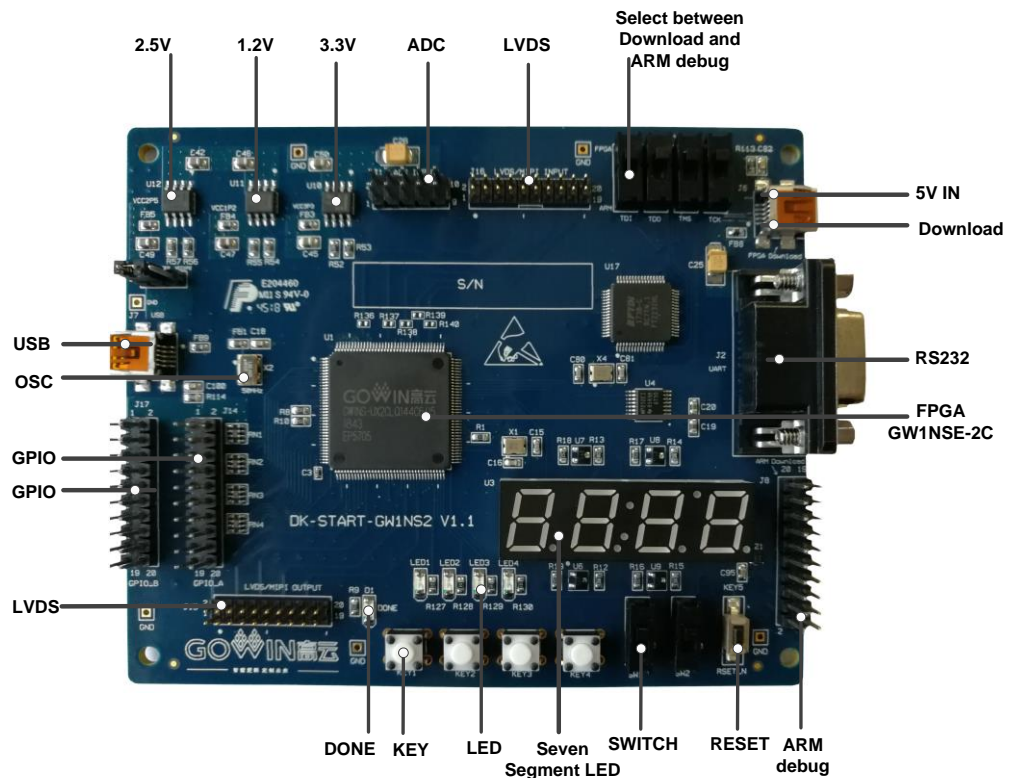


# DK-START-GW1NSE2 Development Board Quick Start User Guide

Figure 1 PCB Components



## Kit List

Figure 2 Development Board Kit



### Contact Us for Technical Support:

- Website: <a href="http://www.gowinsemi.com/en">www.gowinsemi.com.en</a>	Shenzhen: 86-755-8262-0391	Beijing: +86-186-0028-1017
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## Introduction

Thank you very much for taking DK-START-GW1NSE2 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 internal FLASH before the delivery of DK-START-GW1NSE2 development board. The development board can be checked whether to work when it is powered on.

Connect the J6 (USB interface) of the development board to PC using

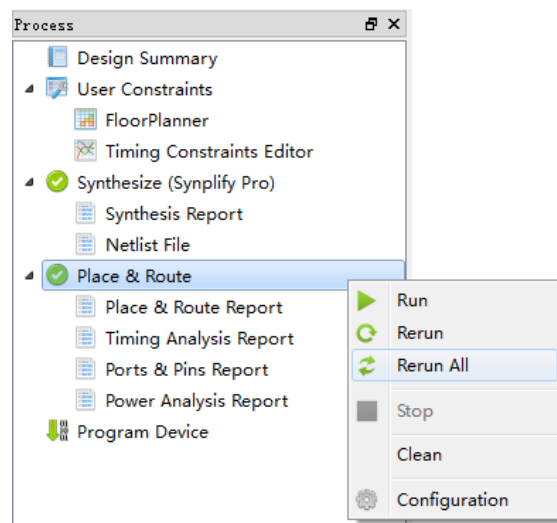
the USB cable. If the loading is done, four green LEDs will blink in turn, indicating that the development board can work.

