



Appendix A

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

Product Name: TWS Clear Case Earbud XT-87

Trade Mark: N/A

Test Model: HM-AU-BE-232

Environmental Conditions

Temperature:	25.4 °C
Relative Humidity:	52.3%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

Contents

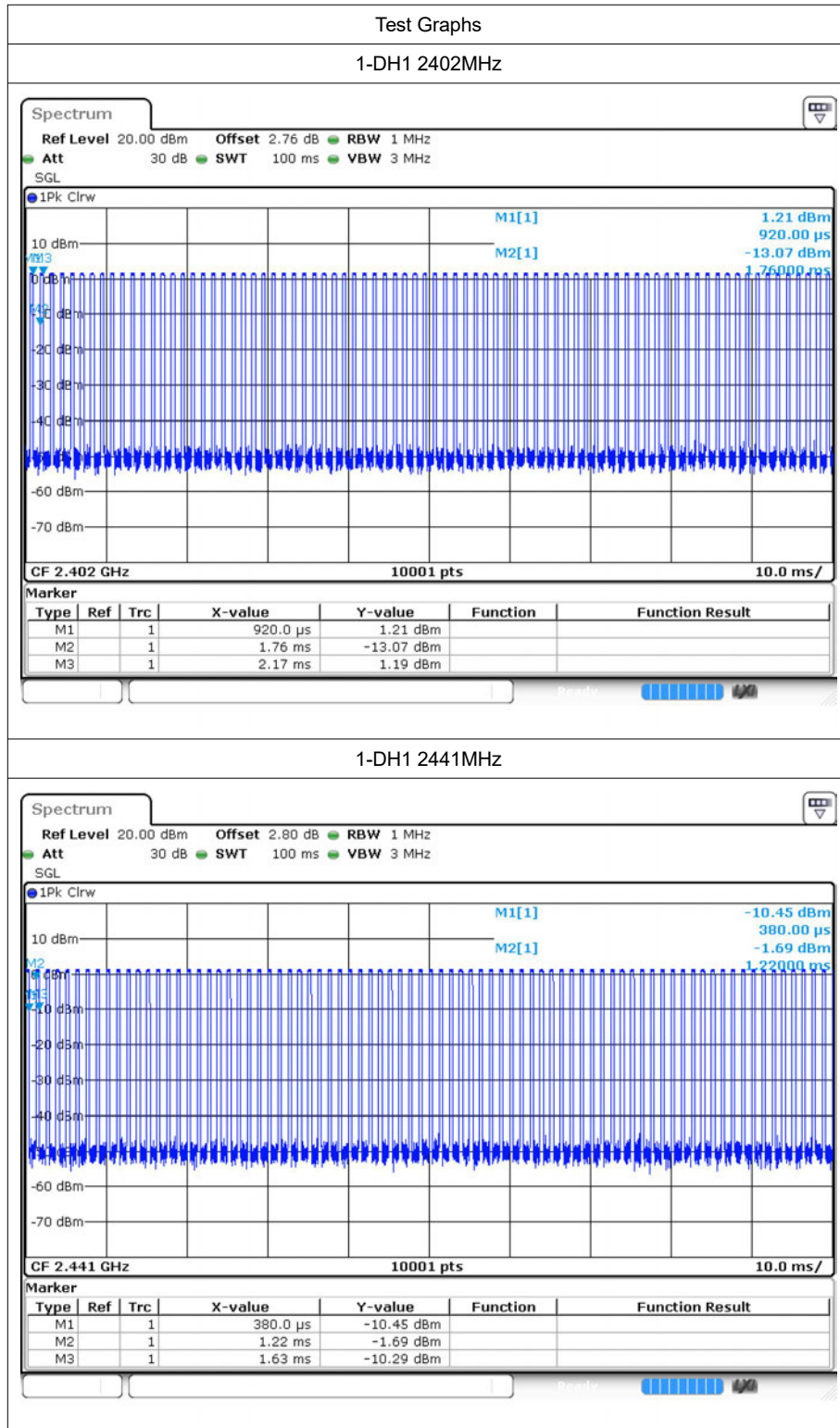
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1 Duty Cycle

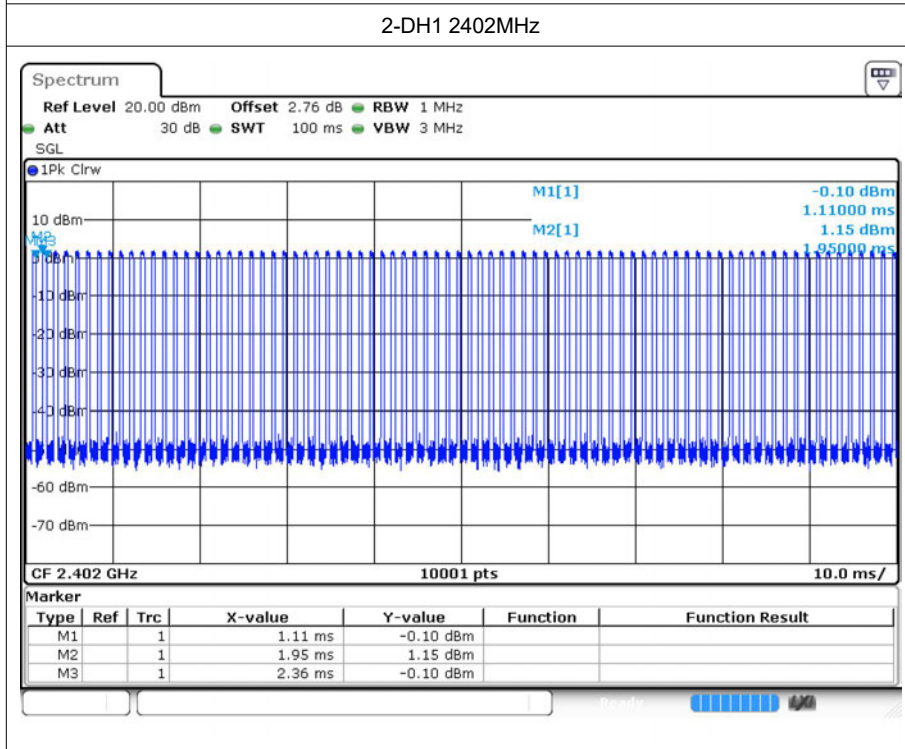
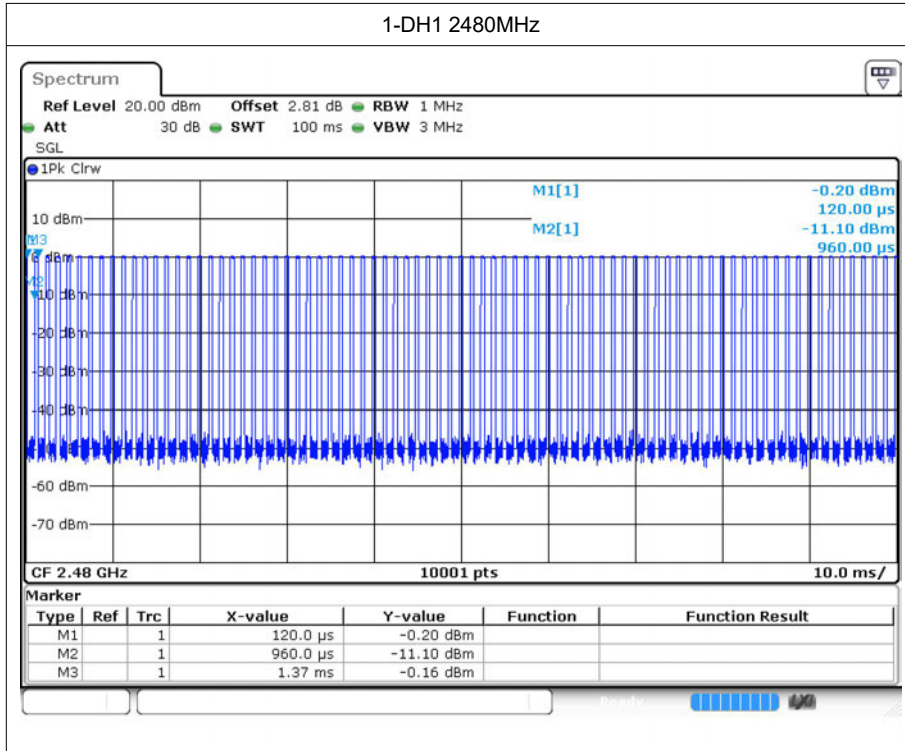
1.1 Test Result

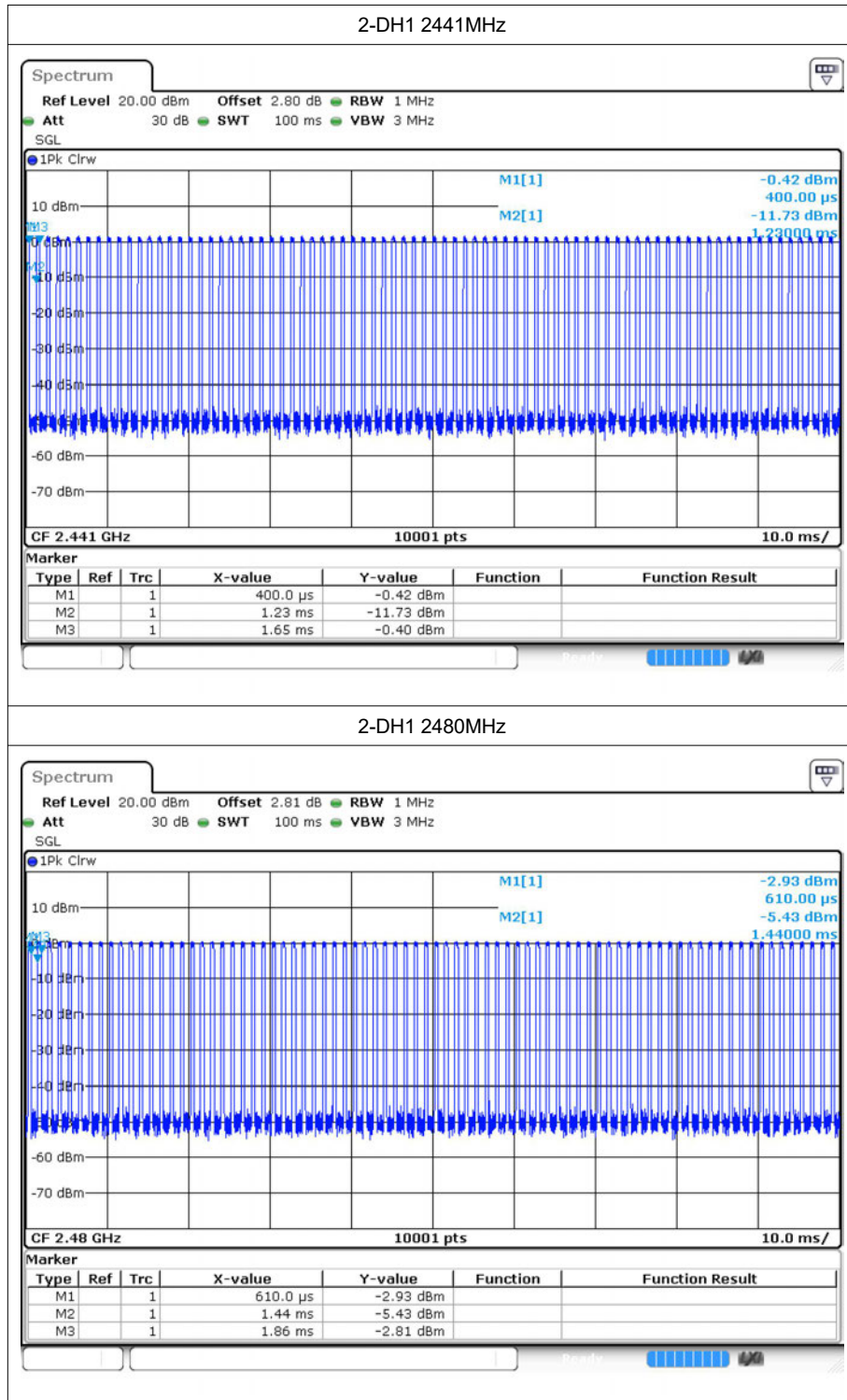
Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	33.6	2.44
1-DH1	2441	33.61	2.44
1-DH1	2480	33.61	2.44
2-DH1	2402	34.15	2.44
2-DH1	2441	34.41	2.38
2-DH1	2480	34.4	2.38
3-DH1	2402	34.41	2.38
3-DH1	2441	34.4	2.38
3-DH1	2480	34.4	2.38

