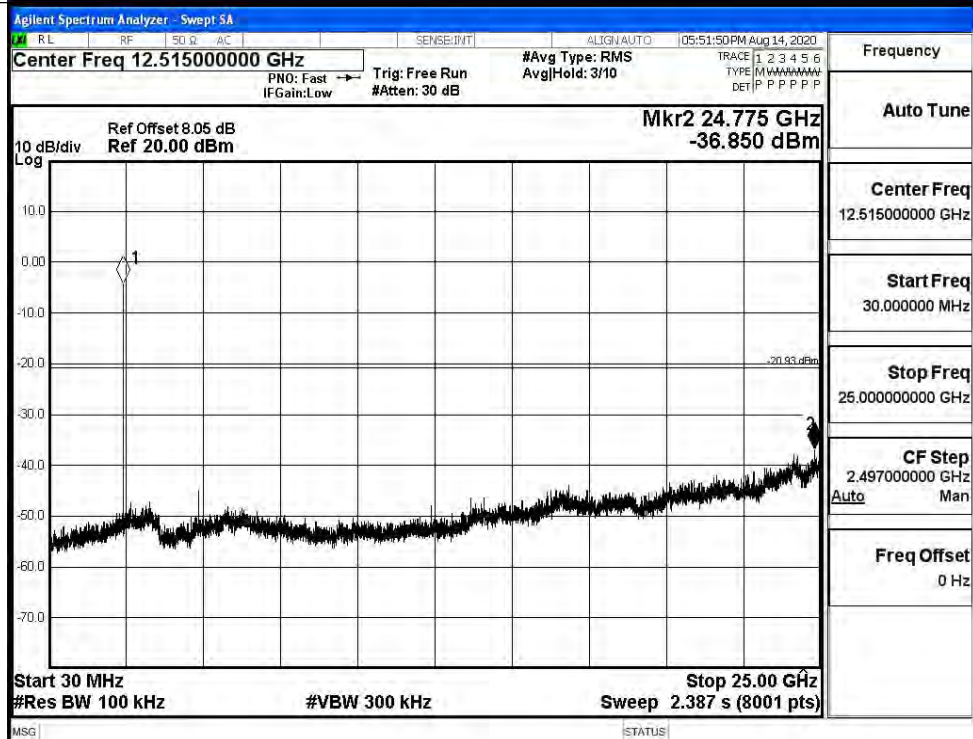


8DPSK MCH_Graphs

Pref

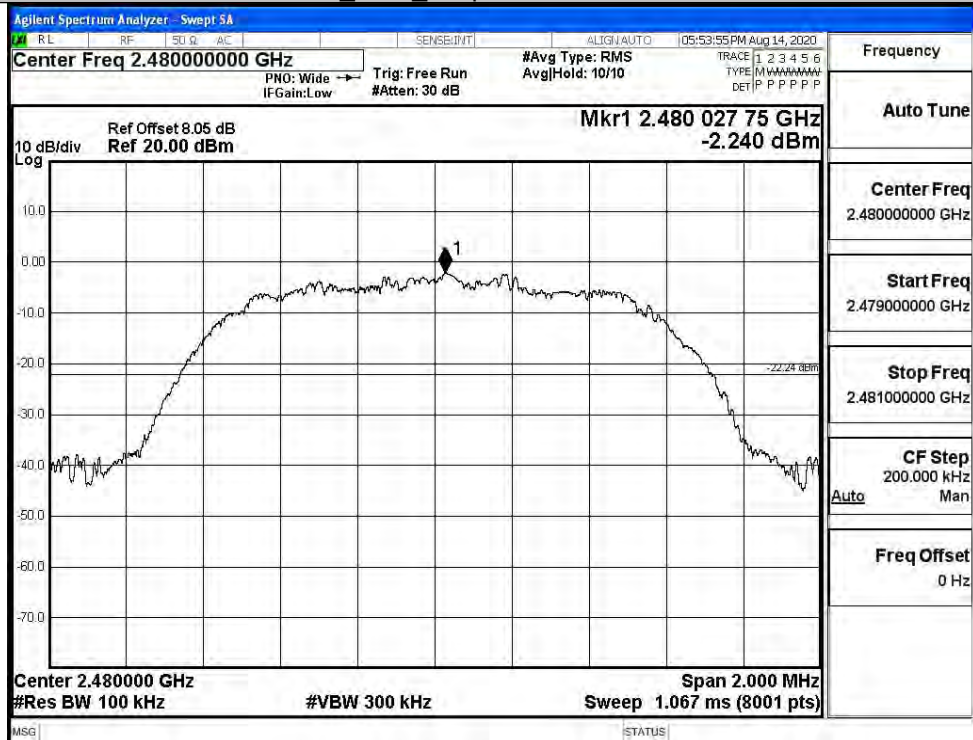


Puw

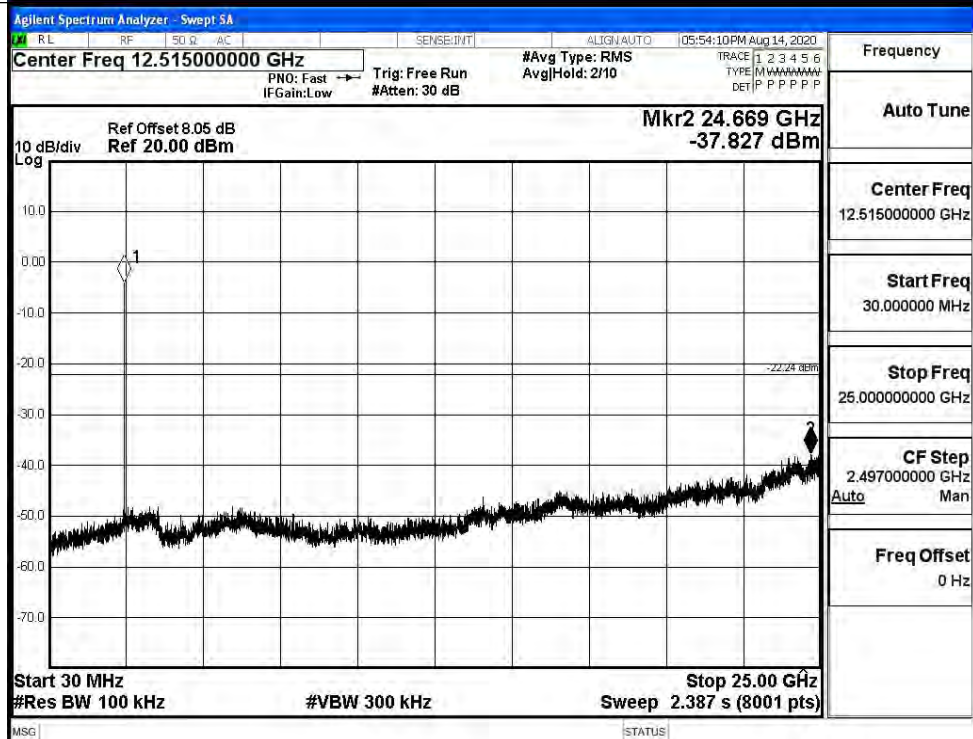


8DPSK_HCH_Graphs

Pref



Puw

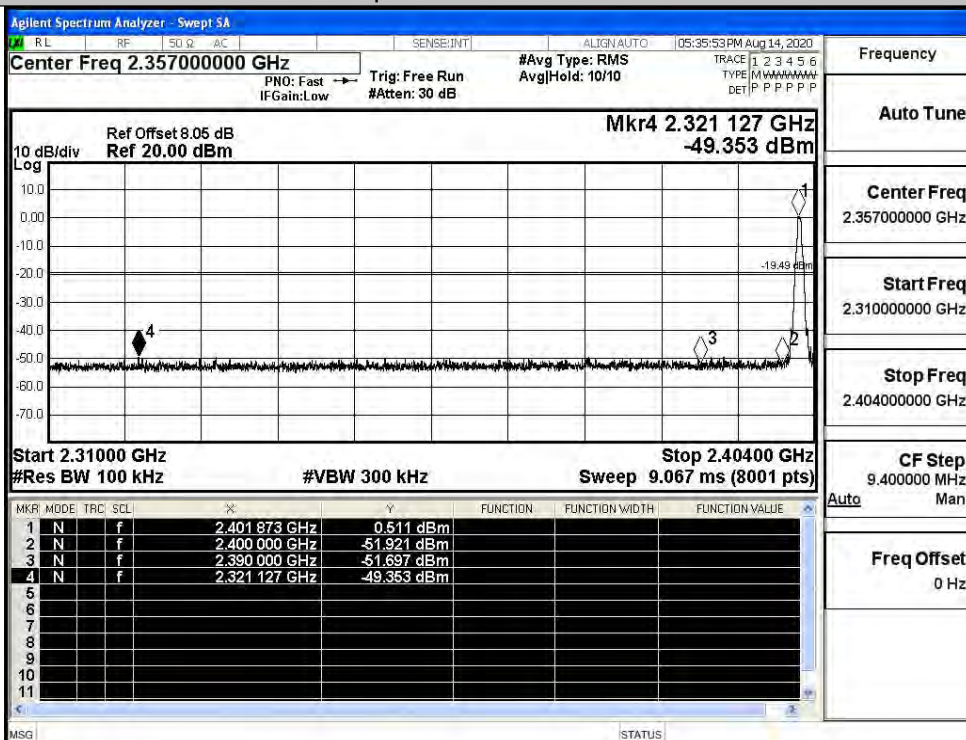


A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.511	Off	-49.353	-19.49	PASS
			0.586	On	-44.700	-19.41	PASS
	HCH	2480	-2.251	Off	-48.479	-22.25	PASS
			-1.429	On	-48.477	-21.43	PASS
π /4DQPSK	LCH	2402	-0.797	Off	-48.046	-20.8	PASS
			0.458	On	-47.862	-19.54	PASS
	HCH	2480	-2.268	Off	-48.934	-22.27	PASS
			-1.265	On	-48.001	-21.27	PASS
8DPSK	LCH	2402	-0.193	Off	-48.510	-20.19	PASS
			0.631	On	-48.426	-19.37	PASS
	HCH	2480	-2.207	Off	-48.856	-22.21	PASS
			-1.341	On	-48.381	-21.34	PASS

Test Graphs

GFSK/LCH/No Hop



Frequency

Auto Tune

Center Freq
2.357000000 GHz

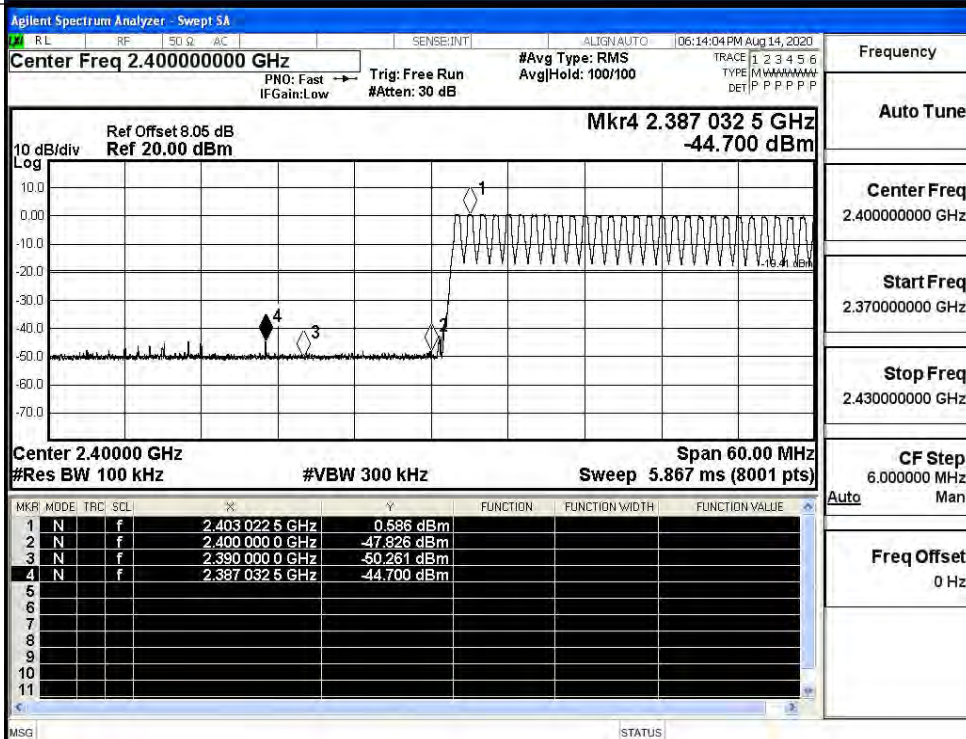
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz
Man

Freq Offset
0 Hz

GFSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

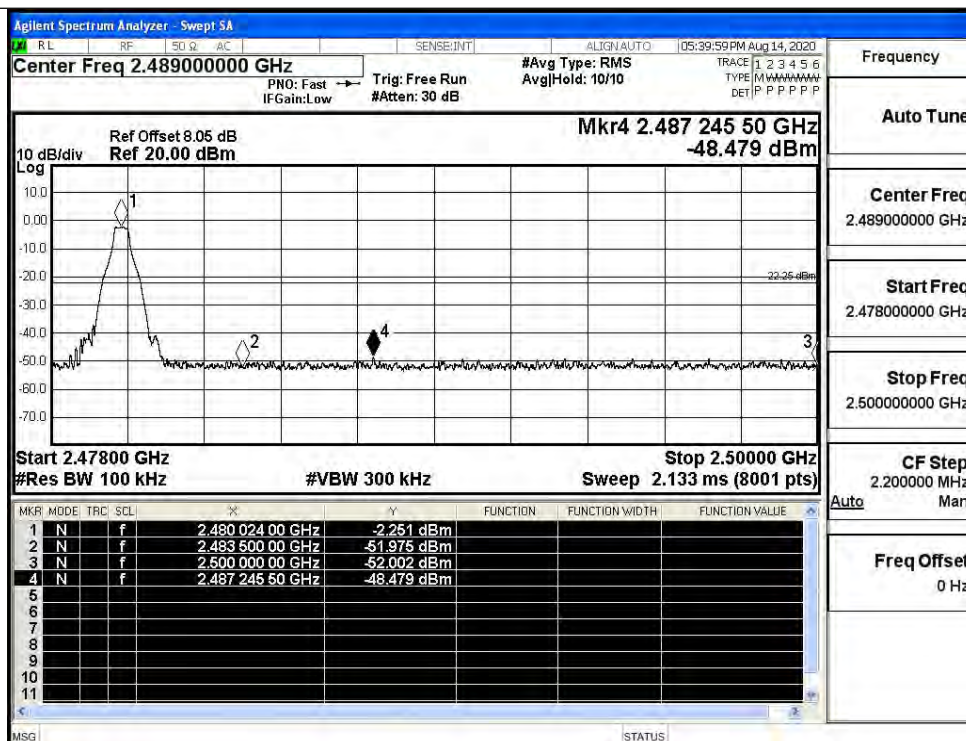
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

