

LVDS (Tx/Rx) Design With 5V Devices in Sky130nm Process Simulation Results

Nov, 2023 Revision 0.0

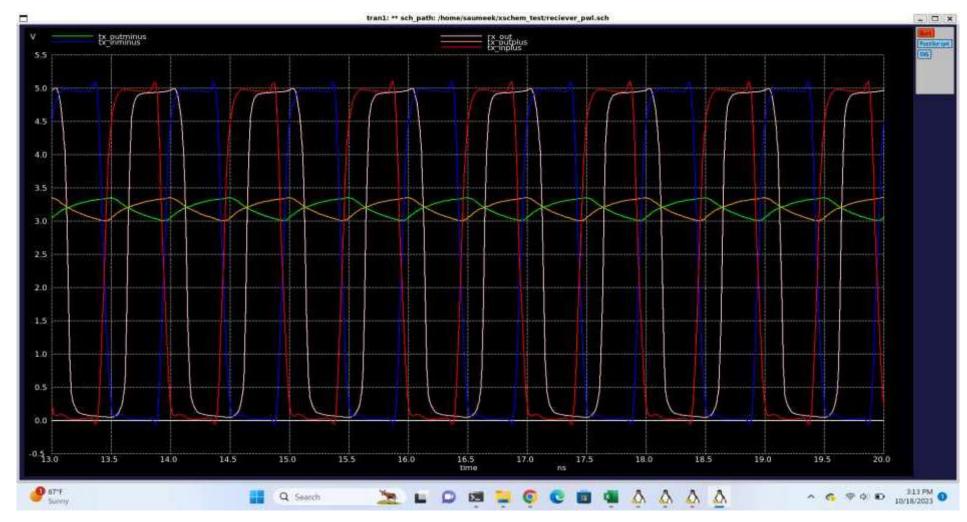
PO Box 9276 San Jose, CA 95157

www.lewiz.com

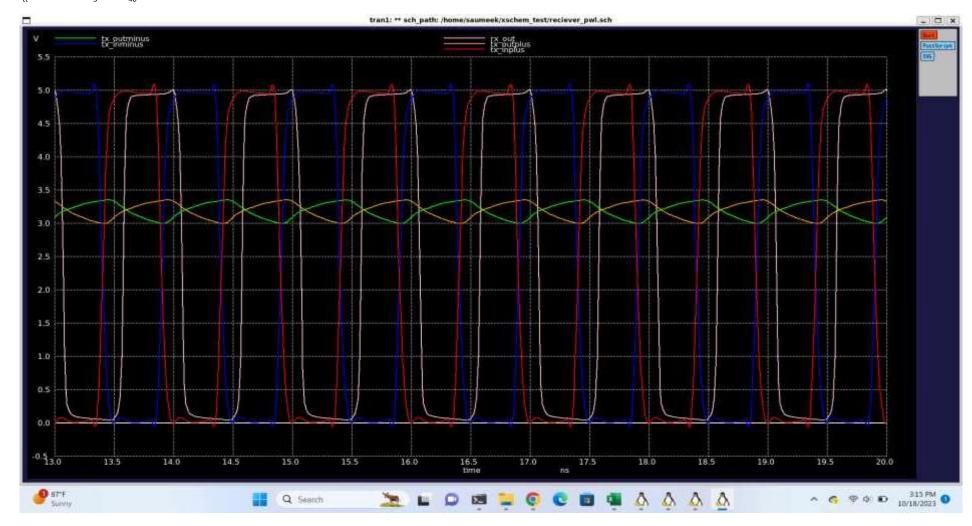
Email: support@lewiz.com

Simulation at 5V

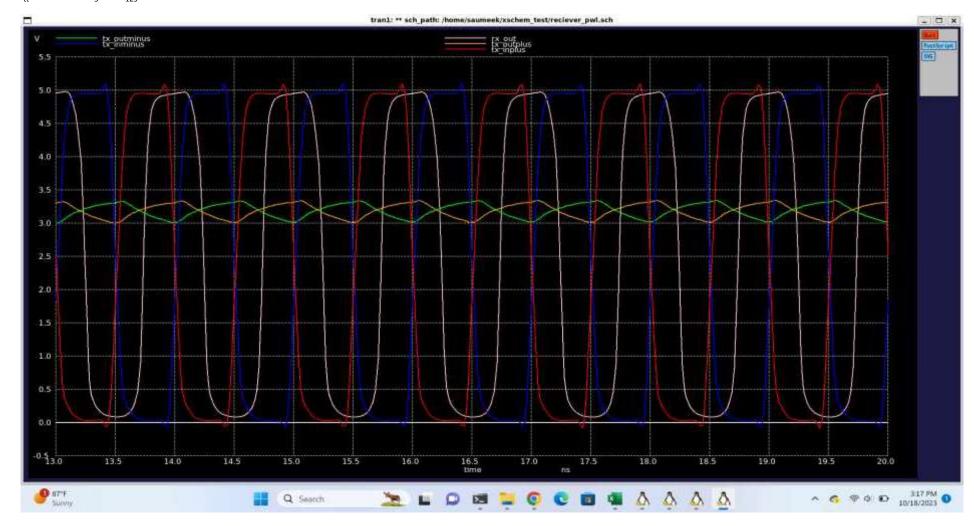
Model Vcc Temp tt 5 27



Model Vcc Temp tt 5 -40



Model Vcc Temp tt 5 125



Model Vcc Temp tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx outminus tx inminus x out x outplus tx inplus 5.5 0.43.0 13.5 16.5 time 14.0 14.5 15.0 15.5 16.0 19.0 19.5 20.0

^ 6 9 0 € 319 PM 0

9 57°F 5000y

Model Vcc Temp tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx outminus tx anminus x out x outplus tx inplus 5.5 0.43.0 16.5 time

17.0

18.0

19.0

19.5

20.0

^ 6 9 0 € 322 FM 0

13.5

9 57°F 5000y

14.0

14.5

15.0

Q Search

15.5

16.0

0.43.0

9 57°F 5000y 14.0

14.5

15.0

Q Search

15.5

16.0

16.5 time 17.0

18.0

18.5

19.0

19.5

20.0

^ G ♥ Ø € 10/18/2023 ●

Model Vcc Temp
ss 5 25

tran1: ** sch_path: /home/saumeek/aschem_testreclever_pwl.sch

V Browninus

5.5

3.0

4.5

4.0

3.5

3.0

2.5

16.5 time 17.0

18.0

19.0

19.5

20.0

^ 6 9 0 € 320 PM 10/18/2023 ●

0.43.0

9 57°F 5000y 13.5

14.0

14.5

15.0

Q Search

15.5

16.0

Model Vcc Temp tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x x out x outplus tx inplus tx gutminus tx inminus 5.5 5.0

