



Appendix A

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

Product Name: Wireless Earbuds

Trade Mark: N/A

Test Model: C5

Environmental Conditions

Temperature:	25.1℃
Relative Humidity:	52.6%
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	9
2.1	Test Result	9
2.2	Test Graphs	10
3	20dB Bandwidth	20
3.1	Test Result	20
3.2	Test Graphs	21
4	Carrier Frequency Separation	26
4.1	Test Result	26
4.2	Test Graphs	27
5	Hopping Channel Number	29
5.1	Test Result	29
5.2	Test Graphs	30
6	Dwell Time	32
6.1	Test Result	32
6.2	Test Graphs	33
7	RF Conducted Spurious Emissions	36
7.1	Test Result	36
7.2	Test Graphs	37
8	Band-edge for RF Conducted Emissions	46
8.1	Test Result	46
8.2	Test Graphs	47
9	Restrict-band band-edge measurements	59
9.1	Test Result	59
9.2	Test Graphs	61

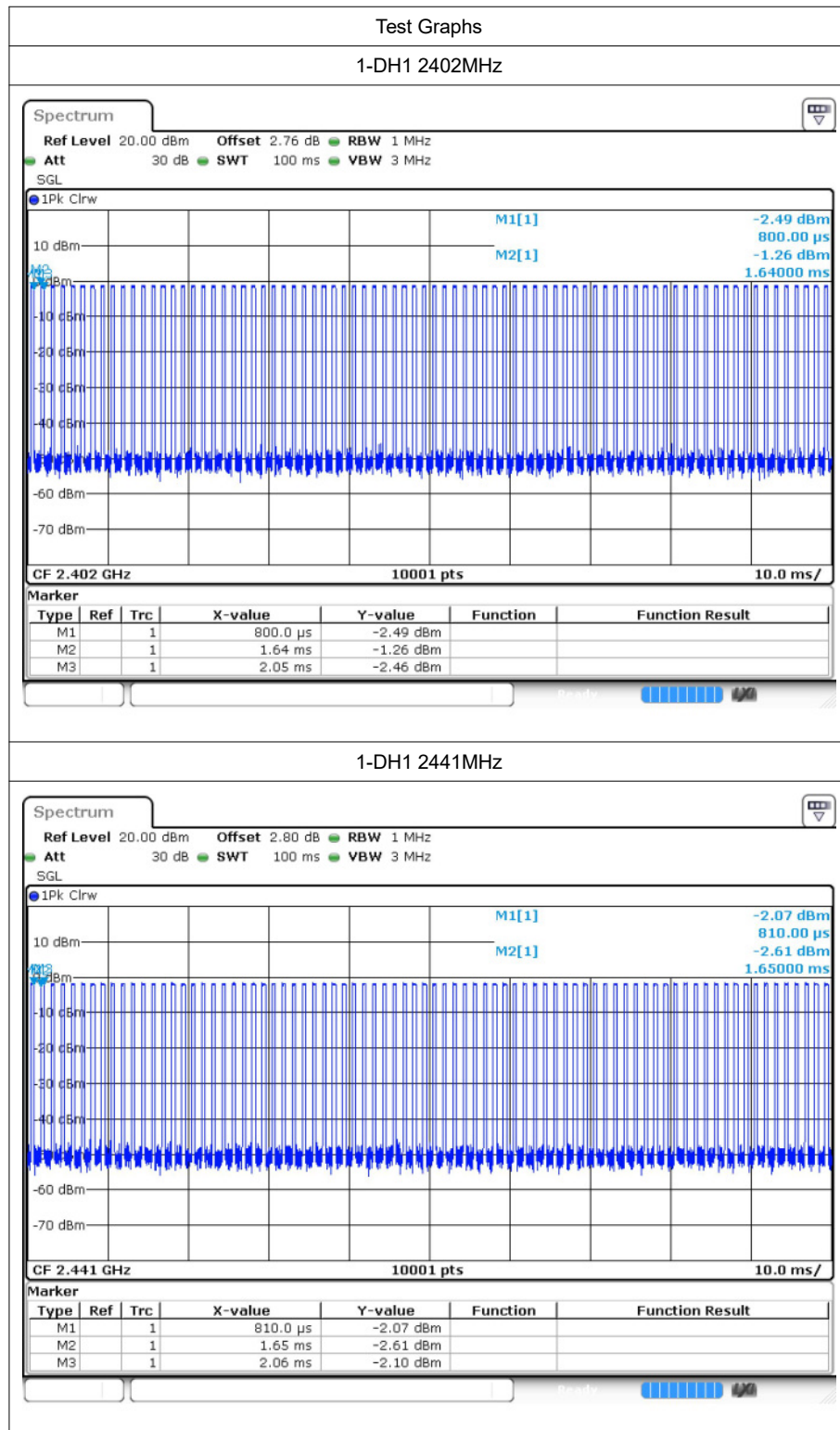
1 Duty Cycle

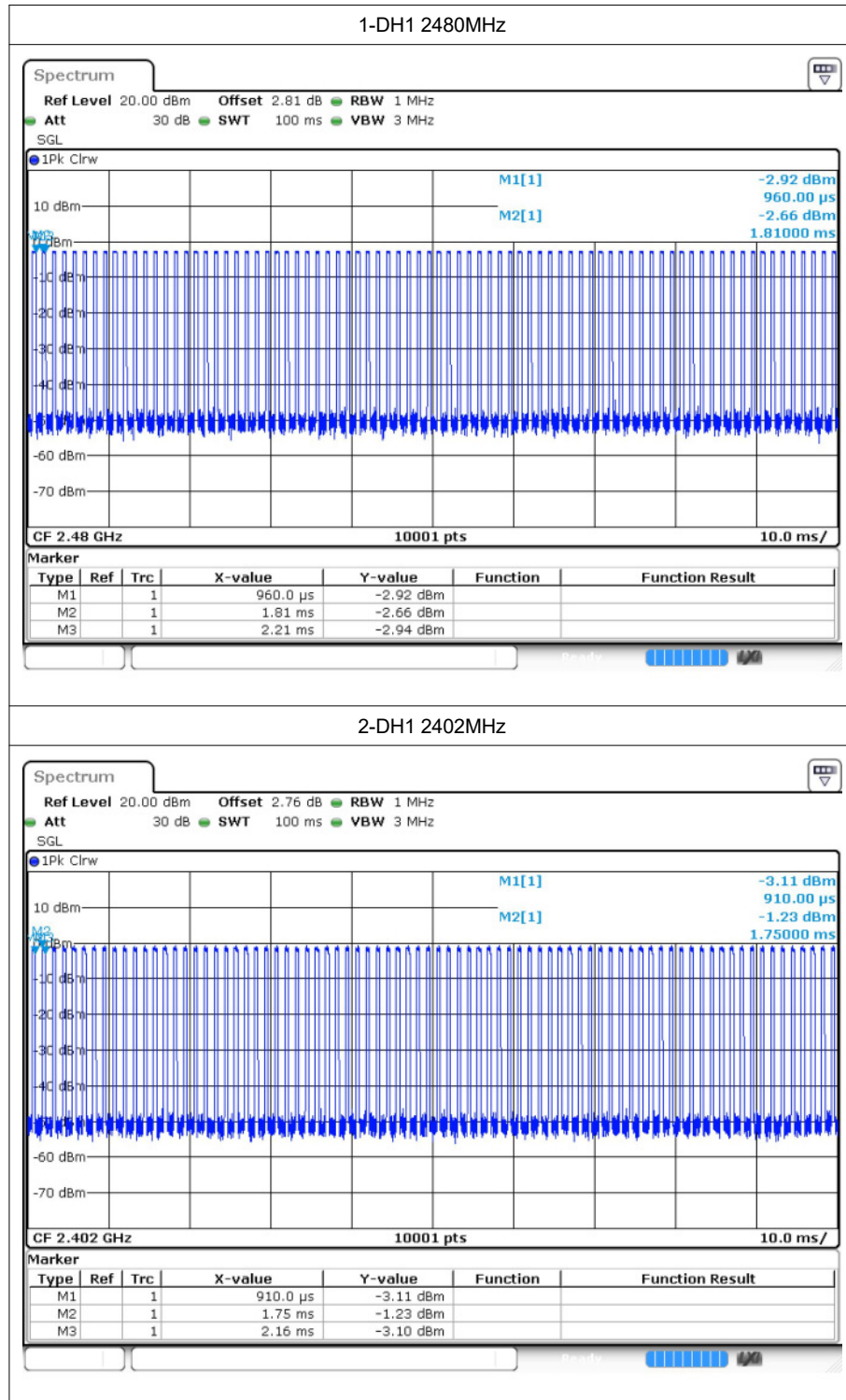
1.1 Test Result

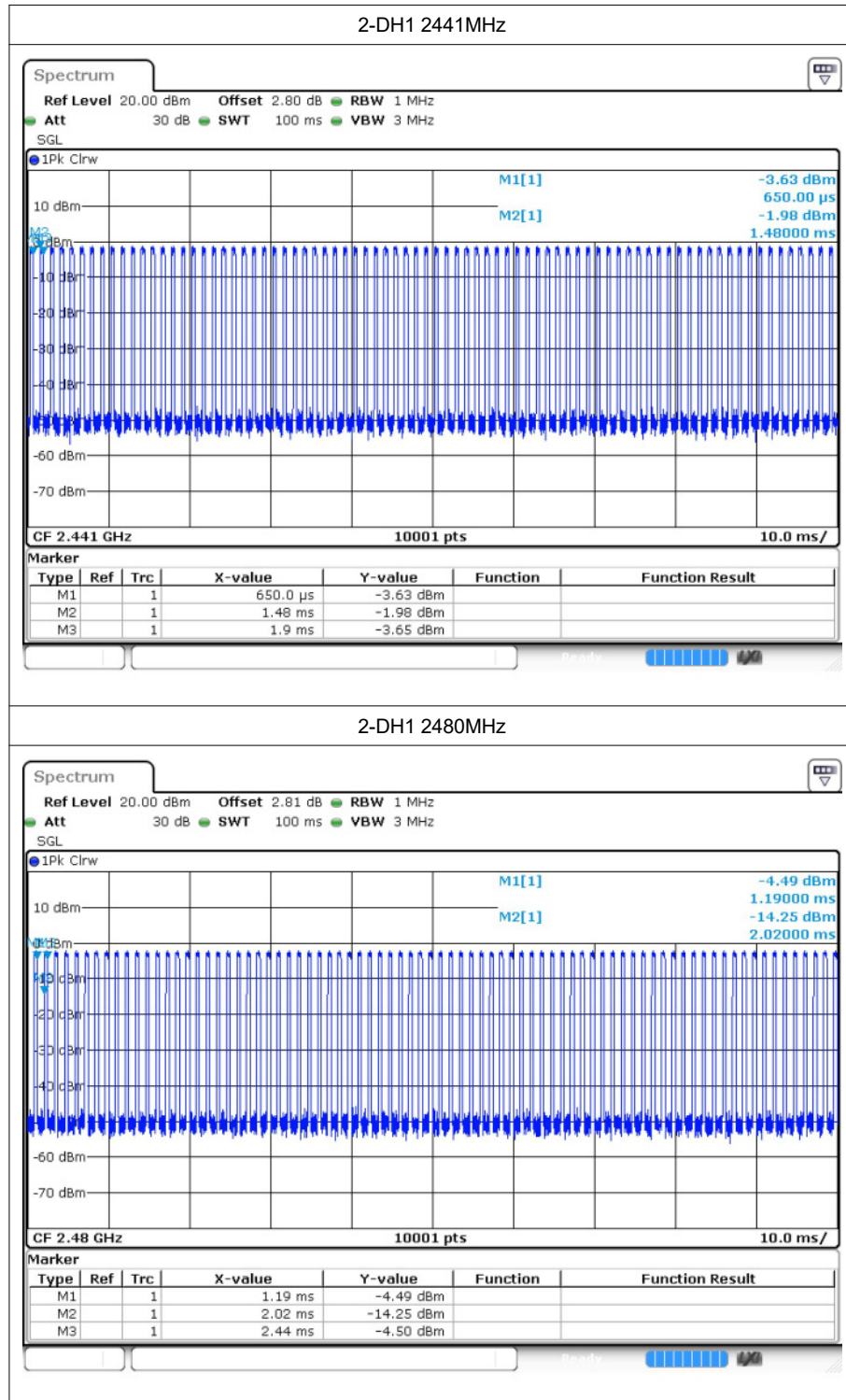
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	33.6	4.74	2.44
1-DH1	2441	33.6	4.74	2.44
1-DH1	2480	32.8	4.84	2.5
2-DH1	2402	33.61	4.74	2.44
2-DH1	2441	34.4	4.63	2.38
2-DH1	2480	34.4	4.63	2.38
3-DH1	2402	34.4	4.63	2.38
3-DH1	2441	34.41	4.63	2.38
3-DH1	2480	34.4	4.63	2.38

