



Appendix A

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

Product Name: AI intelligent controller

Trade Mark: Weisheng Tai

Test Model: SC-128 WiFi

Environmental Conditions

Temperature:	24.8° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung

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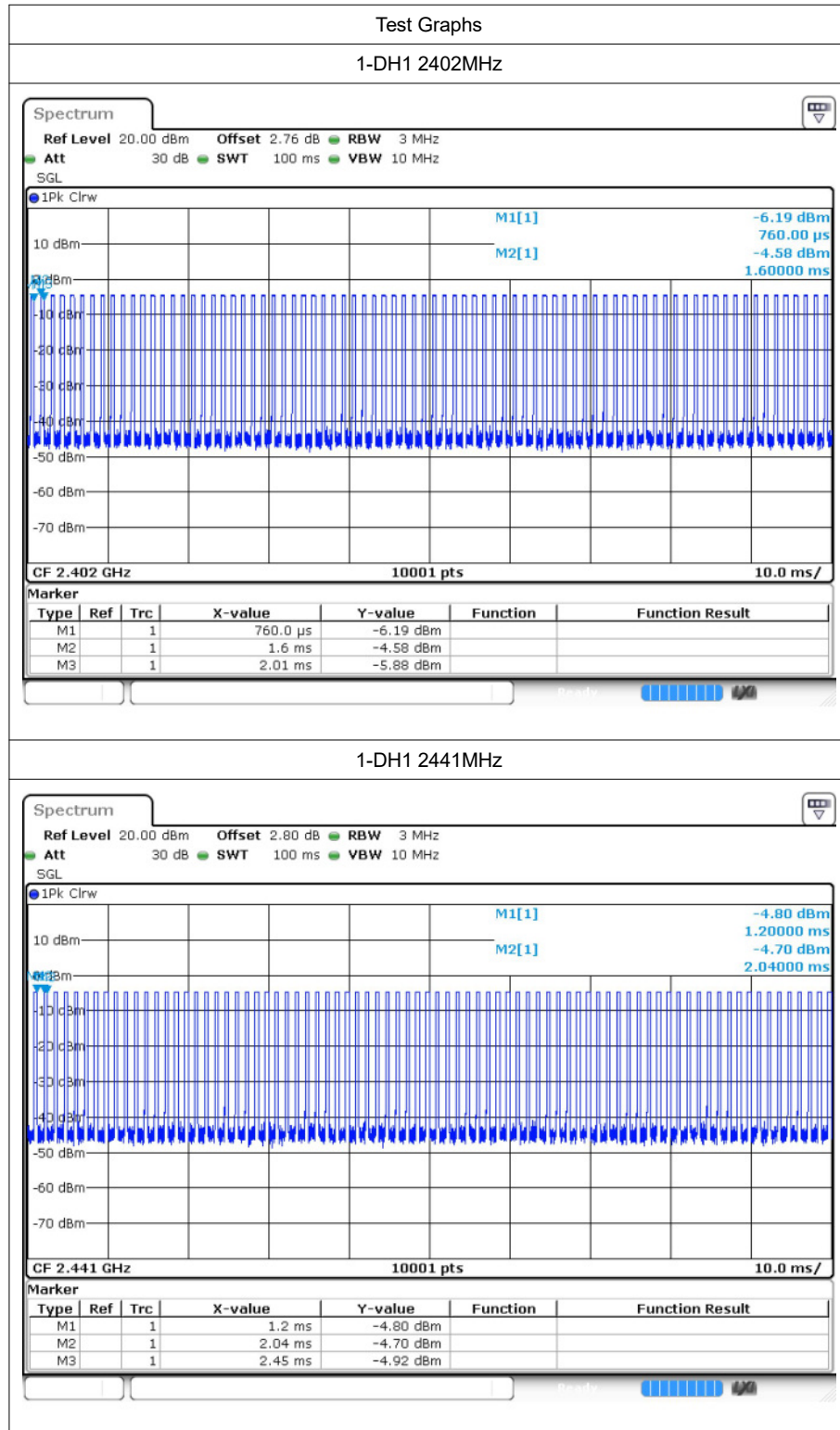
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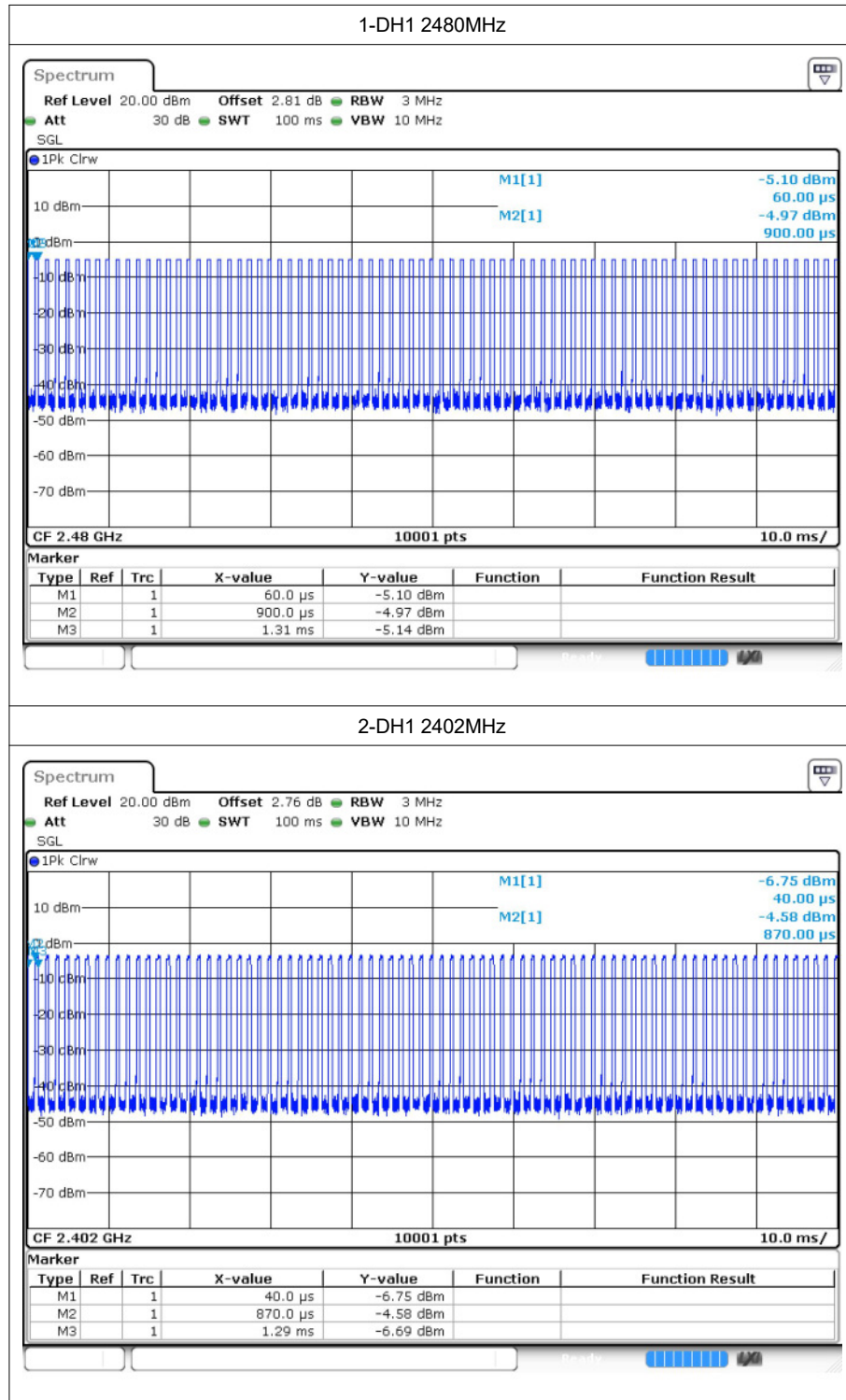
1 Duty Cycle

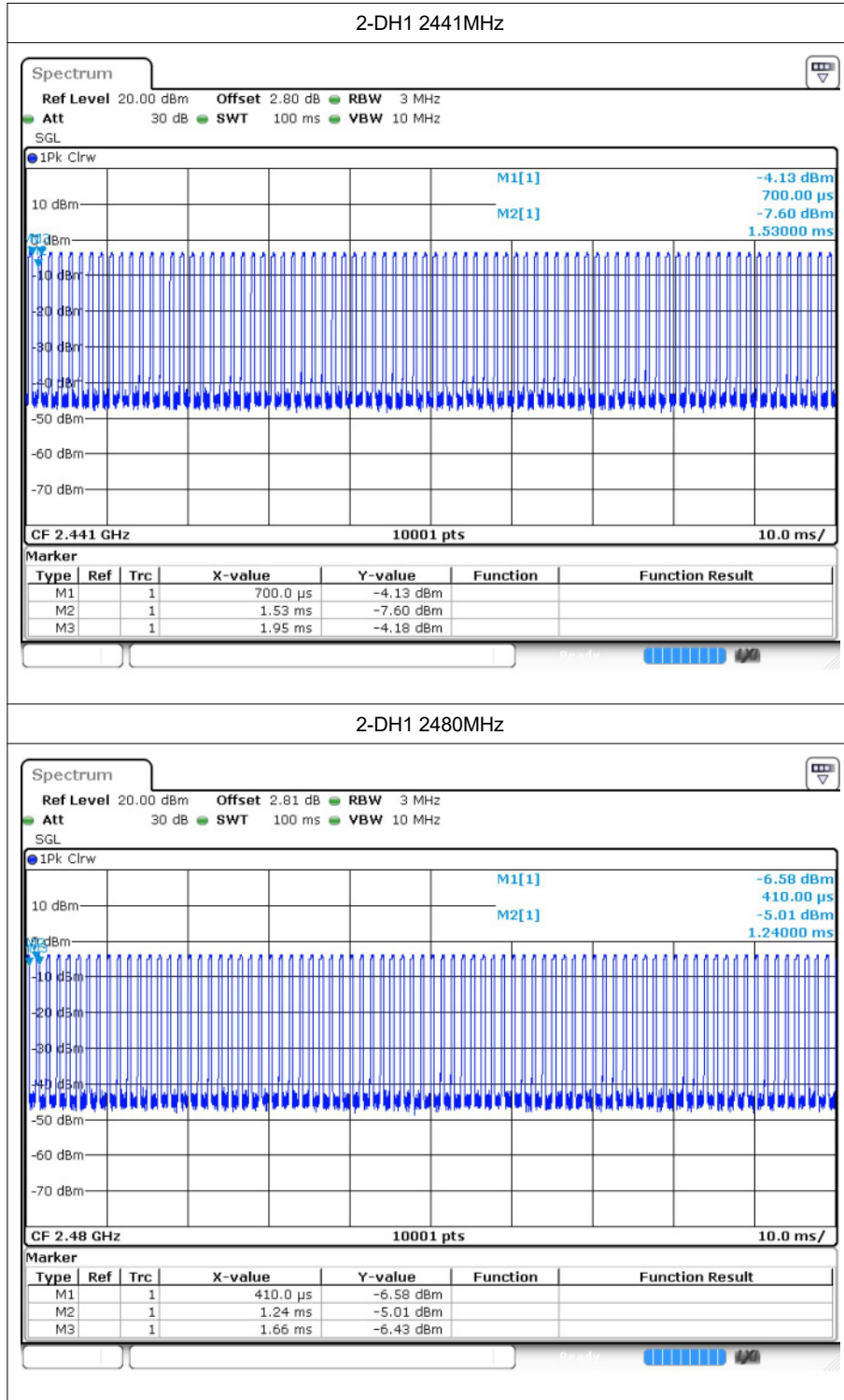
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	33.6	4.74	2.44
1-DH1	2441	33.6	4.74	2.44
1-DH1	2480	33.61	4.74	2.44
2-DH1	2402	34.41	4.63	2.38
2-DH1	2441	34.38	4.64	2.38
2-DH1	2480	34.41	4.63	2.38

