

Appendix RF test data for BT Module 2

Product Name: Car Video Box

Trade Mark: N/A

Test Model: Y4

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya Lin
Supervised by:	Simba Huang



Contents

Page

COVER PAGE

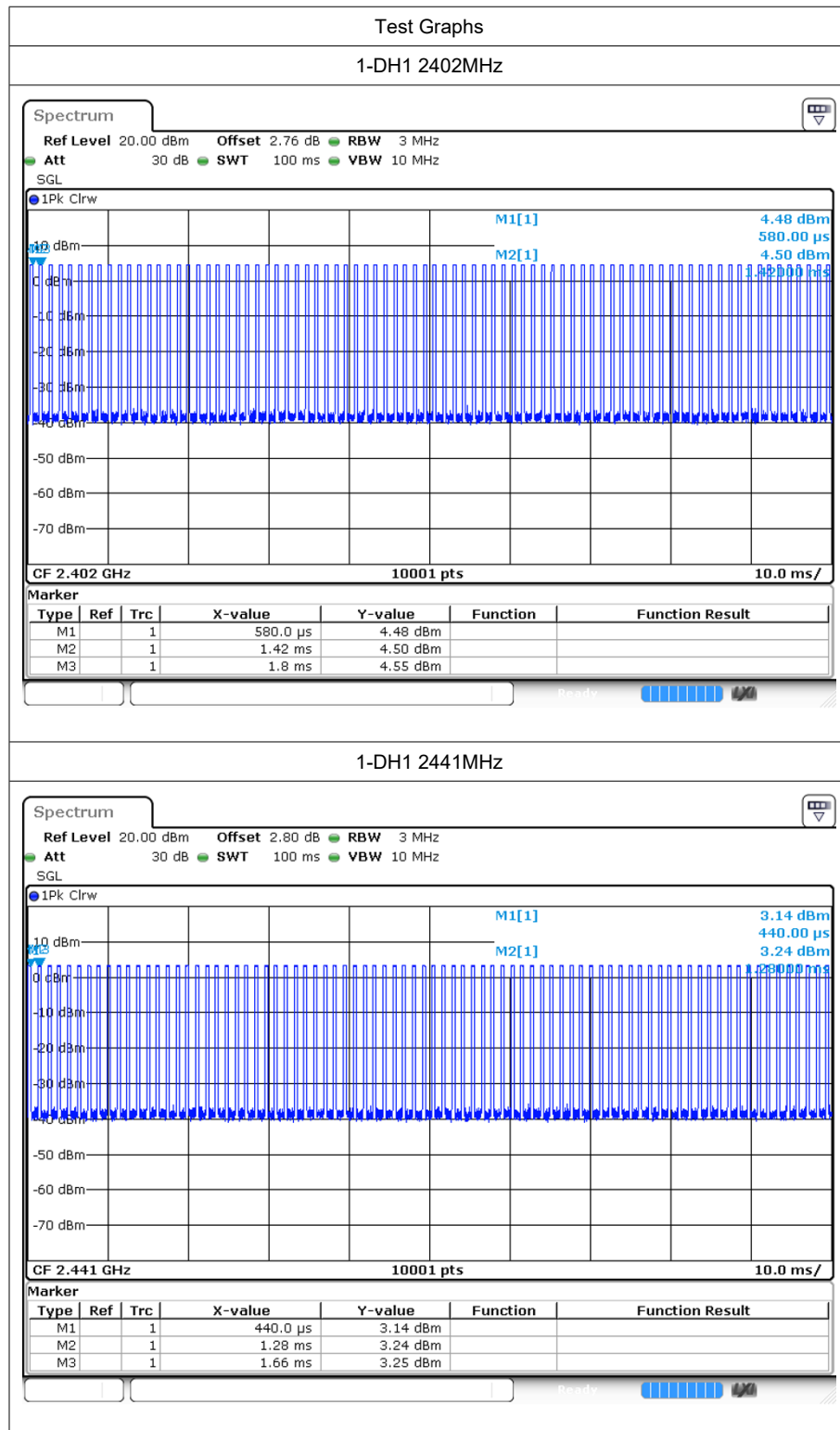
1	Duty Cycle	3
1.1	Test Result	3
1.2	Test Graphs.....	4
2	Maximum Conducted Peak Output Power	9
2.1	Test Result	9
2.2	Test Graphs.....	10
3	20dB Bandwidth	13
3.1	Test Result	13
3.2	Test Graphs.....	14
4	Carrier Frequency Separation	17
4.1	Test Result	17
4.2	Test Graphs.....	18
5	Hopping Channel Number	19
5.1	Test Result	19
5.2	Test Graphs.....	20
6	Dwell Time.....	21
6.1	Test Result	21
6.2	Test Graphs.....	22
7	RF Conducted Spurious Emissions	23
7.1	Test Result	23
7.2	Test Graphs.....	25
8	Band-edge for RF Conducted Emissions	34
8.1	Test Result	34
8.2	Test Graphs.....	36
9	Restrict-band band-edge measurements	48
9.1	Test Result	48
9.2	Test Graphs.....	52

