

## Appendix A

### RF Test Data for BT 4.0(BDR/EDR) (Conducted Measurement)

Product Name: Tablet PC

Trade Mark: HENA, ollee

Test Model: EGQ378

#### Environmental Conditions

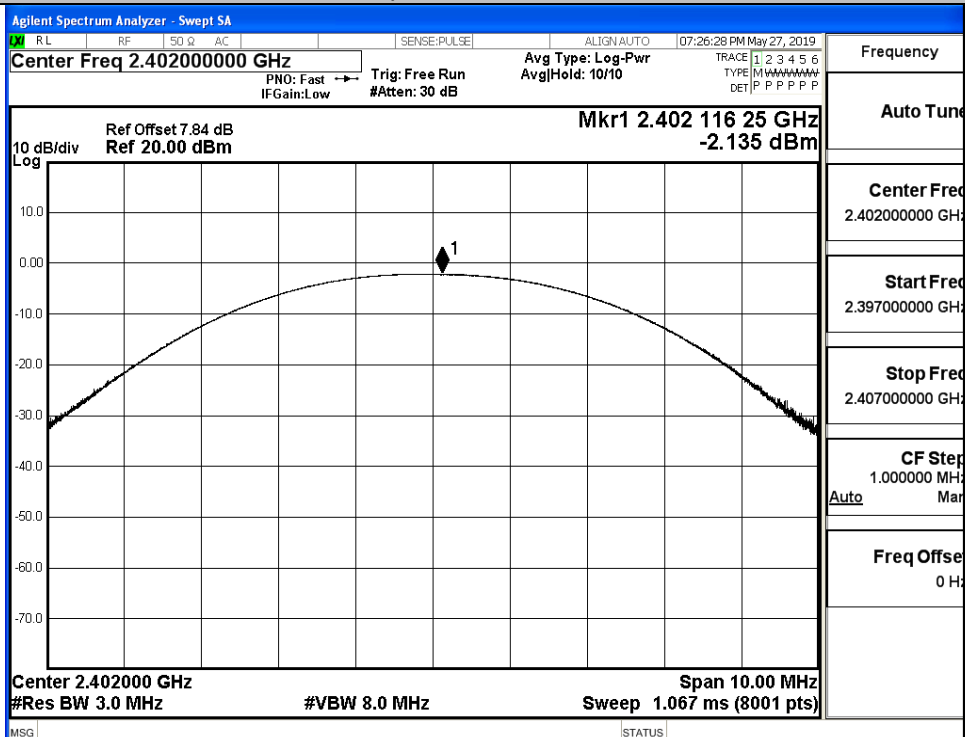
Temperature:	25.2 ° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	WANGCHUANG
Supervised by:	Tom.Liu

#### A.1 Maximum Conducted Peak Output Power

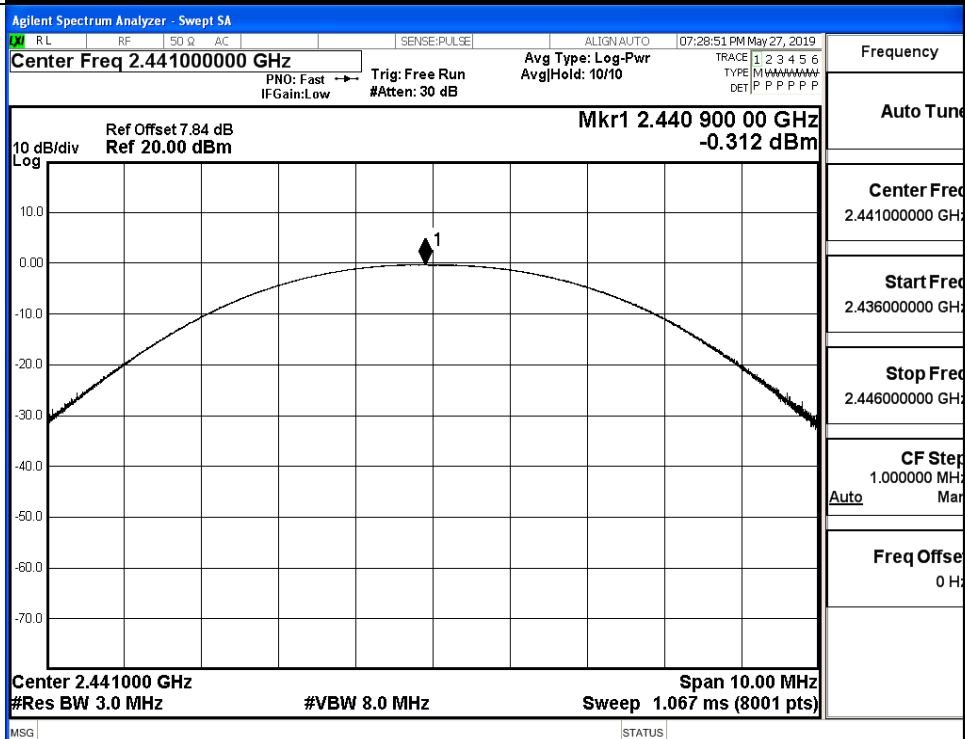
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.135	21	PASS
	MCH	-0.312	21	PASS
	HCH	-0.816	21	PASS
$\pi/4$ DQPSK	LCH	-2.916	21	PASS
	MCH	-1.446	21	PASS
	HCH	-1.679	21	PASS
8DPSK	LCH	-3.063	21	PASS
	MCH	-1.425	21	PASS
	HCH	-1.677	21	PASS

## Test Graphs

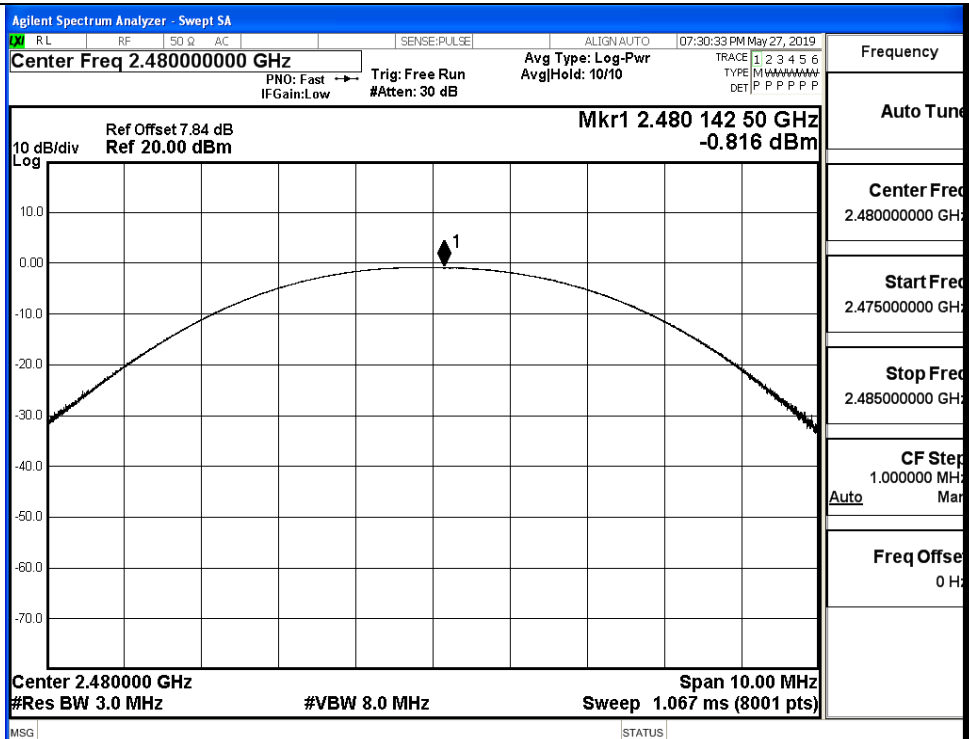
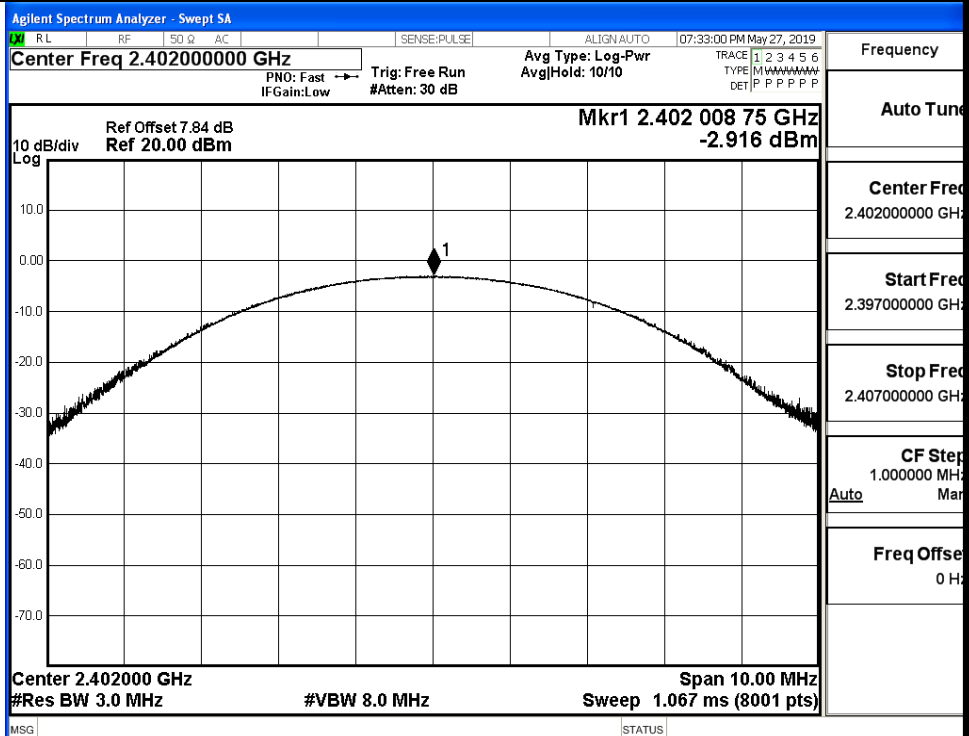
GFSK/LCH

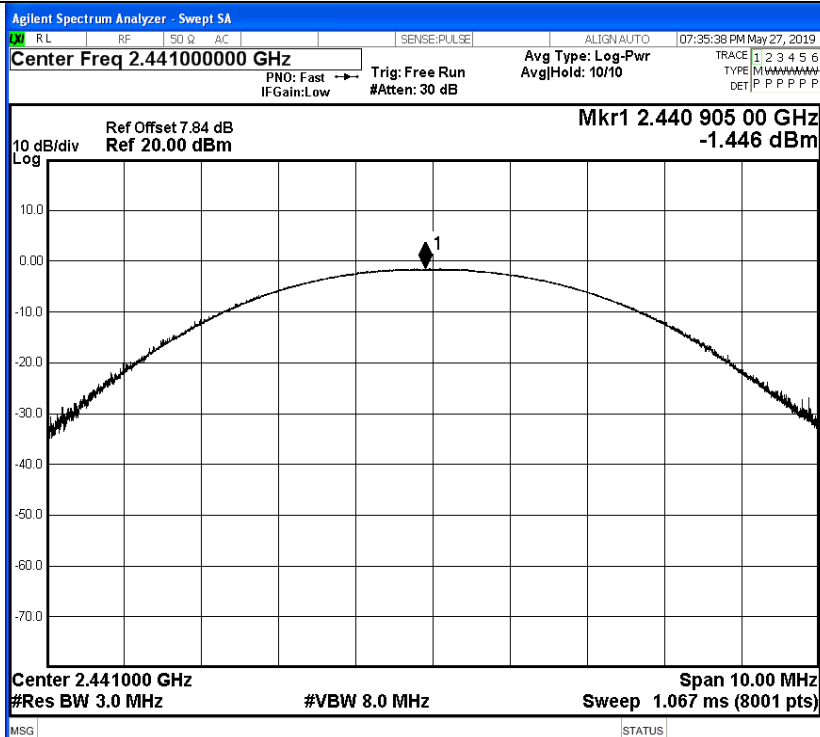


GFSK/MCH



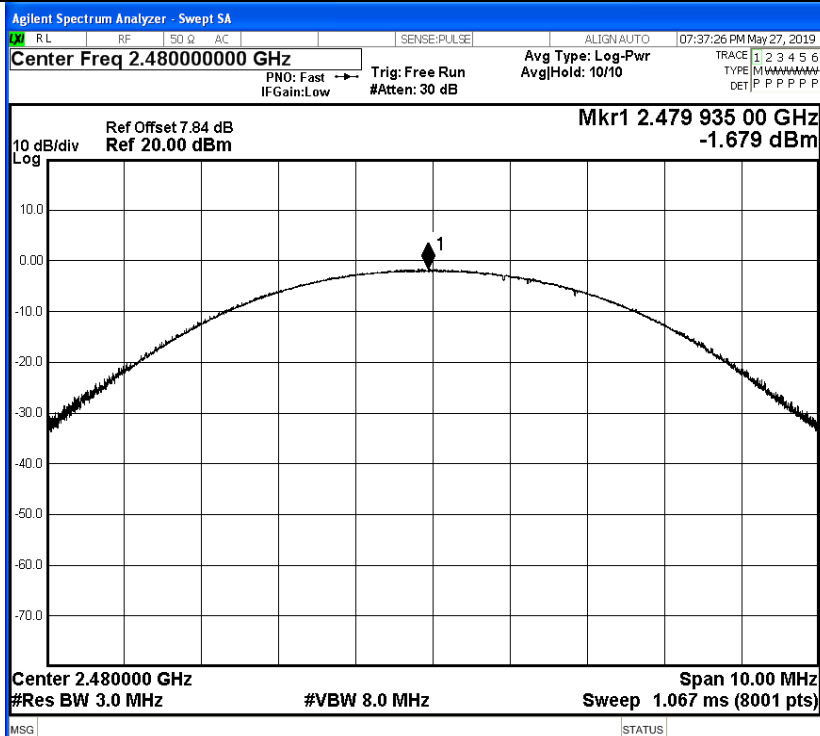
GFSK/HCH

 $\pi/4$ DQPSK/LCH

$\pi/4$ DQPSK/MCH

Frequency

Auto Tune

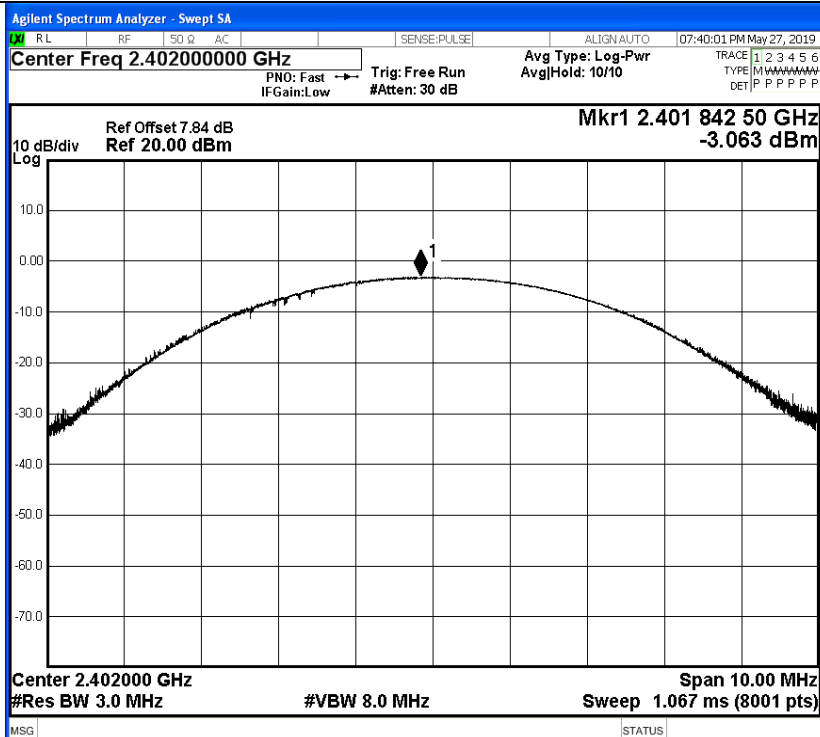
Center Freq  
2.441000000 GHzStart Freq  
2.436000000 GHzStop Freq  
2.446000000 GHzCF Step  
1.000000 MHz  
AutoFreq Offset  
0 Hz $\pi/4$ DQPSK/HCH

Frequency

Auto Tune

Center Freq  
2.480000000 GHzStart Freq  
2.475000000 GHzStop Freq  
2.485000000 GHzCF Step  
1.000000 MHz  
AutoFreq Offset  
0 Hz

8DPSK/LCH



Frequency

Auto Tune

Center Freq  
2.402000000 GHz

Start Freq  
2.397000000 GHz

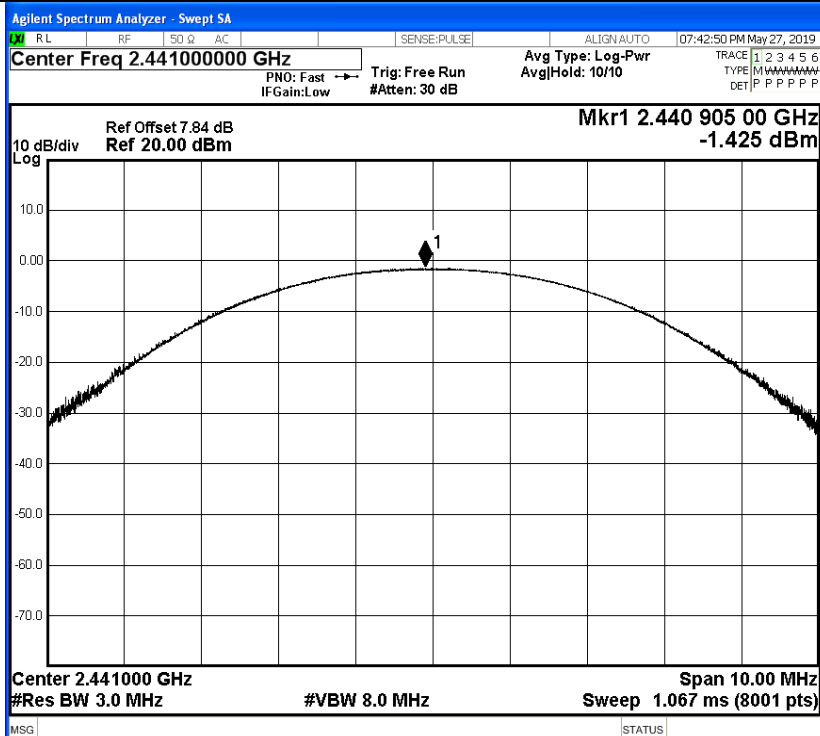
Stop Freq  
2.407000000 GHz

CF Step  
1.000000 MHz  
Mar

Auto

Freq Offset  
0 Hz

8DPSK/MCH



Frequency

Auto Tune

Center Freq  
2.441000000 GHz

Start Freq  
2.436000000 GHz

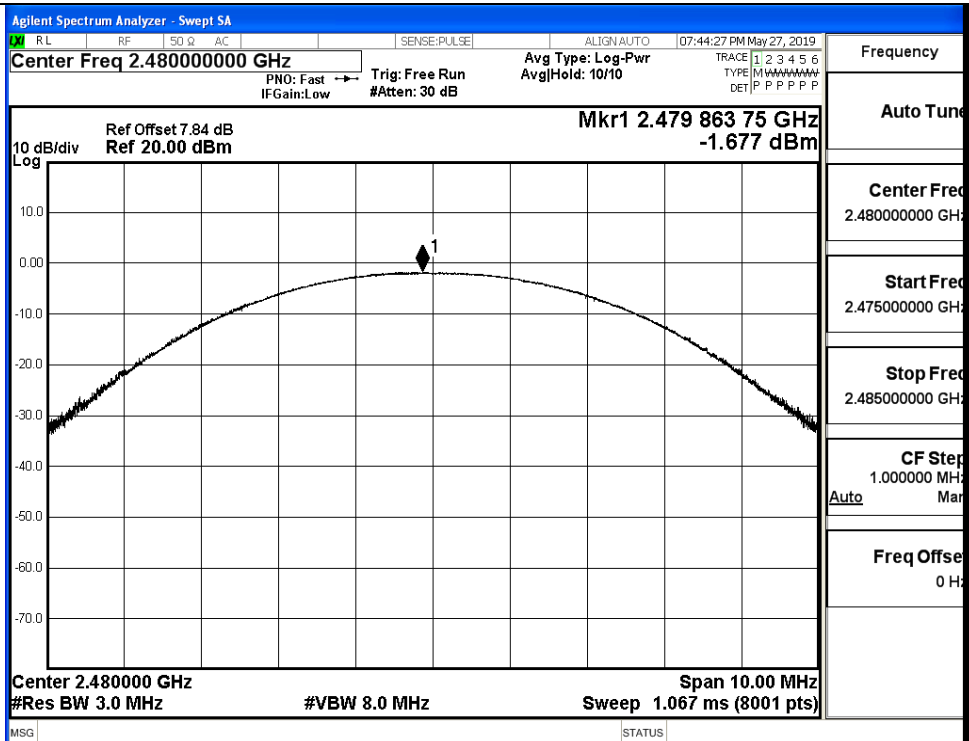
Stop Freq  
2.446000000 GHz

CF Step  
1.000000 MHz  
Mar

Auto

Freq Offset  
0 Hz

8DPSK/HCH

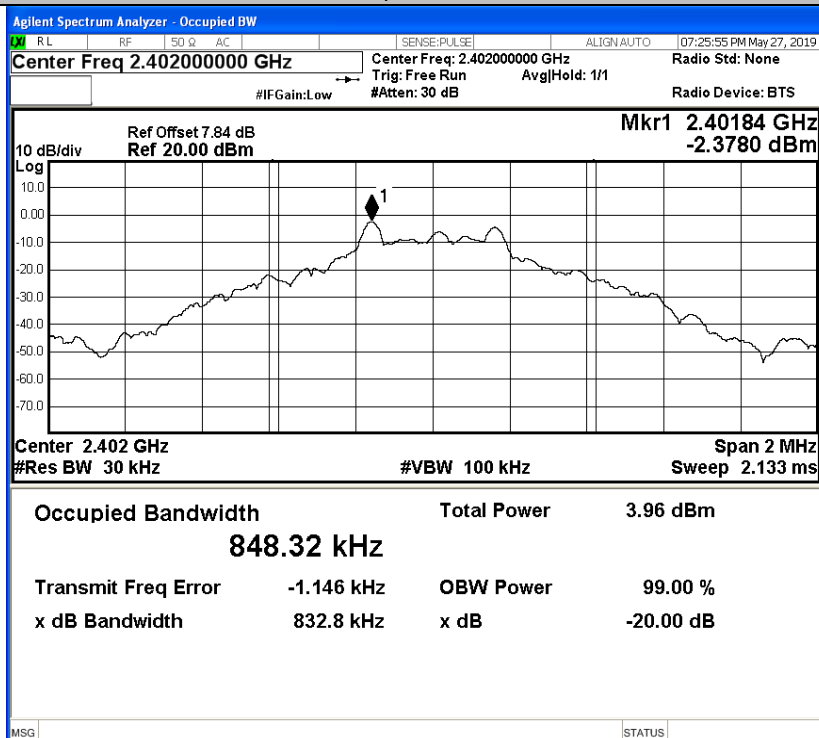


## A.2 20dB Bandwidth

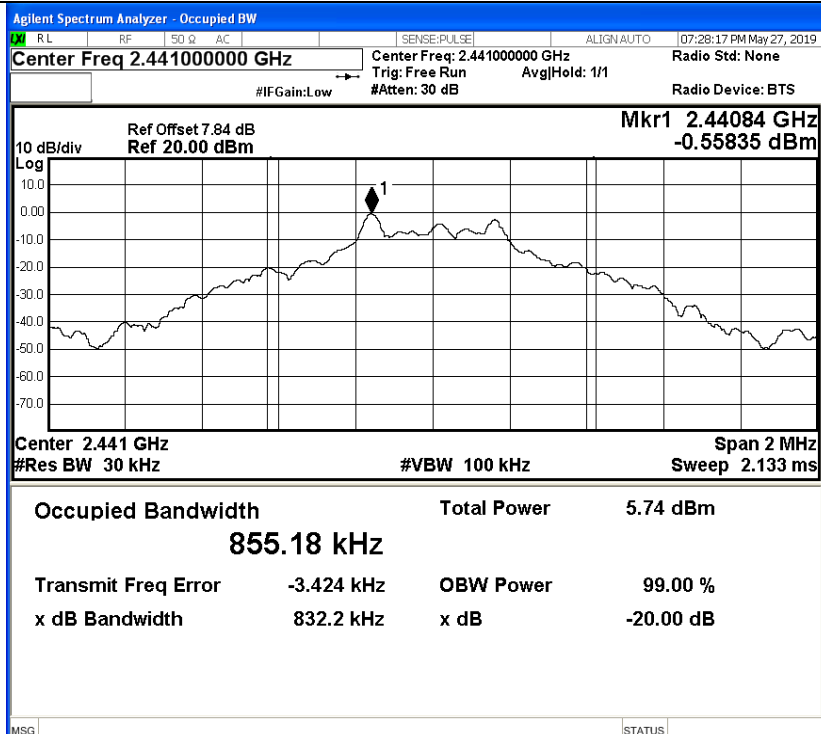
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.8328	Not Specified	PASS
	MCH	0.8322	Not Specified	PASS
	HCH	0.8310	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.117	Not Specified	PASS
	MCH	1.119	Not Specified	PASS
	HCH	1.117	Not Specified	PASS
8DPSK	LCH	1.133	Not Specified	PASS
	MCH	1.118	Not Specified	PASS
	HCH	1.122	Not Specified	PASS

