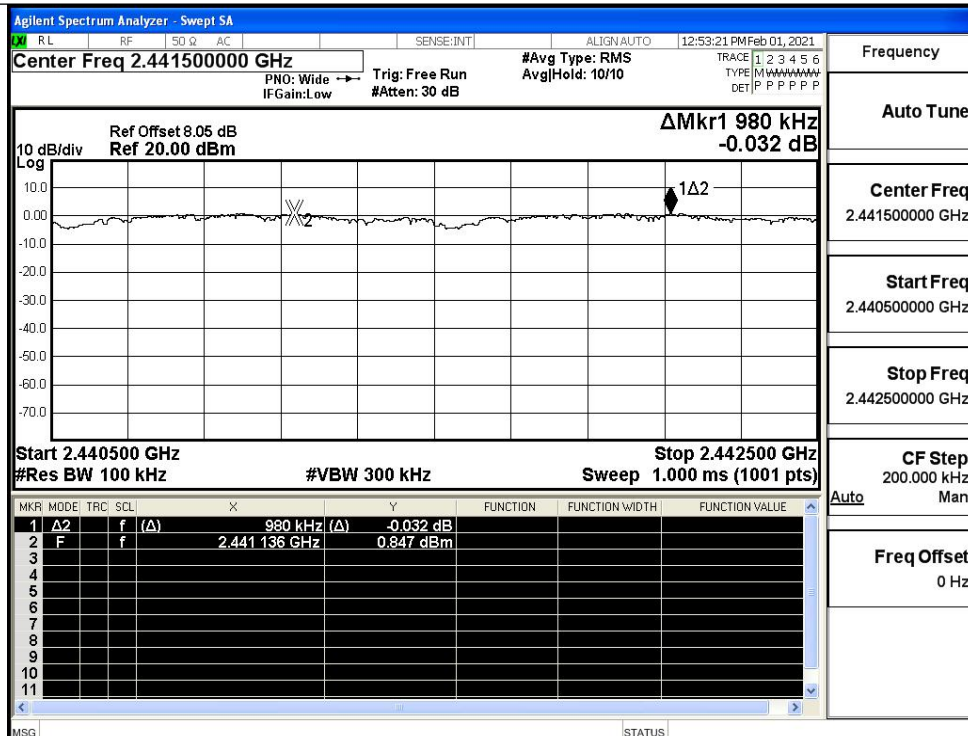
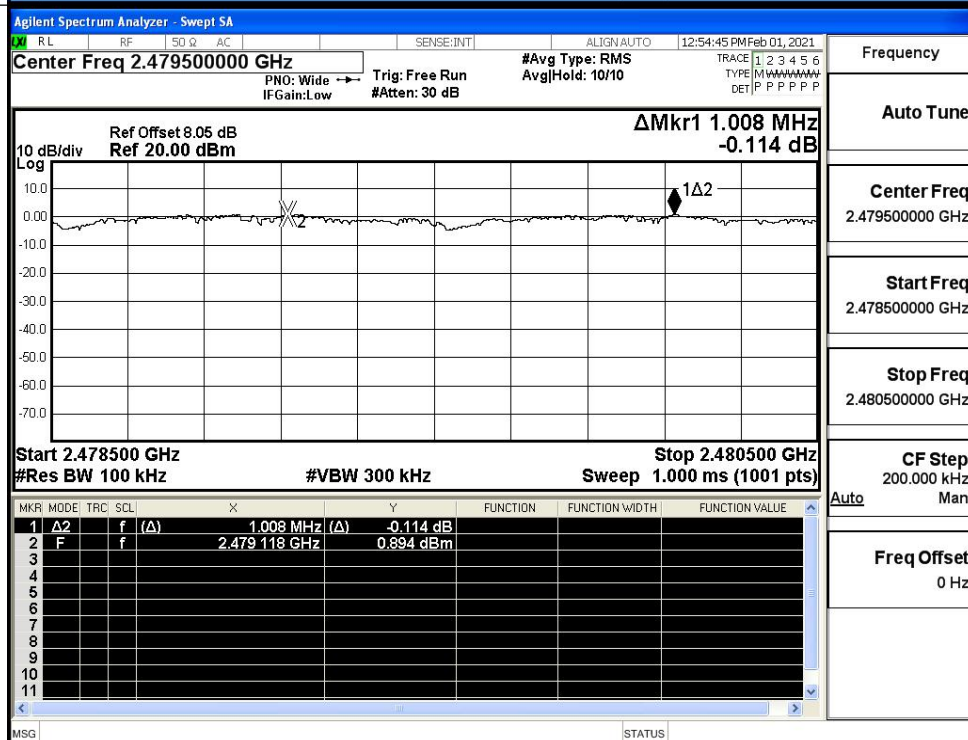


8DPSK/MCH



8DPSK/HCH

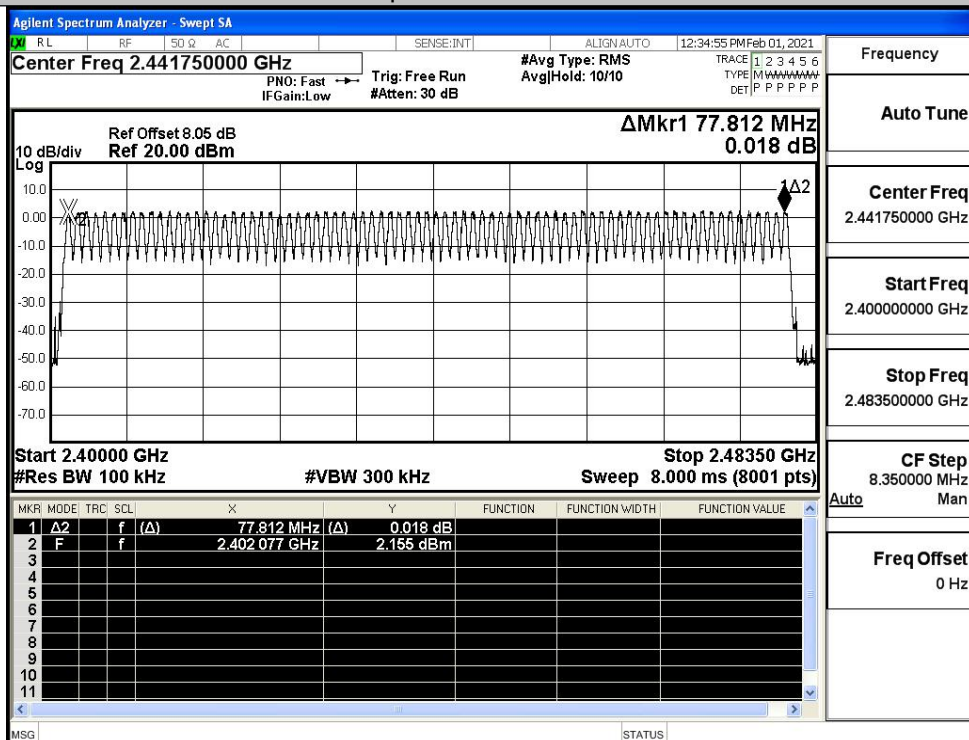
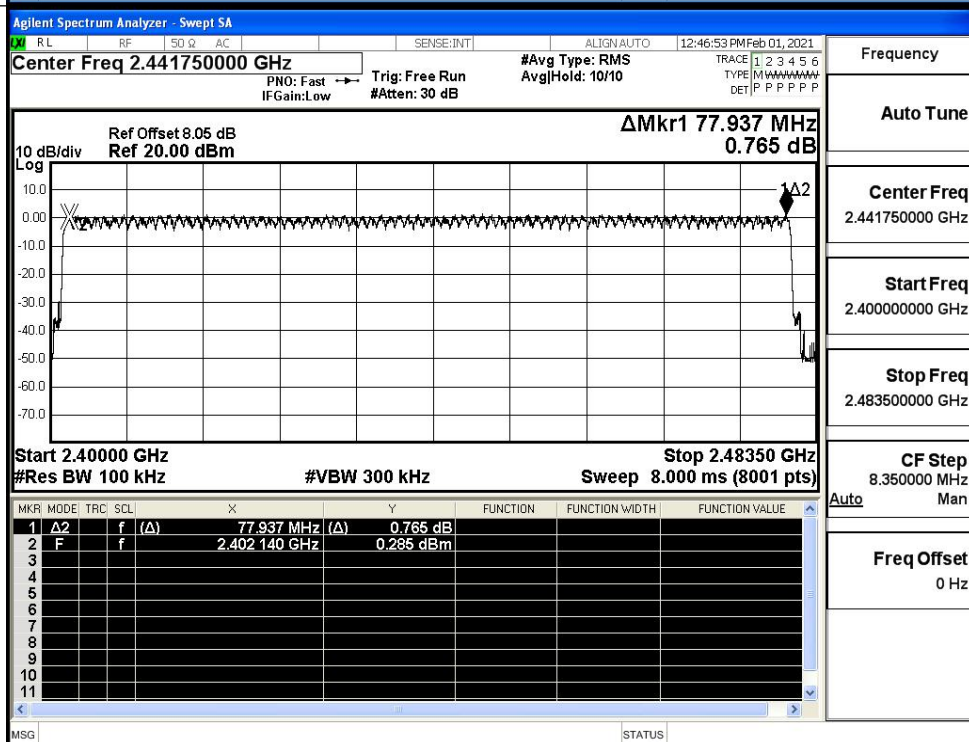


