

Appendix A

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

Product Name: True Wireless Earphone

Trade Mark: N/A

Test Model: AW-T61

Environmental Conditions

Temperature:	24.6℃
Relative Humidity:	55.3%
ATM Pressure:	101Kpa
Test Engineer:	Leon.yi
Supervised by:	Sean She

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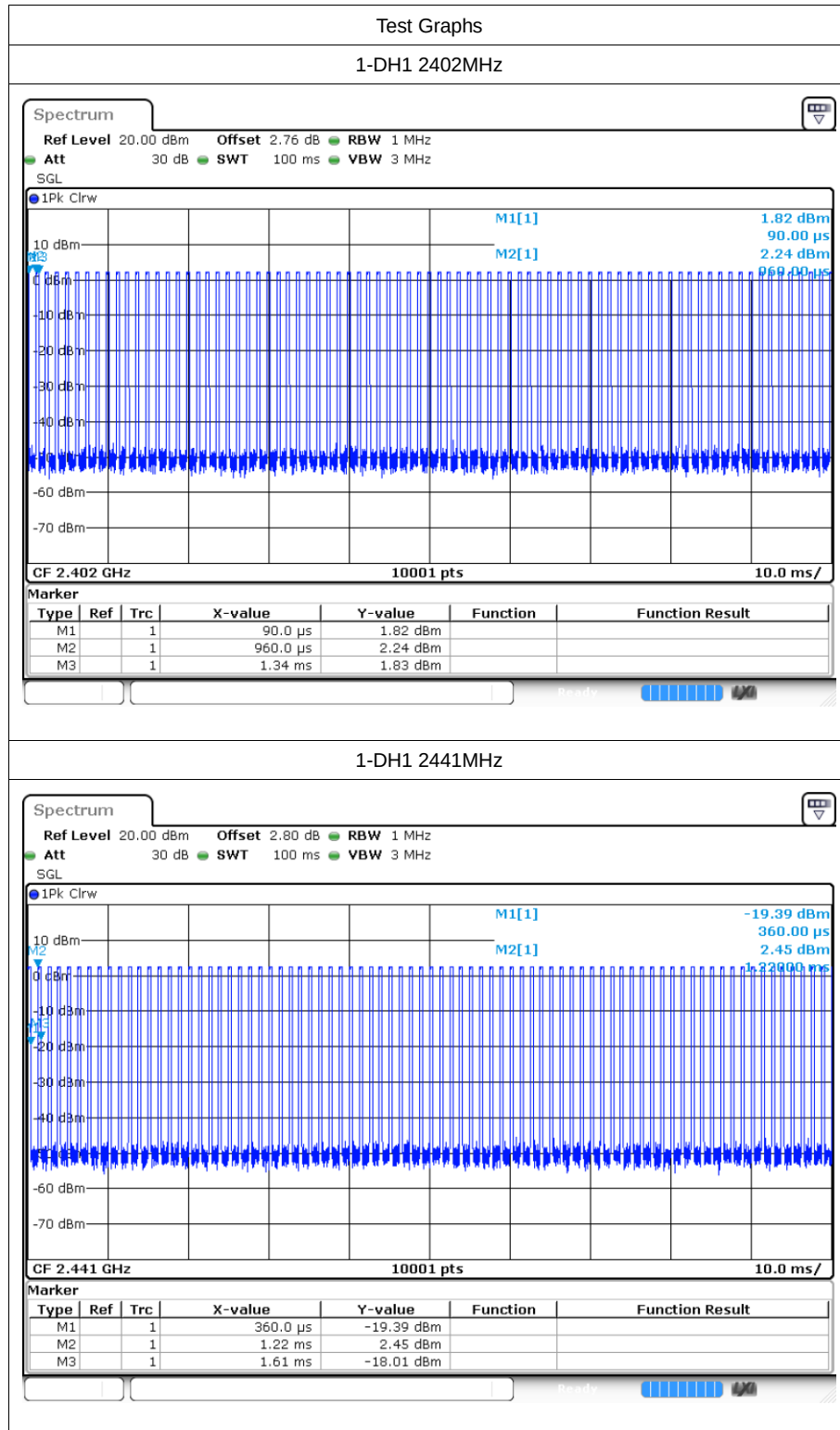
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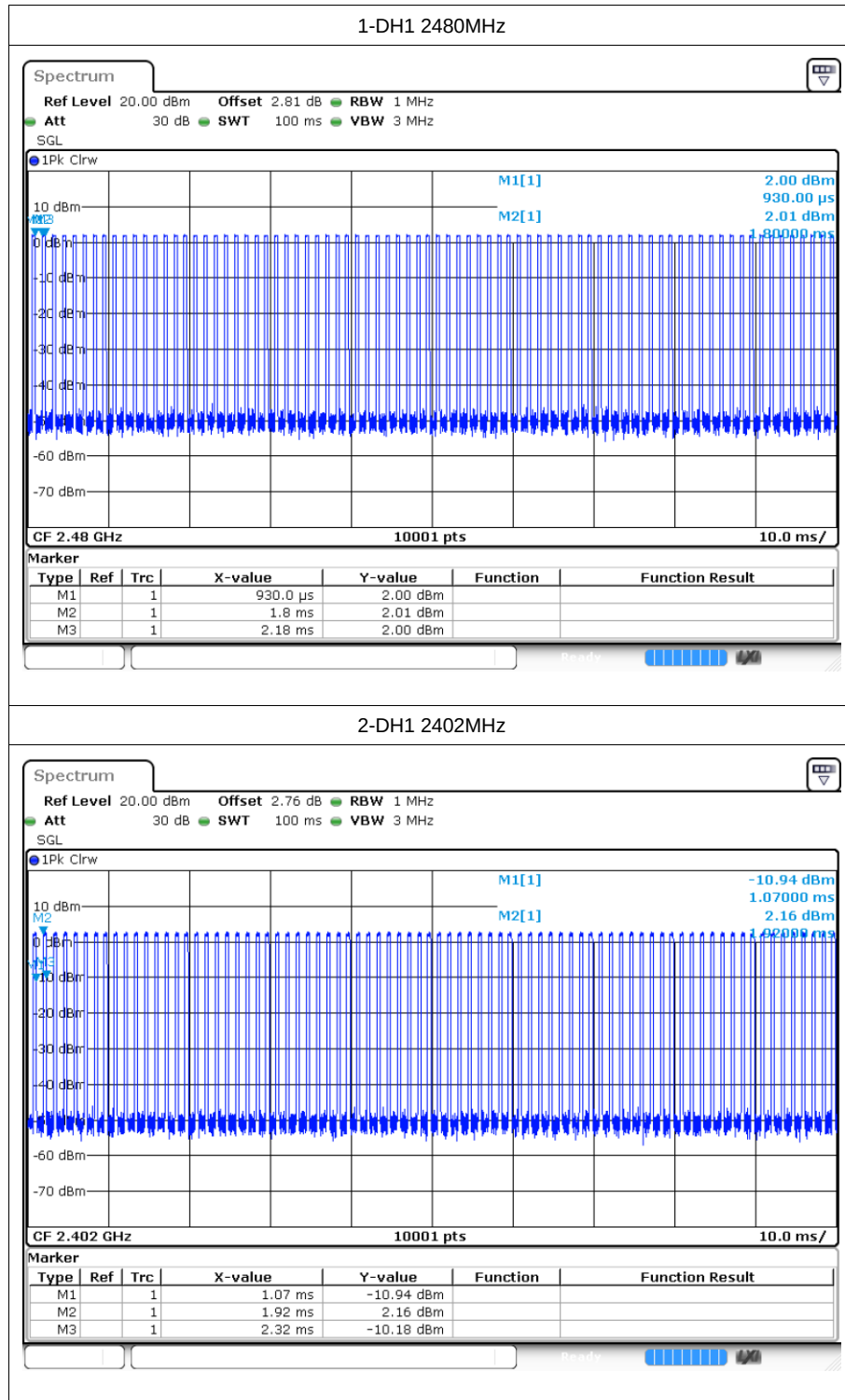
1 Duty Cycle

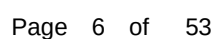
1.1 Test Result

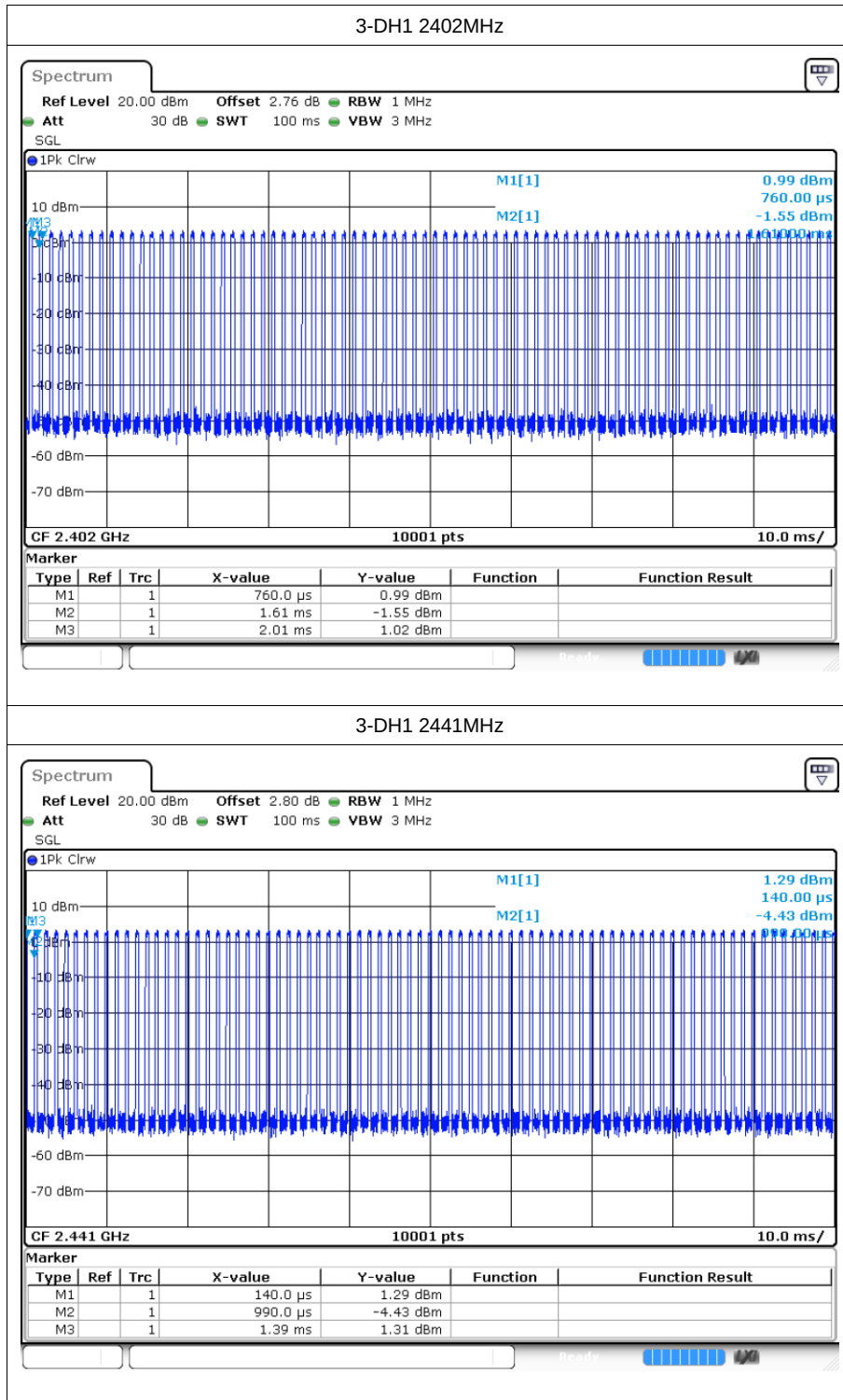
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	31.21	5.06	2.63
1-DH1	2441	32.01	4.95	2.56
1-DH1	2480	31.2	5.06	2.63
2-DH1	2402	32.68	4.86	2.5
2-DH1	2441	32.01	4.95	2.56
2-DH1	2480	32.01	4.95	2.56
3-DH1	2402	32.28	4.91	2.5
3-DH1	2441	32.21	4.92	2.5
3-DH1	2480	32.28	4.91	2.56

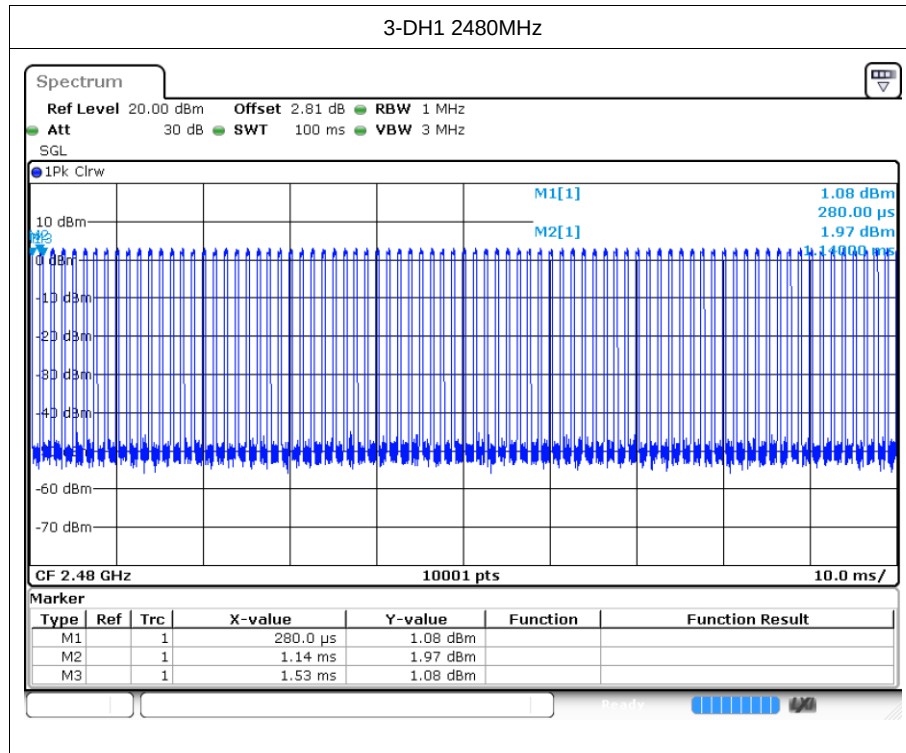
1.2 Test Graphs









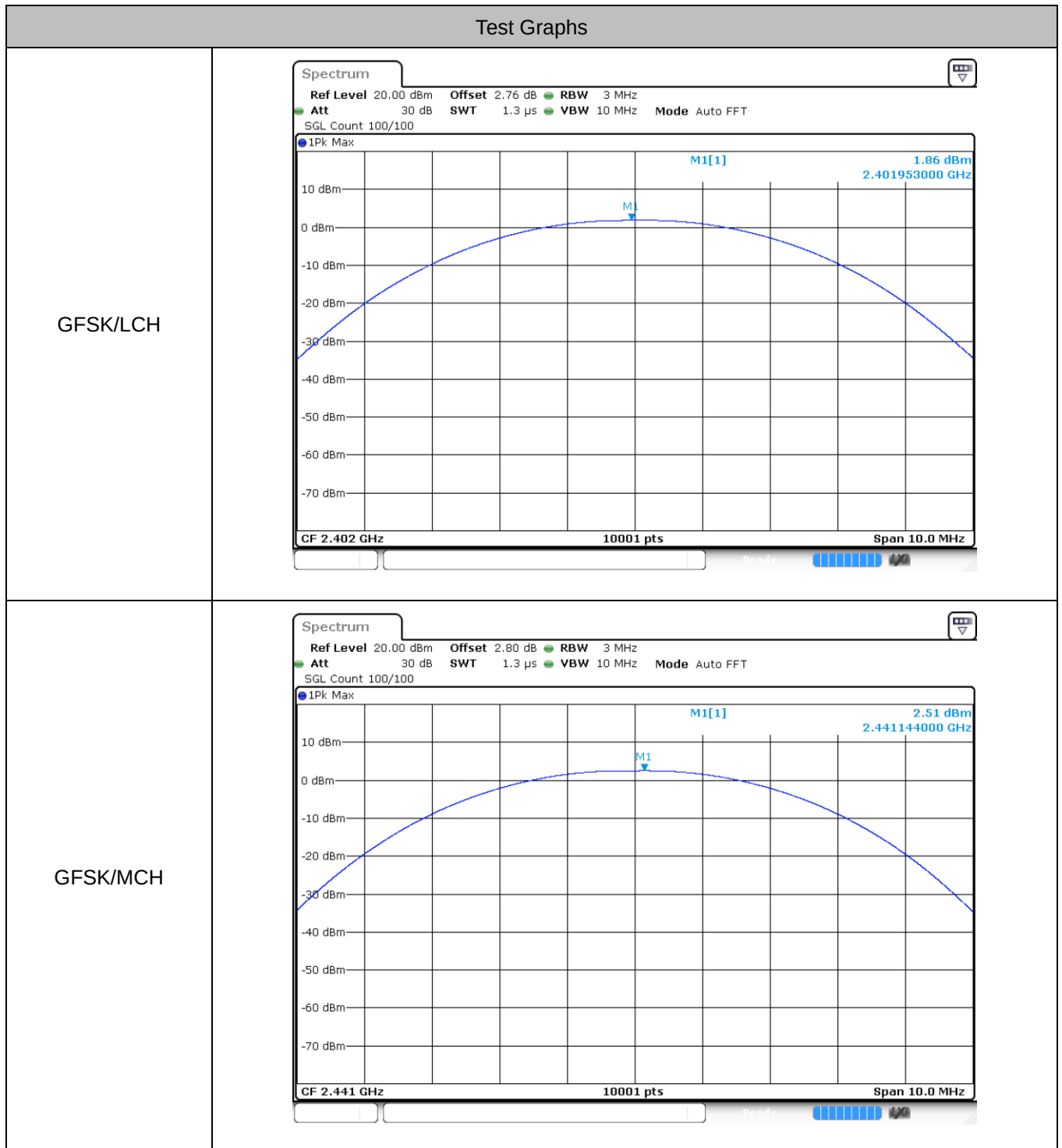


2 Maximum Conducted Peak Output Power

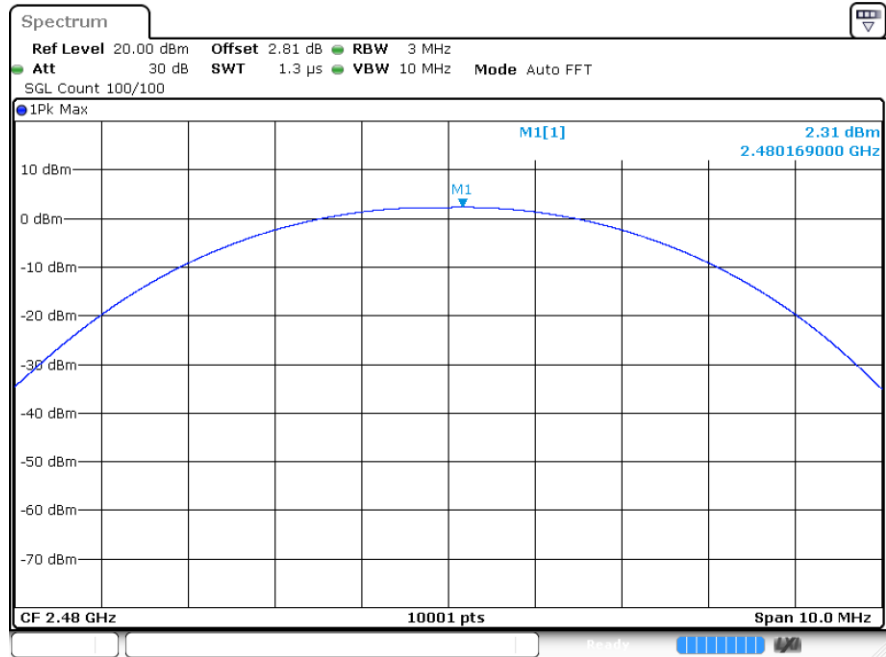
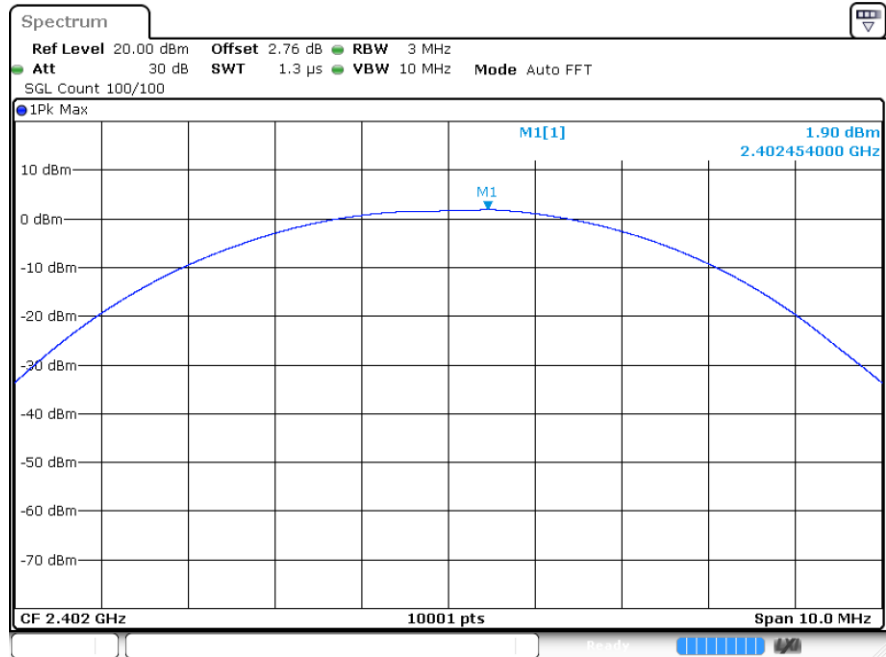
2.1 Test Result