1.2 Test Graphs





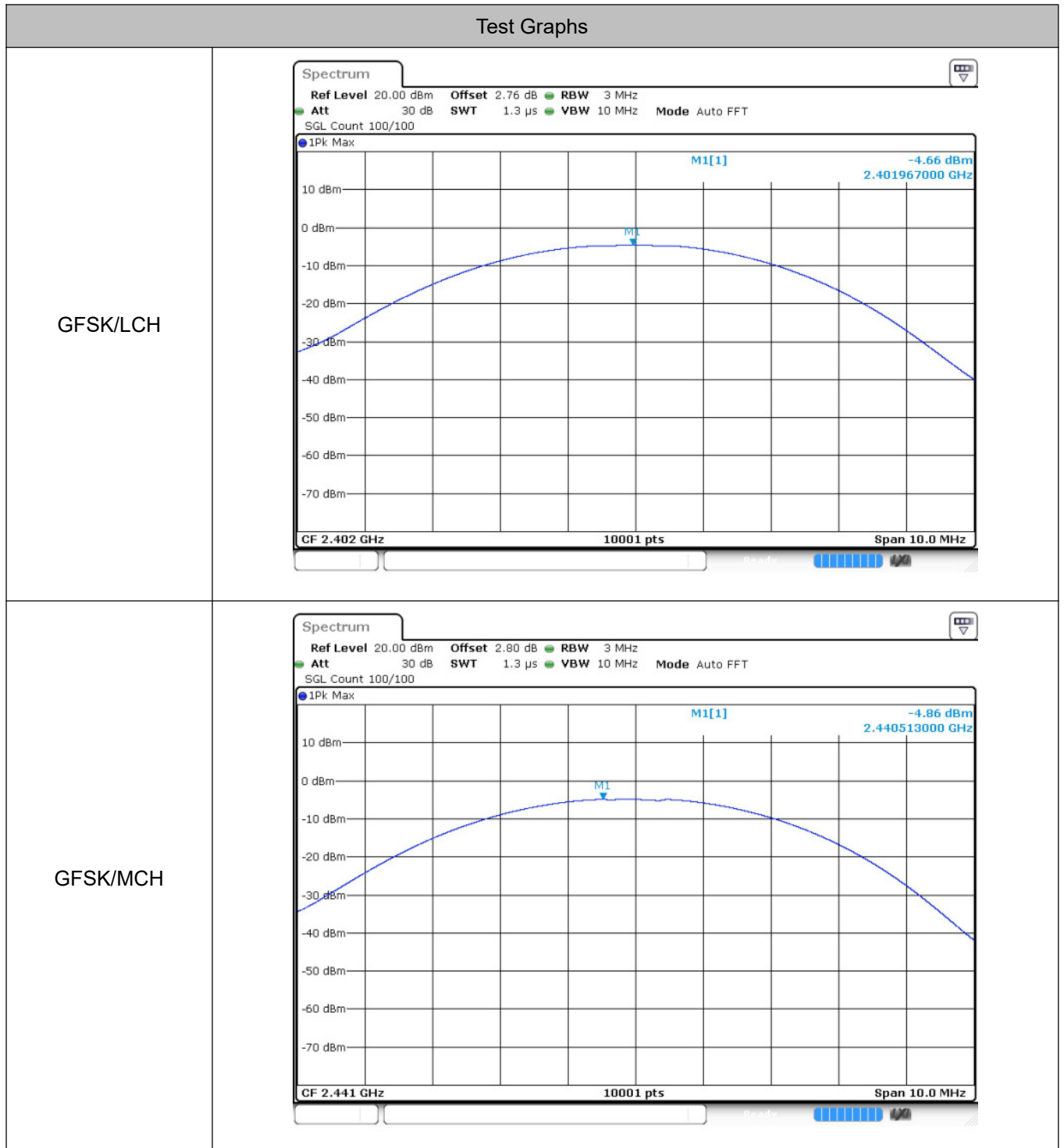


2 Maximum Conducted Peak Output Power

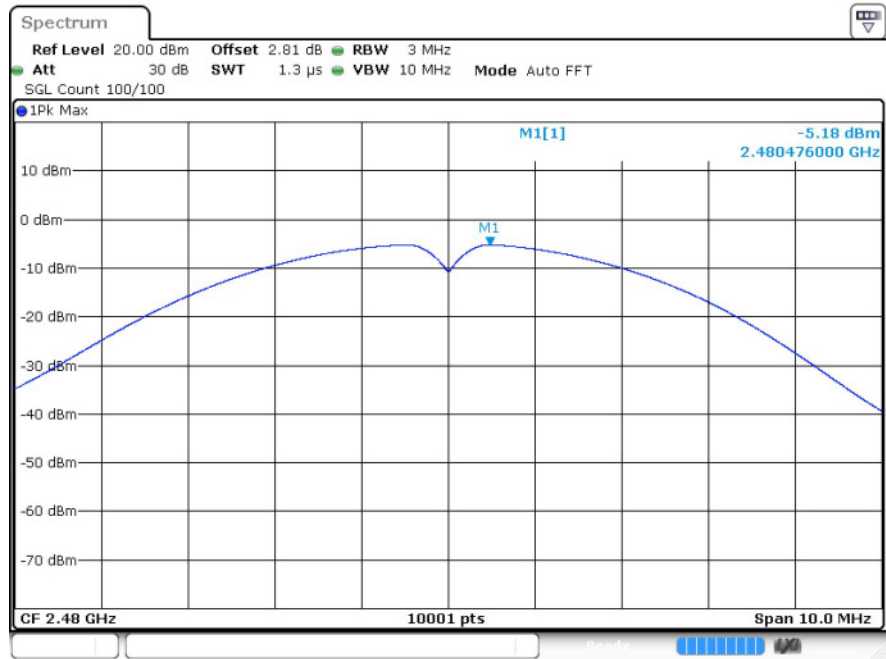
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.66	21	Pass
	MCH	-4.86	21	Pass
	HCH	-5.18	21	Pass
$\pi/4$ DQPSK	LCH	-3.96	21	Pass
	MCH	-4.32	21	Pass
	HCH	-4.62	21	Pass

