



Appendix A

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

Product Name: MIXX StreamBuds Sports Charge 2

Trade Mark: MIXX

Test Model: SBSC-03-BK-404

Environmental Conditions

Temperature:	25.4 °C
Relative Humidity:	52.1%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen



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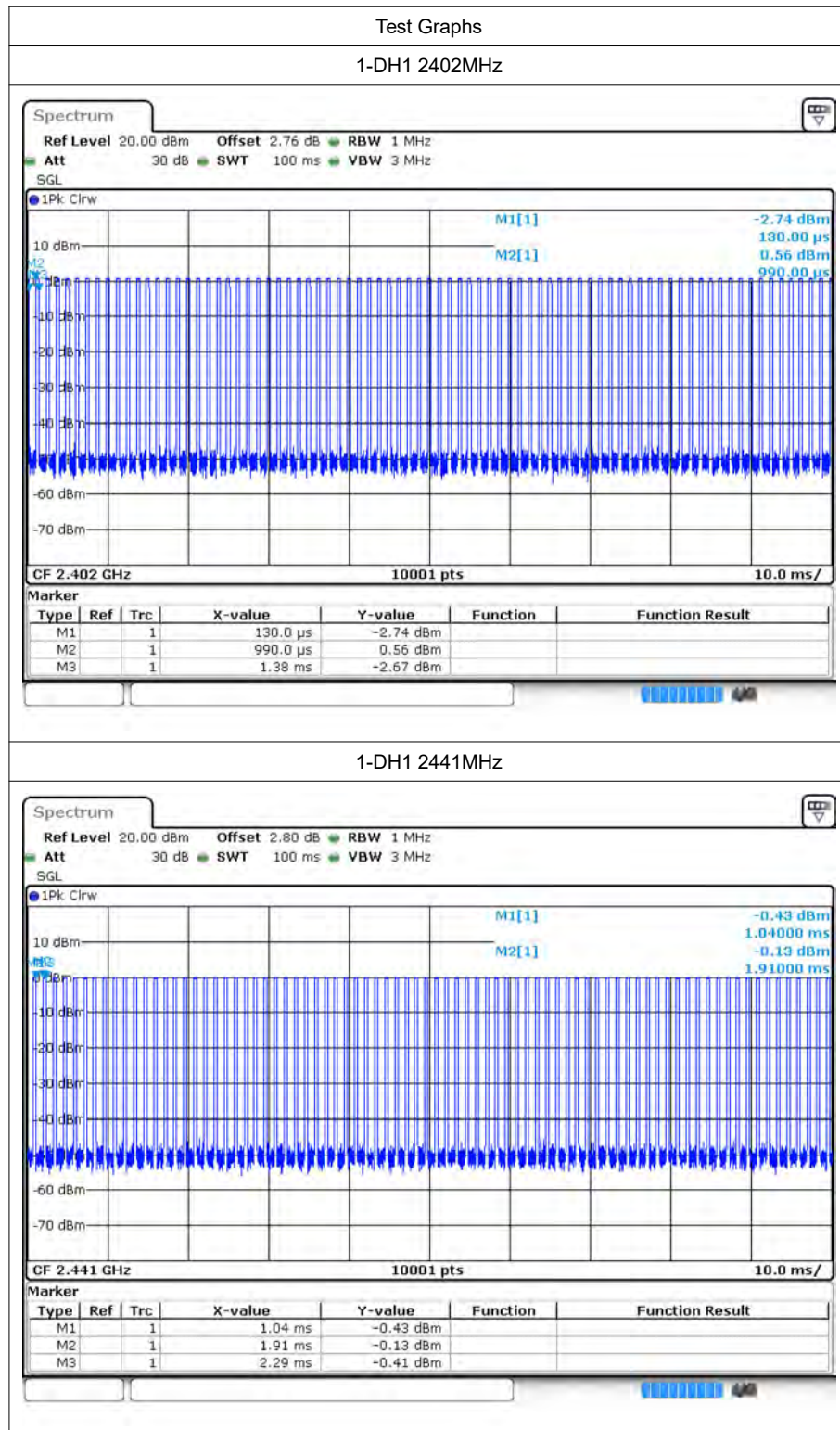
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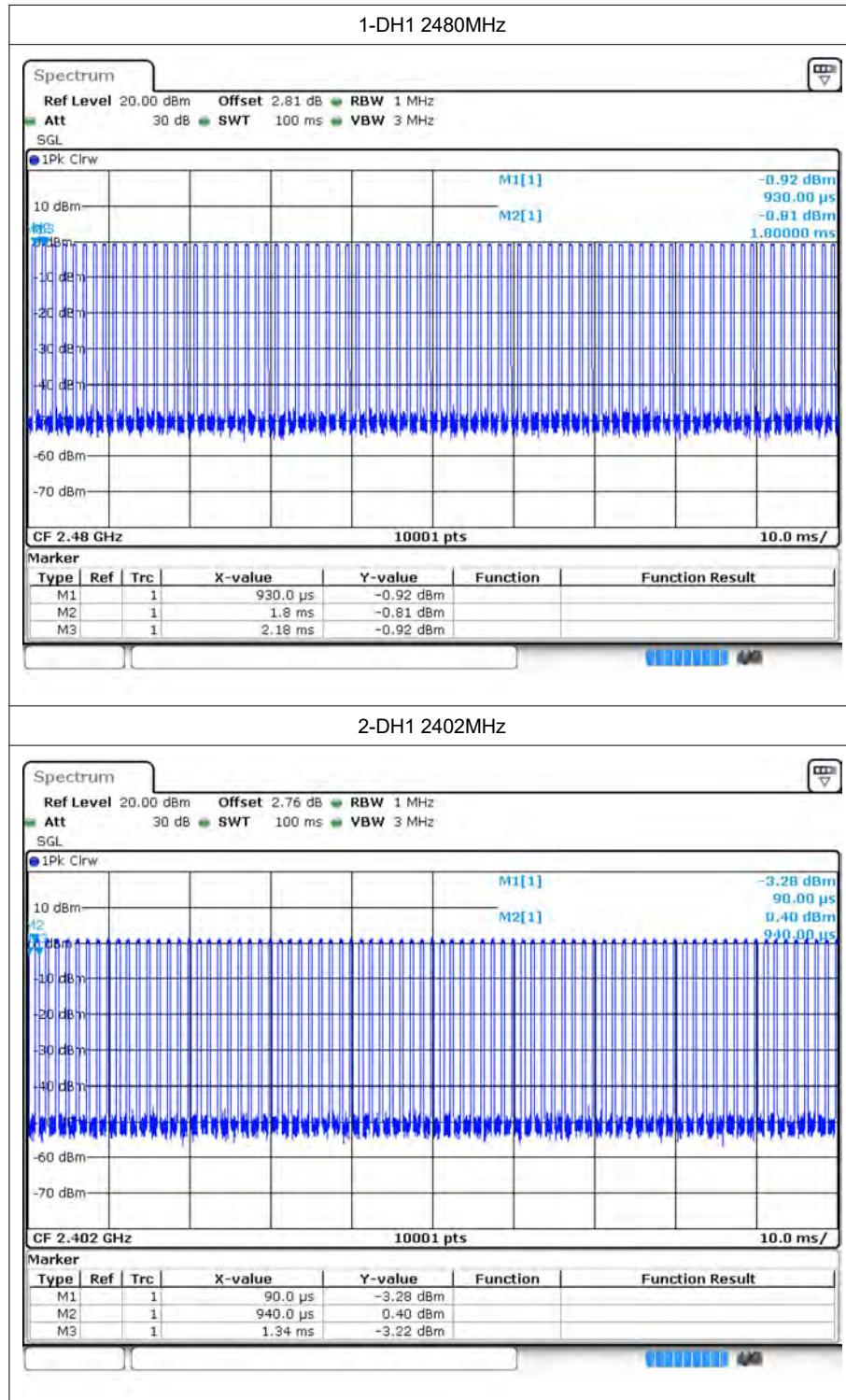
1 Duty Cycle

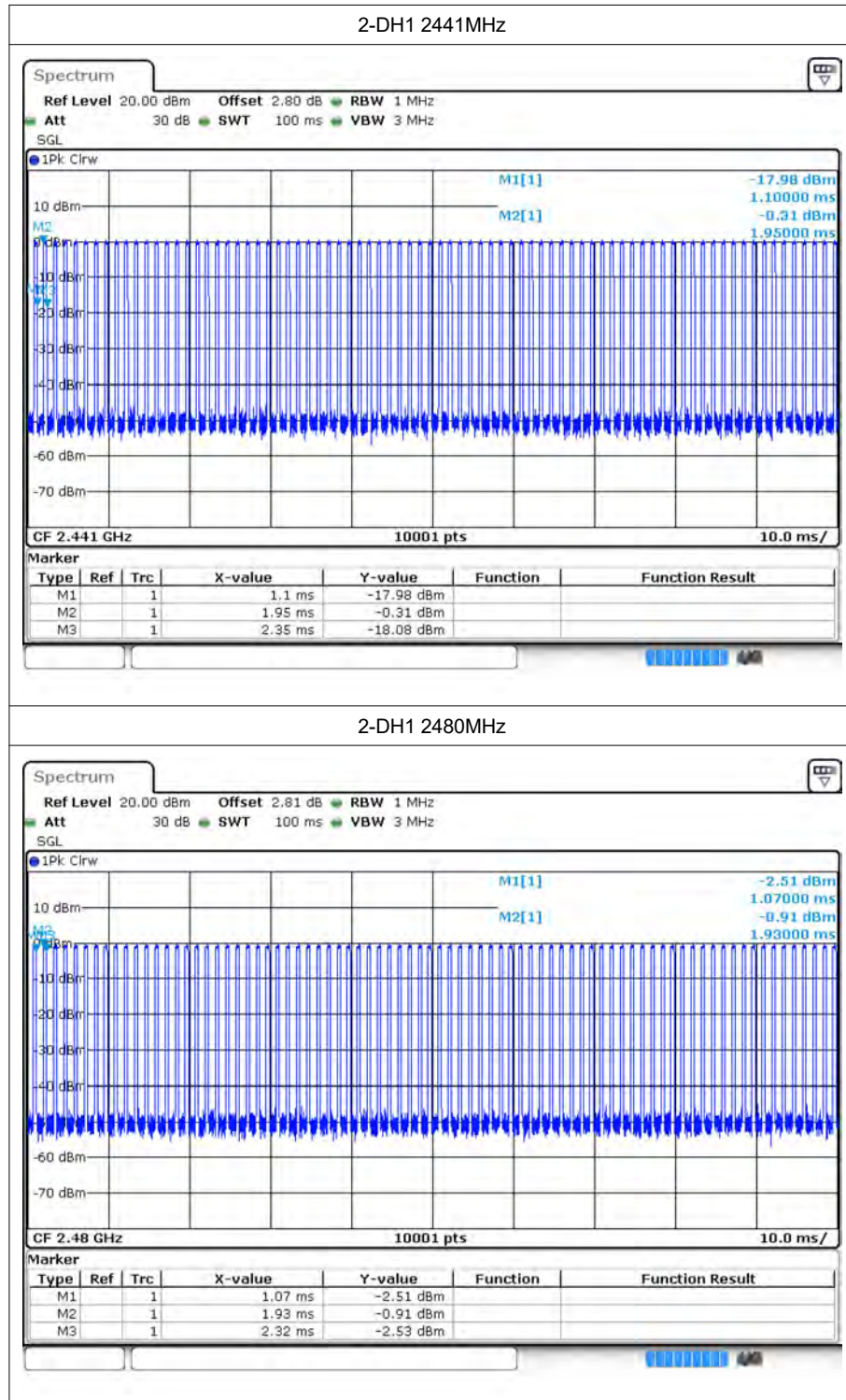
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	32.01	4.95	2.56
1-DH1	2441	31.2	5.06	2.63
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	32.81	4.84	2.5
2-DH1	2441	32.8	4.84	2.5
2-DH1	2480	32	4.95	2.56

