



Appendix A

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

Product Name: Bluetooth speaker

Trade Mark: N/A

Test Model: IMW3000

Environmental Conditions

Temperature:	24.5℃
Relative Humidity:	52.3%
ATM Pressure:	101Kpa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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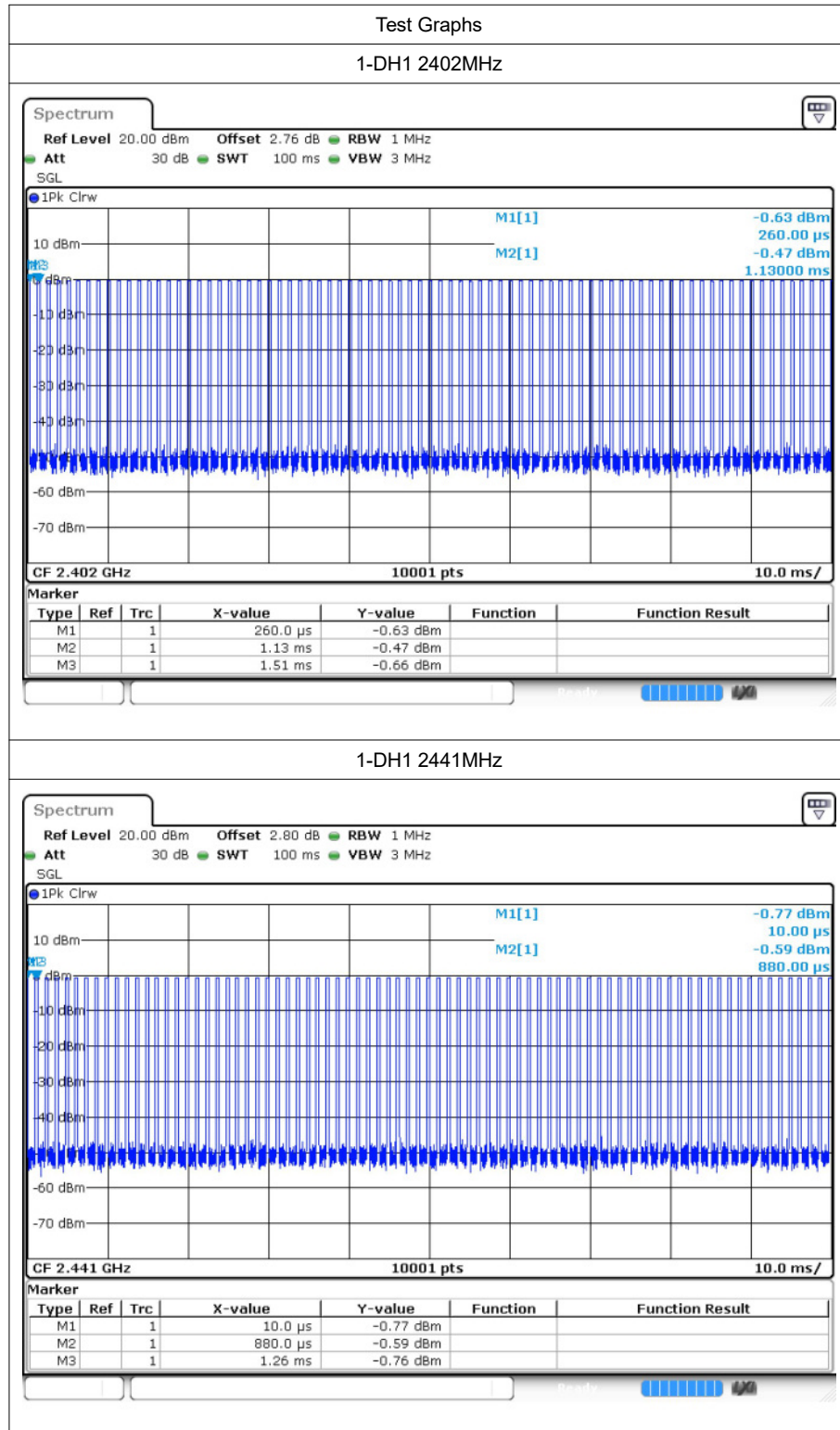
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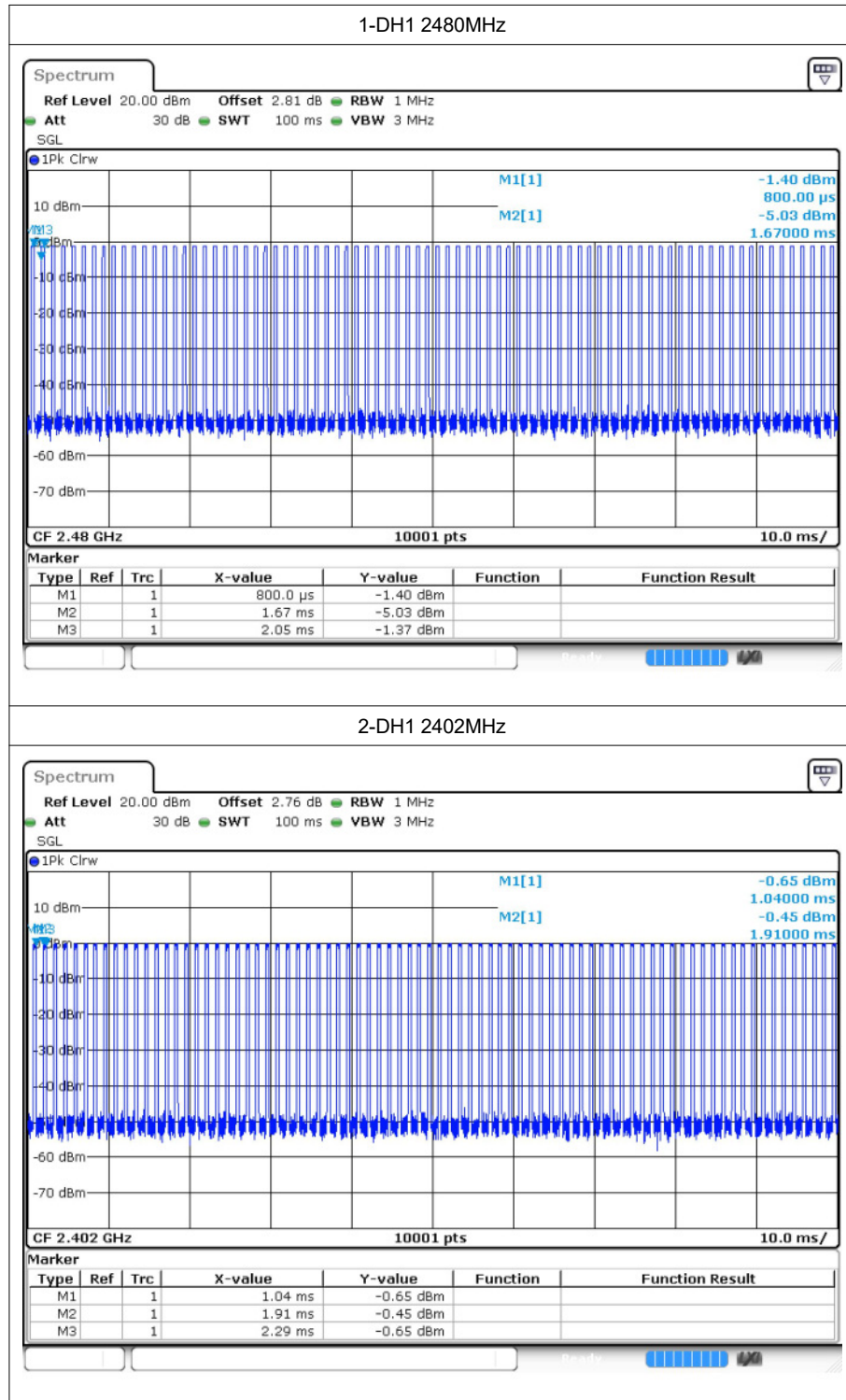
1 Duty Cycle

