



Appendix A

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

Product Name: Translation headphones

Trade Mark: N/A

Test Model: T23

Environmental Conditions

Temperature:	26.1°C
Relative Humidity:	51.9%
ATM Pressure:	101Kpa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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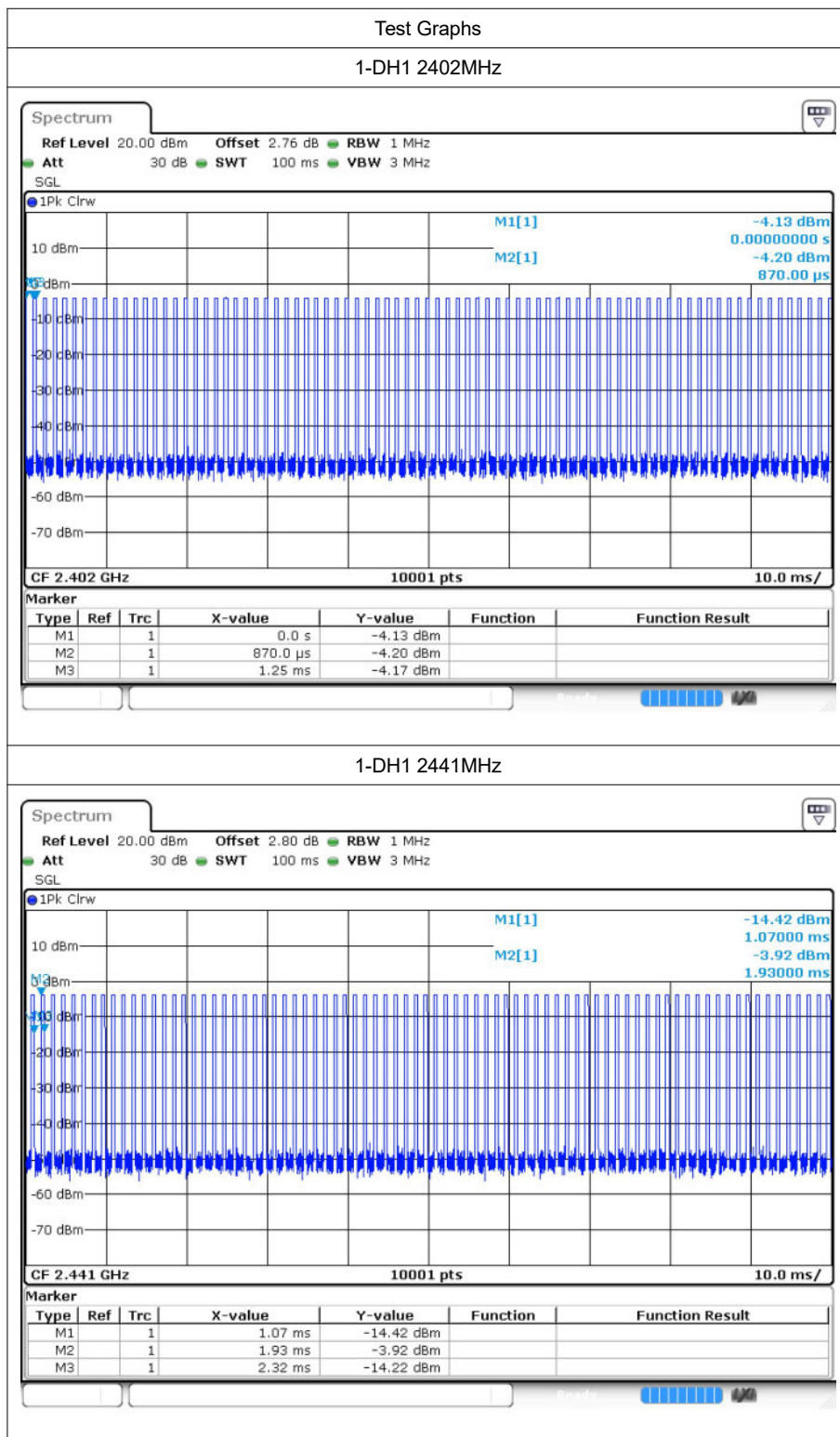


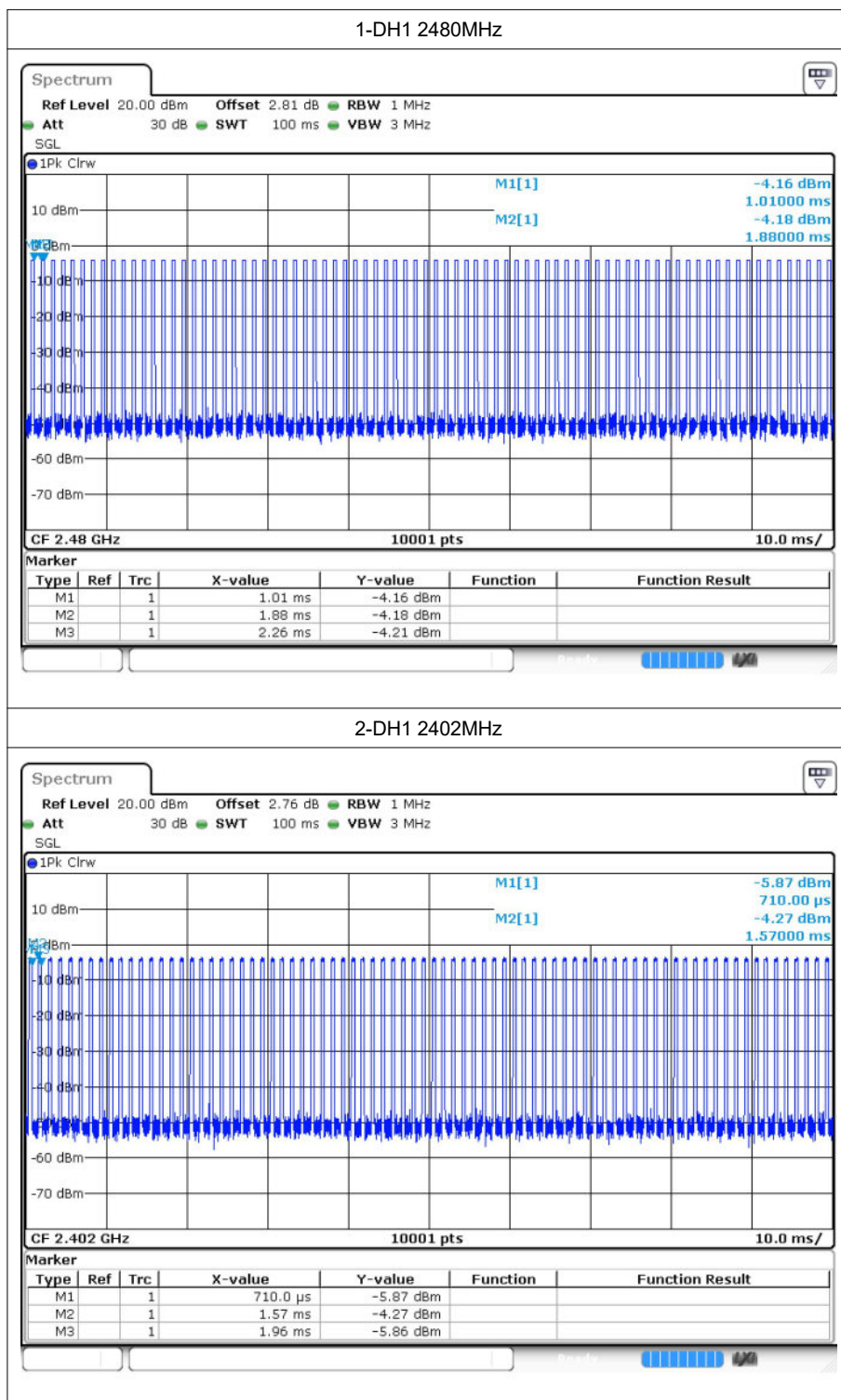
1 Duty Cycle

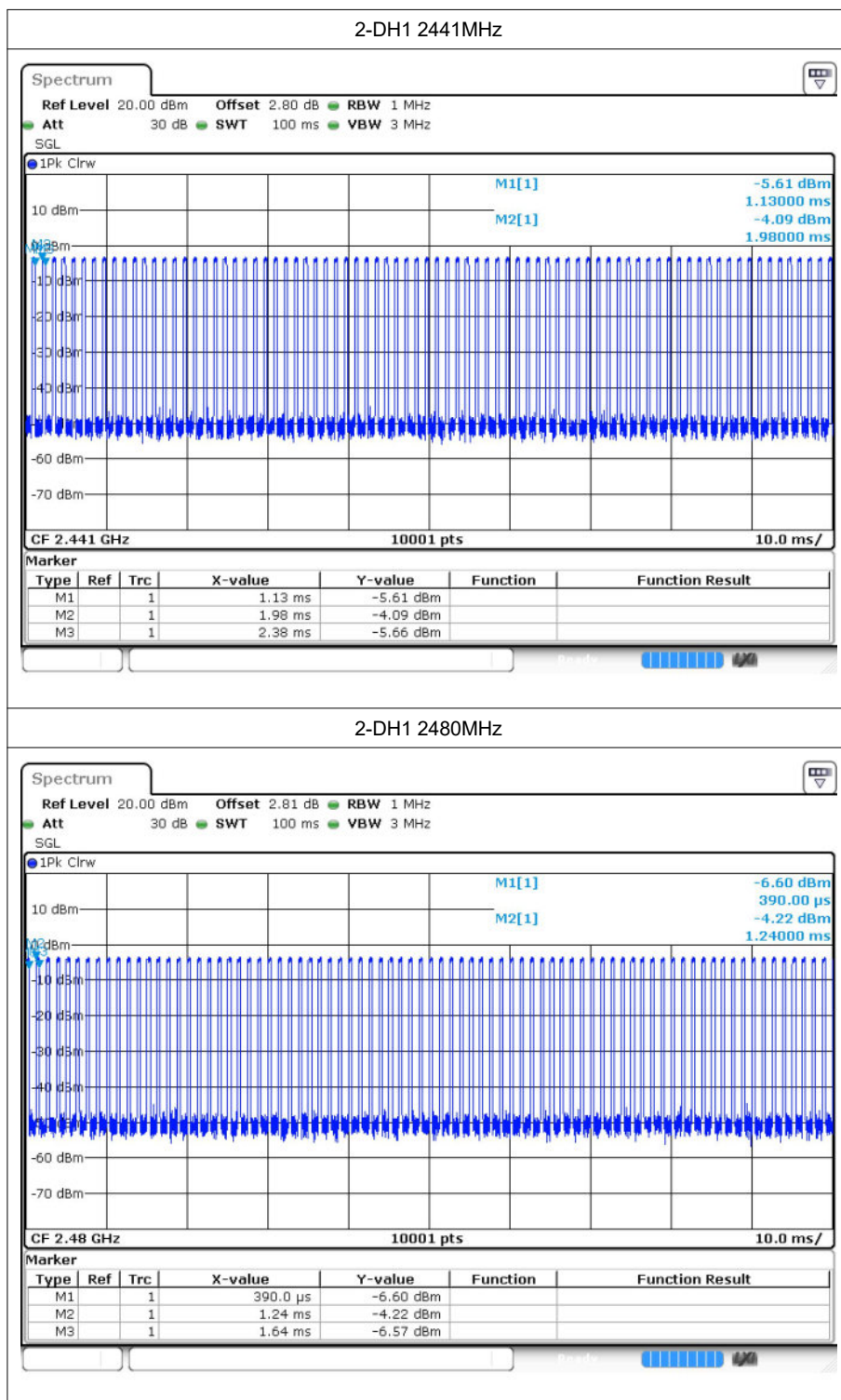
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.81	4.97	2.63
1-DH1	2441	32	4.95	2.56
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	32	4.95	2.56
2-DH1	2441	32.8	4.84	2.5
2-DH1	2480	32.81	4.84	2.5