## Compile Demo Program

The LED test program is to demonstrate four 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:
  - GW1NSE-UX2LQ144C6/I5: Gowin FPGA device part number;
  - LED\_test.v: Verilog code;
  - LED\_test.cst: Physical constraints file.
2. Right click "Place & Route" in the "Process" window and select "Rerun All";

**Figure 3 Select Rerun All**

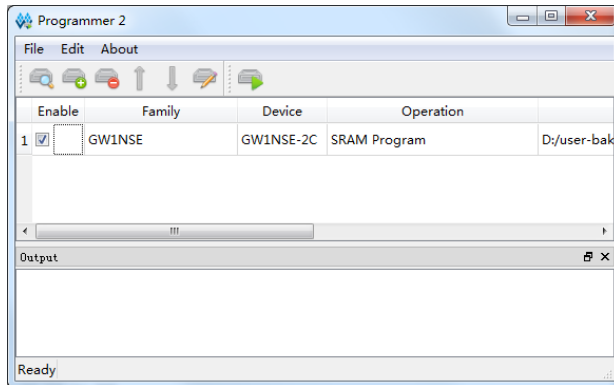


3. After compilation, the bitstream file is generated.

## Download and Run

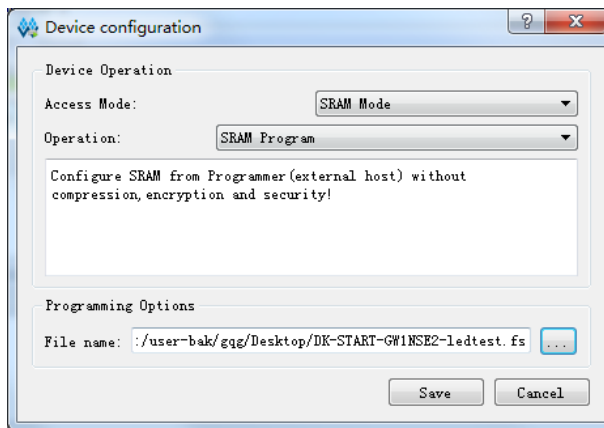
1. Connect the JTAG(J6) on the development board with PC using the USB cable. Switch the SW3~SW6 to the FPGA side. Double-click on the "Program Device" in the "Process" window. The "Programmer" window will pop up. Right-click on the device list, and select "Configure Device". The Device configuration dialog box will pop up.

**Figure 4 Programmer**



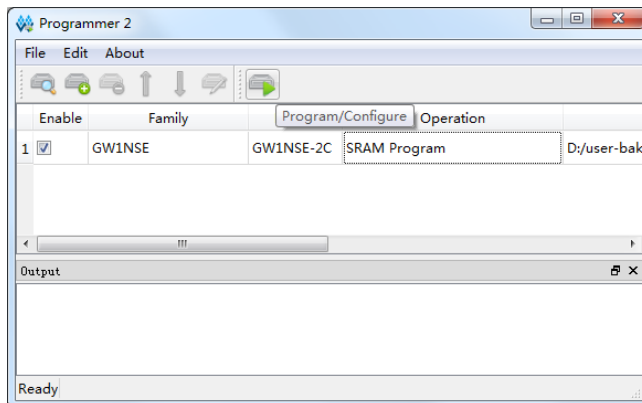
2. Set the download mode as shown below and specify the bitstream file path.

**Figure 5 Device Configuration**



3. After configuration, click the "Program/Configure" to download the program.

**Figure 6 Program/Configure**



After finishing, four LEDs of the development board will blink in turn.

Please refer to the [schematic](#) and [user guide](#) of DK-START-GW1NS2 for details.

Notes for the use of DK-START-GW1NSE2:

1. GW1NSE-2C is Gowin SecureFPGA with secure mode and authentication code.
2. Gowin EDA version 1.9.2 or above is required to download FPGA.
3. The "Secure Mode" meaning one-time programming is usually used for products delivery. It is not suggested to select the "Secure Mode" when downloading bitstream to SecureFPGA.
4. Before the first use of the board, the authentication code must be read back using the Programmer tool and saved to the local PC. It is necessary to write the authentication code first when downloading the MCU code.

## 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.

Website: [www.gowinsemi.com](http://www.gowinsemi.com)

E-mail: [support@gowinsemi.com](mailto:support@gowinsemi.com)

Tel: 00 86 0755 82620391

## Revision History

Date	Version	Description
02/27/2020	1.0E	Initial version published.