> 16.5 time

17.0

17.5

18.0

18.5

19.0

19.5

20.0

^ 6 9 0 € 10/18/2023 0

0.43.0

Breaking news Get caught up

13.5

14.0

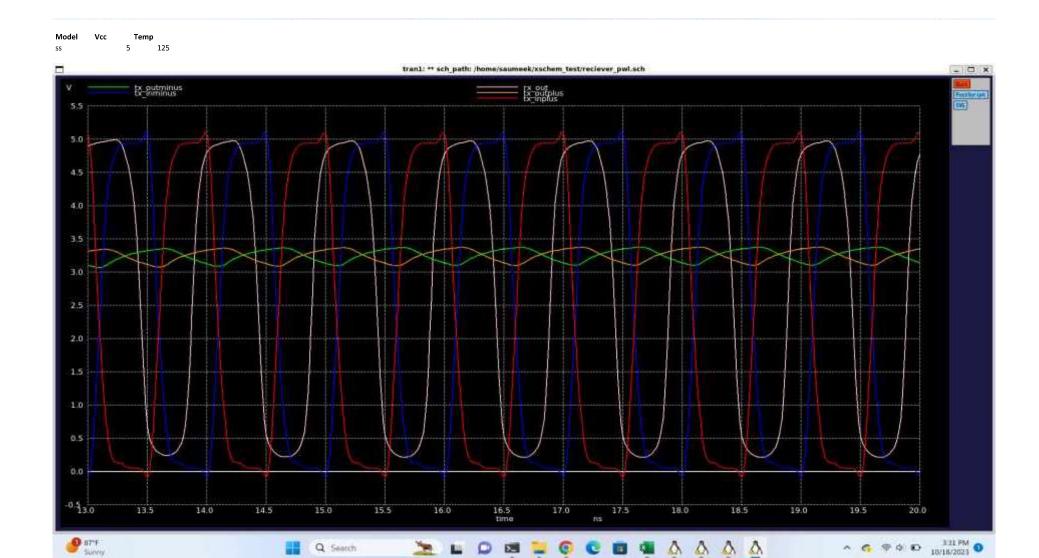
14.5

15.0

Q Search

15.5

16.0



Vcc Model Temp 27 fs _ 🗆 x tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch tx gutminus tx inminus x out x outplus tx inplus

0.43.0

9 57°F 5000y 14.0

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Q Search

15.5

16:0

16.5 time 17.0

18.0

18.5

19.0

19.5

20.0

^ 6 9 0 € 334 PM 10/18/2023 0

Model Vcc Temp tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx outminus tx anminus x out x outplus tx inplus 5.5 0.43.0 13.5 16.5 time 14.0 14.5 15.0 15.5 16.0 17.0 18.0 18.5 19.0 19.5 20.0

^ 6 9 0 D 336 PM 0 10/16/2023 0

₽ 50°F Surviy

Model Vcc Temp 125 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x rx out ix outplus ix inplus tx gutminus tx inminus 5.0 0.43.0 16.5 time 13.5 14.0 14.5 15.0 15.5 16.0 17.0 18.0 18.5 19.0 19.5 20.0

