



Appendix A

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

Product Name: Boomboxes

Trade Mark: N/A

Test Model: WE-BB-TD1

Environmental Conditions

Temperature:	19.6°C
Relative Humidity:	51.3%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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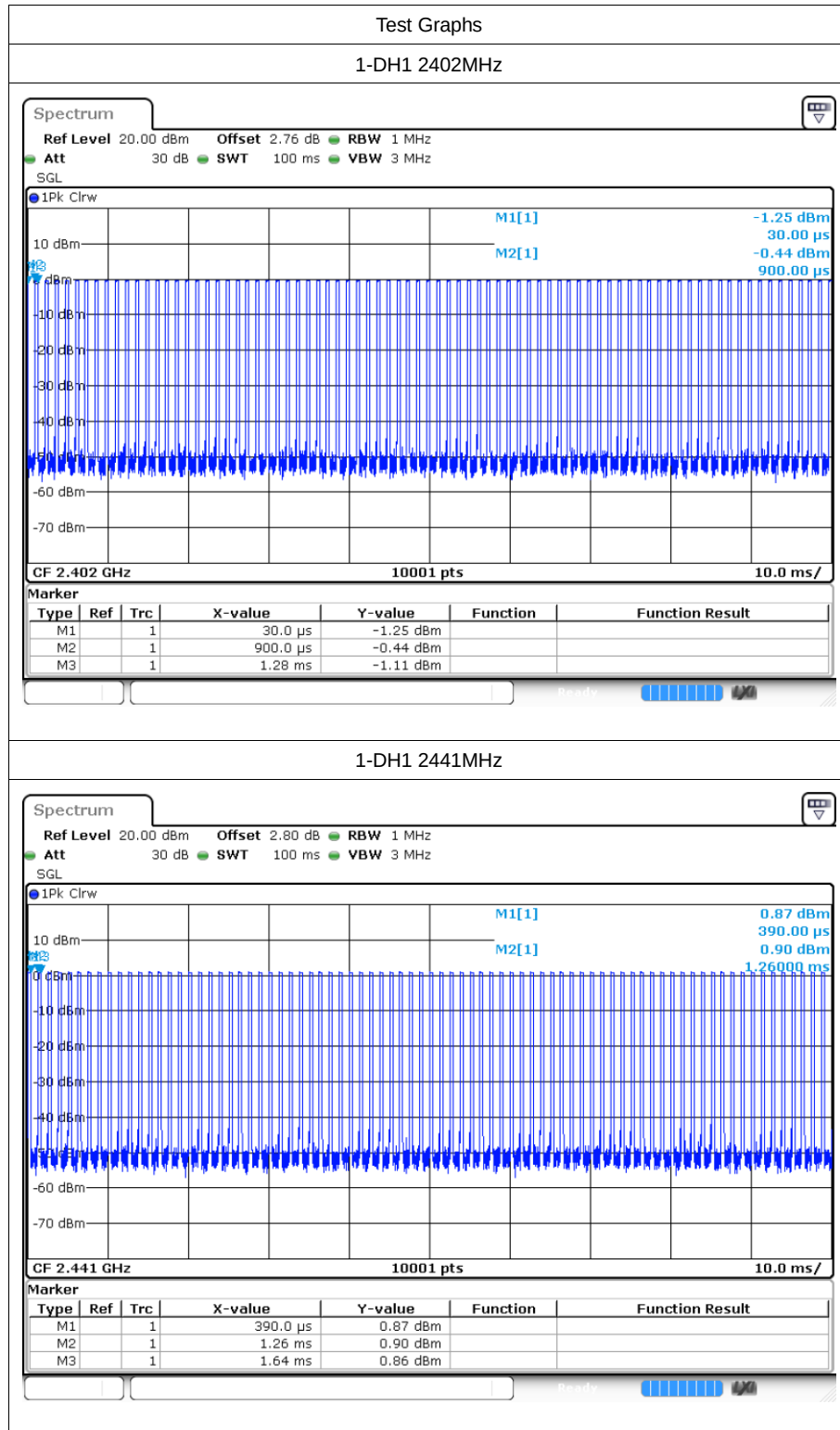
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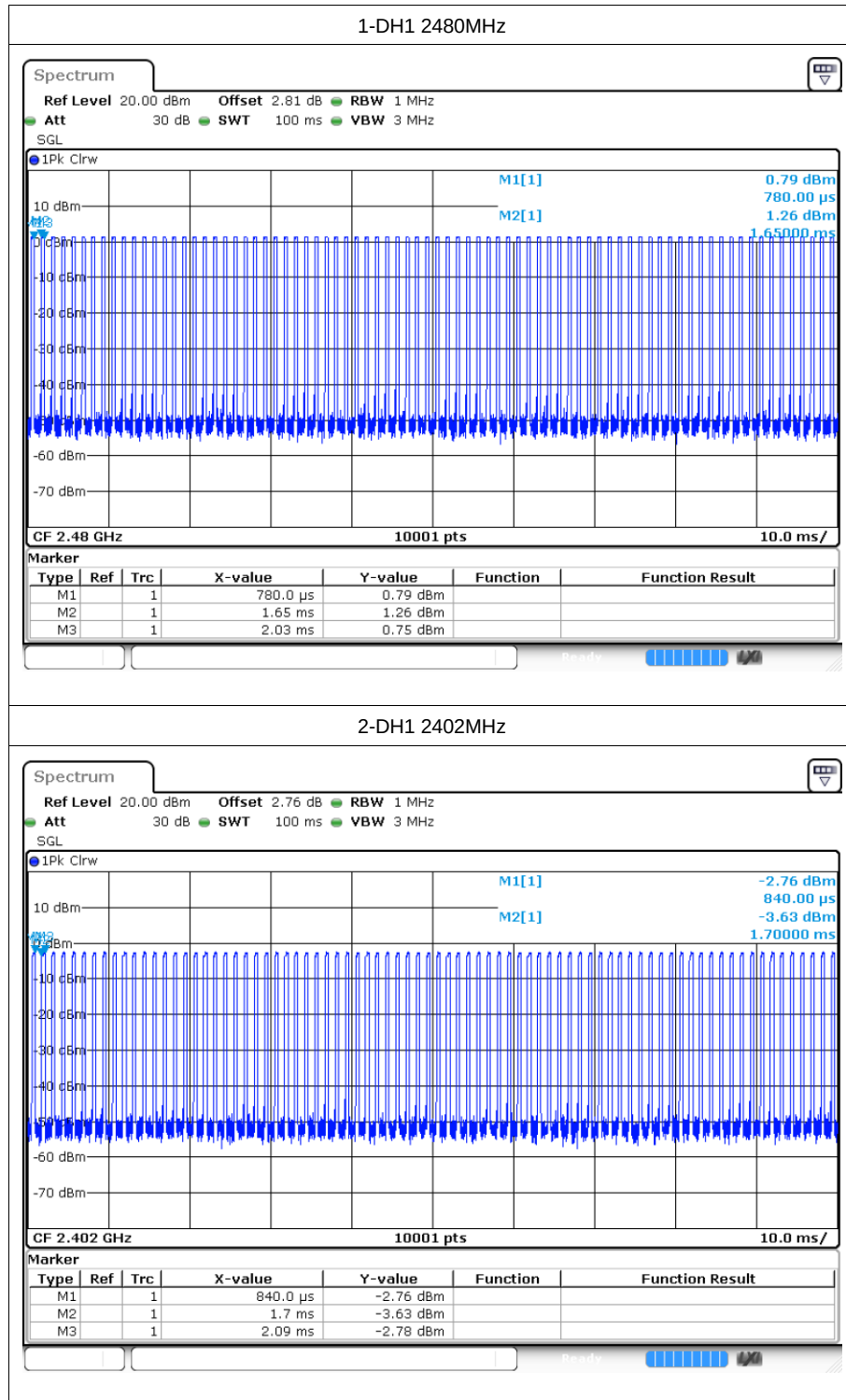
1 Duty Cycle

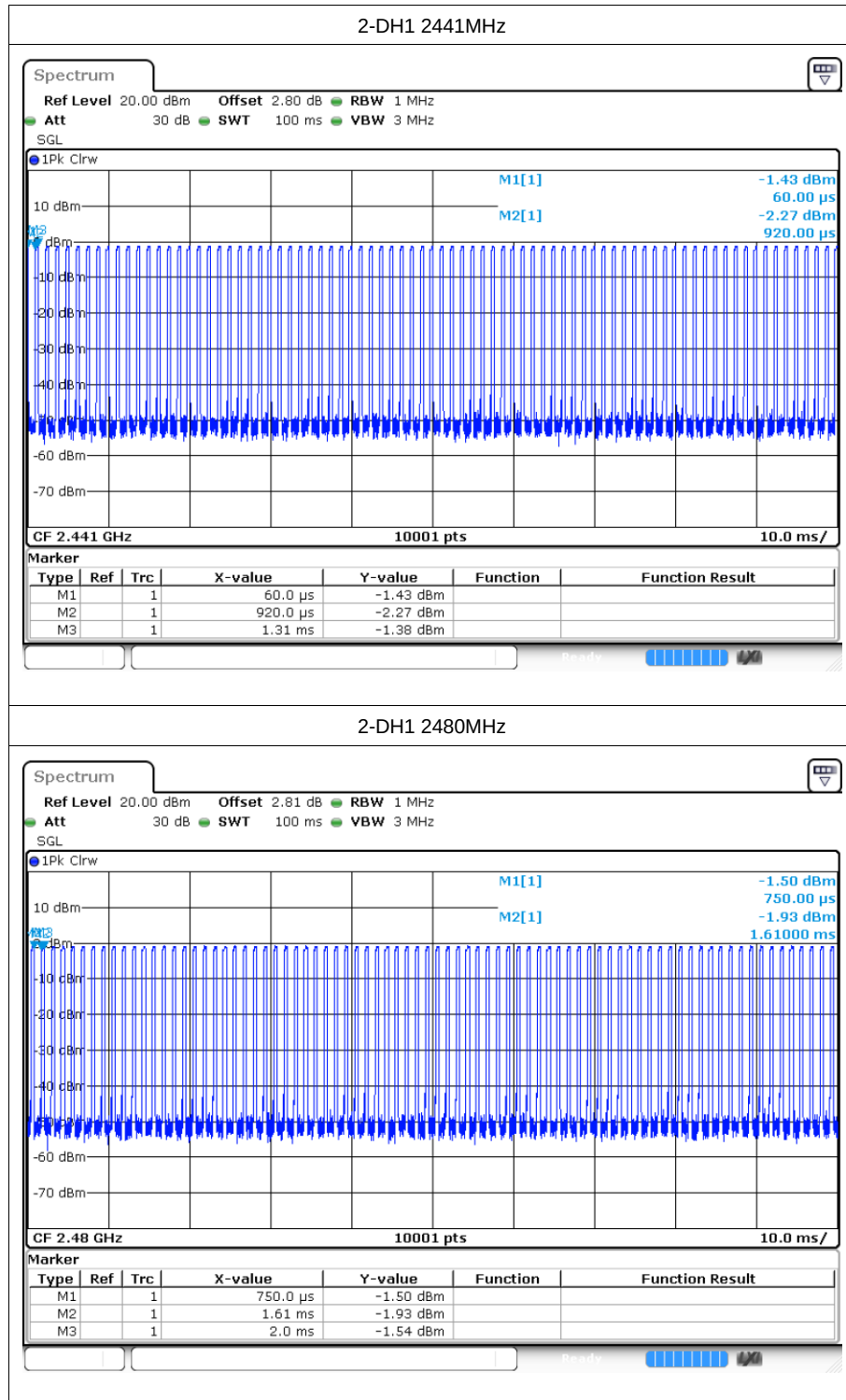
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	31.21	2.63
1-DH1	2441	31.2	2.63
1-DH1	2480	31.2	2.63
2-DH1	2402	32	2.56
2-DH1	2441	32.01	2.56
2-DH1	2480	32	2.56

