



Appendix A

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

Product Name: Bluetooth speaker

Trade Mark: N/A

Test Model: IMW578

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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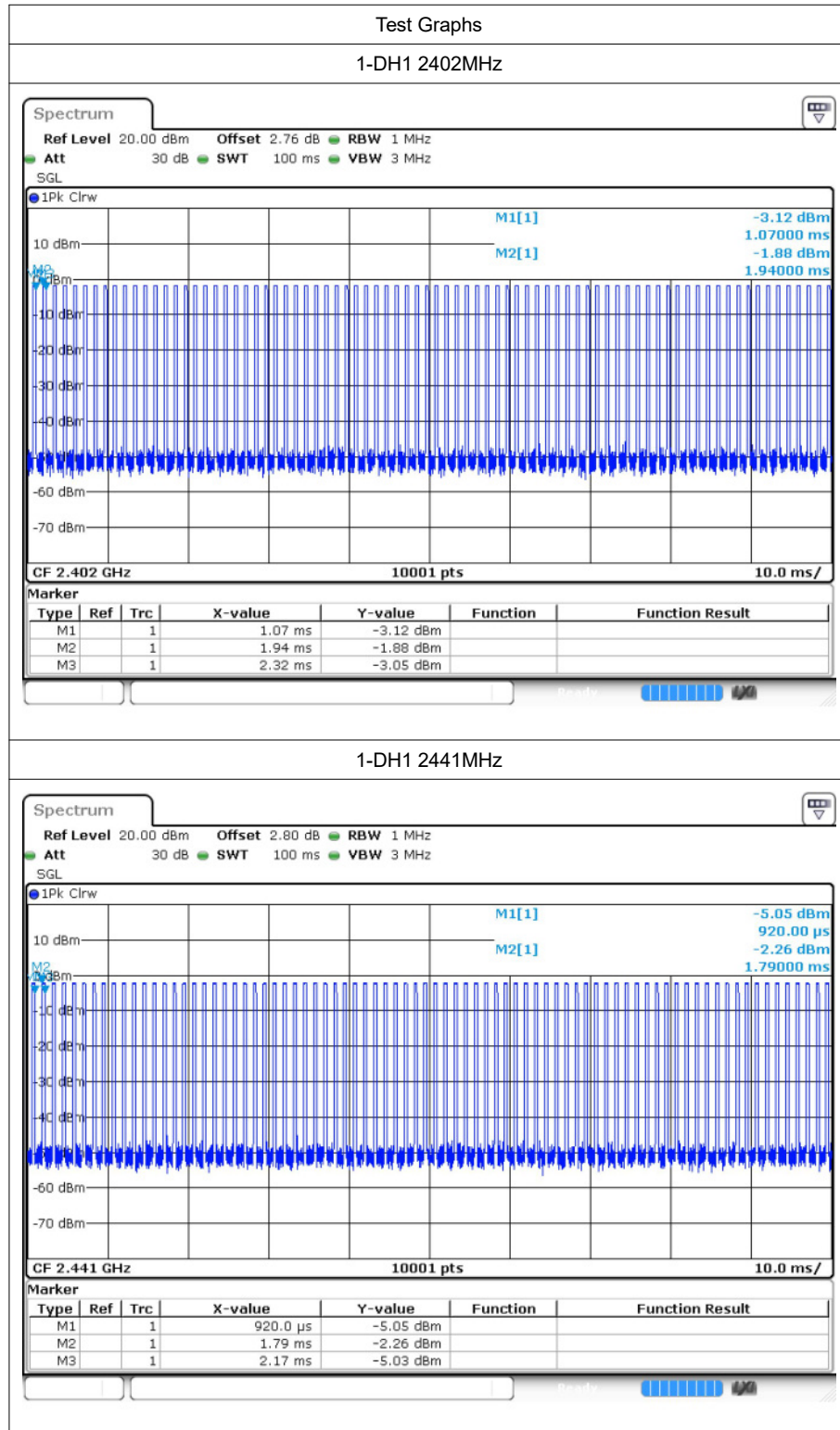
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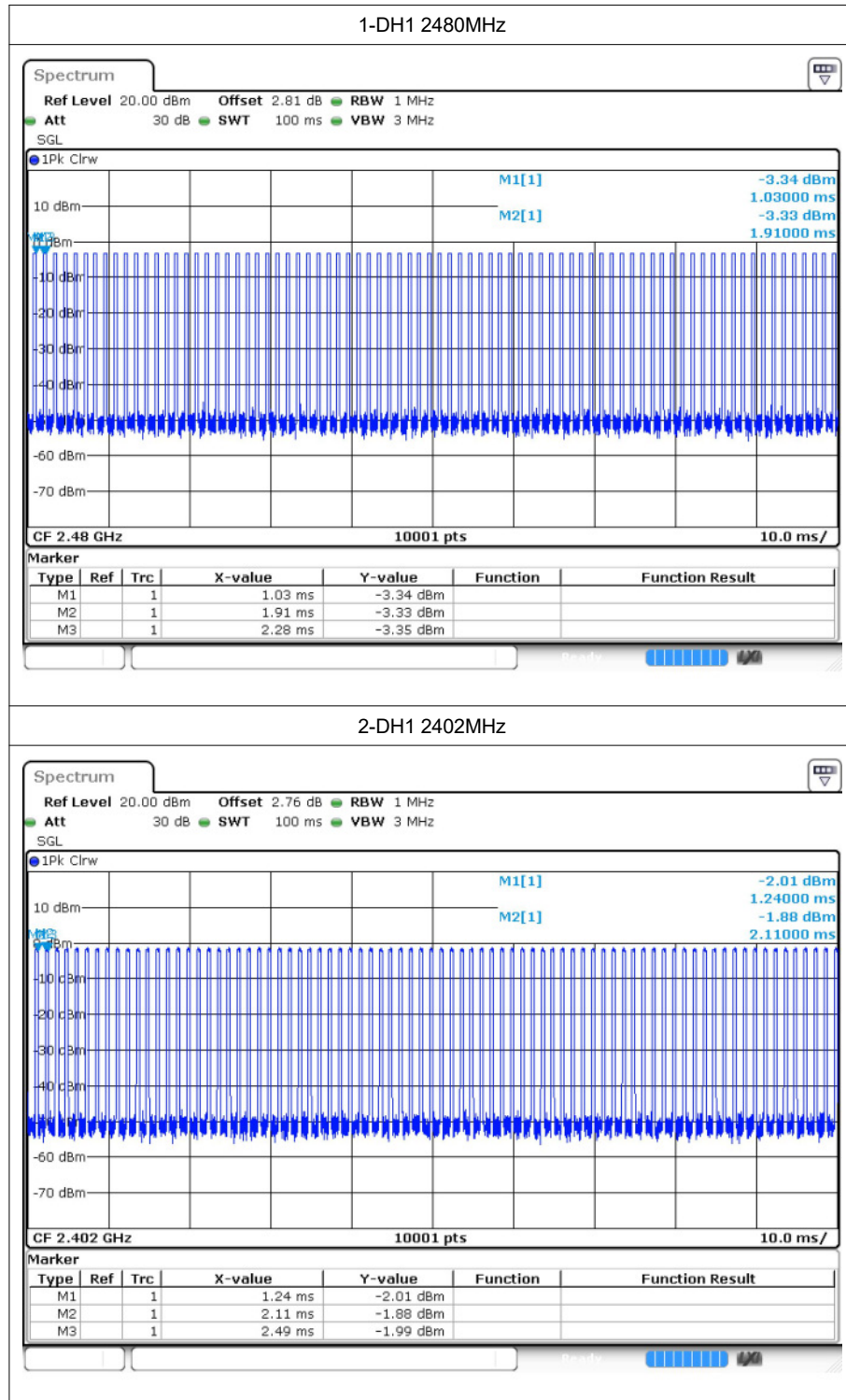
1 Duty Cycle