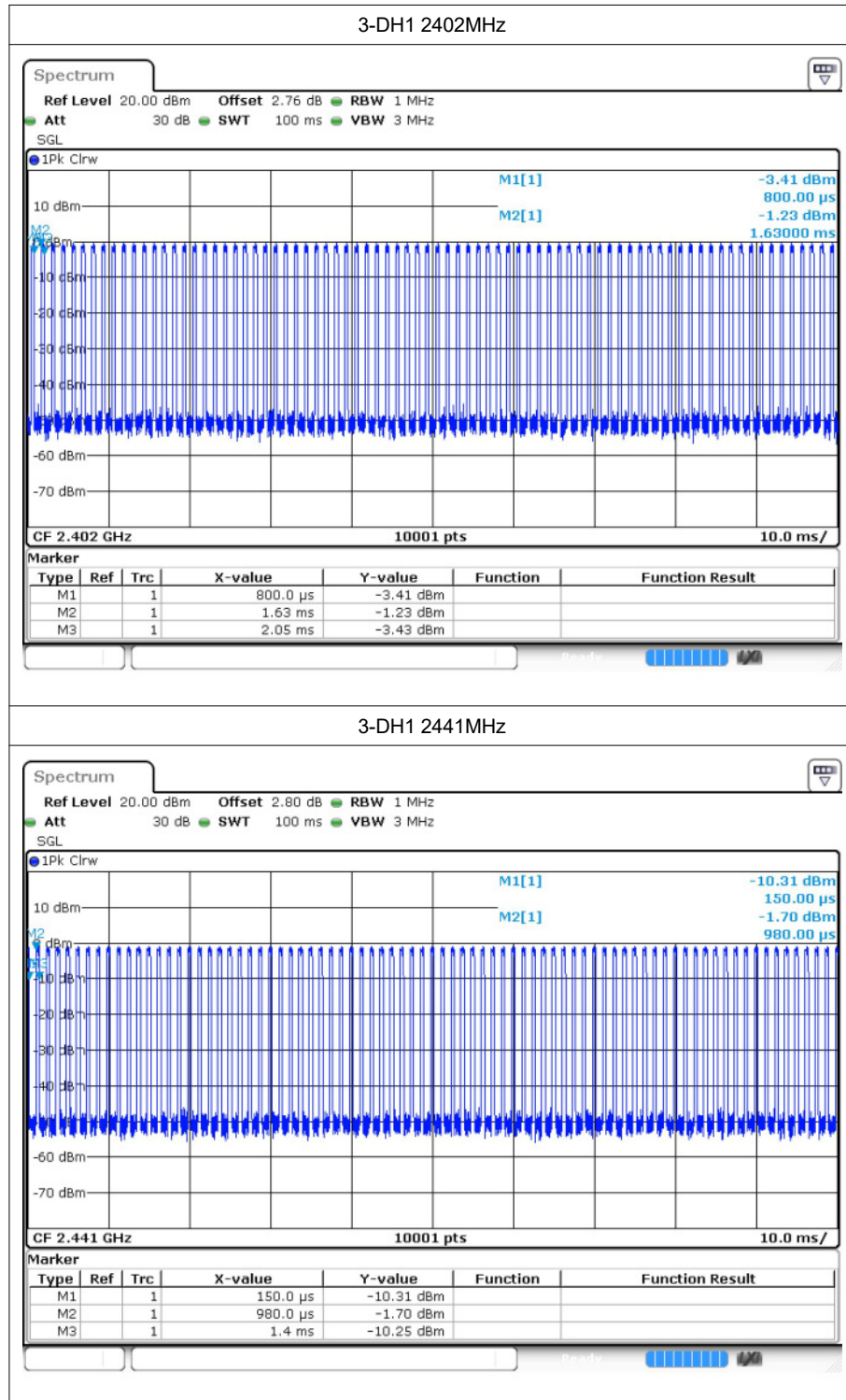
Note: Left and right ear have been tested and the only shows the worst case mode.

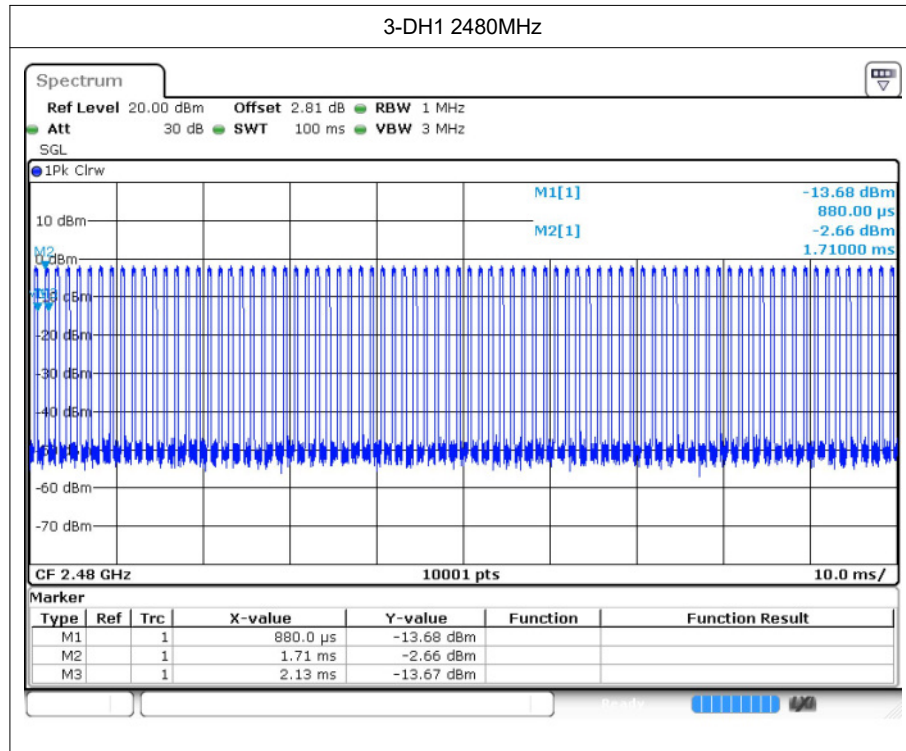
1.2 Test Graphs











2 Maximum Conducted Peak Output Power

2.1 Test Result

Left:

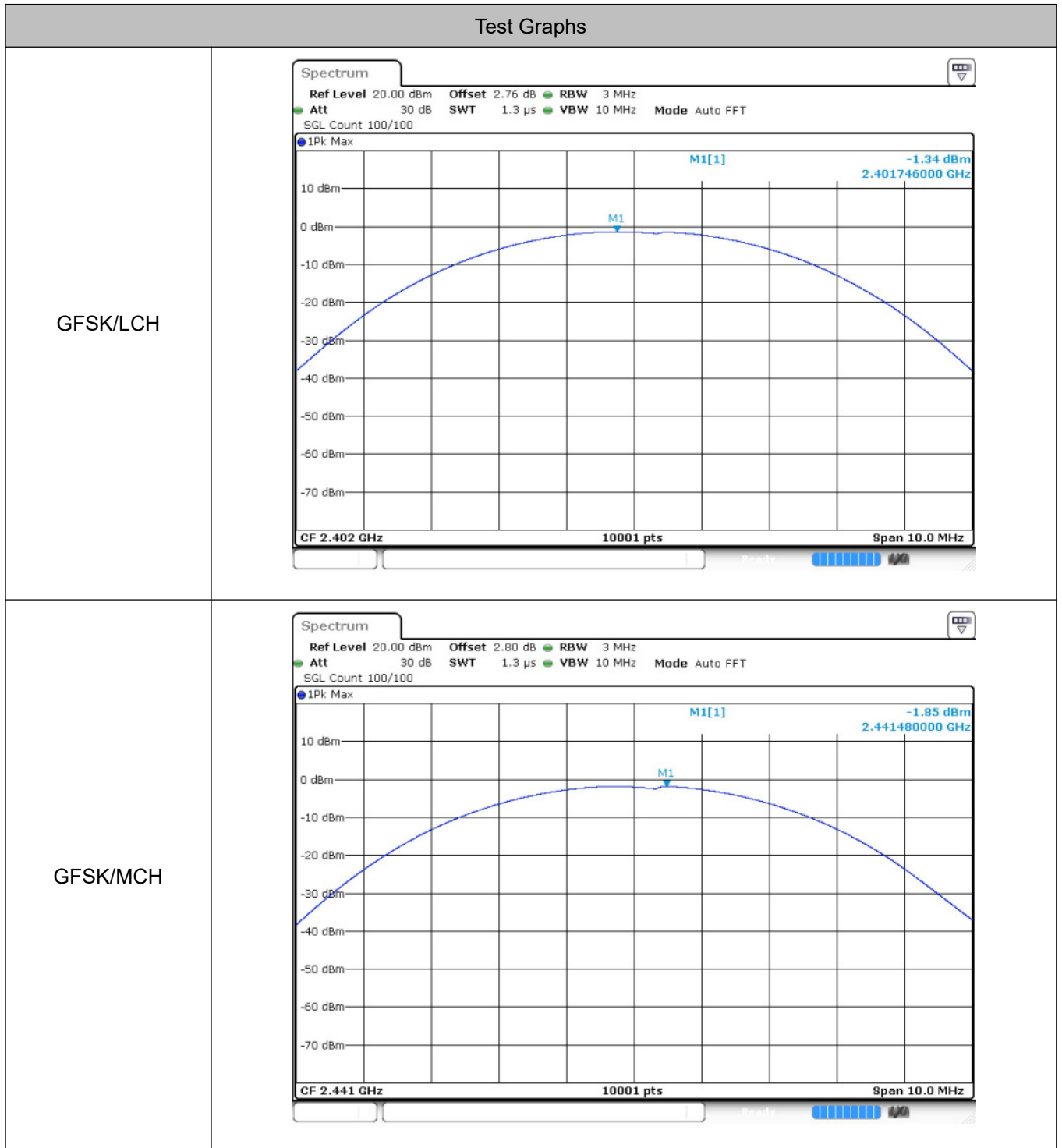
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.34	21	Pass
	MCH	-1.85	21	Pass
	HCH	-2.76	21	Pass
$\pi/4$ DQPSK	LCH	-1.26	21	Pass
	MCH	-1.88	21	Pass
	HCH	-2.56	21	Pass
8DPSK	LCH	-1.07	21	Pass
	MCH	-0.97	21	Pass
	HCH	-2.55	21	Pass

Right:

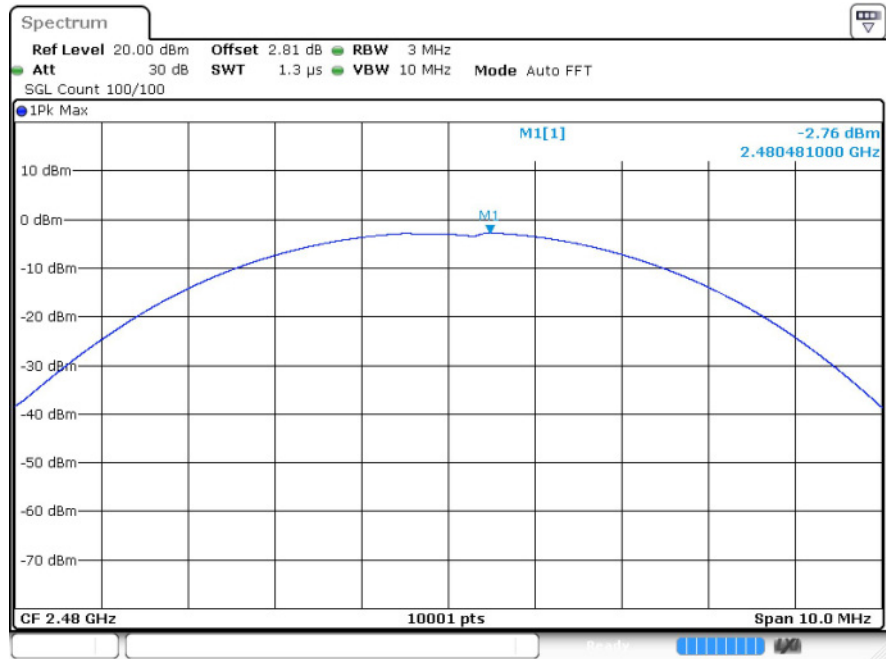
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	-1.51	21	Pass
	MCH	-1.72	21	Pass
	HCH	-2.64	21	Pass
$\pi/4$ DQPSK	LCH	-1.38	21	Pass
	MCH	-1.62	21	Pass
	HCH	-2.67	21	Pass
8DPSK	LCH	-0.63	21	Pass
	MCH	-1.83	21	Pass
	HCH	-2.4	21	Pass

