



Realtek Ameba RTL8710AF User Manual

This document define pin out of Ameba RTL8710AF DEV.

Version 1.0

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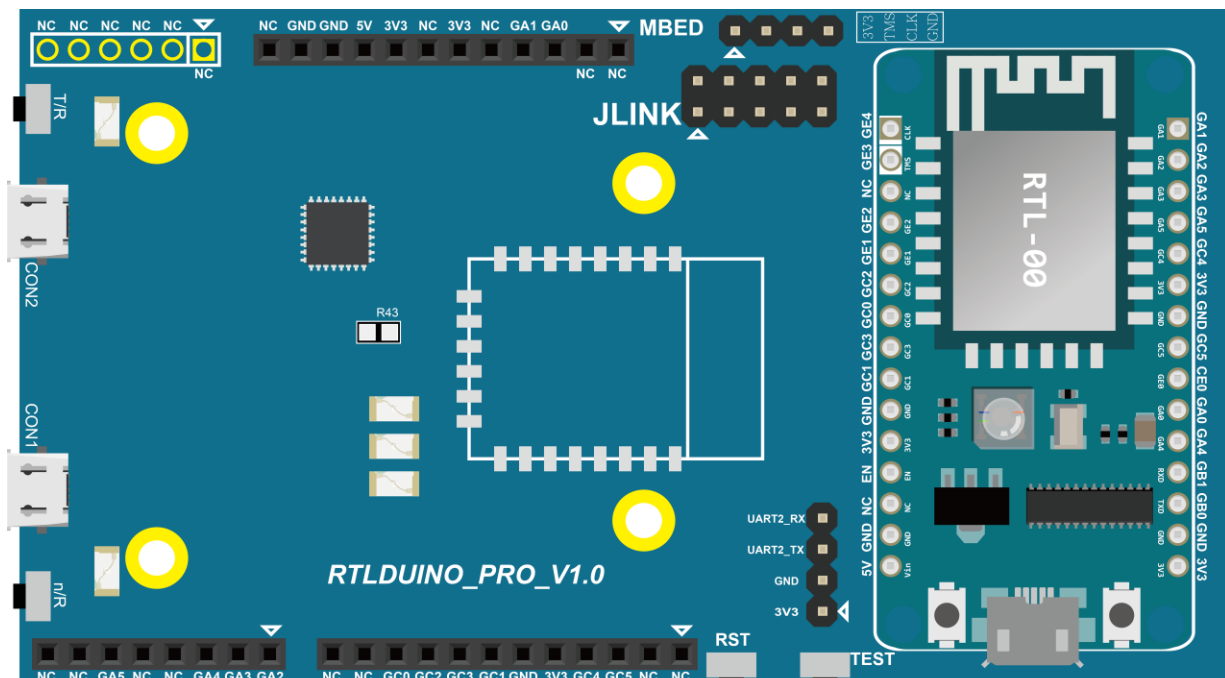
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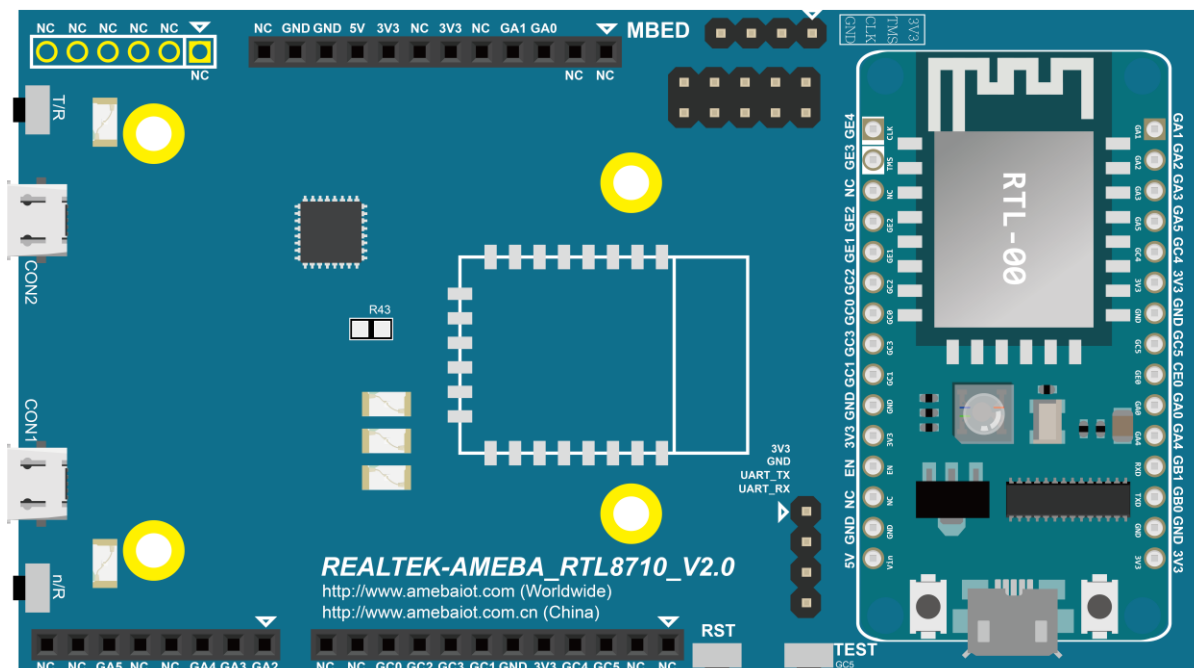
1 System requirements

