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

Product Name: Bluetooth Headset

Trade Mark: KuLark

Test Model: GT101

FCC ID: 2ASKNGT101

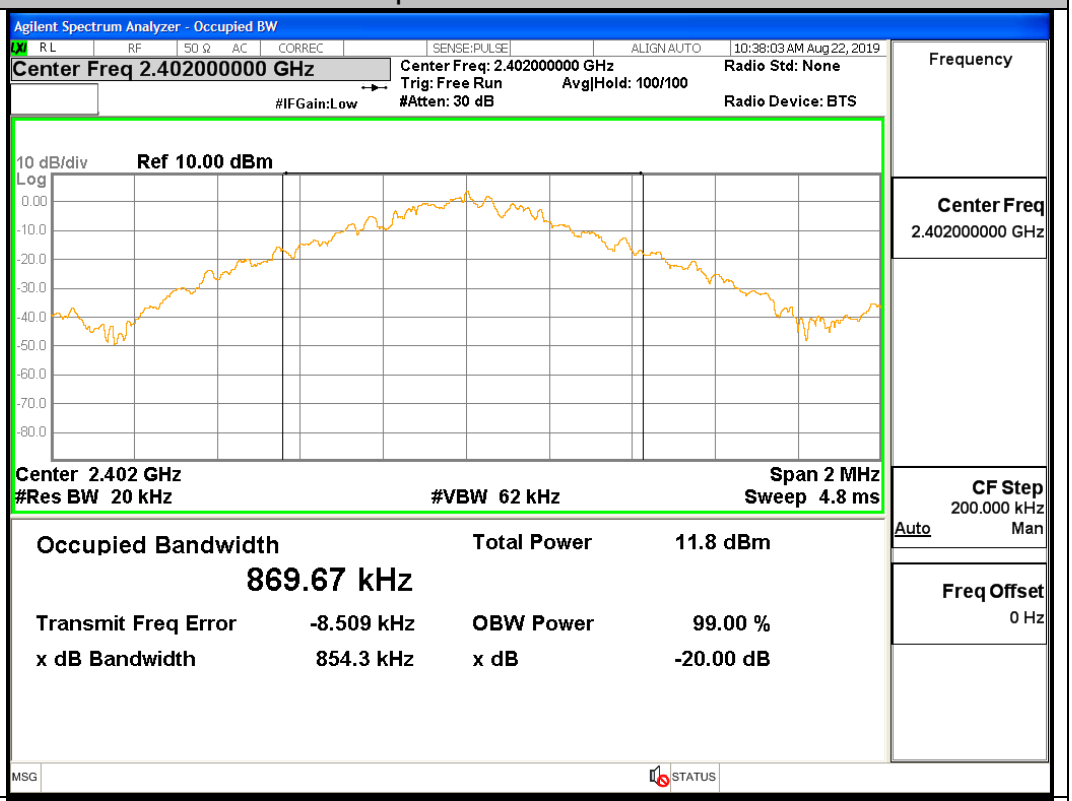
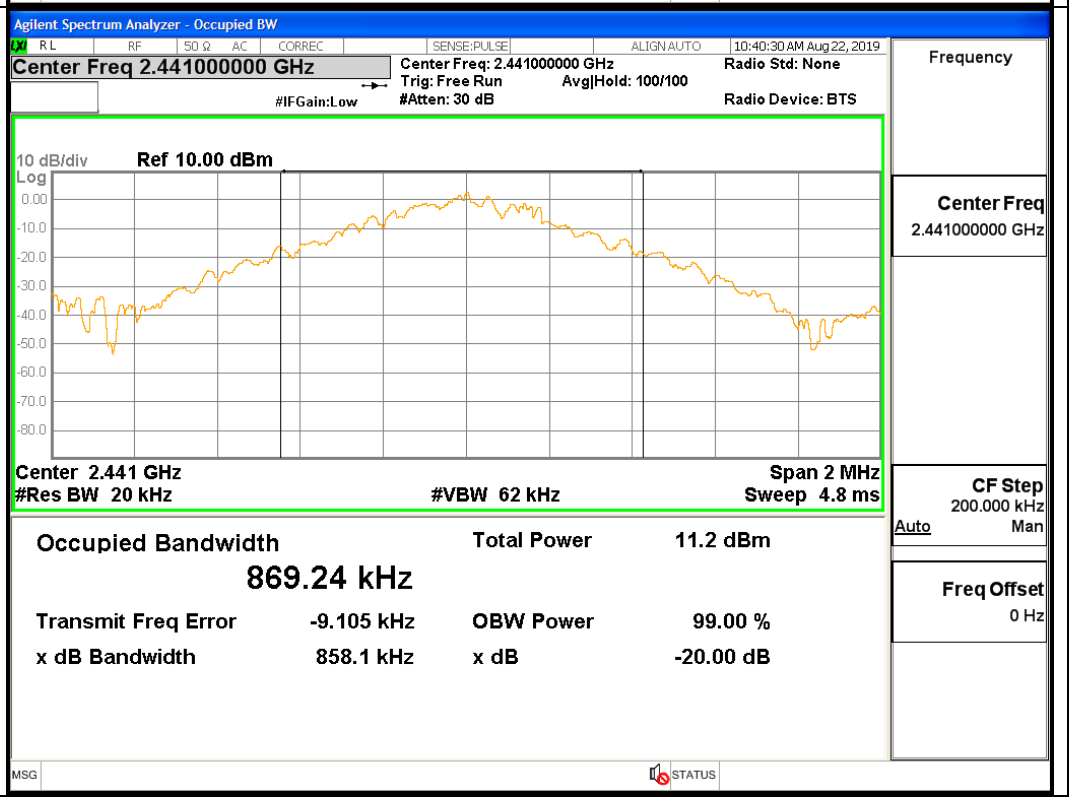
Environmental Conditions

Temperature:	22.7° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

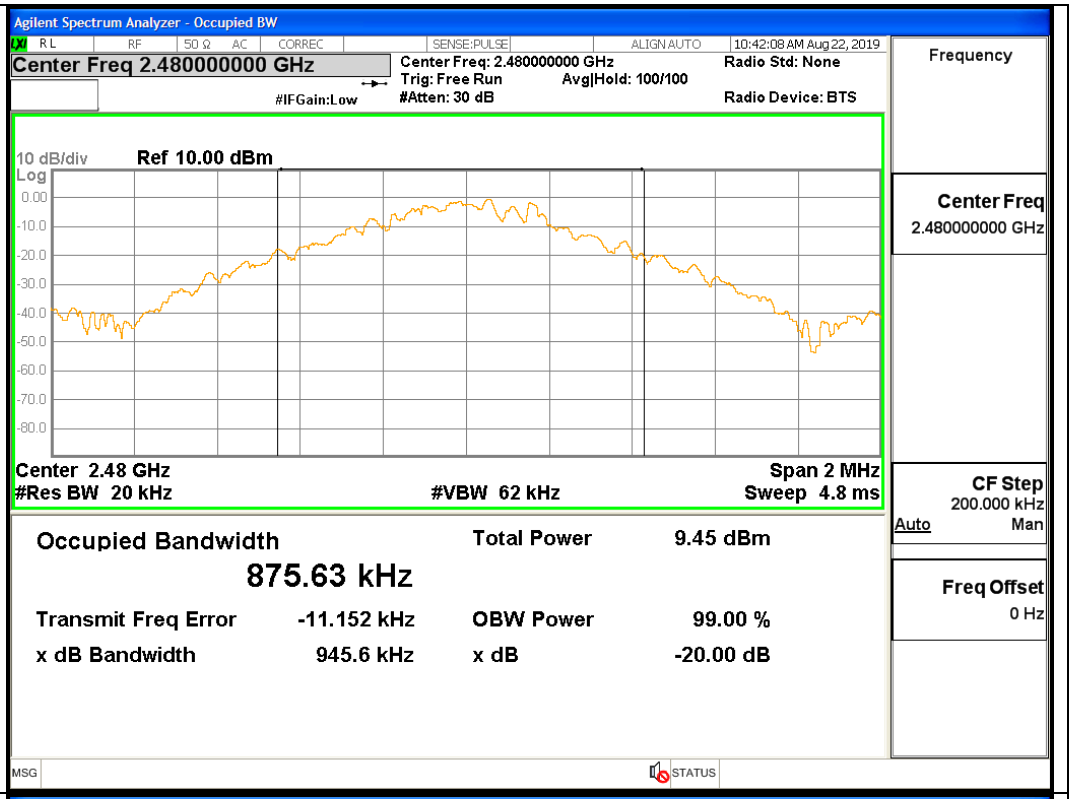
A.1 20 dB Bandwidth

Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.854	Not Specified	PASS
GFSK	MCH	0.858	Not Specified	PASS
GFSK	HCH	0.946	Not Specified	PASS
π/4DQPSK	LCH	1.362	Not Specified	PASS
π/4DQPSK	MCH	1.250	Not Specified	PASS
π/4DQPSK	HCH	1.294	Not Specified	PASS
8DPSK	LCH	1.309	Not Specified	PASS
8DPSK	MCH	1.278	Not Specified	PASS
8DPSK	HCH	1.252	Not Specified	PASS

