



Appendix A

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

Product Name: Wireless Microphone

Trade Mark: N/A

Test Model: J9

Environmental Conditions

Temperature:	25.4°C
Relative Humidity:	57.1%
ATM Pressure:	101Kpa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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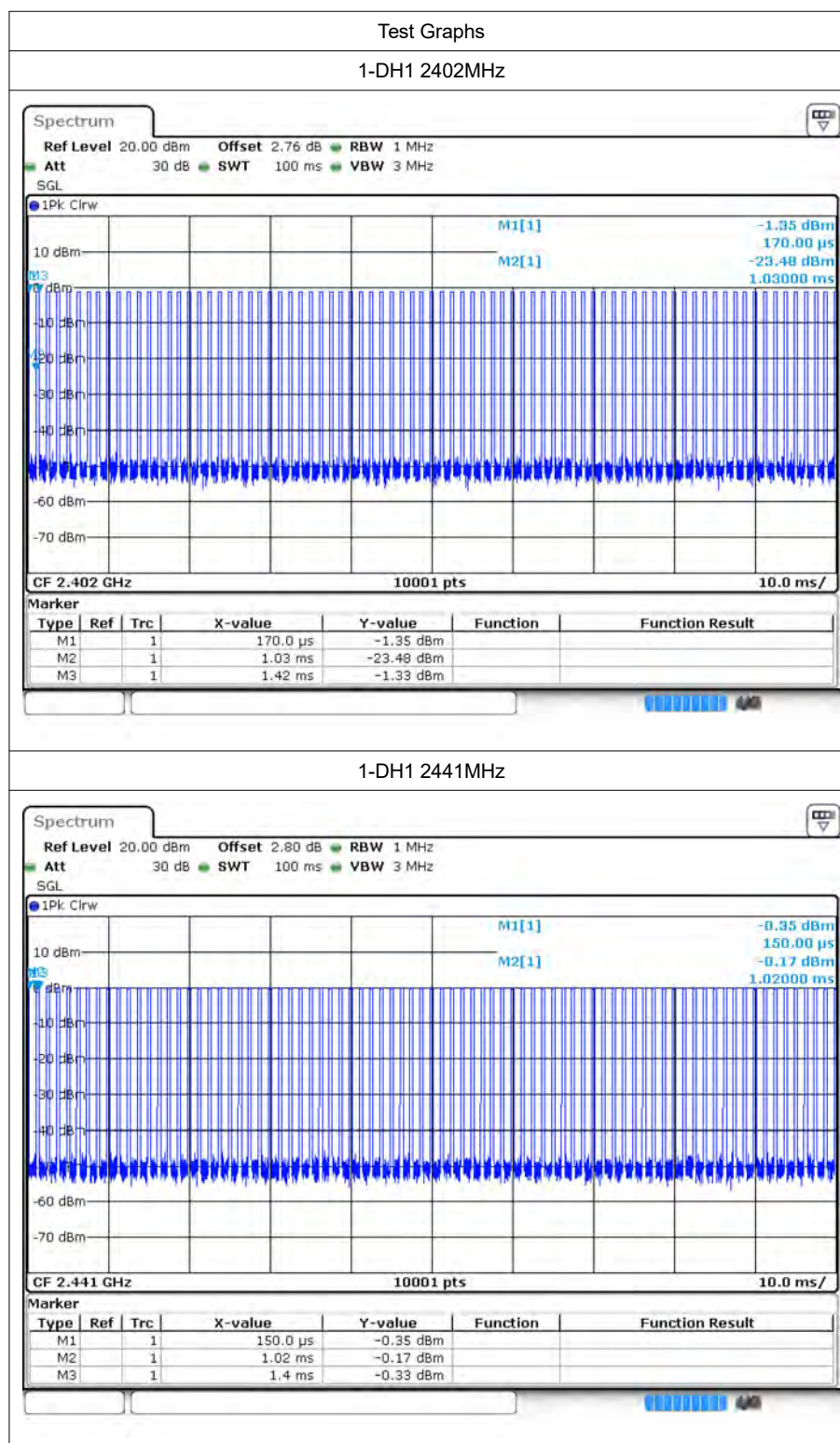


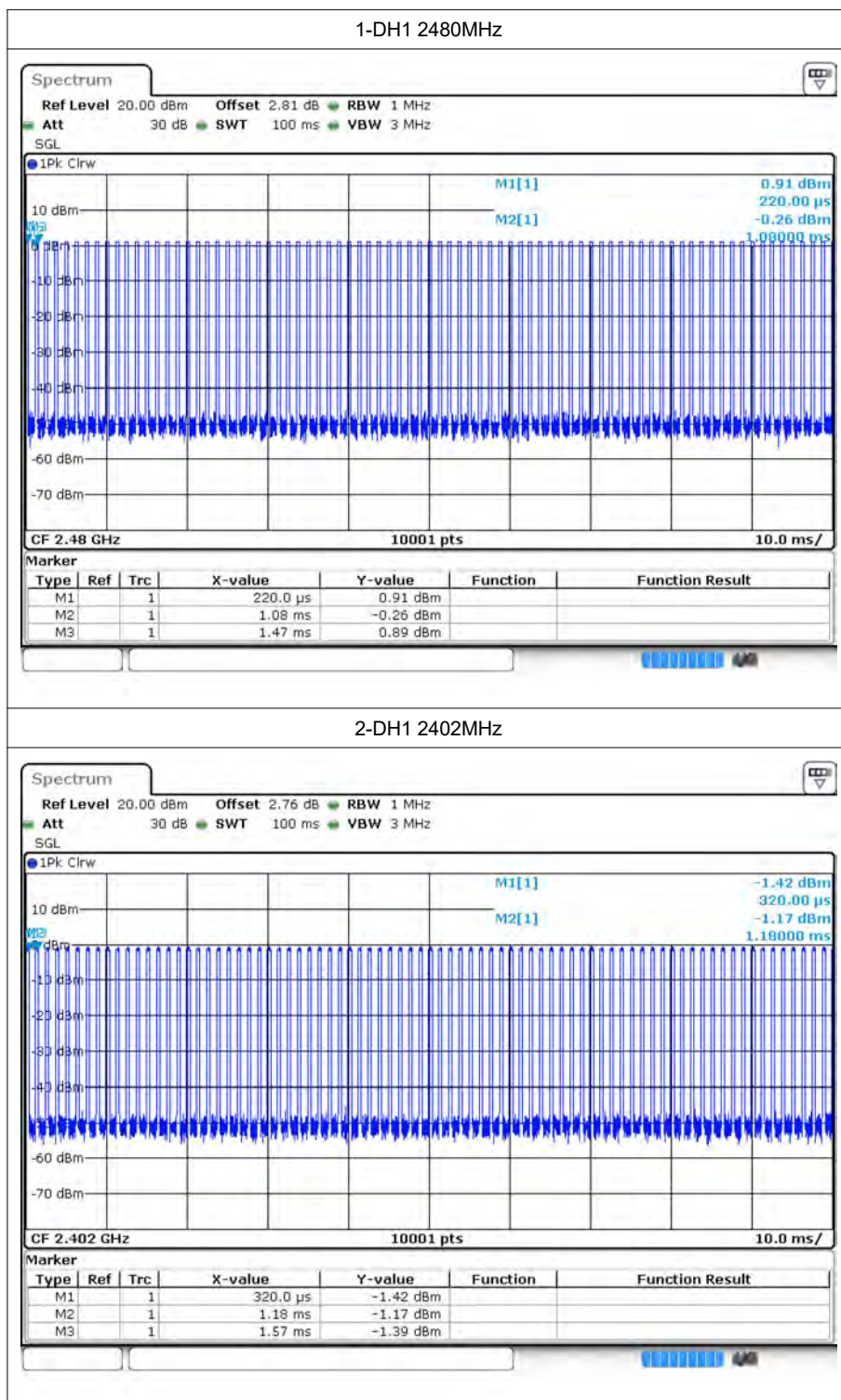
1 Duty Cycle

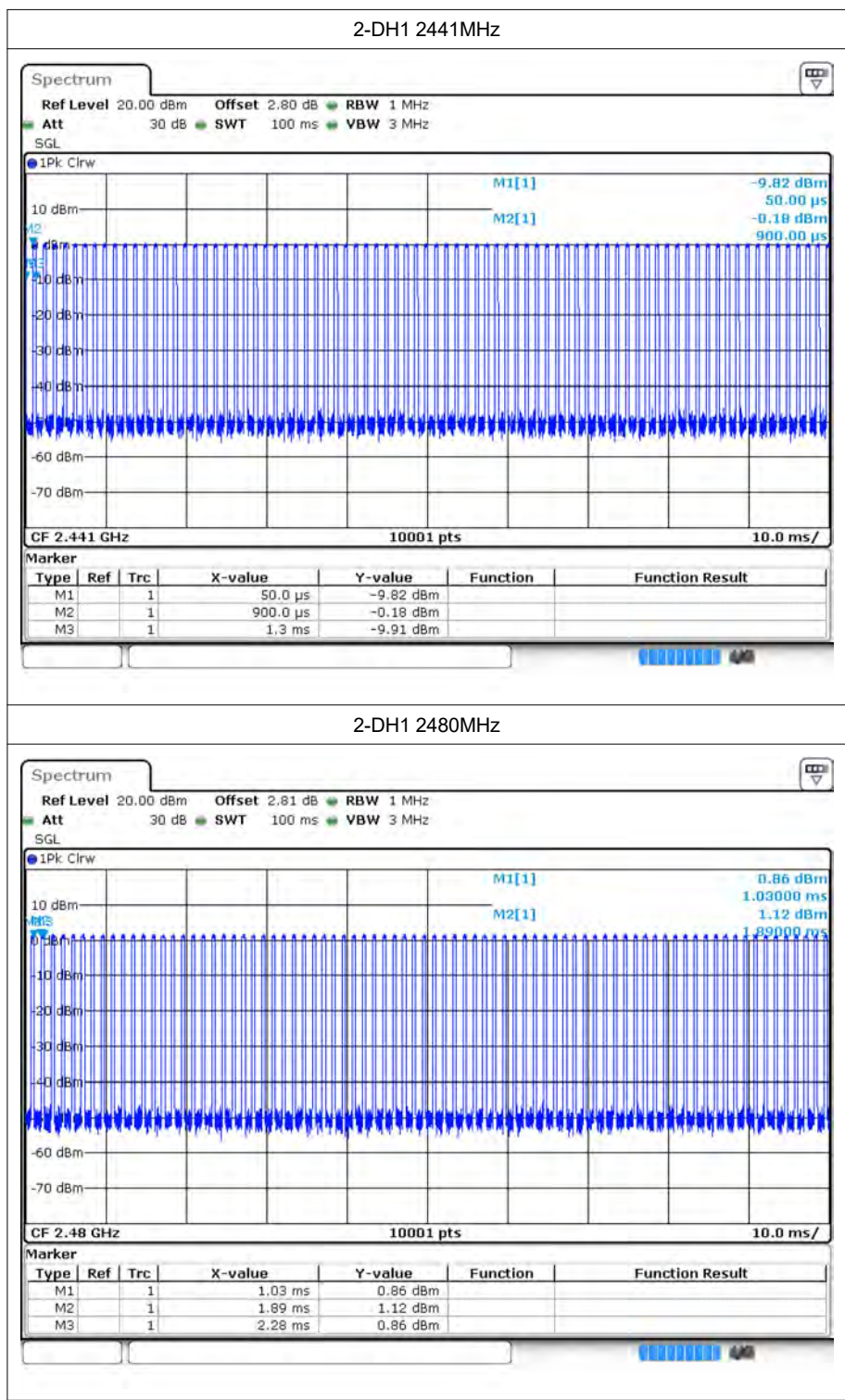
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	32.01	4.95	2.56
1-DH1	2441	31.21	5.06	2.63
1-DH1	2480	32.01	4.95	2.56
2-DH1	2402	32.01	4.95	2.56
2-DH1	2441	32.81	4.84	2.5
2-DH1	2480	32	4.95	2.56