1.2 Test Graphs





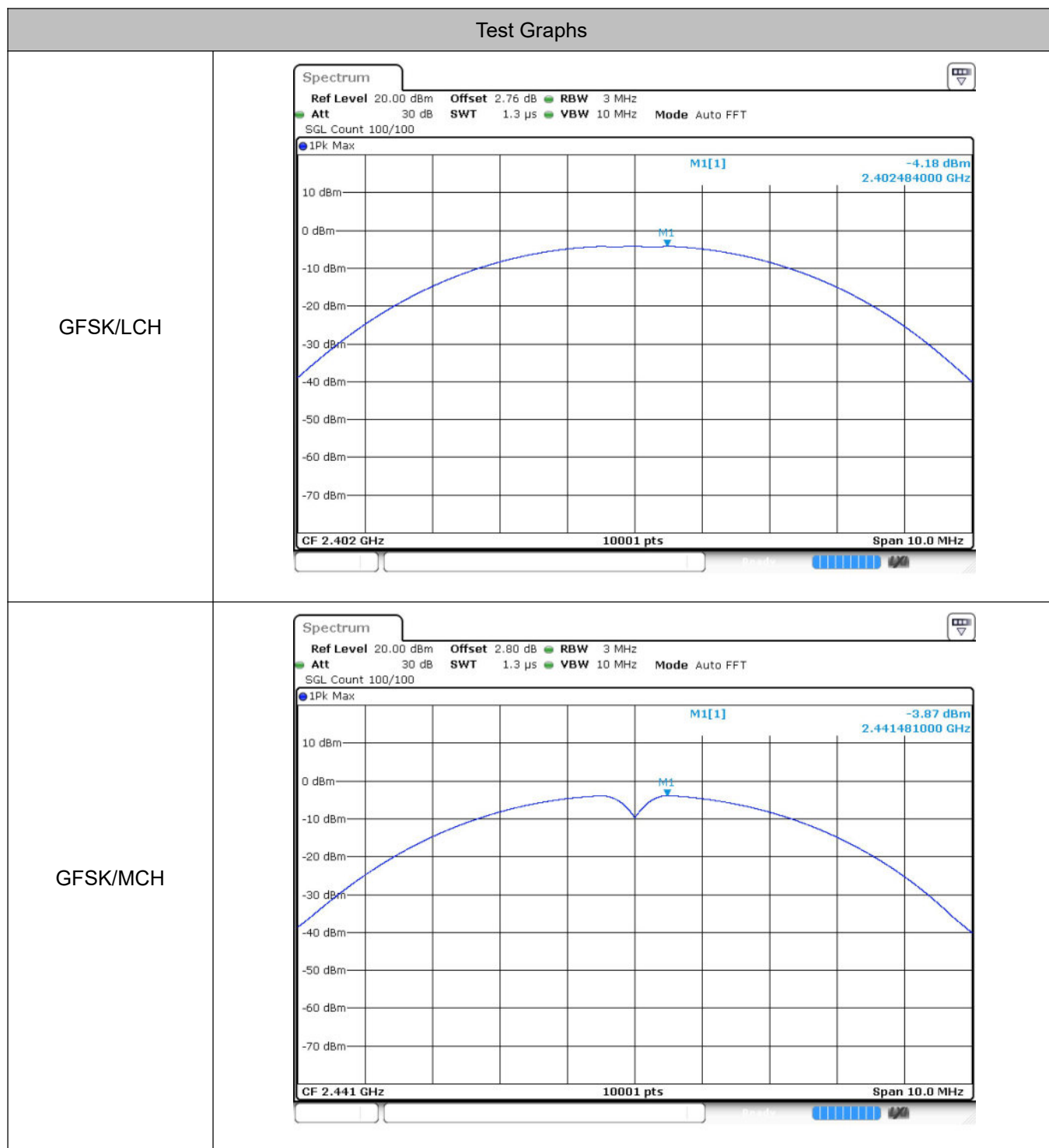


2 Maximum Conducted Peak Output Power

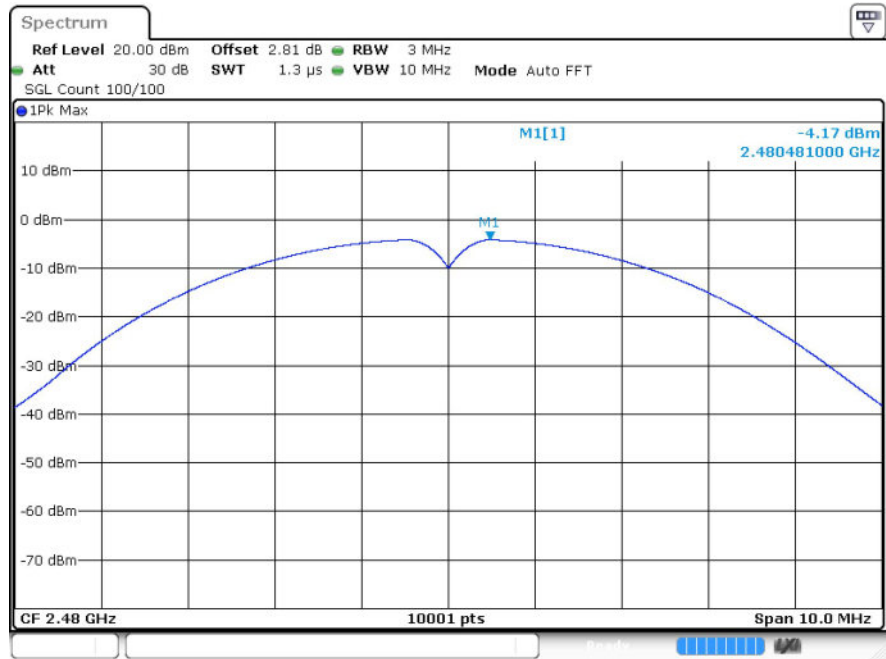
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-4.18	21	Pass
	MCH	-3.87	21	Pass
	HCH	-4.17	21	Pass
$\pi/4$ DQPSK	LCH	-3.56	21	Pass
	MCH	-3.72	21	Pass
	HCH	-3.85	21	Pass

