

Appendix A

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

FCC ID:2A7DX-A200PRO

Product Name: Smart phone

Test Model: A200 Pro

Environmental Conditions

Temperature:	21℃
Relative Humidity:	53.5%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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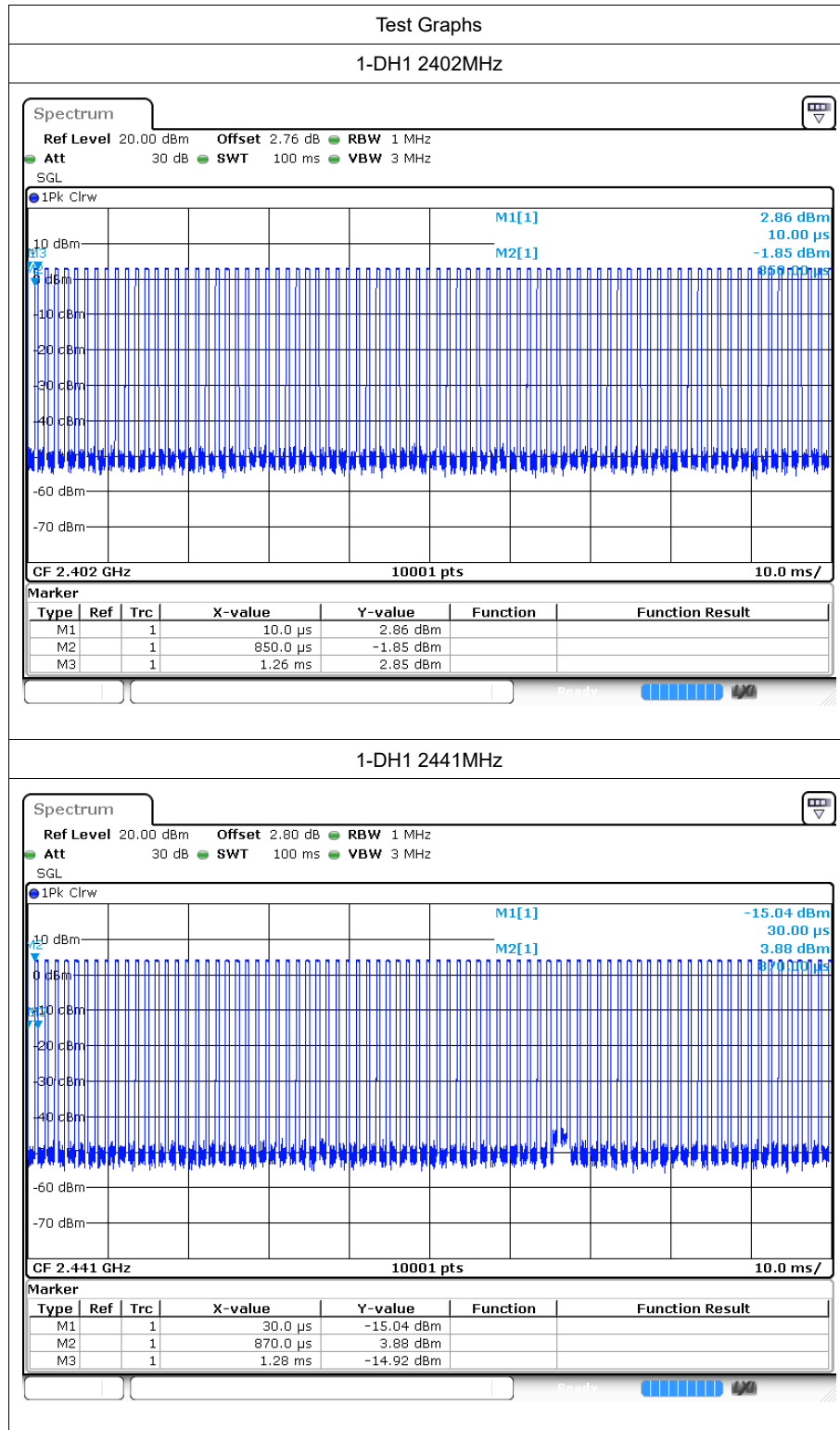
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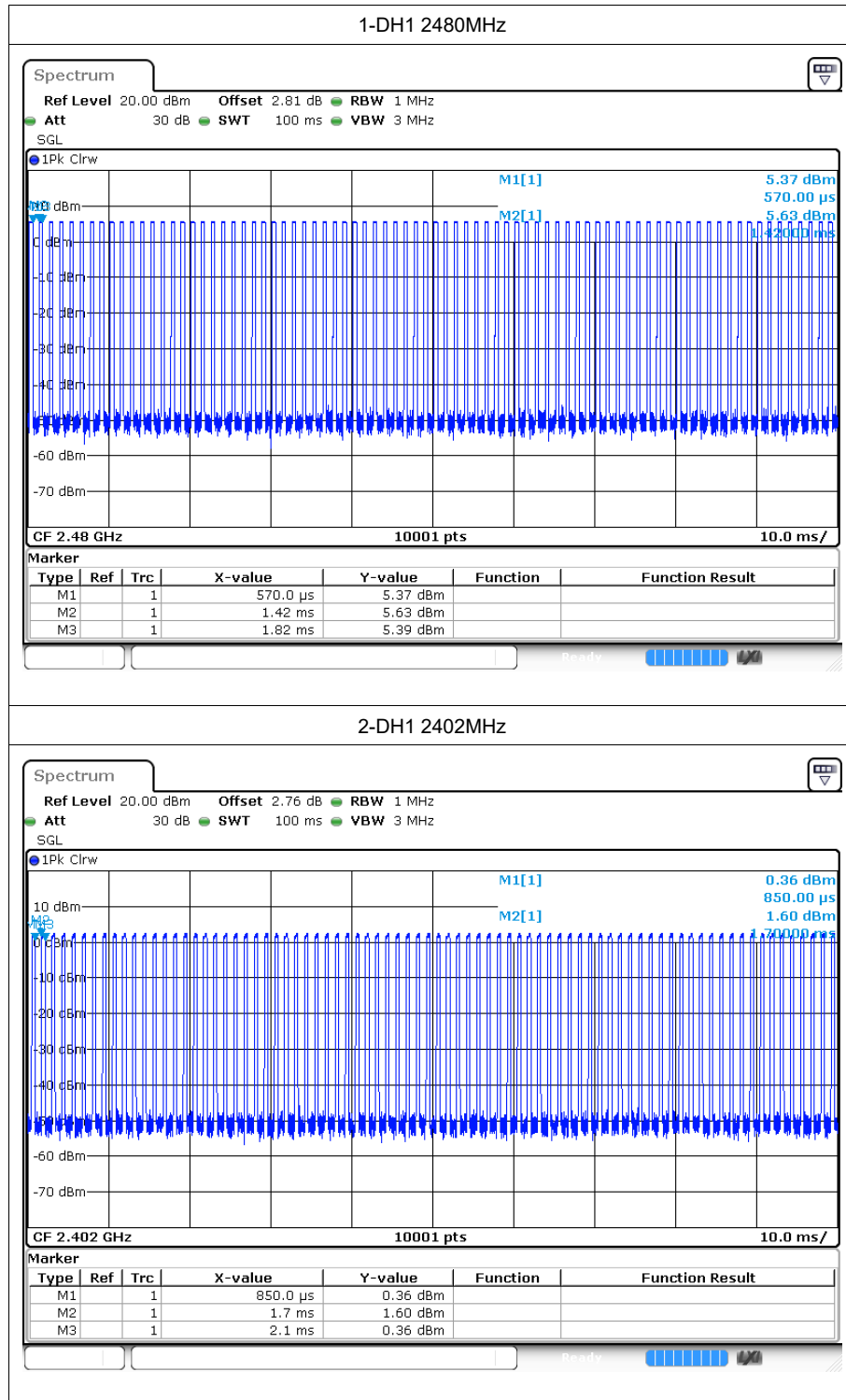
1 Duty Cycle

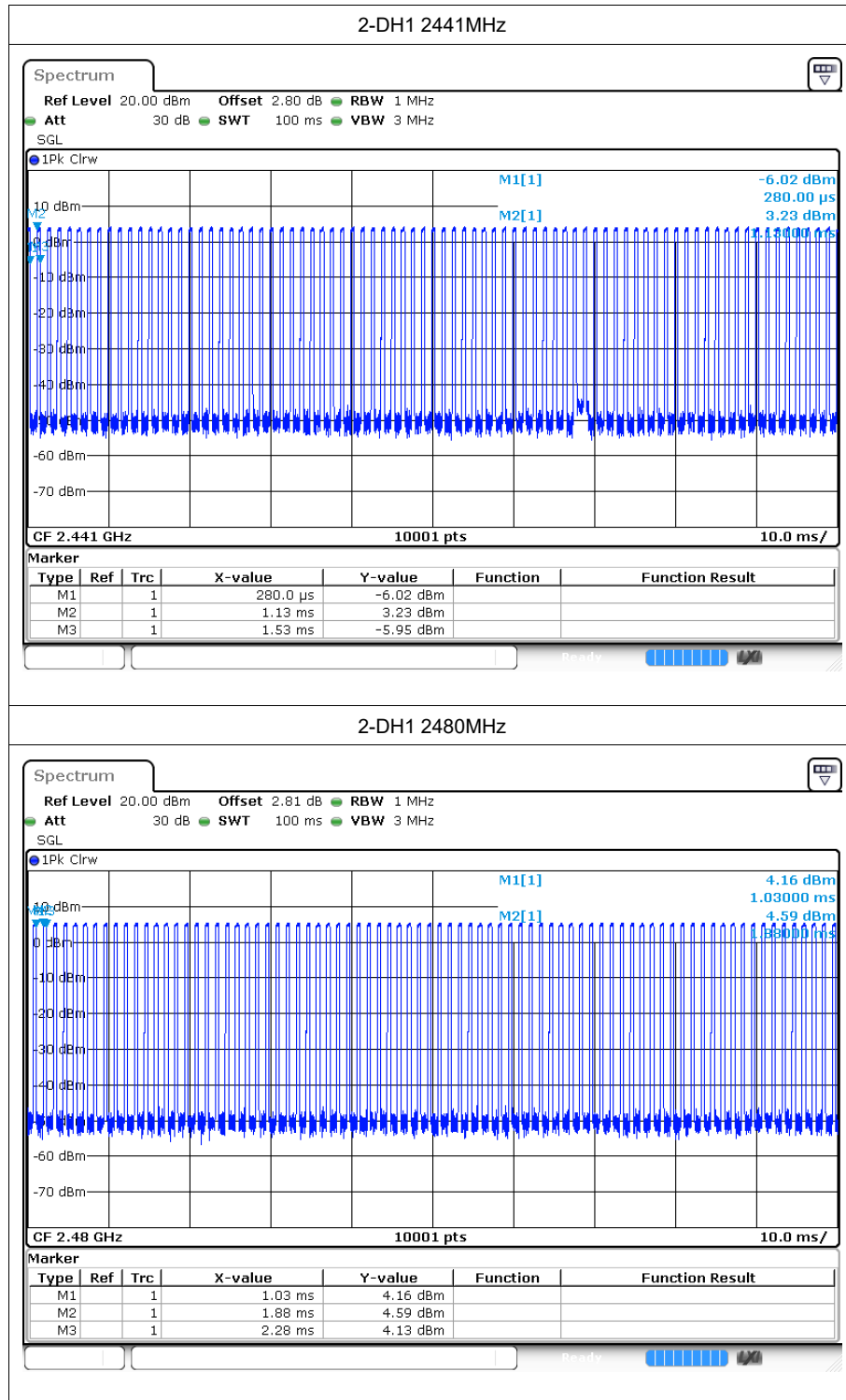
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	33.61	2.44
1-DH1	2441	33.61	2.44
1-DH1	2480	32.82	2.5
2-DH1	2402	32.8	2.5
2-DH1	2441	32.81	2.5
2-DH1	2480	32.83	2.5
3-DH1	2402	32.8	2.5
3-DH1	2441	32.01	2.56
3-DH1	2480	32.82	2.5

