



Appendix A

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

Product Name: Earbuds

Trade Mark: N/A

Test Model: FBP-Bling

Environmental Conditions

Temperature:	25.6°C
Relative Humidity:	57.7%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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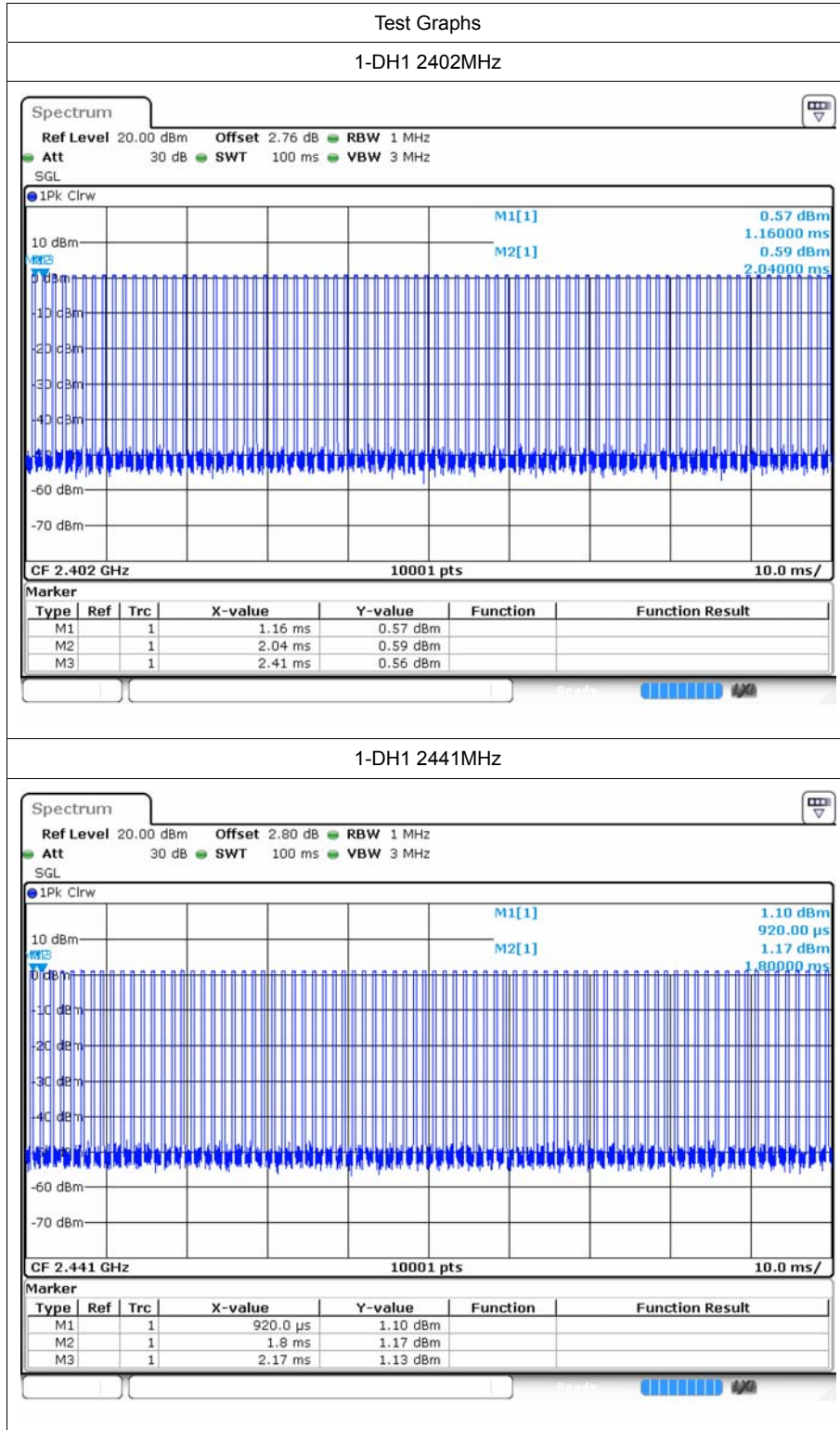


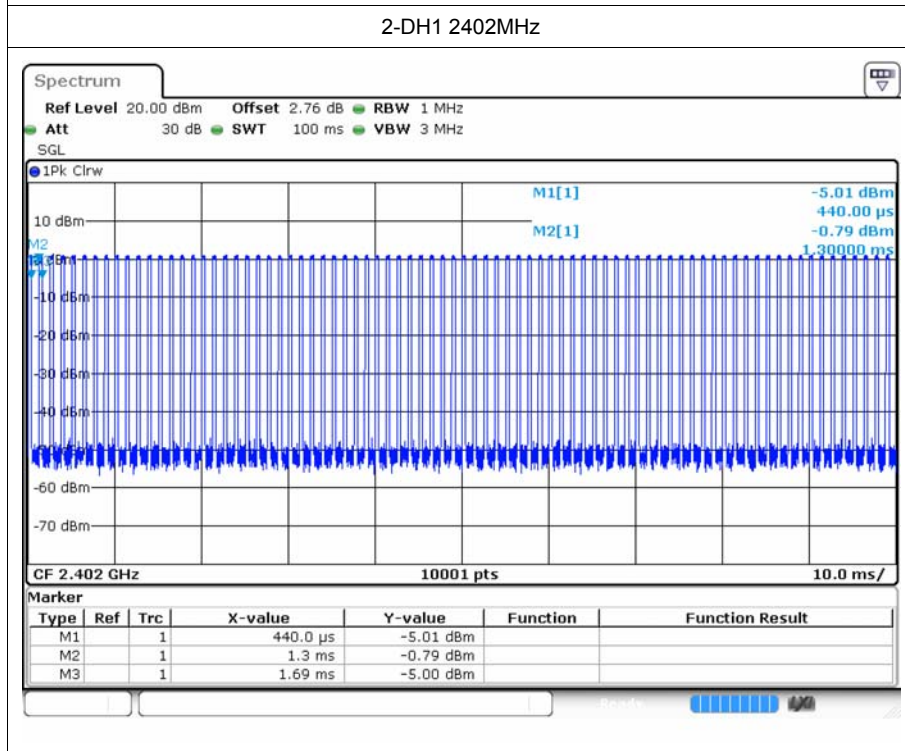
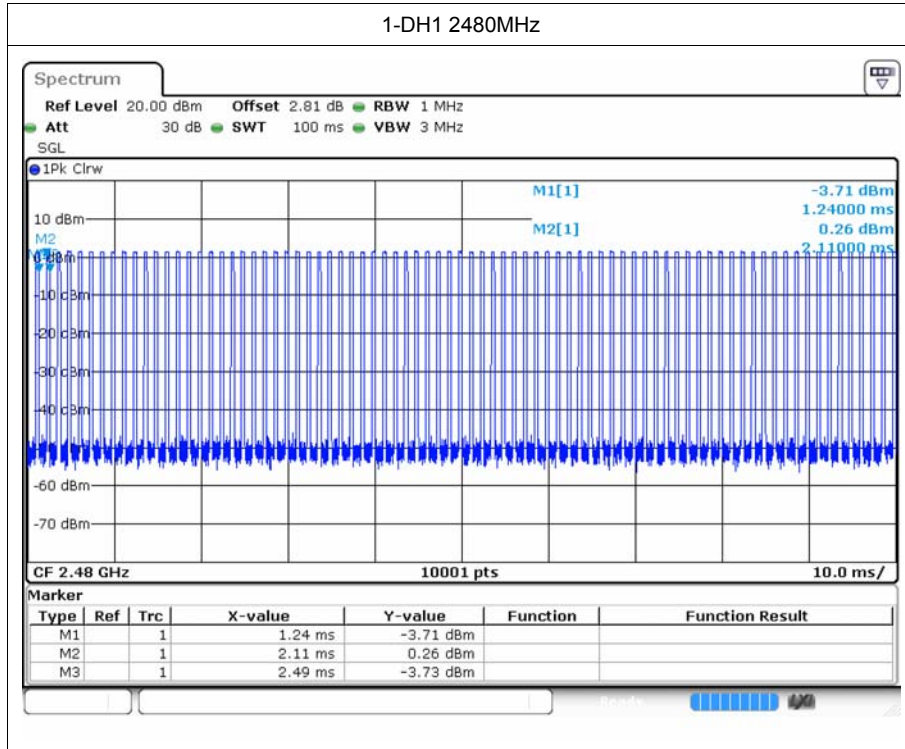
1 Duty Cycle

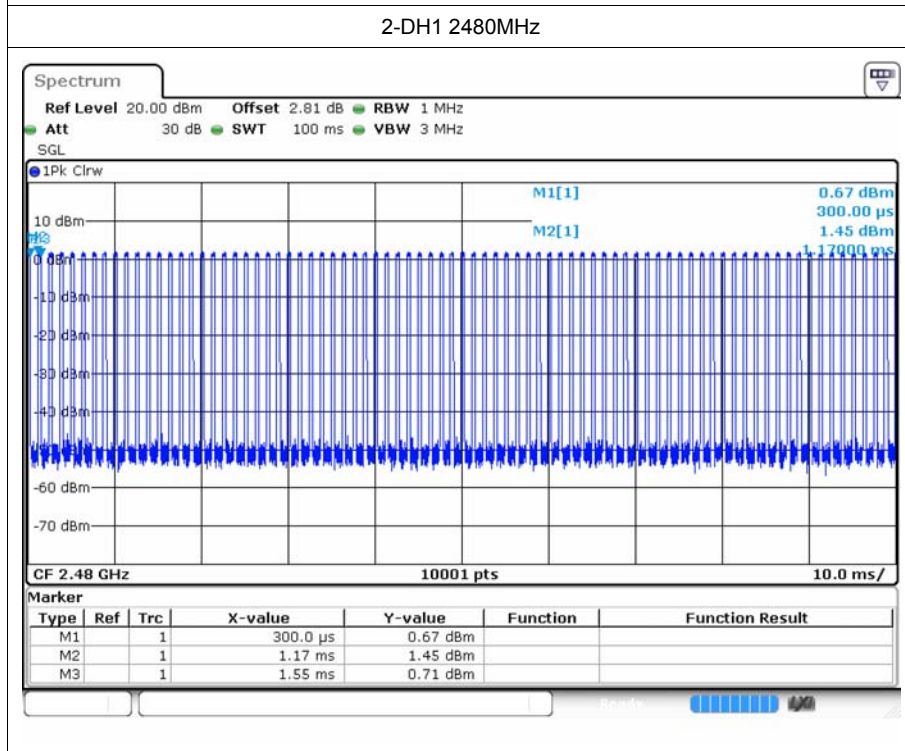
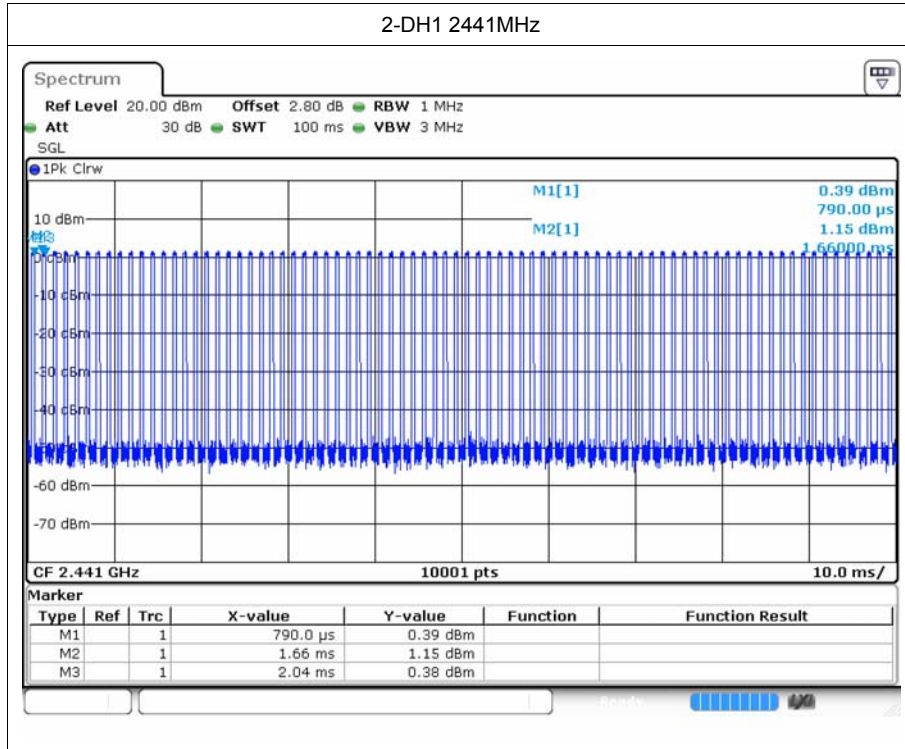
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	30.42	2.7
1-DH1	2441	30.4	2.7
1-DH1	2480	31.2	2.63
2-DH1	2402	32	2.56
2-DH1	2441	31.2	2.63
2-DH1	2480	31.21	2.63