## Test Graphs

GFSK/LCH



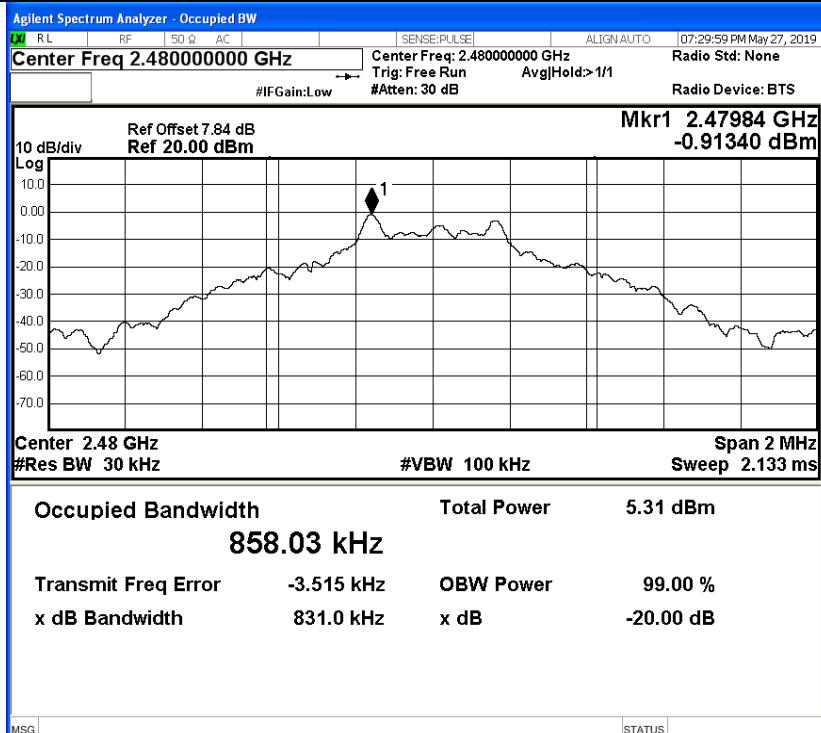
GFSK/MCH



Frequency

Center Freq  
2.441000000 GHzCF Step  
200.000 kHzFreq Offset  
0 Hz

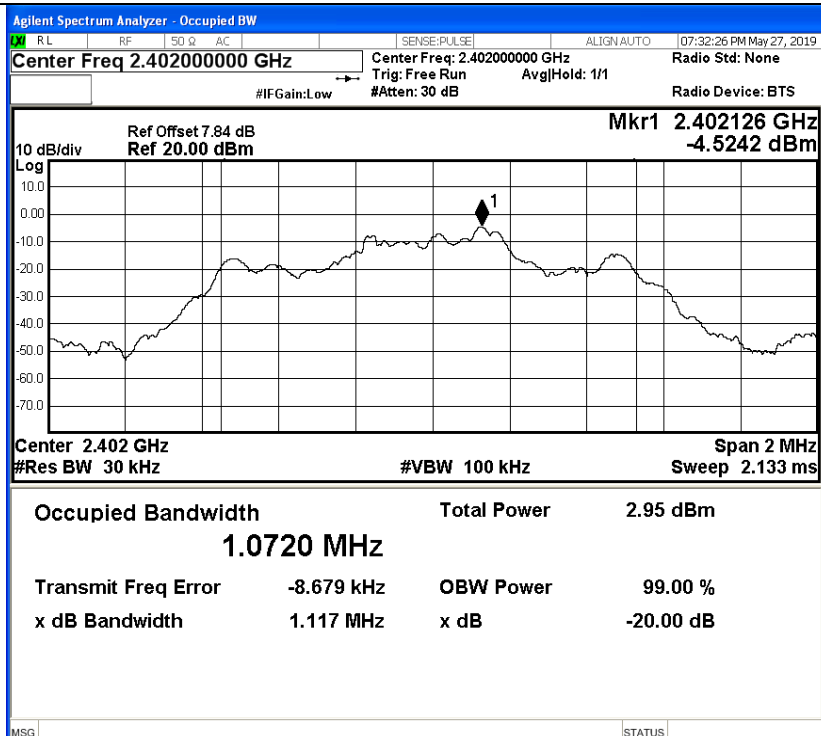
GFSK/HCH



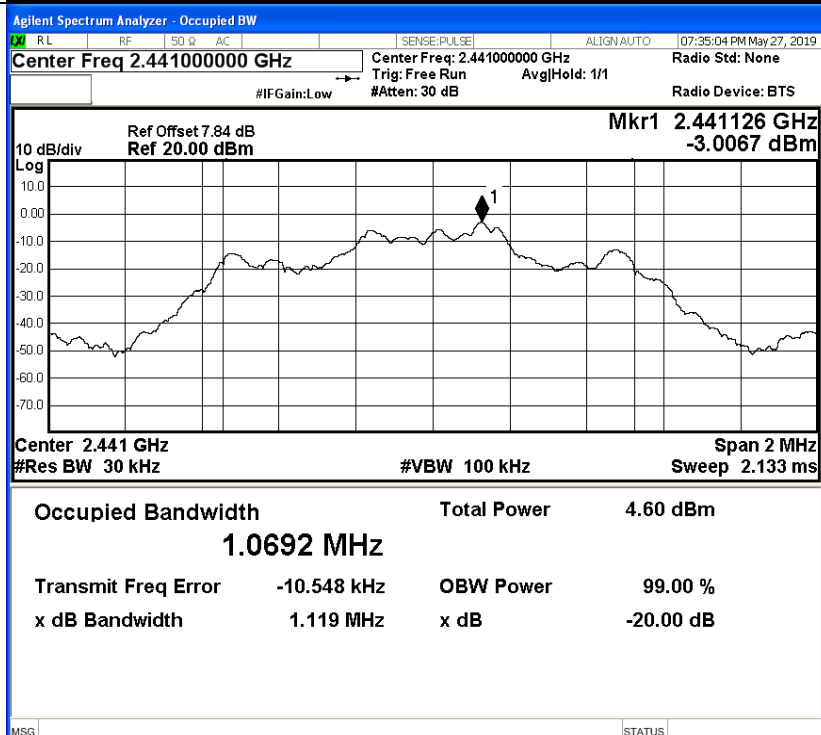
Frequency

Center Freq  
2.480000000 GHzCF Step  
200.000 kHzFreq Offset  
0 Hz



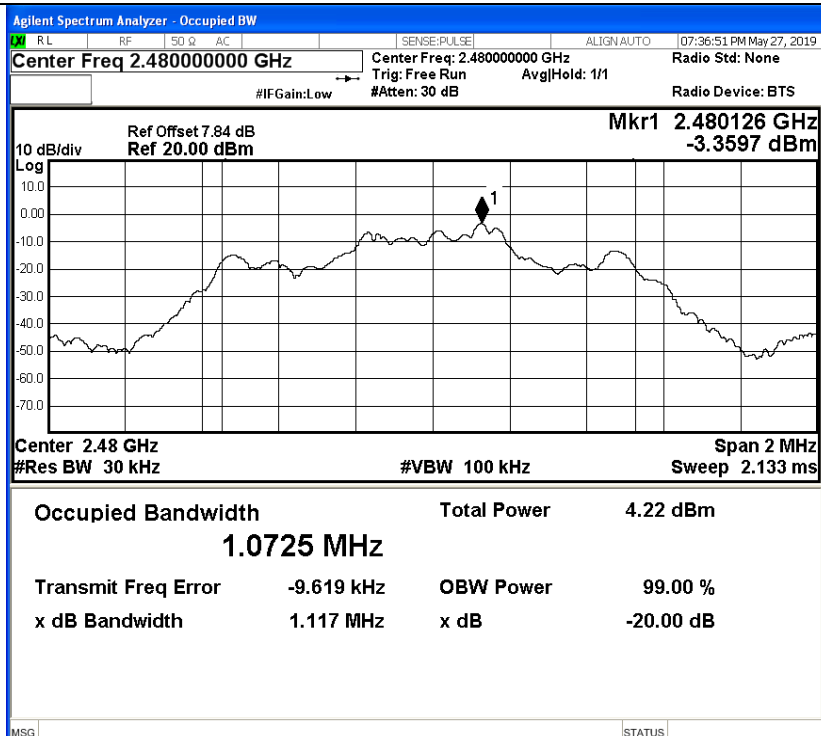
$\pi/4$ DQPSK/LCH

Frequency

Center Freq  
2.402000000 GHzCF Step  
200.000 kHzFreq Offset  
0 Hz $\pi/4$ DQPSK/MCH

Frequency

Center Freq  
2.441000000 GHzCF Step  
200.000 kHzFreq Offset  
0 Hz

$\pi/4$ DQPSK/HCH

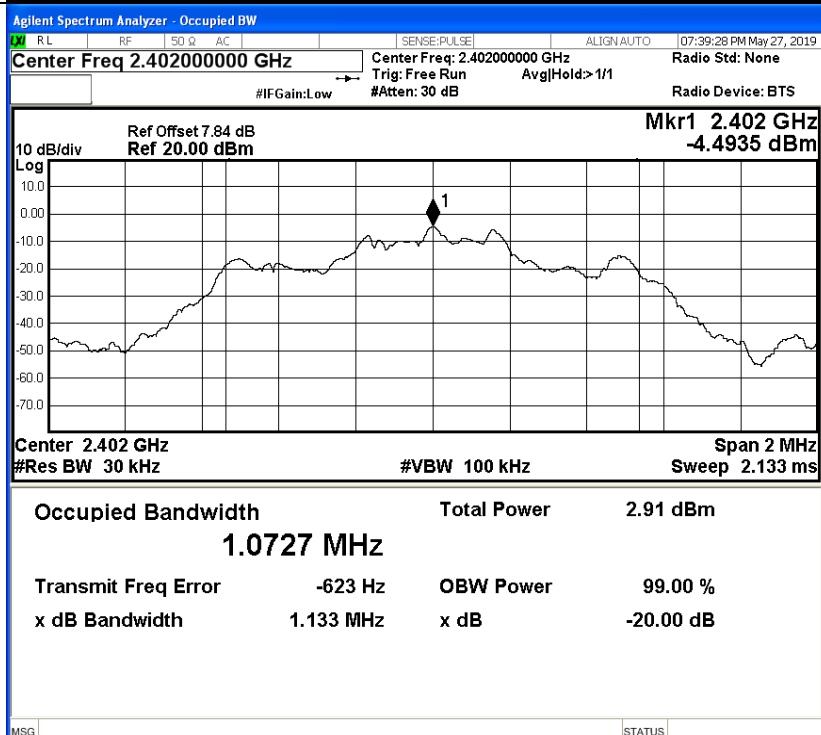
Frequency

Center Freq  
2.48000000 GHzCF Step  
200.000 kHz

Auto

Freq Offset  
0 Hz

8DPSK/LCH



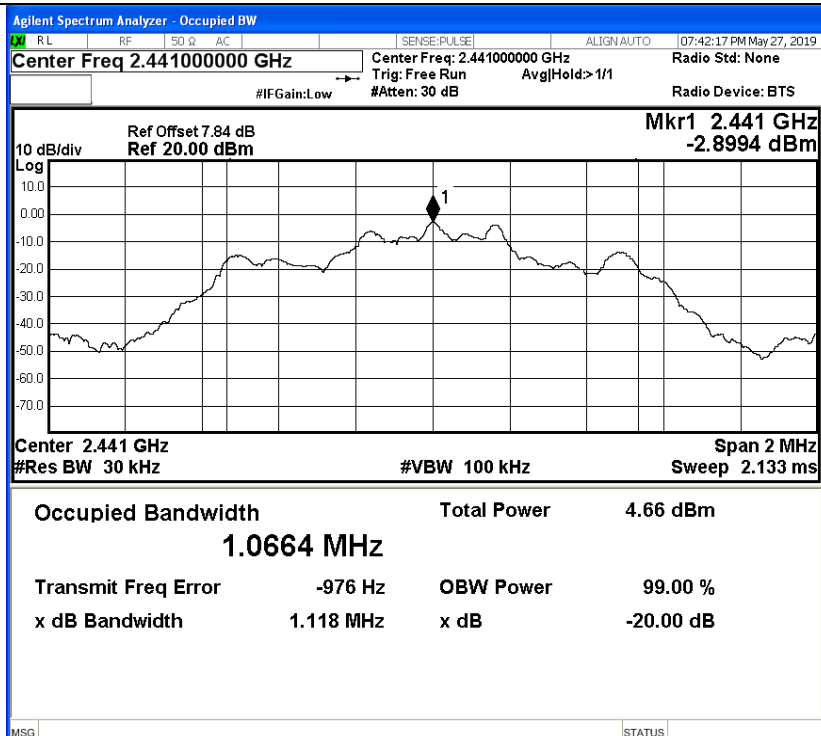
Frequency

Center Freq  
2.40200000 GHzCF Step  
200.000 kHz

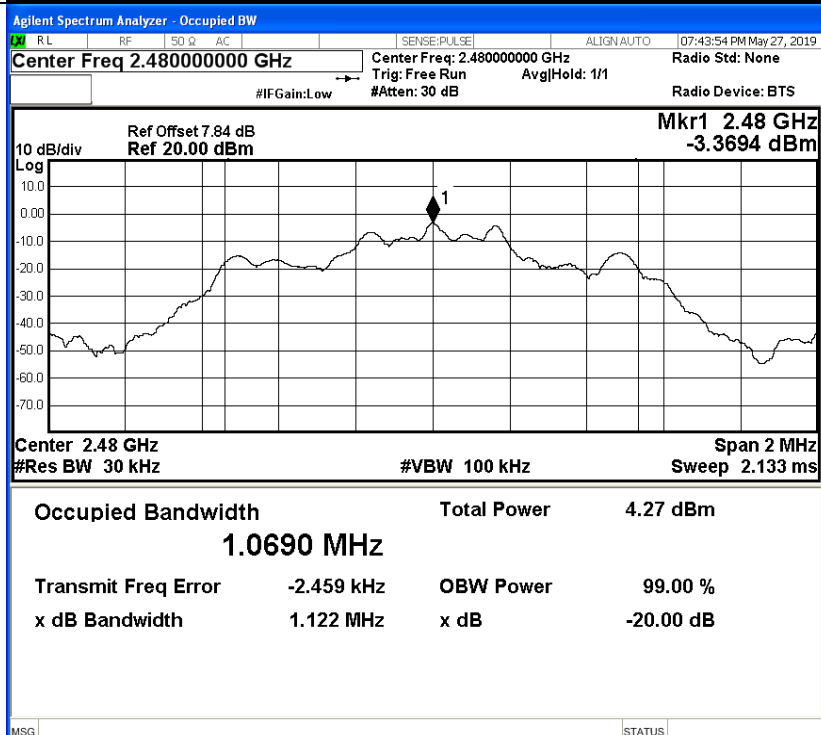
Auto

Freq Offset  
0 Hz

8DPSK/MCH



8DPSK/HCH

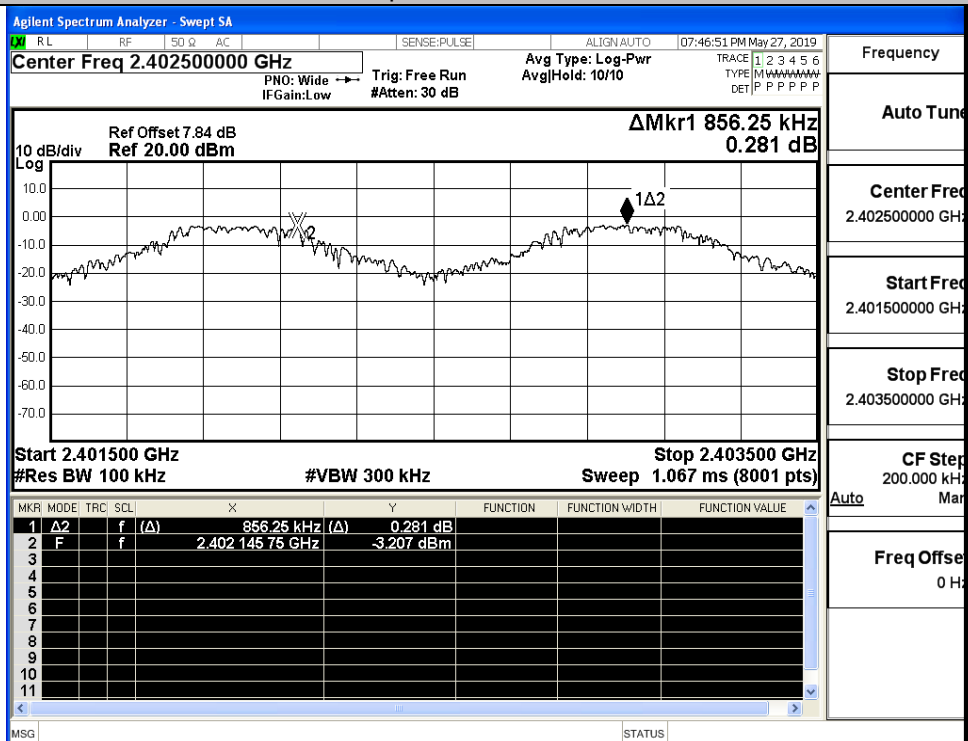


### A.3 Carrier Frequency Separation

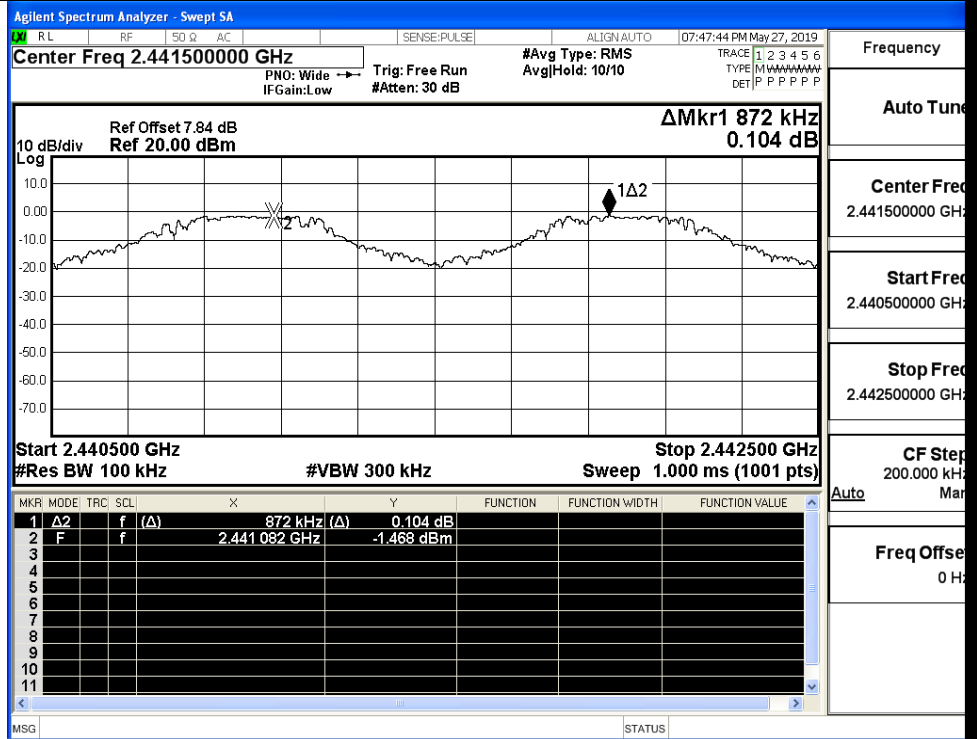
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.856	0.555	PASS
	MCH	0.872	0.555	PASS
	HCH	1.330	0.555	PASS
$\pi$ /4DQPSK	LCH	1.030	0.746	PASS
	MCH	1.252	0.746	PASS
	HCH	1.124	0.746	PASS
8DPSK	LCH	1.122	0.755	PASS
	MCH	0.984	0.755	PASS
	HCH	1.254	0.755	PASS

