

Appendix A

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

Product Name: Bluetooth Headphone

Trade Mark: N/A

Test Model: H10

FCC ID: 2ATOY-H10

Environmental Conditions

Temperature:	24.2 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

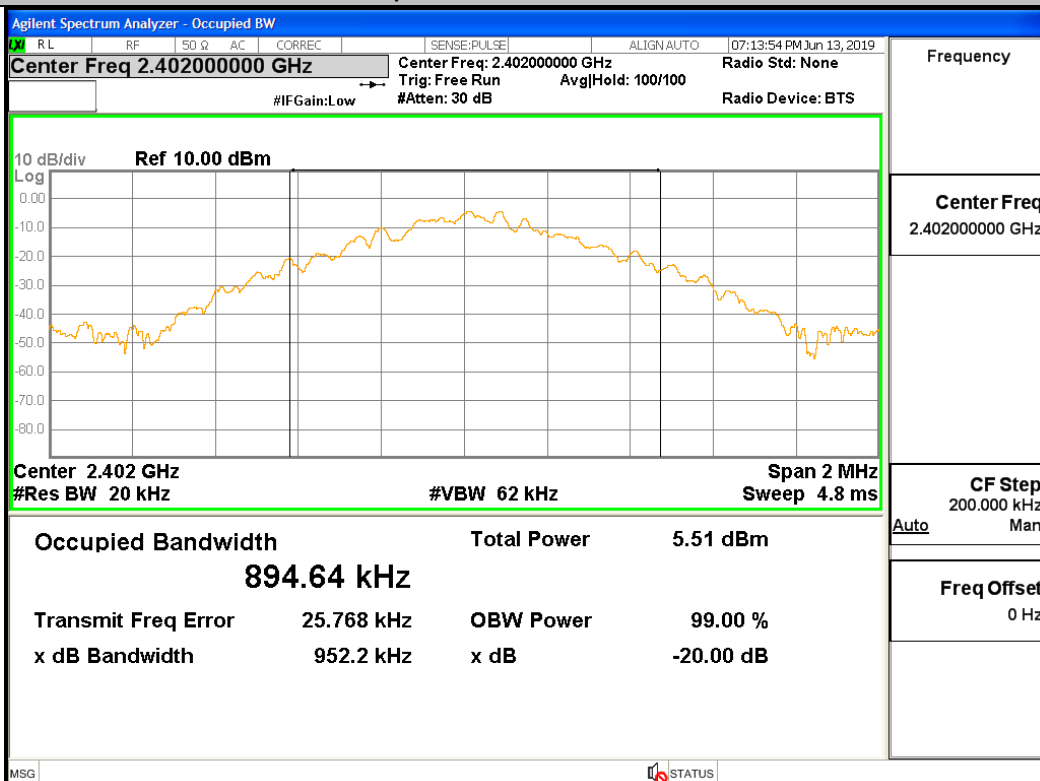
A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.952	Not Specified	PASS
GFSK	MCH	0.949	Not Specified	PASS
GFSK	HCH	0.950	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.348	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.349	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.351	Not Specified	PASS
8DPSK	LCH	1.343	Not Specified	PASS
8DPSK	MCH	1.338	Not Specified	PASS
8DPSK	HCH	1.340	Not Specified	PASS

Test Graph

Graphs

GFSK/LCH



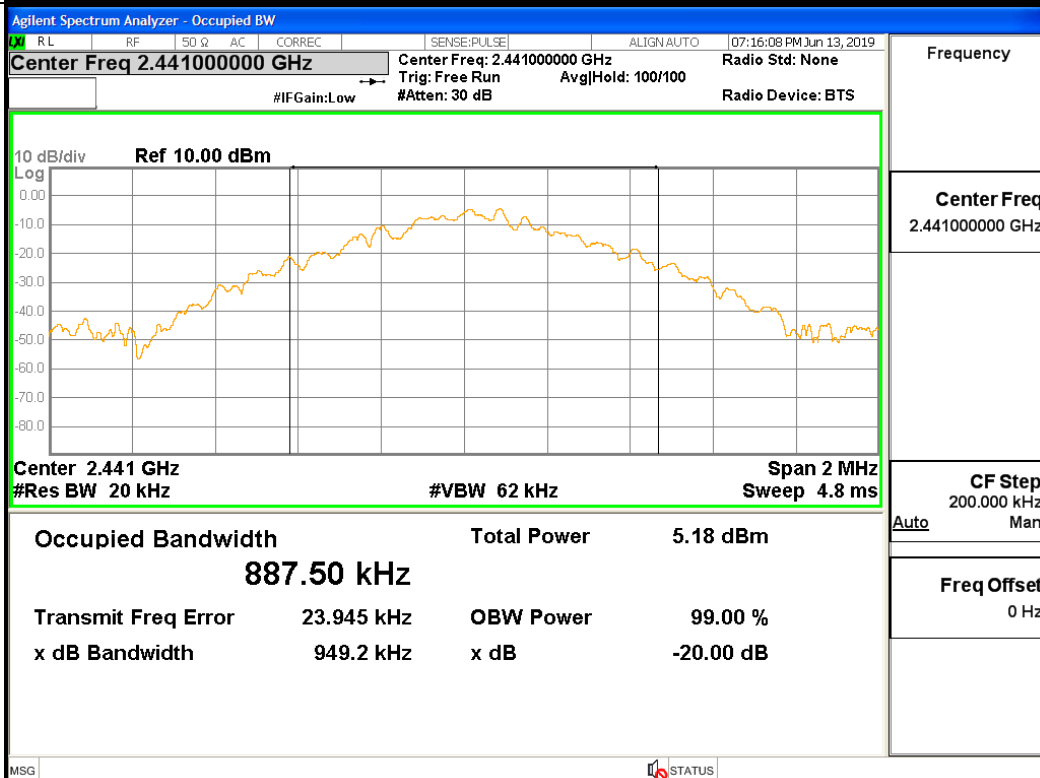
Frequency

Center Freq
2.40200000 GHz

CF Step
200.000 kHz
Auto Man

Freq Offset
0 Hz

GFSK/MCH

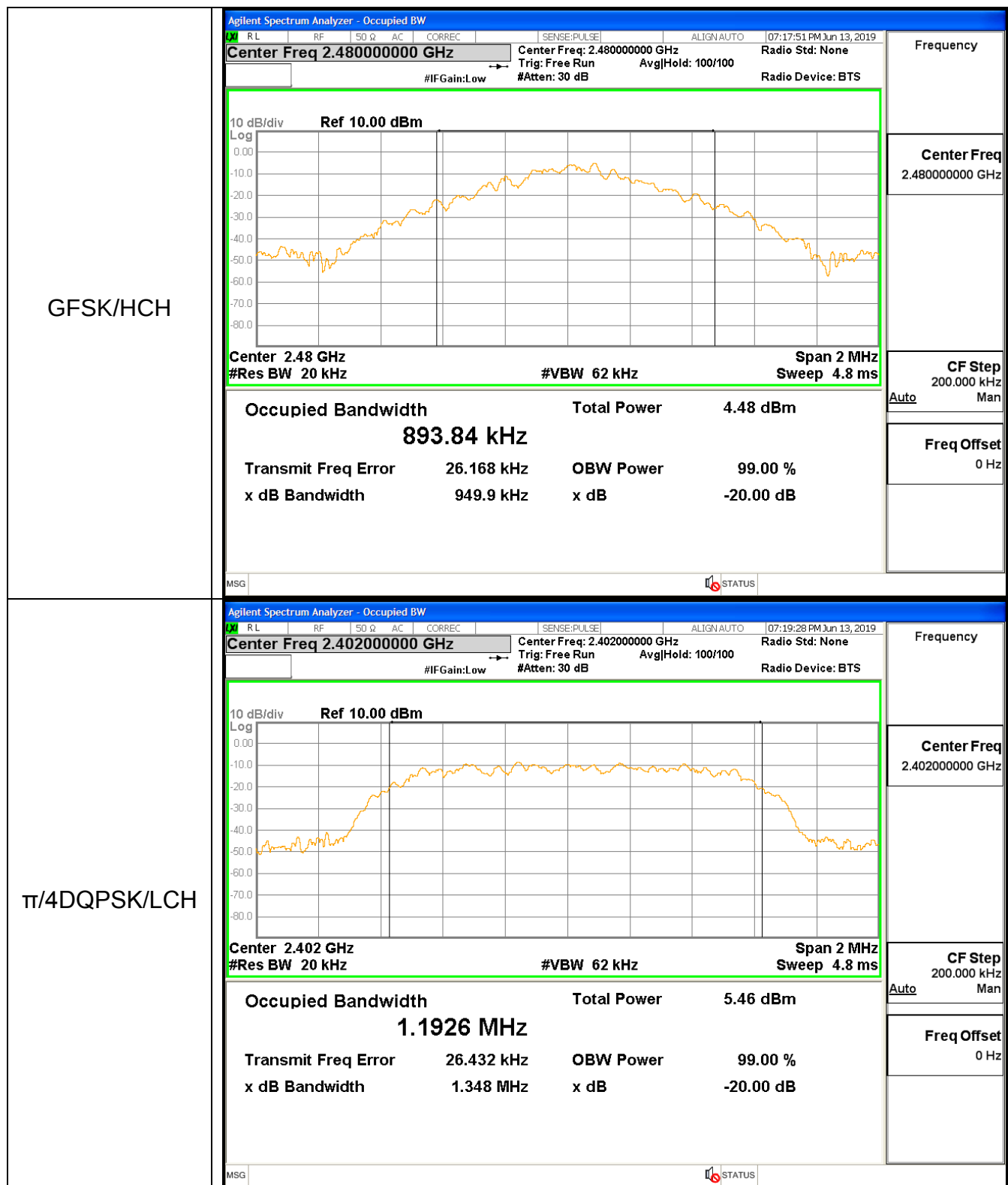


Frequency

Center Freq
2.44100000 GHz

CF Step
200.000 kHz
Auto Man

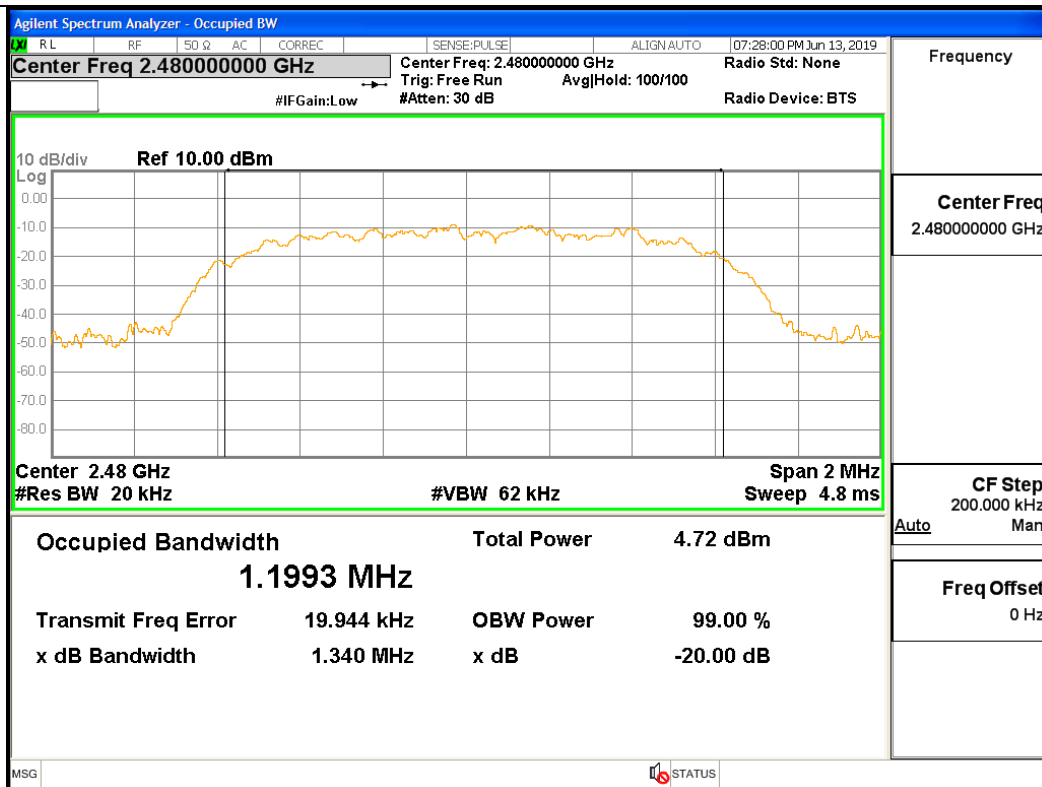
Freq Offset
0 Hz







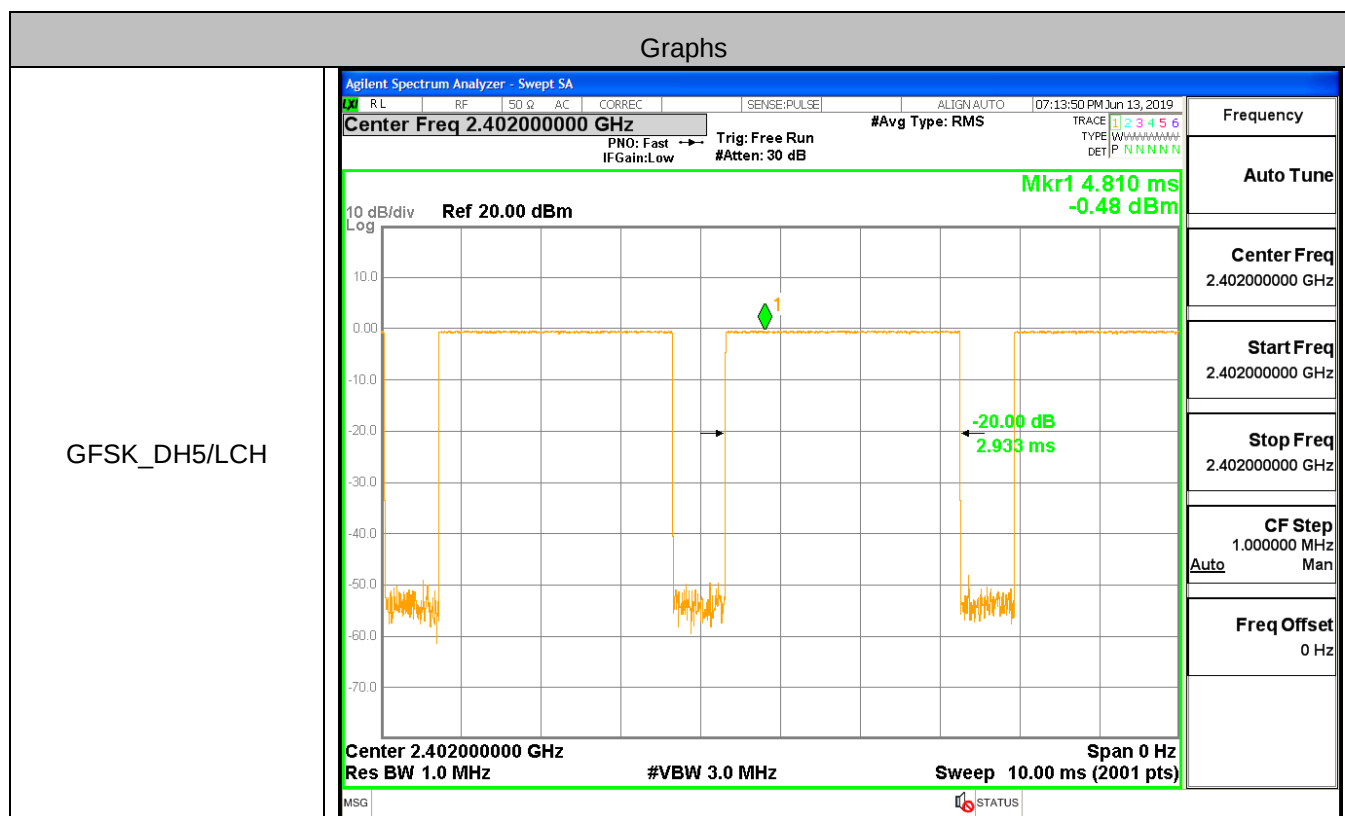
8DPSK/HCH



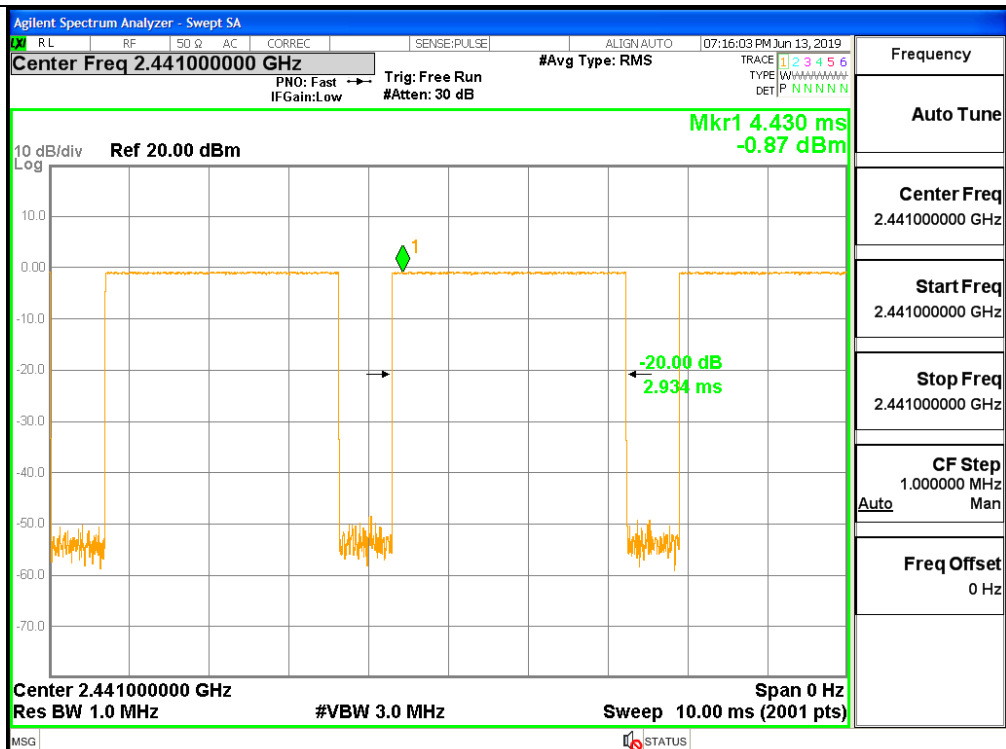
A.2 Dwell Time

Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002933	106.7	0.312930	0.4	PASS
GFSK	DH5	MCH	0.002934	106.7	0.313110	0.4	PASS
GFSK	DH5	HCH	0.002925	106.7	0.312083	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.002933	106.7	0.313000	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.002924	106.7	0.312033	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002927	106.7	0.312263	0.4	PASS
8DPSK	3DH5	LCH	0.002924	106.7	0.312000	0.4	PASS
8DPSK	3DH5	MCH	0.002926	106.7	0.312154	0.4	PASS
8DPSK	3DH5	HCH	0.002929	106.7	0.312480	0.4	PASS

