

Appendix A

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

Product Name: ELECTRIC SCOOTER

Trade Mark: FanttikRide

Test Model: K9 Apex

Environmental Conditions

Temperature:	24.6℃
Relative Humidity:	52.5%
ATM Pressure:	101Kpa
Test Engineer:	Leon.yi
Supervised by:	Sean She

Contents

Page

COVER PAGE

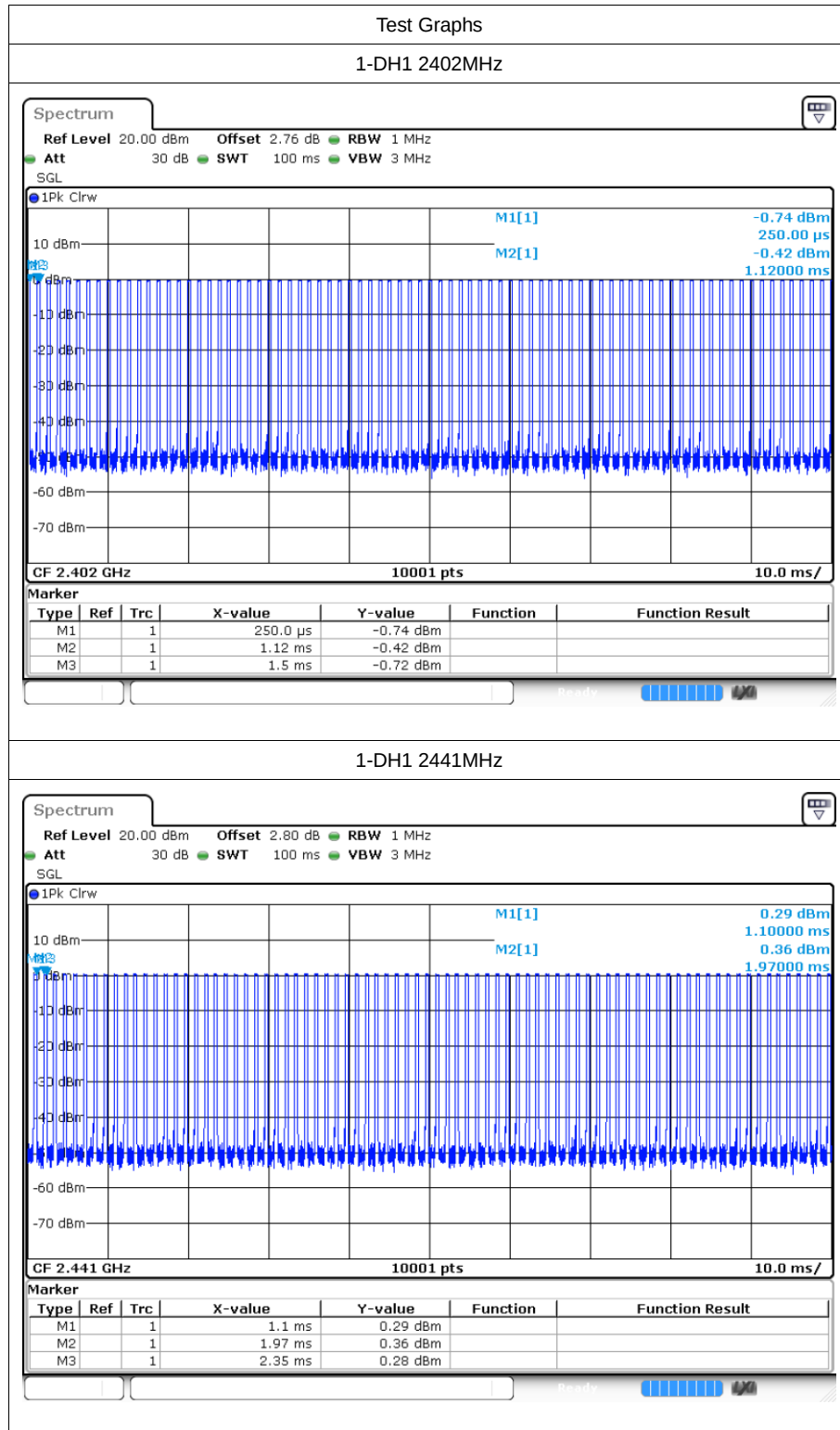
1	Duty Cycle.....	3
1.1	Test Result	3
1.2	Test Graphs.....	4
2	Maximum Conducted Peak Output Power	7
2.1	Test Result	7
2.2	Test Graphs.....	8
3	20dB Bandwidth.....	11
3.1	Test Result	11
3.2	Test Graphs.....	12
4	Carrier Frequency Separation	15
4.1	Test Result	15
4.2	Test Graphs.....	16
5	Hopping Channel Number.....	17
5.1	Test Result	17
5.2	Test Graphs.....	18
6	Dwell Time	19
6.1	Test Result	19
6.2	Test Graphs.....	20
7	RF Conducted Spurious Emissions	22
7.1	Test Result	22
7.2	Test Graphs.....	23
8	Band-edge for RF Conducted Emissions.....	29
8.1	Test Result	29
8.2	Test Graphs.....	30

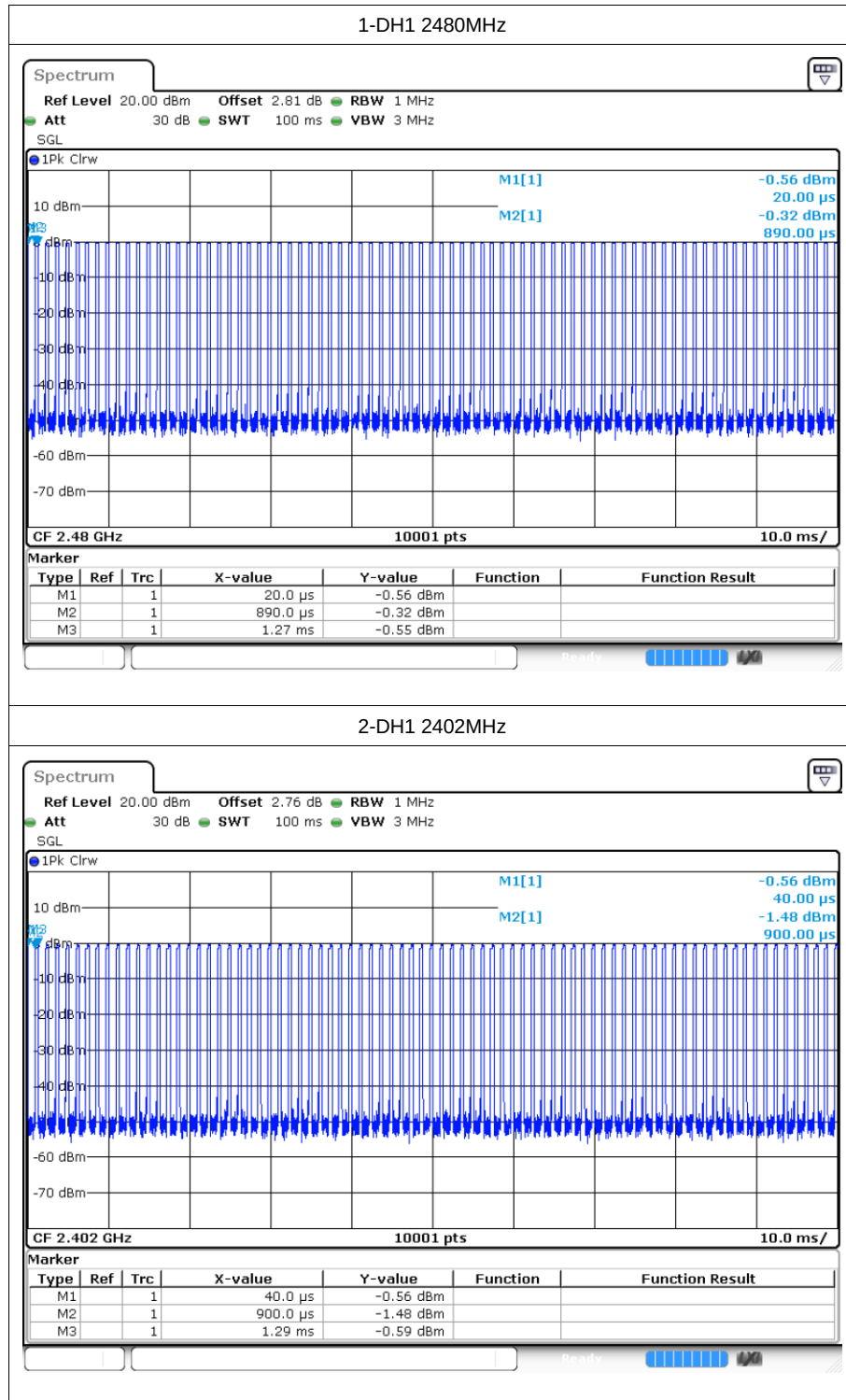
1 Duty Cycle

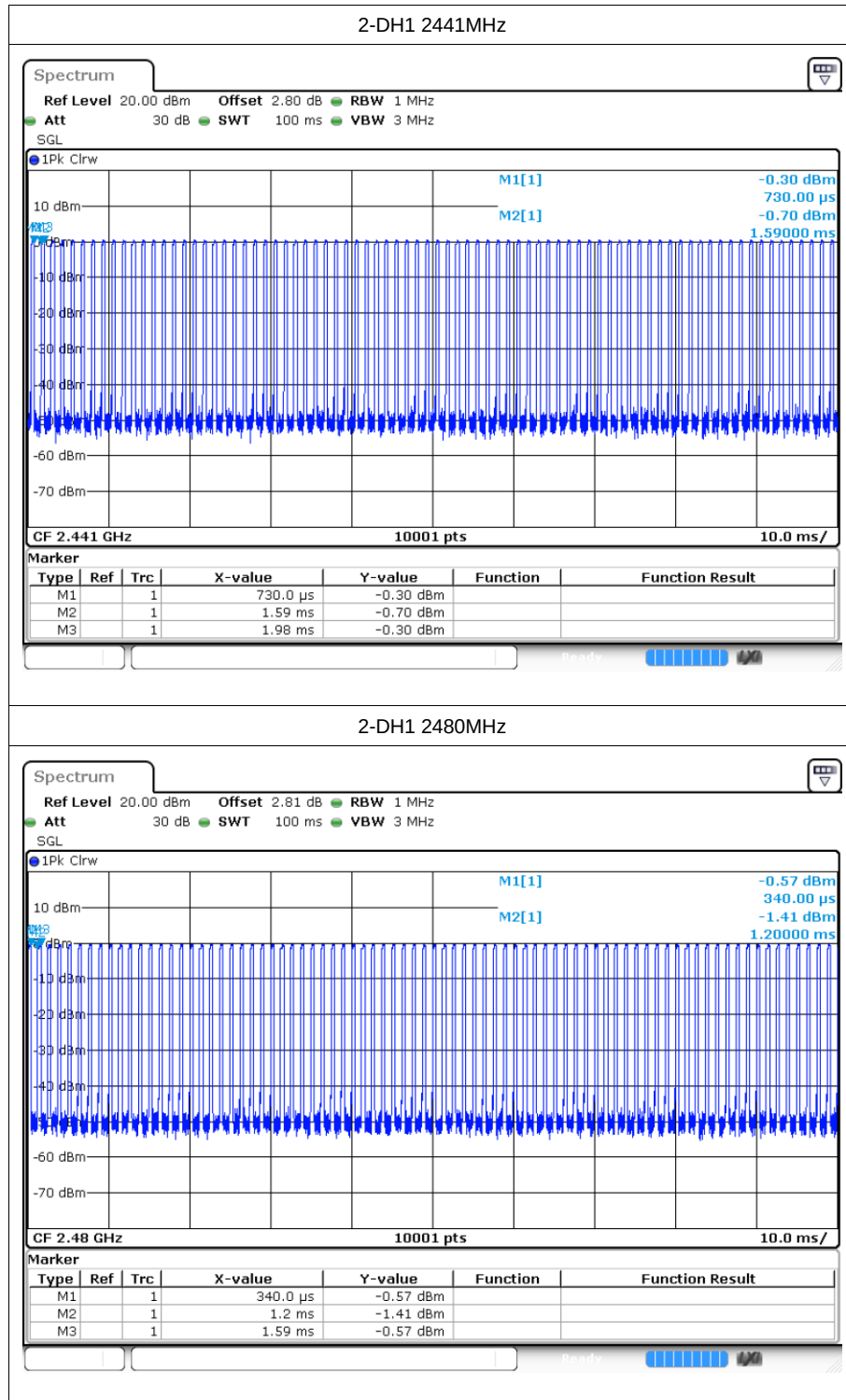
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.21	5.06	2.63
1-DH1	2441	31.2	5.06	2.63
1-DH1	2480	31.21	5.06	2.63
2-DH1	2402	32.01	4.95	2.56
2-DH1	2441	32	4.95	2.56
2-DH1	2480	32.01	4.95	2.56