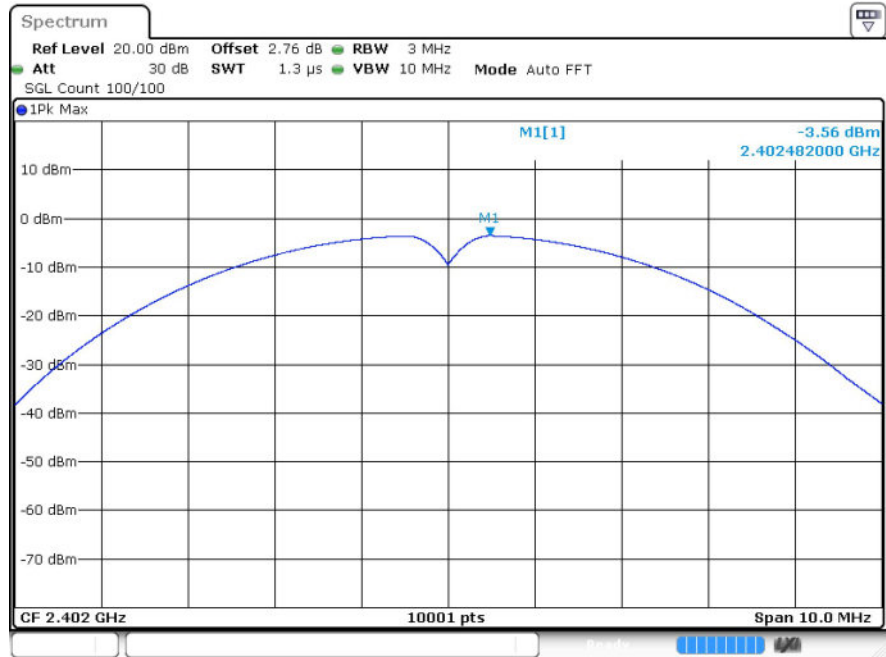
2.2 Test Graphs

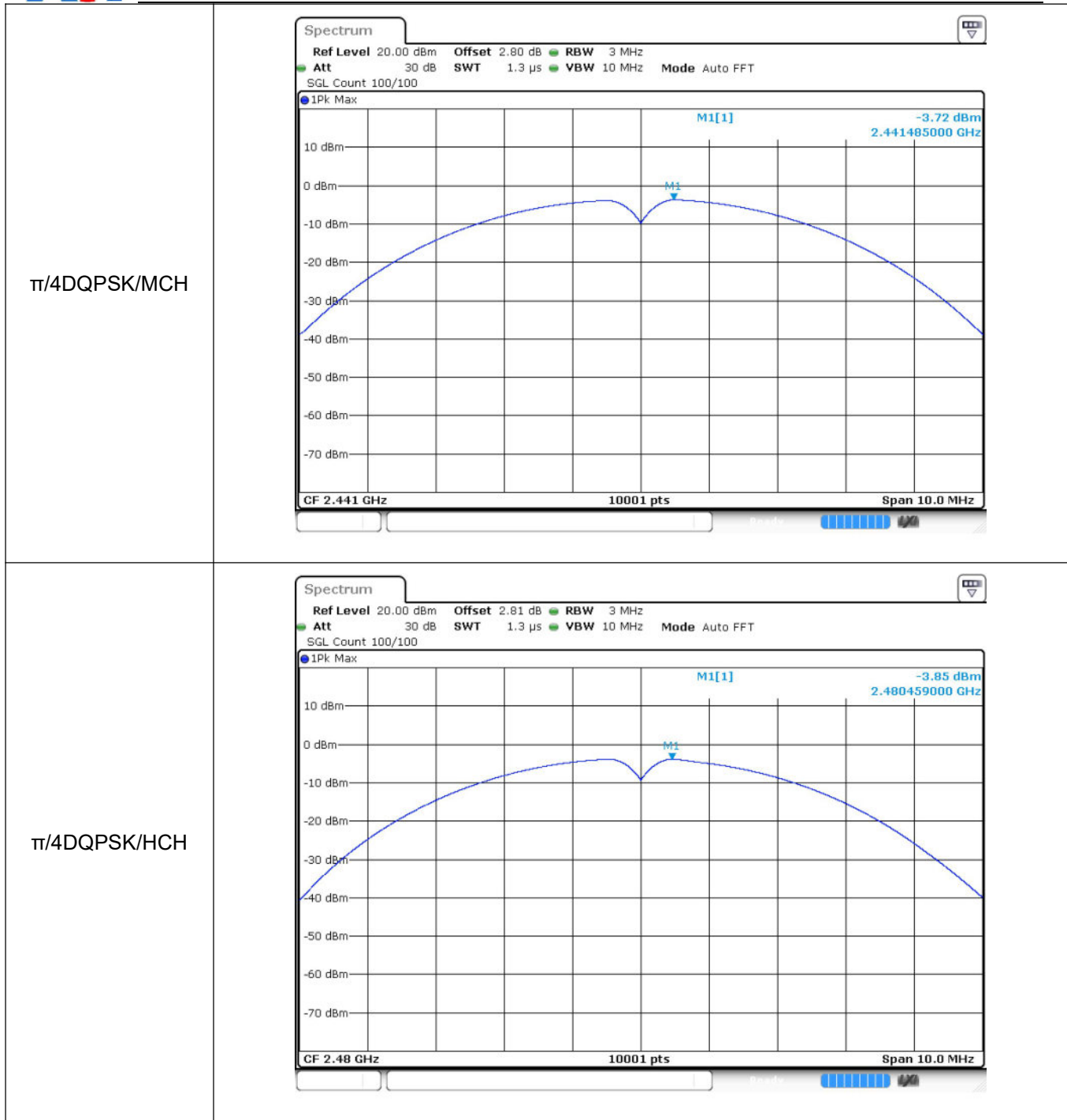


GFSK/HCH



π /4DQPSK/LCH



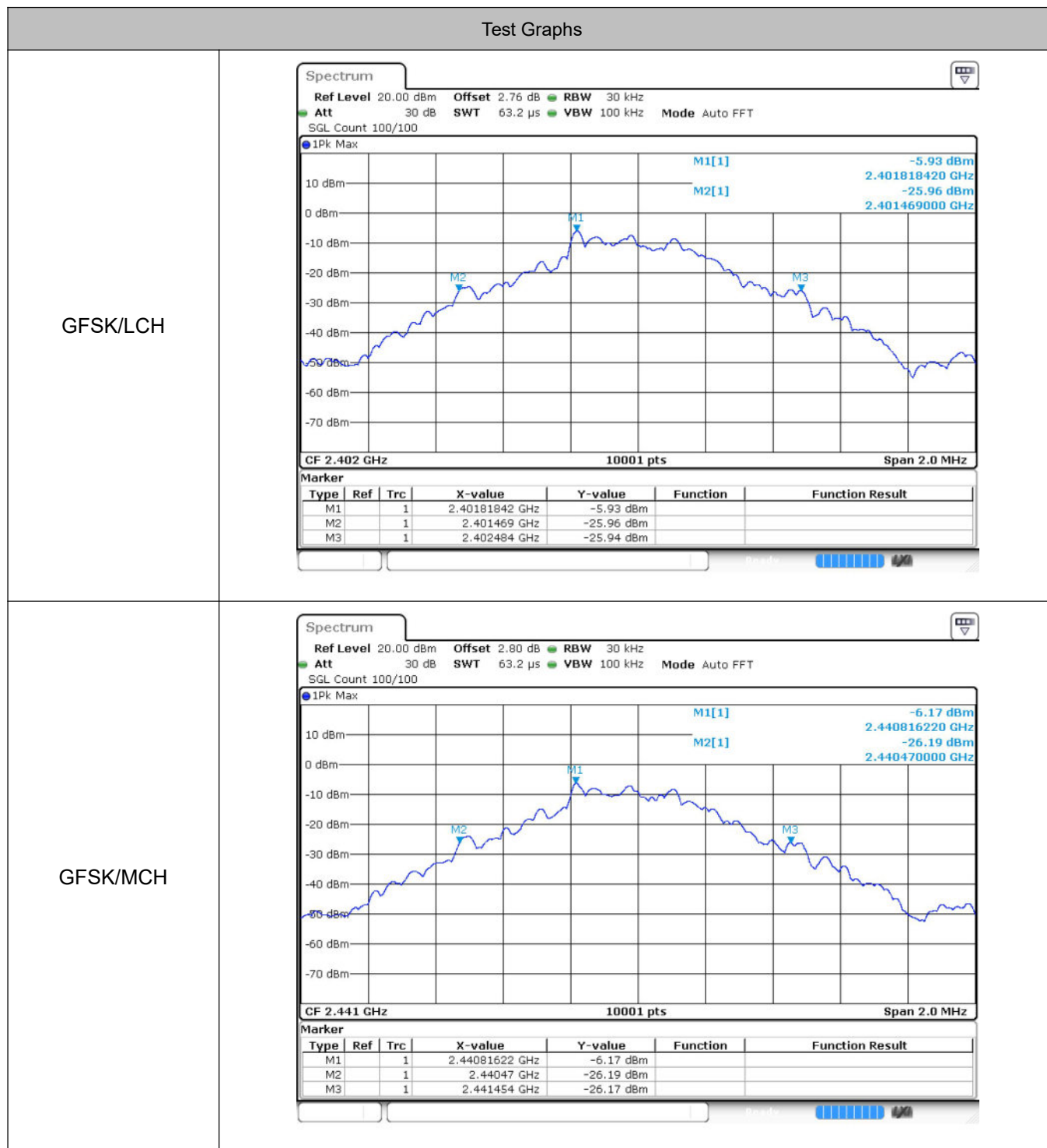


3 20dB Bandwidth

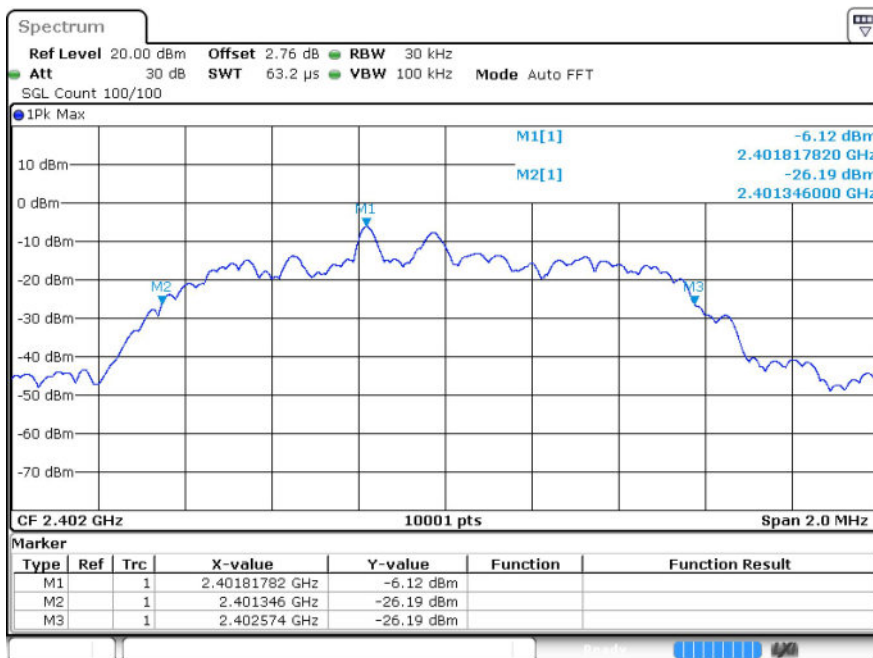
3.1 Test Result

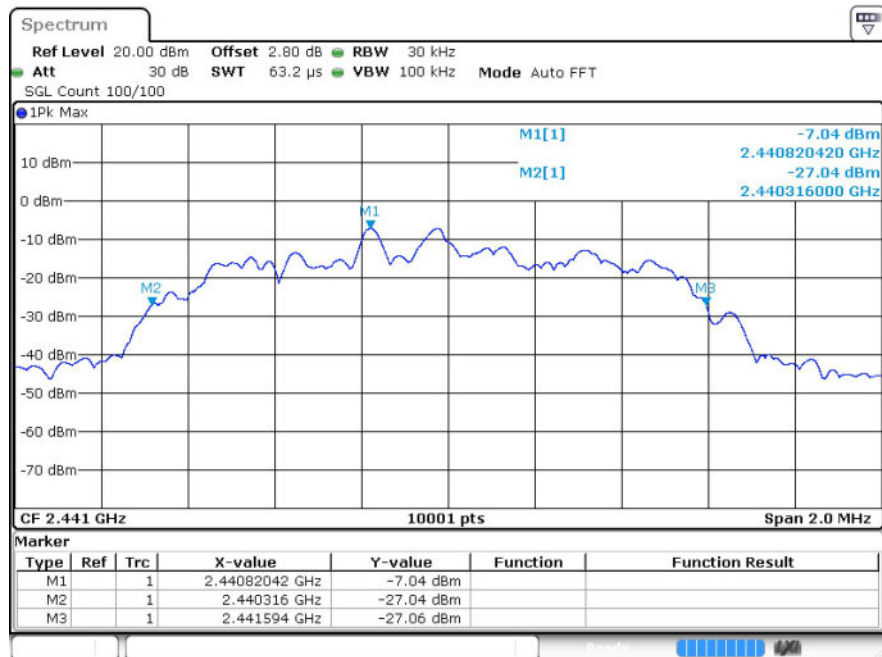
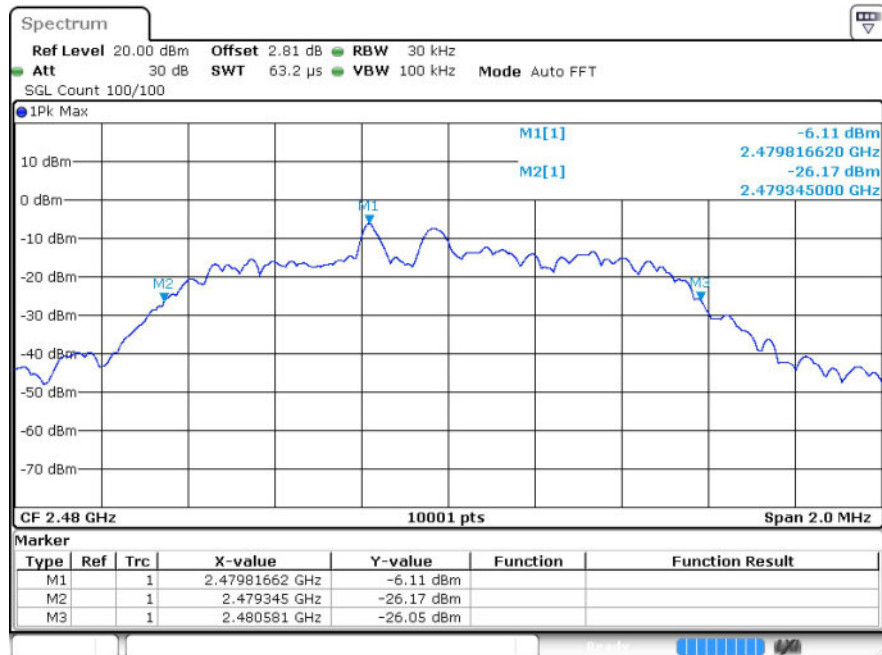
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.015	Not Specified	Pass
	MCH	0.984	Not Specified	Pass
	HCH	1.007	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.227	Not Specified	Pass
	MCH	1.278	Not Specified	Pass
	HCH	1.236	Not Specified	Pass