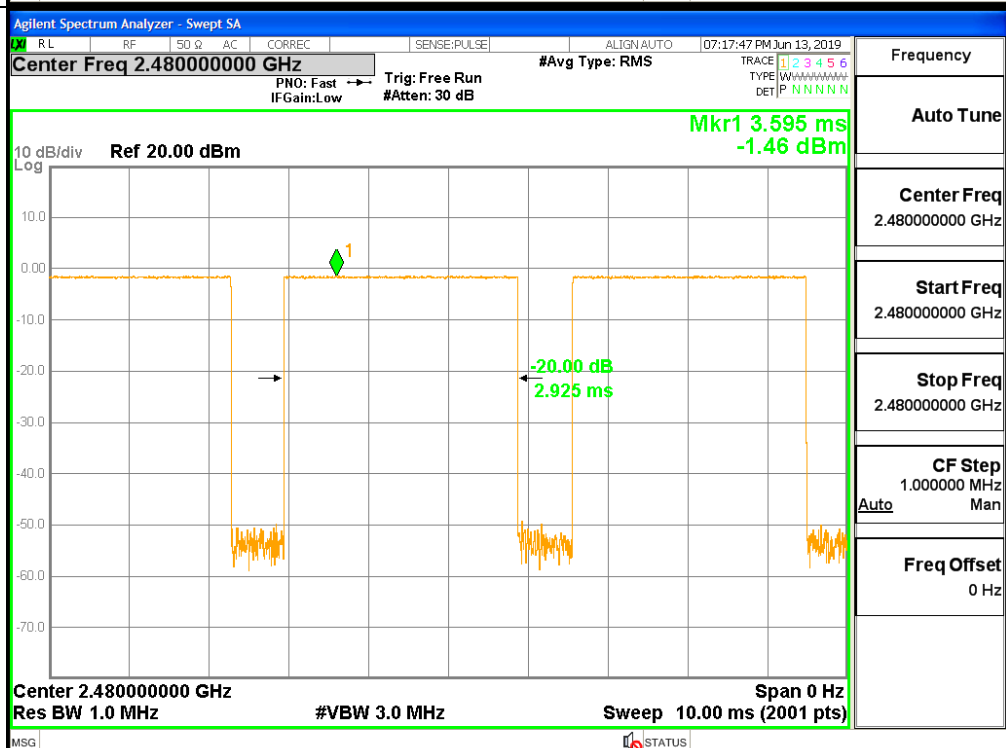
Test Graph



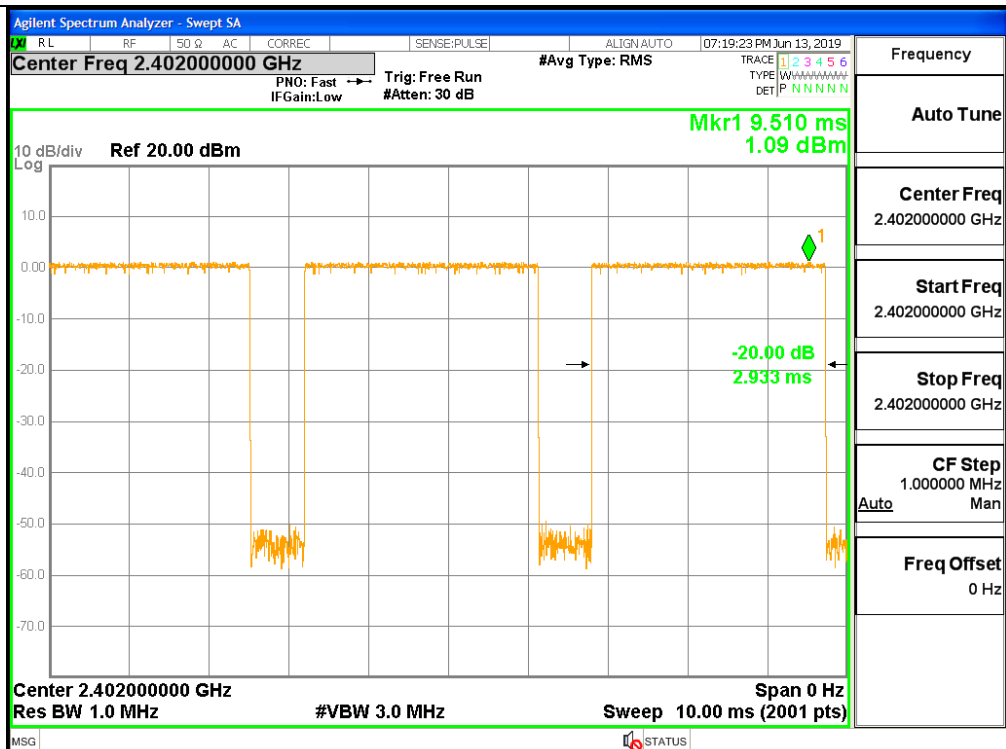
GFSK_DH5/MCH



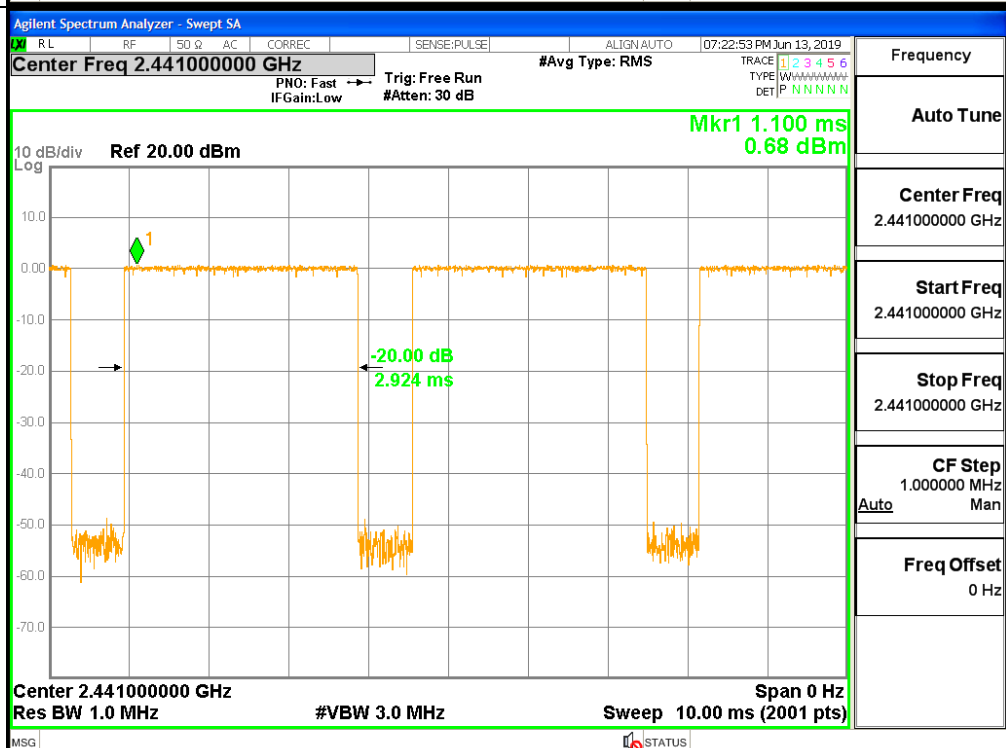
GFSK_DH5/HCH



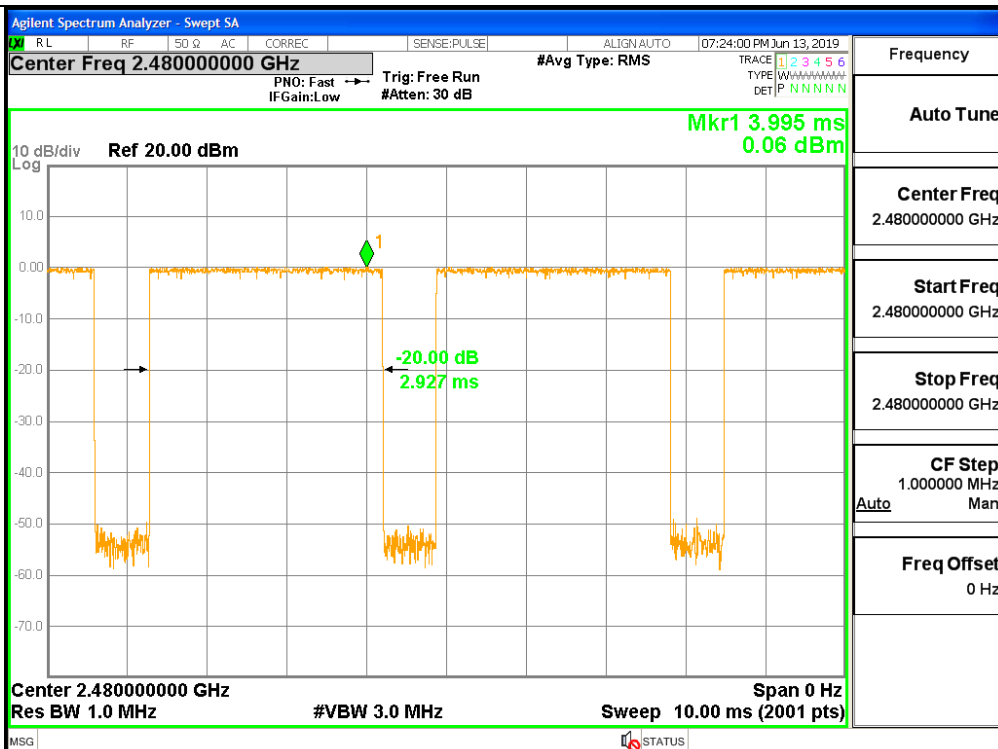
$\pi/4$ DQPSK
_2DH5/LCH



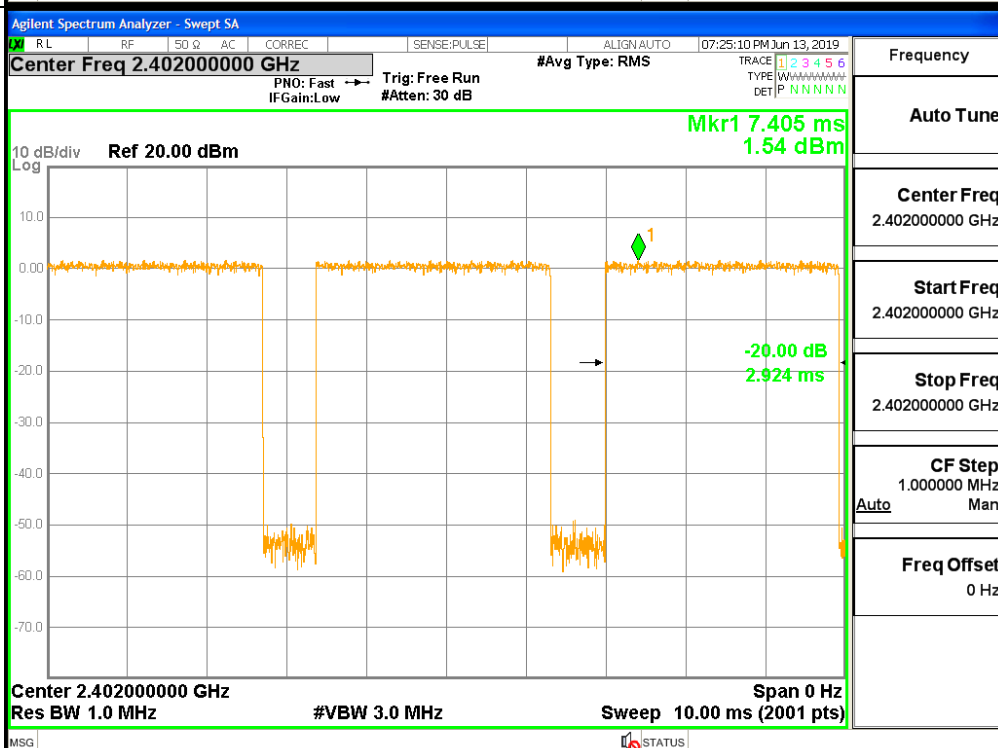
$\pi/4$ DQPSK
_2DH5/MCH

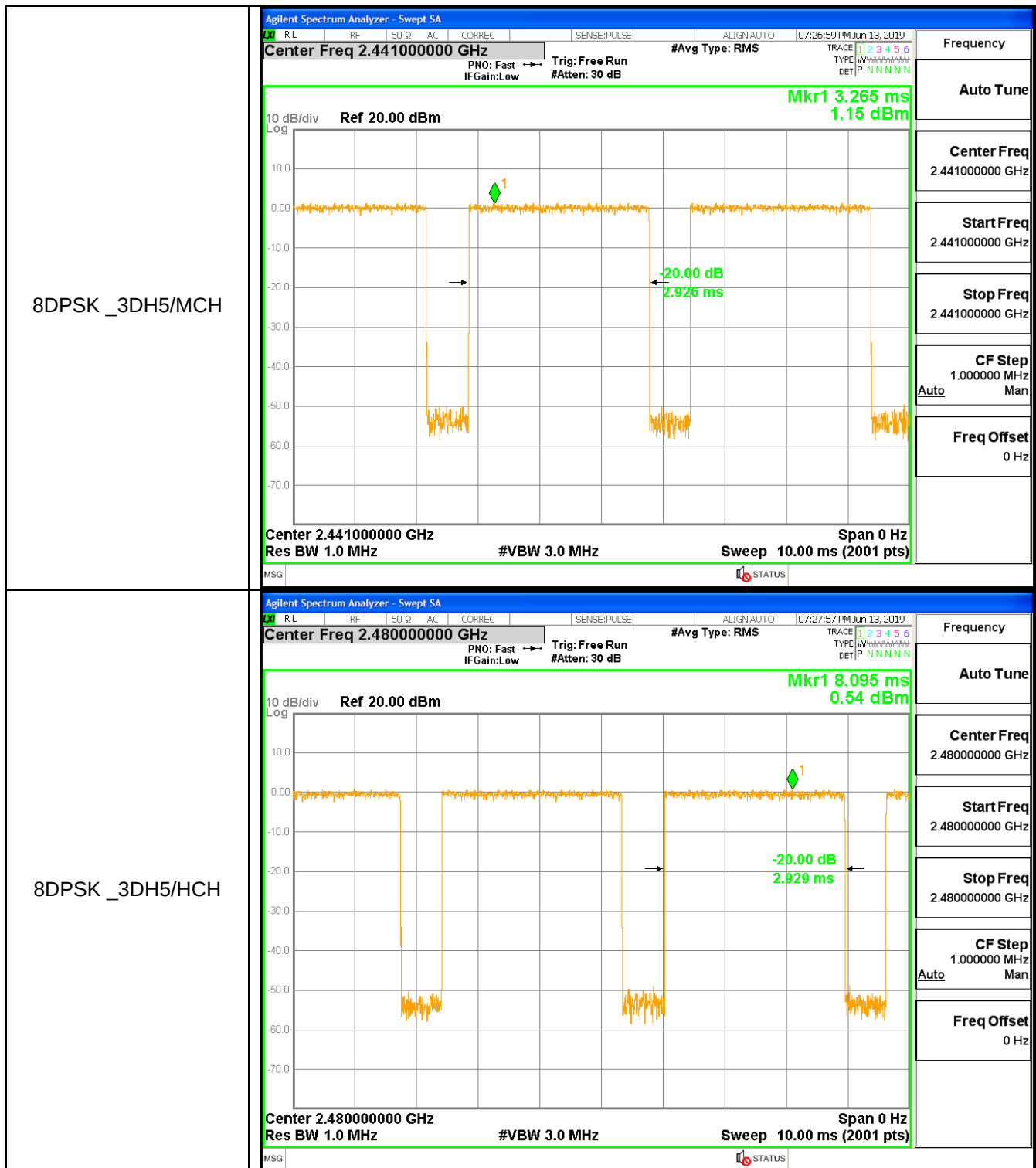


$\pi/4$ DQPSK
_2DH5/HCH



8DPSK_3DH5/LCH

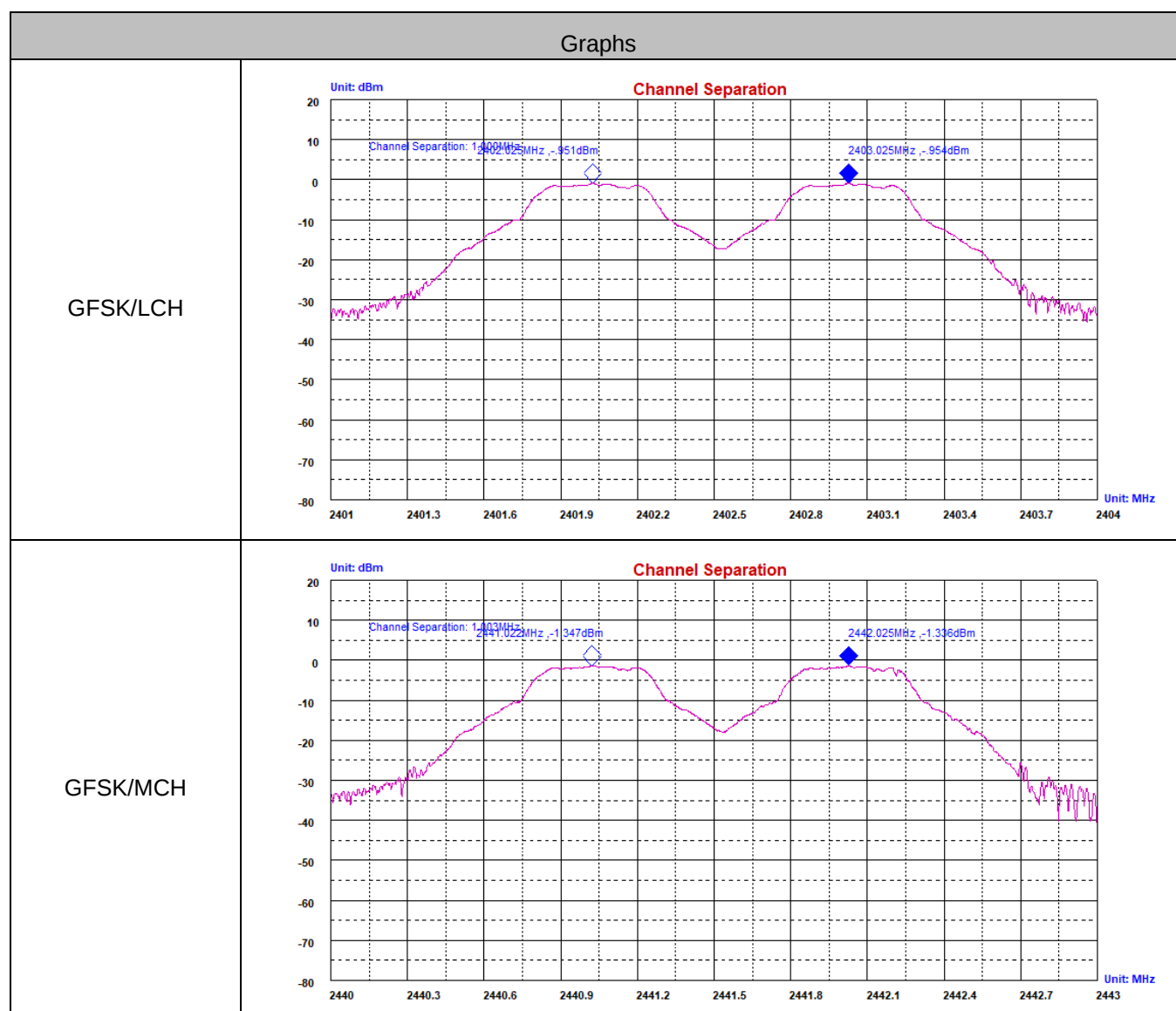




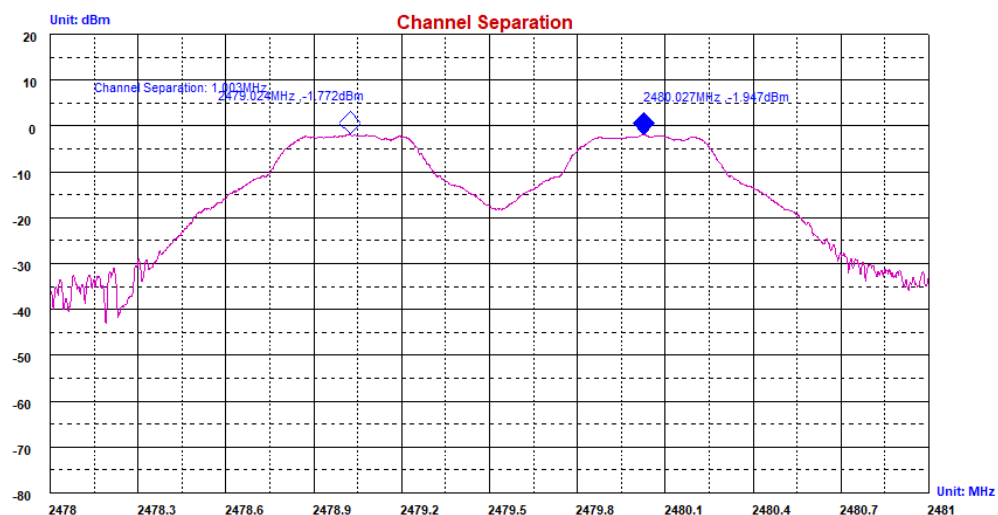
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.635	PASS
GFSK	MCH	1.003	0.633	PASS
GFSK	HCH	1.003	0.633	PASS
$\pi/4$ DQPSK	LCH	0.999	0.899	PASS
$\pi/4$ DQPSK	MCH	0.994	0.899	PASS
$\pi/4$ DQPSK	HCH	1.010	0.901	PASS
8DPSK	LCH	0.996	0.895	PASS
8DPSK	MCH	1.001	0.892	PASS
8DPSK	HCH	0.994	0.894	PASS

