



## Appendix A

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

Product Name: SPEAKER

Trade Mark: PYLE

Test Model: PWMA230BT

#### Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	52.4%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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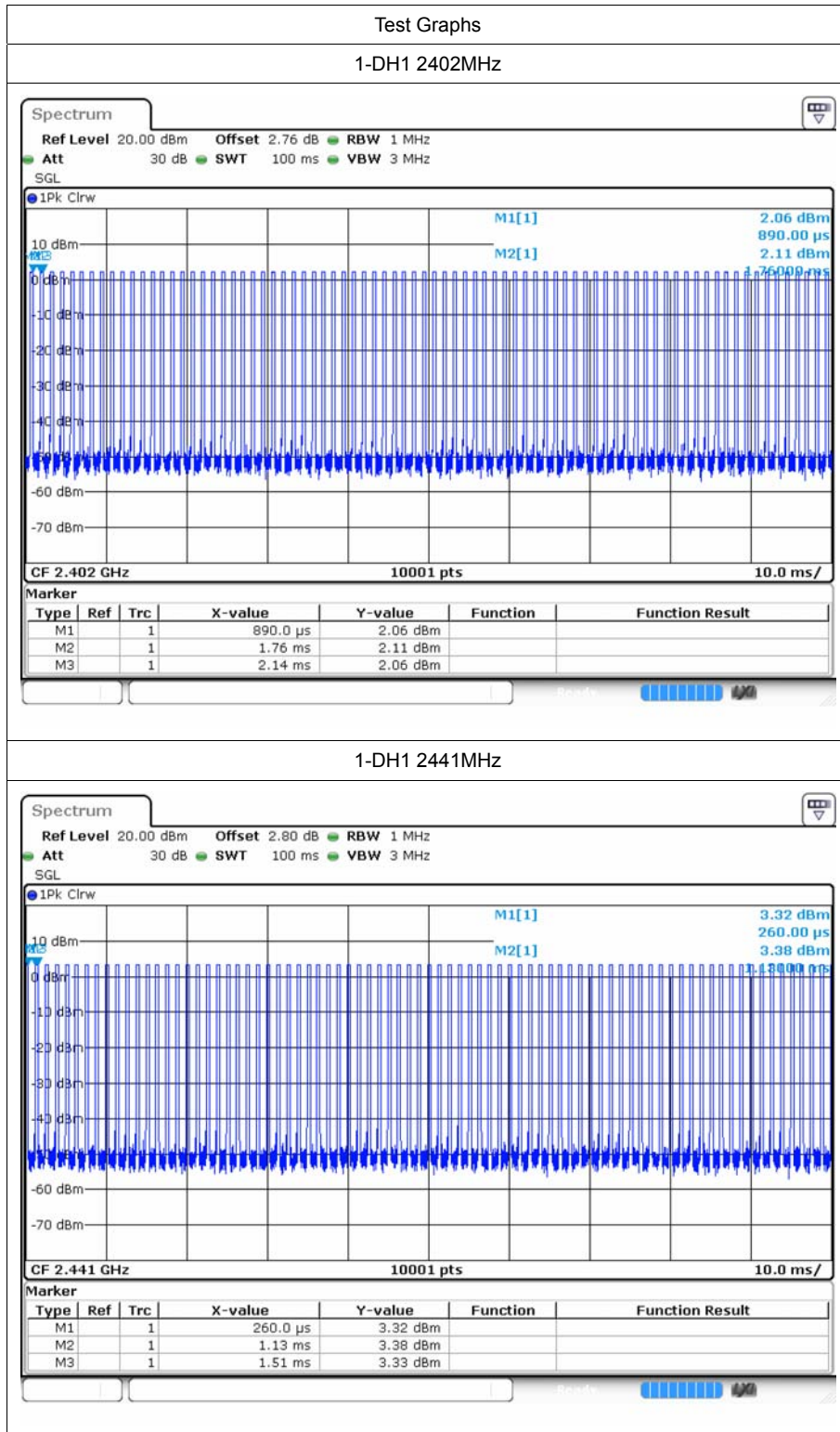
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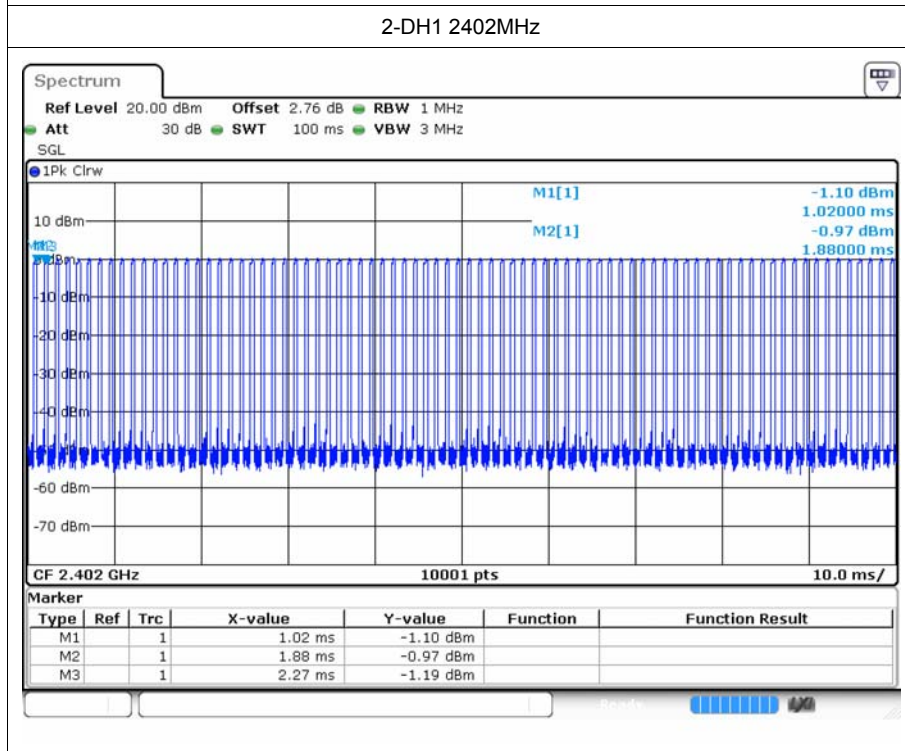
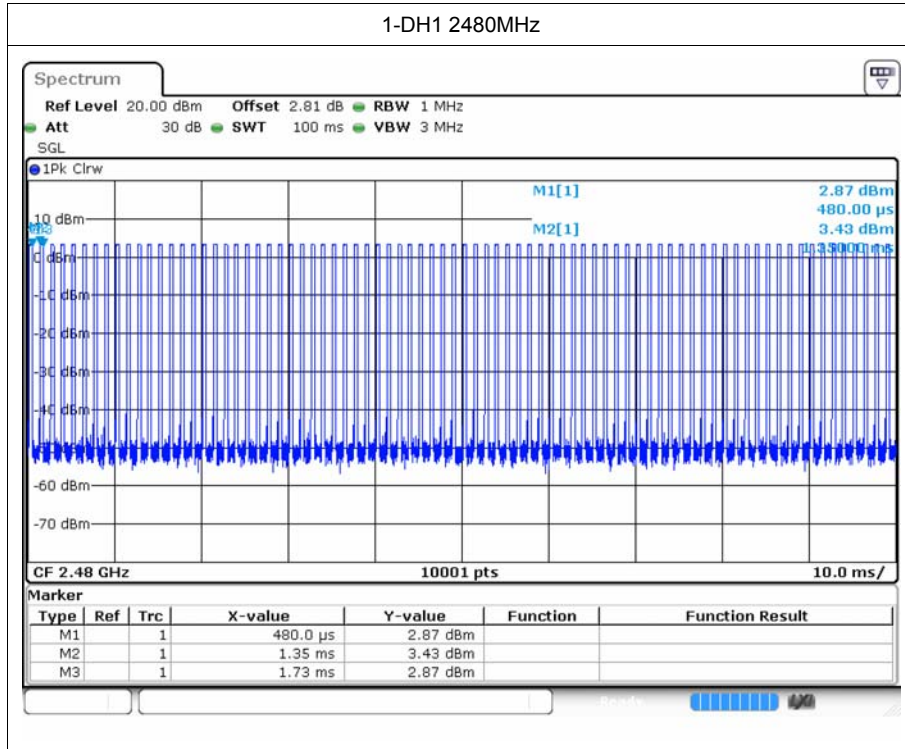
# 1 Duty Cycle

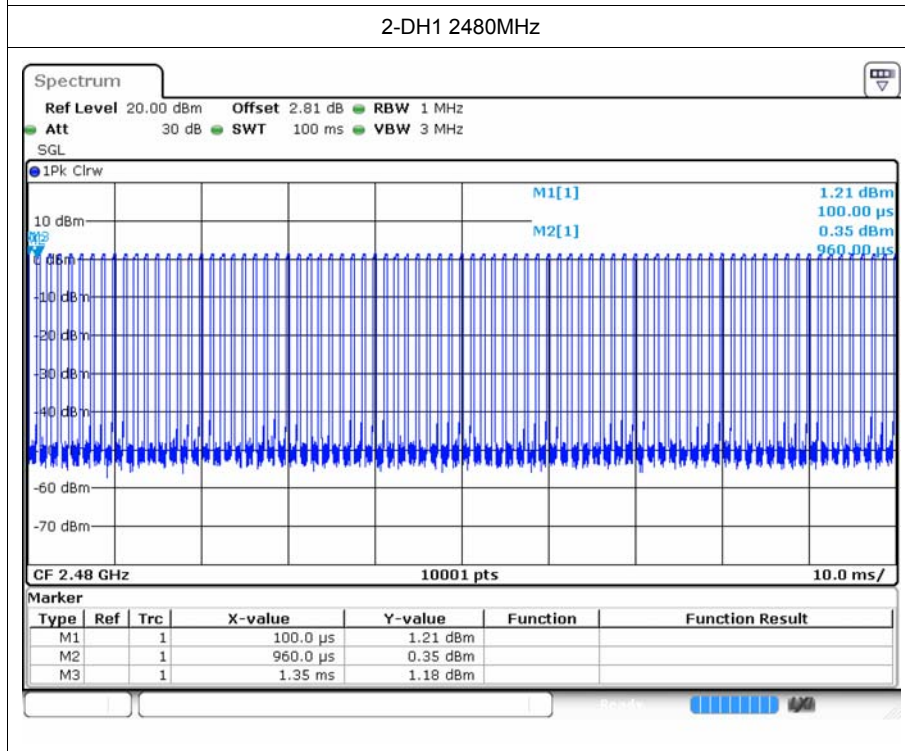
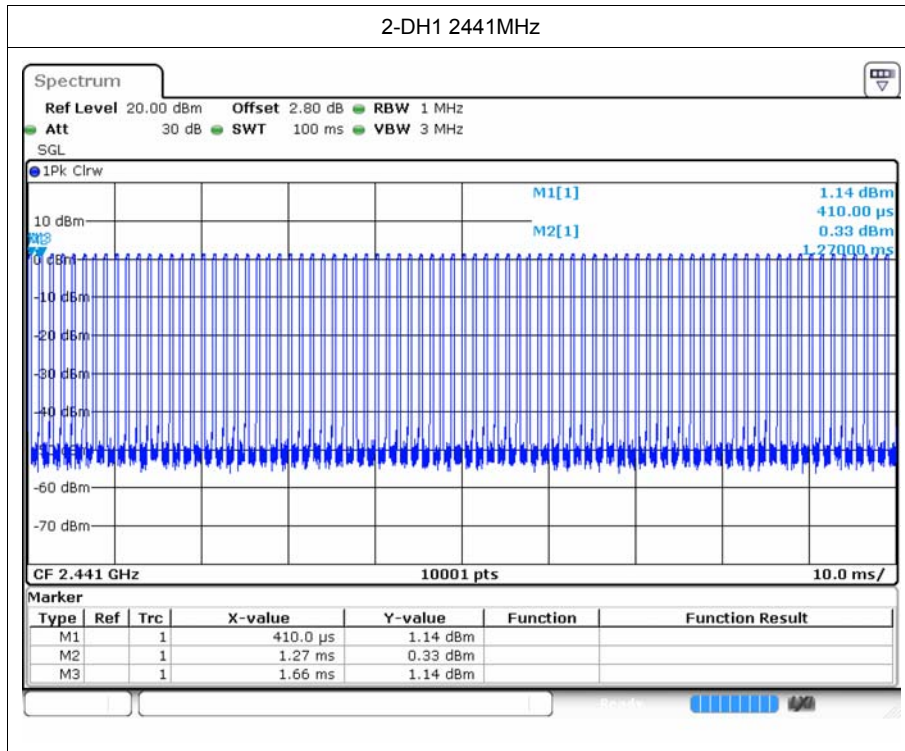
## 1.1 Test Result