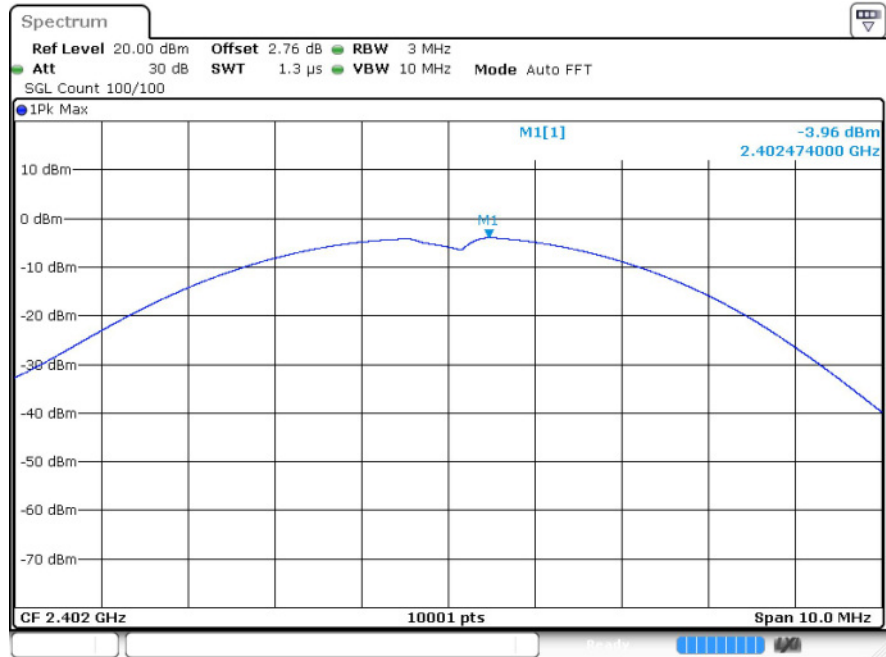
2.2 Test Graphs



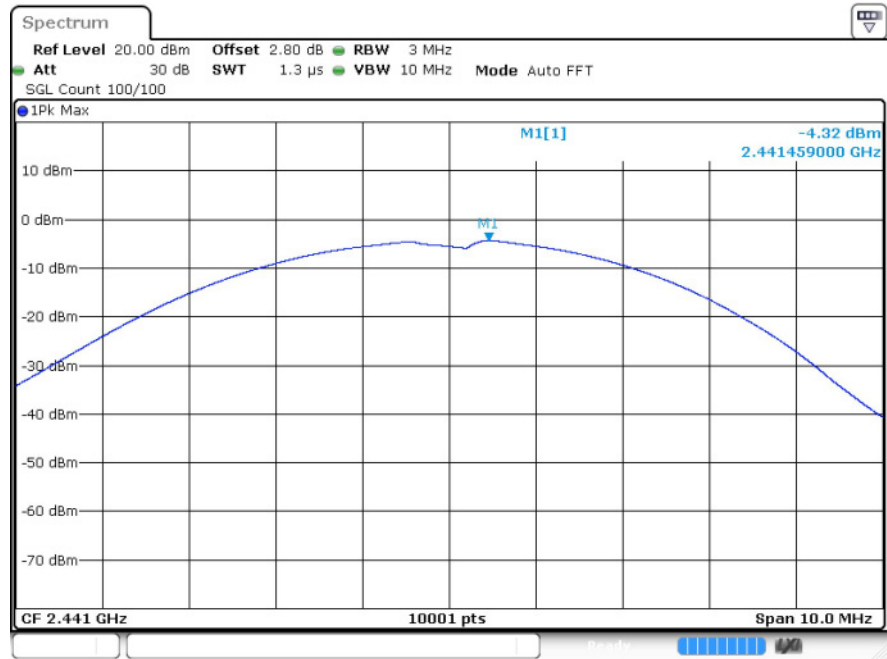
GFSK/HCH



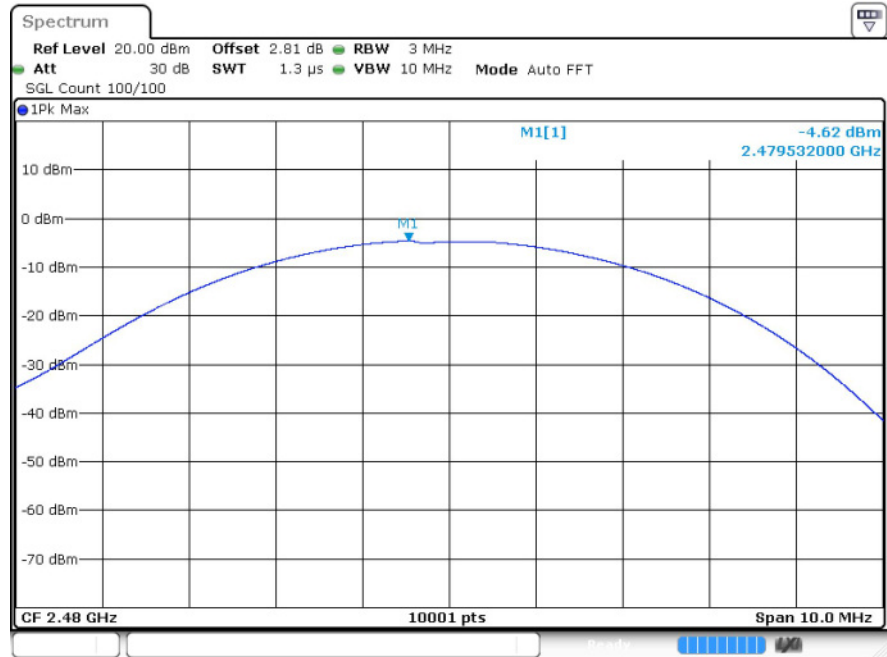
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

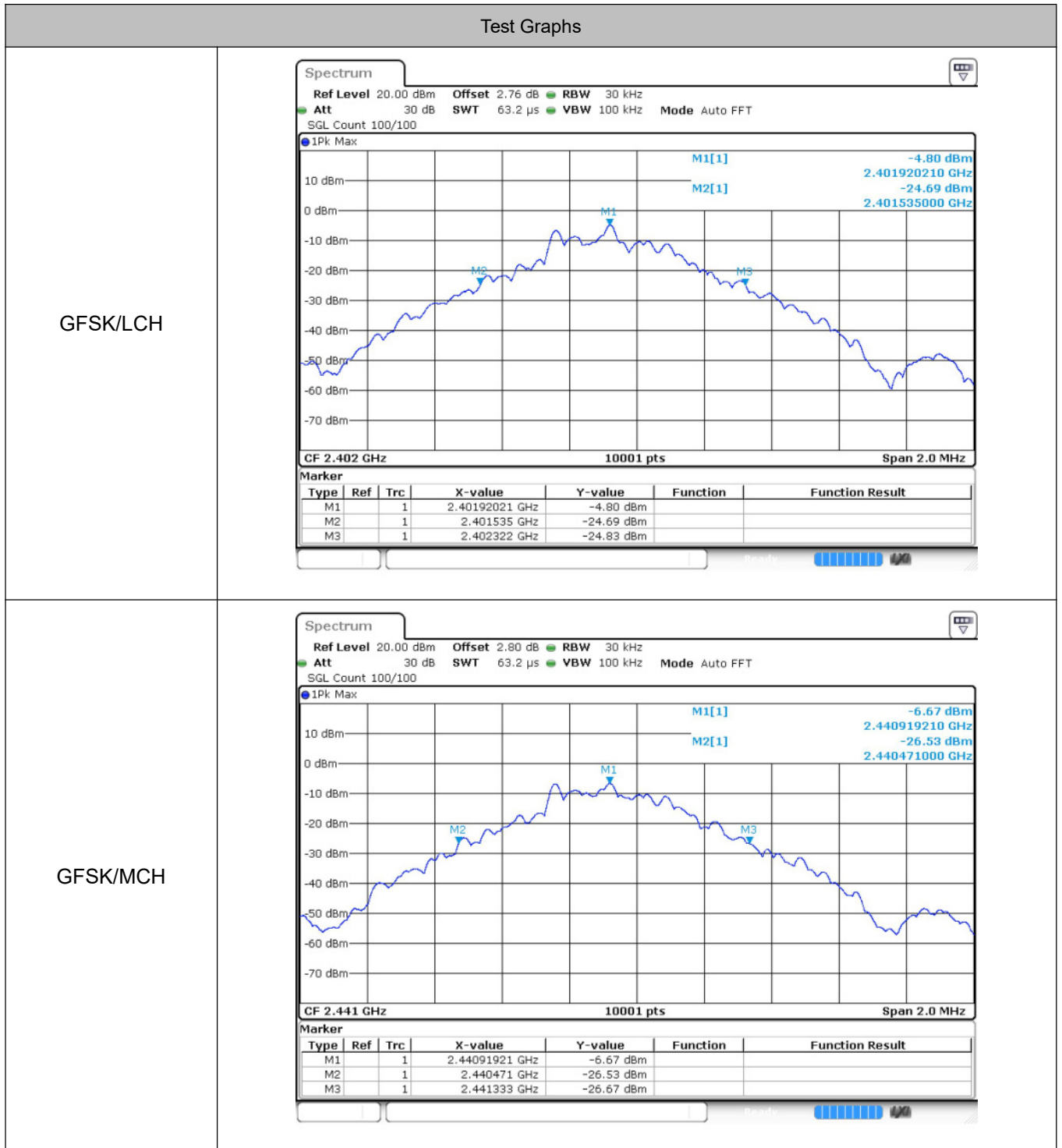


3 20dB Bandwidth

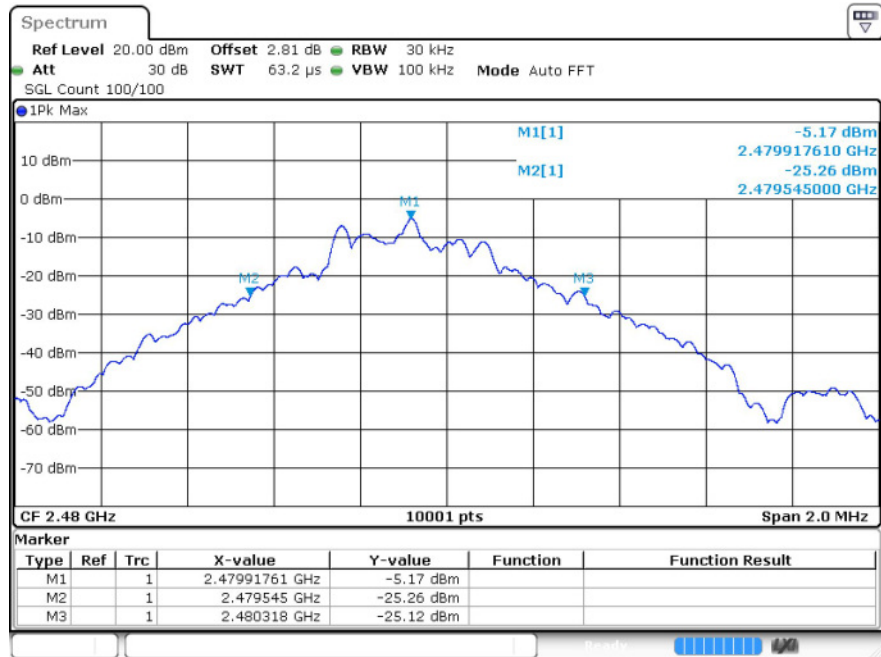
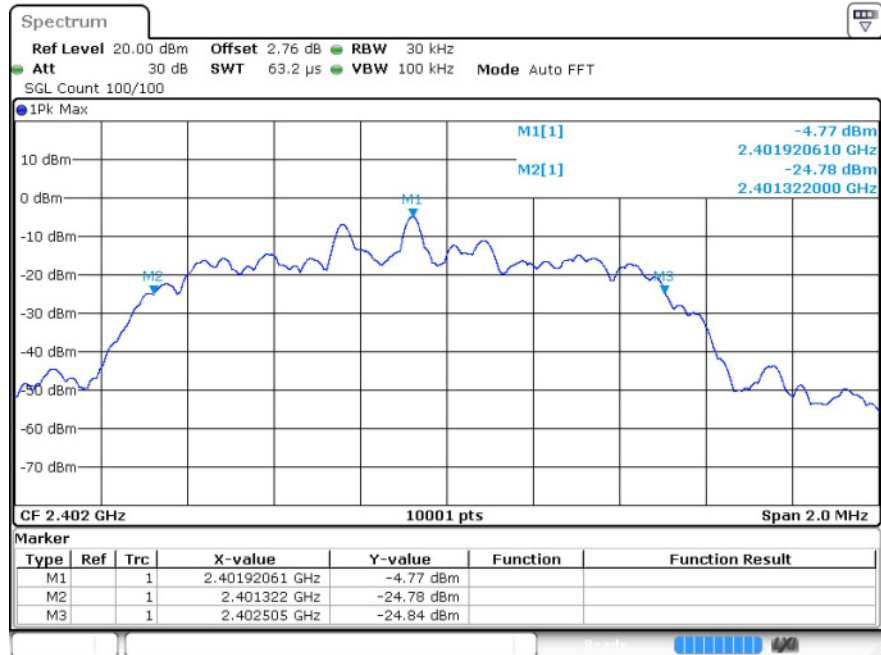
3.1 Test Result