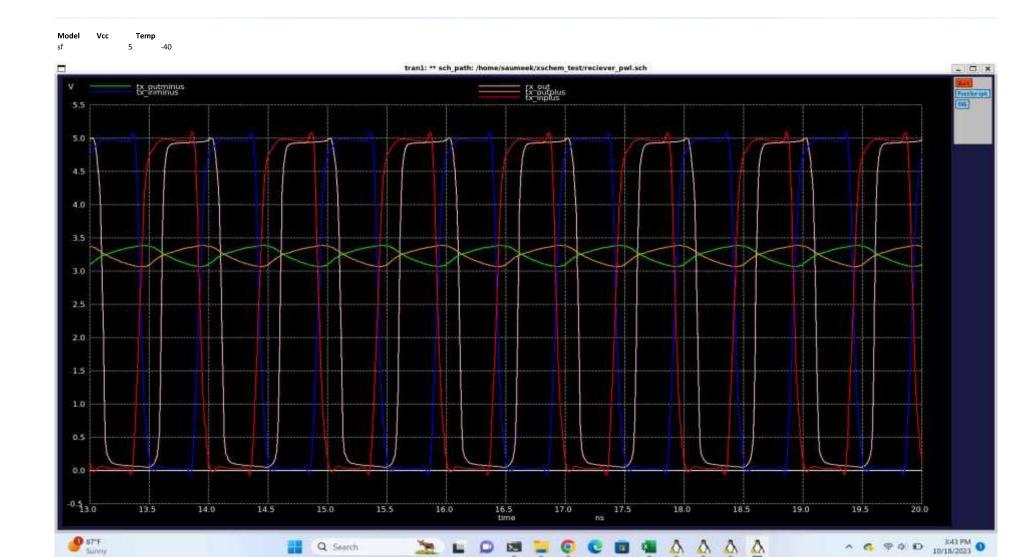
^ 6 9 0 D 338 FM 0

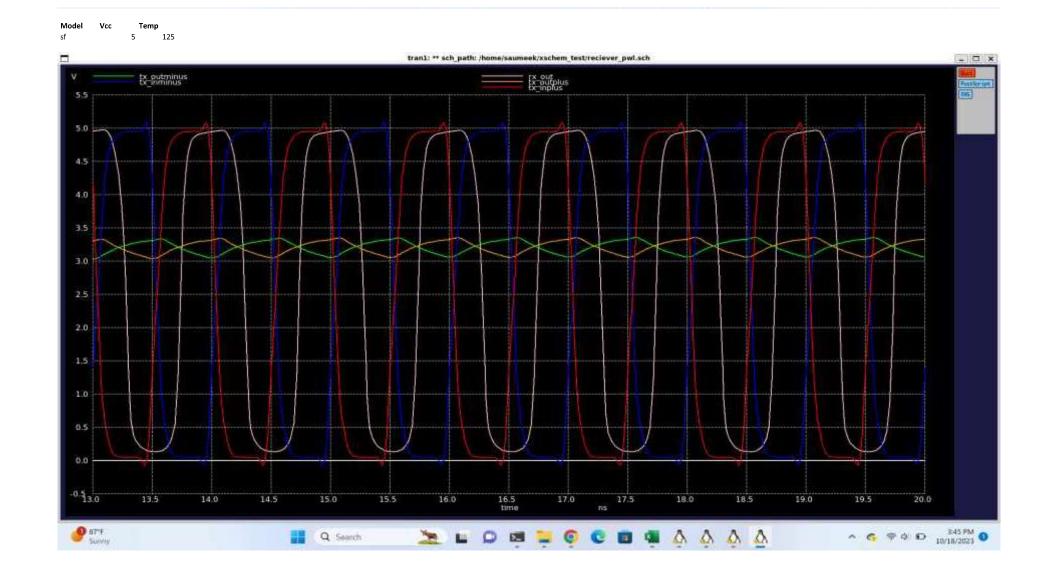
₽ 50°F Surviy

Model Vcc Temp tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx outminus tx anminus rx out ix outplus ix inplus 5.0 0.43.0 13.5 16.5 time 14.0 14.5 15.0 15.5 16.0 17.0 18.0 18.5 19.0 19.5 20.0