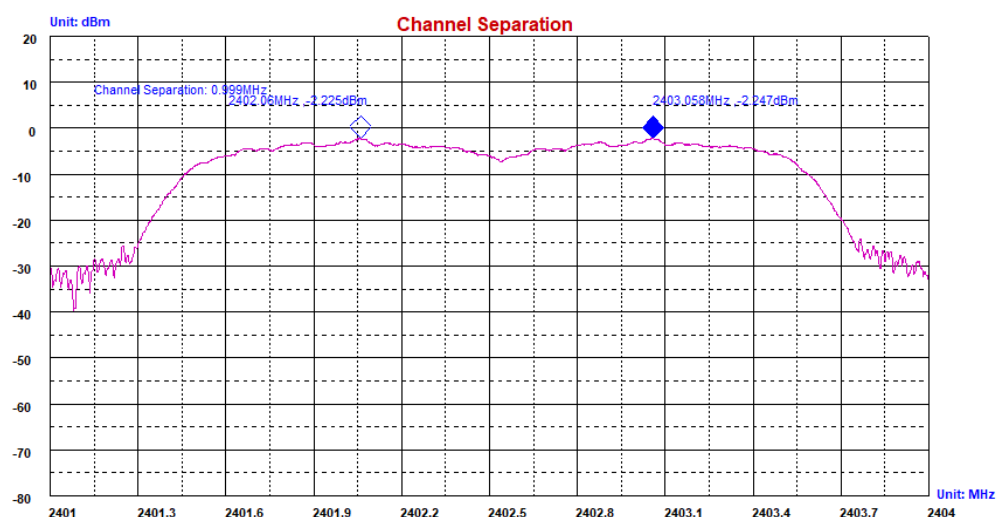
Test Graph



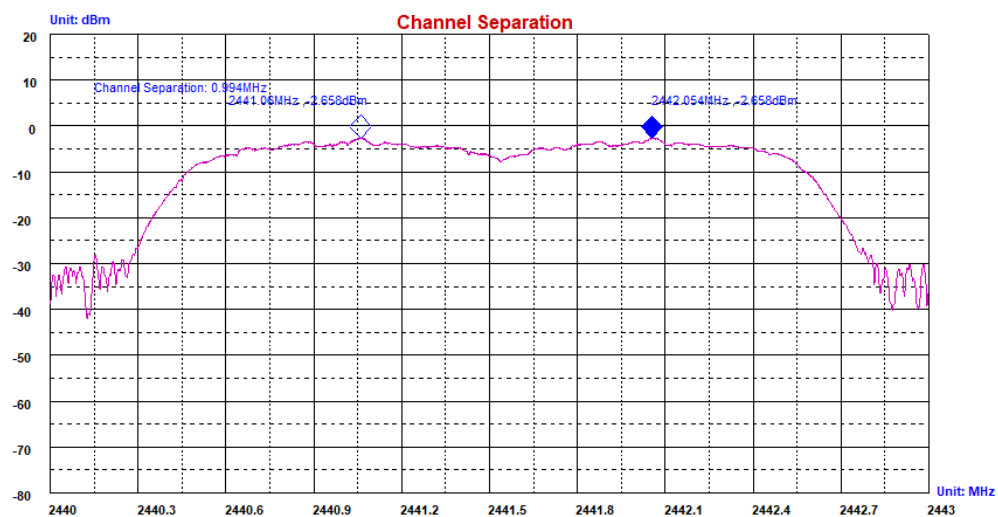
GFSK/HCH

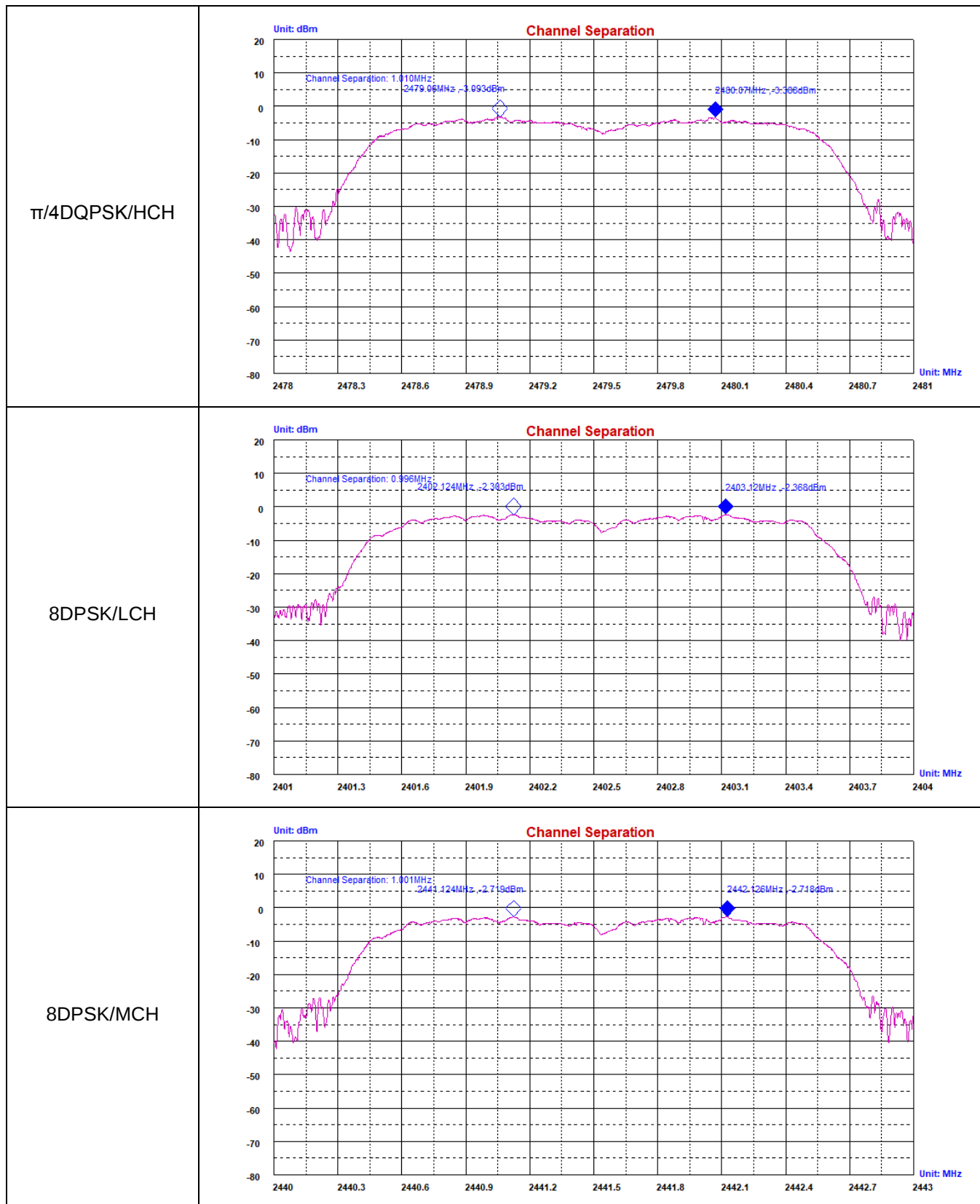


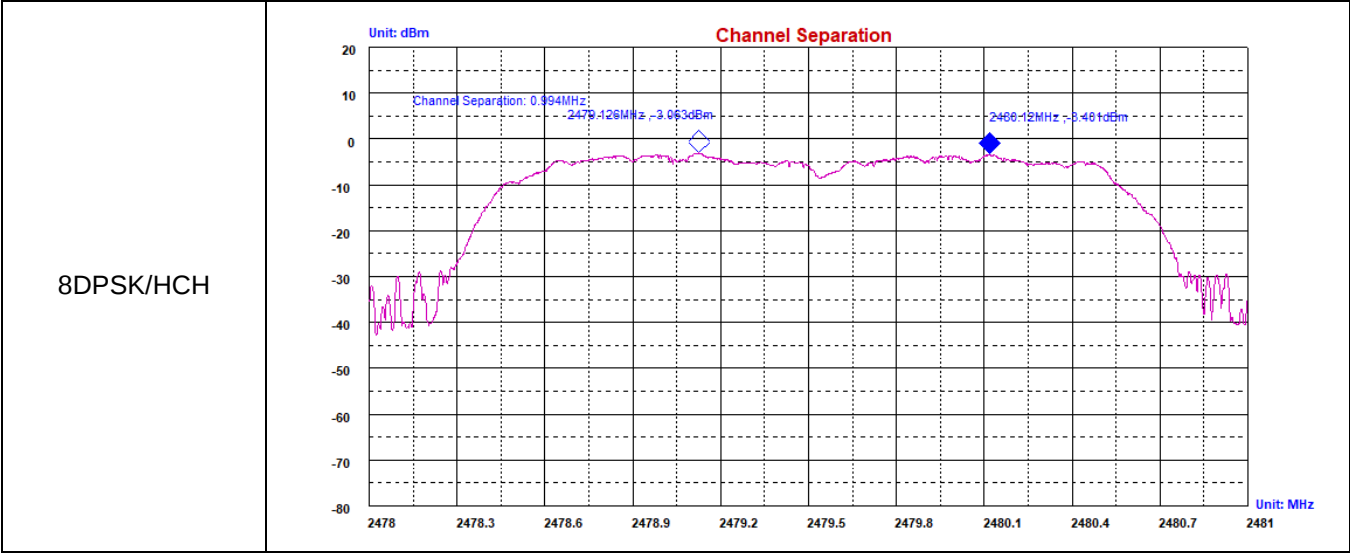
π /4DQPSK/LCH



π /4DQPSK/MCH



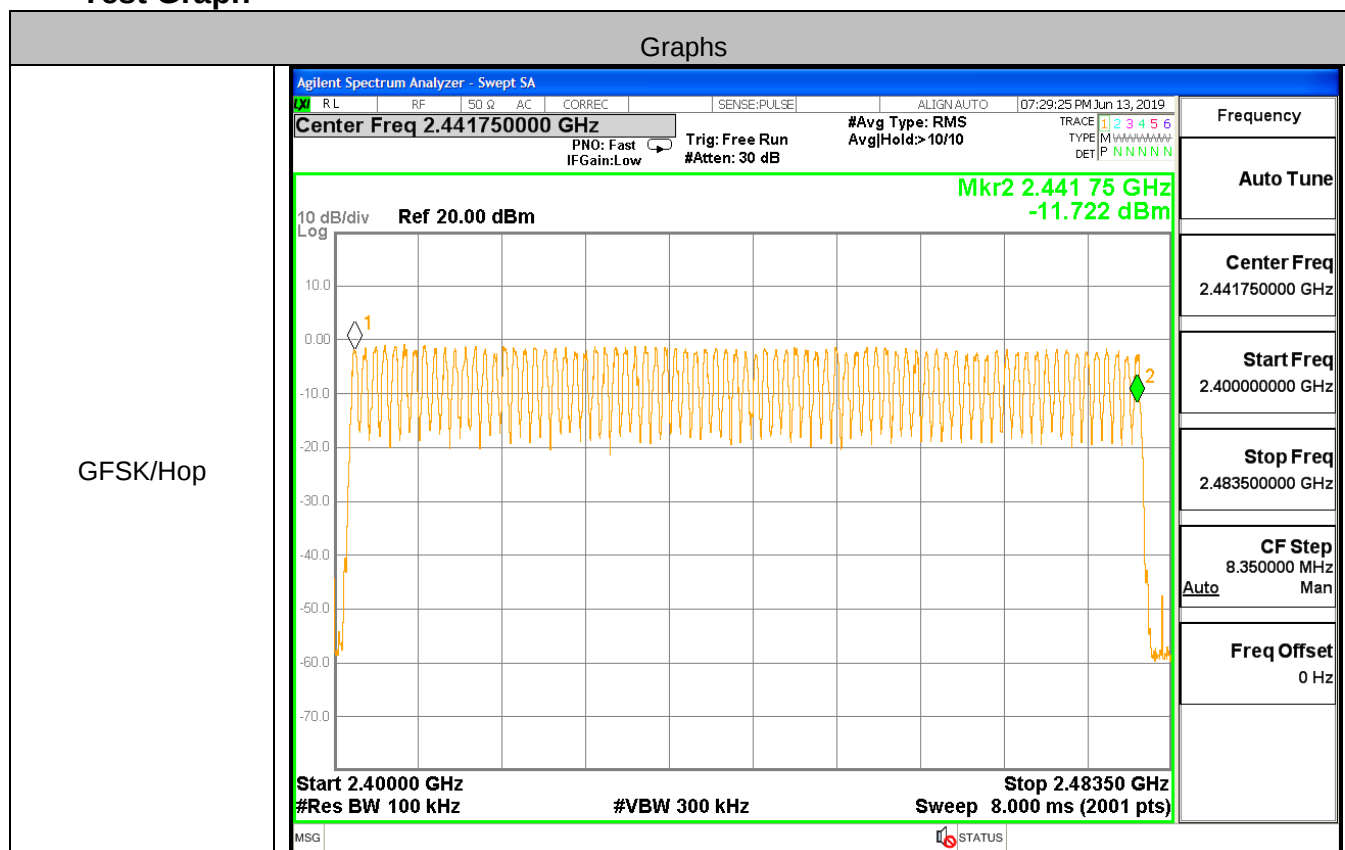


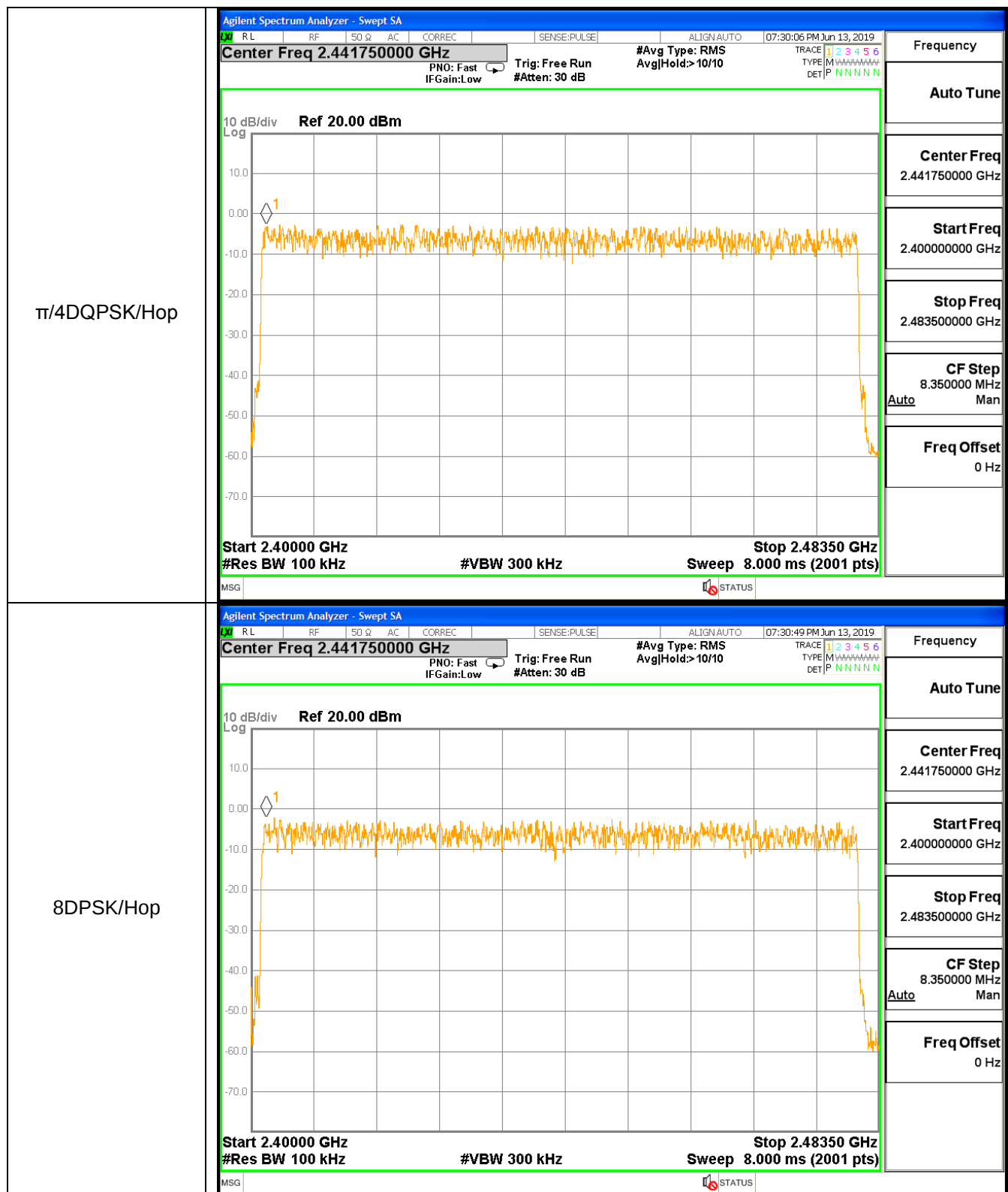


A.4 Hopping Channel Number

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 Graph

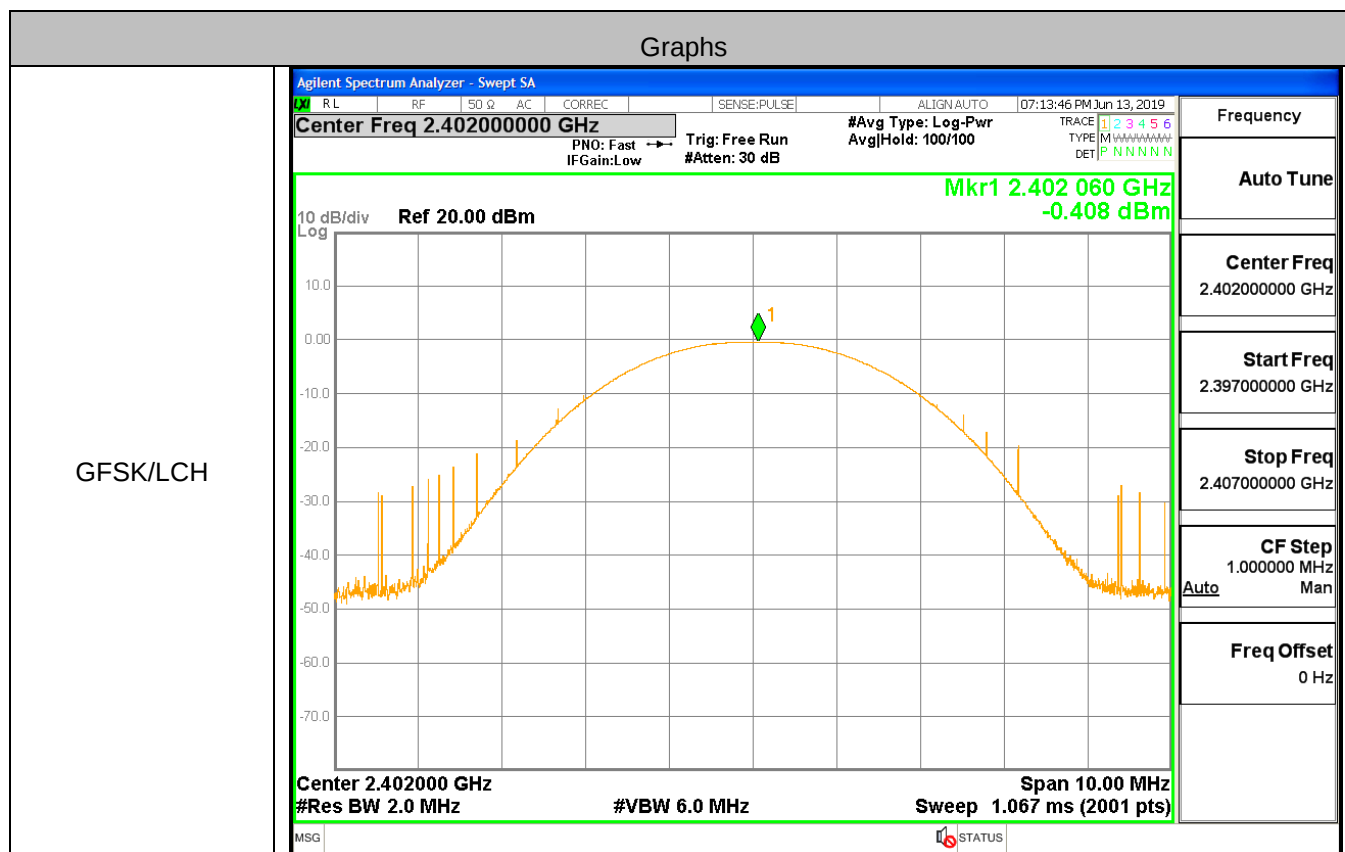




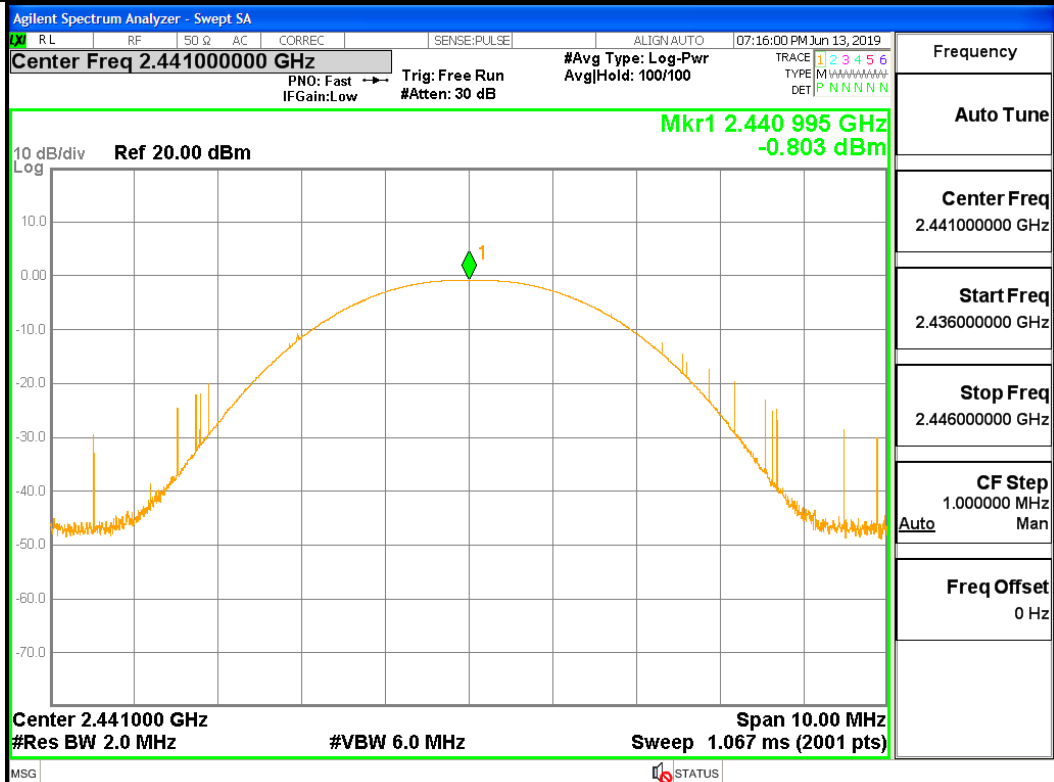
A.5 Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.408	21	PASS
GFSK	MCH	-0.803	21	PASS
GFSK	HCH	-1.432	21	PASS
$\pi/4$ DQPSK	LCH	1.519	21	PASS
$\pi/4$ DQPSK	MCH	1.137	21	PASS
$\pi/4$ DQPSK	HCH	0.532	21	PASS
8DPSK	LCH	2.075	21	PASS
8DPSK	MCH	1.708	21	PASS
8DPSK	HCH	1.115	21	PASS