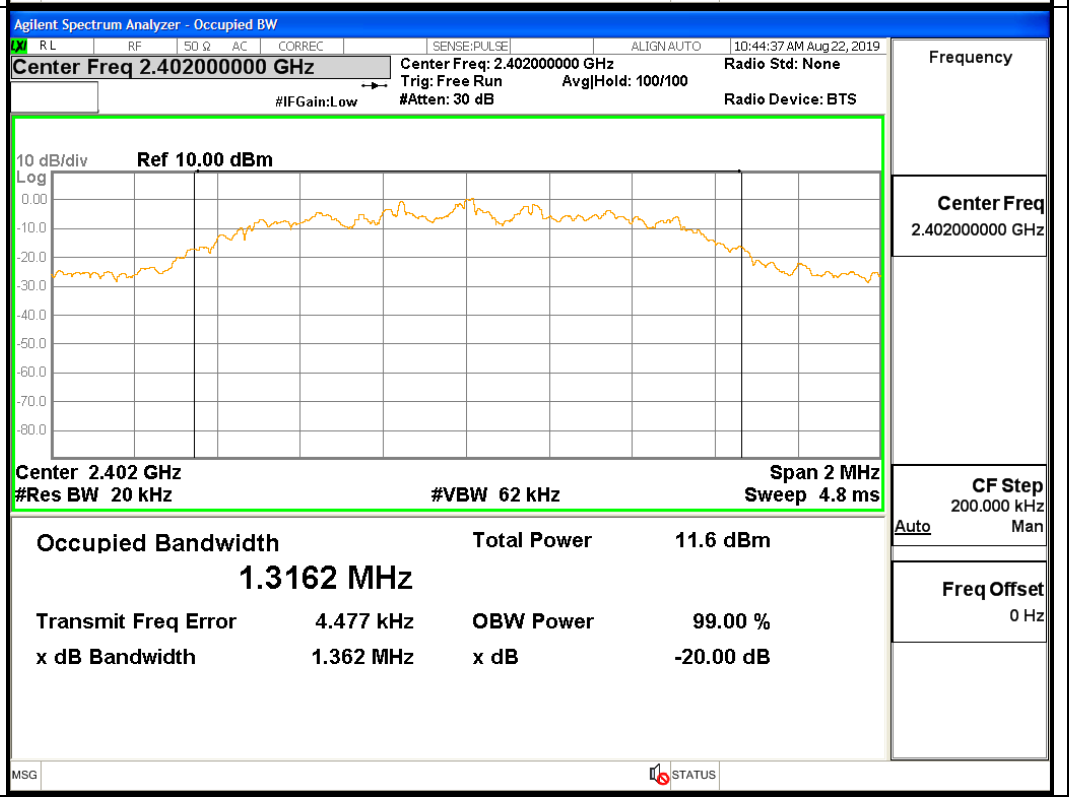
Test Graph

Graphs	
GFSK/LCH	
GFSK/MCH	

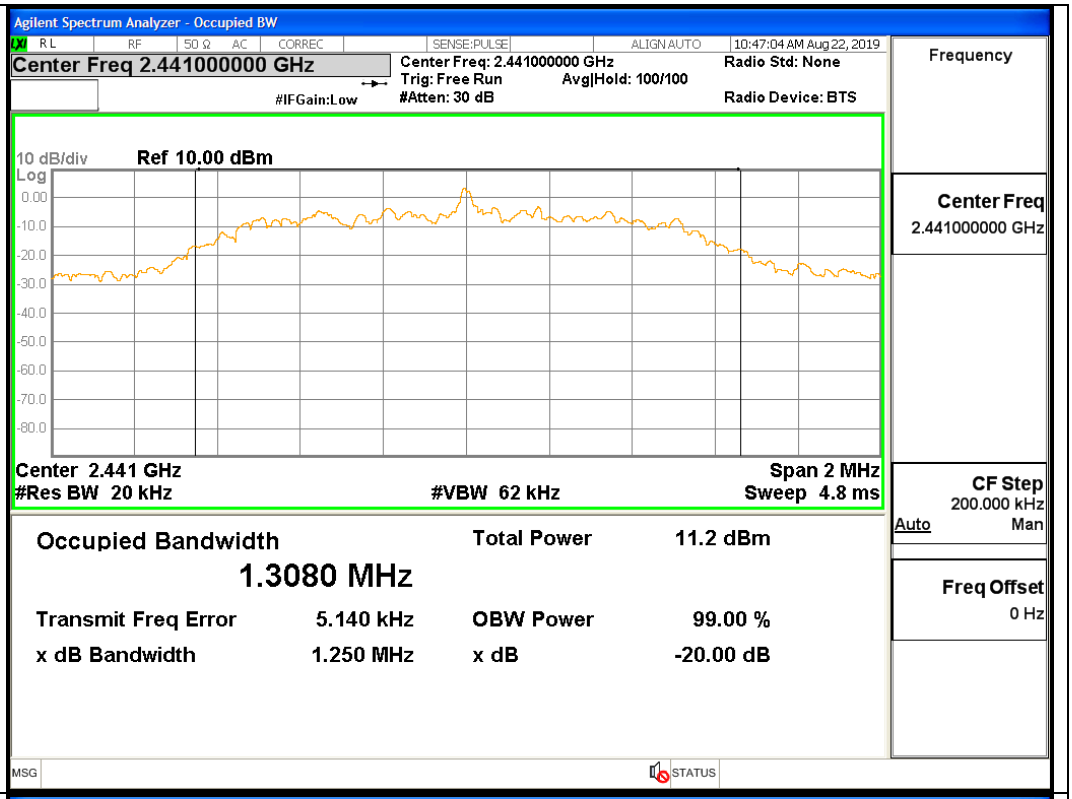
GFSK/HCH



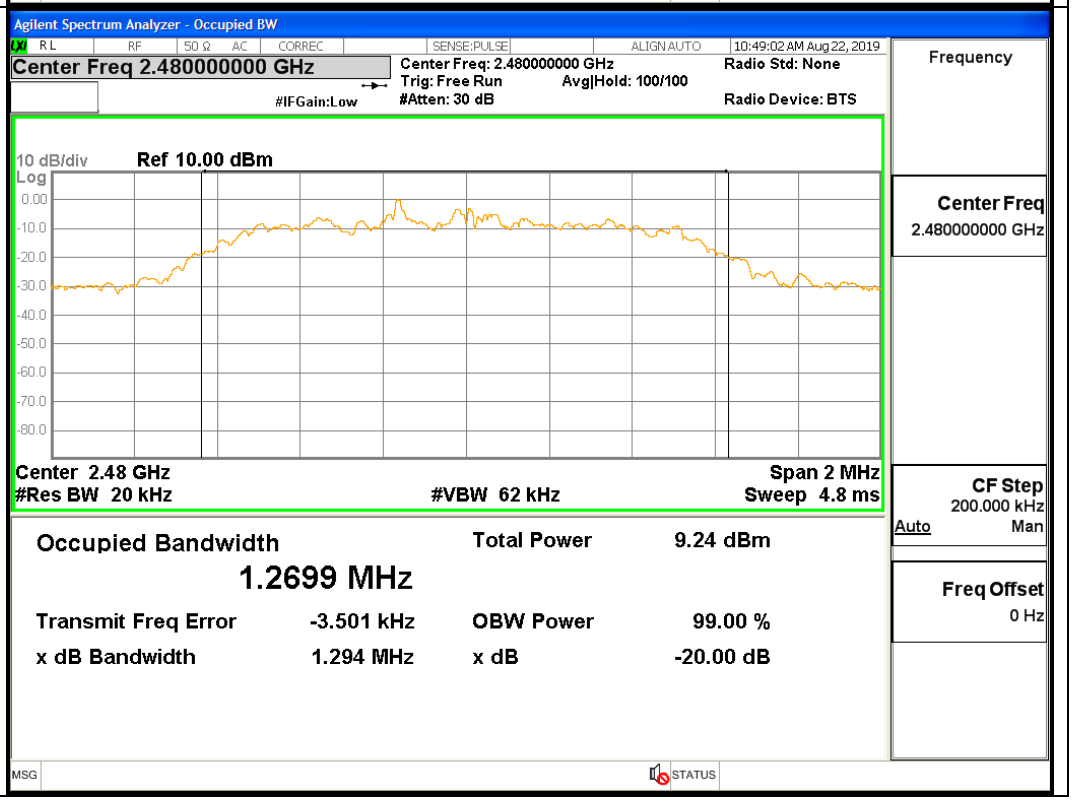
π/4DQPSK/LCH



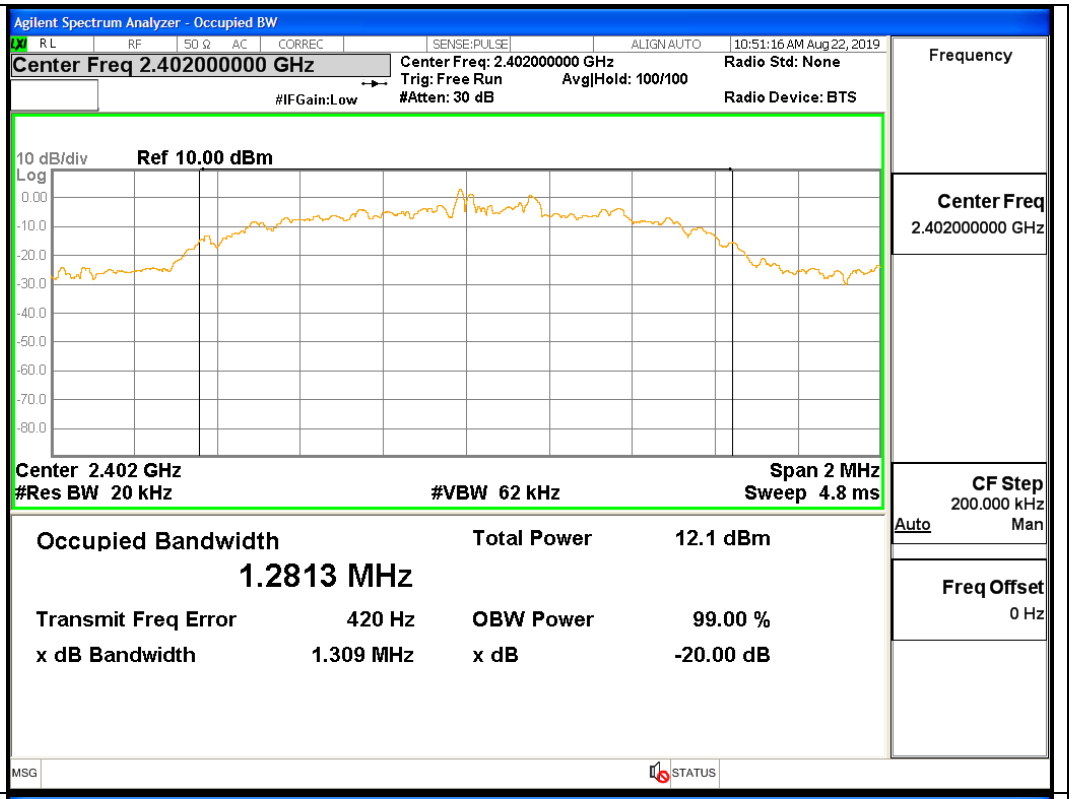
π/4DQPSK/MCH



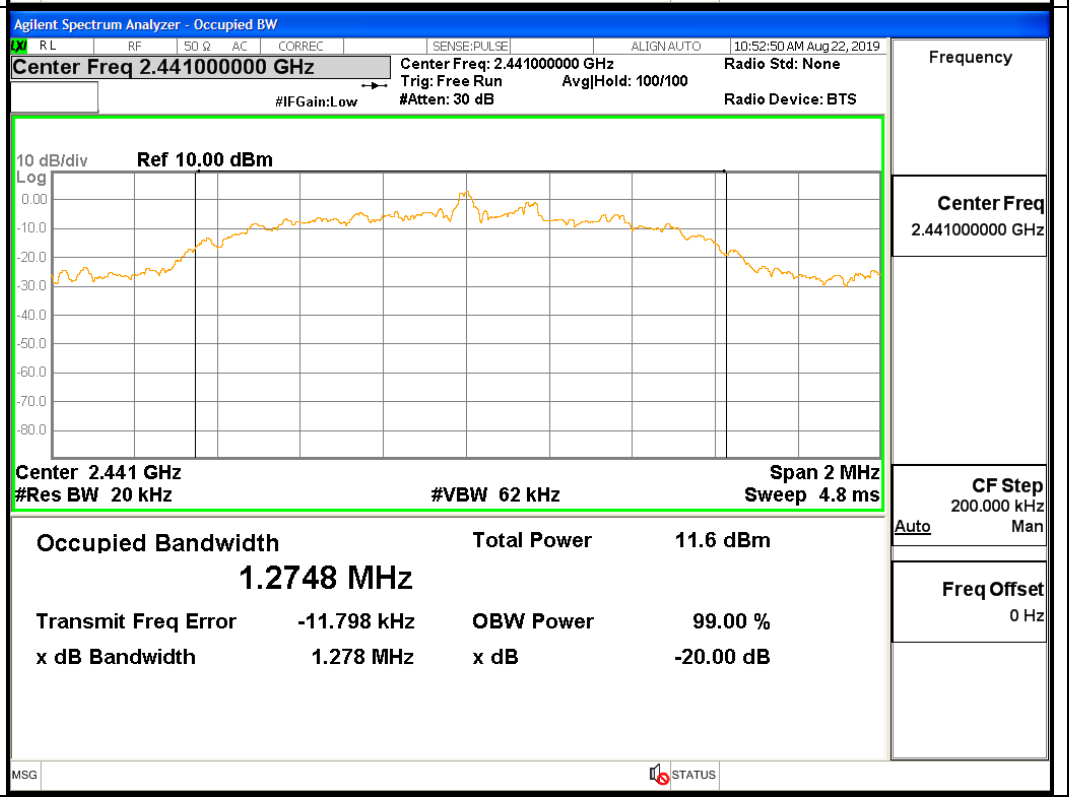
π/4DQPSK/HCH

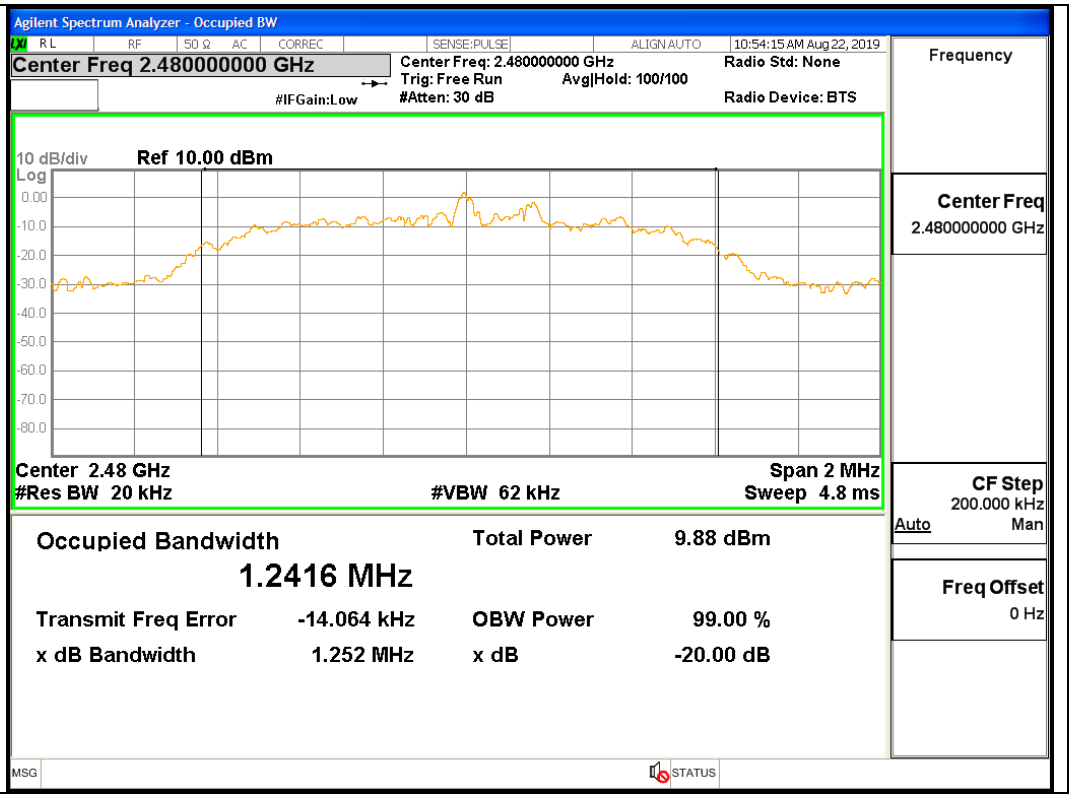


8DPSK/LCH



8DPSK/MCH



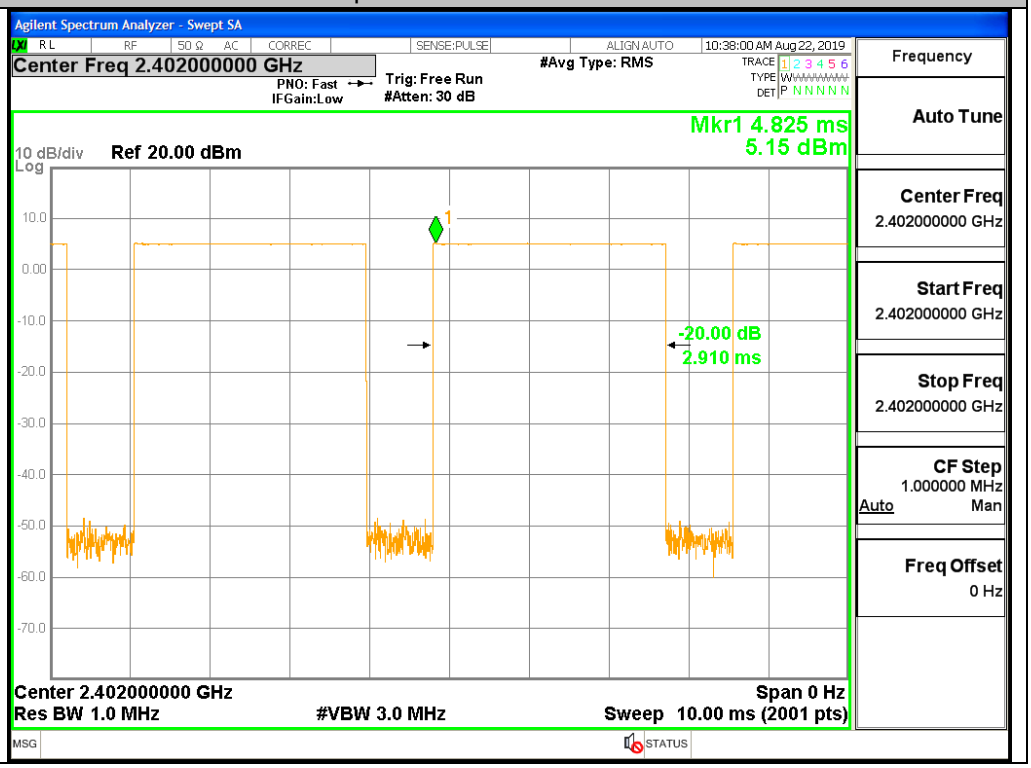
8DPSK/HCH	

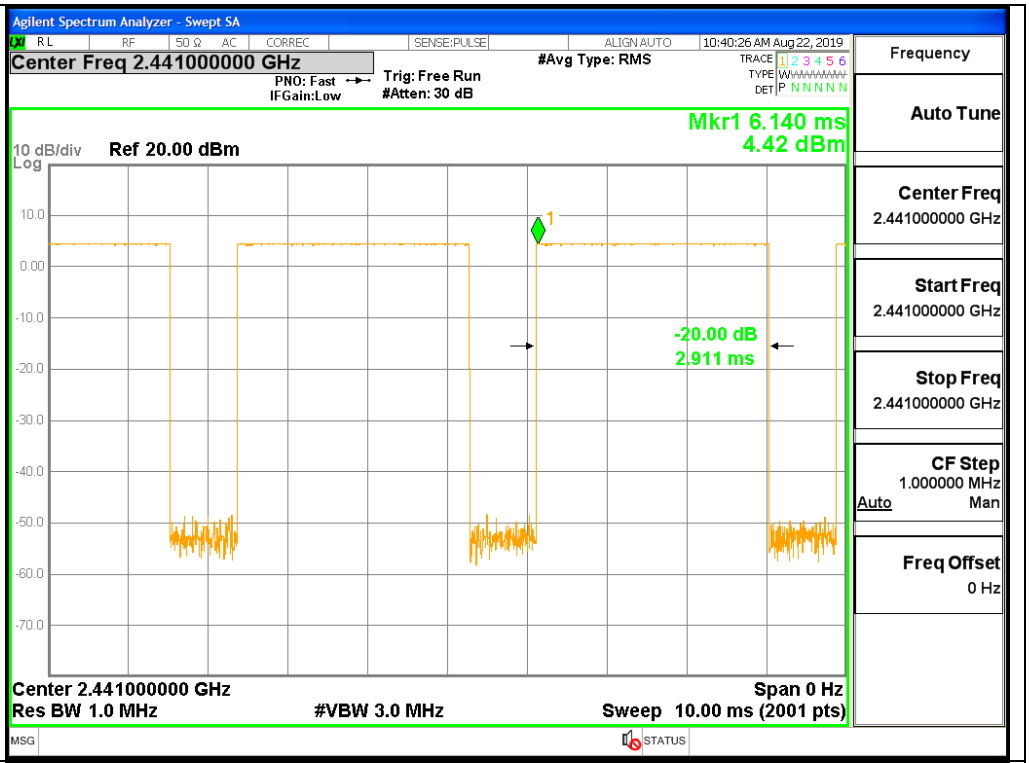
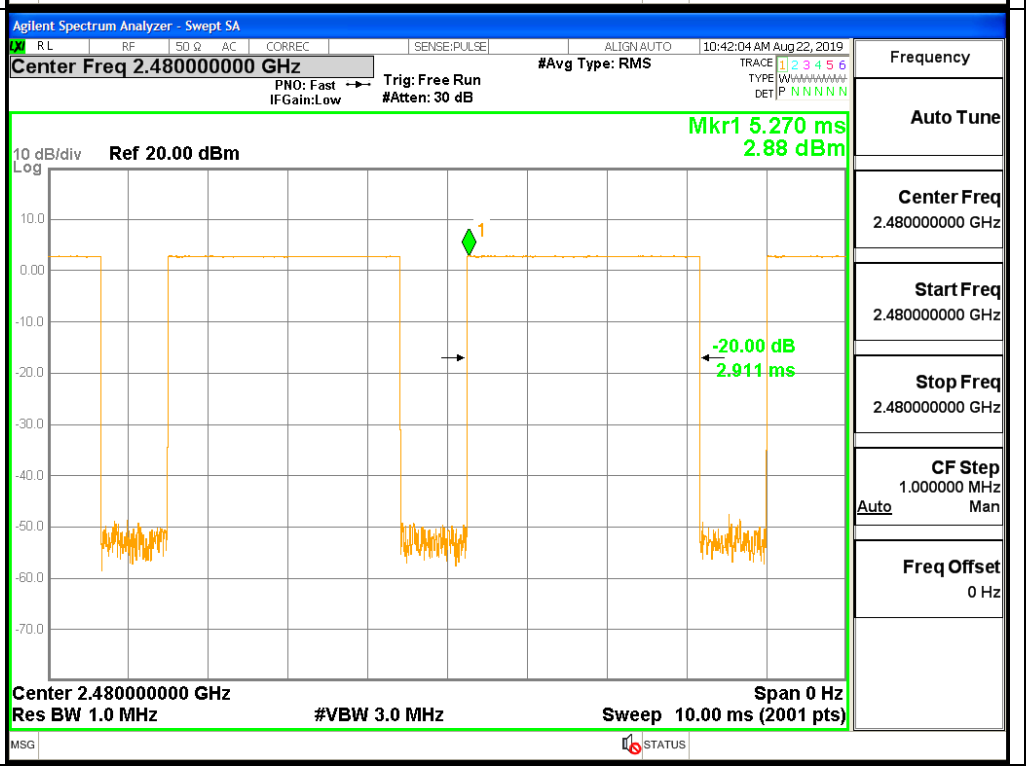
Agilent Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
CORREC
SENSE:PULSE
ALIGN AUTO
10:54:15 AM Aug 22, 2019
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 30 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 10.00 dBm
Log
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 20 kHz
#VBW 62 kHz
Span 2 MHz
Sweep 4.8 ms
CF Step
200.000 kHz
Auto
Man
Occupied Bandwidth
1.2416 MHz
Total Power 9.88 dBm
Transmit Freq Error -14.064 kHz
OBW Power 99.00 %
x dB Bandwidth 1.252 MHz
x dB -20.00 dB
Freq Offset
0 Hz
MSG
STATUS

A.2 Dwell Time

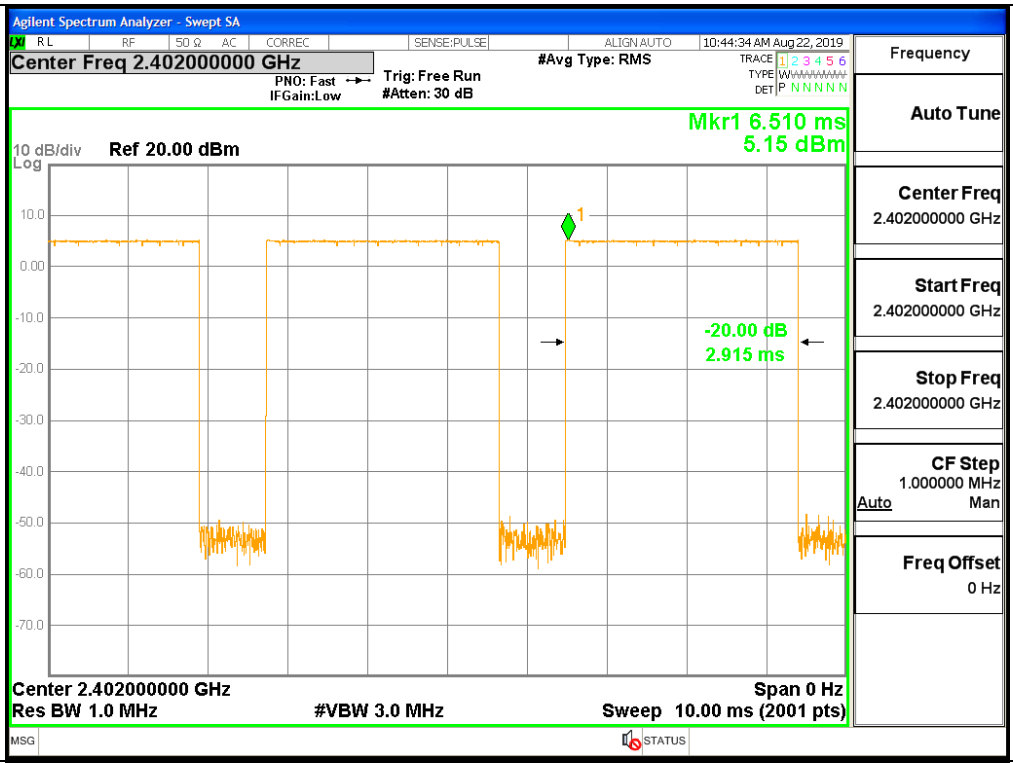
Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002910	106.7	0.310497	0.4	PASS
GFSK	DH5	MCH	0.002911	106.7	0.310604	0.4	PASS
GFSK	DH5	HCH	0.002911	106.7	0.310604	0.4	PASS
π/4DQPSK	2DH5	LCH	0.002915	106.7	0.311031	0.4	PASS
π/4DQPSK	2DH5	MCH	0.002916	106.7	0.311137	0.4	PASS
π/4DQPSK	2DH5	HCH	0.002915	106.7	0.311031	0.4	PASS
8DPSK	3DH5	LCH	0.002918	106.7	0.311351	0.4	PASS
8DPSK	3DH5	MCH	0.002918	106.7	0.311351	0.4	PASS
8DPSK	3DH5	HCH	0.002919	106.7	0.311457	0.4	PASS

Test Graph

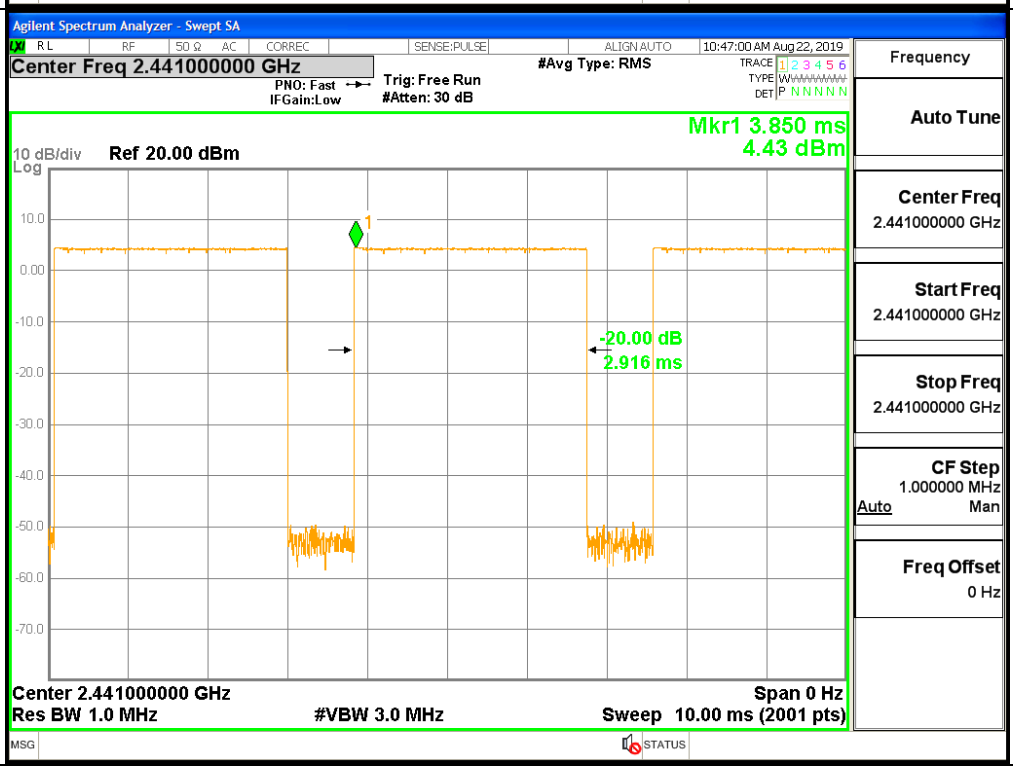
Graphs	
GFSK_DH5/LCH	

GFSK_DH5/MCH	
GFSK_DH5/HCH	

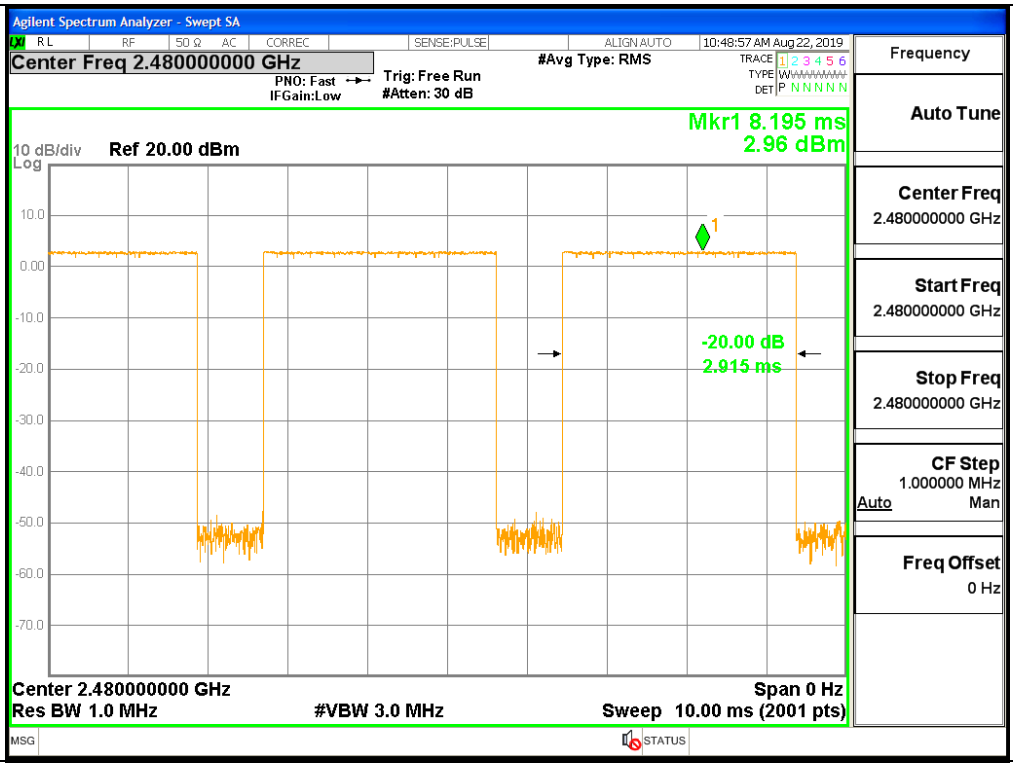
π/4DQPSK
_2DH5/LCH



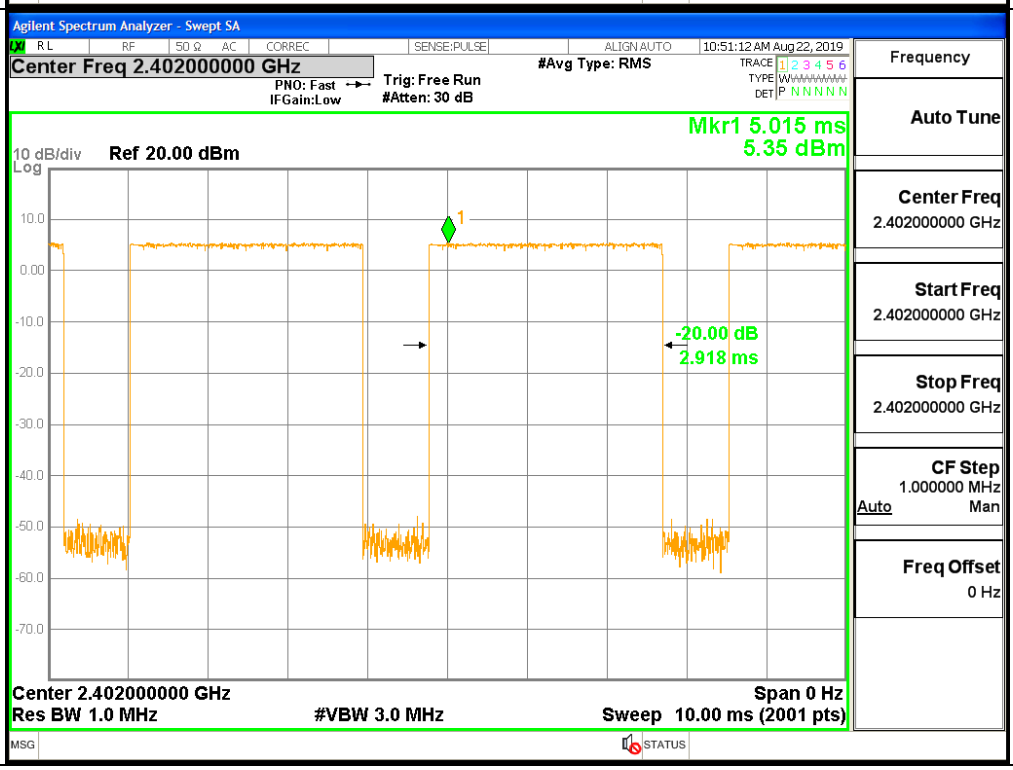
π/4DQPSK
_2DH5/MCH

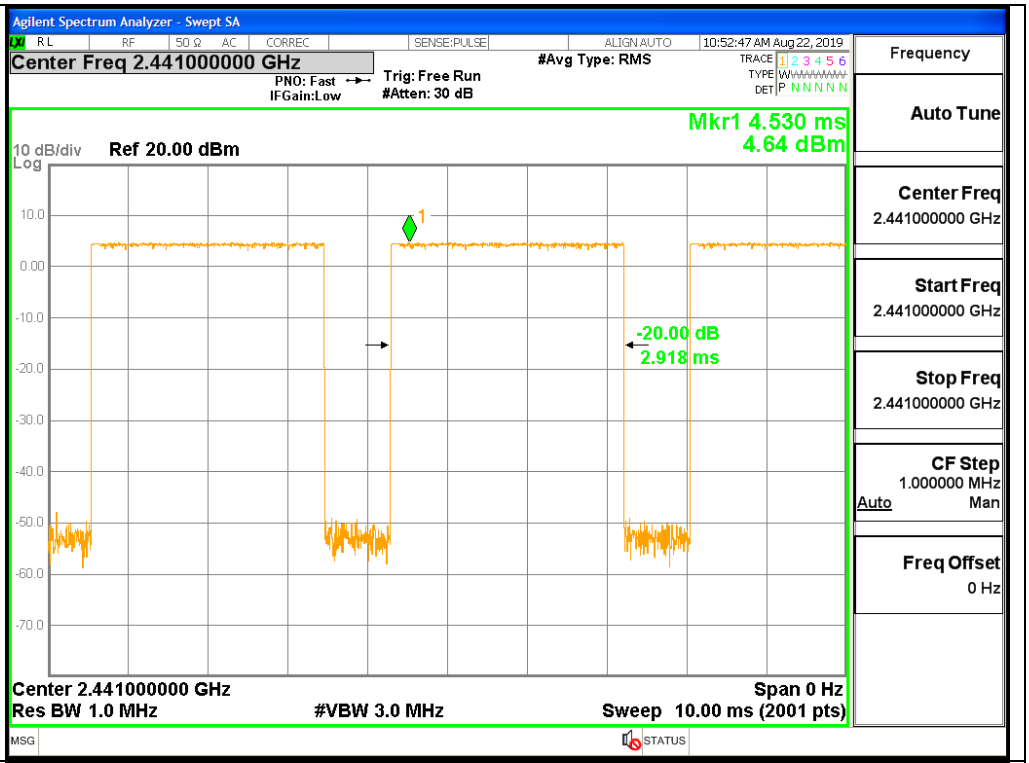
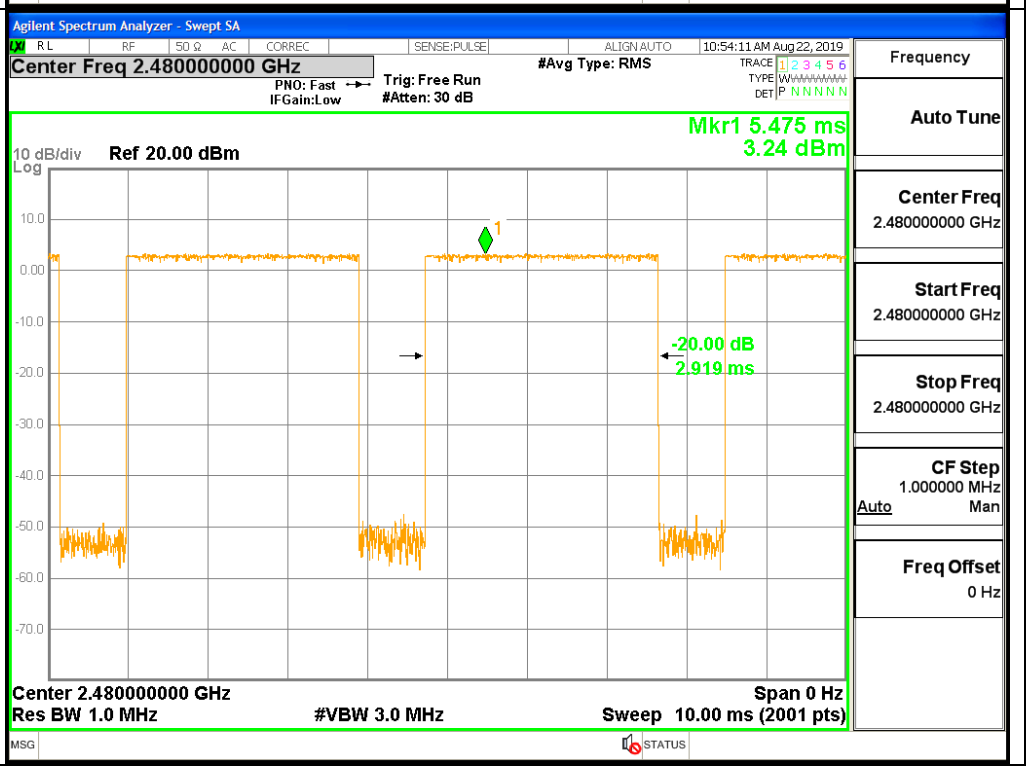


π/4DQPSK _2DH5/HCH



8DPSK _3DH5/LCH

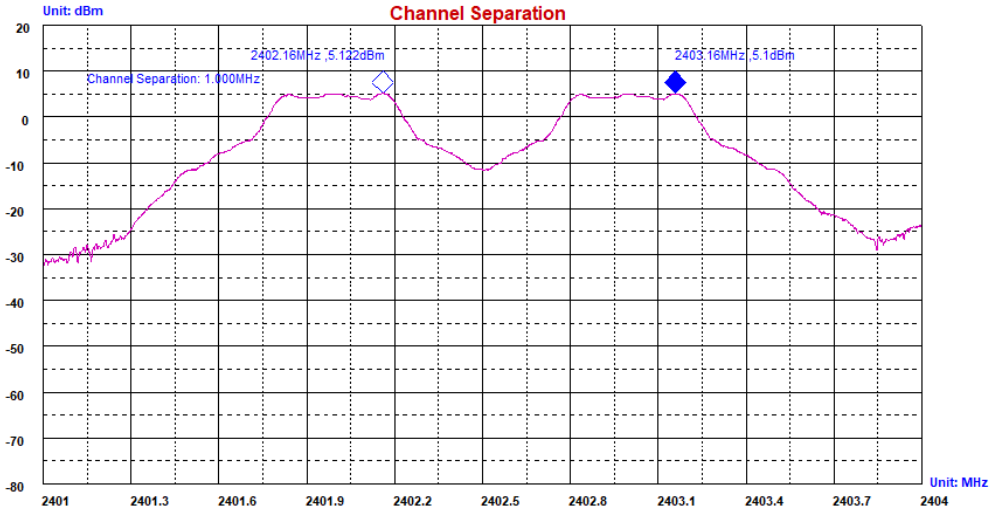
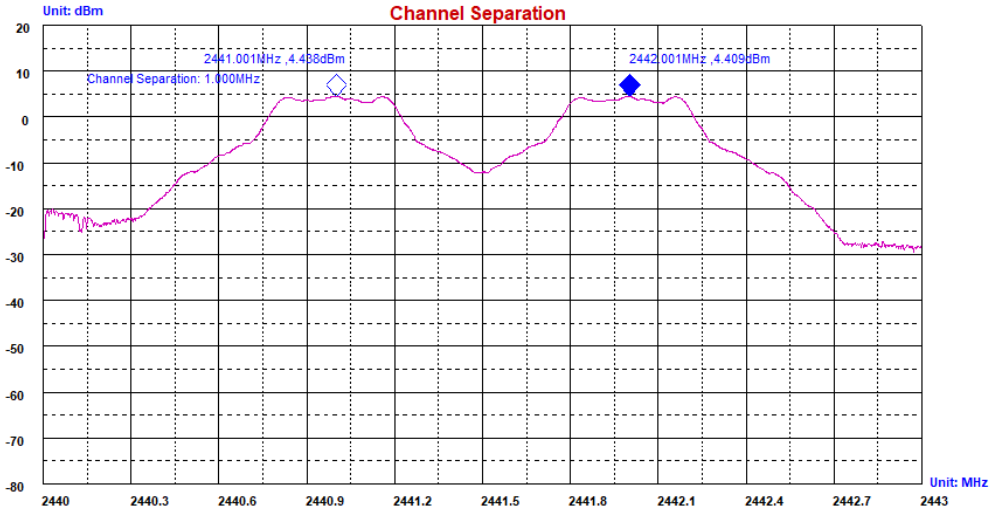
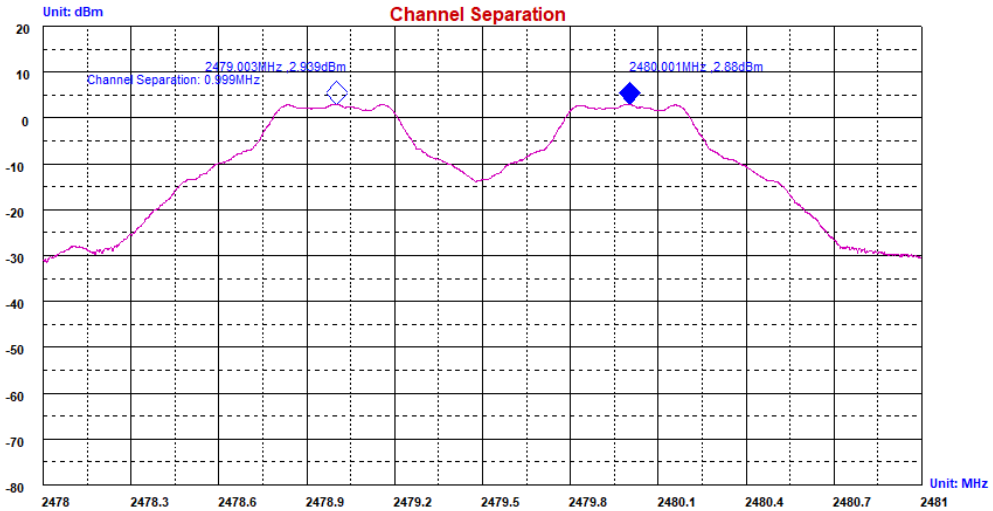