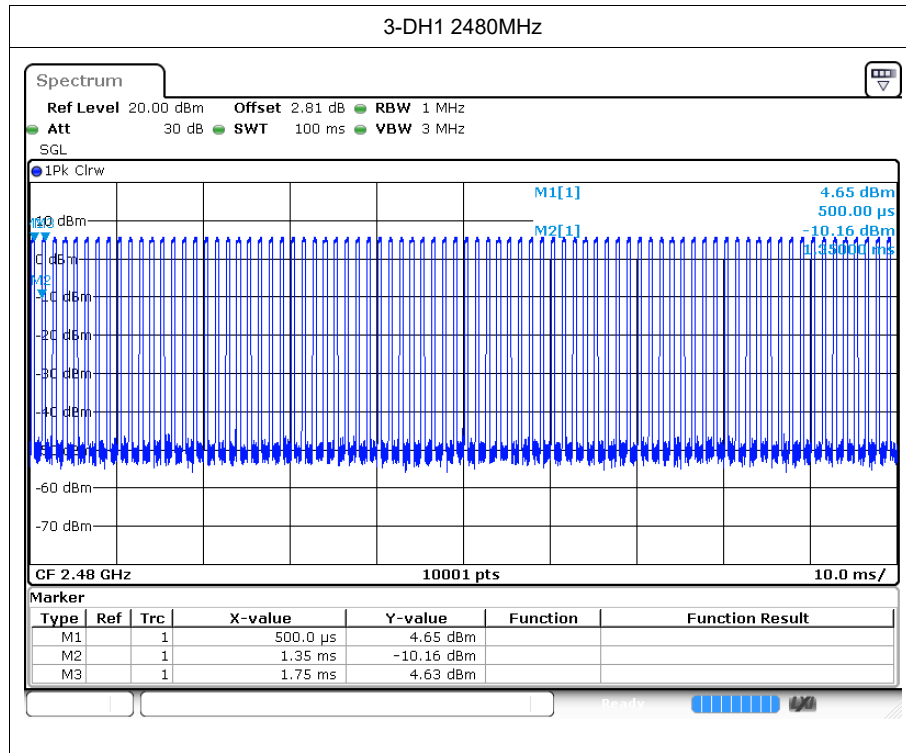
1.2 Test Graphs









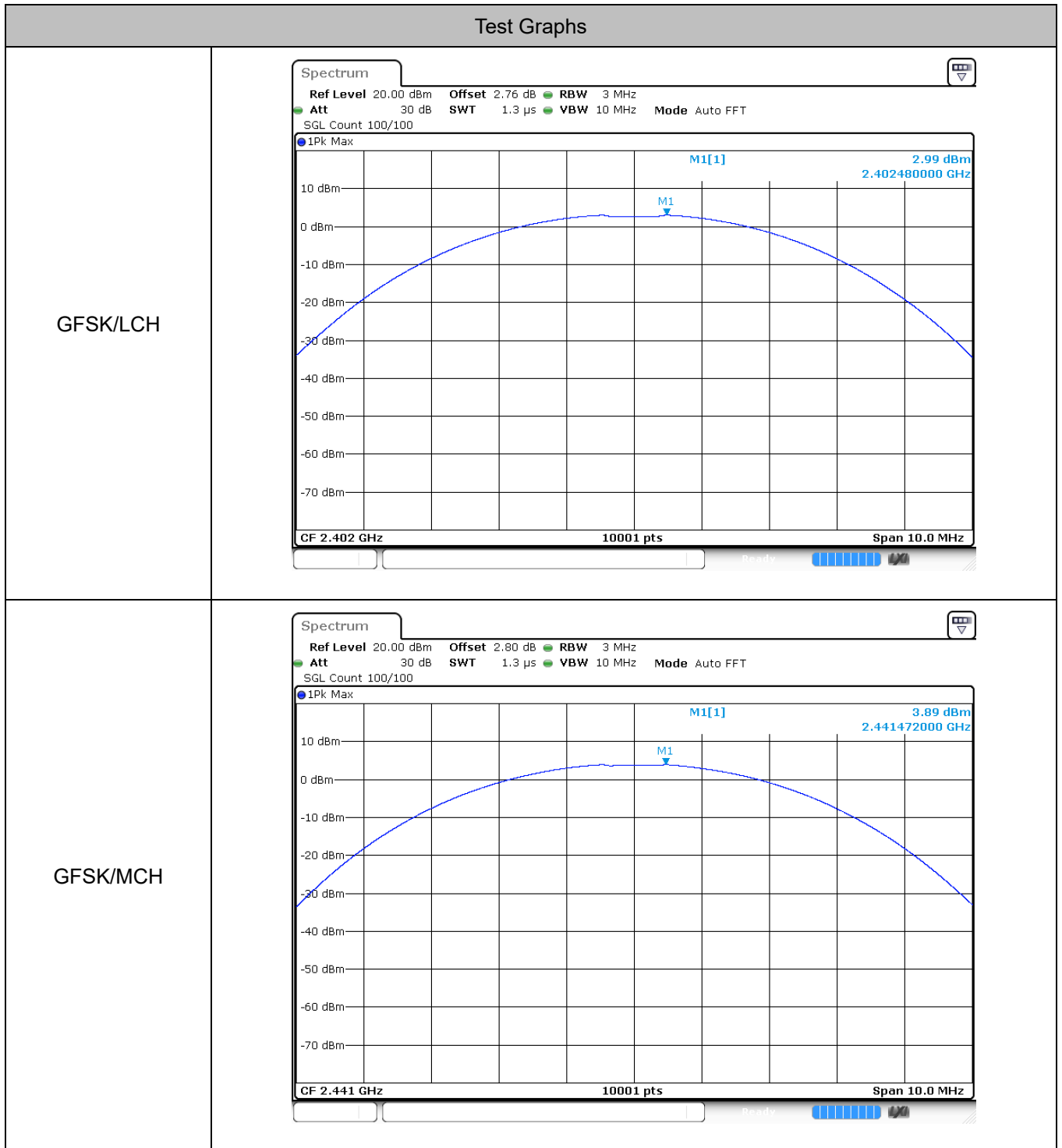


2 Maximum Conducted Peak Output Power

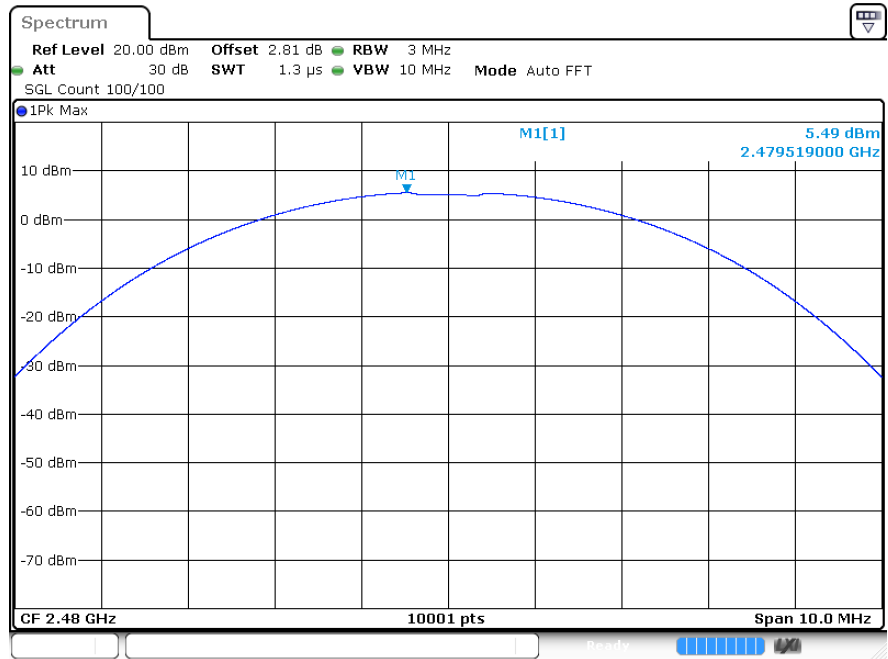
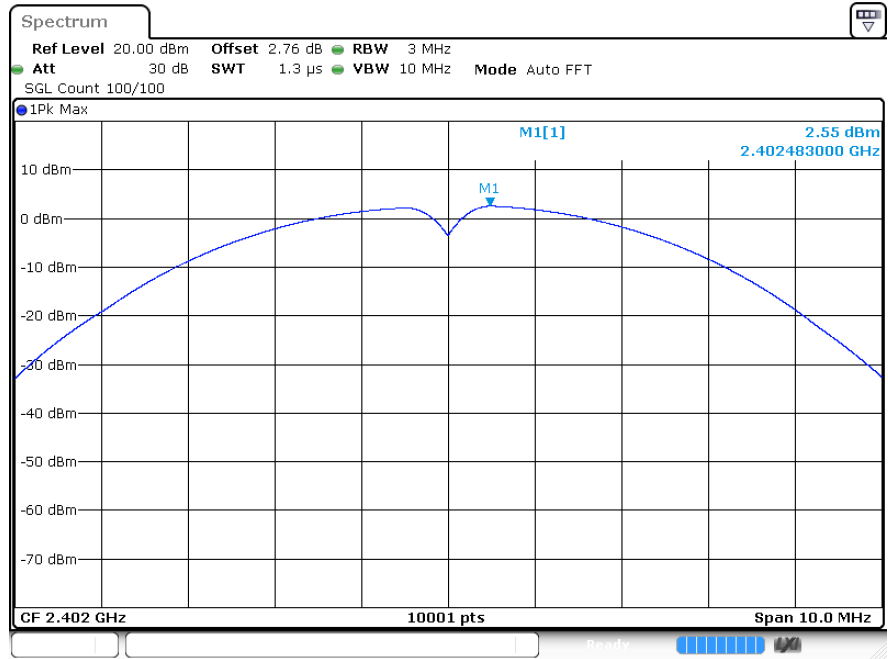
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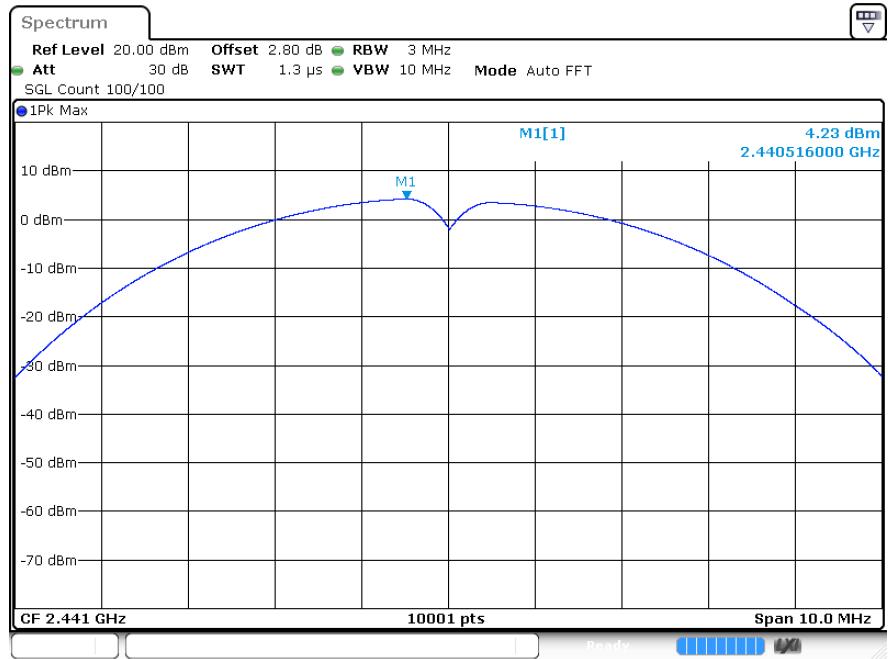
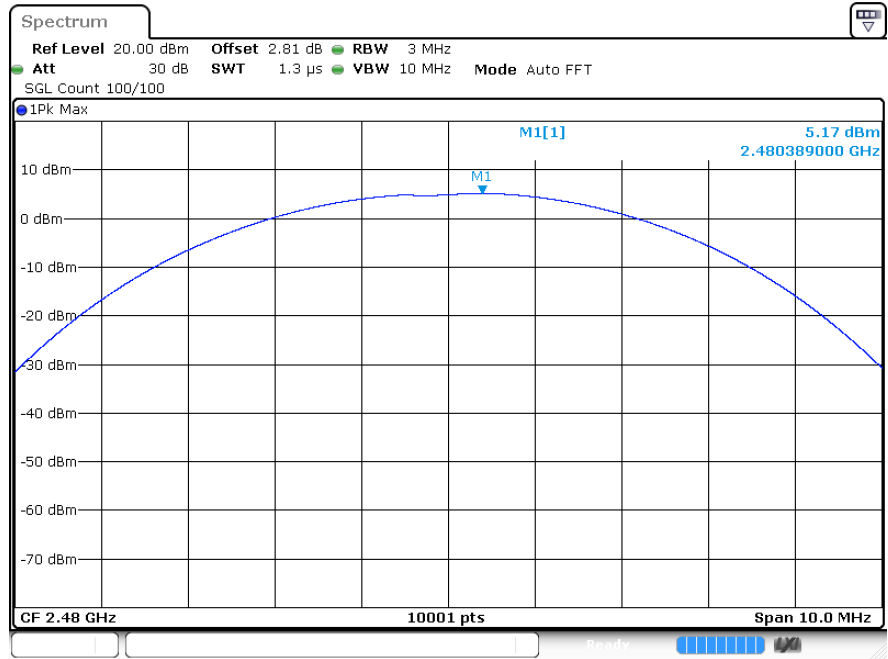
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2.99	21	Pass
	MCH	3.89	21	Pass
	HCH	5.49	21	Pass
$\pi/4$ DQPSK	LCH	2.55	21	Pass
	MCH	4.23	21	Pass
	HCH	5.17	21	Pass
8DPSK	LCH	2.65	21	Pass
	MCH	4.25	21	Pass
	HCH	5.34	21	Pass

2.2 Test Graphs

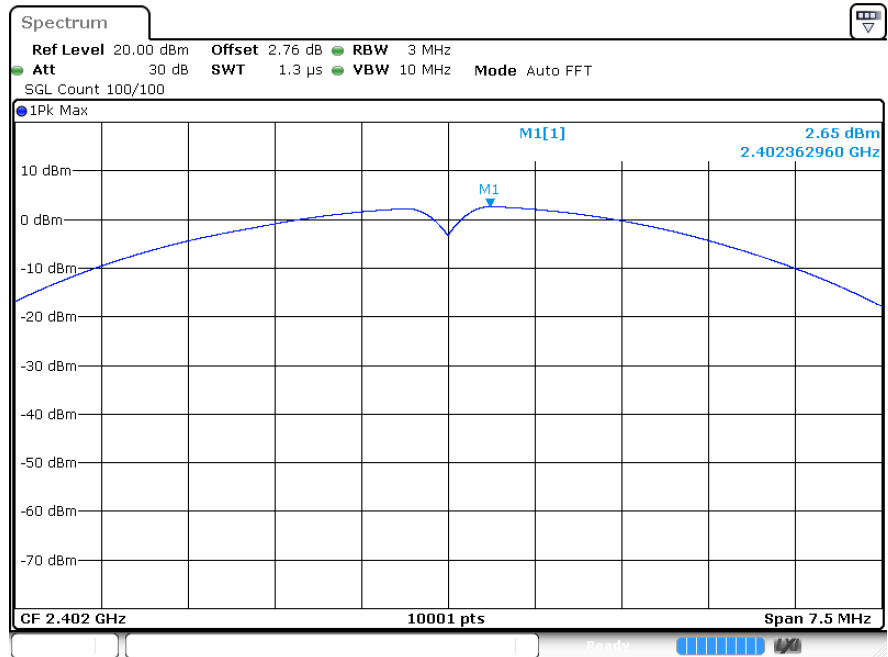


GFSK/HCH

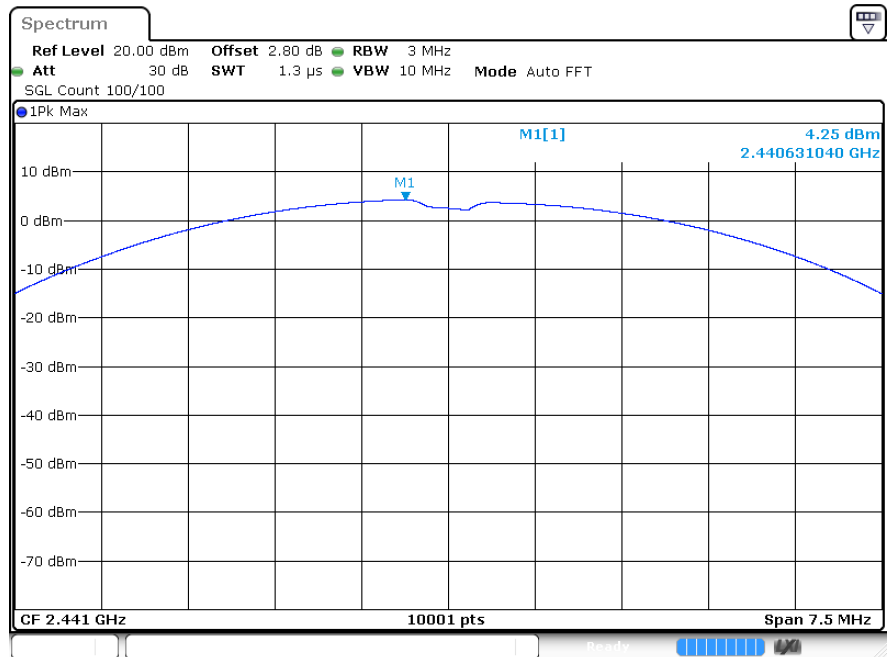

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


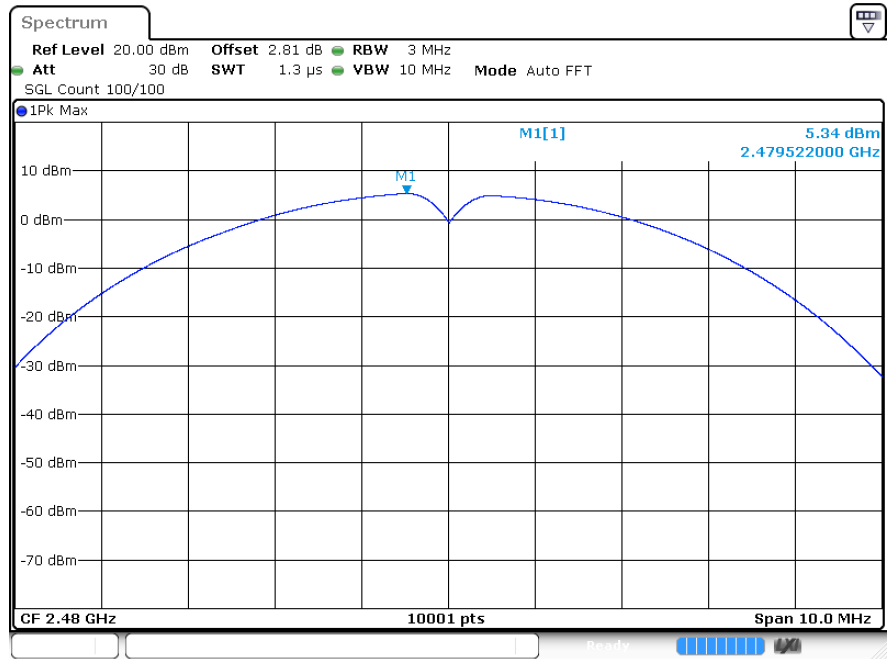
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

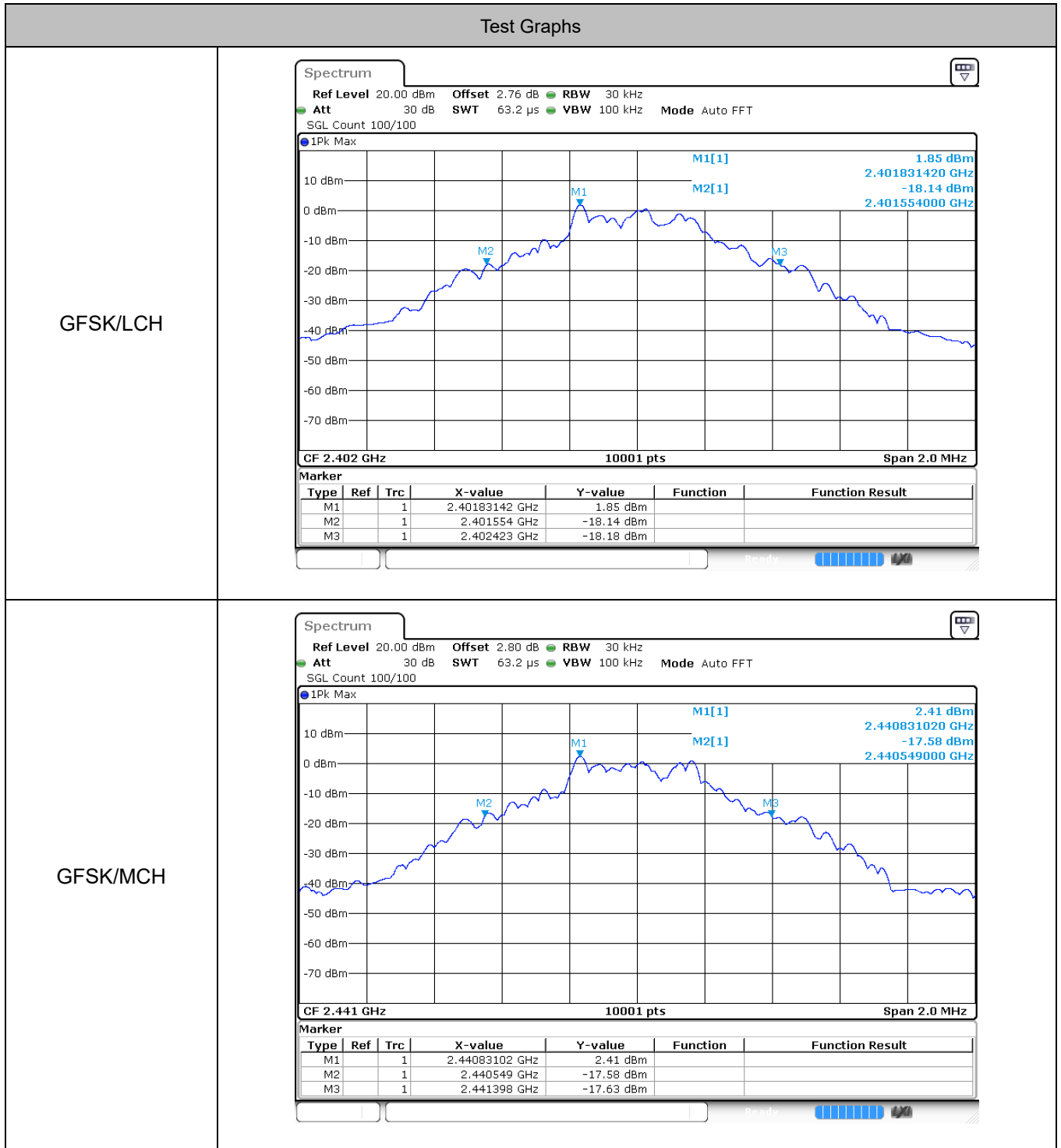


3 20dB Bandwidth

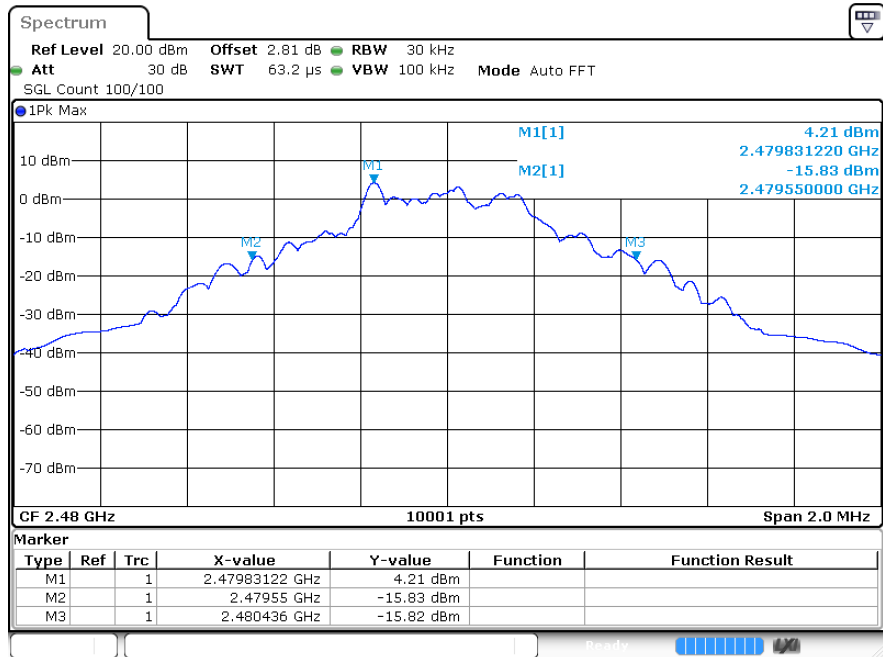
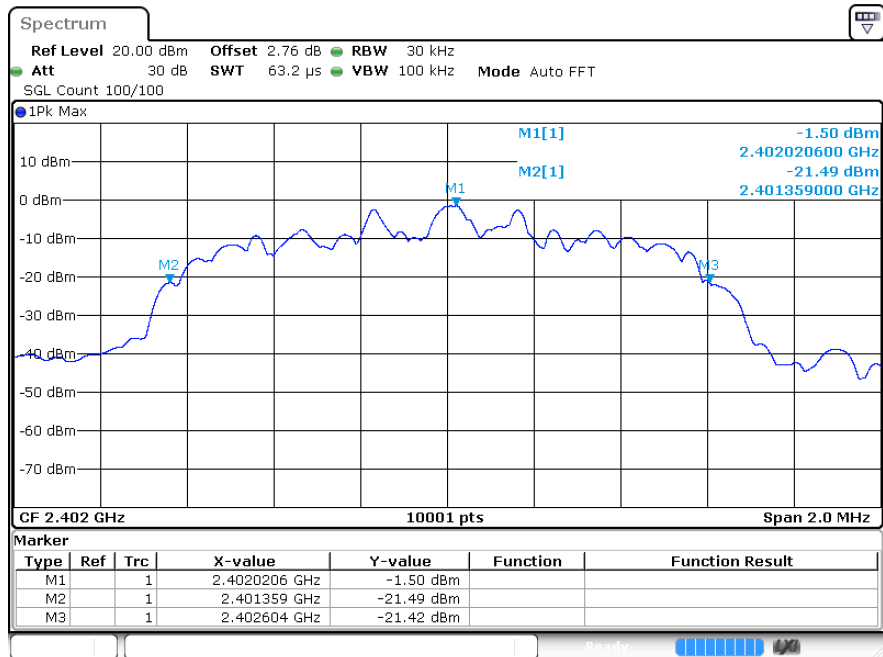
3.1 Test Result

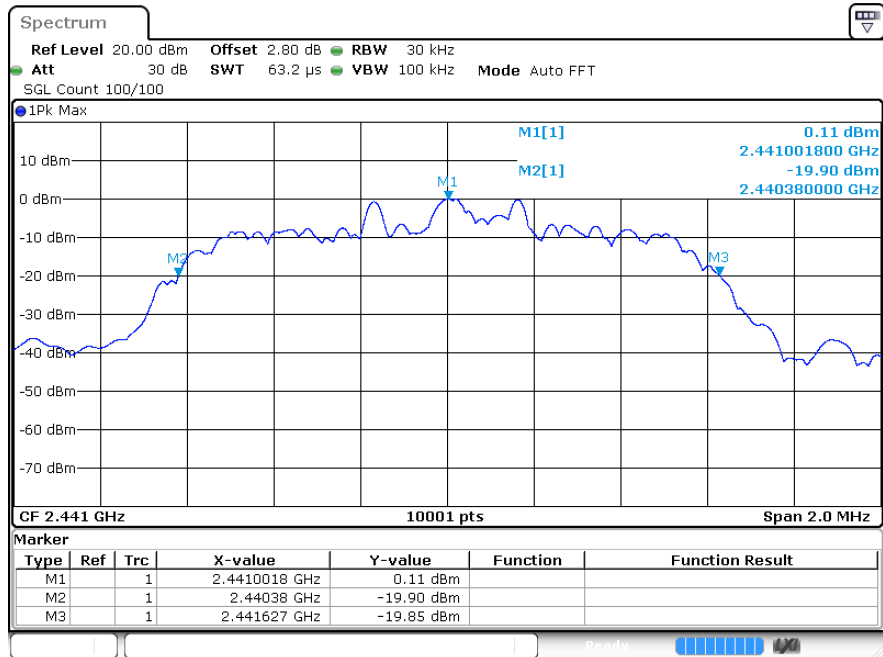
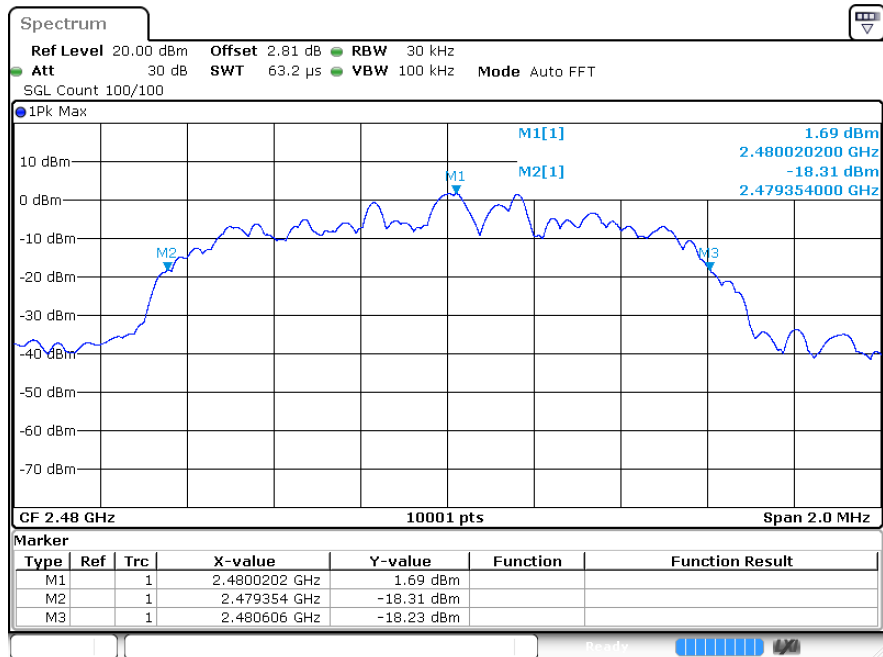
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.869	Not Specified	Pass
	MCH	0.849	Not Specified	Pass
	HCH	0.886	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.245	Not Specified	Pass
	MCH	1.247	Not Specified	Pass
	HCH	1.252	Not Specified	Pass
8DPSK	LCH	1.261	Not Specified	Pass
	MCH	1.24	Not Specified	Pass
	HCH	1.246	Not Specified	Pass