- Windows PC (Win 7/8)
- USB type A to Micro-B USB cable x 1
- RS-232 to UART board(debug) x 1, JTAG cable x1 (option)

2 DEV Board Information

- IC: RTL8710AF
- Module :RTL-00
- DEV HDK version: RTLDUINO_PRO_V1.0
- DEV HDK version: REALTEK-AMEBA_RTL8710_V2.0

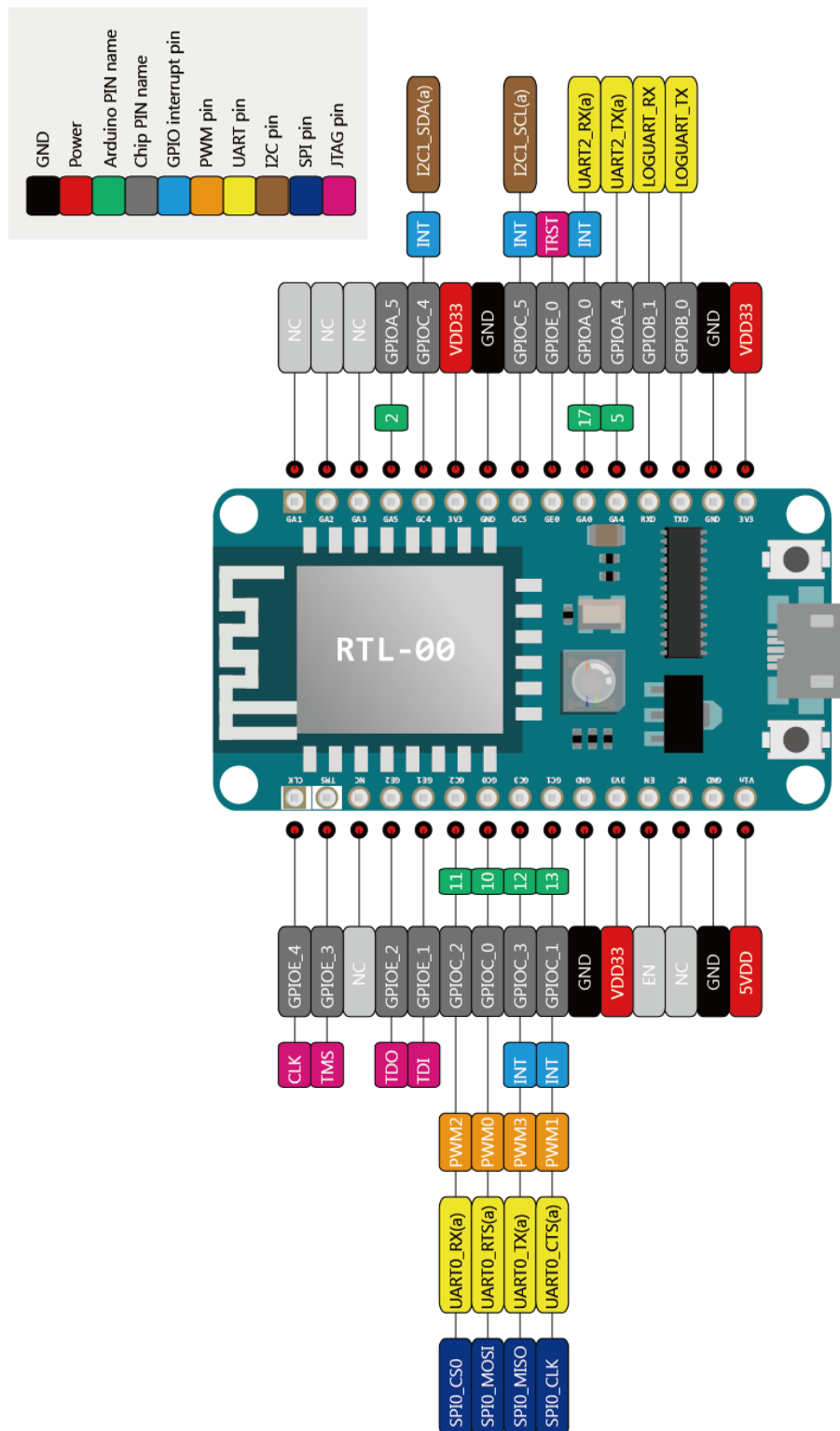




REALTEK-AMEBA_RTL8710_V2.0

3 Pin out reference

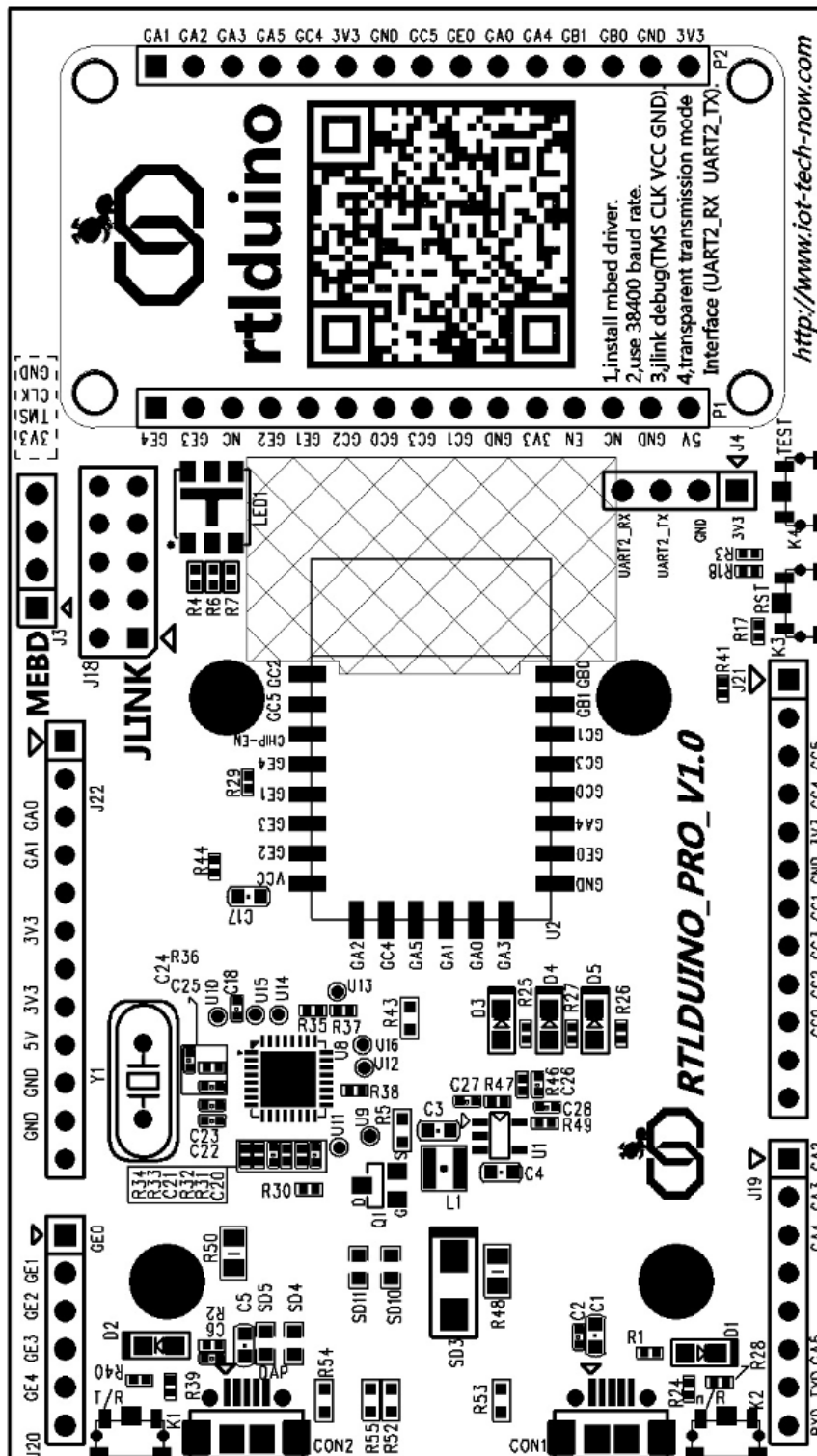
RTL-00 module:



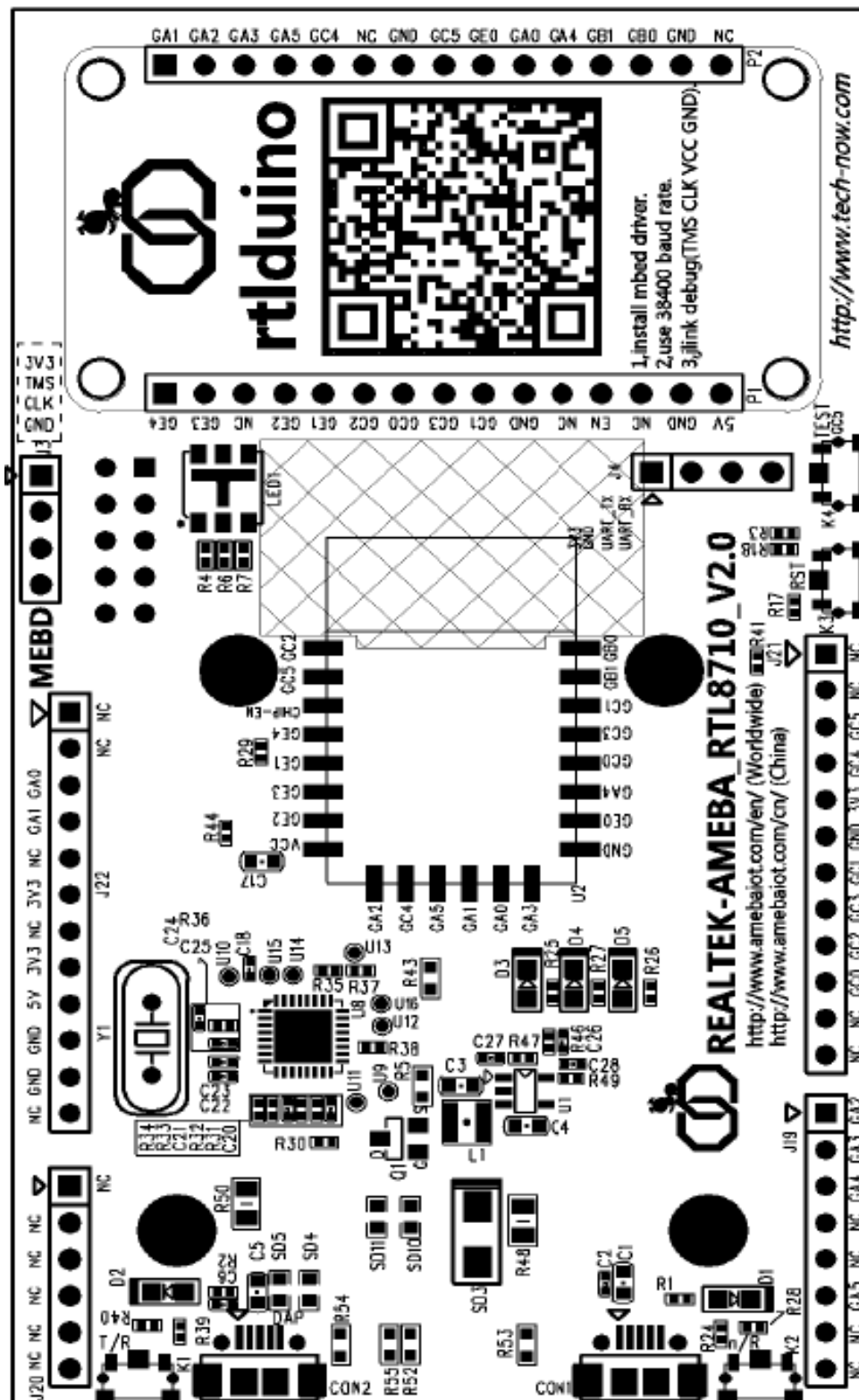
The image shows a Realtek Ameba RTL8710 V2.0 development board. The board is blue with various components labeled. A large RTL8710 chip is in the center. Various pins are labeled with their functions, such as GPIO, UART, and I2C. A legend on the right side of the image maps colors to specific pin functions: GND (black), Power (red), Arduino PIN name (green), Chip PIN name (grey), GPIO interrupt pin (blue), PWM pin (orange), UART pin (yellow), I2C pin (brown), SPI pin (pink), and JTAG pin (purple). The board also features a USB port, a JTAG port, and a reset button.