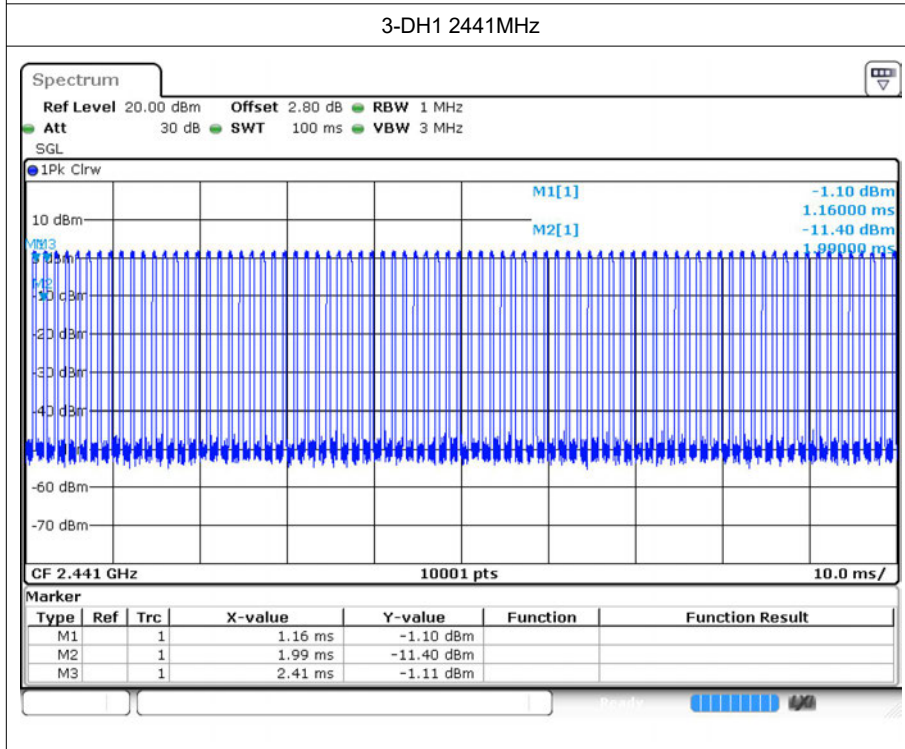
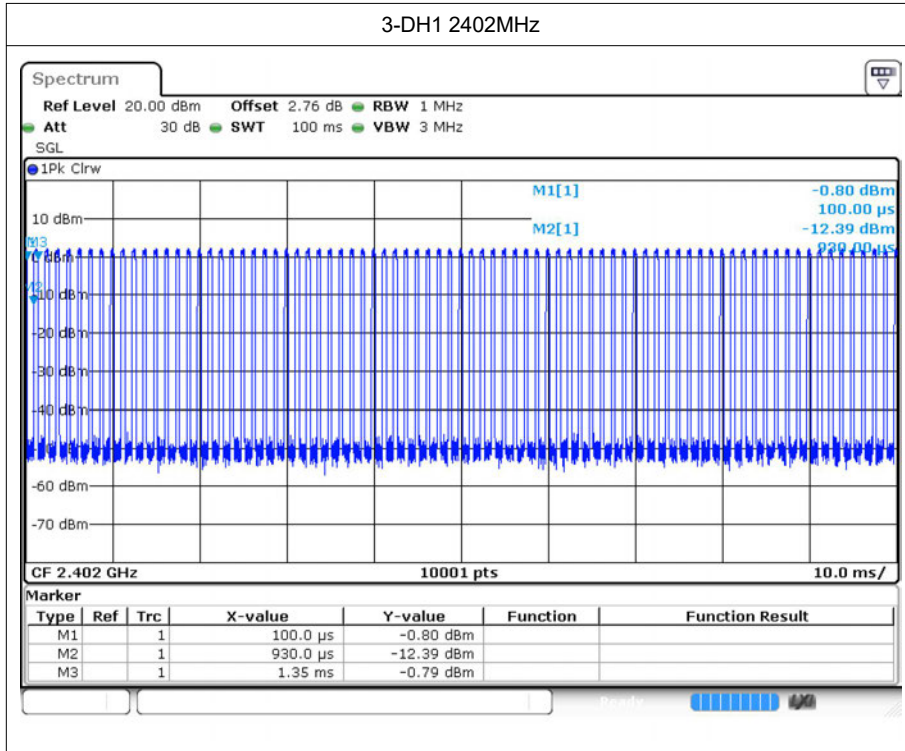
1.2 Test Graphs

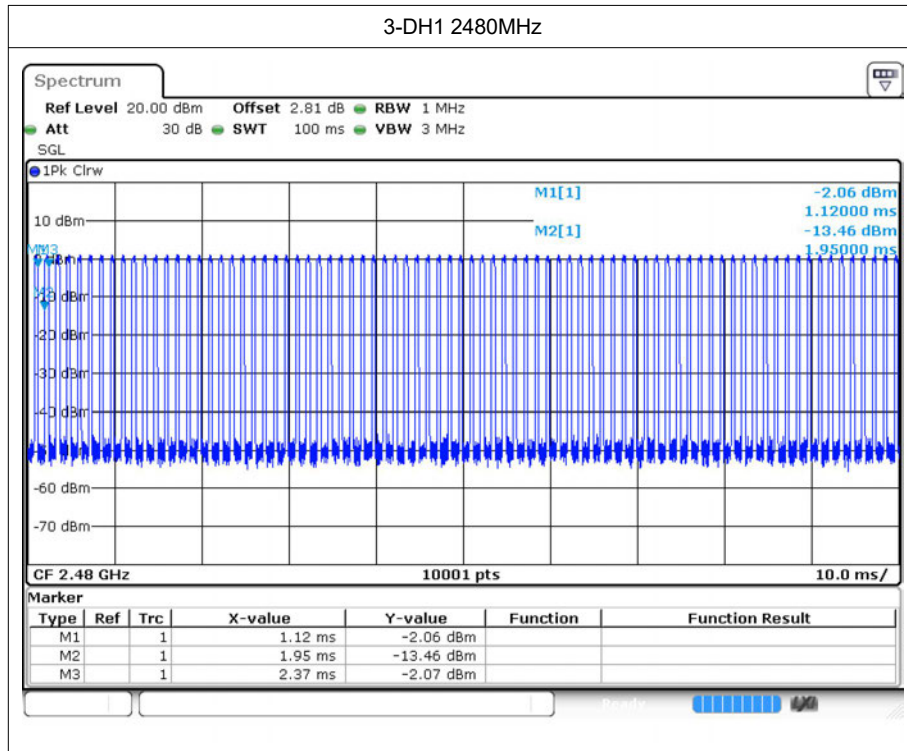


1-DH1 2441MHz







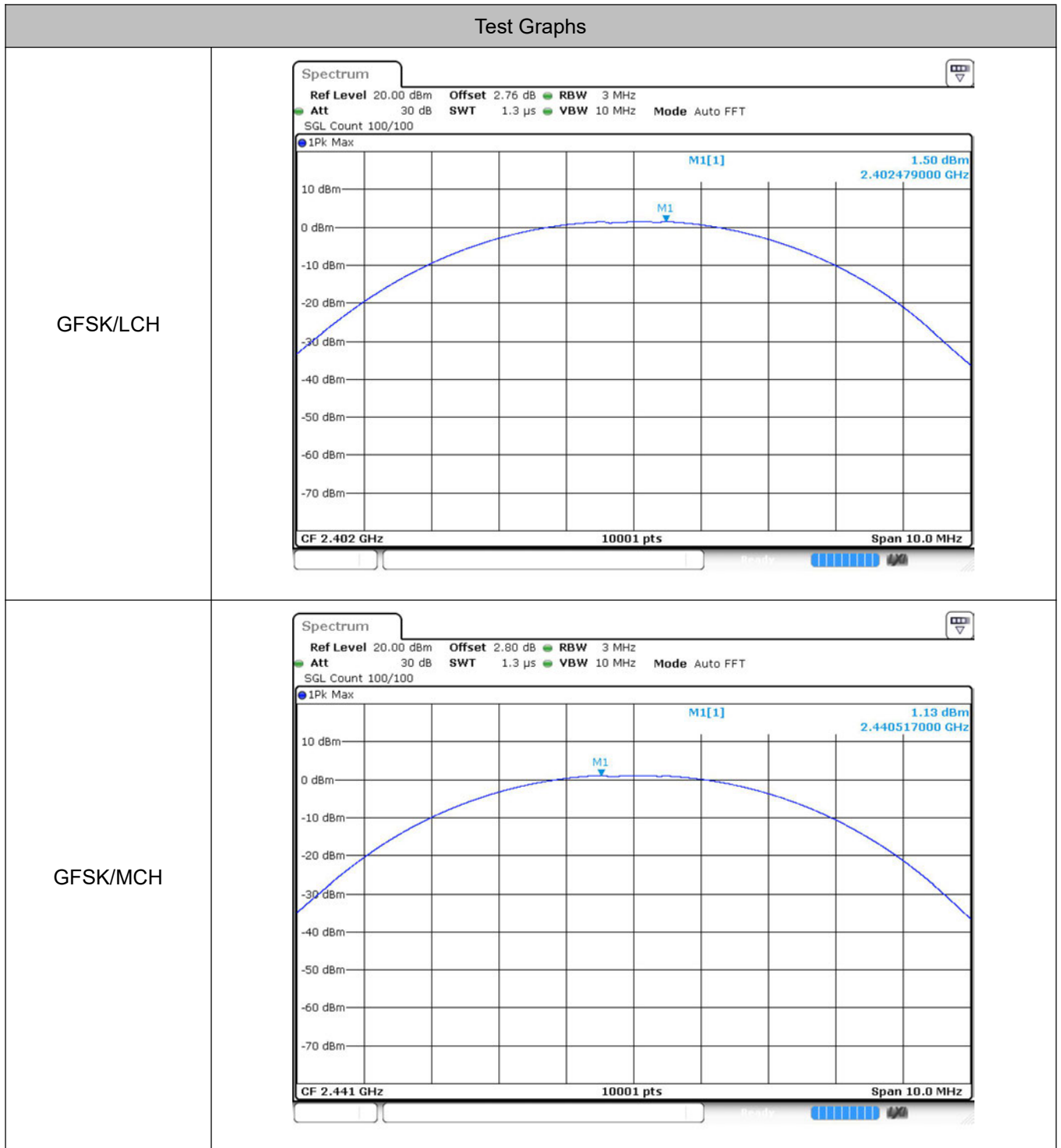


2 Maximum Conducted Peak Output Power

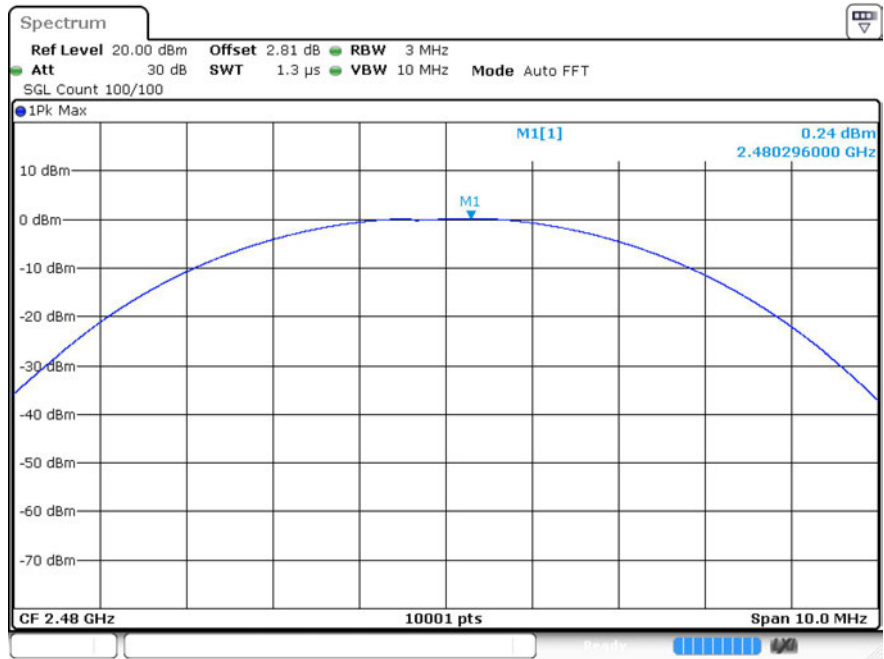
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.5	21	Pass
	MCH	1.13	21	Pass
	HCH	0.24	21	Pass
$\pi/4$ DQPSK	LCH	1.77	21	Pass
	MCH	1.53	21	Pass
	HCH	0.23	21	Pass
8DPSK	LCH	2.09	21	Pass
	MCH	1.5	21	Pass
	HCH	0.33	21	Pass

