



Appendix A

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

Product Name: Noise cancelling headphones

Trade Mark: N/A

Test Model: H30

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	51.4%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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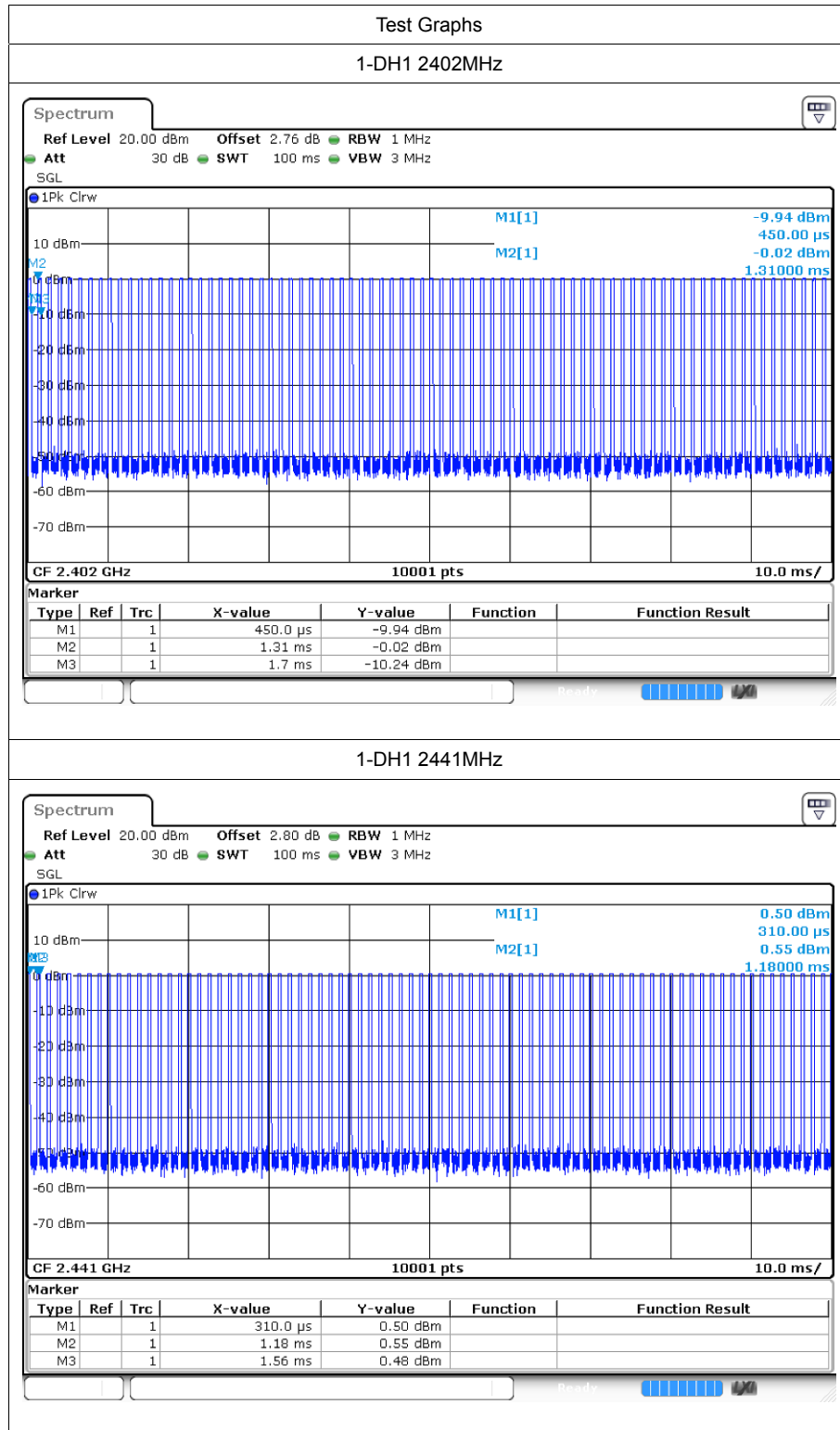
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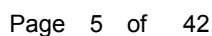
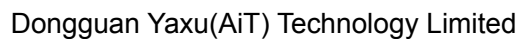
1 Duty Cycle

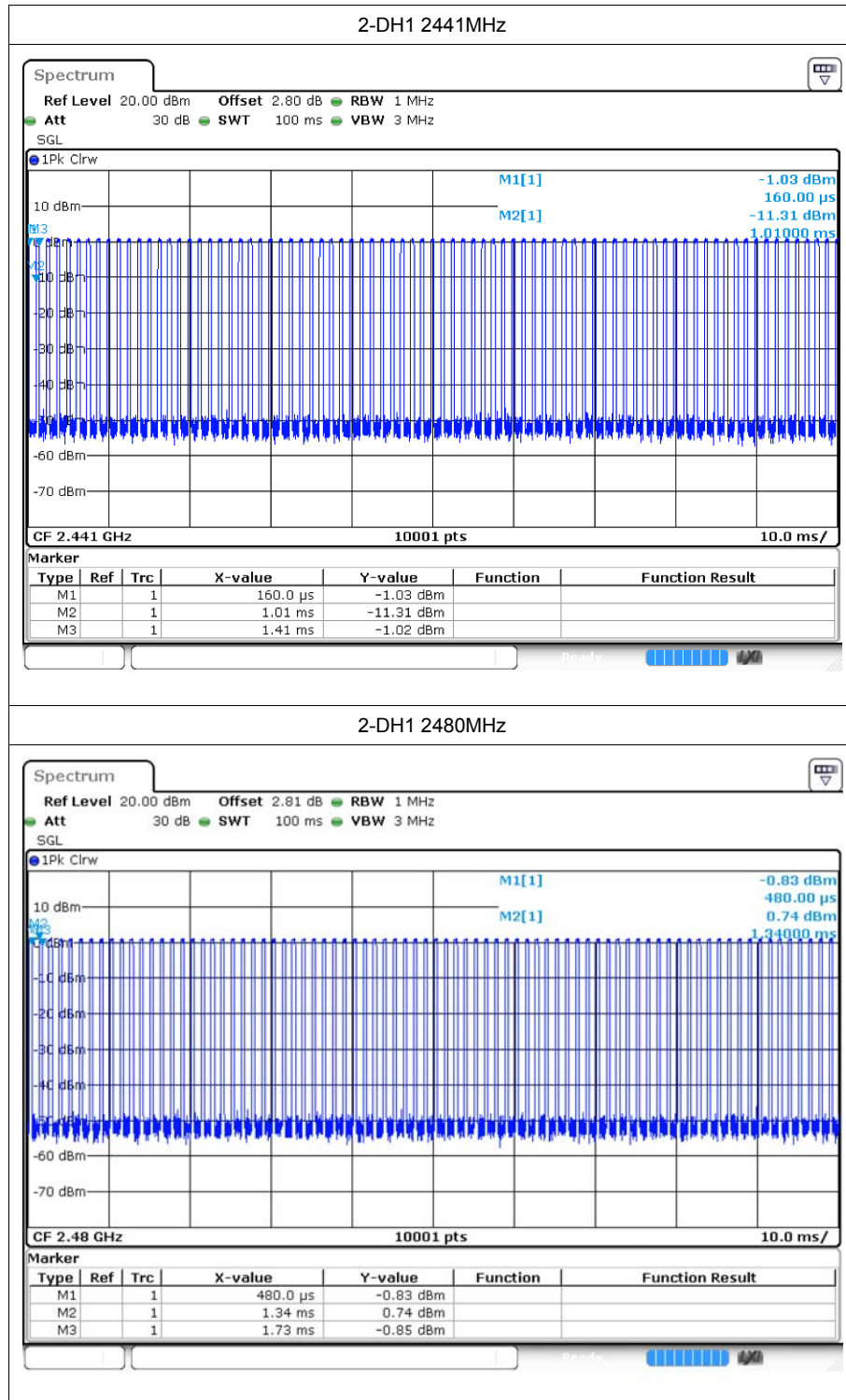
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	31.53	2.56
1-DH1	2441	31.21	2.63
1-DH1	2480	31.2	2.63
2-DH1	2402	32	2.56
2-DH1	2441	32.81	2.5
2-DH1	2480	32	2.56

1.2 Test Graphs





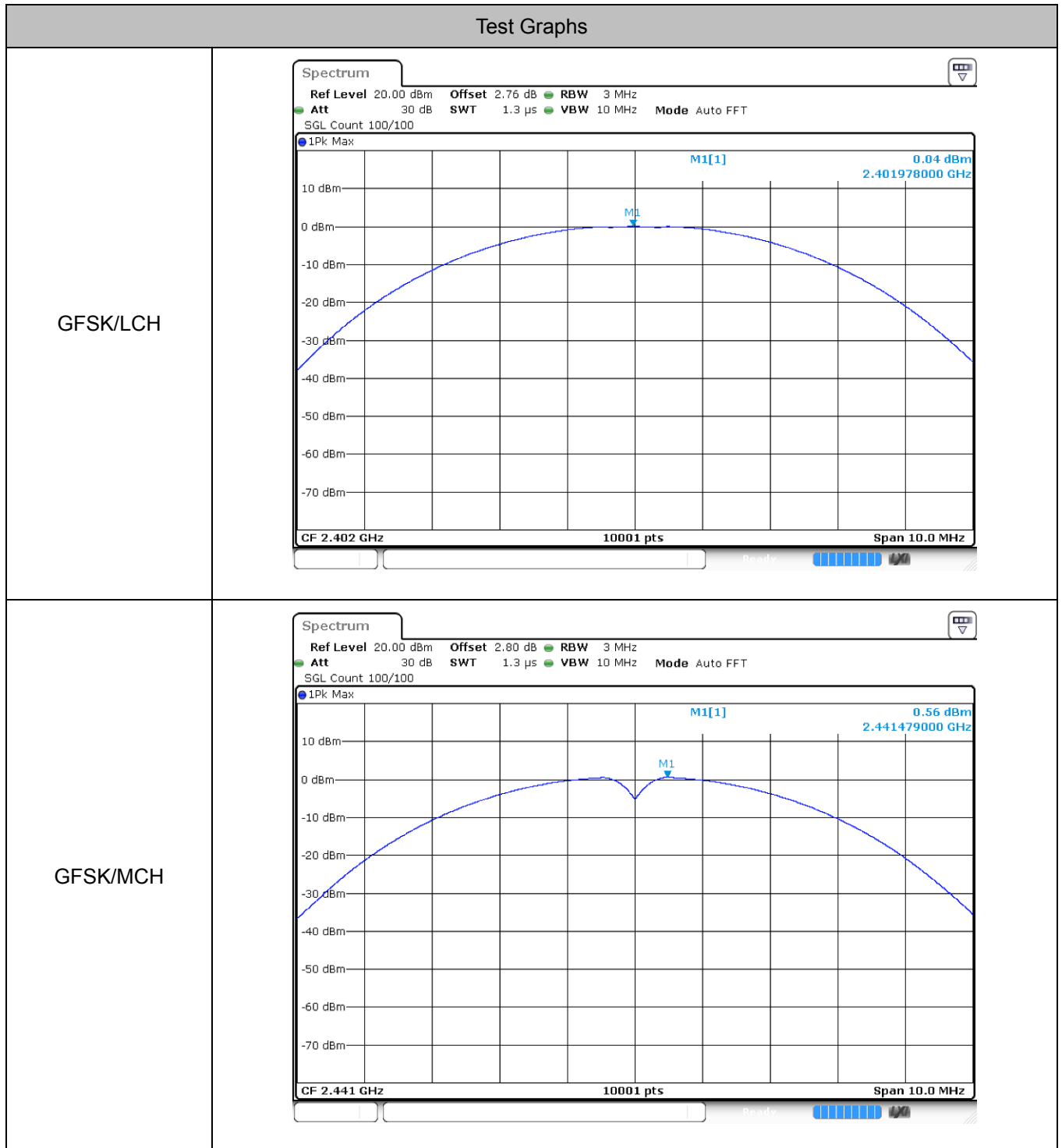


2 Maximum Conducted Peak Output Power

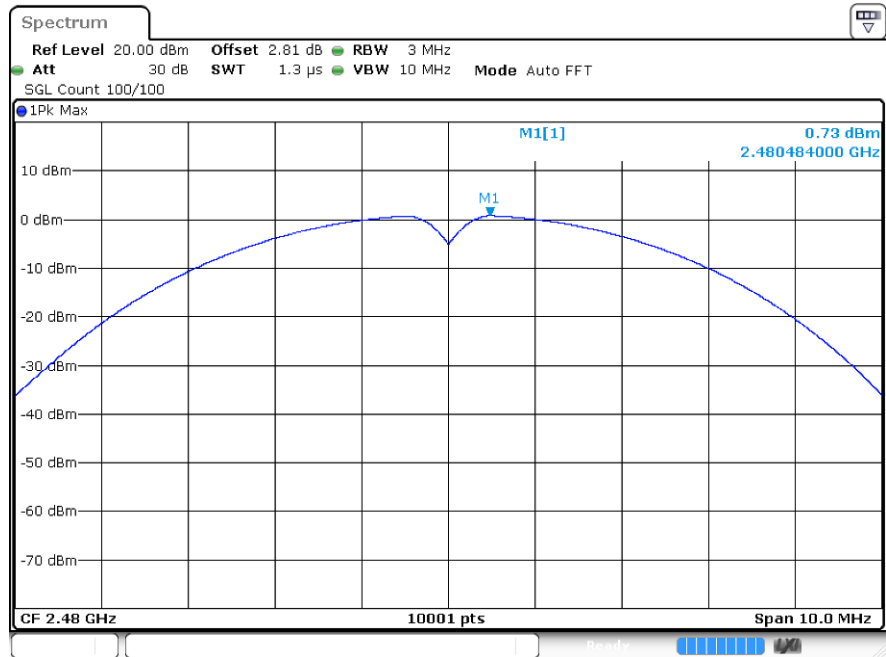
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.04	21	Pass
	MCH	0.56	21	Pass
	HCH	0.73	21	Pass
$\pi/4$ DQPSK	LCH	0.43	21	Pass
	MCH	1.32	21	Pass
	HCH	1.28	21	Pass