#### Test Graphs

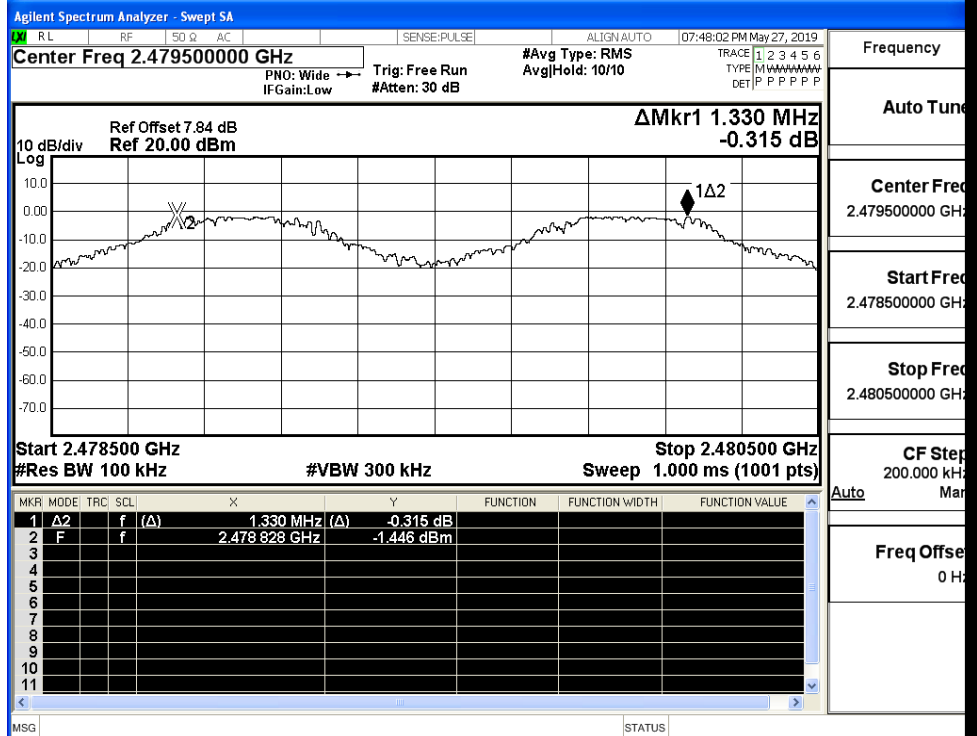
GFSK/LCH

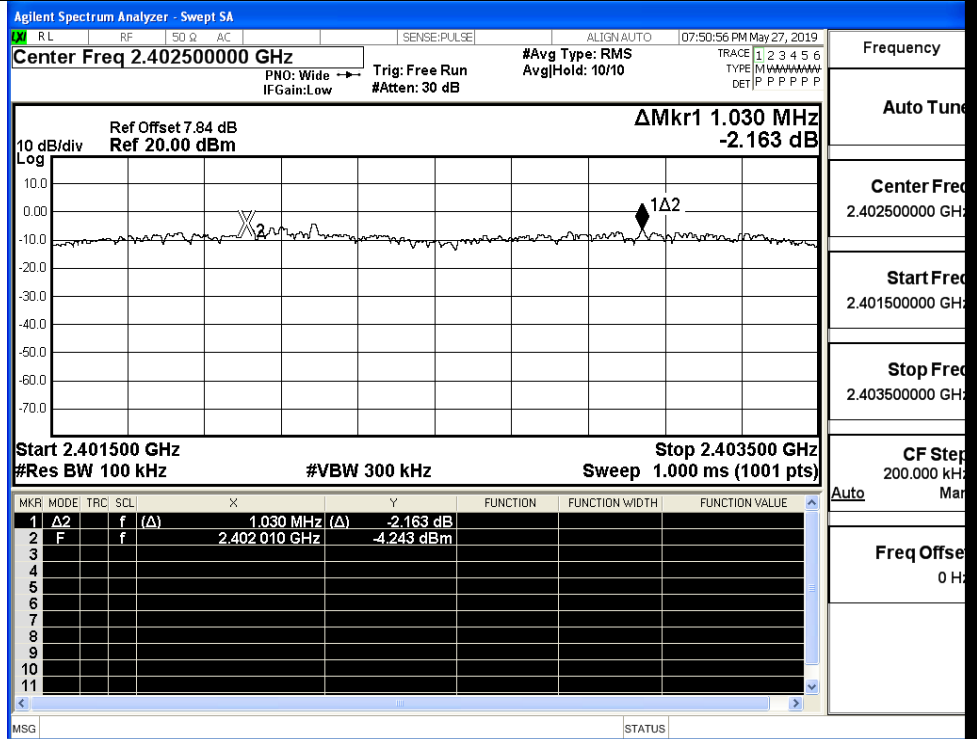
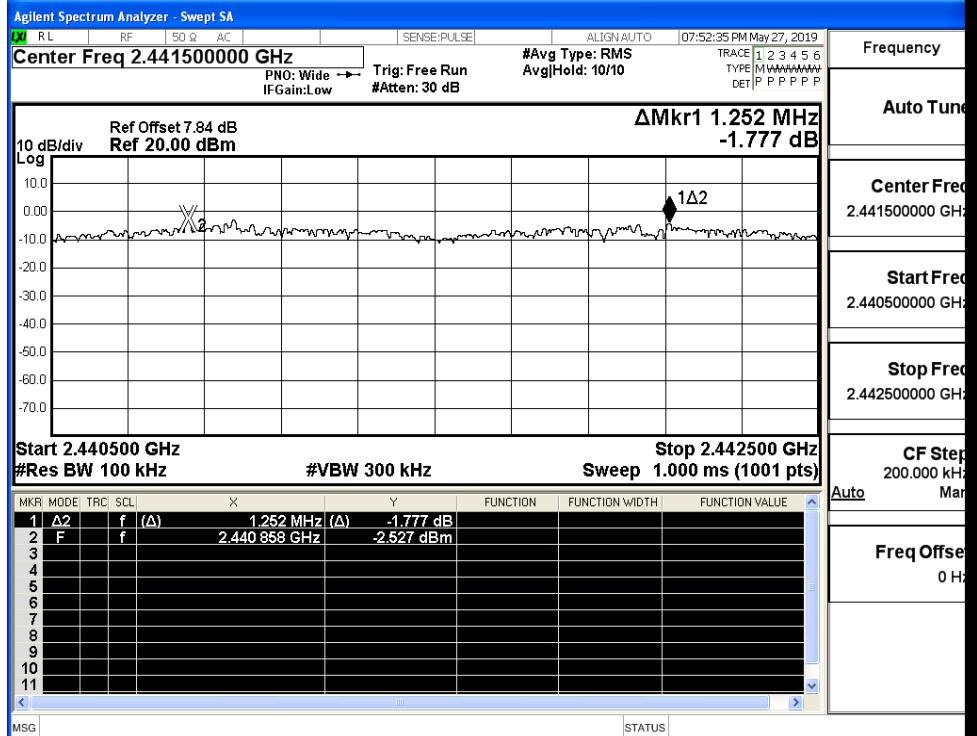


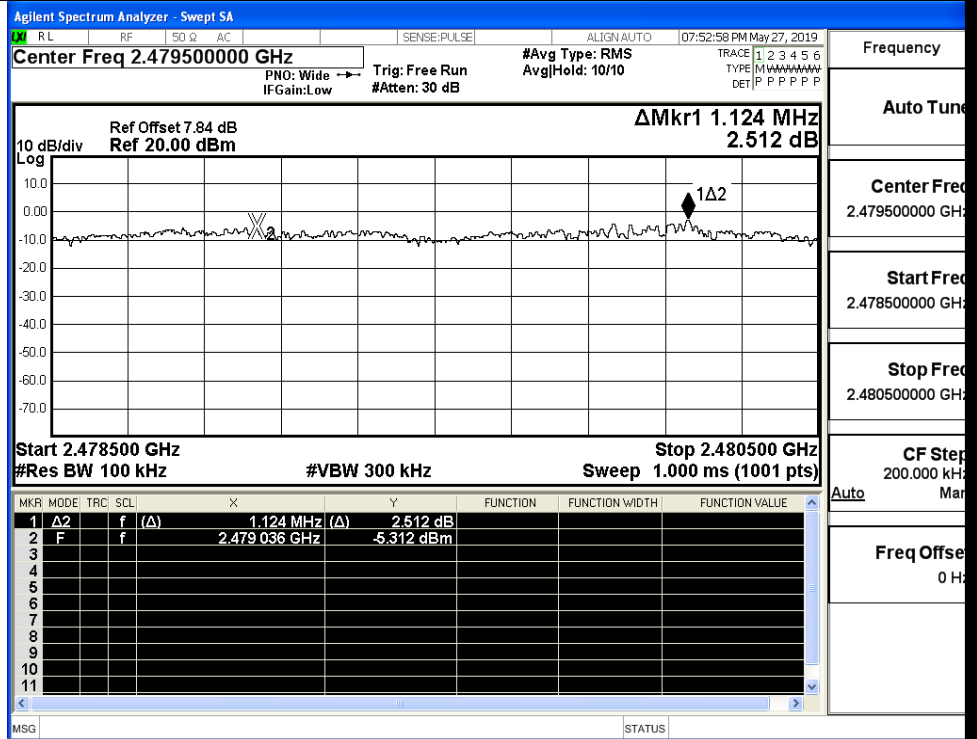
GFSK/MCH



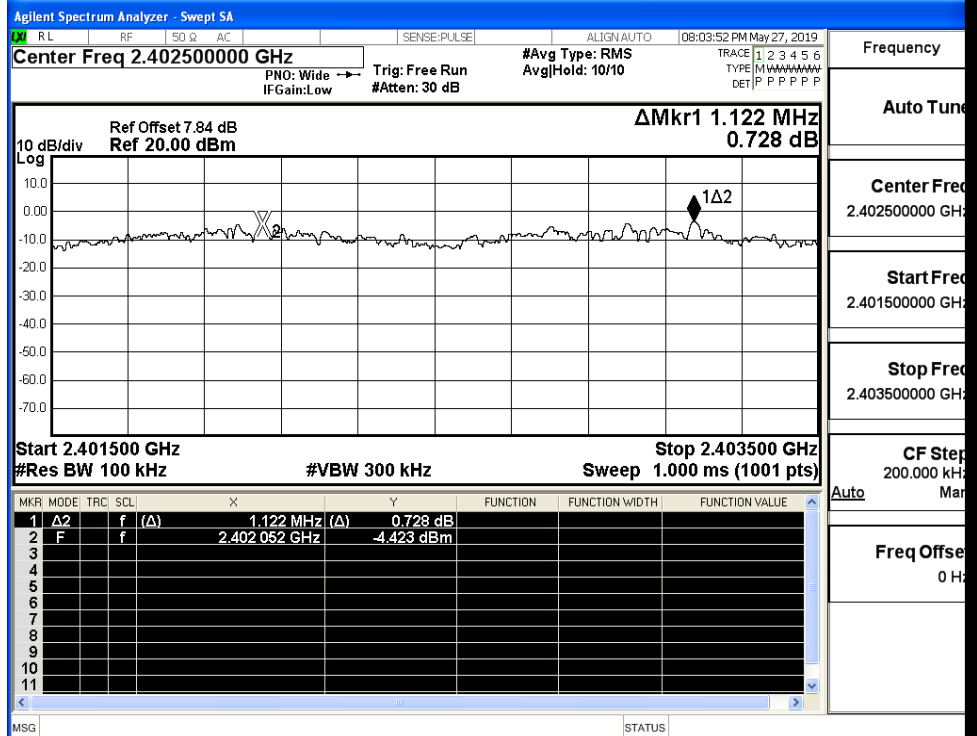
GFSK/HCH



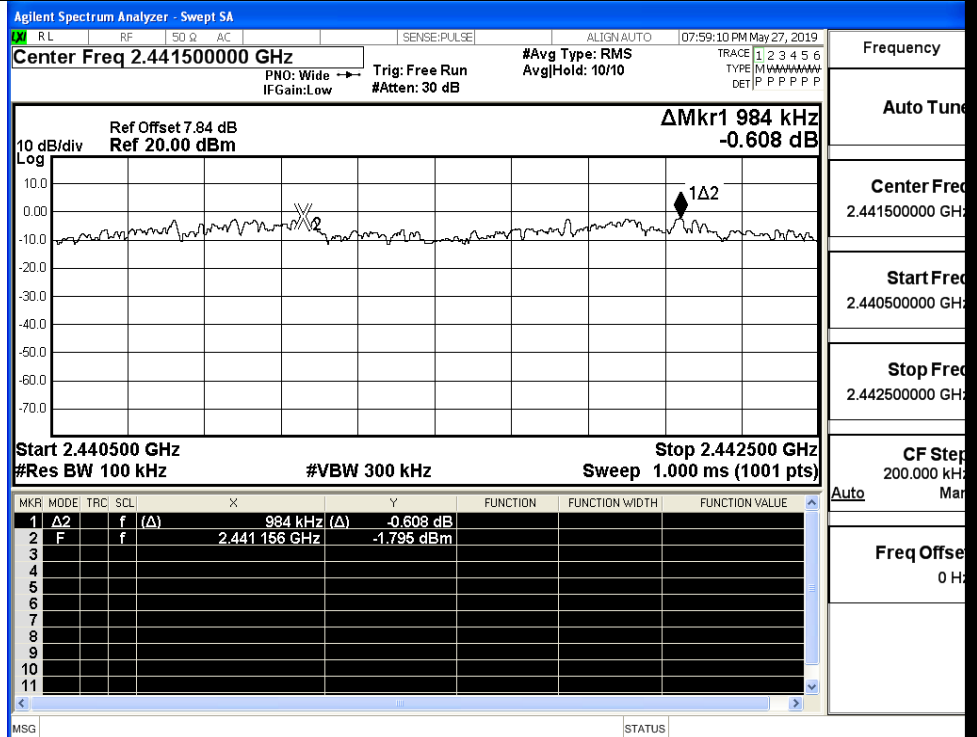
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

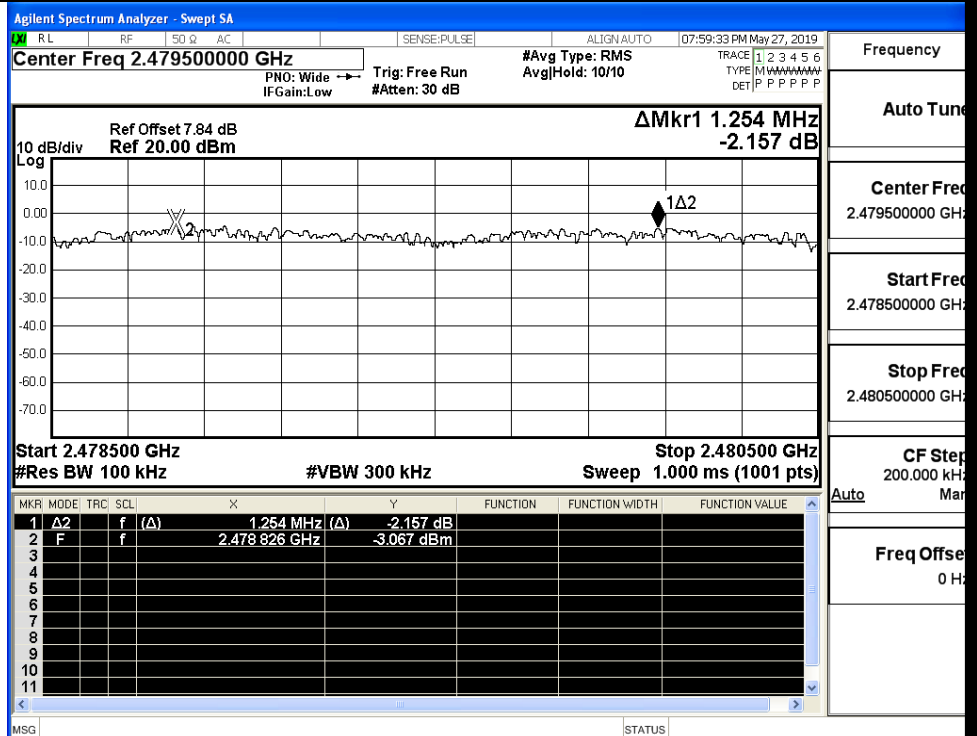
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



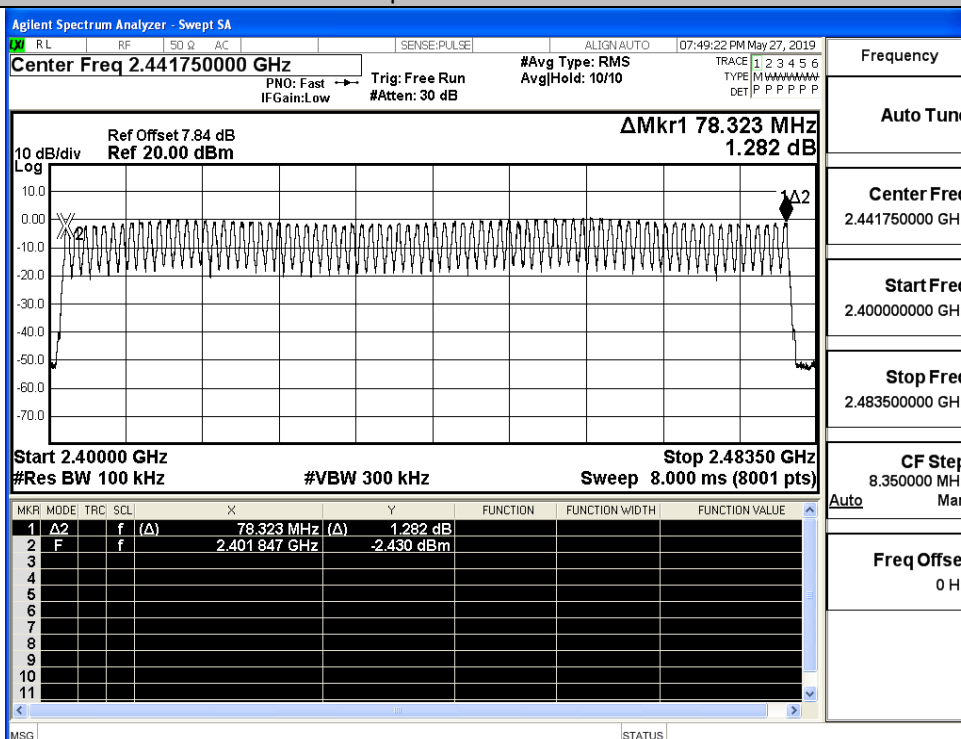
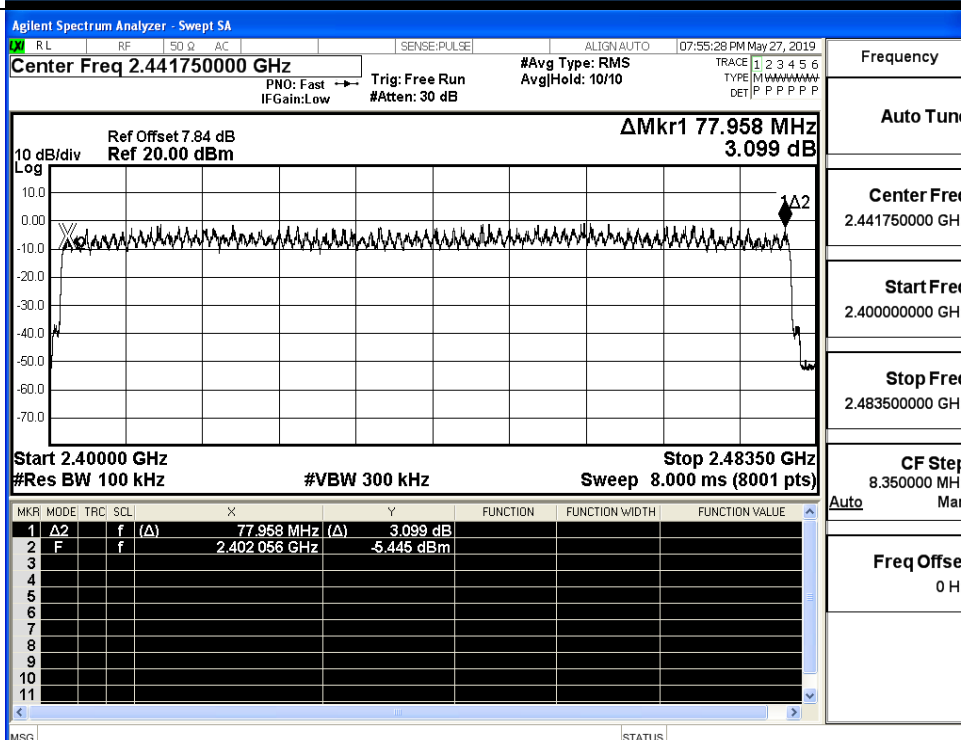


## A.4 Hopping Channel Number

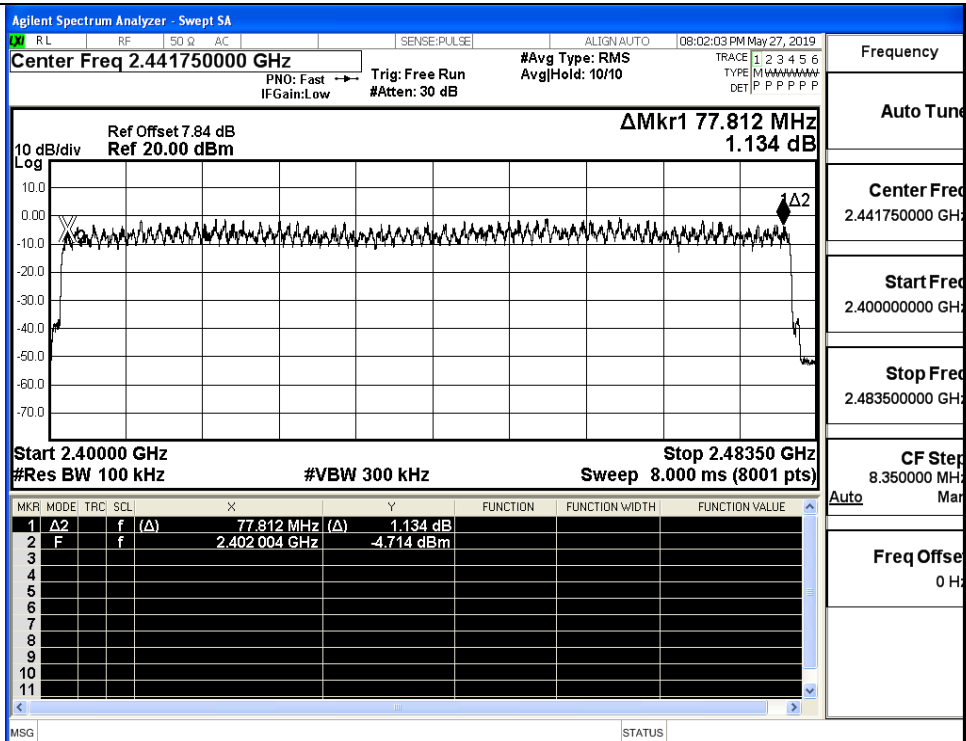
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	$\geq 15$	PASS
$\pi/4$ DQPSK	Hop	79	$\geq 15$	PASS
8DPSK	Hop	79	$\geq 15$	PASS

## Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

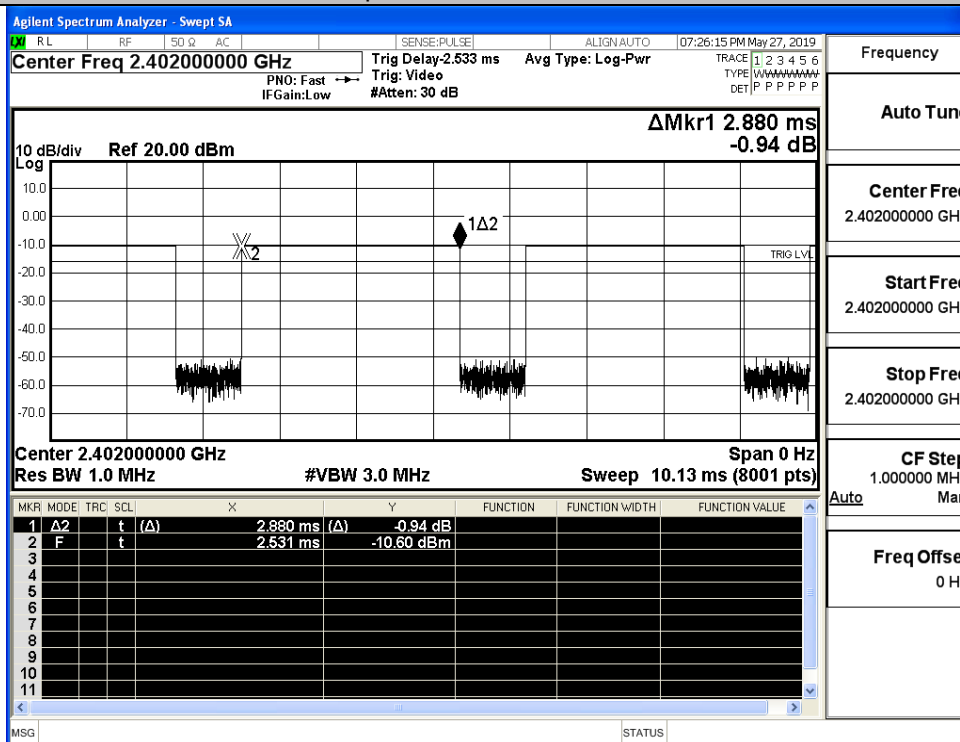


## A.5 Dwell Time

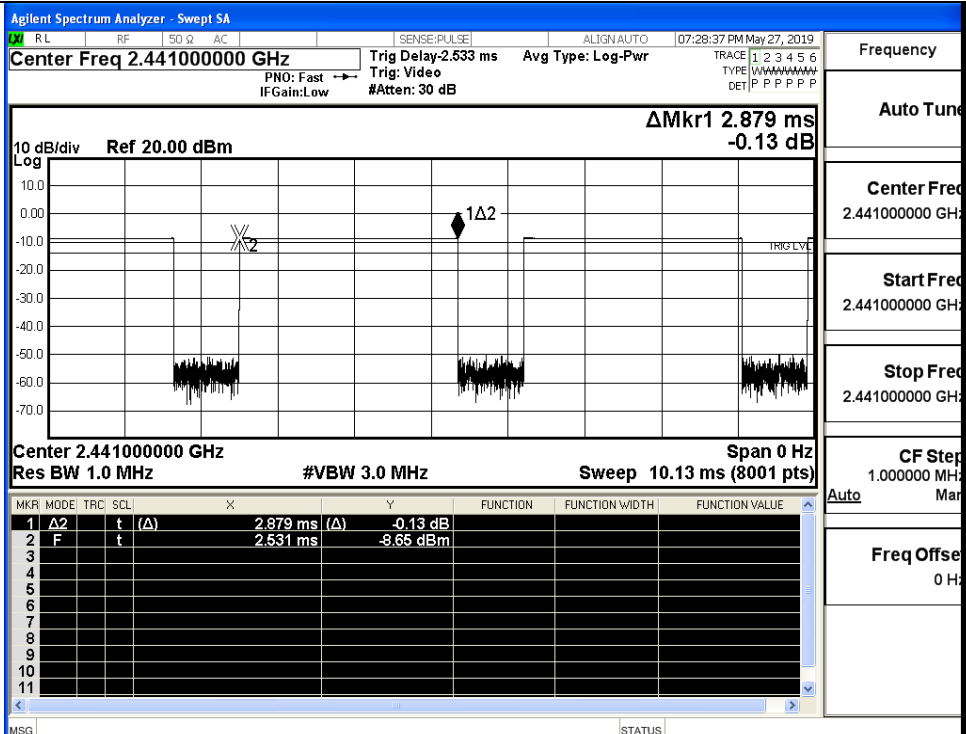
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS
8DPSK	3DH5	LCH	2.88	106.7	0.308	0.4	PASS
	3DH5	MCH	2.88	106.7	0.308	0.4	PASS
	3DH5	HCH	2.88	106.7	0.308	0.4	PASS

