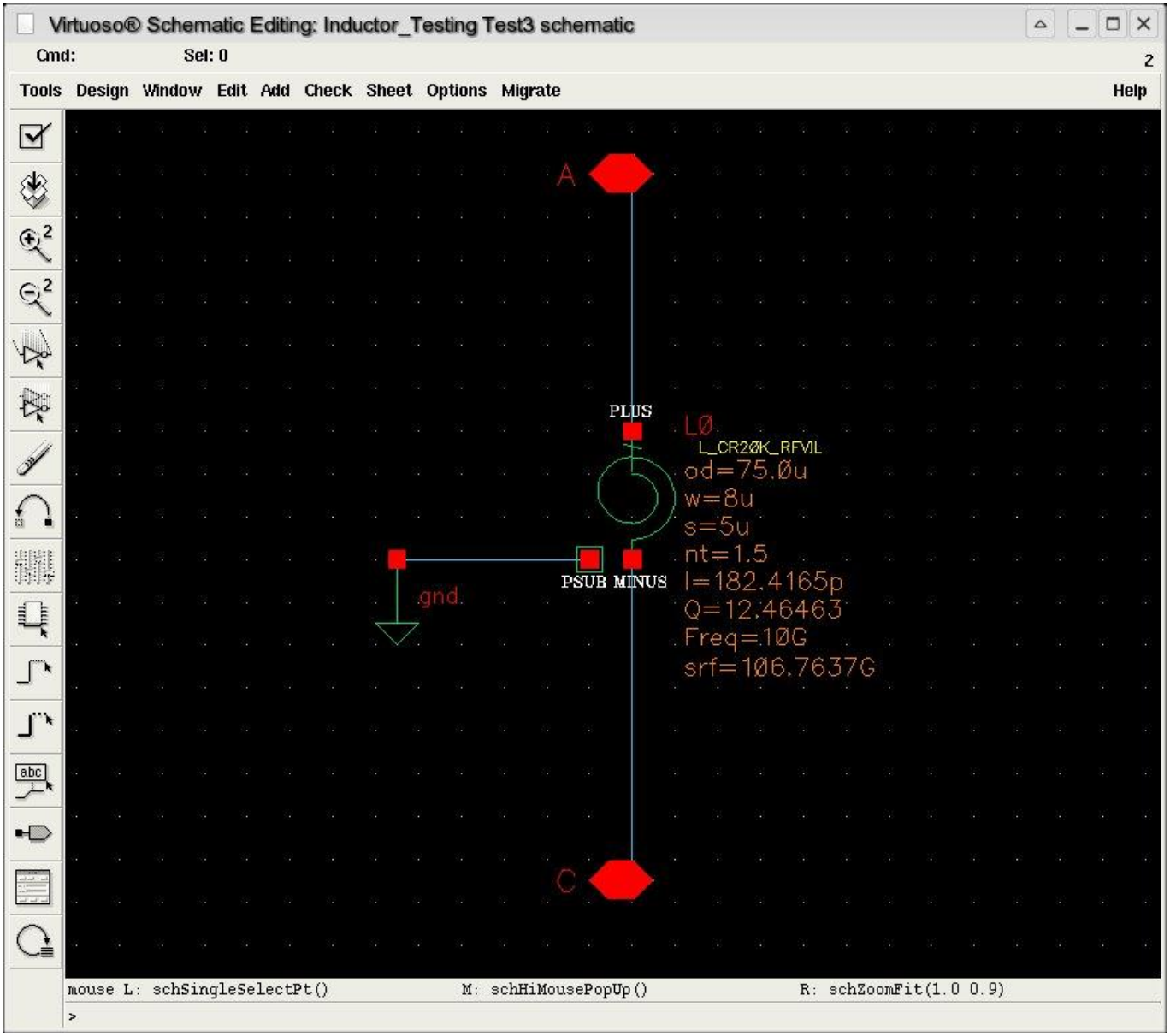
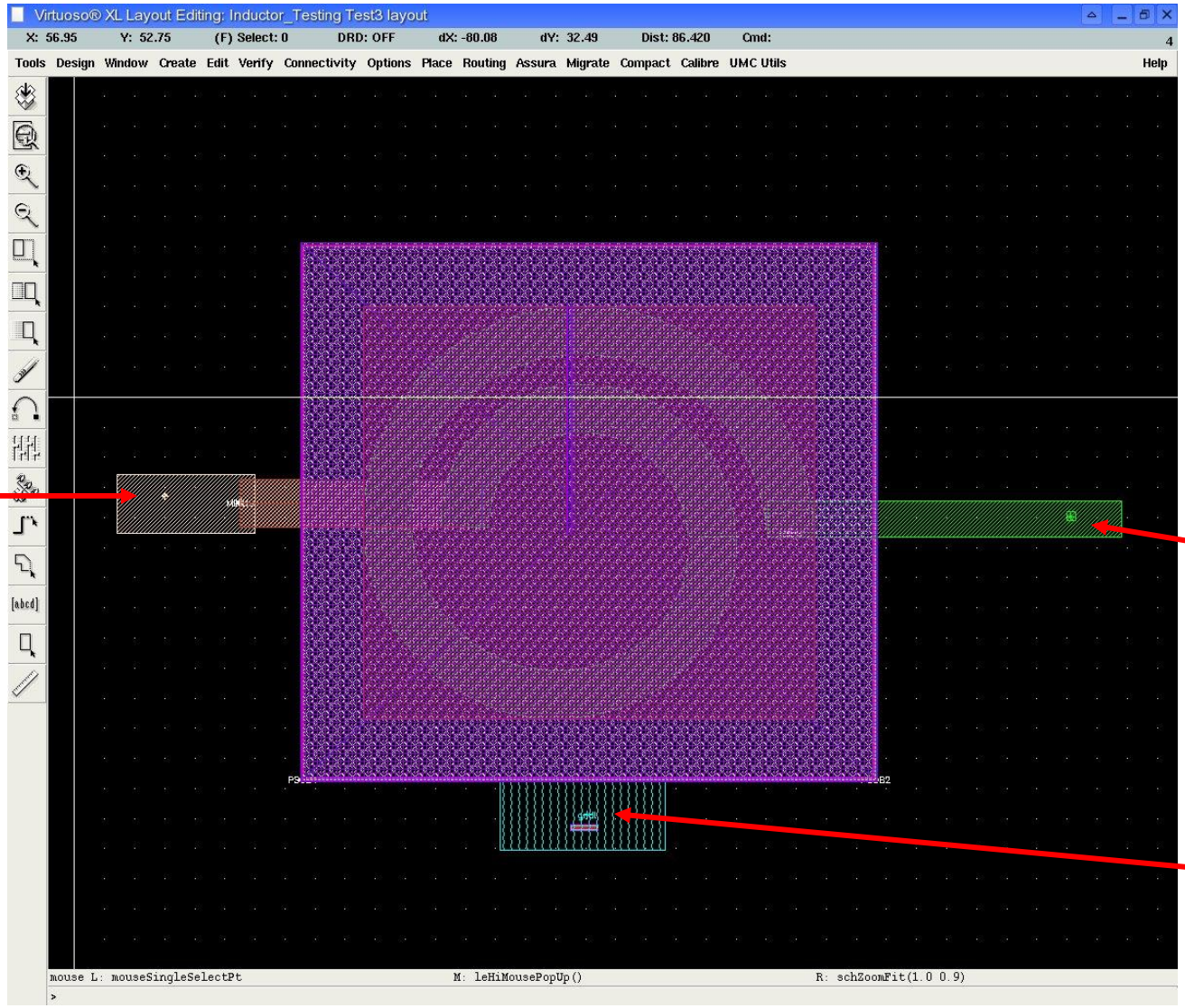
This is the inductor from umc013rf kit called “L_CR20K_RFVIL” on cadence.



