

Appendix A

RF Test Data for BT V5.1(DSS) (Conducted Measurement)

Product Name: Bluetooth Stereo Boombox with CD/ Cassette Player-Recorder/AM-FM Radio

Trade Mark: N/A

Test Model: SB2150

Environmental Conditions

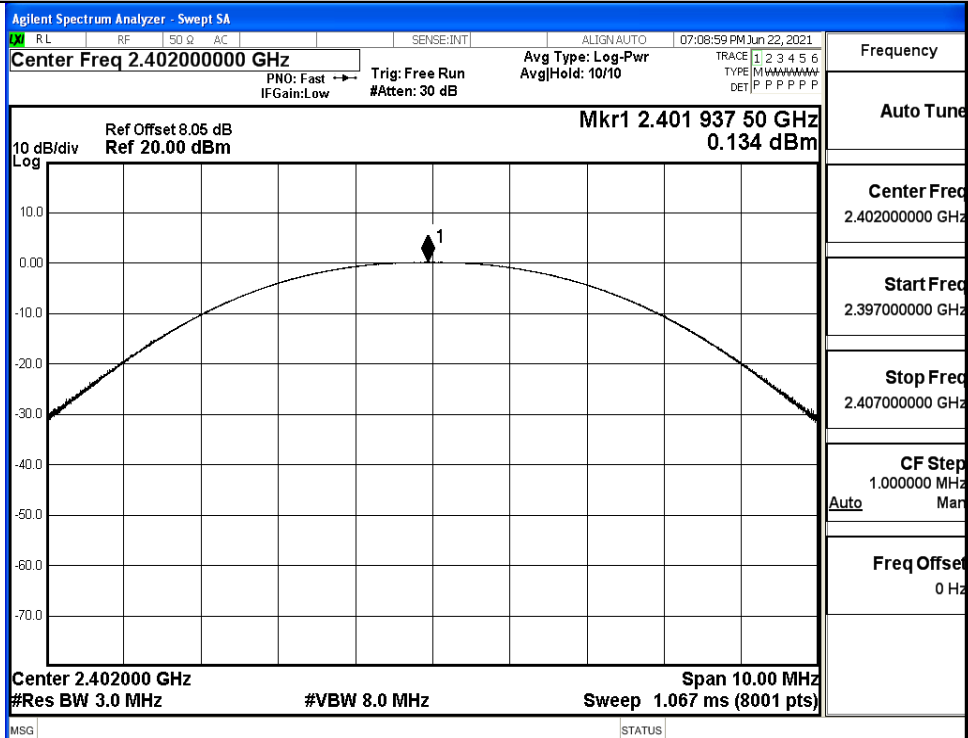
Temperature:	21.6 ° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

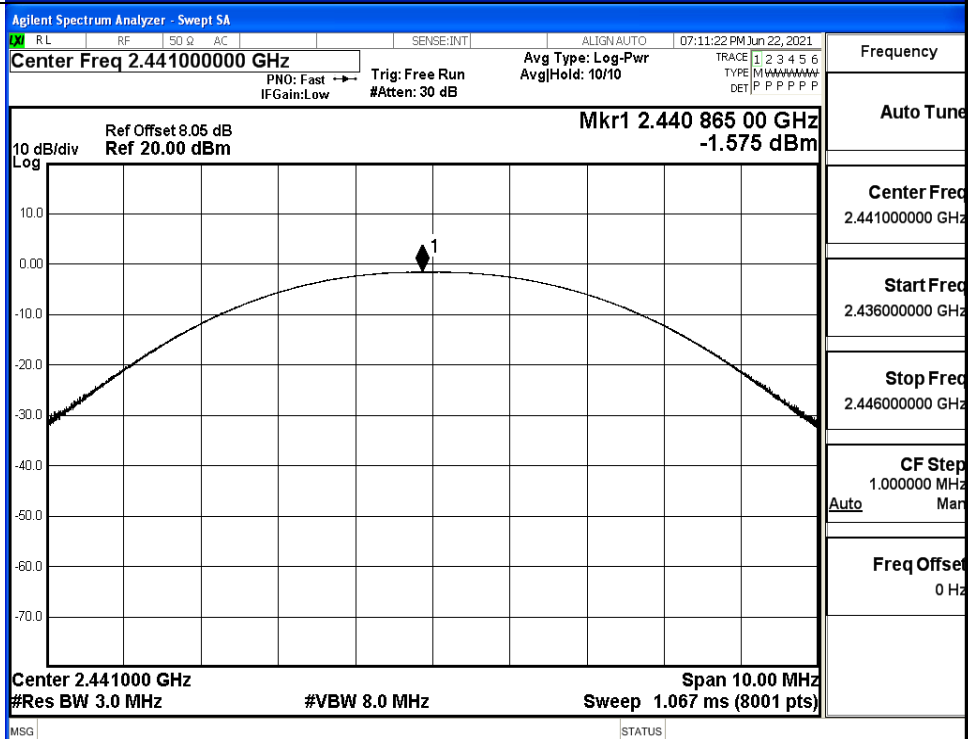
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.134	21	PASS
	MCH	-1.575	21	PASS
	HCH	-1.101	21	PASS
$\pi/4$ DQPSK	LCH	-0.830	21	PASS
	MCH	-2.277	21	PASS
	HCH	-2.015	21	PASS

Test Graphs

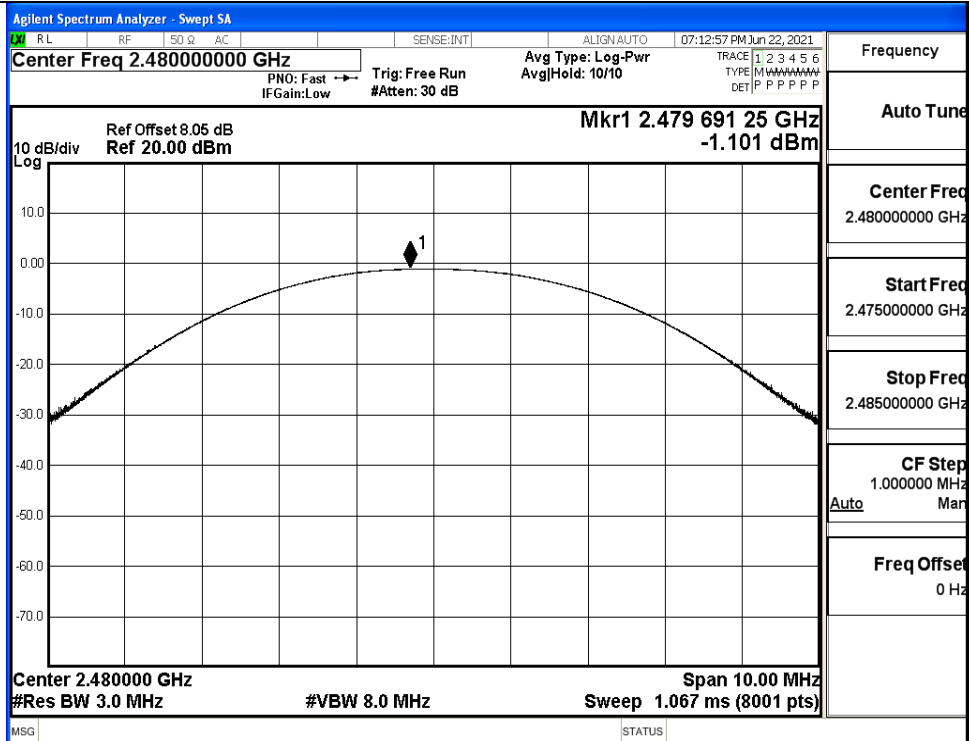
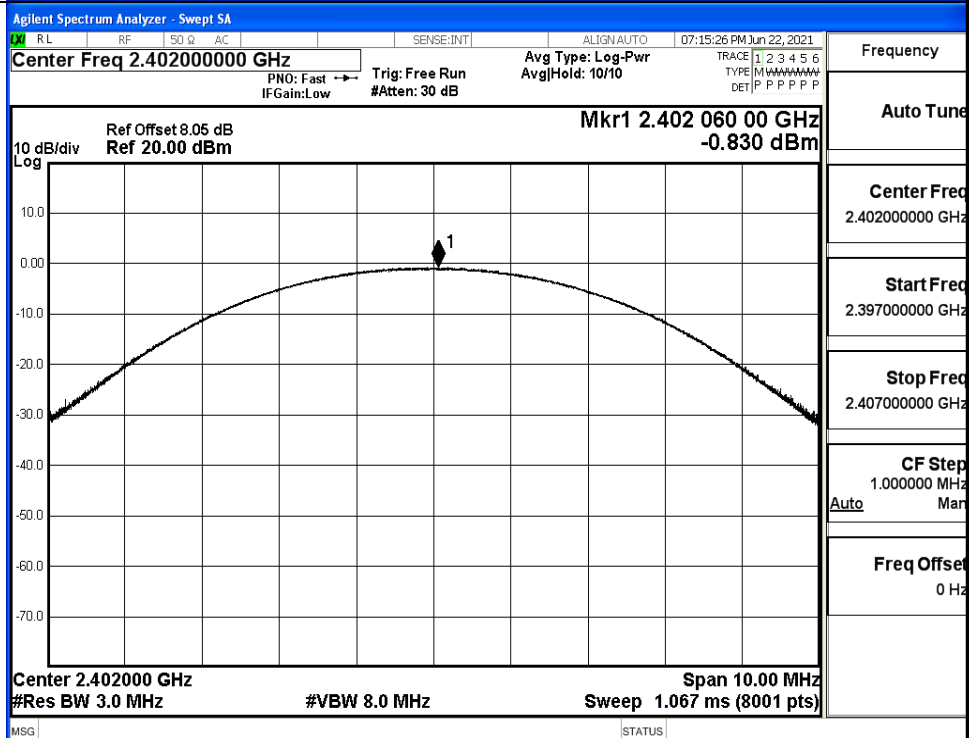
GFSK/LCH

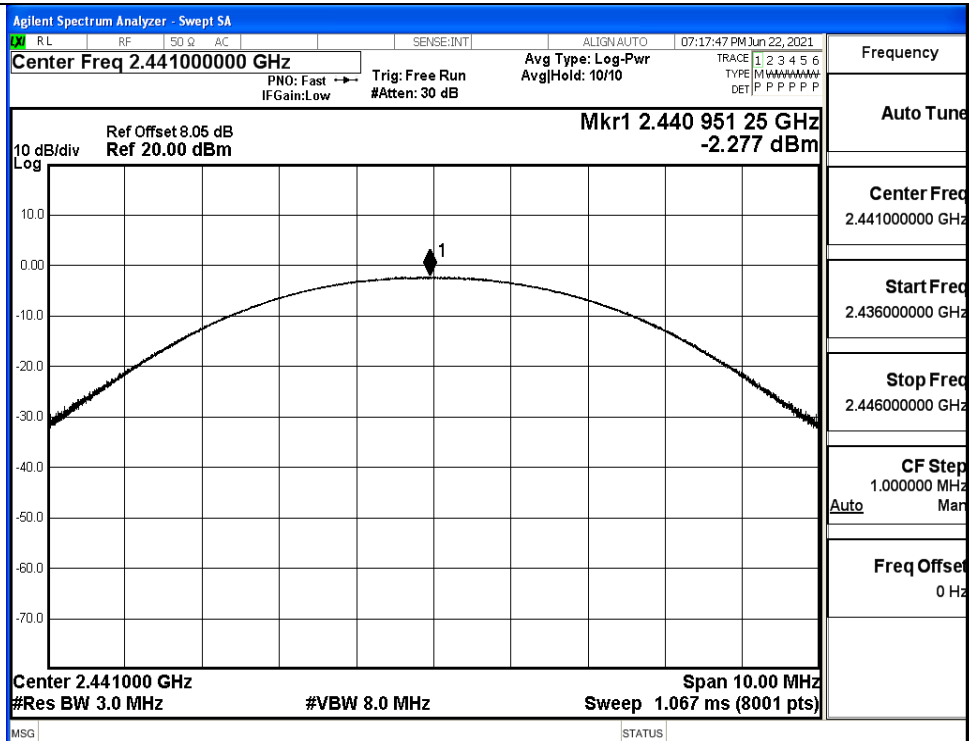
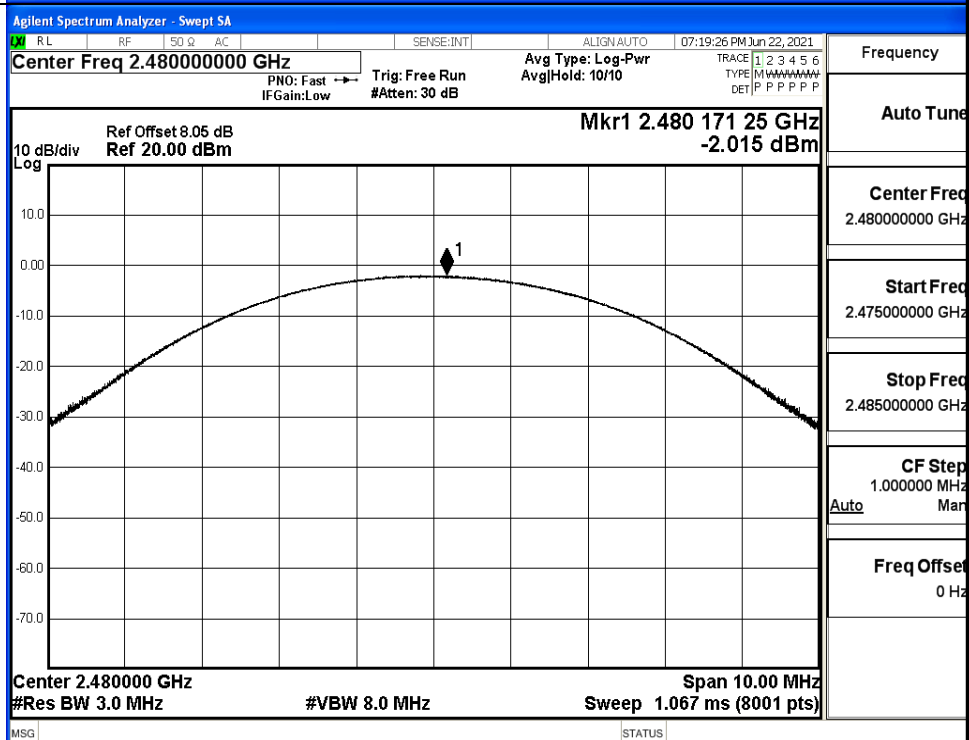


