



# Gowin YunYuan Software

## **Release Note**

**RN100-1.9.0.02BetaE, 5/5/2019**

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## Revision History

Date	Version	Description
2/8/2018	1.0E	<ul style="list-style-type: none"> <li>● Initial version 1.8.0Beta1 released;</li> <li>● The GAO optimized ;</li> <li>● The simplified version GAO added;</li> <li>● IP supported by IP Core Generator;</li> <li>● Known issues updated;</li> <li>● GW1N-2 / GW1N-4 PBGA256M package supported;</li> <li>● GW1N-6/GW1N-9 WLCSP64 package supported;</li> <li>● The synthesis of initial reg values supported by SynplifyPro .</li> </ul>
4/20/2018	1.1E	<ul style="list-style-type: none"> <li>● Software Version 1.8.0Beta released;</li> <li>● TCK pins multiplexing supported;</li> <li>● External SDRAM of SDRAM controller supported;</li> <li>● When IP Core Generator generates I3C IP, support click "Cancel &gt; OK";</li> <li>● Tabs in BSRAM initialization files supported by IP Core Generator;</li> <li>● The OSC clock used as a default analysis clock supporting the timing analyzing;</li> <li>● IDES16 and OSER16 supported by GW1N-6/GW1N-9/GW1NR-9 ;</li> <li>● Jtagserver to support Korean Operating System in GAO upgraded;</li> <li>● The value range of GPA VCC/VCCX updated;</li> <li>● Programmer optimized and the known issues updated.</li> </ul>
5/18/2018	1.2E	<ul style="list-style-type: none"> <li>● Software Version 1.8.0.01Beta released;</li> <li>● IP Core Generator, MIPI RX supporting 1:16, MIPI TX supporting 16:1;</li> <li>● The I/O error count in SDRAM Controller updated when the SDRAM Controller is used;</li> <li>● When IP Core Generator generates MIPI TX and configures LP mode on data lane 0~3, the problem that only LP data0 is generated is fixed;</li> <li>● The value range of GPA VCCX updated.</li> </ul>
6/1/2018	1.3E	<ul style="list-style-type: none"> <li>● Software Version 1.8.0.02Beta released;</li> <li>● MODE pin multiplexing supported;</li> <li>● The devices GW1N-4B/GW1NR-4B supporting background programming functions added.</li> </ul>
8/29/2018	1.4E	<ul style="list-style-type: none"> <li>● Software Version 1.8.1Beta released;</li> <li>● Products: GW1NS-2C, GW1NS-2 supported;</li> <li>● Packages: GW1NR-LV4MG81, GW2A-18-PBGA256, GW2A-18-MBGA196, GW1N-9-UBGA256, GW1N-6-UBGA256, and GW2A-18-QFN88 supported;</li> <li>● IP: FFT, 1:2 DDR3, 1:4 DDR3, pSRAM, Cordic, Complex Multiplier, Divide, and I3C DDR eXtension supported;</li> <li>● Part number selection on the software interface supported;</li> <li>● The output of .csv and .vcd files on the GAO interface supported;</li> <li>● GW1N-9 supporting background programming;</li> <li>● The mi files of Address-hex format on the memory interface of BSRAM supported;</li> <li>● The Gowin programmer supporting MCU bin files;</li> <li>● Open the project with IDE automatically when double-click on the gprj file.</li> </ul>
9/18/2018	1.4.1E	<ul style="list-style-type: none"> <li>● Software Version 1.8.1.01Beta released;</li> </ul>