1.2 Test Graphs





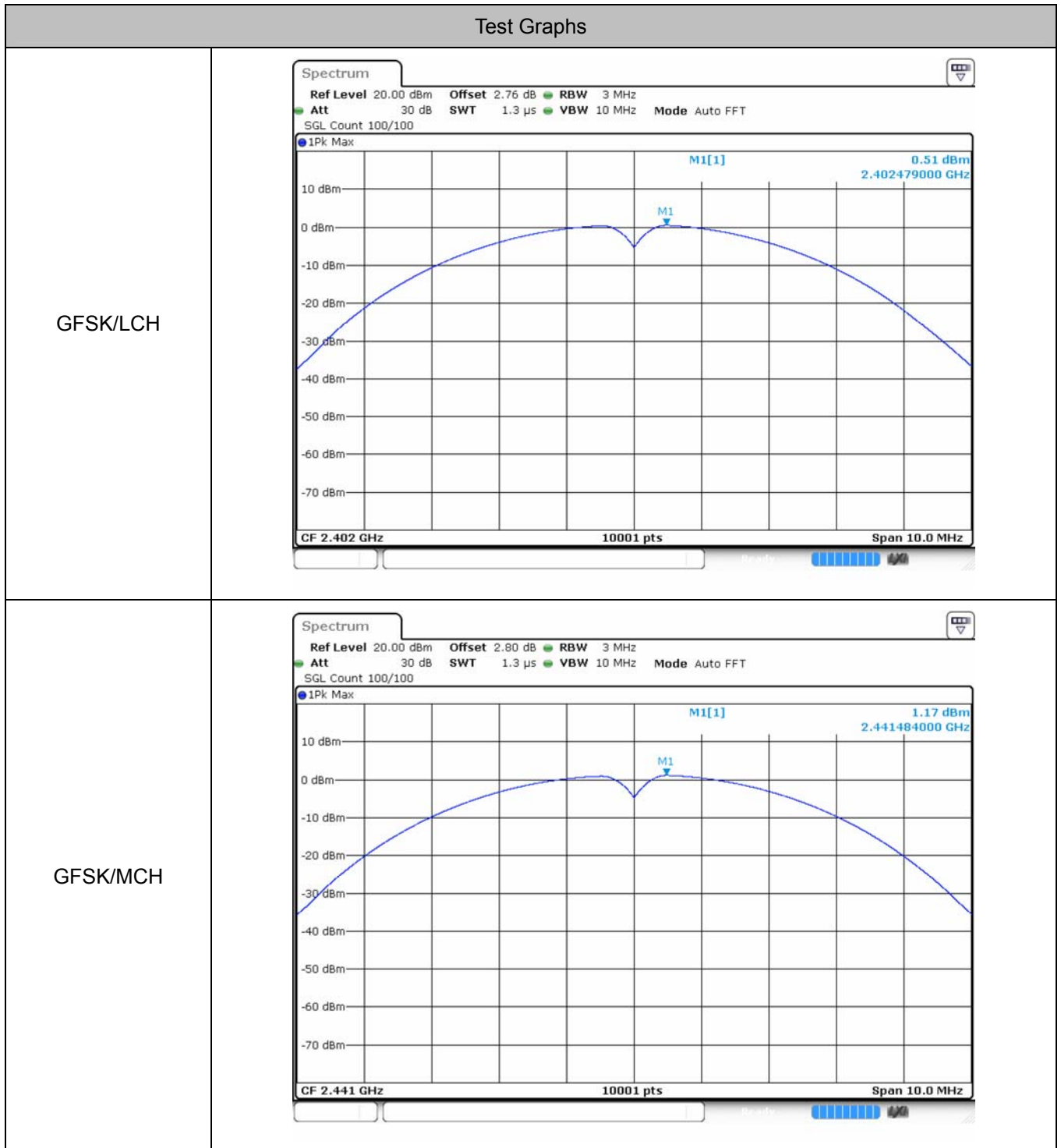


2 Maximum Conducted Peak Output Power

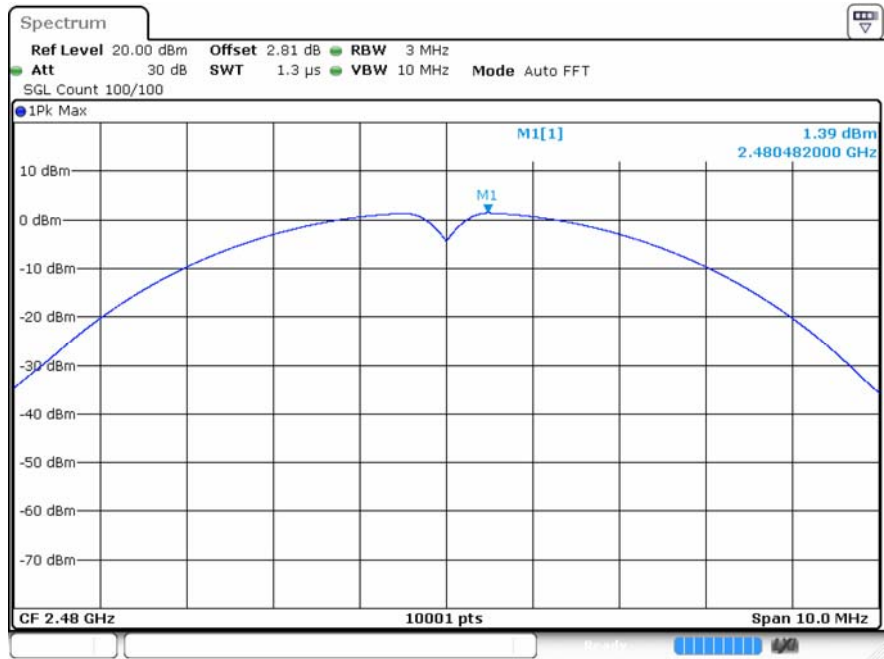
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.51	21	Pass
	MCH	1.17	21	Pass
	HCH	1.39	21	Pass
$\pi/4$ DQPSK	LCH	0.74	21	Pass
	MCH	1.59	21	Pass
	HCH	1.67	21	Pass

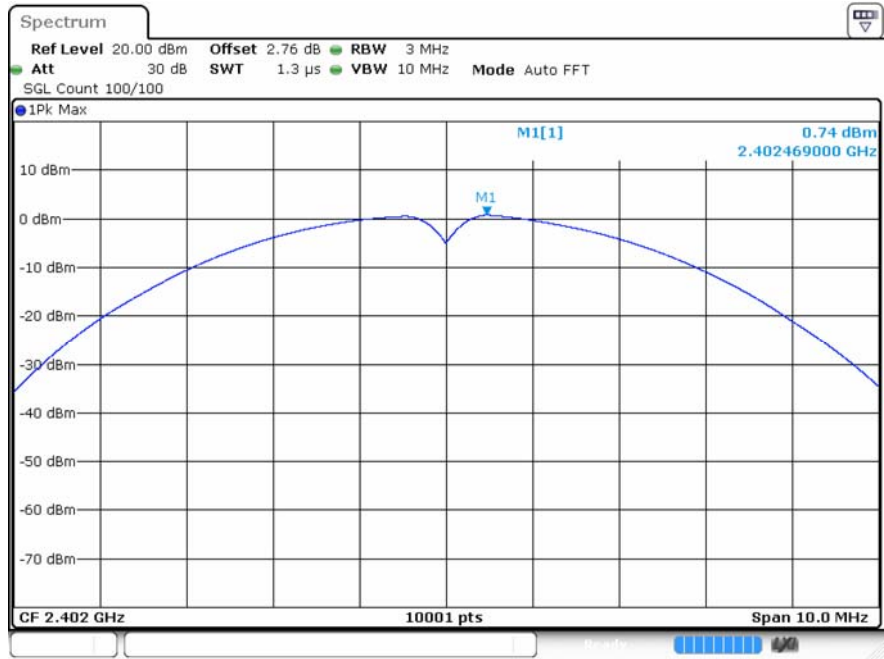
2.2 Test Graphs

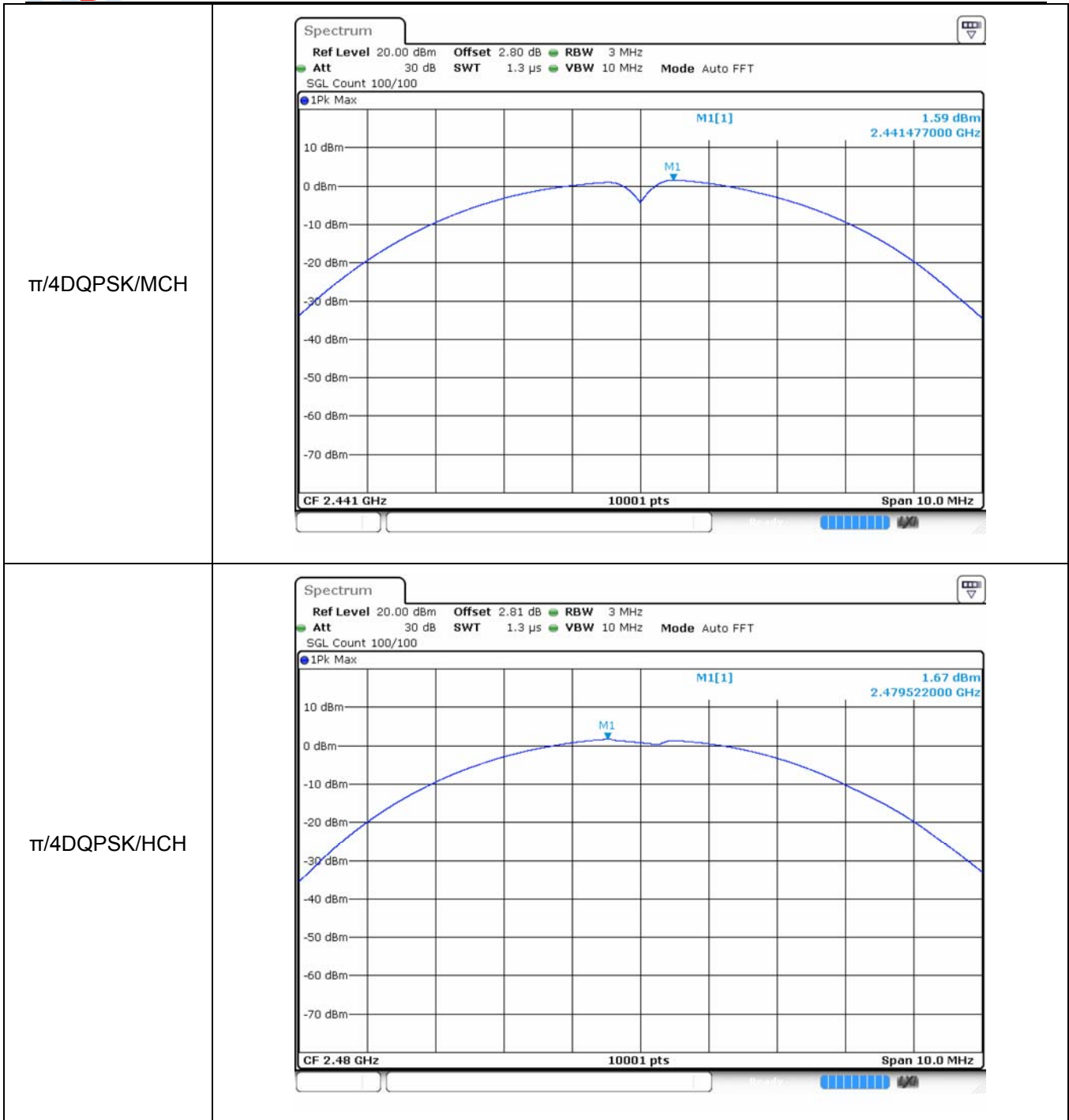


GFSK/HCH



$\pi/4$ DQPSK/LCH



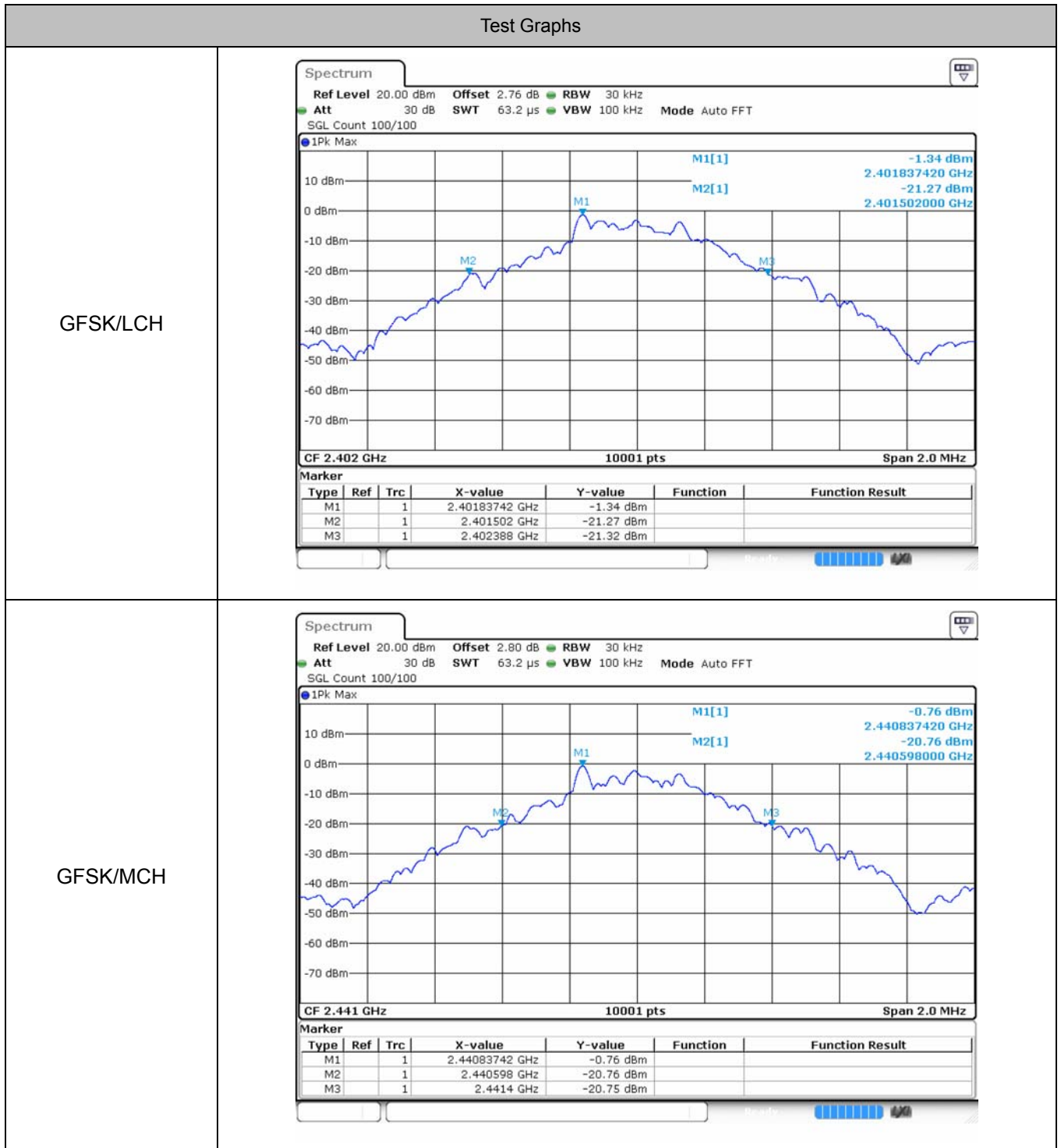


3 20dB Bandwidth

3.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.886	Not Specified	Pass
	MCH	0.802	Not Specified	Pass
	HCH	0.922	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.271	Not Specified	Pass
	MCH	1.231	Not Specified	Pass
	HCH	1.228	Not Specified	Pass