I used “generate from the schematic” tool to get the layout as following.
I made it sure all the pin and pin name to be the same.

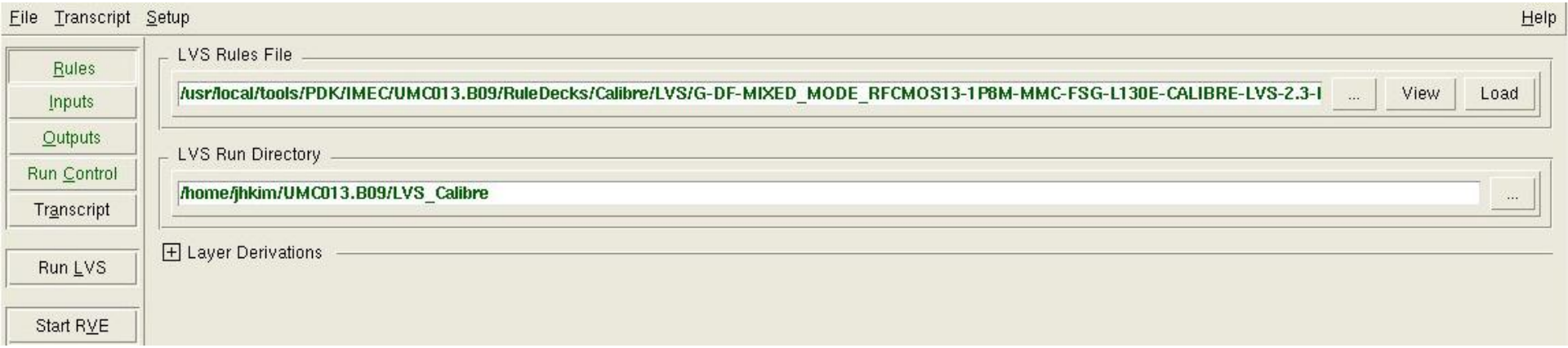


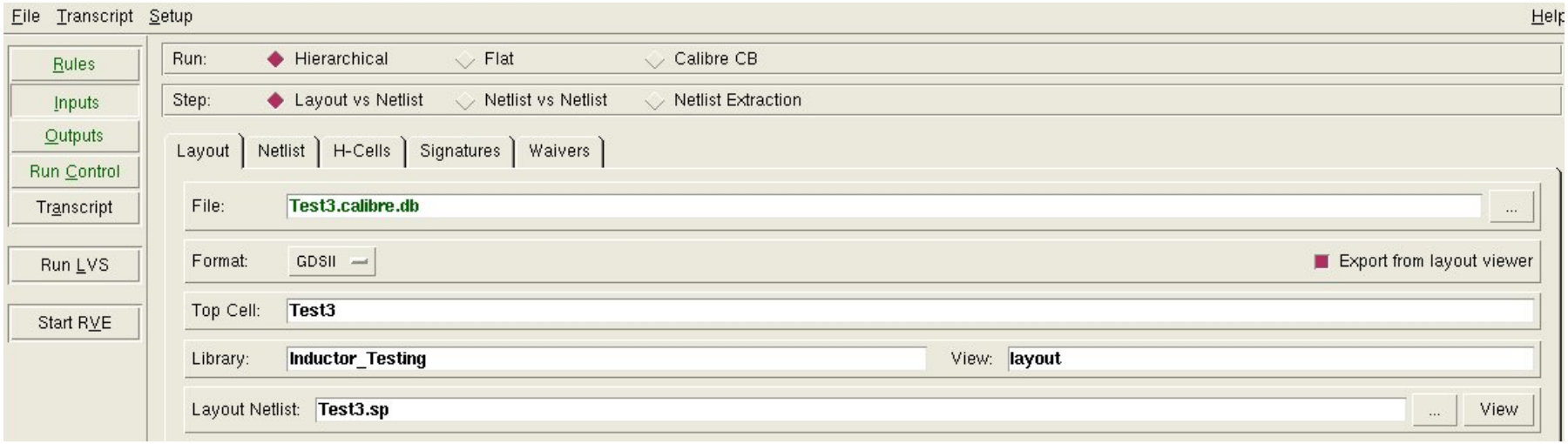
Pin “C”

Pin “A”