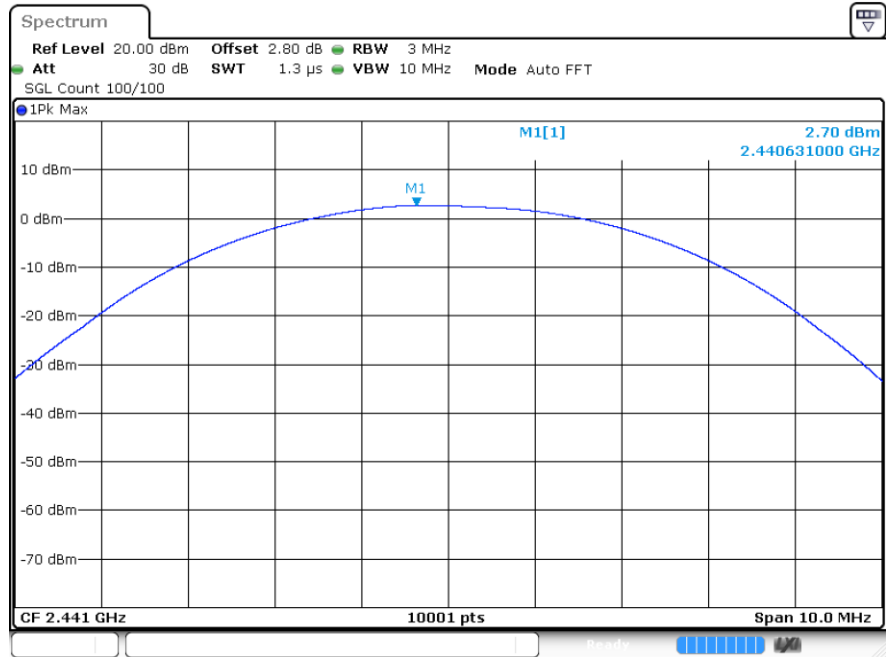
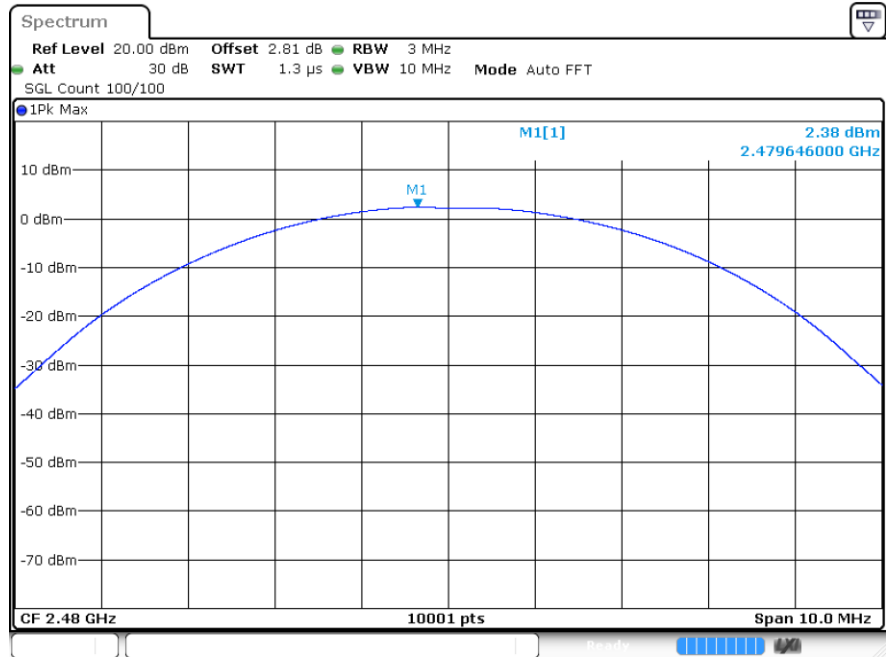
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	1.86	21	Pass
	MCH	2.51	21	Pass
	HCH	2.31	21	Pass
$\pi/4$ DQPSK	LCH	1.9	21	Pass
	MCH	2.7	21	Pass
	HCH	2.38	21	Pass
8DPSK	LCH	2.19	21	Pass
	MCH	2.87	21	Pass
	HCH	2.81	21	Pass

2.2 Test Graphs

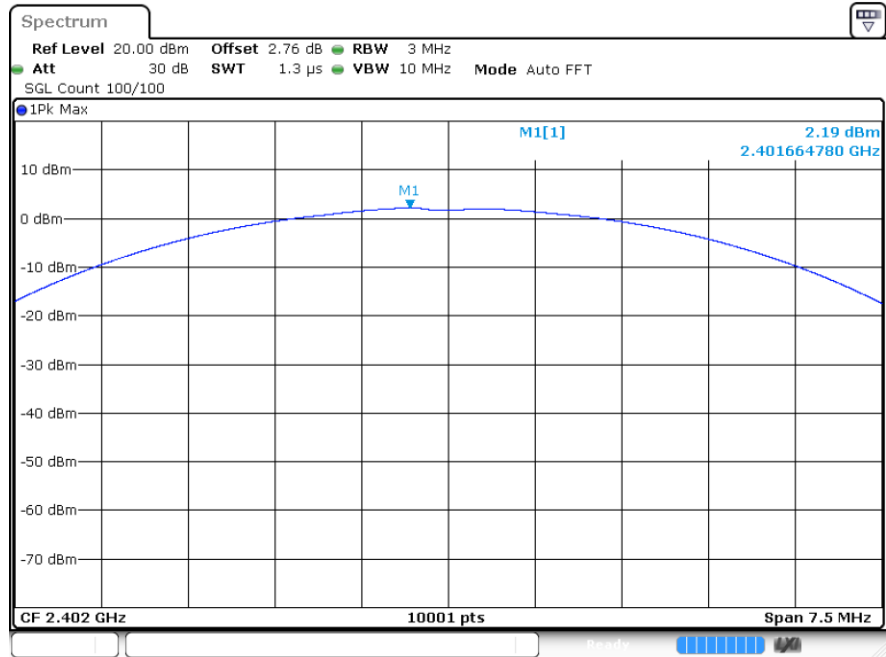


GFSK/HCH

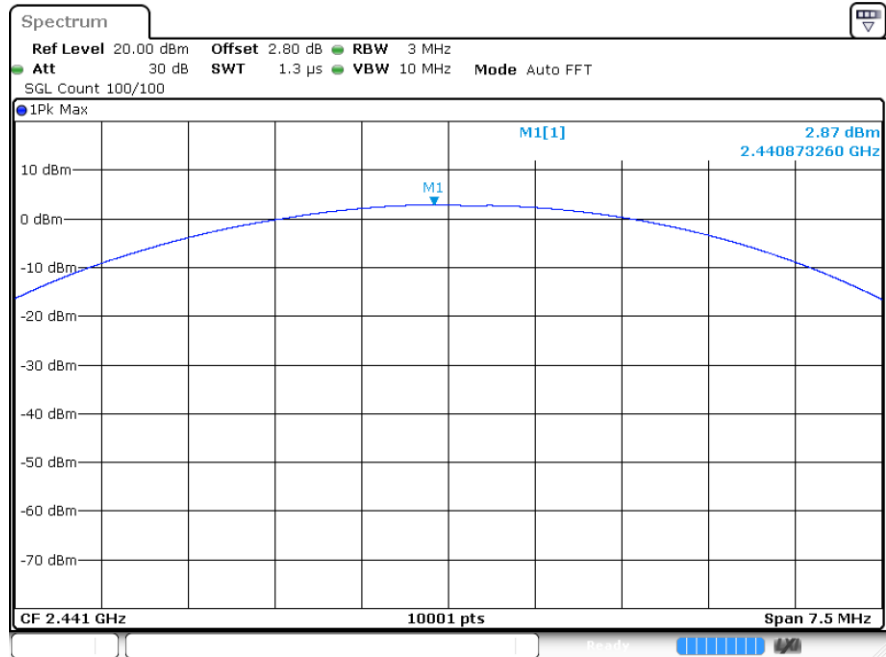

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


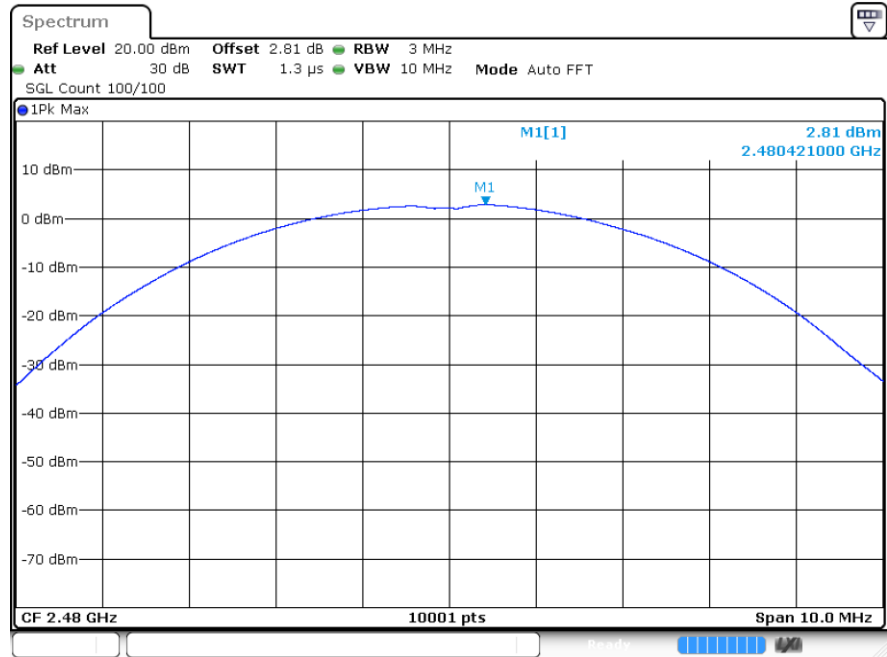
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

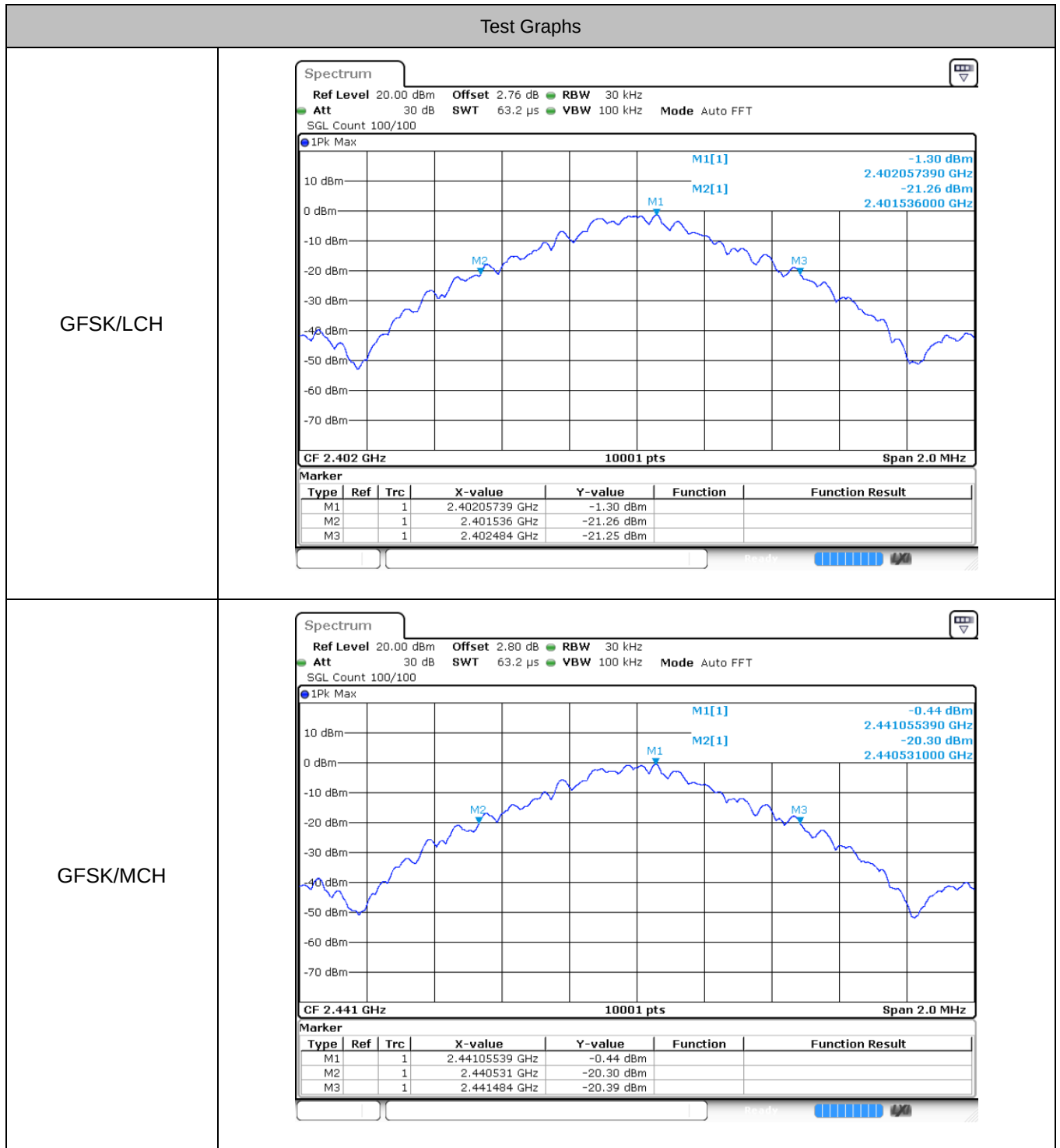


3 20dB Bandwidth

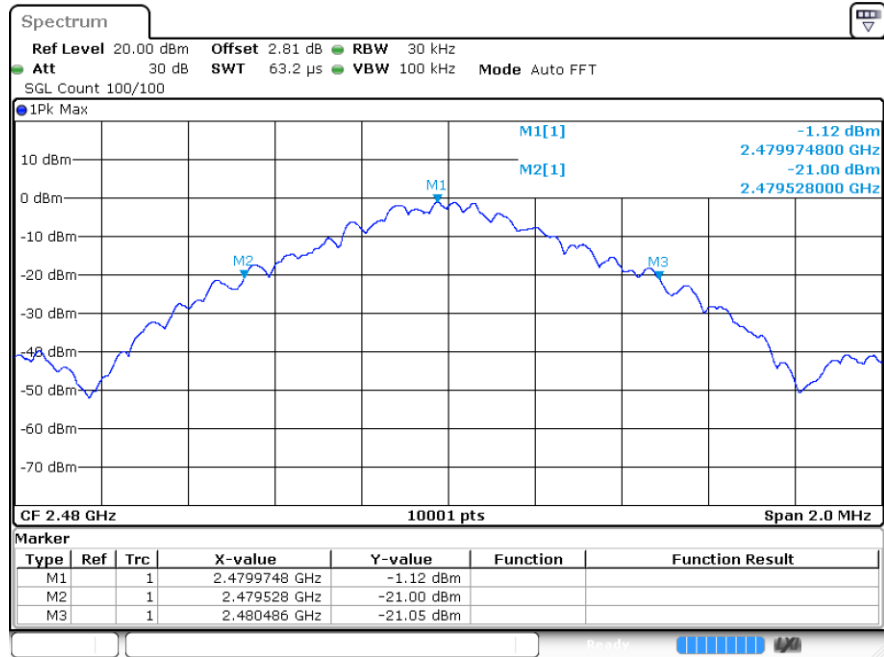
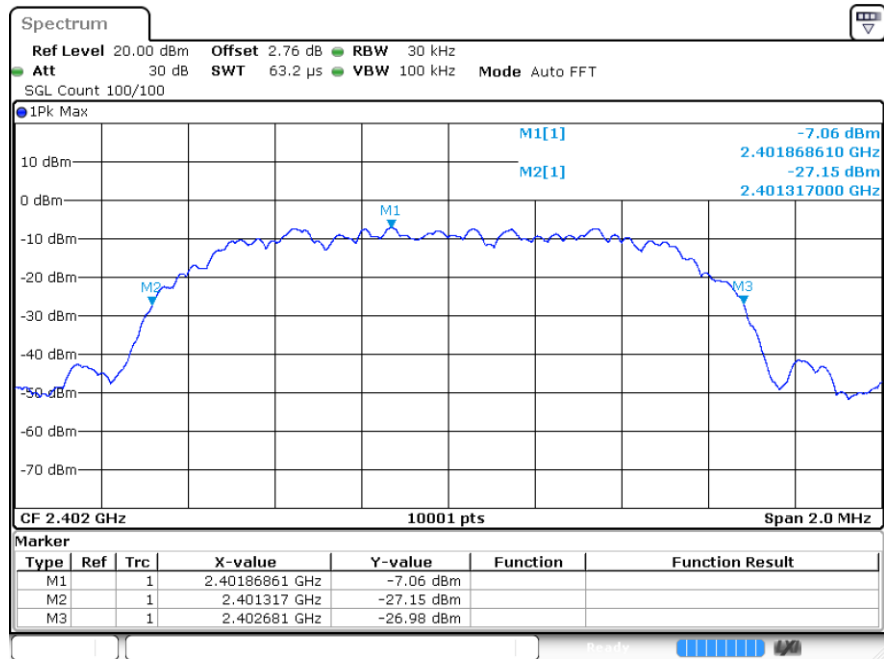
3.1 Test Result