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

## 1.2 Test Graphs





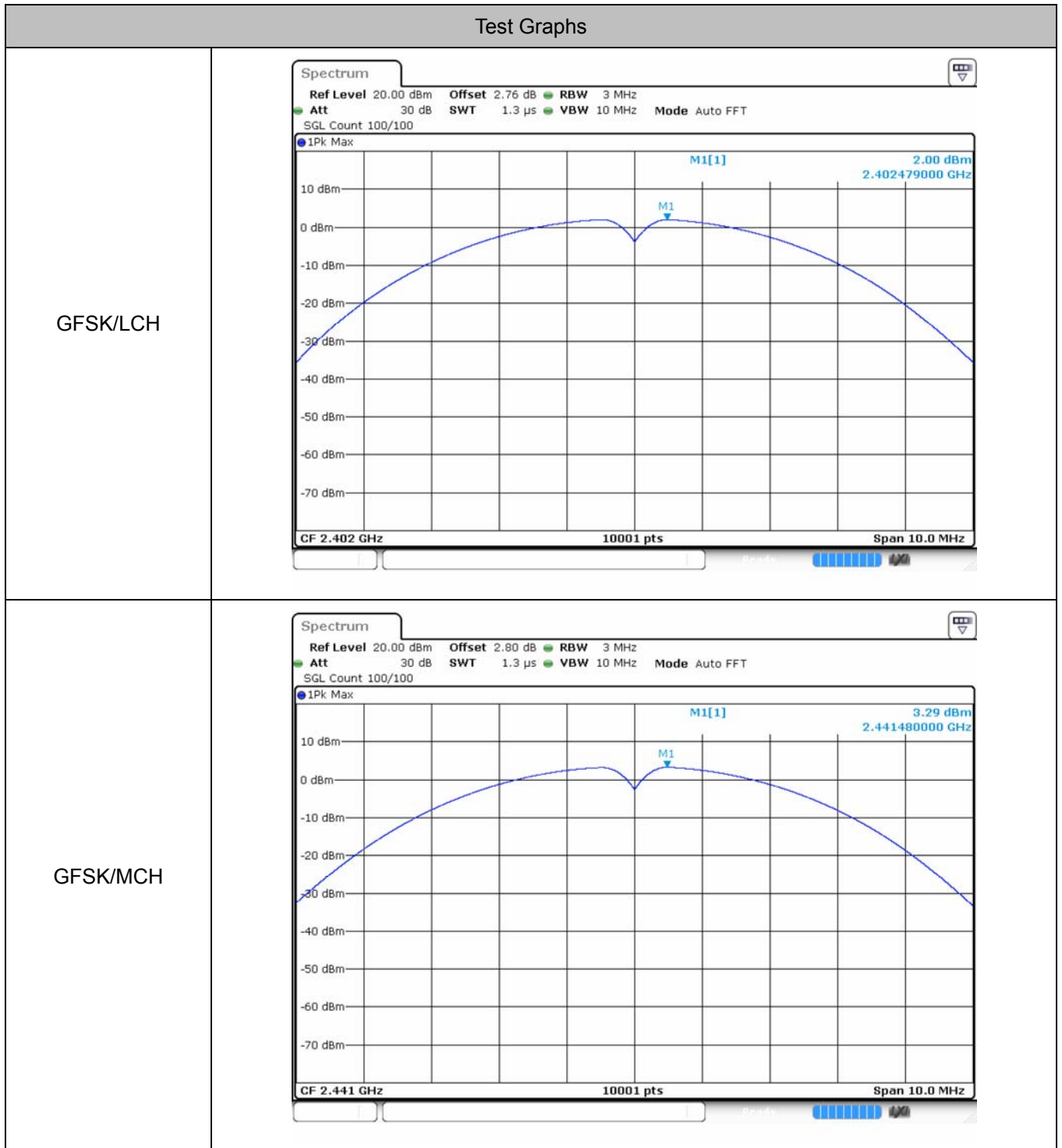


## 2 Maximum Conducted Peak Output Power

### 2.1 Test Result

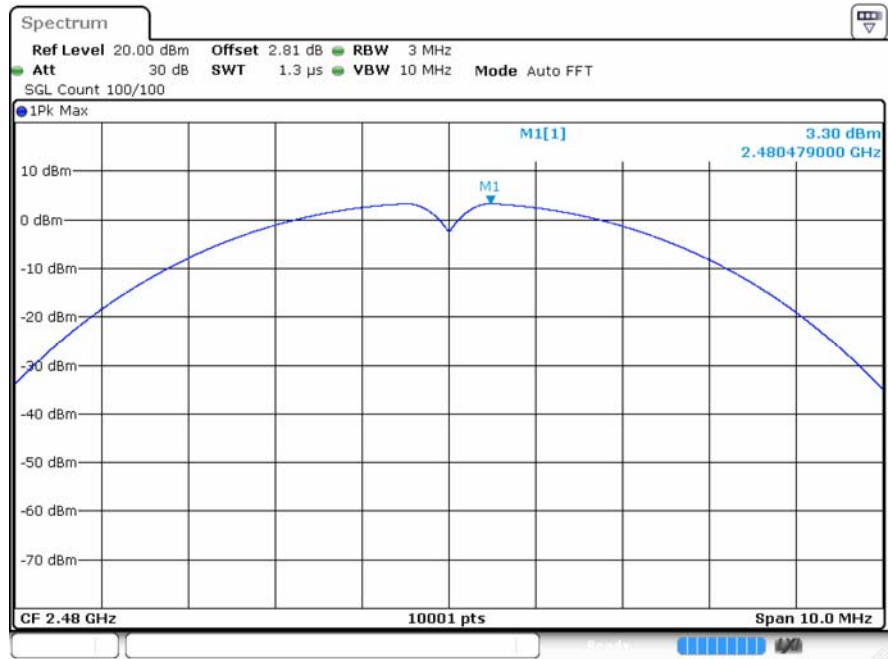
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2	21	Pass
	MCH	3.29	21	Pass
	HCH	3.3	21	Pass
$\pi/4$ DQPSK	LCH	1.34	21	Pass
	MCH	2.31	21	Pass
	HCH	2.46	21	Pass

## 2.2 Test Graphs

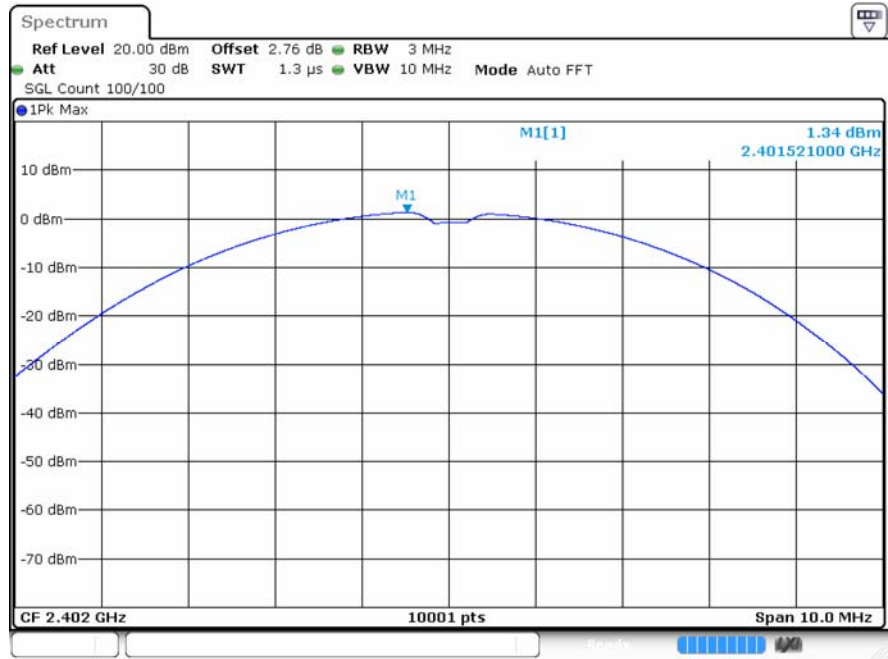




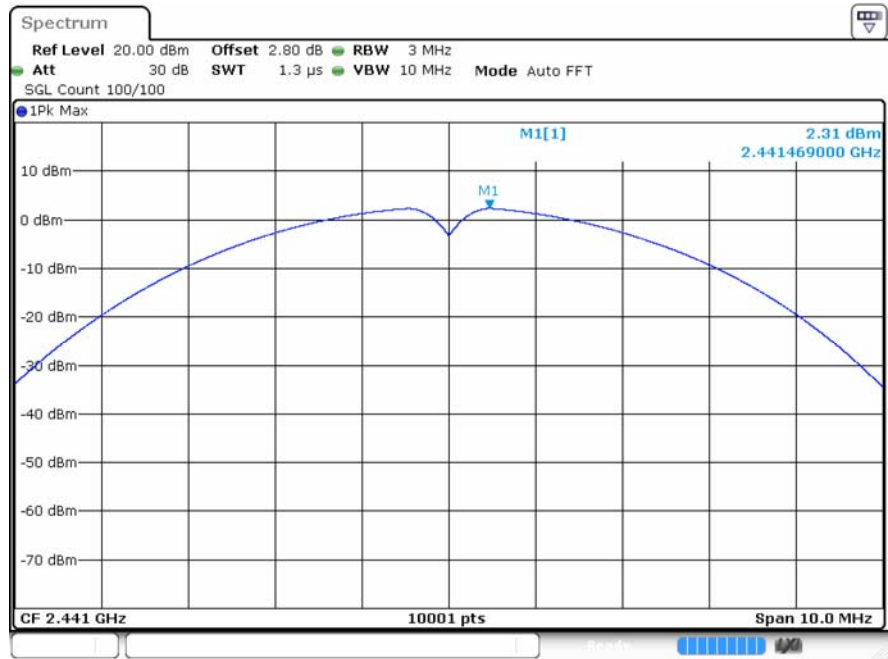
GFSK/HCH



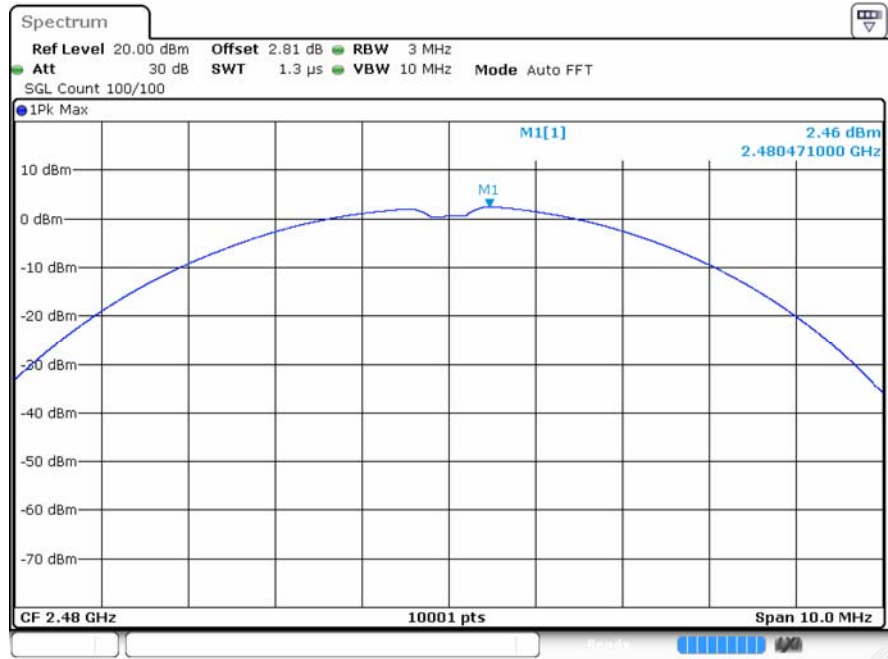
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

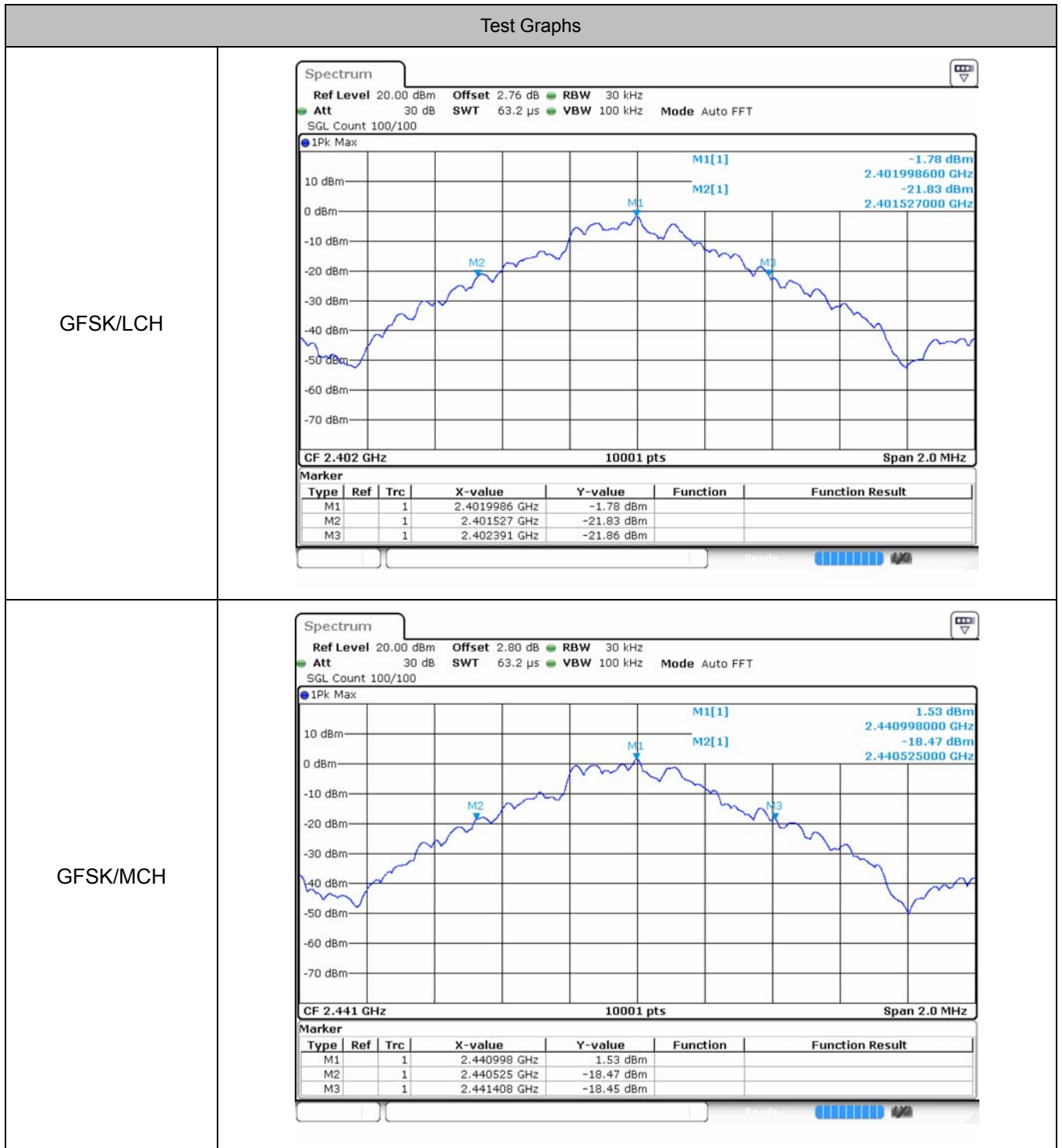


### 3 20dB Bandwidth

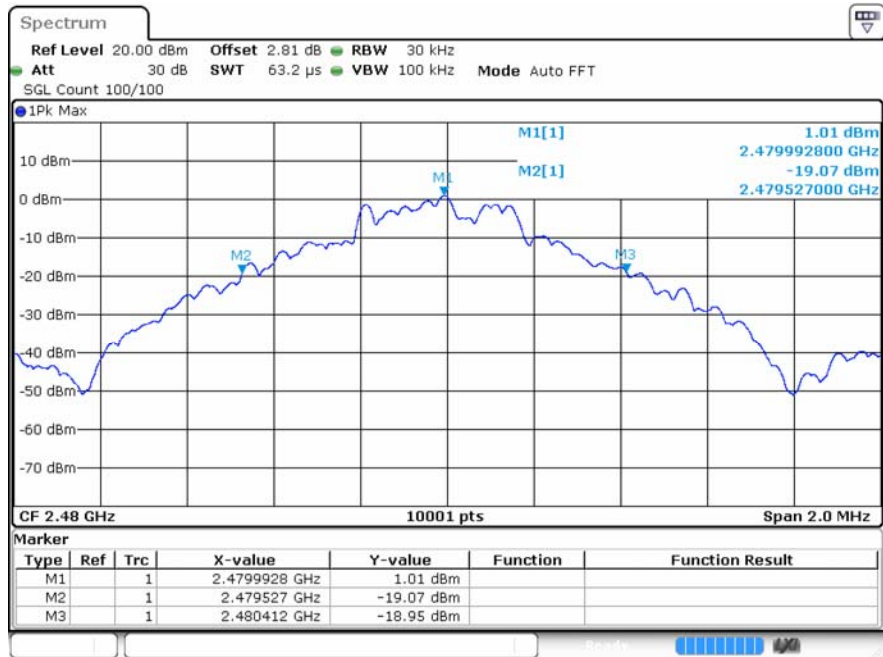
#### 3.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.863	Not Specified	Pass
	MCH	0.884	Not Specified	Pass
	HCH	0.885	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.398	Not Specified	Pass
	MCH	1.424	Not Specified	Pass
	HCH	1.427	Not Specified	Pass