1.2 Test Graphs





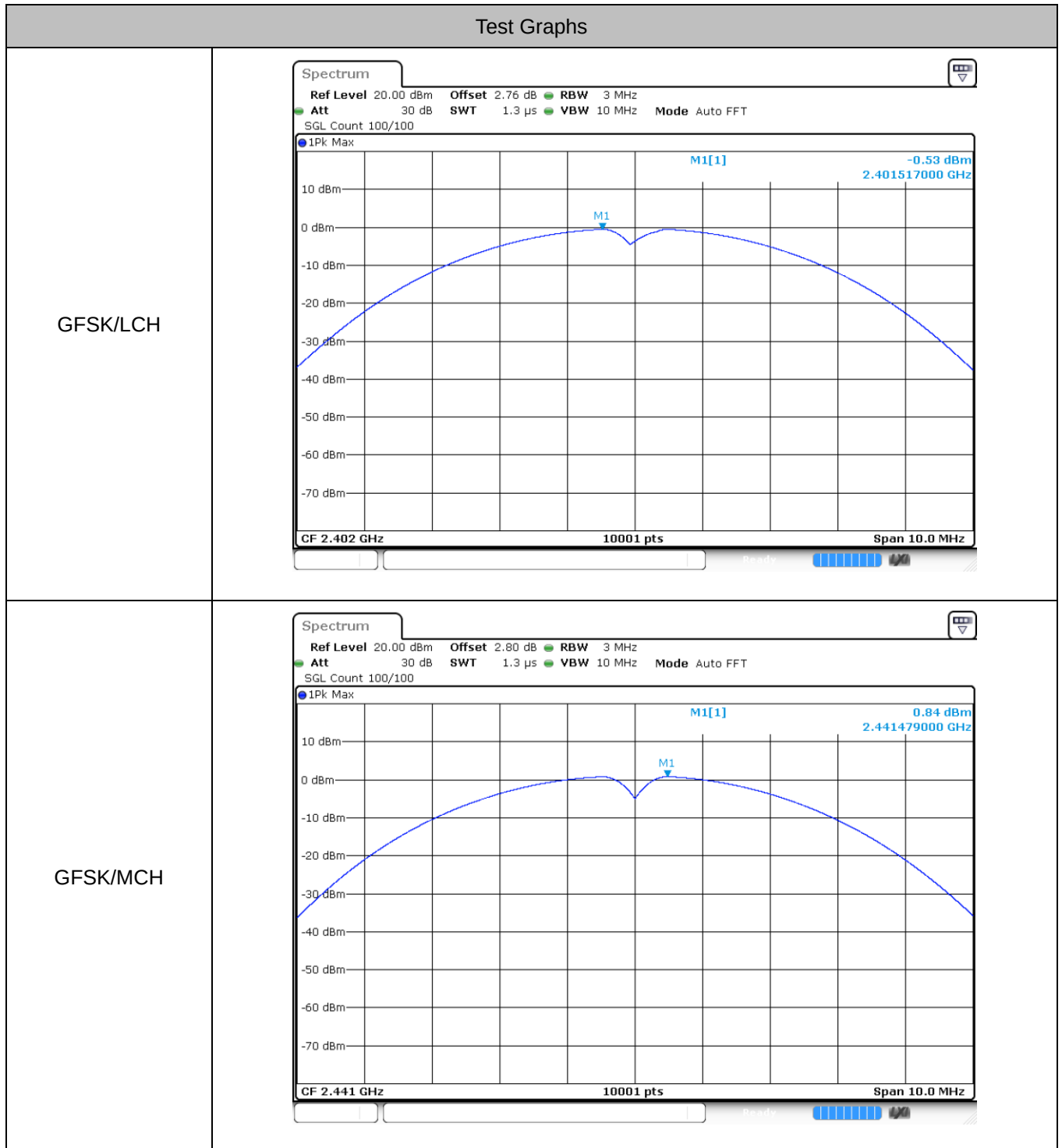


2 Maximum Conducted Peak Output Power

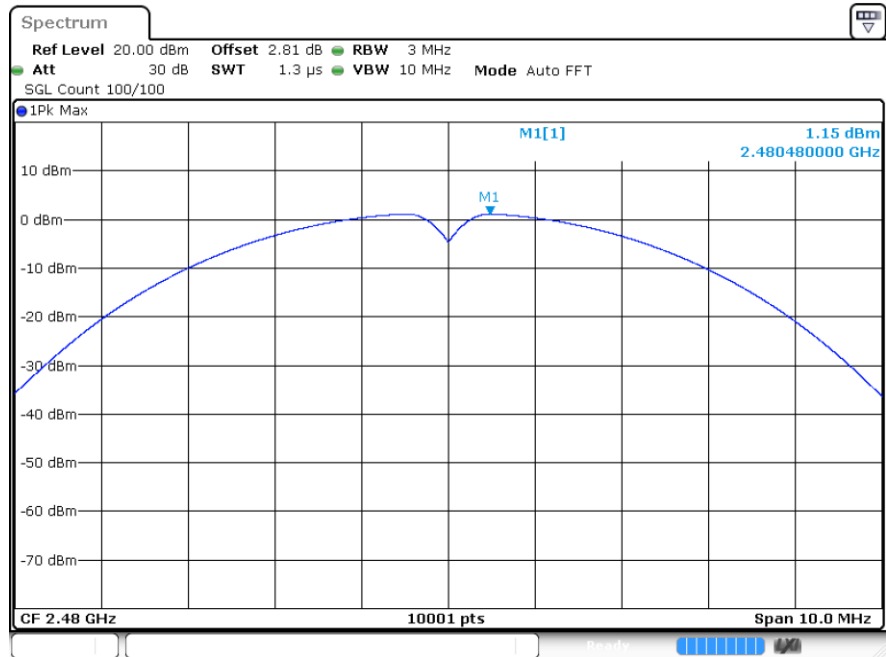
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.53	21	Pass
	MCH	0.84	21	Pass
	HCH	1.15	21	Pass
$\pi/4$ DQPSK	LCH	-1.56	21	Pass
	MCH	-0.22	21	Pass
	HCH	-0.1	21	Pass

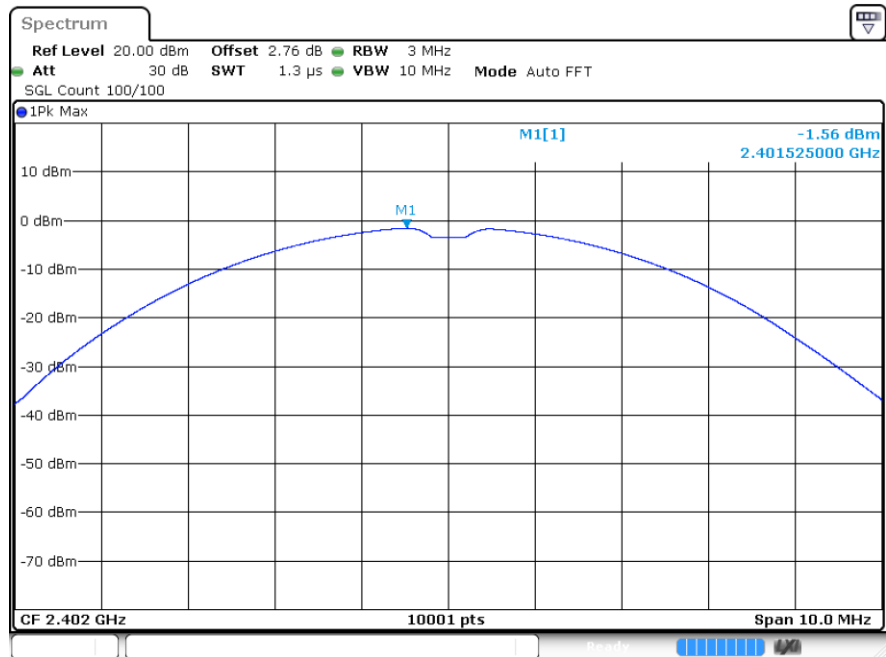
2.2 Test Graphs



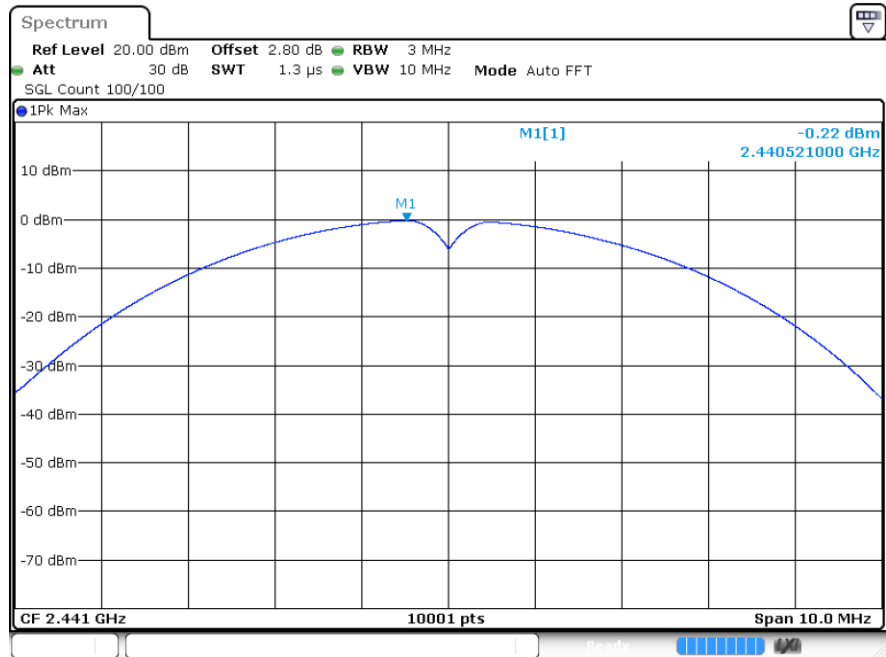
GFSK/HCH



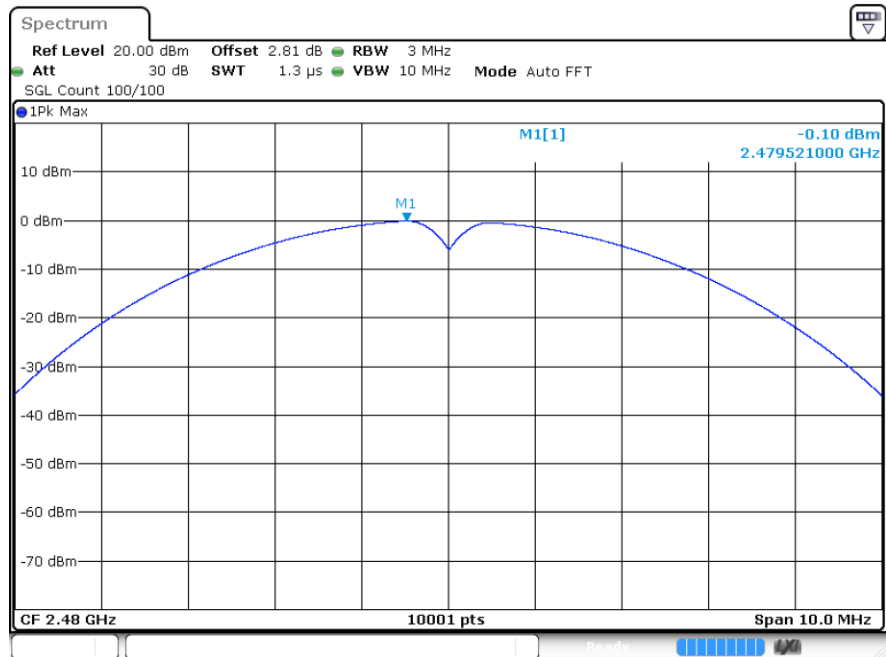
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

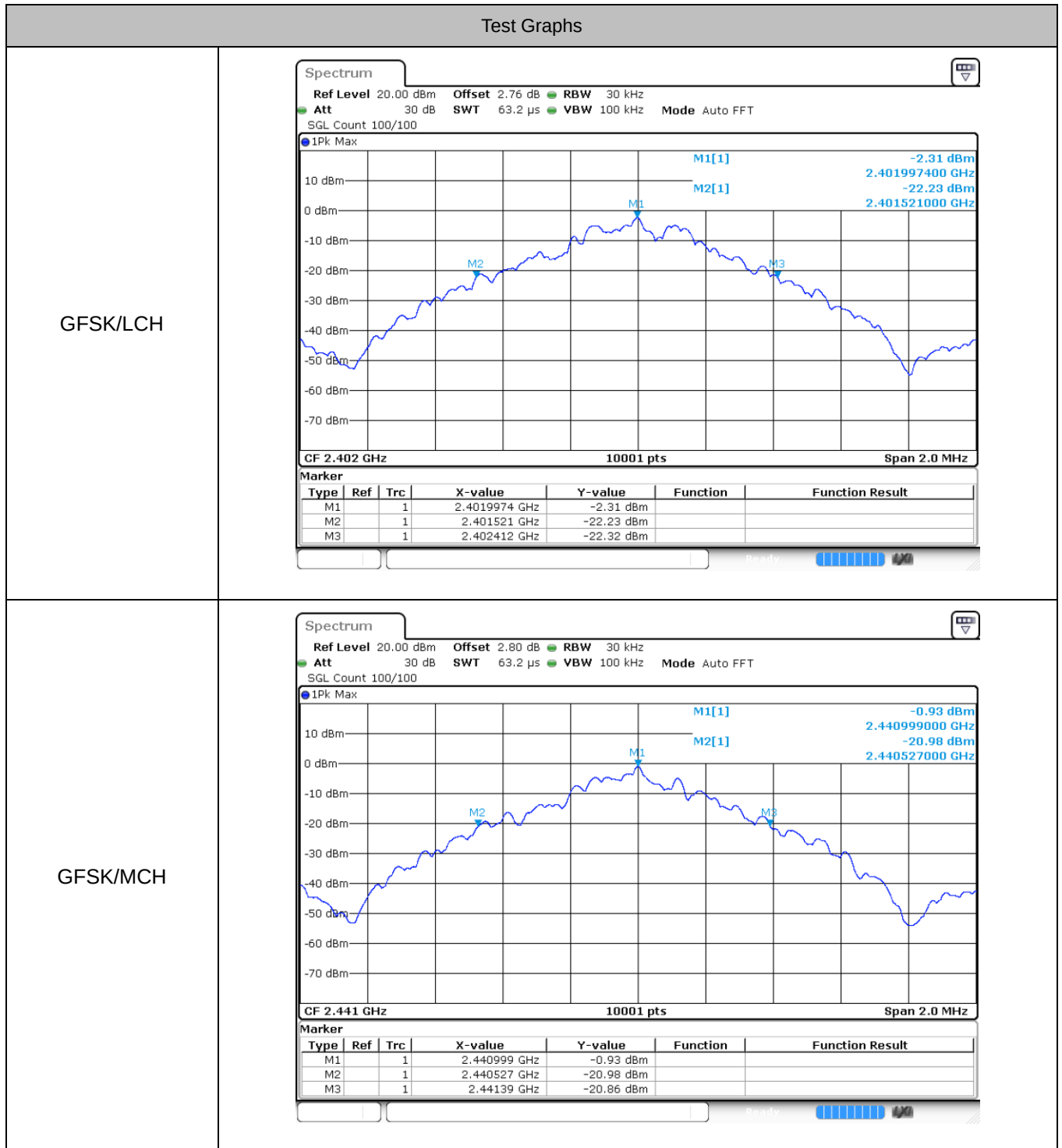


3 20dB Bandwidth

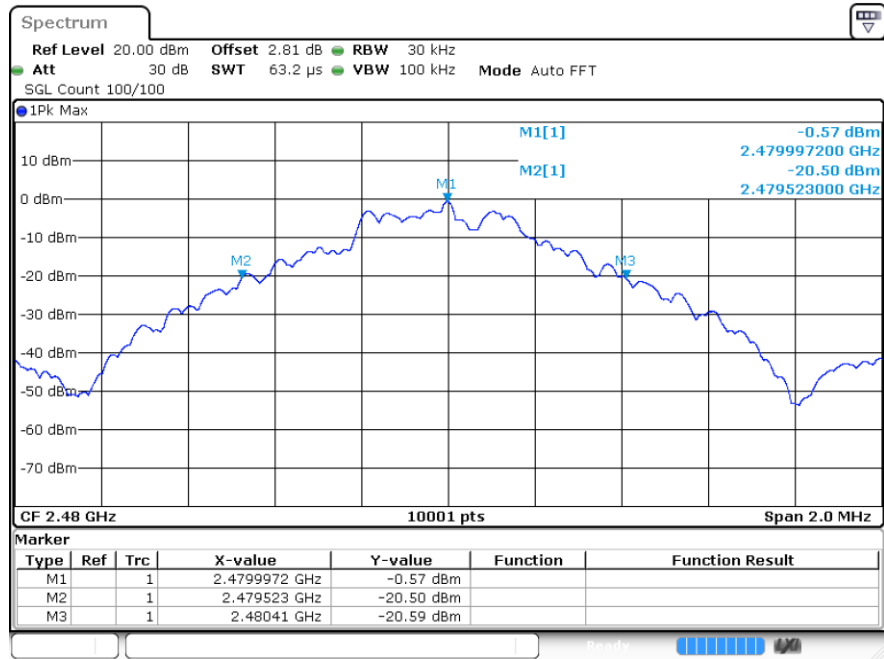
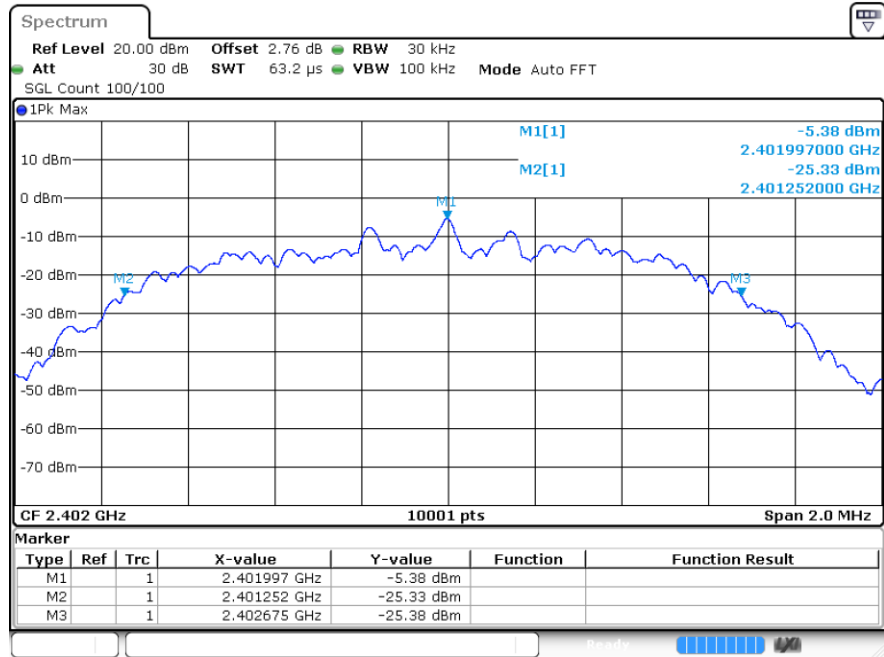
3.1 Test Result