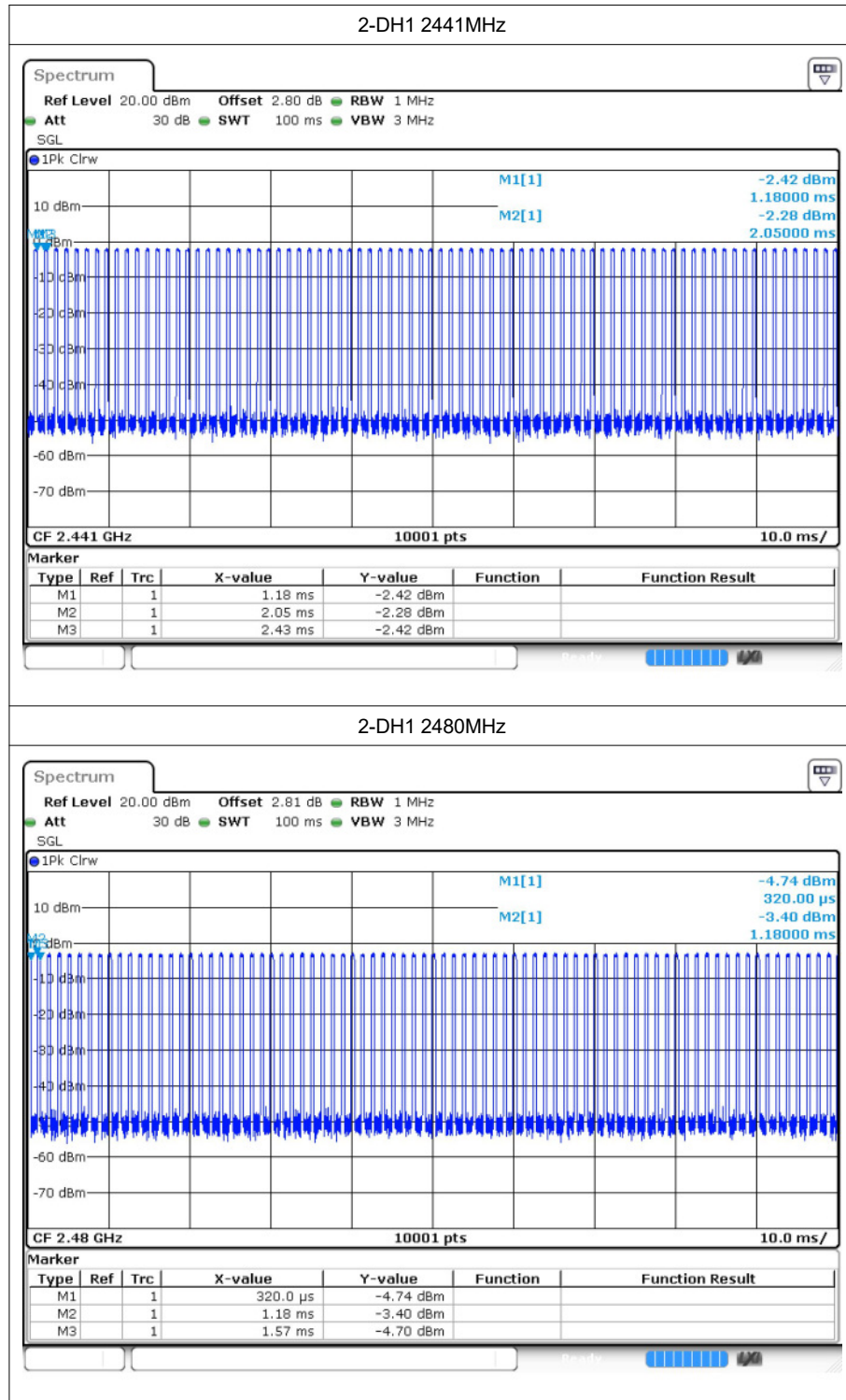
1.1 Test Result

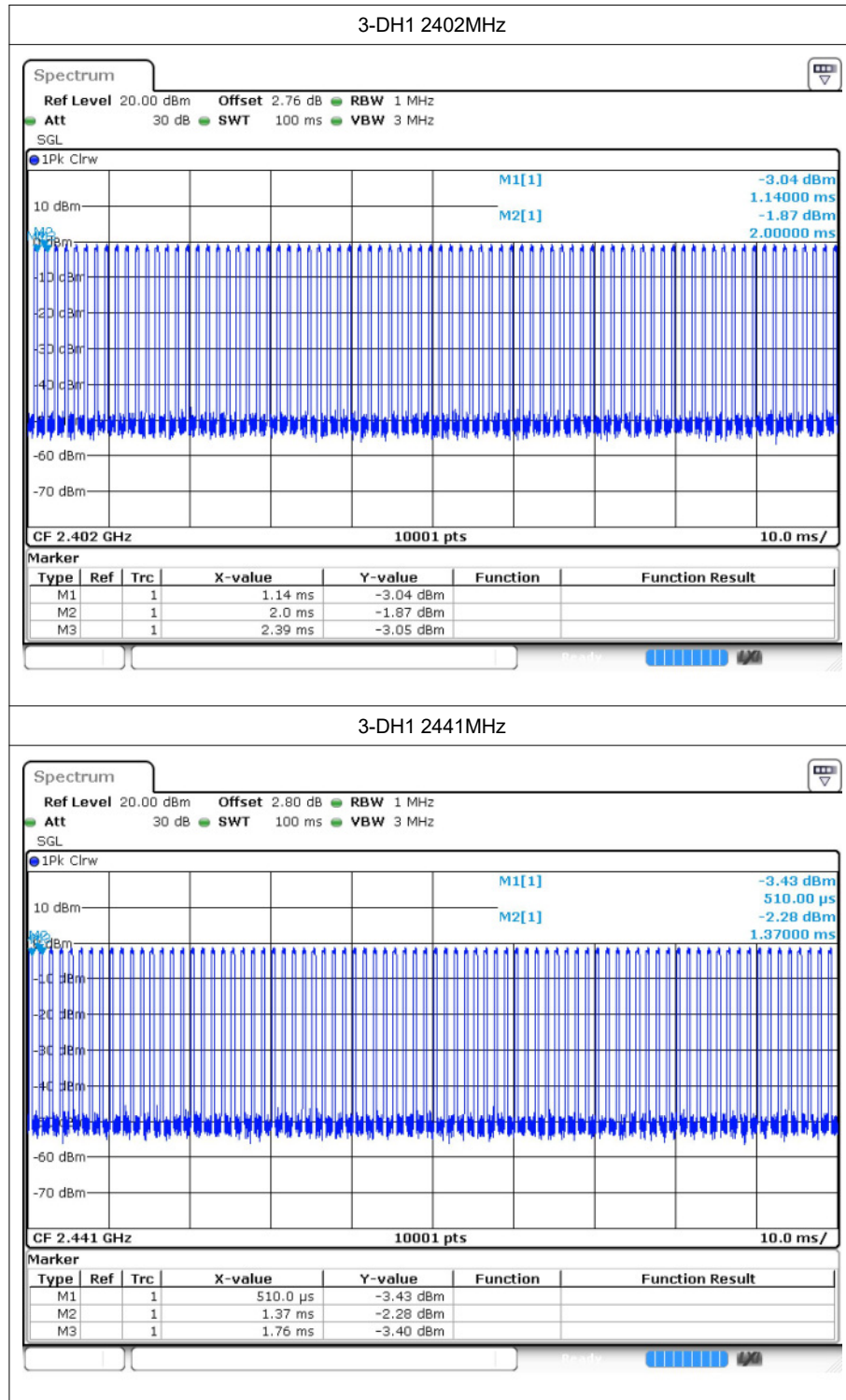
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.2	5.06	2.63
1-DH1	2441	31.2	5.06	2.63
1-DH1	2480	30.4	5.17	2.7
2-DH1	2402	31.2	5.06	2.63
2-DH1	2441	31.2	5.06	2.63
2-DH1	2480	32.01	4.95	2.56
3-DH1	2402	32	4.95	2.56
3-DH1	2441	32	4.95	2.56
3-DH1	2480	32	4.95	2.56

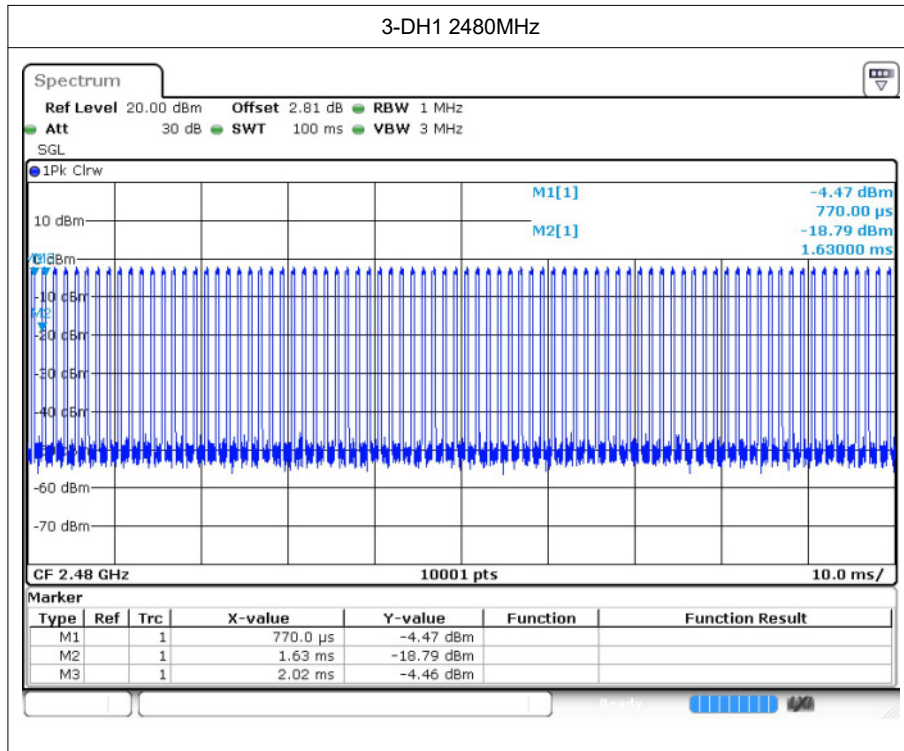
1.2 Test Graphs









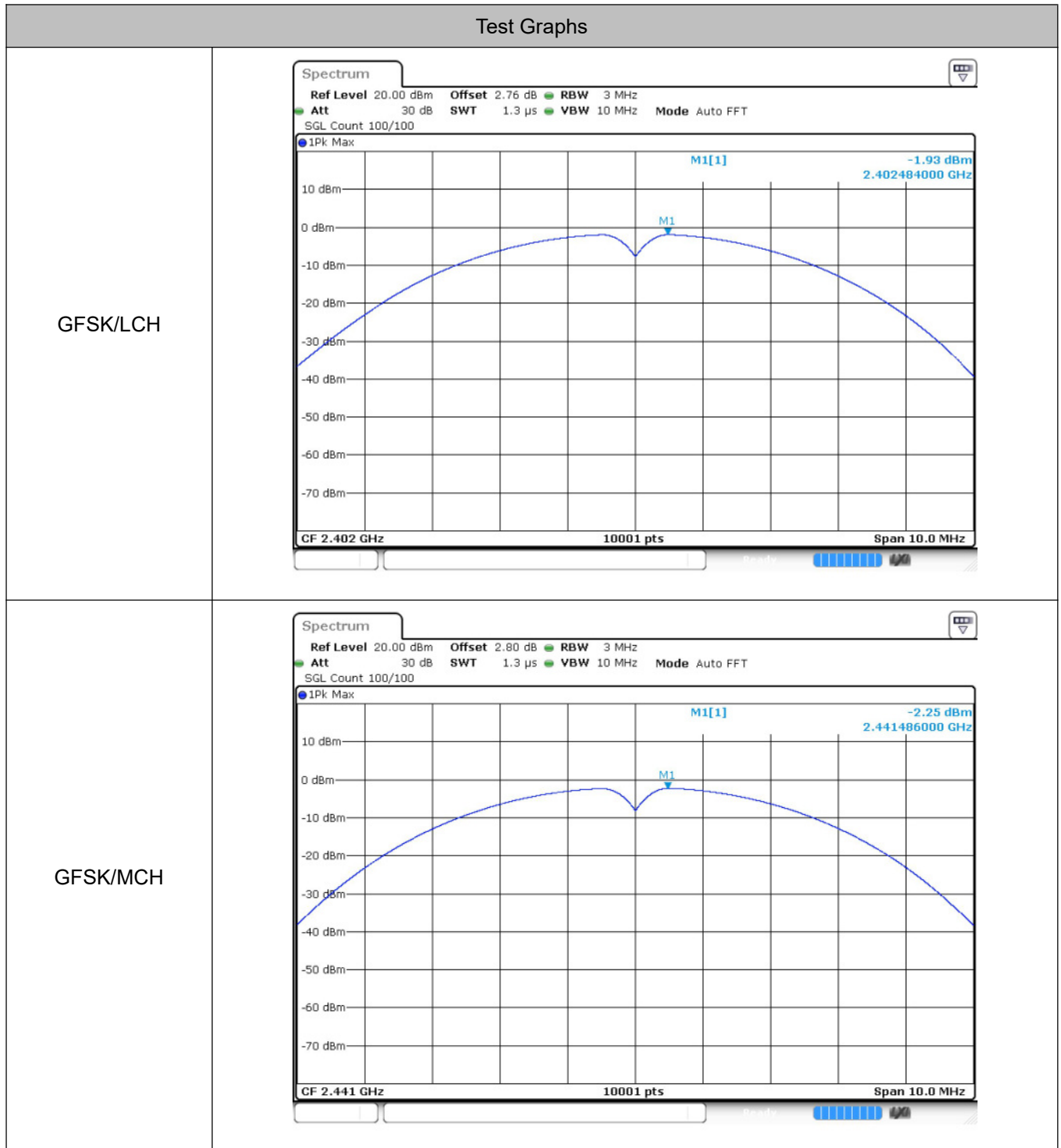


2 Maximum Conducted Peak Output Power

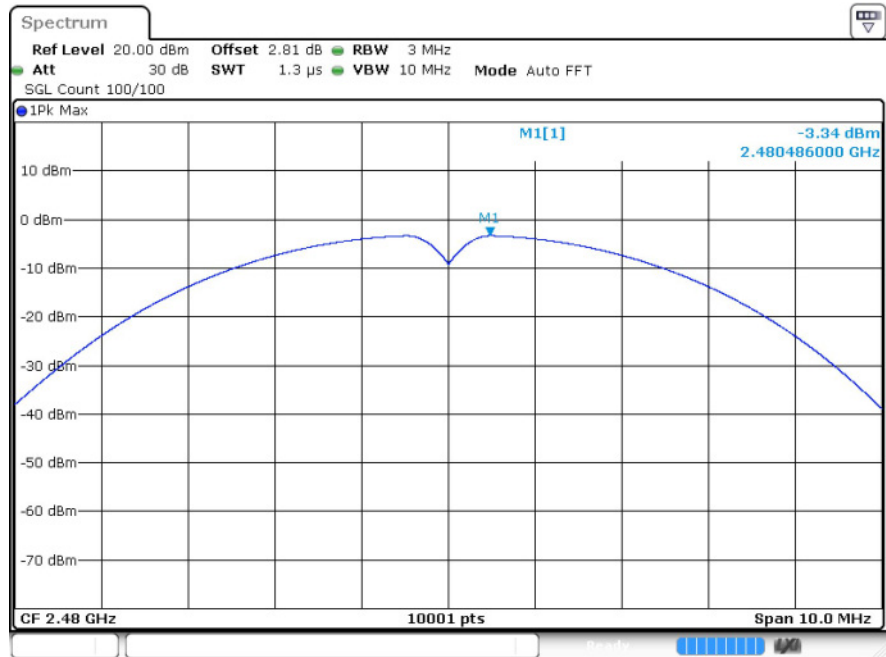
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.93	21	Pass
	MCH	-2.25	21	Pass
	HCH	-3.34	21	Pass
$\pi/4$ DQPSK	LCH	-1.48	21	Pass
	MCH	-1.88	21	Pass
	HCH	-3.19	21	Pass
8DPSK	LCH	-1.54	21	Pass
	MCH	-1.56	21	Pass
	HCH	-2.96	21	Pass