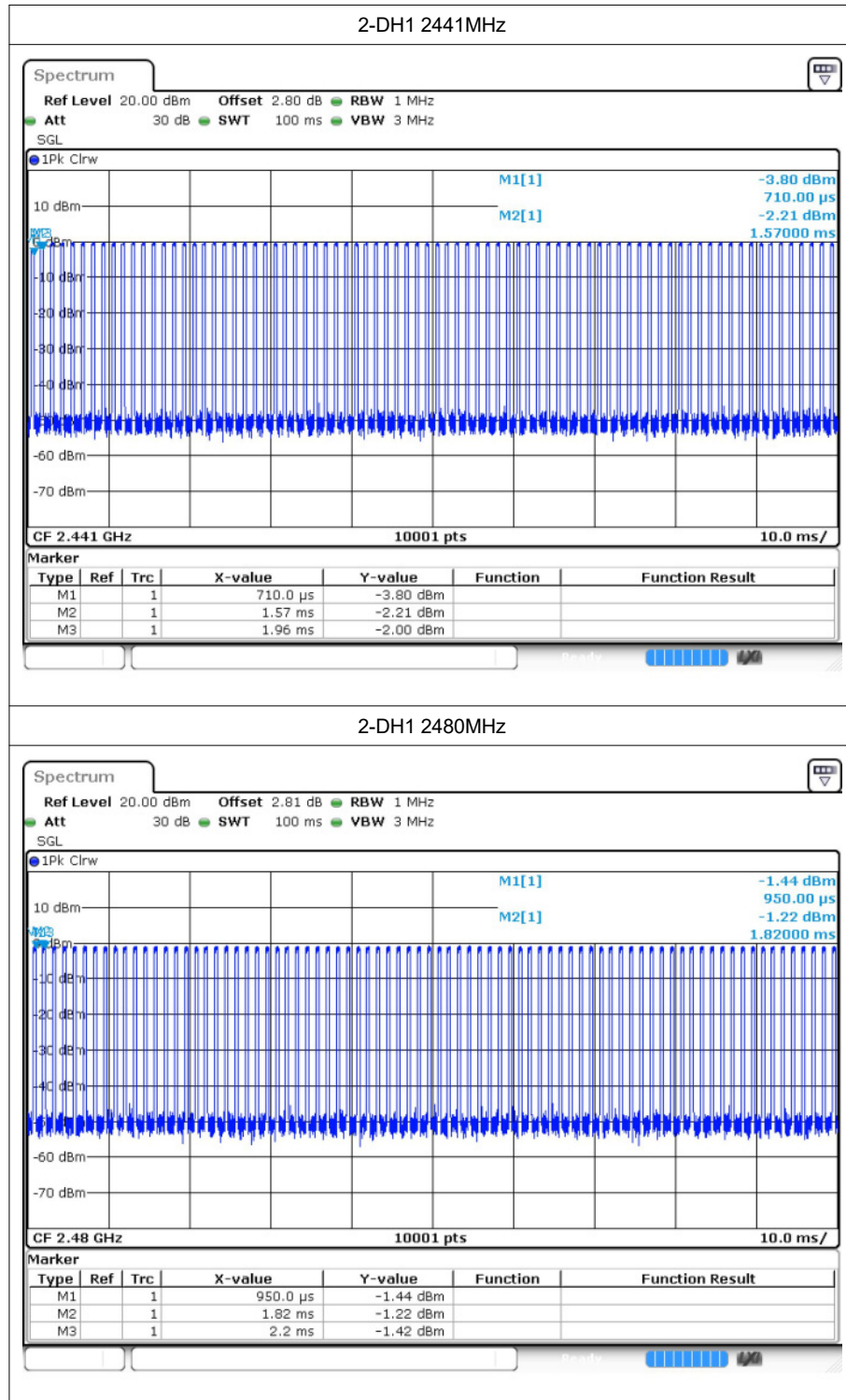
1.1 Test Result

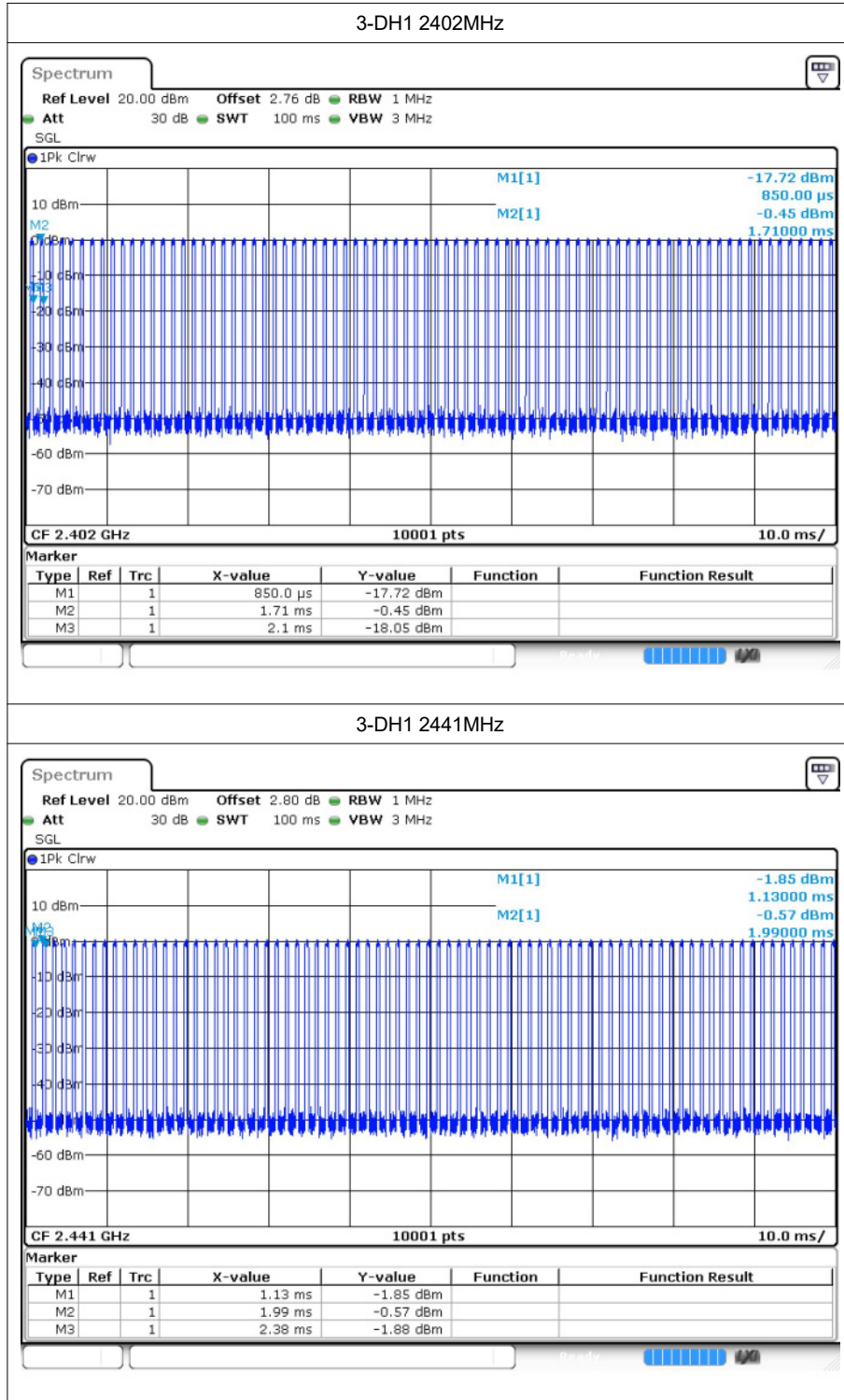
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.21	5.06	2.63
1-DH1	2441	31.21	5.06	2.63
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	31.2	5.06	2.63
2-DH1	2441	32	4.95	2.56
2-DH1	2480	31.2	5.06	2.63
3-DH1	2402	31.39	5.03	2.56
3-DH1	2441	32	4.95	2.56
3-DH1	2480	31.88	4.97	2.56

