

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

Product Name: Bluetooth Speaker

Trade Mark: N/A

Test Model: RS19

FCC ID: 2ATOY-RS19

Environmental Conditions

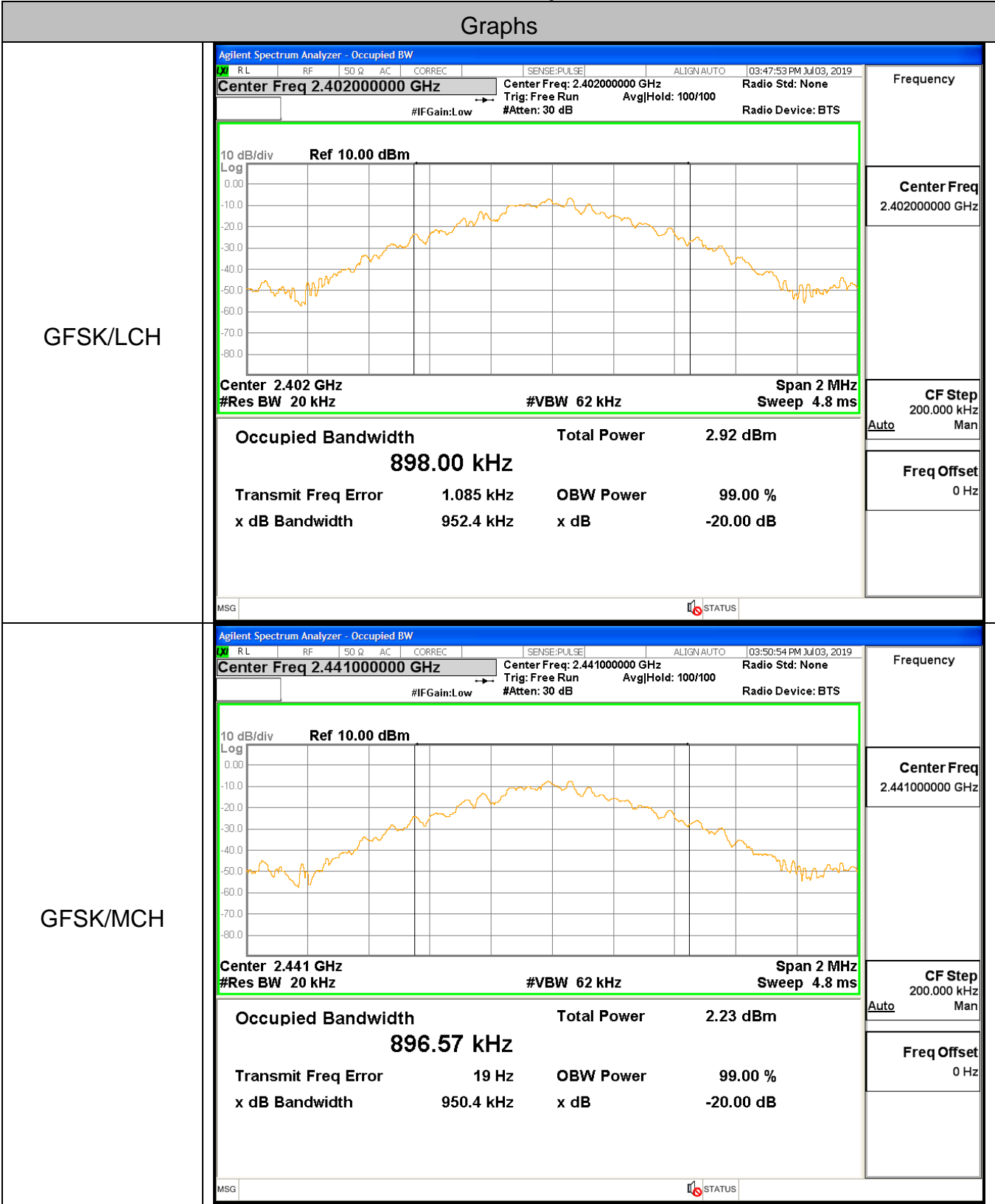
Temperature:	22.7°C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Gary Qian
Supervised by:	Eden Hu

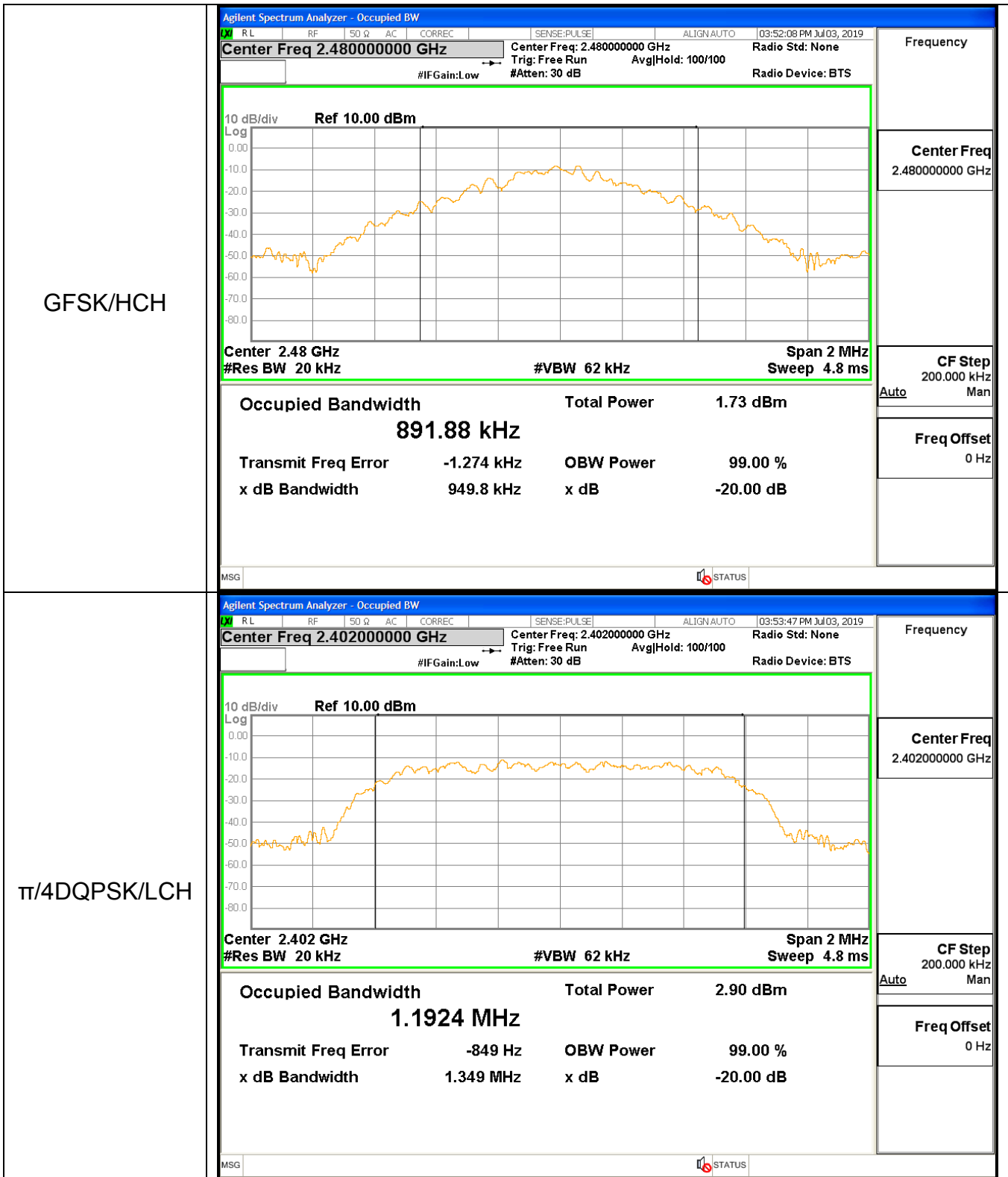
A.1 20 dB Bandwidth

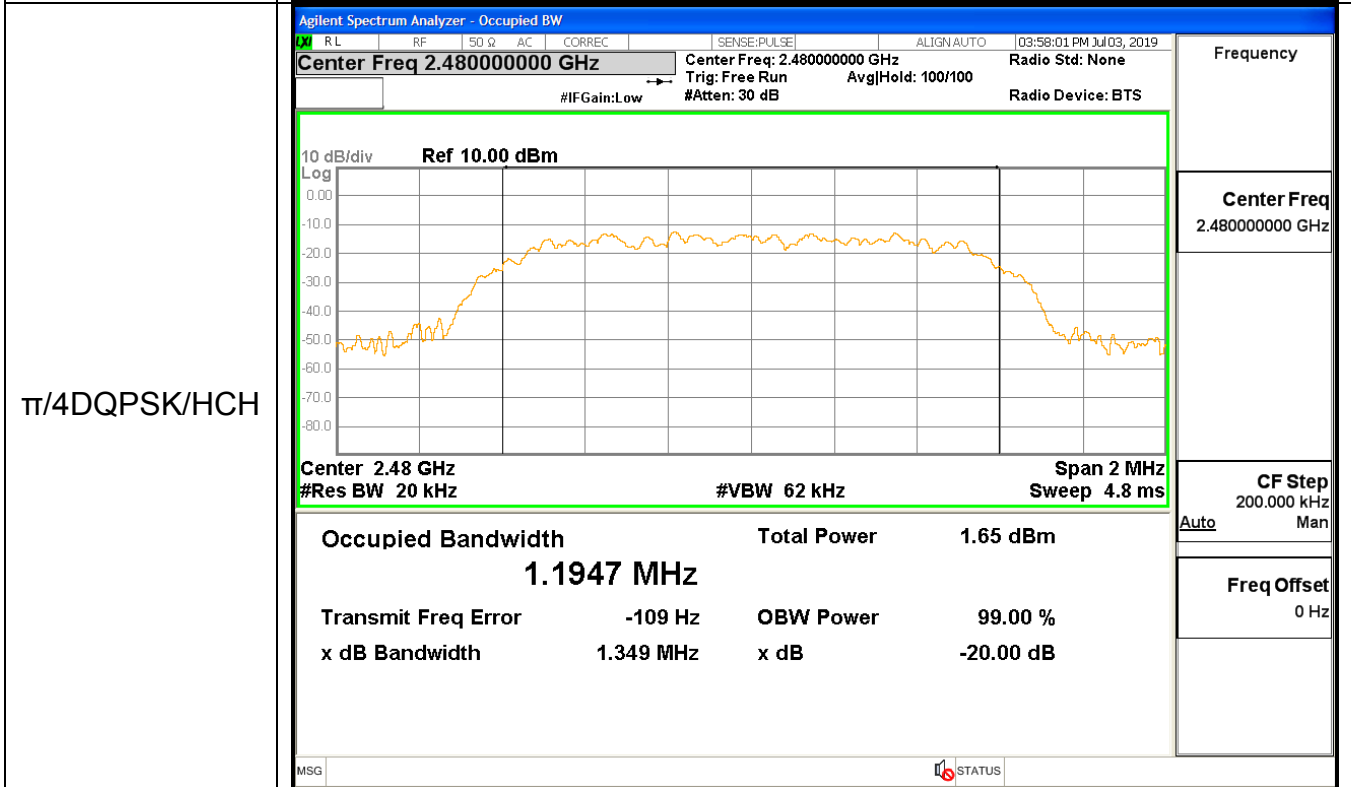
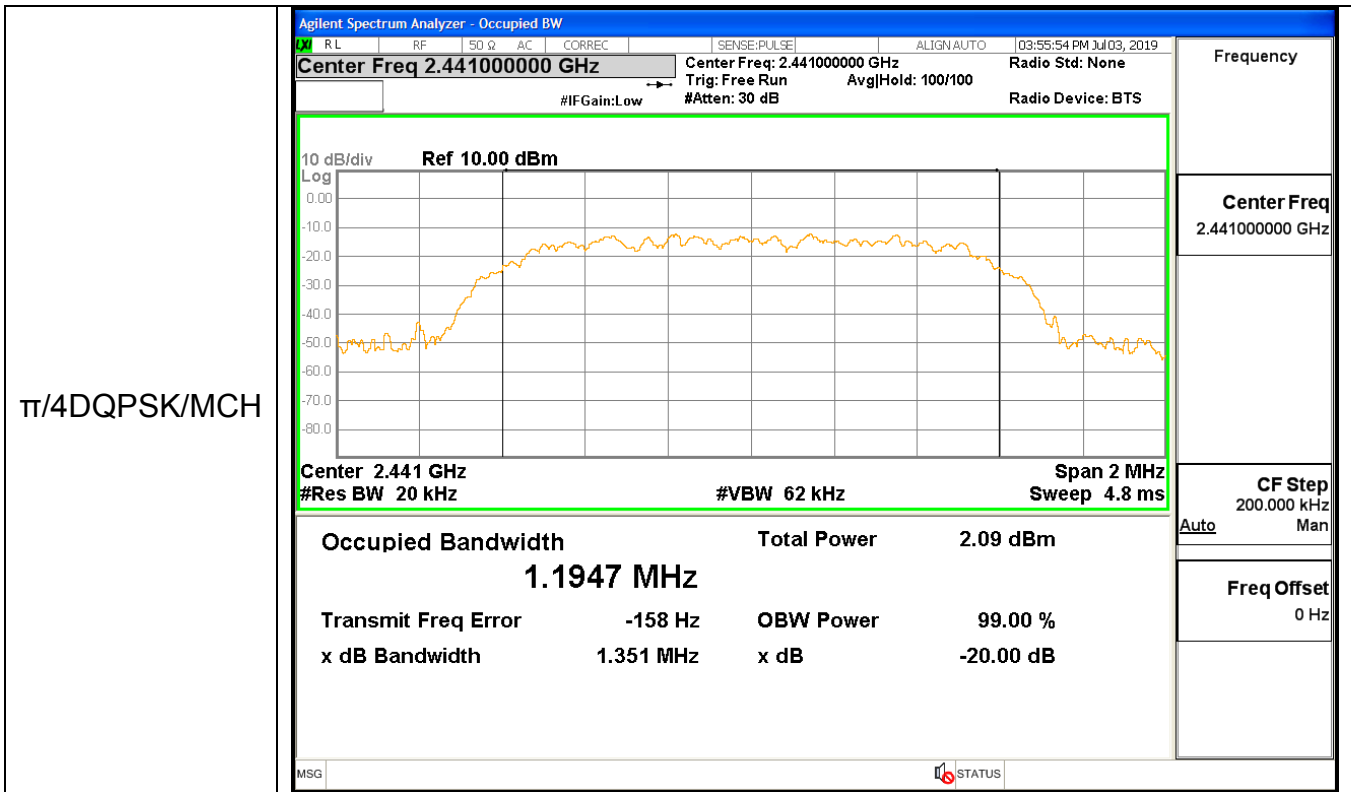
Mode	Channel.	20dB Bandwidth [MHz]	Limit(MHz)	Verdict
GFSK	LCH	0.952	Not Specified	PASS
GFSK	MCH	0.950	Not Specified	PASS
GFSK	HCH	0.950	Not Specified	PASS
$\pi/4$ DQPSK	LCH	1.349	Not Specified	PASS
$\pi/4$ DQPSK	MCH	1.351	Not Specified	PASS
$\pi/4$ DQPSK	HCH	1.349	Not Specified	PASS
8DPSK	LCH	1.337	Not Specified	PASS
8DPSK	MCH	1.342	Not Specified	PASS
8DPSK	HCH	1.343	Not Specified	PASS