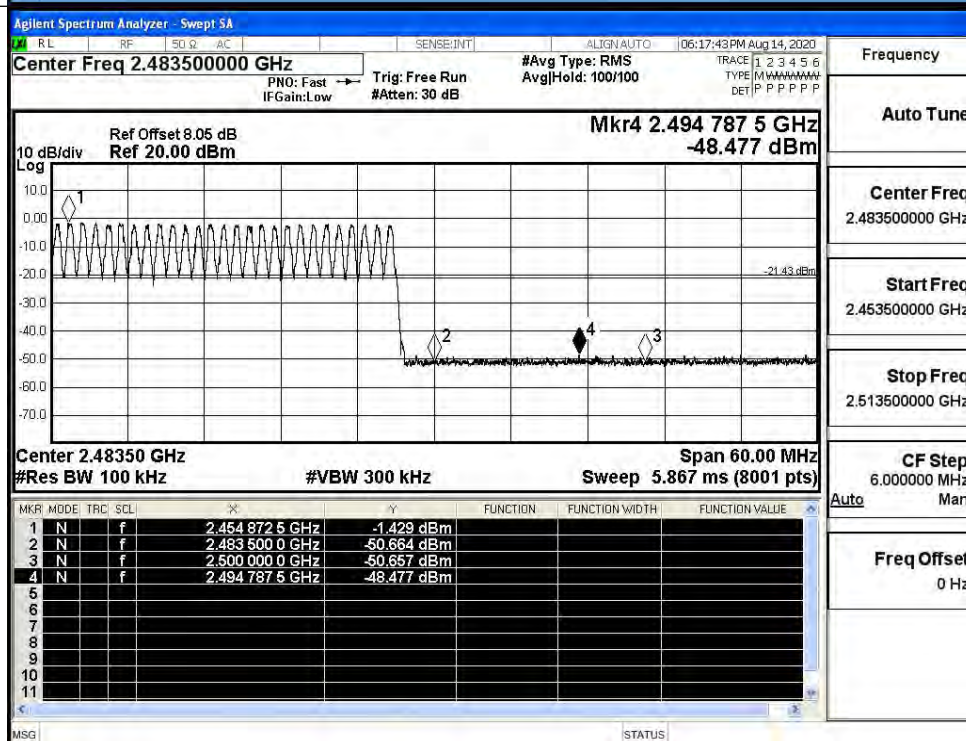
CF Step
6.000000 MHz
Man

Freq Offset
0 Hz

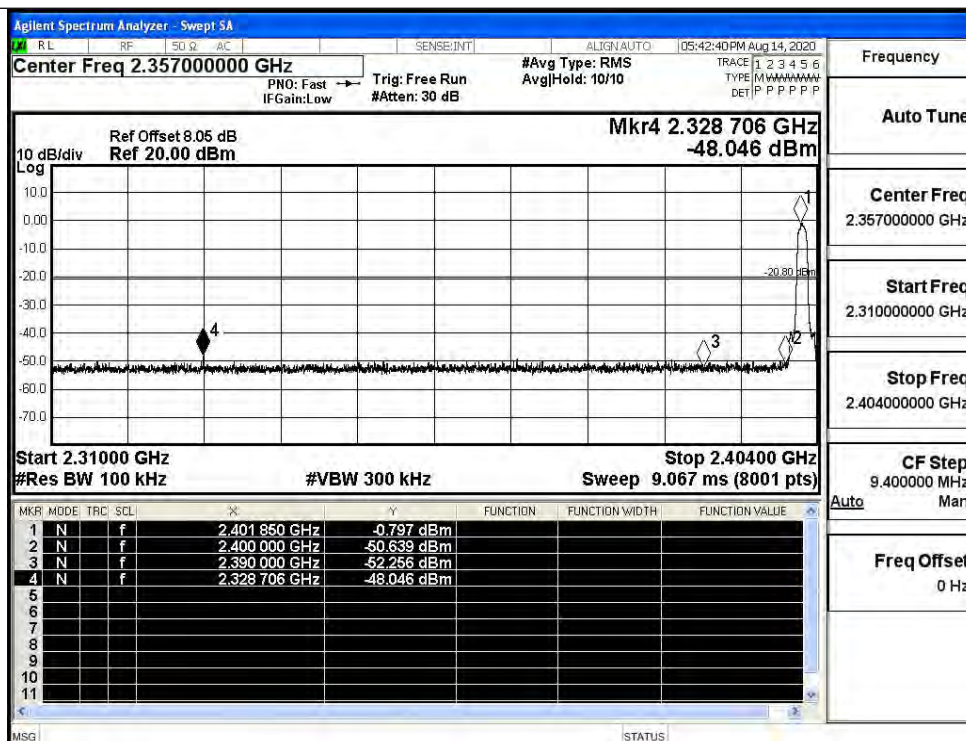
GFSK/HCH/No Hop



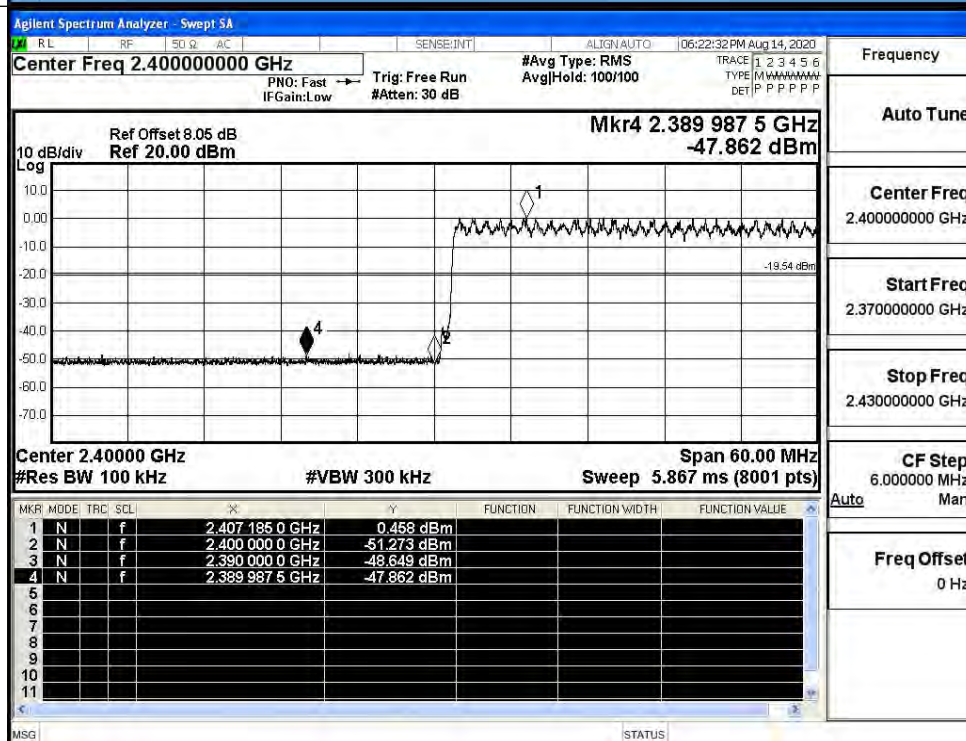
GFSK/HCH/Hop



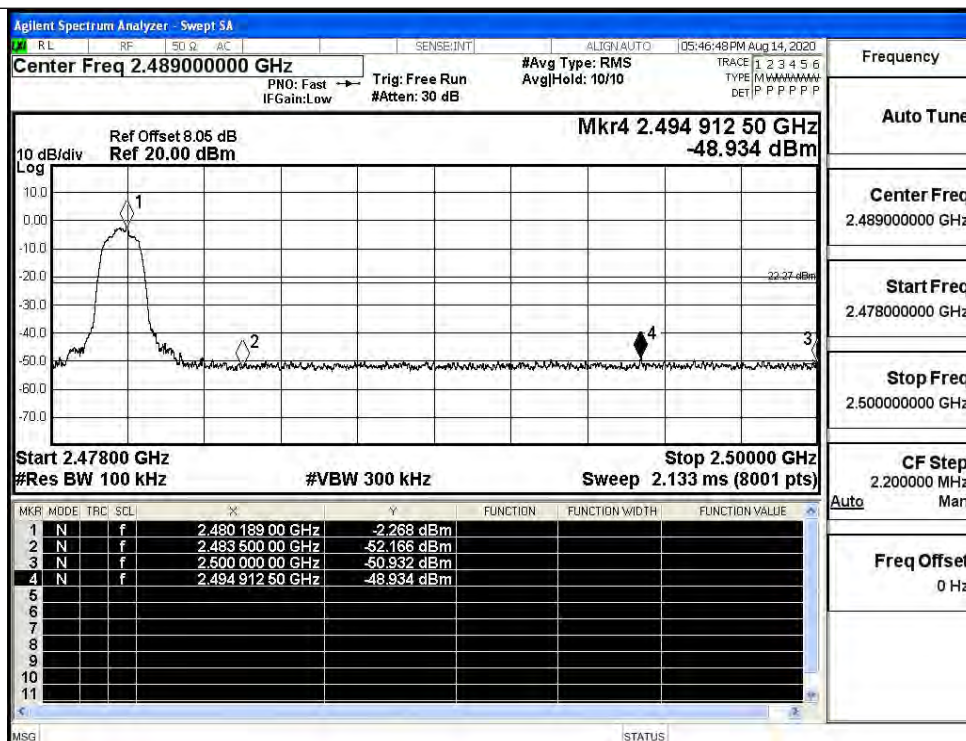
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

