



Appendix A

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

Product Name: Wireless Earbuds

Trade Mark: N/A

Test Model: E1

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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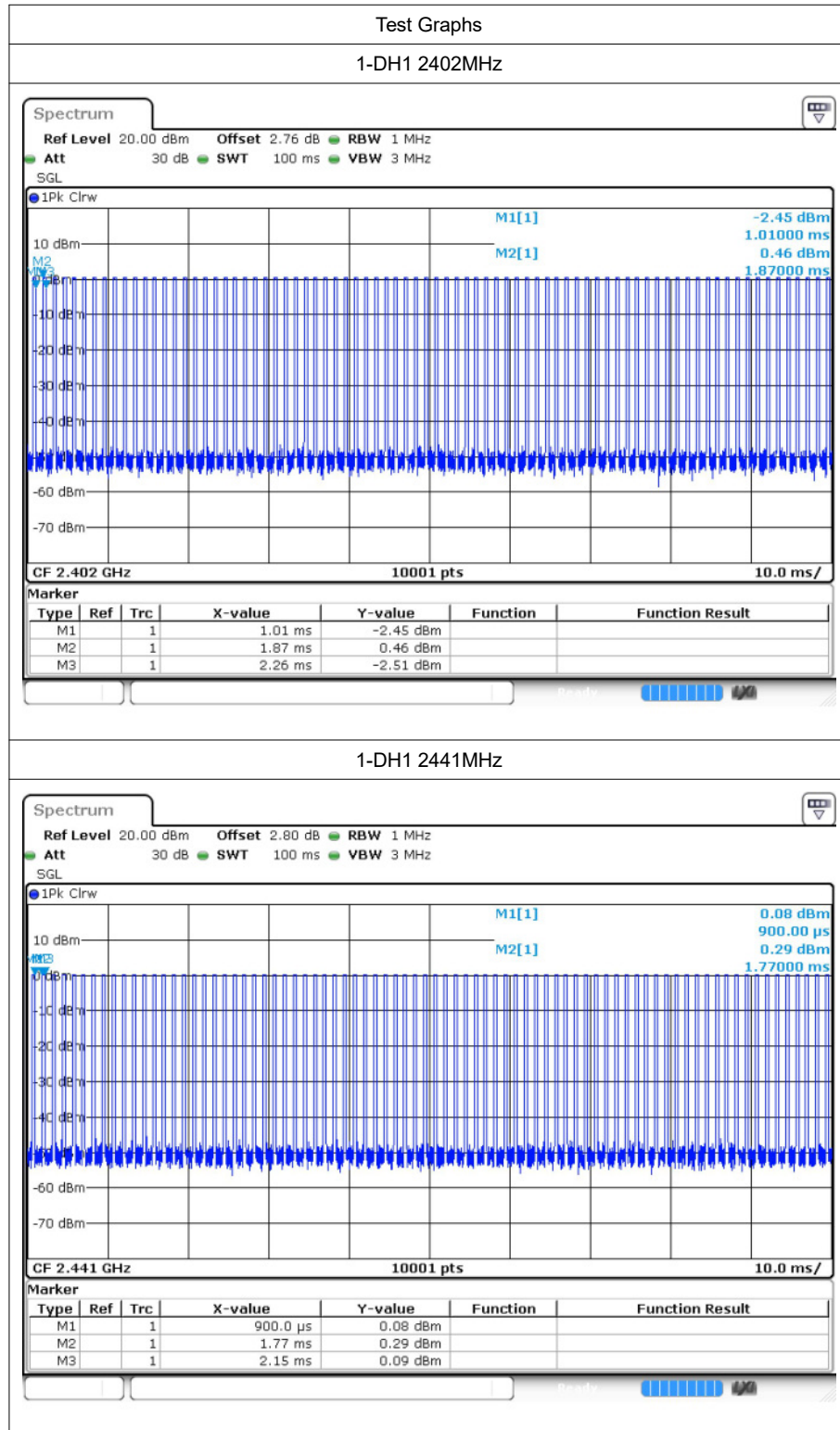
1 Duty Cycle

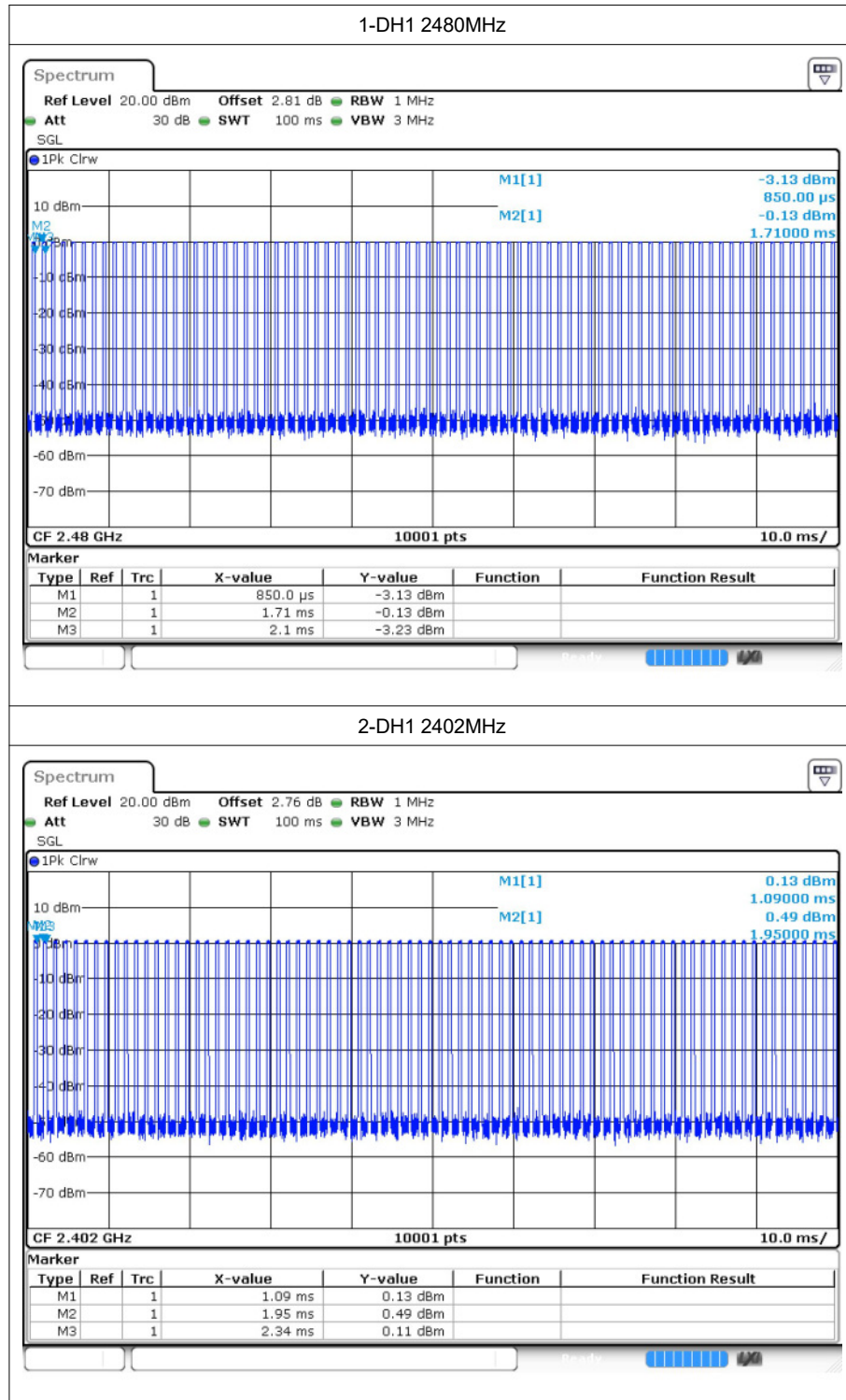
1.1 Test Result

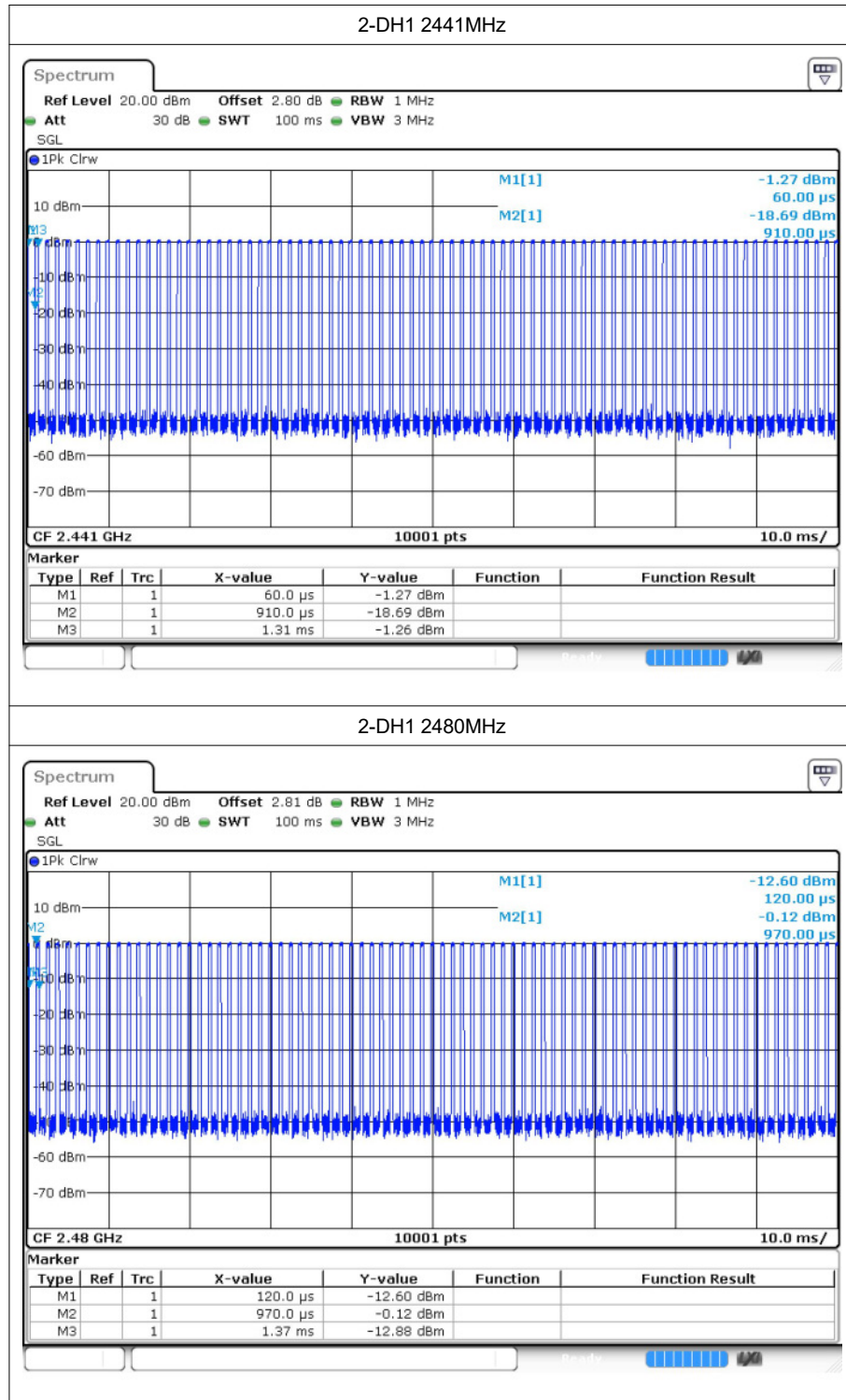
Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor	1/T (kHz)
1-DH1	2402	32	4.95	2.56
1-DH1	2441	31.71	4.99	2.63
1-DH1	2480	32	4.95	2.56
2-DH1	2402	32	4.95	2.56
2-DH1	2441	32.81	4.84	2.5
2-DH1	2480	32.46	4.89	2.5
3-DH1	2402	32	4.95	2.56
3-DH1	2441	32	4.95	2.56
3-DH1	2480	32.74	4.85	2.5

