Appendix A

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

Product Name: Wireless Lavalier Microphone

Trade Mark: HEYOWOCS

Test Model: k1

Environmental Conditions

Temperature:	25.7℃
Relative Humidity:	53.5%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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1 Duty Cycle

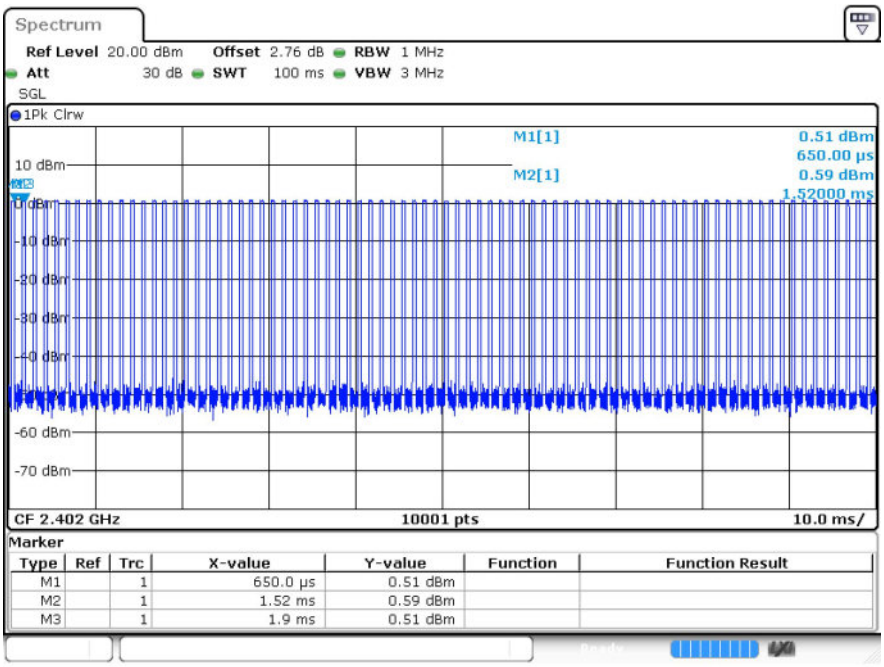
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.2	5.06	2.63
1-DH1	2441	31.21	5.06	2.63
1-DH1	2480	30.4	5.17	2.7
2-DH1	2402	32.01	4.95	2.56
2-DH1	2441	32	4.95	2.56
2-DH1	2480	32	4.95	2.56

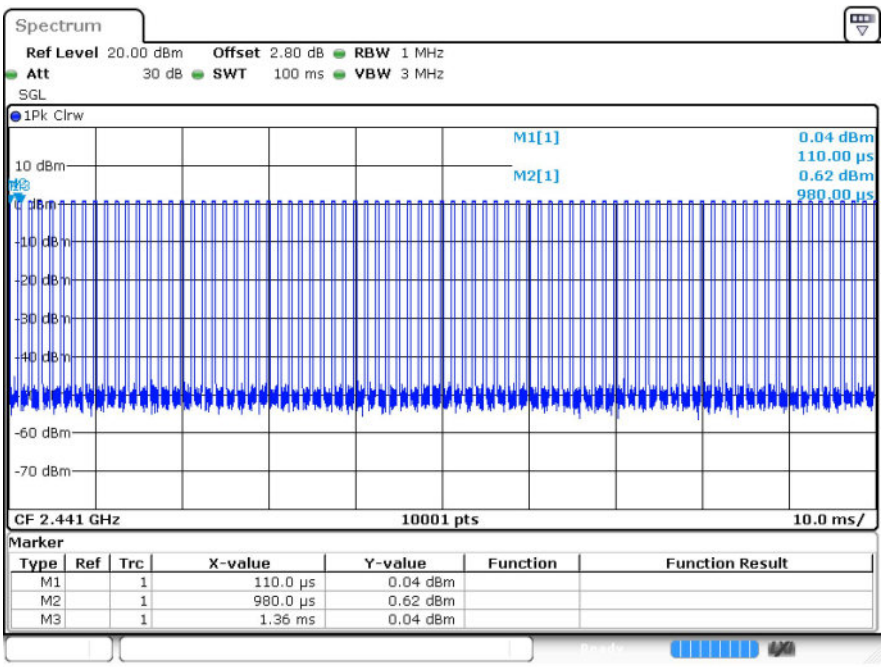
1.2 Test Graphs

Test Graphs

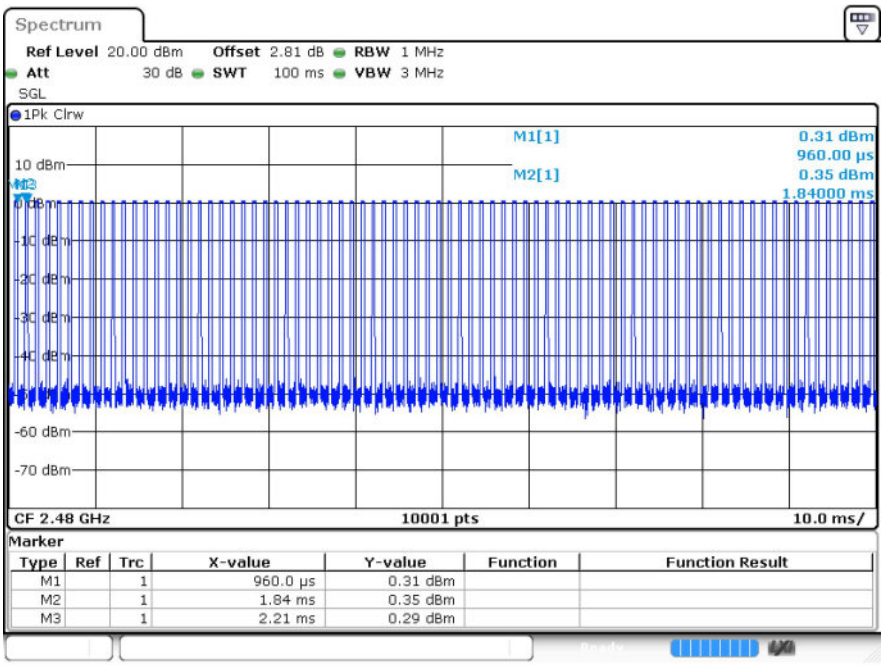
1-DH1 2402MHz



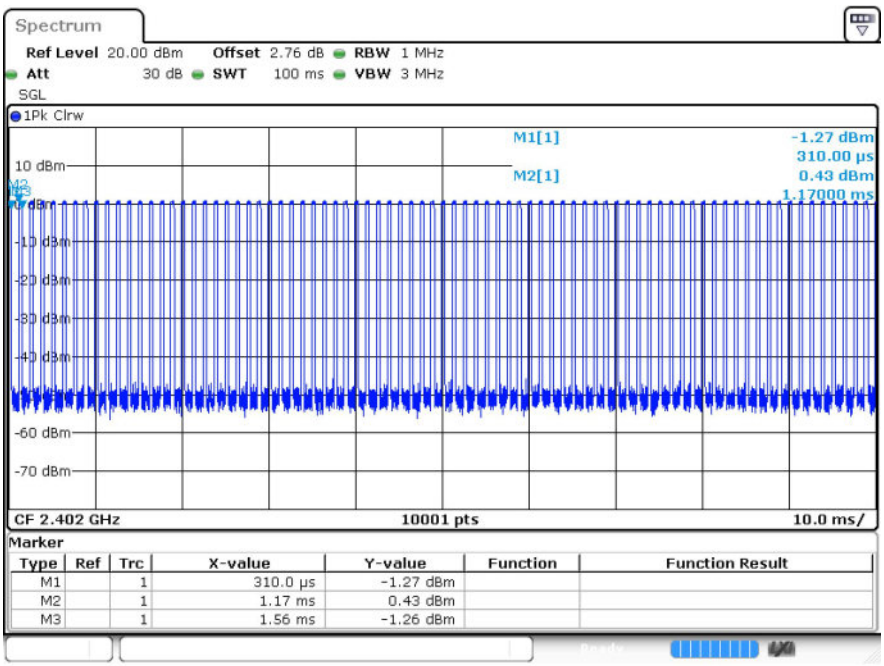
1-DH1 2441MHz



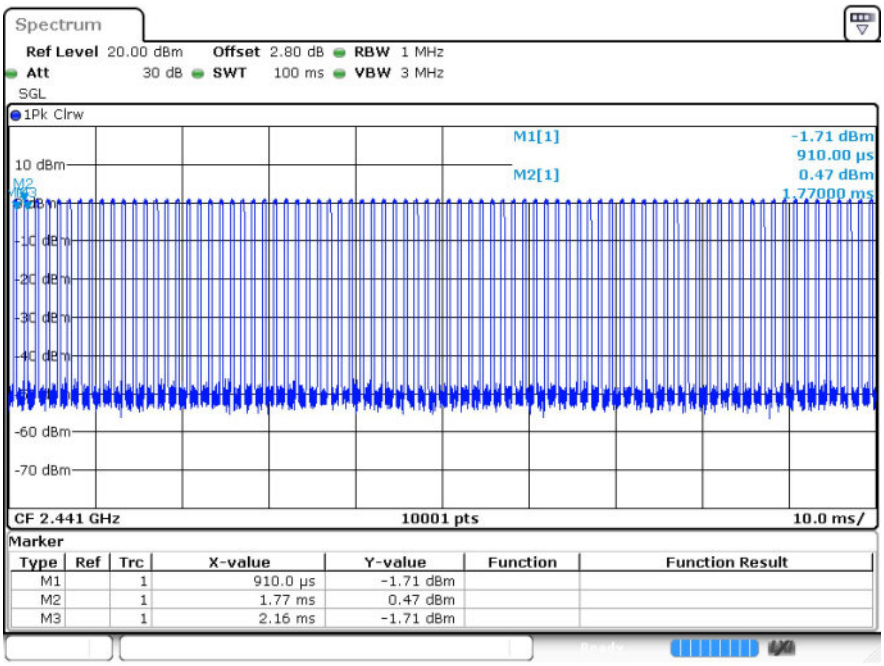
1-DH1 2480MHz



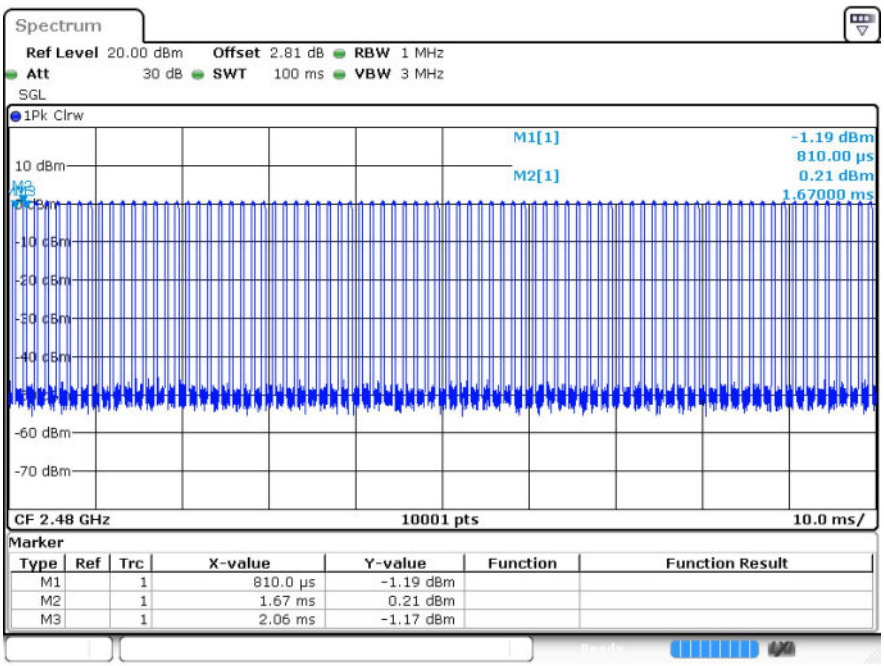
2-DH1 2402MHz



2-DH1 2441MHz



2-DH1 2480MHz

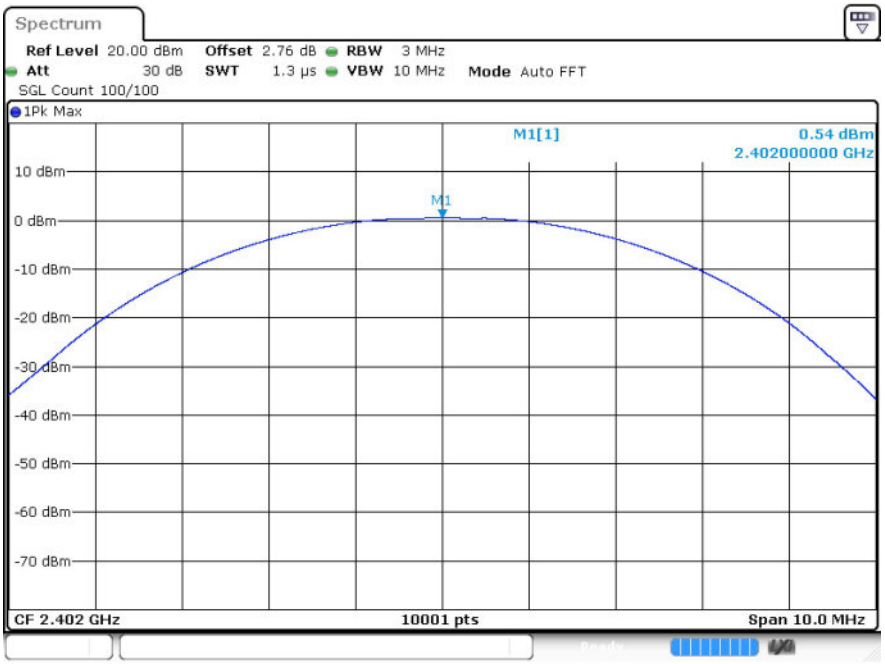
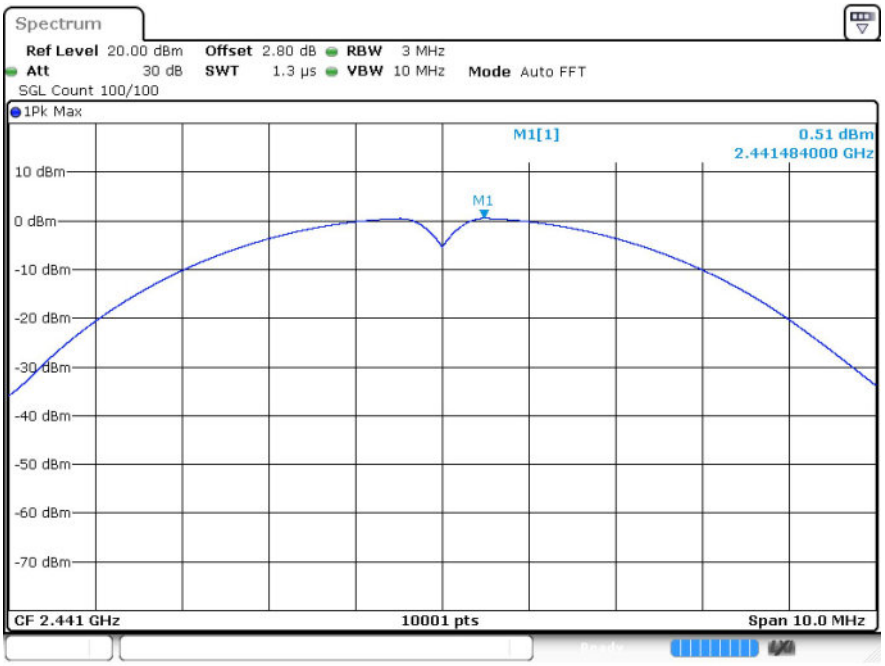