^ 6 9 0 D 341 PM 0

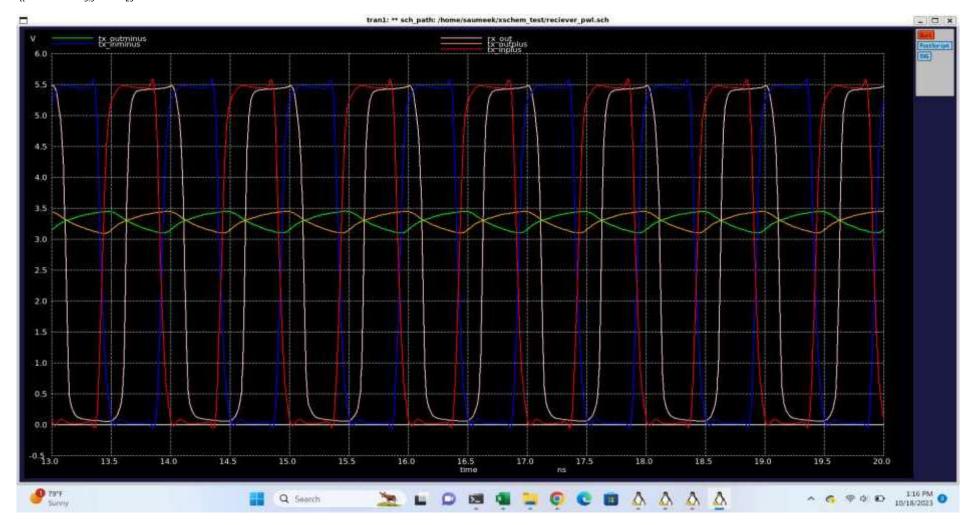
₽ 50°F Surviy

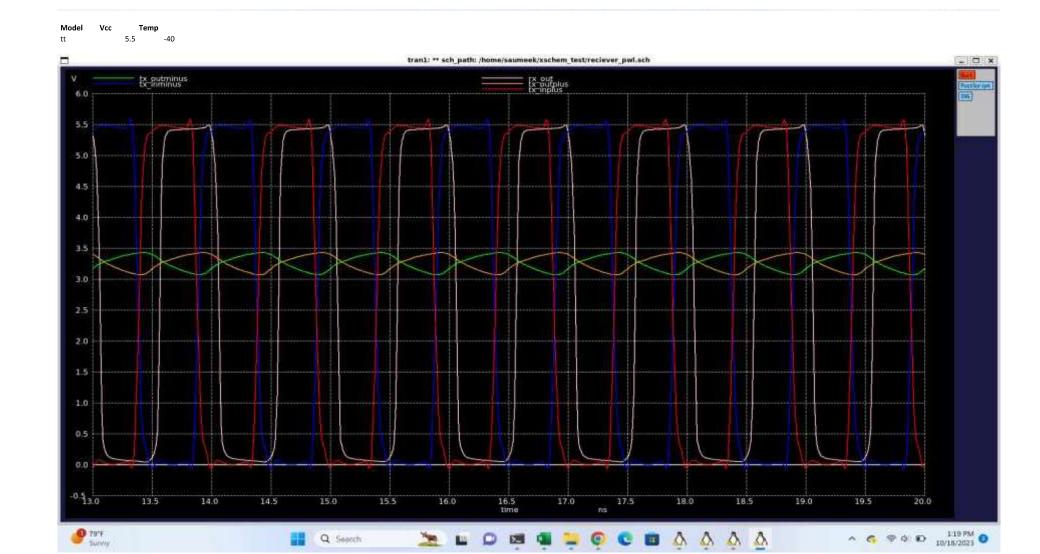


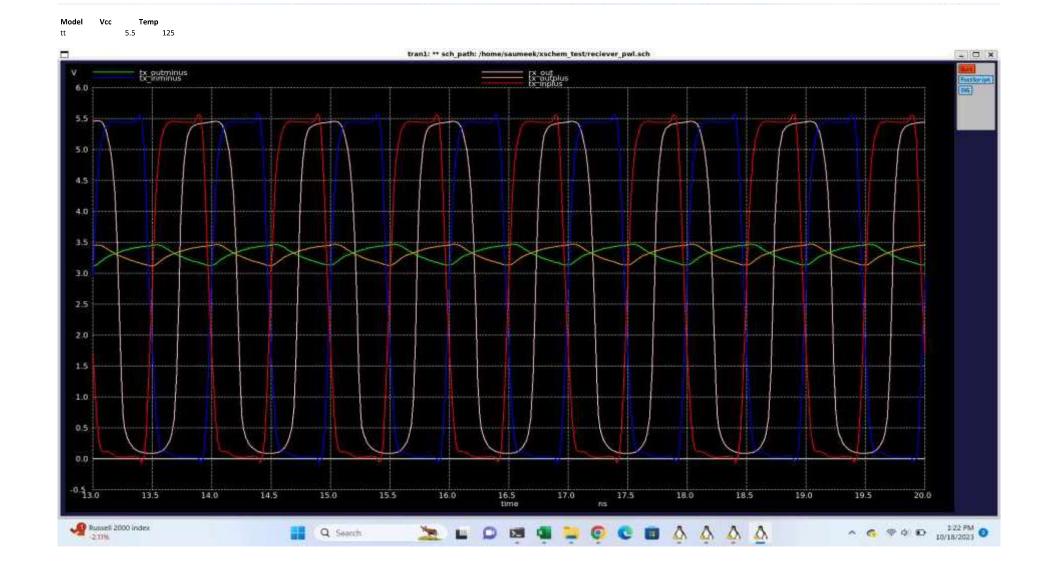


Simulation at 5.5V

Model Vcc Temp tt 5.5 2



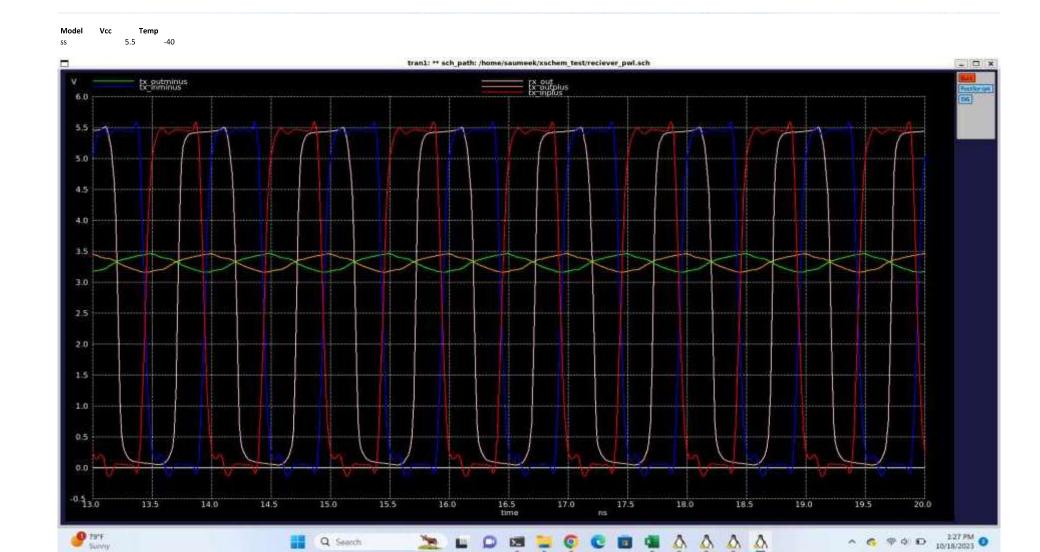


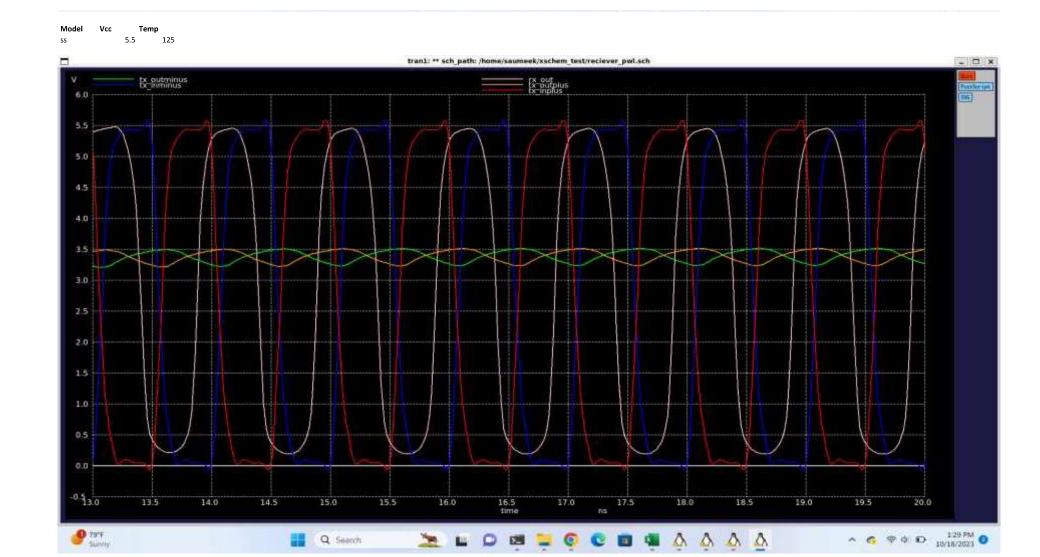


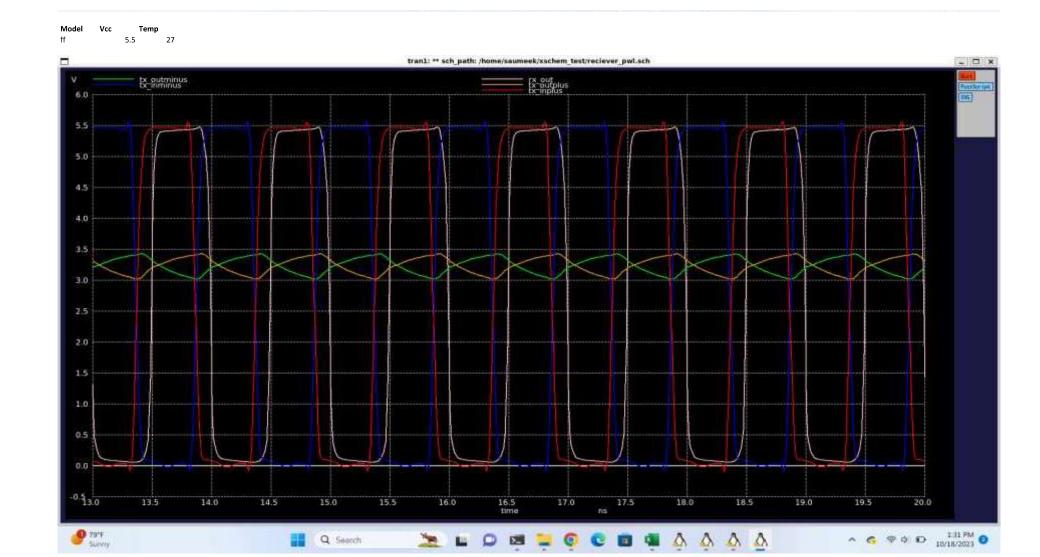
Model Vcc Temp 5.5 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out tx outplus tx inplus 6.0 5.5 1.0 0.43.0 16.5 time 13.5 14.0 14.5 15.0 15.5 16.0 17.0 19.0 19.5 20.0

