

## Appendix A

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

Product Name: Portable speaker

Trade Mark: Treblab

Test Model: HD77

#### Environmental Conditions

Temperature:	24.2°C
Relative Humidity:	52.5%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen



# Contents

Page

**COVER PAGE**

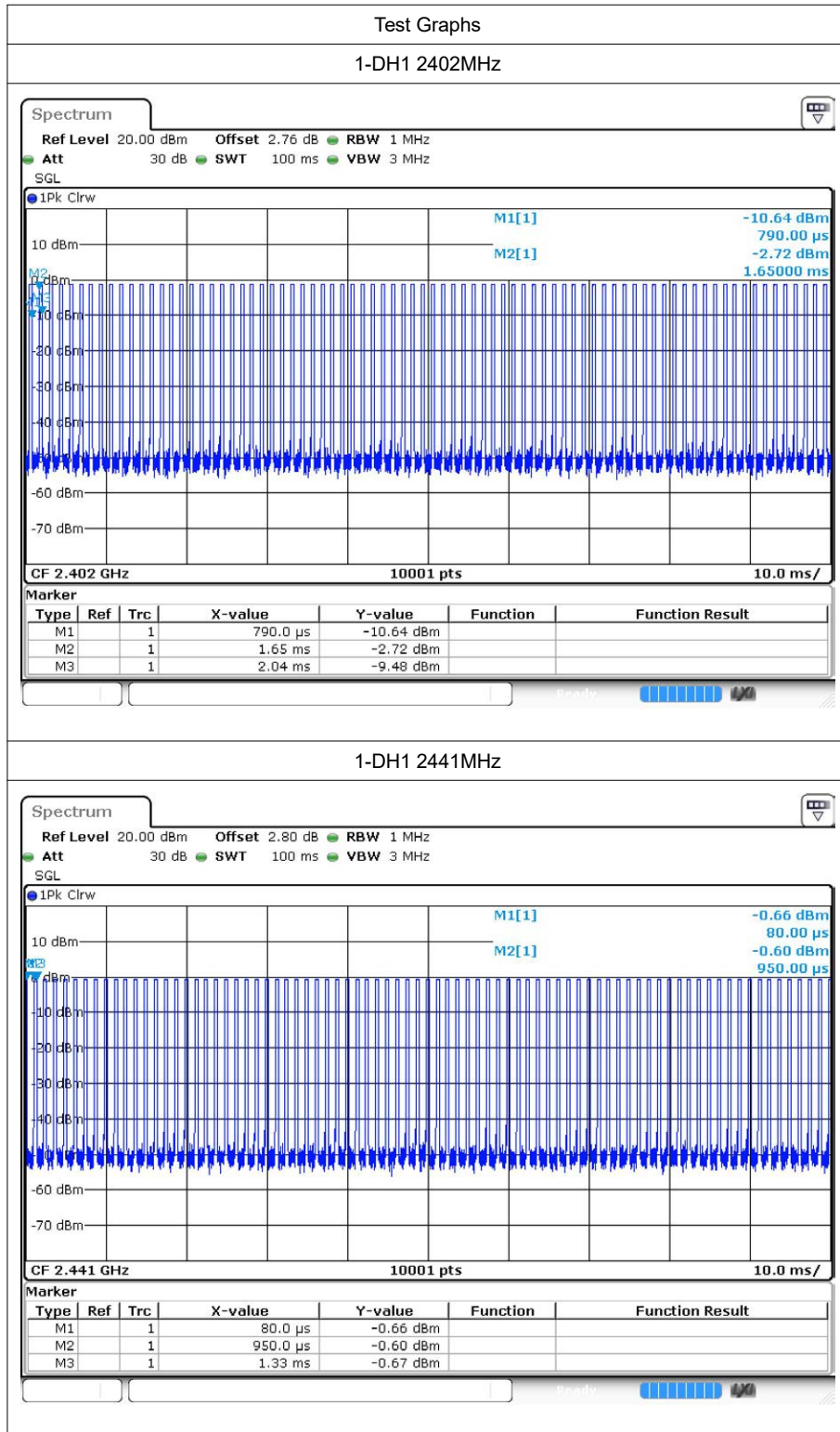
1	Duty Cycle .....	3
1.1	Test Result .....	3
1.2	Test Graphs .....	4
2	Maximum Conducted Peak Output Power .....	9
2.1	Test Result .....	9
2.2	Test Graphs .....	10
3	20dB Bandwidth .....	15
3.1	Test Result .....	15
3.2	Test Graphs .....	16
4	Carrier Frequency Separation .....	21
4.1	Test Result .....	21
4.2	Test Graphs .....	22
5	Hopping Channel Number .....	24
5.1	Test Result .....	24
5.2	Test Graphs .....	25
6	Dwell Time .....	27
6.1	Test Result .....	27
6.2	Test Graphs .....	28
7	RF Conducted Spurious Emissions .....	31
7.1	Test Result .....	31
7.2	Test Graphs .....	32
8	Band-edge for RF Conducted Emissions .....	41
8.1	Test Result .....	41
8.2	Test Graphs .....	42
9	Restrict-band band-edge measurements .....	54
9.1	Test Result .....	54
9.2	Test Graphs .....	56