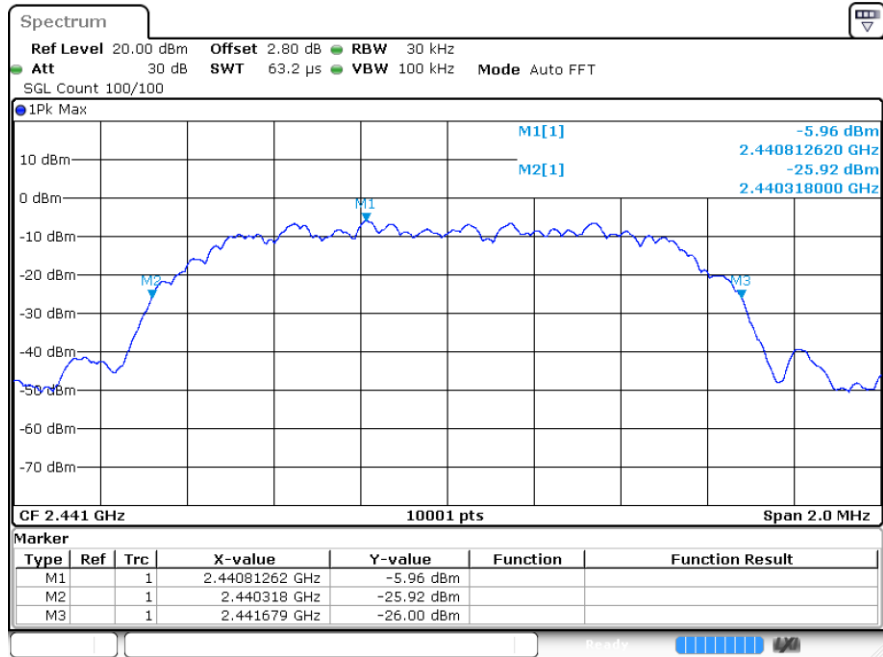
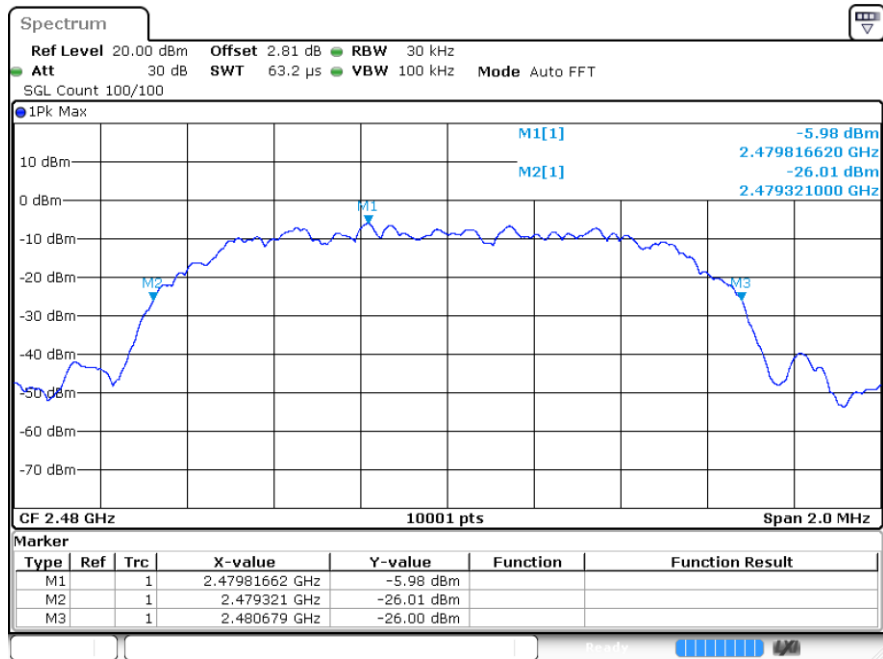
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.949	Not Specified	Pass
	MCH	0.953	Not Specified	Pass
	HCH	0.959	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.364	Not Specified	Pass
	MCH	1.361	Not Specified	Pass
	HCH	1.358	Not Specified	Pass
8DPSK	LCH	1.347	Not Specified	Pass
	MCH	1.344	Not Specified	Pass
	HCH	1.347	Not Specified	Pass

3.2 Test Graphs

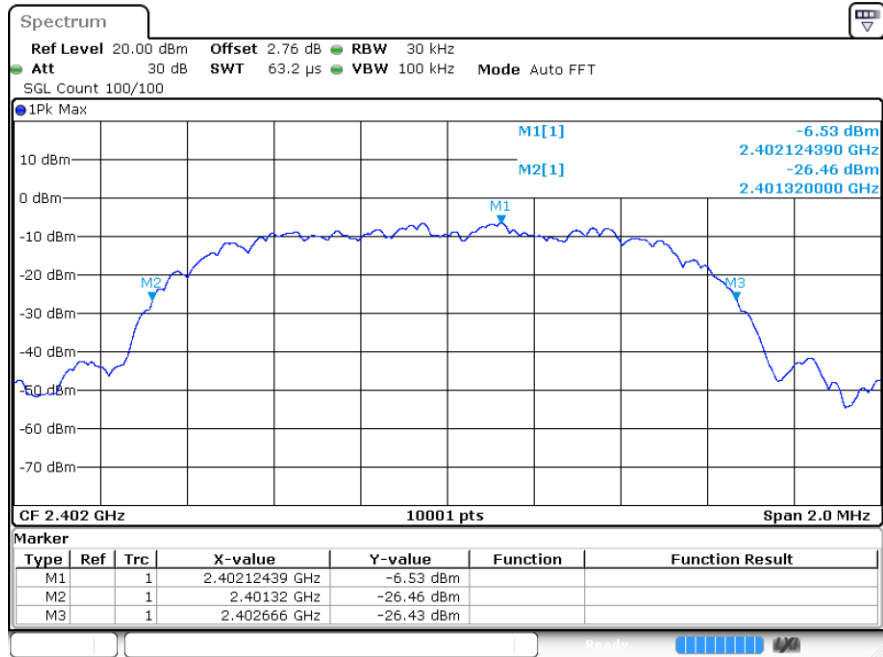


GFSK/HCH

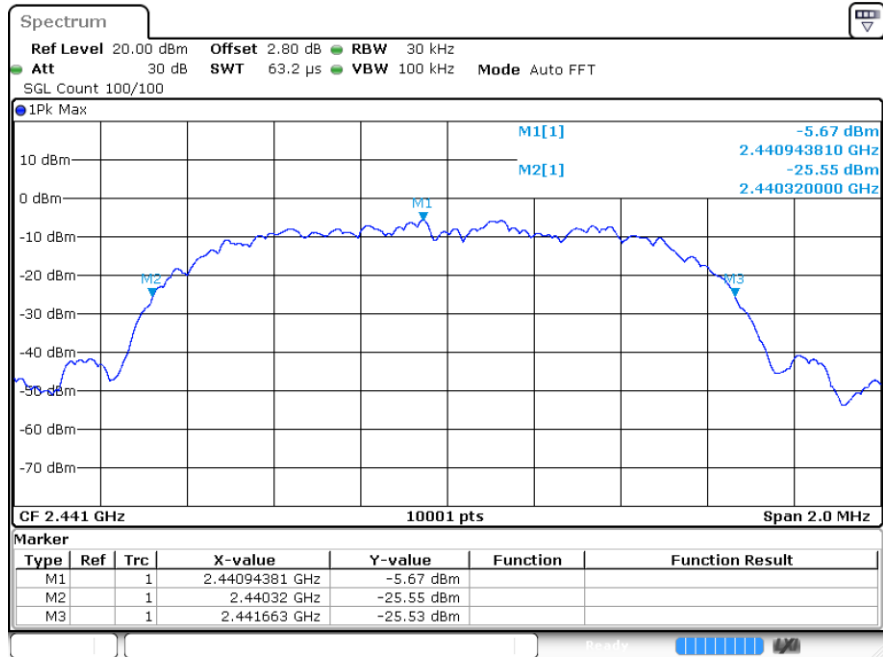

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


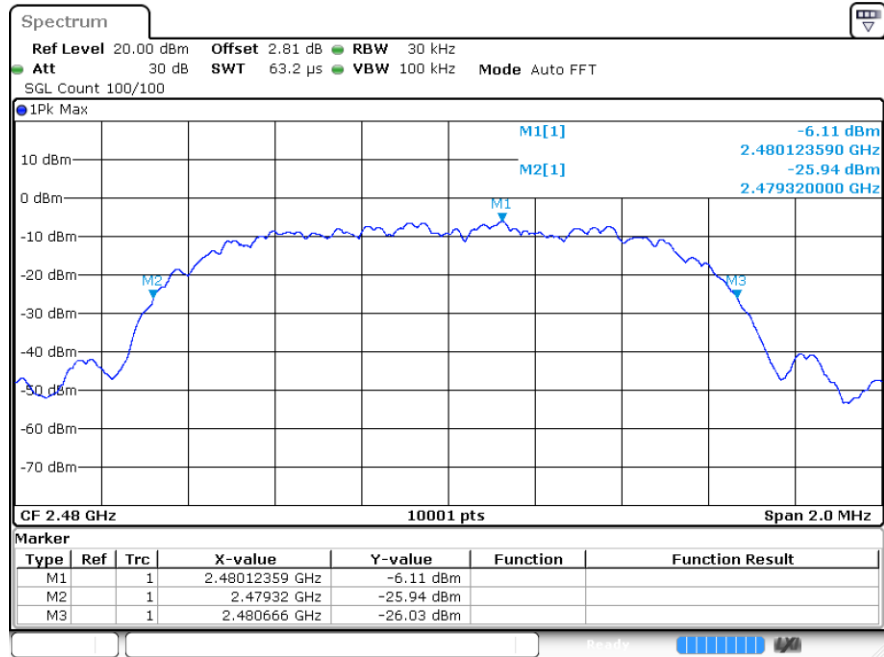
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

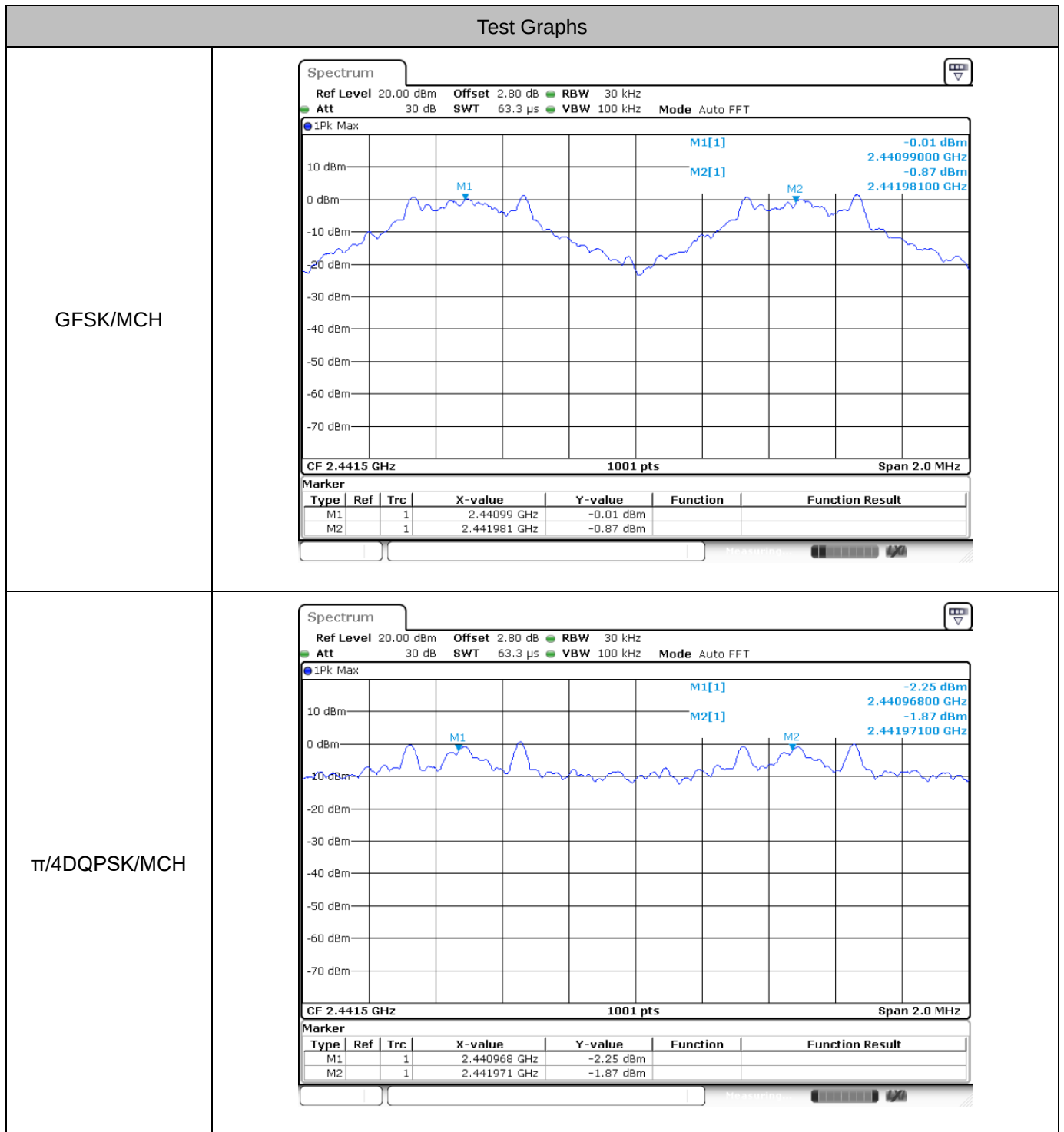


4 Carrier Frequency Separation

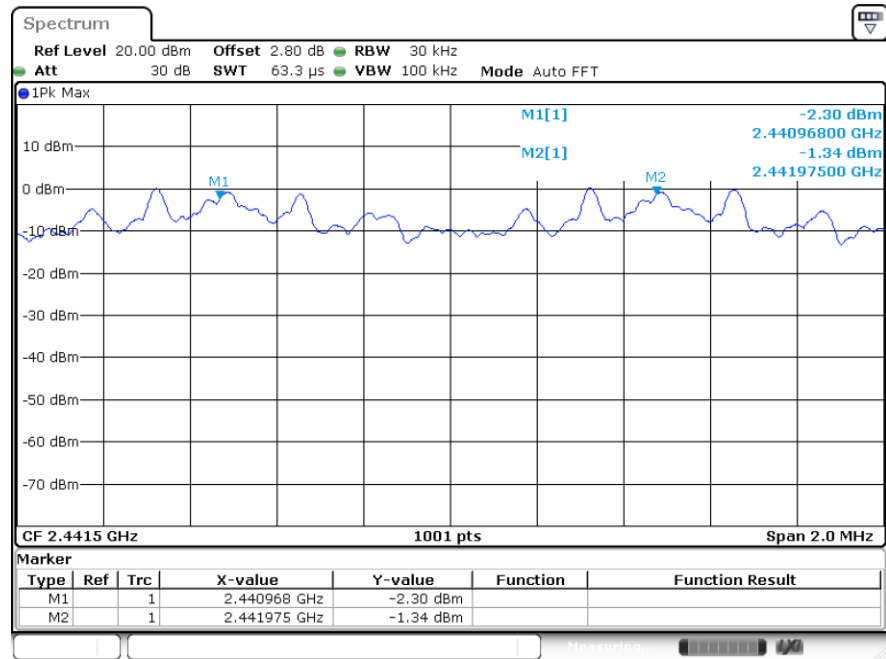
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	0.991	0.635	Pass
$\pi/4$ DQPSK	MCH	1.003	0.907	Pass
8DPSK	MCH	1.007	0.896	Pass