1.2 Test Graphs





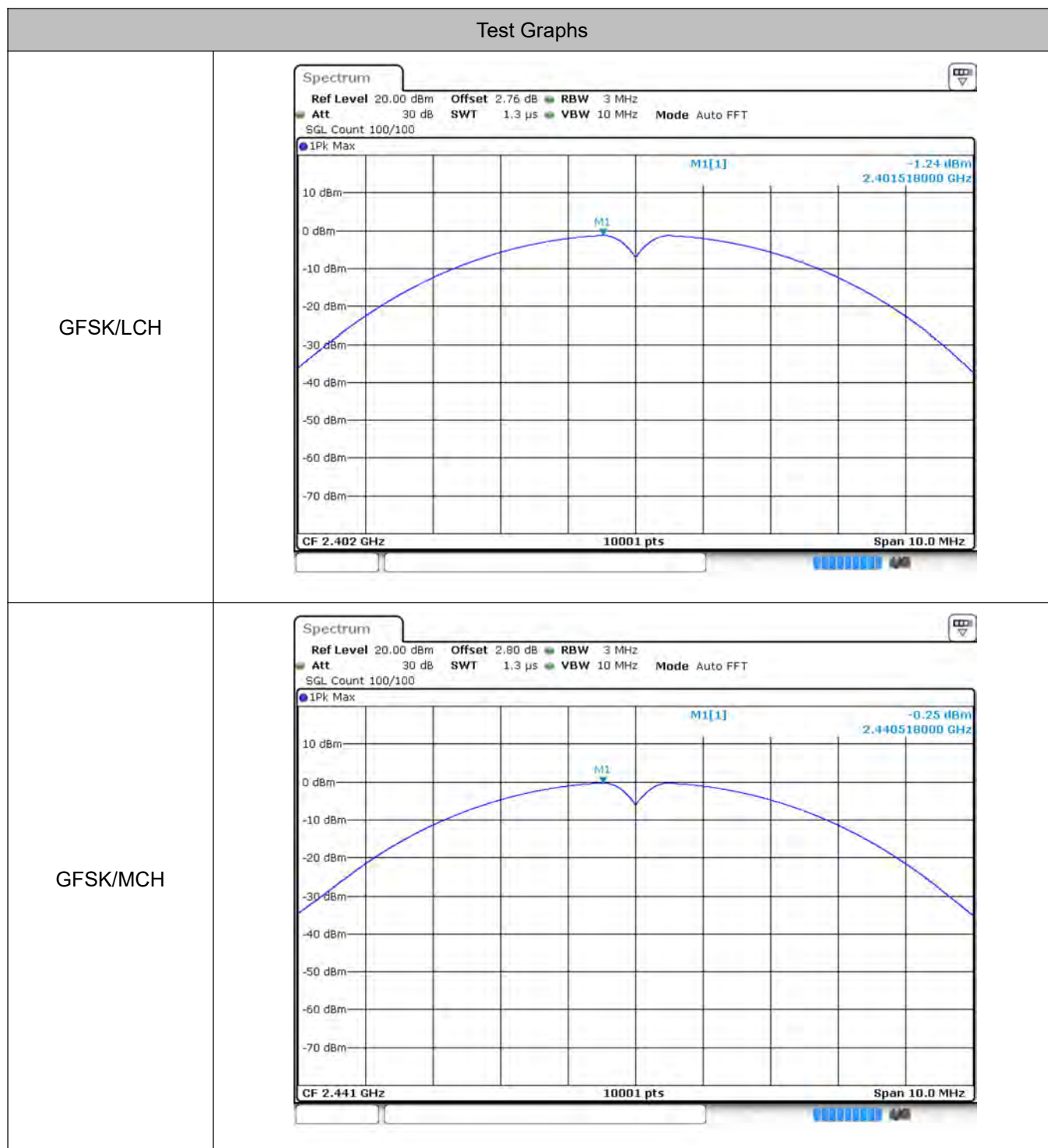


2 Maximum Conducted Peak Output Power

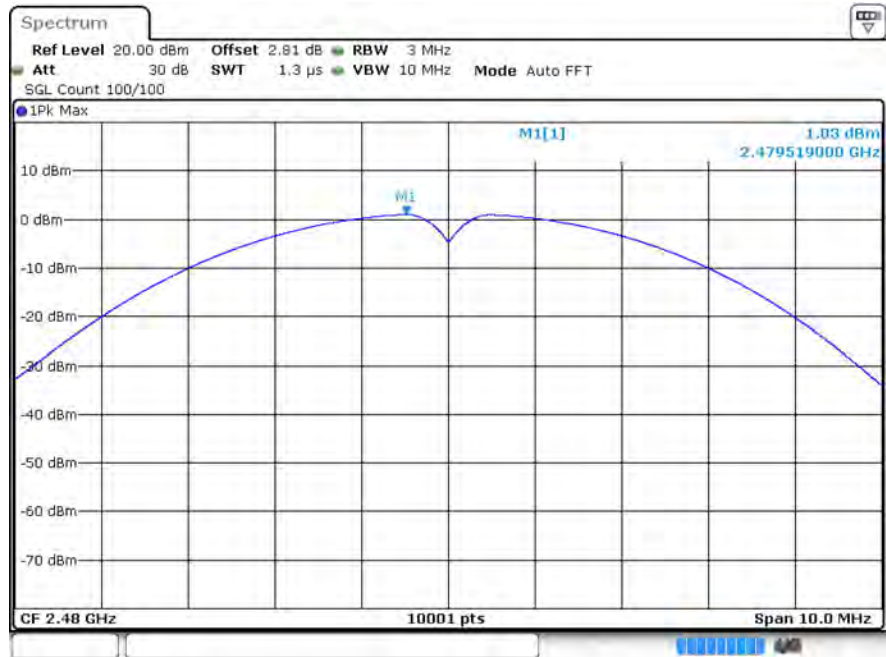
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.24	21	Pass
	MCH	-0.25	21	Pass
	HCH	1.03	21	Pass
$\pi/4$ DQPSK	LCH	-0.41	21	Pass
	MCH	0.45	21	Pass
	HCH	1.37	21	Pass