3.2 Test Graphs



GFSK/HCH


 $\pi/4$ DQPSK/LCH


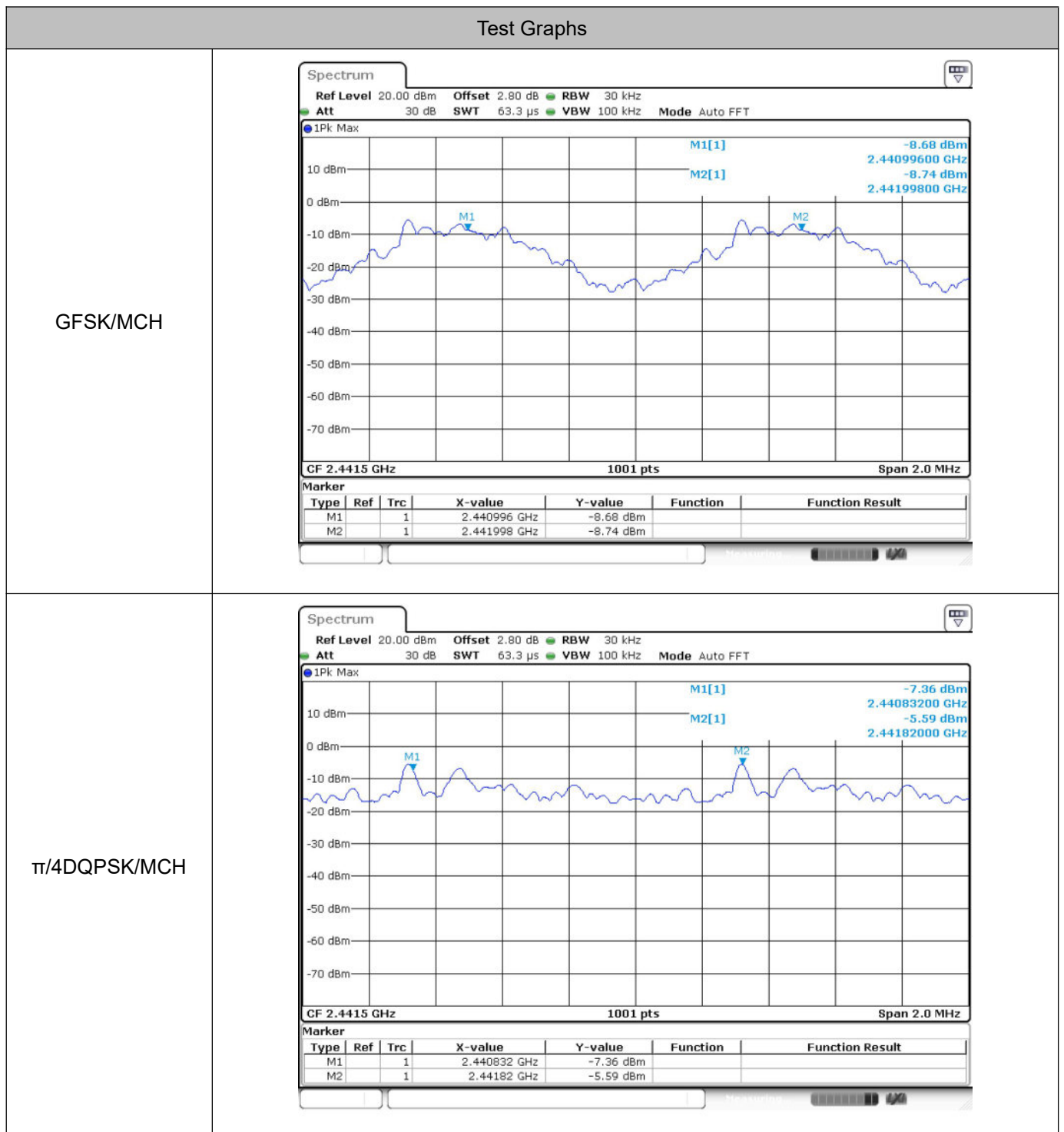
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.002	0.656	Pass
$\pi/4$ DQPSK	MCH	0.988	0.852	Pass

4.2 Test Graphs



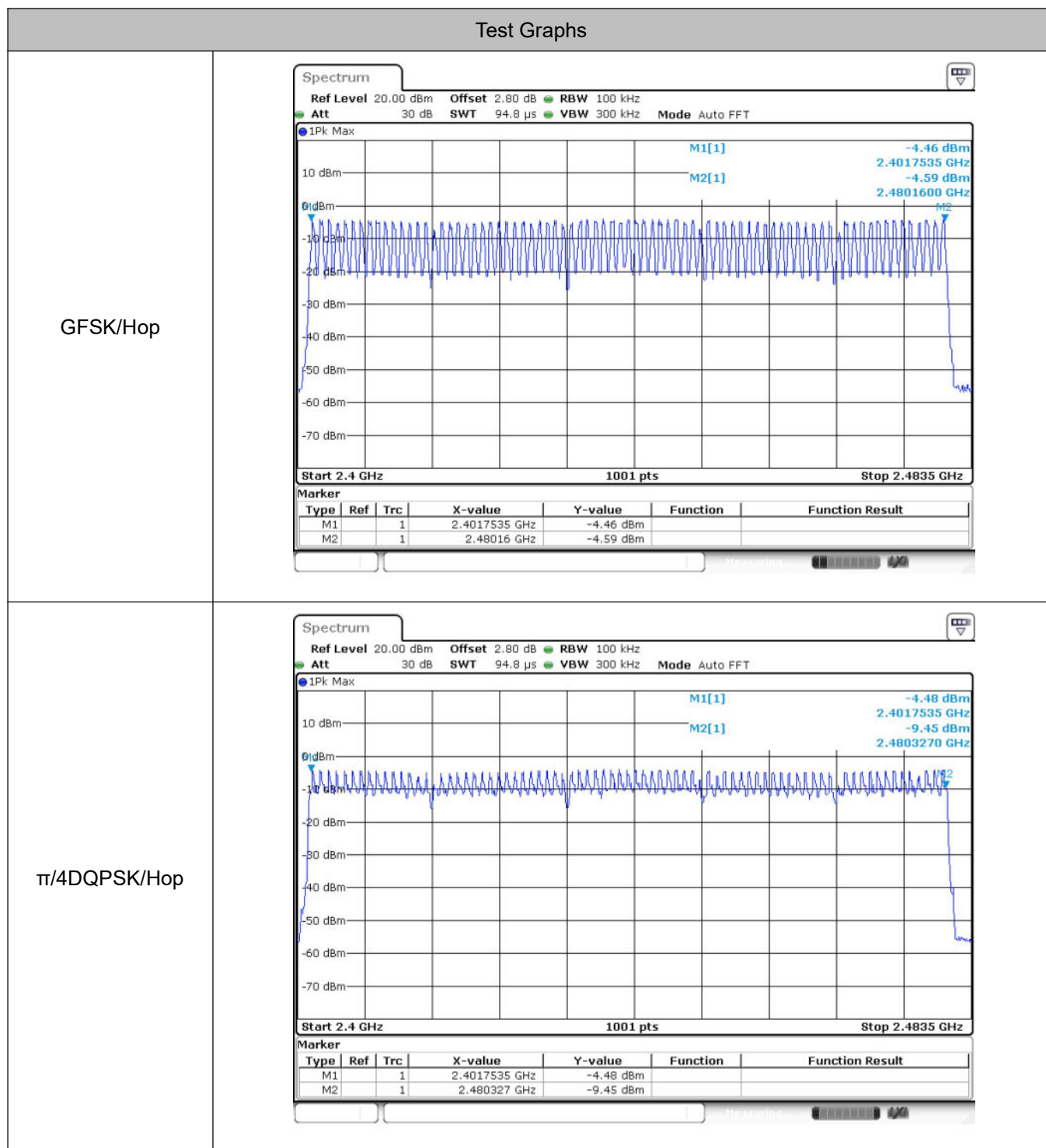


5 Hopping Channel Number

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

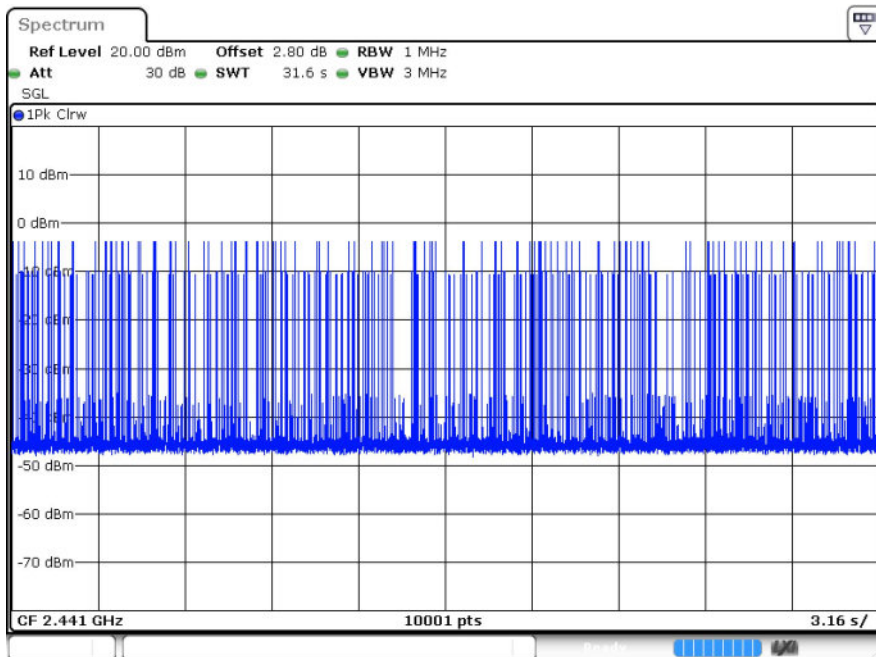
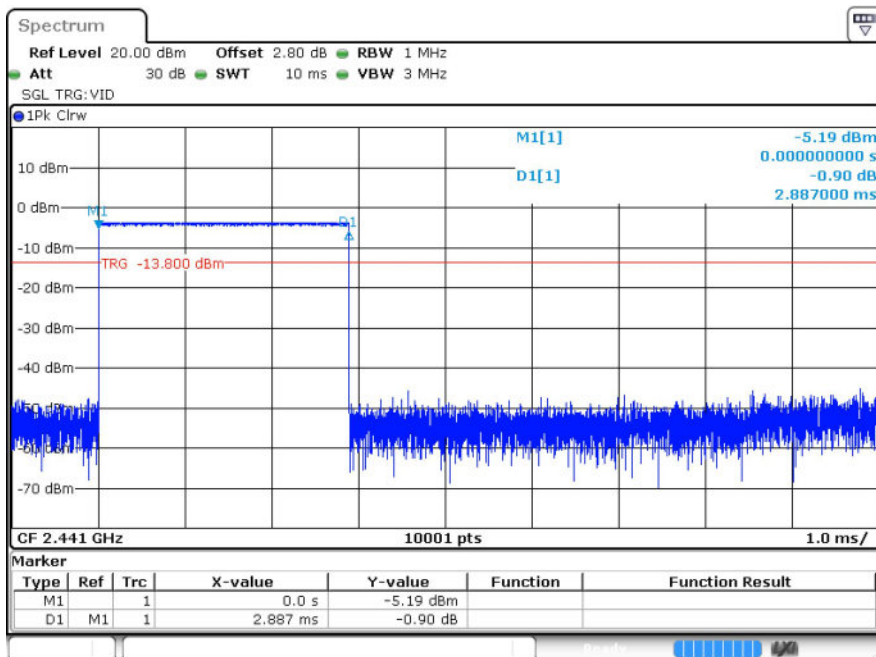
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	109	314.683	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.892	89	257.388	0.4	Pass