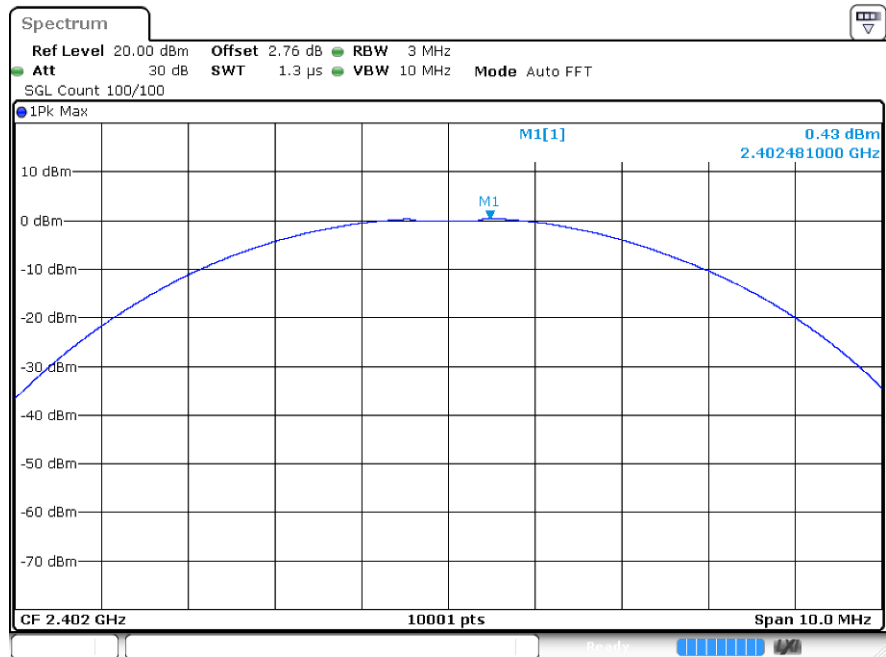
2.2 Test Graphs



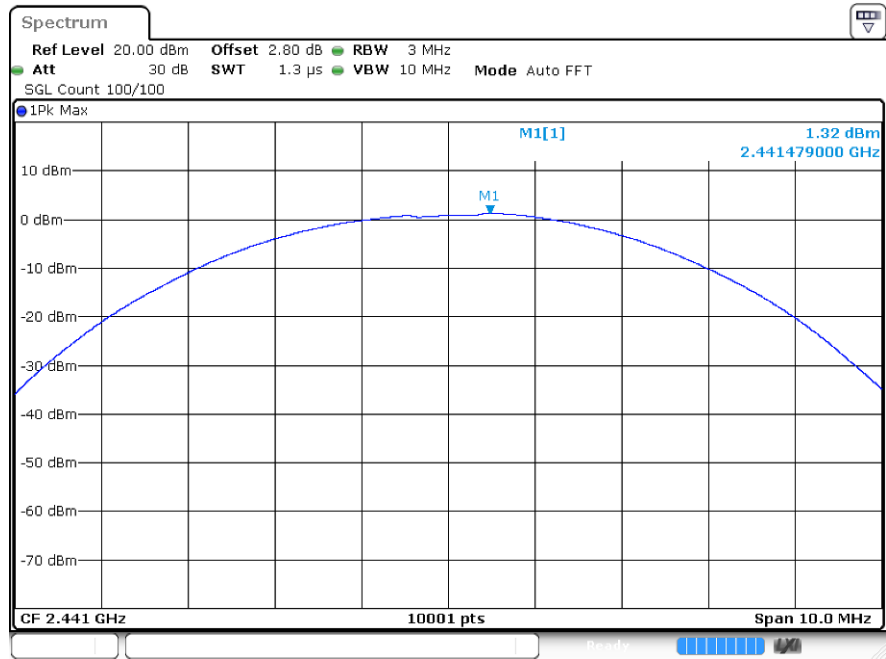
GFSK/HCH



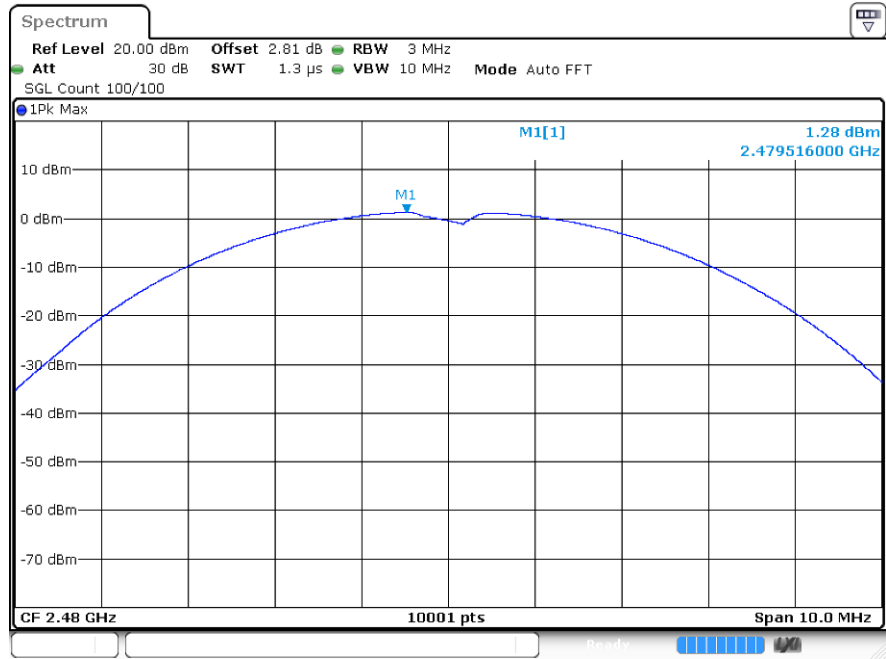
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

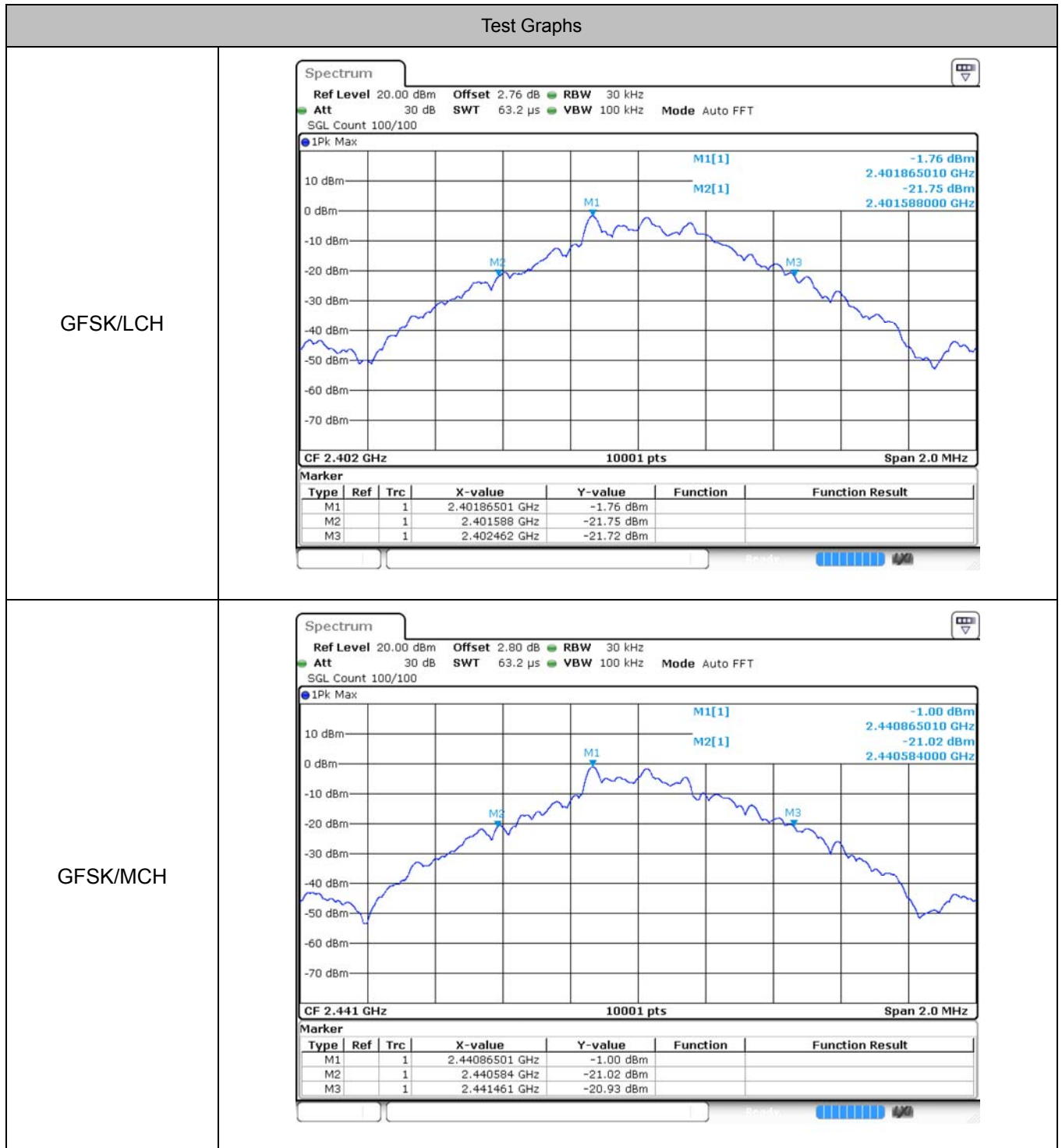


3 20dB Bandwidth

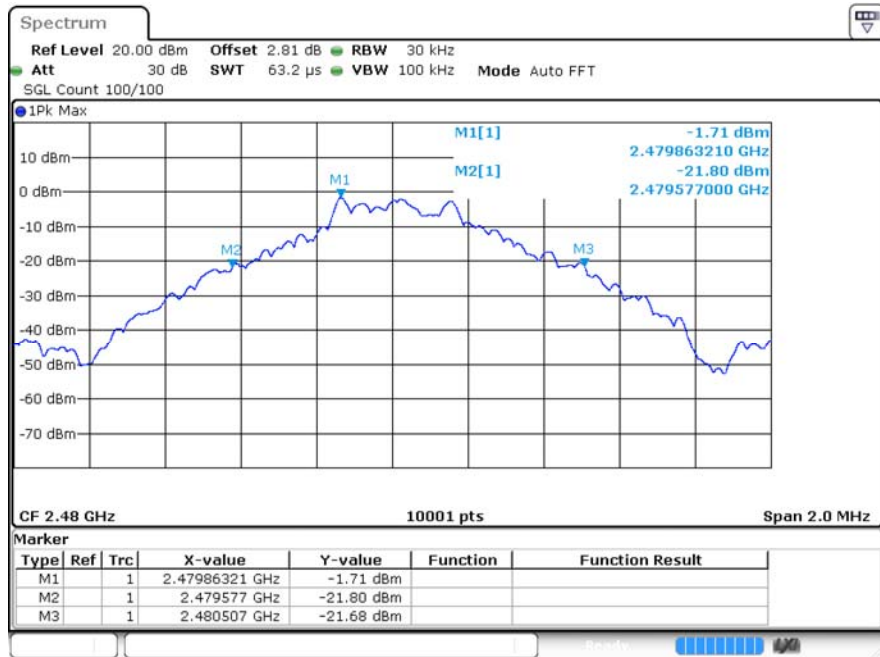
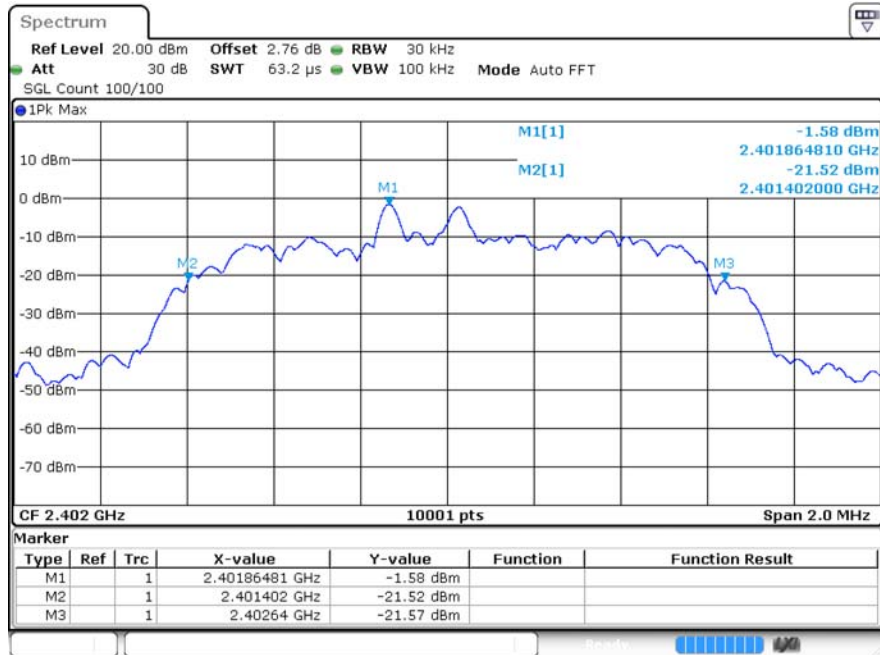
3.1 Test Result

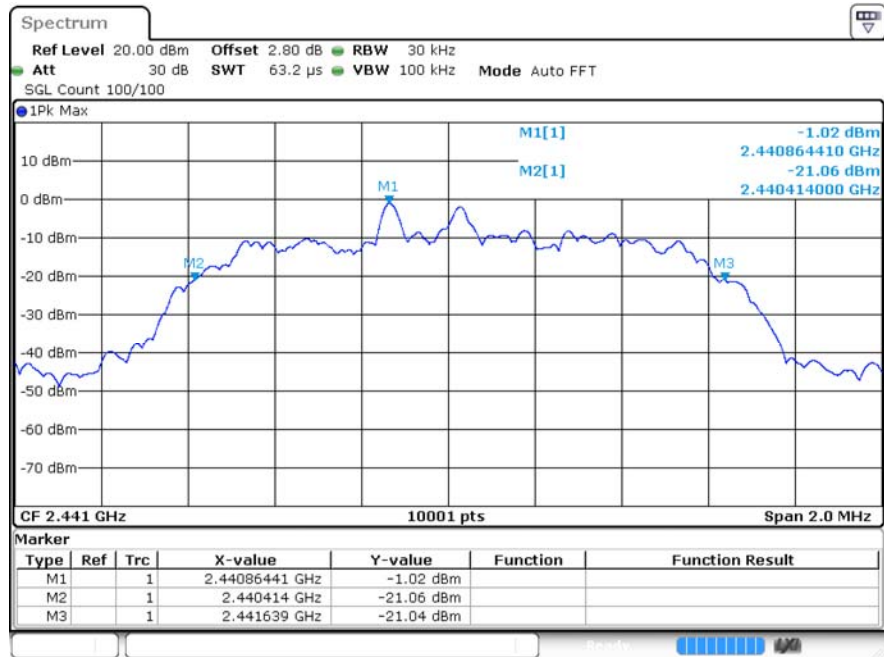
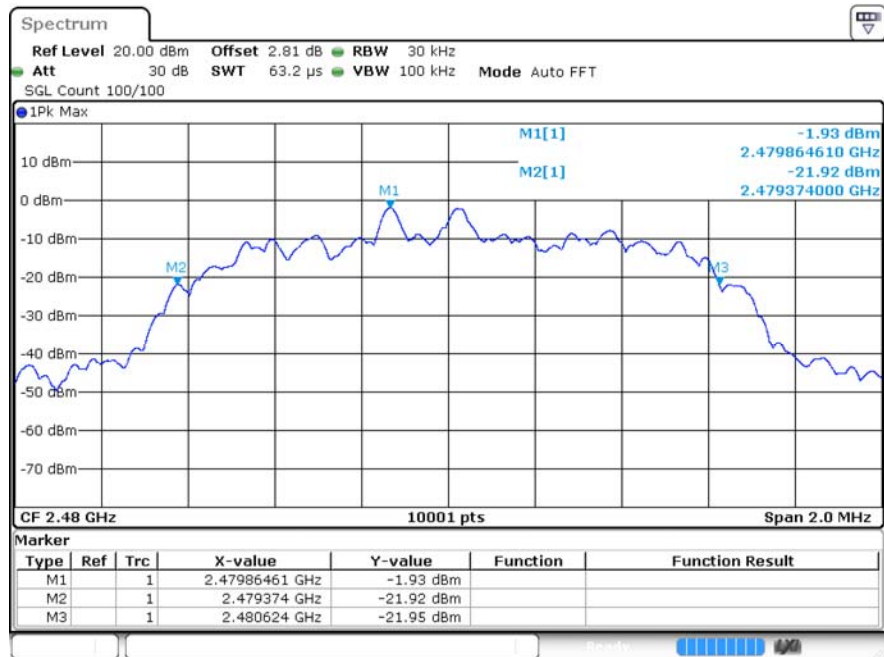
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.874	Not Specified	Pass
	MCH	0.877	Not Specified	Pass
	HCH	0.93	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.238	Not Specified	Pass
	MCH	1.224	Not Specified	Pass
	HCH	1.25	Not Specified	Pass