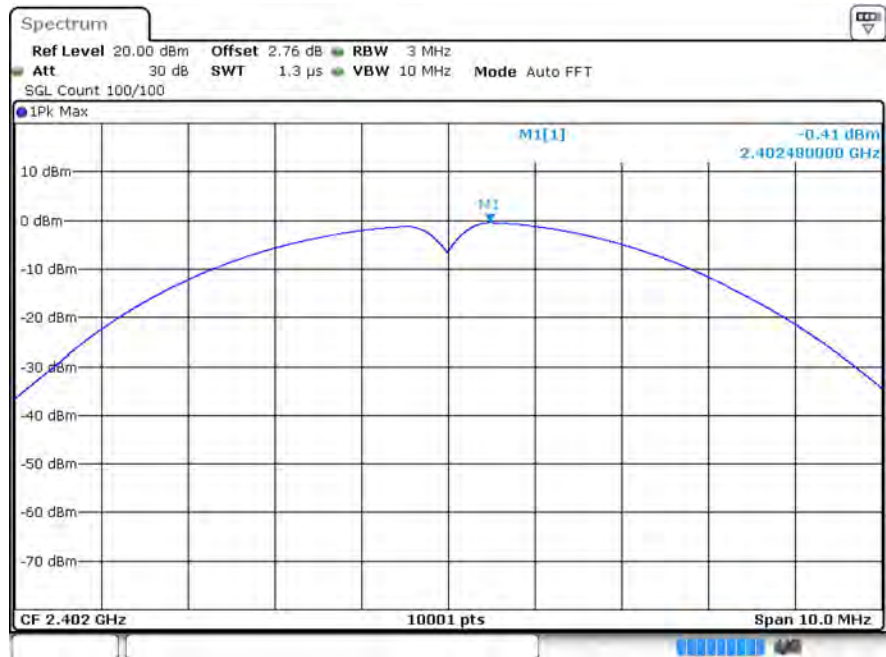
2.2 Test Graphs



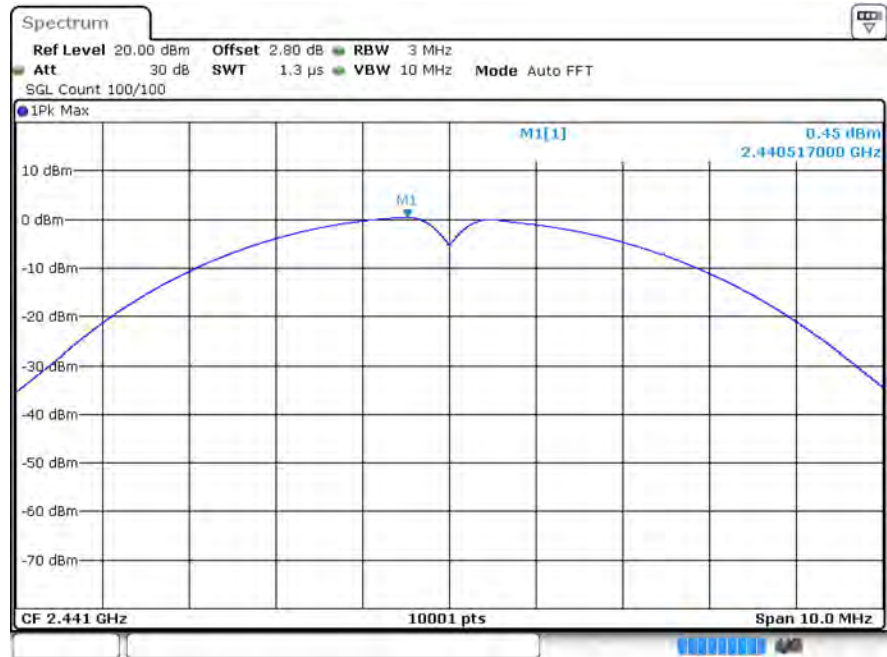
GFSK/HCH



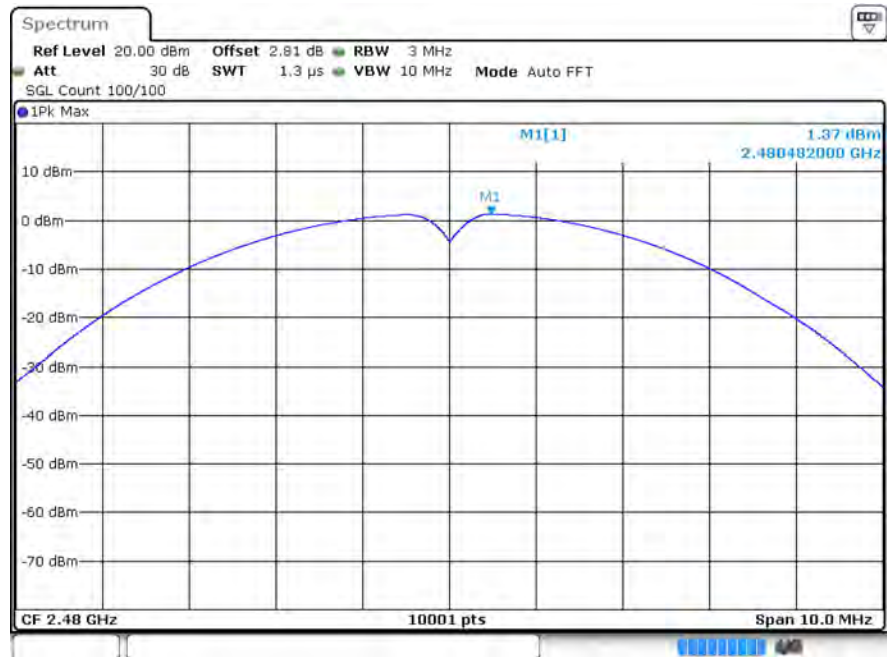
$\pi/4$ DQPSK/LCH



$\pi/4$ DQPSK/MCH



$\pi/4$ DQPSK/HCH

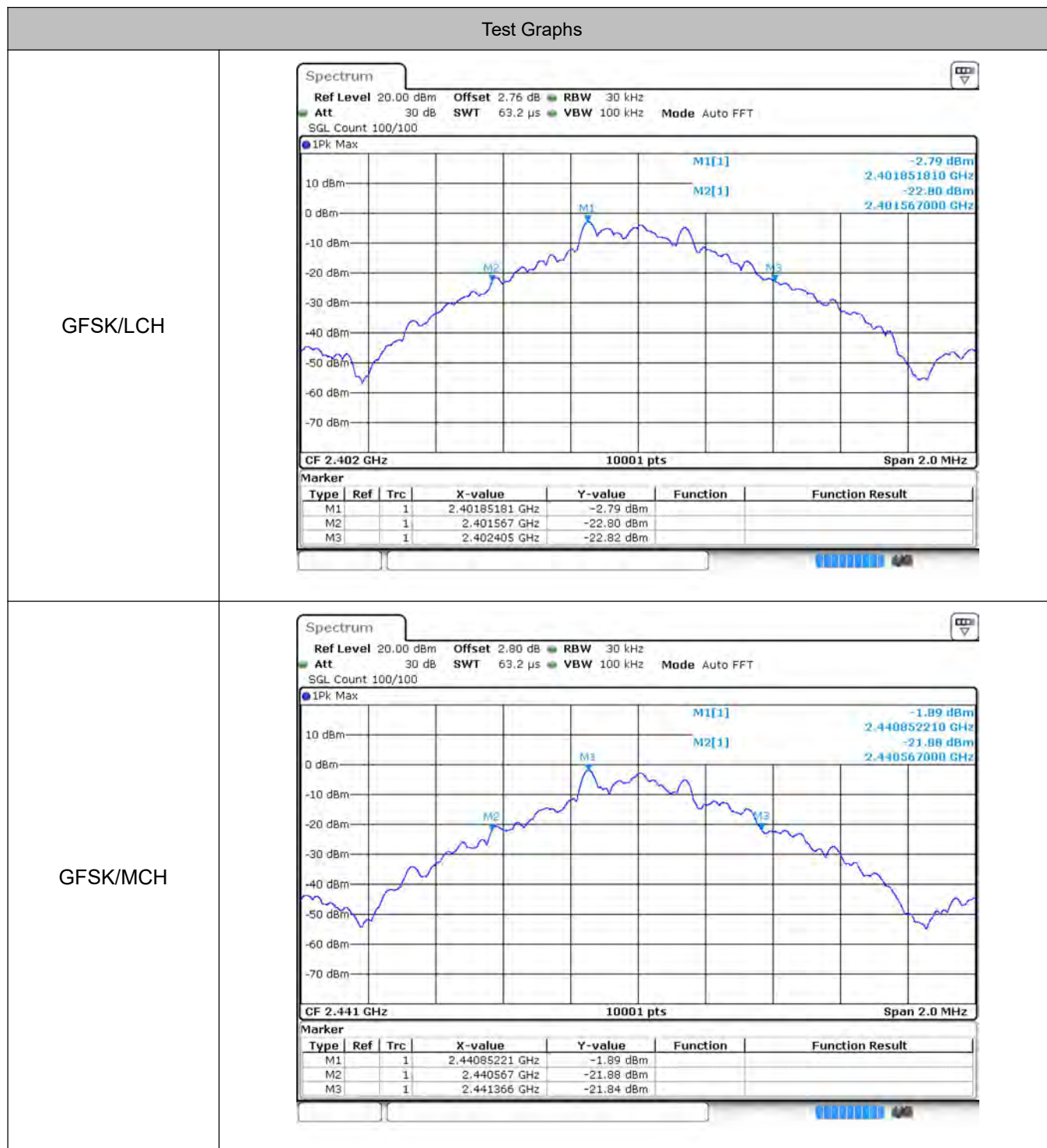


3 20dB Bandwidth

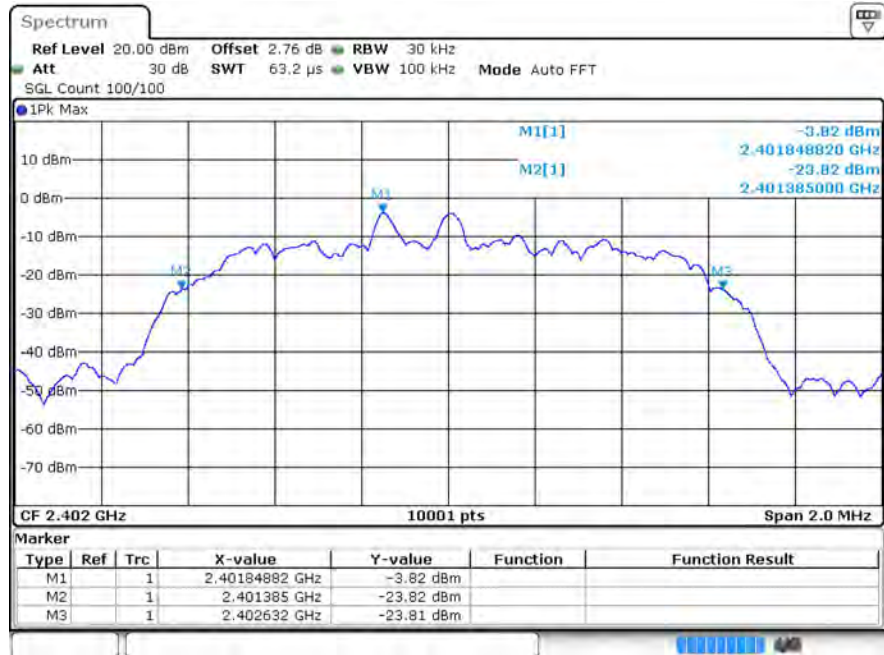
3.1 Test Result

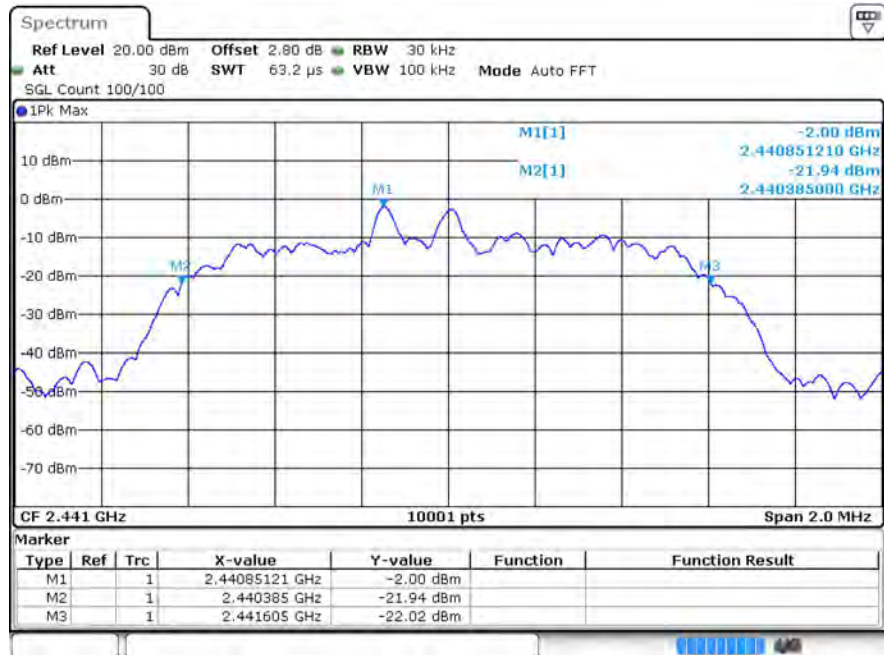
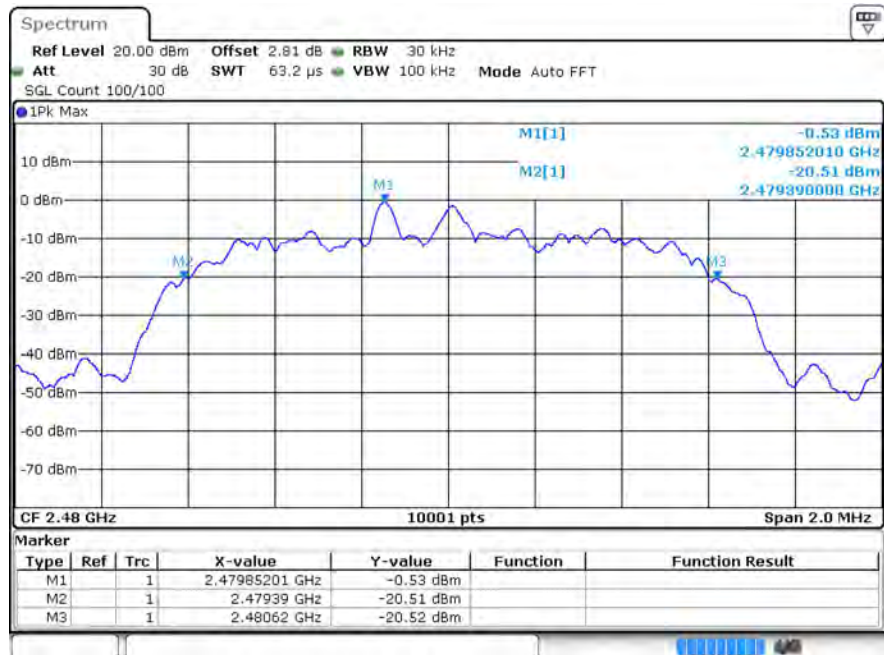
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.837	Not Specified	Pass
	MCH	0.799	Not Specified	Pass
	HCH	0.853	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.247	Not Specified	Pass
	MCH	1.22	Not Specified	Pass
	HCH	1.23	Not Specified	Pass

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	0.533	Pass
$\pi/4$ DQPSK	MCH	1.001	0.813	Pass