4.2 Test Graphs



8DPSK/MCH

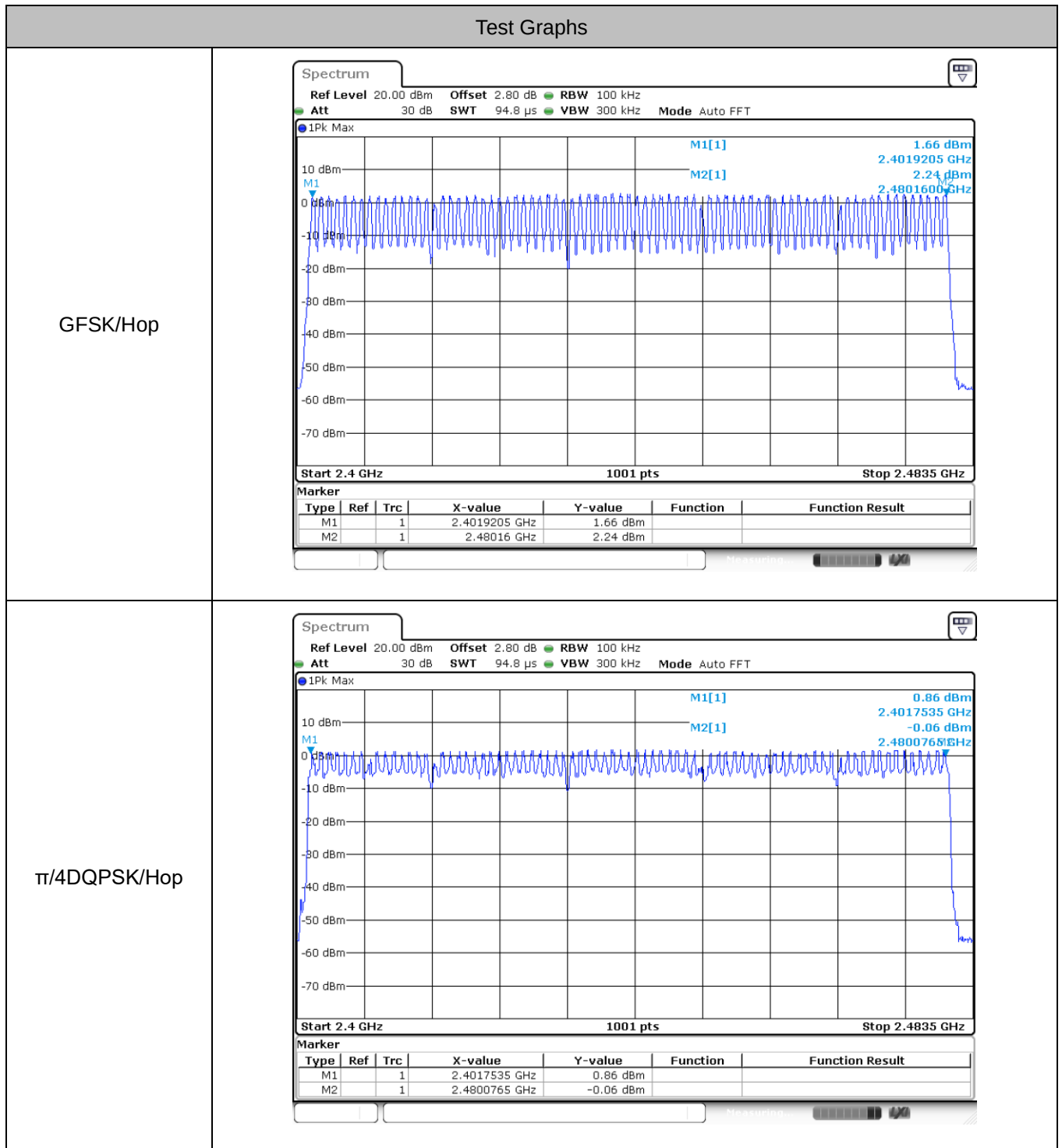


5 Hopping Channel Number

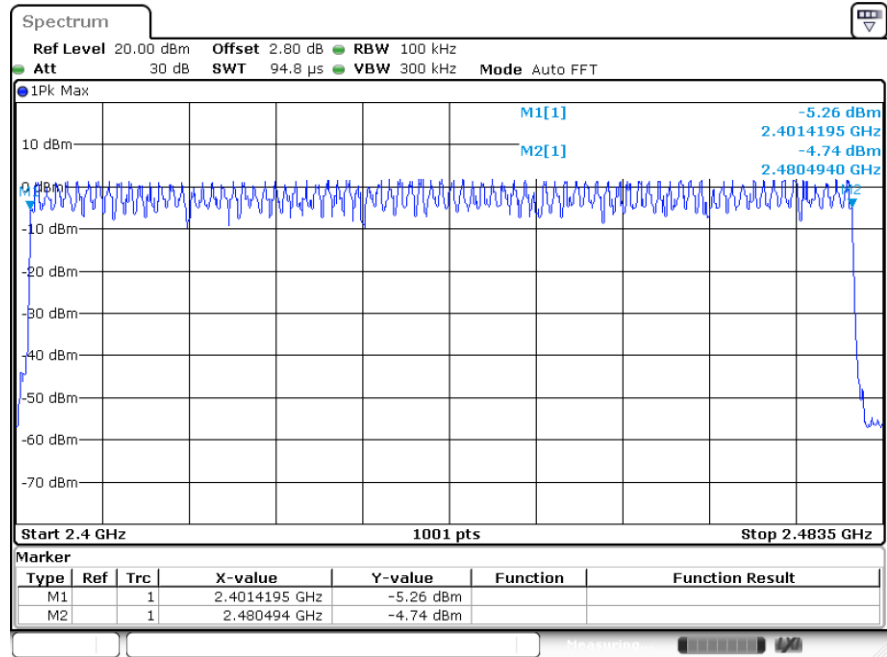
5.1 Test Result

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

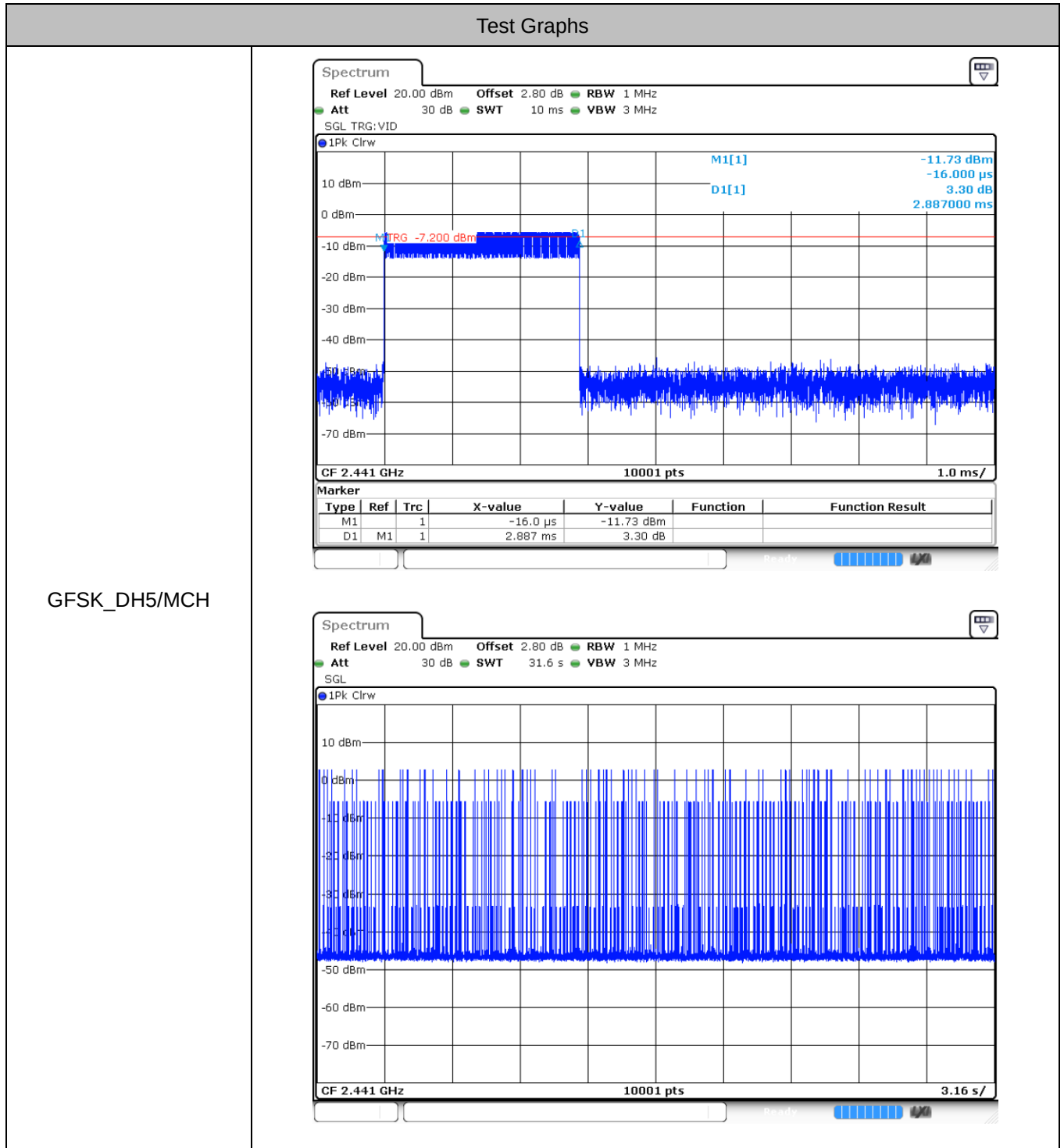


6 Dwell Time

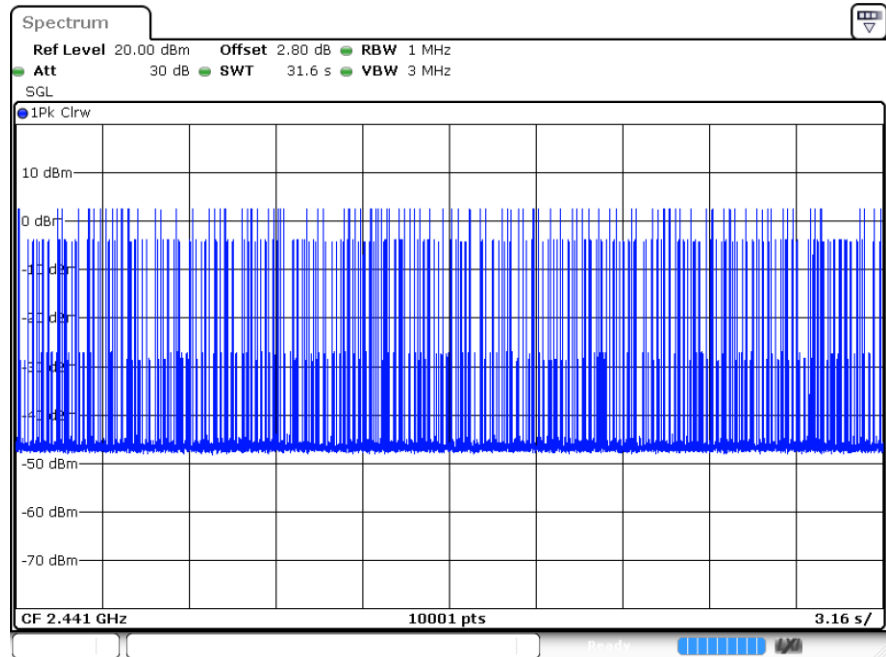
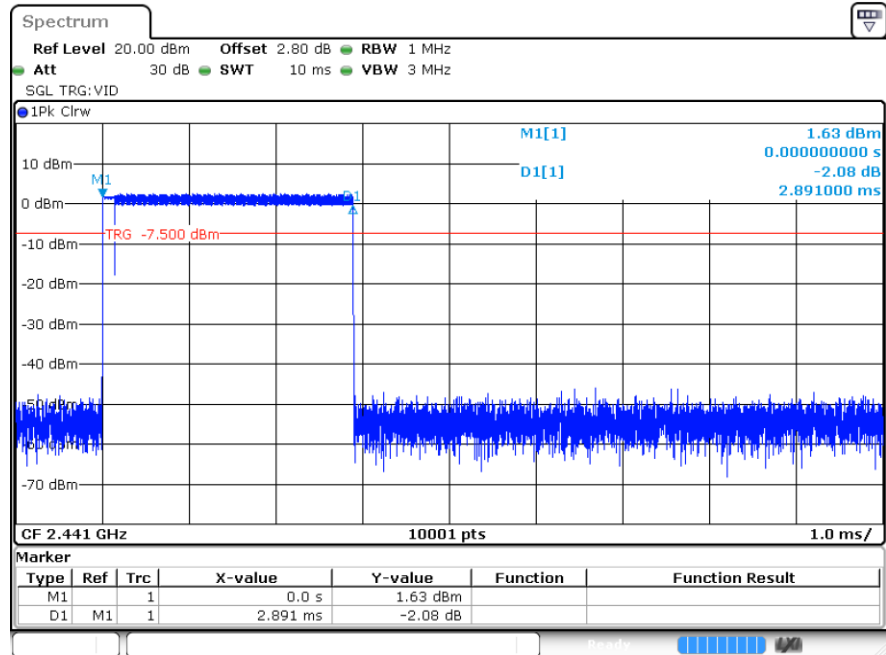
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	104	300.248	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.891	112	323.792	0.4	Pass
8DPSK	3DH5	MCH	2.893	108	312.444	0.4	Pass

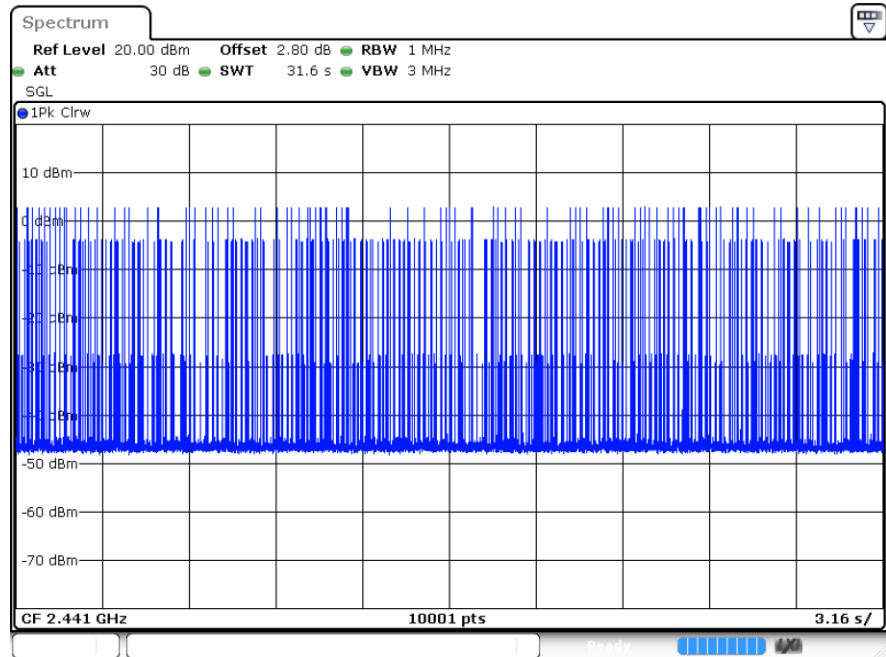
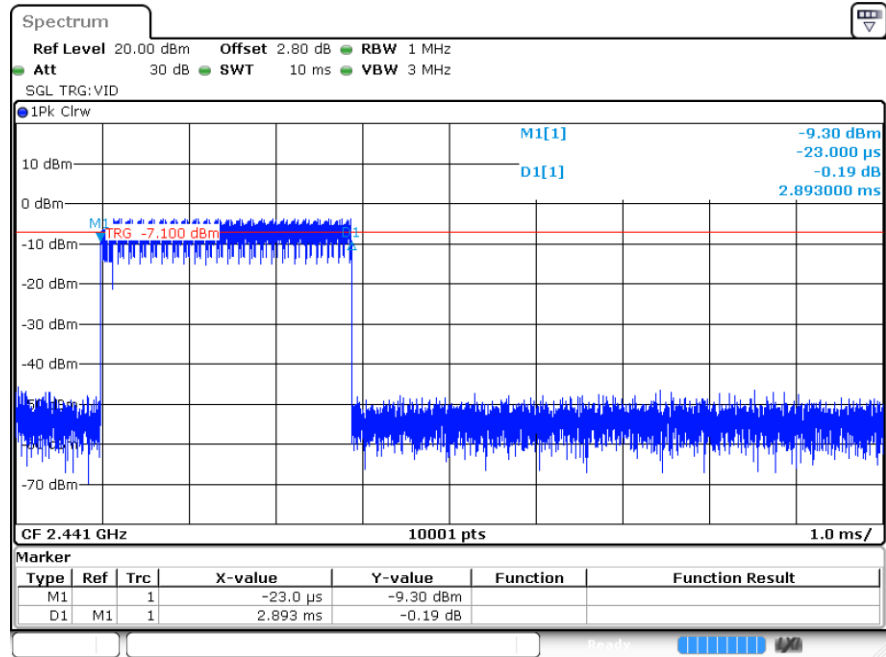
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

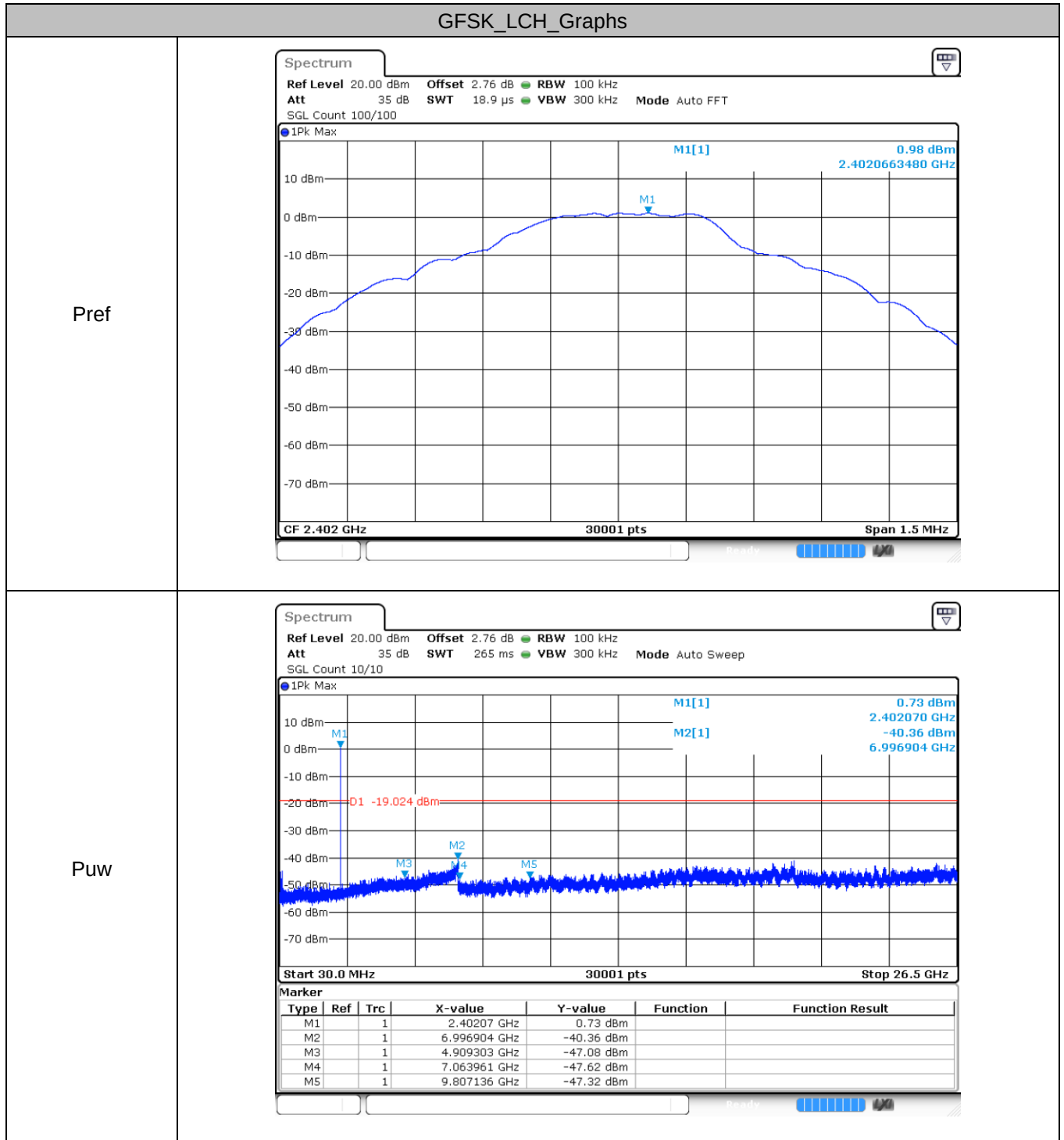


7 RF Conducted Spurious Emissions

7.1 Test Result

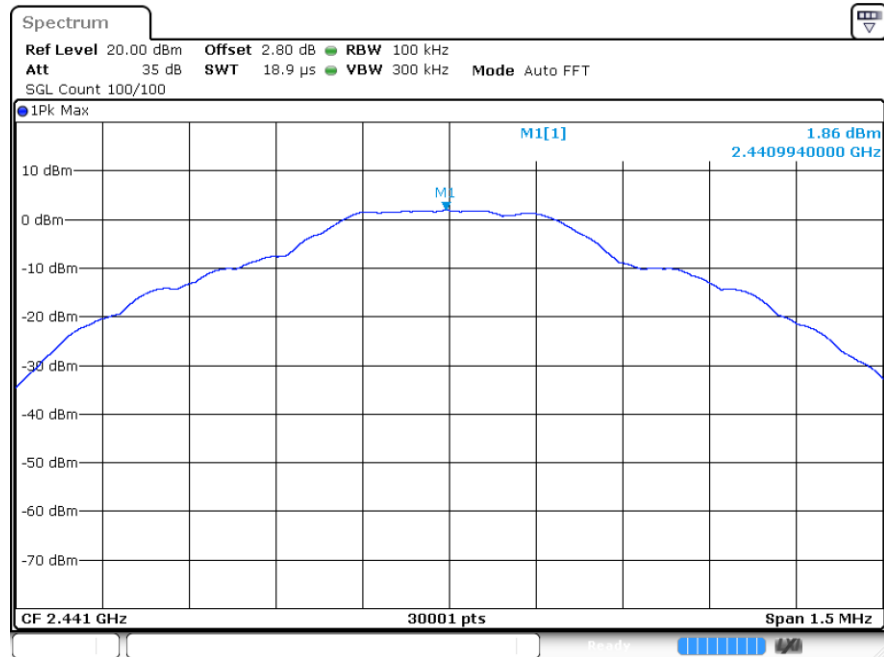
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-41.33	-20	Pass
	MCH	-43.13	-20	Pass
	HCH	-43.45	-20	Pass
$\pi/4$ DQPSK	LCH	-39.15	-20	Pass
	MCH	-39.94	-20	Pass
	HCH	-39.6	-20	Pass
8DPSK	LCH	-38.61	-20	Pass
	MCH	-40.09	-20	Pass
	HCH	-39.07	-20	Pass