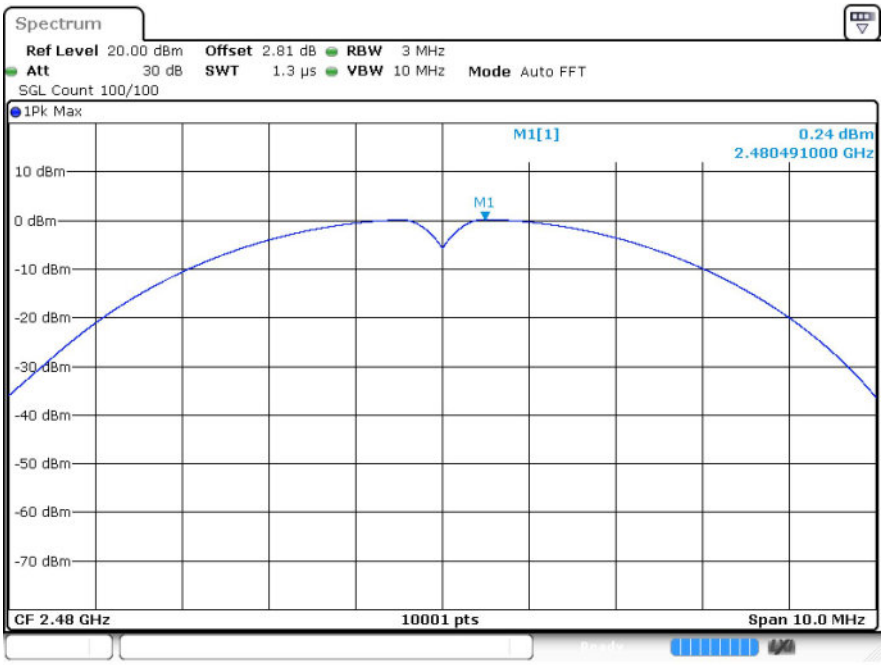
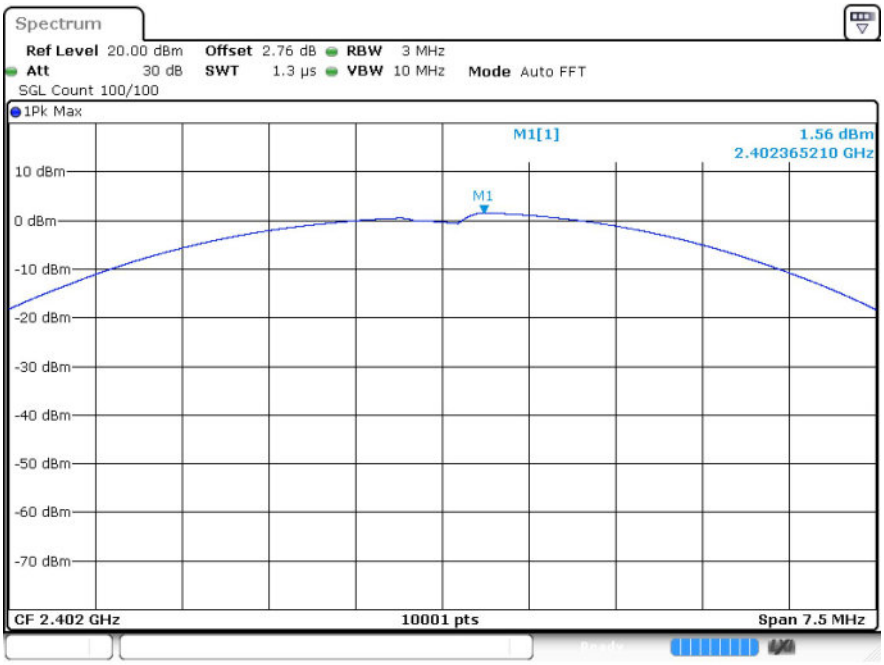
2 Maximum Conducted Peak Output Power

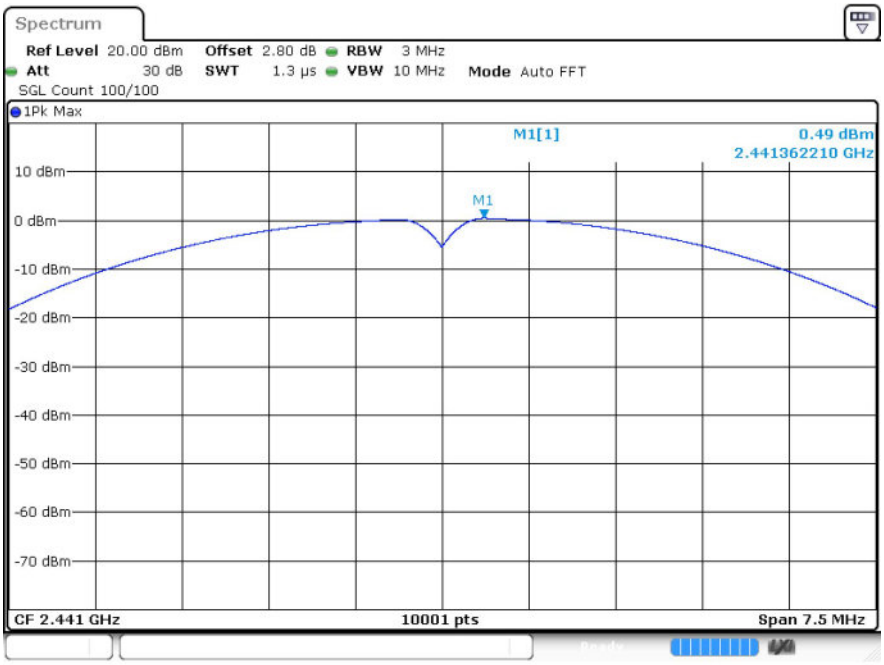
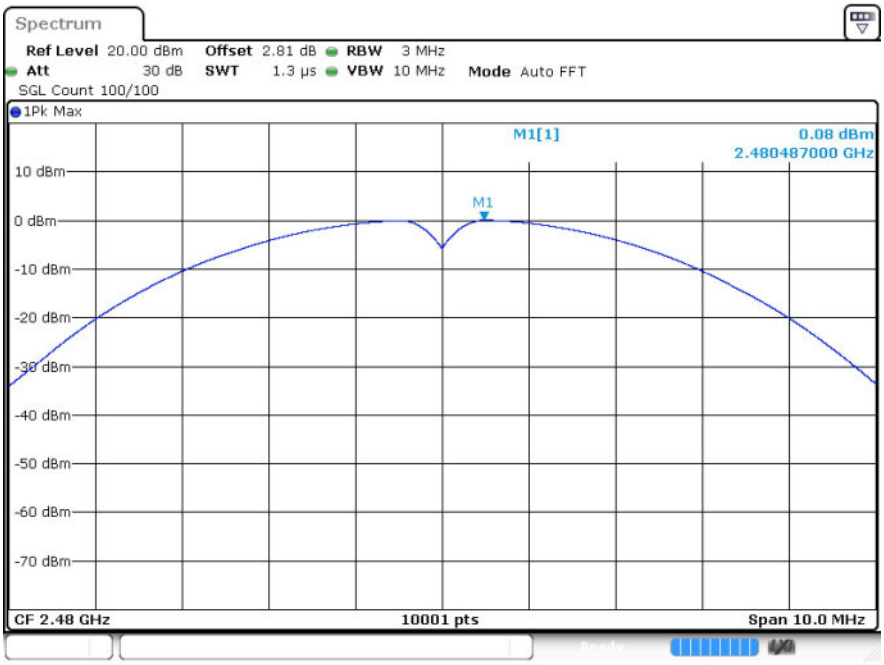
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.54	21	Pass
	MCH	0.51	21	Pass
	HCH	0.24	21	Pass
π/4DQPSK	LCH	1.56	21	Pass
	MCH	0.49	21	Pass
	HCH	0.08	21	Pass

2.2 Test Graphs

Test Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π/4DQPSK/LCH	

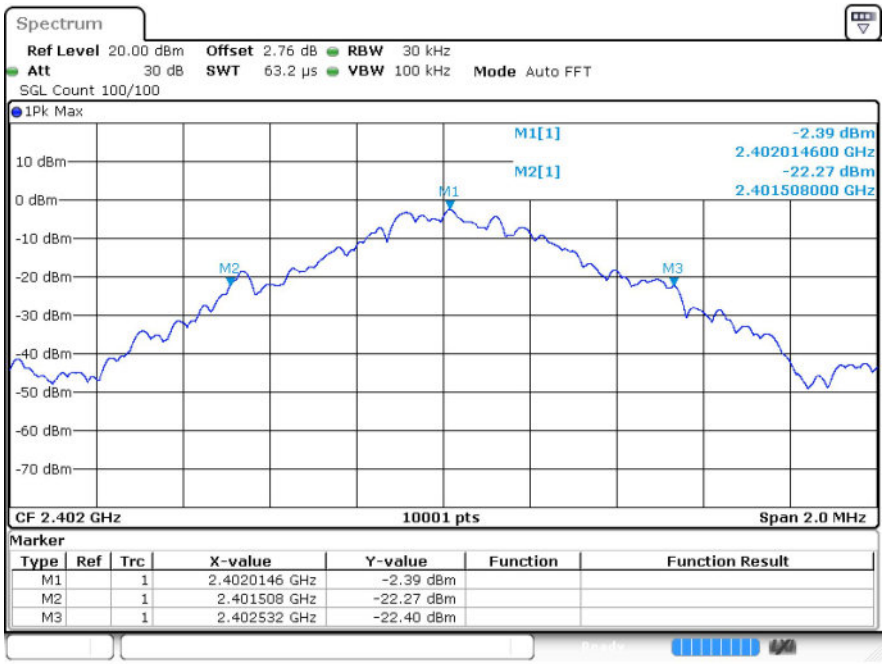
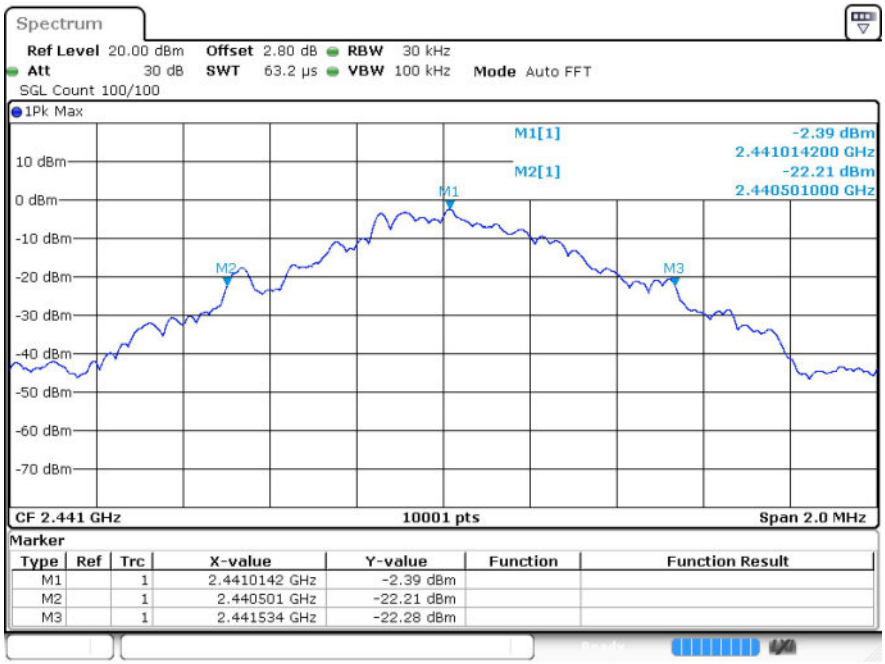
π/4DQPSK/MCH	
π/4DQPSK/HCH	

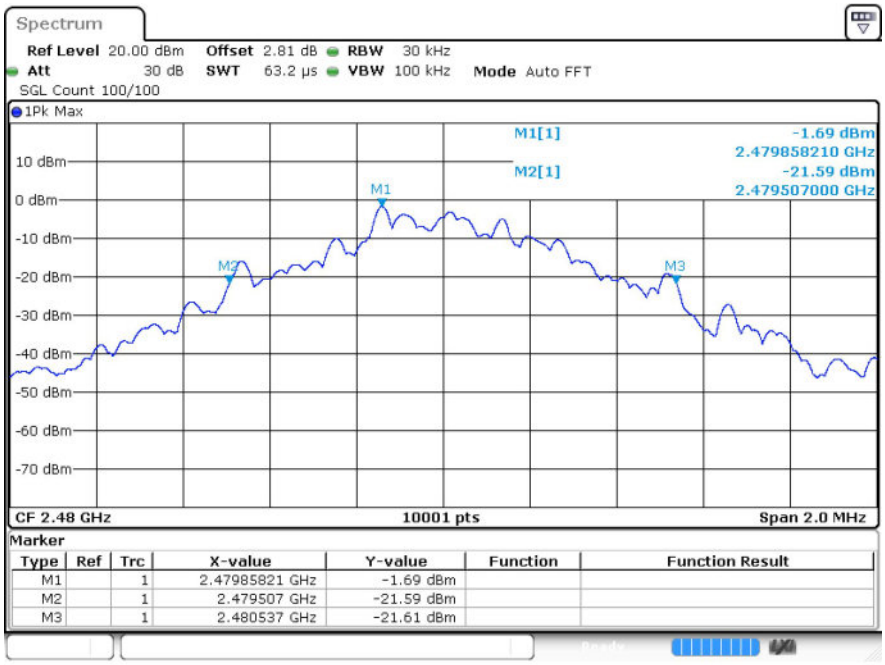
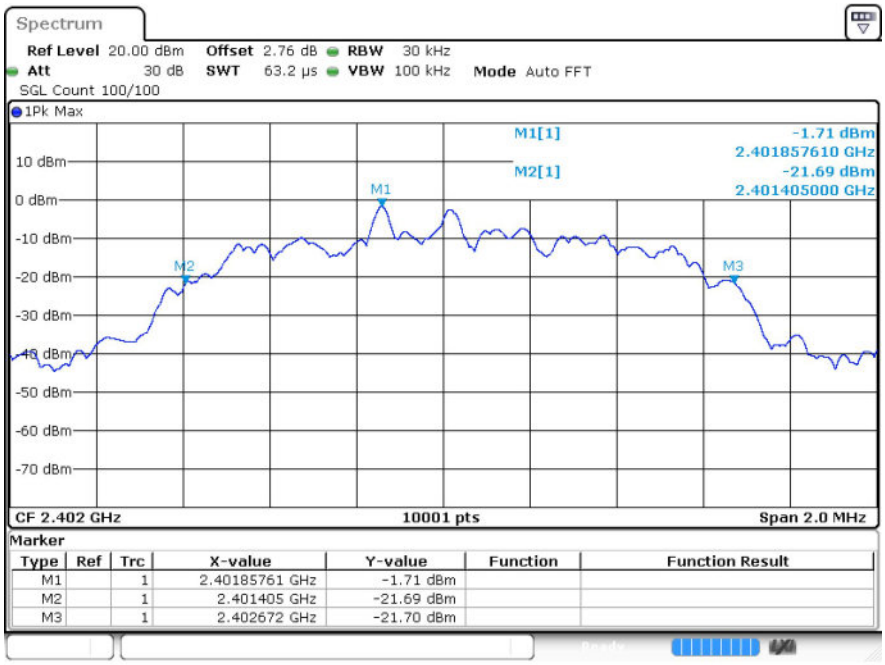
3 20dB Bandwidth