4.2 Test Graphs



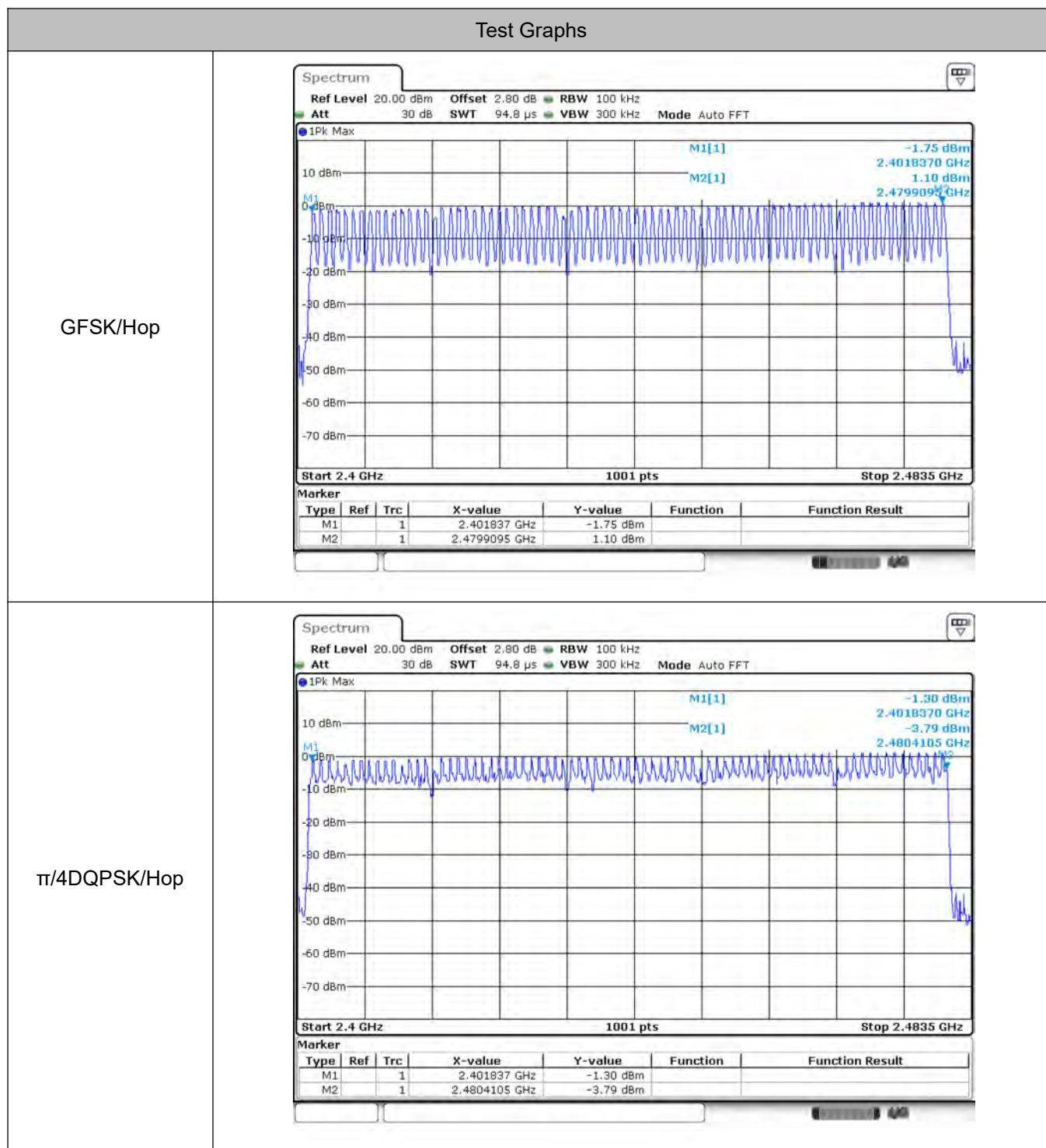


5 Hopping Channel Number

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

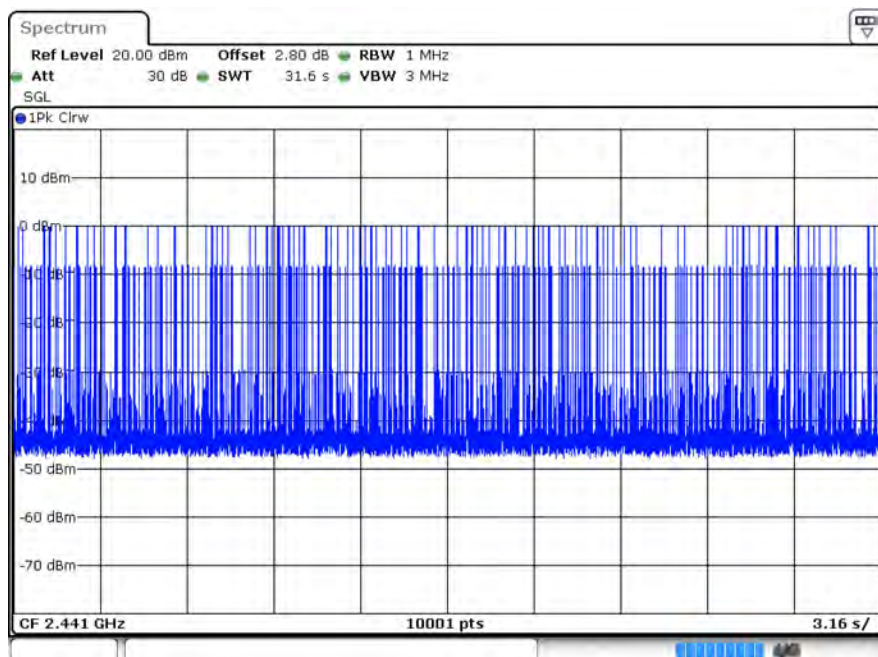
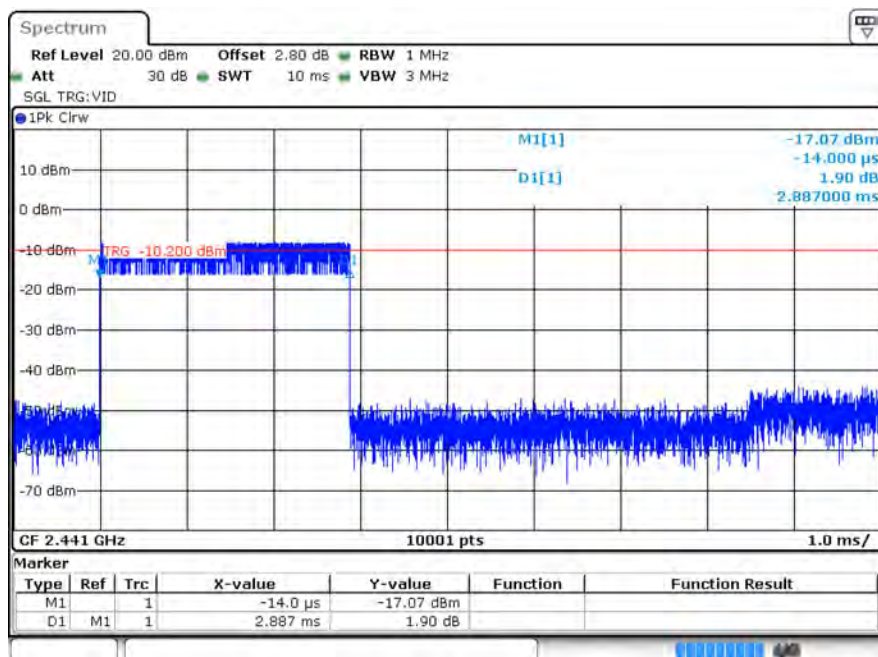
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	110	317.57	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.892	106	306.552	0.4	Pass

6.2 Test Graphs

Test Graphs

GFSK_DH5/MCH



Spectrum

Ref Level 20.00 dBm Offset 2.80 dB RBW 1 MHz
Att 30 dB SWT 31.6 s VBW 3 MHz
SGL

● 1Pk Clrw

10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

CF 2.441 GHz 10001 pts 3.16 s/

7 RF Conducted Spurious Emissions

7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-39.92	-20	Pass
	MCH	-41.48	-20	Pass
	HCH	-42.27	-20	Pass
$\pi/4$ DQPSK	LCH	-40.86	-20	Pass
	MCH	-40.45	-20	Pass
	HCH	-41.45	-20	Pass