3.2 Test Graphs

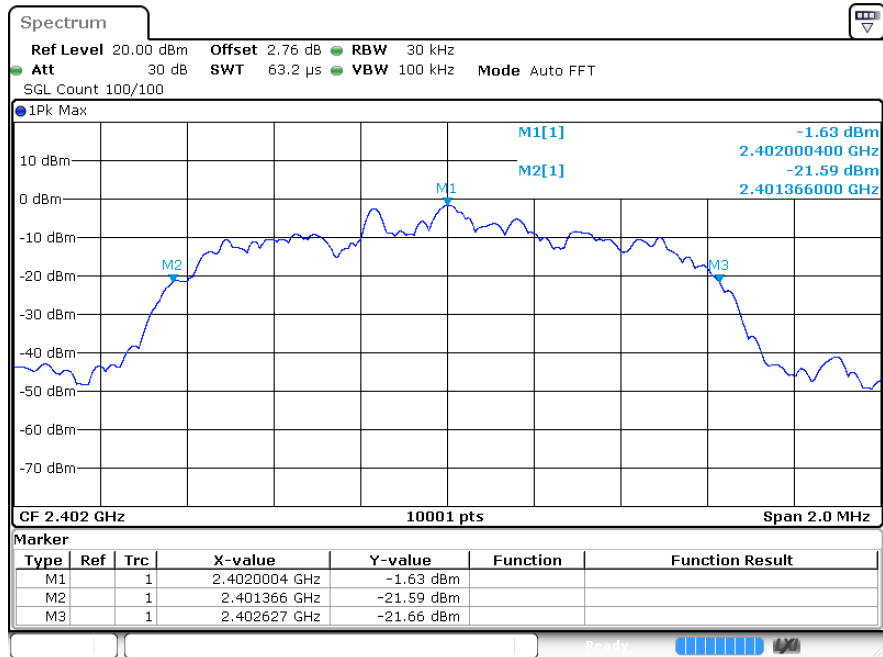


GFSK/HCH

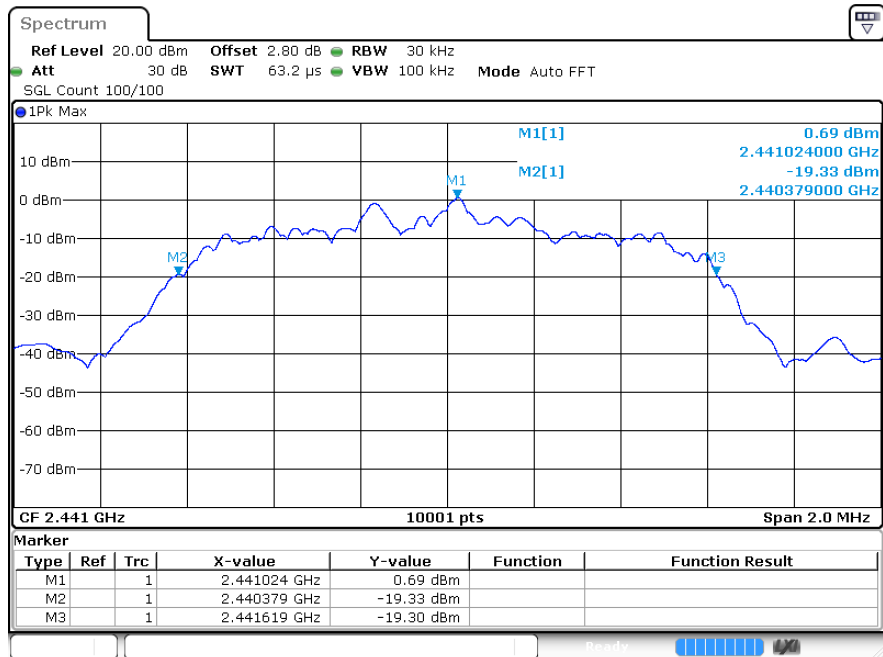

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


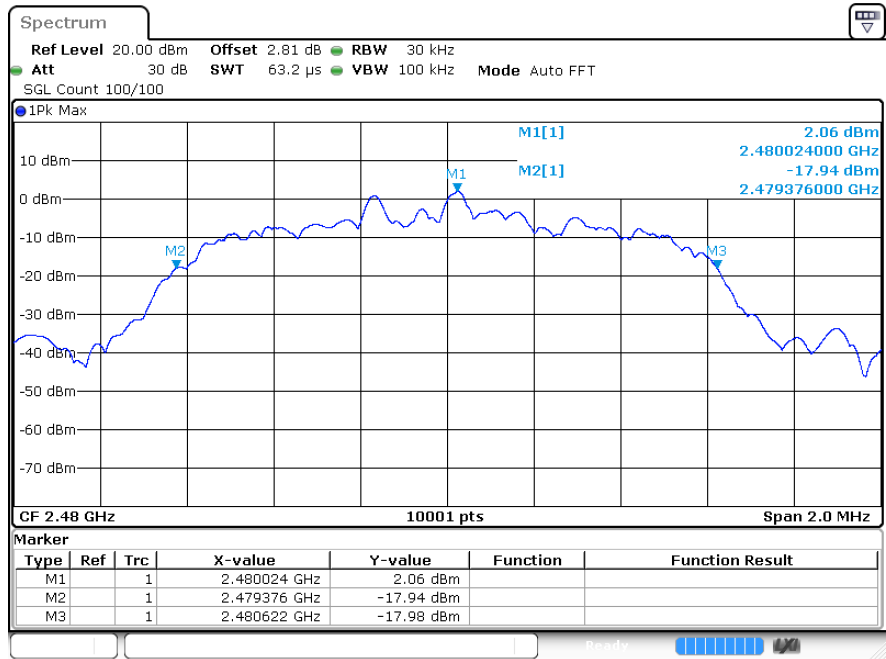
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

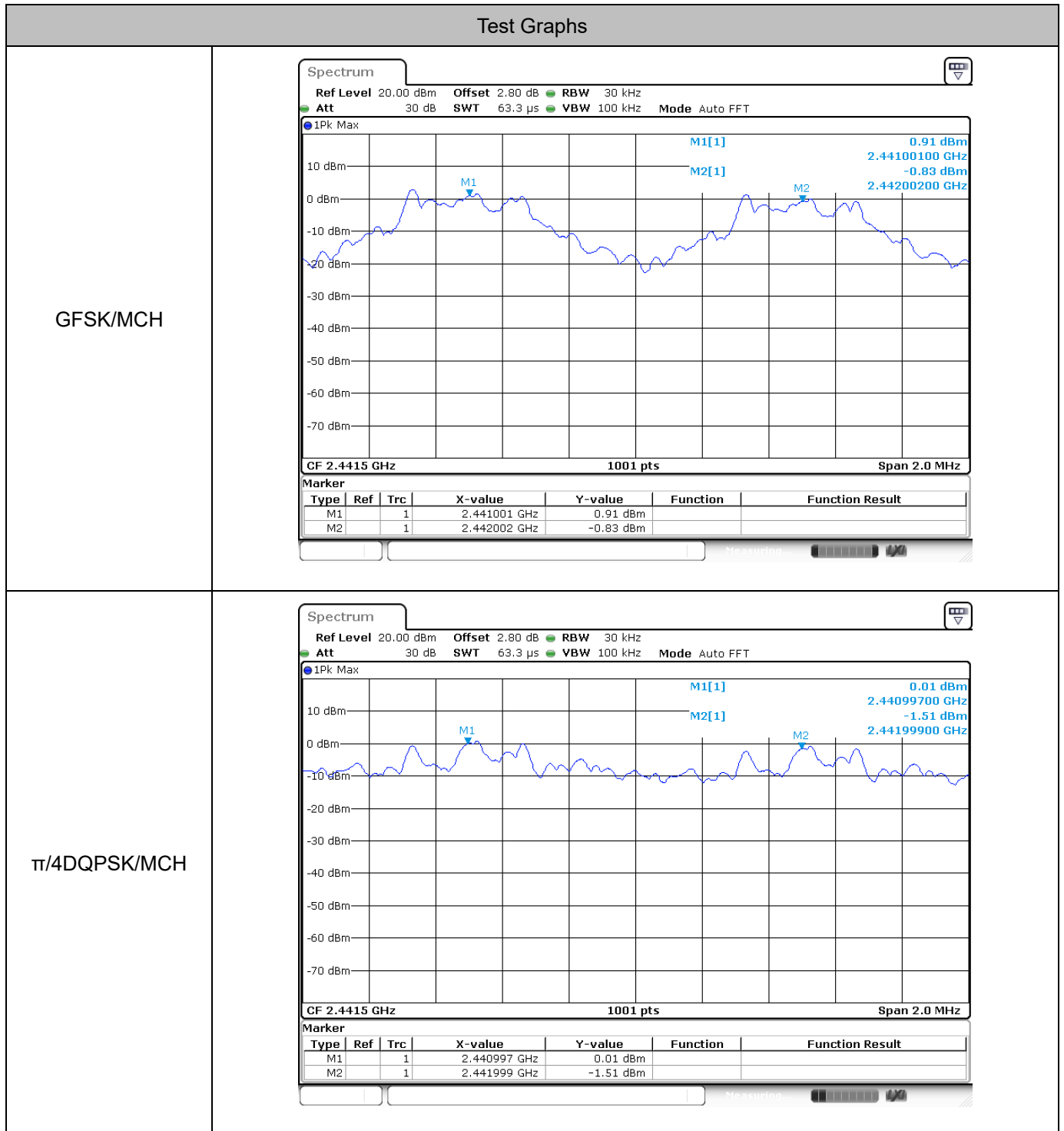


4 Carrier Frequency Separation

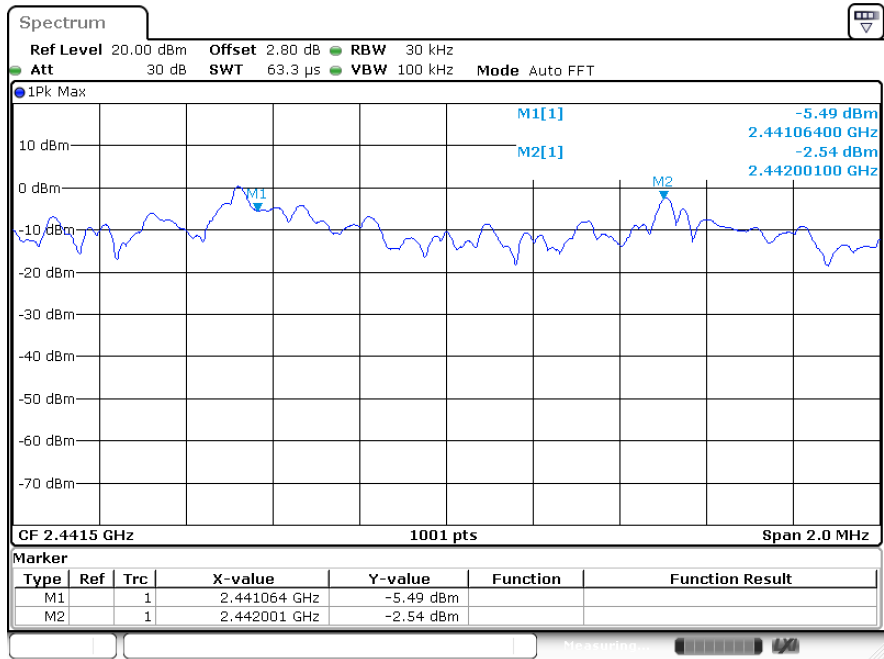
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.001	0.566	Pass
$\pi/4$ DQPSK	MCH	1.002	0.831	Pass
8DPSK	MCH	0.937	0.827	Pass