Date	Version	Description
		<ul style="list-style-type: none"> <li>● The ID CODE issue in 4K version B updated;</li> <li>● The issue that the FPGA stops working after the programmer switches to MCU JTAG;</li> <li>● The environment variable GOWIN_HOME removed, the issue of stuck installation solved, and multiple versions can be installed at the same time.</li> </ul>
10/22/2018	1.5E	<ul style="list-style-type: none"> <li>● Software Version 1.8.2Beta released;</li> <li>● Products: GW1NZ-1, GW1NSR-2C supported;</li> <li>● Part Number list updated;</li> <li>● MIPI BUF supported;</li> <li>● The software output report file format unified;</li> <li>● Gowin Programmer supports SRAM data readback, the BSRAM added by default.</li> </ul>
11/23/2018	1.6E	<ul style="list-style-type: none"> <li>● Software Version 1.8.3Beta released;</li> <li>● Products: GW1NSR-2C, GW1NSR-2 supported;</li> <li>● GW1N-6ES, GW1N-9ES and GW1NR-9ES devices removed;</li> <li>● Part Number list updated;</li> <li>● pSRAM and Gowin_EMPU supported;</li> <li>● The I/O properties of the GW1NZ-1 updated;</li> <li>● The INPUT of the GW1N-4, GW1N-4B, GW1NR-4, and GW1NR-4B supporting the OVERDRIVE/UNDERDRIVE MODE.</li> </ul>
1/10/2019	1.7E	<ul style="list-style-type: none"> <li>● Software Version 1.8.4Beta released;</li> <li>● New IPs supported: RISC-V N25 and CAN;</li> <li>● IP functions updated: Gowin_EMPU, MIPI, PSRAM, and DDRx;</li> <li>● IP classification updated; Complex Multiplier, CORDIC, and DIVIDER;</li> <li>● Known issues fixed.</li> </ul>
1/25/2019	1.701E	<ul style="list-style-type: none"> <li>● Software Version 1.8.4.01Beta released;</li> <li>● GW2A-18 devices input buf to connect multiple input iologic supported;</li> <li>● IP Core RISC-V N25 default Setting updated;</li> </ul>
2/21/2019	1.8E	<ul style="list-style-type: none"> <li>● Software Version 1.9.0Beta released;</li> <li>● GowinSynthesis, an integrated tool independently developed by Gowin supported;</li> <li>● The display waveform interface of the GAO optimized.</li> <li>● IP: FDAF, BASIC FIR Filter, Triple Speed Ethernet MAC XCORR, NLMSAF and Integer Multiply-Divider supported;</li> <li>● 32 bit system supported;</li> <li>● Known issues fixed.</li> </ul>
3/27/2019	1.801E	<ul style="list-style-type: none"> <li>● Software Version 1.9.0.01Beta released;</li> <li>● IP: PSRAM Memory Interface, DDR3 Memory Interface and MIPI updated;</li> <li>● IP: Advanced FIR Filter and PSRAM Memory Interface 2CH released;</li> <li>● GW1N-9/GW1NR-9 bi-directional MIPI_IBUF dynamic configuration resistor supported;</li> <li>● Nw packages: GW1N-9-EQ144 and GW2AR-18-EQ176 supported;</li> <li>● Known issues fixed.</li> </ul>
5/5/2019	1.802E	<ul style="list-style-type: none"> <li>● Software Version 1.9.0.02Beta released;</li> <li>● IP soft core Gowin_EMPU_M1 released;</li> <li>● IP hard core Gowin_EMPU updated;</li> <li>● IP soft core DDR, DDR2 updated;</li> <li>● New package GW2A-18-PBGA256C supported;</li> <li>● The timing fuse setting of GW2A-18/GW2AR-18 BSRAM A and</li> </ul>

Date	Version	Description
		<p>B ports working at the same time optimized;</p> <ul style="list-style-type: none"> <li>● Input IO of all devices to connect multiple input iologic functions supported</li> <li>● Programmer fixing Spi Program in Bscan Failed issues;</li> <li>● MCU mode, MCU programming and AC.bin programming added on programmer interface;</li> <li>● --run 22 (programming mcu firmware) operation closed and mcu 27, 28 and 29 operations added by programmer_cli;</li> <li>● programmer_cli adding -o/--output parameters to output redirect.</li> </ul>

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# 1 About This Release

The main release contents of YunYuan software V1.9.0.02Beta are as follows:

- Software Version 1.9.0.02Beta released;
- IP soft core Gowin\_EMPU\_M1 released;
- IP hard core Gowin\_EMPU updated;
- IP soft core DDR, DDR2 updated;
- New package GW2A-18-PBGA256C supported;
- The timing fuse setting of GW2A-18/GW2AR-18 BSRAM A and B ports working at the same time optimized;
- Input IO of all devices to connect multiple input iologic functions supported
- Programmer fixing Spi Program in Bscan Failed issues;
- MCU mode, MCU programming and AC.bin programming added on programmer interface;
- --run 22 (programming mcu firmware) operation closed and mcu 27, 28 and 29 operations added by programmer\_cli;
- programmer\_cli adding -o/--output parameters to output redirect.