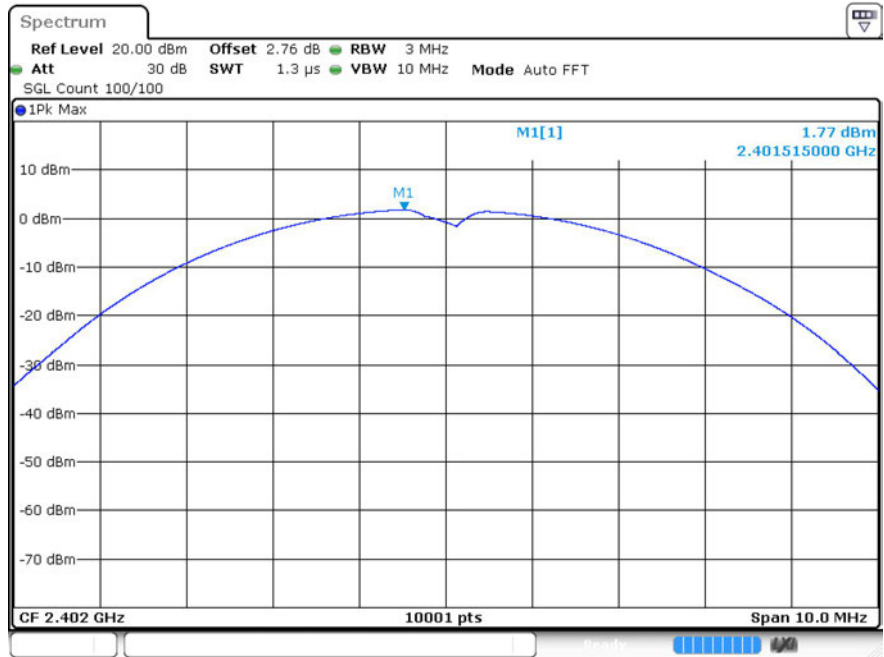
2.2 Test Graphs



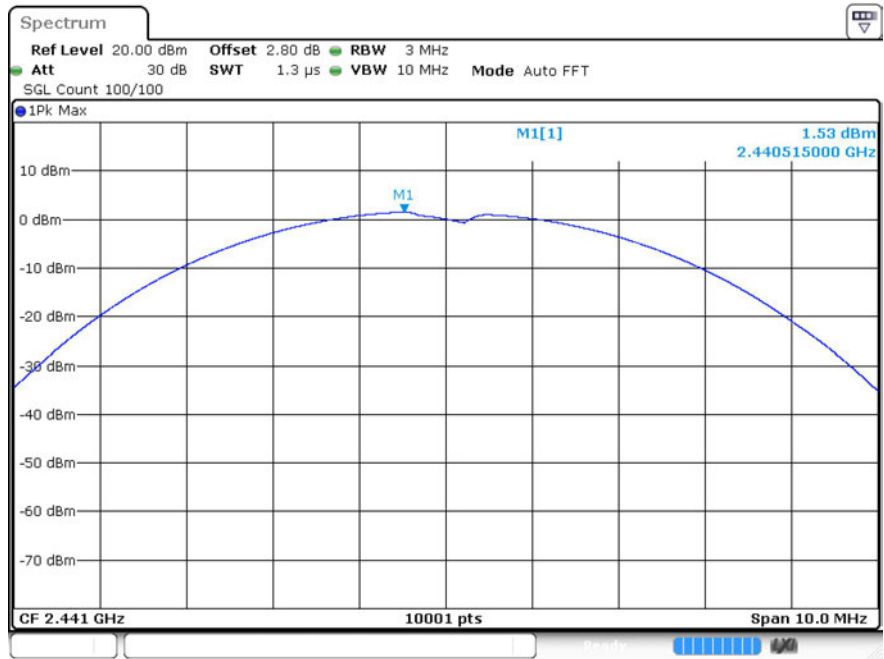
GFSK/HCH



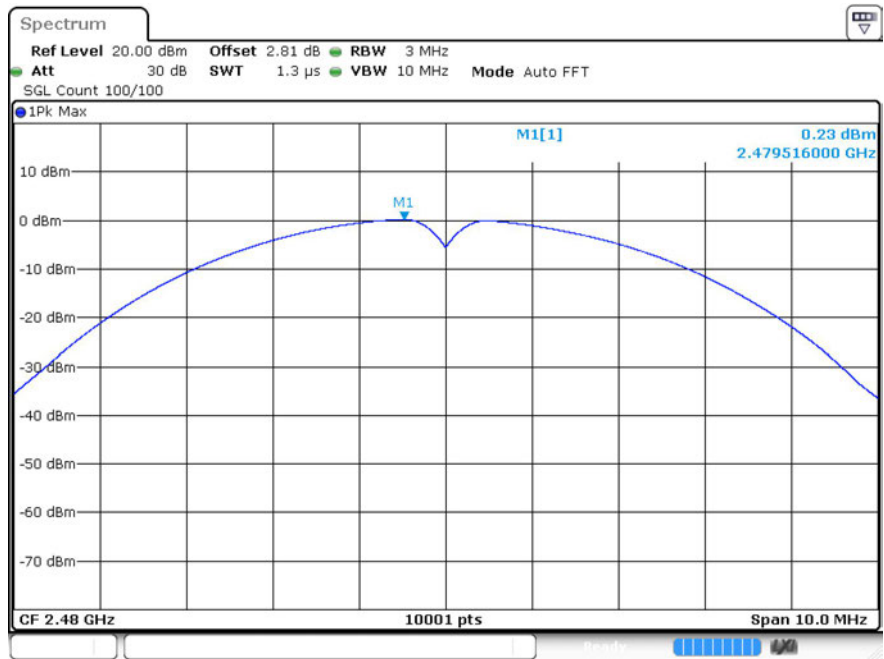
π /4DQPSK/LCH



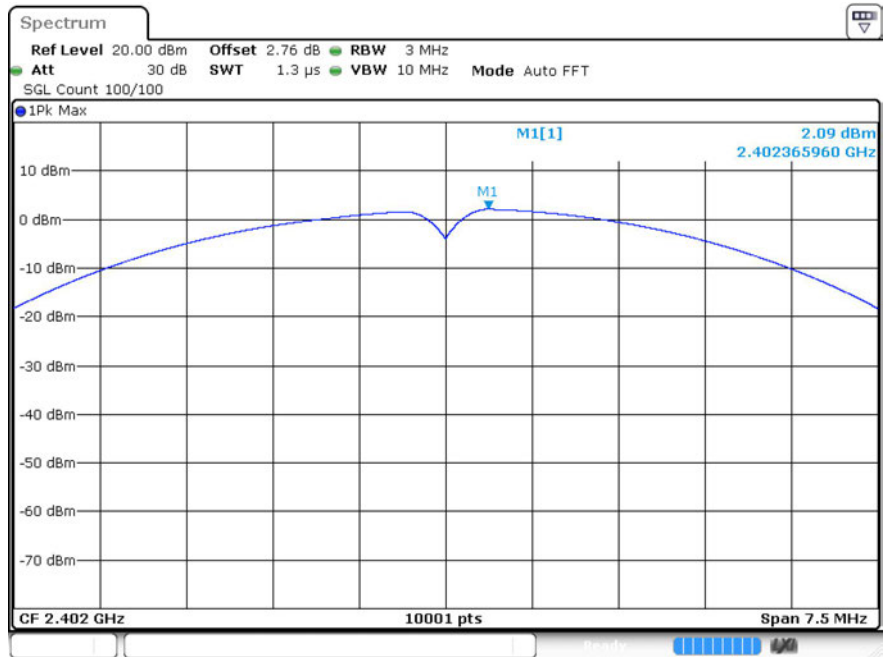
$\pi/4$ DQPSK/MCH



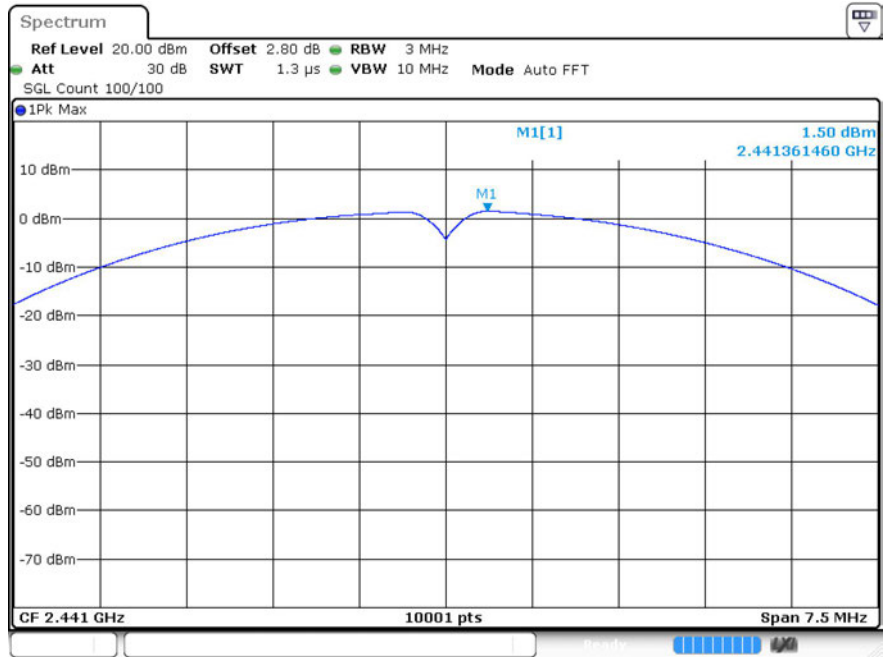
$\pi/4$ DQPSK/HCH



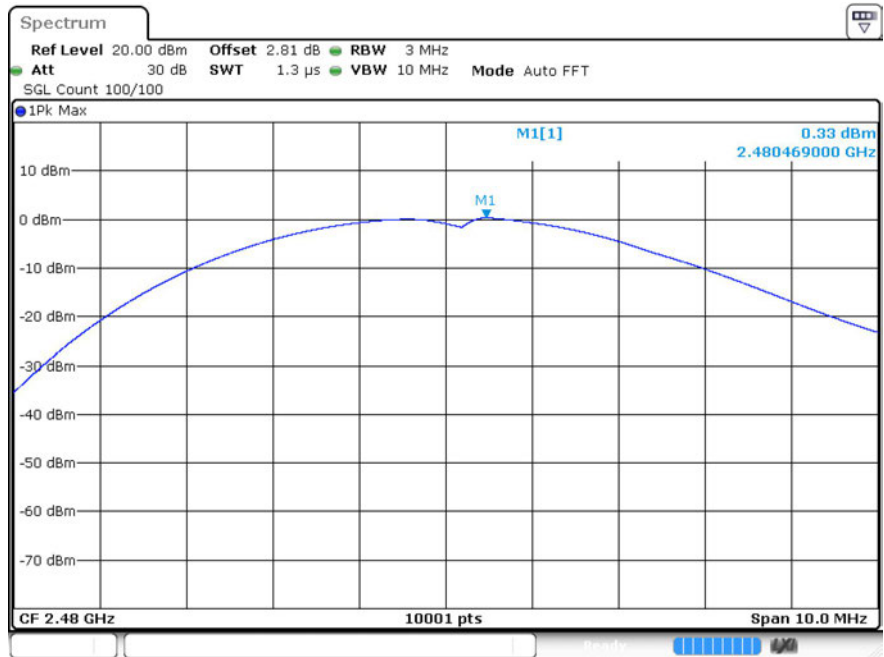
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

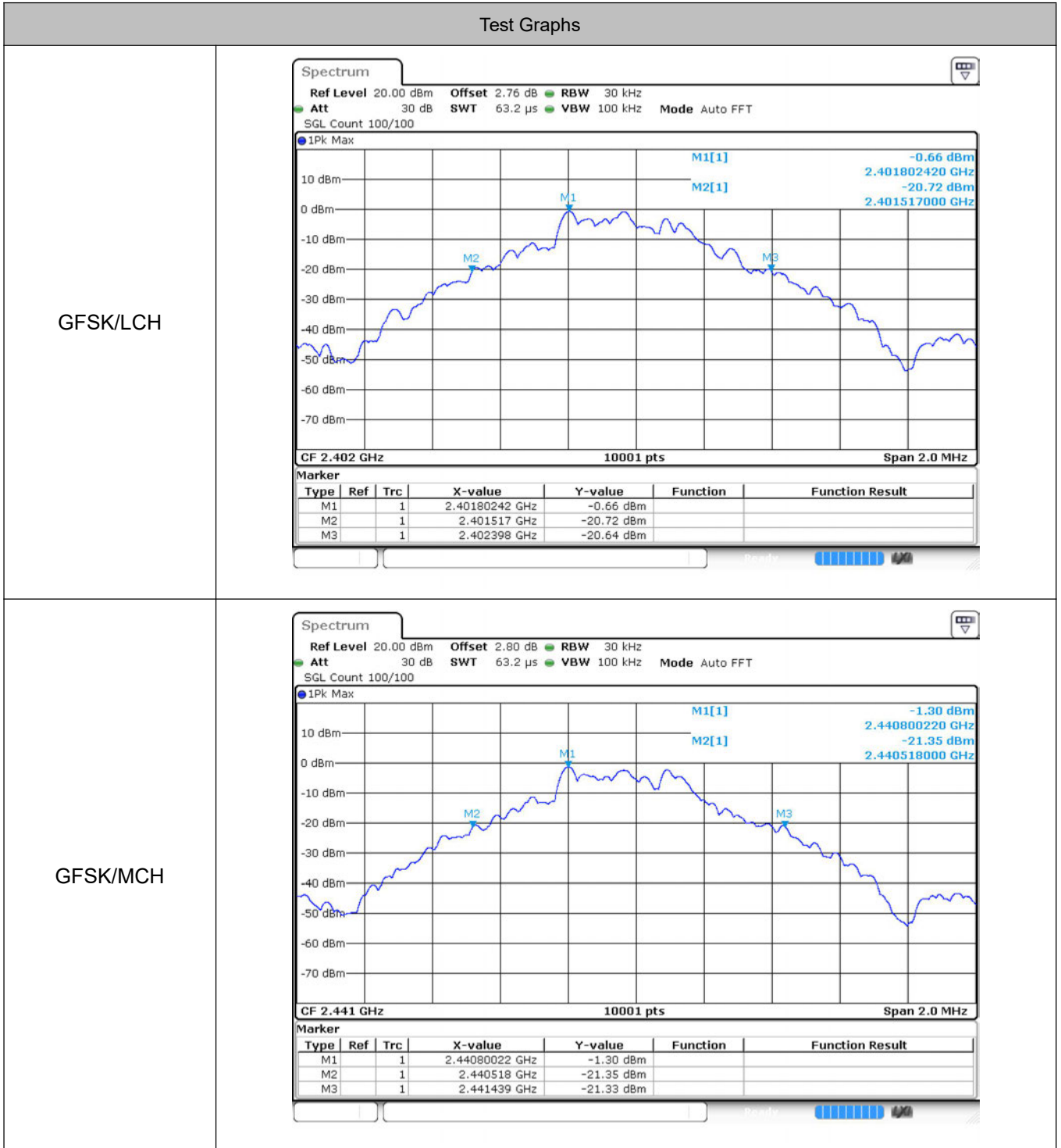


3 20dB Bandwidth

3.1 Test Result

Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.881	Not Specified	Pass
	MCH	0.92	Not Specified	Pass
	HCH	0.89	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.24	Not Specified	Pass
	MCH	1.242	Not Specified	Pass
	HCH	1.194	Not Specified	Pass
8DPSK	LCH	1.196	Not Specified	Pass
	MCH	1.204	Not Specified	Pass
	HCH	1.196	Not Specified	Pass

