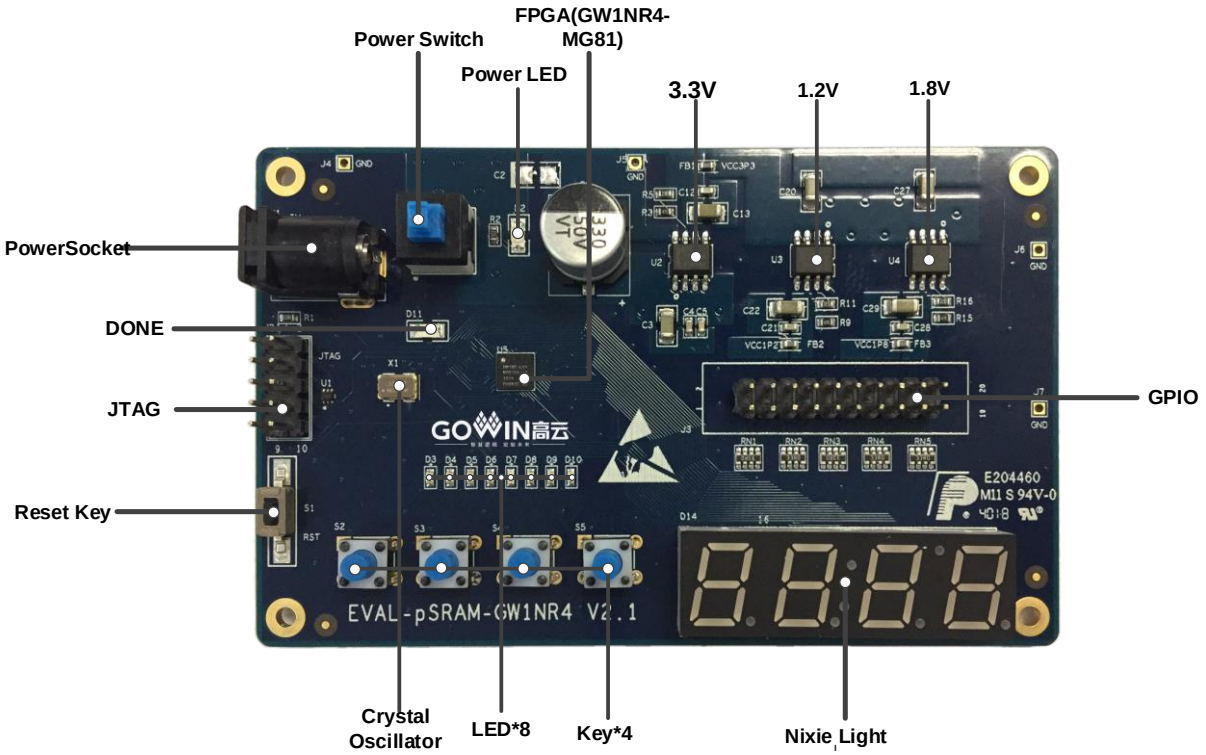
EVAL-pSRAM-GW1NR4 Development Board Quick Start User Guide

Figure 1 PCB Components



Kit List

Figure 2 Development Board

1. Gowin EVAL-pSRAM-GW1NR4 Development Board
2. 5V Power Supply
   INPUT:100-240V~50/60Hz 0.5A
   OUTPUT:DC 5V 2A
3. Quick Start User Guide

Contact Us for Technical Support:

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Introduction

Thank you very much for taking EVAL-pSRAM-GW1NR4 as the development & learning platform. This user guide can help you install the required software, compile the Demo, and download it to the development board to test so as to be familiar with the development flow.

Install Software

Install Gowin EDA software (Gowin YunYuan Software) to creat, compile and download FPGA Demo program. Download the EDA software, apply for a license, and obtain software user guide at GOWINSEMI website https://www.gowinsemi.com/en/support/home/. For details on the software installation method and usage, please refer to SUG100, Gowin YunYuan Software User Guide.

Development Board Power-on Test

The test program has been downloaded into the on-chip FLASH

before the delivery of EVAL-pSRAM-GW1NR4 development board. The development board can be checked whether to work when it is powered on.