1.2 Test Graphs





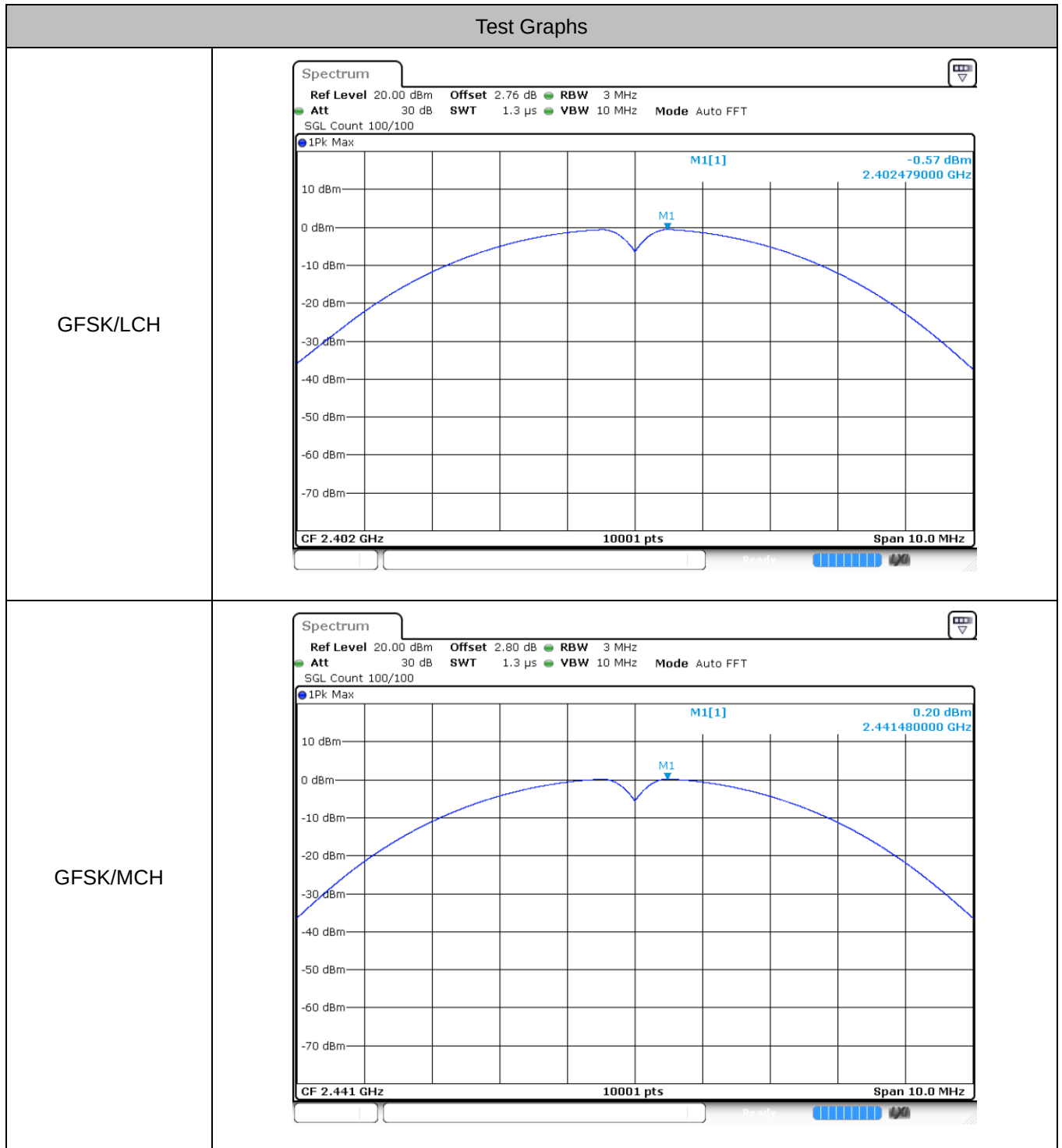


2 Maximum Conducted Peak Output Power

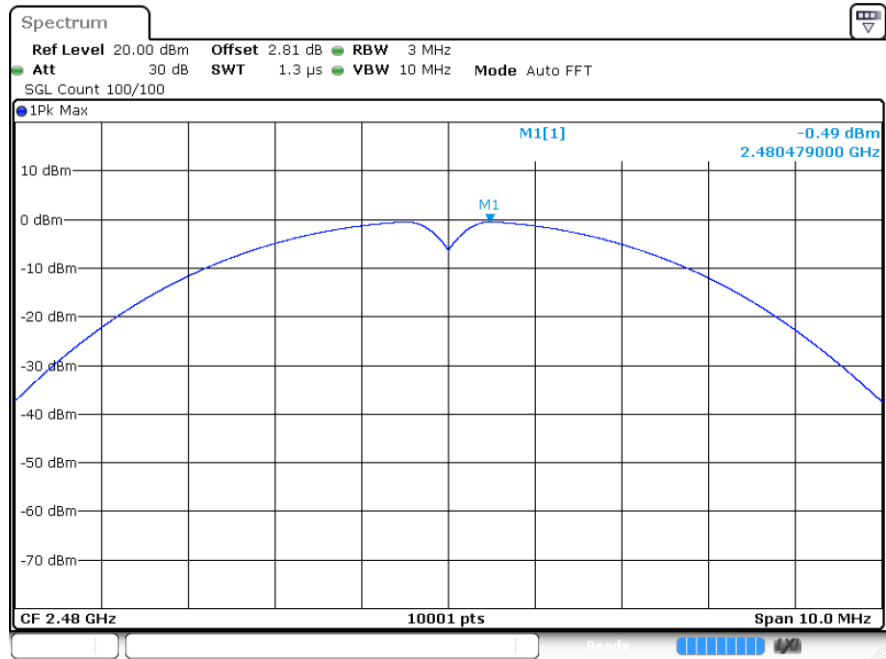
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.57	21	Pass
	MCH	0.2	21	Pass
	HCH	-0.49	21	Pass
$\pi/4$ DQPSK	LCH	0.35	21	Pass
	MCH	1.19	21	Pass
	HCH	0.62	21	Pass

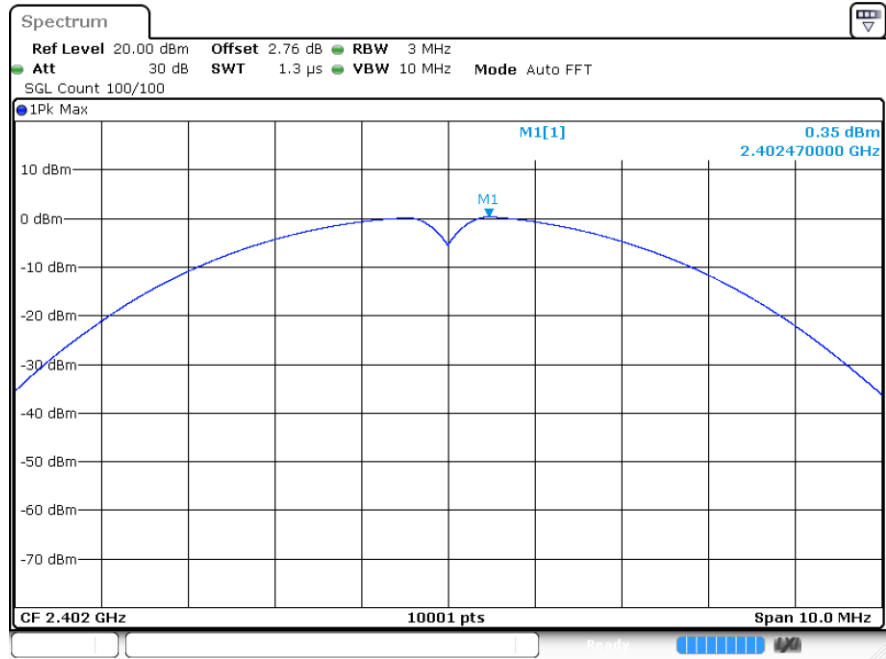
2.2 Test Graphs



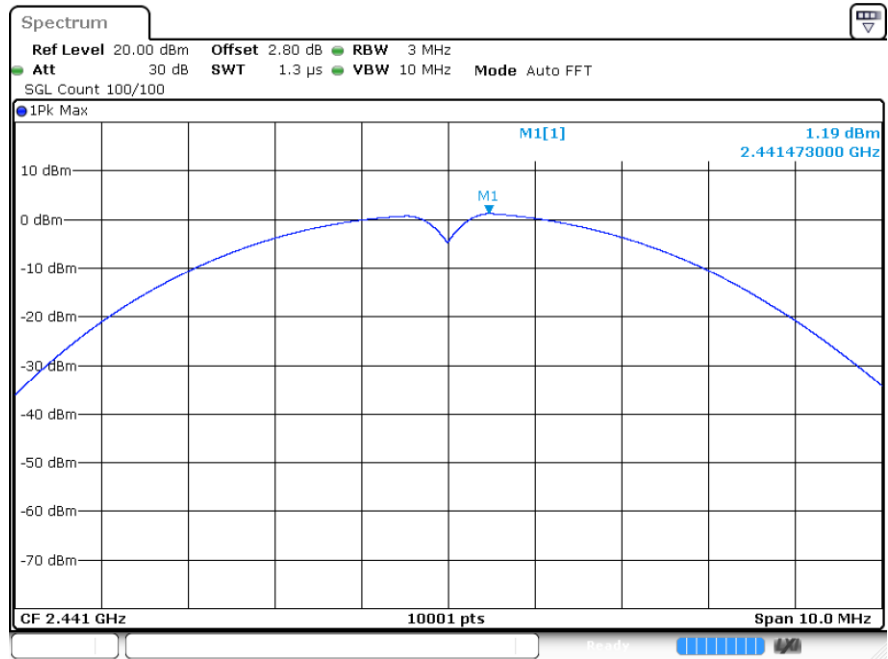
GFSK/HCH



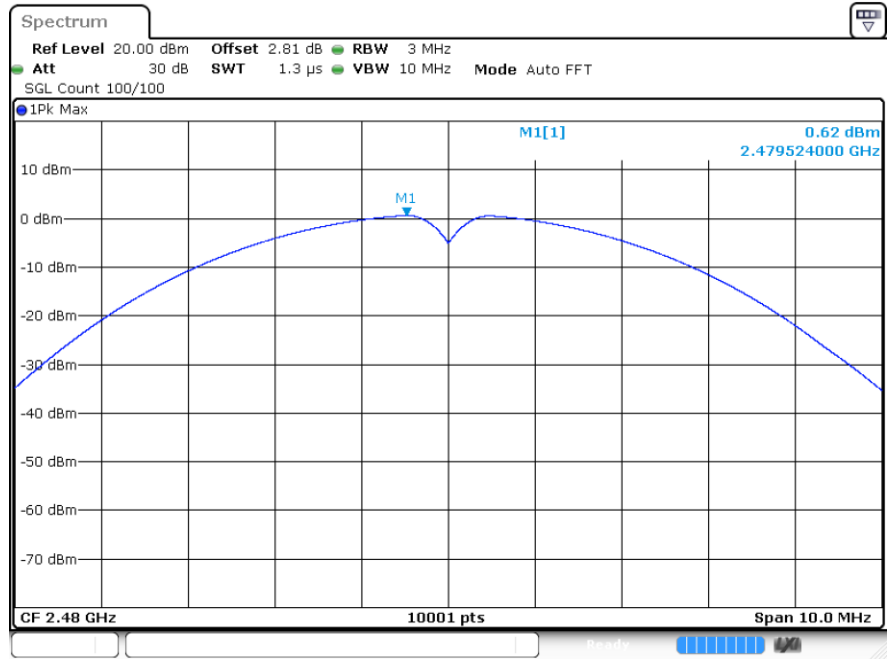
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

