GW1NS-2C MCU
Serial Debugging Reference Manual

RN520-1.1E,2018-11-26

Disclaimer

Revision

Date	Version	Description
2018/08/21	1.0E	Initial version.
2018/11/26	1.1E	Optimize the debugging process.

Contents

1 About This Manual

Gowin supports the GW1NS-2C MCU software programming serial port debugging method. The lower computer communicates with the host computer through the serial port, and the debugging information is tracked on the PC through the serial port debugging assistant software.

2 Hardware Resources

- Development board DK-EVAL-GW1NS2 V1.1
- USB to serial interface board
- PC

3 Software Resources

- Gowin YunYuan Software
- ARM KEIL or GNU MCU Eclipse software
- Serial debugging assistant software

4 Debugging Process

GW1NS-2C MCU PACK\Gowin_GW1NS-2C_MCU_RefDesign\MCU_RefDesign\Keil\uart

GW1NS-2C MCU PACK\Gowin_GW1NS-2C_MCU_RefDesign\MCU_RefDesign\GNU\uart

5 Applications

5.1 MCU soft core design

5.1.1 MCU soft core

In the IP Core Generator, select Gowin_EMPU, configure UART0 and UART1, generate MCU soft core with UART function, or use MCU soft core reference design Gowin GW1NS-2C MCU PACK\Gowin_GW1NS-2C_MCU_RefDesign\FPGA_RefDesign\gowin_empu.

5.1.2 Physical constraint

Restrict the ports of UART0 and UART 1 in MCU soft core to the FPGA IO, as shown in Table 5-1.

Table 5-1 UART Port Constraints

UART	Port	IO
UART0	RXD	4
	TXD	3
UART1	RXD	7
	TXD	8

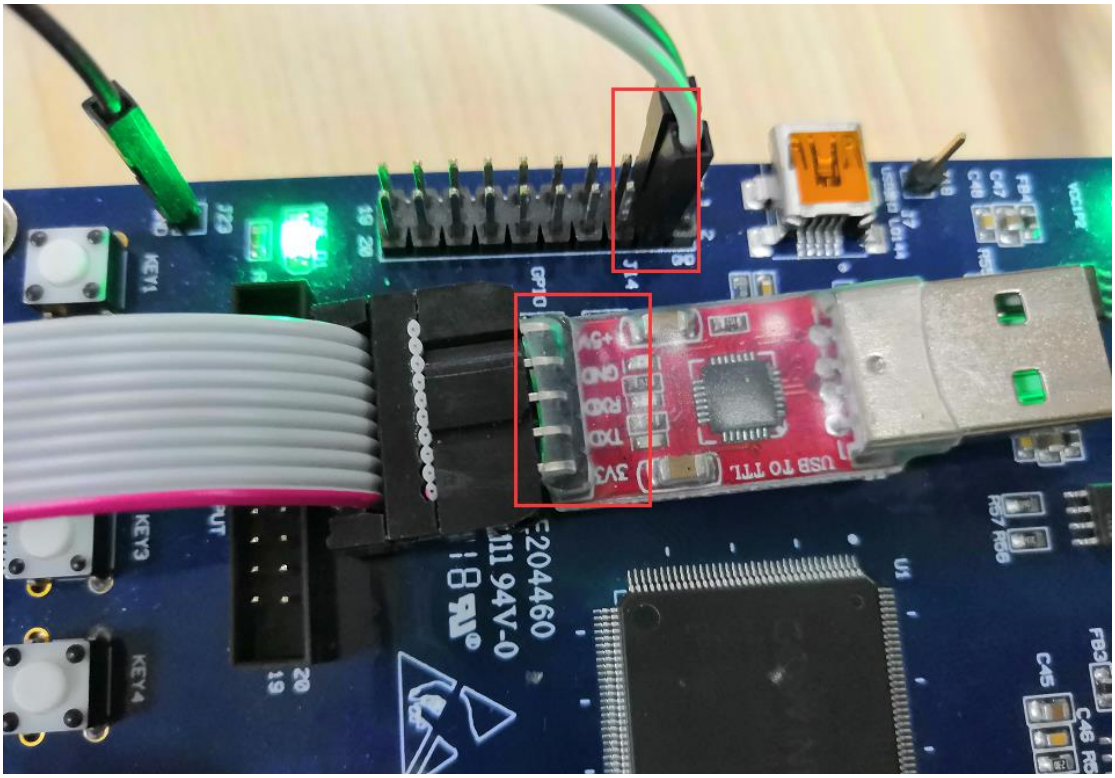
5.2 MCU software programming

The uart reference design is programmed by using the MCU software provided above.

5.3 Board level connection

Use the jumper to connect the GW1NS-2C development board to the USB to serial interface board, as shown in Figure 5-1.

Figure 5-1 Development board connection



5.4 Serial debugging assistant

Open the serial debugging assistant software, as shown in Figure 5-2.

- Choose a suitable communication interface
- Configure the serial communication baud rate to 115200.
- Open the serial port
- Send and receive debugging information

Figure 5-2 Serial port debugging assistant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