4.2 Test Graphs



8DPSK/MCH

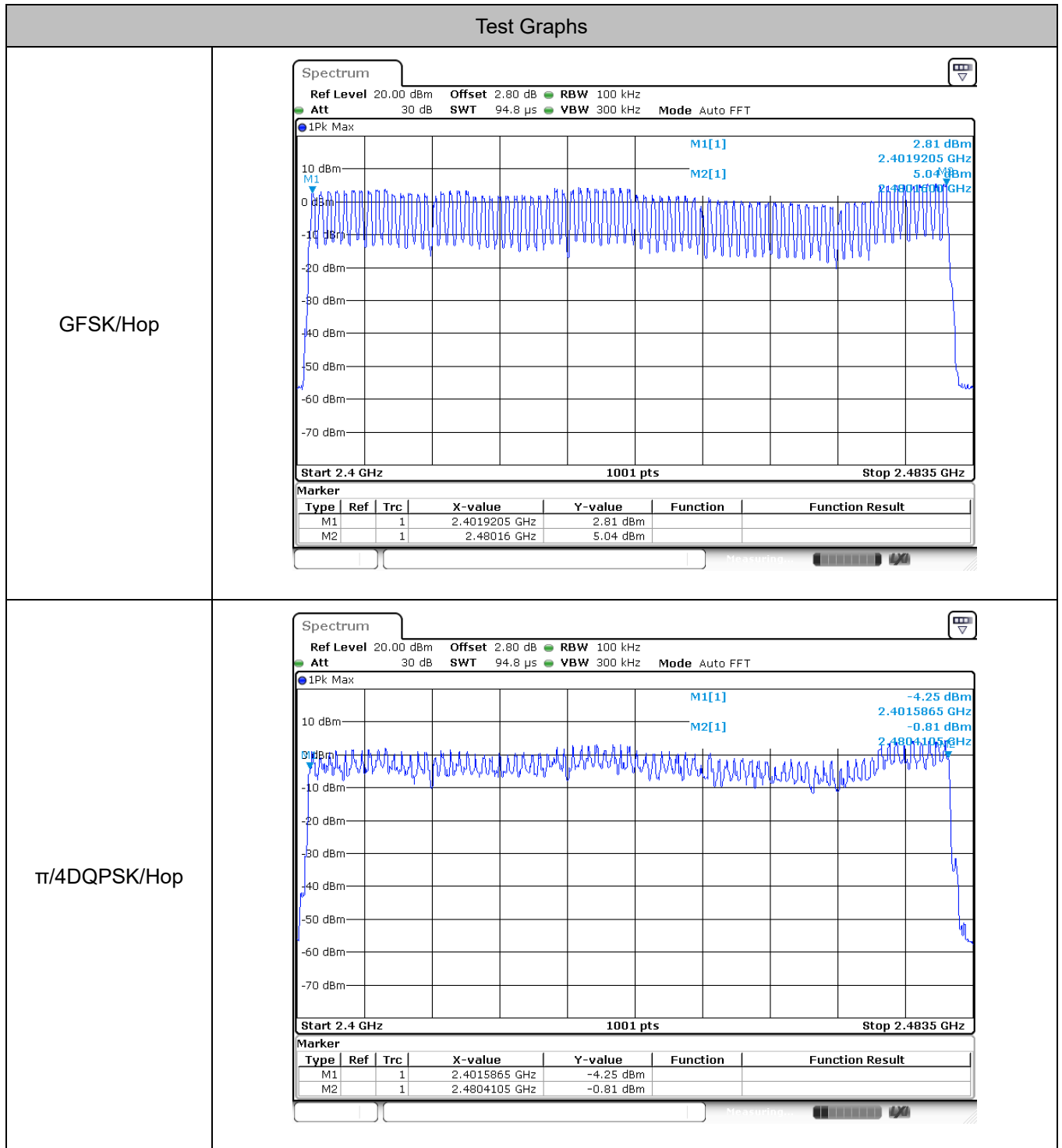


5 Hopping Channel Number

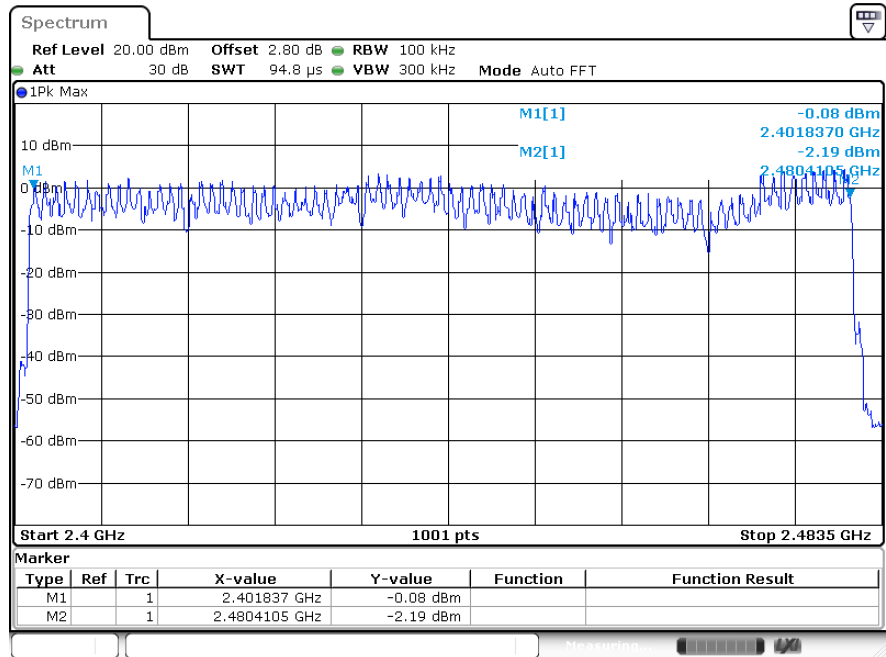
5.1 Test Result

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

5.2 Test Graphs



8DPSK/Hop

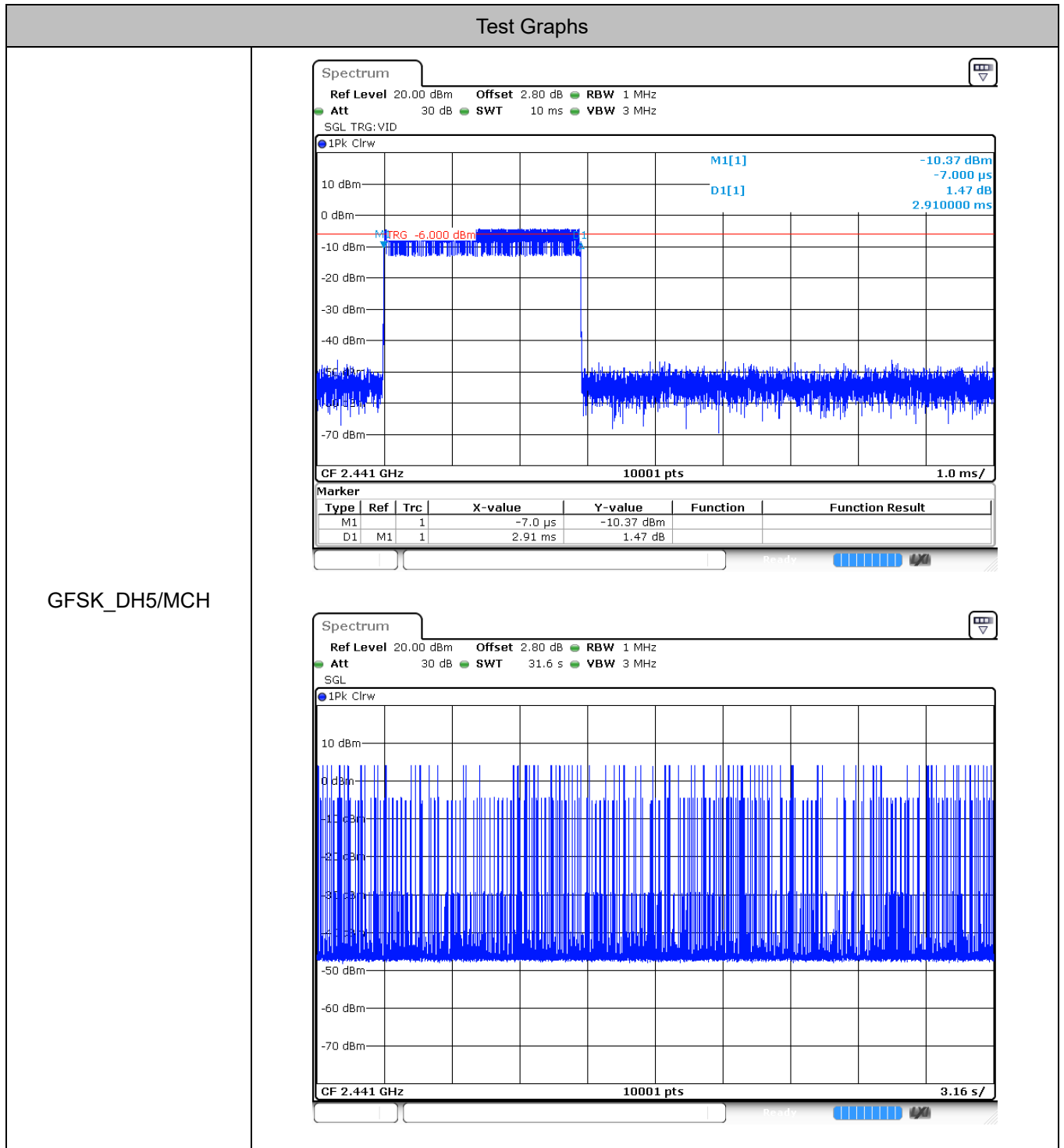


6 Dwell Time

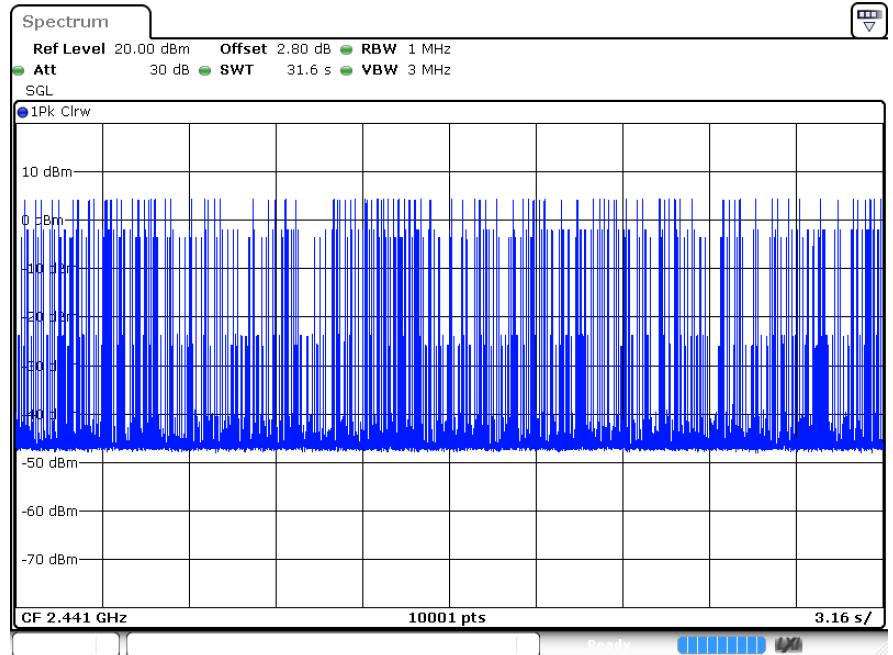
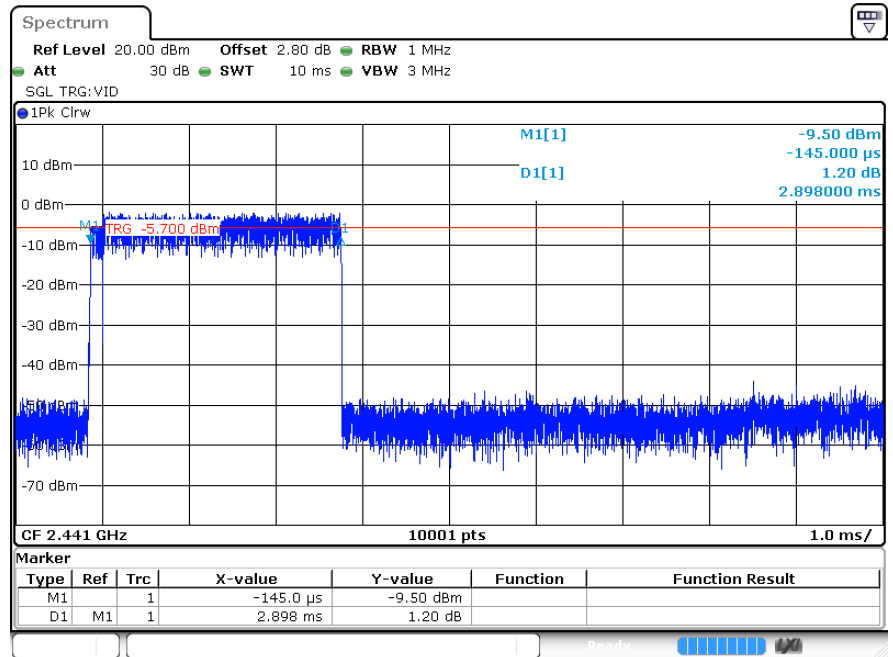
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.91	107	311.37	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.898	114	330.372	0.4	Pass
8DPSK	3DH5	MCH	2.898	116	336.168	0.4	Pass

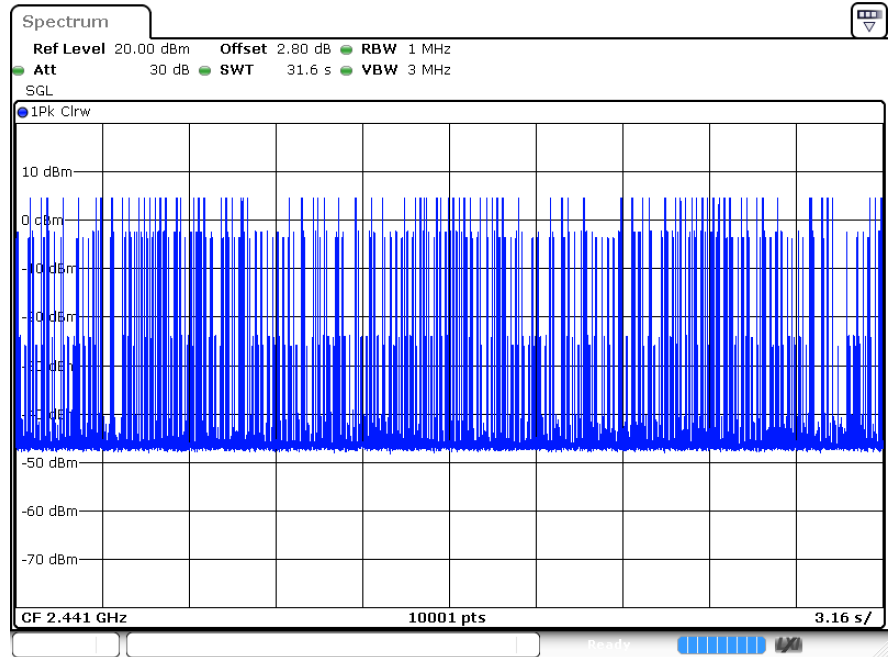
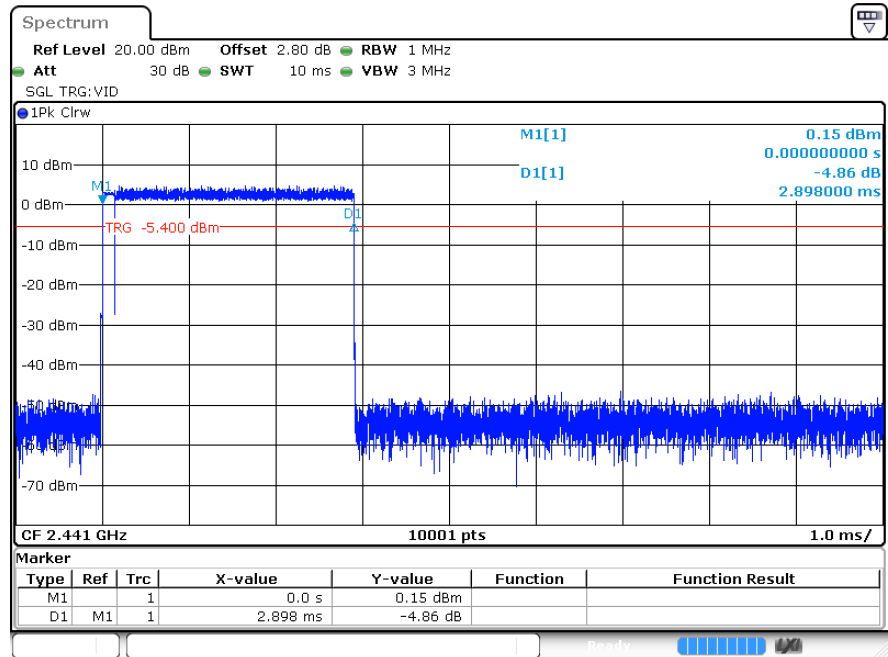
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

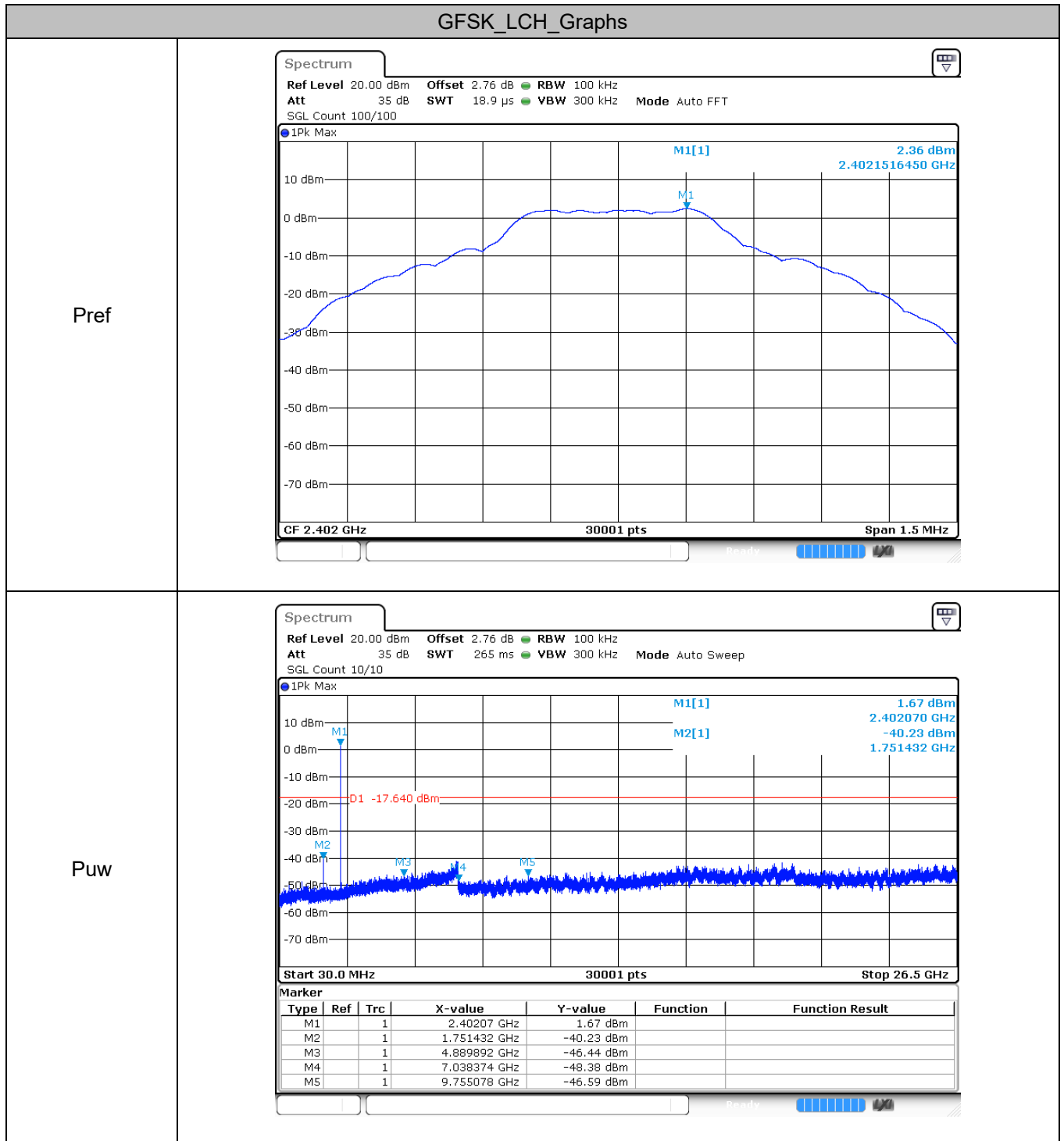


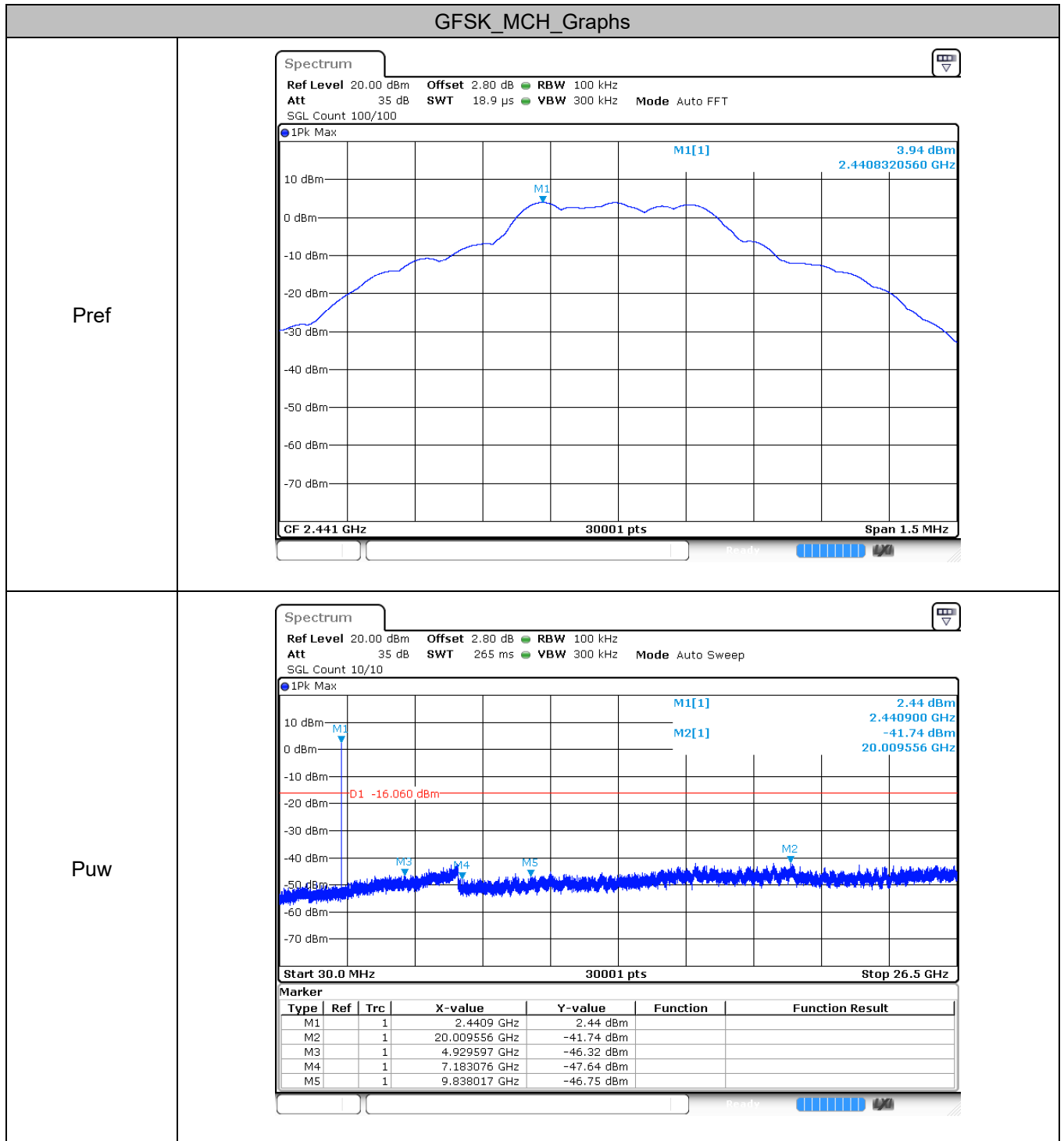
7 RF Conducted Spurious Emissions

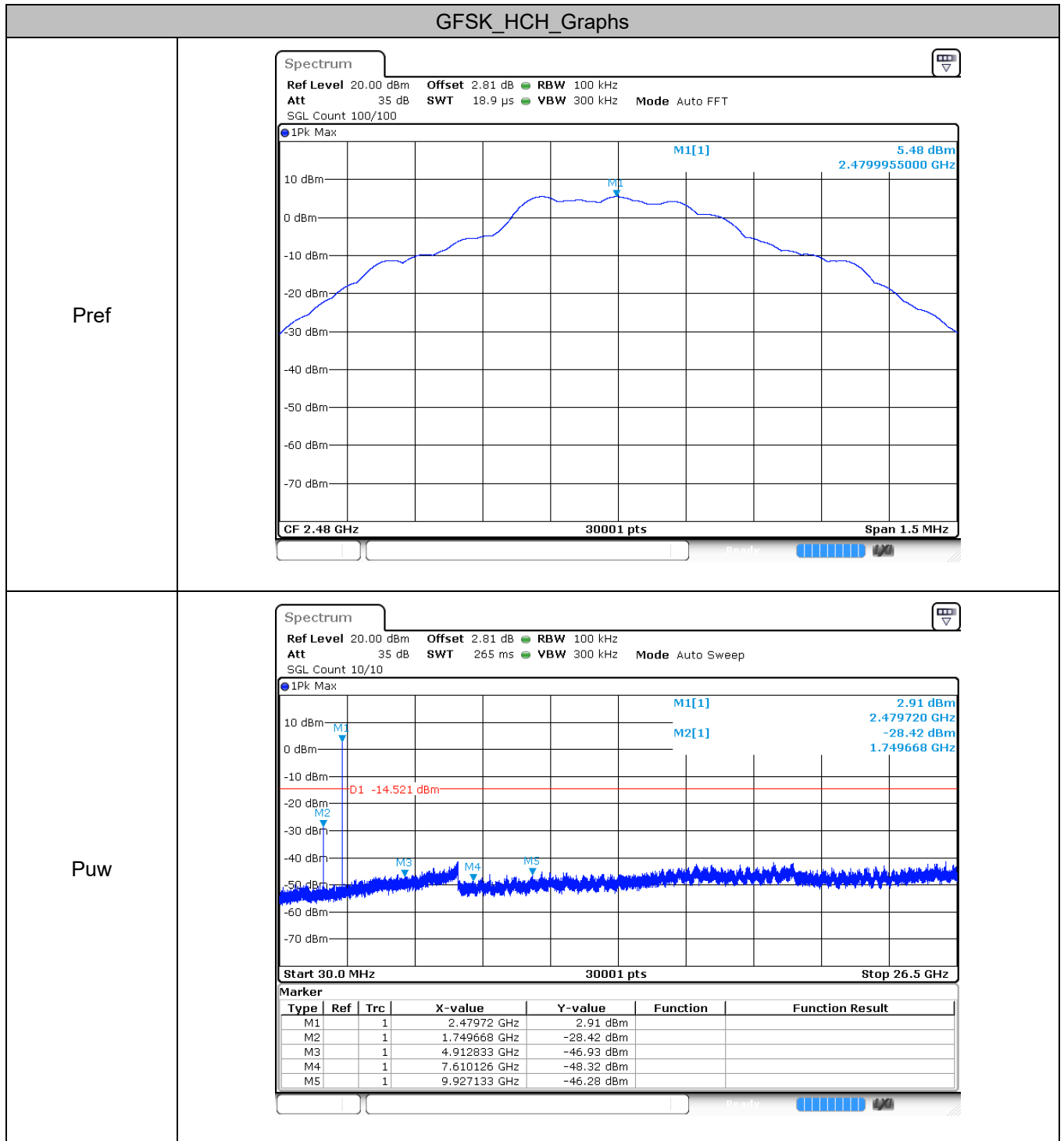
7.1 Test Result

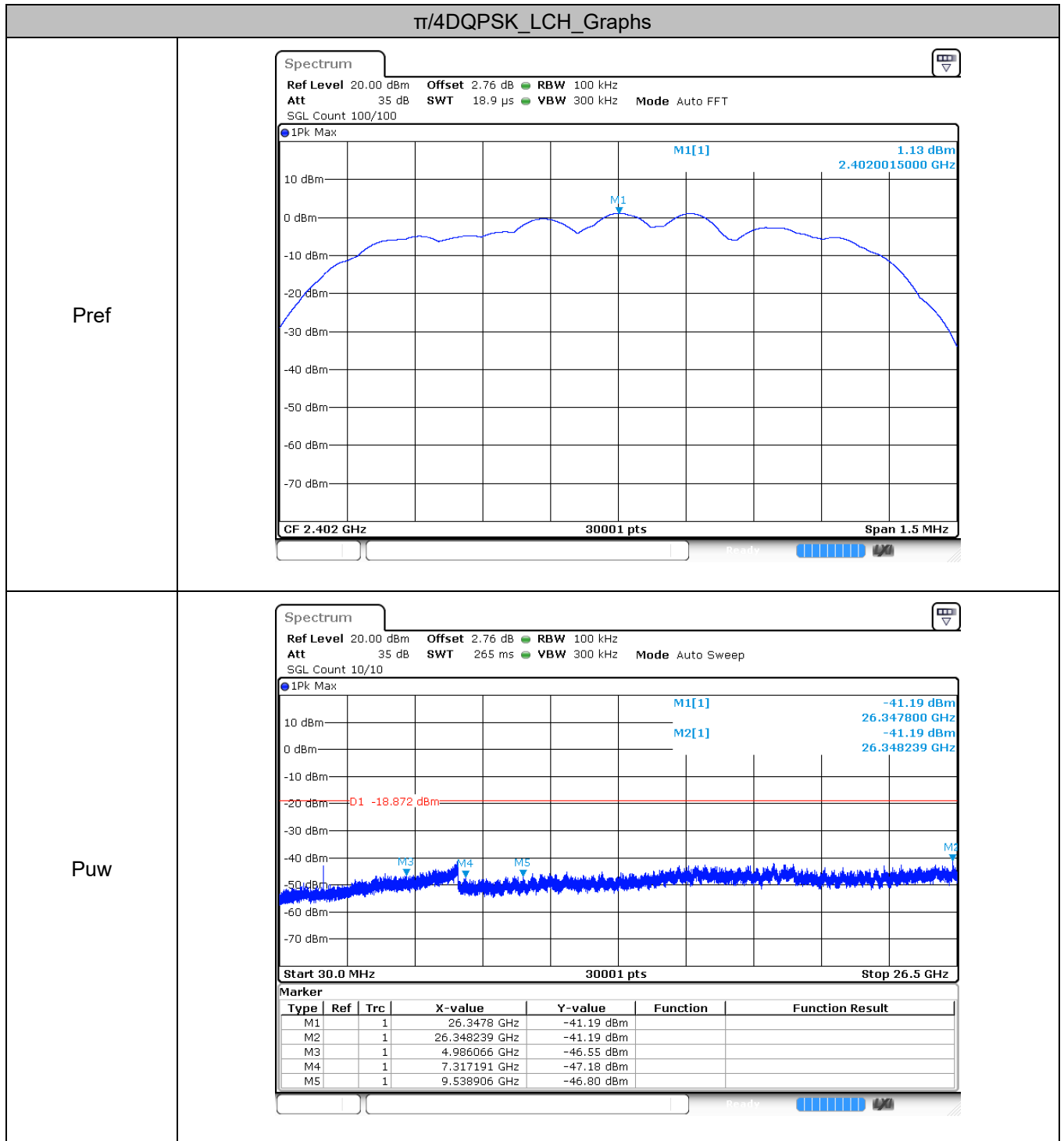
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-42.59	-20	Pass
	MCH	-45.68	-20	Pass
	HCH	-33.9	-20	Pass
$\pi/4$ DQPSK	LCH	-42.31	-20	Pass
	MCH	-37	-20	Pass
	HCH	-40.09	-20	Pass
8DPSK	LCH	-35.71	-20	Pass
	MCH	-44.47	-20	Pass
	HCH	-46.16	-20	Pass