3.2 Test Graphs



GFSK/HCH


 $\pi/4$ DQPSK/LCH


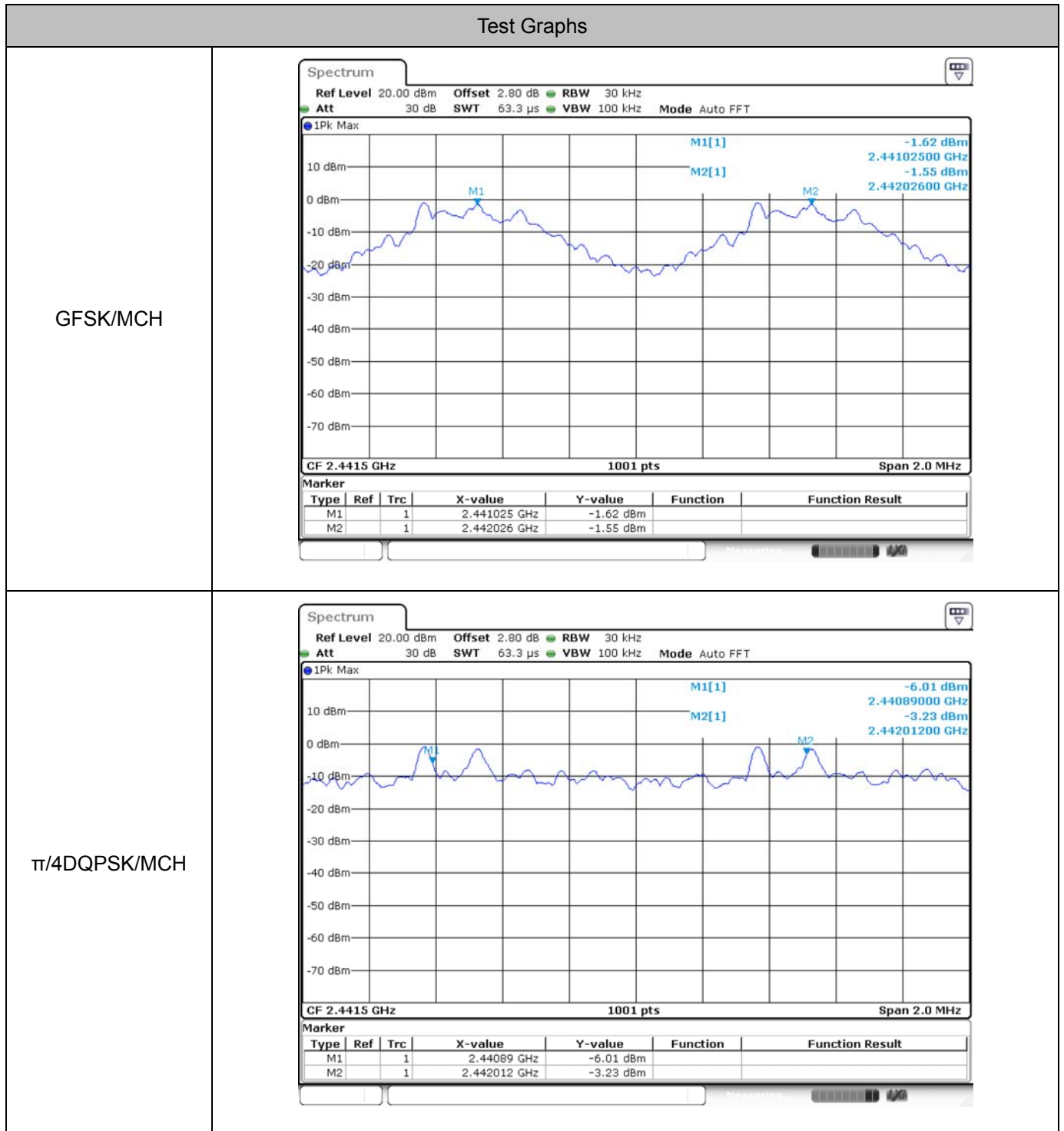
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.001	0.585	Pass
$\pi/4$ DQPSK	MCH	1.122	0.816	Pass

