Appendix A

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

Product Name: wireless speaker

Trade Mark: HOPESTAR

Test Model: PARTYBOX150

Environmental Conditions

Temperature:	24.9℃
Relative Humidity:	52.5%
ATM Pressure:	101Kpa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung

Contents

Page

COVER PAGE

1 Duty Cycle 3
1.1 Test Result 3
1.2 Test Graphs 4
2 Maximum Conducted Peak Output Power 7
2.1 Test Result 7
2.2 Test Graphs 8
3 20dB Bandwidth 11
3.1 Test Result 11
3.2 Test Graphs 12
4 Carrier Frequency Separation 15
4.1 Test Result 15
4.2 Test Graphs 16
5 Hopping Channel Number 17
5.1 Test Result 17
5.2 Test Graphs 18
6 Dwell Time 19
6.1 Test Result 19
6.2 Test Graphs 20
7 RF Conducted Spurious Emissions 22
7.1 Test Result 22
7.2 Test Graphs 23
8 Band-edge for RF Conducted Emissions 29
8.1 Test Result 29
8.2 Test Graphs 30
9 Restrict-band band-edge measurements 38
9.1 Test Result 38
9.2 Test Graphs 39

1 Duty Cycle

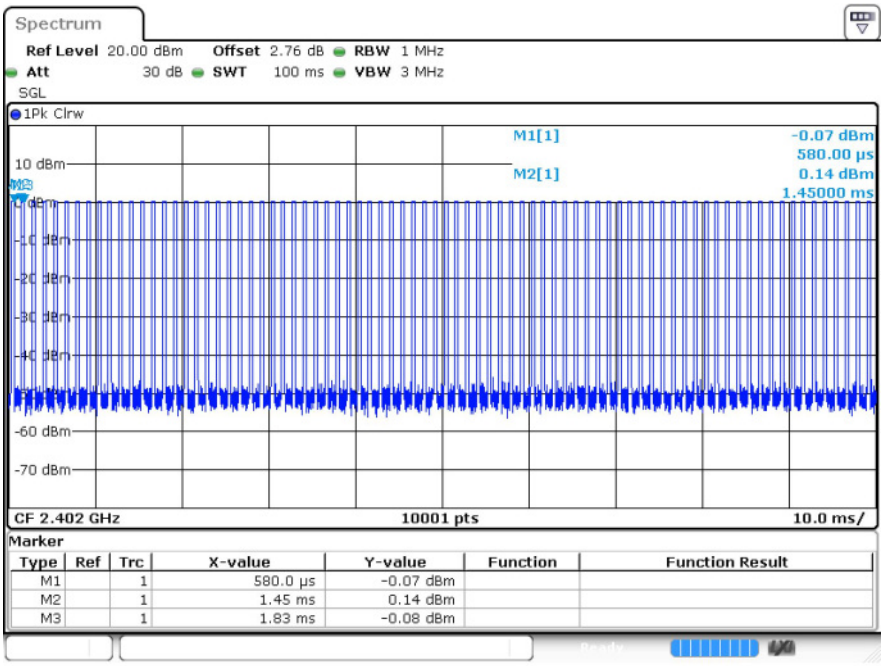
1.1 Test Result

Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.85	4.97	2.63
1-DH1	2441	31.21	5.06	2.63
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	32	4.95	2.56
2-DH1	2441	32	4.95	2.56
2-DH1	2480	32.81	4.84	2.5