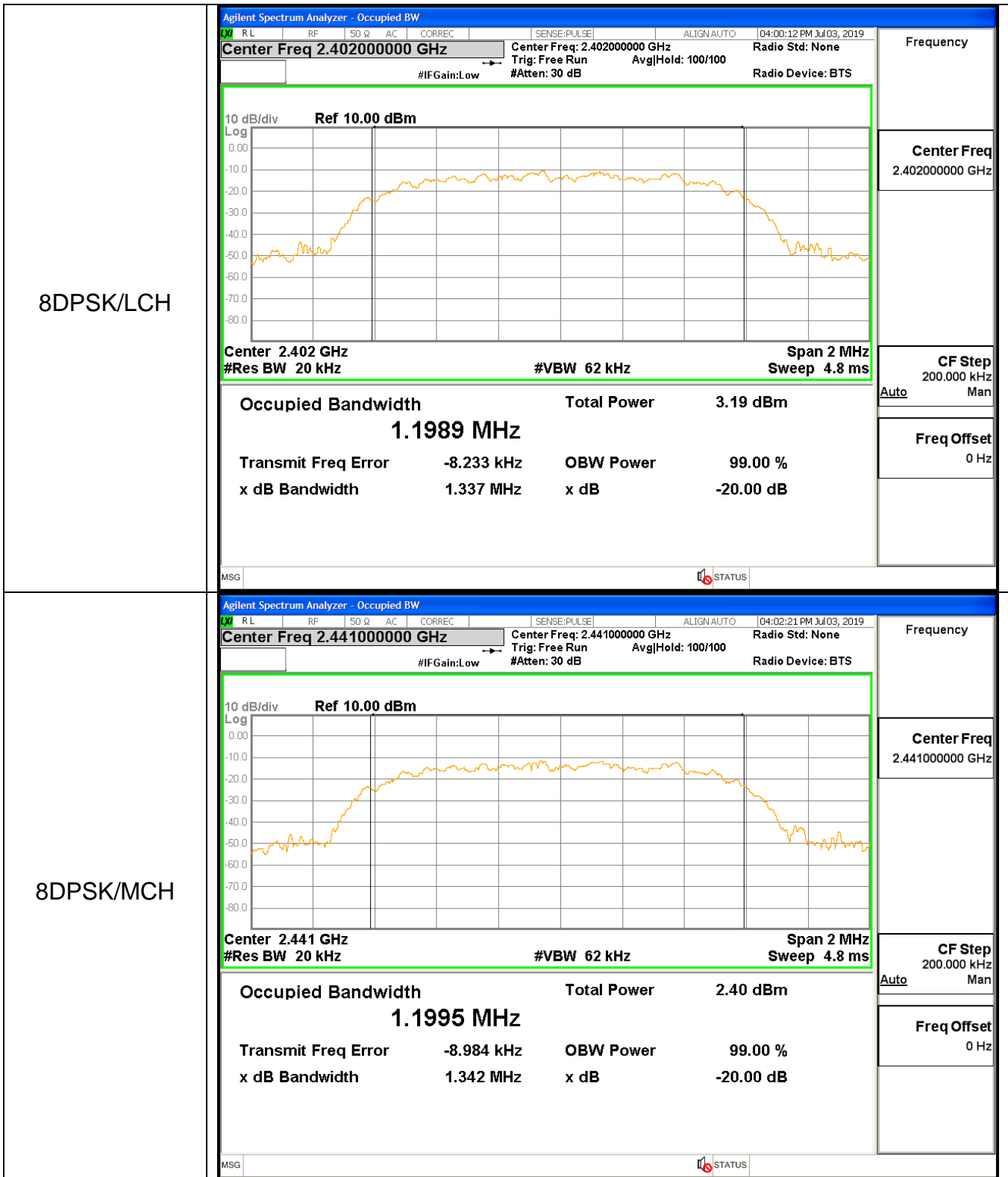
Test Graph

Graphs

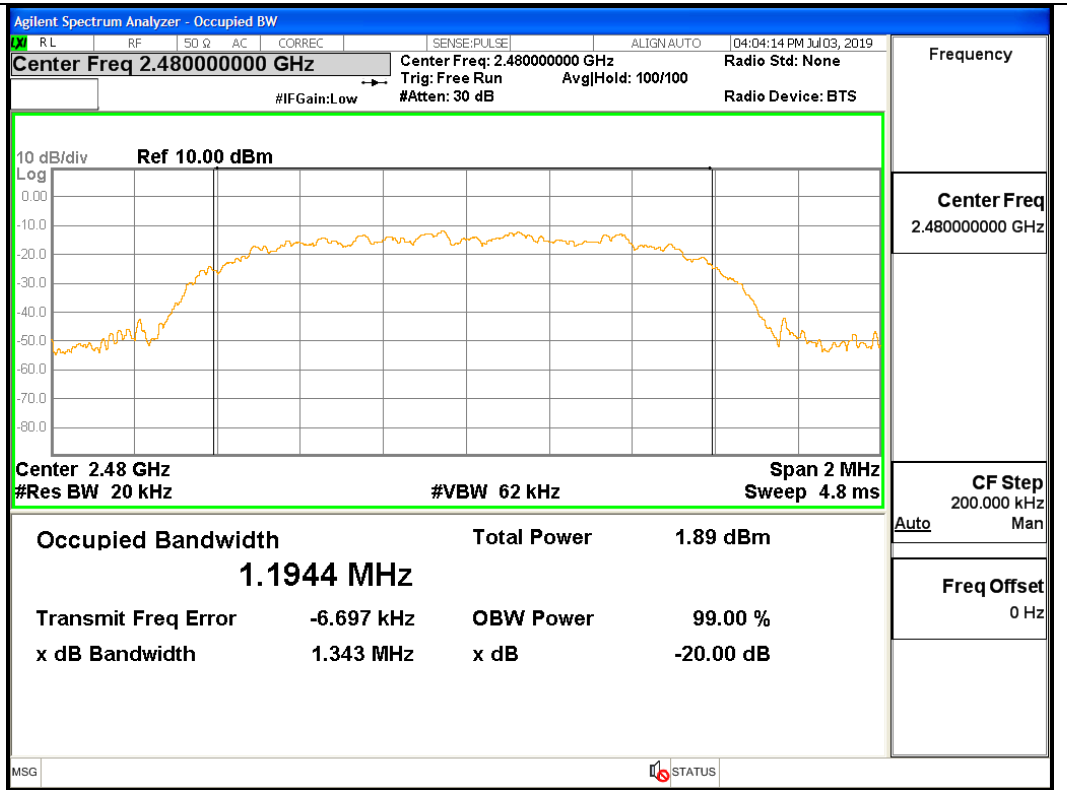








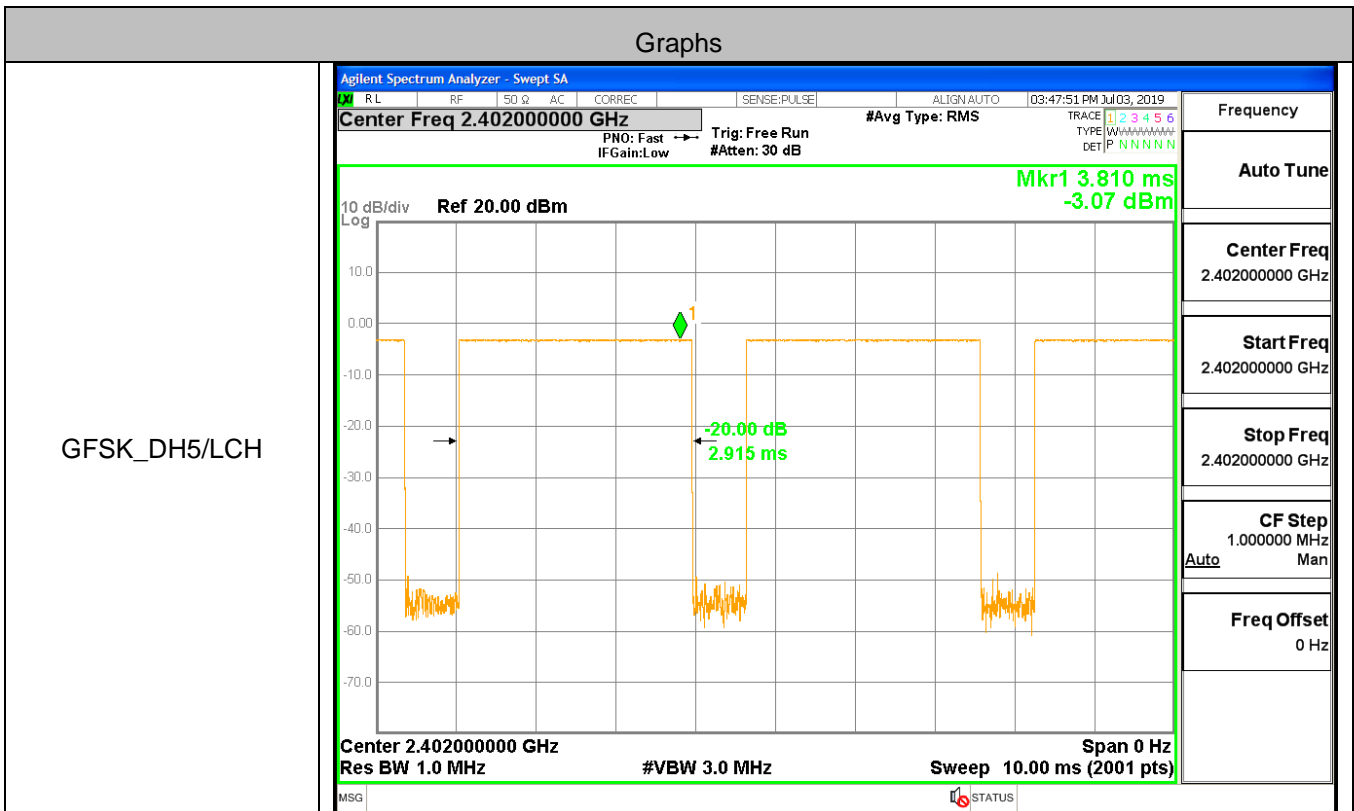
8DPSK/HCH

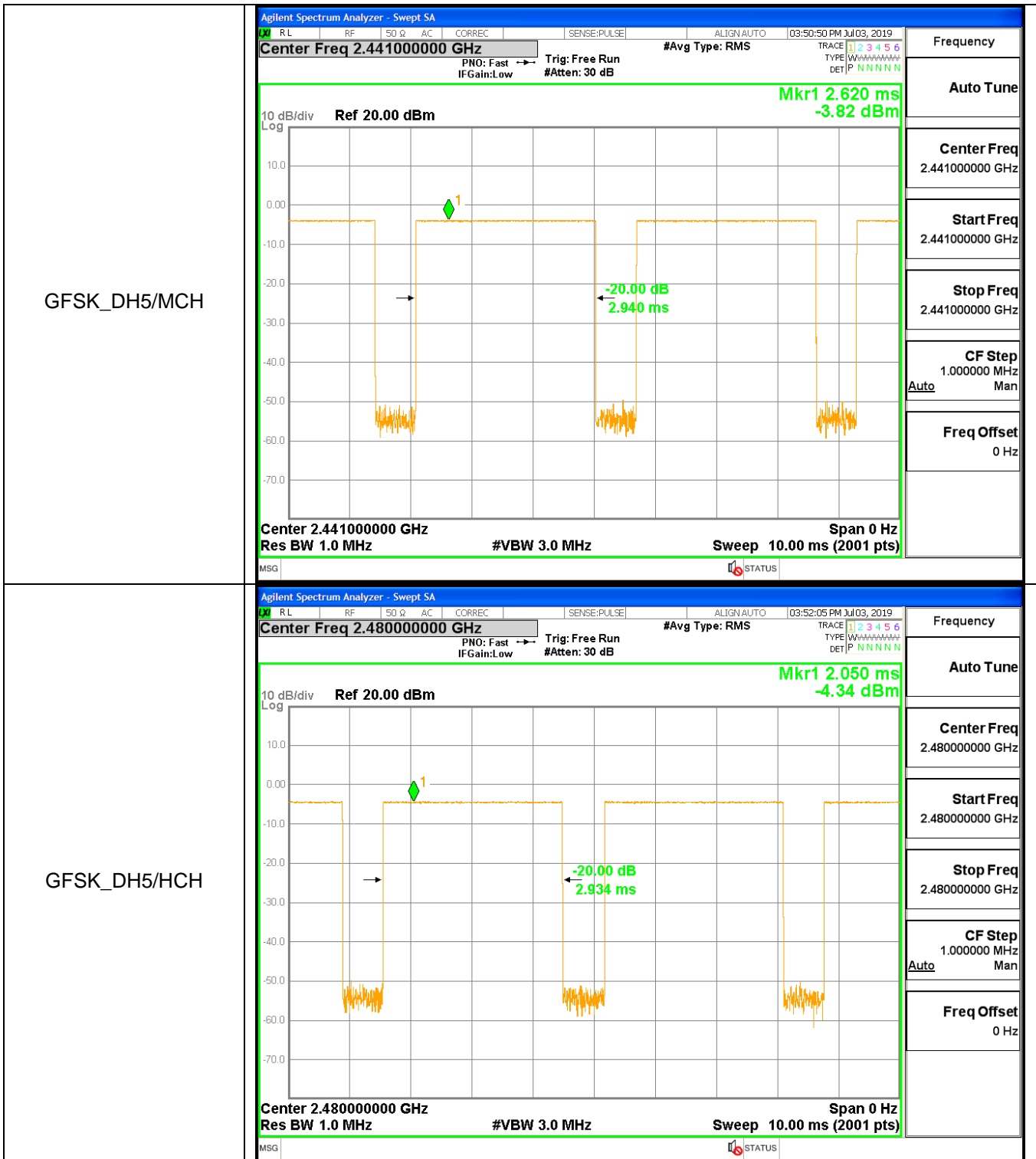


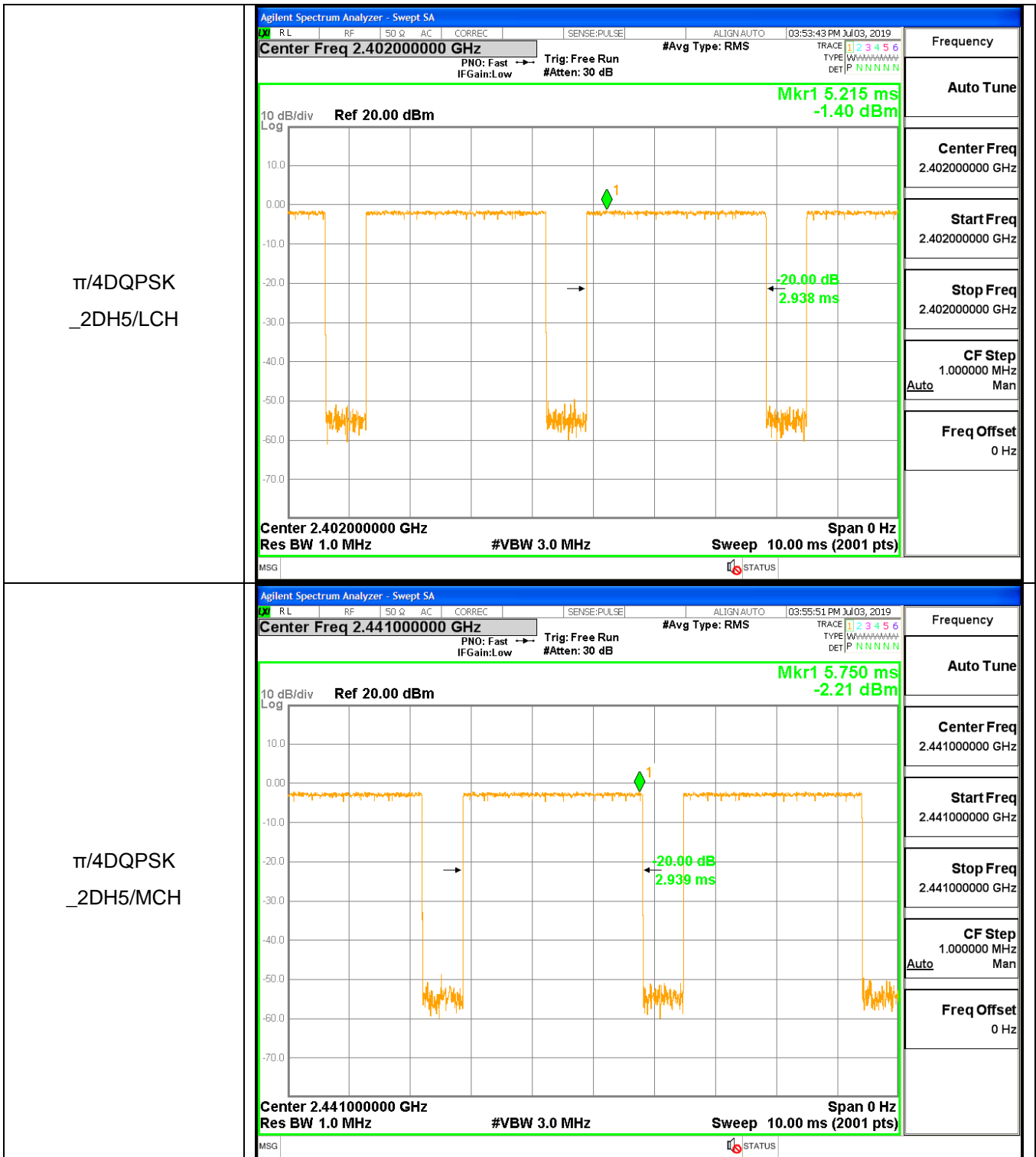
A.2 Dwell Time

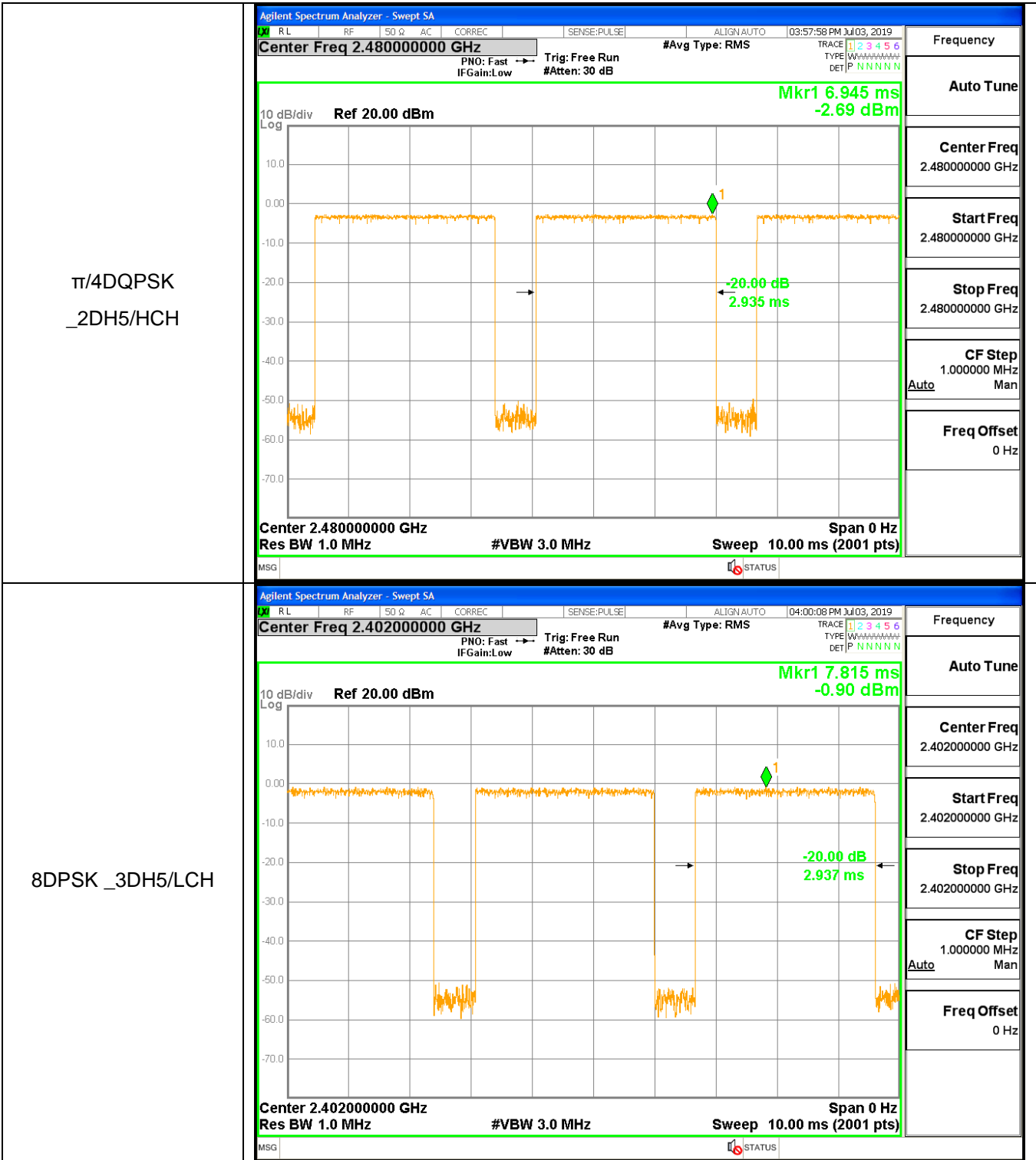
Mode	Packet	Channel	Burst Width [s/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	0.002915	106.7	0.311037	0.4	PASS
GFSK	DH5	MCH	0.002940	106.7	0.313695	0.4	PASS
GFSK	DH5	HCH	0.002934	106.7	0.313098	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	0.002938	106.7	0.313484	0.4	PASS
$\pi/4$ DQPSK	2DH5	MCH	0.002939	106.7	0.313572	0.4	PASS
$\pi/4$ DQPSK	2DH5	HCH	0.002935	106.7	0.313128	0.4	PASS
8DPSK	3DH5	LCH	0.002937	106.7	0.313412	0.4	PASS
8DPSK	3DH5	MCH	0.002936	106.7	0.313249	0.4	PASS
8DPSK	3DH5	HCH	0.002934	106.7	0.313104	0.4	PASS