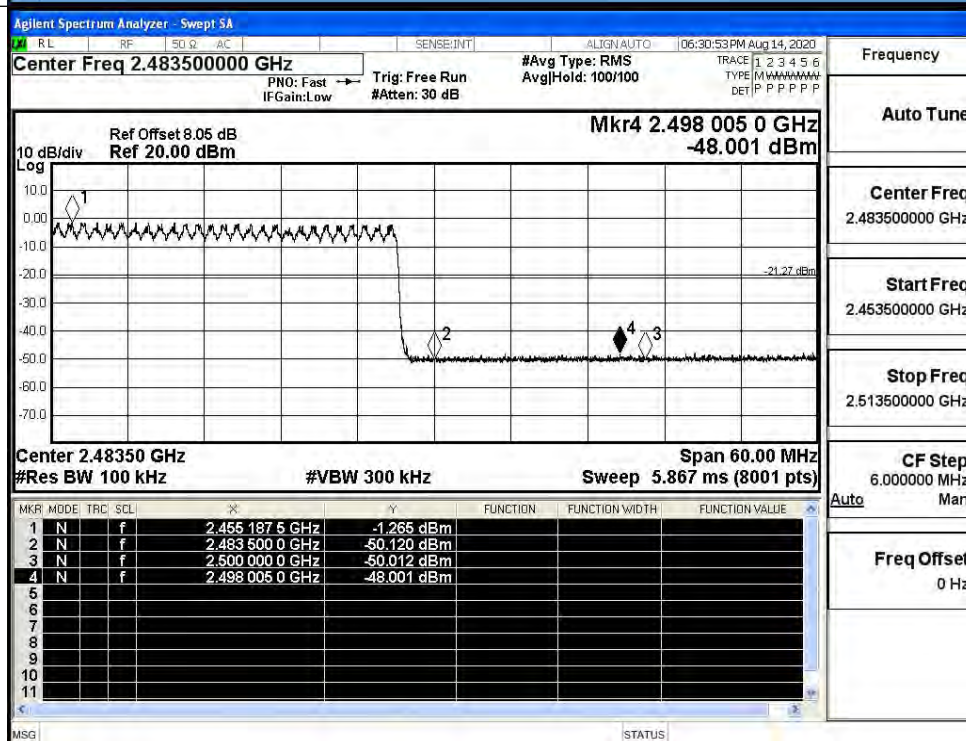
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz
Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