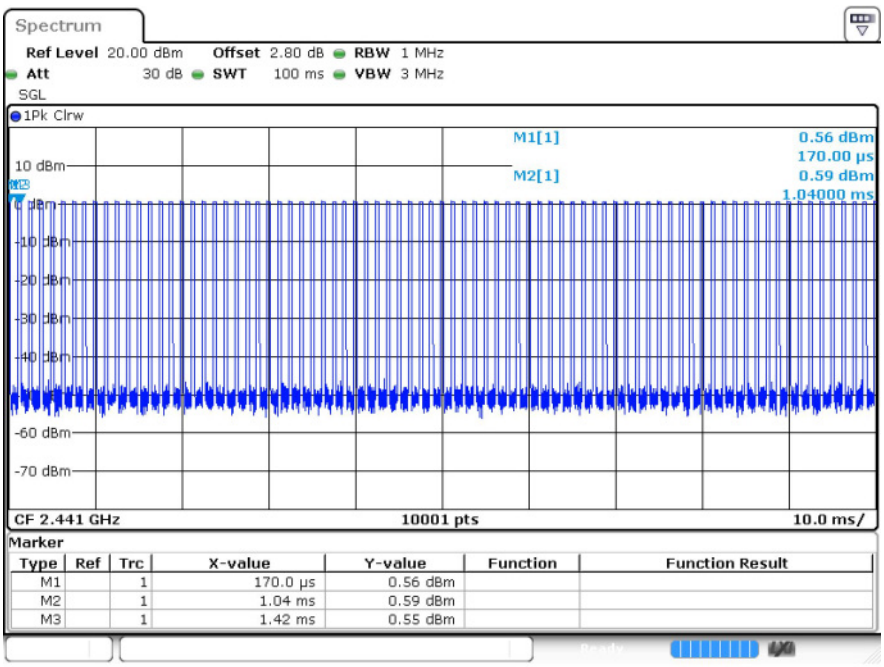
1.2 Test Graphs

Test Graphs

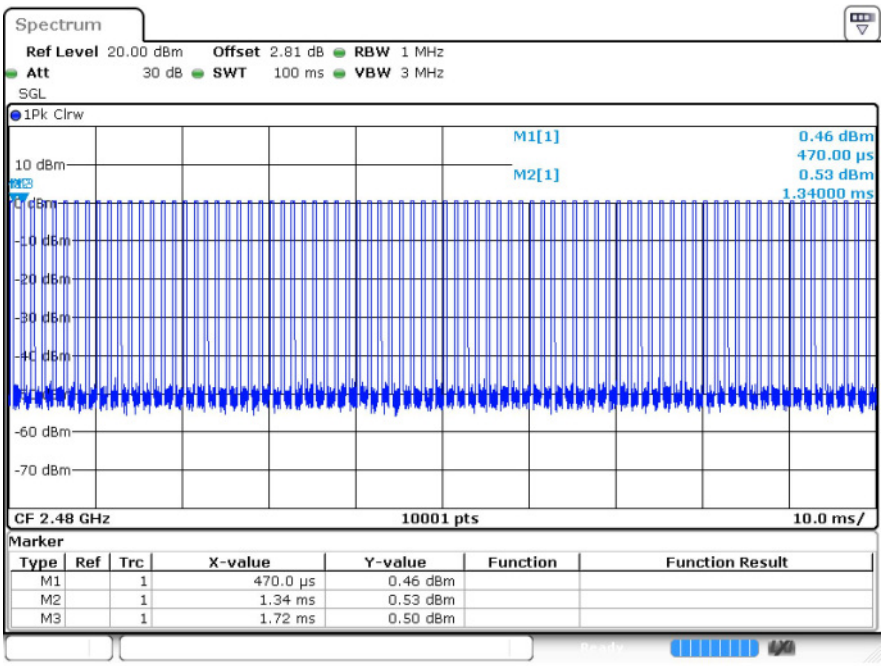
1-DH1 2402MHz



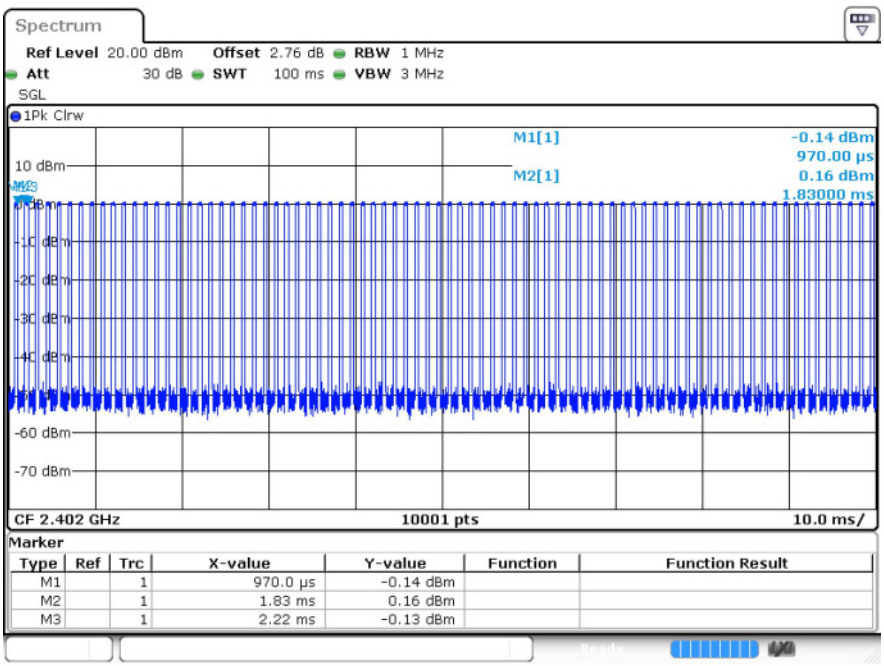
1-DH1 2441MHz



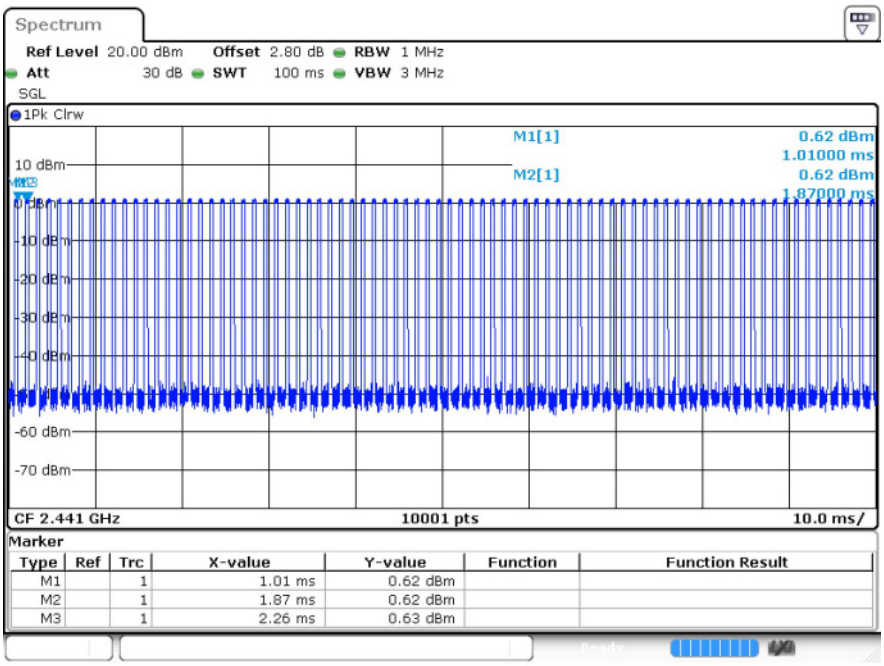
1-DH1 2480MHz



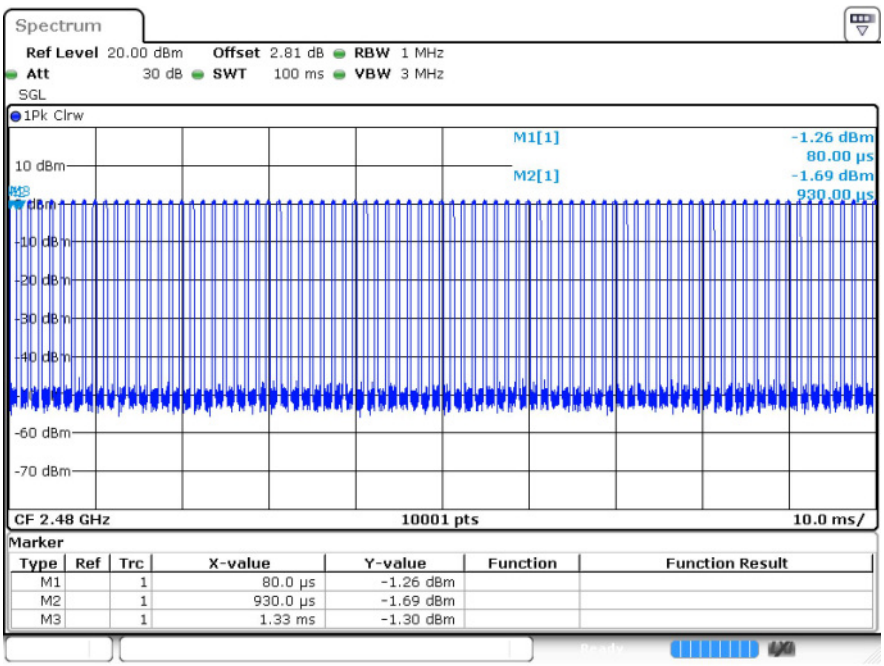
2-DH1 2402MHz



2-DH1 2441MHz



2-DH1 2480MHz

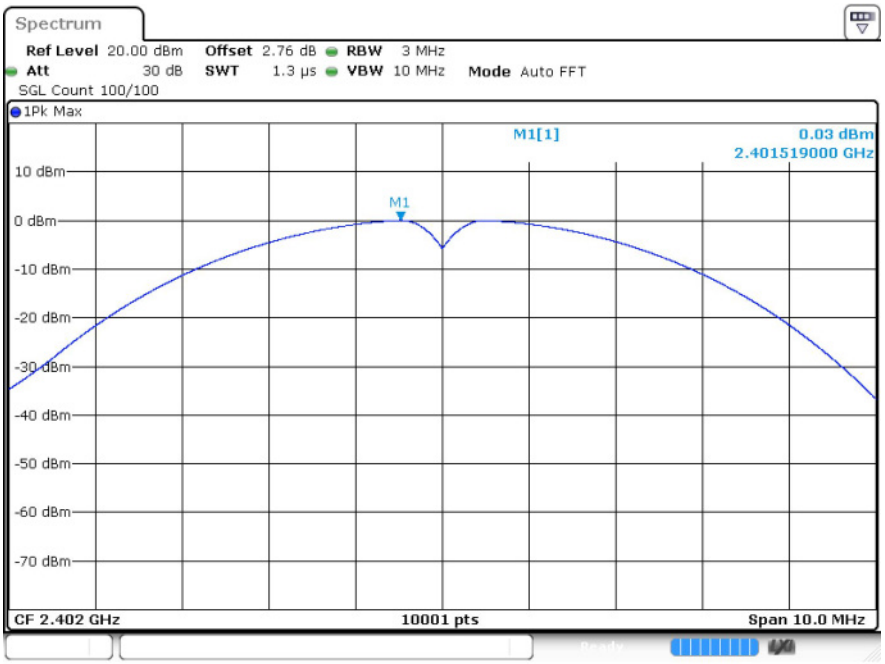
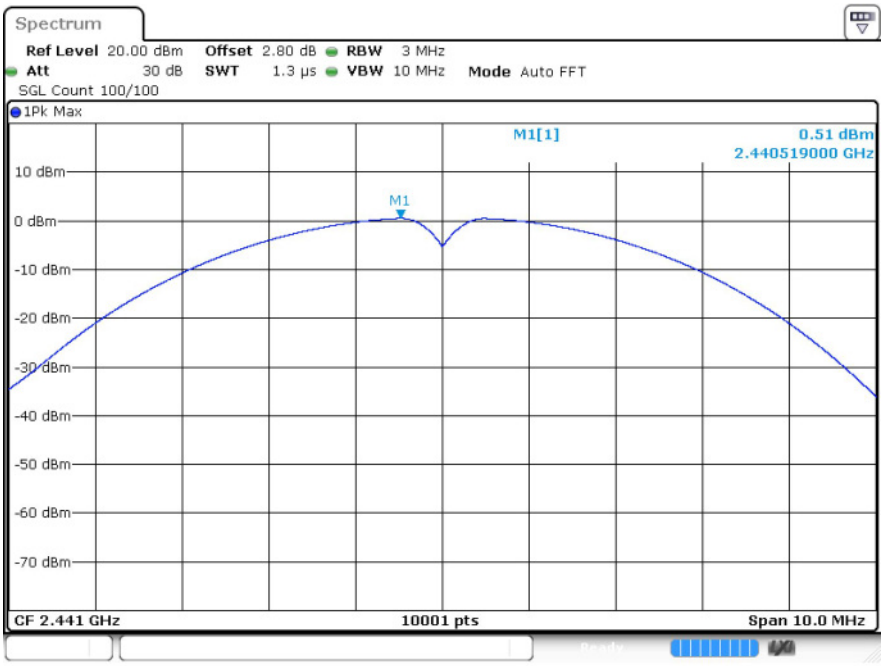


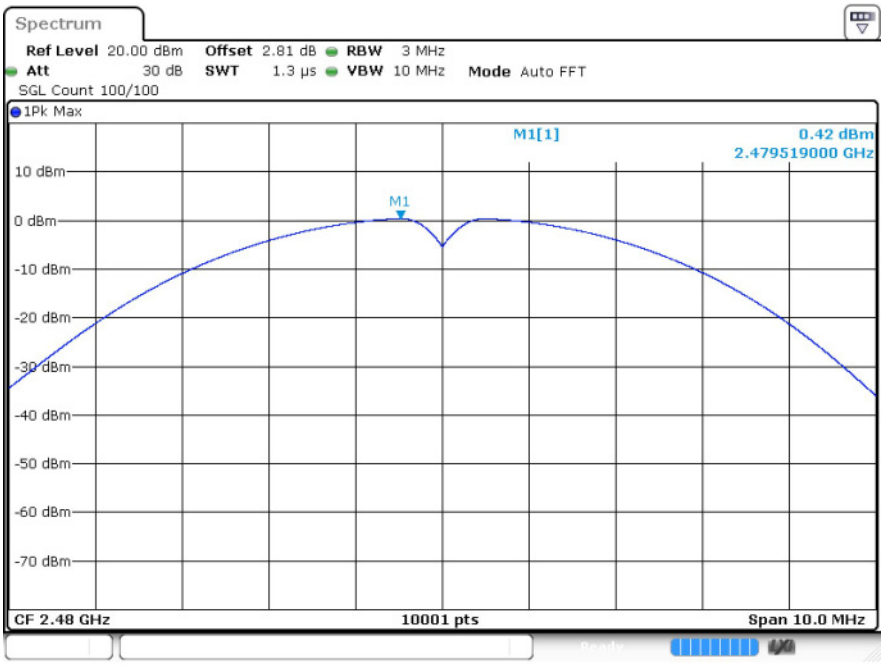
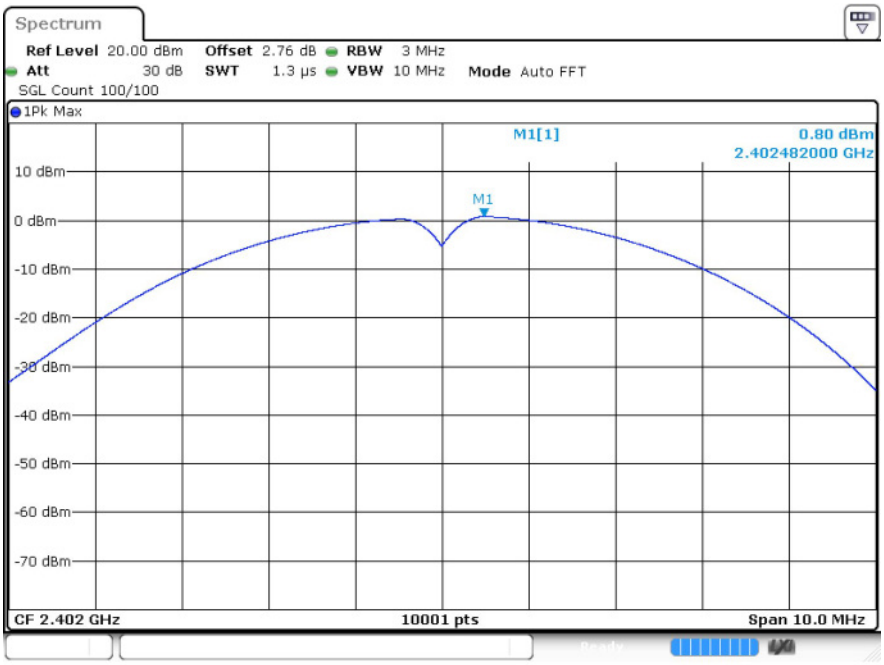
2 Maximum Conducted Peak Output Power