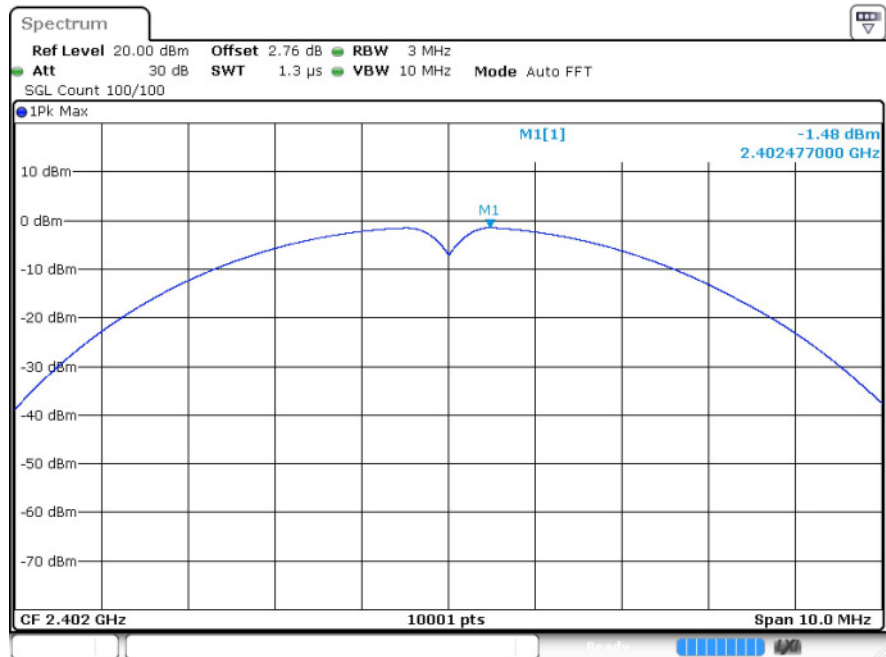
2.2 Test Graphs



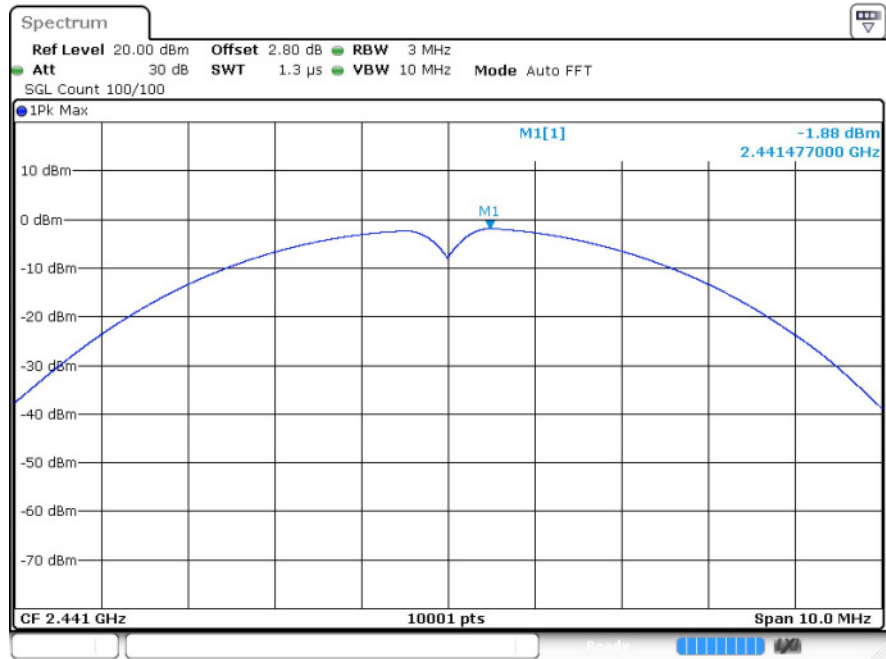
GFSK/HCH



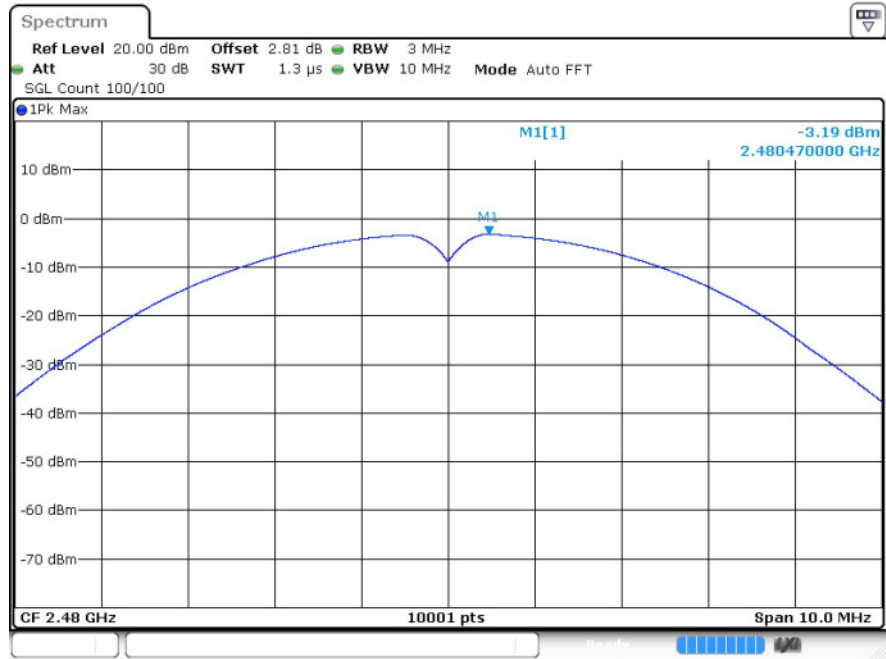
$\pi/4$ DQPSK/LCH



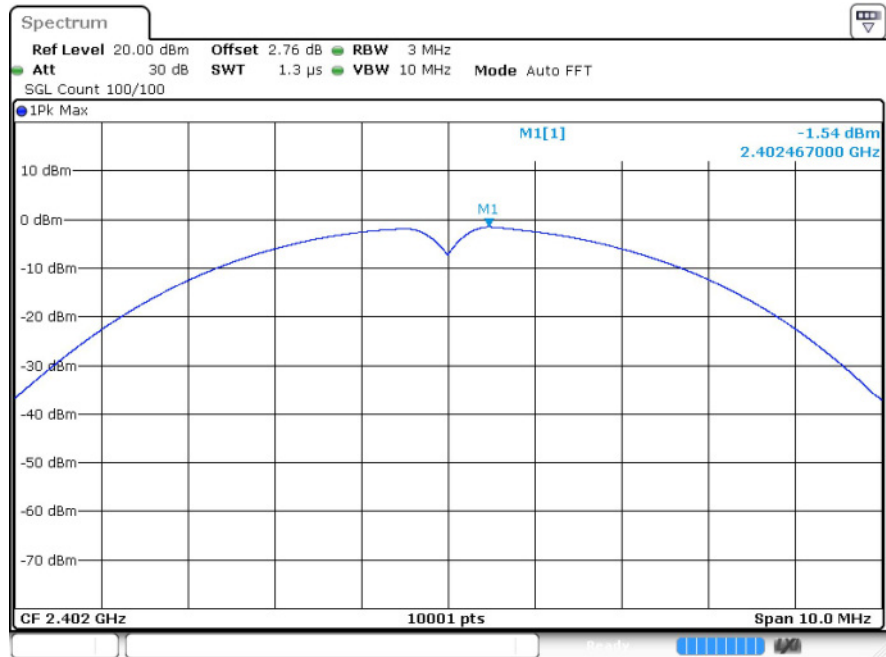
$\pi/4$ DQPSK/MCH



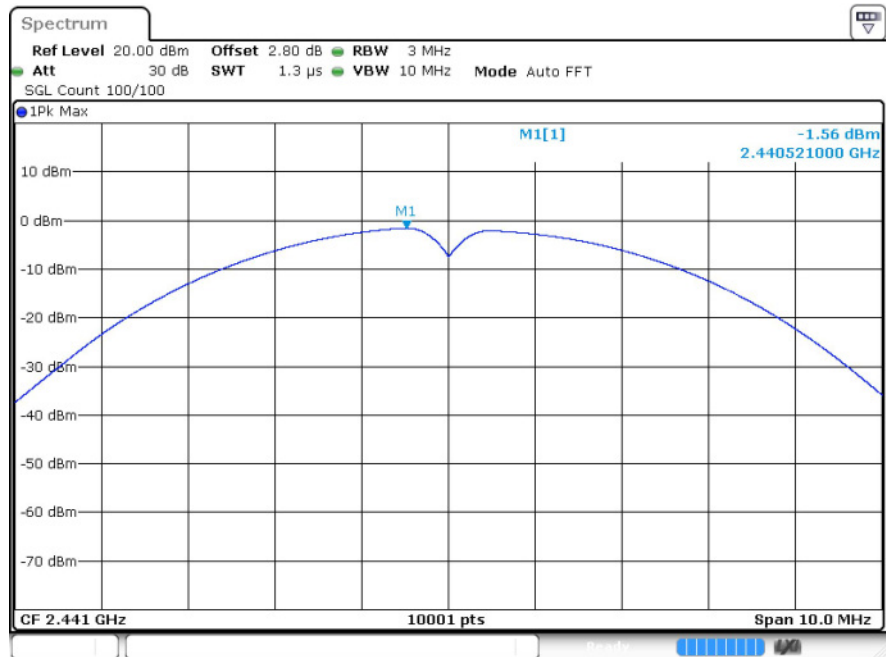
$\pi/4$ DQPSK/HCH



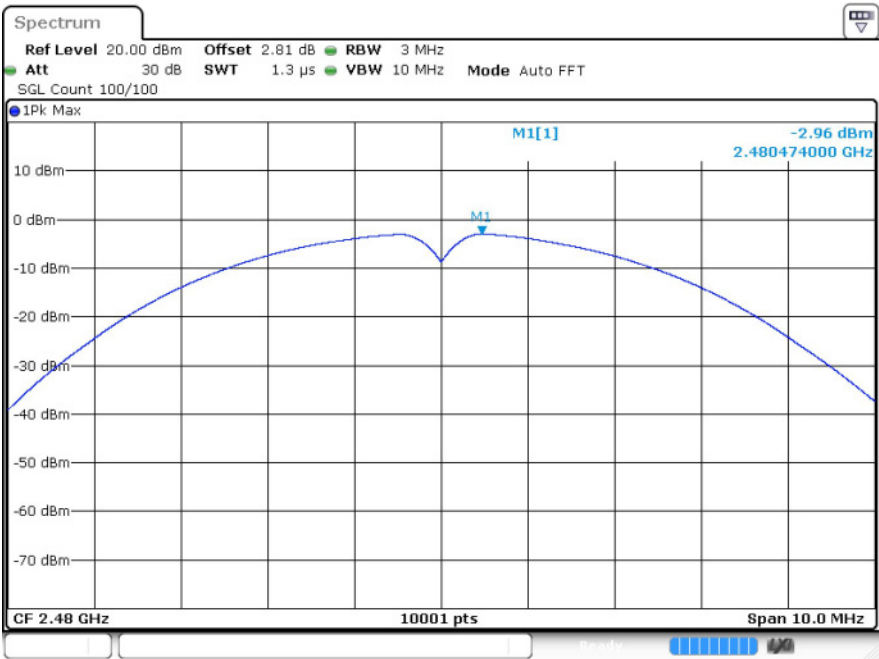
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