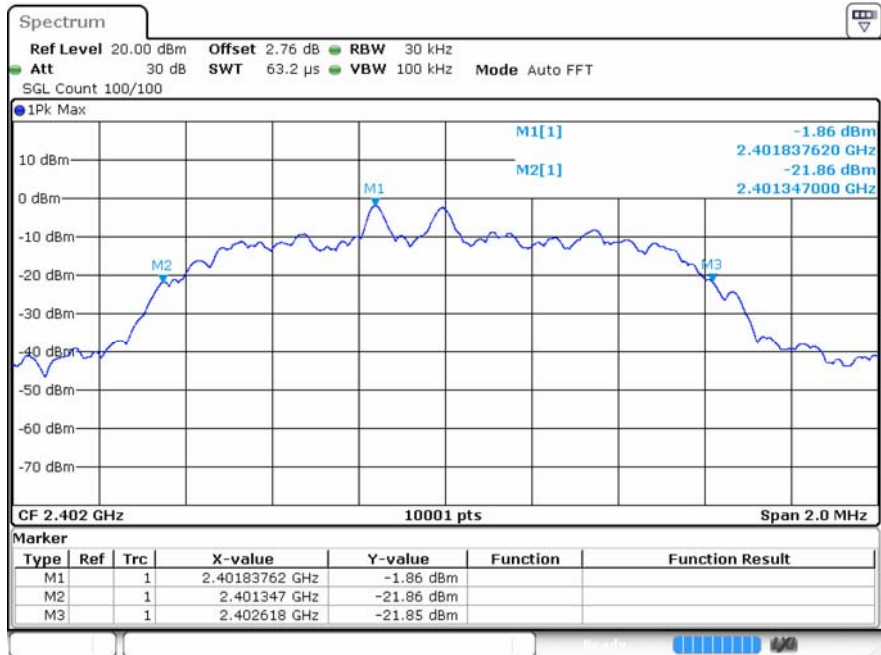
3.2 Test Graphs



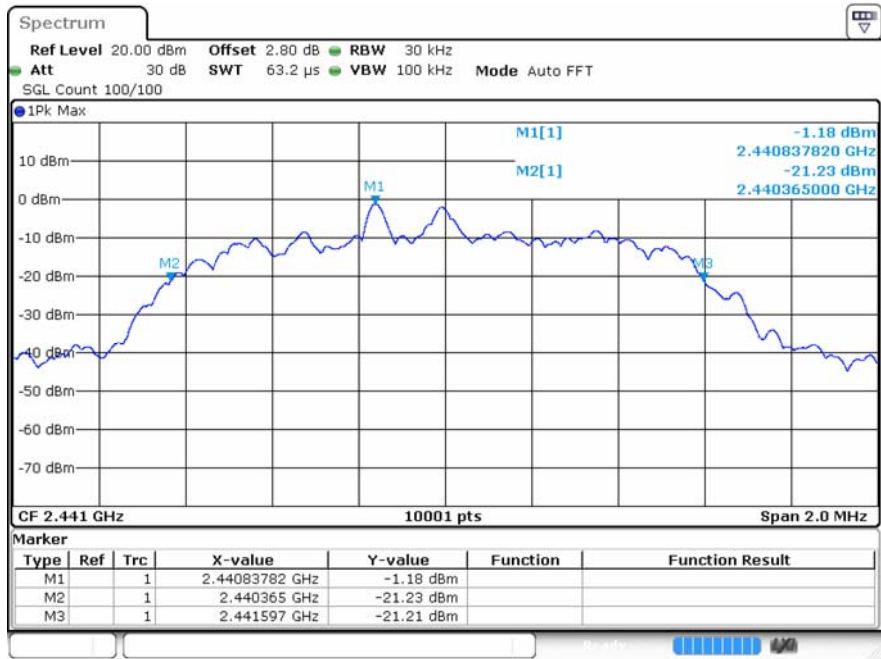
GFSK/HCH



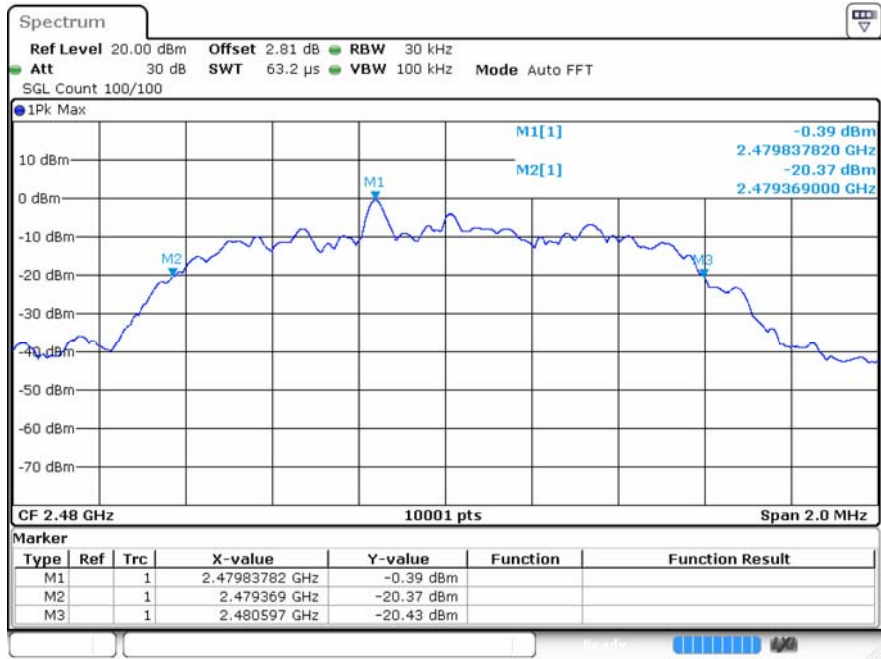
$\pi/4$ DQPSK/LCH



$\pi/4$ 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	0.988	0.535	Pass
$\pi/4$ DQPSK	MCH	1.002	0.821	Pass