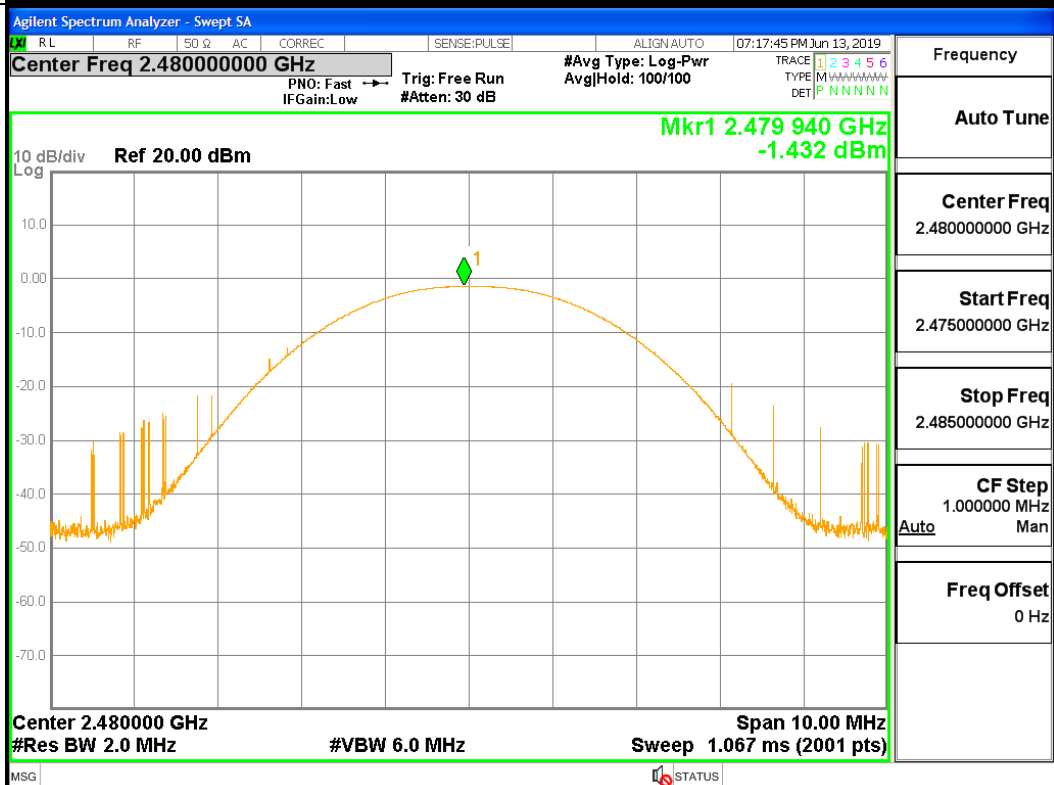
Test Graph

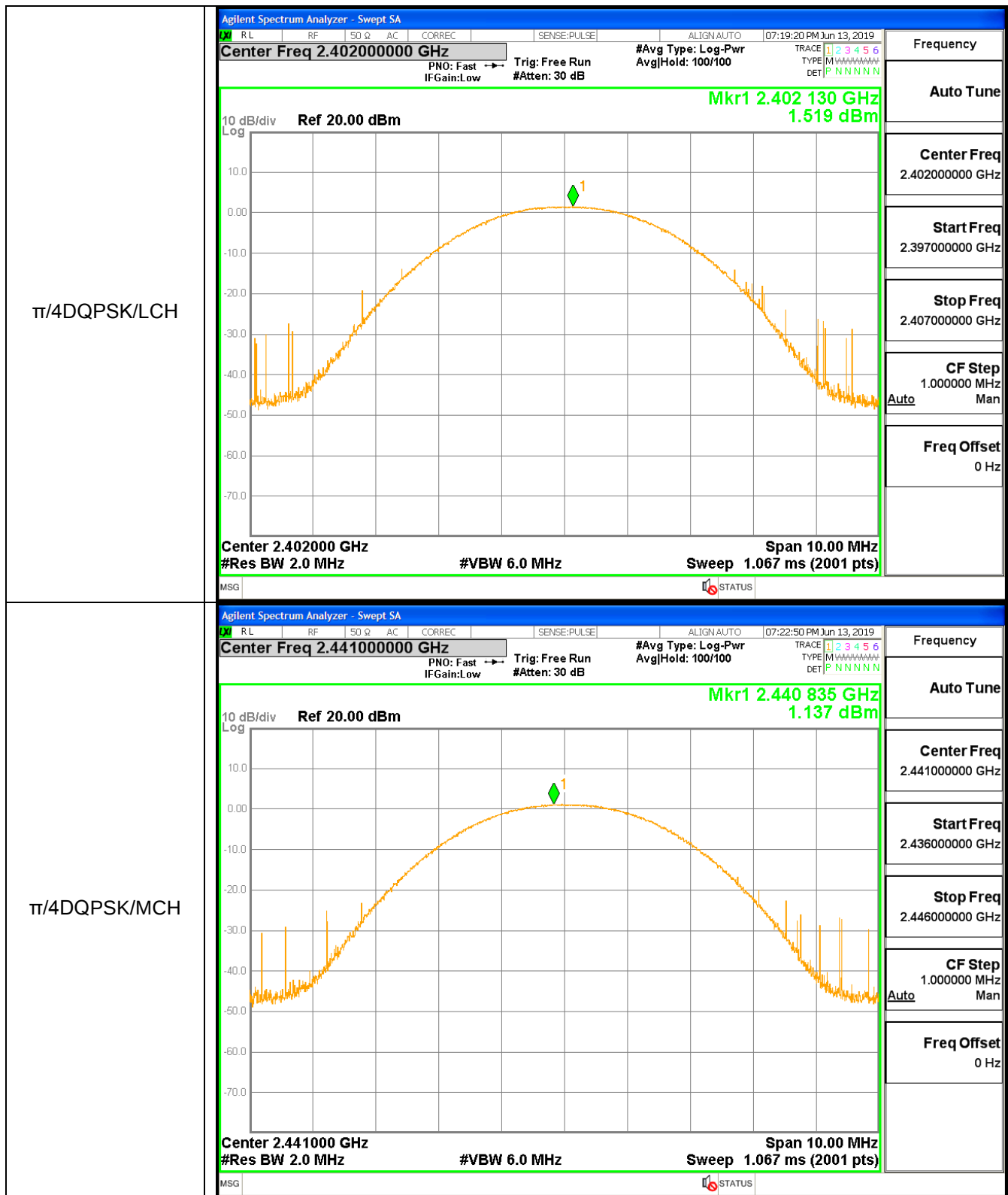


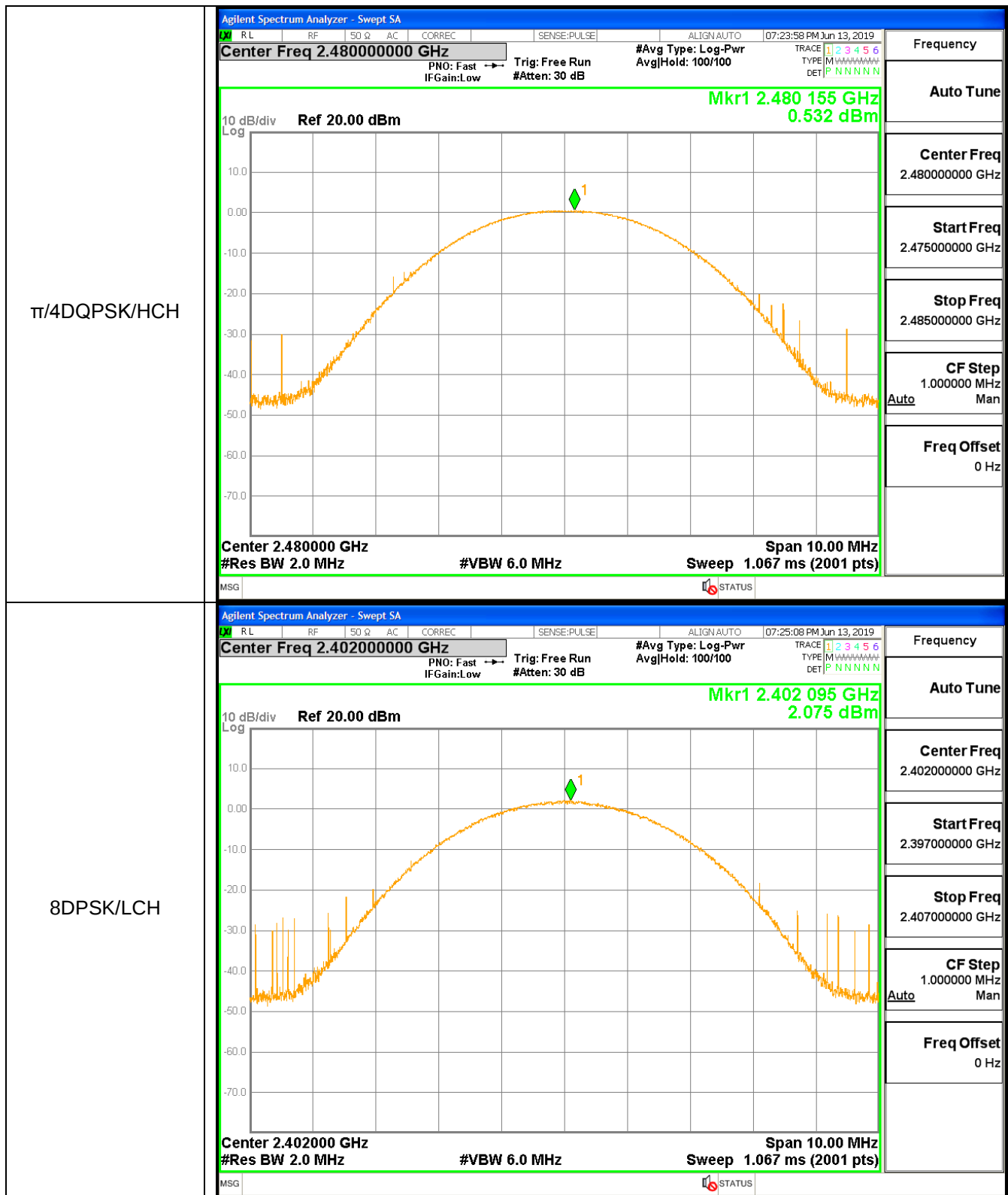
GFSK/MCH

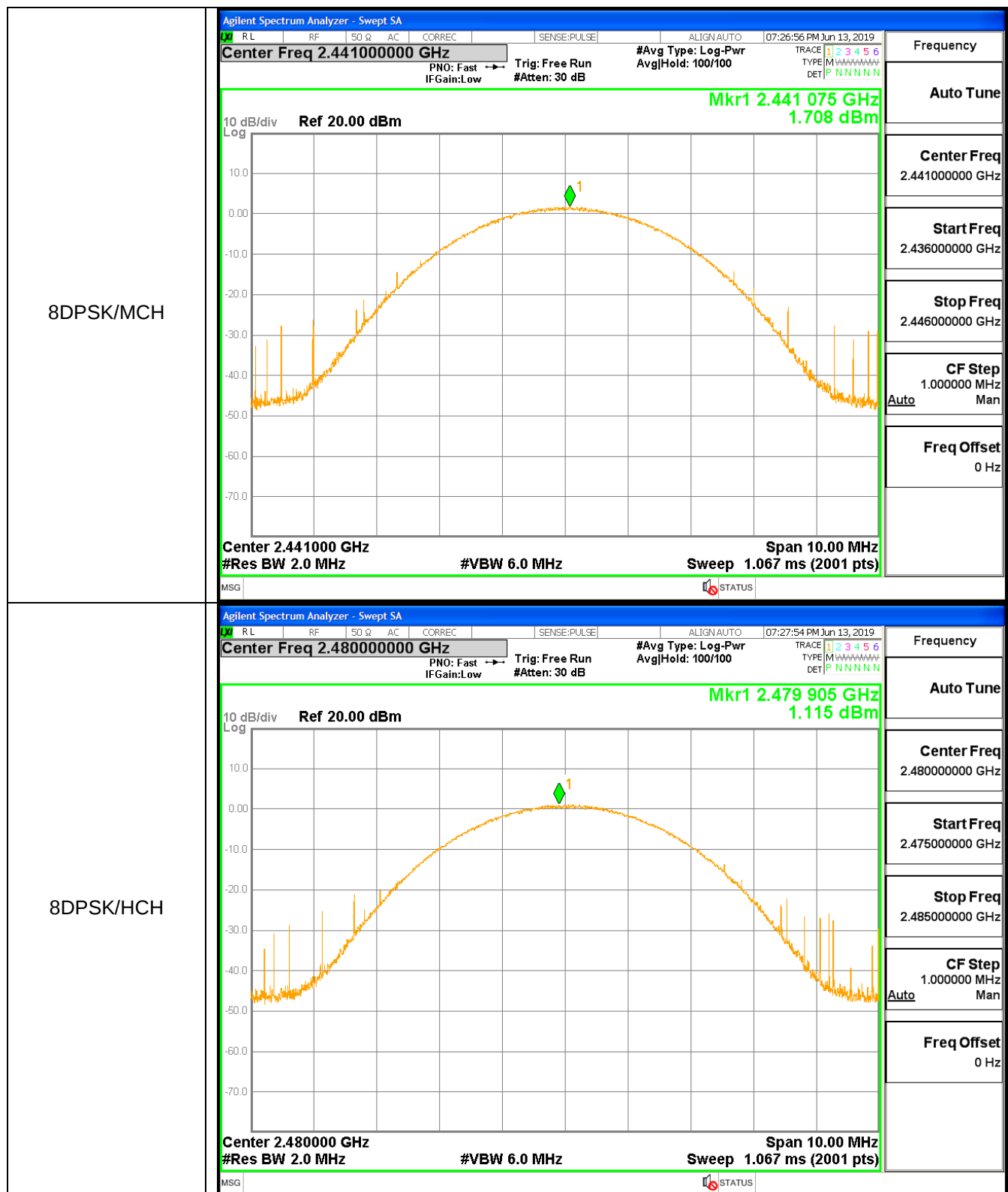


GFSK/HCH









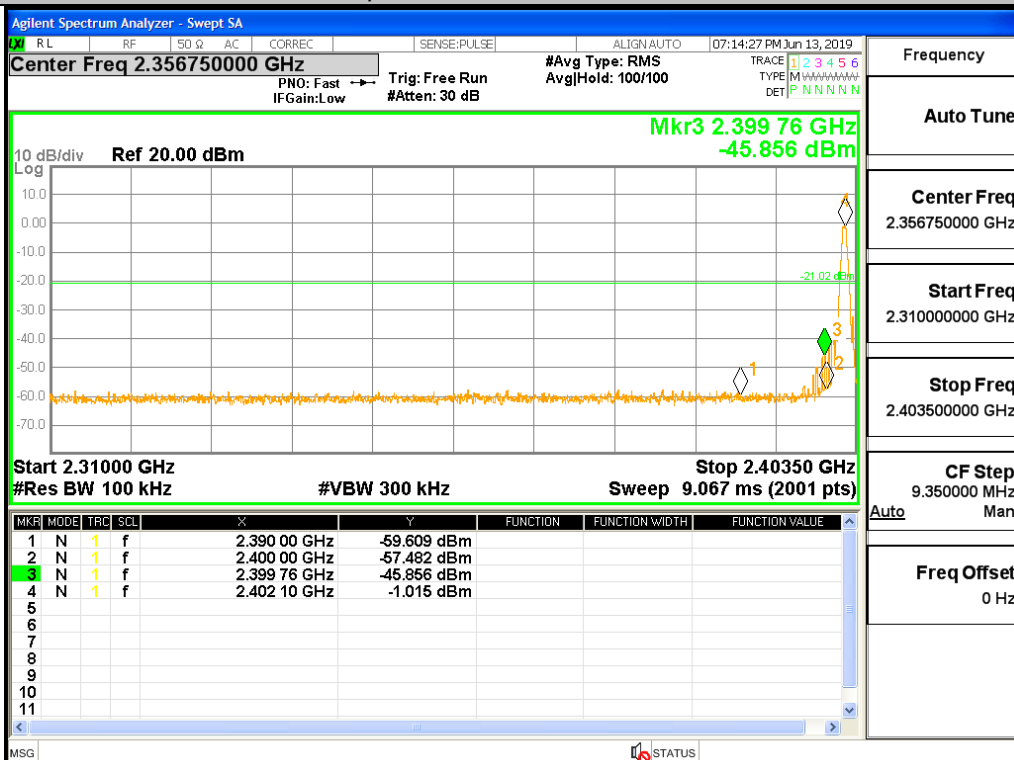
A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2399.76	-1.015	-45.856	-21.015	Pass
1DH5	2480	2500	-1.898	-61.64	-21.898	Pass
2DH5	2402	2398.825	-2.766	-47.729	-22.766	Pass
2DH5	2480	2483.983	-4.005	-52.828	-24.005	Pass
3DH5	2402	2400	-2.112	-40.2	-22.112	Pass
3DH5	2480	2484.036	-3.287	-52.357	-23.287	Pass
1DH5-Hopping	2402	2399.01	-1.027	-49.381	-21.027	Pass
1DH5-Hopping	2480	2498.95	-1.697	-54.277	-21.697	Pass
2DH5-Hopping	2402	2400	-2.495	-54.33	-22.495	Pass
2DH5-Hopping	2480	2499.13	-3.513	-53.14	-23.513	Pass
3DH5-Hopping	2402	2399.94	-2.235	-53.925	-22.235	Pass
3DH5-Hopping	2480	2500	-2.737	-55.92	-22.737	Pass