1.2 Test Graphs





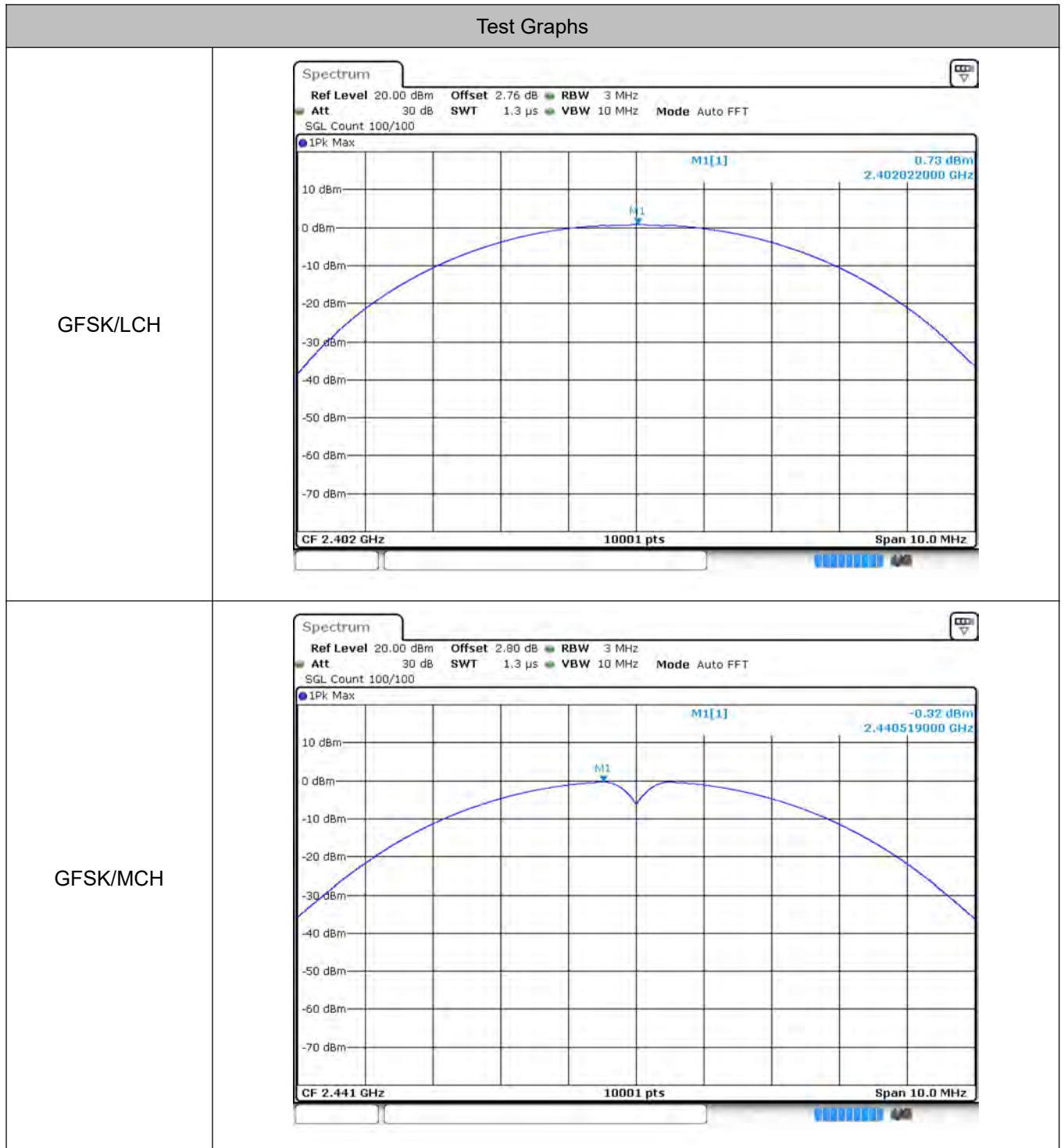


2 Maximum Conducted Peak Output Power

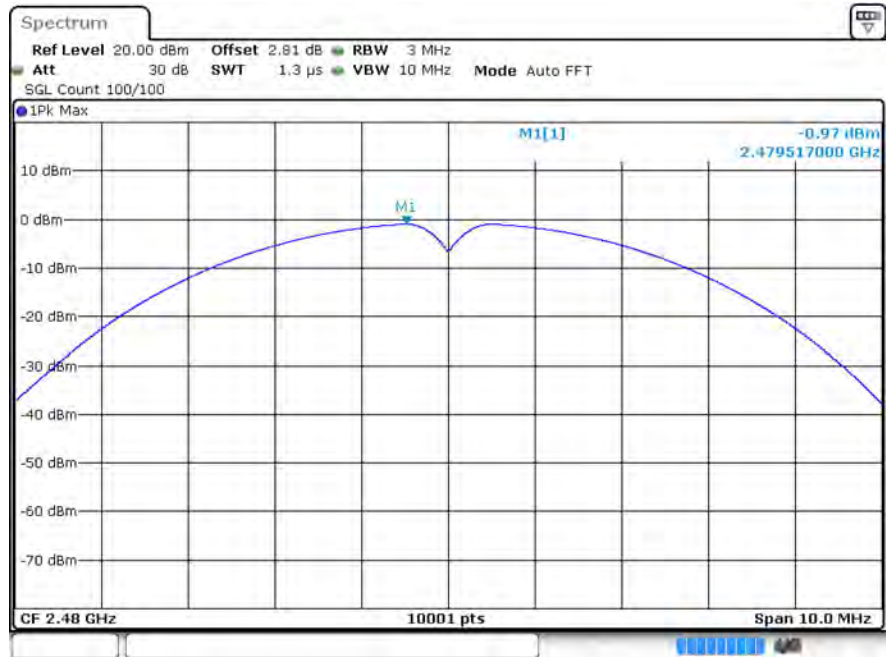
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.73	21	Pass
	MCH	-0.32	21	Pass
	HCH	-0.97	21	Pass
$\pi/4$ DQPSK	LCH	1.11	21	Pass
	MCH	0.11	21	Pass
	HCH	-0.45	21	Pass

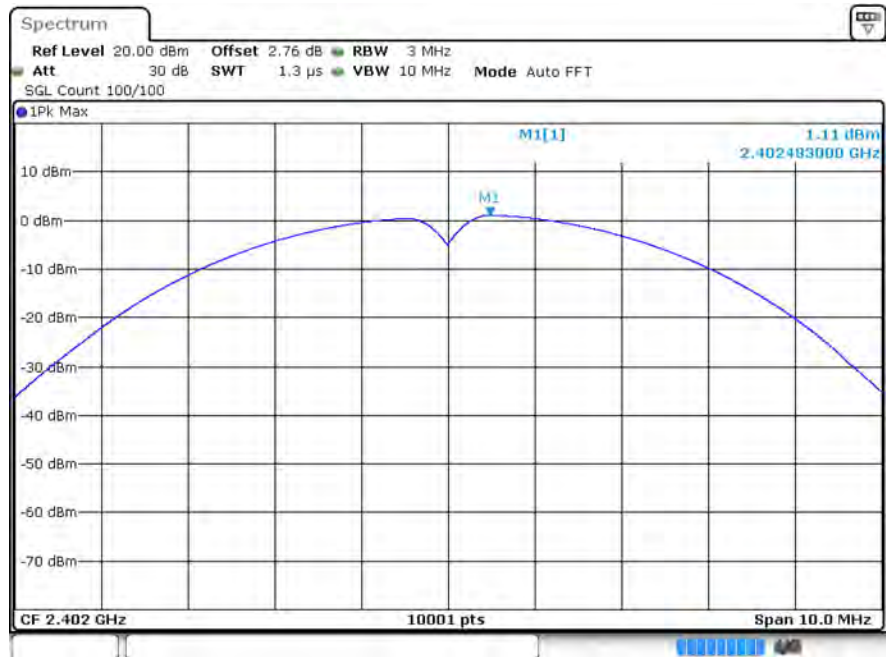
2.2 Test Graphs



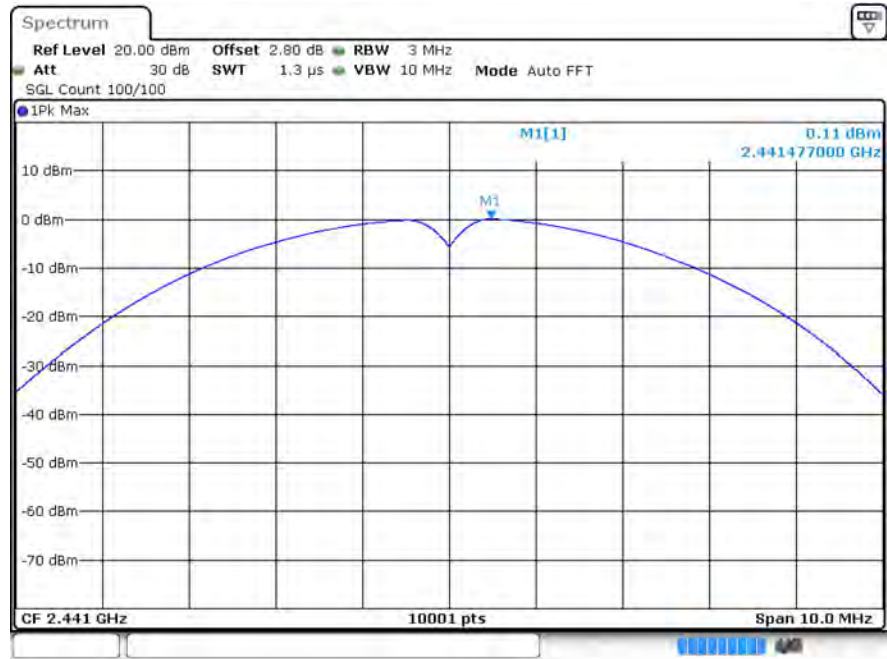
GFSK/HCH



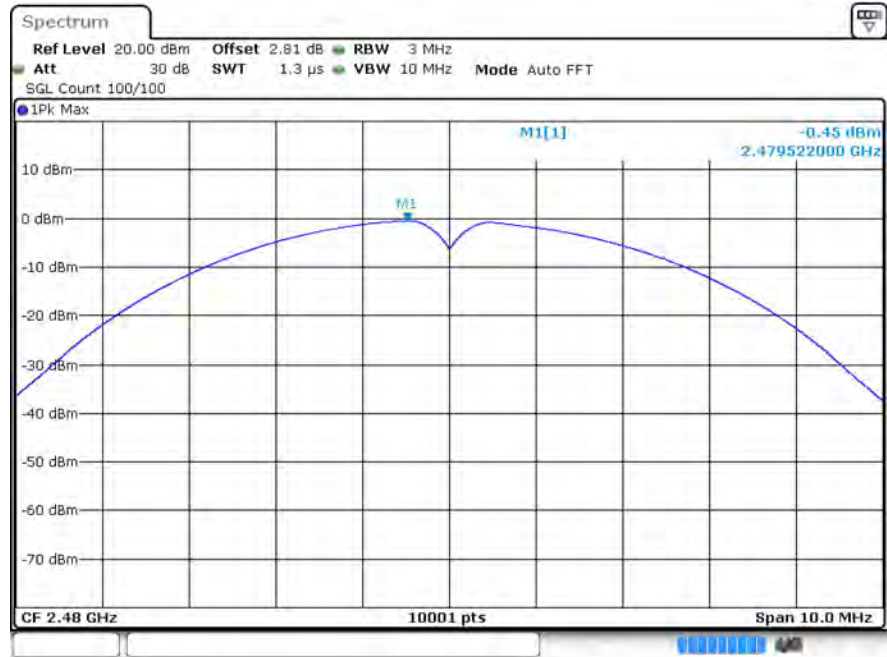
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