## Test Graphs

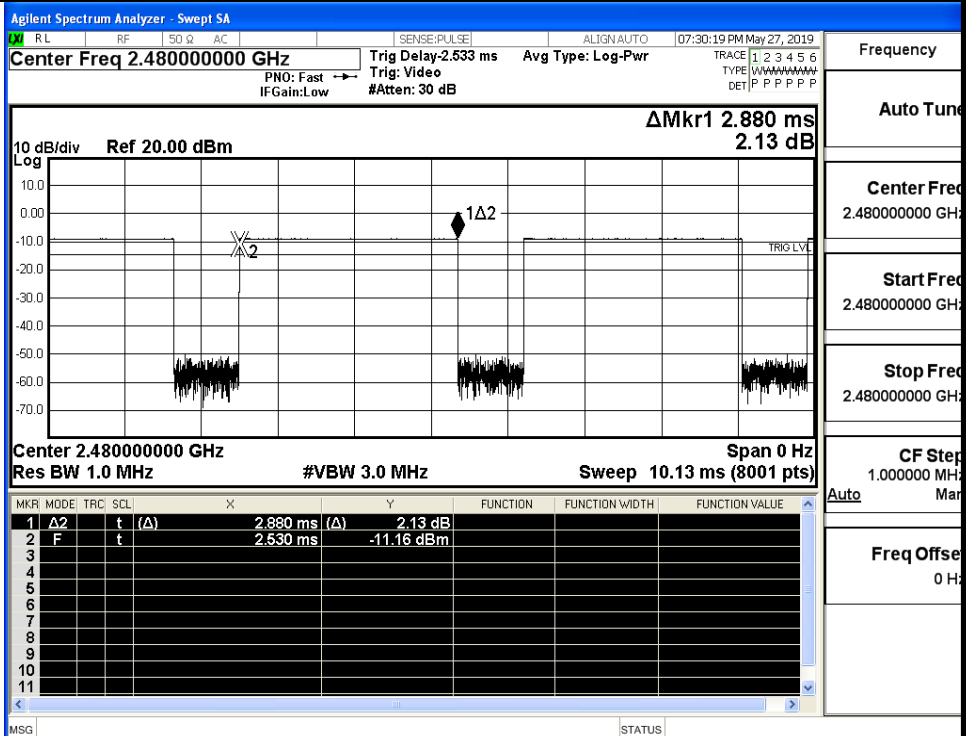
GFSK\_DH5/LCH



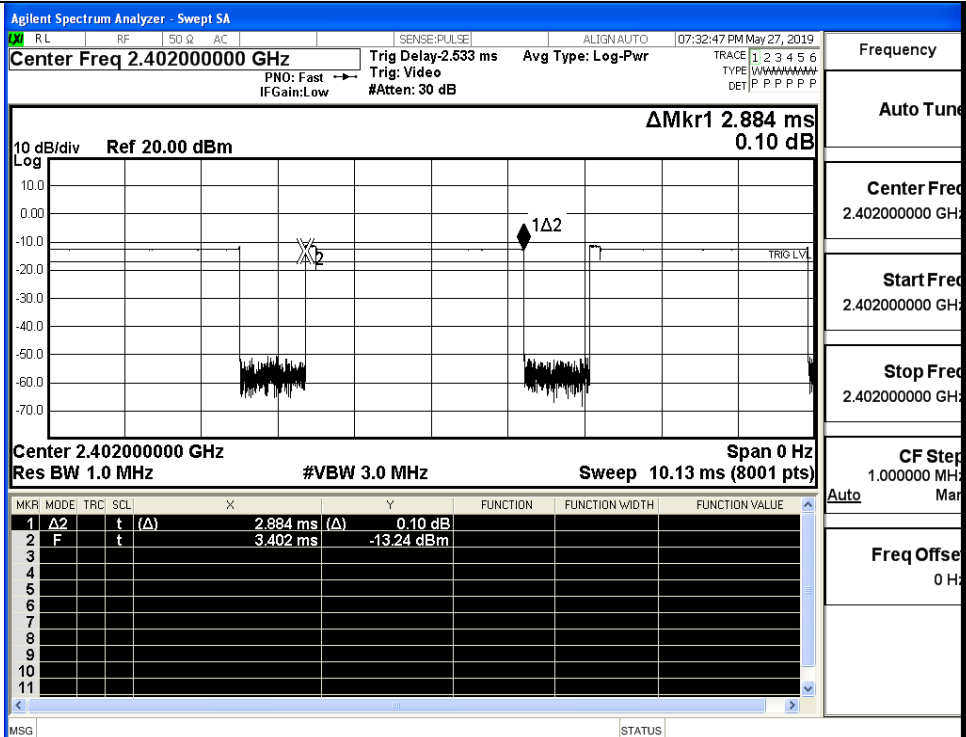
GFSK\_DH5/MCH



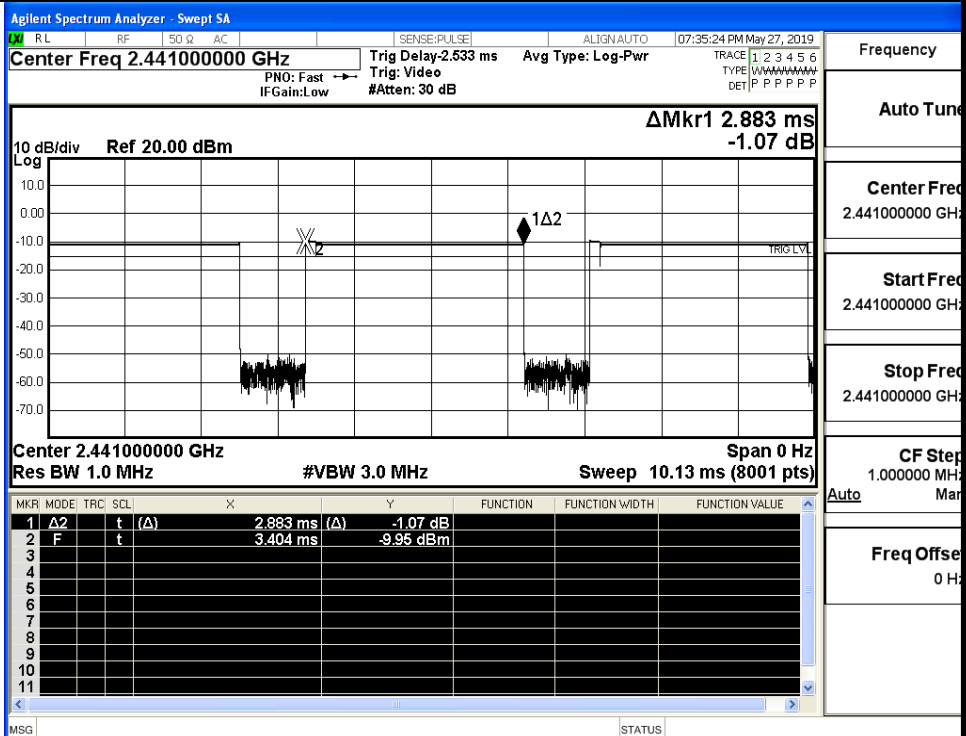
GFSK\_DH5/HCH



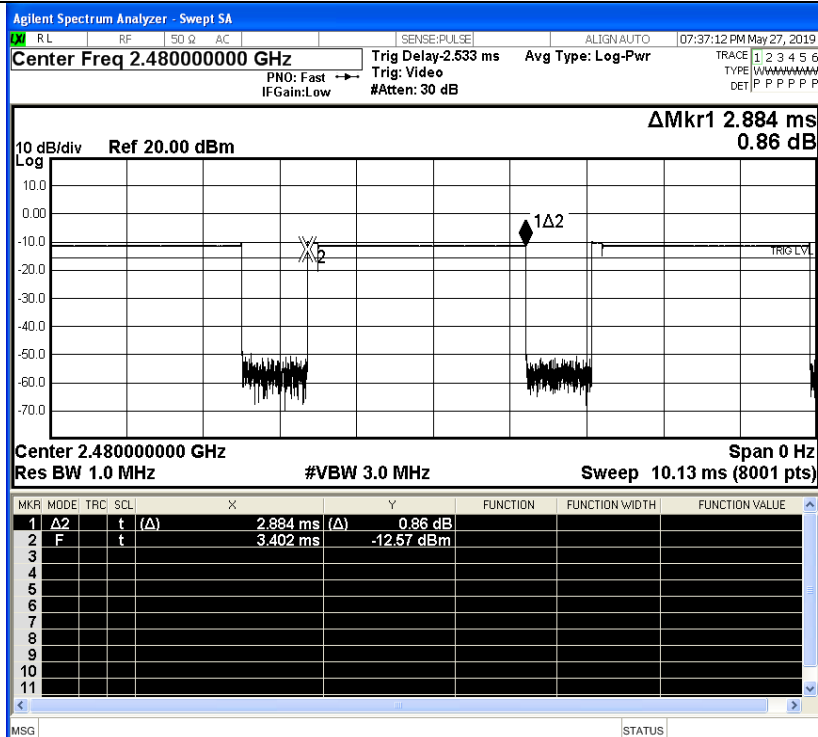
$\pi/4$ DQPSK  
\_2DH5/LCH



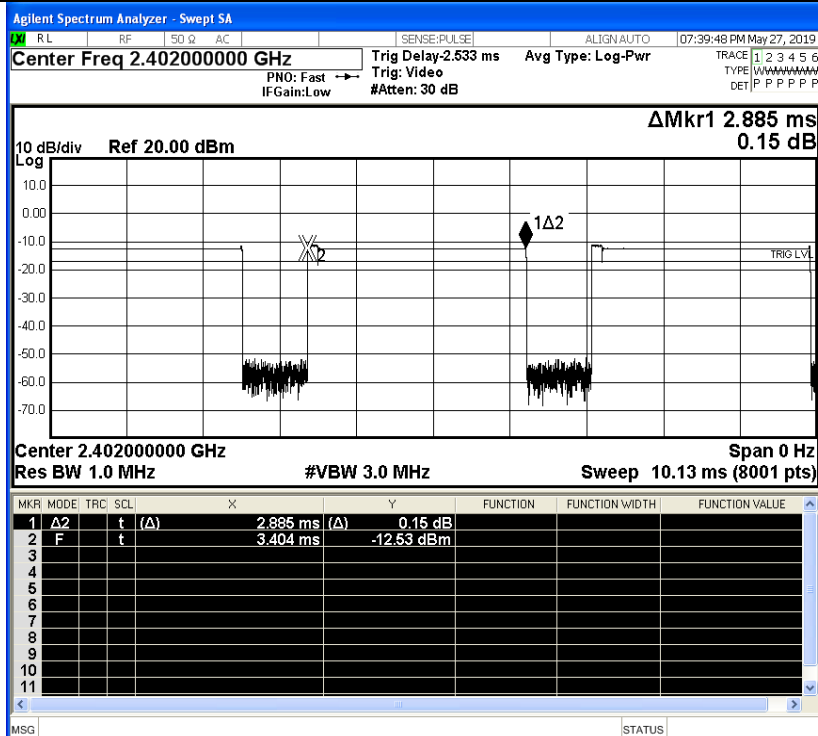
$\pi/4$ DQPSK  
\_2DH5/MCH



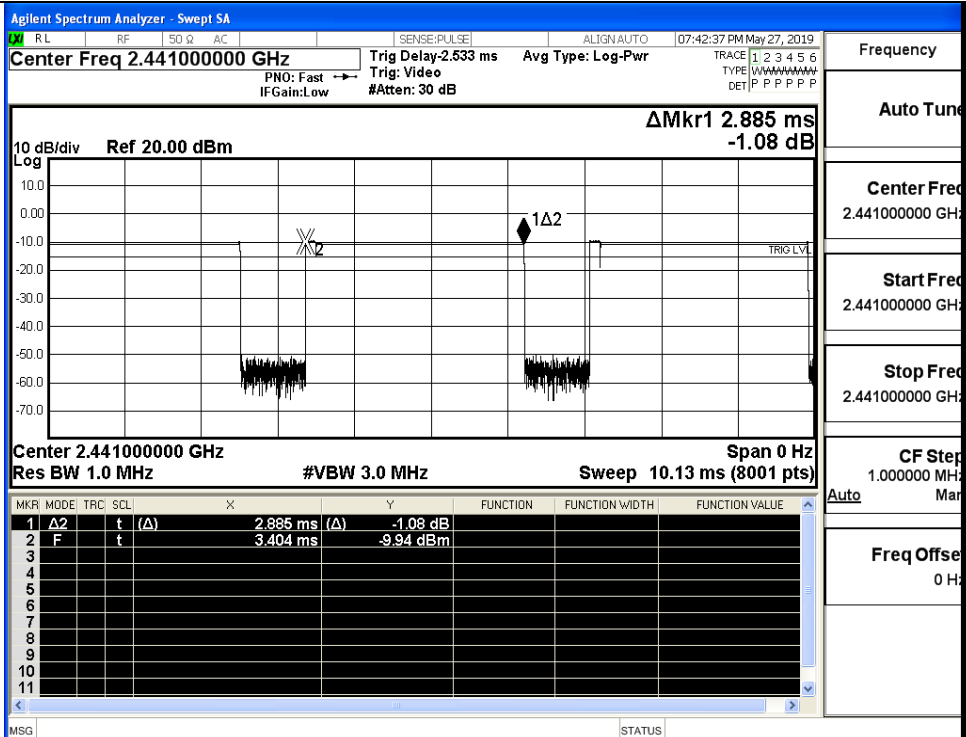
$\pi/4$ DQPSK  
\_2DH5/HCH



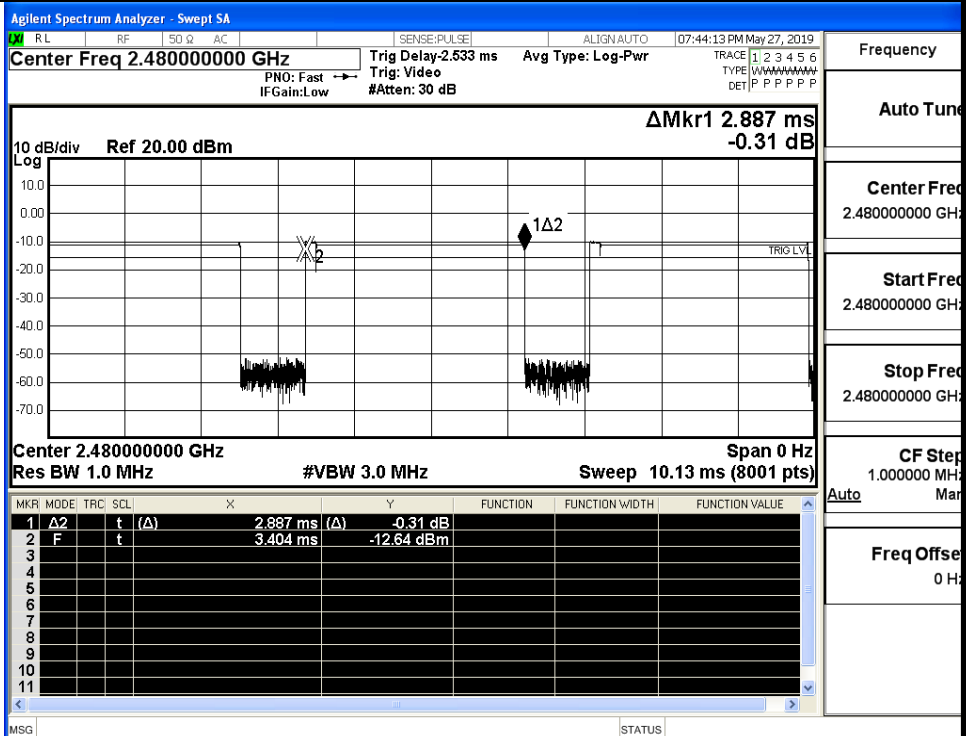
8DPSK \_3DH5/LCH



8DPSK\_3DH5/MCH



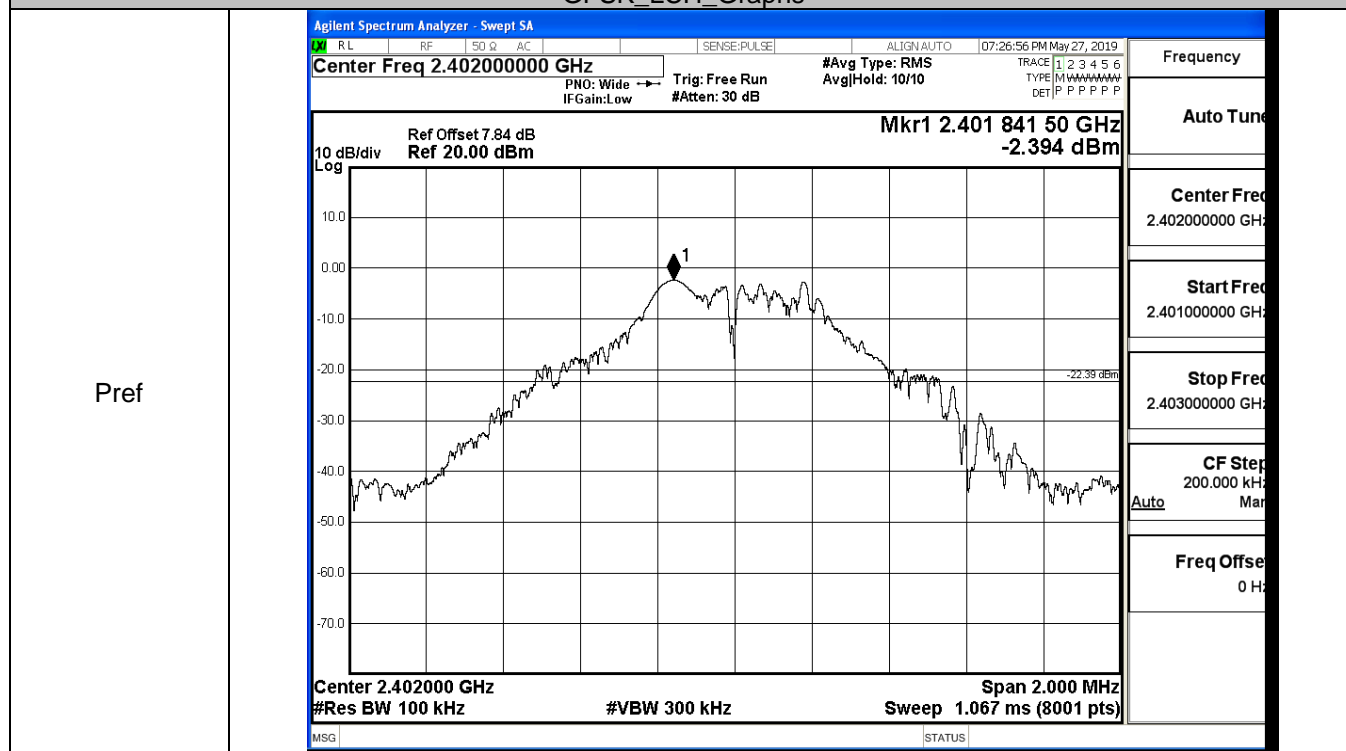
8DPSK\_3DH5/HCH



## A.6 RF Conducted Spurious Emissions

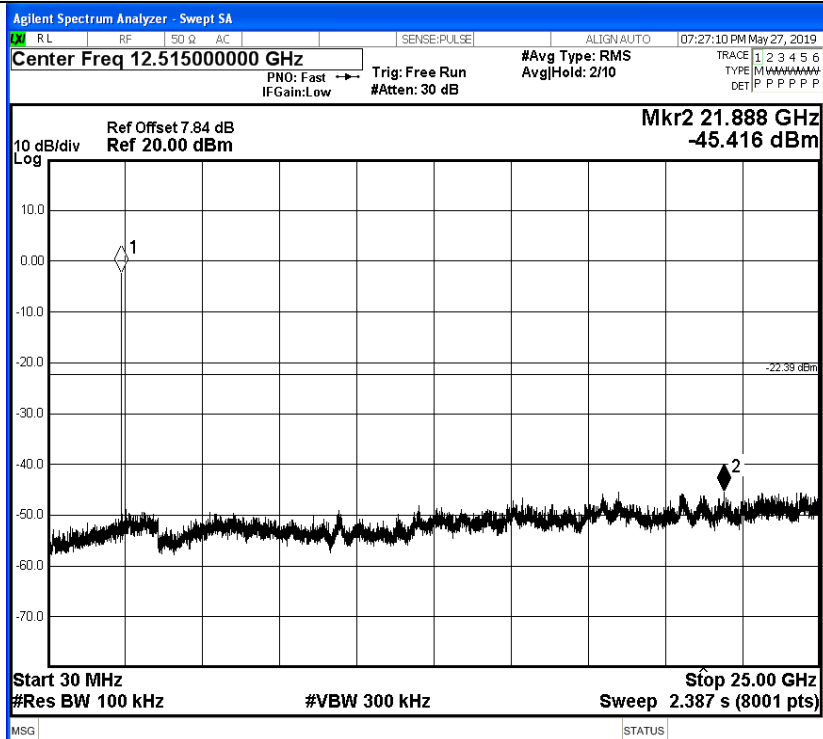
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.394	-45.416	-22.394	PASS
	MCH	-0.51	-45.168	-20.510	PASS
	HCH	-0.984	-44.802	-20.984	PASS
$\pi$ /4DQPSK	LCH	-3.786	-44.230	-23.786	PASS
	MCH	-2.078	-44.389	-22.078	PASS
	HCH	-2.348	-45.599	-22.348	PASS
8DPSK	LCH	-3.537	-44.604	-23.537	PASS
	MCH	-2.016	-44.388	-22.016	PASS
	HCH	-2.395	-45.196	-22.395	PASS

GFSK\_LCH\_Graphs





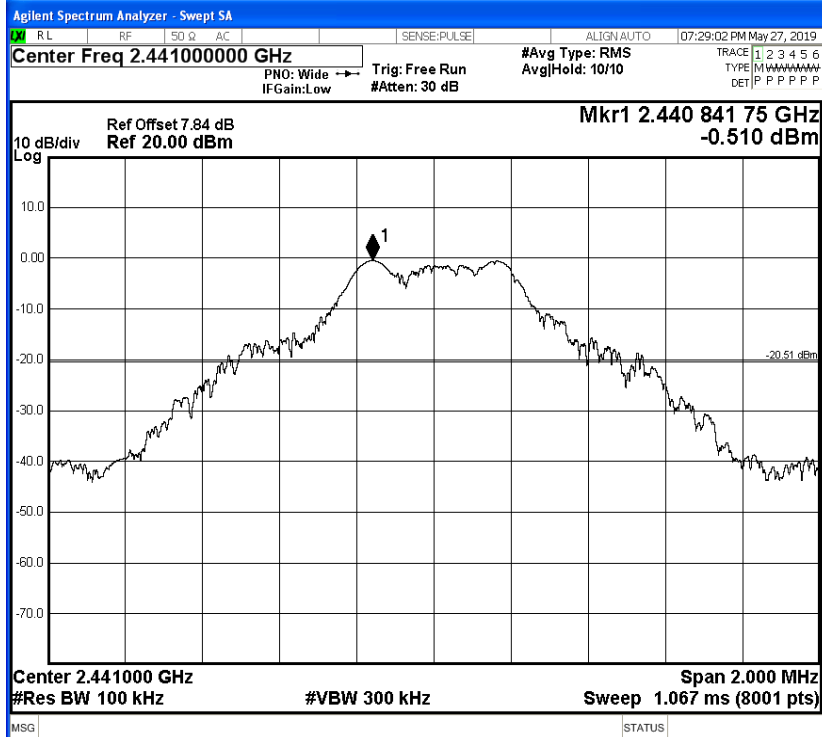
Puw



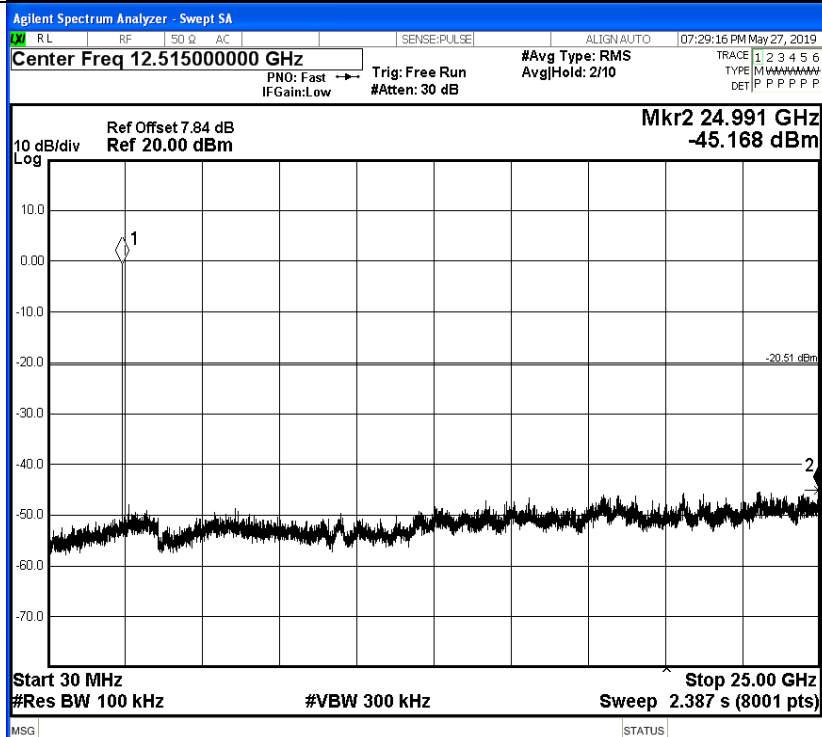
Frequency
Auto Tune
Center Freq 12.51500000 GHz
Start Freq 30.000000 MHz
Stop Freq 25.00000000 GHz
CF Step 2.497000000 GHz Auto Mar
Freq Offset 0 Hz

