



## Appendix A

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

Product Name: Levitating Bluetooth Speaker

Trade Mark:

Test Model: WB-91

#### Environmental Conditions

Temperature:	18.9℃
Relative Humidity:	51.6%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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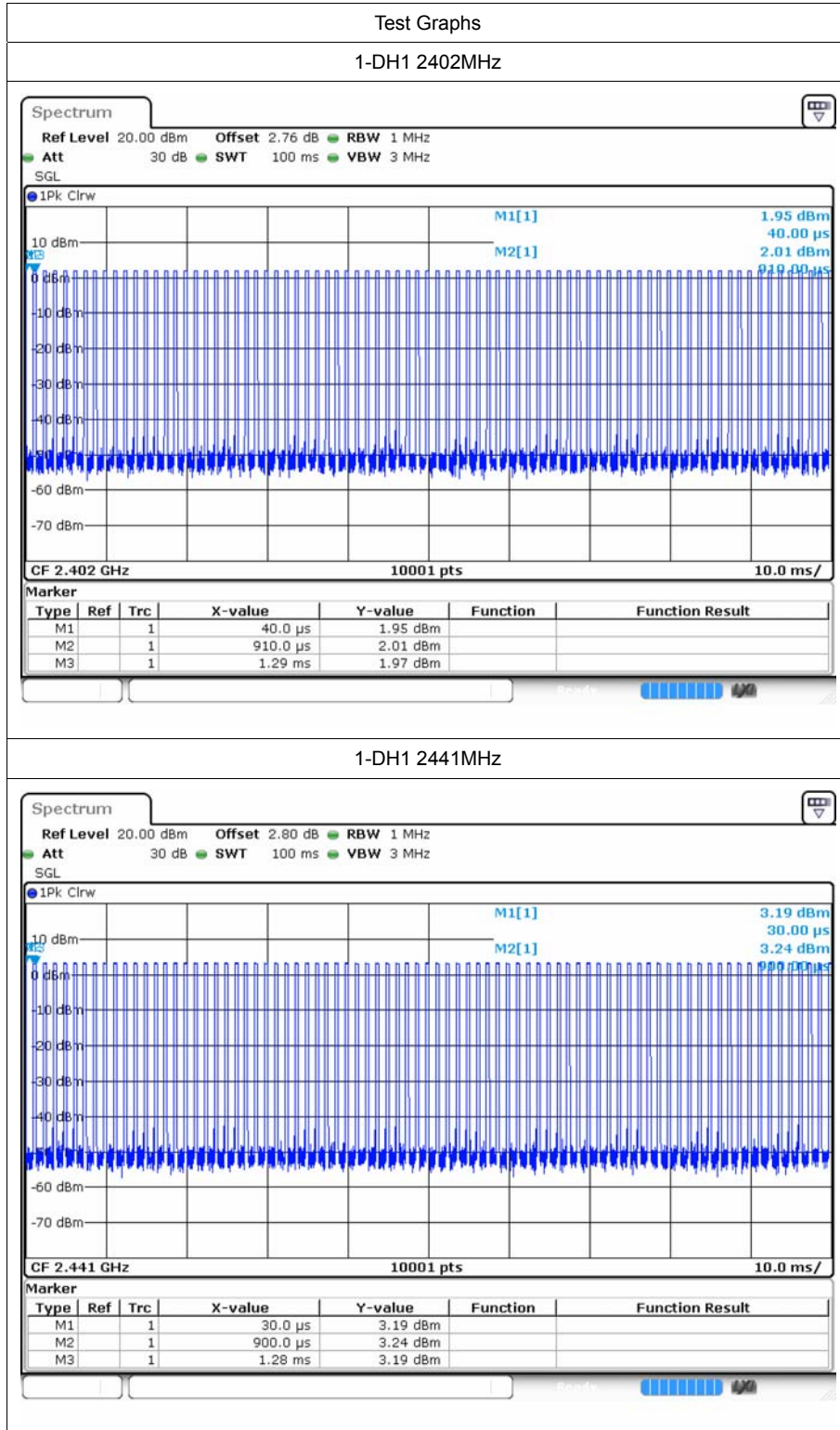


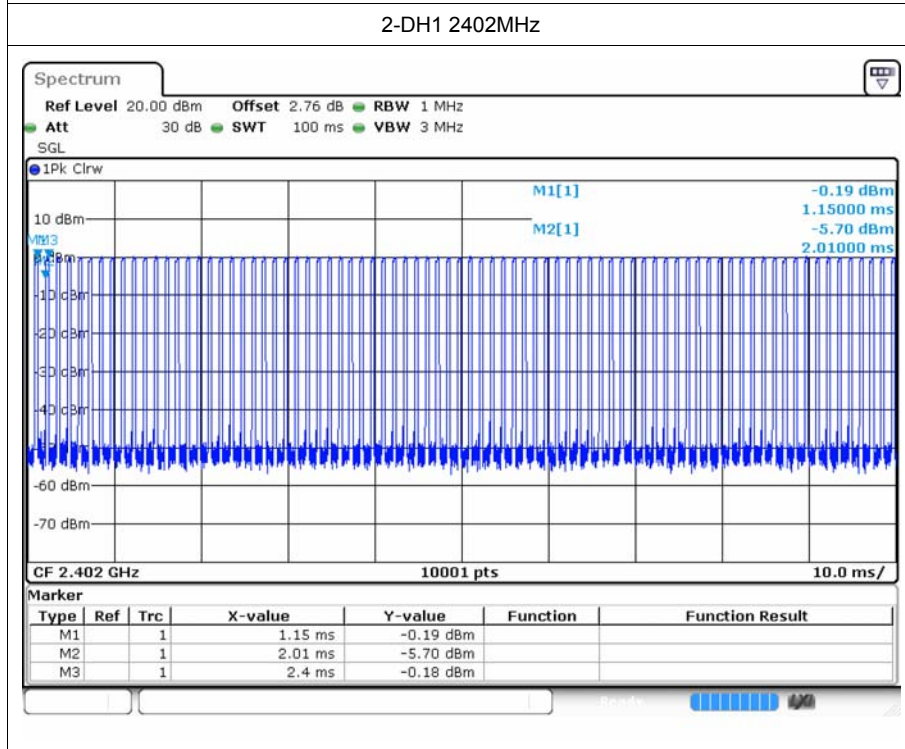
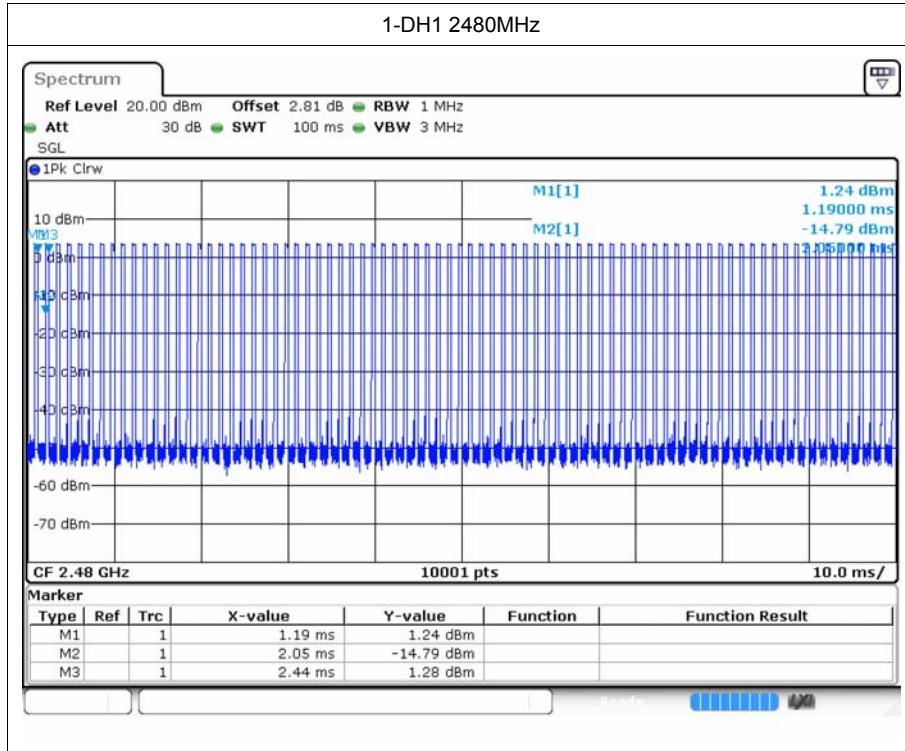
# 1 Duty Cycle

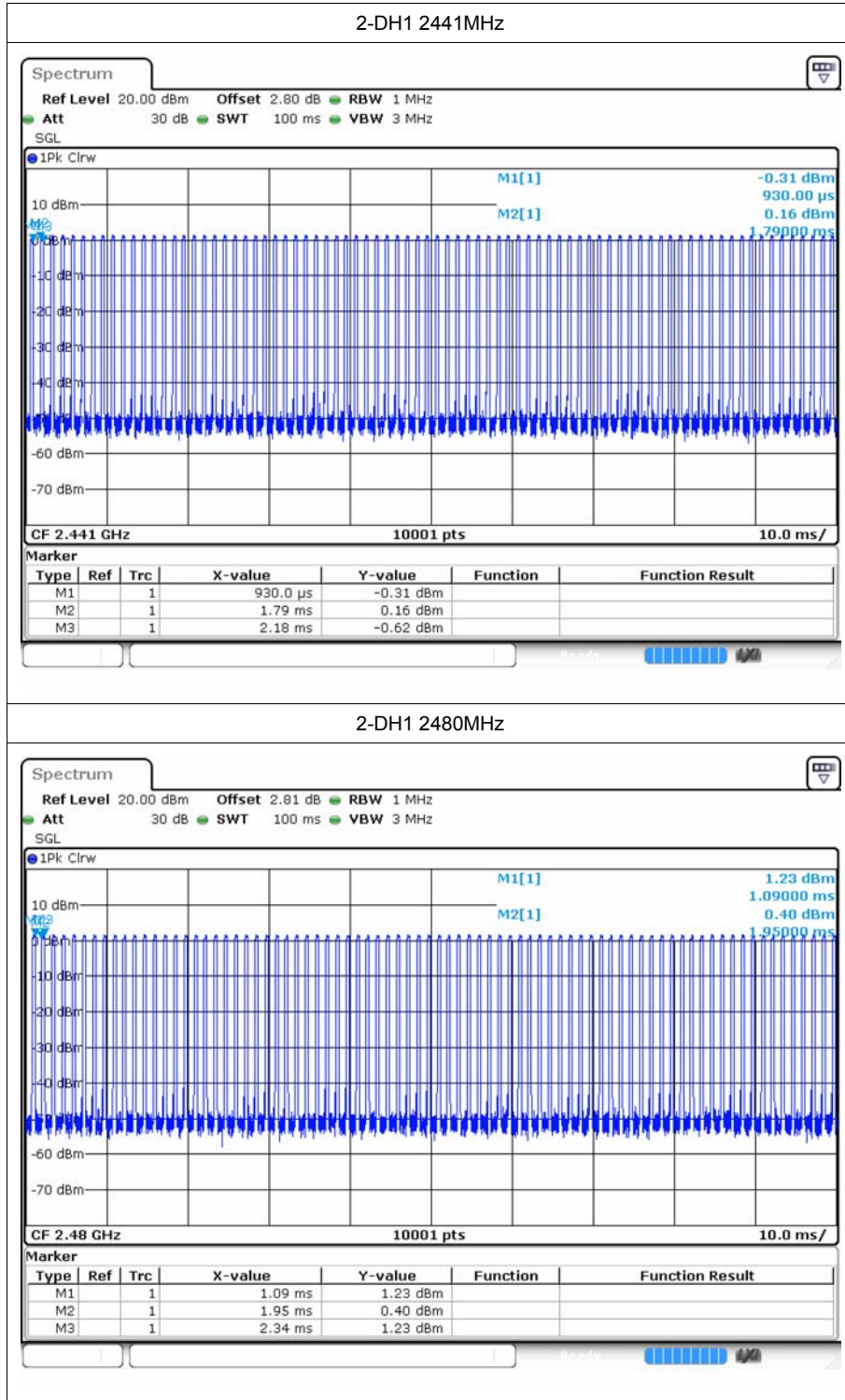
## 1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	31.68	2.63
1-DH1	2441	31.44	2.63
1-DH1	2480	31.4	2.56
2-DH1	2402	32.05	2.56
2-DH1	2441	32	2.56
2-DH1	2480	32	2.56