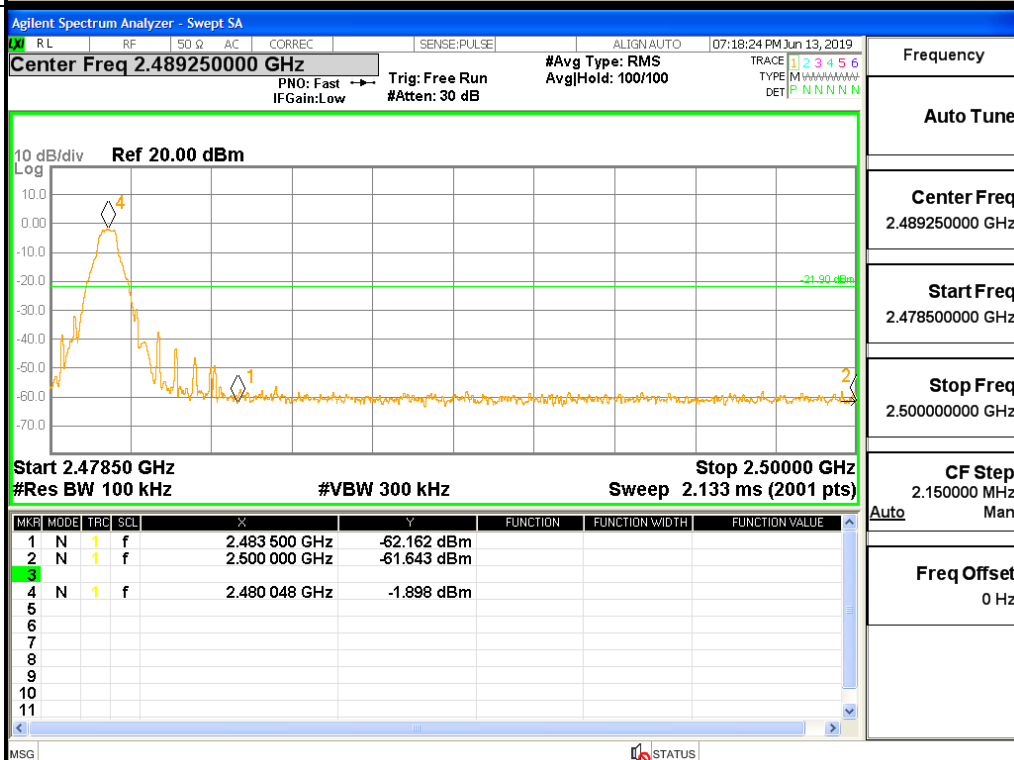
Test Graph

Graphs

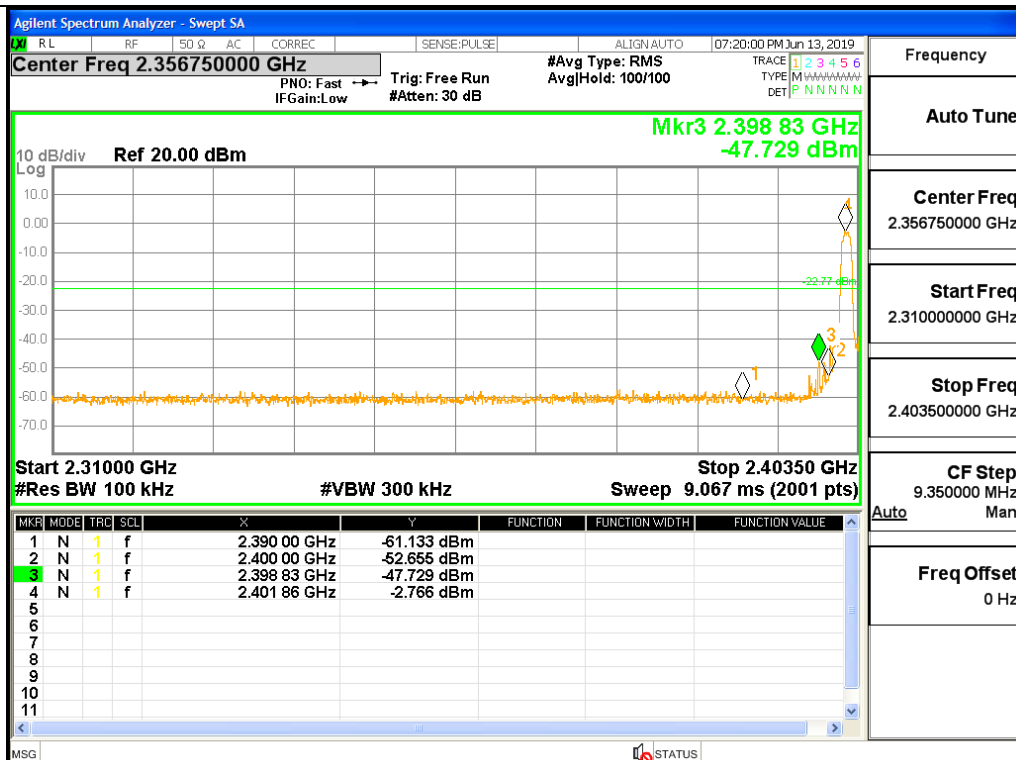
GFSK/LCH/No Hop



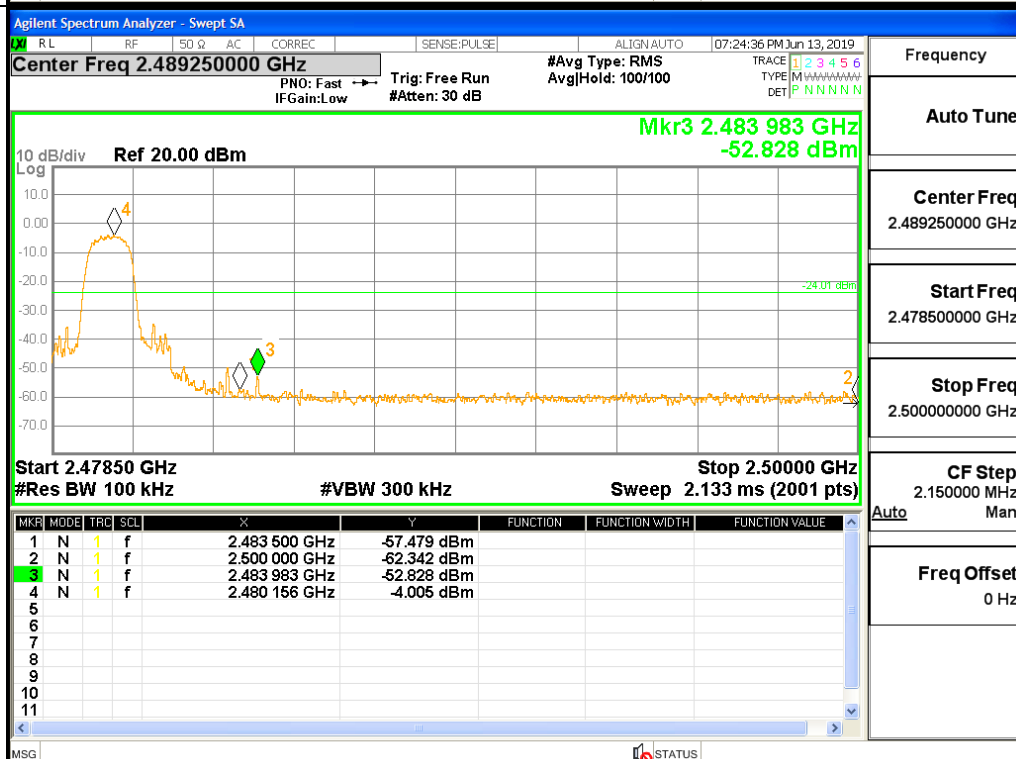
GFSK/HCH/No Hop



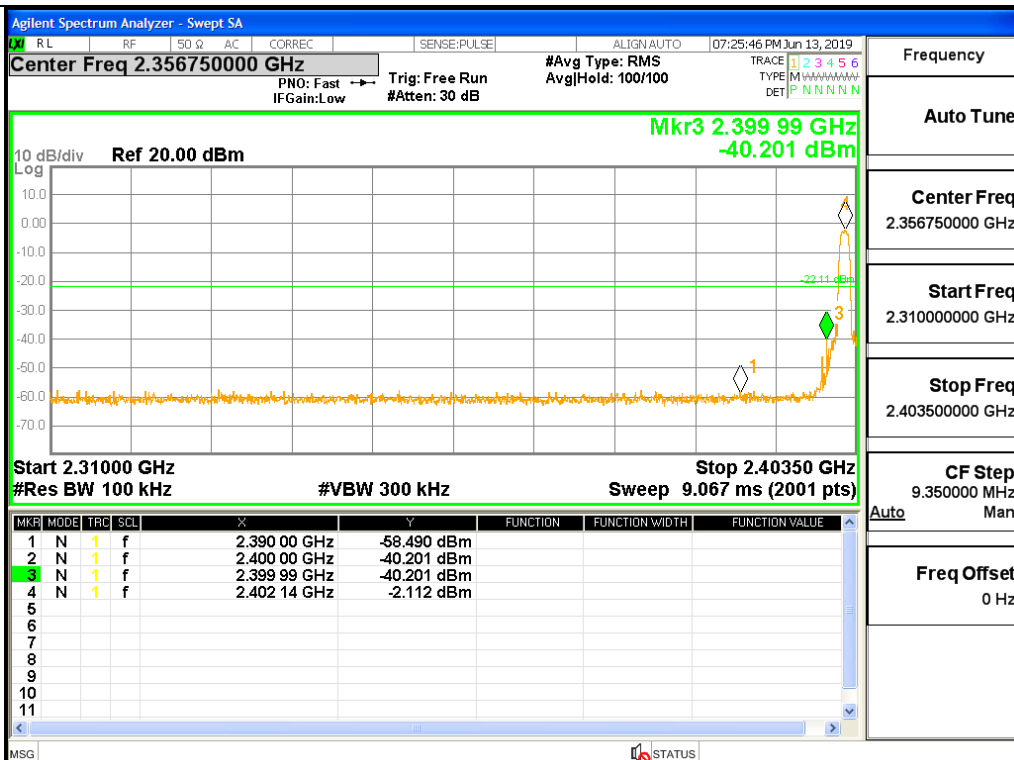
π /4DQPSK/LCH/No
Hop



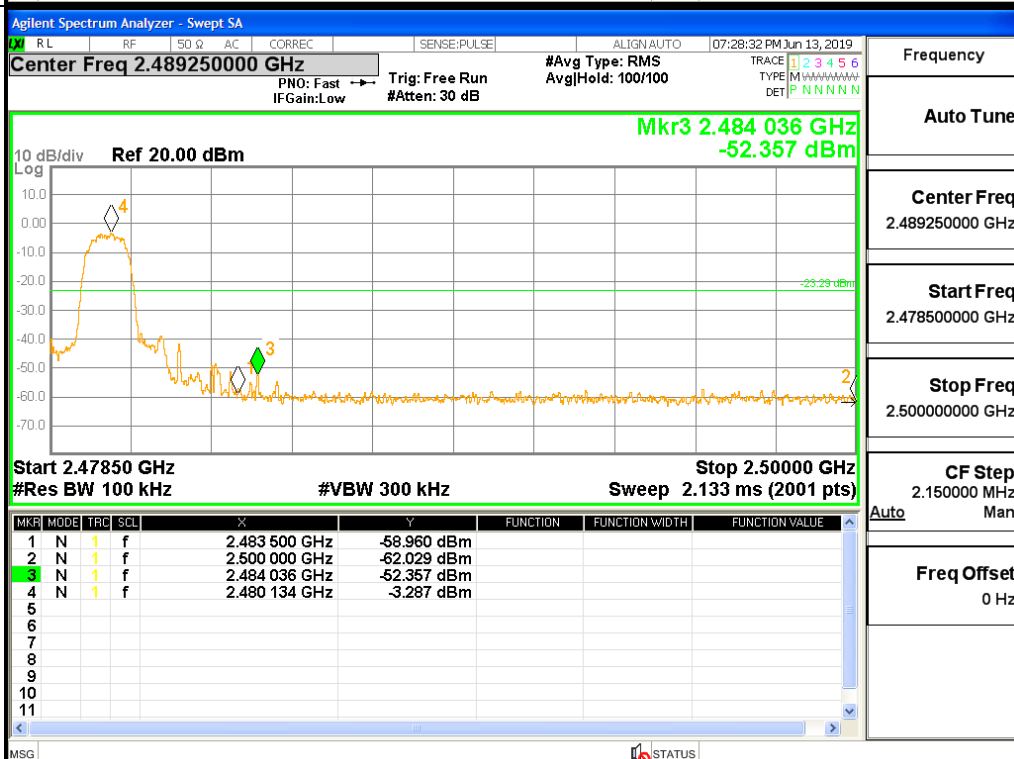
π /4DQPSK/HCH/No
Hop



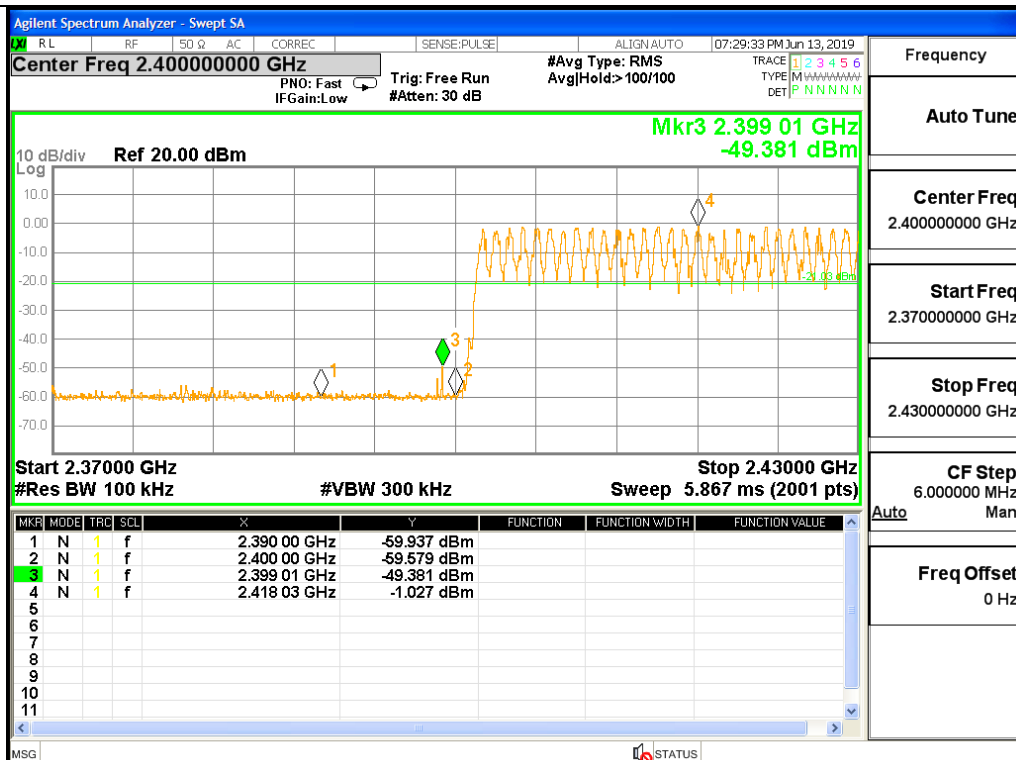
8DPSK/LCH/No Hop



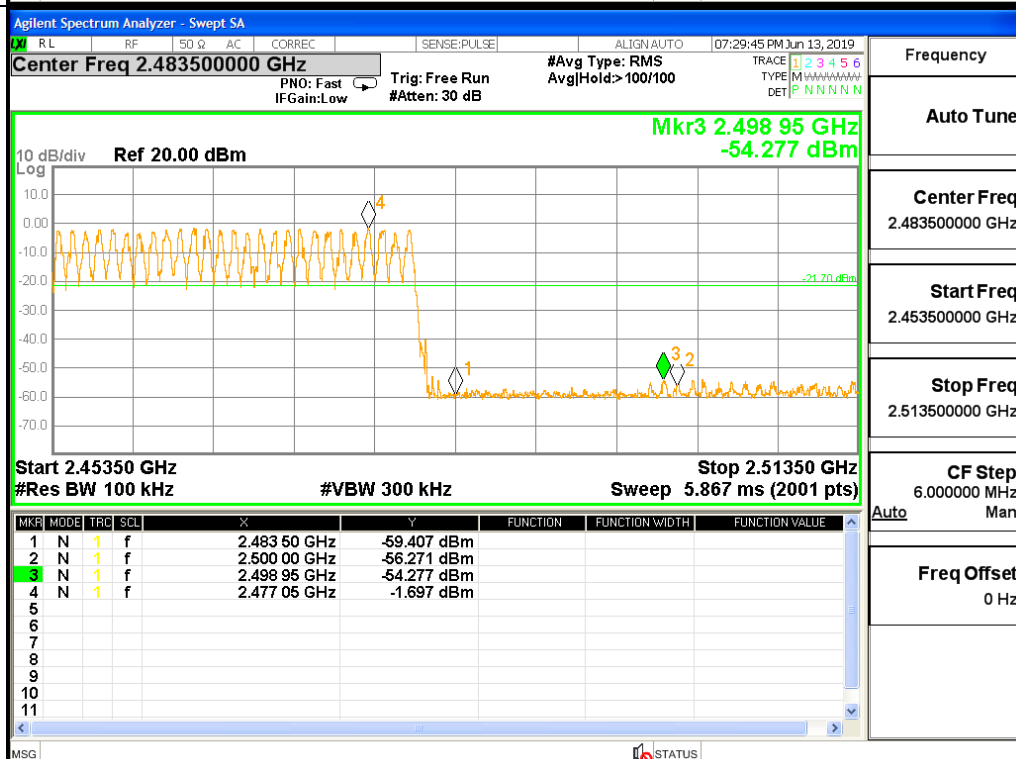
8DPSK/HCH/No Hop



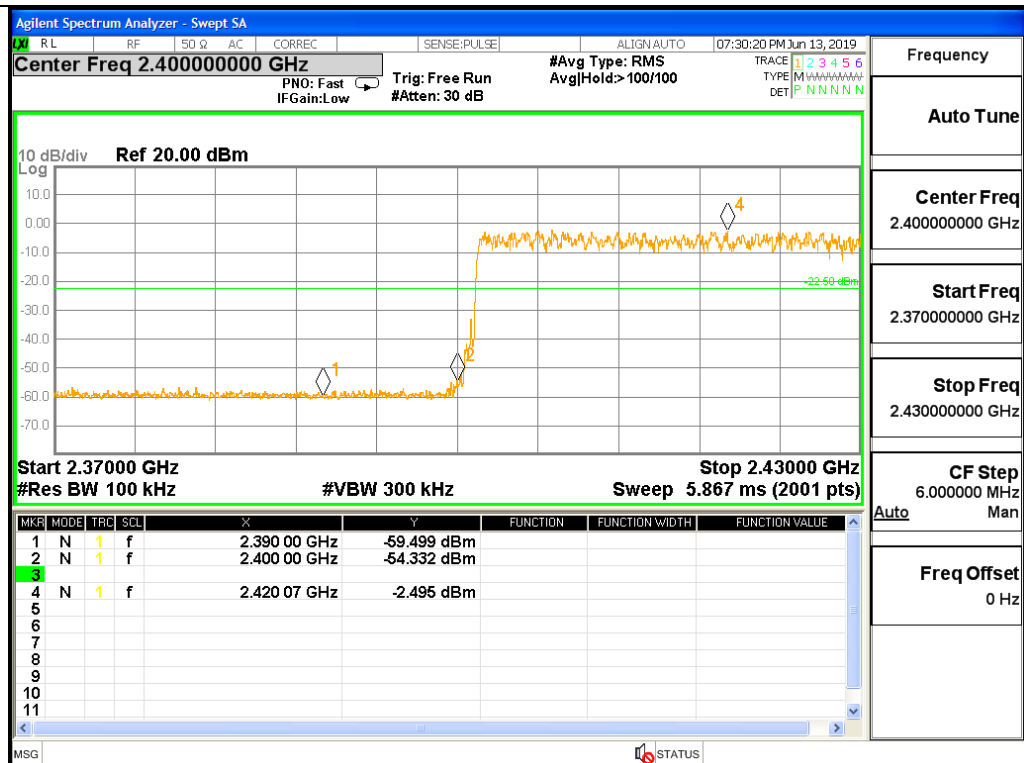
GFSK/LCH/Hop



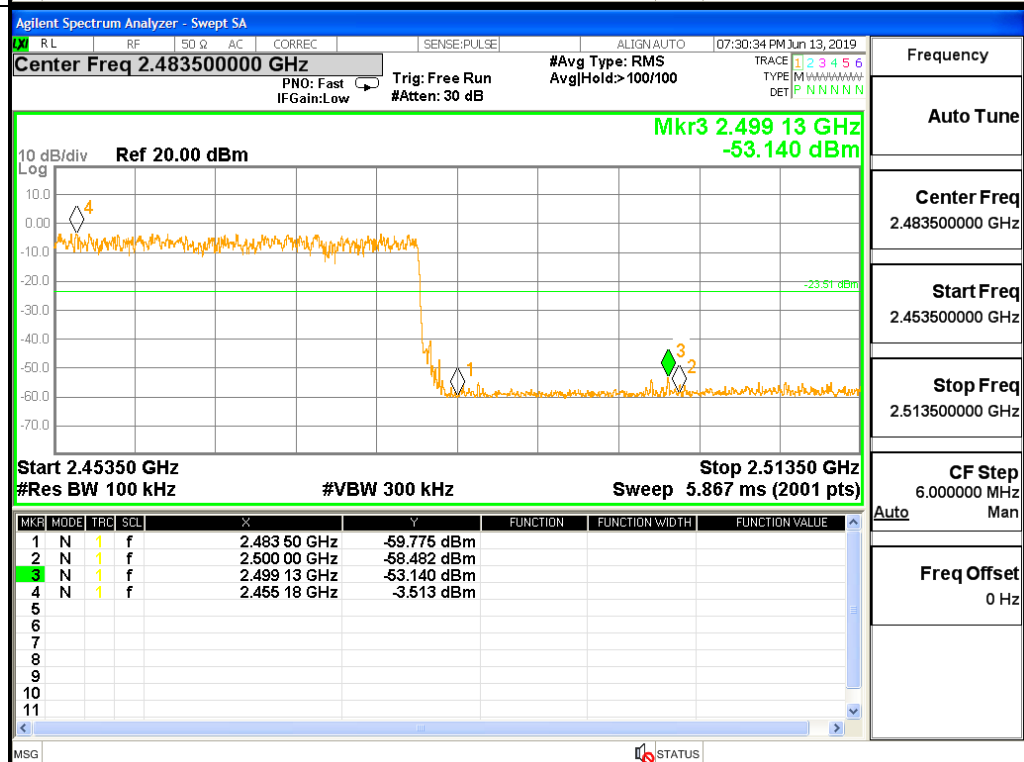
GFSK/HCH/Hop



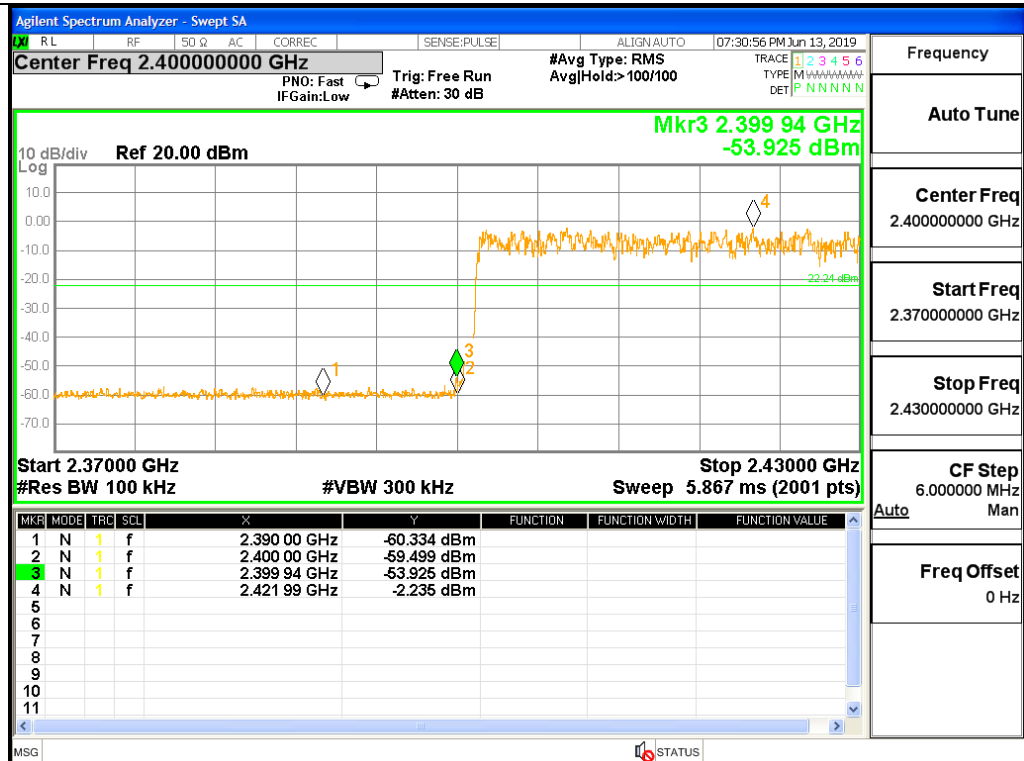
π /4DQPSK/LCH/Hop



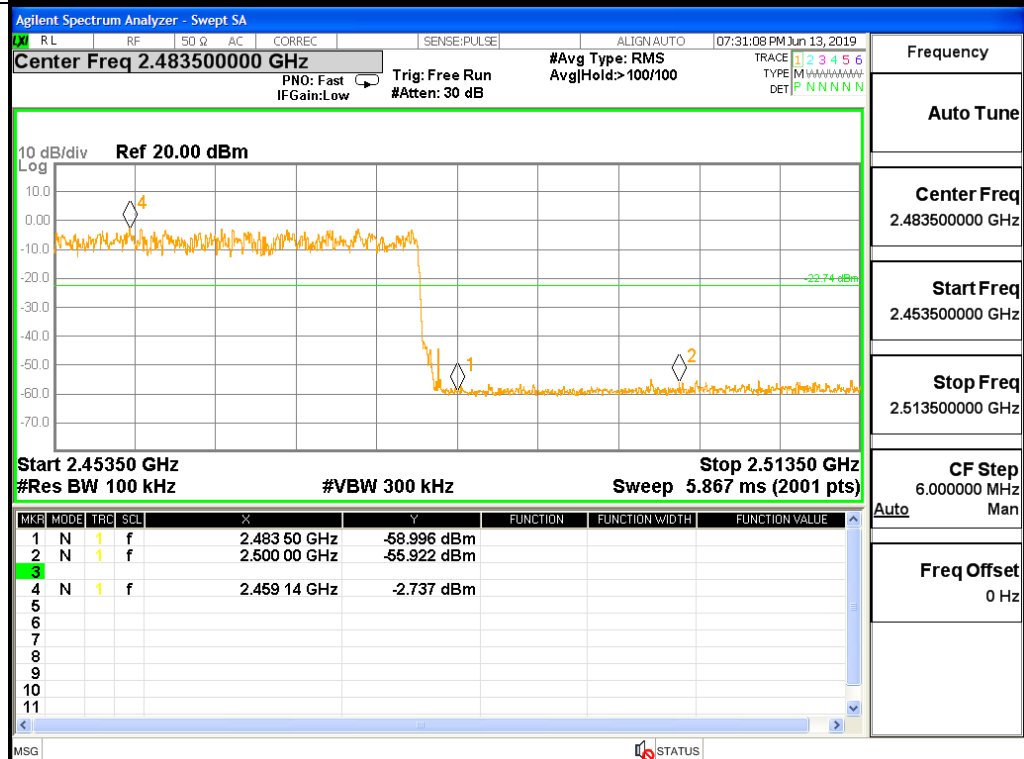
π /4DQPSK/HCH/Hop



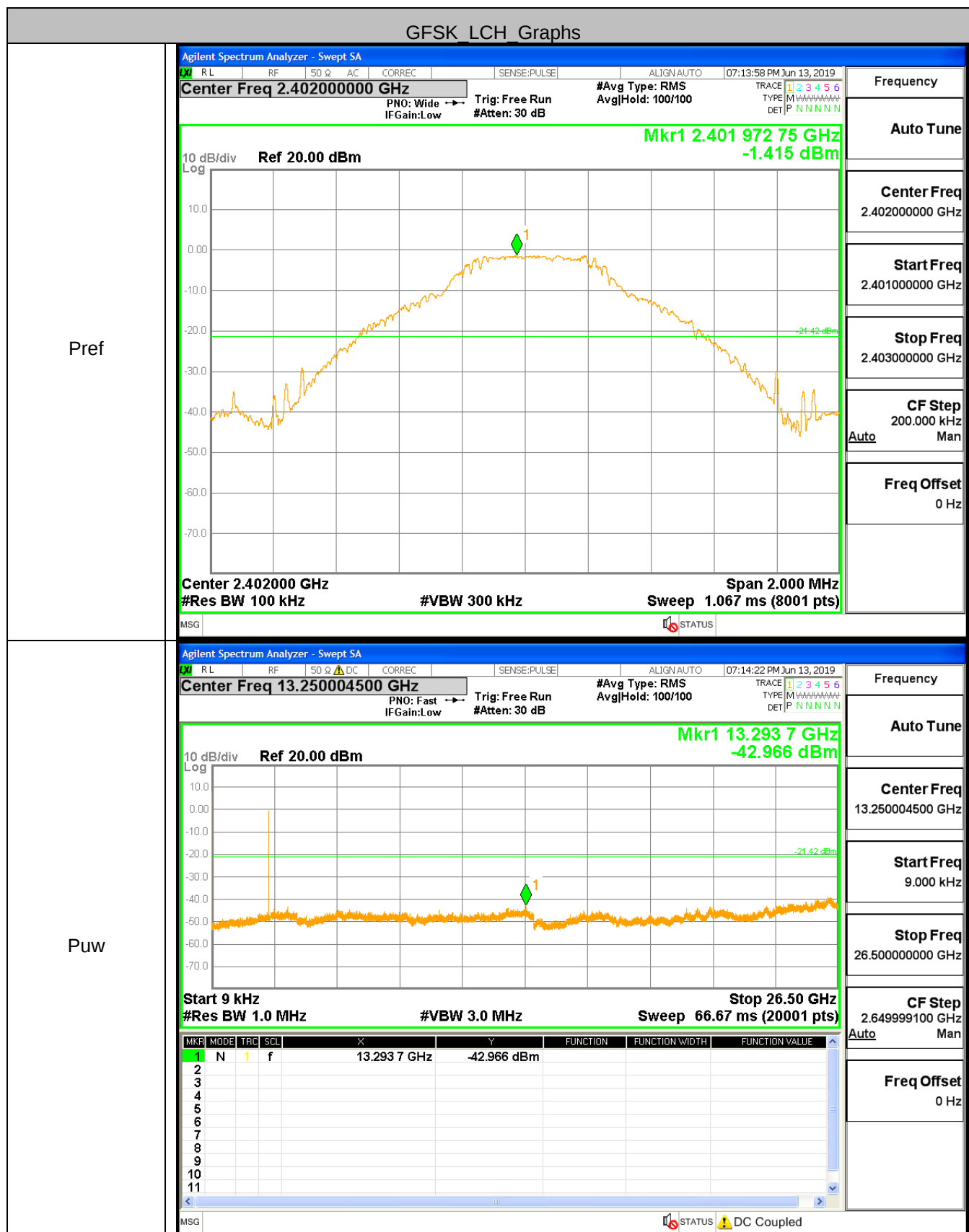
8DPSK/LCH/Hop



8DPSK/HCH/Hop

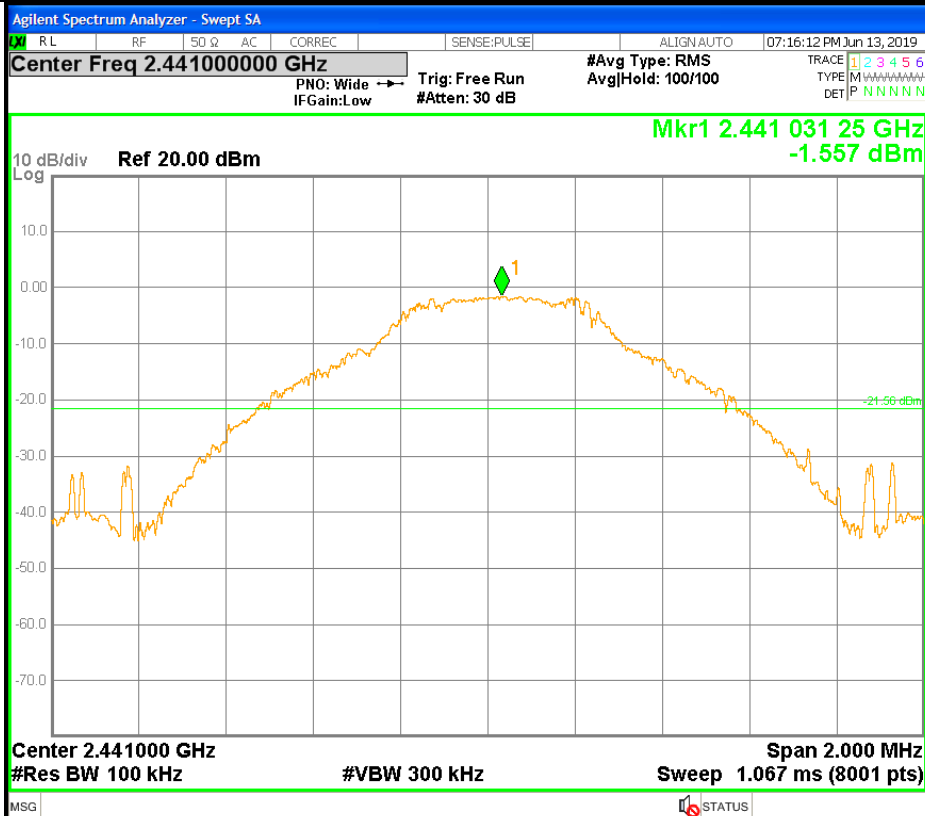


A.7 RF Conducted Spurious Emissions Test Graph



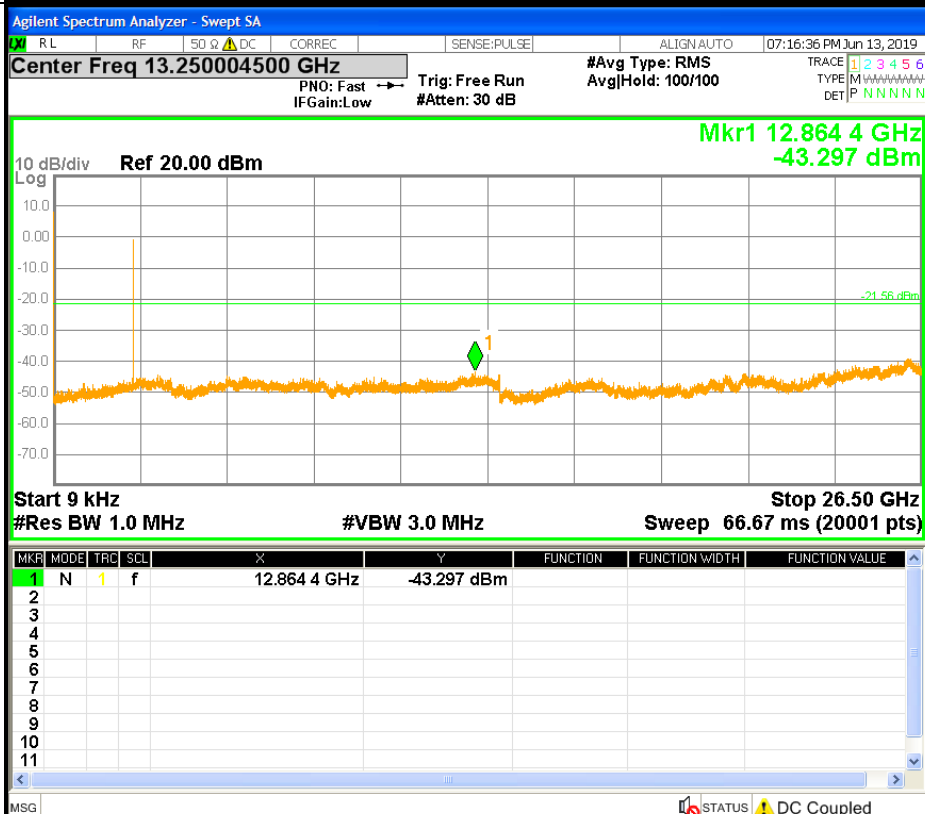
GFSK MCH Graphs

Pref



Frequency
Auto Tune
Center Freq 2.441000000 GHz
Start Freq 2.440000000 GHz
Stop Freq 2.442000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