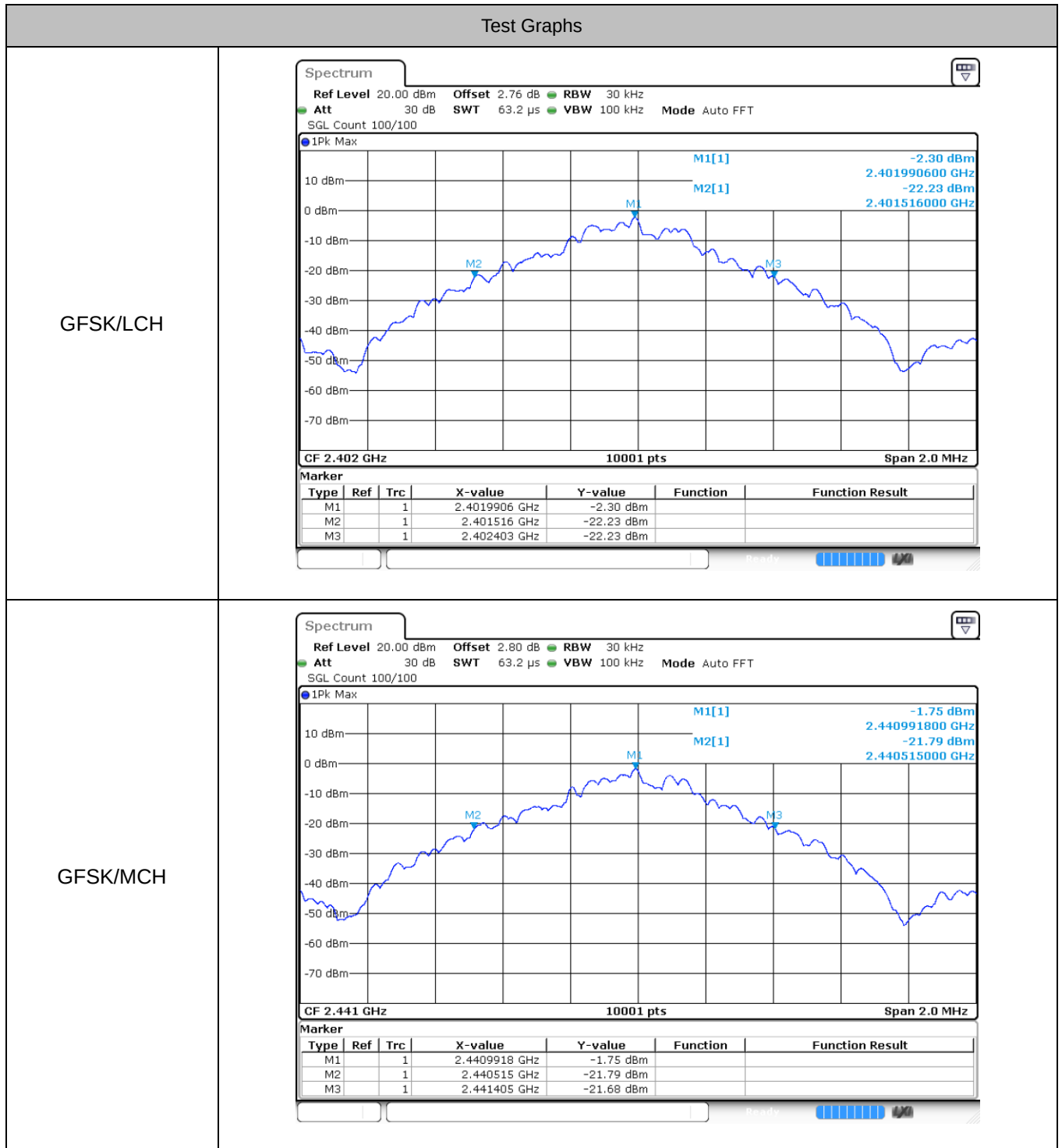


3 20dB Bandwidth

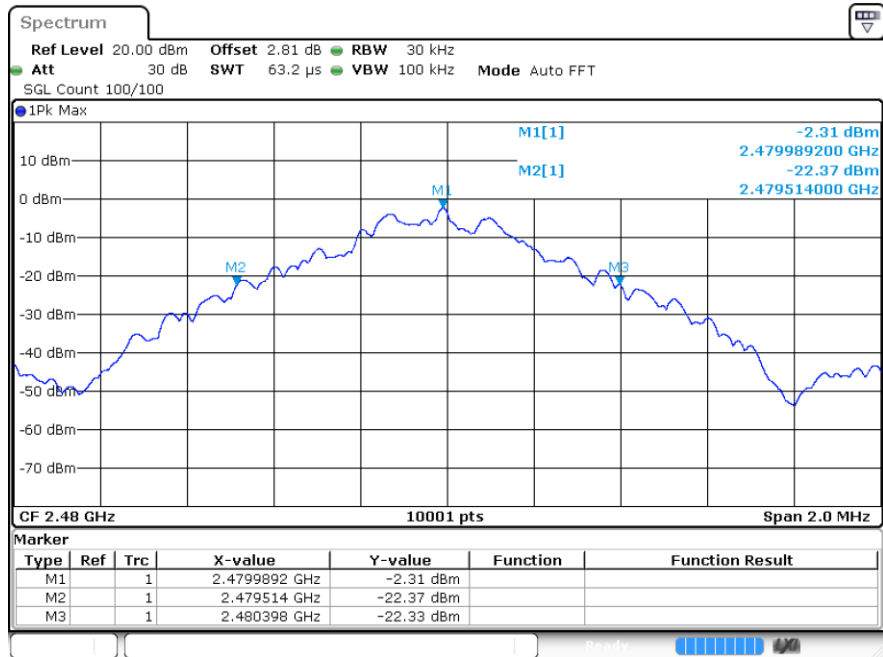
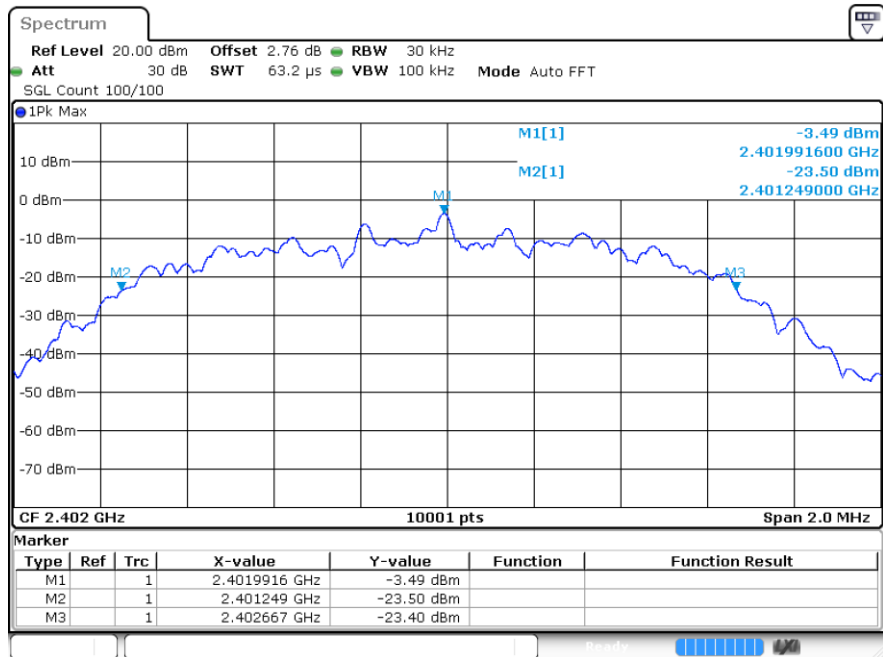
3.1 Test Result

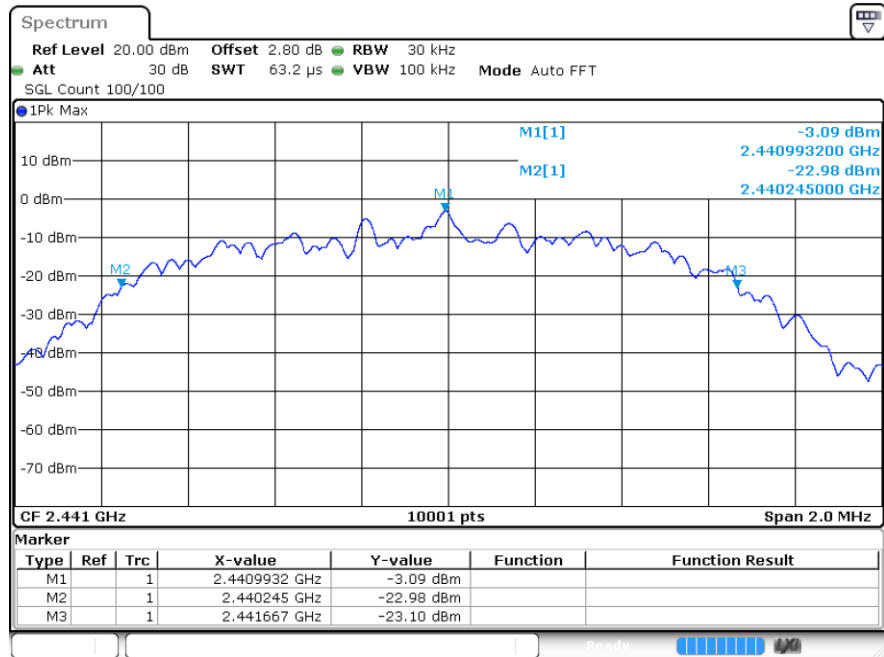
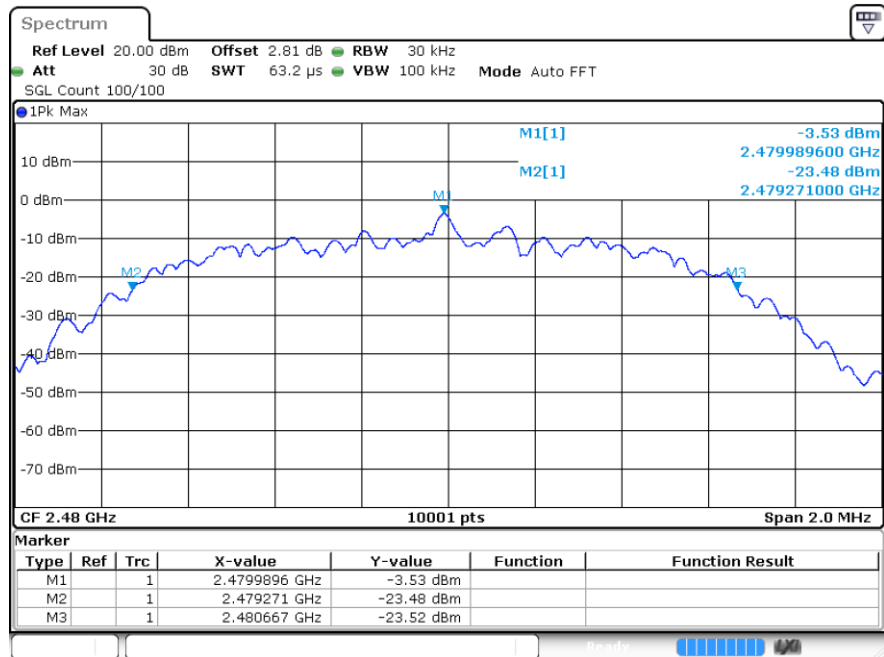
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.888	Not Specified	Pass
	MCH	0.89	Not Specified	Pass
	HCH	0.883	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.418	Not Specified	Pass
	MCH	1.422	Not Specified	Pass
	HCH	1.396	Not Specified	Pass

3.2 Test Graphs



GFSK/HCH


 $\pi/4$ DQPSK/LCH


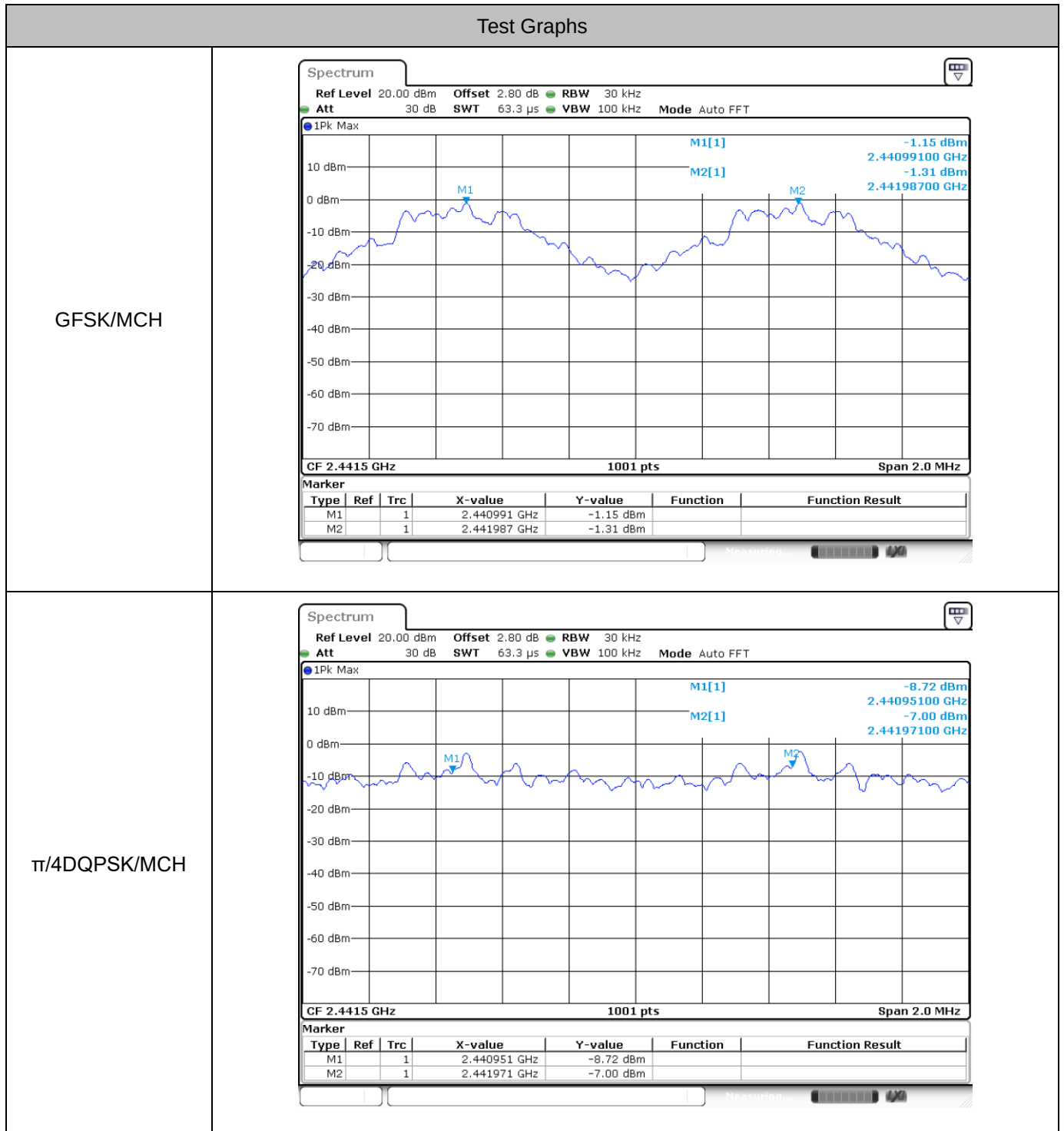
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.996	0.593	Pass
$\pi/4$ DQPSK	MCH	1.02	0.948	Pass