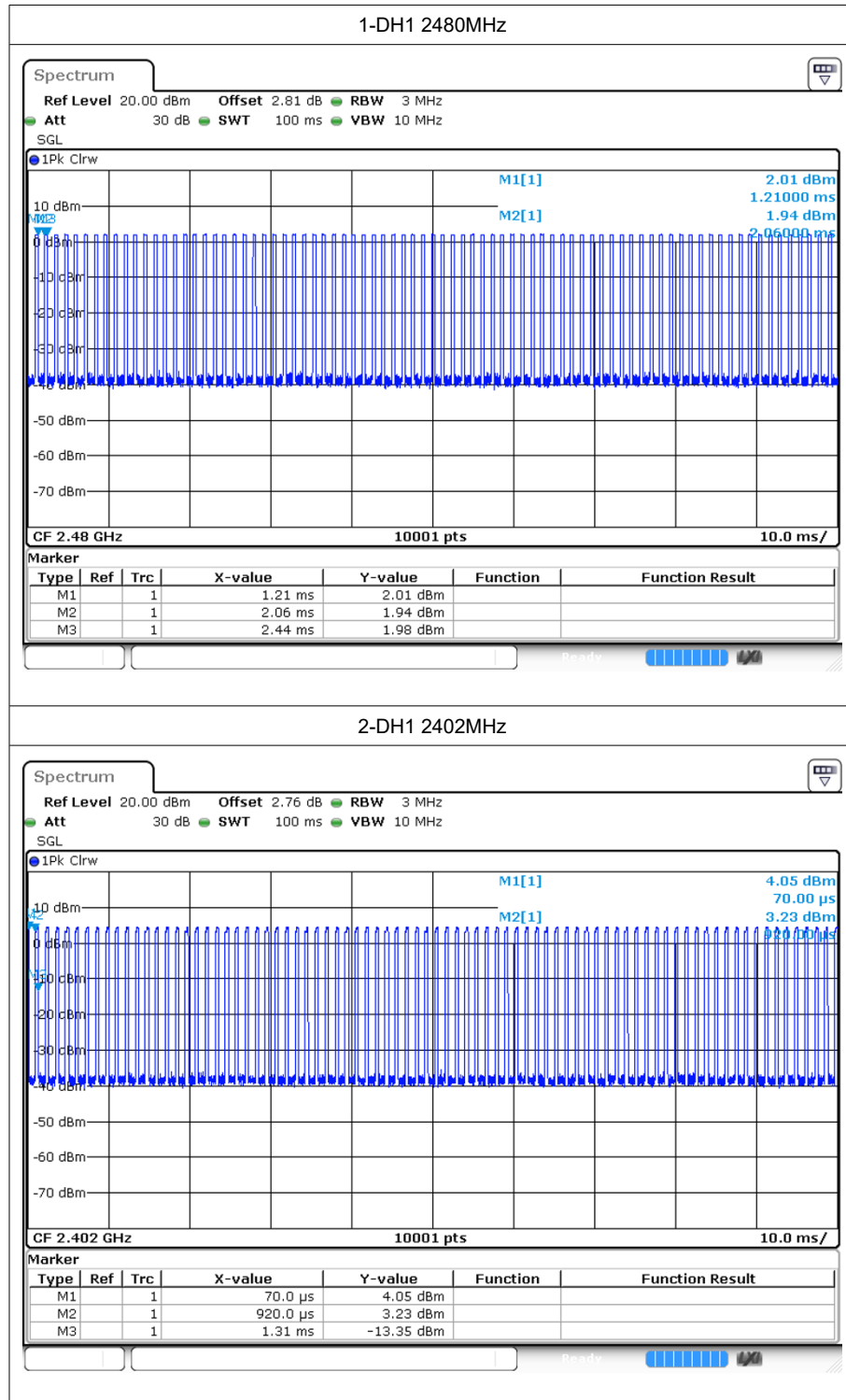
1 Duty Cycle

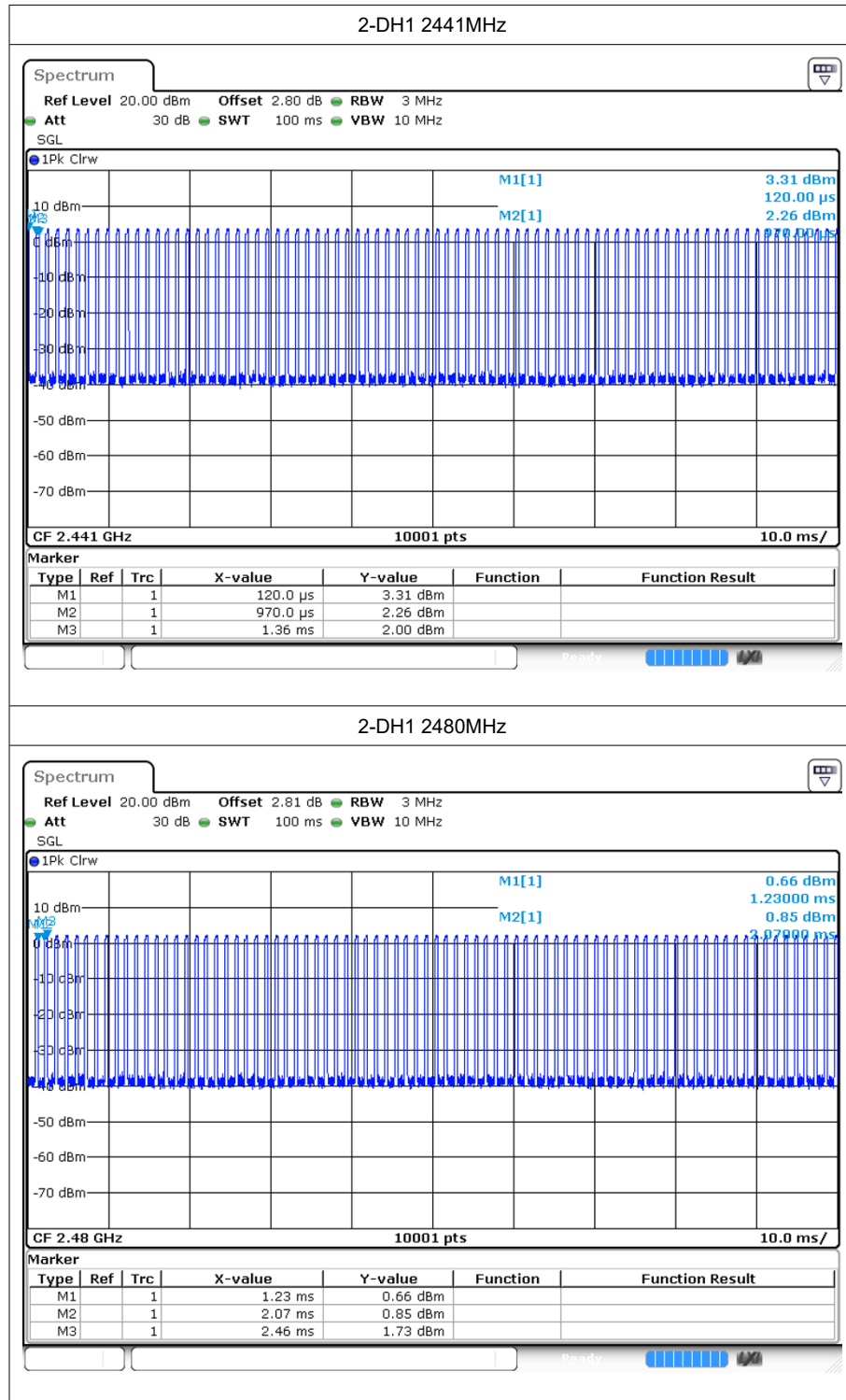
1.1 Test Result

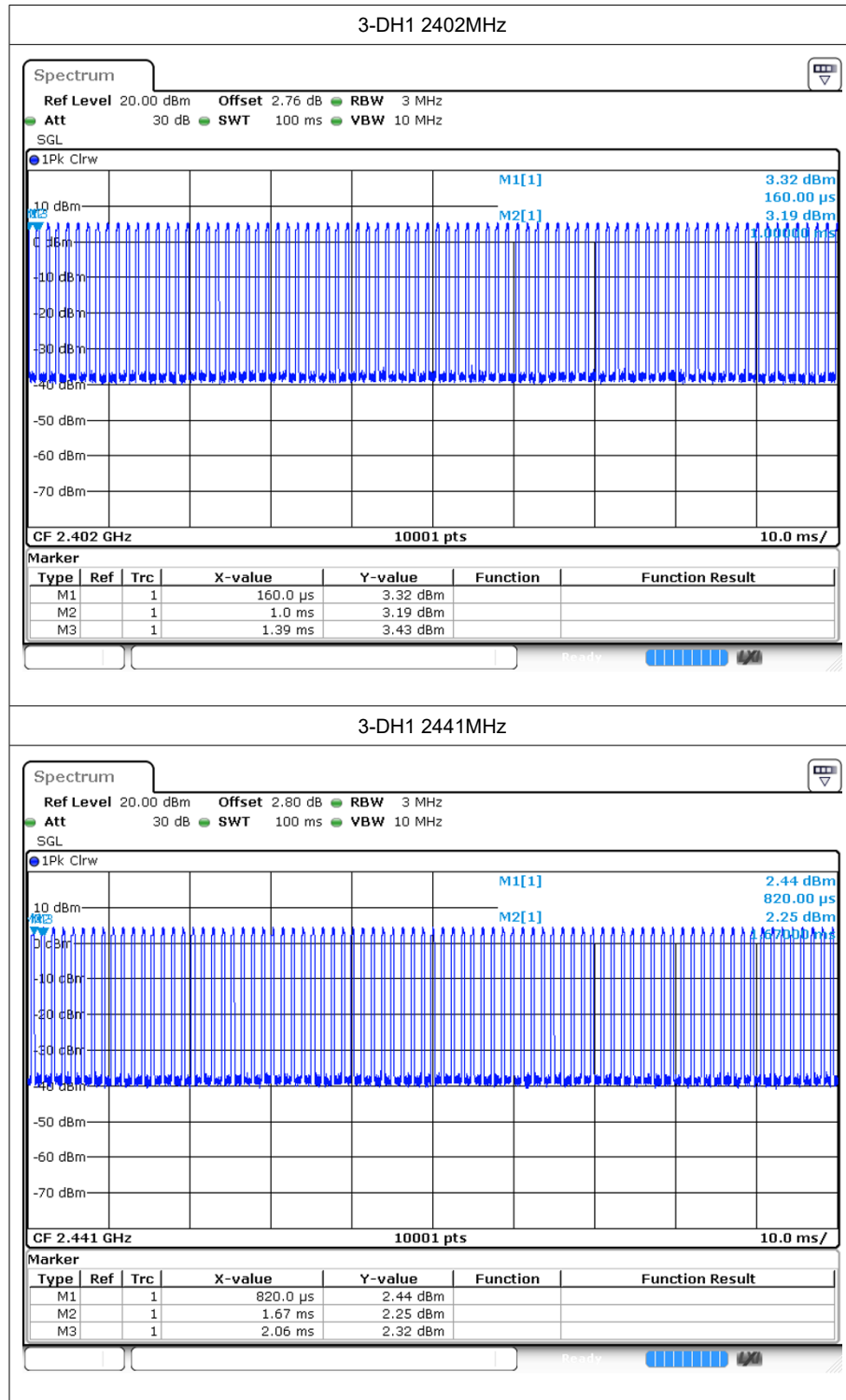
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	32.05	4.94	2.63
1-DH1	2441	31.98	4.95	2.63
1-DH1	2480	31.66	5	2.63
2-DH1	2402	32.39	4.9	2.56
2-DH1	2441	32.4	4.89	2.56
2-DH1	2480	32.3	4.91	2.56
3-DH1	2402	32.4	4.89	2.56
3-DH1	2441	32.31	4.91	2.56
3-DH1	2480	32.31	4.91	2.56

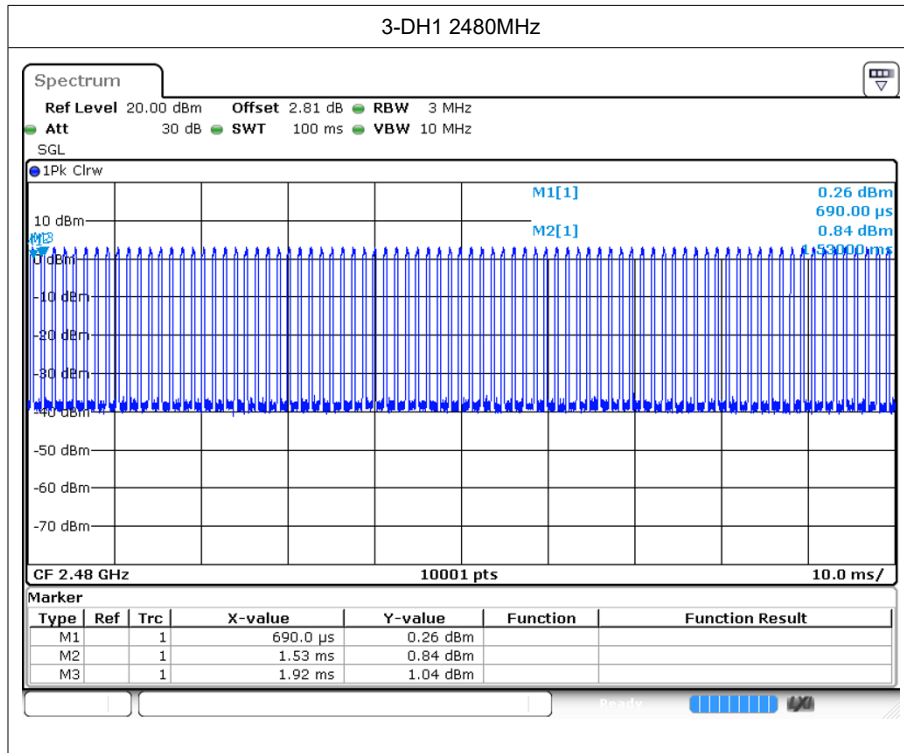
1.2 Test Graphs









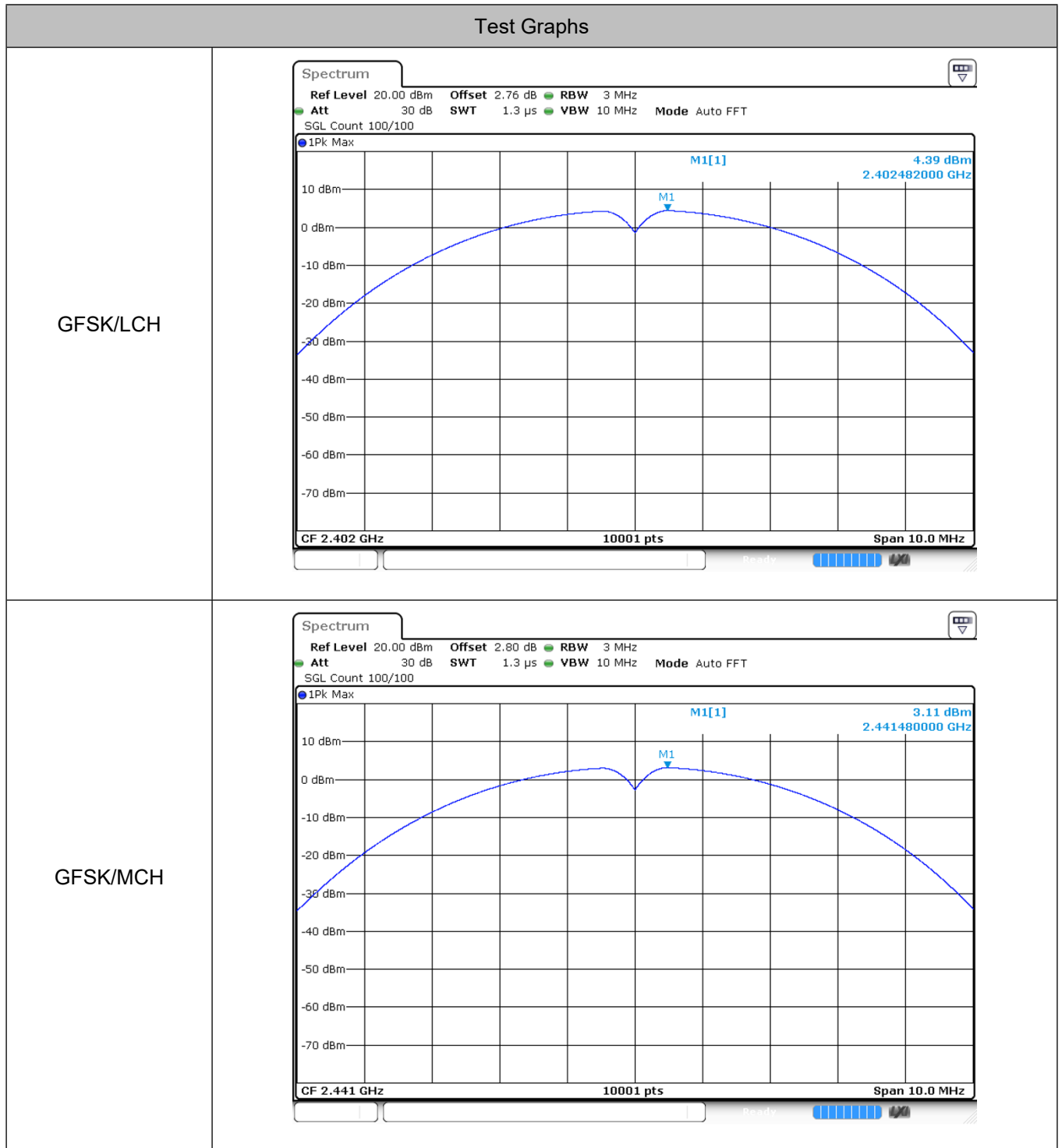


2 Maximum Conducted Peak Output Power

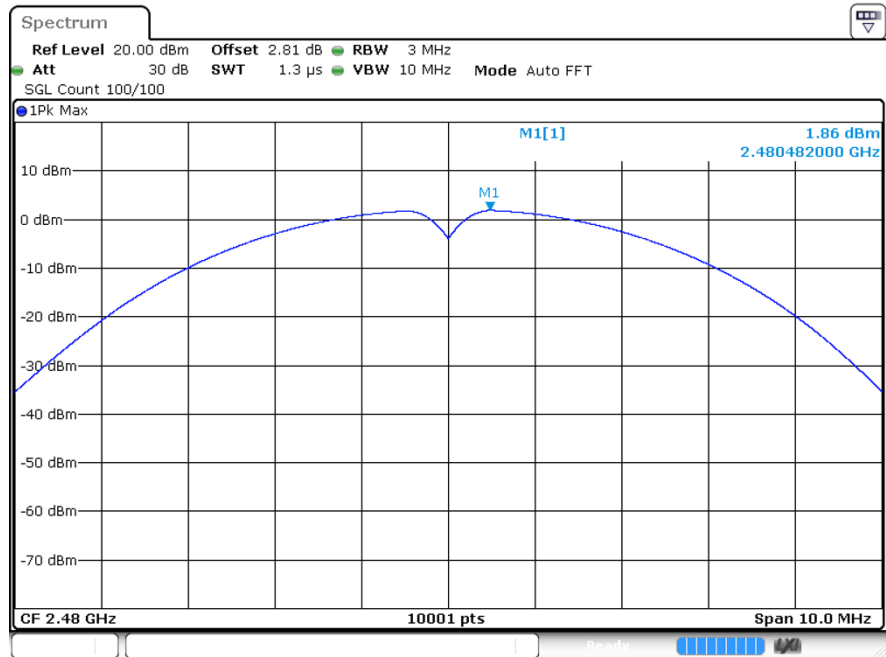
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	4.39	21	Pass
	MCH	3.11	21	Pass
	HCH	1.86	21	Pass
$\pi/4$ DQPSK	LCH	4.21	21	Pass
	MCH	3.15	21	Pass
	HCH	2.05	21	Pass
8DPSK	LCH	4.52	21	Pass
	MCH	3.43	21	Pass
	HCH	1.73	21	Pass