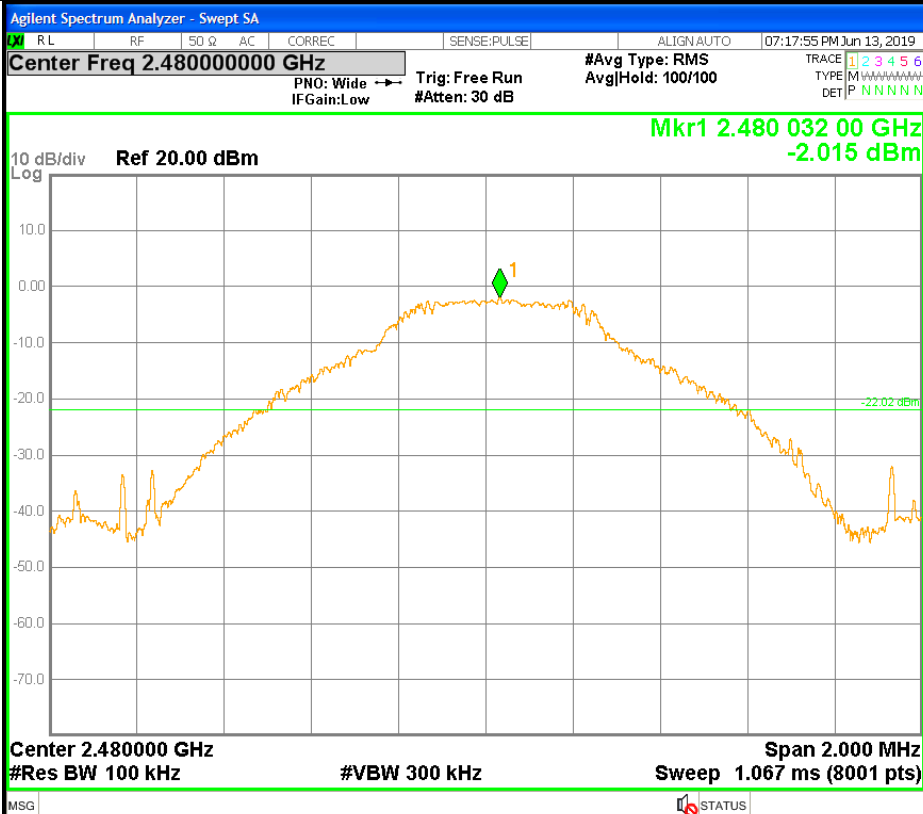
Puw



Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

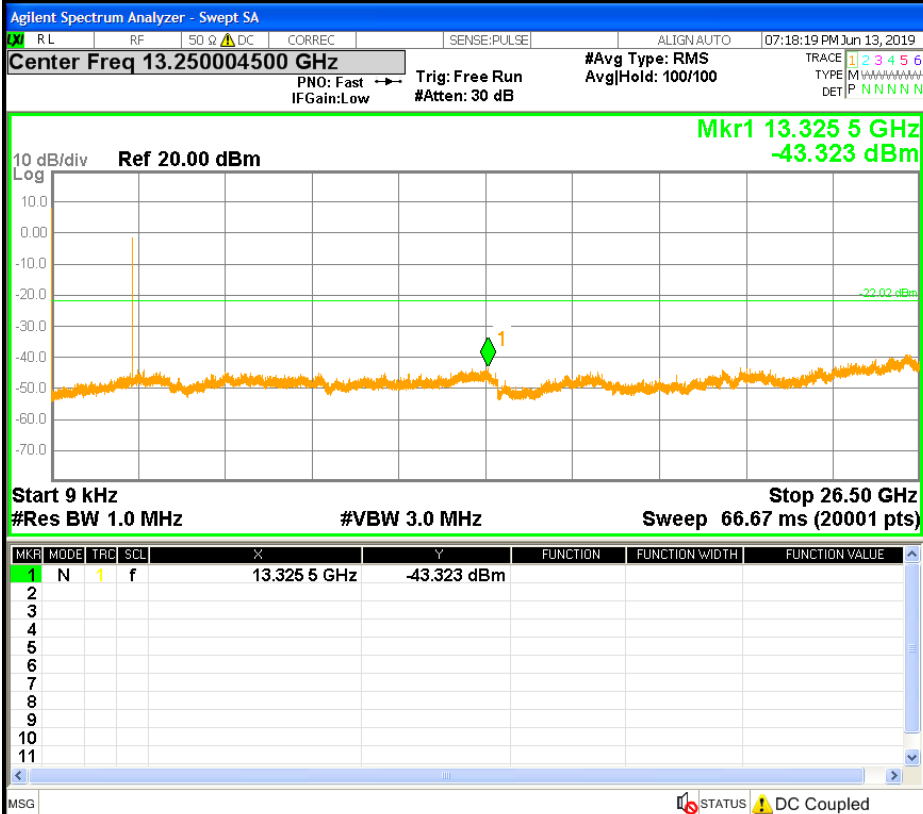
GFSK HCH Graphs

Pref



Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.479000000 GHz
Stop Freq 2.481000000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

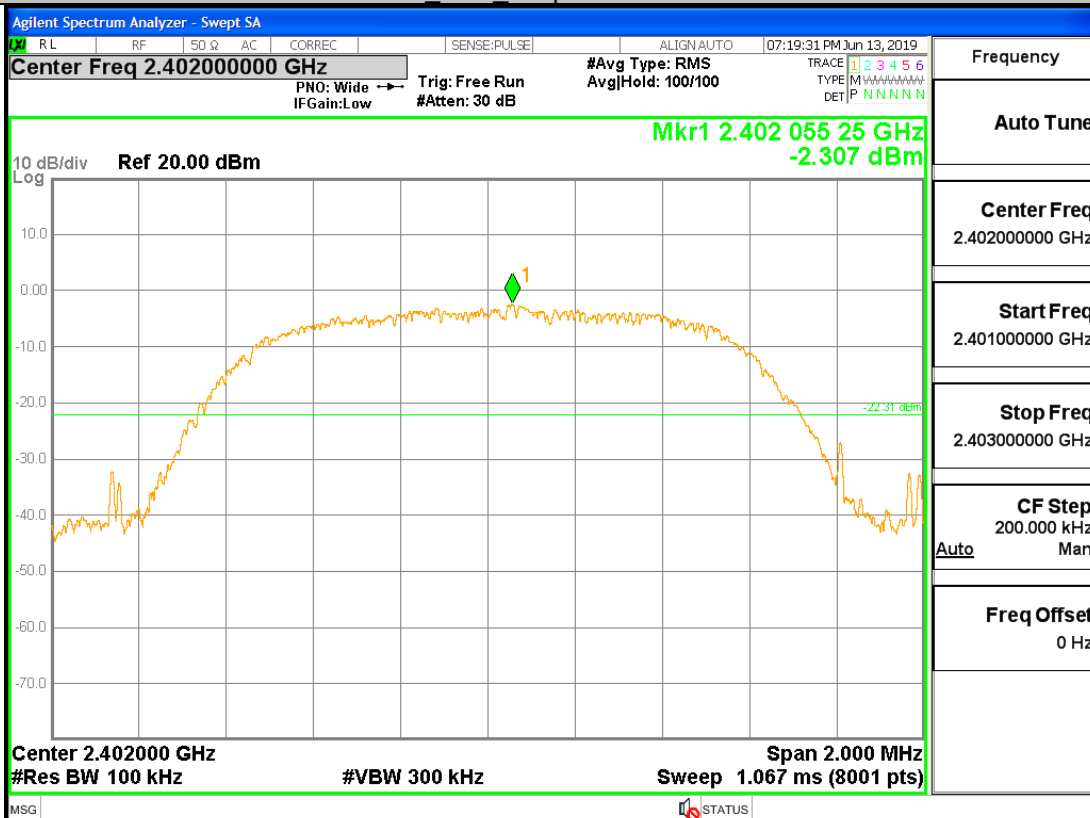
Puw



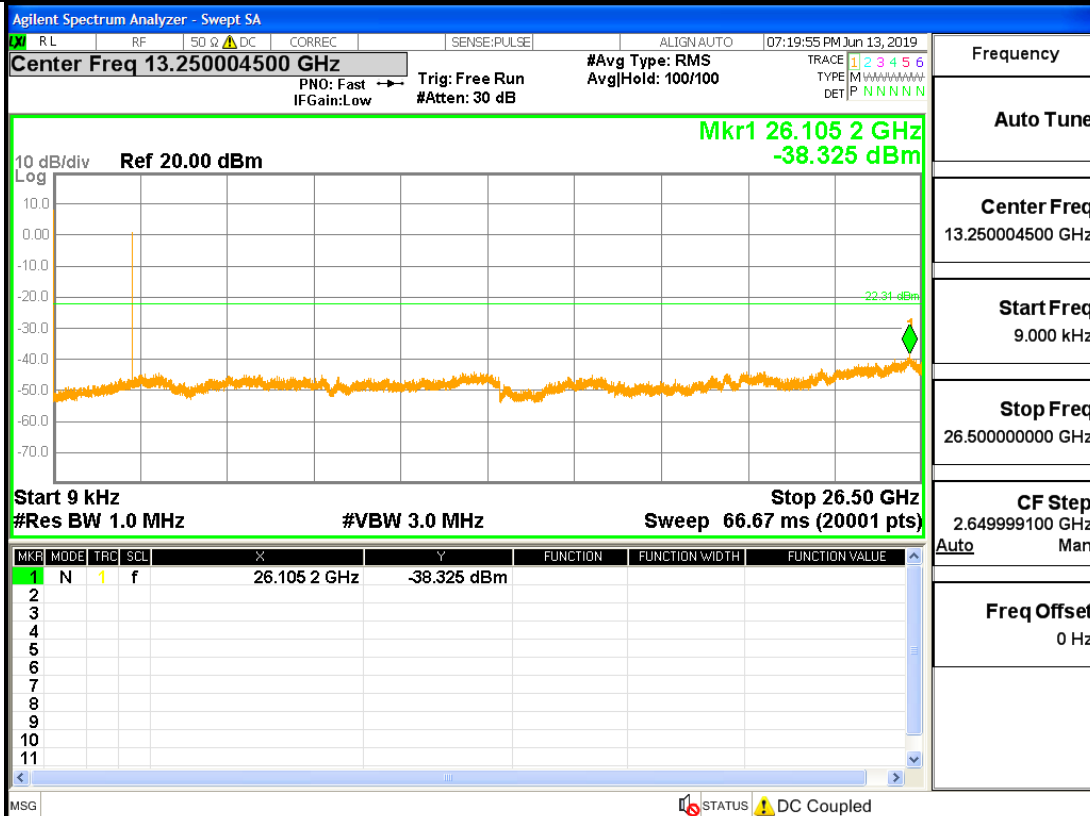
Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto
Freq Offset 0 Hz

$\pi/4$ DQPSK LCH Graphs

Pref

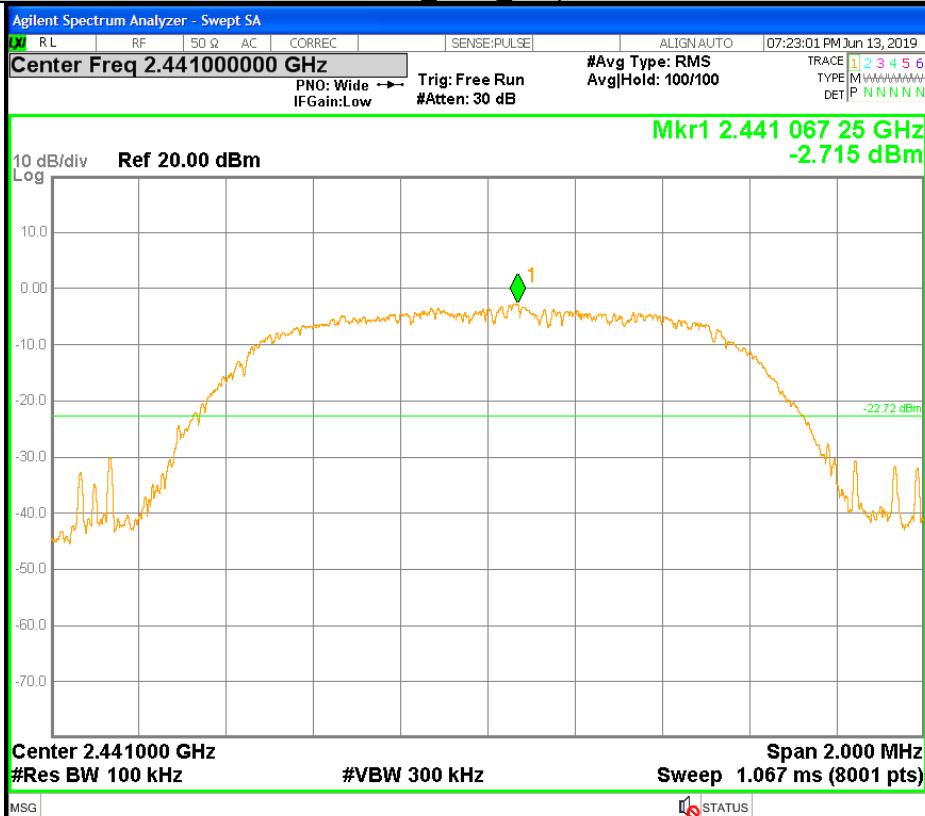


Puw

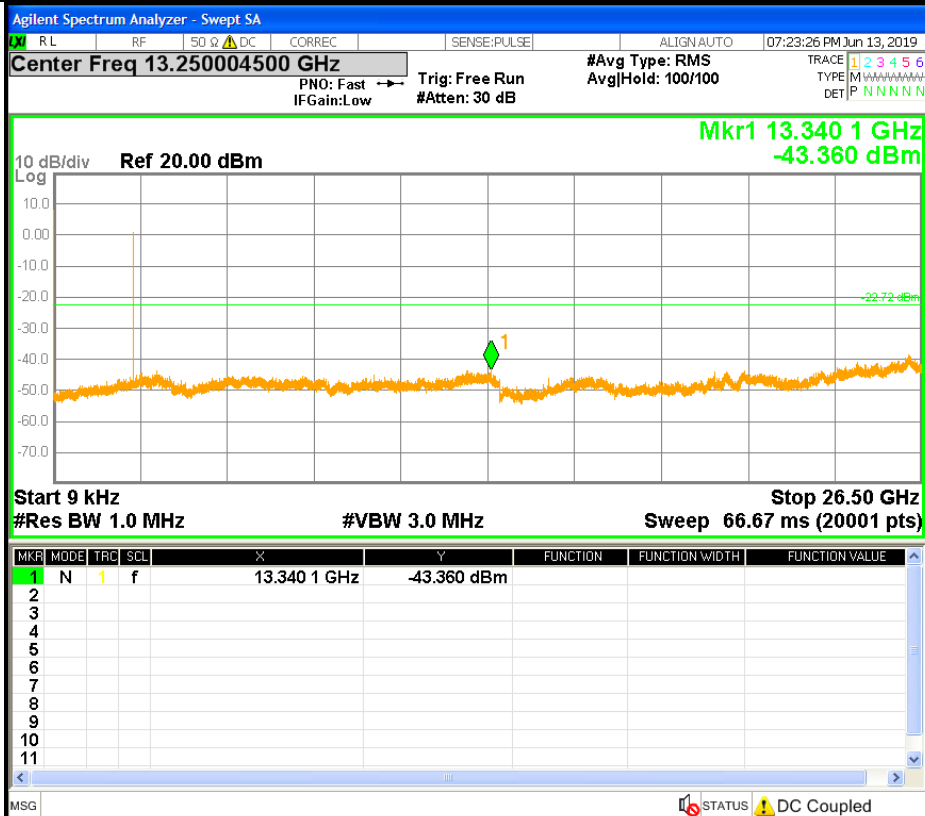


$\pi/4$ DQPSK MCH Graphs

Pref

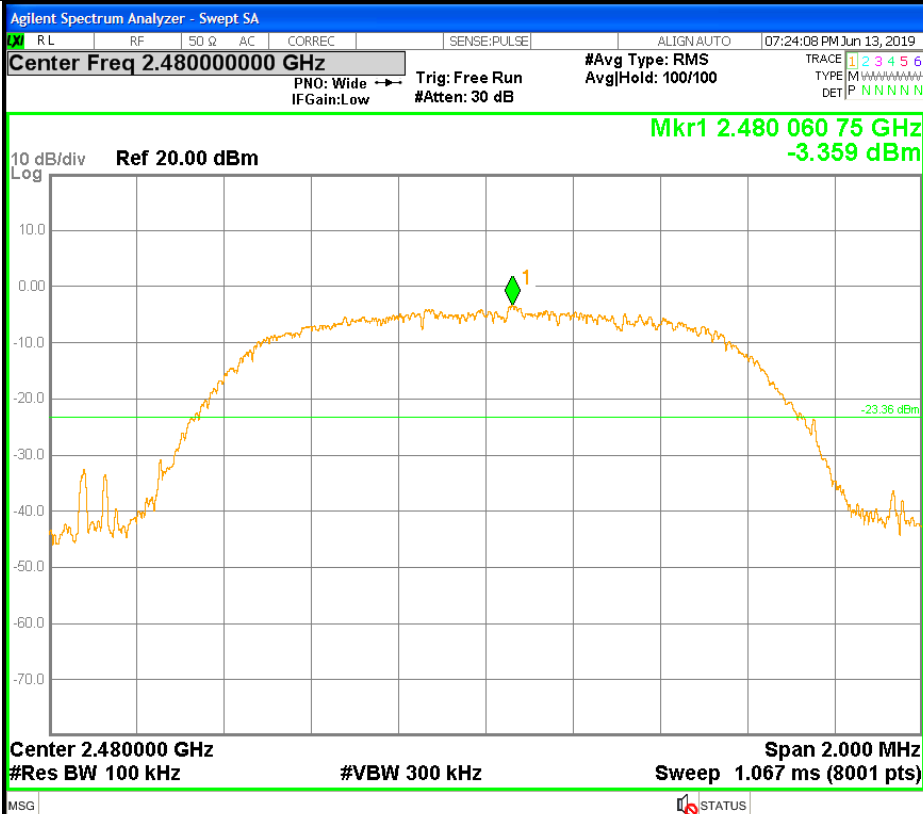


Puw



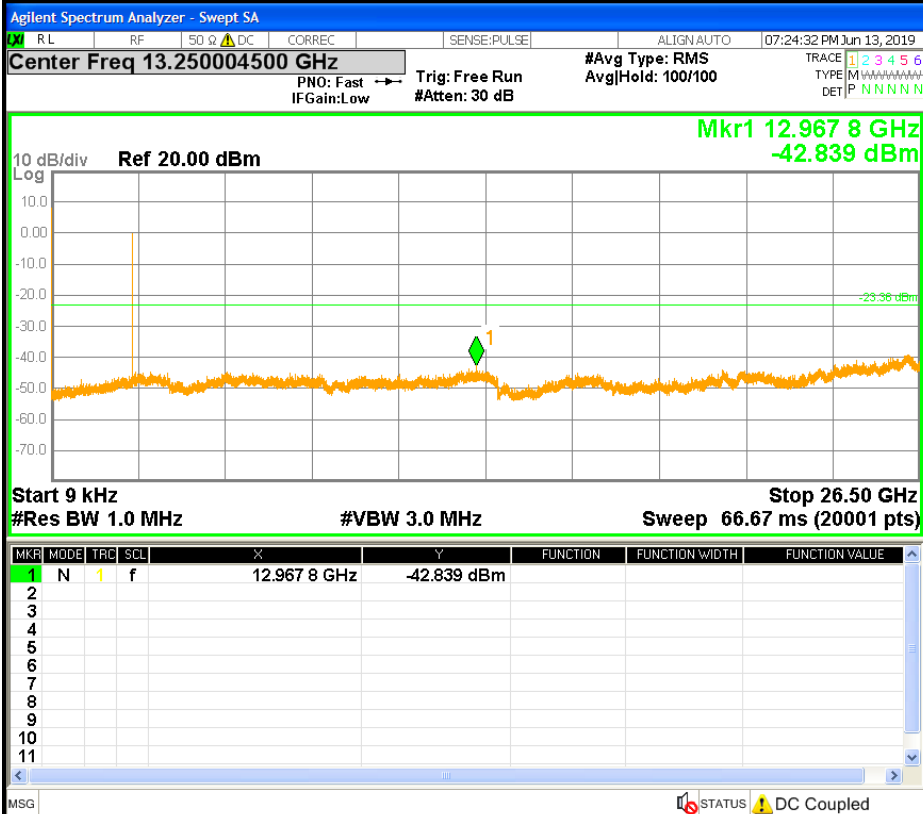
$\pi/4$ DQPSK HCH Graphs

Pref



Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.479000000 GHz
Stop Freq 2.481000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