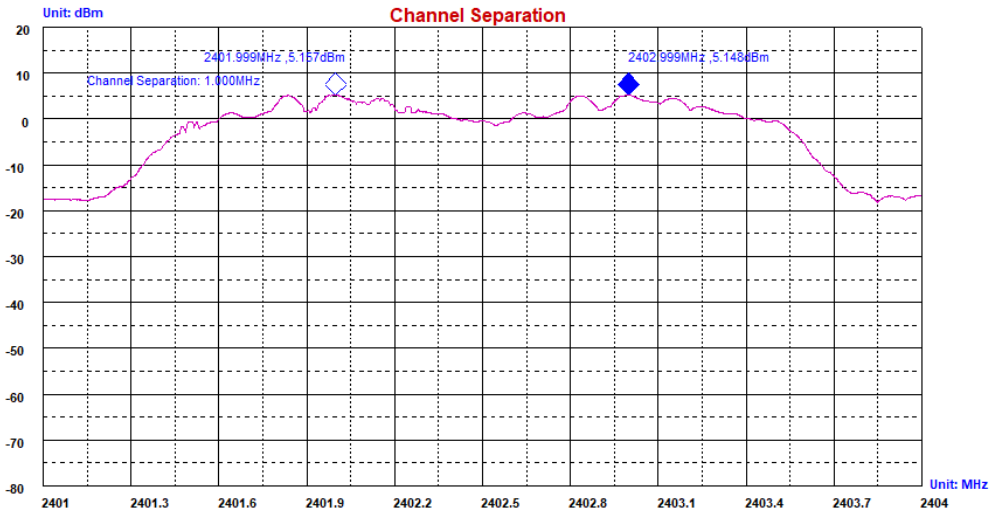
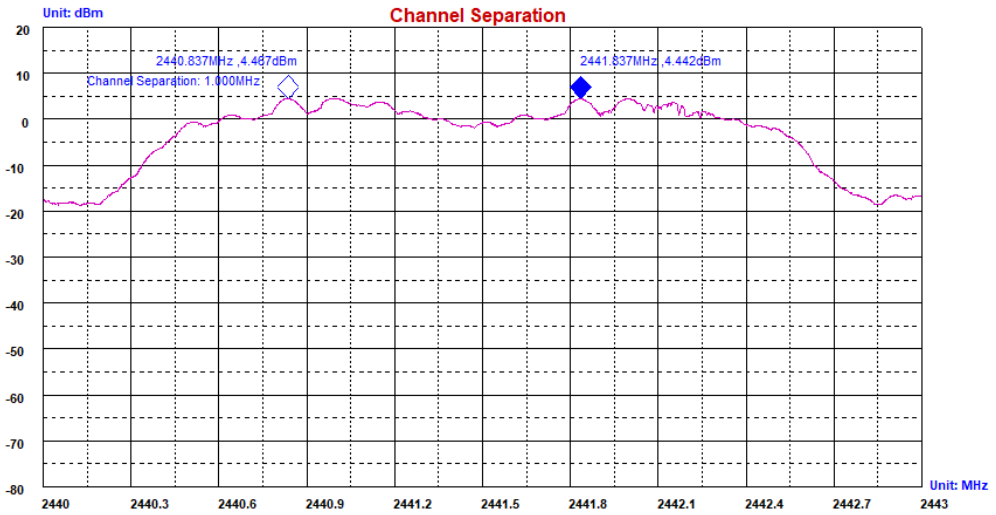
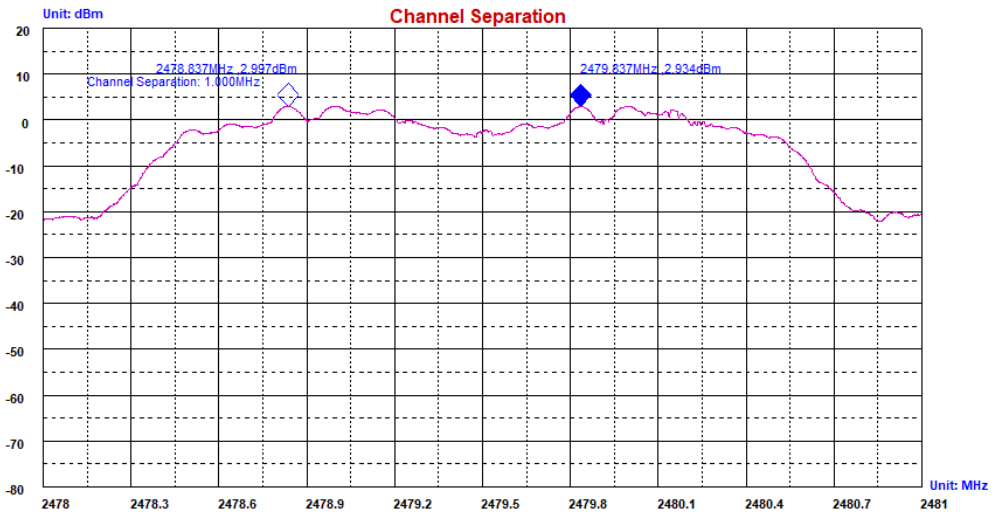
8DPSK _3DH5/MCH	
8DPSK _3DH5/HCH	

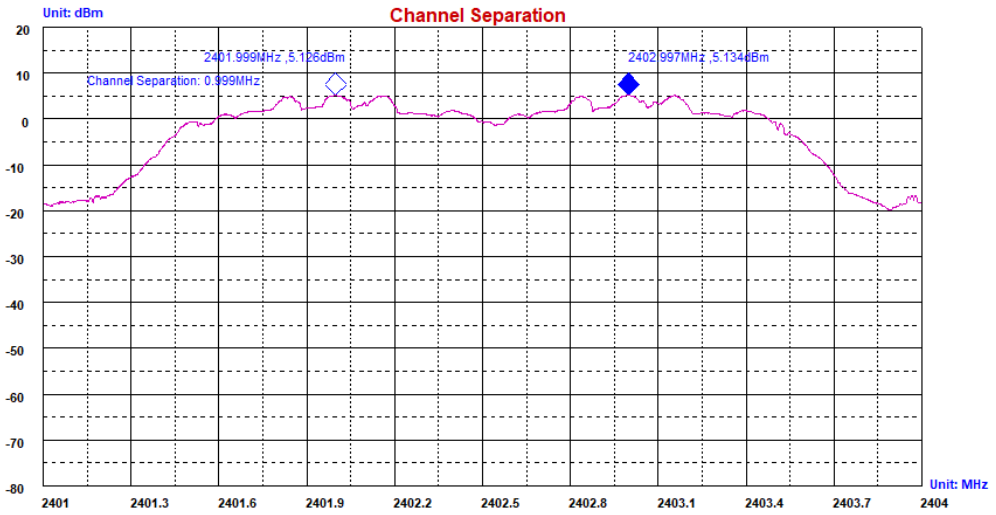
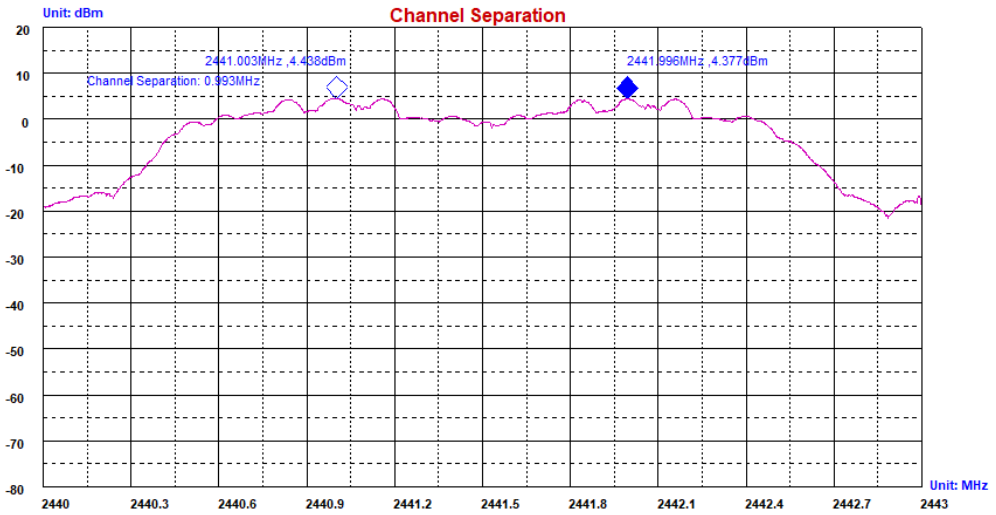
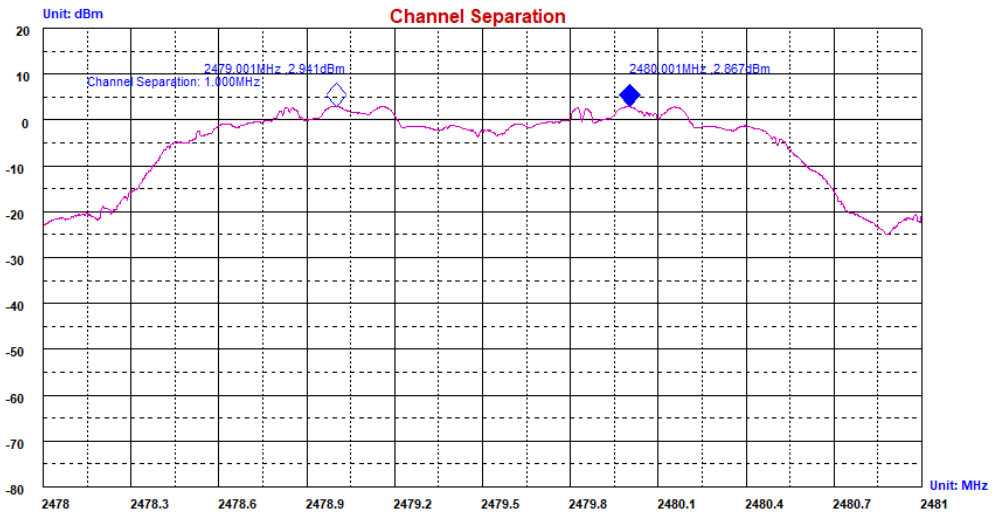
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.000	0.569	PASS
GFSK	MCH	1.000	0.572	PASS
GFSK	HCH	0.999	0.631	PASS
π/4DQPSK	LCH	1.000	0.908	PASS
π/4DQPSK	MCH	1.000	0.833	PASS
π/4DQPSK	HCH	1.000	0.863	PASS
8DPSK	LCH	0.999	0.873	PASS
8DPSK	MCH	0.993	0.852	PASS
8DPSK	HCH	1.000	0.835	PASS

Test Graph

Graphs	
GFSK/LCH	
GFSK/MCH	
GFSK/HCH	

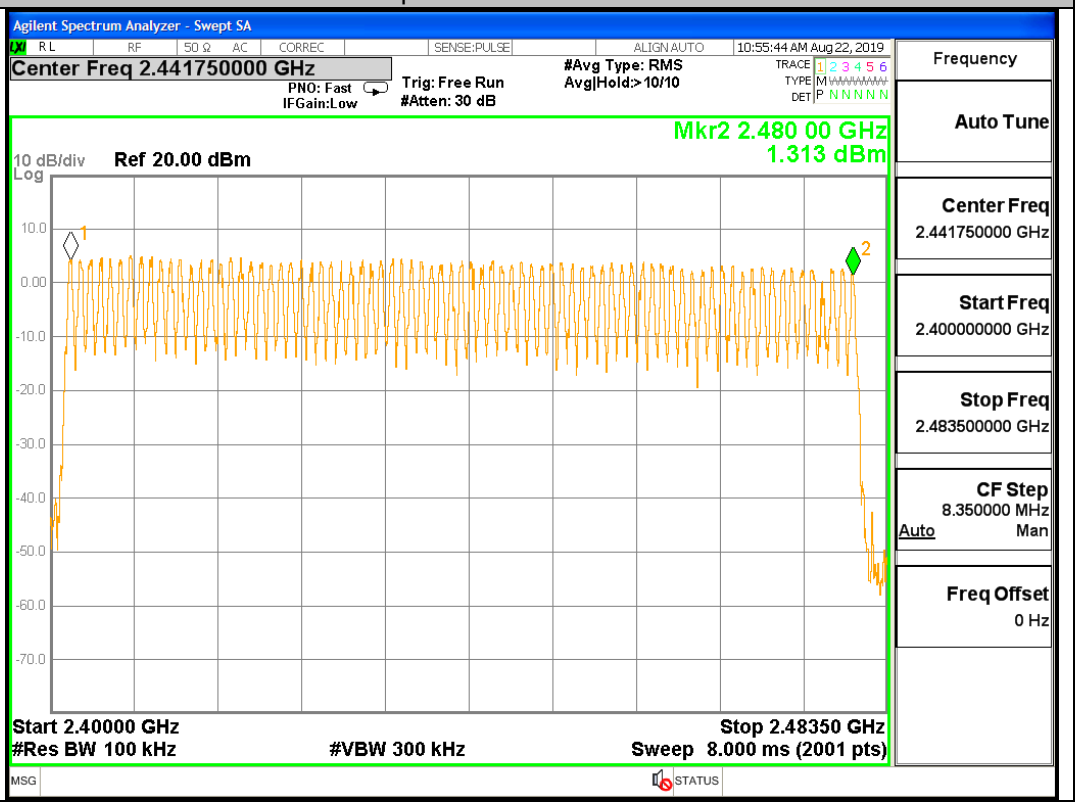
π/4DQPSK/LCH	
π/4DQPSK/MCH	
π/4DQPSK/HCH	

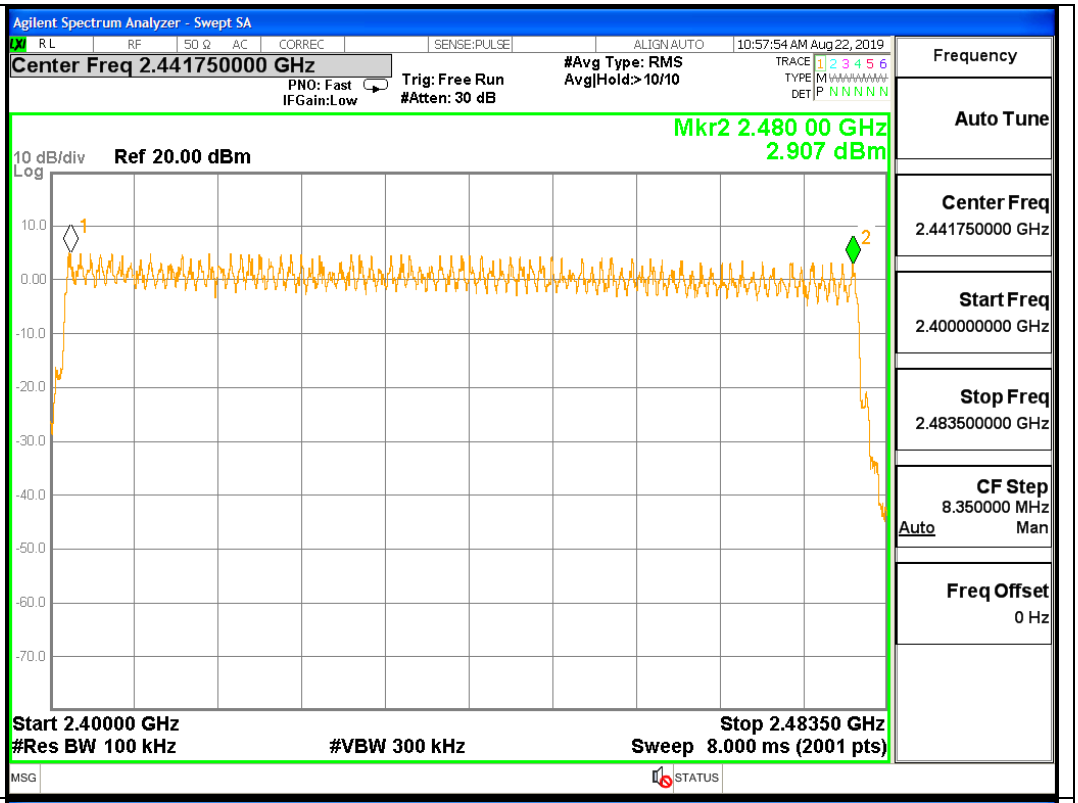
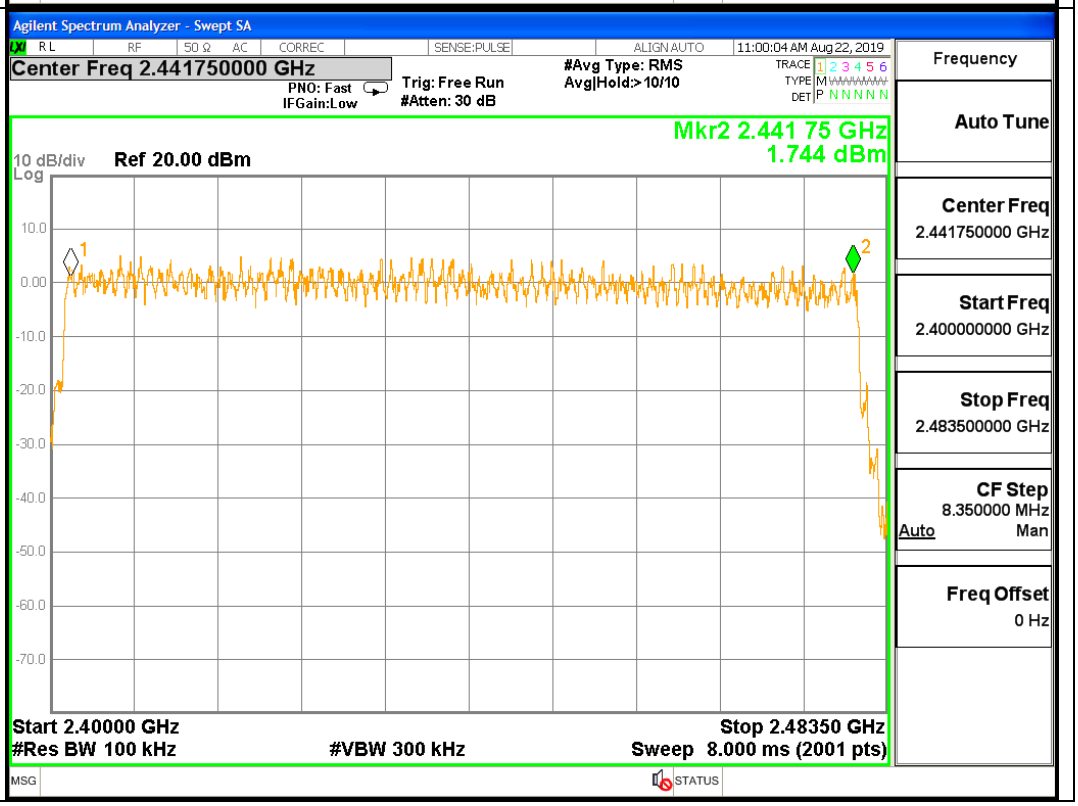
8DPSK/LCH	
8DPSK/MCH	
8DPSK/HCH	

A.4 Hopping Channel Number

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

Test Graph

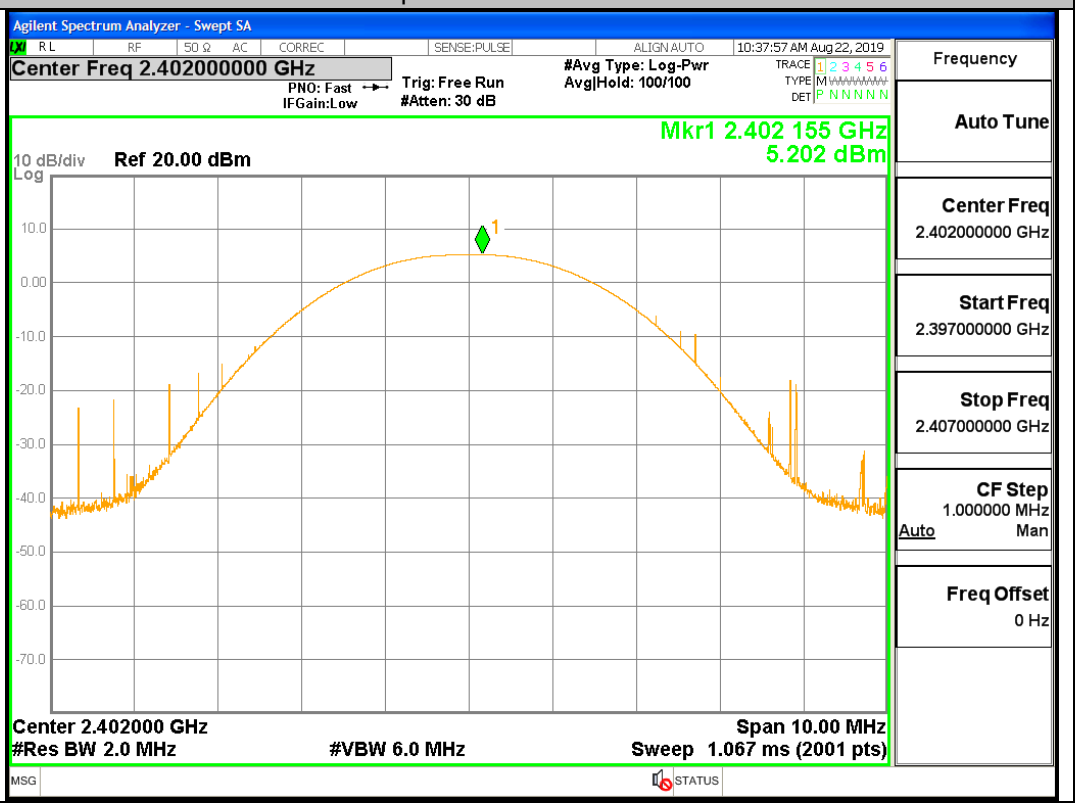
Graphs	
GFSK/Hop	

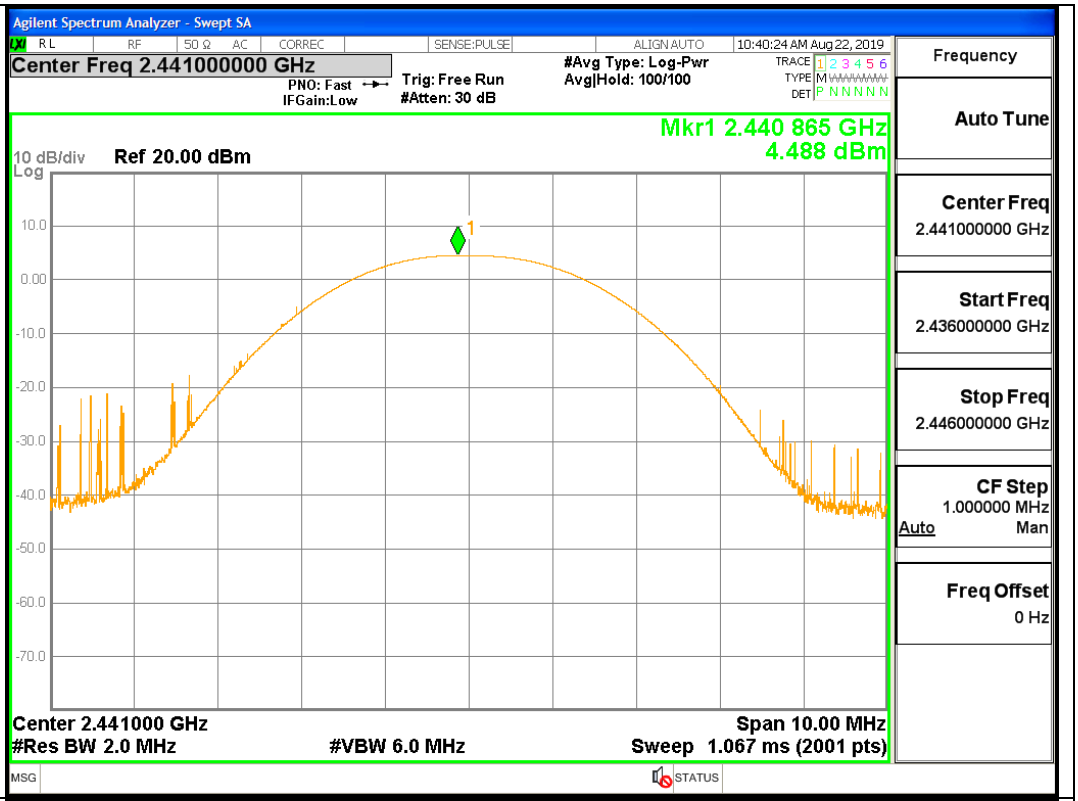
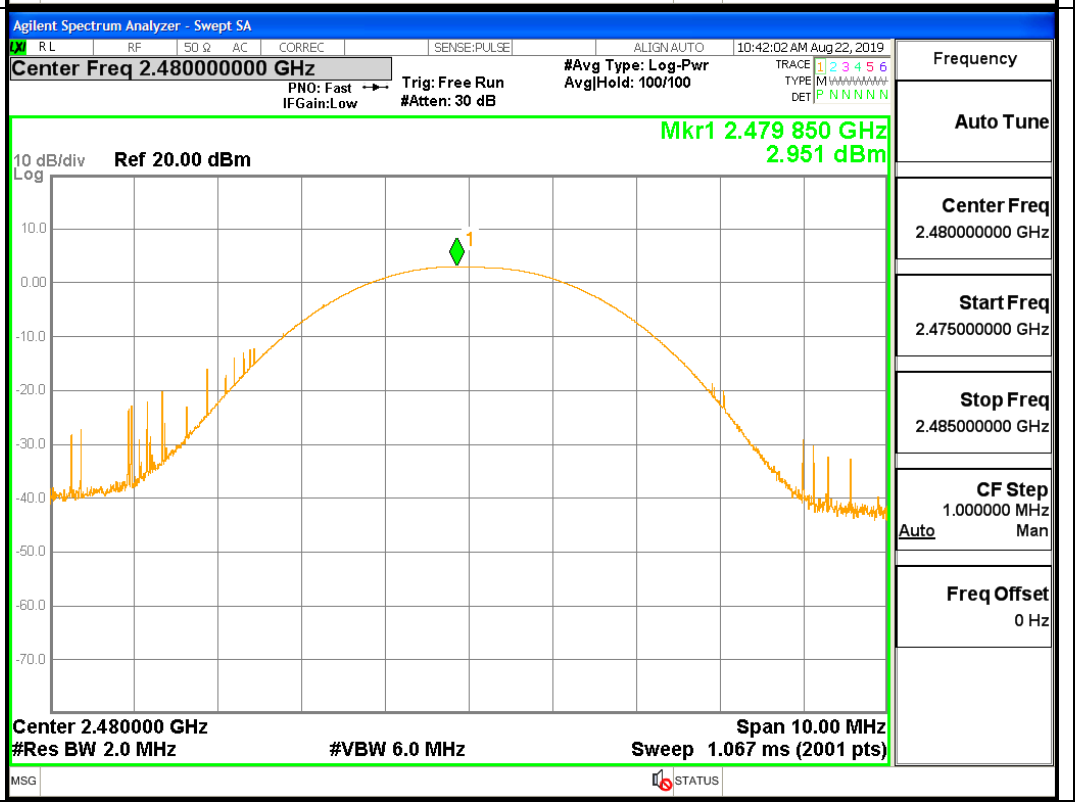
π/4DQPSK/Hop	
8DPSK/Hop	