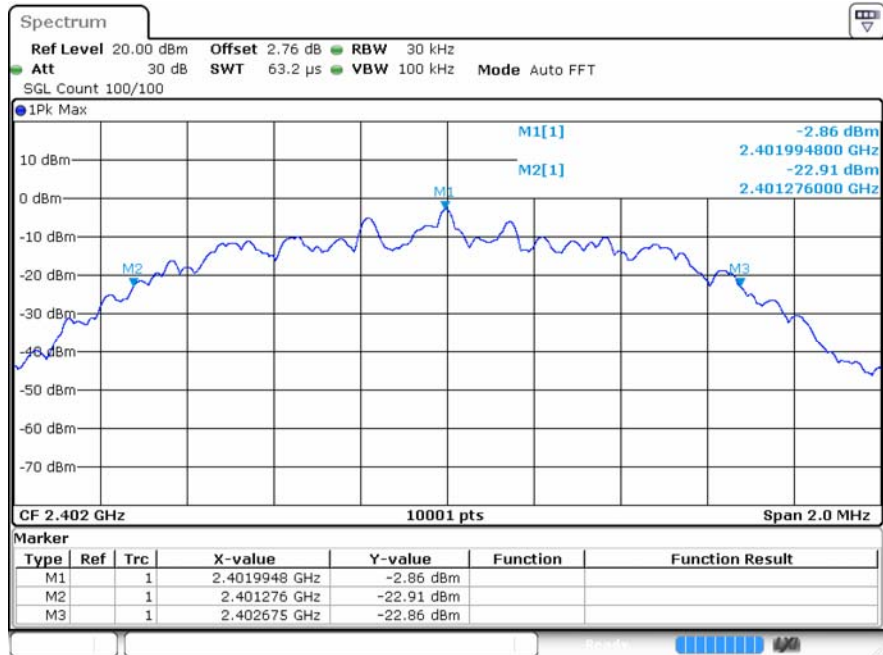
### 3.2 Test Graphs



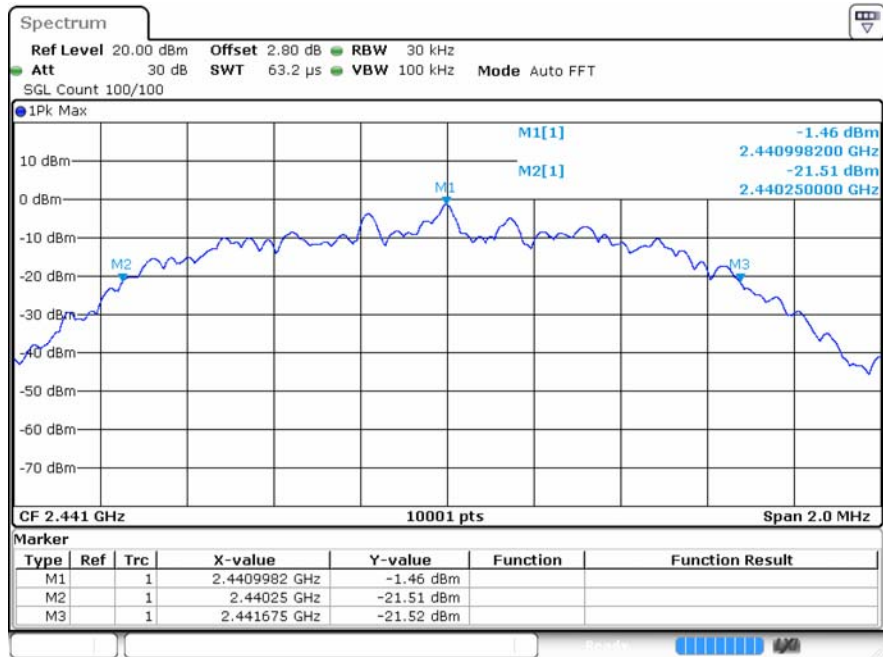
GFSK/HCH



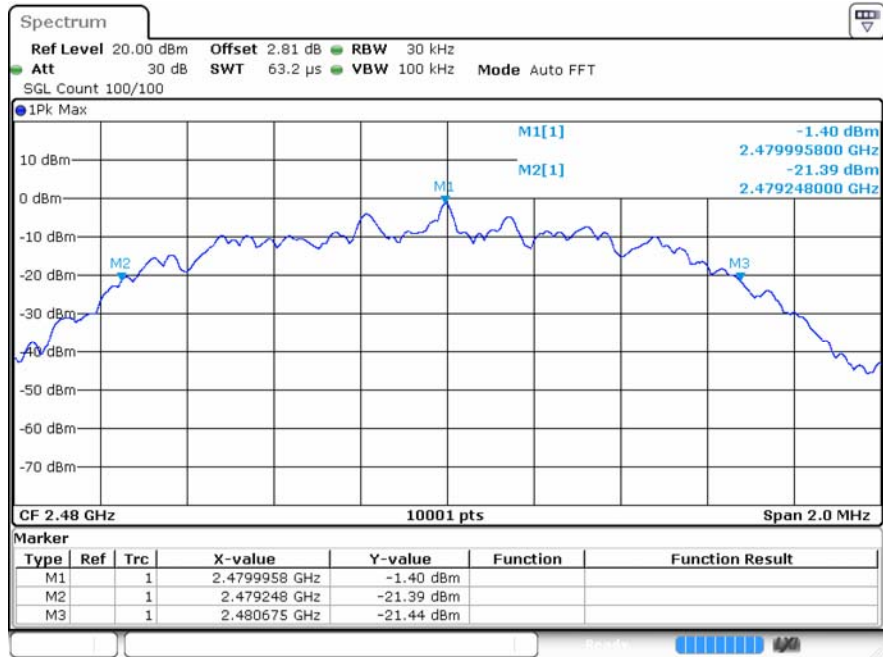
$\pi/4$ DQPSK/LCH



$\pi/4$ 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	0.589	Pass
$\pi/4$ DQPSK	MCH	0.99	0.949	Pass