4 Parts Location Map

- RTLDUINO_PRO_V1.0



- REALTEK-AMEBA_RTL8710_V2.0



5 Peripherals support

- Debug UART: GPIOB_[0..1]
- JTAG: GPIOE_[0..4]

5.1 Pin function table setup

- Multiple functions are supported by group setup.
- For example: GPIOC_0(Rx), GPIOC_3(Tx), GPIOC_2(RTS) and GPIOC_1(CTS) are used if UART0 function. GPIOC_2(RTS) and GPIOC_1(CTS) can not be used as other functions.
- For example: GPIOC_0, GPIOC_1, GPIOC_2, GPIOC_2, GPIOC_3 are used if PWM is occupied. GPIOC_1(PWM1) and GPIOC_2(PWM2) can not be used as other functions.

PIN name	JTAG	UART Group	I2C Group	SPI Group	WL_LED	PWM	WKDT
GPIOA_0		UART2_IN					
GPIOA_4		UART2_OUT					
GPIOA_5							D_SBY0
GPIOB_0		UART_LOG_OUT	UART_log				
GPIOB_1		UART_LOG_IN			WL_LED0		D_SLPO
GPIOB_2			I2C3_SCL				
GPIOB_3			I2C3_SDA				
GPIOC_0		UART0_IN		SPI0_CS0		PWM0	
GPIOC_1		UART0_CTS		SPI0_CLK		PWM1	
GPIOC_2		UART0_RTS		SPI0_MOSI		PWM2	
GPIOC_3		UART0_OUT		SPI0_MISO		PWM3	
GPIOC_4			I2C1_SDA	SPI0_CS1			
GPIOC_5			I2C1_SCL	SPI0_CS2			
GPIOE_0	JTAG_TRST	JTAG				PWM0	
GPIOE_1	JTAG_TDI					PWM1	
GPIOE_2	JTAG_TDO					PWM2	
GPIOE_3	JTAG_TMS					PWM3	
GPIOE_4	JTAG_CLK						

5.2 Peripheral Descriptions

		Baud rate
UART	UART_LOG	38400 Hz
	UART0	4 MHz
	UART2	4 MHz
		Clock rate
SPI	SPI0_Master	20.8 MHz
	SPI0_Slave_TRx	4.1 MHz
		Clock rate
I2C	Standard mode	0~100 kb/s
	Fast mode	<400 kb/s
	High-speed mode	<3.4Mb/s

6 Reference electrical schematics