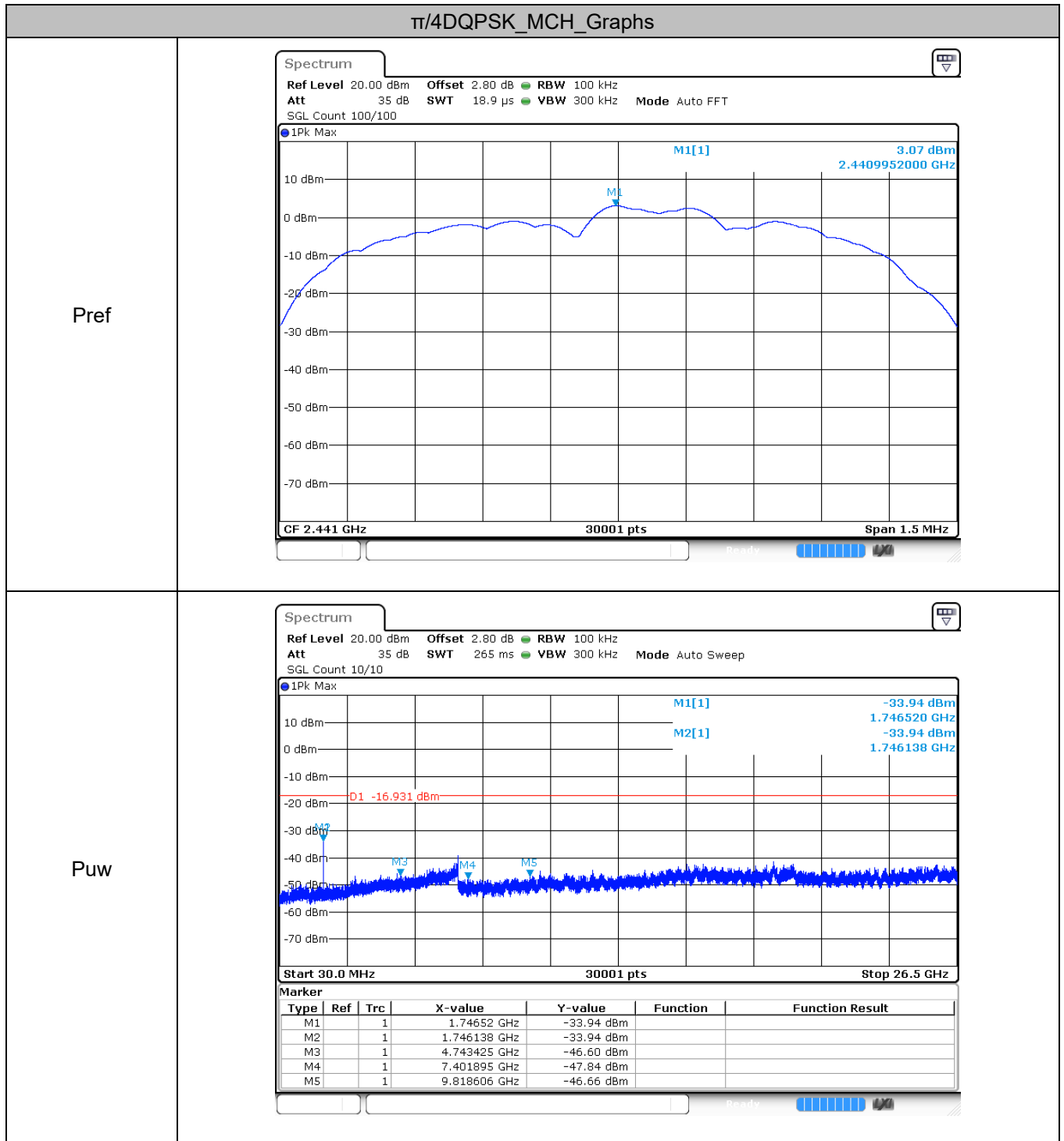
7.2 Test Graphs

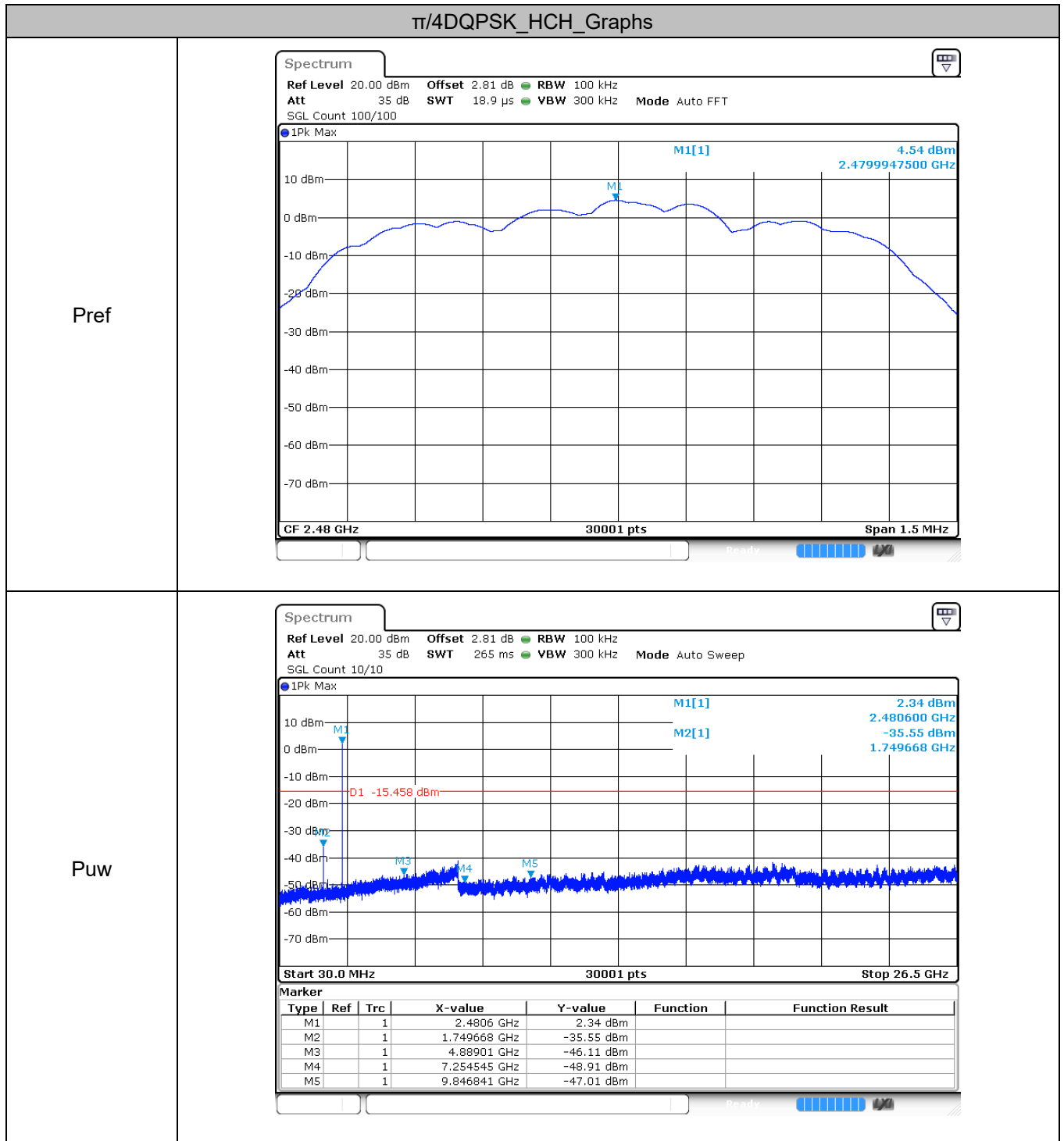


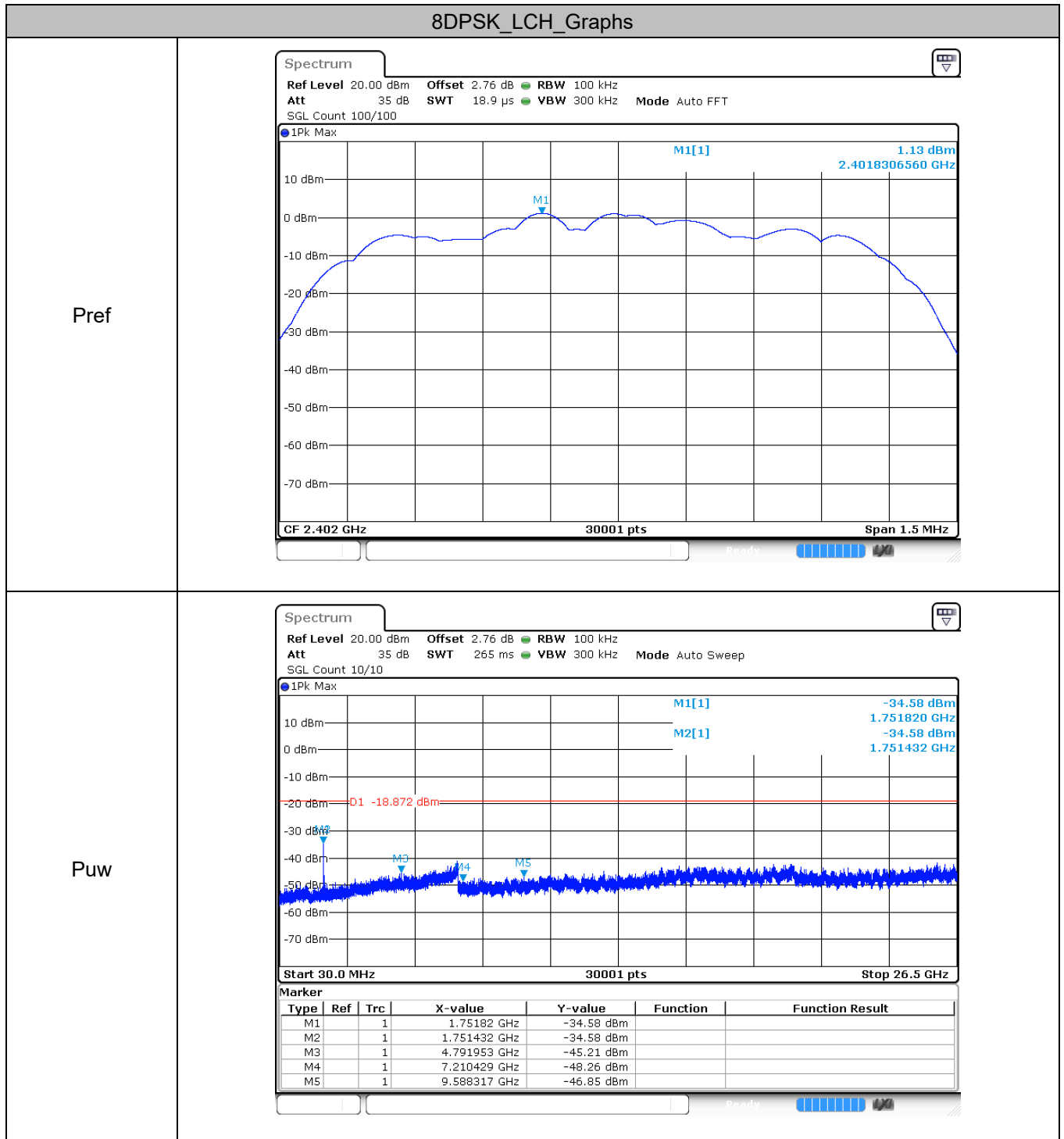






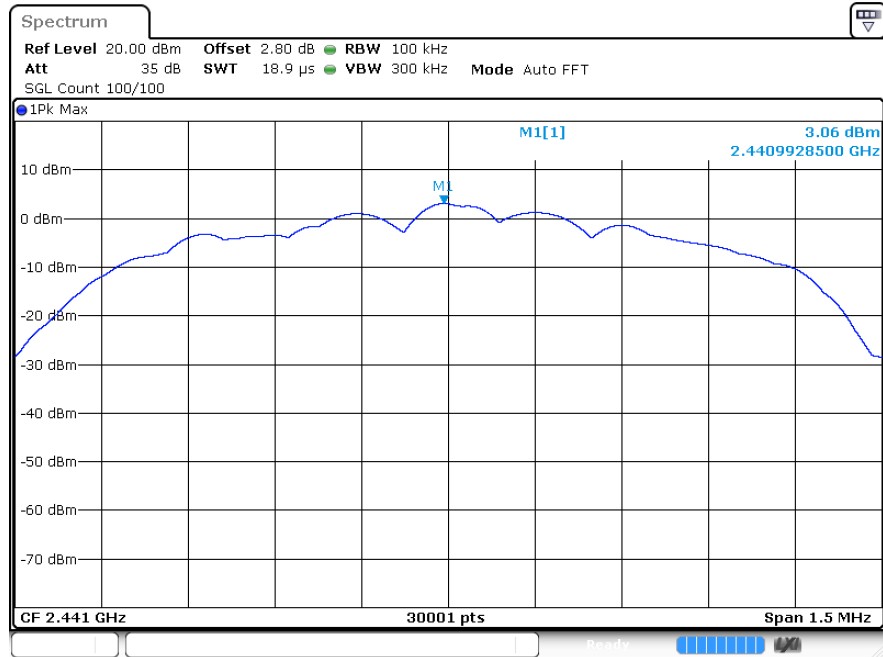




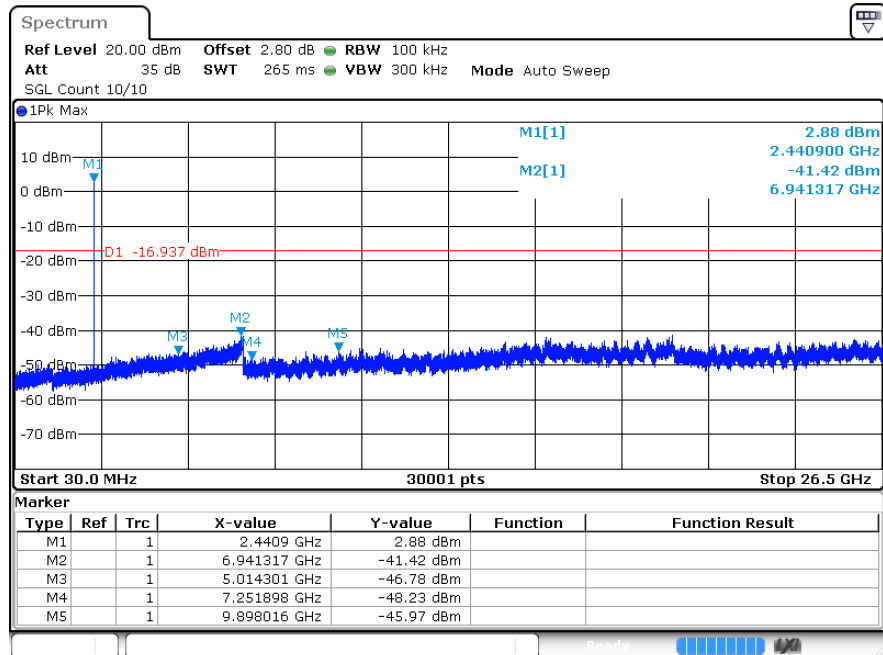


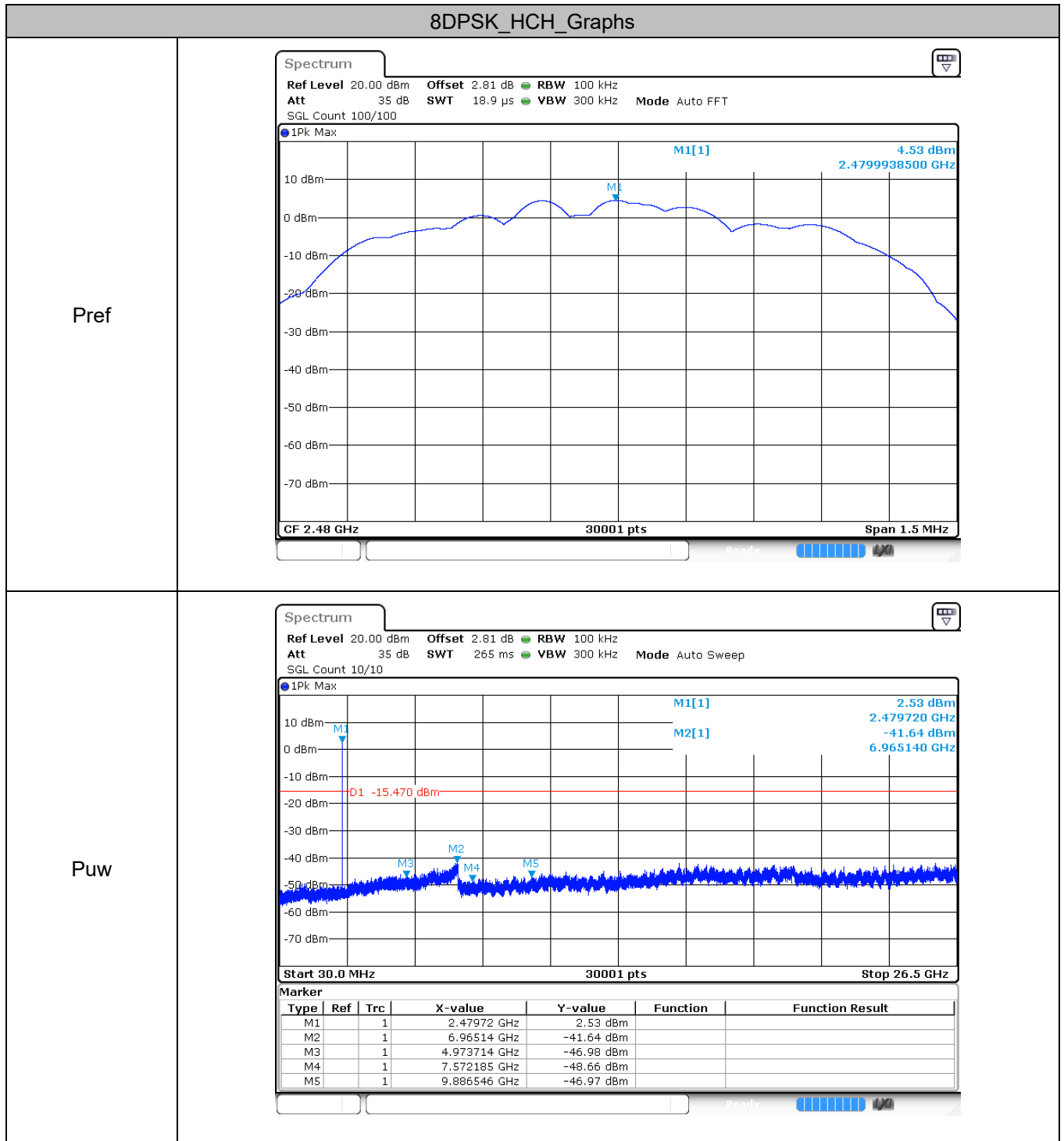
8DPSK_MCH_Graphs

Pref



Puw



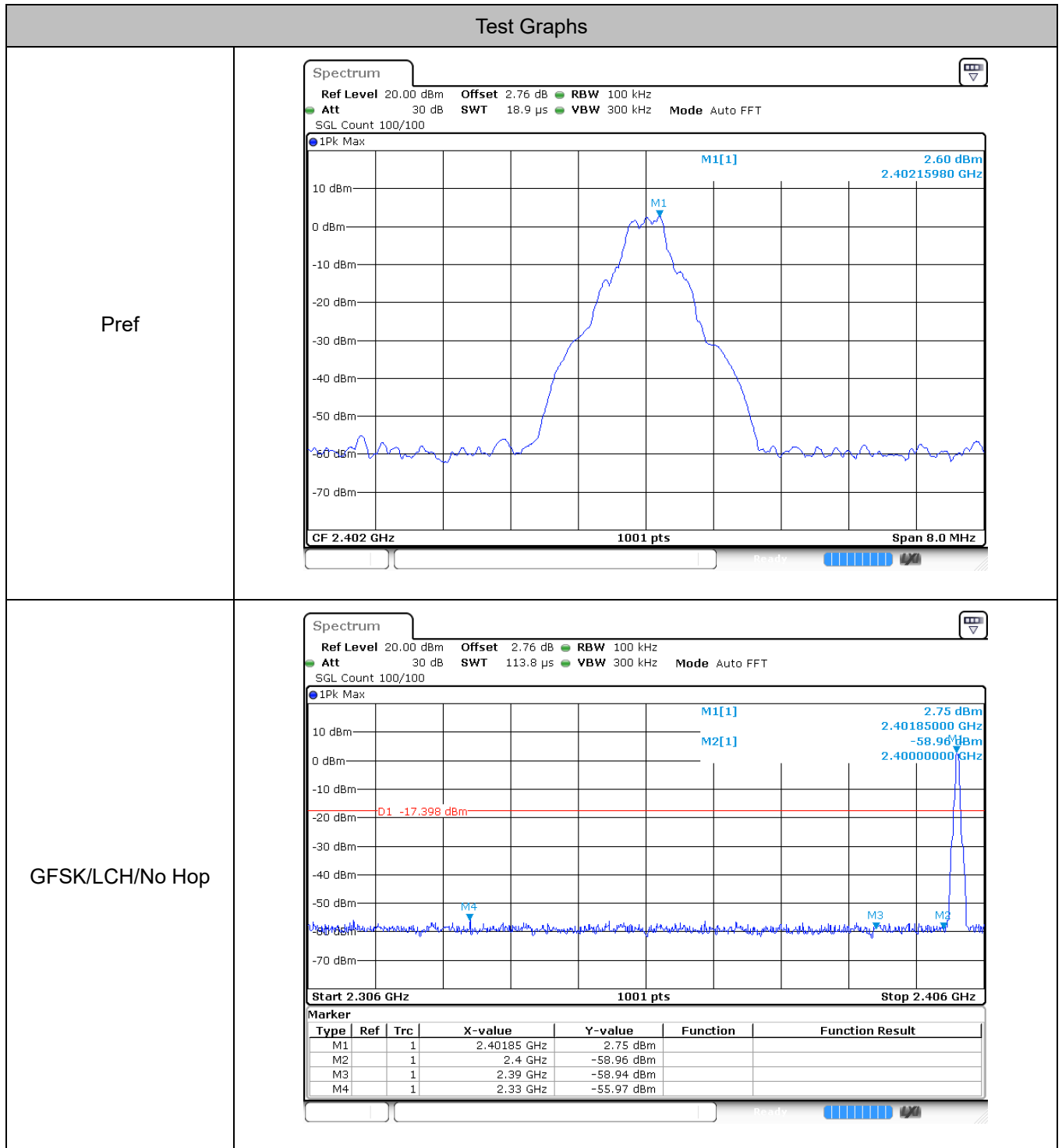


8 Band-edge for RF Conducted Emissions

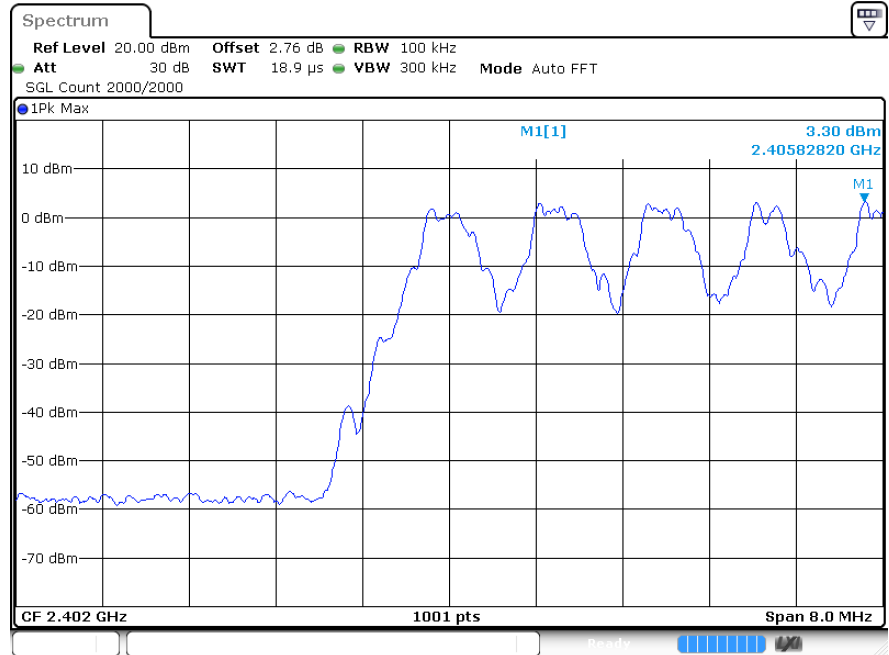
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-58.56	-20	Pass
			On	-57.98	-20	Pass
	HCH	2480	Off	-61.73	-20	Pass
			On	-60.57	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-57.28	-20	Pass
			On	-55.67	-20	Pass
	HCH	2480	Off	-60.3	-20	Pass
			On	-59.52	-20	Pass
8DPSK	LCH	2402	Off	-57.39	-20	Pass