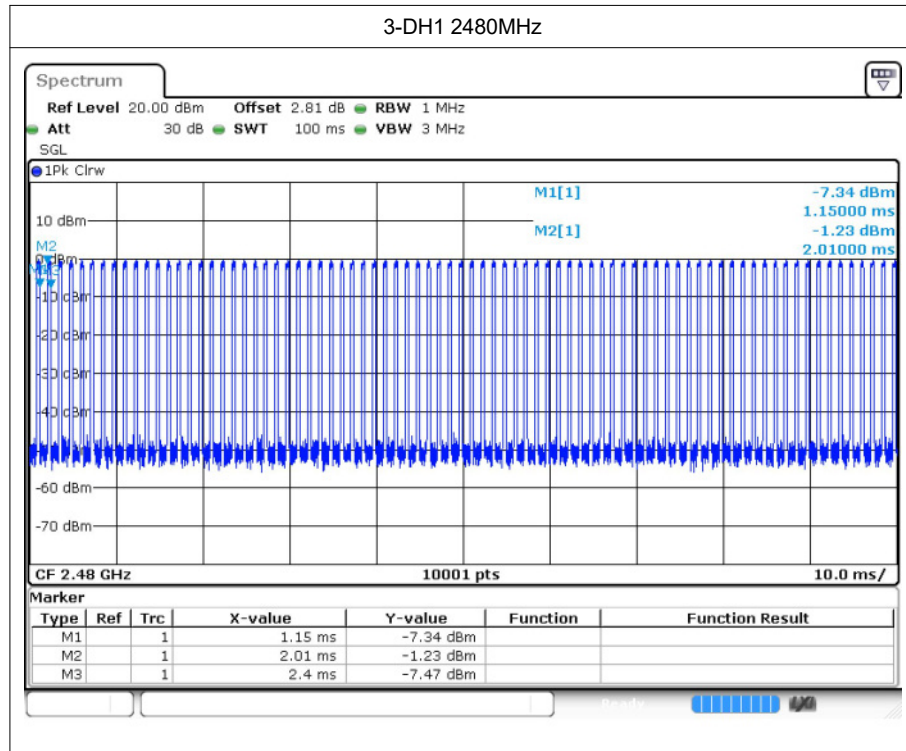
1.2 Test Graphs









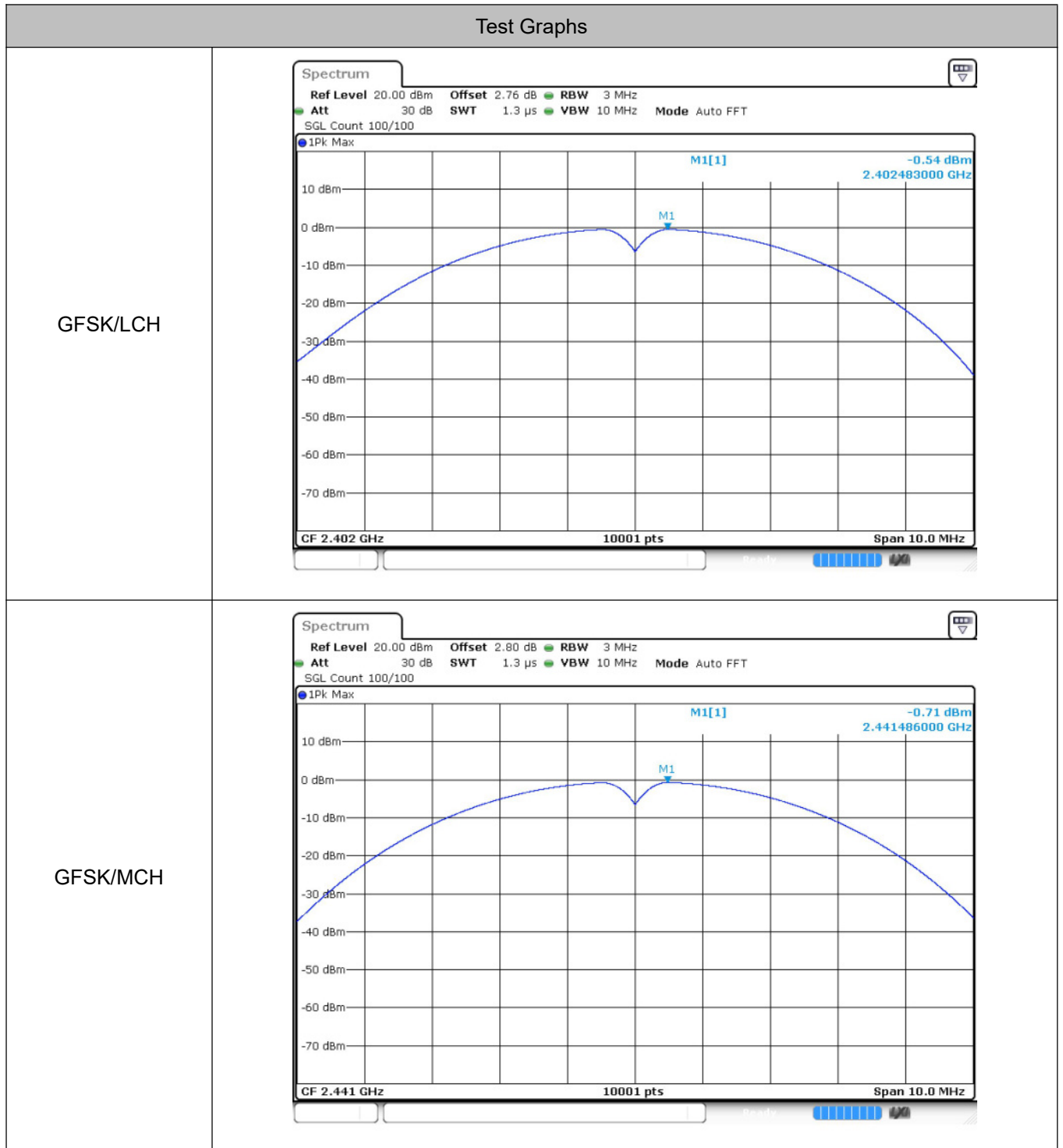


2 Maximum Conducted Peak Output Power

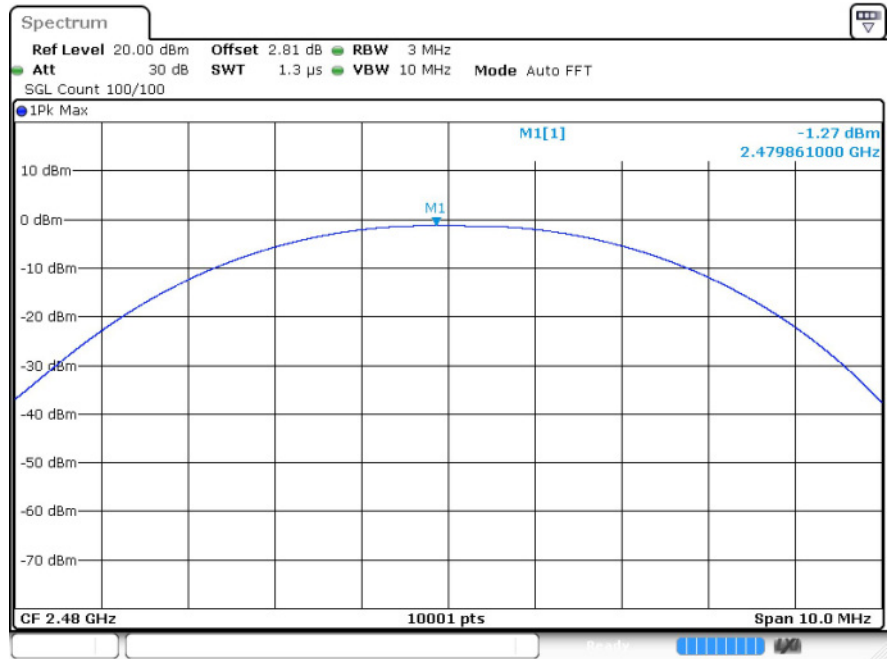
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-0.54	21	Pass
	MCH	-0.71	21	Pass
	HCH	-1.27	21	Pass
$\pi/4$ DQPSK	LCH	-0.01	21	Pass
	MCH	-0.23	21	Pass
	HCH	-0.6	21	Pass
8DPSK	LCH	-0.08	21	Pass
	MCH	-0.16	21	Pass
	HCH	-0.53	21	Pass