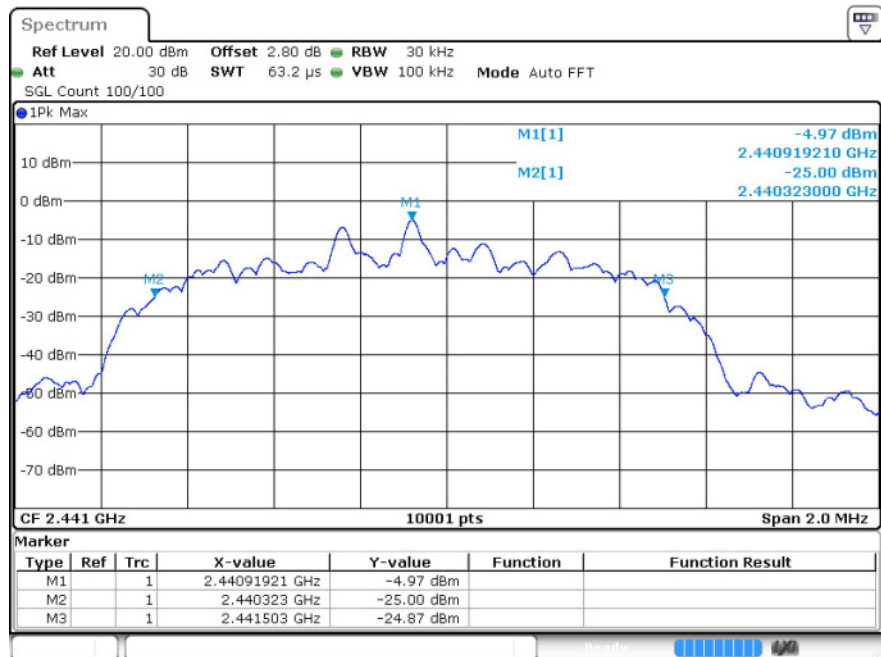
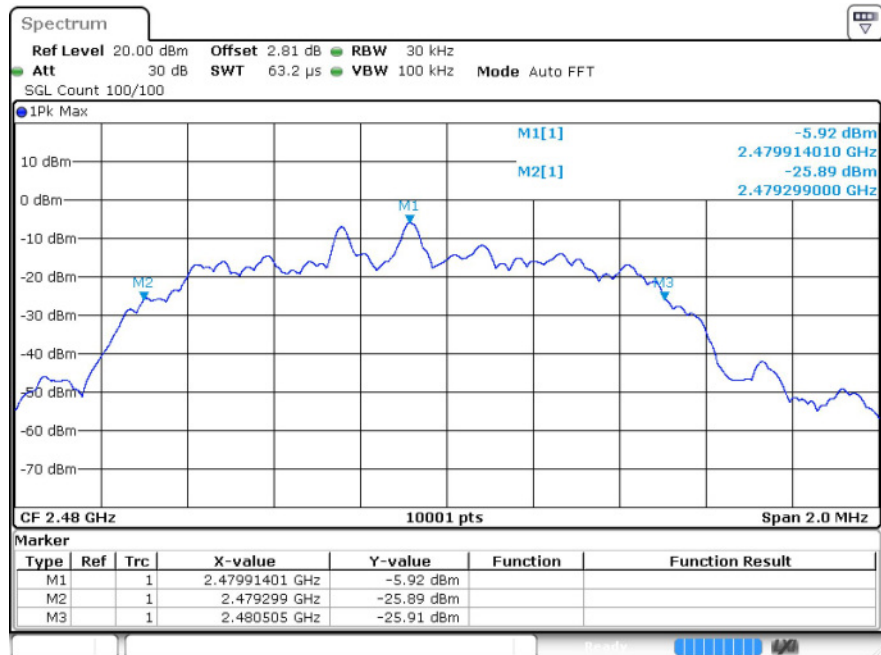
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.787	Not Specified	Pass
	MCH	0.862	Not Specified	Pass
	HCH	0.773	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.183	Not Specified	Pass
	MCH	1.18	Not Specified	Pass
	HCH	1.206	Not Specified	Pass

3.2 Test Graphs



GFSK/HCH


 π /4DQPSK/LCH


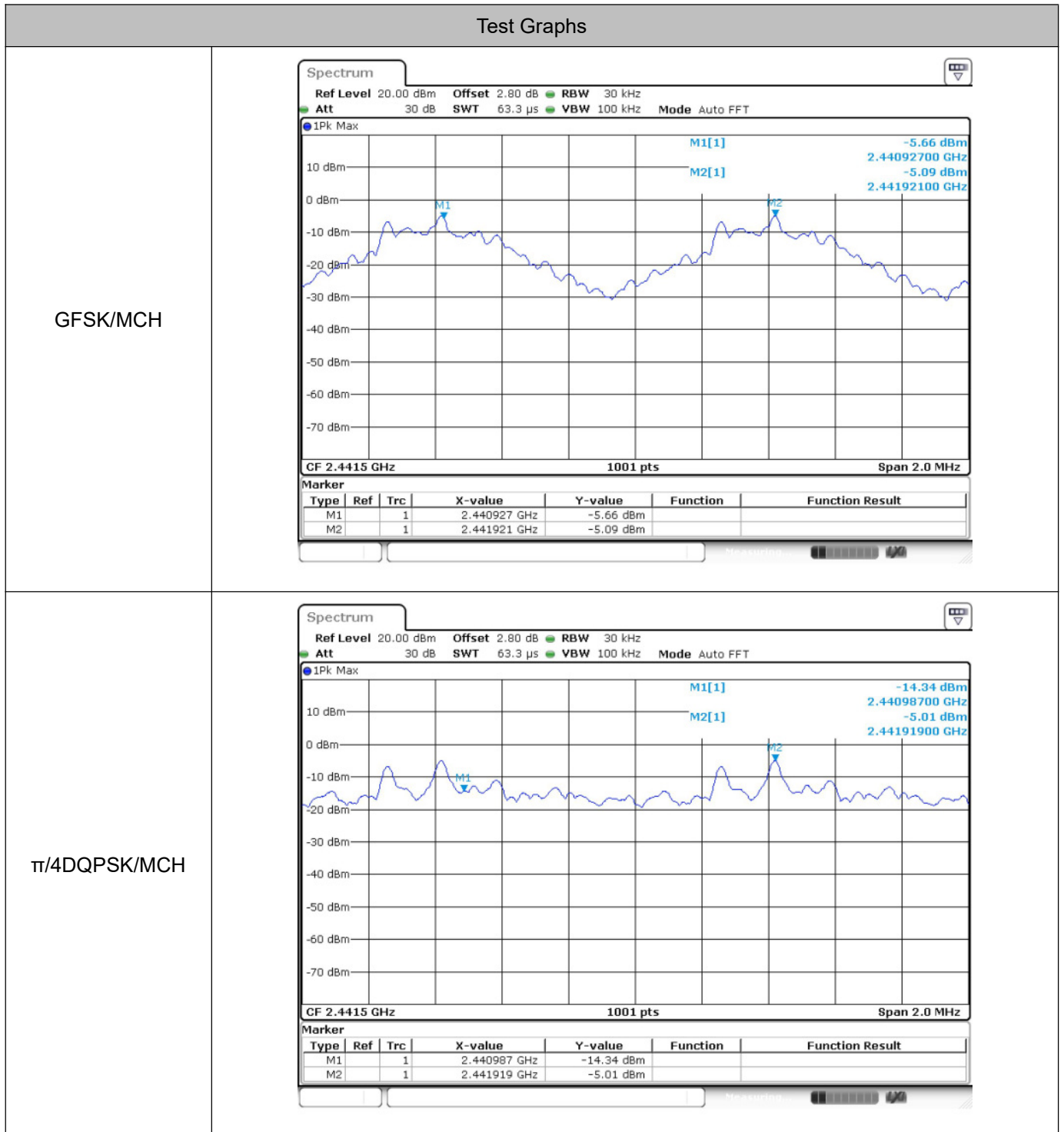
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.994	0.575	Pass
$\pi/4$ DQPSK	MCH	0.932	0.787	Pass