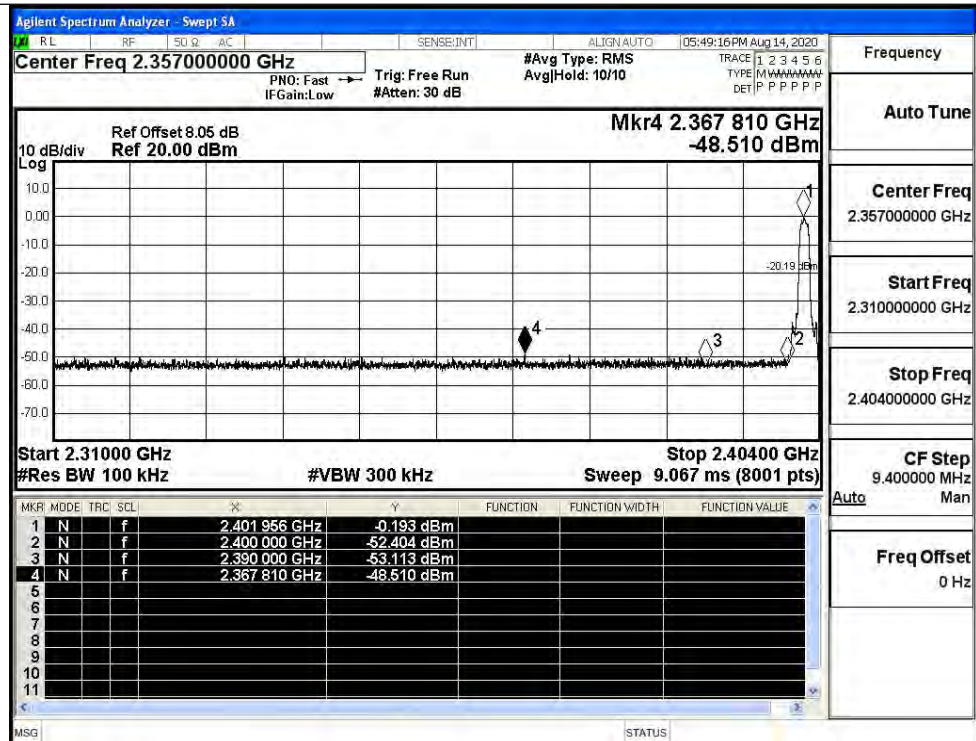
Start Freq
2.463500000 GHz

Stop Freq
2.513500000 GHz

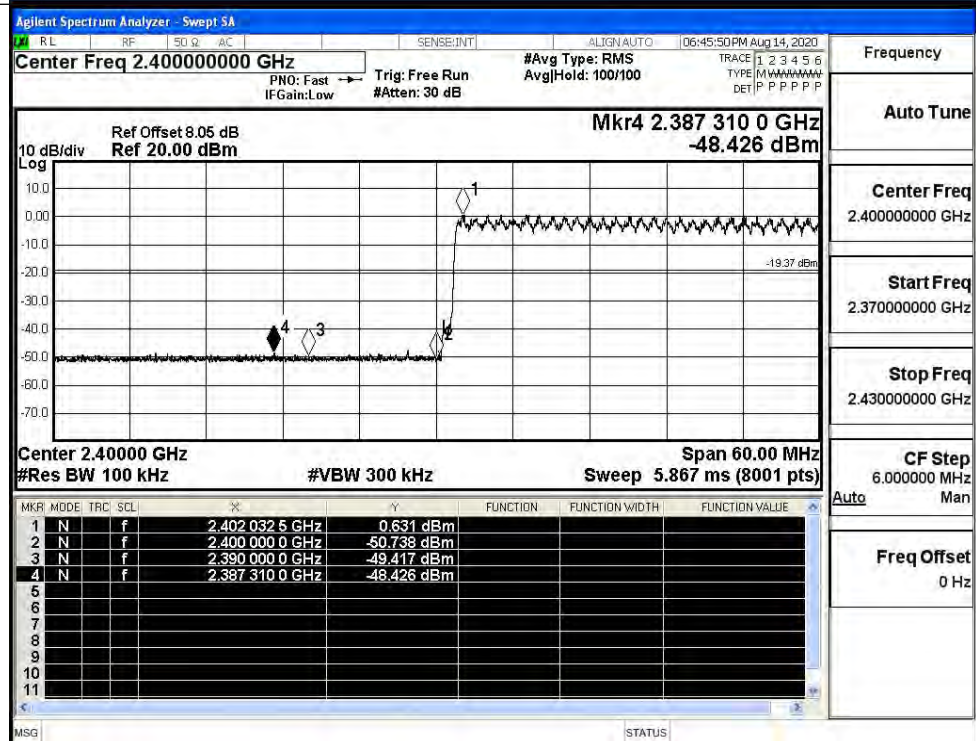
CF Step
6.000000 MHz
Man

Freq Offset
0 Hz

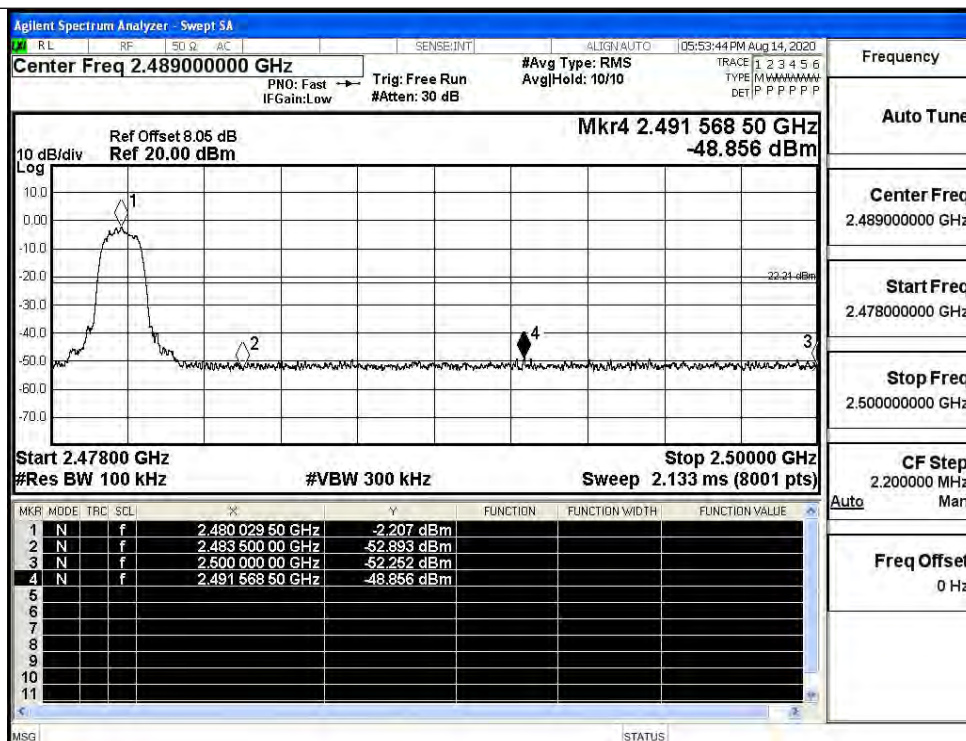
8DPSK/LCH/No Hop



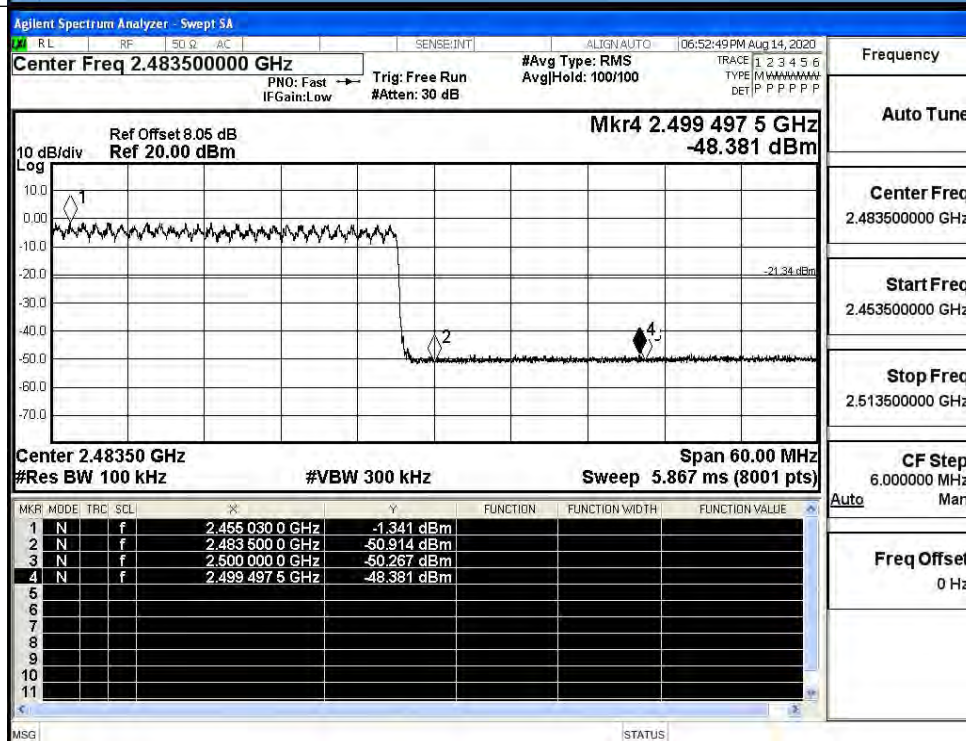
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



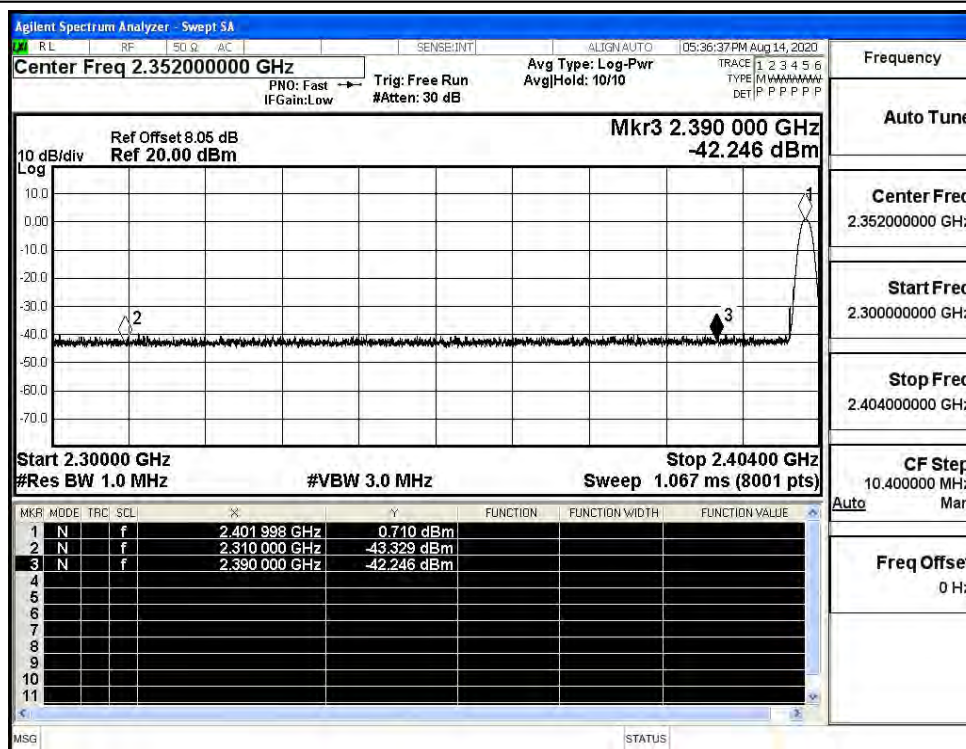
8DPSK/HCH/Hop



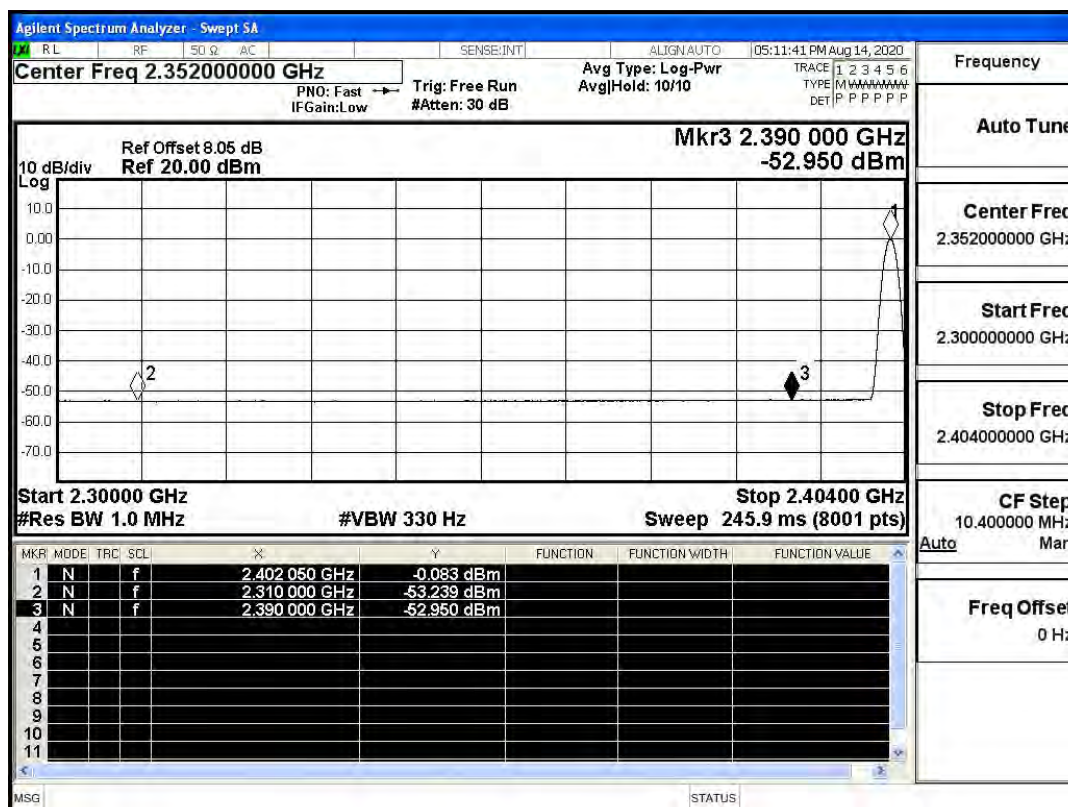
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.33	2.0	0	53.90	PEAK	74	PASS
	Off	2310.0	-53.24	2.0	0	43.99	AV	54	PASS
	Off	2390.0	-42.25	2.0	0	54.98	PEAK	74	PASS
	Off	2390.0	-52.95	2.0	0	44.28	AV	54	PASS
	Off	2483.5	-42.84	2.0	0	54.39	PEAK	74	PASS
	Off	2483.5	-52.42	2.0	0	44.81	AV	54	PASS
	Off	2500.0	-42.34	2.0	0	54.89	PEAK	74	PASS