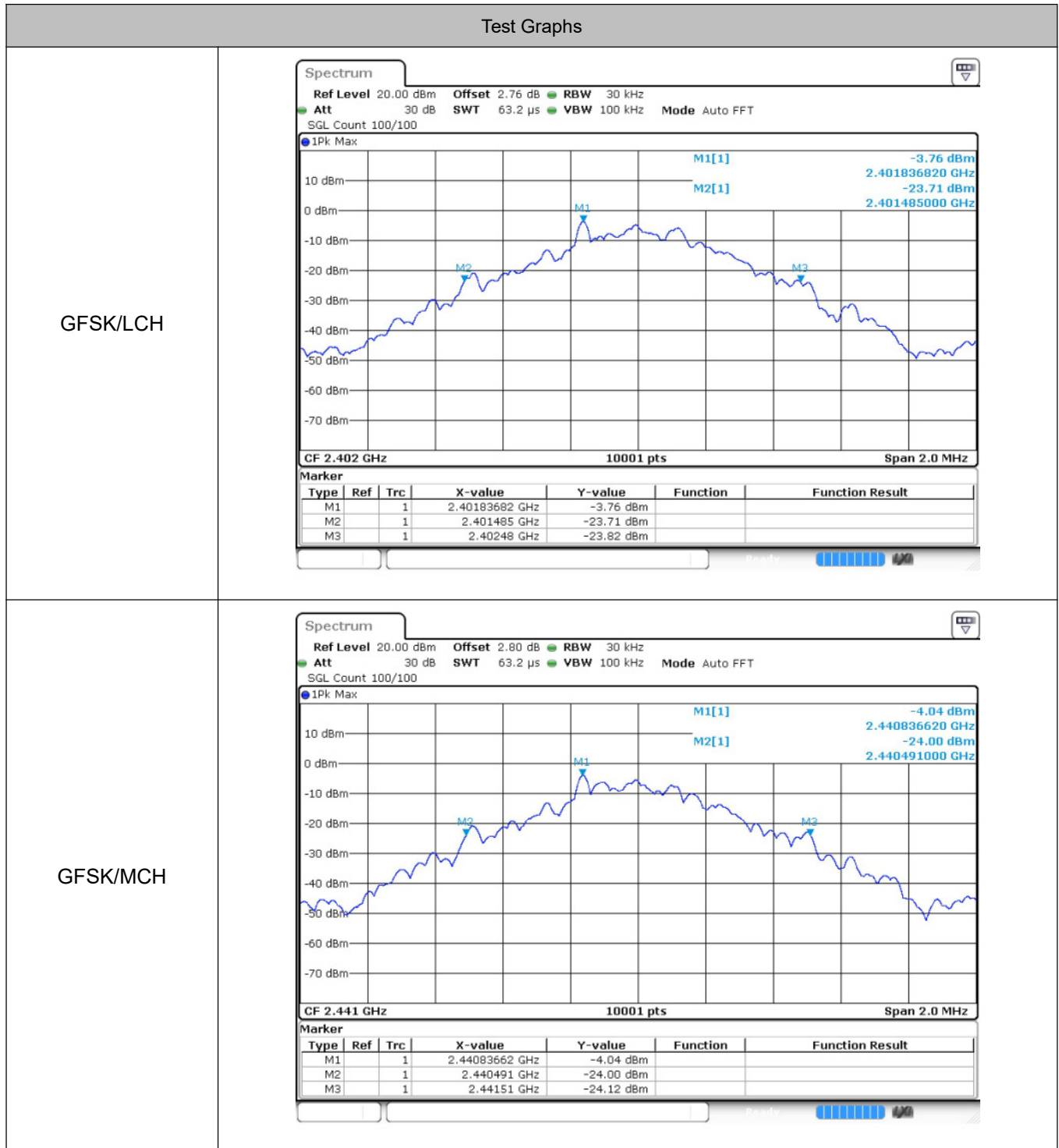


3 20dB Bandwidth

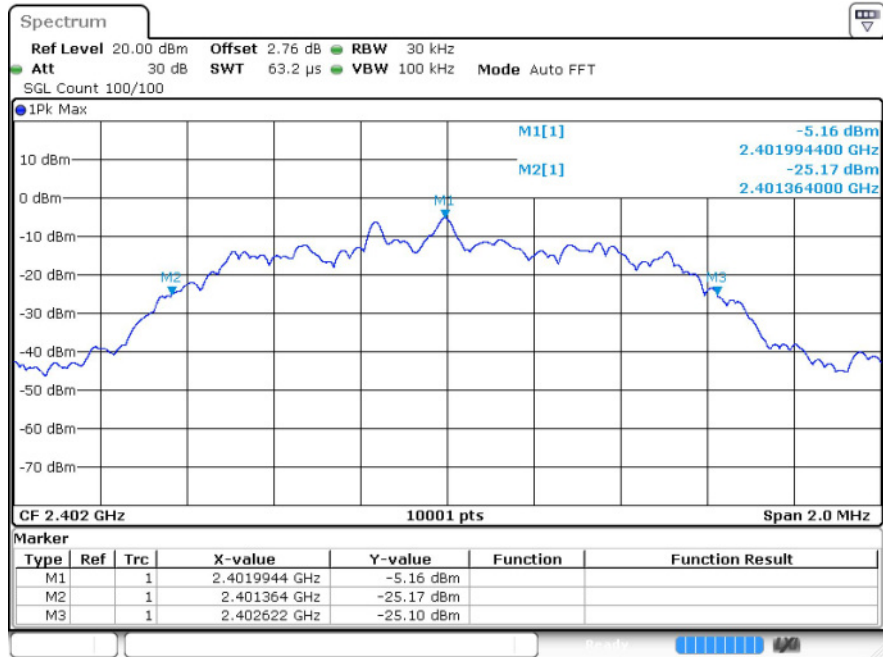
3.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.995	Not Specified	Pass
	MCH	1.019	Not Specified	Pass
	HCH	1.022	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.258	Not Specified	Pass
	MCH	1.215	Not Specified	Pass
	HCH	1.286	Not Specified	Pass
8DPSK	LCH	1.208	Not Specified	Pass
	MCH	1.239	Not Specified	Pass
	HCH	1.233	Not Specified	Pass

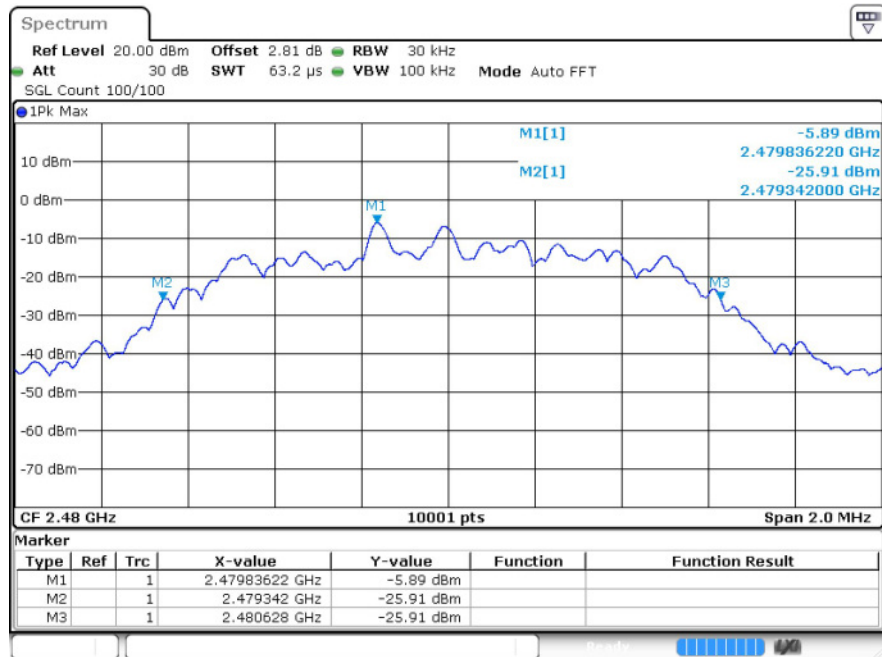
3.2 Test Graphs



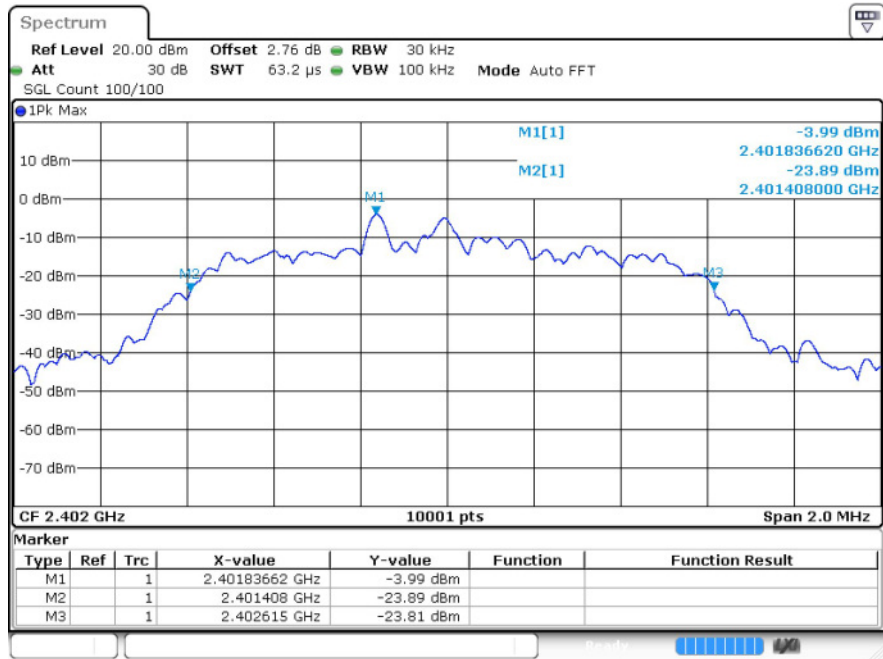
GFSK/HCH


 $\pi/4$ DQPSK/LCH


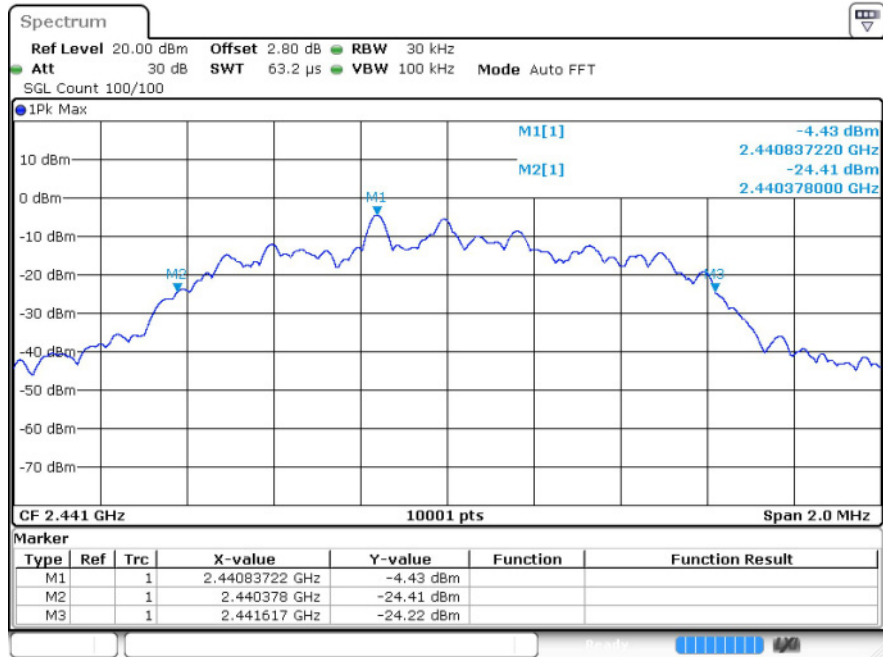
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

