



Appendix A

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

Product Name: Notebook PC

Trade Mark: Emdoor

Test Model: NP14IC-X(IC918)

Environmental Conditions

Temperature:	26℃
Relative Humidity:	55%
ATM Pressure:	101Kpa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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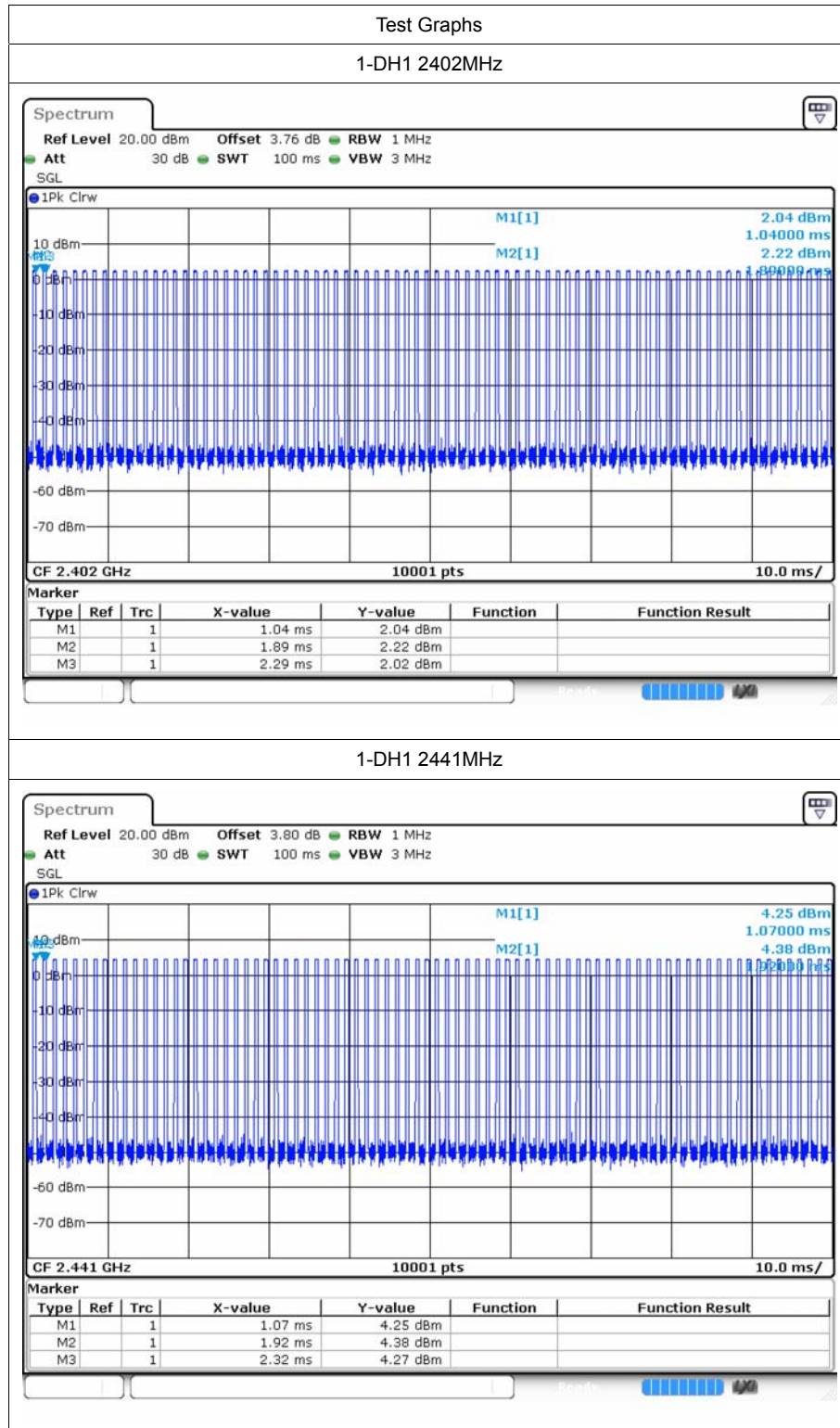
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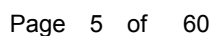
1 Duty Cycle

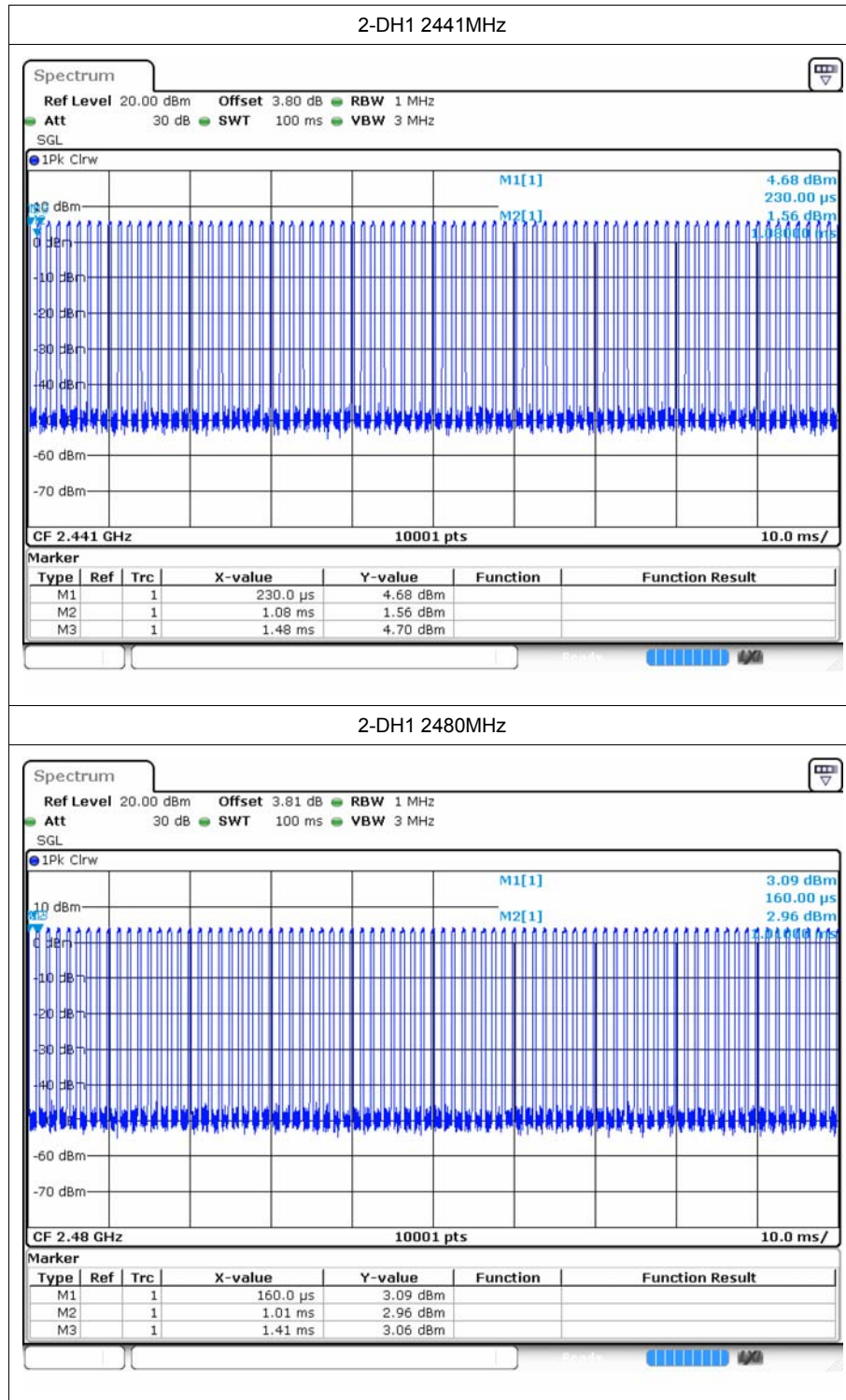
1.1 Test Result

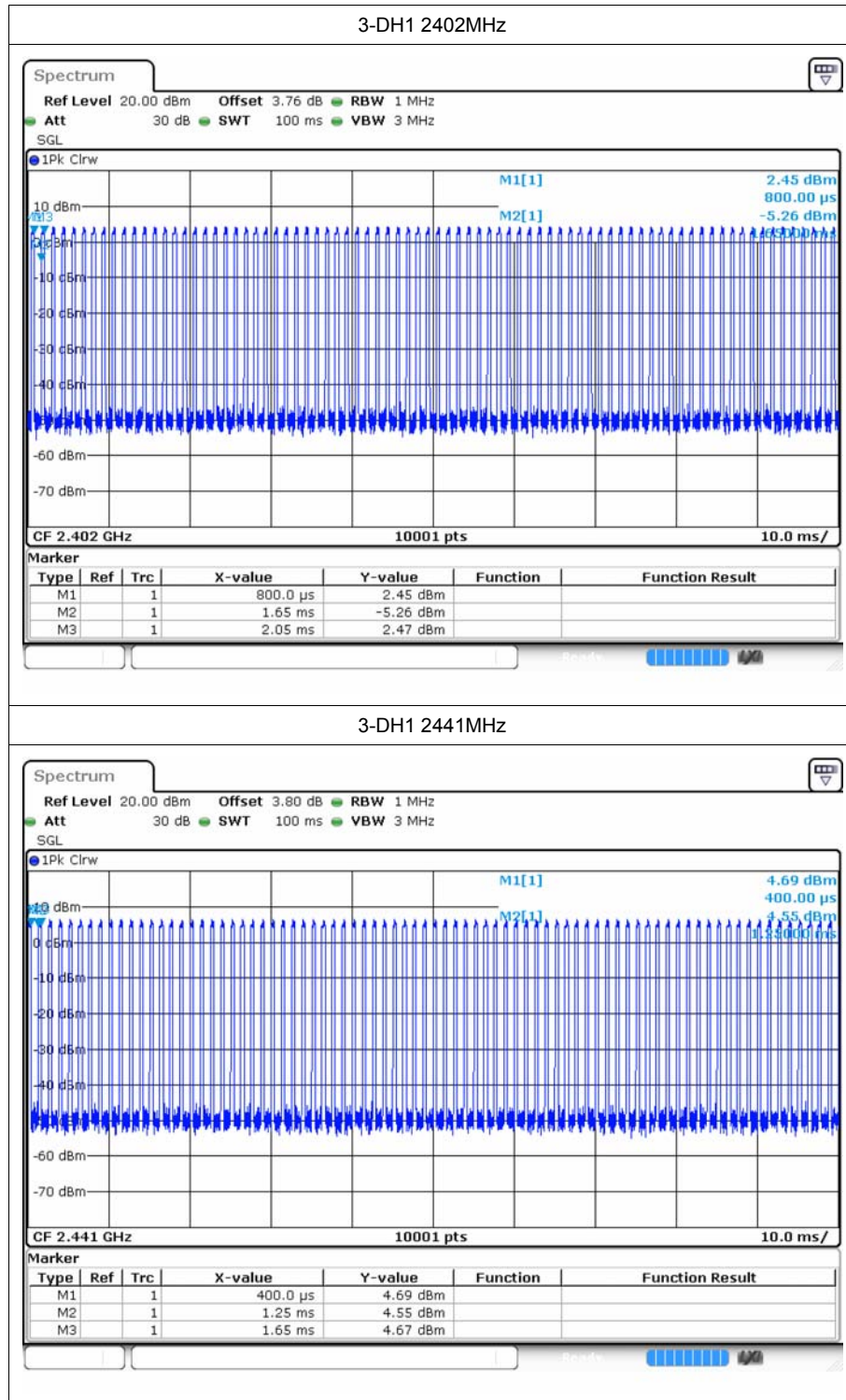
Mode	Frequency (MHz)	Duty Cycle (%)	1/T (kHz)
1-DH1	2402	32.8	2.5
1-DH1	2441	32.8	2.5
1-DH1	2480	32.81	2.5
2-DH1	2402	32.8	2.5
2-DH1	2441	32.81	2.5
2-DH1	2480	32.81	2.5
3-DH1	2402	32.8	2.5
3-DH1	2441	32.81	2.5
3-DH1	2480	32.81	2.5

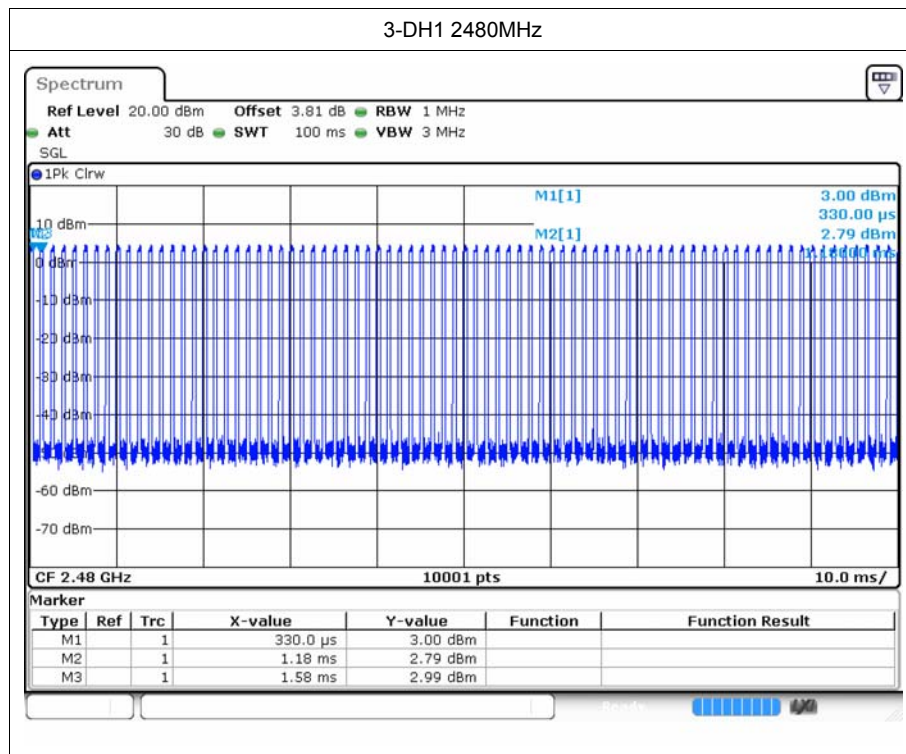
1.2 Test Graphs









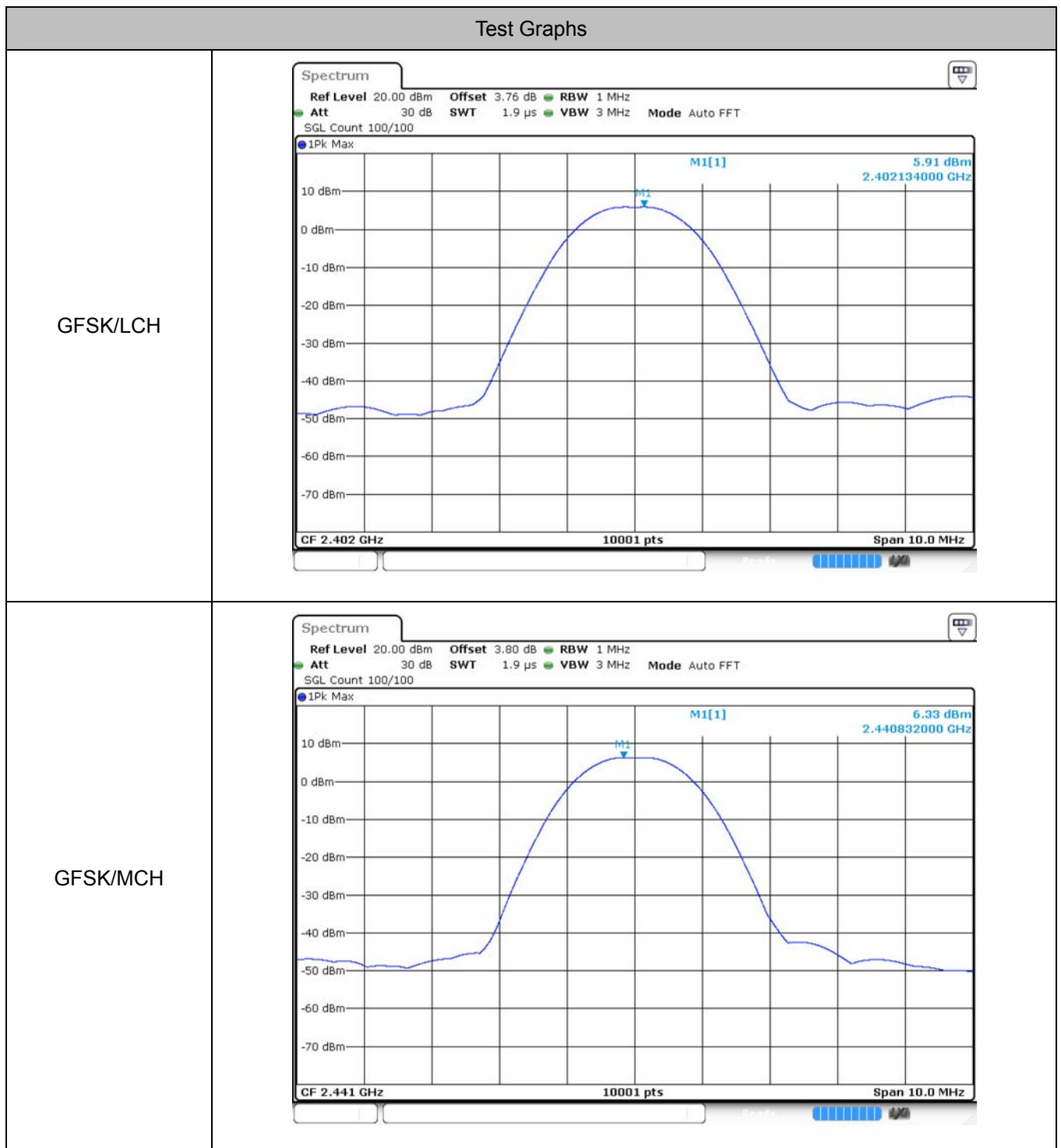


2 Maximum Conducted Peak Output Power

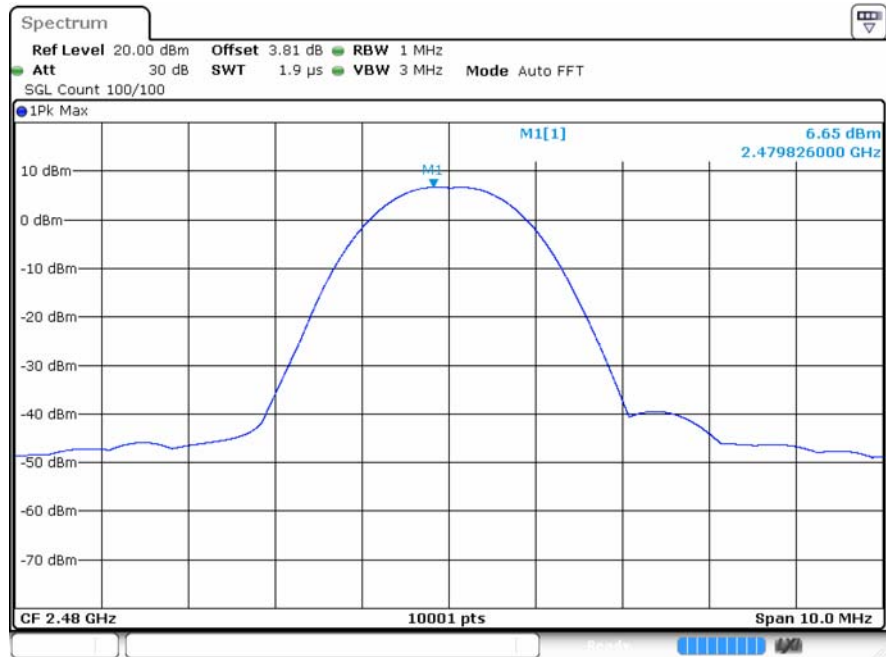
2.1 Test Result

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	5.91	21	Pass
	MCH	6.33	21	Pass
	HCH	6.65	21	Pass
$\pi/4$ DQPSK	LCH	5.31	21	Pass
	MCH	5.07	21	Pass
	HCH	5.01	21	Pass
8DPSK	LCH	5.68	21	Pass
	MCH	5.36	21	Pass
	HCH	4.99	21	Pass

