

Caravel Board Firmware for the VexRisc-V Processor

This repo provides firmware examples, flash programming and diagnostic tools for testing Open MPW and chipIgnite projects using Caravel on the open-source SKY130 technology node. It also provides schematics, layout and gerber files for PCB evaluation and breakout boards.

The current version of this document can be found at

https://github.com/efabless/caravel_board/blob/main/firmware/mpw2-5/README.md

or scan the QR code...



Firmware

You will need python 3.6 or later.

To program Caravel, connect the evaluation board using a USB micro B connector.

```
pip3 install pyftdi  
  
cd firmware/blink  
  
make clean flash
```

Install Toolchain for Compiling Code

For Mac

<https://github.com/riscv/homebrew-riscv>

For Linux

<https://github.com/riscv/riscv-gnu-toolchain>

Diagnostics

Makefiles in the firmware project directories use

```
firmware/util/caravel_hkflash.py
```

to program the flash on the board through Caravel's housekeeping SPI interface.

```
firmware/util/caravel_hkdebug.py
```

provides menu-driven debug through the housekeeping SPI interface for Caravel.