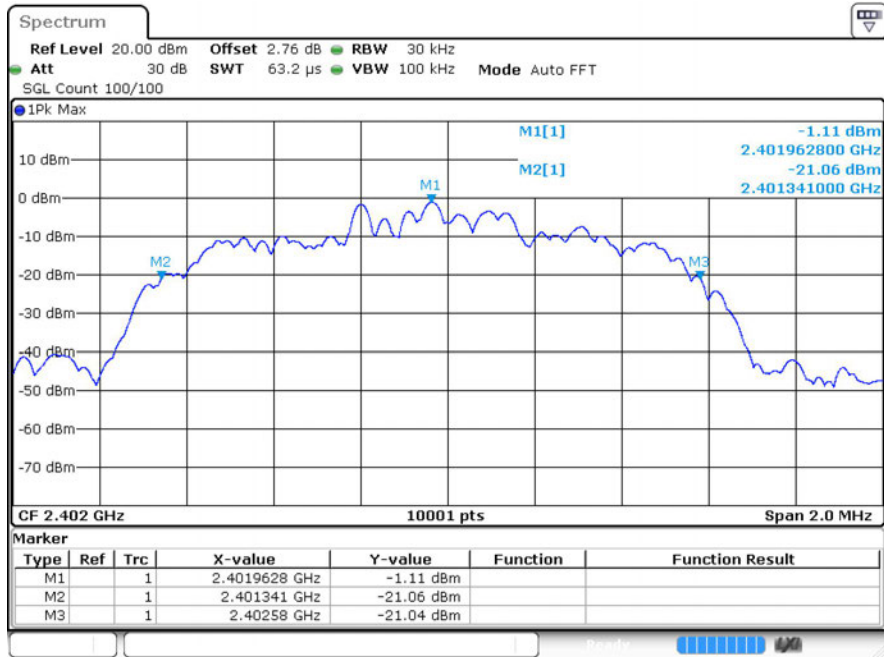
3.2 Test Graphs



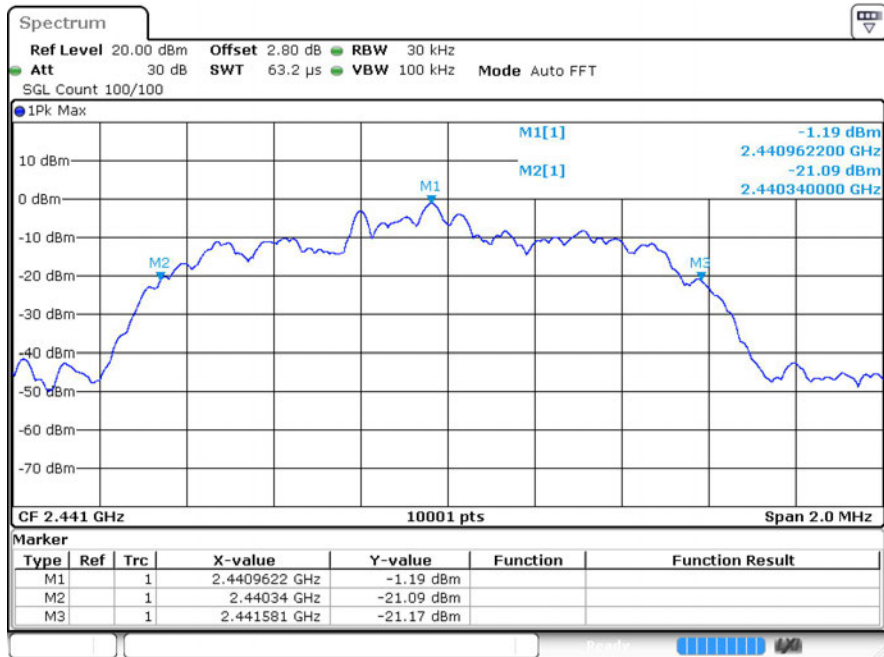
GFSK/HCH



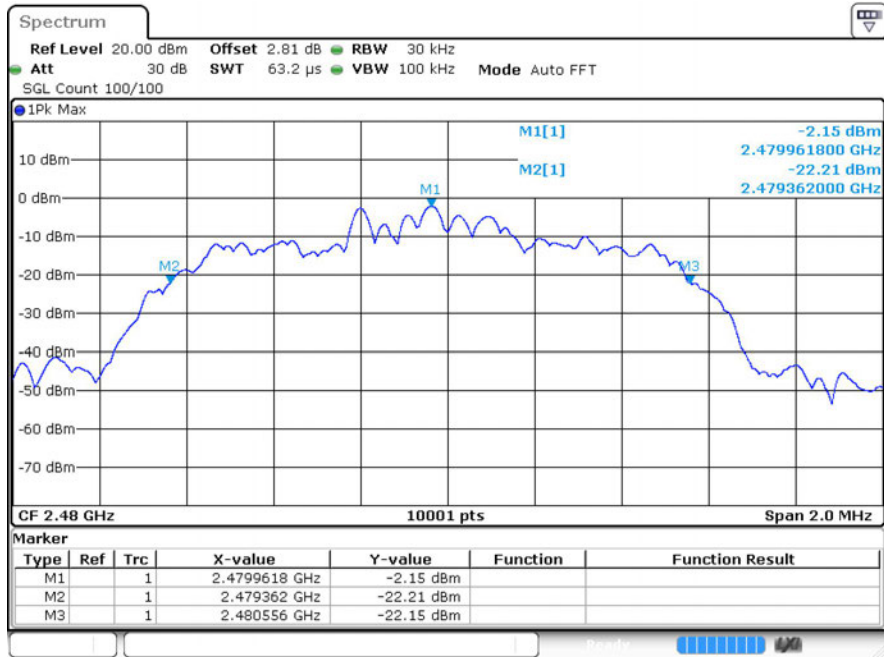
$\pi/4$ DQPSK/LCH



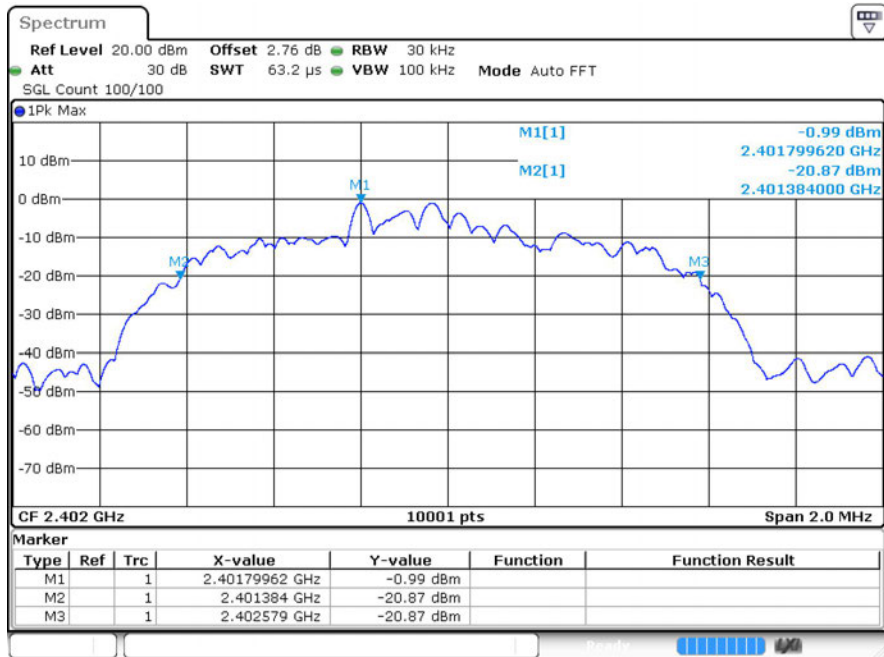
$\pi/4$ DQPSK/MCH



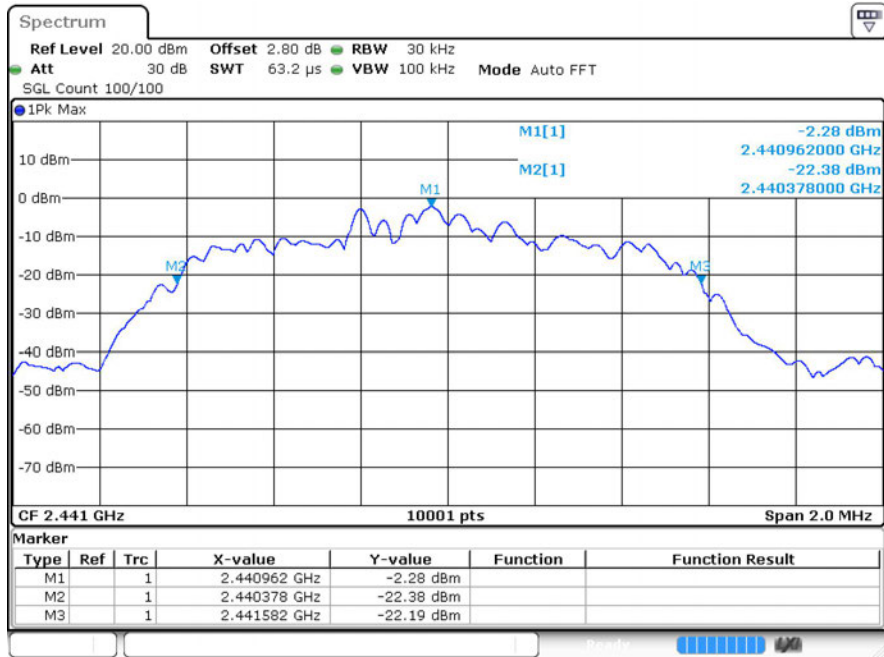
$\pi/4$ DQPSK/HCH



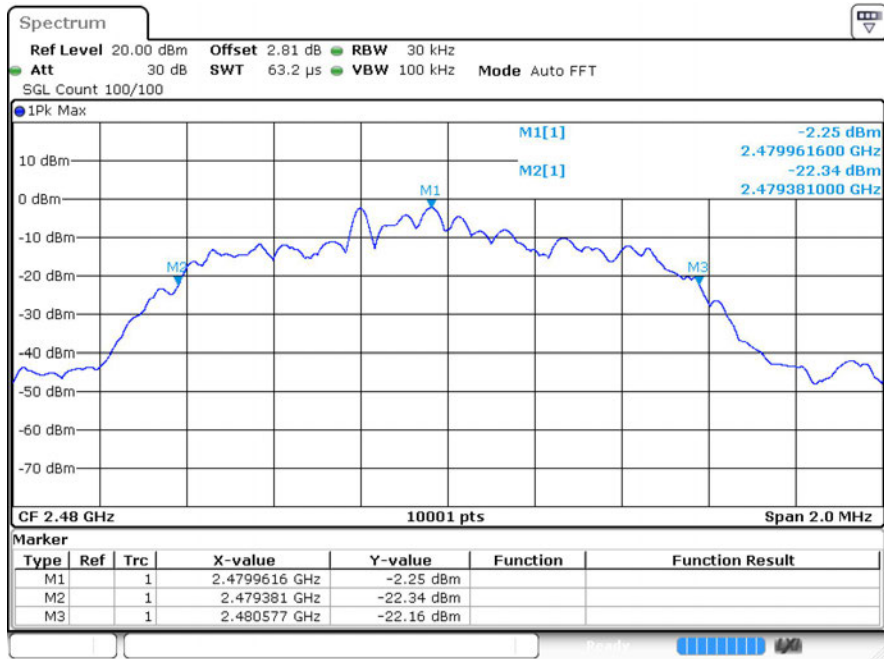
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