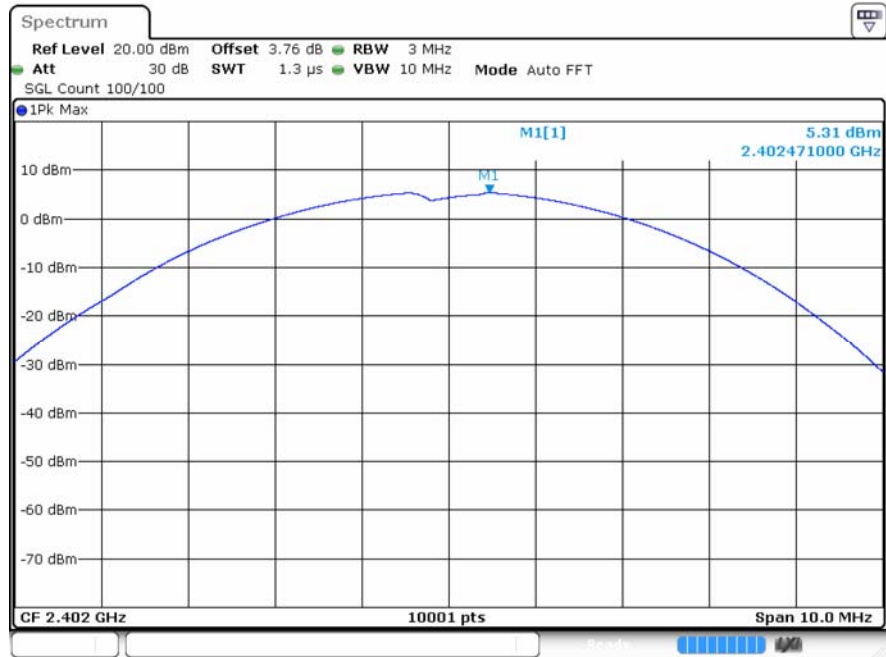
2.2 Test Graphs



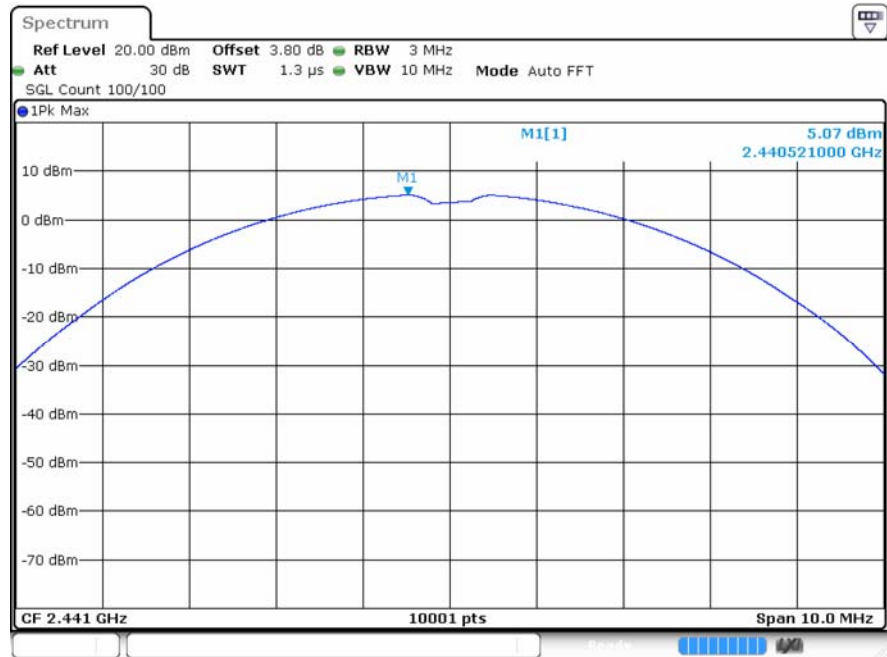
GFSK/HCH



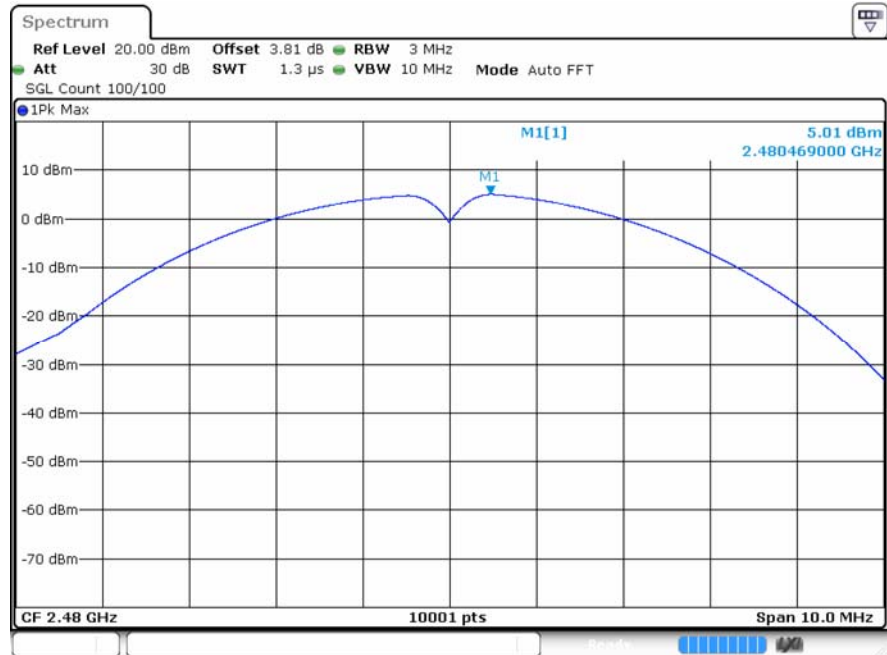
$\pi/4$ DQPSK/LCH



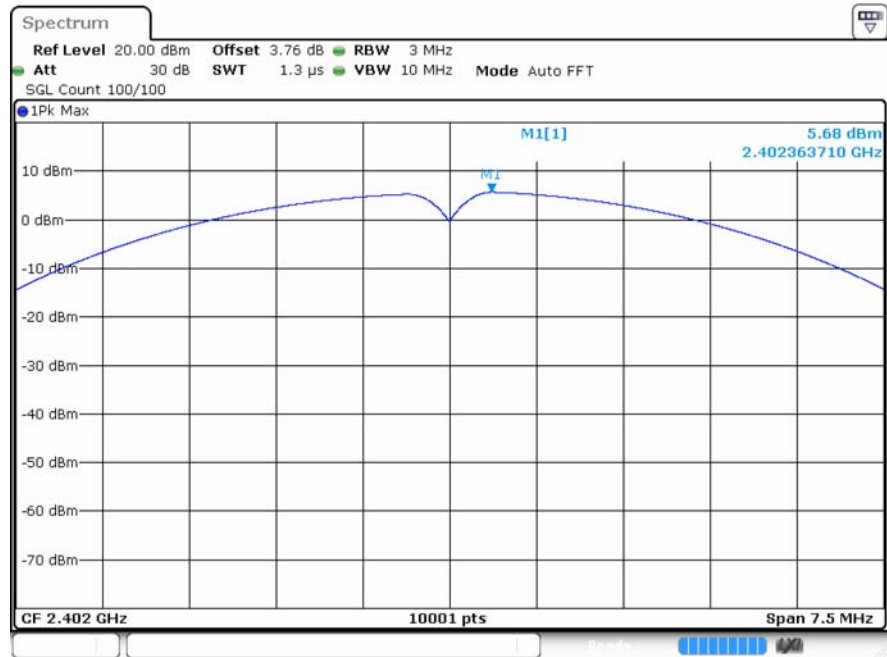
$\pi/4$ DQPSK/MCH



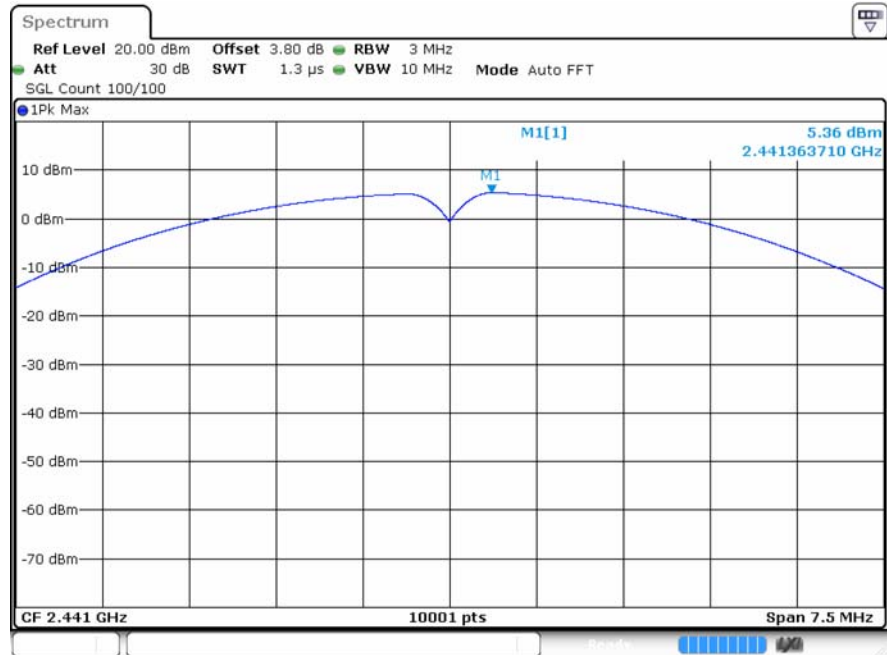
$\pi/4$ DQPSK/HCH



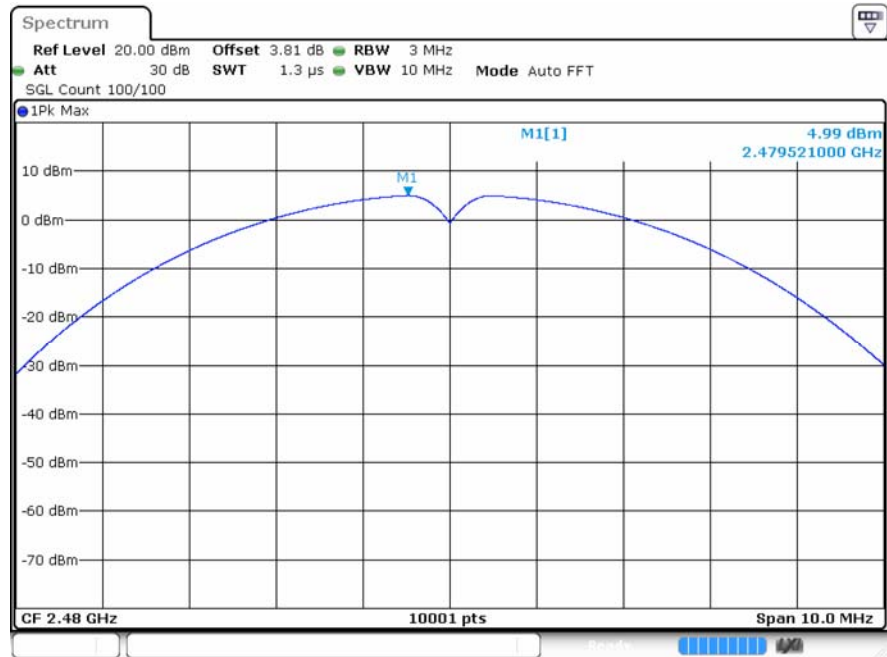
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