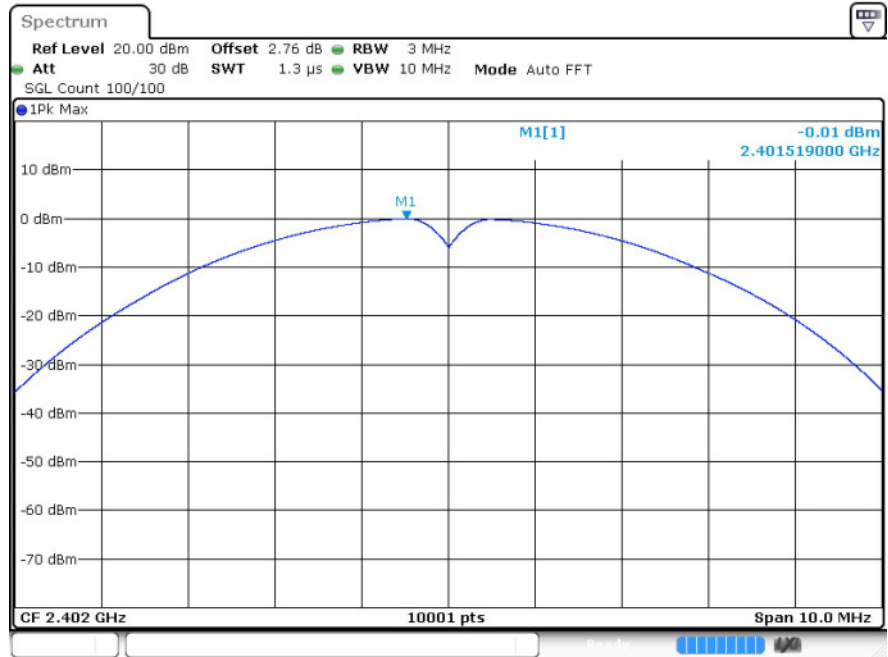
2.2 Test Graphs



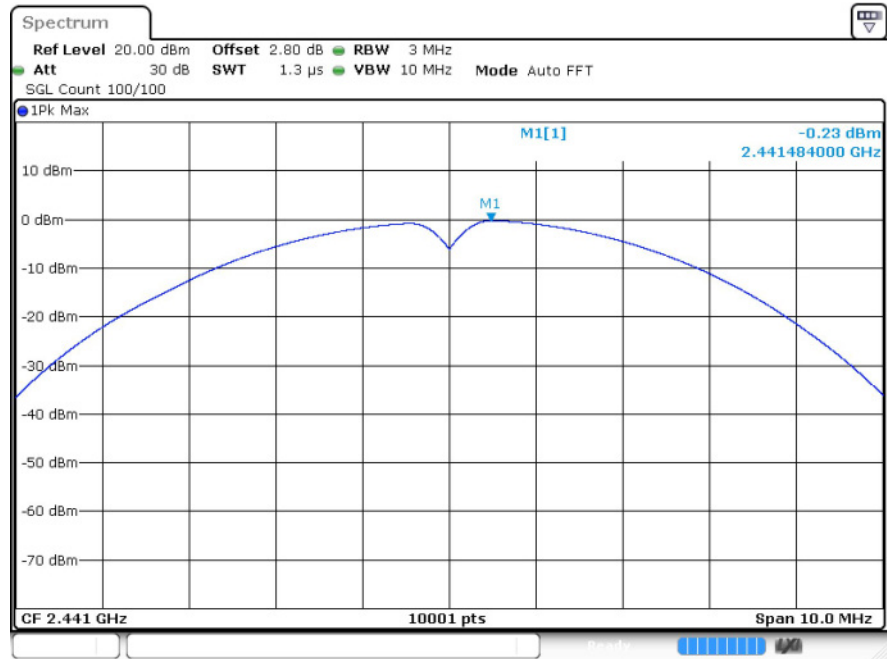
GFSK/HCH



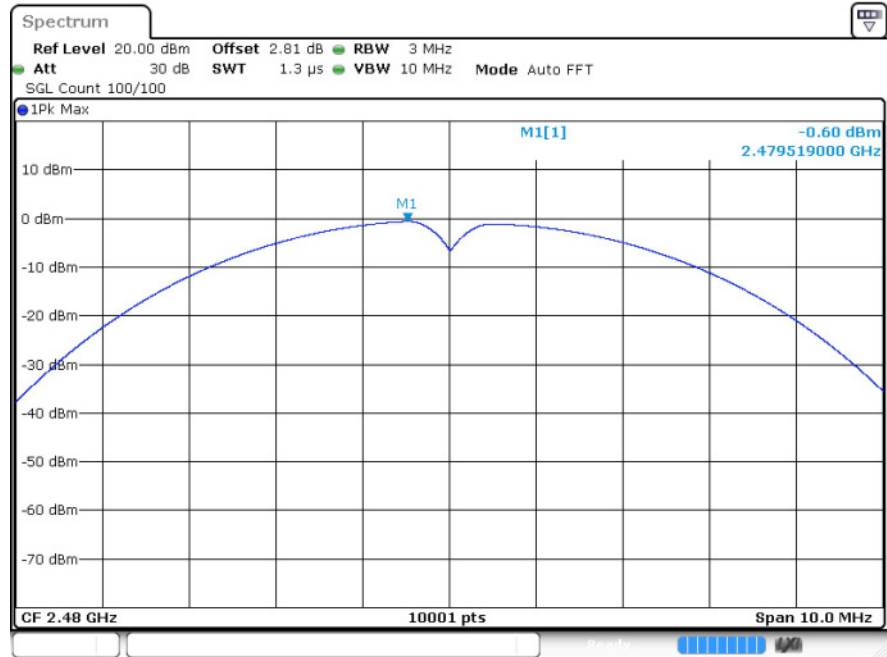
$\pi/4$ DQPSK/LCH



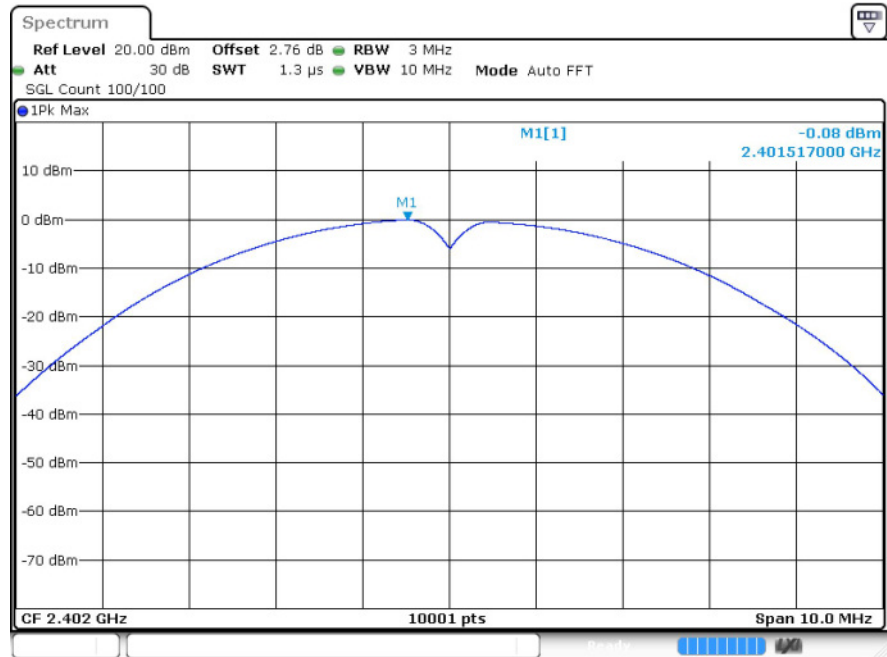
$\pi/4$ DQPSK/MCH



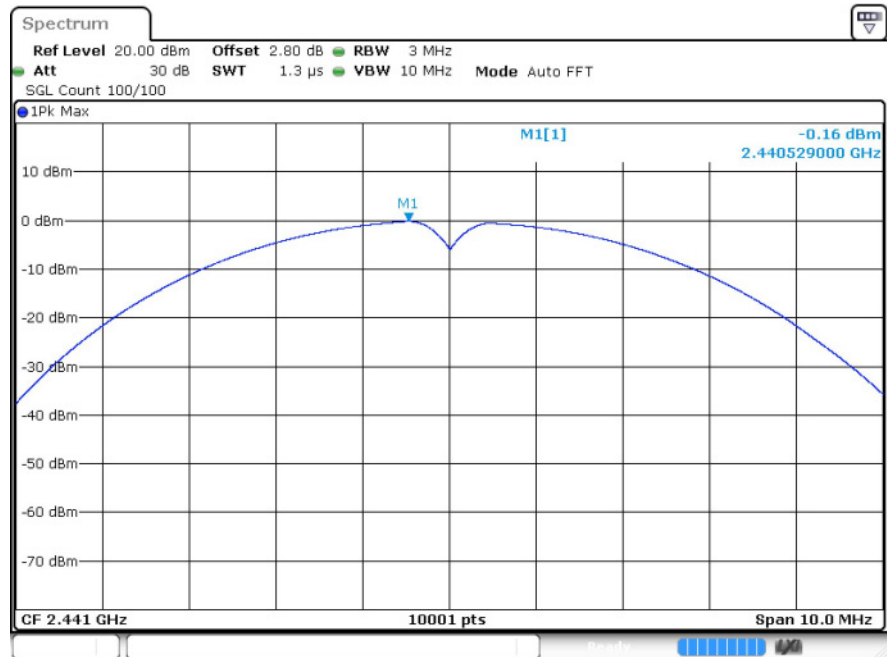
$\pi/4$ DQPSK/HCH



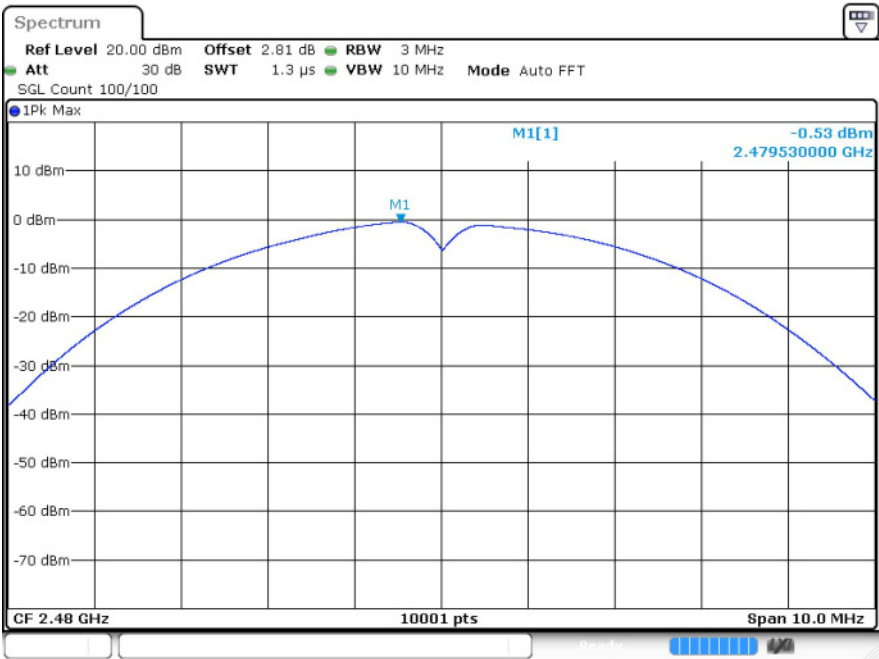
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

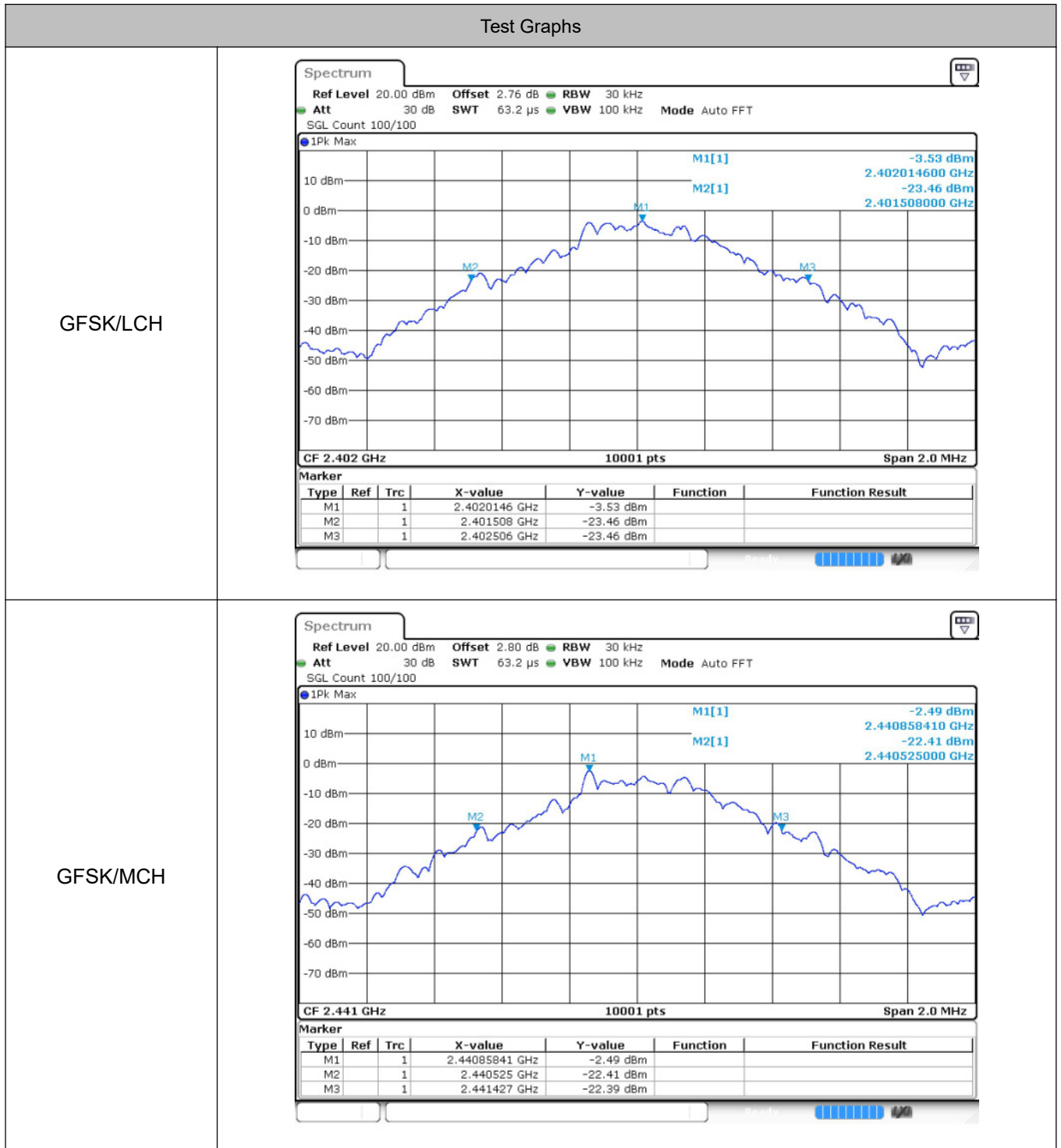


3 20dB Bandwidth

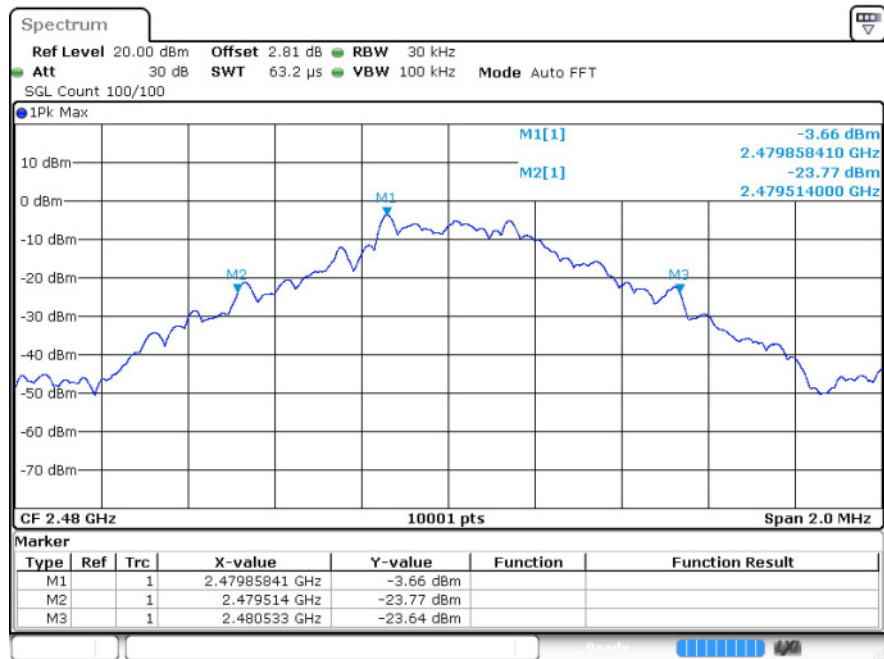
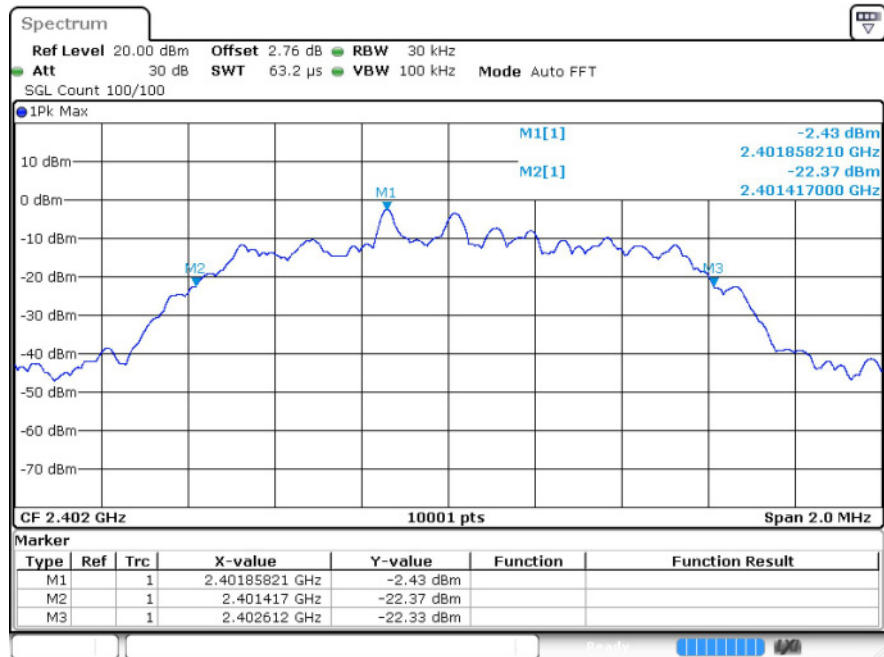
3.1 Test Result