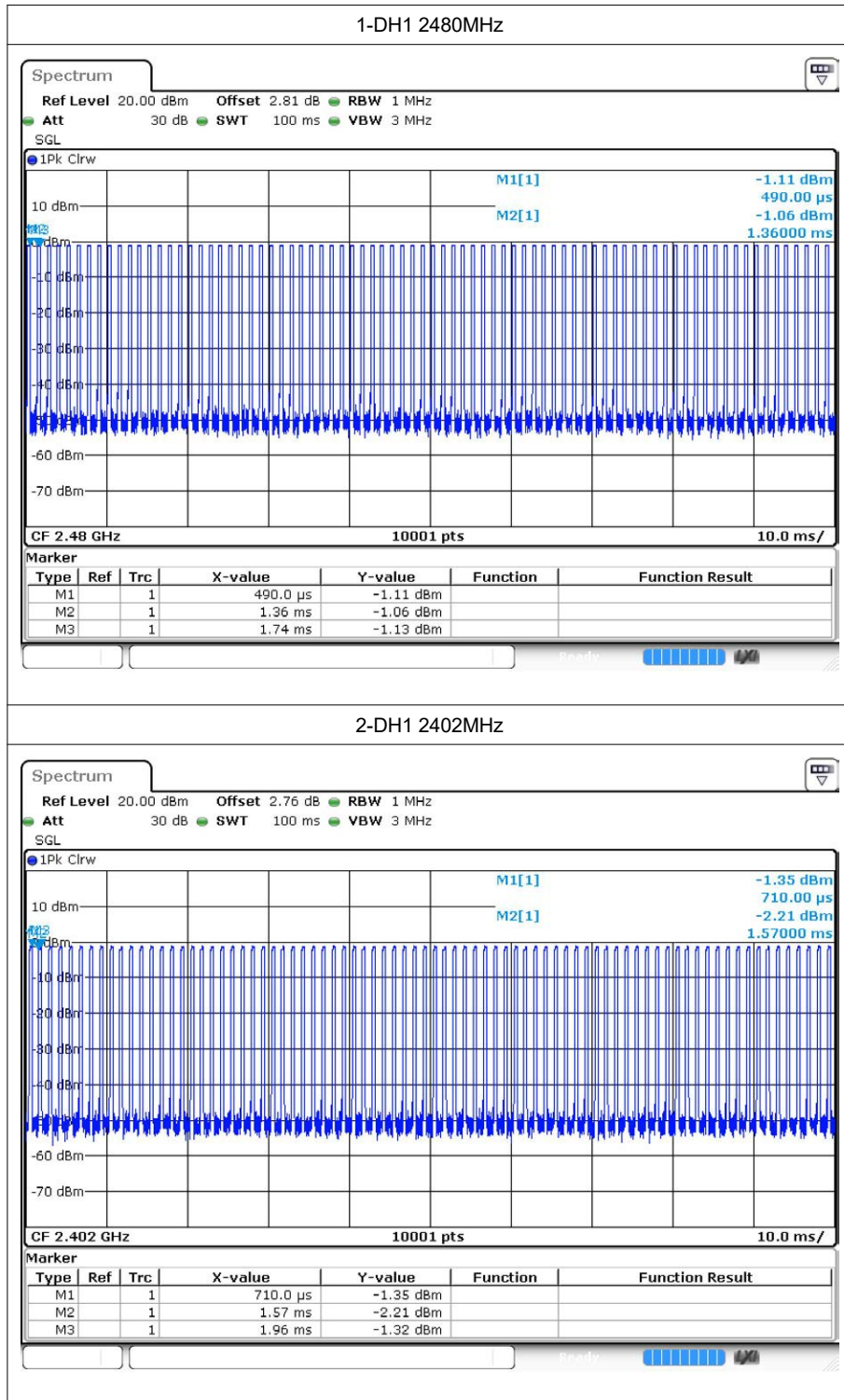
# 1 Duty Cycle

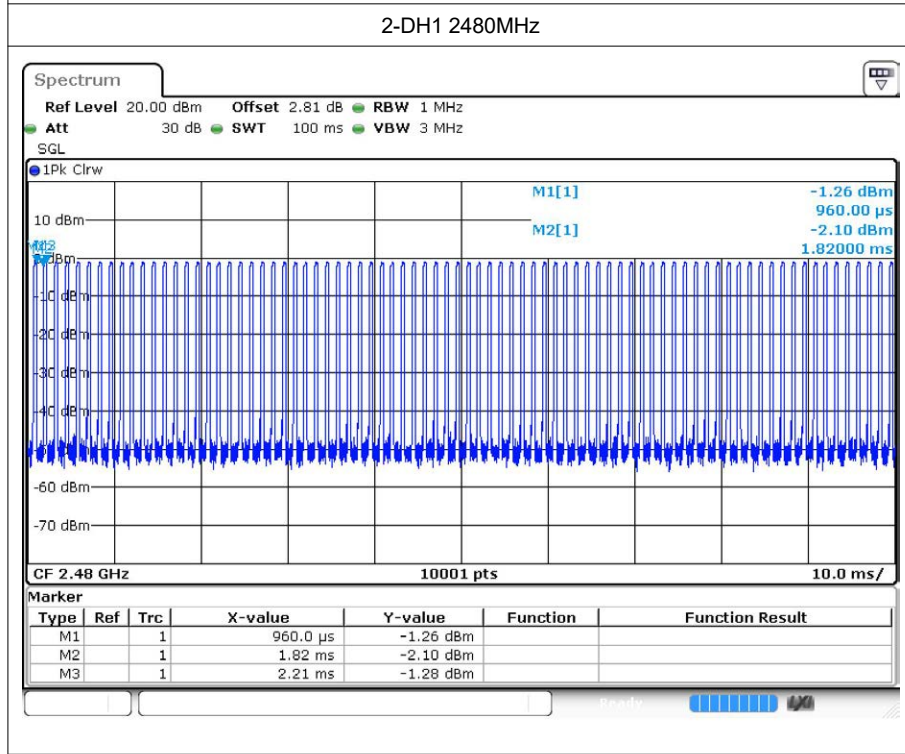
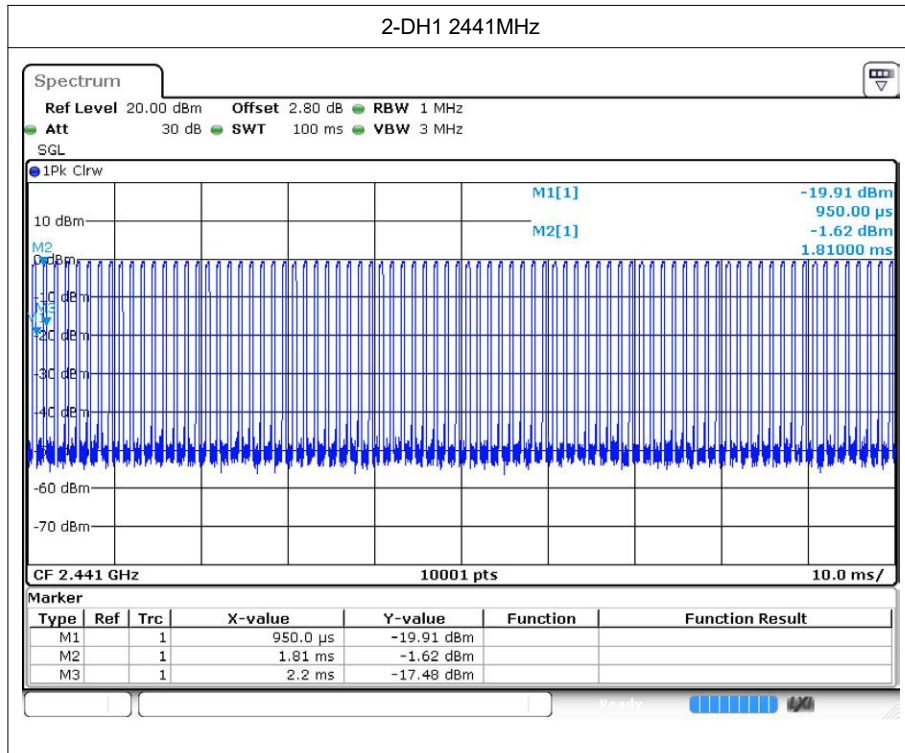
## 1.1 Test Result

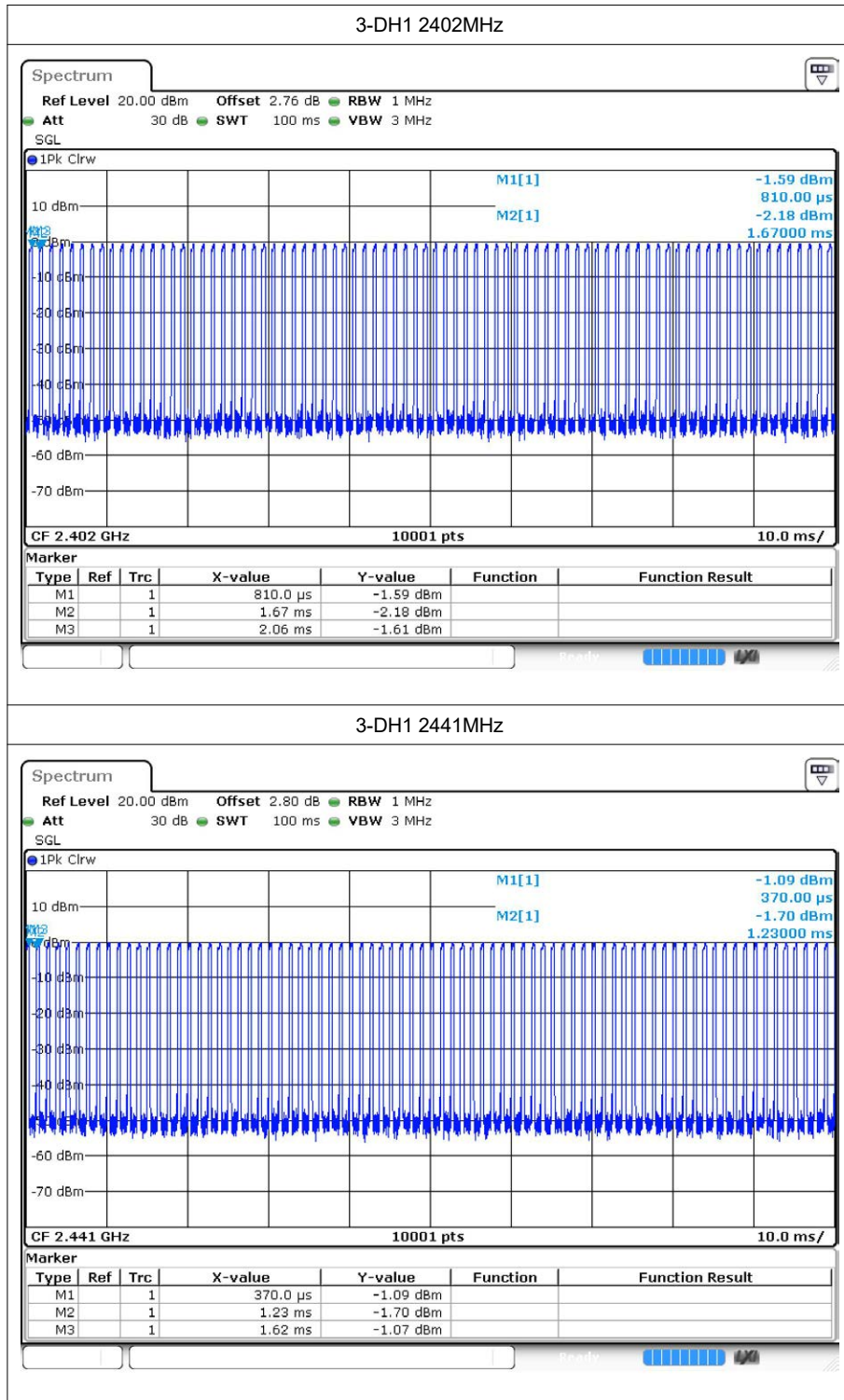
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.82	4.97	2.56
1-DH1	2441	31.21	5.06	2.63
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	32	4.95	2.56
2-DH1	2441	32	4.95	2.56
2-DH1	2480	32	4.95	2.56
3-DH1	2402	32	4.95	2.56
3-DH1	2441	32.01	4.95	2.56
3-DH1	2480	32	4.95	2.56