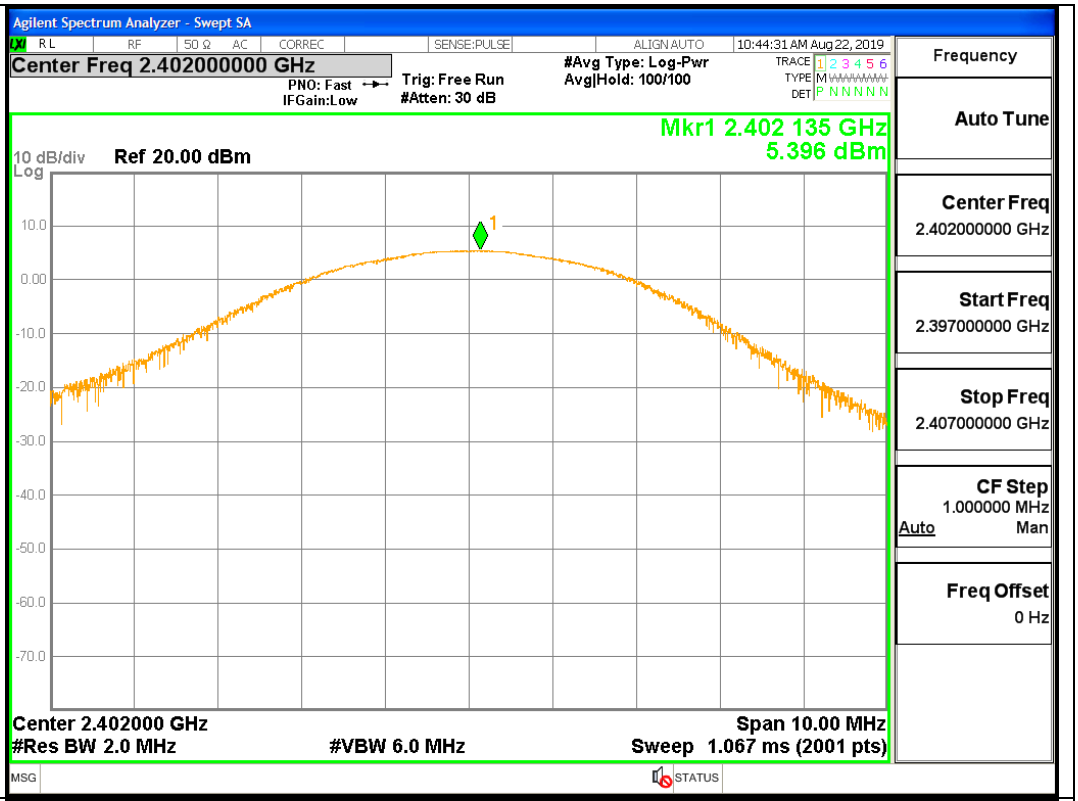
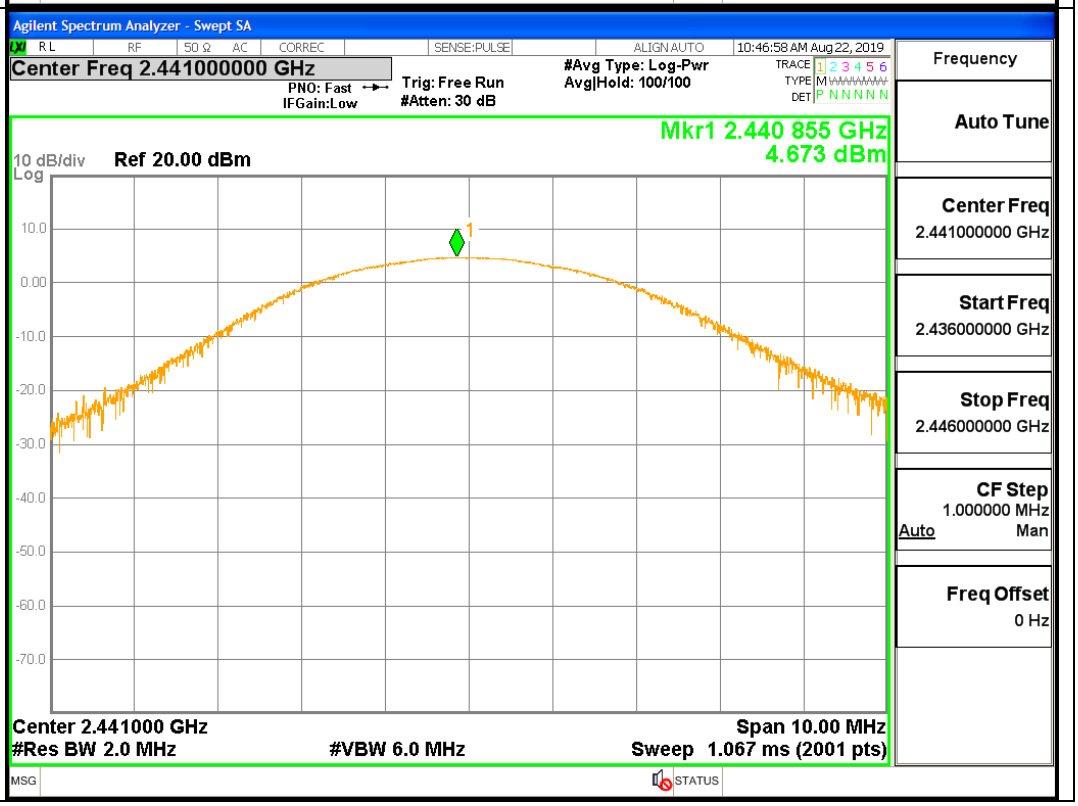
A.5 Conducted Peak Output Power

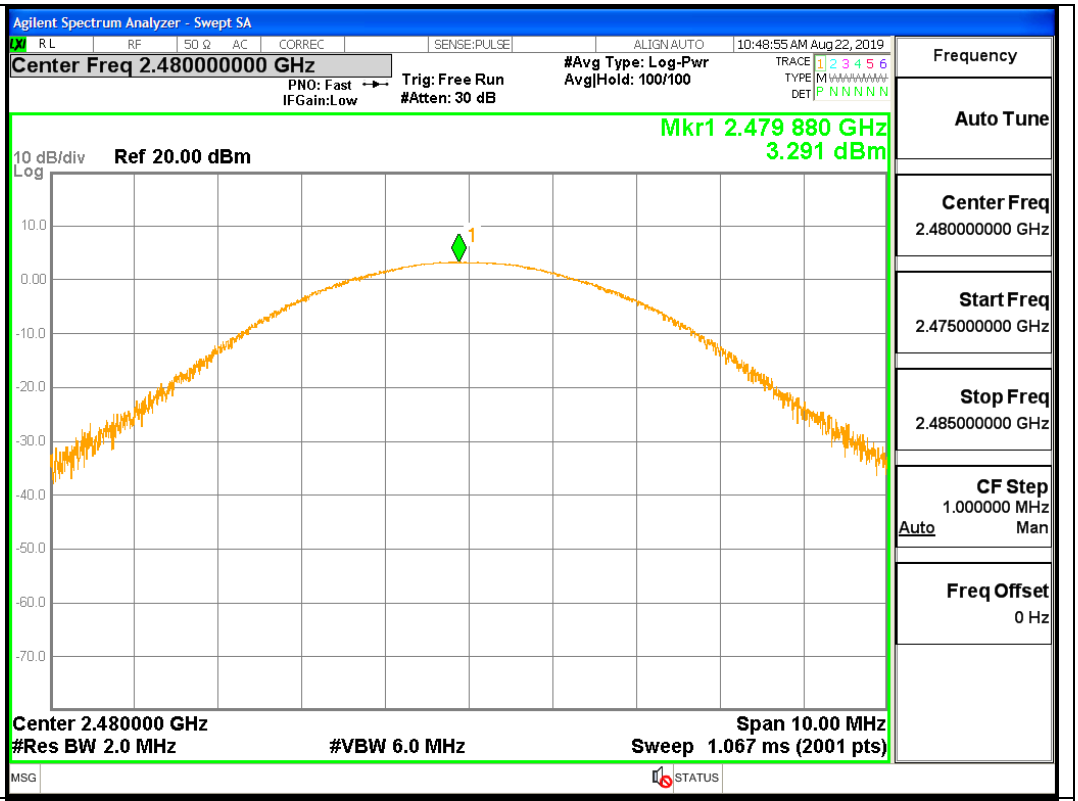
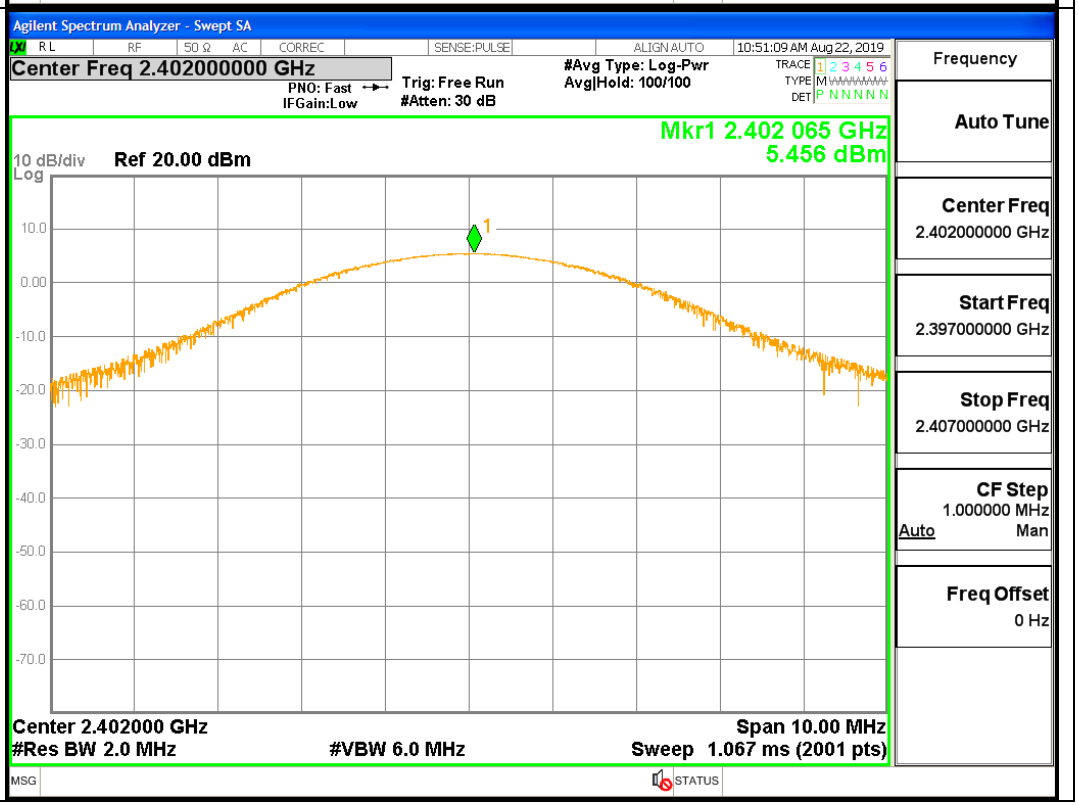
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	5.202	21	PASS
GFSK	MCH	4.488	21	PASS
GFSK	HCH	2.951	21	PASS
π/4DQPSK	LCH	5.396	21	PASS
π/4DQPSK	MCH	4.673	21	PASS
π/4DQPSK	HCH	3.291	21	PASS
8DPSK	LCH	5.456	21	PASS
8DPSK	MCH	4.756	21	PASS
8DPSK	HCH	3.421	21	PASS

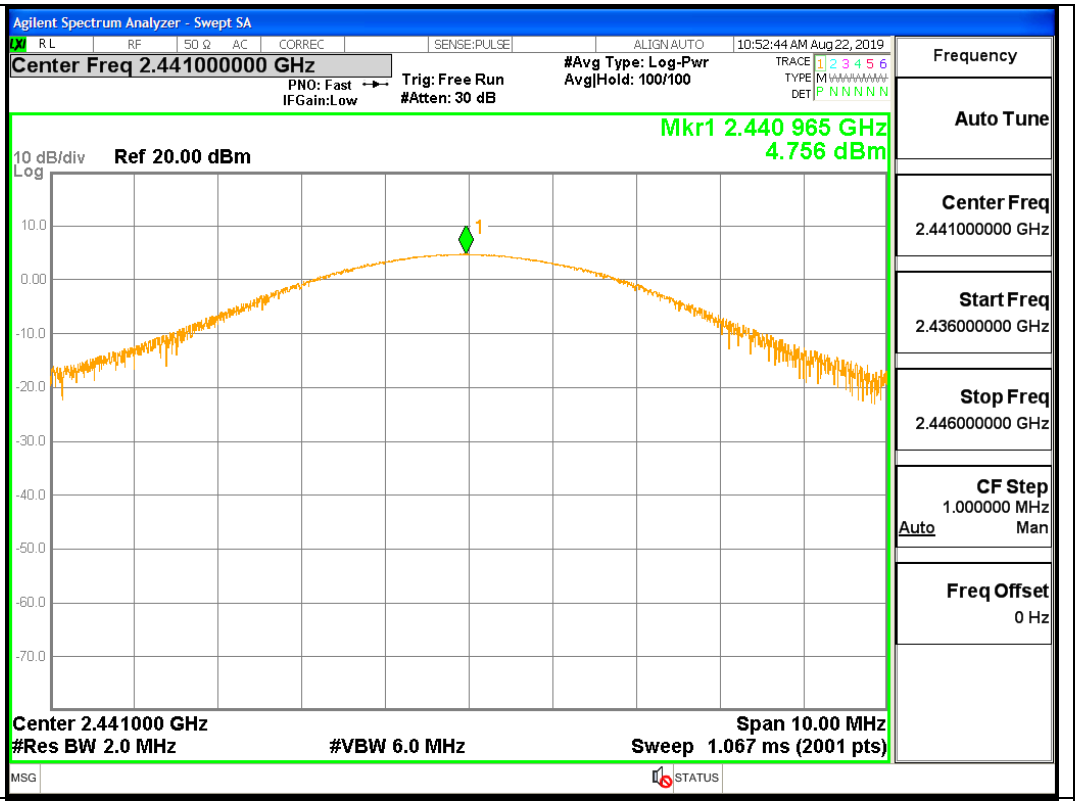
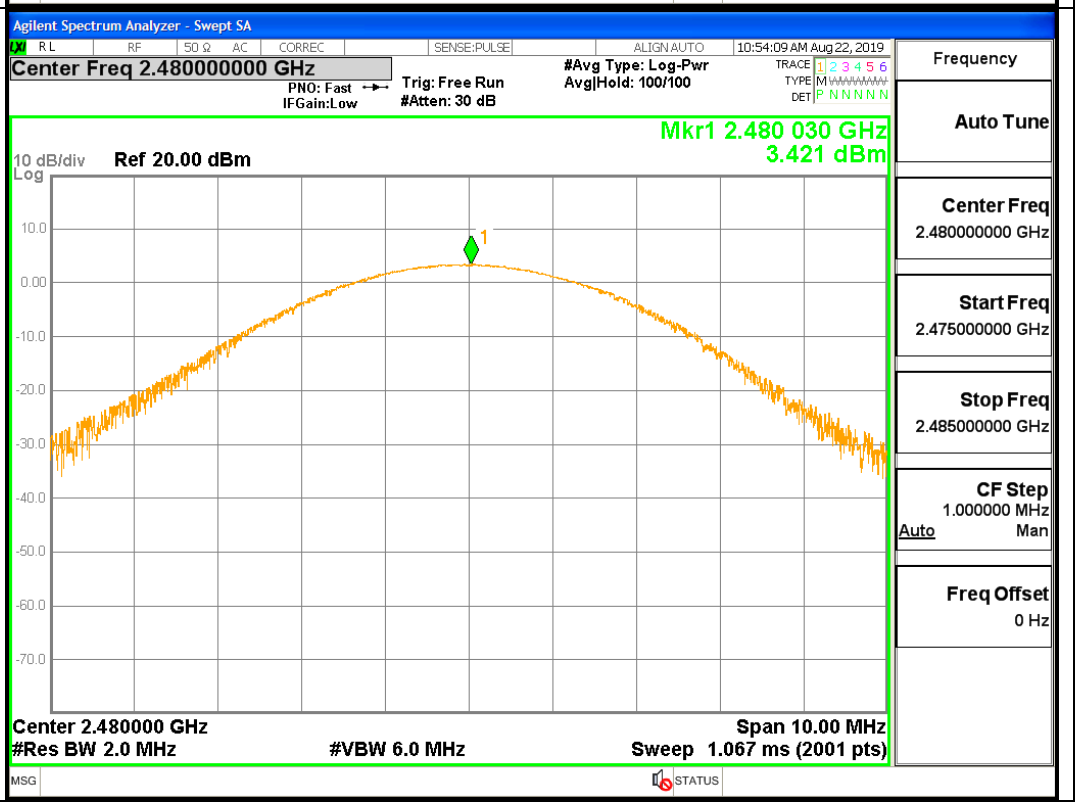
Test Graph

Graphs	
GFSK/LCH	

GFSK/MCH	
GFSK/HCH	

π/4DQPSK/LCH	
π/4DQPSK/MCH	

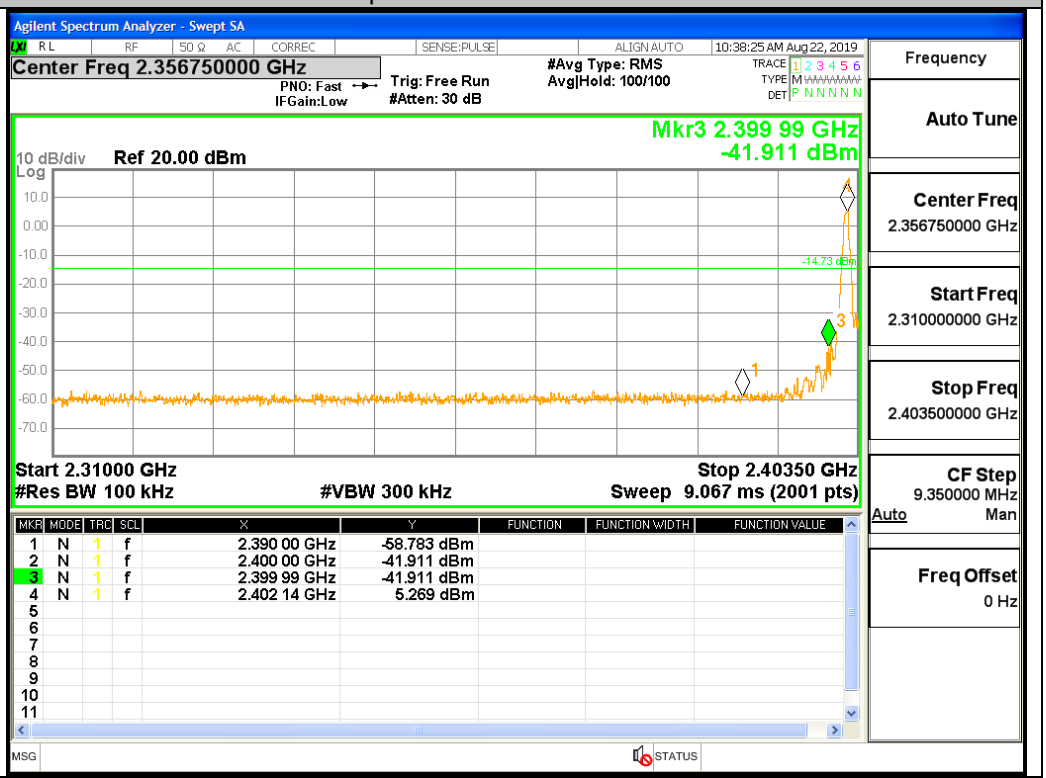
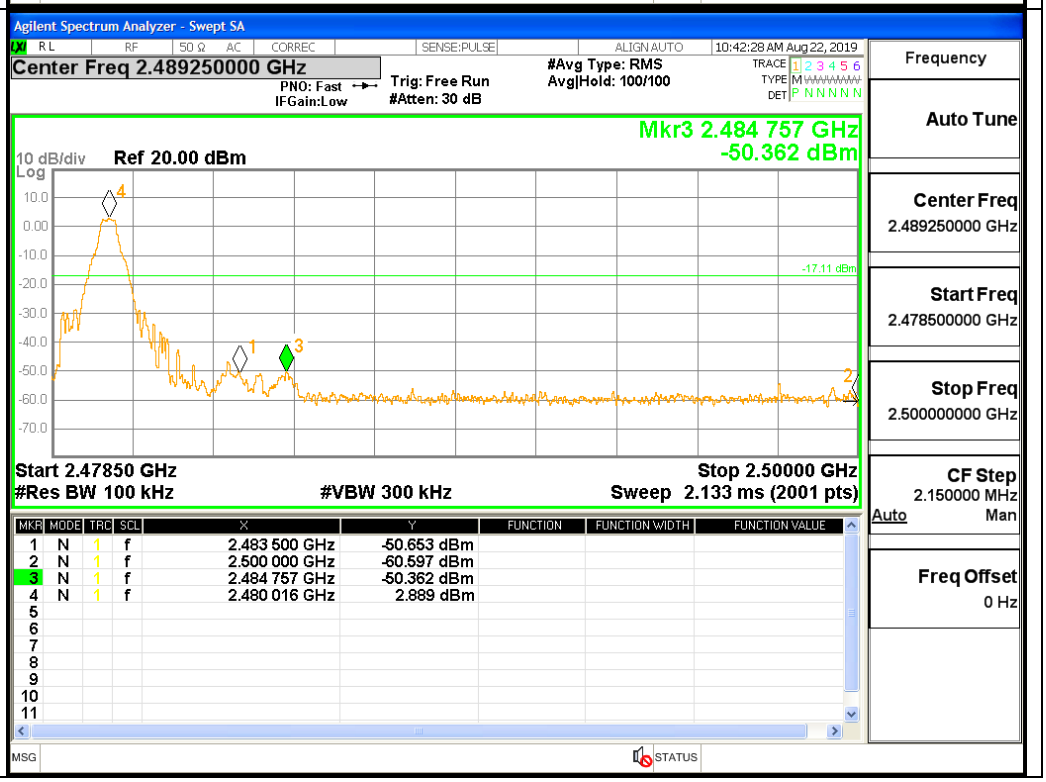
π/4DQPSK/HCH	
8DPSK/LCH	

8DPSK/MCH	
8DPSK/HCH	

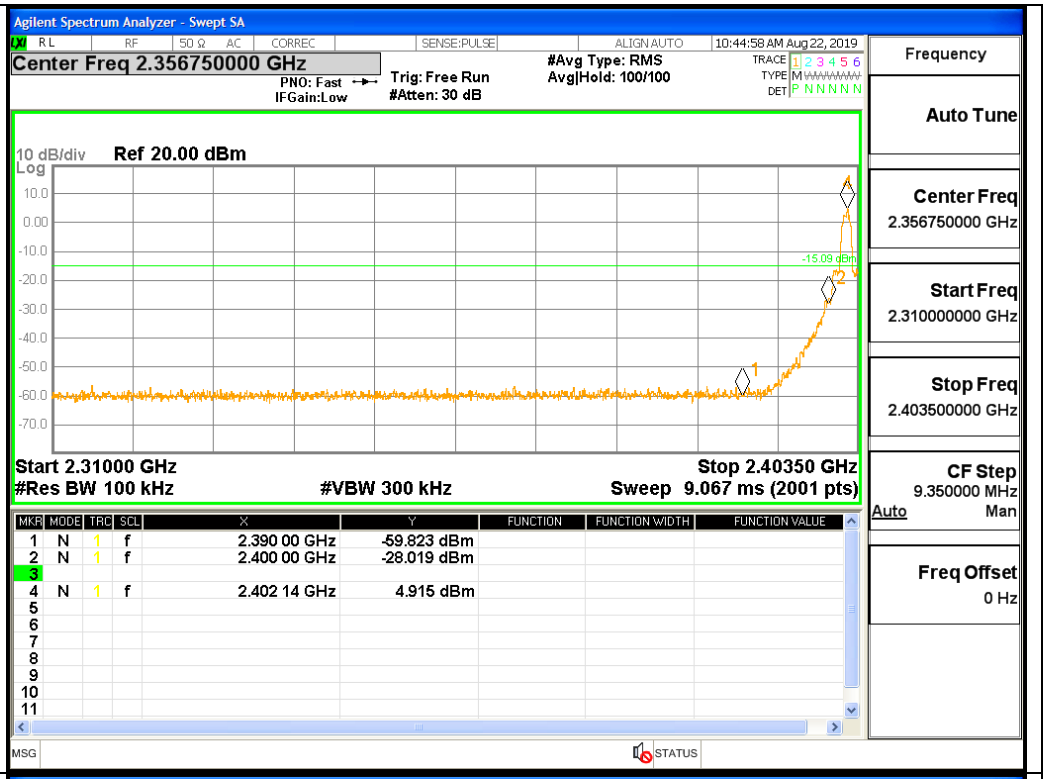
A.6 Band-edge for RF Conducted Emissions

Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2400	5.269	-41.91	-14.731	Pass
1DH5	2480	2484.757	2.889	-50.362	-17.111	Pass
2DH5	2402	2400	4.915	-28.02	-15.085	Pass
2DH5	2480	2483.5	1.899	-45.52	-18.101	Pass
3DH5	2402	2400	5.13	-26.85	-14.870	Pass
3DH5	2480	2483.5	2.997	-42.64	-17.003	Pass
1DH5-Hopping	2402	2400	5.181	-43.22	-14.819	Pass
1DH5-Hopping	2480	2484.01	4.099	-48.198	-15.901	Pass
2DH5-Hopping	2402	2400	5.059	-30.6	-14.941	Pass
2DH5-Hopping	2480	2483.5	4.084	-46.2	-15.916	Pass
3DH5-Hopping	2402	2399.73	4.967	-26.268	-15.033	Pass
3DH5-Hopping	2480	2483.5	4.13	-41.65	-15.870	Pass

Test Graph

Graphs	
GFSK/LCH/No Hop	
GFSK/HCH/No Hop	

π/4DQPSK/LCH/No Hop



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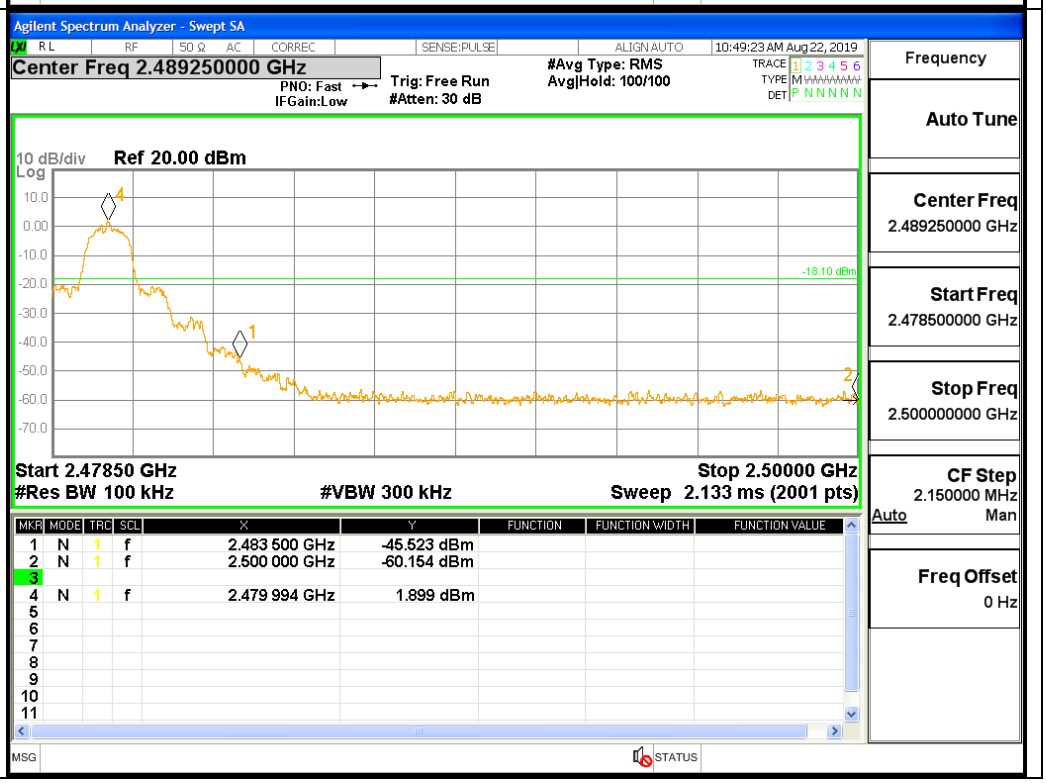
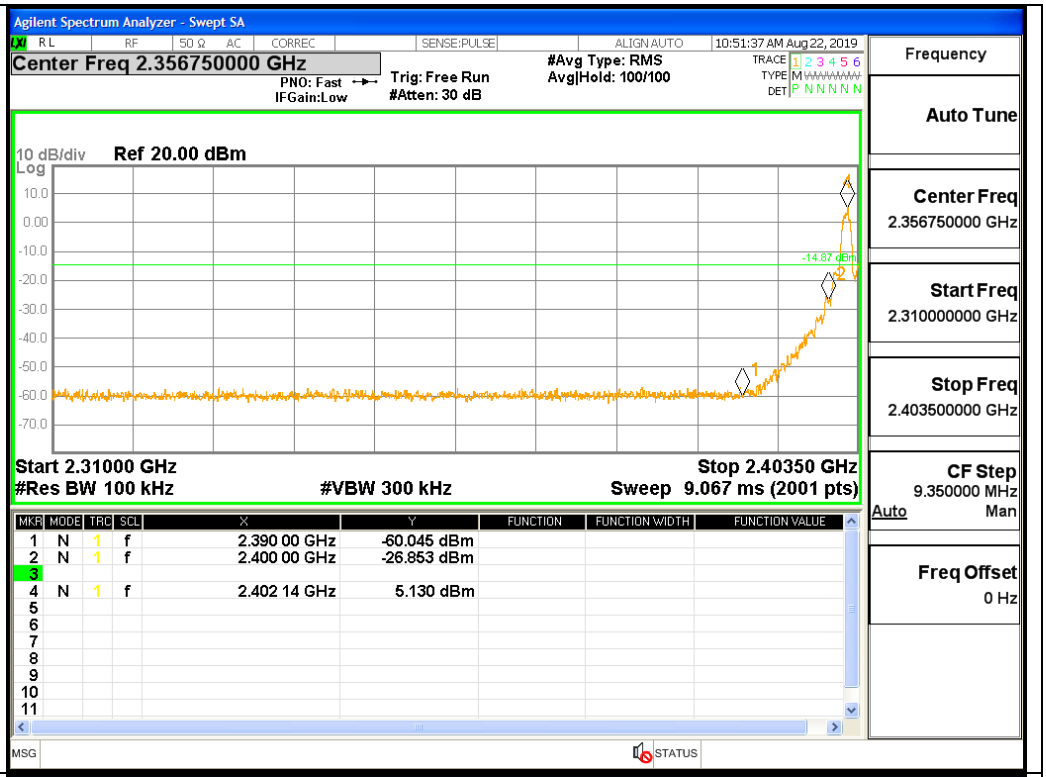


8DPSK/LCH/No Hop



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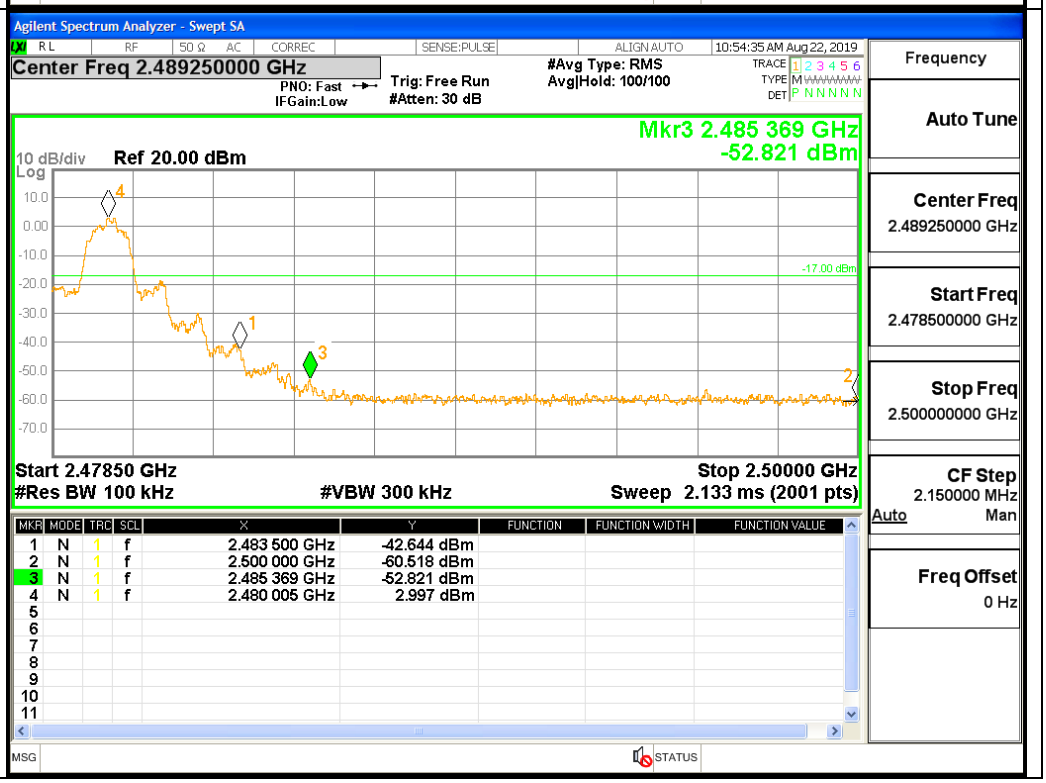
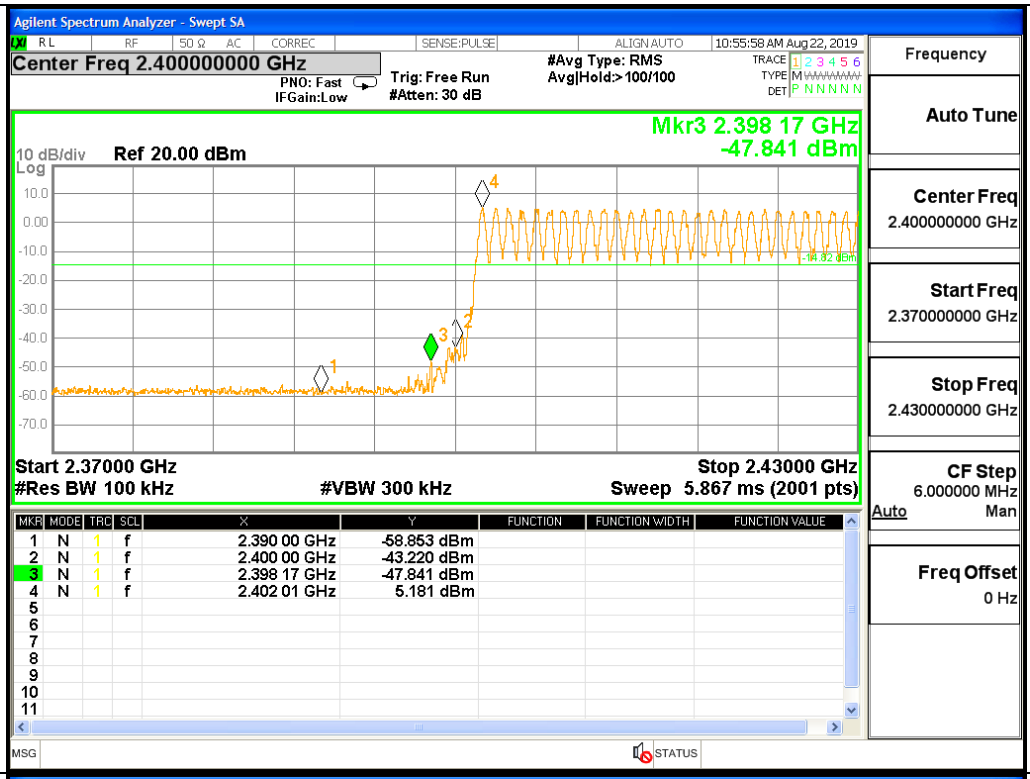
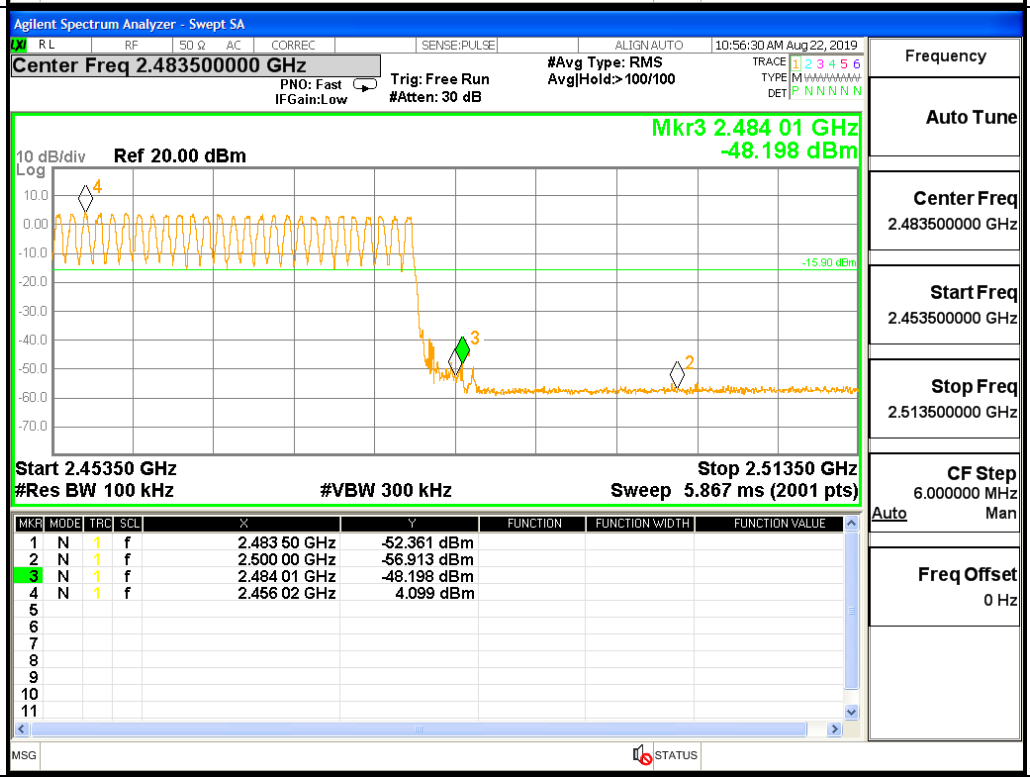
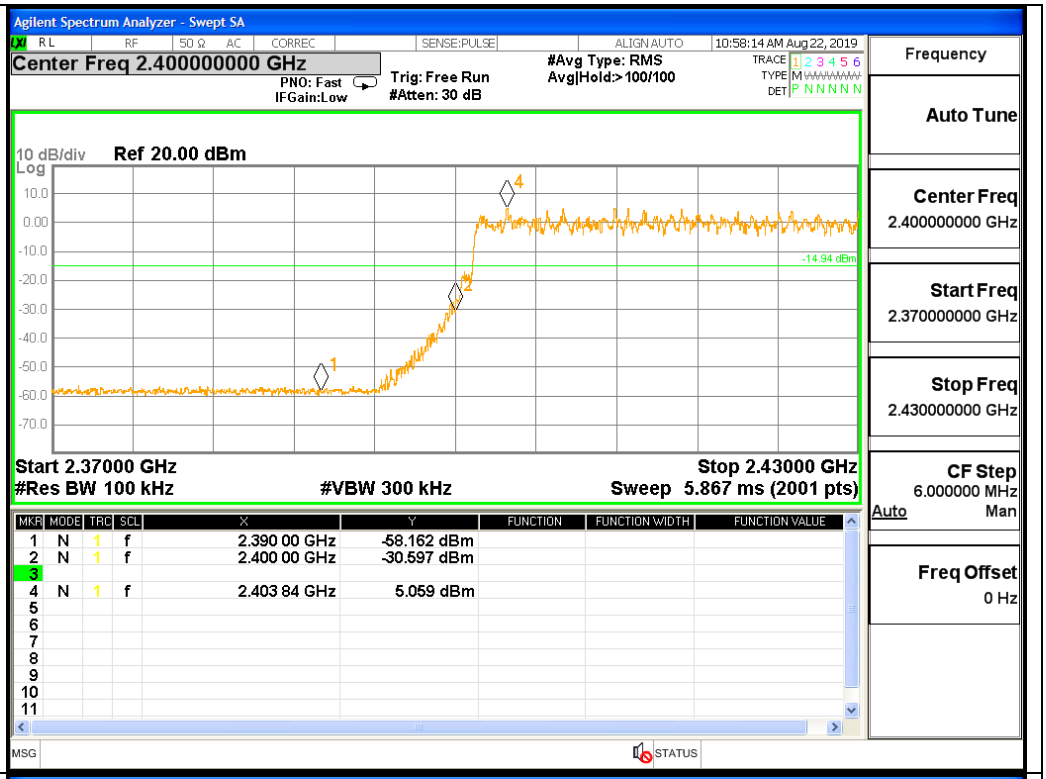


GFSK/LCH/Hop	
GFSK/HCH/Hop	

π/4DQPSK/LCH/Hop



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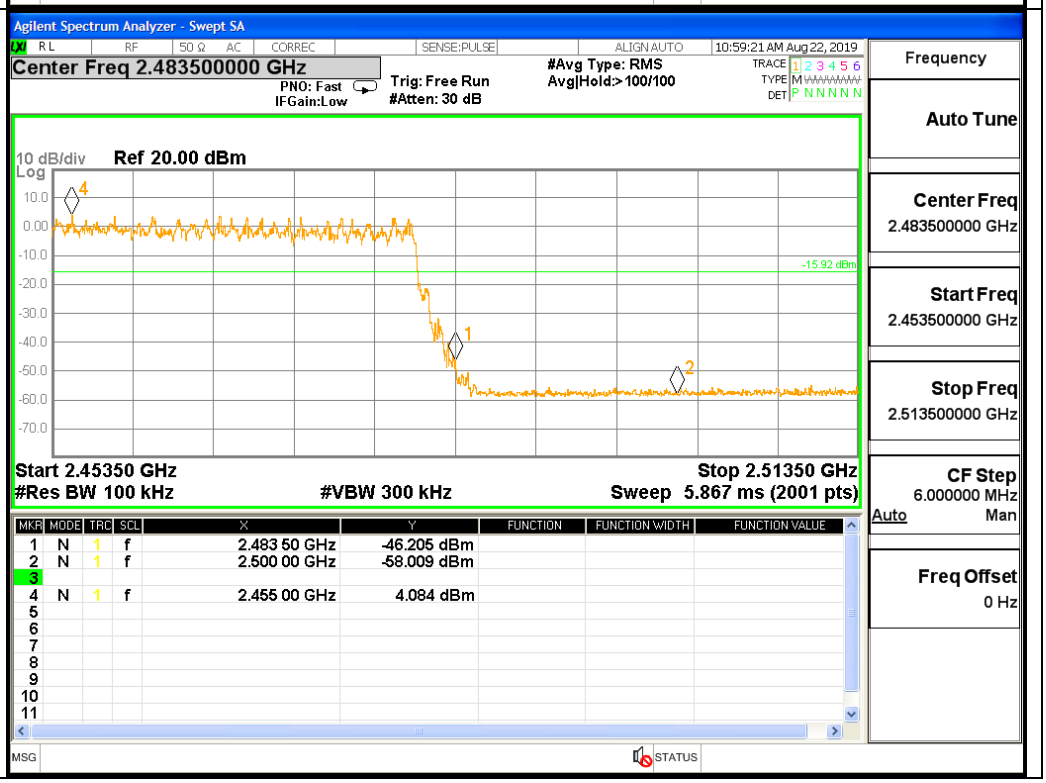

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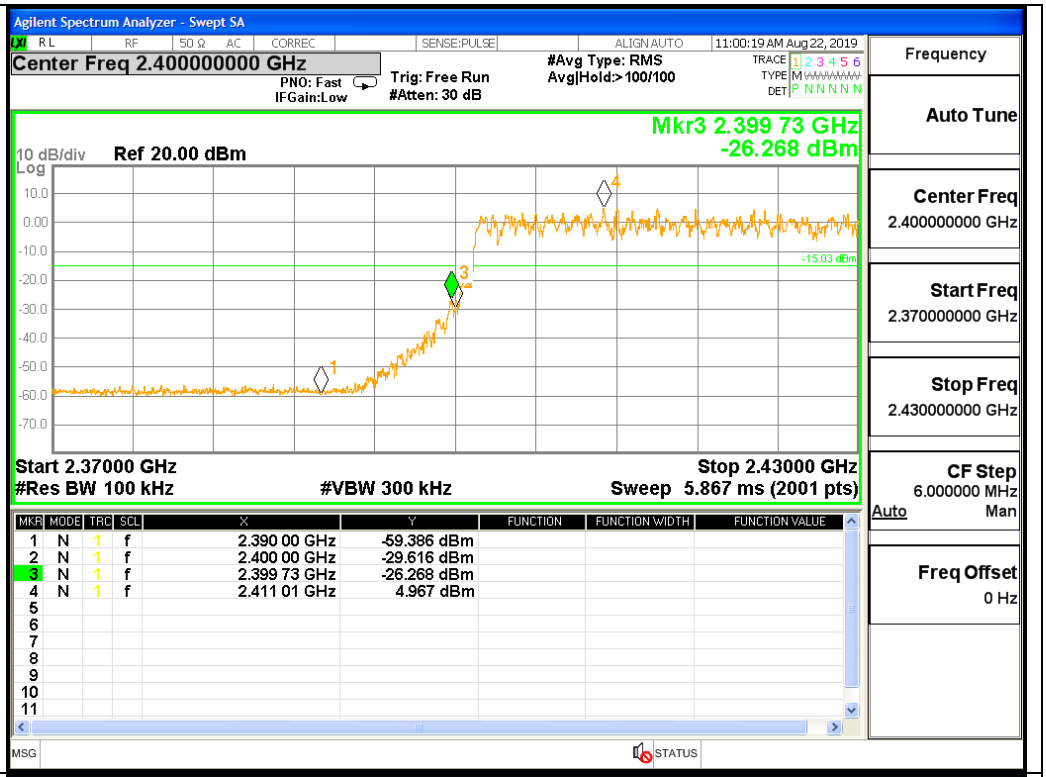