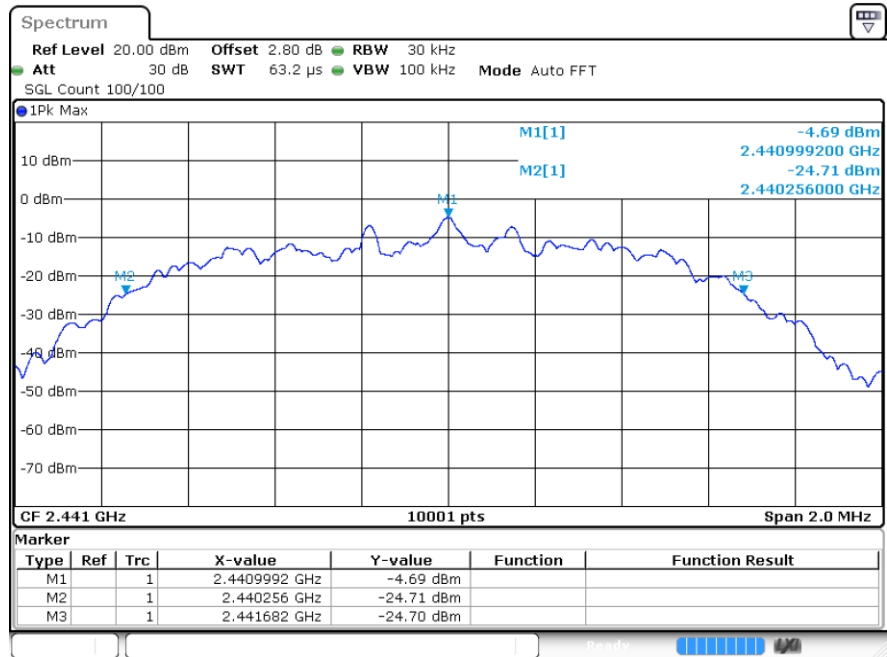
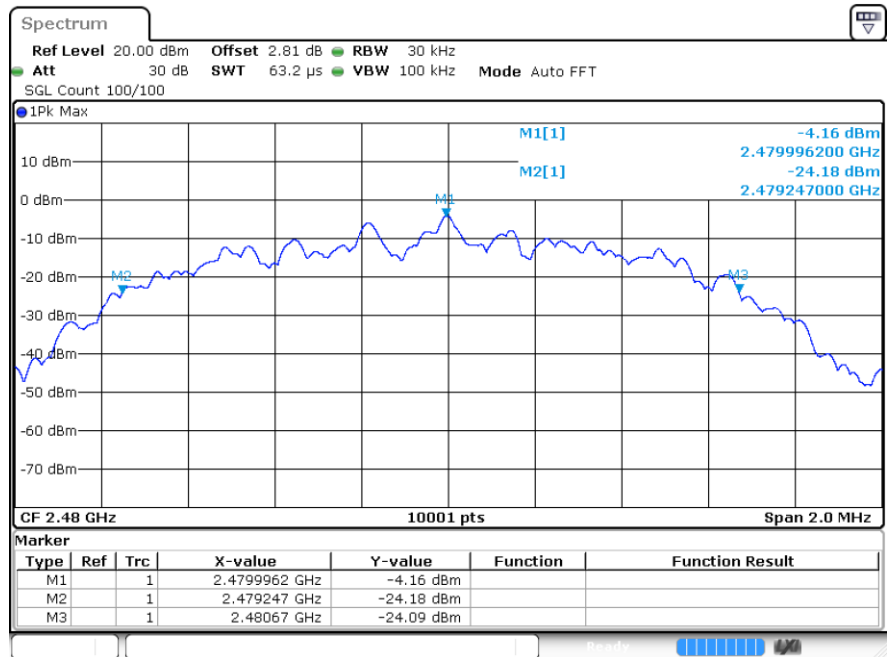
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.891	Not Specified	Pass
	MCH	0.863	Not Specified	Pass
	HCH	0.887	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.423	Not Specified	Pass
	MCH	1.426	Not Specified	Pass
	HCH	1.423	Not Specified	Pass

3.2 Test Graphs



GFSK/HCH


 $\pi/4$ DQPSK/LCH


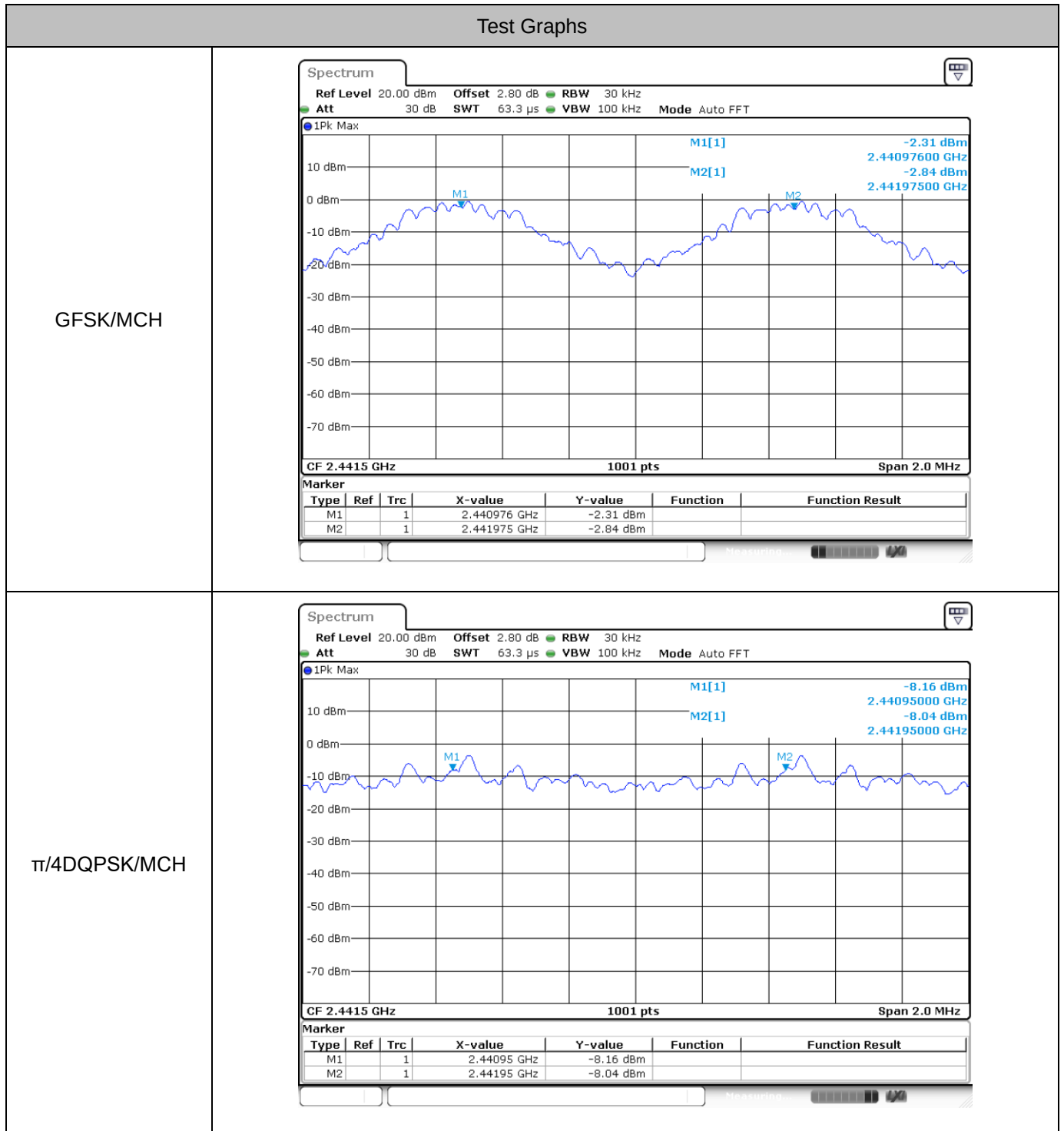
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.999	0.575	Pass
$\pi/4$ DQPSK	MCH	1	0.951	Pass