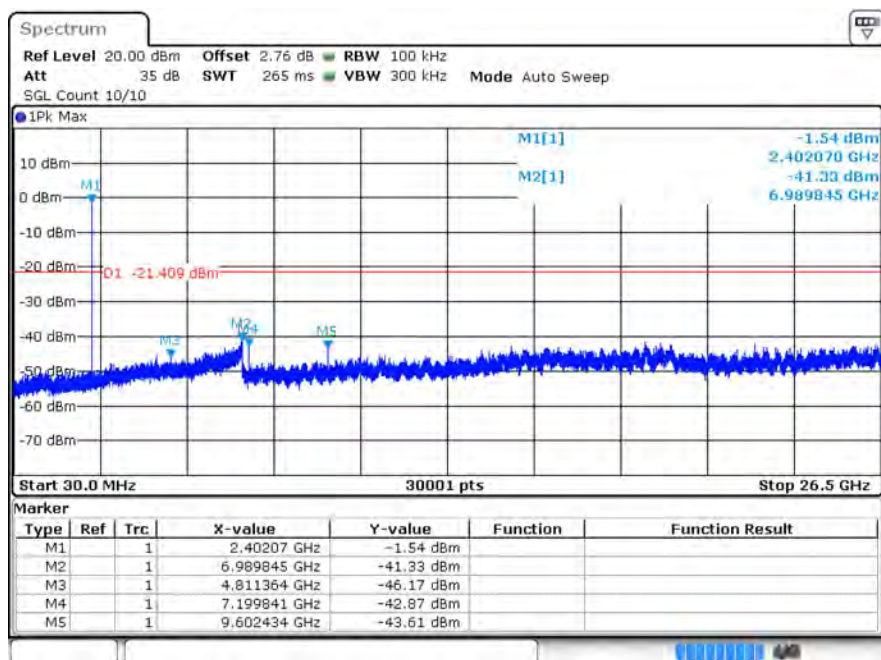
7.2 Test Graphs

GFSK_LCH_Graphs

Pref



Puw

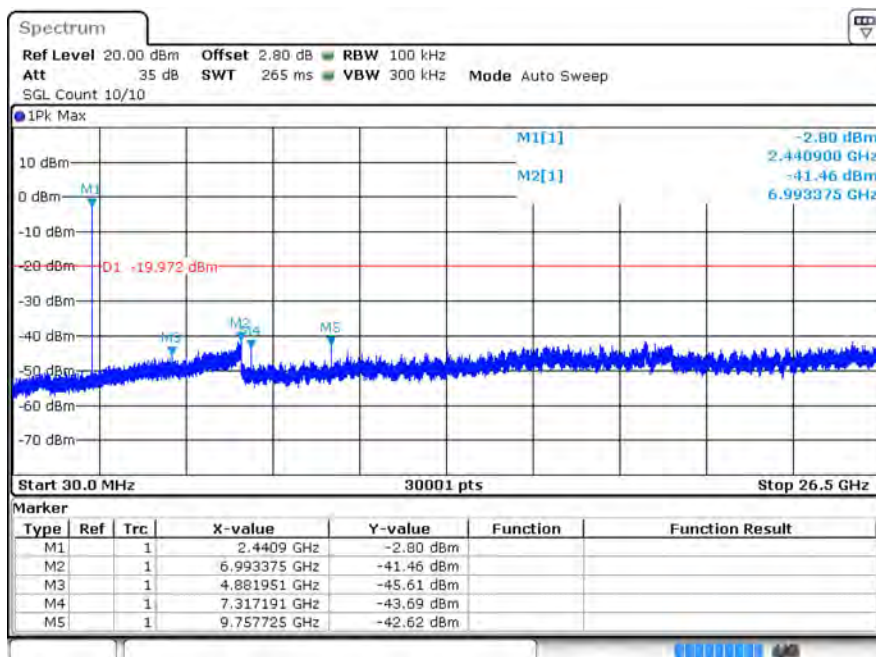


GFSK_MCH_Graphs

Pref



Puw

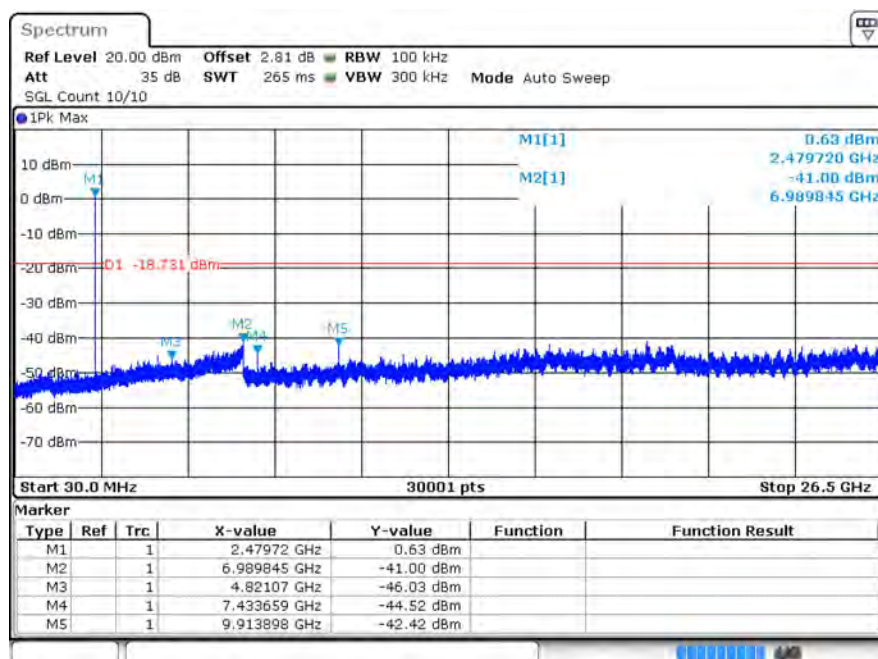


GFSK_HCH_Graphs

Pref



Puw

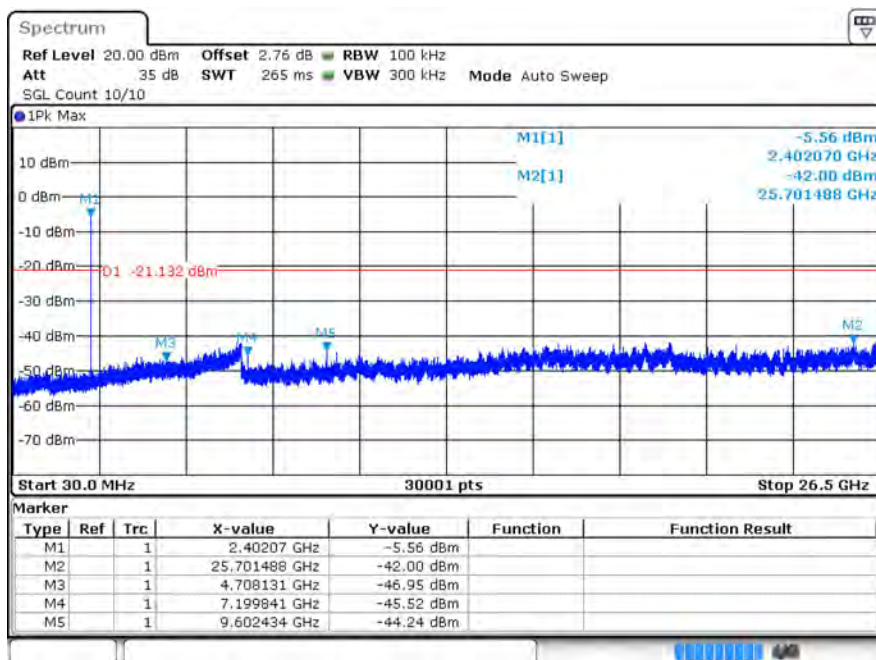


$\pi/4$ DQPSK_LCH_Graphs

Pref



Puw

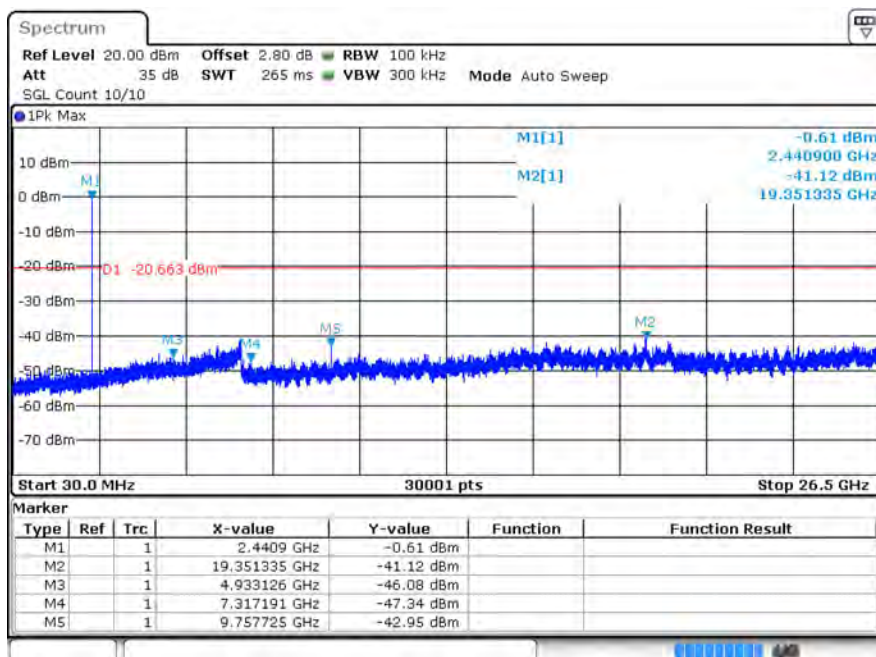


$\pi/4$ DQPSK_MCH_Graphs

Pref



Puw

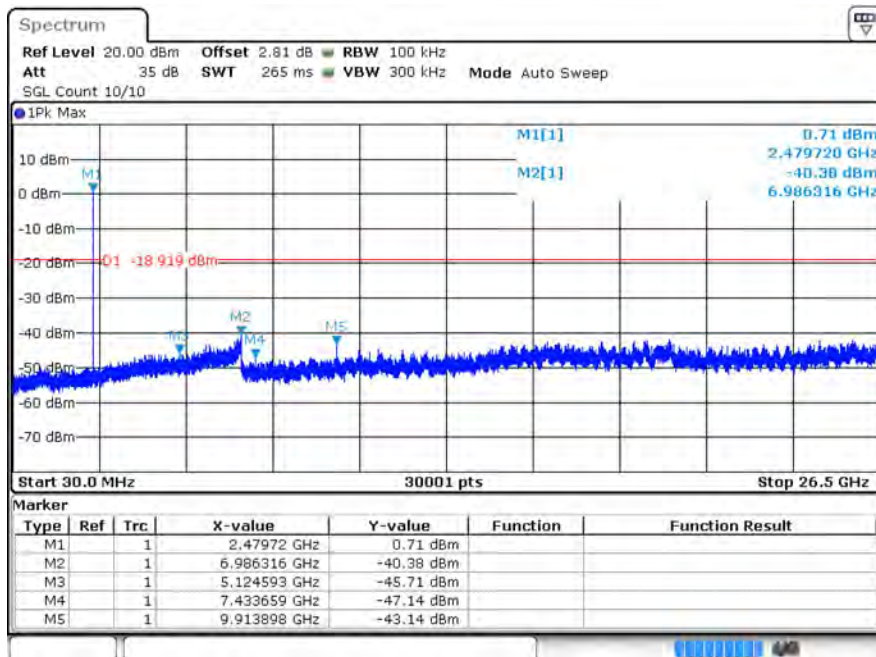


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

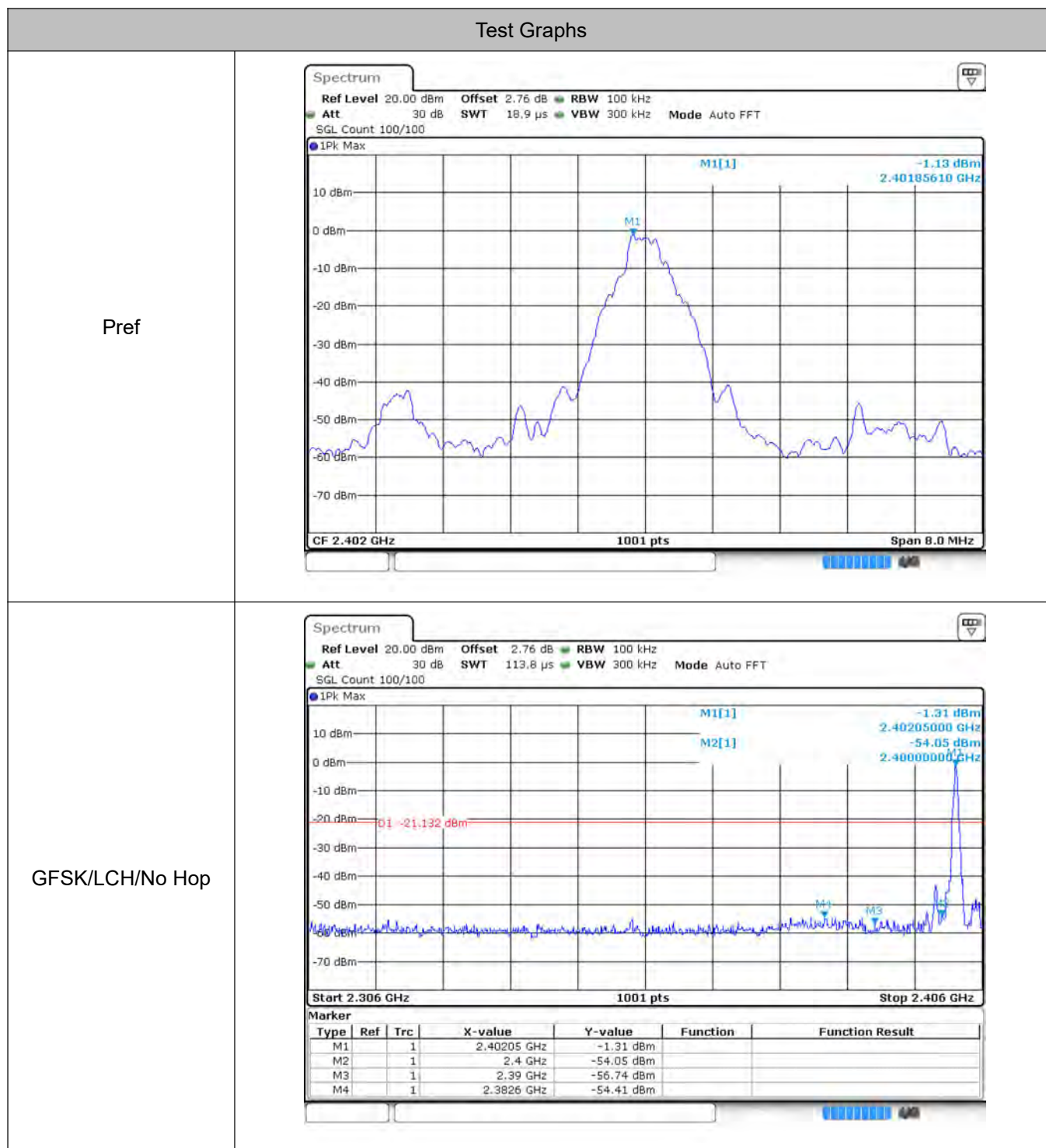