	Off	2500.0	-52.35	2.0	0	44.88	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.26	2.0	0	53.97	PEAK	74	PASS
	Off	2310.0	-53.26	2.0	0	43.97	AV	54	PASS
	Off	2390.0	-43.39	2.0	0	53.84	PEAK	74	PASS
	Off	2390.0	-52.89	2.0	0	44.34	AV	54	PASS
	Off	2483.5	-41.75	2.0	0	55.48	PEAK	74	PASS
	Off	2483.5	-52.39	2.0	0	44.84	AV	54	PASS
	Off	2500.0	-41.85	2.0	0	55.38	PEAK	74	PASS
	Off	2500.0	-52.26	2.0	0	44.97	AV	54	PASS
8DPSK	Off	2310.0	-43.55	2.0	0	53.68	PEAK	74	PASS
	Off	2310.0	-53.27	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-43.25	2.0	0	53.98	PEAK	74	PASS
	Off	2390.0	-52.93	2.0	0	44.30	AV	54	PASS
	Off	2483.5	-42.26	2.0	0	54.97	PEAK	74	PASS
	Off	2483.5	-52.47	2.0	0	44.76	AV	54	PASS
	Off	2500.0	-42.39	2.0	0	54.84	PEAK	74	PASS
	Off	2500.0	-52.27	2.0	0	44.96	AV	54	PASS