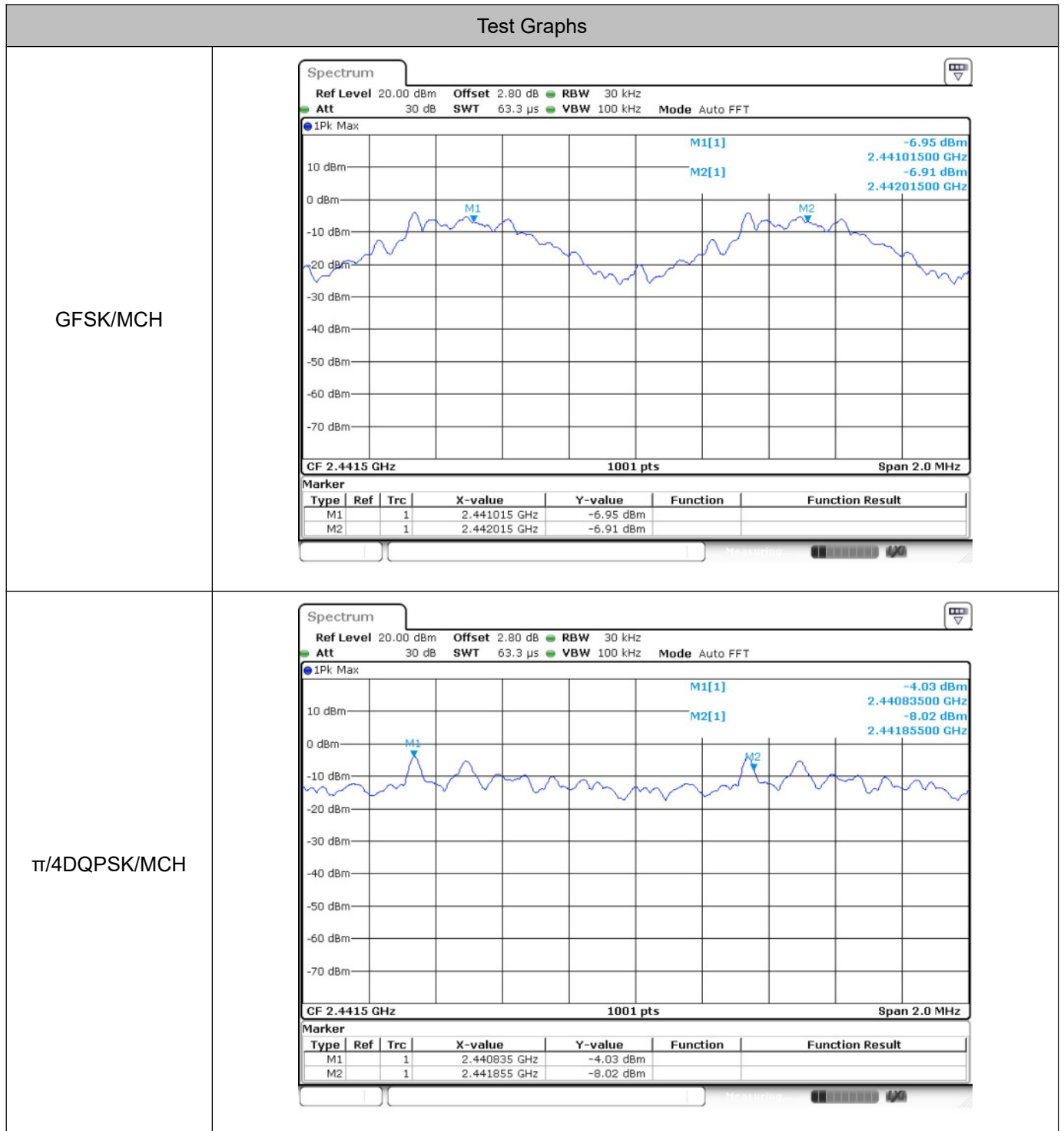


4 Carrier Frequency Separation

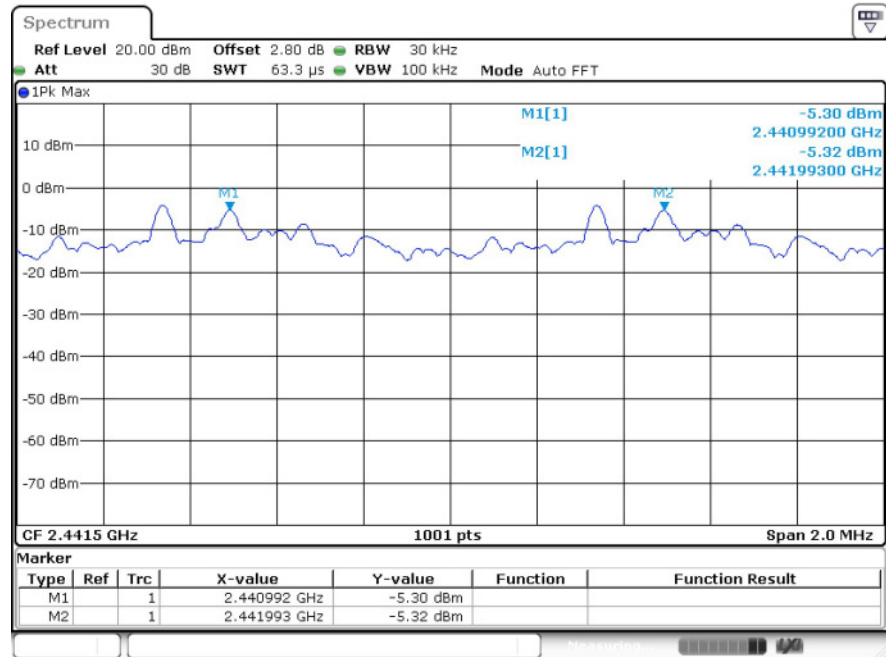
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1	0.679	Pass
$\pi/4$ DQPSK	MCH	1.02	0.81	Pass
8DPSK	MCH	1.001	0.826	Pass