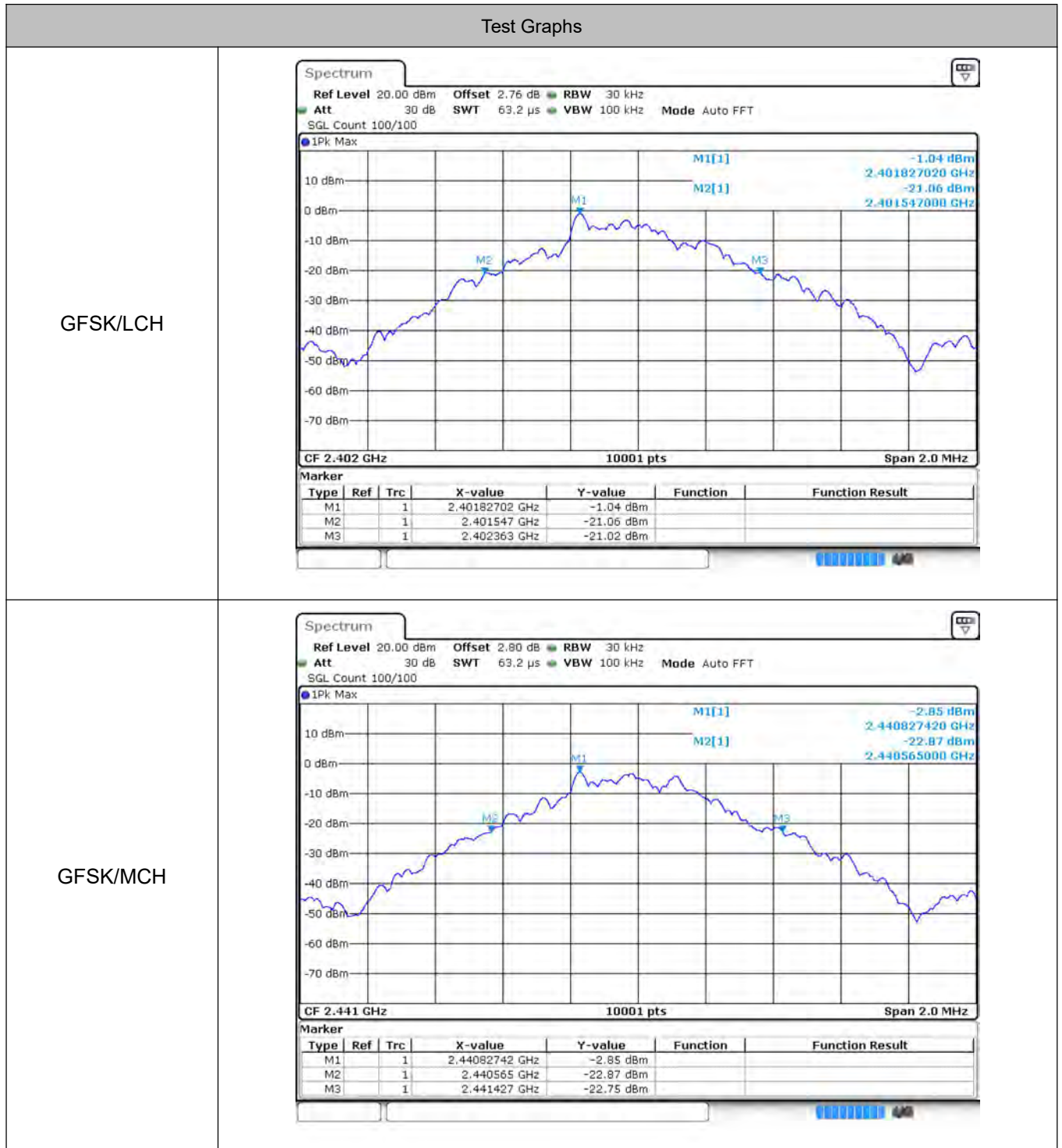


3 20dB Bandwidth

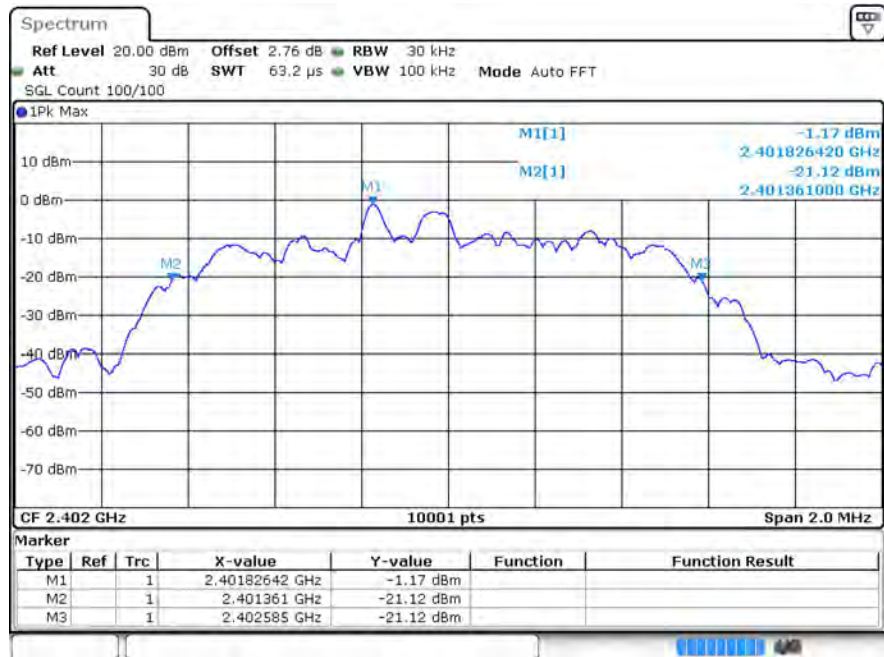
3.1 Test Result

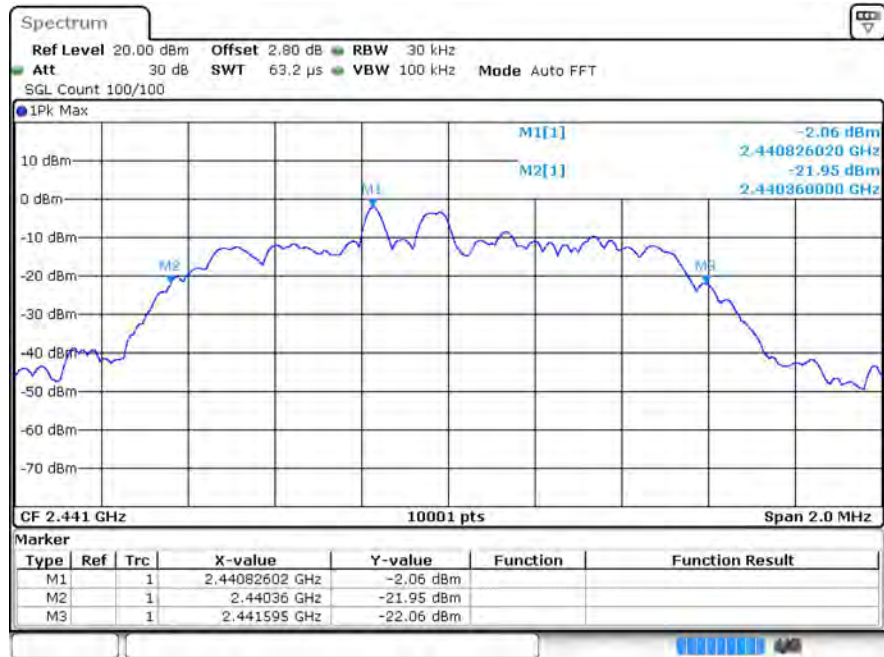
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.816	Not Specified	Pass
	MCH	0.862	Not Specified	Pass
	HCH	0.889	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.224	Not Specified	Pass
	MCH	1.235	Not Specified	Pass
	HCH	1.197	Not Specified	Pass

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	0.575	Pass
$\pi/4$ DQPSK	MCH	0.989	0.823	Pass