## 1.2 Test Graphs





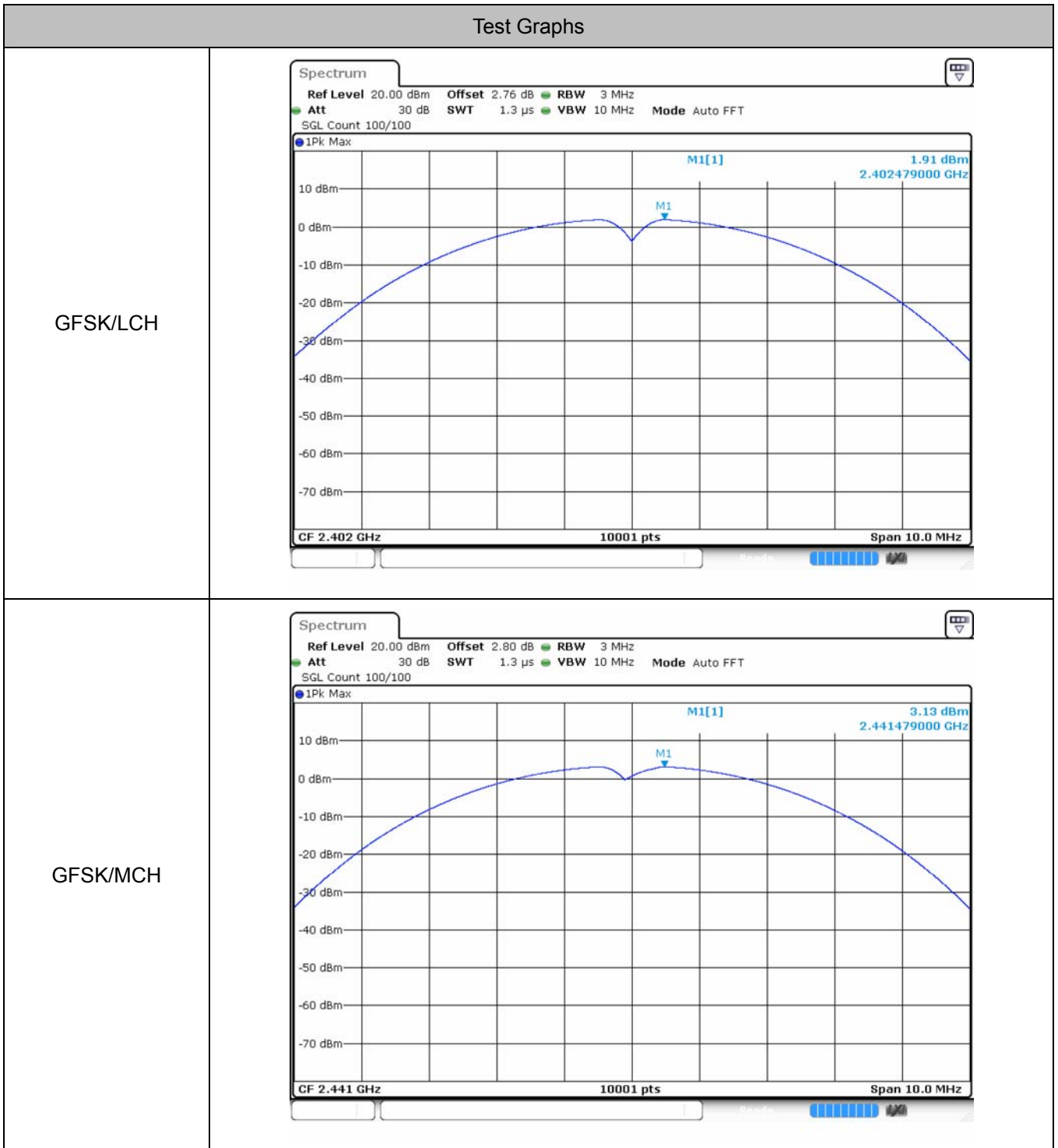


## 2 Maximum Conducted Peak Output Power

### 2.1 Test Result

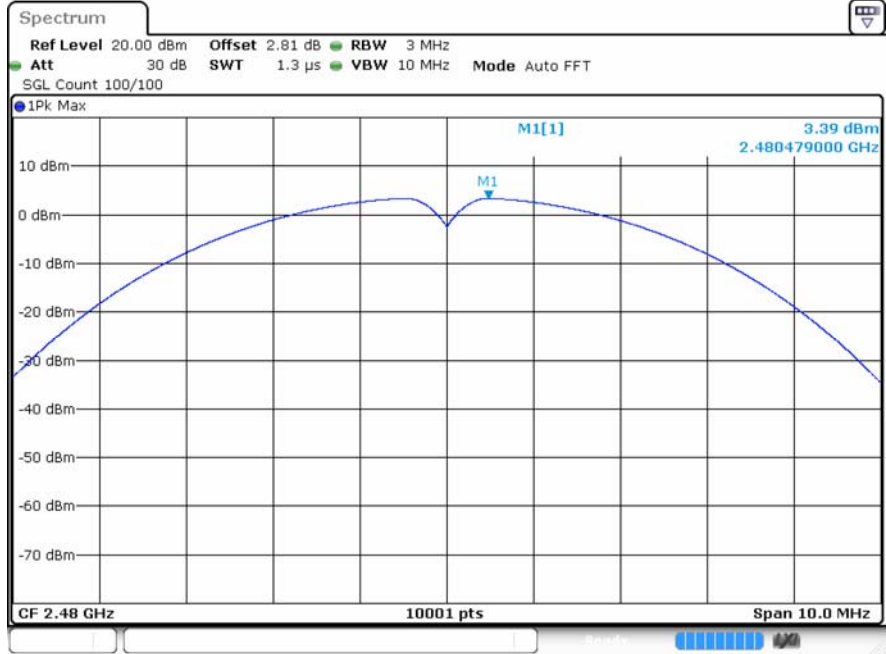
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.91	21	Pass
	MCH	3.13	21	Pass
	HCH	3.39	21	Pass
$\pi/4$ DQPSK	LCH	1.06	21	Pass
	MCH	2.17	21	Pass
	HCH	2.6	21	Pass

## 2.2 Test Graphs

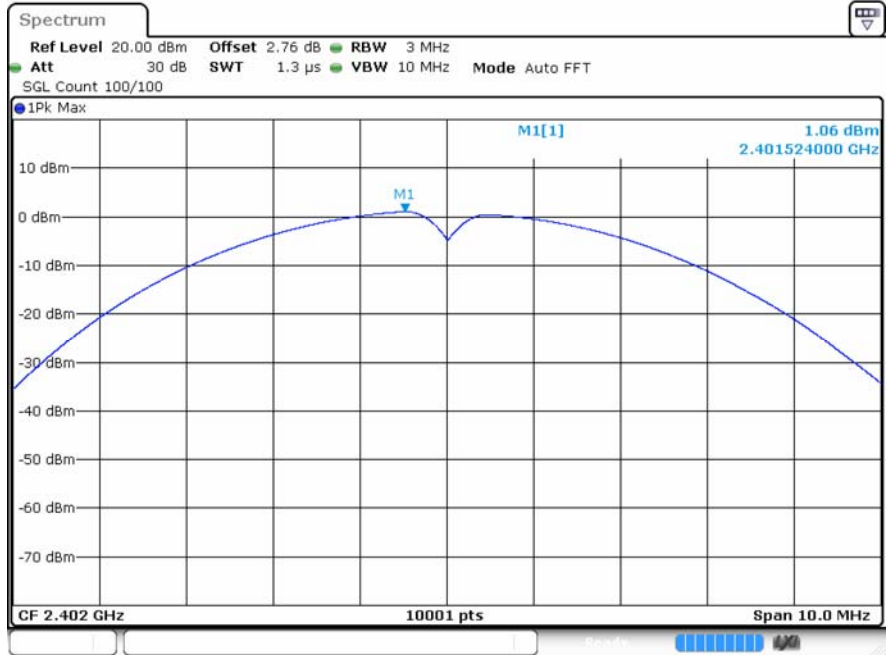


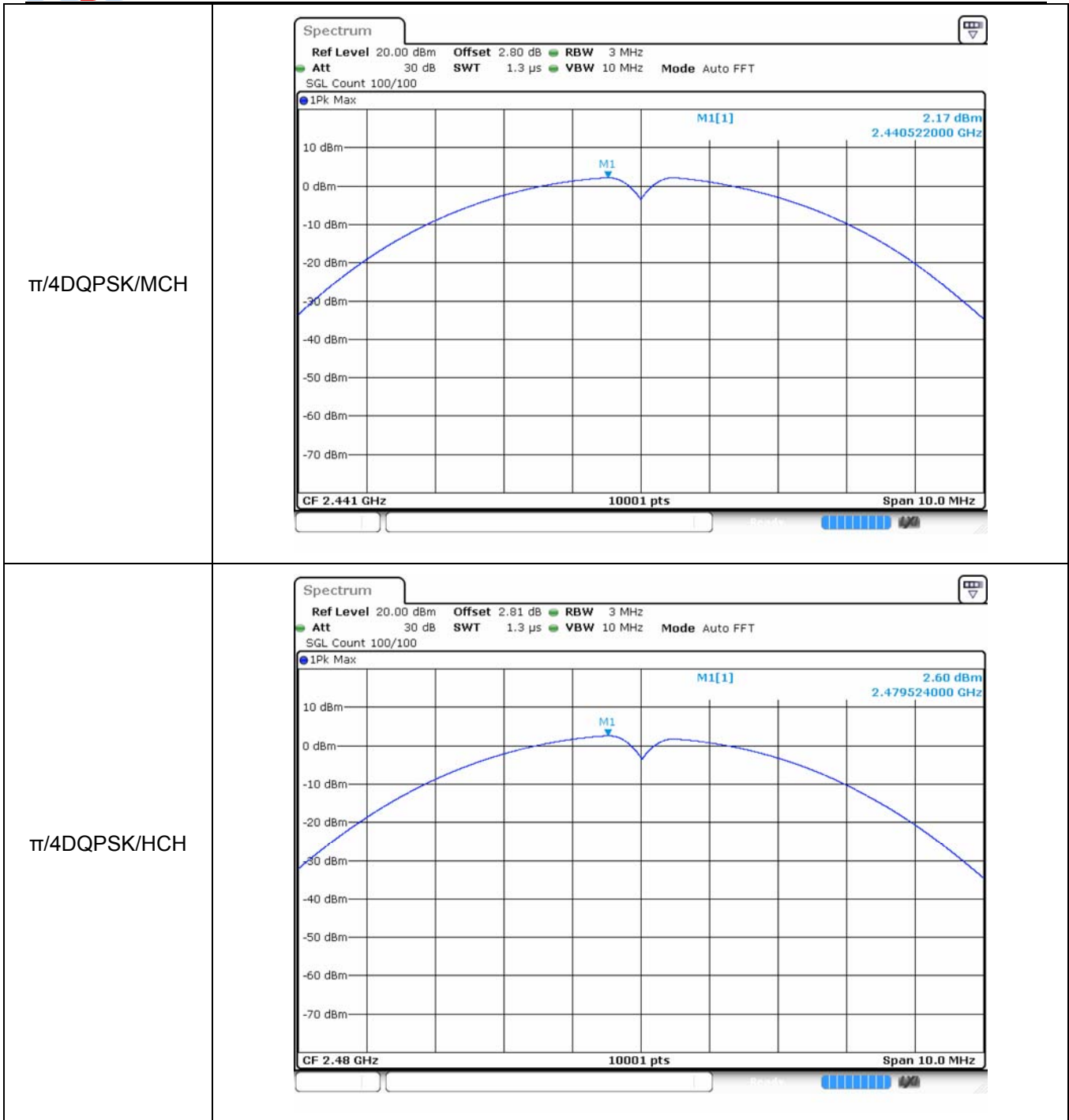


GFSK/HCH



$\pi/4$ DQPSK/LCH



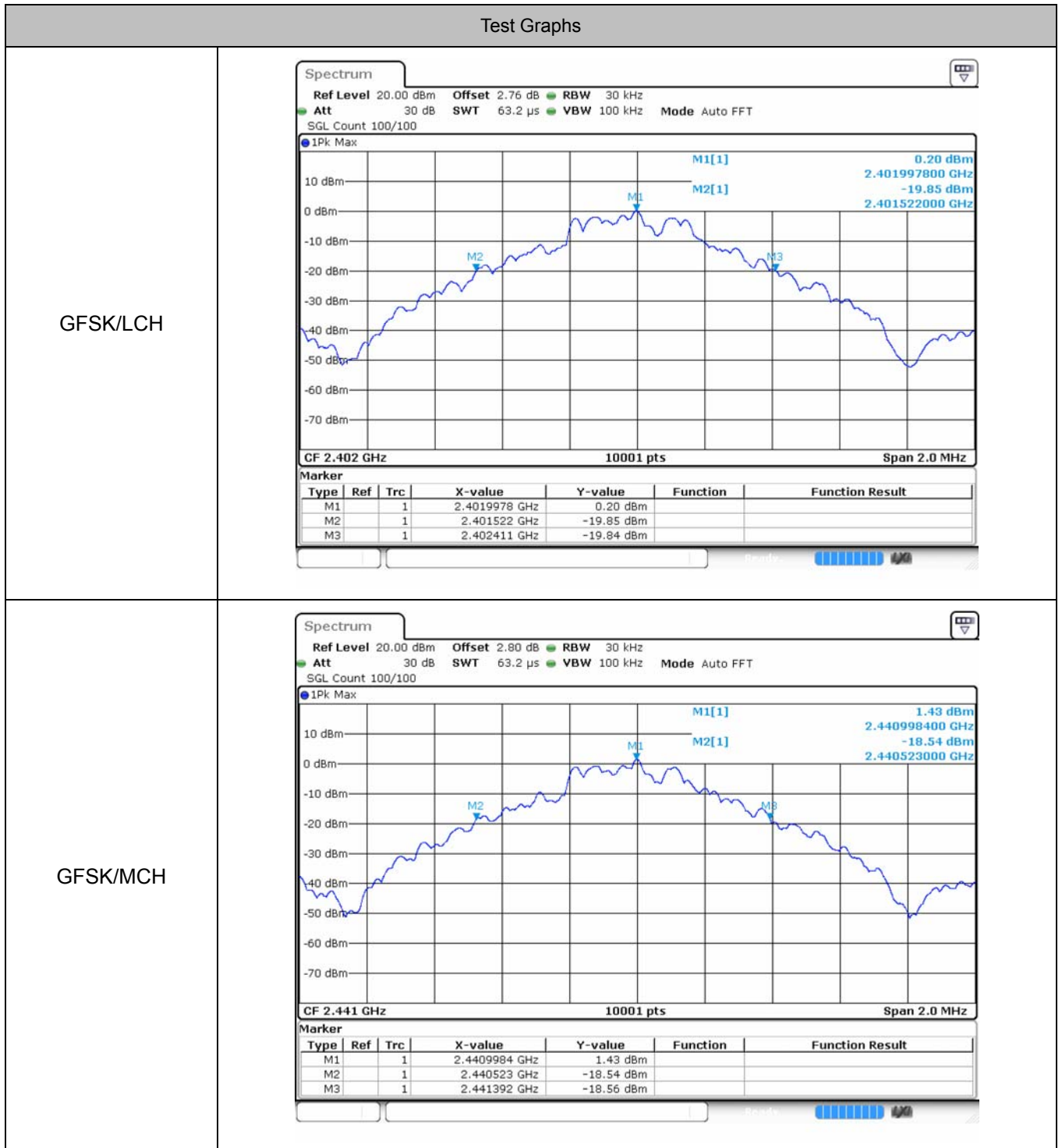


### 3 20dB Bandwidth

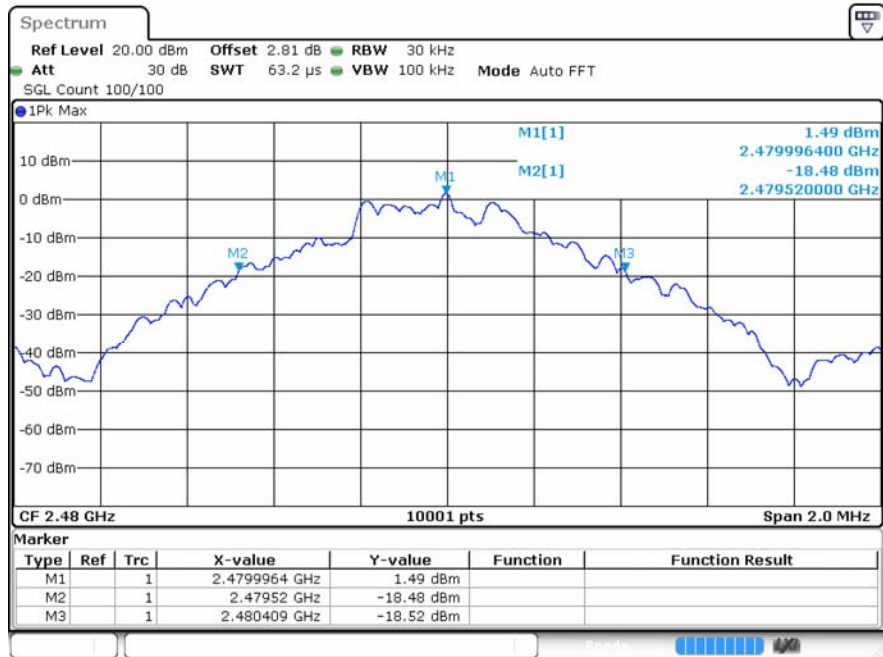
#### 3.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.889	Not Specified	Pass
	MCH	0.869	Not Specified	Pass
	HCH	0.889	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.401	Not Specified	Pass
	MCH	1.42	Not Specified	Pass
	HCH	1.422	Not Specified	Pass