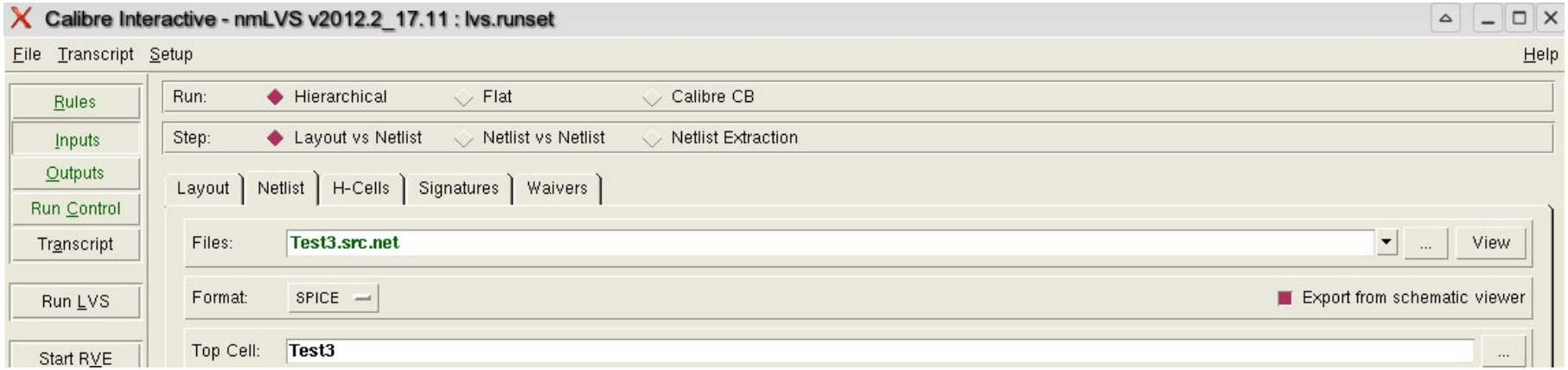
“Gnd”

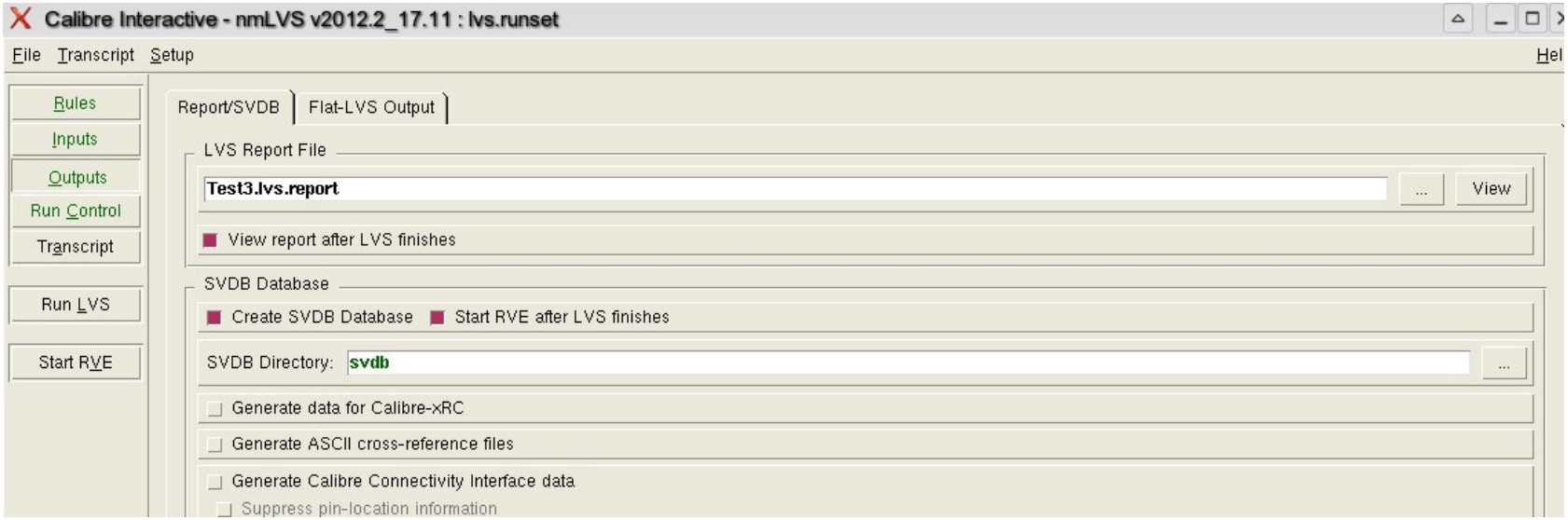
Here is how LVS set up.