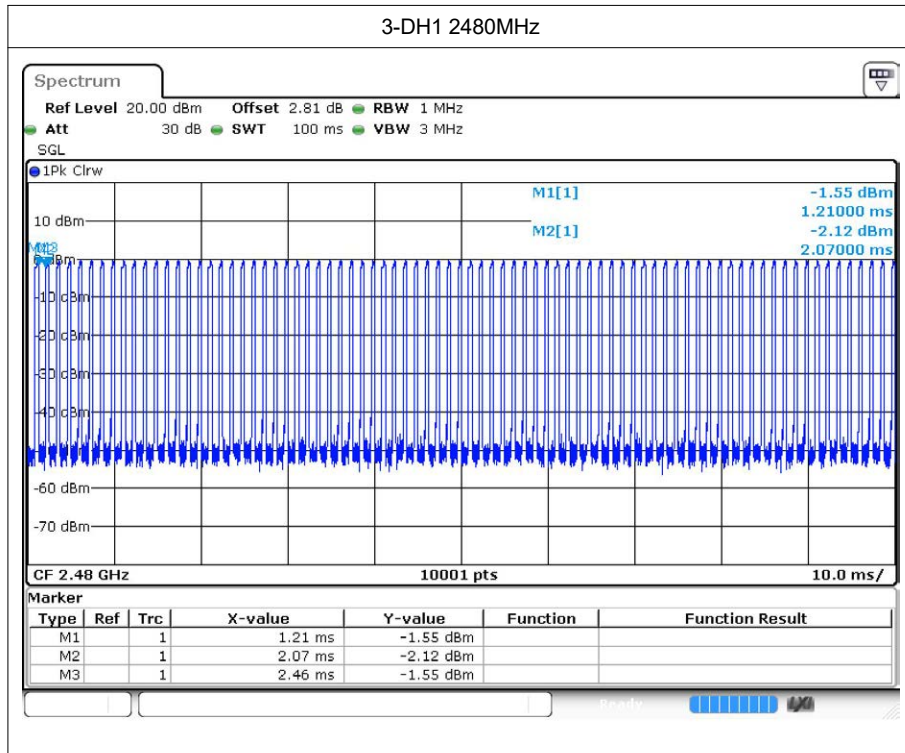
## 1.2 Test Graphs











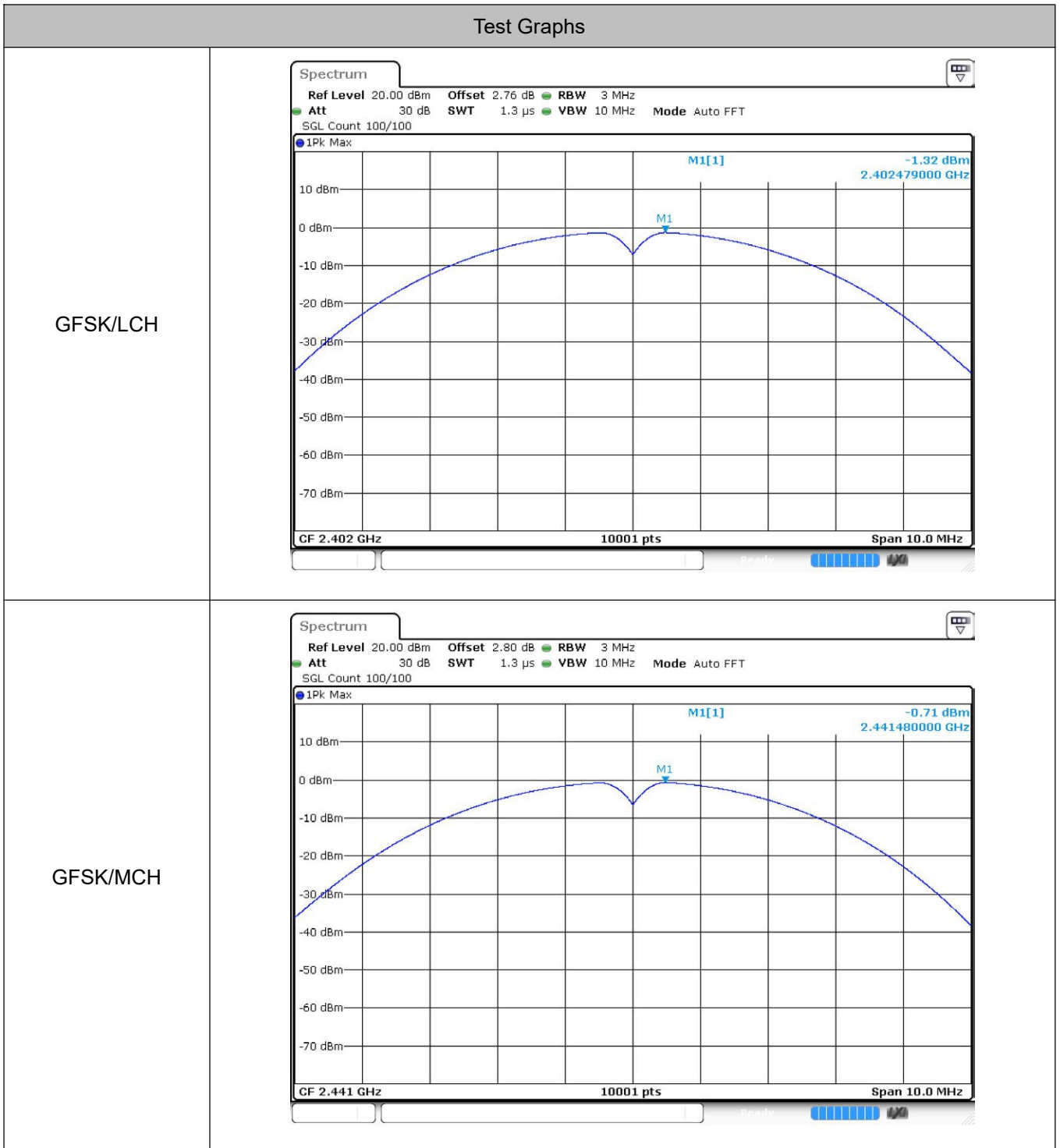


## 2 Maximum Conducted Peak Output Power

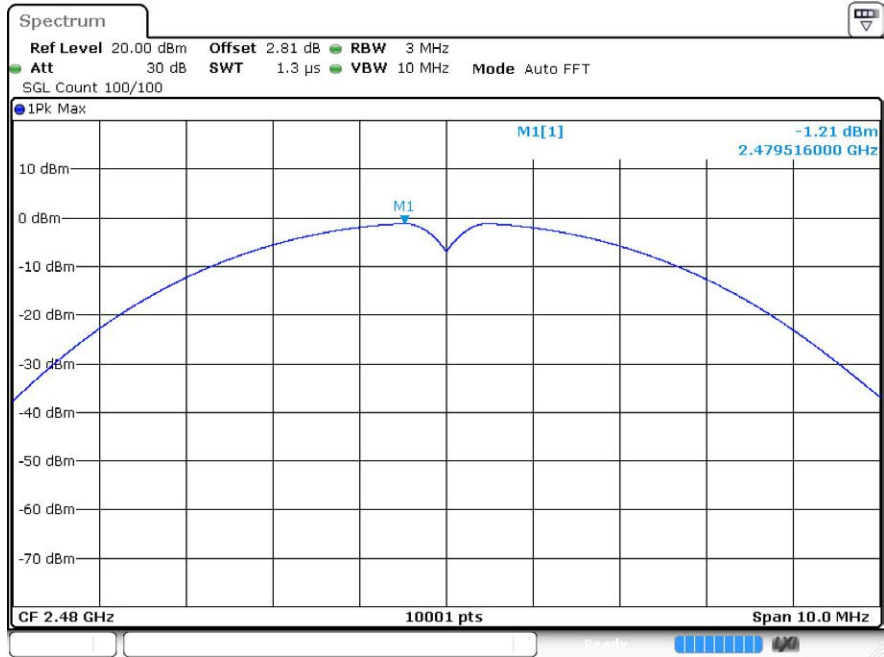
### 2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.32	21	Pass
	MCH	-0.71	21	Pass
	HCH	-1.21	21	Pass
$\pi/4$ DQPSK	LCH	-0.11	21	Pass
	MCH	0.43	21	Pass
	HCH	-0.16	21	Pass
8DPSK	LCH	-0.09	21	Pass
	MCH	0.79	21	Pass
	HCH	-0.09	21	Pass

