Mixed Signal Simulation using NgVeri

Spoken Tutorial Project

https://spoken-tutorial.org

National Mission on Education through ICT

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The process demonstrated in this tutorial is similar in Windows OS also

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- **The learner must have basic knowledge of eSim**

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- **For pre-requisite eSim tutorials, please visit https://spoken-tutorial.org**

Code Files

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- Make a copy and then use them while practicing

Features of Makerchip-NgVeri

- The Makerchip interfaces the online **Makerchip IDE** with **eSim**

Features of Makerchip-NgVeri

- **The Makerchip interfaces the online Makerchip IDE with eSim**
- **The NgVeri converts a Verilog code file to its respective NgVeri digital model**

Features of Makerchip-NgVeri

- The created models are used for mixed signal circuit simulation in eSim

Supported File Formats

The supported file formats are

- **.tlv: Transaction-Level Verilog**

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- **.tlv: Transaction-Level Verilog**
- **.v: Verilog**
- **.sv: System Verilog**

Summary

In this tutorial, we have

- Opened and edited a file in Makerchip
- Created an Ngspice model using NgVeri
- Generated plots using an Ngspice model

Assignment

- Open the file shift.v in Makerchip - NgVeri
- shift.v file is available in codefile link
- Run Verilog to NgSpice Converter
- If Model created successfully, create a new project

Assignment

- Create a new schematic using the shift block
- Generate Netlist and run KiCad to Ngspice Converter
- Add simulation parameters and run the simulation
- Verify the input and output plots

About the Spoken Tutorial Project

- Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Answers for THIS spoken tutorial

- Questions in THIS Spoken Tutorial
- Visit https://forums.spoken-tutorial.org
- Choose the minute and second where you have the question
- Explain your question briefly
- The Spoken Tutorial project will ensure an answer
- You will have to register to ask questions

FOSSEE Forum

- **For any general or technical questions on eSim, visit the FOSSEE forum and post your question**
  https://forums.fossee.in/

Circuit Simulation Project

- **The FOSSEE team coordinates the Circuit Simulation project**
- **For more details visit: https://esim.fossee.in/circuit-simulation-project**

TextBook Companion Project

- **The FOSSEE team coordinates the TextBook Companion project**
- **For more details visit: https://esim.fossee.in/textbook-companion-project**

Lab Migration

- **The FOSSEE team coordinates the Lab migration project**
- **For more details visit: https://esim.fossee.in/lab-migration-project**

Acknowledgement

- **The Spoken Tutorial project is funded by Ministry of Education, Govt. of India**

Thank you

- **This is Josiga, a FOSSEE Summer fellow 2022, IIT Bombay signing off**
- **Thanks for joining**