



Gowin_EMPU_M1 Software and Hardware Design

Release Note

RN537-1.2E, 08/18/2019

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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. |

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1 About This Release

This release includes Gowin_EMPU_M1 extended peripheral: DDR3 Memory.

1. MCU extended peripheral: DDR3 Memory.
2. Known issues of ITCM, DTCM Size and IDE fixed.

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: SynplifyPro, version P-2019.03G-Beta4 or GowinSynthesis 1.9.2 Beta |
| Supports Gowin_EMPU_M1 | <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. |
| | MCU IPs back-end placement and routing tool: GOWIN FPGA Designer, version 1.9.2 Beta MCU C compile and debug tools: ARM Keil uVision V5.24.2.0 GOWIN MCU Designer |
| 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 |