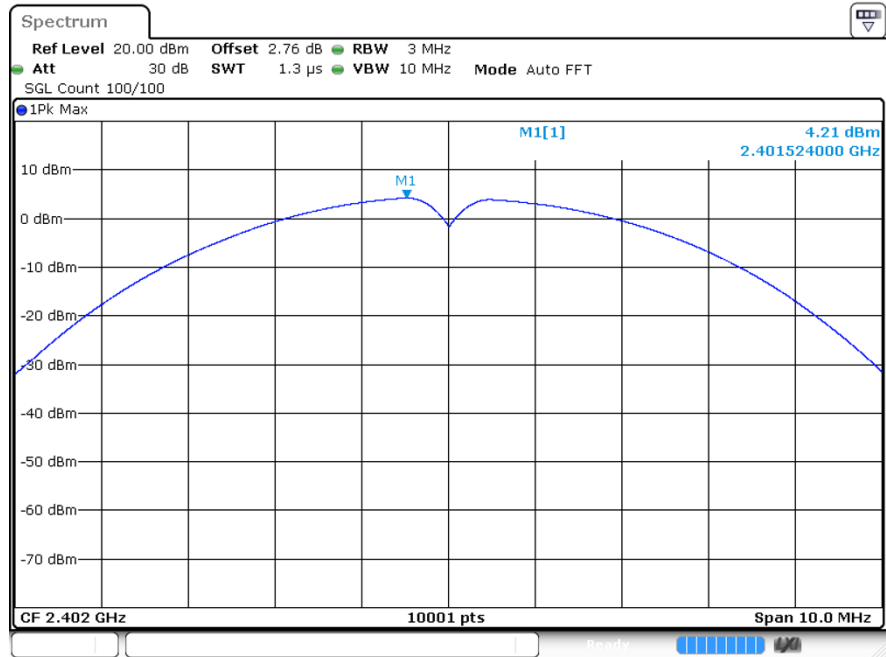
2.2 Test Graphs



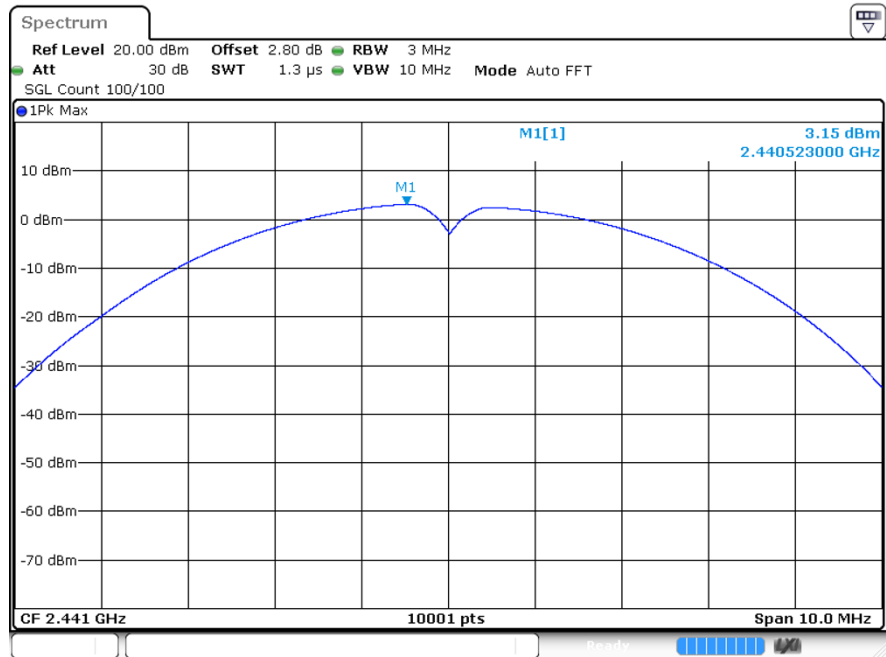
GFSK/HCH



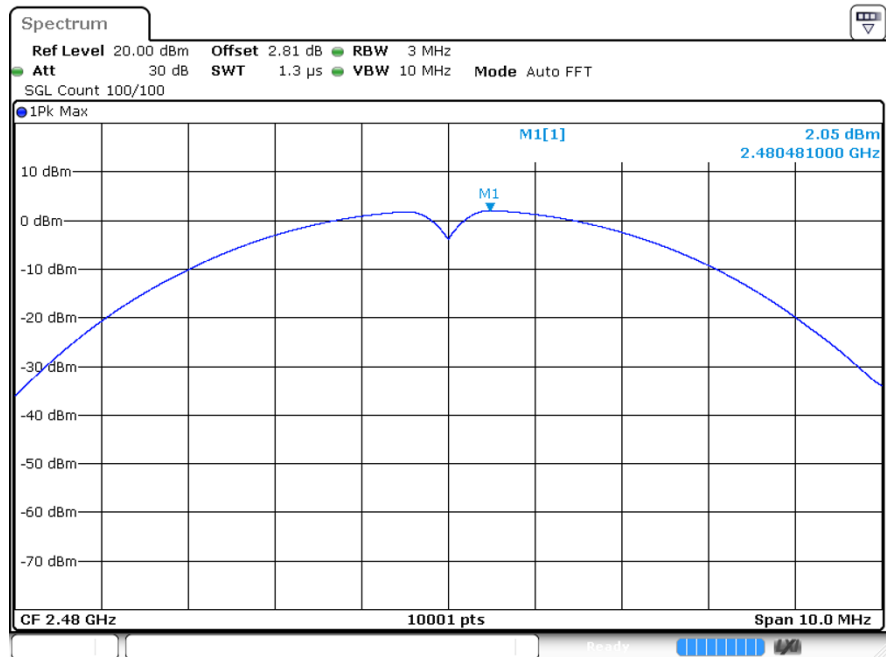
$\pi/4$ DQPSK/LCH



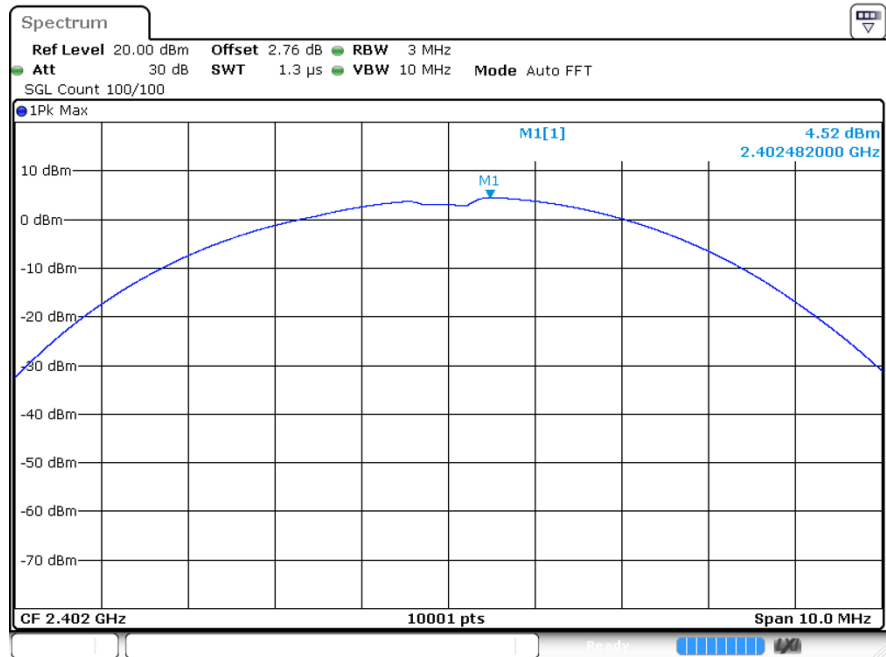
$\pi/4$ DQPSK/MCH



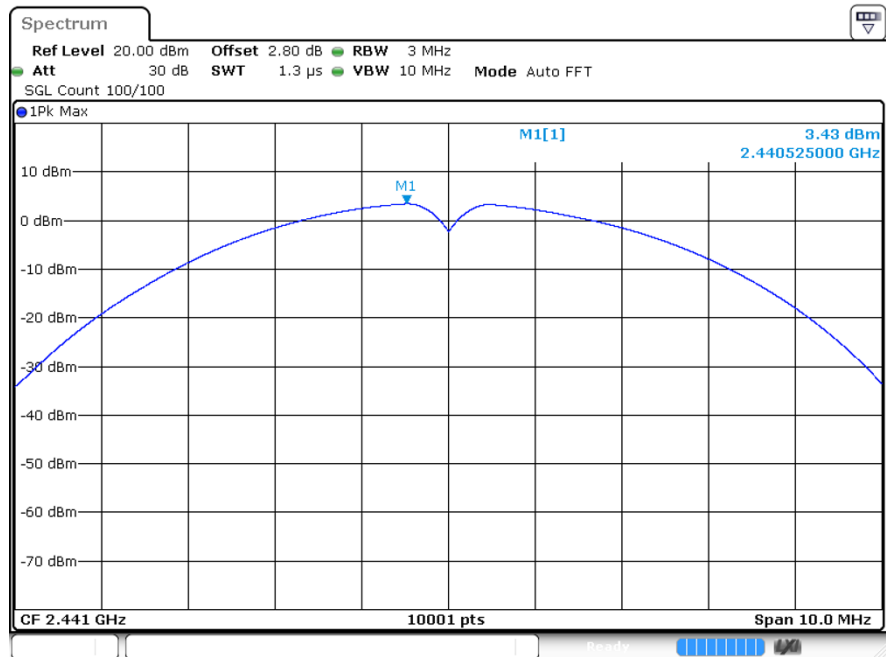
$\pi/4$ DQPSK/HCH



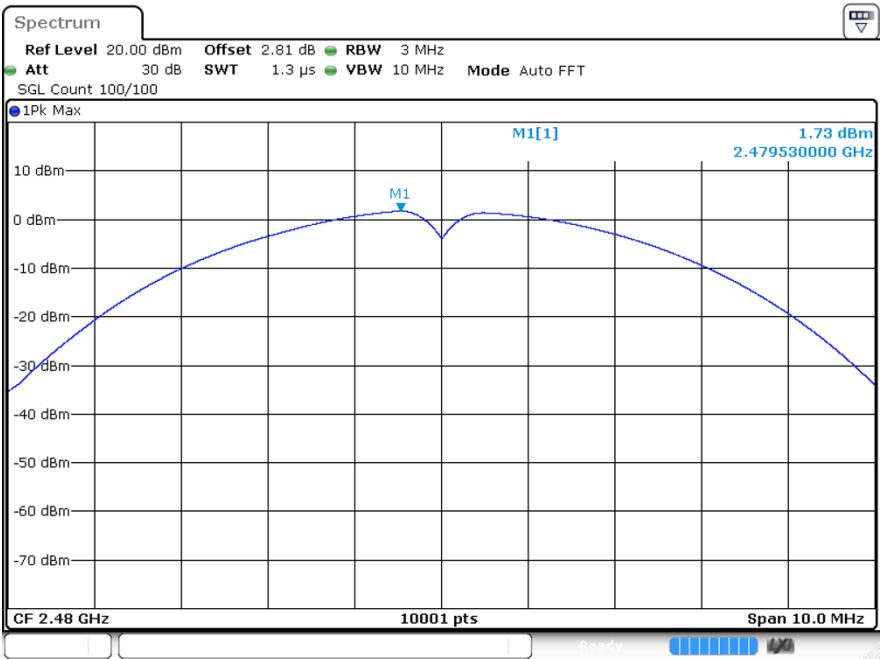
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