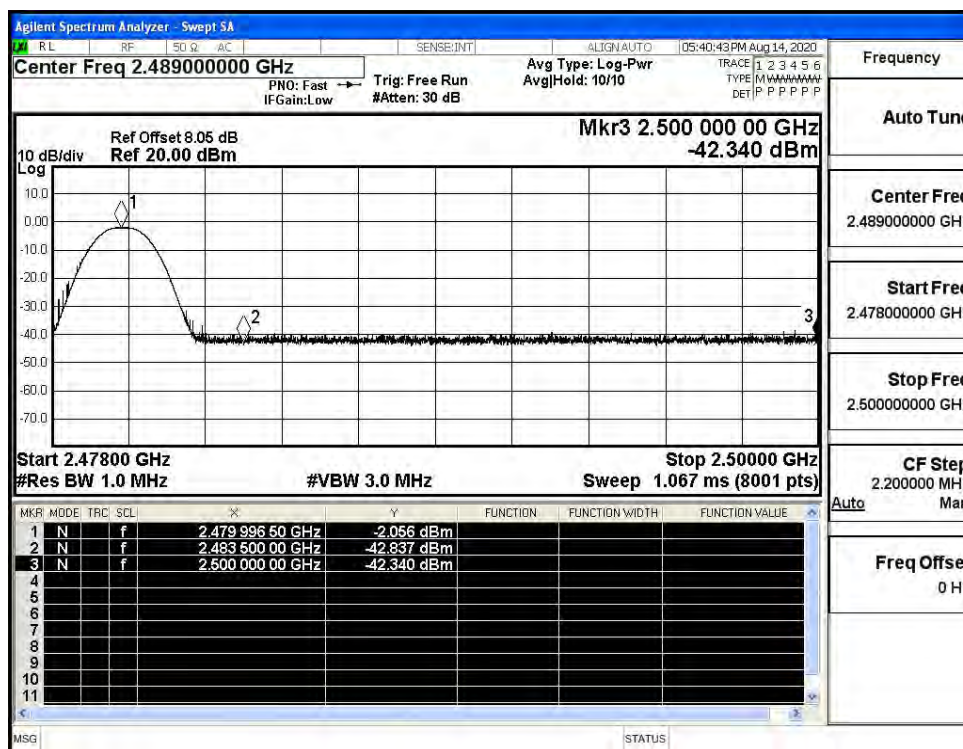
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



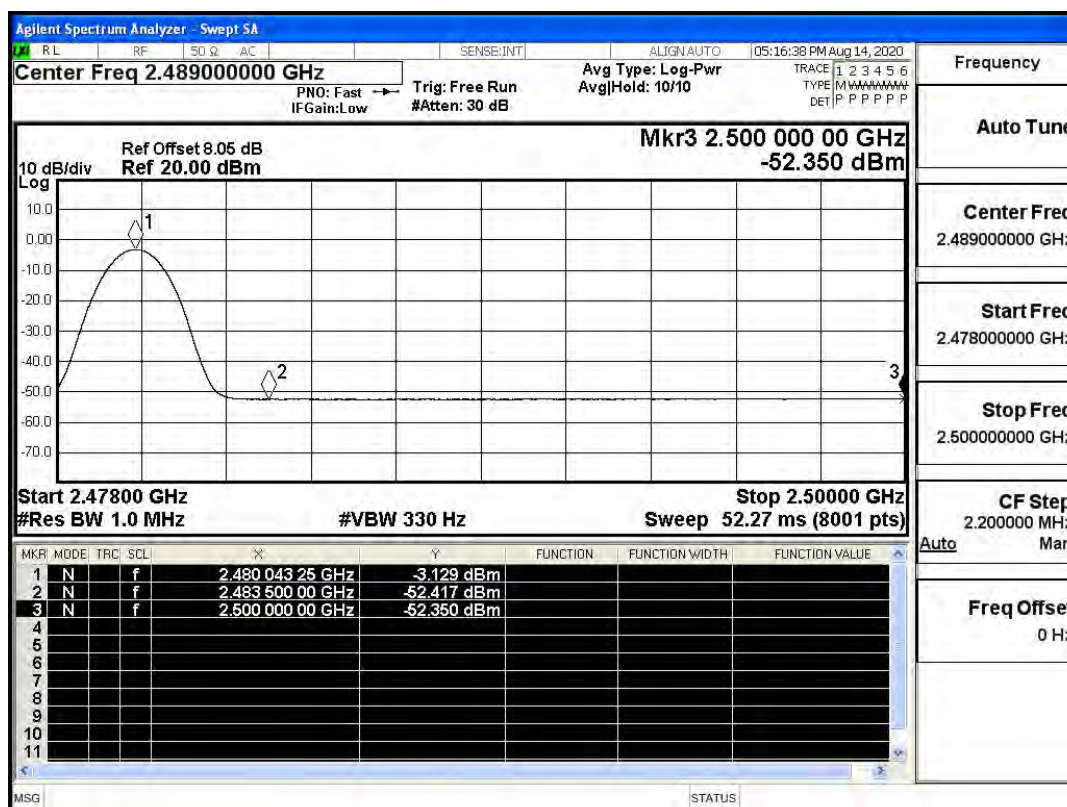
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