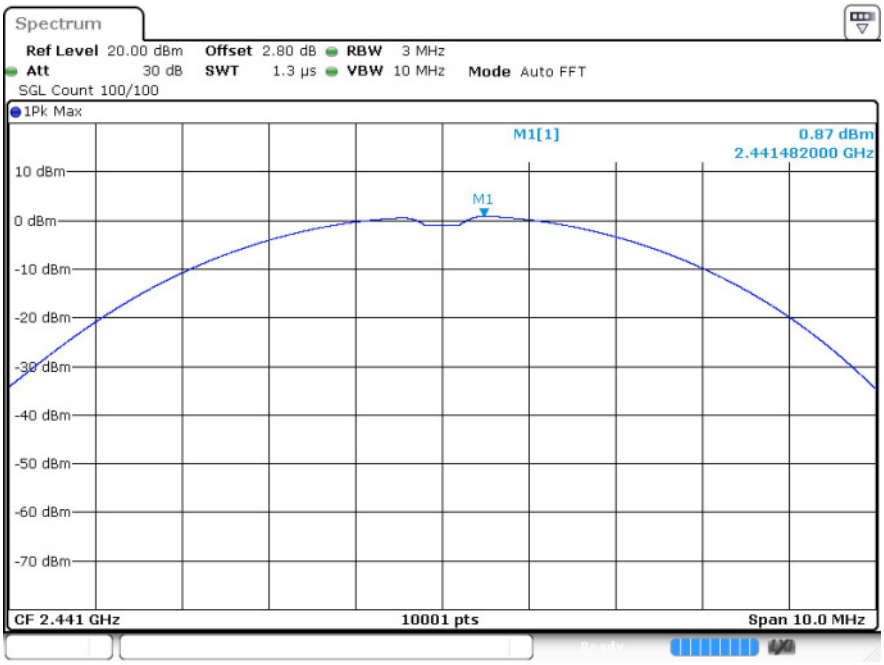
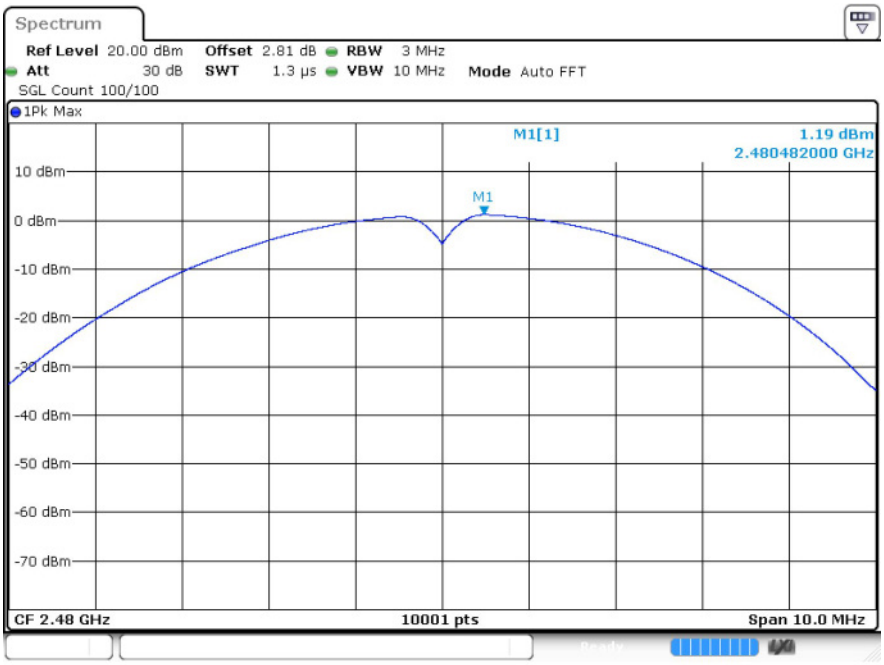
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.03	21	Pass
	MCH	0.51	21	Pass
	HCH	0.42	21	Pass
π/4DQPSK	LCH	0.8	21	Pass
	MCH	0.87	21	Pass
	HCH	1.19	21	Pass

2.2 Test Graphs

Test Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π/4DQPSK/LCH	

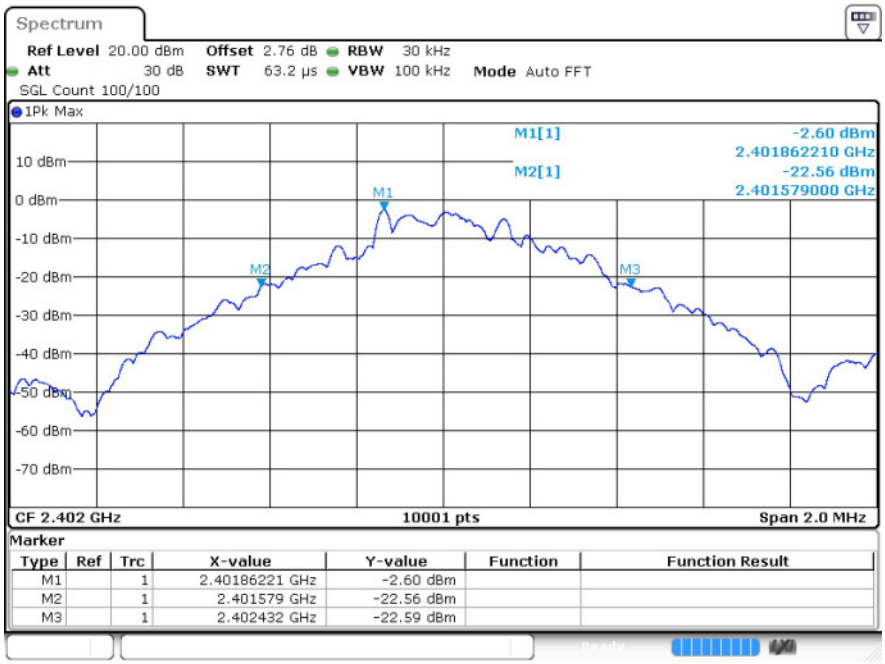
π/4DQPSK/MCH	
π/4DQPSK/HCH	

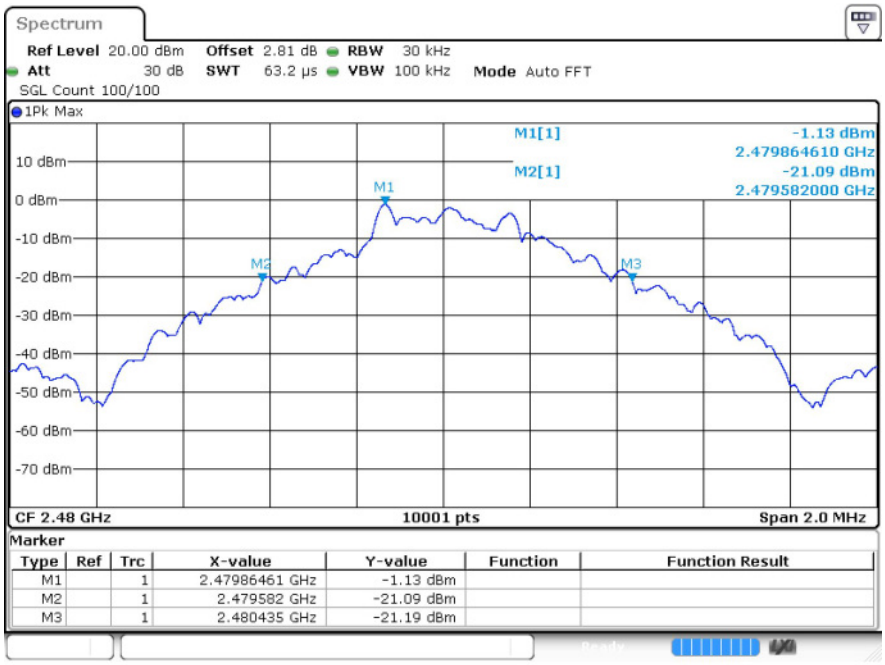
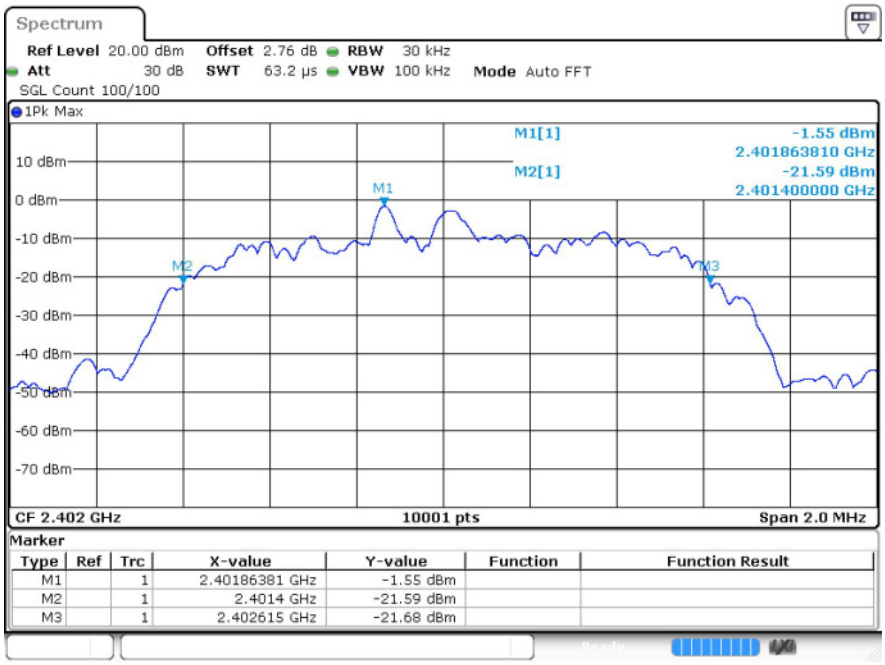
3 20dB Bandwidth