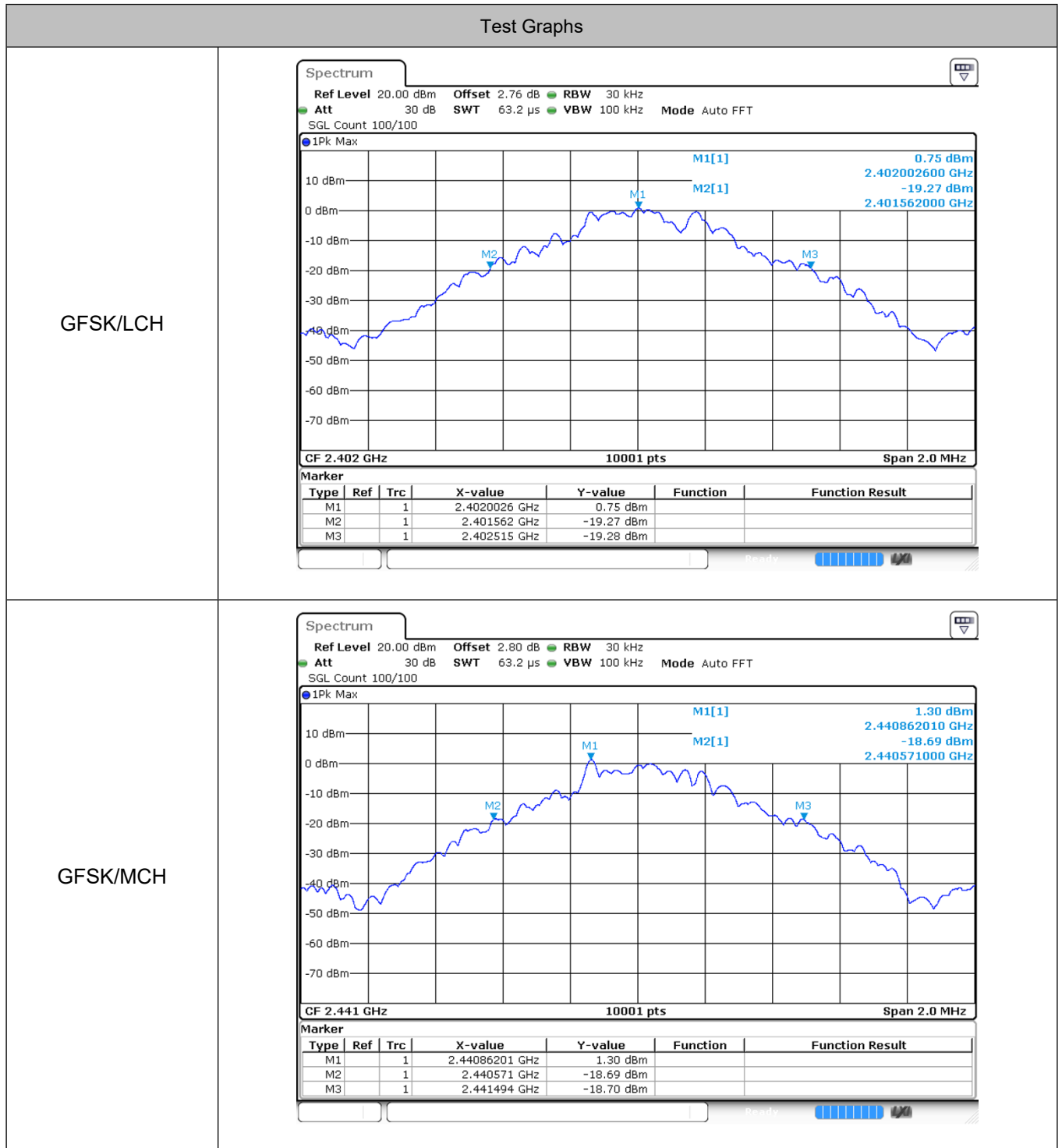


3 20dB Bandwidth

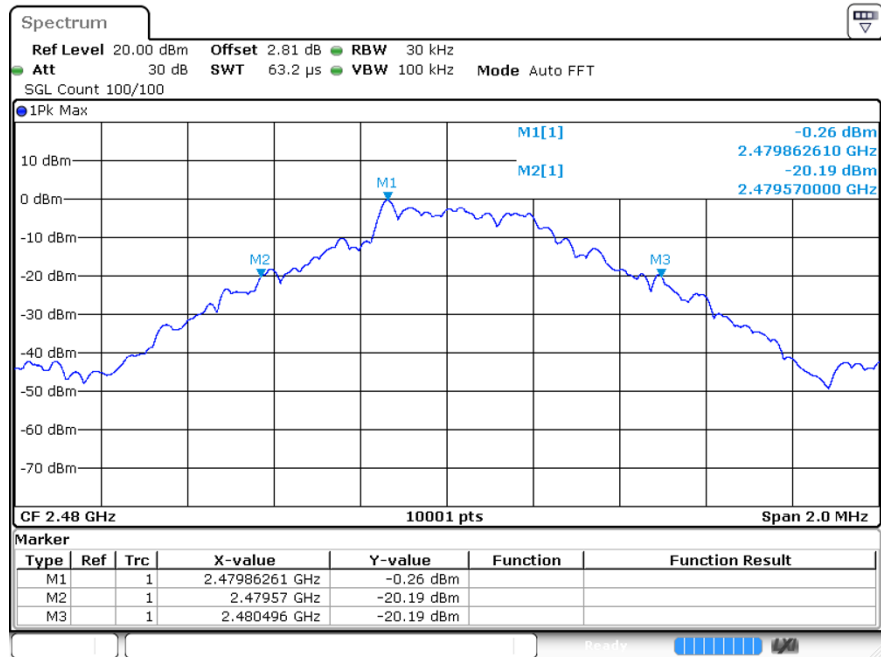
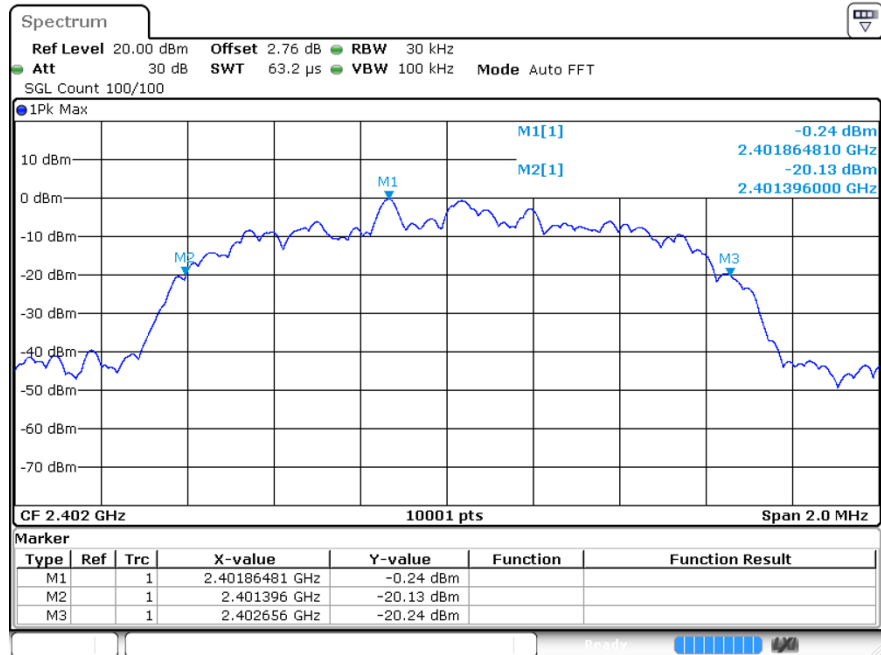
3.1 Test Result

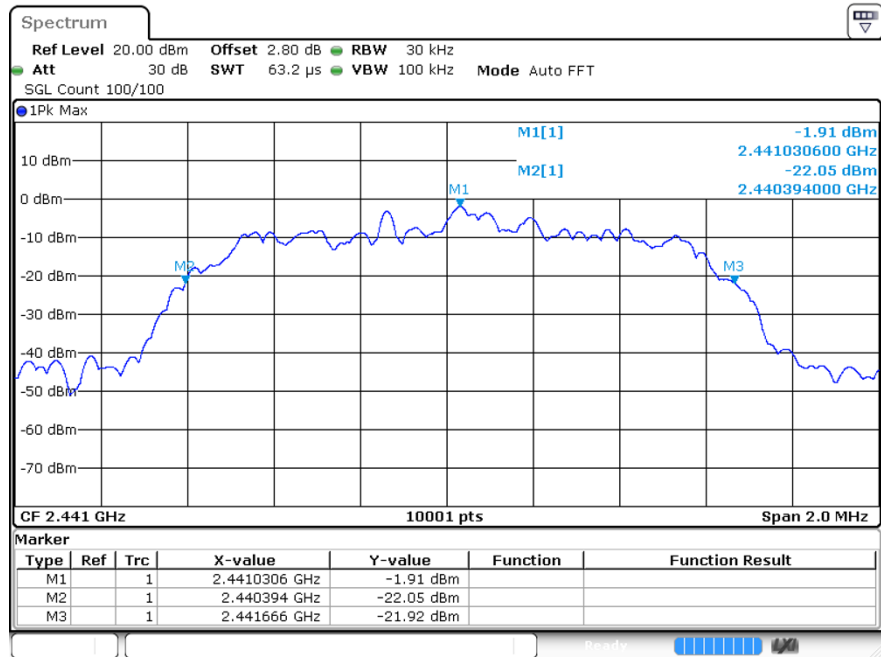
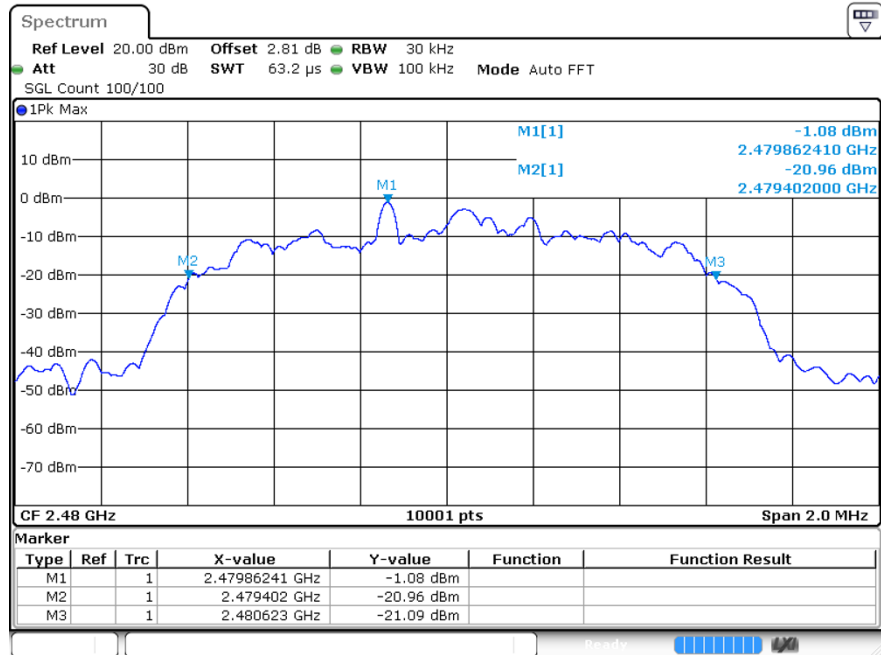
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.953	Not Specified	Pass
	MCH	0.923	Not Specified	Pass
	HCH	0.927	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.26	Not Specified	Pass
	MCH	1.271	Not Specified	Pass
	HCH	1.221	Not Specified	Pass
8DPSK	LCH	1.209	Not Specified	Pass
	MCH	1.202	Not Specified	Pass
	HCH	1.193	Not Specified	Pass

3.2 Test Graphs

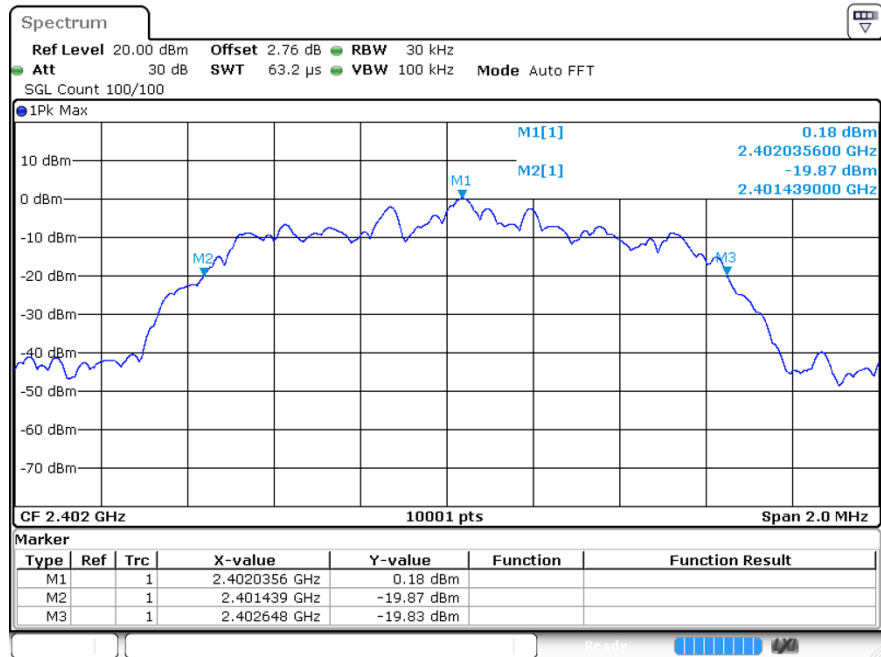


GFSK/HCH

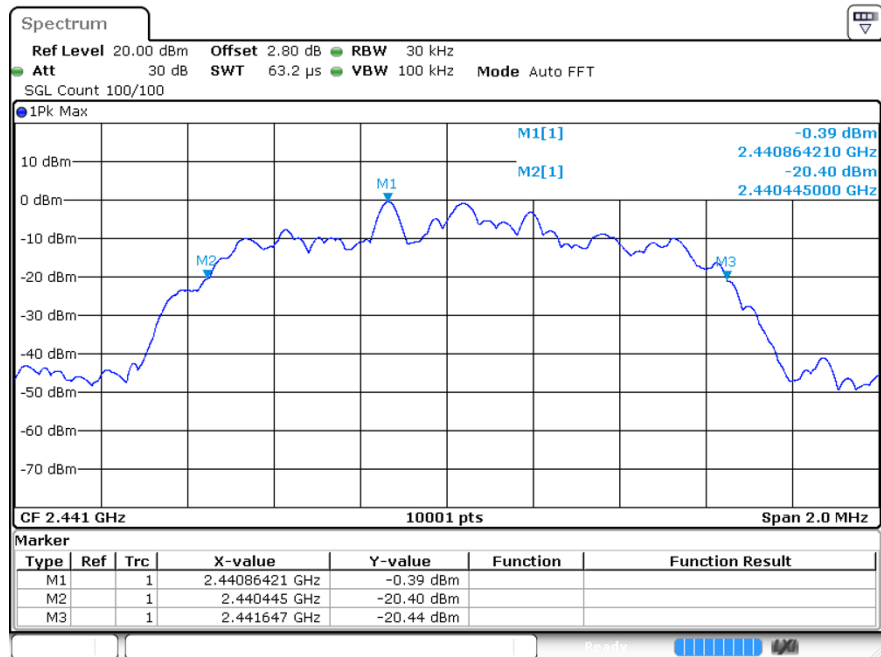

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


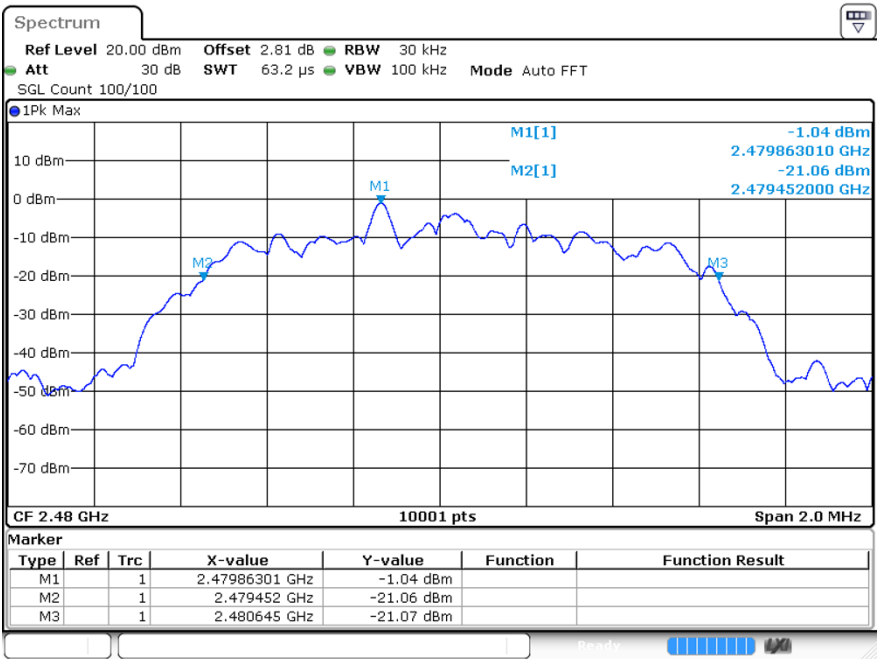
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