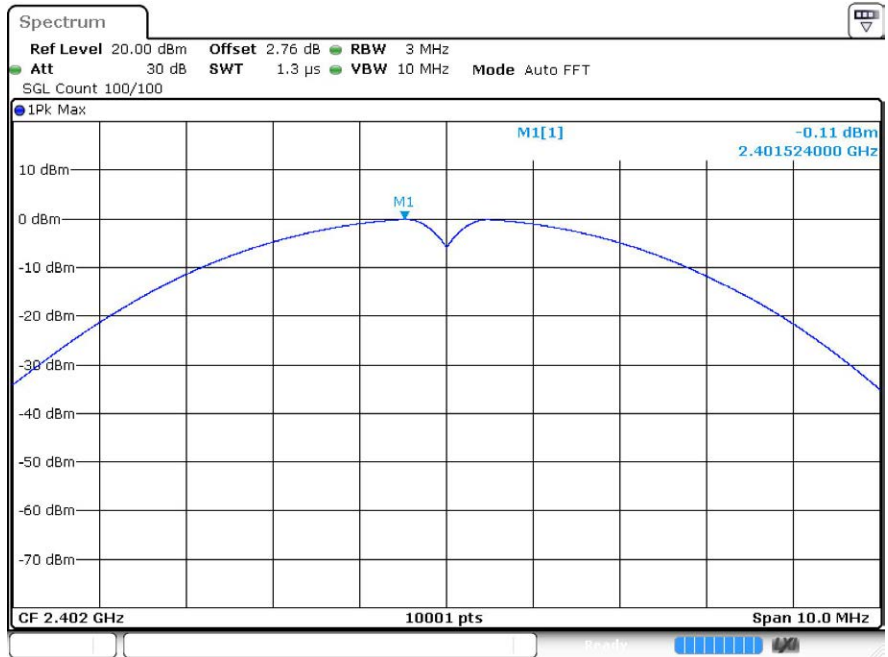
## 2.2 Test Graphs



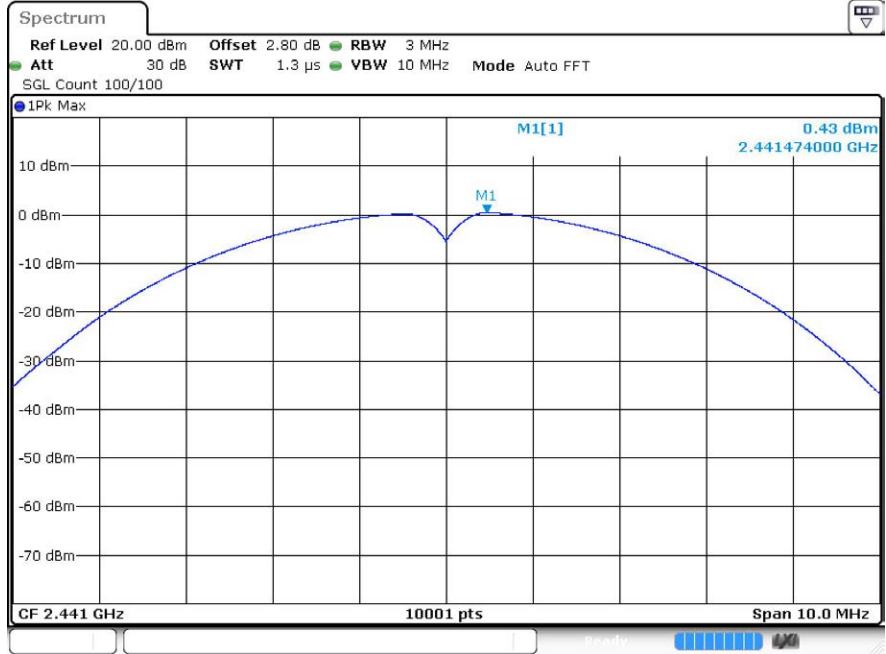
GFSK/HCH



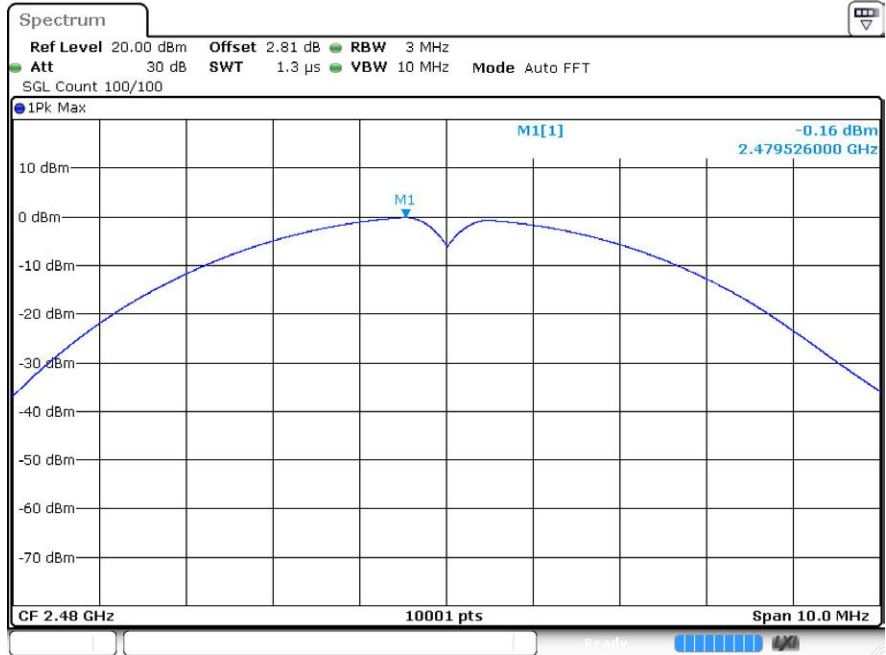
$\pi/4$ DQPSK/LCH



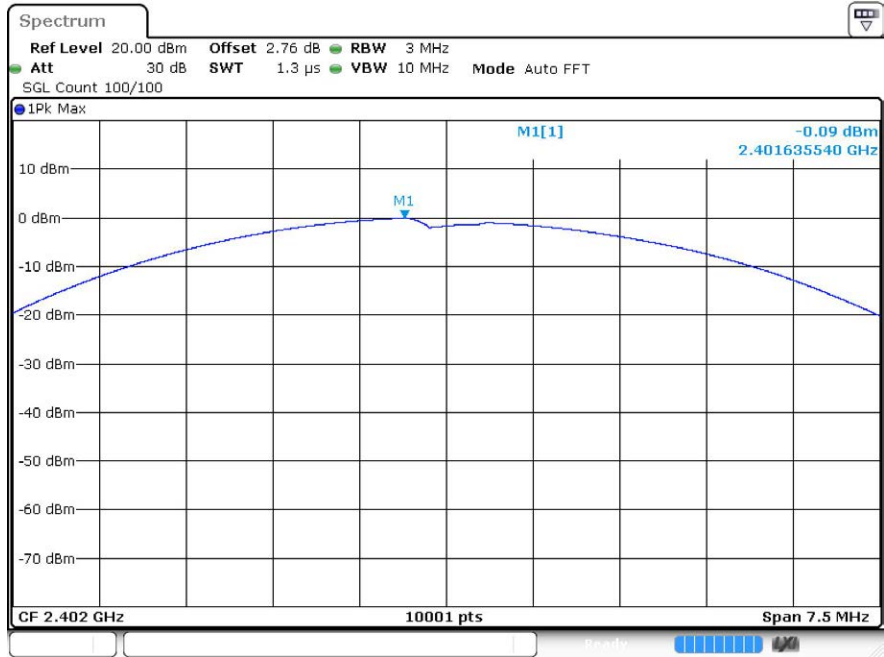
$\pi/4$ DQPSK/MCH



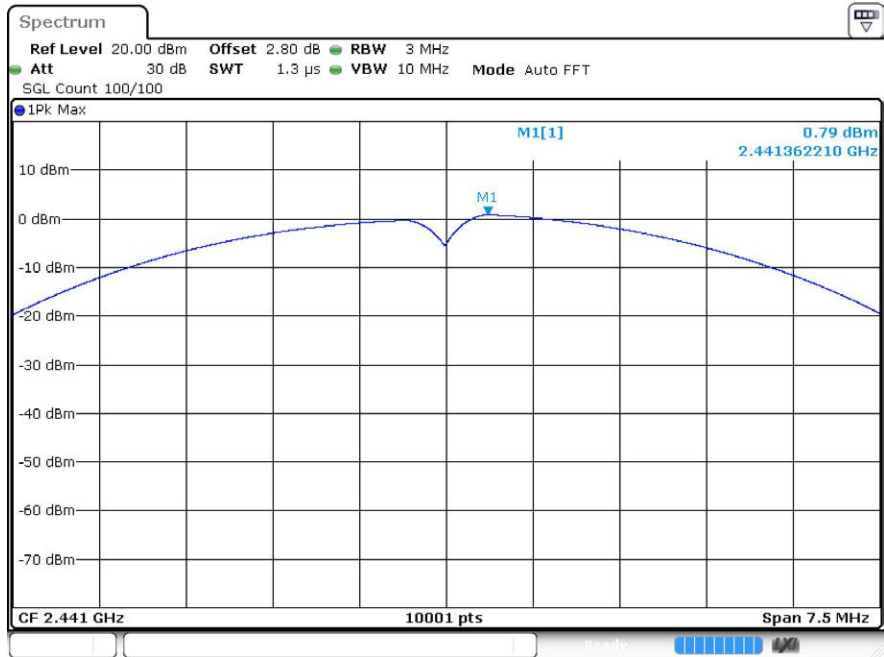
$\pi/4$ DQPSK/HCH



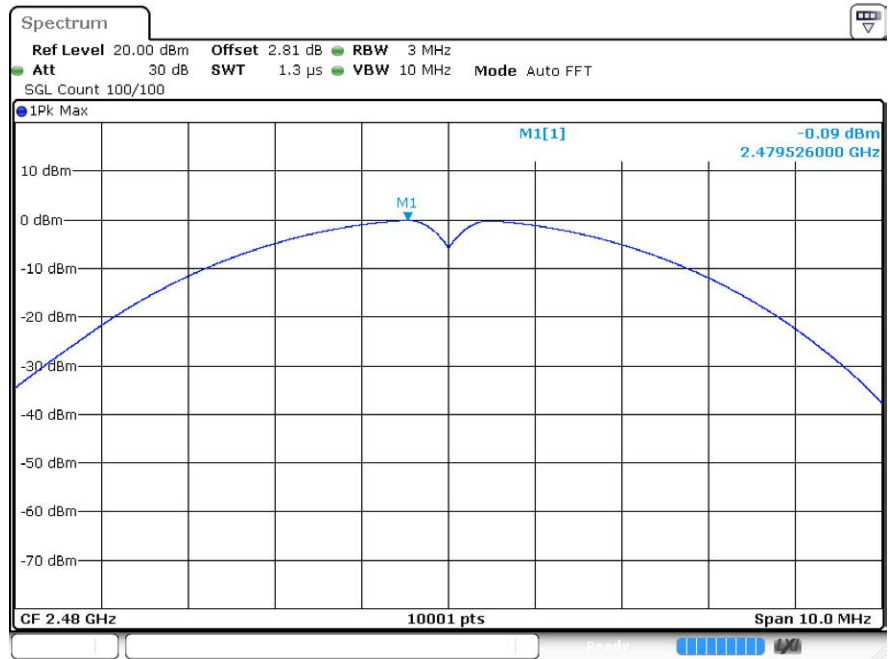
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

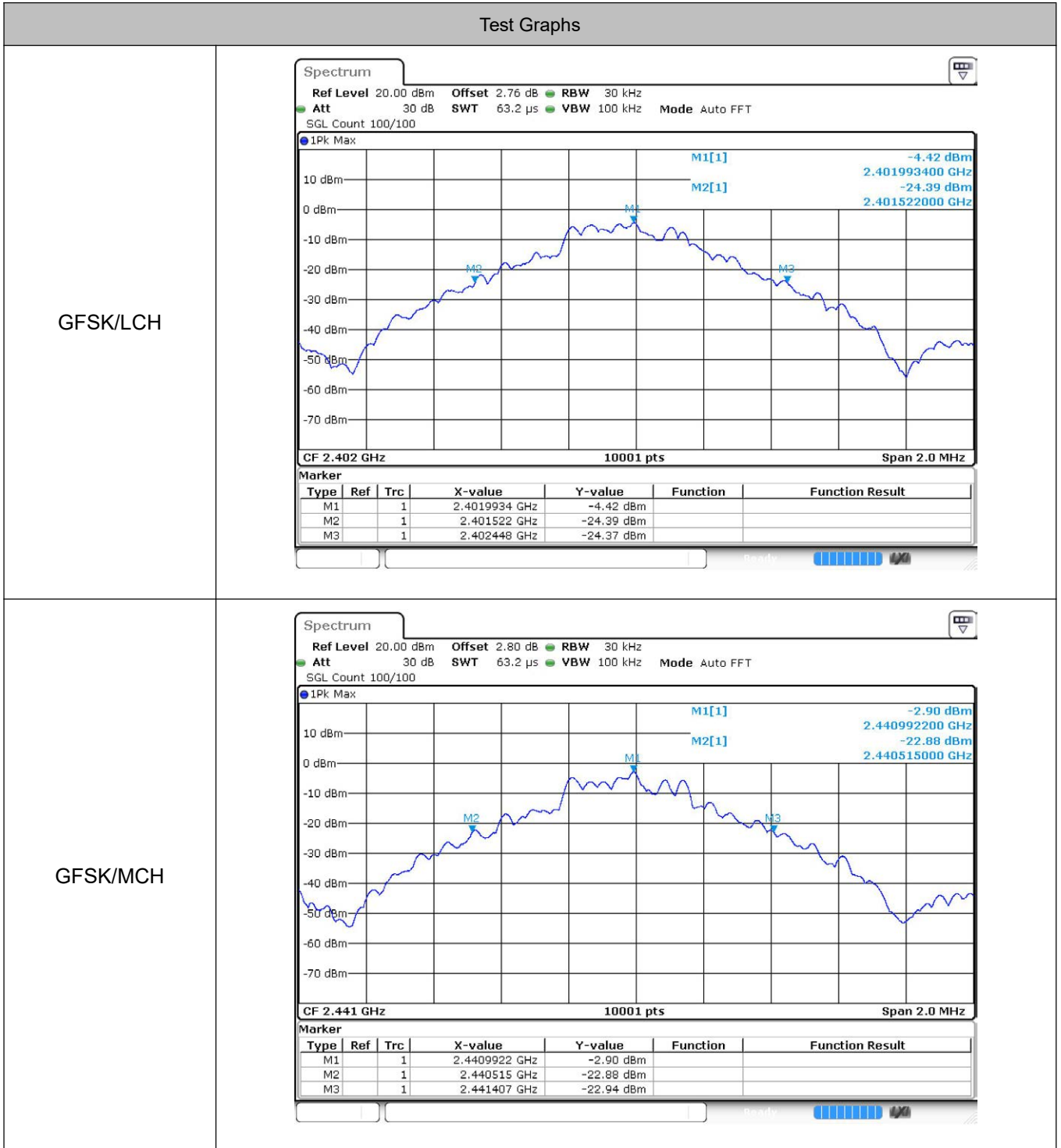


### 3 20dB Bandwidth

#### 3.1 Test Result

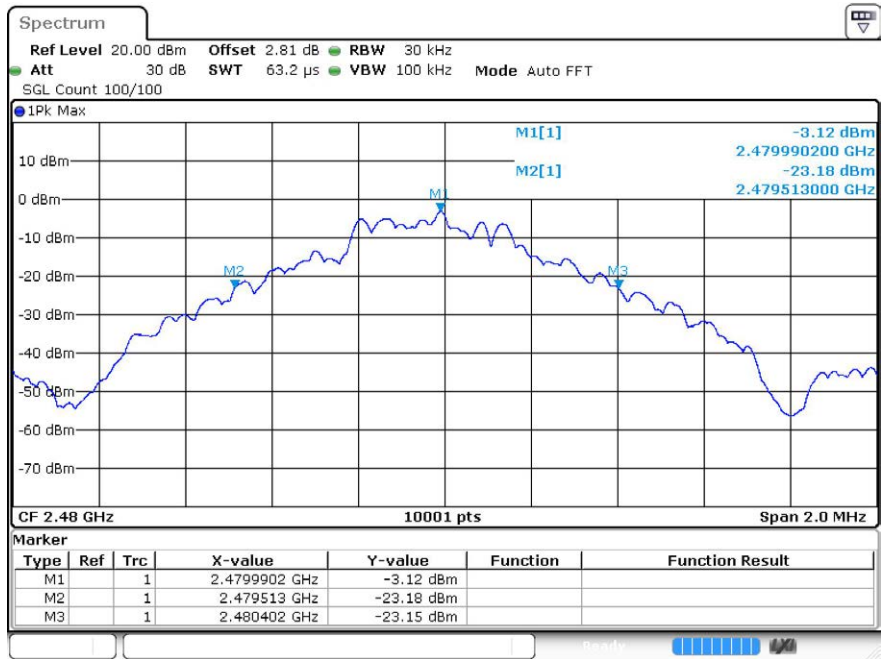
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.926	Not Specified	Pass
	MCH	0.892	Not Specified	Pass
	HCH	0.888	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.396	Not Specified	Pass
	MCH	1.397	Not Specified	Pass
	HCH	1.389	Not Specified	Pass
8DPSK	LCH	1.435	Not Specified	Pass
	MCH	1.424	Not Specified	Pass
	HCH	1.44	Not Specified	Pass