7.2 Test Graphs

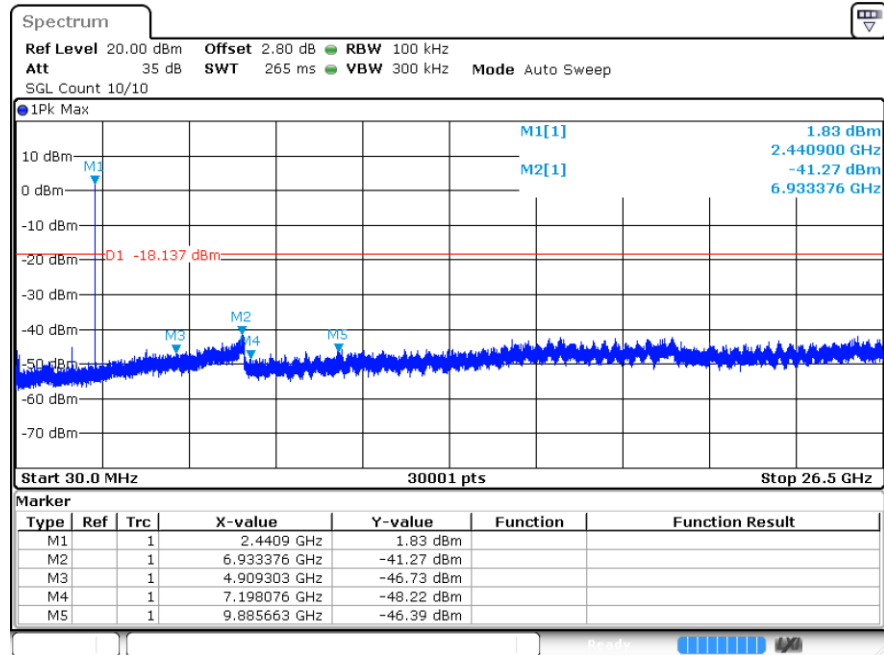


GFSK_MCH_Graphs

Pref

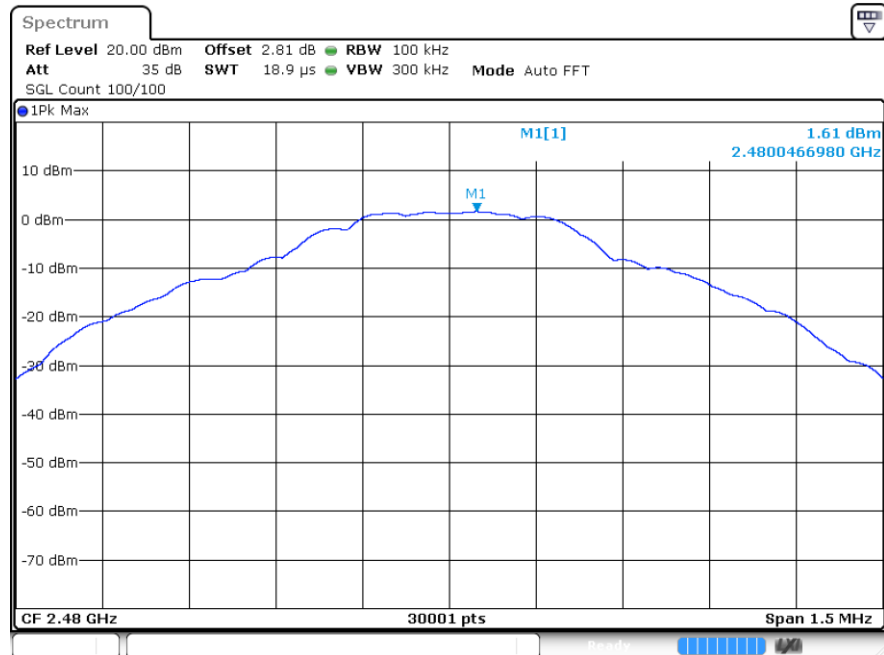


Puw

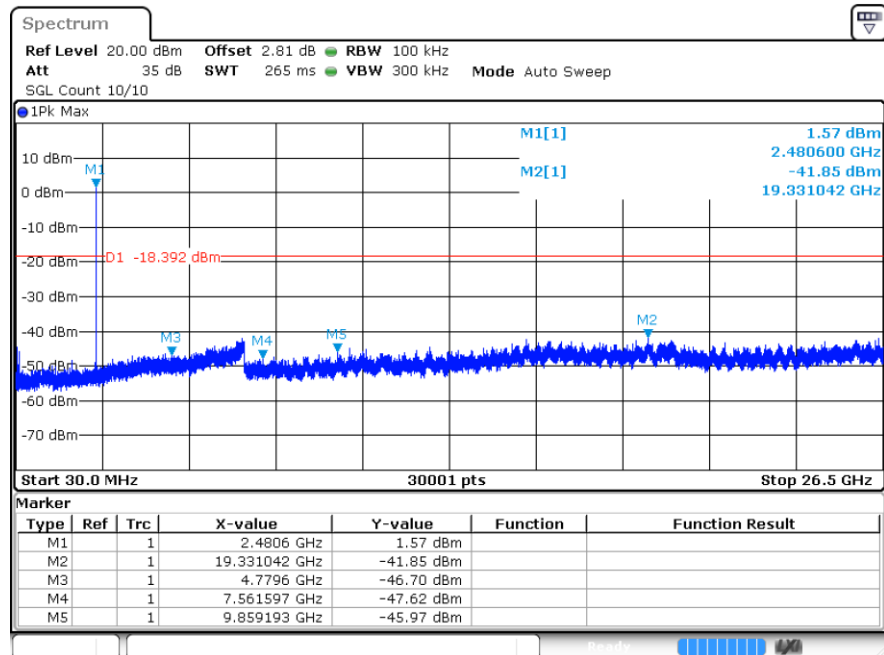


GFSK_HCH_Graphs

Pref

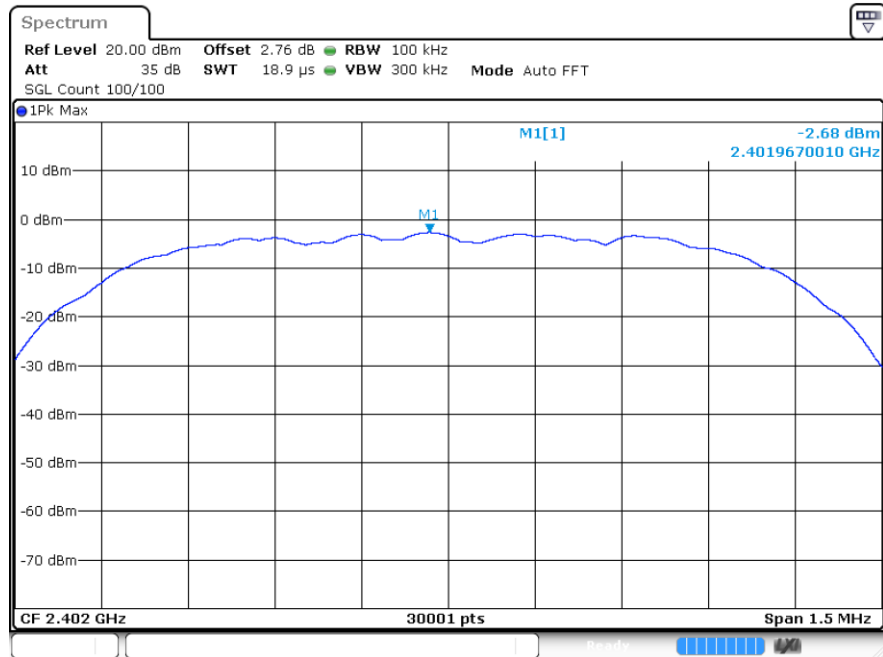


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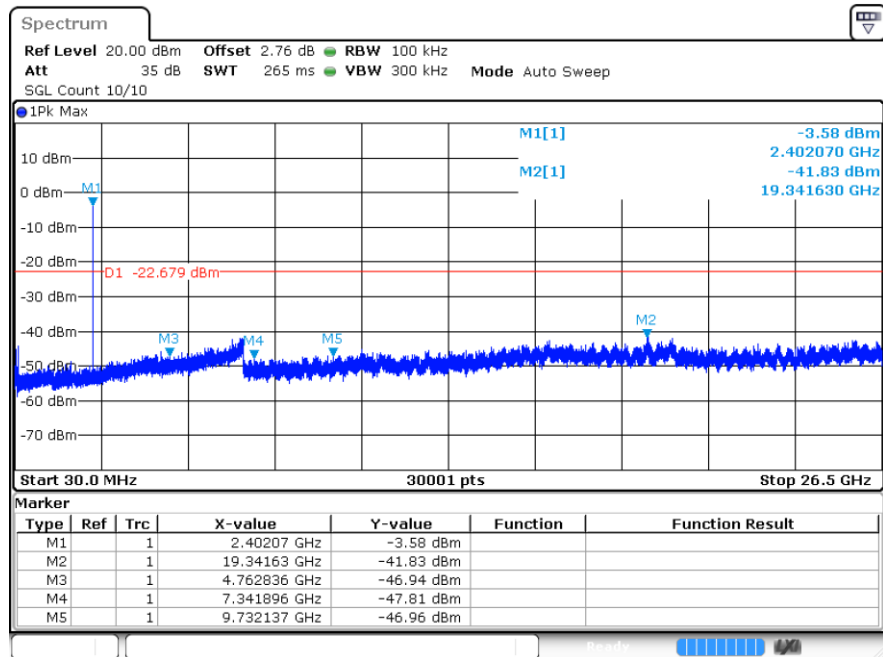


$\pi/4$ DQPSK_LCH_Graphs

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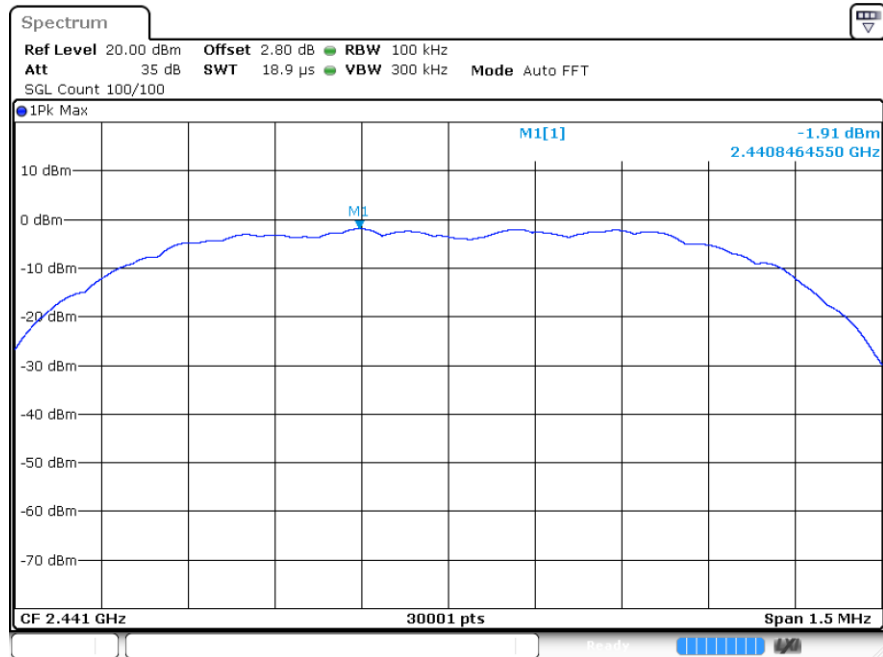


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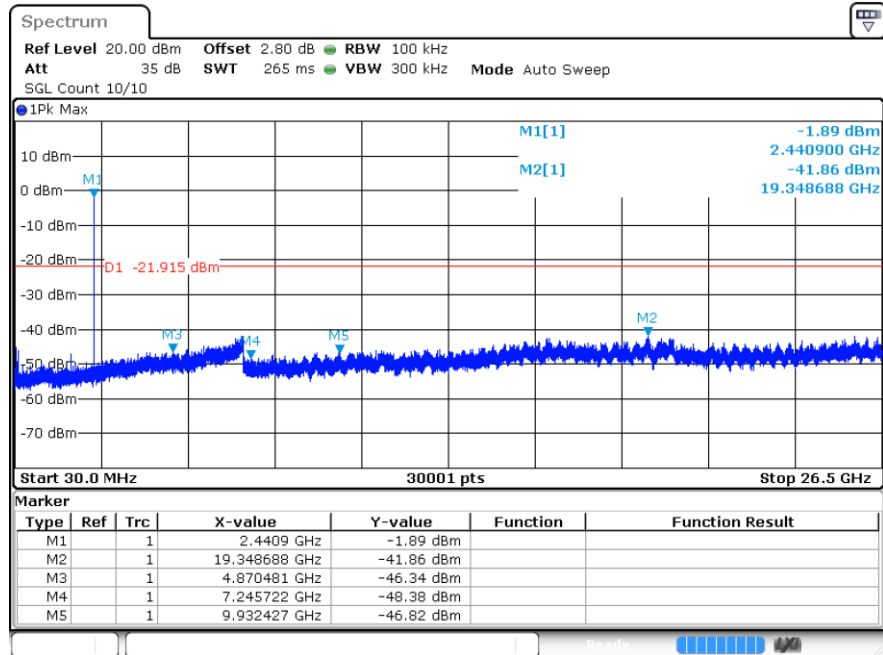


$\pi/4$ DQPSK_MCH_Graphs

Pref

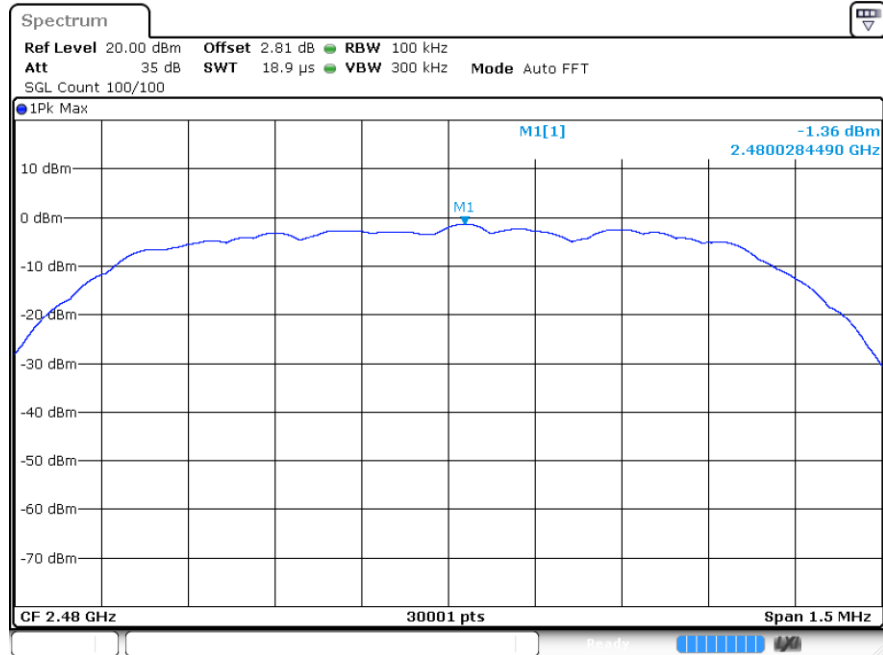


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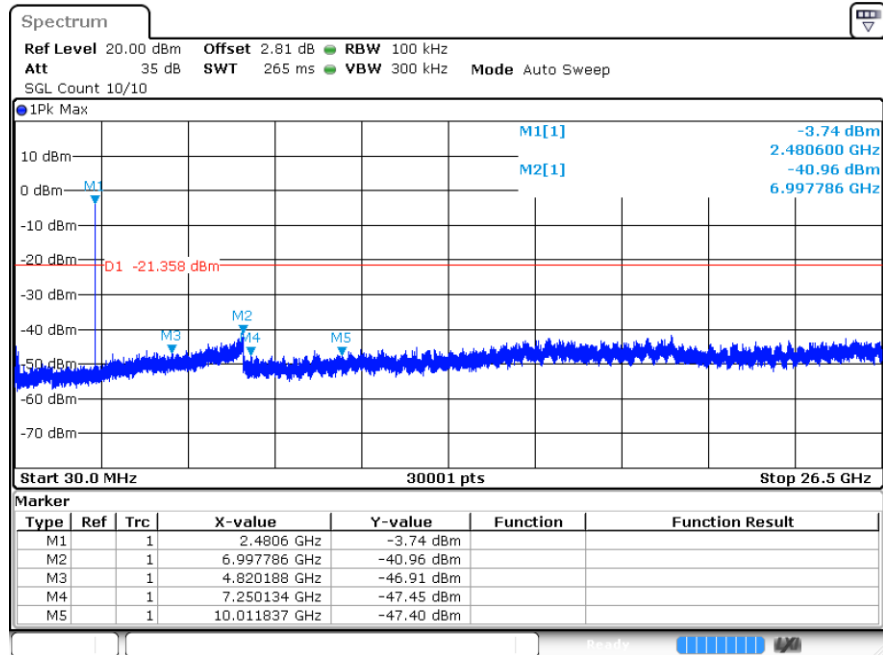