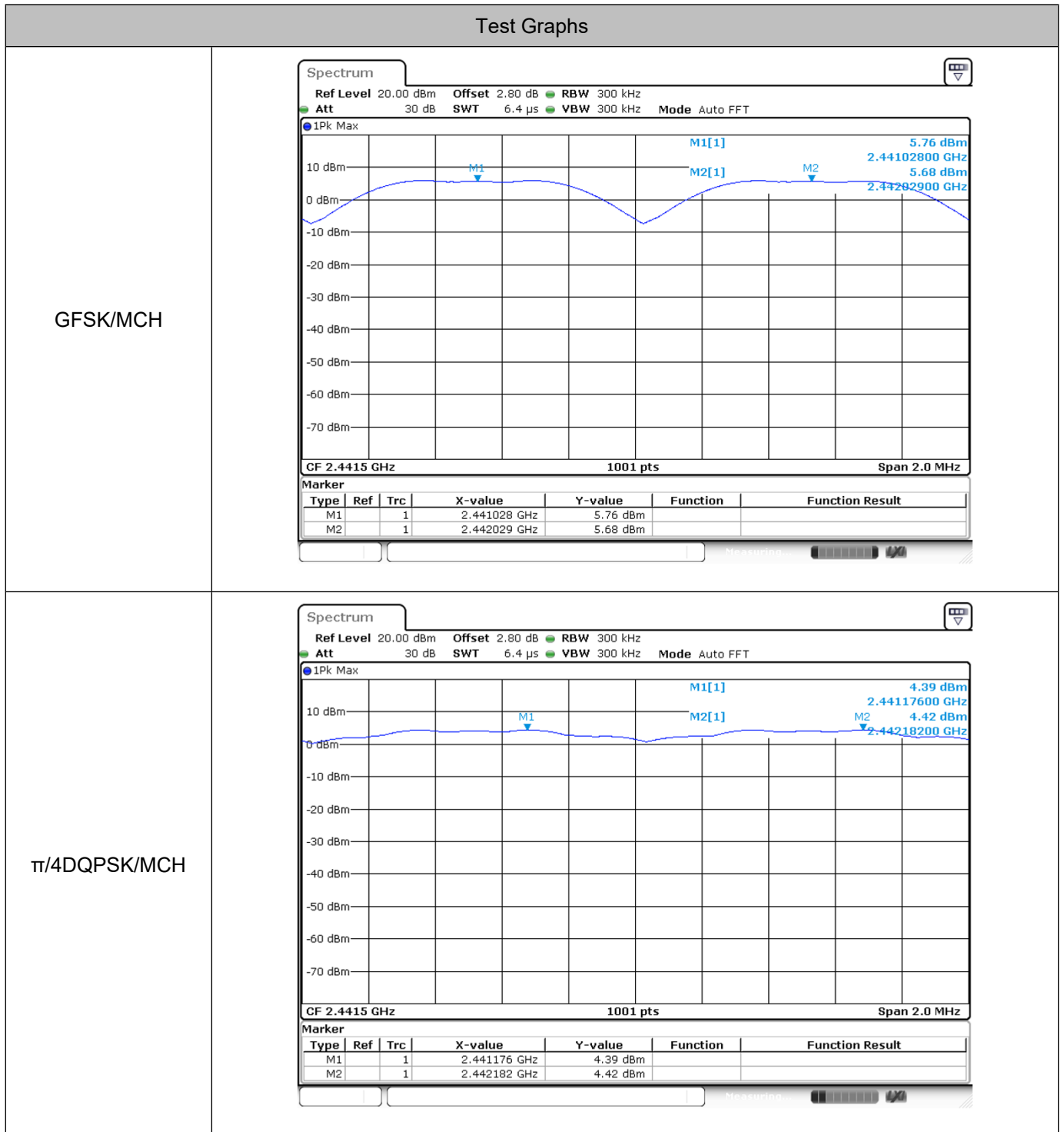


4 Carrier Frequency Separation

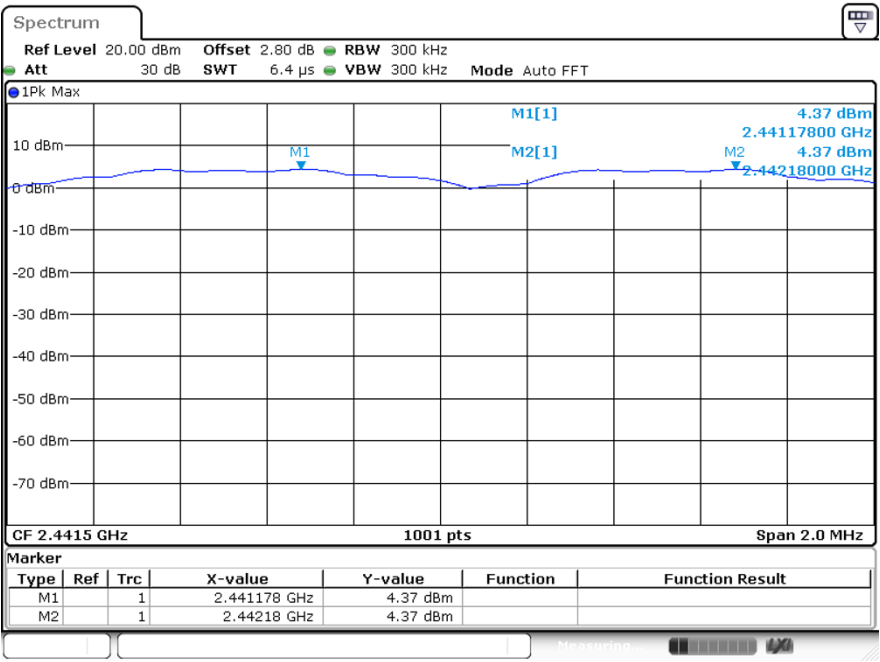
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.001	0.615	Pass
$\pi/4$ DQPSK	MCH	1.006	0.847	Pass
8DPSK	MCH	1.002	0.801	Pass