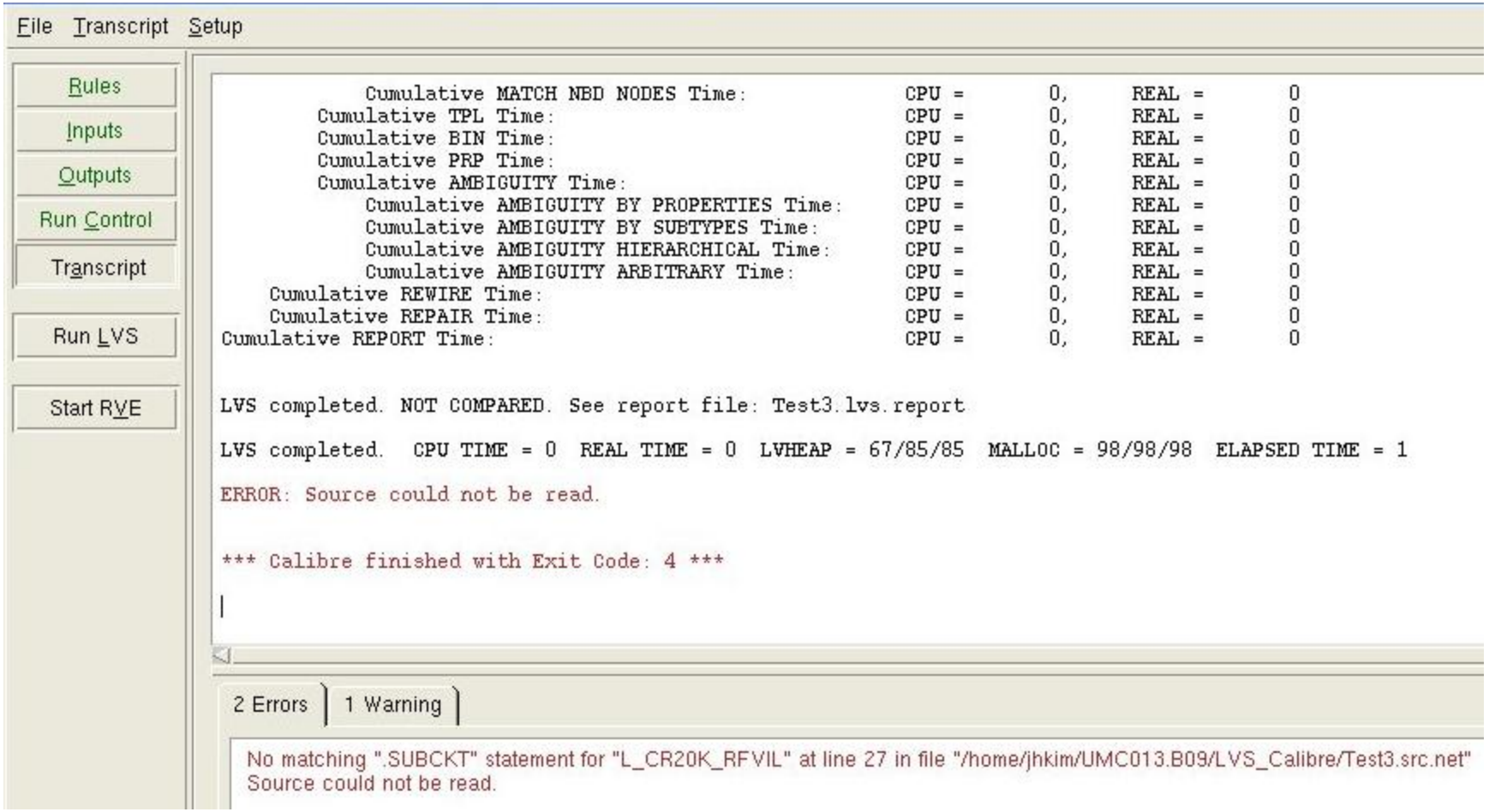


Here is how LVS set up. --continued





After Running LVS…….!! The problem starts here….



Couldn’t figure out how to fix this “subckt” error…….

Not only ".subckt" error but "syntax" error in the file mentioned …

"/home/jhkim/UMC013.B09/LVS_Calibre/Test3.src.net"