$\pi/4$ DQPSK_HCH_Graphs

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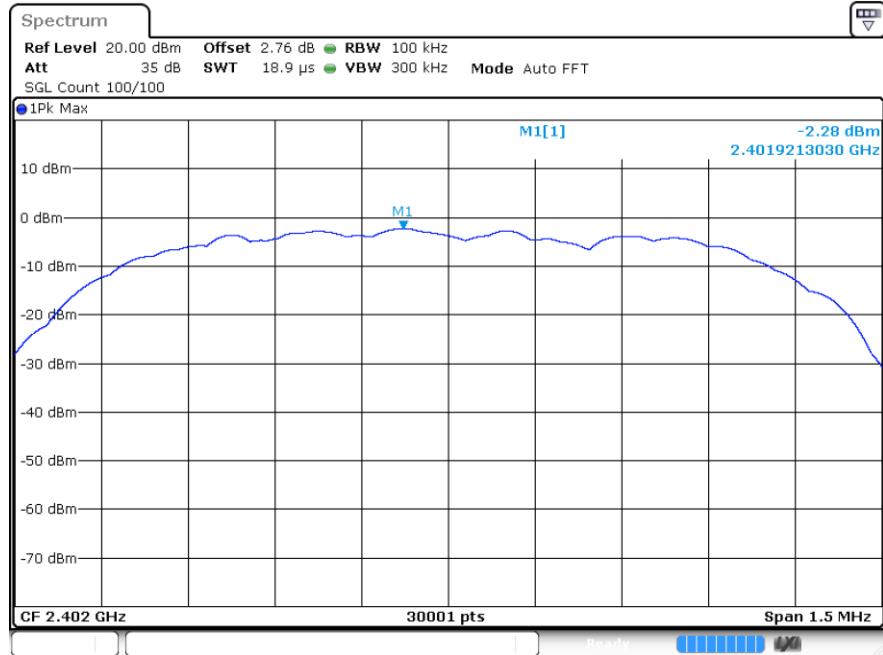


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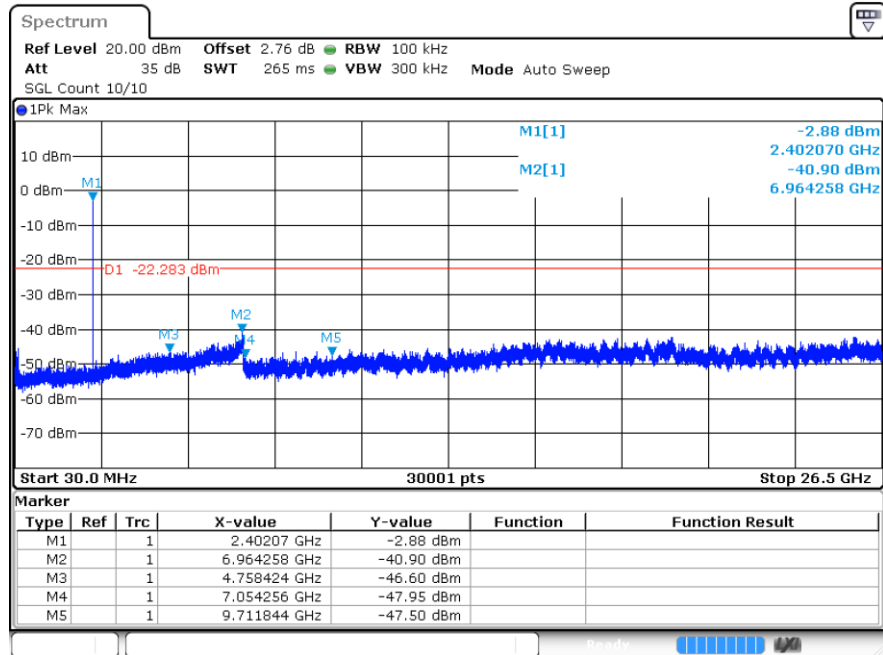


8DPSK_LCH_Graphs

Pref

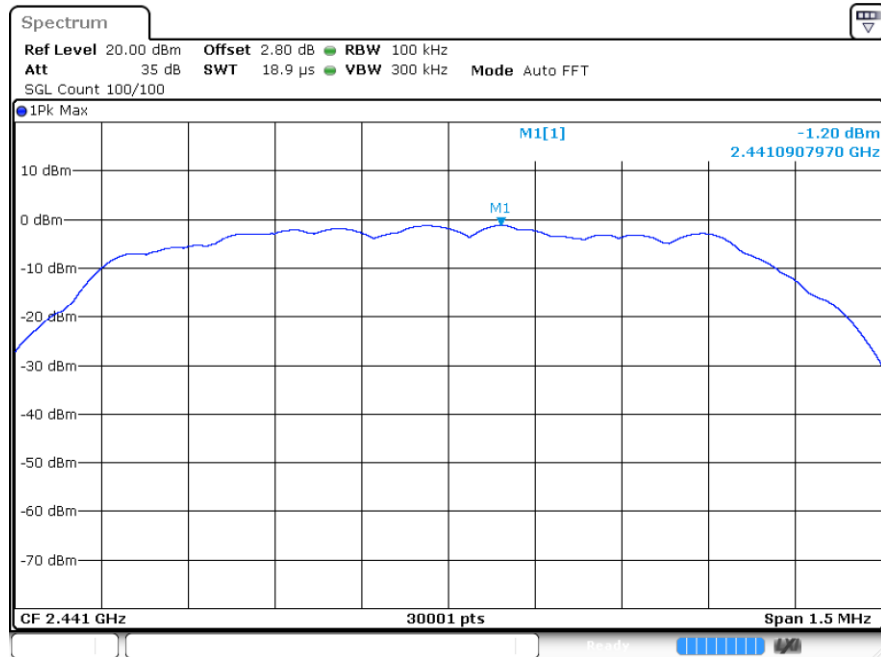


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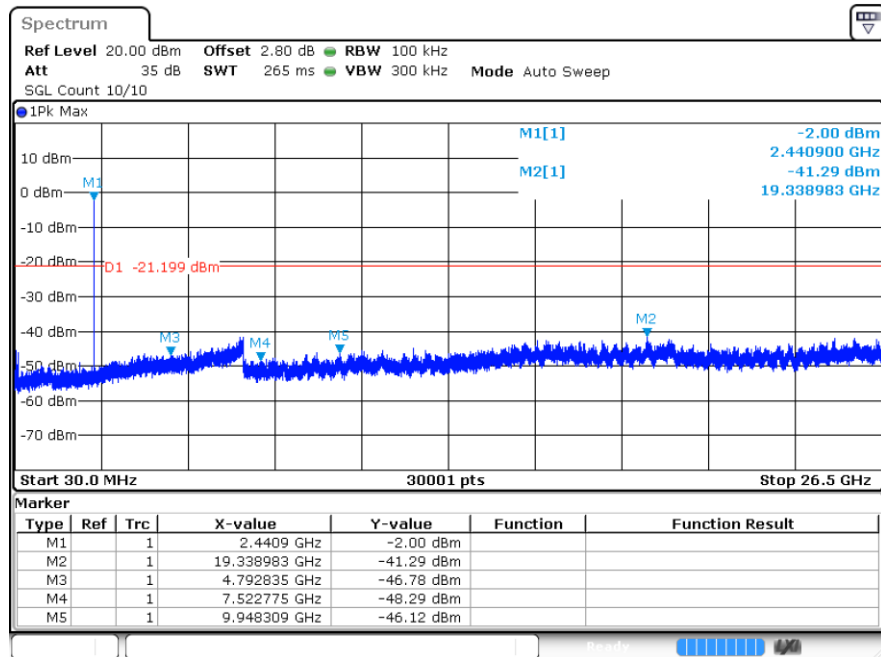


8DPSK_MCH_Graphs

Pref

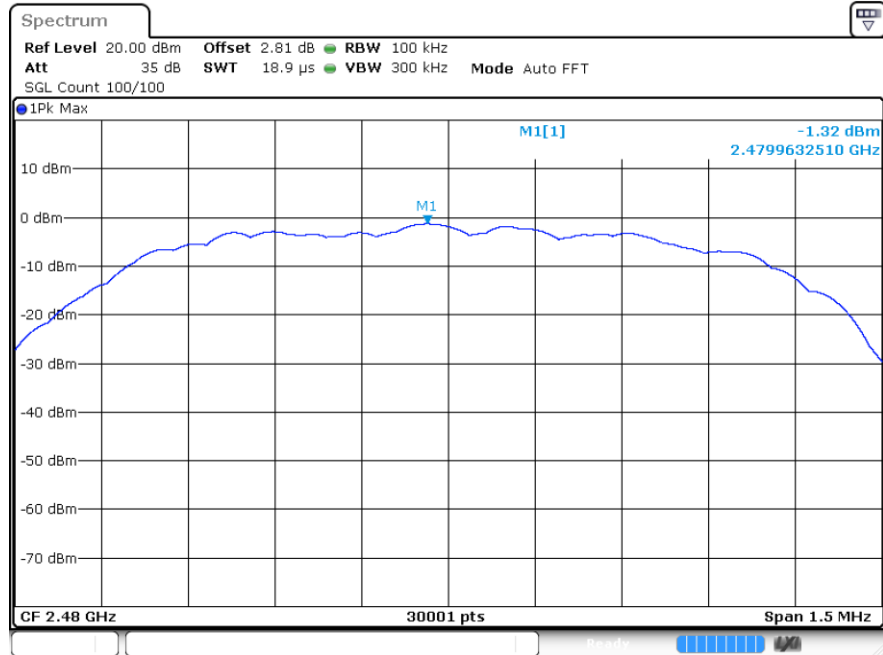


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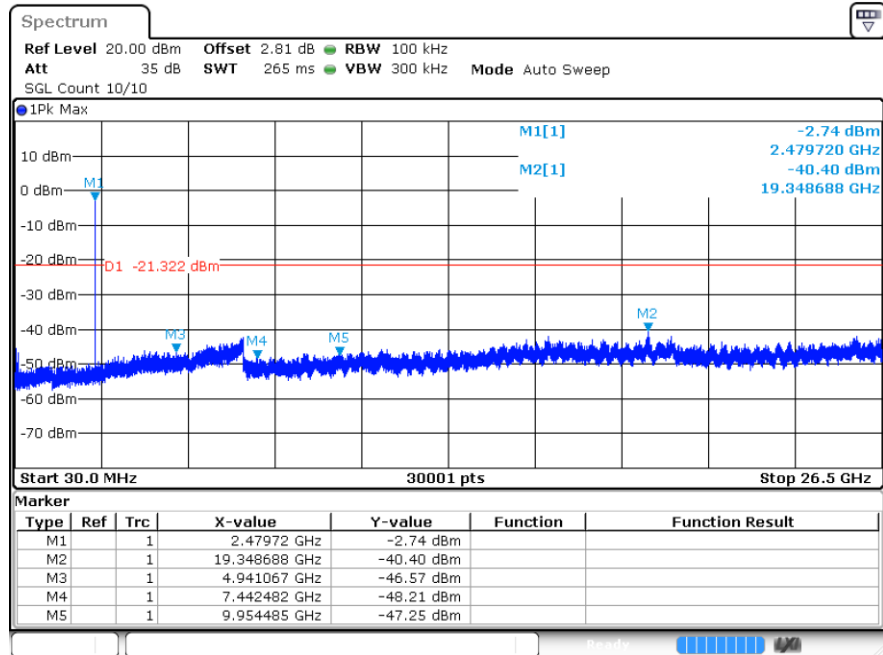


8DPSK_HCH_Graphs

Pref



Puw

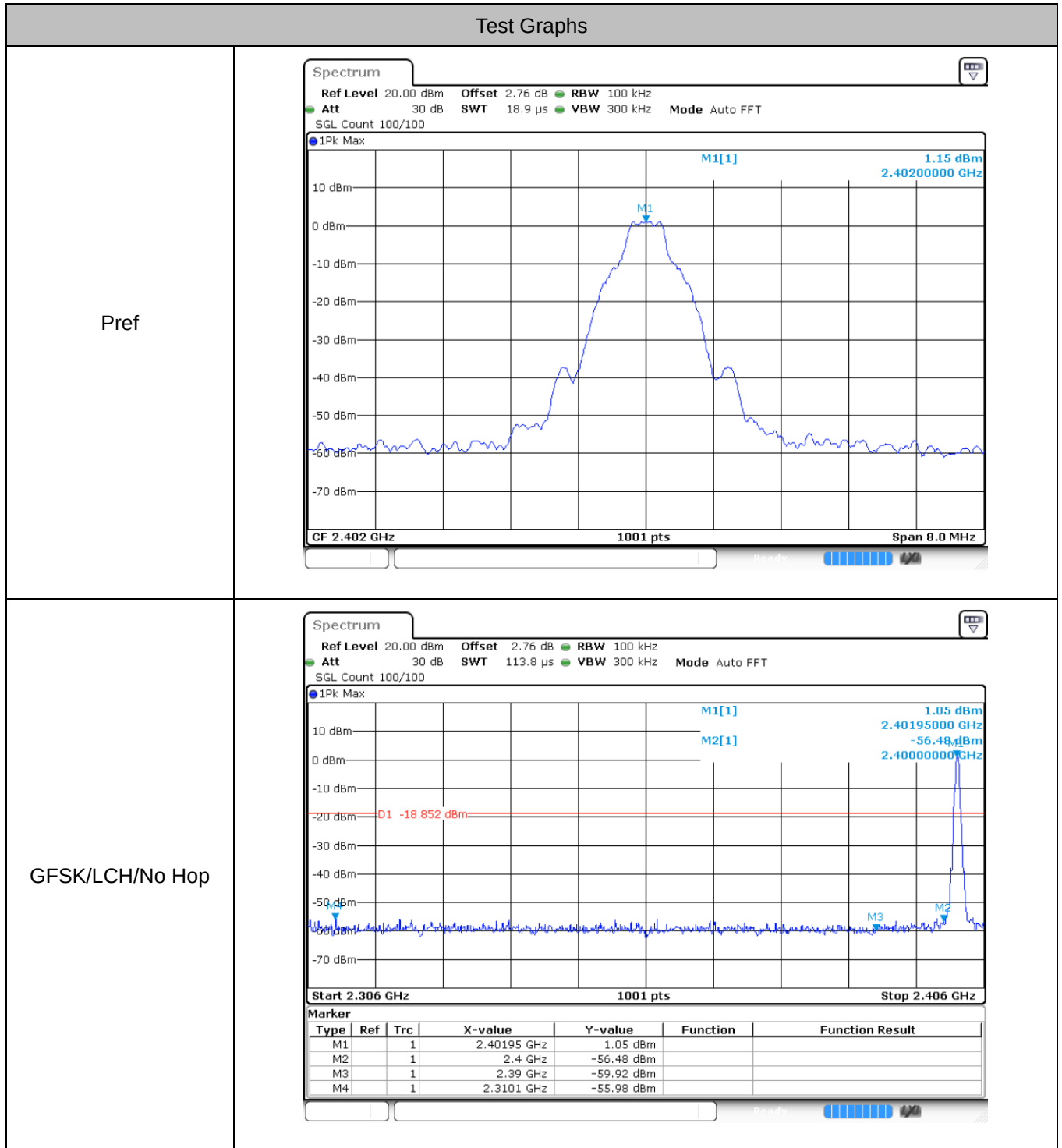


8 Band-edge for RF Conducted Emissions

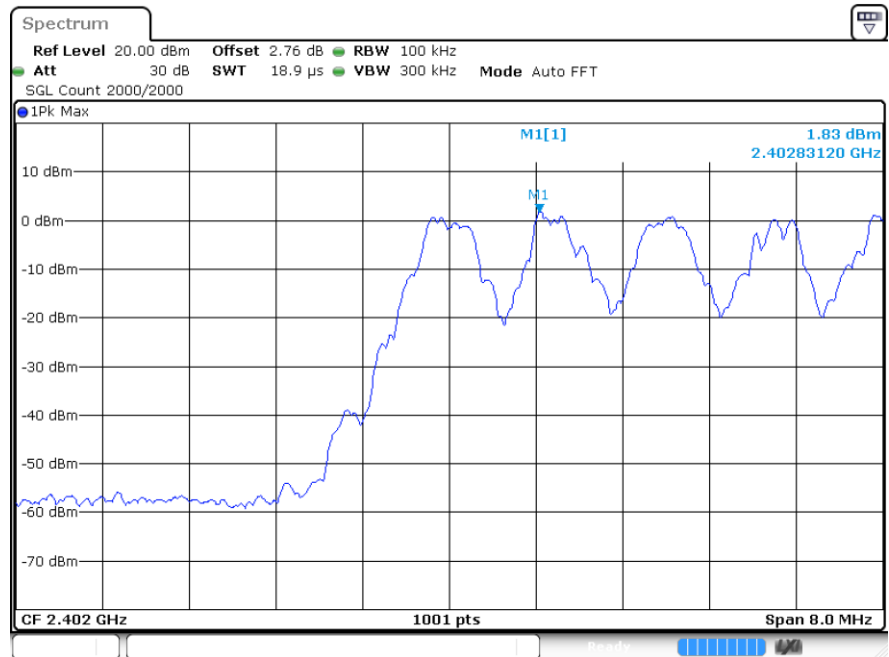
8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-57.12	-20	Pass
			On	-56.76	-20	Pass
	HCH	2480	Off	-56.98	-20	Pass
			On	-57.23	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-53.15	-20	Pass
			On	-55.01	-20	Pass
	HCH	2480	Off	-54.61	-20	Pass
			On	-54.98	-20	Pass
8DPSK	LCH	2402	Off	-53.01	-20	Pass
			On	-56.14	-20	Pass
	HCH	2480	Off	-53.76	-20	Pass
			On	-56.93	-20	Pass