4.2 Test Graphs

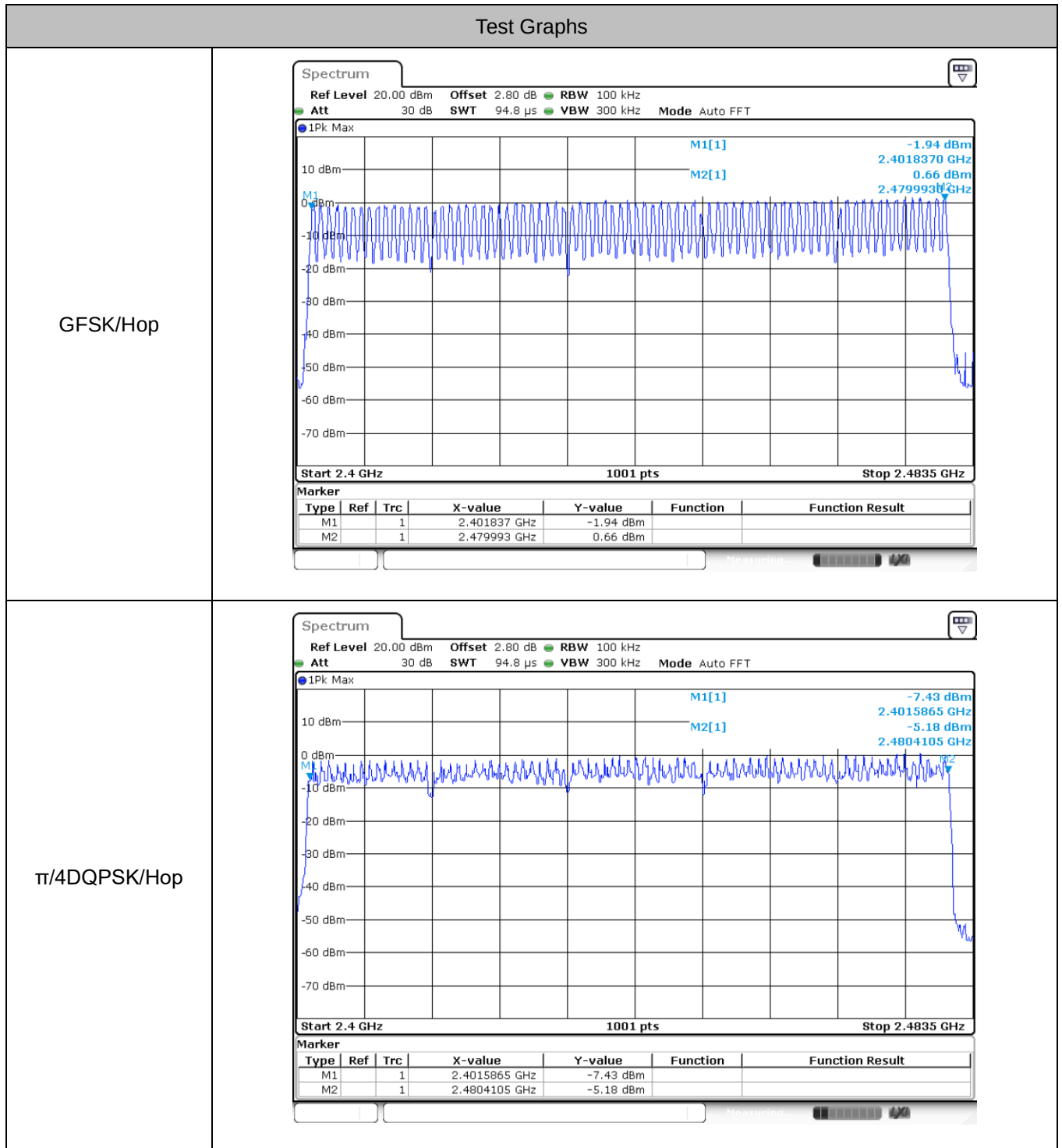


5 Hopping Channel Number

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

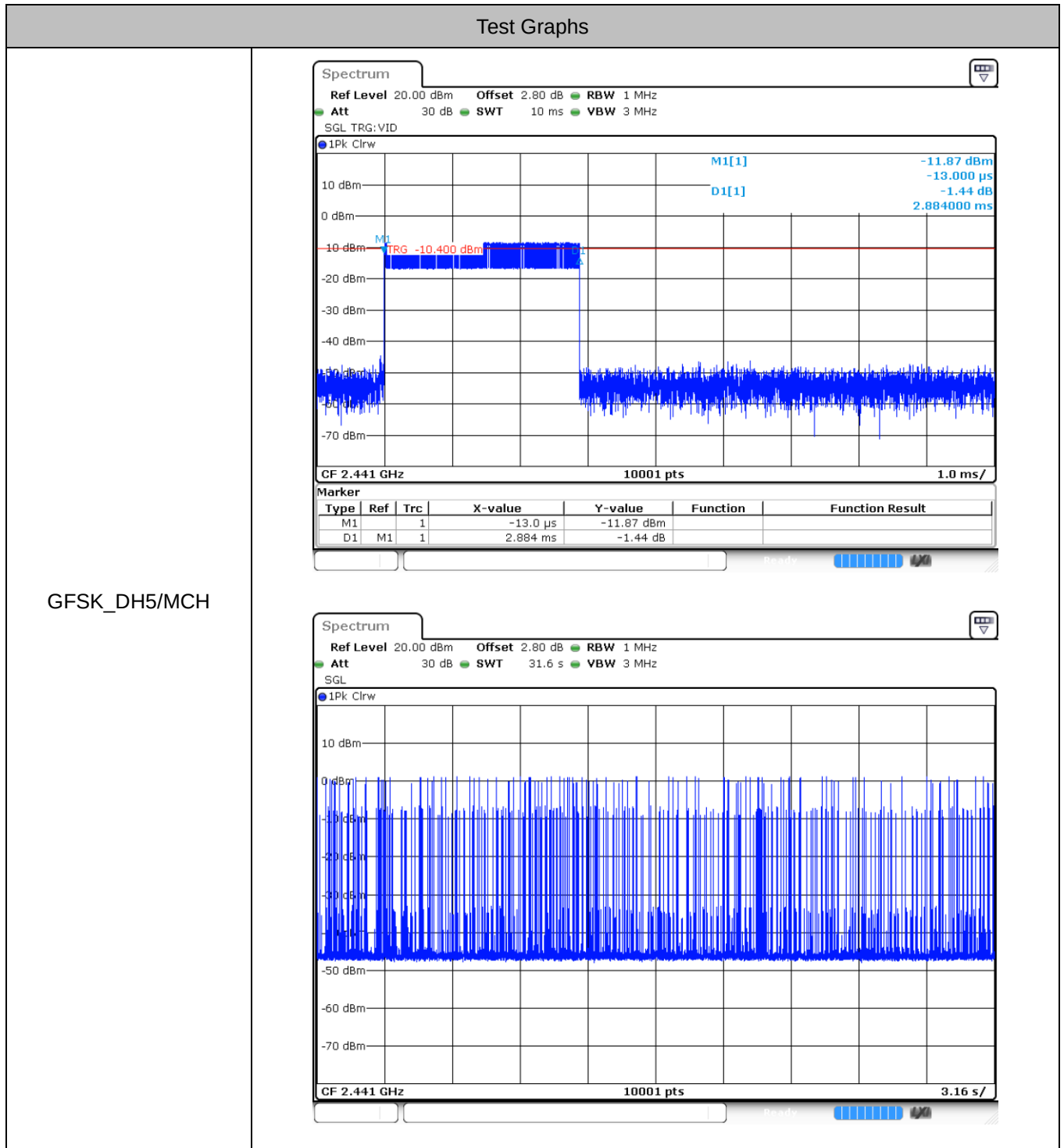


6 Dwell Time

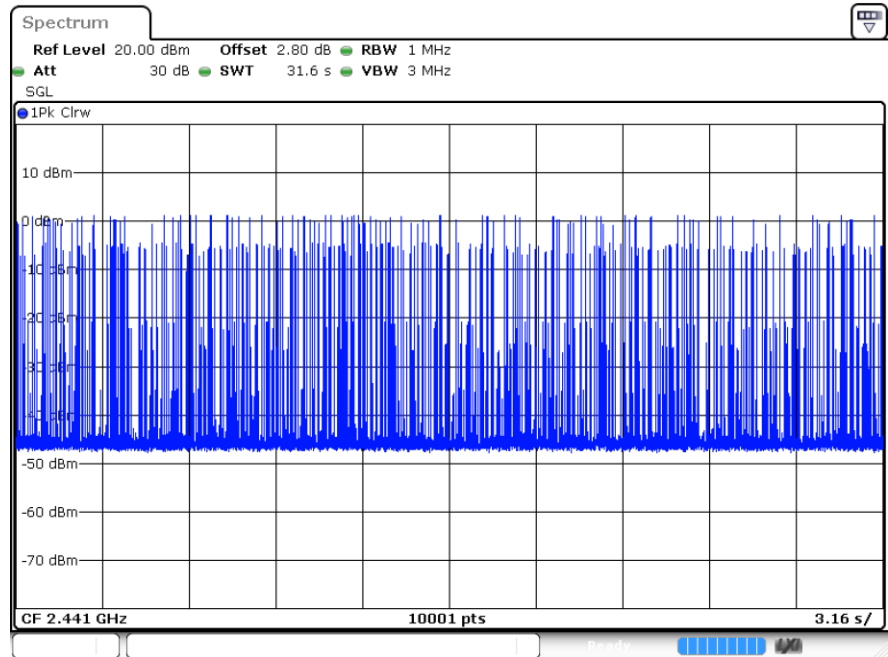
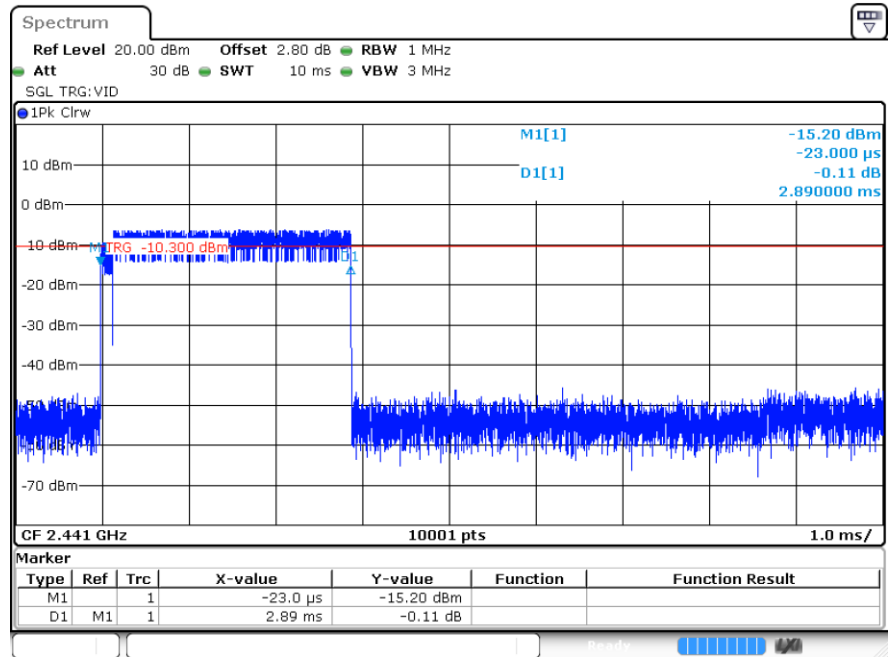
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.884	118	340.312	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.89	115	332.35	0.4	Pass