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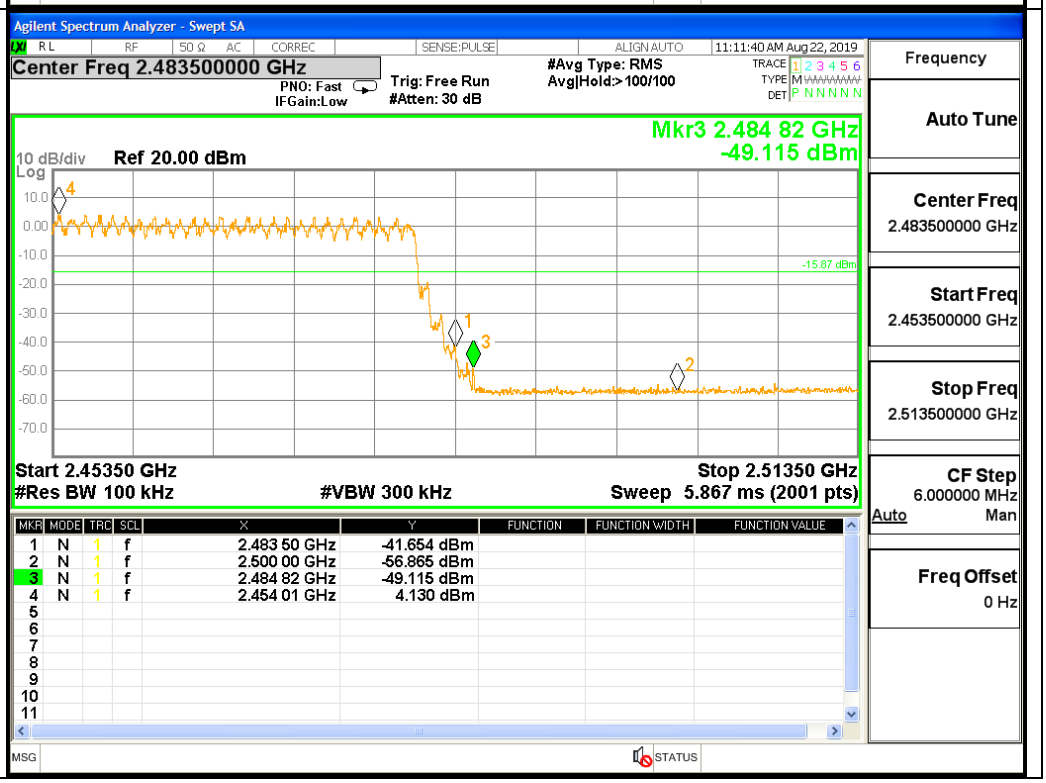
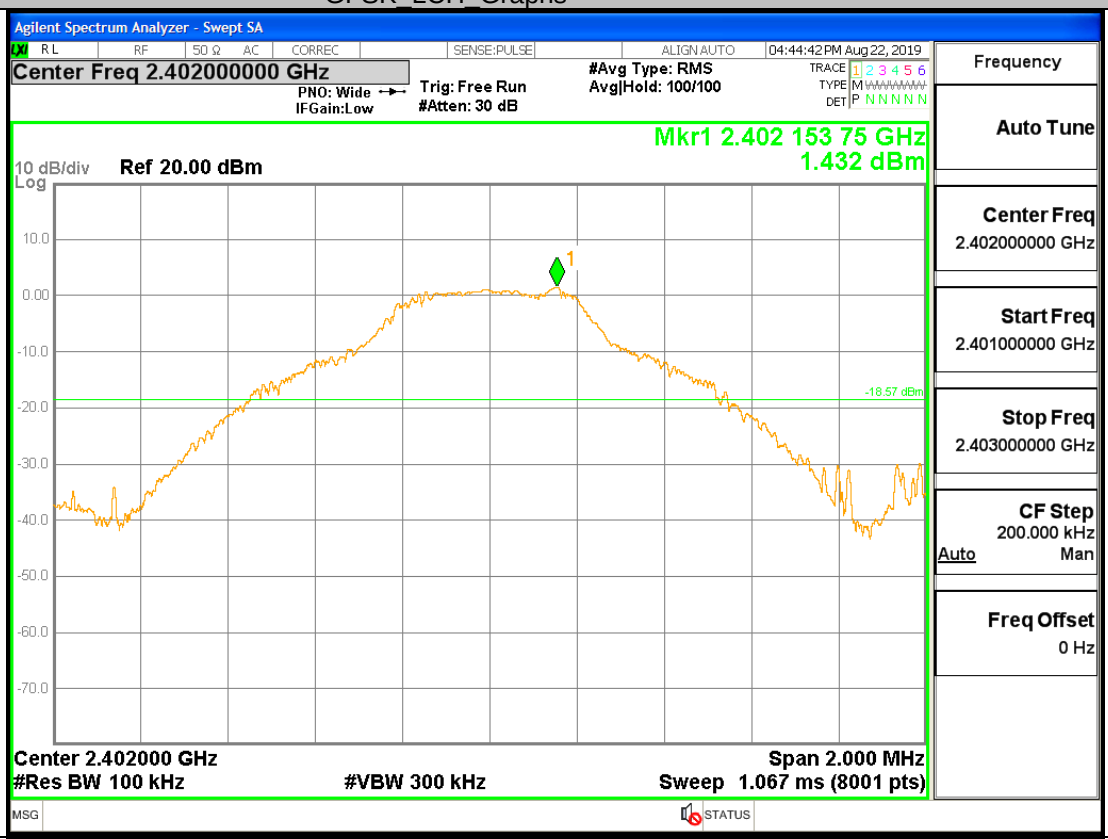
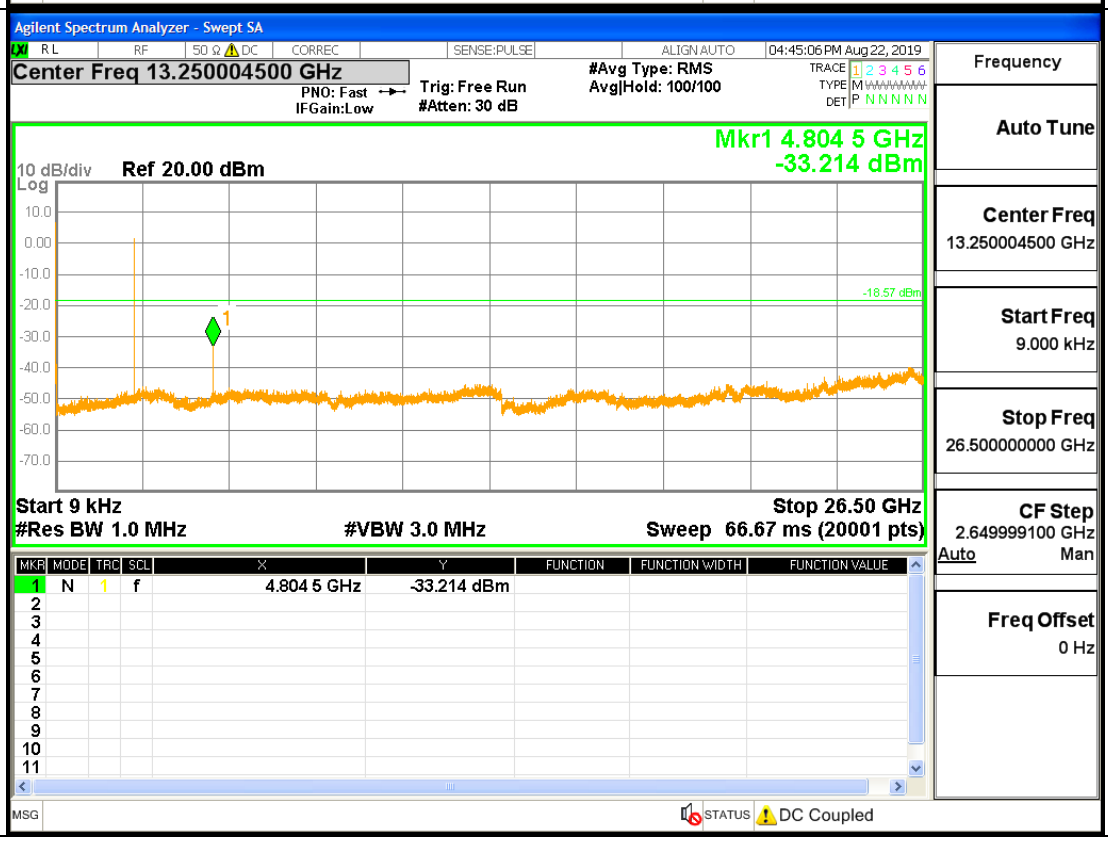
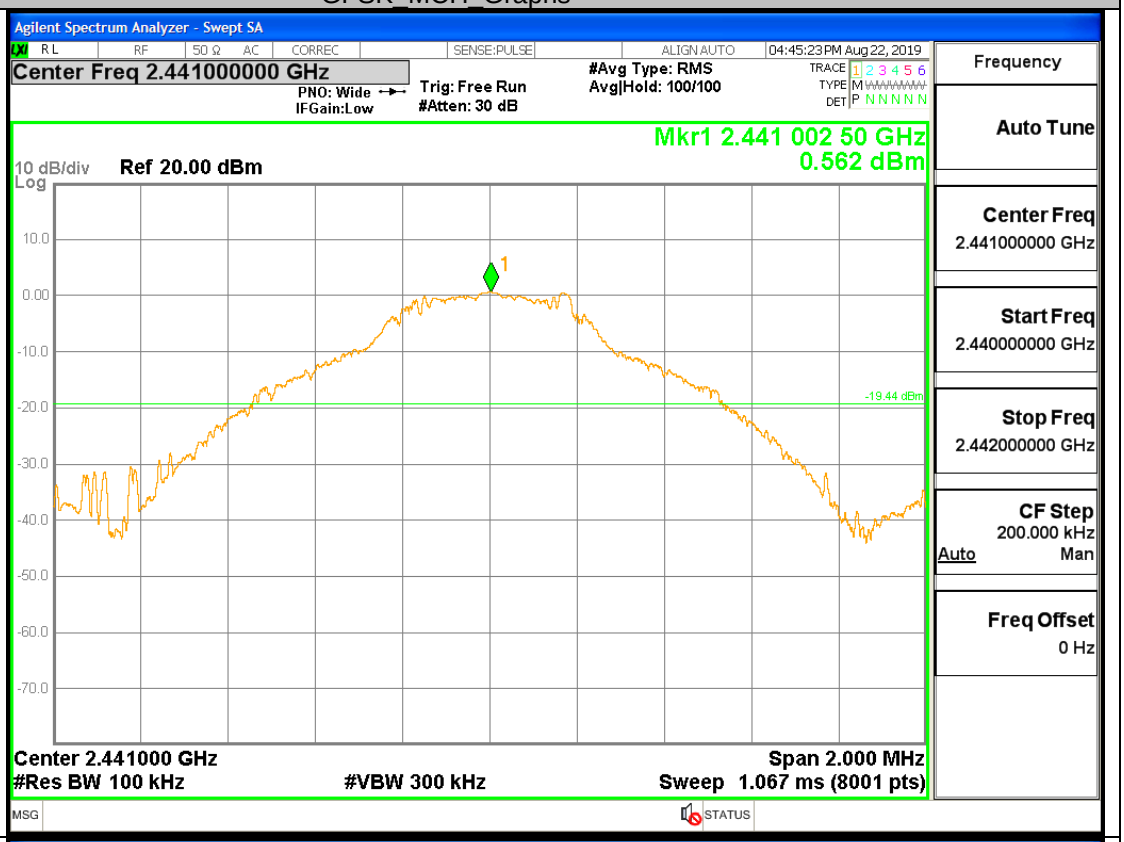
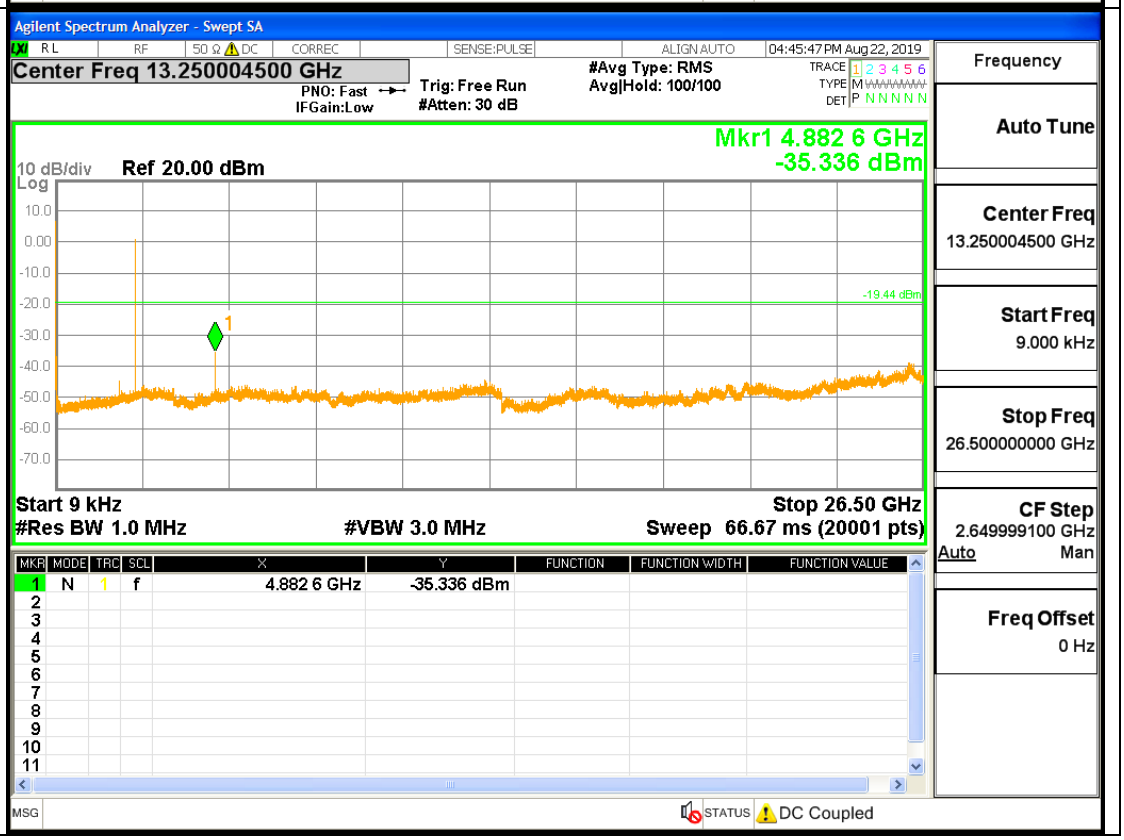


A.7 RF Conducted Spurious Emissions

Test Graph

GFSK_LCH_Graphs	
Pref	
Puw	

GFSK_MCH_Graphs	
Pref	
Puw	

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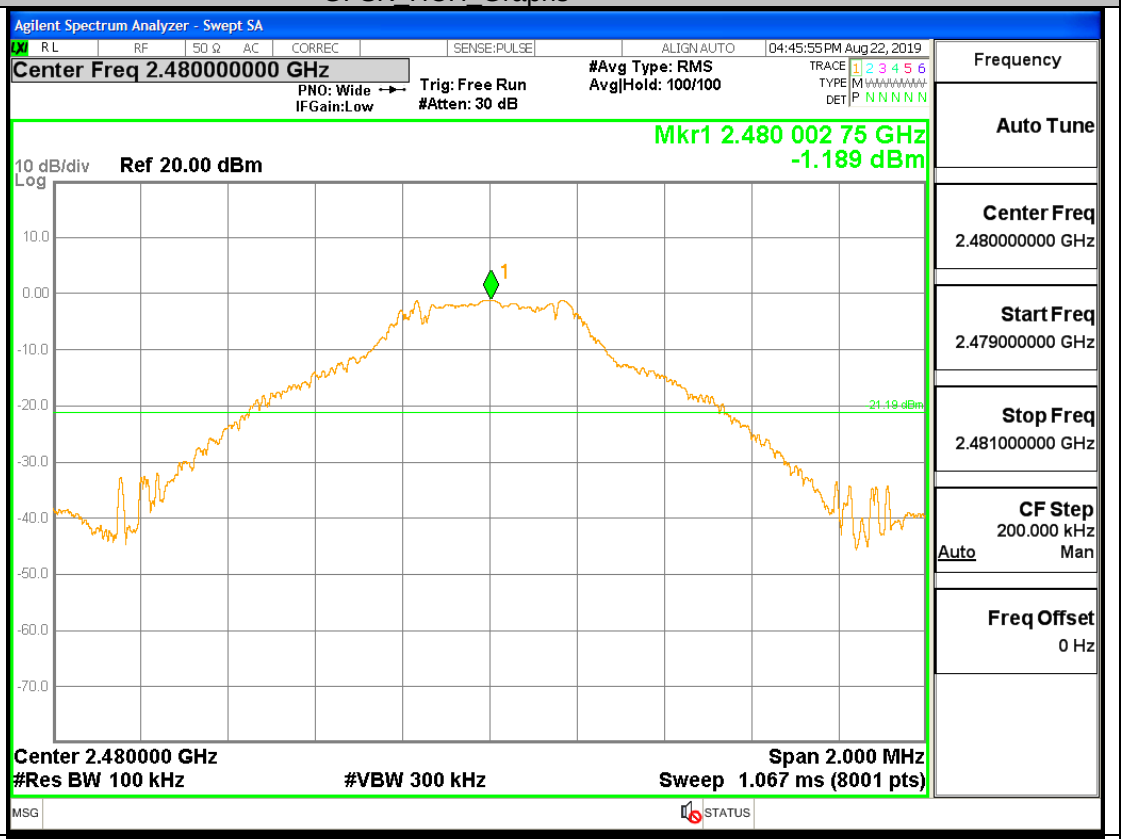
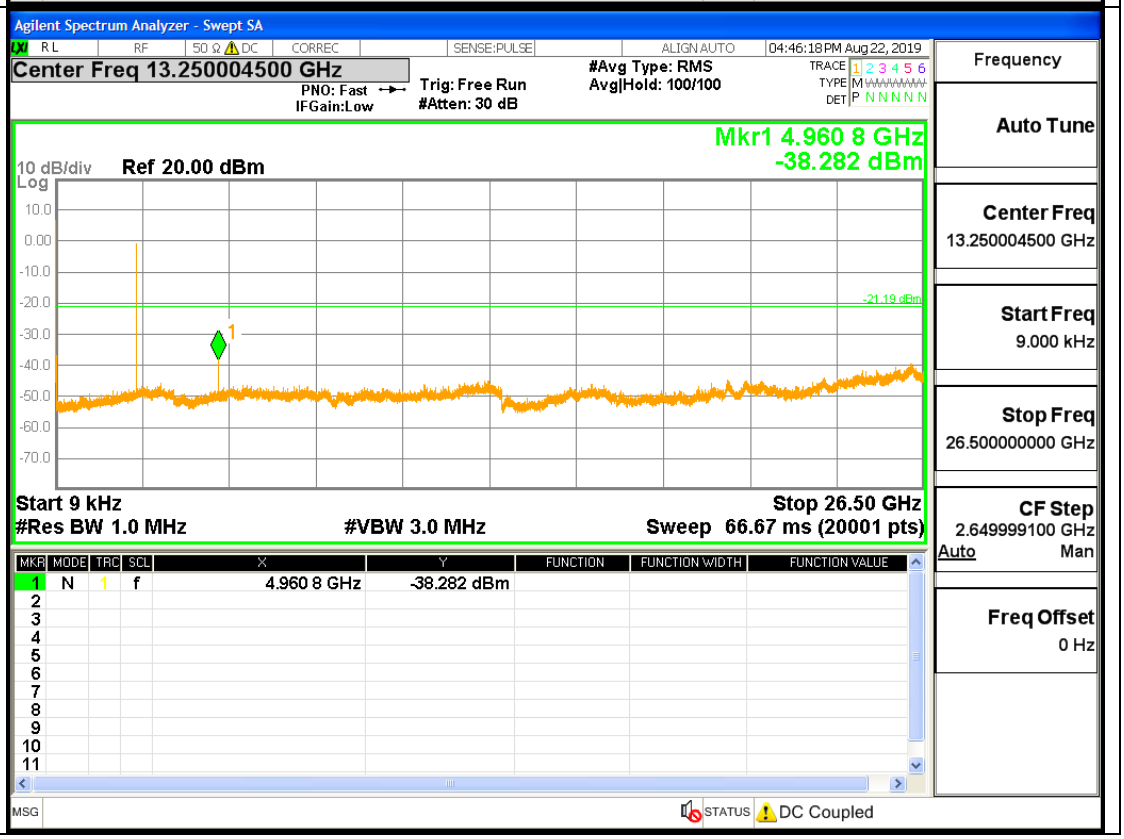
Pref	
Puw	

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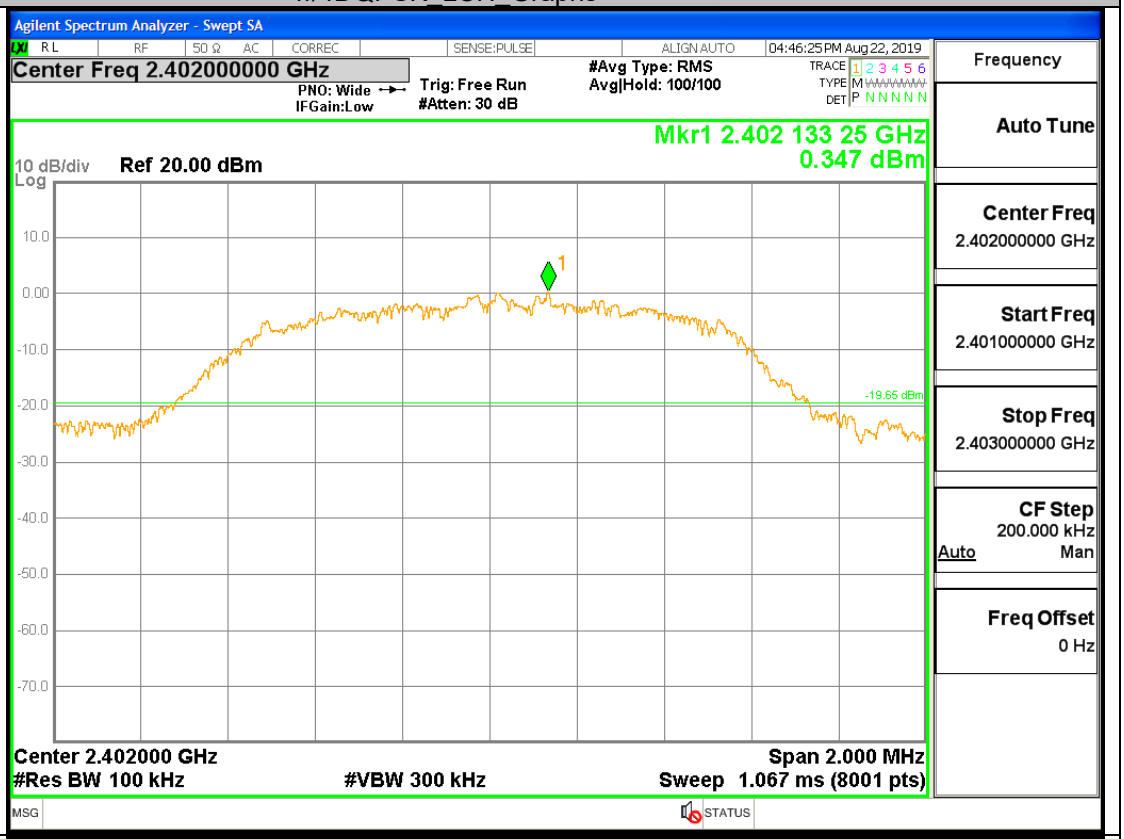
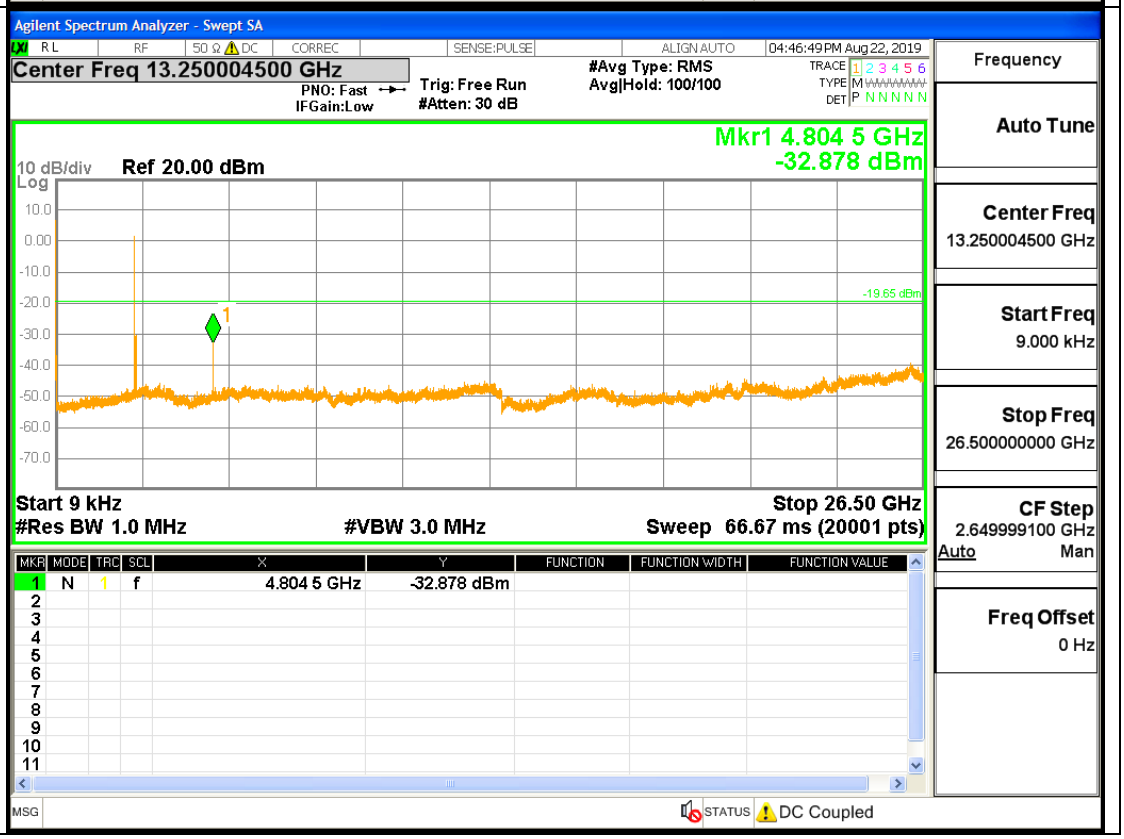
Pref	
Puw	

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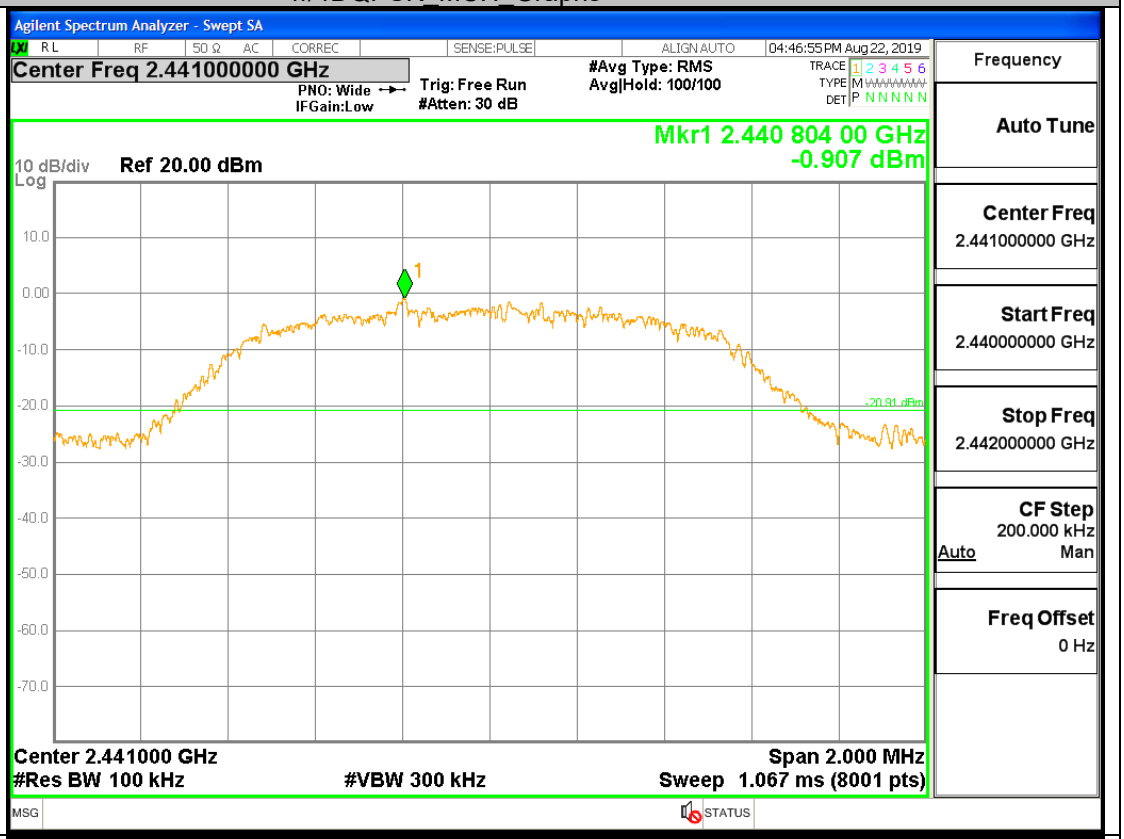
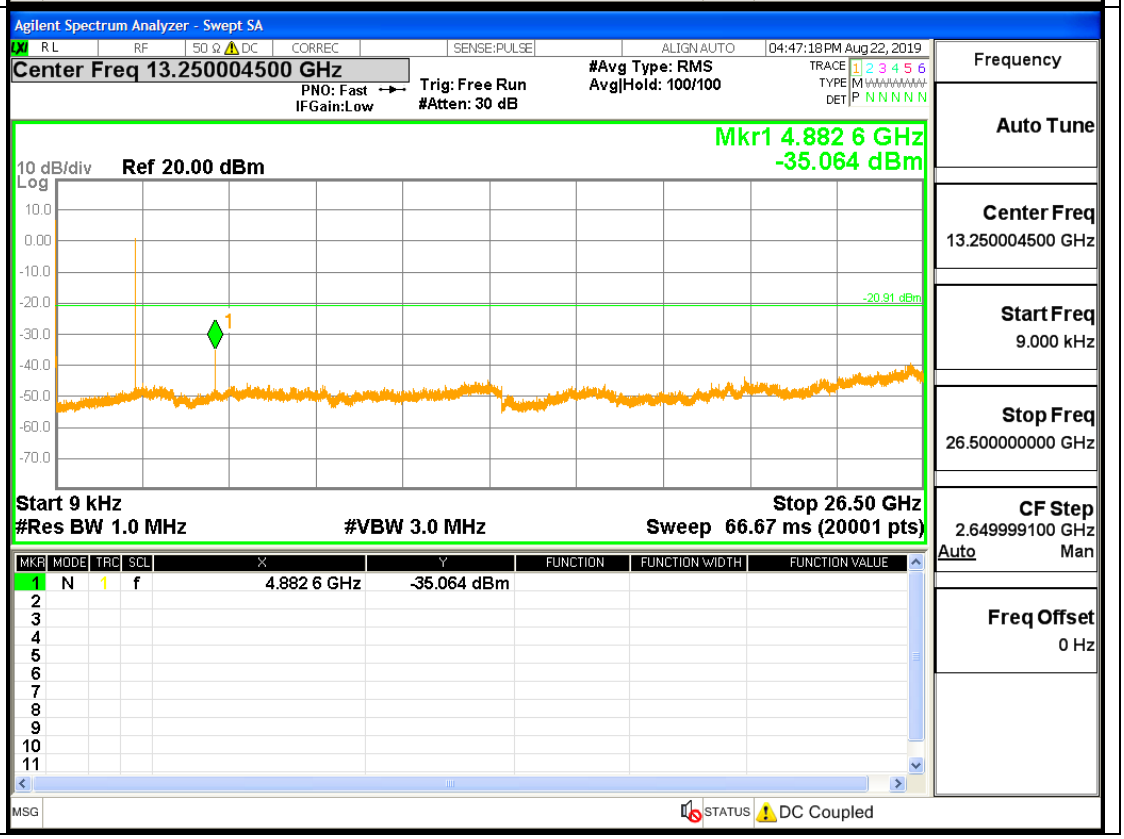
Pref	
Puw	