4 Carrier Frequency Separation

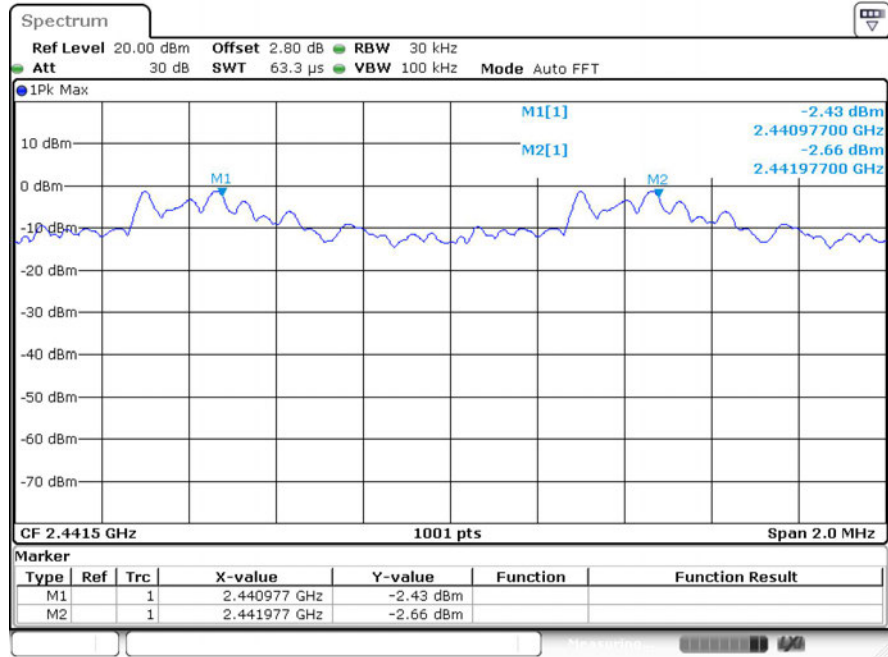
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.999	0.613	Pass
$\pi/4$ DQPSK	MCH	1.001	0.828	Pass
8DPSK	MCH	1	0.803	Pass