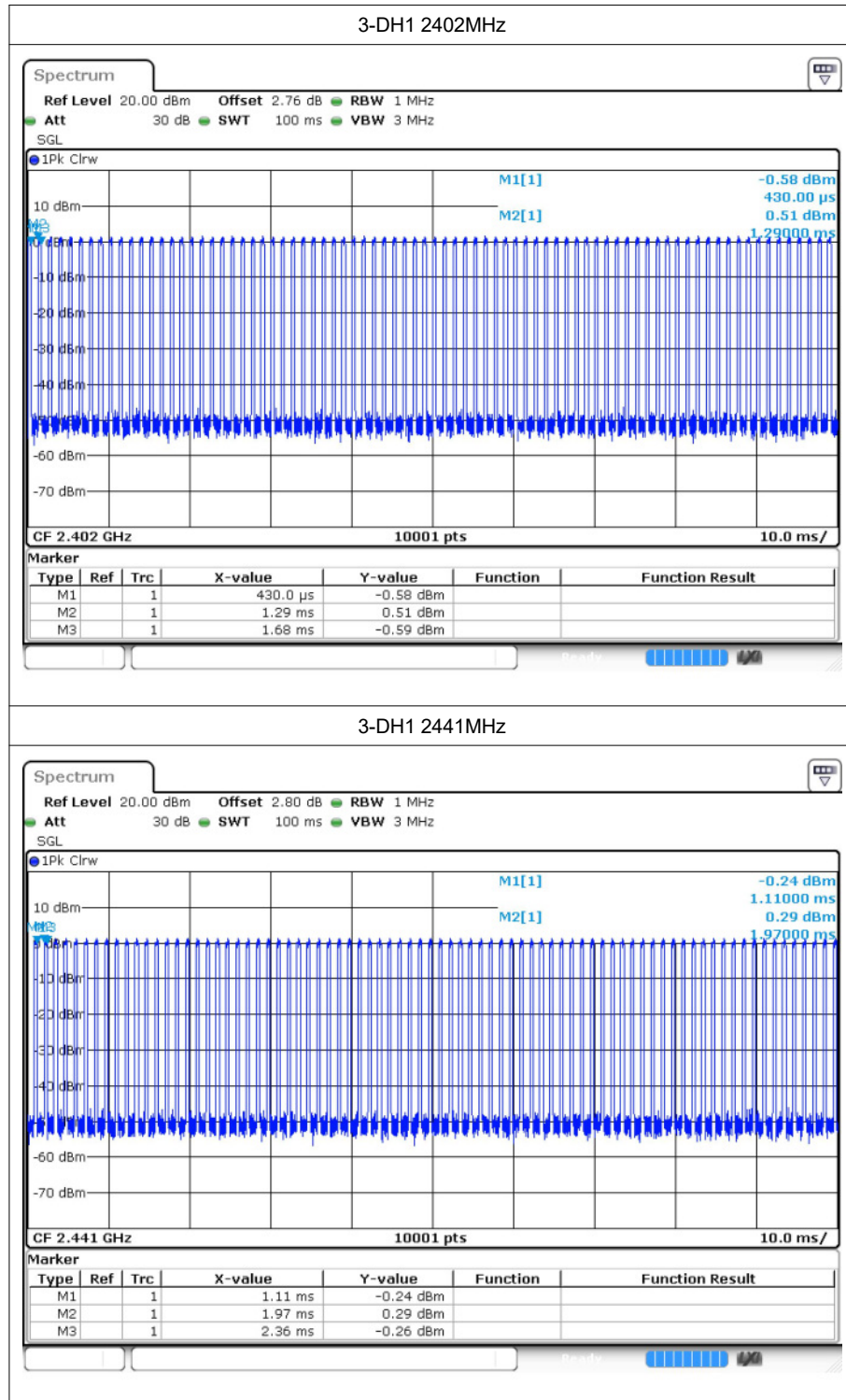
Note: Left and right ear have been tested and the only shows the worst case mode.

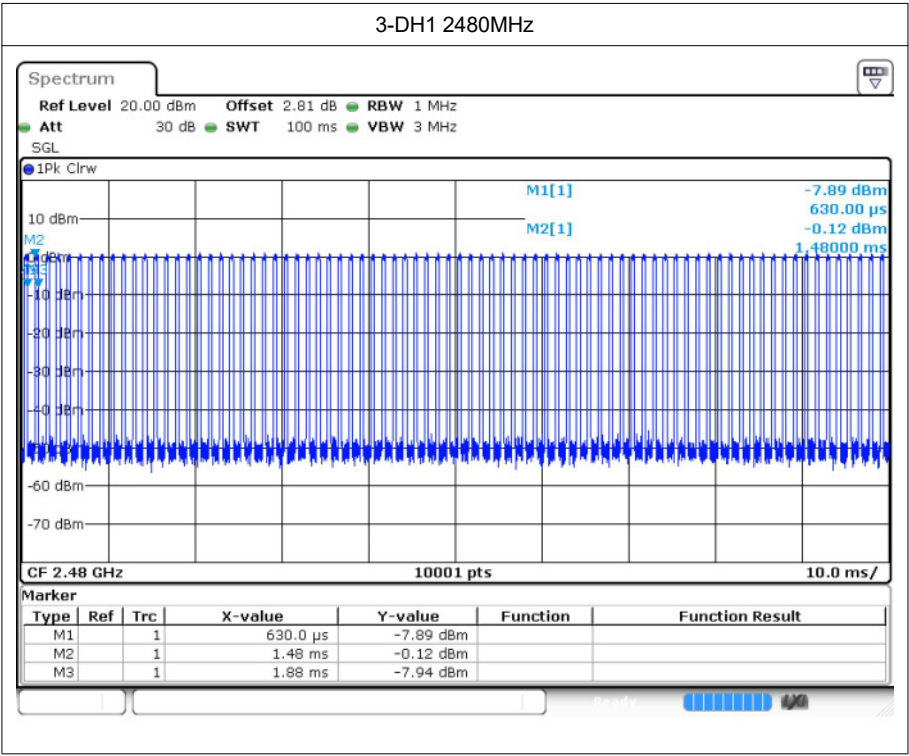
1.2 Test Graphs











2 Maximum Conducted Peak Output Power

2.1 Test Result

Left:

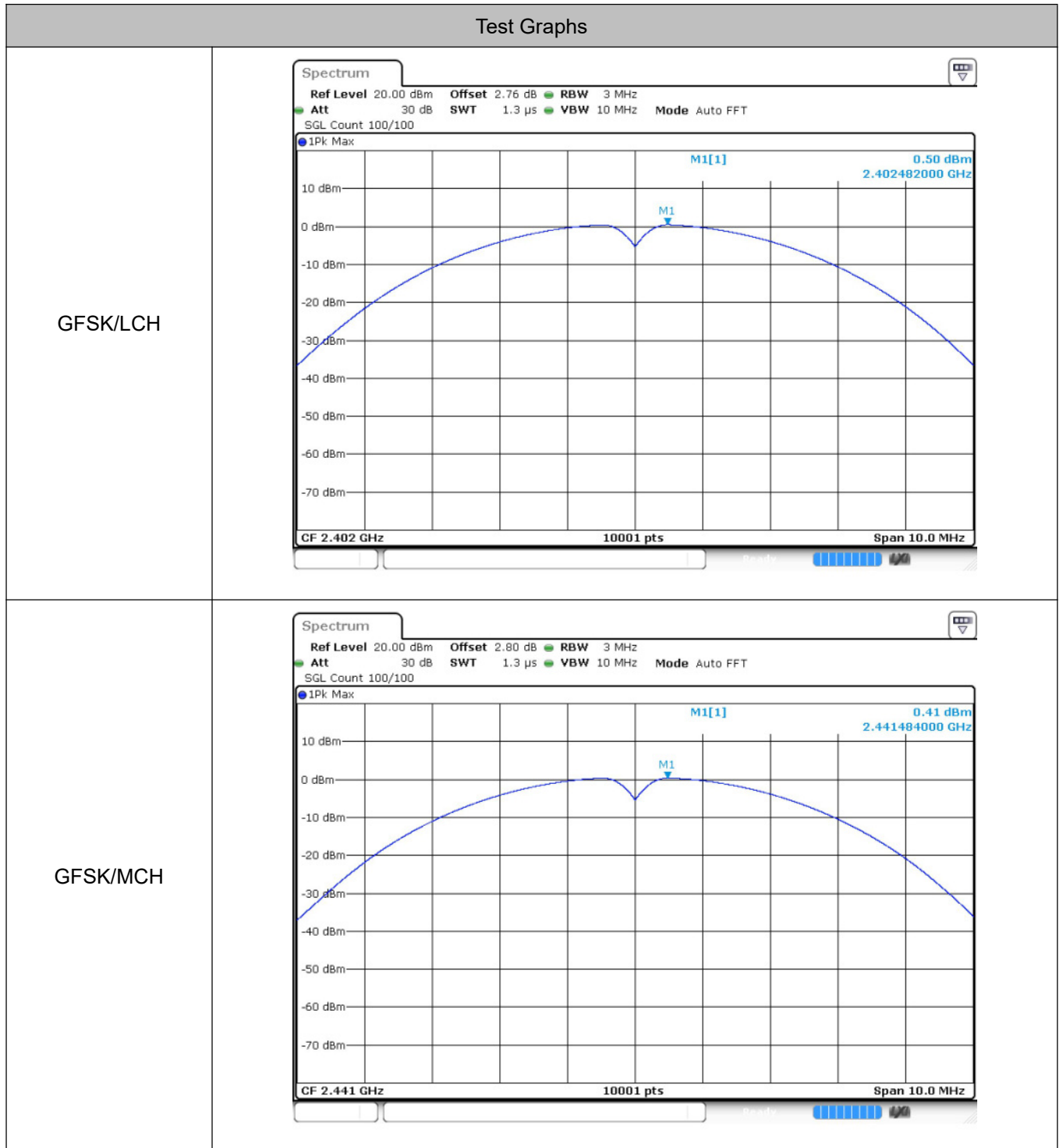
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.5	21	Pass
	MCH	0.41	21	Pass
	HCH	0.15	21	Pass
$\pi/4$ DQPSK	LCH	1.09	21	Pass
	MCH	0.98	21	Pass
	HCH	0.57	21	Pass
8DPSK	LCH	0.97	21	Pass
	MCH	0.9	21	Pass
	HCH	0.74	21	Pass

Right:

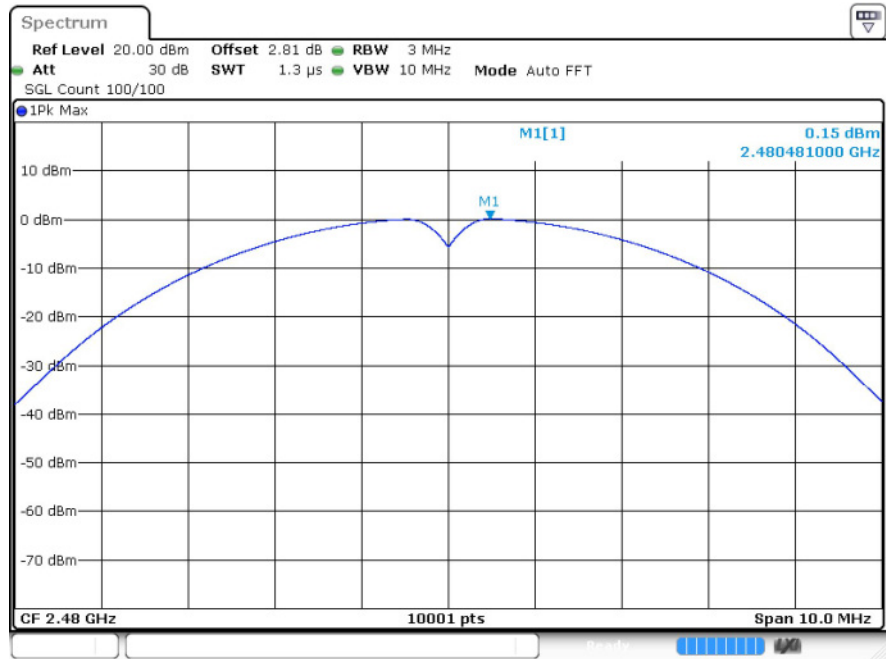
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.43	21	Pass
	MCH	0.18	21	Pass
	HCH	-0.21	21	Pass
$\pi/4$ DQPSK	LCH	0.9	21	Pass
	MCH	0.69	21	Pass
	HCH	0.2	21	Pass
8DPSK	LCH	1.09	21	Pass
	MCH	1.43	21	Pass
	HCH	0.32	21	Pass