4.2 Test Graphs



8DPSK/MCH

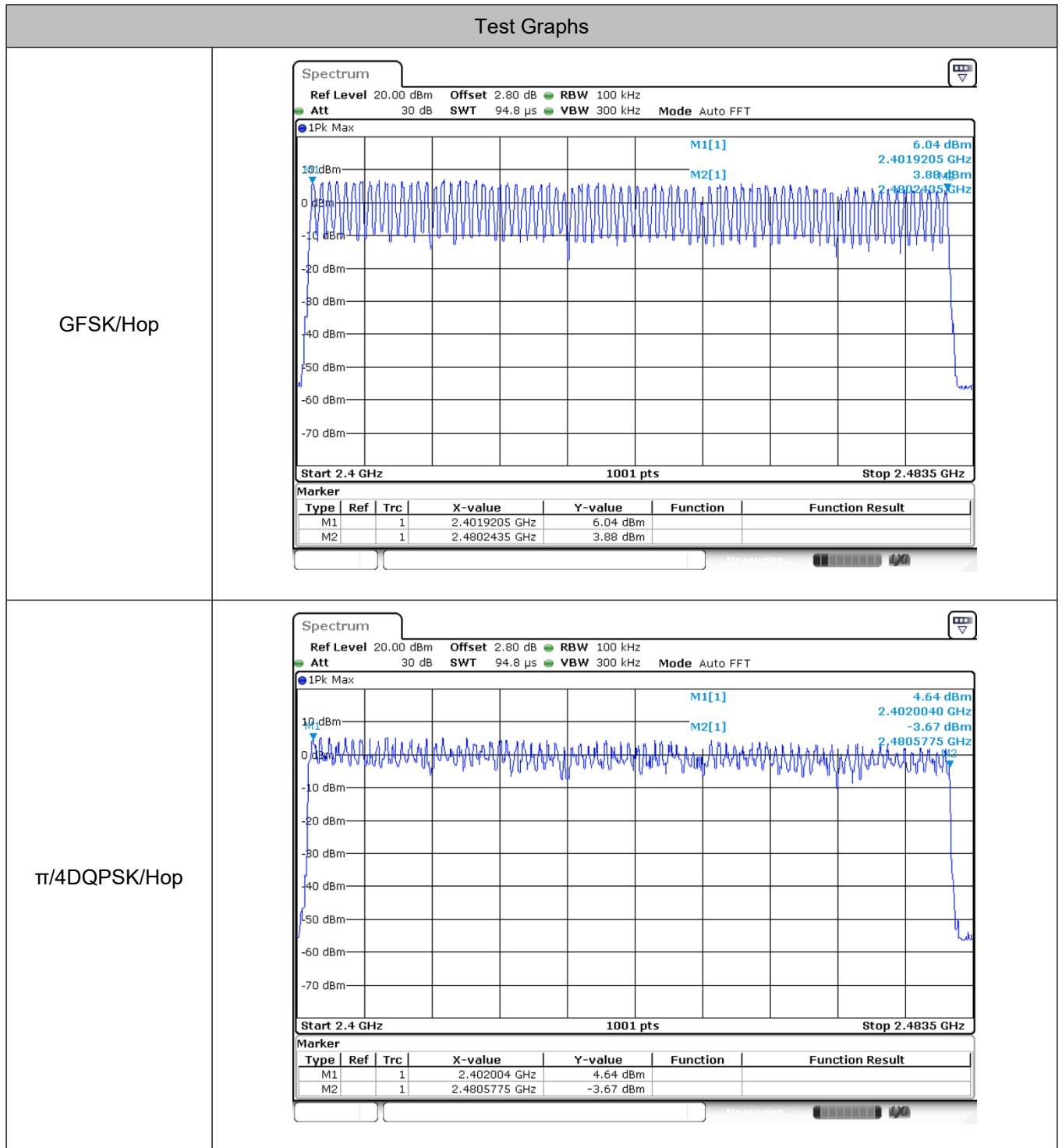


5 Hopping Channel Number

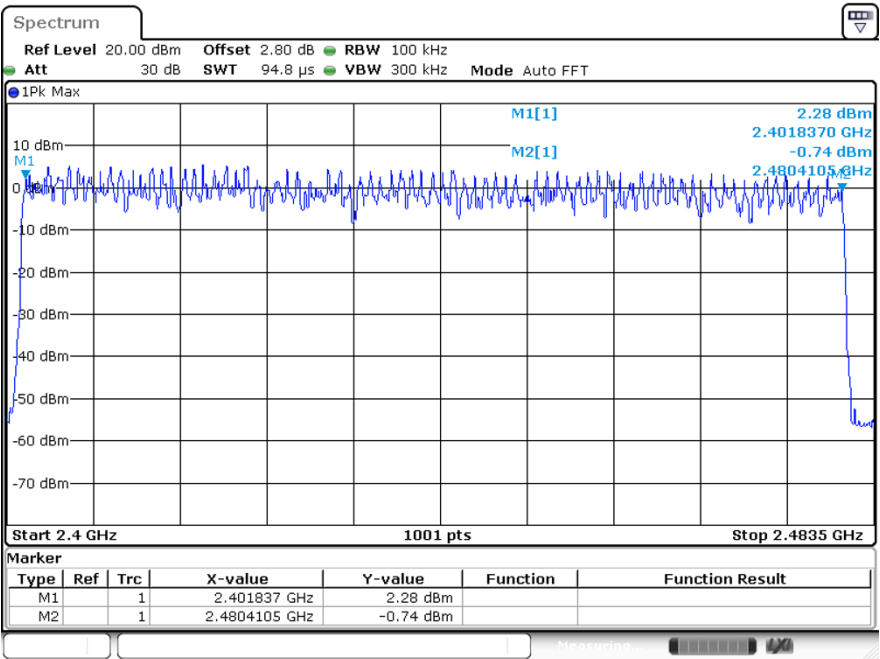
5.1 Test Result

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

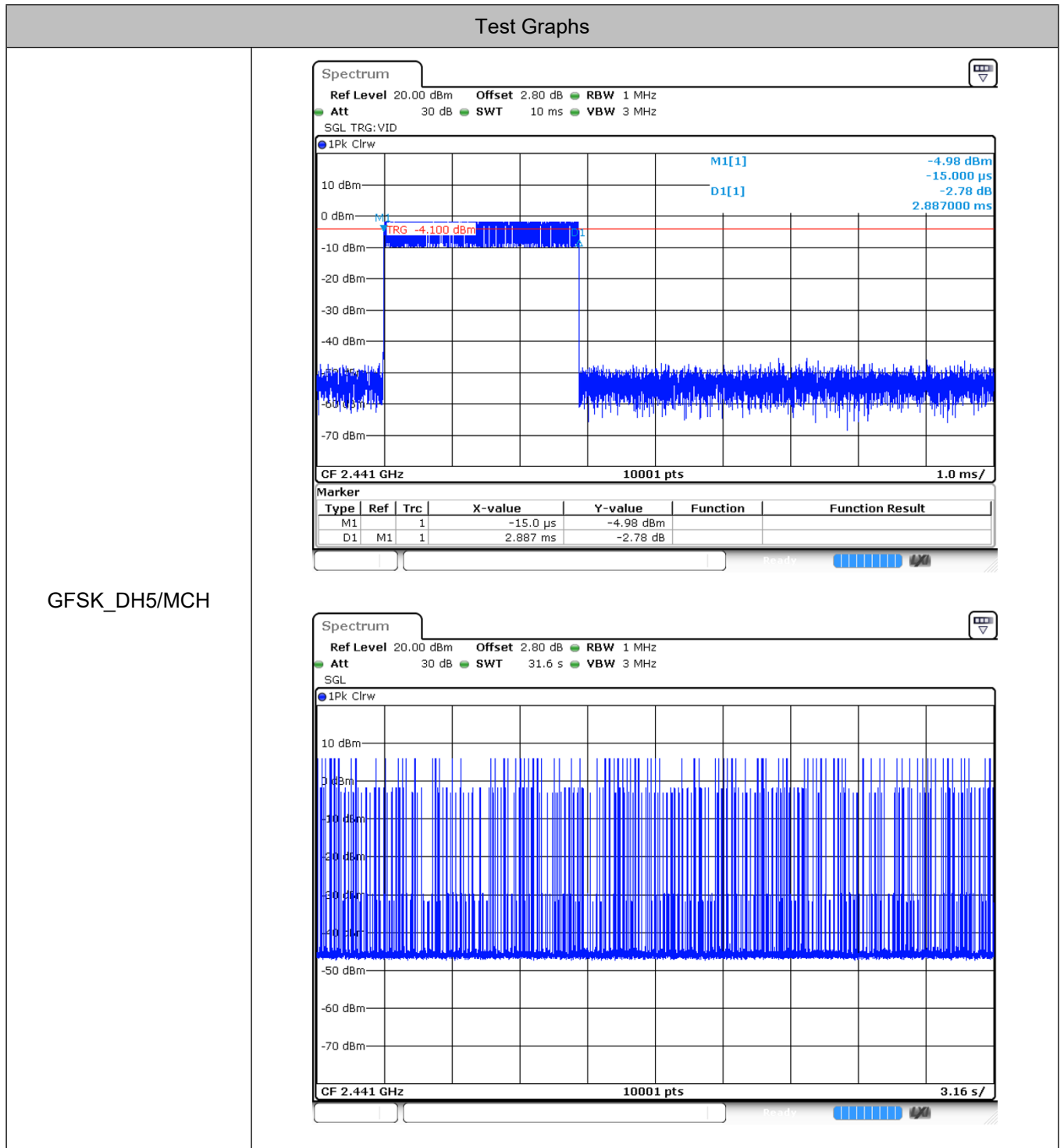


6 Dwell Time

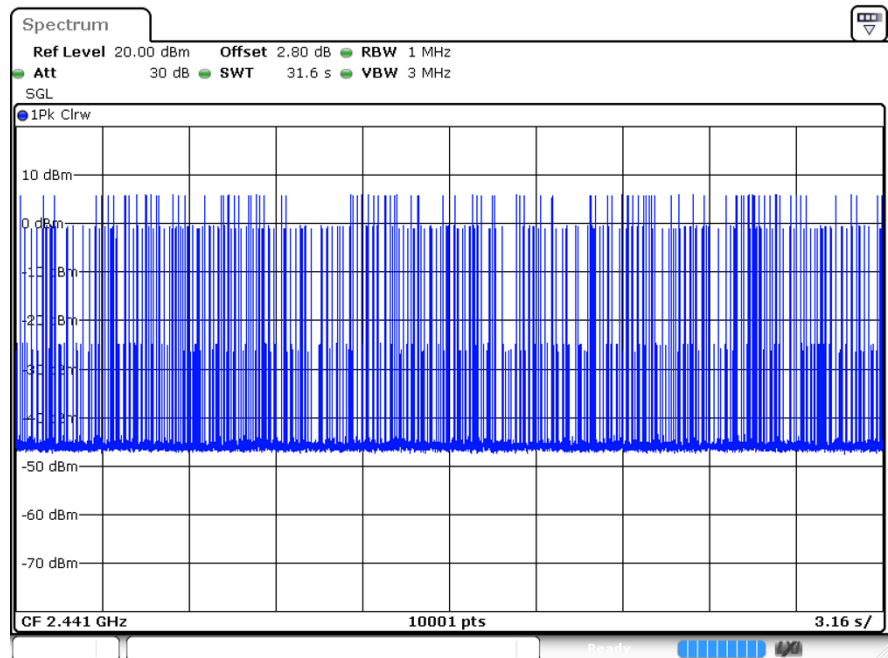
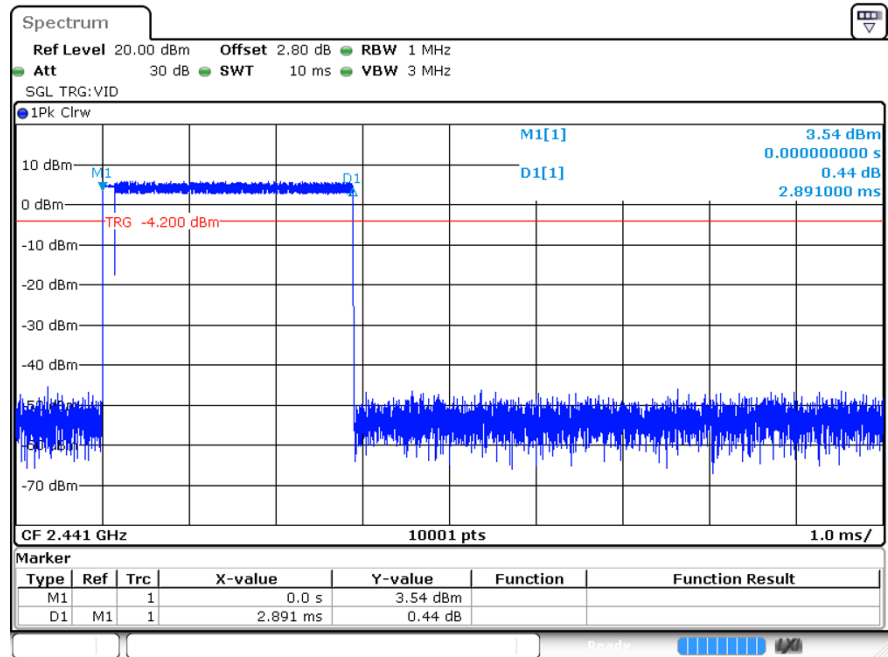
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	116	334.892	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.891	101	291.991	0.4	Pass
8DPSK	3DH5	MCH	2.893	106	306.658	0.4	Pass

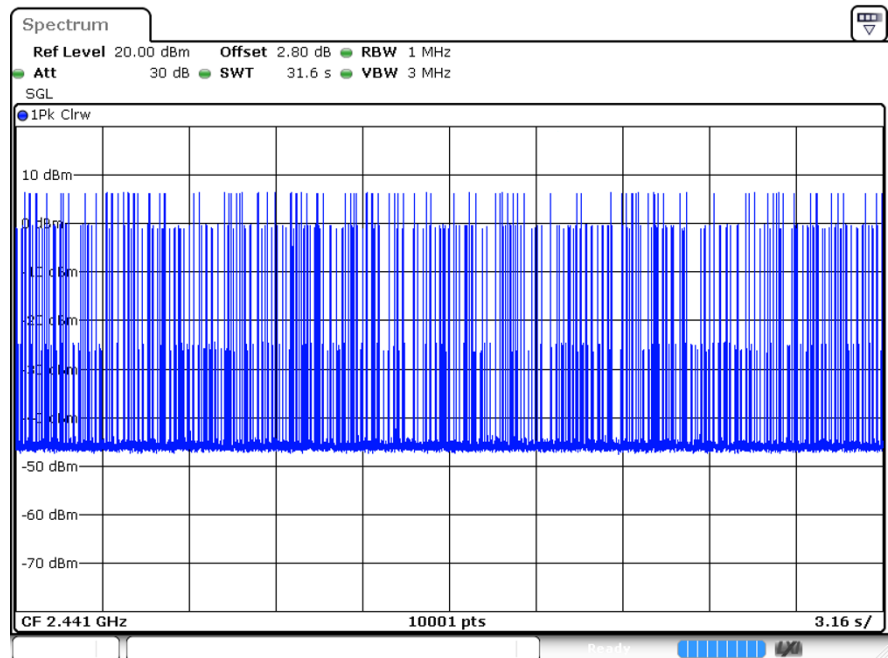
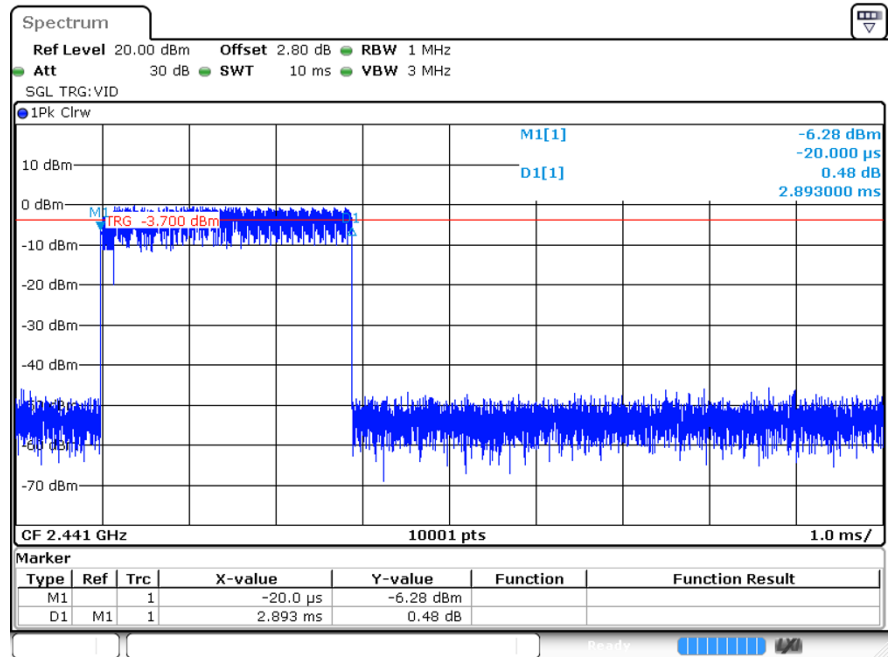
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