Test4.src.net - /home/jhkim/UMC013.B09/LVS_Calibre/

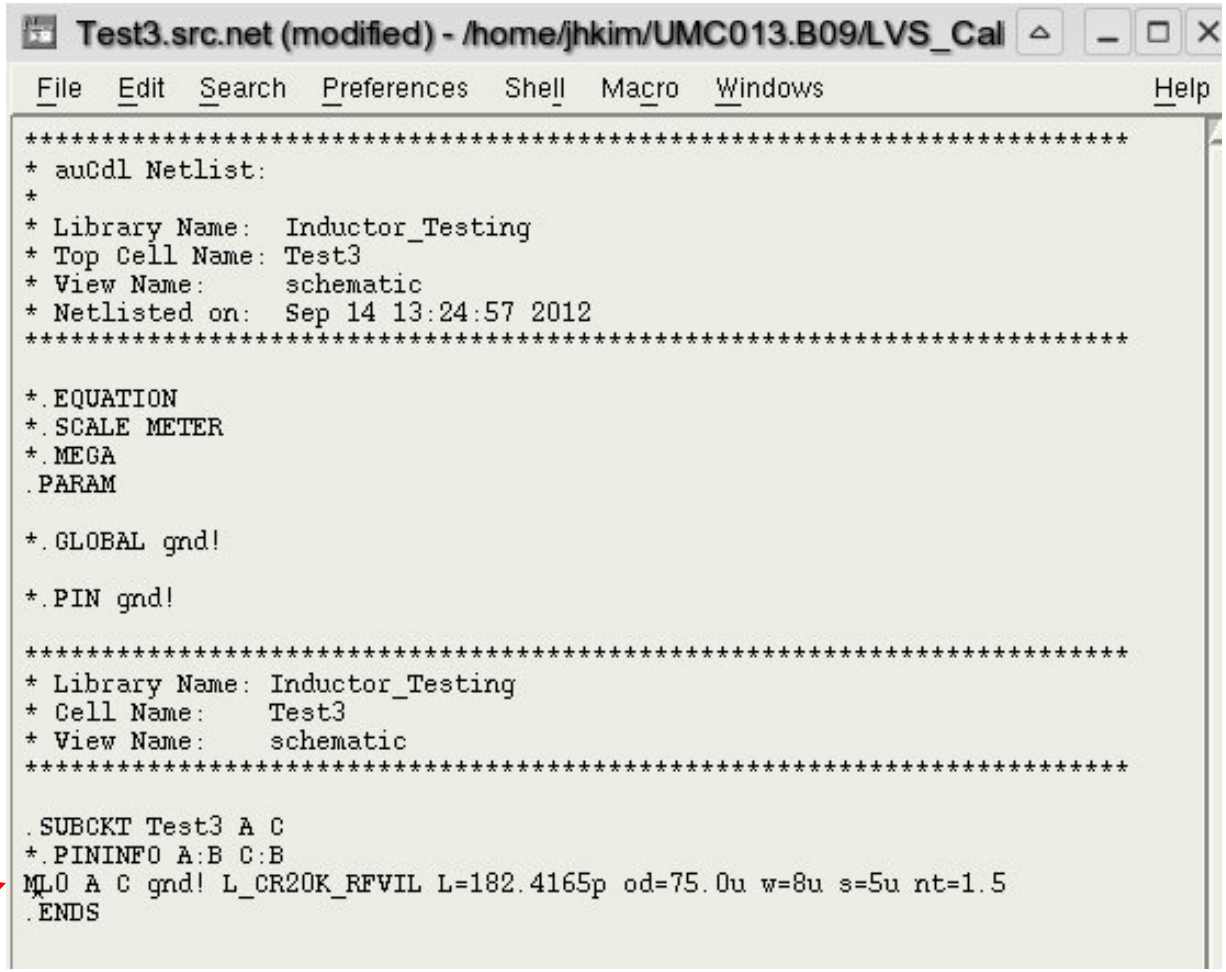
File Edit Search Preferences Shell Macro Windows

```
*********************************************************************
* auCdl Netlist:
*
* Library Name:  Inductor_Testing
* Top Cell Name: Test3
* View Name:     schematic
* Netlisted on:  Sep 14 16:06:16 2012
*********************************************************************

*.EQUATION
*.SCALE METER
*.MEGA
.PARAM

*.GLOBAL gnd!

*.PIN gnd!

*********************************************************************
* Library Name: Inductor_Testing
* Cell Name:    Test3
* View Name:    schematic
*********************************************************************

.SUBCKT Test4 A C
*.PININFO A:B C:B
XL0 A C gnd! / L_CR20K_RFVIL L=182.4165p od=75.0u w=8u s=5u nt=1.5
.ENDS
```

This "X" in front of L0 is causing the problem of ".subckt" error in running LVS.

This "back slash" was causing the syntax error. We don't know why there is one. I worked with "umc018" previously but never had this before…….

Got rid of “/” and trying to fix “.subckt” error……
To get rid of “.subckt” error, we had to do following.