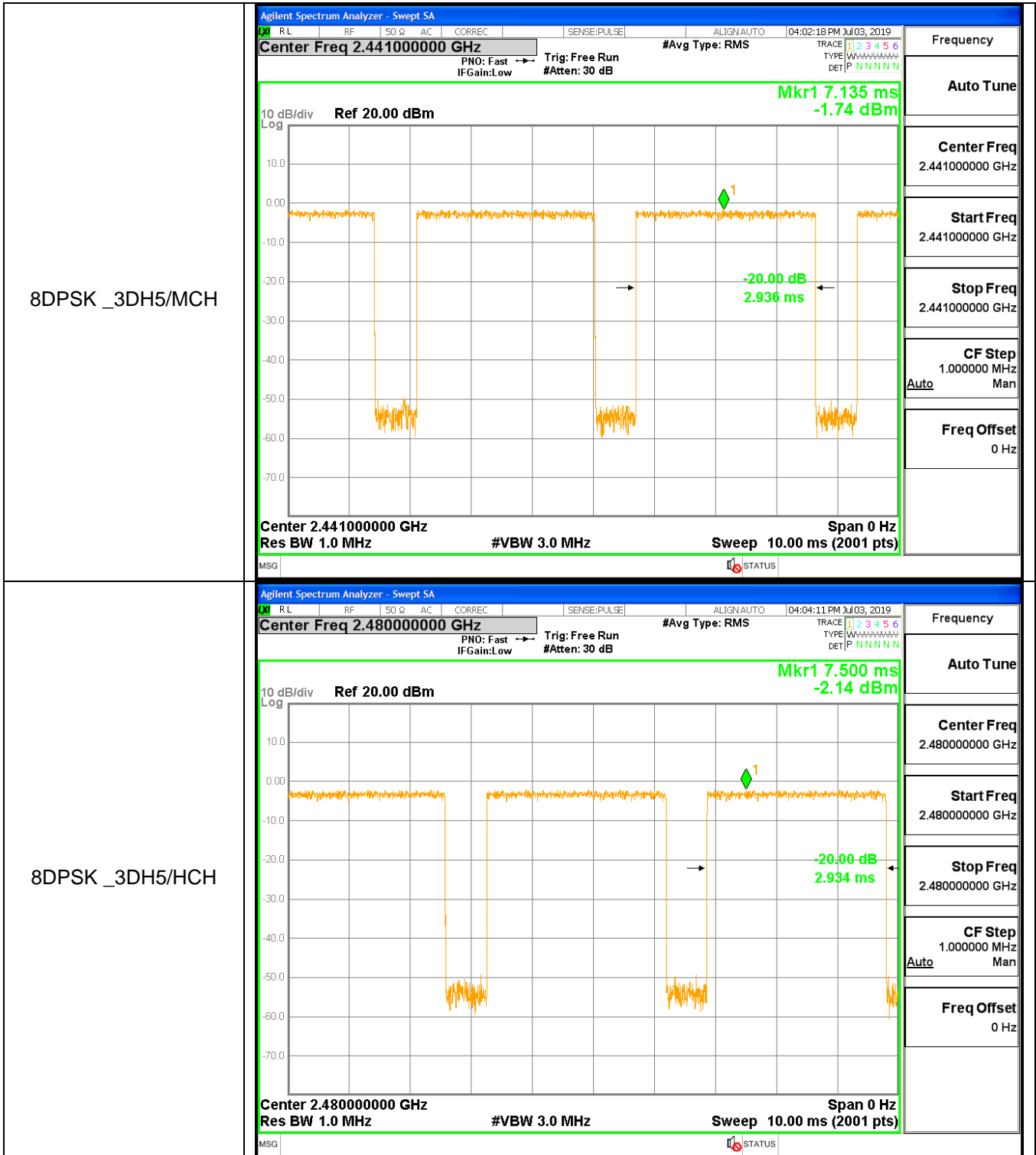
Test Graph







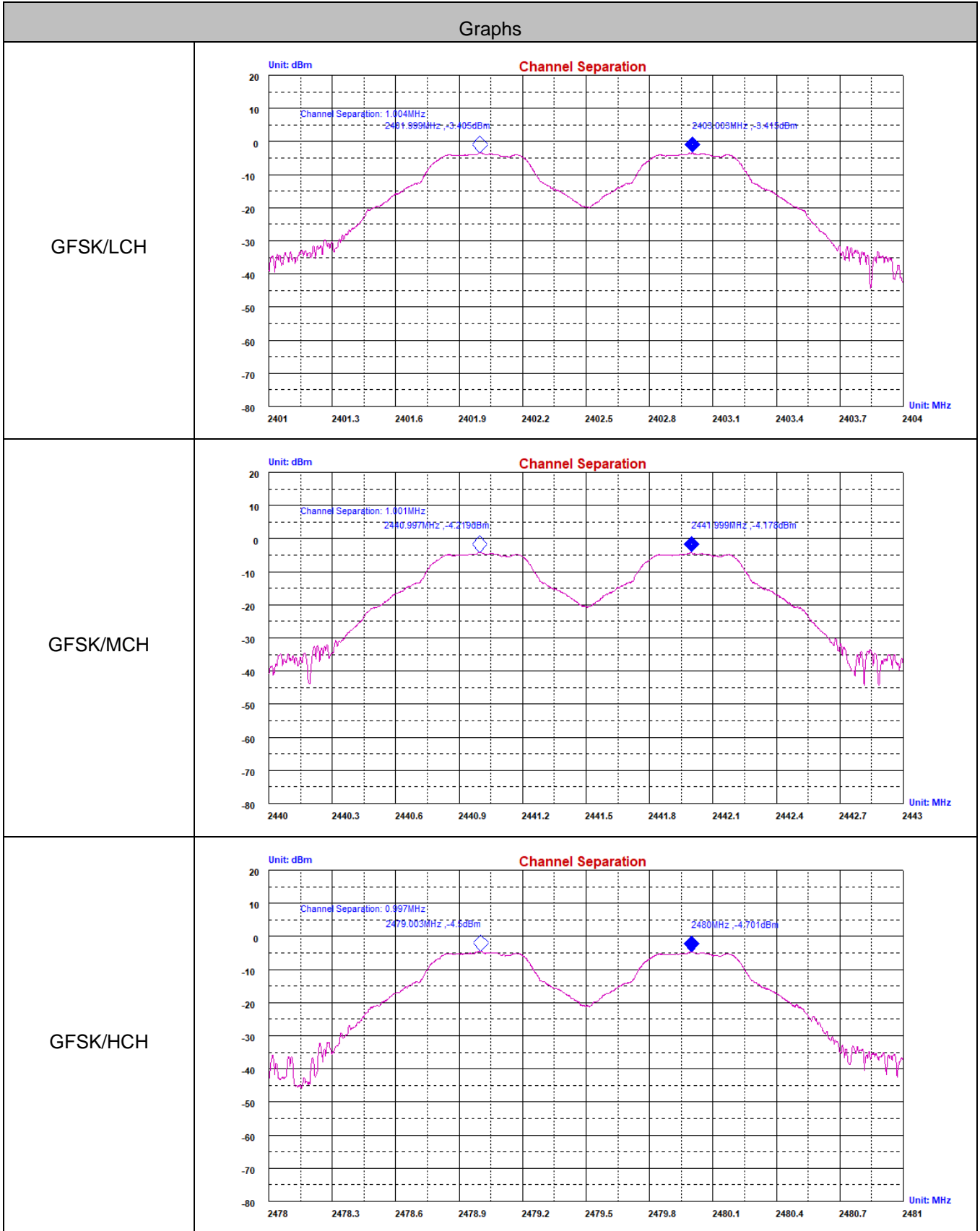


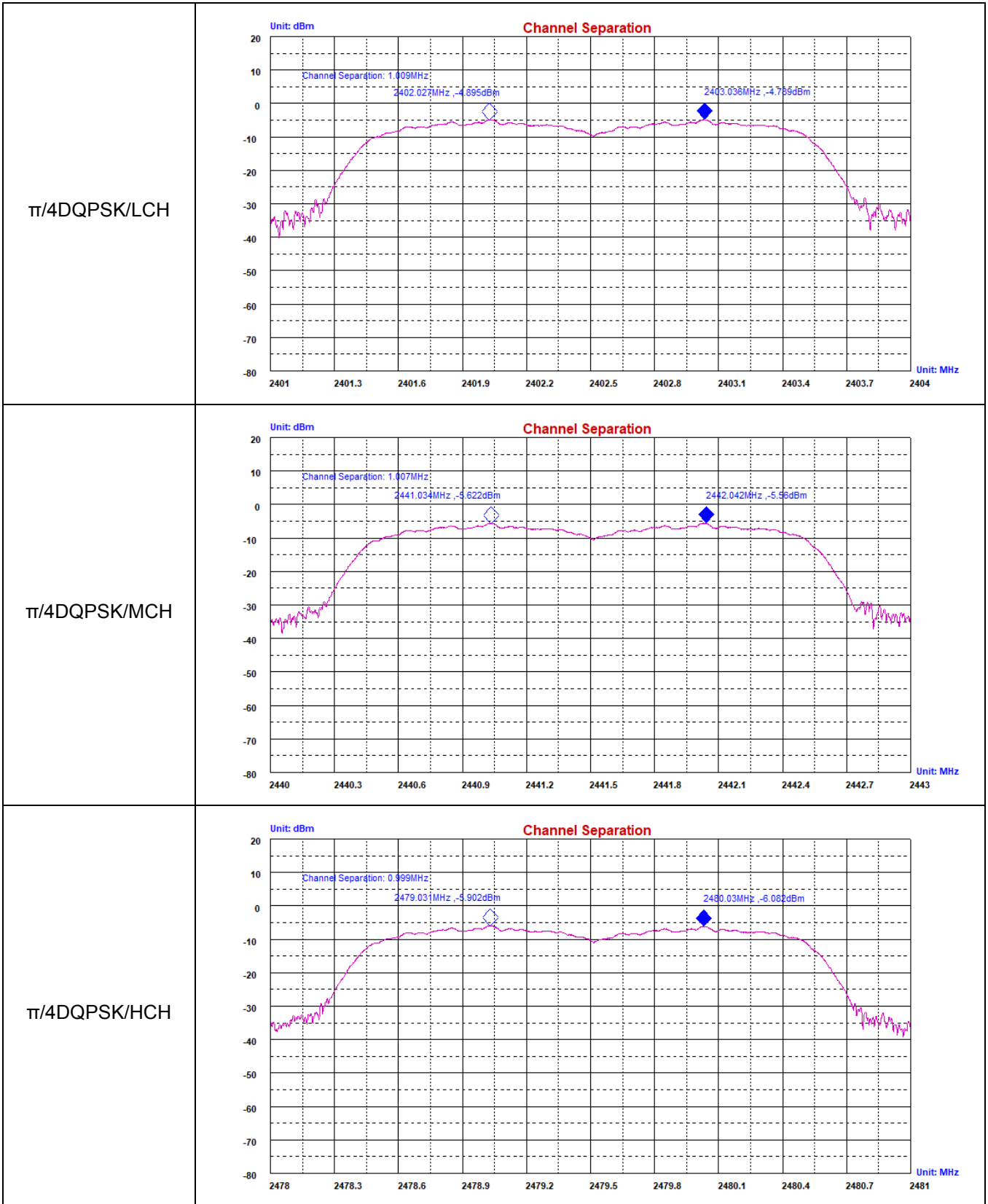


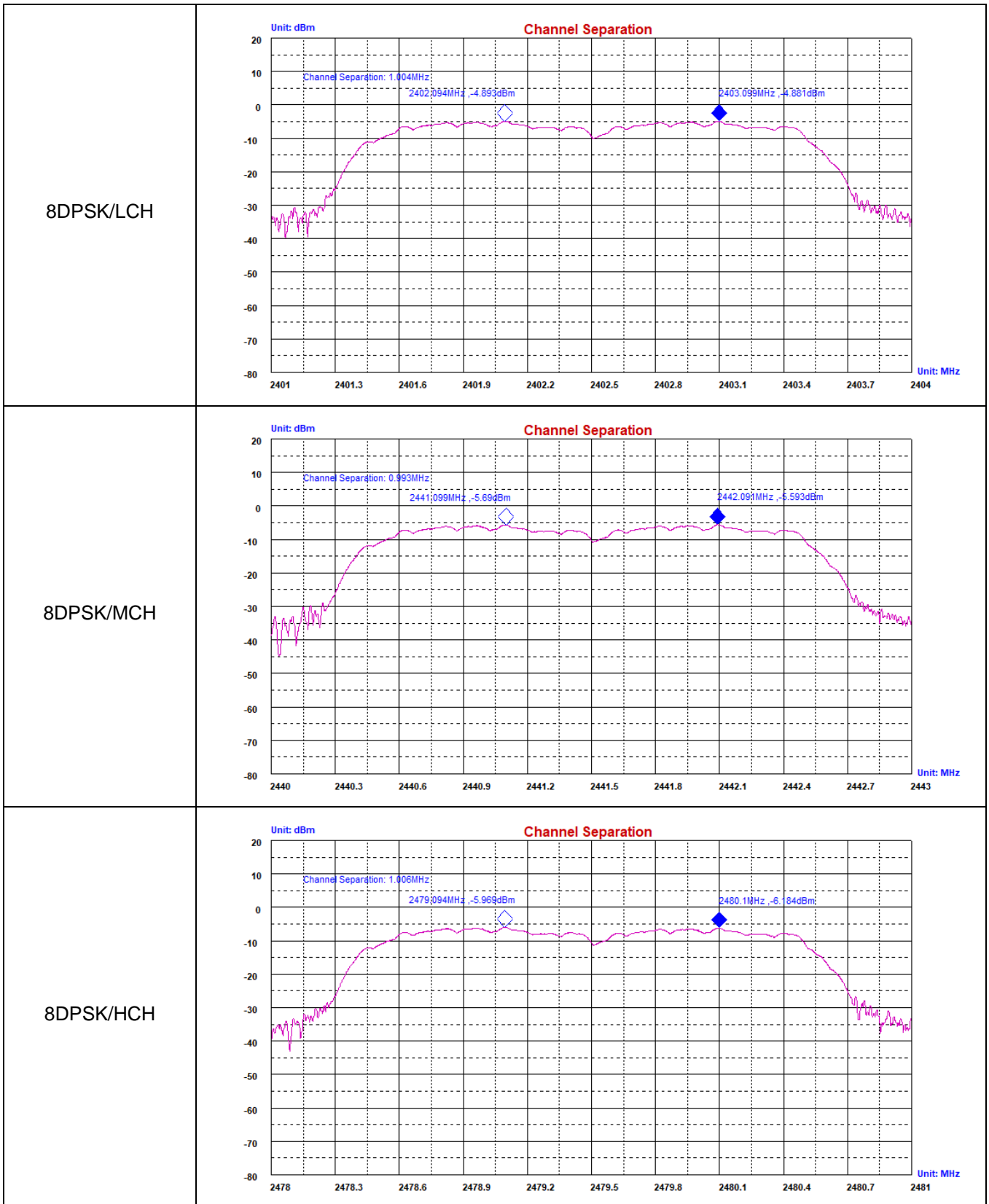
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.004	0.635	PASS
GFSK	MCH	1.001	0.633	PASS
GFSK	HCH	0.997	0.633	PASS
$\pi/4$ DQPSK	LCH	1.009	0.899	PASS
$\pi/4$ DQPSK	MCH	1.007	0.901	PASS
$\pi/4$ DQPSK	HCH	0.999	0.899	PASS
8DPSK	LCH	1.004	0.891	PASS
8DPSK	MCH	0.993	0.895	PASS
8DPSK	HCH	1.006	0.895	PASS