4.2 Test Graphs

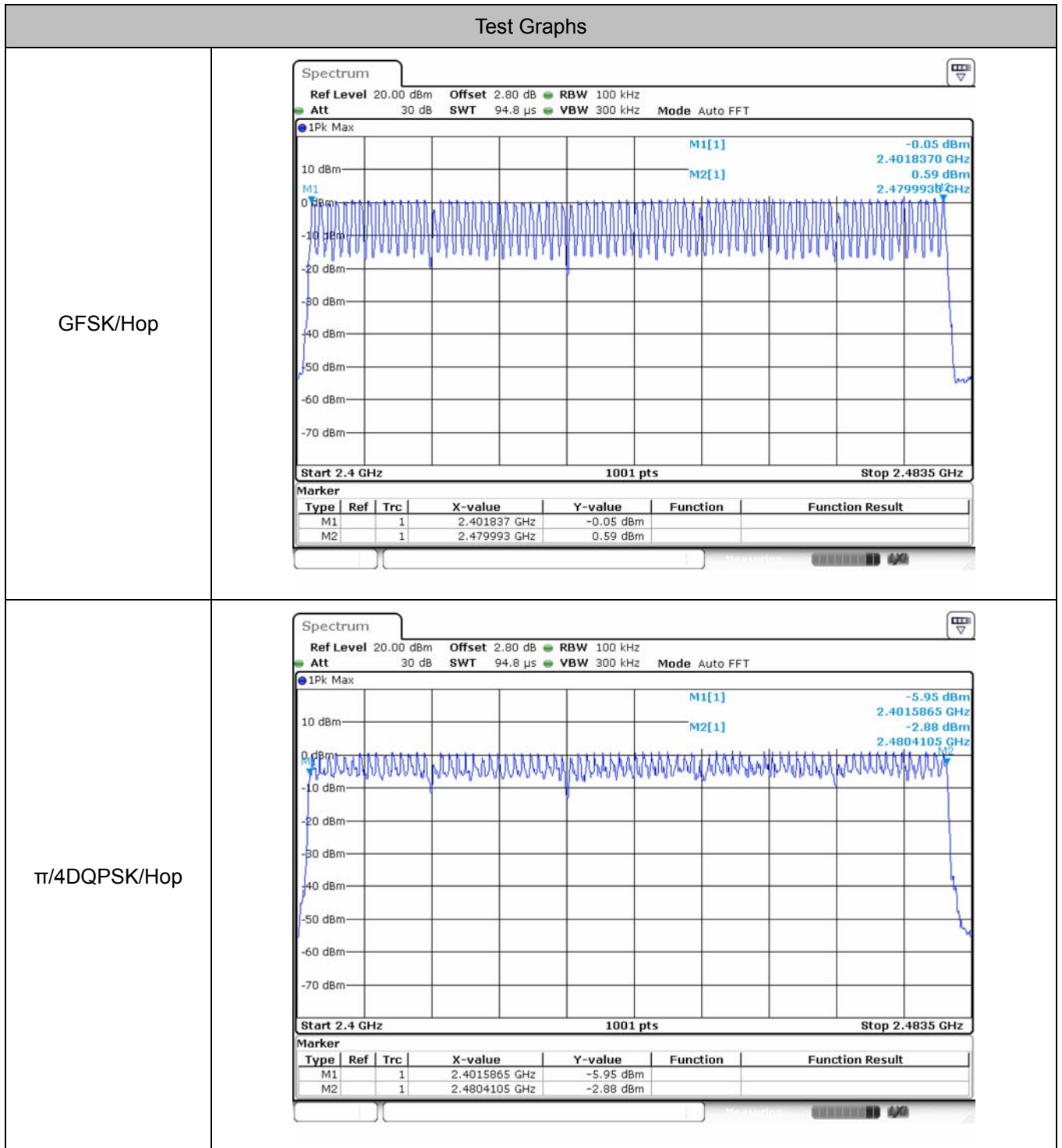


5 Hopping Channel Number

5.1 Test Result

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

5.2 Test Graphs



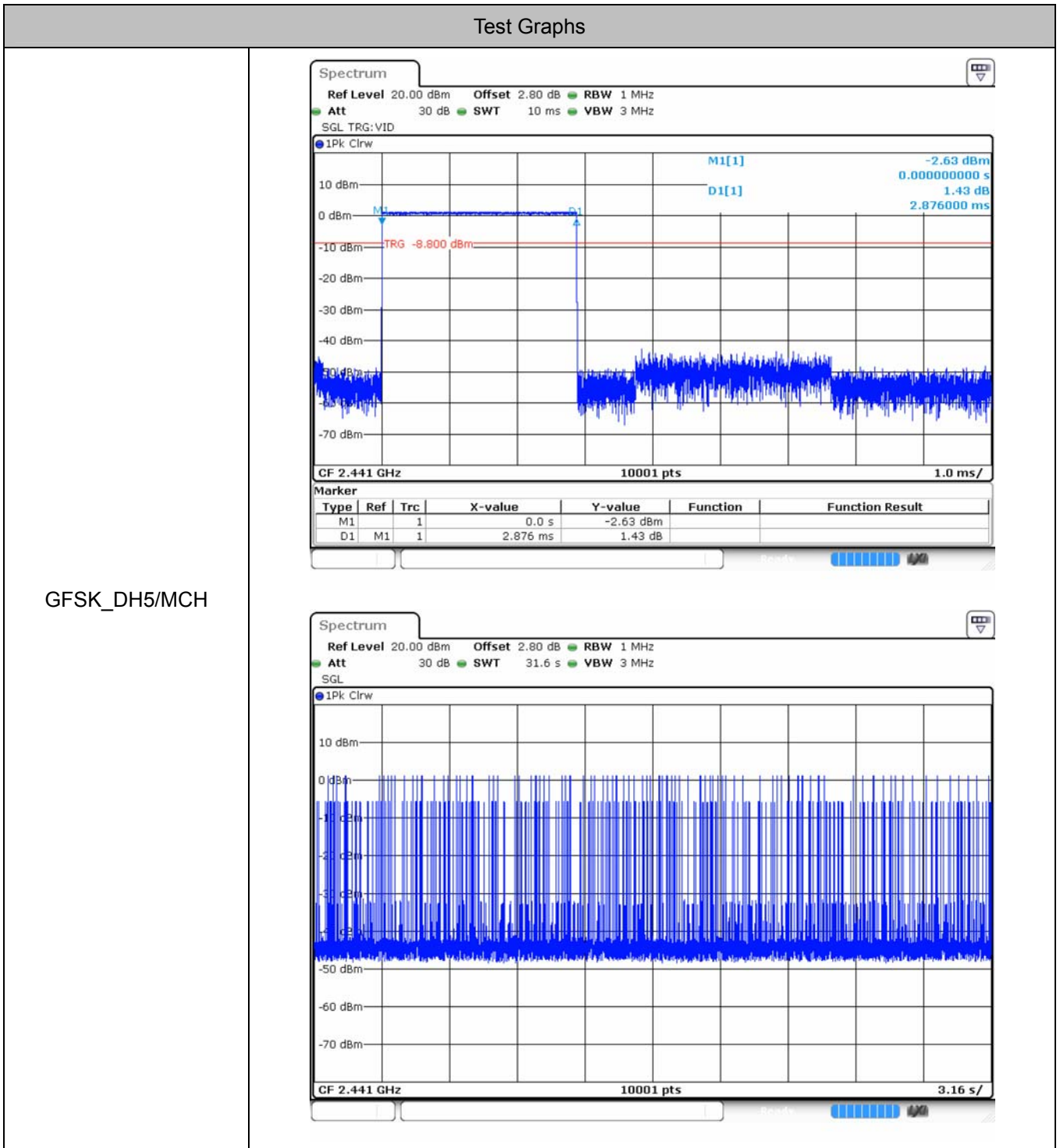


6 Dwell Time

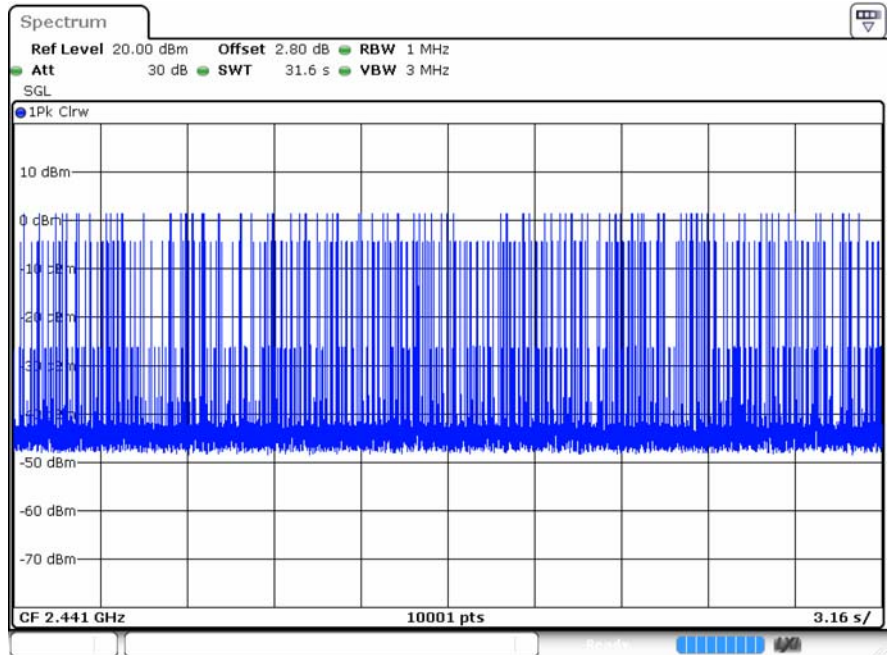
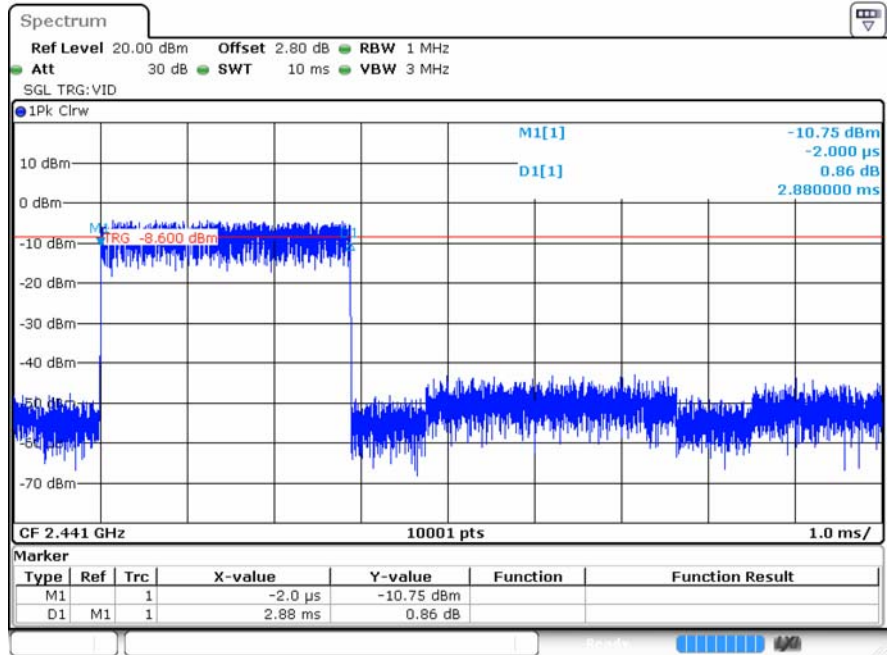
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.876	97	278.972	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.88	104	299.52	0.4	Pass

6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH

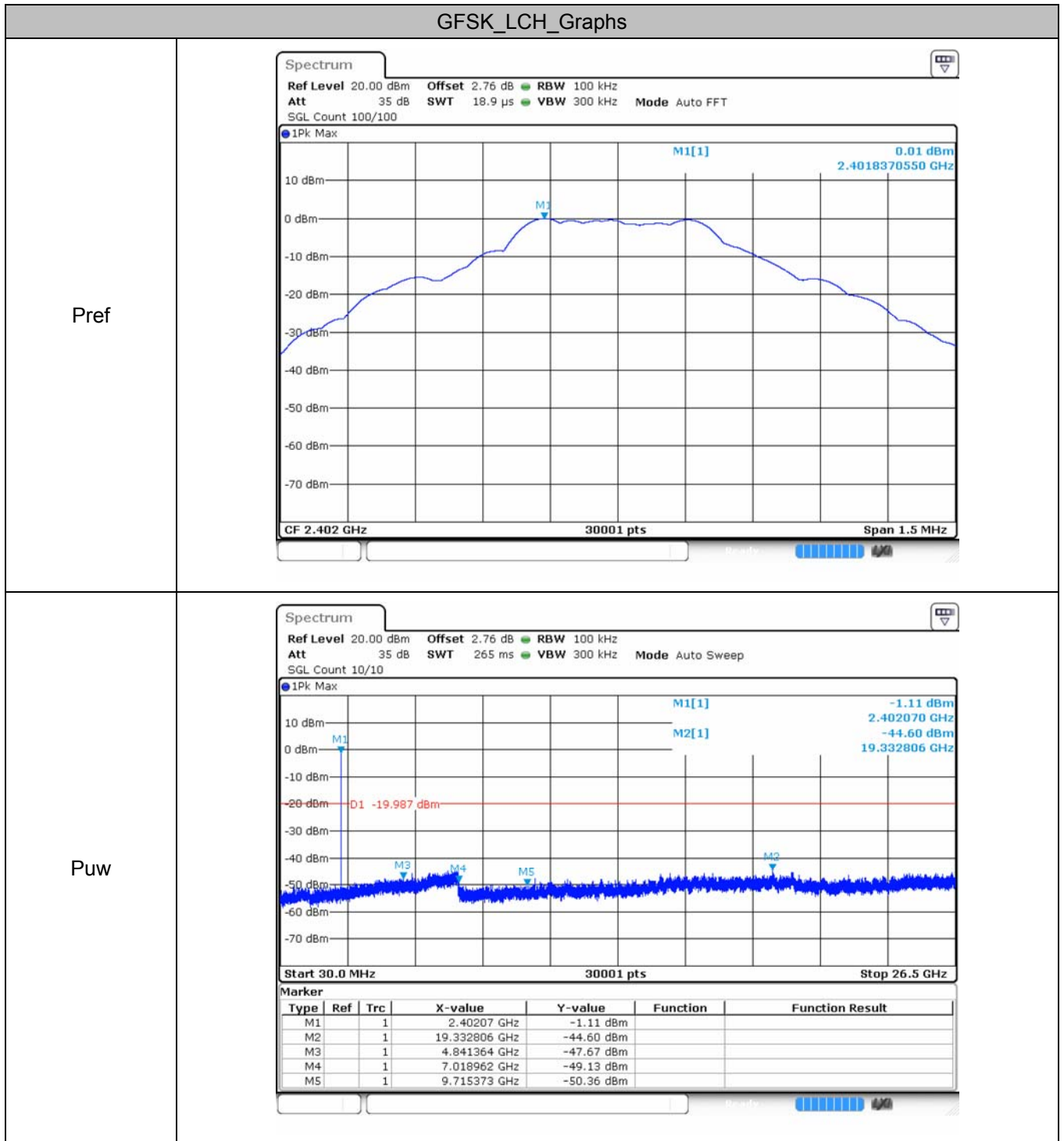


7 RF Conducted Spurious Emissions

7.1 Test Result

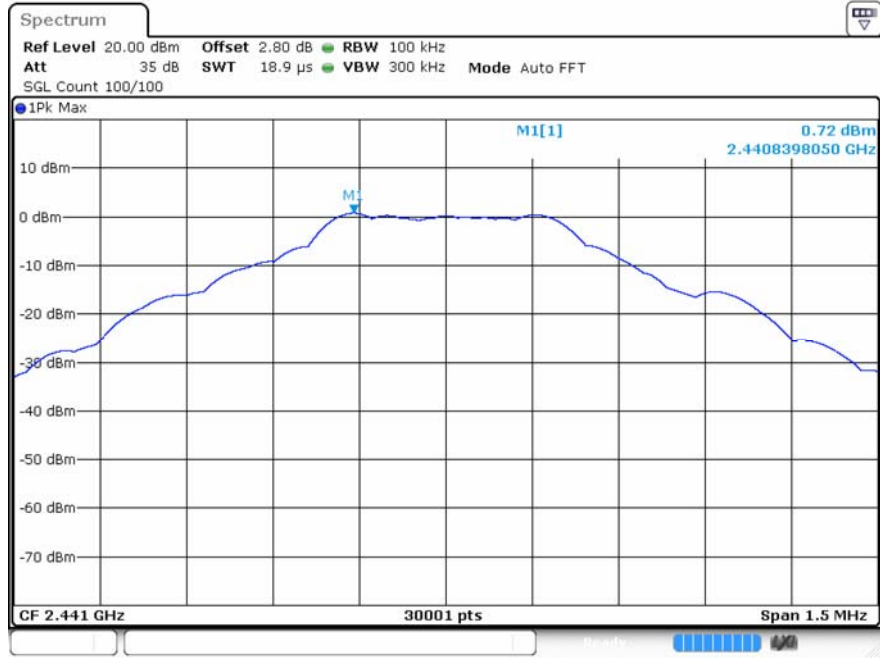
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-44.6	-20	Pass
	MCH	-44.77	-20	Pass
	HCH	-45.57	-20	Pass
π /4DQPSK	LCH	-44.47	-20	Pass
	MCH	-44.3	-20	Pass
	HCH	-44.32	-20	Pass