2.2 Test Graphs

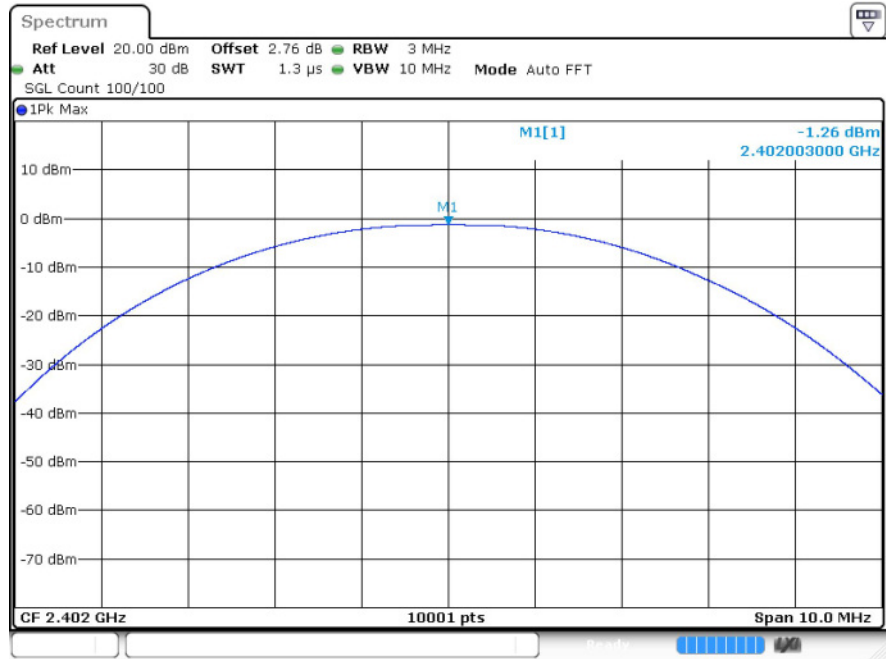
Left:



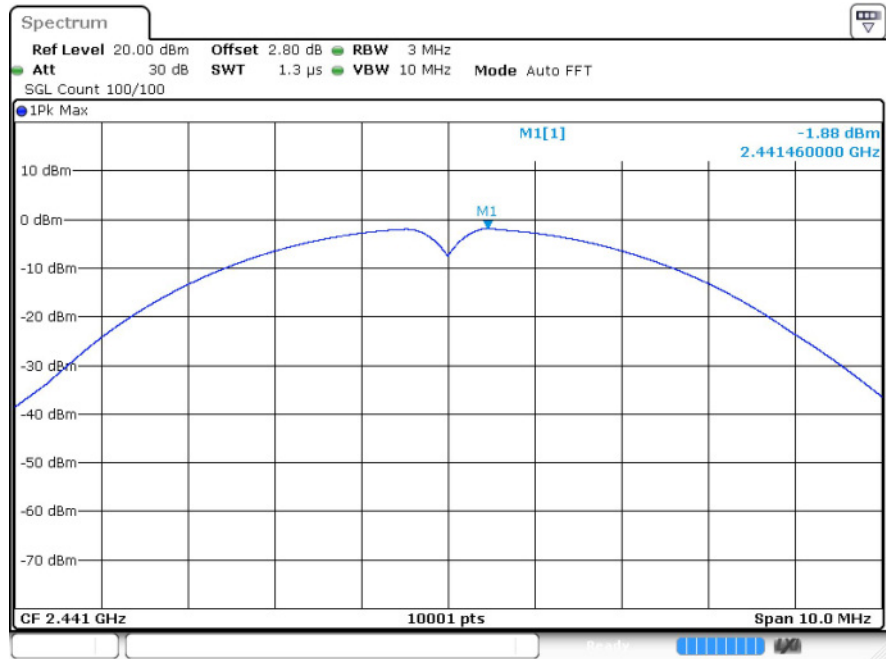
GFSK/HCH



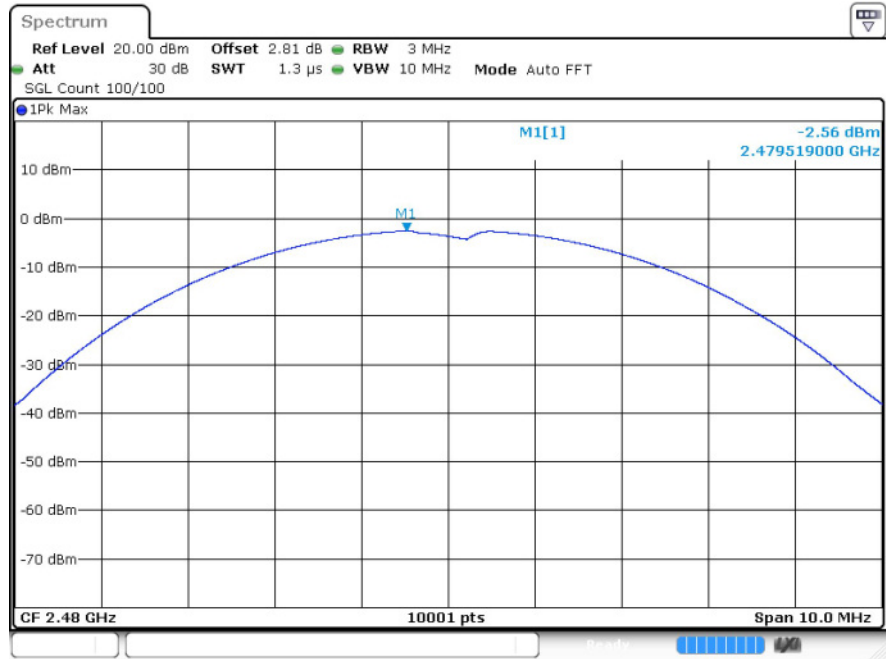
$\pi/4$ DQPSK/LCH



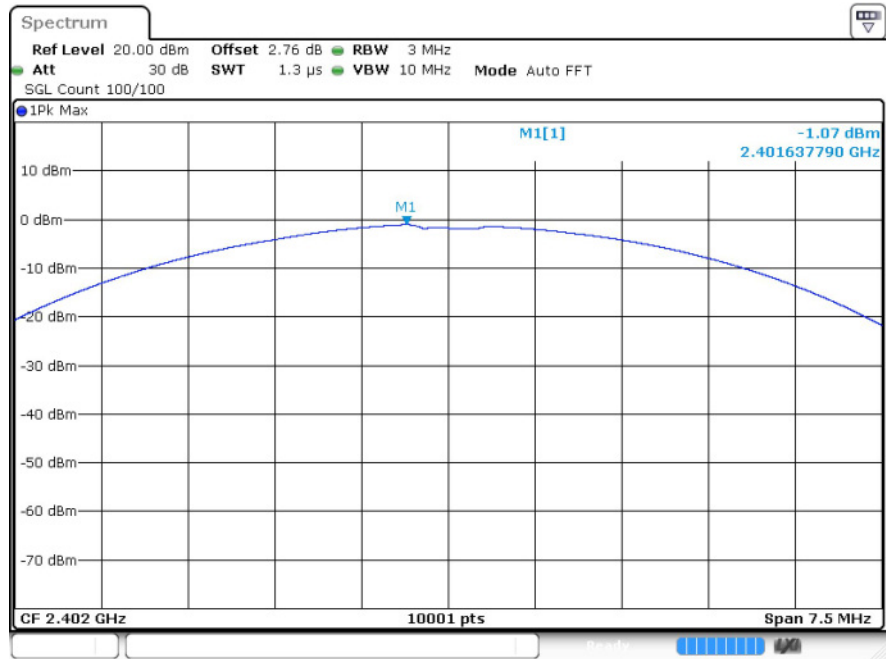
$\pi/4$ DQPSK/MCH



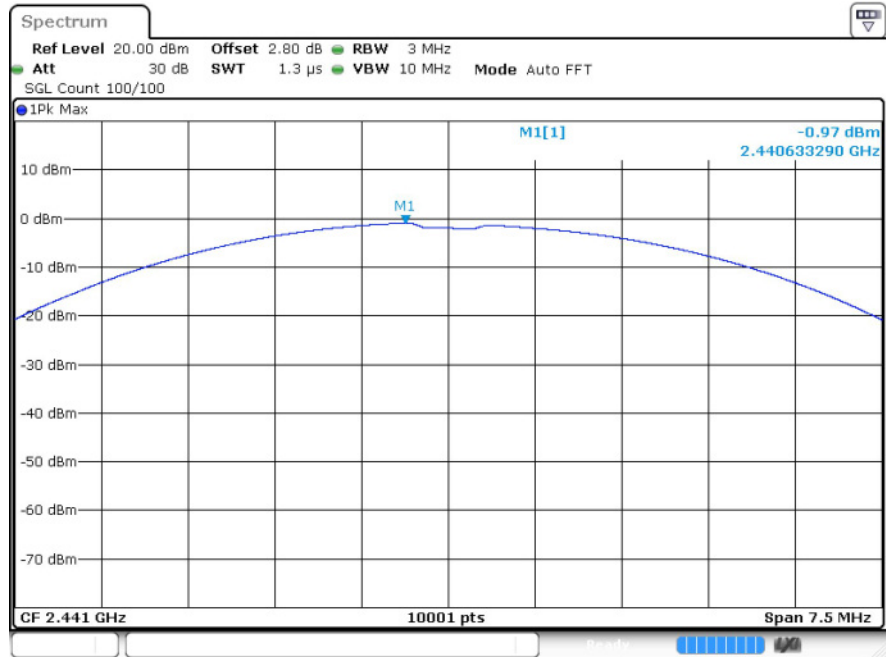
$\pi/4$ DQPSK/HCH



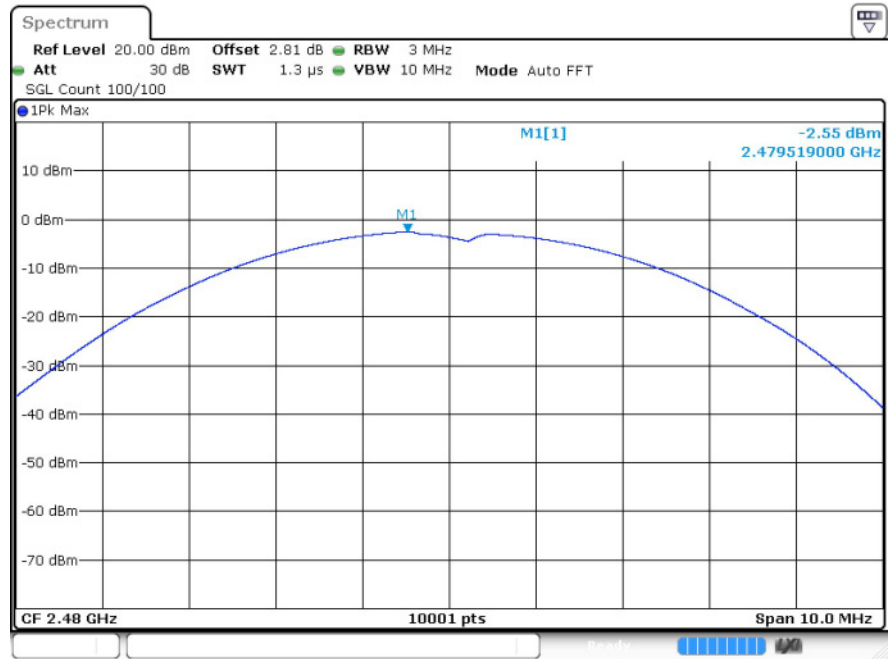
8DPSK/LCH



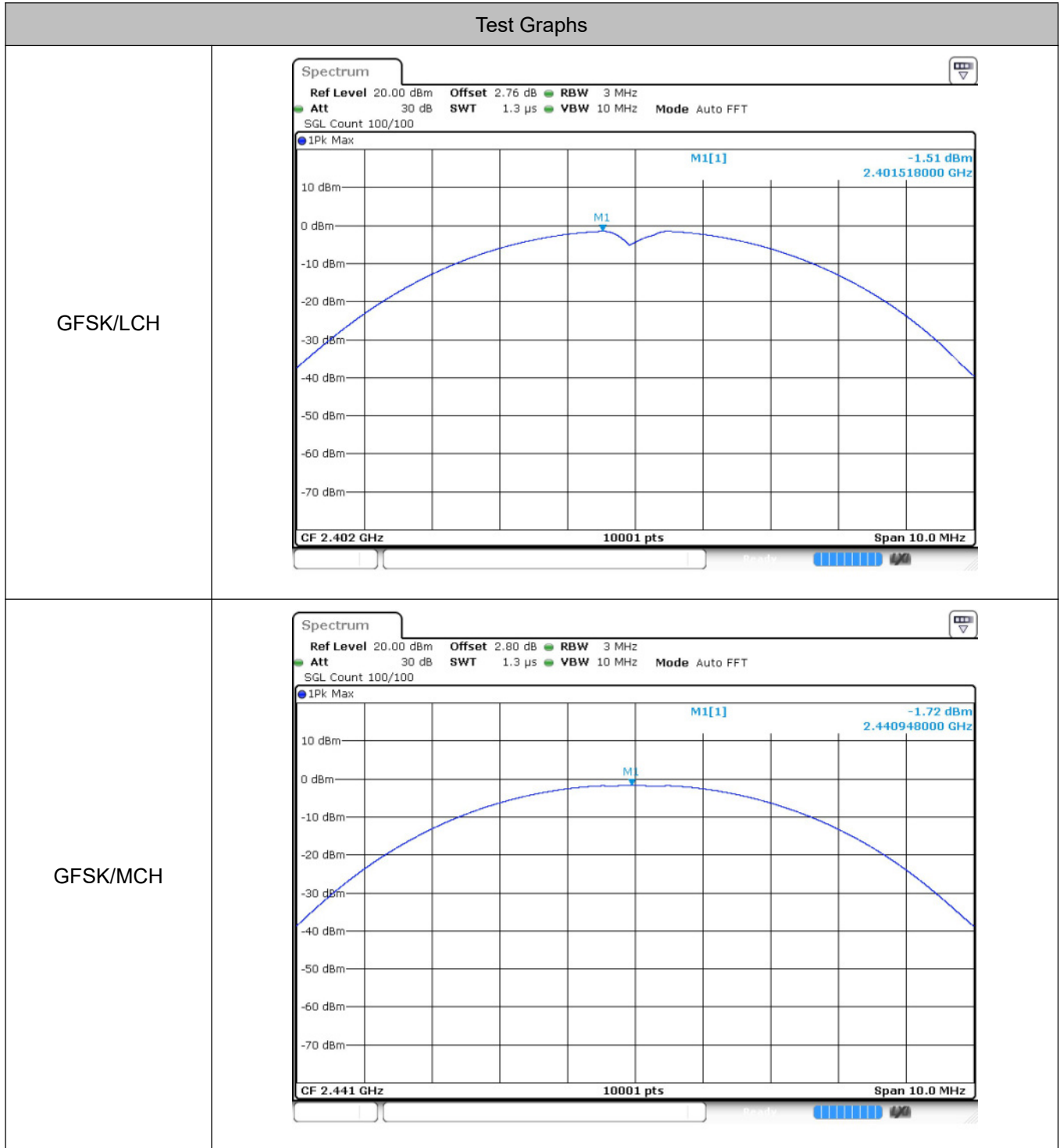
8DPSK/MCH



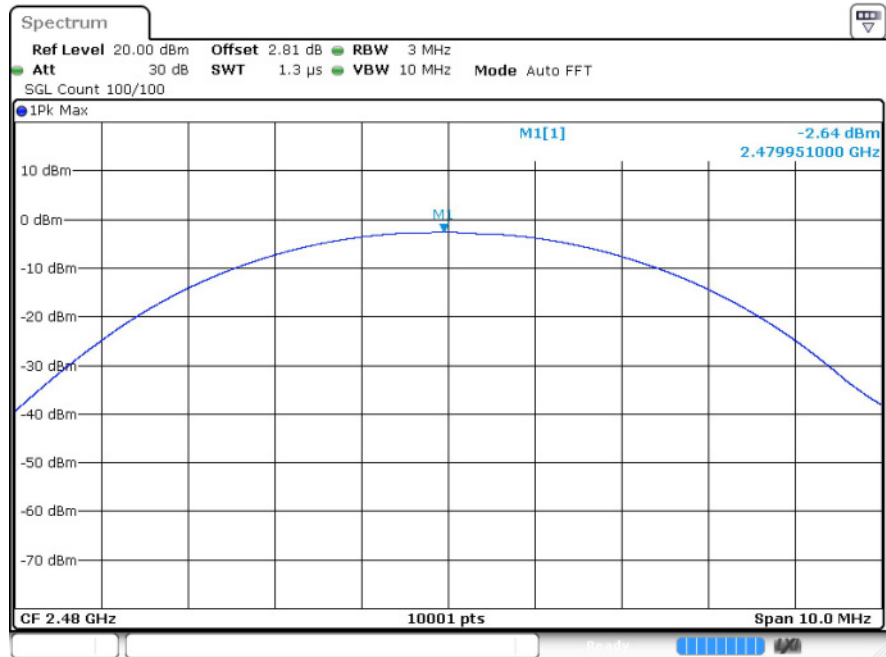
8DPSK/HCH



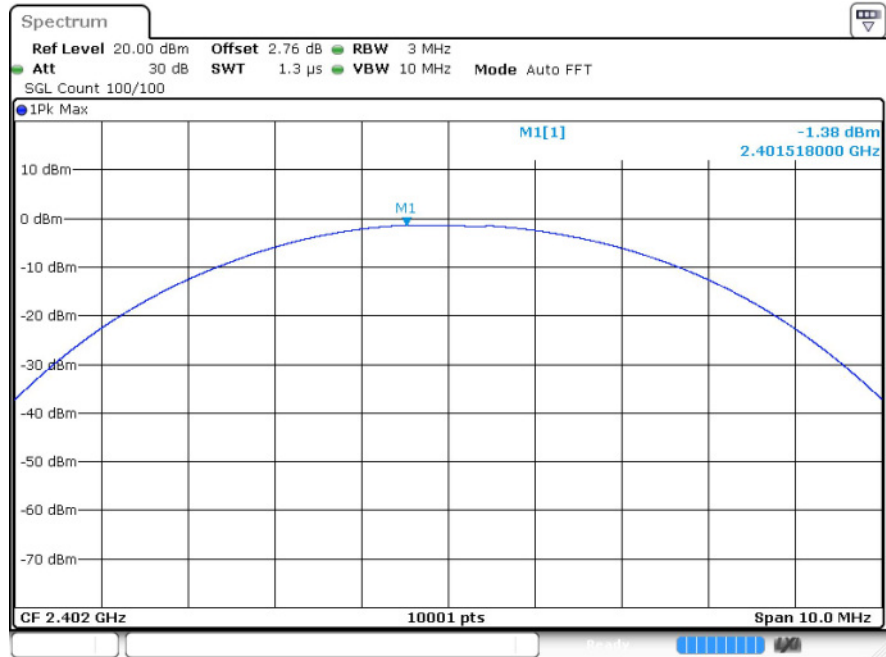
Right:



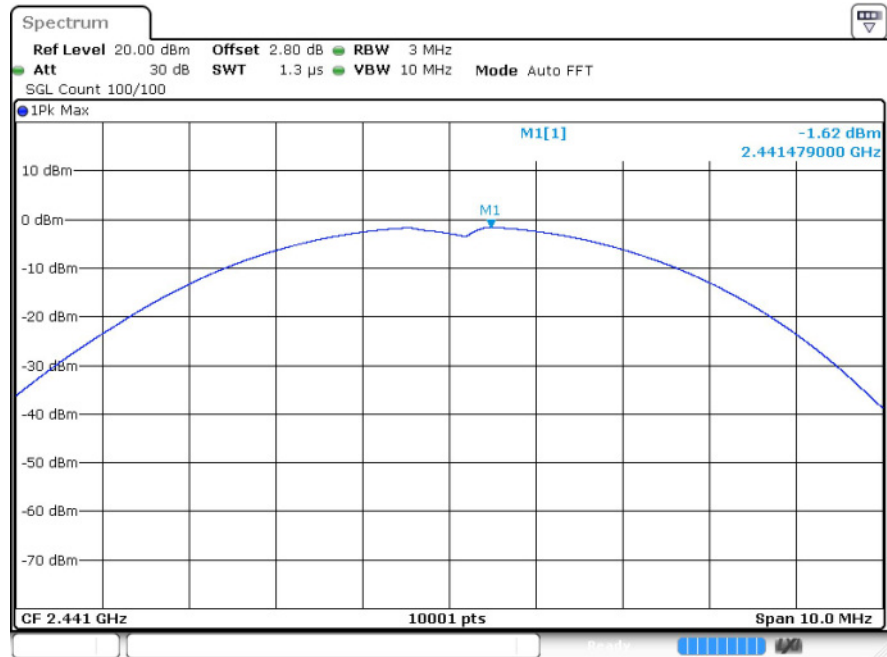
GFSK/HCH



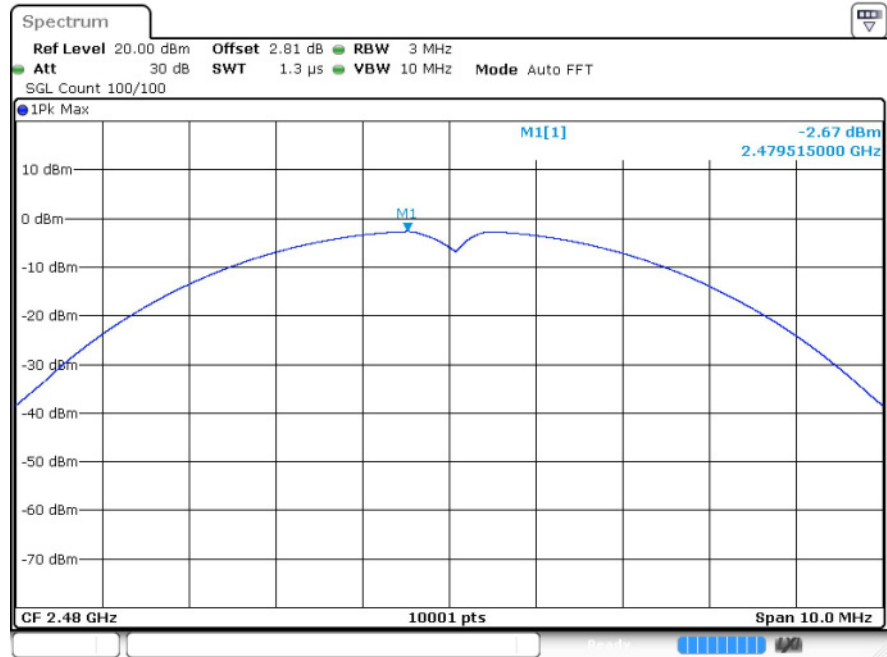
$\pi/4$ DQPSK/LCH



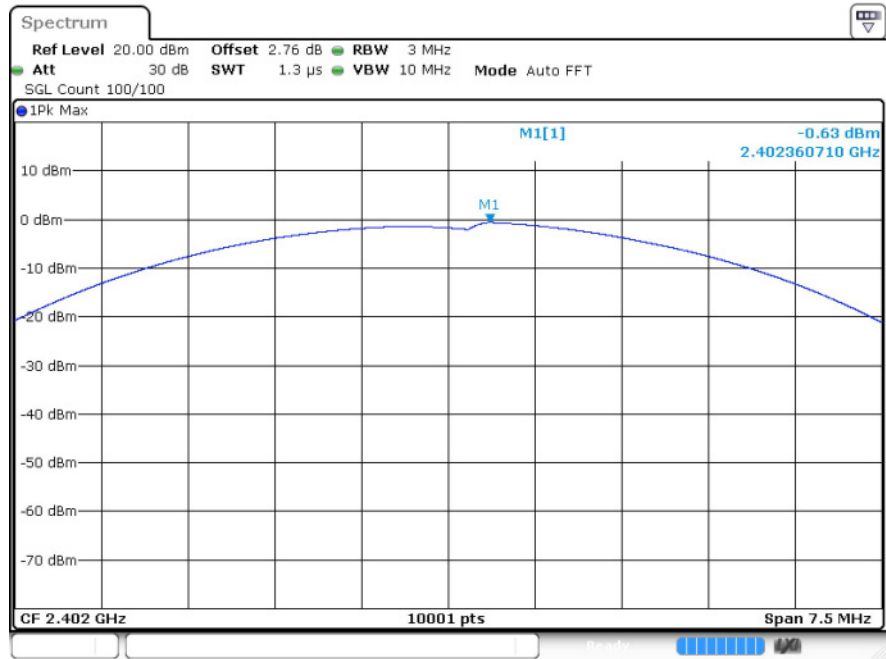
$\pi/4$ DQPSK/MCH



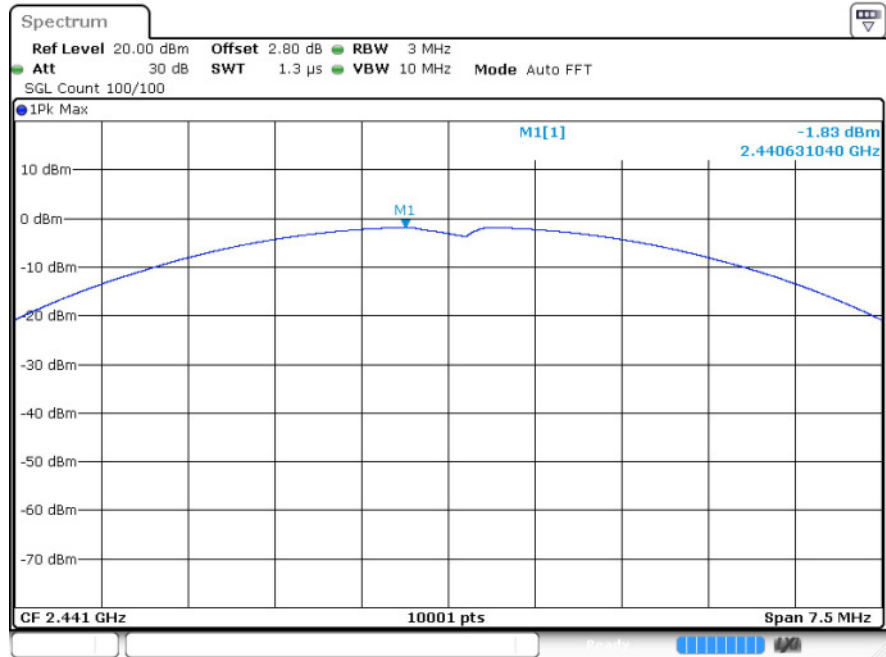
$\pi/4$ DQPSK/HCH



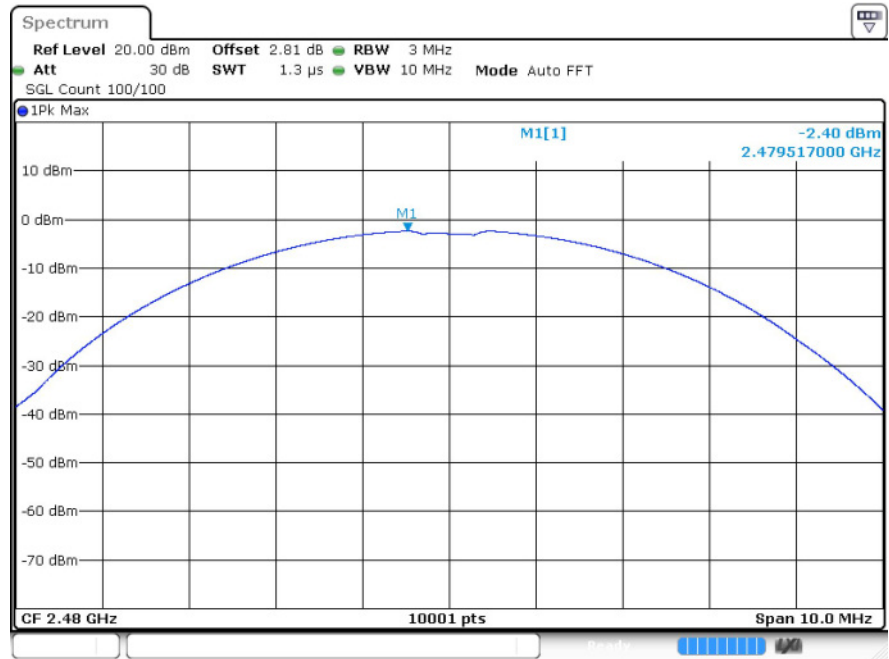
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



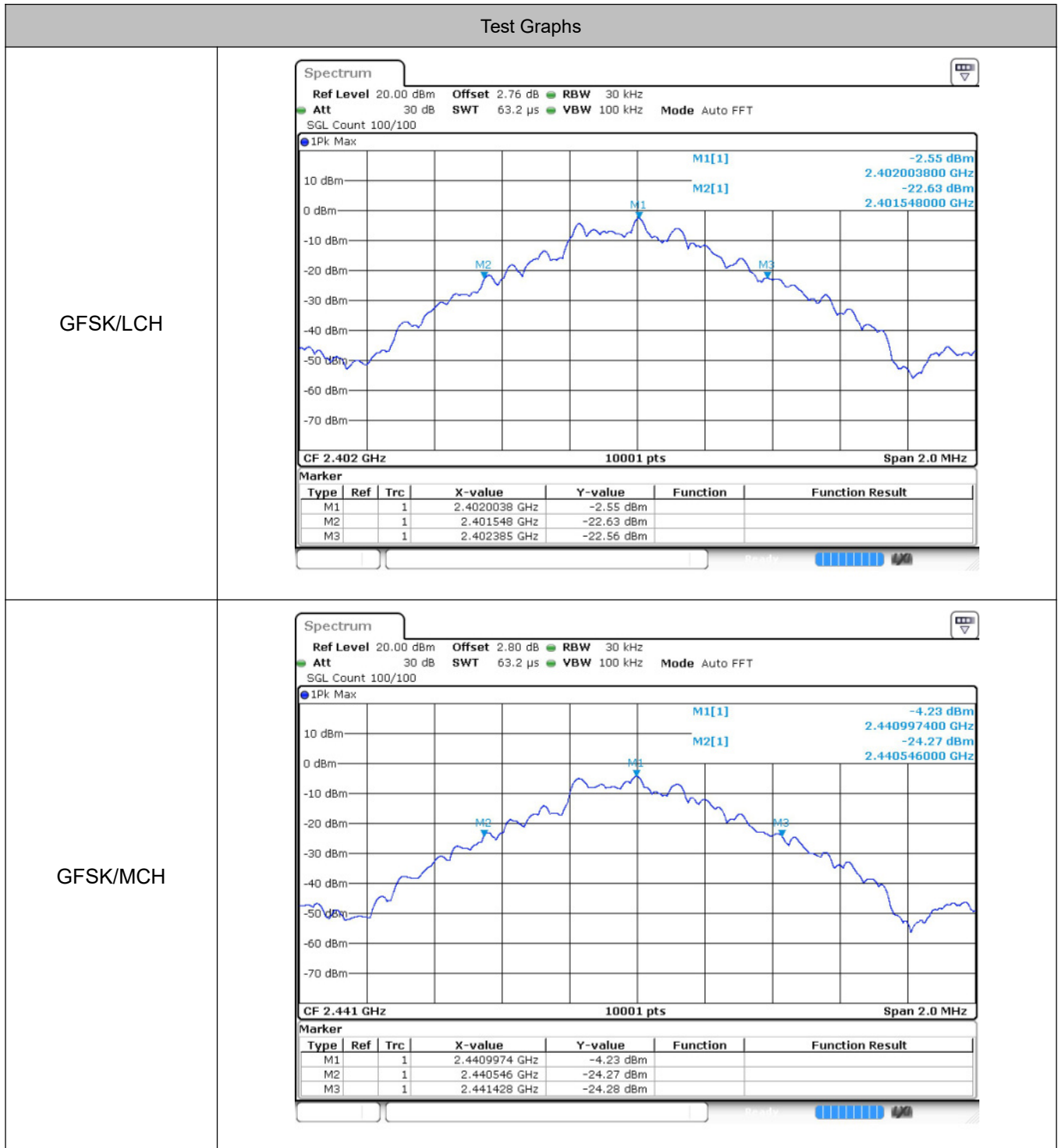
3 20dB Bandwidth

3.1 Test Result

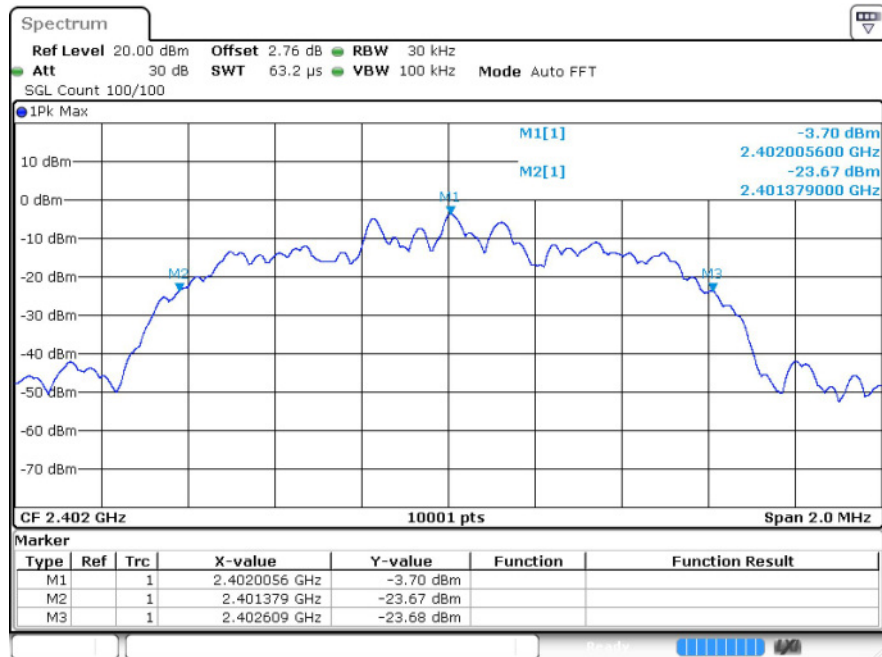
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.837	Not Specified	Pass
	MCH	0.881	Not Specified	Pass
	HCH	0.802	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.231	Not Specified	Pass
	MCH	1.184	Not Specified	Pass
	HCH	1.227	Not Specified	Pass
8DPSK	LCH	1.209	Not Specified	Pass
	MCH	1.207	Not Specified	Pass
	HCH	1.198	Not Specified	Pass

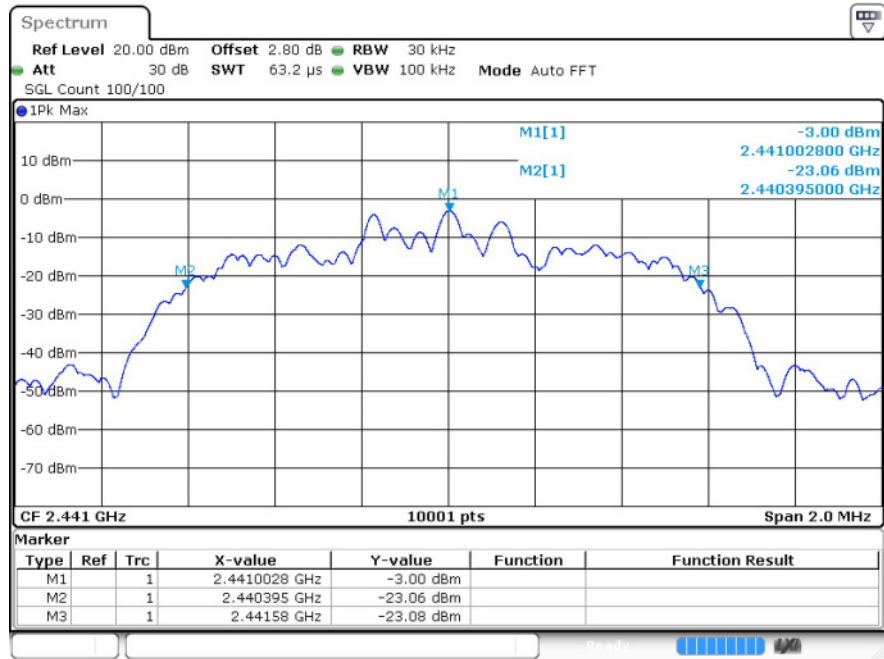
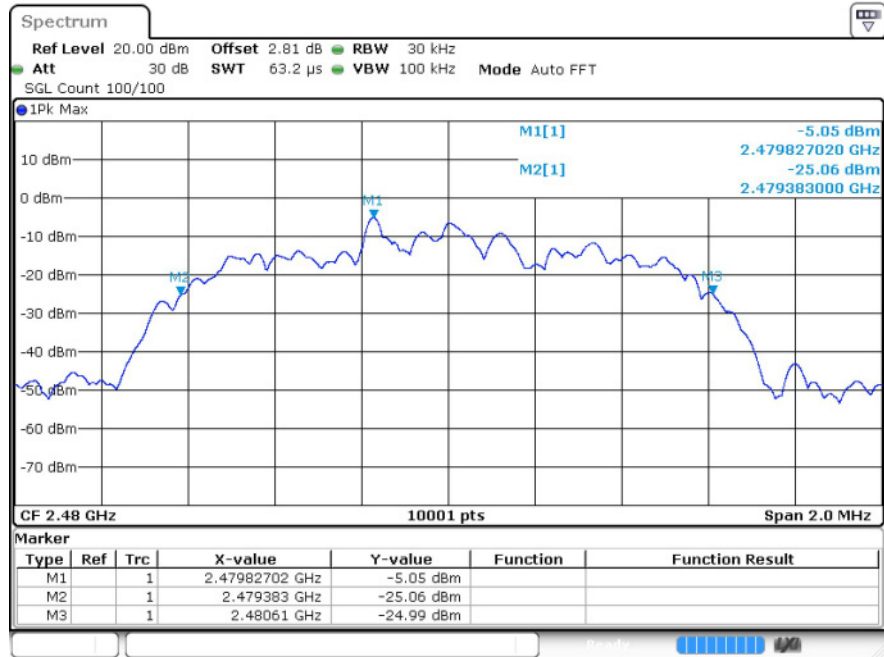
Note: Left and right ear have been tested and the only shows the worst case mode.