Test Graph



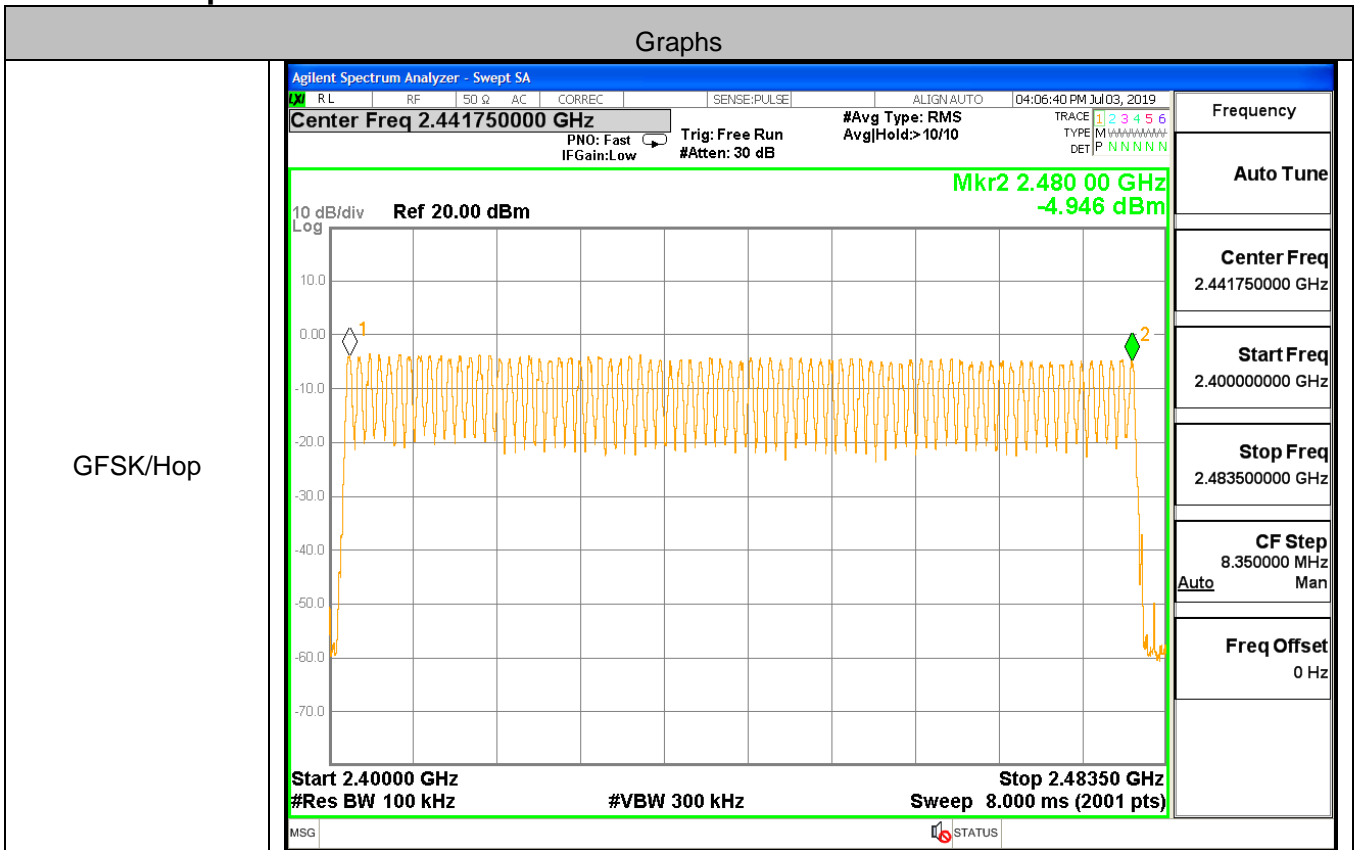


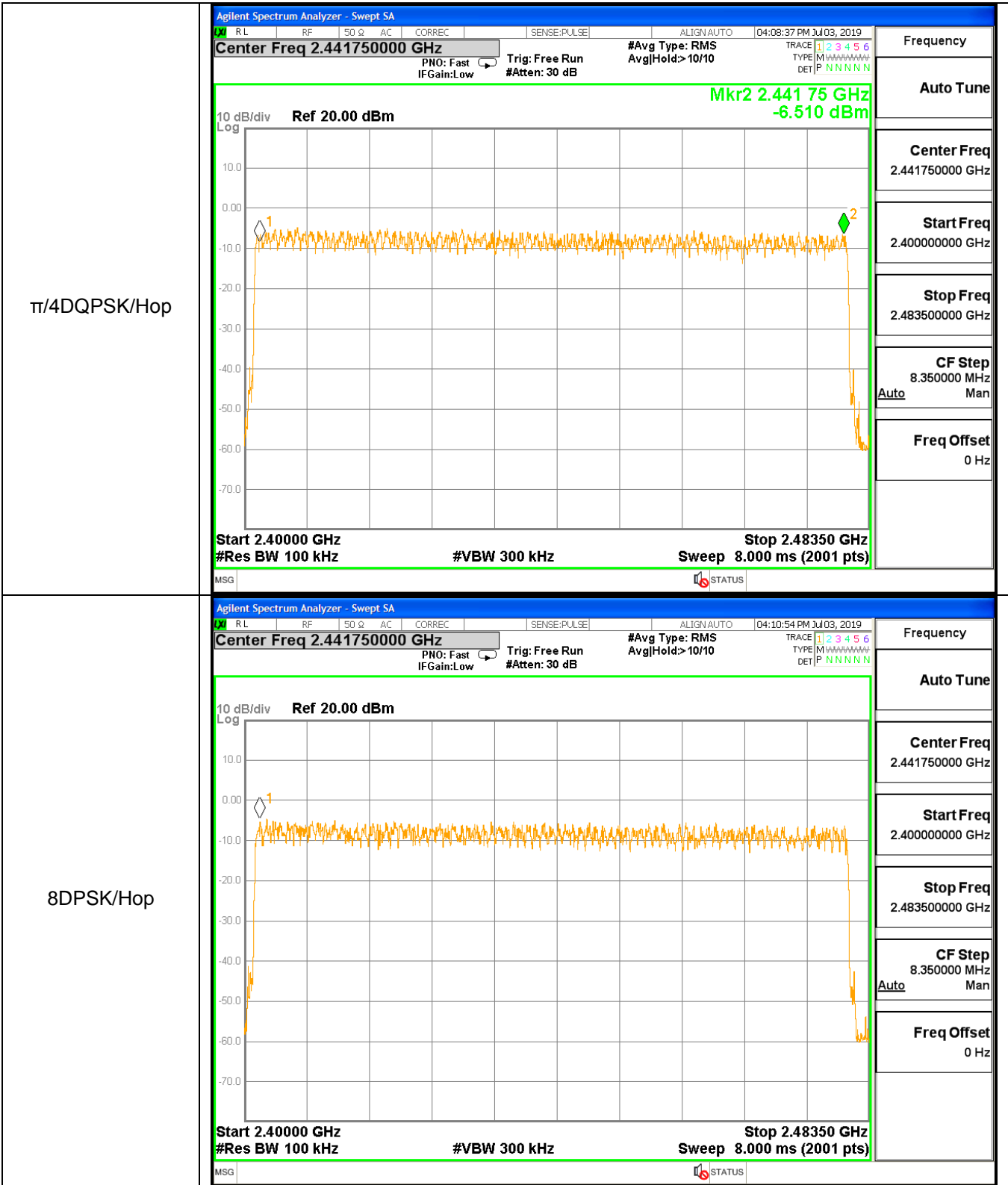


A.4 Hopping Channel Number

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

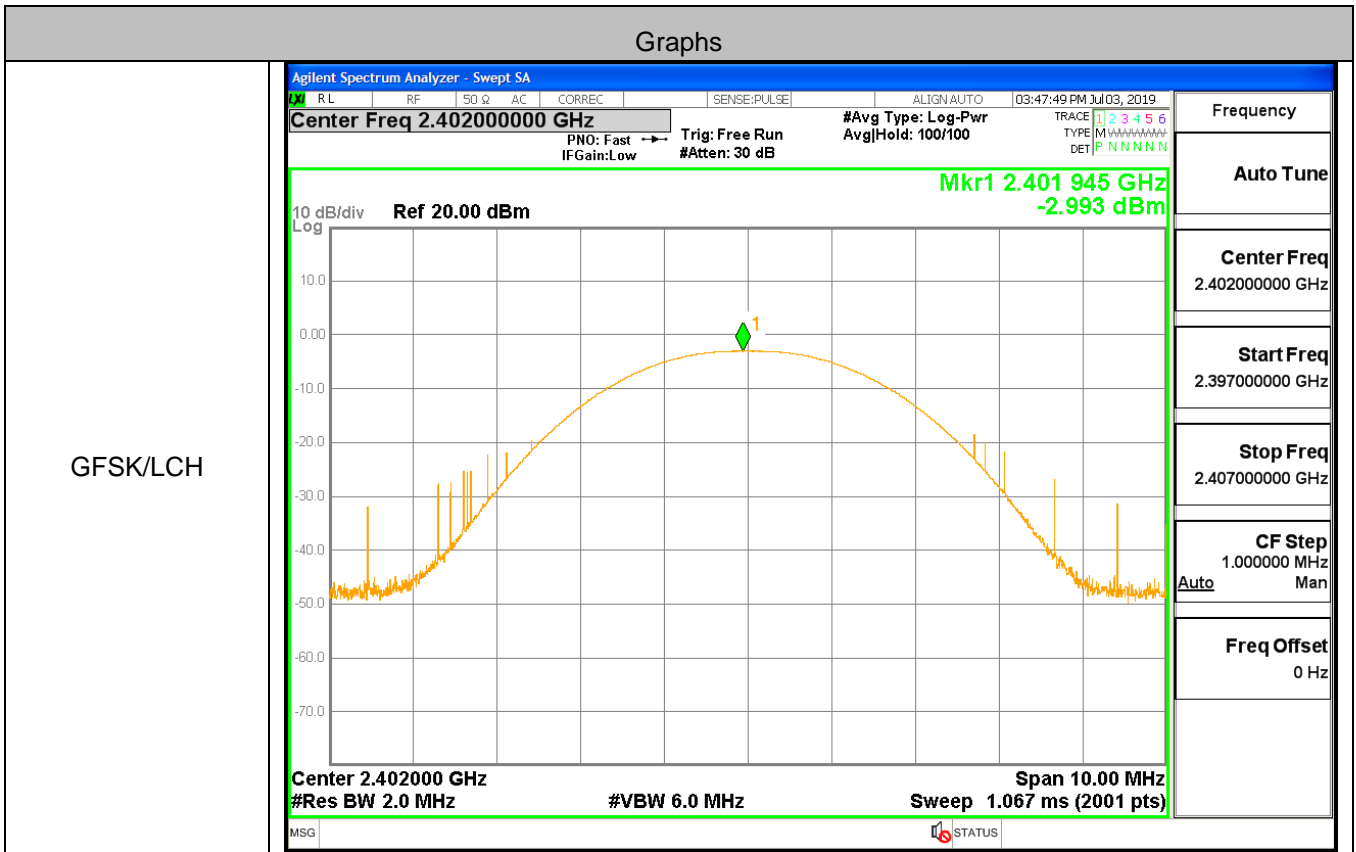




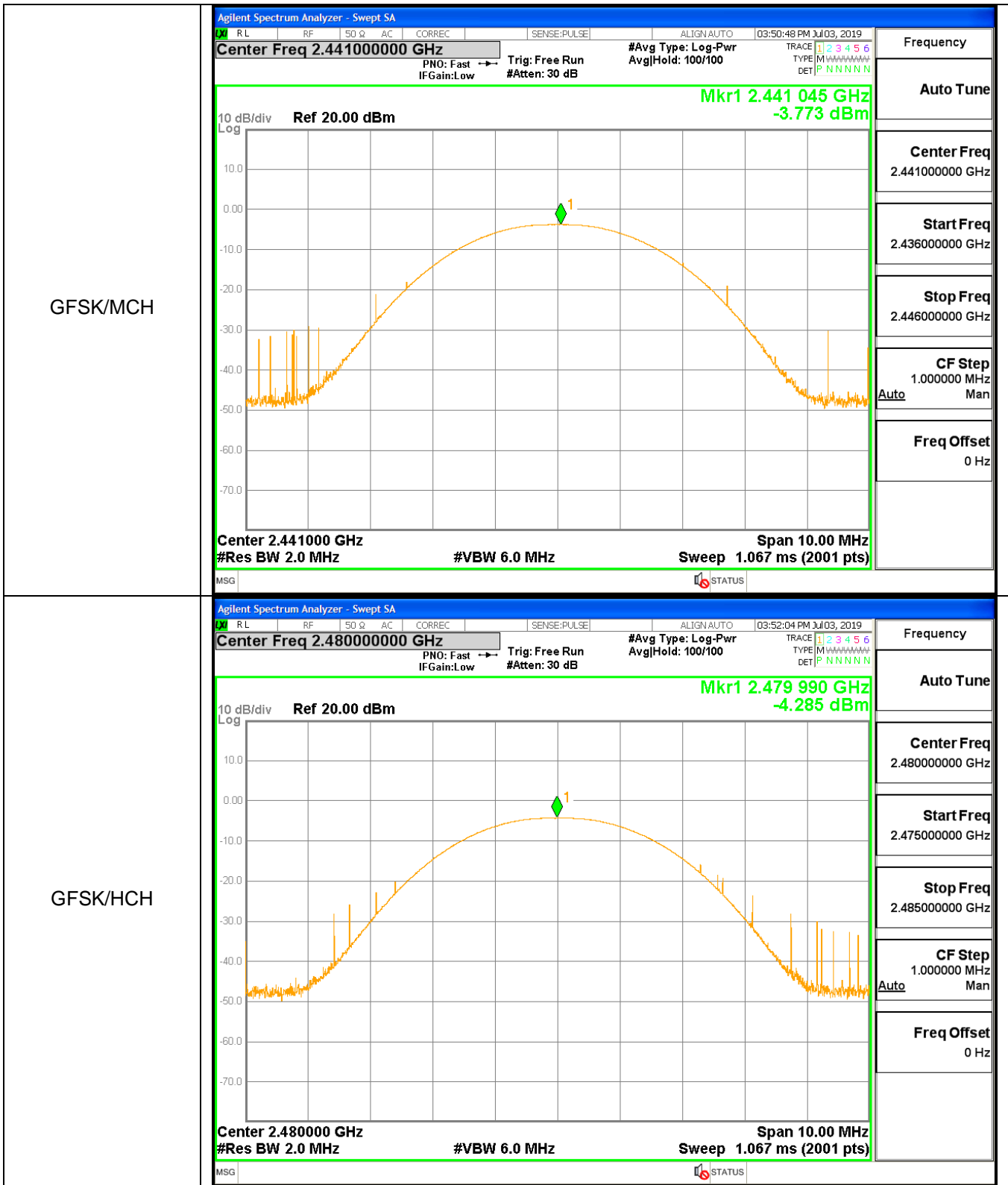
A.5 Conducted Peak Output Power

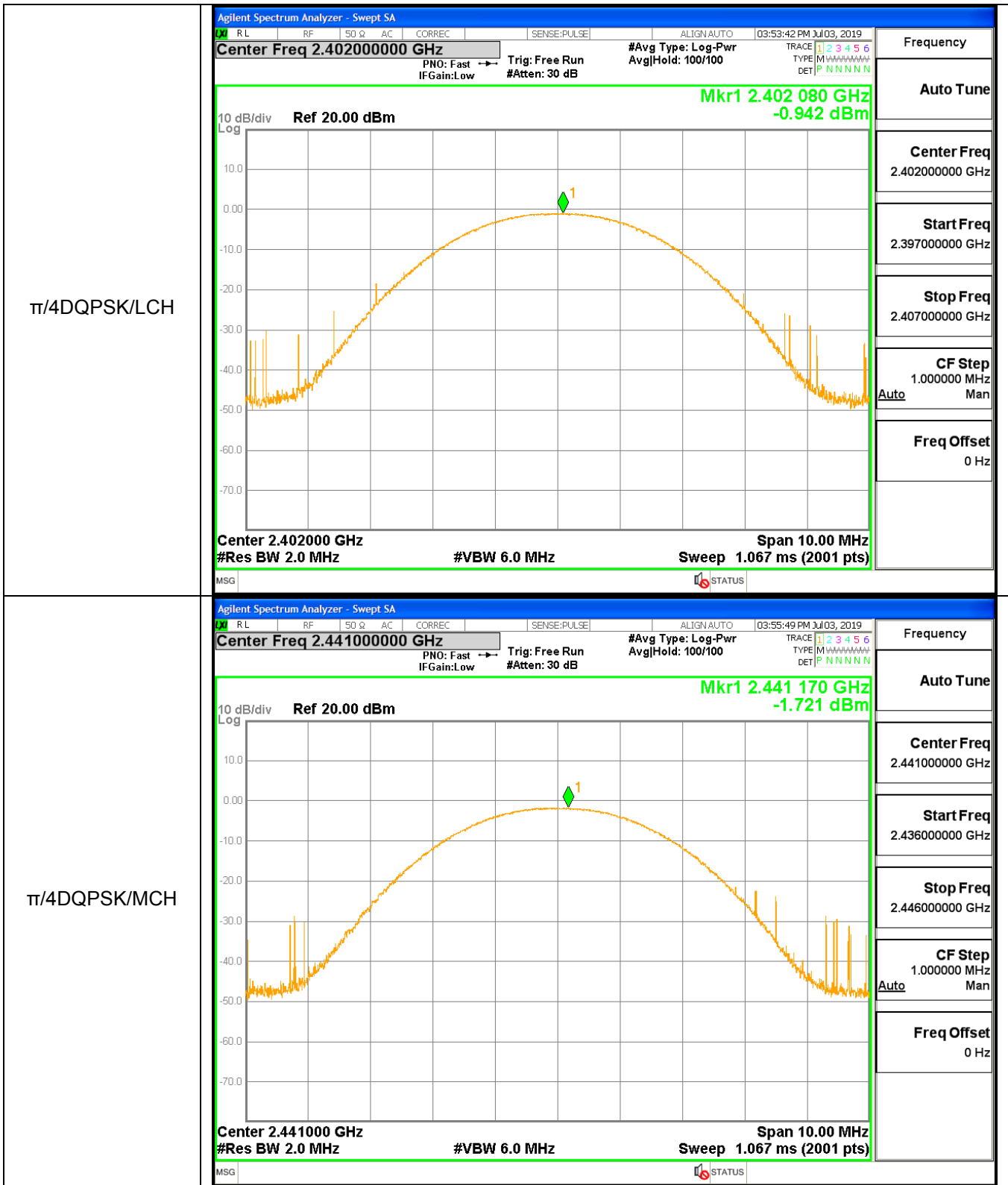
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-2.993	21	PASS
GFSK	MCH	-3.773	21	PASS
GFSK	HCH	-4.285	21	PASS
$\pi/4$ DQPSK	LCH	-0.942	21	PASS
$\pi/4$ DQPSK	MCH	-1.721	21	PASS
$\pi/4$ DQPSK	HCH	-2.206	21	PASS
8DPSK	LCH	-0.413	21	PASS
8DPSK	MCH	-1.135	21	PASS
8DPSK	HCH	-1.640	21	PASS