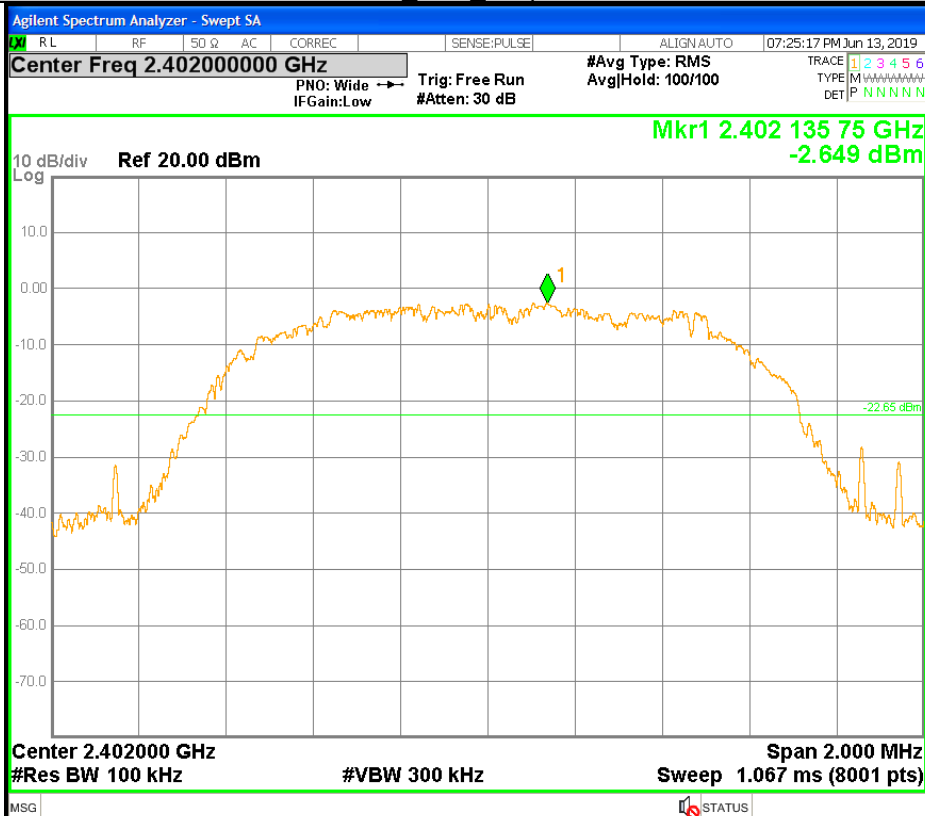
Puw



Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

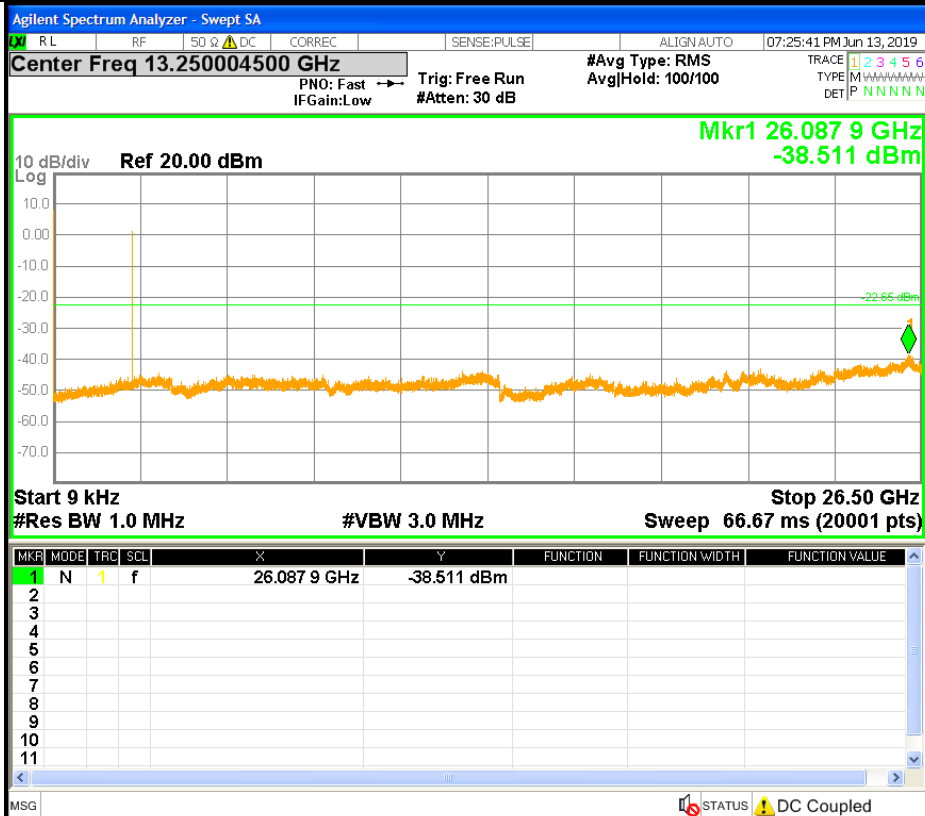
8DPSK LCH Graphs

Pref



Frequency
Auto Tune
Center Freq 2.402000000 GHz
Start Freq 2.401000000 GHz
Stop Freq 2.403000000 GHz
CF Step 200.000 kHz Auto Man
Freq Offset 0 Hz

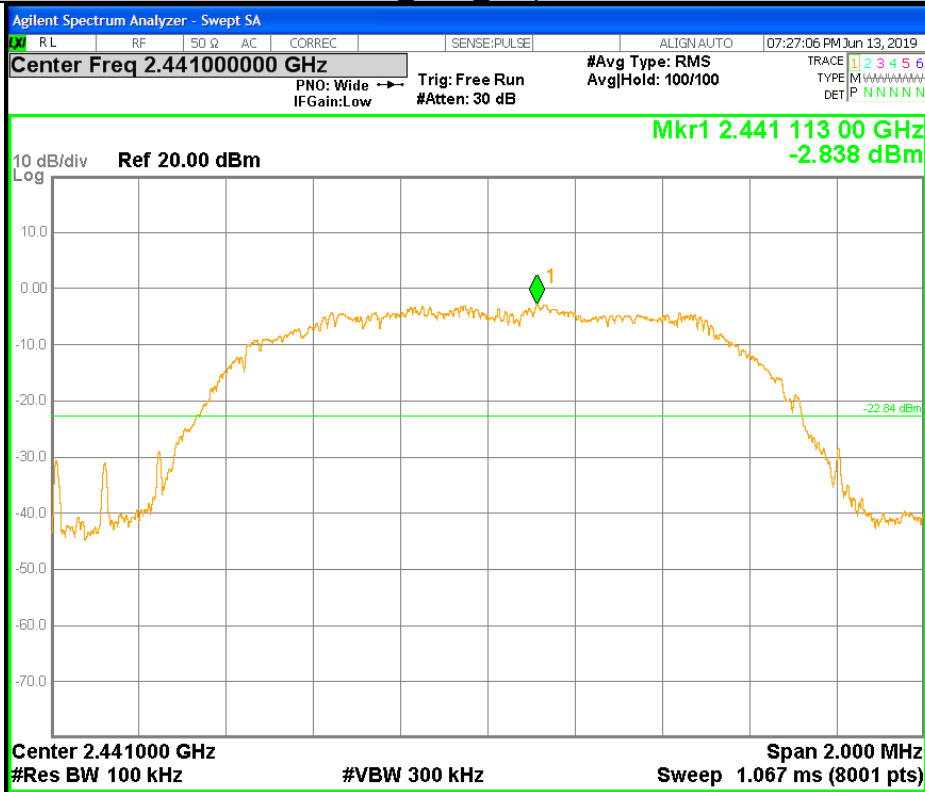
Puw



Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto Man
Freq Offset 0 Hz

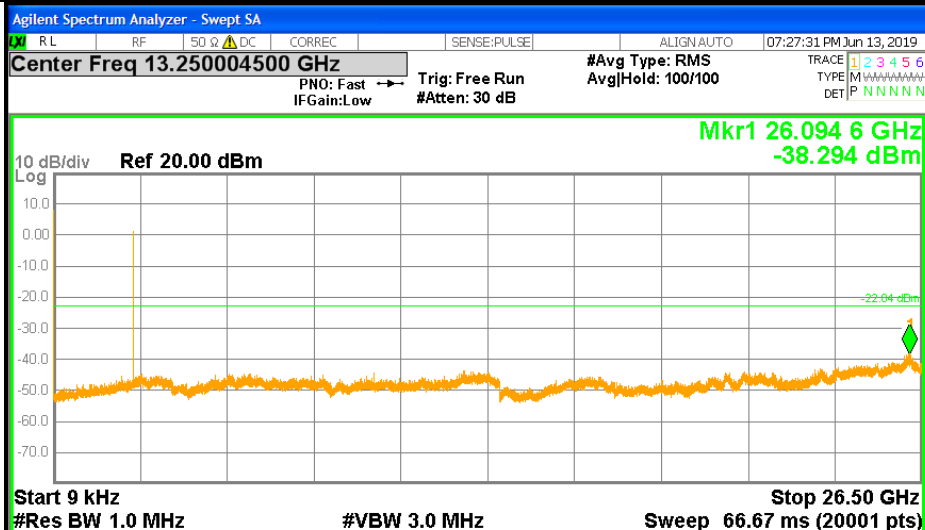
8DPSK MCH Graphs

Pref



Frequency
Auto Tune
Center Freq 2.441000000 GHz
Start Freq 2.440000000 GHz
Stop Freq 2.442000000 GHz
CF Step 200.000 kHz Auto
Freq Offset 0 Hz

Puw

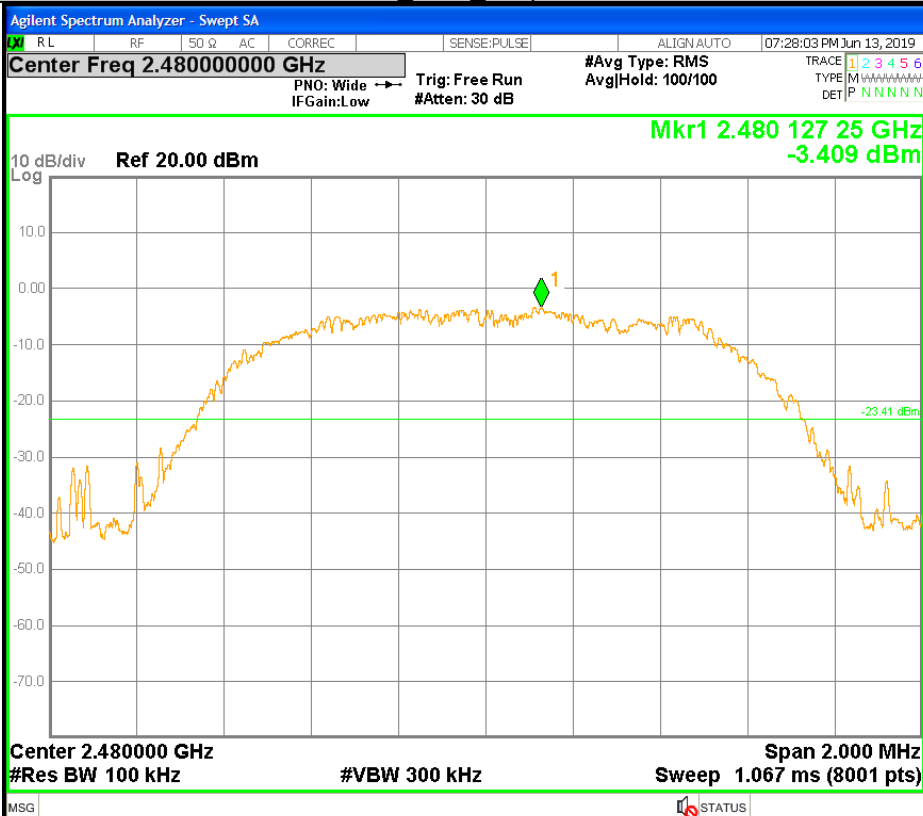


Frequency
Auto Tune
Center Freq 13.250004500 GHz
Start Freq 9.000 kHz
Stop Freq 26.500000000 GHz
CF Step 2.649999100 GHz Auto
Freq Offset 0 Hz

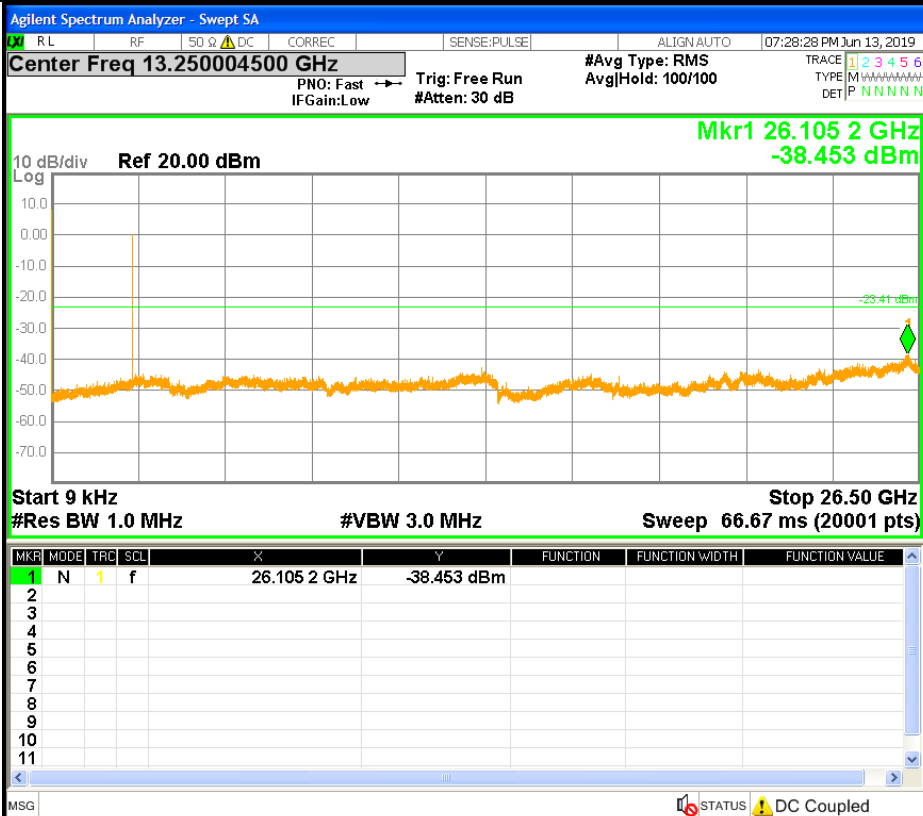
MR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	26.094 6 GHz	-38.294 dBm			
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

8DPSK HCH Graphs

Pref



Puw

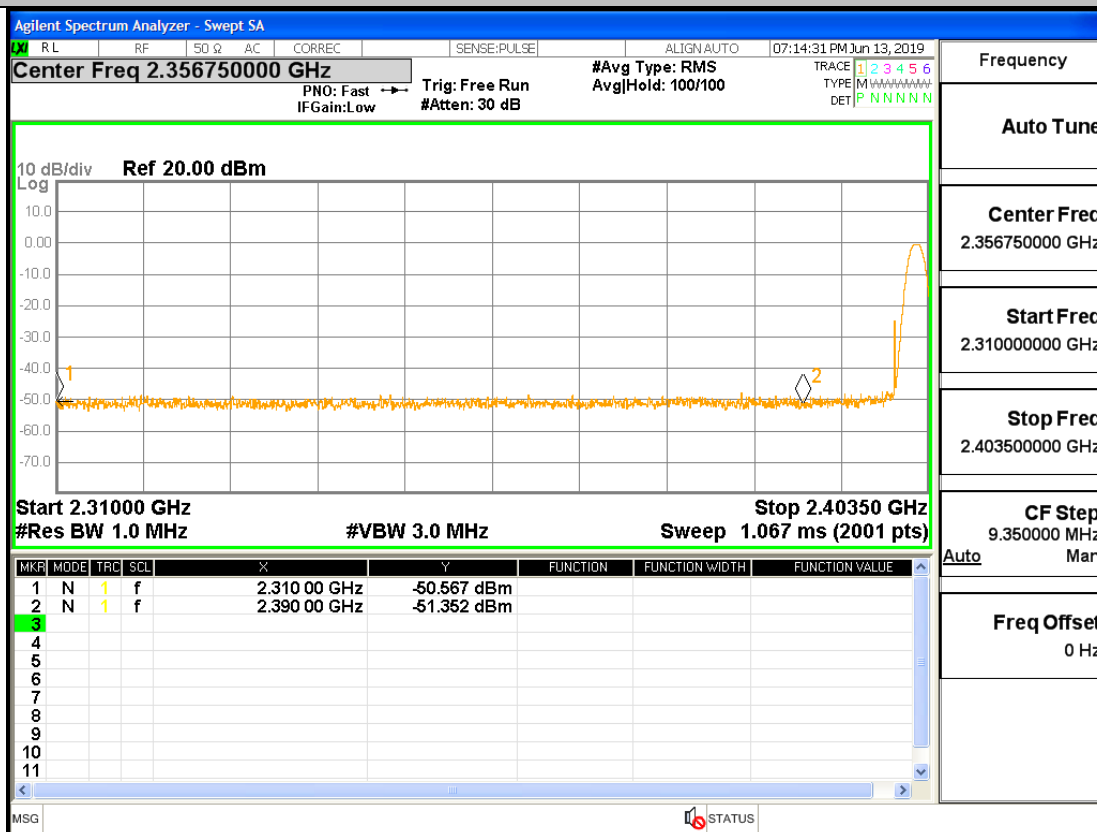


A.8 Restrict-band band-edge measurements

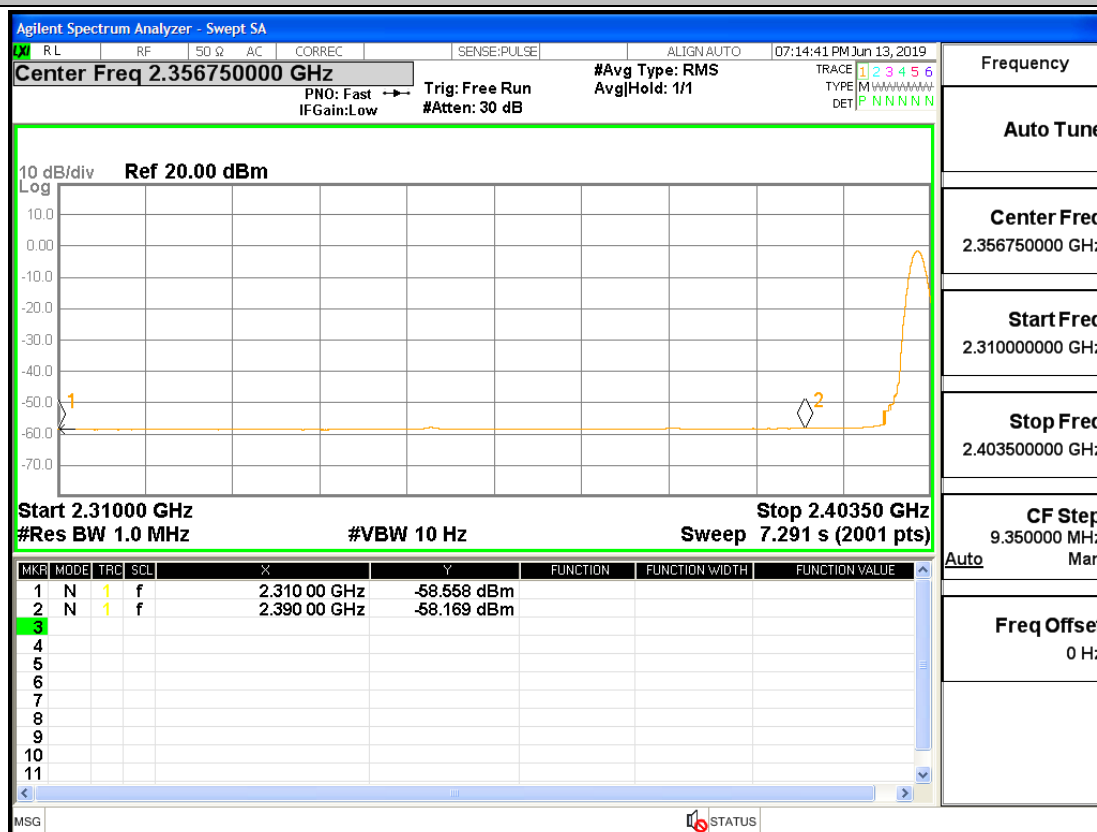
Type	Carrier Frequency (MHz)	Frequency(MHz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2310.00	2.00	0.00	-50.57	46.63	74	Pass
1DH5	2480	2485.40	2.00	0.00	-40.10	57.10	74	Pass
2DH5	2402	2390.00	2.00	0.00	-49.91	47.29	74	Pass
2DH5	2480	2483.88	2.00	0.00	-33.54	63.66	74	Pass
3DH5	2402	2390.00	2.00	0.00	-50.26	46.94	74	Pass
3DH5	2480	2487.79	2.00	0.00	-45.60	51.61	74	Pass

Type	Carrier Frequency (MHz)	Frequency(MHz)	Gain	Ground Factor	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390.00	2.00	0.00	-58.17	39.03	54	Pass
1DH5	2480	2483.50	2.00	0.00	-55.87	41.33	54	Pass
2DH5	2402	2390.00	2.00	0.00	-58.19	39.01	54	Pass
2DH5	2480	2483.50	2.00	0.00	-54.87	42.33	54	Pass
3DH5	2402	2390.00	2.00	0.00	-58.23	38.97	54	Pass
3DH5	2480	2483.50	2.00	0.00	-54.85	42.35	54	Pass

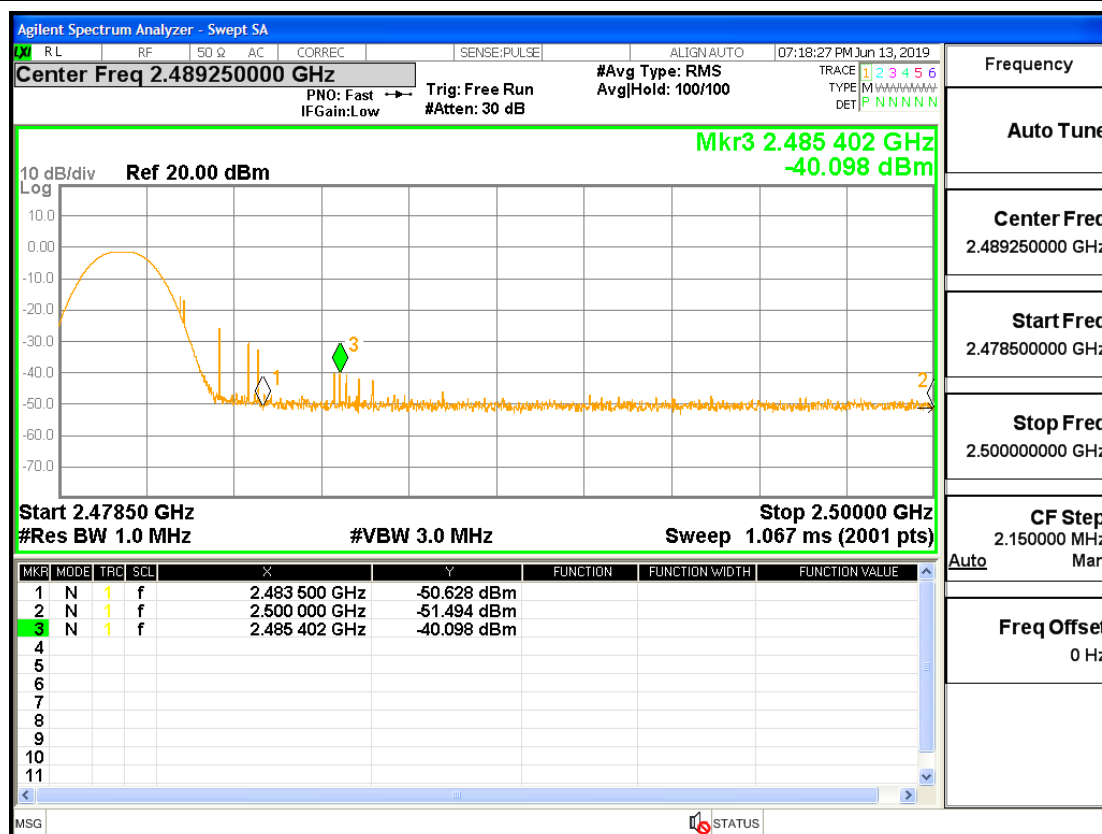
Restrict-band band-edge measurements_2402_PEAK_DH5