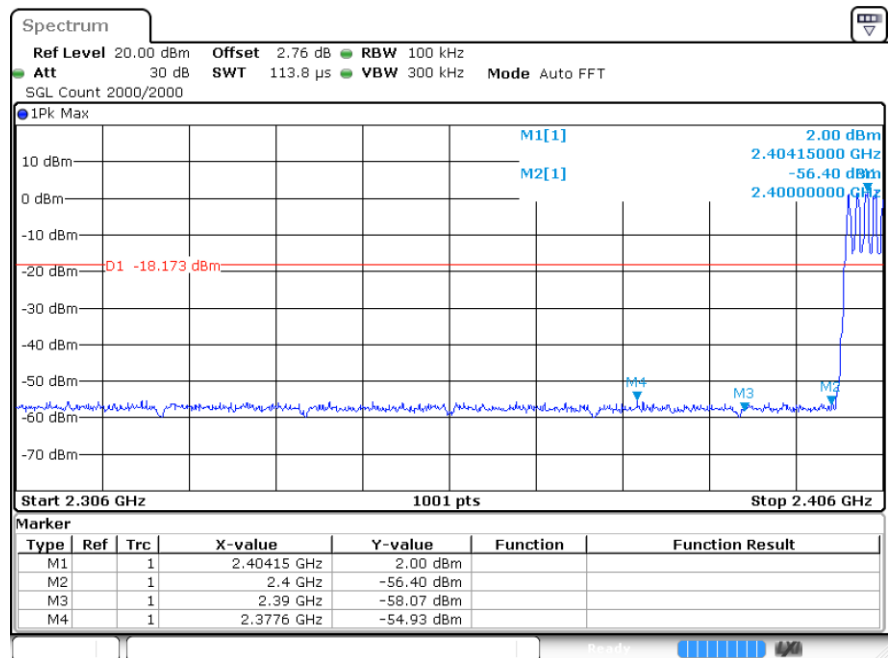
8.2 Test Graphs



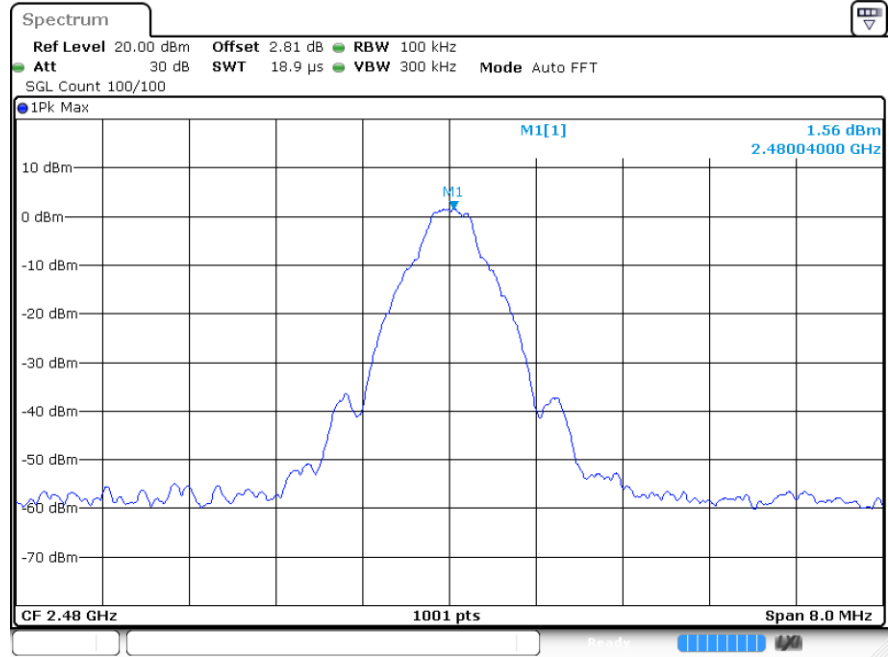
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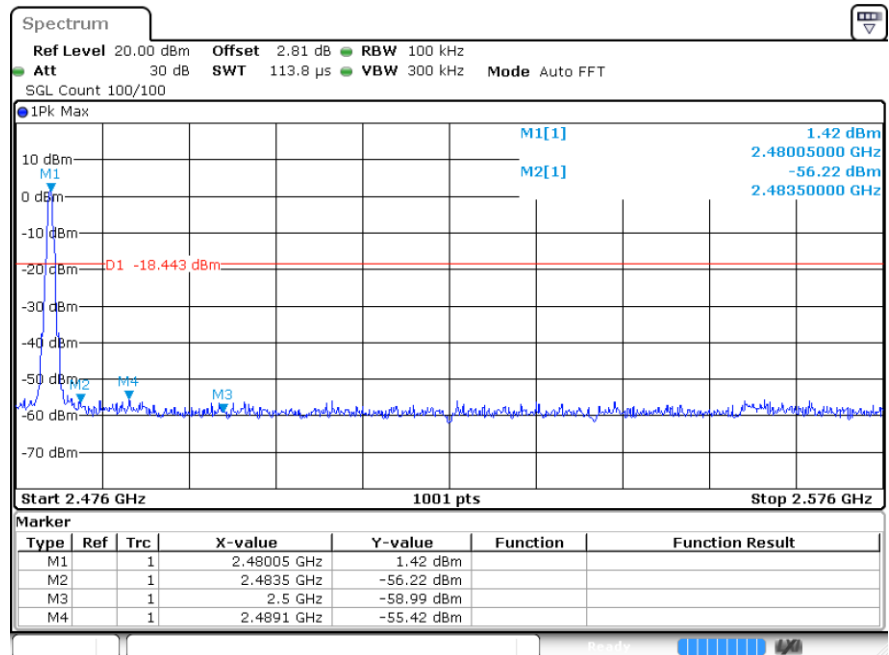
GFSK/LCH/Hop



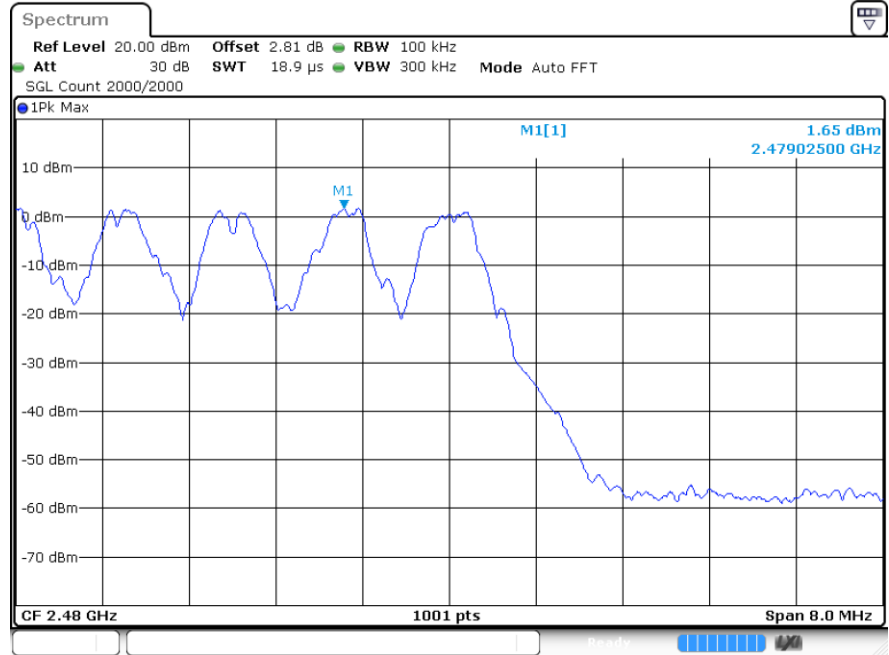
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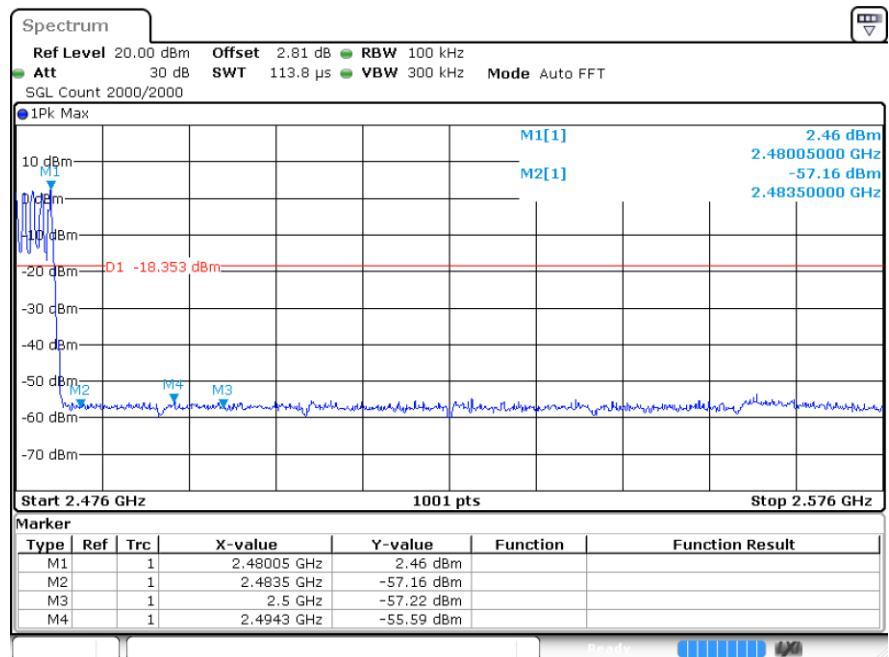
GFSK/HCH/No Hop



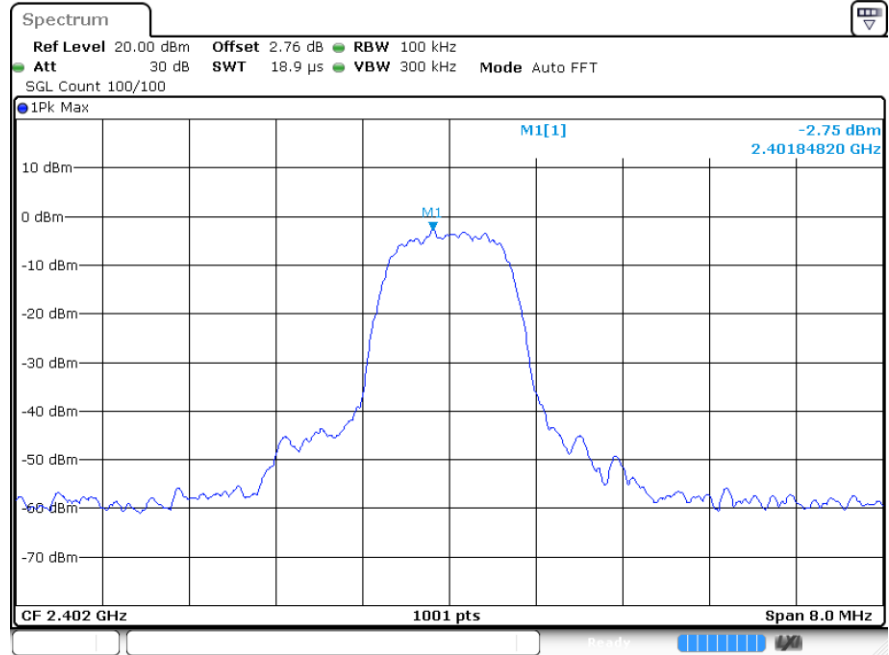
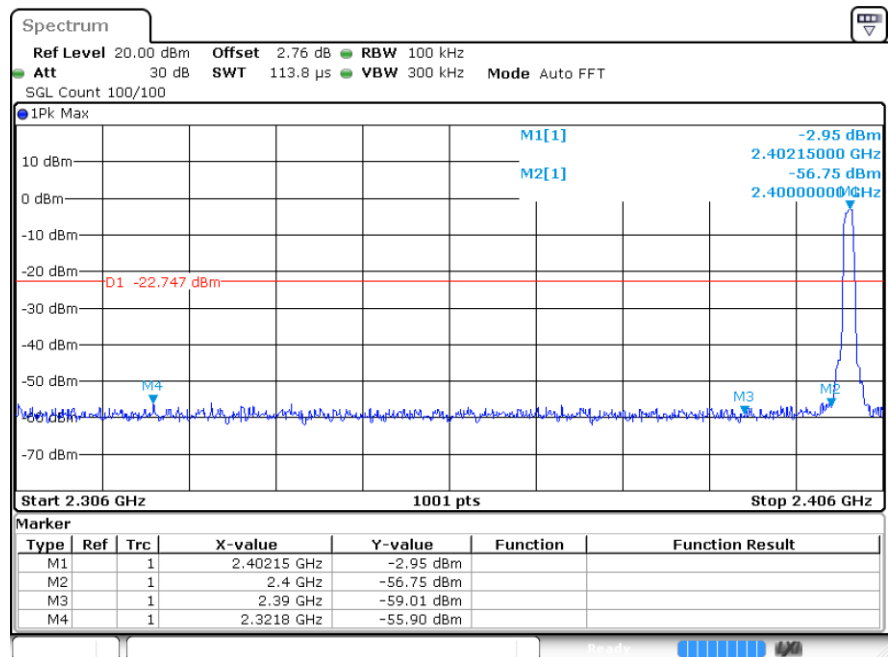
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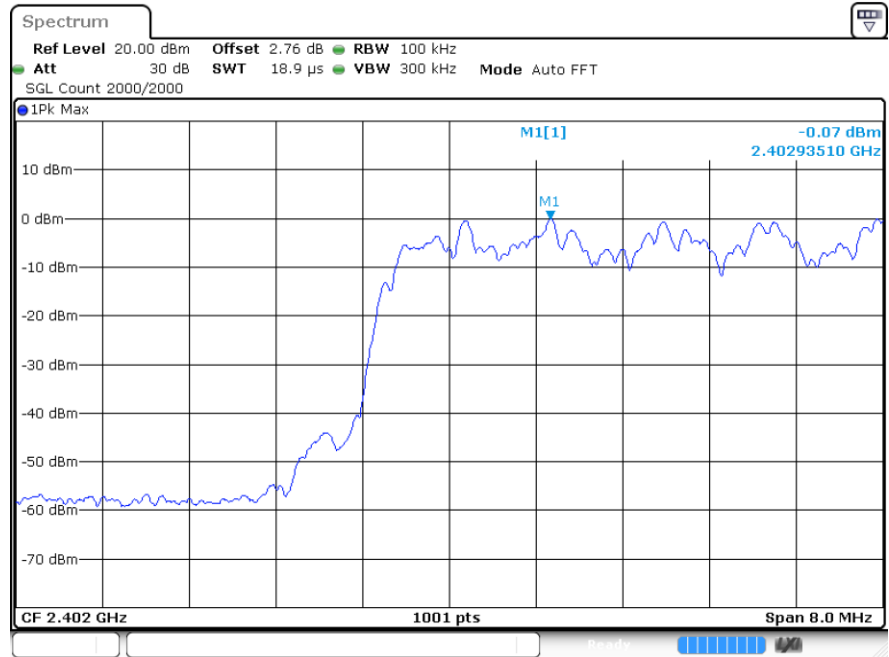
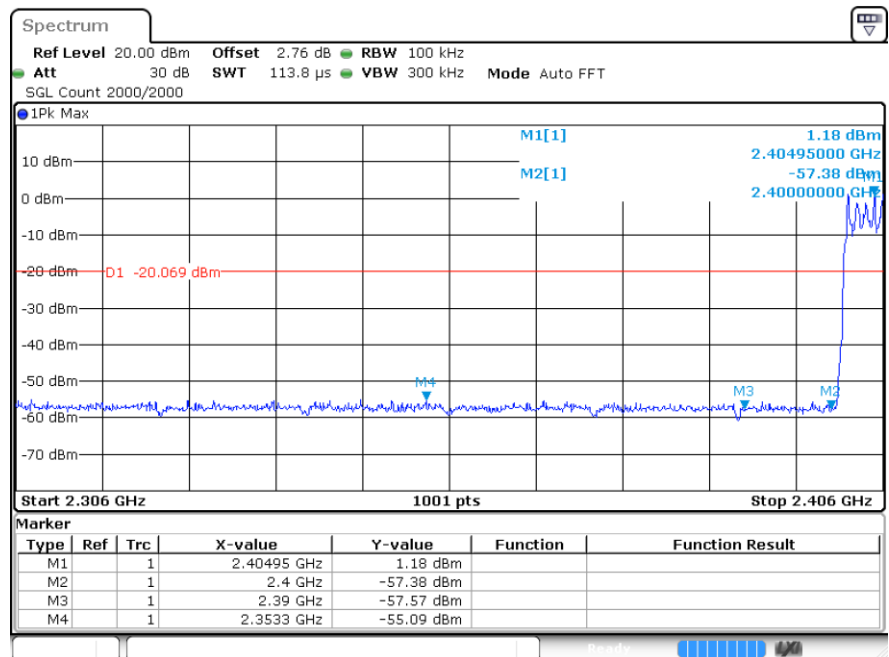
GFSK/HCH/Hop



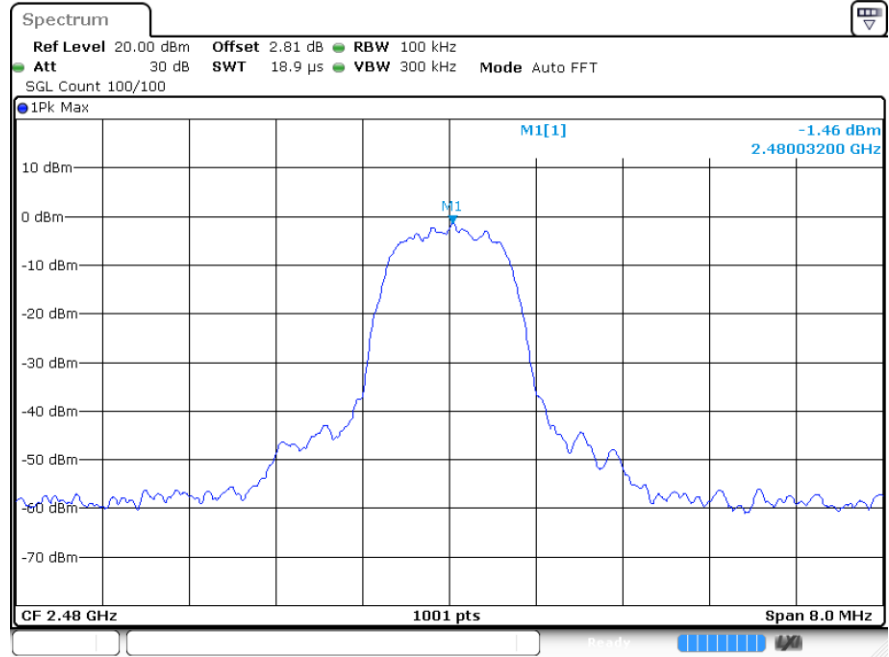
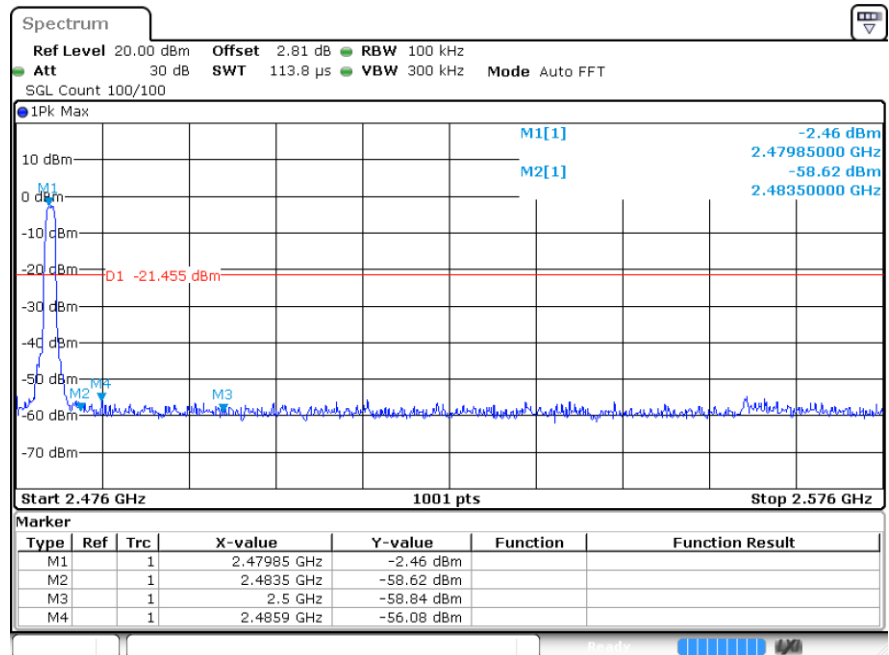
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 $\pi/4$ DQPSK/LCH/No
Hop