2.2 Test Graphs

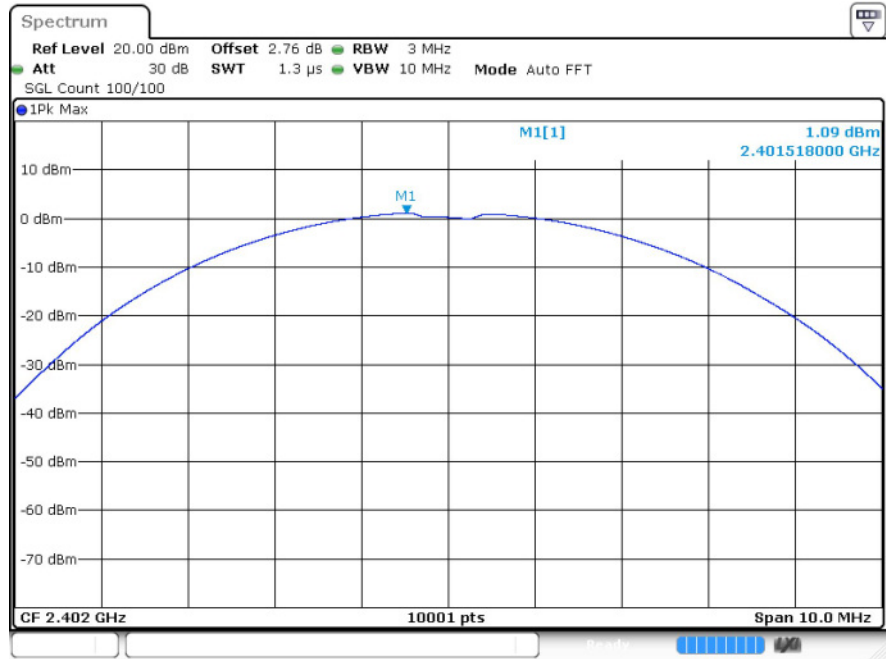
Left:



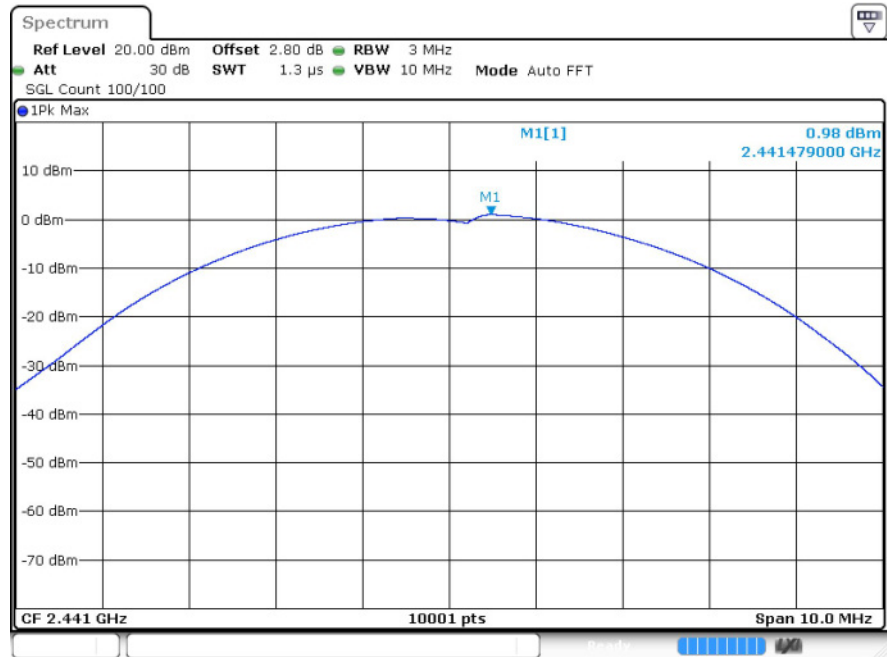
GFSK/HCH



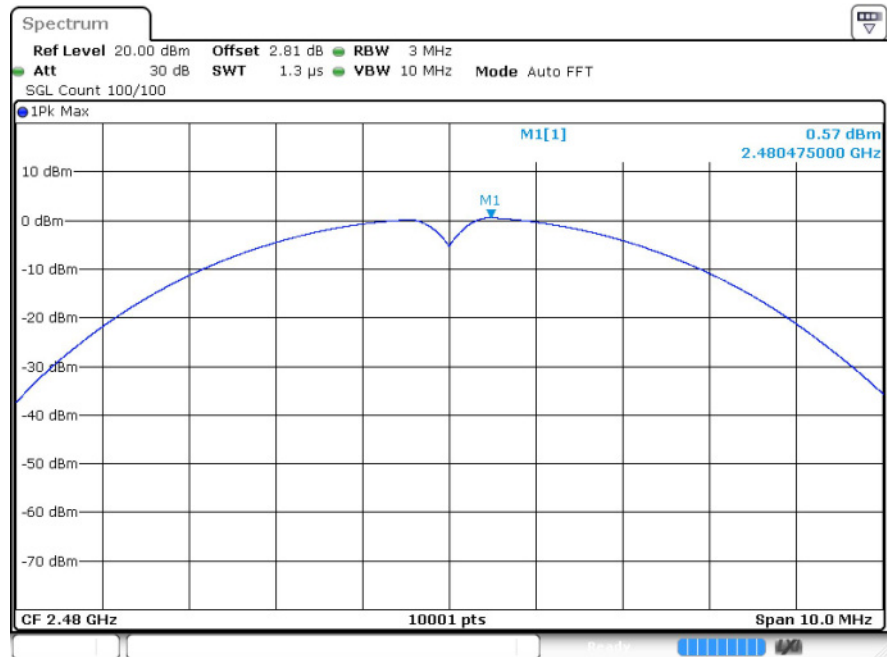
$\pi/4$ DQPSK/LCH



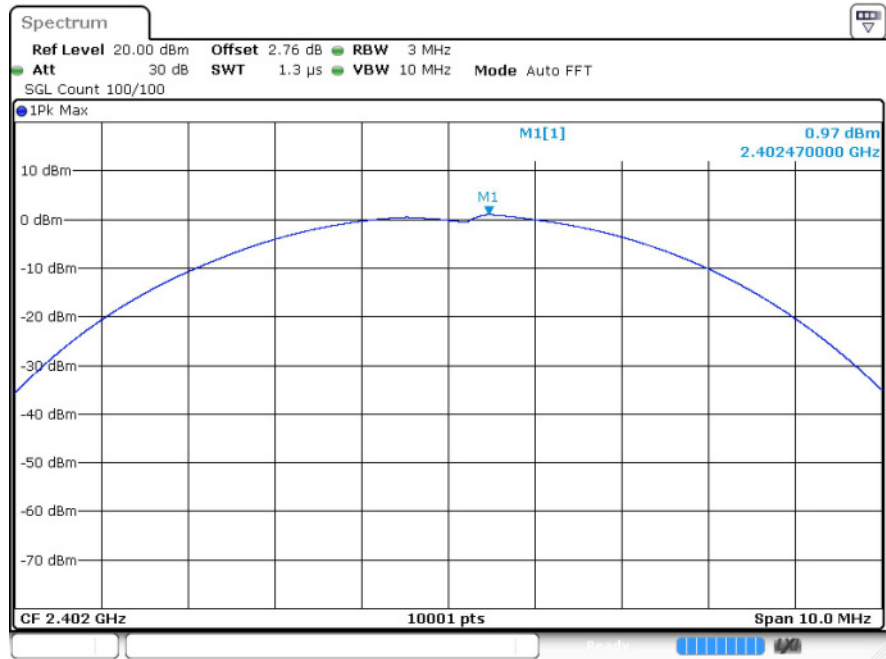
$\pi/4$ DQPSK/MCH



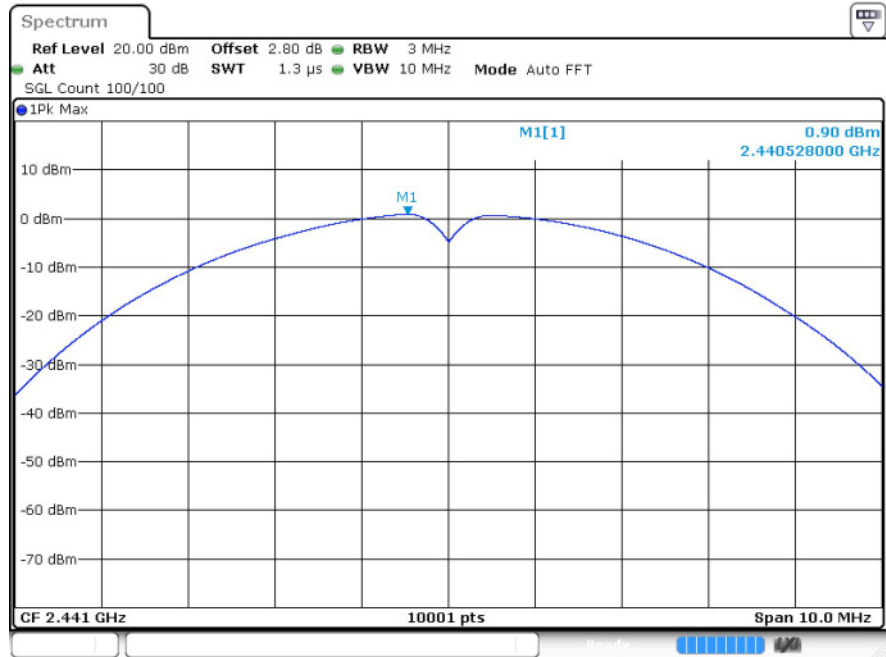
$\pi/4$ DQPSK/HCH



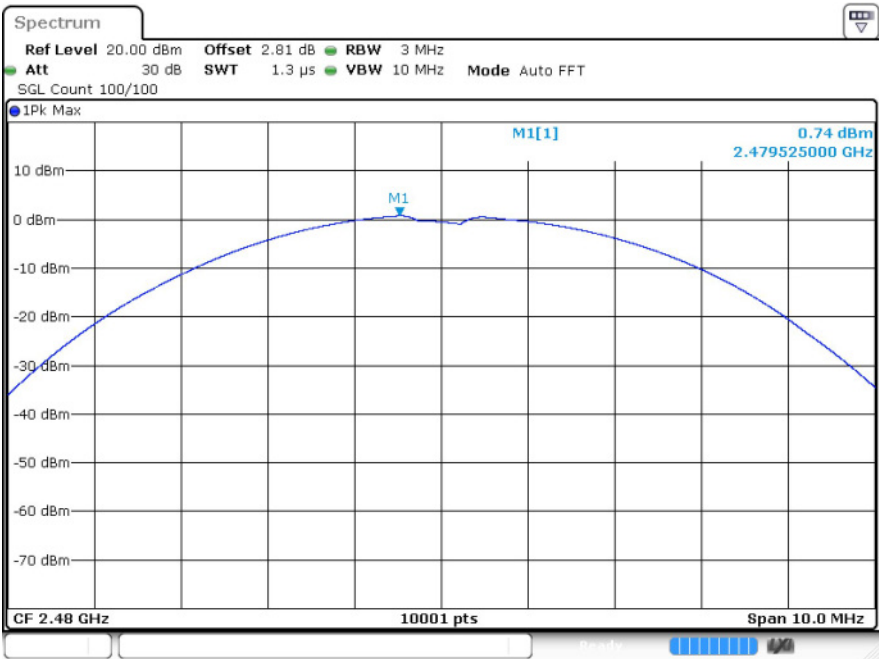
8DPSK/LCH



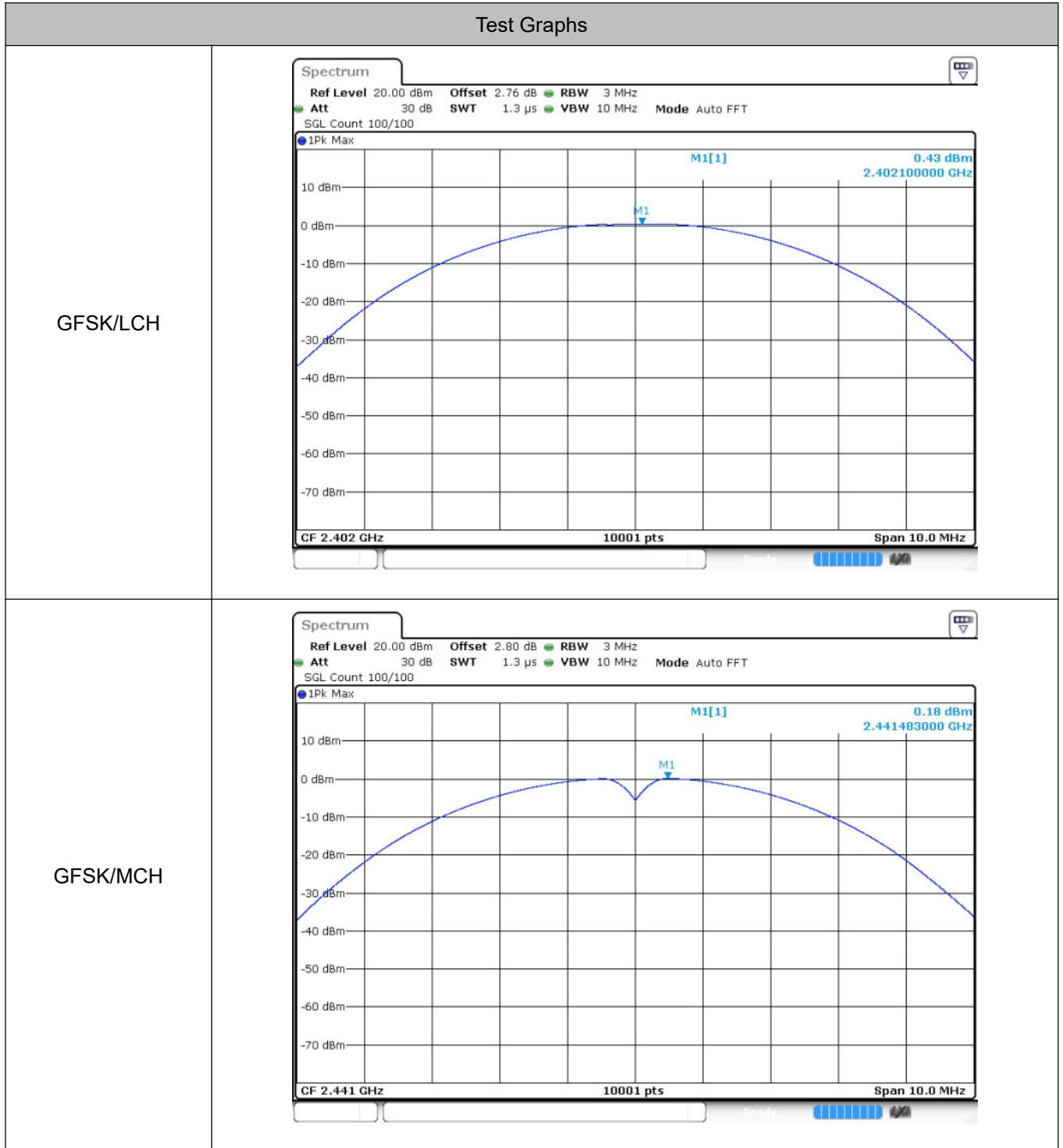
8DPSK/MCH



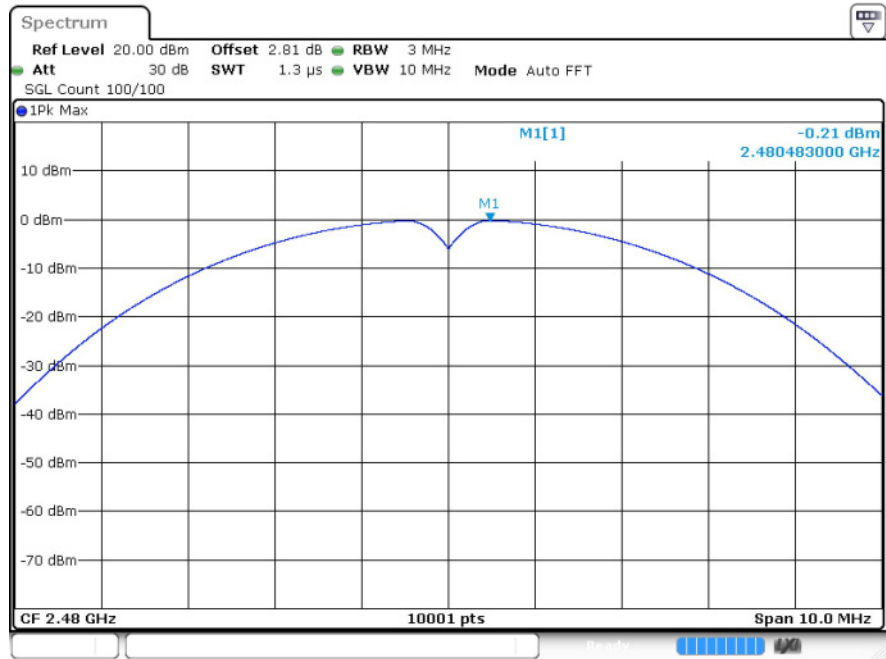
8DPSK/HCH



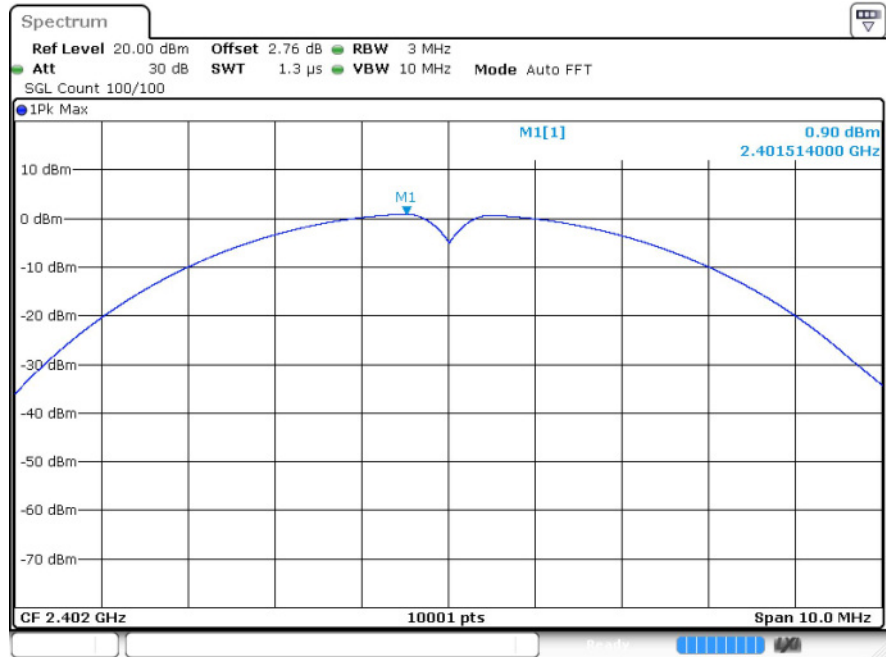
Right:



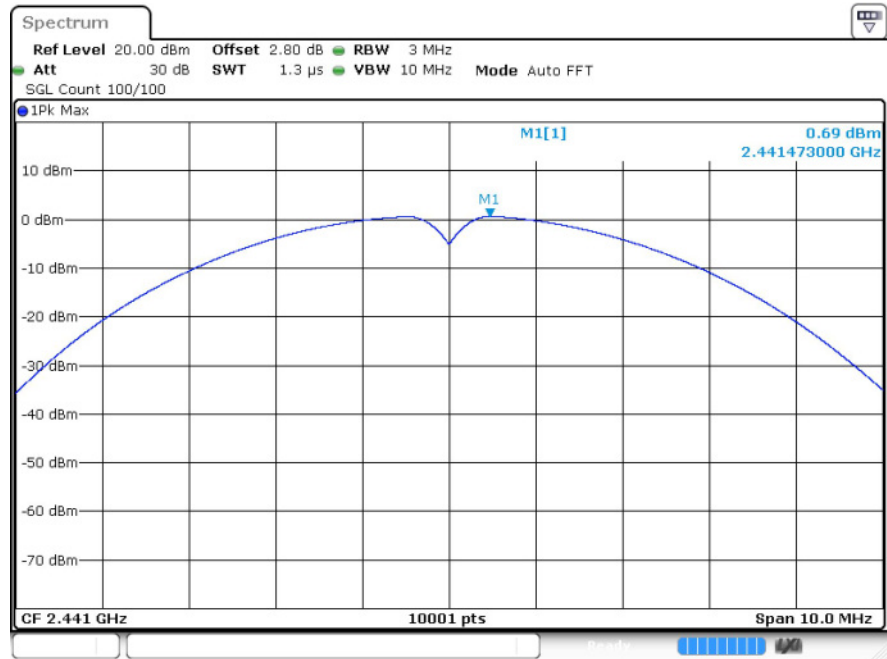
GFSK/HCH



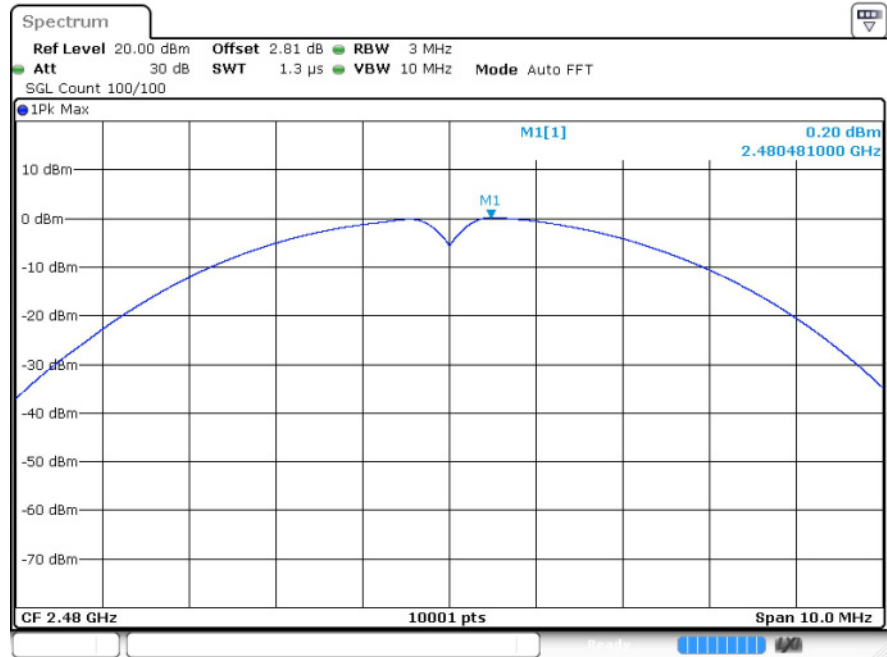
$\pi/4$ DQPSK/LCH



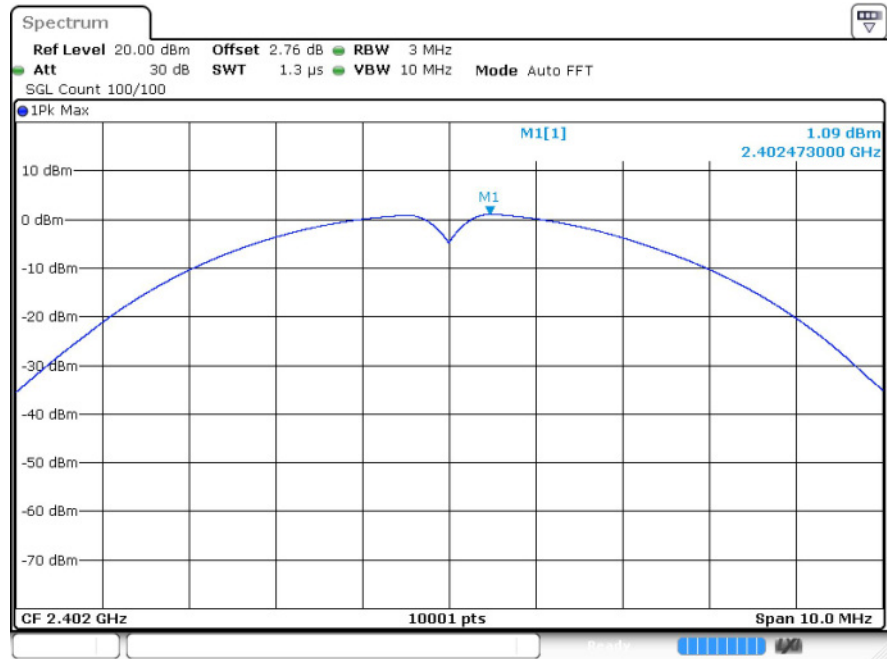
$\pi/4$ DQPSK/MCH



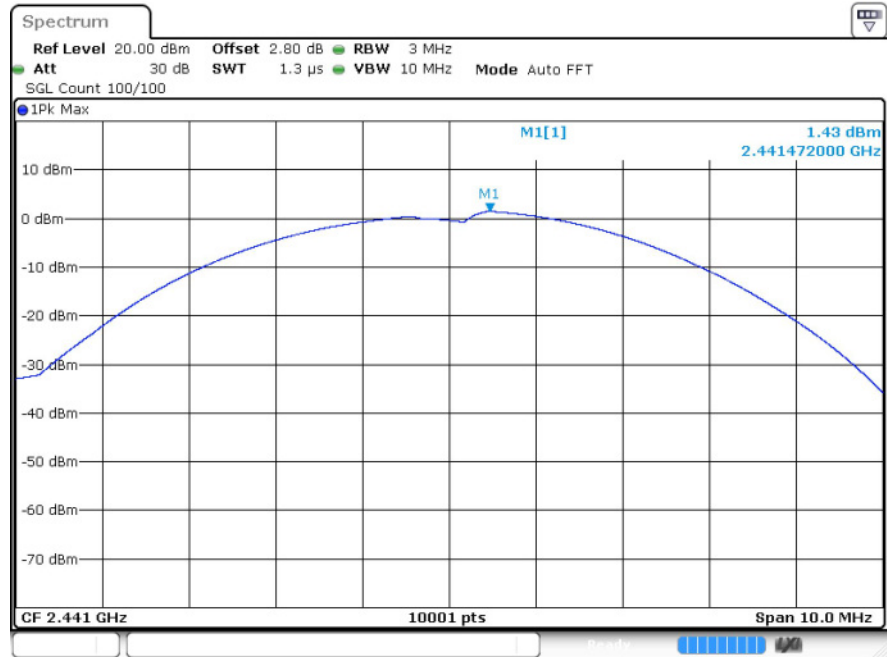
$\pi/4$ DQPSK/HCH



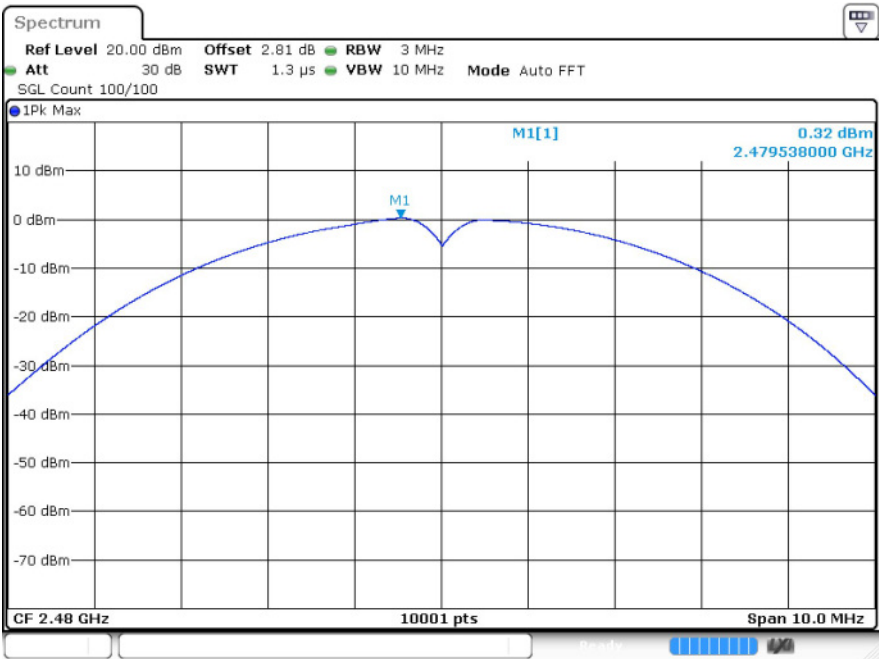
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



3 20dB Bandwidth

3.1 Test Result

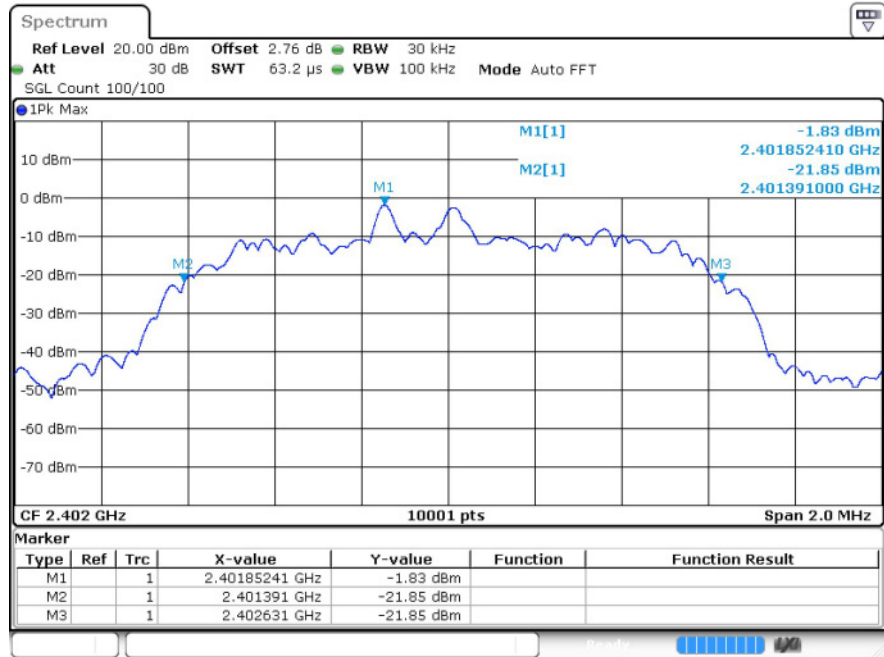
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.876	Not Specified	Pass
	MCH	0.927	Not Specified	Pass
	HCH	0.854	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.24	Not Specified	Pass
	MCH	1.247	Not Specified	Pass
	HCH	1.253	Not Specified	Pass
8DPSK	LCH	1.203	Not Specified	Pass
	MCH	1.22	Not Specified	Pass
	HCH	1.246	Not Specified	Pass

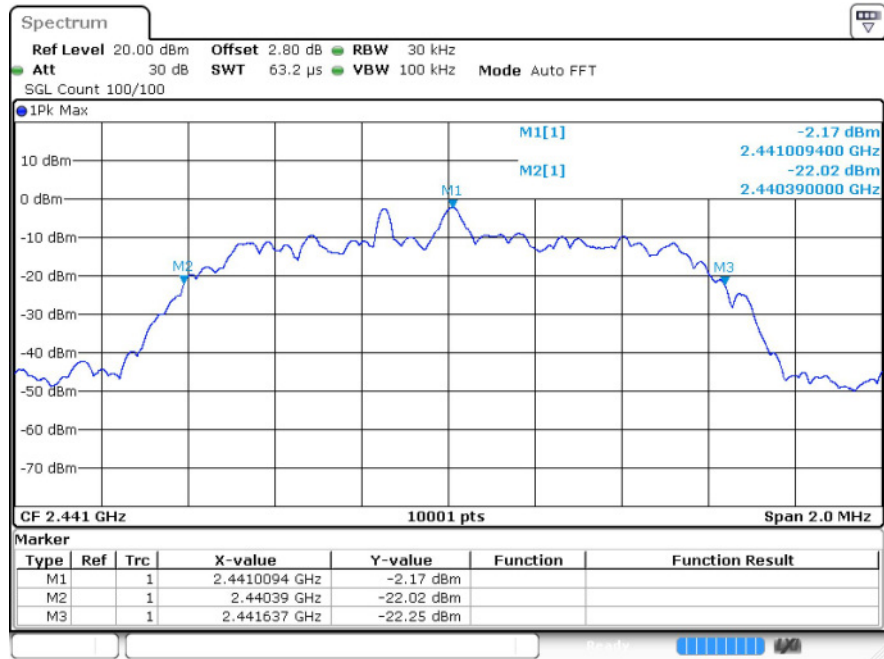
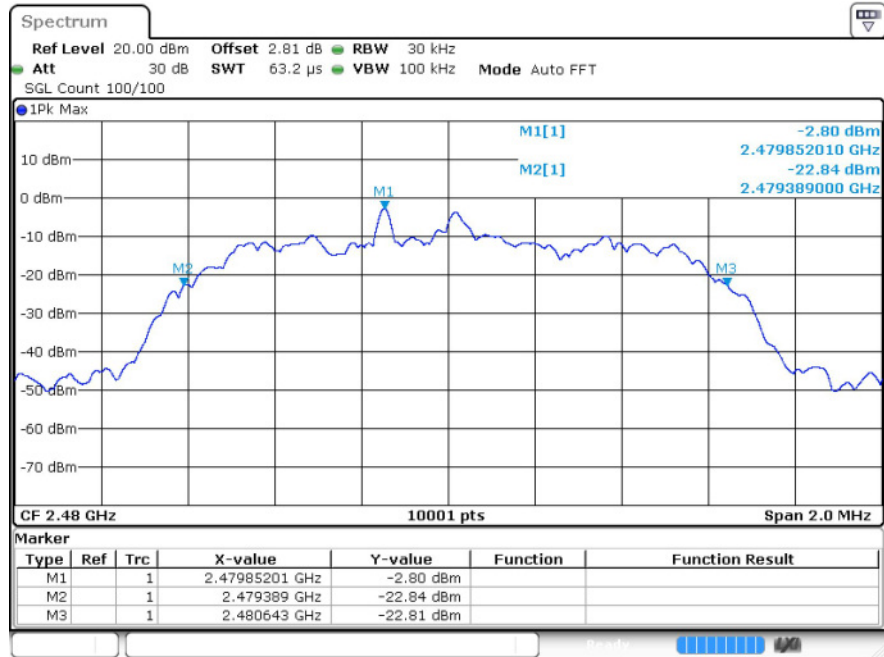
Note: Left and right ear have been tested and the only shows the worst case mode.