GFSK/MCH



GFSK/HCH

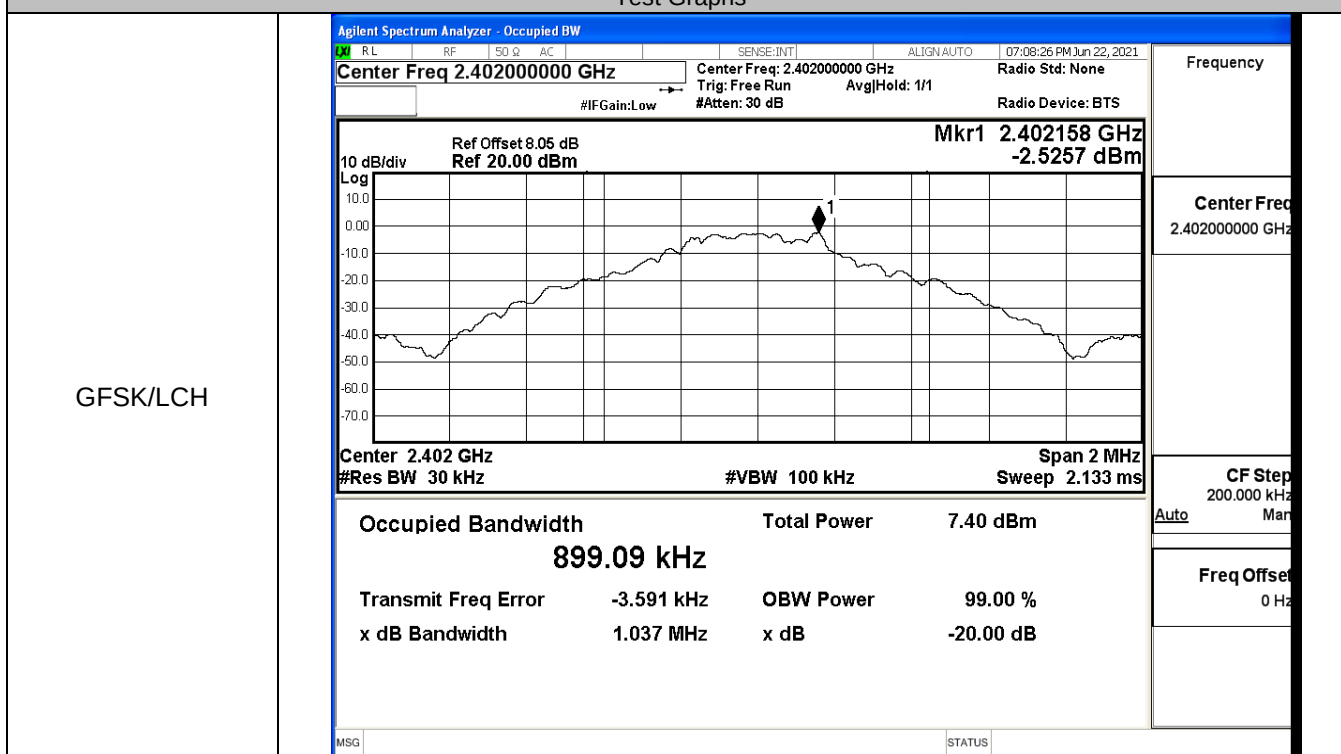
 $\pi/4$ DQPSK/LCH

$\pi/4$ DQPSK/MCH $\pi/4$ DQPSK/HCH

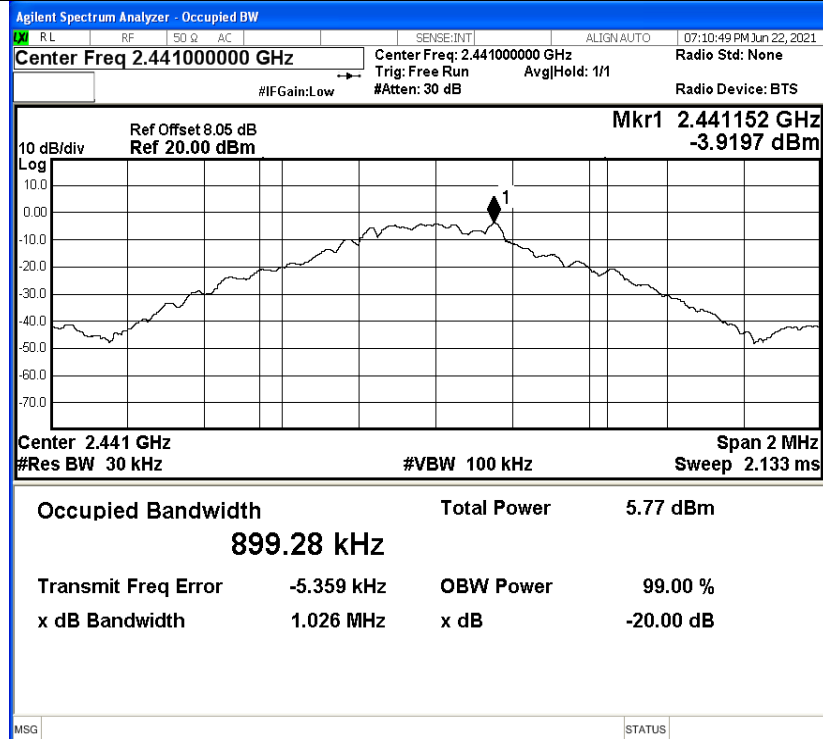
A.2 20dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.037	Not Specified	PASS
	MCH	1.026	Not Specified	PASS
	HCH	1.039	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.287	Not Specified	PASS
	MCH	1.307	Not Specified	PASS
	HCH	1.317	Not Specified	PASS

Test Graphs



GFSK/MCH



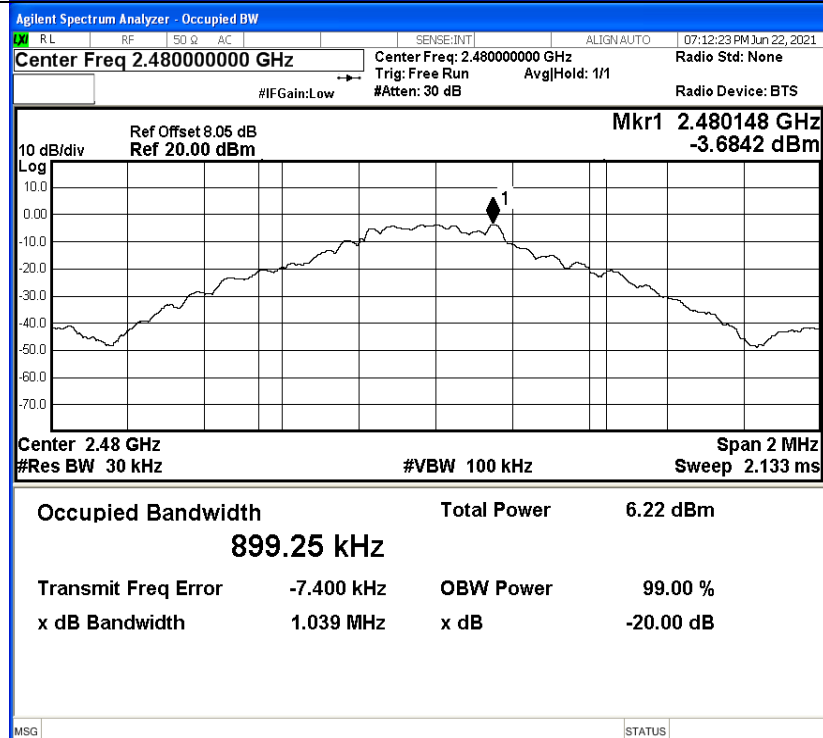
Frequency

Center Freq
2.441000000 GHzCF Step
200.000 kHz

Auto Mar

Freq Offset
0 Hz

GFSK/HCH

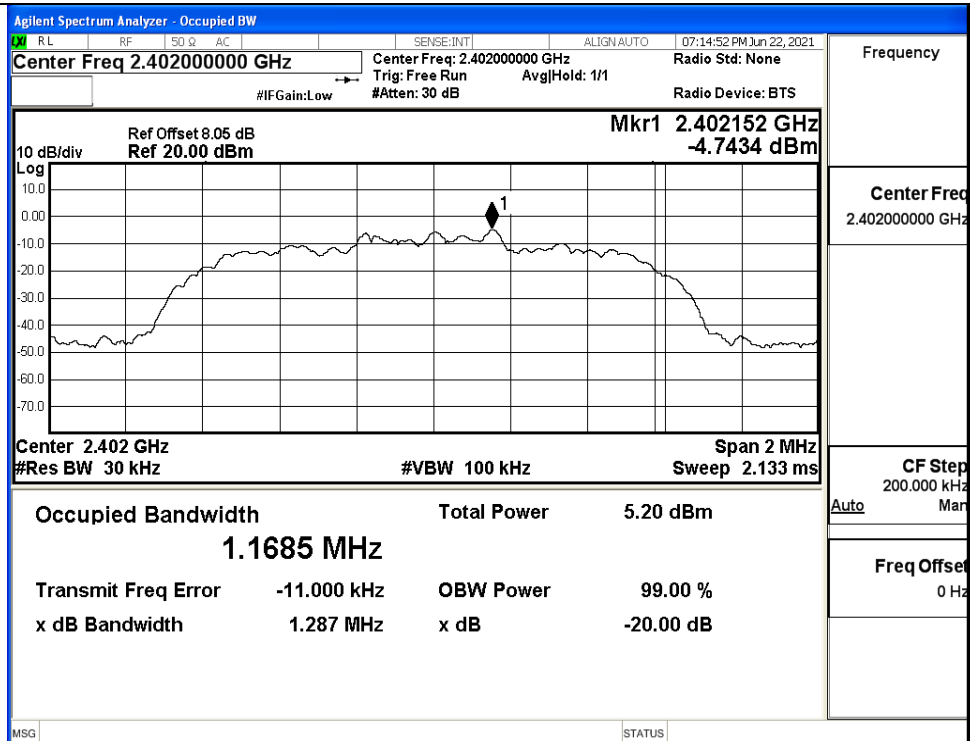
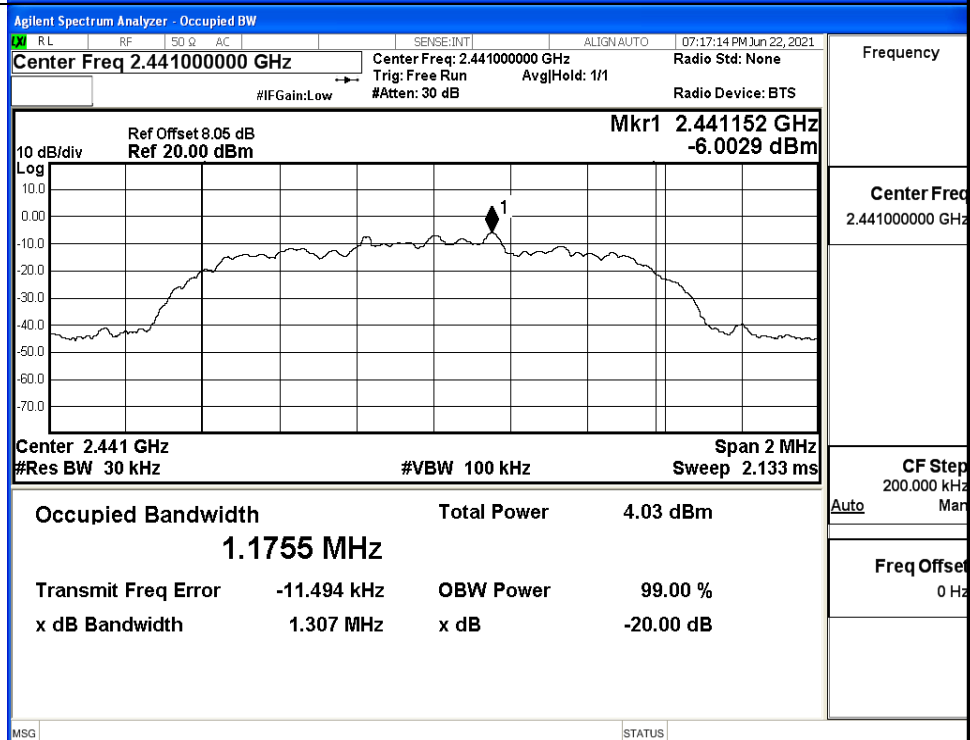