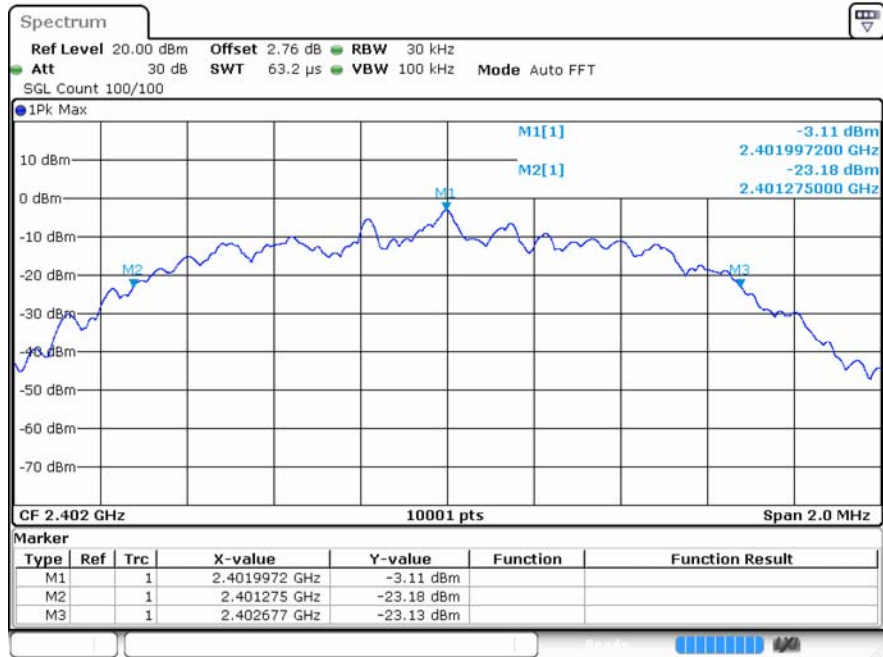
### 3.2 Test Graphs



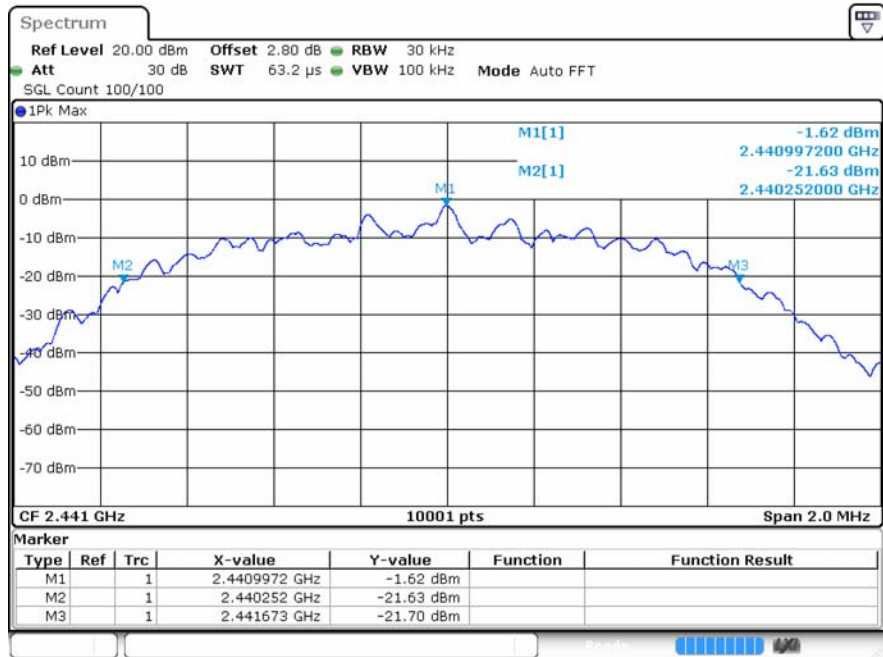
GFSK/HCH



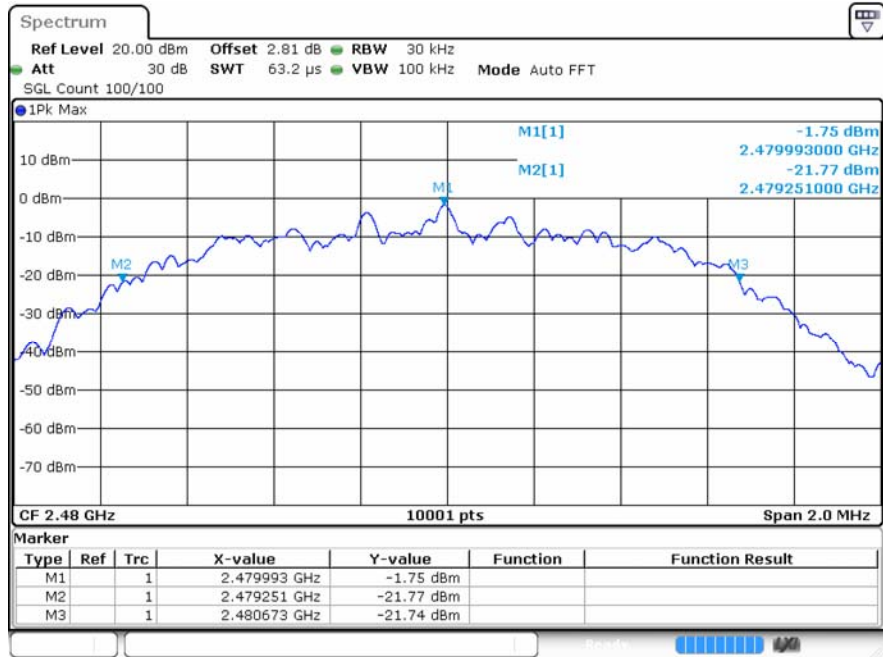
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