3.2 Test Graphs

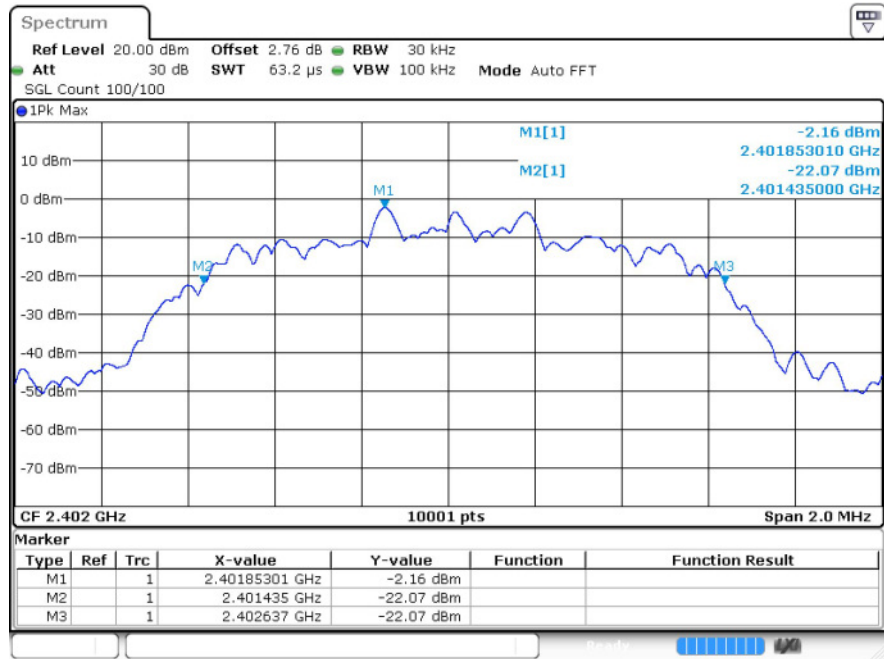


GFSK/HCH

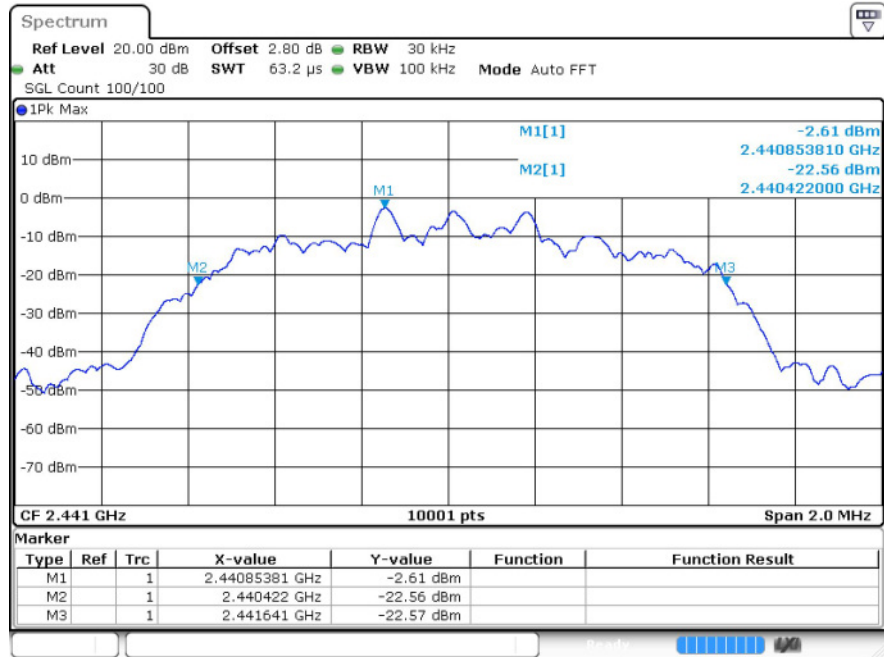

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


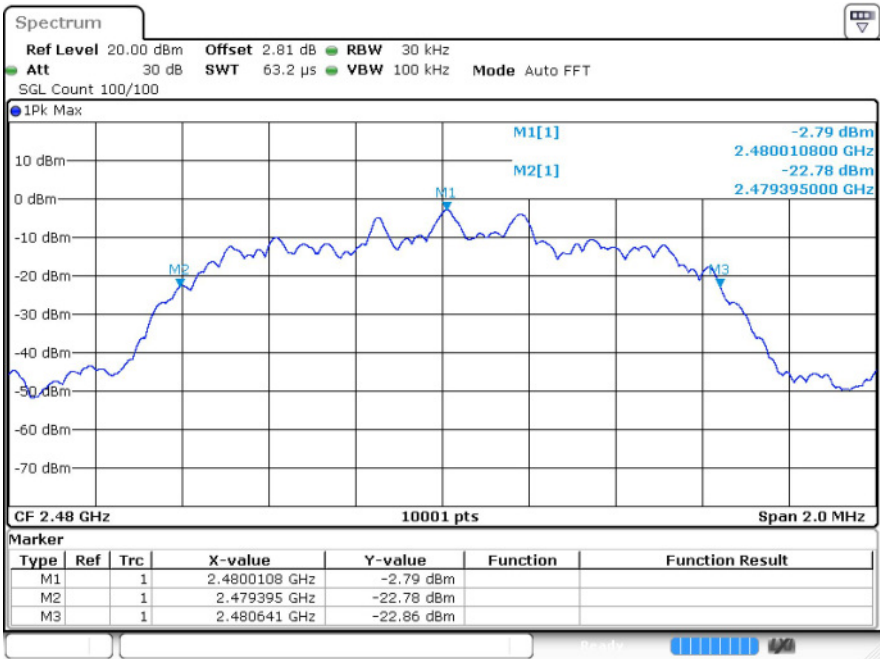
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



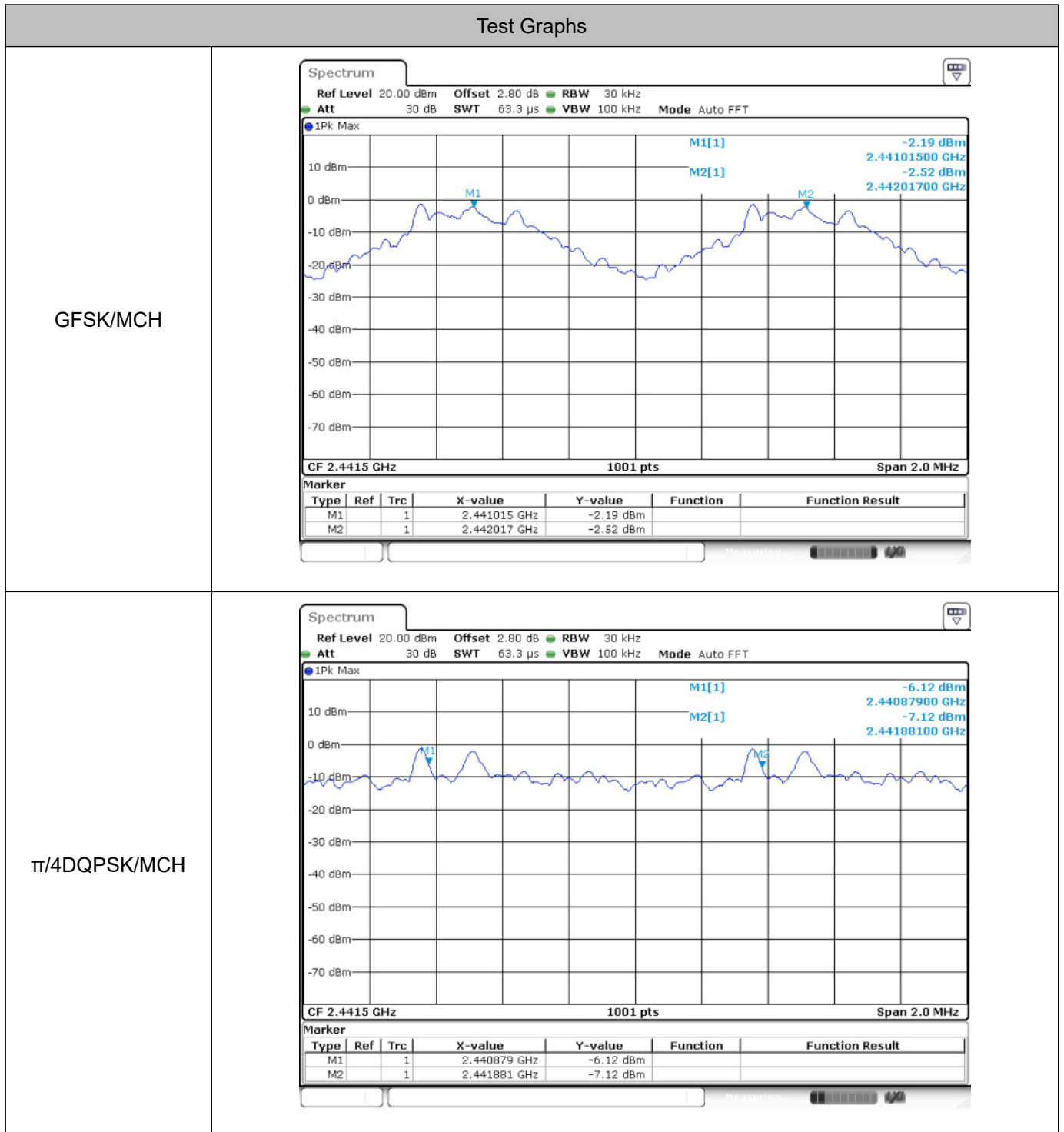
4 Carrier Frequency Separation

4.1 Test Result

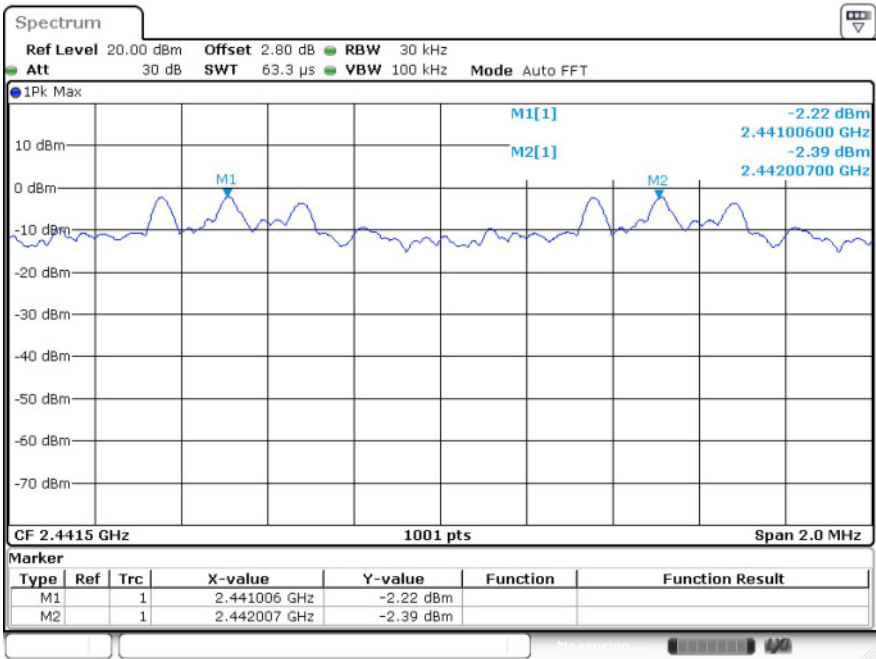
Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1.002	0.618	Pass
$\pi/4$ DQPSK	MCH	1.002	0.831	Pass
8DPSK	MCH	1.001	0.813	Pass