## 4.2 Test Graphs



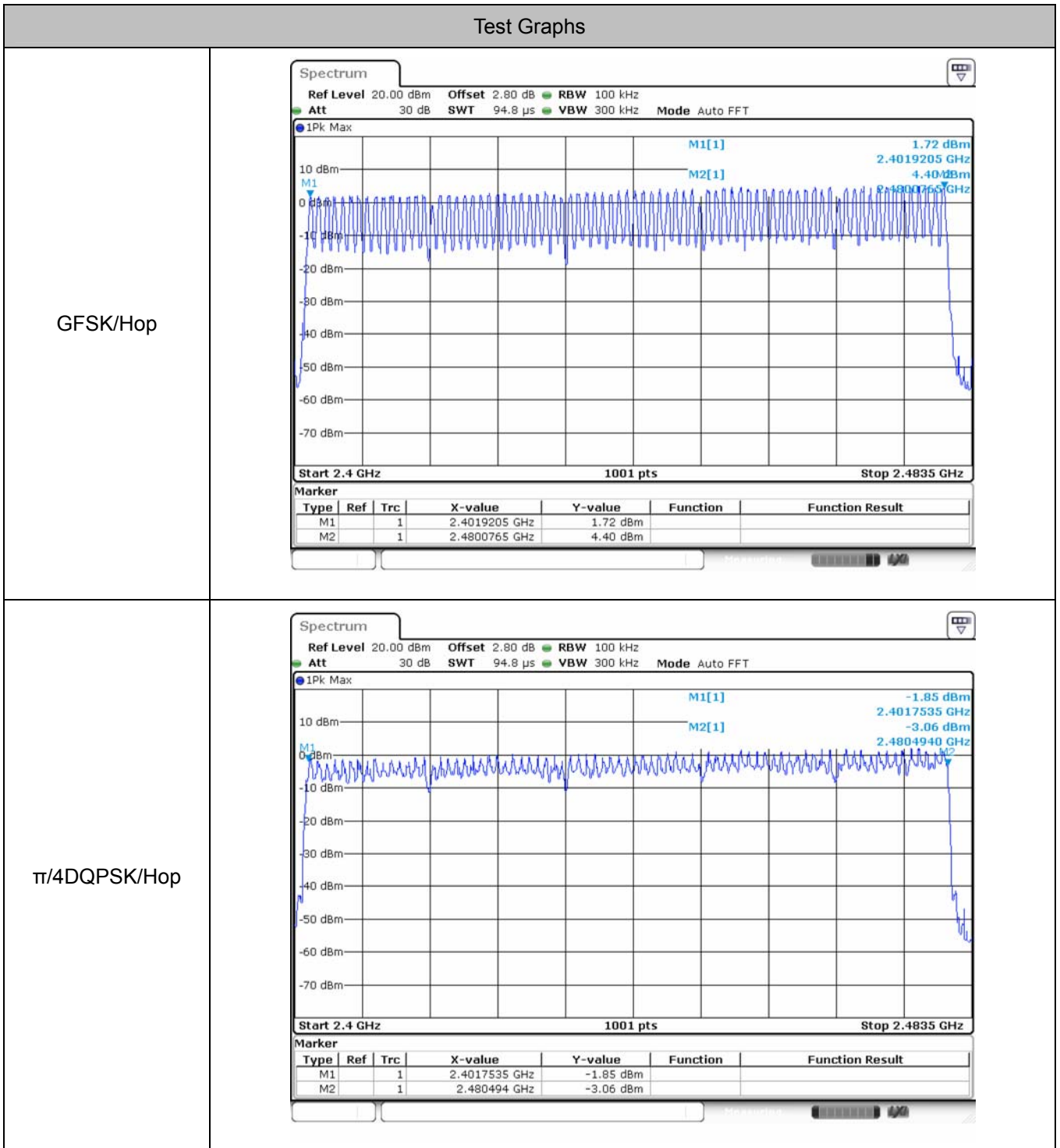


## 5 Hopping Channel Number

### 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

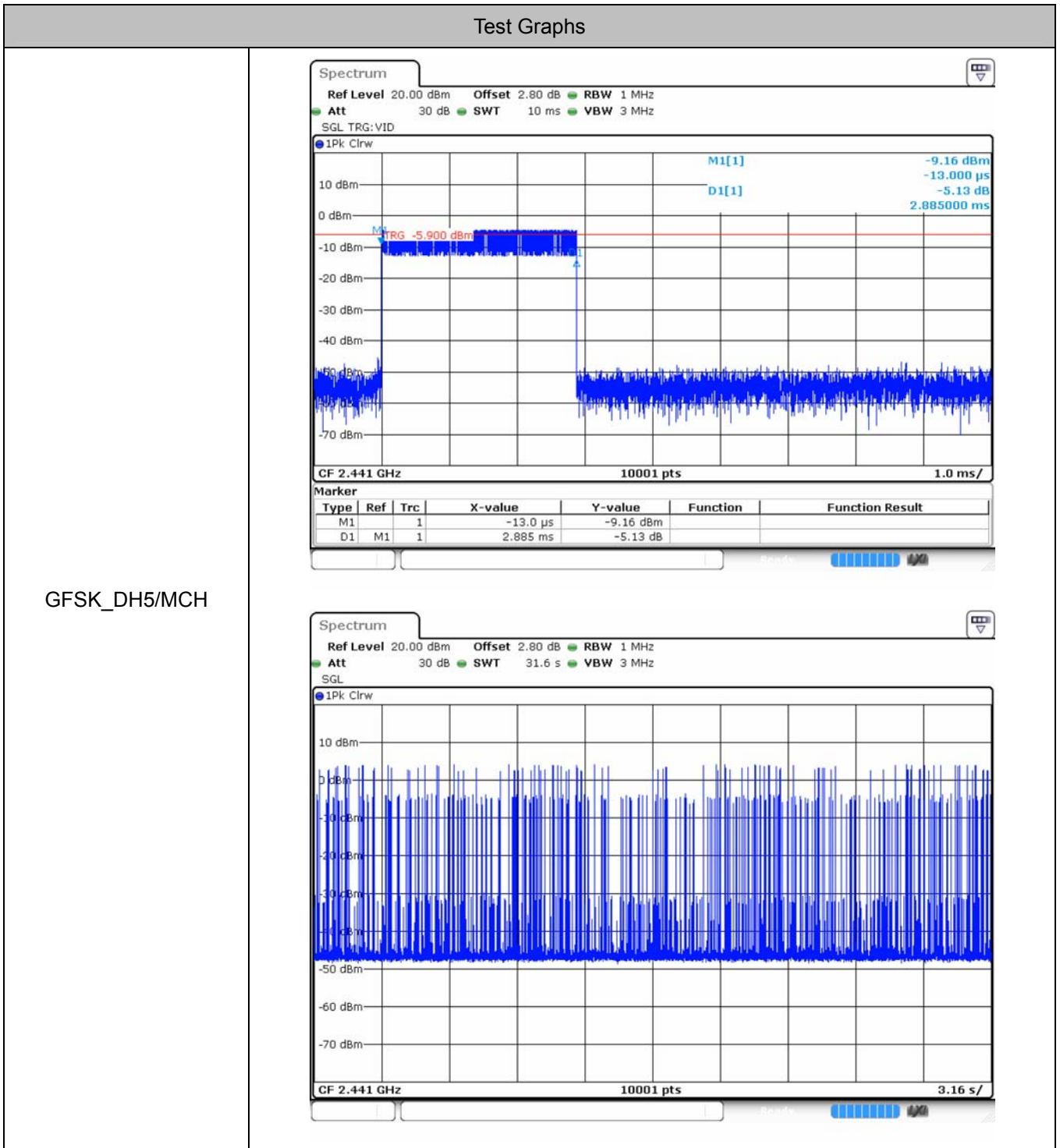


## 6 Dwell Time

### 6.1 Test Result

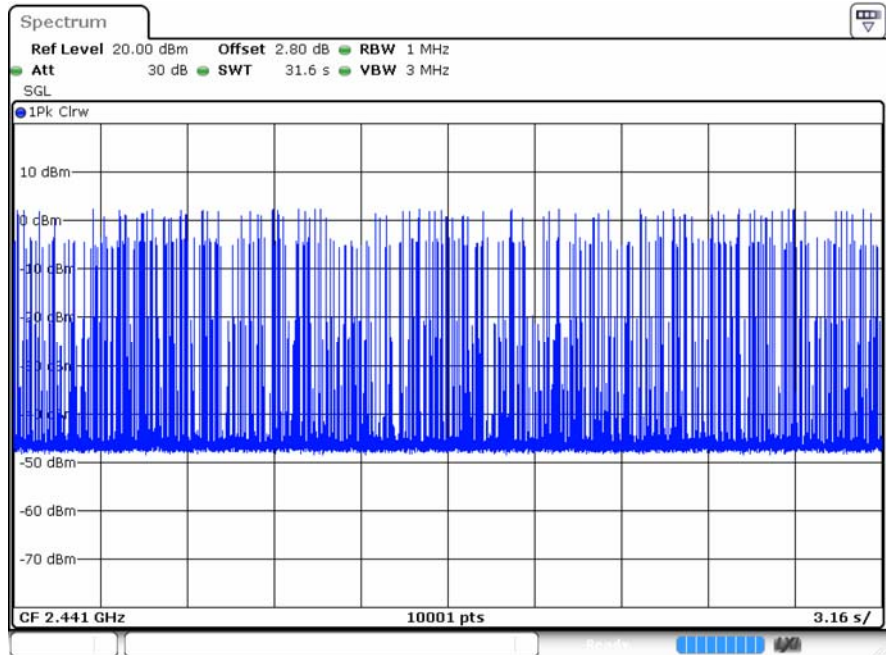
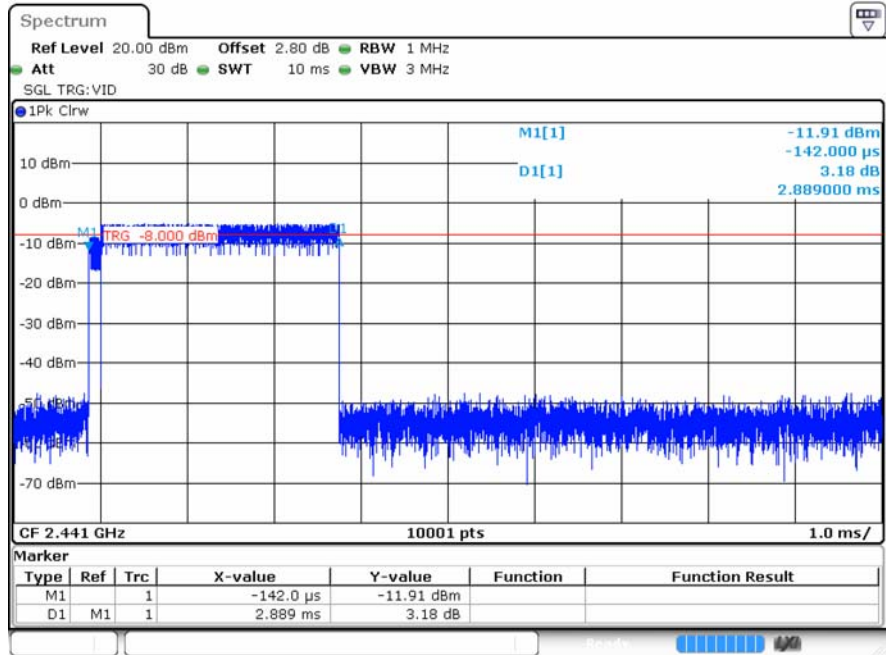
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.885	101	291.385	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.889	102	294.678	0.4	Pass

## 6.2 Test Graphs





$\pi/4$ DQPSK  
\_2DH5/MCH

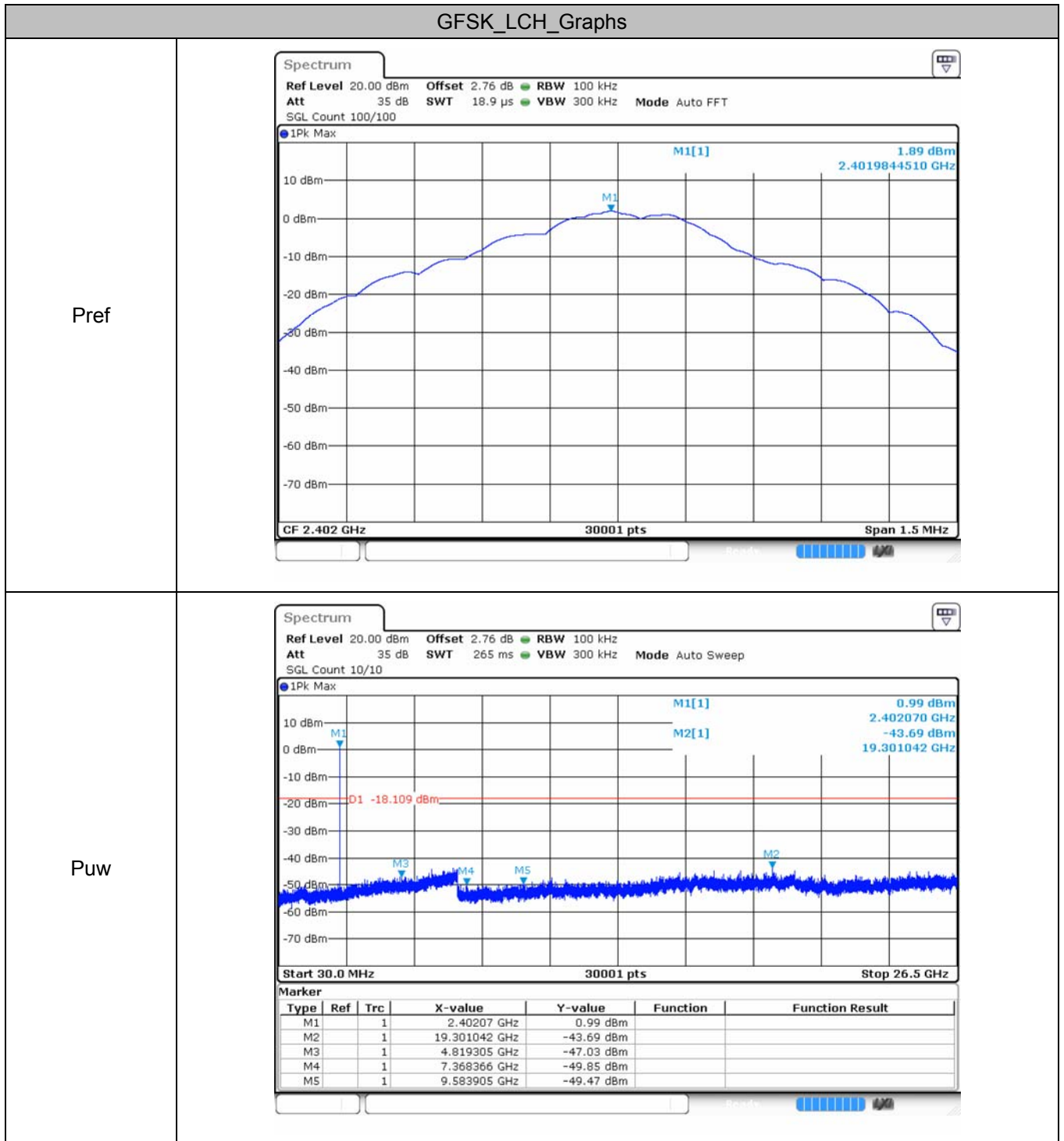


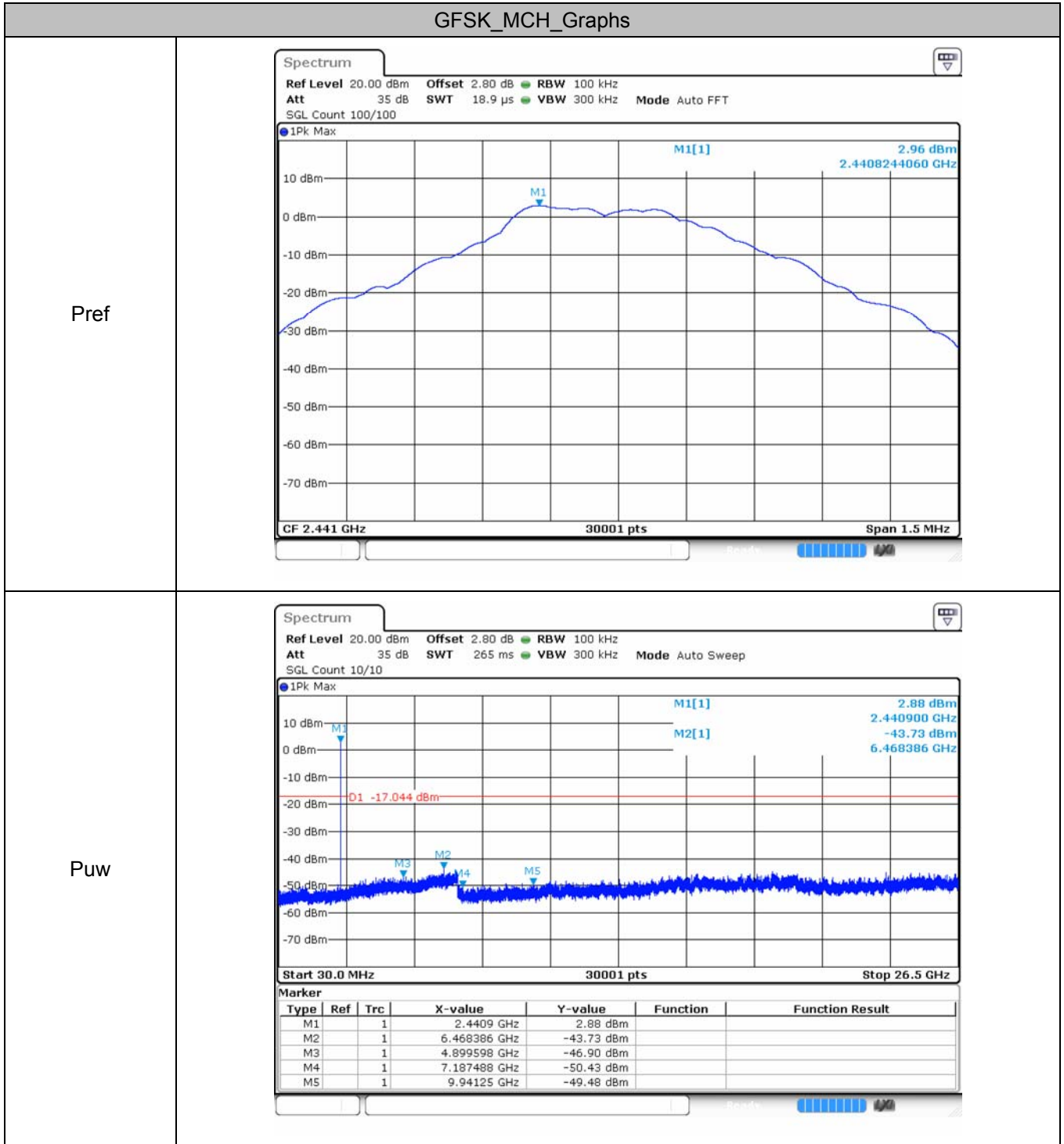
## 7 RF Conducted Spurious Emissions

### 7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-45.57	-20	Pass
	MCH	-46.68	-20	Pass
	HCH	-47.02	-20	Pass
$\pi/4$ DQPSK	LCH	-43.53	-20	Pass
	MCH	-43.36	-20	Pass
	HCH	-44.34	-20	Pass