4.2 Test Graphs

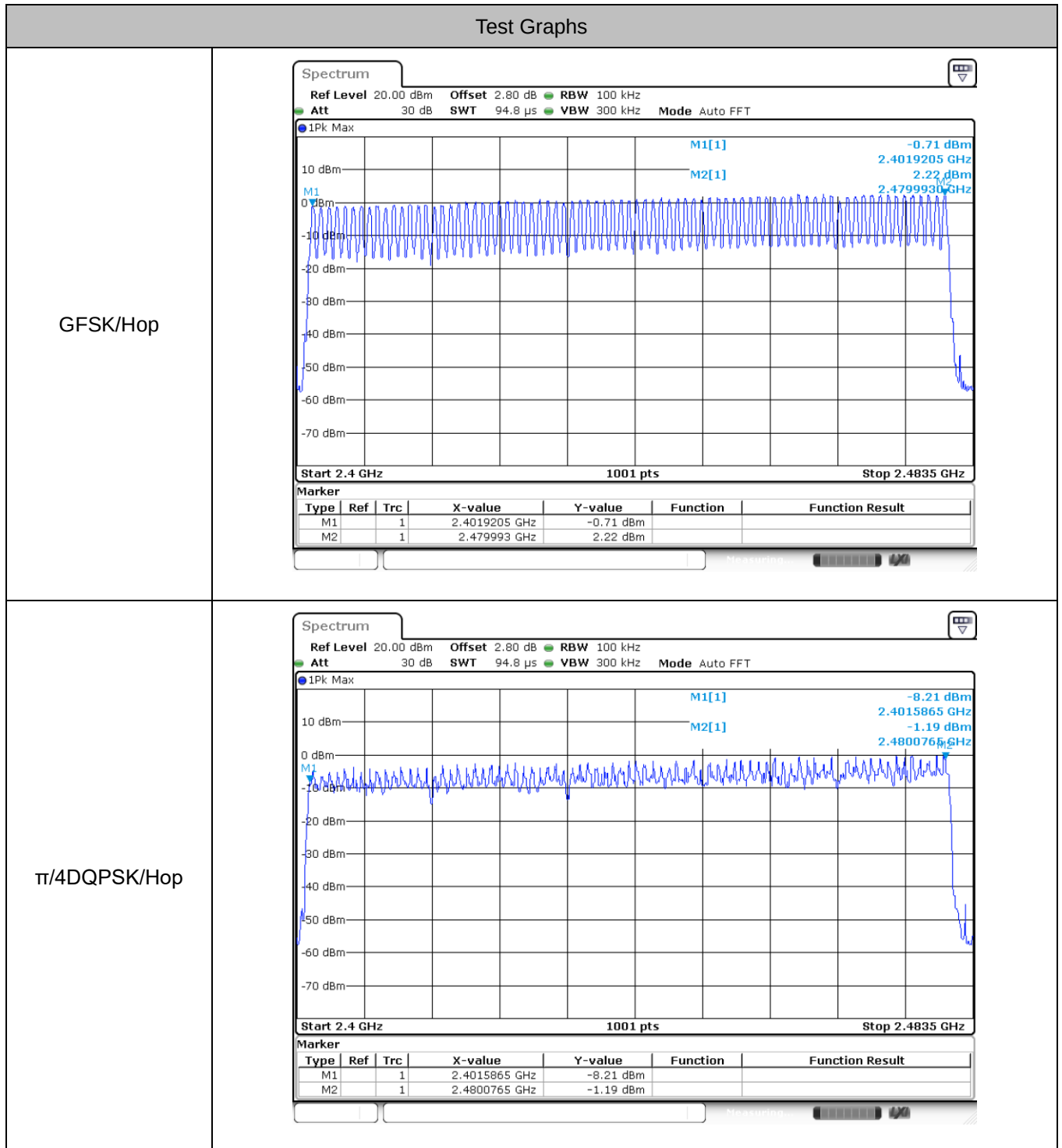


5 Hopping Channel Number

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

5.2 Test Graphs

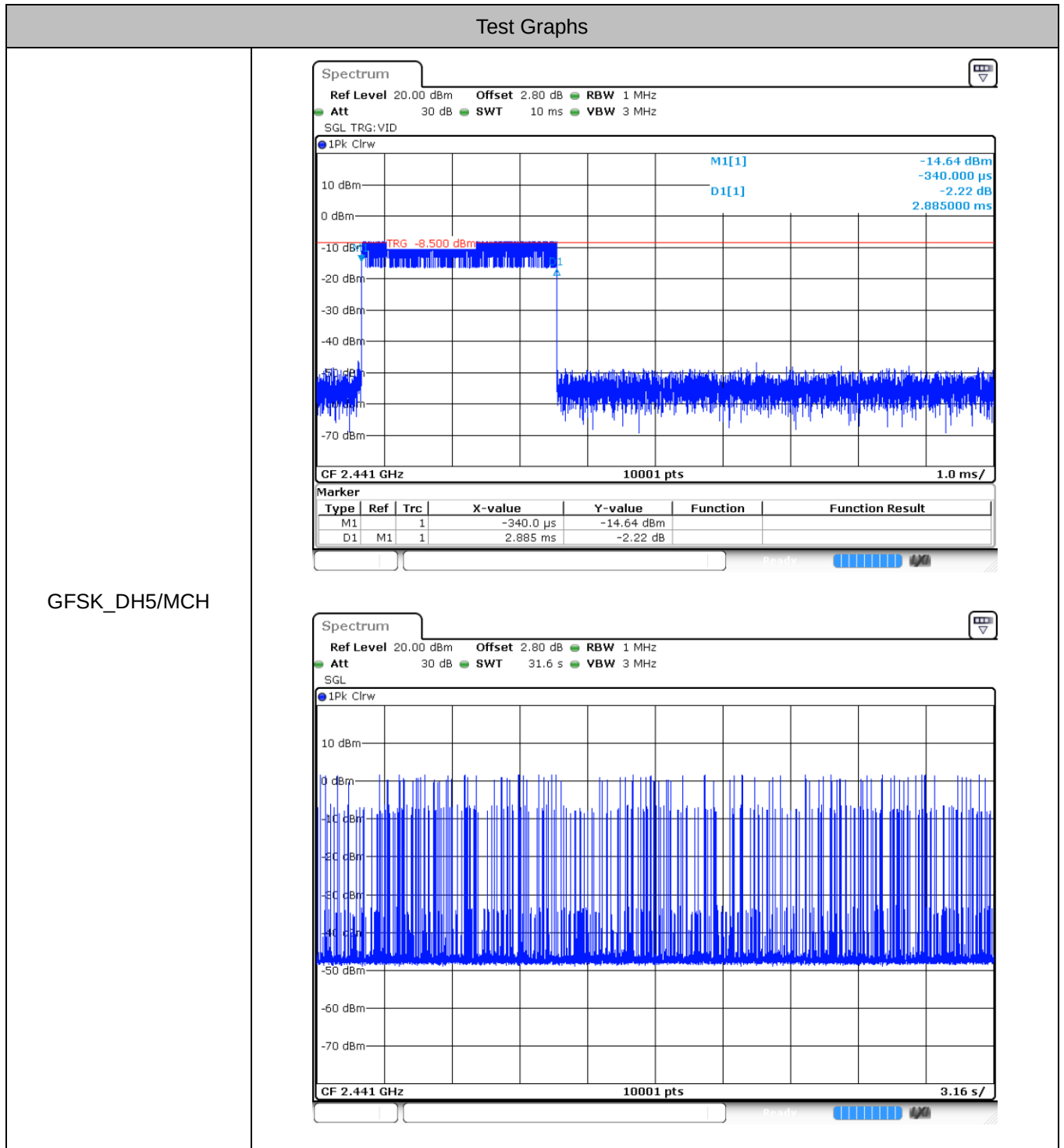


6 Dwell Time

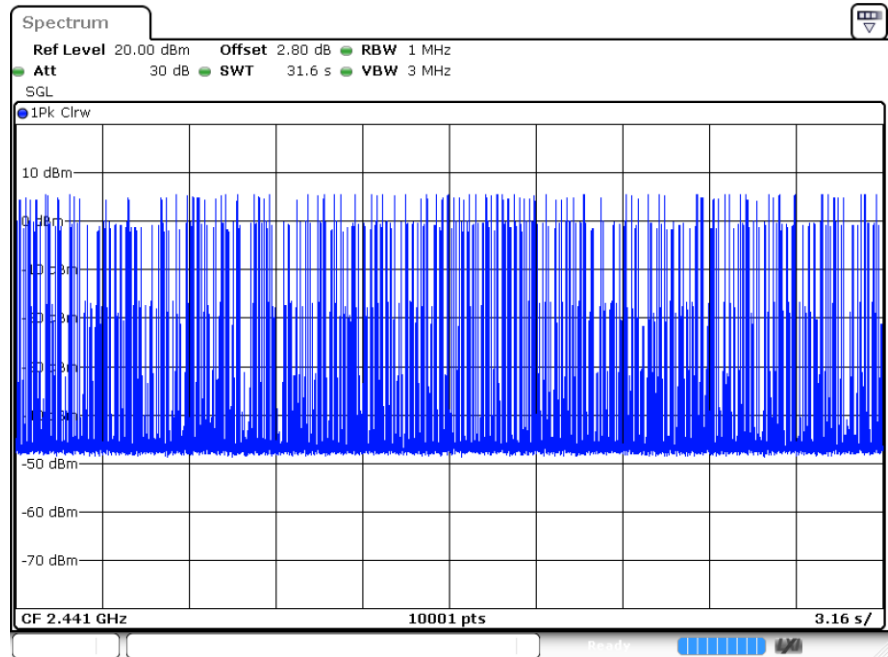
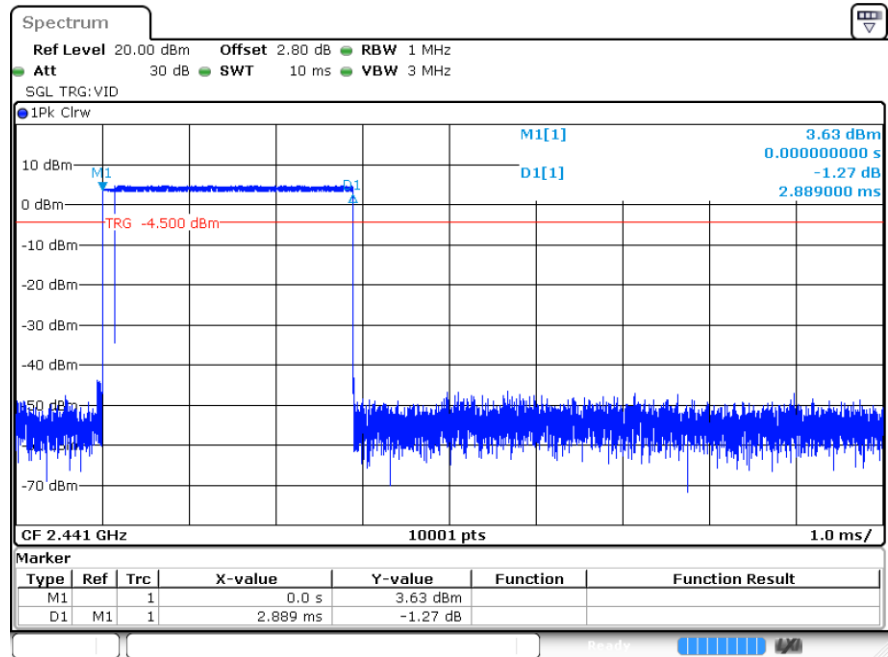
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.885	102	294.27	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.889	118	340.902	0.4	Pass

6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH

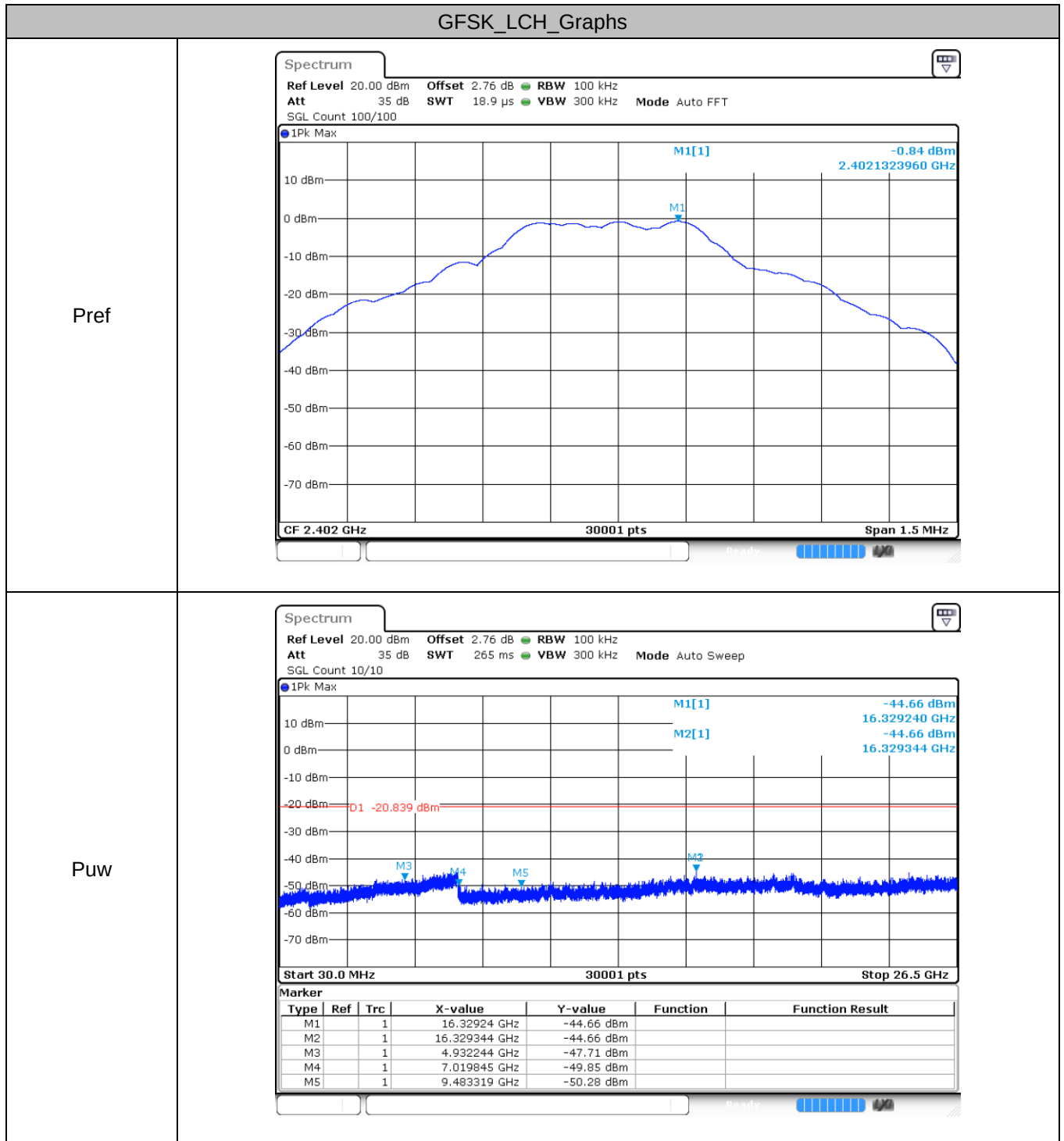


7 RF Conducted Spurious Emissions

7.1 Test Result

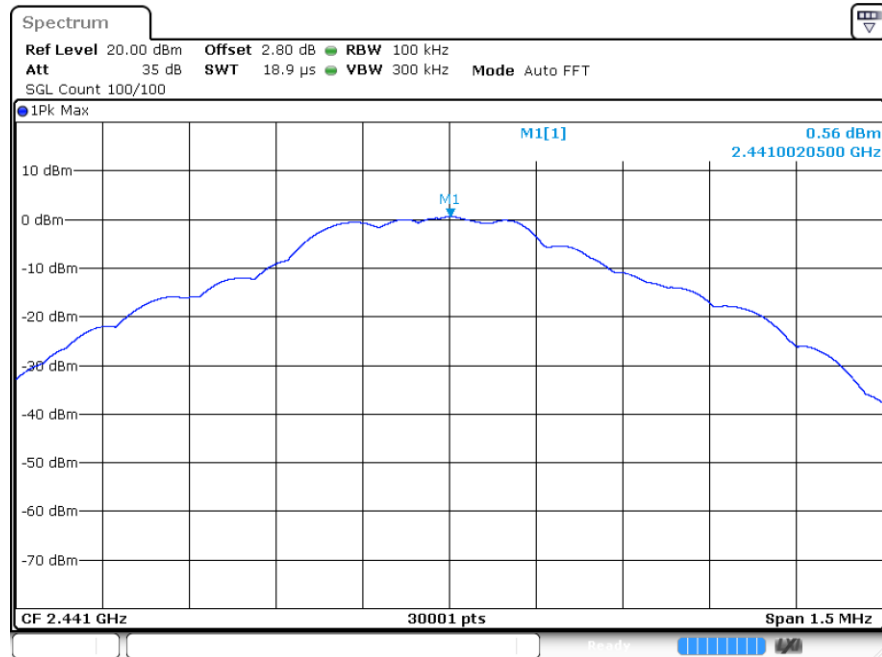
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-43.82	-20	Pass
	MCH	-45.22	-20	Pass
	HCH	-45.46	-20	Pass
$\pi/4$ DQPSK	LCH	-40.14	-20	Pass
	MCH	-41.85	-20	Pass
	HCH	-42.06	-20	Pass

7.2 Test Graphs

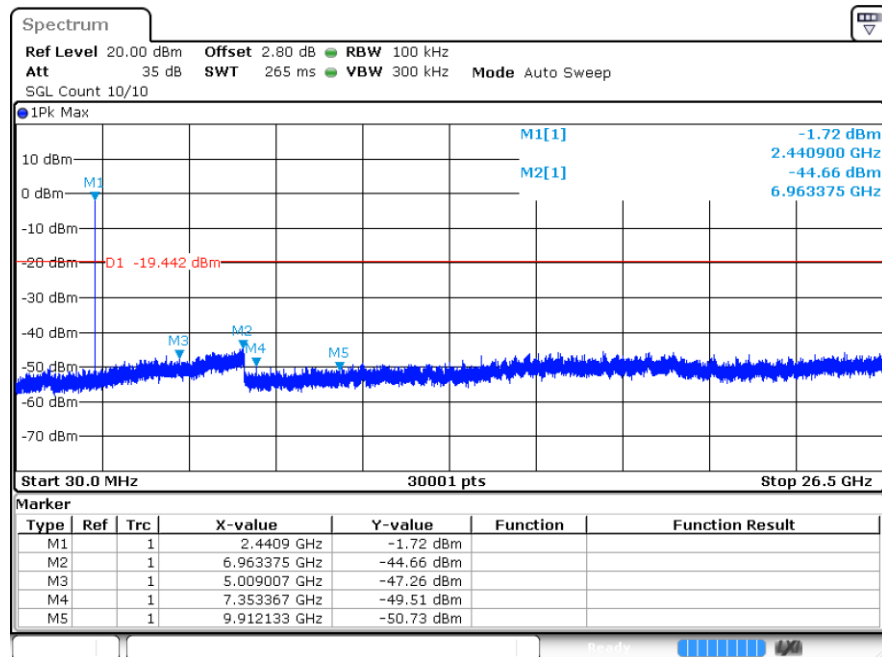


GFSK_MCH_Graphs

Pref

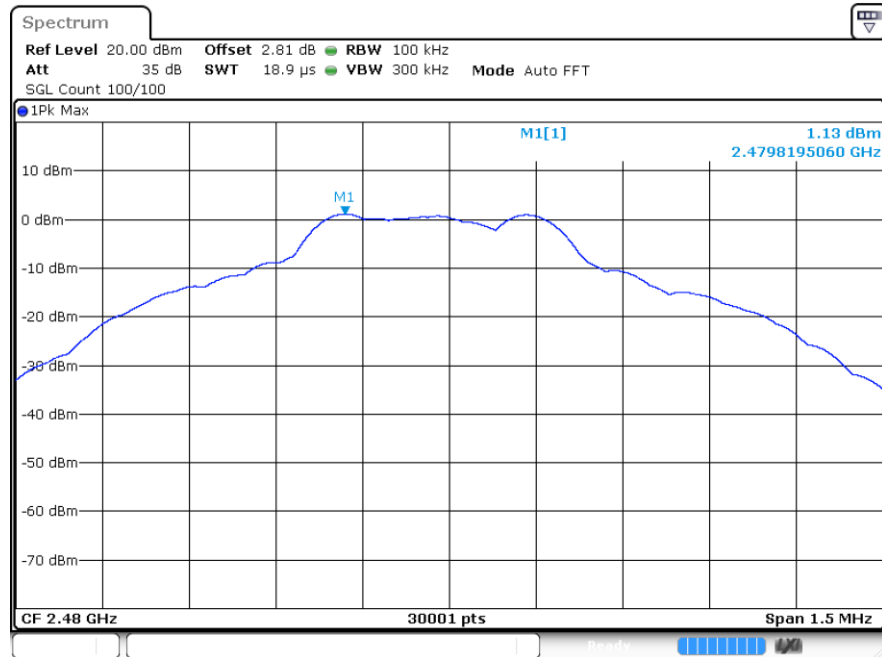


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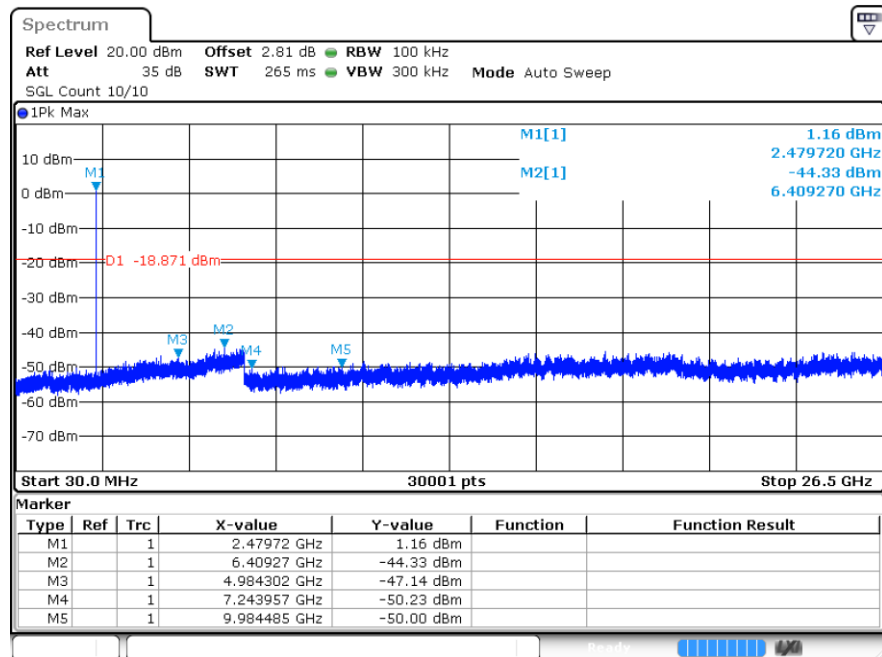