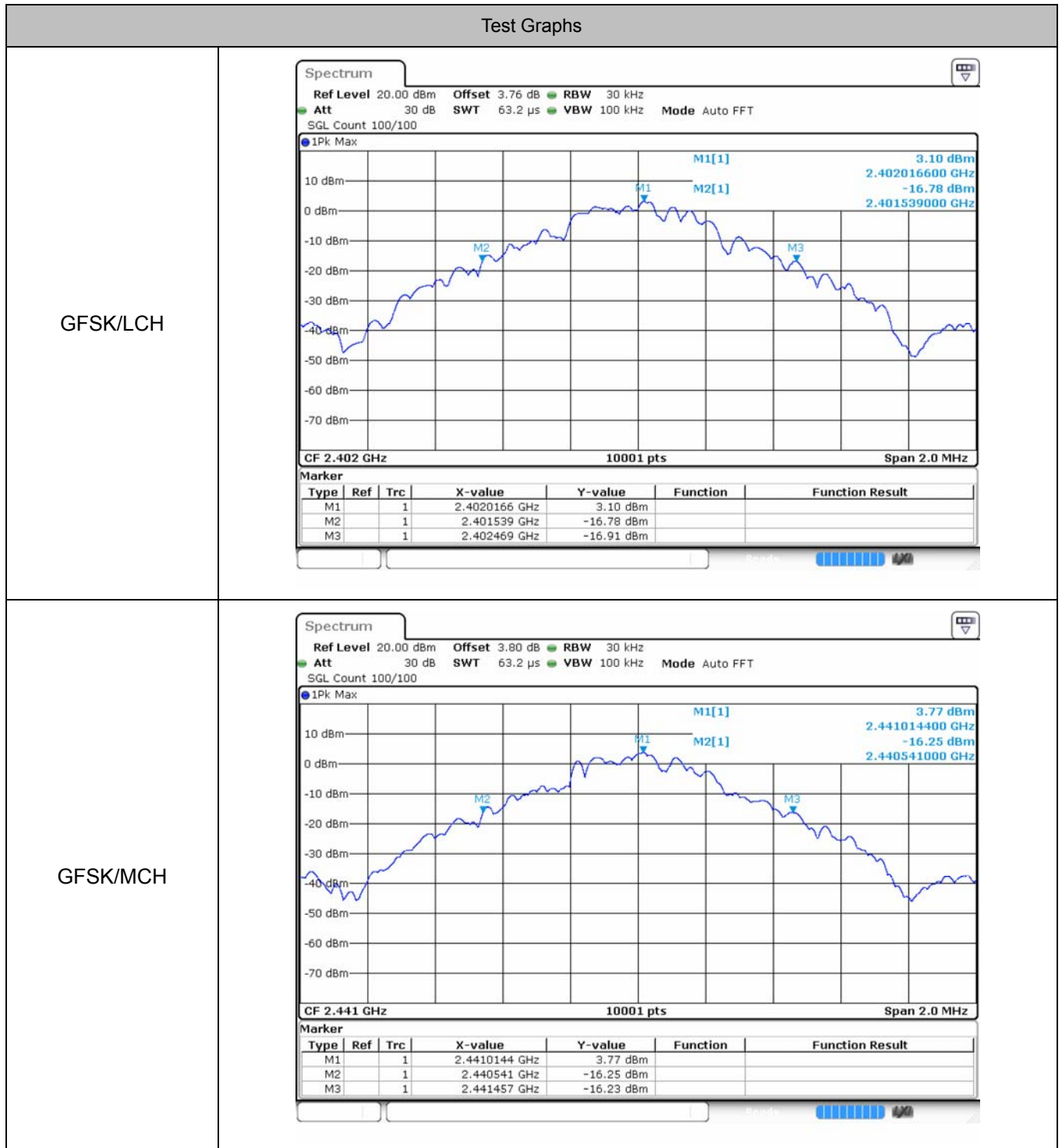


3 20dB Bandwidth

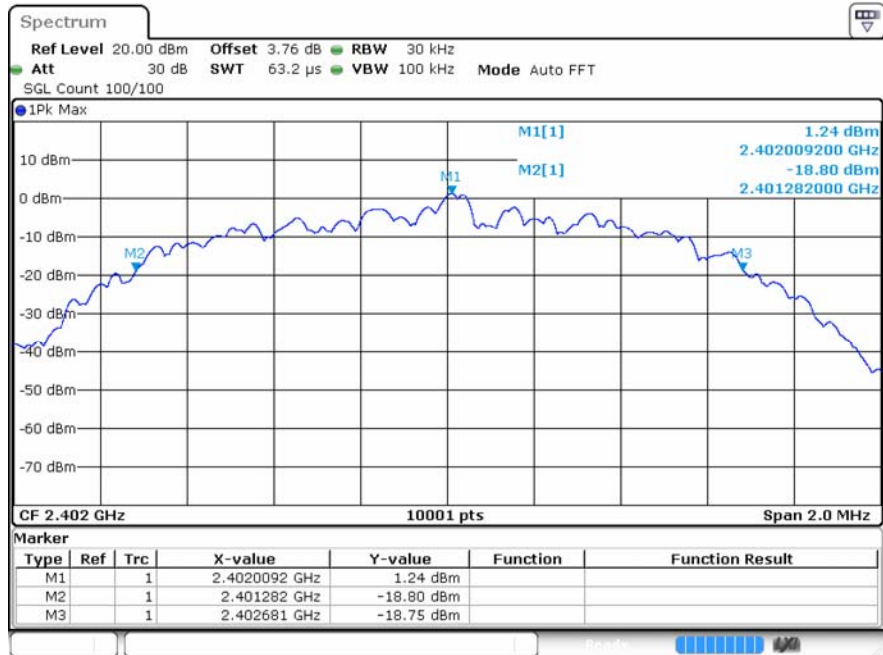
3.1 Test Result

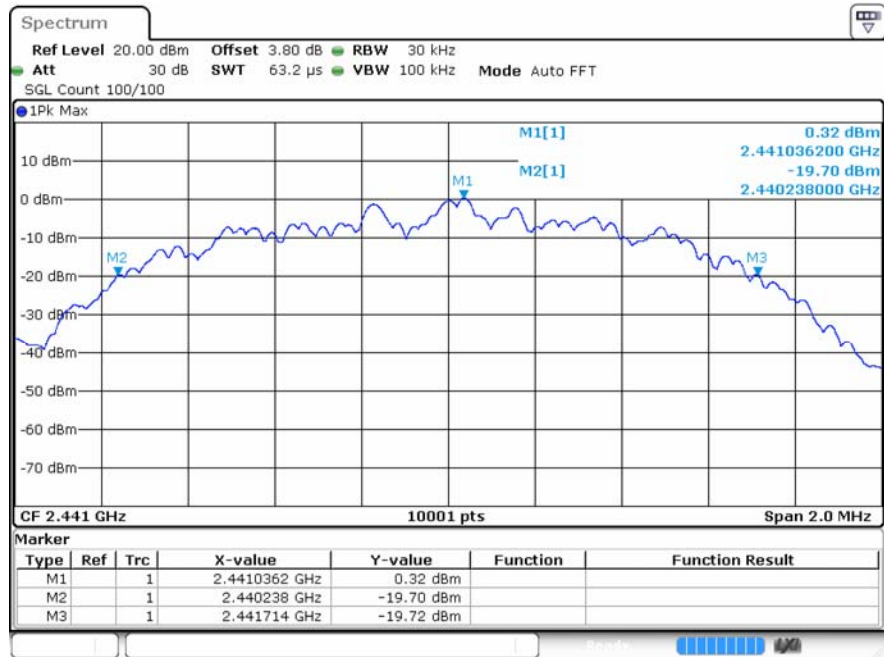
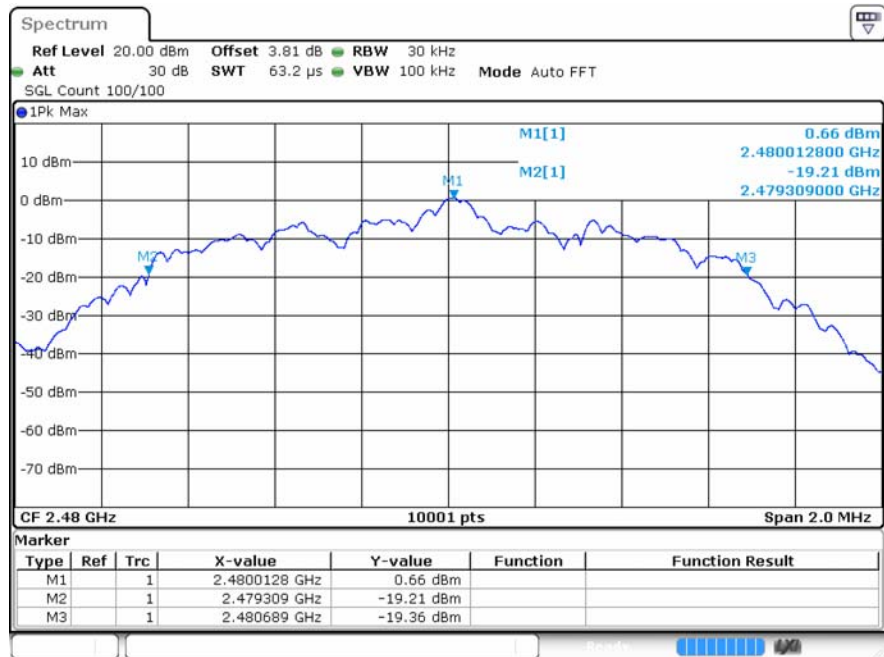
Mode	Channel.	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.93	Not Specified	Pass
	MCH	0.916	Not Specified	Pass
	HCH	0.883	Not Specified	Pass
$\pi/4$ DQPSK	LCH	1.399	Not Specified	Pass
	MCH	1.475	Not Specified	Pass
	HCH	1.38	Not Specified	Pass
8DPSK	LCH	1.439	Not Specified	Pass
	MCH	1.451	Not Specified	Pass
	HCH	1.429	Not Specified	Pass

3.2 Test Graphs

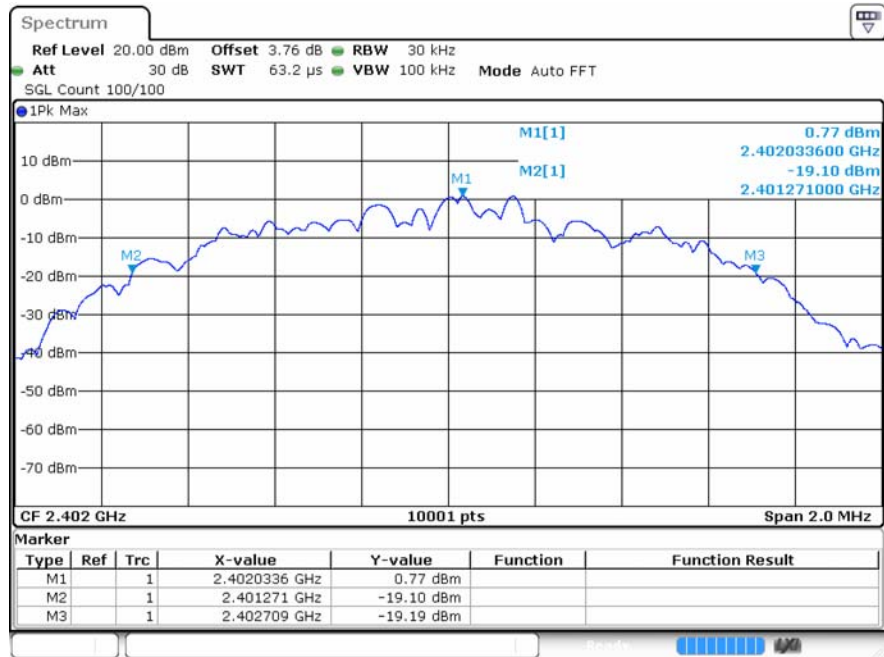


GFSK/HCH

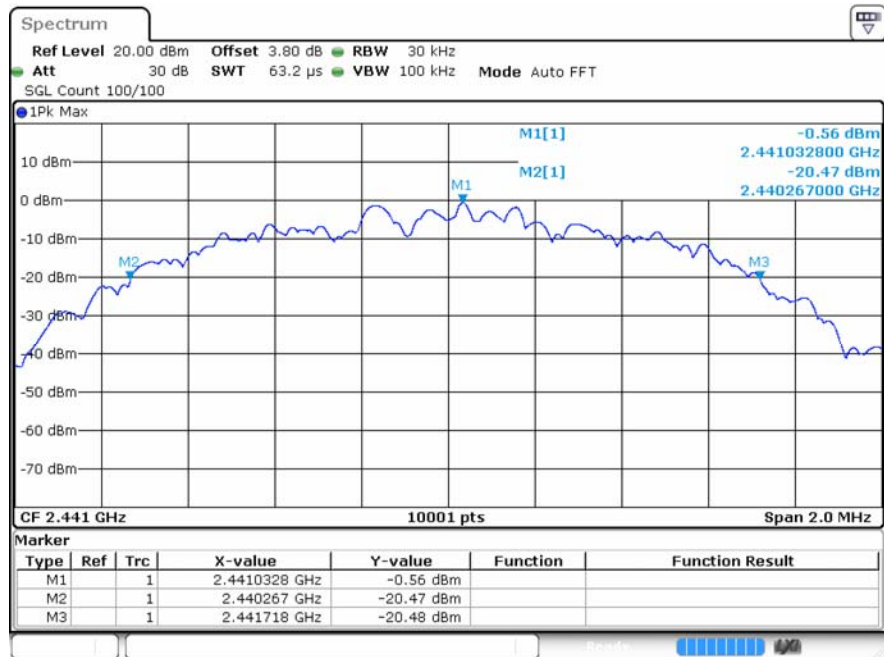

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


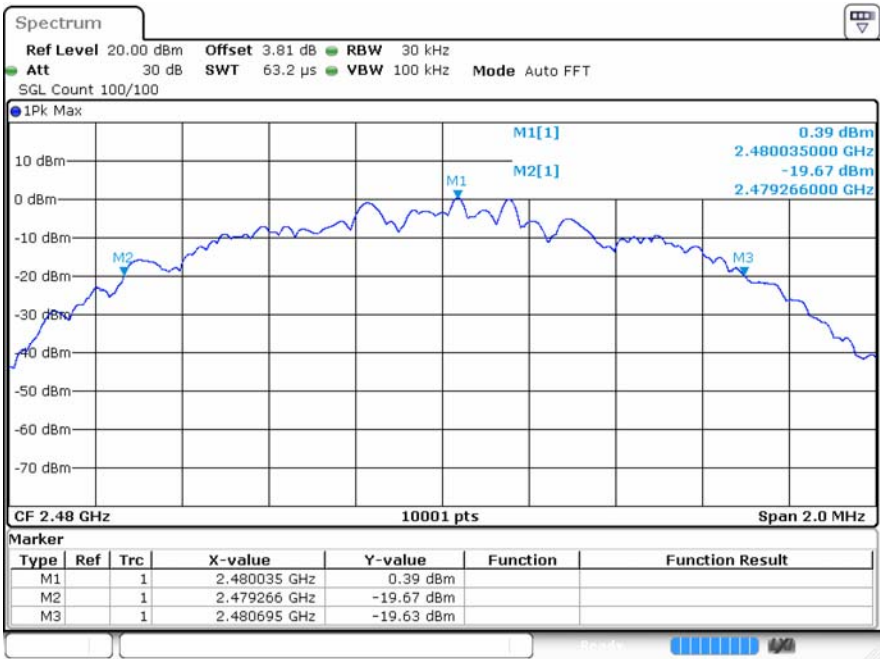
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



4 Carrier Frequency Separation

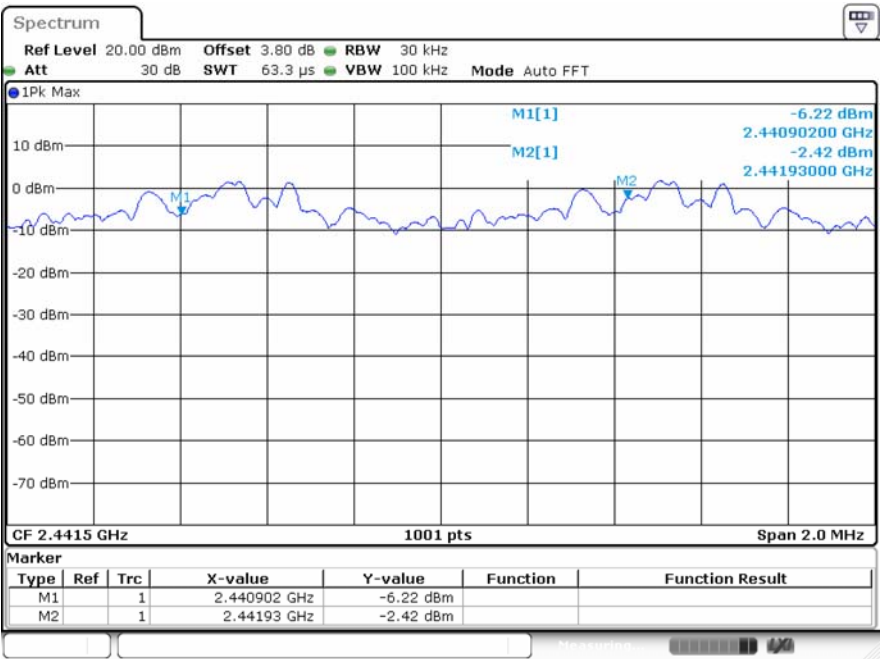
4.1 Test Result

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	MCH	1	0.611	Pass
$\pi/4$ DQPSK	MCH	0.997	0.983	Pass
8DPSK	MCH	1.028	0.967	Pass

4.2 Test Graphs



8DPSK/MCH

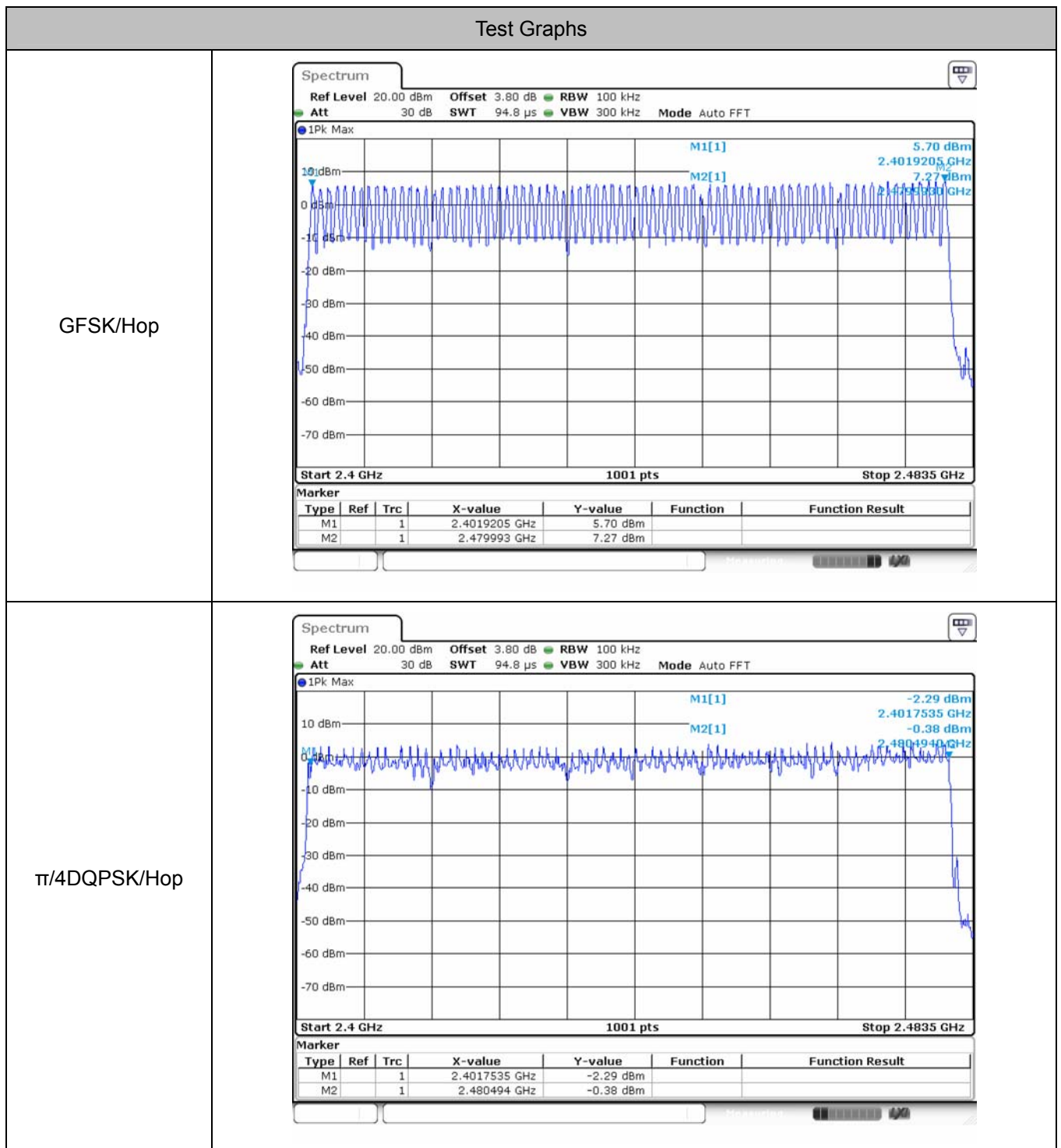


5 Hopping Channel Number

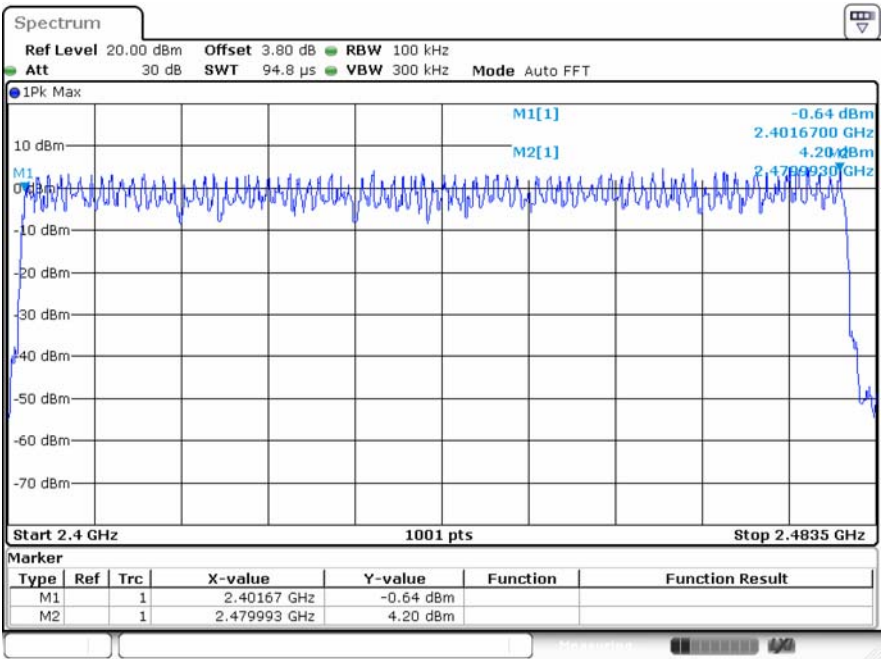
5.1 Test Result

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

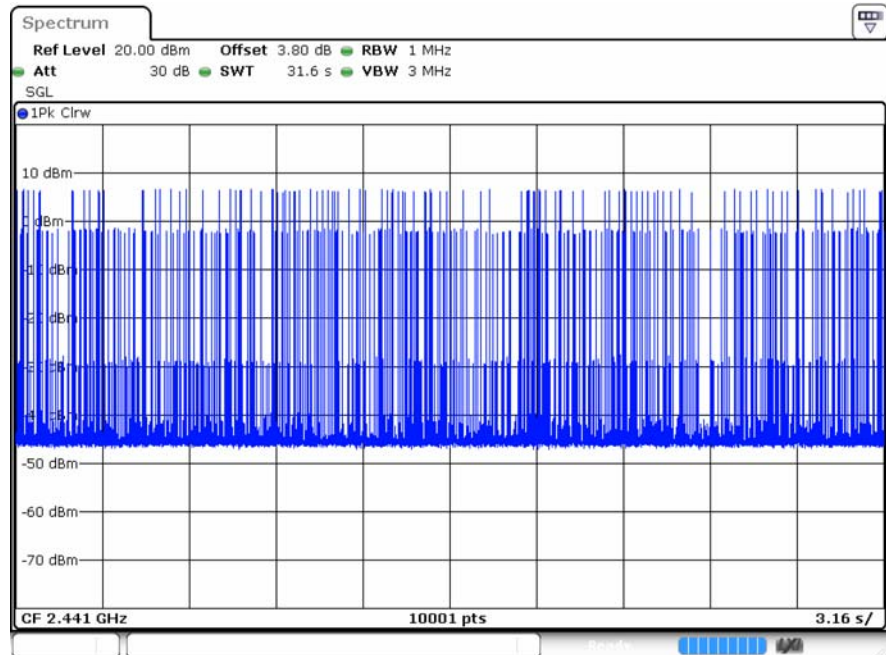
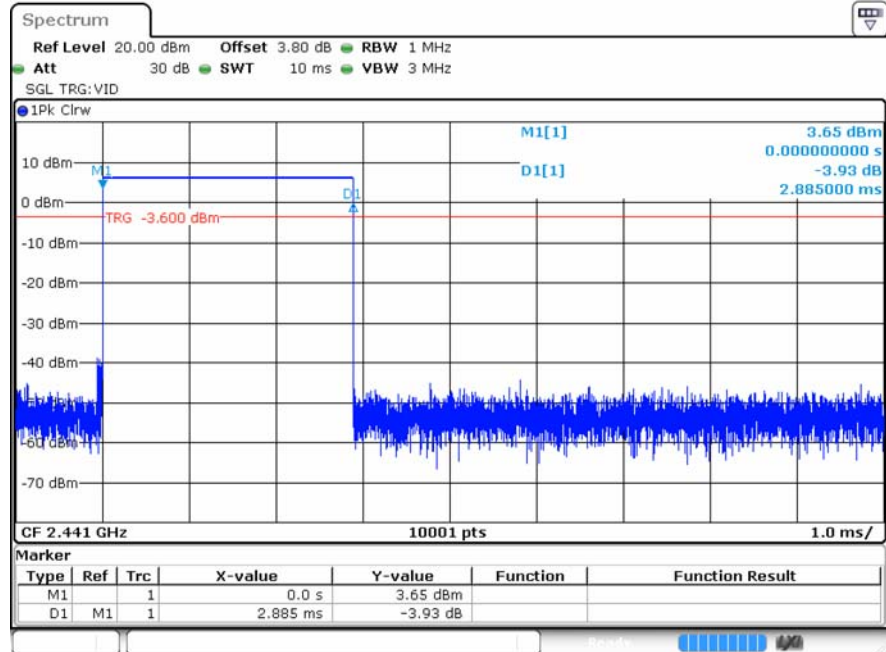
6.1 Test Result