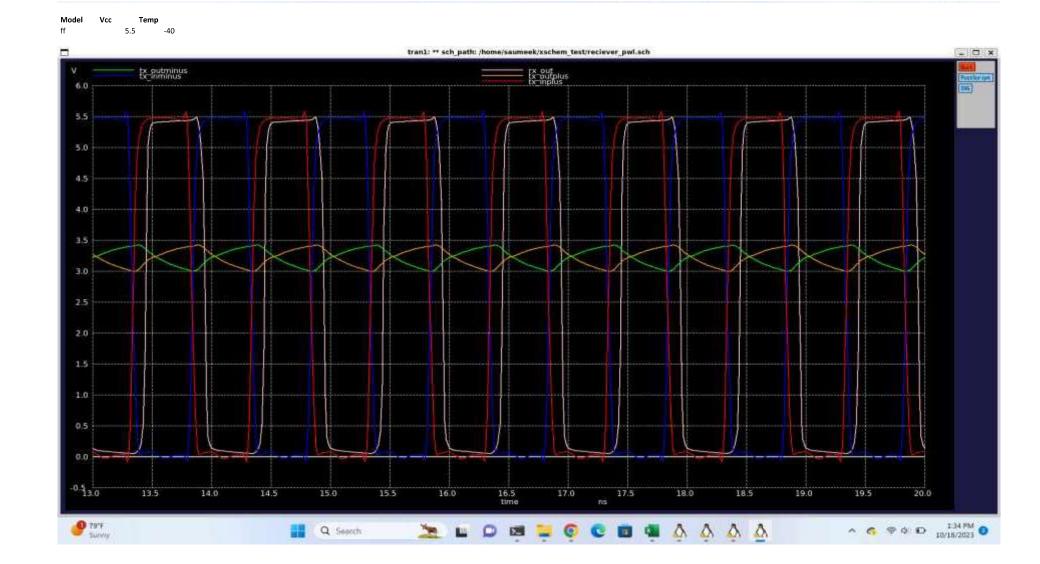
^ 6 9 0 D 324 PM 0

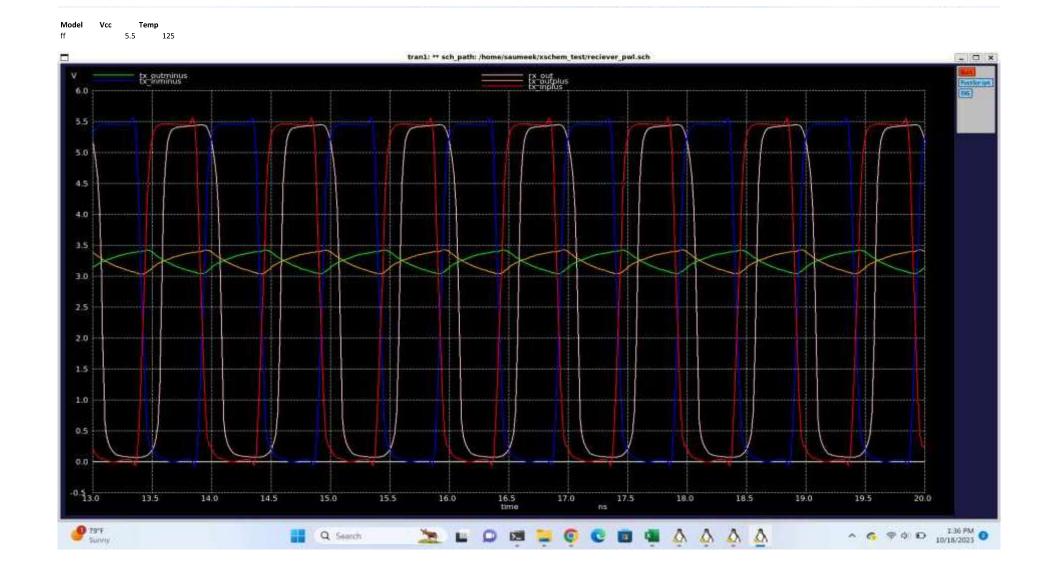
P 79°F Surviy











Model Vcc Temp 5.5 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out tx outplus tx inplus 6.0 1.0 0.43.0 13.5 16.5 time 14.0 14.5 15.0 15.5 16.0 17.0 18.0 18.5 19.0 19.5 20.0