3.1 Test Result

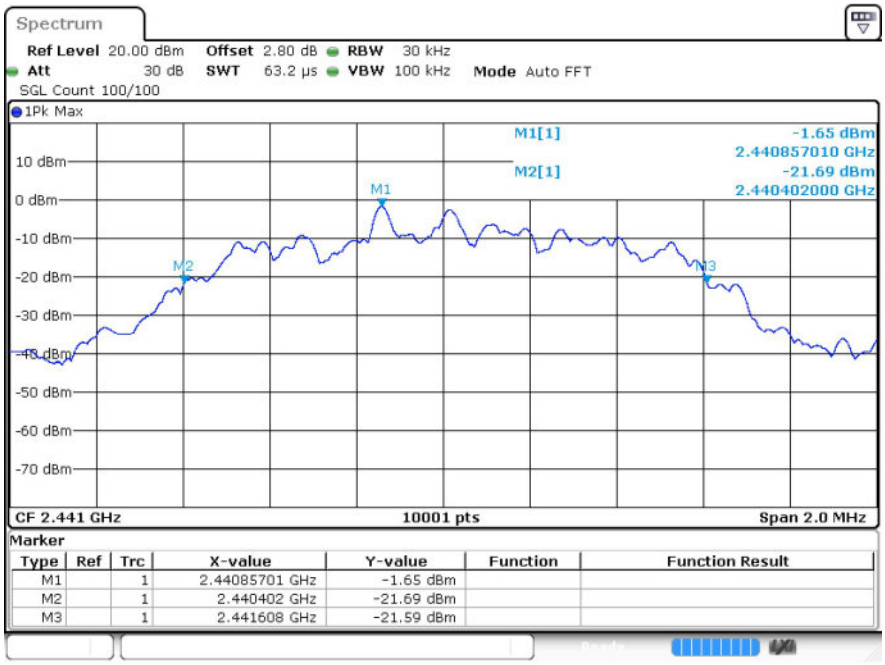
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	1.025	Not Specified	Pass
	MCH	1.034	Not Specified	Pass
	HCH	1.03	Not Specified	Pass
π/4DQPSK	LCH	1.267	Not Specified	Pass
	MCH	1.206	Not Specified	Pass
	HCH	1.297	Not Specified	Pass

3.2 Test Graphs

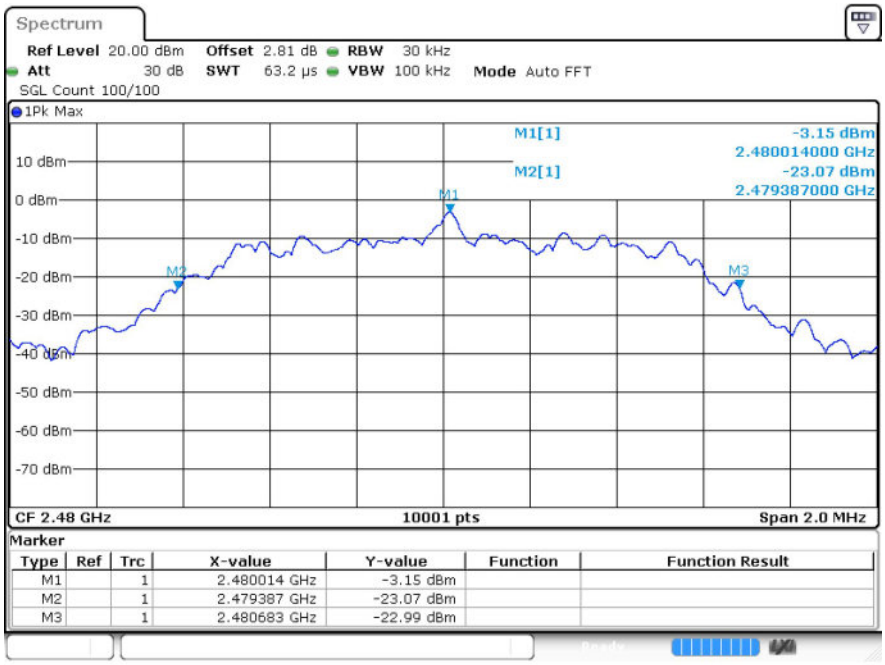
Test Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π/4DQPSK/LCH	

π/4DQPSK/MCH



π/4DQPSK/HCH

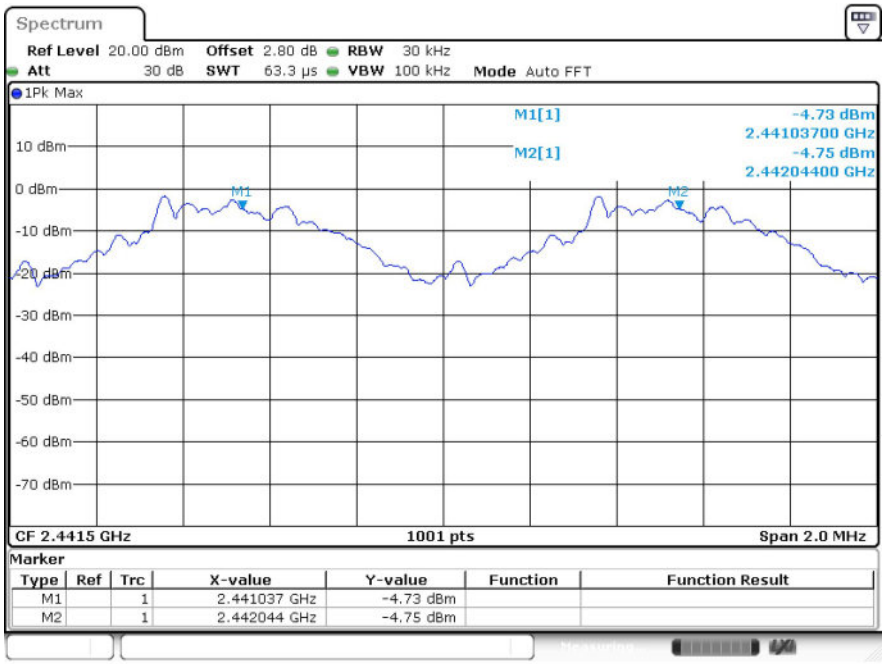
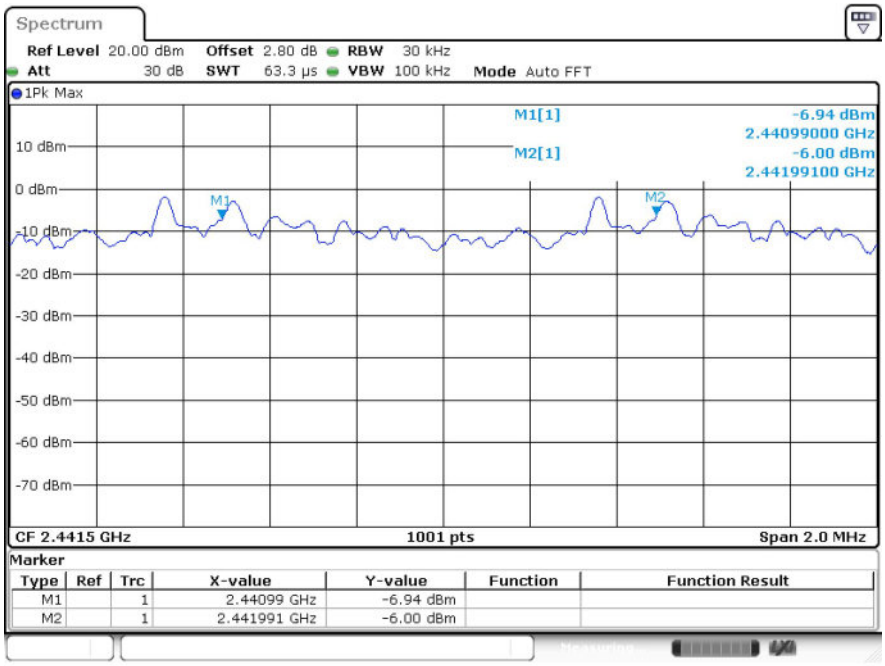


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.007	0.689	Pass
π/4DQPSK	MCH	1.001	0.804	Pass

4.2 Test Graphs

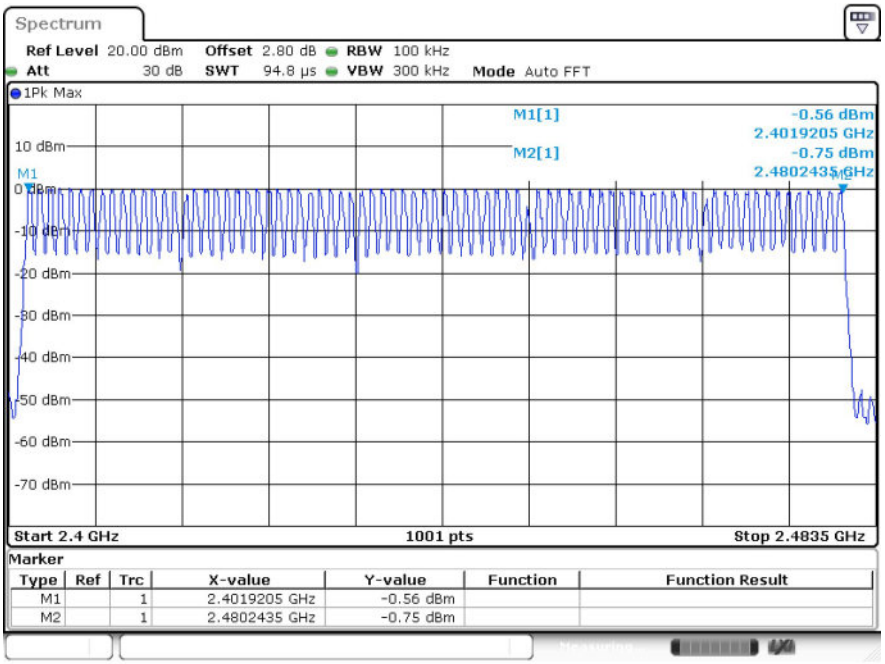
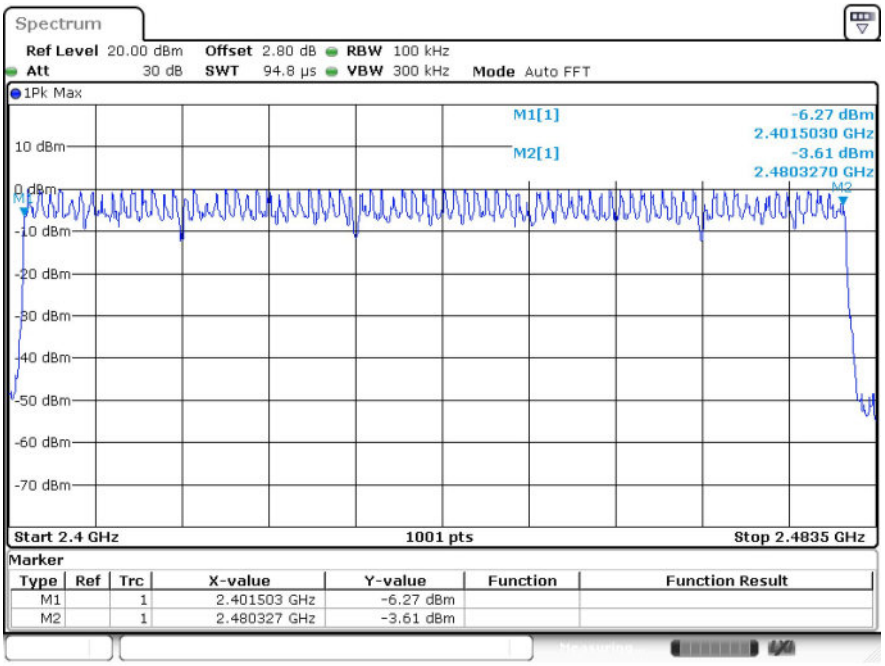
Test Graphs	
GFSK/MCH	
π/4DQPSK/MCH	

5 Hopping Channel Number

5.1 Test Result

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	>=15	PASS
π/4DQPSK	Hop	79	>=15	PASS