A.5 Hopping Channel Number

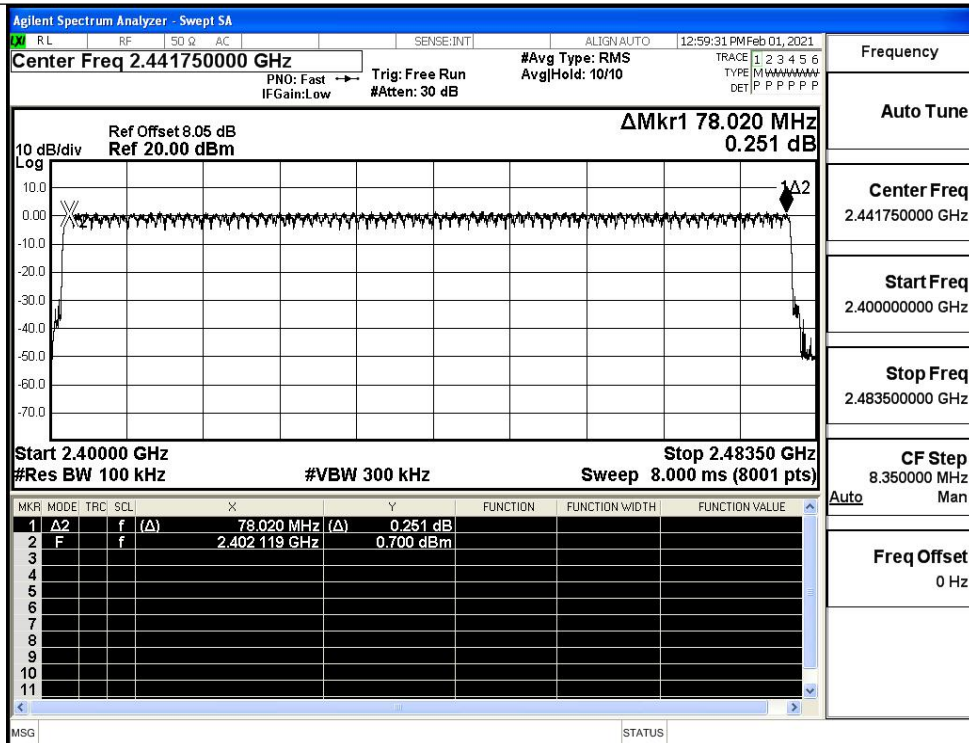
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
$\pi/4$ DQPSK	Hop	79	>=15	PASS
8DPSK	Hop	79	>=15	PASS

Test Graphs

GFSK/Hop

 $\pi/4$ DQPSK/Hop

8DPSK/Hop

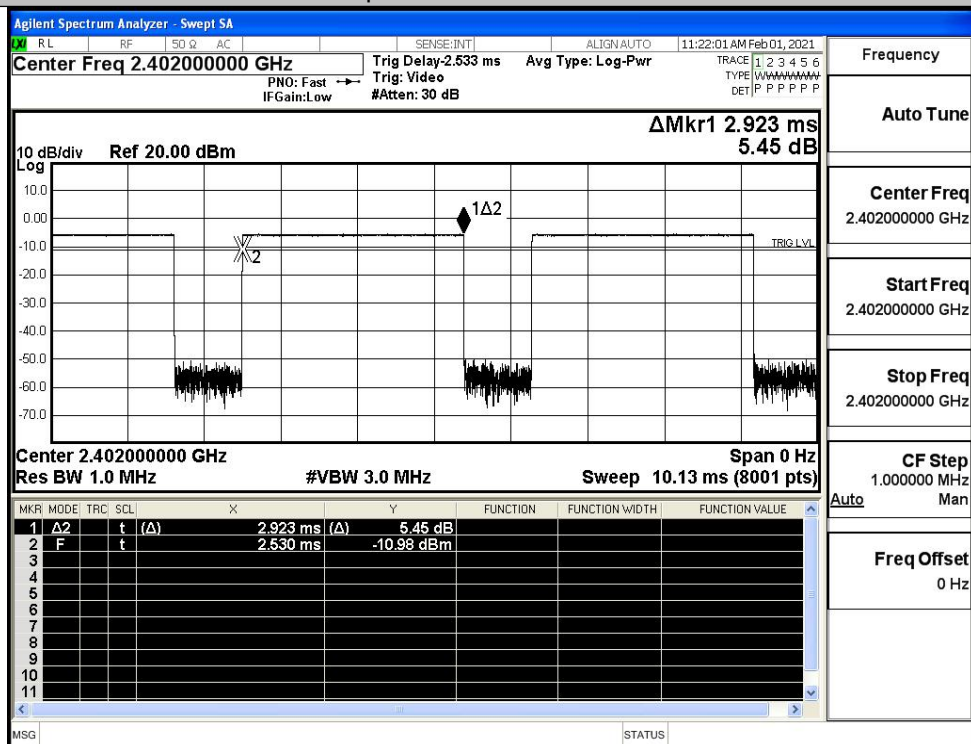


A.6 Dwell Time

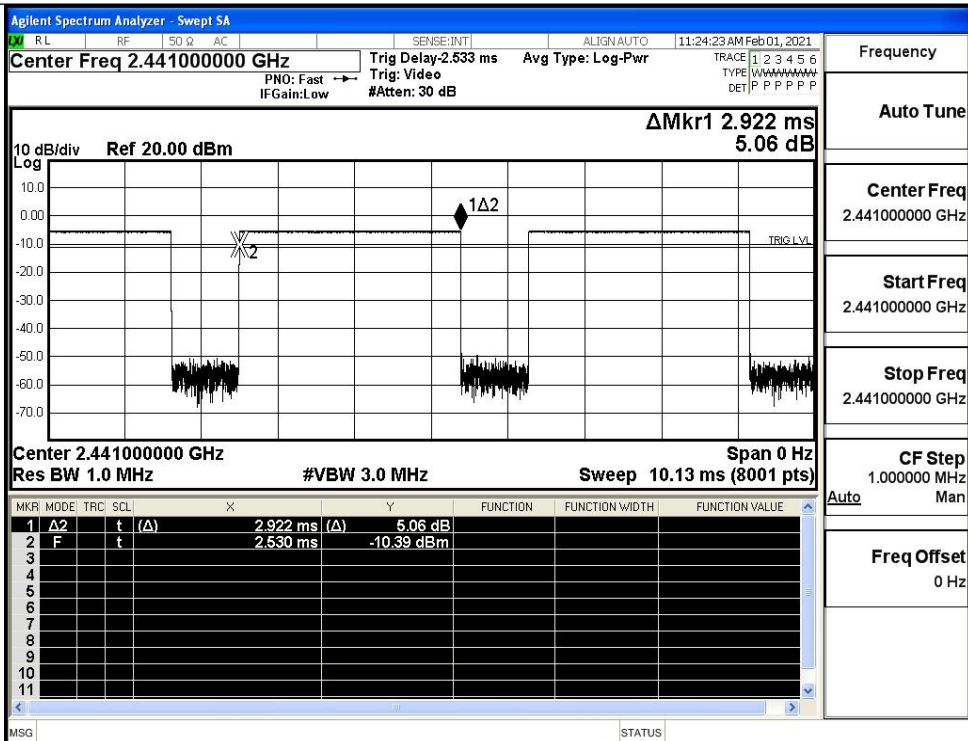
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.92	106.7	0.312	0.4	PASS
	DH5	MCH	2.92	106.7	0.312	0.4	PASS
	DH5	HCH	2.93	106.7	0.313	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.92	106.7	0.314	0.4	PASS
	2DH5	MCH	2.92	106.7	0.312	0.4	PASS
	2DH5	HCH	2.93	106.7	0.312	0.4	PASS
8DPSK	3DH5	LCH	2.92	106.7	0.312	0.4	PASS
	3DH5	MCH	2.92	106.7	0.312	0.4	PASS
	3DH5	HCH	2.93	106.7	0.313	0.4	PASS

Test Graphs

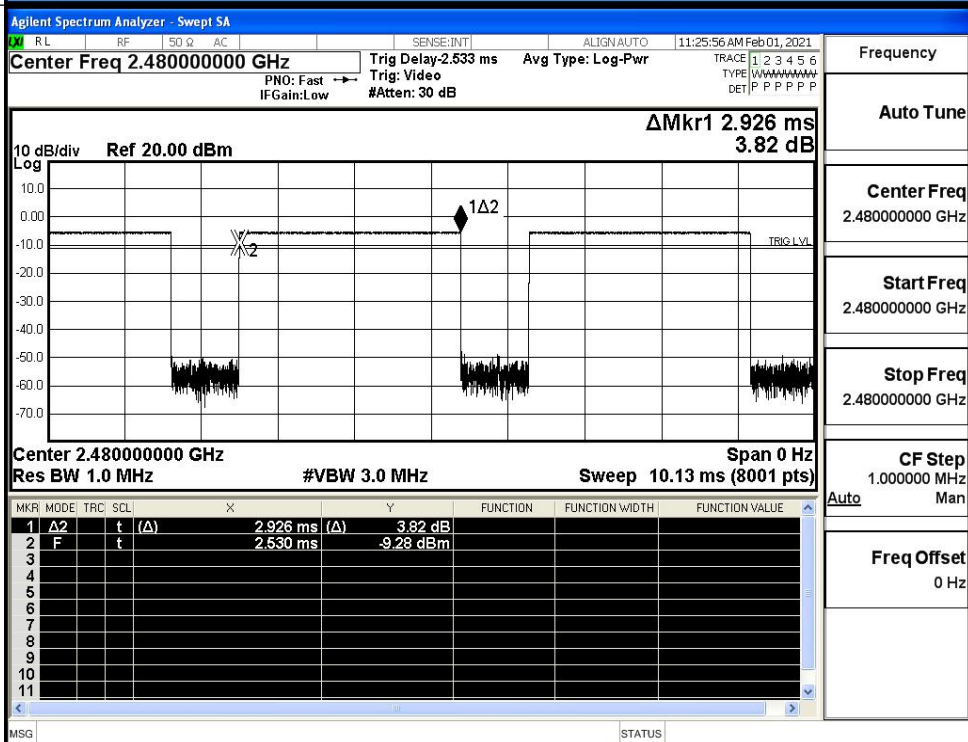
GFSK_DH5/LCH



GFSK_DH5/MCH



GFSK_DH5/HCH



Agilent Spectrum Analyzer - Swept SA

UN RL RF SO Q AC SENSE:INT ALIGN:AUTO 11:31:56 AM Feb 01, 2021

Center Freq 2.402000000 GHz Trig Delay-2.533 ms Avg Type: Log-Pwr TRACE 1 2 3 4 5 6
 PNO: Fast → Trig: Video TYPE W W W W W W W W
 IF Gain: Low #Atten: 30 dB DET P P P P P P P