4.2 Test Graphs

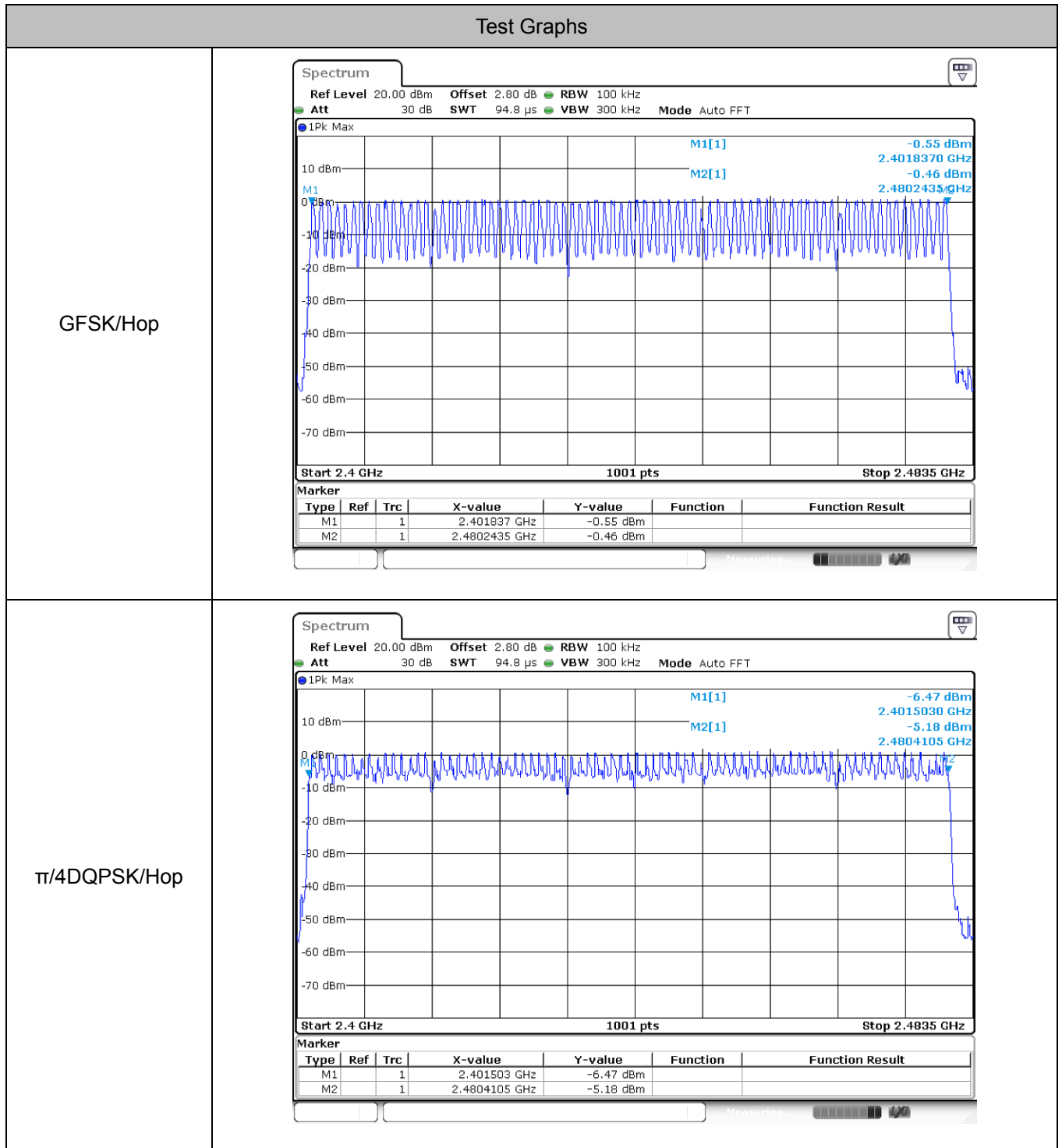


5 Hopping Channel Number

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

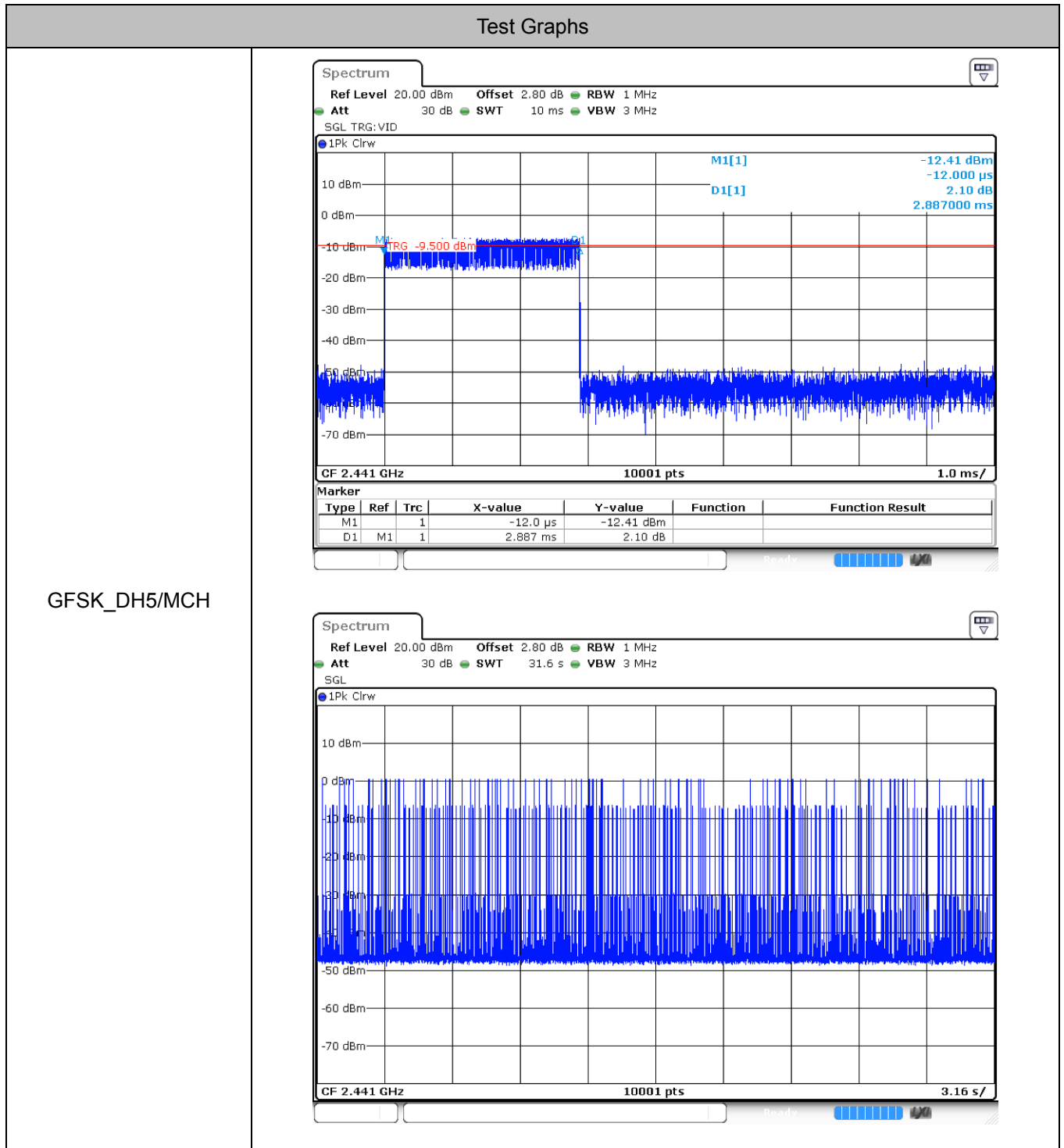


6 Dwell Time

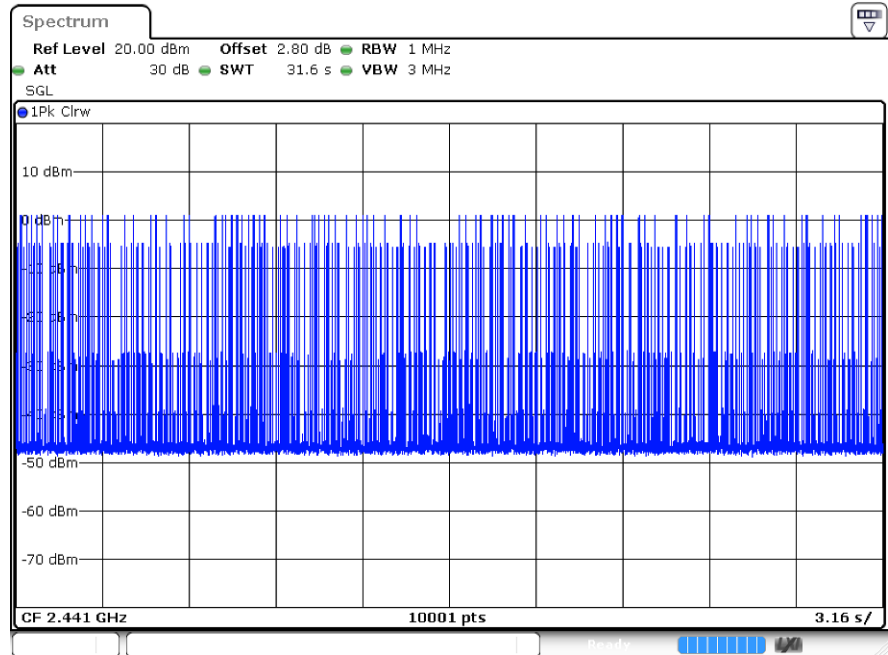
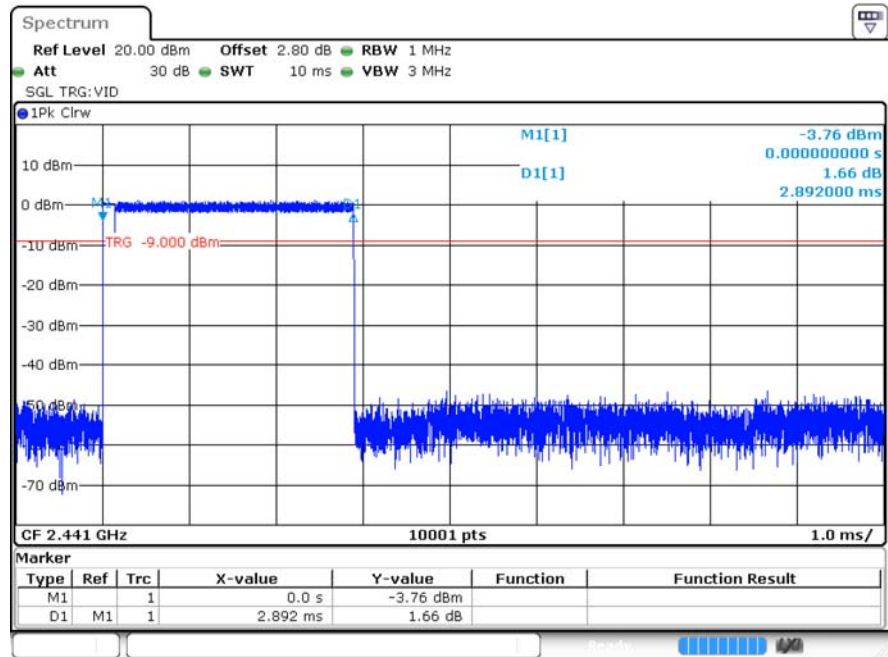
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	105	303.135	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.892	114	329.688	0.4	Pass

6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH

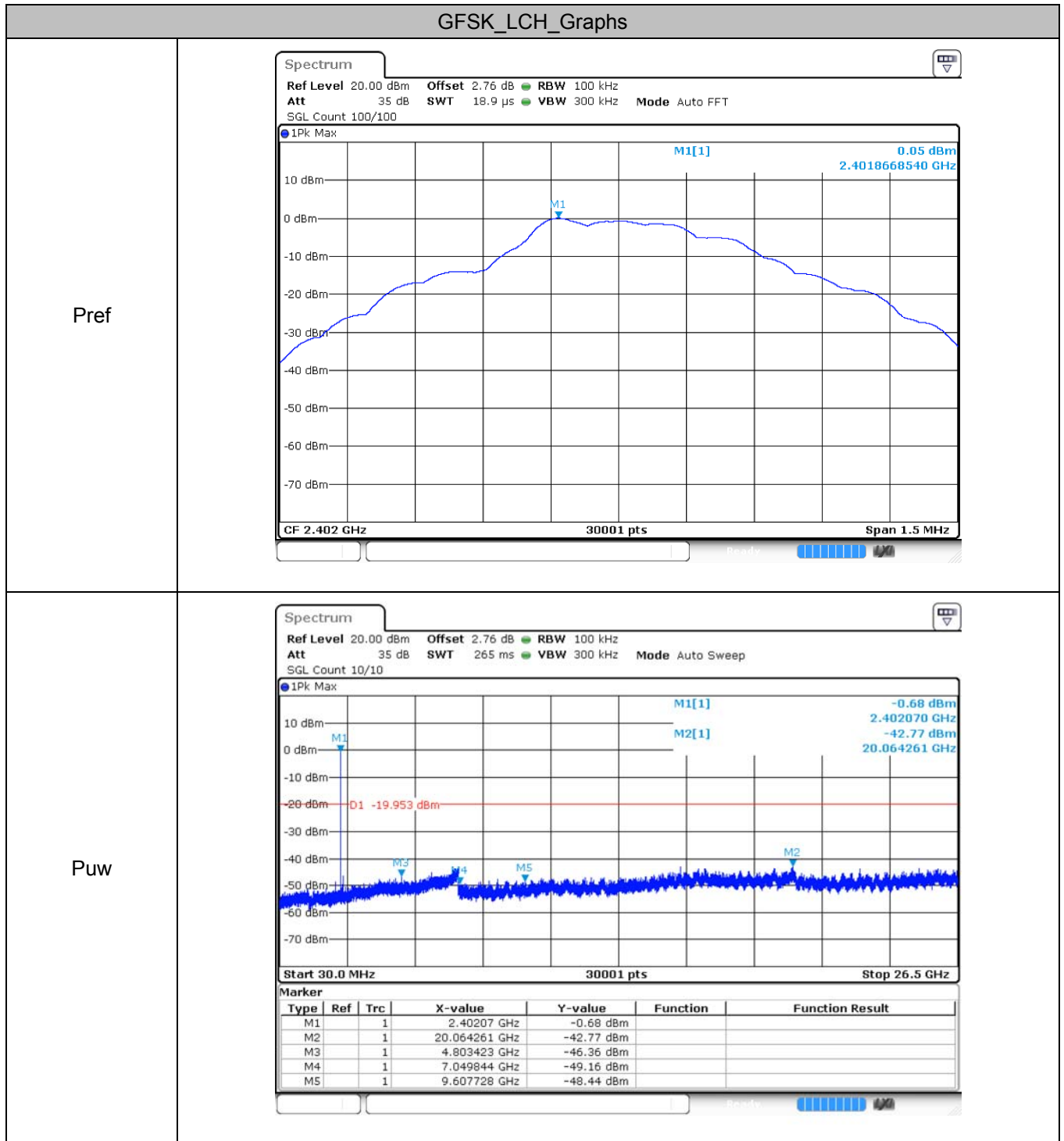


7 RF Conducted Spurious Emissions

7.1 Test Result

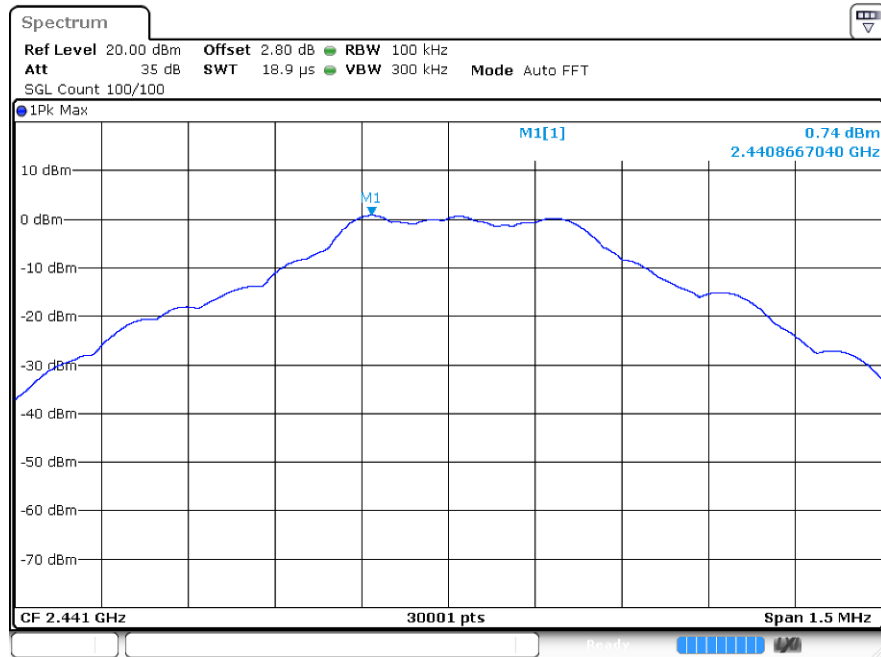
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-42.81	-20	Pass
	MCH	-43.37	-20	Pass
	HCH	-43.82	-20	Pass
$\pi/4$ DQPSK	LCH	-43.08	-20	Pass
	MCH	-43.84	-20	Pass
	HCH	-43.78	-20	Pass