			On	-56.8	-20	Pass
	HCH	2480	Off	-59.54	-20	Pass
			On	-59.44	-20	Pass

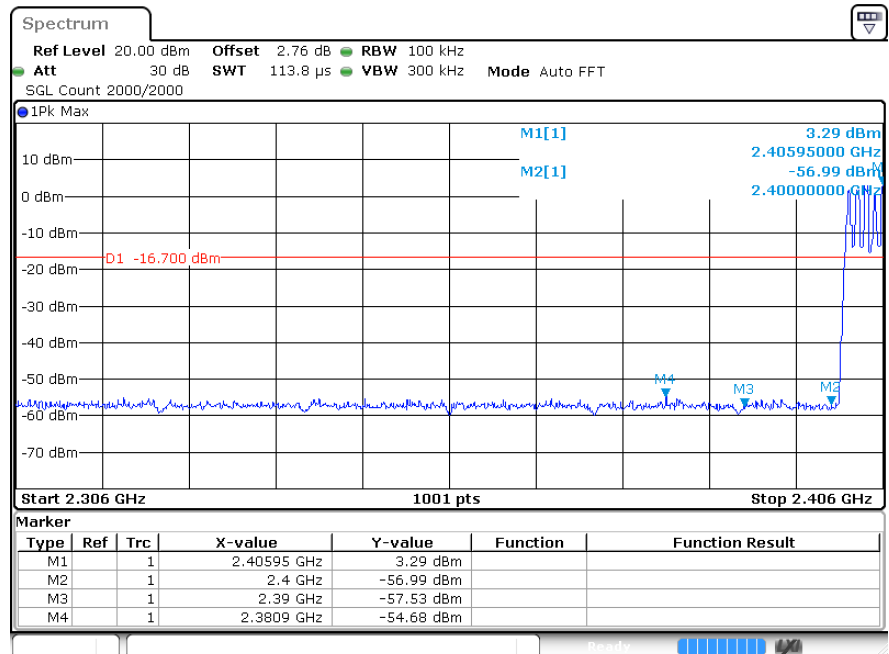
8.2 Test Graphs



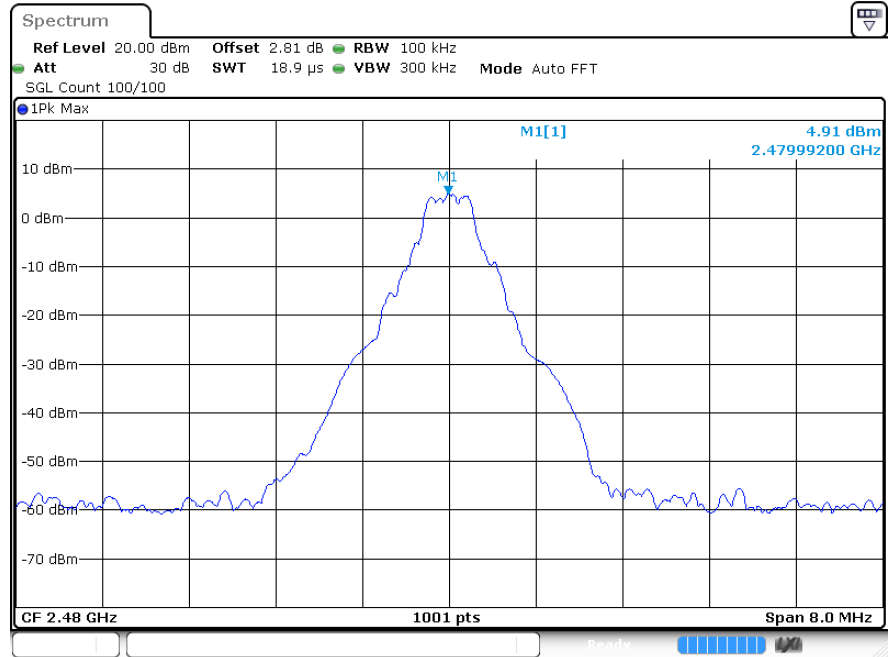
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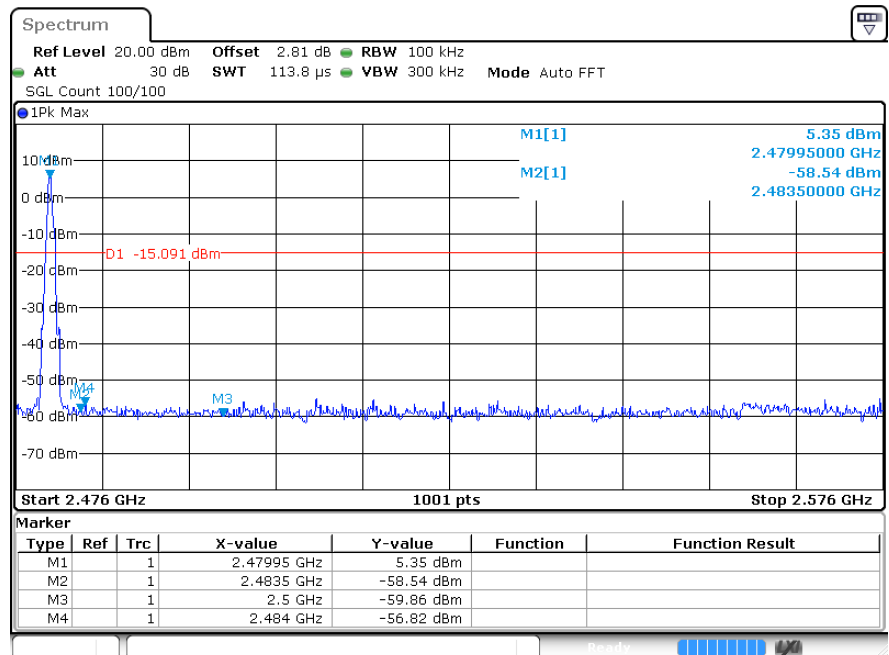
GFSK/LCH/Hop



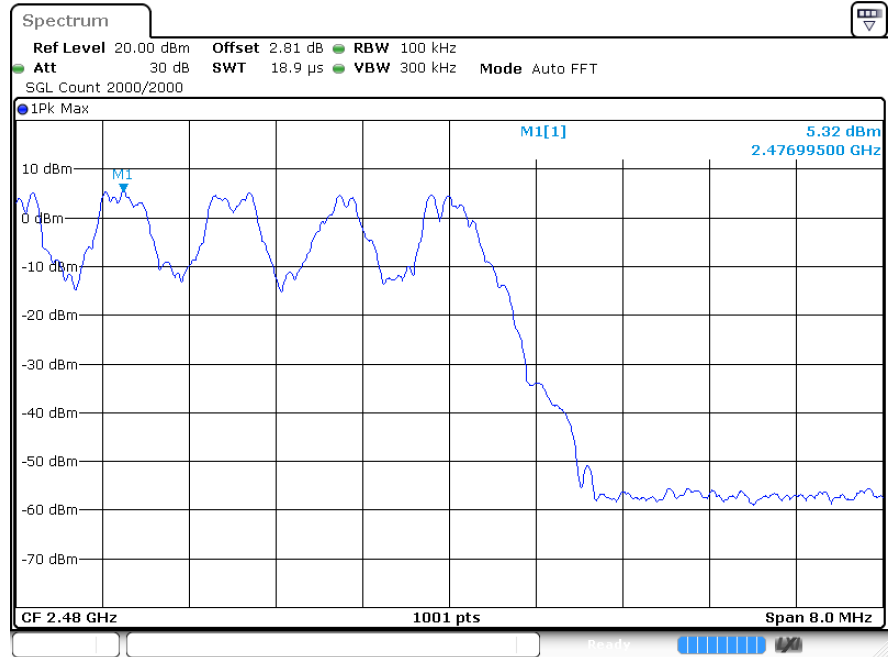
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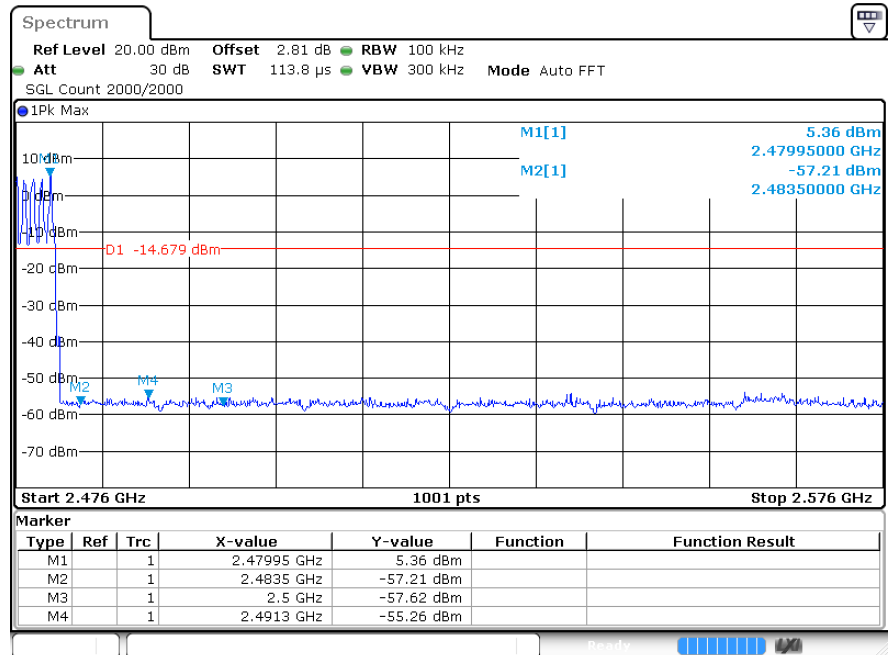
GFSK/HCH/No Hop



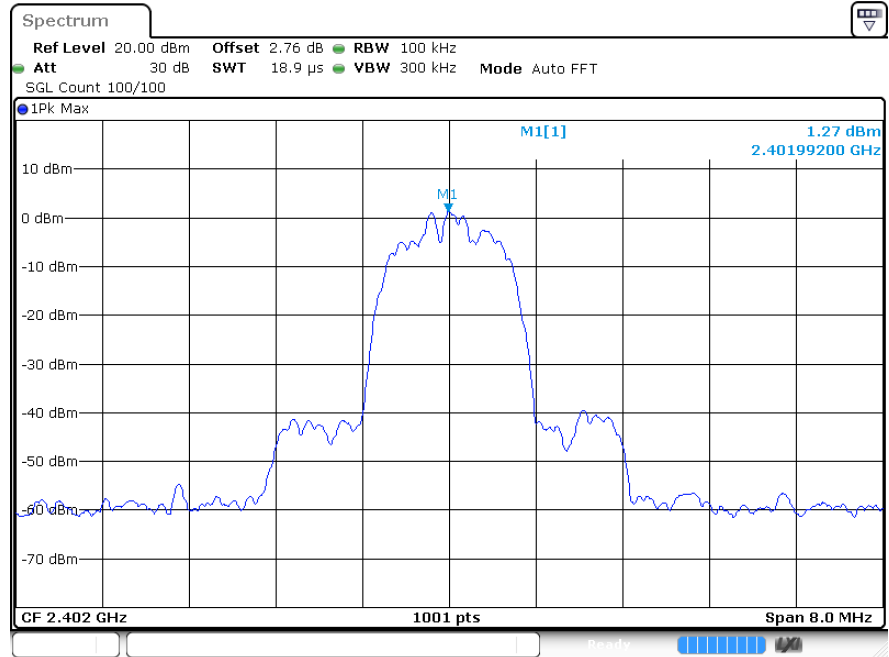
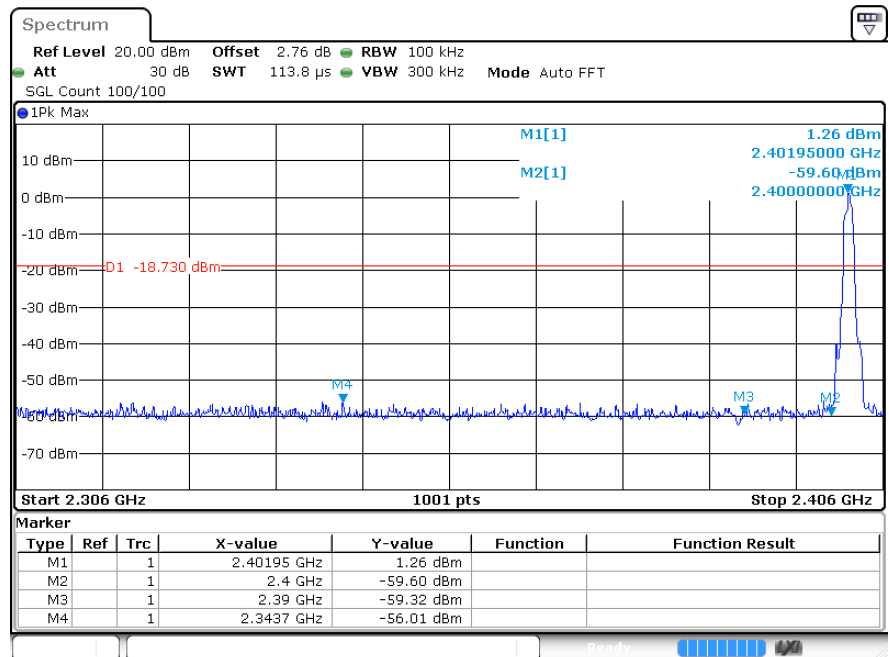
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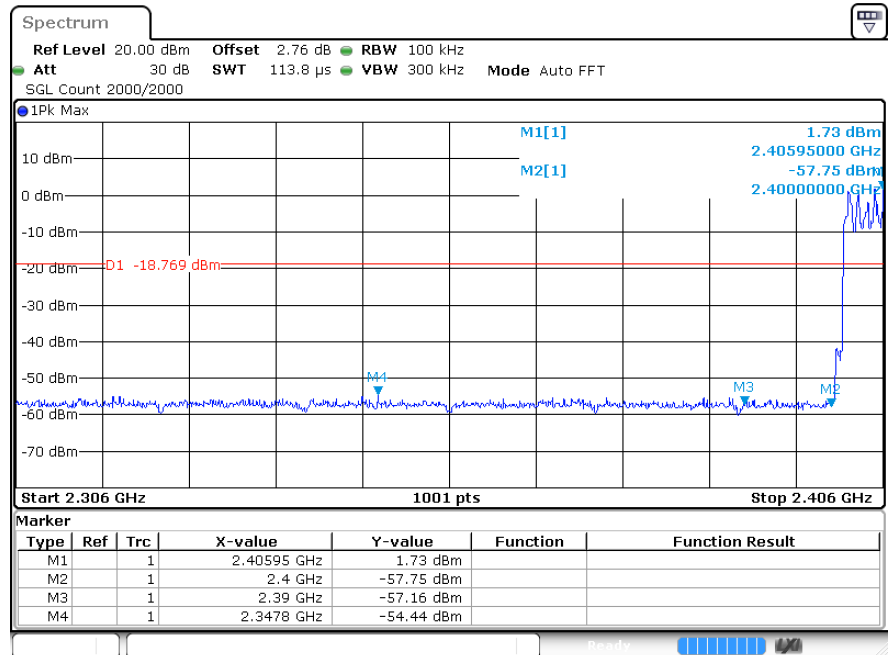
GFSK/HCH/Hop



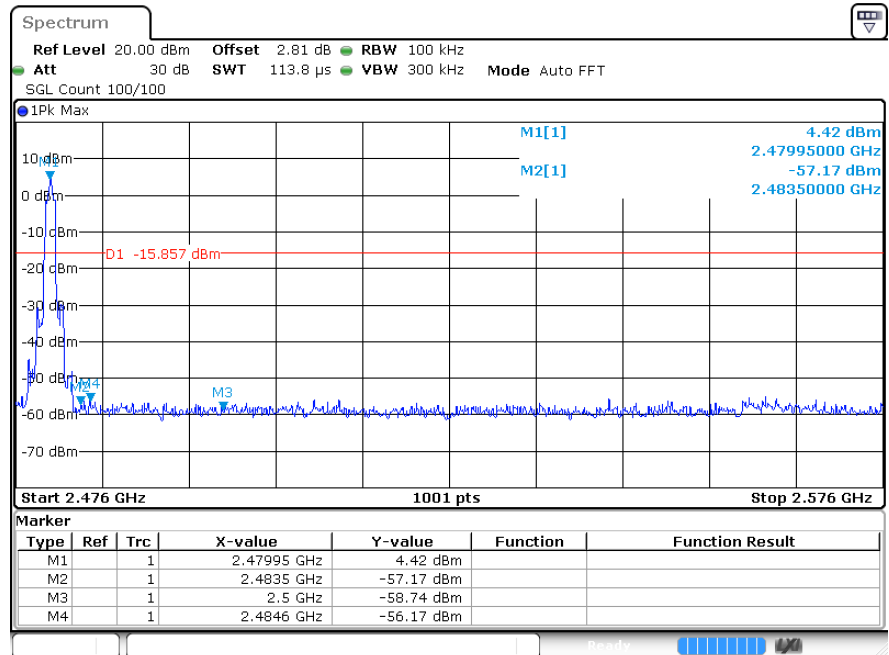
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 $\pi/4$ DQPSK/LCH/No
Hop


