



# Gowin EMPU M1 Software and Hardware Reference Design **Release Note**

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**Revision History**

Date	Version	Description
2/19/2019	1.0E	Initial version published.

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# 1 About This Release

This release includes Gowin\_EMPU\_M1 embedded software programming library, portable operation systems of uC/OS-III and FreeRTOS, ARM KEIL Microcontroller Tool, IP Core Generator configuration and hardware design generation, download method, and script tool.

1. Embedded software programming library
2. Portable operation systems of uC/OS-III and FreeRTOS
3. ARM KEIL Microcontroller Tool
4. IP Core Generator configuration and hardware design generation
5. Download method and script tool

Gowin\_EMPU\_M1 software packet is available at Gowin website. Parameters have been configured in Gowin\_EMPU\_M1 software and hardware reference designs. These reference designs can be used in ARM KEIL Microcontroller Tool and GOWIN FPGA Designer.

# 2 Feature and Enhancement Summary

The released IP functions and enhancement items are as follows:

Function	Description
Front-end synthesis tool: SynplifyPro, O-2018.09G-SPI-Beta5	
Supports Gowin_EMPU_M1	<ul style="list-style-type: none"> <li>● IP Core Generator configuration and hardware design generation</li> <li>● Embedded software programming library</li> <li>● Portable operation systems of uC/OS-III and FreeRTOS</li> <li>● ARM KEIL Microcontroller IDE Tool (compiling and debugging)</li> <li>● Gowin_EMPU_M1 serial debugging method</li> <li>● Download method and script tool</li> </ul>
MCU IPs back-end place and route tool: GOWIN FPGA Designer version 1.9.0 alpha	
MCU C compile and debug tool: Keil uVision V5.24.2.0	
Enhancements	–
Devices Supported	

# 3 Platform Supported

The corresponding software of the released IP supports the following platforms:

Windows	Windows 7 (32/64-bit)
Linux	Red Hat Enterprise Linux 5/6/7 (64-bit)

# 4 Documents

The released IP manuals are listed in the table below. You can download the PDF manuals at Gowin website or read online.

**Table 4-1 Documents**

Documents	Access
IPUG531, Gowin_EMPU_M1 Hardware Design Reference Manual	Online, PDF
IPUG532, Gowin_EMPU_M1 Download Reference Manual	Online, PDF
IPUG533, Gowin_EMPU_M1 Software Programming Reference Manual	Online, PDF
IPUG534, Gowin_EMPU_M1 Quick Design Reference Manual	Online, PDF
IPUG535, Gowin_EMPU_M1 Serial Port Debugging Reference Manual	Online, PDF
IPUG536, Gowin_EMPU_M1 IDE Software Reference Manual	Online, PDF
RN537, Gowin_EMPU_M1 Software and Hardware Reference Design Release Note	Online, PDF