6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH

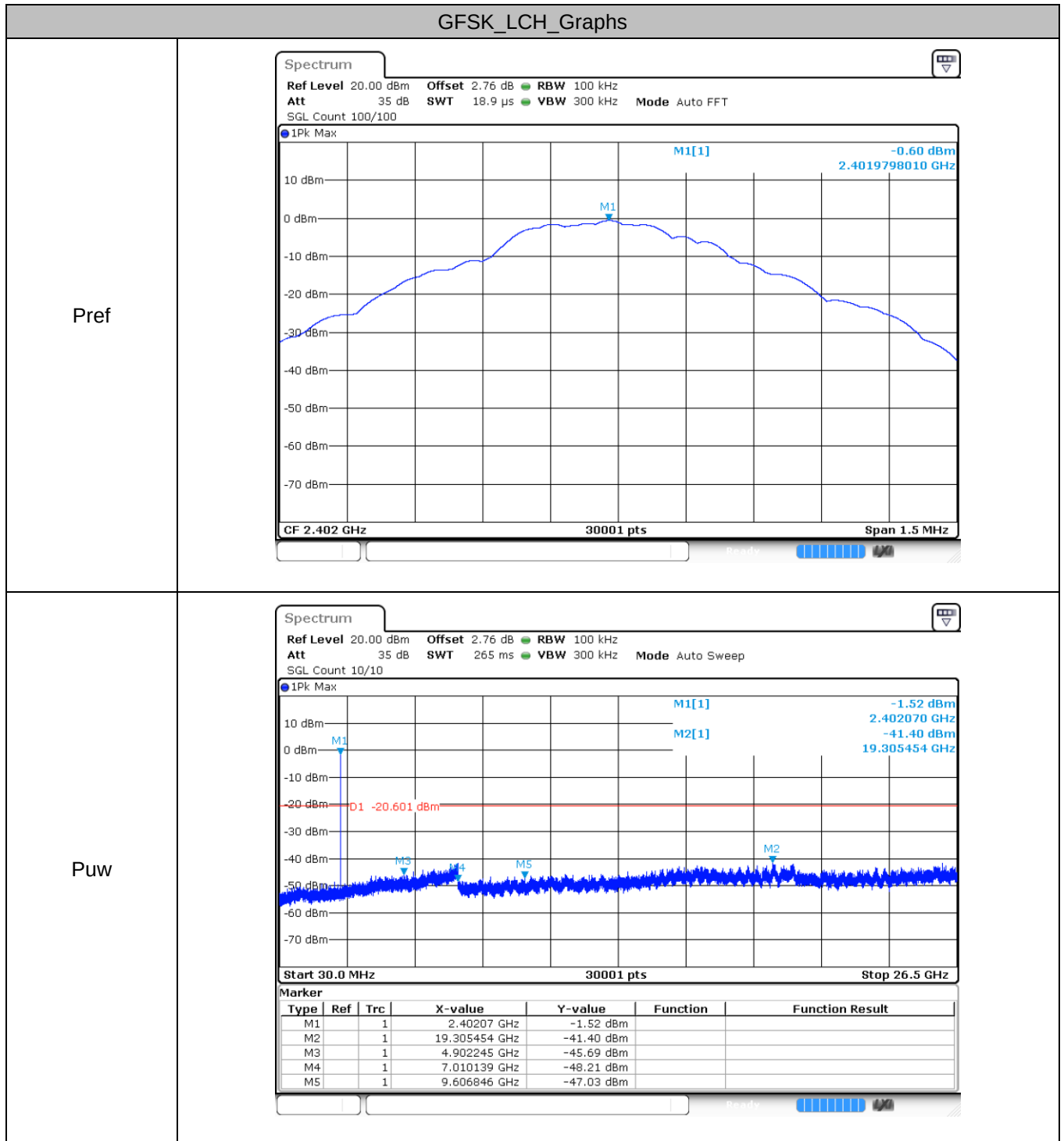


7 RF Conducted Spurious Emissions

7.1 Test Result

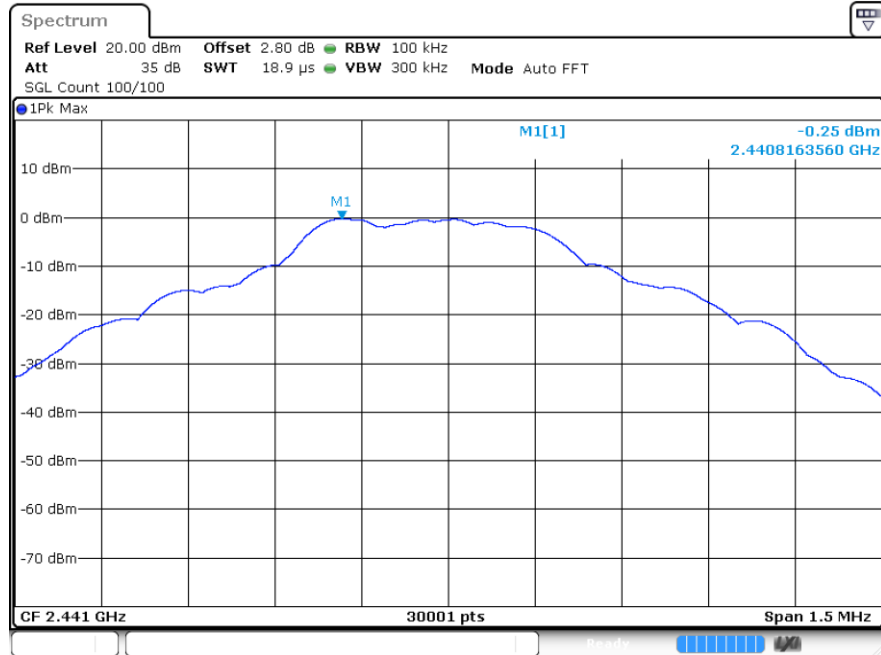
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-40.8	-20	Pass
	MCH	-41.05	-20	Pass
	HCH	-40.4	-20	Pass
$\pi/4$ DQPSK	LCH	-38.72	-20	Pass
	MCH	-38.7	-20	Pass
	HCH	-39.38	-20	Pass