5.2 Test Graphs

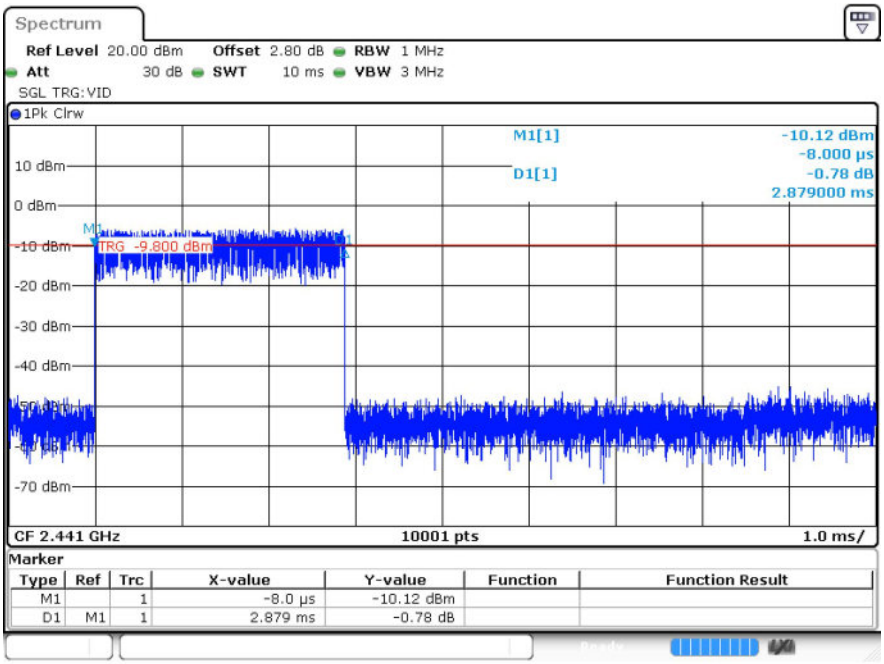
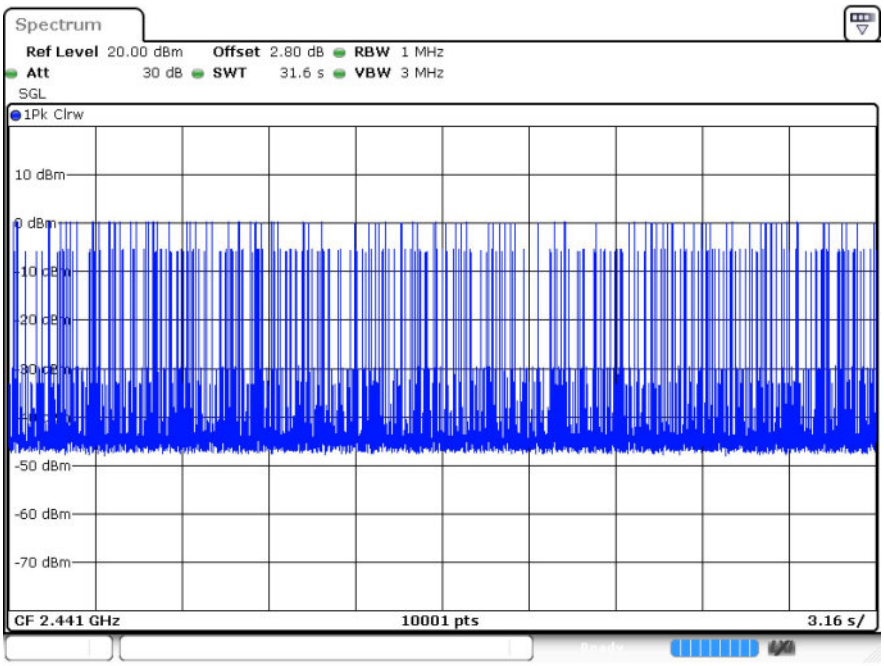
Test Graphs	
GFSK/Hop	
π/4DQPSK/Hop	

6 Dwell Time

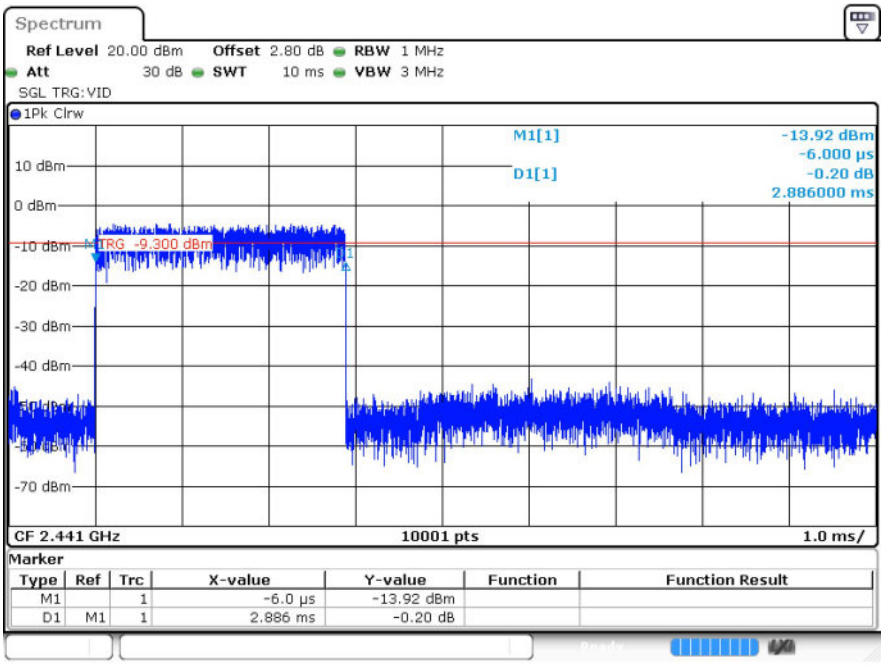
6.1 Test Result

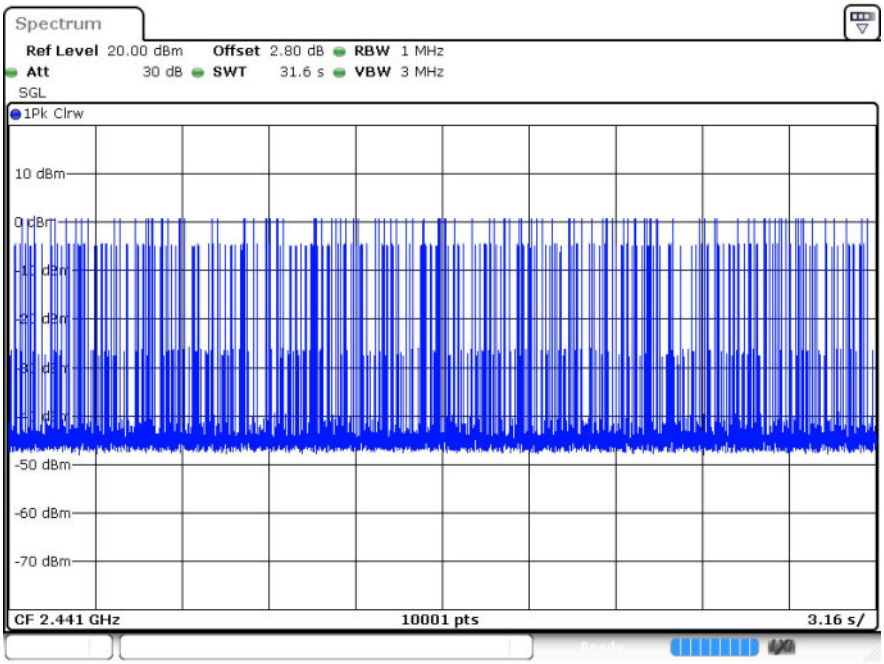
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.879	101	290.779	0.4	Pass
π/4DQPSK	2DH5	MCH	2.886	110	317.46	0.4	Pass

6.2 Test Graphs

Test Graphs	
GFSK_DH5/MCH	 

π/4DQPSK
_2DH5/MCH



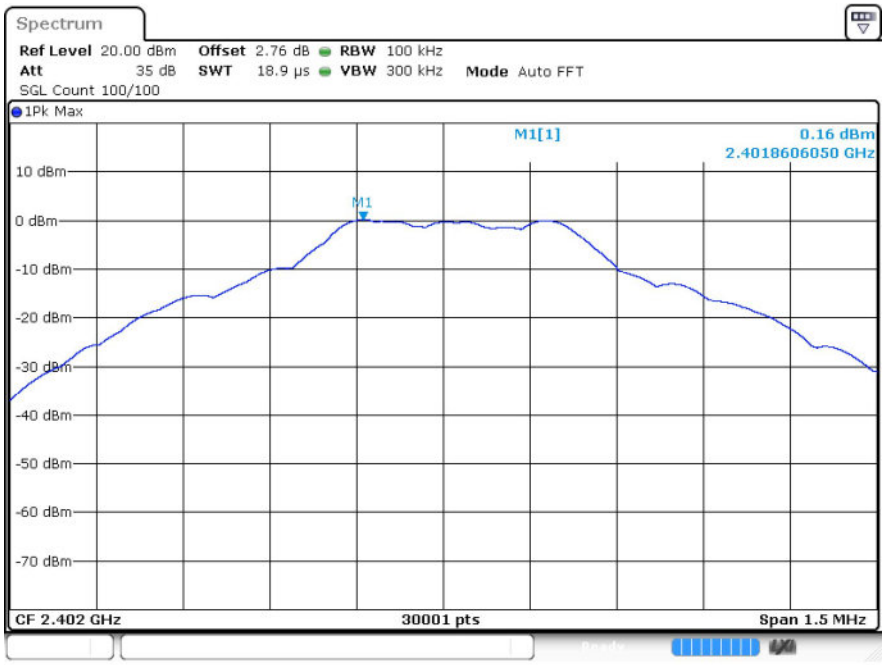
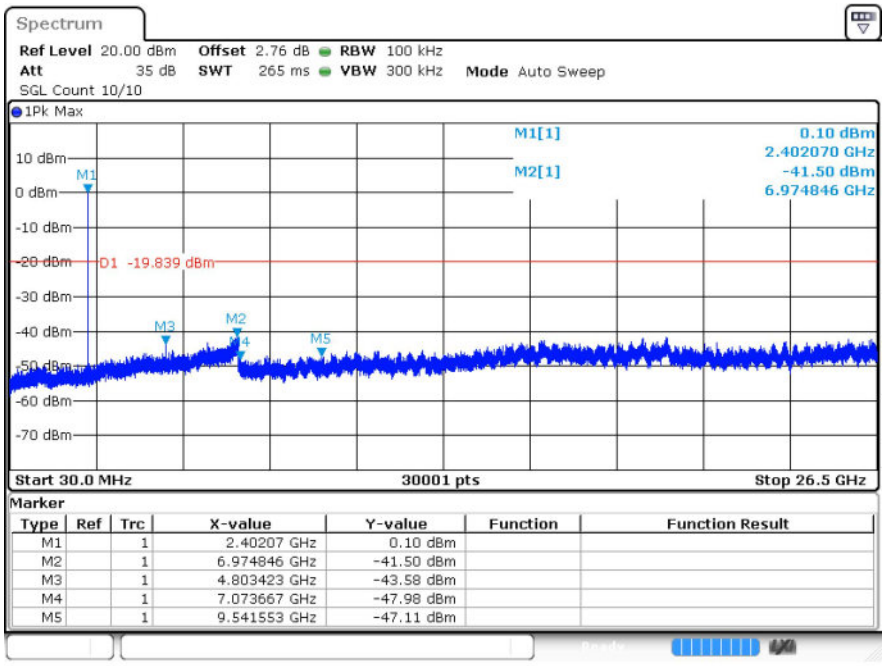


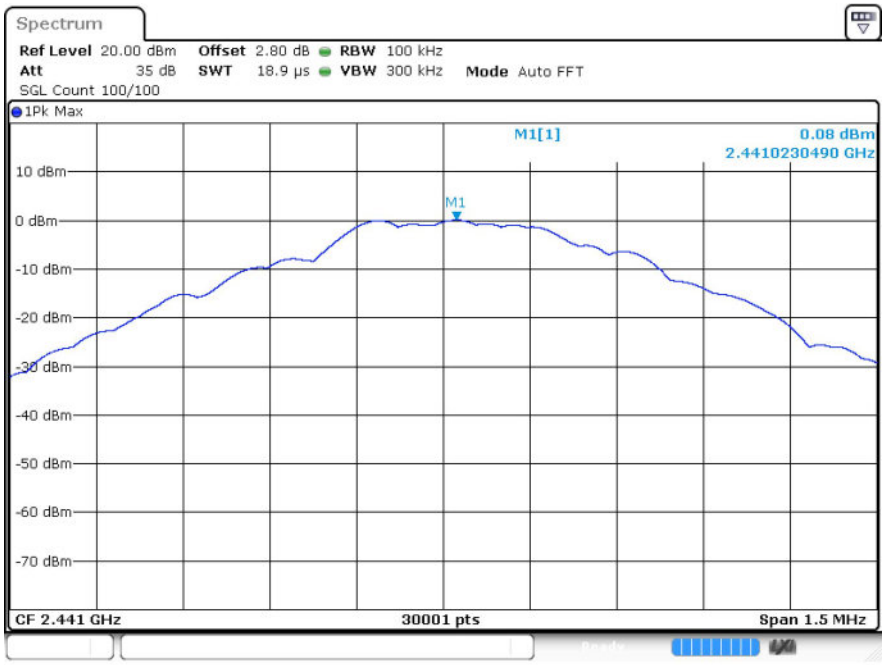
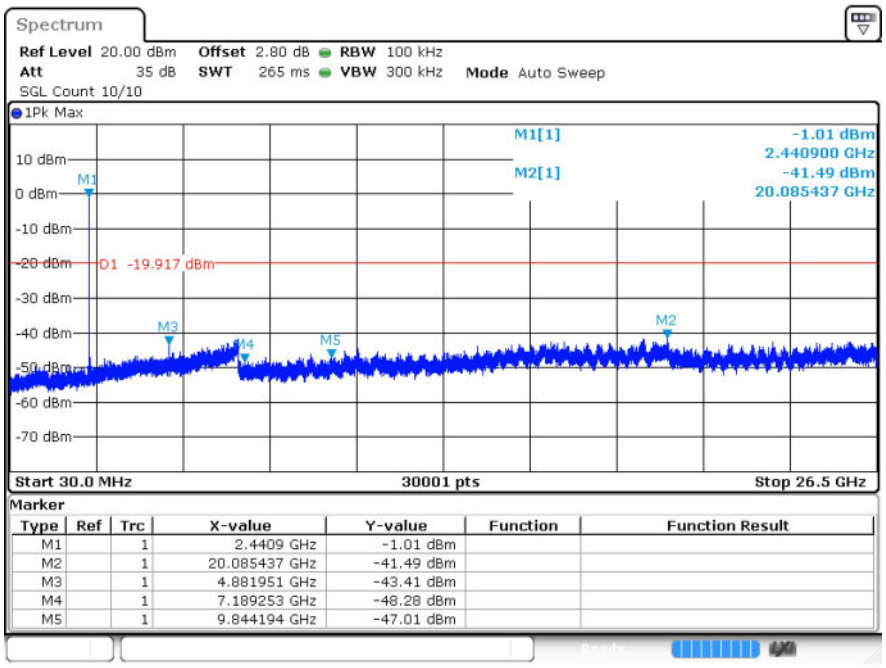
7 RF Conducted Spurious Emissions