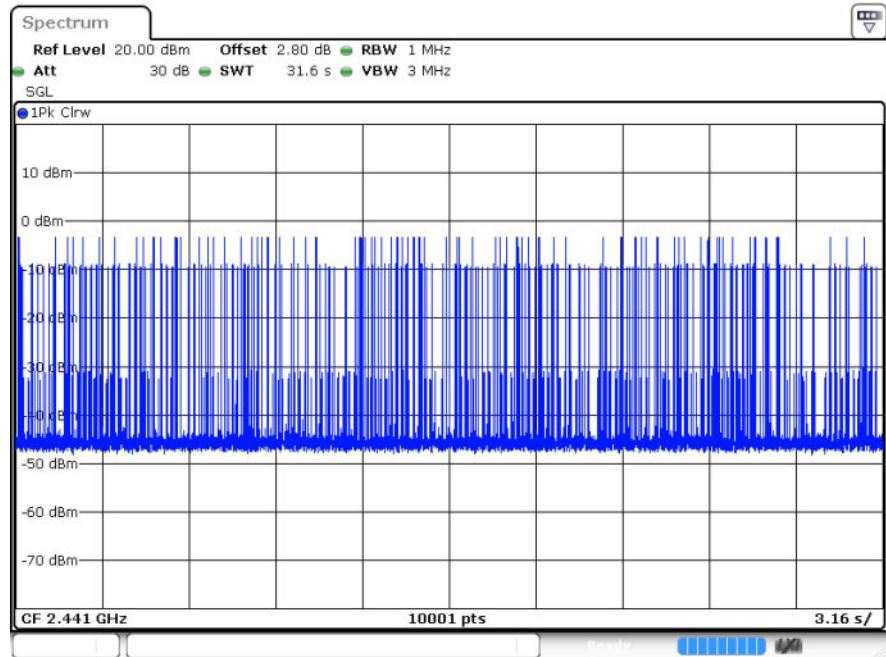
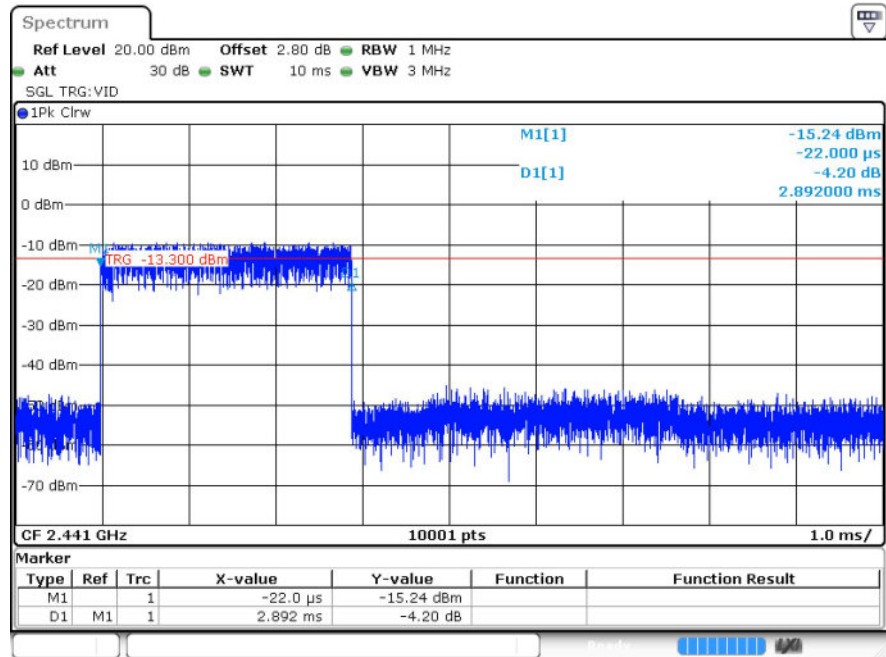
6.2 Test Graphs

Test Graphs

GFSK_DH5/MCH



$\pi/4$ DQPSK
_2DH5/MCH



7 RF Conducted Spurious Emissions

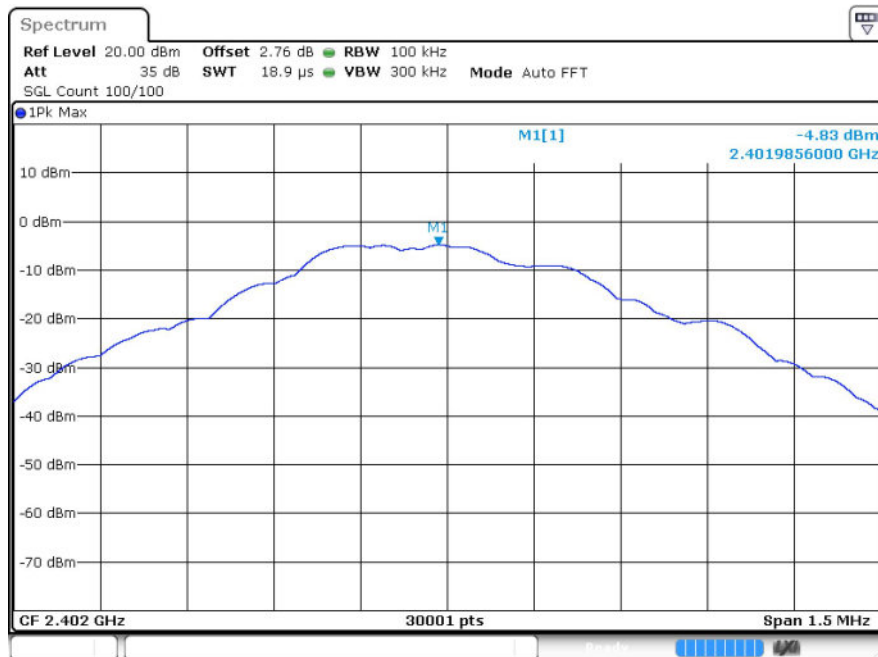
7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-36.41	-20	Pass
	MCH	-27.75	-20	Pass
	HCH	-31.09	-20	Pass
$\pi/4$ DQPSK	LCH	-36.75	-20	Pass
	MCH	-38.02	-20	Pass
	HCH	-37.16	-20	Pass