GFSK_HCH_Graphs

Pref

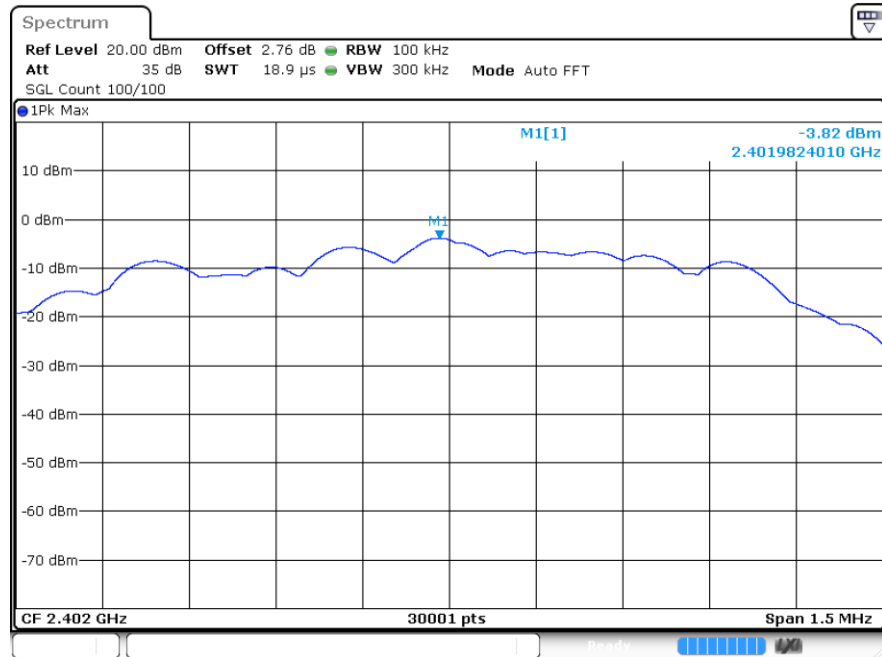


Puw

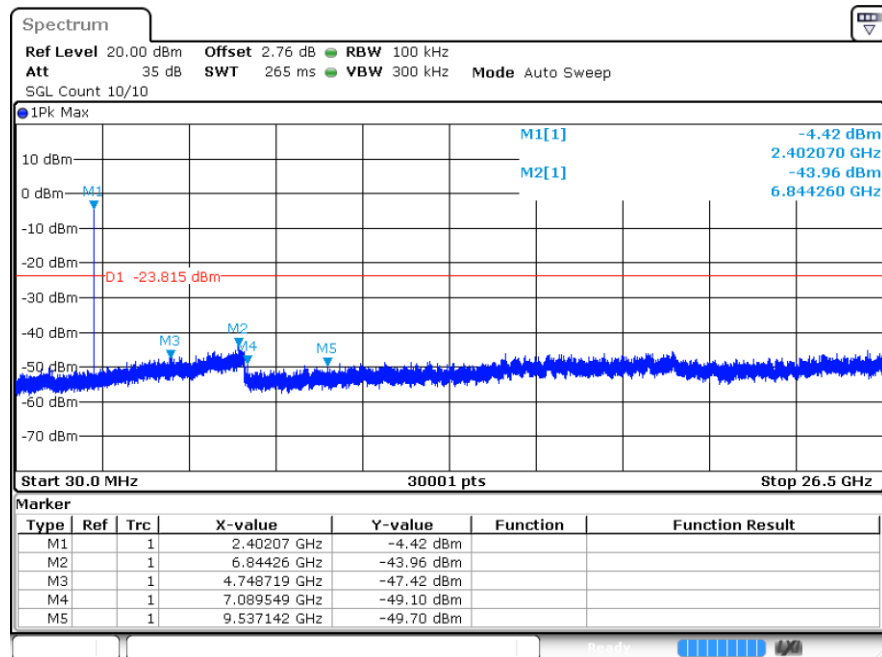


$\pi/4$ DQPSK_LCH_Graphs

Pref

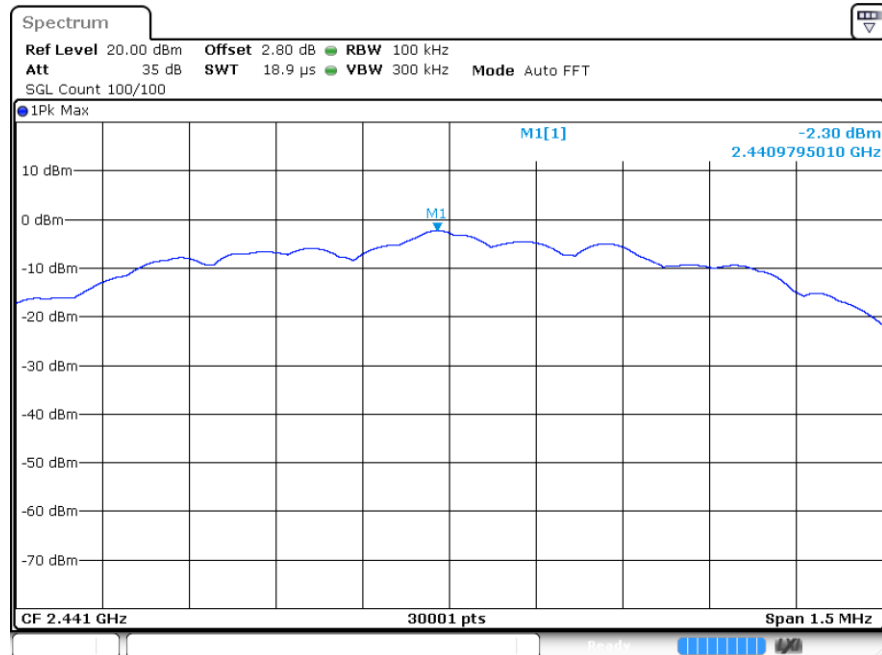


Puw

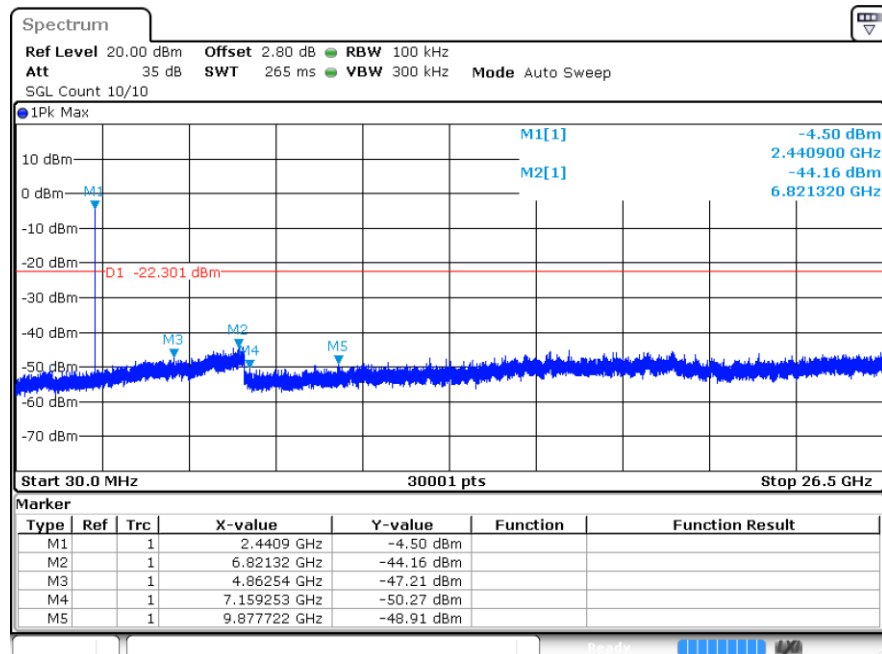


π /4DQPSK_MCH_Graphs

Pref

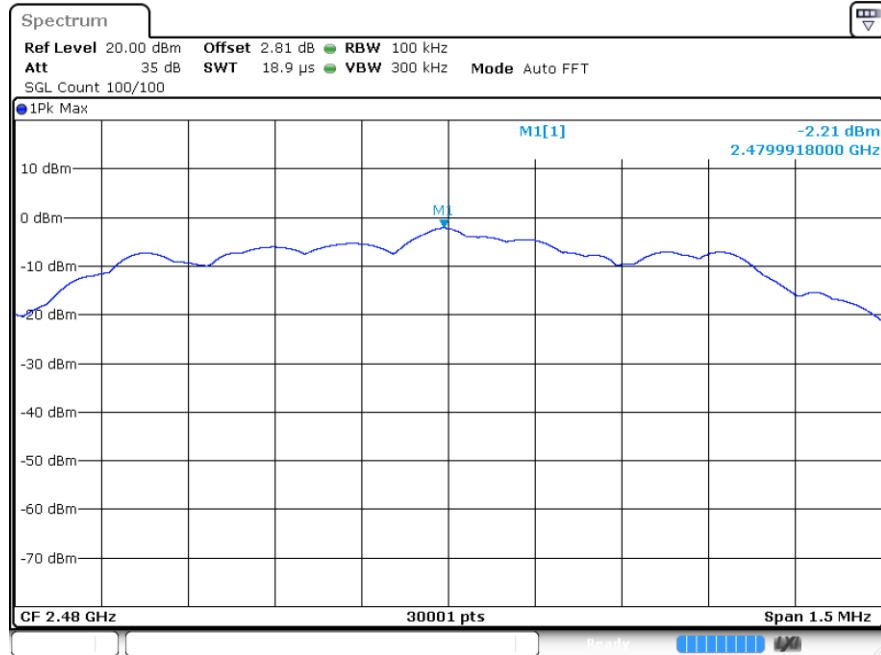


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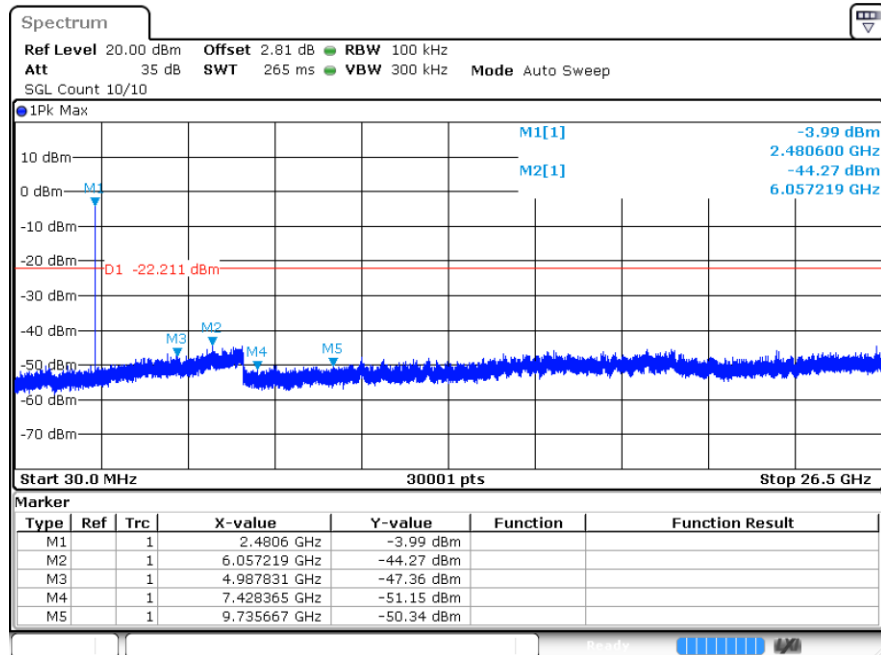