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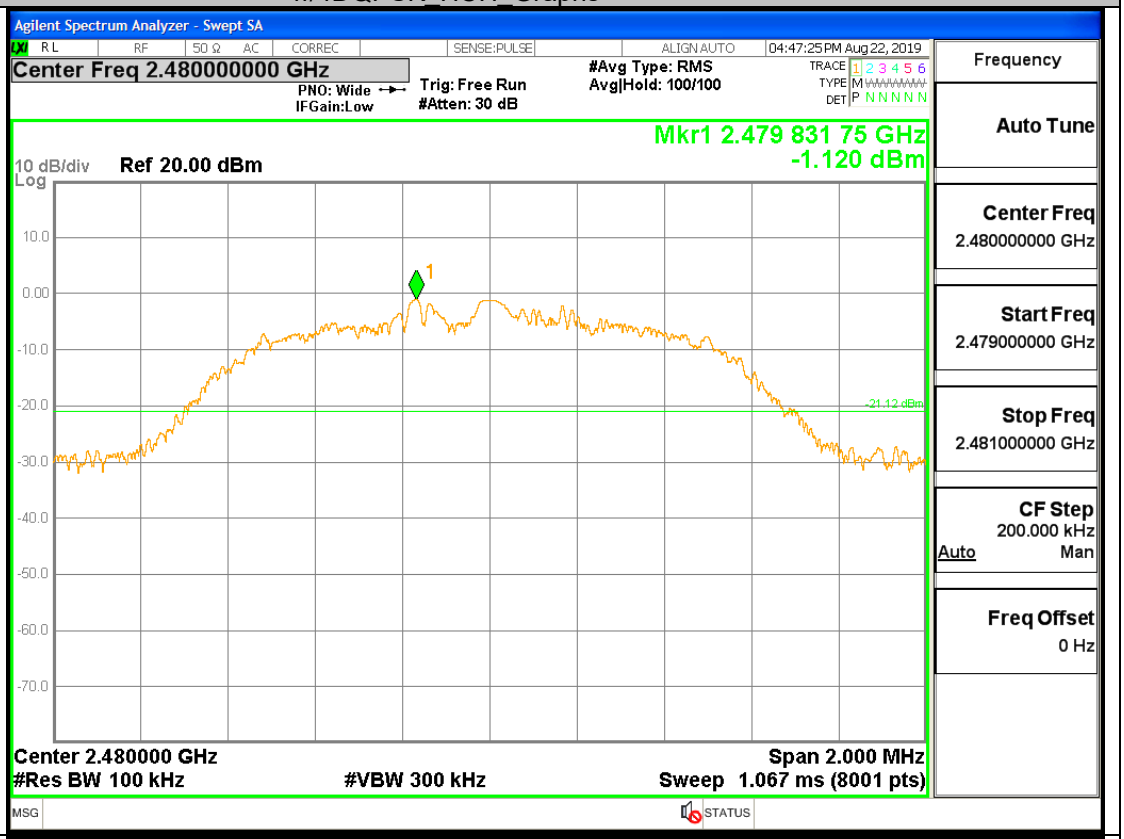
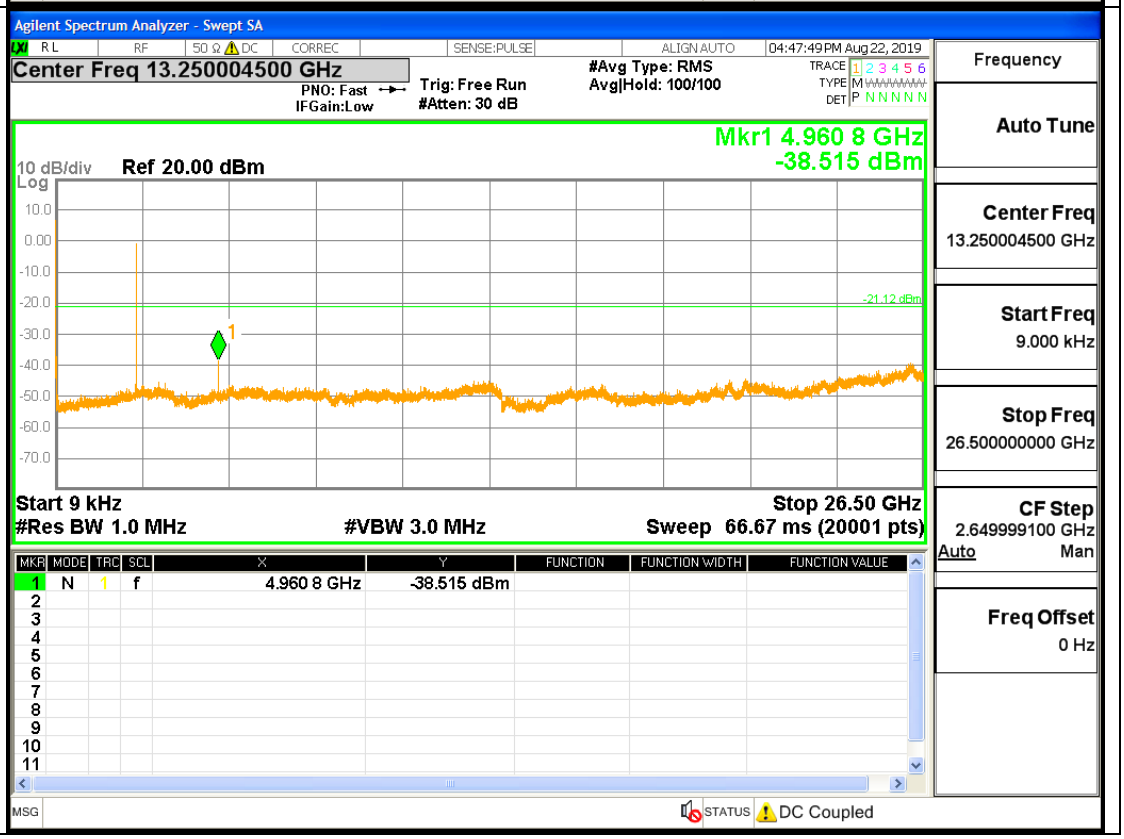
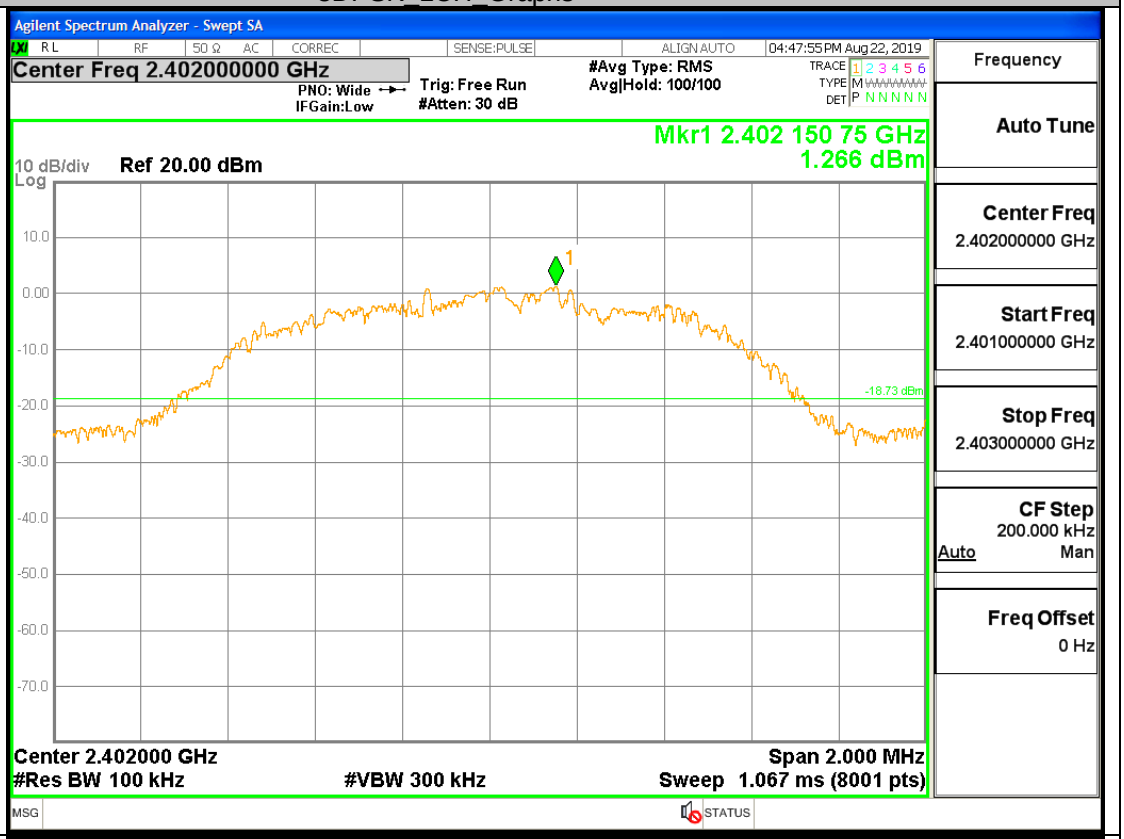
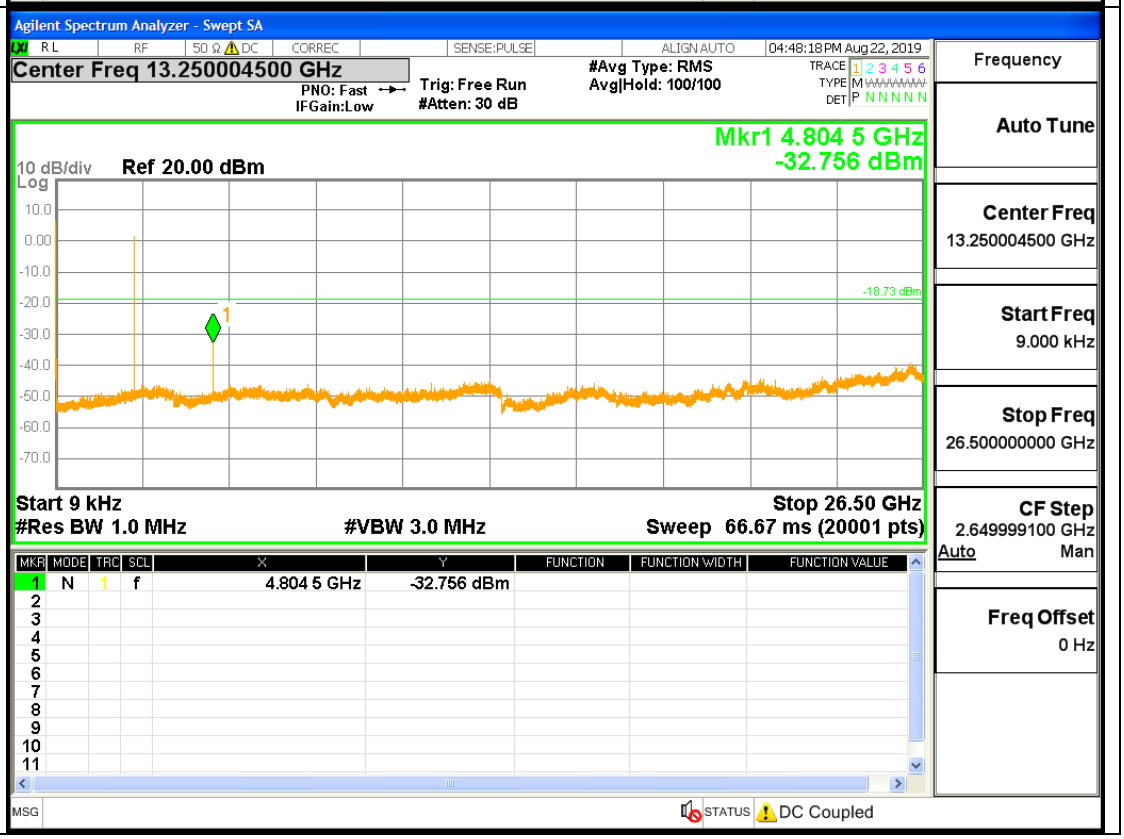
Pref	
Puw	

8DPSK_LCH_Graphs	
Pref	
Puw	

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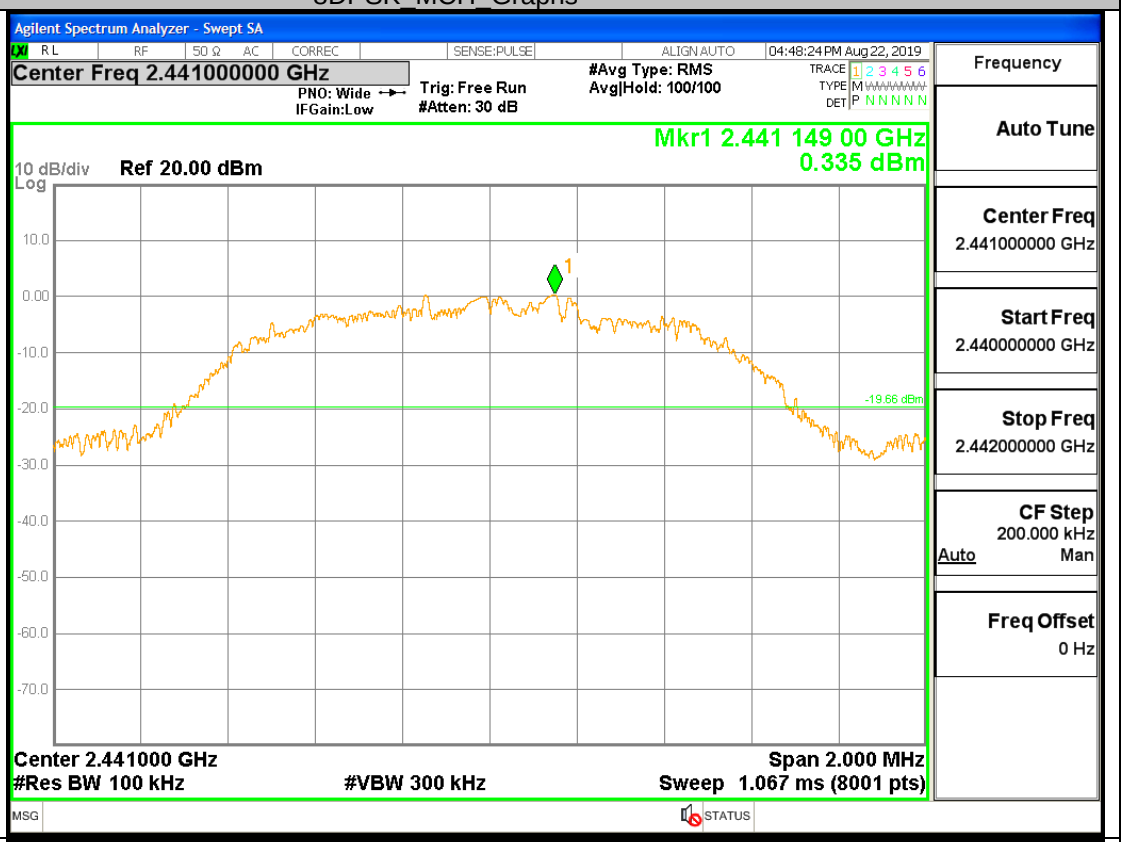
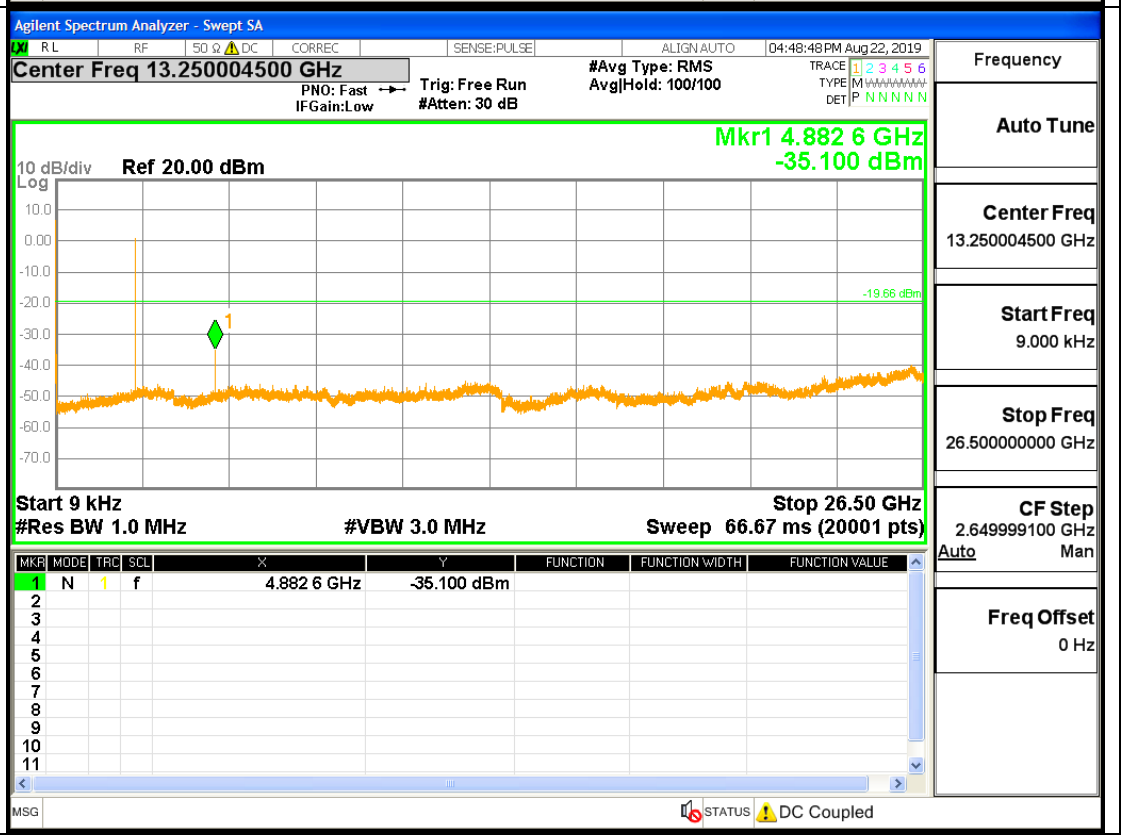
Pref	
Puw	

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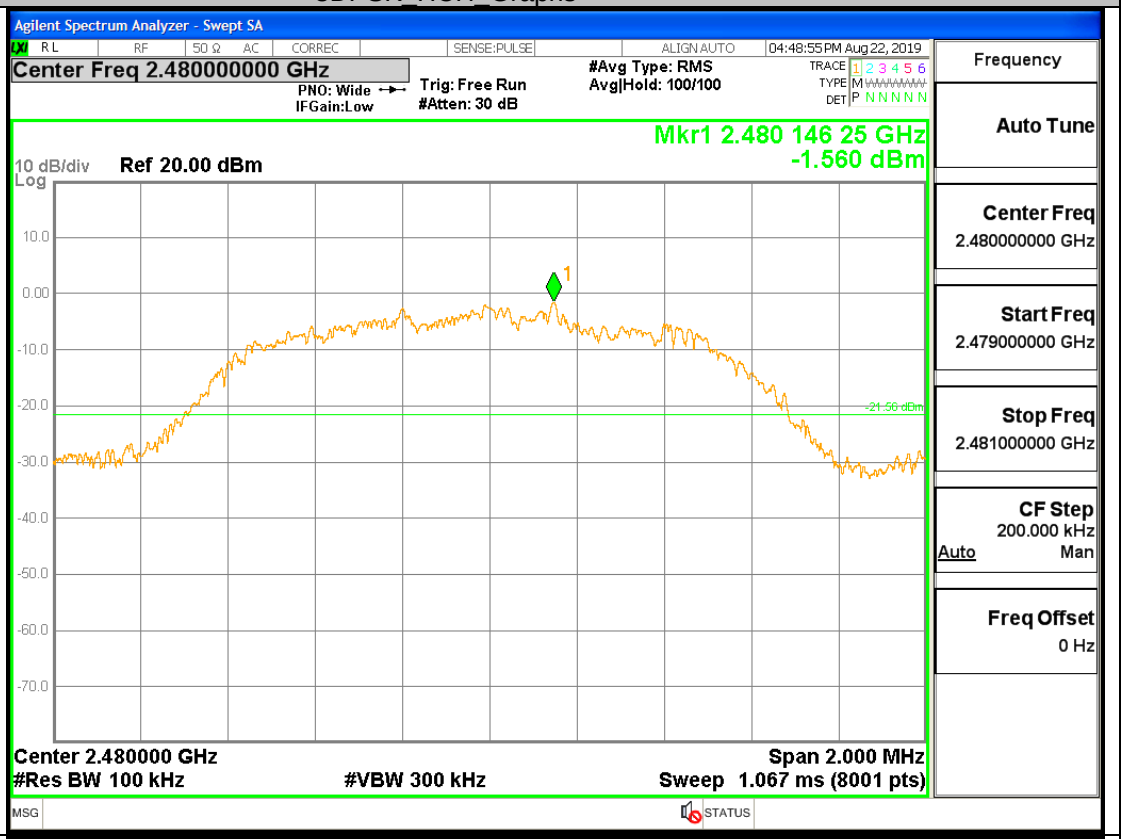
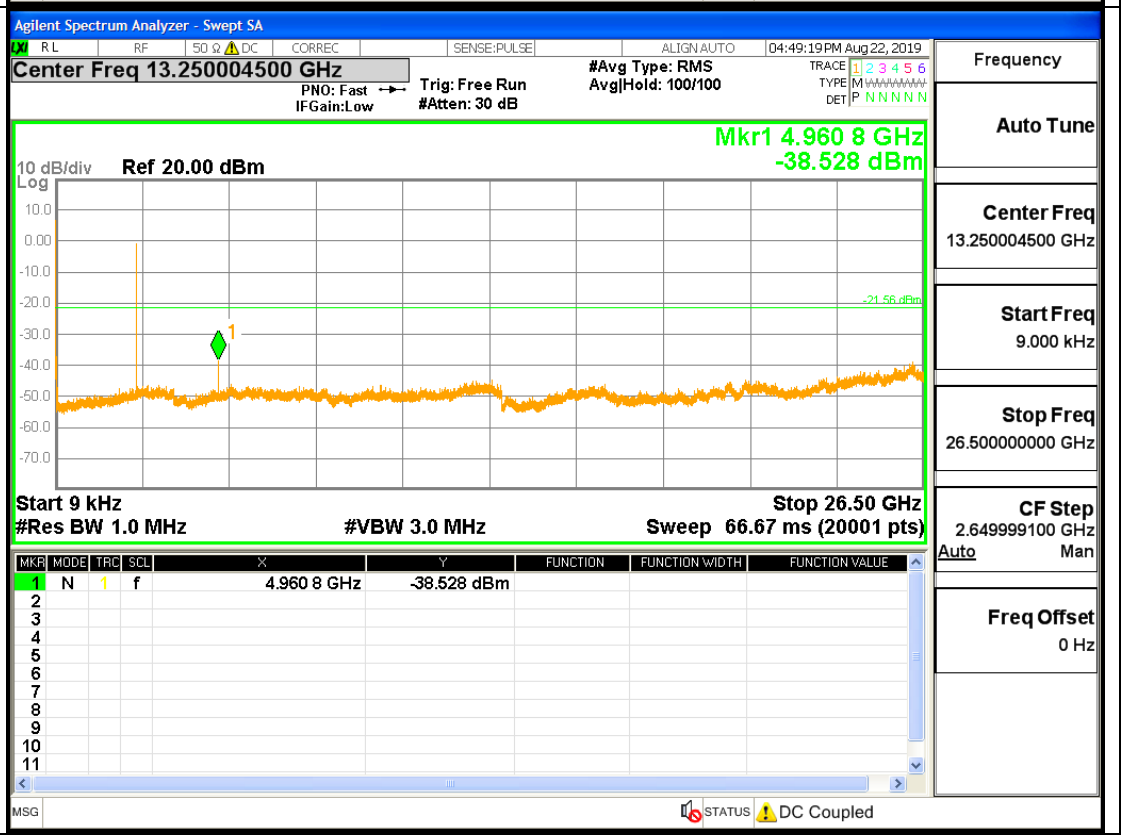
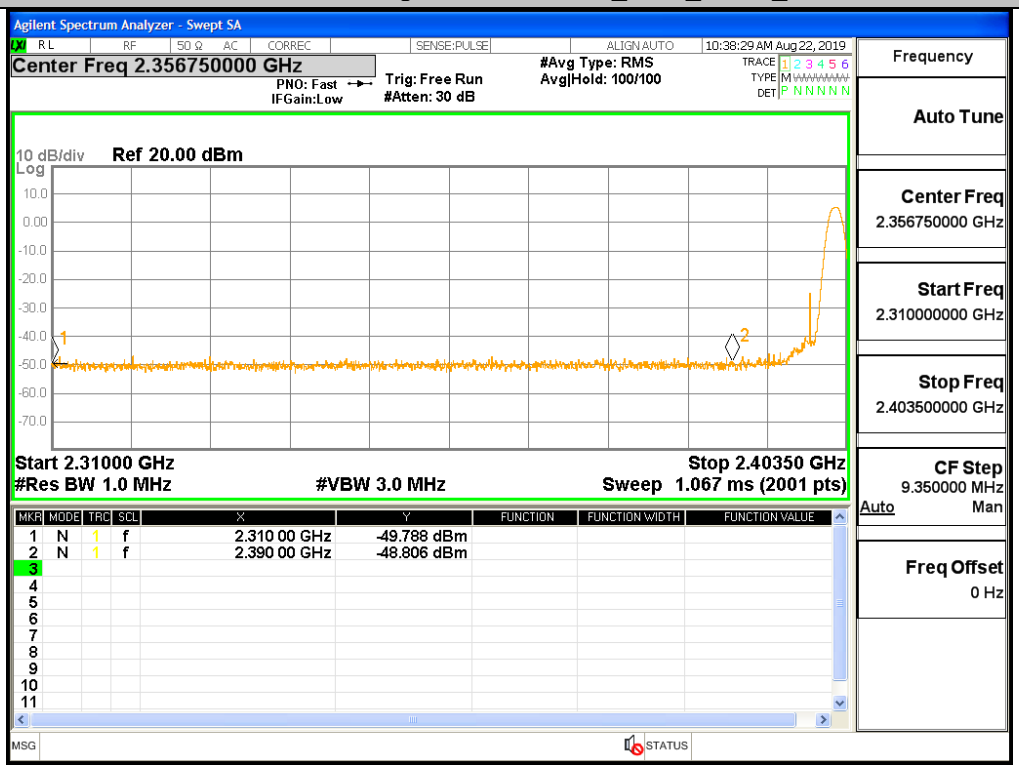
Pref	
Puw	