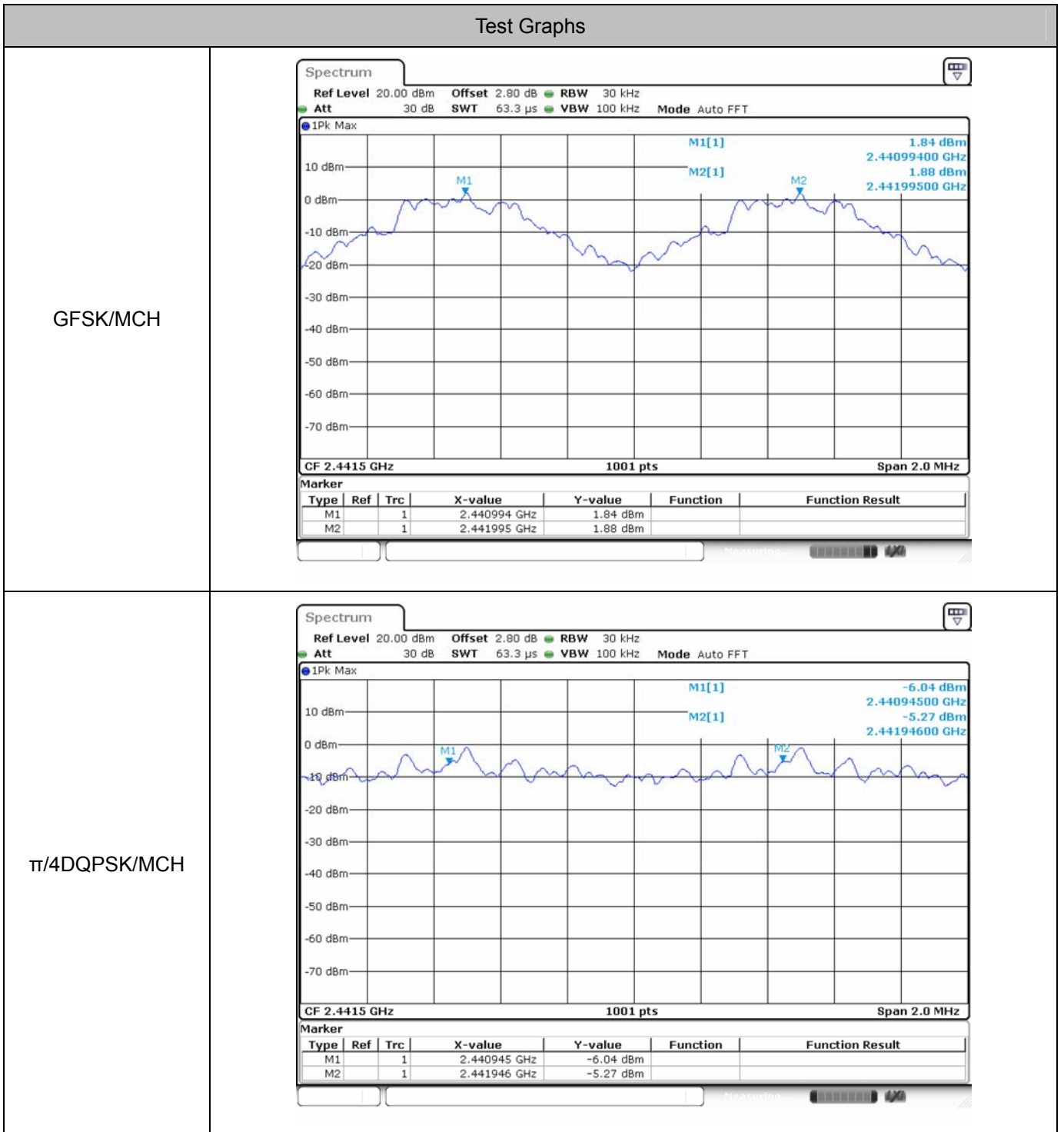


## 4 Carrier Frequency Separation

### 4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.001	0.579	Pass
$\pi/4$ DQPSK	MCH	1.001	0.947	Pass

## 4.2 Test Graphs



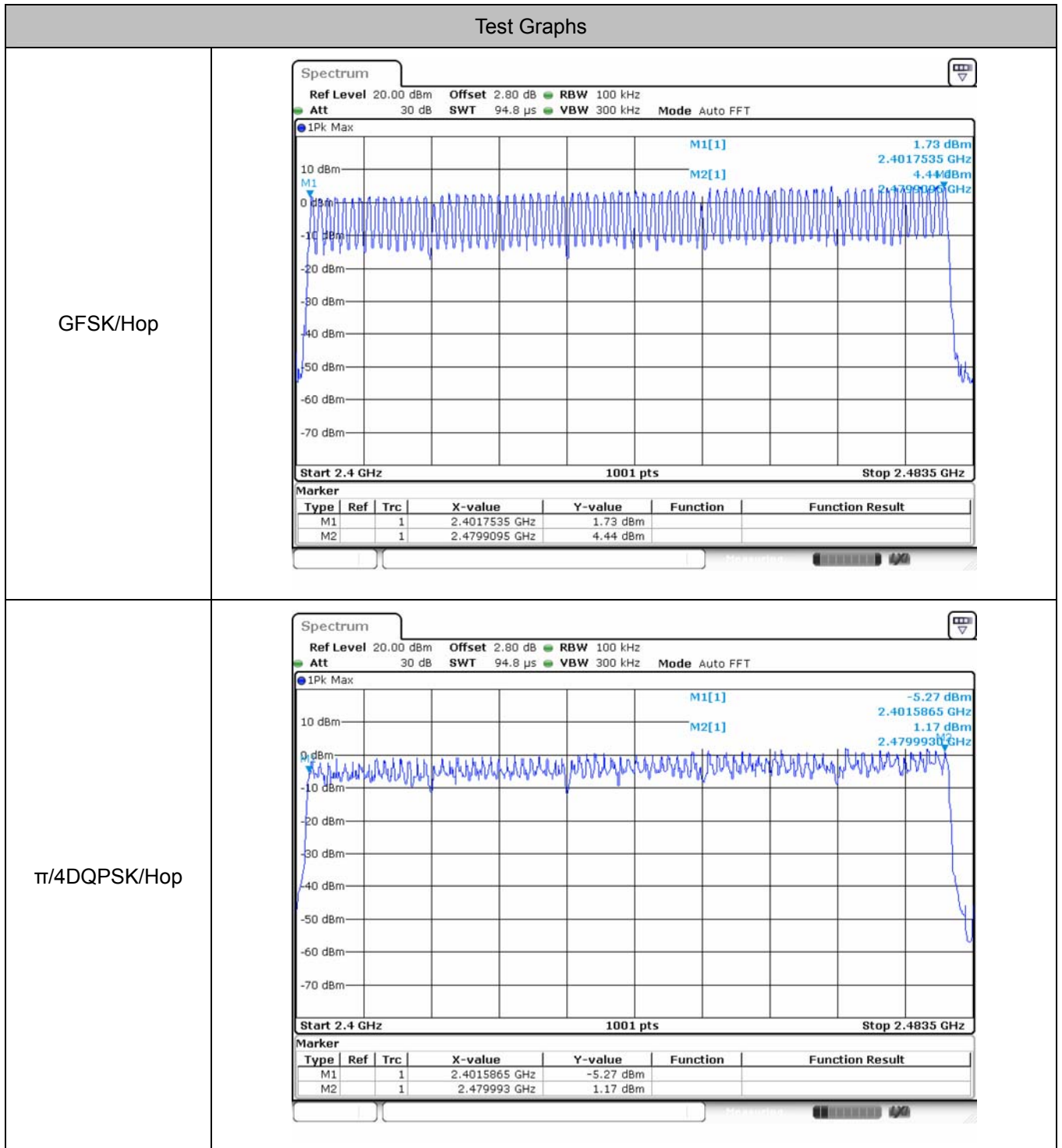


## 5 Hopping Channel Number

### 5.1 Test Result

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

## 5.2 Test Graphs



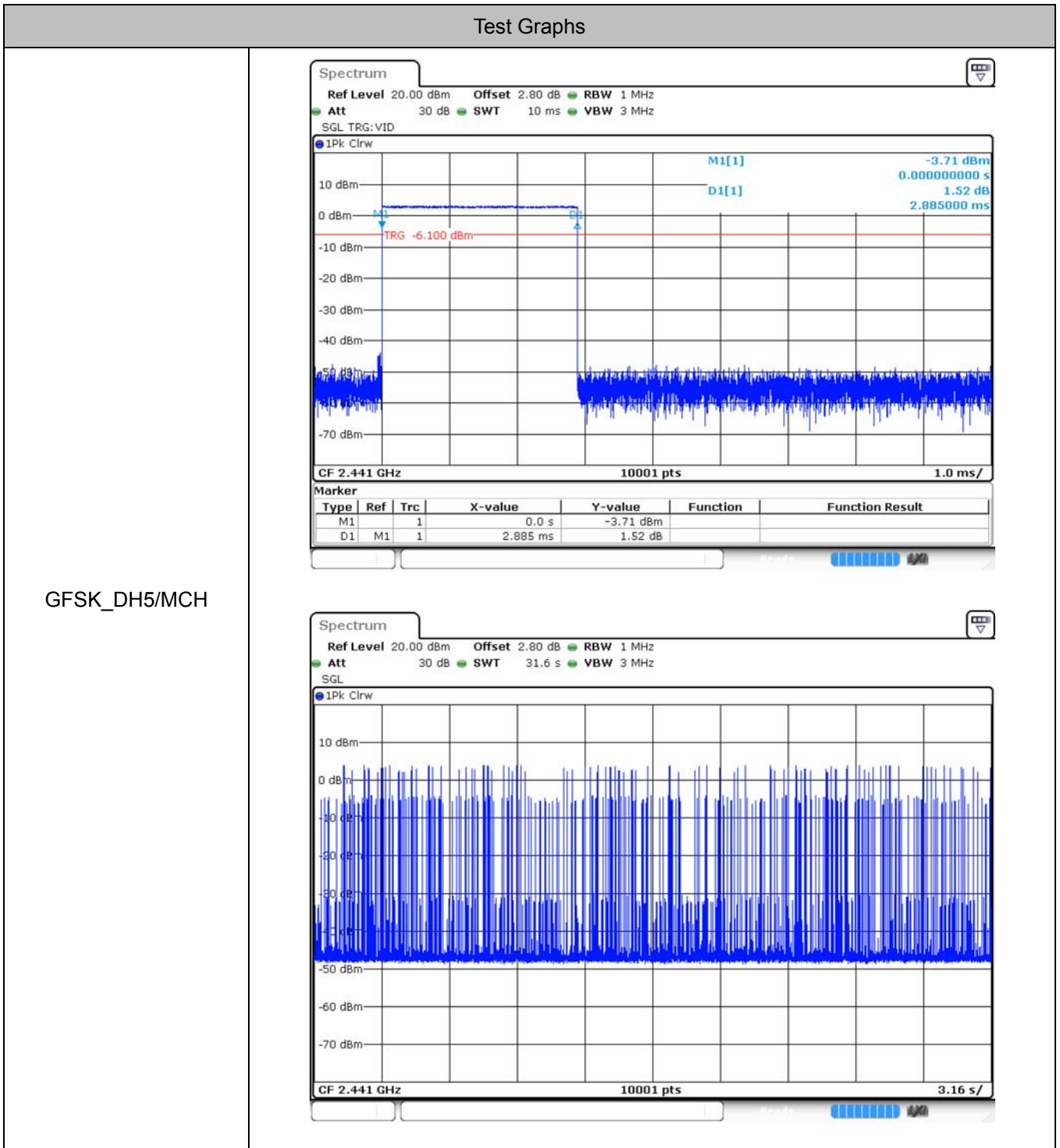


## 6 Dwell Time

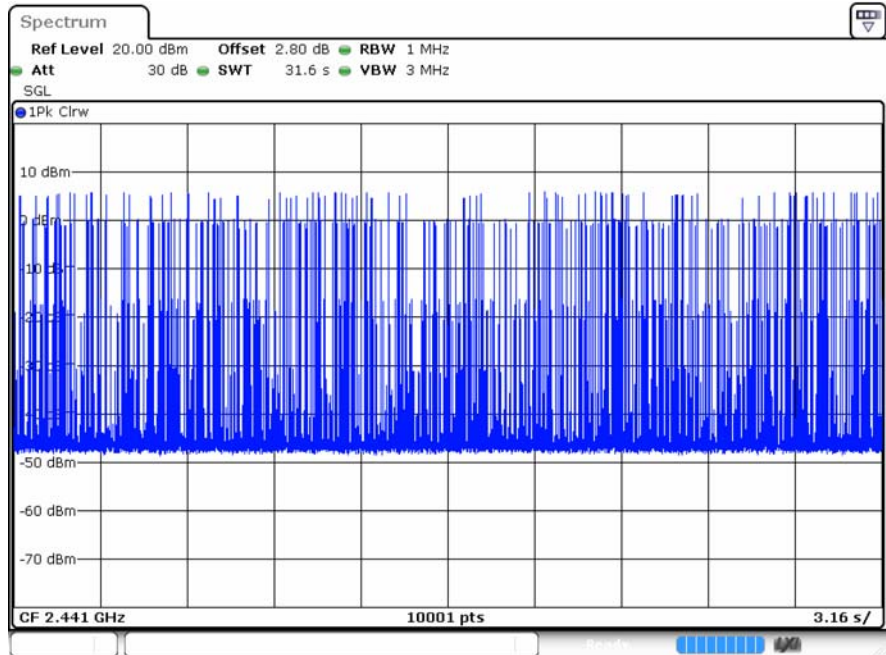
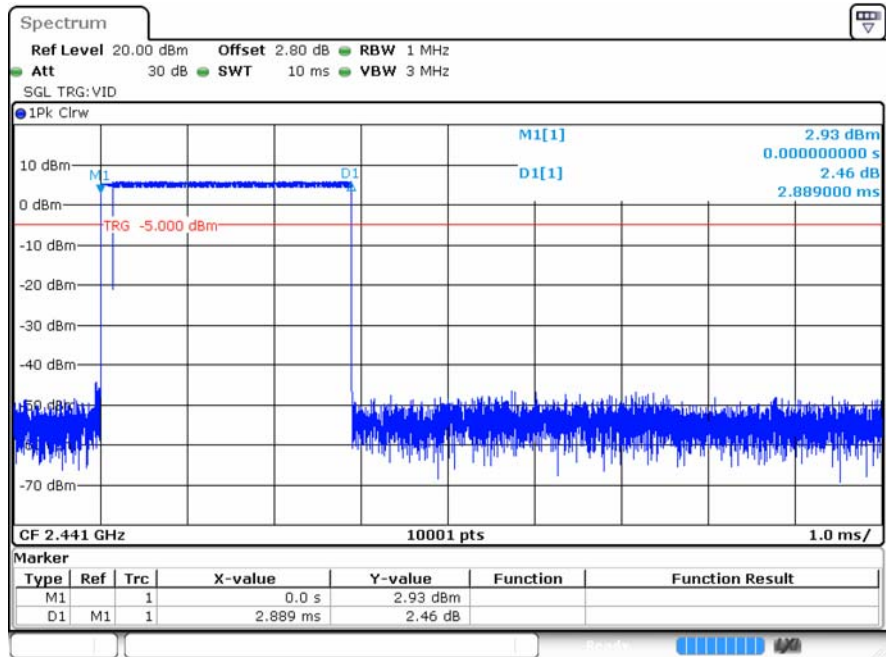
### 6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.885	102	294.27	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.889	98	283.122	0.4	Pass

## 6.2 Test Graphs



$\pi/4$ DQPSK  
\_2DH5/MCH

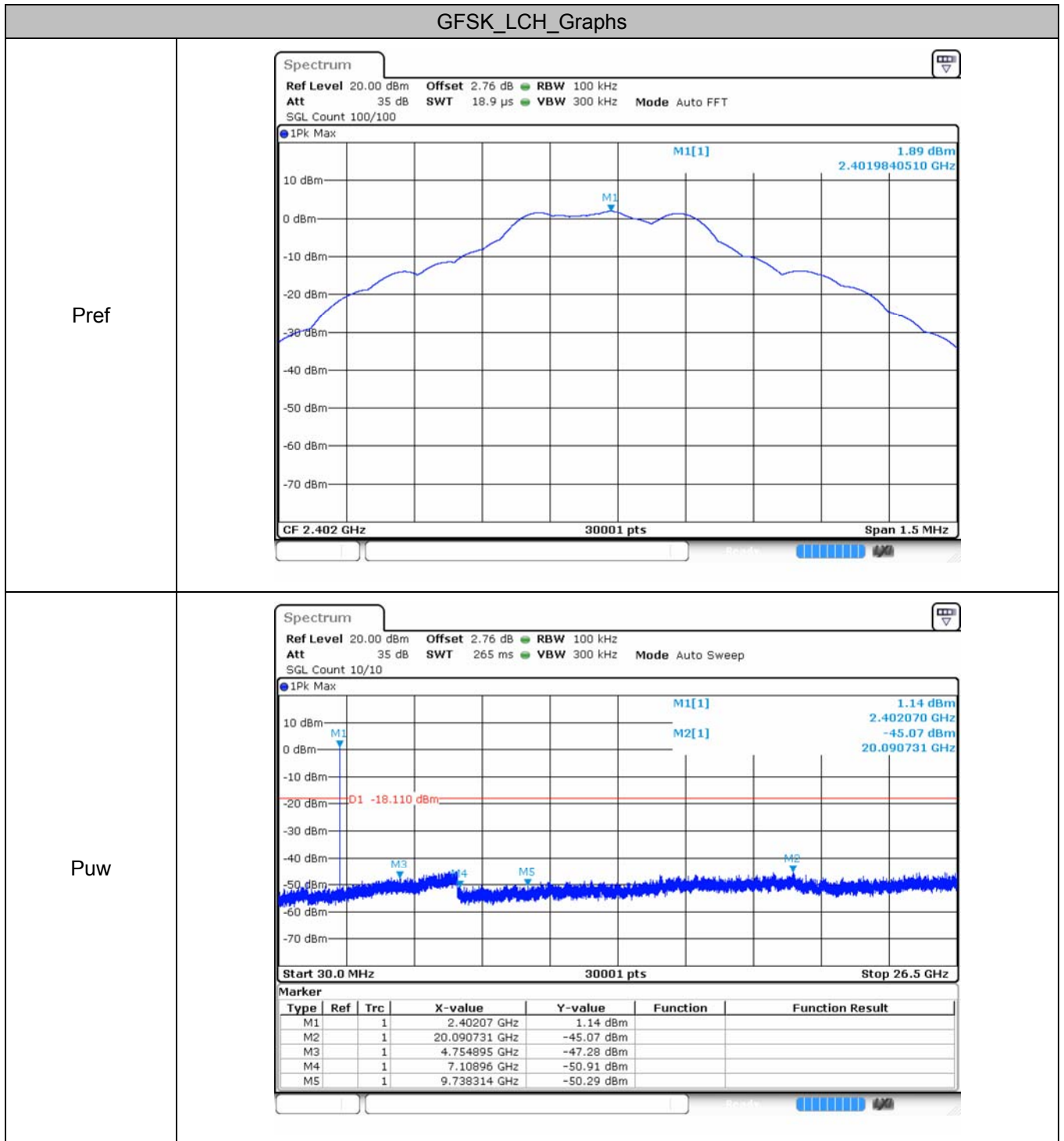


## 7 RF Conducted Spurious Emissions

### 7.1 Test Result

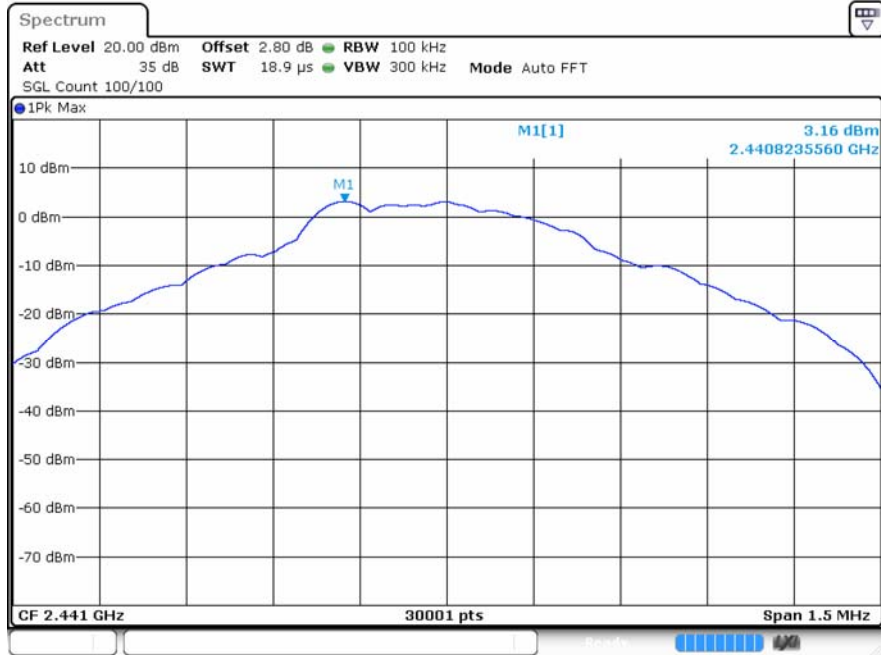
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-46.95	-20	Pass
	MCH	-46.48	-20	Pass
	HCH	-46.69	-20	Pass
$\pi/4$ DQPSK	LCH	-42.61	-20	Pass
	MCH	-44.26	-20	Pass
	HCH	-43.8	-20	Pass