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

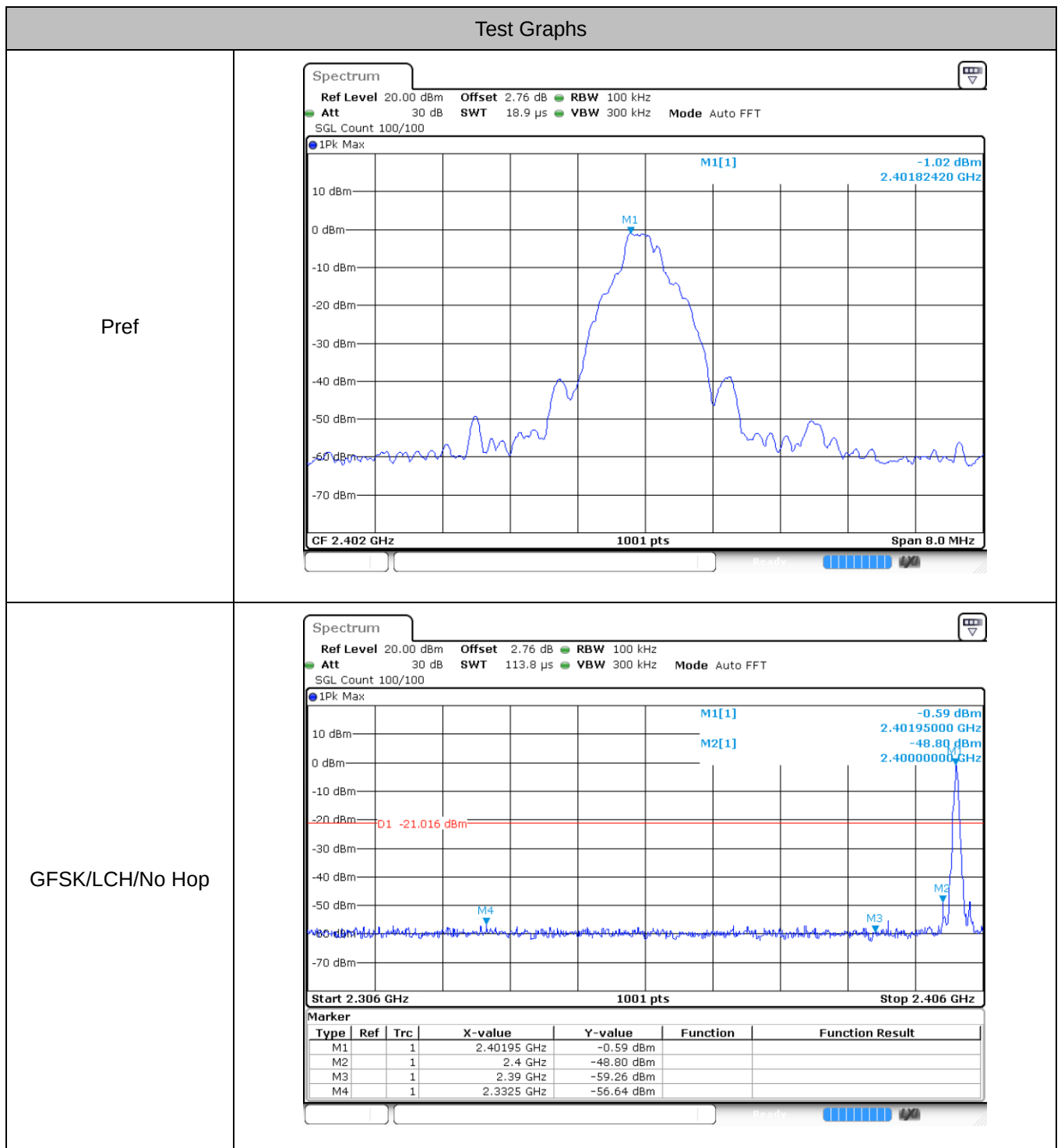


8 Band-edge for RF Conducted Emissions

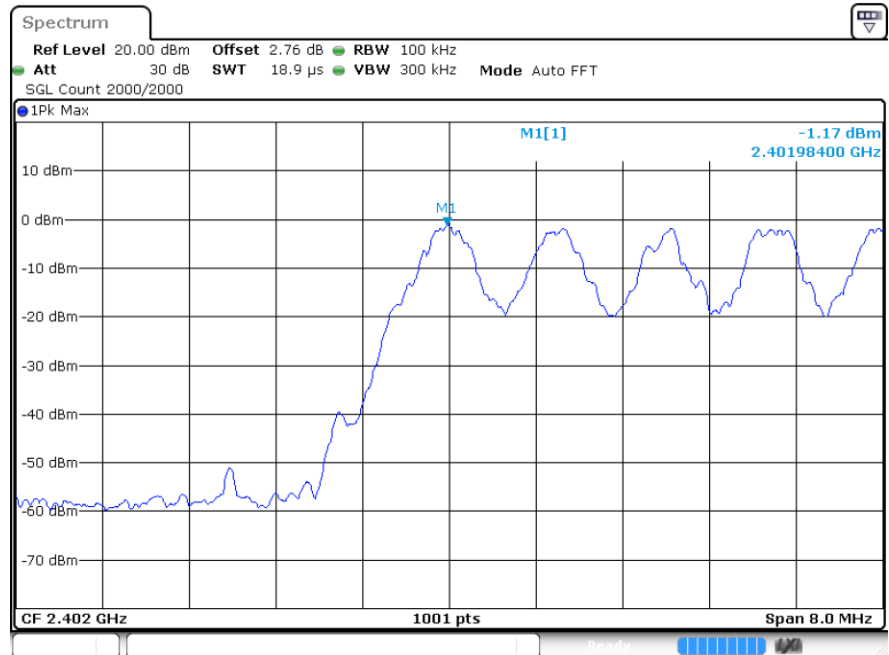
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-55.62	-20	Pass
			On	-53.33	-20	Pass
	HCH	2480	Off	-48.17	-20	Pass
			On	-49.37	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-52.53	-20	Pass
			On	-51.44	-20	Pass
	HCH	2480	Off	-49	-20	Pass
			On	-47.09	-20	Pass

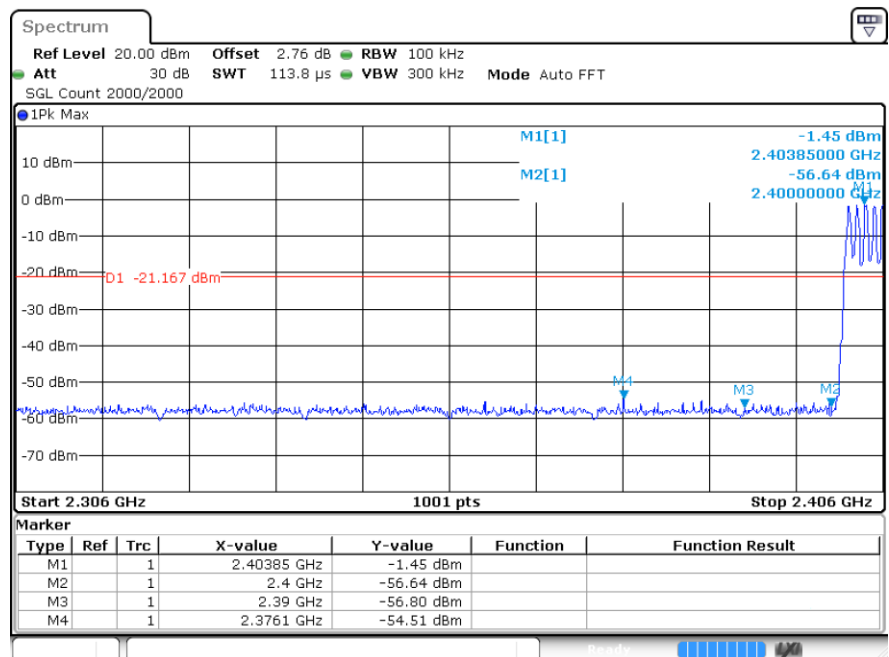
8.2 Test Graphs



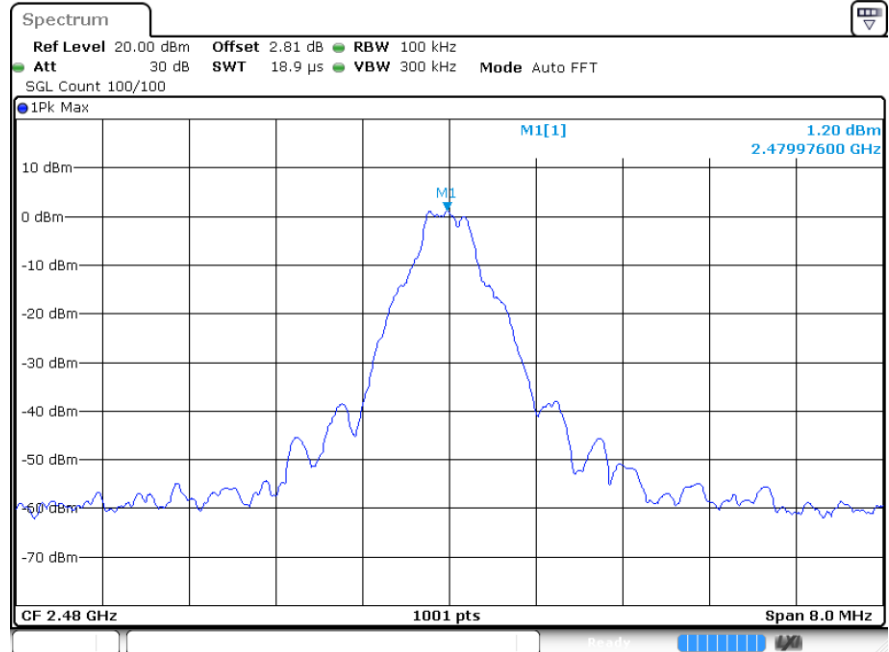
Ref



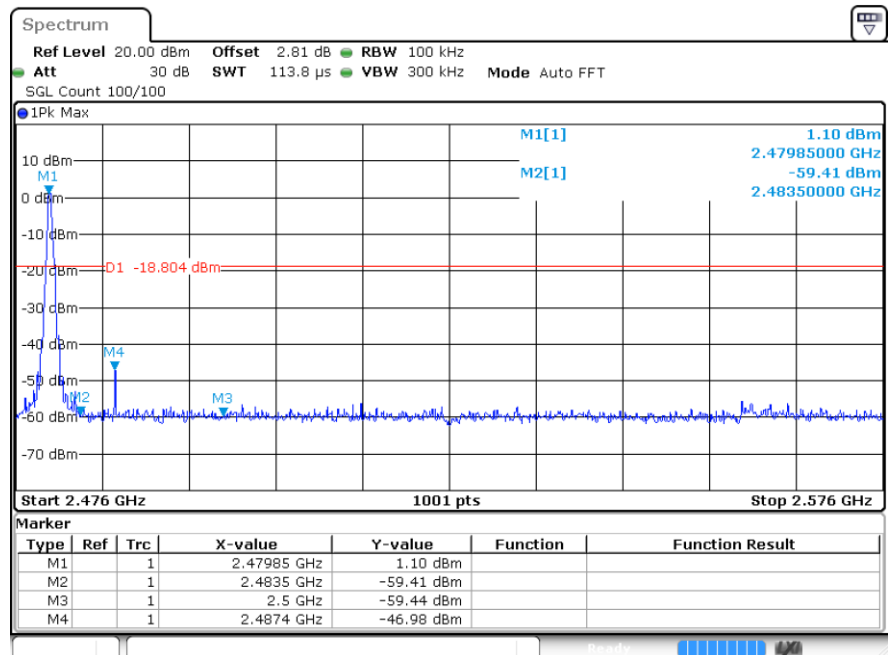
GFSK/LCH/Hop



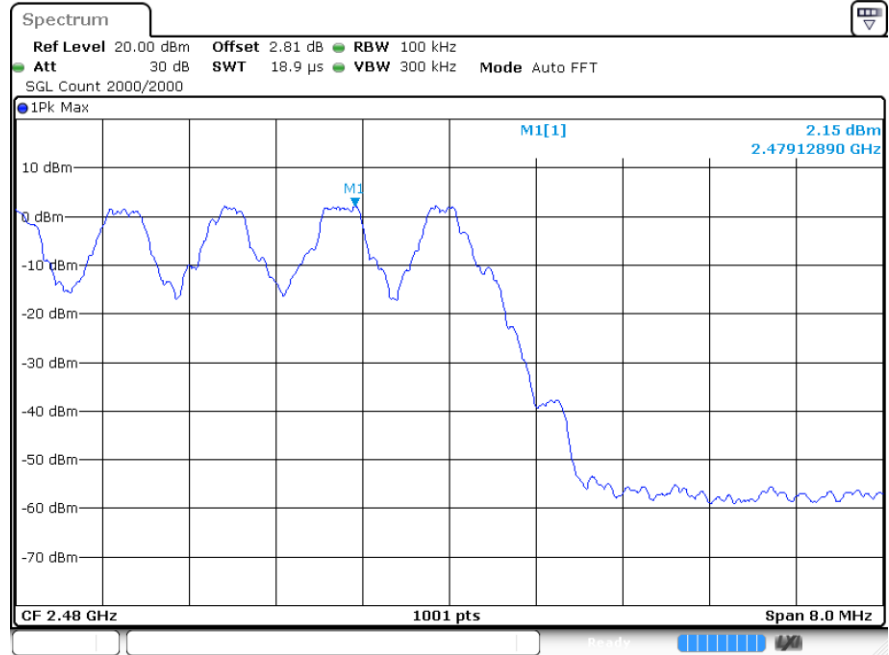
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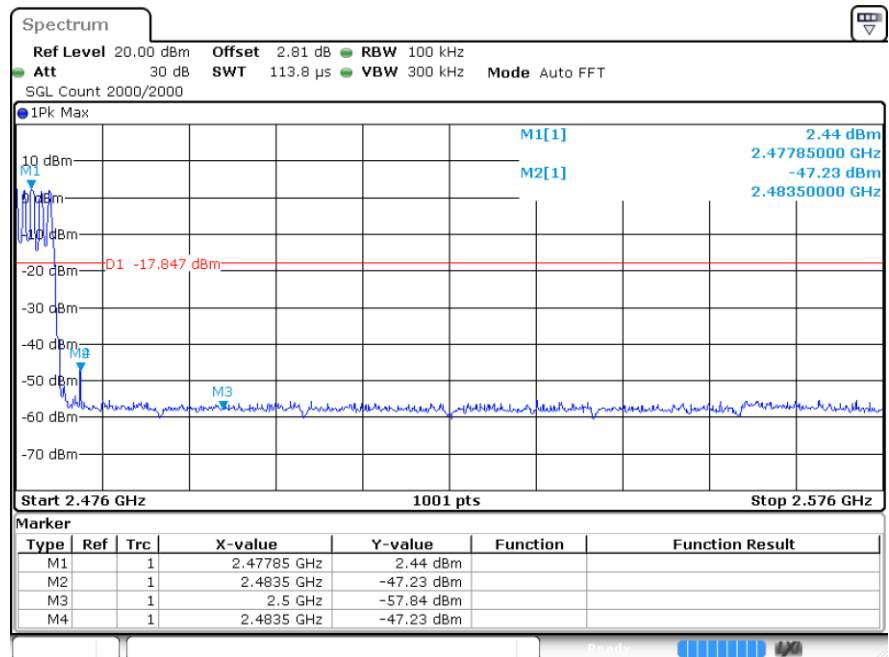
GFSK/HCH/No Hop

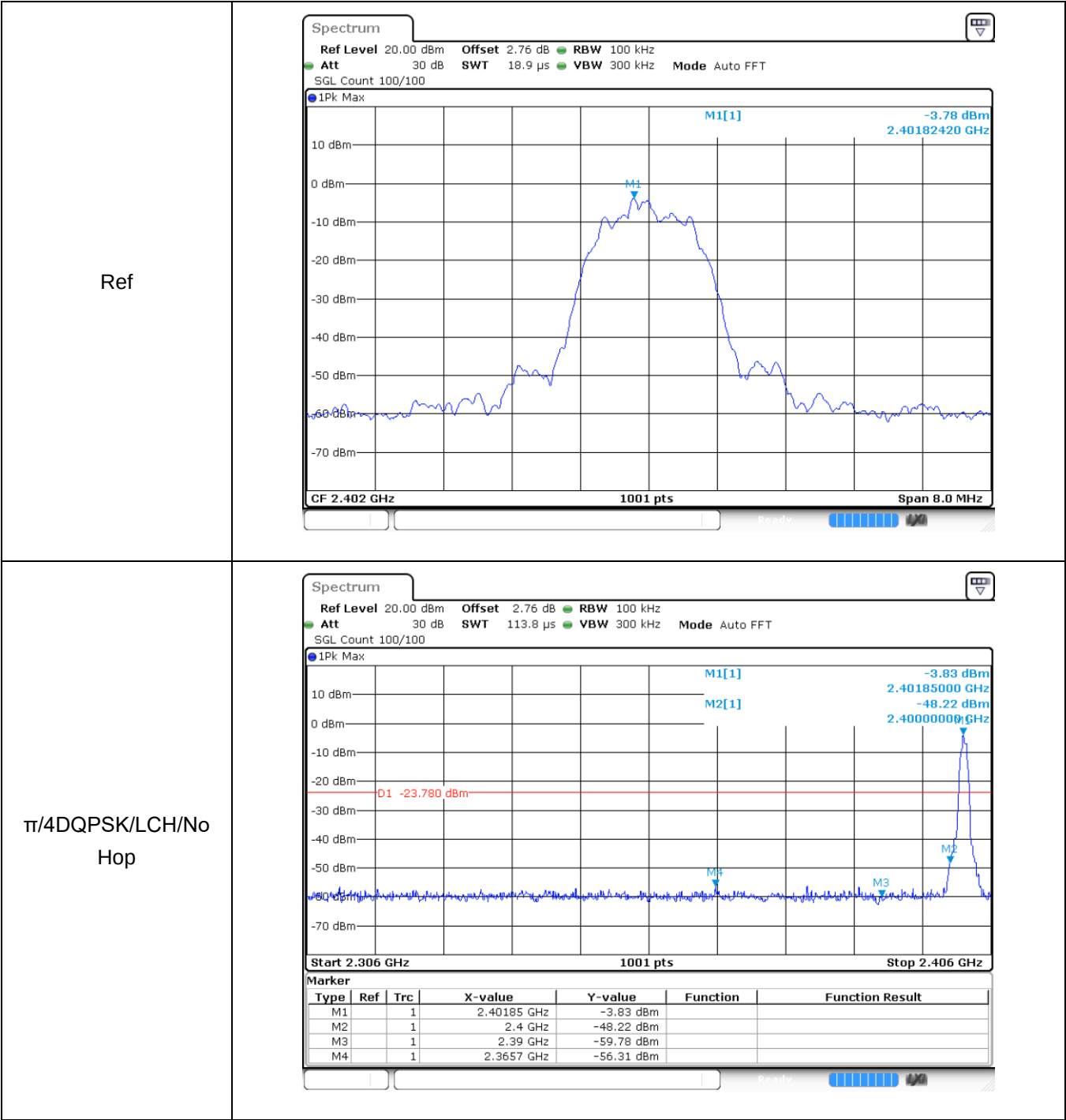


Ref.