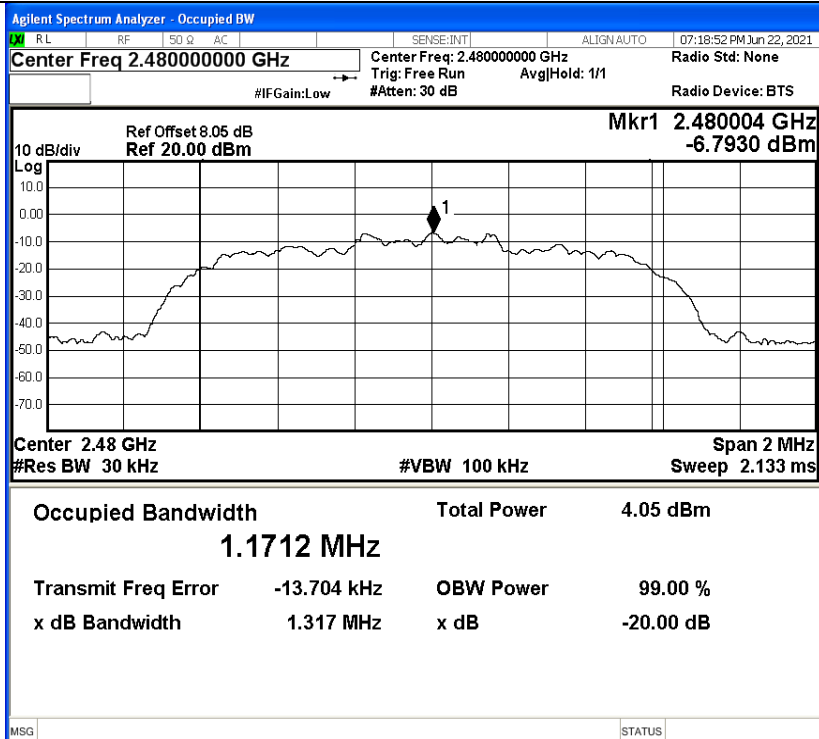
Frequency

Center Freq
2.480000000 GHzCF Step
200.000 kHz

Auto Mar

Freq Offset
0 Hz

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

$\pi/4$ DQPSK/HCH

Frequency

Center Freq
2.480000000 GHz

CF Step
200.000 kHz

Auto Man

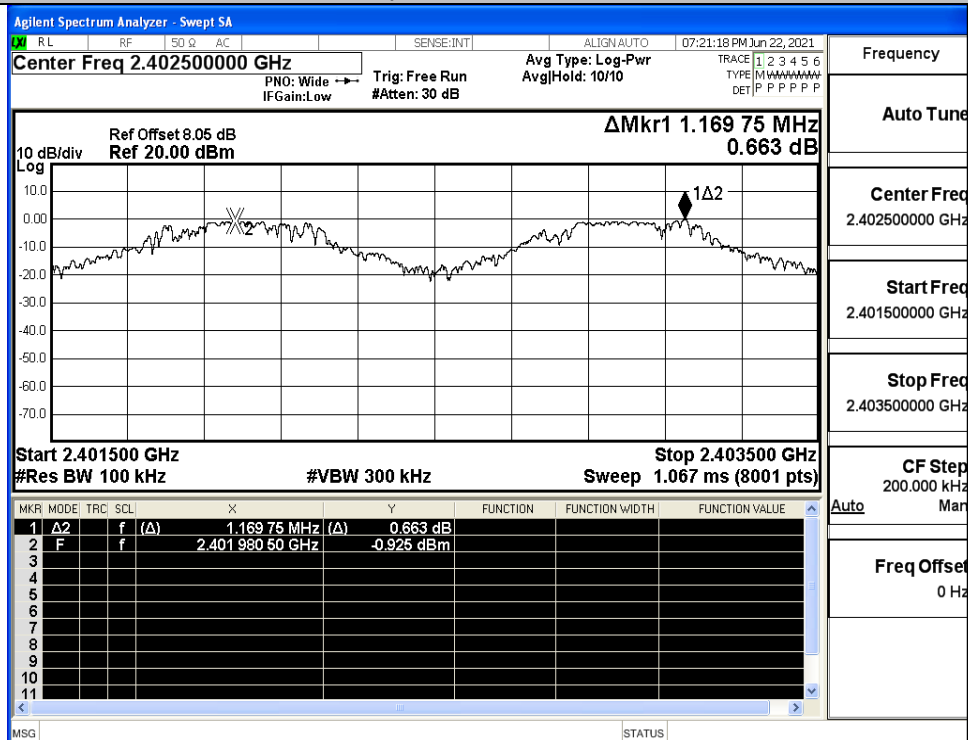
Freq Offset
0 Hz

A.3 Carrier Frequency Separation

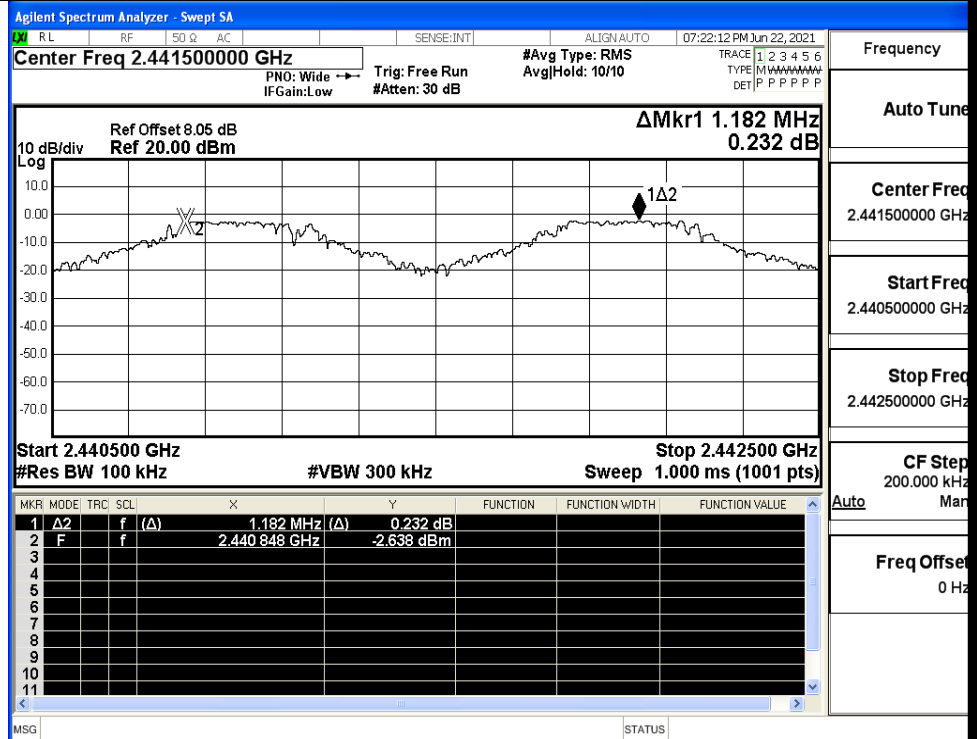
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.170	0.693	PASS
	MCH	1.182	0.693	PASS
	HCH	1.000	0.693	PASS
$\pi/4$ DQPSK	LCH	1.342	0.878	PASS
	MCH	0.952	0.878	PASS
	HCH	0.962	0.878	PASS

Test Graphs

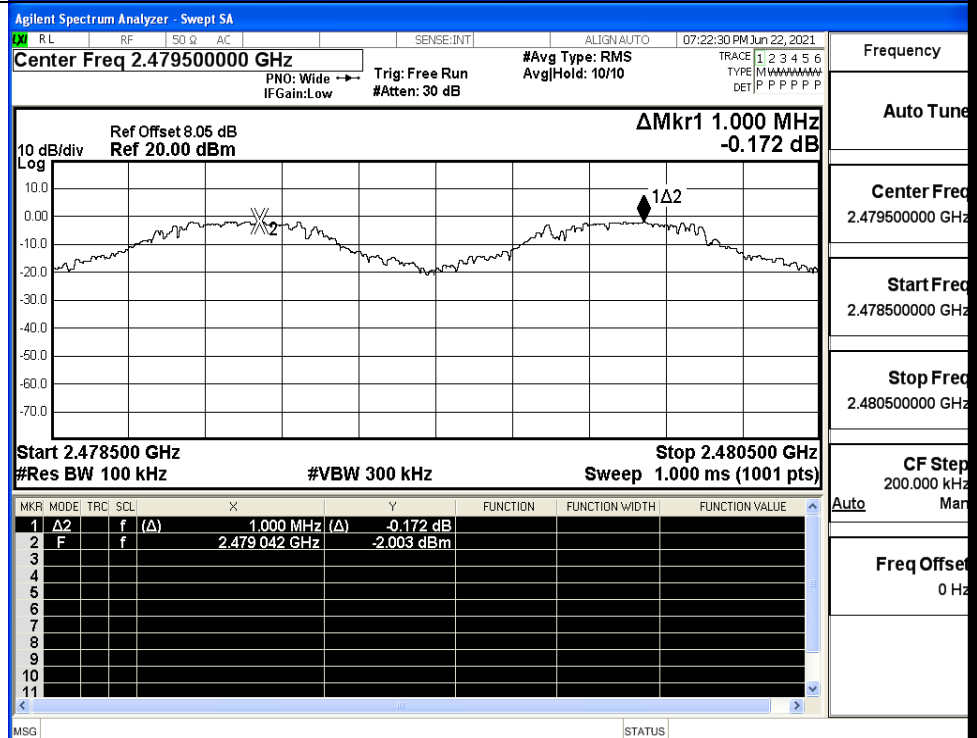
GFSK/LCH

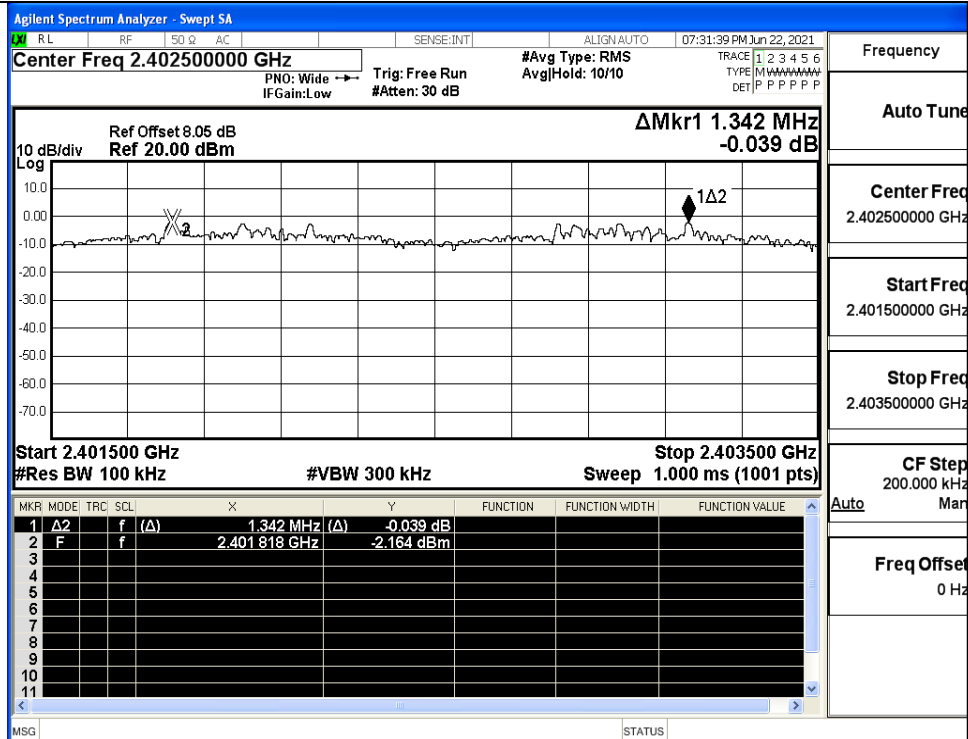
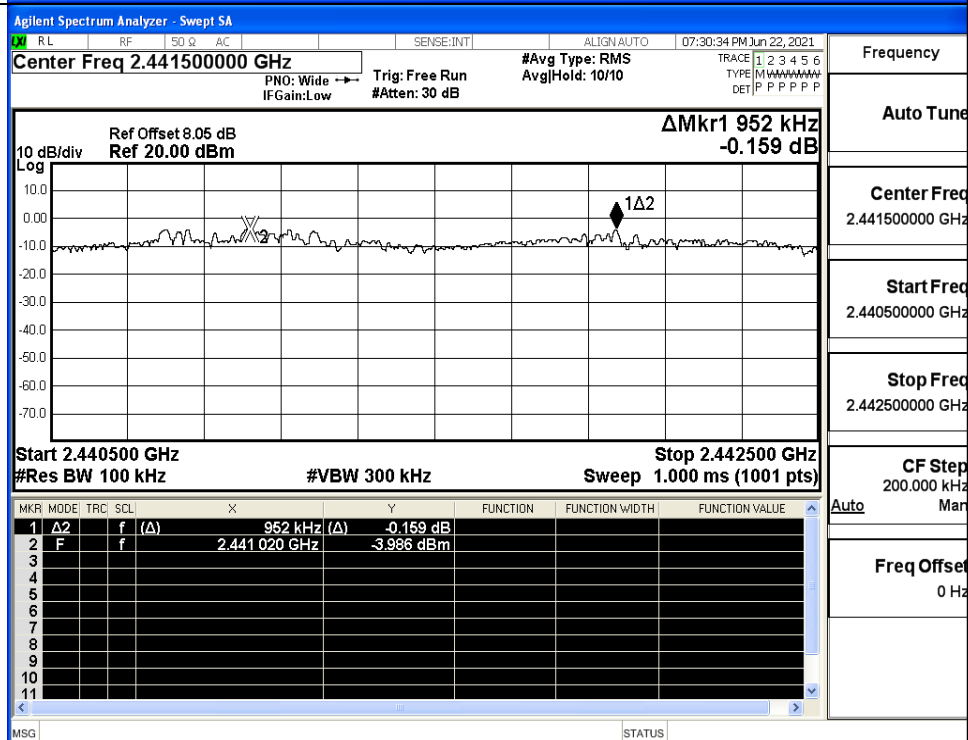


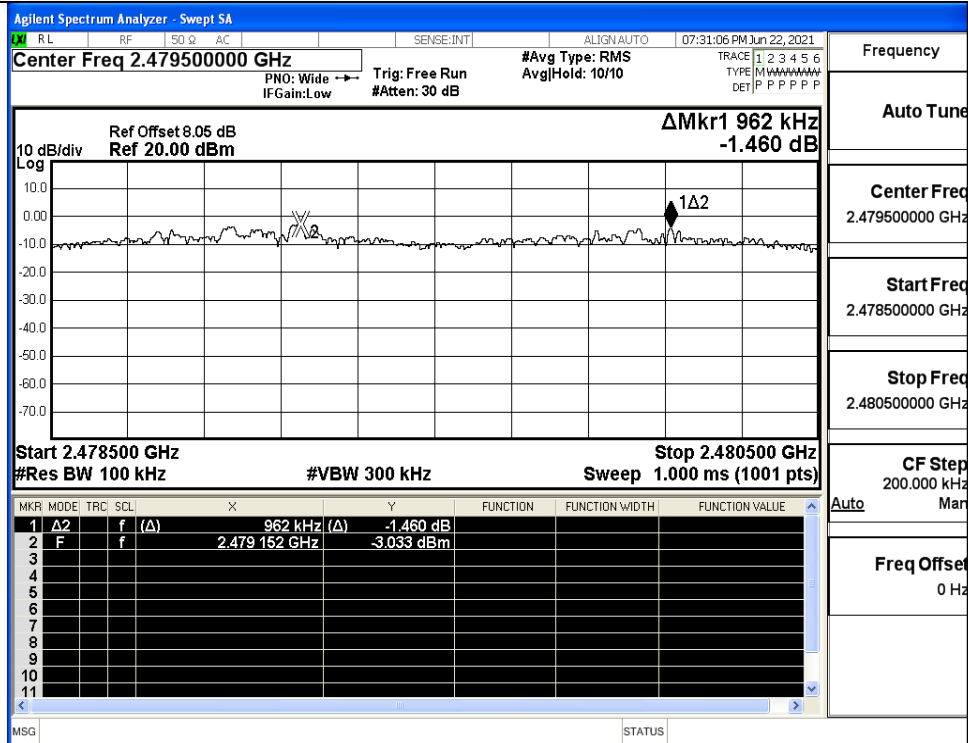
GFSK/MCH



GFSK/HCH



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

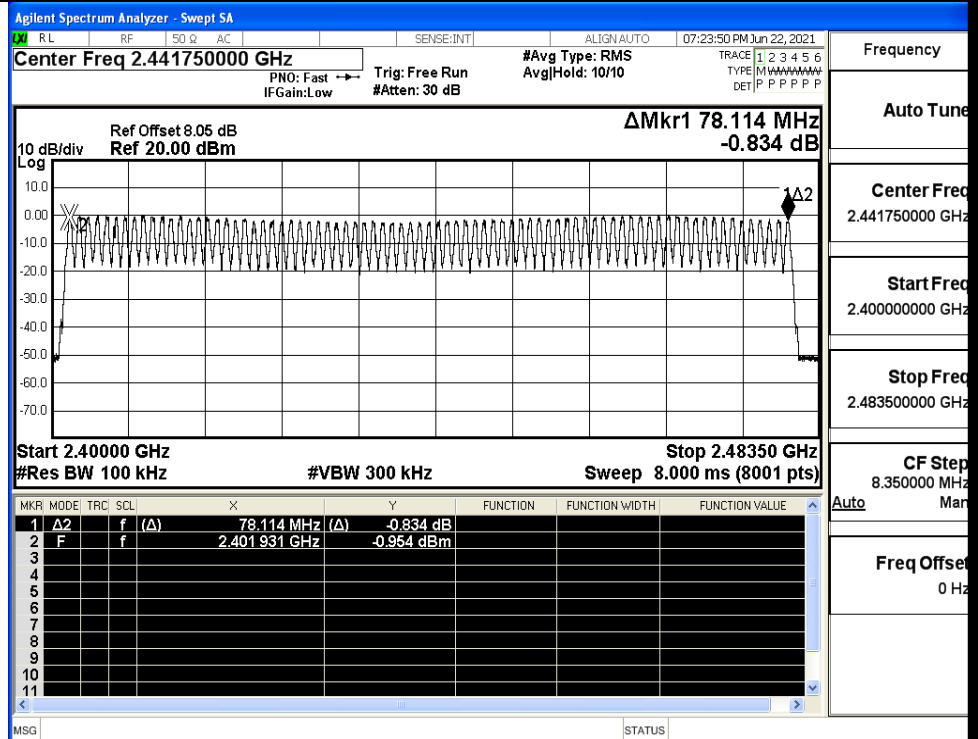
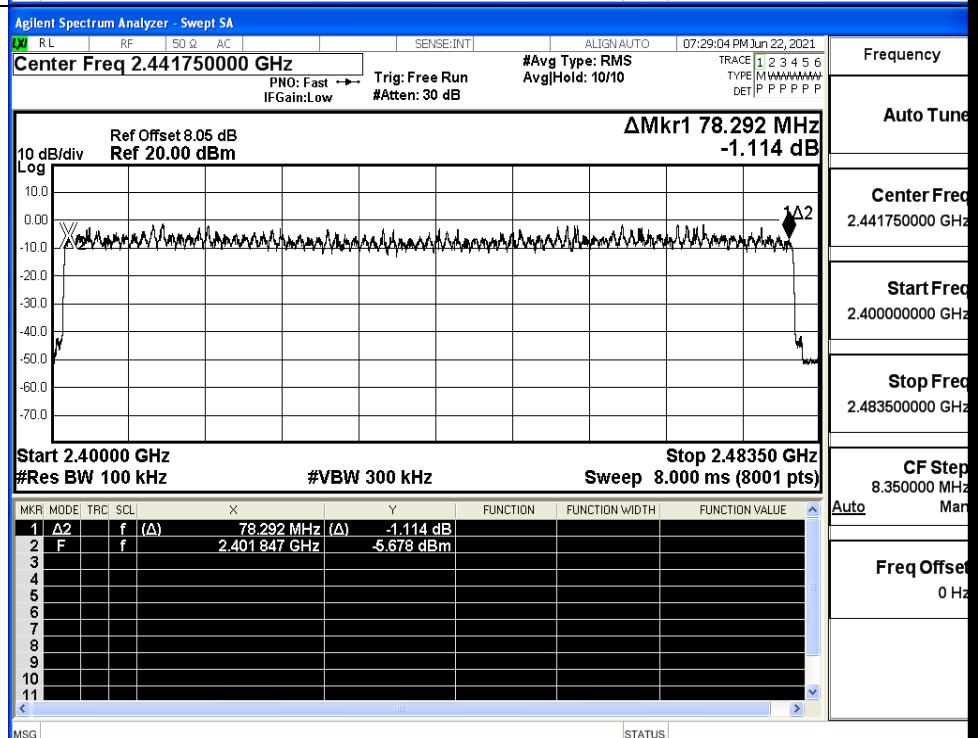
$\pi/4$ DQPSK/HCH