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[ms]	Limit [s]	Verdict
GFSK	DH5	MCH	2.885	111	320.235	0.4	Pass
$\pi/4$ DQPSK	2DH5	MCH	2.889	110	317.79	0.4	Pass
8DPSK	3DH5	MCH	2.891	113	326.683	0.4	Pass

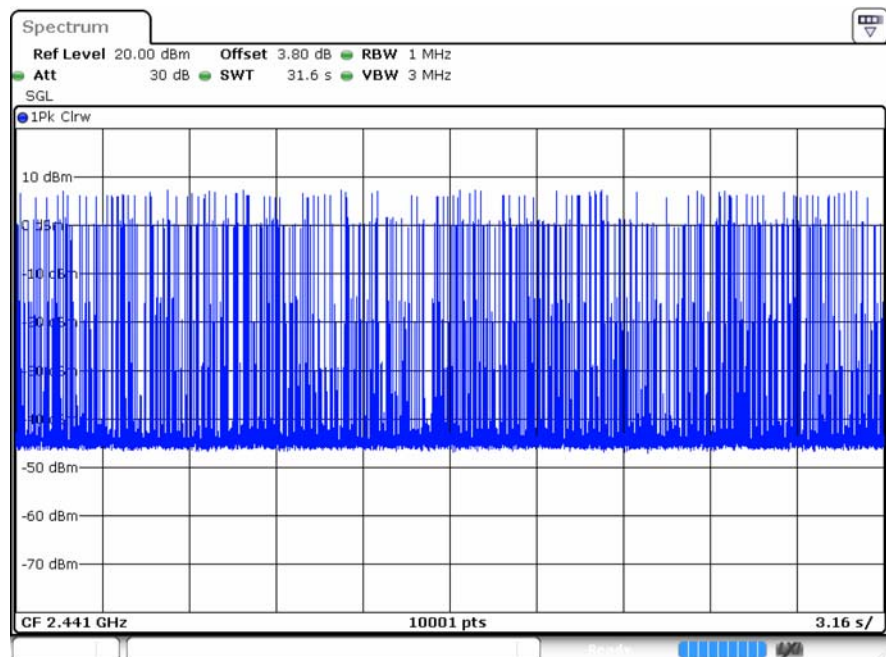
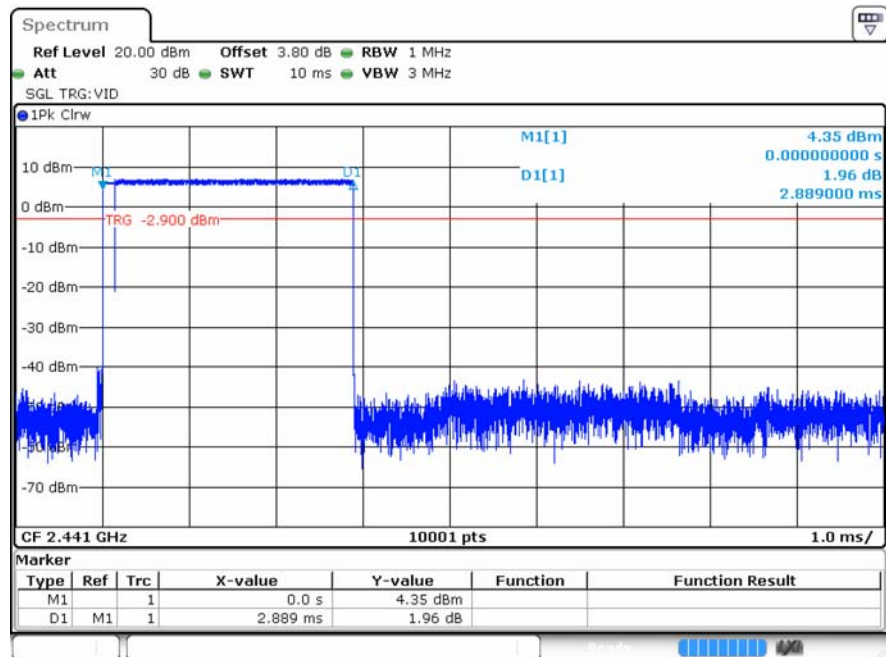
6.2 Test Graphs

Test Graphs

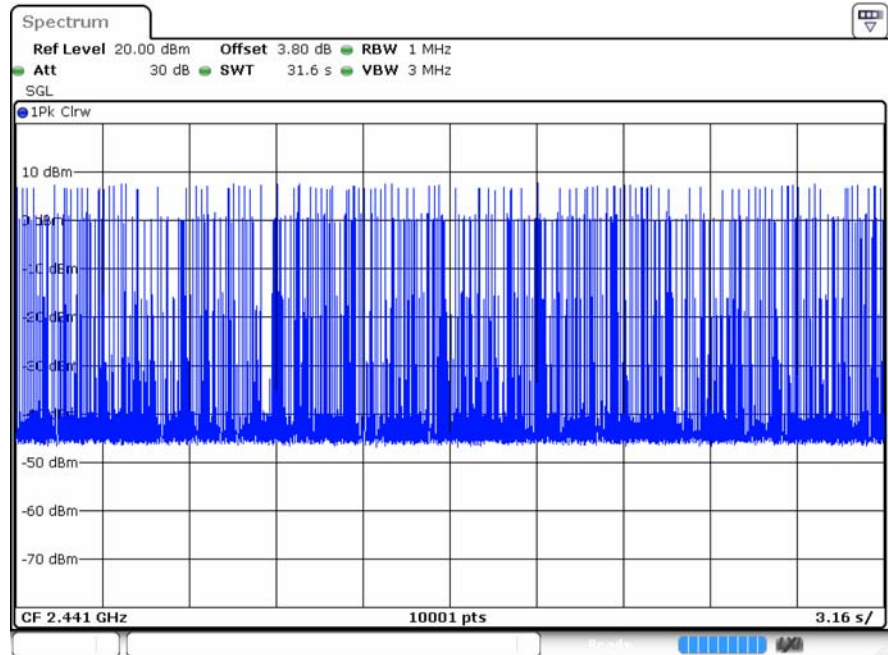
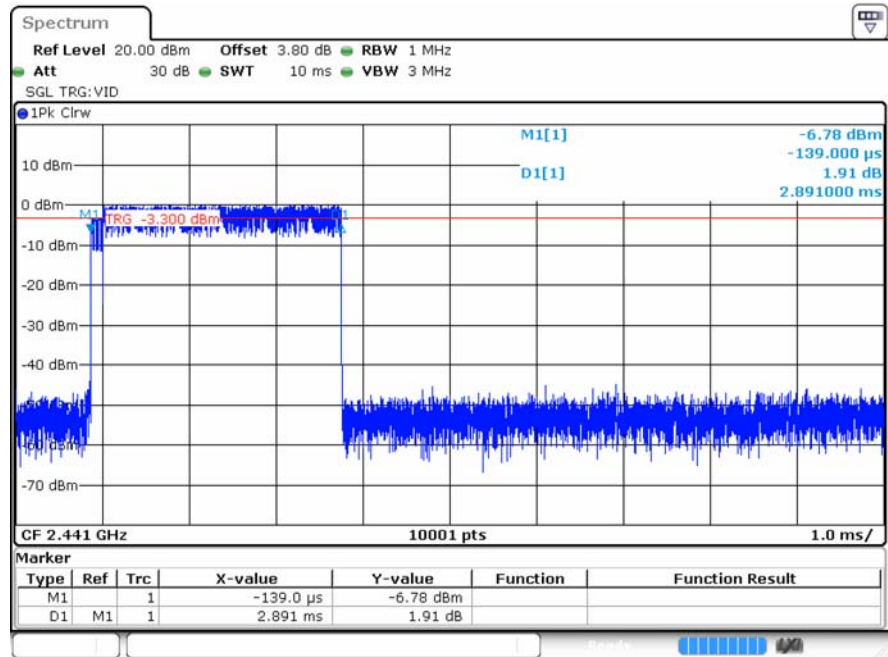
GFSK_DH5/MCH



π/4DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

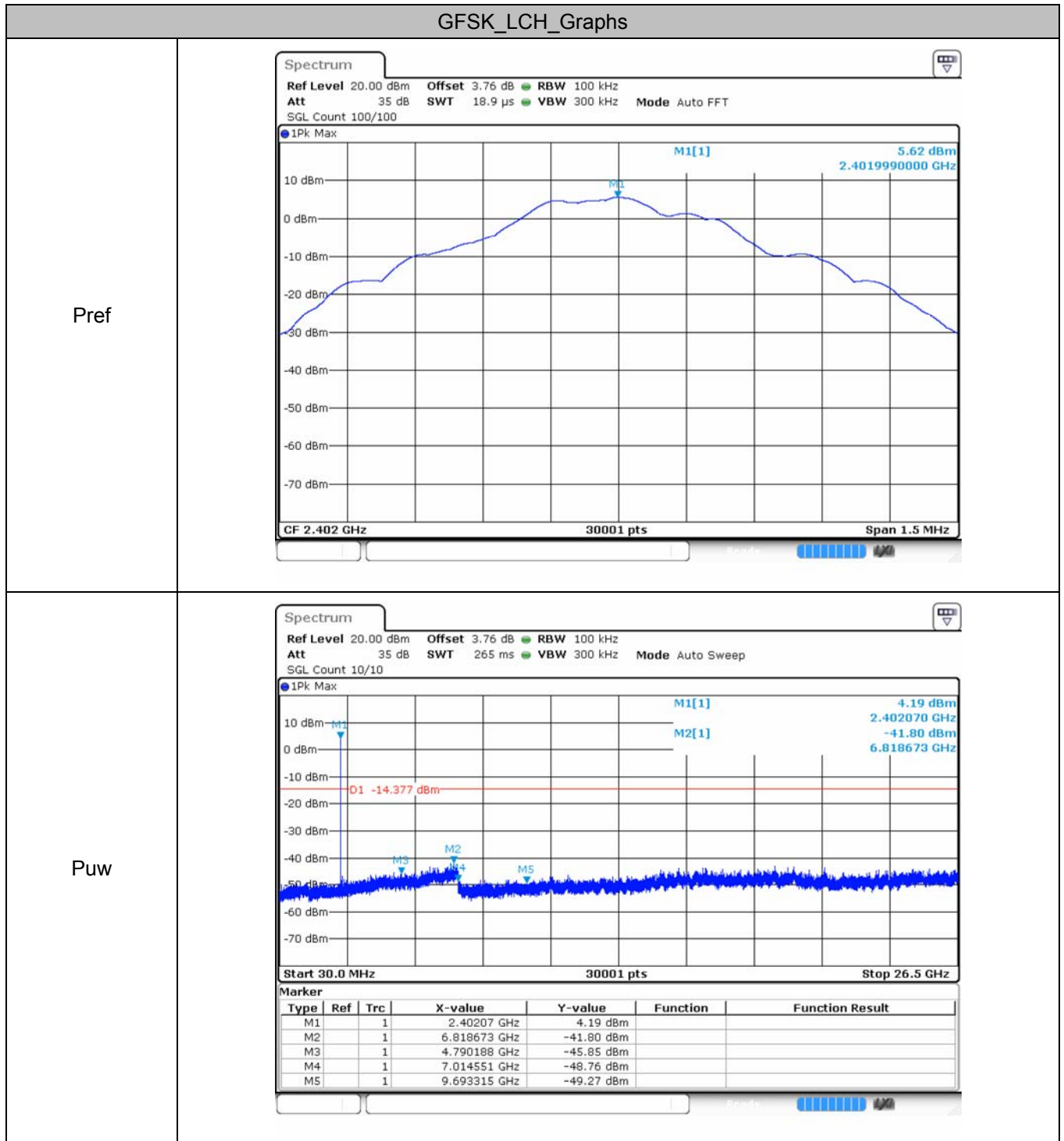


7 RF Conducted Spurious Emissions

7.1 Test Result

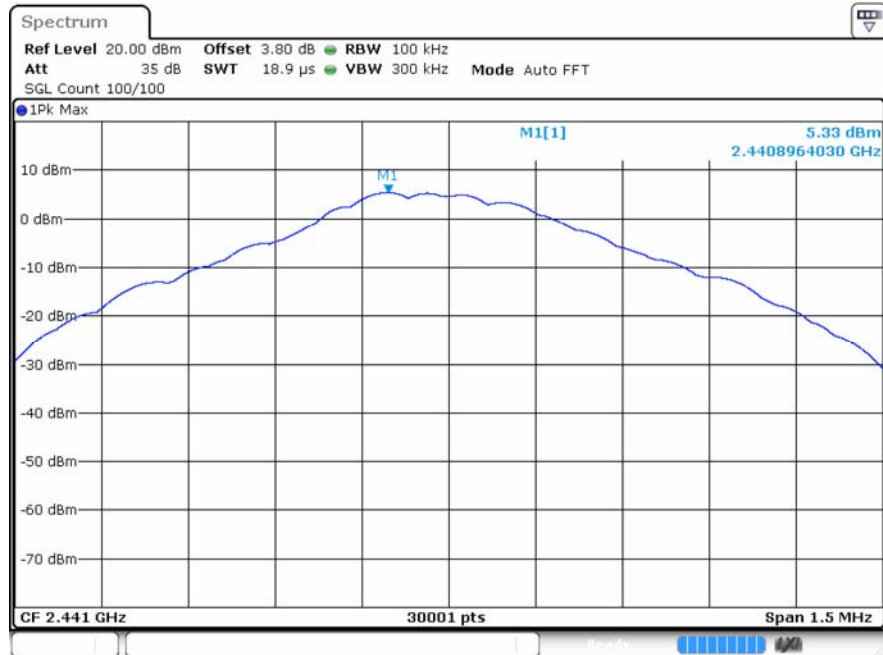
Mode	Channel	Max. Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	-47.42	-20	Pass
	MCH	-48.18	-20	Pass
	HCH	-48.91	-20	Pass
$\pi/4$ DQPSK	LCH	-45.91	-20	Pass
	MCH	-46.42	-20	Pass
	HCH	-44.98	-20	Pass
8DPSK	LCH	-46.11	-20	Pass
	MCH	-46.11	-20	Pass
	HCH	-46.03	-20	Pass