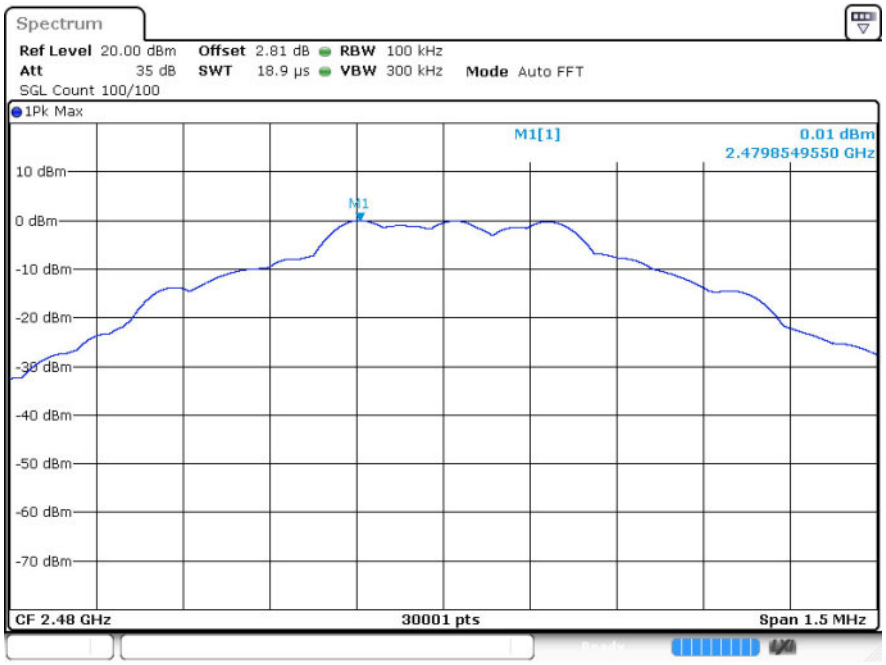
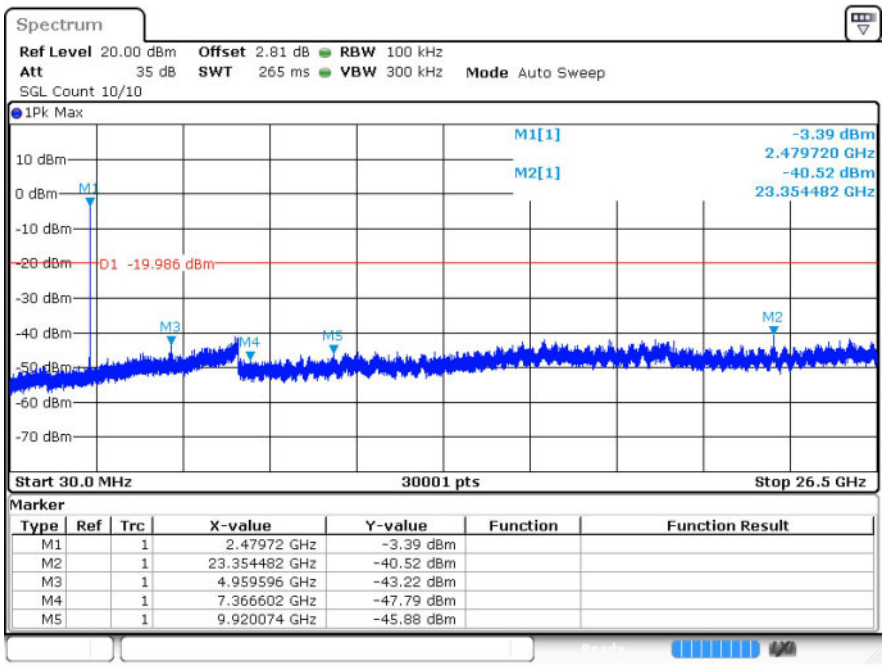
7.1 Test Result

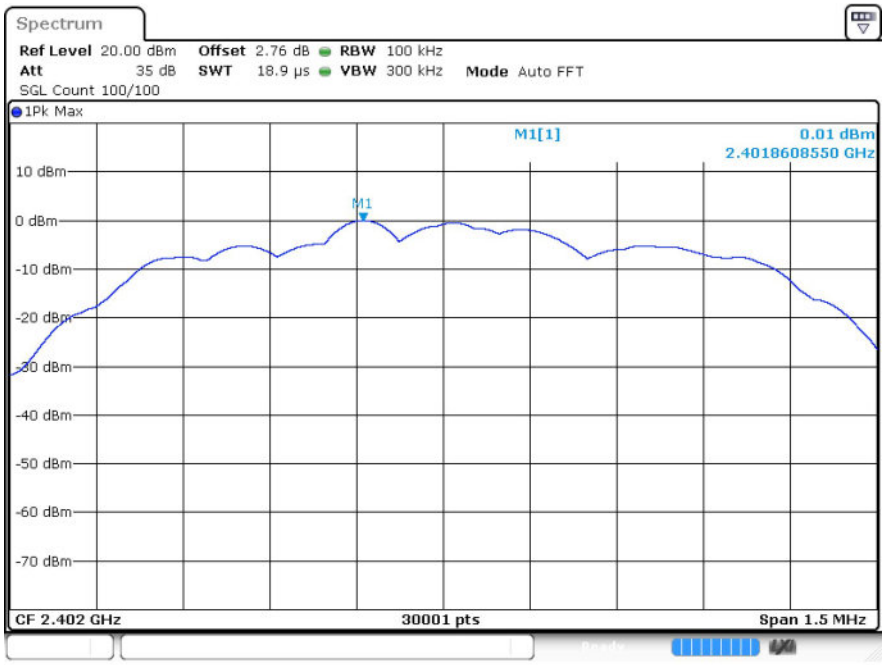
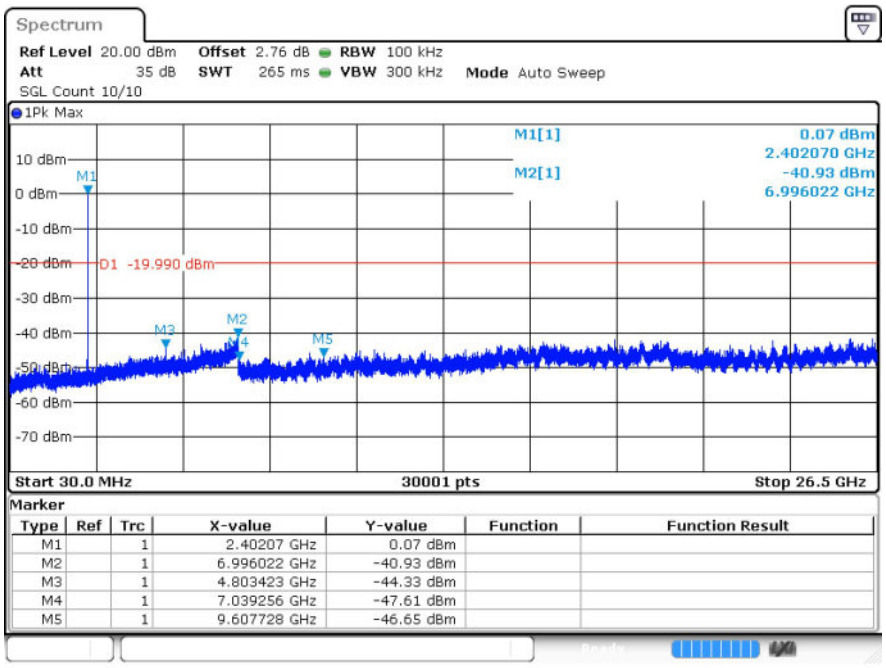
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-41.66	-20	Pass
	MCH	-41.56	-20	Pass
	HCH	-40.52	-20	Pass
π/4DQPSK	LCH	-40.94	-20	Pass
	MCH	-41.57	-20	Pass
	HCH	-41.53	-20	Pass

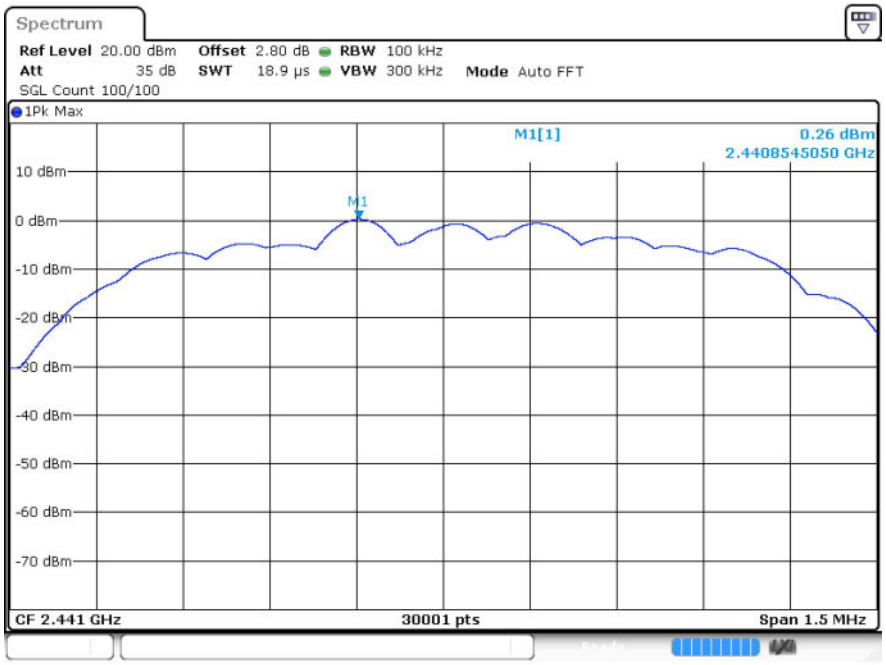
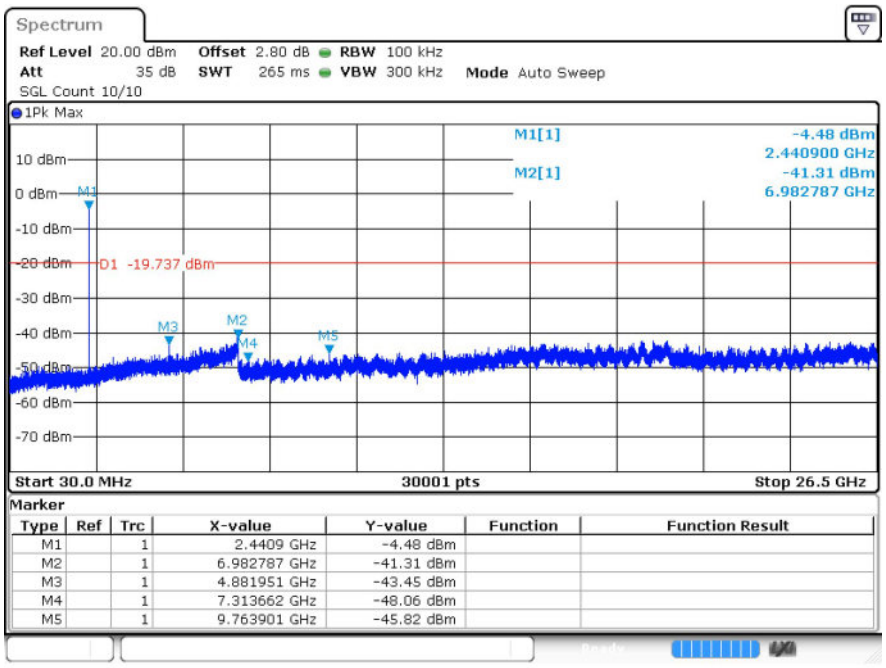
7.2 Test Graphs

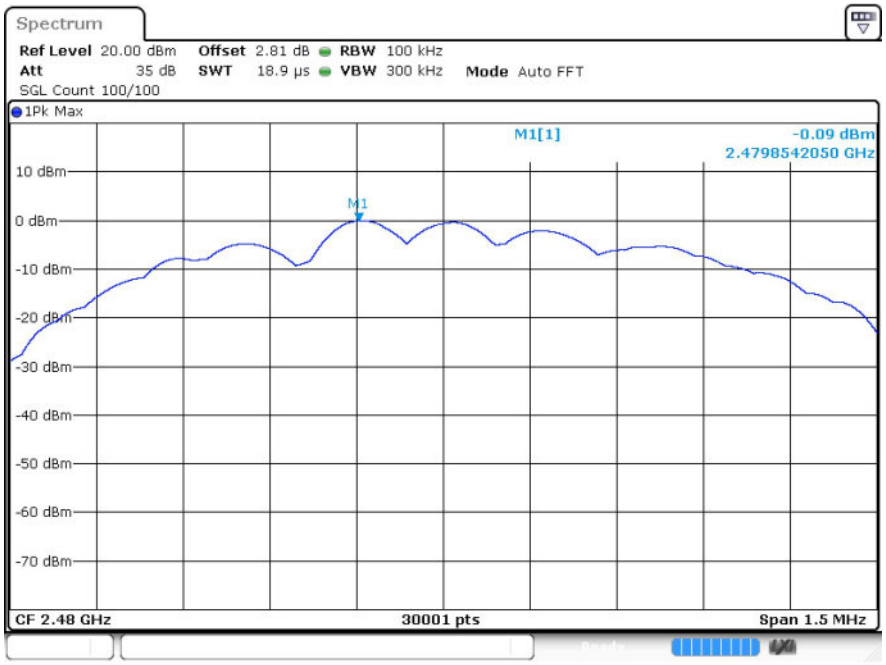
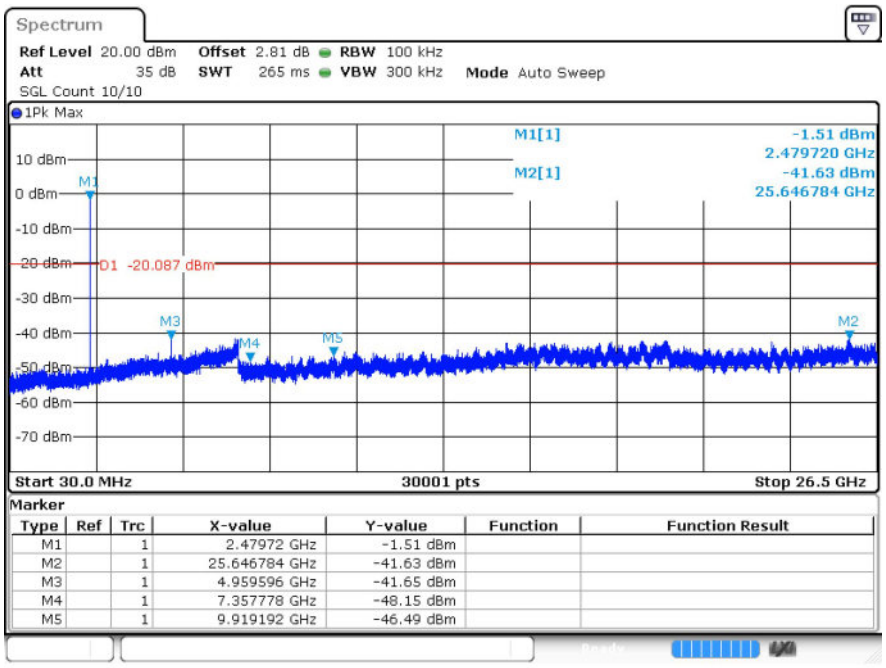
GFSK_LCH_Graphs	
Pref	
Puw	