7.2 Test Graphs

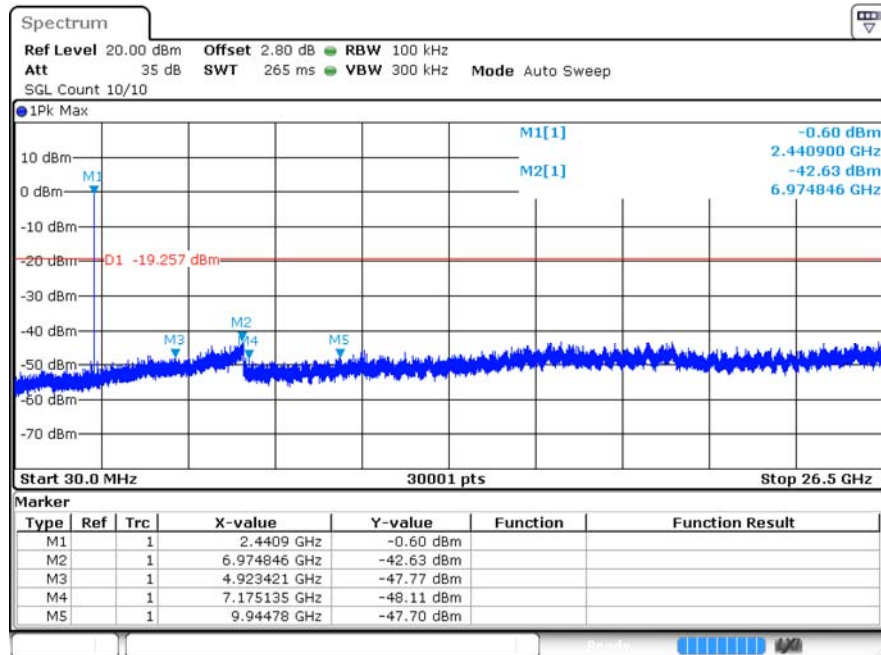


GFSK_MCH_Graphs

Pref

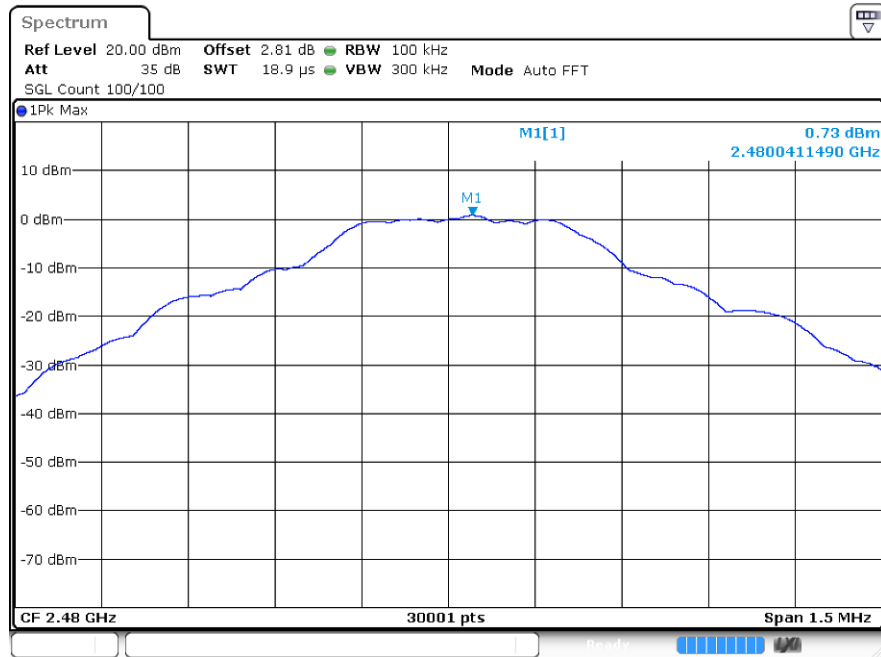


Puw

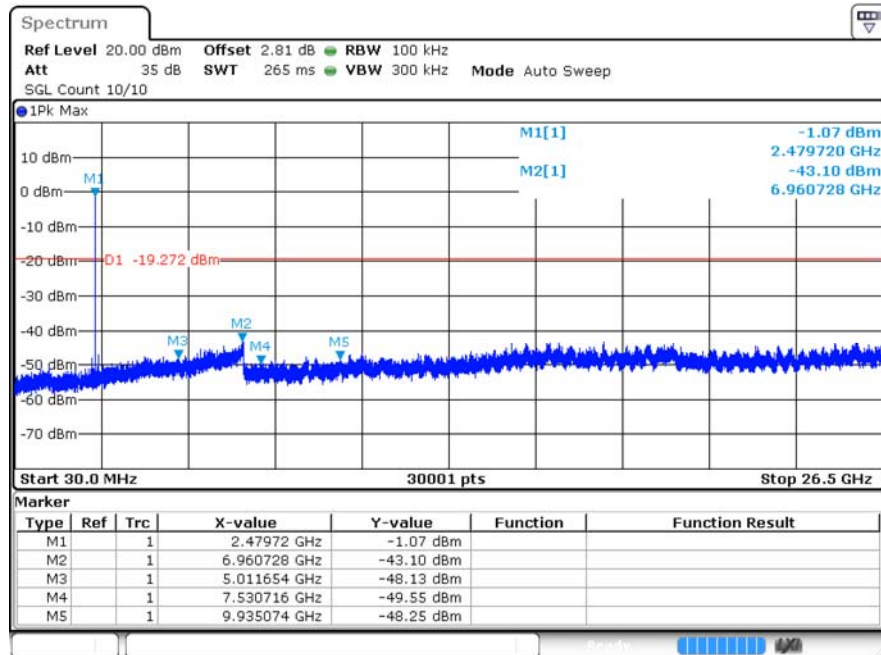


GFSK_HCH_Graphs

Pref

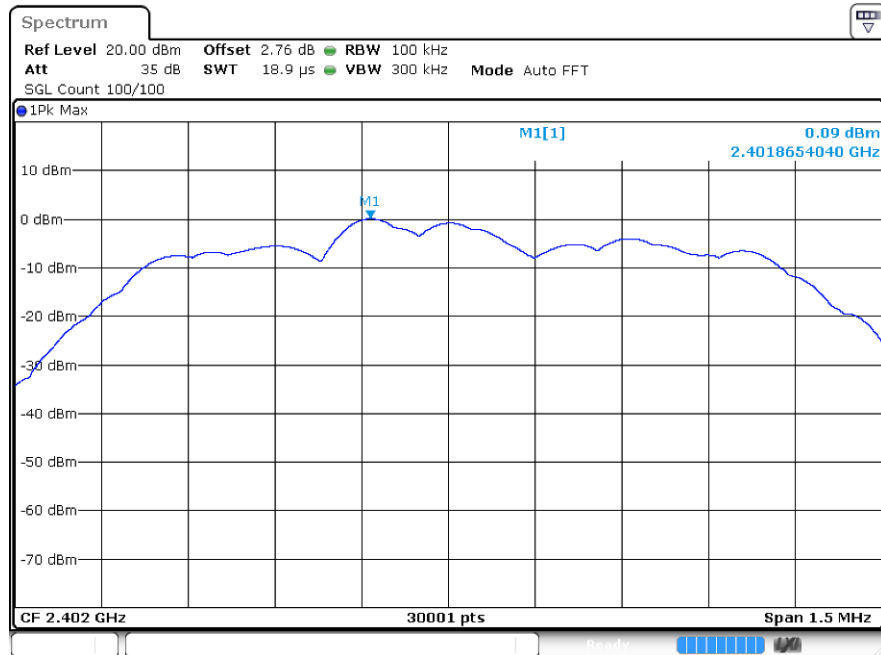


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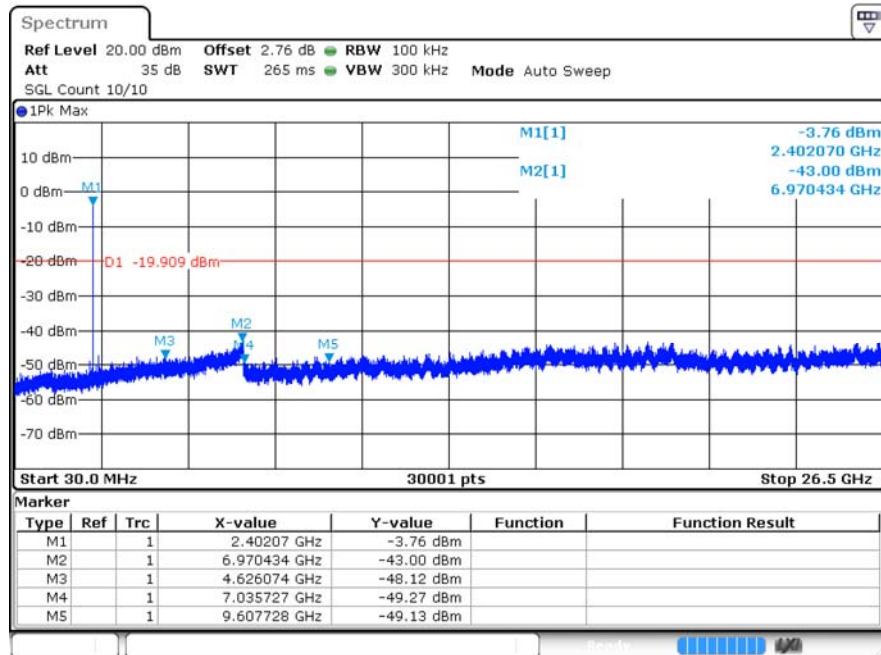