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

Test Graphs

GFSK/Hop

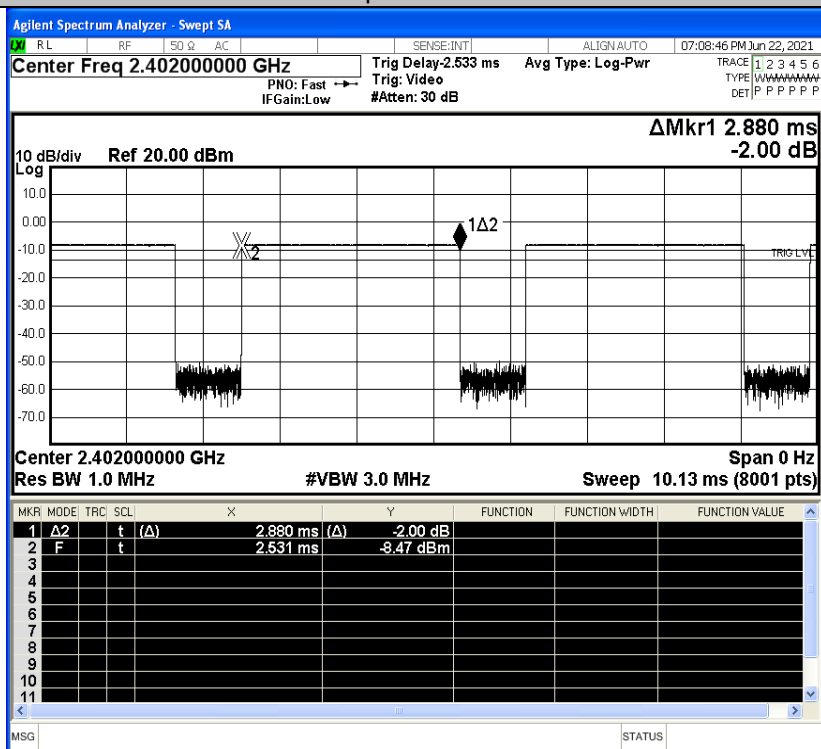
 $\pi/4$ DQPSK/Hop

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	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS

Test Graphs

GFSK_DH5/LCH

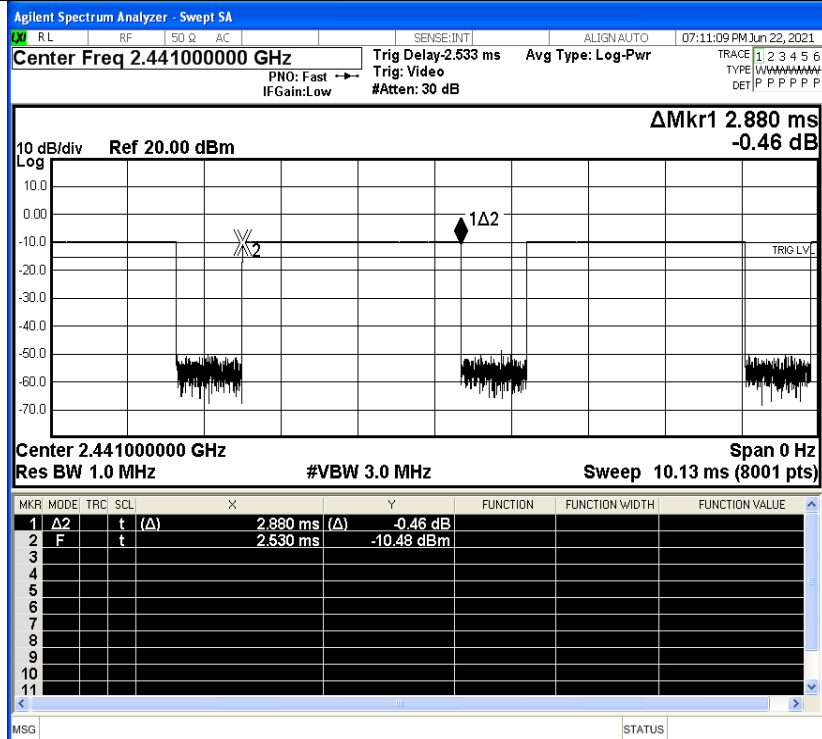


Frequency

Auto Tune

Center Freq
2.402000000 GHzStart Freq
2.402000000 GHzStop Freq
2.402000000 GHzCF Step
1.000000 MHz
Auto ManFreq Offset
0 Hz

GFSK_DH5/MCH



Frequency

Auto Tune

Center Freq
2.441000000 GHz

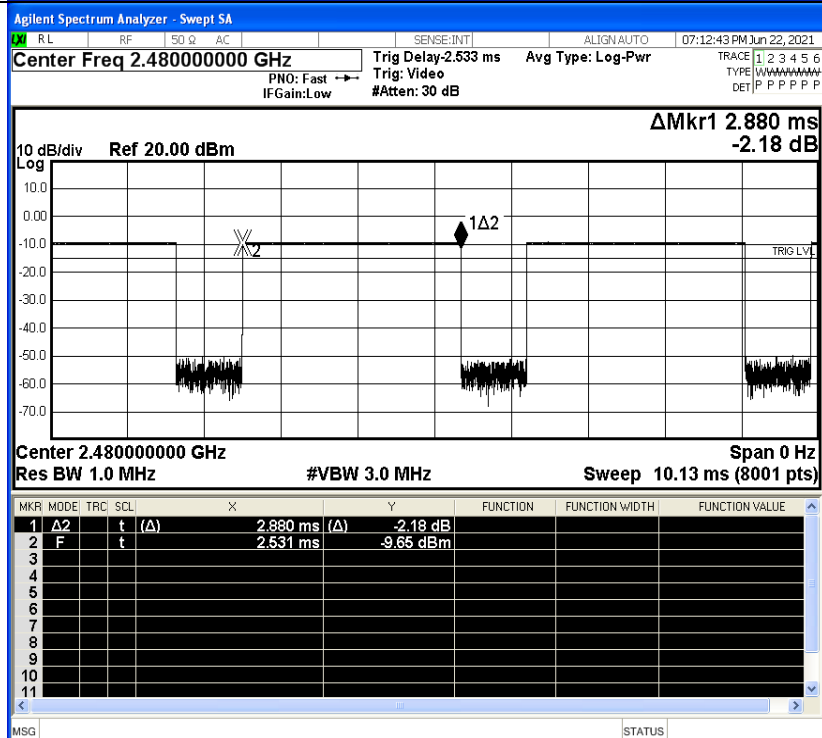
Start Freq
2.441000000 GHz

Stop Freq
2.441000000 GHz

CF Step
1.000000 MHz

Freq Offset
0 Hz

GFSK_DH5/HCH



Frequency

Auto Tune

Center Freq
2.480000000 GHz

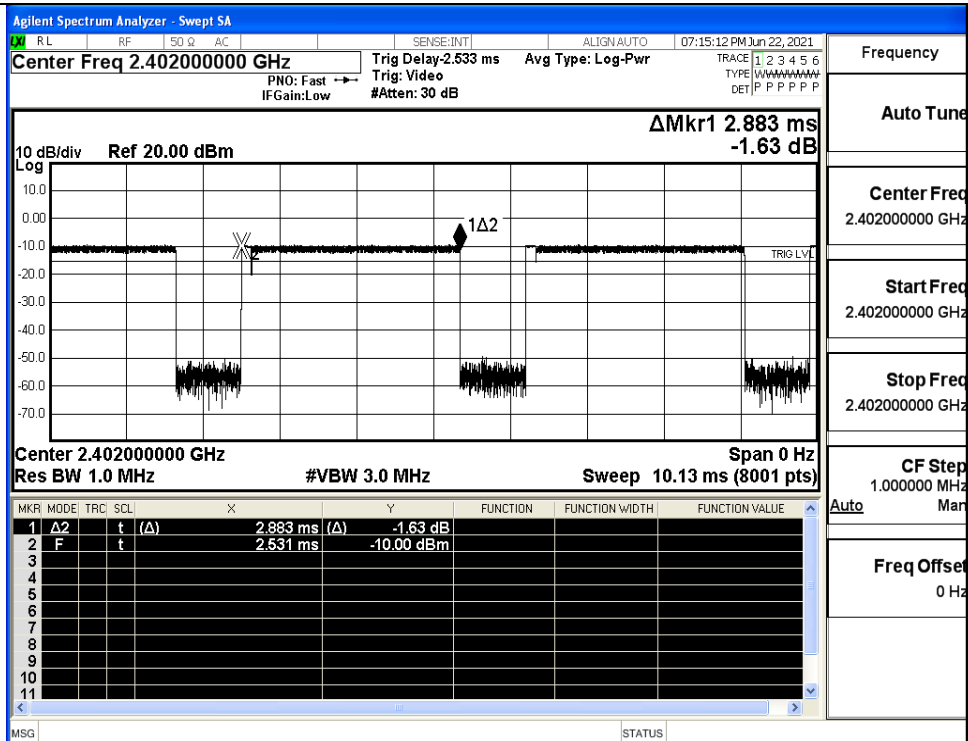
Start Freq
2.480000000 GHz

Stop Freq
2.480000000 GHz

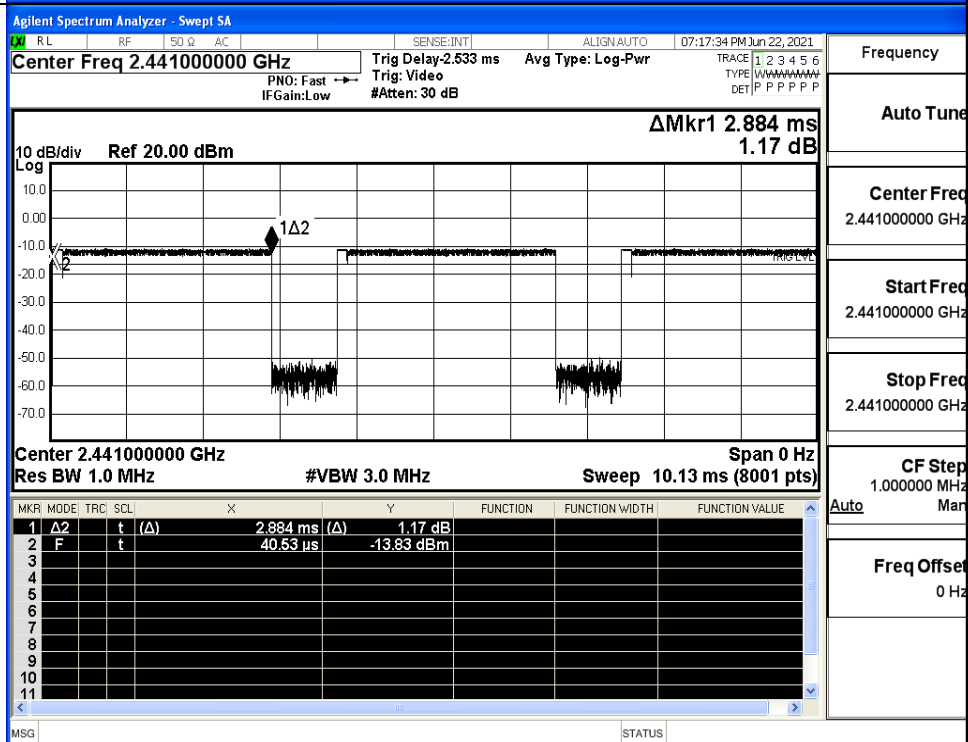
CF Step
1.000000 MHz

Freq Offset
0 Hz

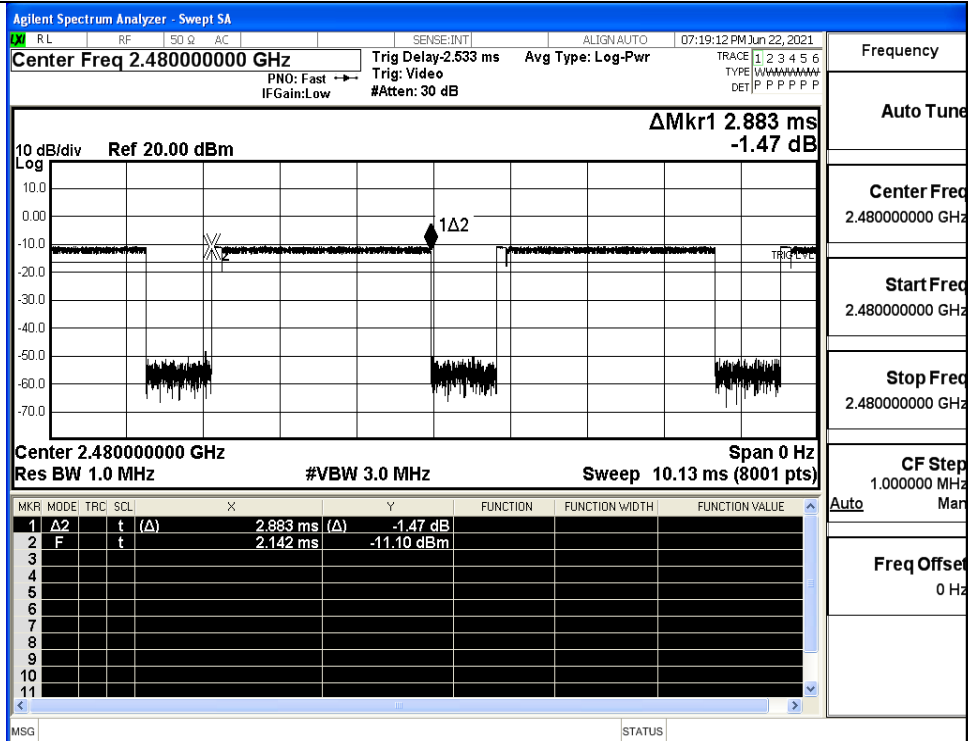
$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