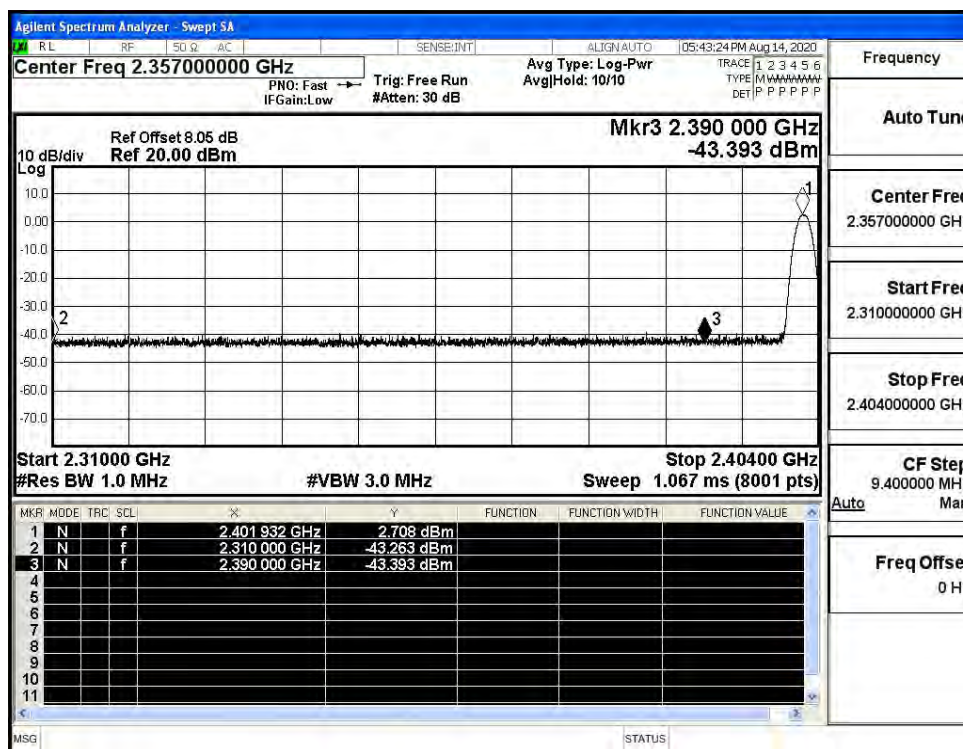
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



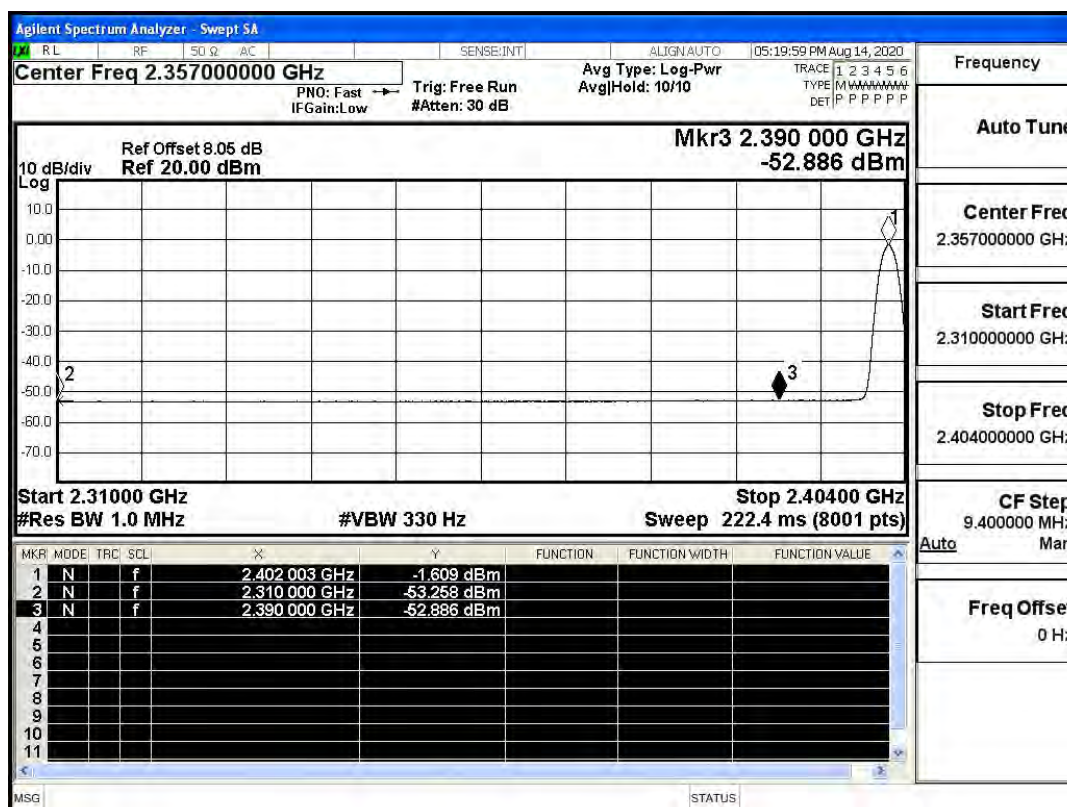
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



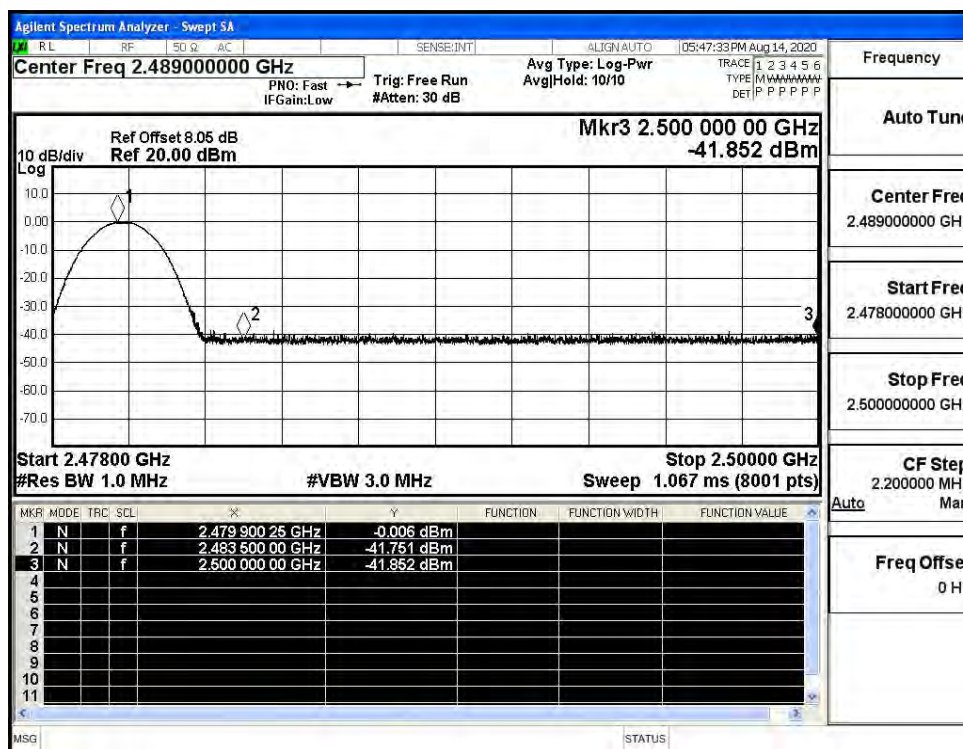
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



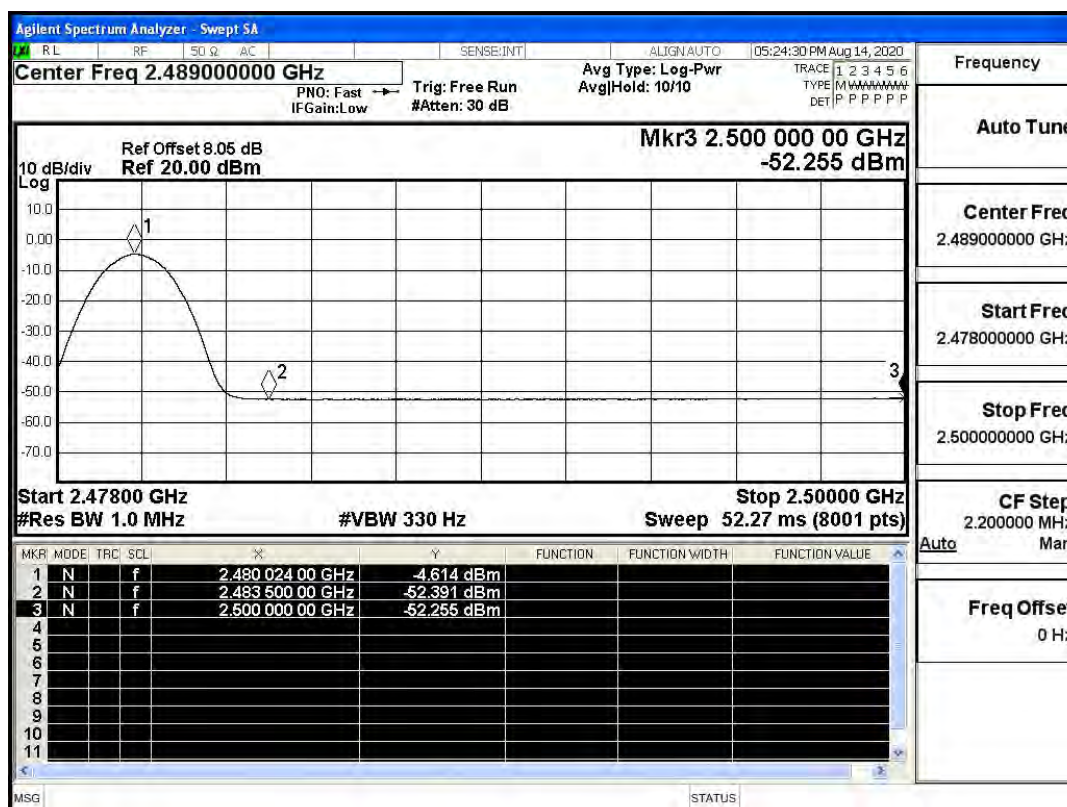
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