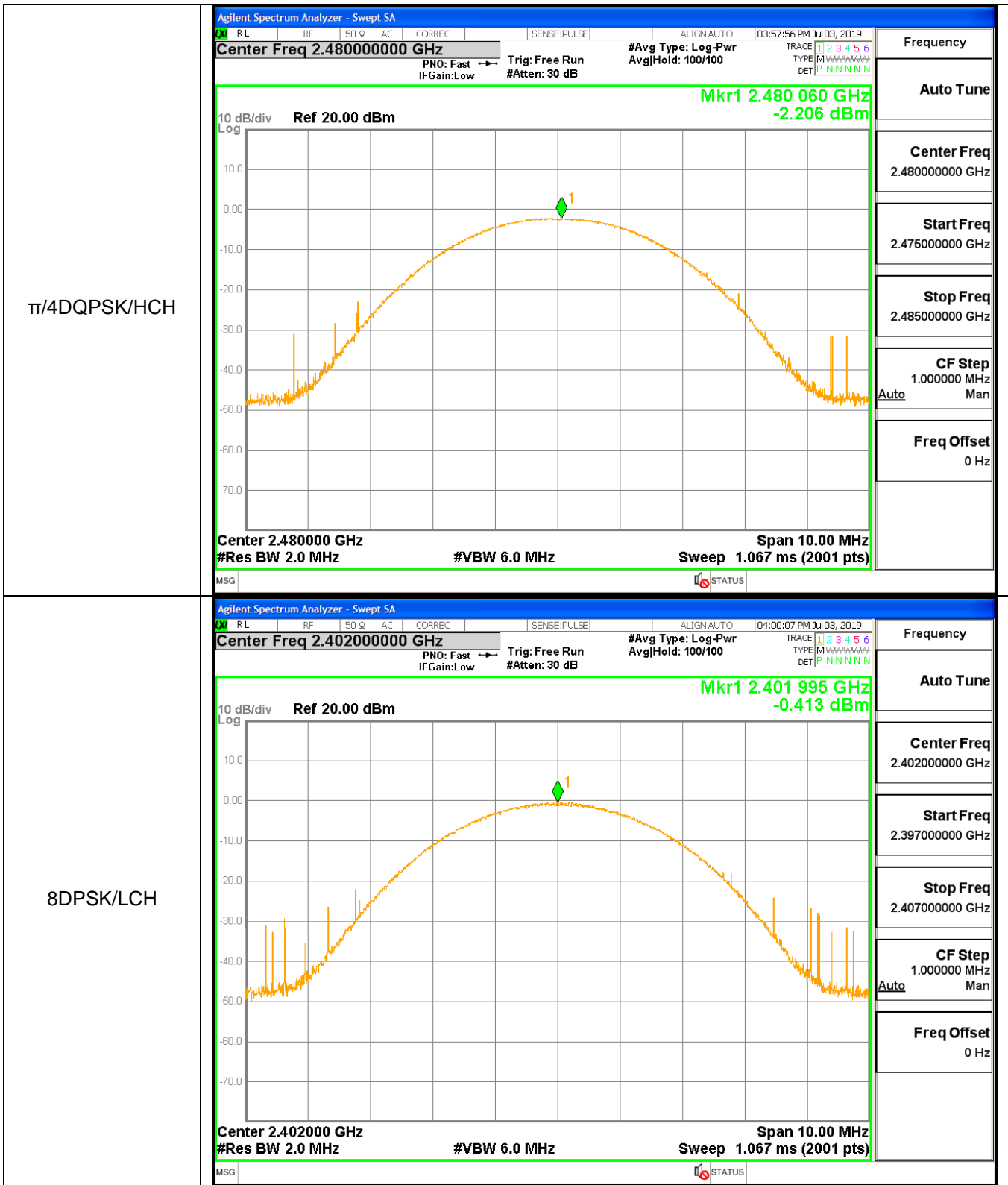
Test Graph

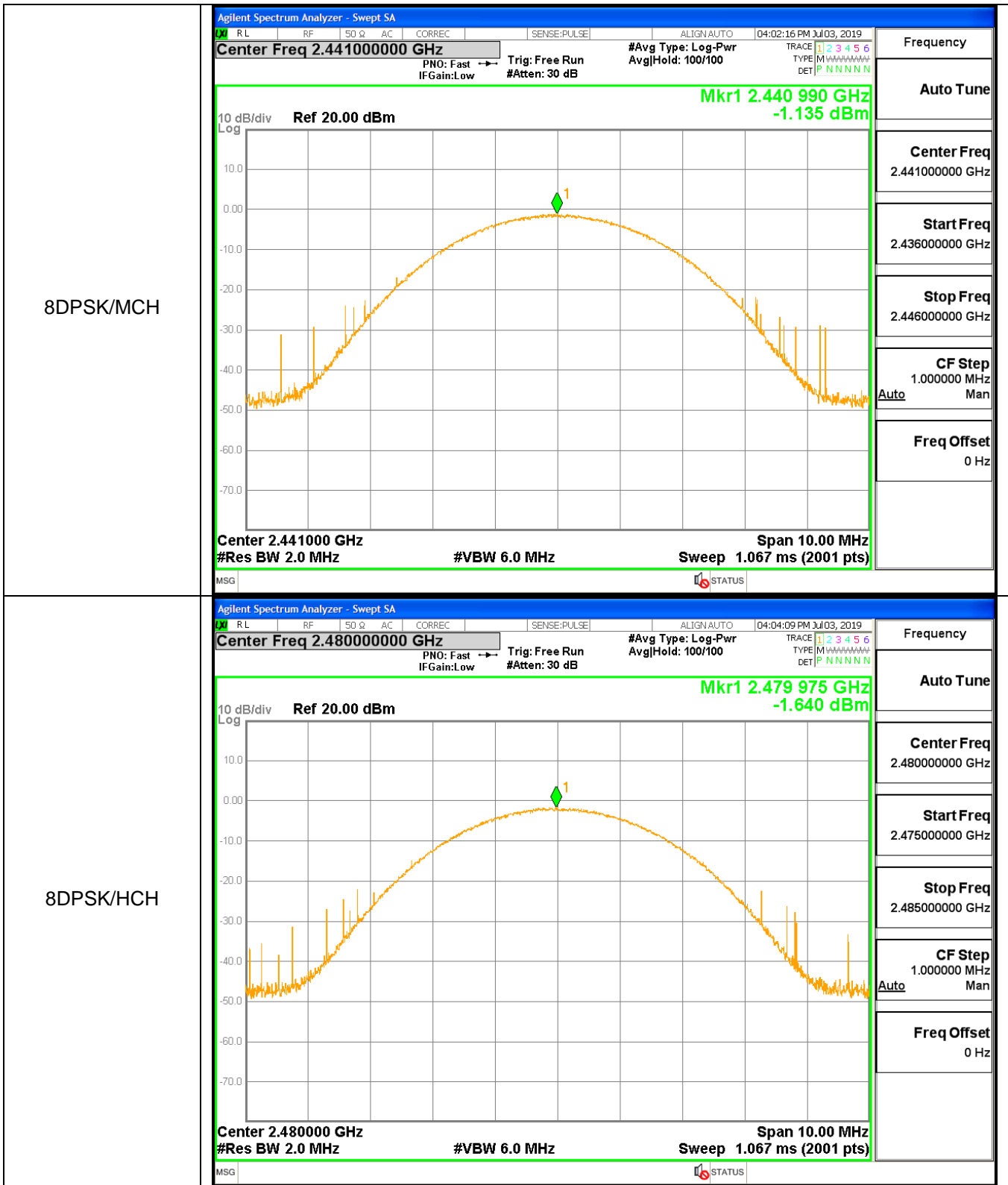


GFSK/LCH







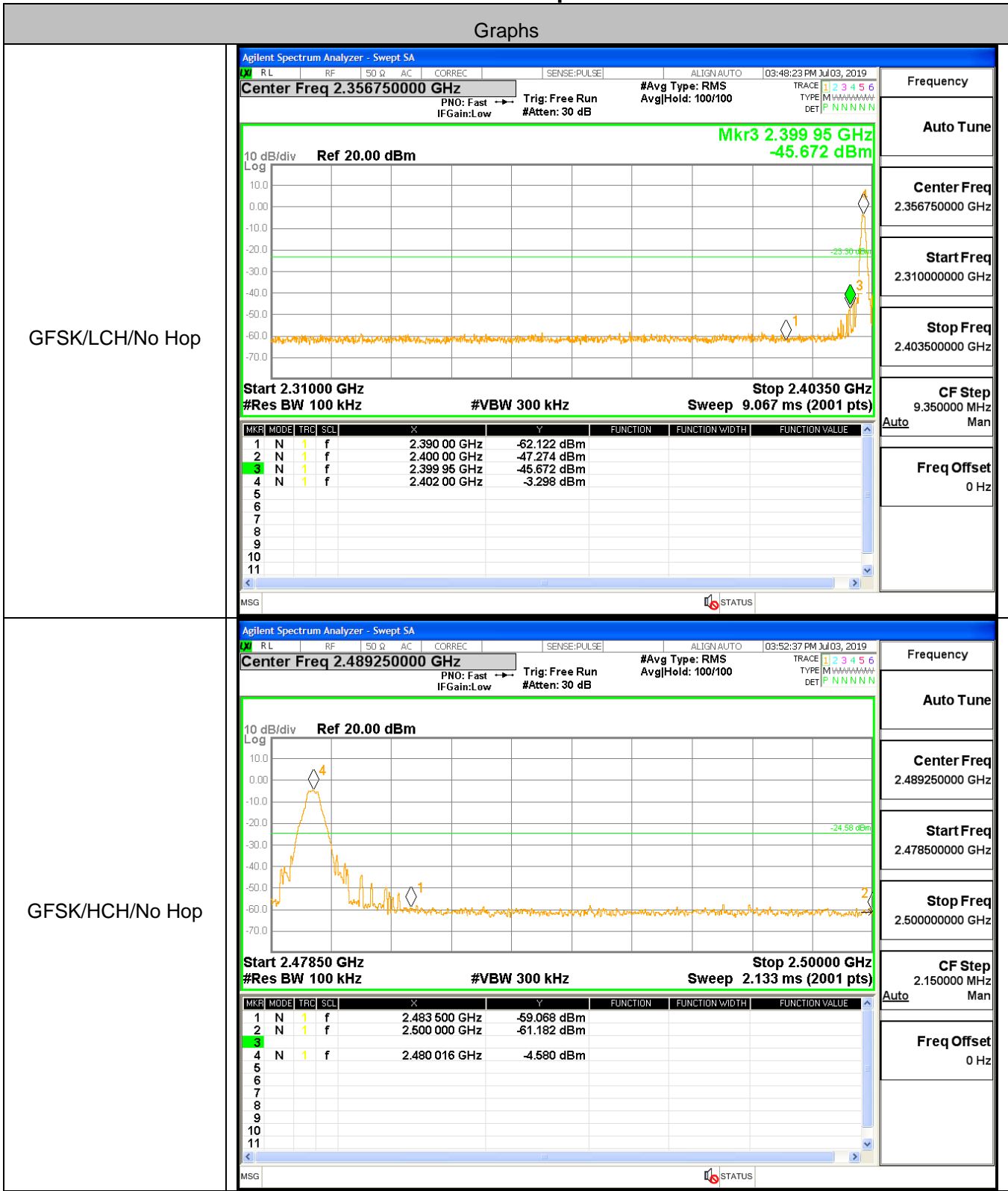


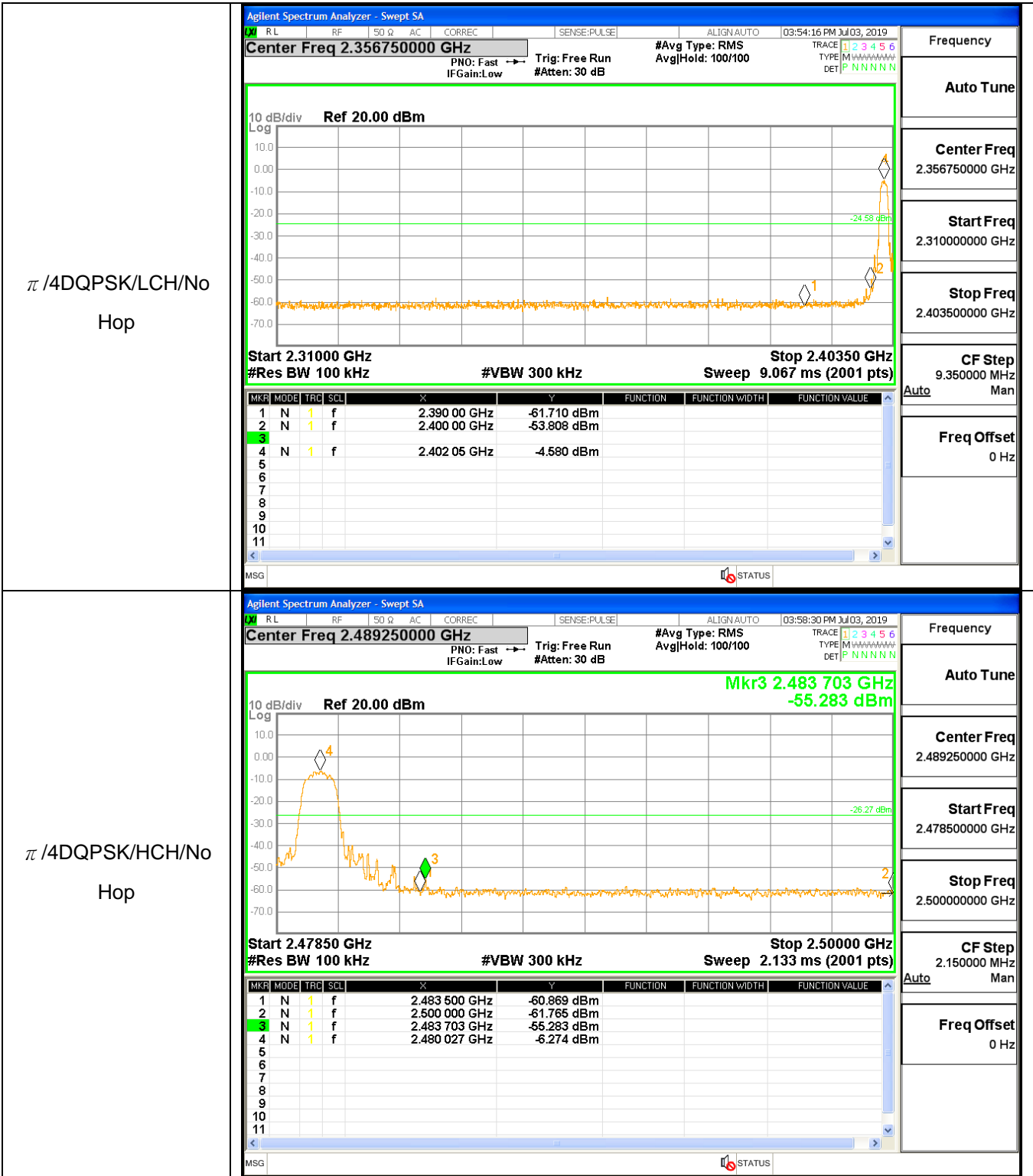
A.6 Band-edge for RF Conducted Emissions

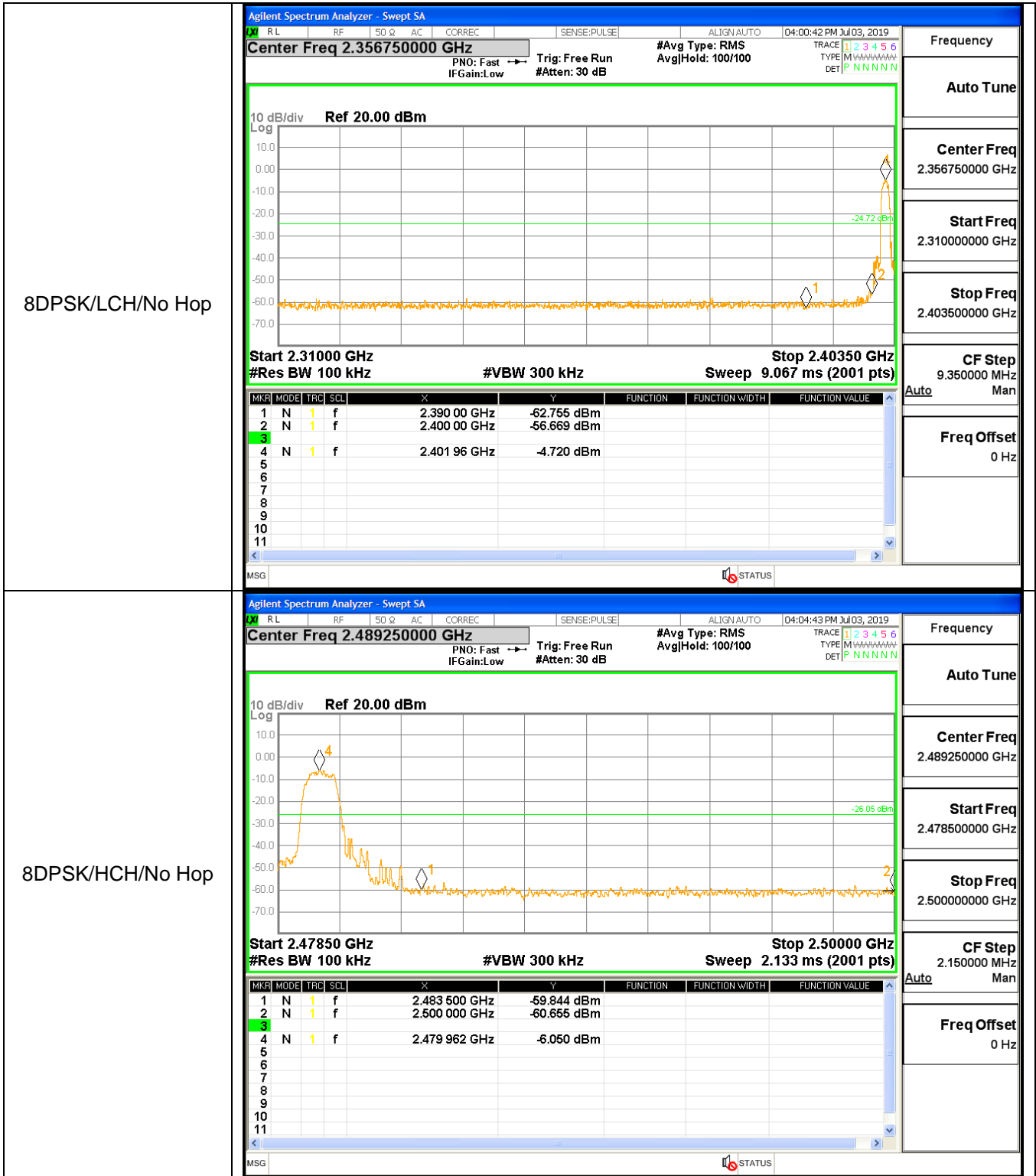
Type	Carrier Frequency(MHz)	Frequency(MHz)	Carrier Frequency Power [dBm]	Bandedge Peak(dBm)	Upper limit(dBm)	Conclusion
1DH5	2402	2399.95	-3.298	-45.67	-23.298	Pass
1DH5	2480	2483.50	-4.580	-59.07	-24.580	Pass
2DH5	2402	2400.00	-4.580	-53.81	-24.580	Pass
2DH5	2480	2483.70	-6.274	-55.28	-26.274	Pass
3DH5	2402	2400.00	-4.720	-56.67	-24.720	Pass
3DH5	2480	2483.50	-6.050	-59.84	-26.050	Pass
1DH5-Hopping	2402	2400.00	-3.336	-60.12	-23.336	Pass
1DH5-Hopping	2480	2498.26	-4.462	-50.52	-24.462	Pass
2DH5-Hopping	2402	2400.00	-5.063	-59.29	-25.063	Pass
2DH5-Hopping	2480	2497.45	-5.830	-52.69	-25.830	Pass
3DH5-Hopping	2402	2400.00	-4.821	-59.27	-24.821	Pass
3DH5-Hopping	2480	2497.75	-5.674	-51.31	-25.674	Pass