### 3.2 Test Graphs

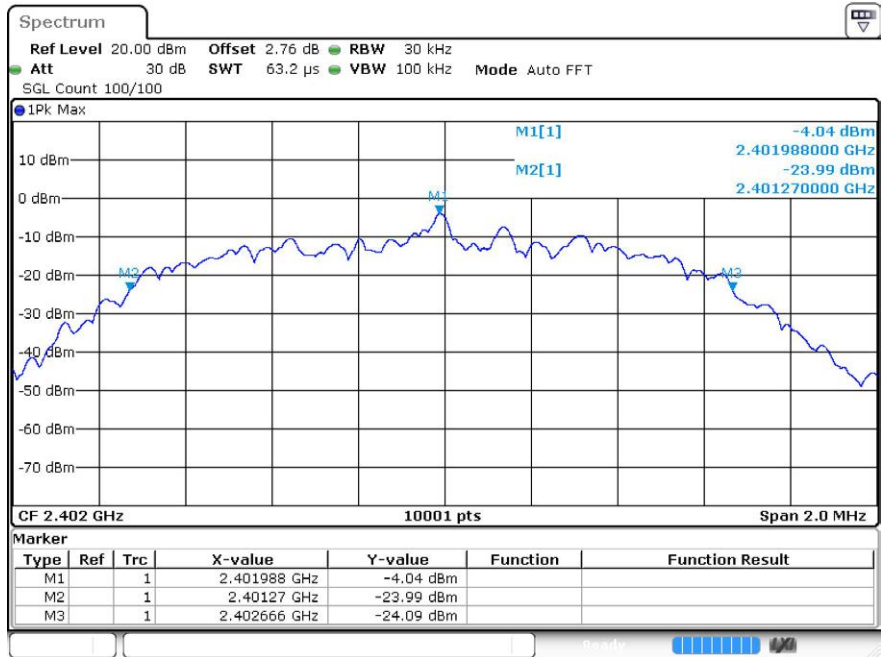




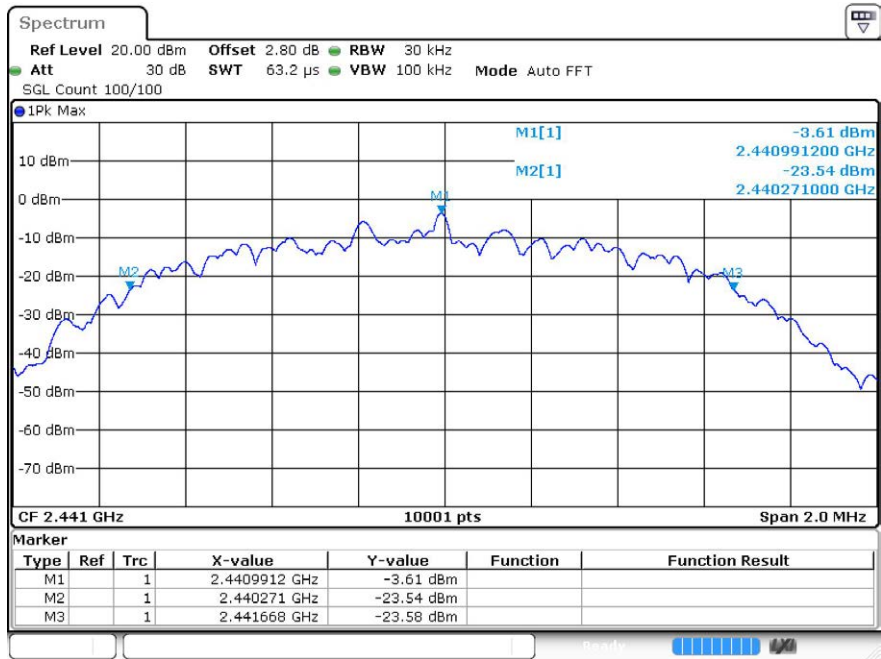
GFSK/HCH



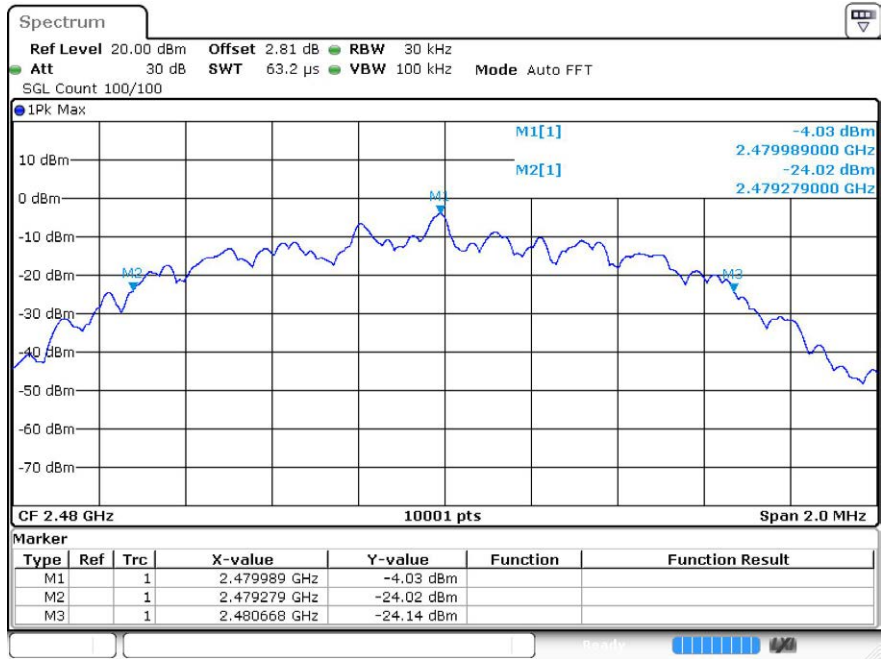
$\pi/4$ DQPSK/LCH



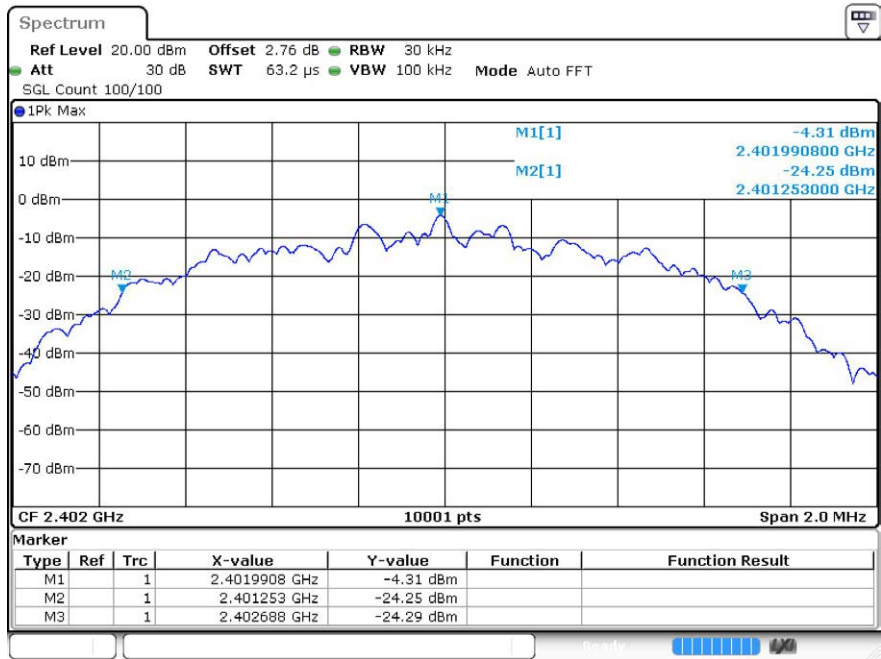
$\pi/4$ DQPSK/MCH



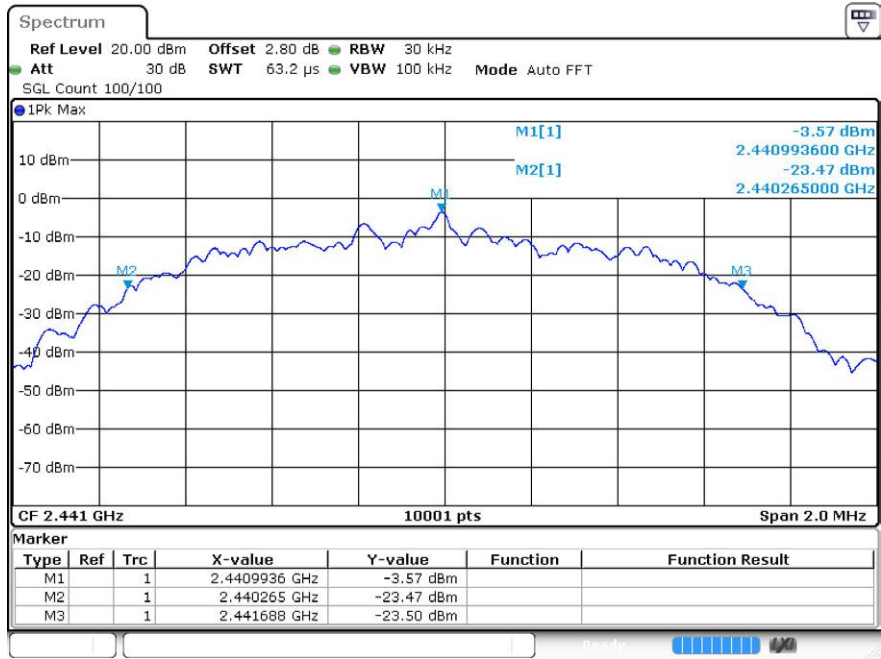
$\pi/4$ DQPSK/HCH



8DPSK/LCH

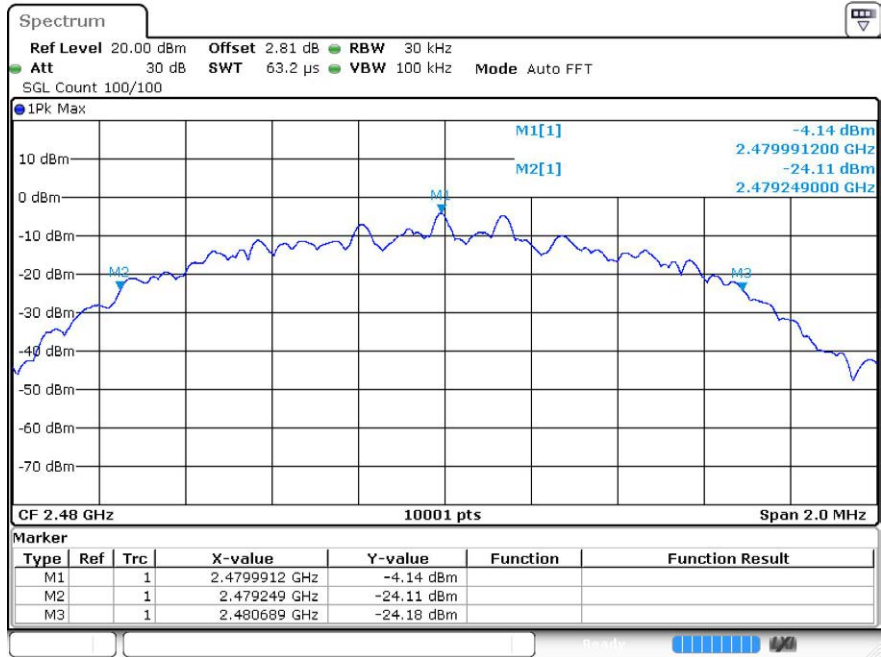


8DPSK/MCH





8DPSK/HCH

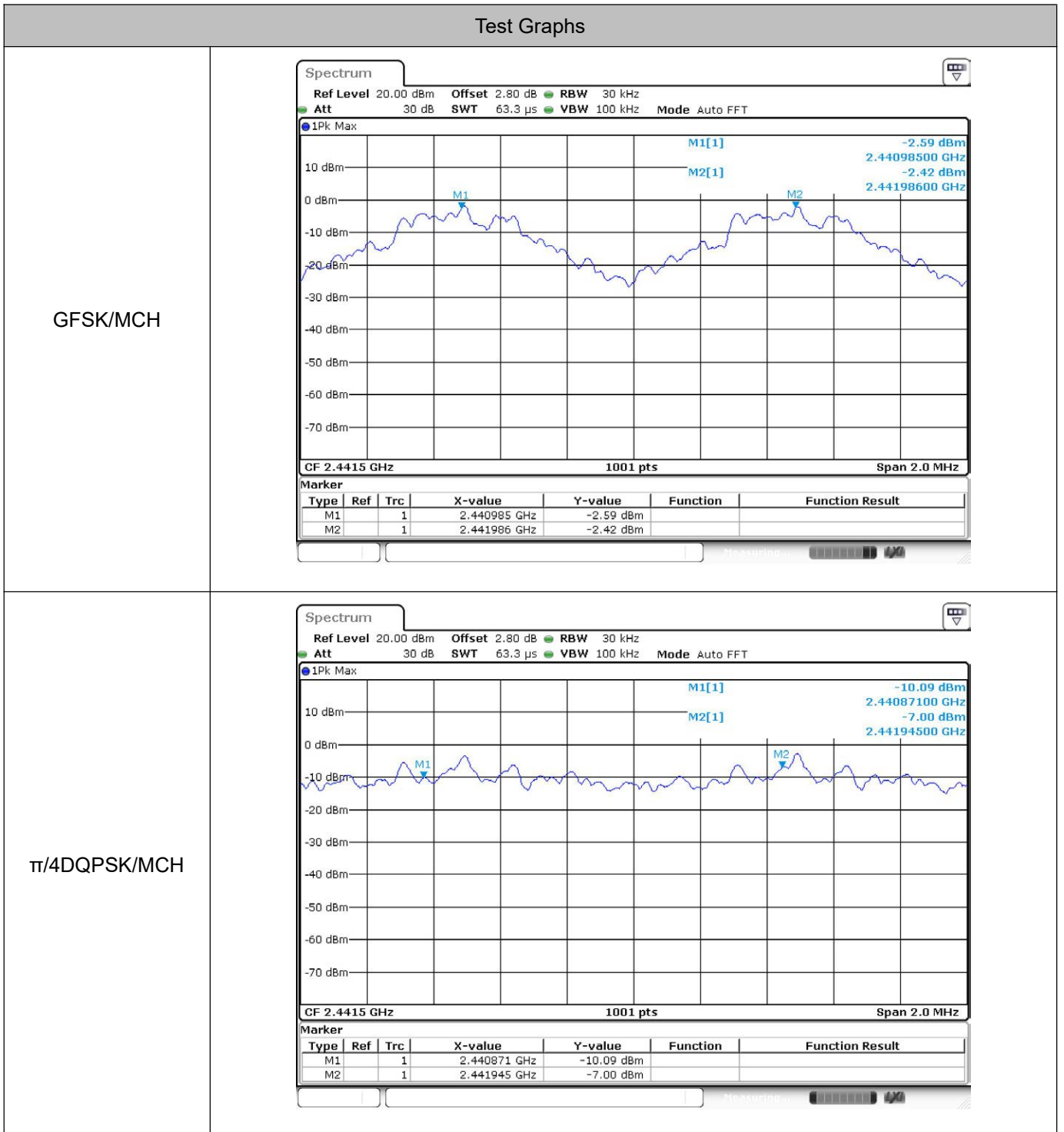