8 Band-edge for RF Conducted Emissions

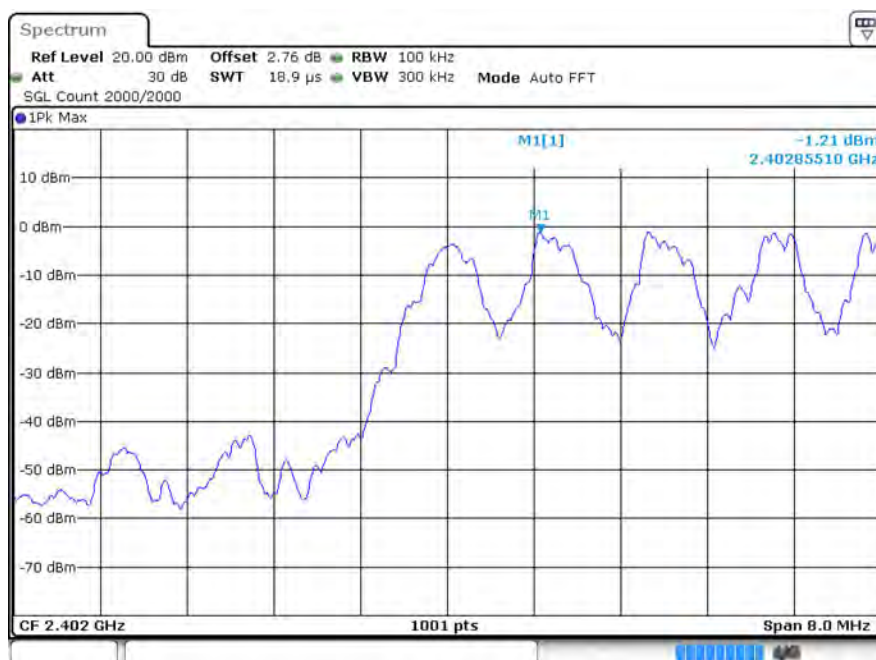
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-53.27	-20	Pass
			On	-51.92	-20	Pass
	HCH	2480	Off	-46.23	-20	Pass
			On	-46.85	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-53.14	-20	Pass
			On	-52.54	-20	Pass
	HCH	2480	Off	-49.33	-20	Pass
			On	-51.04	-20	Pass

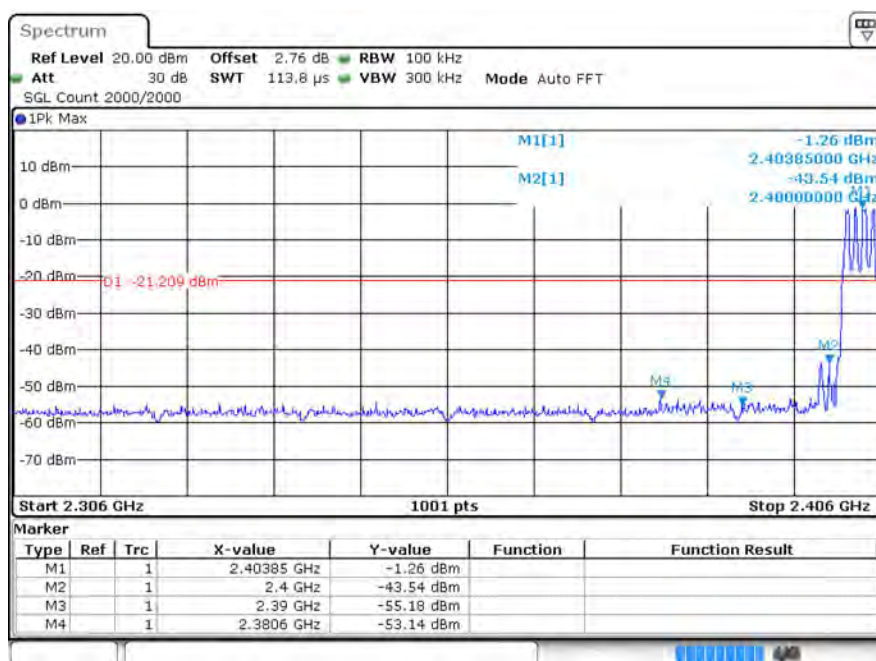
8.2 Test Graphs



Ref



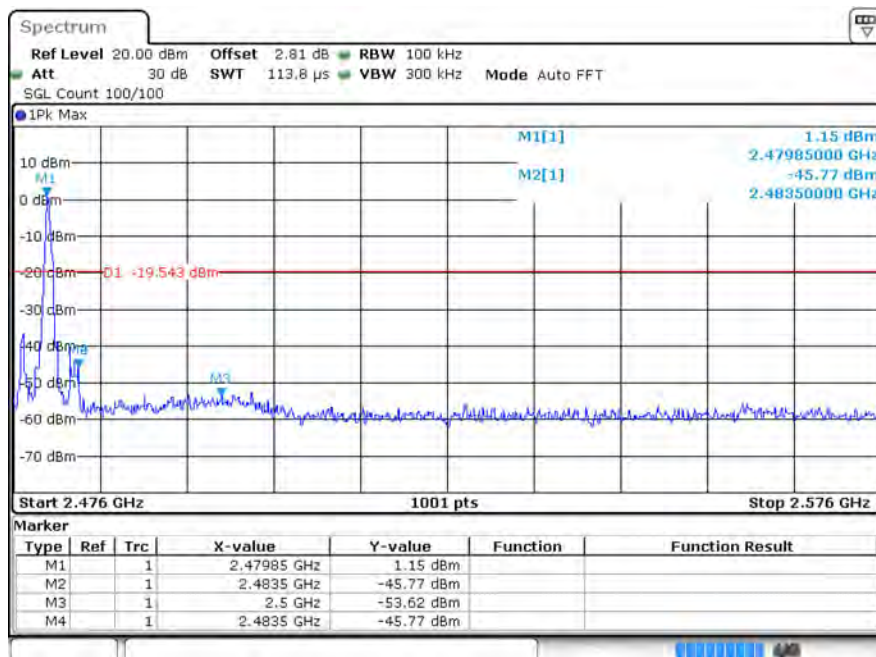
GFSK/LCH/Hop



Ref



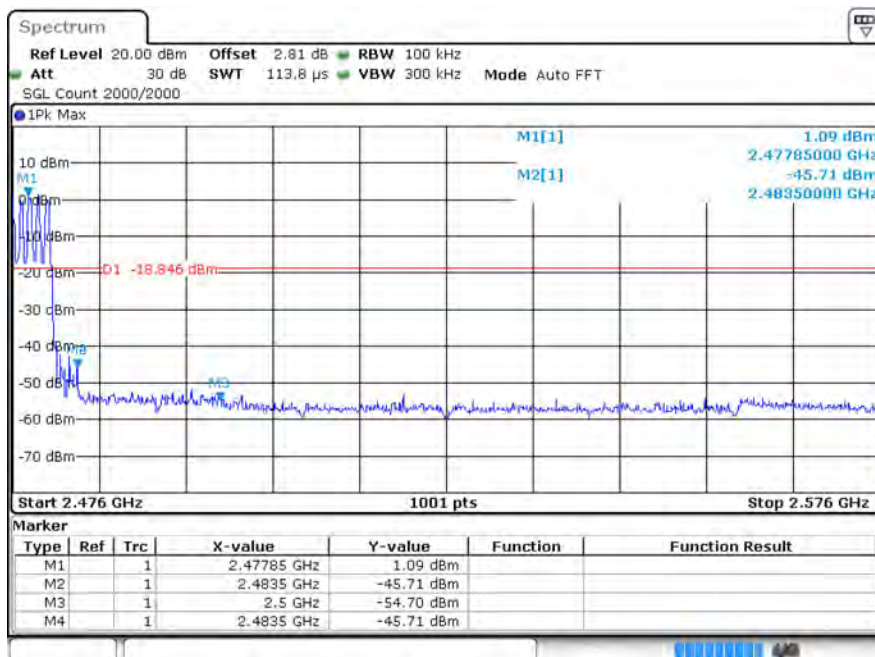
GFSK/HCH/No Hop



Ref.