For the complete functions and enhancements of this release, please refer to [2Function and Enhancement Summary](#).

**Note!**

Gowin Synthesis tool is required to support 32-bit system.

# 2Function and Enhancement Summary

The following table summarizes the functions and enhancements:

Function	Description
Place and routing tool: V1.9.0.02Beta	
Functions	<ul style="list-style-type: none"> <li>• IP soft core Gowin_EMPU_M1 released;</li> <li>• New package GW2A-18-PBGA256C supported;</li> <li>• MCU mode, MCU programming and AC.bin programming added on programmer interface;</li> <li>• --run 22 (programming mcu firmware) operation closed and mcu 27, 28 and 29 operations added by programmer_cli;</li> <li>• programmer_cli adding -o/--output parameters to output redirect.</li> </ul>
Enhancements	<ul style="list-style-type: none"> <li>• The timing fuse setting of GW2A-18/GW2AR-18 BSRAM A and B ports working at the same time optimized;</li> <li>• IP hard core Gowin_EMPU updated;</li> <li>• IP soft core DDR, DDR2 updated;</li> <li>• Programmer fixing Spi Program in Bscan Failed issues;</li> <li>• Known issues fixed.</li> </ul>



# 3Platform Supported

The software is supported on the platforms listed below:

Windows	Windows 7/8/10(64 bit) , Windows XP/7 (32bit)
Linux	Centos6.8/7.0/7.5(64 bit)

# 4Ports

Port No.	Port Type	Port Description
36545	User-defined protocol port	Used to communicate with JTAG SERVER for the GAO (Gowin Analyzer Oscilloscope) display.
36546	User-defined protocol port	Used to communicate with JTAG SERVER for the GAO (Gowin Analyzer Oscilloscope) display.
10559	User-defined protocol port	The license server port of the Gowin software back-end tool.
27020	TCP port	The license server port of the Gowin software front end tool "synplifyPro".

# 5 Environment Variables Setting

## LM\_LICENSE\_FILE Environment Variables Setting

1. Node-Locked license variable value: The license files location, such as: "D:\Synopsys\license.txt";
2. Floating license variable value: license files location, such as: 27020@192.168.31.220. "192.168.31.220" is the IP address of starting the floating license.

# 6Document

The released software manuals are listed in the table below. You can download the PDF manuals and/or read them at the Gowin website.

Document	Usage
SUG100-1.6_Gowin YunYuan Software User Guide.pdf	PDF
SUG101-1.6_Gowin Design Constraints Guide.pdf	PDF
SUG114-1.7_Gowin Analyzer Oscilloscope User Guide.pdf	PDF
SUG282-1.6_Gowin Power Analyzer User Guide.pdf	PDF
SUG283-1.7_Gowin Primitive User Guide.pdf	PDF
SUG284-1.7_Gowin IP Core Generator User Guide.pdf	PDF

# 7 Known Issues

The following issues will be fixed in the next version.

1. It is not available to generate IP soft core using the GAO and IP Core with 32-bit system support for the time being;
2. Try to reduce the number of capture signals and capture depth if there are any problems with the GAO capturing. If the problem still exists, please contact GOWINSEMI technical support;
3. For DSP rtl design synthesis, the synthesis tool does not support the followings. If the synthesis problem exists, please contact GOWINSEMI technical support;
  - ALU54D does not support ACCLOAD\_REG mapping in the asynchronous mode;
  - The MULTALU36X18/MULTADDALU18X18 outputs may not be synthesized into mode 2 when passing through registers.
4. For the BSRAM usage notes, please refer to [Gowin B-SRAM User Guide](#) at GOWINSEMI website.