## 4 Carrier Frequency Separation

### 4.1 Test Result

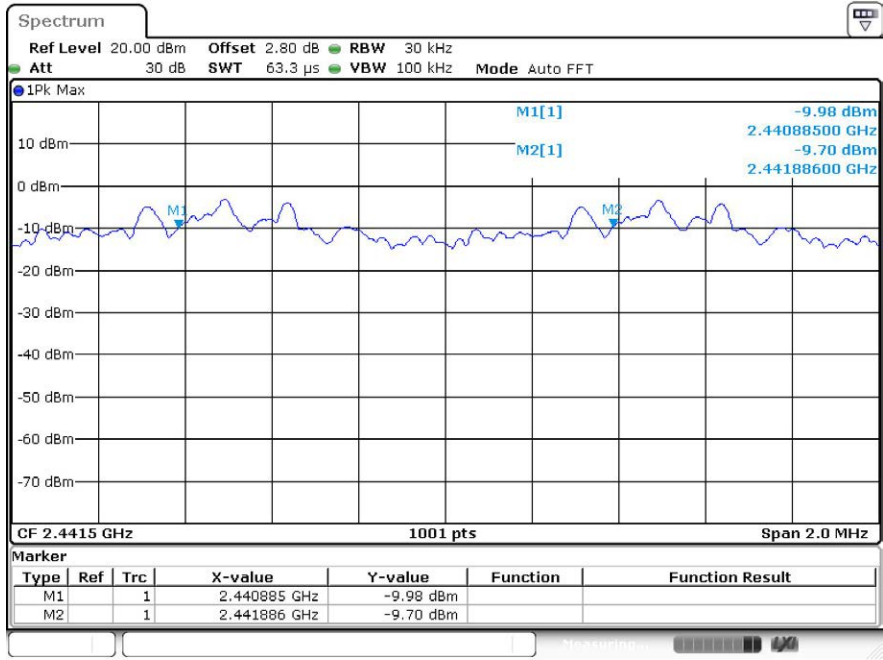
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.001	0.595	Pass
$\pi/4$ DQPSK	MCH	1.074	0.931	Pass
8DPSK	MCH	1.001	0.949	Pass

## 4.2 Test Graphs





8DPSK/MCH



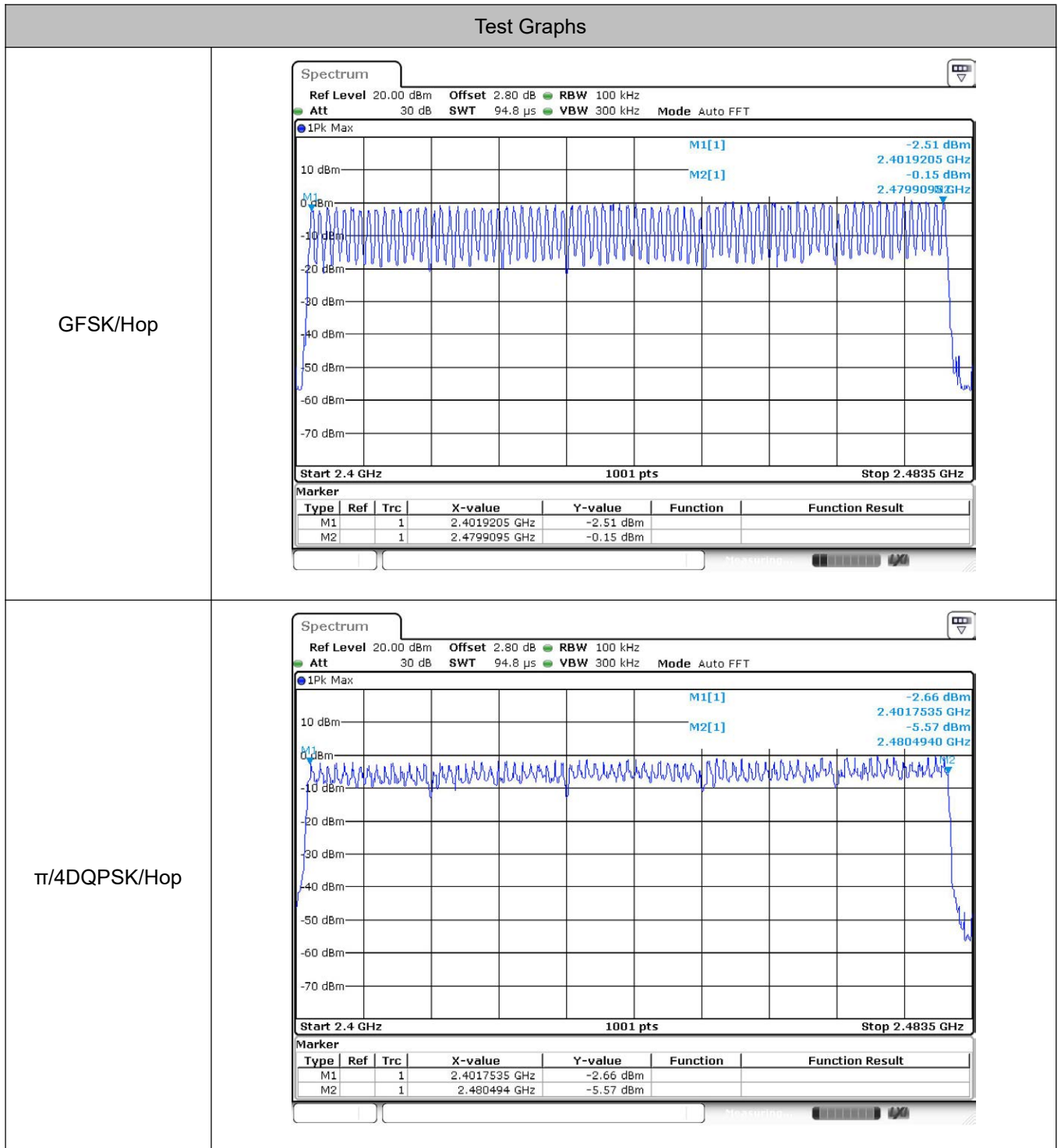
## 5 Hopping Channel Number

### 5.1 Test Result

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	$\geq 15$	PASS
$\pi/4$ DQPSK	Hop	79	$\geq 15$	PASS
8DPSK	Hop	79	$\geq 15$	PASS