3.2 Test Graphs

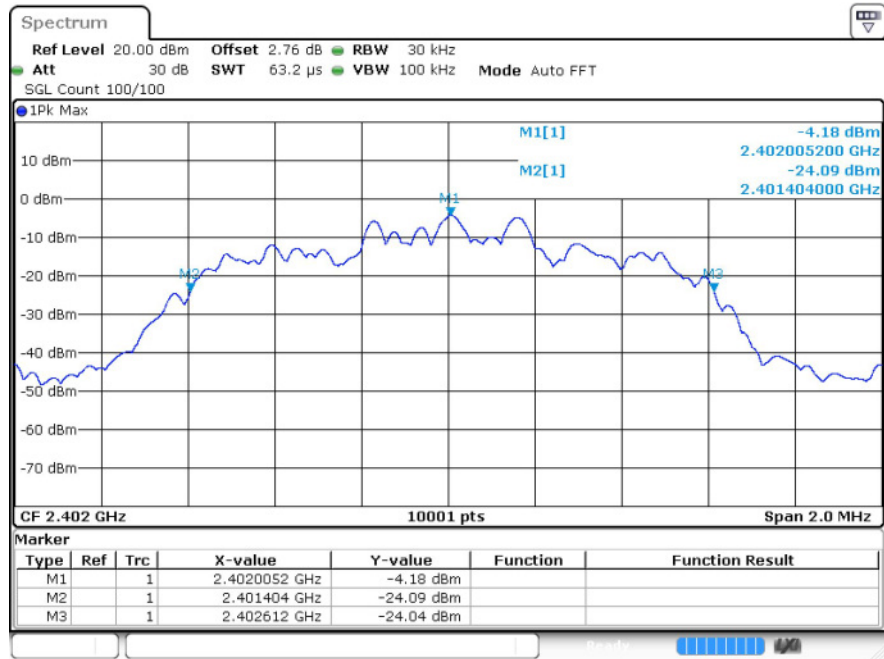


GFSK/HCH

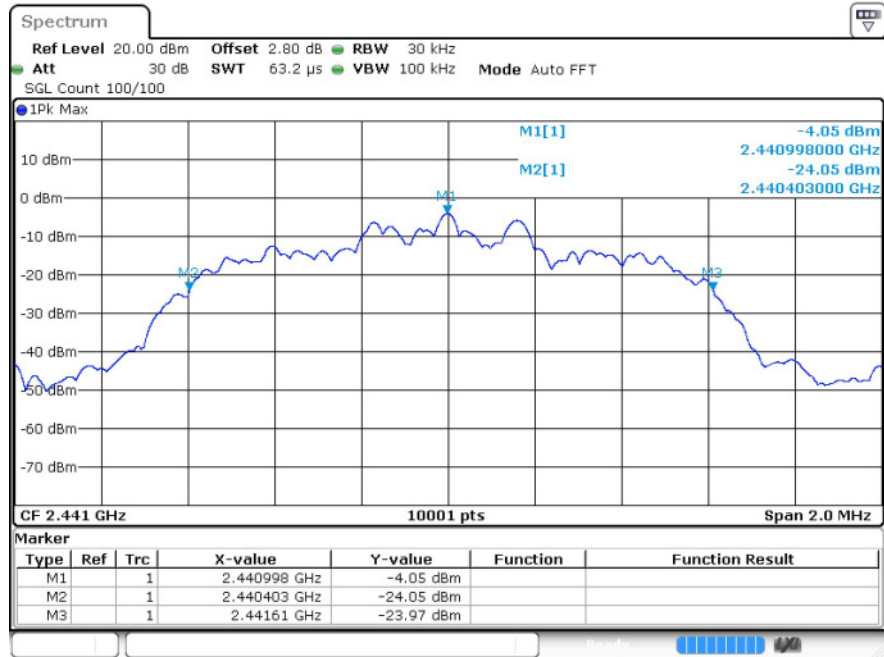

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


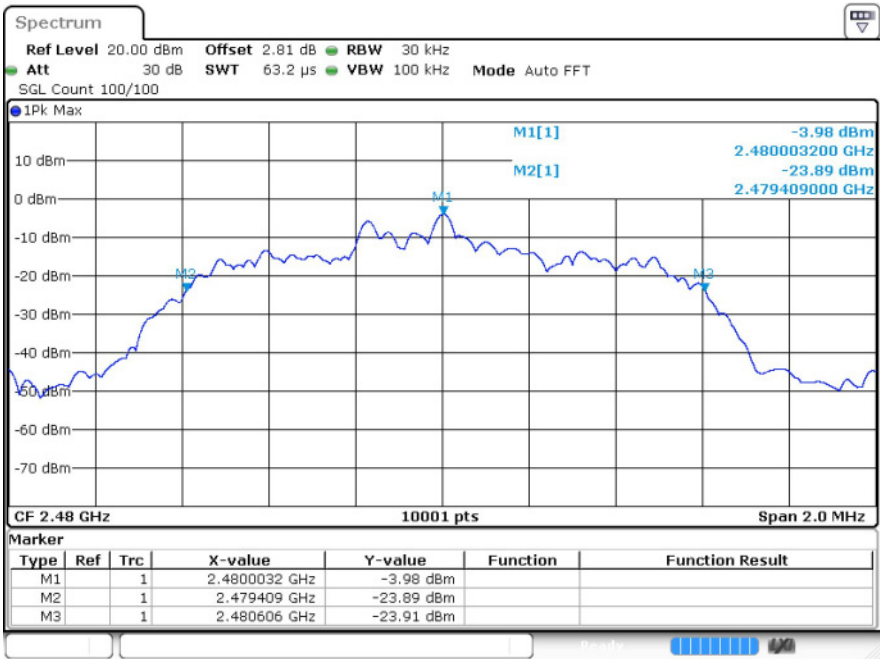
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



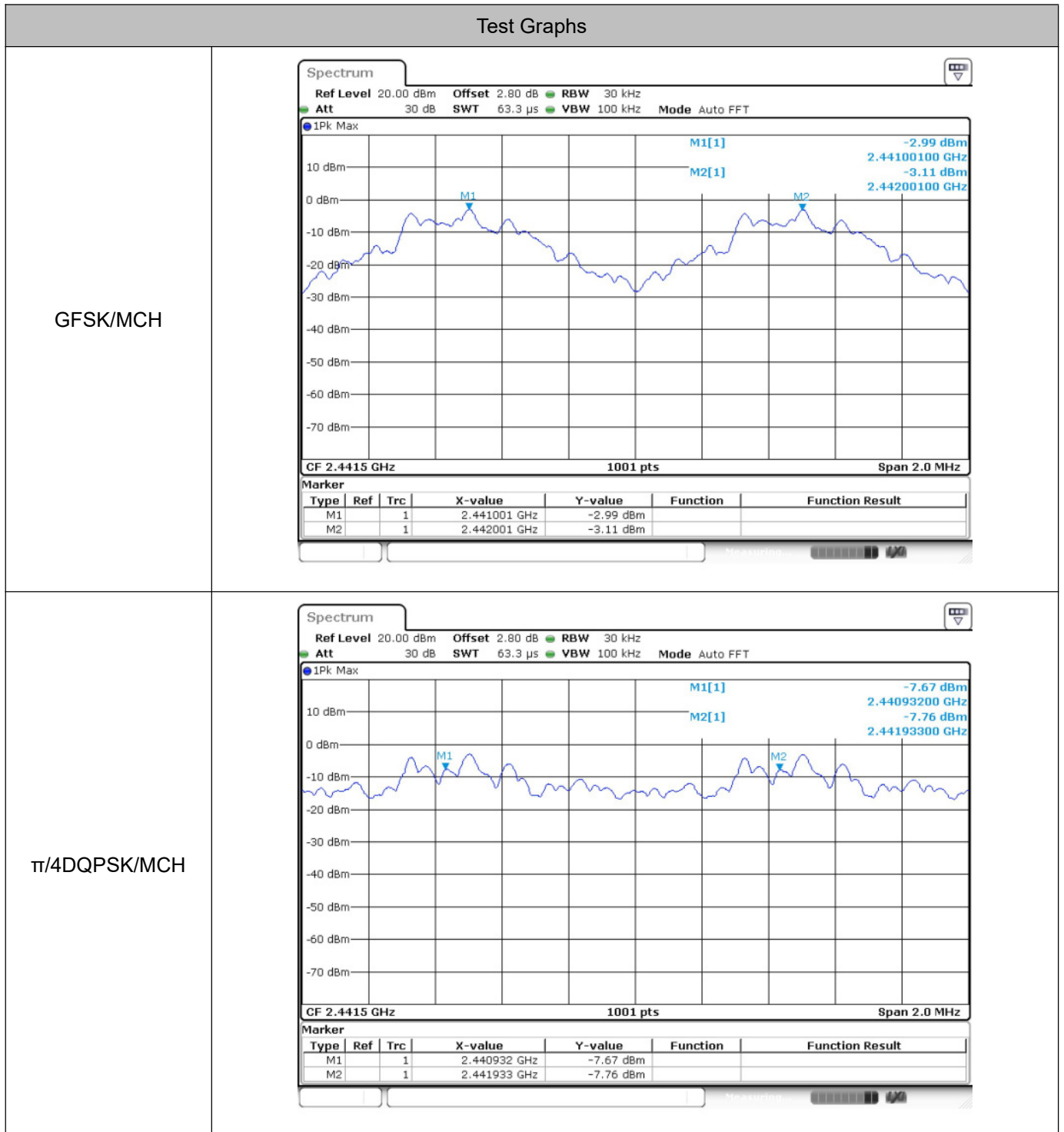
4 Carrier Frequency Separation

4.1 Test Result

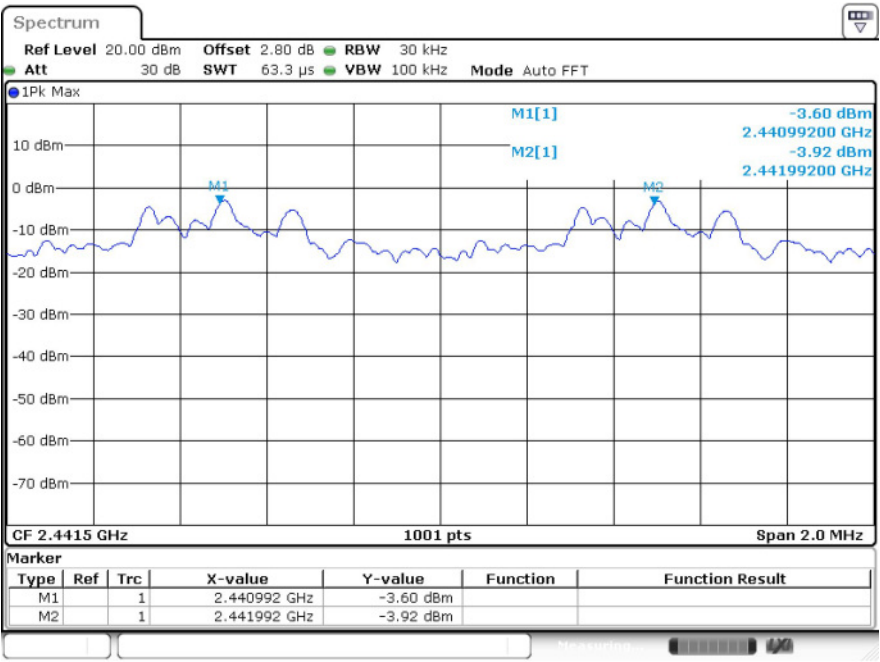
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1	0.587	Pass
$\pi/4$ DQPSK	MCH	1.001	0.789	Pass
8DPSK	MCH	1	0.805	Pass

Note: Left and right ear have been tested and the only shows the worst case mode.