GFSK_MCH_Graphs	
Pref	
Puw	

GFSK_HCH_Graphs	
Pref	
Puw	

π/4DQPSK_LCH_Graphs	
Pref	
Puw	

π/4DQPSK_MCH_Graphs	
Pref	
Puw	

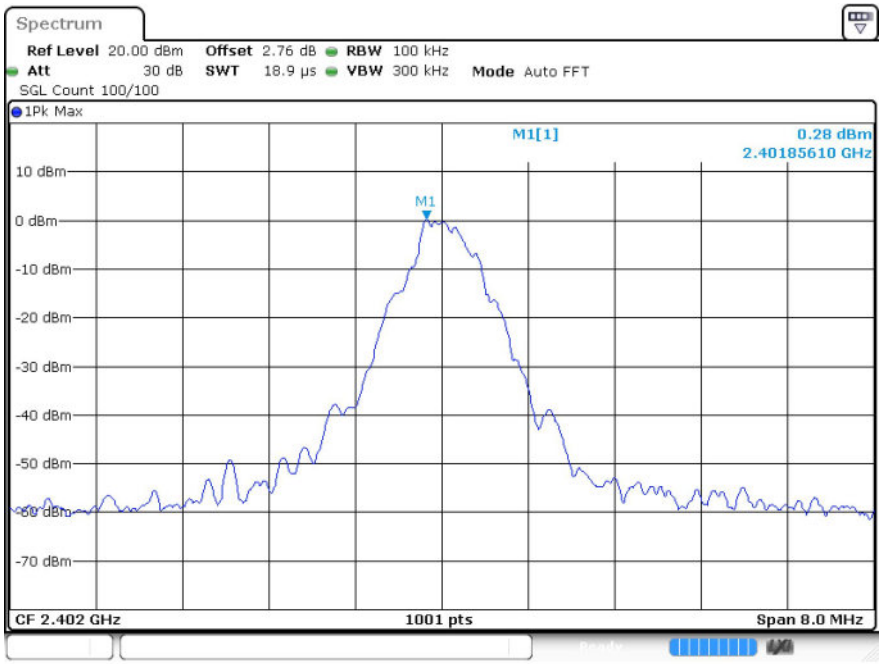
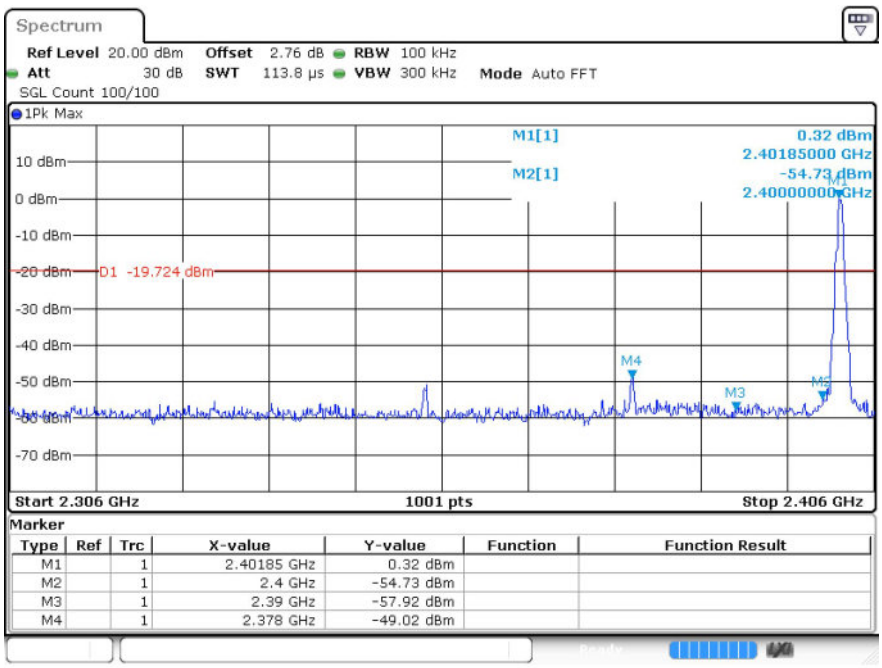
π/4DQPSK_HCH_Graphs	
Pref	
Puw	

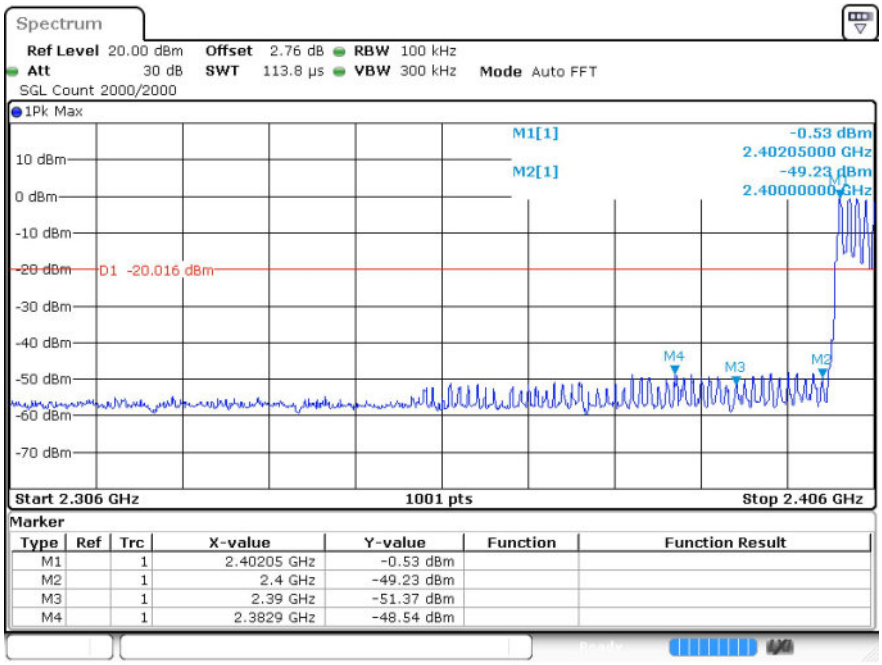
8 Band-edge for RF Conducted Emissions

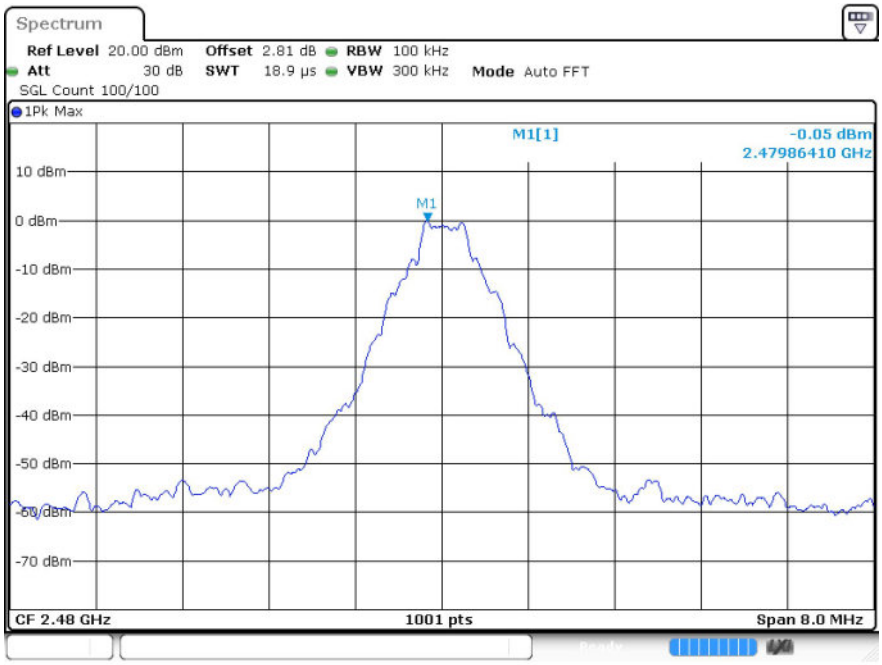
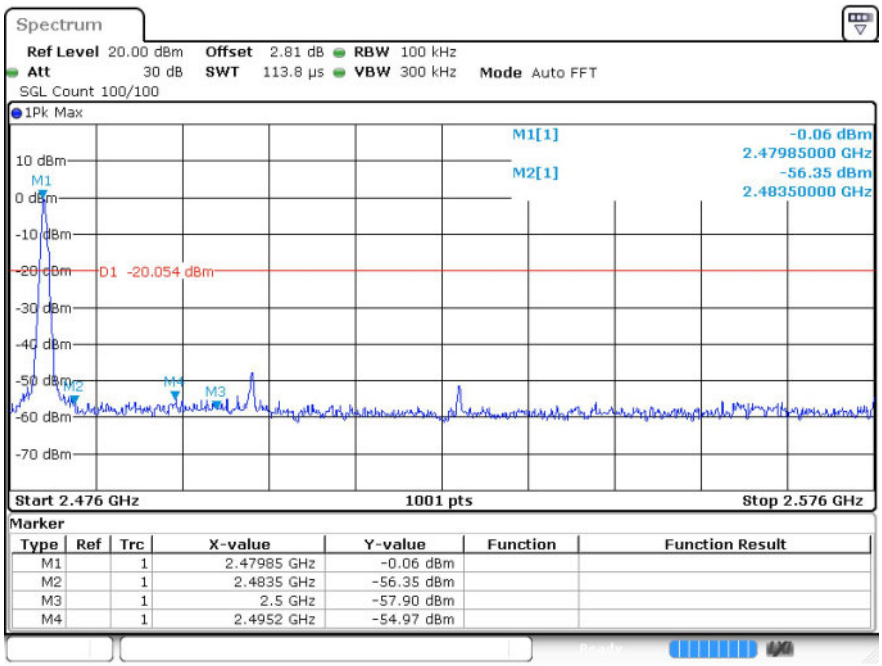
8.1 Test Result

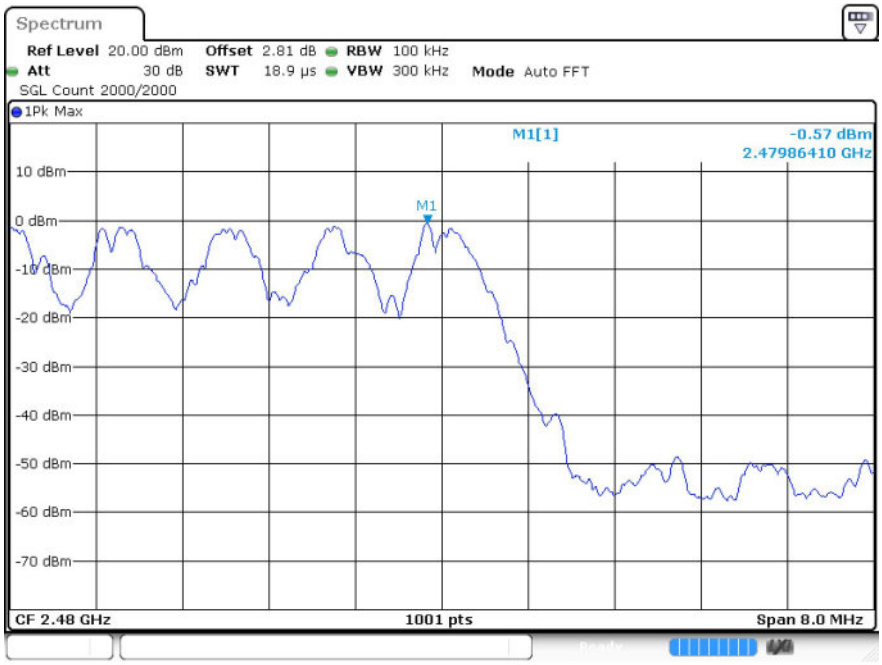
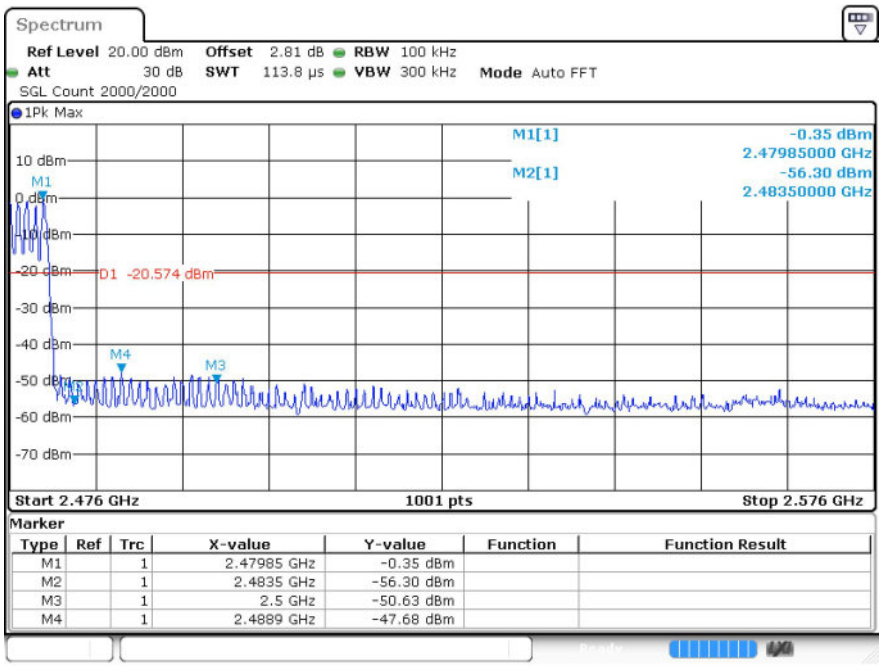
Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-49.3	-20	Pass
			On	-48.51	-20	Pass
	HCH	2480	Off	-54.91	-20	Pass
			On	-47.11	-20	Pass
π/4DQPSK	LCH	2402	Off	-48.59	-20	Pass
			On	-47.07	-20	Pass
	HCH	2480	Off	-54.47	-20	Pass
			On	-47.64	-20	Pass