4.2 Test Graphs



8DPSK/MCH

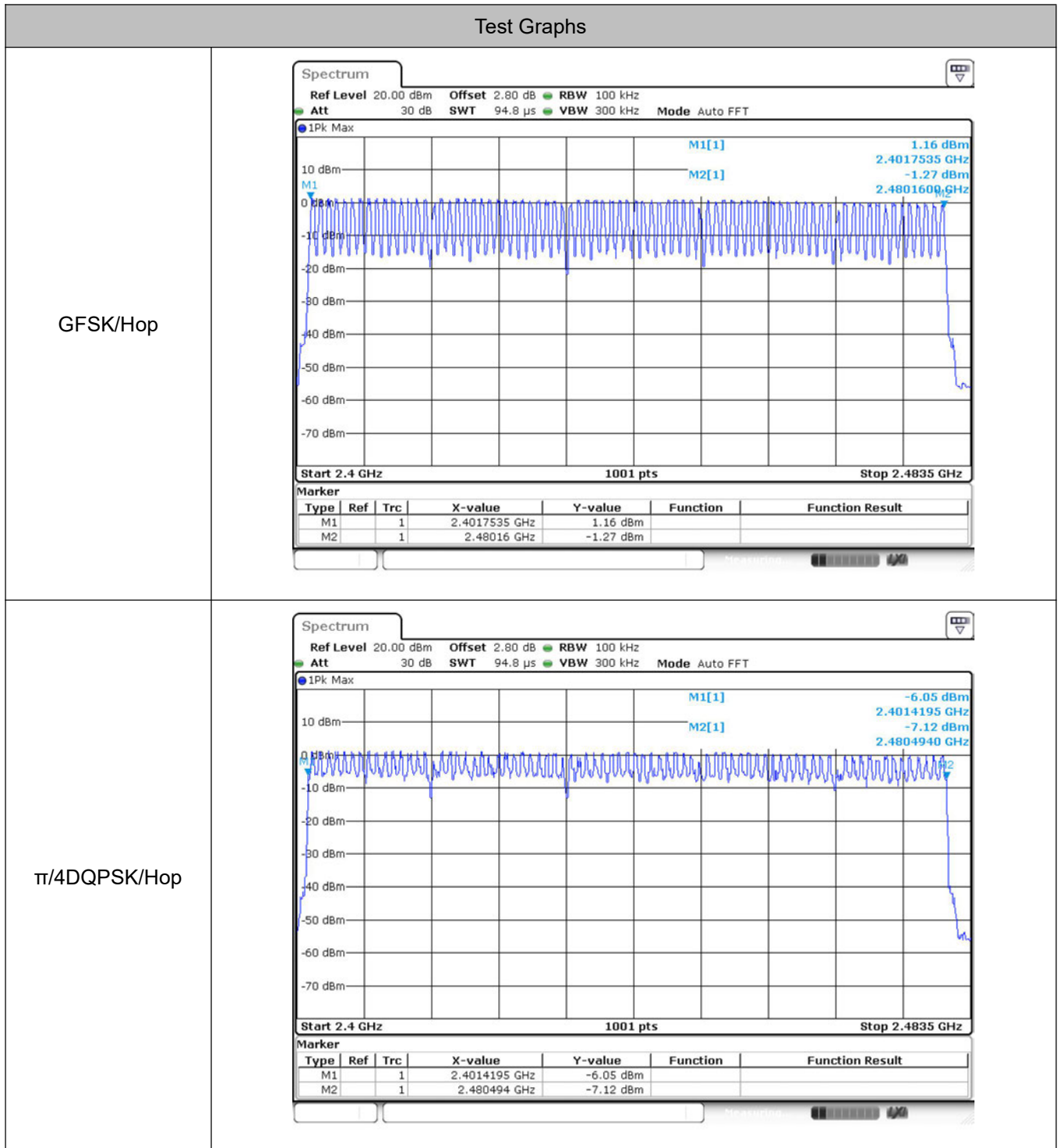


5 Hopping Channel Number

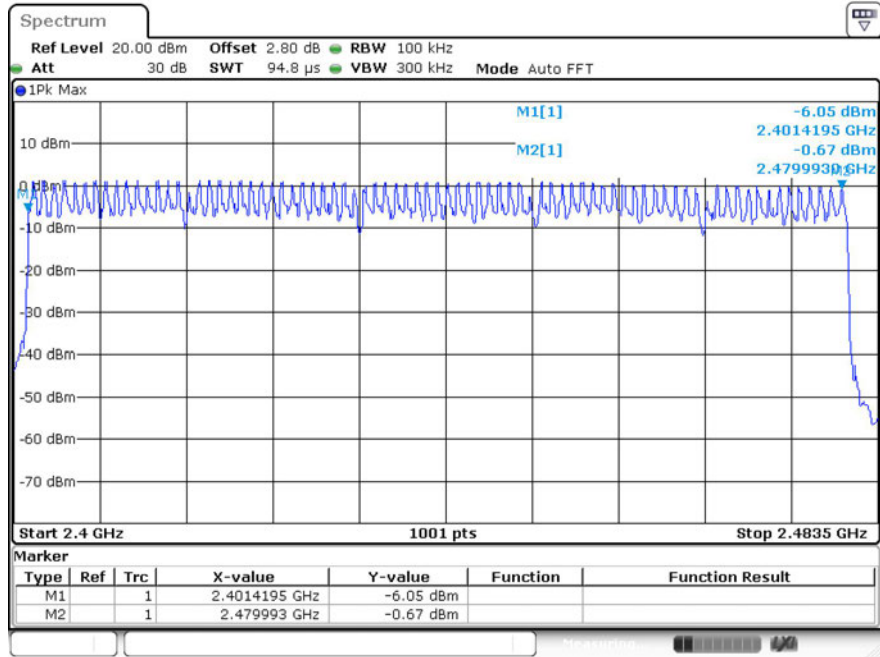
5.1 Test Result

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

5.2 Test Graphs



8DPSK/Hop

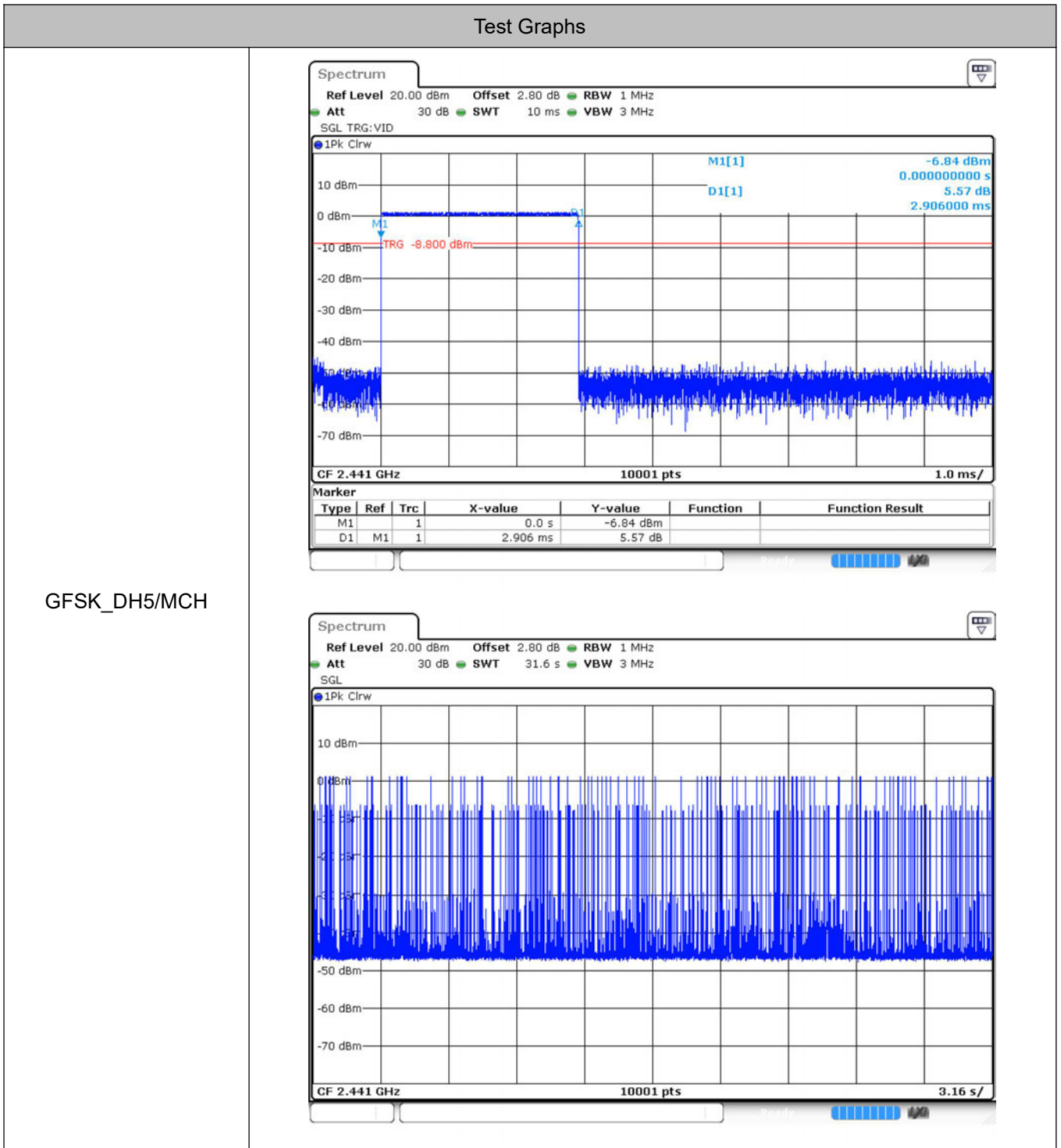


6 Dwell Time

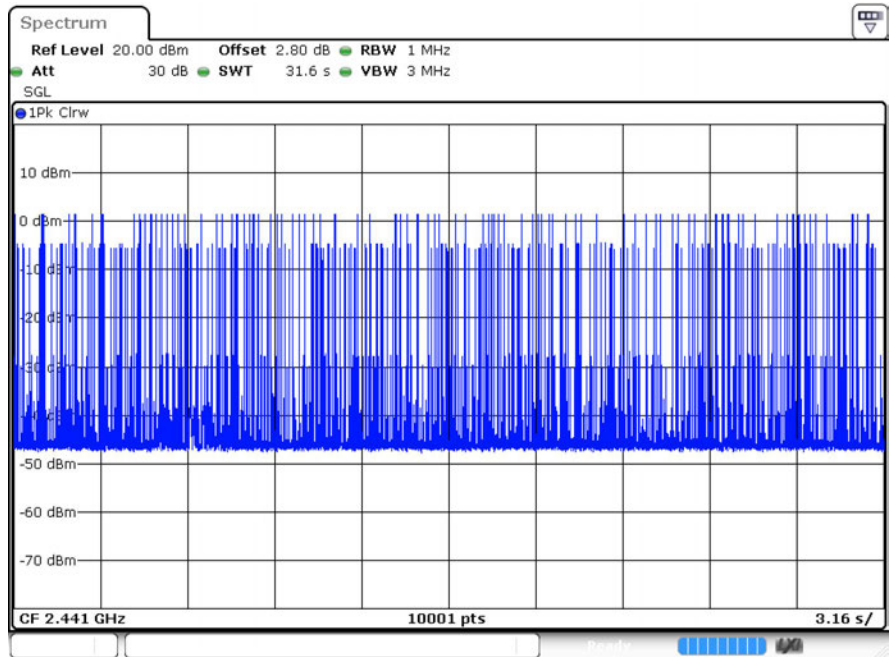
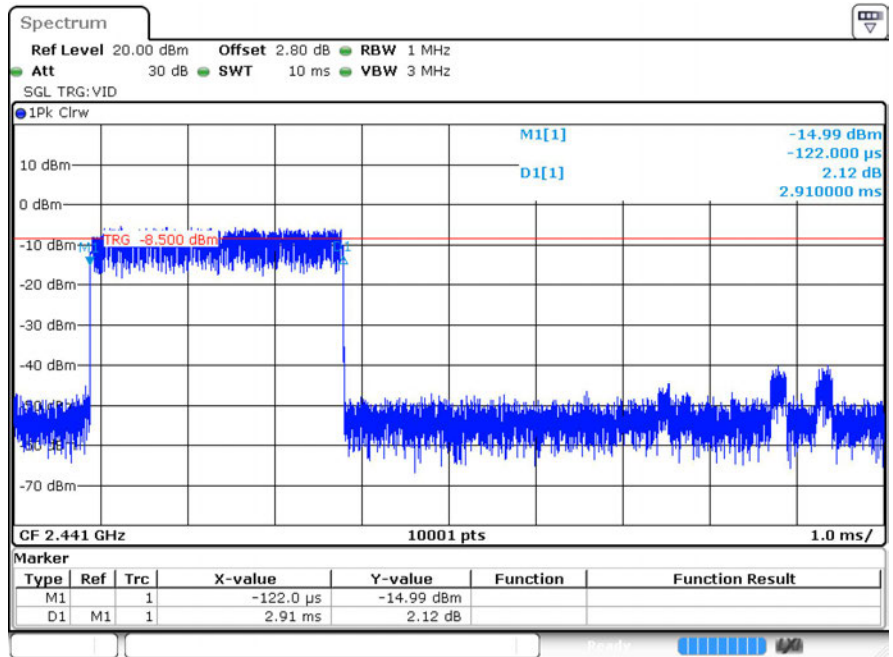
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.906	98	284.788	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.91	102	296.82	0.4	Pass
8DPSK	3DH5	MCH	2.912	118	343.616	0.4	Pass

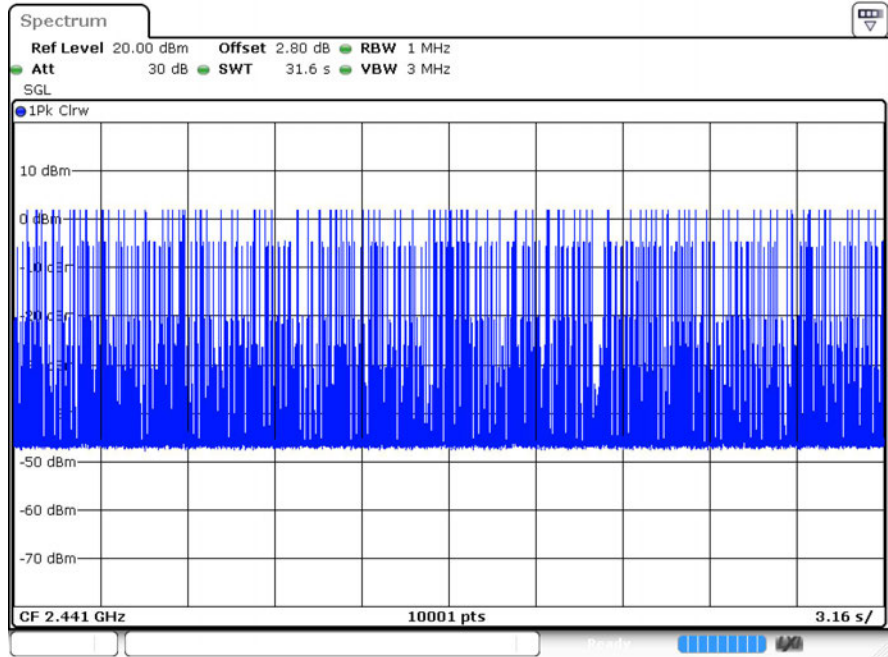
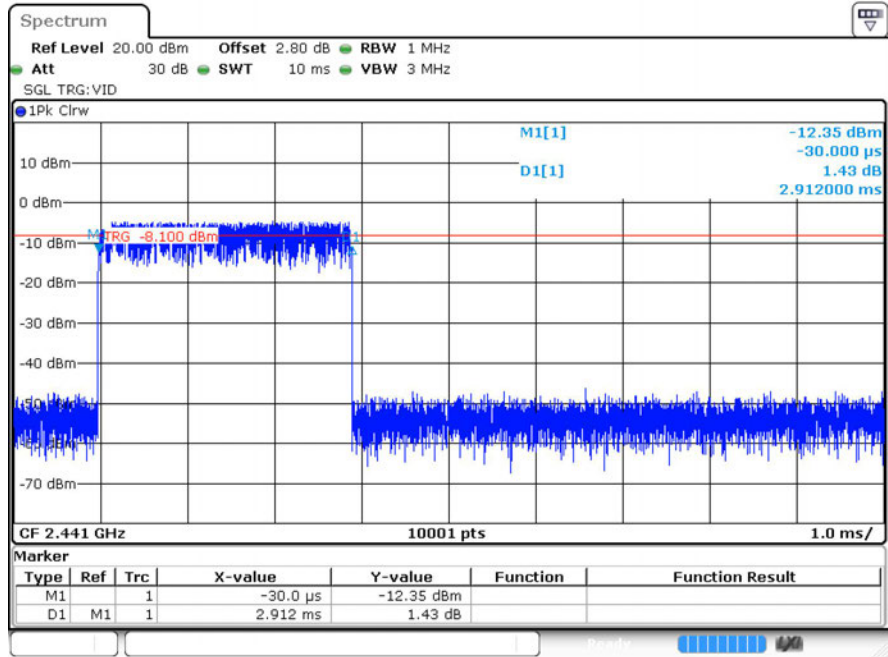
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

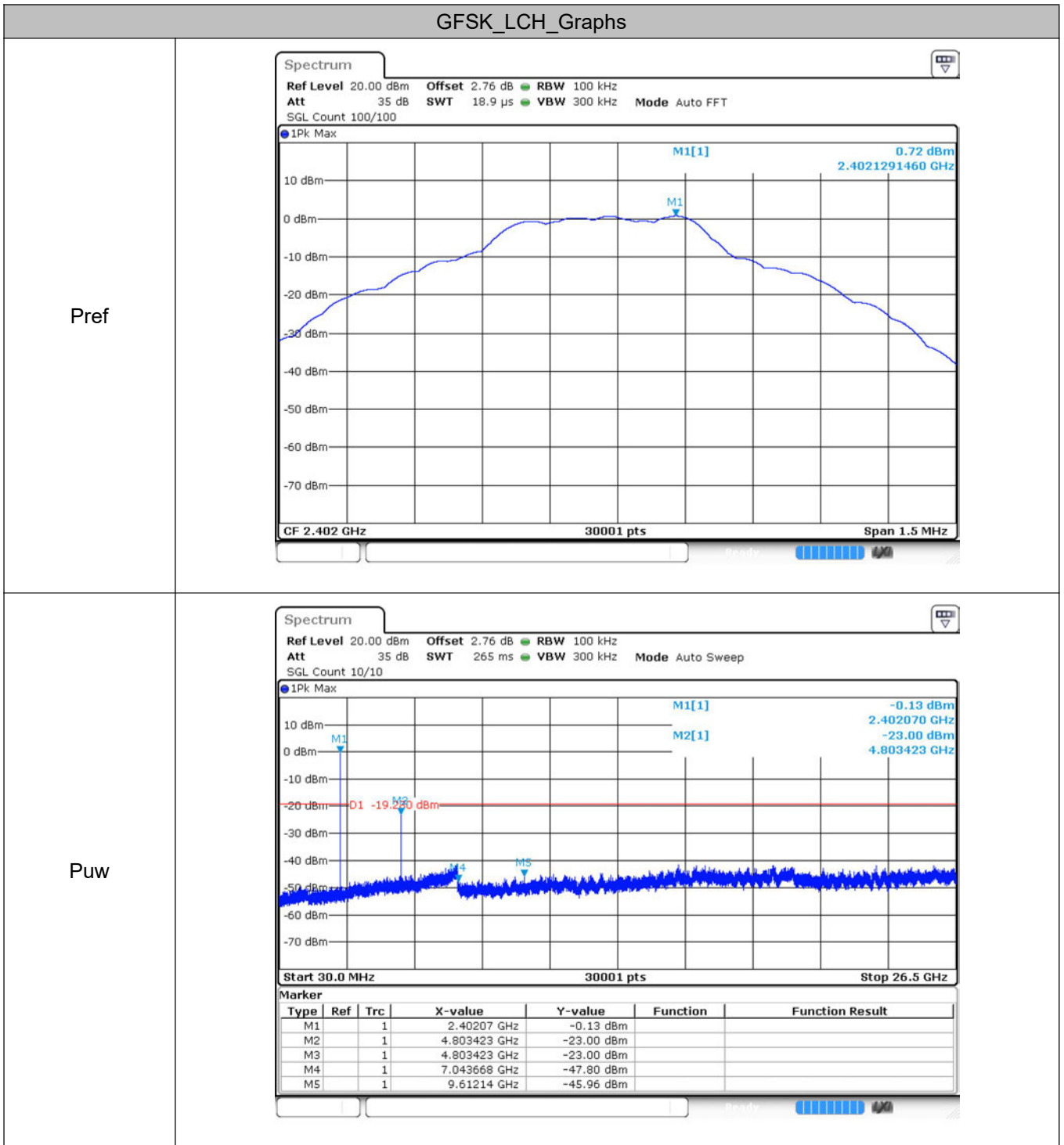


7 RF Conducted Spurious Emissions

7.1 Test Result

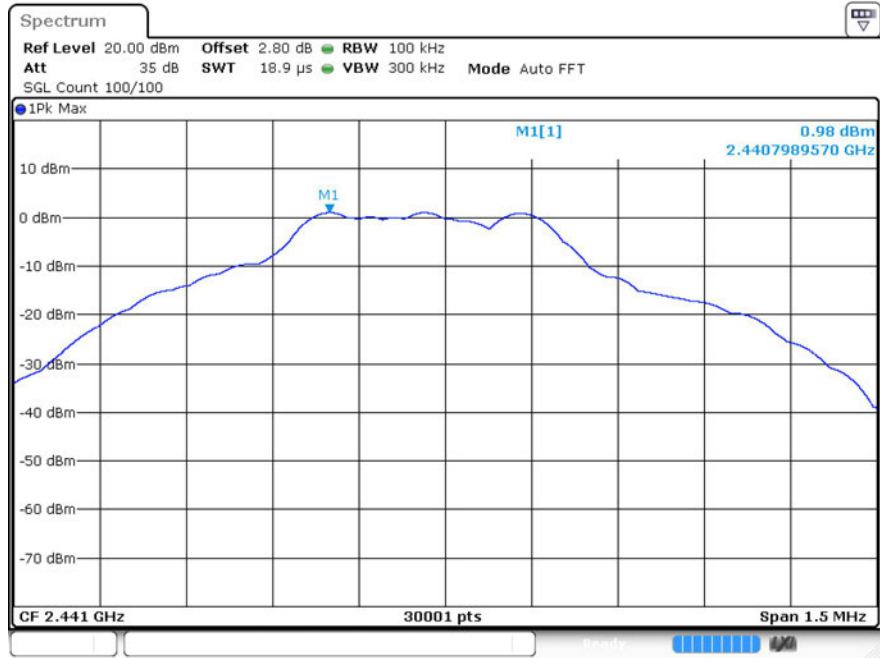
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-23.72	-20	Pass
	MCH	-25.5	-20	Pass
	HCH	-28.19	-20	Pass
$\pi/4$ DQPSK	LCH	-23.96	-20	Pass
	MCH	-24.93	-20	Pass
	HCH	-25.39	-20	Pass
8DPSK	LCH	-24.48	-20	Pass
	MCH	-29.68	-20	Pass
	HCH	-29.07	-20	Pass