## 7.2 Test Graphs

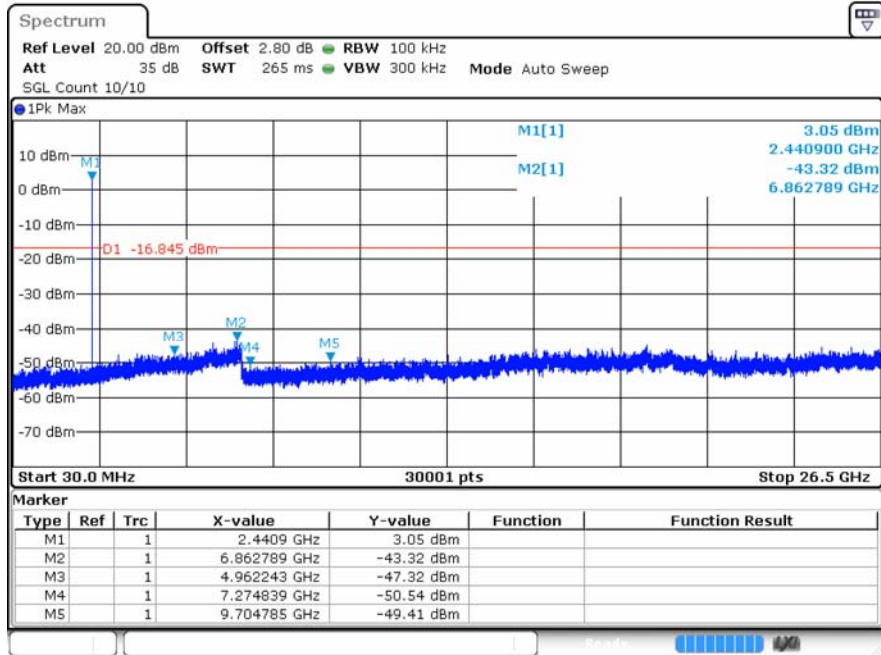


GFSK\_MCH\_Graphs

Pref



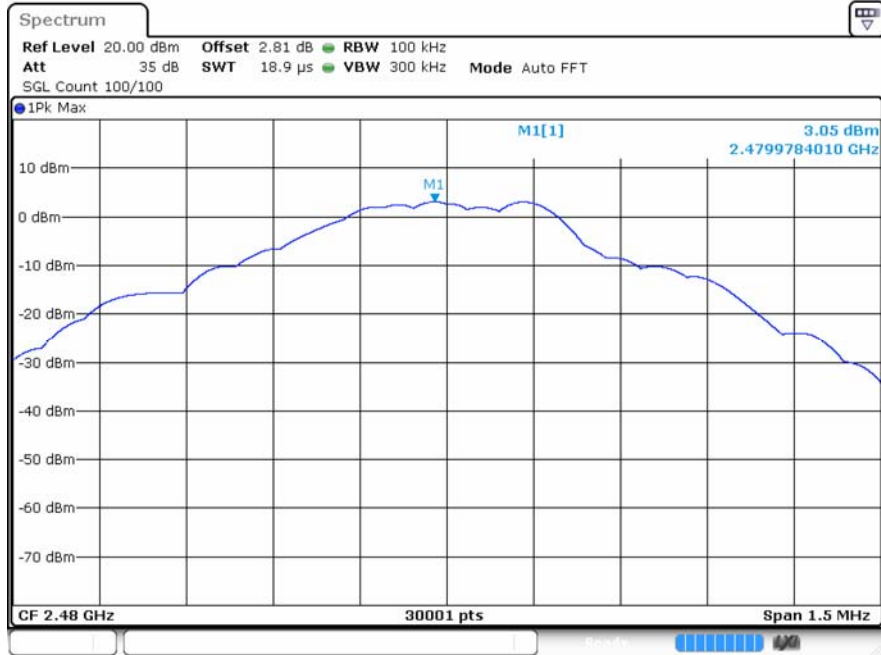
Puw



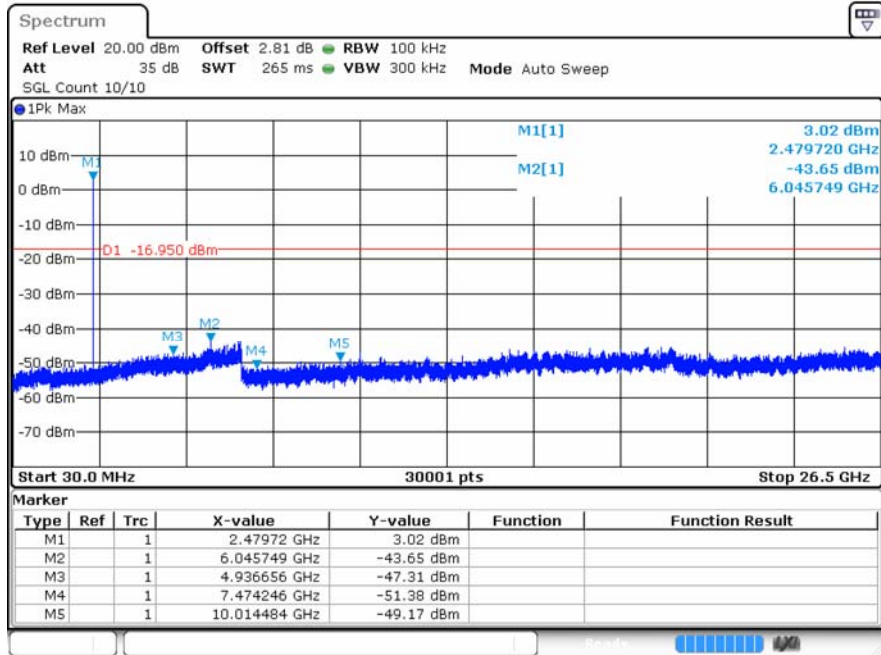


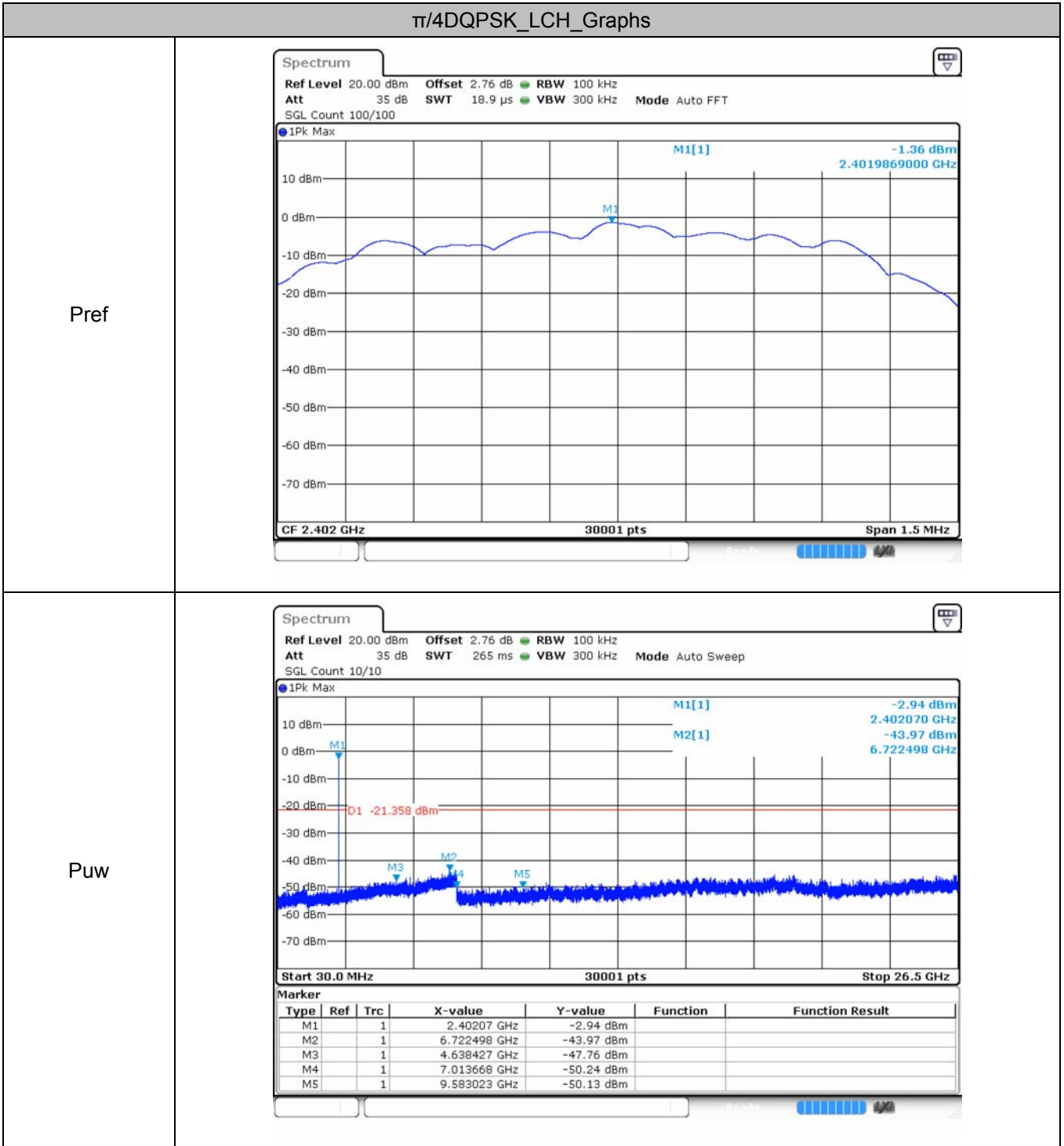
GFSK\_HCH\_Graphs

Pref



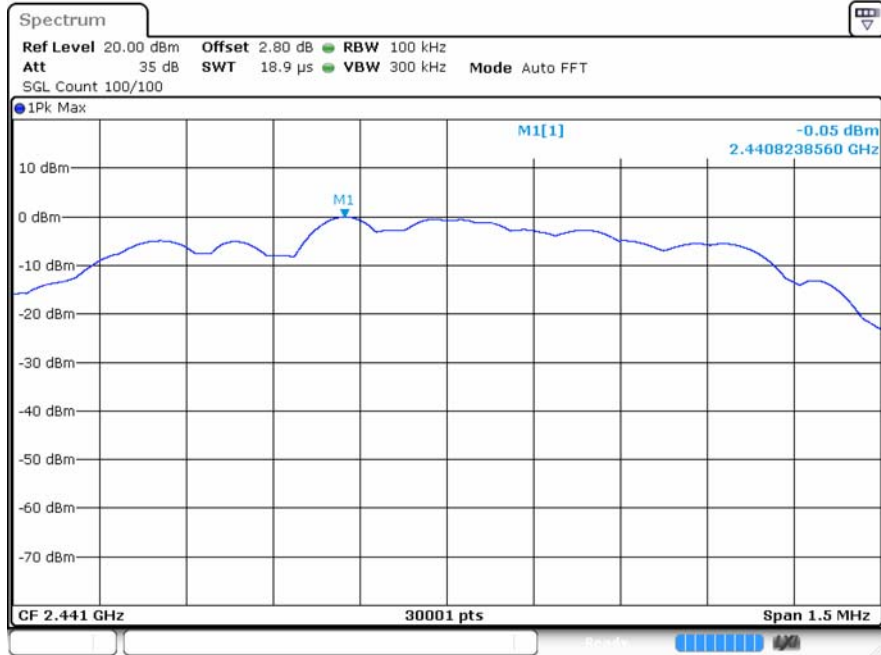
Puw



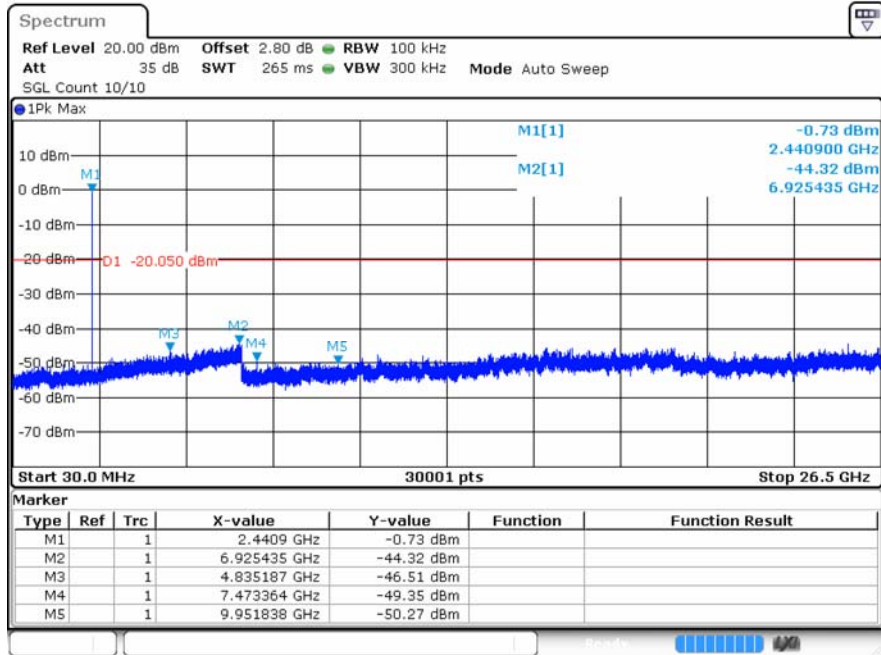


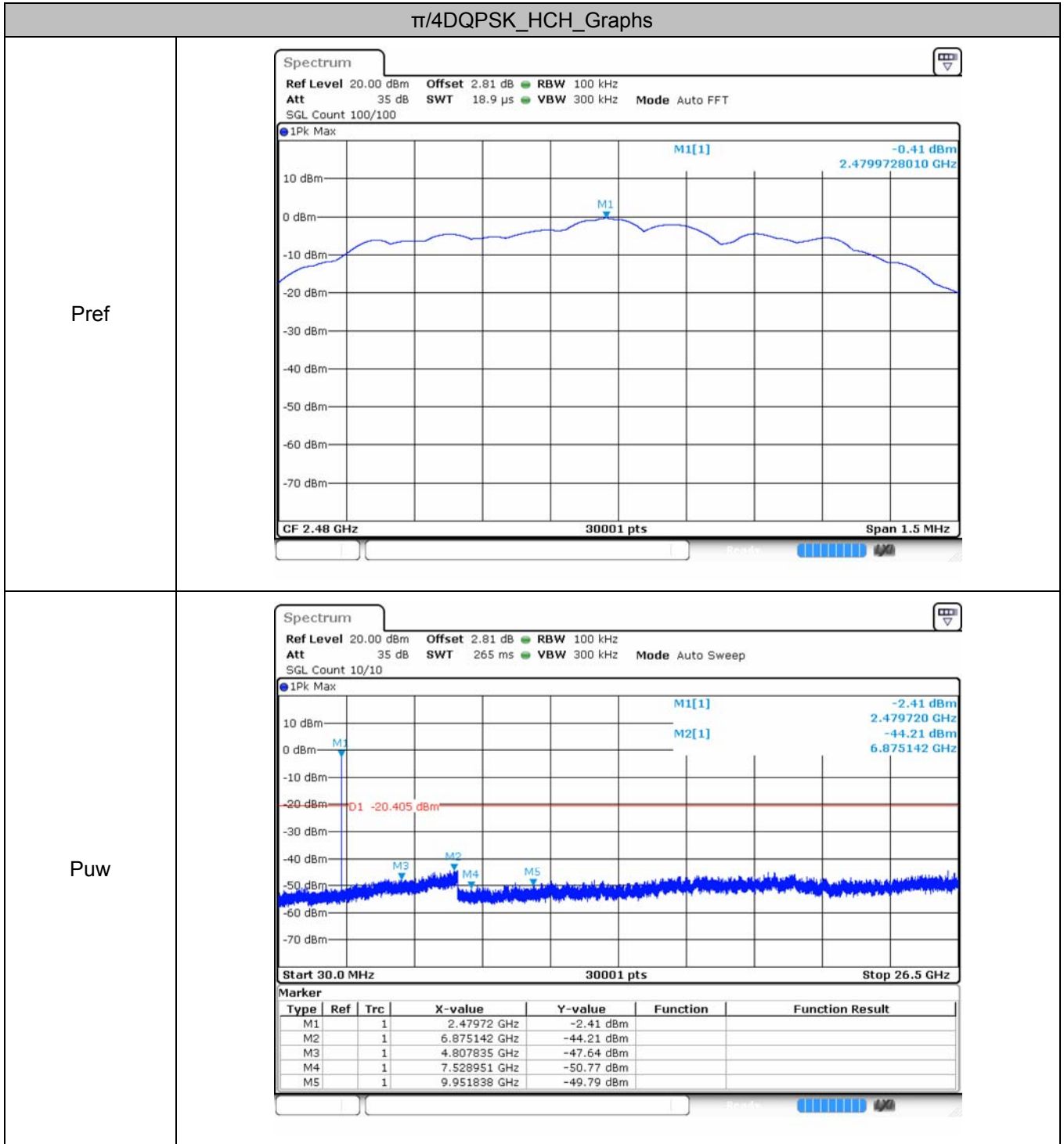
$\pi/4$ DQPSK\_MCH\_Graphs

Pref



Puw