$\pi/4$ DQPSK_LCH_Graphs

Pref

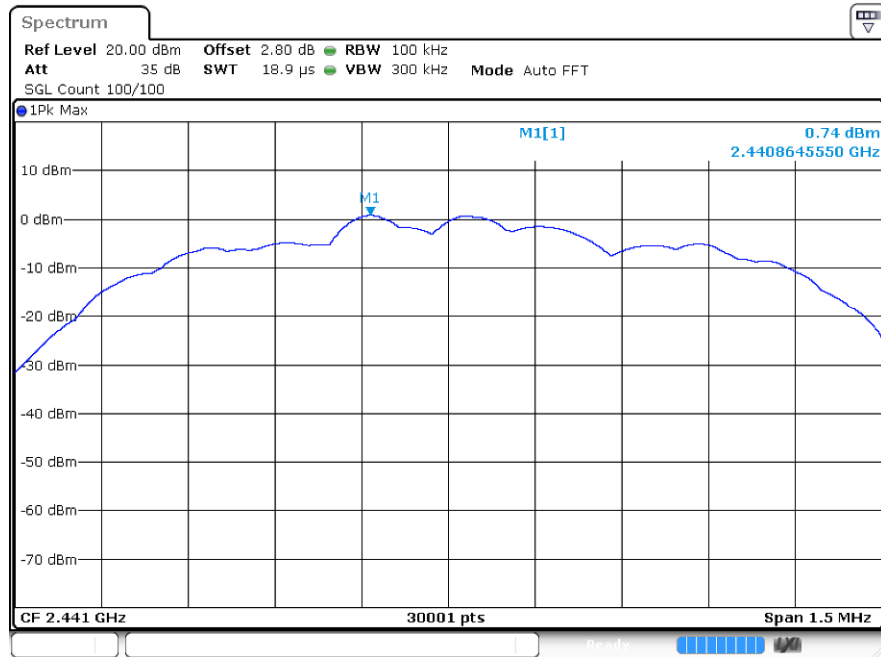


Puw

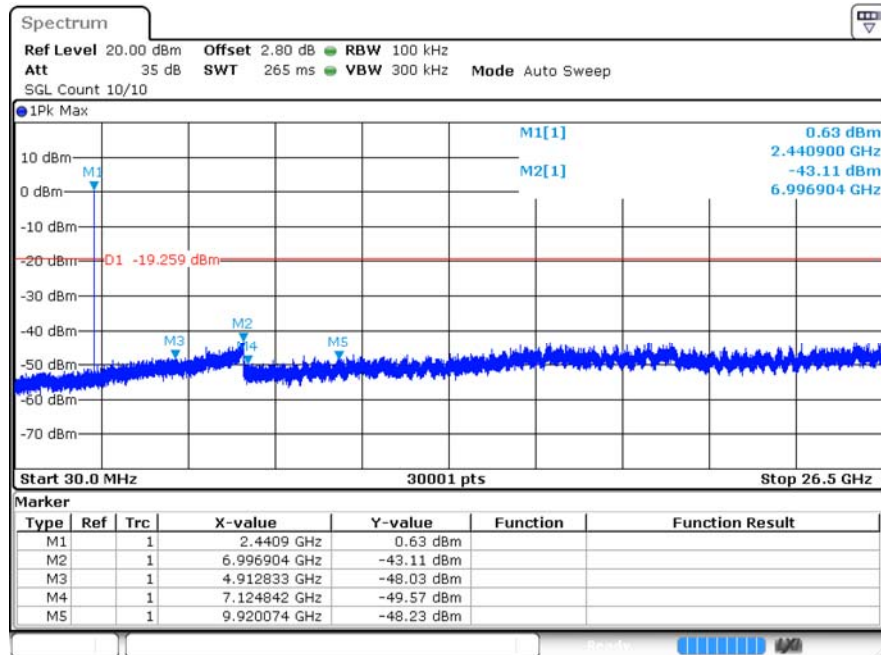


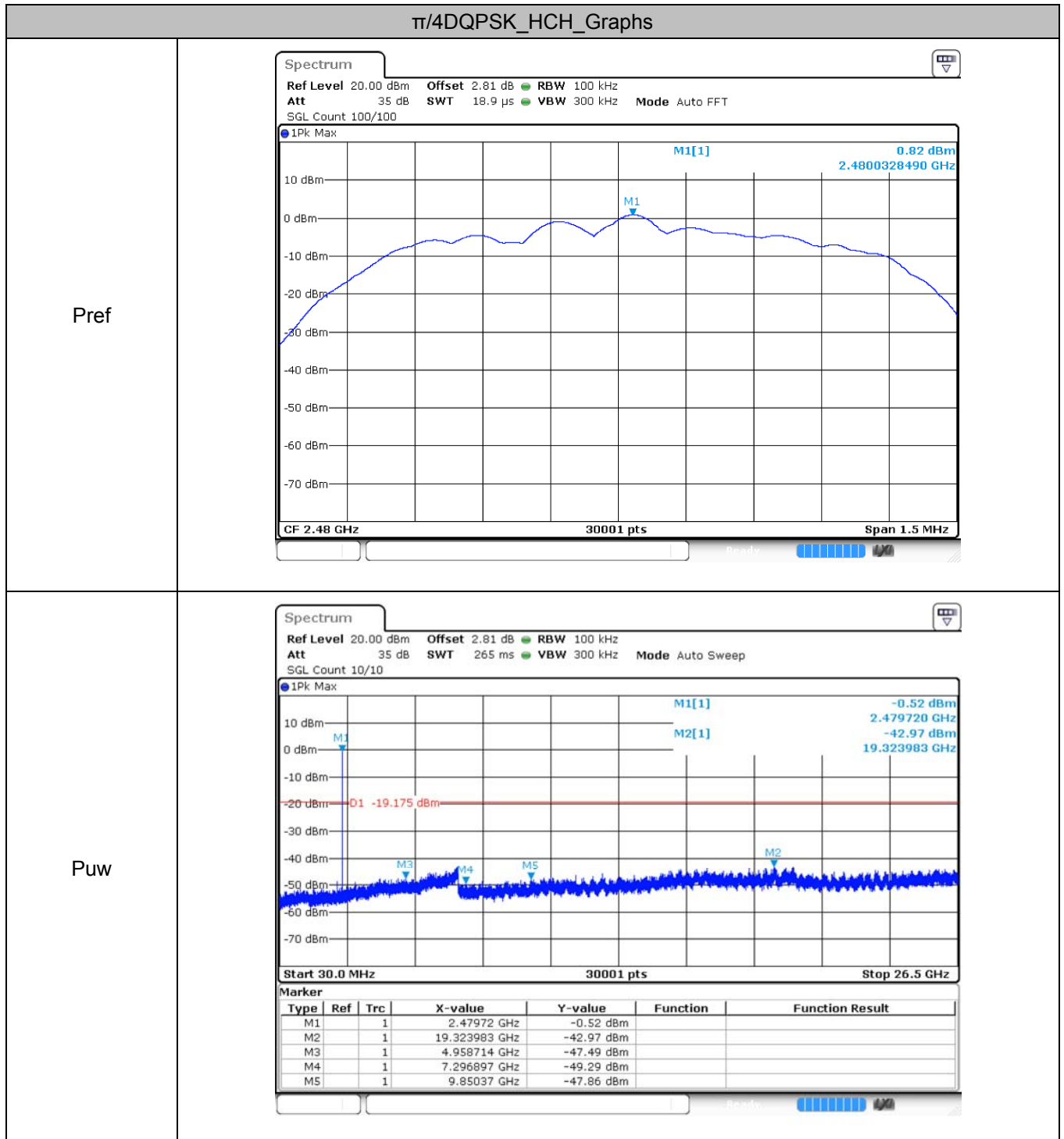
$\pi/4$ DQPSK_MCH_Graphs

Pref



Puw



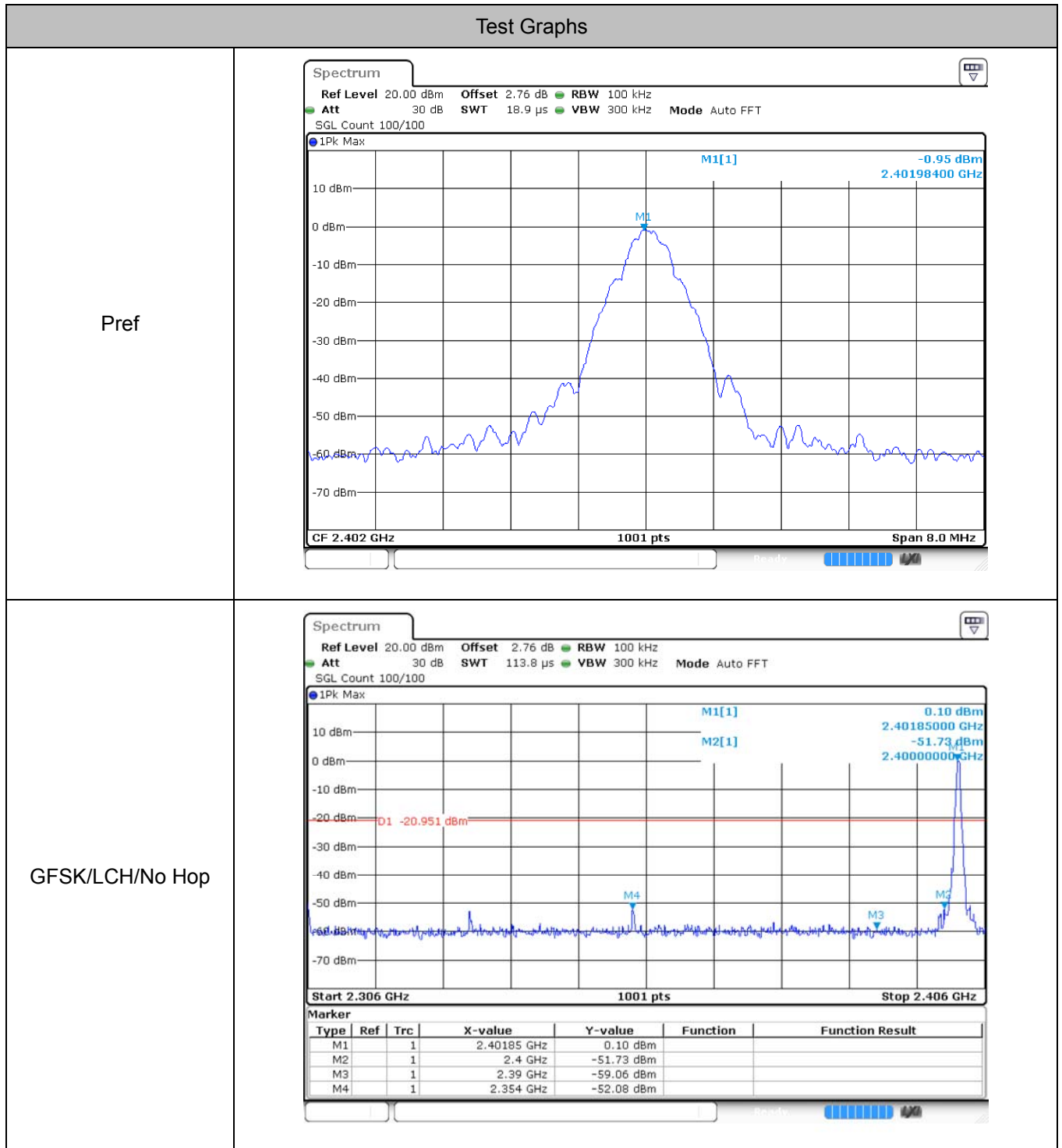


8 Band-edge for RF Conducted Emissions

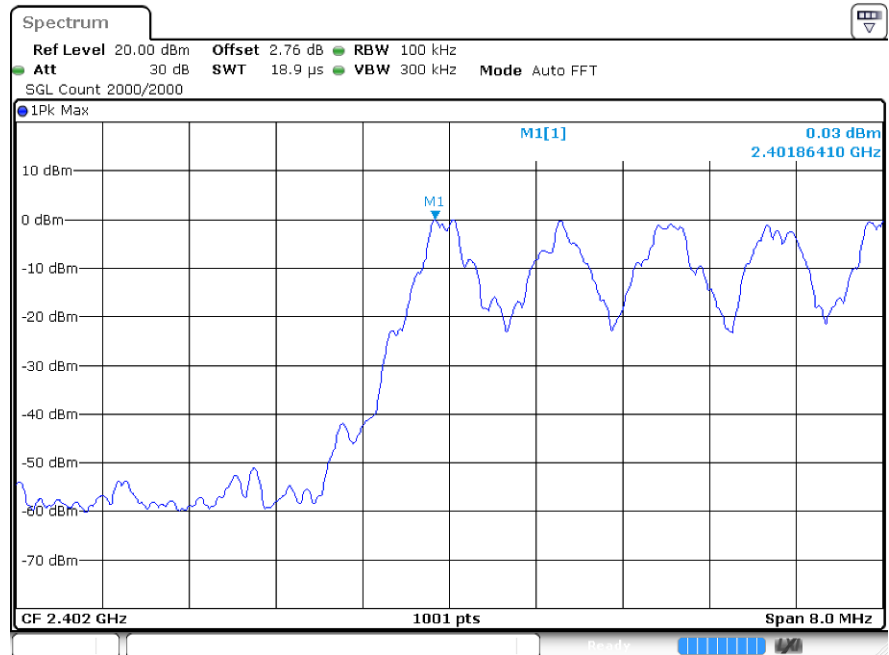
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-51.13	-20	Pass
			On	-48.44	-20	Pass
	HCH	2480	Off	-56.96	-20	Pass
			On	-46.62	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-52.81	-20	Pass
			On	-48.23	-20	Pass
	HCH	2480	Off	-58.06	-20	Pass
			On	-46.72	-20	Pass

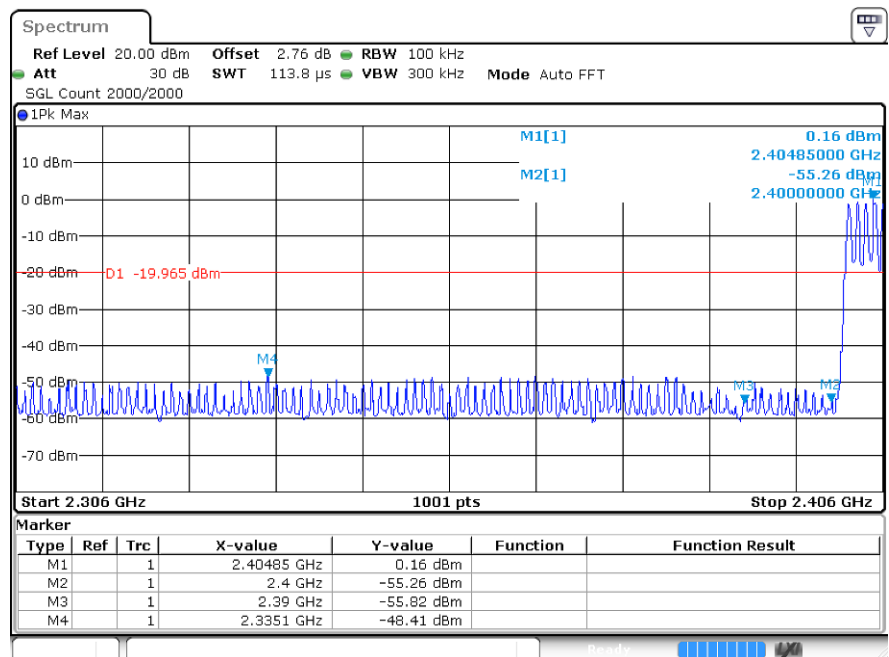
8.2 Test Graphs



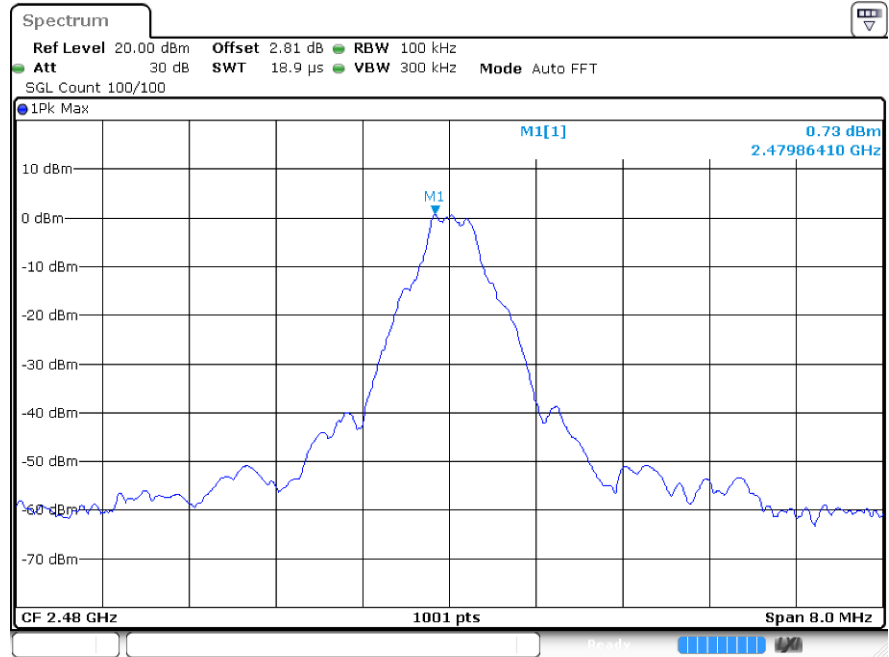
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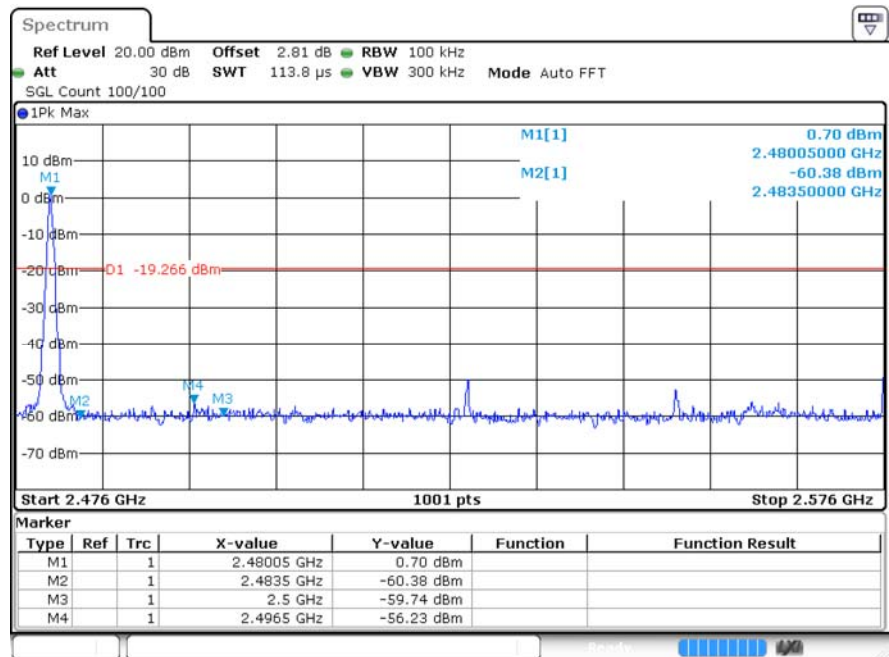
GFSK/LCH/Hop



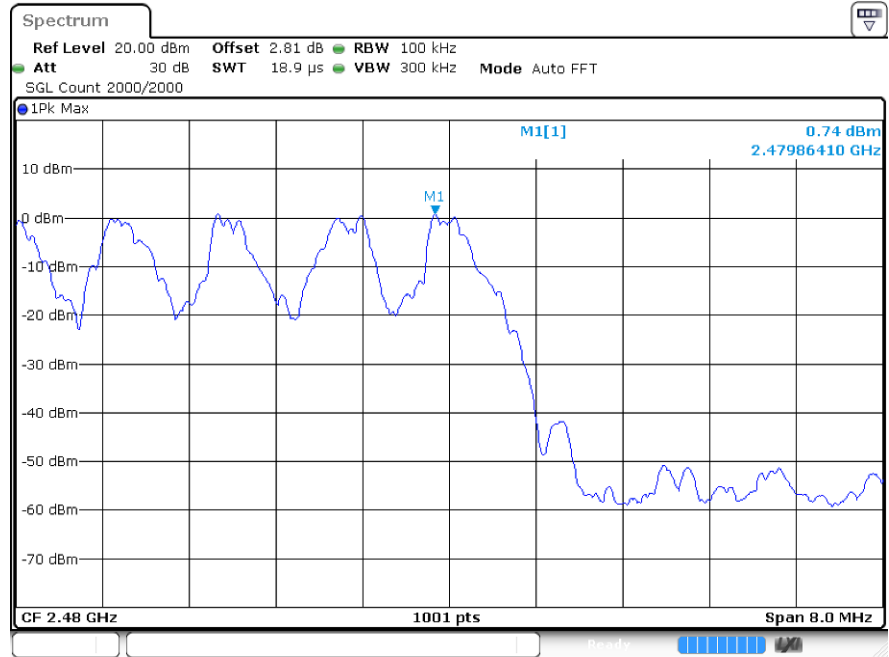
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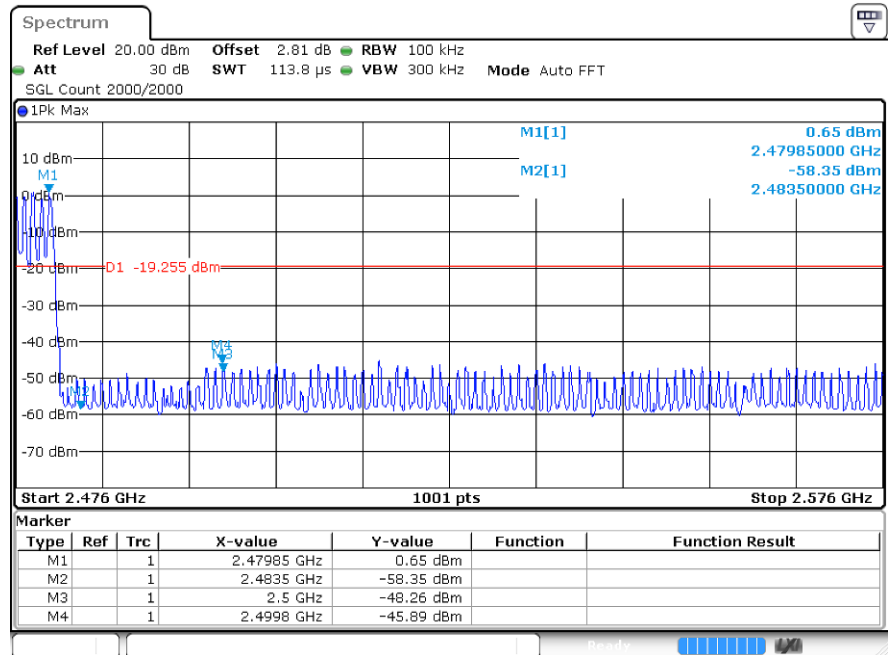
GFSK/HCH/No Hop



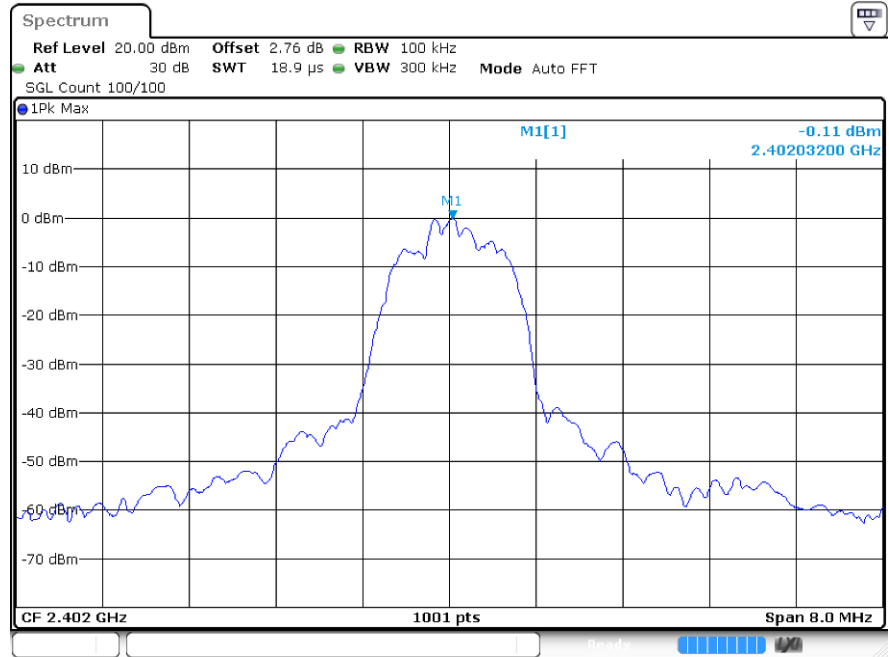
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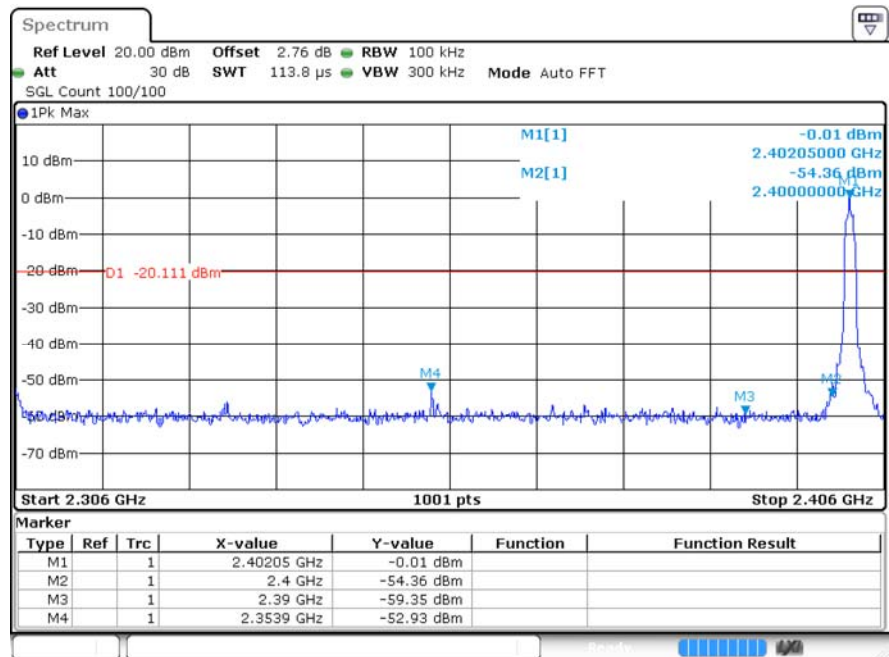
GFSK/HCH/Hop