Test Graph

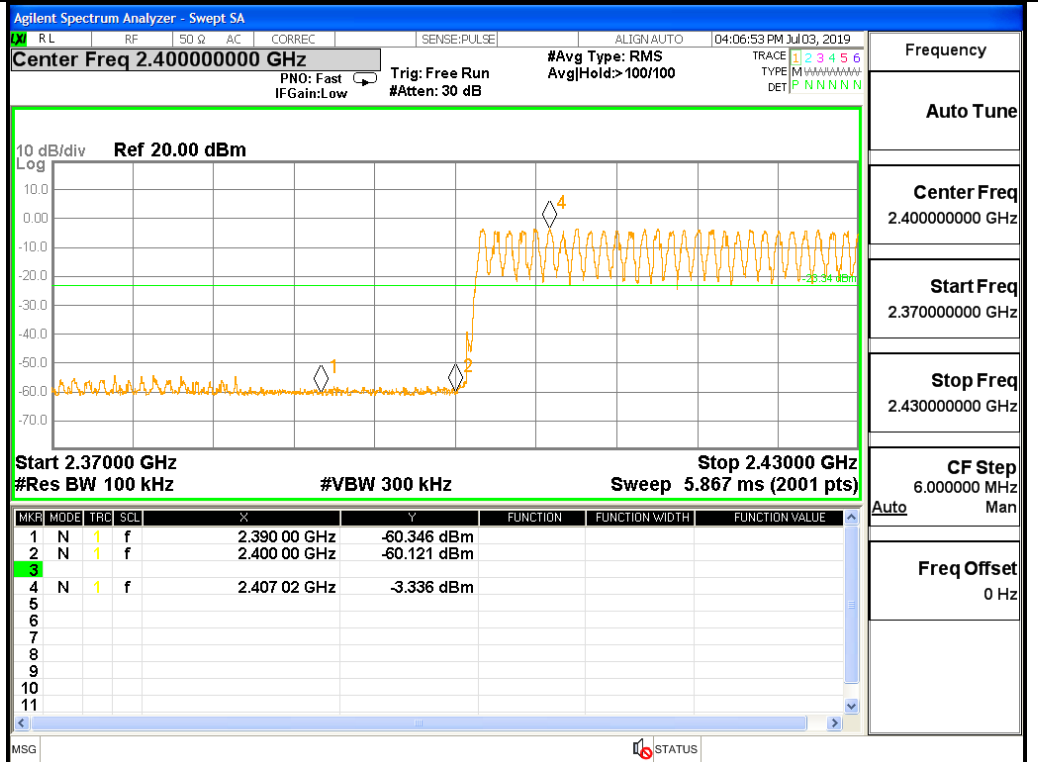
Graphs



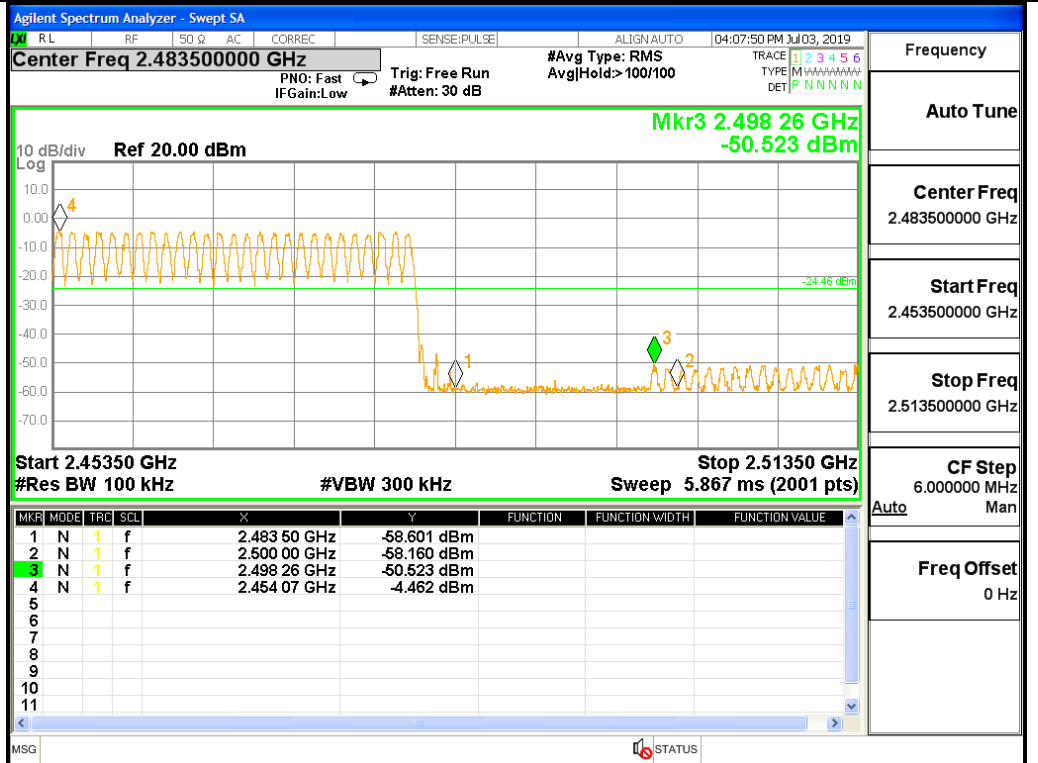


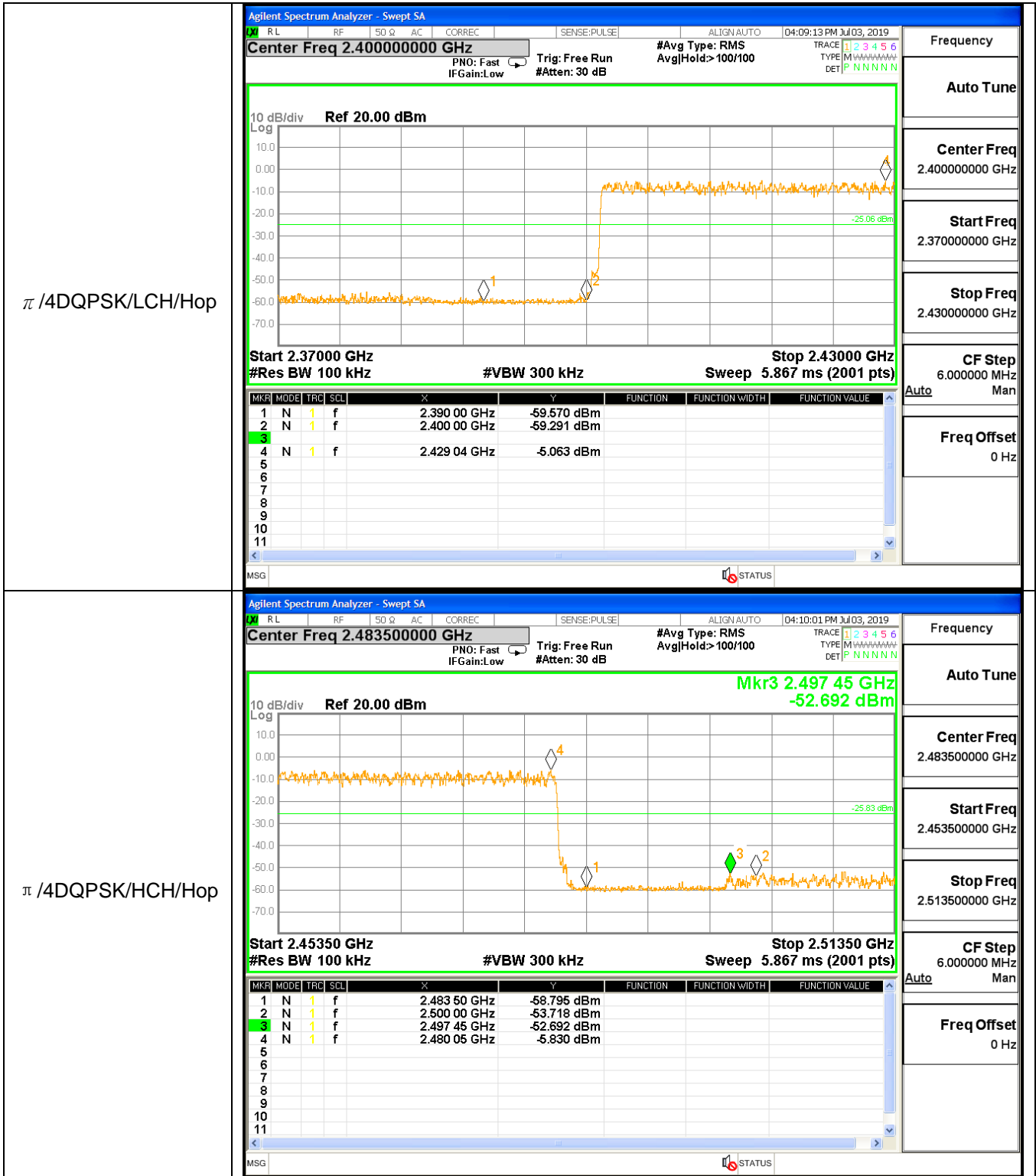


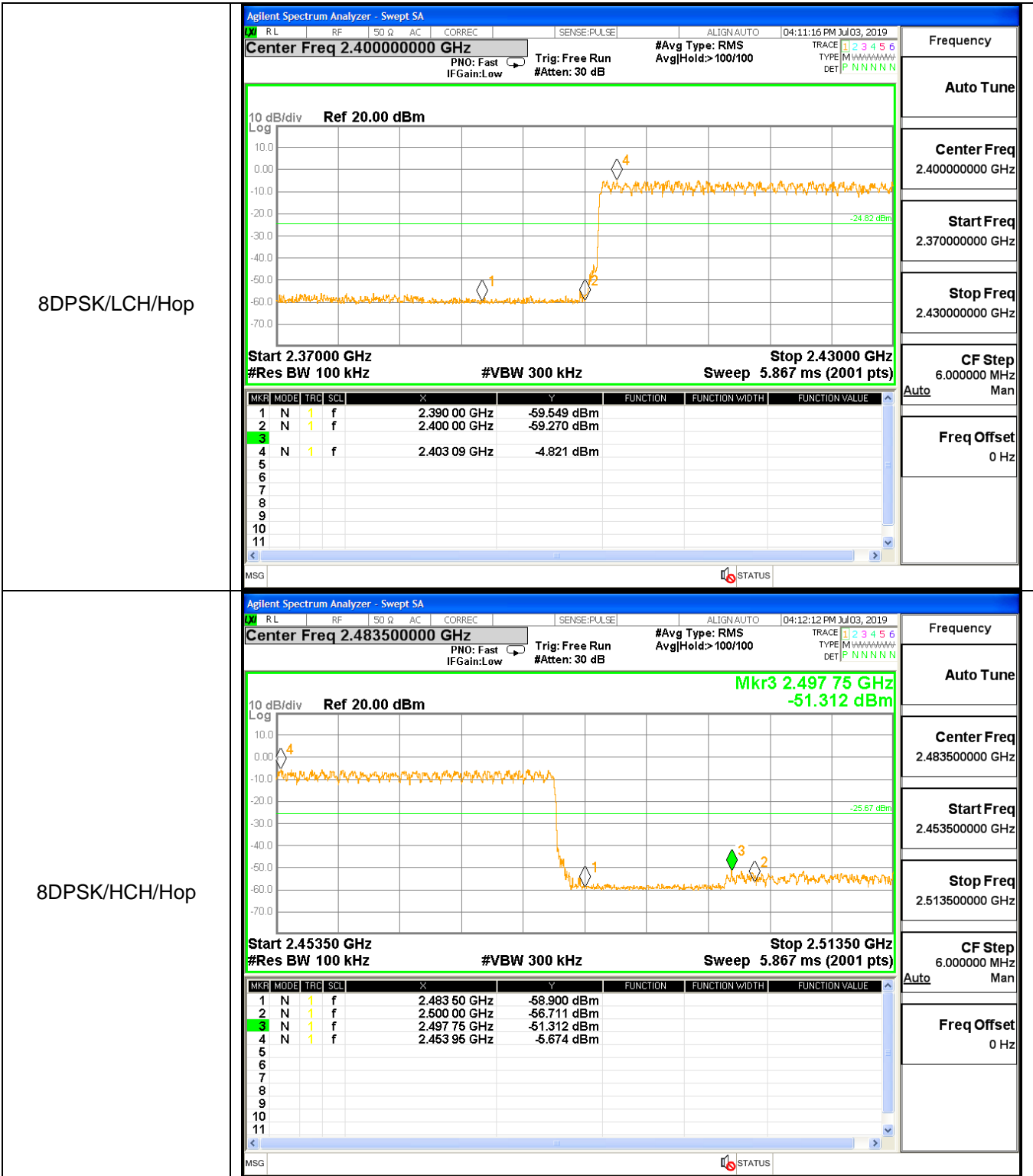
GFSK/LCH/Hop



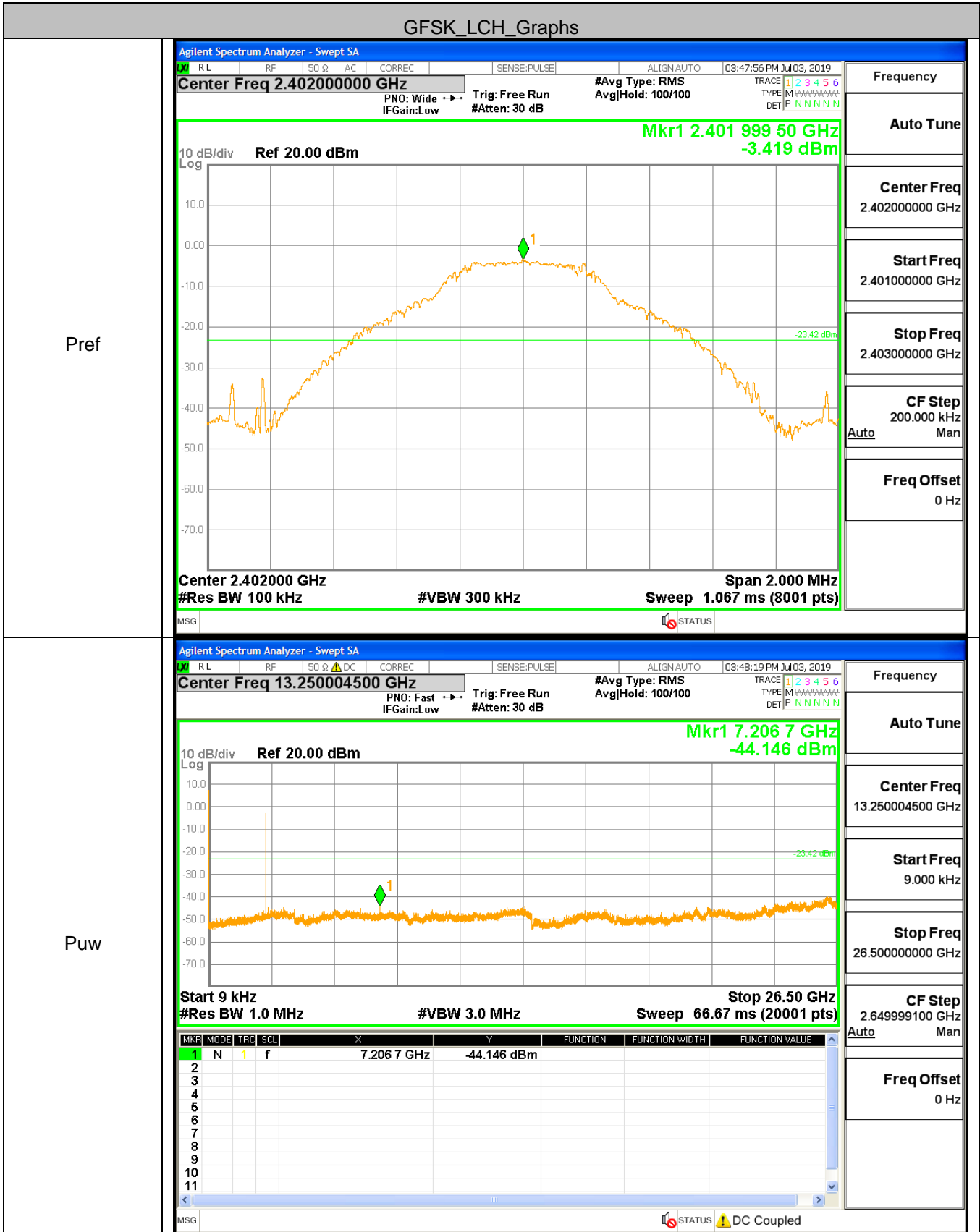
GFSK/HCH/Hop





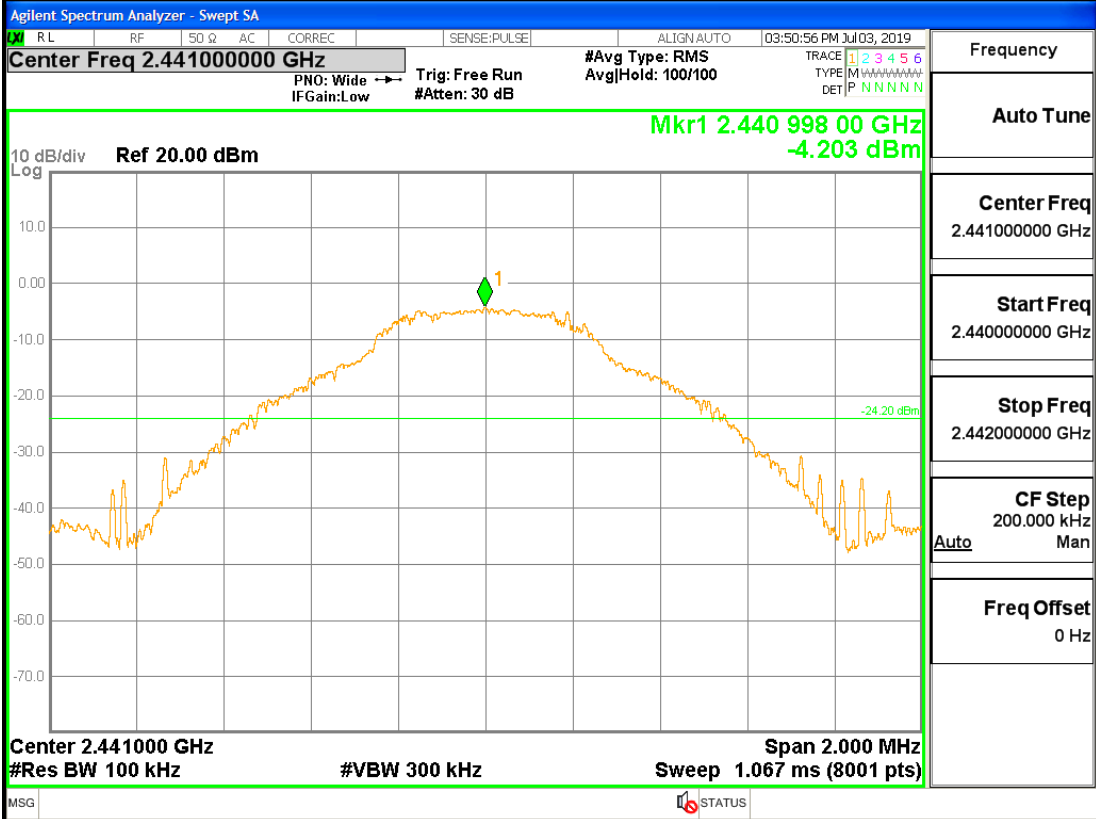


A.7 RF Conducted Spurious Emissions Test Graph

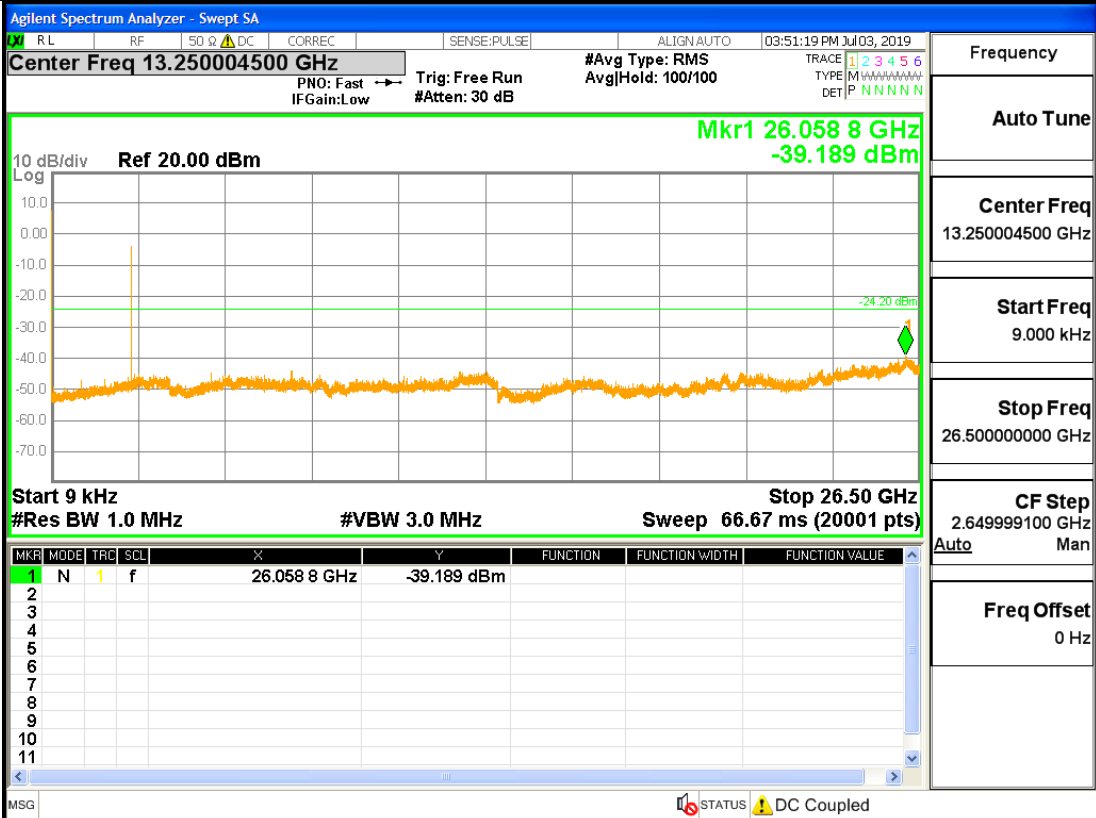


GFSK_MCH_Graphs

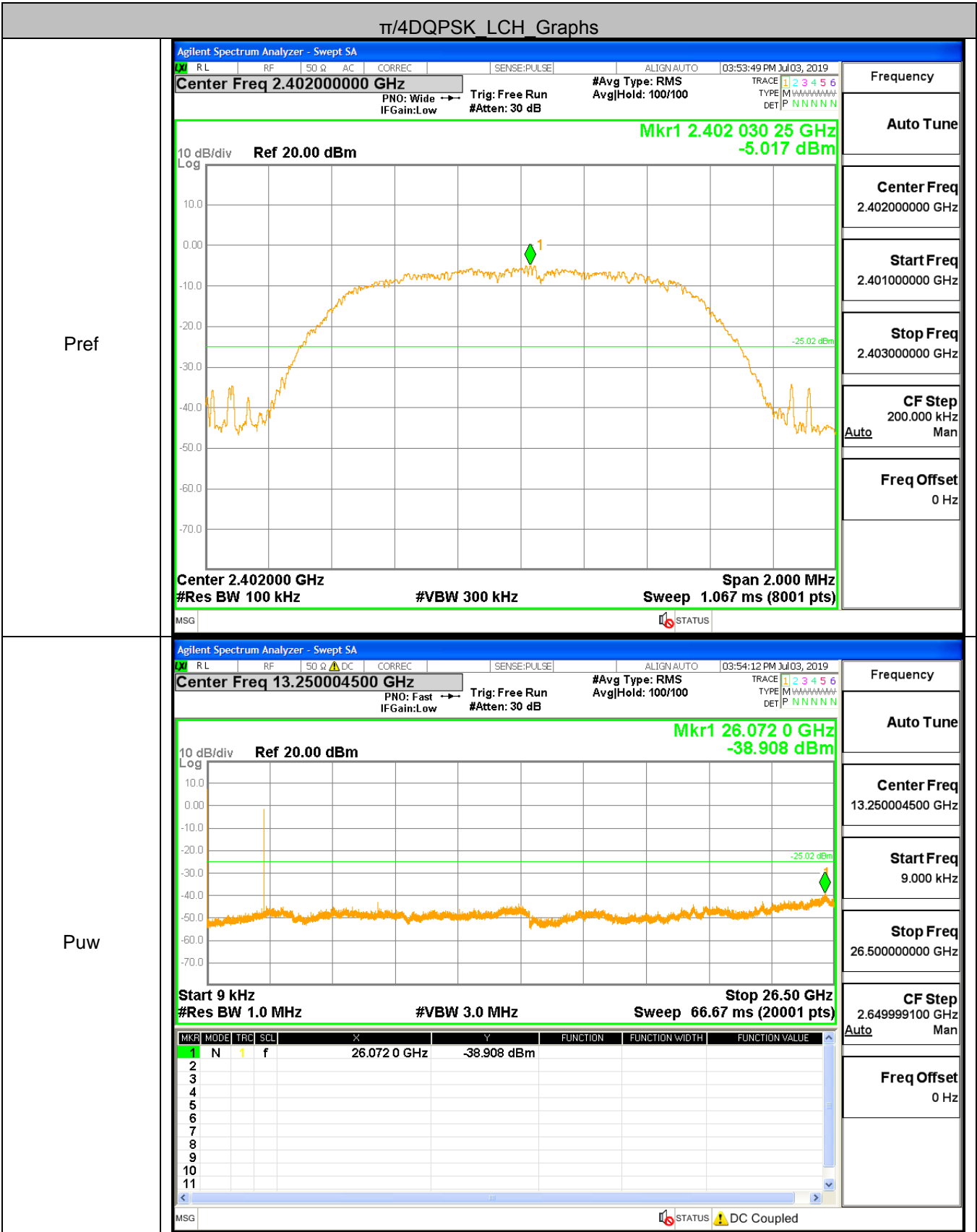
Pref



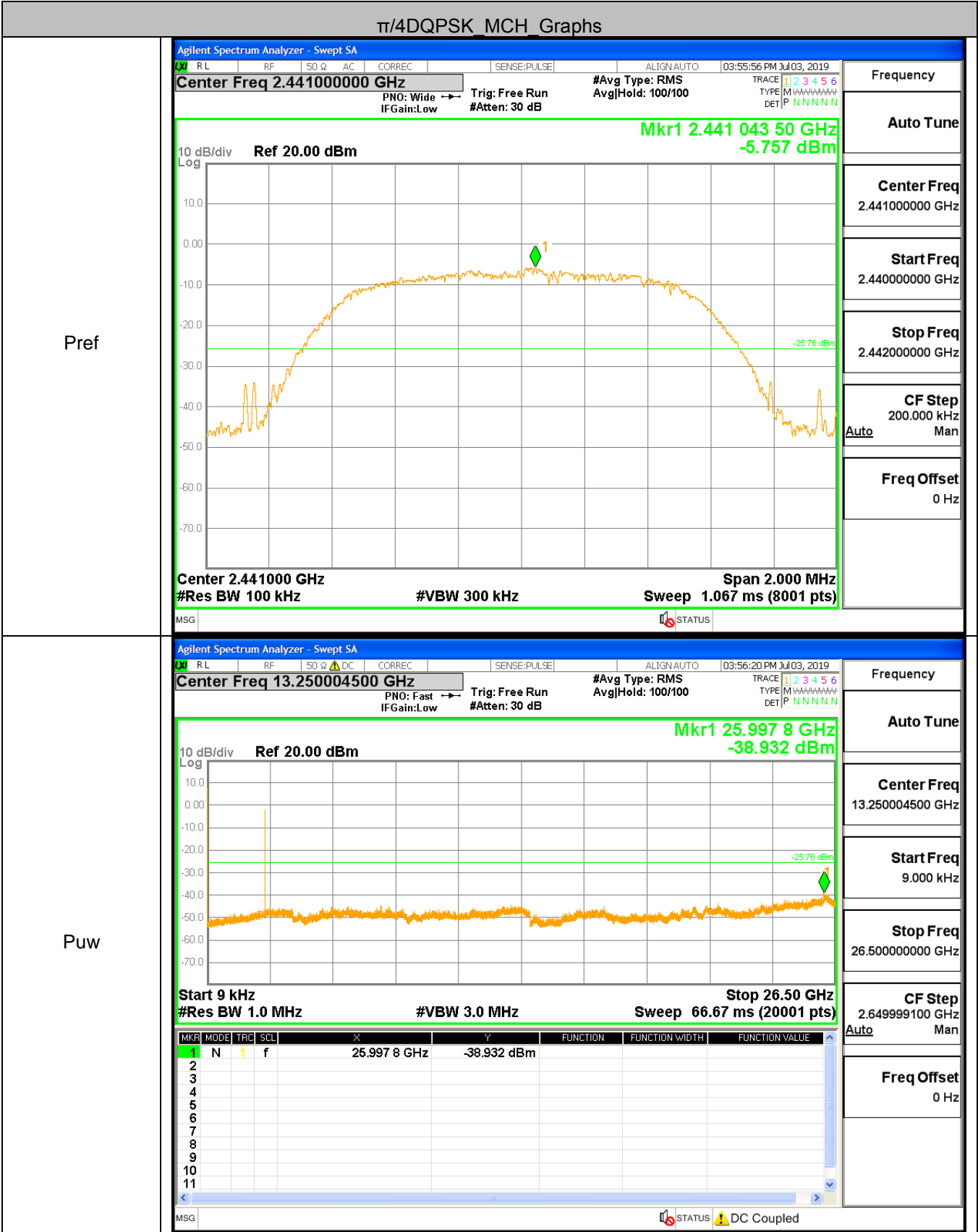
Puw



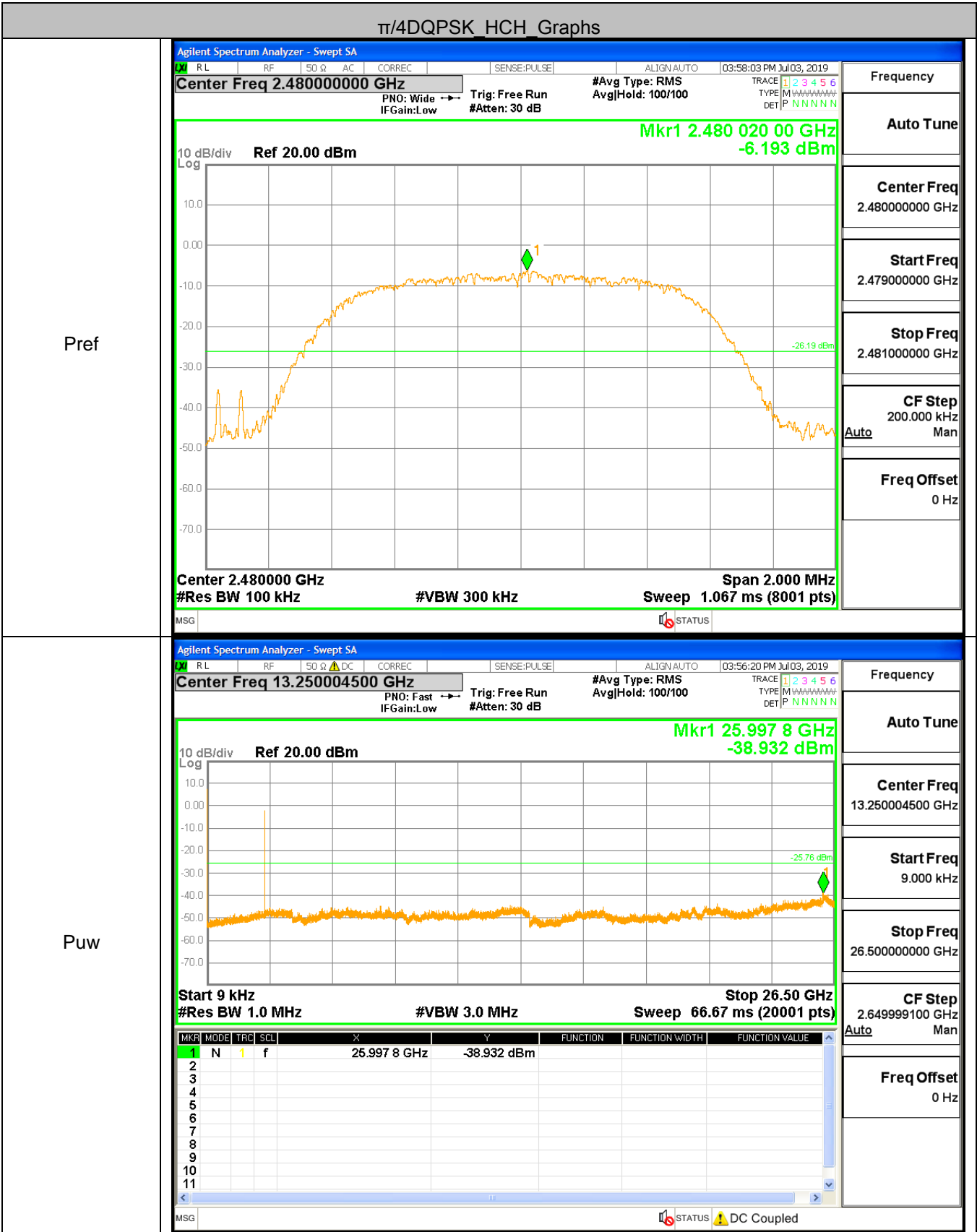
$\pi/4$ DQPSK LCH Graphs



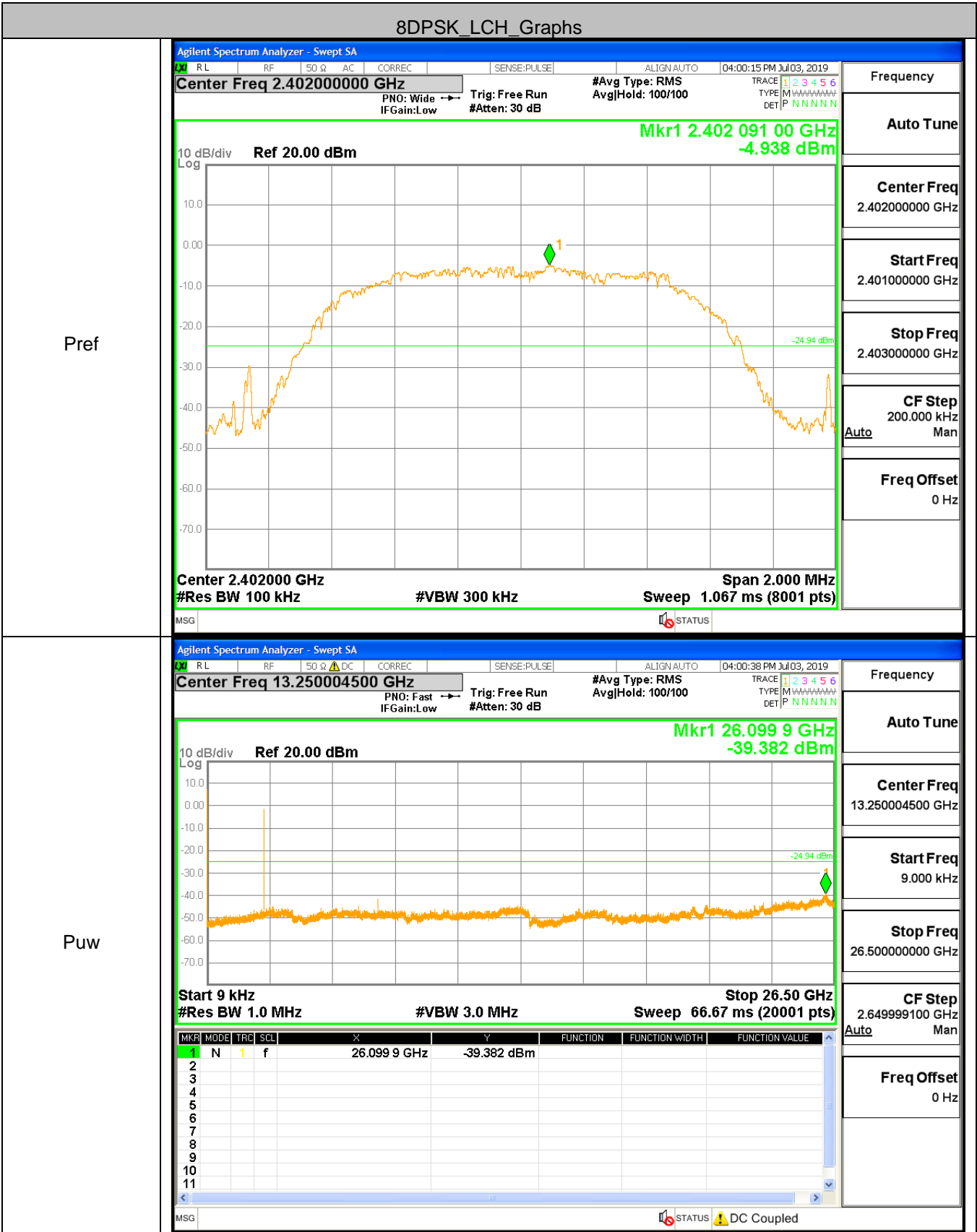
$\pi/4$ DQPSK MCH Graphs



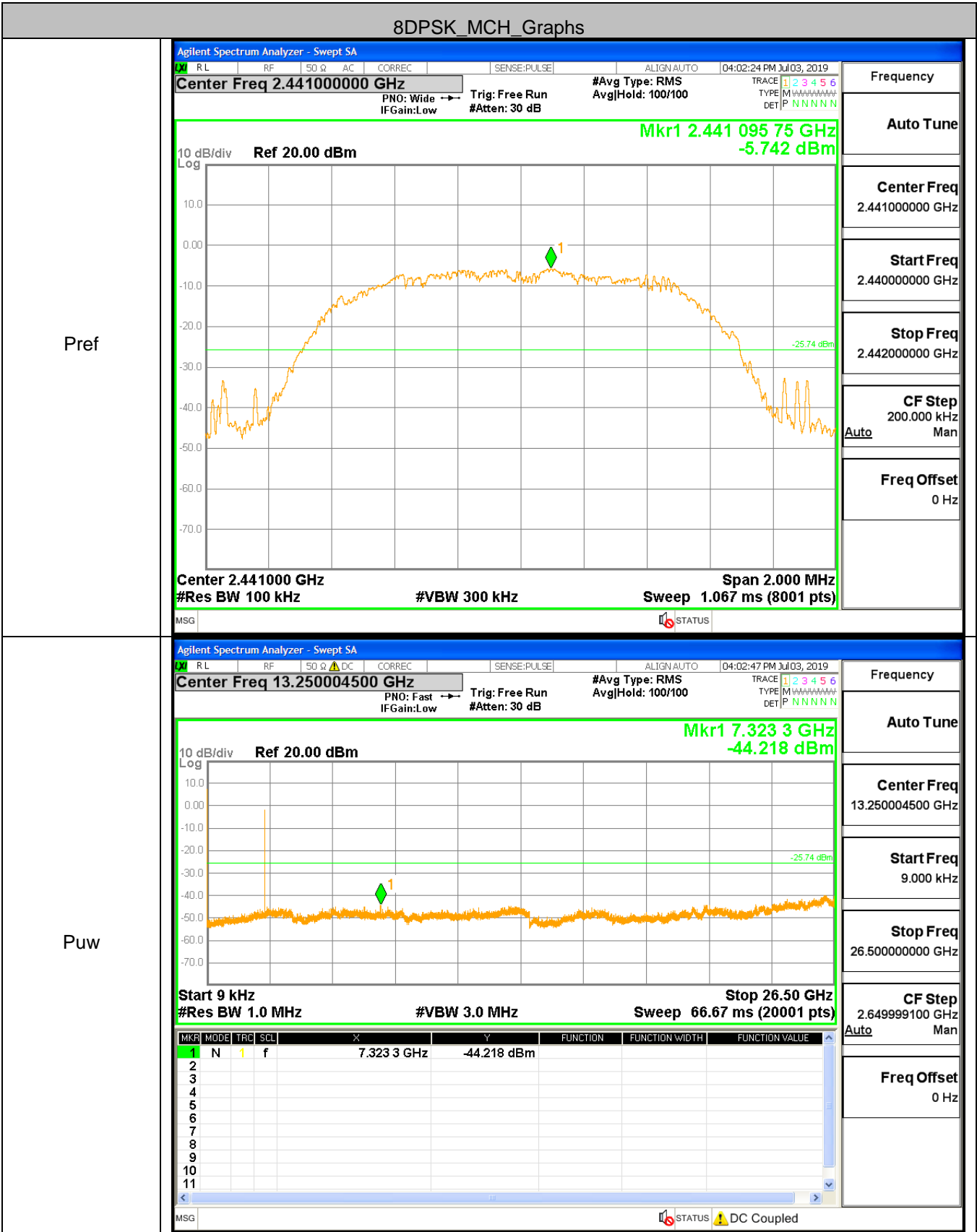
π/4DQPSK HCH Graphs



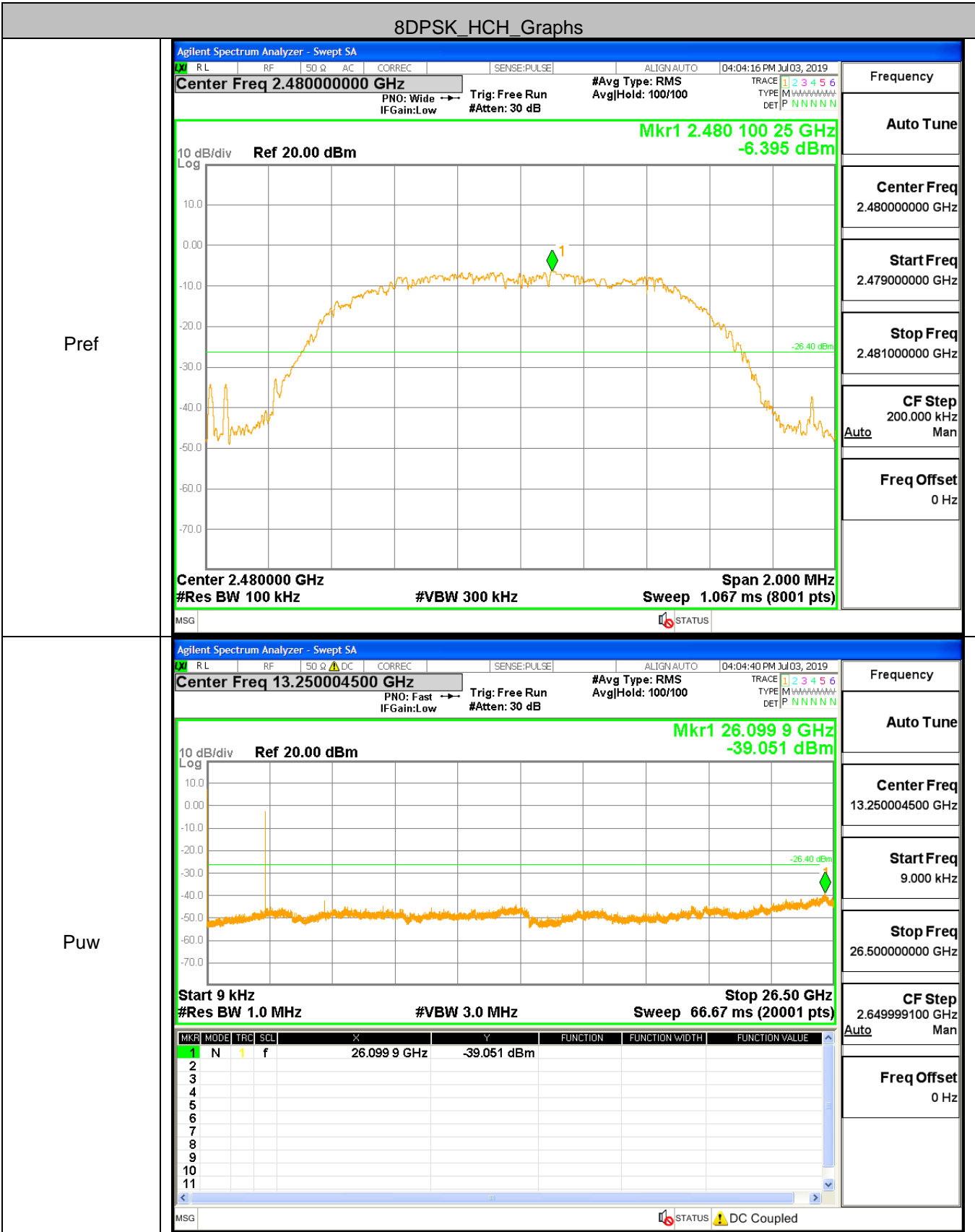
8DPSK_LCH_Graphs



8DPSK_MCH_Graphs



8DPSK_HCH_Graphs

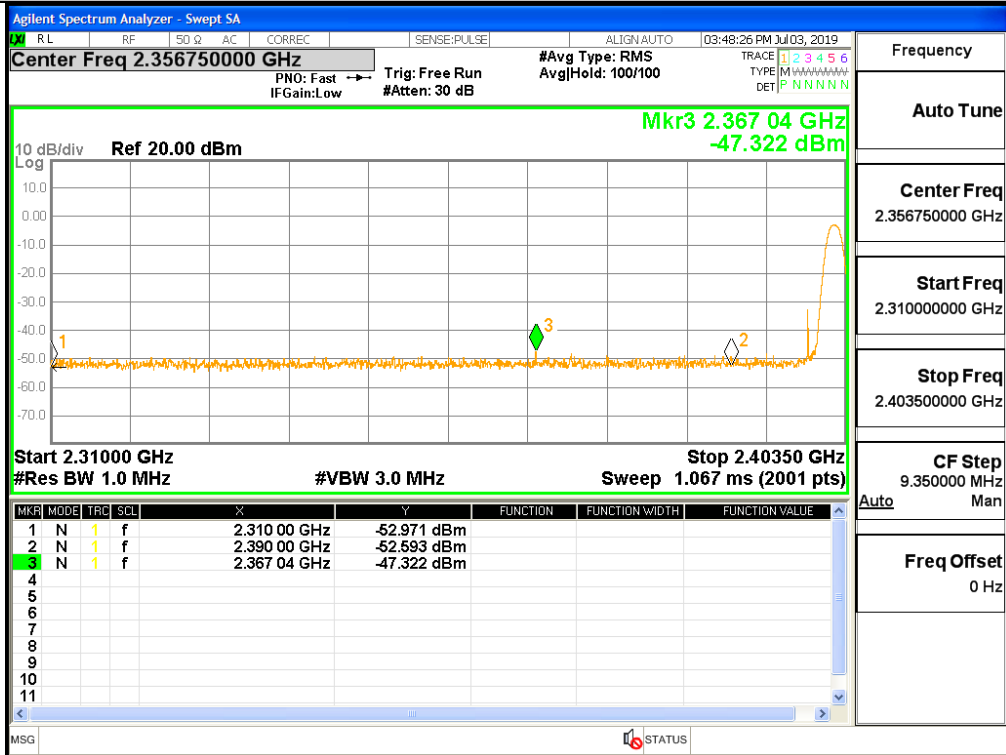


A.8 Restrict-band band-edge measurements

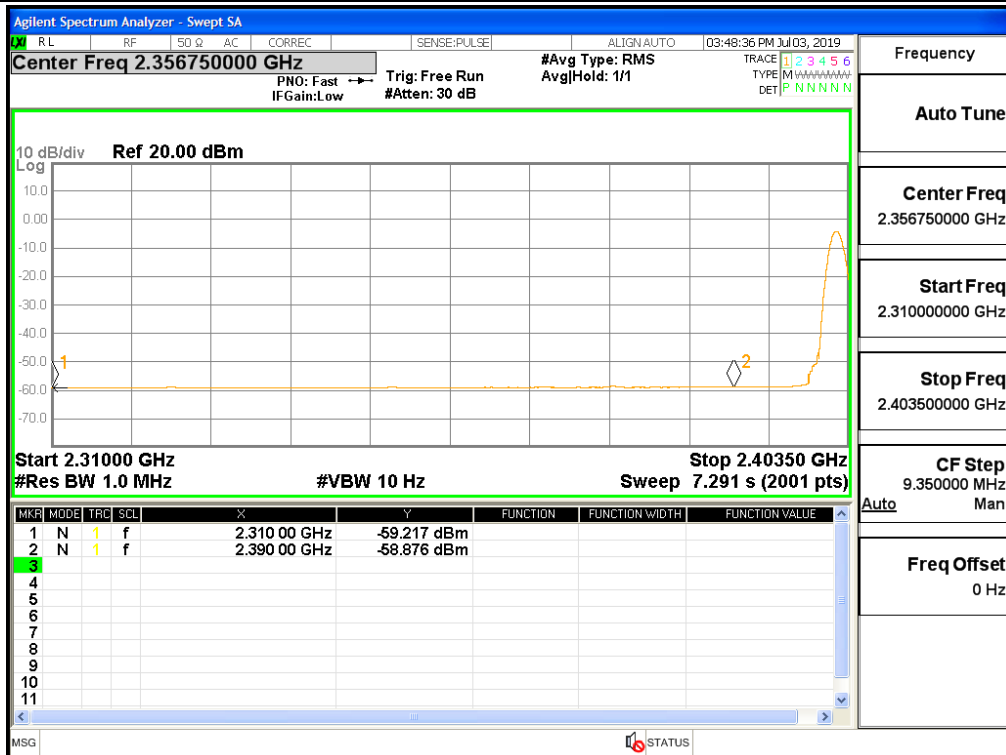
Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Peak Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402	2367.04	2.00	0.00	-47.32	49.88	74	Pass
1DH5	2480	2484.50	2.00	0.00	-39.64	57.57	74	Pass
2DH5	2402	2310.00	2.00	0.00	-49.69	47.51	74	Pass
2DH5	2480	2485.85	2.00	0.00	-41.11	56.09	74	Pass
3DH5	2402	2390.00	2.00	0.00	-51.09	46.11	74	Pass
3DH5	2480	2483.67	2.00	0.00	-35.32	61.88	74	Pass

Type	Carrier Frequency (MHz)	Frequency(M Hz)	Gain	Ground Factor	Average Value(dBm)	E [dBuV/m]	Limit [dBuV/m]	Conclusion
1DH5	2402.00	2390.00	2.00	0.00	-58.88	38.32	54.00	Pass
1DH5	2480.00	2483.50	2.00	0.00	-57.26	39.94	54.00	Pass
2DH5	2402.00	2390.00	2.00	0.00	-58.86	38.34	54.00	Pass
2DH5	2480.00	2483.50	2.00	0.00	-56.63	40.57	54.00	Pass
3DH5	2402.00	2390.00	2.00	0.00	-58.89	38.31	54.00	Pass
3DH5	2480.00	2483.50	2.00	0.00	-56.53	40.67	54.00	Pass

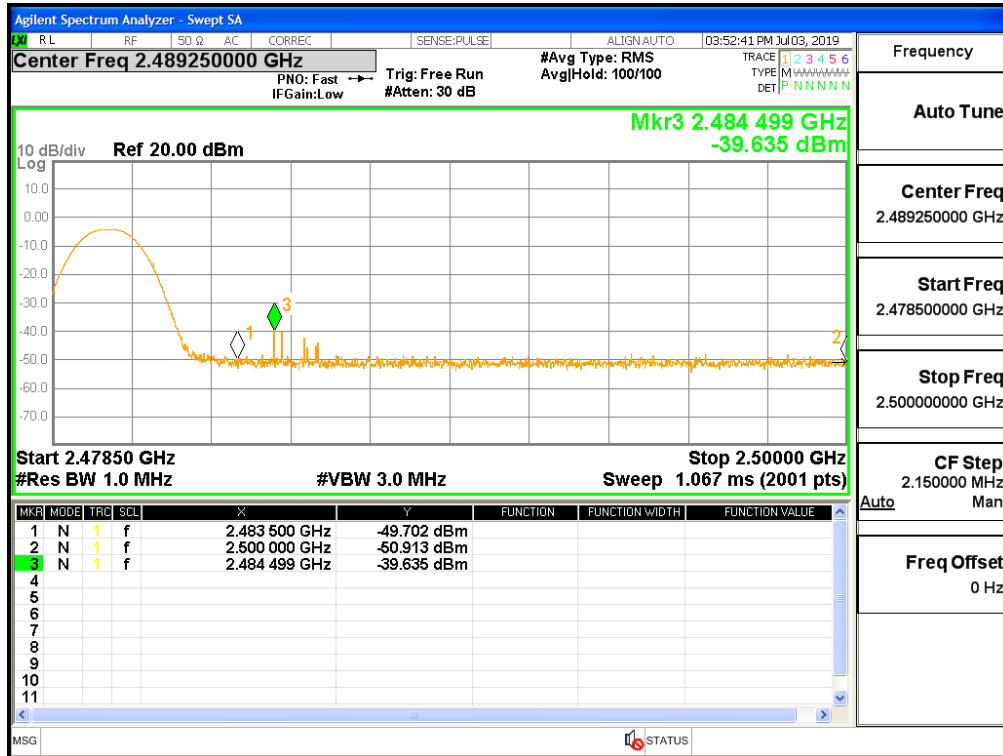
Restrict-band band-edge measurements_2402_PEAK_DH5