4.2 Test Graphs



8DPSK/MCH



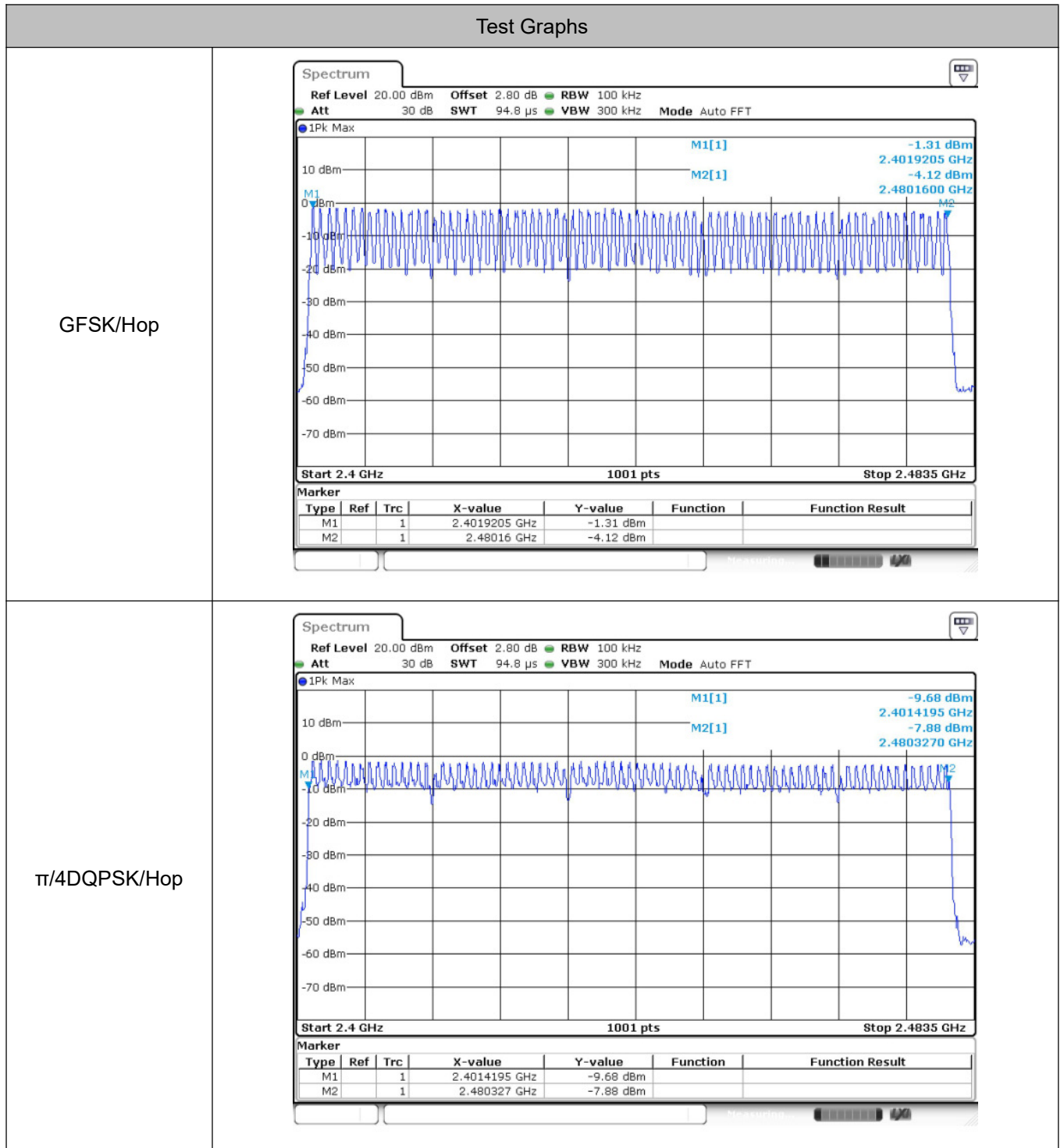
5 Hopping Channel Number

5.1 Test Result

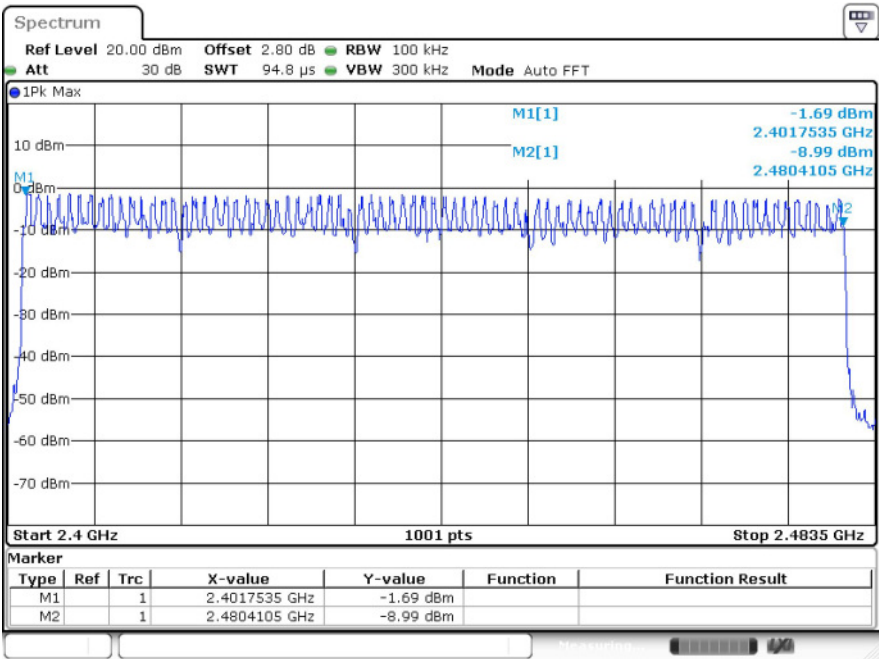
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

Note: Left and right ear have been tested and the only shows the worst case mode.