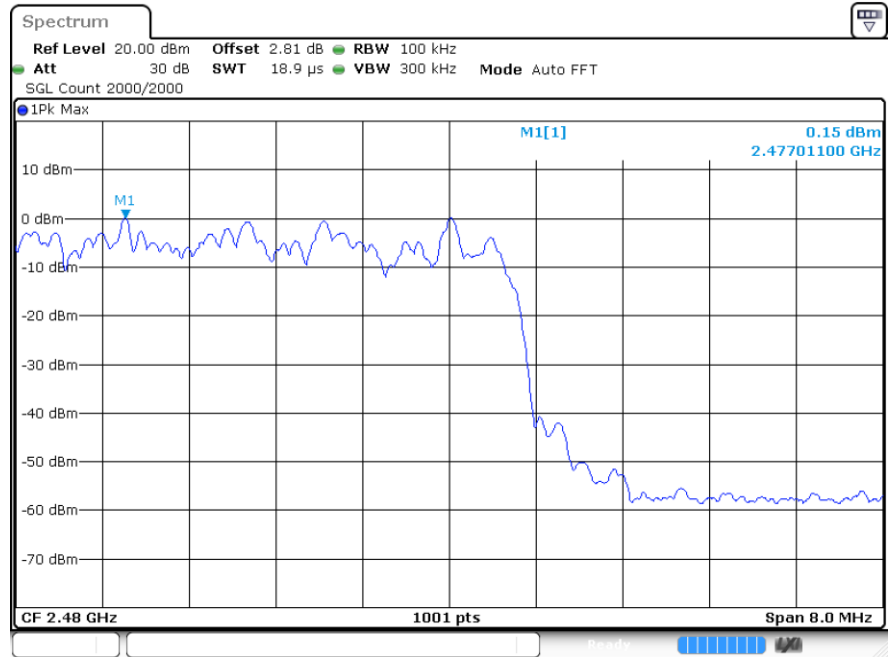
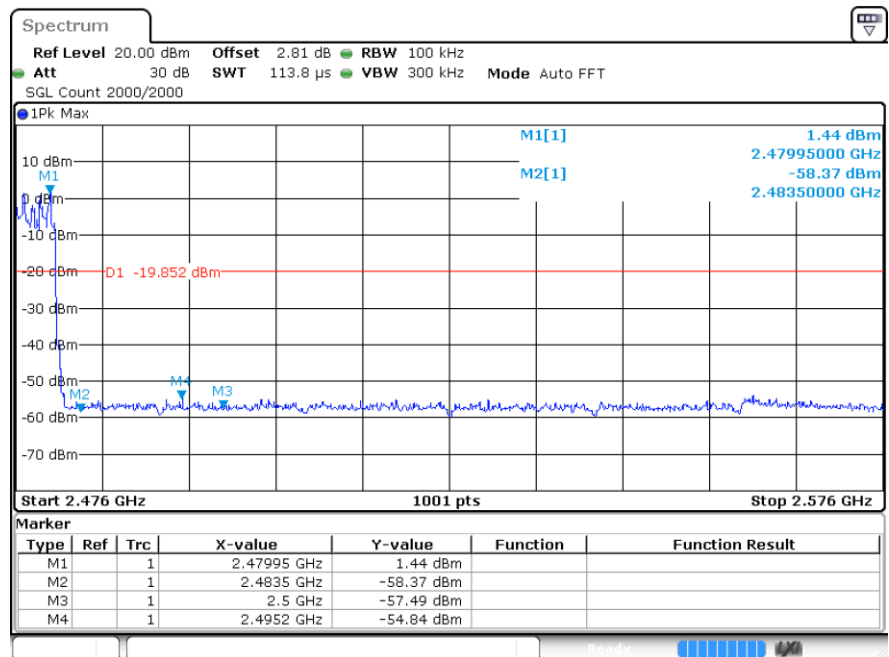
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 $\pi/4$ DQPSK/LCH/Hop


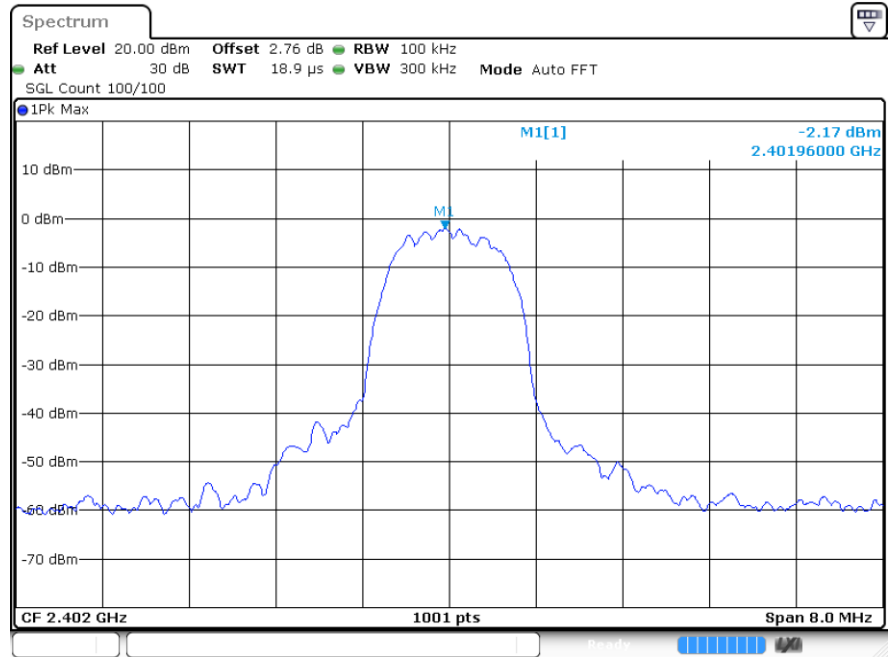
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 $\pi/4$ DQPSK/HCH/No
Hop


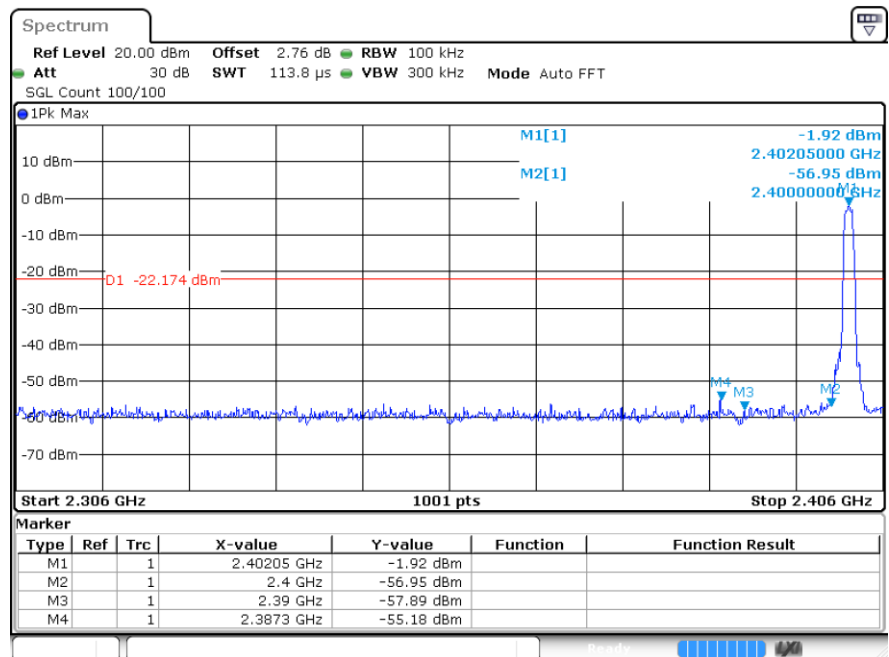
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 $\pi/4$ DQPSK/HCH/Hop


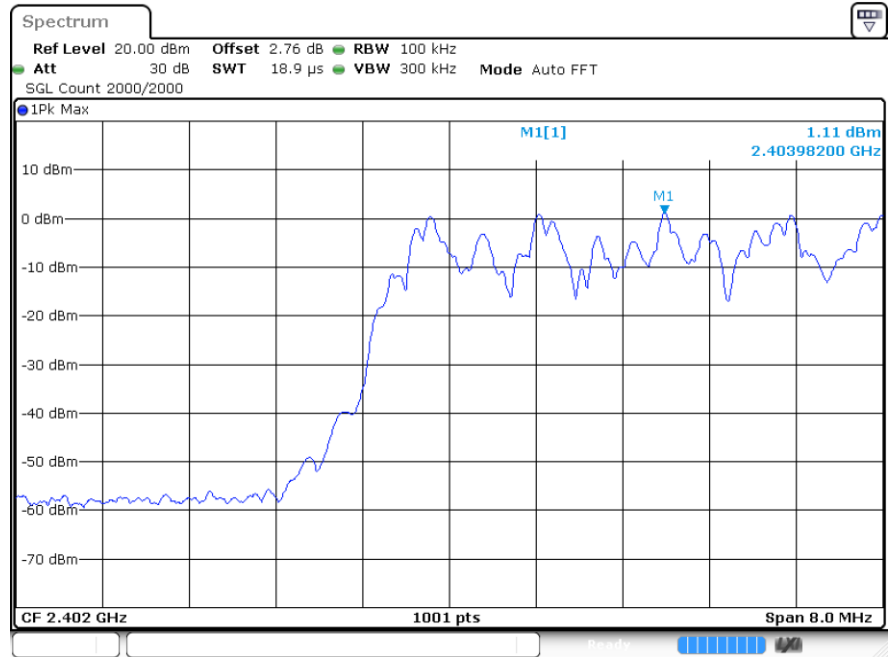
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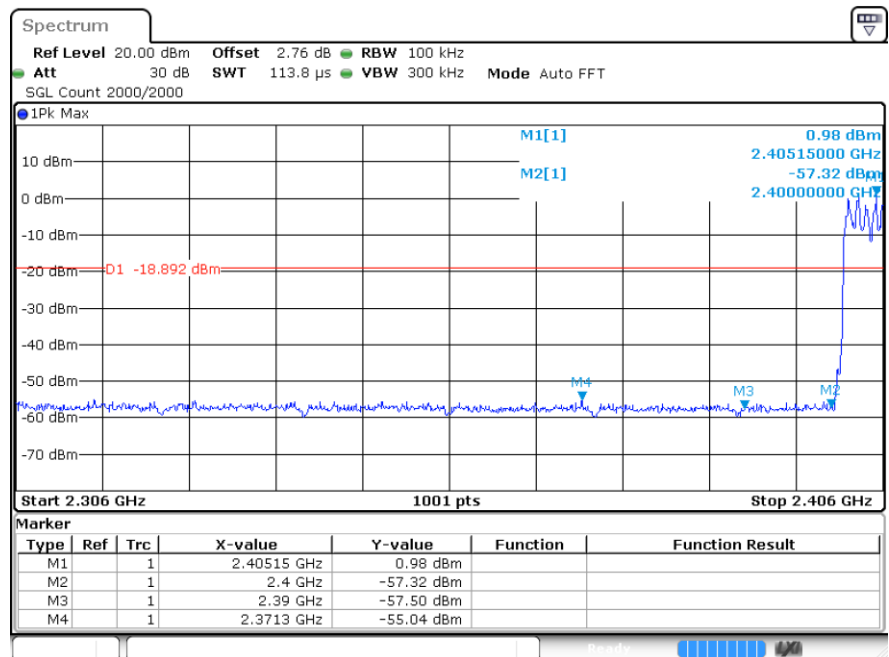
8DPSK/LCH/No Hop



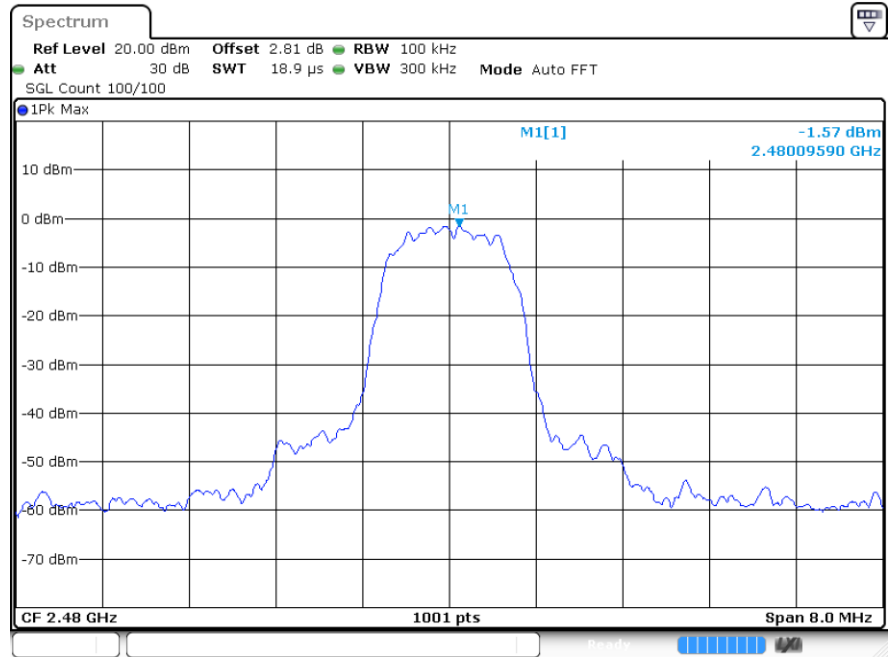
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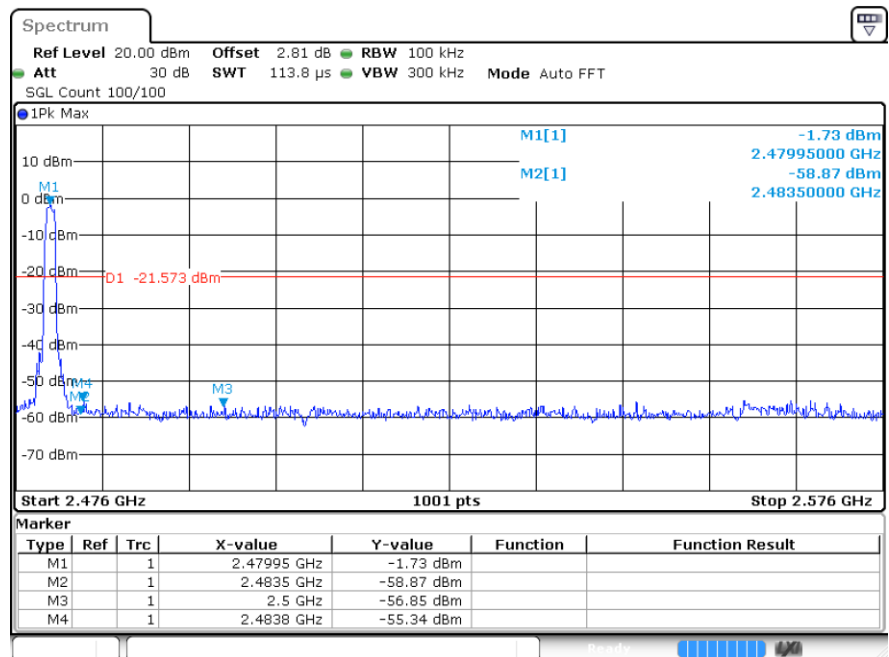
8DPSK/LCH/Hop



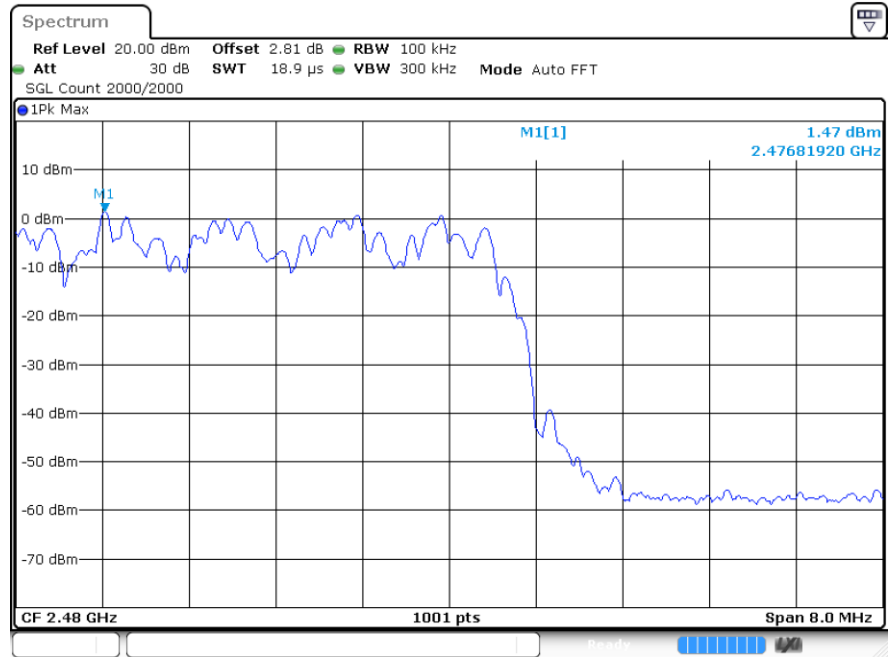
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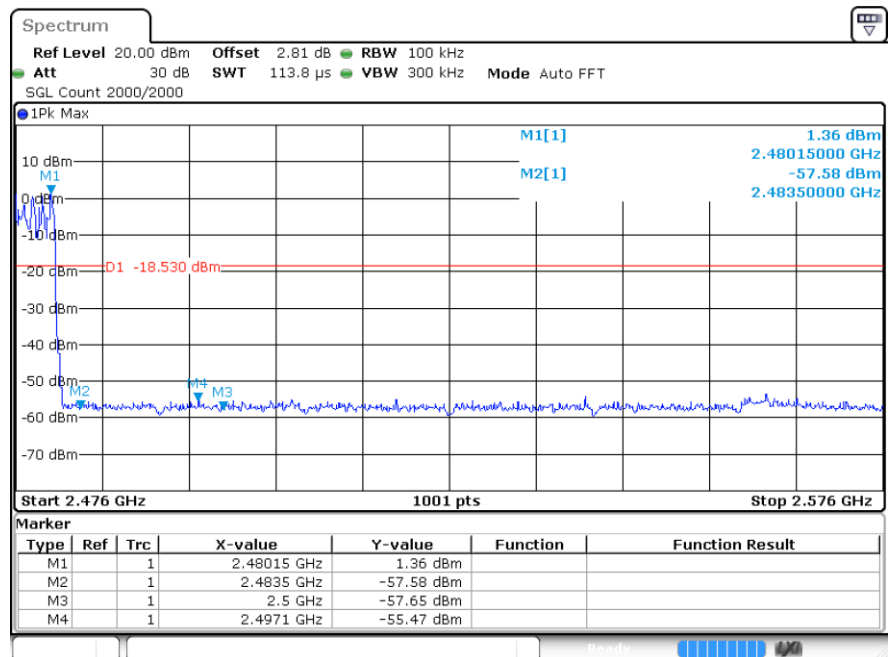
8DPSK/HCH/No Hop



Ref



8DPSK/HCH/Hop



---The End---