A.8 Restrict-band band-edge measurements

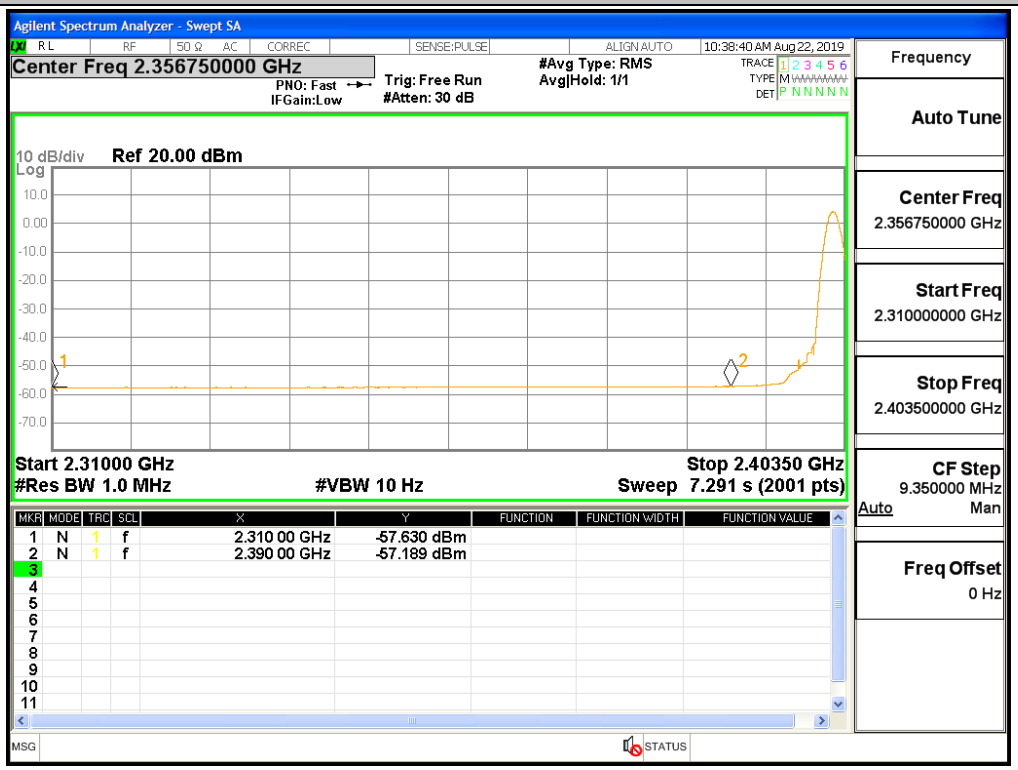
Type	Carrier Frequency (MHz)	Frequency(MHz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2390.00	2.00	0.00	-48.81	48.39	74	Pass
1DH5	2480	2483.53	2.00	0.00	-35.39	61.81	74	Pass
2DH5	2402	2320.80	2.00	0.00	-46.18	51.02	74	Pass
2DH5	2480	2483.58	2.00	0.00	-39.60	57.60	74	Pass
3DH5	2402	2389.94	2.00	0.00	-43.97	53.23	74	Pass
3DH5	2480	2483.50	2.00	0.00	-37.87	59.33	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	-57.19	40.01	54	Pass
1DH5	2480	2483.53	2.00	0.00	-50.28	46.92	54	Pass
2DH5	2402	2320.80	2.00	0.00	-57.15	40.05	54	Pass
2DH5	2480	2483.58	2.00	0.00	-50.03	47.17	54	Pass
3DH5	2402	2389.94	2.00	0.00	-56.78	40.42	54	Pass
3DH5	2480	2483.50	2.00	0.00	-49.73	47.47	54	Pass

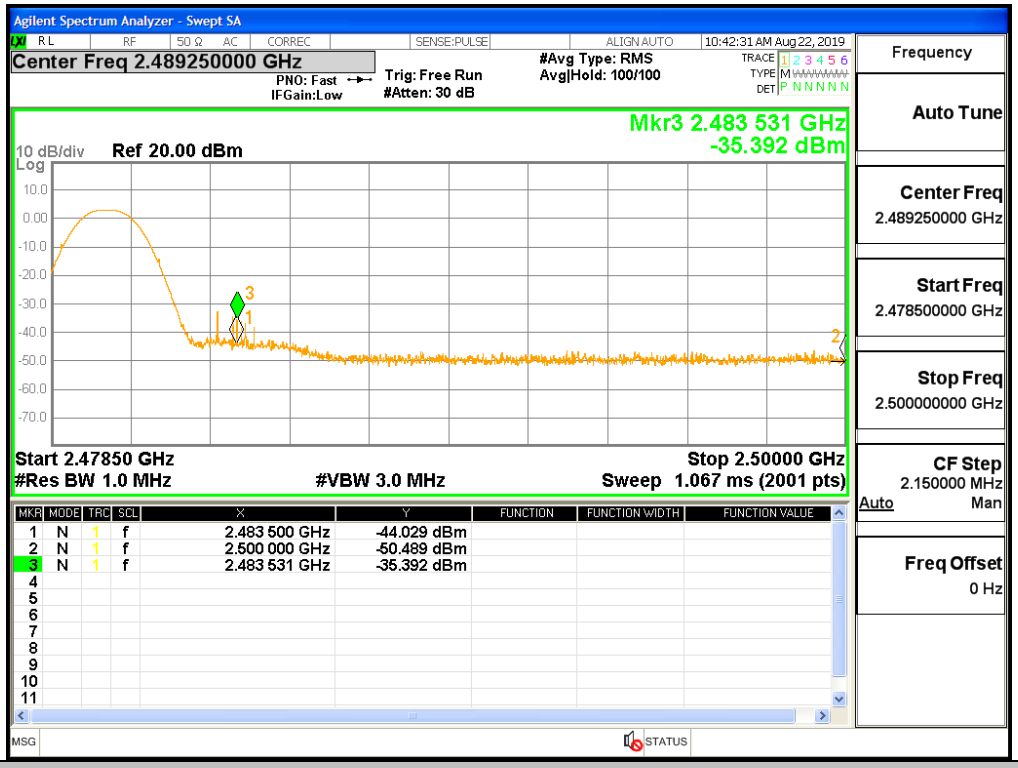
Restrict-band band-edge measurements_2402_PEAK_DH5



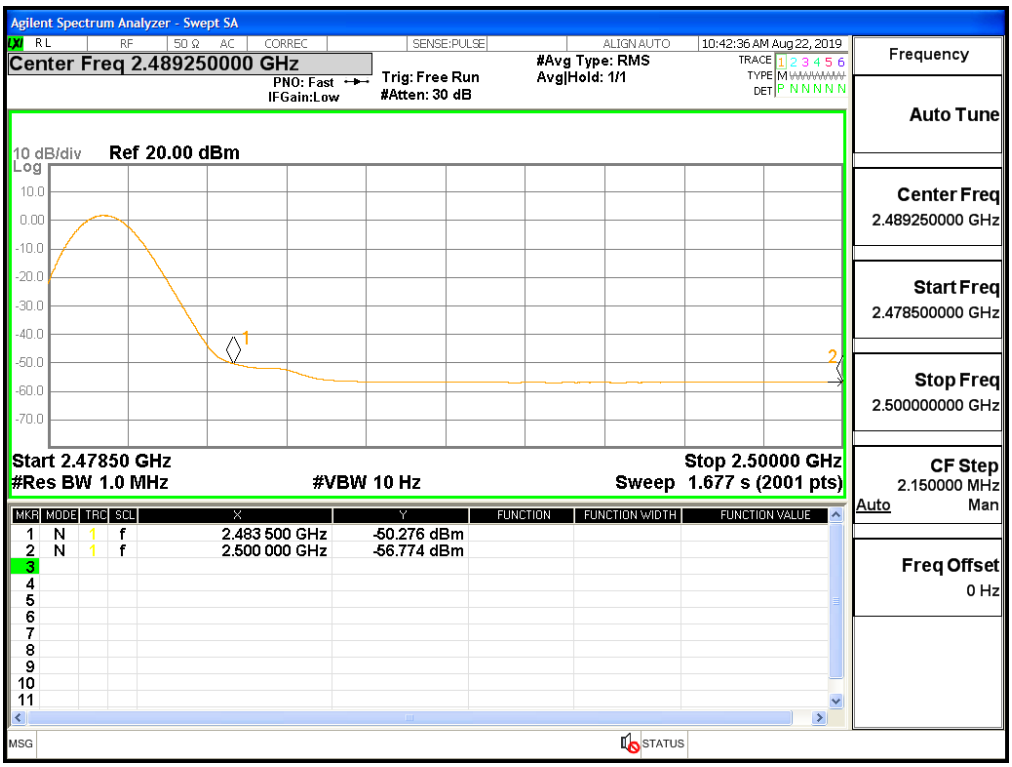
Restrict-band band-edge measurements_2402_AV_DH5



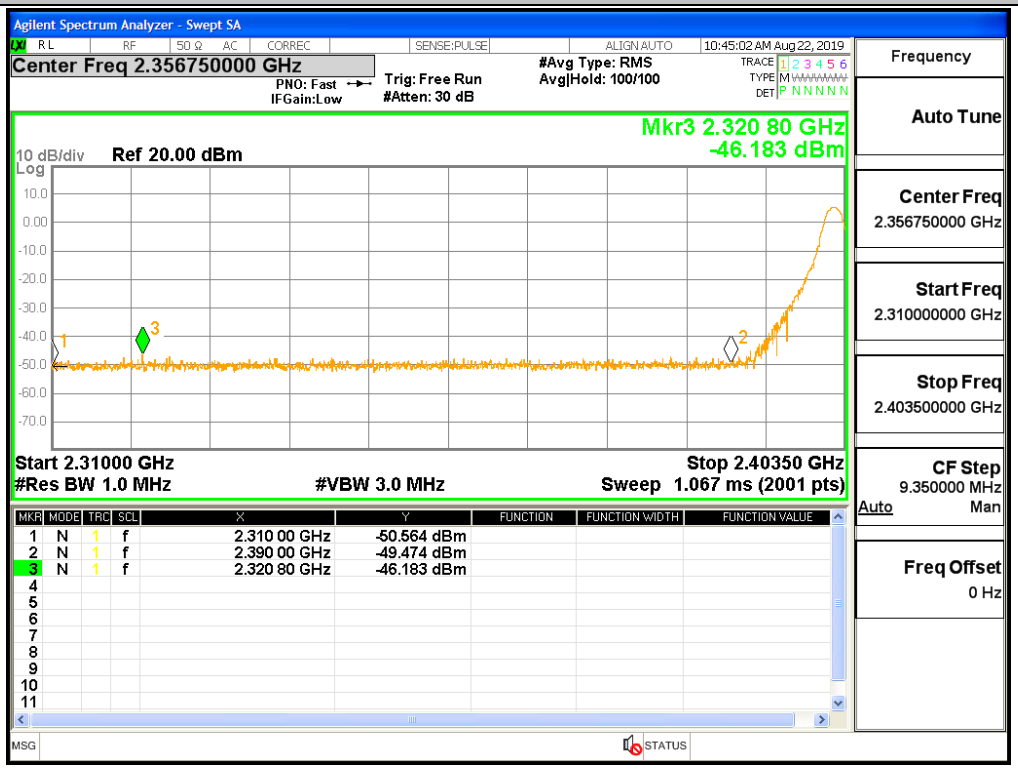
Restrict-band band-edge measurements_2480_PEAK_DH5



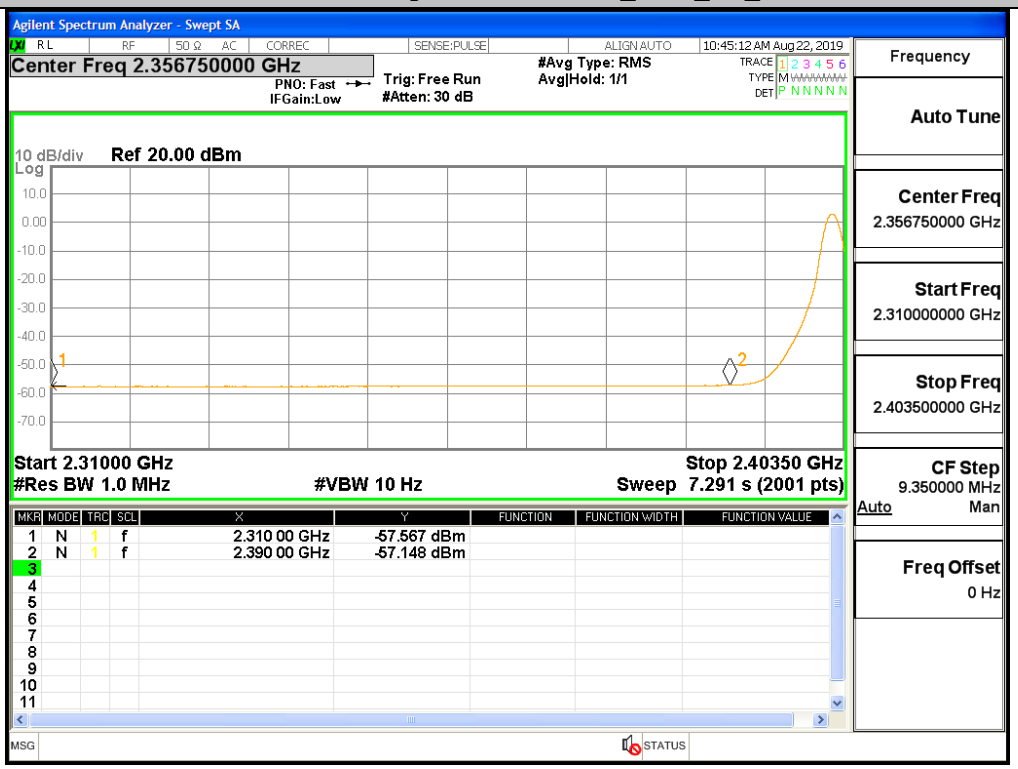
Restrict-band band-edge measurements_2480_AV_DH5



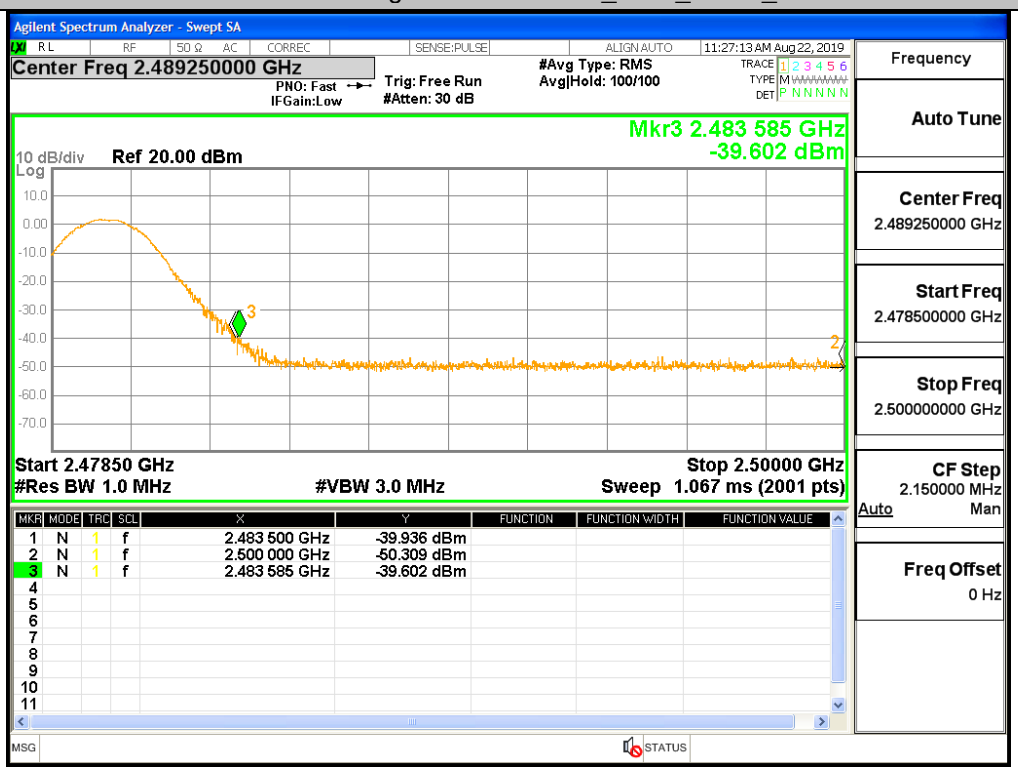
Restrict-band band-edge measurements_2402_PEAK_2DH5



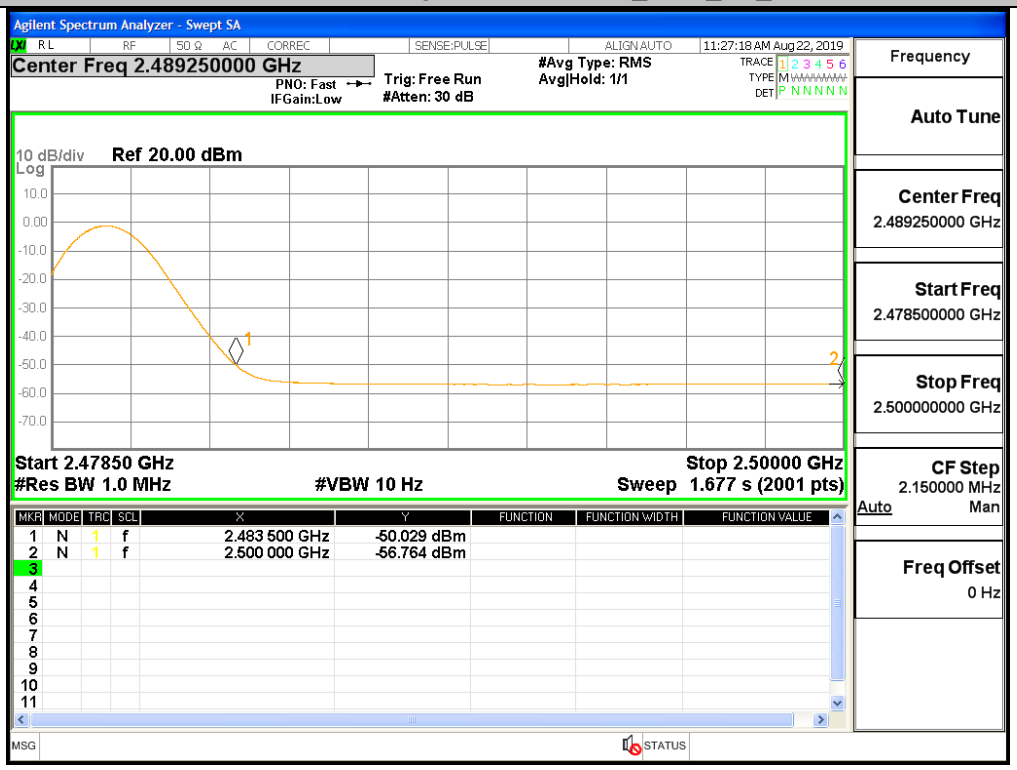
Restrict-band band-edge measurements_2402_AV_2DH5



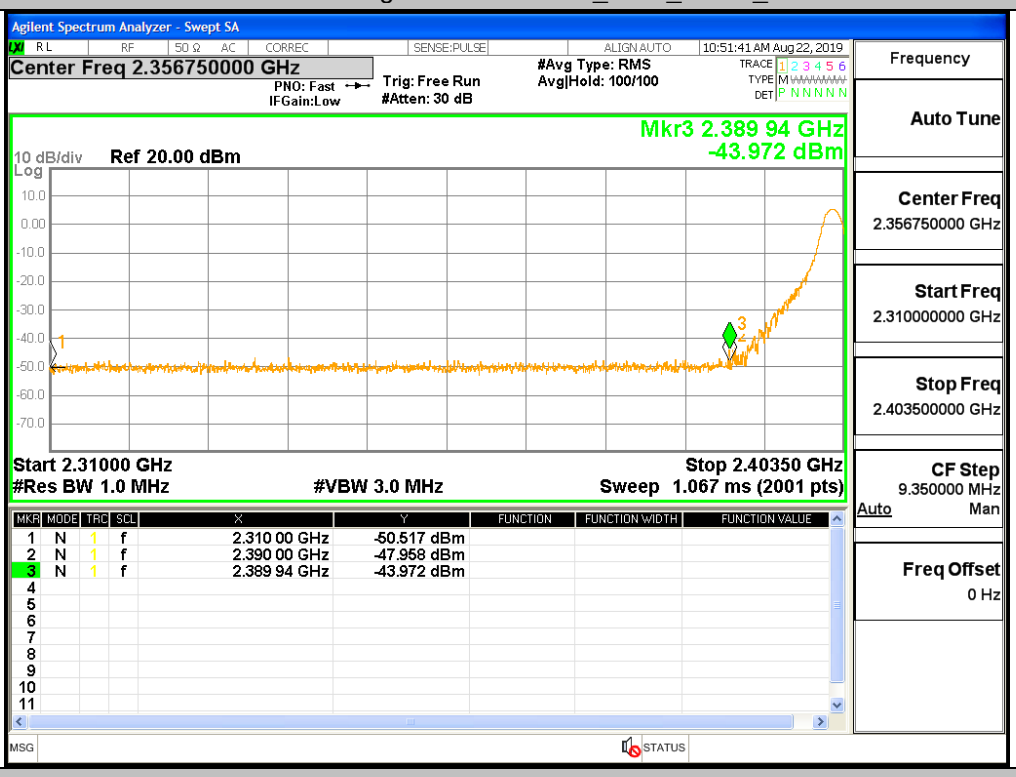
Restrict-band band-edge measurements_2480_PEAK_2DH5



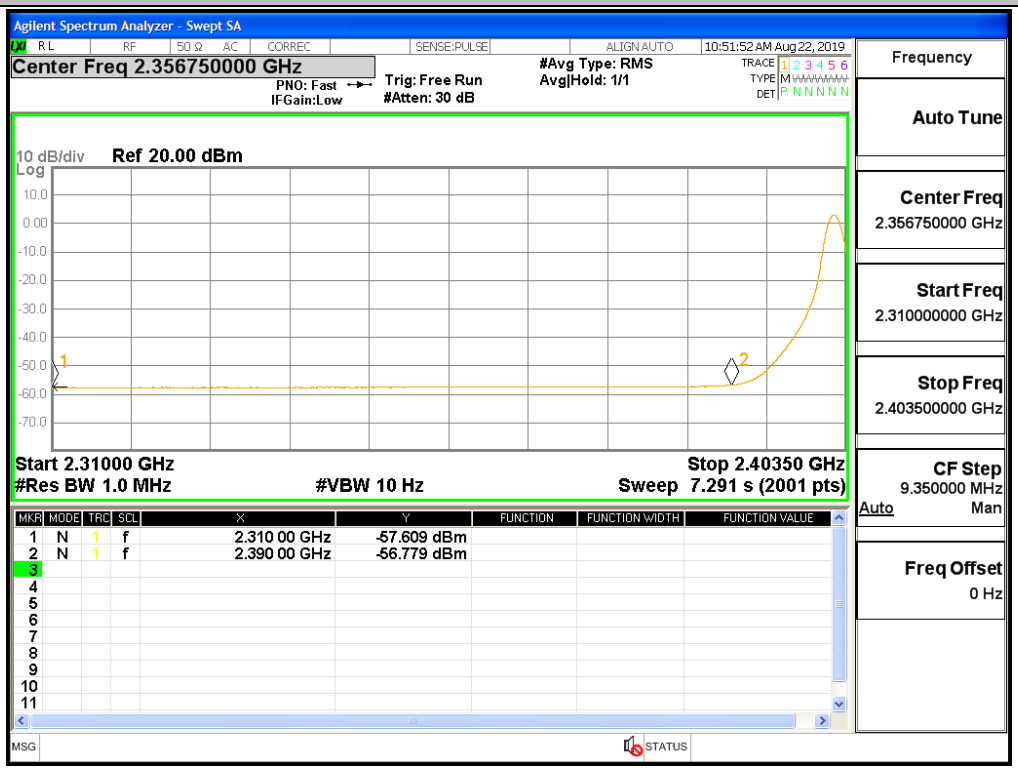
Restrict-band band-edge measurements_2480_AV_2DH5



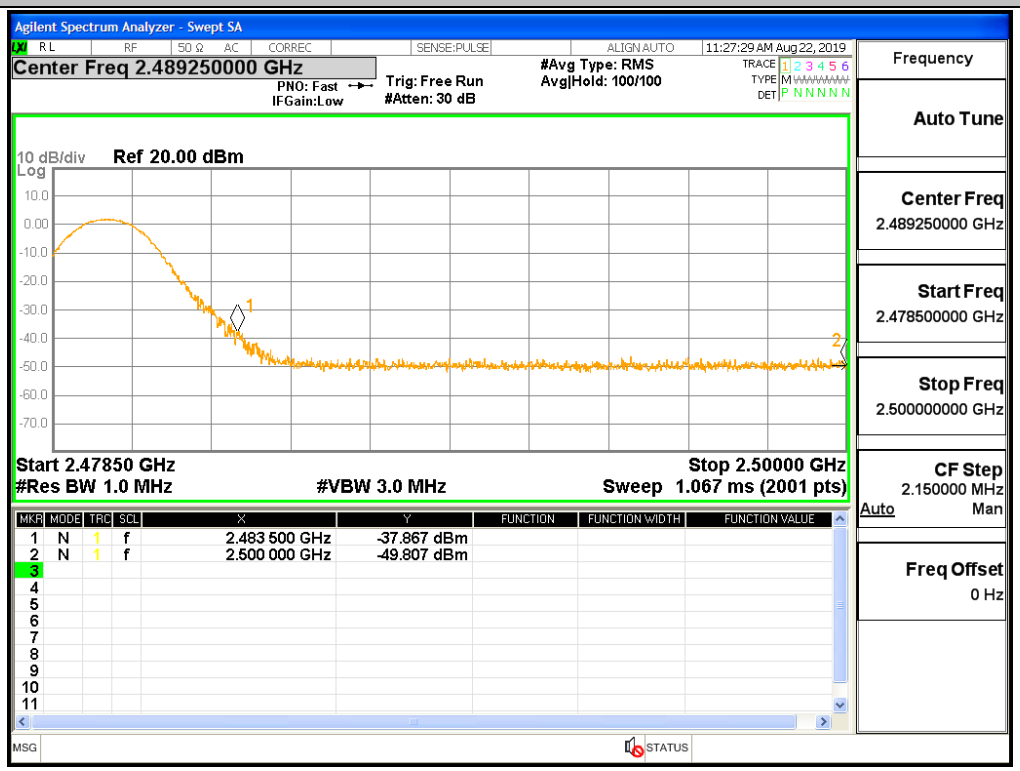
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5