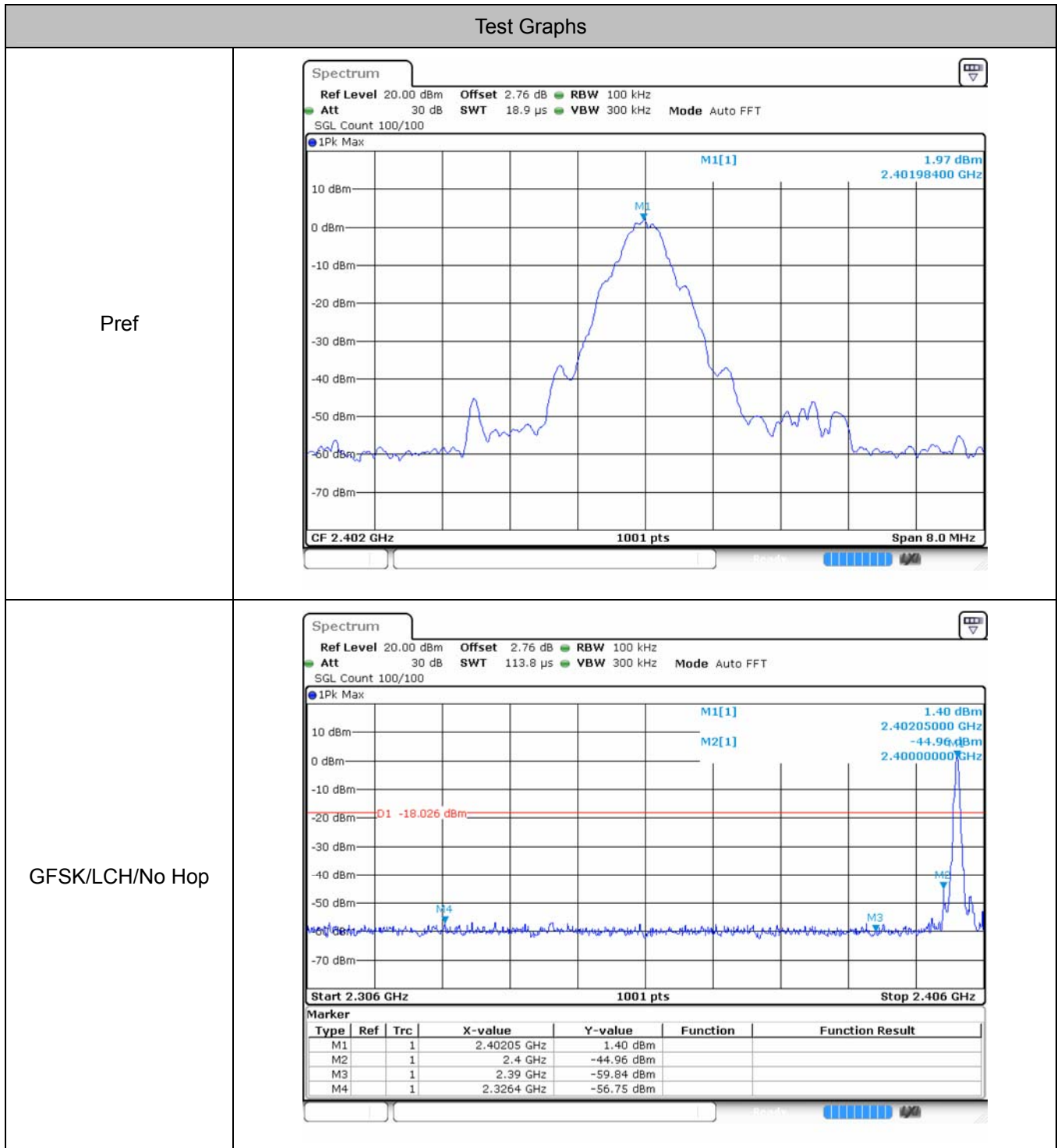


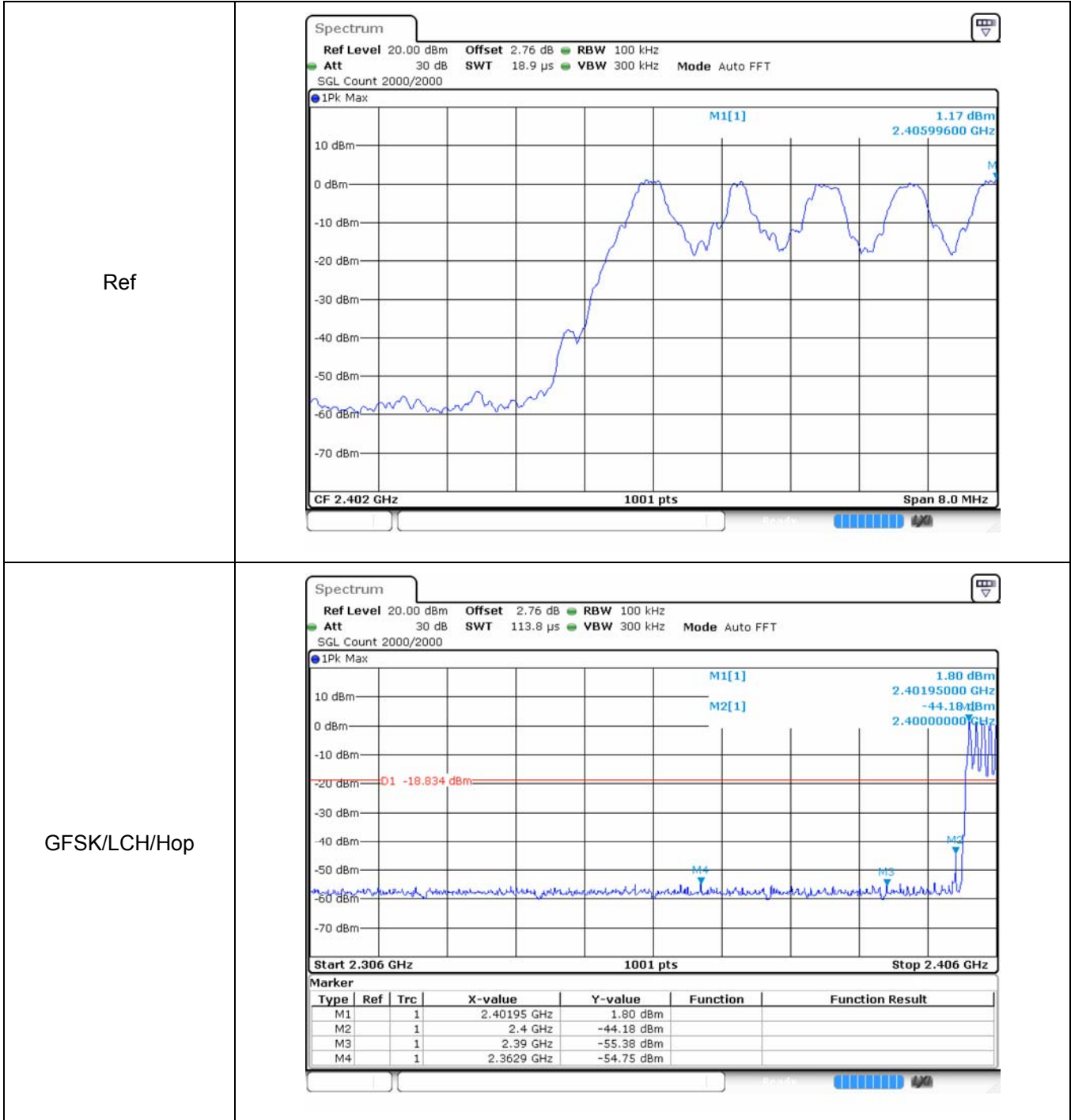
## 8 Band-edge for RF Conducted Emissions

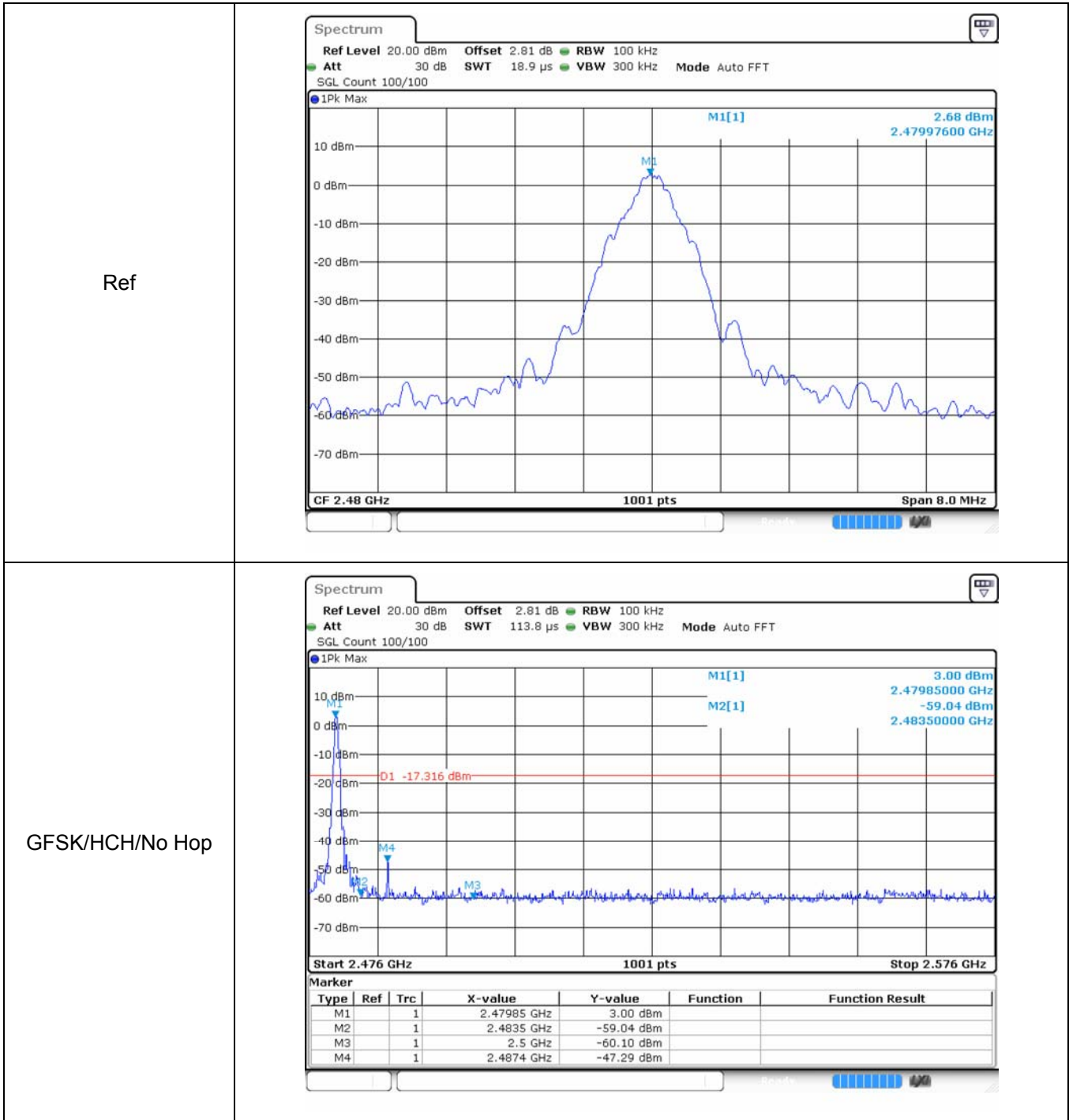
### 8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-58.72	-20	Pass
			On	-55.91	-20	Pass
	HCH	2480	Off	-49.96	-20	Pass
			On	-50.58	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-54.23	-20	Pass
			On	-53.84	-20	Pass
	HCH	2480	Off	-47.08	-20	Pass
			On	-47.13	-20	Pass