3.1 Test Result

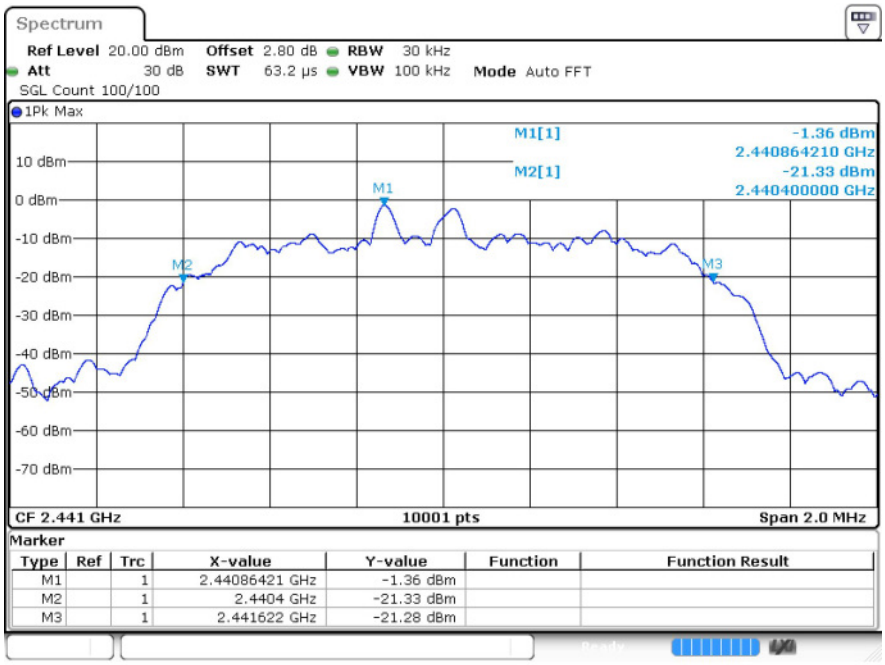
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.853	Not Specified	Pass
	MCH	0.878	Not Specified	Pass
	HCH	0.853	Not Specified	Pass
π/4DQPSK	LCH	1.214	Not Specified	Pass
	MCH	1.222	Not Specified	Pass
	HCH	1.22	Not Specified	Pass

3.2 Test Graphs

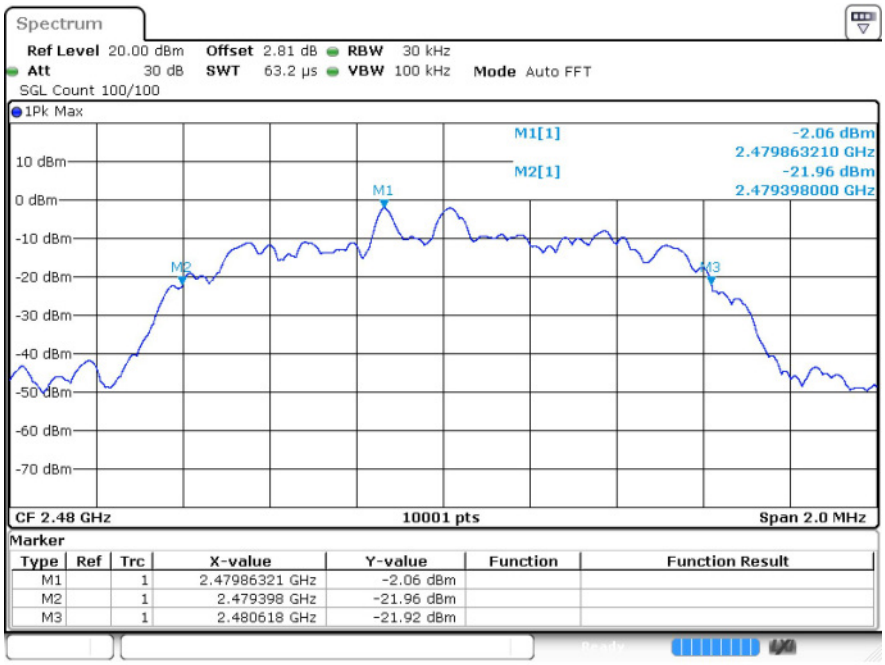
Test Graphs	
GFSK/LCH	
GFSK/MCH	

GFSK/HCH	
π/4DQPSK/LCH	

π/4DQPSK/MCH



π/4DQPSK/HCH

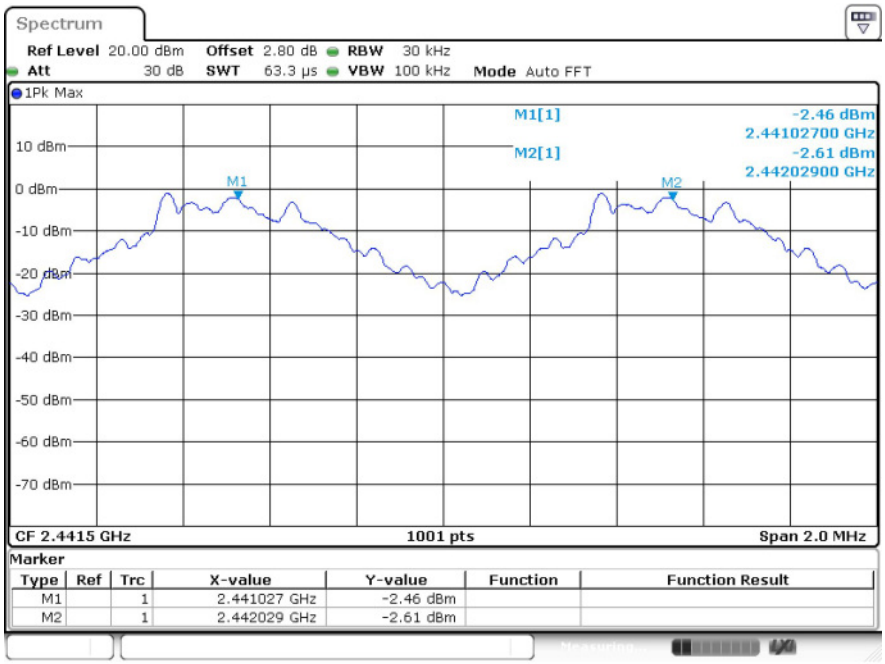
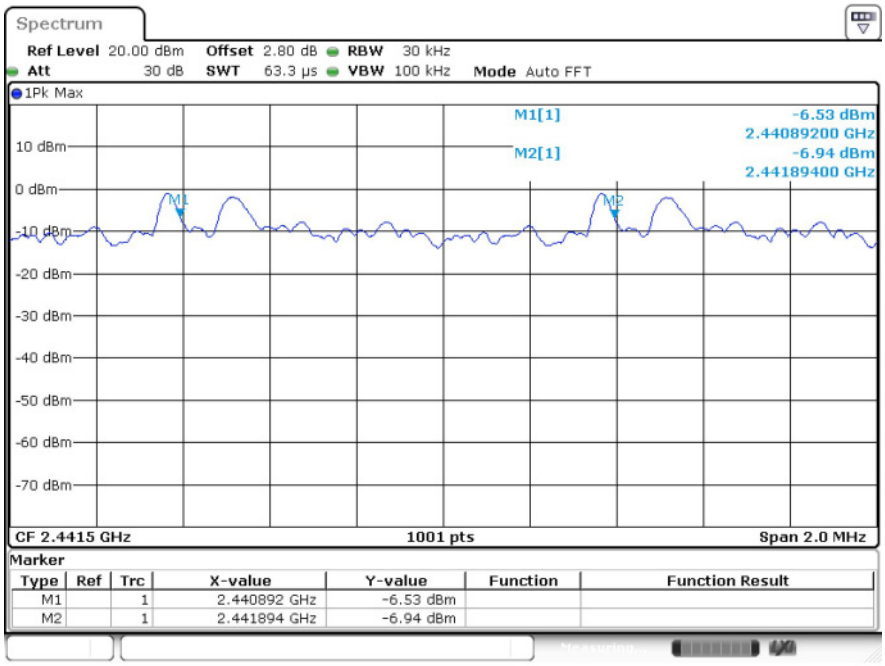


4 Carrier Frequency Separation

4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.002	0.585	Pass
π/4DQPSK	MCH	1.002	0.815	Pass