4.2 Test Graphs



8DPSK/MCH

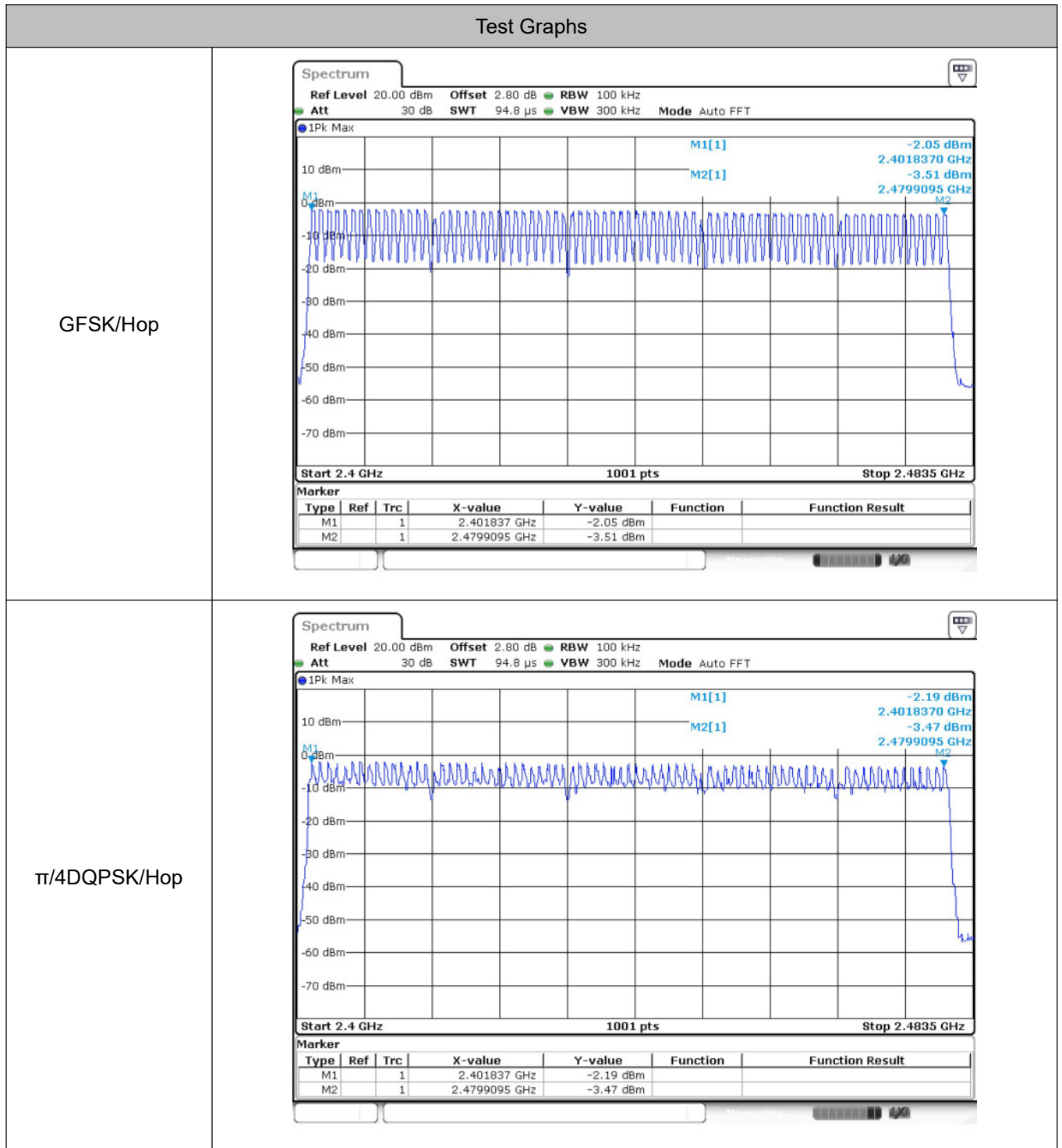


5 Hopping Channel Number

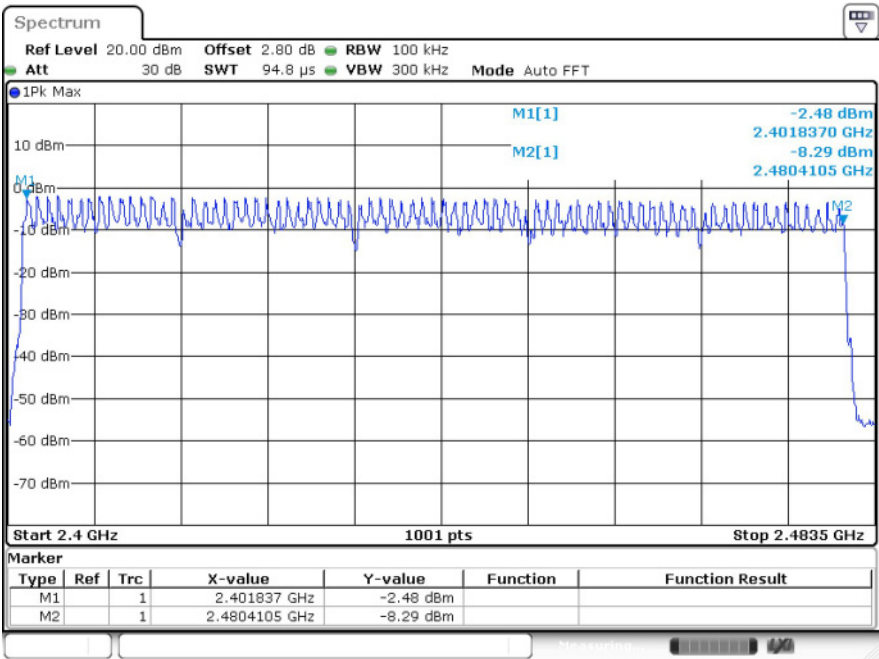
5.1 Test Result

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

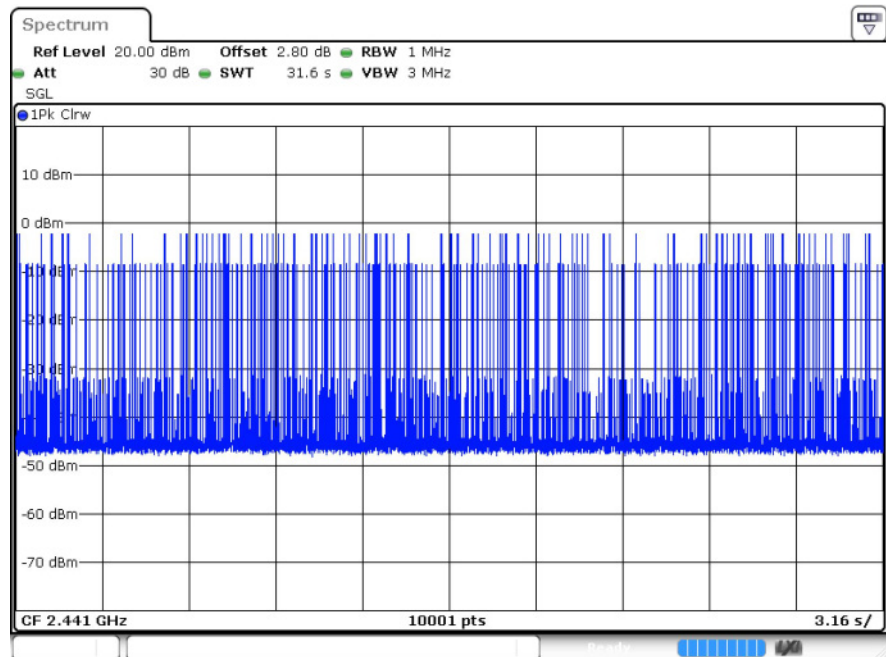
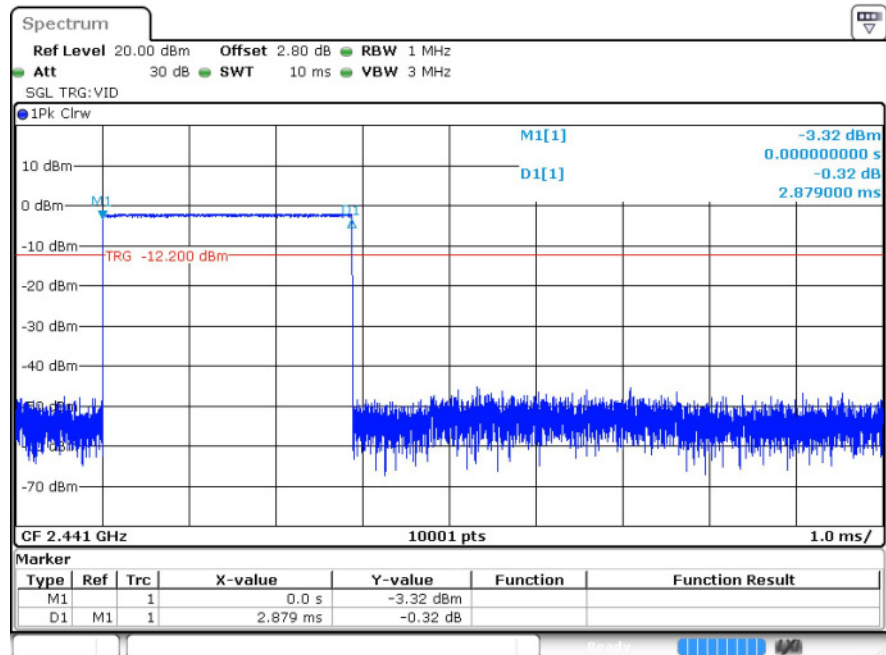
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.879	116	333.964	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.886	126	363.636	0.4	Pass
8DPSK	3DH5	MCH	2.887	104	300.248	0.4	Pass

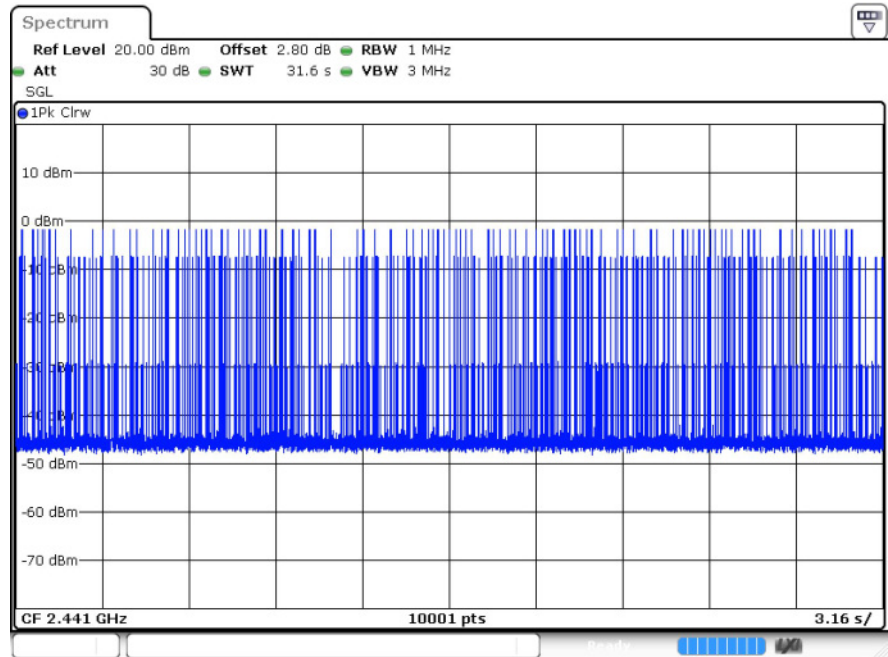
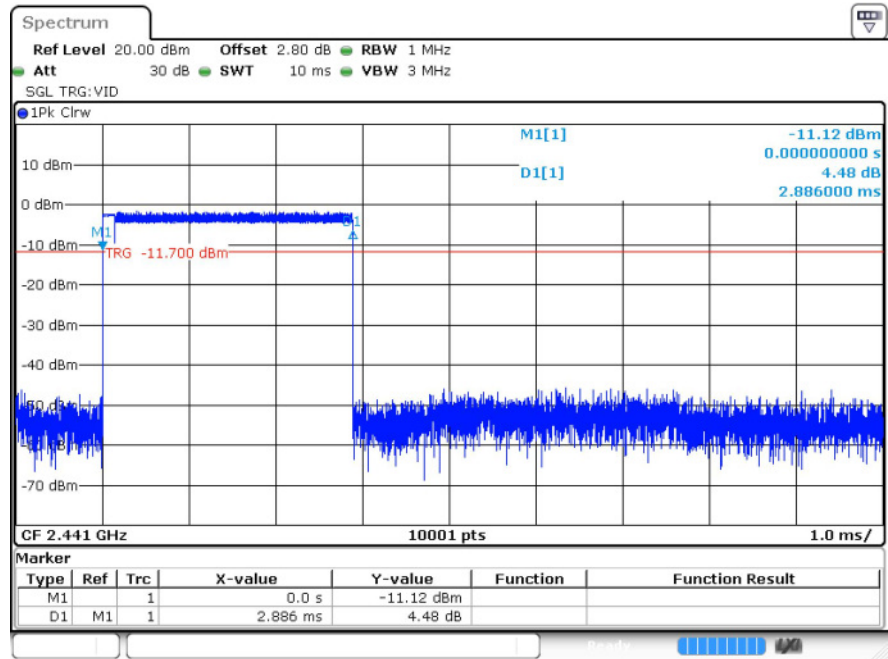
6.2 Test Graphs

Test Graphs

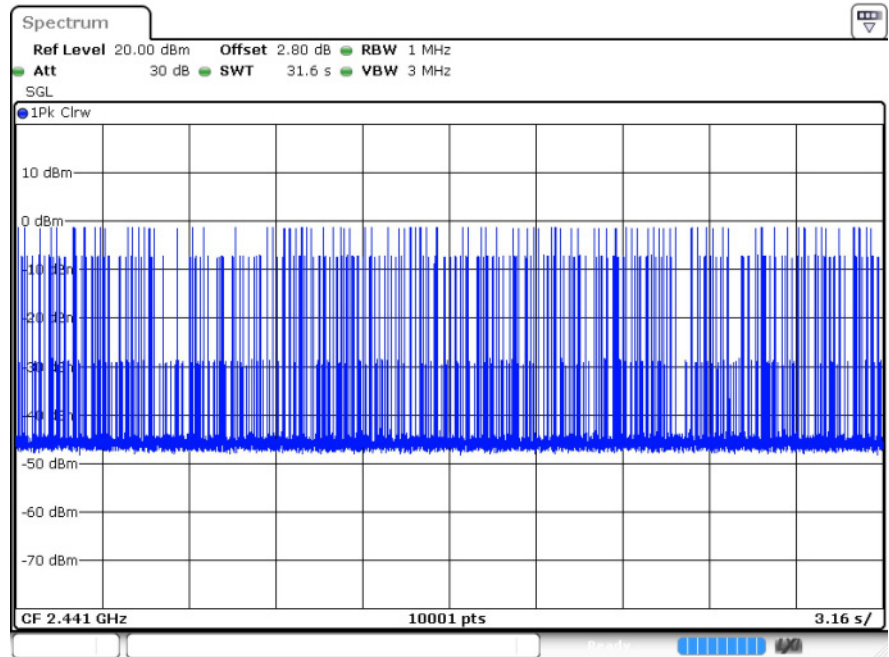
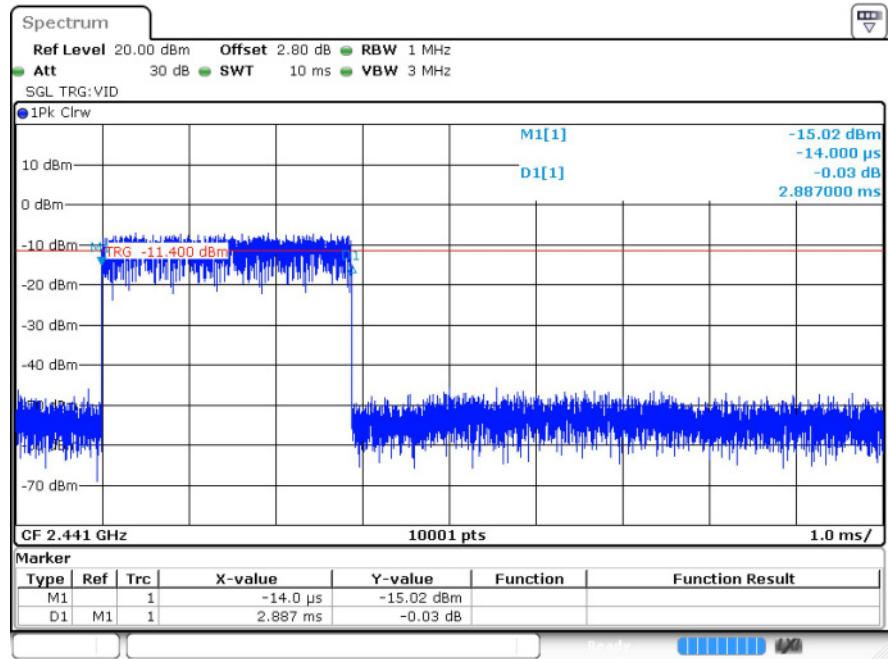
GFSK_DH5/MCH