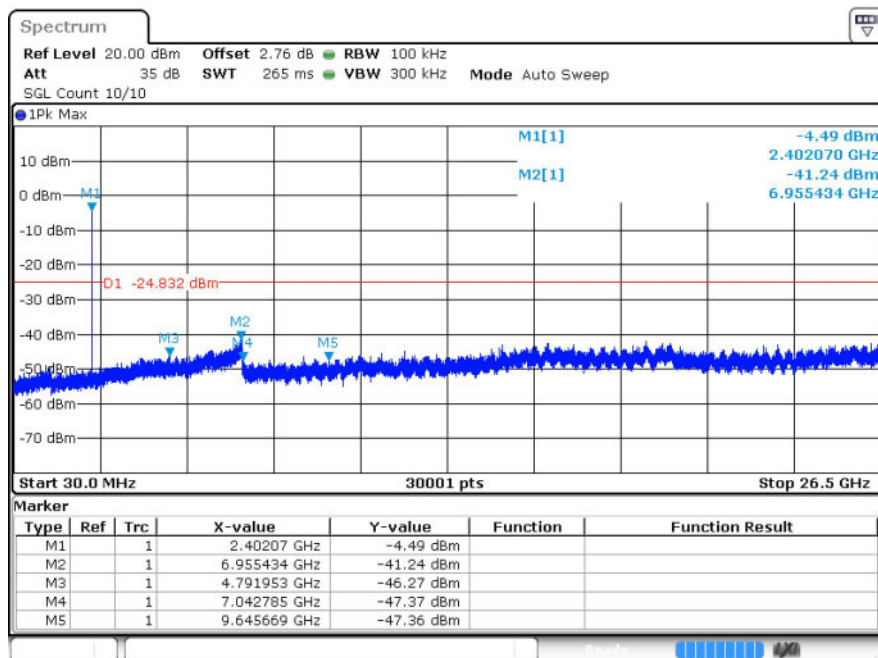
7.2 Test Graphs

GFSK_LCH_Graphs

Pref

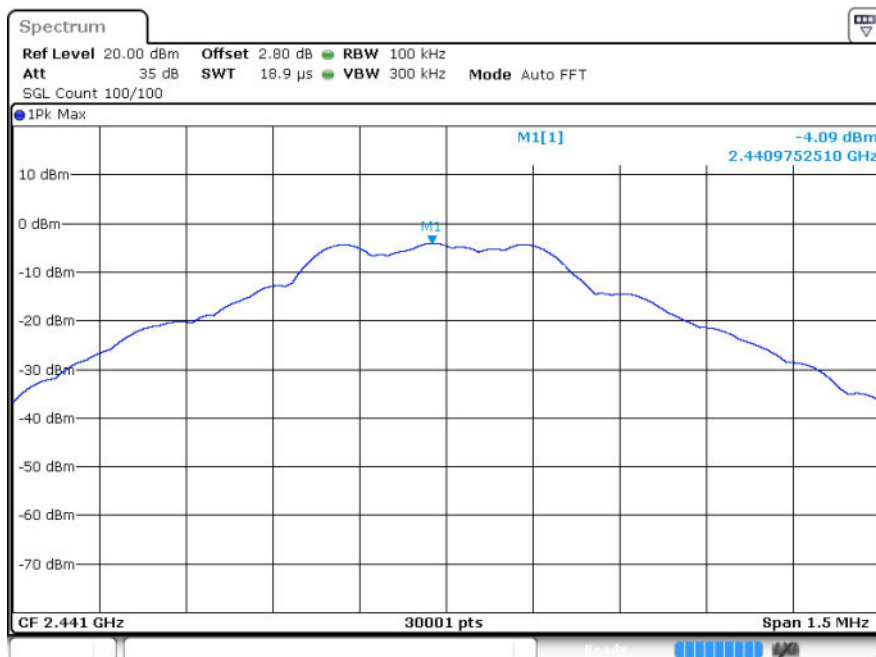


Puw

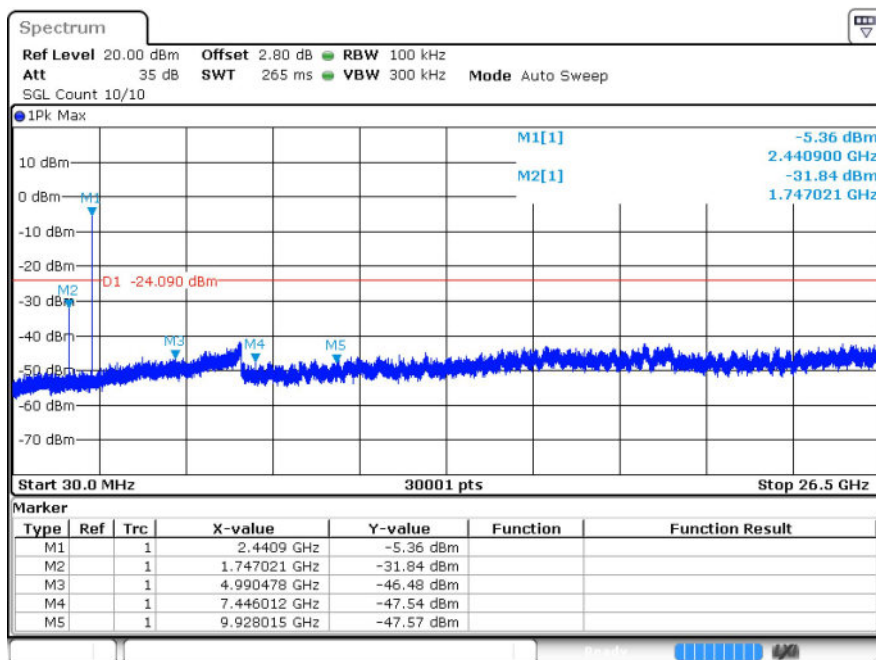


GFSK_MCH_Graphs

Pref

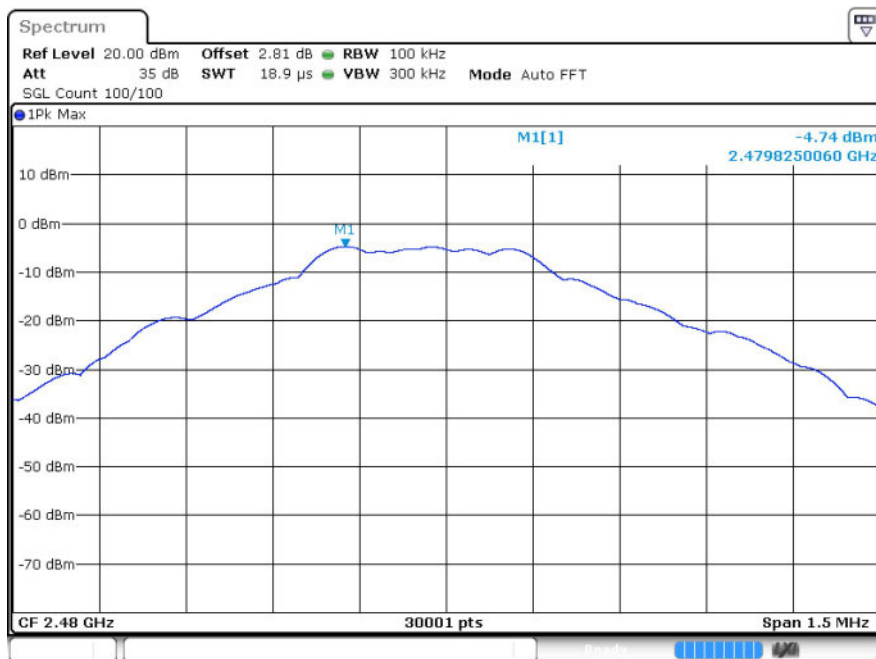


Puw

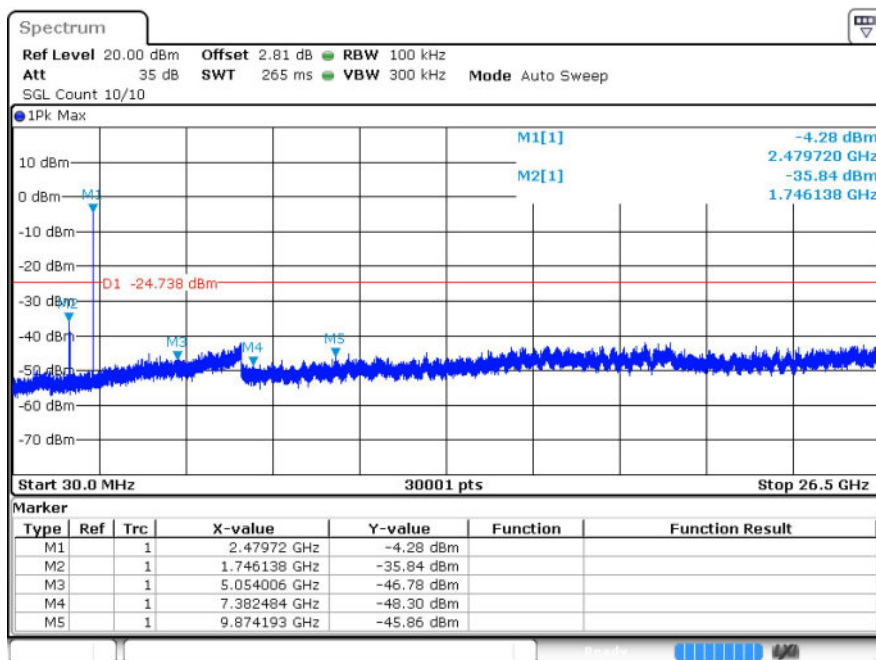


GFSK_HCH_Graphs

Pref

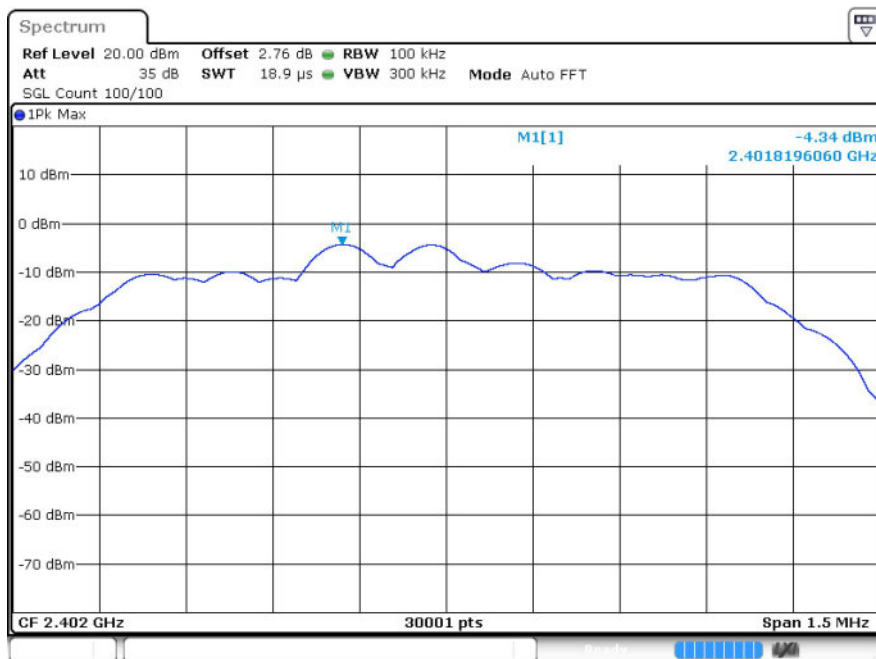


Puw

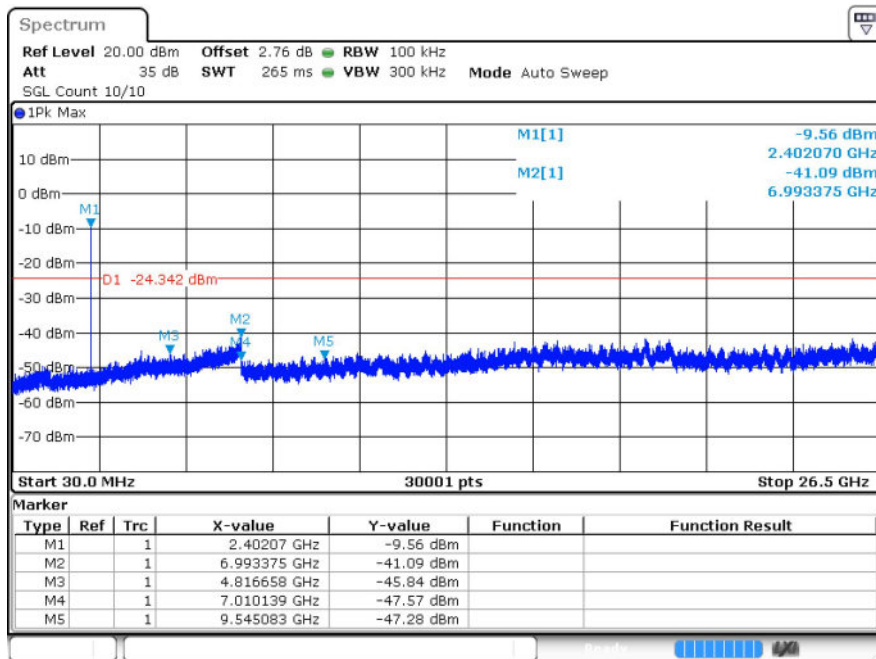


$\pi/4$ DQPSK_LCH_Graphs

Pref

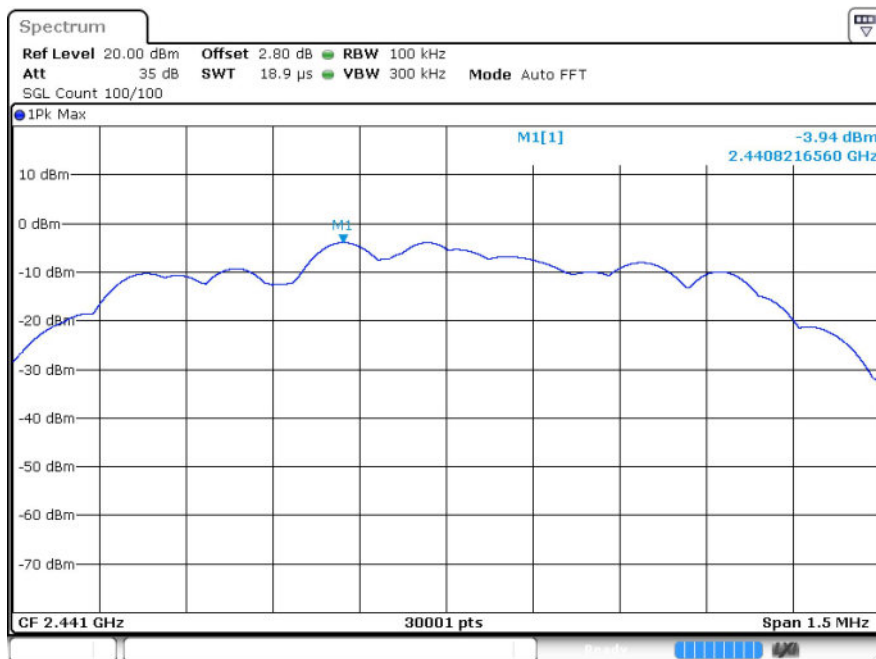


Puw

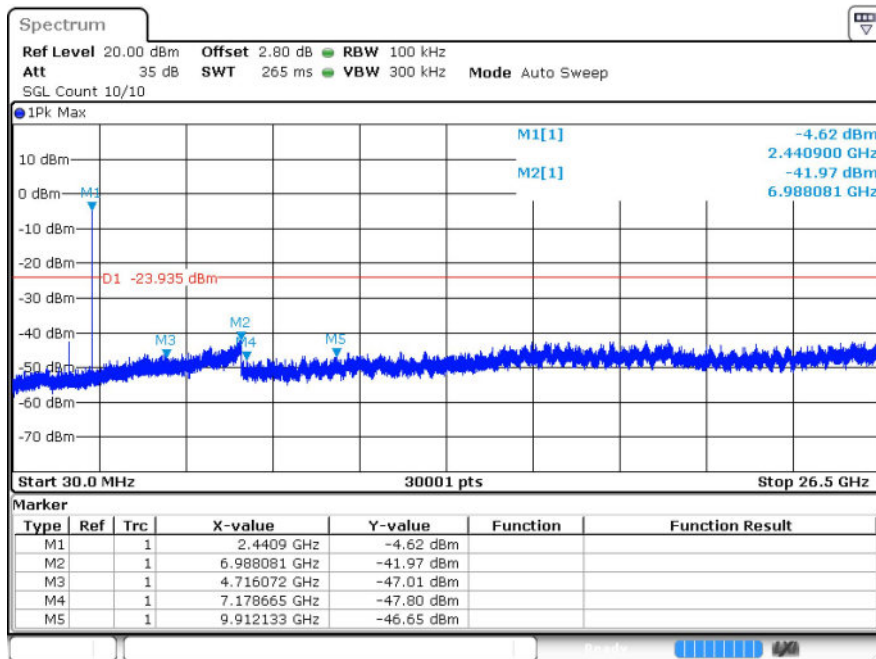


π /4DQPSK_MCH_Graphs

Pref

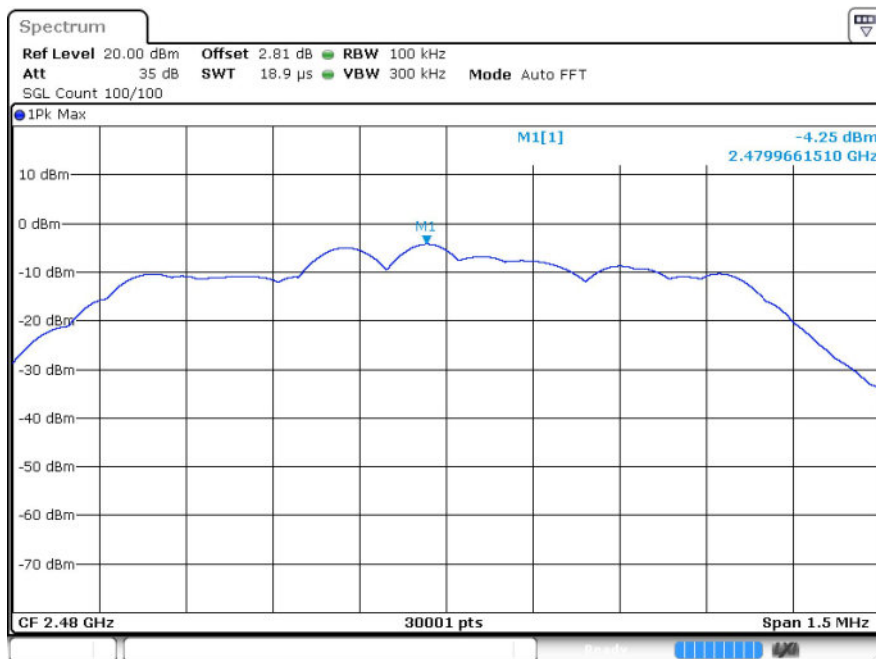


Puw

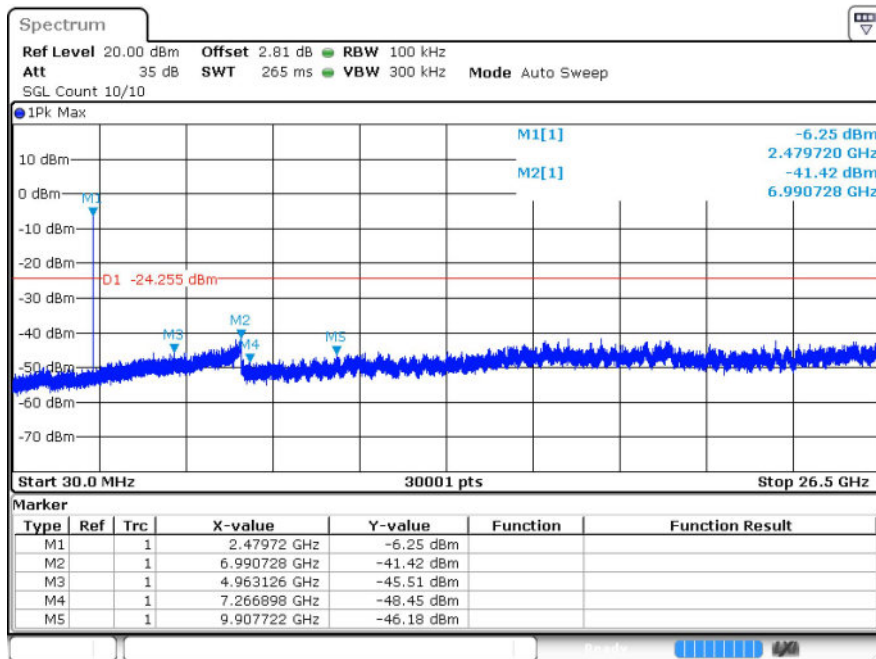


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

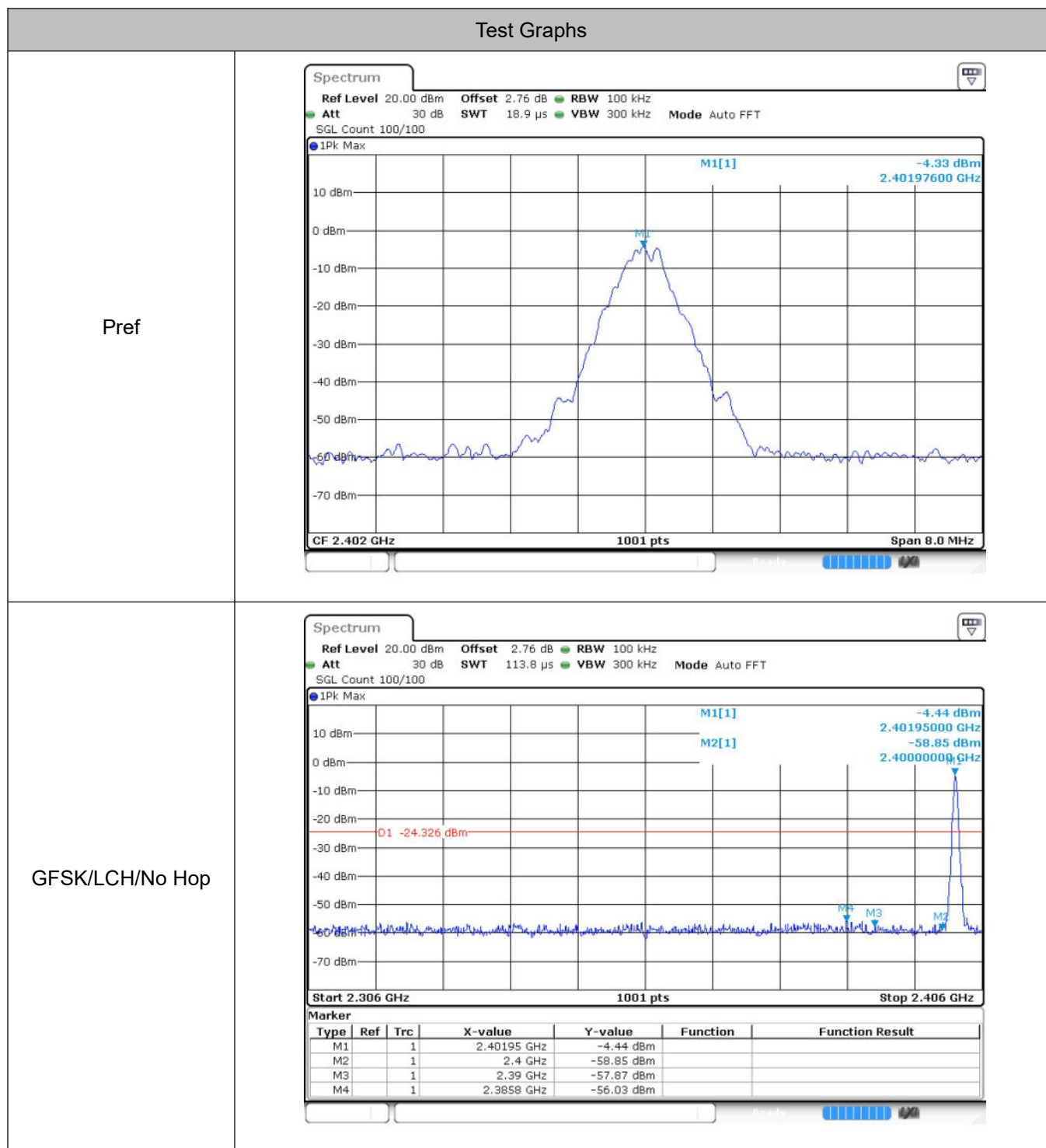


8 Band-edge for RF Conducted Emissions

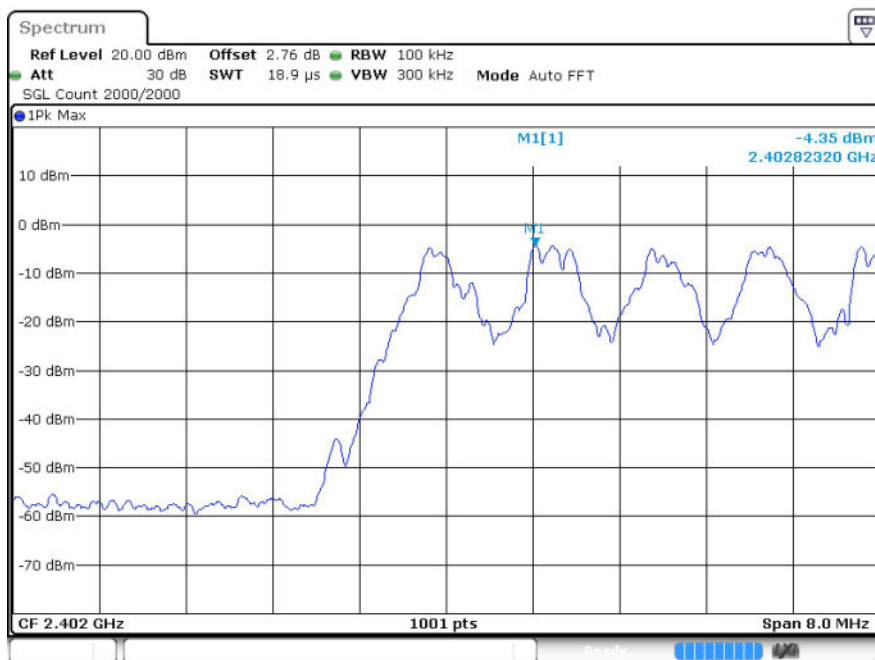
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-51.7	-20	Pass
			On	-50.87	-20	Pass
	HCH	2480	Off	-51.42	-20	Pass
			On	-50.68	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-50.97	-20	Pass
			On	-48.97	-20	Pass
	HCH	2480	Off	-50.28	-20	Pass
			On	-49.95	-20	Pass