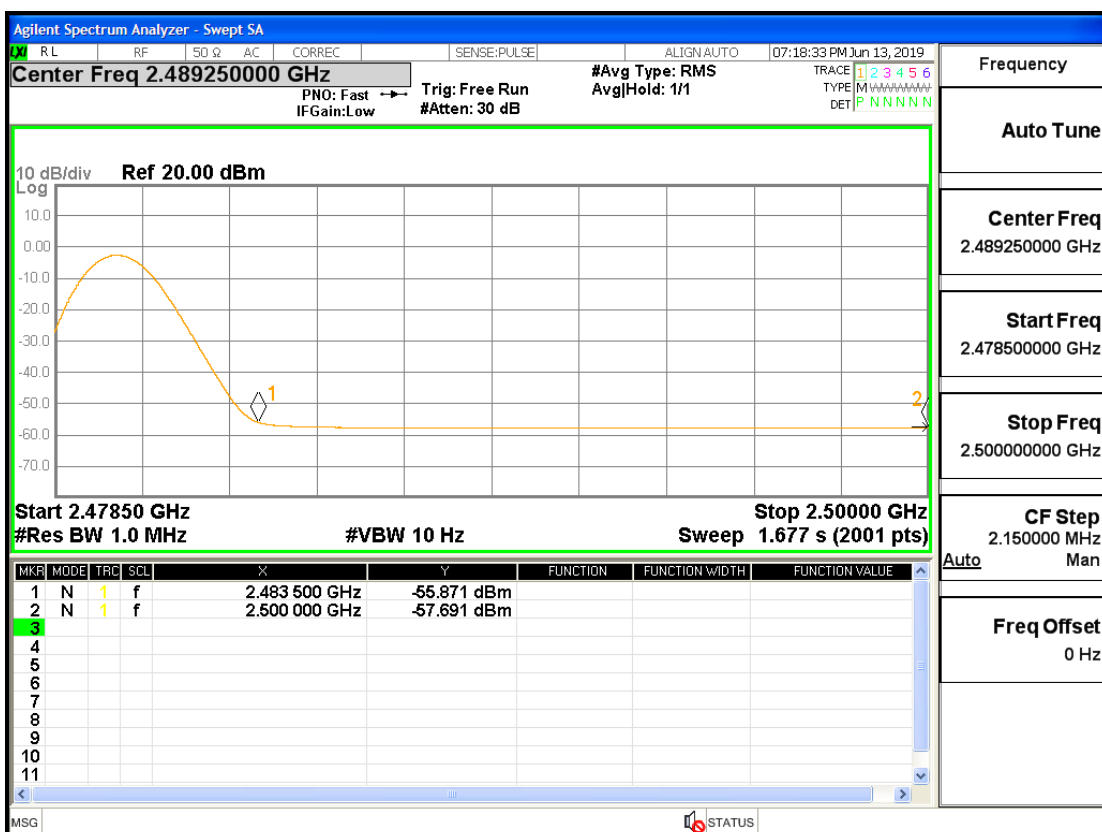
Restrict-band band-edge measurements_2402_AV_DH5



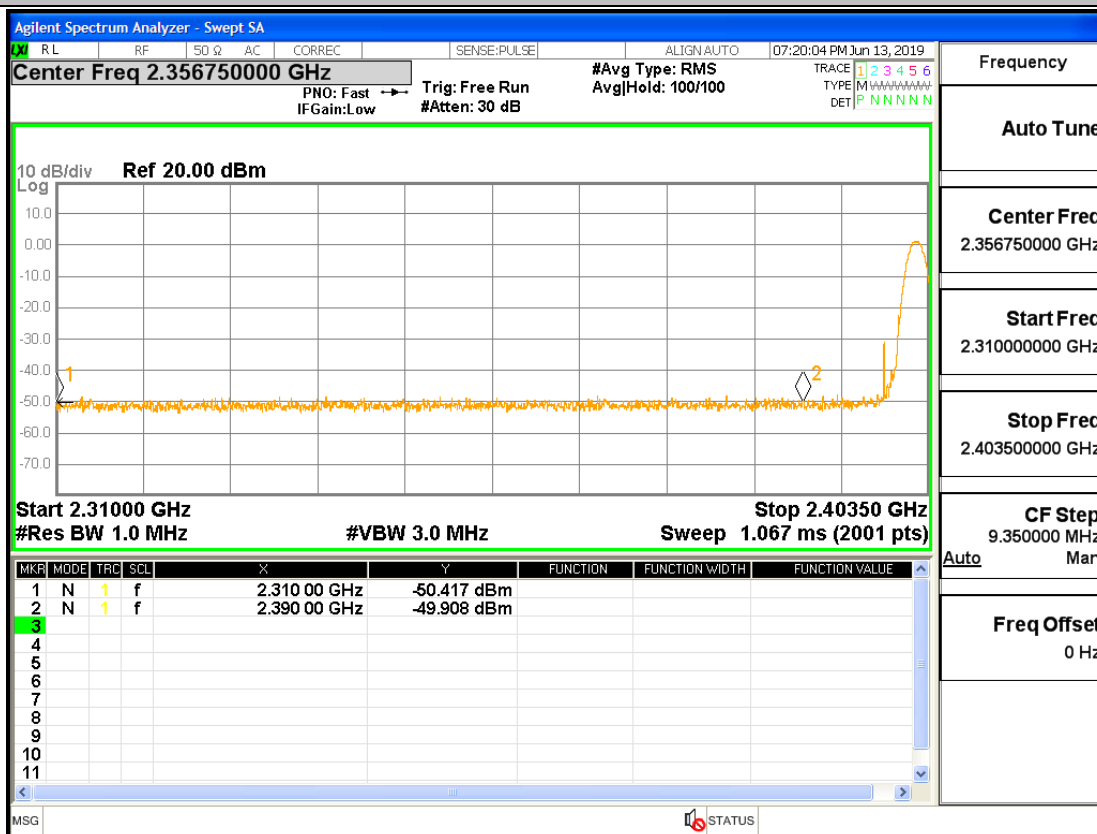
Restrict-band band-edge measurements 2480 PEAK DH5



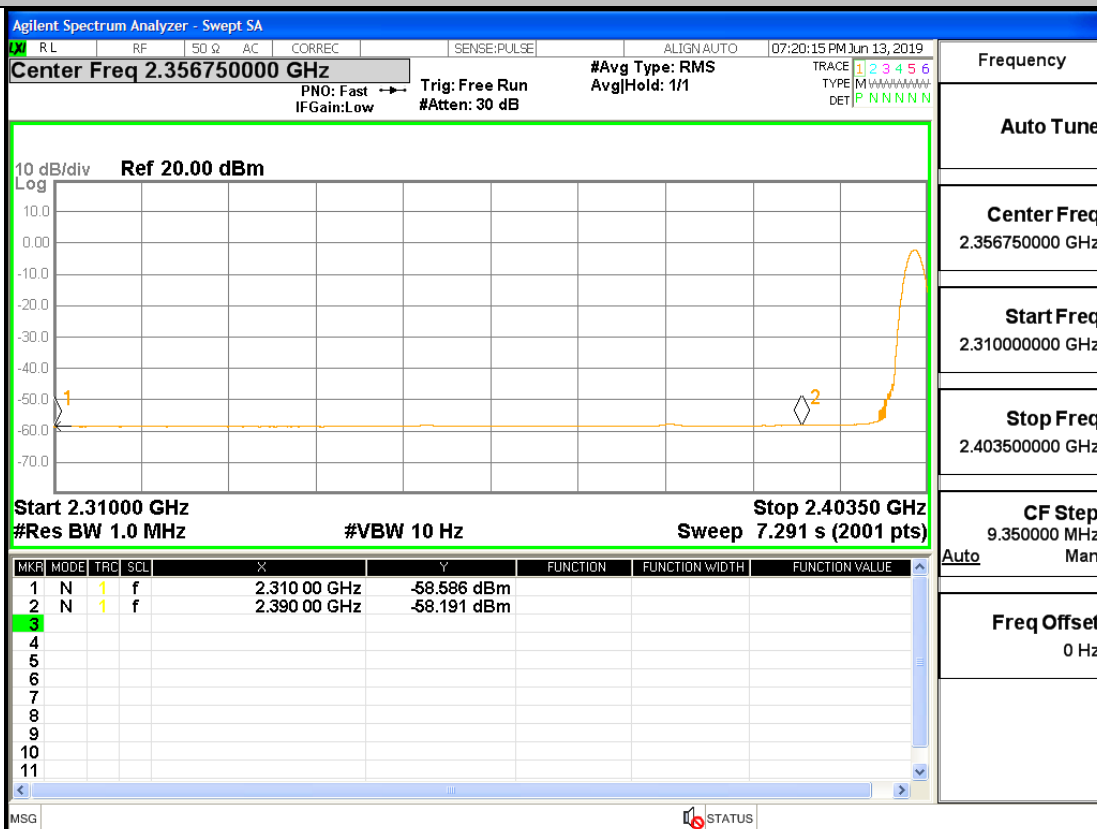
Restrict-band band-edge measurements 2480 AV DH5



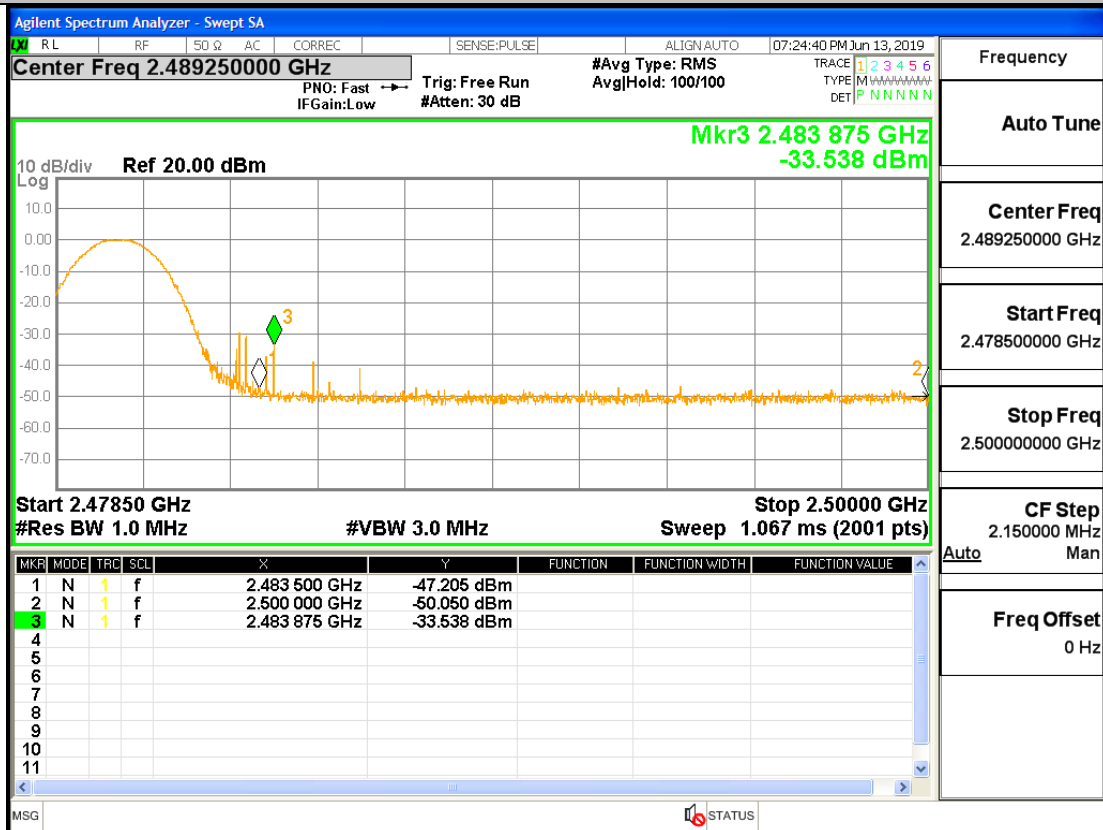
Restrict-band band-edge measurements_2402_PEAK_2DH5



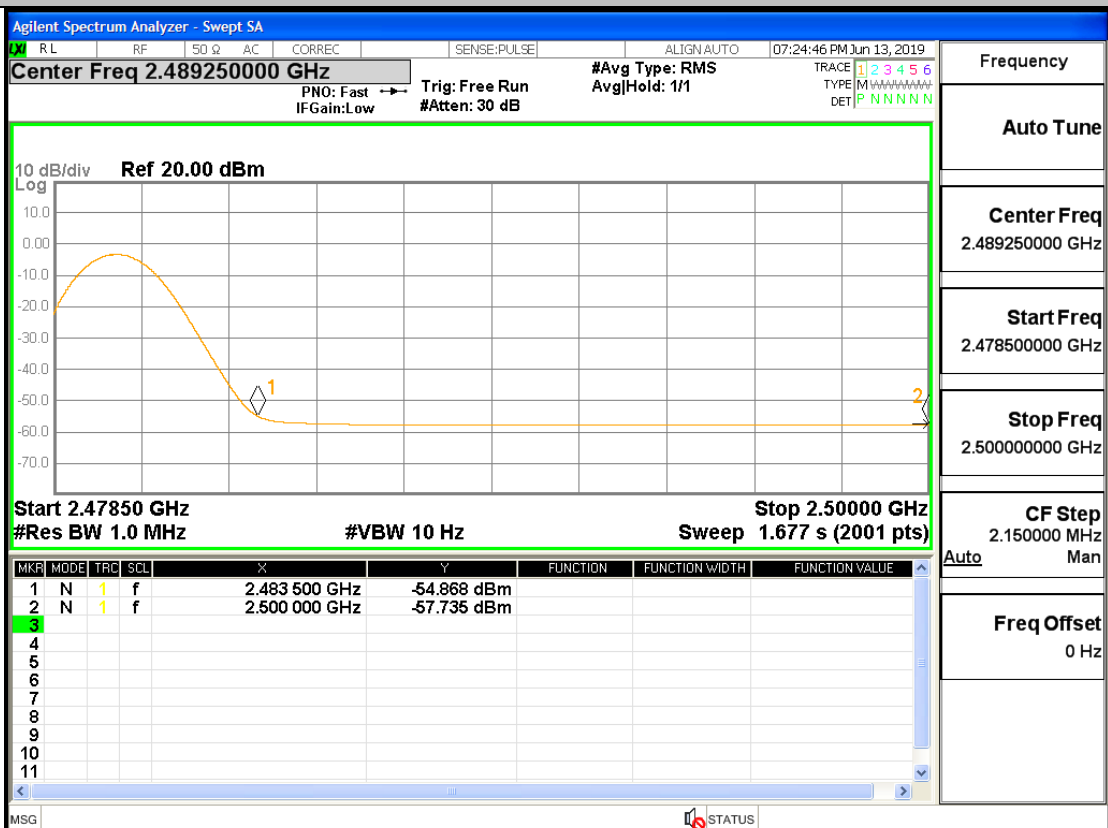
Restrict-band band-edge measurements_2402_AV_2DH5



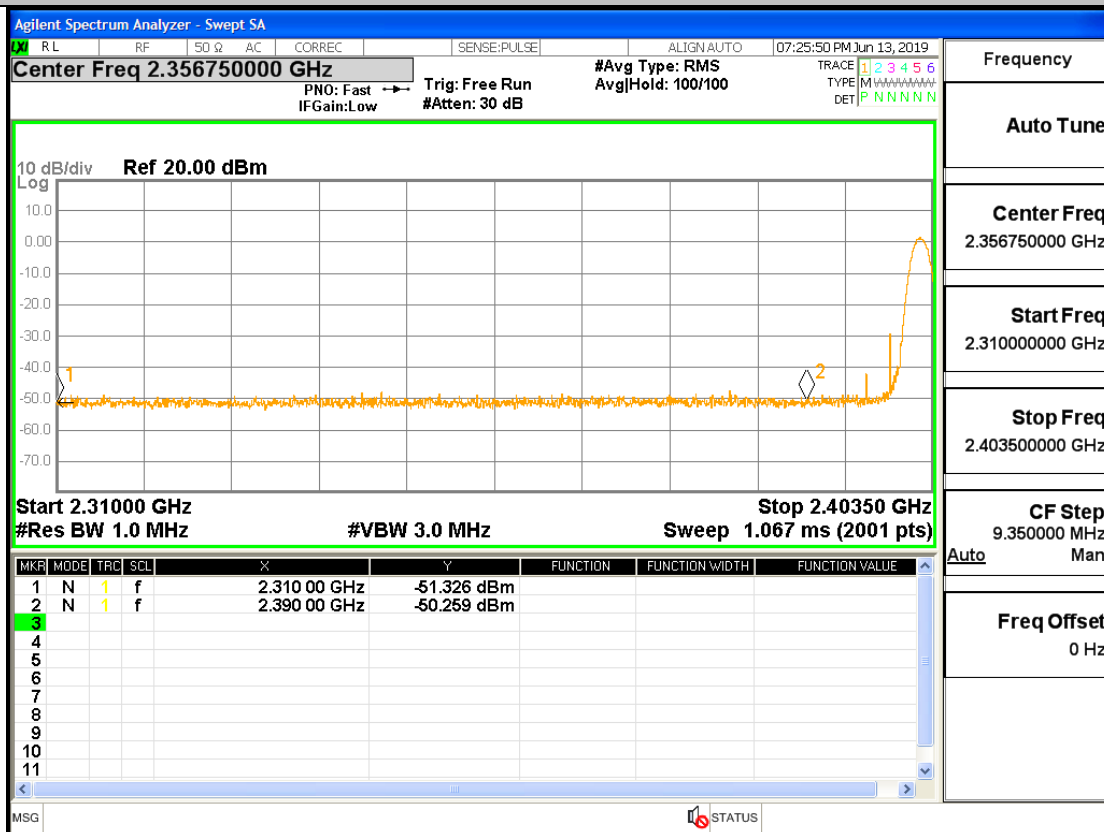
Restrict-band band-edge measurements_2480_PEAK_2DH5



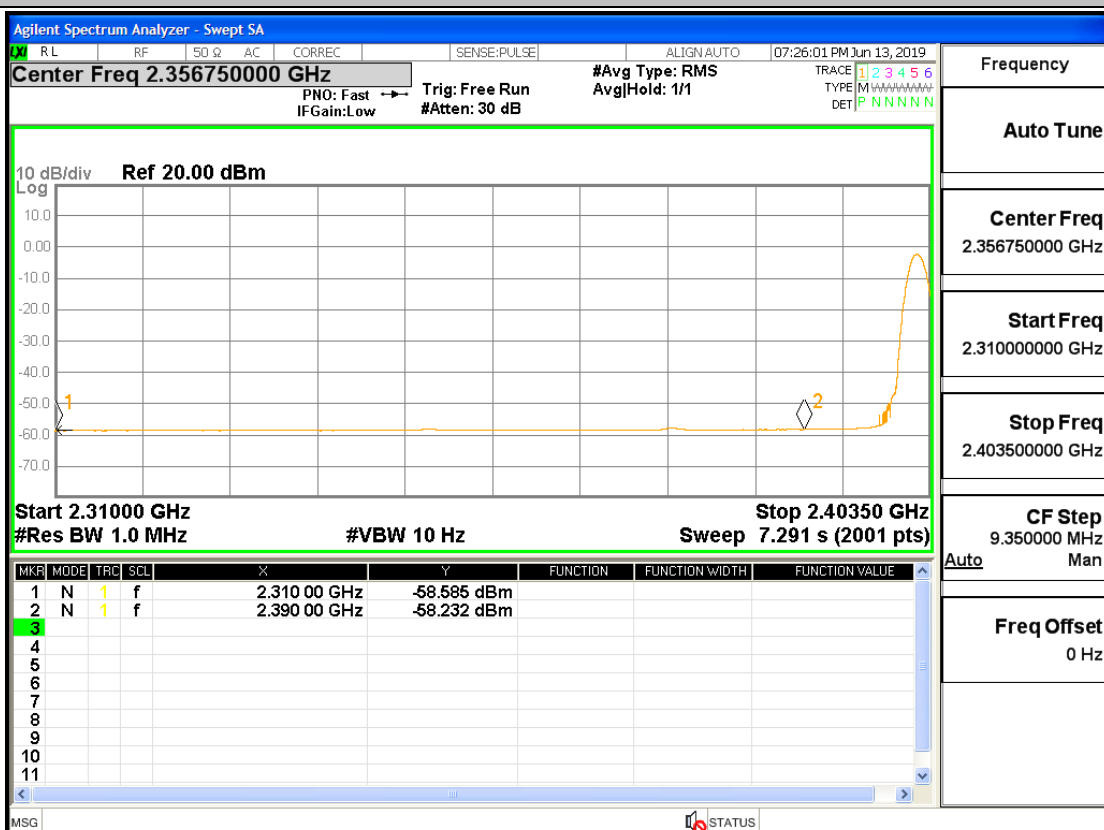
Restrict-band band-edge measurements_2480_AV_2DH5



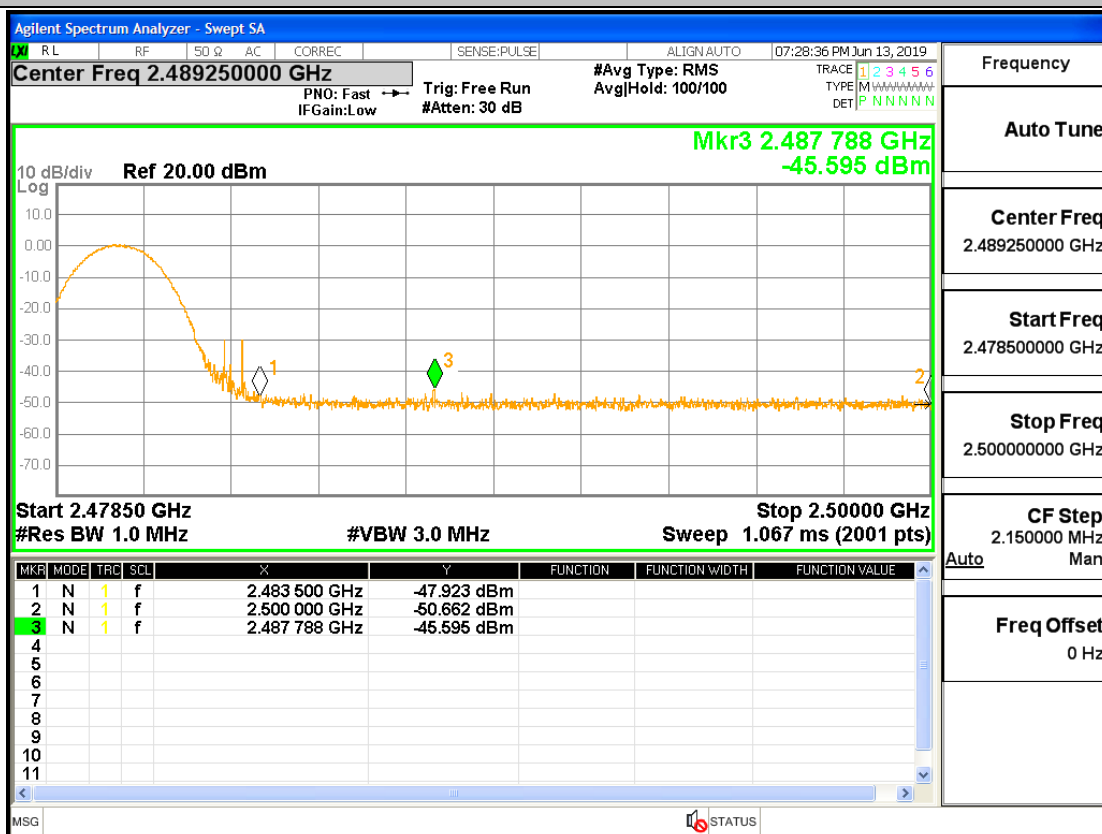
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