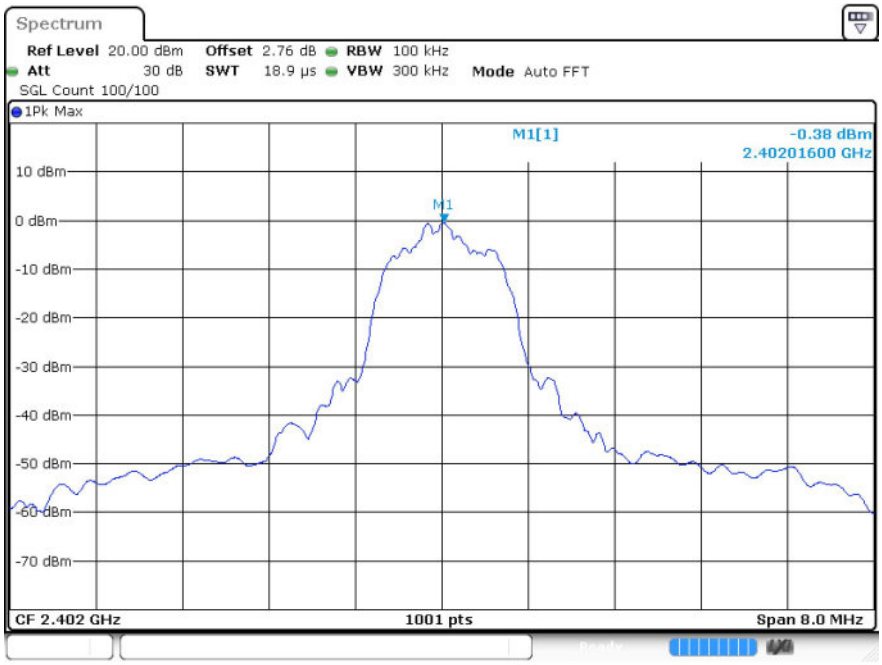
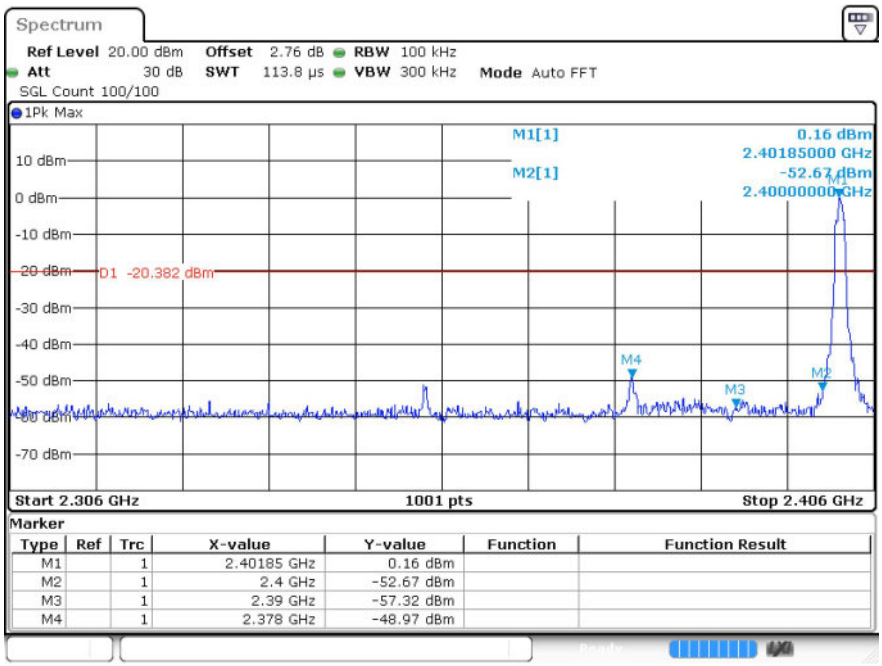
8.2 Test Graphs

Test Graphs	
Pref	
GFSK/LCH/No Hop	

Ref	
GFSK/LCH/Hop	

Ref	
GFSK/HCH/No Hop	

Ref.	
GFSK/HCH/Hop	

Ref	
π/4DQPSK/LCH/No Hop	

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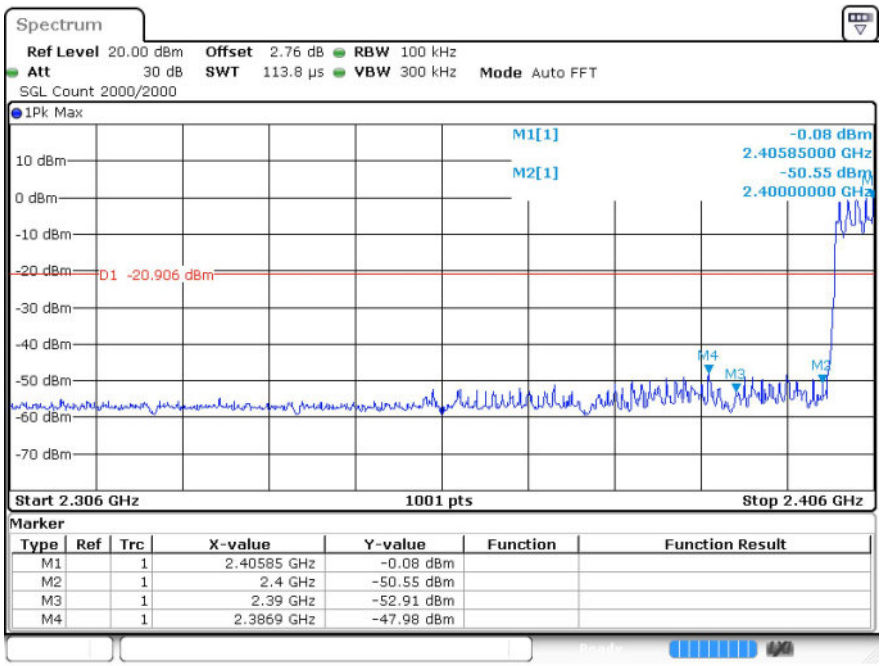
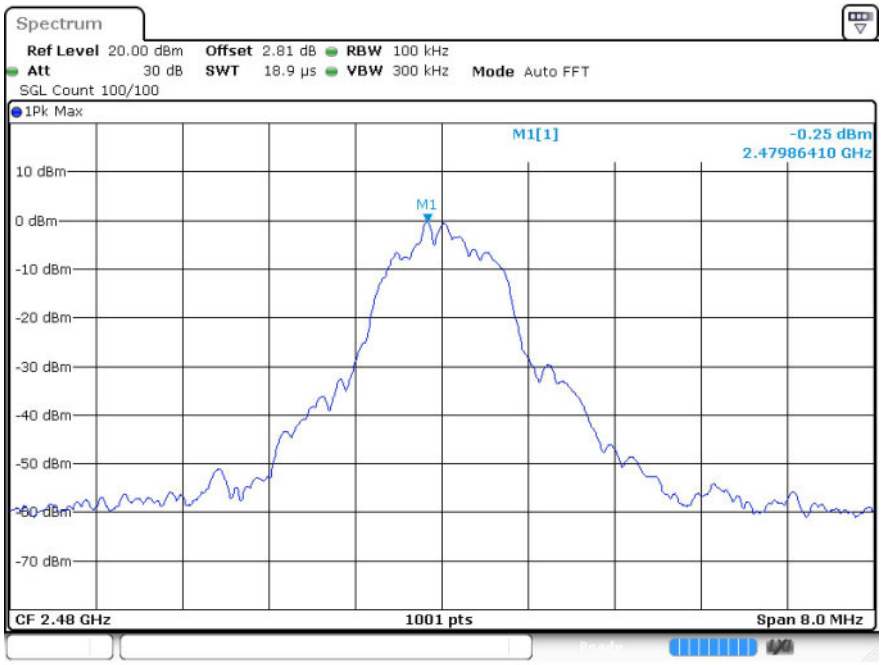
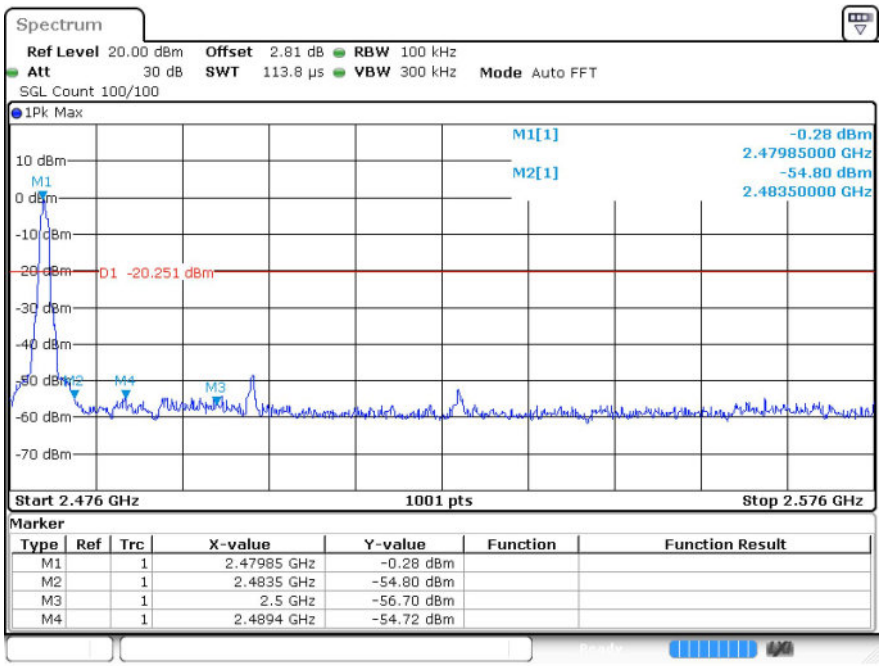
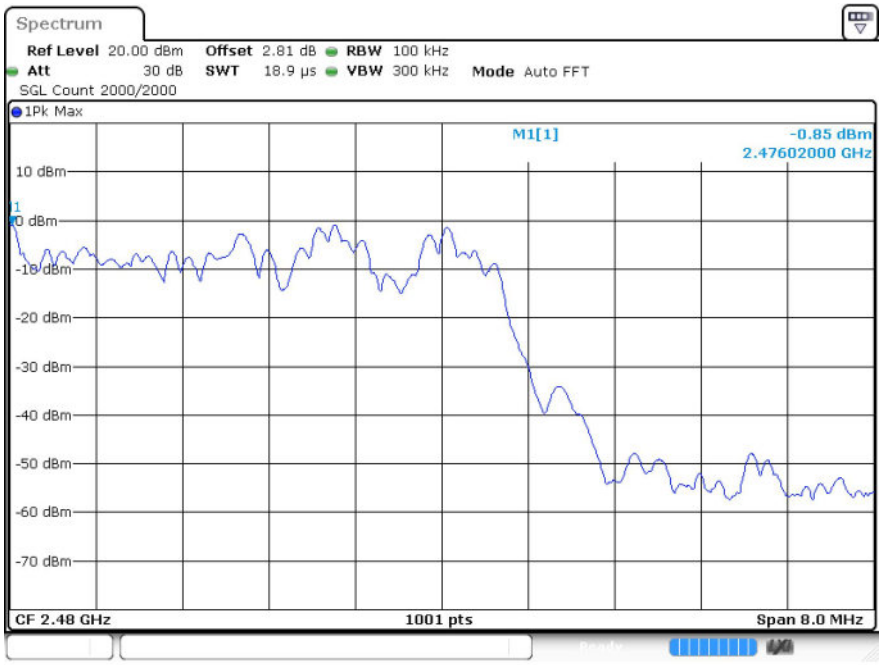
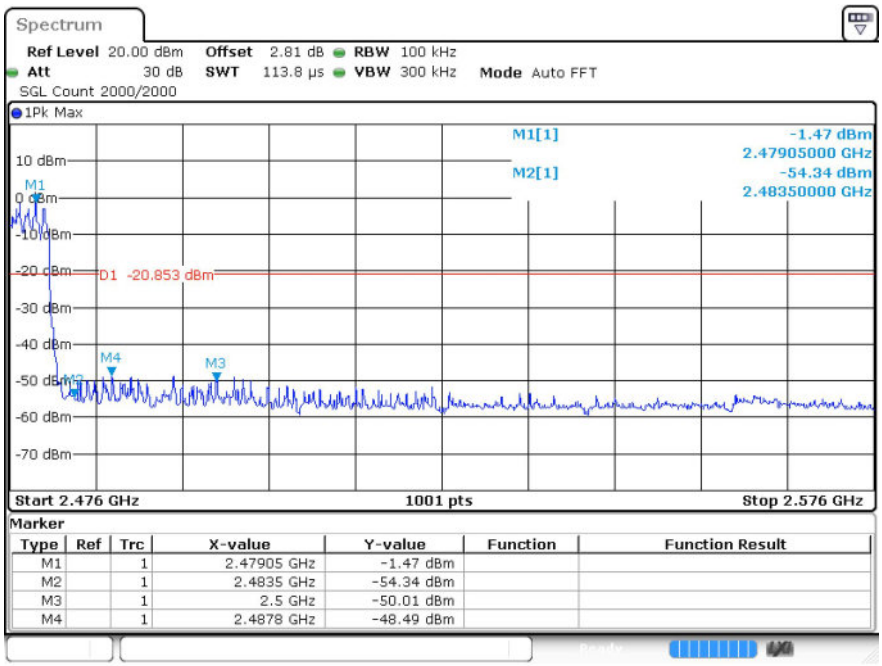
π/4DQPSK/LCH/Hop	