## GFSK\_MCH\_Graphs

Pref

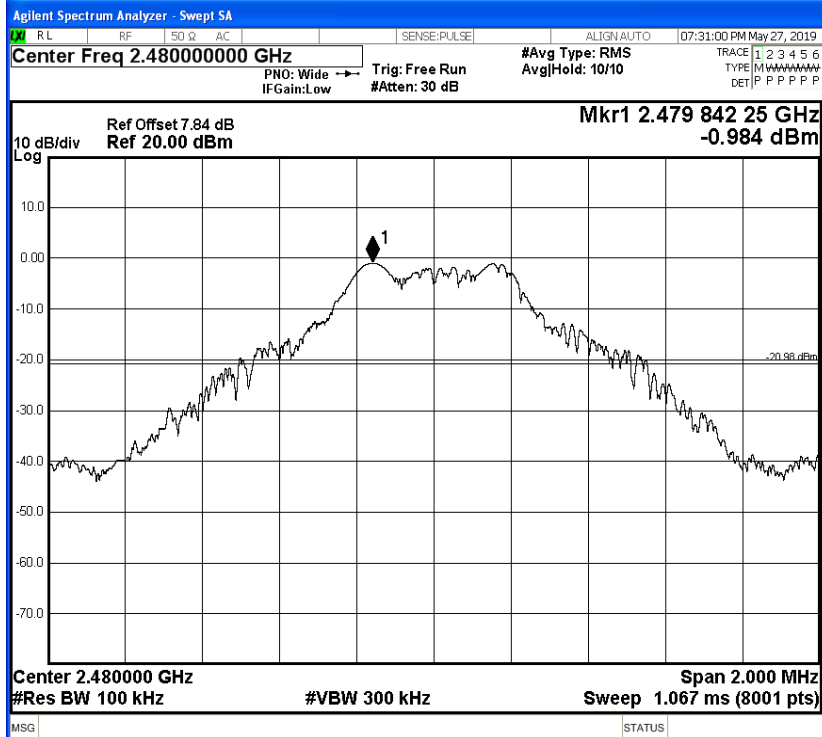


Puw

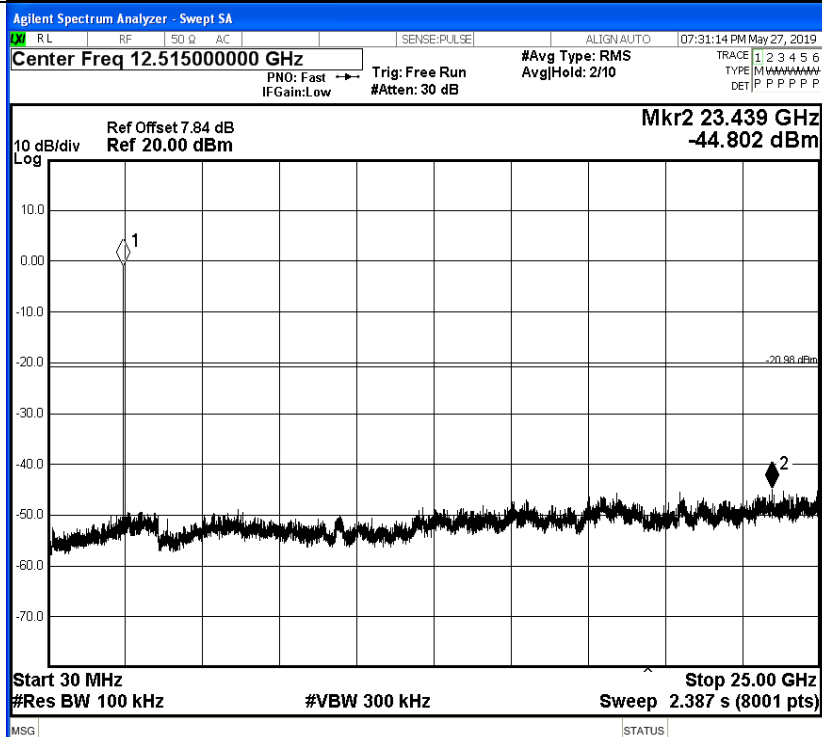


## GFSK\_HCH\_Graphs

Pref



Puw

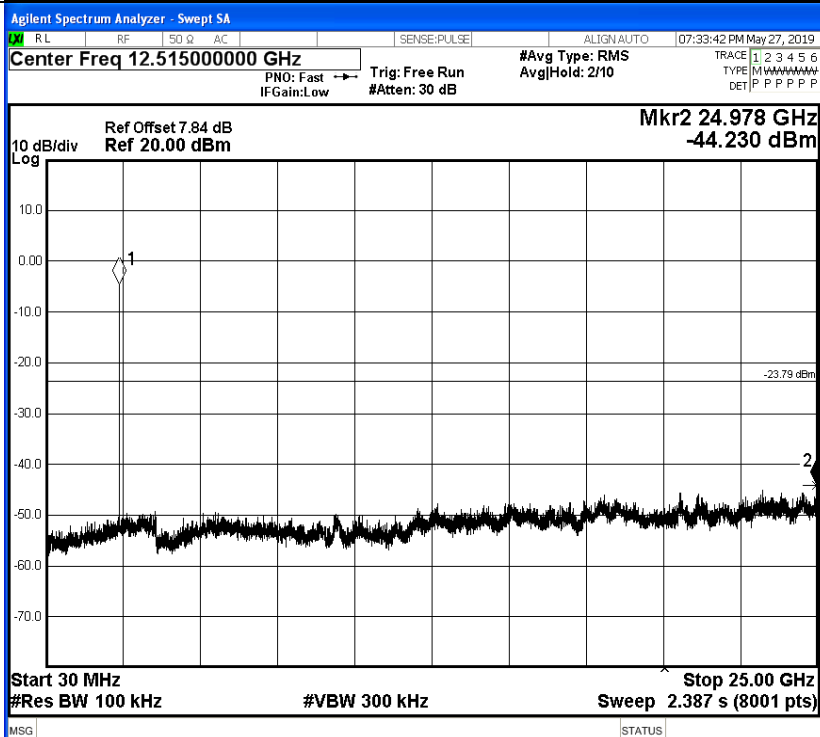


$\pi/4$ DQPSK\_LCH\_Graphs

Pref

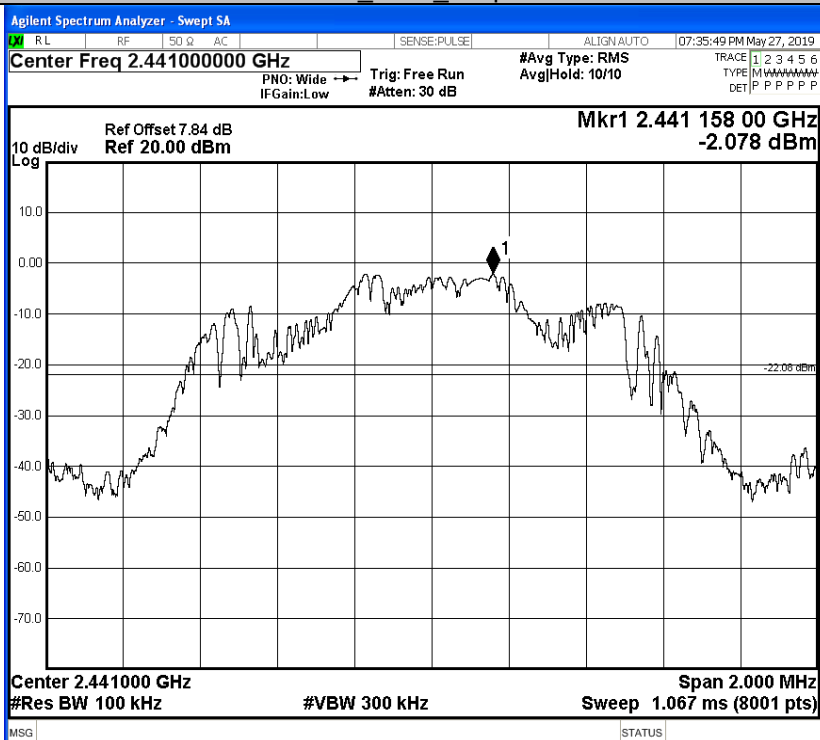


Puw

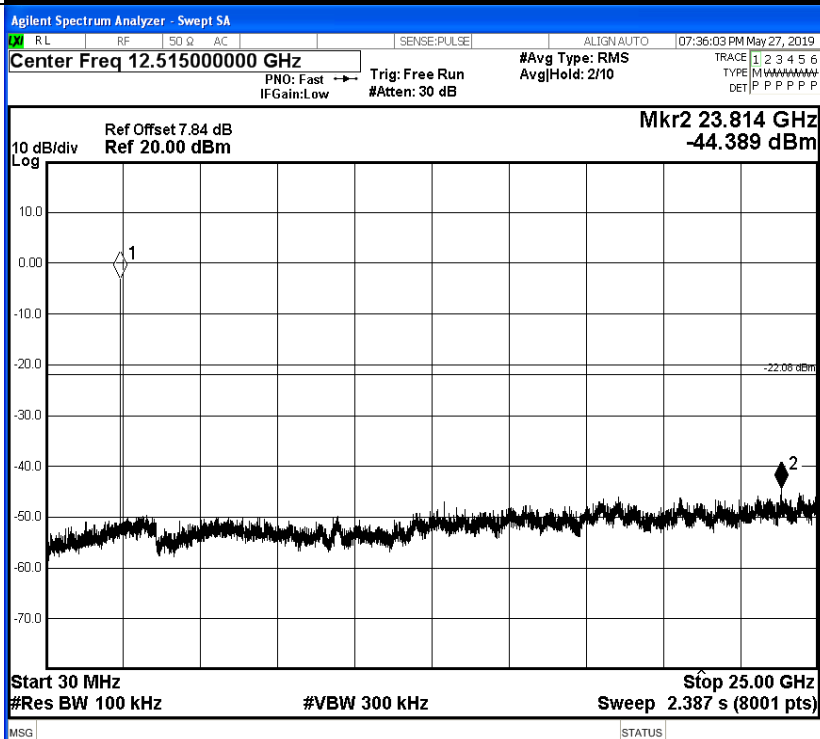


$\pi$ /4DQPSK\_MCH\_Graphs

Pref

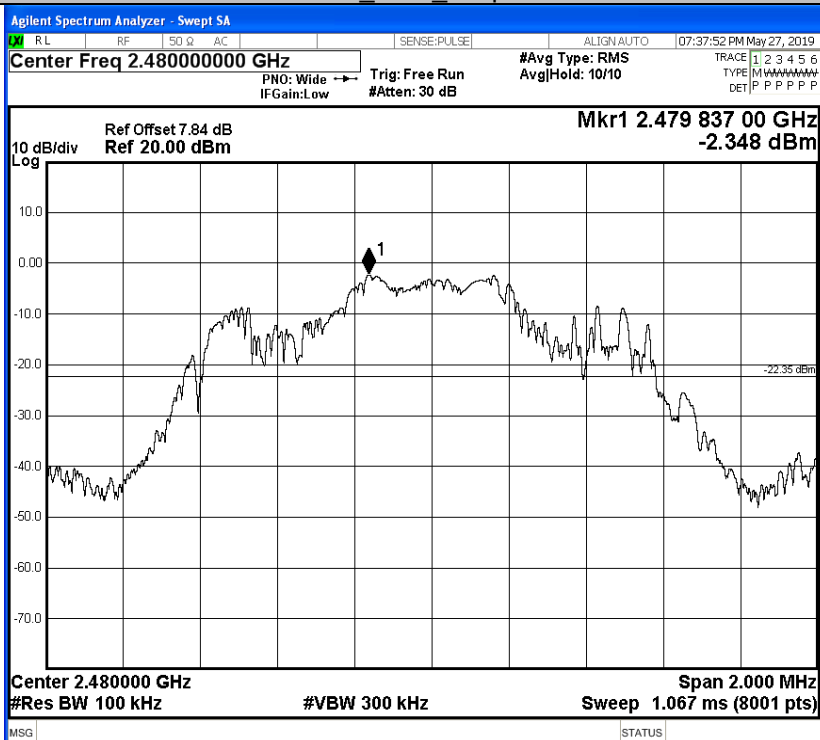


Puw

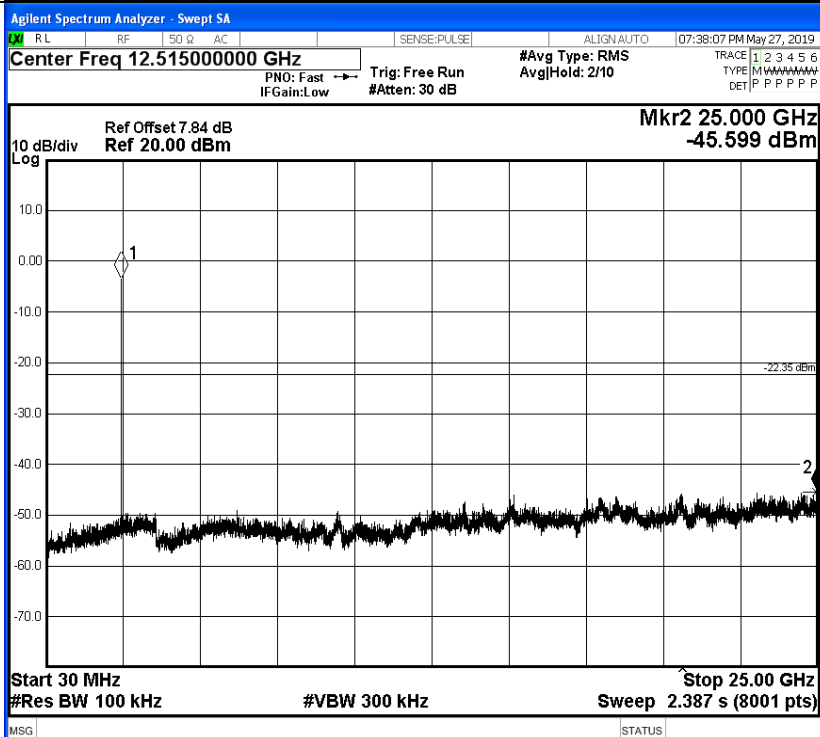


$\pi/4$ DQPSK\_HCH\_Graphs

Pref

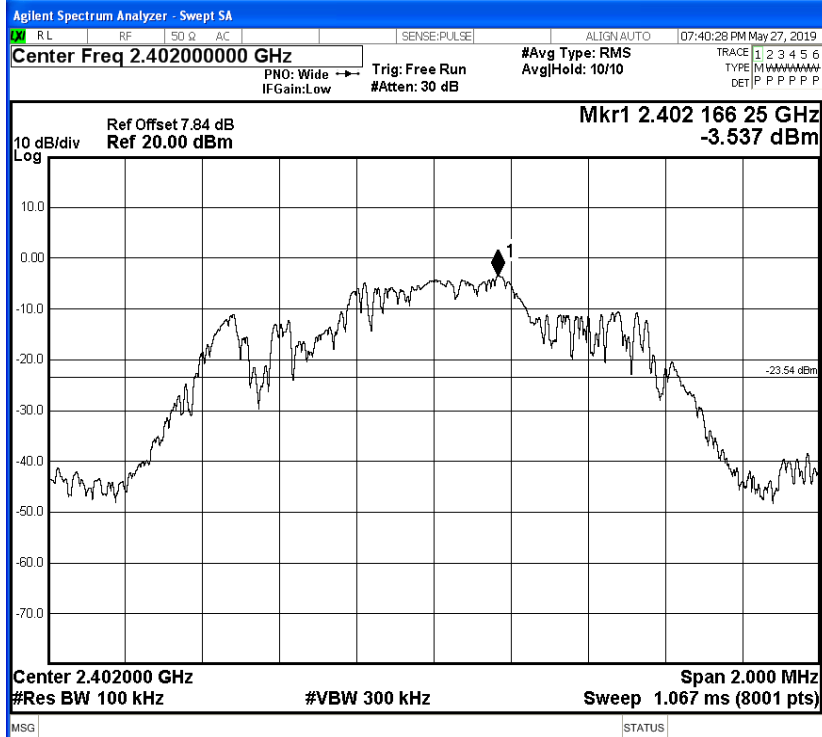


Puw

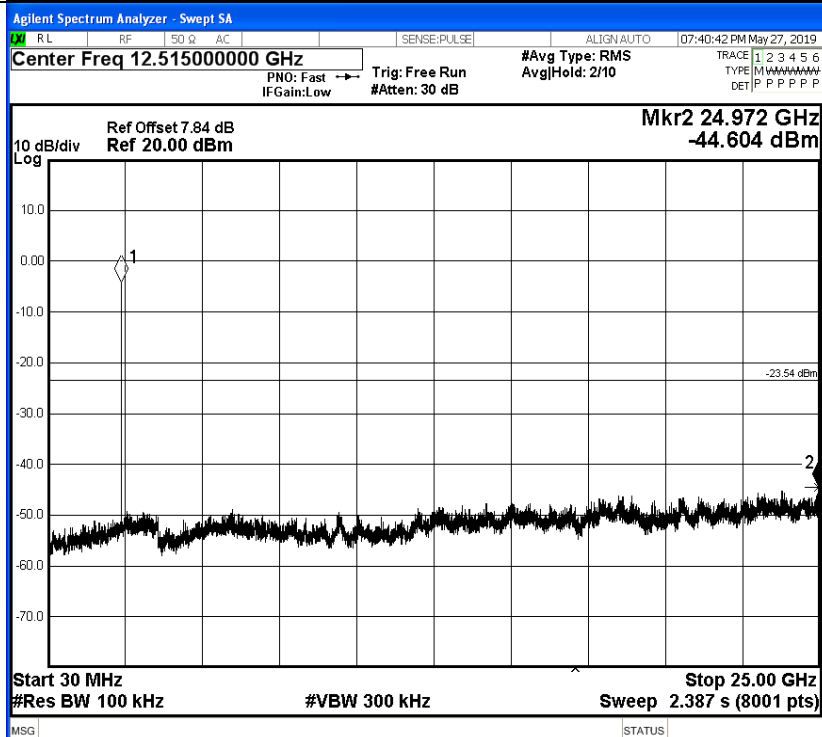


## 8DPSK\_LCH\_Graphs

Pref

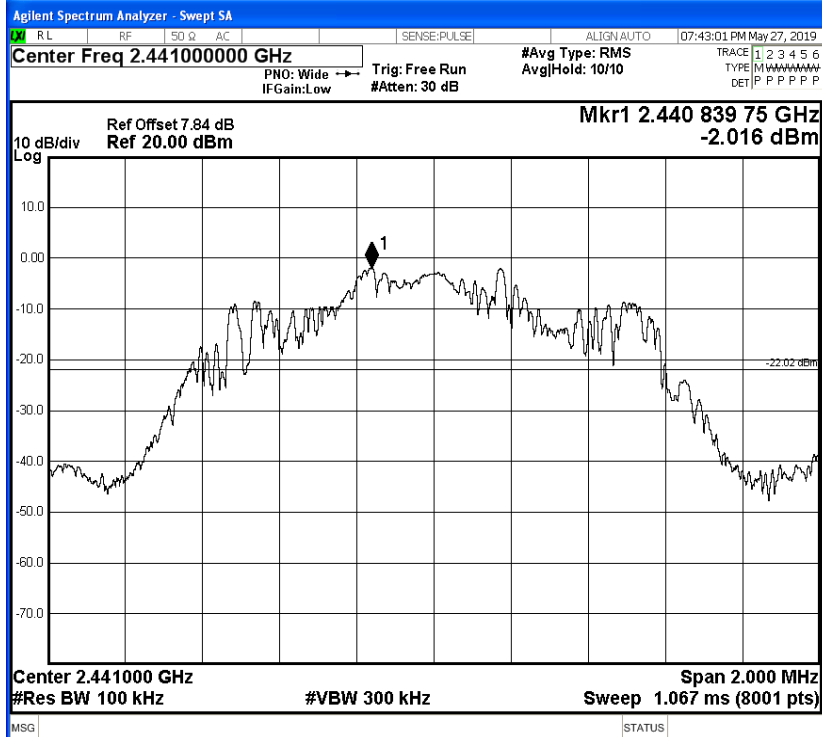


Puw

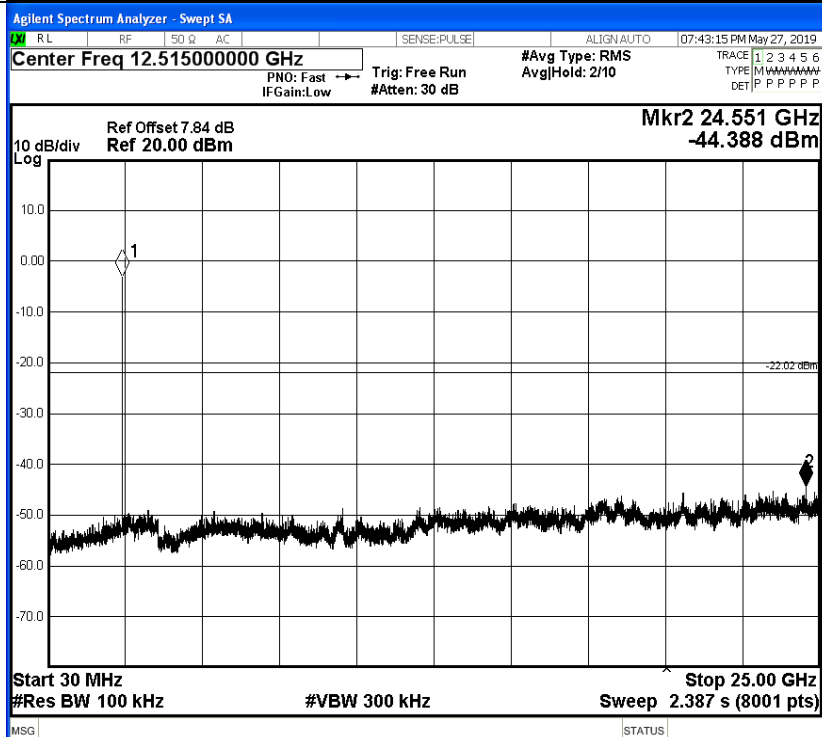


## 8DPSK\_MCH\_Graphs

Pref



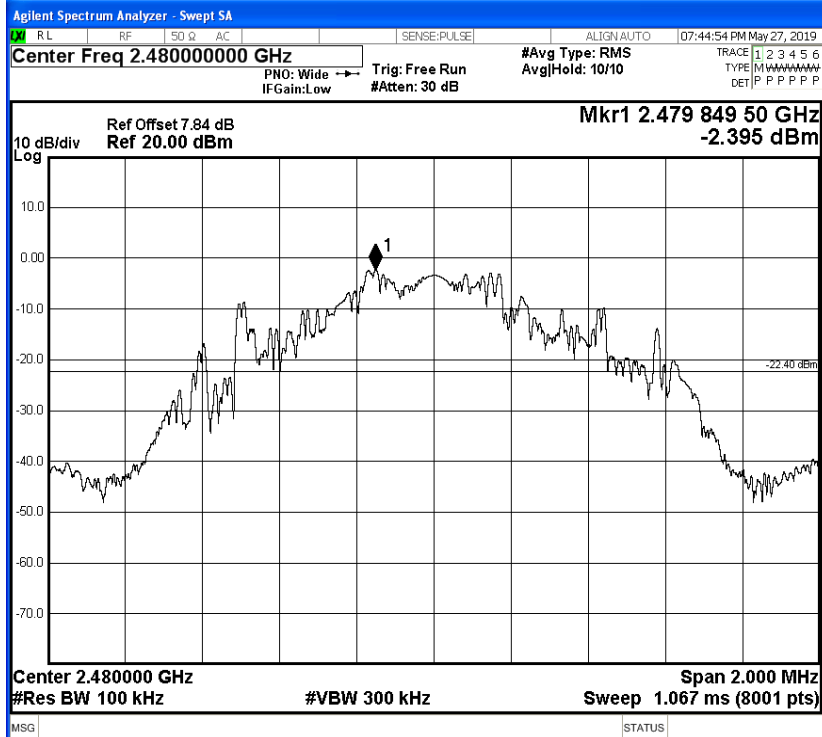
Puw



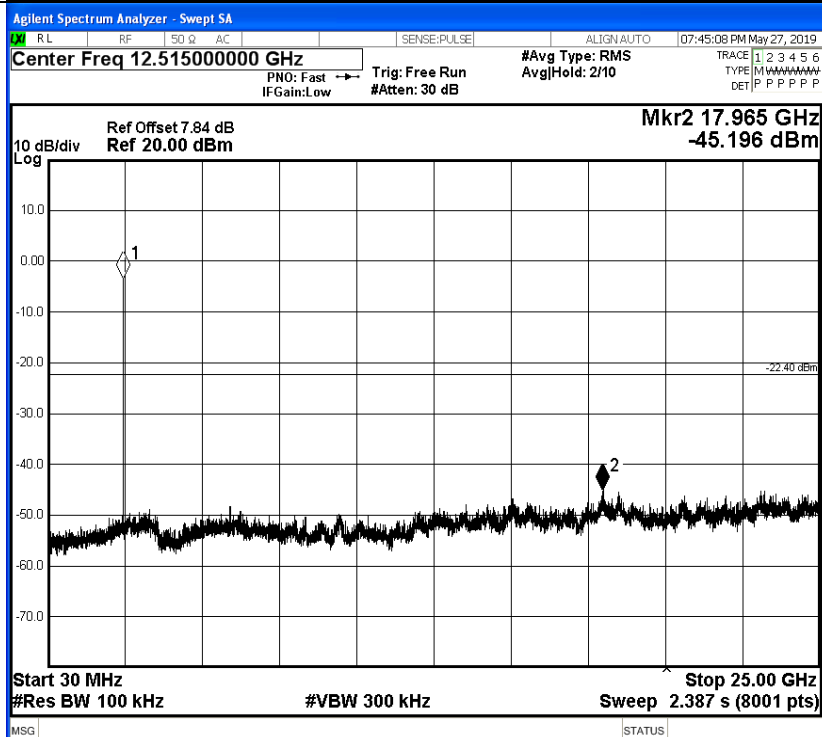


## 8DPSK\_HCH\_Graphs

Pref



Puw

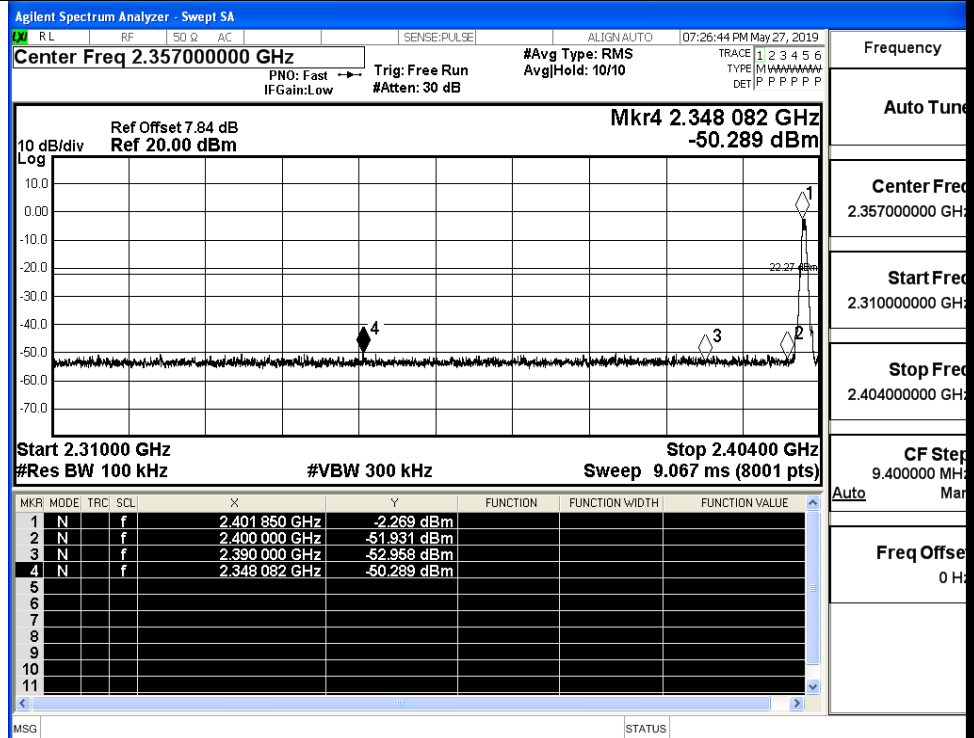


## A.7 Band-edge for RF Conducted Emissions

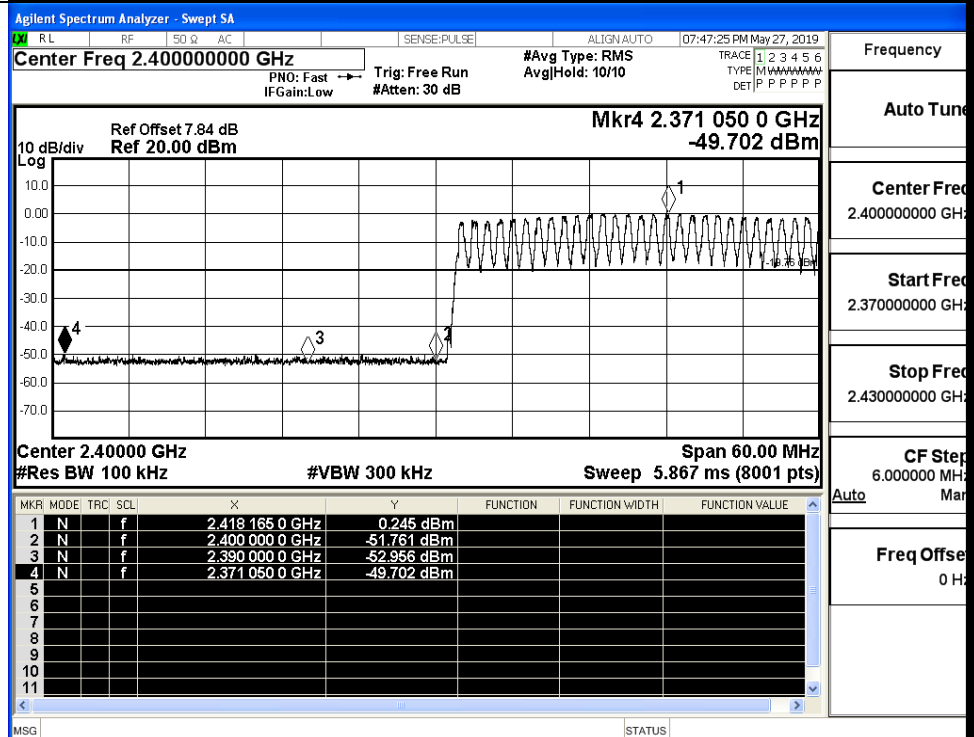
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	-2.269	Off	-50.289	-22.27	PASS
			0.245	On	-49.702	-19.76	PASS
	HCH	2480	-0.885	Off	-50.147	-20.89	PASS
			0.606	On	-49.877	-19.39	PASS
$\pi/4$ DQPSK	LCH	2402	-3.682	Off	-49.605	-23.68	PASS
			-1.094	On	-49.167	-21.09	PASS
	HCH	2480	-2.838	Off	-49.499	-22.84	PASS
			-0.520	On	-49.028	-20.52	PASS
8DPSK	LCH	2402	-3.670	Off	-50.332	-23.67	PASS
			-1.357	On	-50.076	-21.36	PASS
	HCH	2480	-2.158	Off	-50.095	-22.16	PASS
			-0.517	On	-49.055	-20.52	PASS