7.2 Test Graphs

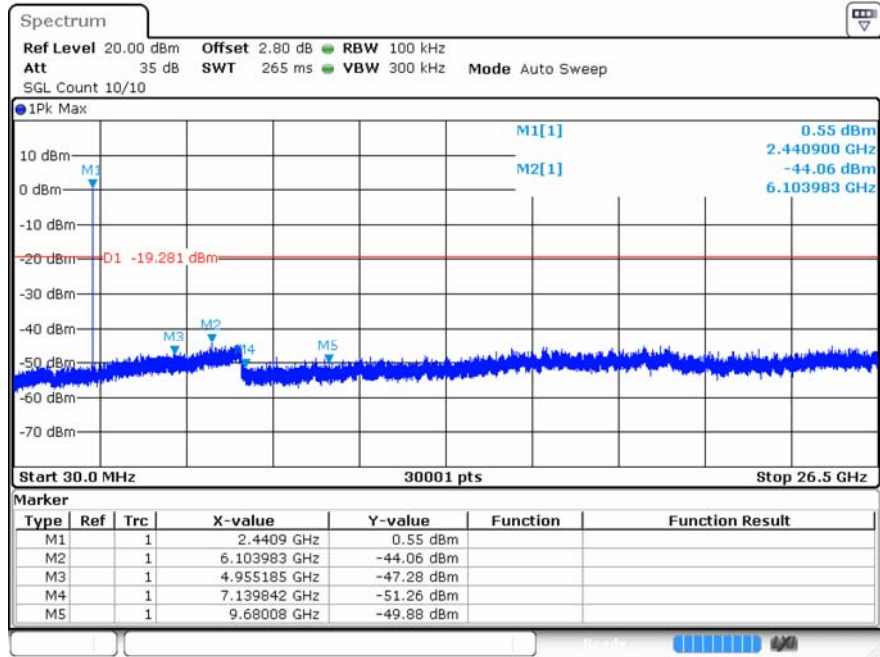


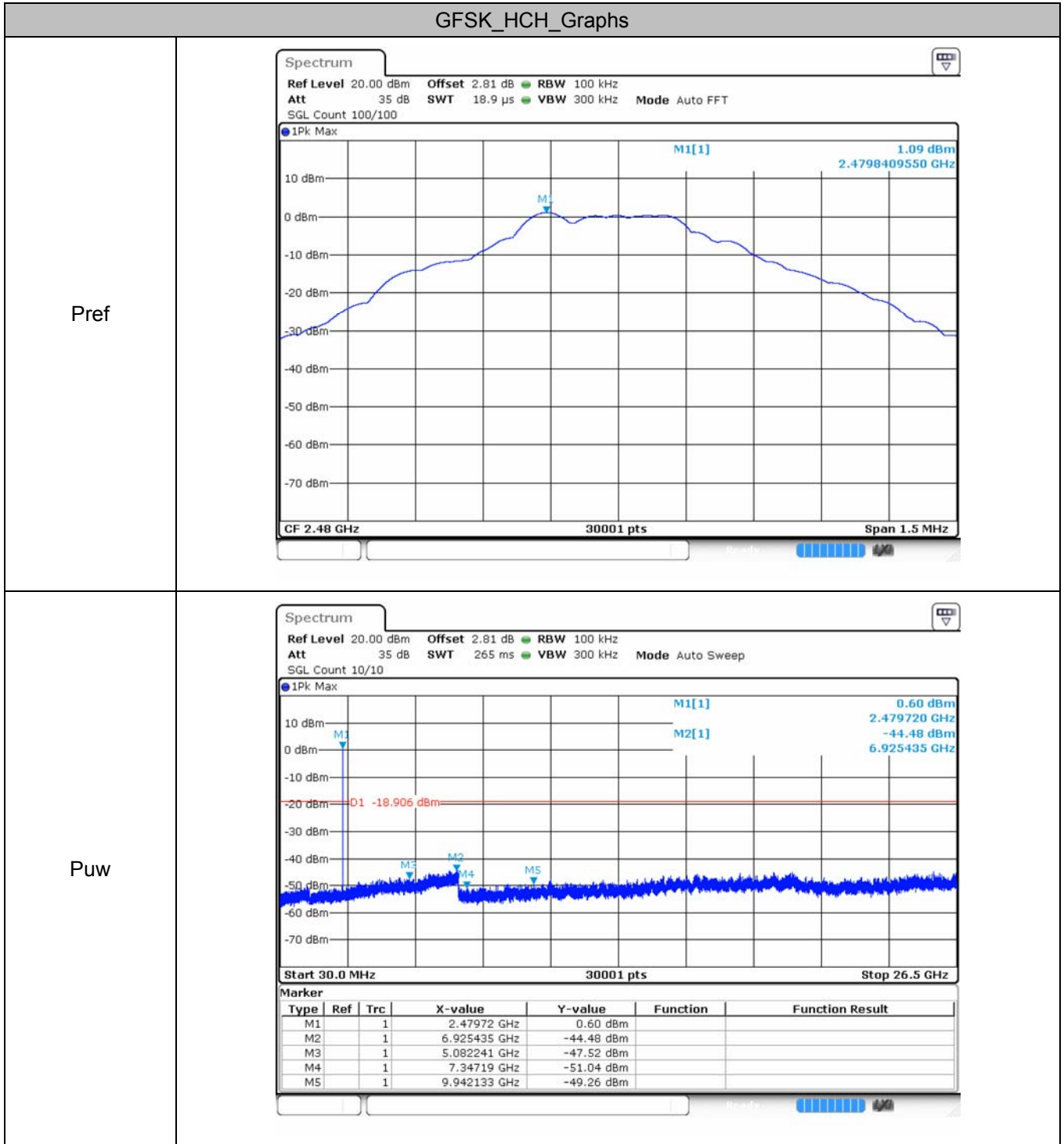
GFSK_MCH_Graphs

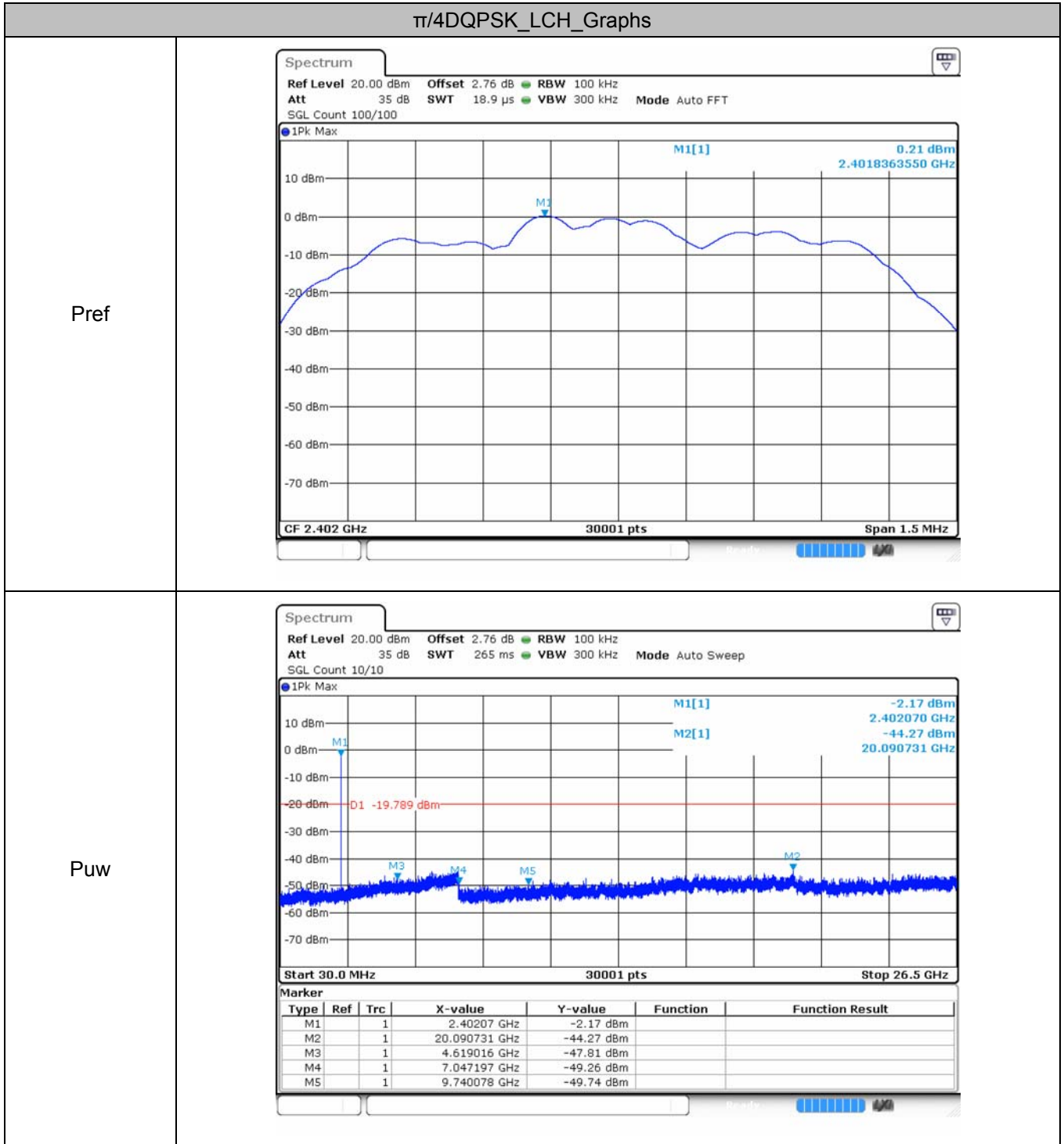
Pref



Puw

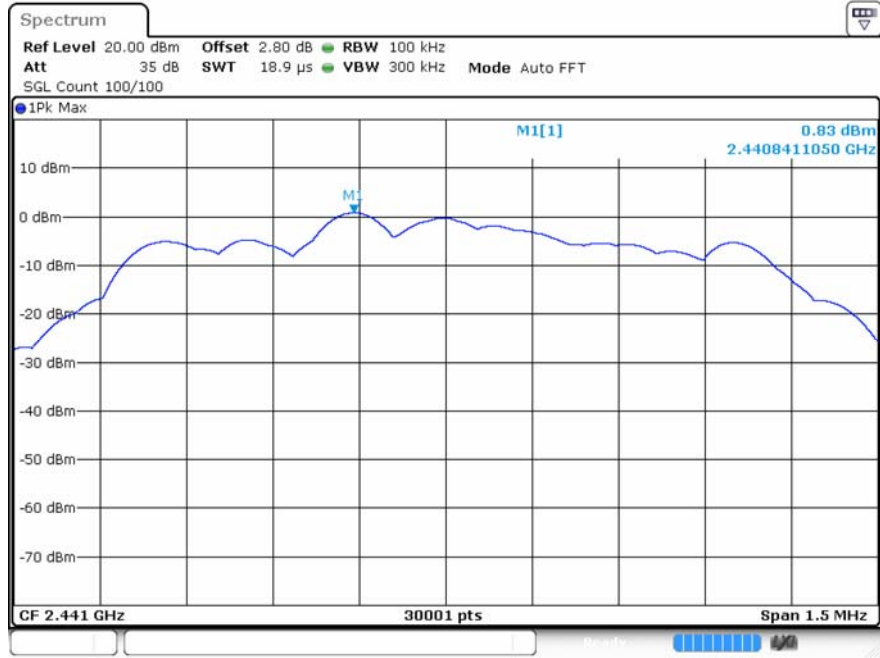




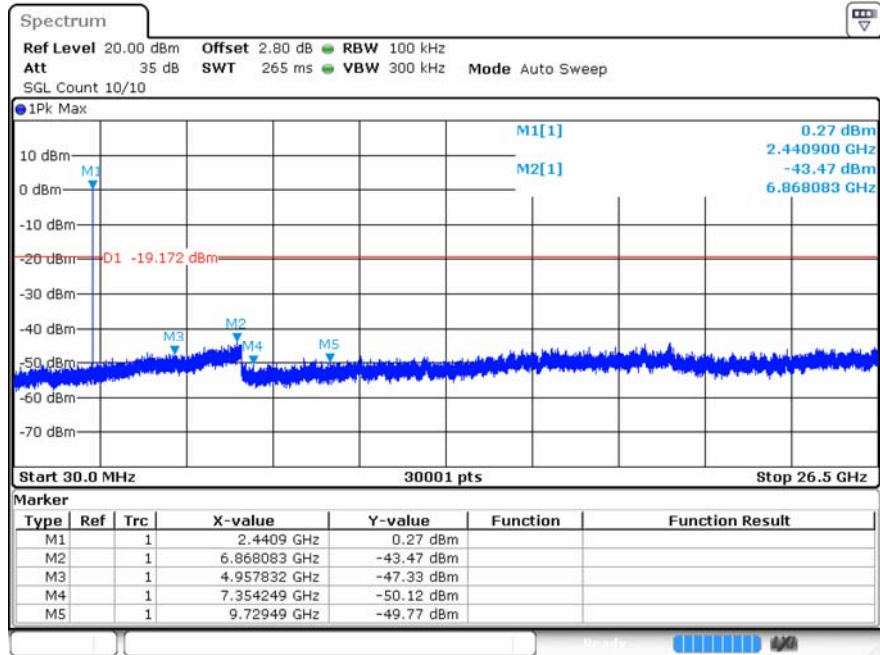


$\pi/4$ DQPSK_MCH_Graphs

Pref

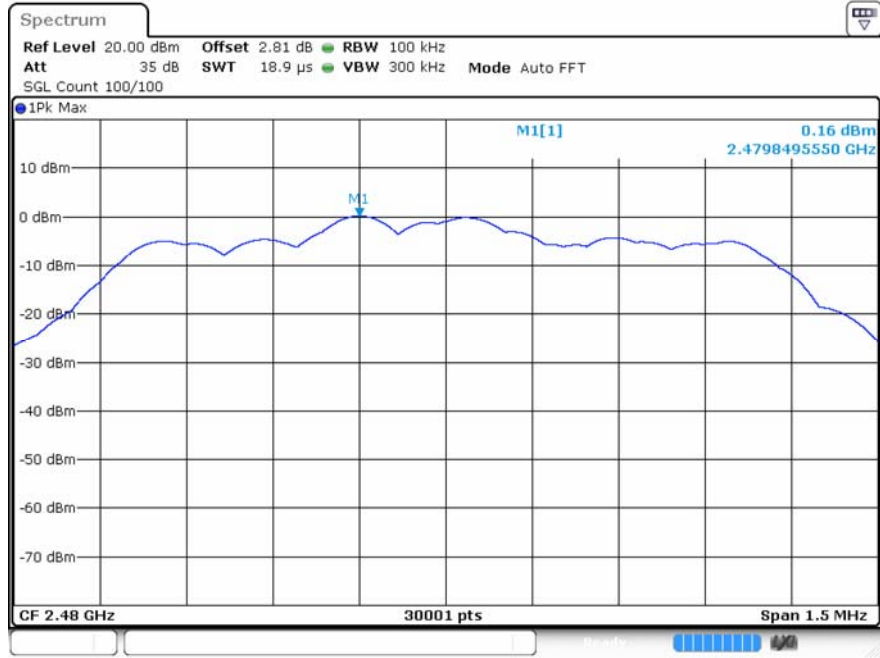


Puw

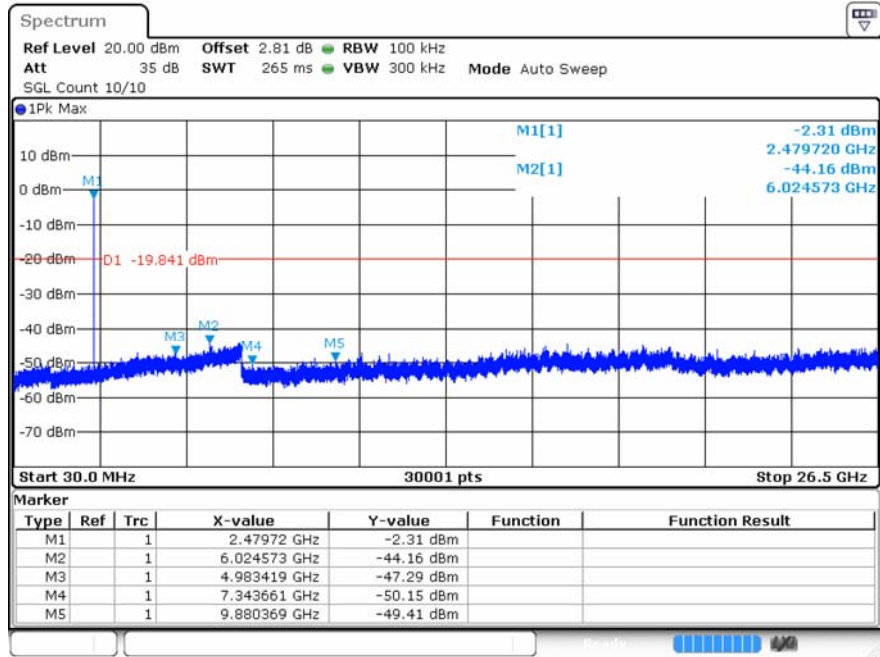


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

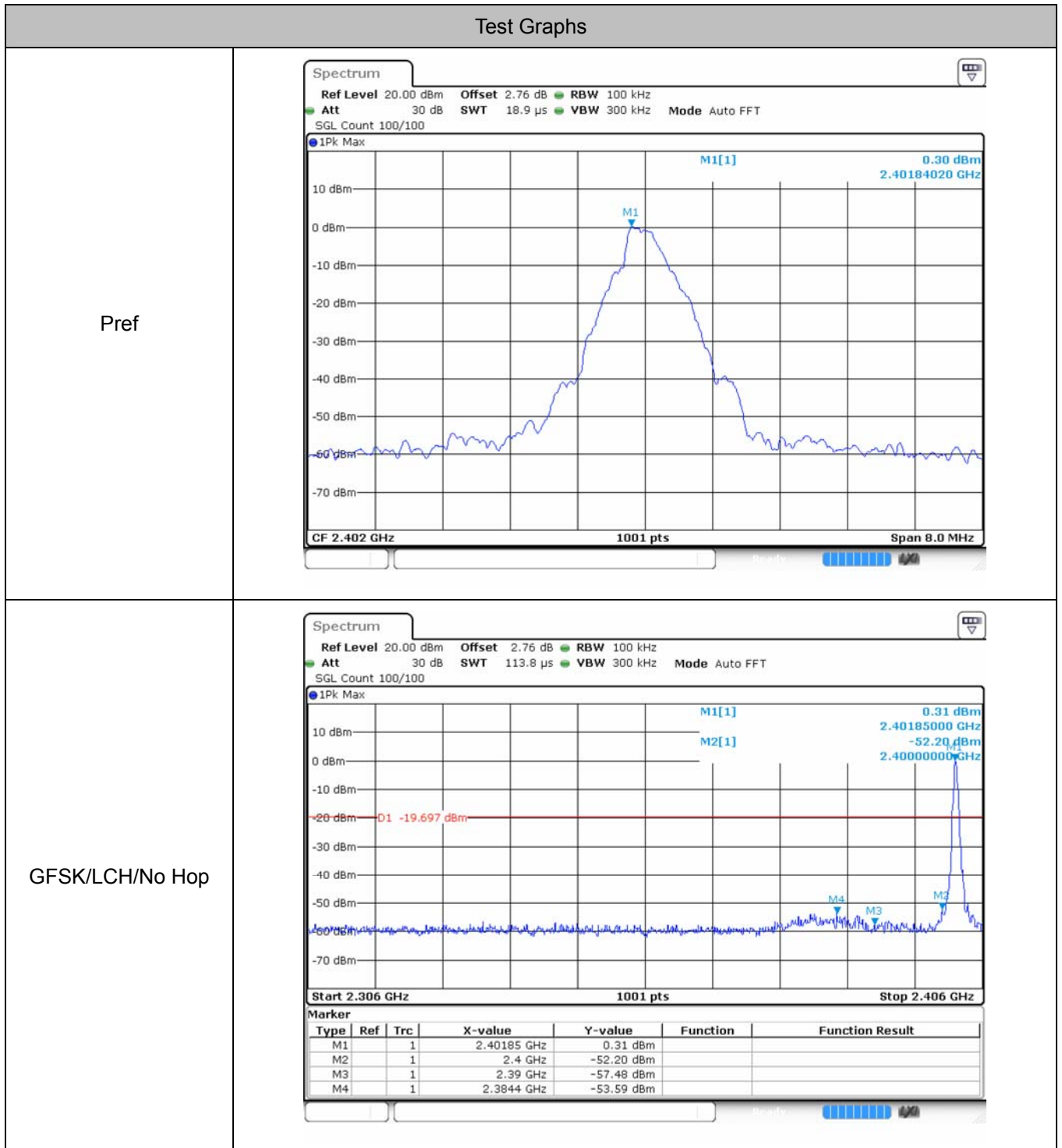