7.2 Test Graphs

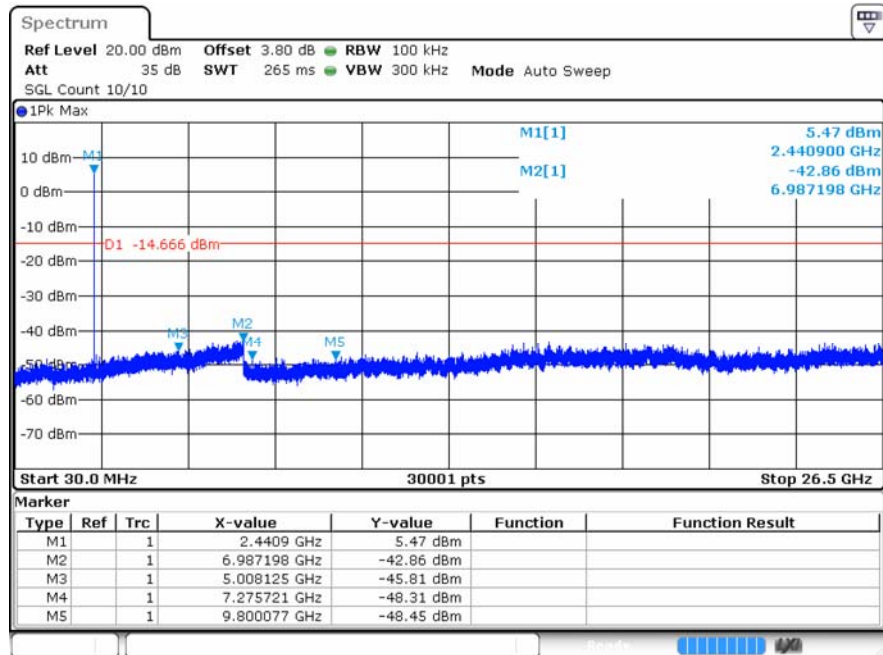


GFSK_MCH_Graphs

Pref

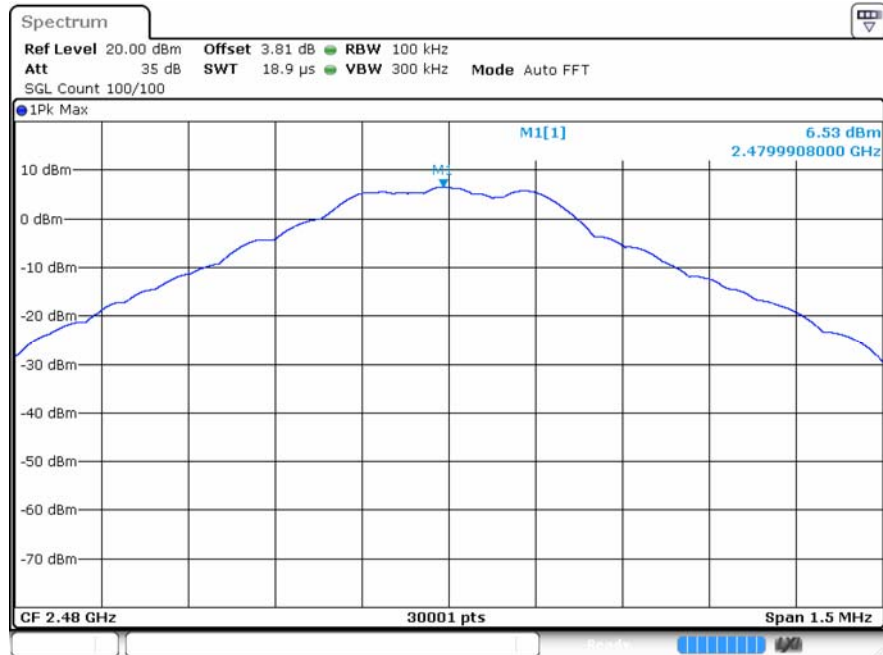


Puw

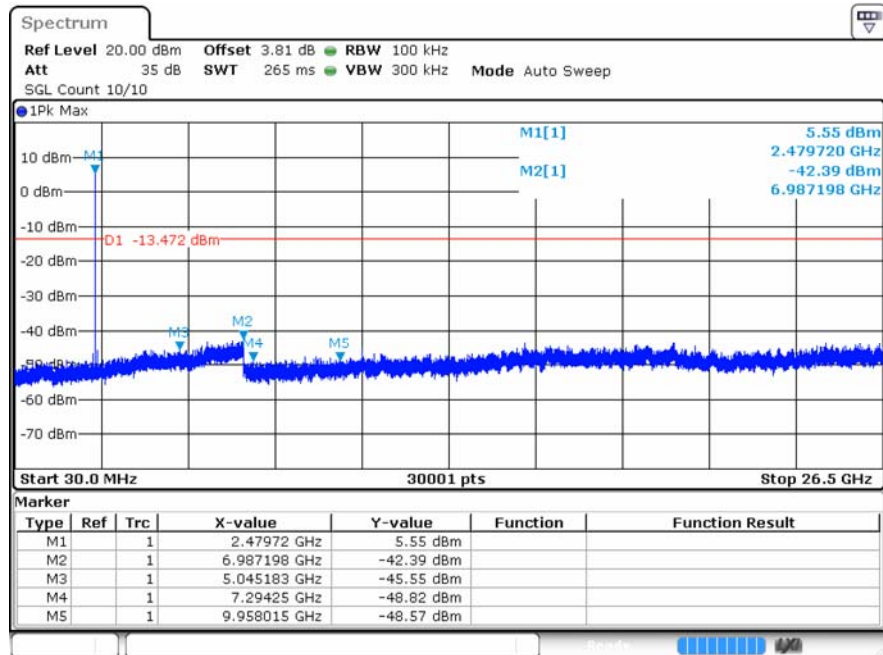


GFSK_HCH_Graphs

Pref

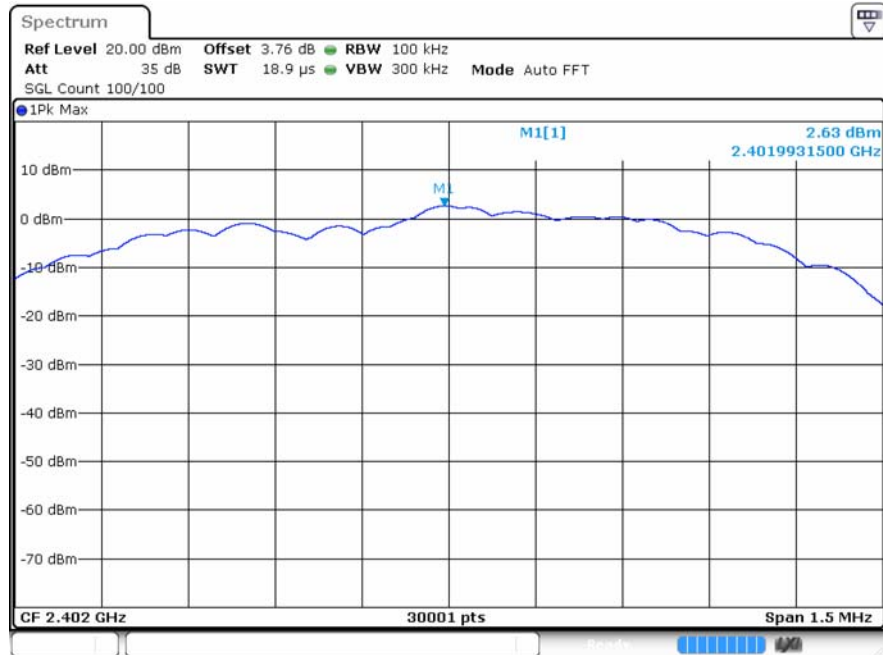


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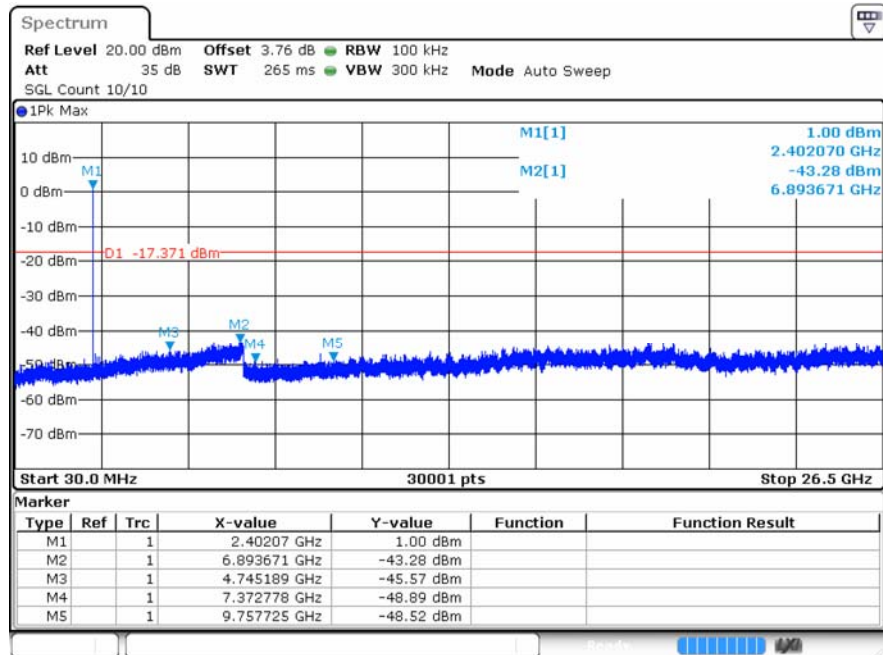


$\pi/4$ DQPSK_LCH_Graphs

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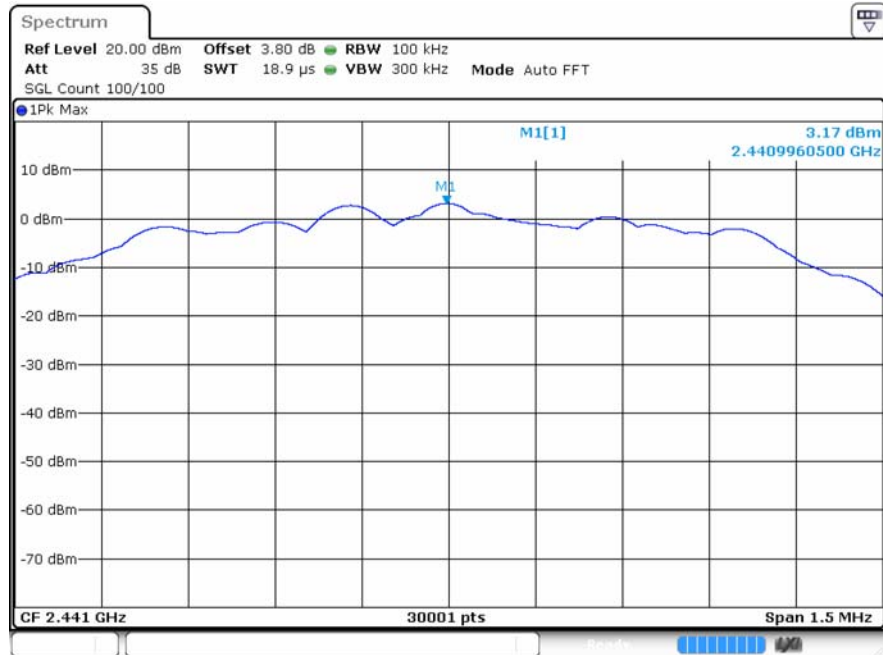


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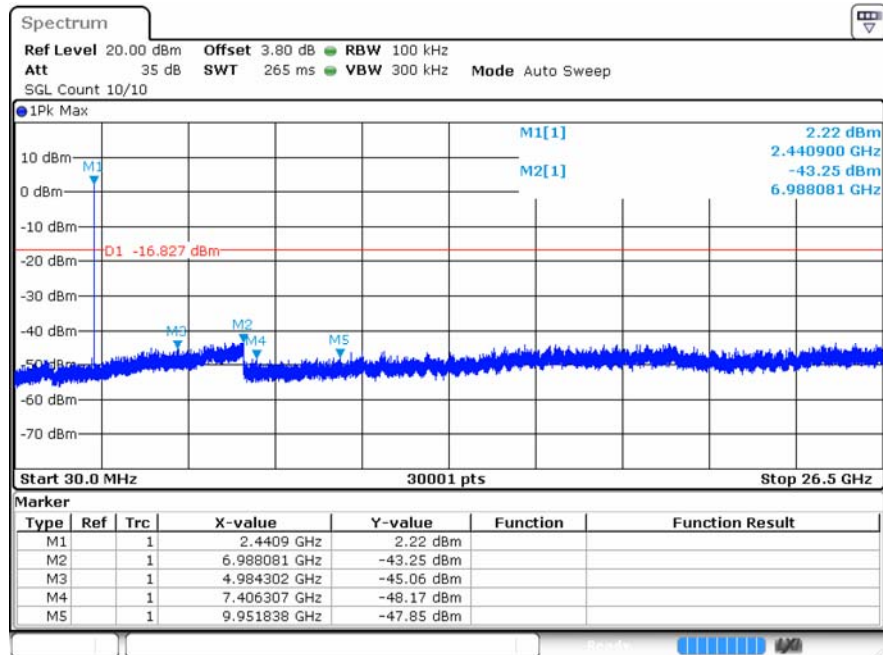


$\pi/4$ DQPSK_MCH_Graphs

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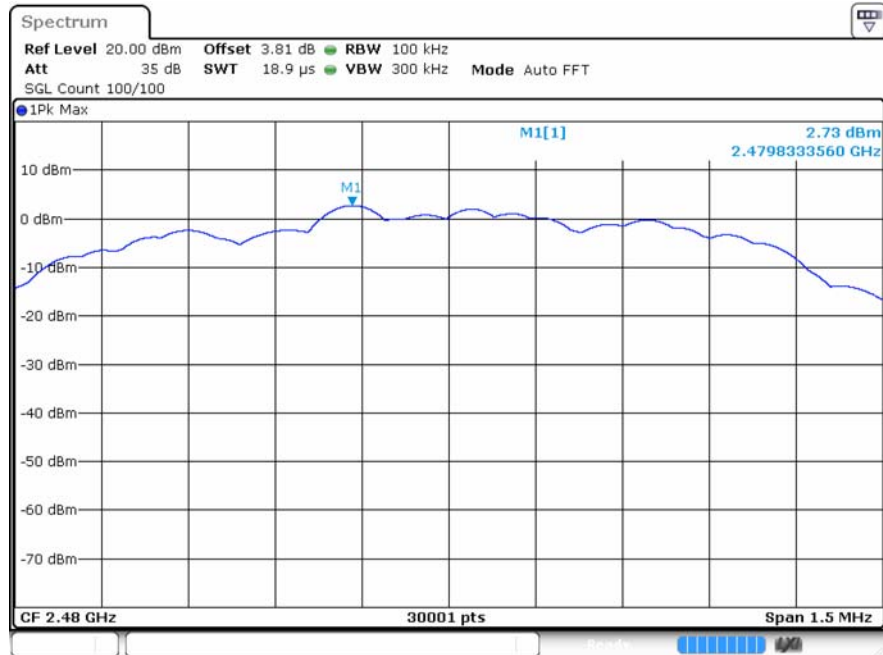


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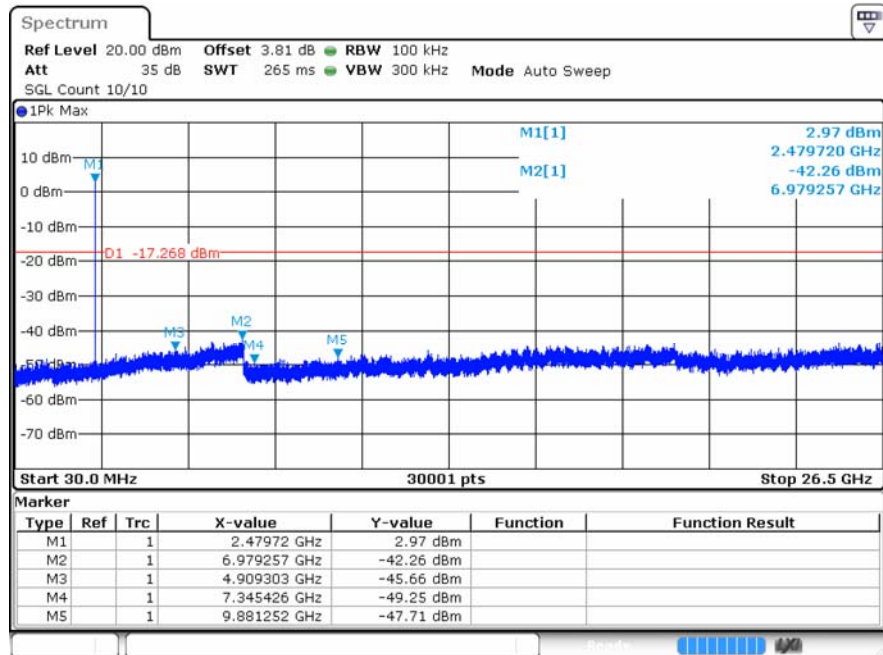


$\pi/4$ DQPSK_HCH_Graphs

Pref

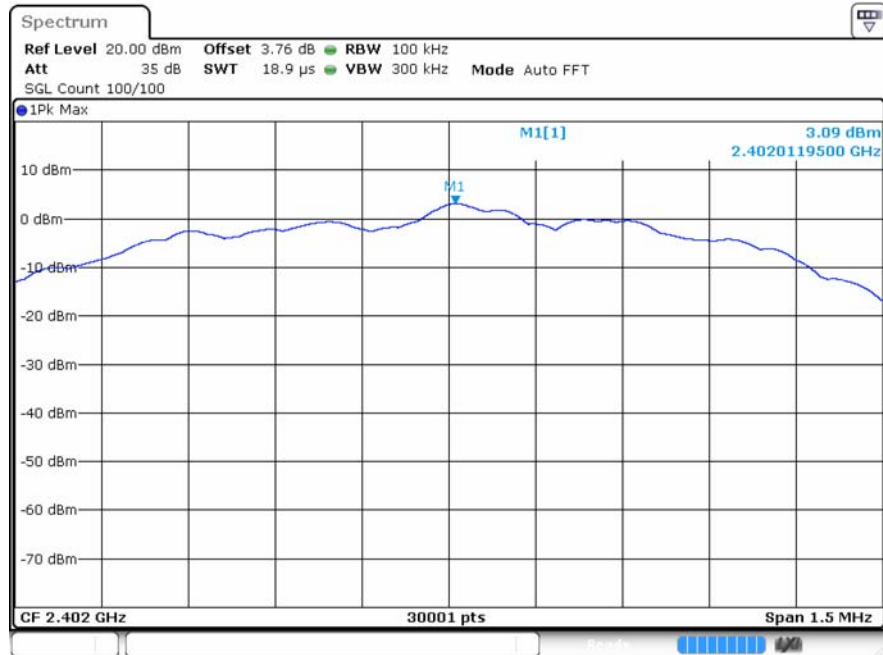


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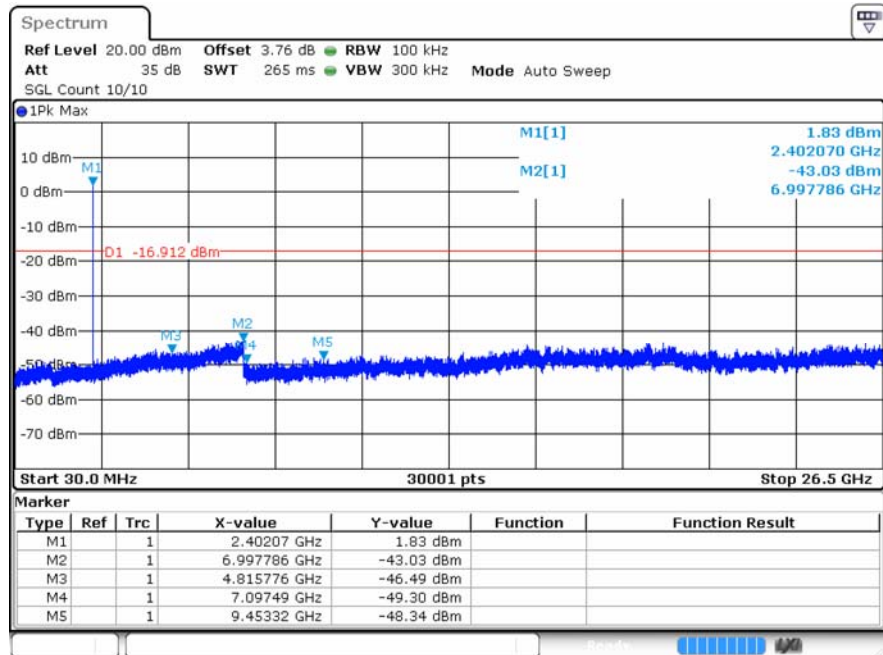