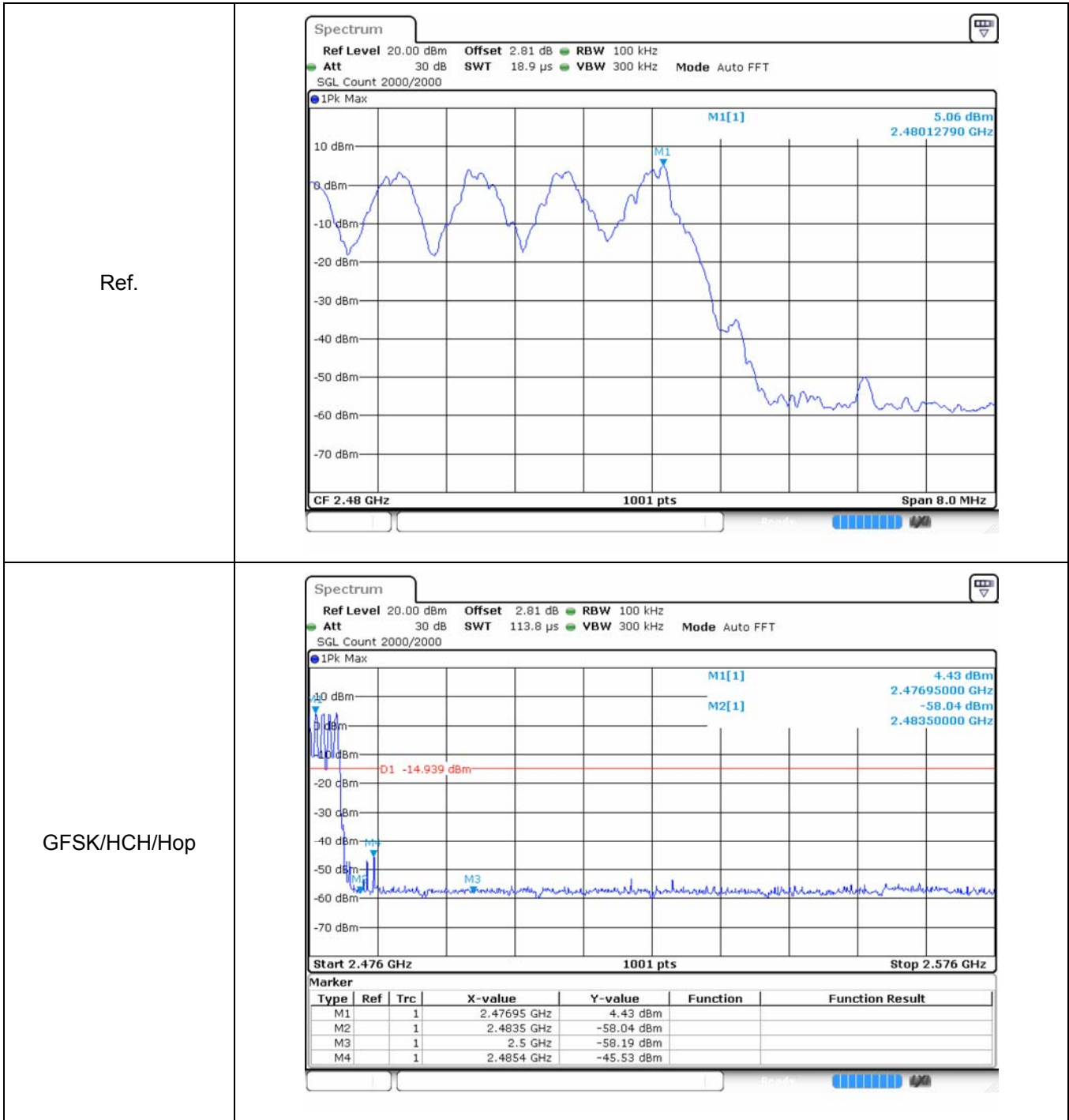
## 8.2 Test Graphs

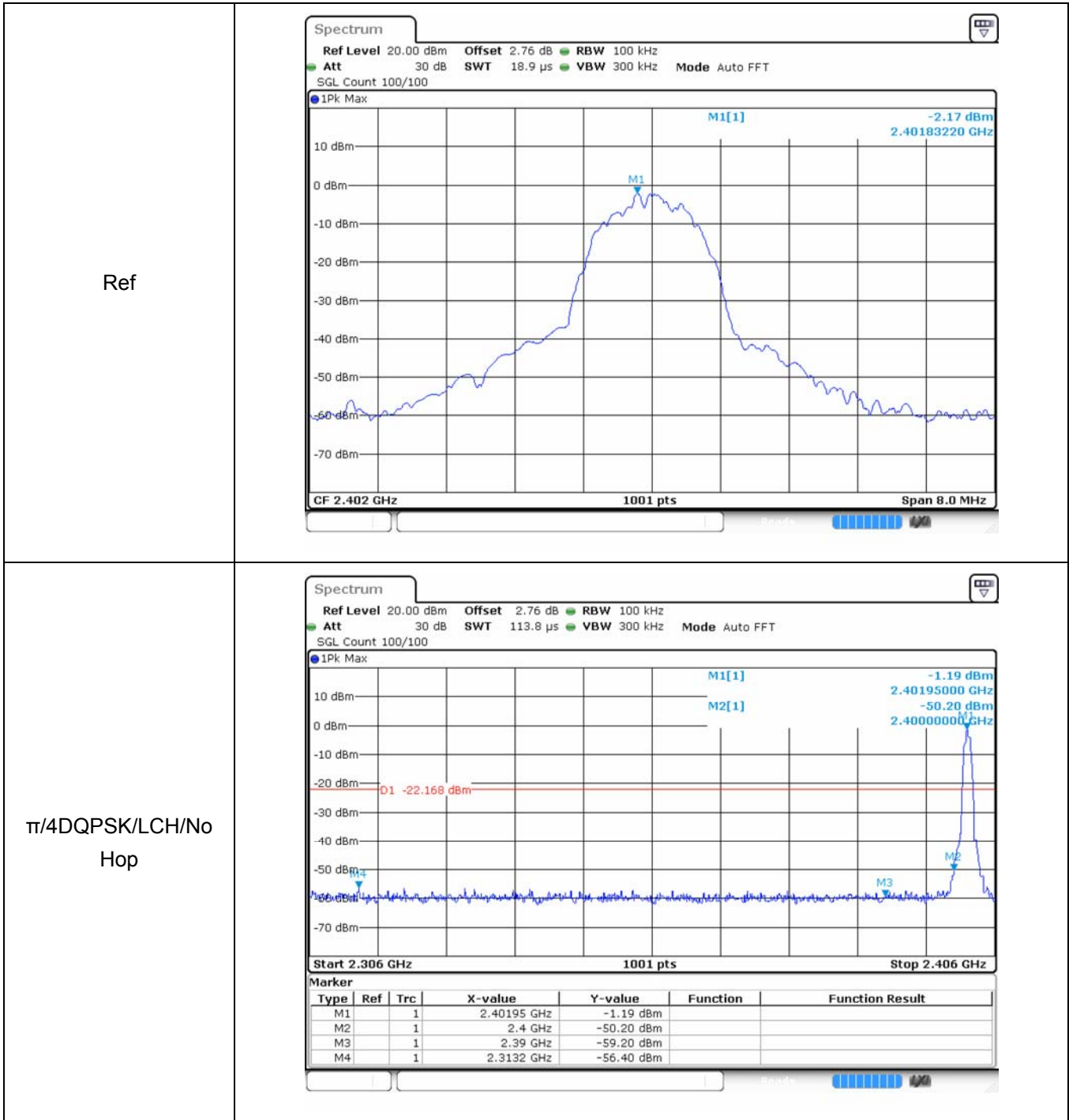


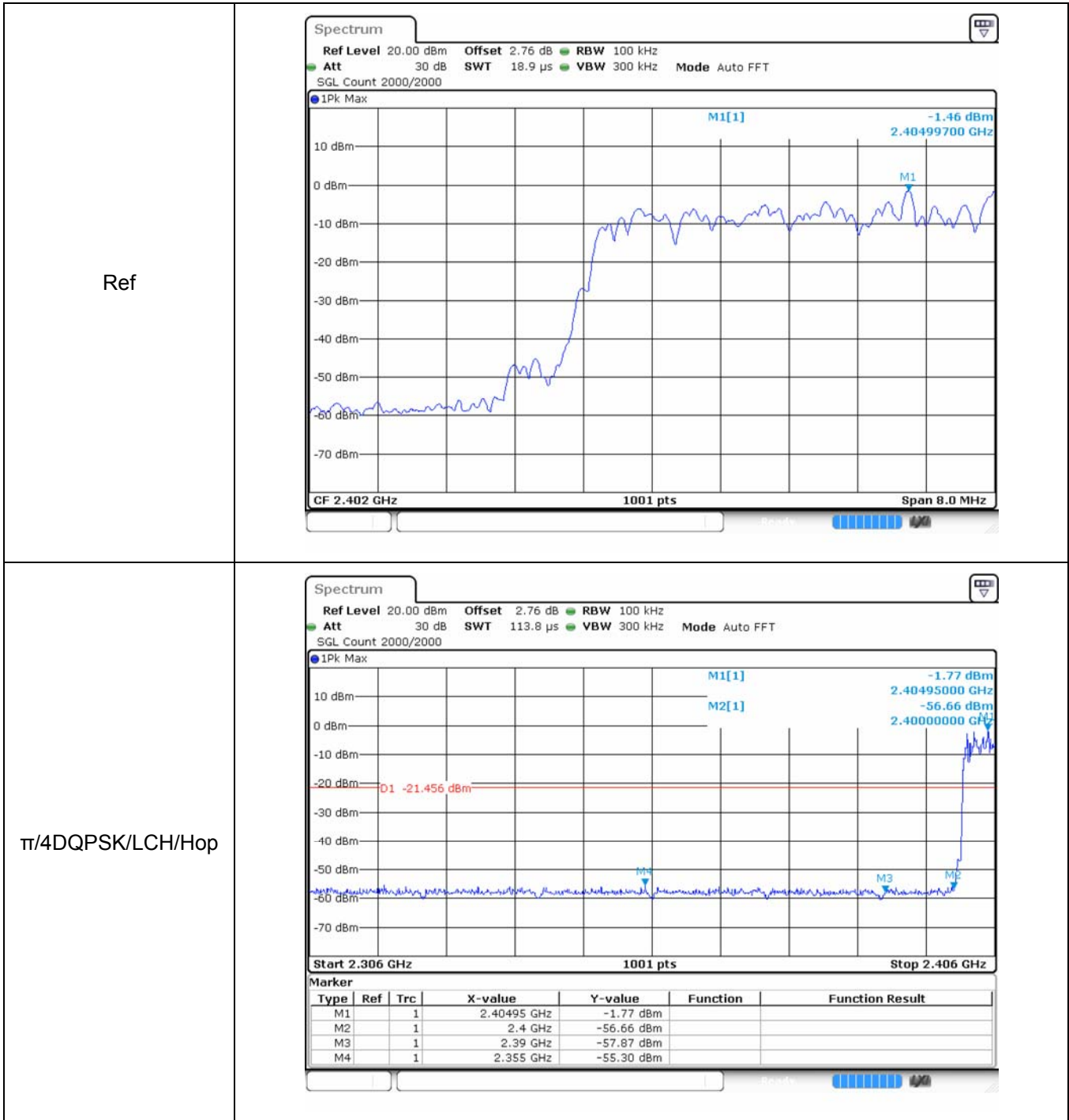


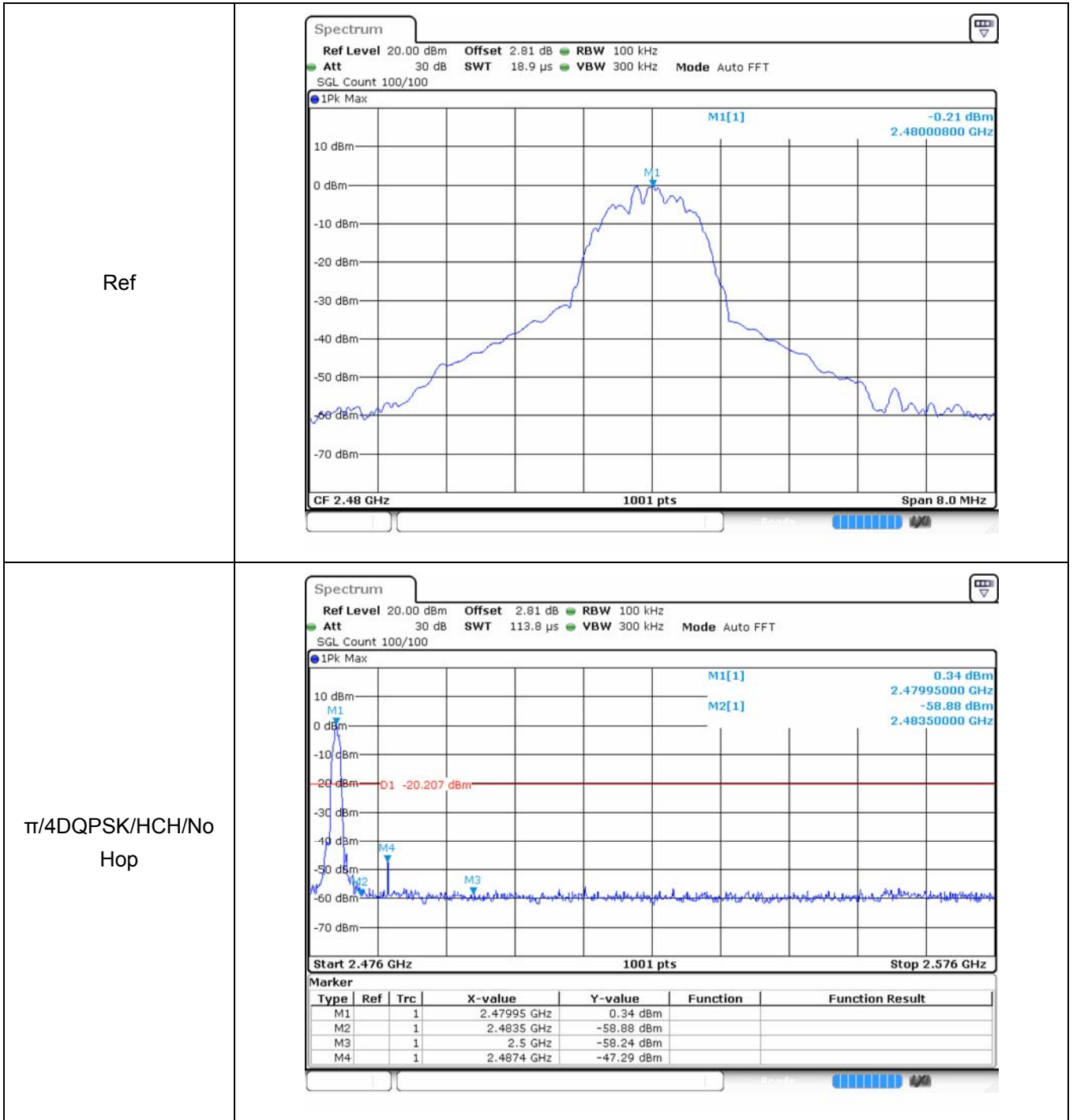


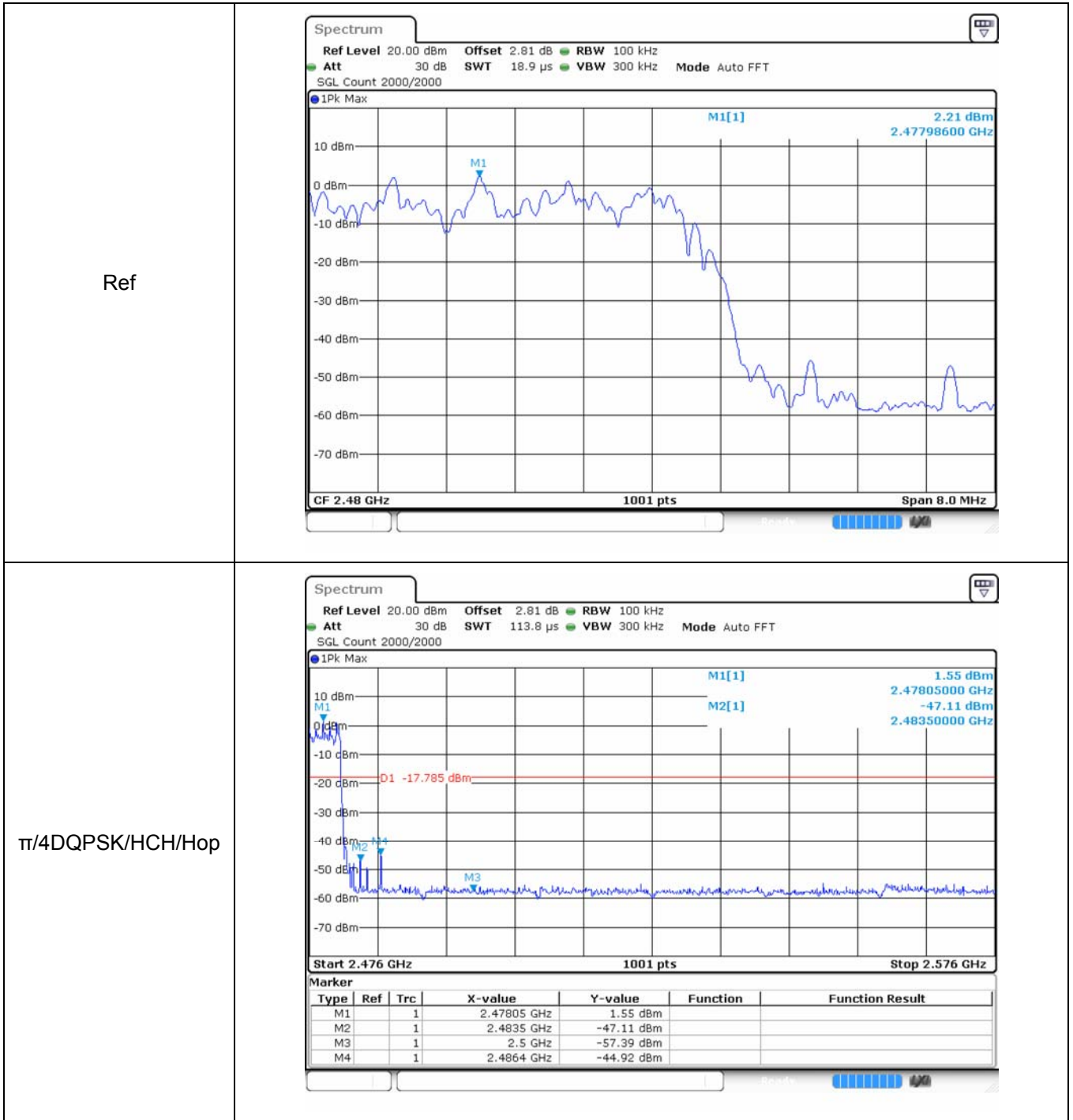












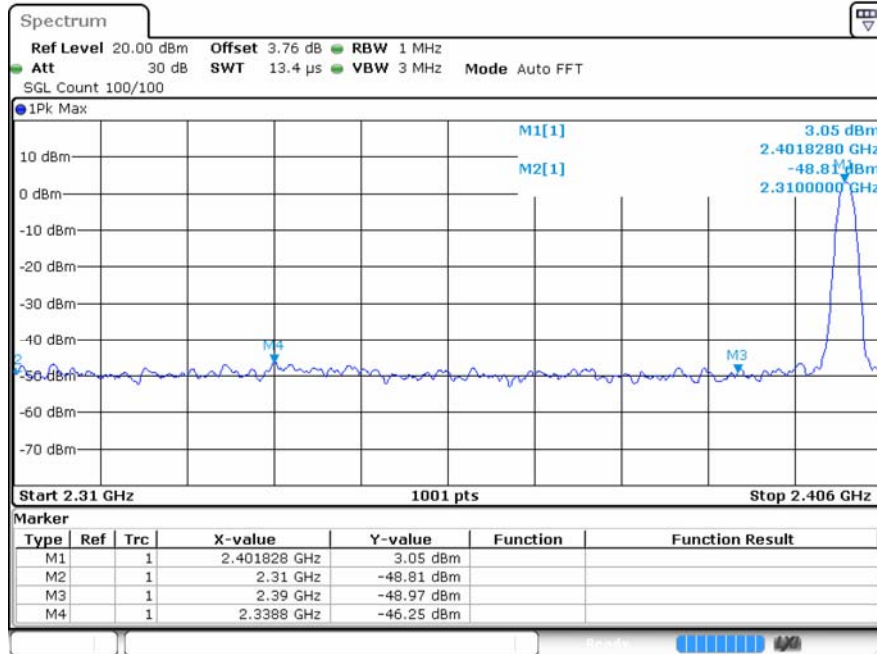
## 9 Restrict-band band-edge measurements

### 9.1 Test Result

Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-48.81	2	48.45	PEAK	74	Pass
	Off	2310.0	-57.77	2	39.49	AV	54	Pass
	Off	2338.8	-46.25	2	51.01	PEAK	74	Pass
	Off	2341.872	-54.76	2	42.5	AV	54	Pass
	Off	2390.0	-48.96	2	48.3	PEAK	74	Pass
	Off	2390.0	-57.91	2	39.35	AV	54	Pass
	Off	2483.5	-45.24	2	52.02	PEAK	74	Pass
	Off	2483.5	-54.9	2	42.36	AV	54	Pass
	Off	2483.512	-45.24	2	52.02	PEAK	74	Pass
	Off	2483.632	-54.78	2	42.48	AV	54	Pass
	Off	2500.0	-48.84	2	48.42	PEAK	74	Pass
	Off	2500.0	-57.12	2	40.14	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-49.99	2	47.27	PEAK	74	Pass
	Off	2310.0	-56.94	2	40.32	AV	54	Pass
	Off	2342.064	-45.52	2	51.74	PEAK	74	Pass
	Off	2340.048	-55.11	2	42.15	AV	54	Pass
