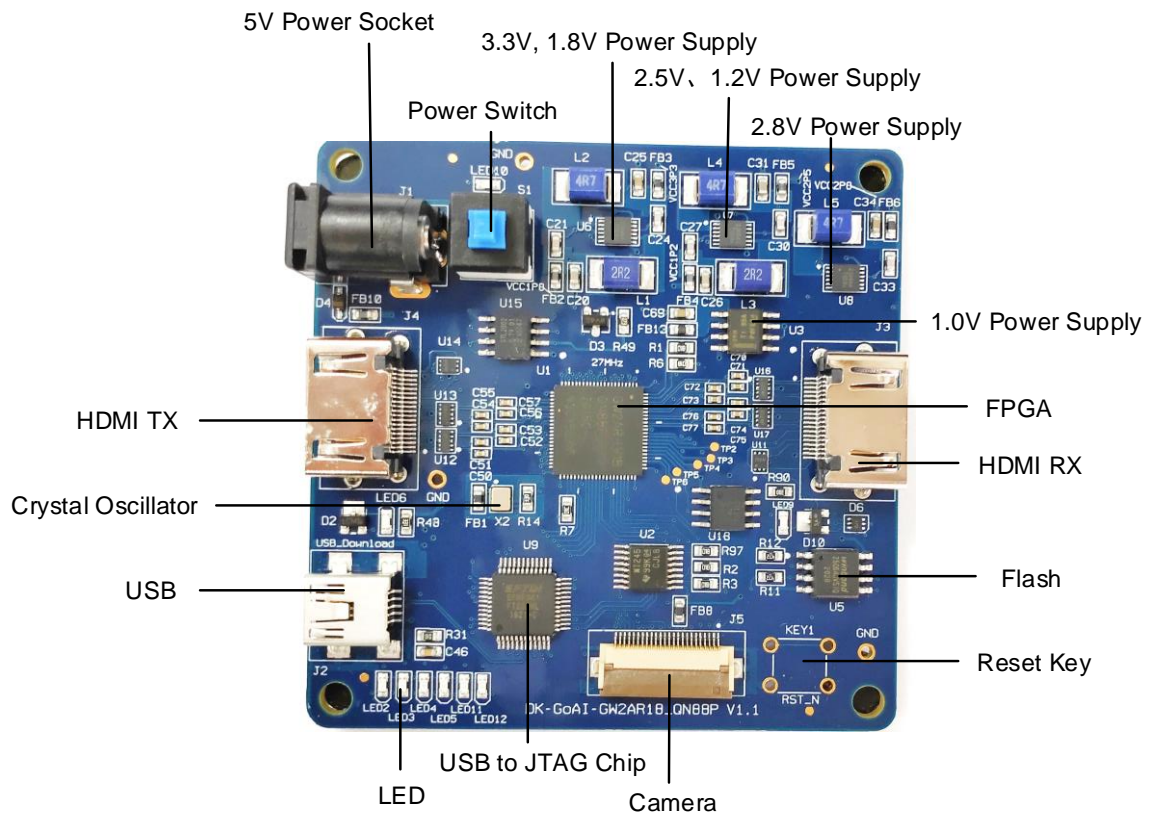


DK-GoAI-GW2AR18QN88P_V1.1 Development Board Quick Start Guide

Figure 1 PCB Components



Kit List

Figure 2 Development Kit



Contact Us for Technical Support:

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- ① Gowin DK-GoAI-GW2AR18QN88P_V1.1 Development Board
- ② USB Cable
- ③ DC5V Power Adaptor
- ④ Quick Start Guide

Introduction

Thank you very much for taking DK-GoAI-GW2AR18QN88P_V1.1 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 Software) to create, 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 application, please see [SUG100](#), Gowin Software

User Guide.

Development Board Power-on Test

The test program has been downloaded into the internal FLASH before the delivery of DK-GoAI-GW2AR18QN88P_V1.1 development board. The development board can be checked whether to work when it is connected to USB cable.

Connect the PC to the J2 USB socket of the development board with a USB cable, and connect the PC to the J3 HDMI with an HDMI cable, and connect the screen to the J4 HDMI with another HDMI cable. If the loading is successful, the green LED2 and LED3 flash, and the green LED4 and LED5 are constantly on and the screen displays the host image. It indicates that the board can work.

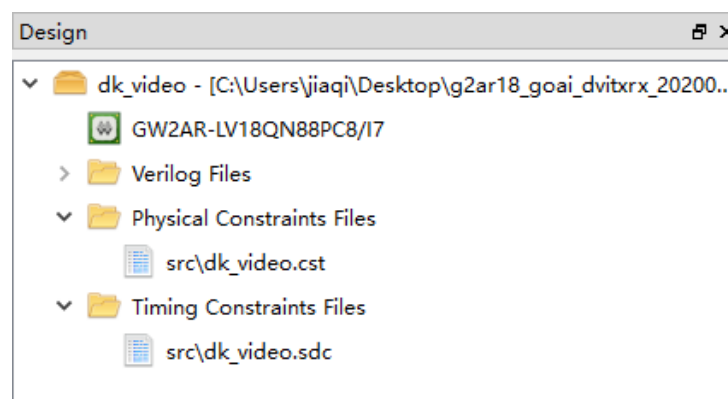
Build Demo Program

The test program is an HDMI input and HDMI output Demo. You 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 software.