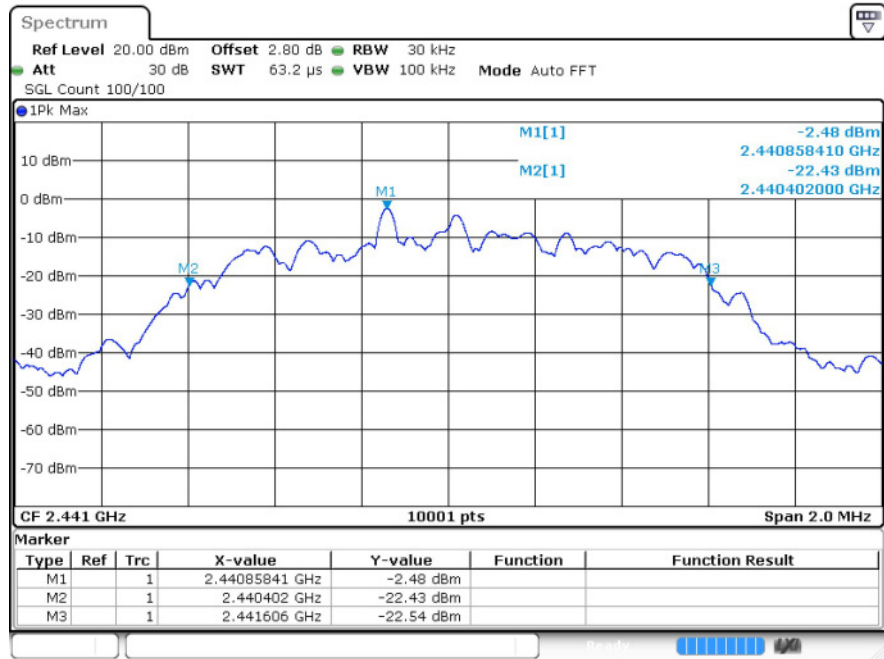
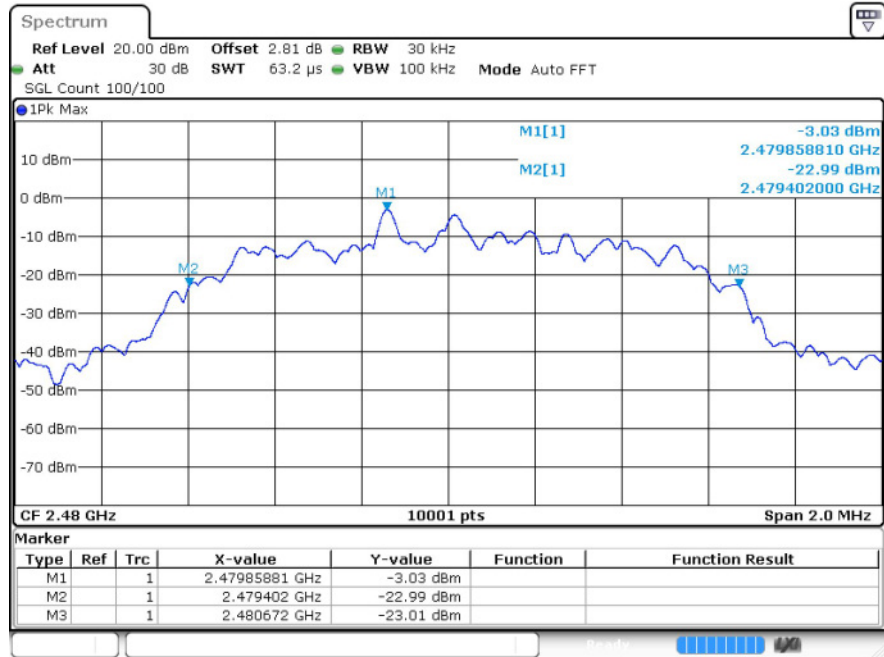
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.999	Not Specified	Pass
	MCH	0.902	Not Specified	Pass
	HCH	1.019	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.196	Not Specified	Pass
	MCH	1.204	Not Specified	Pass
	HCH	1.27	Not Specified	Pass
8DPSK	LCH	1.245	Not Specified	Pass
	MCH	1.274	Not Specified	Pass
	HCH	1.243	Not Specified	Pass