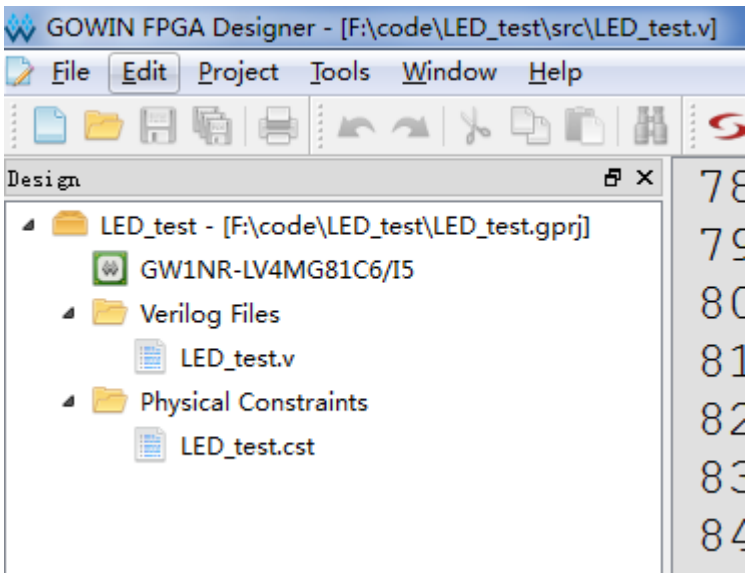
Plug the 5V power supply into the power socket of the development board. Switch on the power to start the internal FLASH to load. After loading is done, eight green LEDs will blink, indicating that the development board can work.

Compile Demo Program

The LED test program is to demonstrate eight LEDs blinking. Users can download the corresponding demo at Gowinsemi website: https://www.gowinsemi.com/en/support/database/. Save the project in the directory with no Chinese characters. Open and compile this demo using Gowin YunYuan software.

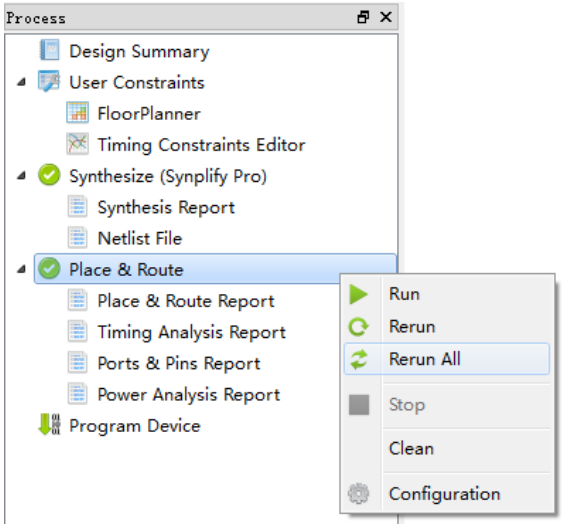
1. Open the "LED_test.gprj" project and the follows are displayed in the "Design" window:
   - GW1NR-LV4MG81C6/I5: Gowin FPGA device part number;
   - LED_test.v: Verilog code;
   - LED_test.cst: Physical constraints file.

Figure 3 Design



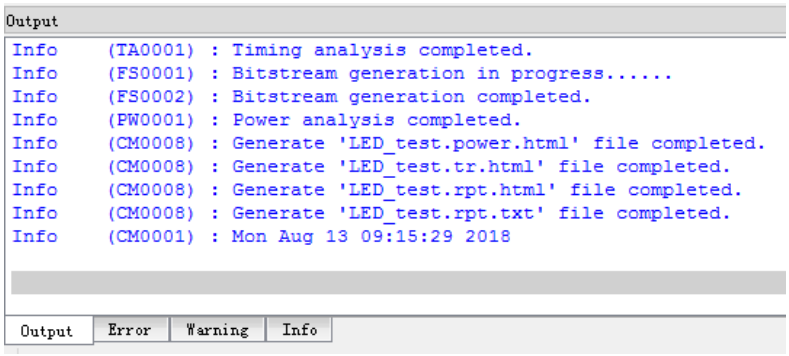
2. Right click "Place & Route" in the "Process" window and select "Rerun All";

Figure 4 Select Rerun All



3. After compilation, the following information will be displayed. The generated bitstream file is saved in: ..LED_test\impl\pnr\LED_test.fs.