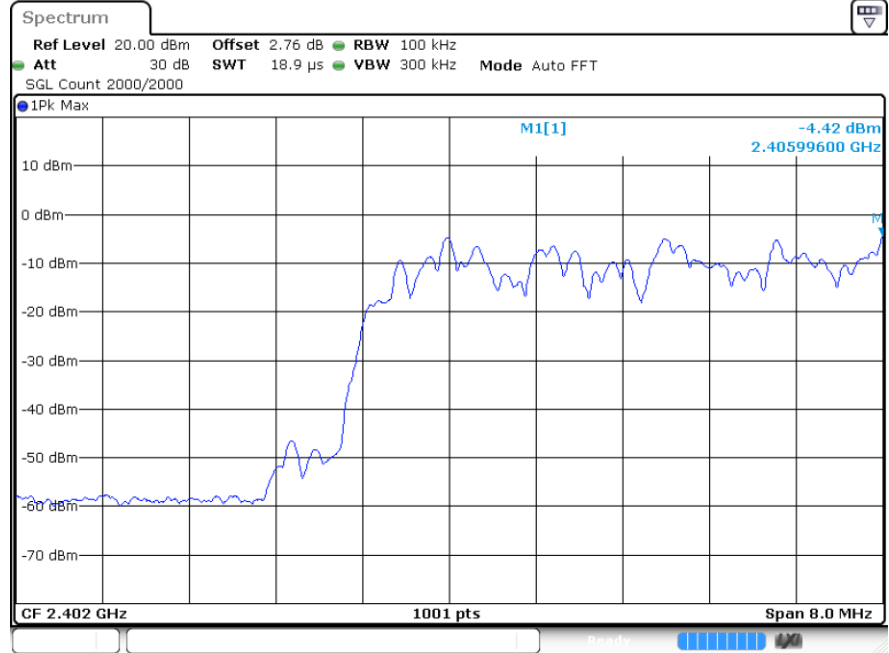
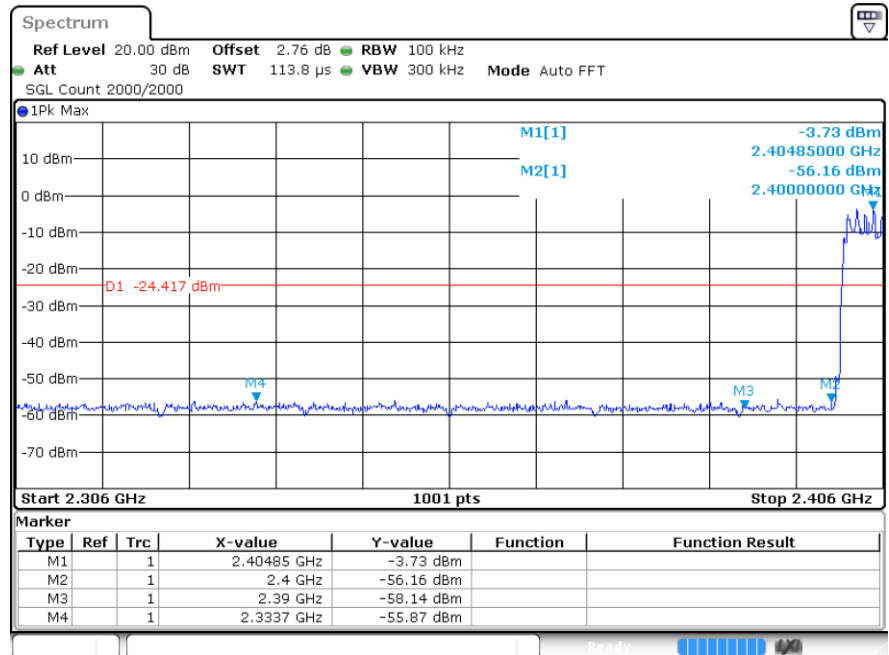


GFSK/HCH/Hop

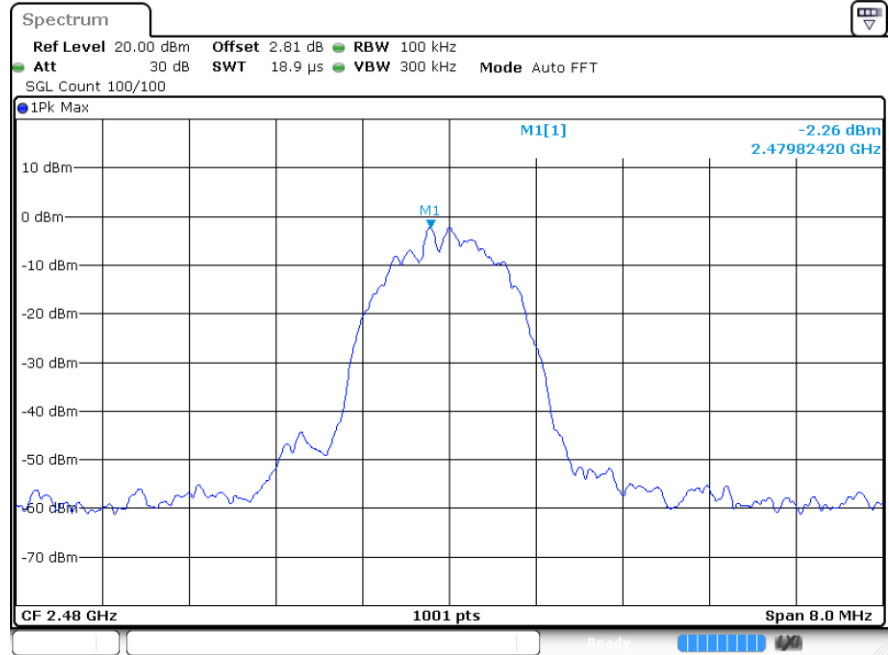




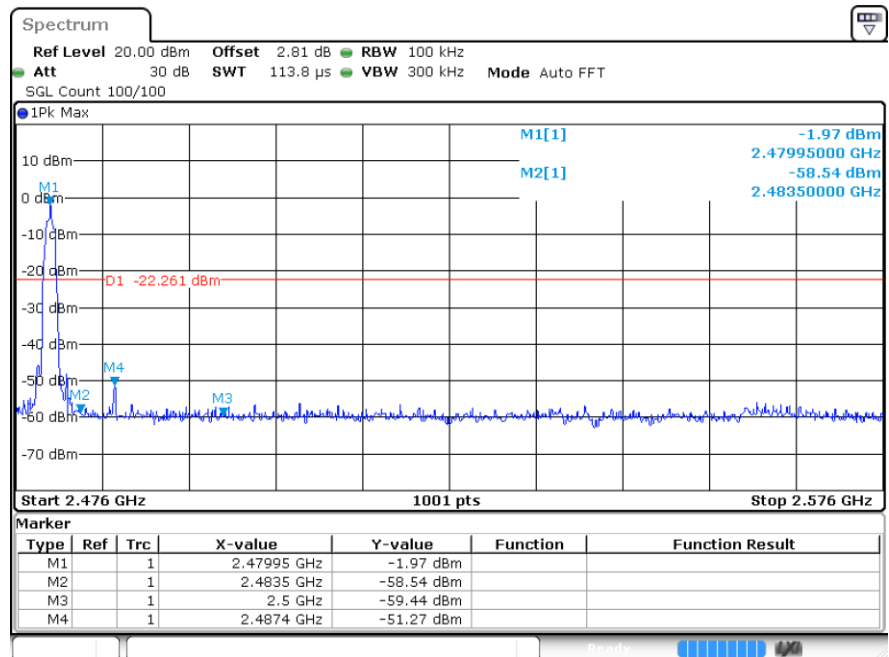
Ref


 $\pi/4$ DQPSK/LCH/Hop


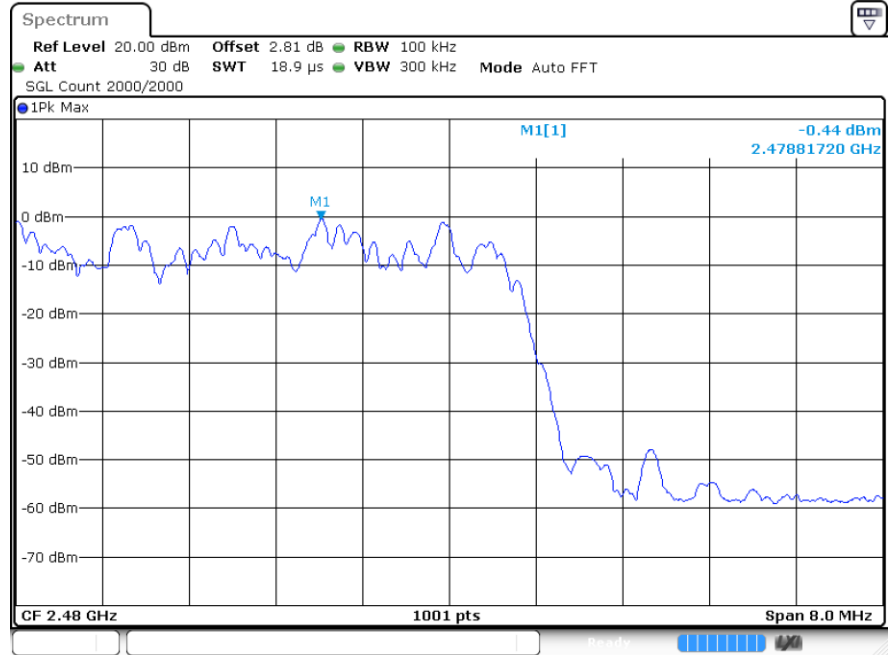
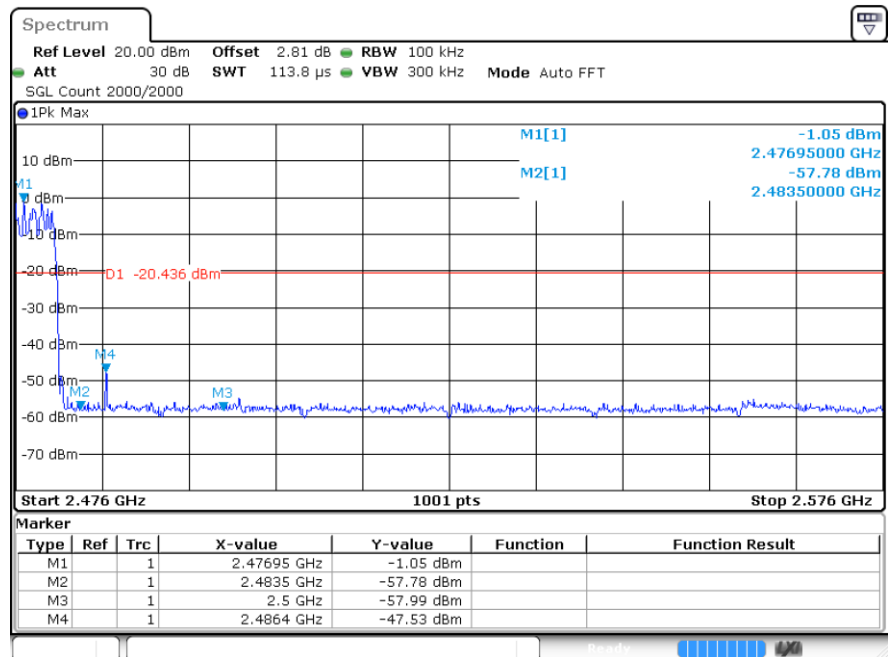
Ref