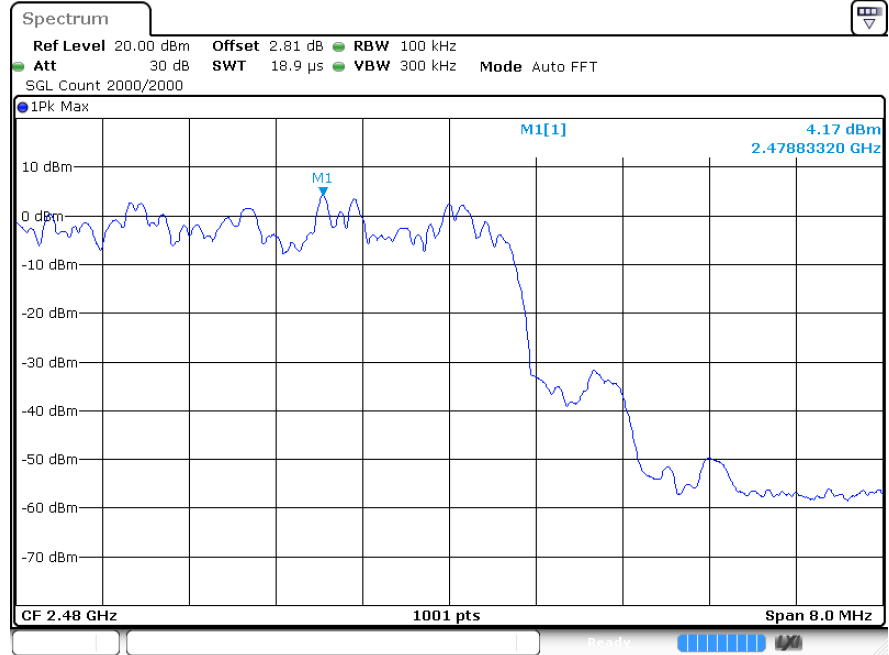
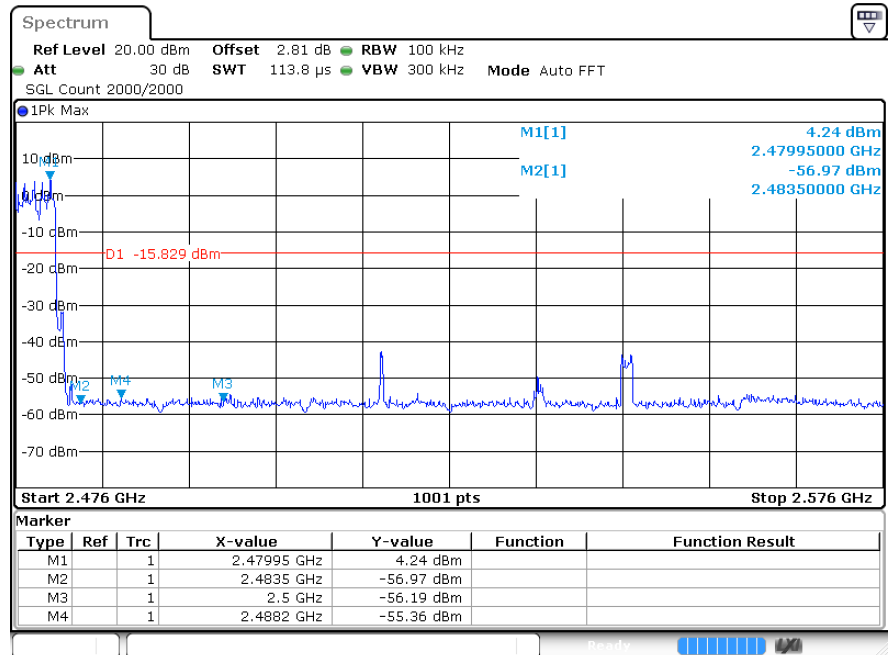
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 $\pi/4$ DQPSK/LCH/Hop


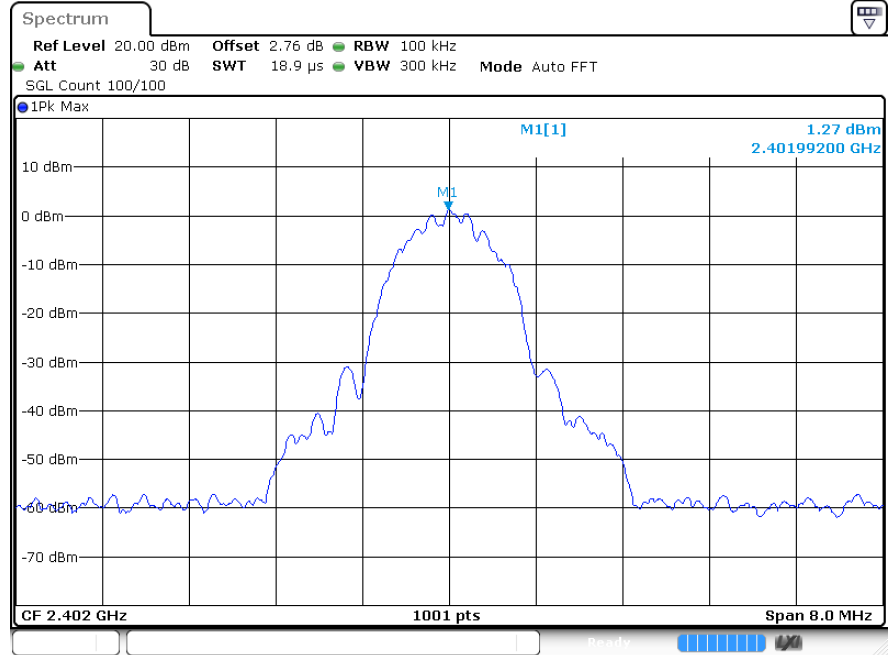
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 $\pi/4$ DQPSK/HCH/No
Hop


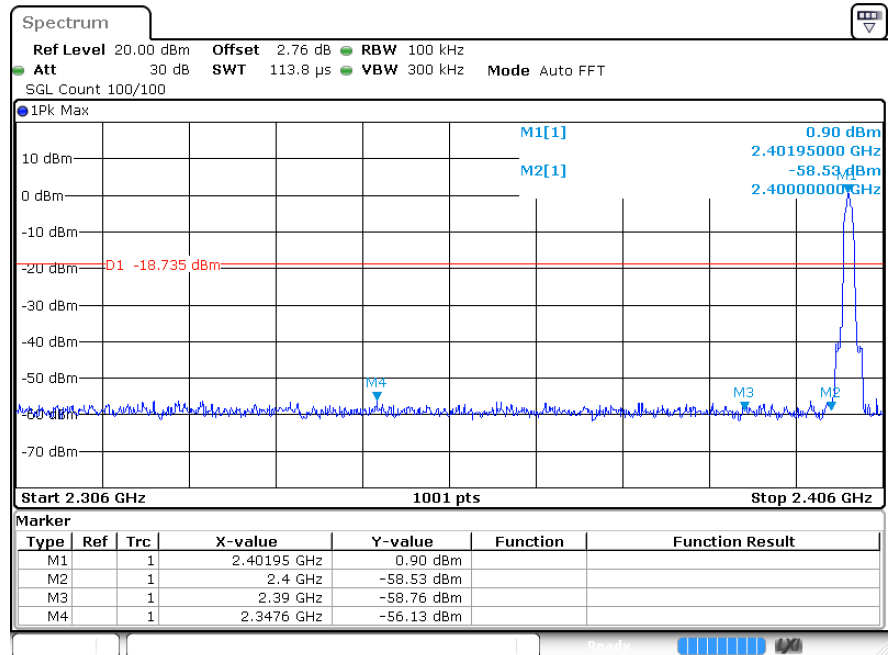
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 $\pi/4$ DQPSK/HCH/Hop


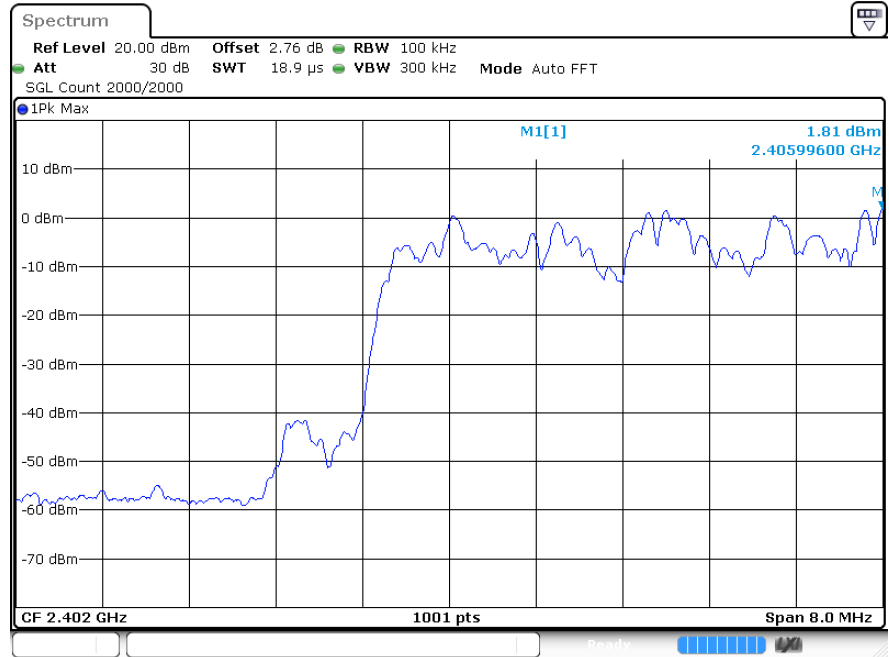
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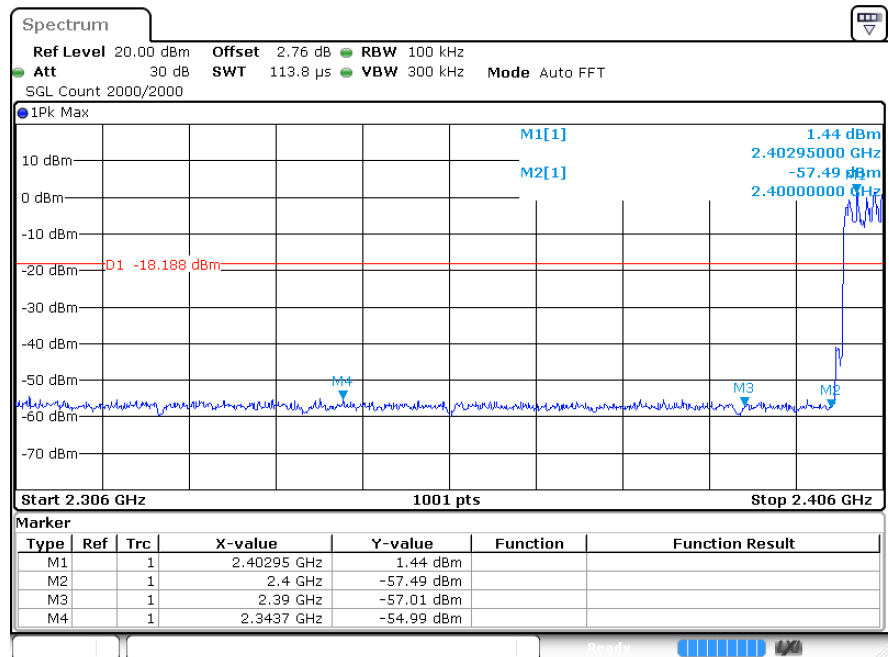
8DPSK/LCH/No Hop



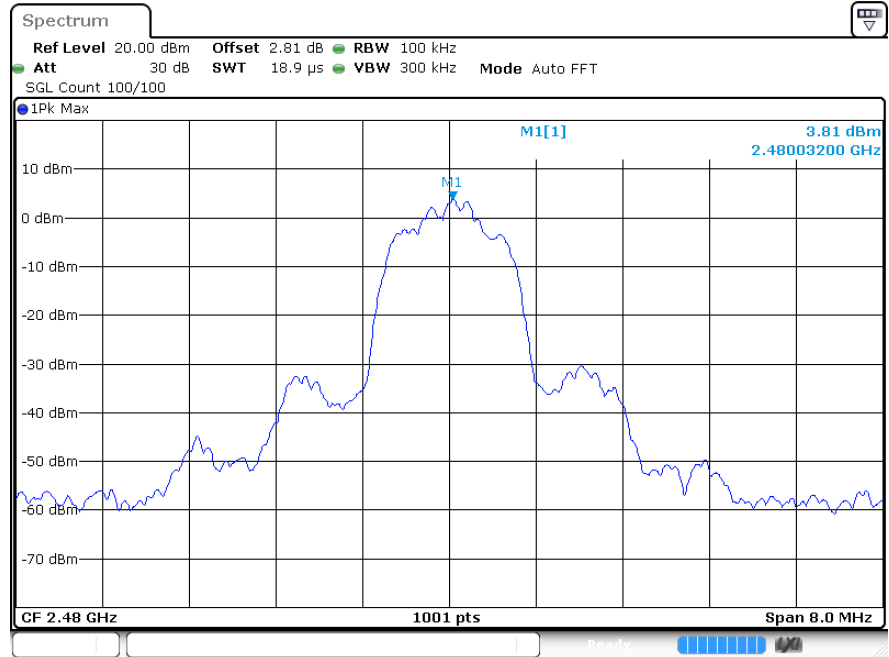
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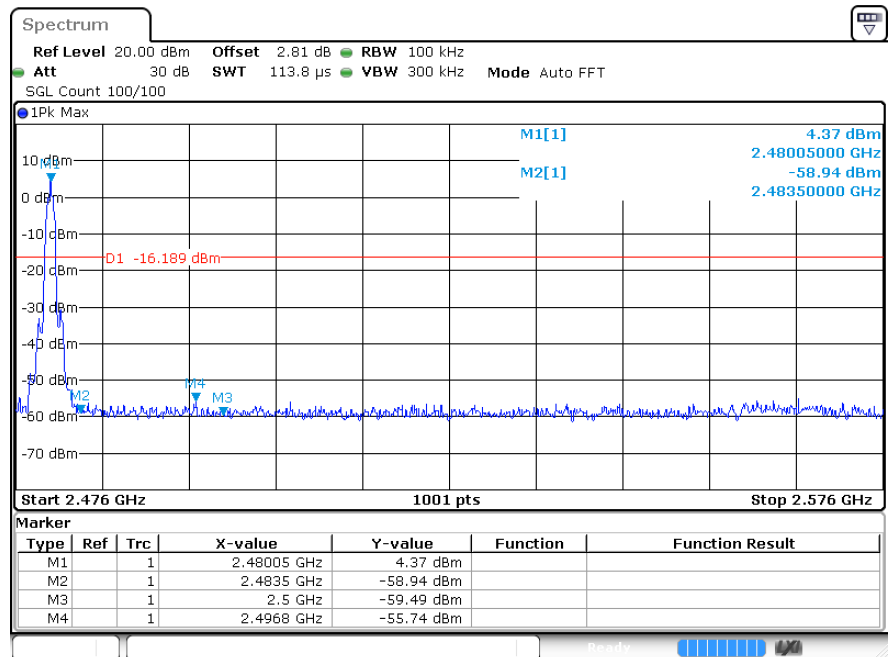
8DPSK/LCH/Hop



Ref



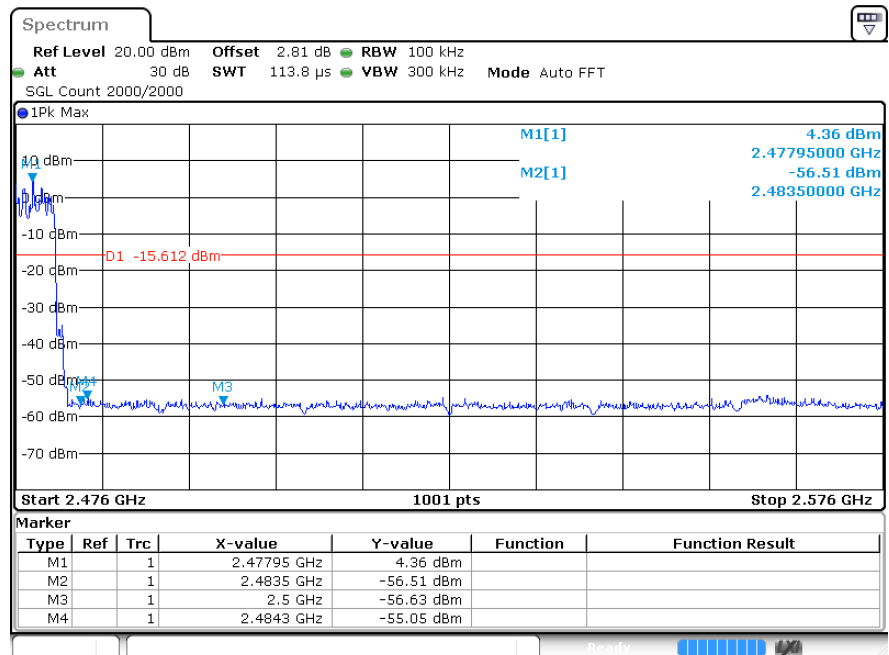
8DPSK/HCH/No Hop



Ref



8DPSK/HCH/Hop



9 Restrict-band band-edge measurements

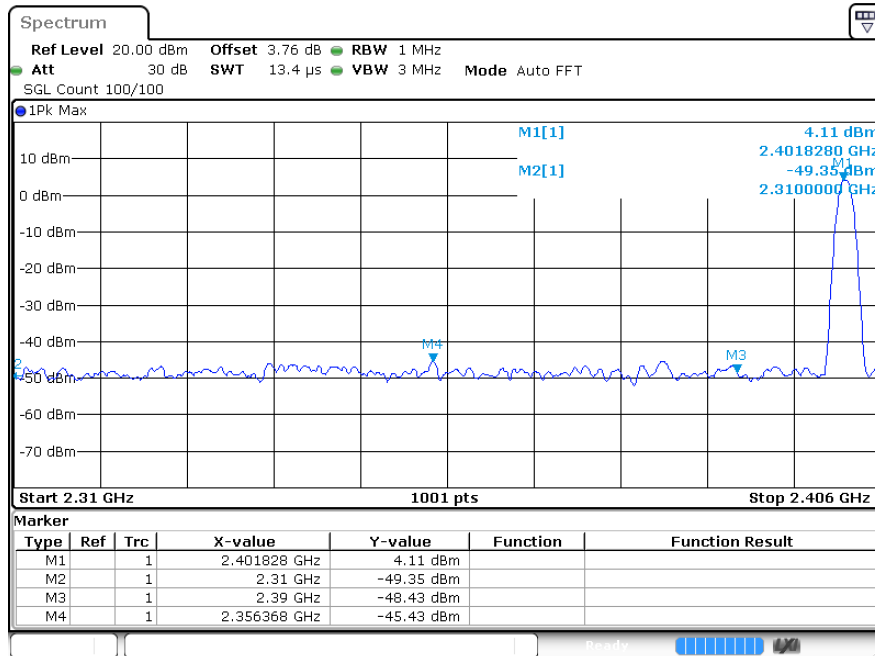
9.1 Test Result

Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-49.35	2	47.91	PEAK	74	Pass
	Off	2310.0	-56.94	2	40.32	AV	54	Pass
	Off	2356.368	-45.42	2	51.84	PEAK	74	Pass
	Off	2338.416	-54.87	2	42.39	AV	54	Pass
	Off	2390.0	-48.42	2	48.84	PEAK	74	Pass
	Off	2390.0	-57.14	2	40.12	AV	54	Pass
	Off	2483.5	-44.52	2	52.74	PEAK	74	Pass
	Off	2483.5	-55.78	2	41.48	AV	54	Pass
	Off	2483.728	-43.91	2	53.35	PEAK	74	Pass
	Off	2483.848	-55.67	2	41.59	AV	54	Pass
	Off	2500.0	-46.87	2	50.39	PEAK	74	Pass
	Off	2500.0	-56.21	2	41.05	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-49.2	2	48.06	PEAK	74	Pass
	Off	2310.0	-56.77	2	40.49	AV	54	Pass
	Off	2339.856	-45.5	2	51.76	PEAK	74	Pass
	Off	2339.664	-54.74	2	42.52	AV	54	Pass
	Off	2390.0	-48.56	2	48.7	PEAK	74	Pass
	Off	2390.0	-57.12	2	40.14	AV	54	Pass
	Off	2483.5	-48.58	2	48.68	PEAK	74	Pass
	Off	2483.5	-55.99	2	41.27	AV	54	Pass
	Off	2496.28	-45.81	2	51.45	PEAK	74	Pass
	Off	2483.608	-55.91	2	41.35	AV	54	Pass
	Off	2500.0	-46.29	2	50.97	PEAK	74	Pass
	Off	2500.0	-56.77	2	40.49	AV	54	Pass
8DPSK	Off	2310.0	-47.4	2	49.86	PEAK	74	Pass
	Off	2310.0	-56.68	2	40.58	AV	54	Pass
	Off	2339.376	-44.88	2	52.38	PEAK	74	Pass
	Off	2339.76	-54.88	2	42.38	AV	54	Pass