10 dB/div Ref 20.00 dBm
 Log

ΔMkr1 2.942 ms
5.18 dB

X2

Δ2

Center 2.402000000 GHz
Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8001 pts)
Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.942 ms	(Δ) 5.18 dB			
2	F	t		3.803 ms	-11.42 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

< >

MSG

STATUS

Frequency

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

Agilent Spectrum Analyzer - Swept SA

RL RF SO Q AC SENSE:INT ALIGN:AUTO 11:36:47 AM Feb 01, 2021

Center Freq 2.441000000 GHz Trig Delay: 2.533 ms Avg Type: Log-Pwr
 PNO: Fast IF Gain: Low Trig: Video #Atten: 30 dB TRACE 1 2 3 4 5 6
 TYPE W W W W W W W W
 DET P P P P P P P P

ΔMkr1 2.925 ms 6.48 dB

10 dB/div Ref 20.00 dBm

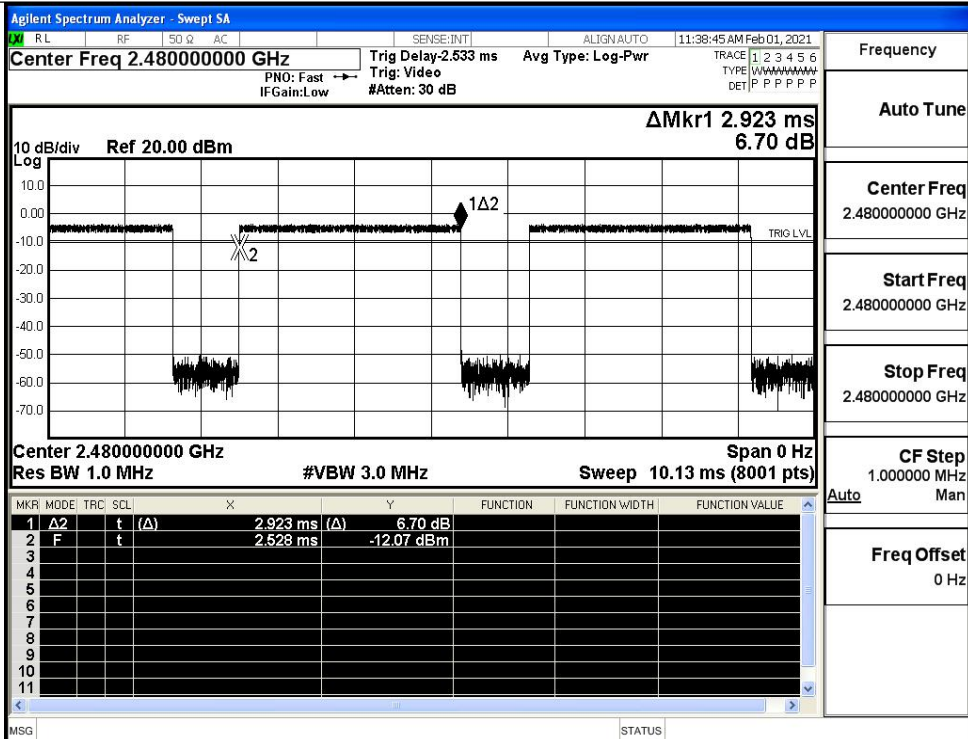
Center 2.441000000 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 10.13 ms (8001 pts) Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ2	t	(Δ)	2.925 ms	(Δ) 6.48 dB			
2	F	t		2.528 ms	-11.99 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