3.2 Test Graphs

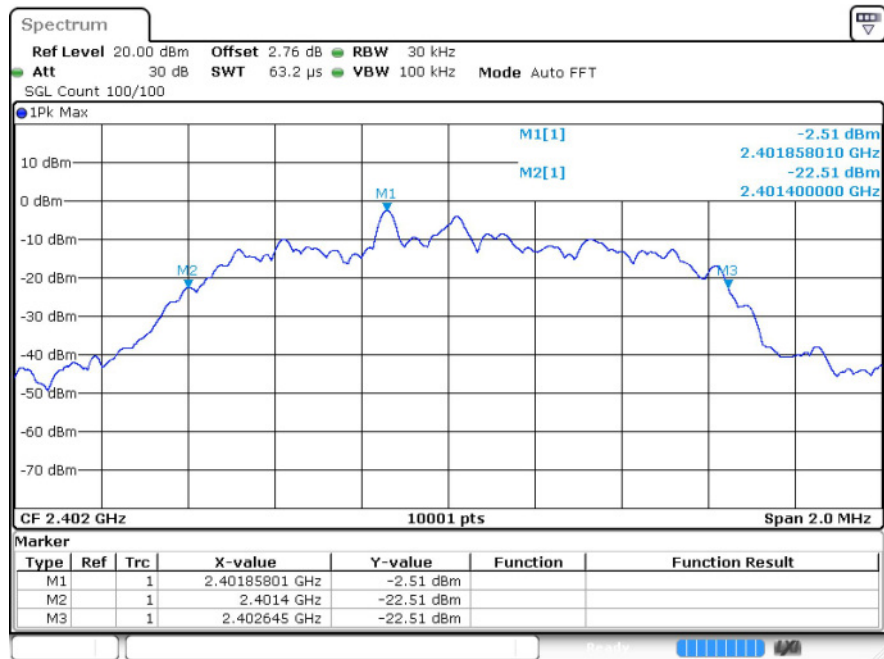


GFSK/HCH

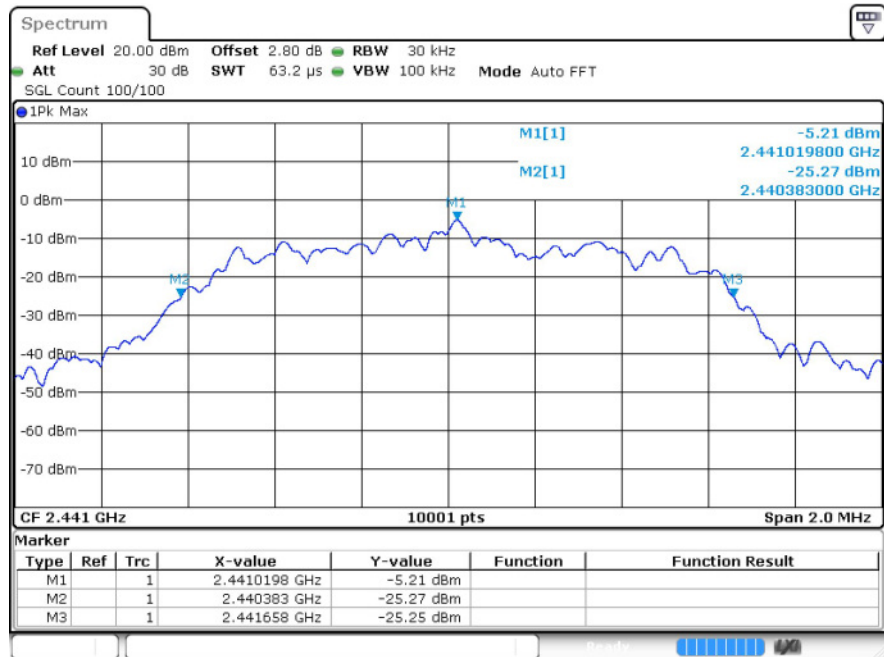

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


8DPSK/LCH



8DPSK/MCH





8DPSK/HCH

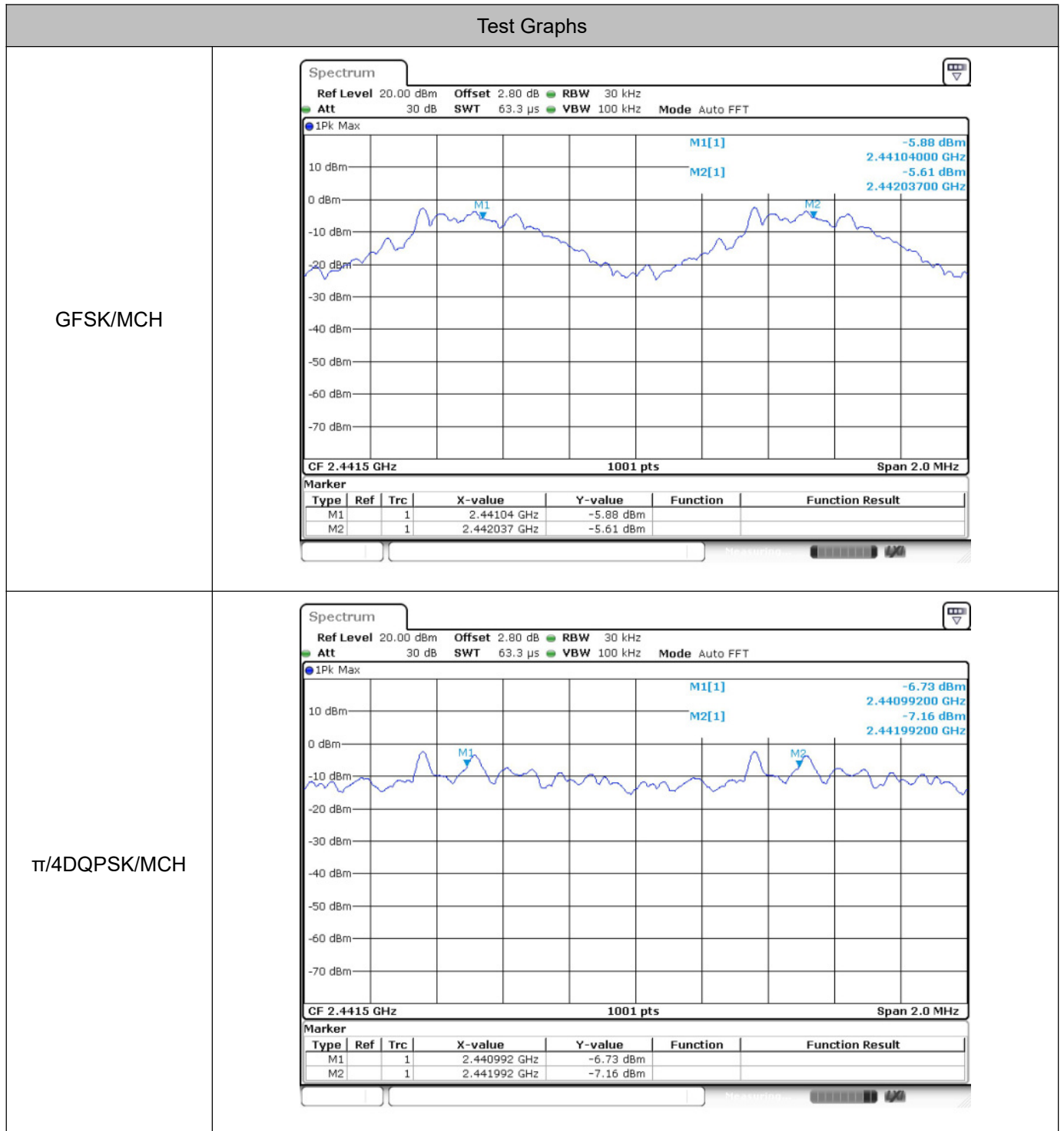


4 Carrier Frequency Separation

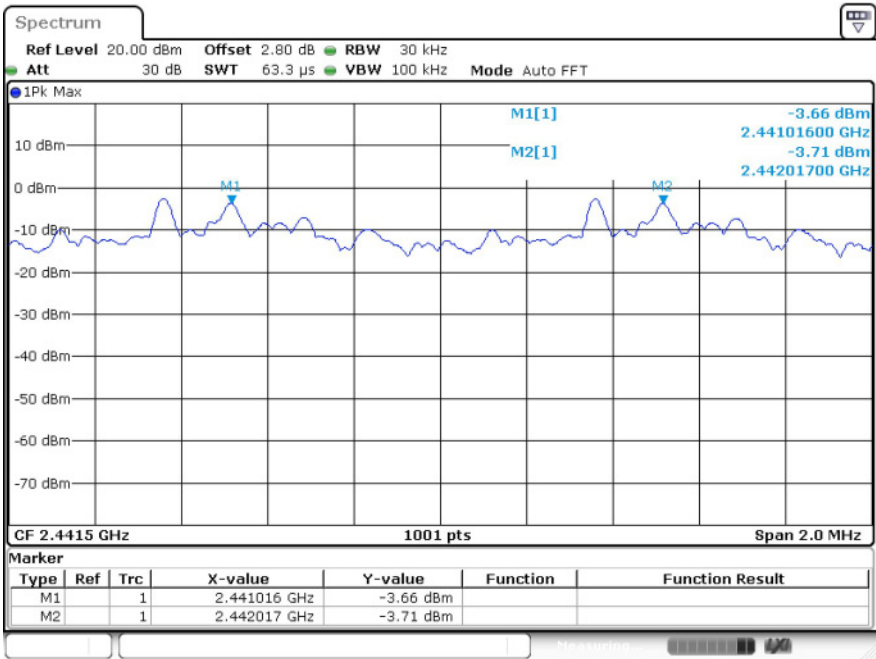
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.997	0.601	Pass
$\pi/4$ DQPSK	MCH	1	0.803	Pass
8DPSK	MCH	1.001	0.849	Pass