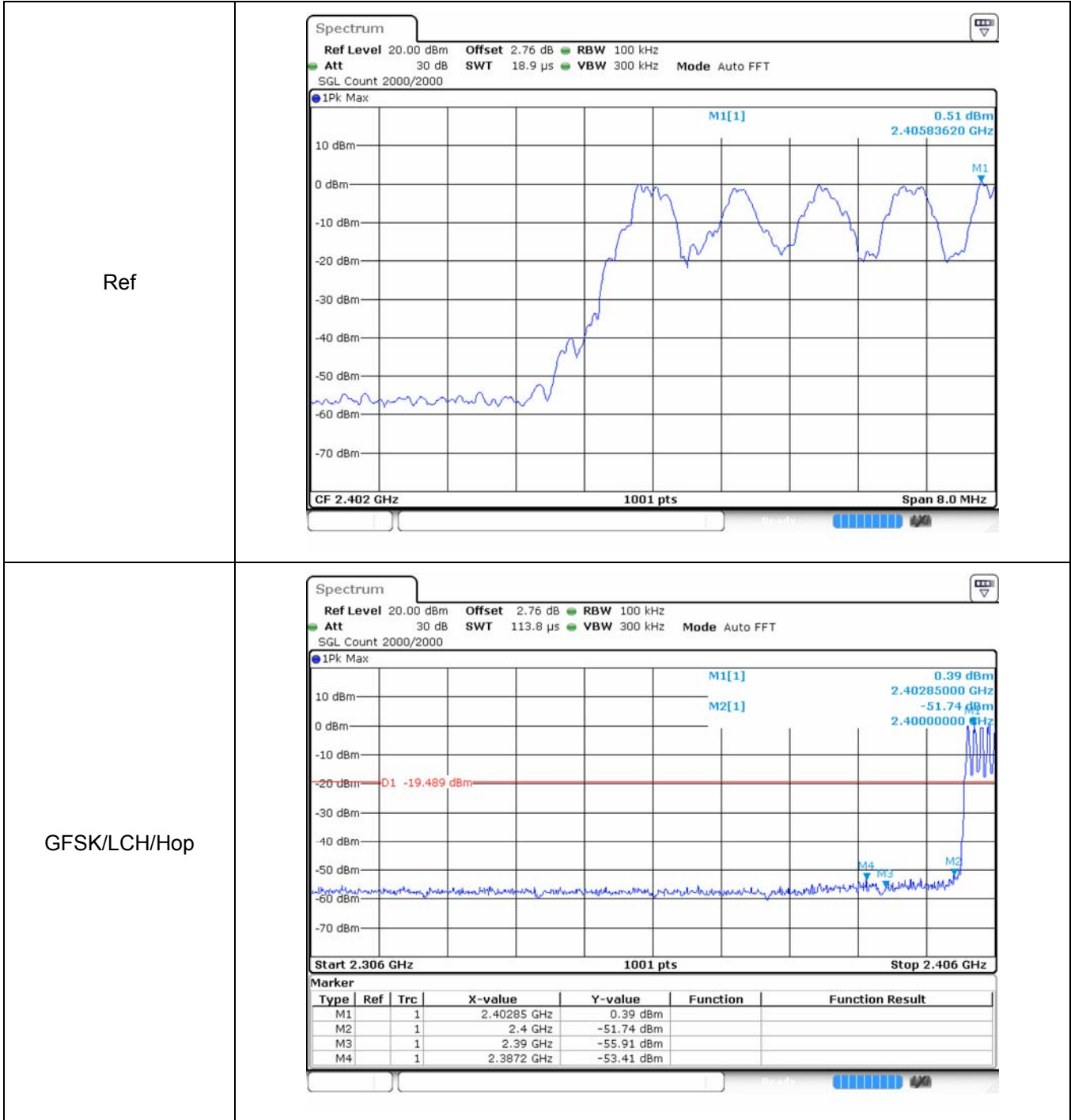
8 Band-edge for RF Conducted Emissions

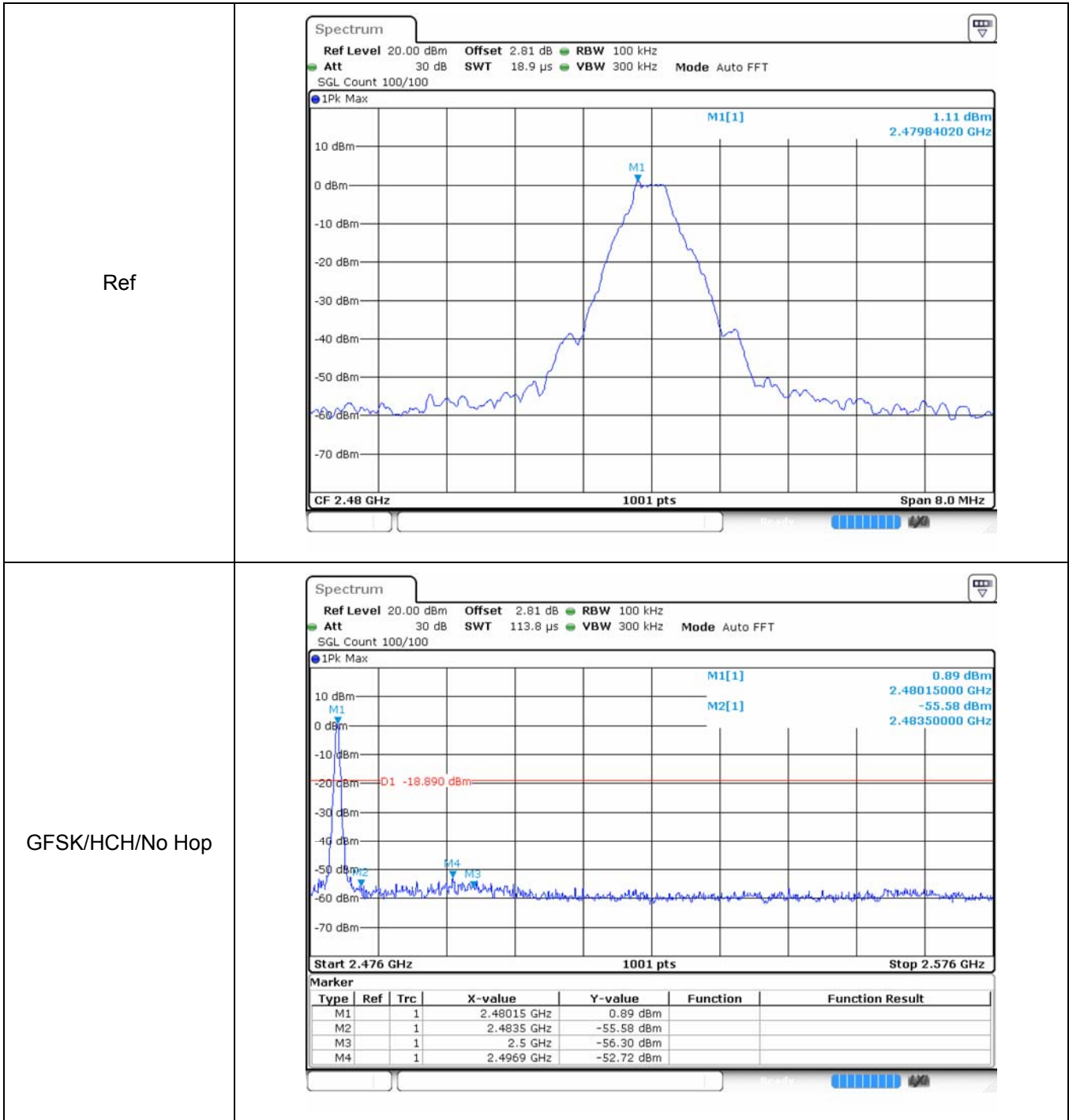
8.1 Test Result

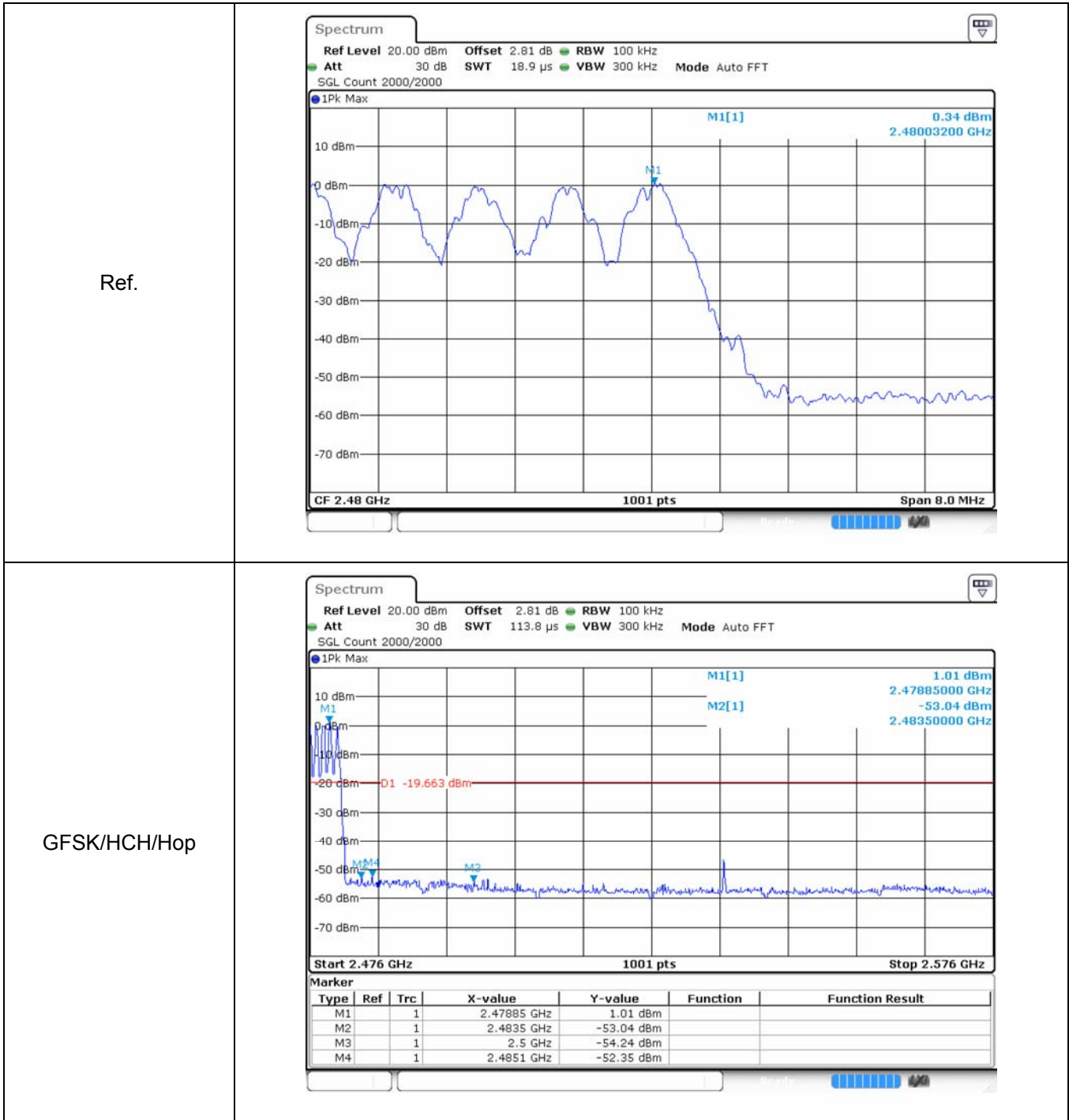
Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-53.88	-20	Pass
			On	-53.91	-20	Pass
	HCH	2480	Off	-53.83	-20	Pass
			On	-52.68	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-52.97	-20	Pass
			On	-52.96	-20	Pass
	HCH	2480	Off	-52.2	-20	Pass
			On	-52.33	-20	Pass