5.2 Test Graphs



8DPSK/Hop



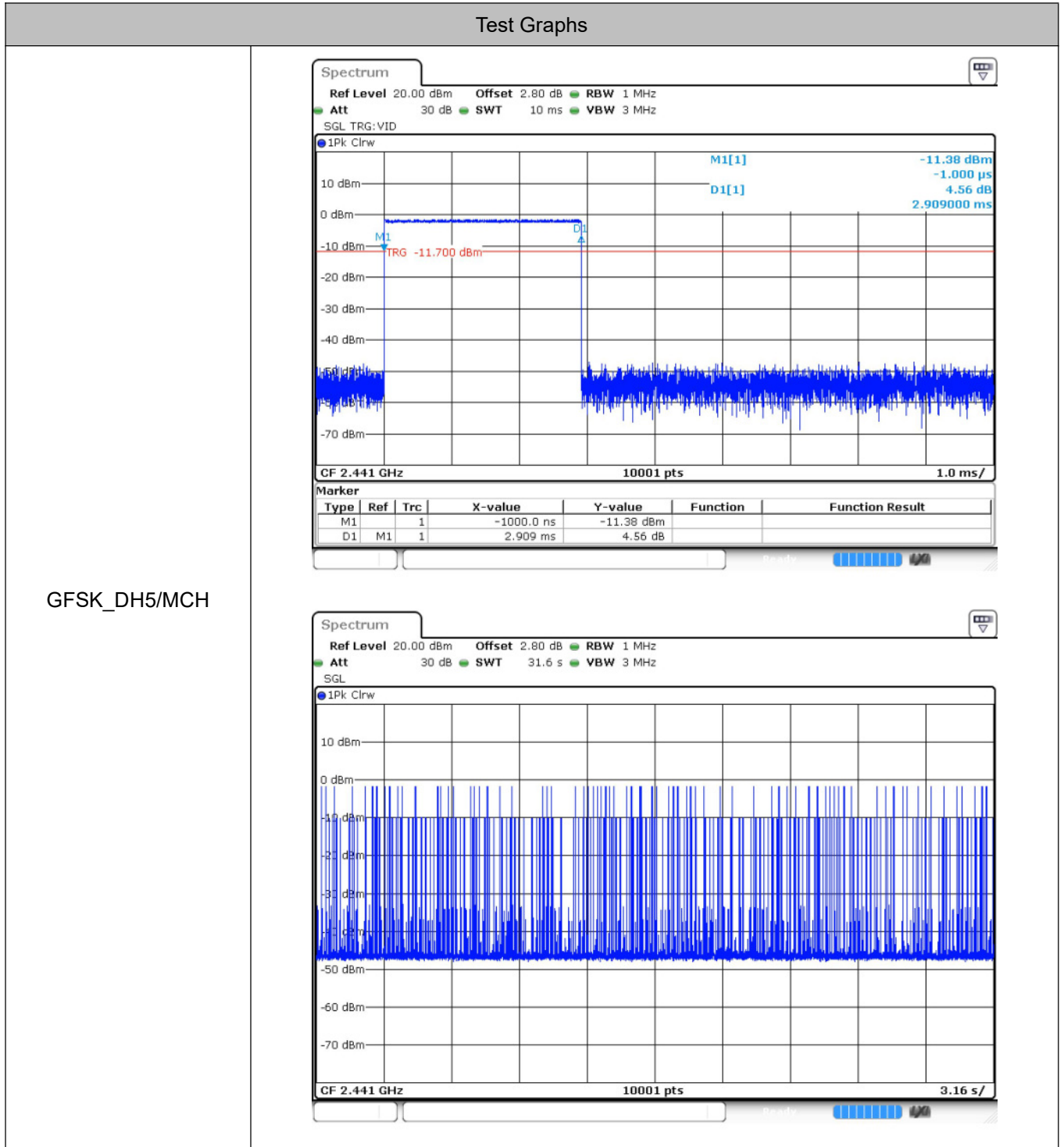
6 Dwell Time

6.1 Test Result

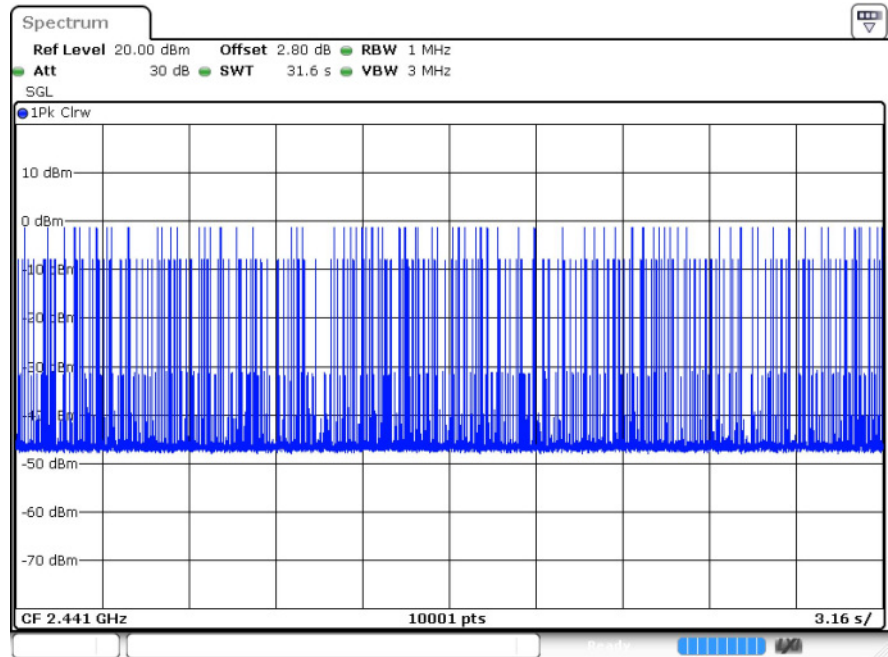
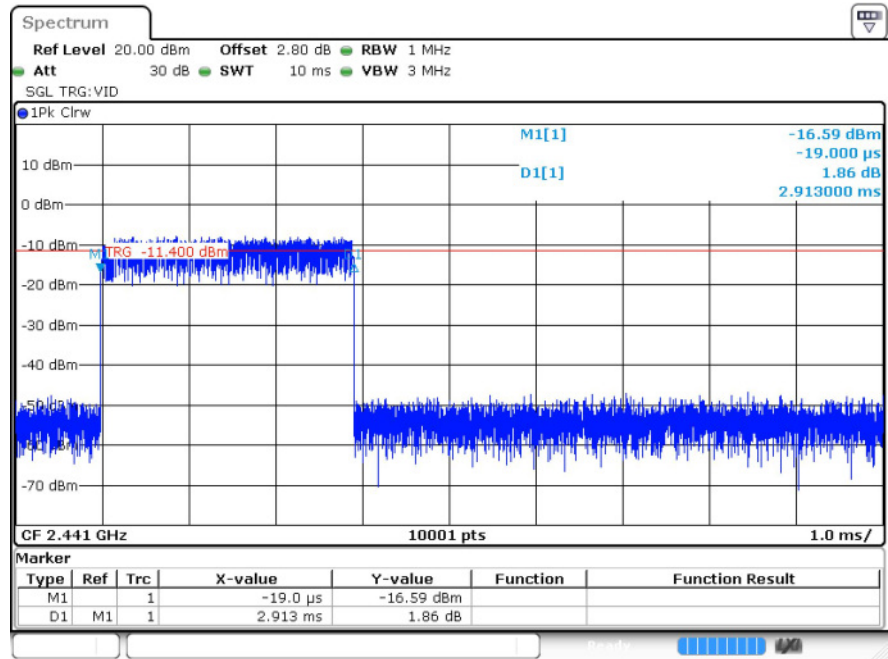
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.909	90	261.81	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.913	91	265.083	0.4	Pass
8DPSK	3DH5	MCH	2.915	90	262.35	0.4	Pass

Note: Left and right ear have been tested and the only shows the worst case mode.

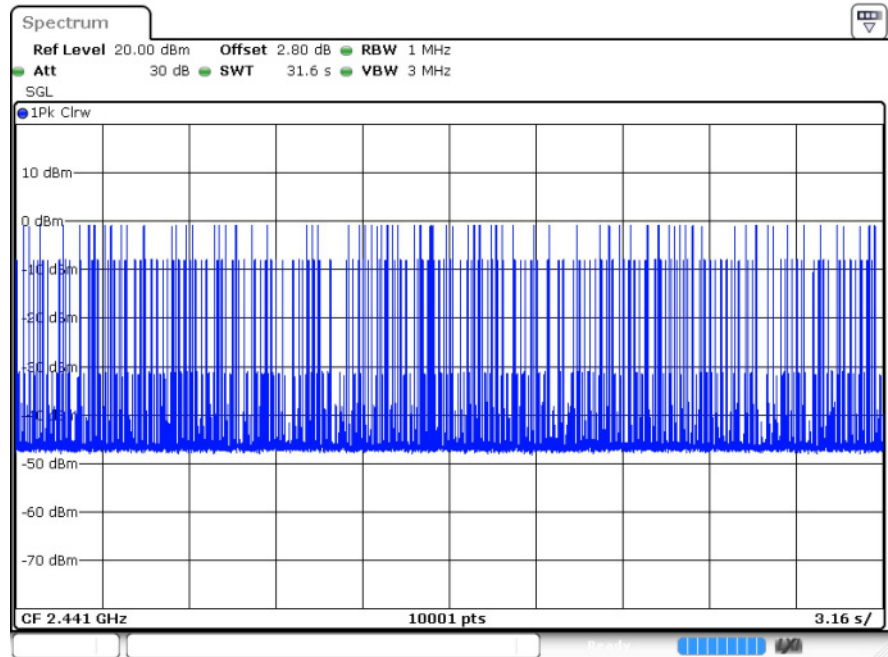
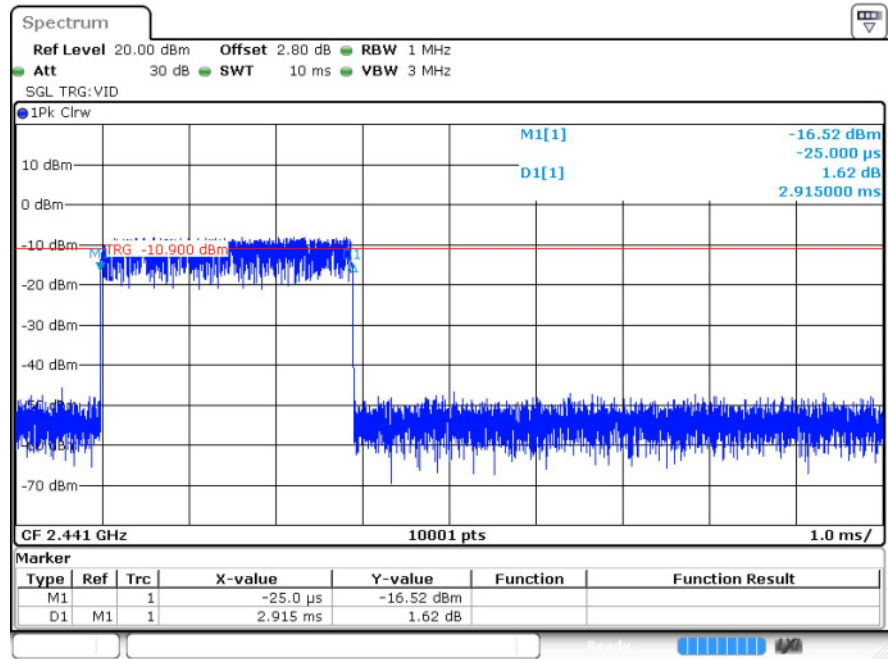
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH



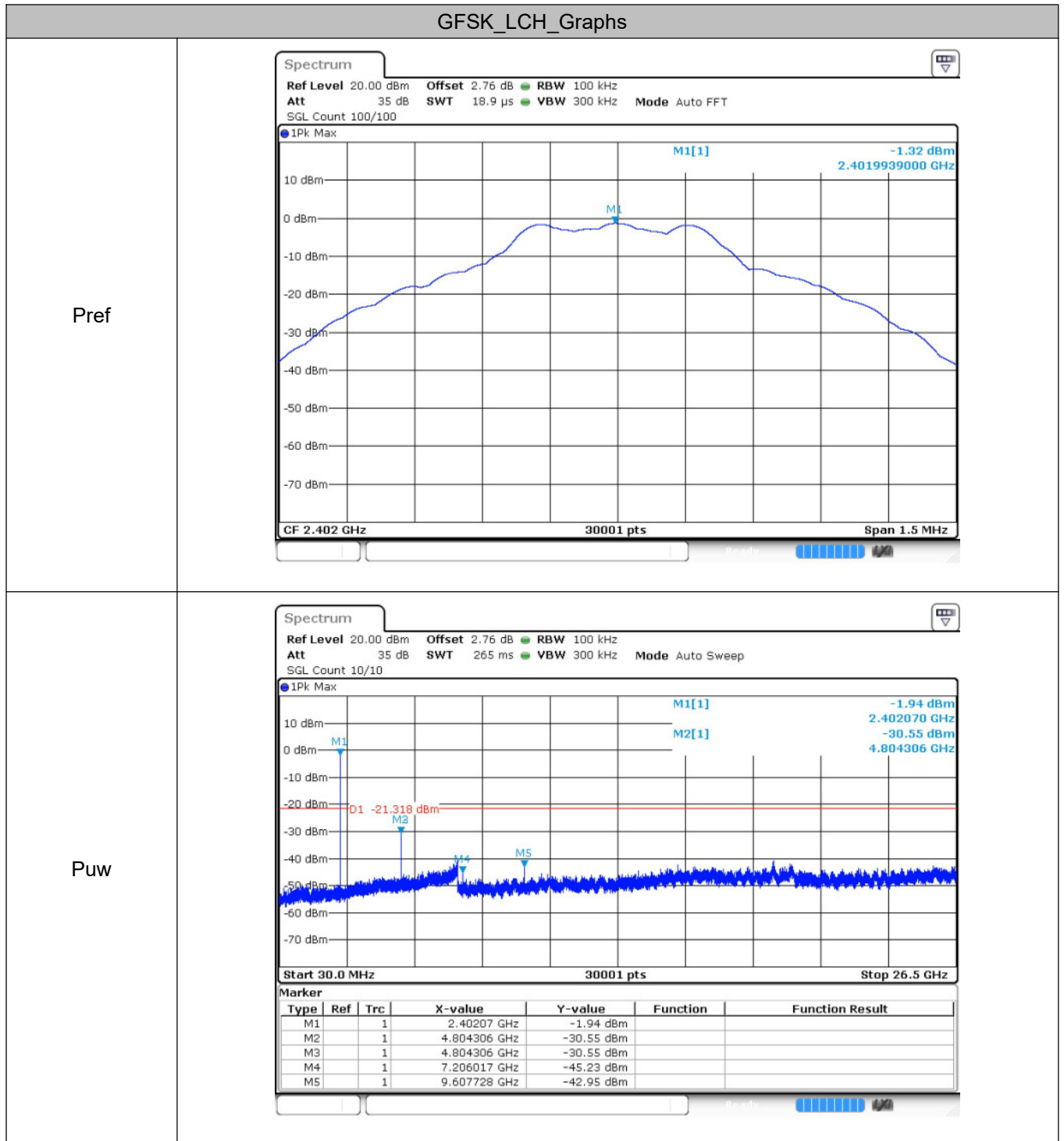
7 RF Conducted Spurious Emissions

7.1 Test Result

Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-29.23	-20	Pass
	MCH	-28.15	-20	Pass
	HCH	-32.02	-20	Pass
π /4DQPSK	LCH	-33.96	-20	Pass
	MCH	-36.96	-20	Pass
	HCH	-32.42	-20	Pass
8DPSK	LCH	-35.01	-20	Pass
	MCH	-28.82	-20	Pass
	HCH	-30.84	-20	Pass

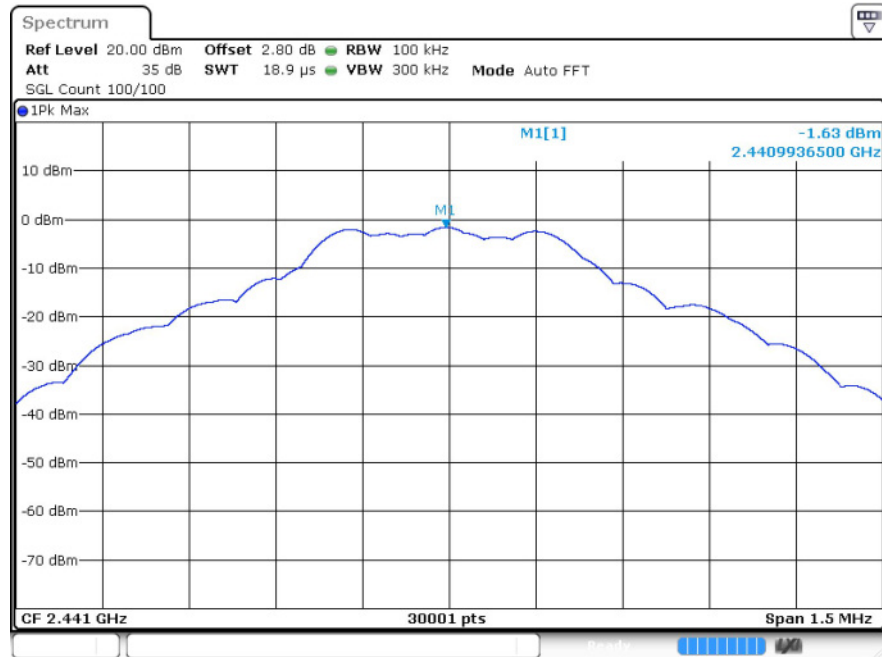
Note: Left and right ear have been tested and the only shows the worst case mode.

7.2 Test Graphs



GFSK_MCH_Graphs

Pref



Puw