4.2 Test Graphs



8DPSK/MCH

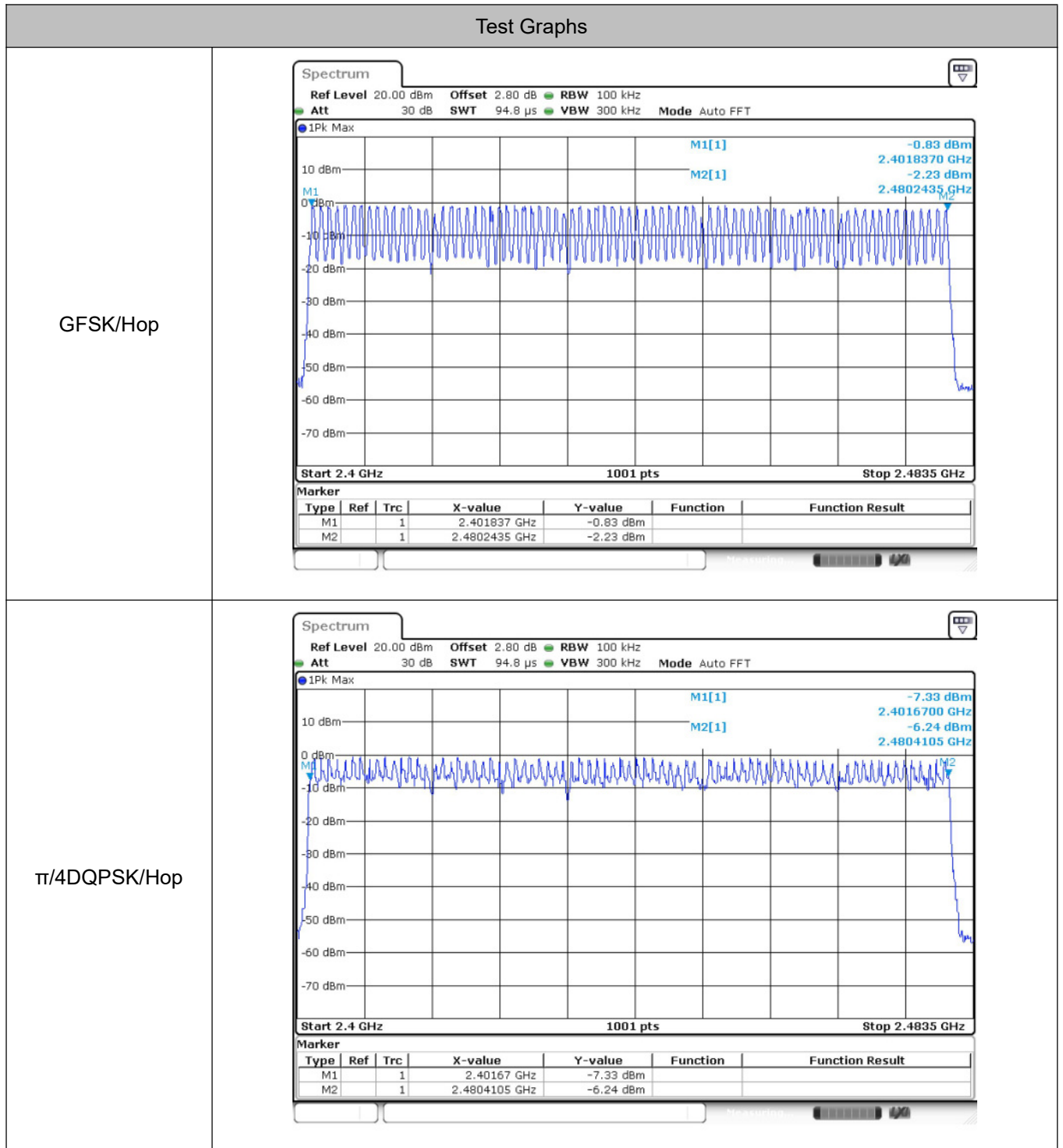


5 Hopping Channel Number

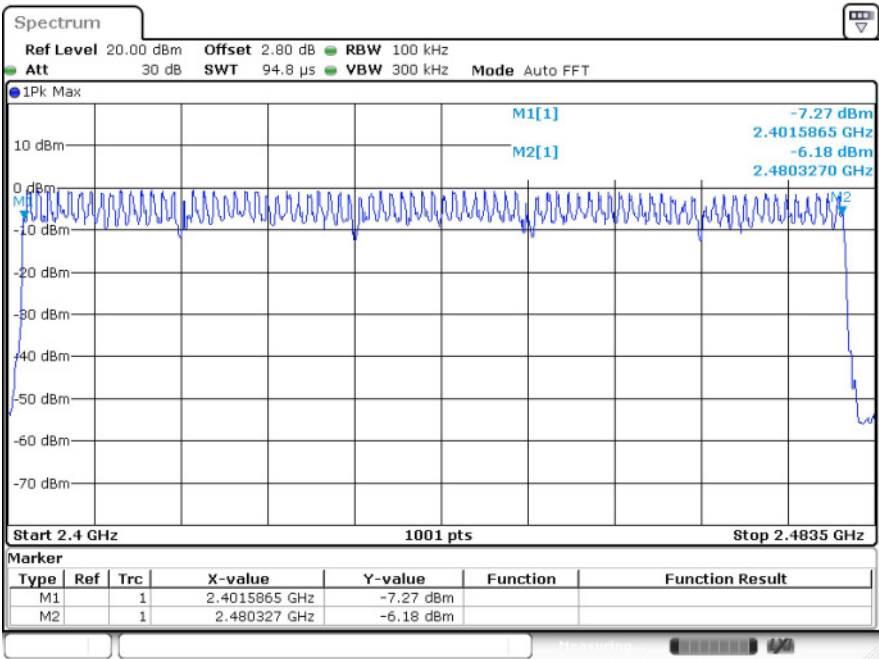
5.1 Test Result

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



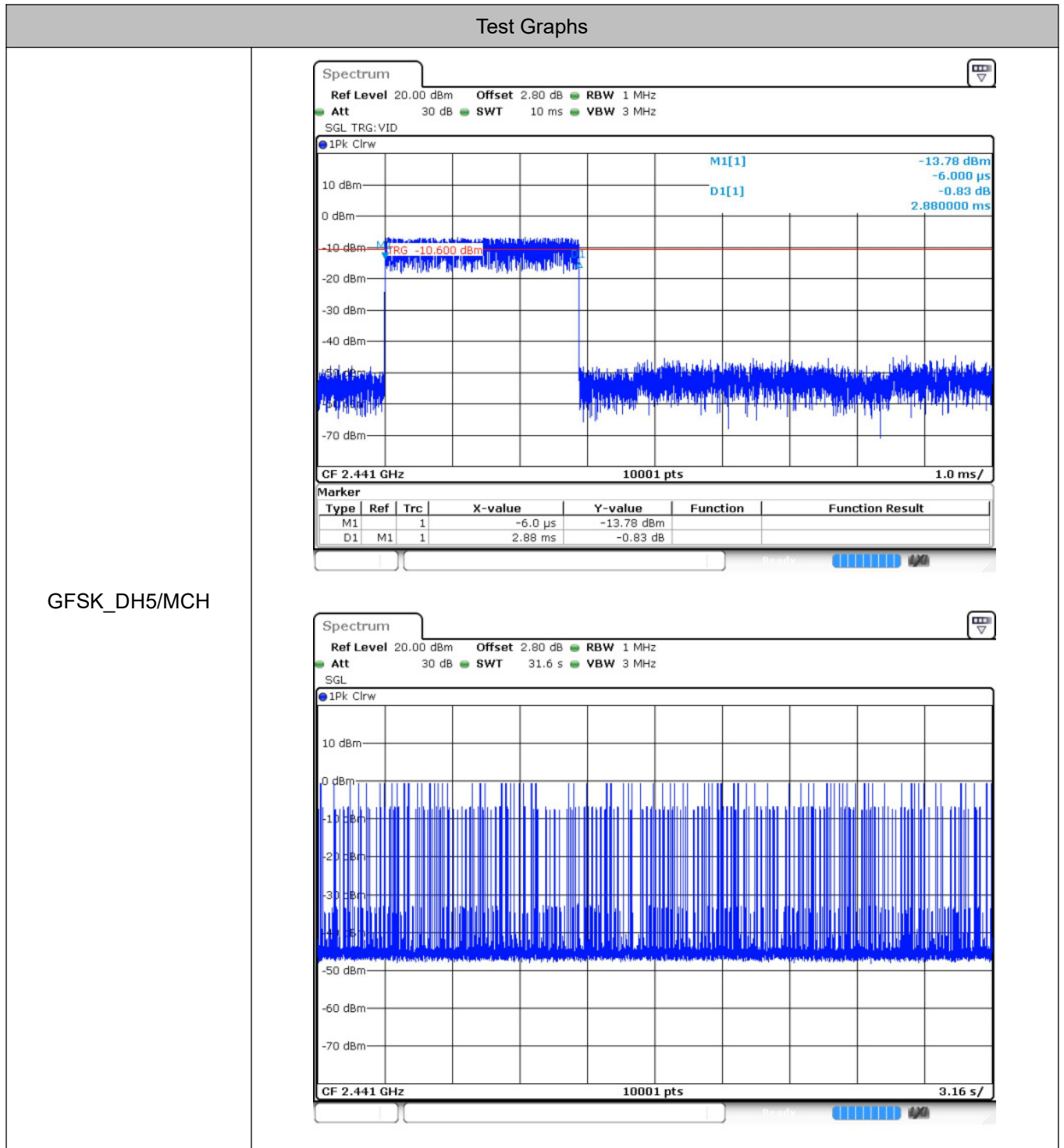


6 Dwell Time

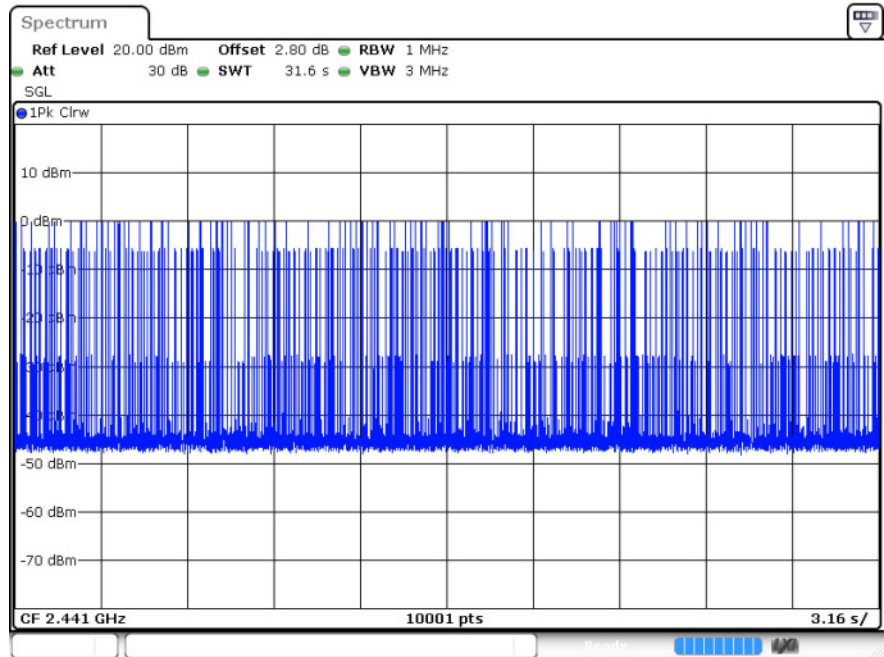
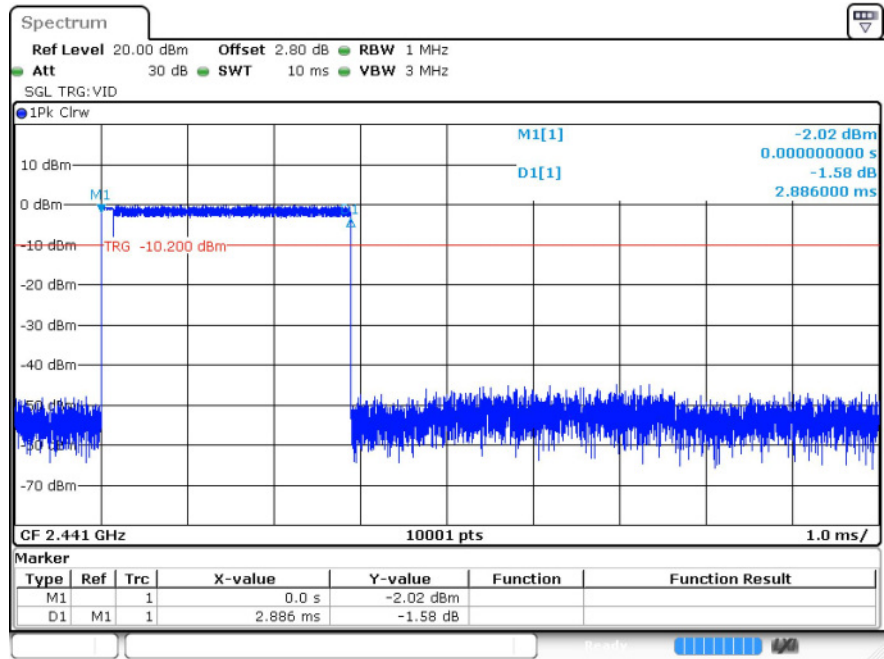
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.88	96	276.48	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.886	111	320.346	0.4	Pass
8DPSK	3DH5	MCH	2.887	110	317.57	0.4	Pass

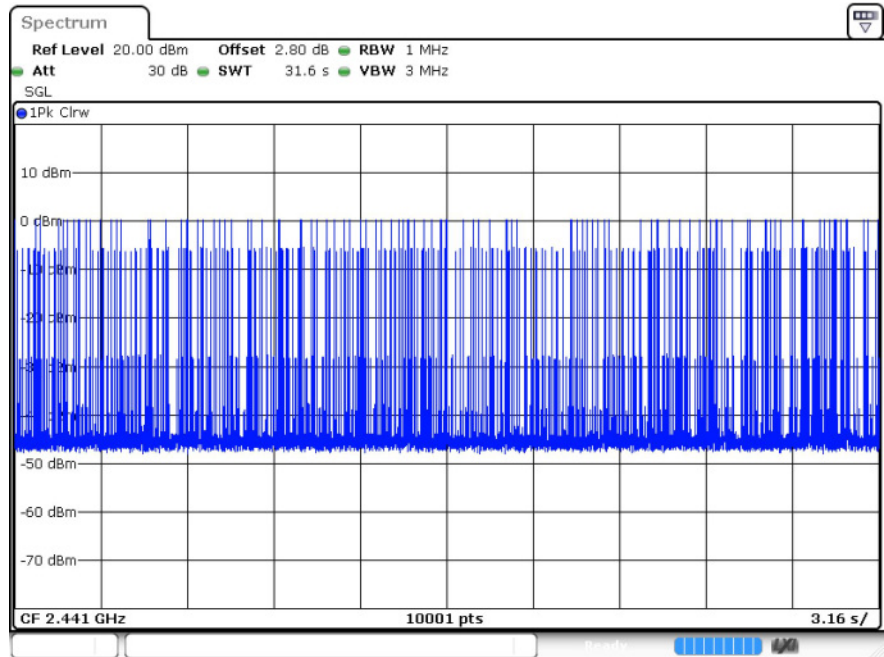
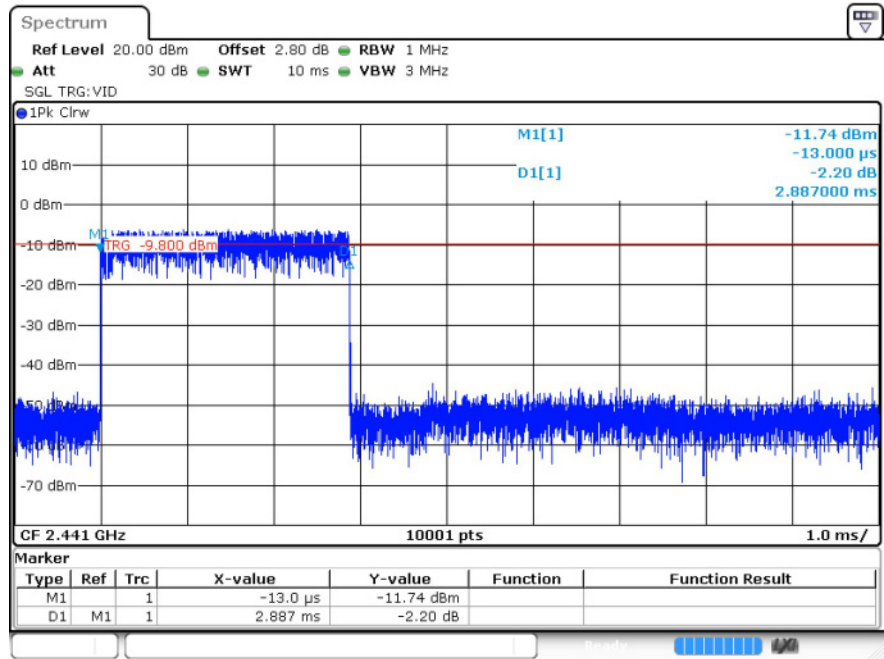
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH