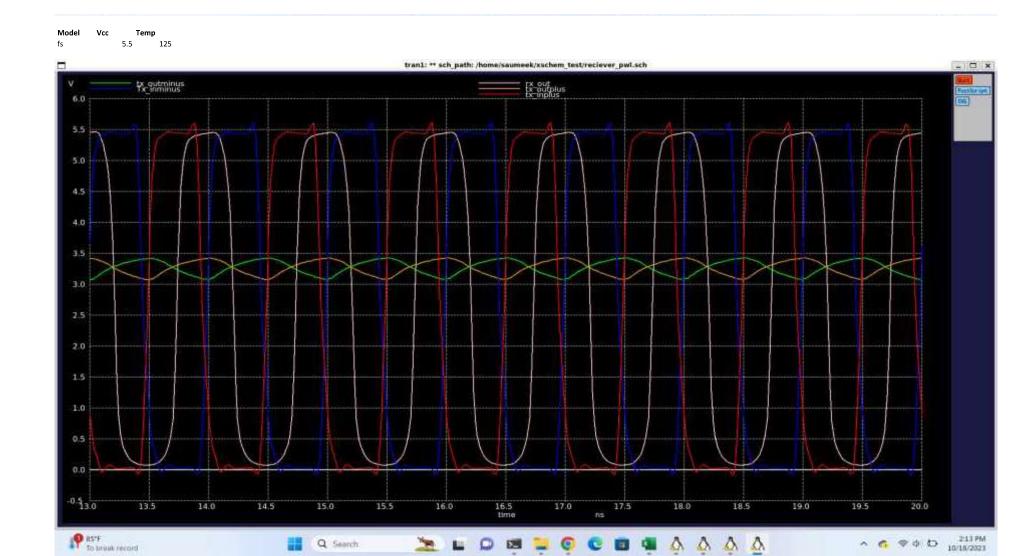
^ @ @ Ø D 142 PM 0

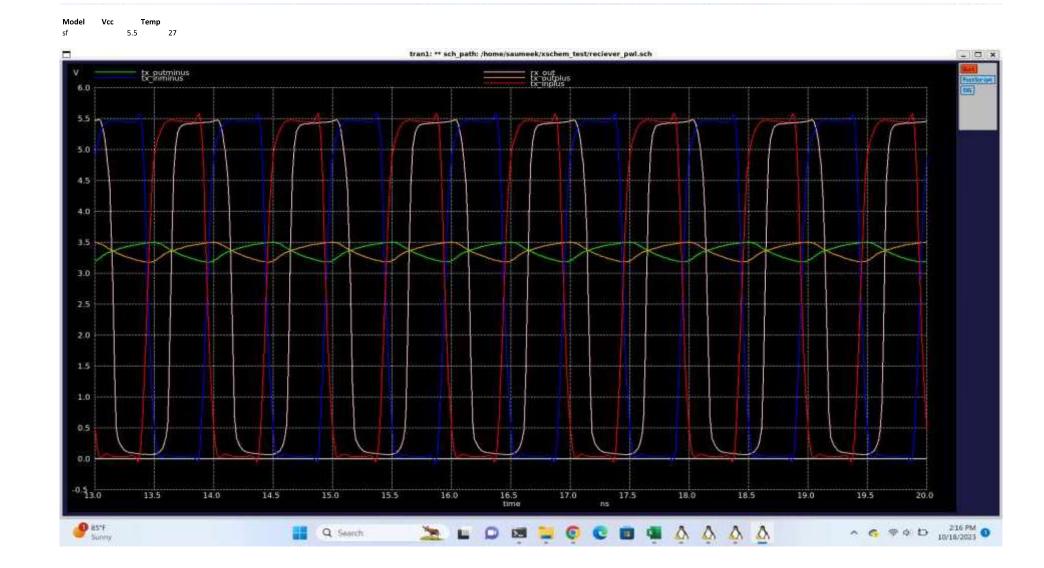
P 79°F Surviy

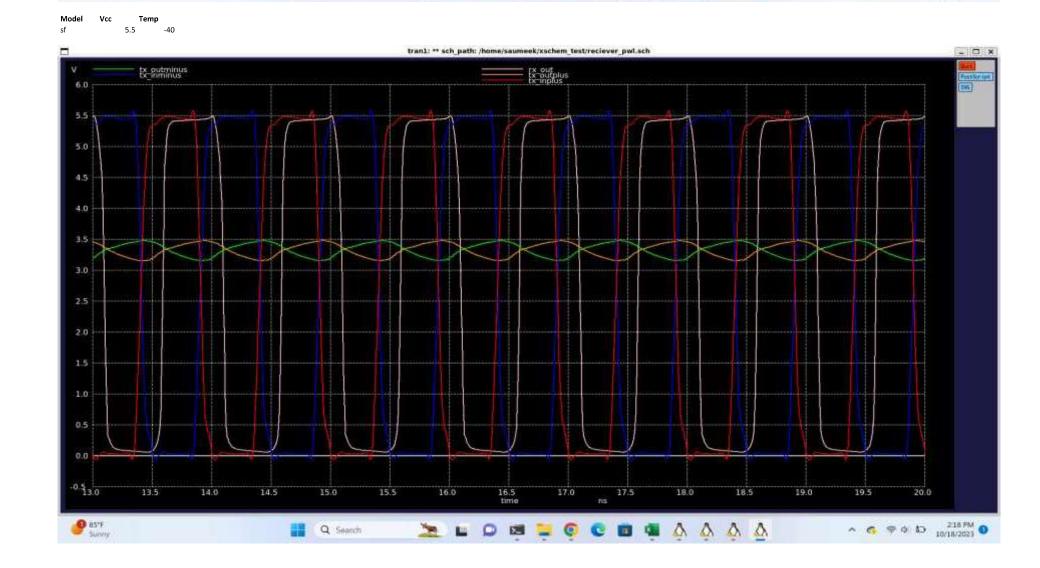
Model Vcc Temp 5.5 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out tx outplus tx inplus 6.0 1.0 0.43.0 13.5 16.5 time 14.0 14.5 15.0 15.5 16.0 18.0 18.5 19.0 19.5 20.0 P 79°F Surviy