4.2 Test Graphs

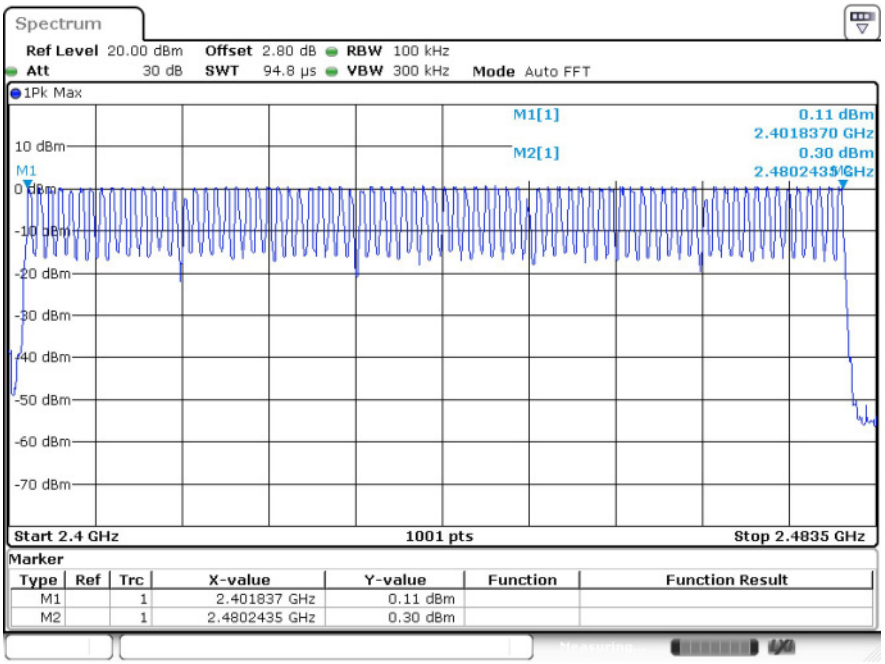
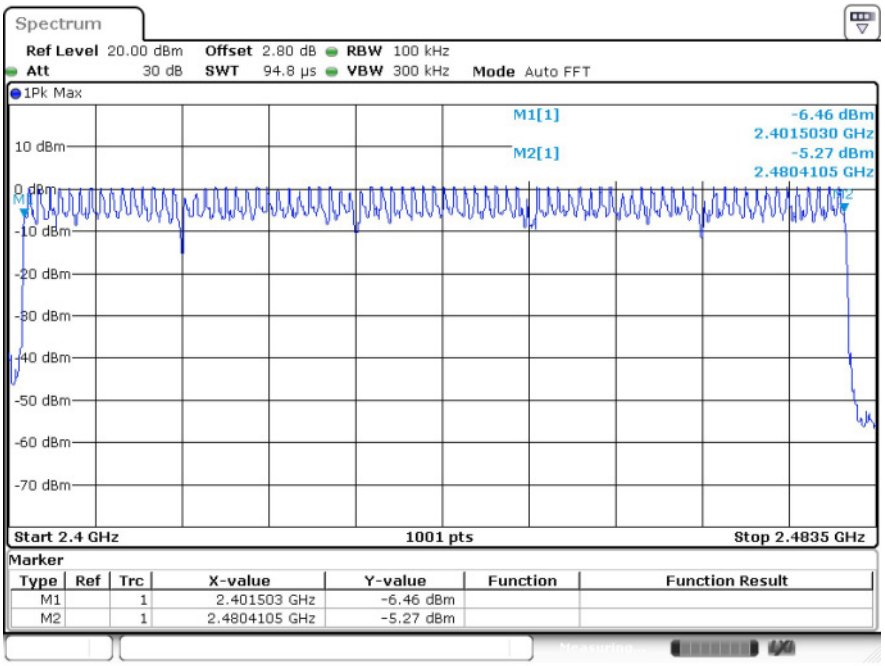
Test Graphs	
GFSK/MCH	
π/4DQPSK/MCH	

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

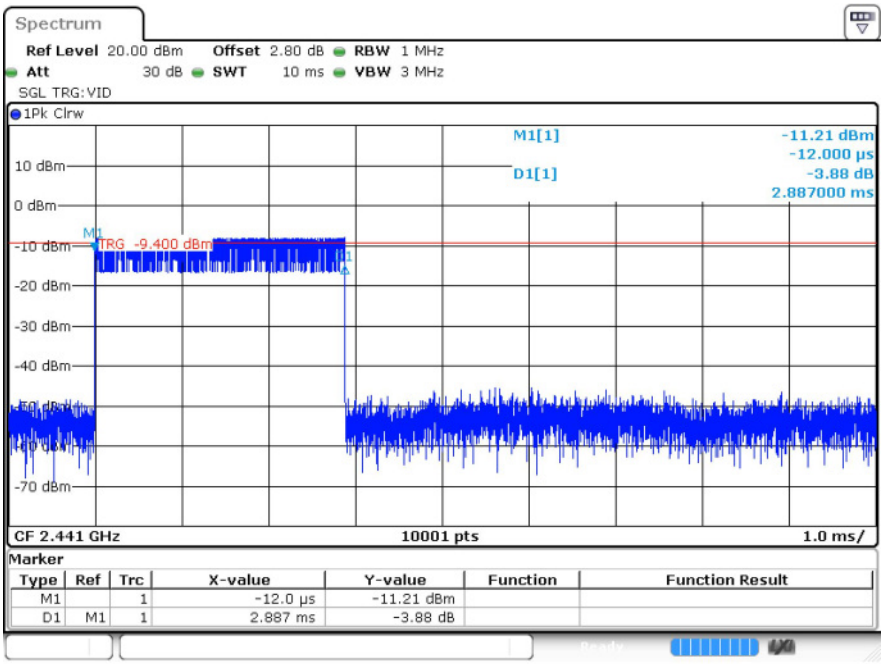
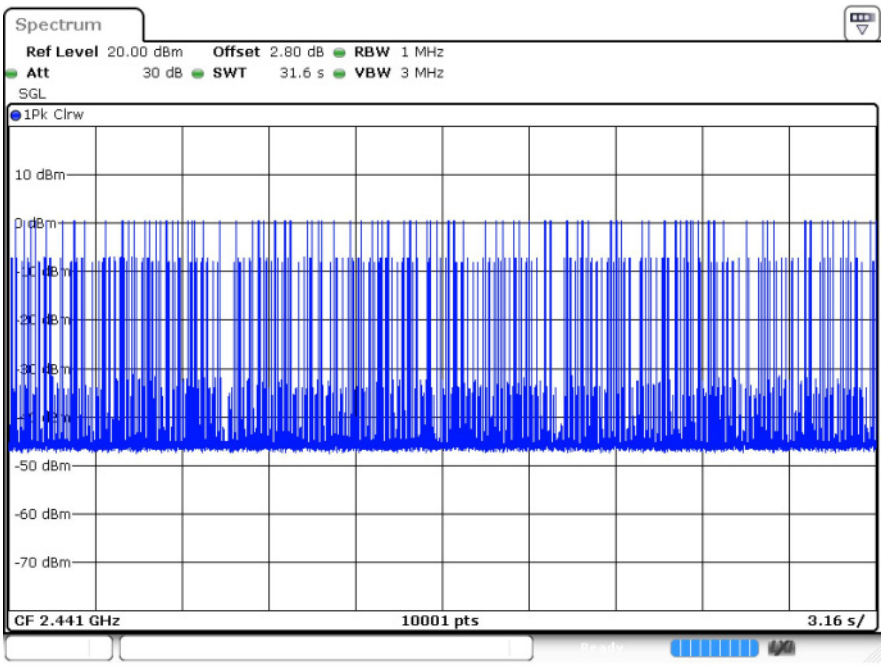
Test Graphs	
GFSK/Hop	
π/4DQPSK/Hop	

6 Dwell Time

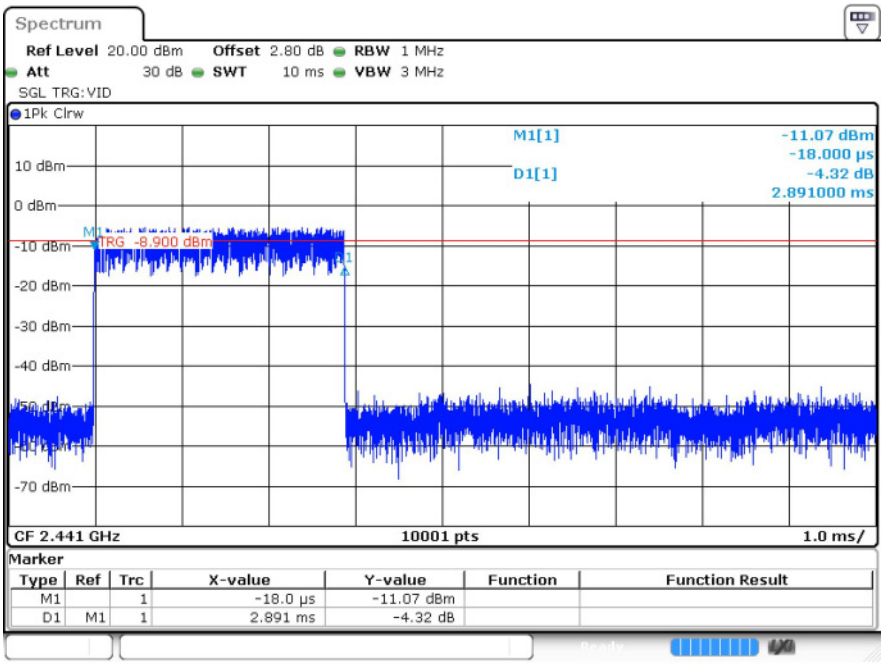
6.1 Test Result

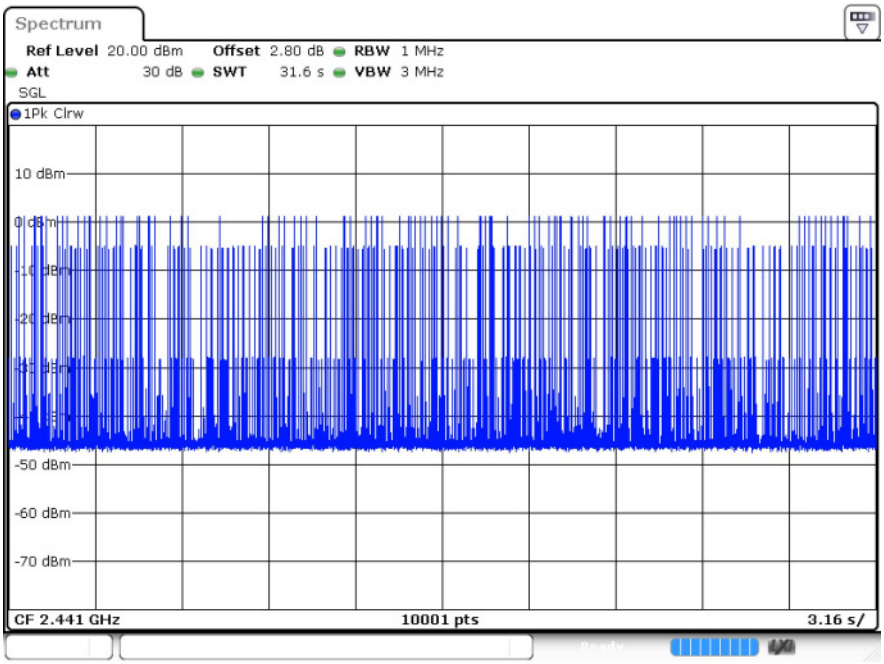
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	110	317.57	0.4	Pass
π/4DQPSK	2DH5	MCH	2.891	111	320.901	0.4	Pass