## 7.2 Test Graphs





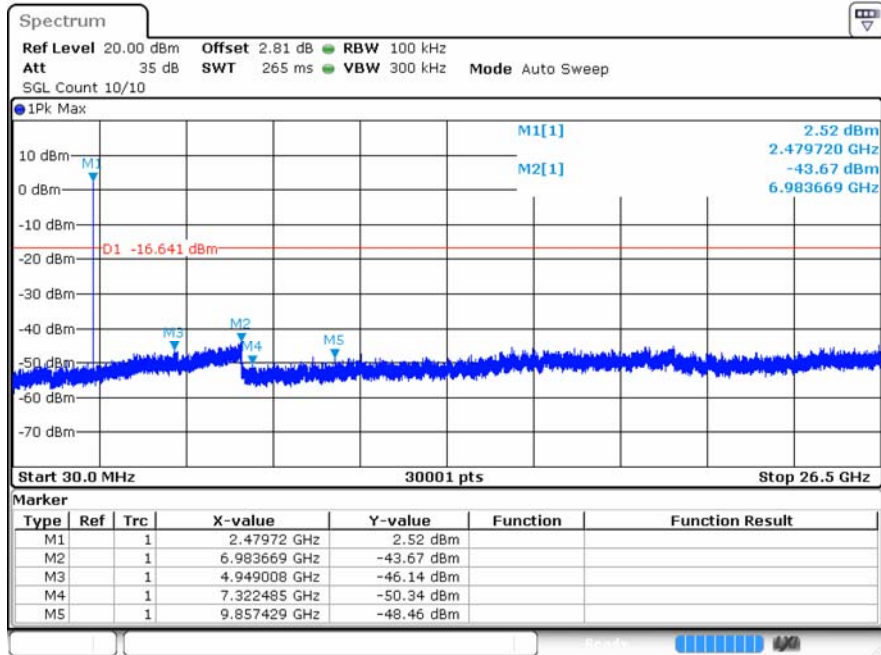


GFSK\_HCH\_Graphs

Pref

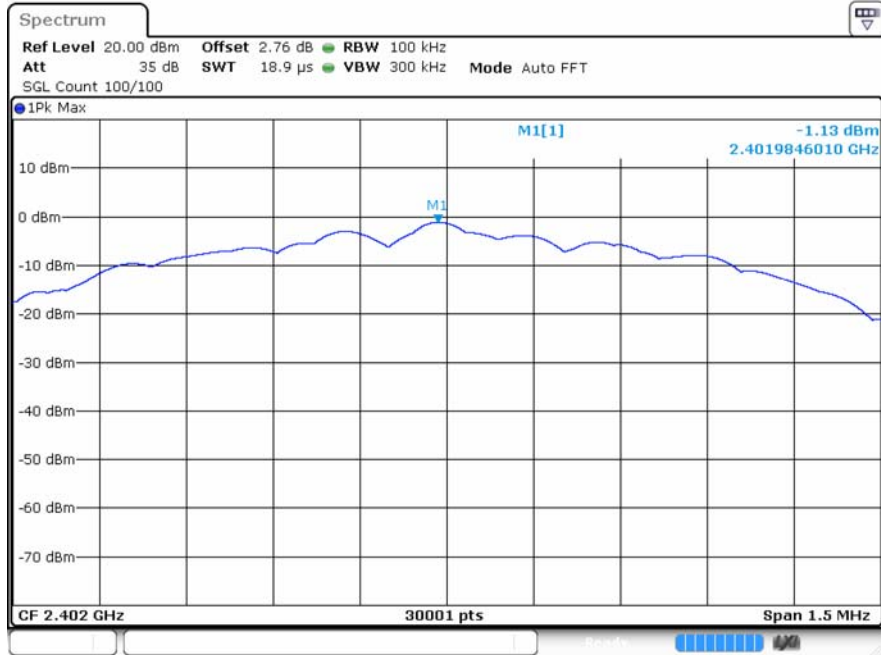


Puw

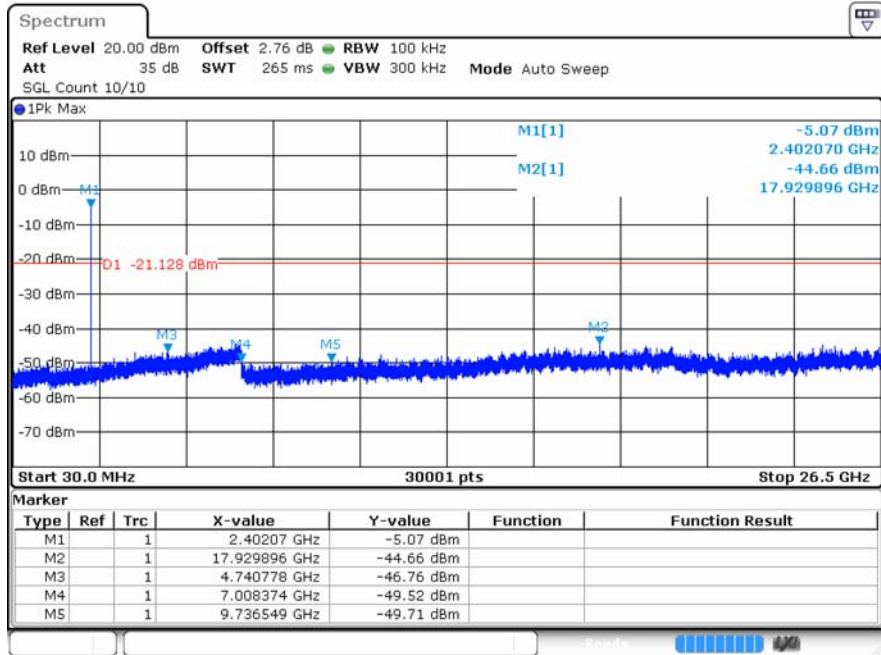


$\pi/4$ DQPSK\_LCH\_Graphs

Pref

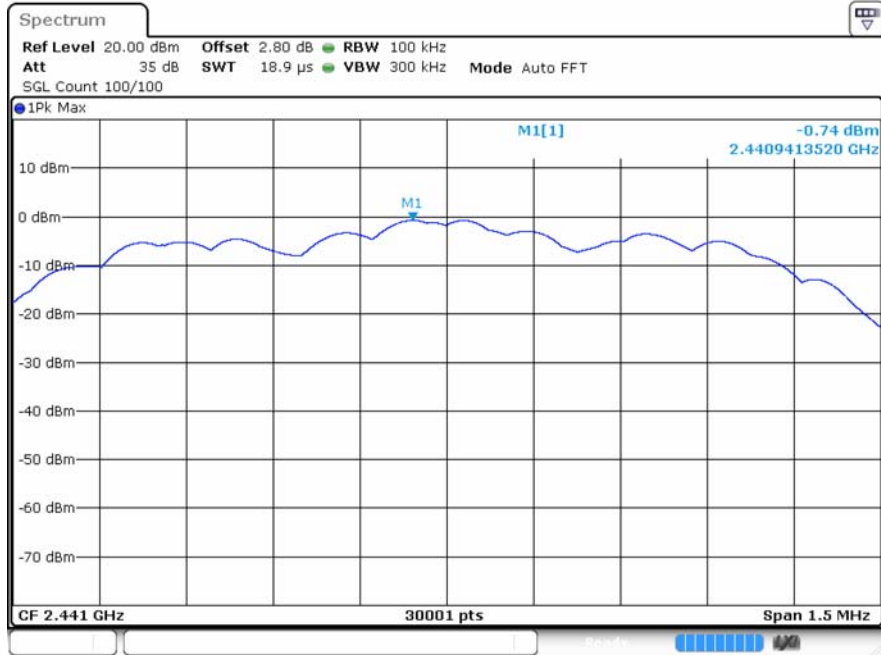


Puw

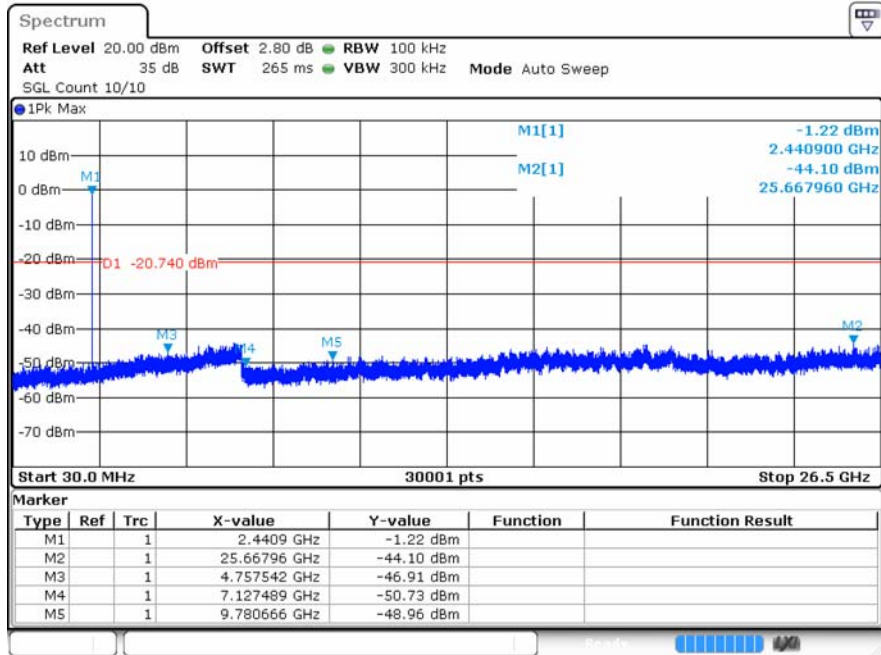


$\pi/4$ DQPSK\_MCH\_Graphs

Pref

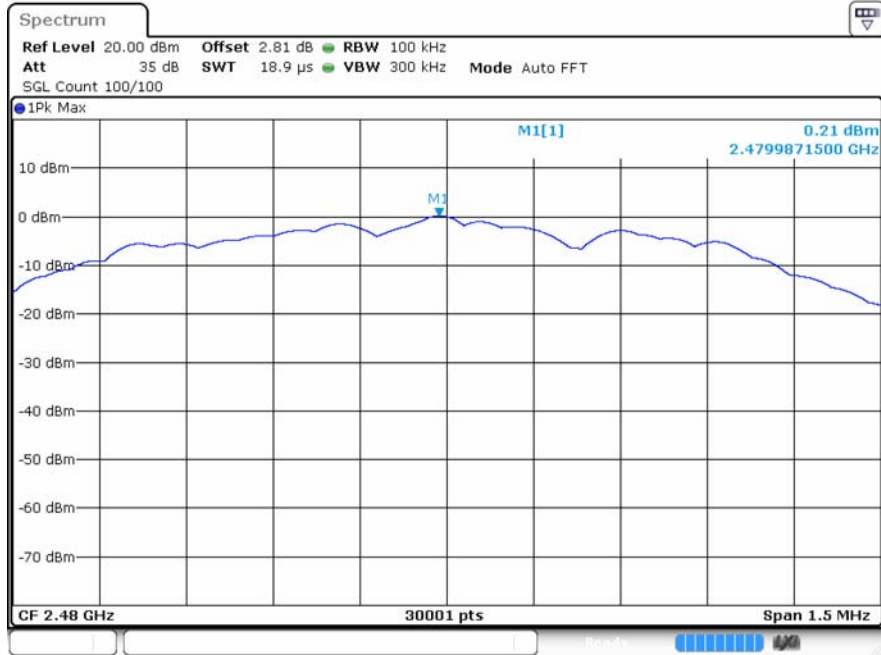


Puw

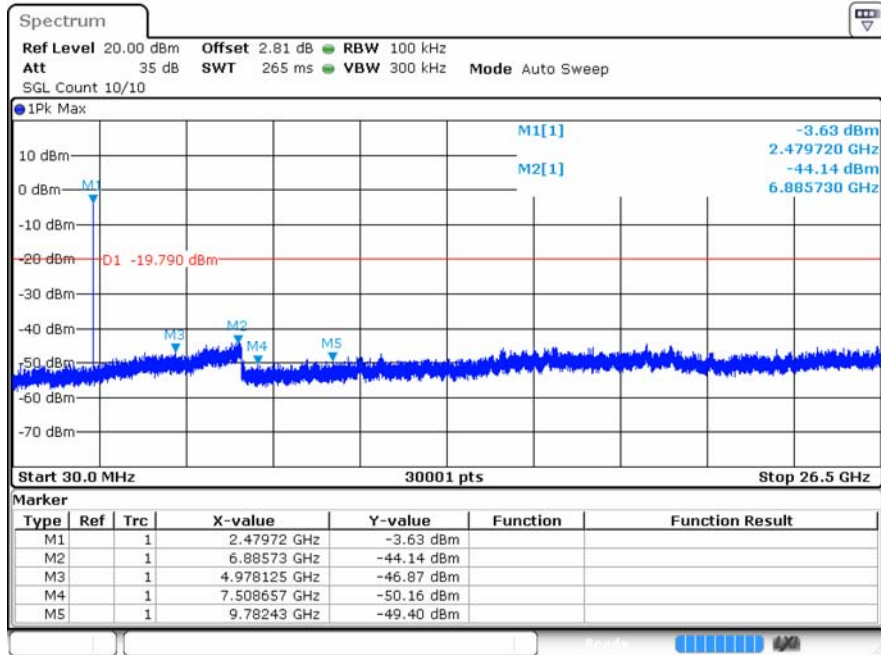


$\pi$ /4DQPSK\_HCH\_Graphs