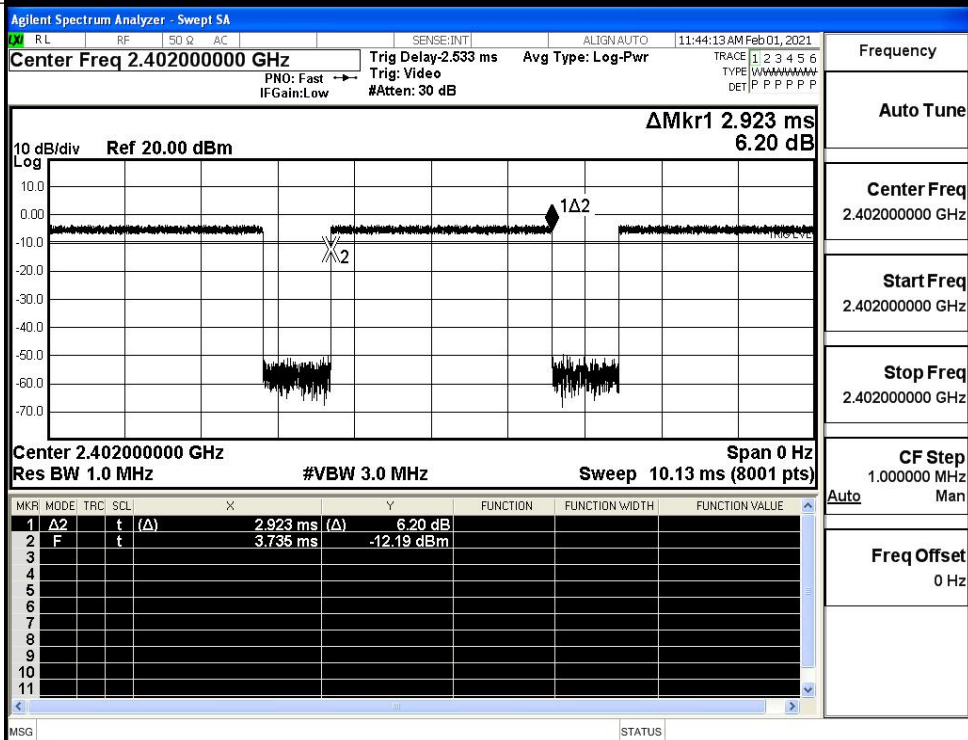
MSG STATUS

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

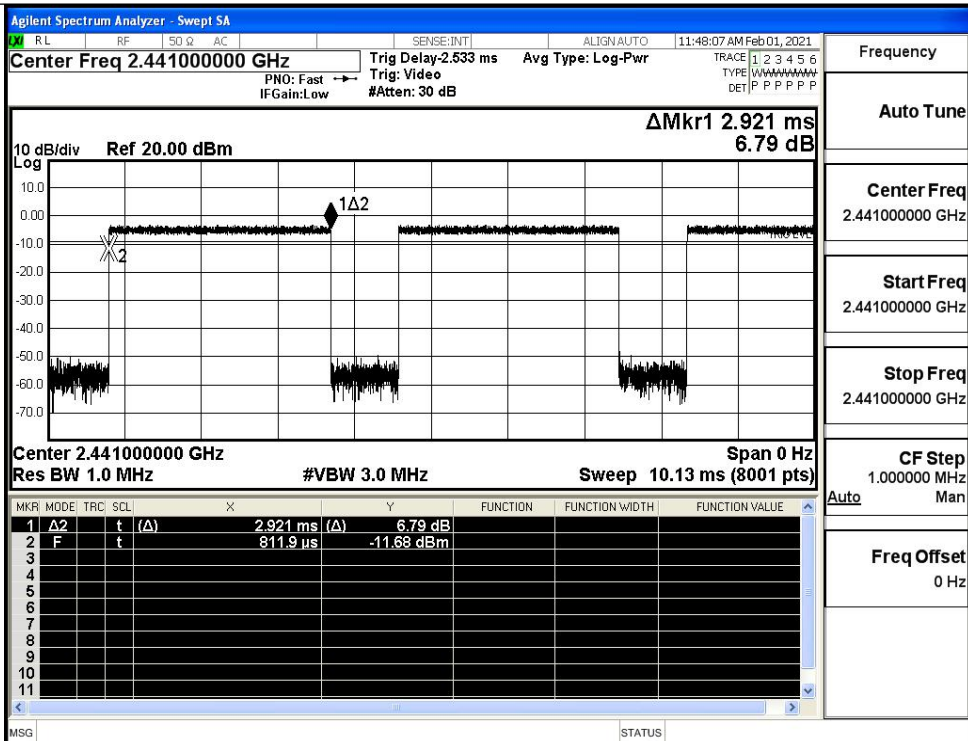
$\pi/4$ DQPSK
_2DH5/HCH



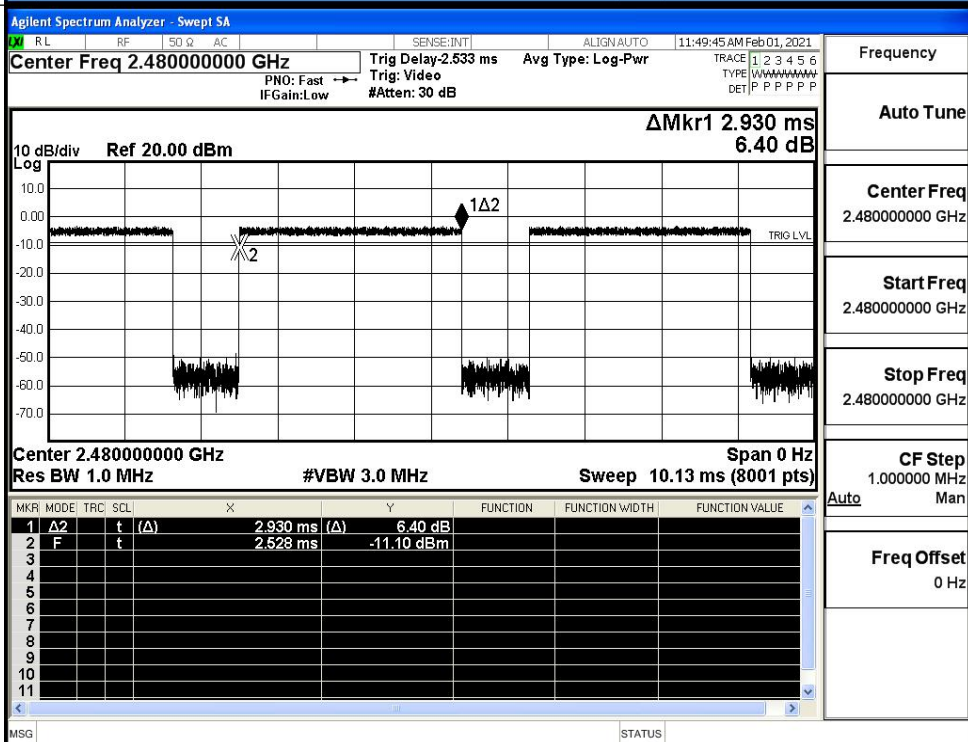
8DPSK _3DH5/LCH



8DPSK_3DH5/MCH



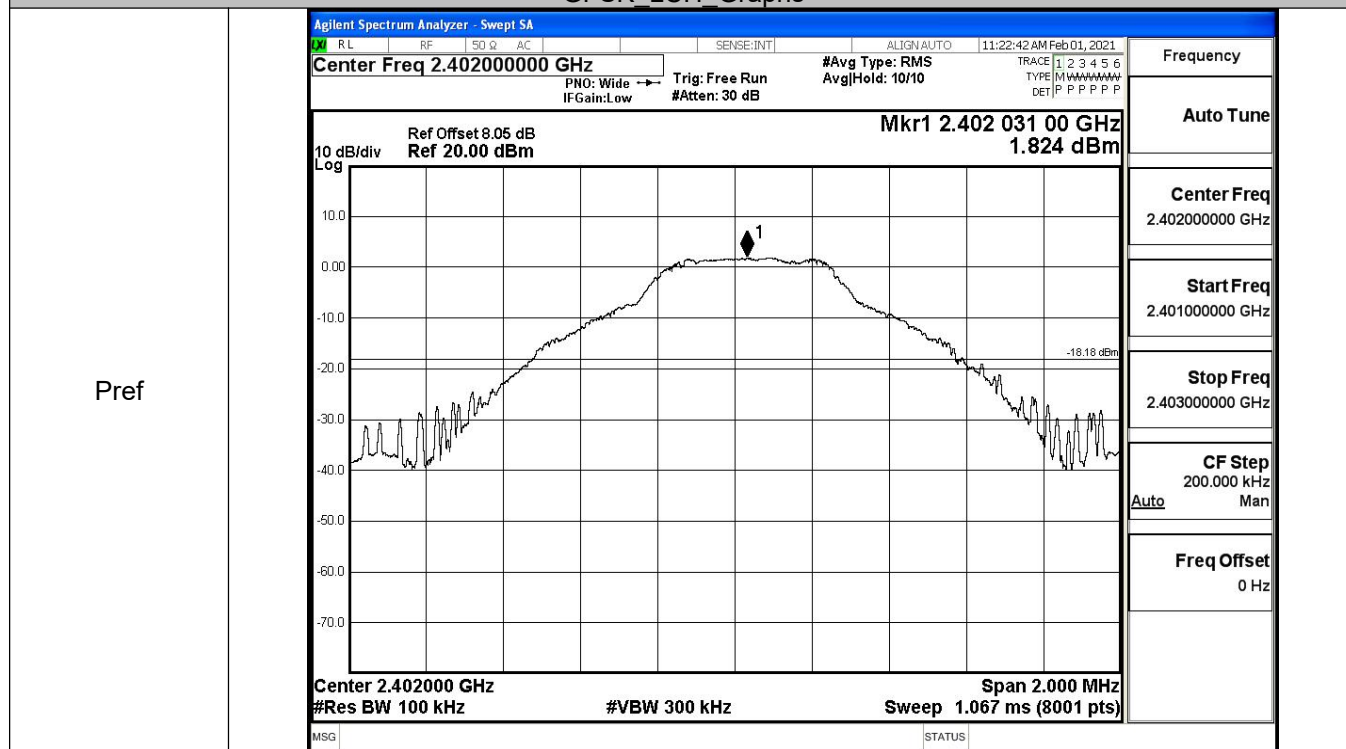
8DPSK_3DH5/HCH

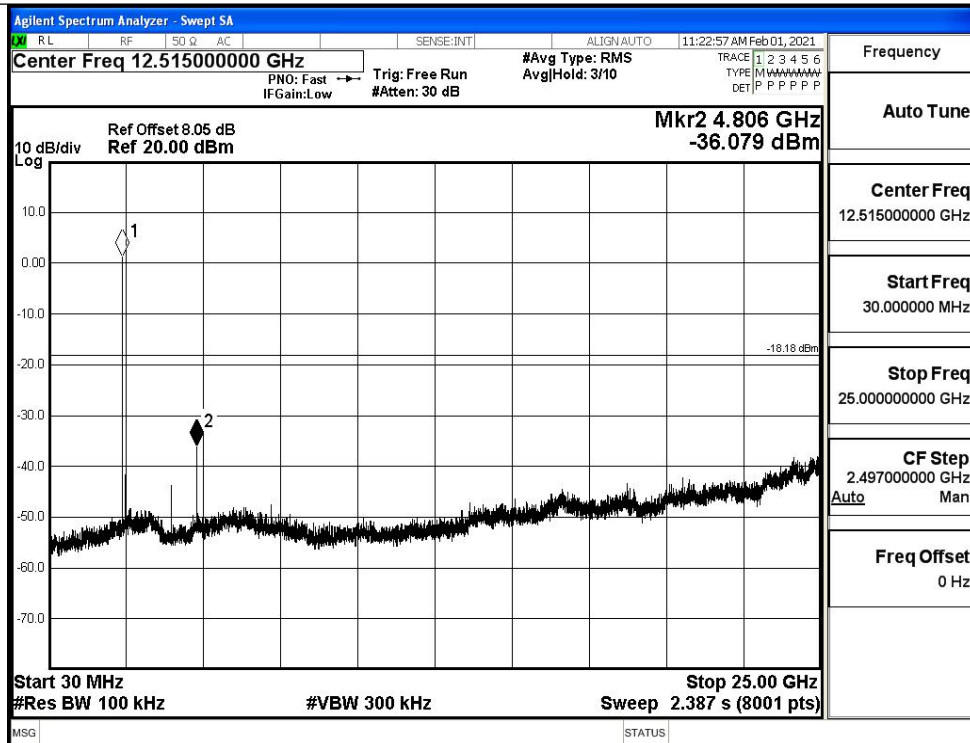


A.7 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.824	-36.079	-18.176	PASS
	MCH	2.353	-34.715	-17.647	PASS
	HCH	2.016	-36.976	-17.984	PASS
$\pi/4$ DQPSK	LCH	0.762	-35.532	-19.238	PASS
	MCH	0.966	-35.910	-19.034	PASS
	HCH	0.927	-36.739	-19.073	PASS
8DPSK	LCH	0.633	-34.017	-19.367	PASS
	MCH	0.852	-36.016	-19.148	PASS
	HCH	0.817	-33.680	-19.183	PASS