4.2 Test Graphs

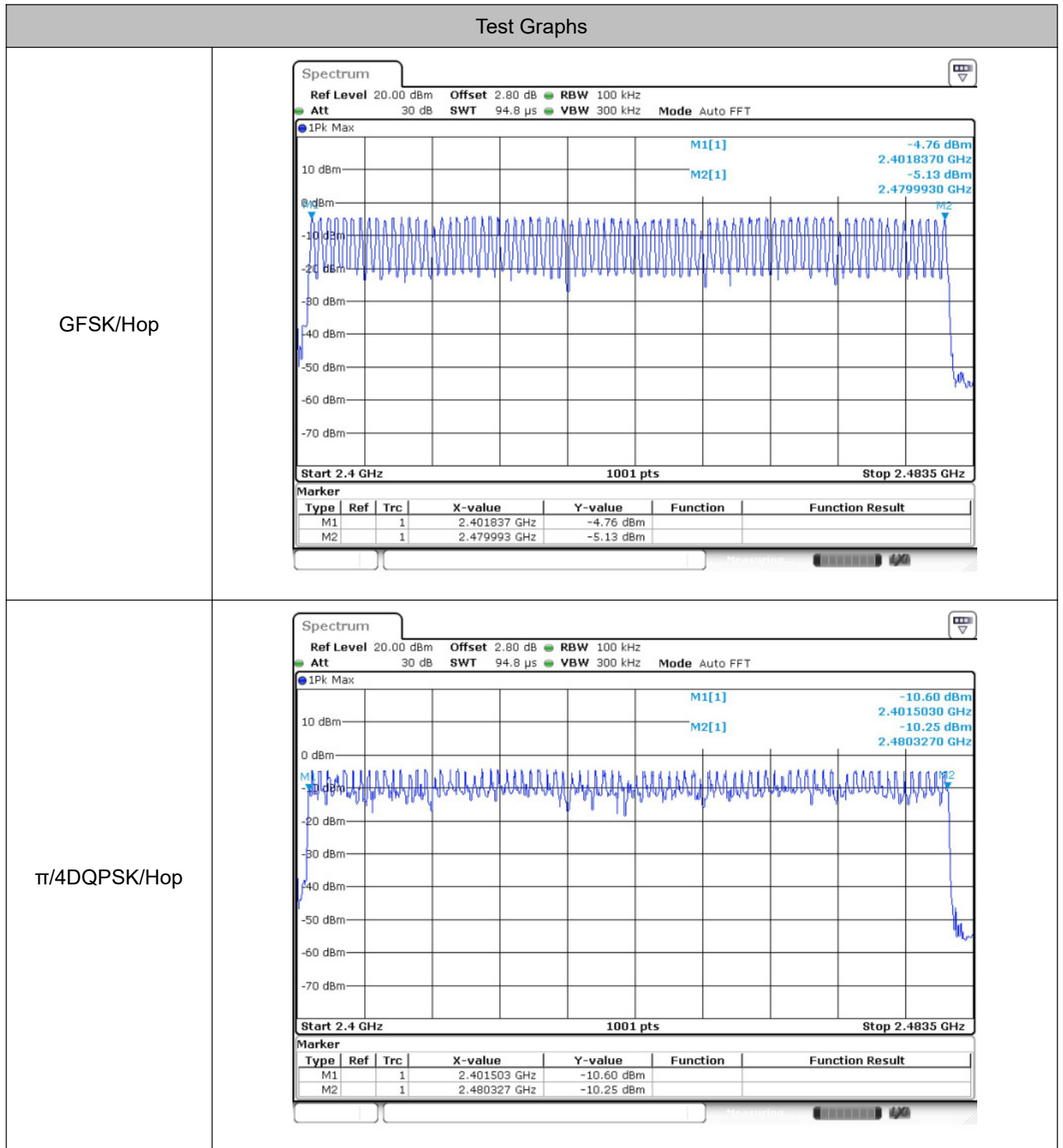


5 Hopping Channel Number

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

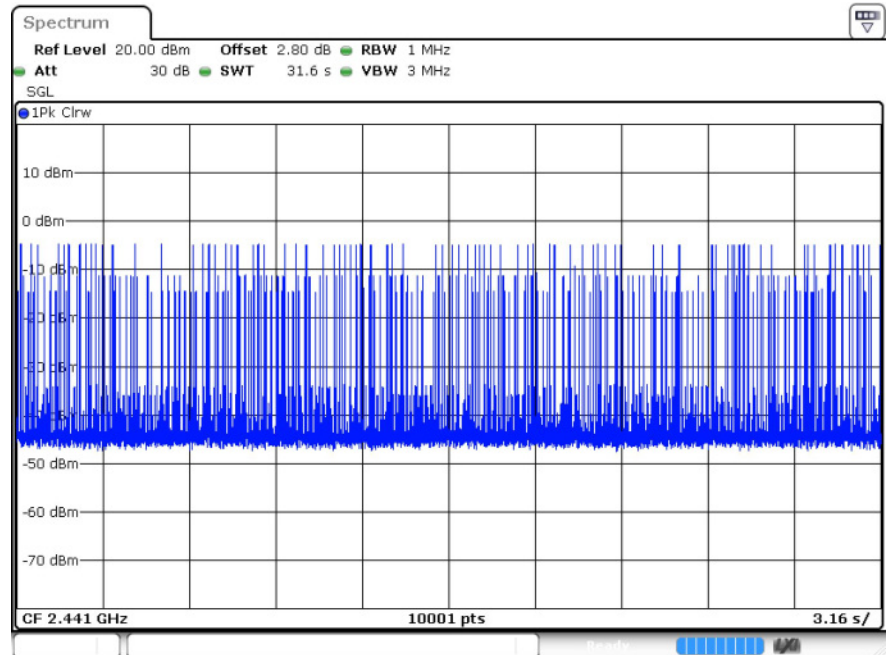
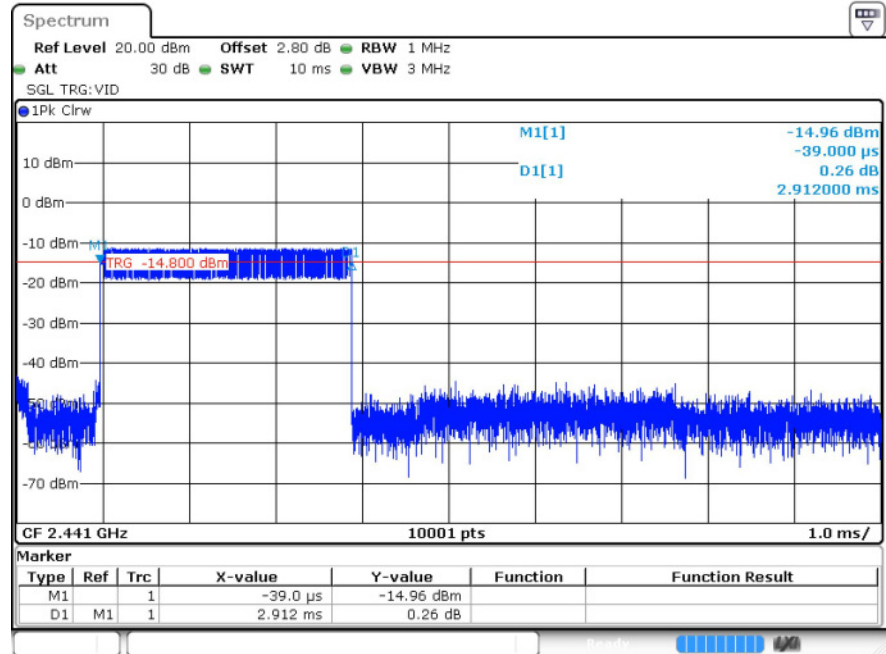
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.912	101	294.112	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.917	113	329.621	0.4	Pass

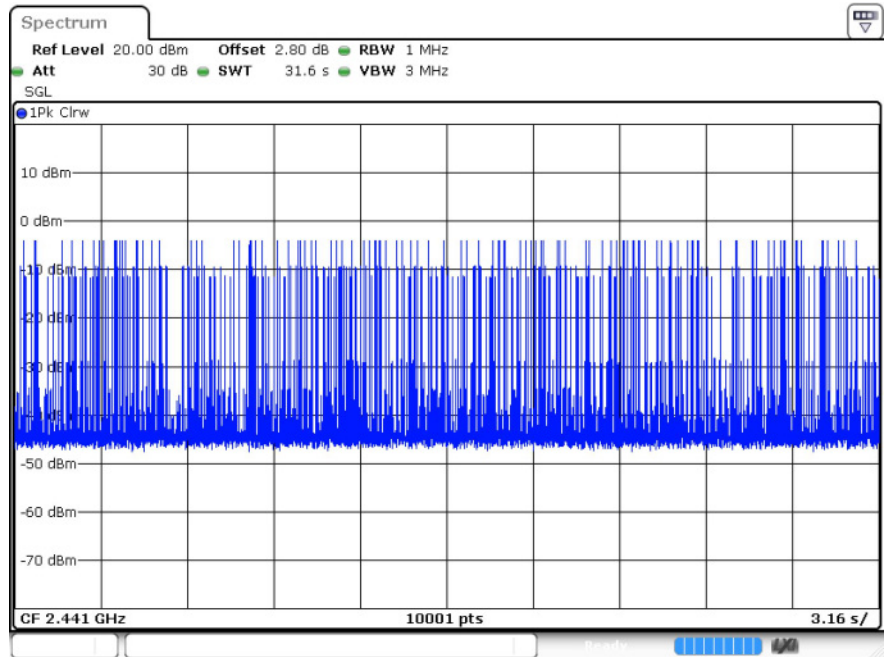
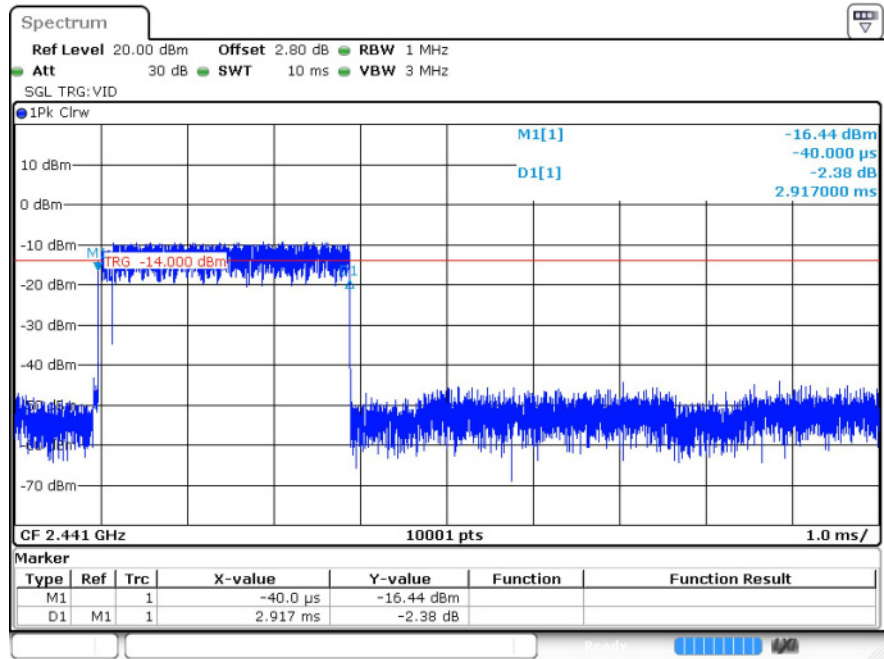
6.2 Test Graphs