4.2 Test Graphs

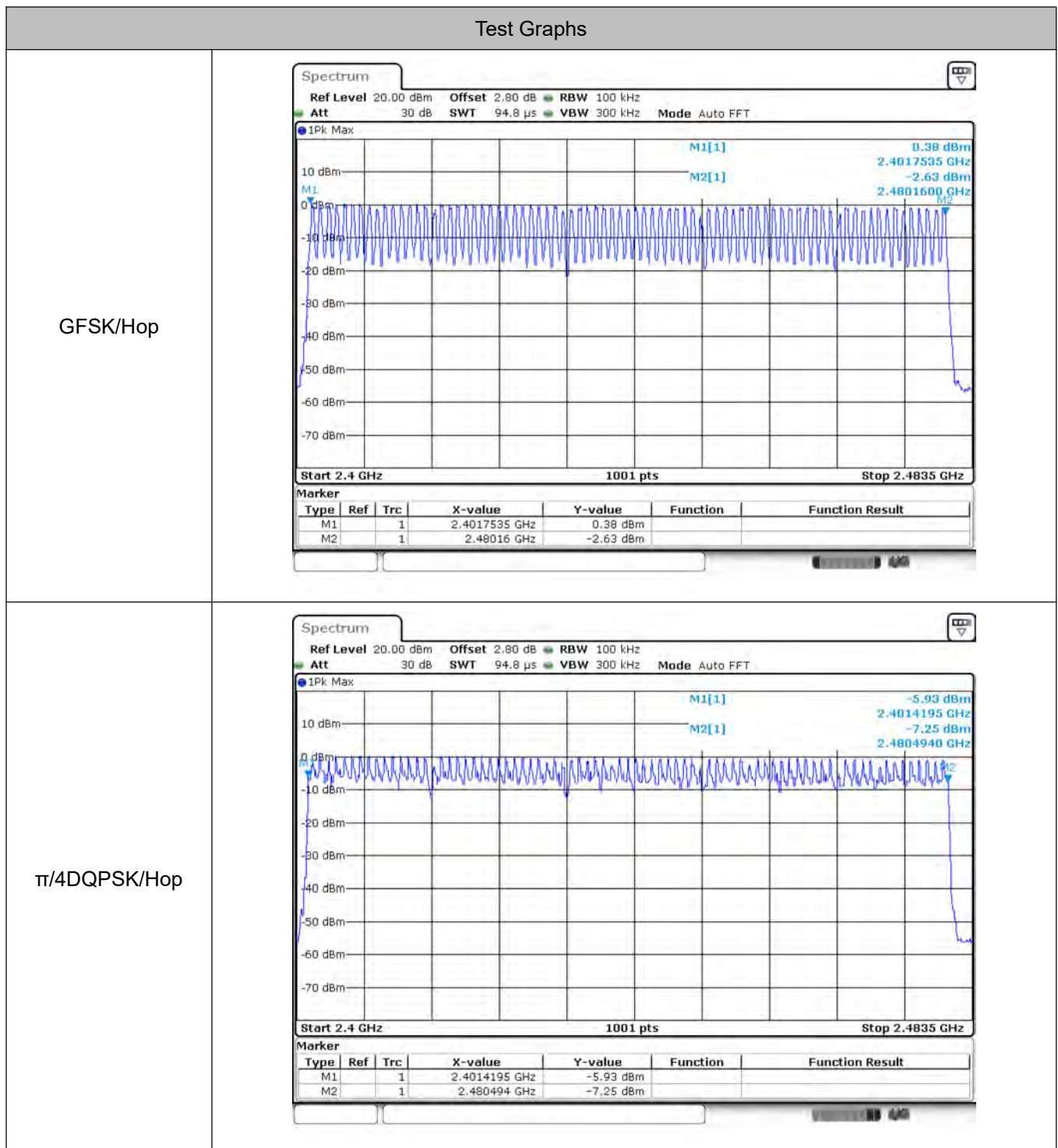


5 Hopping Channel Number

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

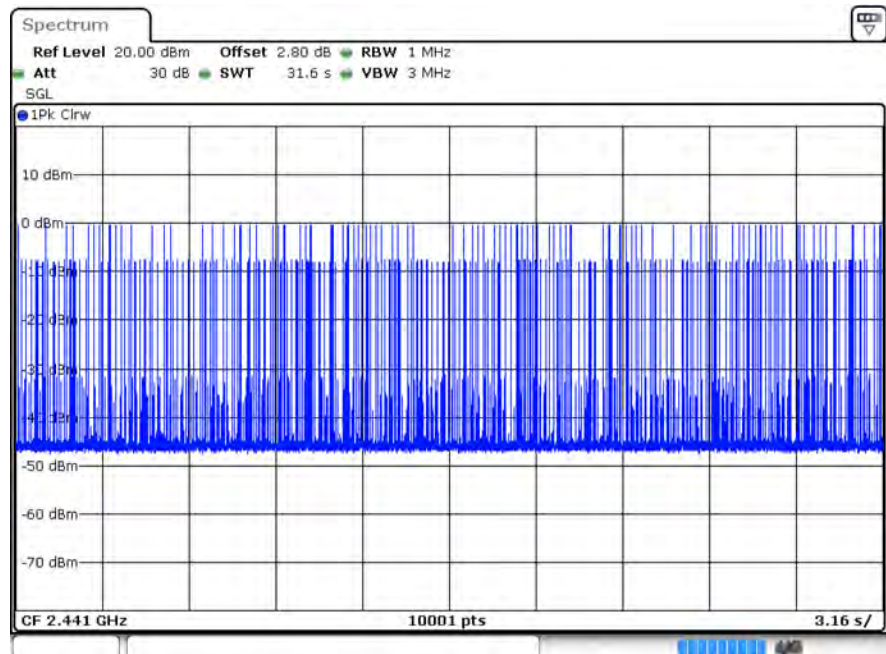
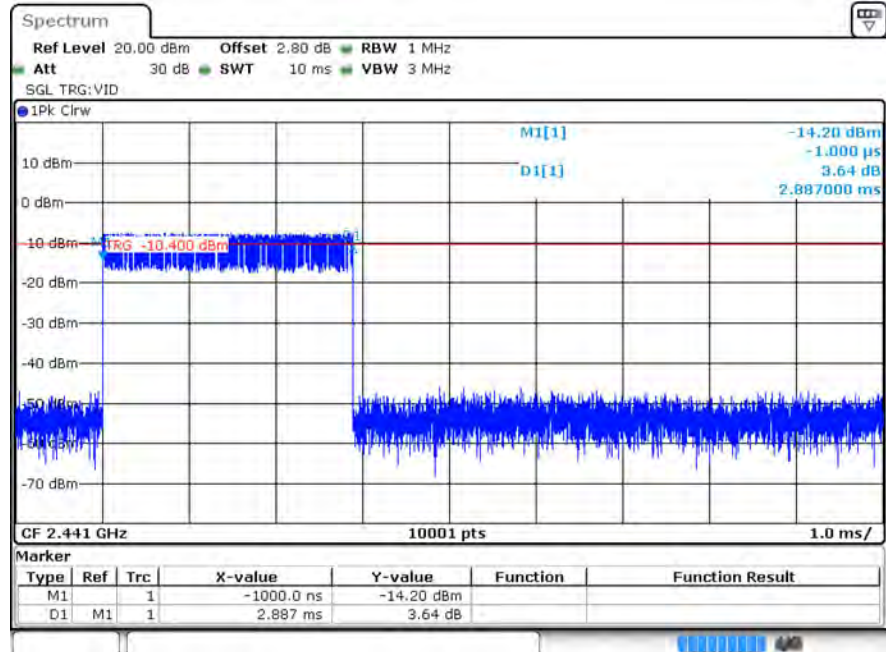
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	105	303.135	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.891	100	289.1	0.4	Pass

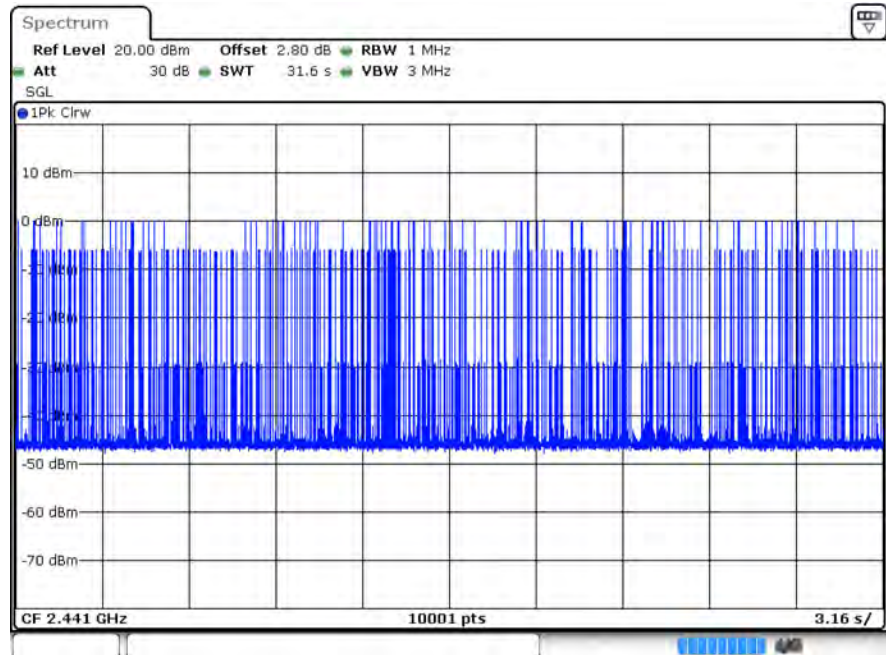
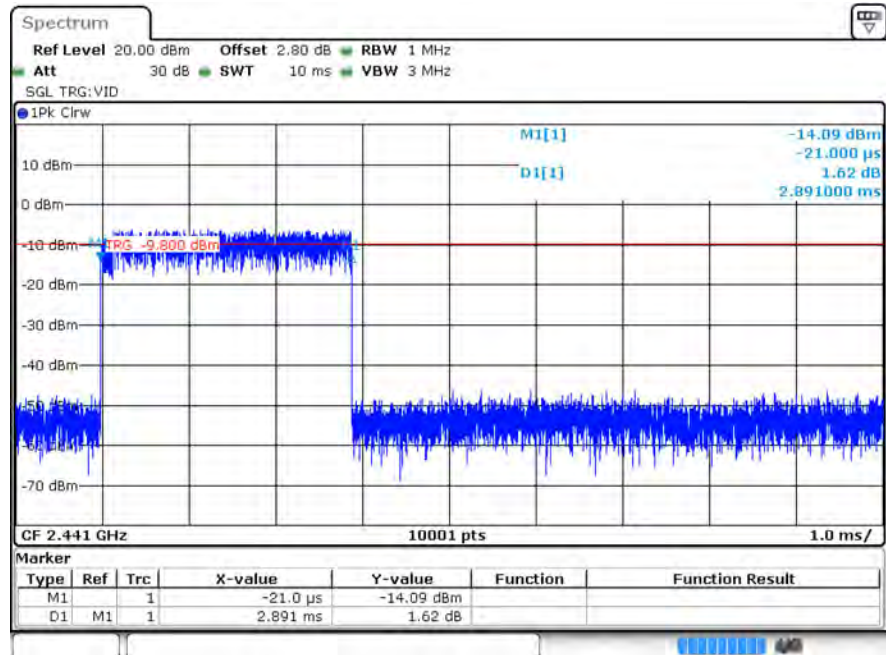
6.2 Test Graphs

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	-41.97	-20	Pass
	MCH	-40.55	-20	Pass
	HCH	-40.5	-20	Pass
$\pi/4$ DQPSK	LCH	-41.57	-20	Pass
	MCH	-40.77	-20	Pass
	HCH	-40.67	-20	Pass