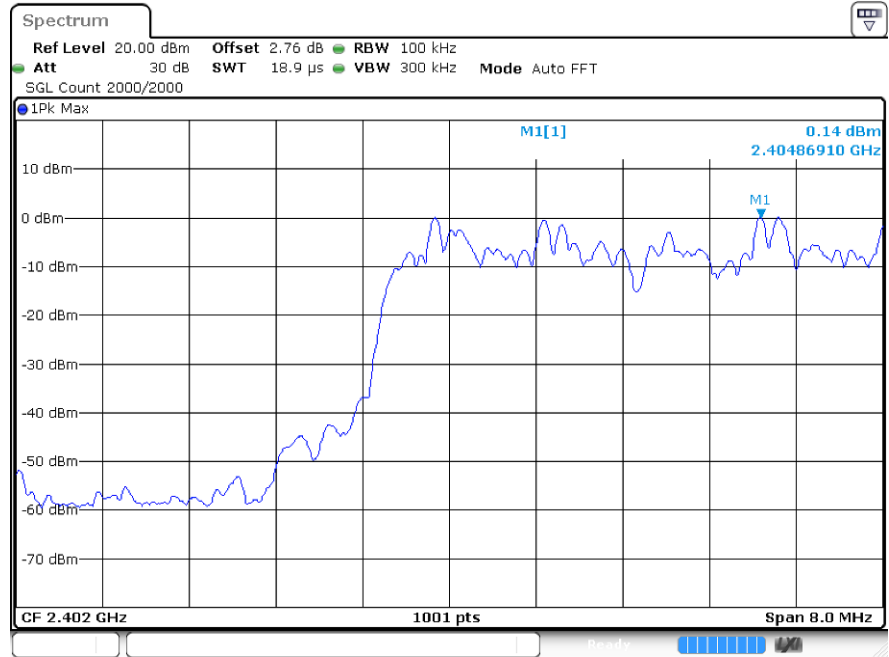
Ref



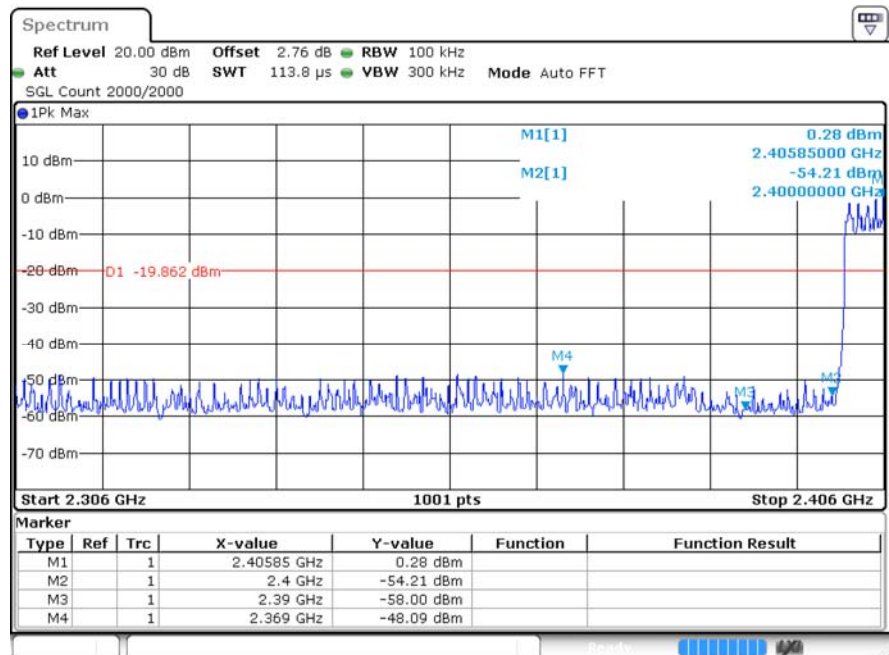
$\pi/4$ DQPSK/LCH/No
Hop



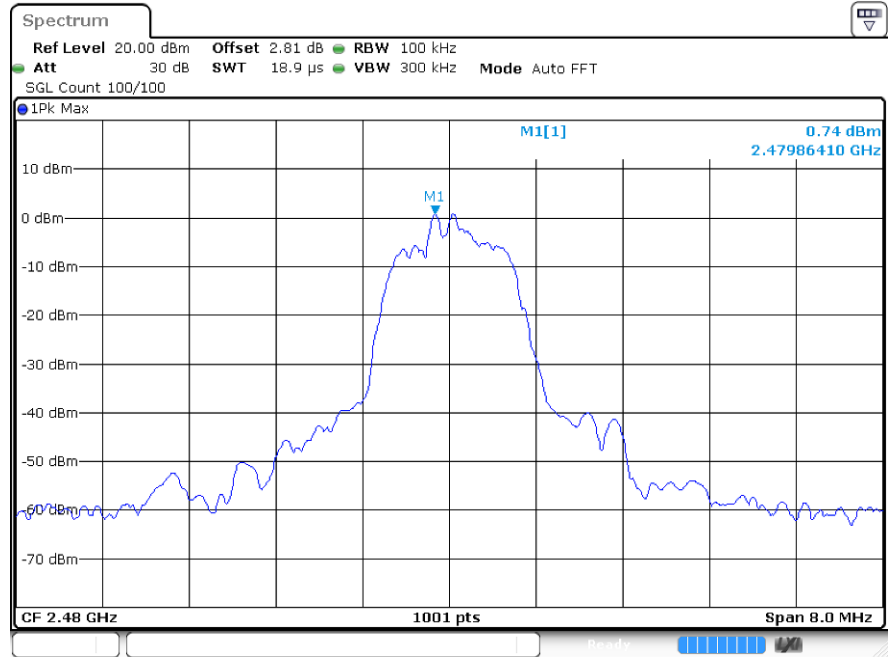
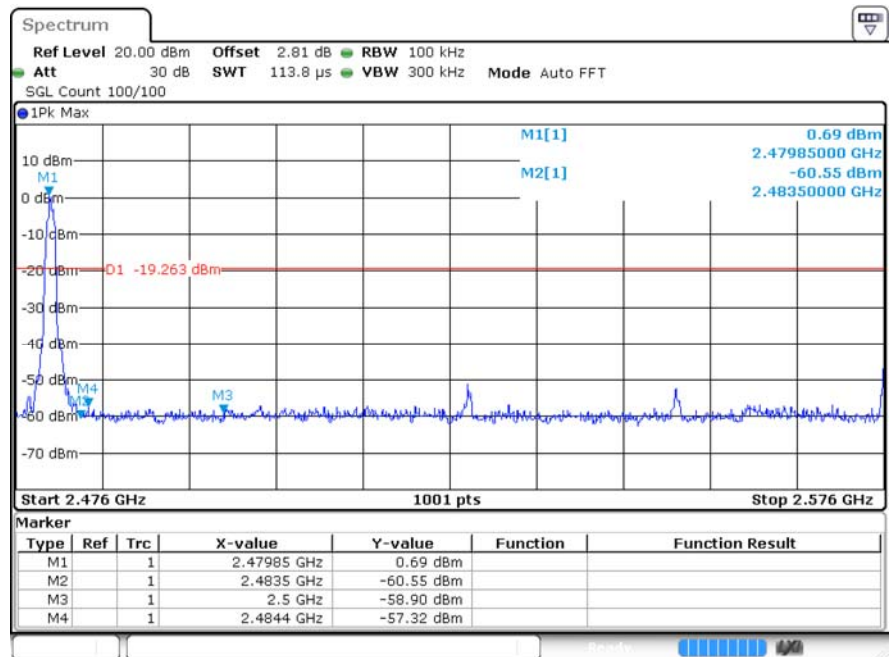
Ref



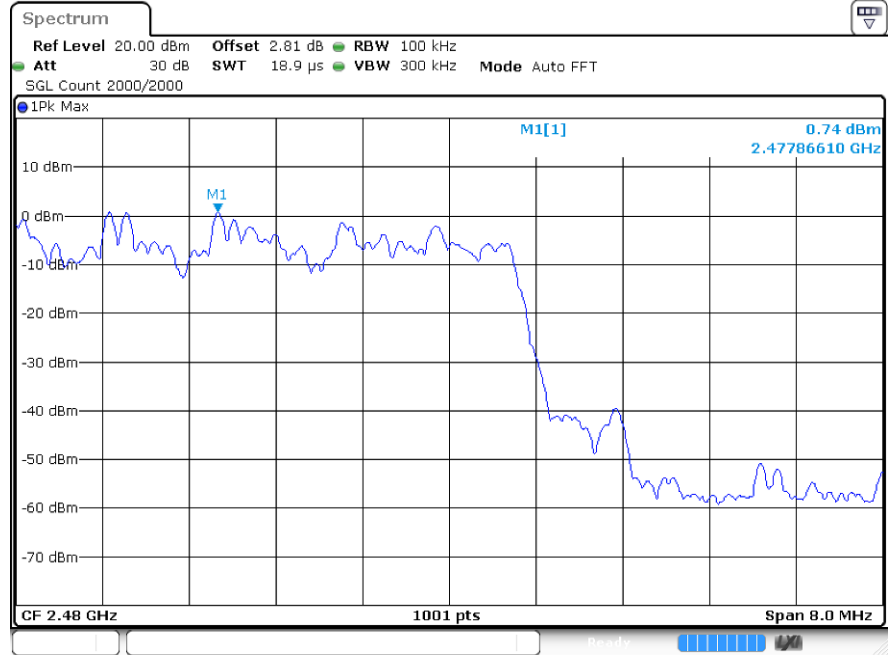
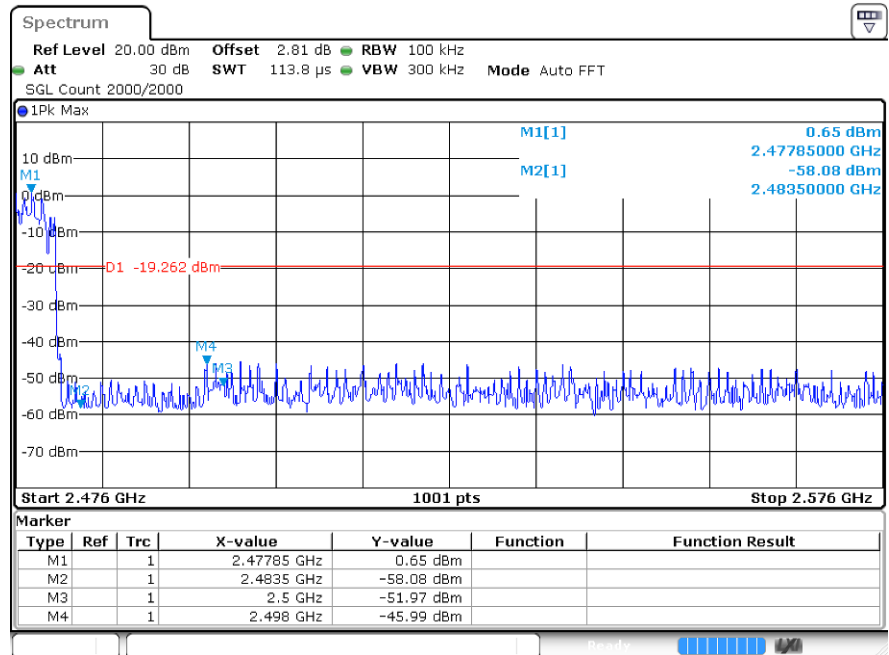
$\pi/4$ DQPSK/LCH/Hop