7.2 Test Graphs

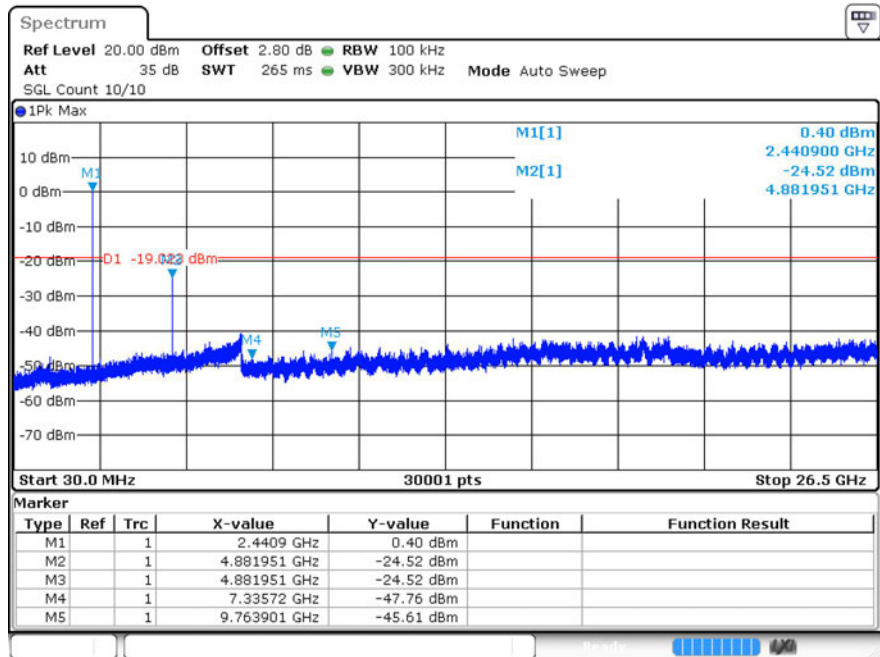


GFSK_MCH_Graphs

Pref

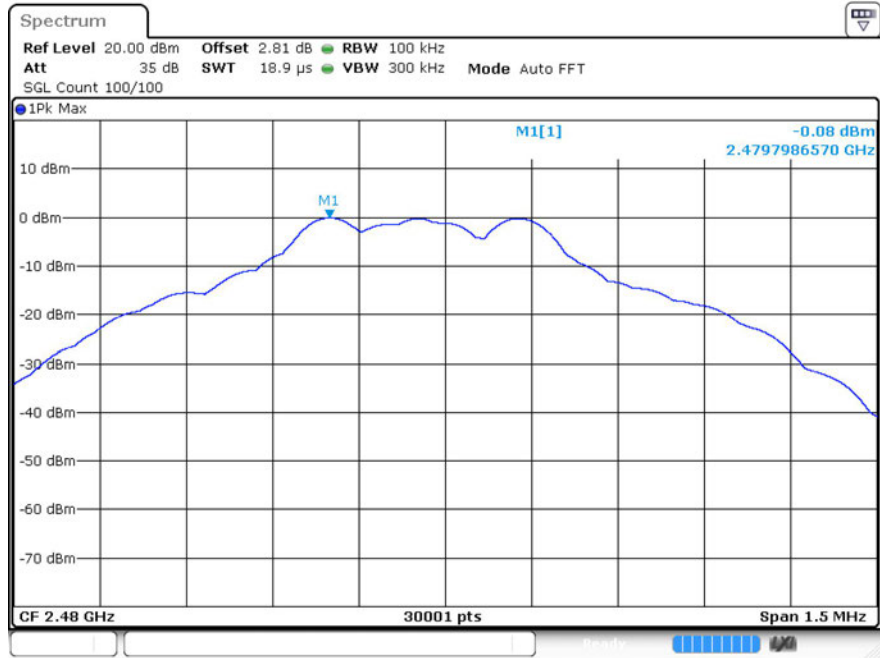


Puw

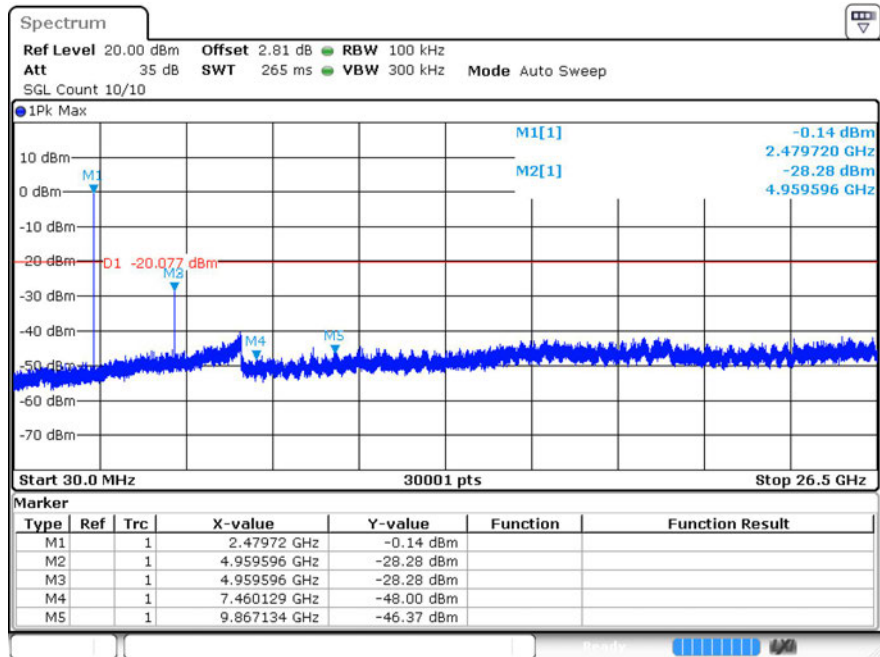


GFSK_HCH_Graphs

Pref

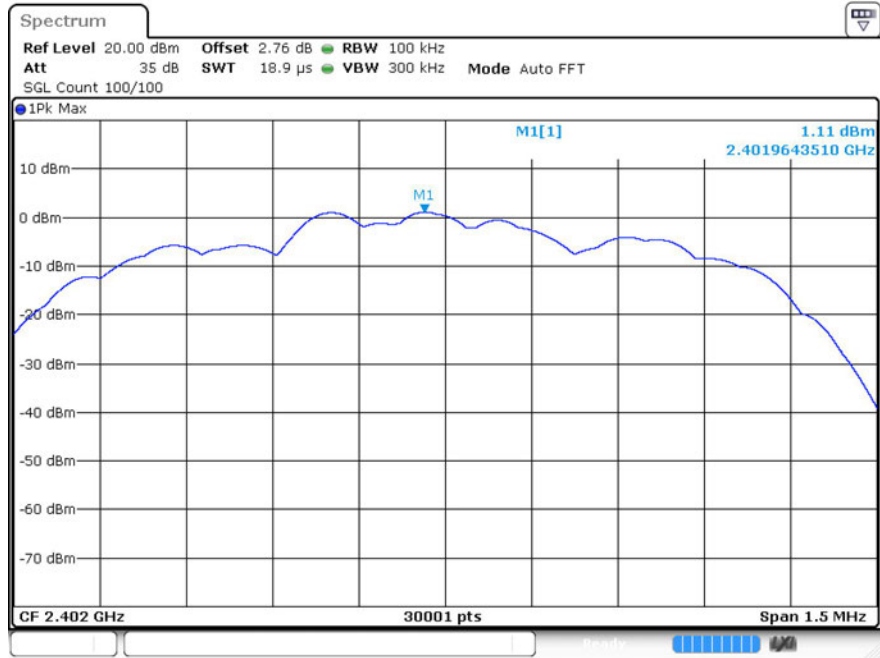


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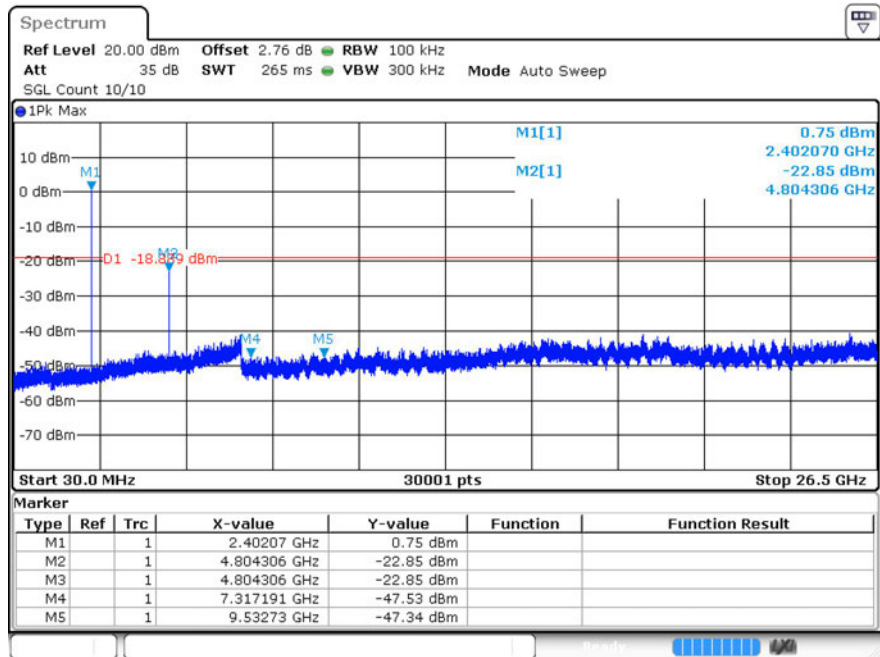


$\pi/4$ DQPSK_LCH_Graphs

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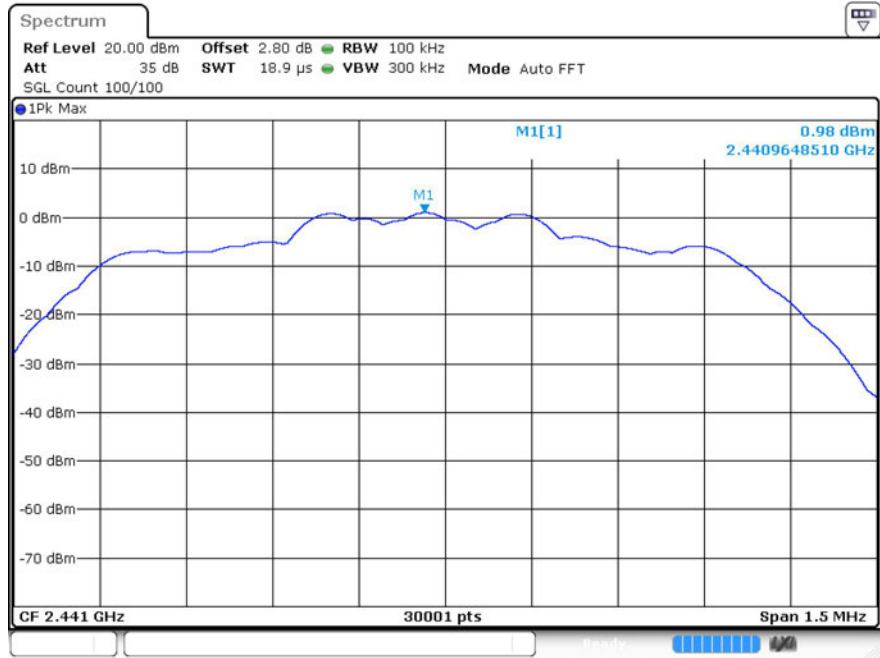


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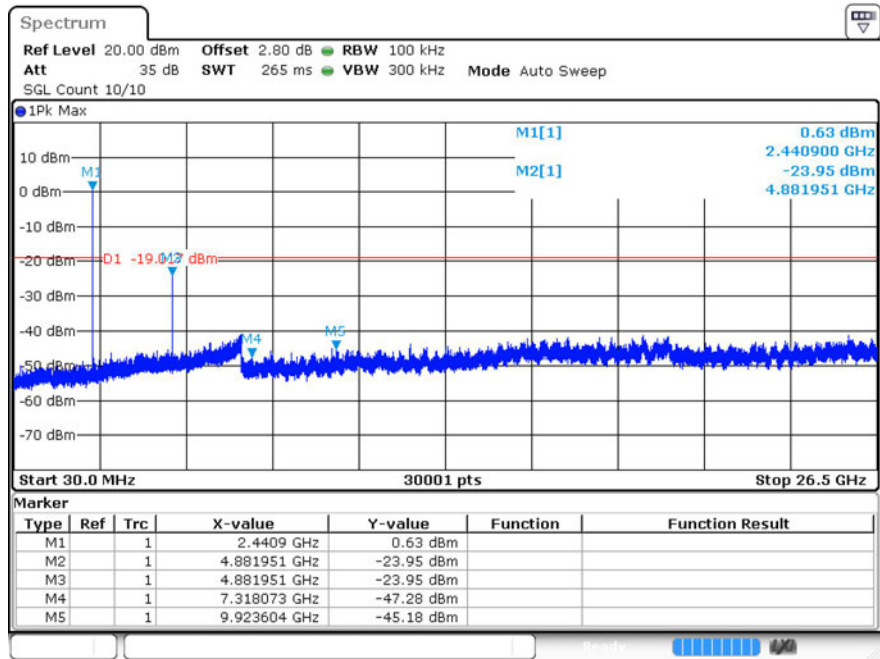