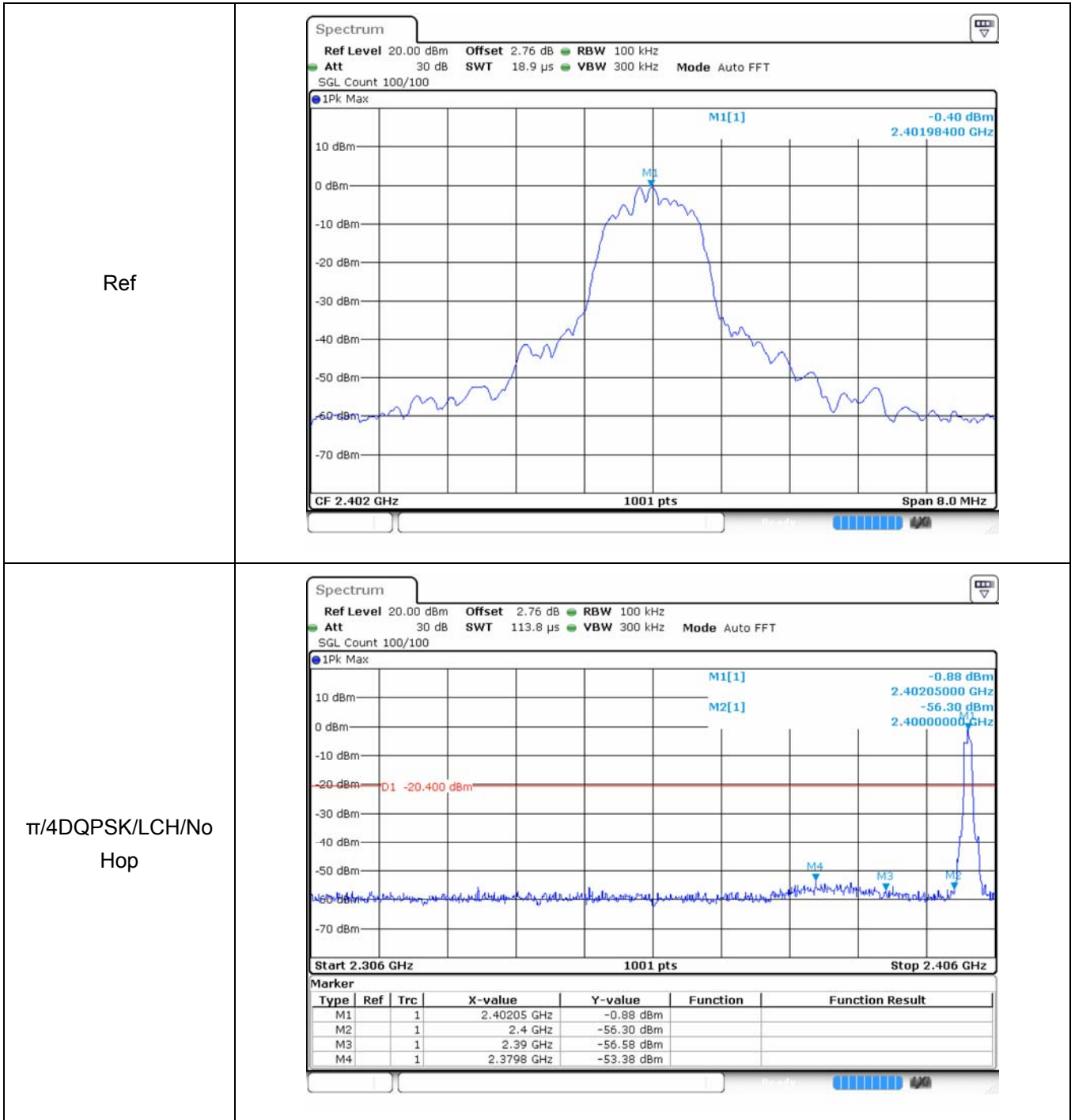
8.2 Test Graphs

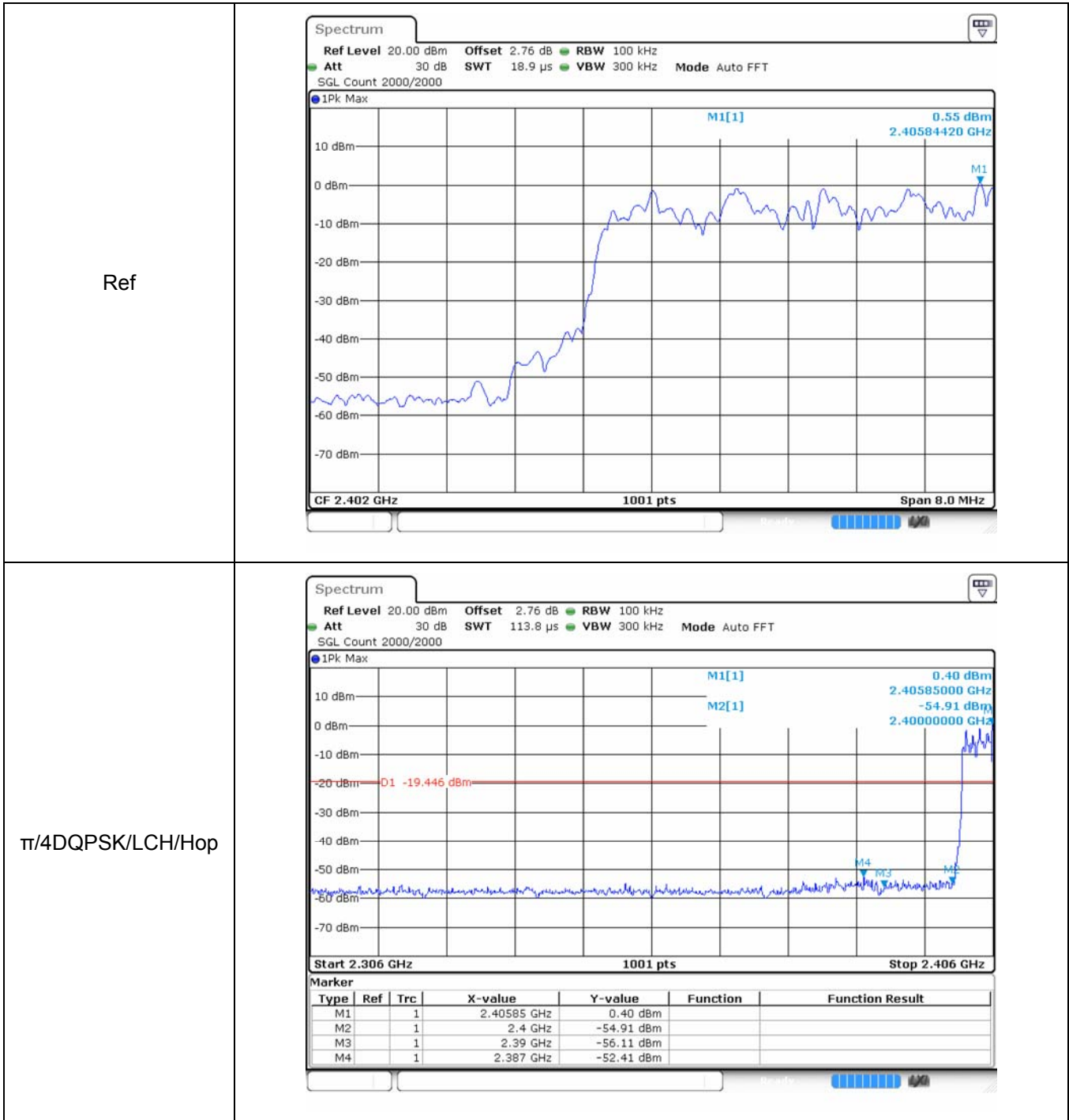


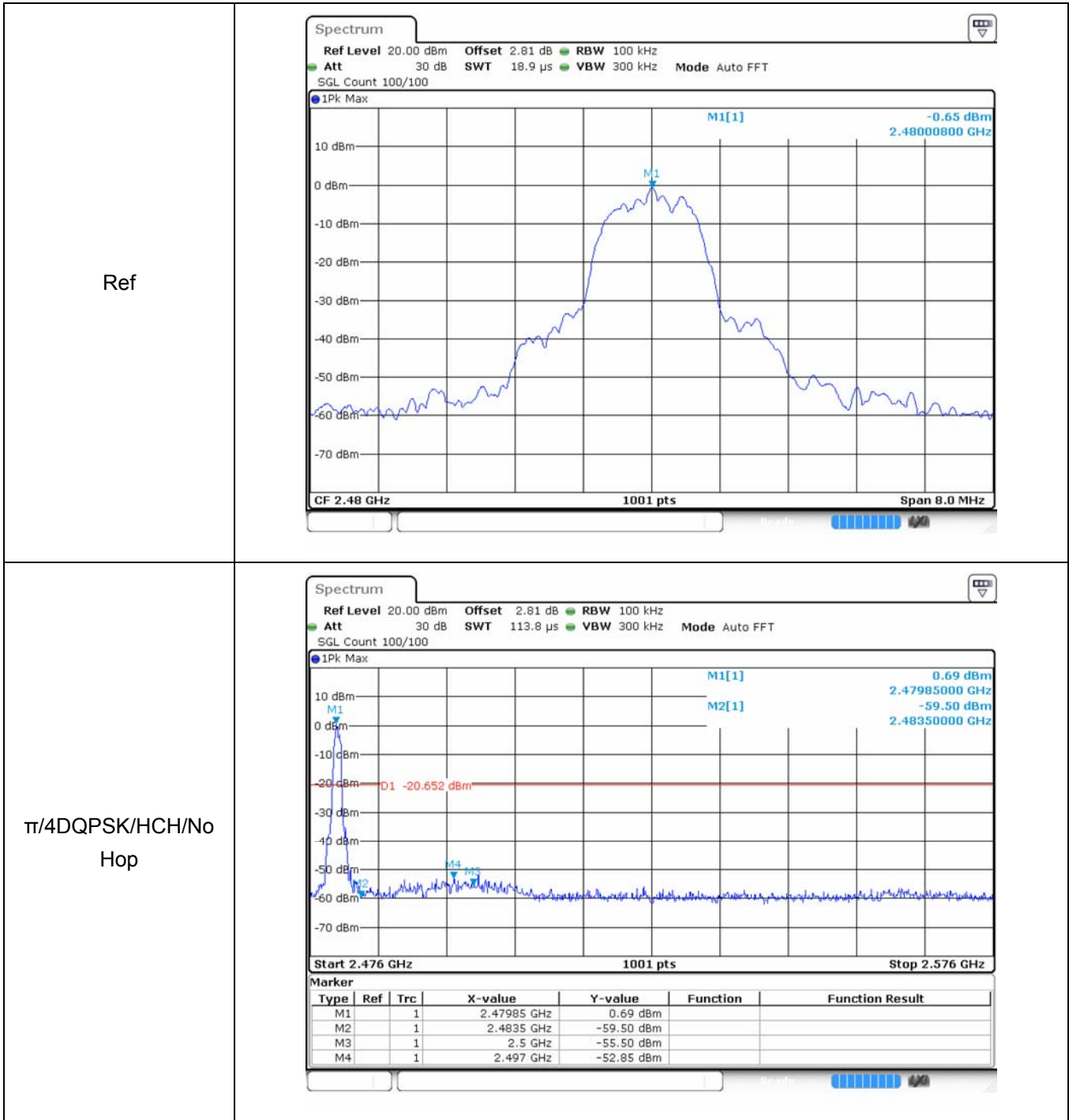


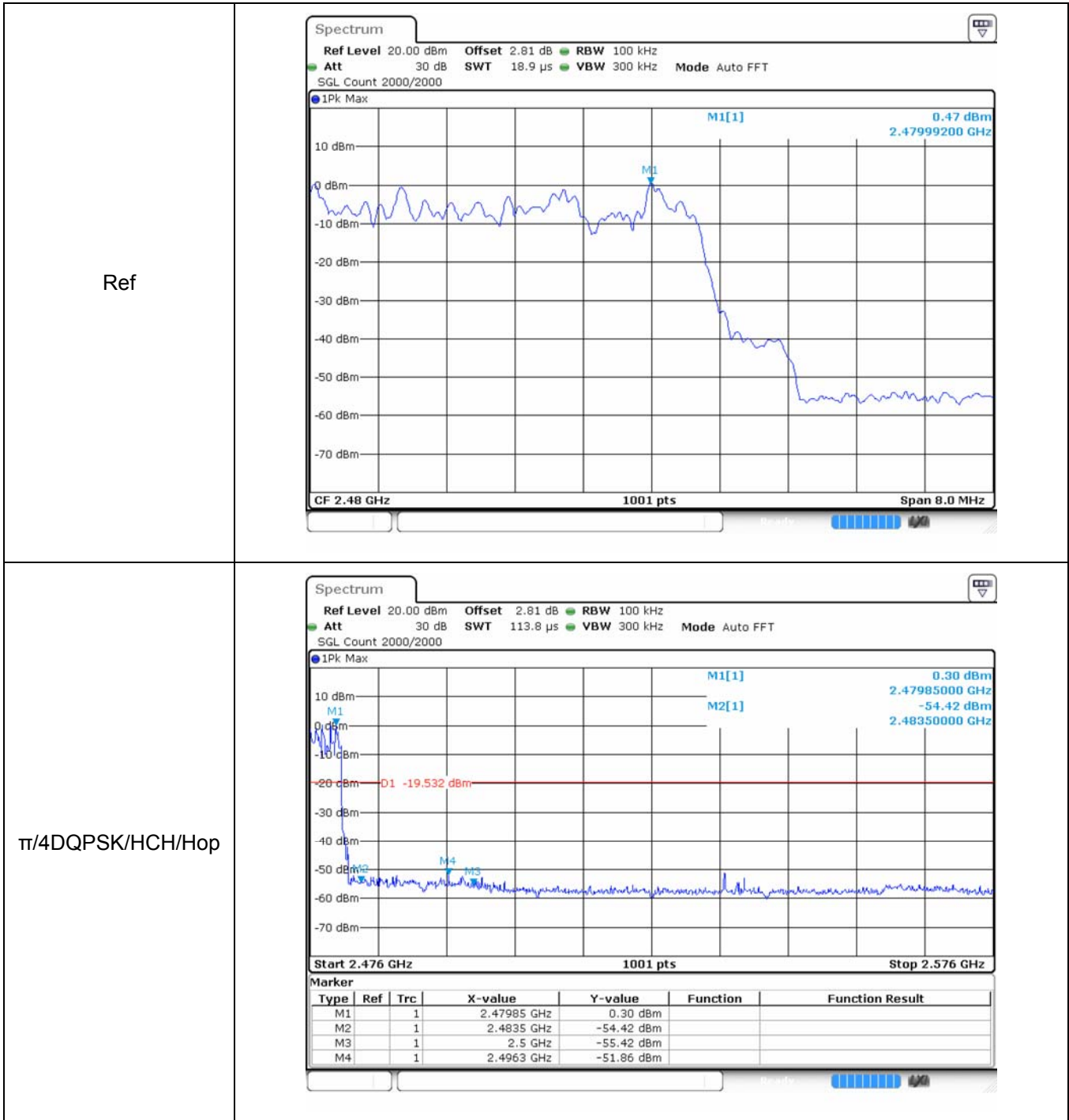












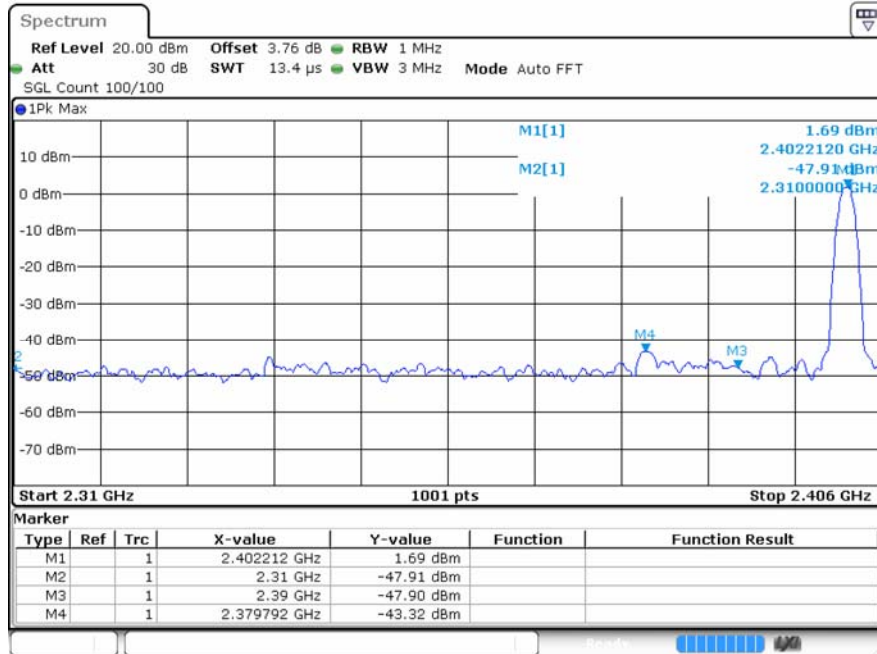
9 Restrict-band band-edge measurements

9.1 Test Result

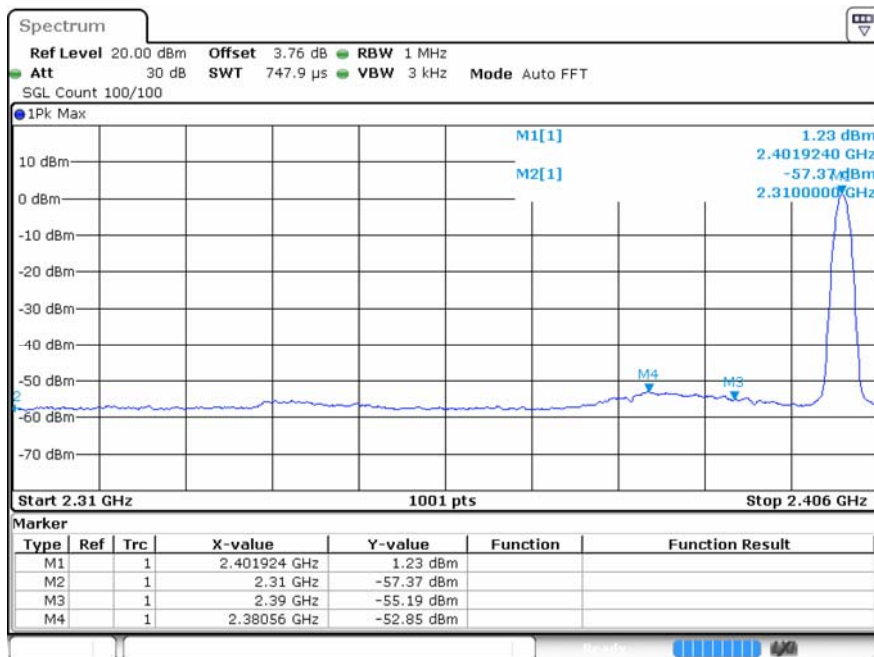
Test Mode	Hopping	Freq.	Power [dBm]	Gain	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.9	2.2	49.53	PEAK	74	Pass
	Off	2310.0	-57.37	2.2	40.06	AV	54	Pass
	Off	2379.792	-43.31	2.2	54.12	PEAK	74	Pass
	Off	2380.56	-52.84	2.2	44.59	AV	54	Pass
	Off	2390.0	-47.89	2.2	49.54	PEAK	74	Pass
	Off	2390.0	-55.18	2.2	42.25	AV	54	Pass
	Off	2483.5	-48.51	2.2	48.92	PEAK	74	Pass
	Off	2483.5	-55.42	2.2	42.01	AV	54	Pass
	Off	2500	-42.57	2.2	54.86	PEAK	74	Pass
	Off	2499.448	-52.32	2.2	45.11	AV	54	Pass
	Off	2500.0	-42.57	2.2	54.86	PEAK	74	Pass
	Off	2500.0	-53.16	2.2	44.27	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-47.98	2.2	49.45	PEAK	74	Pass
	Off	2310.0	-57.48	2.2	39.95	AV	54	Pass