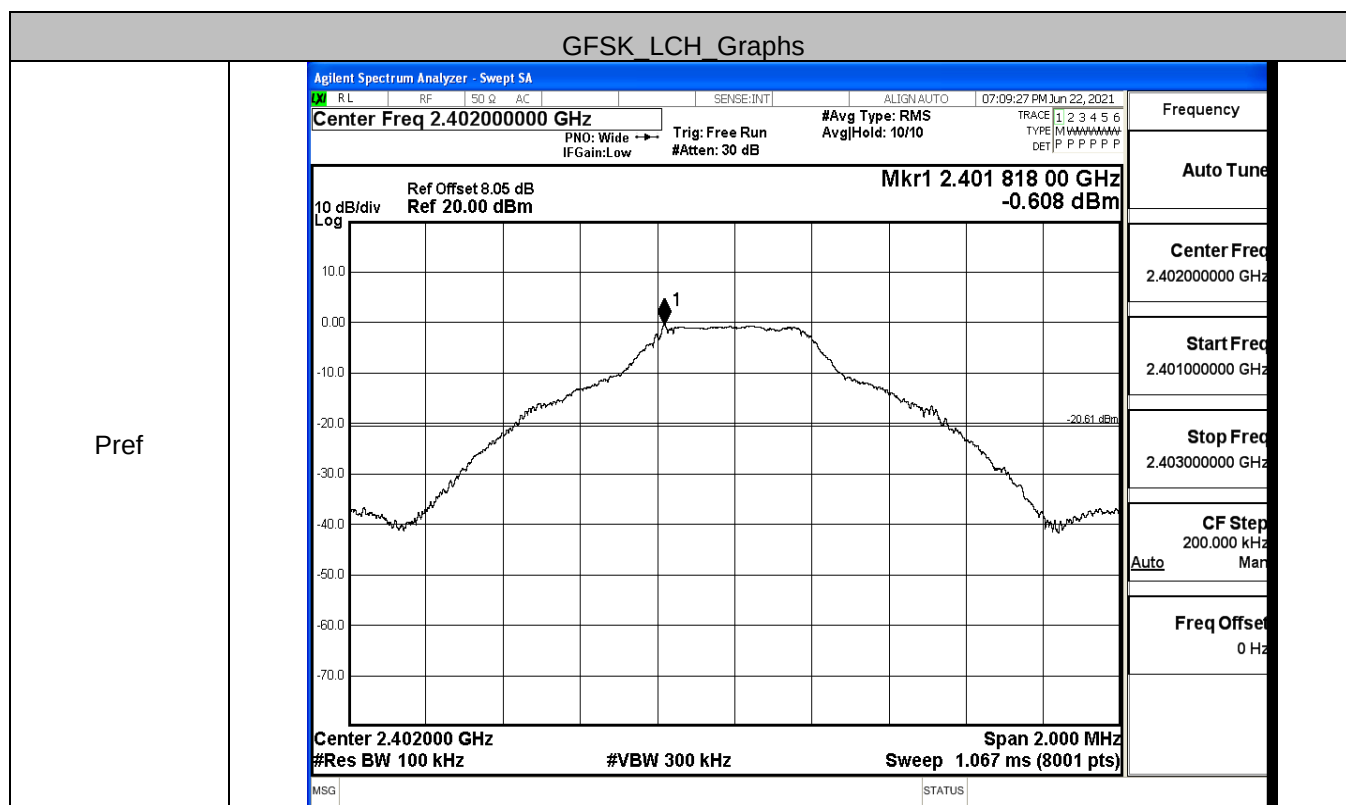


$\pi/4$ DQPSK
_2DH5/HCH

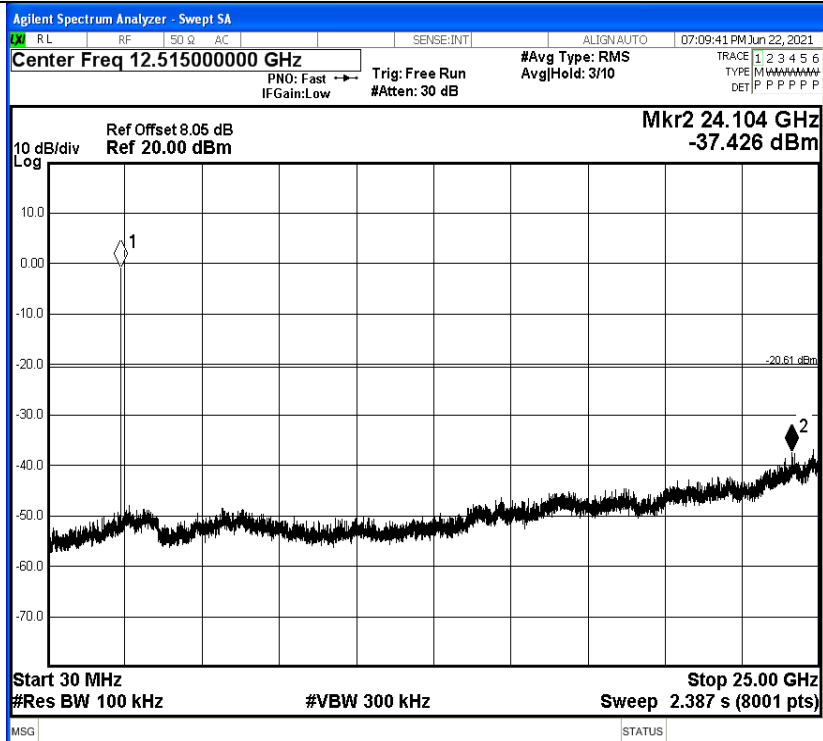


A.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.608	-37.426	-20.608	PASS
	MCH	-1.876	-38.497	-21.876	PASS
	HCH	-2.034	-36.872	-22.034	PASS
$\pi/4$ DQPSK	LCH	-2.115	-37.190	-22.115	PASS
	MCH	-3.335	-36.295	-23.335	PASS
	HCH	-3.017	-38.288	-23.017	PASS



Puw



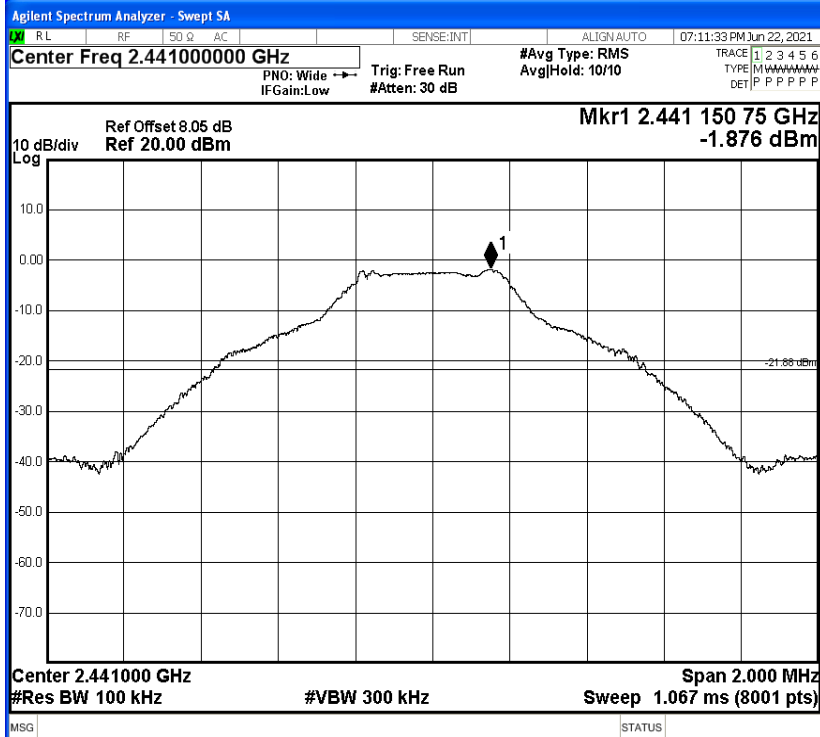
Frequency

Auto Tune

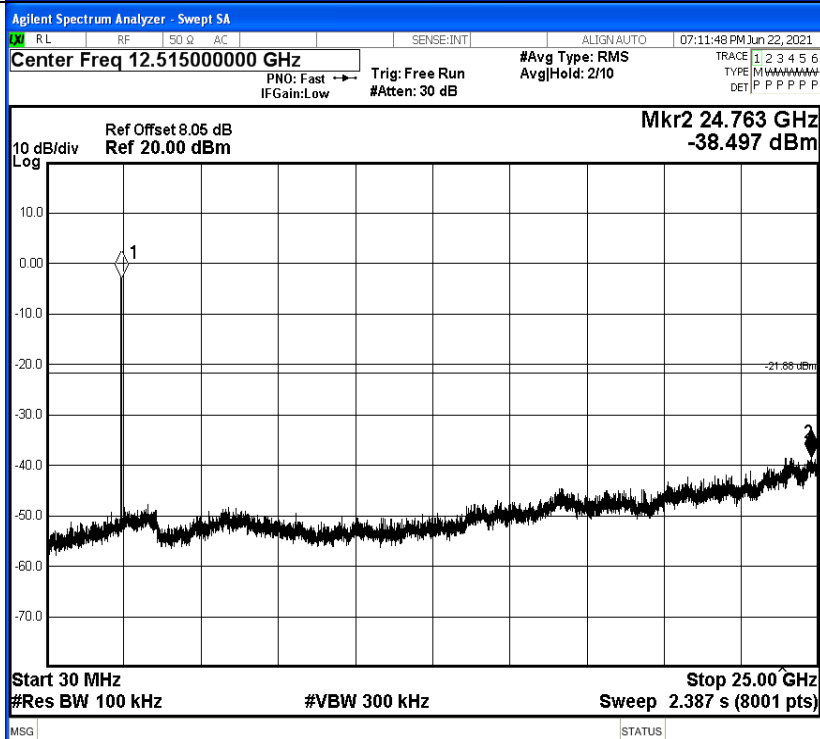
Center Freq
12.51500000 GHzStart Freq
30.000000 MHzStop Freq
25.00000000 GHzCF Step
2.497000000 GHz
Auto ManFreq Offset
0 Hz

GFSK_MCH_Graphs

Pref

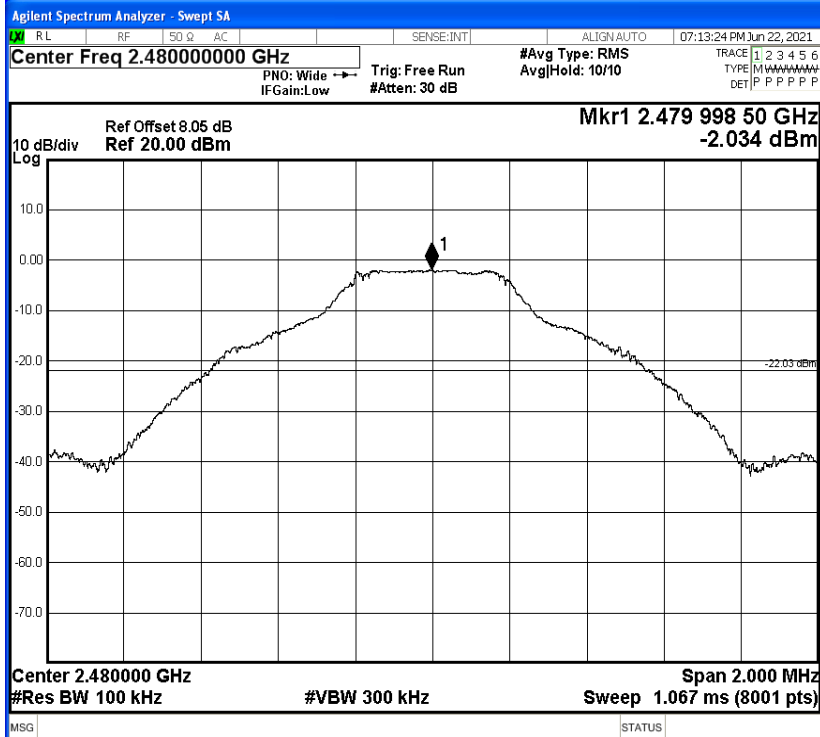


Puw



GFSK_HCH_Graphs

Pref

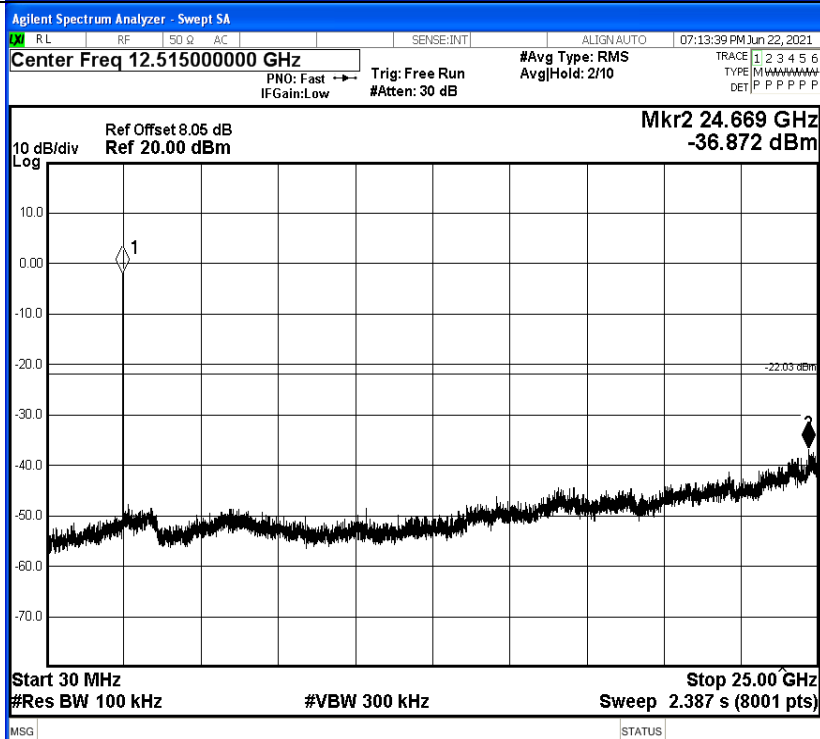


Frequency

Auto Tune

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

Puw



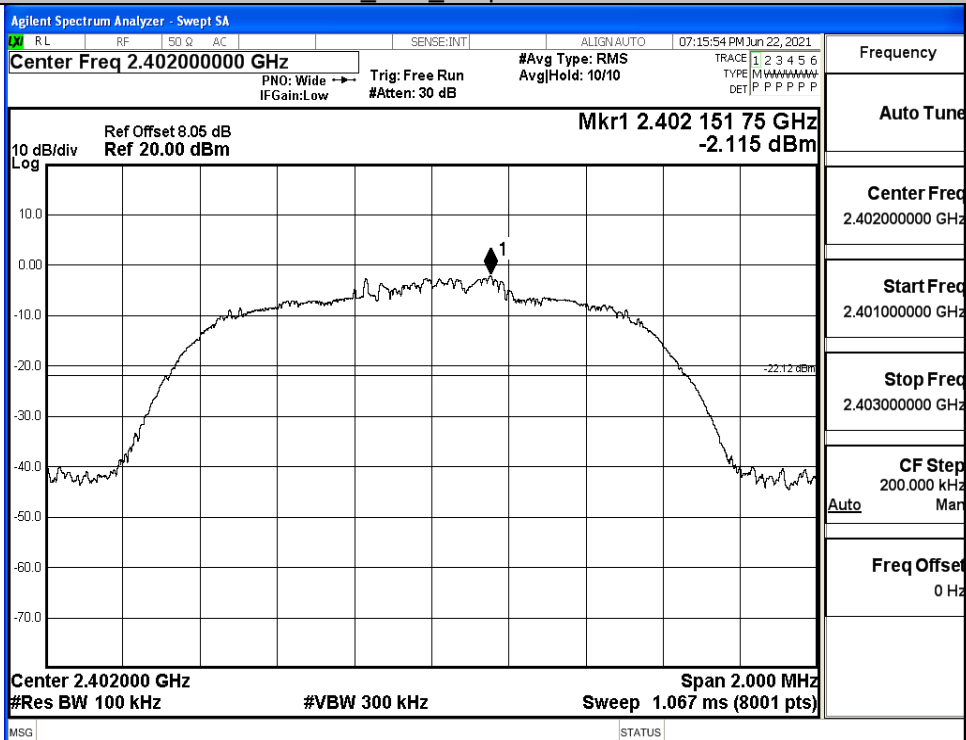
Frequency

Auto Tune

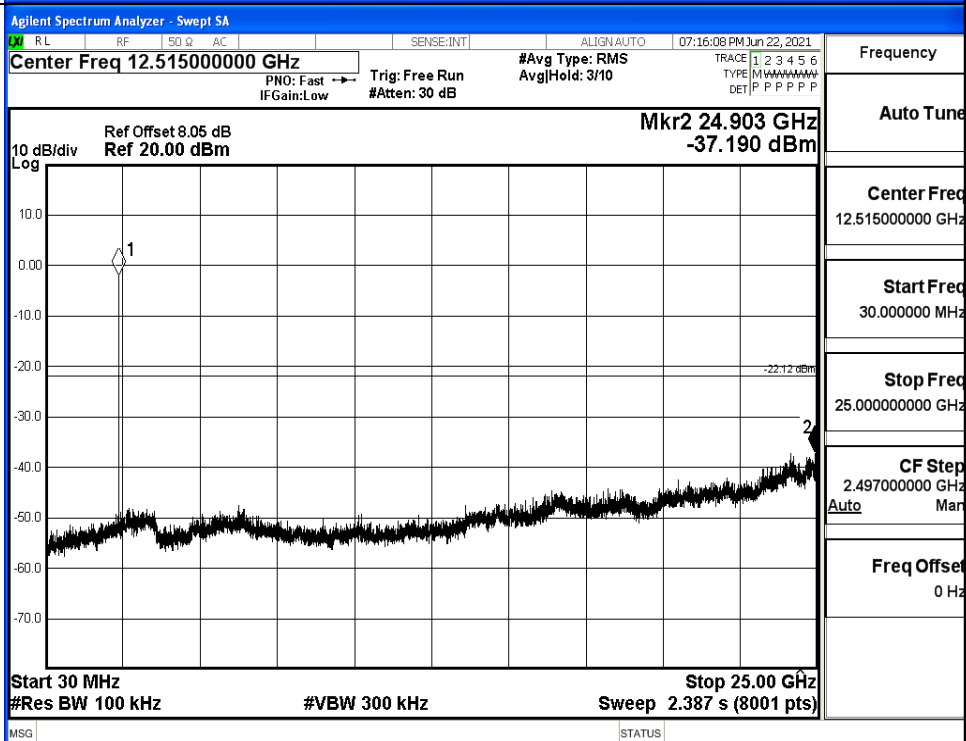
Center Freq
12.515000000 GHzStart Freq
30.0000000 MHzStop Freq
25.000000000 GHzCF Step
2.497000000 GHz
Auto MarFreq Offset
0 Hz