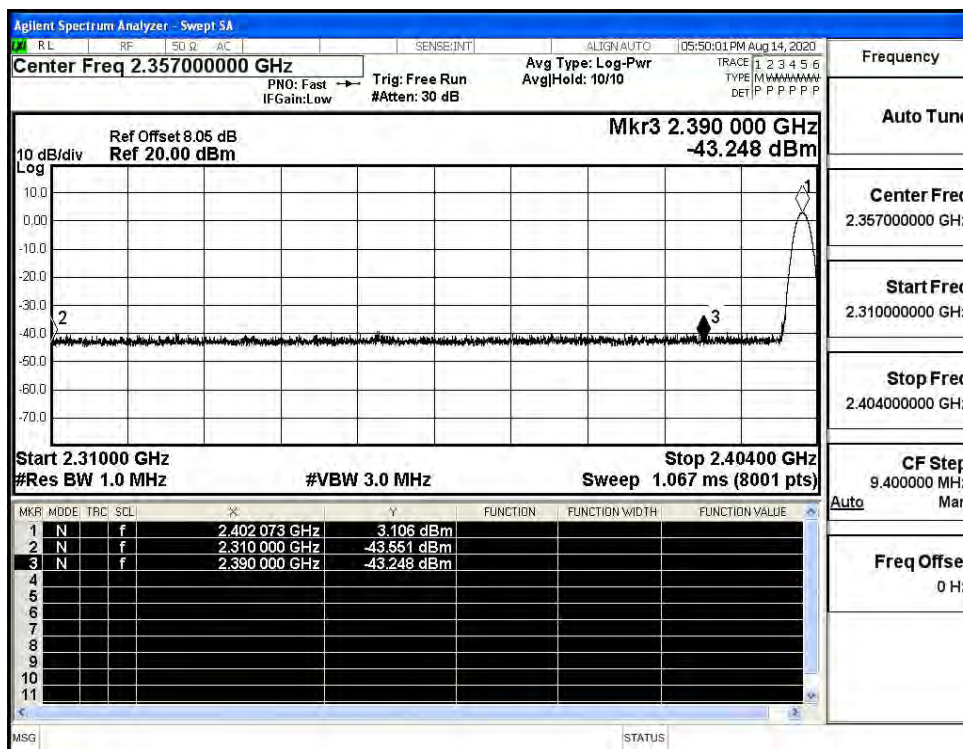
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



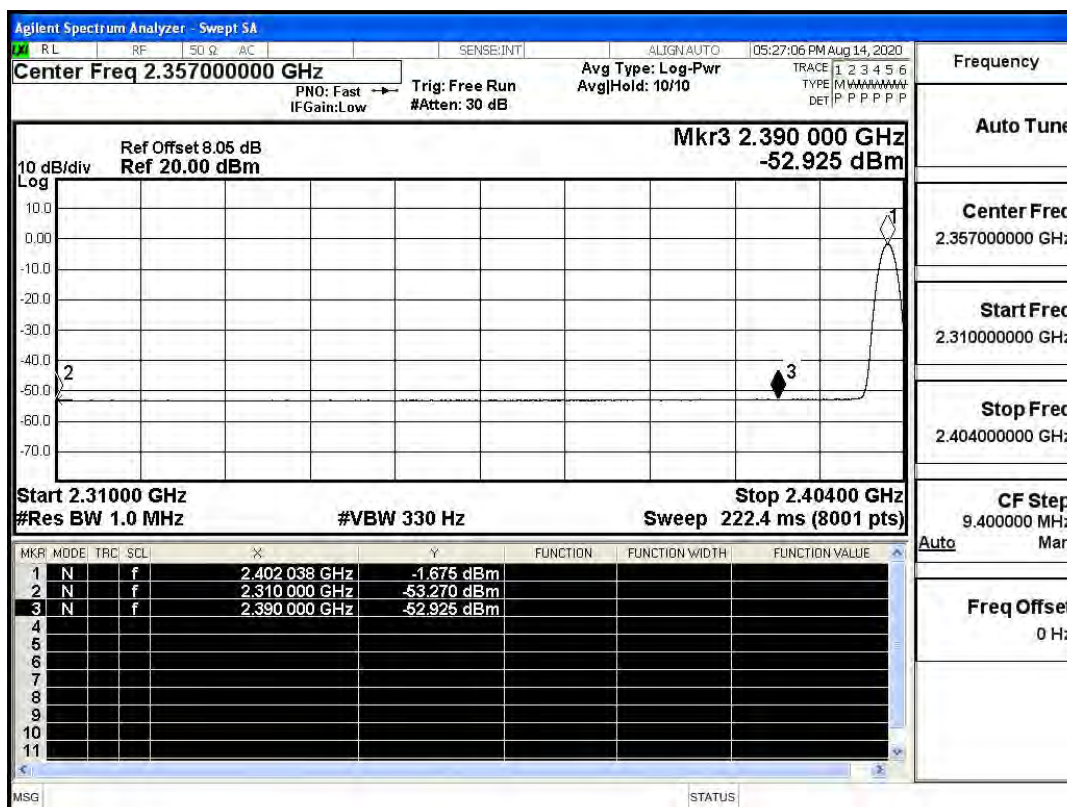
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



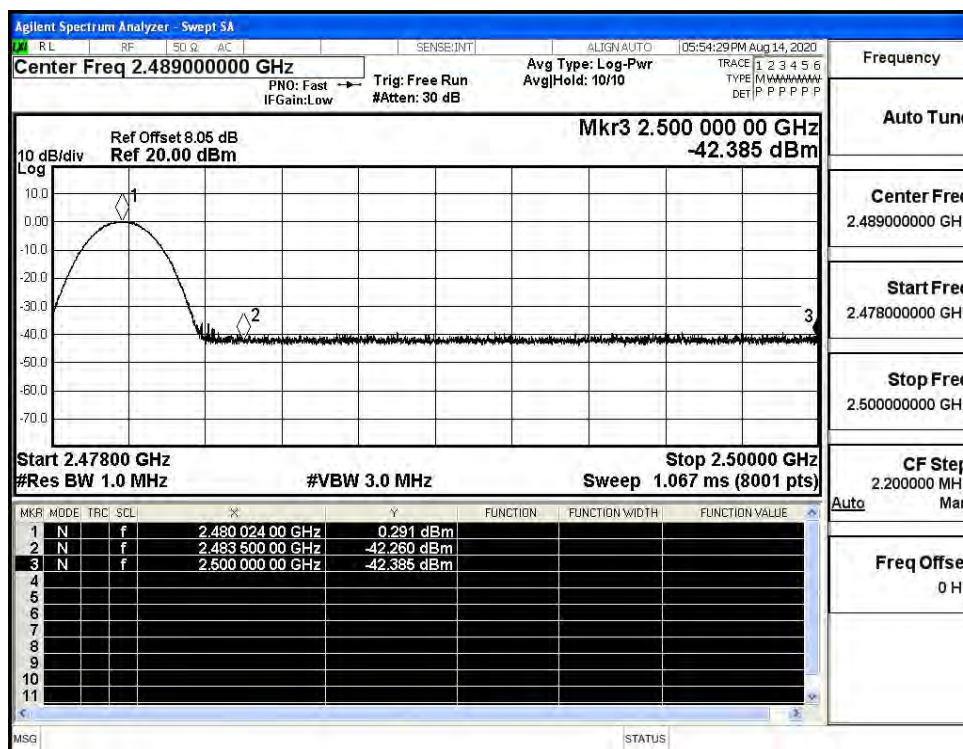
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



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)