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

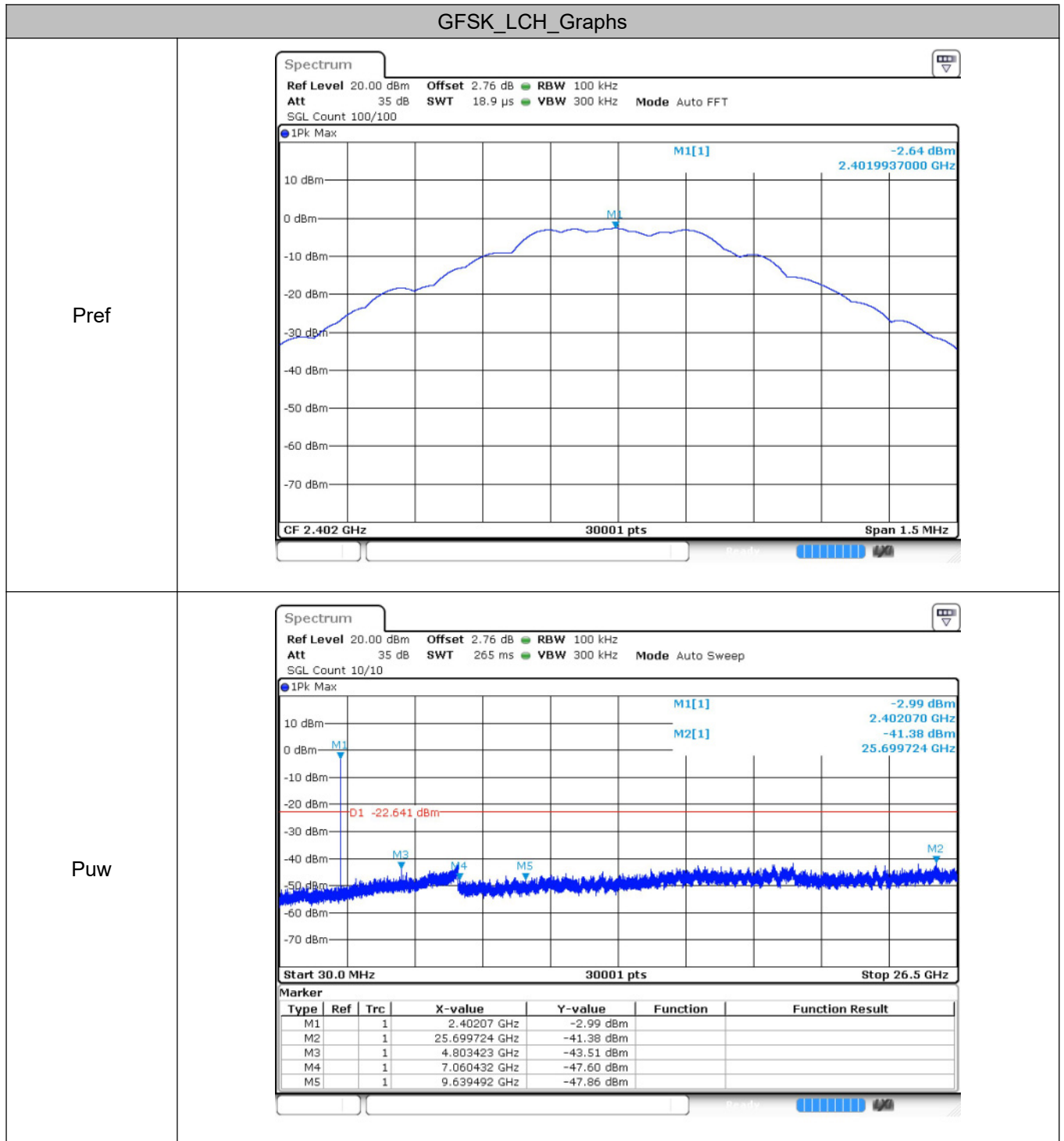


7 RF Conducted Spurious Emissions

7.1 Test Result

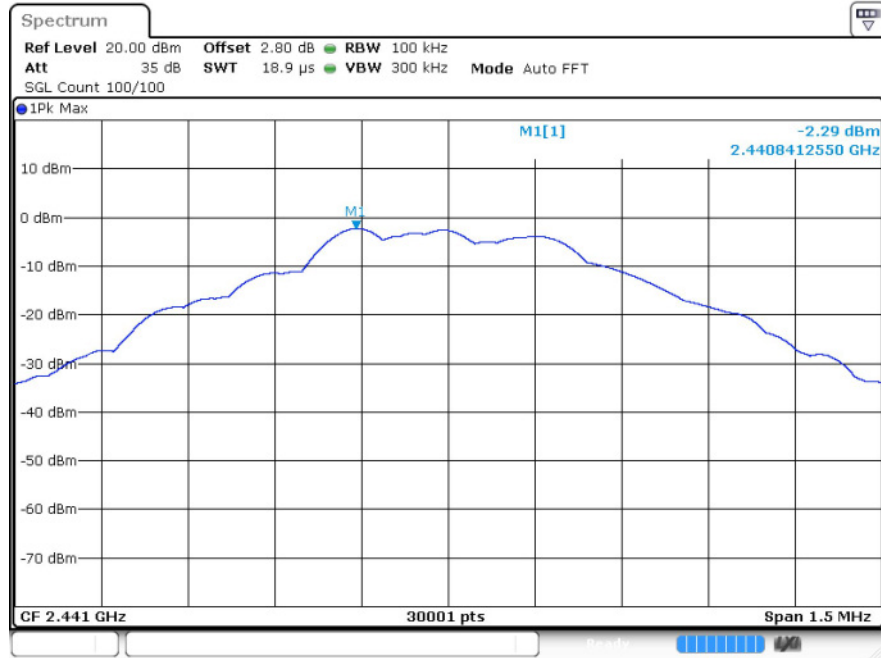
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-38.73	-20	Pass
	MCH	-39.56	-20	Pass
	HCH	-37.57	-20	Pass
$\pi/4$ DQPSK	LCH	-40.16	-20	Pass
	MCH	-38.61	-20	Pass
	HCH	-37.62	-20	Pass
8DPSK	LCH	-37.68	-20	Pass
	MCH	-39.6	-20	Pass
	HCH	-37.68	-20	Pass