Pref



Puw

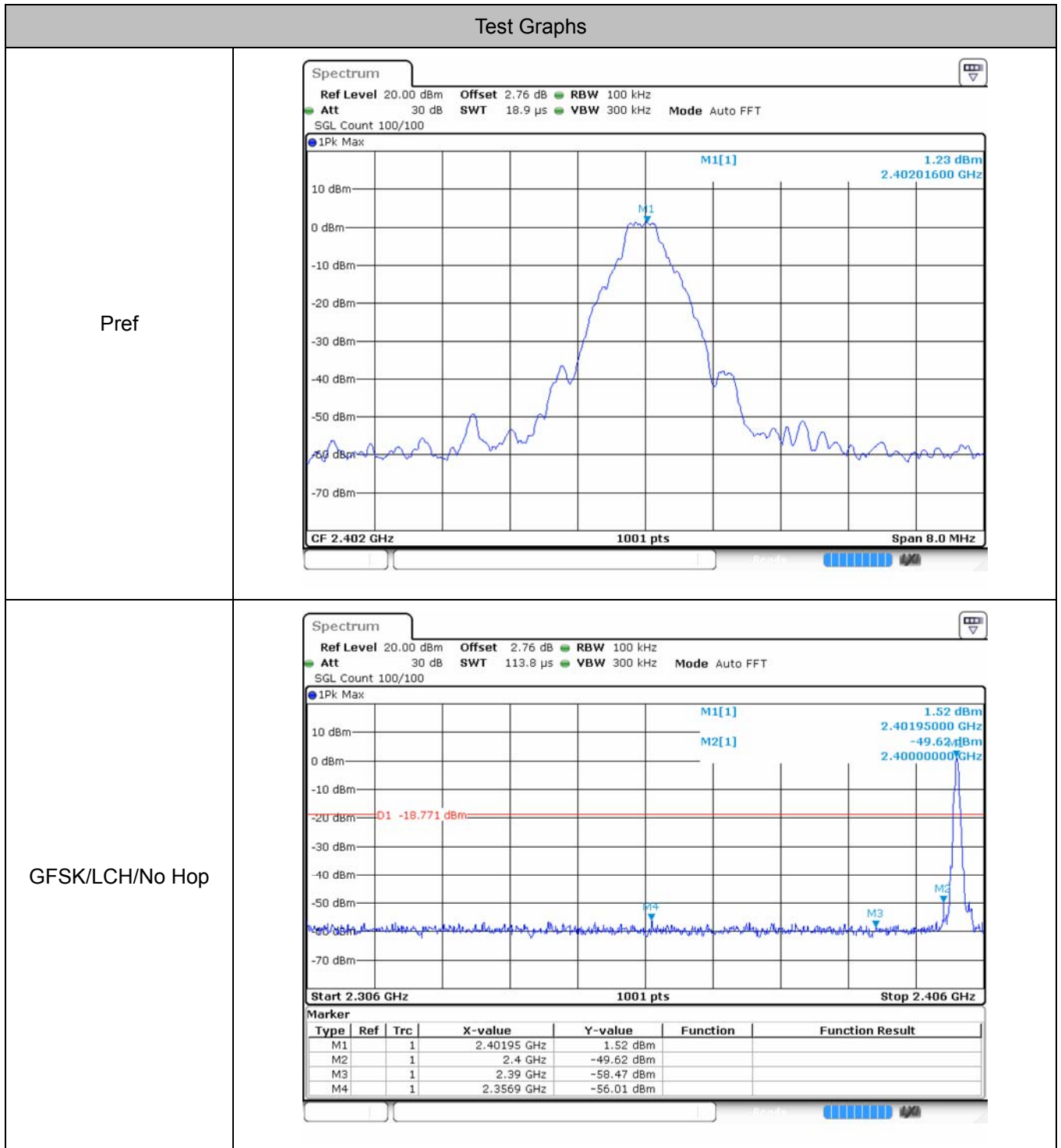


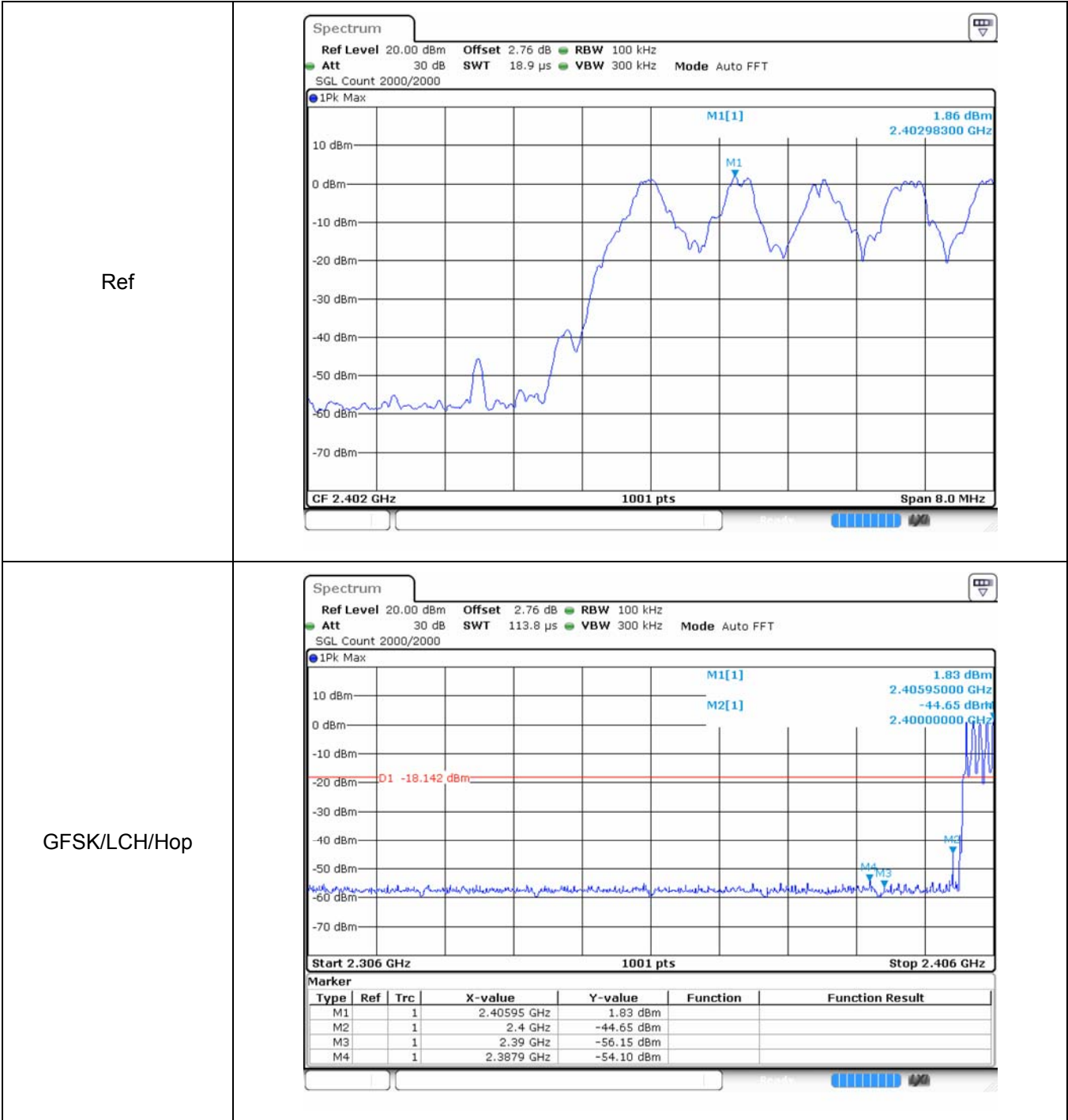
## 8 Band-edge for RF Conducted Emissions

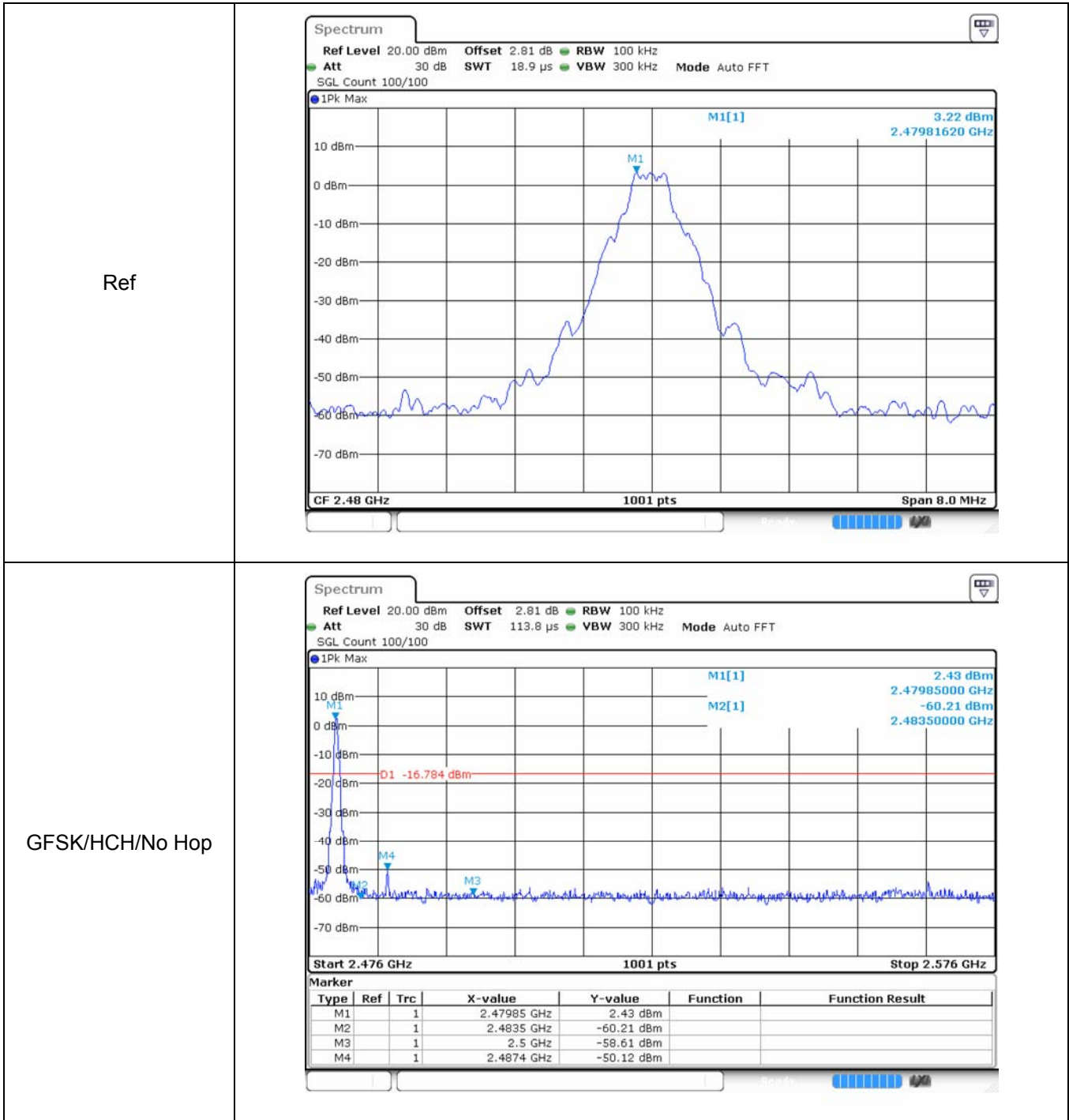
### 8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-57.23	-20	Pass
			On	-55.95	-20	Pass
	HCH	2480	Off	-53.33	-20	Pass
			On	-59.56	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-54.76	-20	Pass
			On	-52.73	-20	Pass
	HCH	2480	Off	-44.81	-20	Pass
			On	-49.73	-20	Pass