8DPSK_LCH_Graphs

Pref

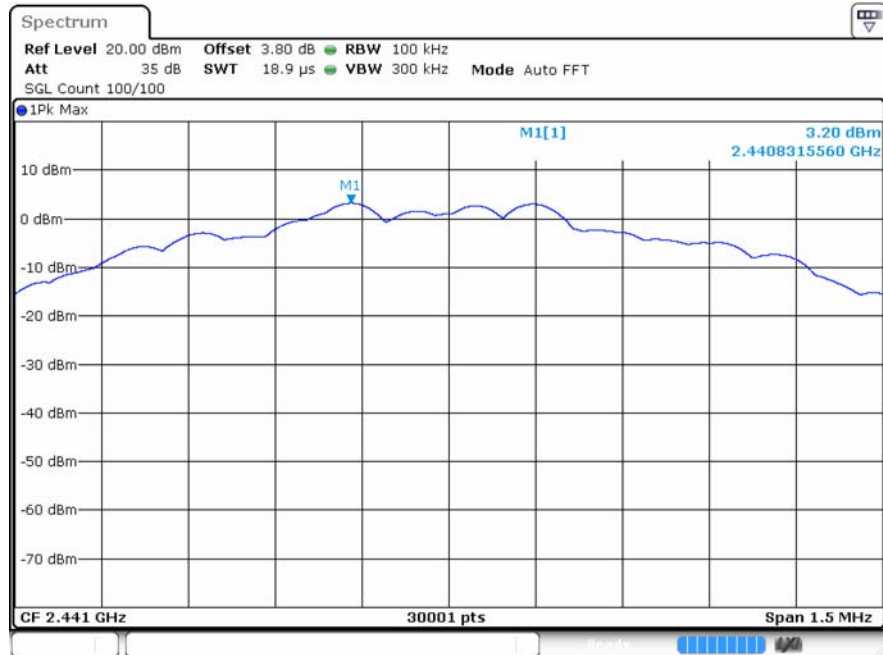


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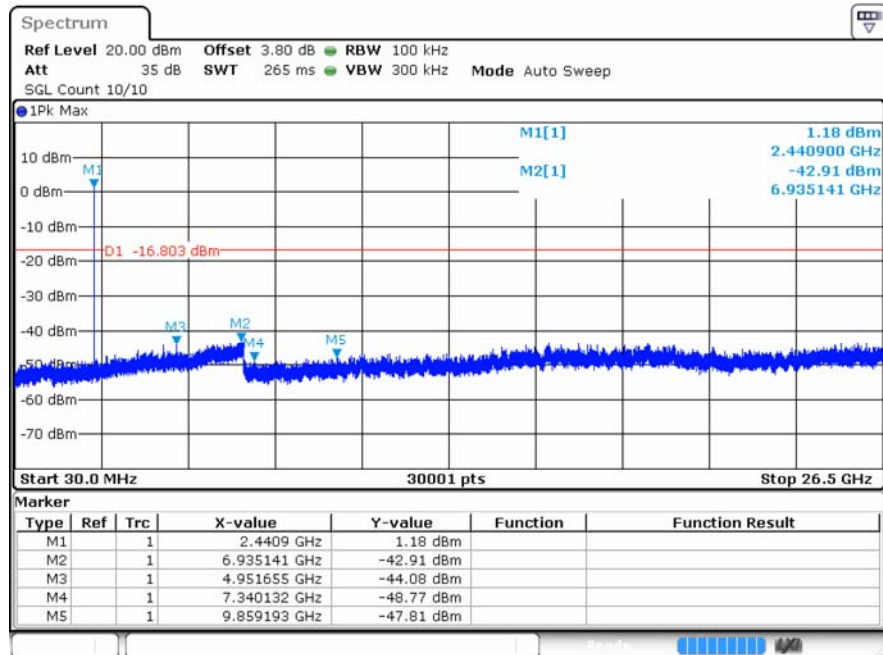


8DPSK_MCH_Graphs

Pref

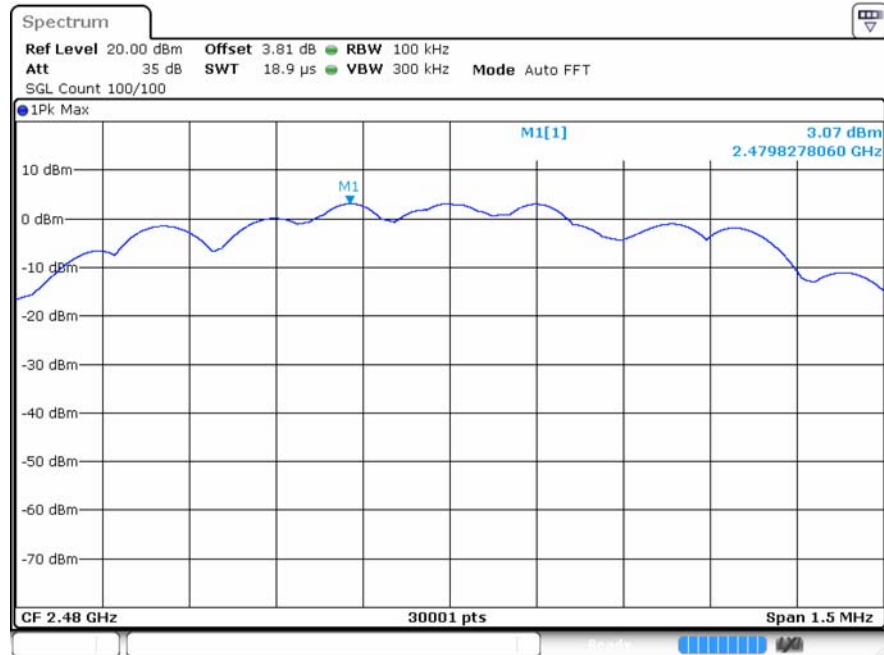


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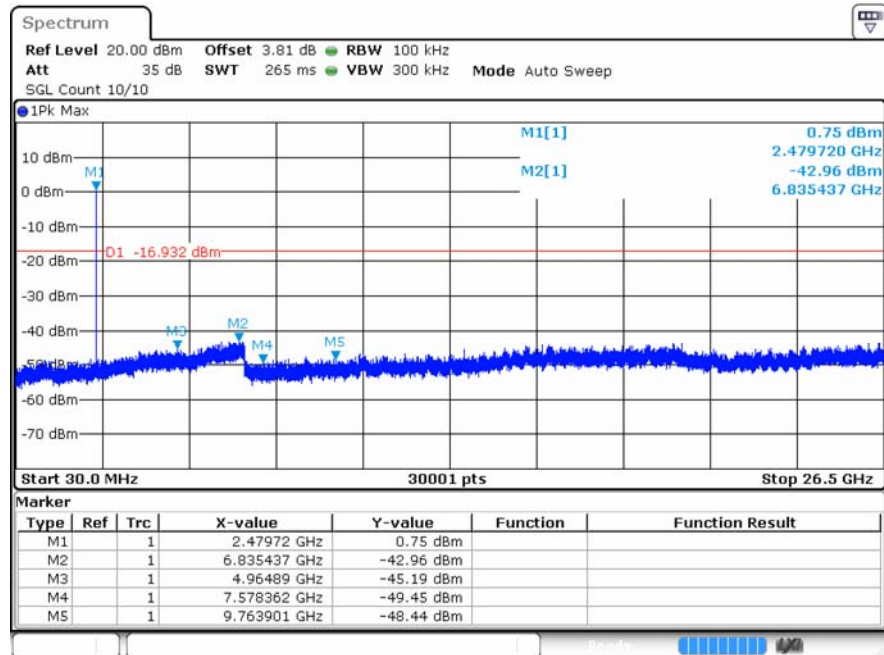


8DPSK_HCH_Graphs

Pref



Puw

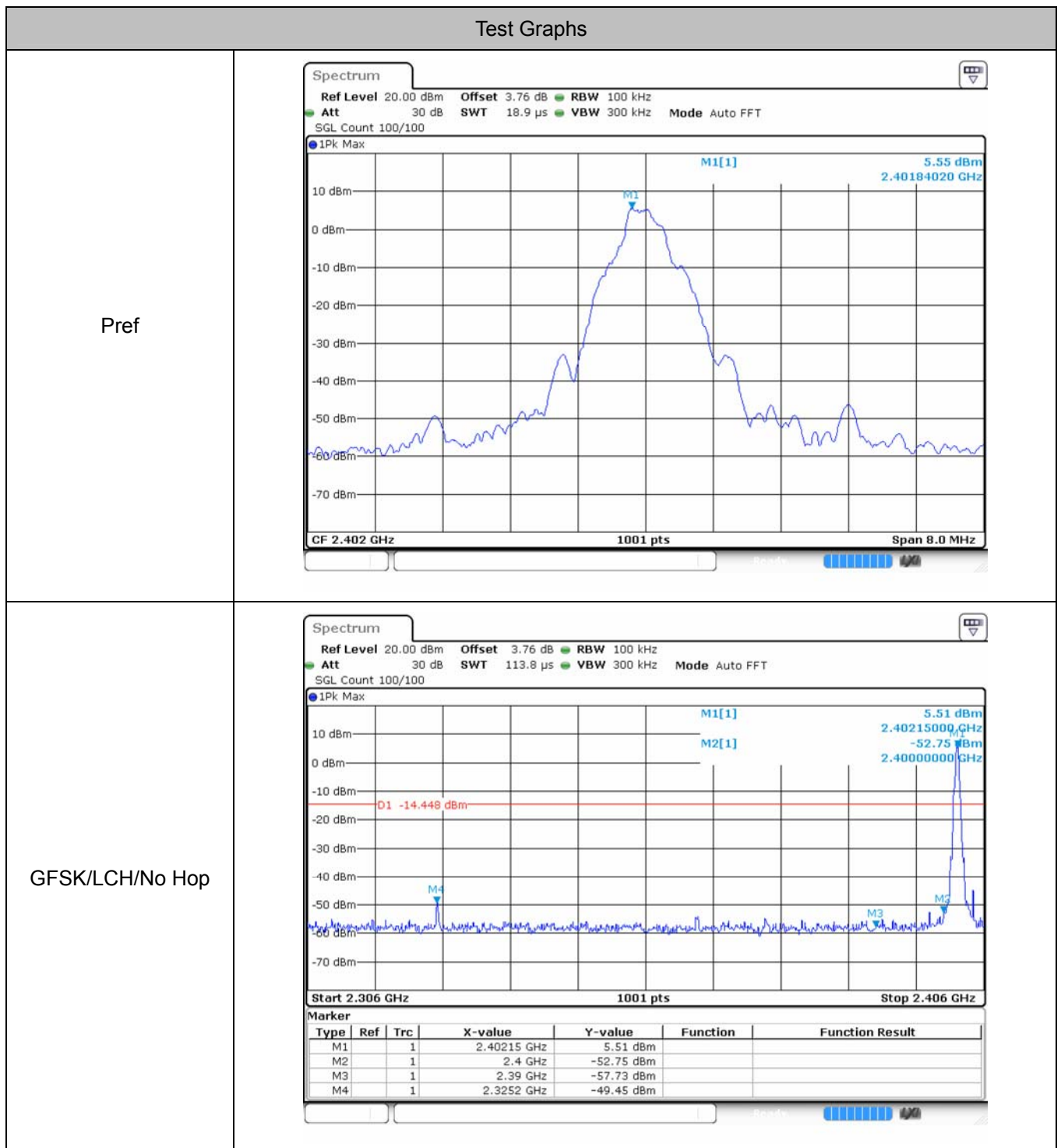


8 Band-edge for RF Conducted Emissions

8.1 Test Result

Mode	Channel	Carrier Frequency [MHz]	Frequency Hopping	Max Spurious Level [dBc]	Limit [dBc]	Verdict
GFSK	LCH	2402	Off	-54.99	-20	Pass
			On	-52.51	-20	Pass
	HCH	2480	Off	-51.79	-20	Pass
			On	-48.83	-20	Pass
$\pi/4$ DQPSK	LCH	2402	Off	-55.58	-20	Pass
			On	-51.03	-20	Pass
	HCH	2480	Off	-51.12	-20	Pass
			On	-51.54	-20	Pass
8DPSK	LCH	2402	Off	-54.39	-20	Pass
			On	-51.38	-20	Pass
	HCH	2480	Off	-46.46	-20	Pass
			On	-47.48	-20	Pass

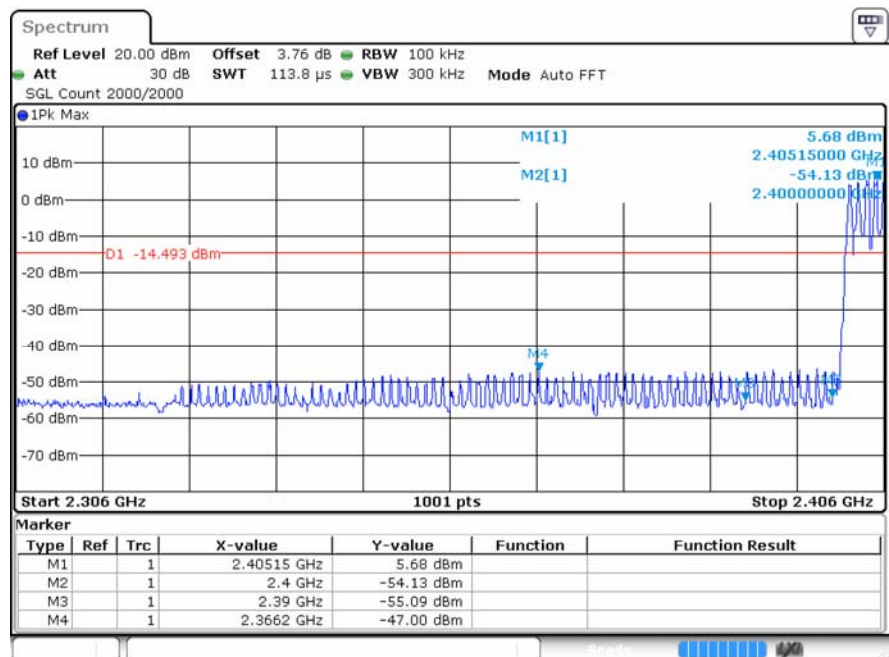
8.2 Test Graphs



Ref



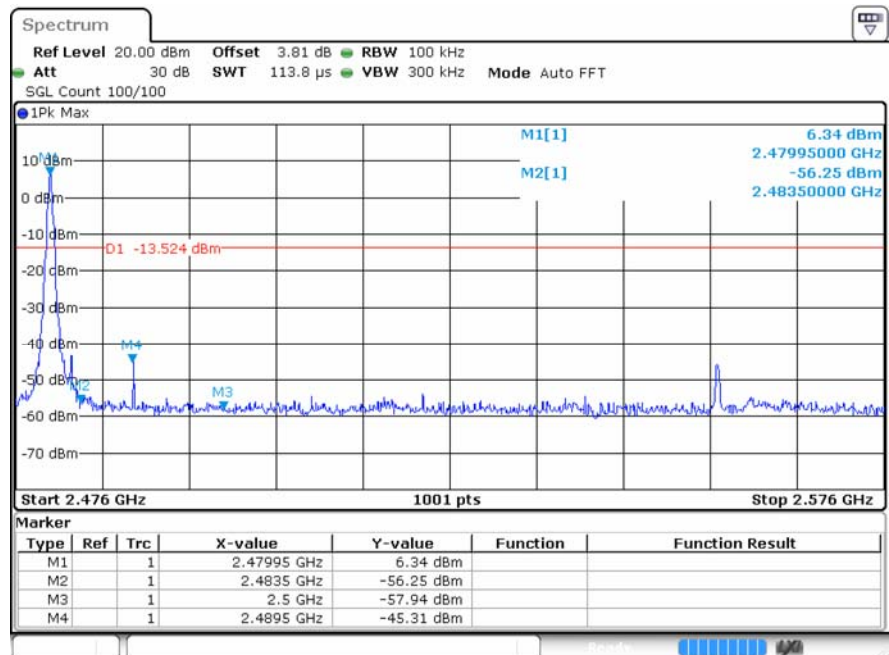
GFSK/LCH/Hop



Ref



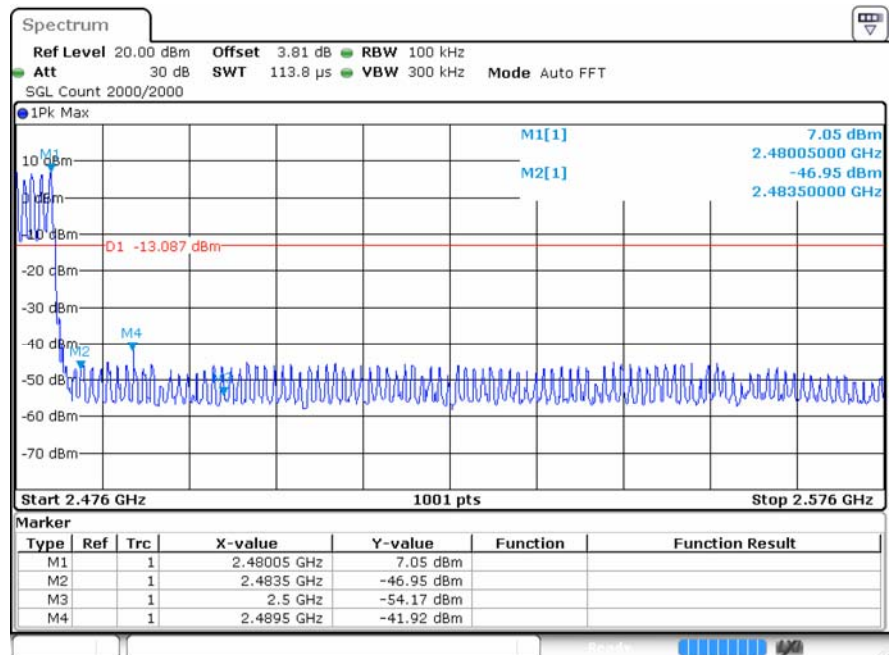
GFSK/HCH/No Hop



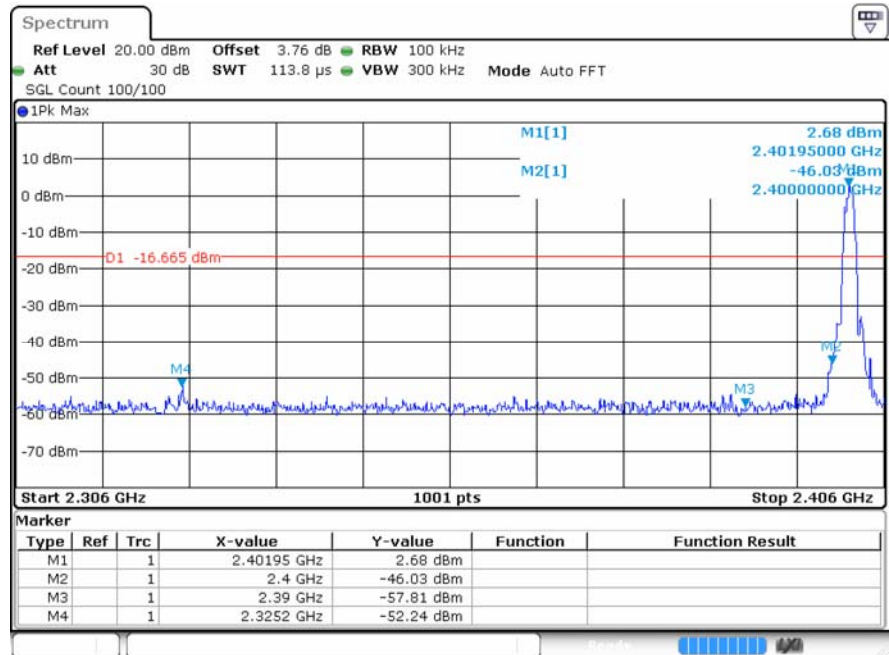
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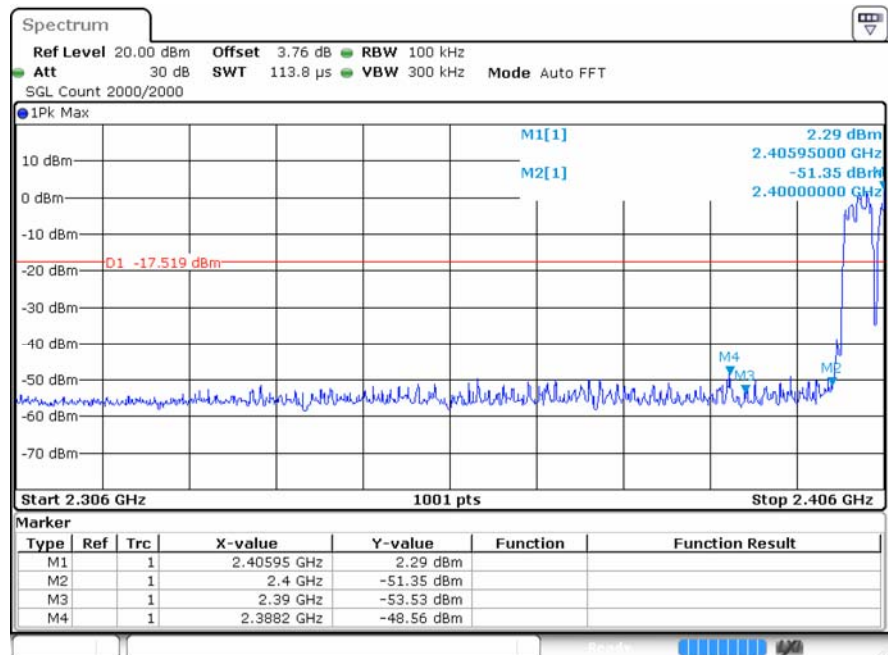
GFSK/HCH/Hop