	Off	2381.712	-42.99	2.2	54.44	PEAK	74	Pass
	Off	2383.152	-52.65	2.2	44.78	AV	54	Pass
	Off	2390.0	-46.61	2.2	50.82	PEAK	74	Pass
	Off	2390.0	-54.73	2.2	42.7	AV	54	Pass
	Off	2483.5	-46.66	2.2	50.77	PEAK	74	Pass
	Off	2483.5	-55.89	2.2	41.54	AV	54	Pass
	Off	2498.824	-42.46	2.2	54.97	PEAK	74	Pass
	Off	2499.328	-51.96	2.2	45.47	AV	54	Pass
	Off	2500.0	-46.25	2.2	51.18	PEAK	74	Pass
	Off	2500.0	-52.04	2.2	45.39	AV	54	Pass

9.2 Test Graphs

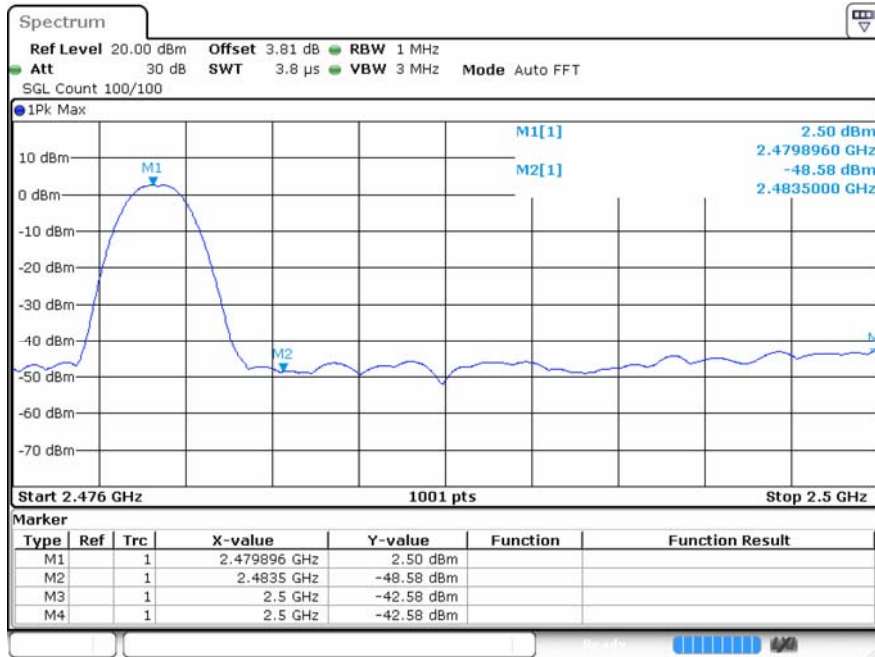
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



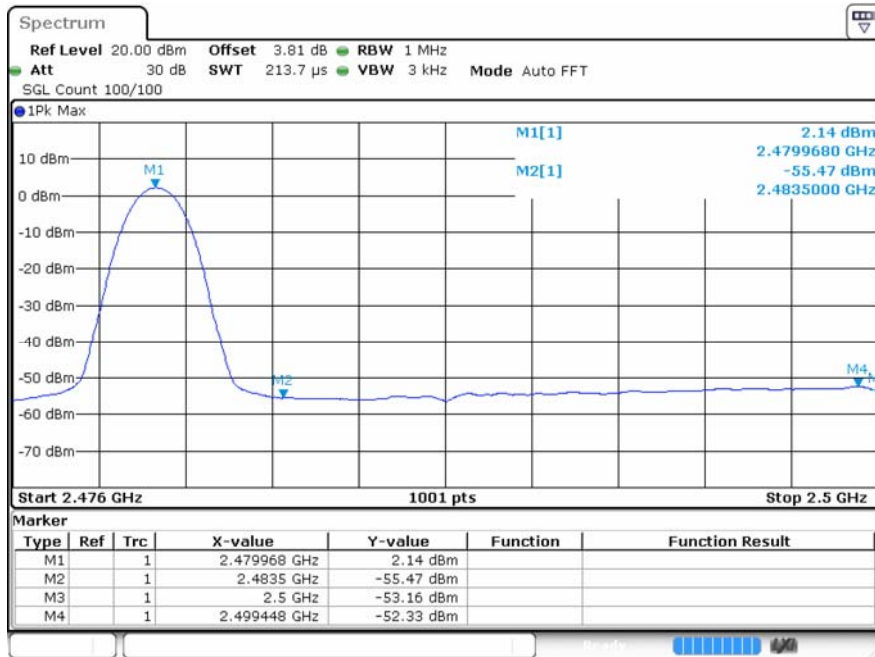
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



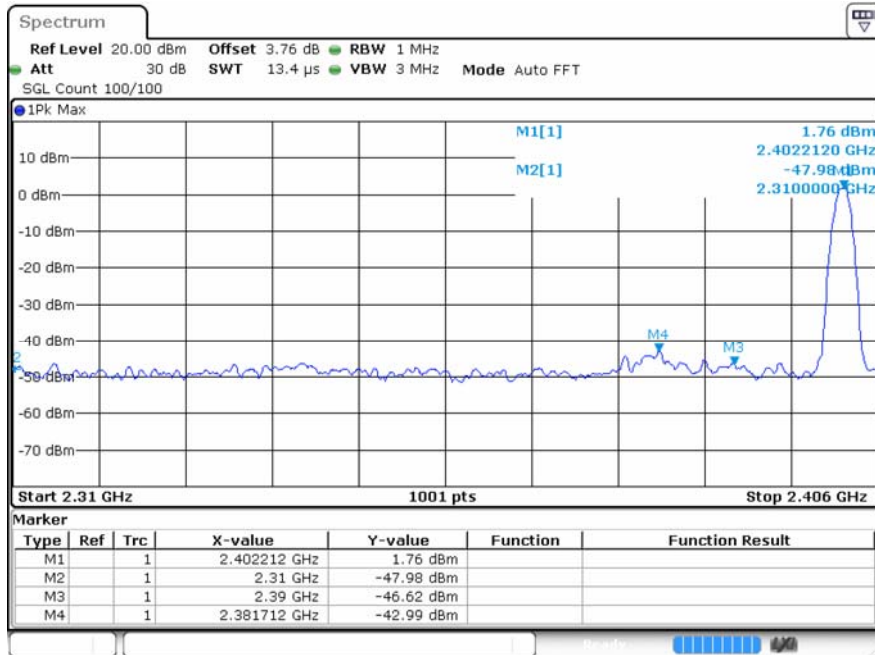
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



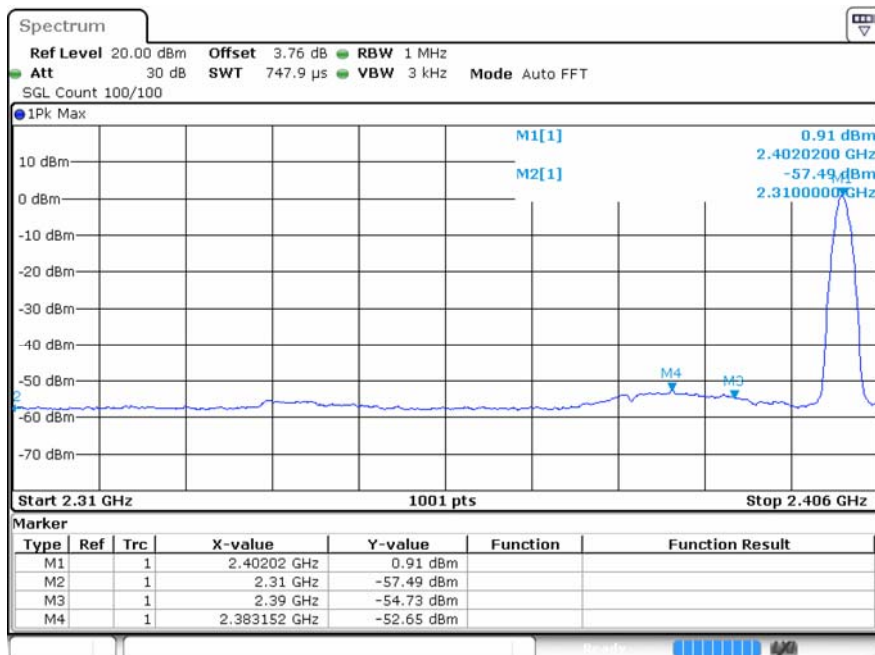
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



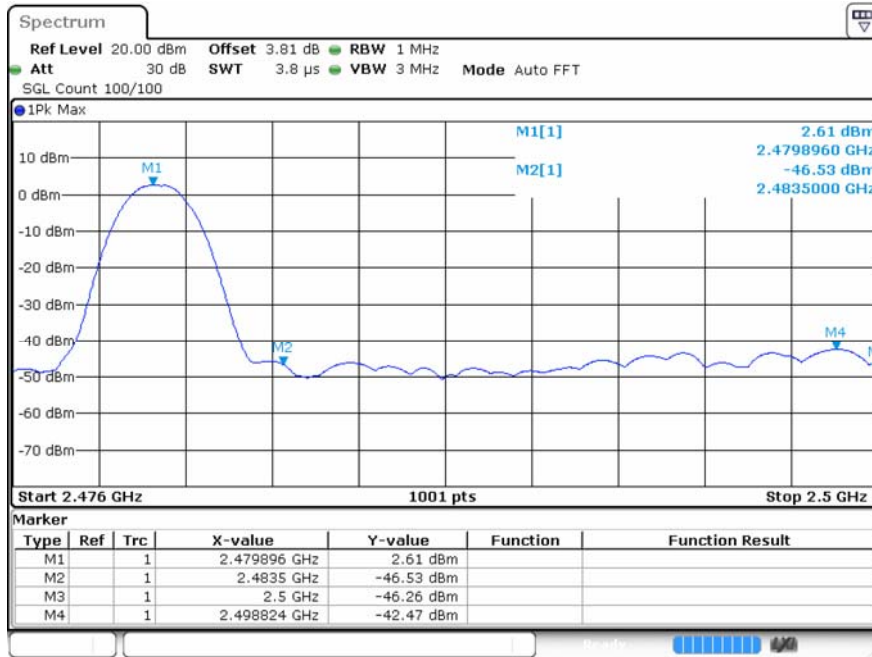
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



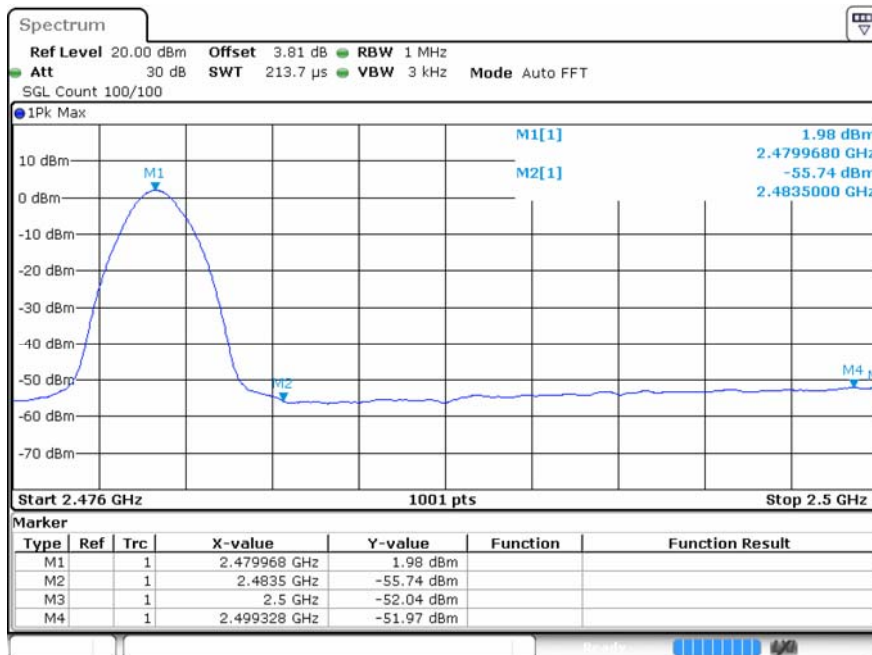
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---