$\pi/4$ DQPSK_LCH_Graphs

Pref

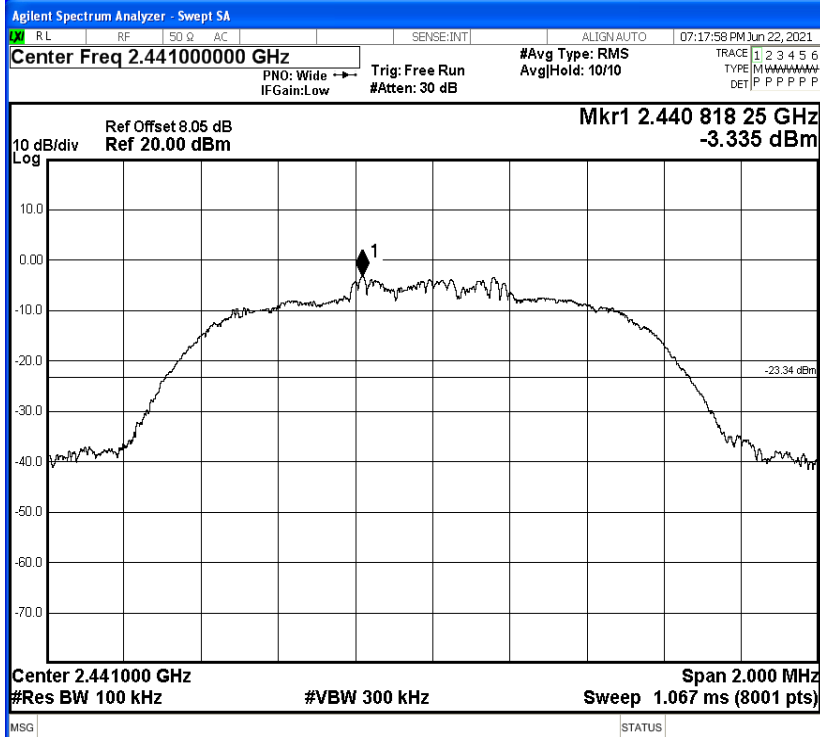


Puw



$\pi/4$ DQPSK_MCH_Graphs

Pref

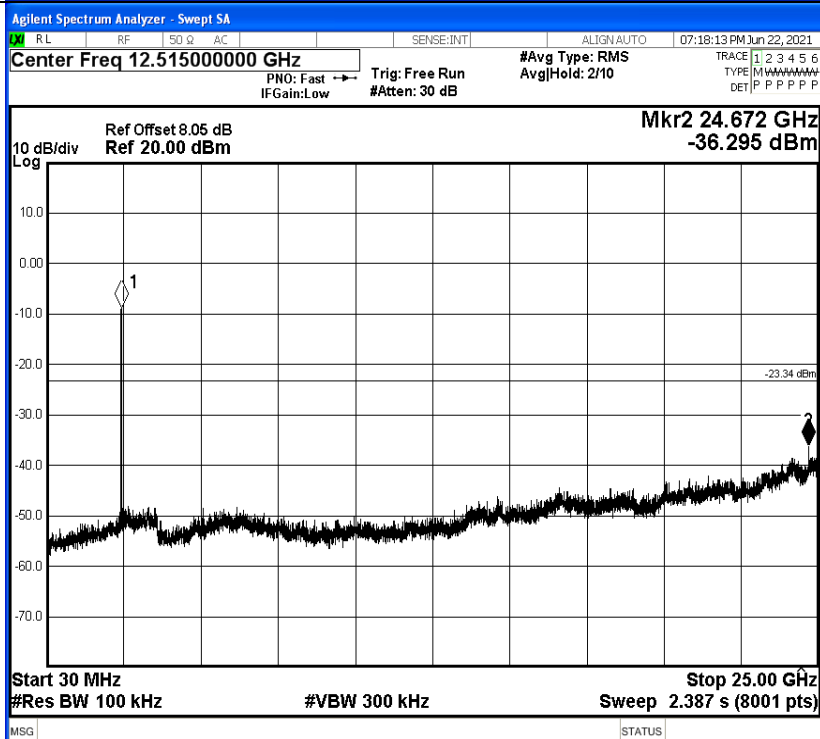


Frequency

Auto Tune

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

Puw



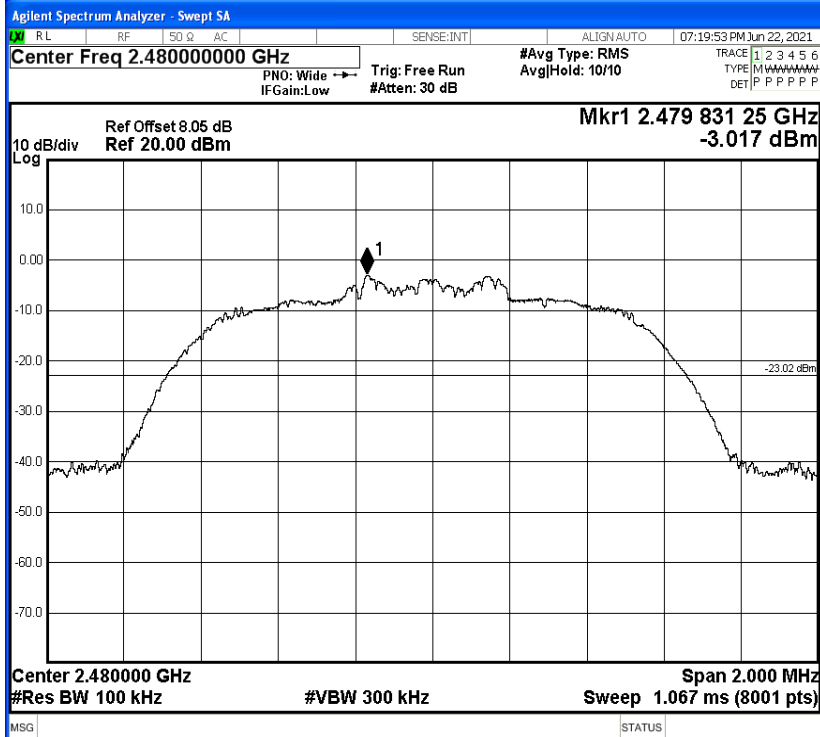
Frequency

Auto Tune

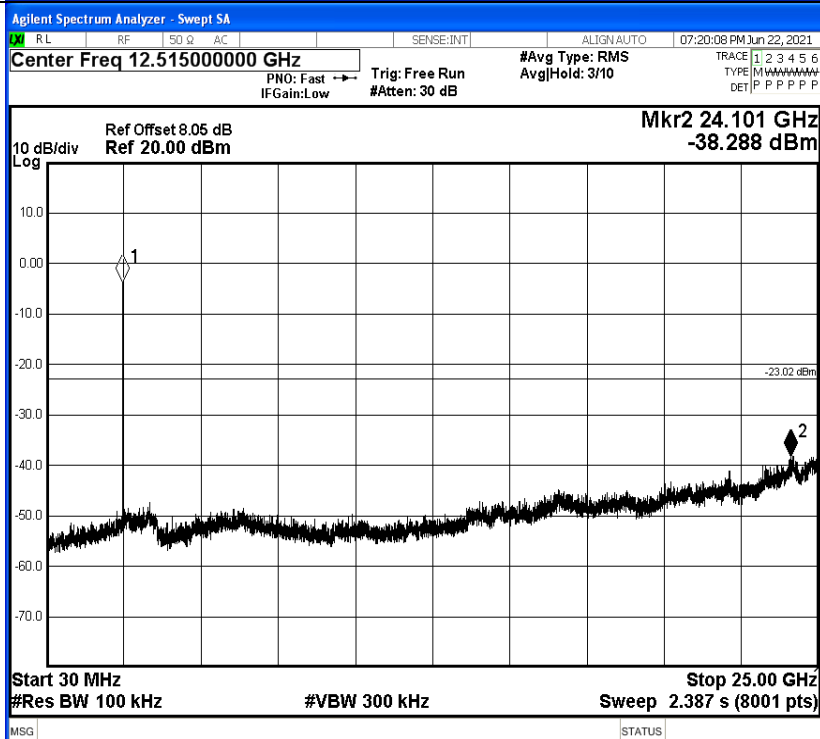
Center Freq
12.515000000 GHzStart Freq
30.0000000 MHzStop Freq
25.000000000 GHzCF Step
2.497000000 GHz
Auto MarFreq Offset
0 Hz

$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

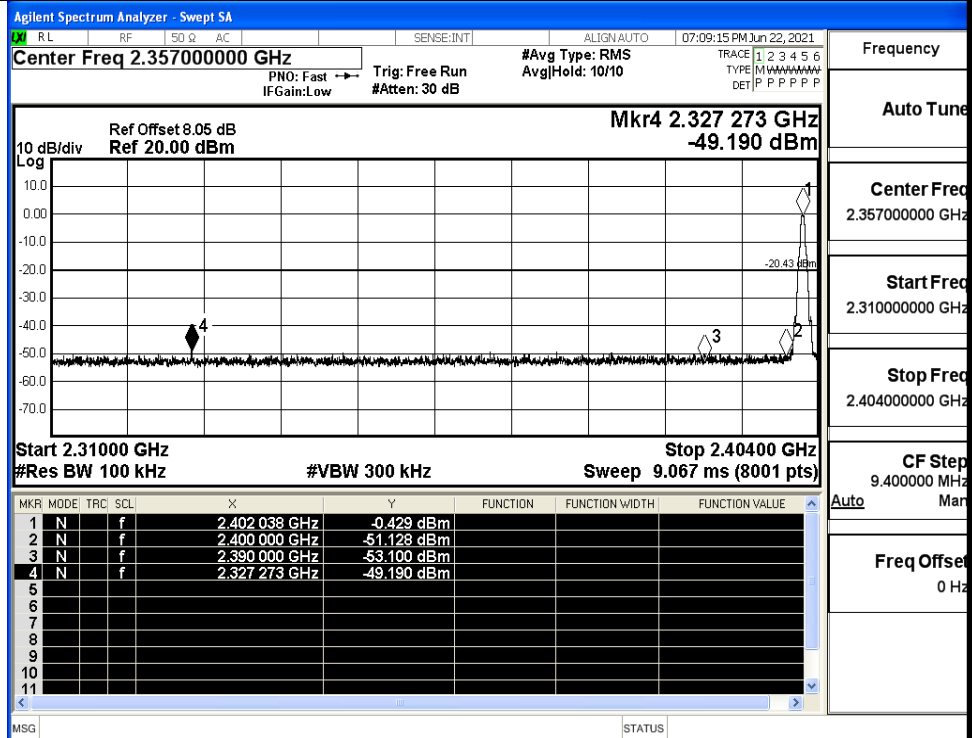


A.7 Band-edge for RF Conducted Emissions

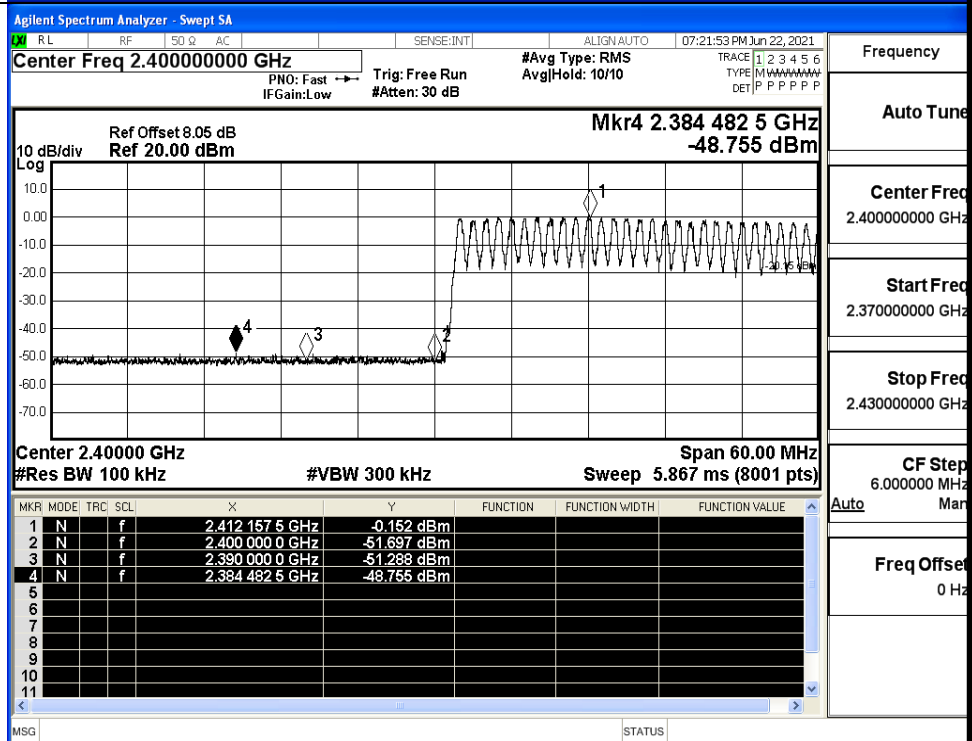
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-0.429	Off	-49.190	-20.43	PASS
			-0.152	On	-48.755	-20.15	PASS
	HCH	2480	-1.564	Off	-49.133	-21.56	PASS
			-0.242	On	-48.997	-20.24	PASS
$\pi/4$ DQPSK	LCH	2402	-1.988	Off	-49.547	-21.99	PASS
			-1.916	On	-48.535	-21.92	PASS
	HCH	2480	-3.044	Off	-49.443	-23.04	PASS
			-1.821	On	-48.688	-21.82	PASS