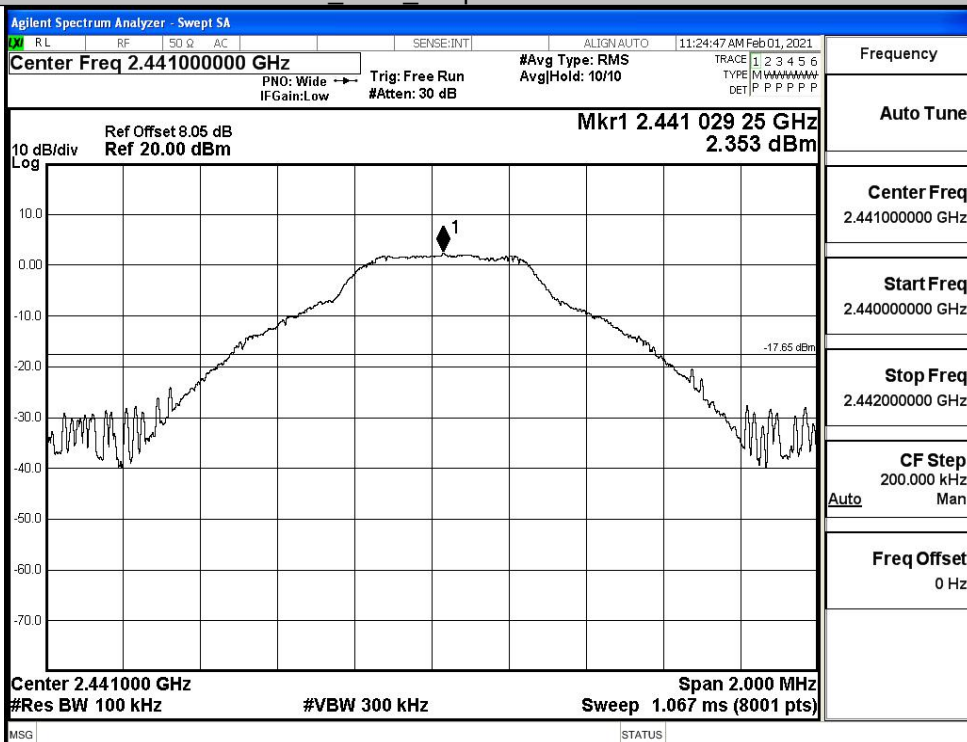
GFSK LCH Graphs



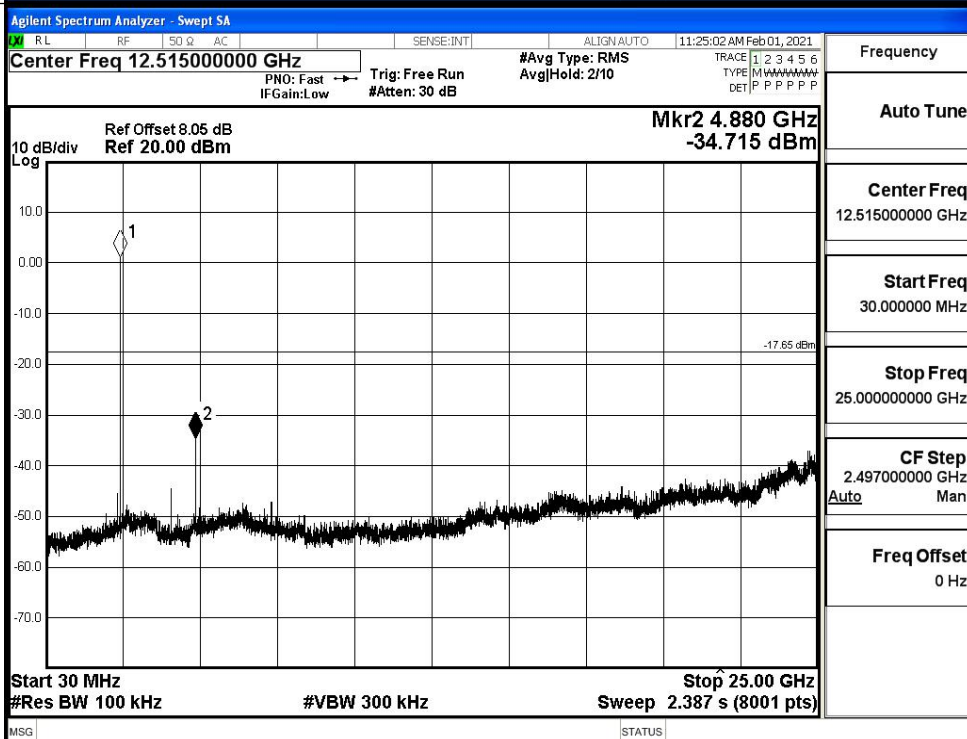


GFSK_MCH_Graphs

Pref

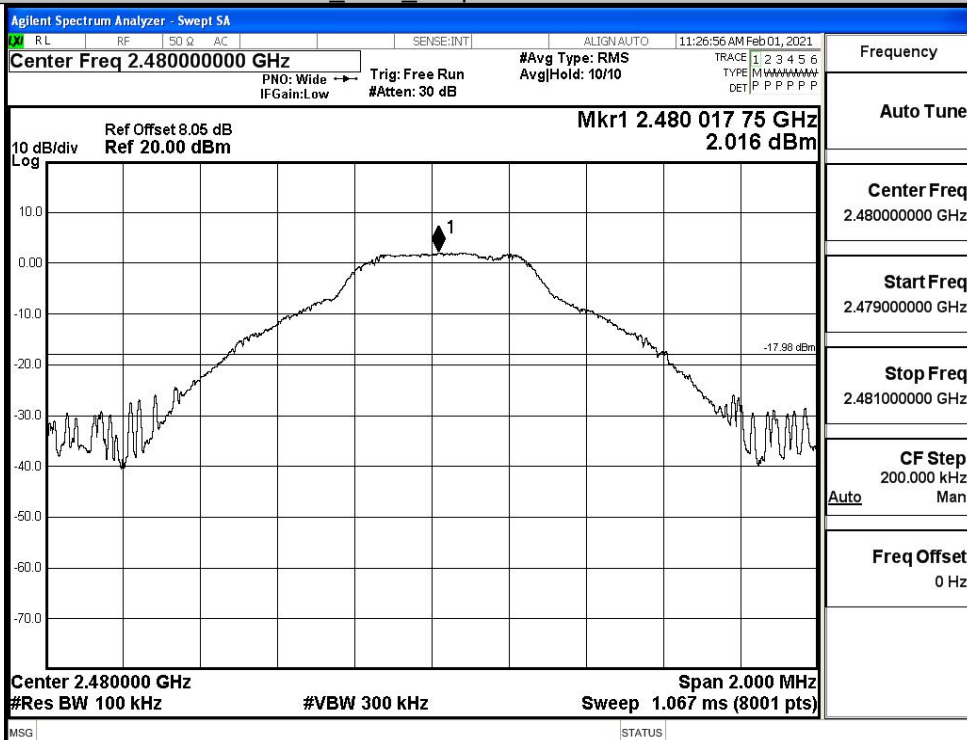


Puw

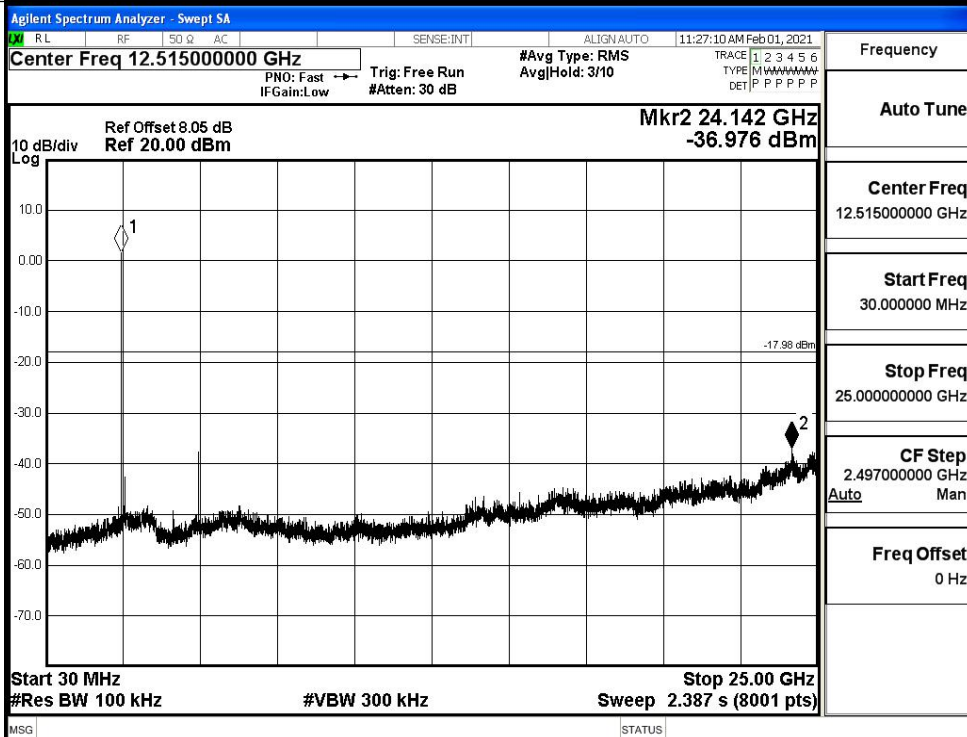


GFSK HCH_Graphs

Pref

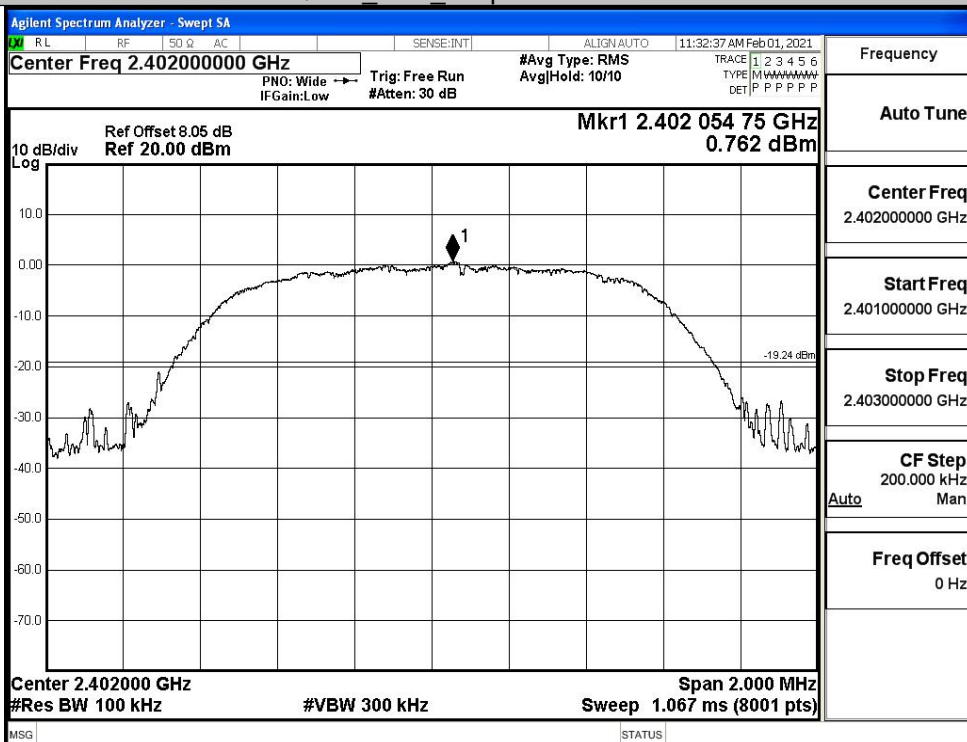


Puw

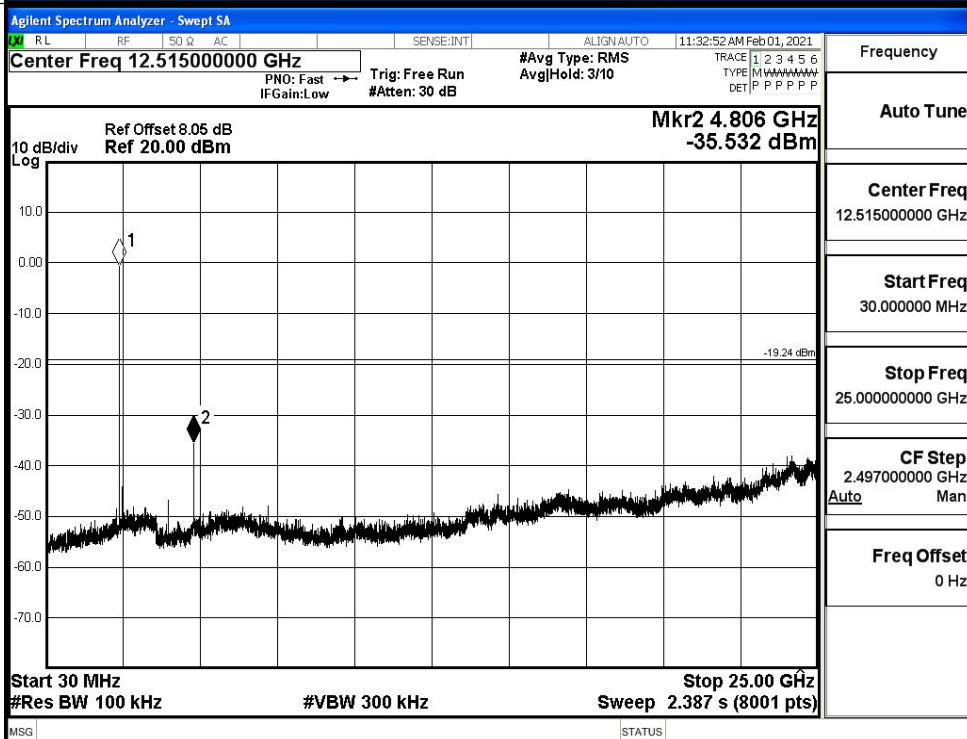


$\pi/4$ DQPSK LCH_Graphs

Pref

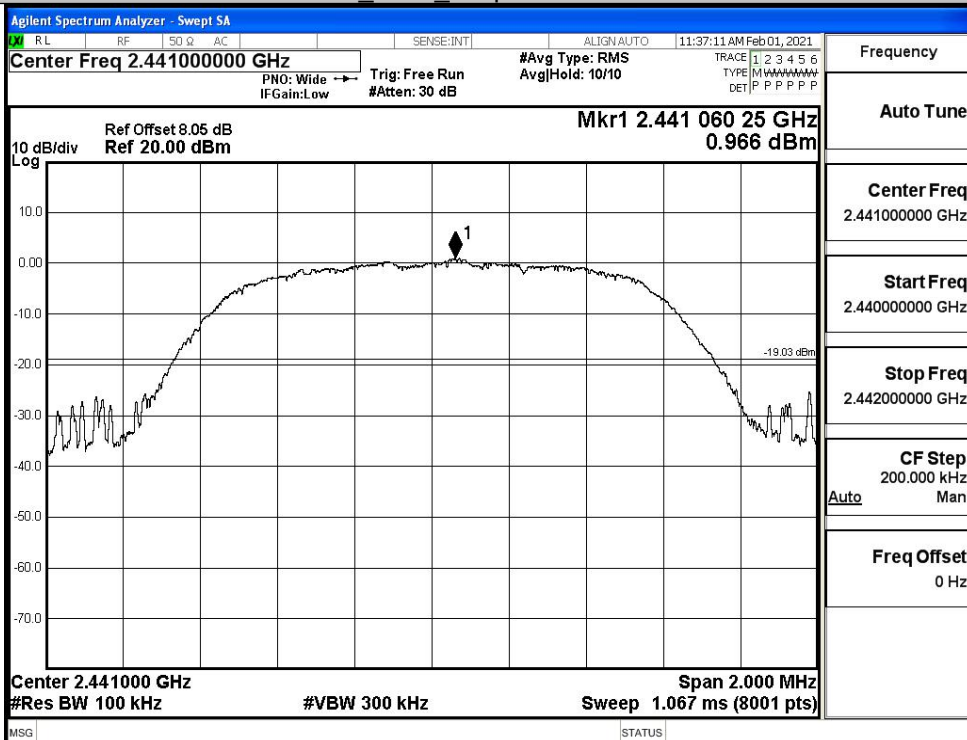