π /4DQPSK_MCH_Graphs

Pref

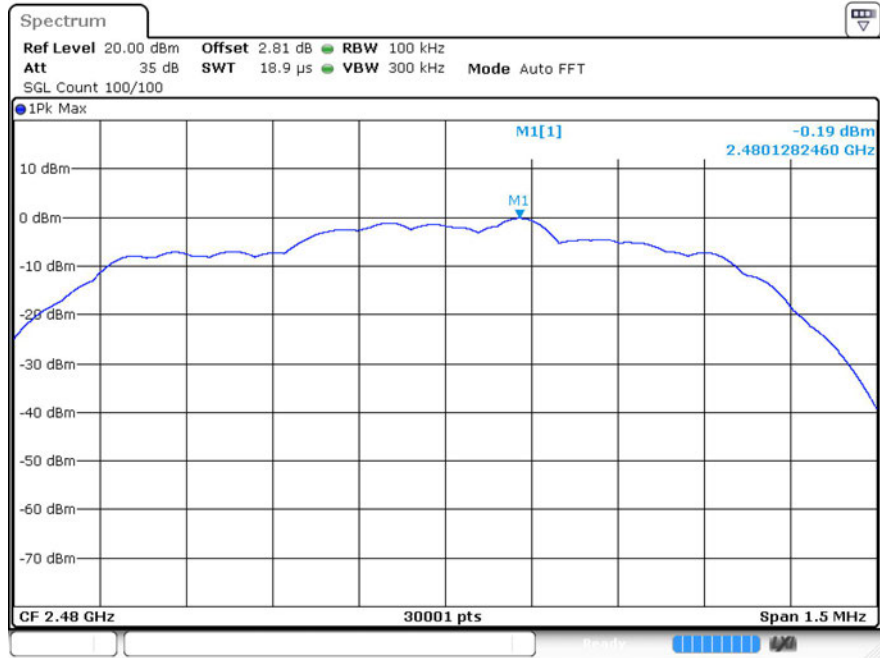


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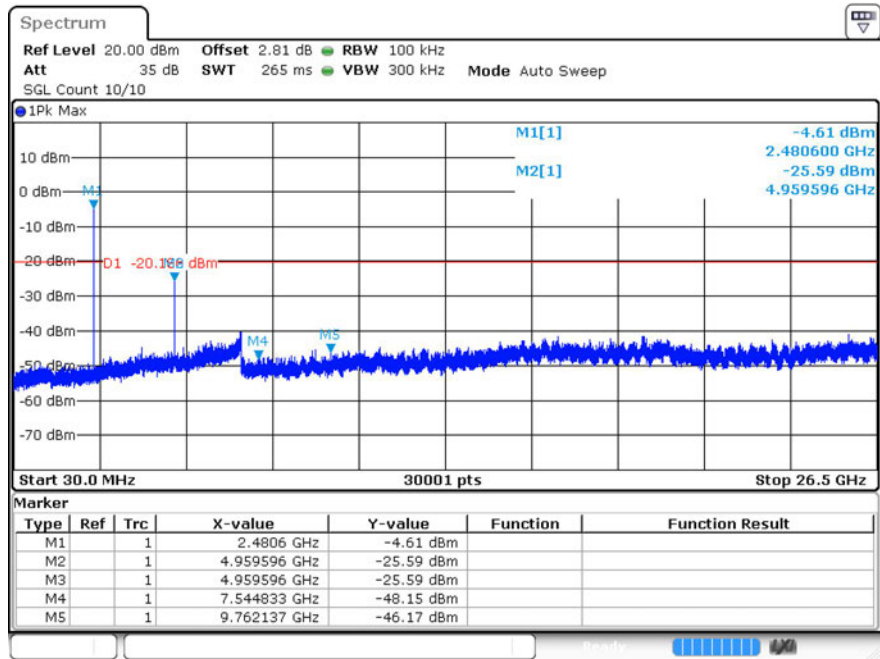


π /4DQPSK_HCH_Graphs

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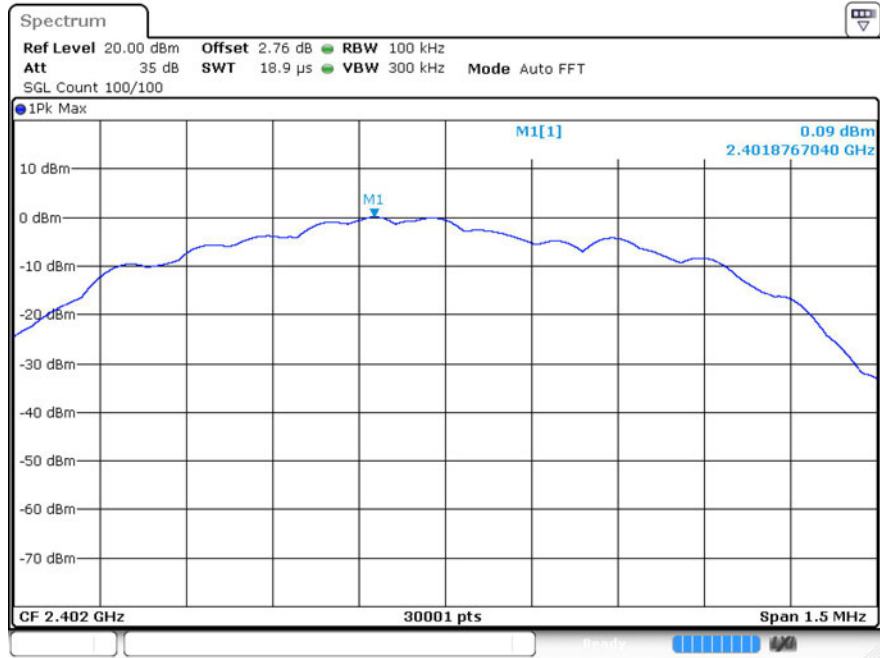


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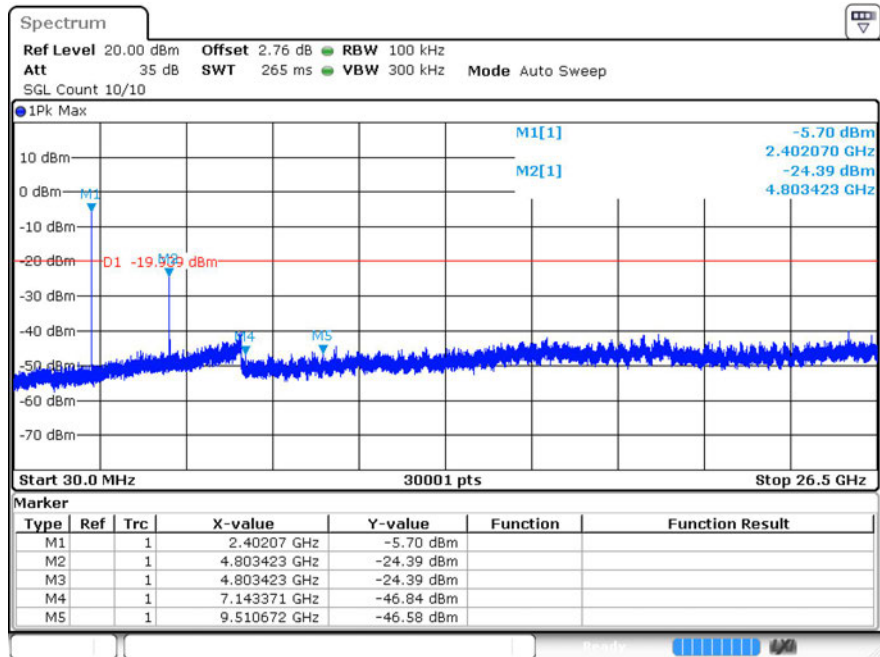


8DPSK_LCH_Graphs

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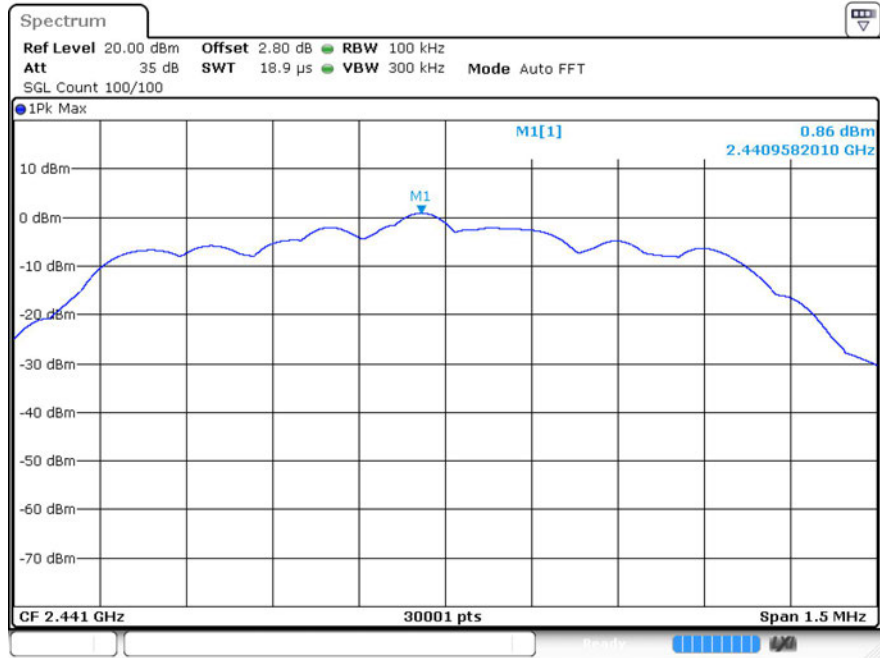


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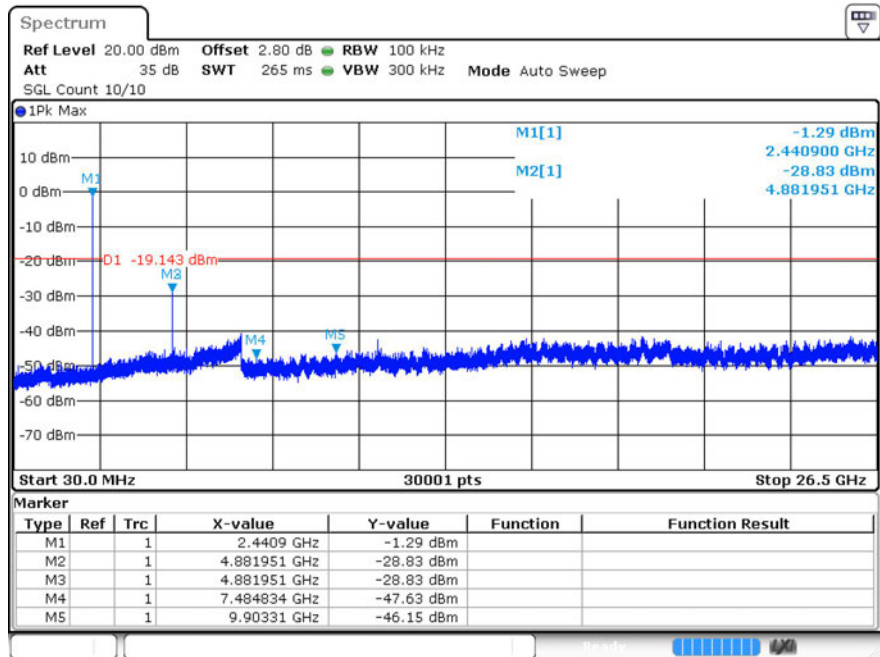


8DPSK_MCH_Graphs

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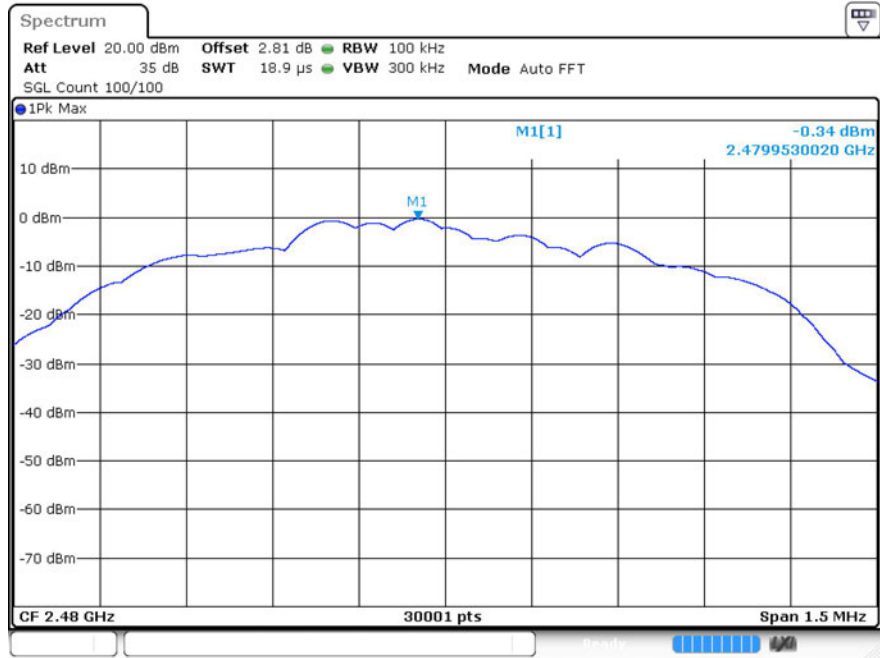


Puw



8DPSK_HCH_Graphs

Pref



Puw