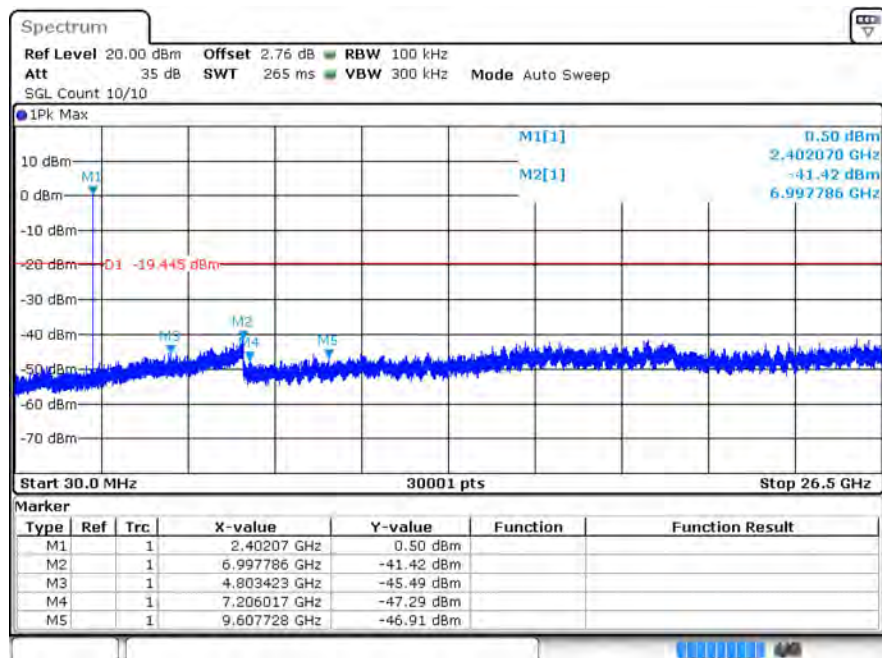
7.2 Test Graphs

GFSK_LCH_Graphs

Pref



Puw

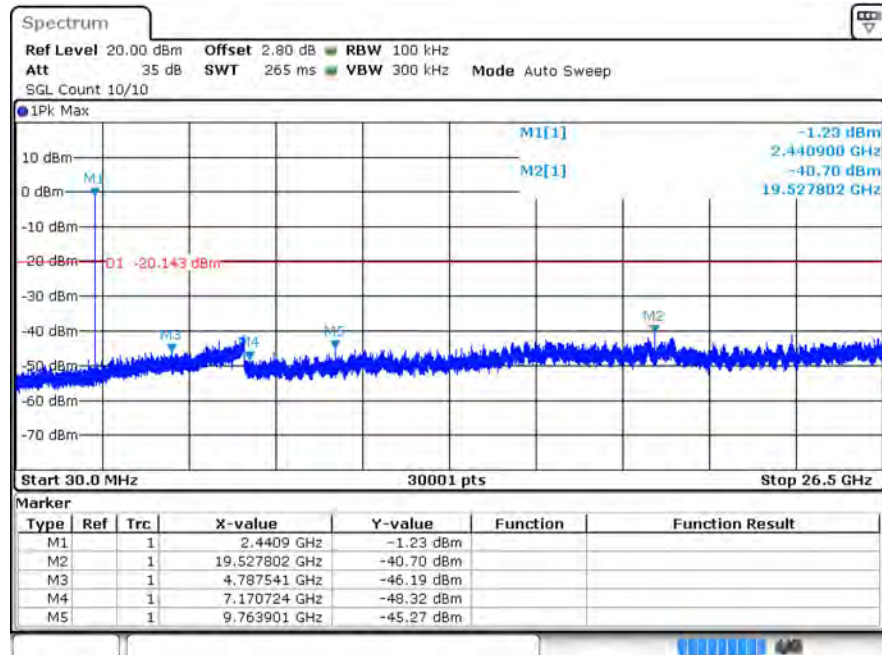


GFSK_MCH_Graphs

Pref



Puw

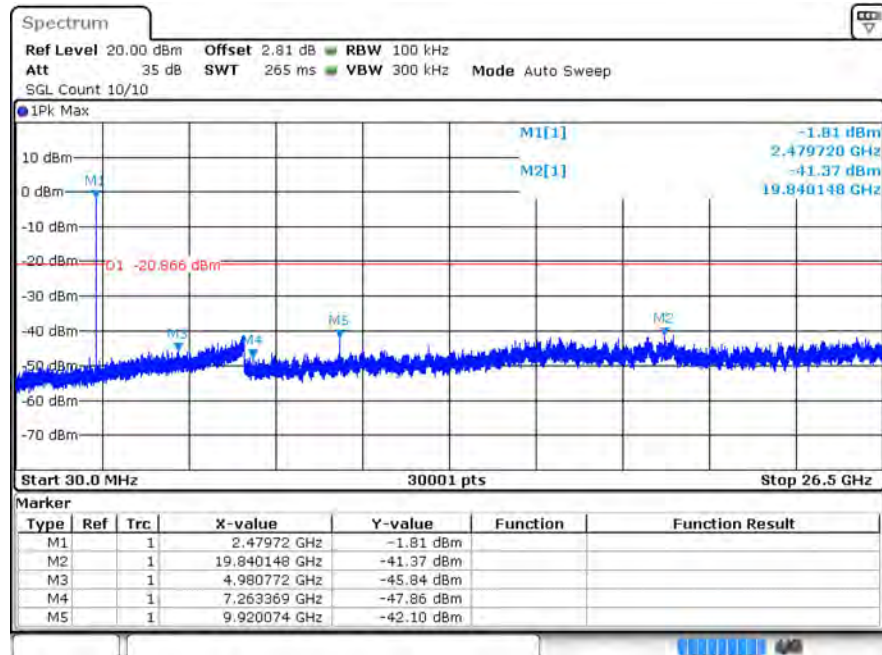


GFSK_HCH_Graphs

Pref



Puw

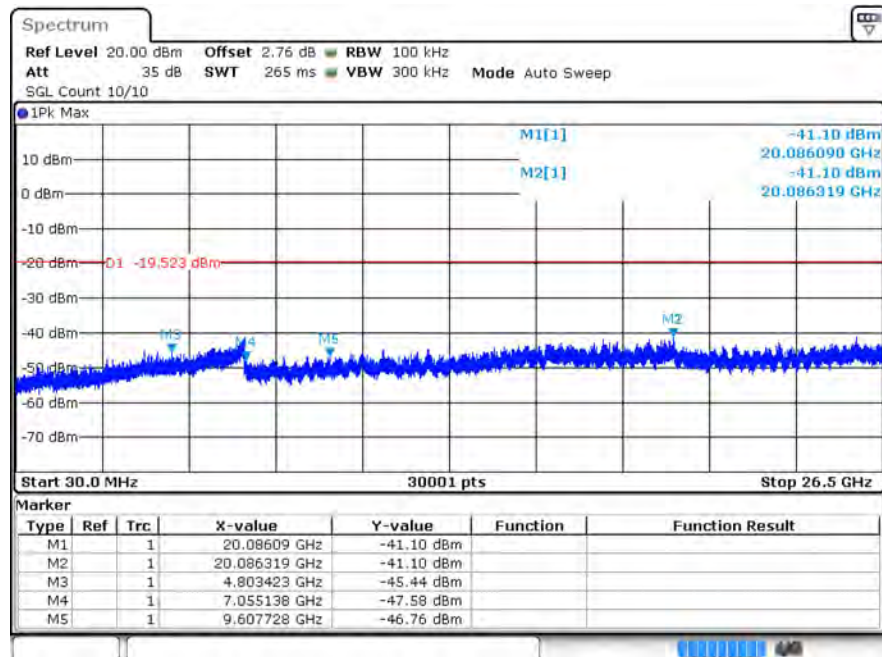


$\pi/4$ DQPSK_LCH_Graphs

Pref

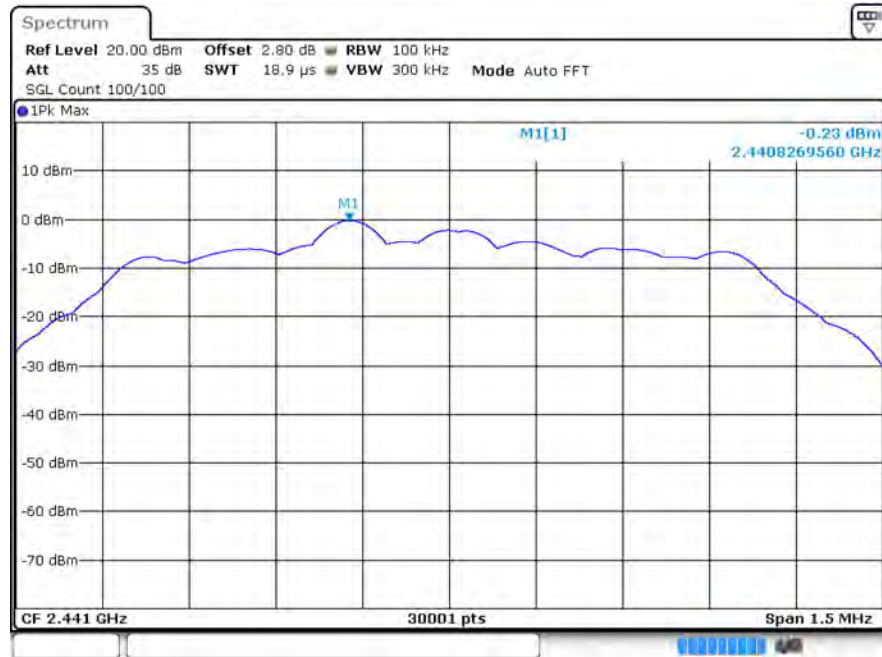


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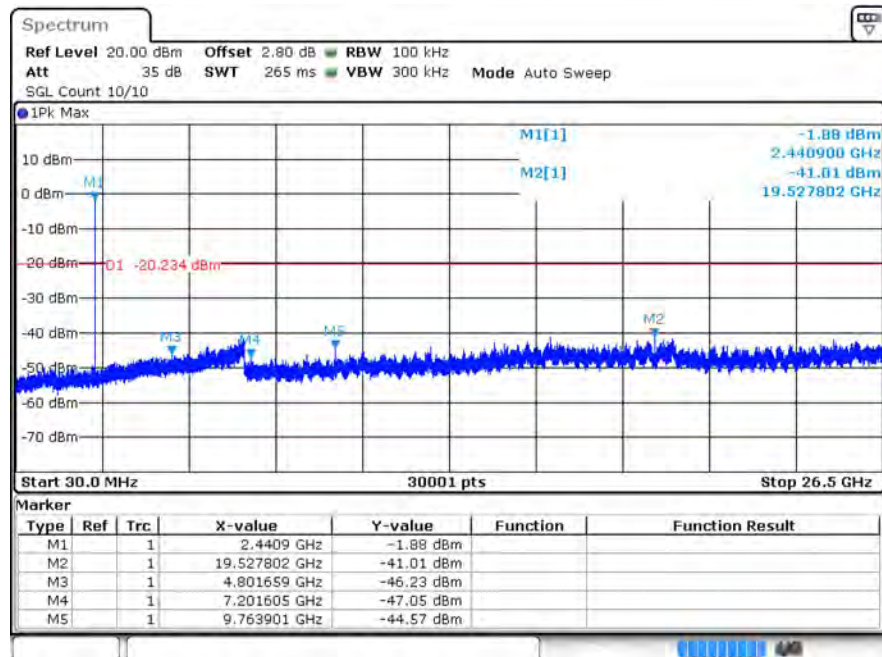


$\pi/4$ DQPSK_MCH_Graphs

Pref

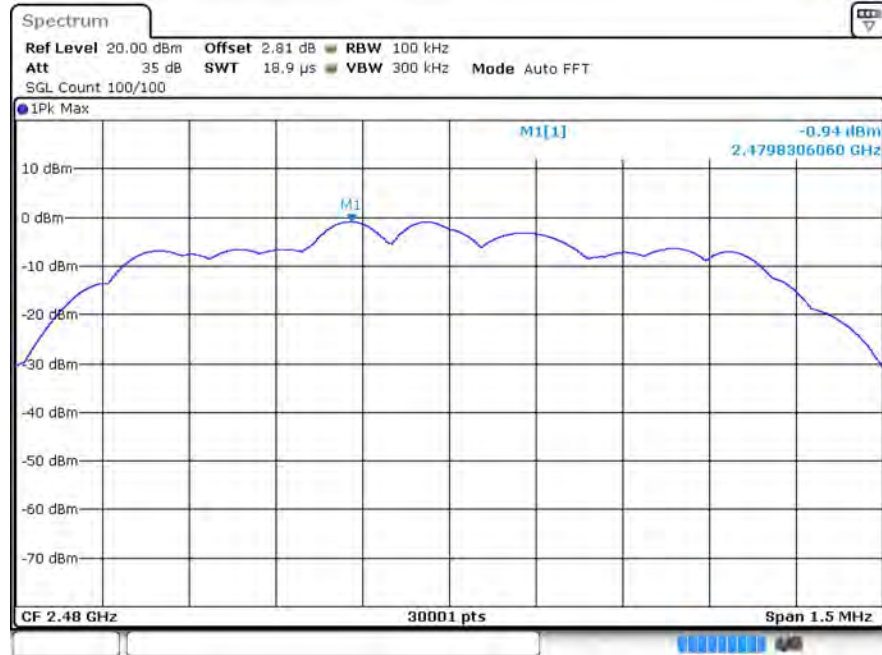


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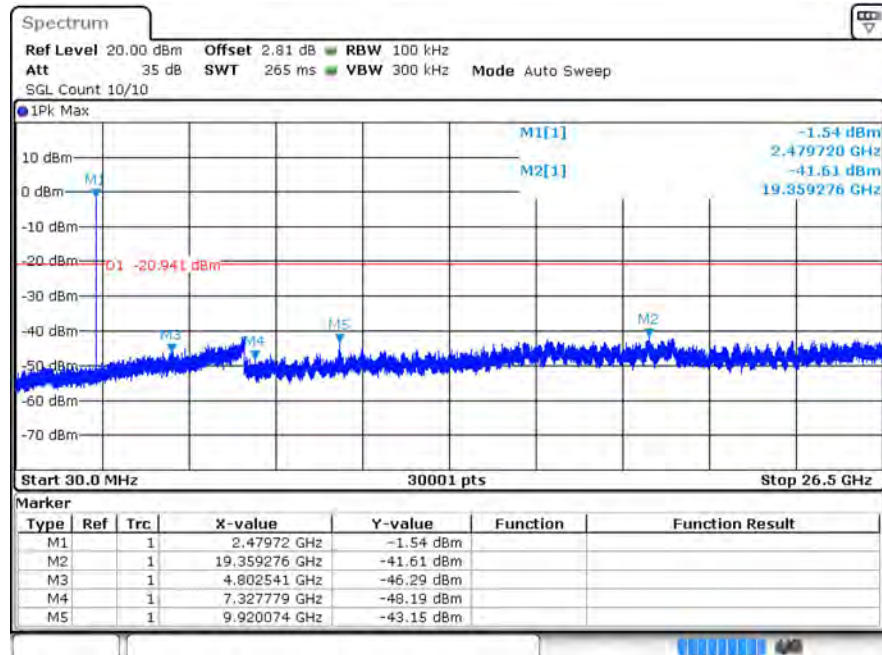