## Test Graphs

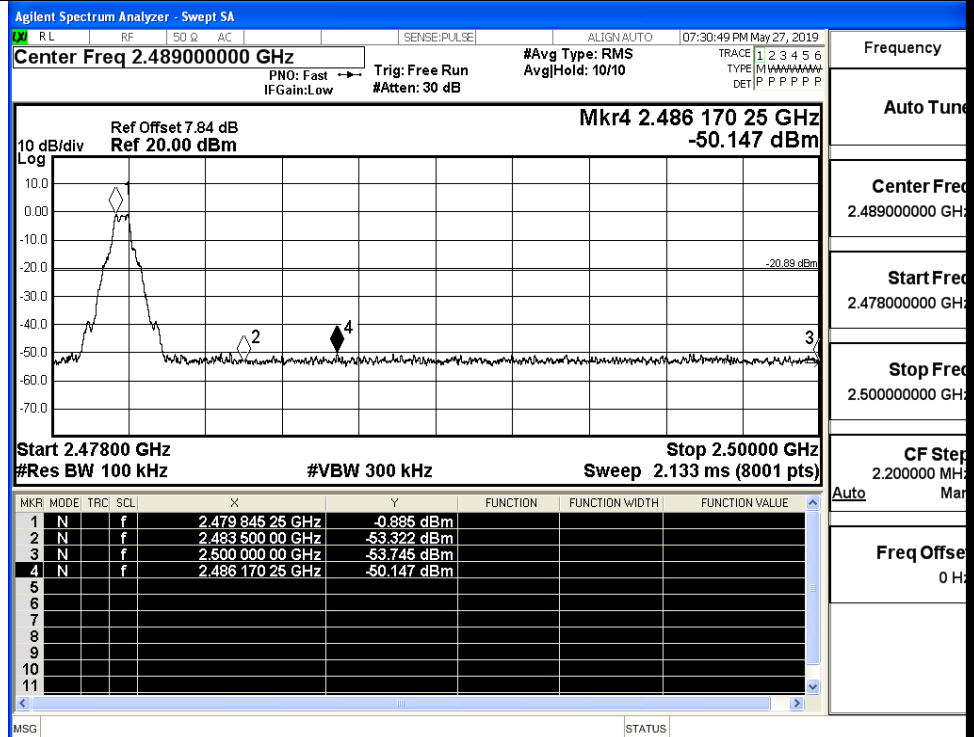
GFSK/LCH/No Hop



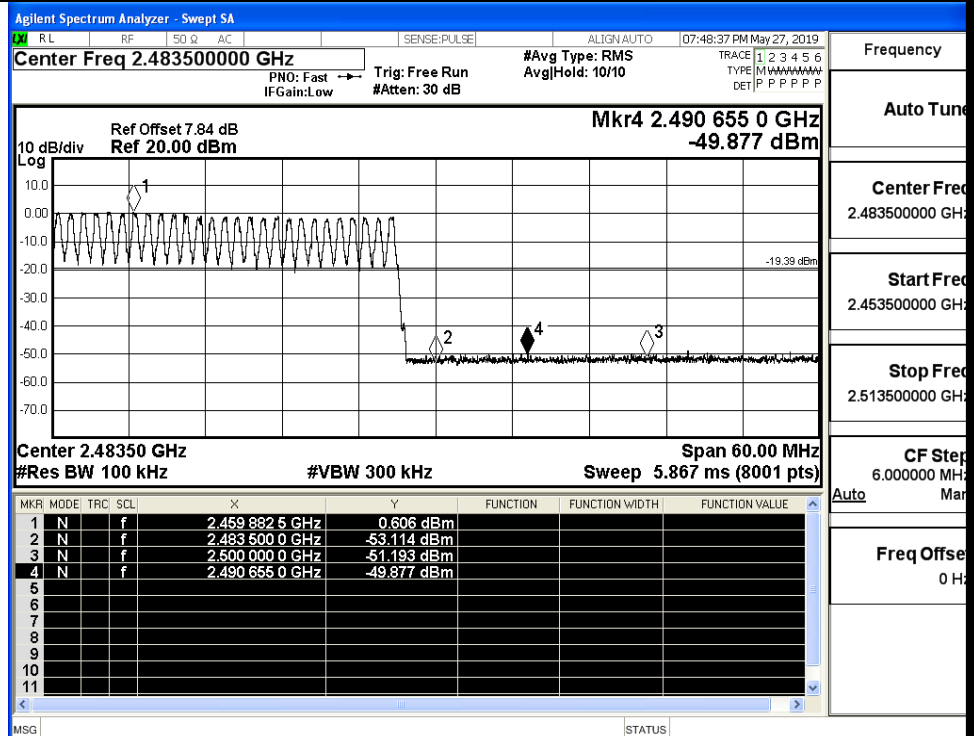
GFSK/LCH/Hop



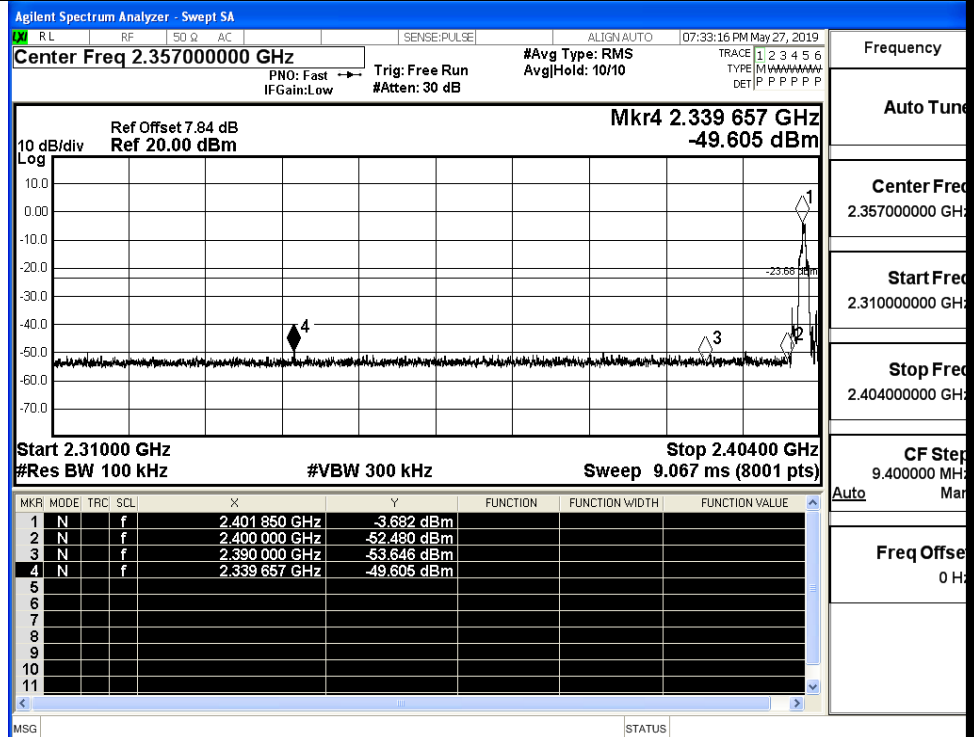
GFSK/HCH/No Hop



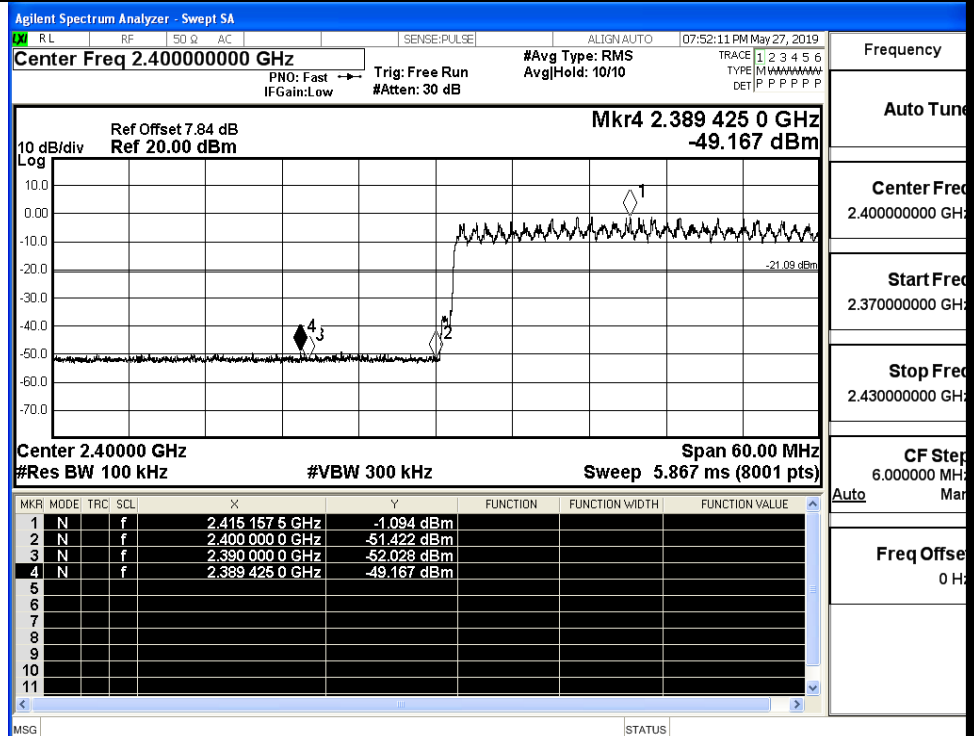
GFSK/HCH/Hop



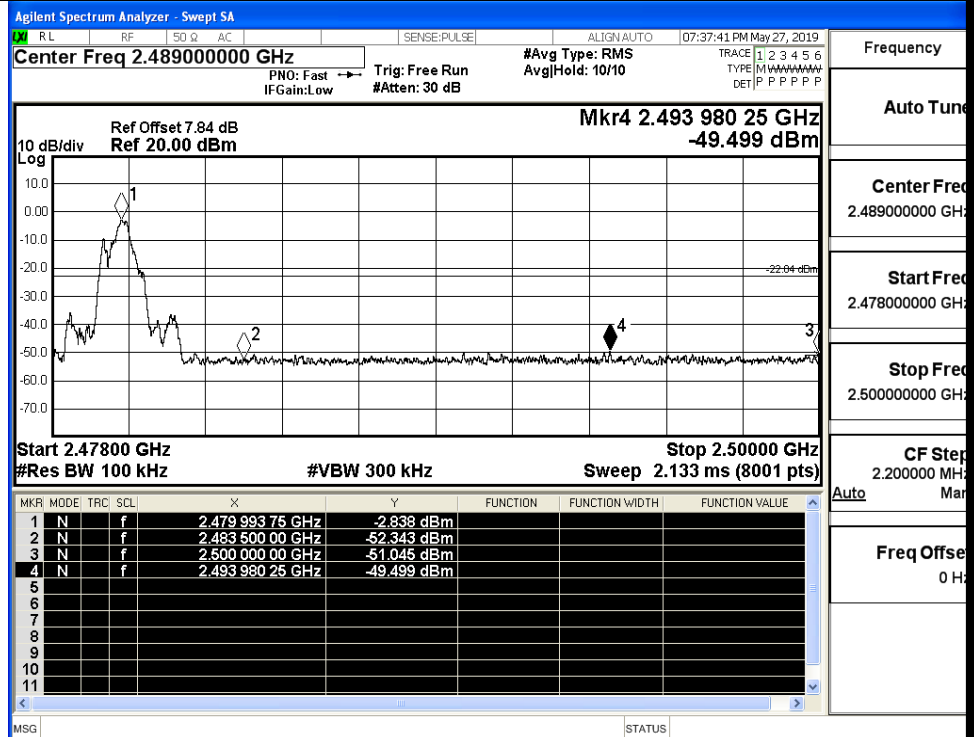
$\pi/4$ DQPSK/LCH/No  
Hop



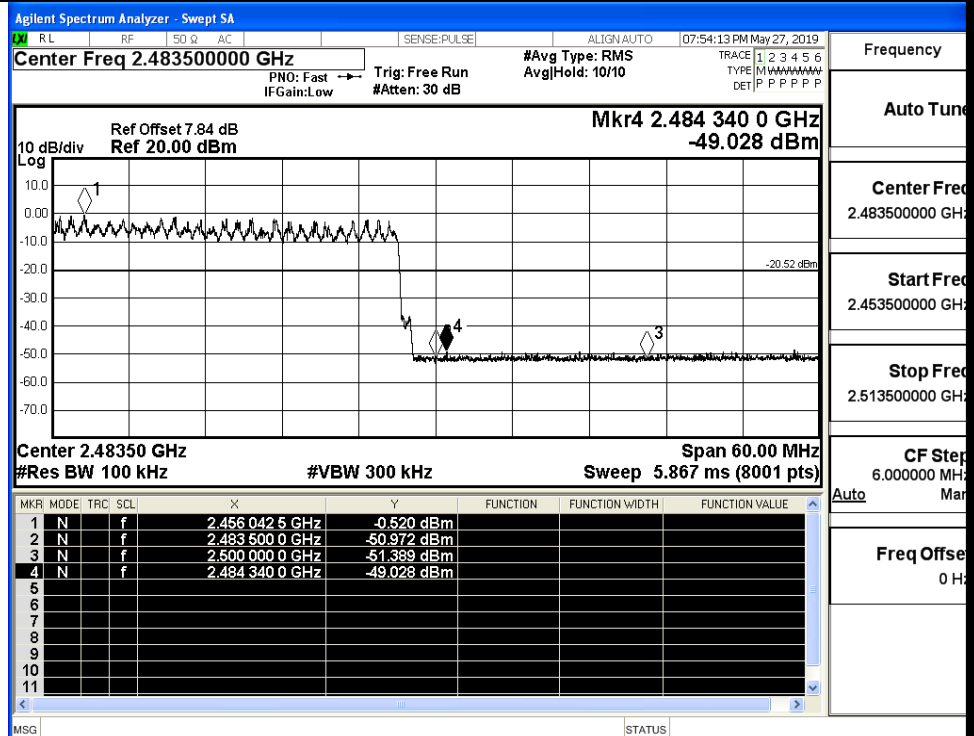
$\pi/4$ DQPSK/LCH/Hop



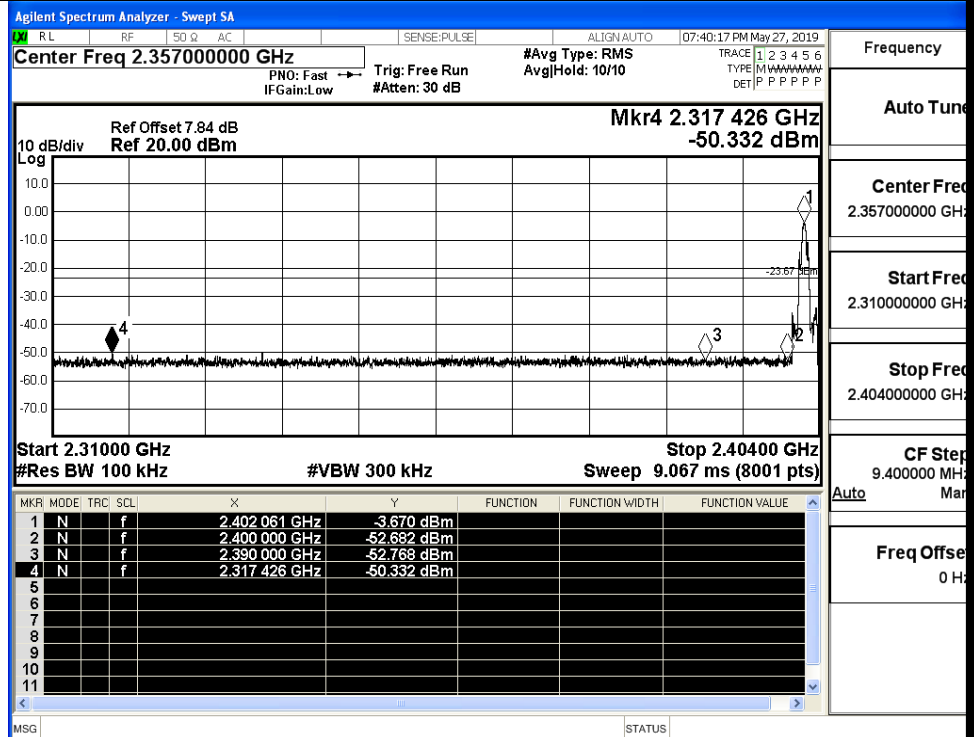
$\pi/4$ DQPSK/HCH/No  
Hop



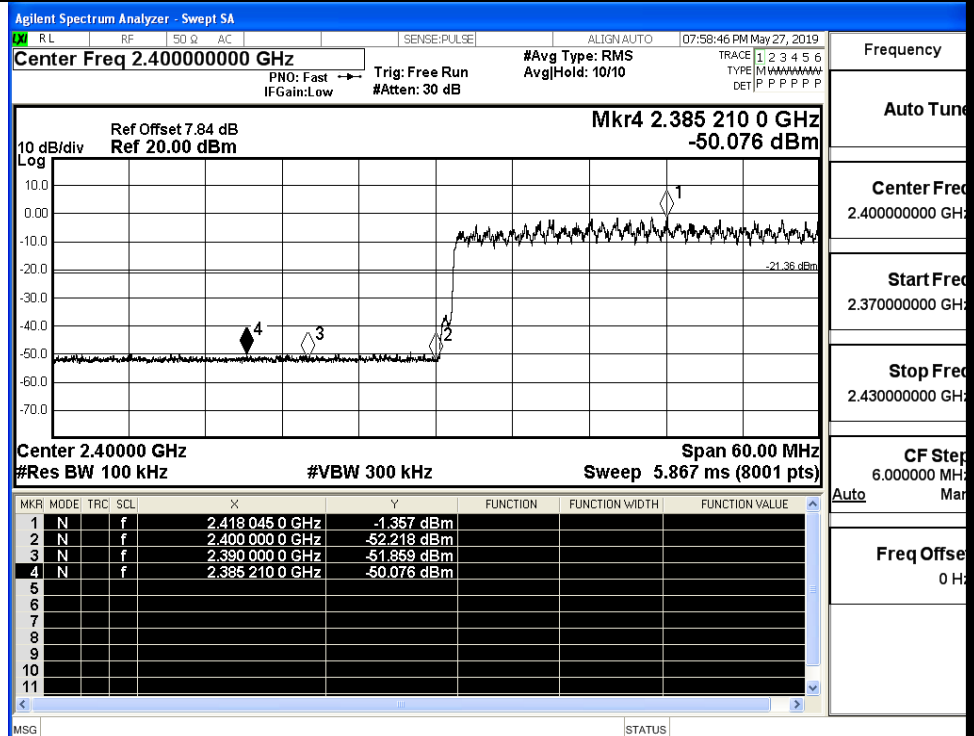
$\pi/4$ DQPSK/HCH/Hop



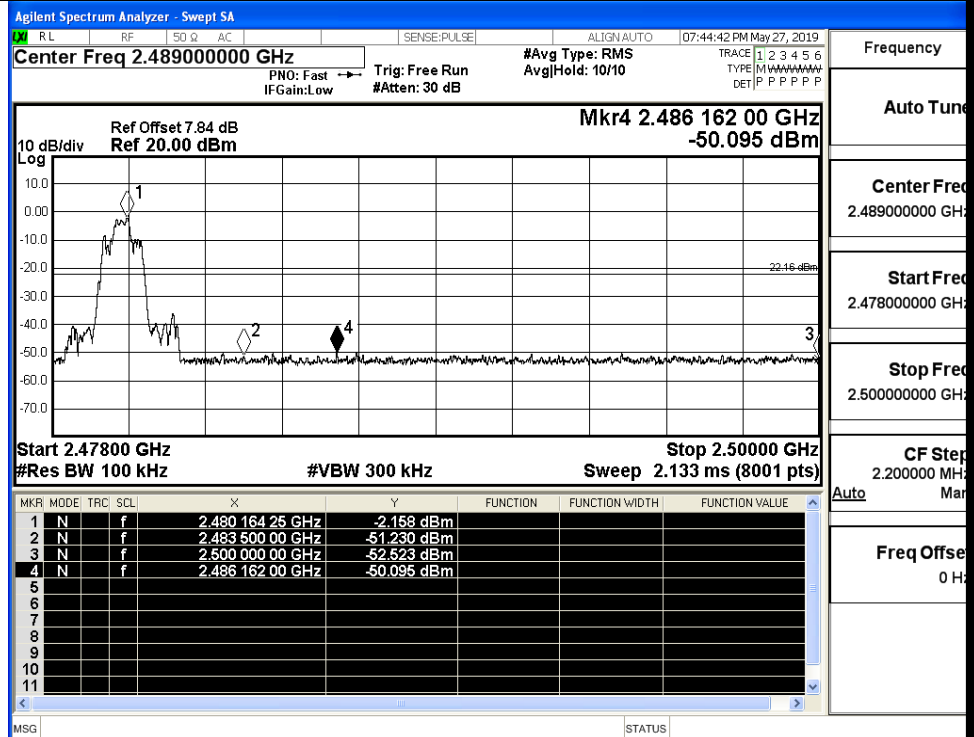
8DPSK/LCH/No Hop



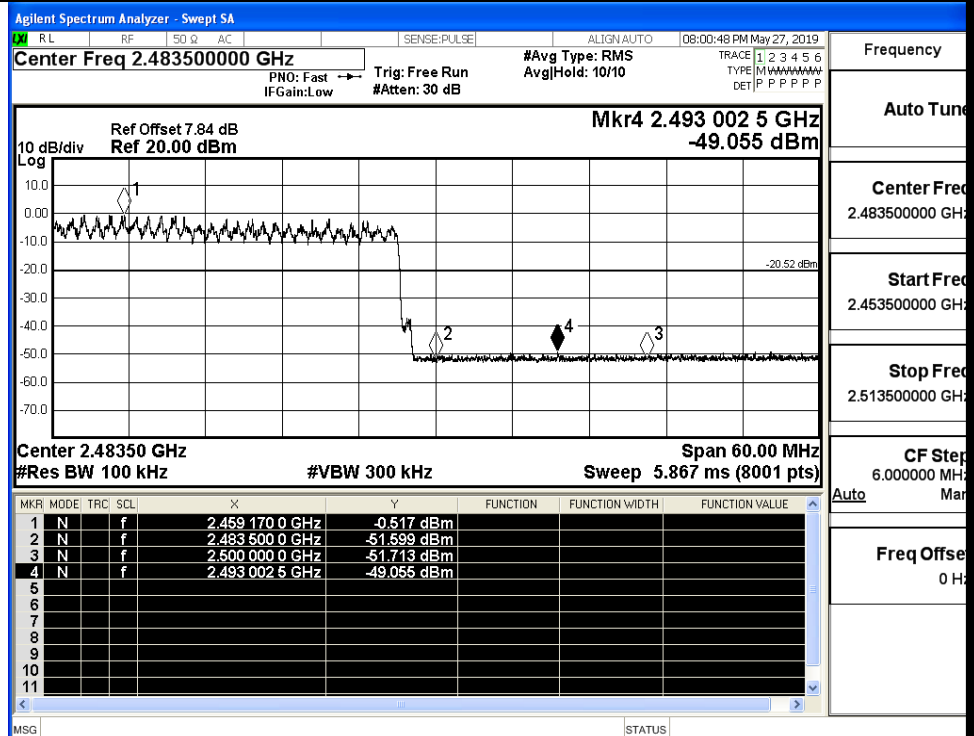
8DPSK/LCH/Hop



8DPSK/HCH/No Hop



8DPSK/HCH/Hop

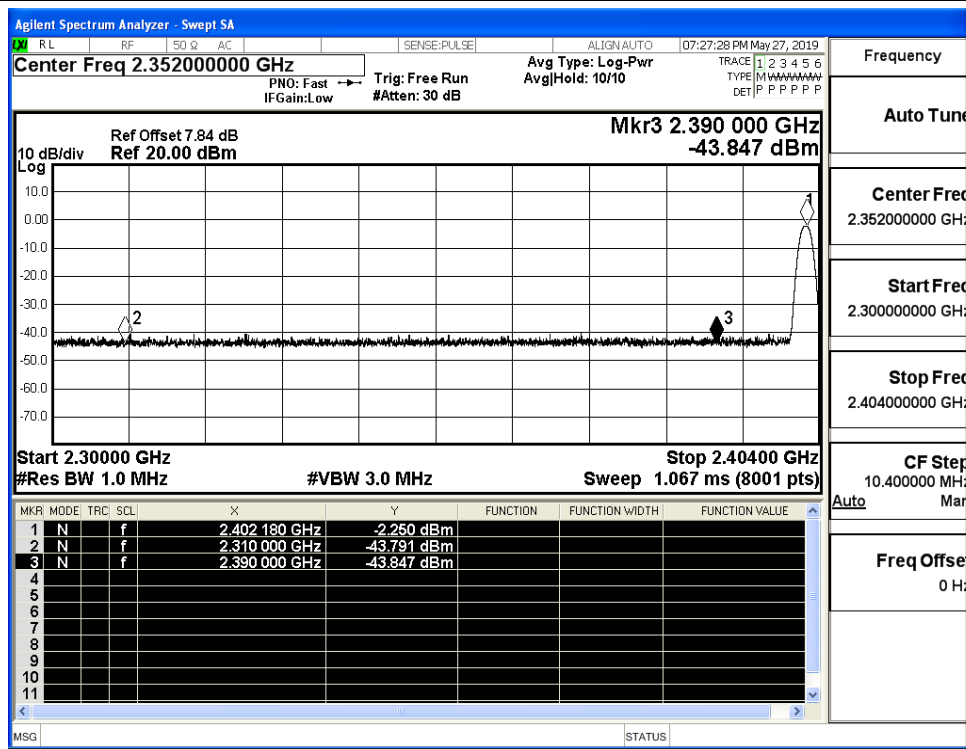




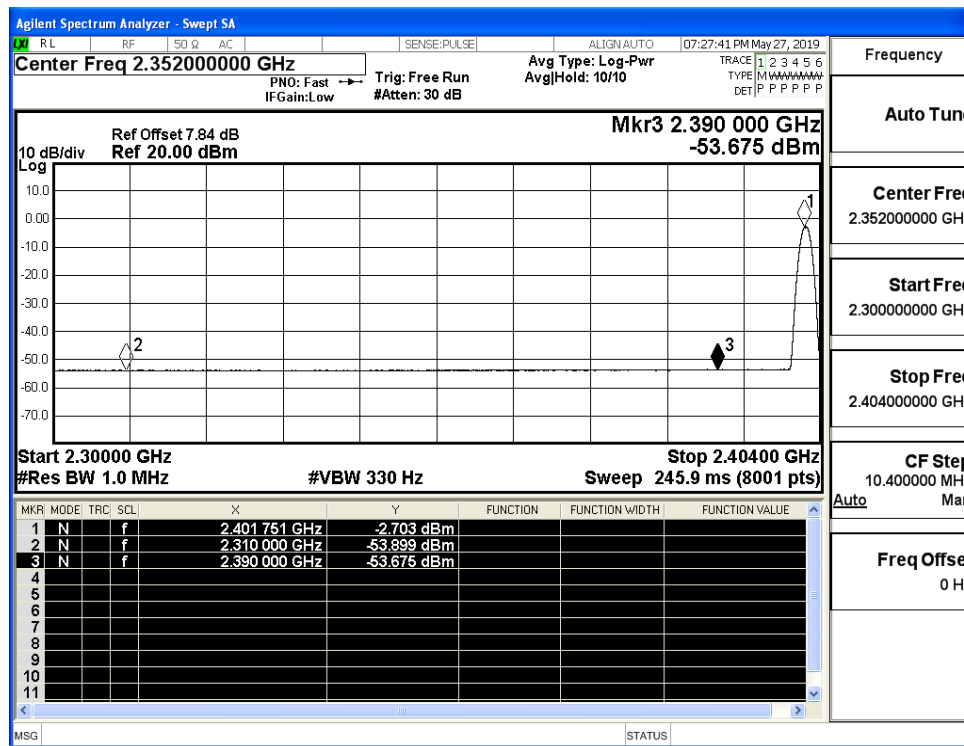
## A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-43.79	2.0	0	51.47	PEAK	74	PASS
	Off	2310.0	-53.90	2.0	0	41.36	AV	54	PASS
	Off	2390.0	-43.85	2.0	0	51.41	PEAK	74	PASS
	Off	2390.0	-53.68	2.0	0	41.58	AV	54	PASS
	Off	2483.5	-42.99	2.0	0	52.27	PEAK	74	PASS
	Off	2483.5	-53.26	2.0	0	42.00	AV	54	PASS
	Off	2500.0	-44.07	2.0	0	51.18	PEAK	74	PASS
	Off	2500.0	-53.20	2.0	0	42.06	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-43.71	2.0	0	51.55	PEAK	74	PASS
	Off	2310.0	-53.83	2.0	0	41.43	AV	54	PASS
	Off	2390.0	-43.97	2.0	0	51.29	PEAK	74	PASS
	Off	2390.0	-53.70	2.0	0	41.55	AV	54	PASS
	Off	2483.5	-43.05	2.0	0	52.21	PEAK	74	PASS
	Off	2483.5	-53.36	2.0	0	41.90	AV	54	PASS
	Off	2500.0	-43.15	2.0	0	52.11	PEAK	74	PASS
	Off	2500.0	-53.26	2.0	0	41.99	AV	54	PASS
8DPSK	Off	2310.0	-44.39	2.0	0	50.87	PEAK	74	PASS
	Off	2310.0	-53.81	2.0	0	41.45	AV	54	PASS
	Off	2390.0	-43.38	2.0	0	51.88	PEAK	74	PASS
	Off	2390.0	-53.54	2.0	0	41.72	AV	54	PASS
	Off	2483.5	-40.69	2.0	0	54.57	PEAK	74	PASS
	Off	2483.5	-53.50	2.0	0	41.76	AV	54	PASS
	Off	2500.0	-42.54	2.0	0	52.72	PEAK	74	PASS
	Off	2500.0	-53.25	2.0	0	42.01	AV	54	PASS