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

4.2 Test Graphs



8DPSK/MCH



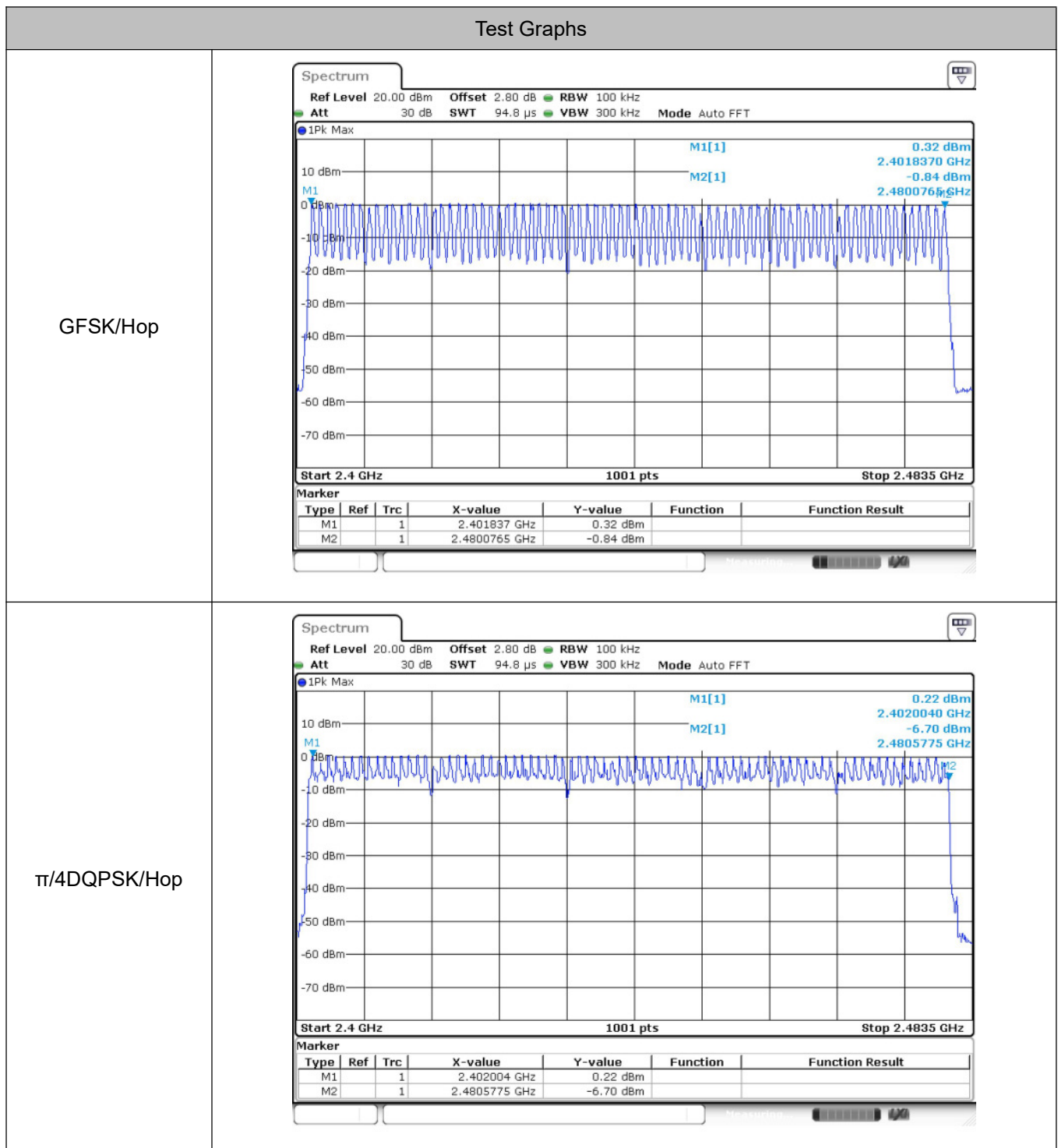
5 Hopping Channel Number

5.1 Test Result

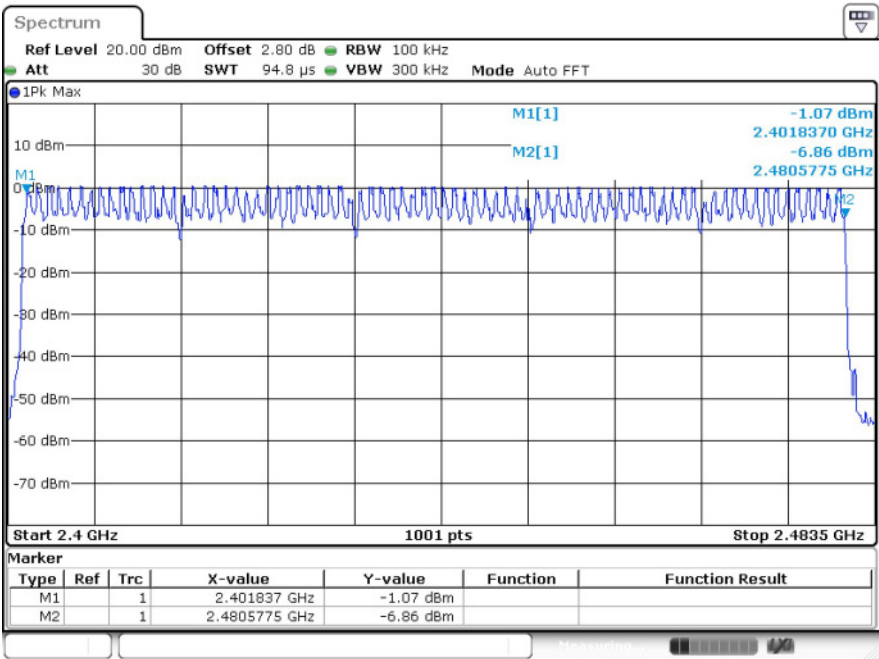
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS
8DPSK	Hop	79	≥ 15	PASS

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

5.2 Test Graphs



8DPSK/Hop



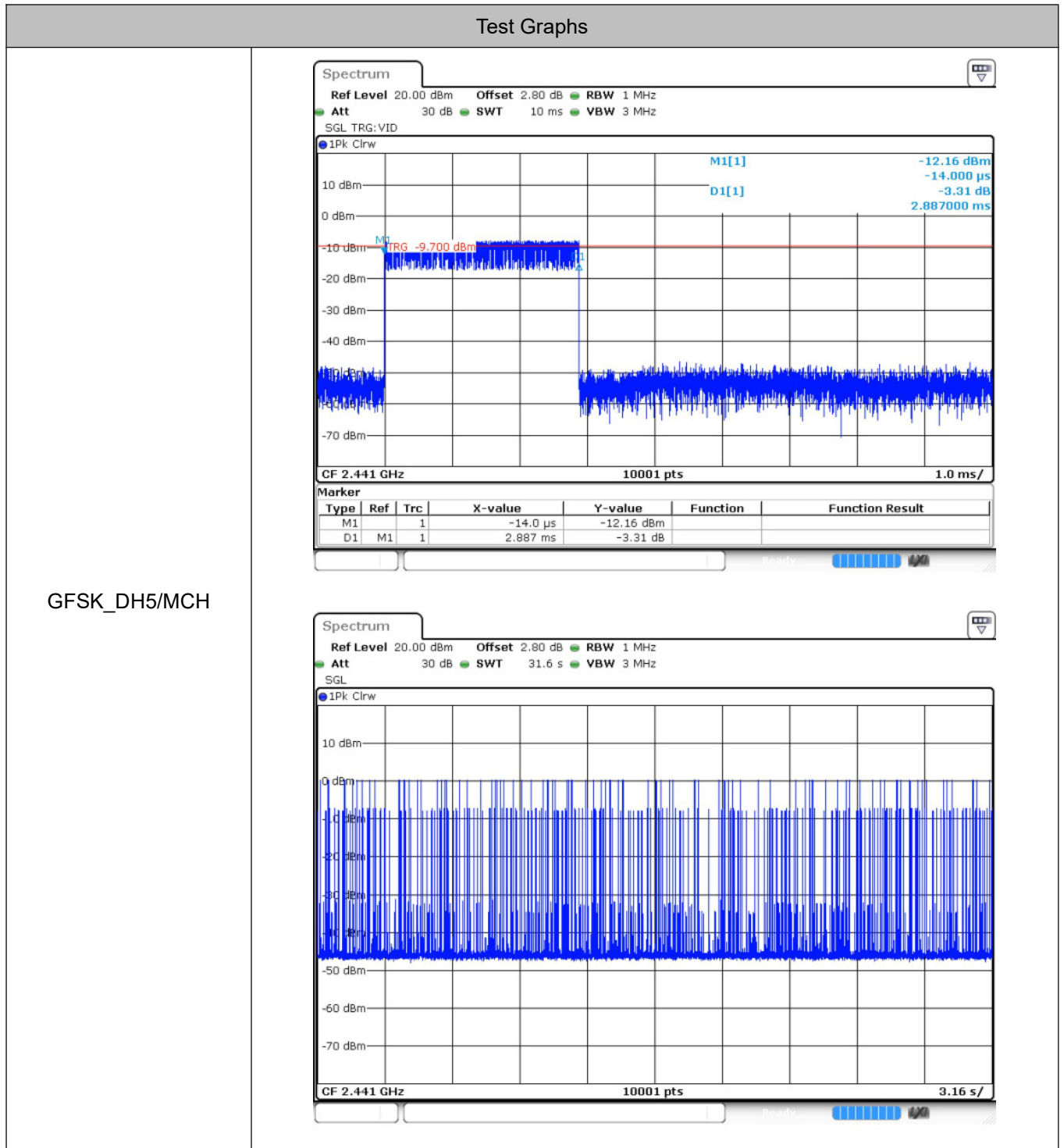
6 Dwell Time

6.1 Test Result

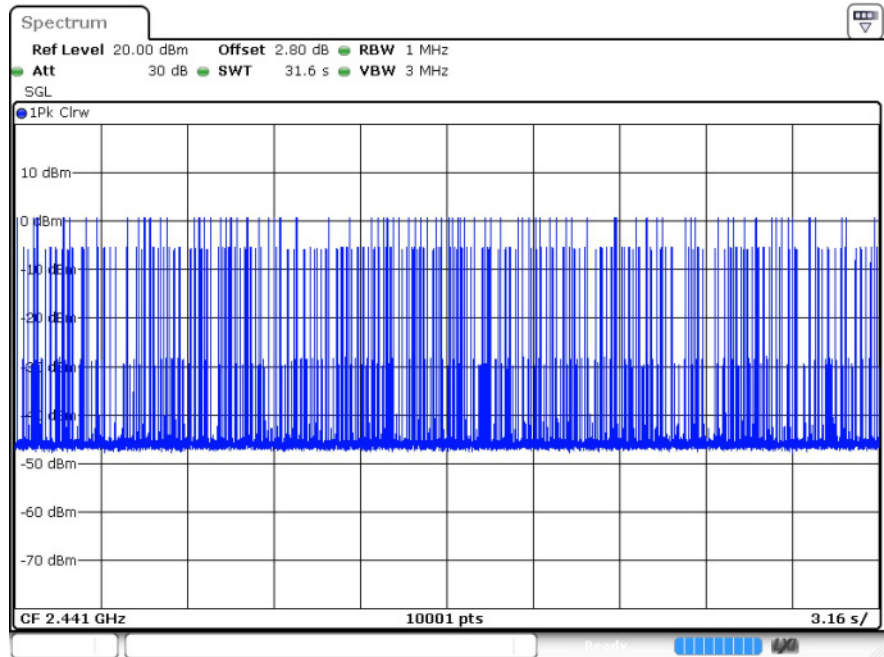
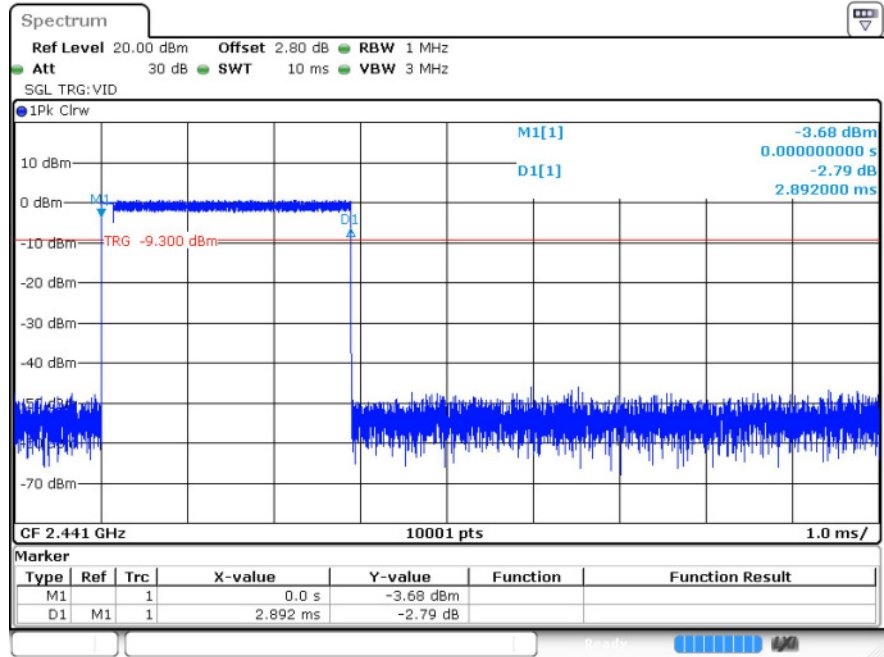
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.887	96	277.152	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.892	95	274.74	0.4	Pass
8DPSK	3DH5	MCH	2.893	110	318.23	0.4	Pass