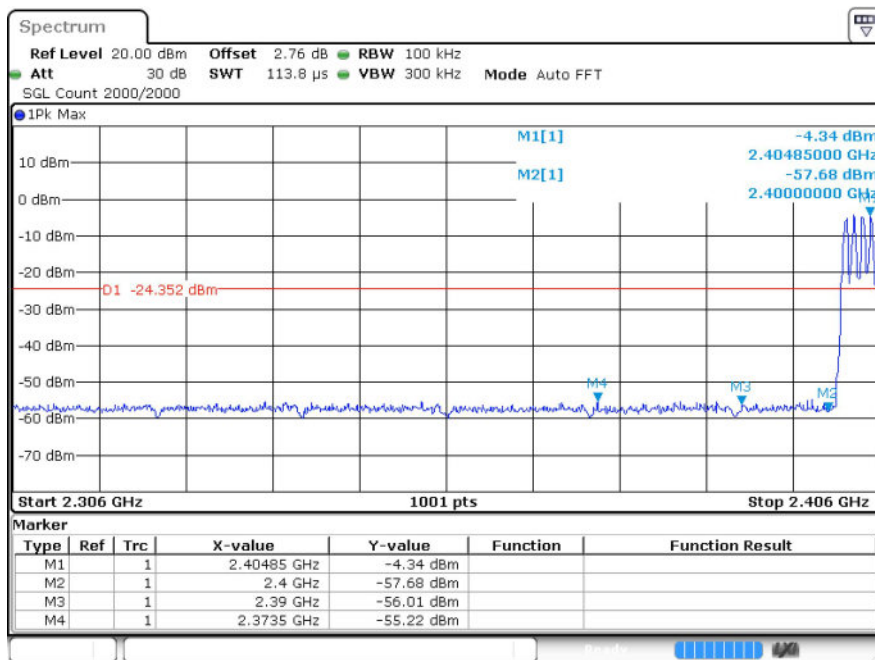
8.2 Test Graphs



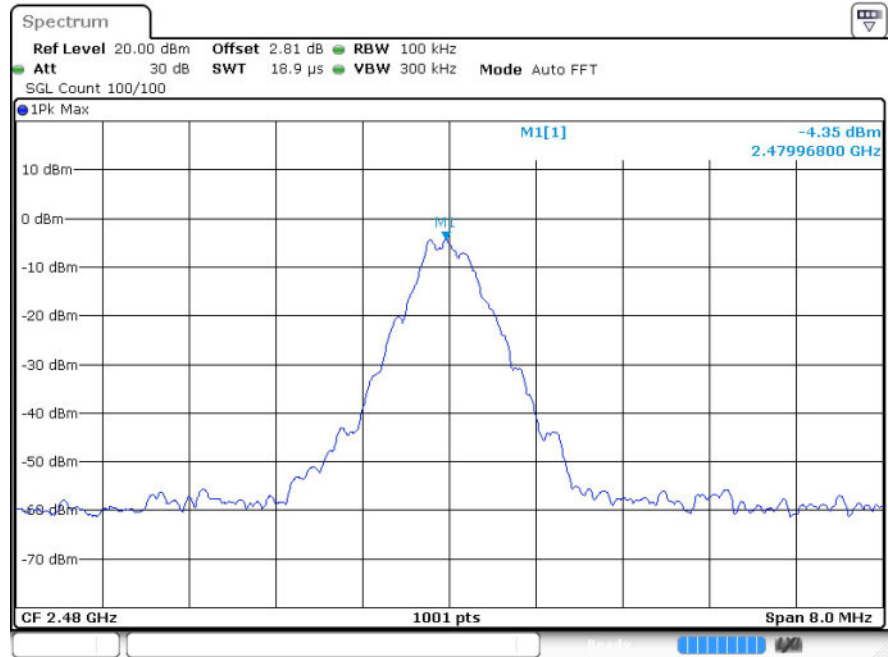
Ref



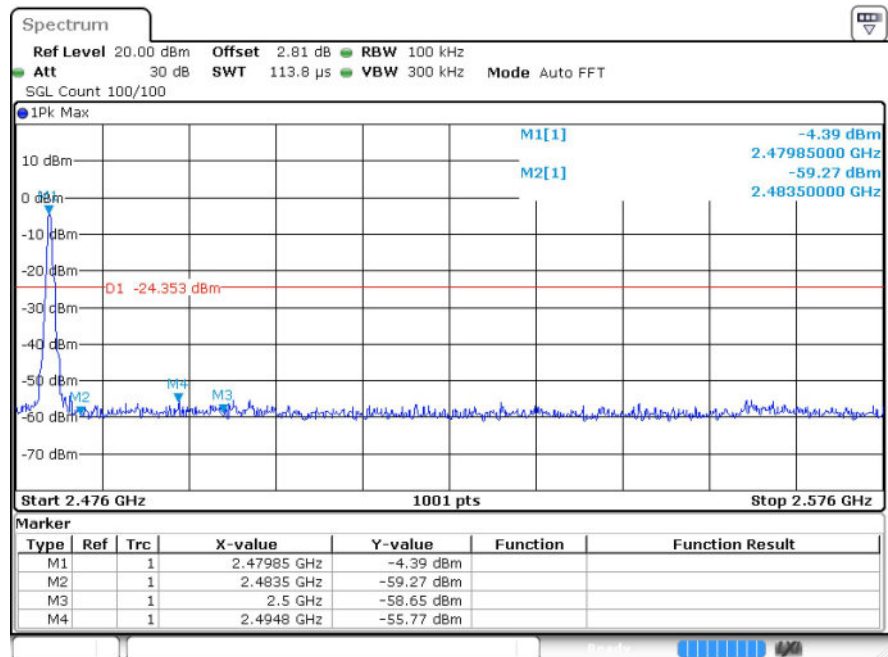
GFSK/LCH/Hop



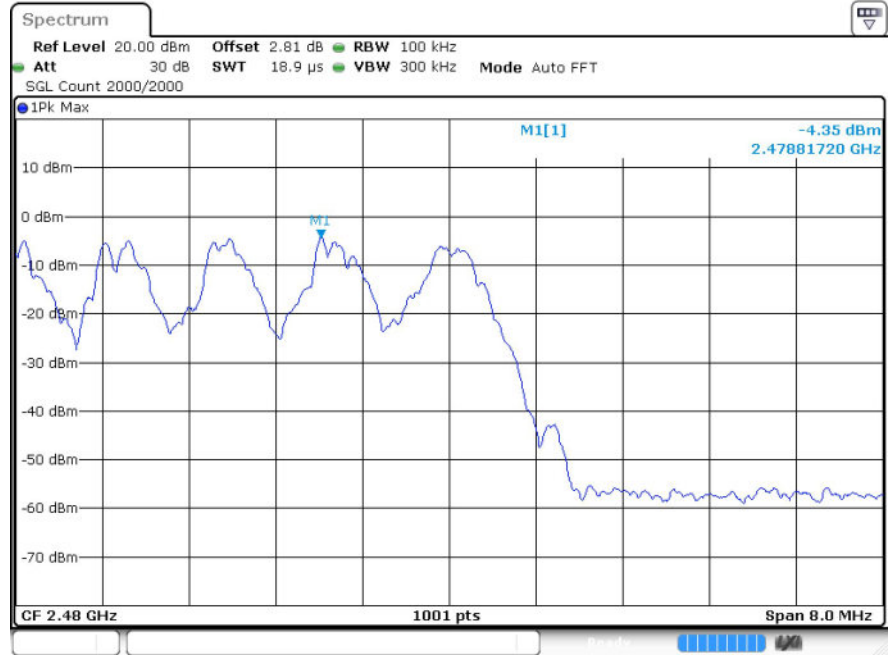
Ref



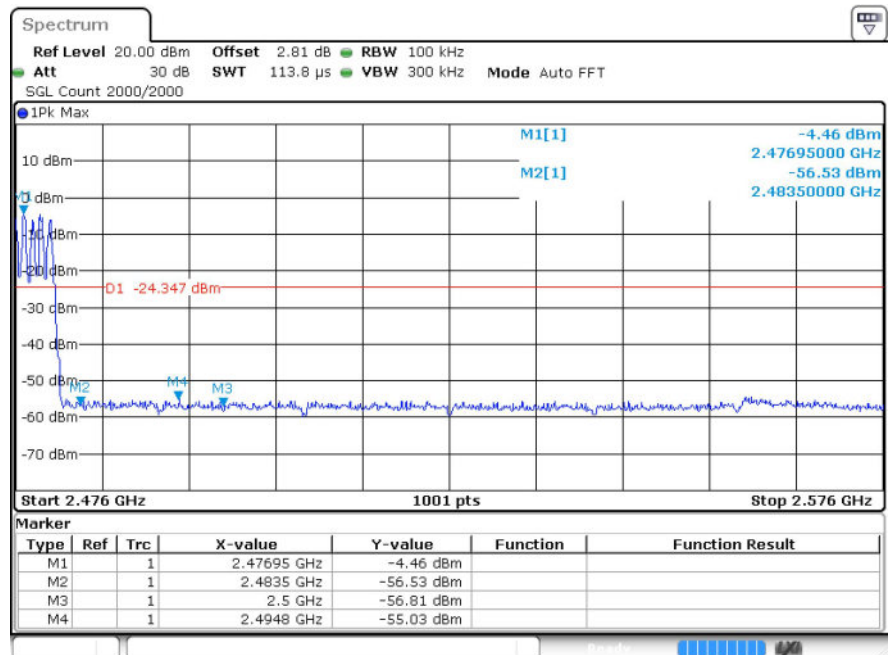
GFSK/HCH/No Hop



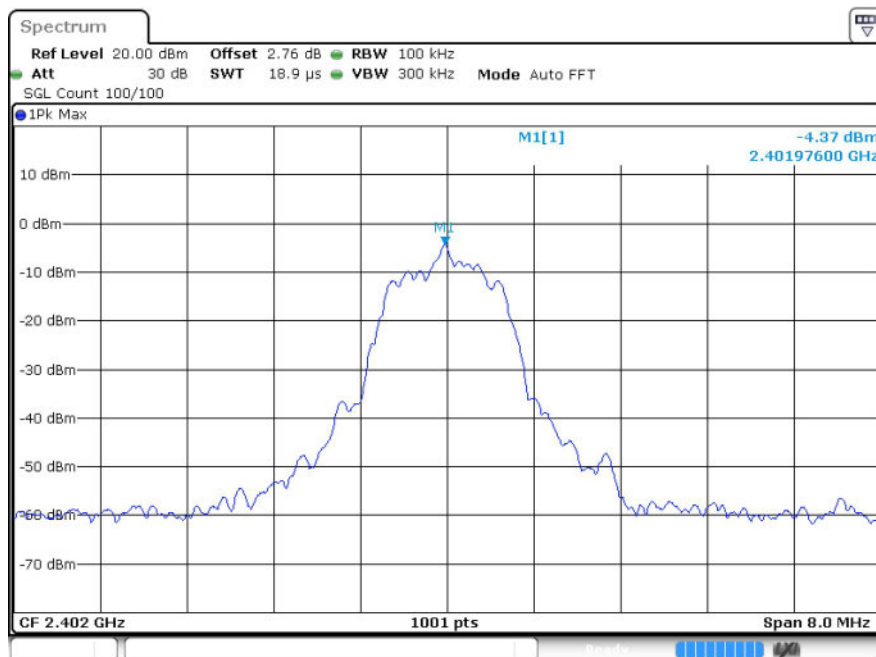
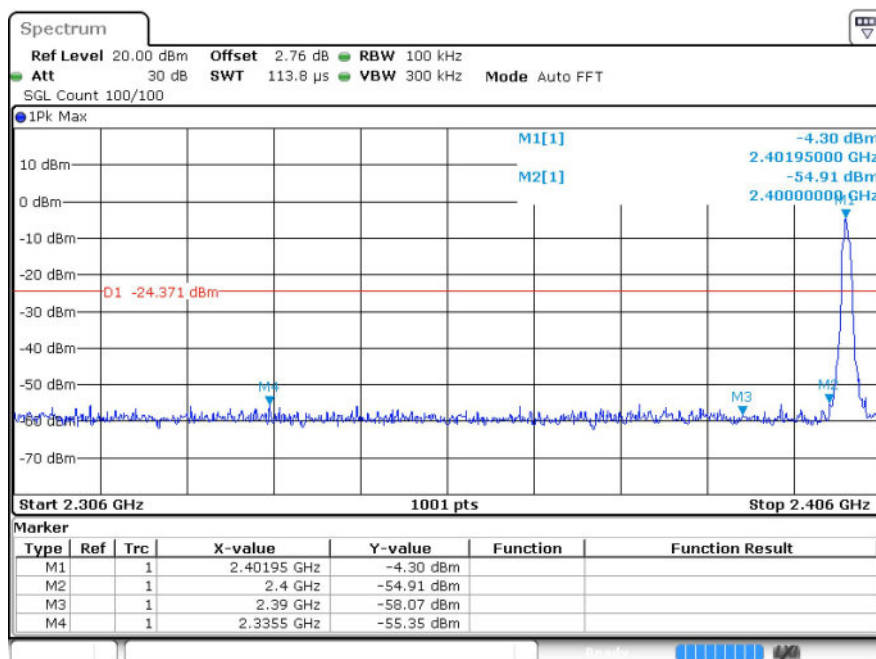
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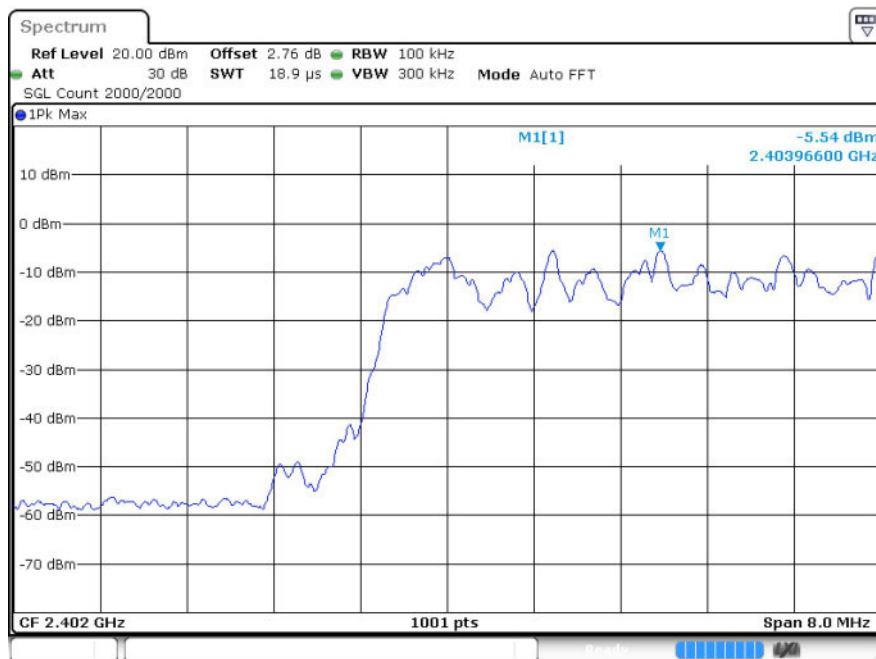
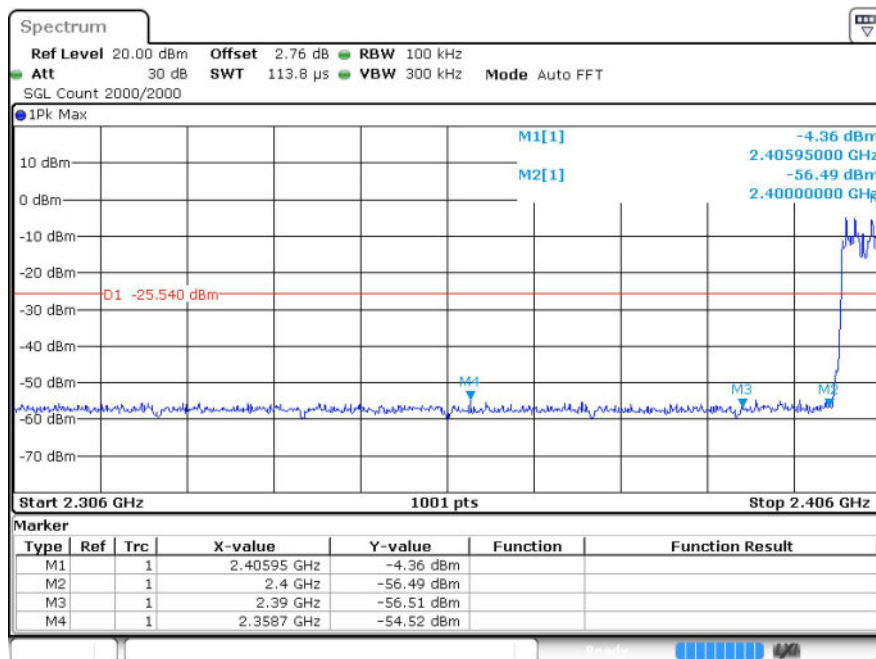
GFSK/HCH/Hop



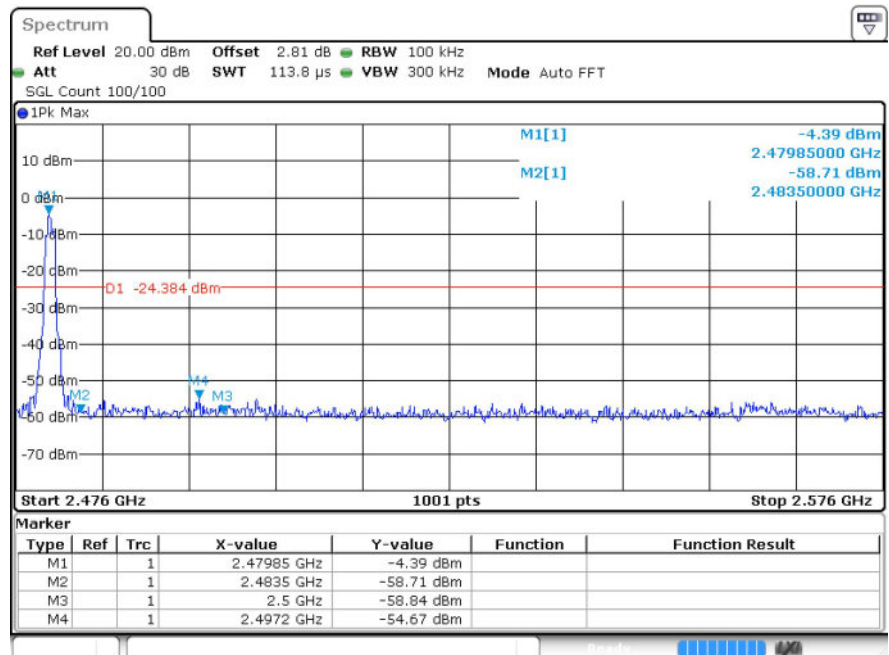
Ref


 $\pi/4$ DQPSK/LCH/No
Hop


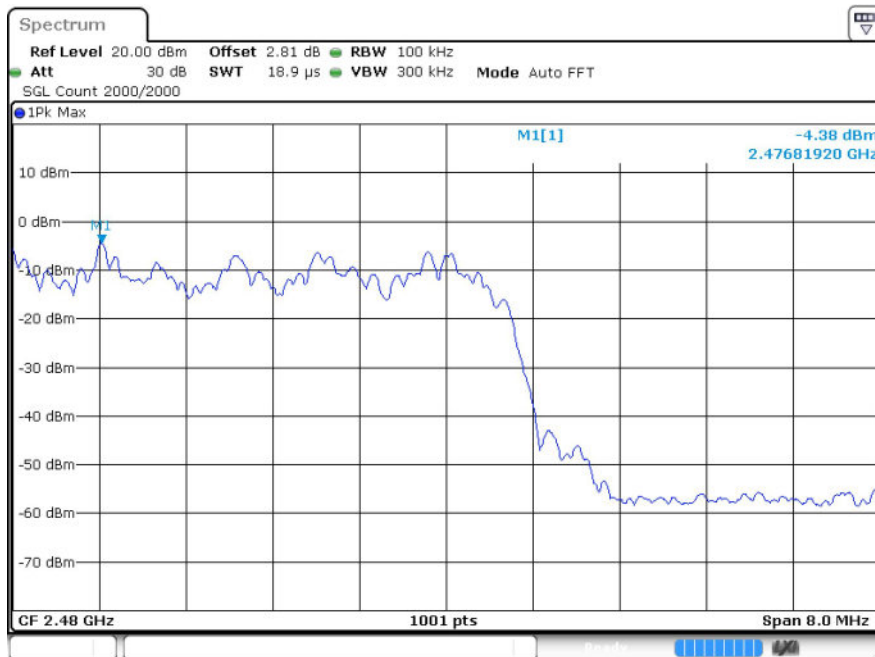
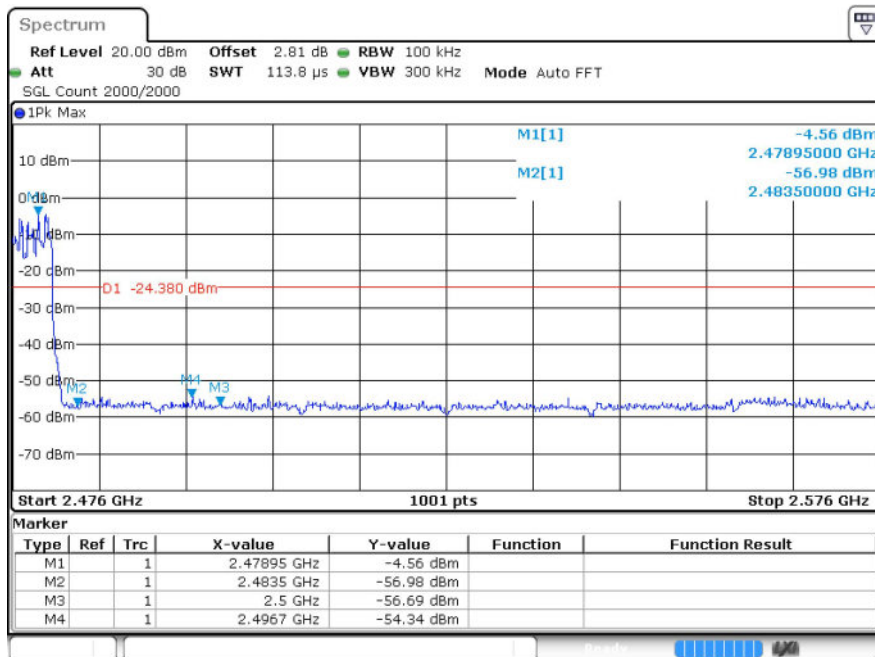
Ref