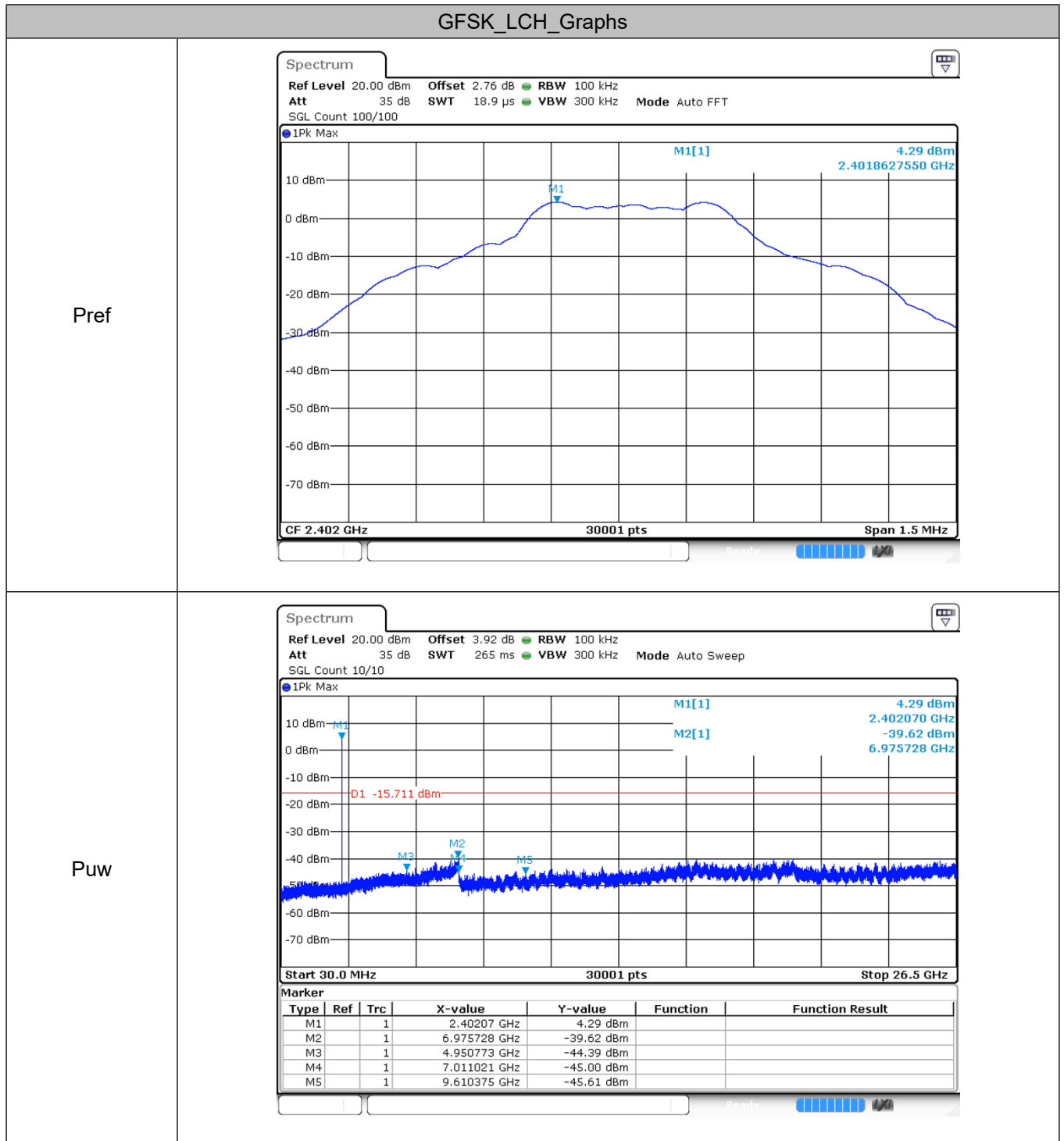


7 RF Conducted Spurious Emissions

7.1 Test Result

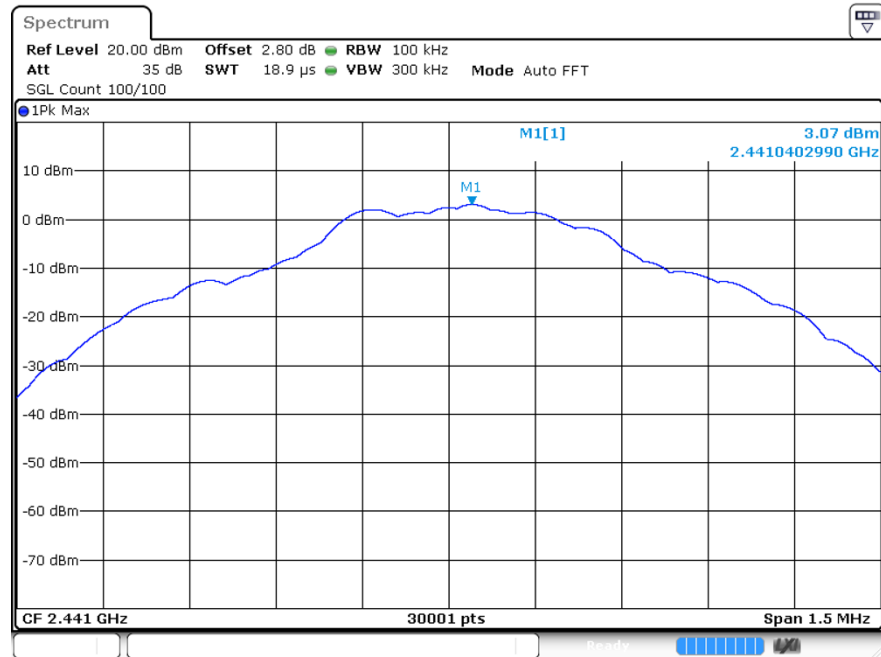
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-43.9	-20	Pass
	MCH	-42.59	-20	Pass
	HCH	-41.77	-20	Pass
$\pi/4$ DQPSK	LCH	-42.15	-20	Pass
	MCH	-41.43	-20	Pass
	HCH	-40.69	-20	Pass
8DPSK	LCH	-41.65	-20	Pass
	MCH	-41.3	-20	Pass
	HCH	-41.55	-20	Pass