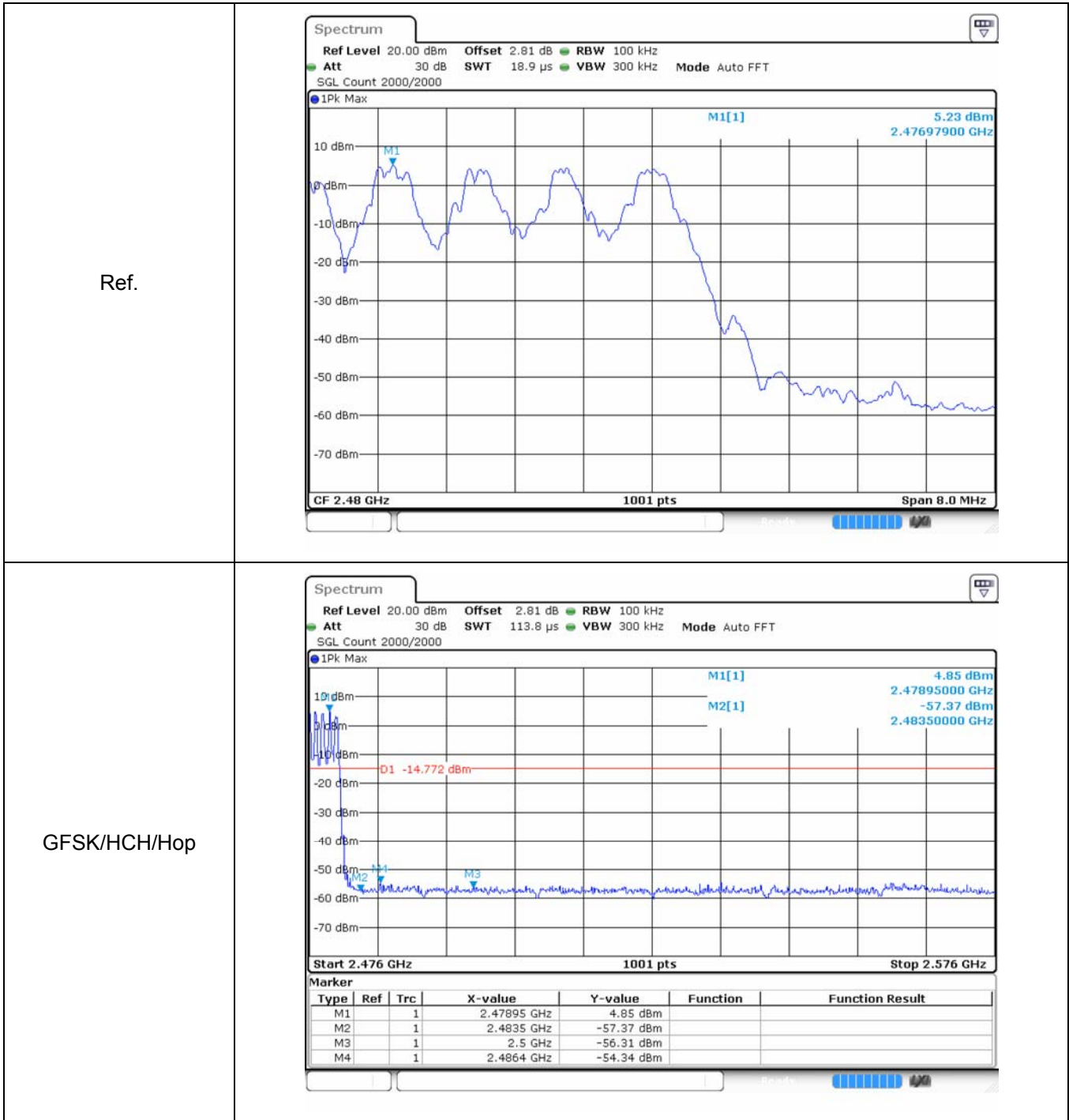
## 8.2 Test Graphs

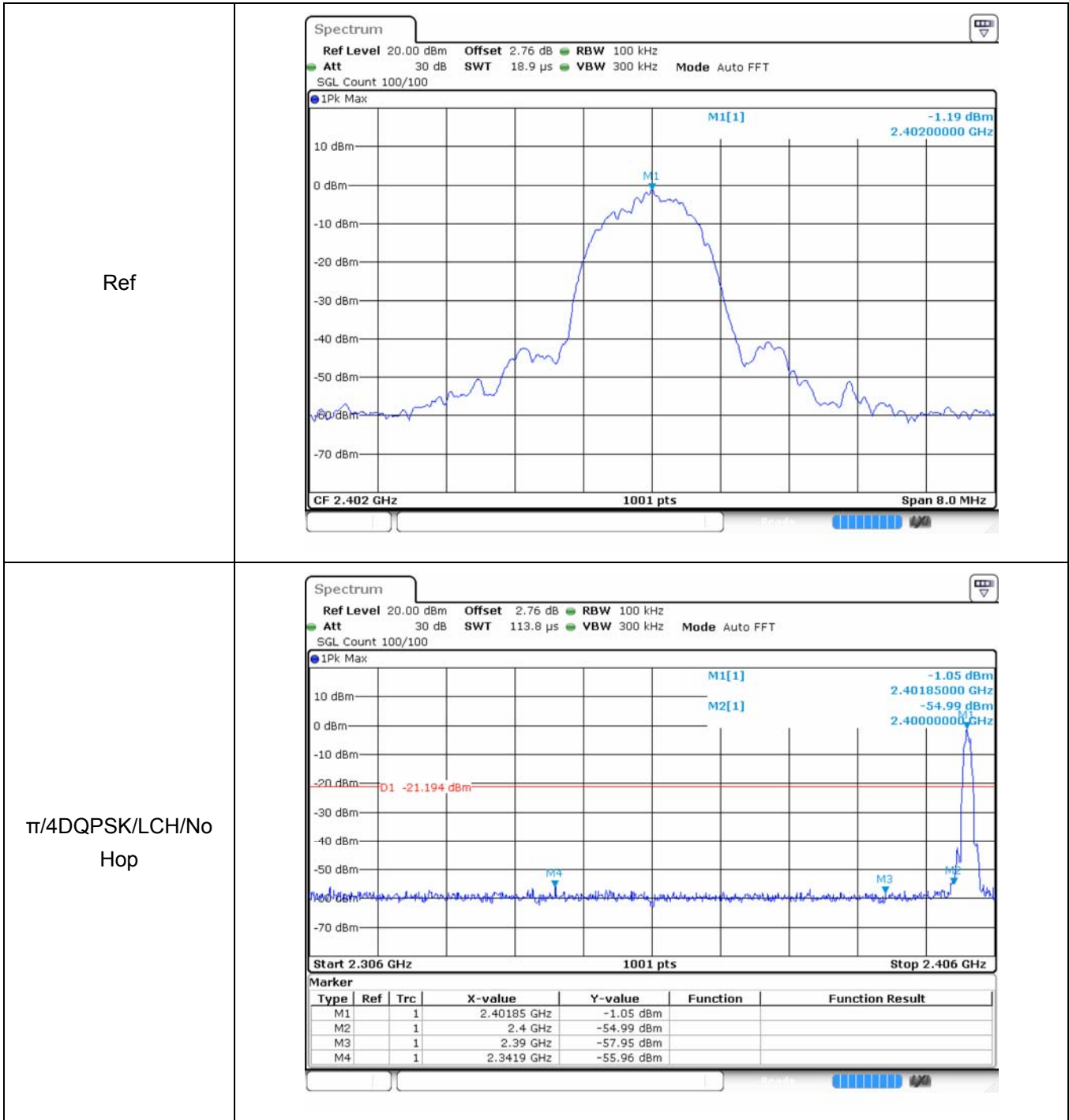


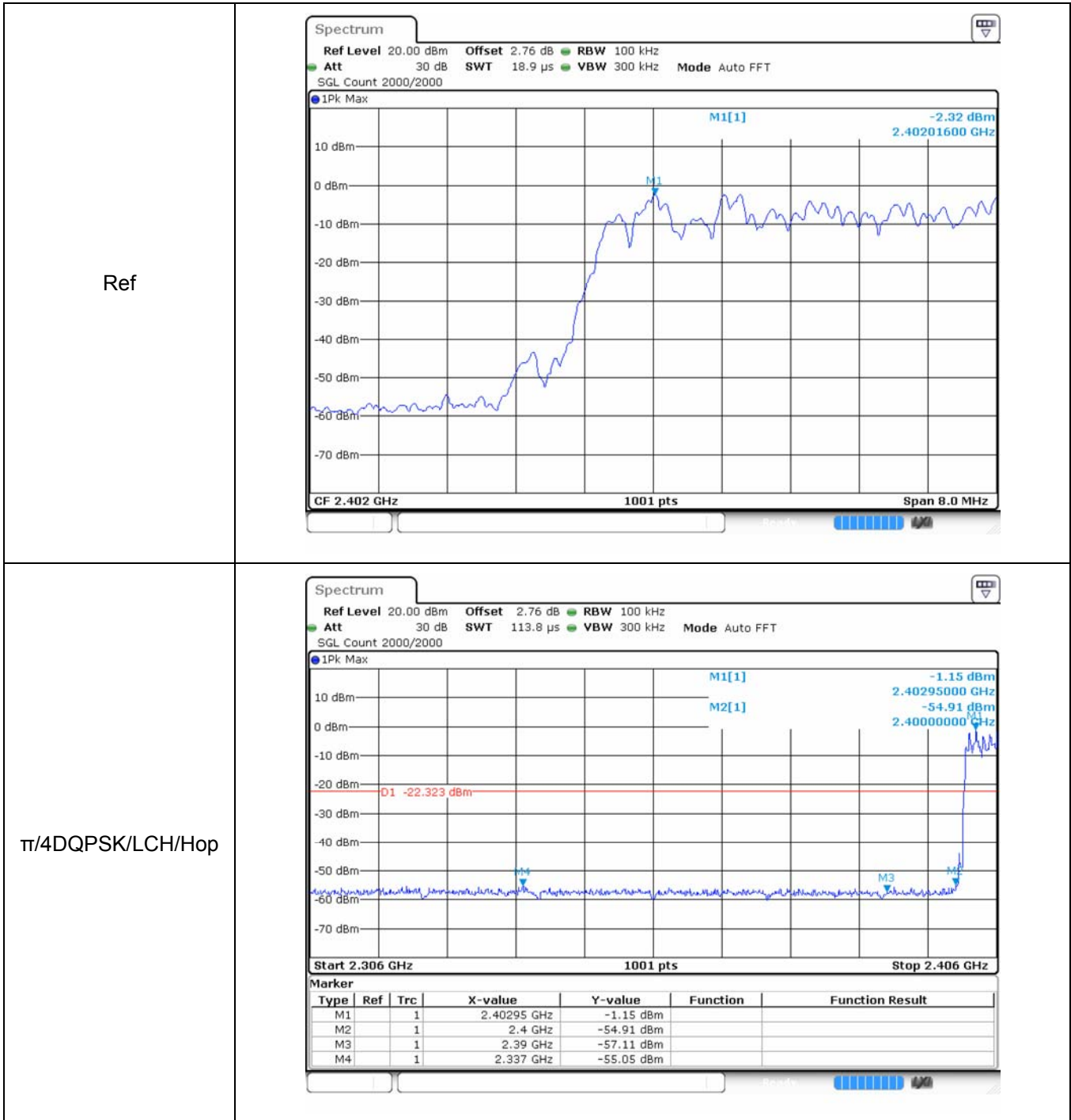


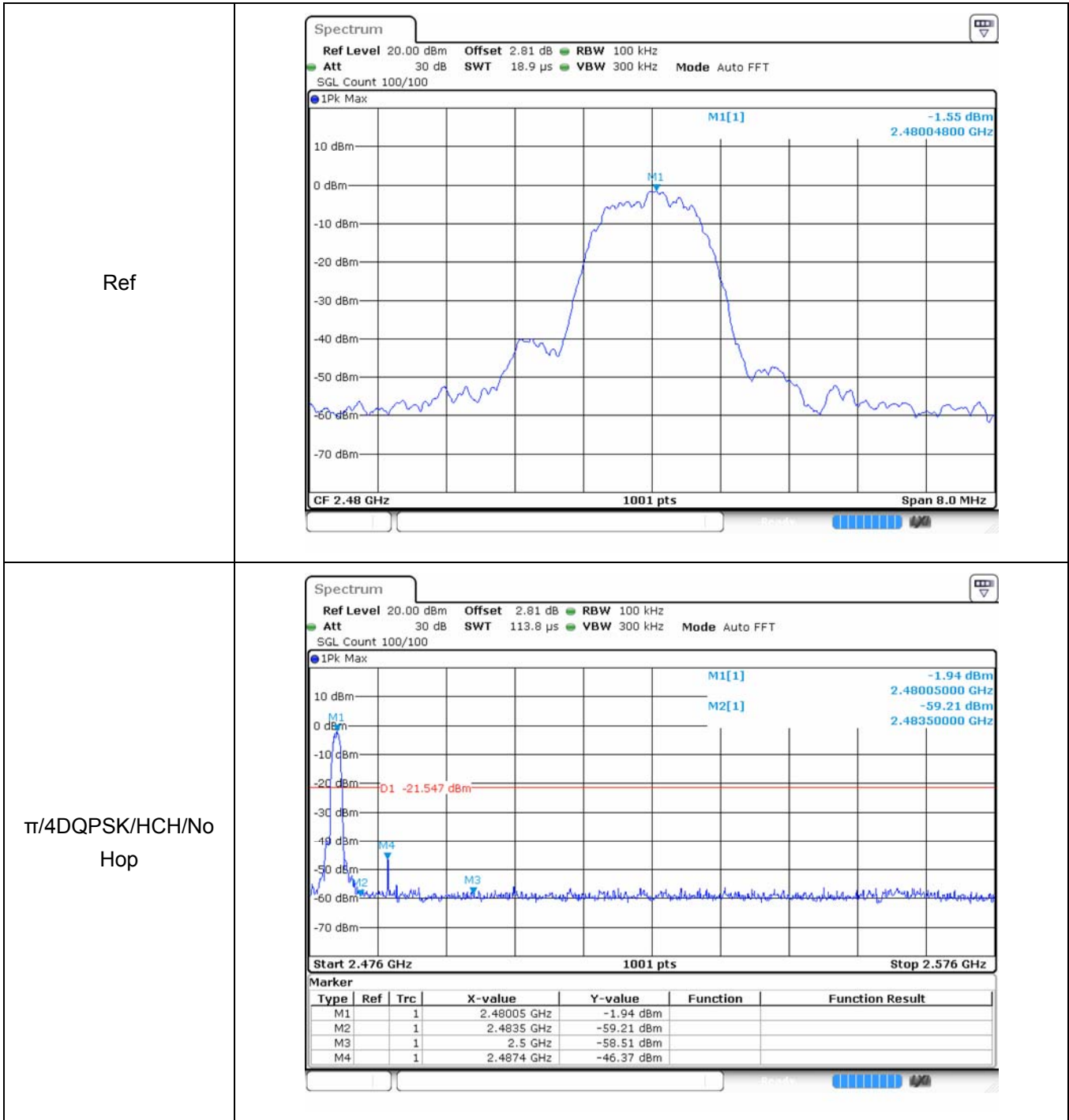


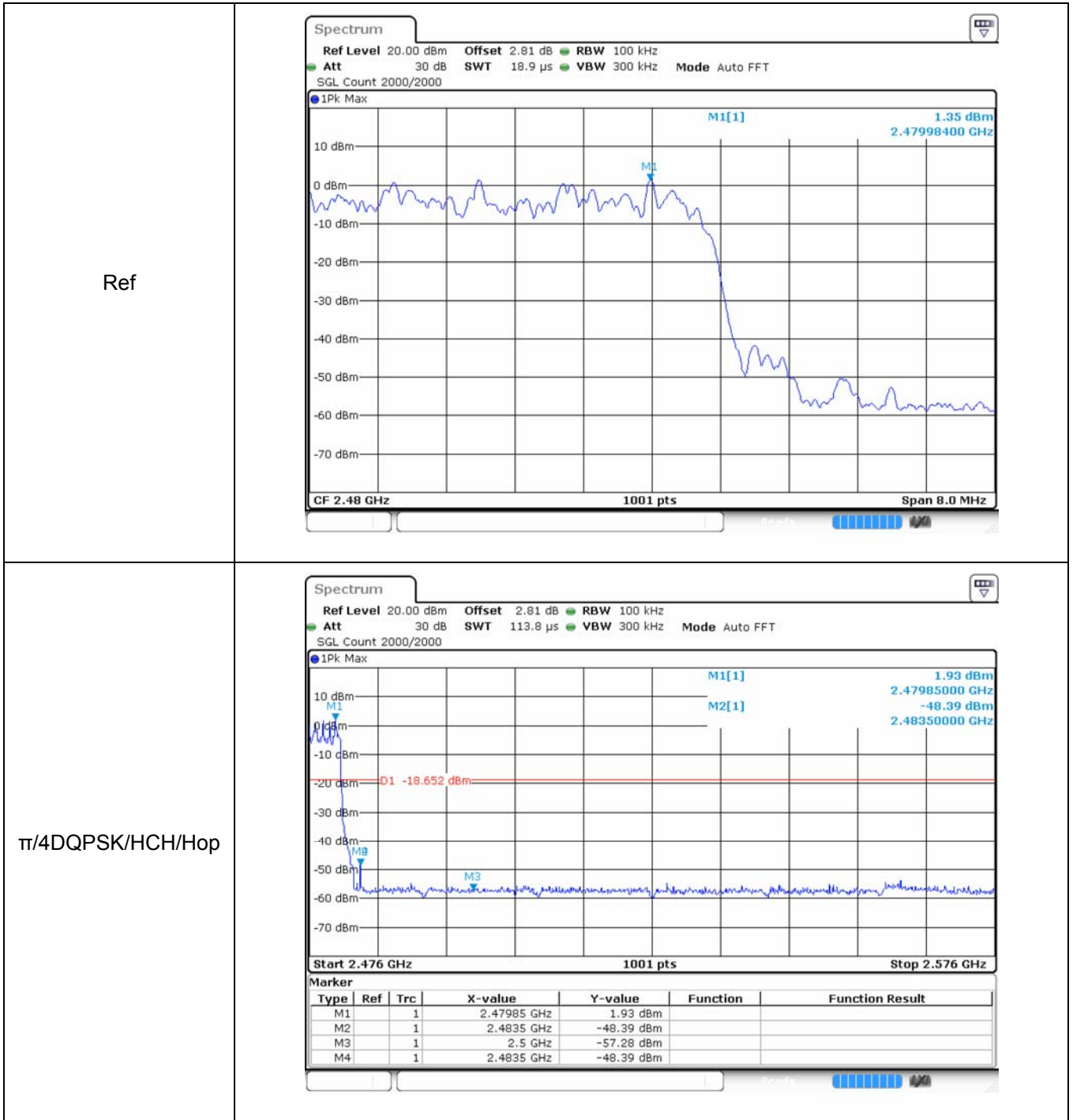












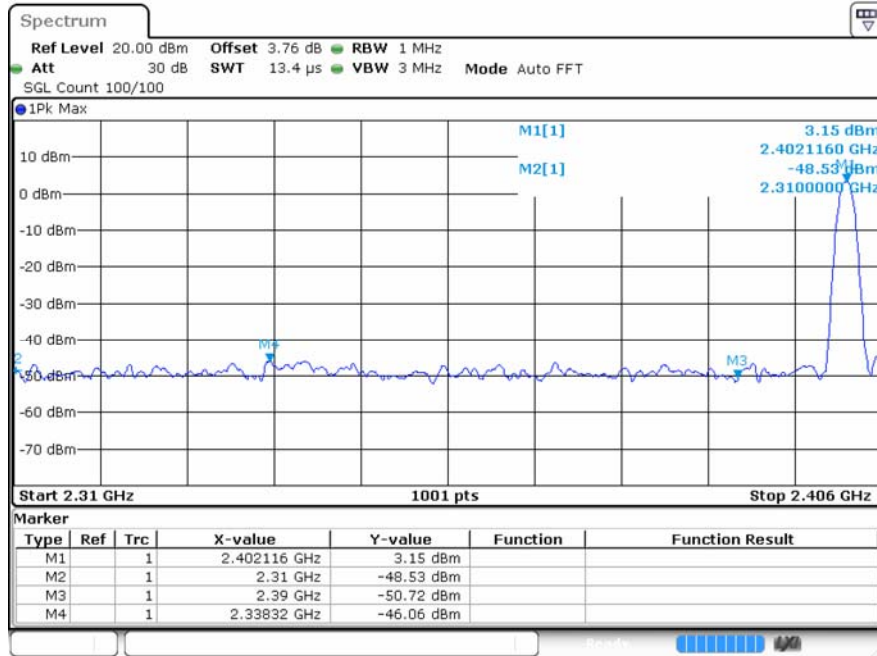
## 9 Restrict-band band-edge measurements