Test Graphs

GFSK_DH5/MCH



$\pi/4$ DQPSK
_2DH5/MCH

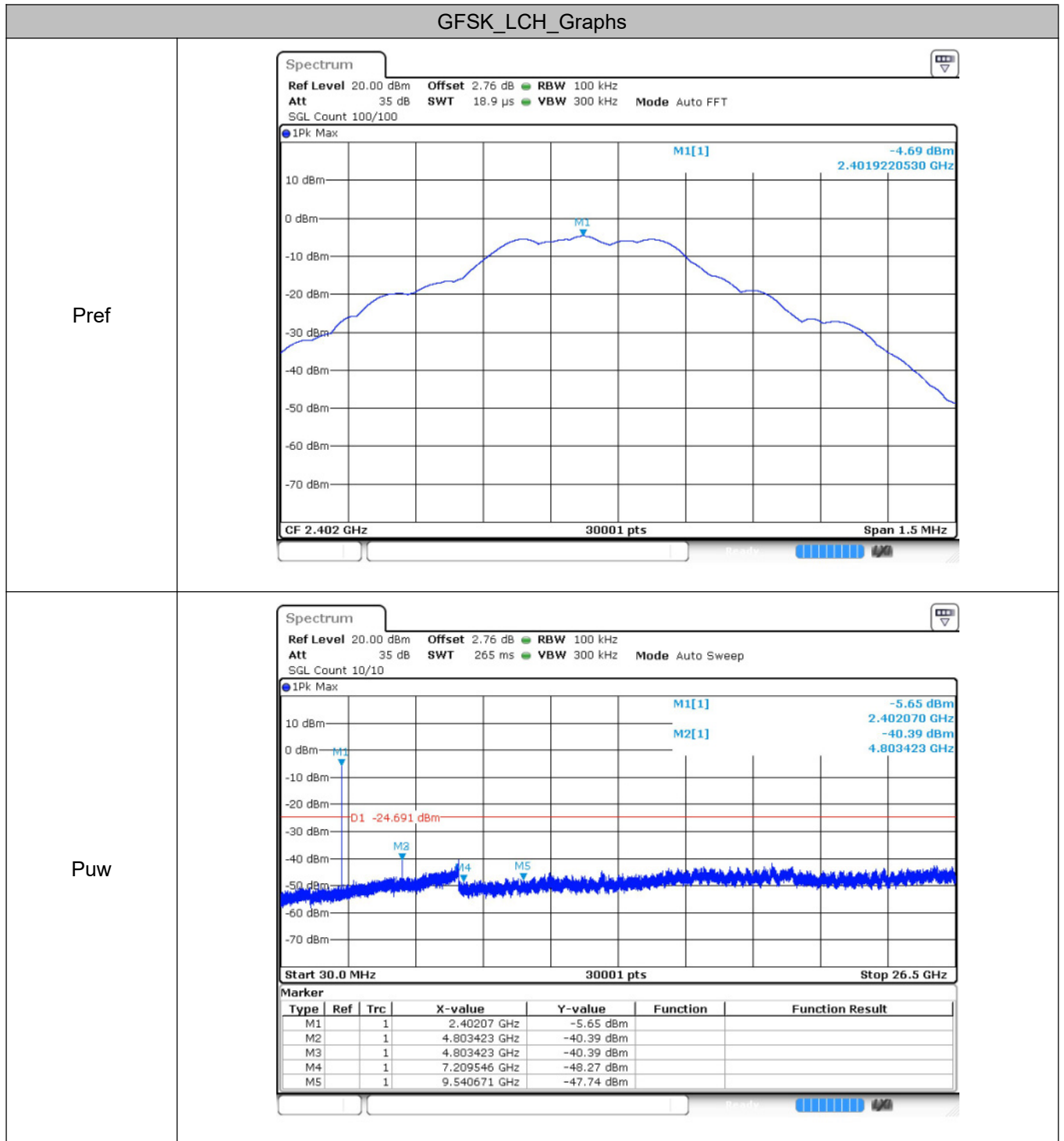


7 RF Conducted Spurious Emissions

7.1 Test Result

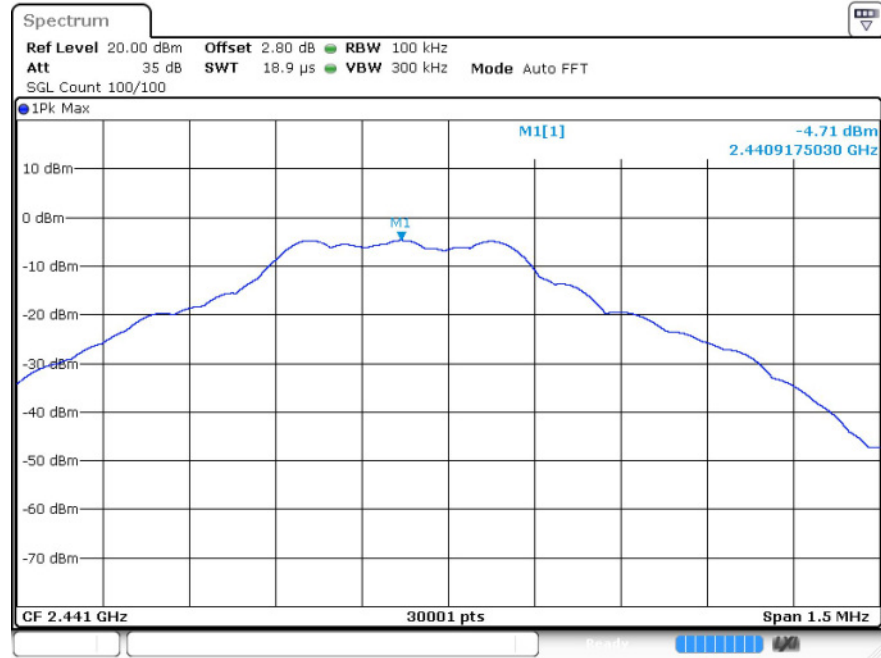
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-35.7	-20	Pass
	MCH	-34.81	-20	Pass
	HCH	-35.09	-20	Pass
$\pi/4$ DQPSK	LCH	-36.76	-20	Pass
	MCH	-37.1	-20	Pass
	HCH	-36.32	-20	Pass