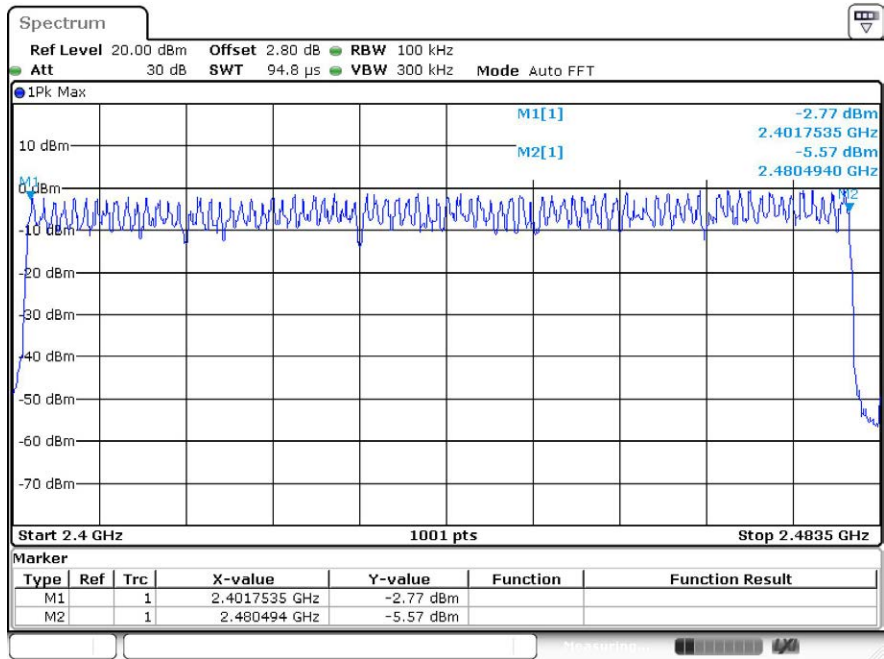


## 5.2 Test Graphs





8DPSK/Hop

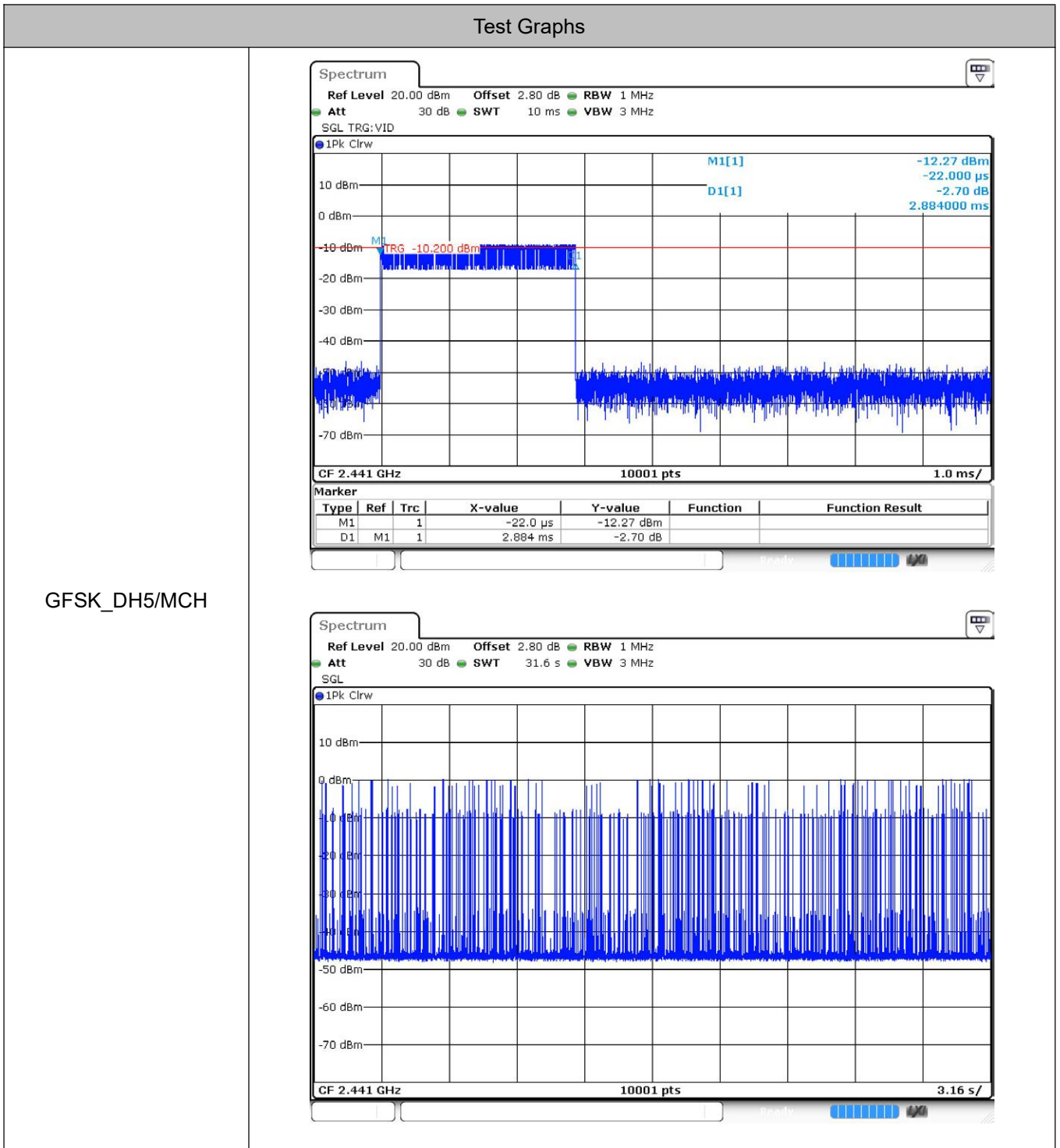


## 6 Dwell Time

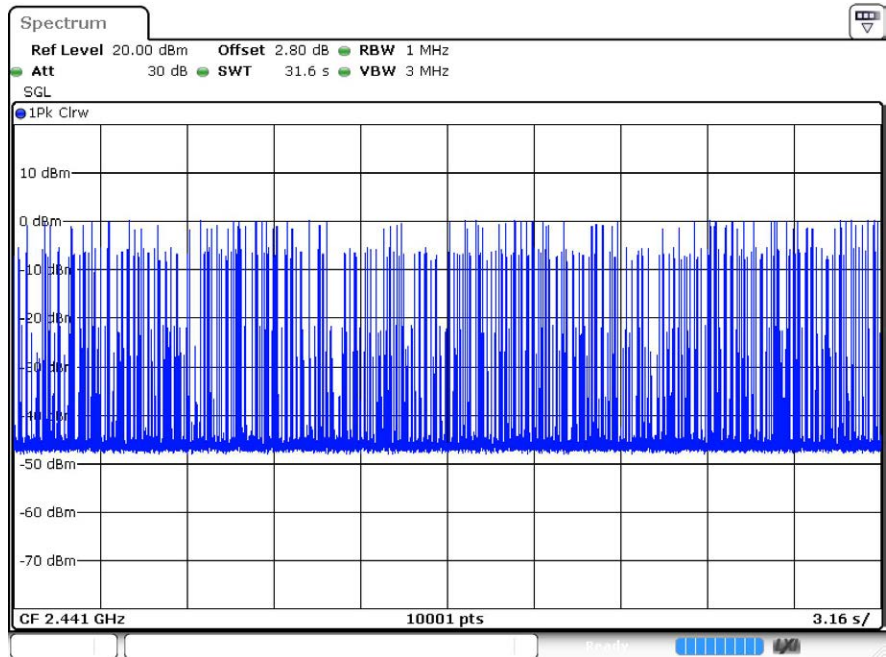
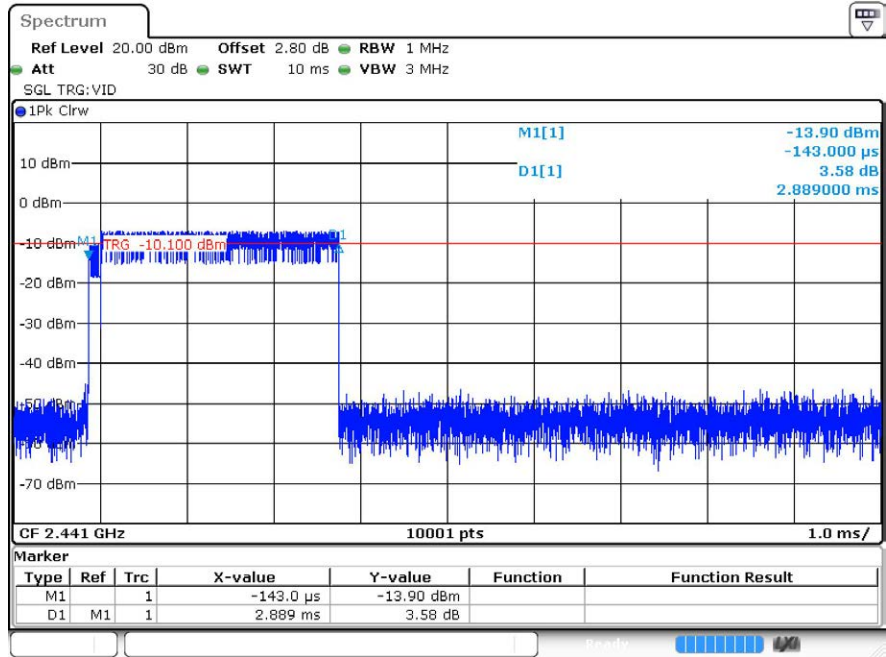
### 6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.884	100	288.4	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.889	101	291.789	0.4	Pass
8DPSK	3DH5	MCH	2.891	115	332.465	0.4	Pass

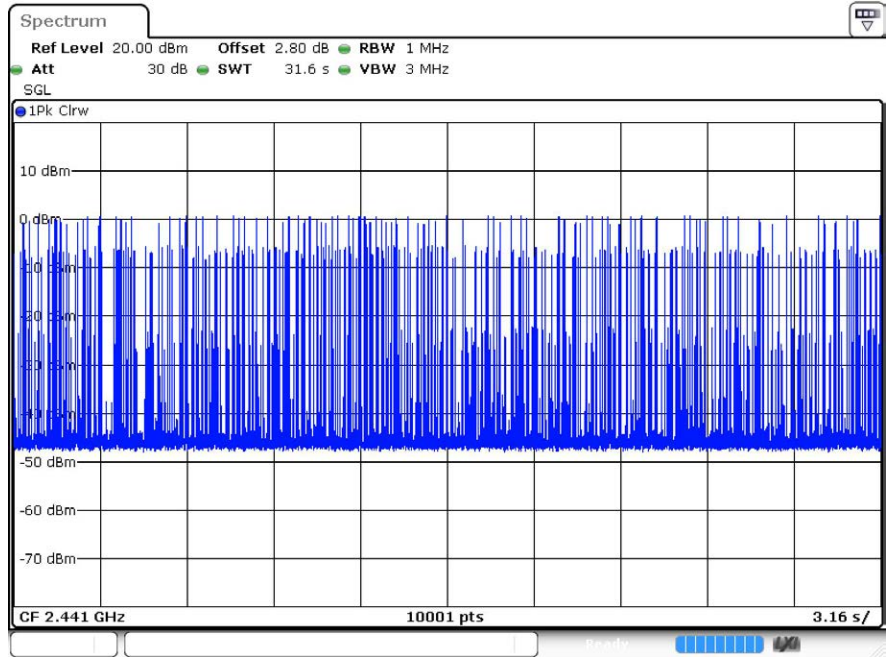
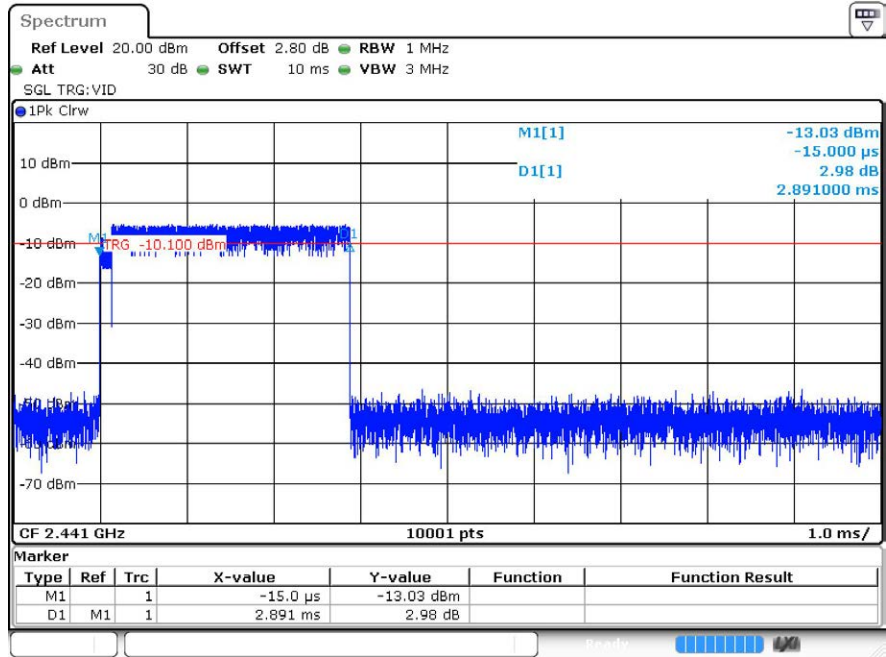
## 6.2 Test Graphs