Puw

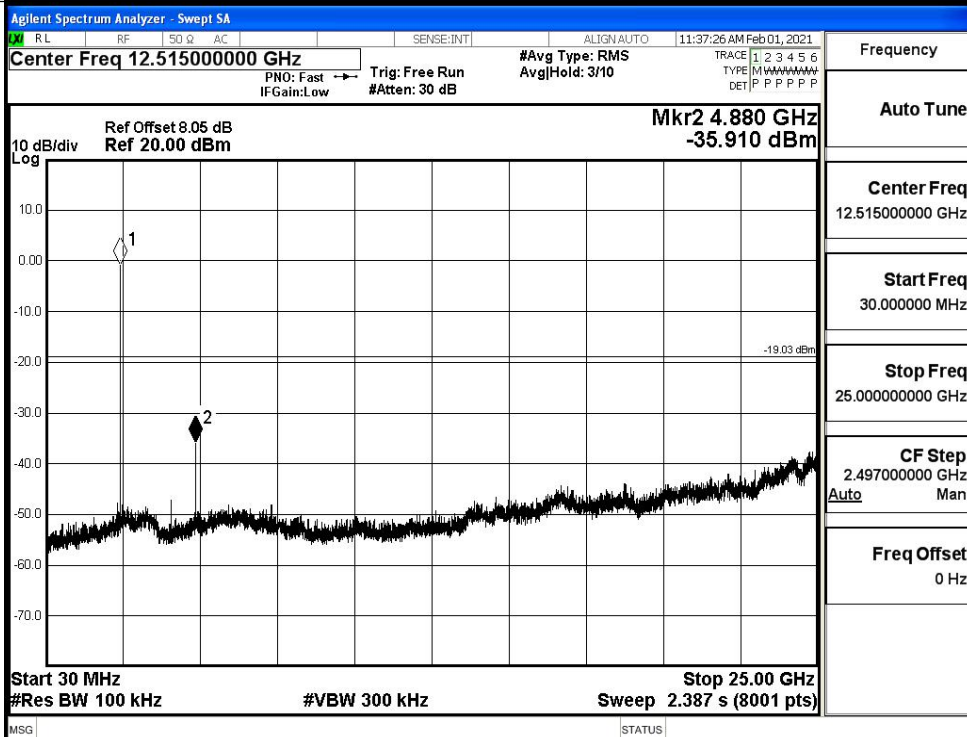


$\pi/4$ DQPSK_MCH_Graphs

Pref

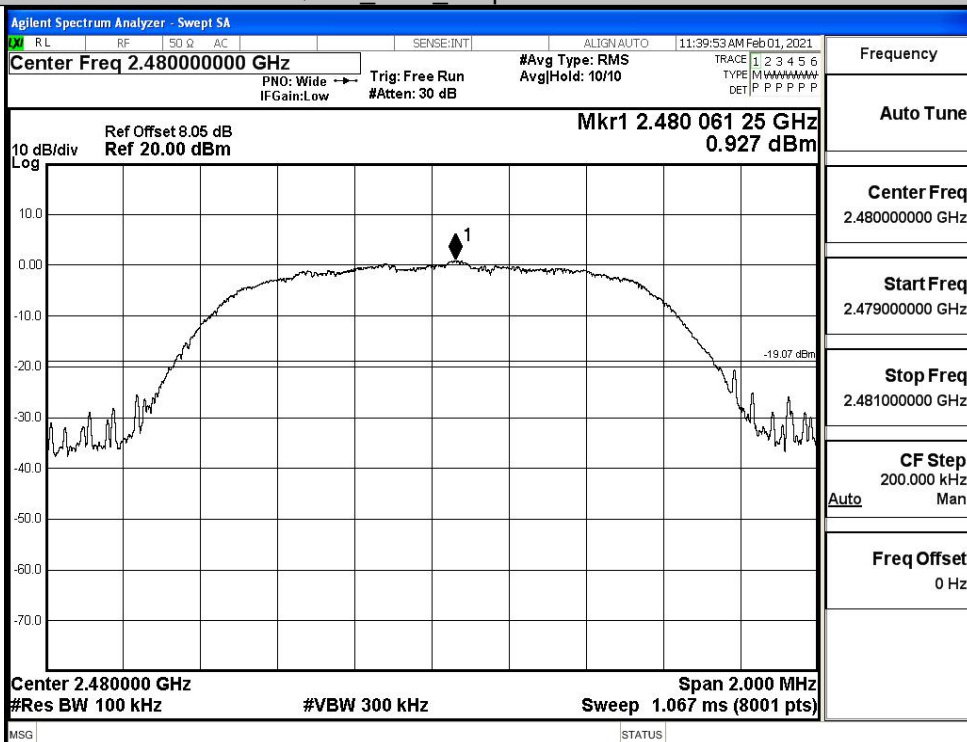


Puw

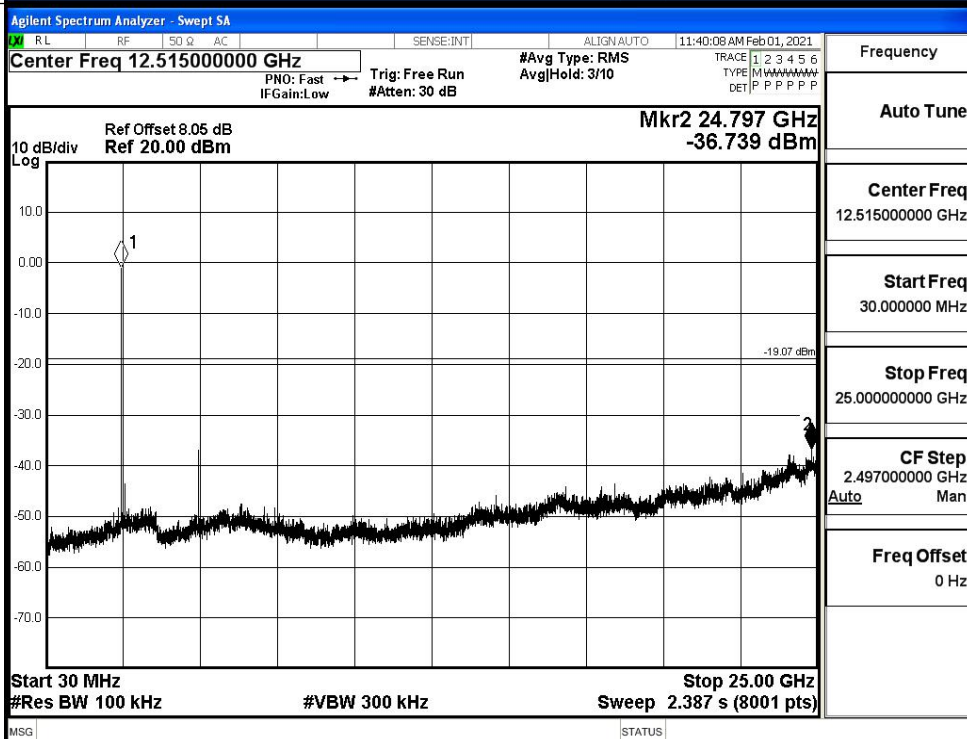


$\pi/4$ DQPSK HCH_Graphs

Pref

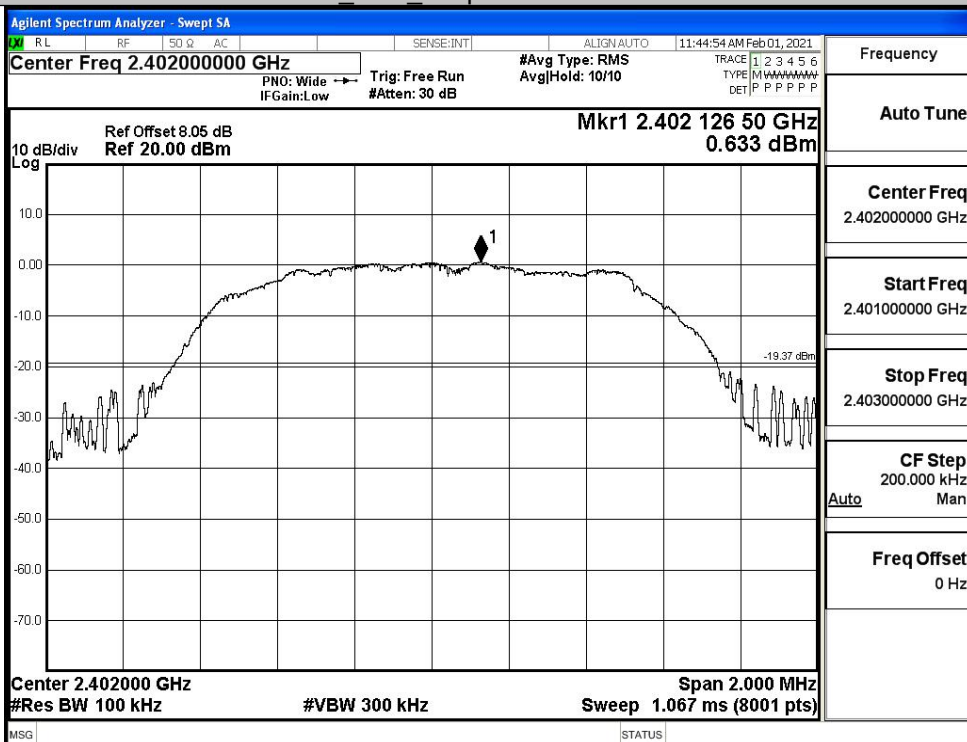


Puw

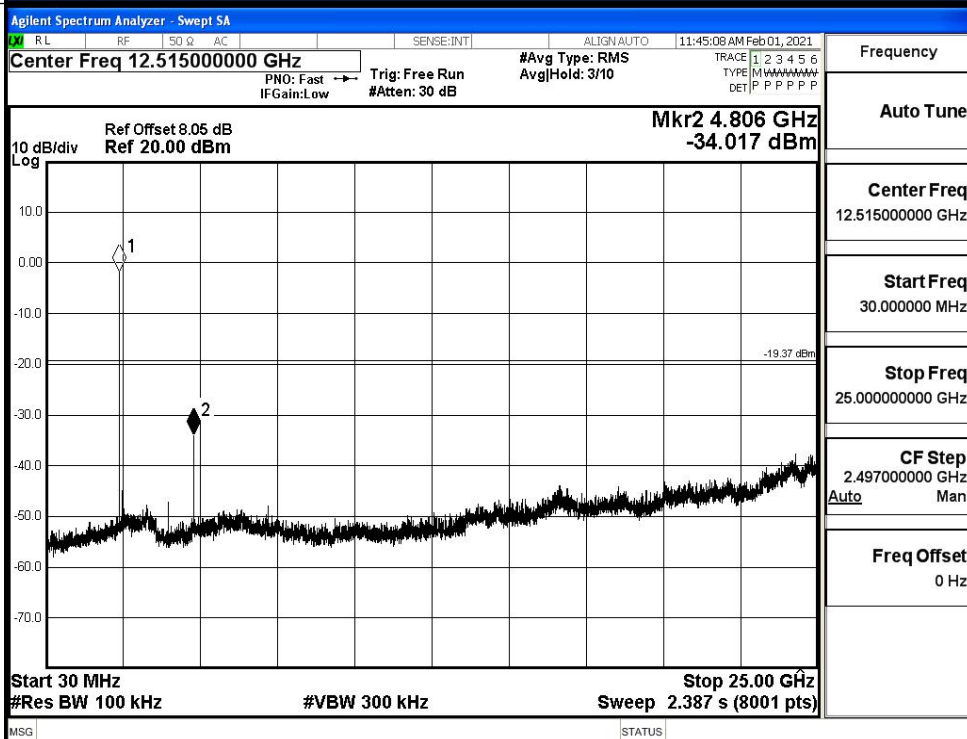


8DPSK_LCH_Graphs

Pref

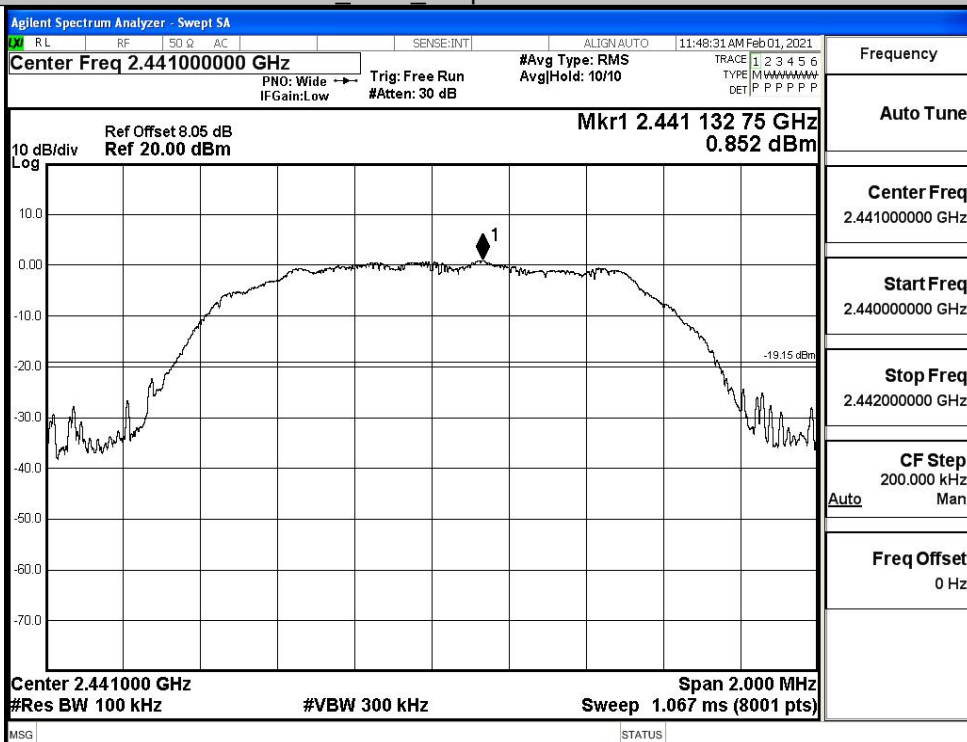


Puw