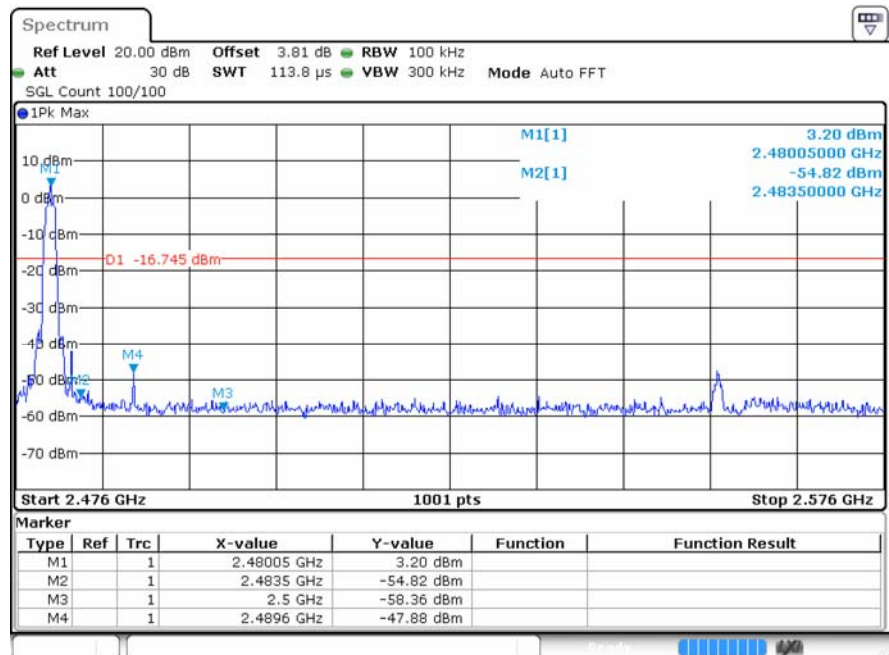
Ref


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


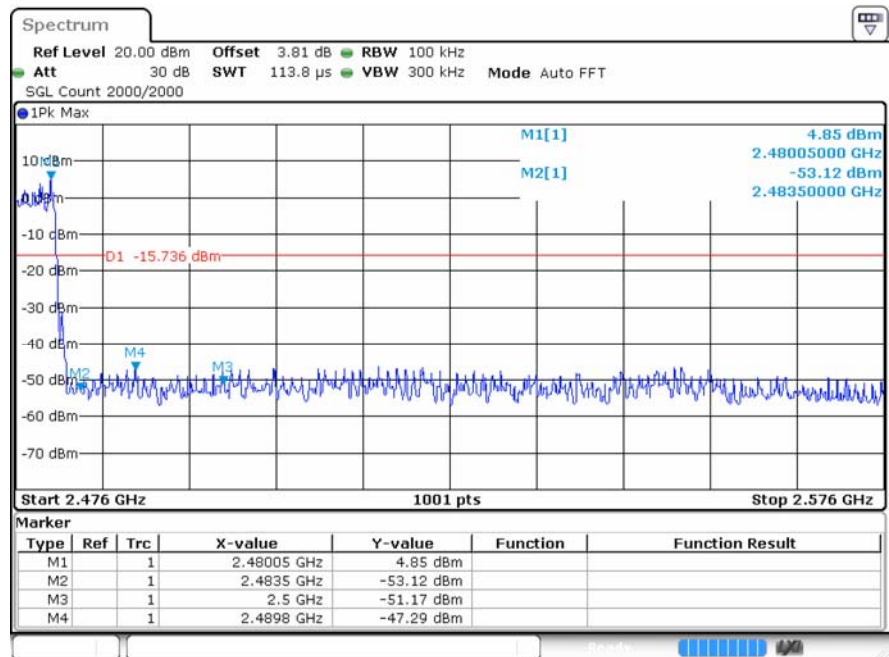
Ref


 $\pi/4$ DQPSK/LCH/Hop


Ref


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


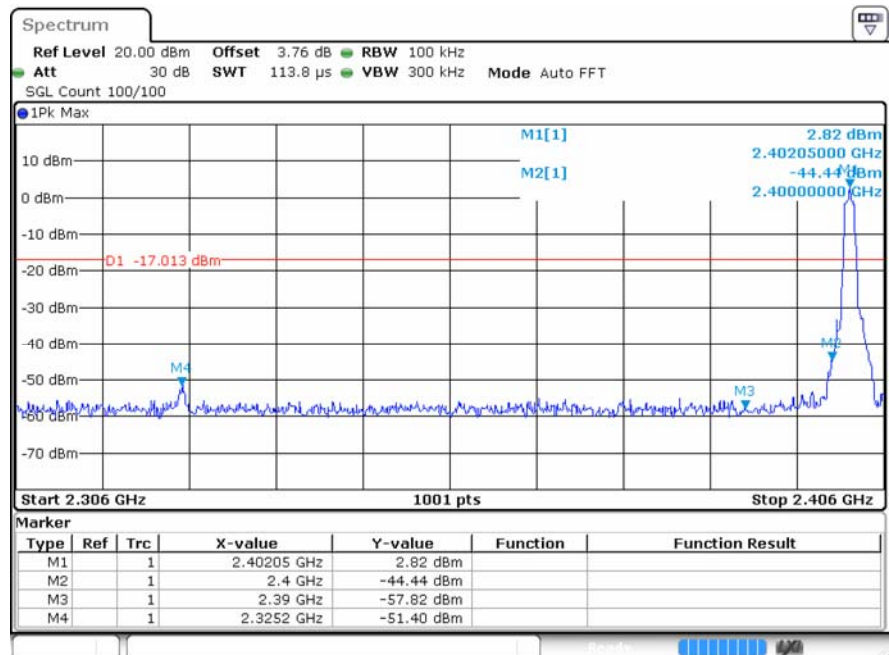
Ref


 $\pi/4$ DQPSK/HCH/Hop


Ref



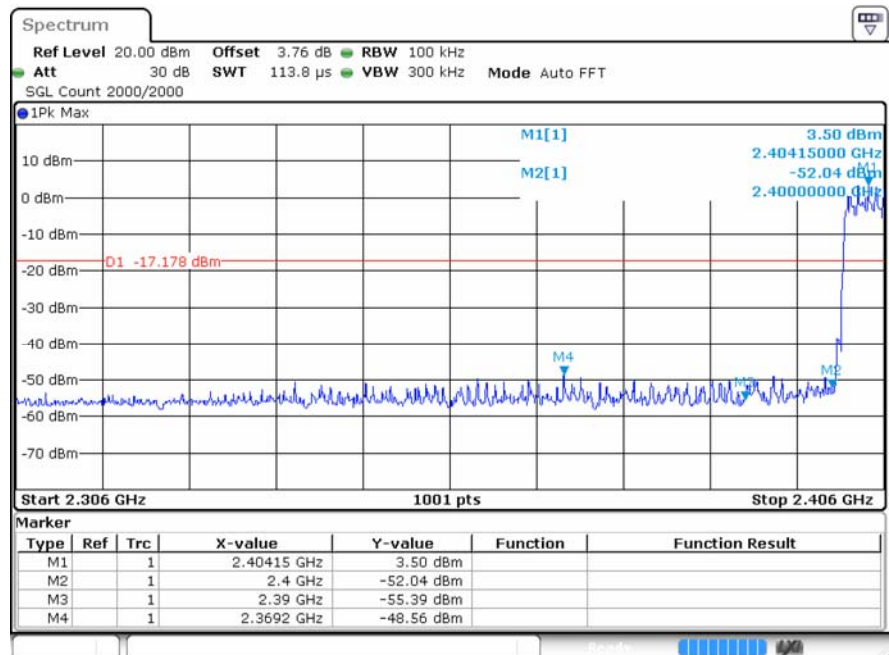
8DPSK/LCH/No Hop



Ref



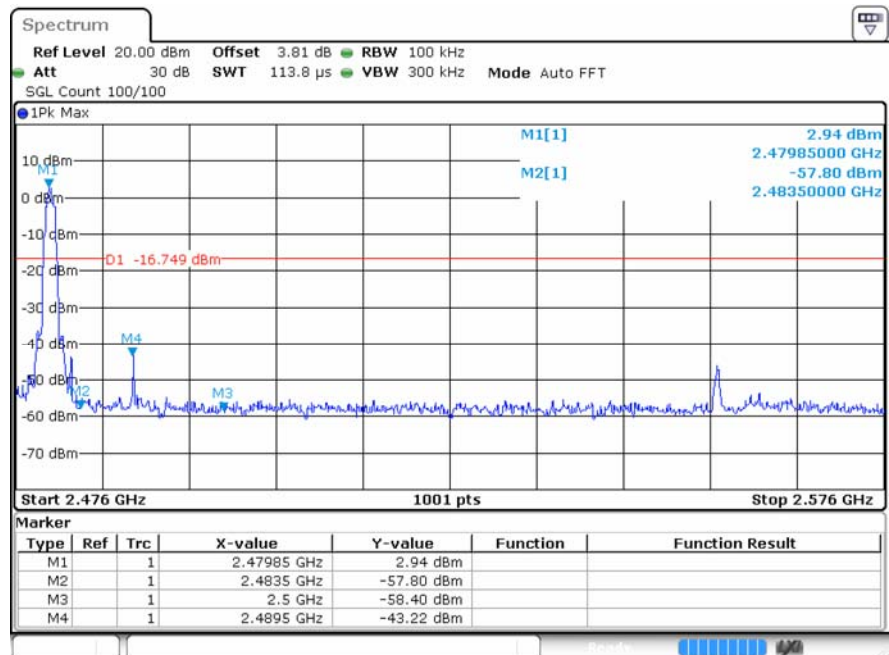
8DPSK/LCH/Hop



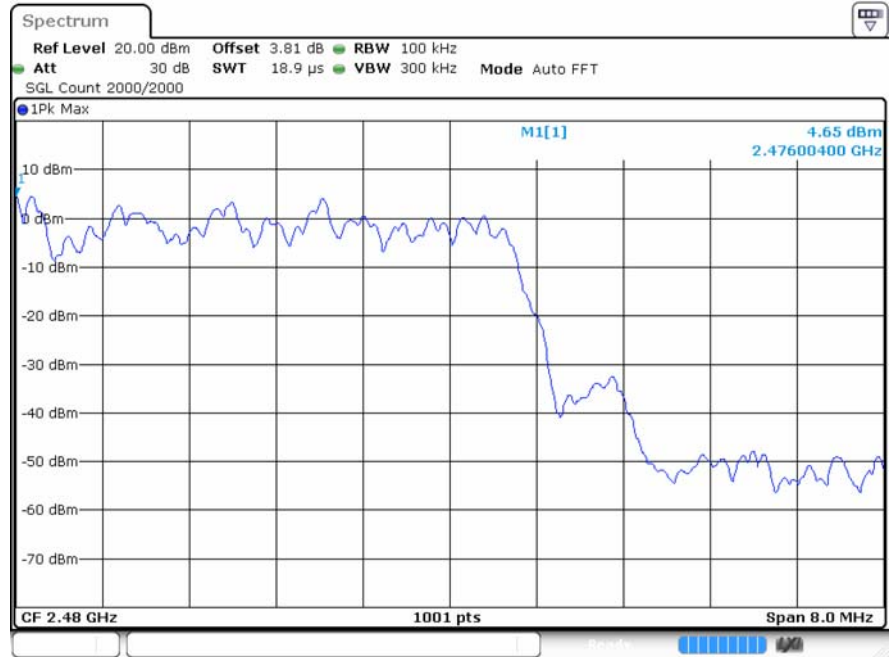
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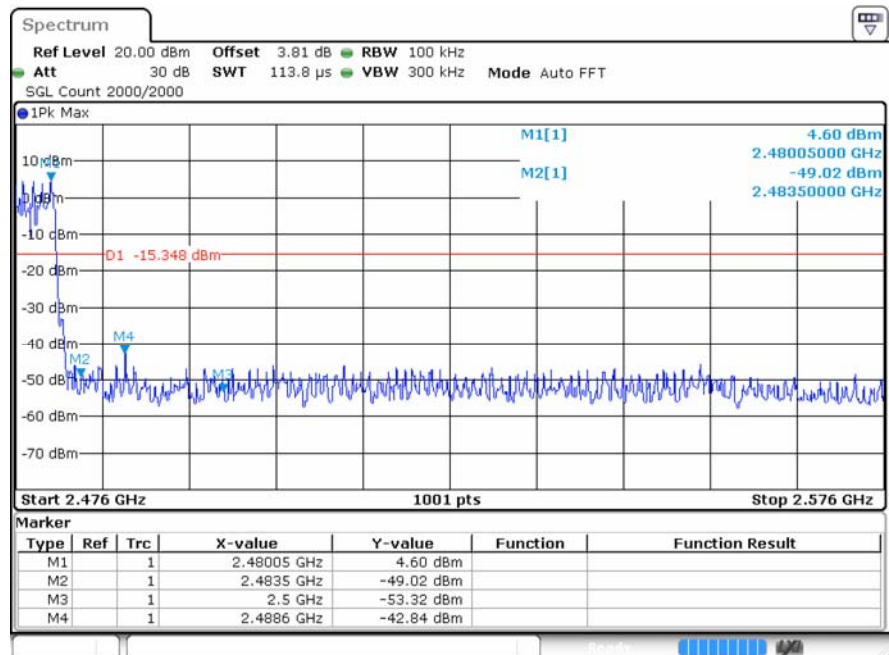
8DPSK/HCH/No Hop