6.2 Test Graphs

Test Graphs	
GFSK_DH5/MCH	 

π/4DQPSK
_2DH5/MCH



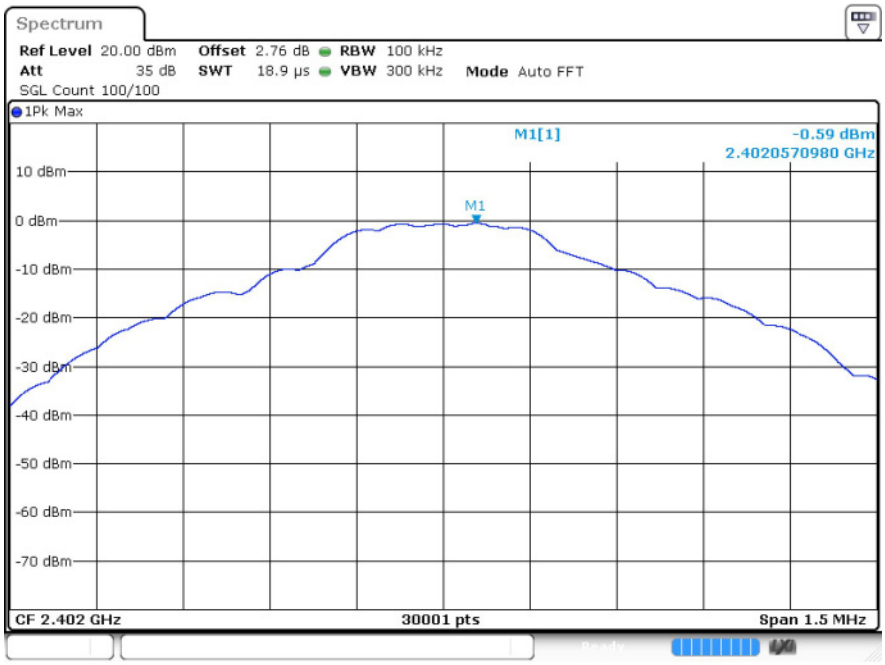
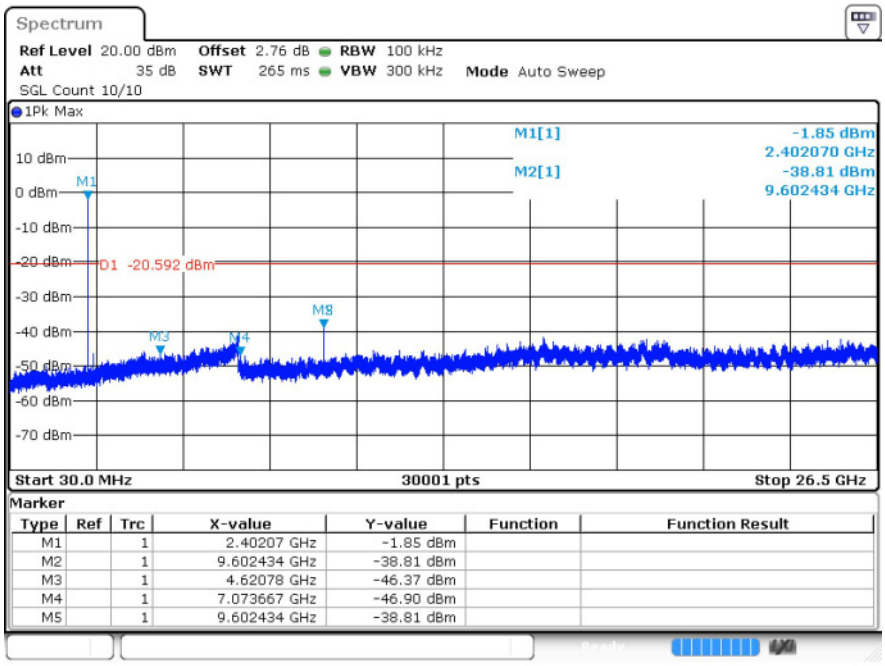


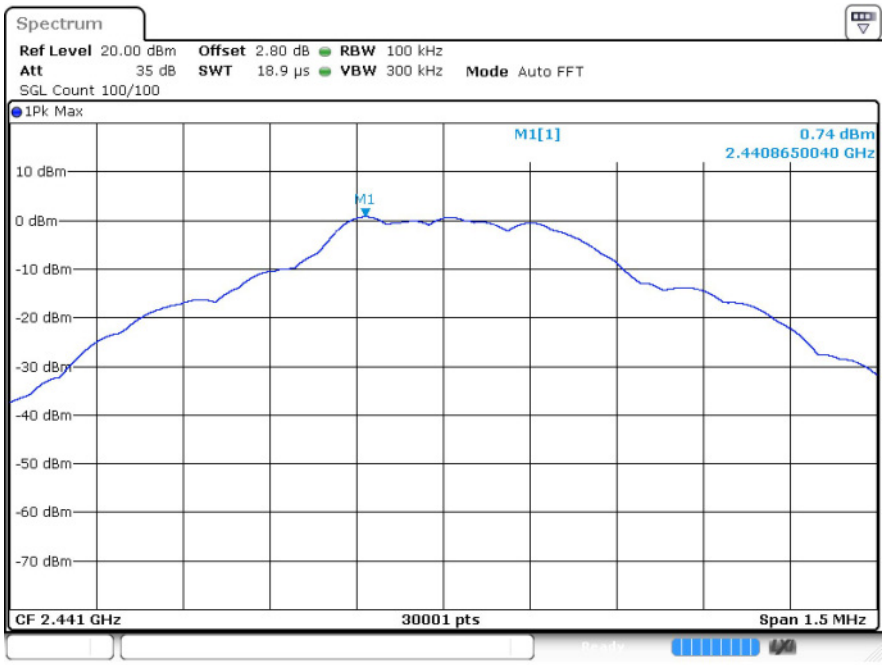
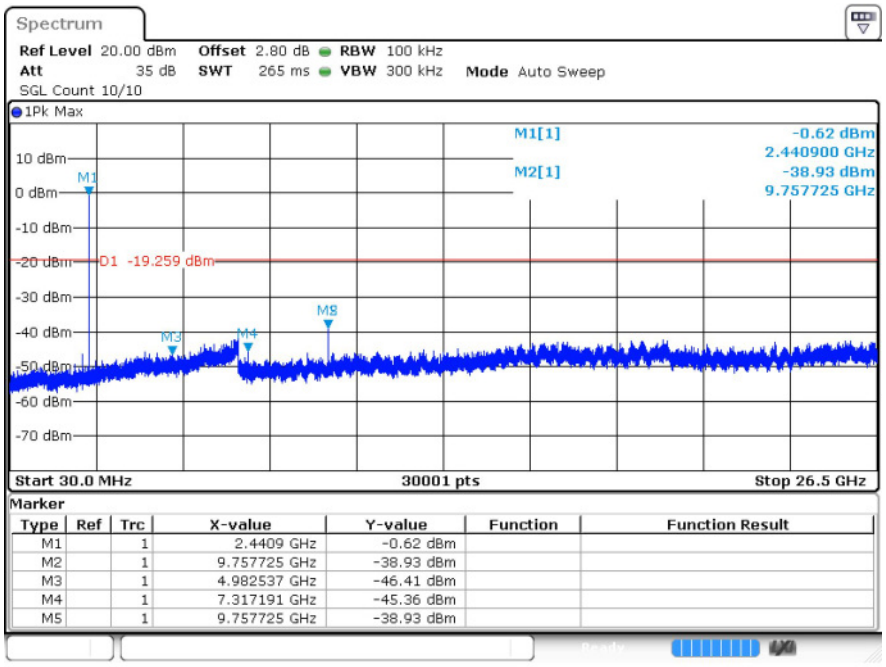
7 RF Conducted Spurious Emissions

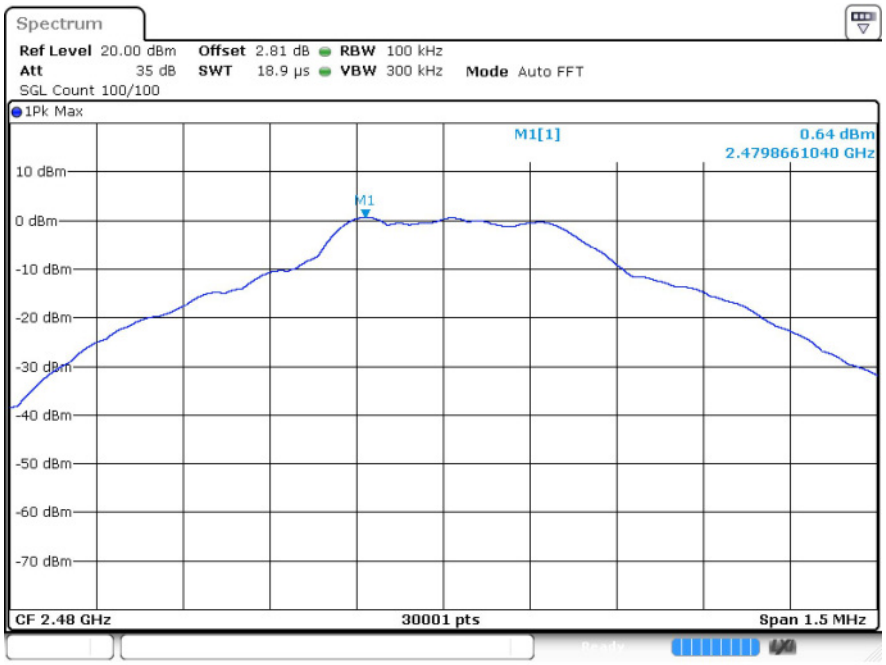
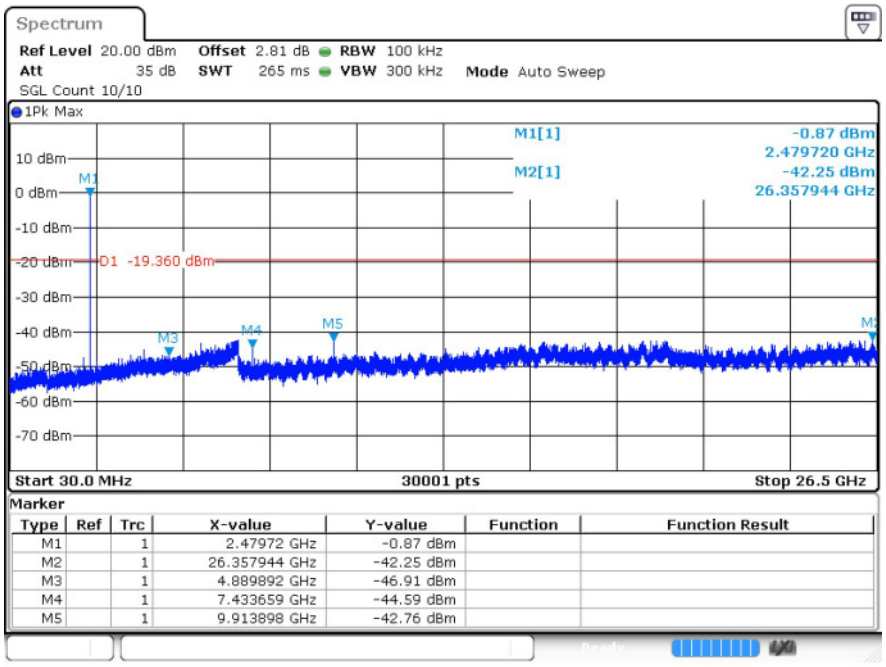
7.1 Test Result