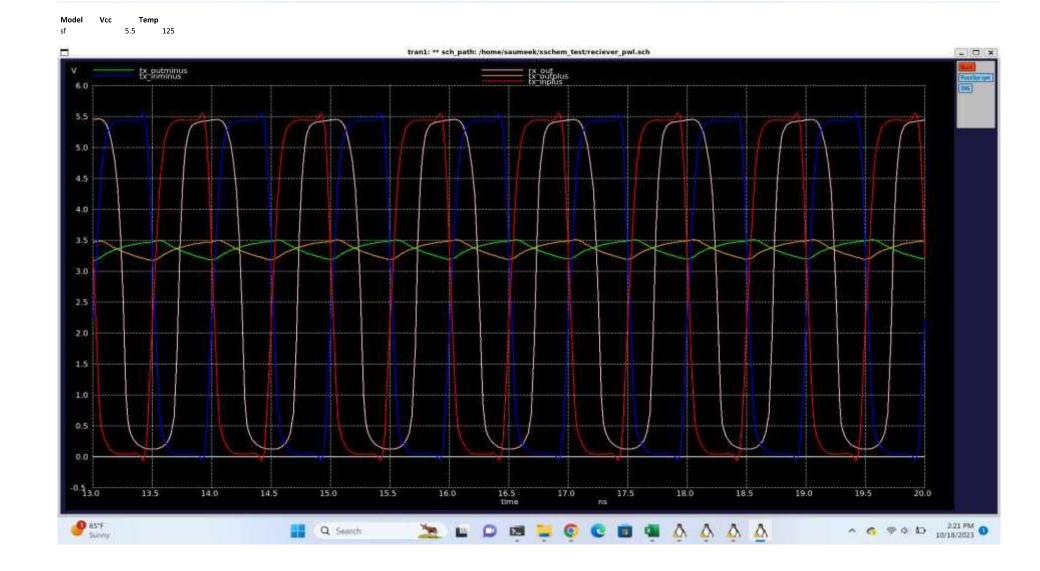
Q Search

^ 6 ♥ 0 D 1347PM 0



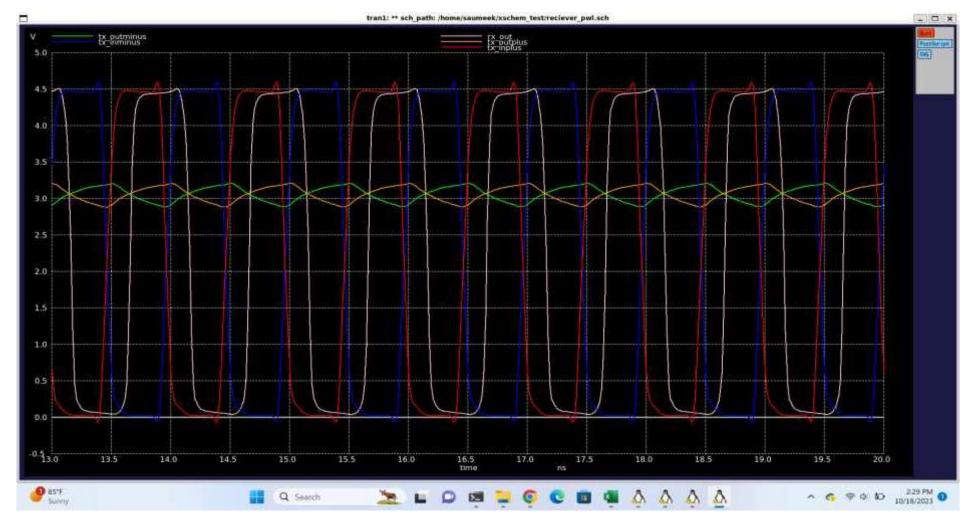


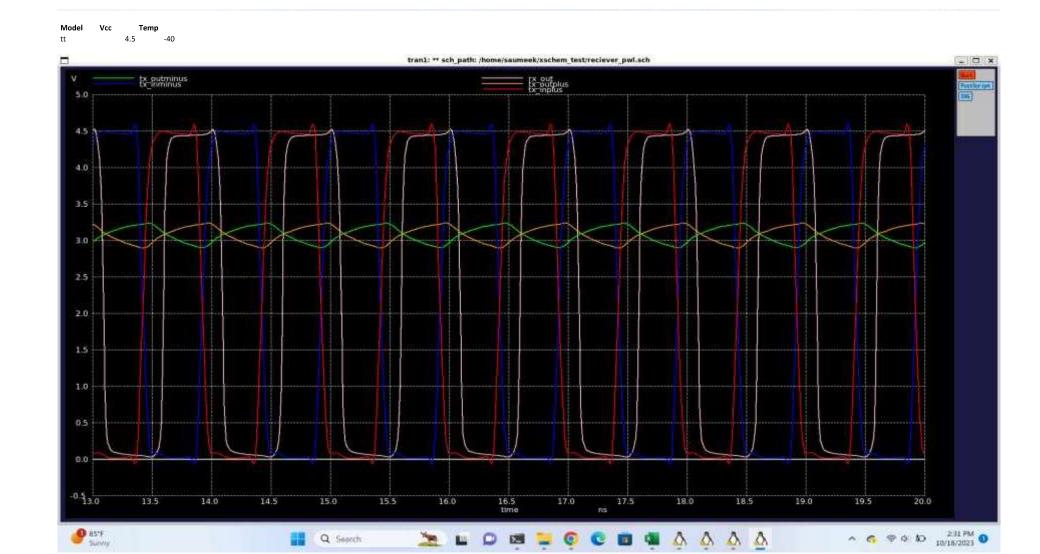




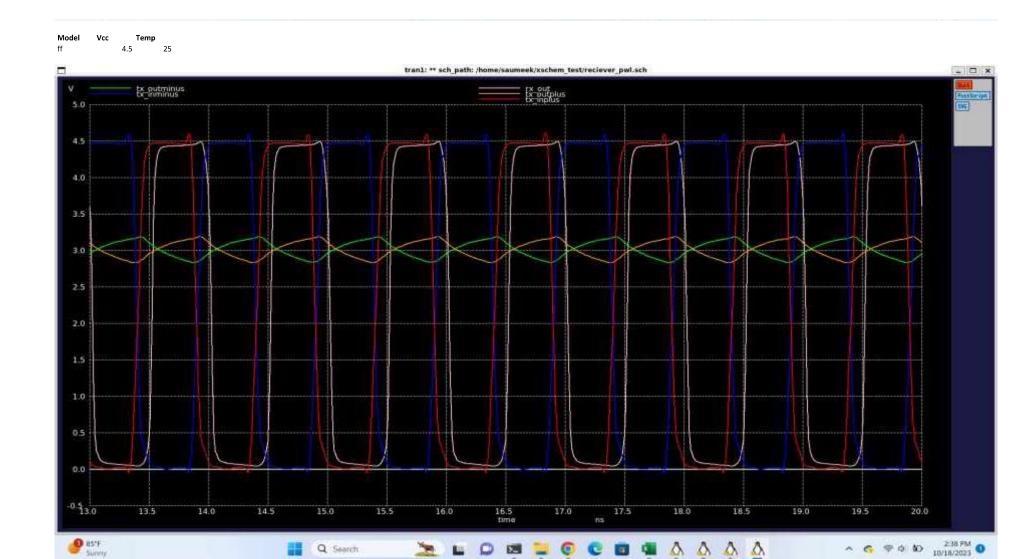
Simulation at 4.5V

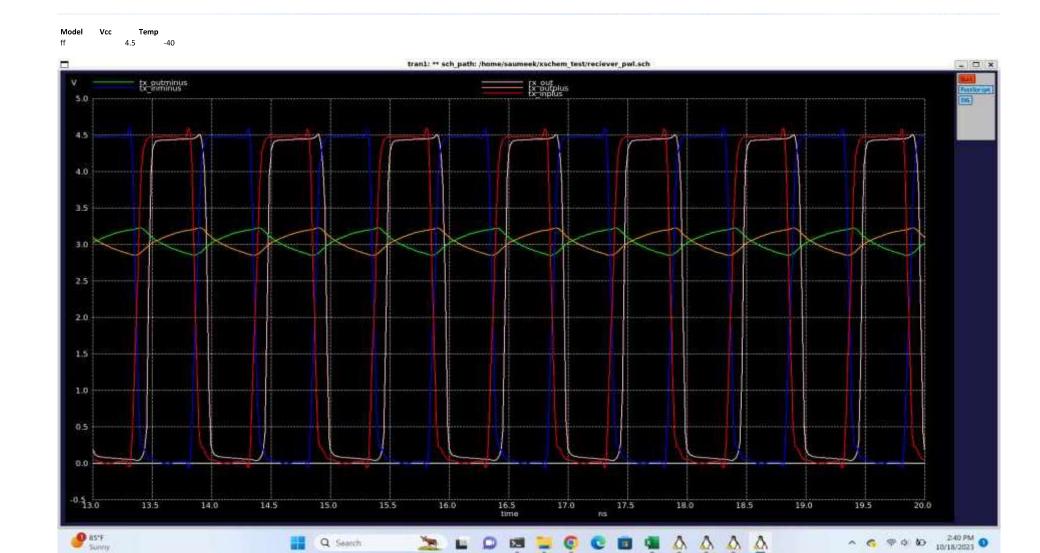
Model Vcc Temp tt 4.5 29

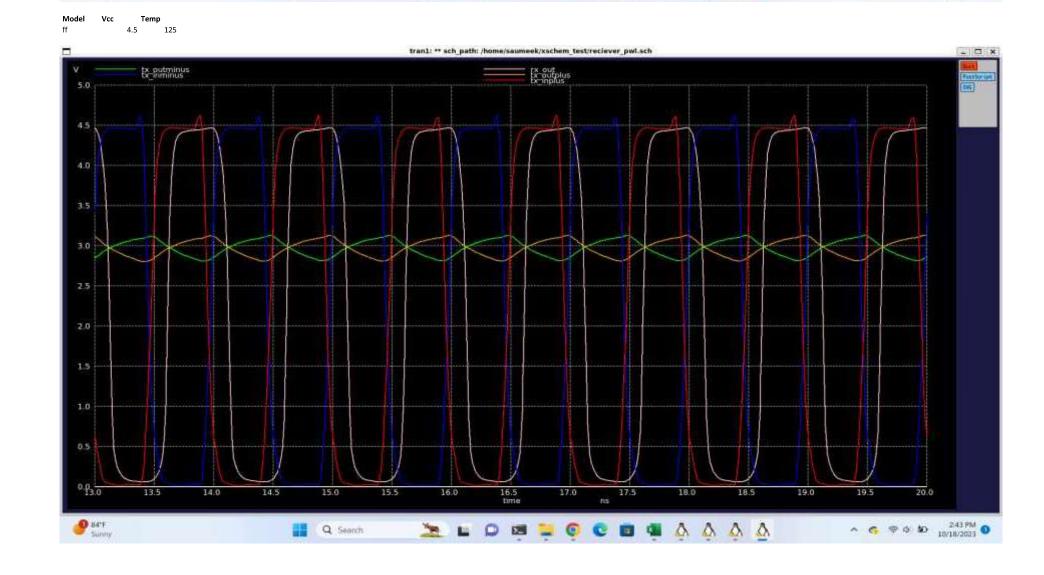




Model Vcc Temp 4.5 125 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out ix bulplus ix inplus 4.0 3.5 3.0 1.0 0.5 Saumeek Upadhyay (saumeekupadhyay@gmail.com) is signed in 0.43.0 18.5 16.5 time 18.0 13.5 14.0 14.5 15.0 15.5 16.0 17.0 19.0 19.5 20.0 ● 85°F Surviy ^ @ @ Ø Ø 235 PM ■ Q Search





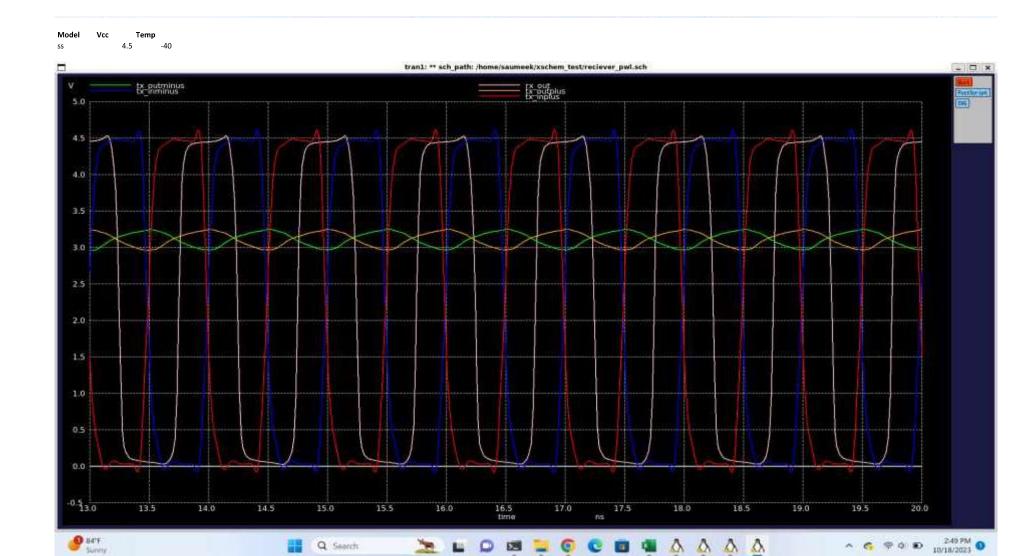


Model Vcc Temp 4.5 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out ix putplus tx inplus 4.0 3.0 0.5 0.43.0 16.5 time 13.5 14.0 14.5 15.0 15.5 16.0 17.0 18.5 19.0 19.5 20.0

^ 6 9 0 € 246 PM 10/18/2023 0

9 84°F Surviy

Q Search



Model Vcc Temp 4.5 125 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out ix bulplus ix inplus 4.0 3.0 1.0 0.0 0.43.0 16.5 time 13.5 14.0 14.5 15.0 15.5 16.0 17.5 19.0 19.5 20.0