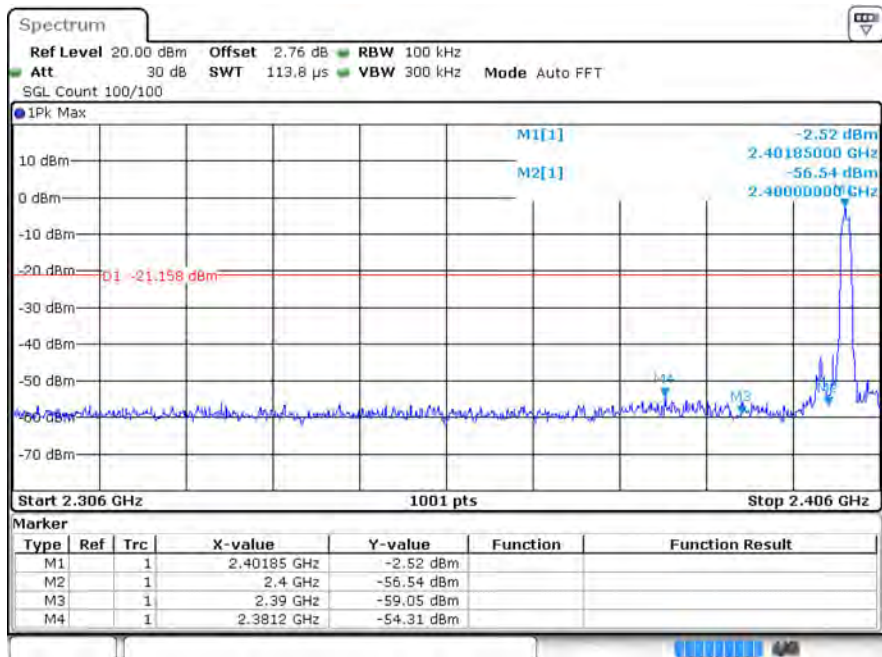
GFSK/HCH/Hop



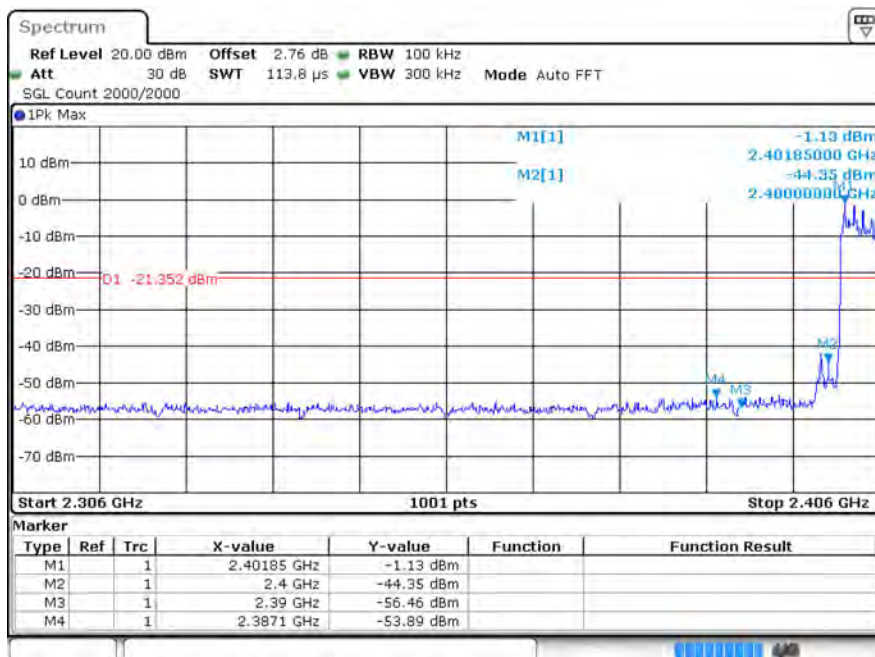
Ref



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



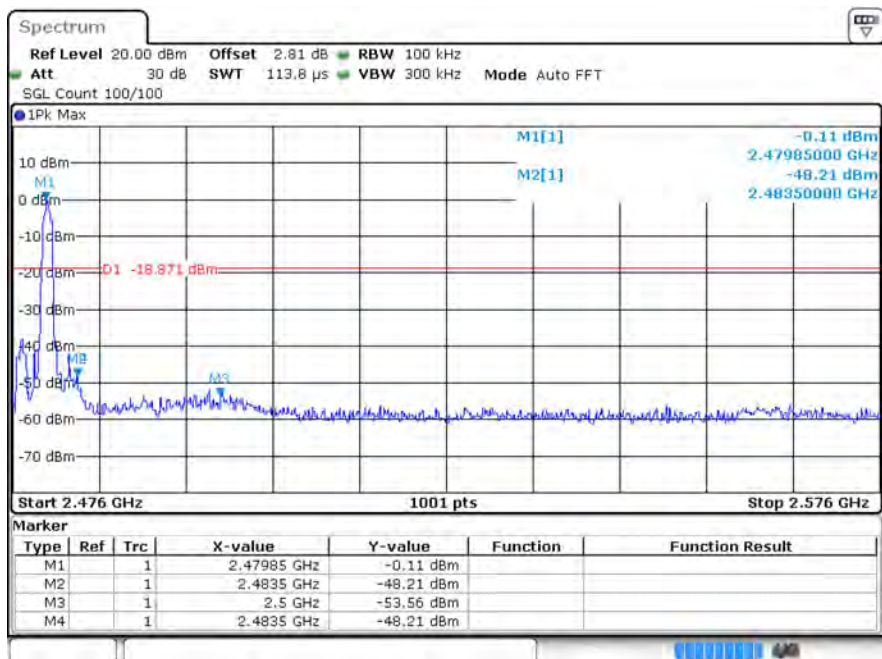
Ref


 $\pi/4$ DQPSK/LCH/Hop


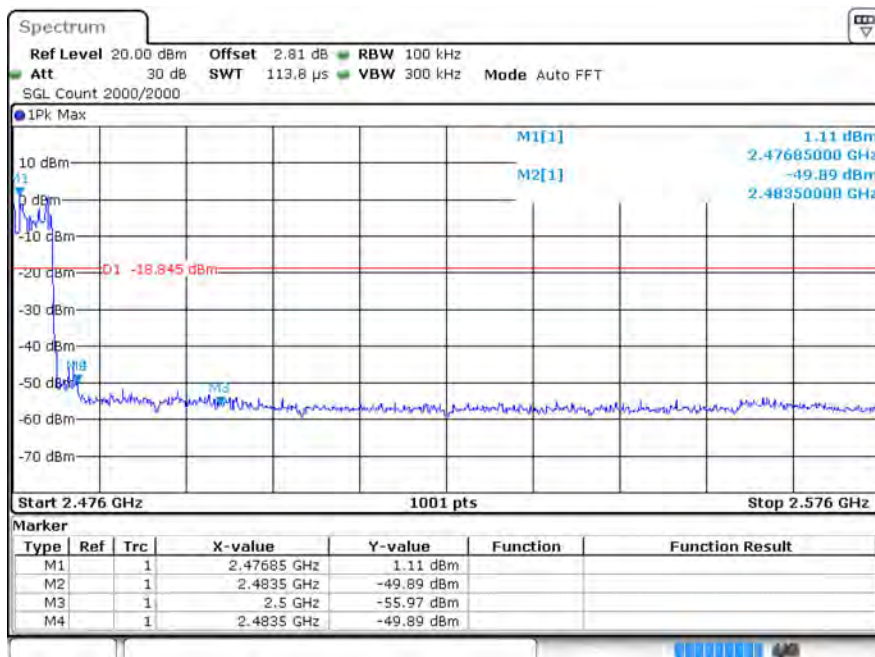
Ref



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



Ref


 $\pi/4$ DQPSK/HCH/Hop


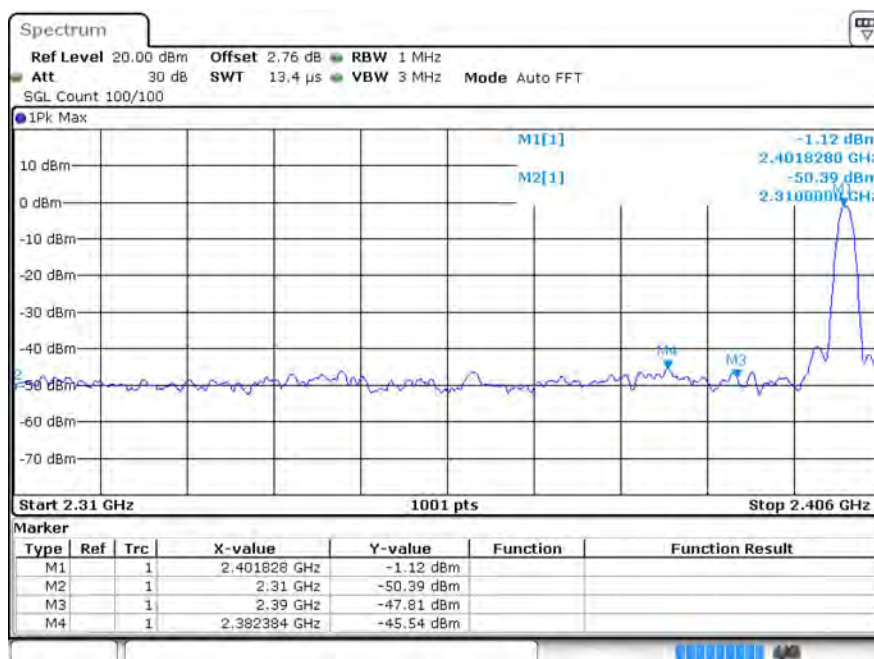
9 Restrict-band band-edge measurements

9.1 Test Result

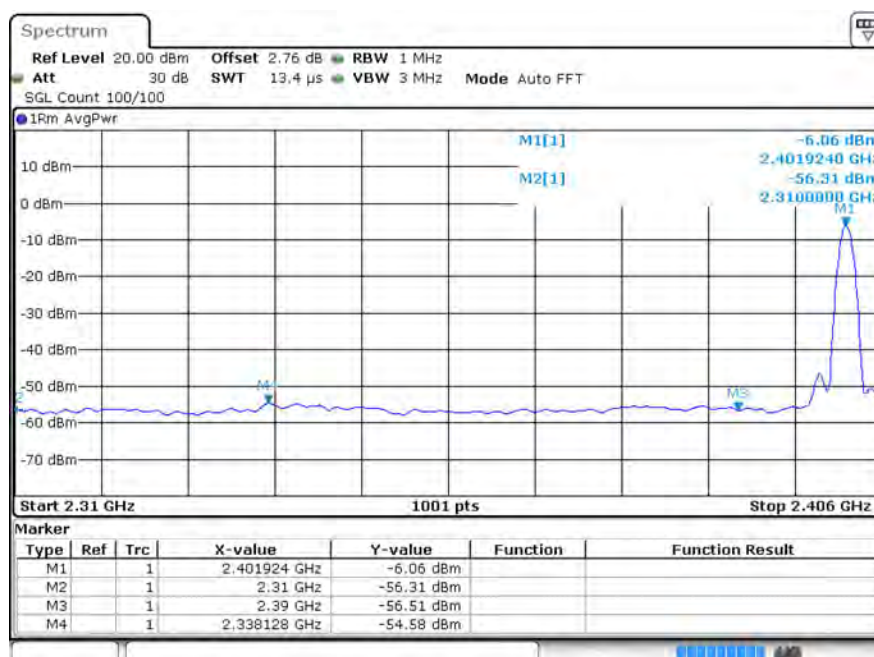
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Duty Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-50.39	2.7	-	47.57	PEAK	74	Pass
	Off	2310.0	-56.31	2.7	4.95	46.6	AV	54	Pass
	Off	2382.384	-45.54	2.7	-	52.42	PEAK	74	Pass
	Off	2338.128	-54.57	2.7	4.95	48.34	AV	54	Pass
	Off	2390.0	-47.81	2.7	-	50.15	PEAK	74	Pass
	Off	2390.0	-56.51	2.7	4.95	46.4	AV	54	Pass
	Off	2483.5	-39.7	2.7	-	58.26	PEAK	74	Pass
	Off	2483.5	-50.51	2.7	4.95	52.4	AV	54	Pass
	Off	2483.512	-39.73	2.7	-	58.23	PEAK	74	Pass
	Off	2483.512	-50.64	2.7	4.95	52.27	AV	54	Pass
	Off	2500.0	-46.18	2.7	-	51.78	PEAK	74	Pass
	Off	2500.0	-54.39	2.7	4.95	48.52	AV	54	Pass
$\pi/4$ DQPSK	Off	2310.0	-50.39	2.7	-	47.57	PEAK	74	Pass
	Off	2310.0	-56.55	2.7	4.95	46.36	AV	54	Pass
	Off	2375.184	-45.37	2.7	-	52.59	PEAK	74	Pass
	Off	2383.344	-54.51	2.7	4.95	48.4	AV	54	Pass
	Off	2390.0	-47.84	2.7	-	50.12	PEAK	74	Pass
	Off	2390.0	-55.85	2.7	4.95	47.06	AV	54	Pass
	Off	2483.5	-42.6	2.7	-	55.36	PEAK	74	Pass
	Off	2483.5	-49.61	2.7	4.95	53.3	AV	54	Pass
	Off	2483.512	-42.61	2.7	-	55.35	PEAK	74	Pass
	Off	2483.512	-49.71	2.7	4.95	53.2	AV	54	Pass
	Off	2500.0	-46.95	2.7	-	51.01	PEAK	74	Pass
	Off	2500.0	-53.8	2.7	4.95	49.11	AV	54	Pass