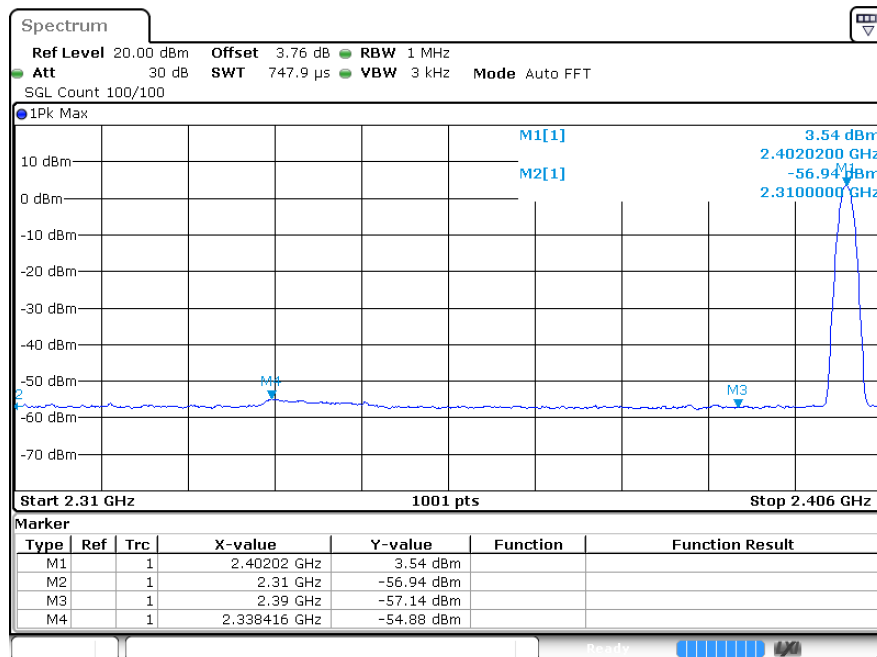
	Off	2390.0	-49.14	2	48.12	PEAK	74	Pass
	Off	2390.0	-57.29	2	39.97	AV	54	Pass
	Off	2483.5	-48.53	2	48.73	PEAK	74	Pass
	Off	2483.5	-55.63	2	41.63	AV	54	Pass
	Off	2498.392	-46.35	2	50.91	PEAK	74	Pass
	Off	2483.512	-55.63	2	41.63	AV	54	Pass
	Off	2500.0	-48.42	2	48.84	PEAK	74	Pass
	Off	2500.0	-56.69	2	40.57	AV	54	Pass

9.2 Test Graphs

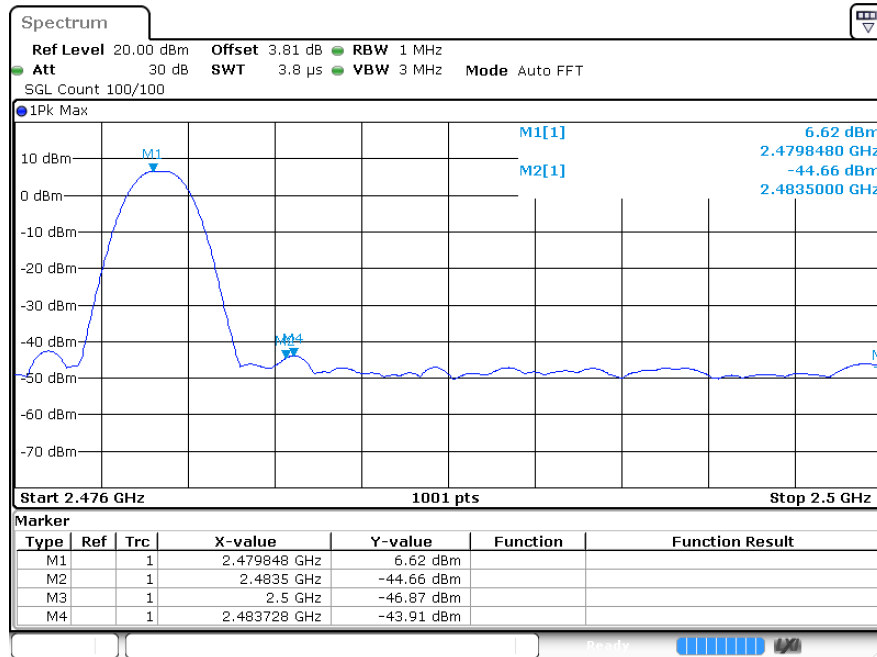
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



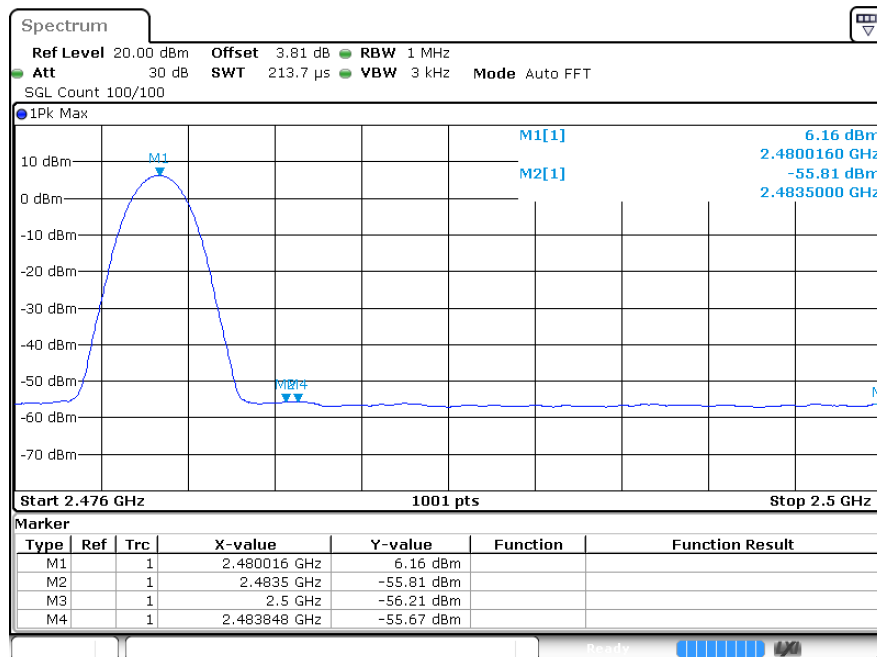
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



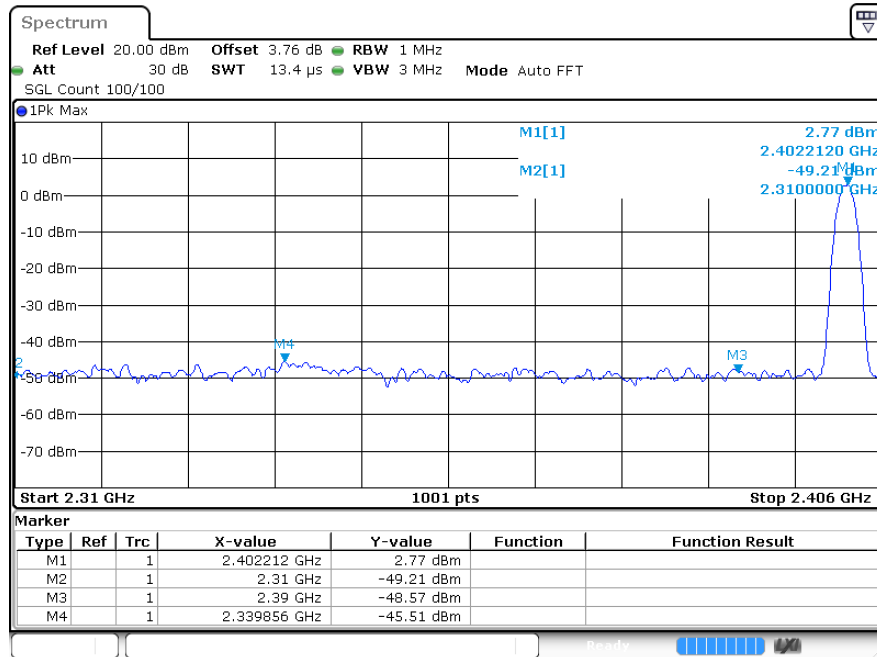
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



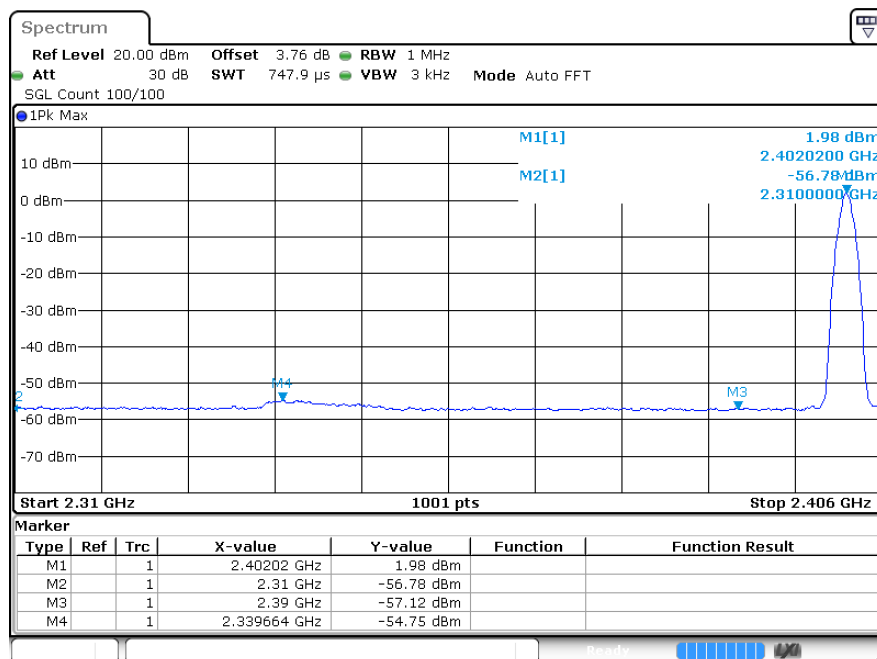
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



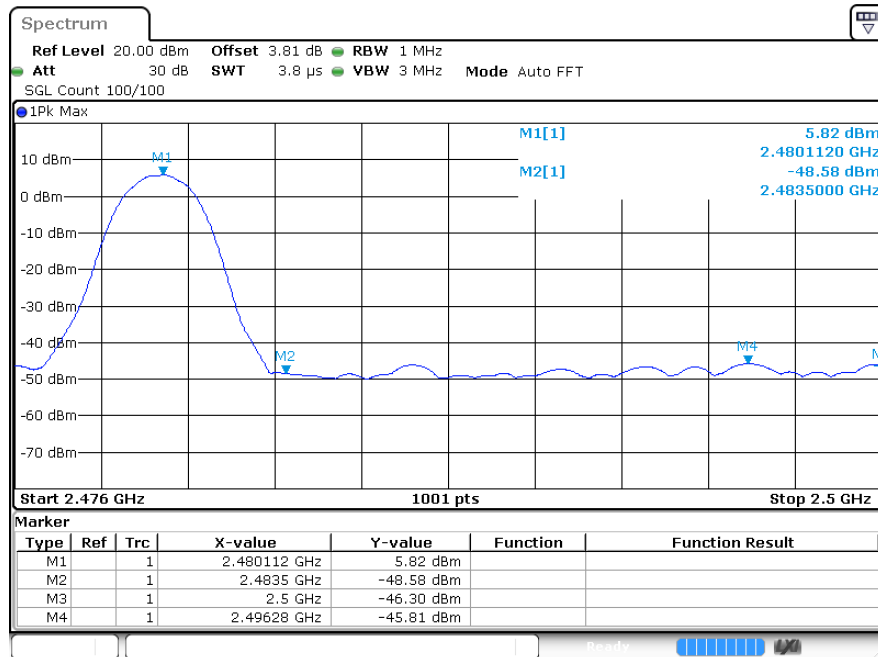
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



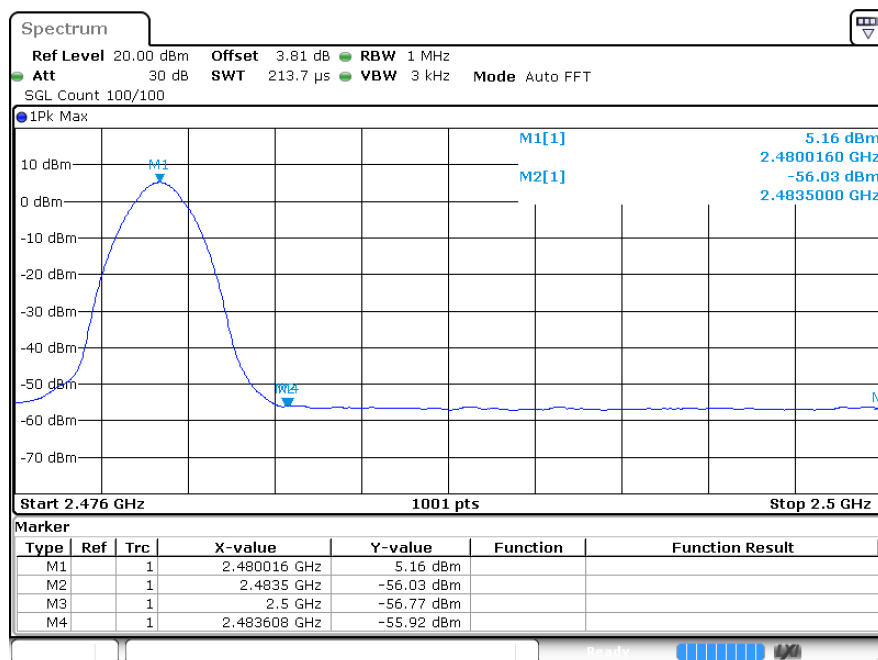
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



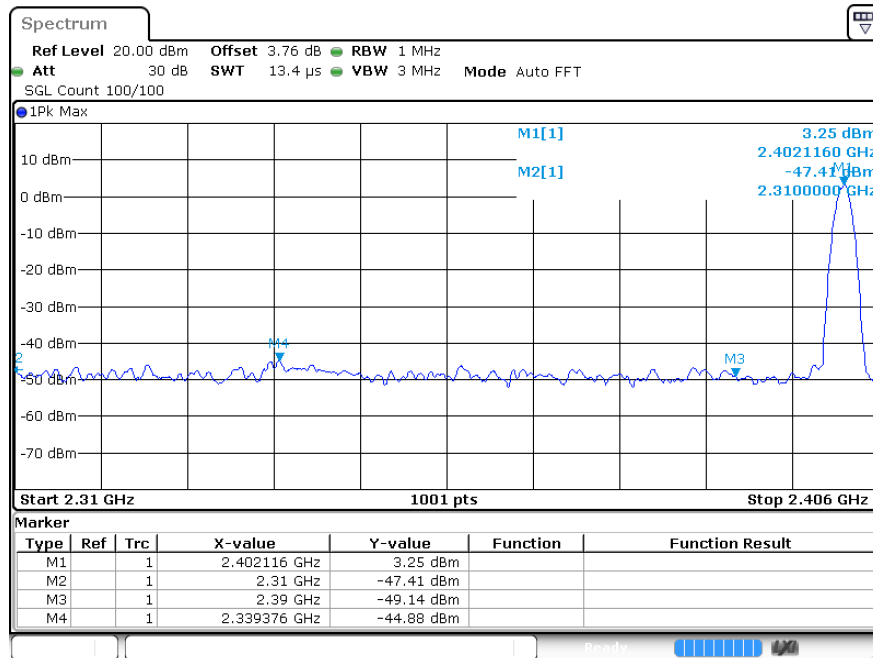
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



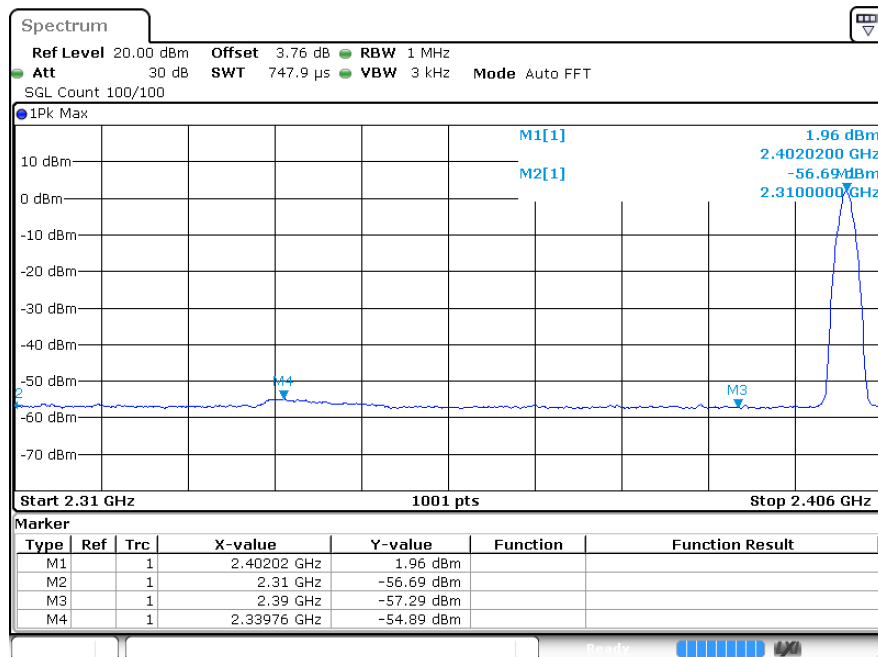
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



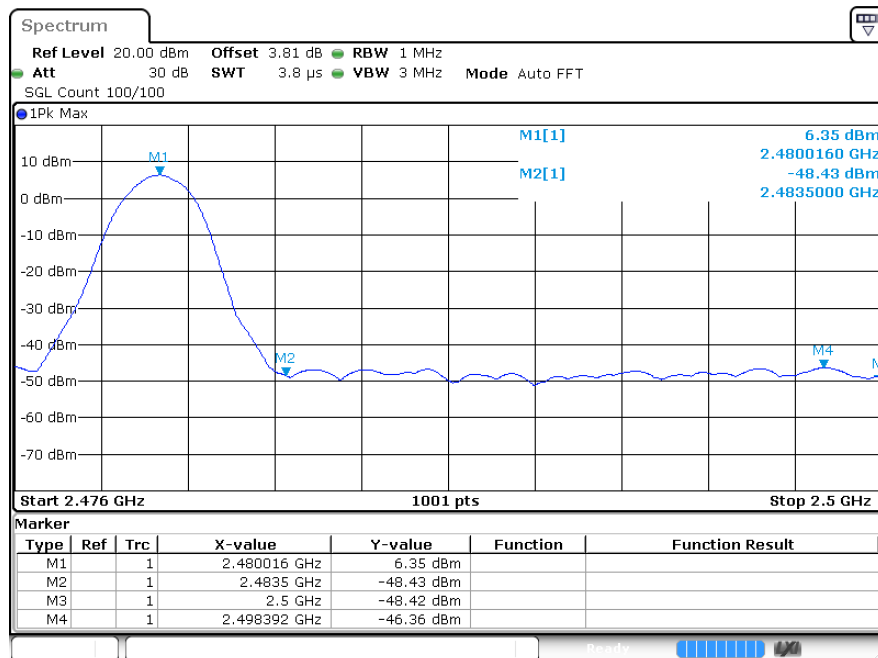
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



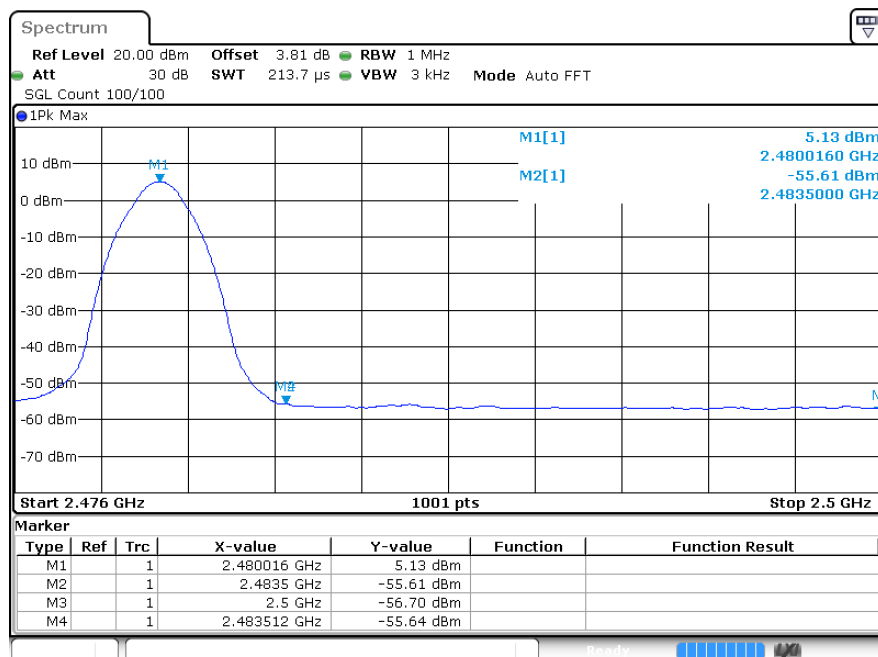
Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (Low Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (High Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (High Channel)



---The End---