^ @ @ Ø ₪ 252 PM 0

9 84°F Surviy

Q Search

Temp Model Vcc 4.5 25 fs tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch _ 🗆 x tx gutminus tx inminus x out x outplus tx inplus 3.5 3.0 1.0 0.43.0 13.5 14.0 14.5 15.0 15.5 16:0 16.5 time 17.0 18.0 18.5 19.0 19.5 20.0

^ 6 9 0 € 255 PM 0

● 84°F Surviy

Q Search

Model Vcc Temp 4.5 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out ix bulplus ix inplus 4.0 3.0 1.0 0.5

> 16.5 time

17.0

17.5

18.0

18.5

19.0

19.5

20.0

^ 6 9 0 € 257 FM 0

0.43.0

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13.5

14.0

14.5

15.0

Q Search

15.5

16.0

Model Vcc Temp 4.5 125 tran1: ** sch_path: /home/saumeek/xschem_test/reciever_pwl.sch - 0 x tx gutminus tx inminus rx out ix bulplus ix inplus 4.0 3.5 3.0 1.0 0.5

> 16.5 time

17.0

17.5

19.0

19.5

20.0

^ 6 9 0 € 250 PM 0

0.43.0

Breaking news Get caught up

13.5

14.0

14.5

15.0

Q Search

15.5

16.0