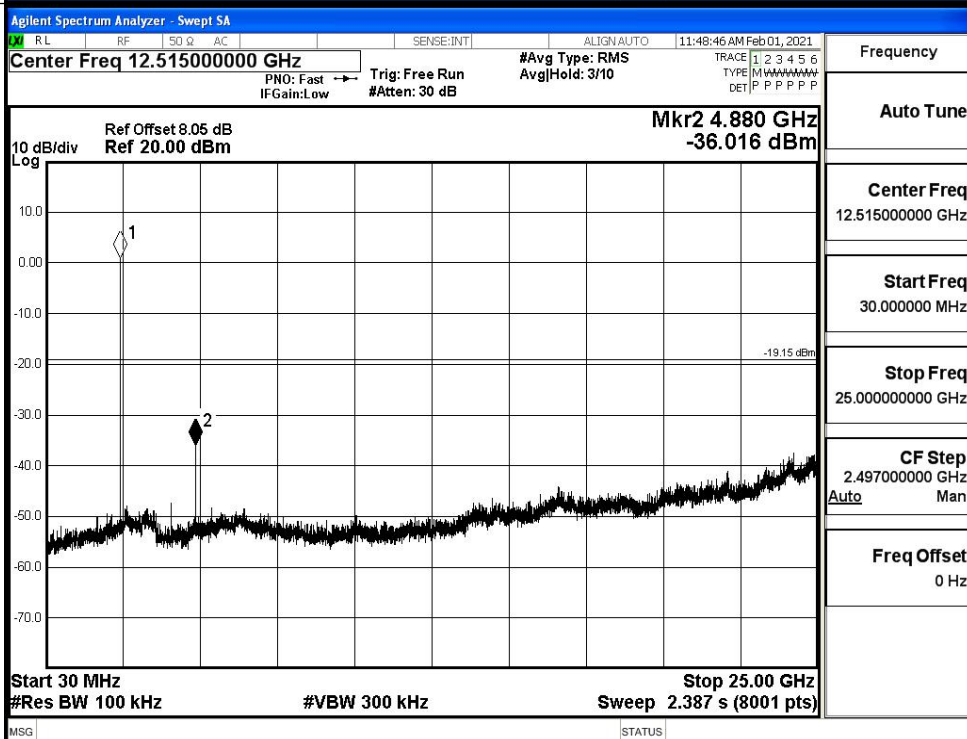


8DPSK_MCH_Graphs

Pref

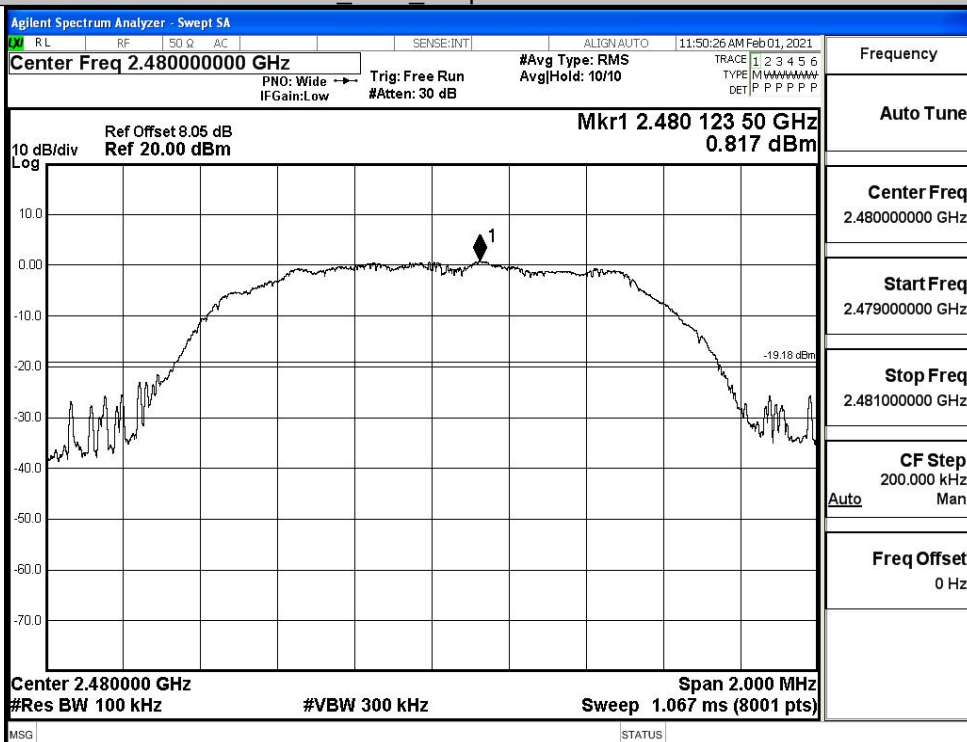


Puw

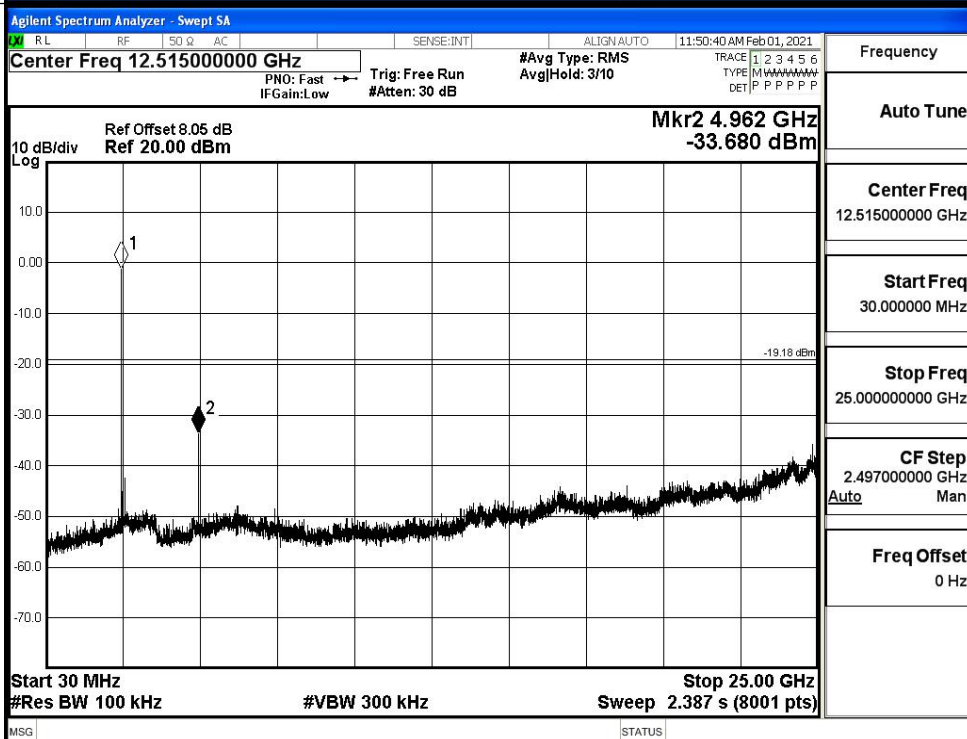


8DPSK_HCH_Graphs

Pref



Puw

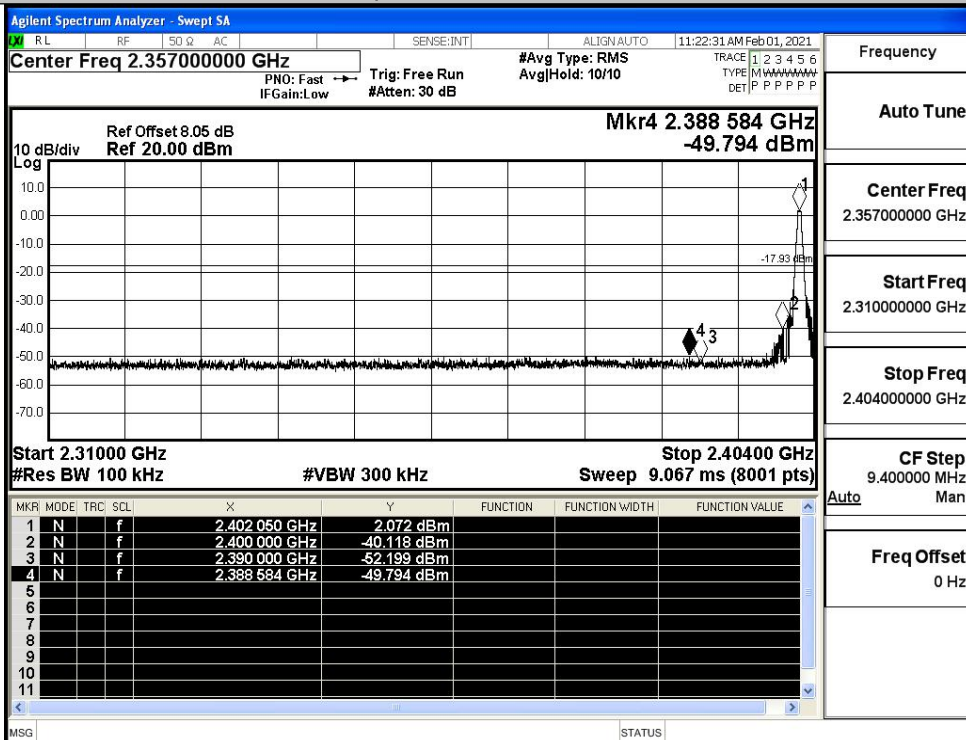


A.8 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	2.072	Off	-49.794	-17.93	PASS
			2.493	On	-44.870	-17.51	PASS
	HCH	2480	2.478	Off	-46.862	-17.52	PASS
			2.835	On	-39.469	-17.17	PASS
$\pi/4$ DQPSK	LCH	2402	0.686	Off	-49.422	-19.31	PASS
			1.232	On	-46.178	-18.77	PASS
	HCH	2480	1.186	Off	-45.346	-18.81	PASS
			1.399	On	-41.766	-18.6	PASS
8DPSK	LCH	2402	0.982	Off	-49.536	-19.02	PASS
			1.406	On	-42.290	-18.59	PASS
	HCH	2480	1.233	Off	-46.228	-18.77	PASS
			1.460	On	-41.764	-18.54	PASS

Test Graphs

GFSK/LCH/No Hop



GFSK/LCH/Hop