7.2 Test Graphs

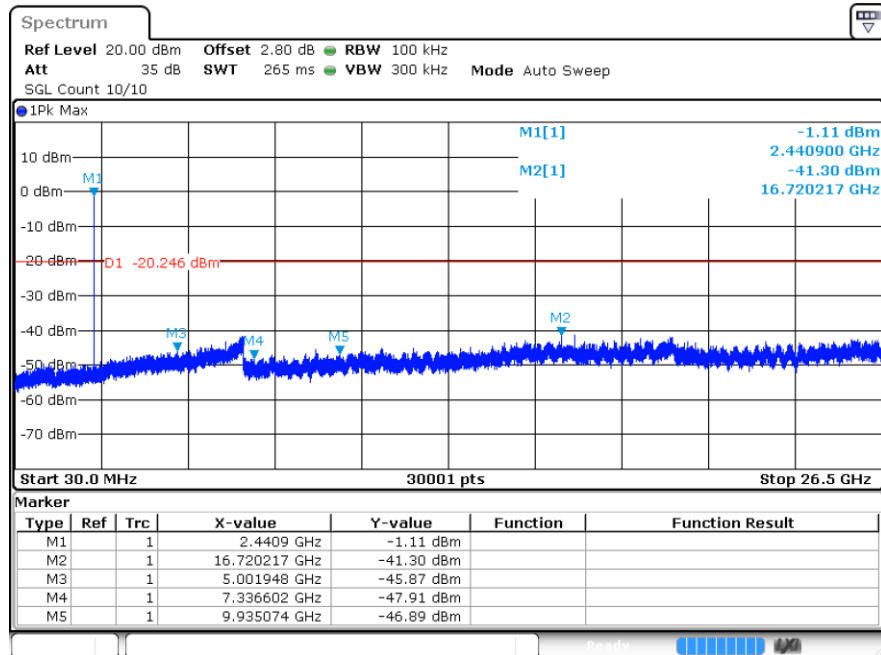


GFSK_MCH_Graphs

Pref

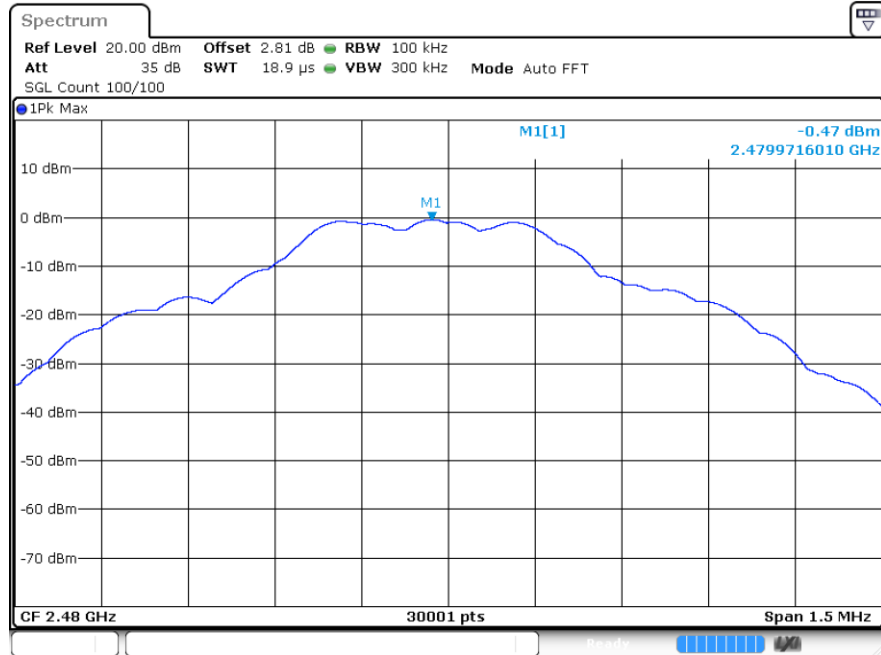


Puw

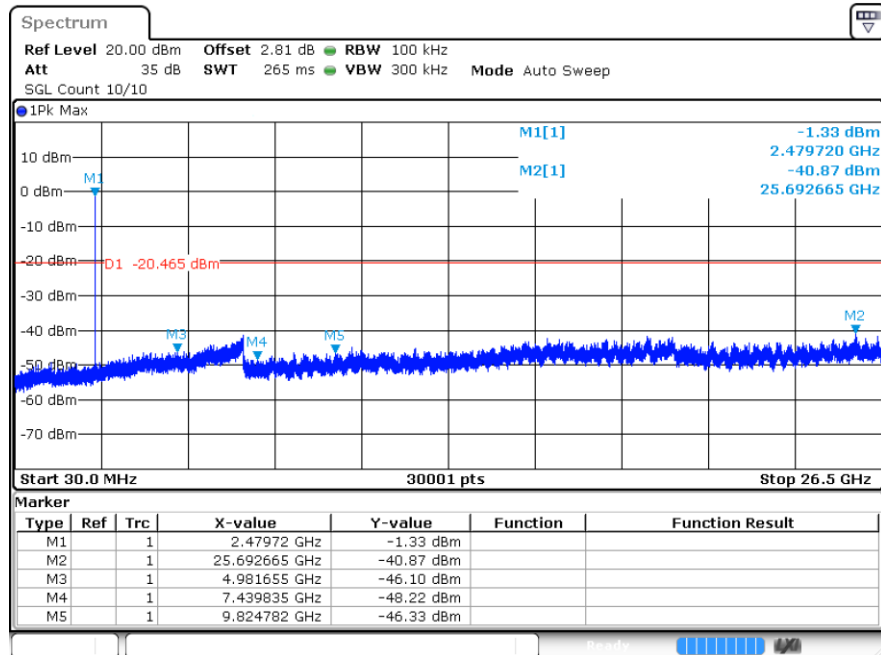


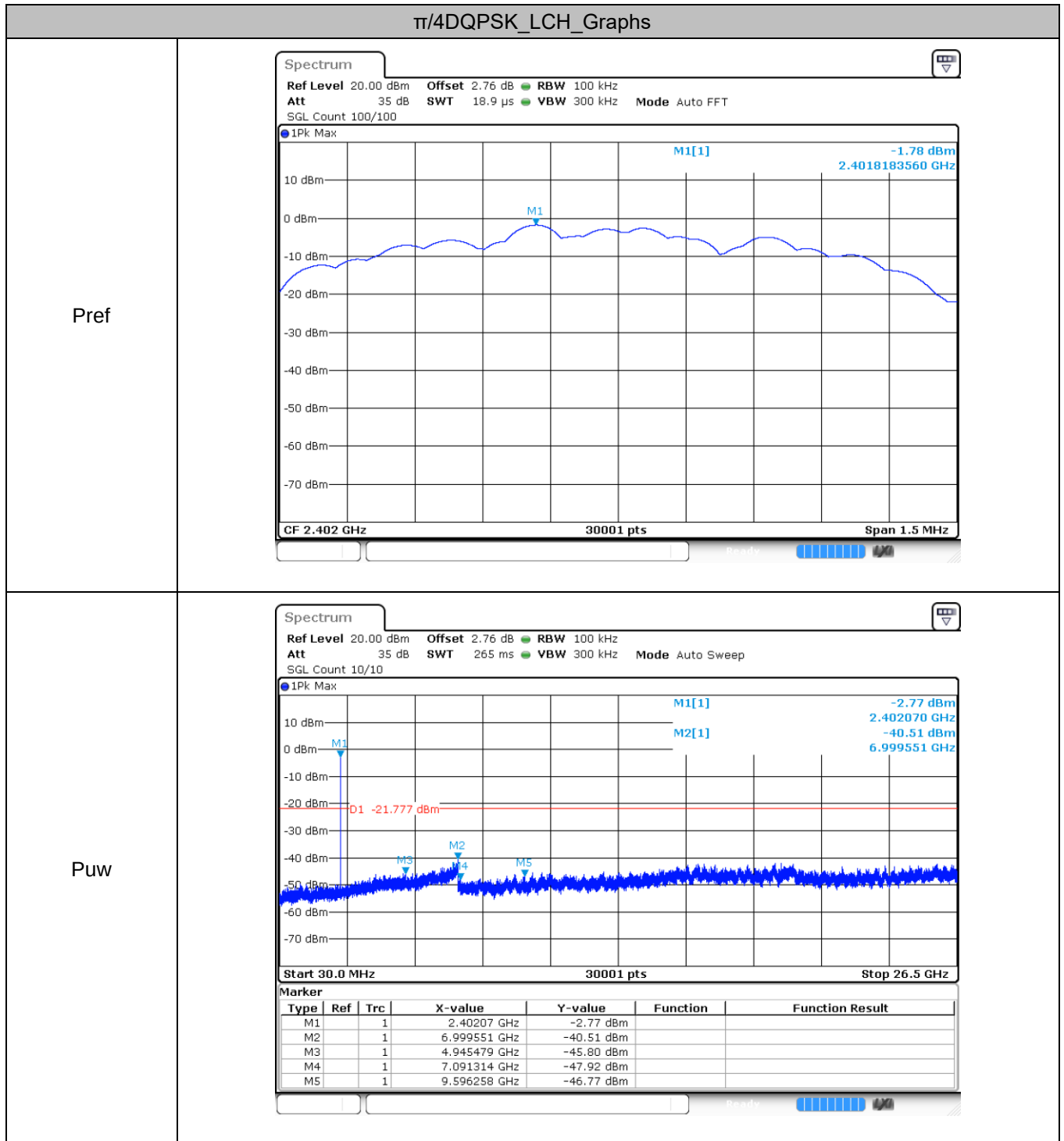
GFSK_HCH_Graphs

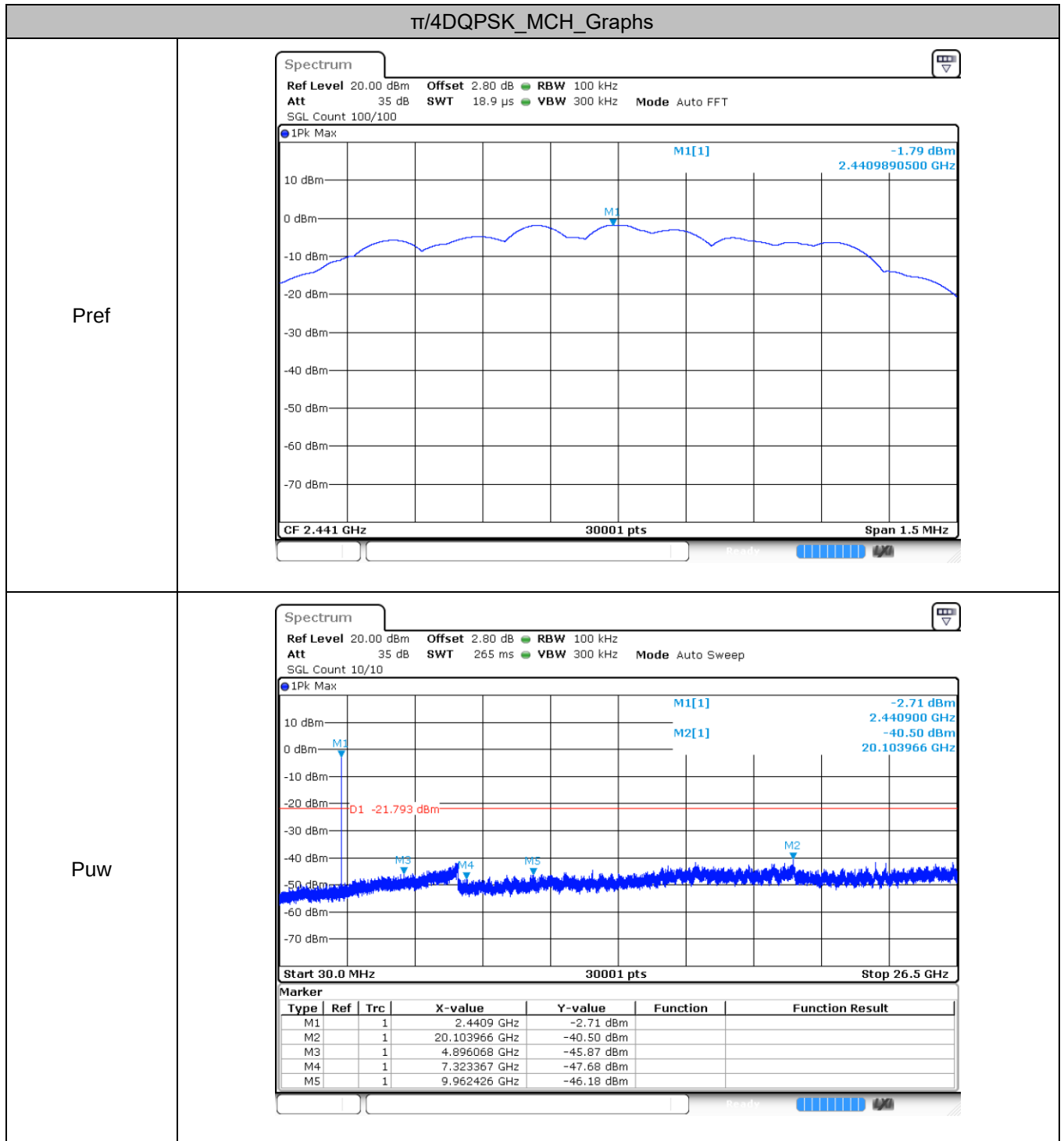
Pref

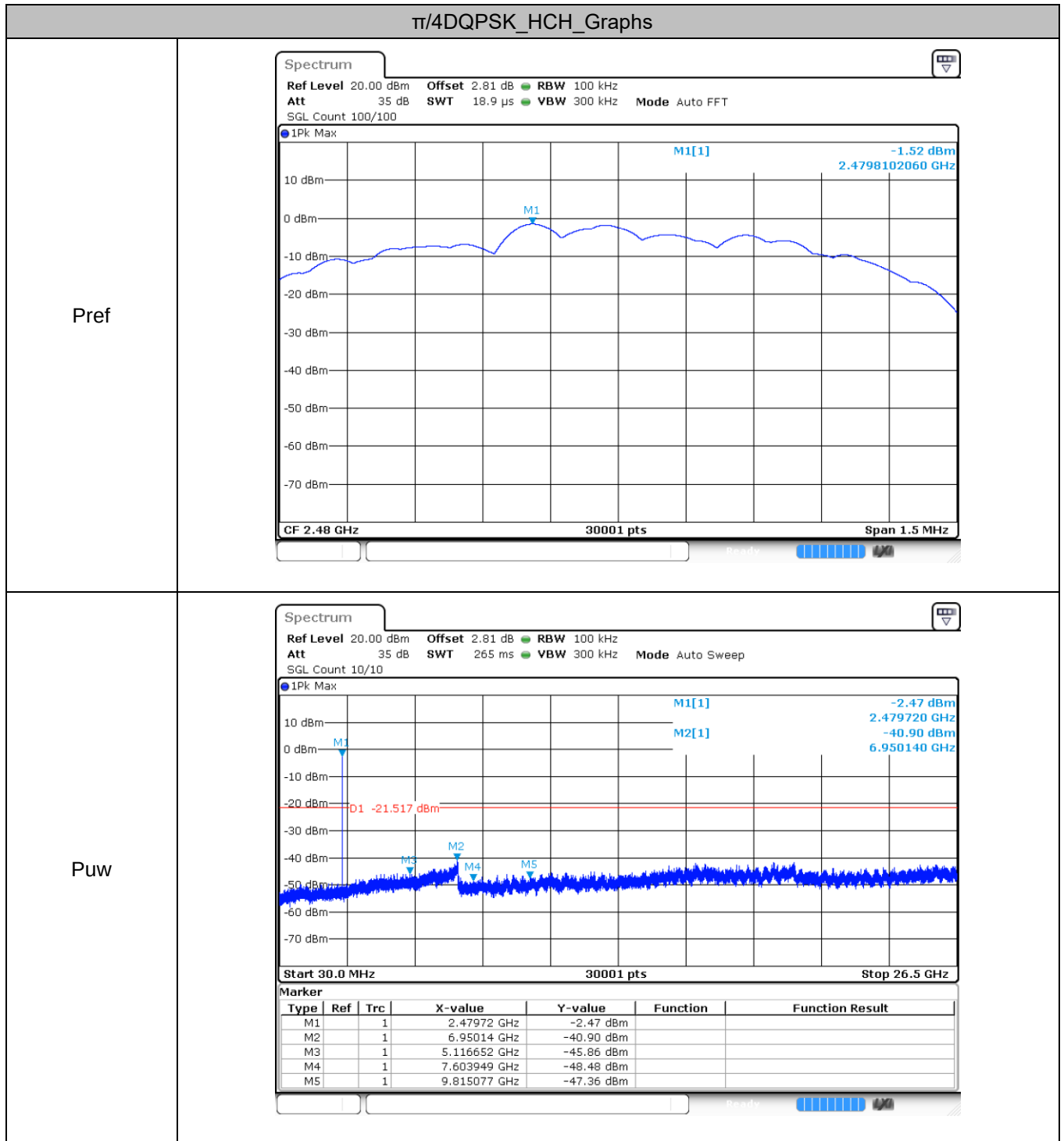


Puw







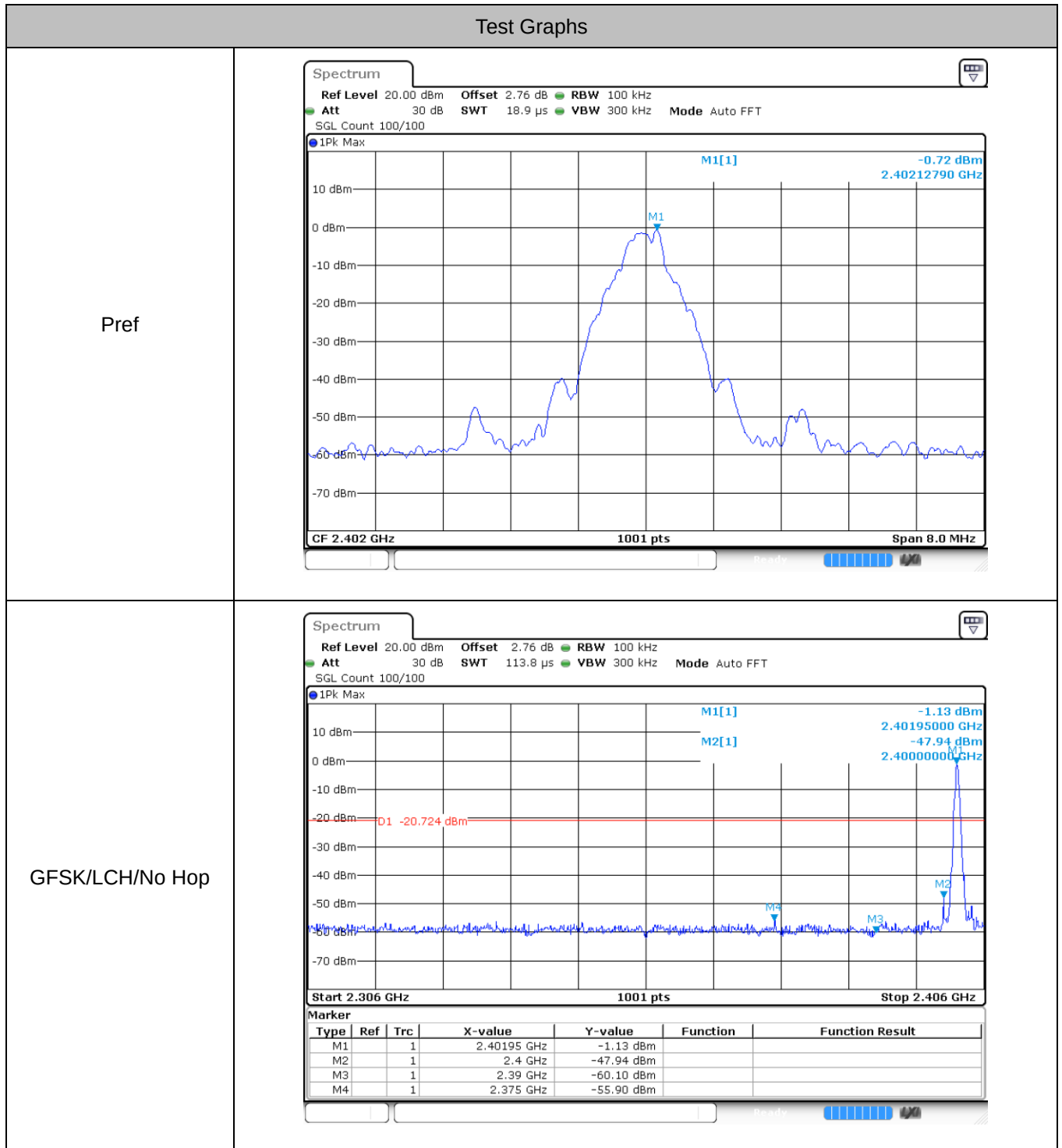