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



Ref


 $\pi/4$ DQPSK/HCH/Hop


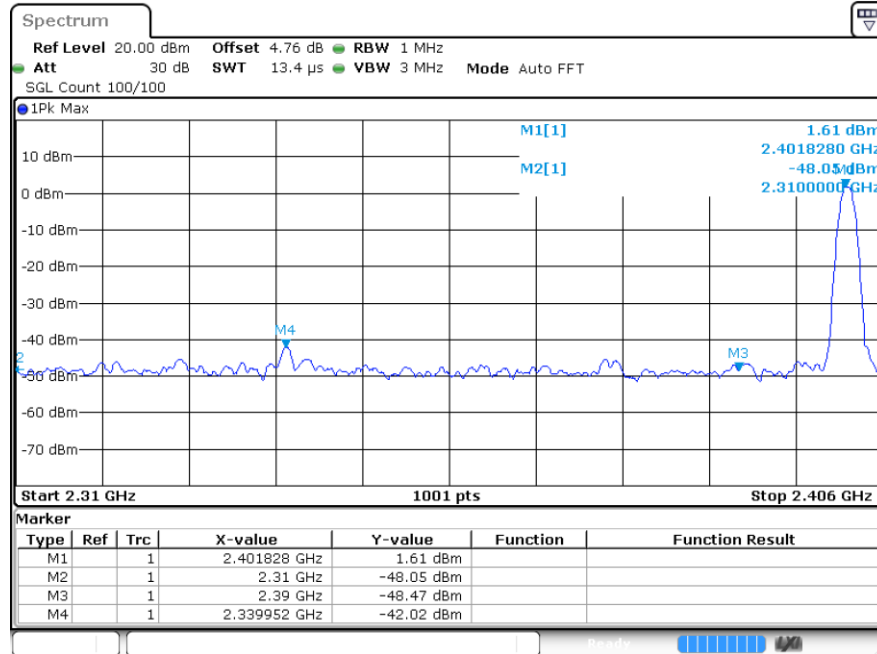
9 Restrict-band band-edge measurements

9.1 Test Result

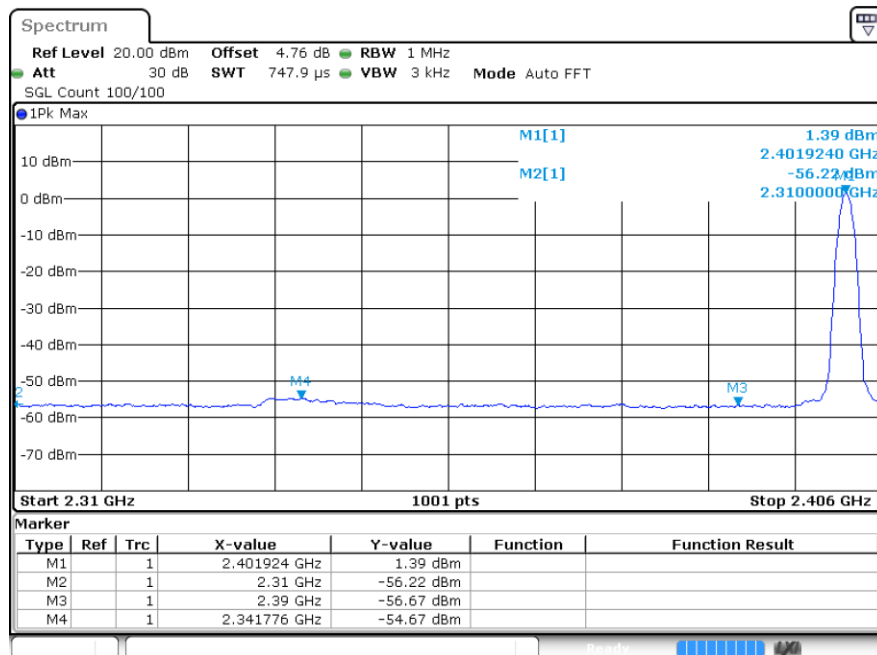
Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-48.05	2	49.21	PEAK	74	Pass
	Off	2310.0	-56.21	2	41.05	AV	54	Pass
	Off	2339.952	-42.01	2	55.25	PEAK	74	Pass
	Off	2341.776	-54.66	2	42.6	AV	54	Pass
	Off	2390.0	-48.46	2	48.8	PEAK	74	Pass
	Off	2390.0	-56.66	2	40.6	AV	54	Pass
	Off	2483.5	-47.91	2	49.35	PEAK	74	Pass
	Off	2483.5	-55.03	2	42.23	AV	54	Pass
	Off	2485.96	-44.92	2	52.34	PEAK	74	Pass
	Off	2487.184	-54.45	2	42.81	AV	54	Pass
	Off	2500.0	-47.39	2	49.87	PEAK	74	Pass
	Off	2500.0	-56.39	2	40.87	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-49.62	2	47.64	PEAK	74	Pass
	Off	2310.0	-56.36	2	40.9	AV	54	Pass
	Off	2339.76	-45.07	2	52.19	PEAK	74	Pass
	Off	2338.128	-54.09	2	43.17	AV	54	Pass
	Off	2390.0	-47.29	2	49.97	PEAK	74	Pass
	Off	2390.0	-56.84	2	40.42	AV	54	Pass
	Off	2483.5	-47.89	2	49.37	PEAK	74	Pass
	Off	2483.5	-54.64	2	42.62	AV	54	Pass
	Off	2491.912	-44.09	2	53.17	PEAK	74	Pass
	Off	2483.512	-54.64	2	42.62	AV	54	Pass
	Off	2500.0	-47.86	2	49.4	PEAK	74	Pass
	Off	2500.0	-56.22	2	41.04	AV	54	Pass

9.2 Test Graphs

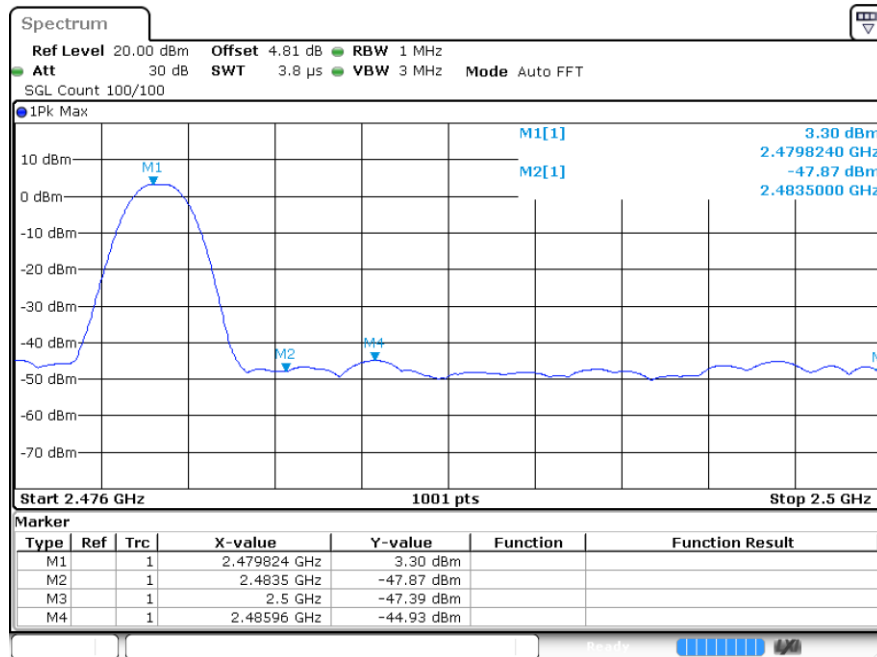
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



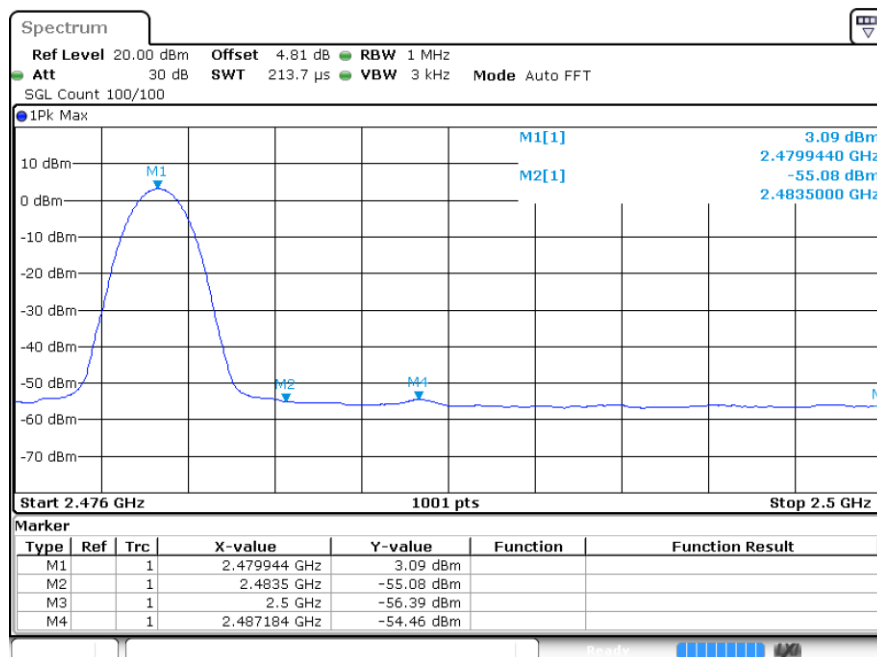
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



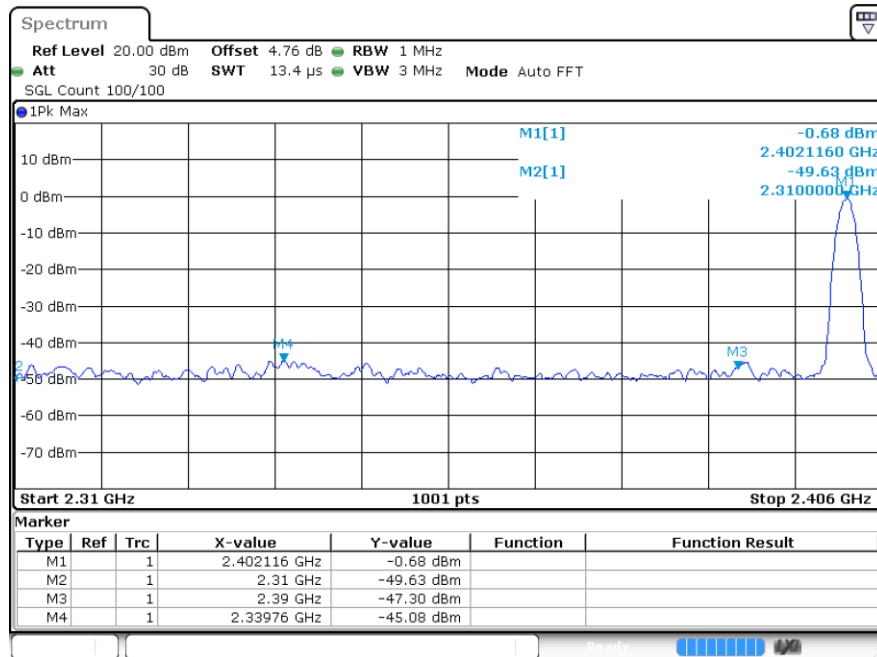
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



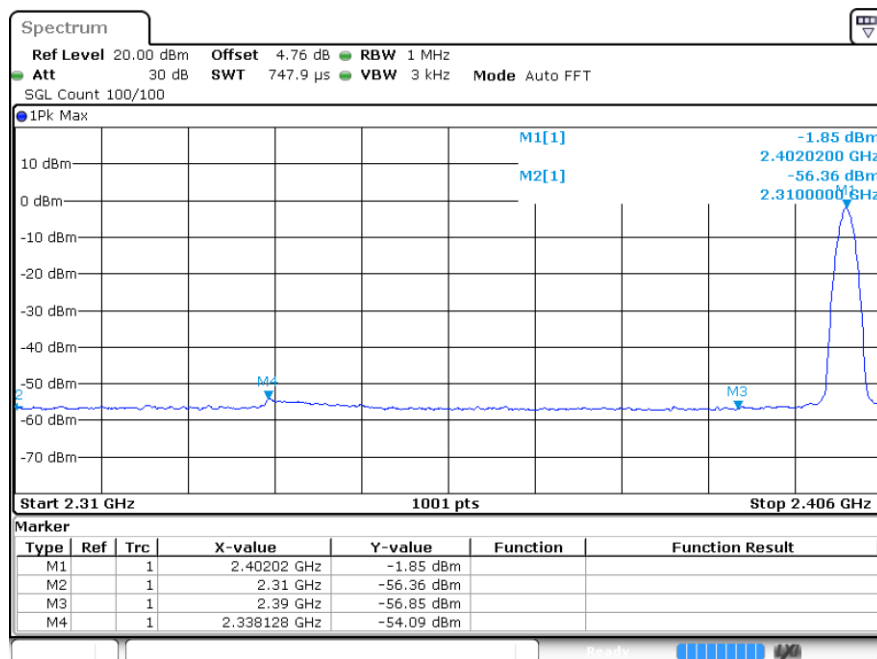
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



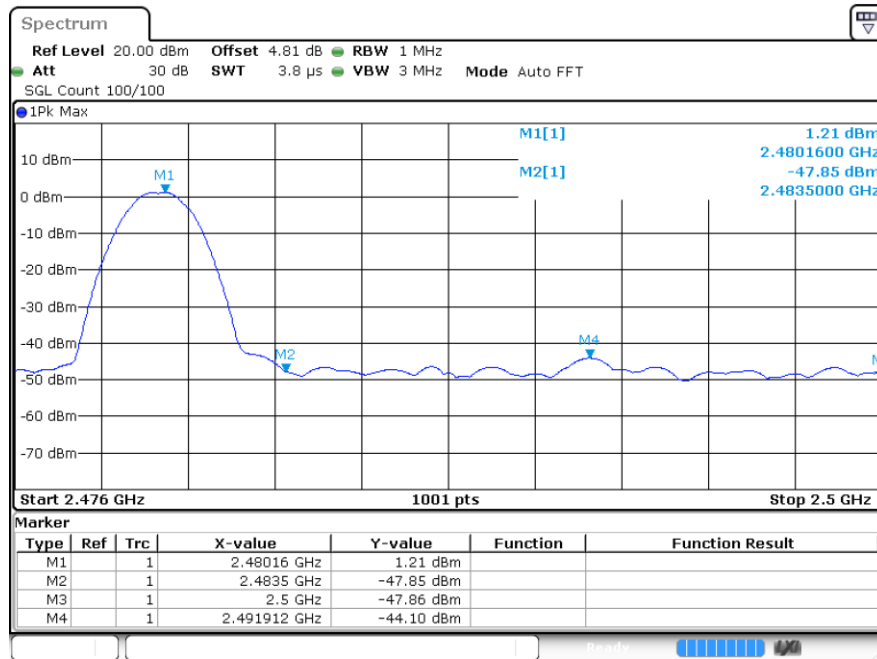
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



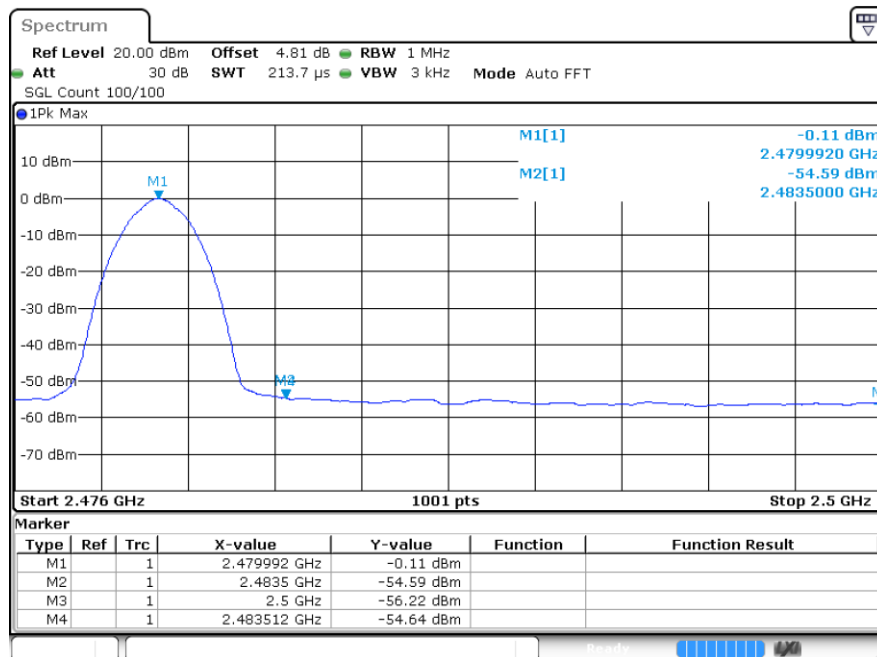
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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)



---The End---