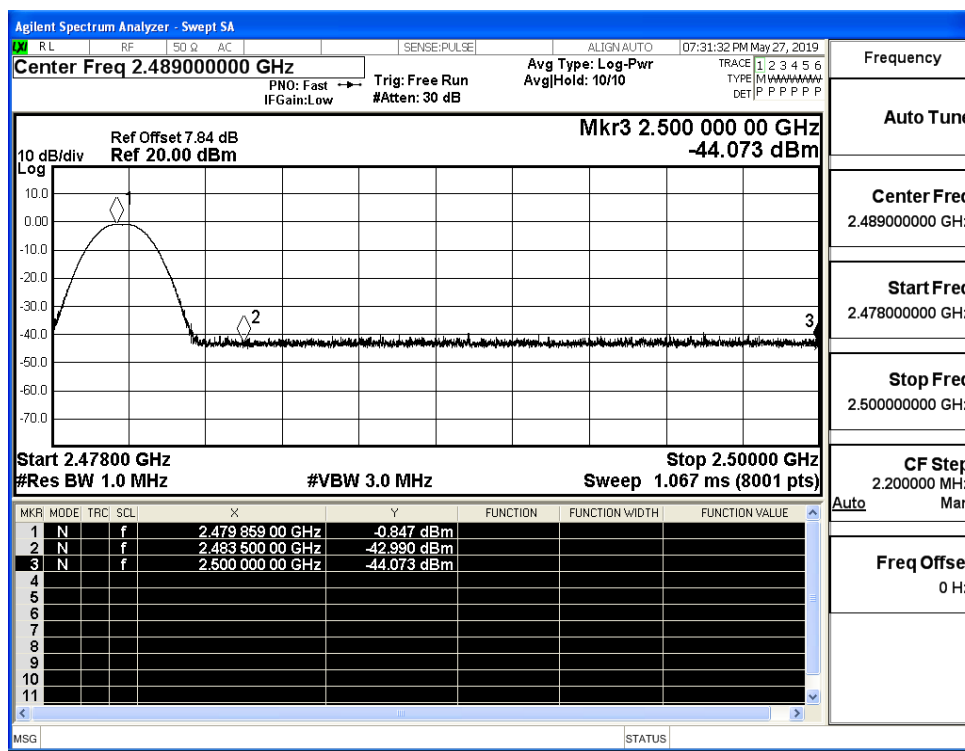
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_PEAK (Low Channel)



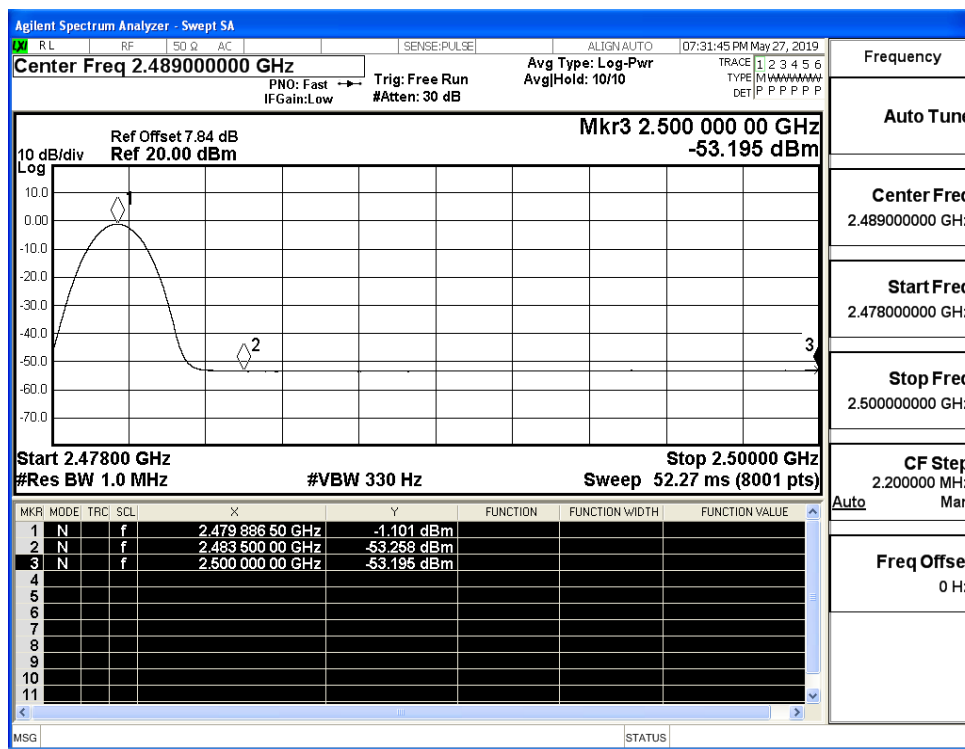
## Restrict-band band-edge measurements\_Hopping Off\_GFSK\_Average (Low Channel)

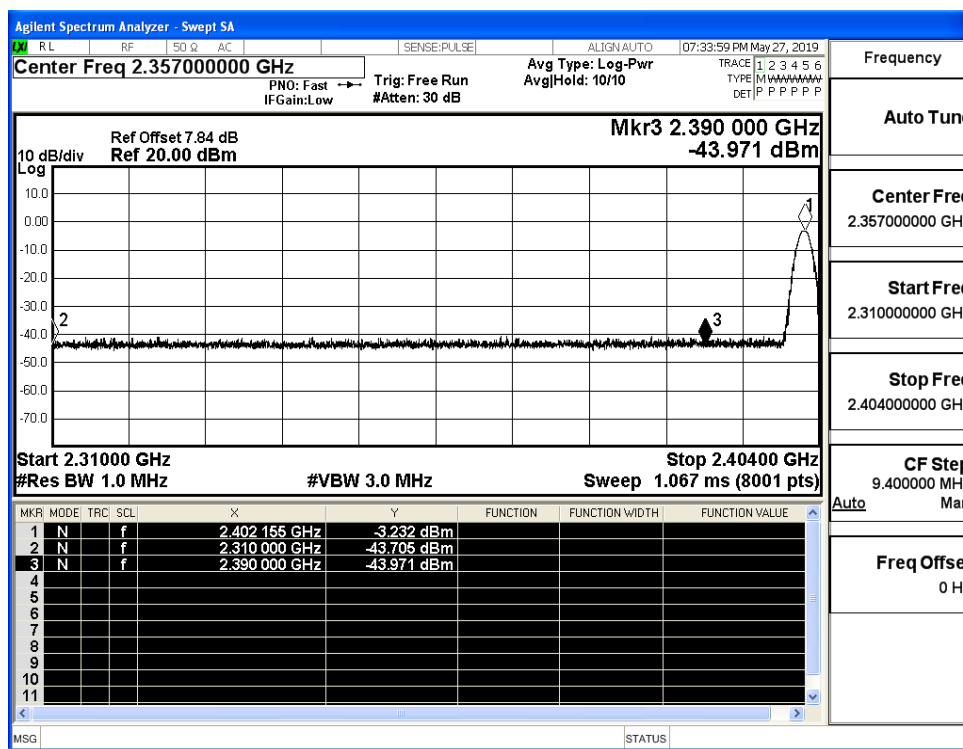
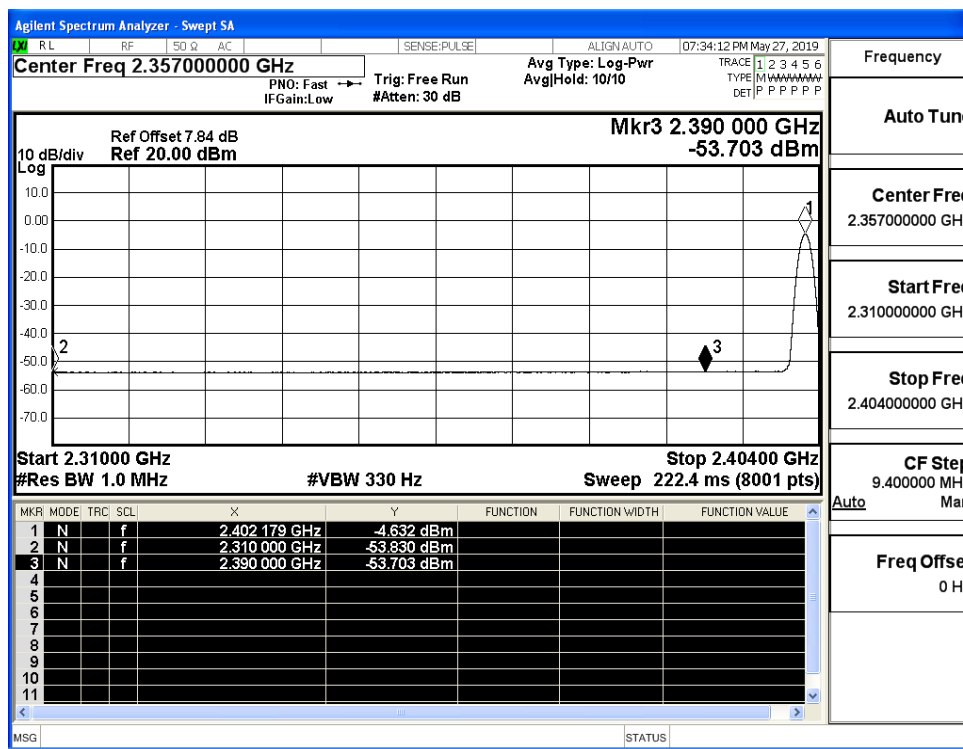


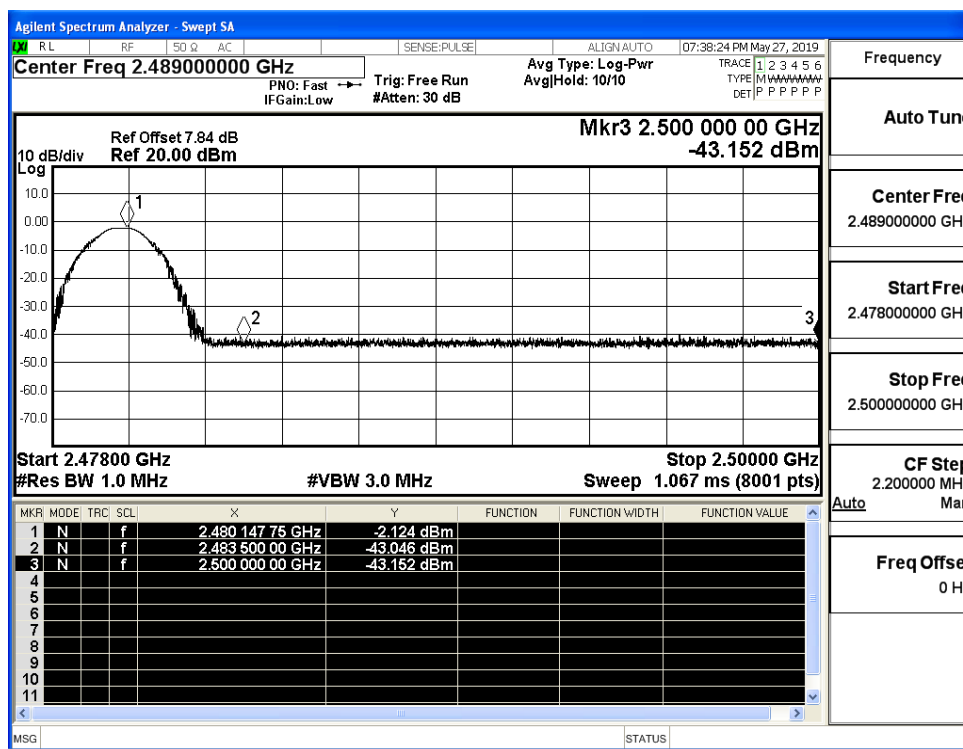
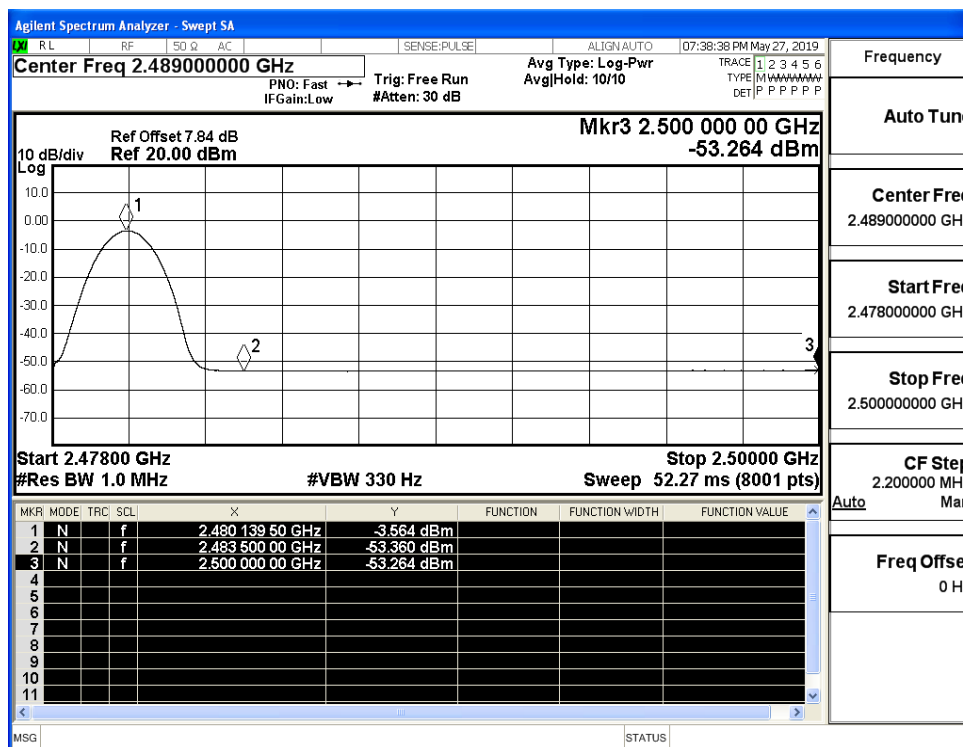
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (High Channel)



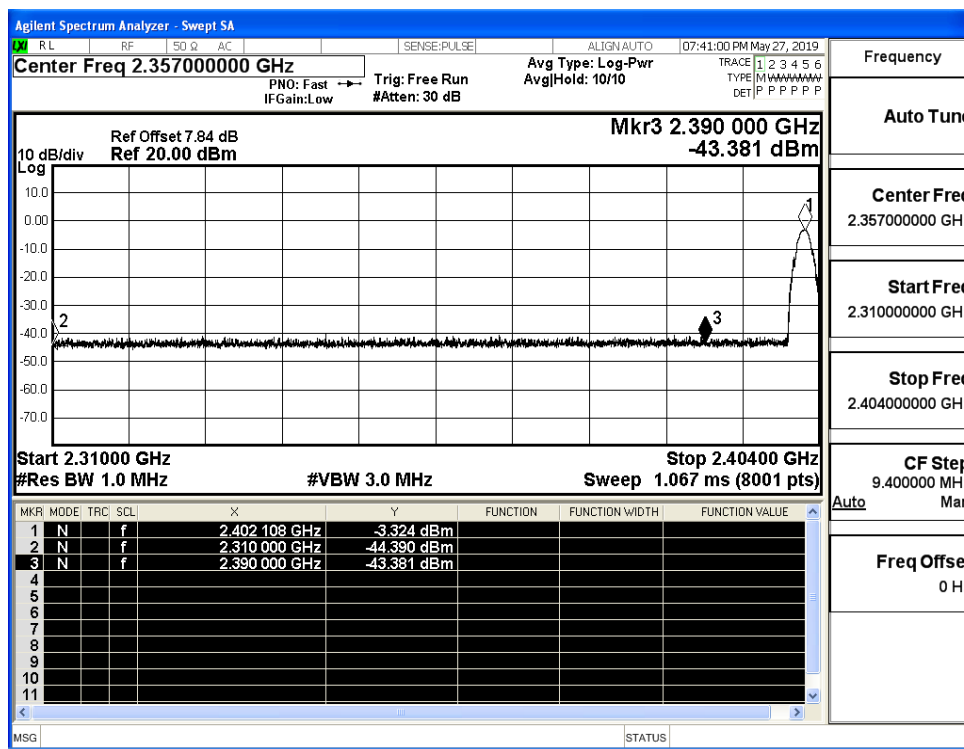
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (High Channel)



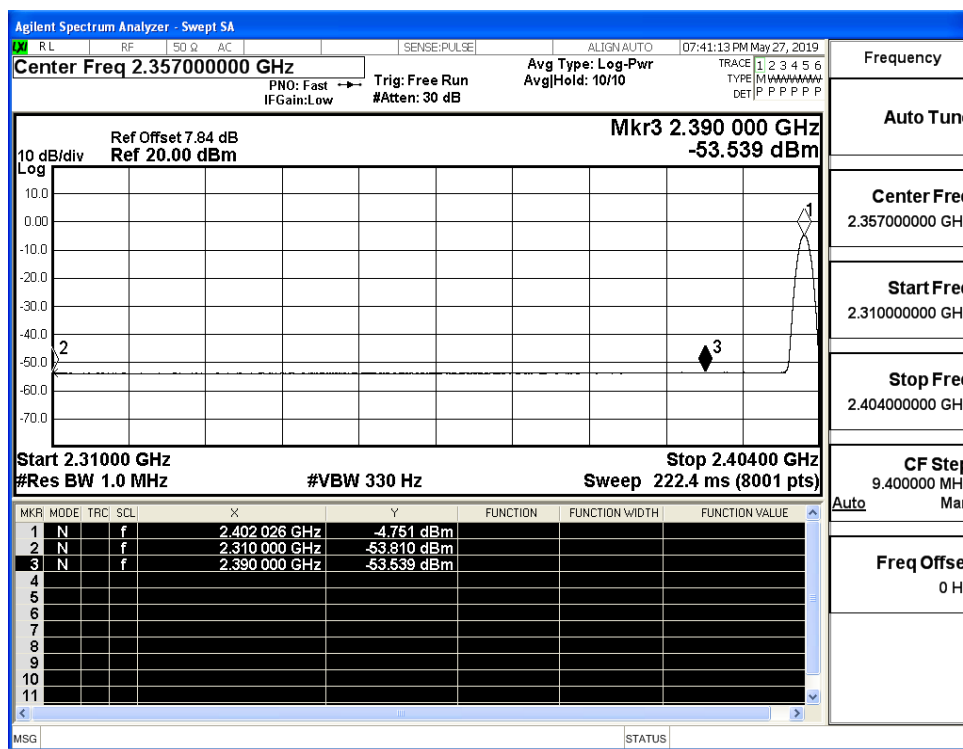
Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_PEAK (Low Channel)Restrict-band band-edge measurements\_Hopping Off  $\pi/4$ -DQPSK\_Average (Low Channel)

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)

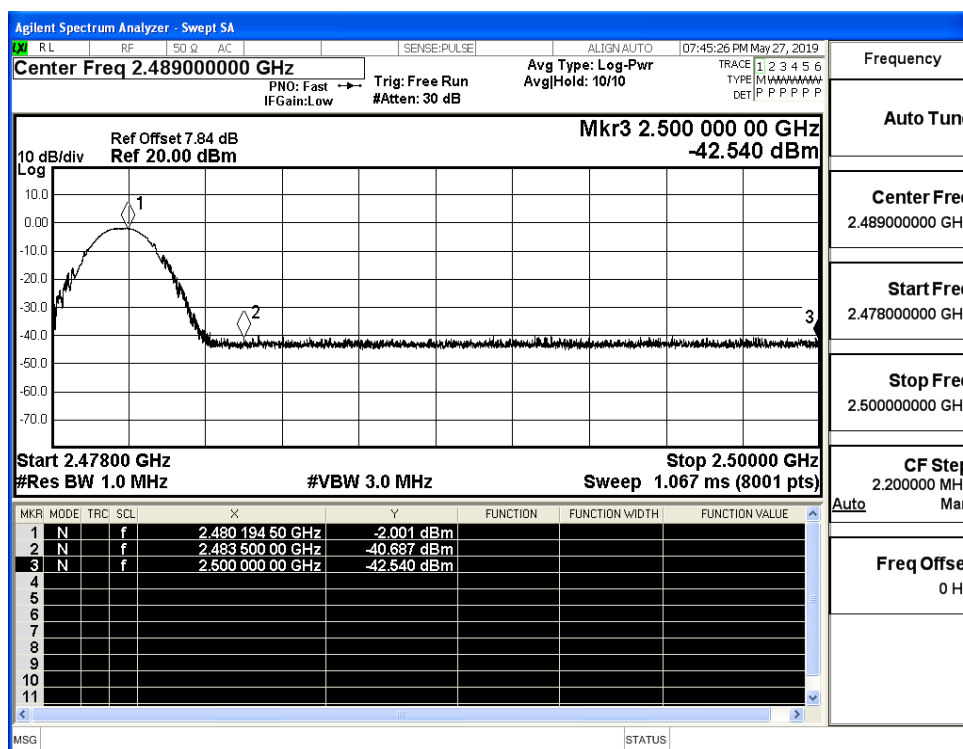
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



## 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)