Ref	
π/4DQPSK/HCH/No Hop	

Ref	
π/4DQPSK/HCH/Hop	

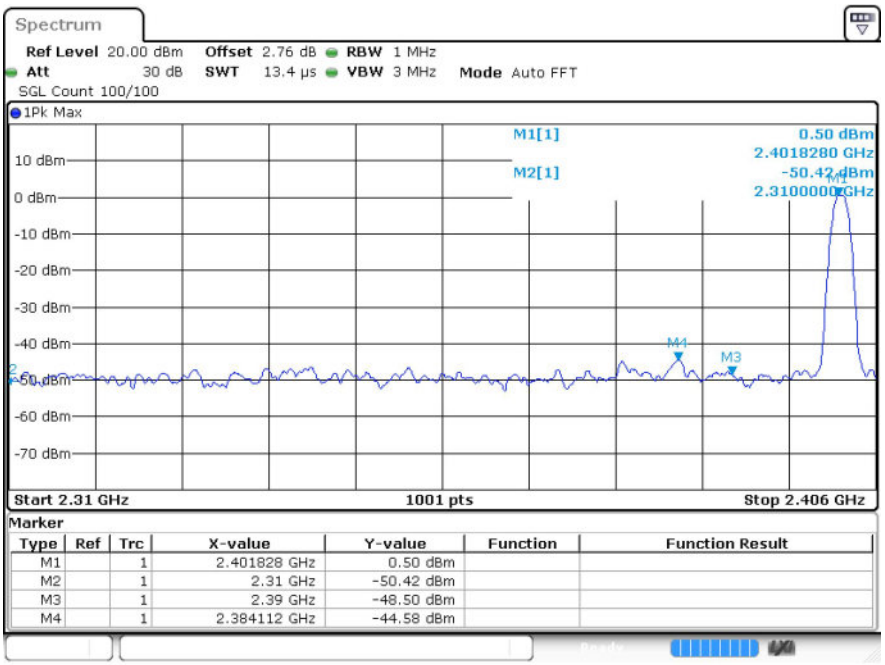
9 Restrict-band band-edge measurements

9.1 Test Result

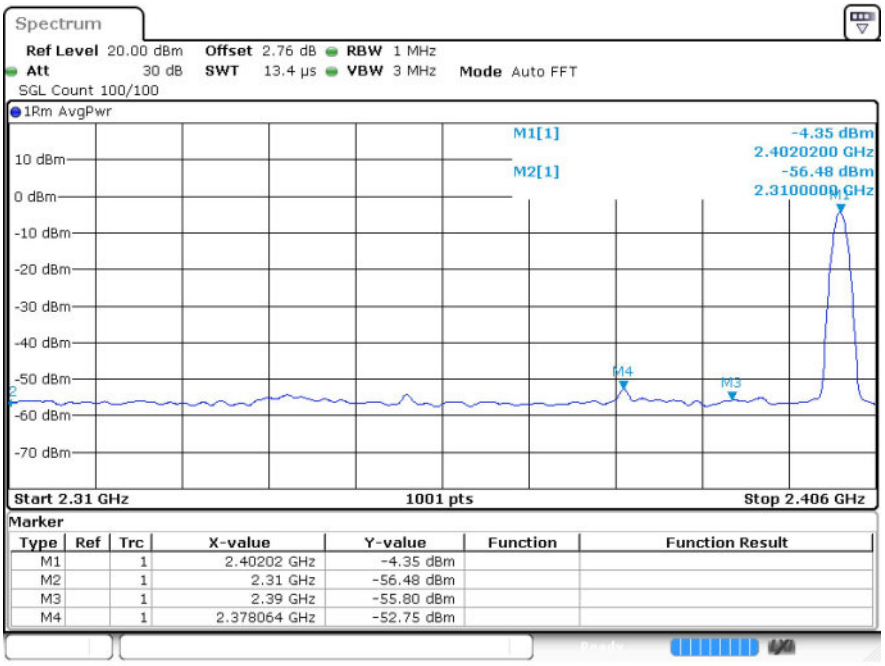
Test Mode	Hopping	Freq.	Power [dBm]	Gain	Duty Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-50.42	4.36	-	46.84	PEAK	74	Pass
	Off	2310.0	-56.48	4.36	5.06	45.84	AV	54	Pass
	Off	2384.112	-44.58	4.36	-	52.68	PEAK	74	Pass
	Off	2378.064	-52.75	4.36	5.06	49.57	AV	54	Pass
	Off	2390.0	-48.5	4.36	-	48.76	PEAK	74	Pass
	Off	2390.0	-55.8	4.36	5.06	46.52	AV	54	Pass
	Off	2483.5	-49.26	4.36	-	48	PEAK	74	Pass
	Off	2483.5	-55.87	4.36	5.17	46.56	AV	54	Pass
	Off	2489.584	-45.94	4.36	-	51.32	PEAK	74	Pass
	Off	2497.576	-54.85	4.36	5.17	47.58	AV	54	Pass
	Off	2500.0	-50.07	4.36	-	47.19	PEAK	74	Pass
	Off	2500.0	-55.82	4.36	5.17	46.61	AV	54	Pass
π/4DQPSK	Off	2310.0	-48.65	4.36	-	48.61	PEAK	74	Pass
	Off	2310.0	-56.16	4.36	4.95	46.05	AV	54	Pass
	Off	2377.872	-45.09	4.36	-	52.17	PEAK	74	Pass
	Off	2378.16	-53.74	4.36	4.95	48.47	AV	54	Pass
	Off	2390.0	-46.21	4.36	-	51.05	PEAK	74	Pass
	Off	2390.0	-56.52	4.36	4.95	45.69	AV	54	Pass
	Off	2483.5	-49.17	4.36	-	48.09	PEAK	74	Pass
	Off	2483.5	-53.35	4.36	4.95	48.86	AV	54	Pass
	Off	2497.72	-44.61	4.36	-	52.65	PEAK	74	Pass
	Off	2483.512	-53.41	4.36	4.95	48.8	AV	54	Pass
	Off	2500.0	-49.34	4.36	-	47.92	PEAK	74	Pass
	Off	2500.0	-55.11	4.36	4.95	47.1	AV	54	Pass

9.2 Test Graphs

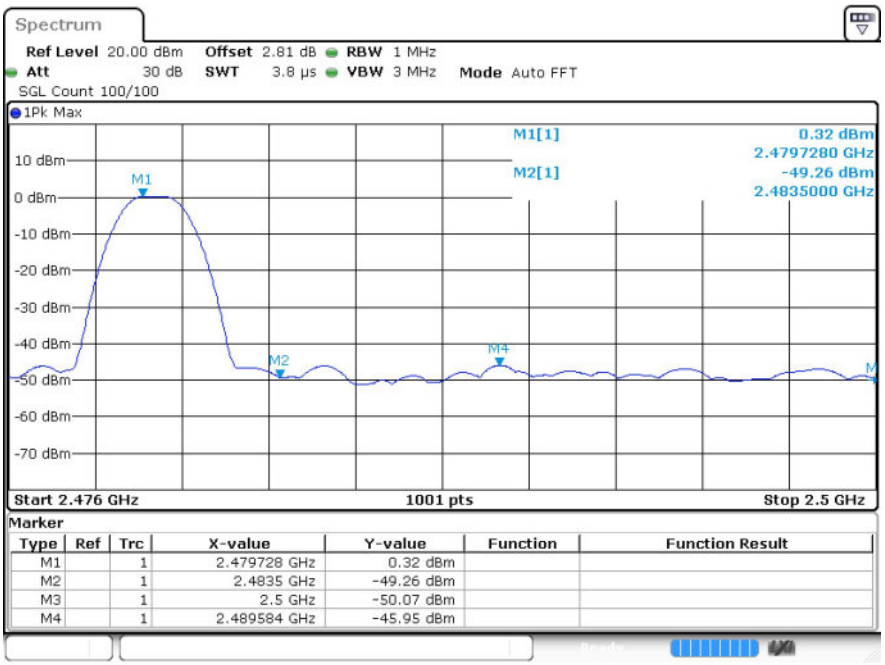
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (Low Channel)



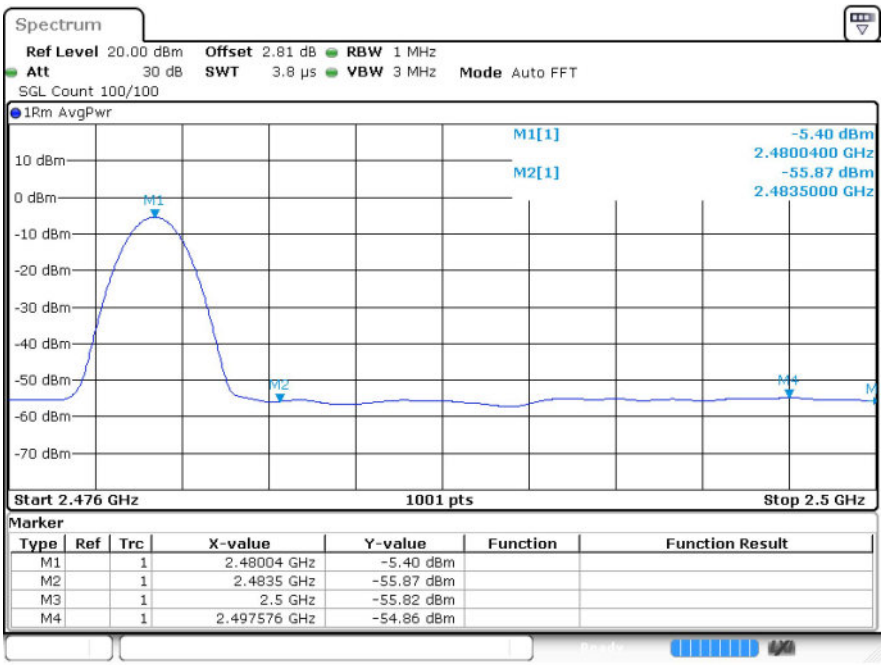
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



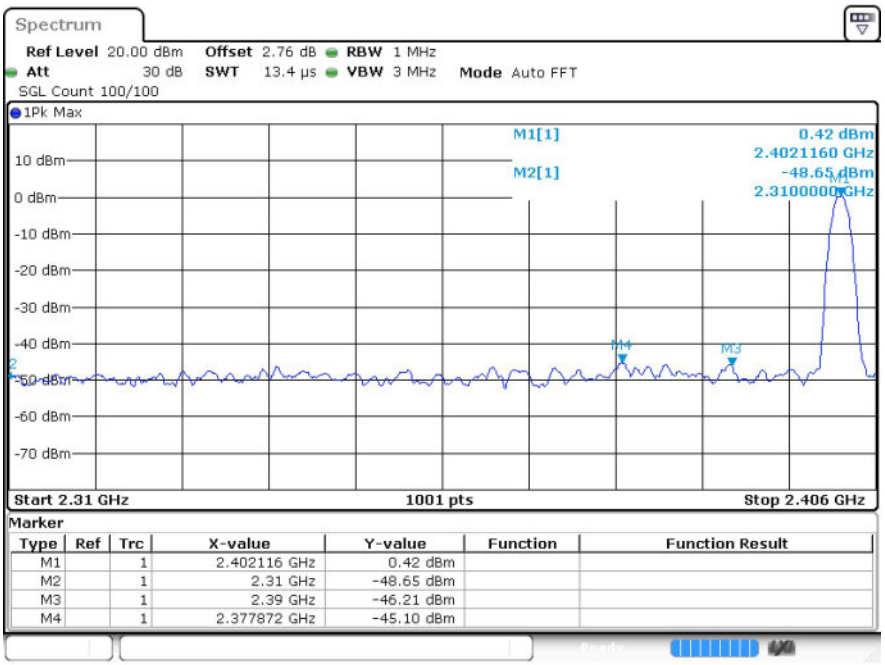
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



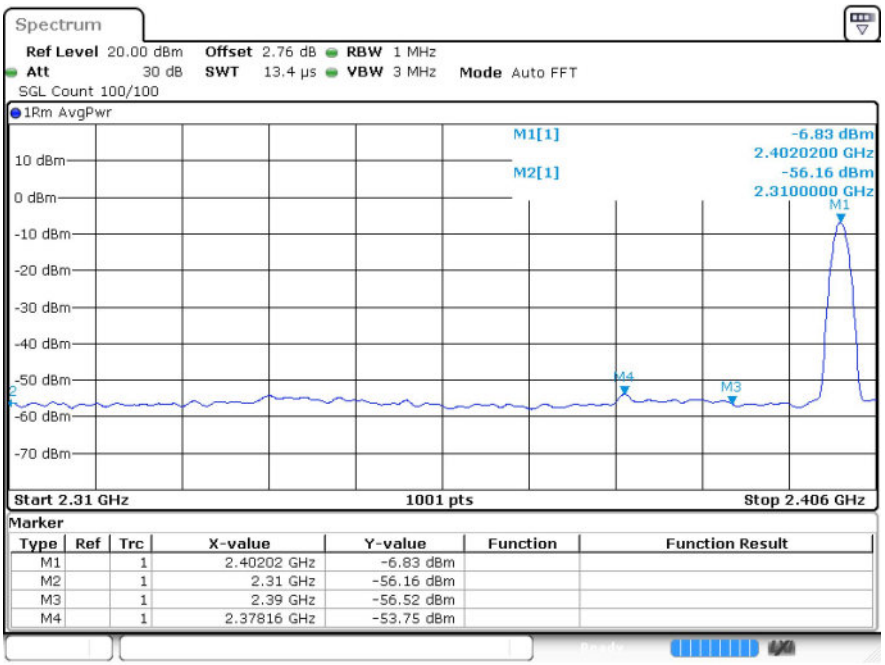
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



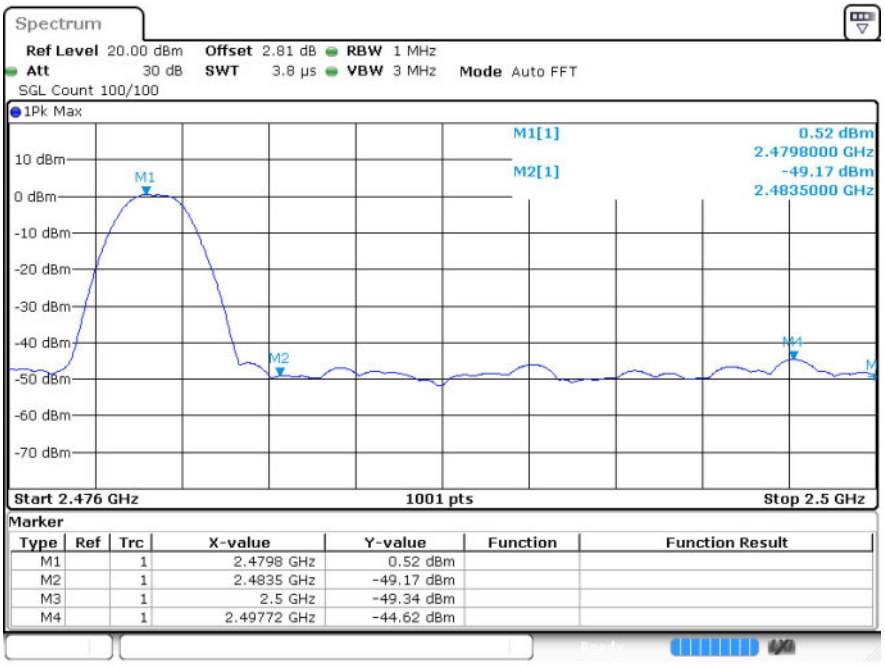
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



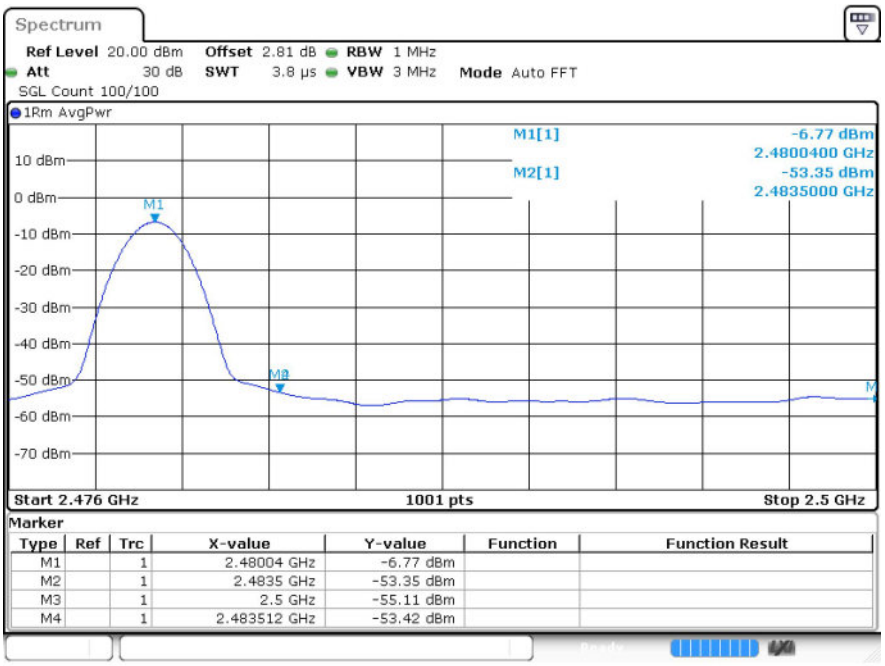
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



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---