 $\pi/4$ DQPSK/LCH/Hop


Ref


 $\pi/4$ DQPSK/HCH/No Hop


Ref


 $\pi/4$ DQPSK/HCH/Hop


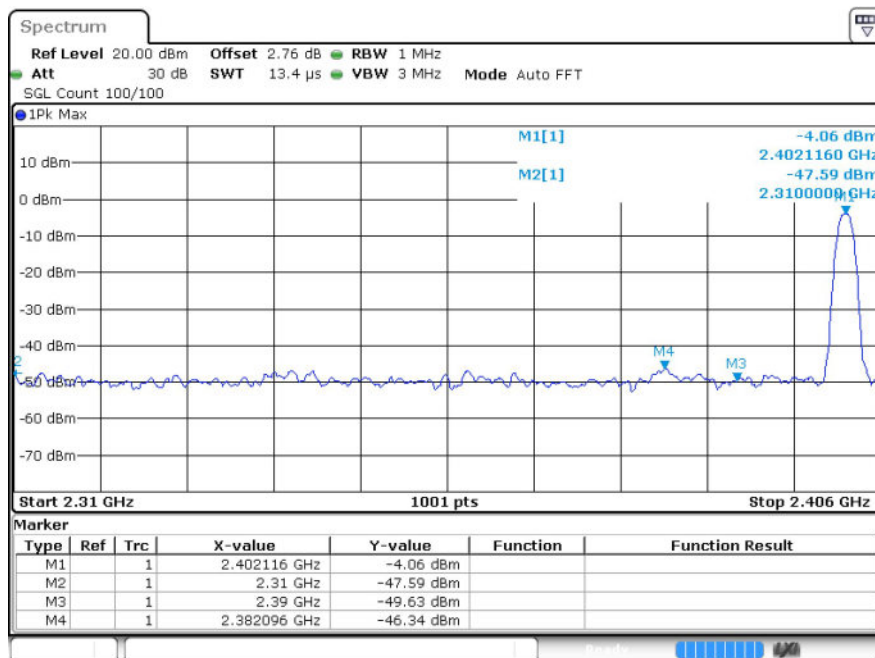
9 Restrict-band band-edge measurements

9.1 Test Result

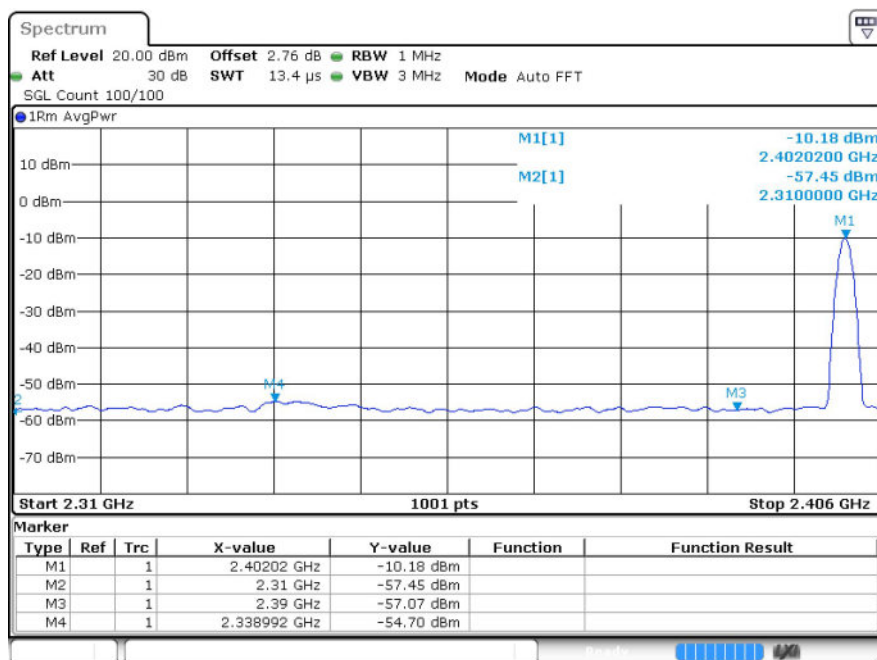
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Duty Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.59	2	-	49.67	PEAK	74	Pass
	Off	2310.0	-57.45	2	4.97	44.78	AV	54	Pass
	Off	2382.096	-46.33	2	-	50.93	PEAK	74	Pass
	Off	2338.992	-54.69	2	4.97	47.54	AV	54	Pass
	Off	2390.0	-49.63	2	-	47.63	PEAK	74	Pass
	Off	2390.0	-57.07	2	4.97	45.16	AV	54	Pass
	Off	2483.5	-49.09	2	-	48.17	PEAK	74	Pass
	Off	2483.5	-56.82	2	5.06	45.5	AV	54	Pass
	Off	2490.04	-46.33	2	-	50.93	PEAK	74	Pass
	Off	2497.24	-55.33	2	5.06	46.99	AV	54	Pass
	Off	2500.0	-49.92	2	-	47.34	PEAK	74	Pass
	Off	2500.0	-56.34	2	5.06	45.98	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-50.84	2	-	46.42	PEAK	74	Pass
	Off	2310.0	-56.8	2	4.95	45.41	AV	54	Pass
	Off	2343.504	-46.61	2	-	50.65	PEAK	74	Pass
	Off	2338.224	-54.33	2	4.95	47.88	AV	54	Pass
	Off	2390.0	-52	2	-	45.26	PEAK	74	Pass
	Off	2390.0	-56.92	2	4.95	45.29	AV	54	Pass
	Off	2483.5	-48.44	2	-	48.82	PEAK	74	Pass
	Off	2483.5	-56.38	2	4.84	45.72	AV	54	Pass
	Off	2497.432	-46.09	2	-	51.17	PEAK	74	Pass
	Off	2499.04	-55.61	2	4.84	46.49	AV	54	Pass
	Off	2500.0	-49.51	2	-	47.75	PEAK	74	Pass
	Off	2500.0	-56.73	2	4.84	45.37	AV	54	Pass

9.2 Test Graphs

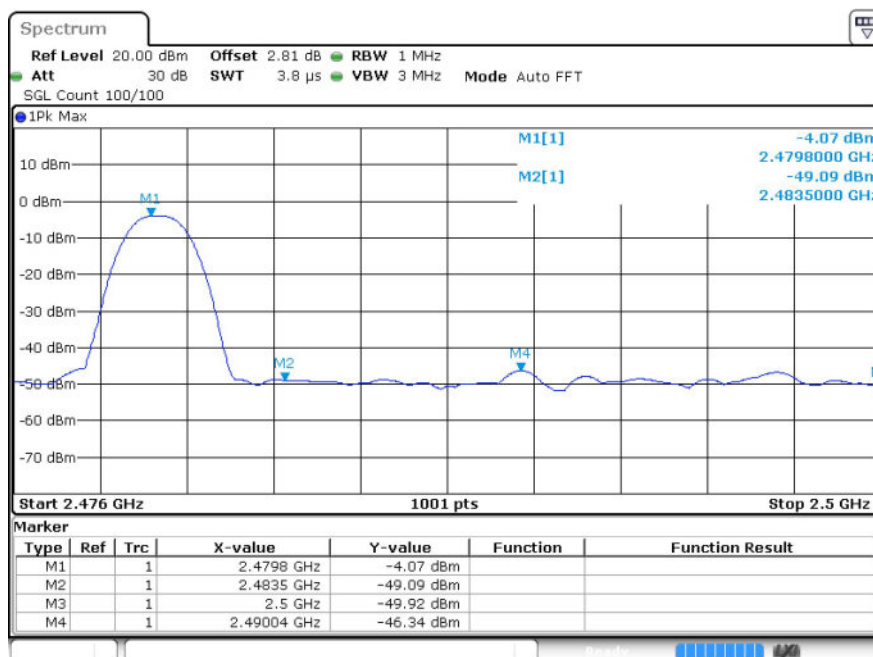
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



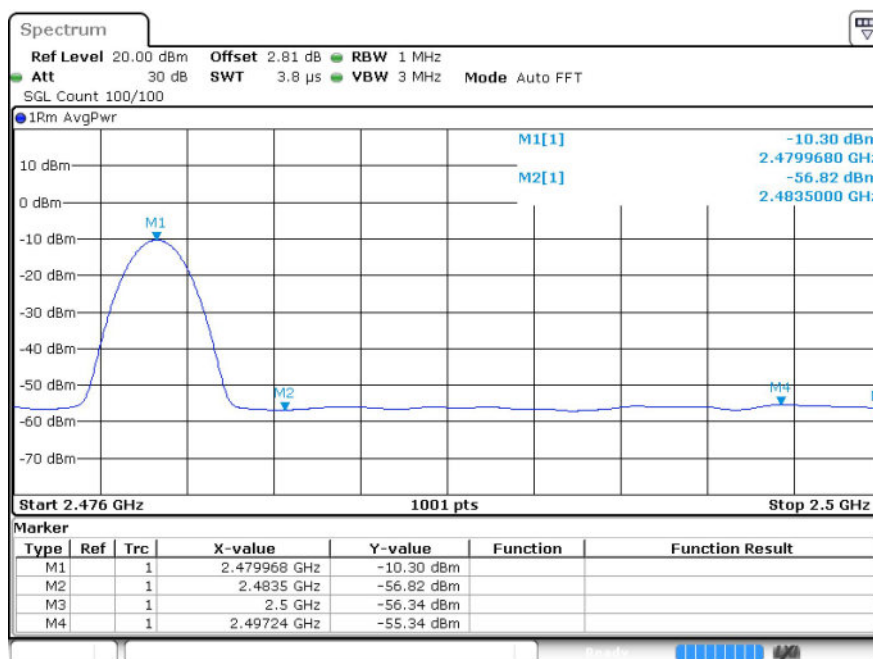
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



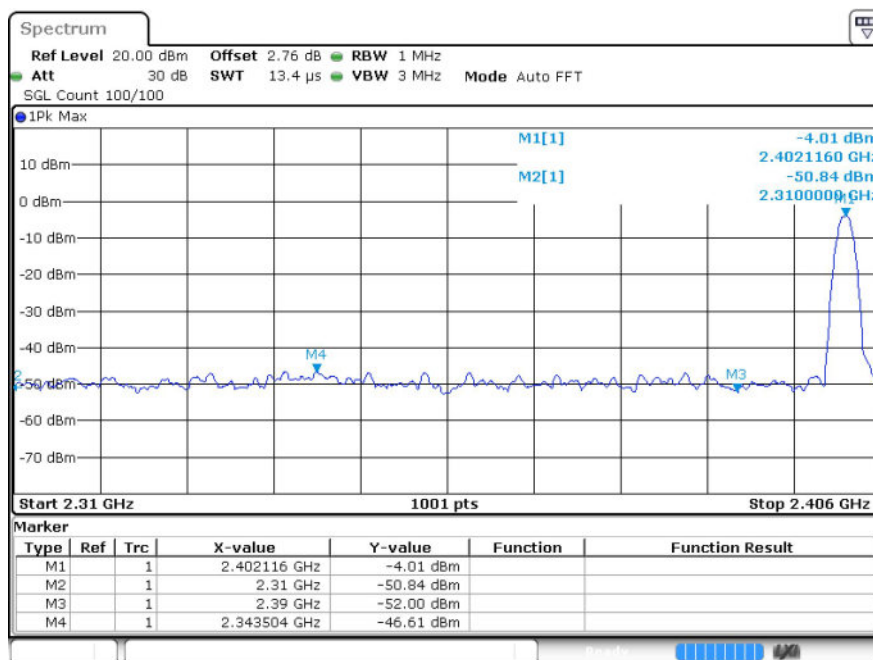
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



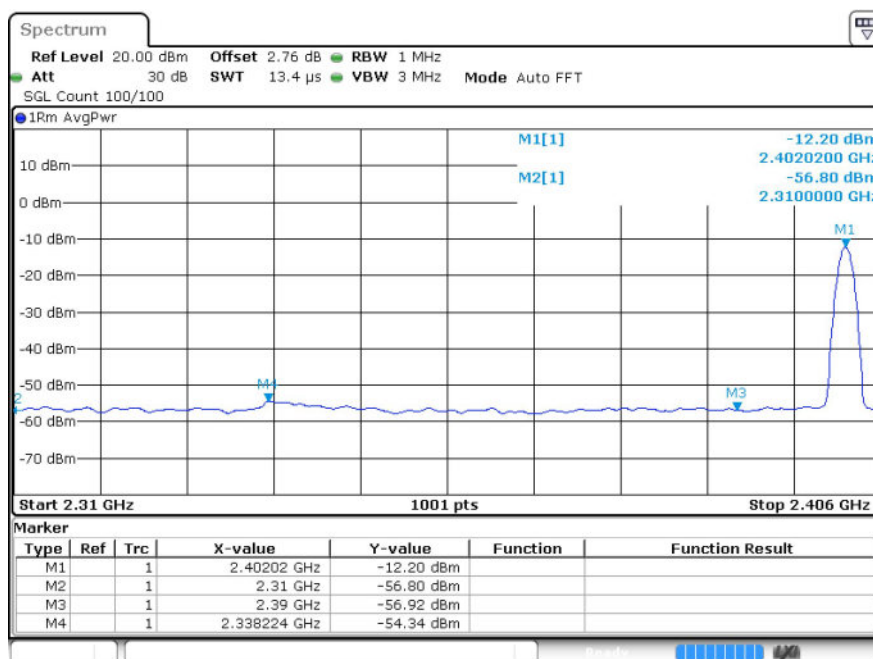
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



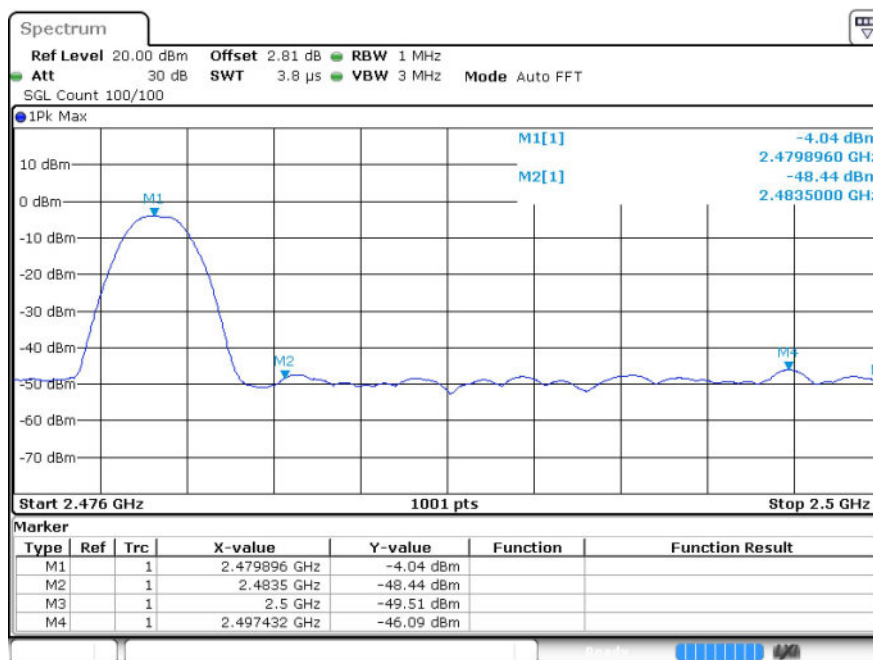
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



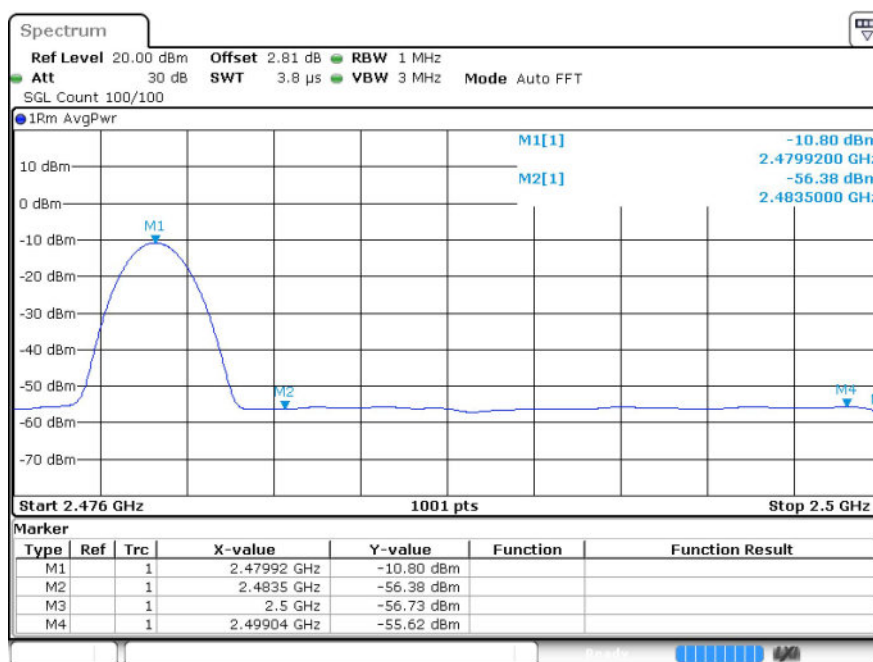
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---