Ref


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


Ref


 $\pi/4$ DQPSK/HCH/Hop


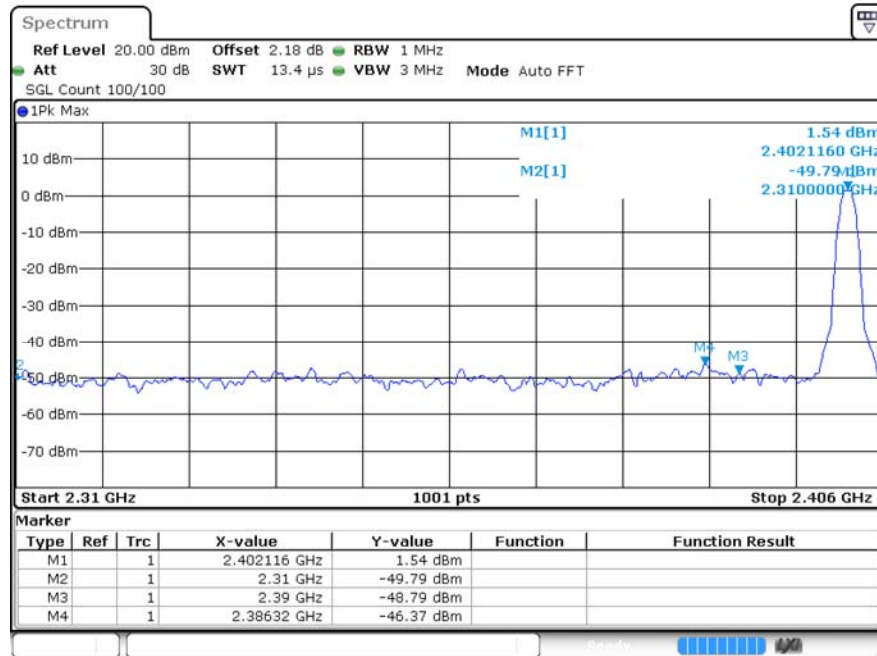
9 Restrict-band band-edge measurements

9.1 Test Result

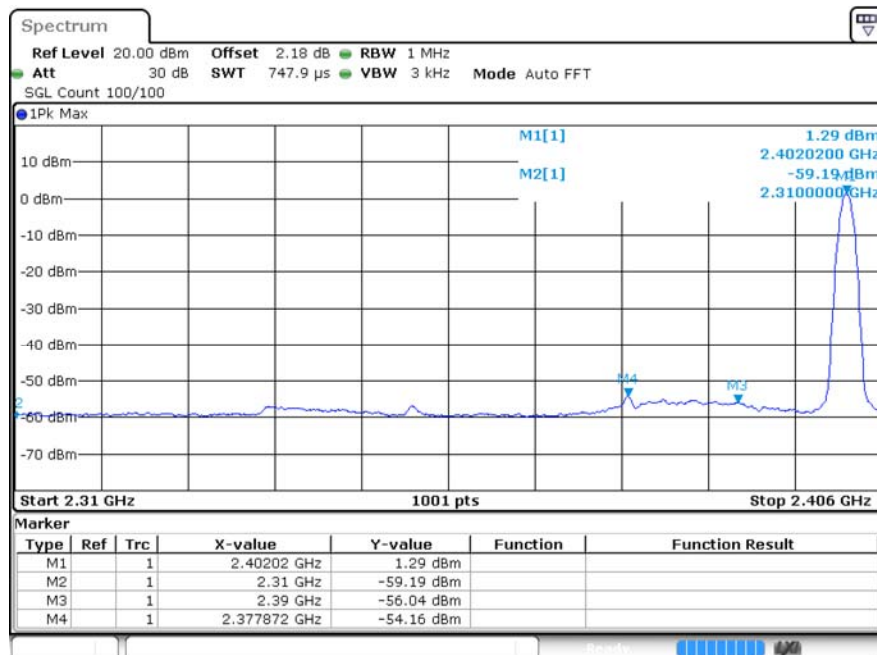
Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-49.79	2	47.47	PEAK	74	Pass
	Off	2310.0	-59.18	2	38.08	AV	54	Pass
	Off	2386.32	-46.36	2	50.9	PEAK	74	Pass
	Off	2377.872	-54.15	2	43.11	AV	54	Pass
	Off	2390.0	-48.78	2	48.48	PEAK	74	Pass
	Off	2390.0	-56.03	2	41.23	AV	54	Pass
	Off	2483.5	-49.19	2	48.07	PEAK	74	Pass
	Off	2483.5	-57.81	2	39.45	AV	54	Pass
	Off	2499.808	-45.88	2	51.38	PEAK	74	Pass
	Off	2499.544	-55.31	2	41.95	AV	54	Pass
	Off	2500.0	-45.97	2	51.29	PEAK	74	Pass
	Off	2500.0	-55.45	2	41.81	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-50.56	2	46.7	PEAK	74	Pass
	Off	2310.0	-59.12	2	38.14	AV	54	Pass
	Off	2389.296	-45.93	2	51.33	PEAK	74	Pass
	Off	2377.872	-54.68	2	42.58	AV	54	Pass
	Off	2390.0	-46.59	2	50.67	PEAK	74	Pass
	Off	2390.0	-56.01	2	41.25	AV	54	Pass
	Off	2483.5	-48.78	2	48.48	PEAK	74	Pass
	Off	2483.5	-57.51	2	39.75	AV	54	Pass
	Off	2495.056	-45.02	2	52.24	PEAK	74	Pass
	Off	2498.968	-55.02	2	42.24	AV	54	Pass
	Off	2500.0	-47.62	2	49.64	PEAK	74	Pass
	Off	2500.0	-55.51	2	41.75	AV	54	Pass

9.2 Test Graphs

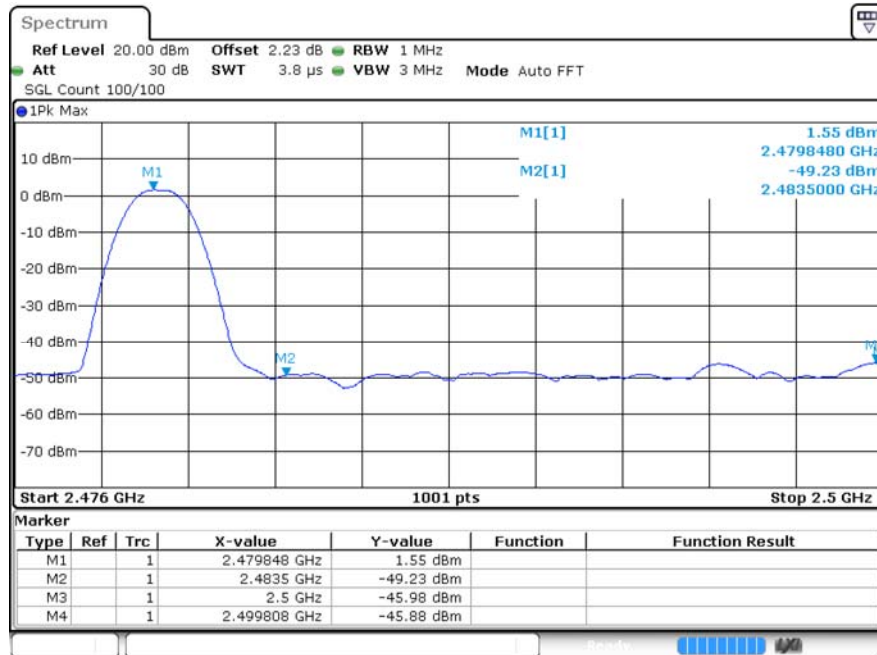
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



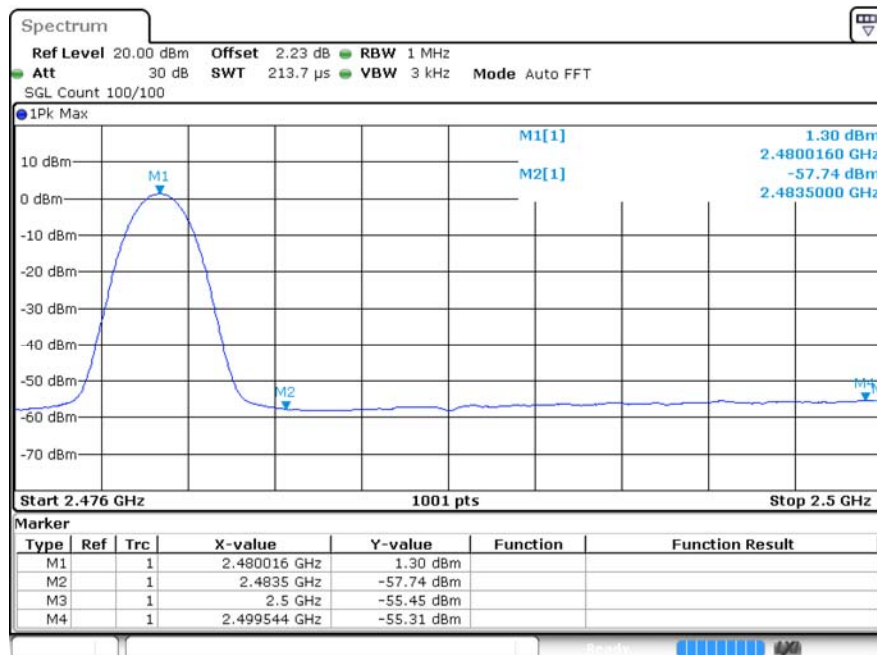
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



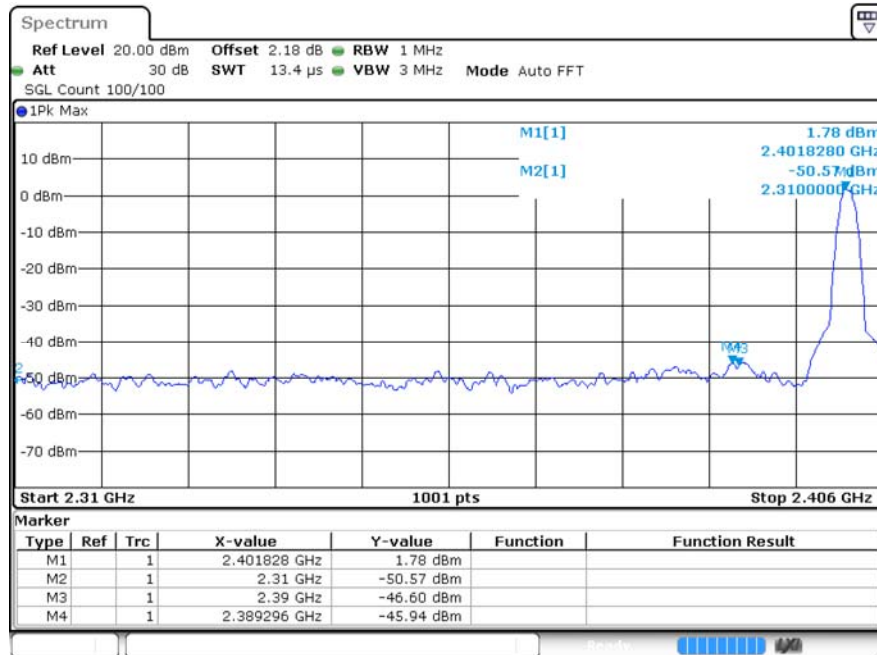
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



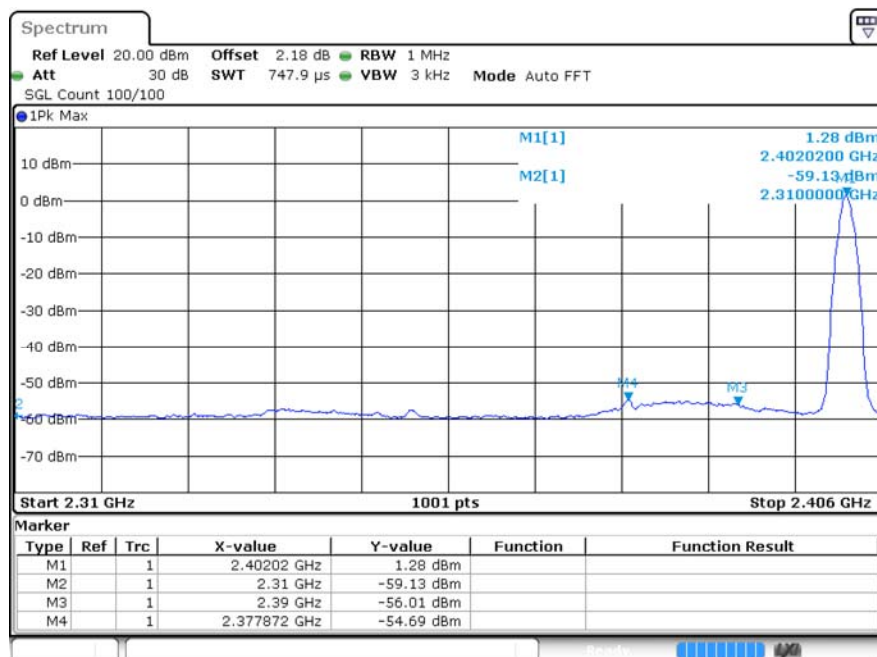
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



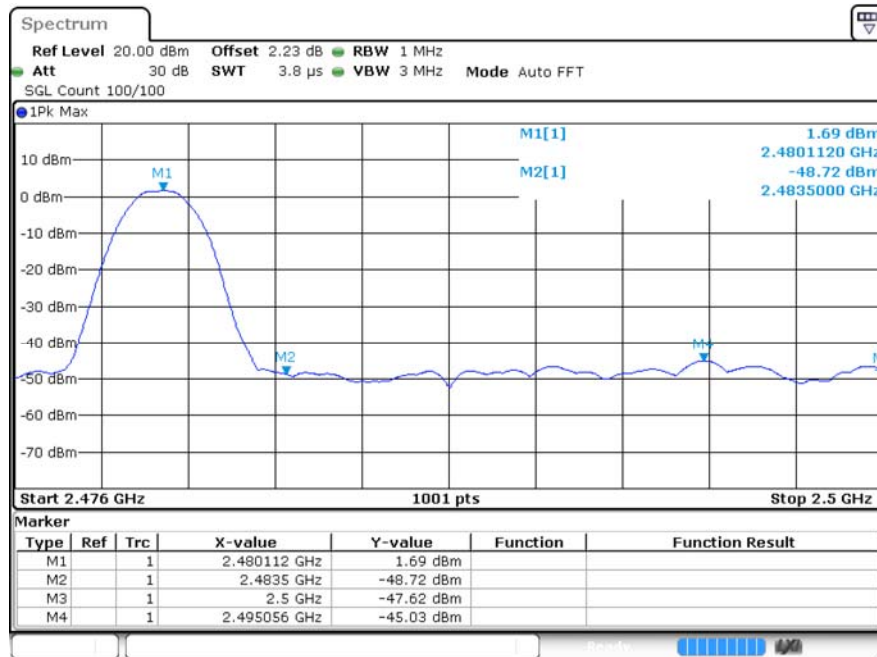
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



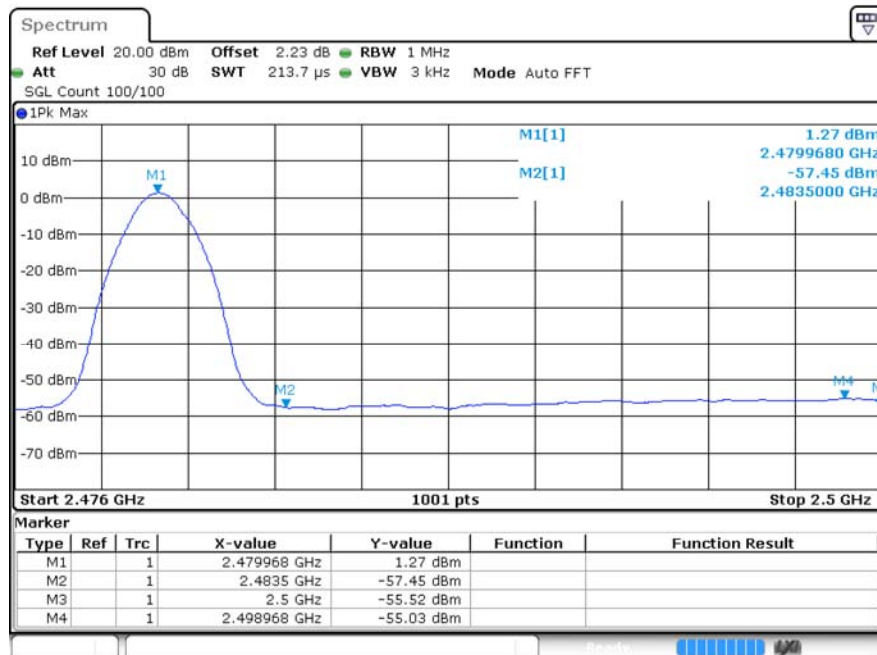
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---