9.2 Test Graphs

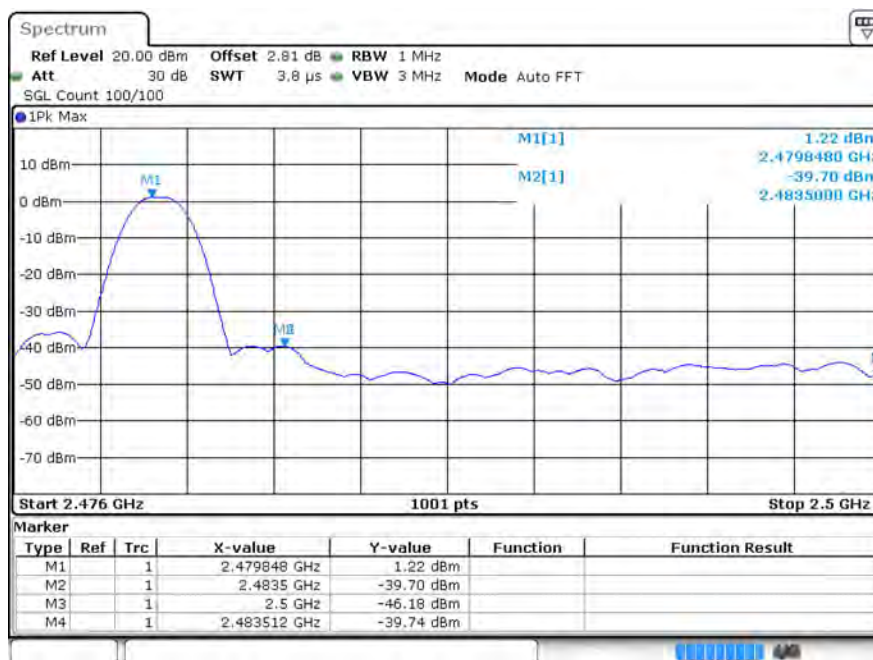
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



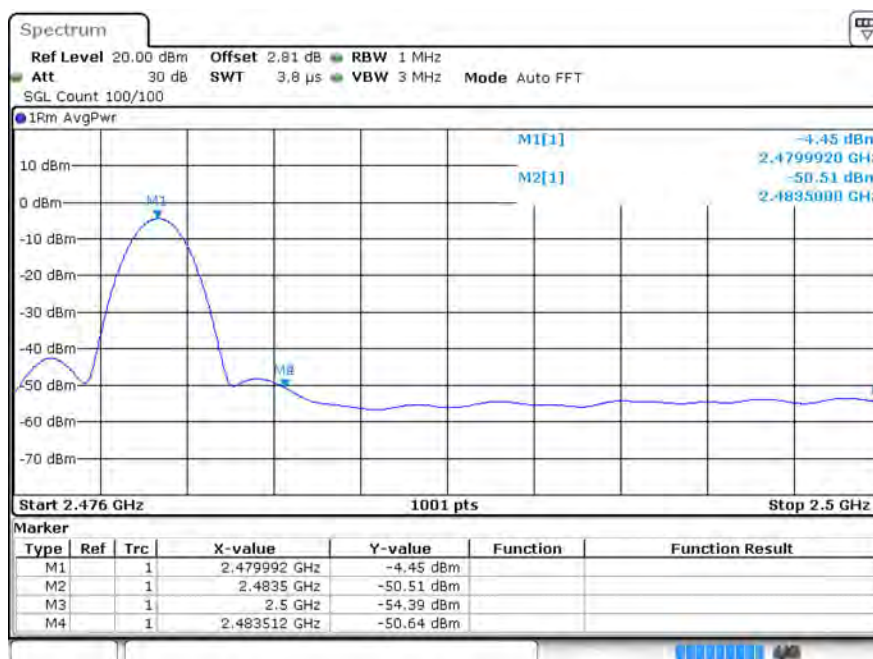
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



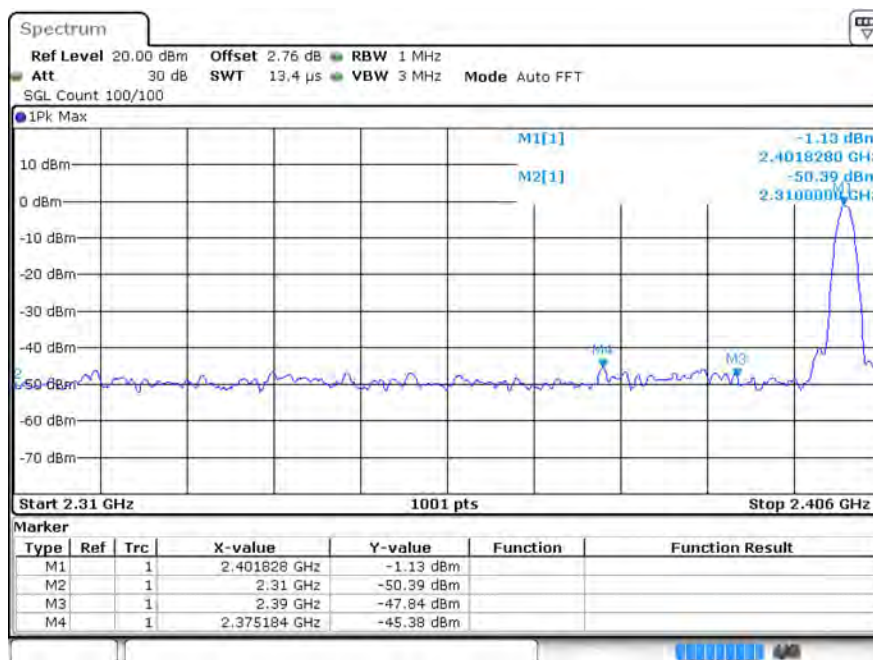
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



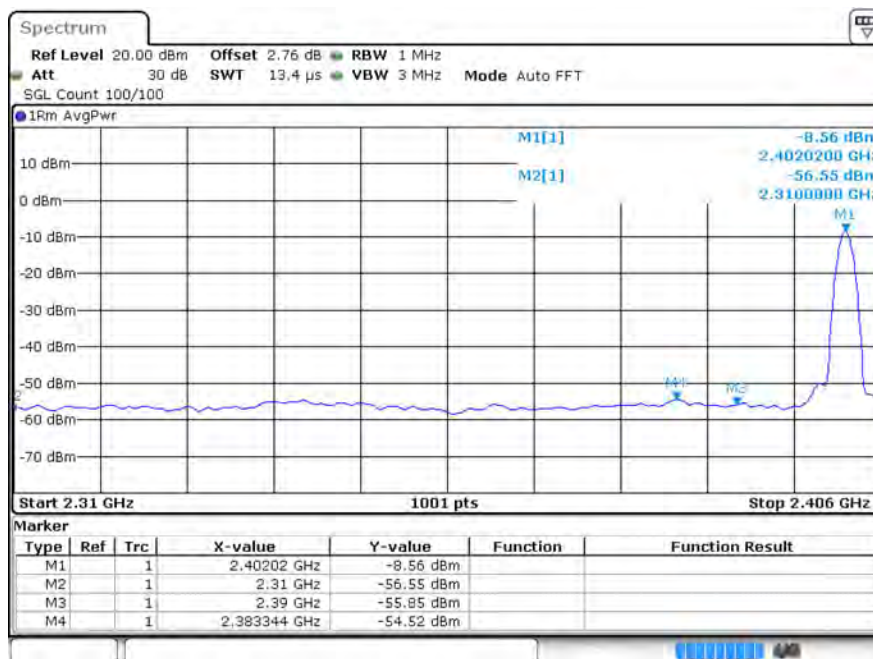
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



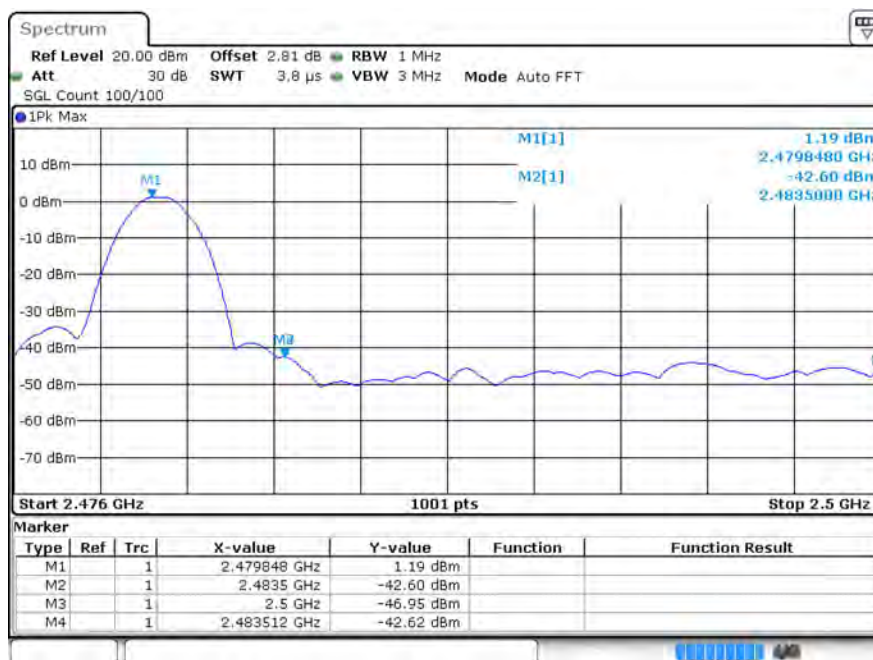
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



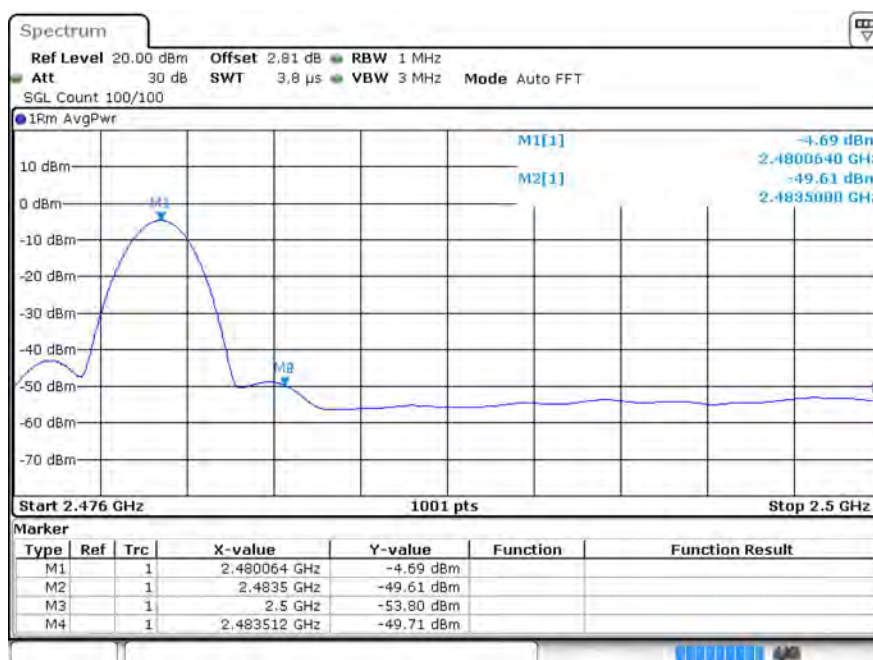
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---