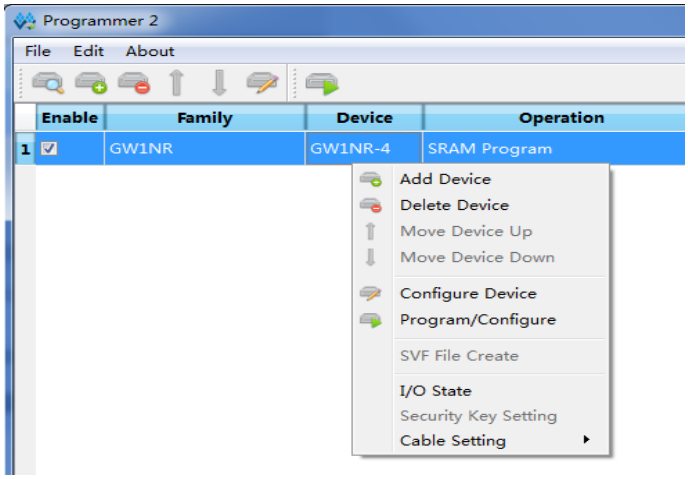
Figure 5 Compiling Completed



Download and Run

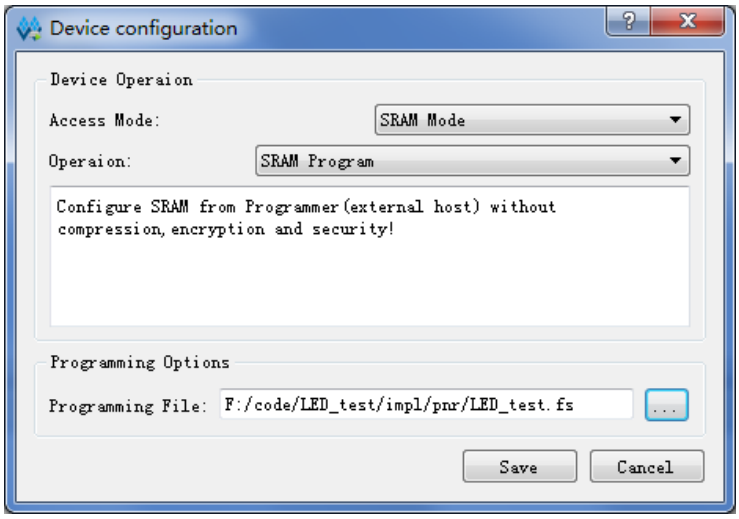
1. Connect the JTAG (J2) of development board with PC using the download cable and switch on the power. Double-click on the "Program Device" in the "Process" window. The "Programmer" window will pop up. Right-click on the device list, and select "Configure Device". The Device configuration dialog box will pop up.

Figure 6 Programmer



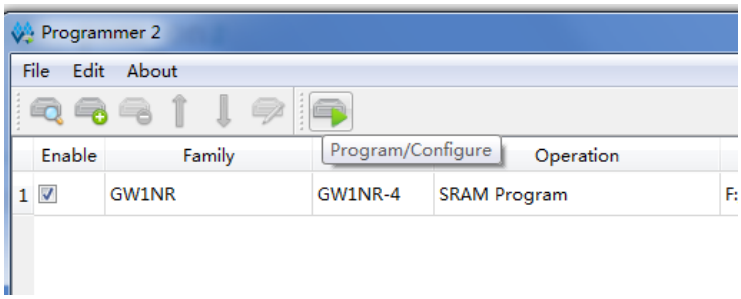
2. Set the download mode as shown below and specify the bitstream file path.

Figure 7 Device Configuration



3. After configuration, click the "Program/Configure" to download the program. After finishing, the eight LEDs of the development board will blink.

Figure 8 Program/Configure



Support and Feedback

Gowin Semiconductor provides customers with comprehensive technical support. If you have any questions, comments, or suggestions, please feel free to contact us directly by the following ways.

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Revision History

Date	Version	Description
02/25/2020	1.0E	Initial version published.

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EVAL-pSRAM-GW1NR4 MBGA81