7.2 Test Graphs

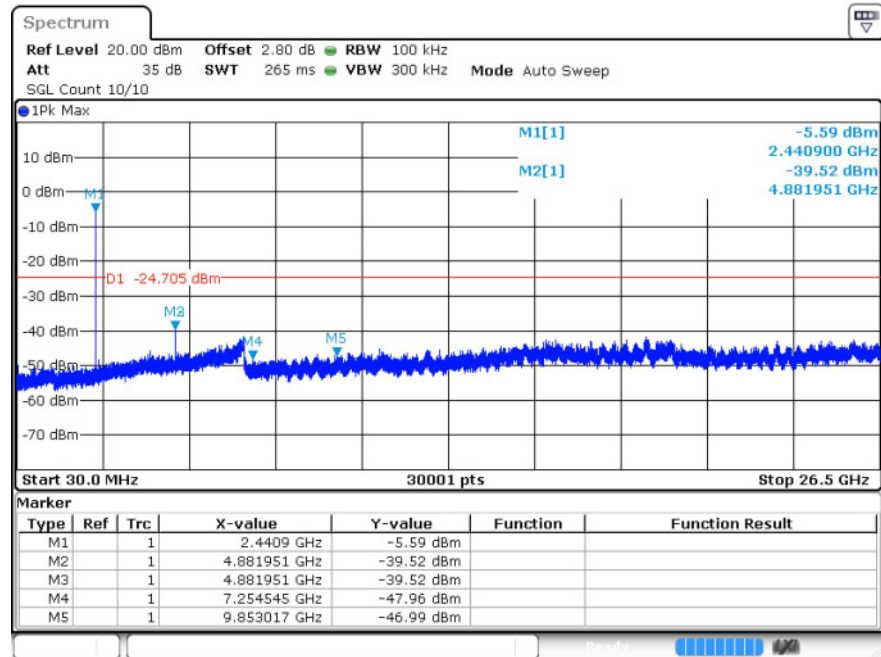


GFSK_MCH_Graphs

Pref

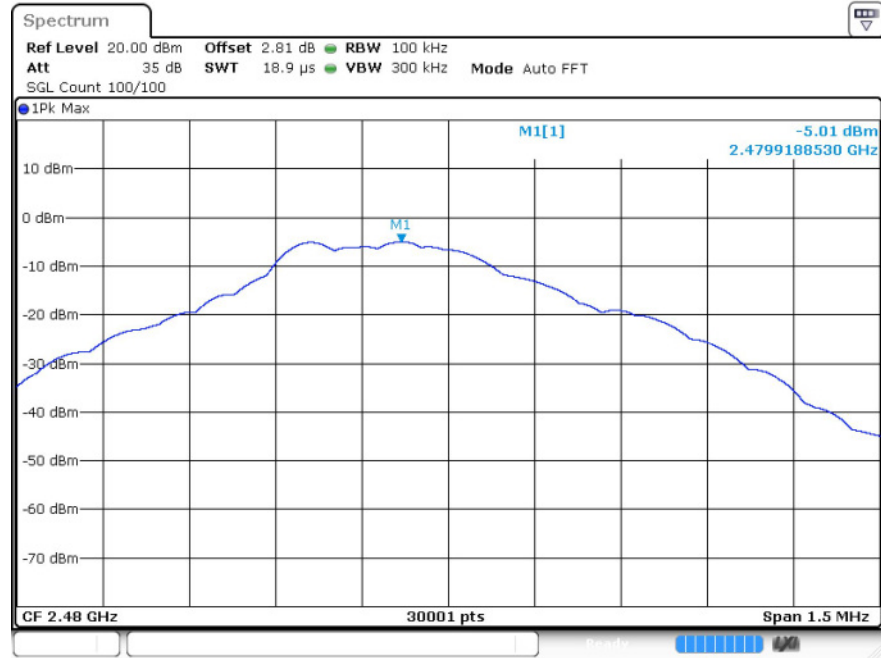


Puw

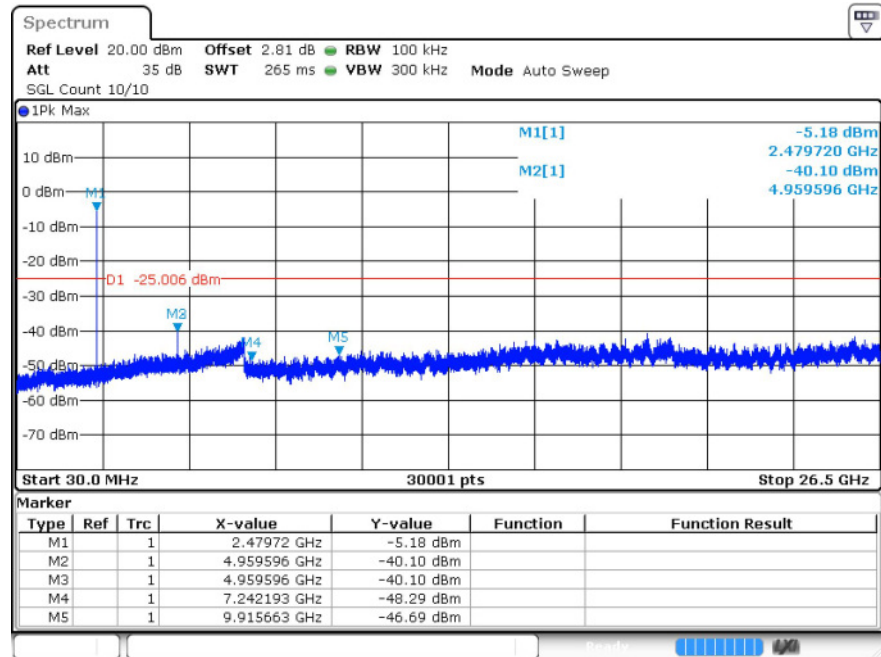


GFSK_HCH_Graphs

Pref

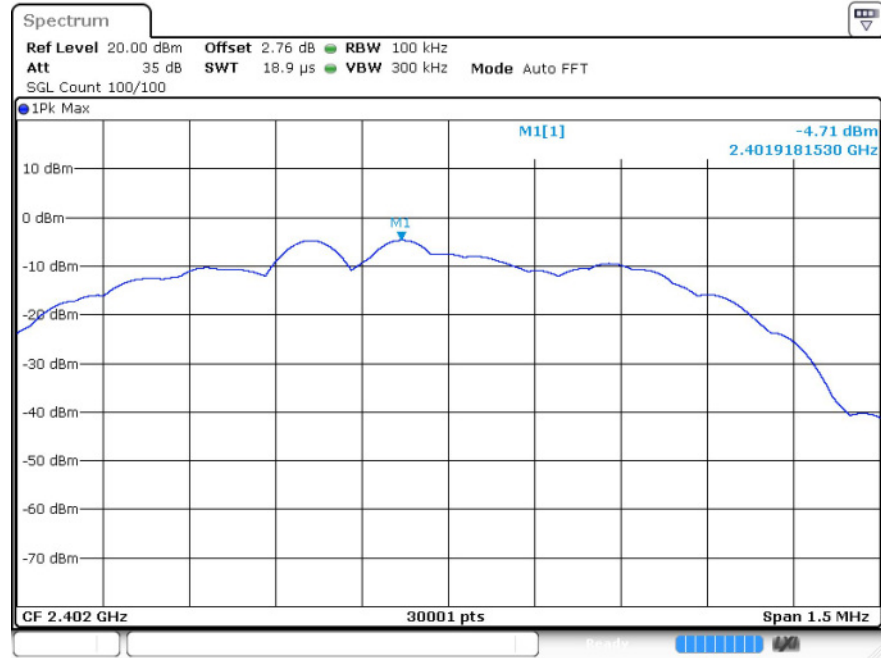


Puw

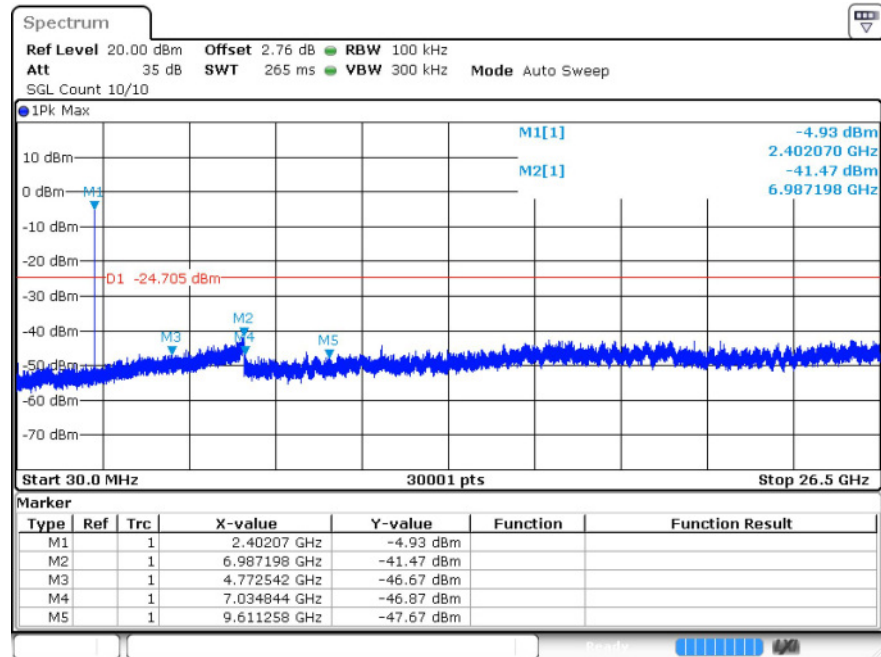


$\pi/4$ DQPSK_LCH_Graphs

Pref

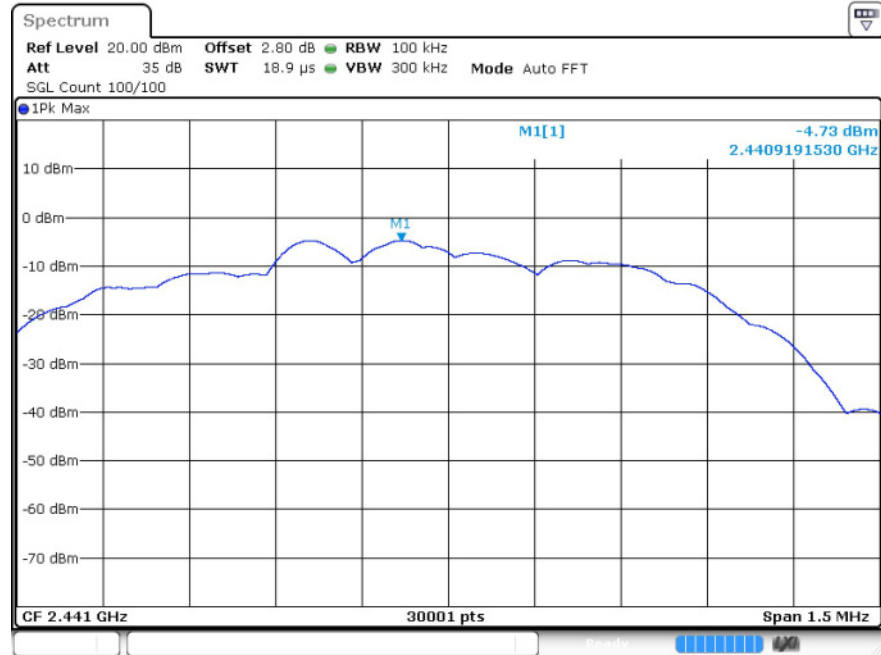


Puw

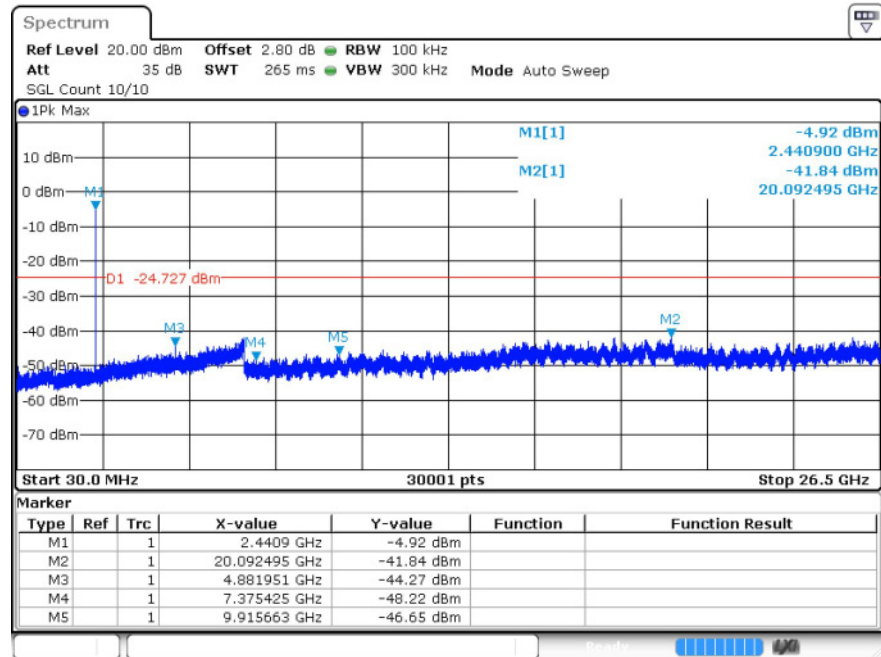


π /4DQPSK_MCH_Graphs

Pref

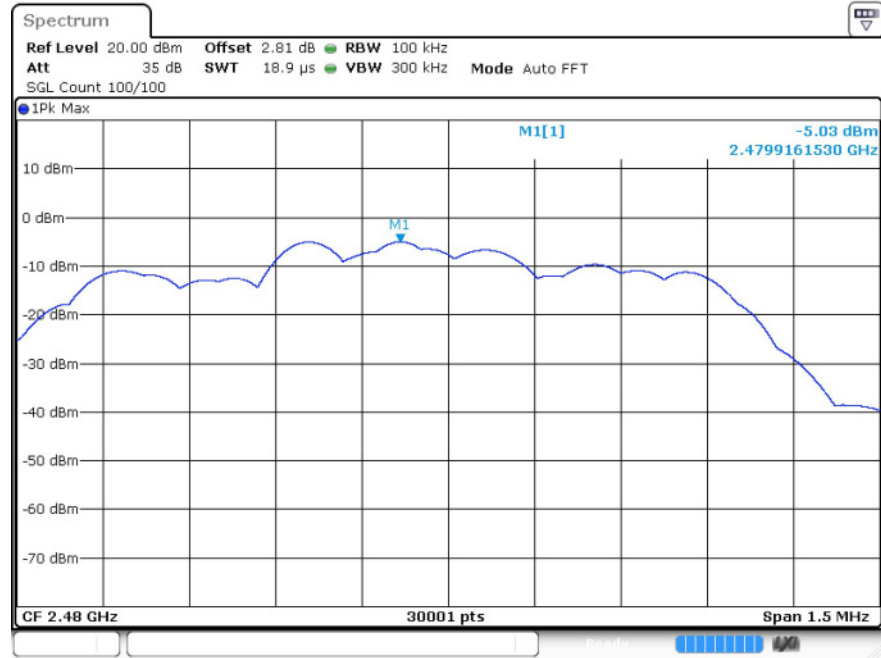


Puw

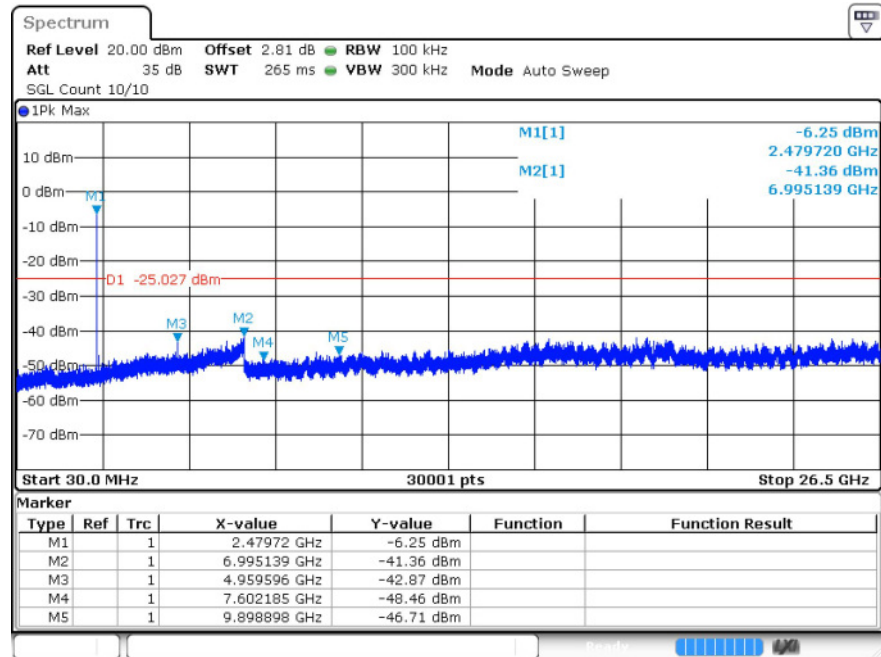


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