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

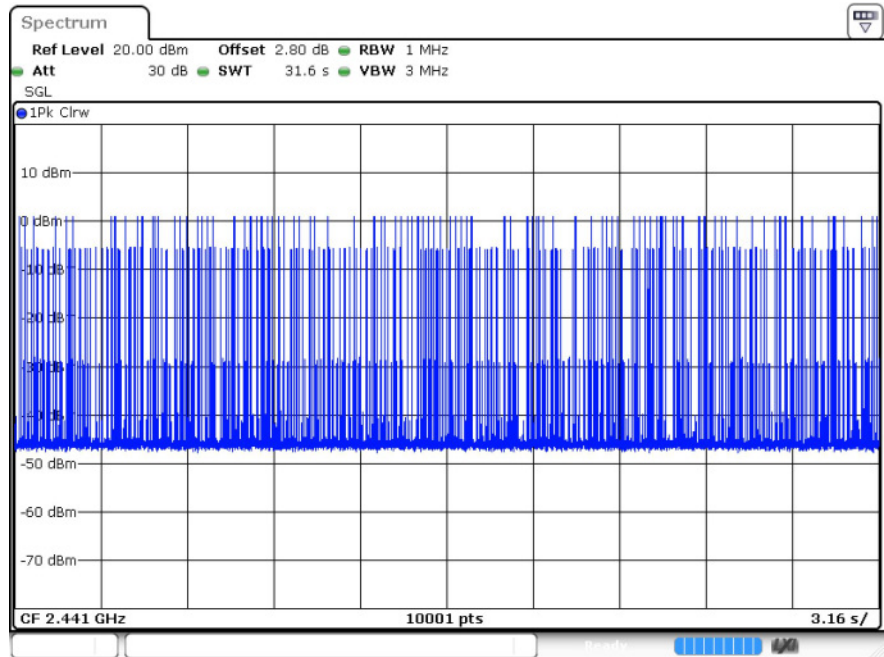
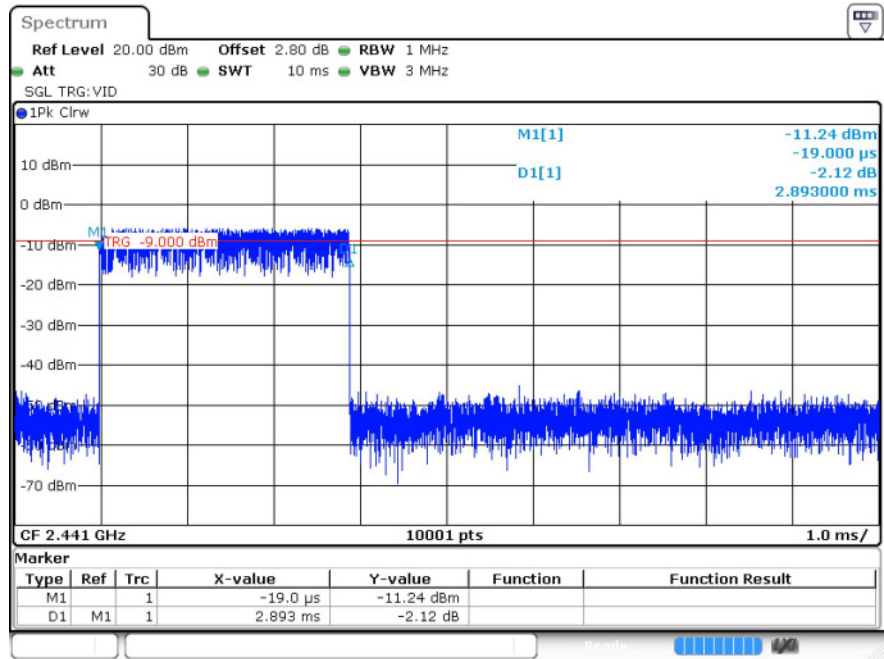
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH



7 RF Conducted Spurious Emissions

7.1 Test Result

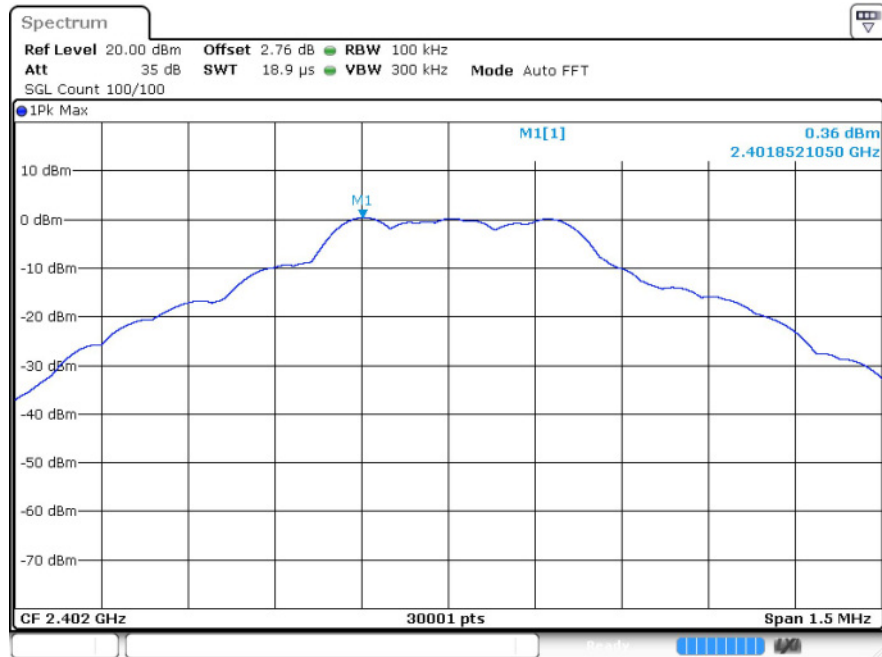
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-41.92	-20	Pass
	MCH	-41.66	-20	Pass
	HCH	-41.14	-20	Pass
π /4DQPSK	LCH	-41.5	-20	Pass
	MCH	-40.16	-20	Pass
	HCH	-39.69	-20	Pass
8DPSK	LCH	-40.66	-20	Pass
	MCH	-41.71	-20	Pass
	HCH	-40.29	-20	Pass

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

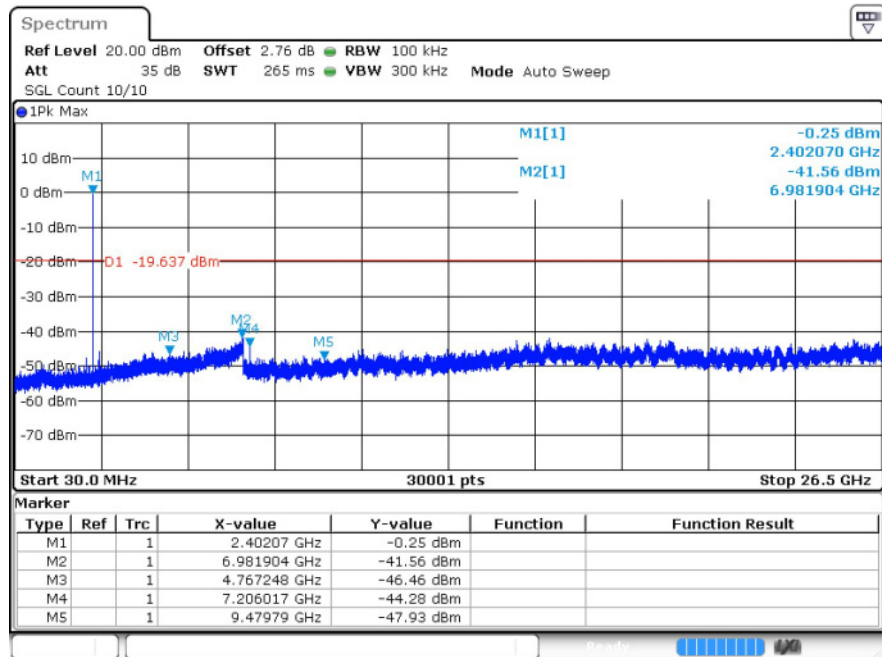
7.2 Test Graphs

GFSK_LCH_Graphs

Pref

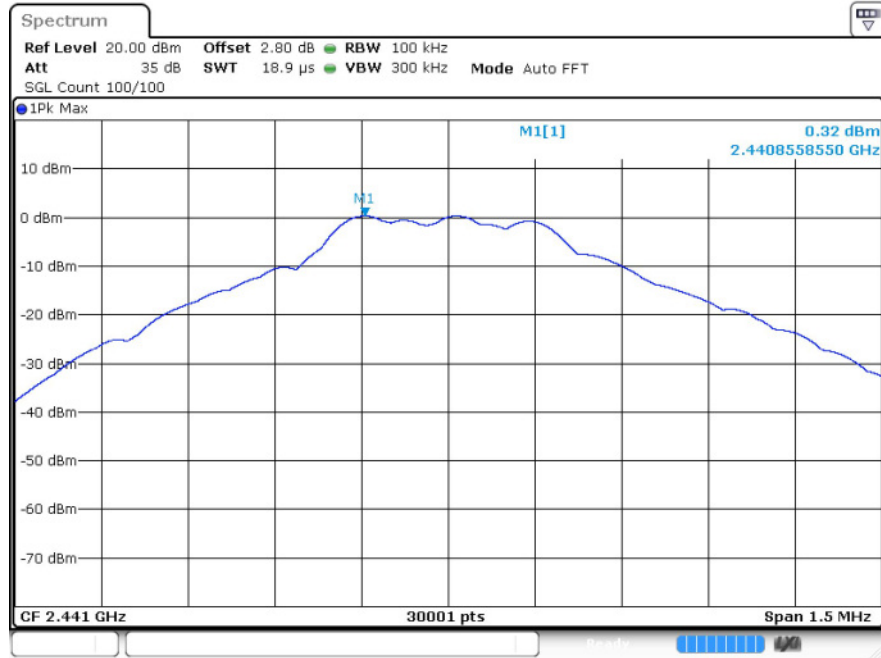


Puw



GFSK_MCH_Graphs

Pref



Puw