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

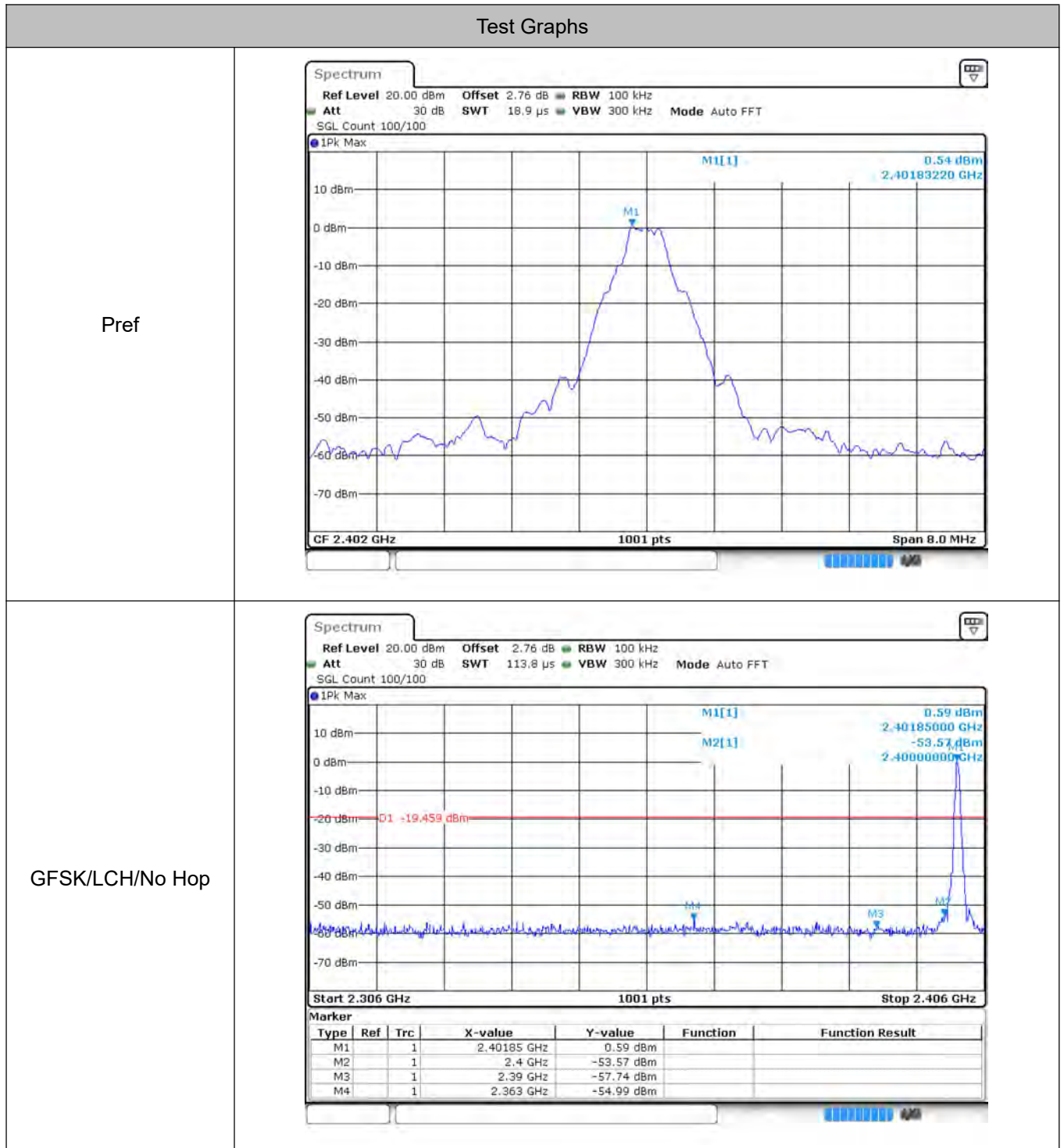


8 Band-edge for RF Conducted Emissions

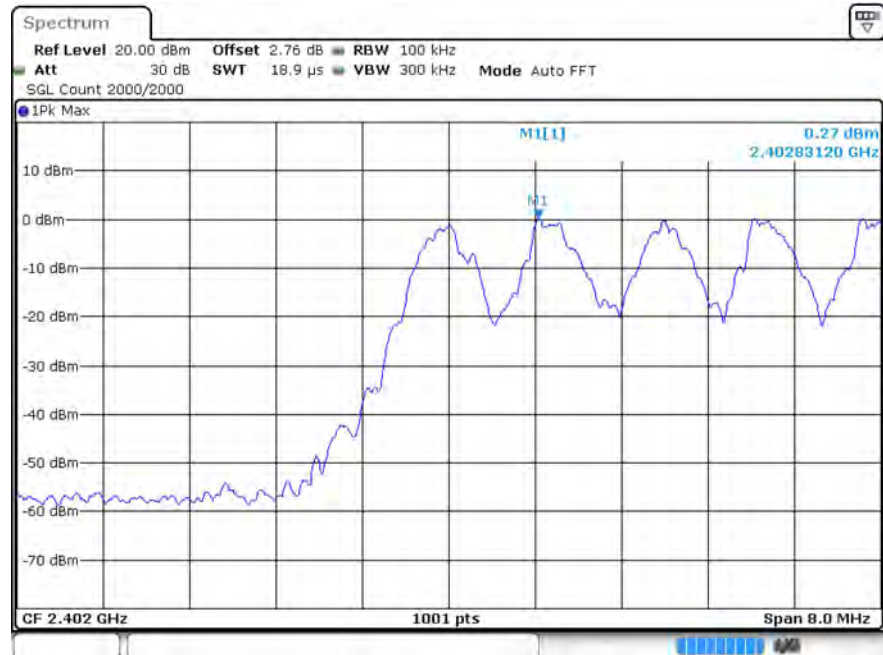
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-55.52	-20	Pass
			On	-55.03	-20	Pass
	HCH	2480	Off	-54.48	-20	Pass
			On	-53.64	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-56.09	-20	Pass
			On	-55.44	-20	Pass
	HCH	2480	Off	-54.92	-20	Pass
			On	-53.67	-20	Pass

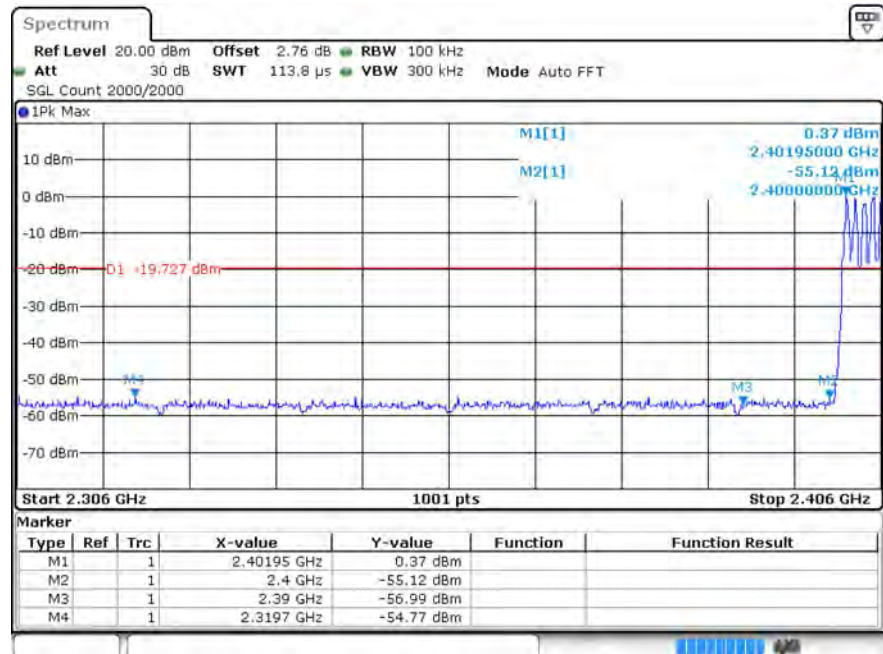
8.2 Test Graphs



Ref



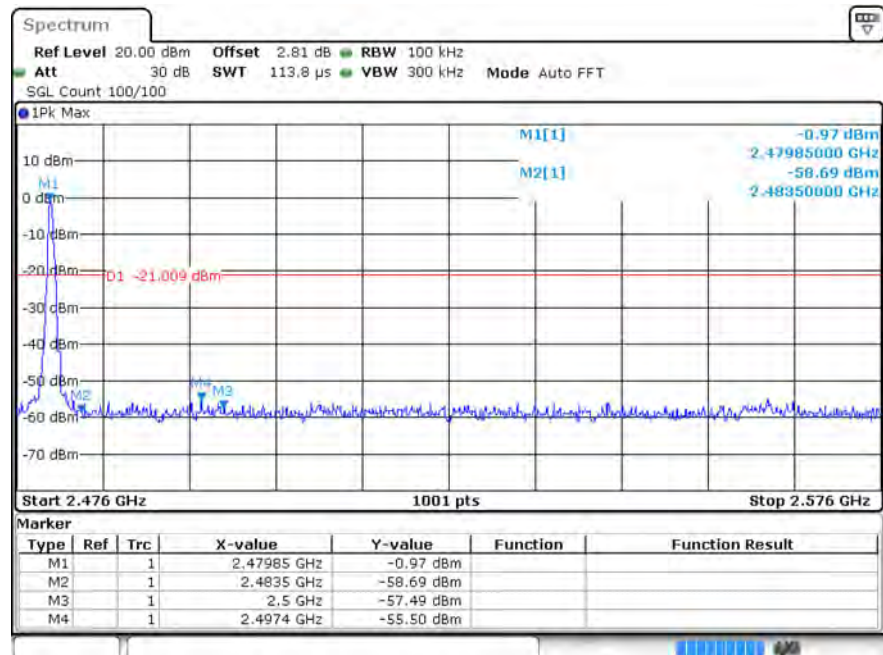
GFSK/LCH/Hop



Ref



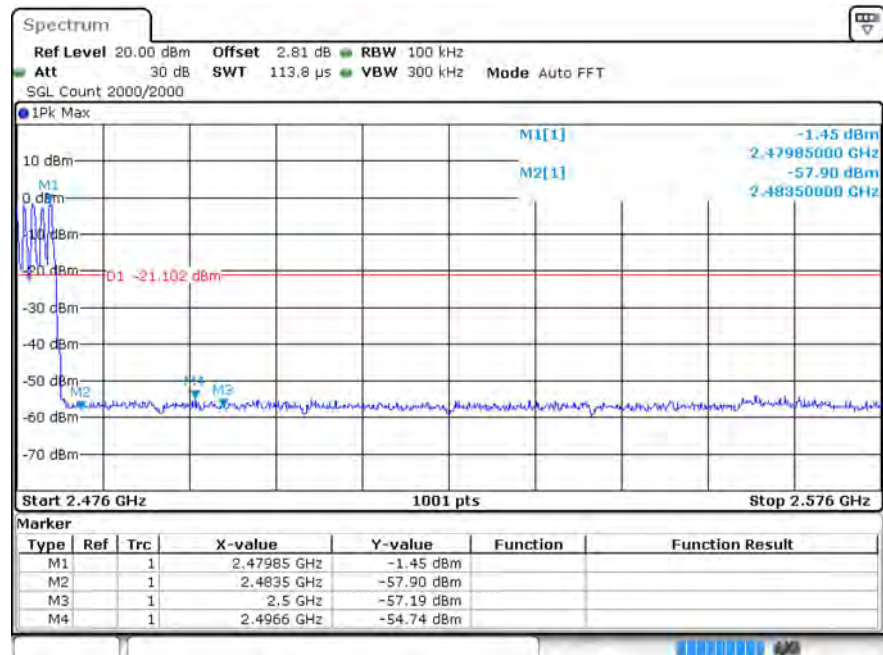
GFSK/HCH/No Hop



Ref.



