



Gowin_EMPU_M1 Software and Hardware Design

Release Note

RN537-1.4E, 01/16/2020

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Revision History

Date	Version	Description
02/19/2019	1.0E	Initial version published.
07/18/2019	1.1E	<ul style="list-style-type: none">● MCU hardware design and software programming design support extended peripherals: CAN, Ethernet, SPI-Flash, RTC, DualTimer, TRNG, I2C, SPI, SD-Card;● Supports the automated merging tool for MCU hardware design and software programming design;● Supports off-chip SPI-Flash downloading startup.
08/18/2019	1.2E	<ul style="list-style-type: none">● MCU hardware design and software programming design support extended peripheral: DDR3 Memory;● Known issues of ITCM, DTCM Size and IDE fixed.
09/27/2019	1.3E	<ul style="list-style-type: none">● MCU hardware design and software programming design support read, write and erasure of SPI-Flash peripheral;● MCU software programming design supports a continuous multi-byte read and write of I2C peripheral;● Fixed known issues of address mapping of AHB2 and APB2 extended interface in MCU software programming design;● Fixed known issues of continuous read and write of DDR3 Memory in MCU software programming design.
01/16/2020	1.4E	<ul style="list-style-type: none">● MCU hardware design and software programming design supports PSRAM peripheral;● MCU compiling software GMD V1.0 updated;● RTOS reference design updated;● Hardware and software reference design of AHB2 and APB2 extension bus interface added.

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1 About This Release

This release includes:

- MCU hardware design and software programming design supports PSRAM peripheral;
- MCU compiling software GMD V1.0 updated;
- RTOS reference design updated;
- Hardware and software reference design of AHB2 and APB2 extension bus interface added.

Gowin_EMPU_M1 software development kit is available at Gowinsemi 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, GOWIN MCU Designer and GOWIN FPGA Designer.

2 Function and Enhancement Summary

Gowin_EMPU_M1 functions and enhancement items are as follows:

Function	Description
Front-end synthesis tool of Gowin_EMPU_M1 IPs: Synplify Pro P-2019.03G, GowinSynthesis V1.9.3.01 Beta	
Supports Gowin_EMPU_M1	<ul style="list-style-type: none"> ● MCU hardware design and software programming design supports PSRAM peripheral; ● MCU compiling software GMD V1.0 updated; ● RTOS reference design updated; ● Hardware and software reference design of AHB2 and APB2 extension bus interface added.
MCU IPs back-end placement and routing tool: Gowin_V1.9.3.01 Beta MCU C compile and debug tools: ARM Keil uVision V5.24.2.0, GOWIN MCU Designer V1.0	
Enhancements	–
New Devices Supported	GW1N-9 Series GW1NR-9 Series GW2A-18 Series GW2AR-18 Series GW2A-55 Series

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