Test Graphs

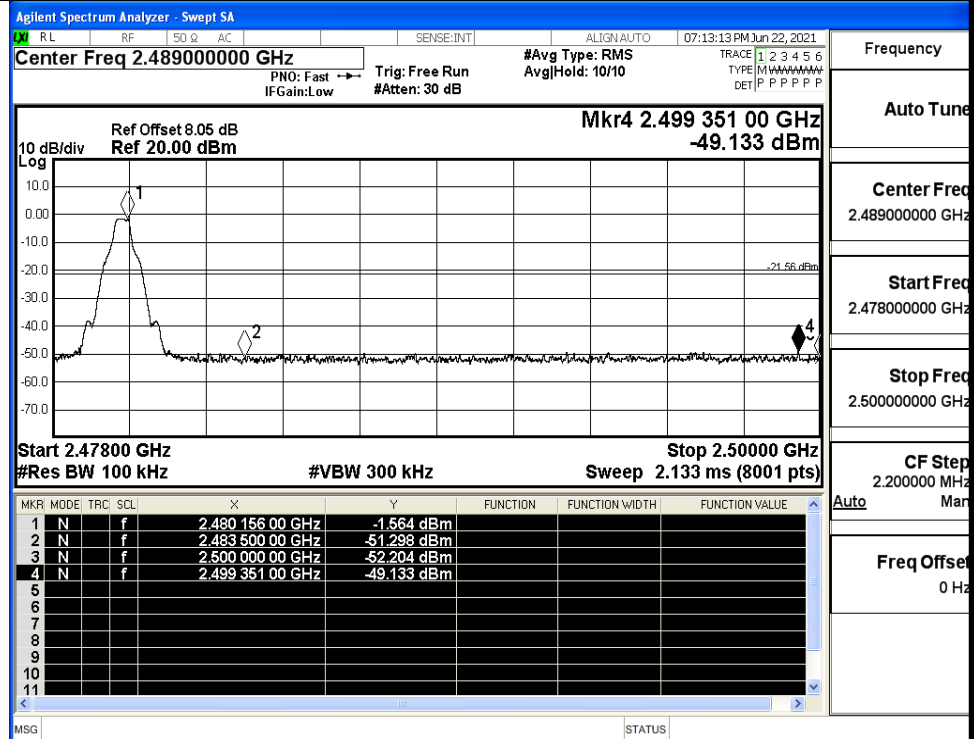
GFSK/LCH/No Hop



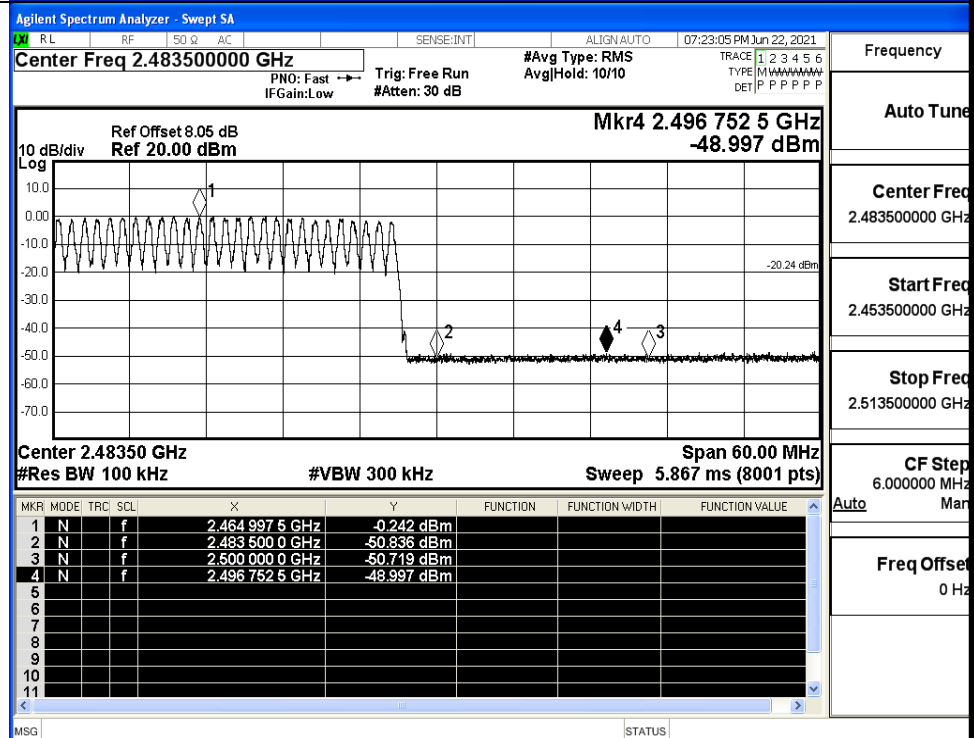
GFSK/LCH/Hop



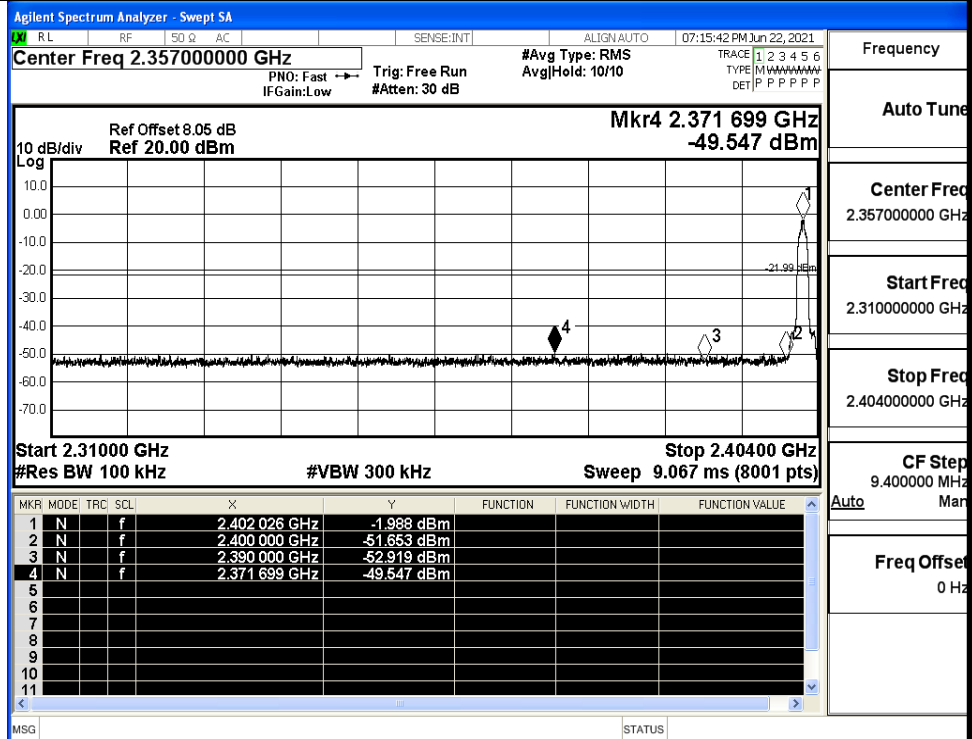
GFSK/HCH/No Hop



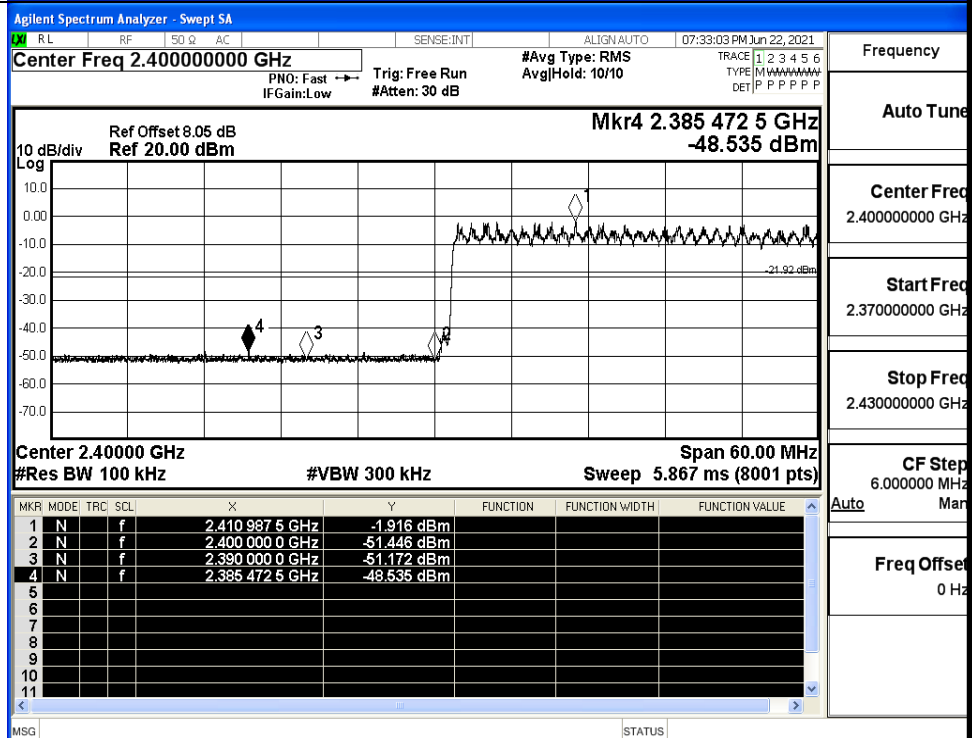
GFSK/HCH/Hop



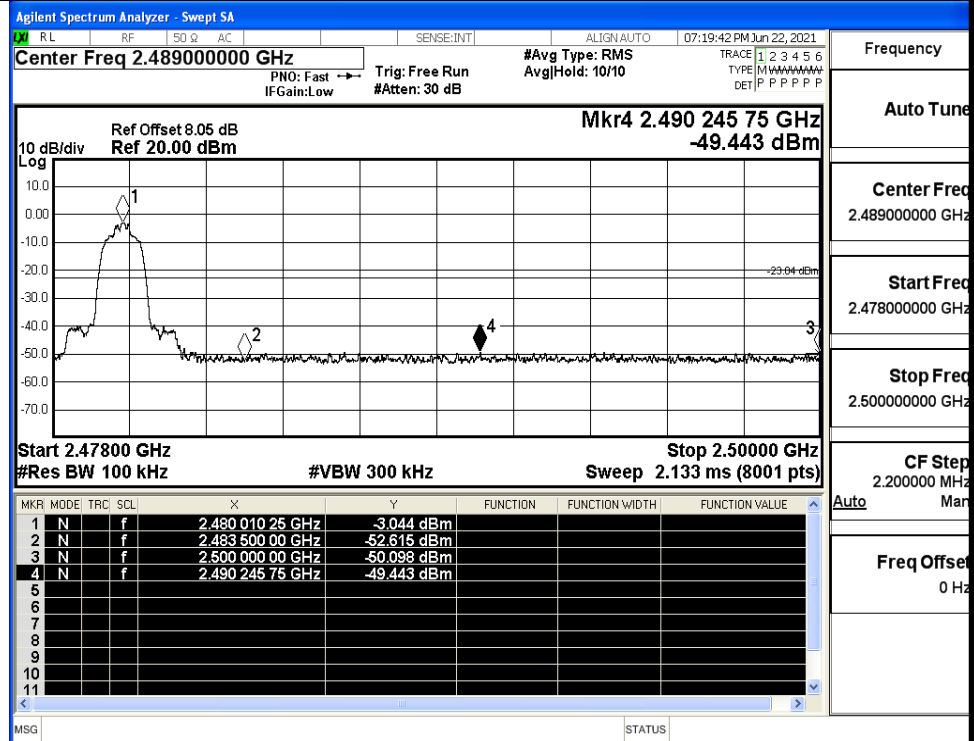
$\pi/4$ DQPSK/LCH/No
Hop



$\pi/4$ DQPSK/LCH/Hop



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



Frequency

Auto Tune

Center Freq
2.489000000 GHz

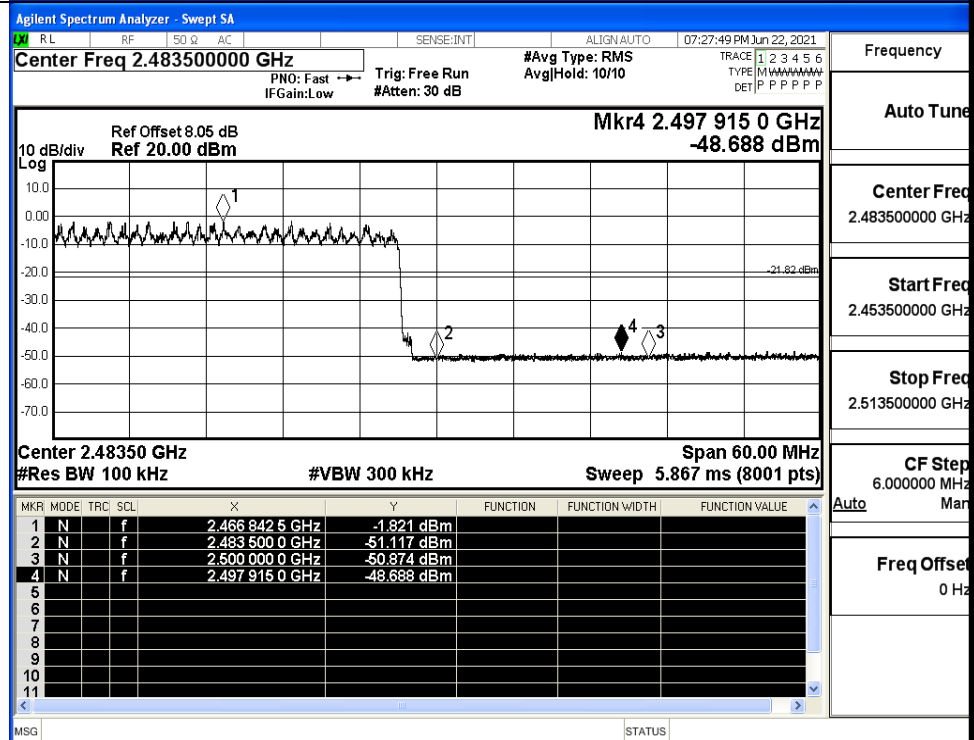
Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