7 RF Conducted Spurious Emissions

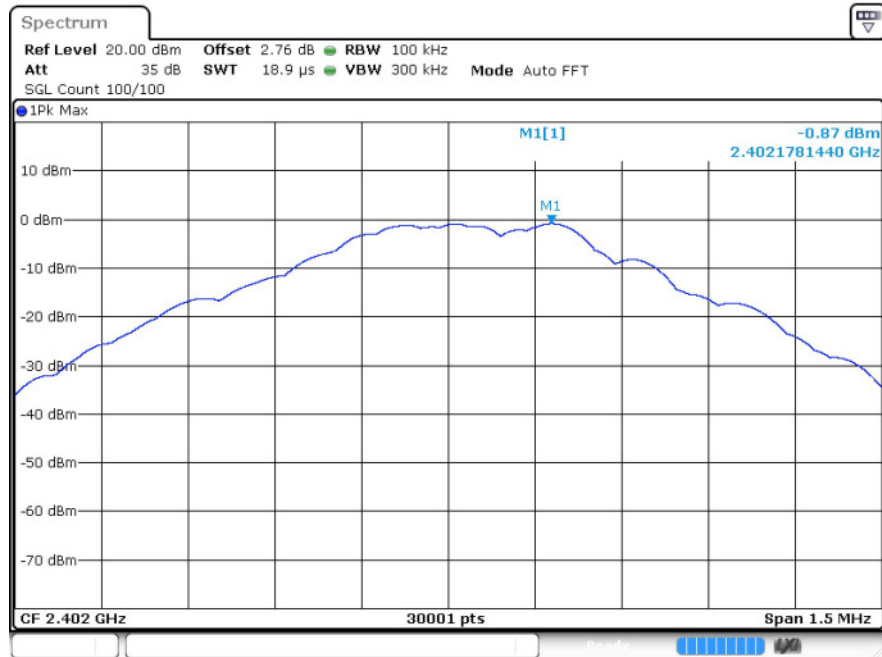
7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-40.39	-20	Pass
	MCH	-40.87	-20	Pass
	HCH	-40.17	-20	Pass
$\pi/4$ DQPSK	LCH	-39.73	-20	Pass
	MCH	-40.35	-20	Pass
	HCH	-40.19	-20	Pass
8DPSK	LCH	-41.02	-20	Pass
	MCH	-38.97	-20	Pass
	HCH	-40.36	-20	Pass

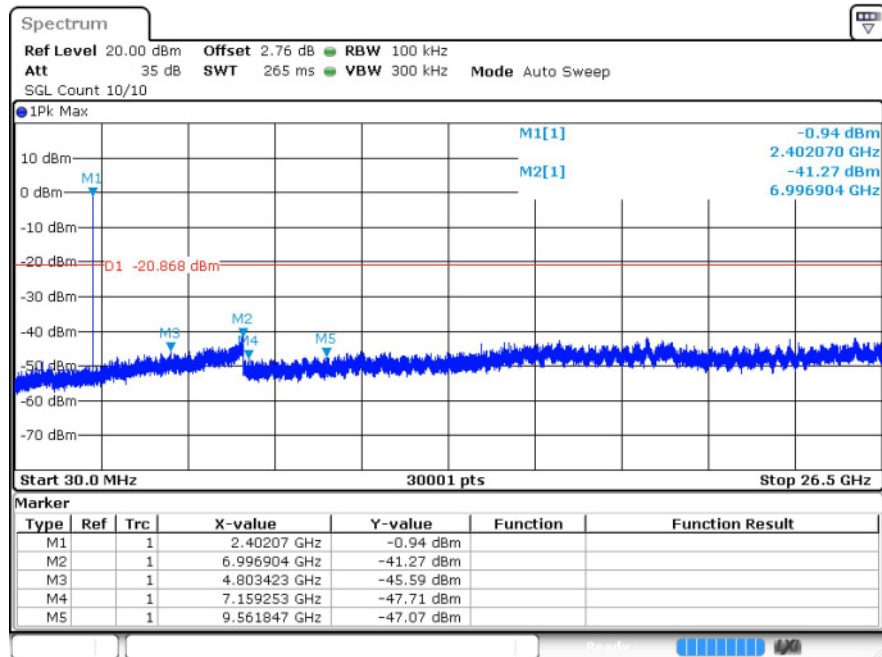
7.2 Test Graphs

GFSK_LCH_Graphs

Pref

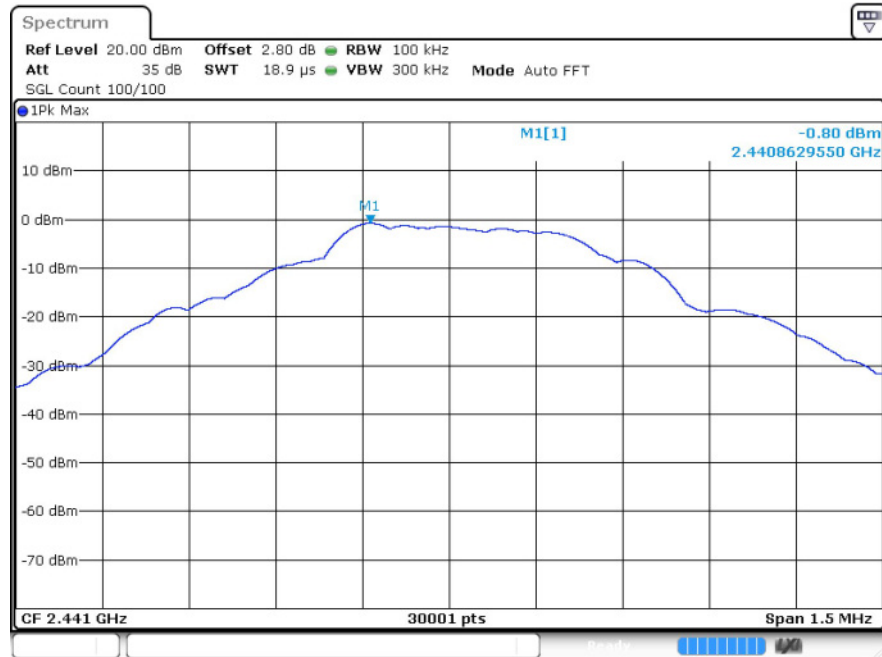


Puw

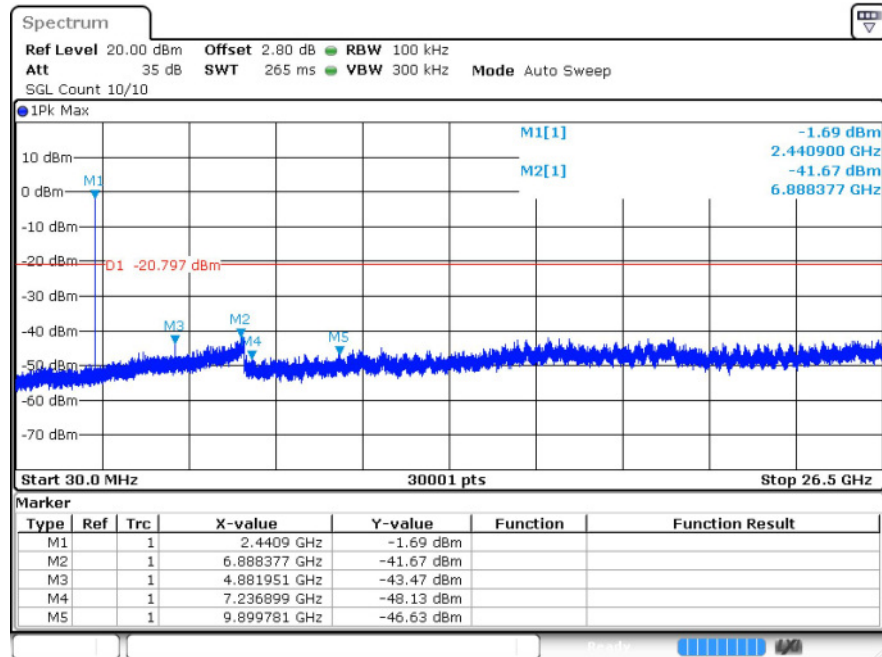


GFSK_MCH_Graphs

Pref

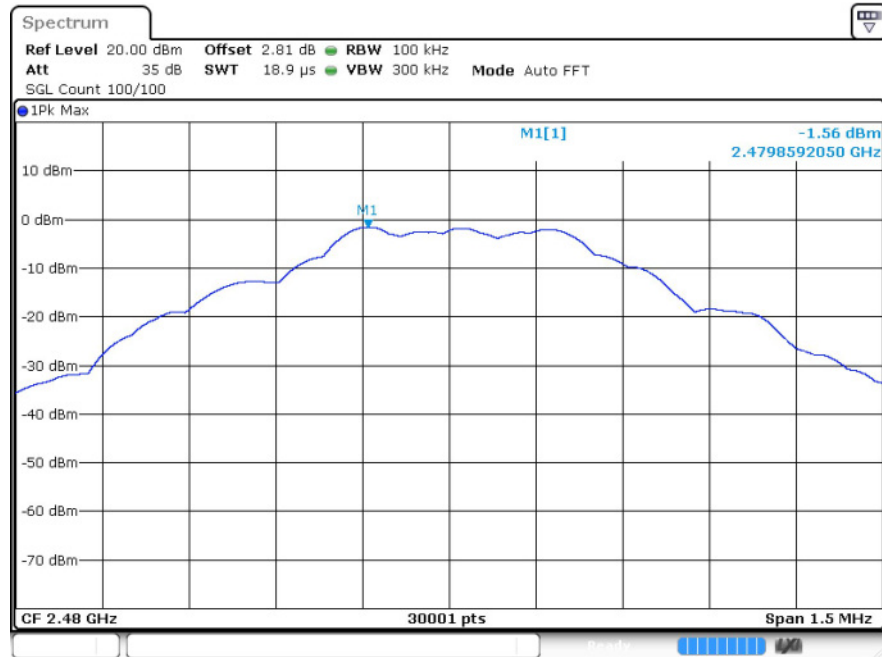


Puw



GFSK_HCH_Graphs

Pref



Puw