8 Band-edge for RF Conducted Emissions

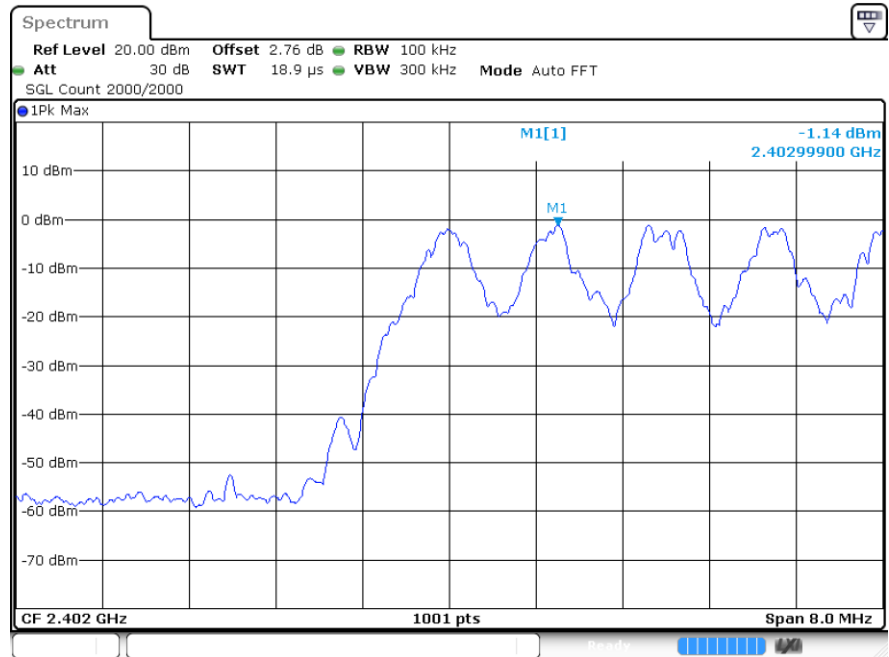
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-55.18	-20	Pass
			On	-53.47	-20	Pass
	HCH	2480	Off	-45.36	-20	Pass
			On	-50.58	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-52.43	-20	Pass
			On	-52.86	-20	Pass
	HCH	2480	Off	-45	-20	Pass
			On	-46.38	-20	Pass