CF Step
2.200000 MHz

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

Auto Tune

Center Freq
2.483500000 GHz

Start Freq
2.453500000 GHz

Stop Freq
2.513500000 GHz

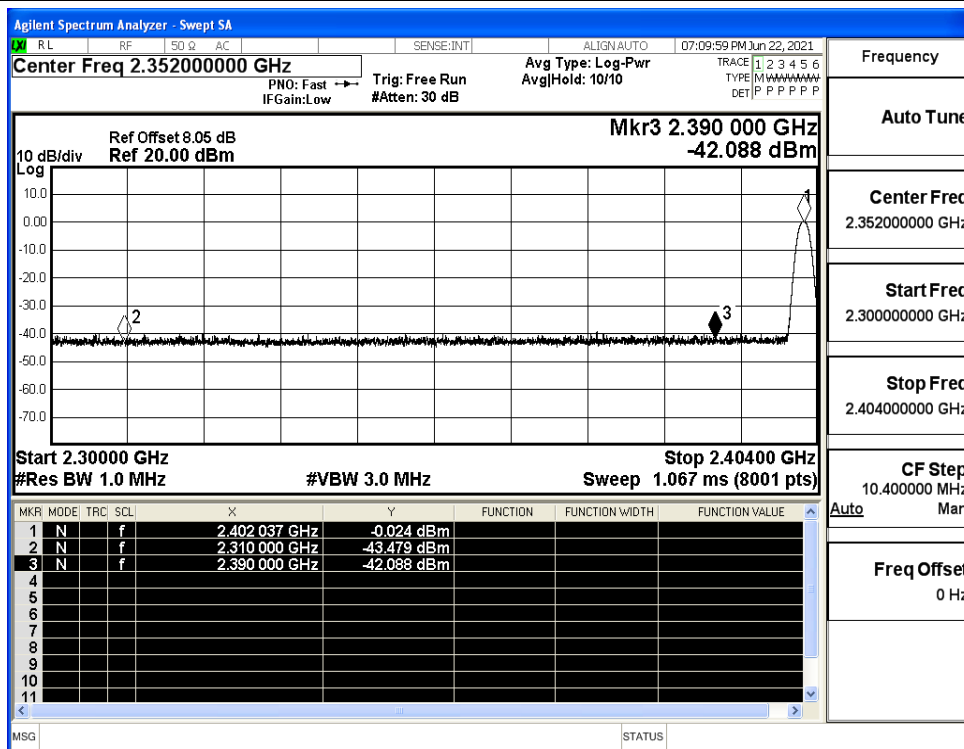
CF Step
6.000000 MHz

Freq Offset
0 Hz

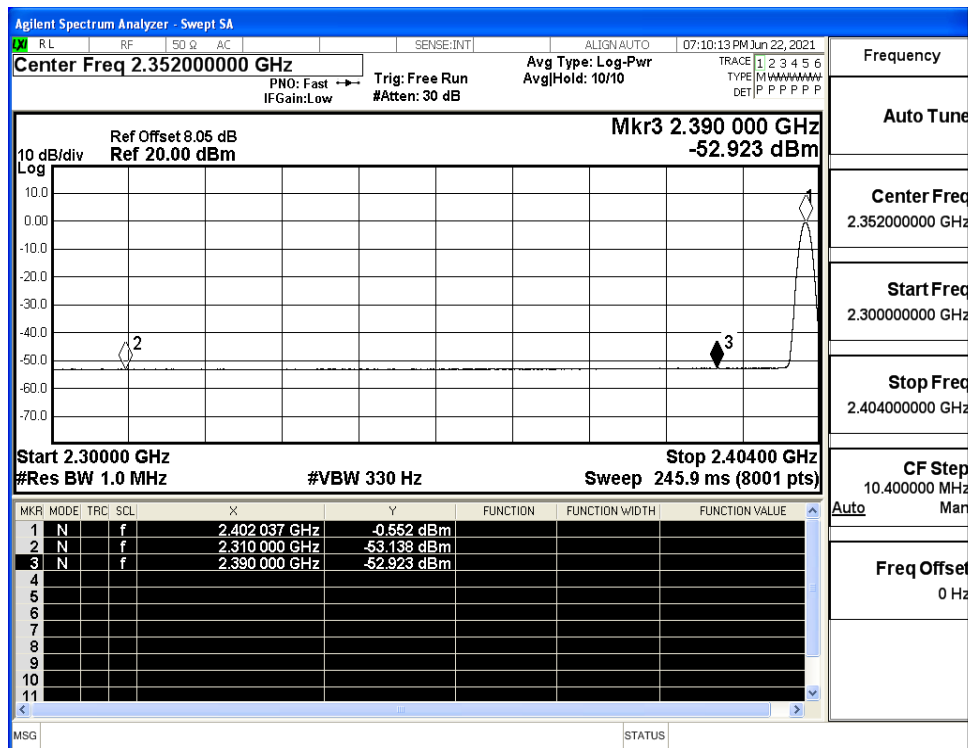
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.48	2.0	0	53.78	PEAK	74	PASS
	Off	2310.0	-53.14	2.0	0	44.12	AV	54	PASS
	Off	2390.0	-42.09	2.0	0	55.17	PEAK	74	PASS
	Off	2390.0	-52.92	2.0	0	44.33	AV	54	PASS
	Off	2483.5	-42.59	2.0	0	54.66	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	44.77	AV	54	PASS
	Off	2500.0	-42.45	2.0	0	54.80	PEAK	74	PASS
	Off	2500.0	-52.18	2.0	0	45.08	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-41.06	2.0	0	56.20	PEAK	74	PASS
	Off	2310.0	-53.30	2.0	0	43.96	AV	54	PASS
	Off	2390.0	-42.36	2.0	0	54.90	PEAK	74	PASS
	Off	2390.0	-52.94	2.0	0	44.32	AV	54	PASS
	Off	2483.5	-41.38	2.0	0	55.88	PEAK	74	PASS
	Off	2483.5	-52.49	2.0	0	44.77	AV	54	PASS
	Off	2500.0	-43.11	2.0	0	54.15	PEAK	74	PASS
	Off	2500.0	-52.32	2.0	0	44.94	AV	54	PASS

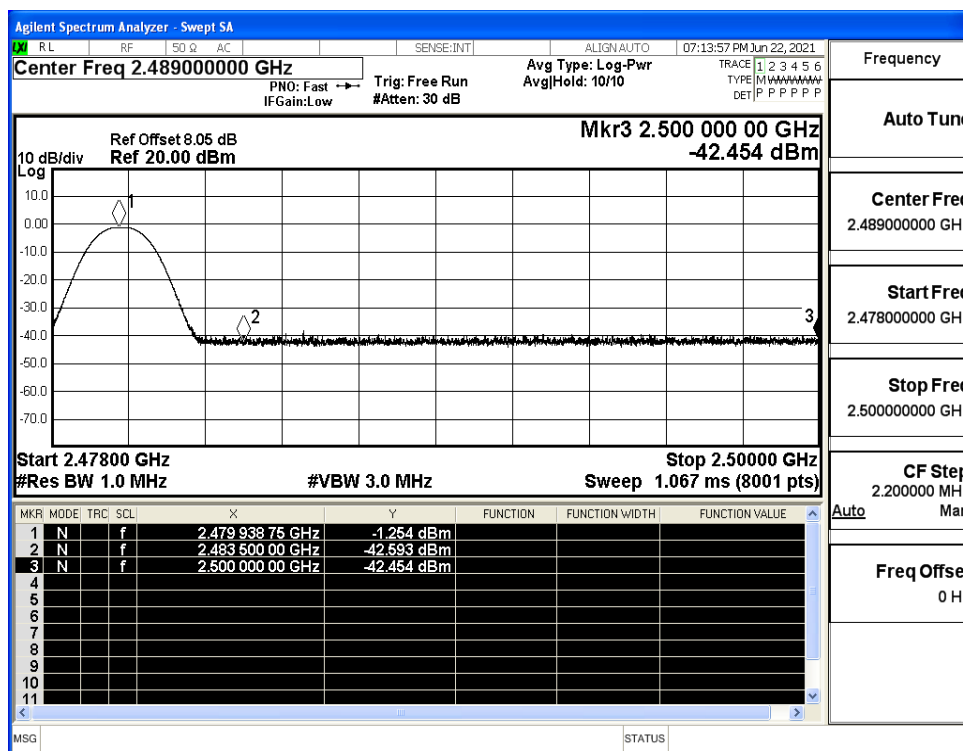
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



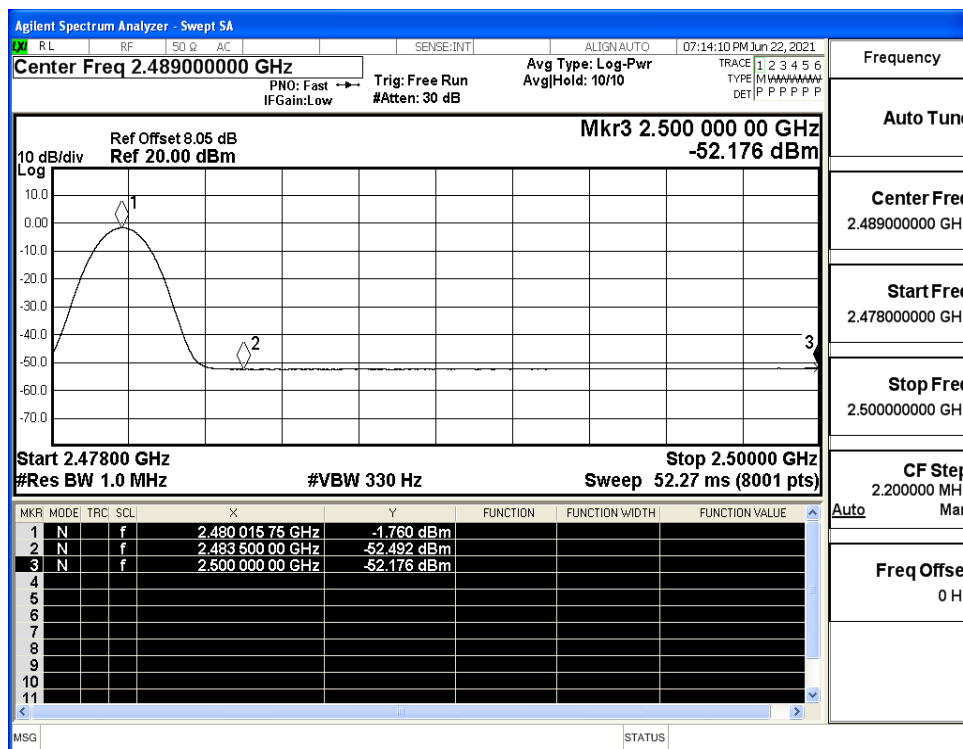
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

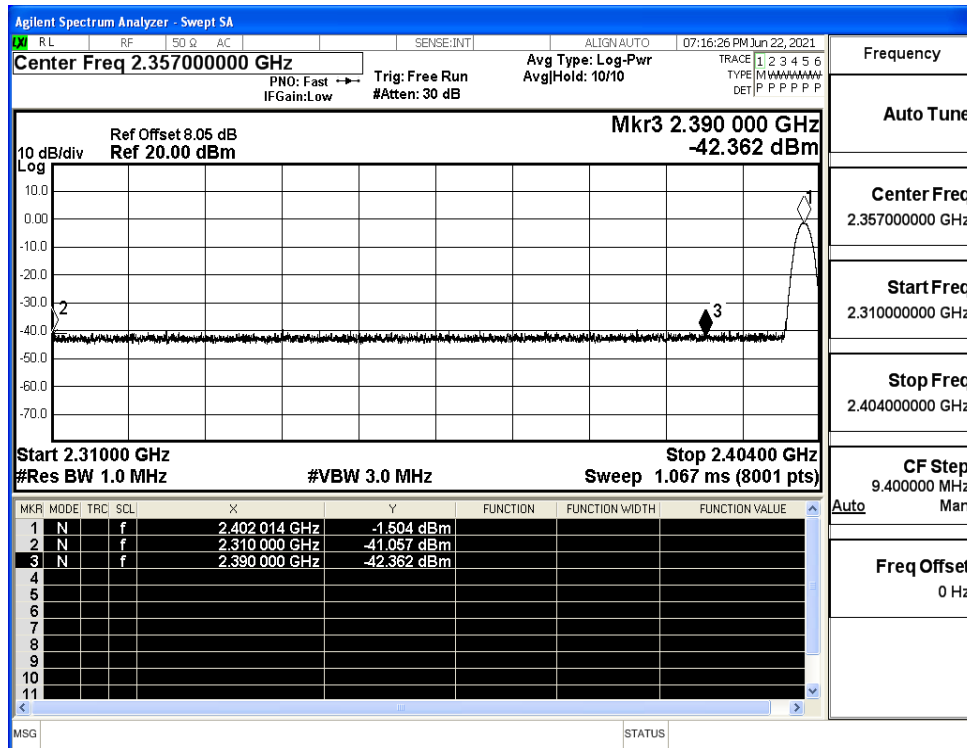
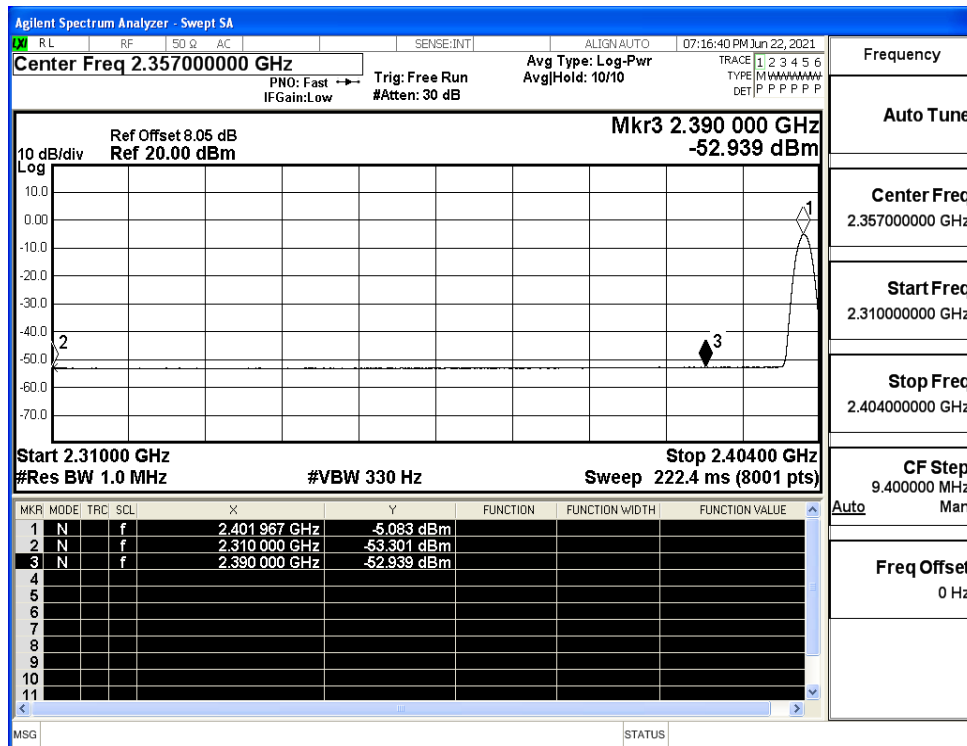


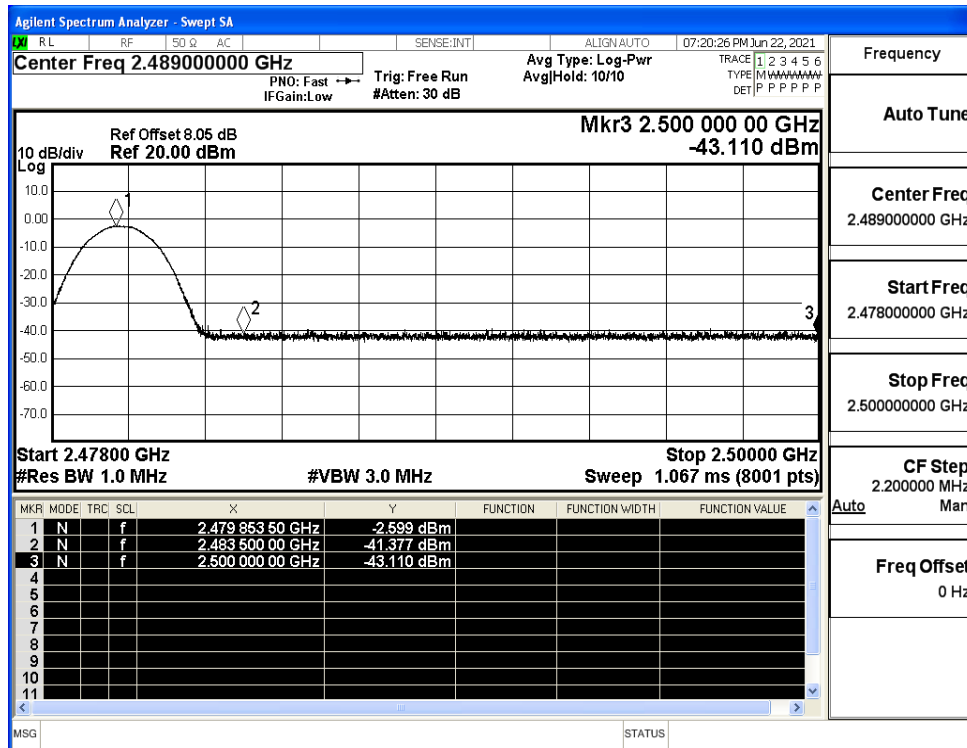
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



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