7.2 Test Graphs

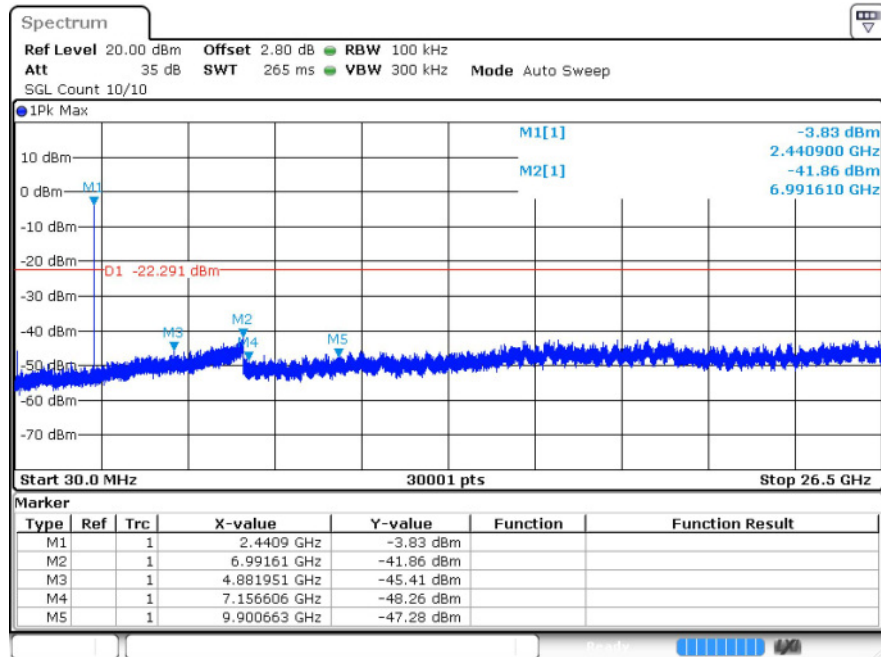


GFSK_MCH_Graphs

Pref

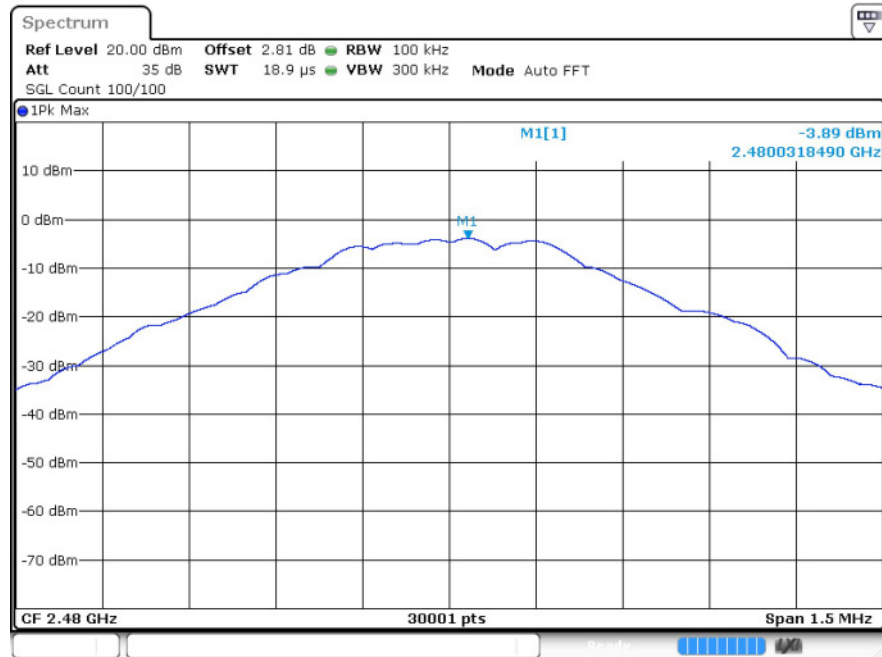


Puw

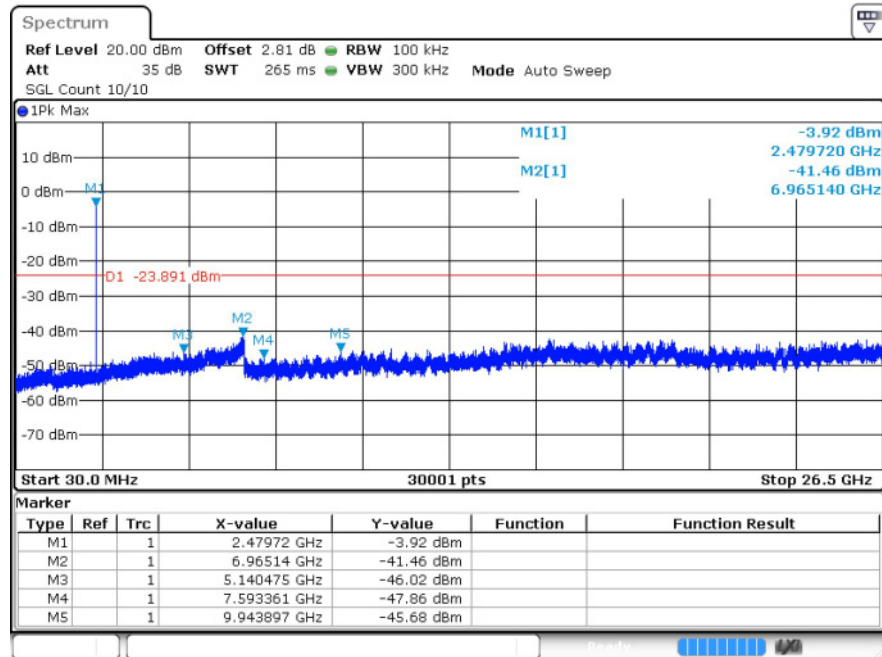


GFSK_HCH_Graphs

Pref

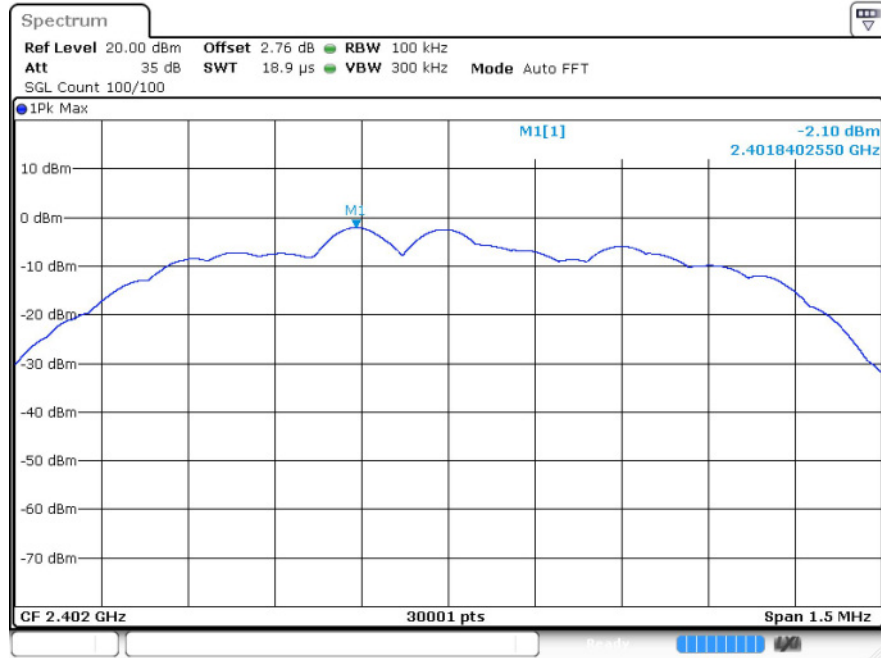


Puw

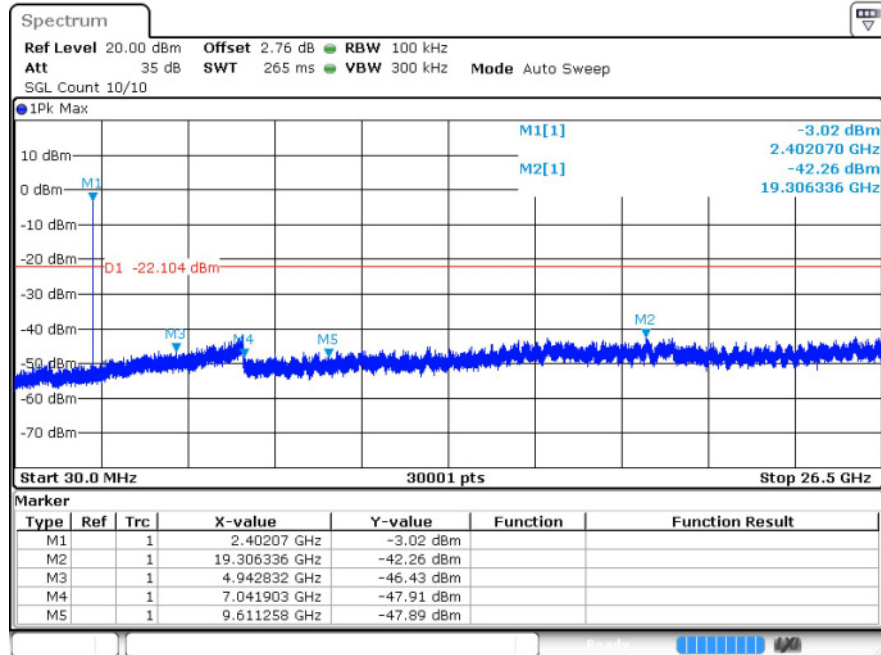


$\pi/4$ DQPSK_LCH_Graphs

Pref

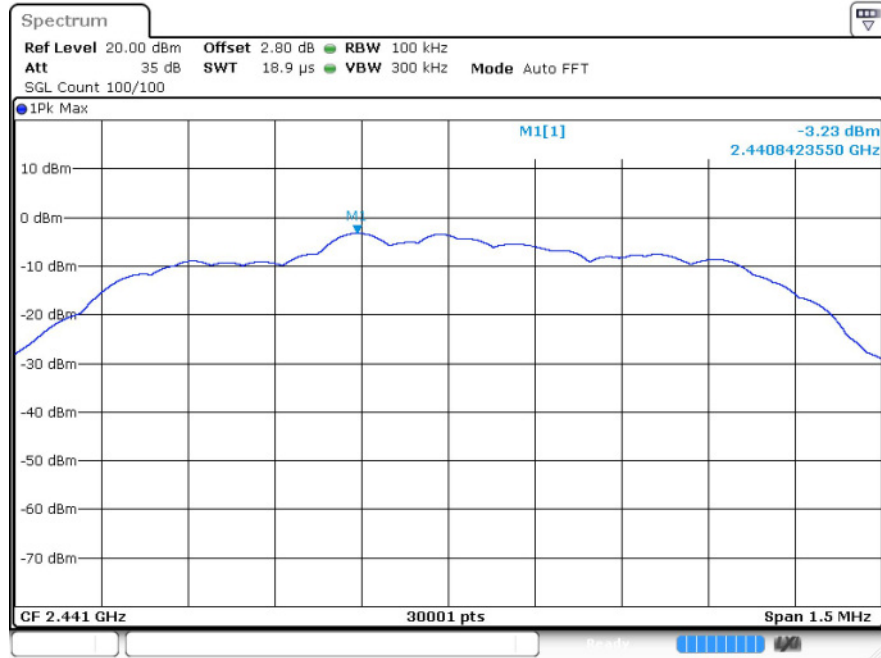


Puw

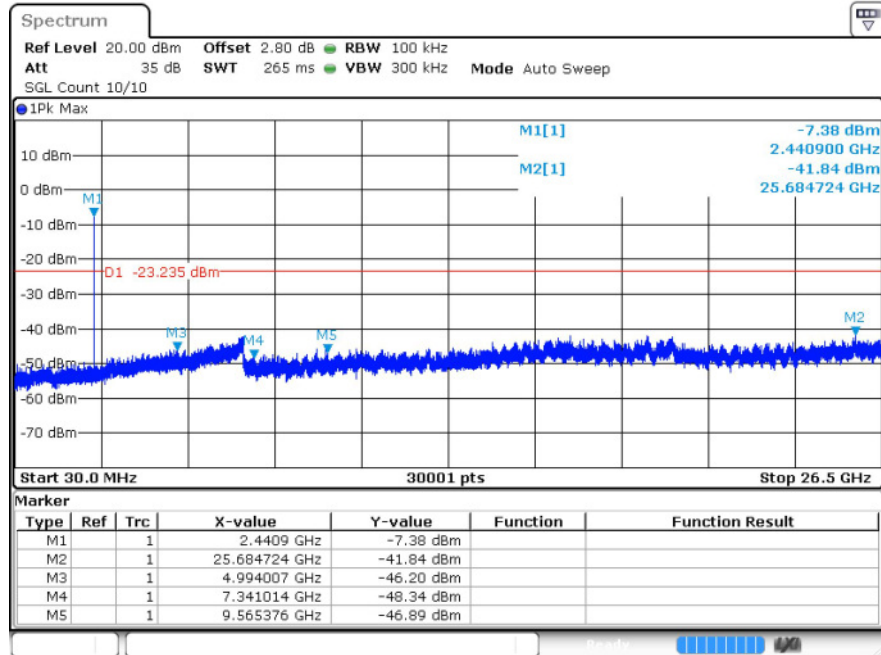


$\pi/4$ DQPSK_MCH_Graphs

Pref

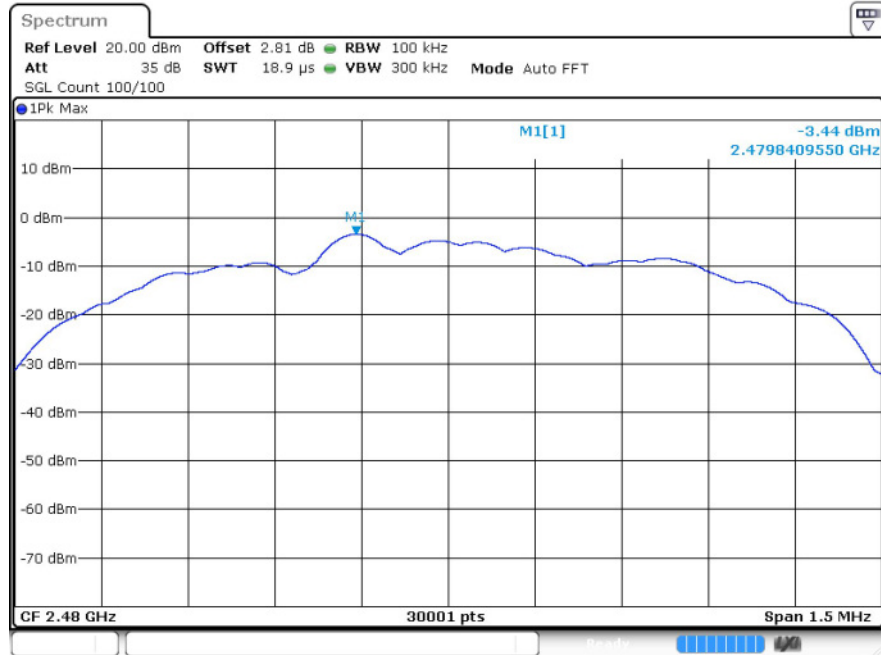


Puw



$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