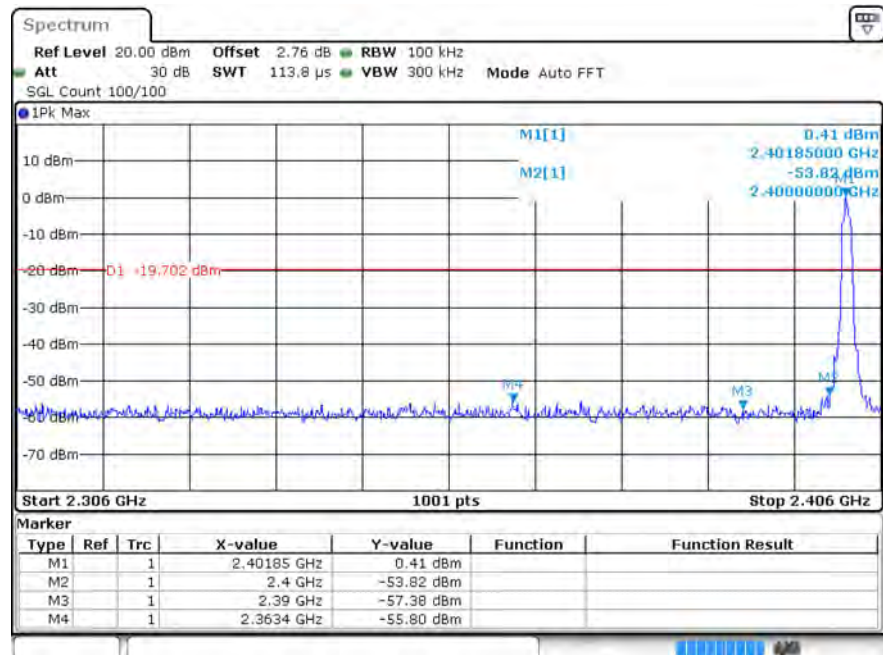
GFSK/HCH/Hop



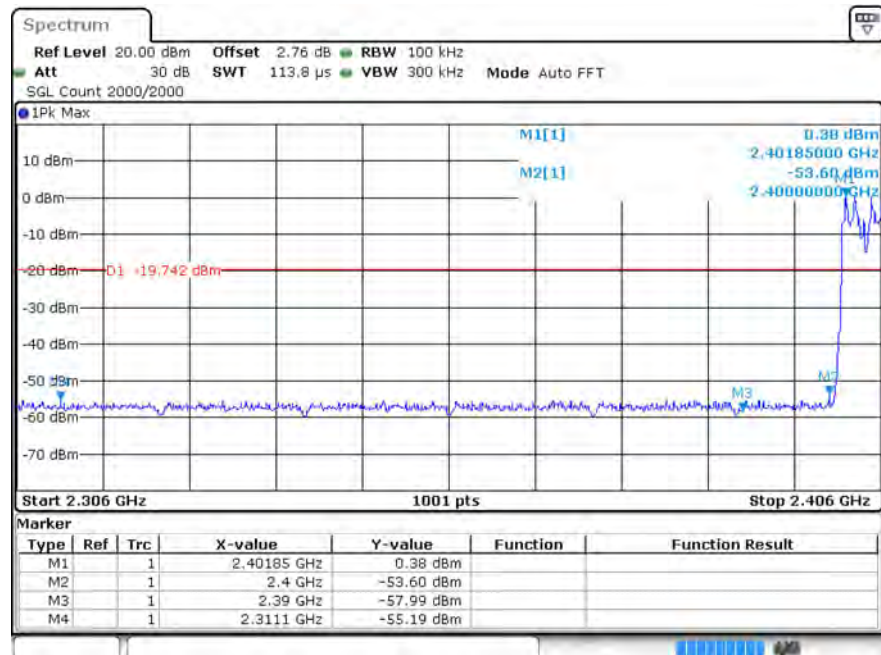
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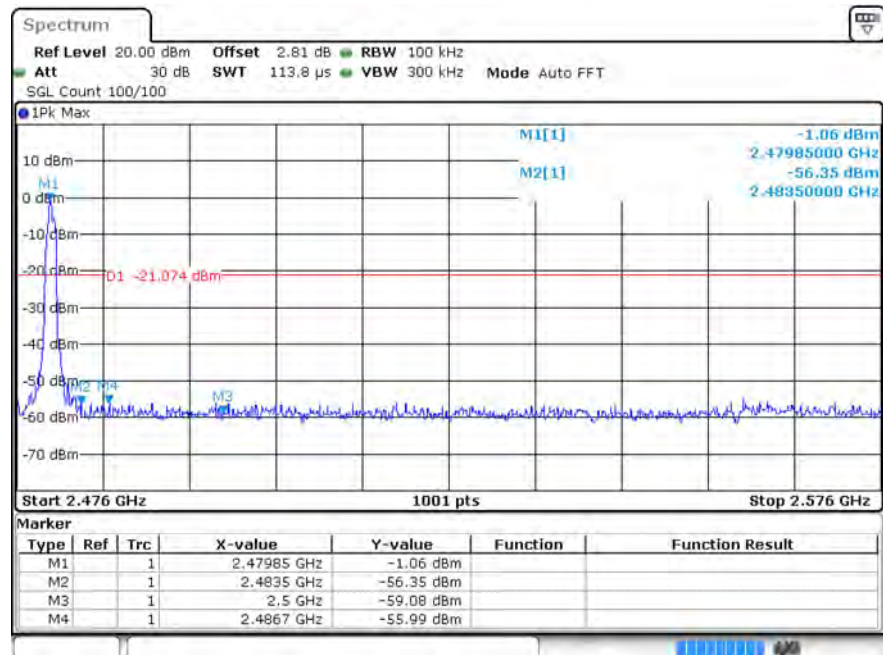
$\pi/4$ DQPSK/LCH/No
Hop



Ref


 $\pi/4$ DQPSK/LCH/Hop


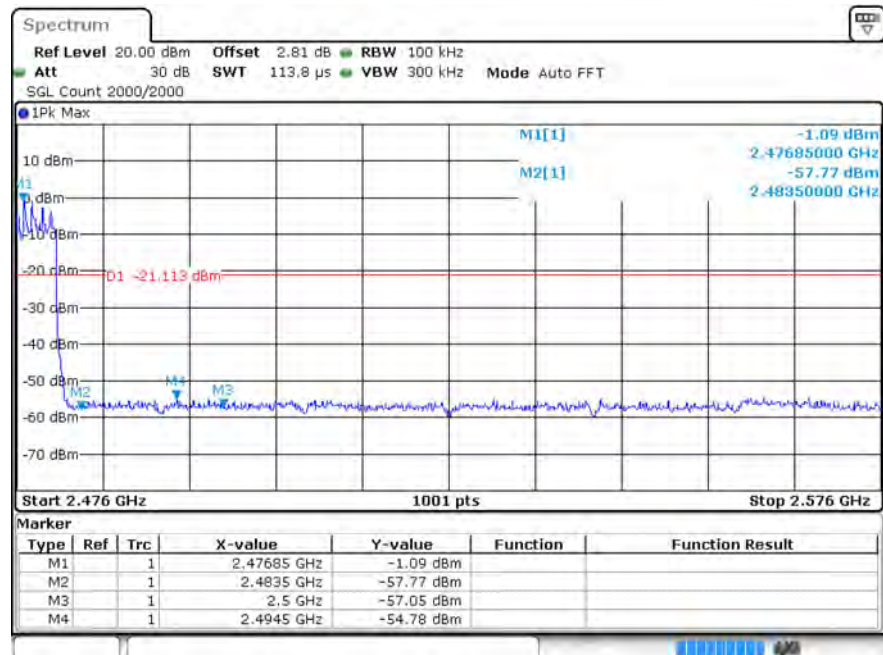
Ref


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


Ref



$\pi/4$ DQPSK/HCH/Hop



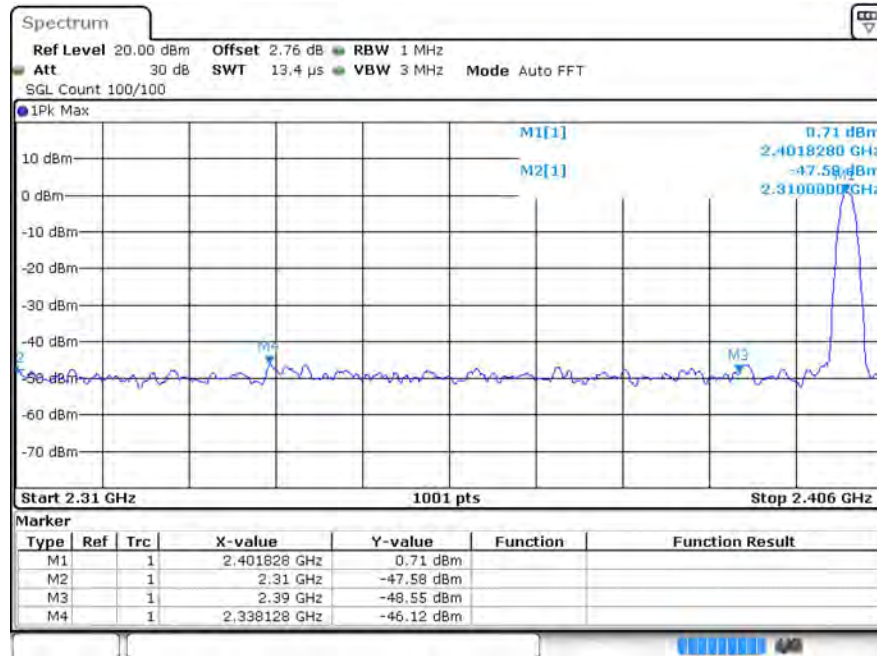
9 Restrict-band band-edge measurements

9.1 Test Result

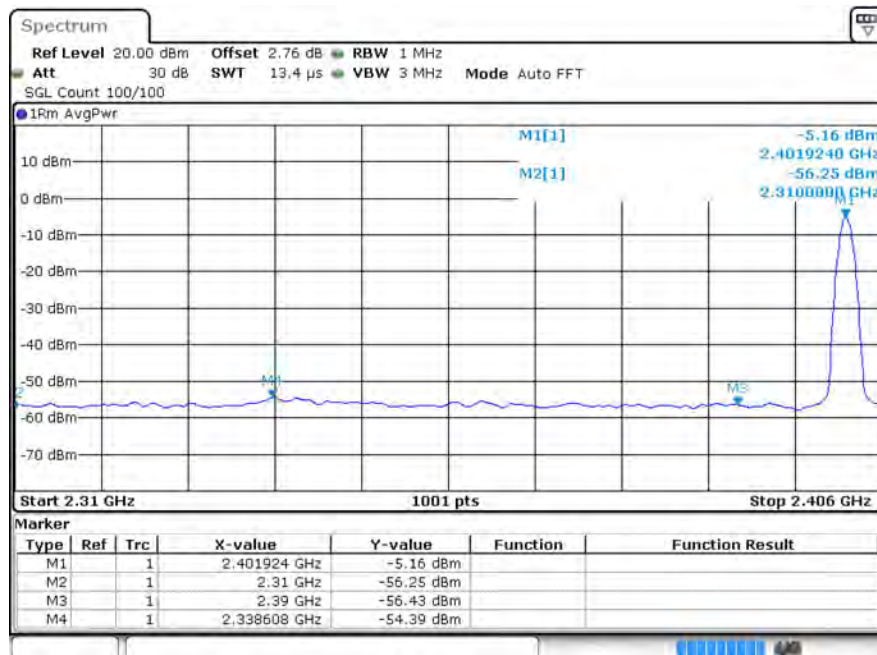
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Duty Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-47.58	2	-	49.68	PEAK	74	Pass
	Off	2310.0	-56.25	2	4.95	45.96	AV	54	Pass
	Off	2338.128	-46.12	2	-	51.14	PEAK	74	Pass
	Off	2338.608	-54.38	2	4.95	47.83	AV	54	Pass
	Off	2390.0	-48.55	2	-	48.71	PEAK	74	Pass
	Off	2390.0	-56.43	2	4.95	45.78	AV	54	Pass
	Off	2483.5	-49.09	2	-	48.17	PEAK	74	Pass
	Off	2483.5	-55.72	2	5.06	46.6	AV	54	Pass
	Off	2484.88	-47.39	2	-	49.87	PEAK	74	Pass
	Off	2486.536	-55.36	2	5.06	46.96	AV	54	Pass
	Off	2500.0	-47.49	2	-	49.77	PEAK	74	Pass
	Off	2500.0	-56.4	2	5.06	45.92	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-49.5	2	-	47.76	PEAK	74	Pass
	Off	2310.0	-55.98	2	4.84	46.12	AV	54	Pass
	Off	2379.216	-45.5	2	-	51.76	PEAK	74	Pass
	Off	2338.416	-54.37	2	4.84	47.73	AV	54	Pass
	Off	2390.0	-48.99	2	-	48.27	PEAK	74	Pass
	Off	2390.0	-57.49	2	4.84	44.61	AV	54	Pass
	Off	2483.5	-49.59	2	-	47.67	PEAK	74	Pass
	Off	2483.5	-56.02	2	4.95	46.19	AV	54	Pass
	Off	2498.776	-47.09	2	-	50.17	PEAK	74	Pass
	Off	2498.992	-55.73	2	4.95	46.48	AV	54	Pass
	Off	2500.0	-50.05	2	-	47.21	PEAK	74	Pass
	Off	2500.0	-56.13	2	4.95	46.08	AV	54	Pass