	Off	2390.0	-51.06	2	46.2	PEAK	74	Pass
	Off	2390.0	-57.56	2	39.7	AV	54	Pass
	Off	2483.5	-47.52	2	49.74	PEAK	74	Pass
	Off	2483.5	-54.96	2	42.3	AV	54	Pass
	Off	2487.376	-41.64	2	55.62	PEAK	74	Pass
	Off	2483.512	-54.96	2	42.3	AV	54	Pass
	Off	2500.0	-48.47	2	48.79	PEAK	74	Pass
	Off	2500.0	-56.69	2	40.57	AV	54	Pass

## 9.2 Test Graphs

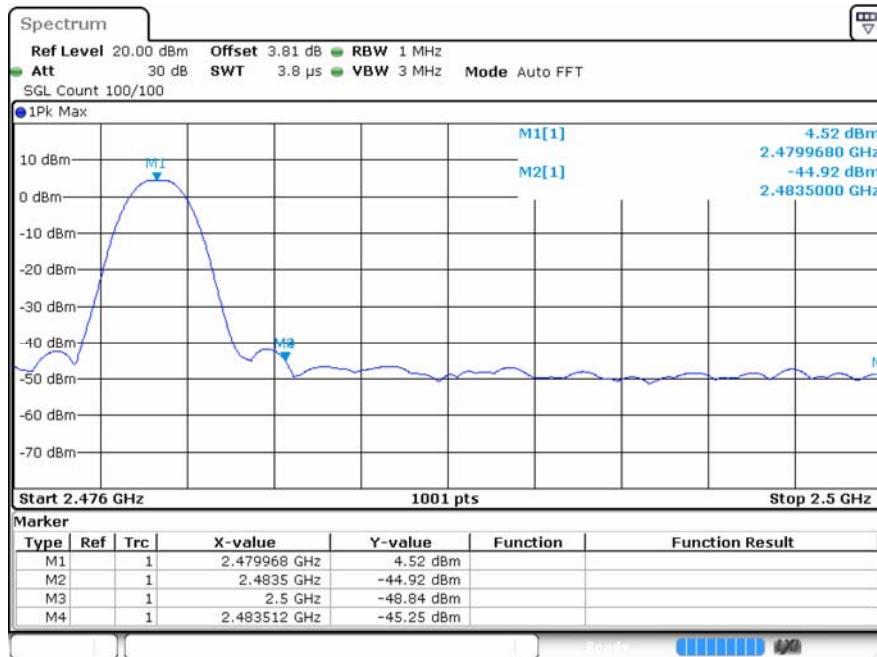
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (Low Channel)



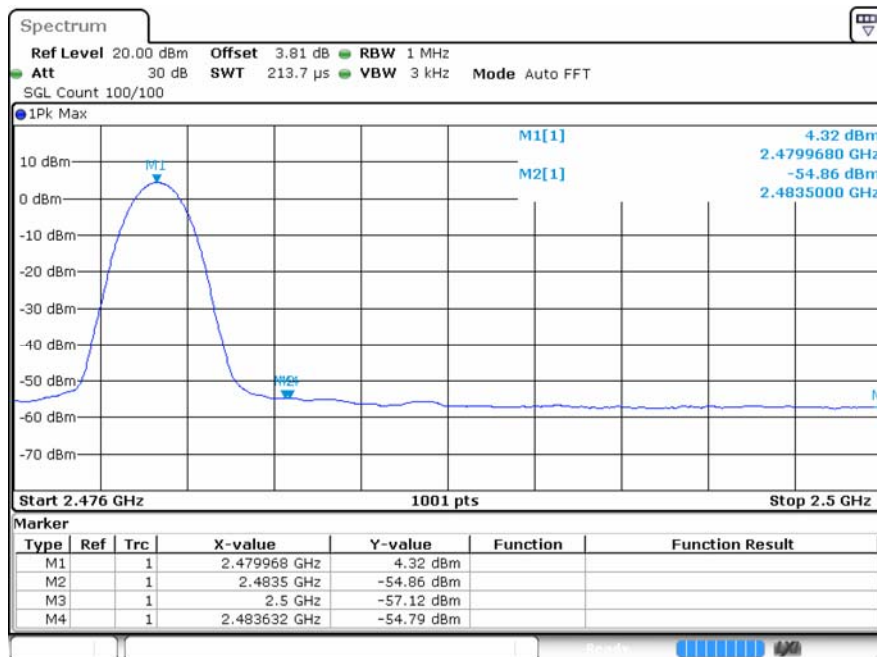
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (Low Channel)



Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (High Channel)

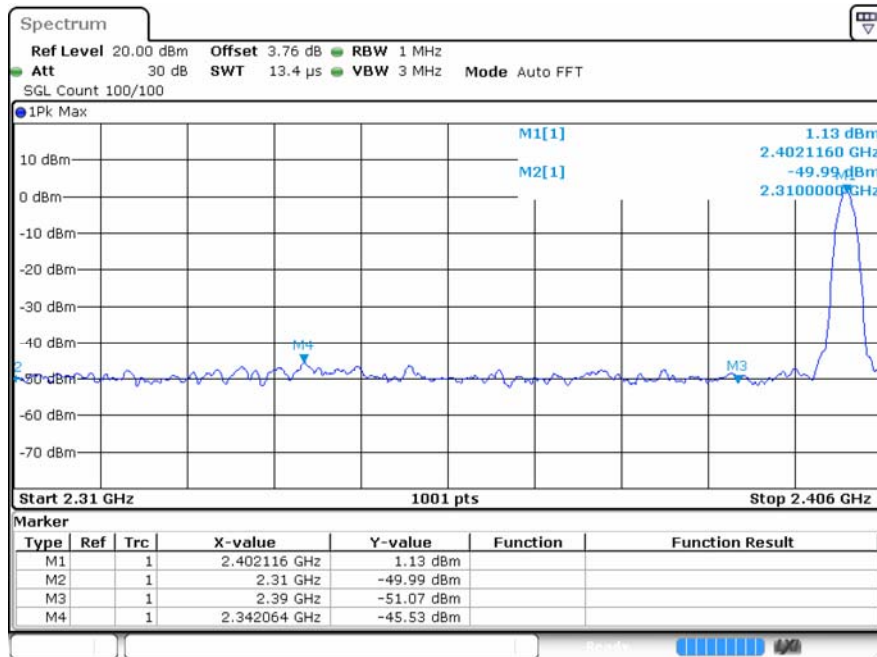


Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (High Channel)





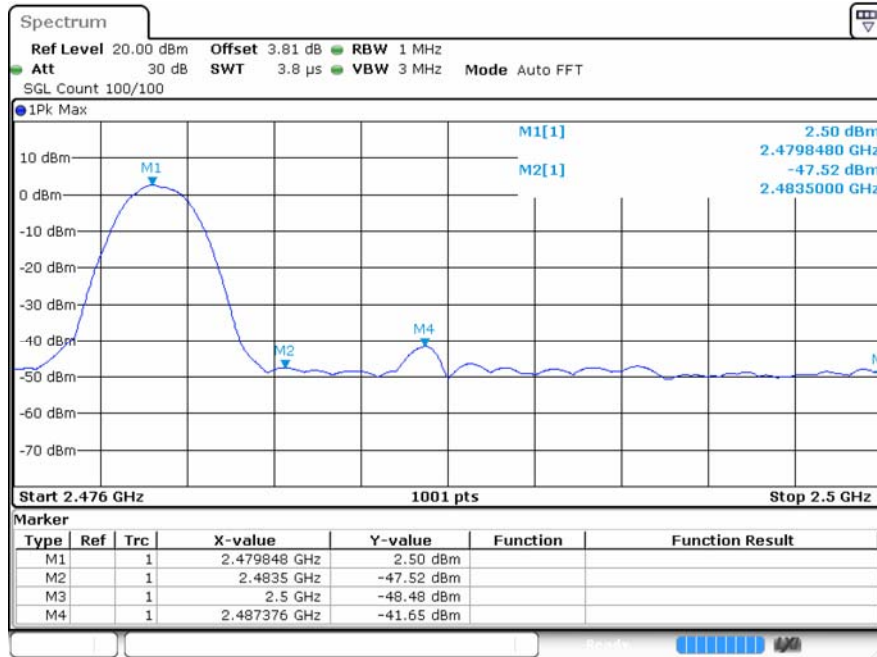
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (Low Channel)



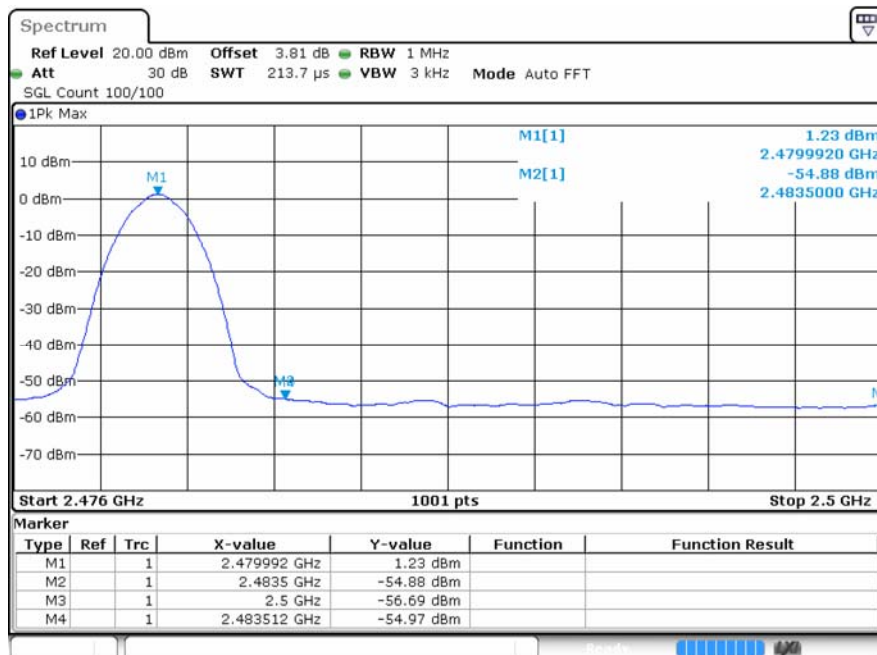
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (Low Channel)



Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



---The End---