Ref



8DPSK/HCH/Hop

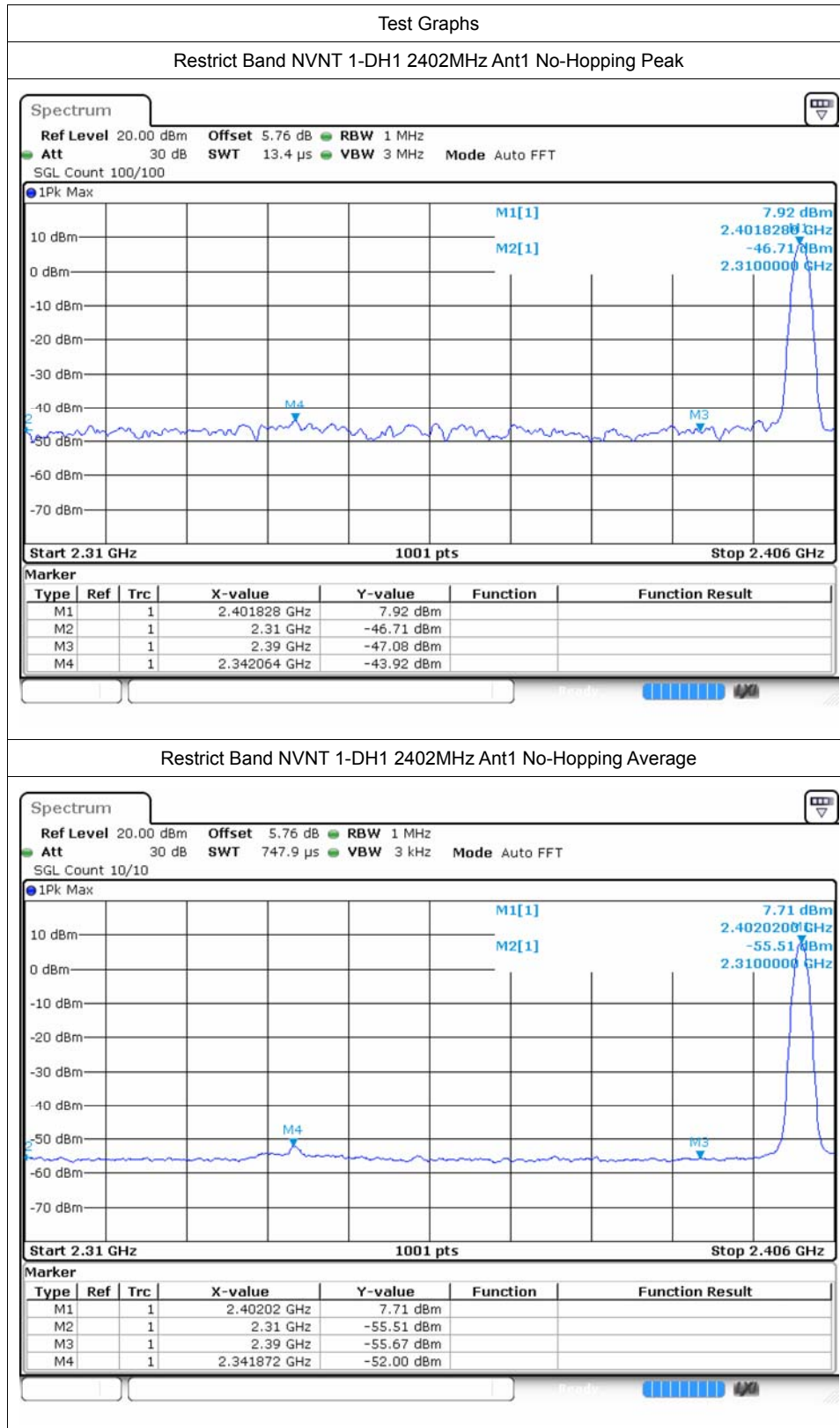


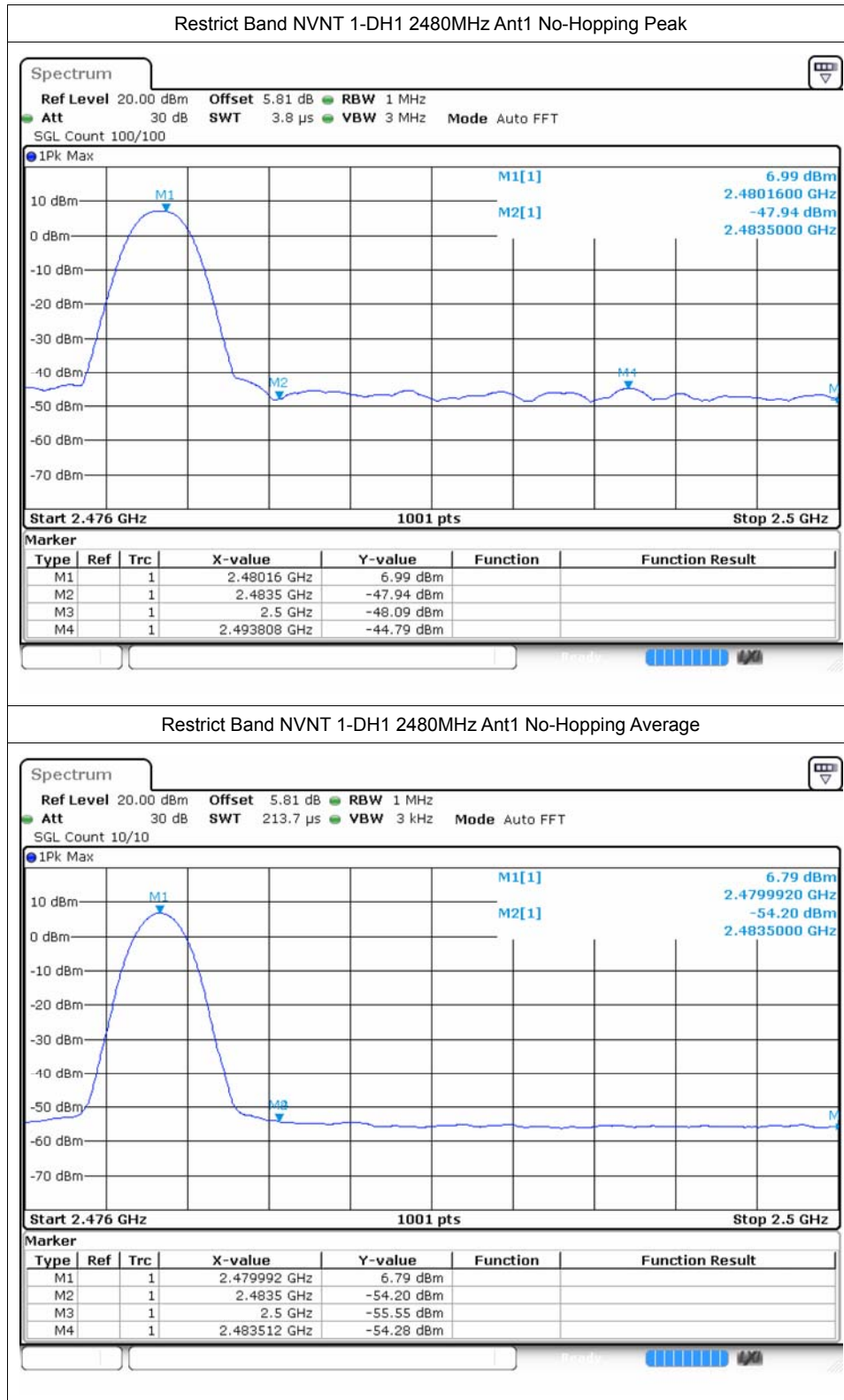
9 Restrict-band band-edge measurements

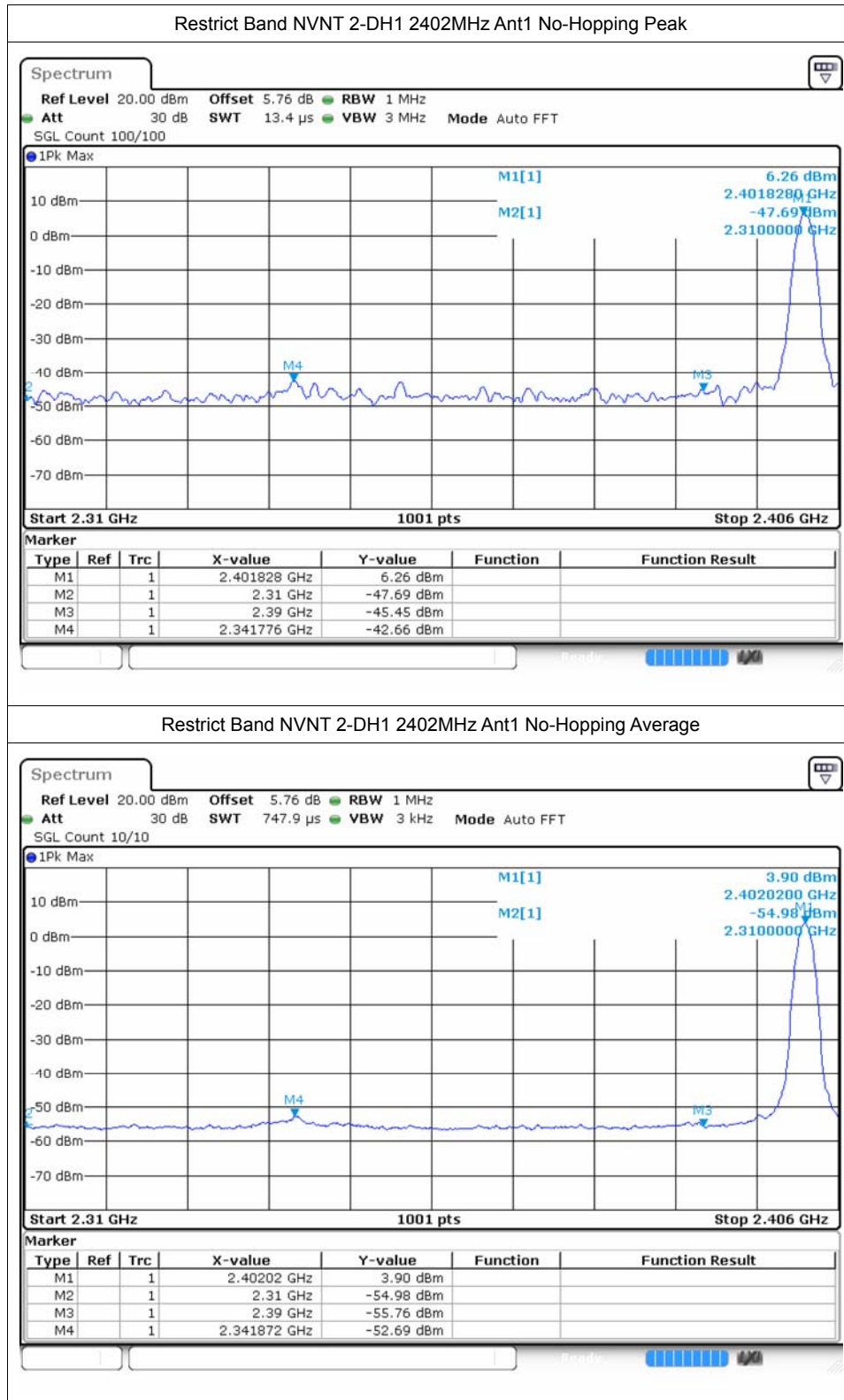
9.1 Test Result

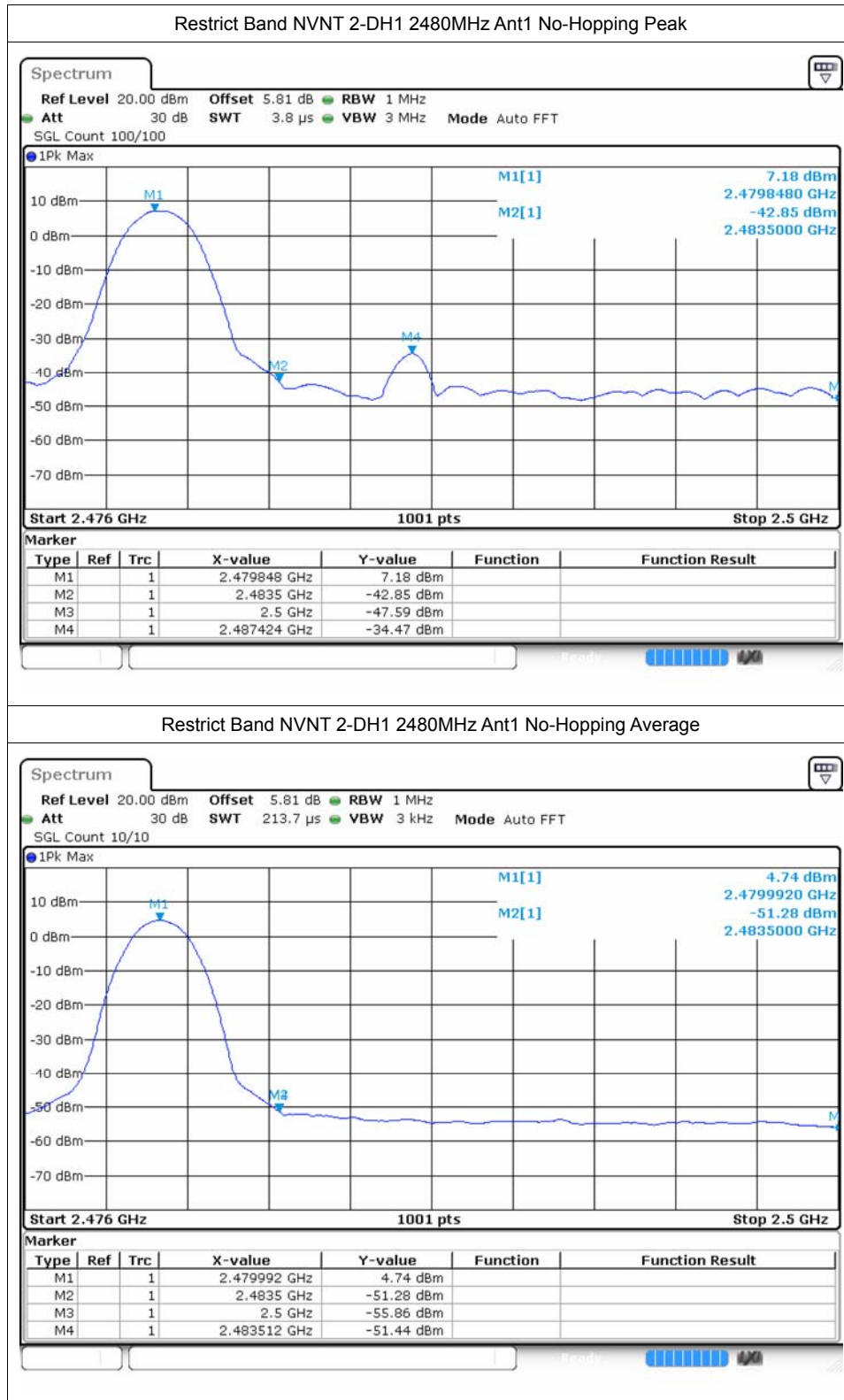
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-46.71	2	50.55	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.5	2	41.76	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2342.064	-43.92	2	53.34	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2341.872	-51.99	2	45.27	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.07	2	50.19	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.67	2	41.59	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.88	2	49.38	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.28	2	42.98	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2493.808	-44.78	2	52.48	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-54.28	2	42.98	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-48.09	2	49.17	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.54	2	41.72	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.68	2	49.58	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-54.97	2	42.29	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2341.776	-42.65	2	54.61	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2341.872	-52.69	2	44.57	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-45.45	2	51.81	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.75	2	41.51	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.14	2	54.12	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-51.44	2	45.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2487.424	-34.46	2	62.8	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-51.44	2	45.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.59	2	49.67	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.85	2	41.41	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.25	2	51.01	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-55.55	2	41.71	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2341.872	-43.72	2	53.54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2342.16	-53.43	2	43.83	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.44	2	50.82	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.33	2	41.93	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-41.76	2	55.5	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-50.87	2	46.39	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2487.4	-35.19	2	62.07	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.136	-50.8	2	46.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.72	2	50.54	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.31	2	41.95	Average	54	Pass

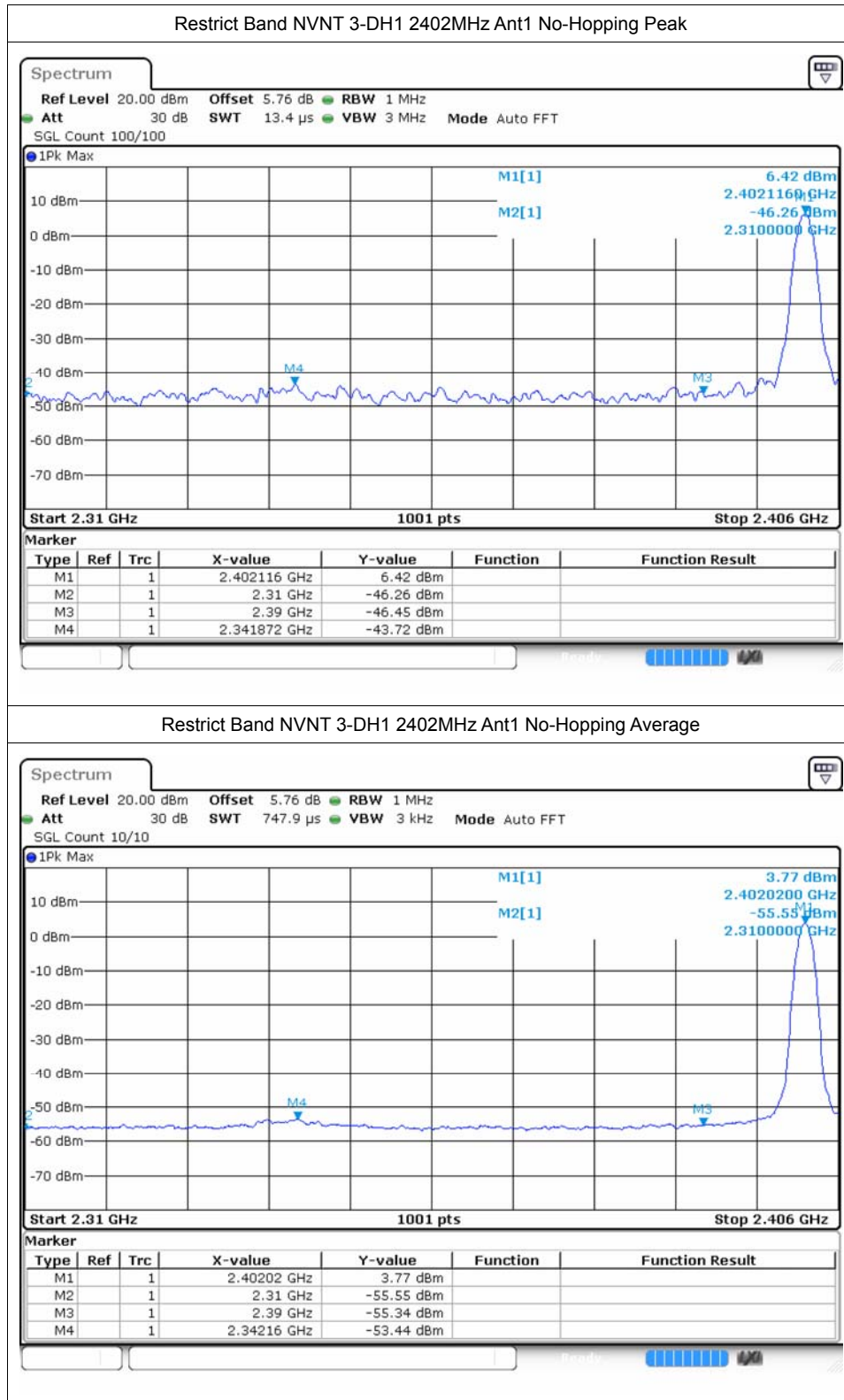
9.2 Test Graphs

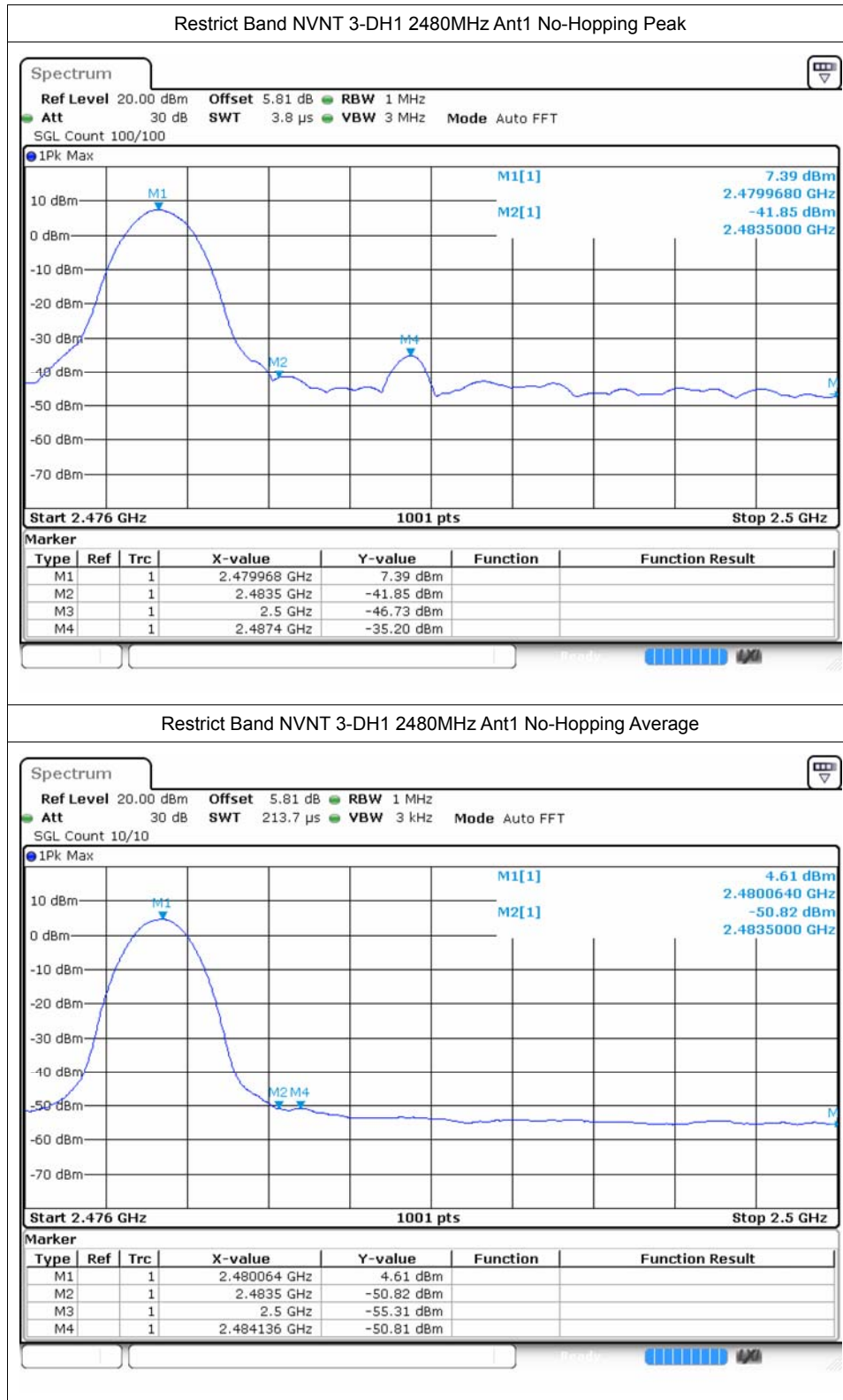












---The End---