We tried with “ML0” then we get
no “.subckt” error.

Got rid of “/” and trying to fix “.subckt” error…… LVS results following….

Cell Test3 Summary (2 Discrepancies)

```
#   #        ####################
 # #         #                  #
  #          #     INCORRECT    #
 # #         #                  #
#   #        ####################
```

Error: Different numbers of instances (see below).

LAYOUT CELL NAME: Test3
SOURCE CELL NAME: Test3

NUMBERS OF OBJECTS

	Layout	Source		Component Type
Ports:	3	3		
Nets:	3	3		
Instances:	0	1	*	M (3 pins)
	1	0	*	L_CR20K_RFVIL (3 pins)
Total Inst:	1	1		

* = Number of objects in layout different from number in source.

****

INFORMATION AND WARNINGS

****

	Matched Layout	Matched Source	Unmatched Layout	Unmatched Source	Component Type
Ports:	3	3	0	0	
Nets:	3	3	0	0	
Instances:	0	0	0	1	M(L_CR20K_RFVIL)
	0	0	1	0	L_CR20K_RFVIL
Total Inst:	0	0	1	1	

LVS still don’t match. So we tried to change “XL0” to “LL0” results next page.

This is the LVS results from changing “XL0” to “LL0” instead of “ML0”. (we tried many different way)

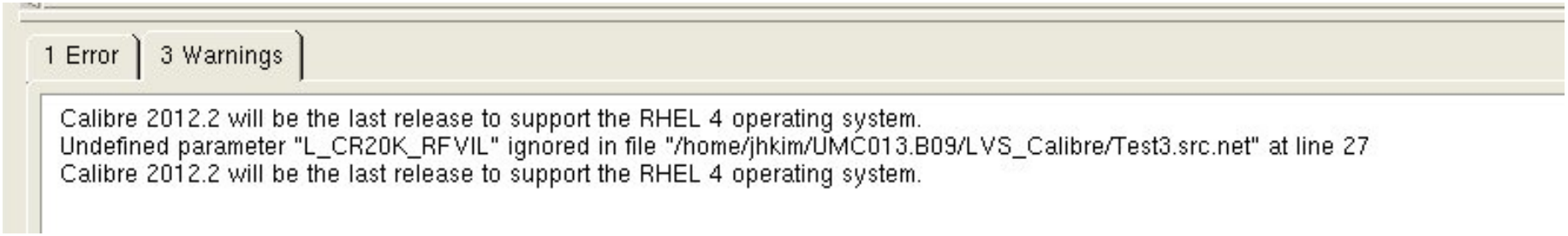
LVS Report File - Test3.lvs.report

File Edit Options Windows

```
DISC#  LAYOUT NAME                                                    SOURCE NAME
*************************************************************************************************

  1    D0(85.195,-63.730)  D(DION_L130E)                             ** missing instance **
         pos: GND!                                                     ** GND! **
         neg: GND!                                                     ** GND! **

-------------------------------------------------------------------------------------------------

  2    X1/X0(27.550,-21.640)  L_CR20K_RFVIL                          ** missing instance **
         PLUS: A                                                       ** A **
         MINUS: C                                                      ** C **
         PSUB: GND!                                                    ** GND! **

-------------------------------------------------------------------------------------------------

  3    ** missing instance **                                        L0  L(GND!)
         ** A **                                                       pos: A
         ** C **                                                       neg: C


*************************************************************************************************
                                INFORMATION AND WARNINGS
*************************************************************************************************


                  Matched    Matched    Unmatched    Unmatched    Component
                   Layout     Source      Layout       Source    Type
                  -------    -------    ---------    ---------    ---------
   Ports:               3          3            0            0

   Nets:                3          3            0            0

   Instances:           0          0            1            0    D(DION_L130E)
                        0          0            0            1    L(GND!)
                        0          0            1            0    L_CR20K_RFVIL
                  -------    -------    ---------    ---------
   Total Inst:          0          0            2            1
```

LVS still don’t match. As you see there are now more mismatch between the source and the layout.

More questions about the LVS report.



I mentioned that to get rid of “.subckt” LVS error we had to remove the “X” from “XL0” in the .src.net file. We thought that’s the way to fix it however, if you look at the figure above, the parameter “L_CR20K_RFVIL” is ignored. We don’t understand why it’s ignored.