9.2 Test Graphs

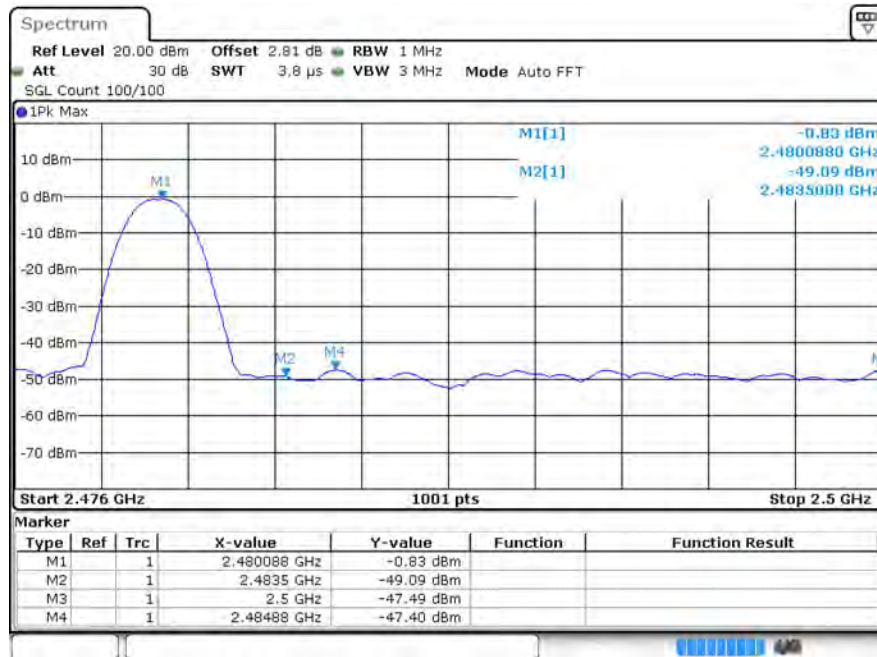
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



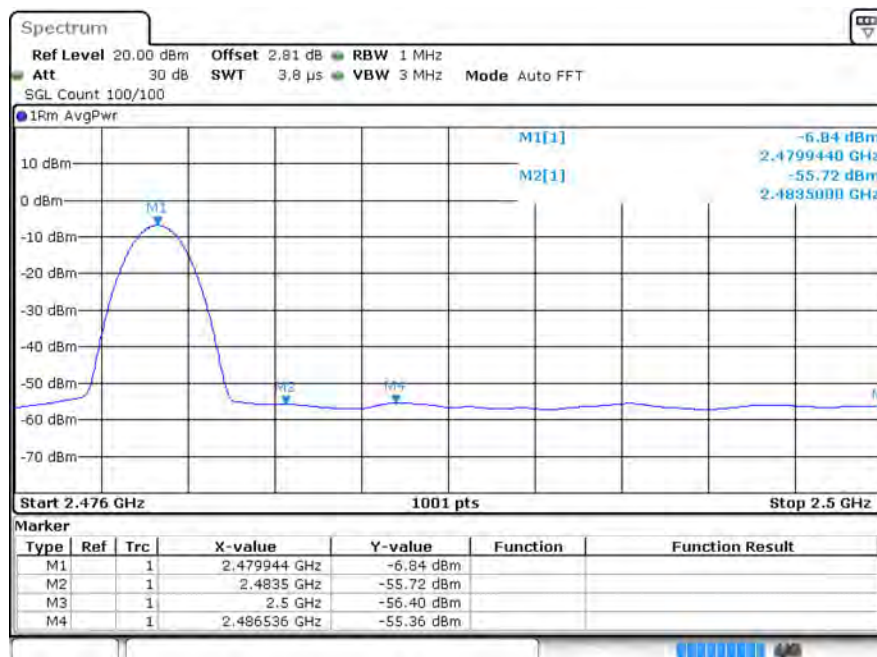
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



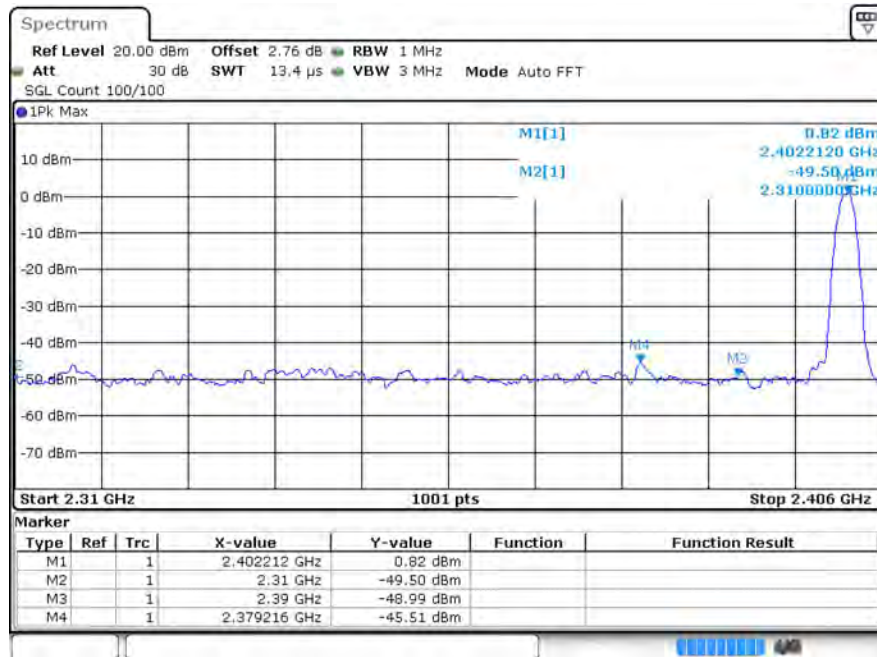
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



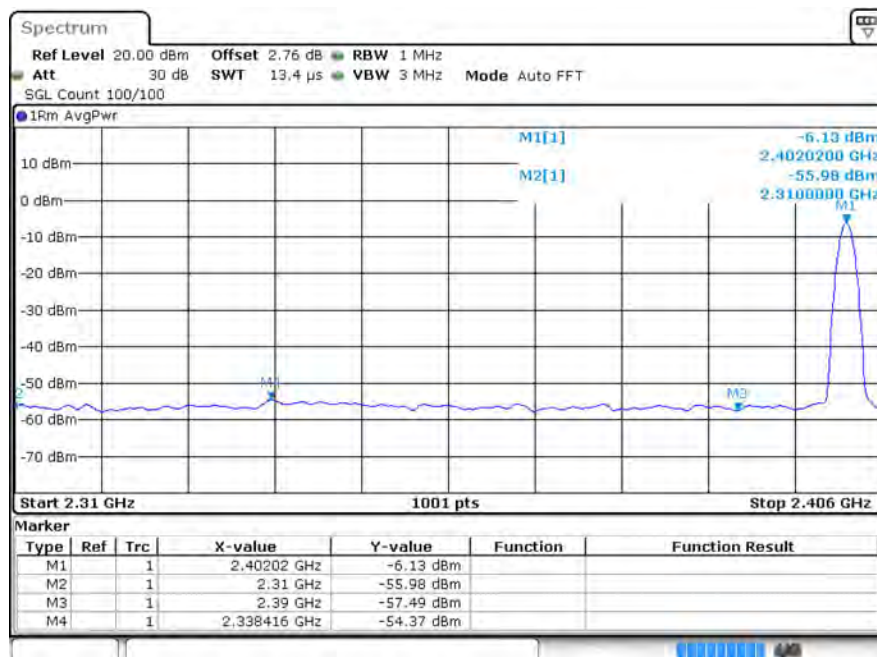
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



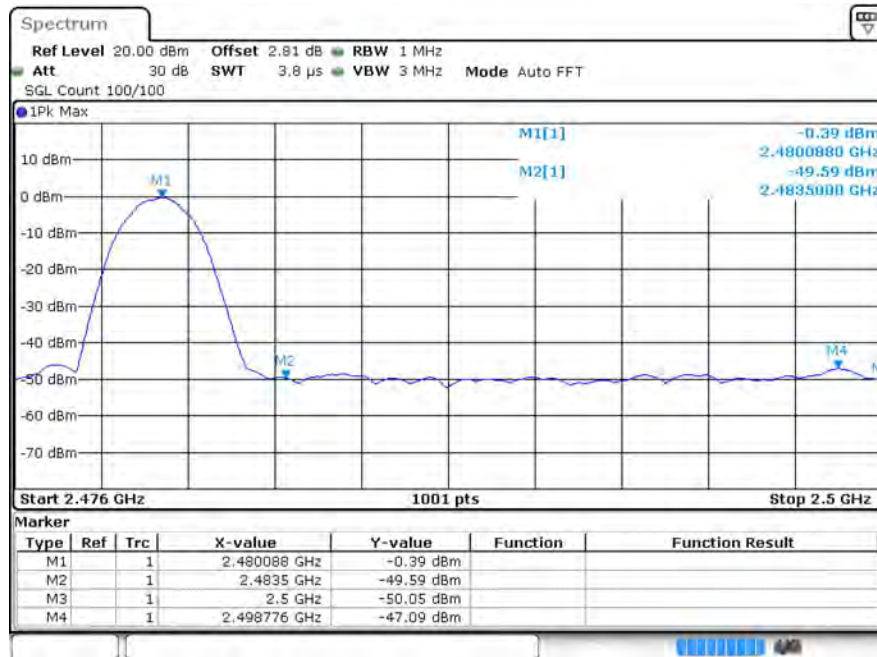
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



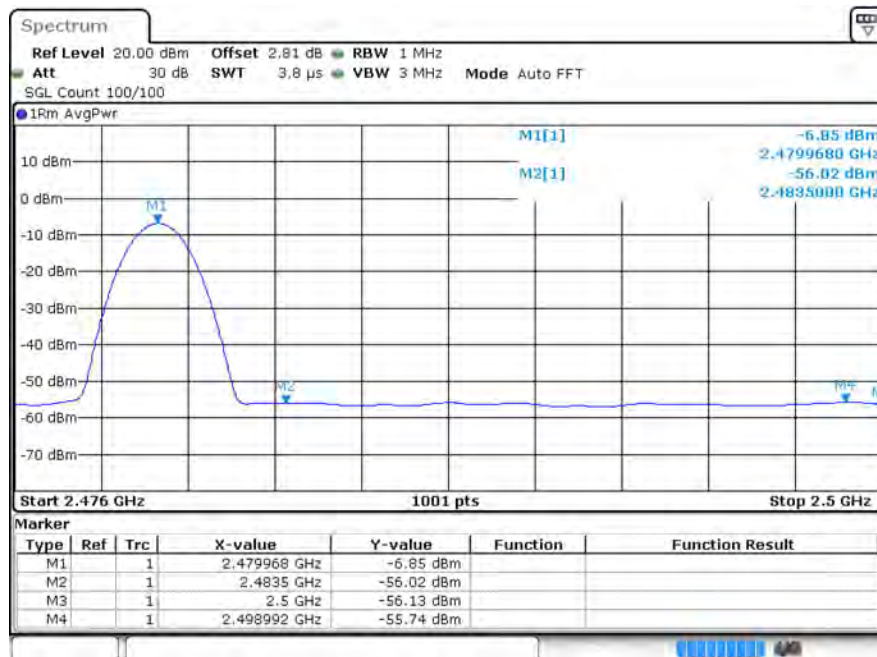
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---