7.2 Test Graphs

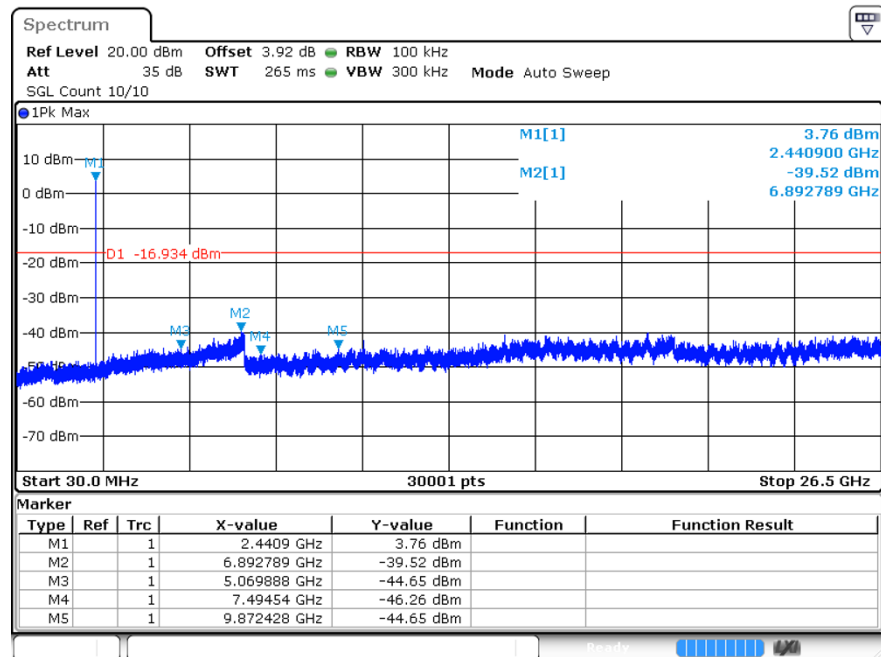


GFSK_MCH_Graphs

Pref

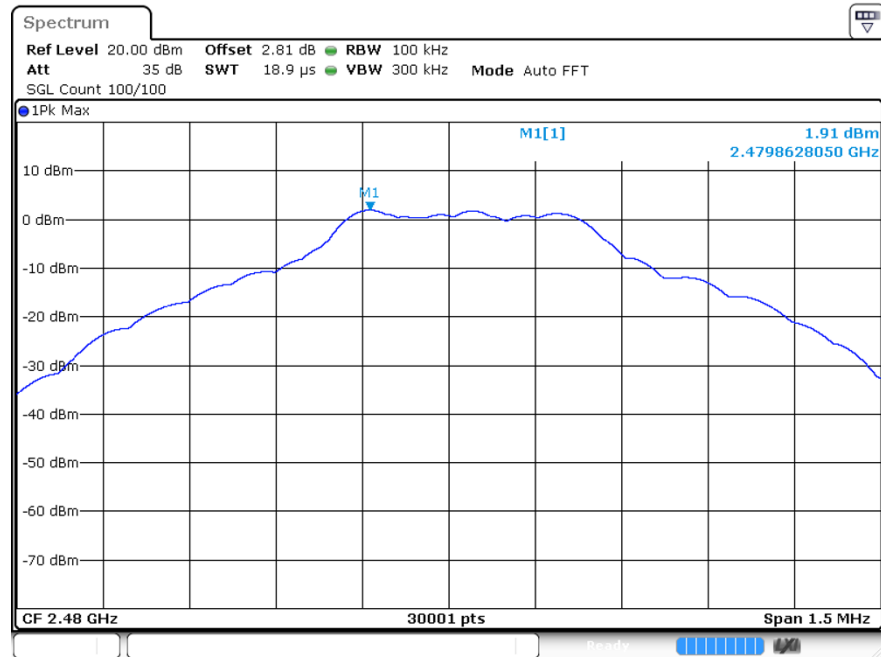


Puw

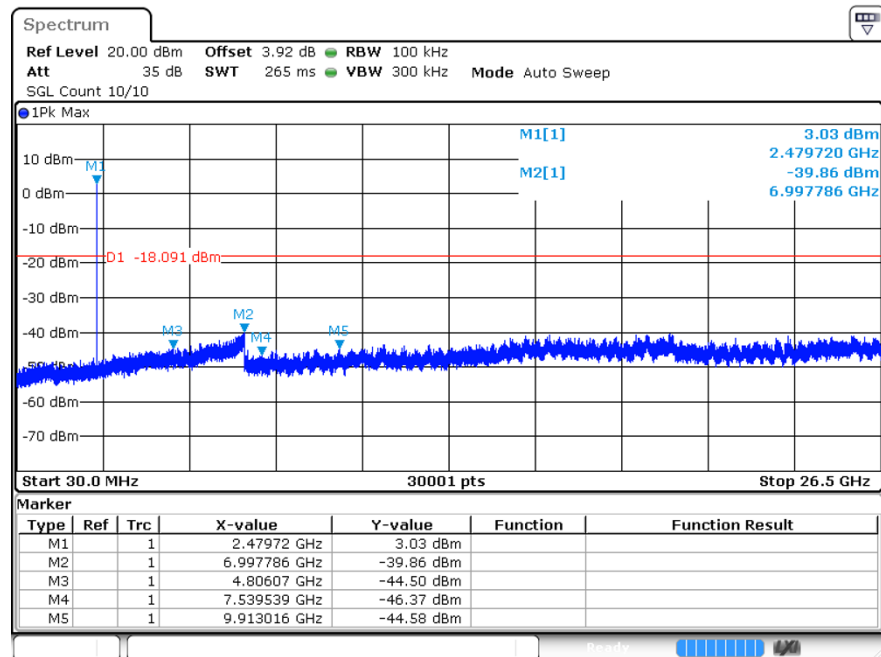


GFSK_HCH_Graphs

Pref

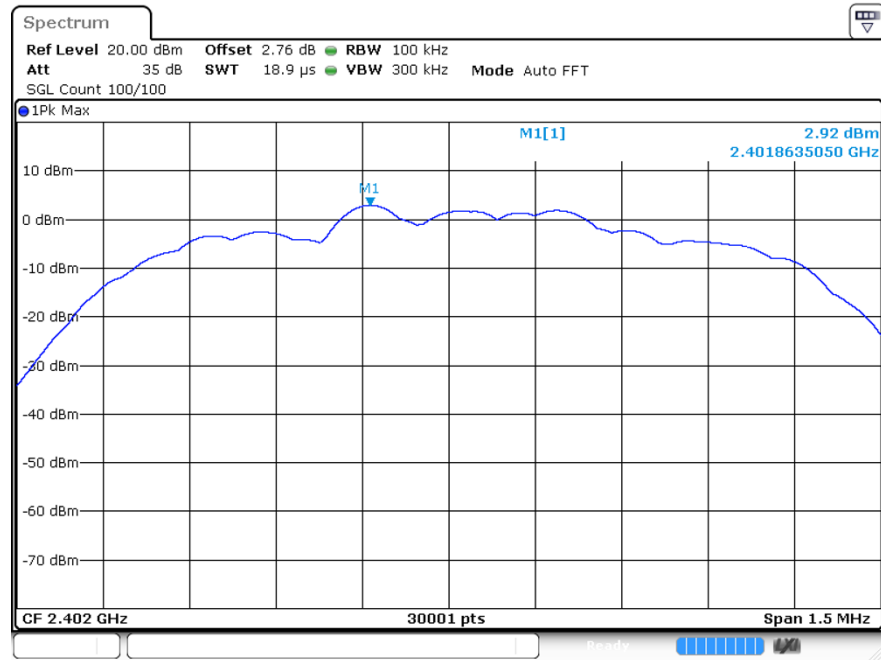


Puw

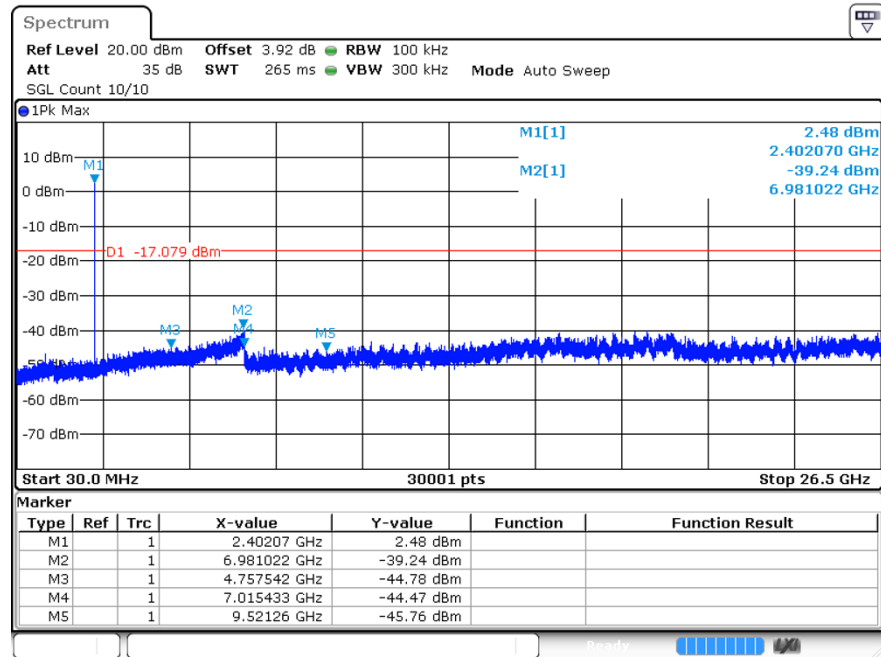


$\pi/4$ DQPSK_LCH_Graphs

Pref

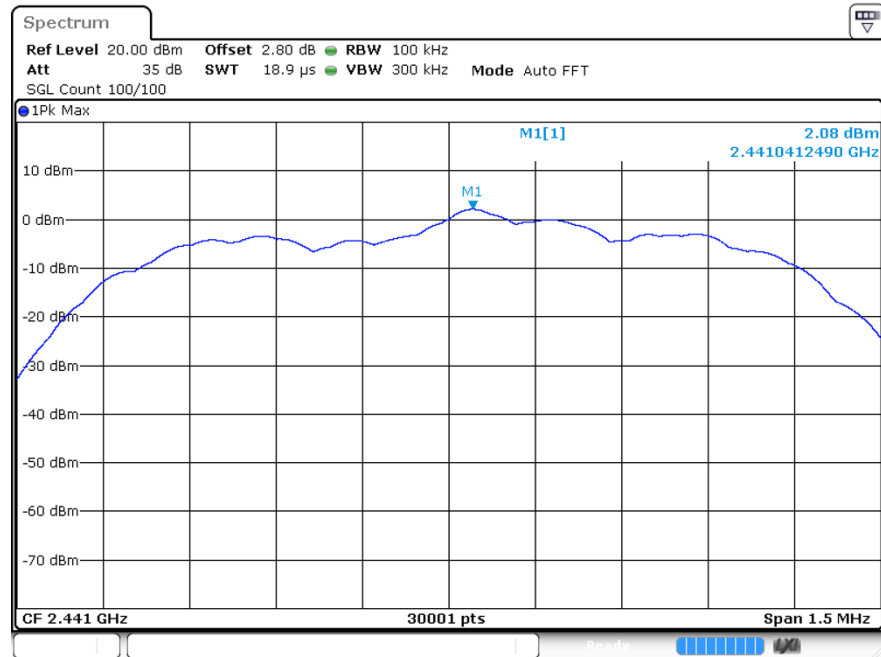


Puw

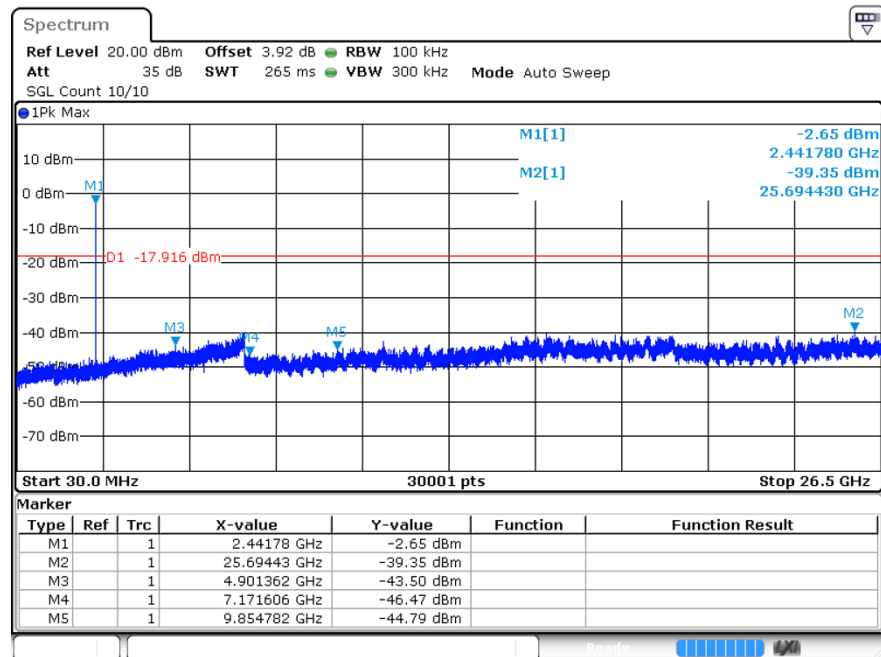


$\pi/4$ DQPSK_MCH_Graphs

Pref

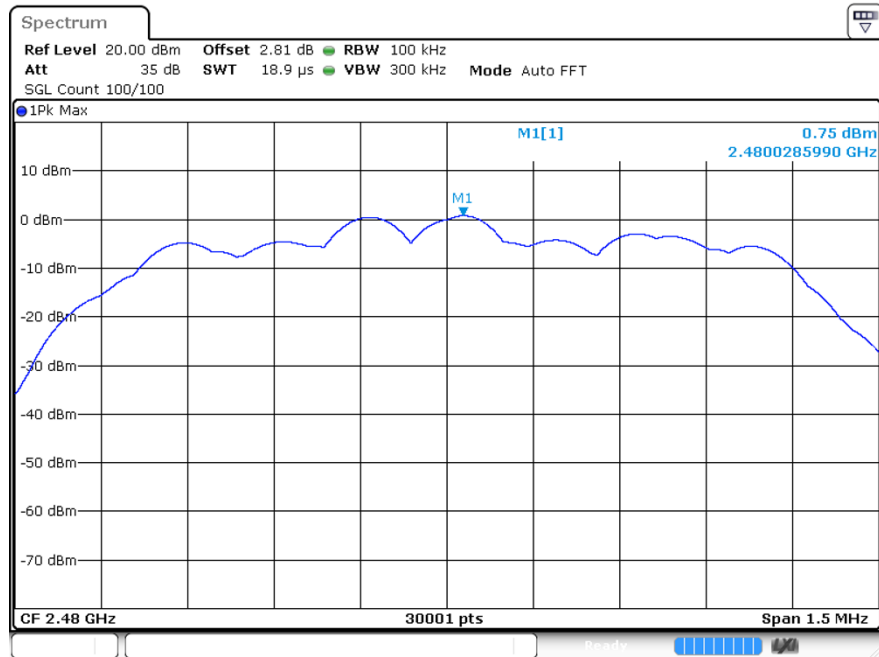


Puw

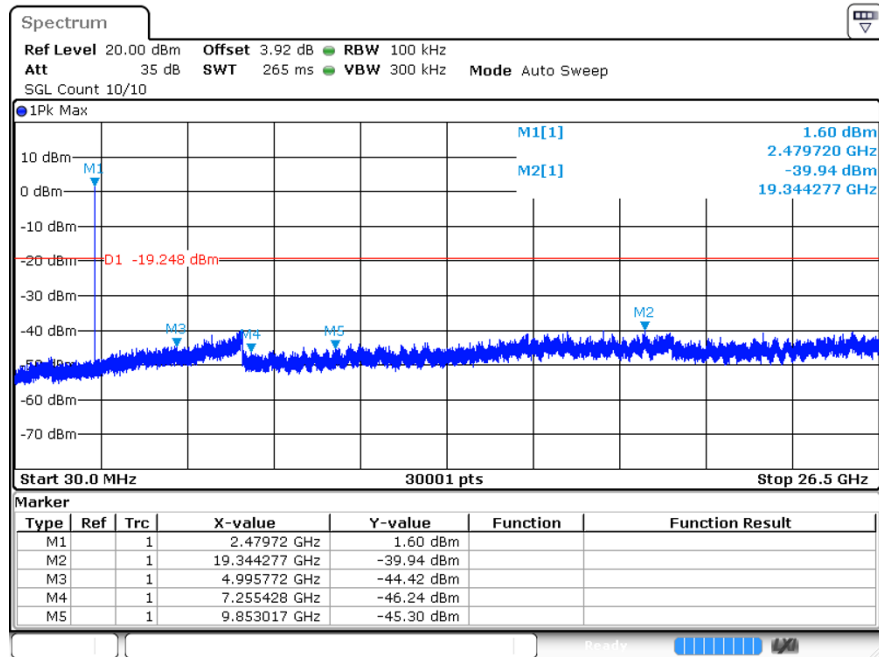


$\pi/4$ DQPSK_HCH_Graphs

Pref

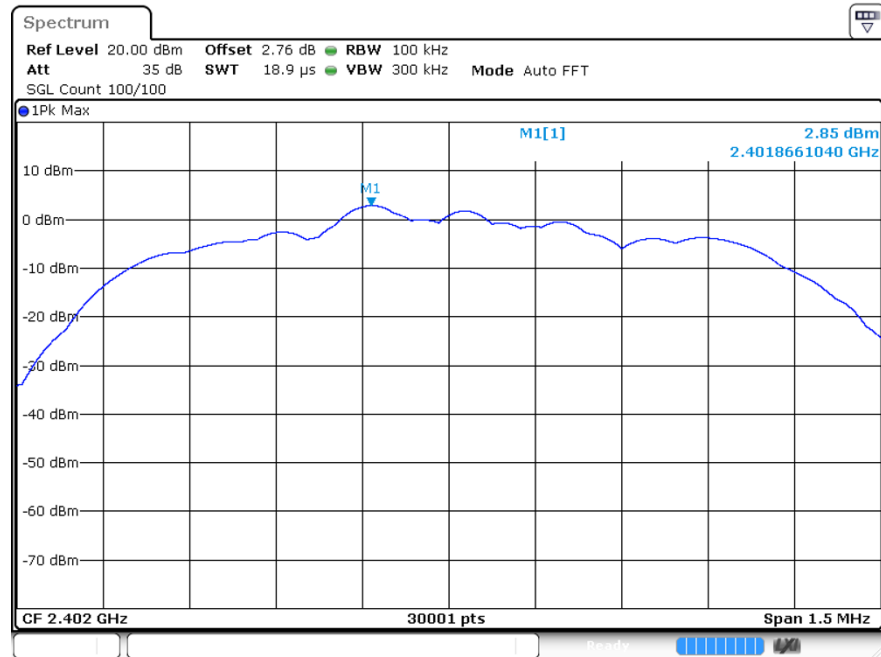


Puw

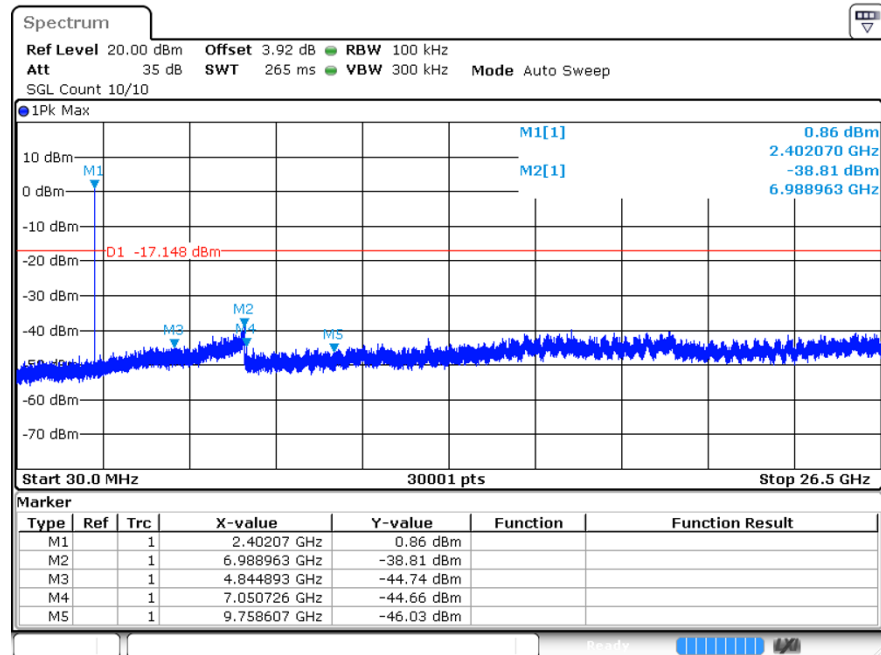


8DPSK_LCH_Graphs

Pref

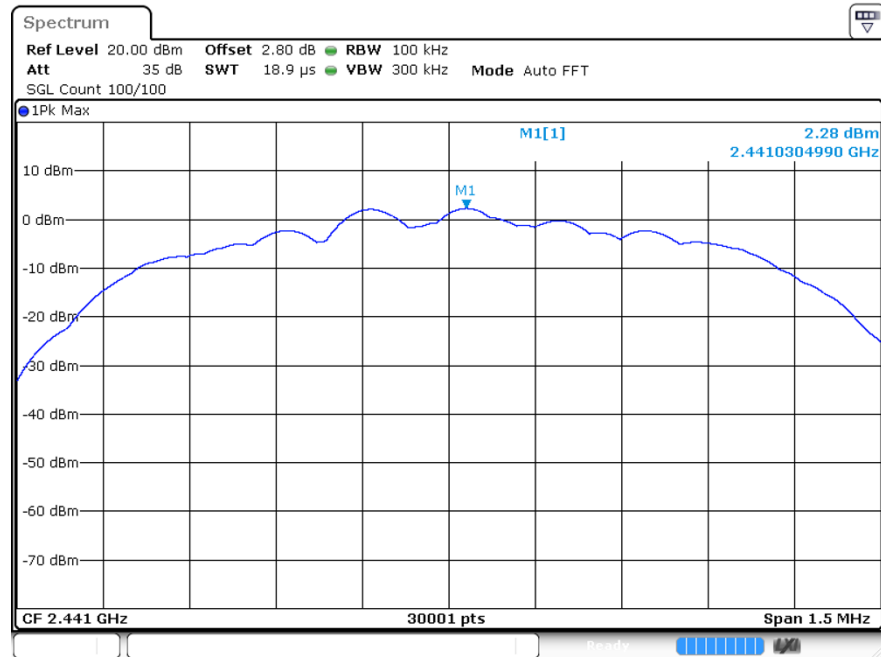


Puw



8DPSK_MCH_Graphs

Pref



Puw