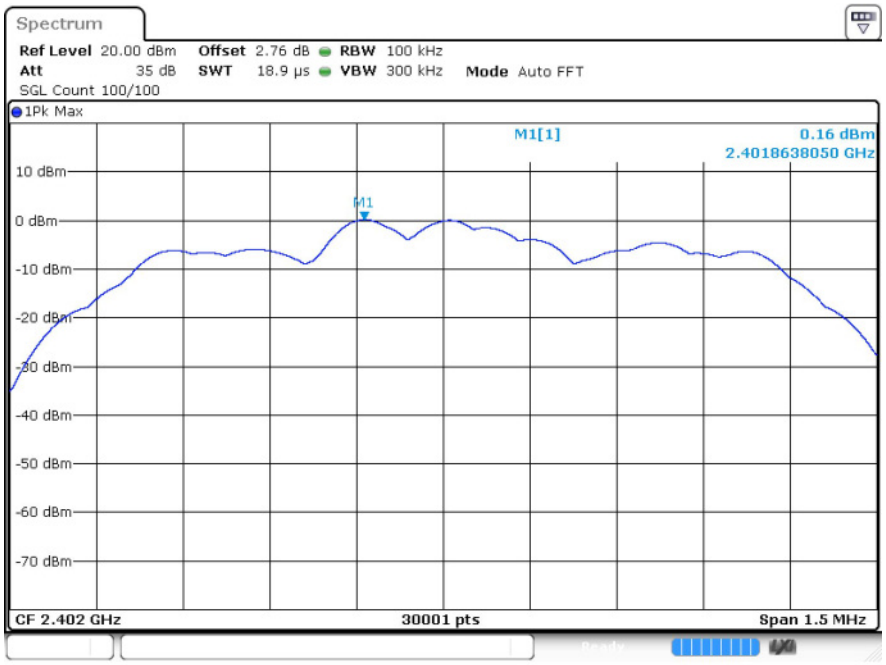
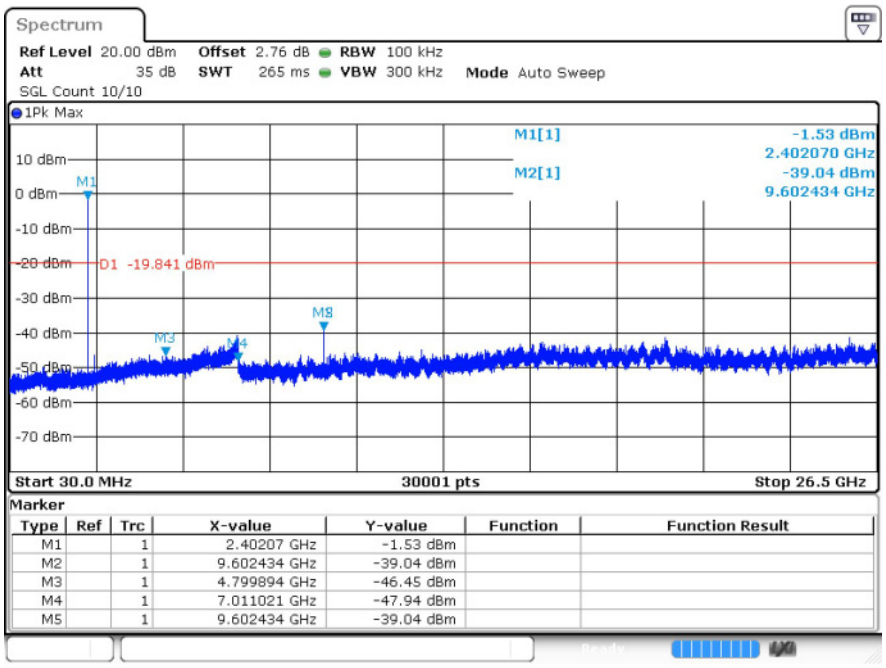
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-38.22	-20	Pass
	MCH	-39.66	-20	Pass
	HCH	-42.89	-20	Pass
π/4DQPSK	LCH	-39.19	-20	Pass
	MCH	-39.81	-20	Pass
	HCH	-42.11	-20	Pass

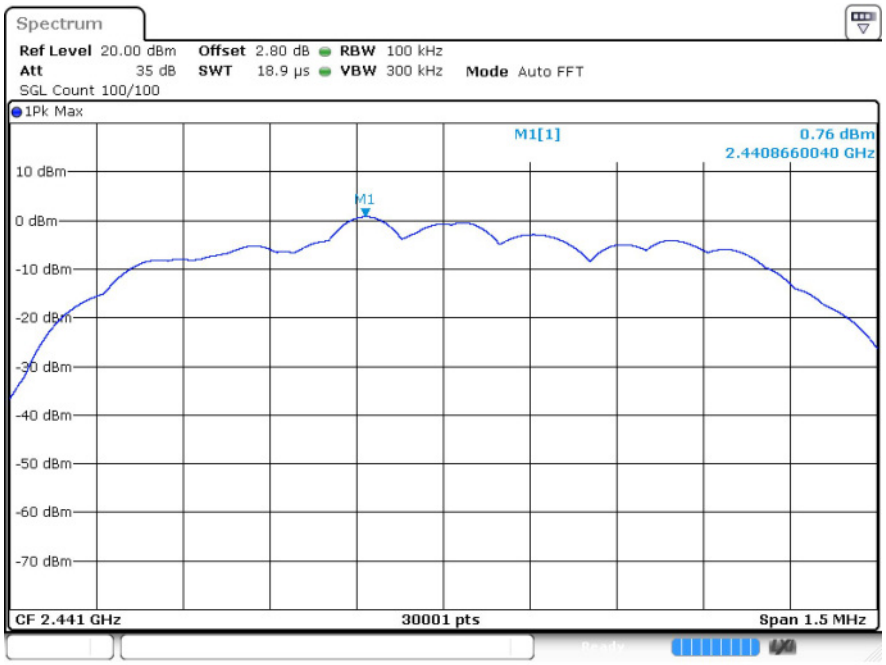
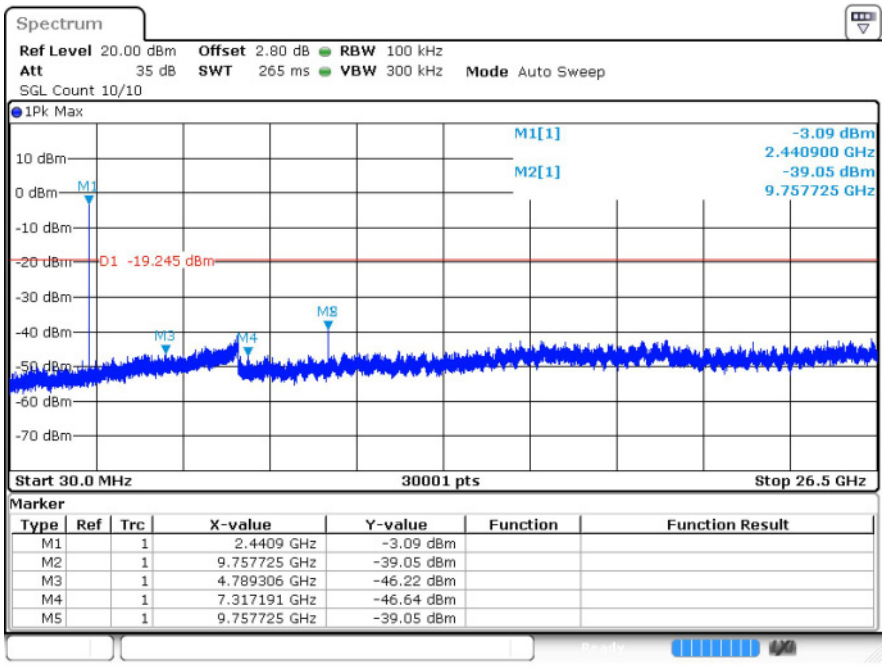
7.2 Test Graphs