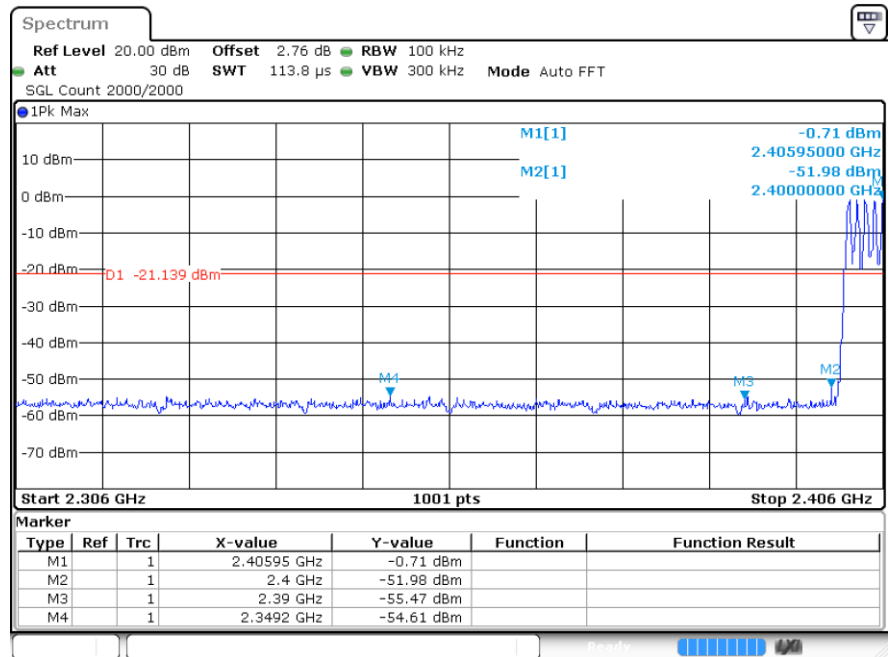
8.2 Test Graphs



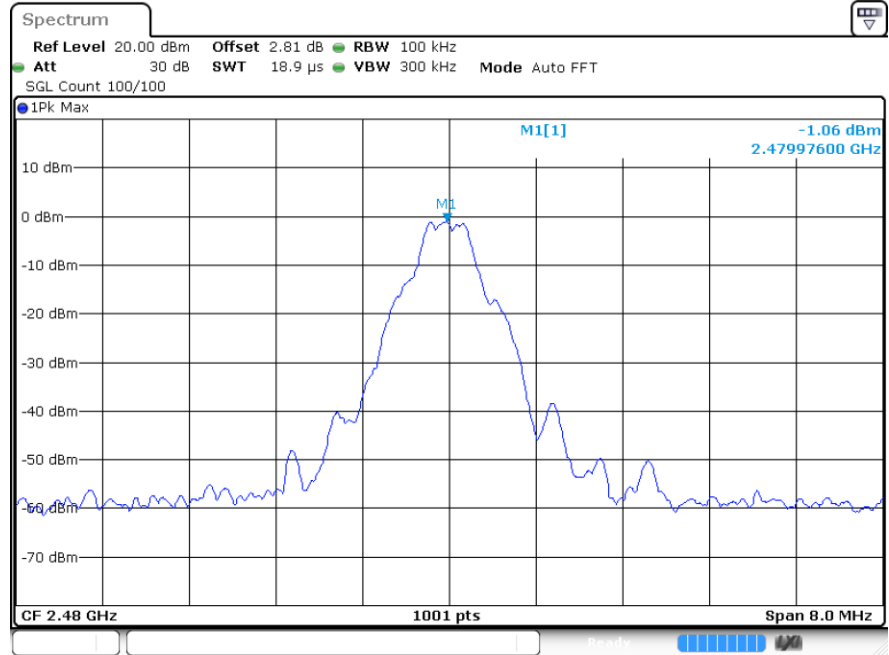
Ref



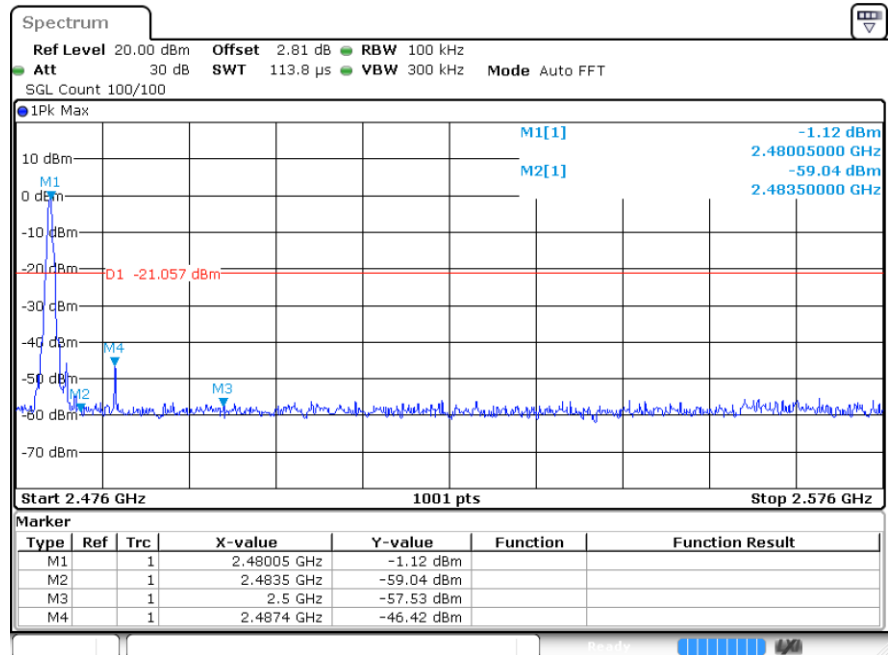
GFSK/LCH/Hop



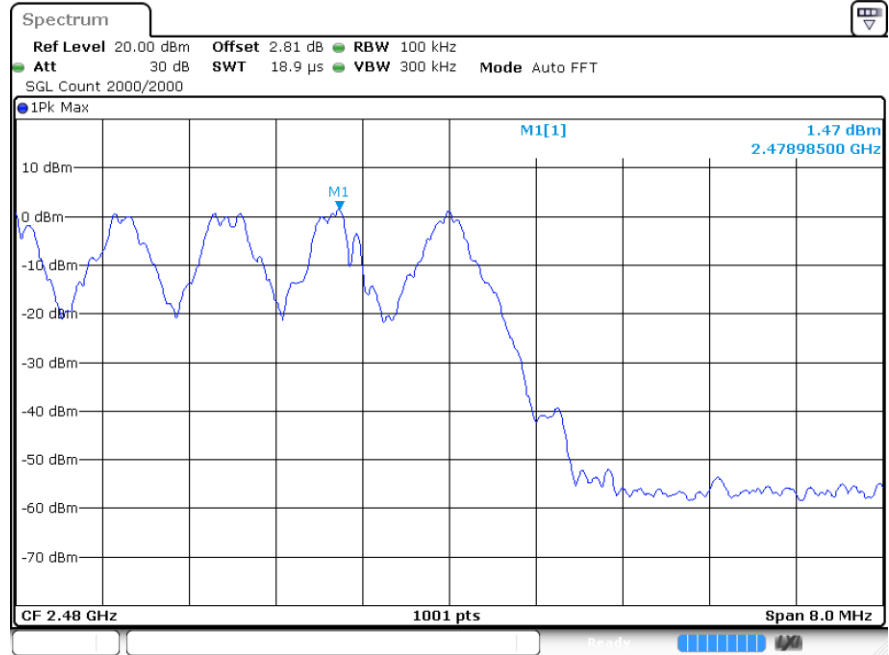
Ref



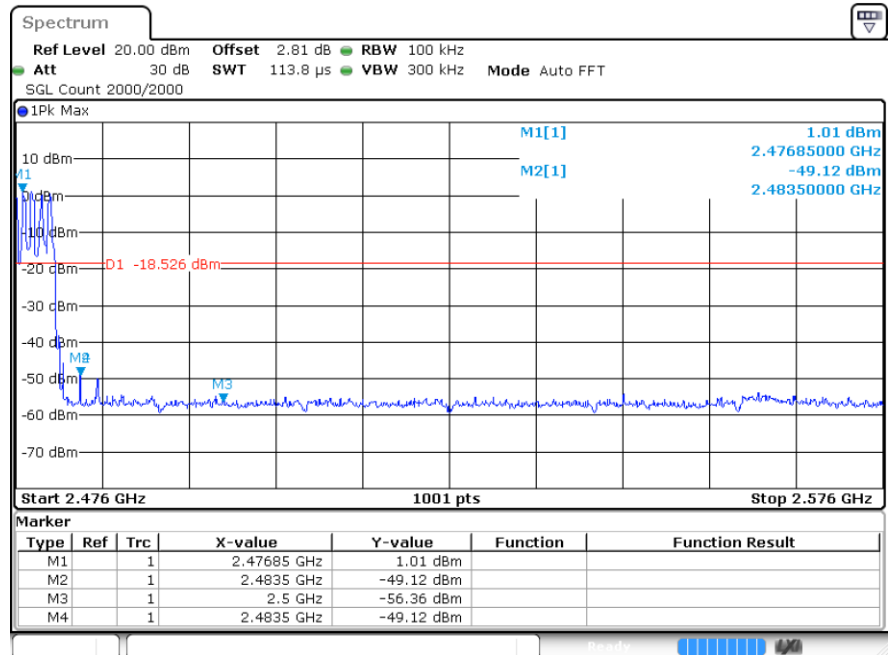
GFSK/HCH/No Hop



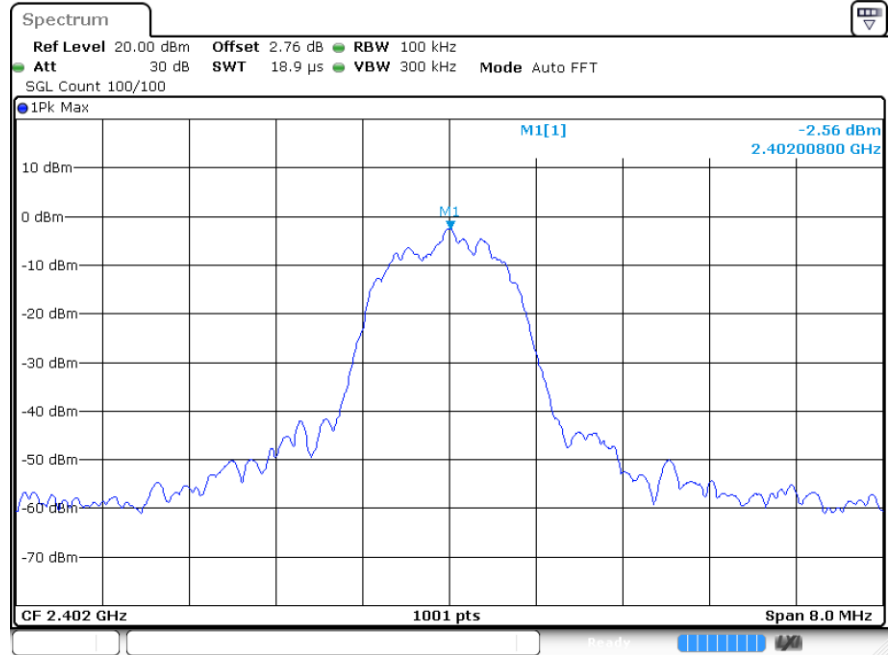
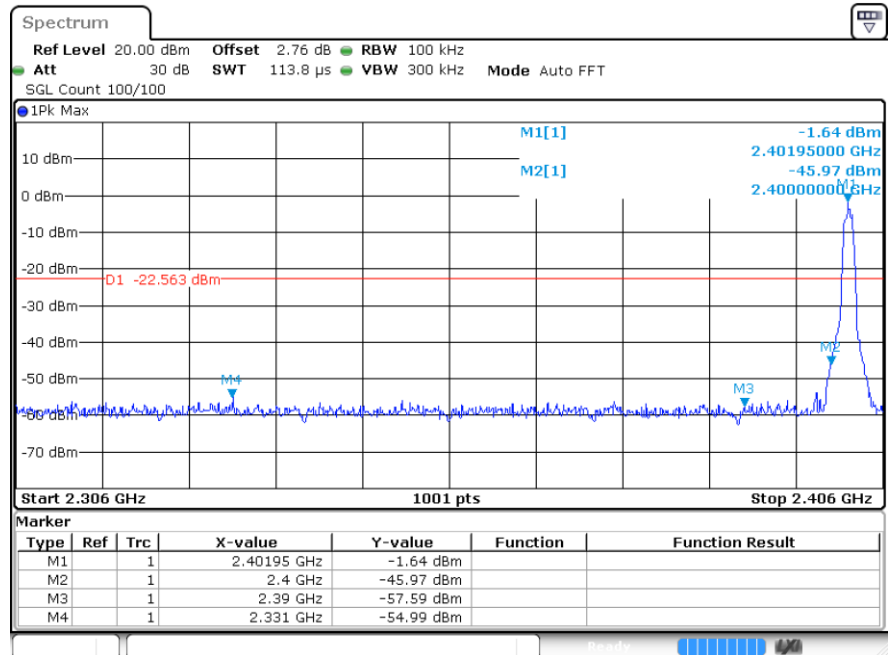
Ref.



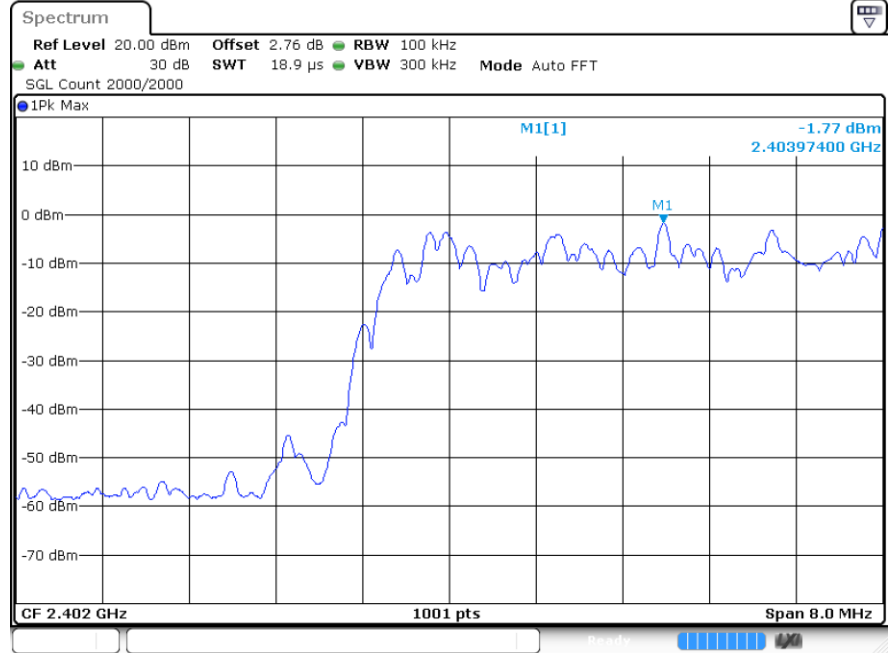
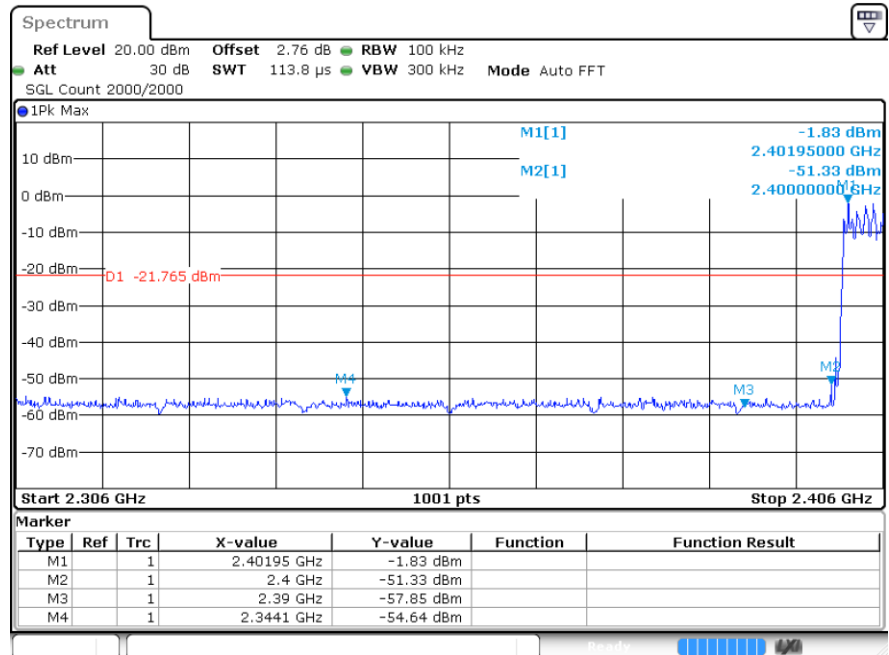
GFSK/HCH/Hop



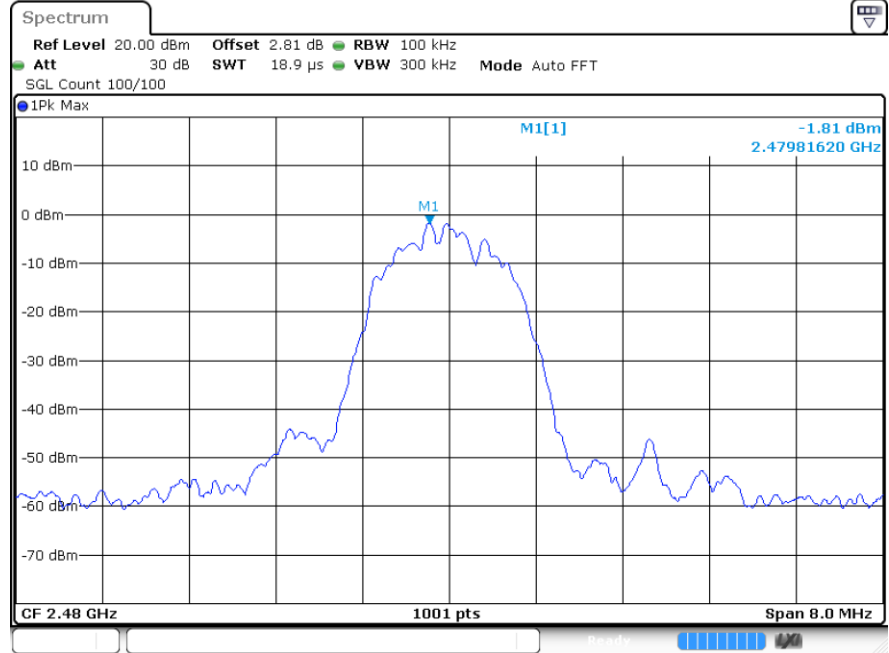
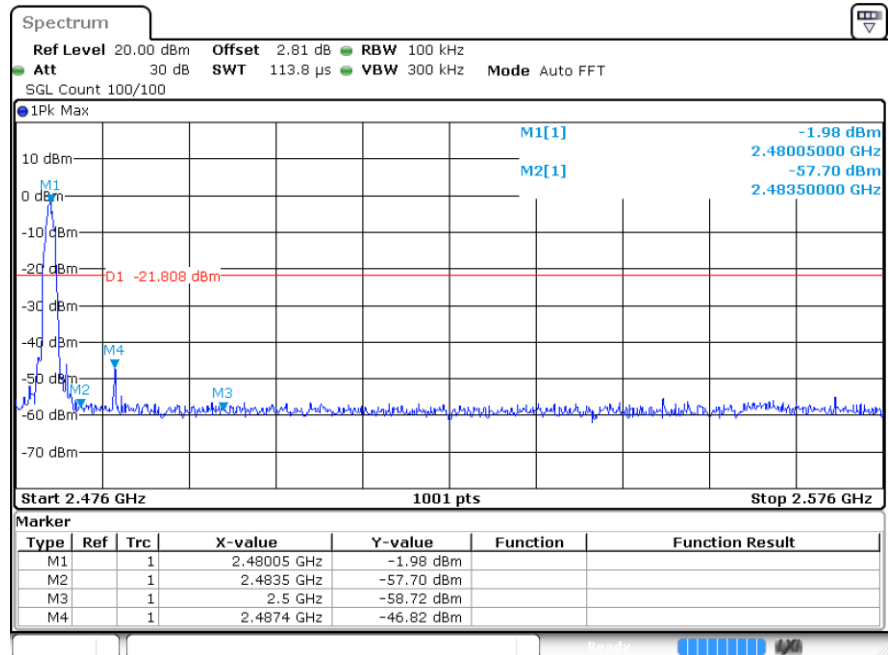
Ref


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


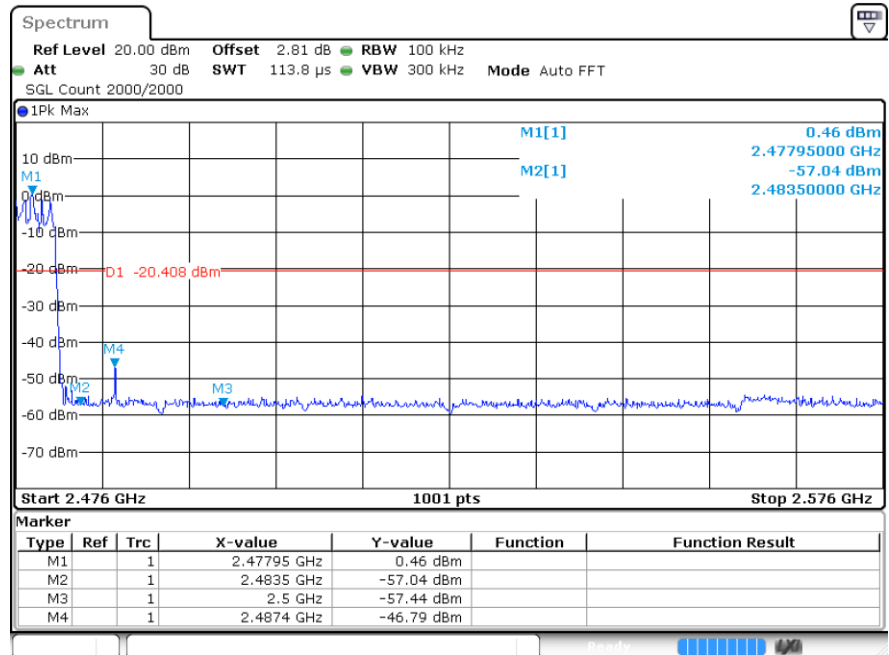
Ref


 $\pi/4$ DQPSK/LCH/Hop


Ref


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


Ref


 $\pi/4$ DQPSK/HCH/Hop


---The End---