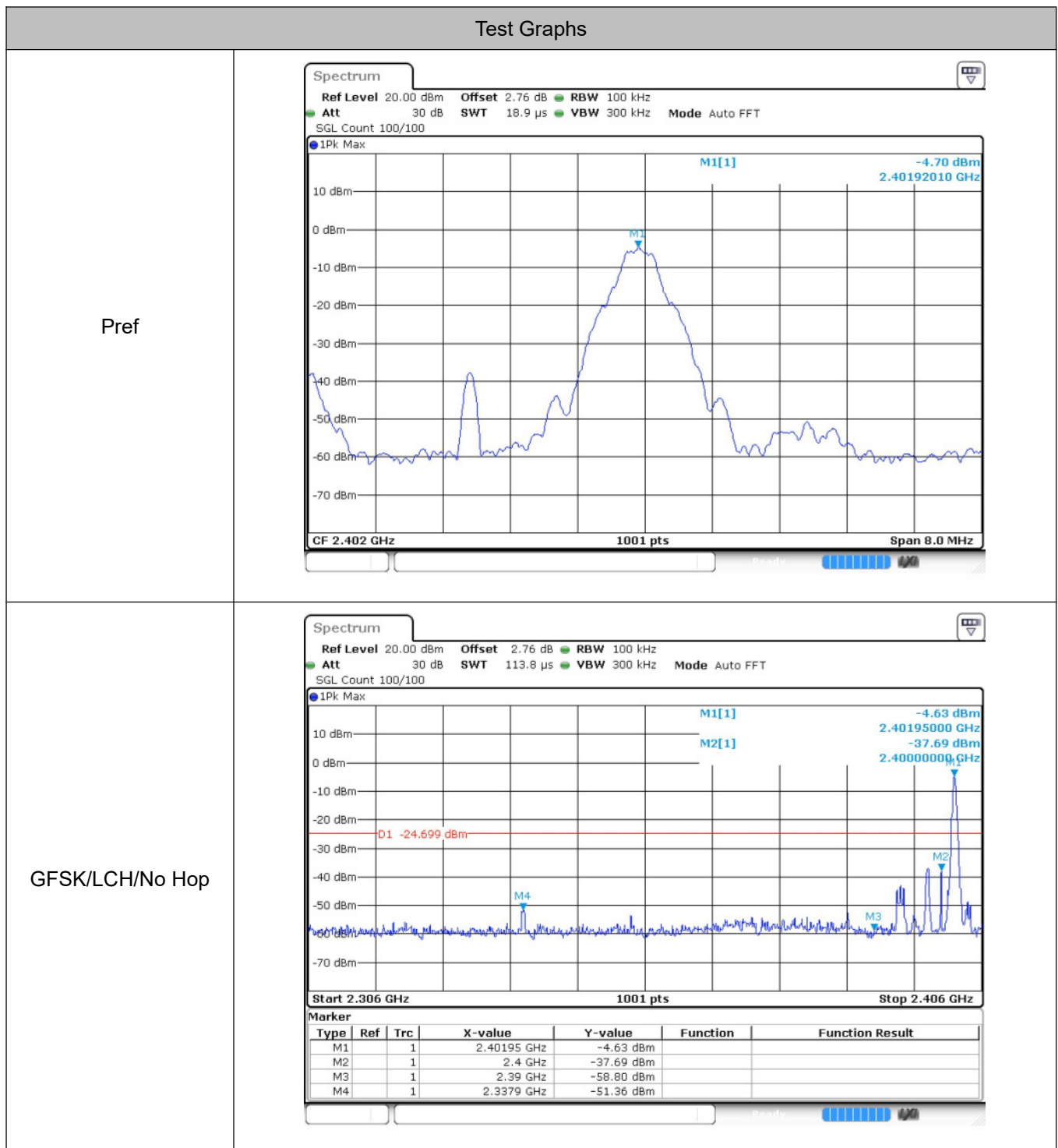


8 Band-edge for RF Conducted Emissions

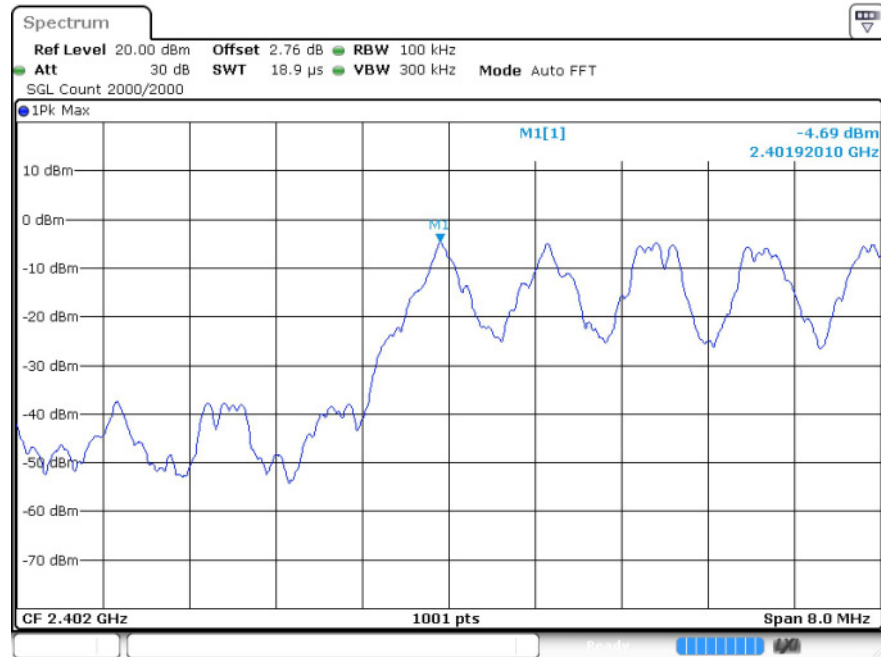
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-46.65	-20	Pass
			On	-45.85	-20	Pass
	HCH	2480	Off	-48.23	-20	Pass
			On	-47.21	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-46.47	-20	Pass
			On	-45.76	-20	Pass
	HCH	2480	Off	-48.81	-20	Pass
			On	-47.18	-20	Pass

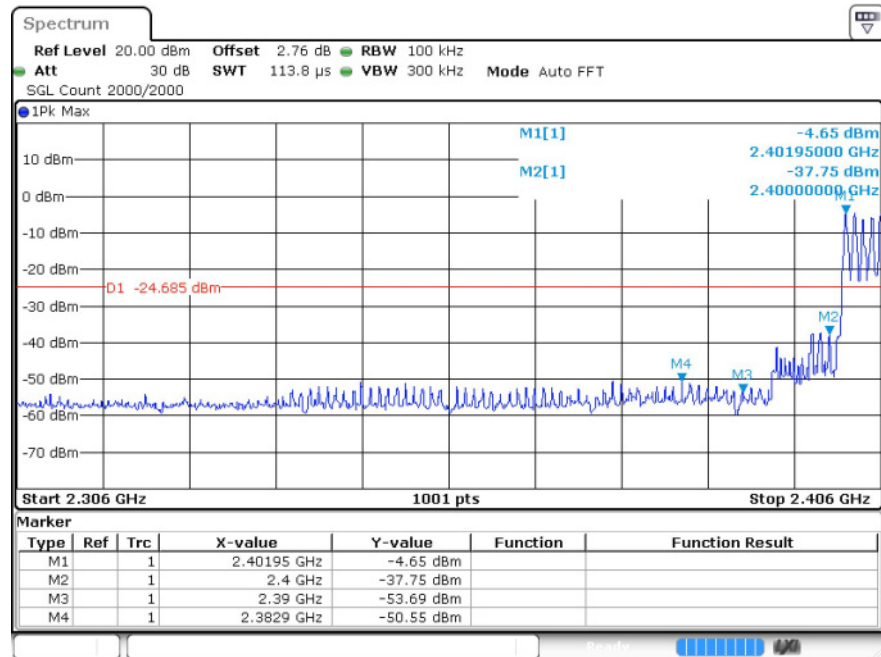
8.2 Test Graphs



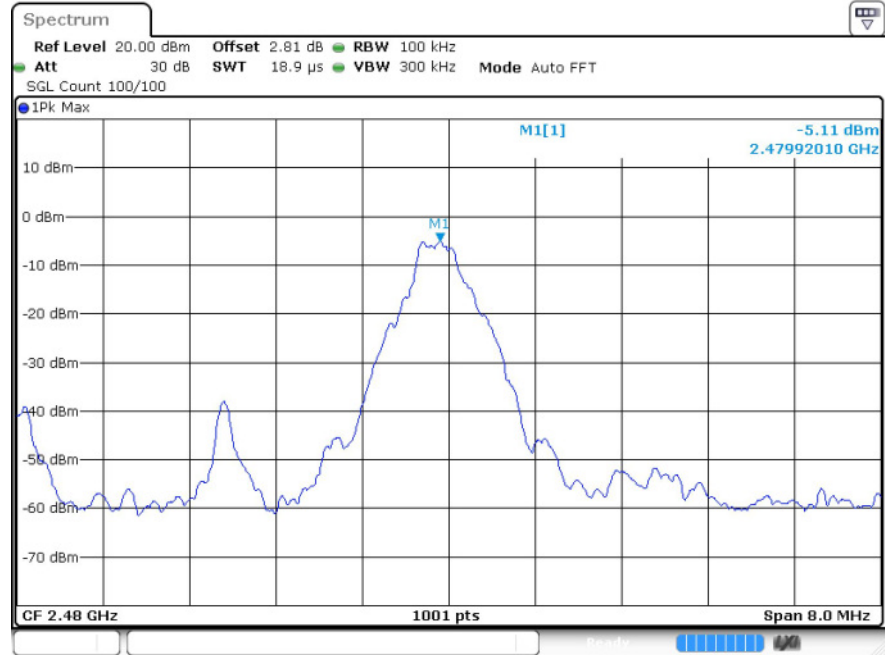
Ref



GFSK/LCH/Hop



Ref



GFSK/HCH/No Hop