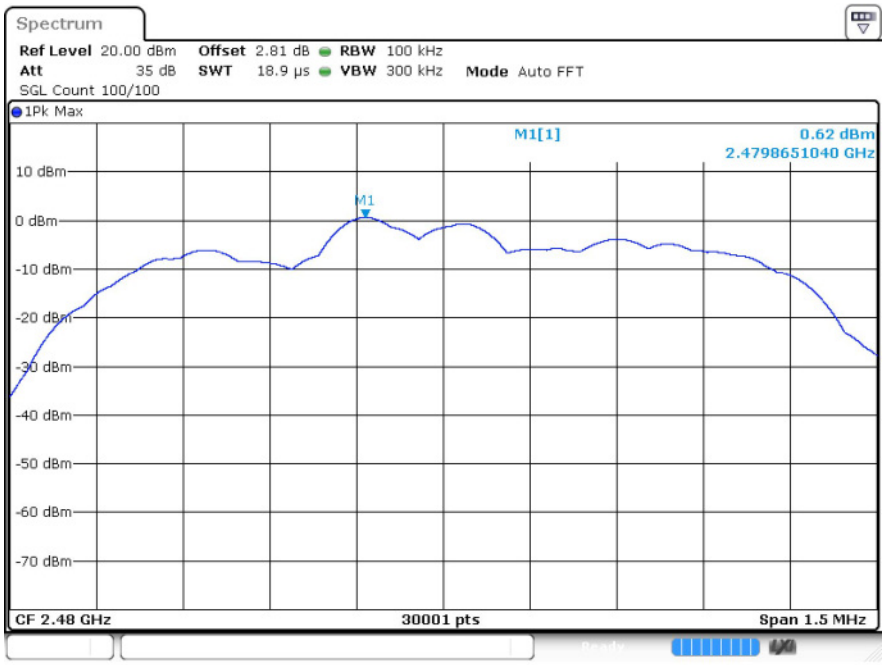
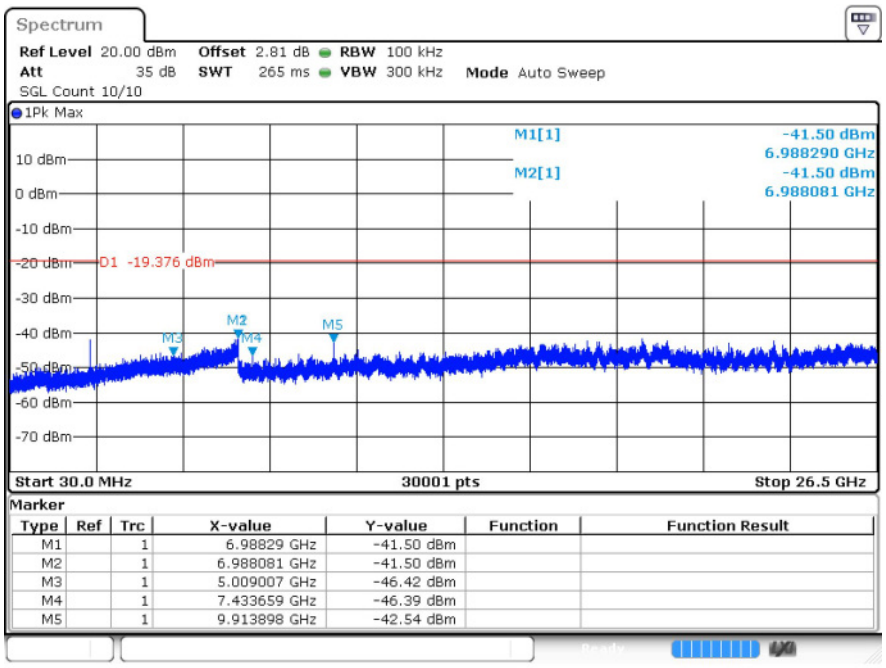
GFSK_LCH_Graphs	
Pref	
Puw	

GFSK_MCH_Graphs	
Pref	
Puw	

GFSK_HCH_Graphs	
Pref	
Puw	

π/4DQPSK_LCH_Graphs	
Pref	
Puw	

π/4DQPSK_MCH_Graphs	
Pref	
Puw	

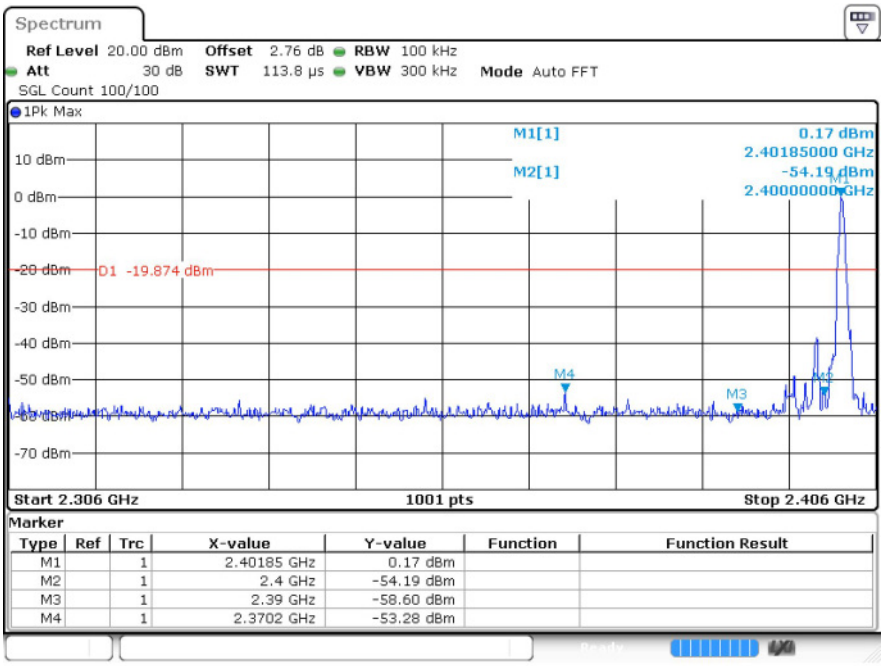
π/4DQPSK_HCH_Graphs	
Pref	
Puw	

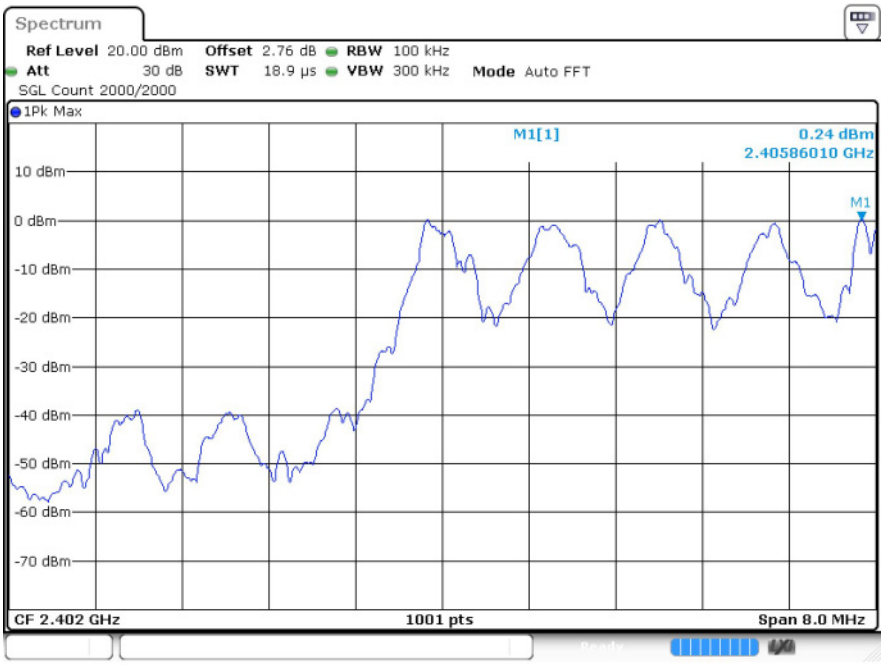
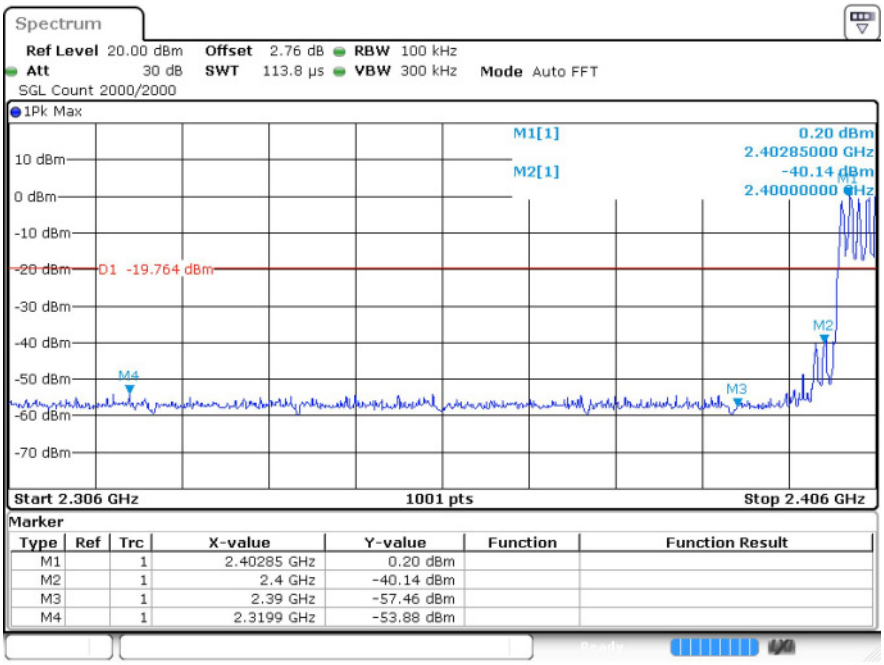
8 Band-edge for RF Conducted Emissions

8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-53.4	-20	Pass
			On	-54.12	-20	Pass
	HCH	2480	Off	-56.33	-20	Pass
			On	-53.94	-20	Pass
π/4DQPSK	LCH	2402	Off	-55.72	-20	Pass
			On	-54.35	-20	Pass
	HCH	2480	Off	-57.03	-20	Pass
			On	-54.3	-20	Pass

8.2 Test Graphs

Test Graphs	
Pref	
GFSK/LCH/No Hop	

Ref	
GFSK/LCH/Hop