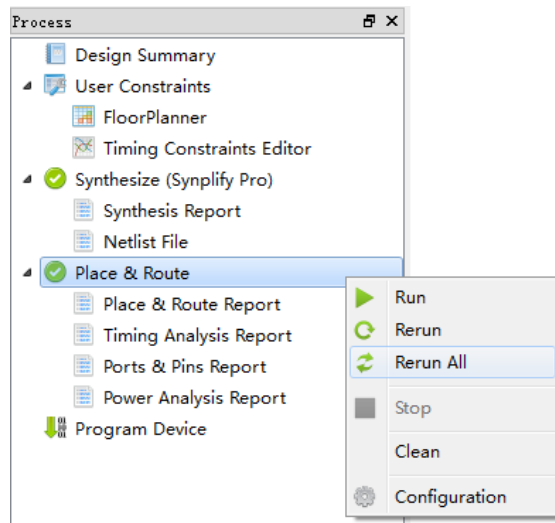
1. Open the "dk_video.gprj" project and the follows are displayed in the "Design" window:
 - GW2AR-LV18QN88PC8/I7: Gowin FPGA device part number;
 - Verilog Files: Verilog files;
 - Dk_video.cst: Physical constraints file;
 - Dk_video.sdc: Timing constraints file.

Figure 3 Design Window



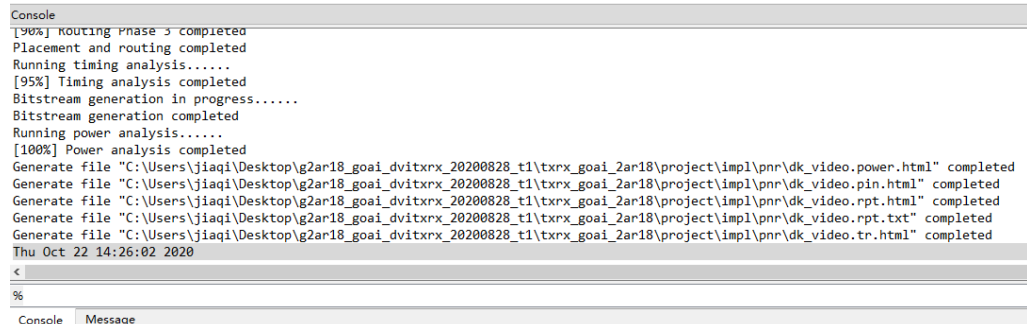
2. Right click "Place & Route" in the "Process" window and select "Rerun All";

Figure 4 Select Rerun All



3. After building, the following information will be displayed. The generated bitstream file is saved in: .. txrx_goai_2ar18\project\impl\pnr\ dk_video.fs.

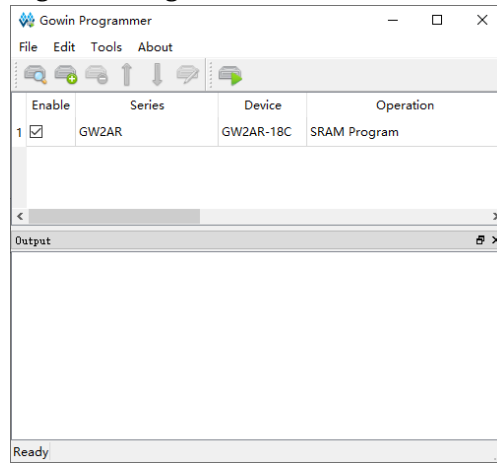
Figure 5 Build Completed



Download and Run

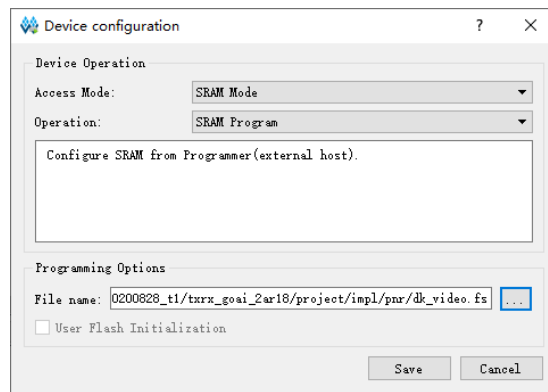
1. Connect the JTAG(J2) on the development board with PC using the USB cable. Double-click on the "Program Device" in the "Process" window. The "Programmer" window will pop up. Right-click on the device list, and select "Configure Device". The Device configuration dialog box will pop up.

Figure 6 Programmer Window



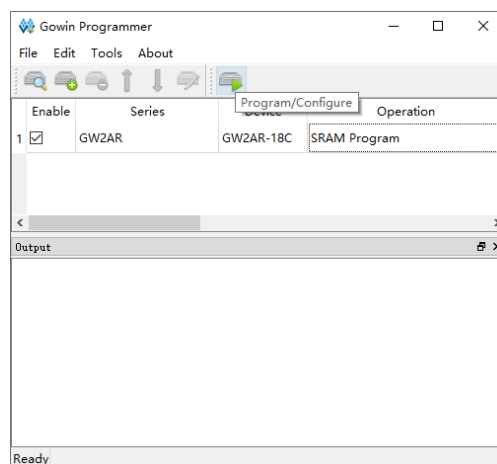
2. Set the download mode as shown below and specify the bitstream file path.

Figure 7 Device Configuration



3. If the loading is successful, the green LED2 and LED3 flash, and the green LED4 and LED5 are constantly on and the screen displays the host image. It indicates that the board can work.

Figure 8 Program/Configure



Demo

Figure 9 Connection



Note!

Plug in RX HDMI after programming.

Figure 10 Program the Device



Note!

After programming, if there is no response, plug in RX HDMI again.

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

E-mail: support@gowinsemi.com

Revision History

Date	Version	Description
10/26/2020	1.0E	Initial version published.

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