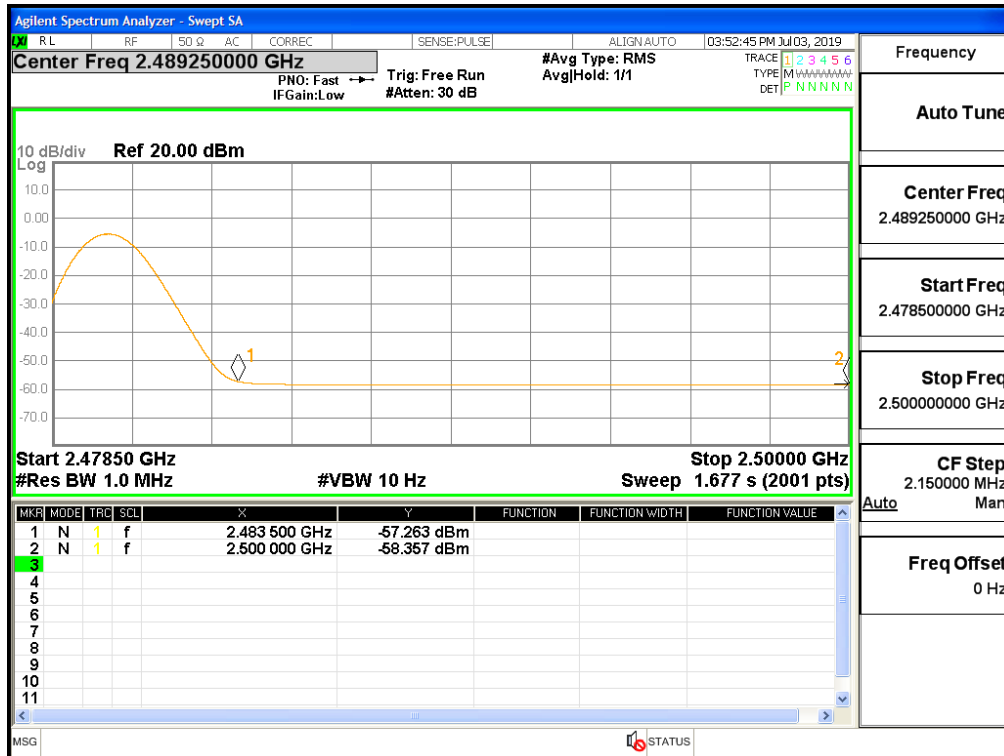
Restrict-band band-edge measurements_2402_AV_DH5



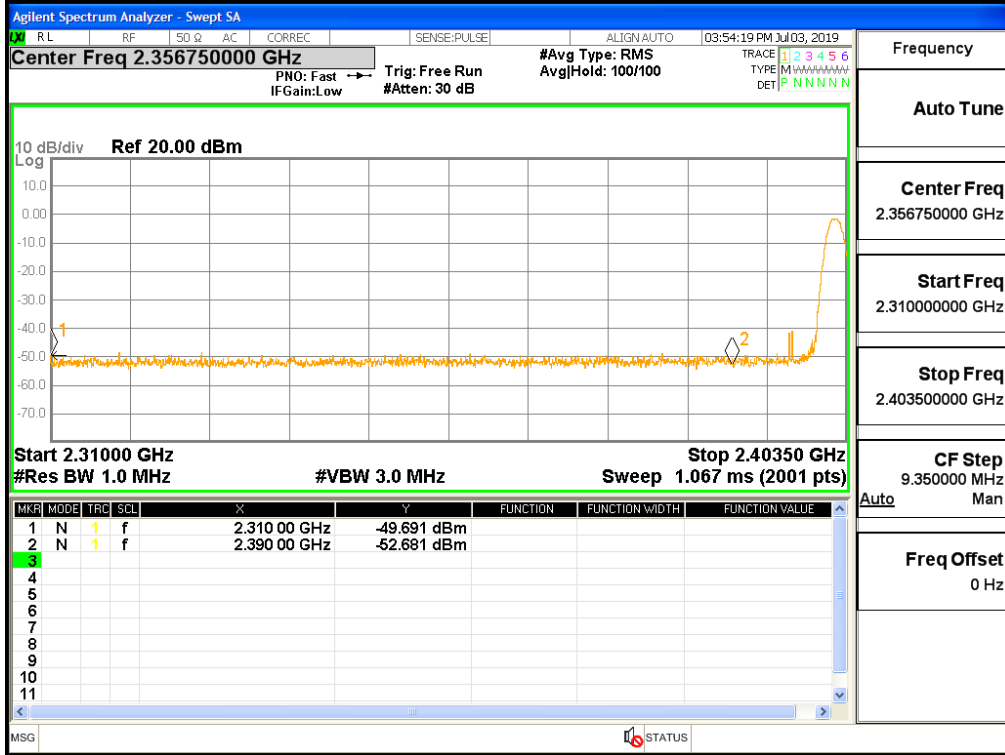
Restrict-band band-edge measurements_2480_PEAK_DH5



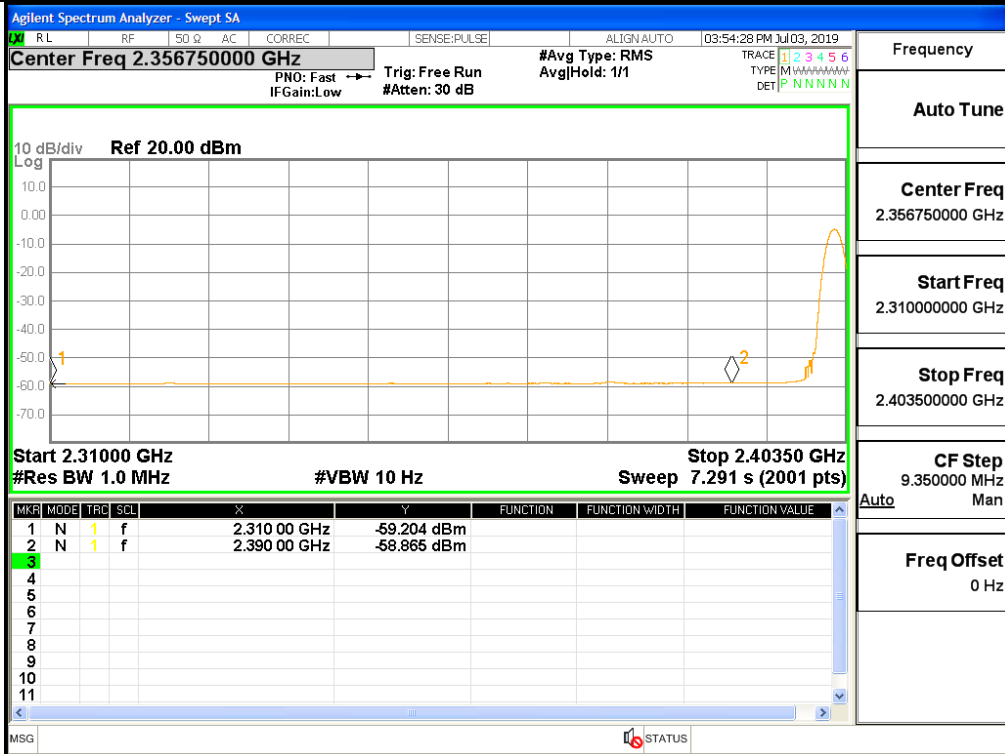
Restrict-band band-edge measurements_2480_AV_DH5



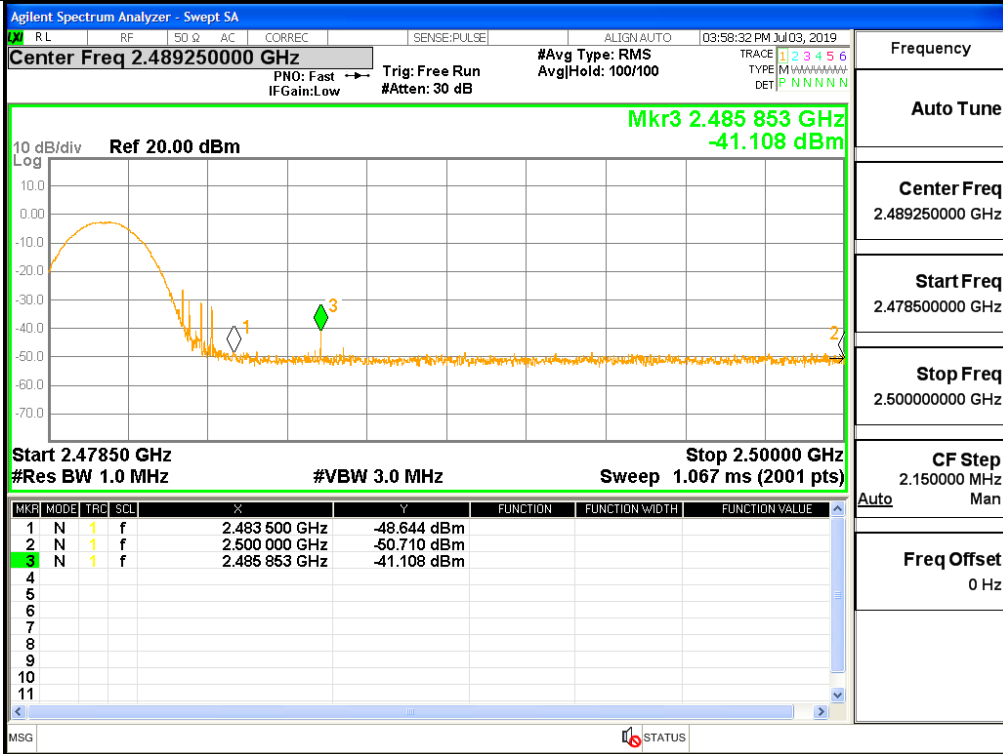
Restrict-band band-edge measurements_2402_PEAK_2DH5



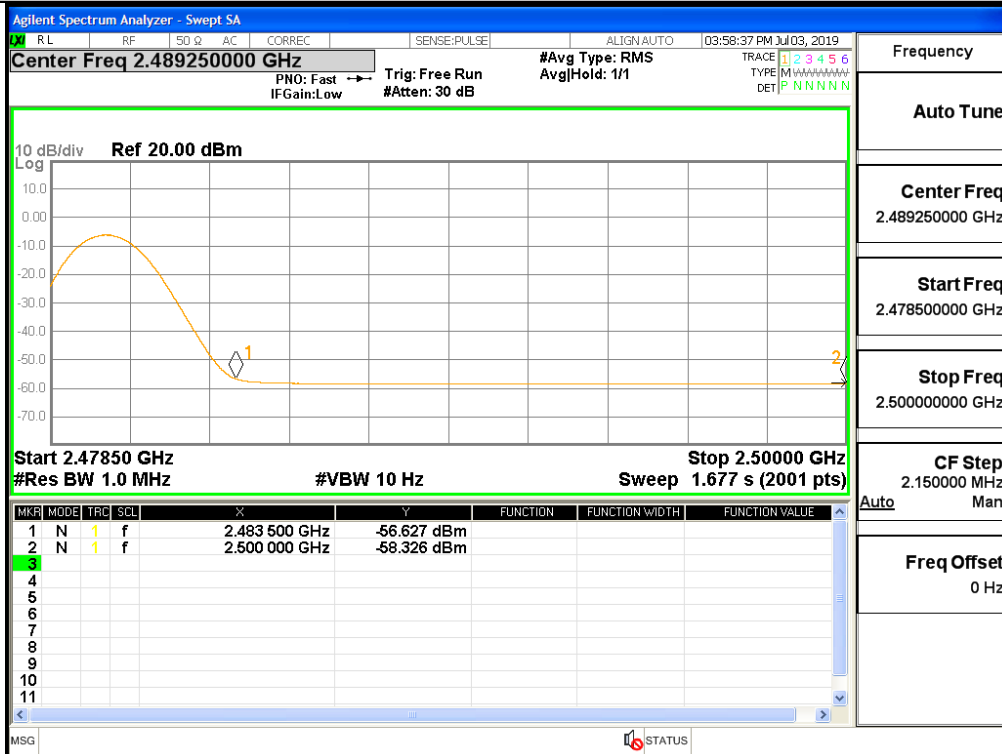
Restrict-band band-edge measurements_2402_AV_2DH5



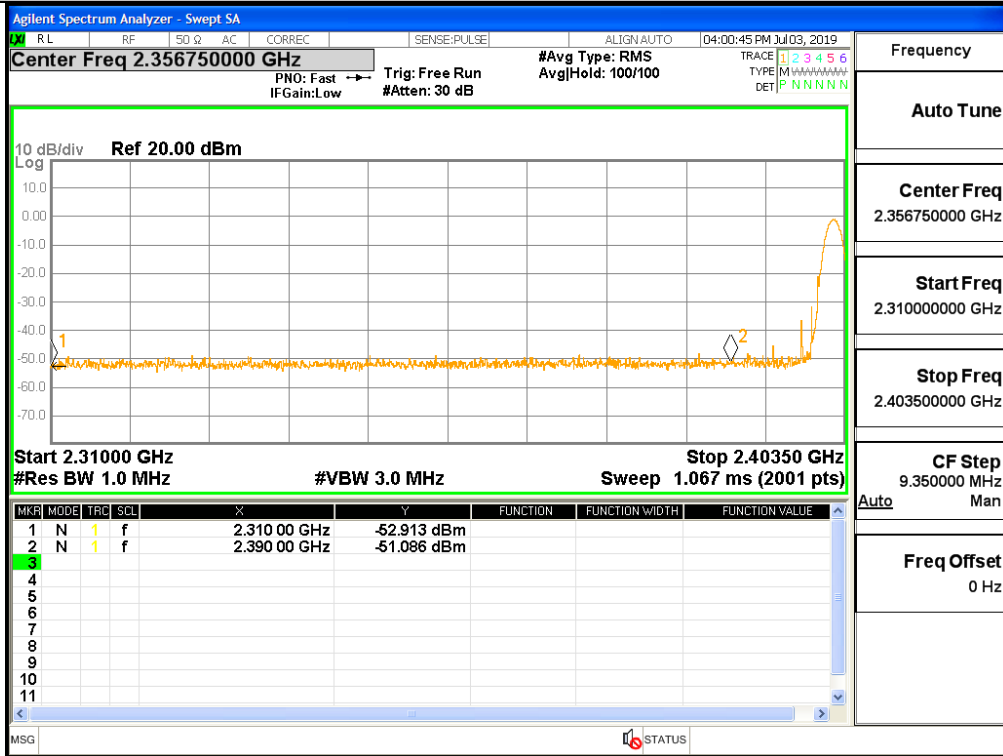
Restrict-band band-edge measurements_2480_PEAK_2DH5



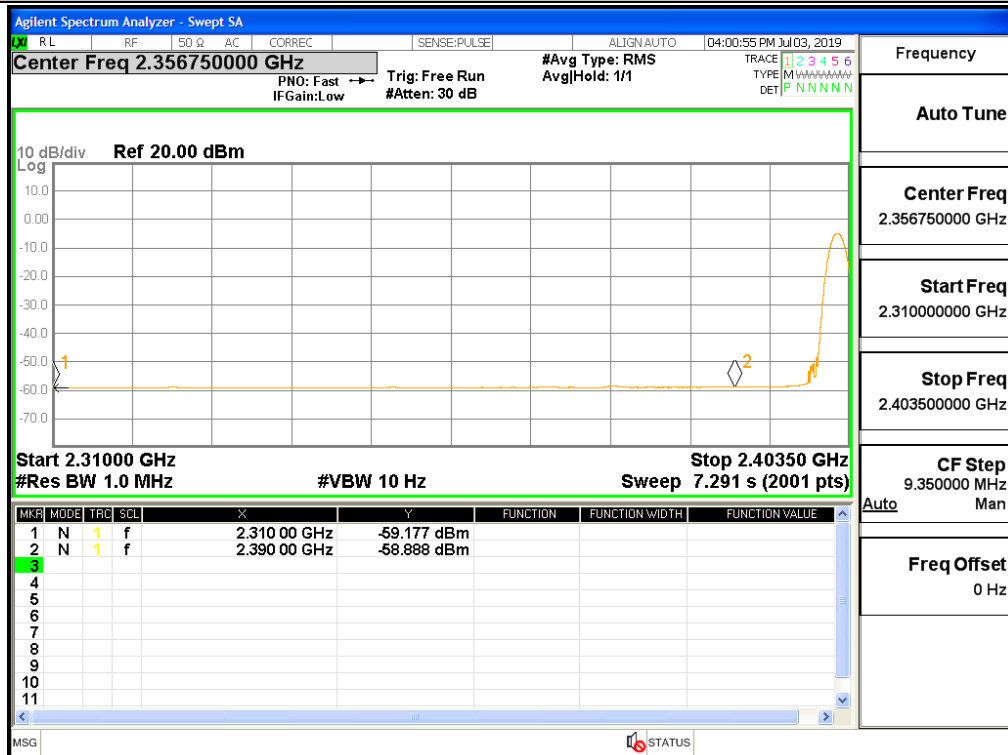
Restrict-band band-edge measurements_2480_AV_2DH5



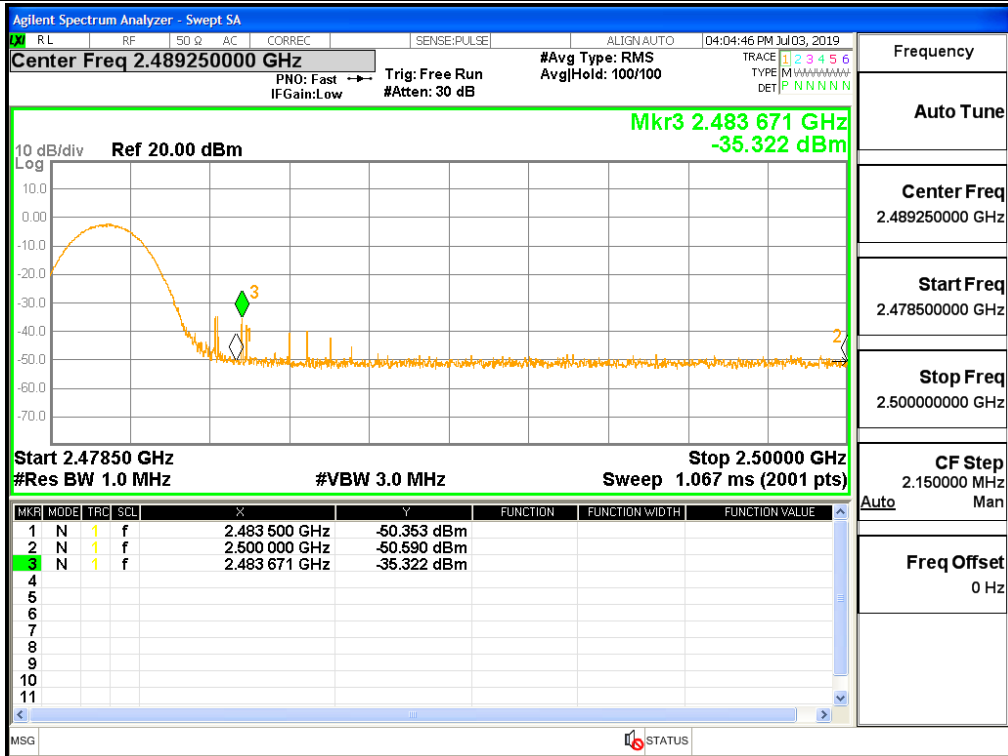
Restrict-band band-edge measurements_2402_PEAK_3DH5



Restrict-band band-edge measurements_2402_AV_3DH5



Restrict-band band-edge measurements_2480_PEAK_3DH5



Restrict-band band-edge measurements_2480_AV_3DH5