### 9.1 Test Result

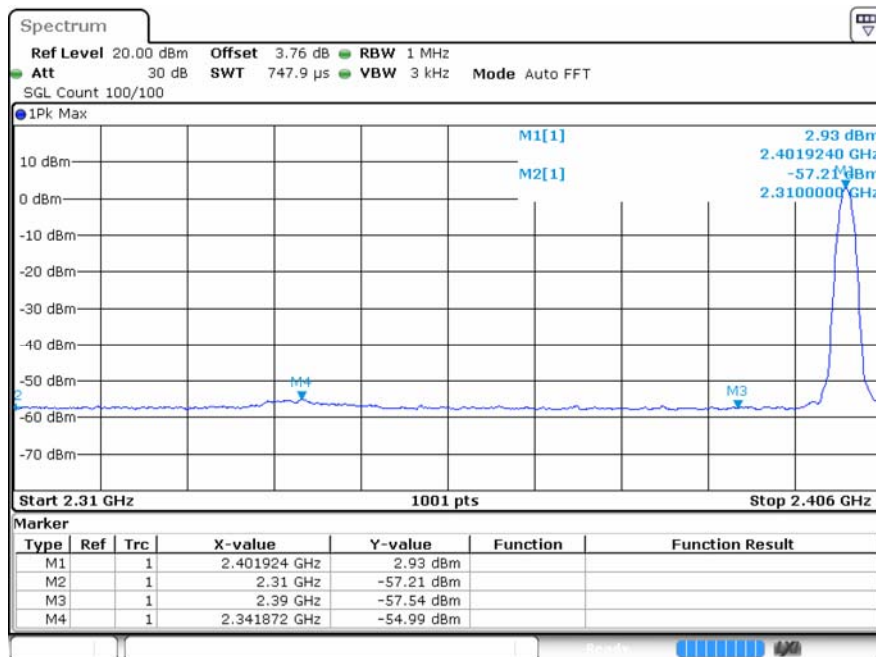
Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-48.52	2	48.74	PEAK	74	Pass
	Off	2310.0	-57.21	2	40.05	AV	54	Pass
	Off	2338.32	-46.05	2	51.21	PEAK	74	Pass
	Off	2341.872	-54.99	2	42.27	AV	54	Pass
	Off	2390.0	-50.71	2	46.55	PEAK	74	Pass
	Off	2390.0	-57.53	2	39.73	AV	54	Pass
	Off	2483.5	-47.72	2	49.54	PEAK	74	Pass
	Off	2483.5	-55.18	2	42.08	AV	54	Pass
	Off	2496.976	-46.52	2	50.74	PEAK	74	Pass
	Off	2487.424	-54.88	2	42.38	AV	54	Pass
	Off	2500.0	-49.66	2	47.6	PEAK	74	Pass
	Off	2500.0	-57.08	2	40.18	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-49.18	2	48.08	PEAK	74	Pass
	Off	2310.0	-57.23	2	40.03	AV	54	Pass
	Off	2377.392	-44.05	2	53.21	PEAK	74	Pass
	Off	2341.2	-55.04	2	42.22	AV	54	Pass
	Off	2390.0	-48.59	2	48.67	PEAK	74	Pass
	Off	2390.0	-57.02	2	40.24	AV	54	Pass
	Off	2483.5	-46.91	2	50.35	PEAK	74	Pass
	Off	2483.5	-54.68	2	42.58	AV	54	Pass
	Off	2488.576	-45.12	2	52.14	PEAK	74	Pass
	Off	2483.512	-54.68	2	42.58	AV	54	Pass
	Off	2500.0	-46.49	2	50.77	PEAK	74	Pass
	Off	2500.0	-57.12	2	40.14	AV	54	Pass

## 9.2 Test Graphs

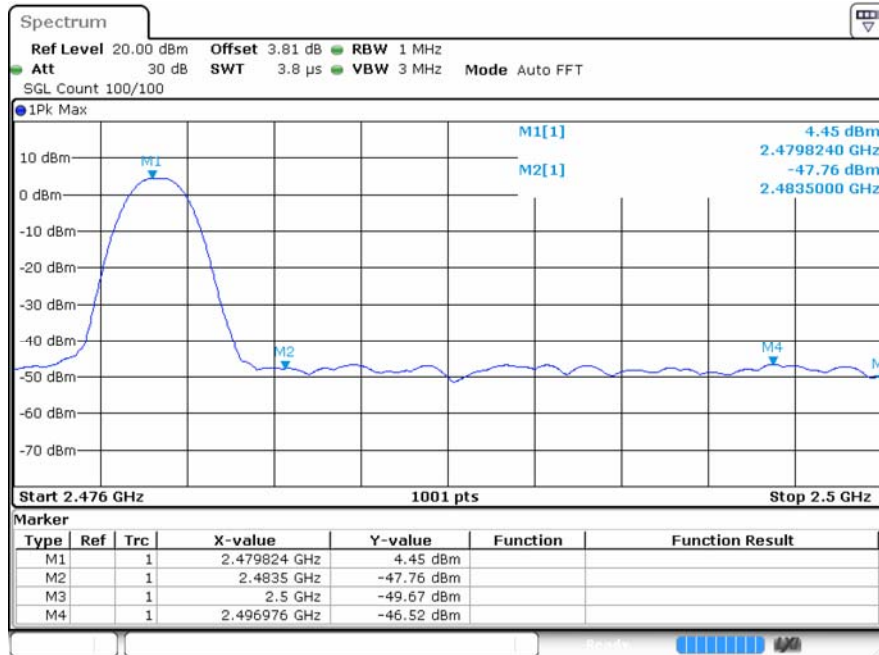
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (Low Channel)



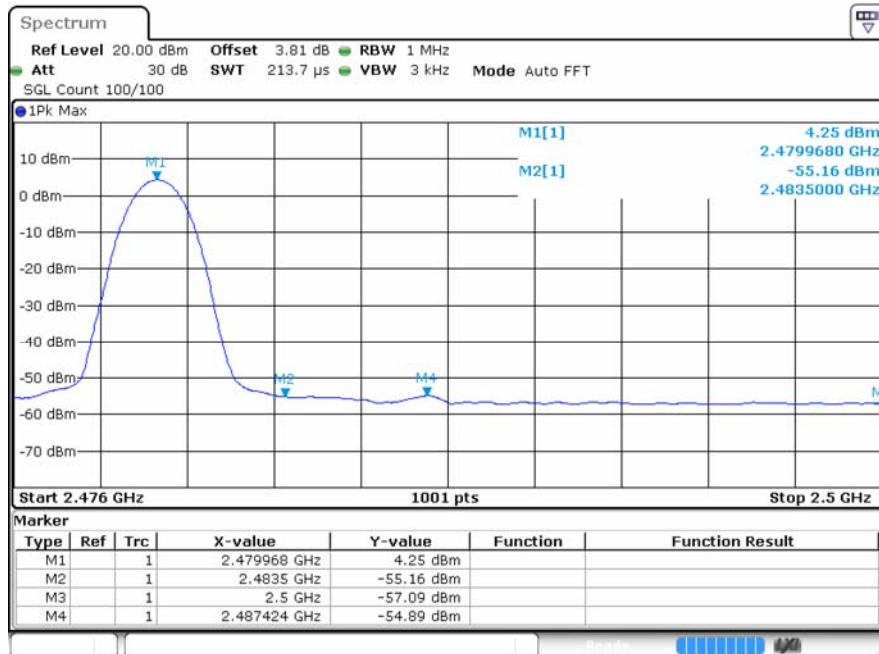
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (Low Channel)



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

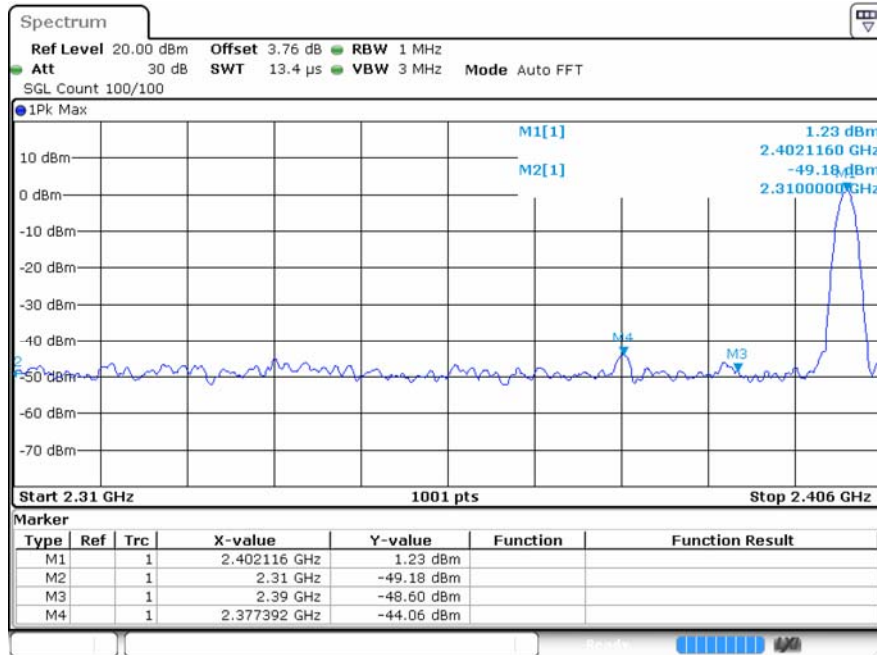


Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (High Channel)

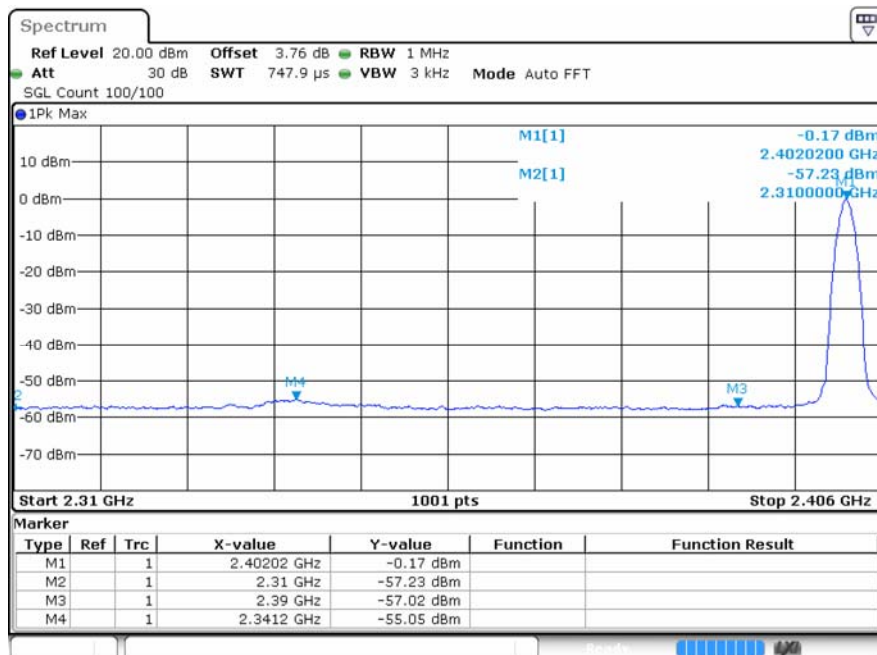




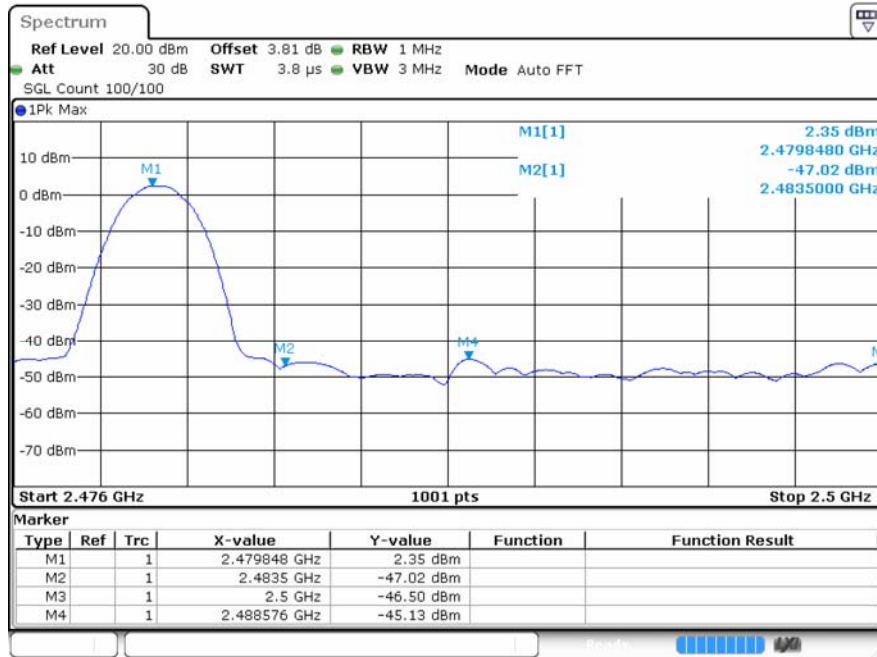
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (Low Channel)



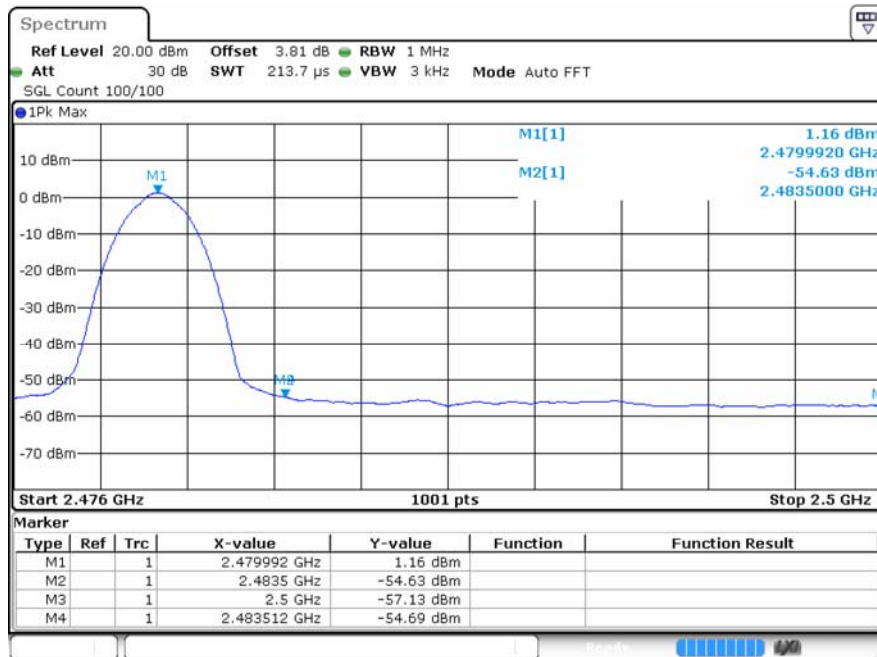
Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (Low Channel)



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---