$\pi/4$ DQPSK  
\_2DH5/MCH



8DPSK\_3DH5/MCH

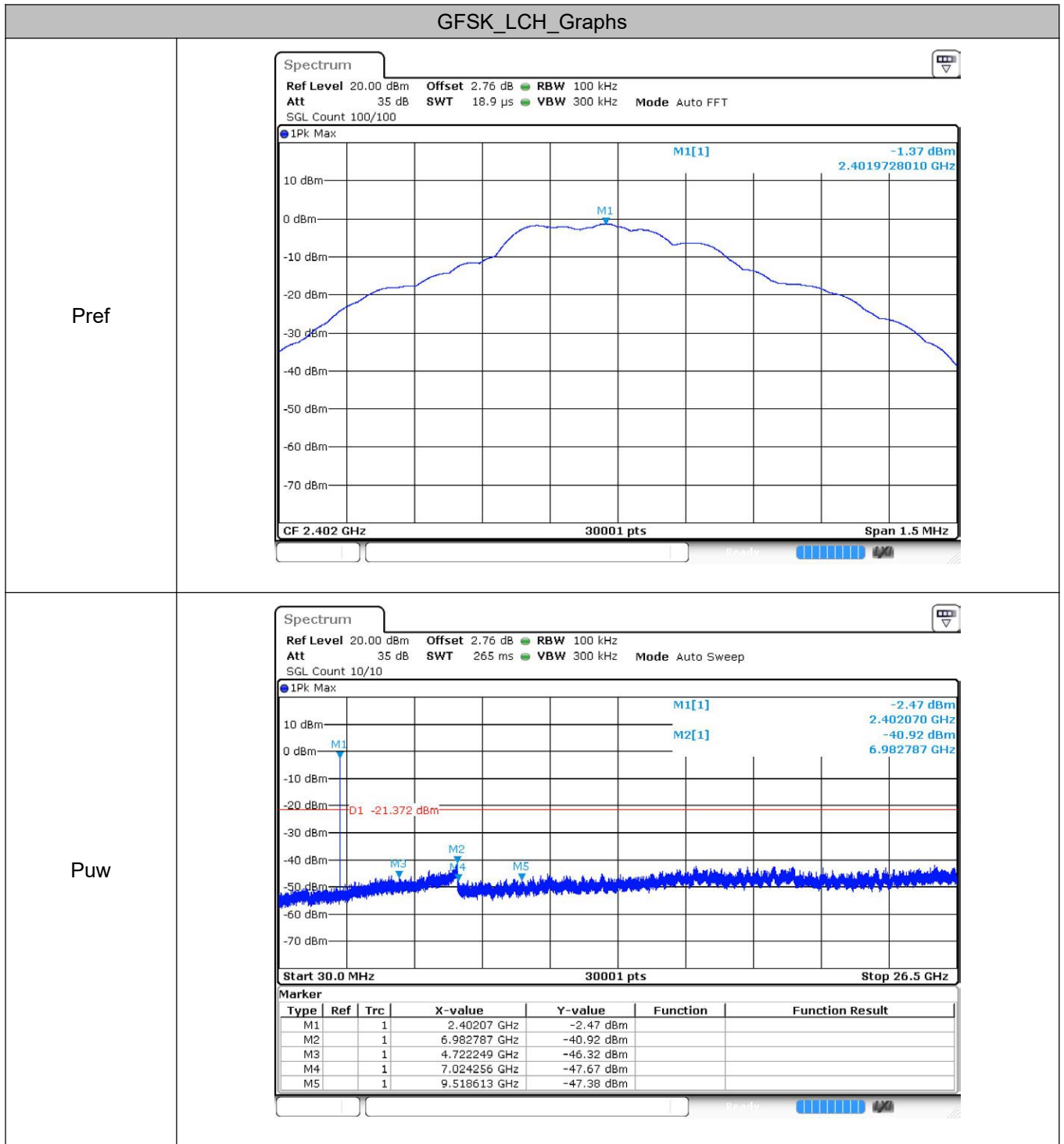


## 7 RF Conducted Spurious Emissions

### 7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-39.54	-20	Pass
	MCH	-39.02	-20	Pass
	HCH	-38.53	-20	Pass
$\pi/4$ DQPSK	LCH	-37.13	-20	Pass
	MCH	-38.51	-20	Pass
	HCH	-38.2	-20	Pass
8DPSK	LCH	-38.99	-20	Pass
	MCH	-38.12	-20	Pass
	HCH	-38.74	-20	Pass

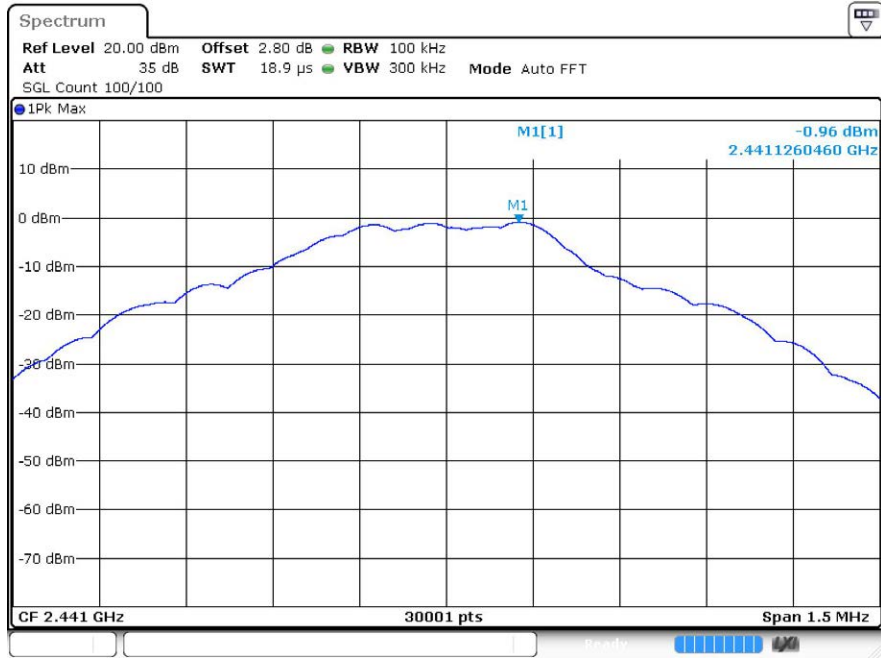
## 7.2 Test Graphs



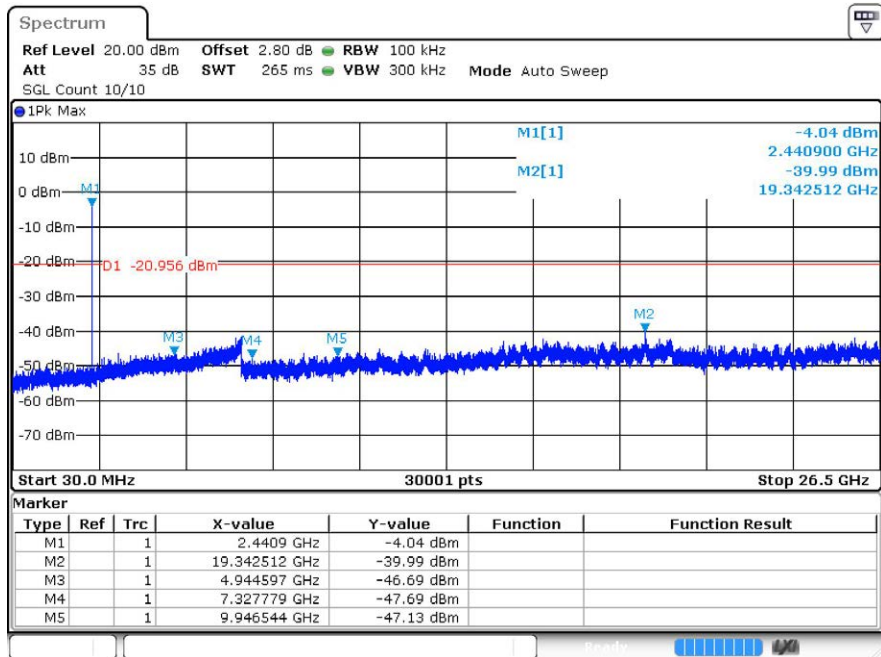


GFSK\_MCH\_Graphs

Pref

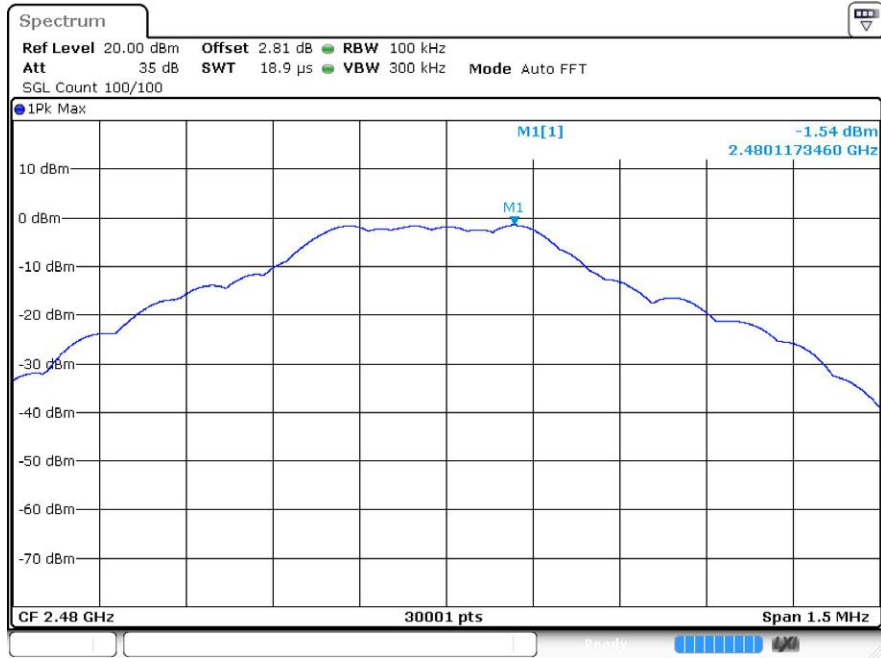


Puw



GFSK\_HCH\_Graphs

Pref



Puw

