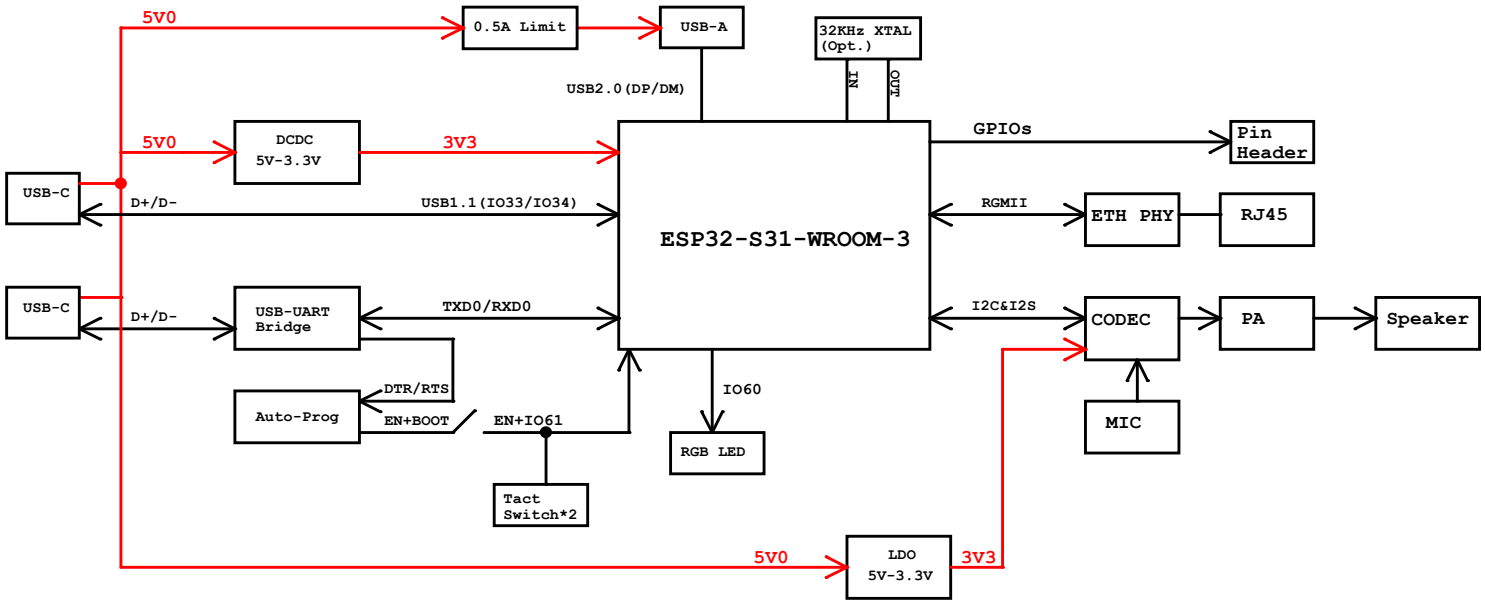
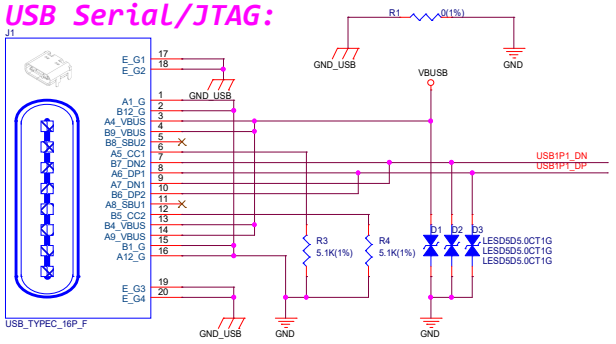
System Block:

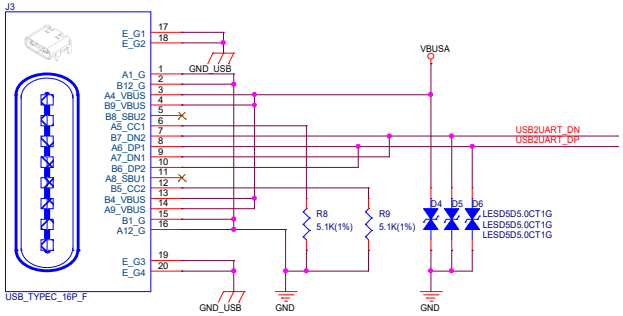


ESPRESSIF			
乐鑫信息科技（上海）股份有限公司			
Title: ESP32-S31-Function-Coreboard-1			
Size: C	Page Name: 01 DesignBlock	Rev: V1.0	Confidential and Proprietary
Date: Wednesday, May 13, 2026	Sheet 1 of 3		

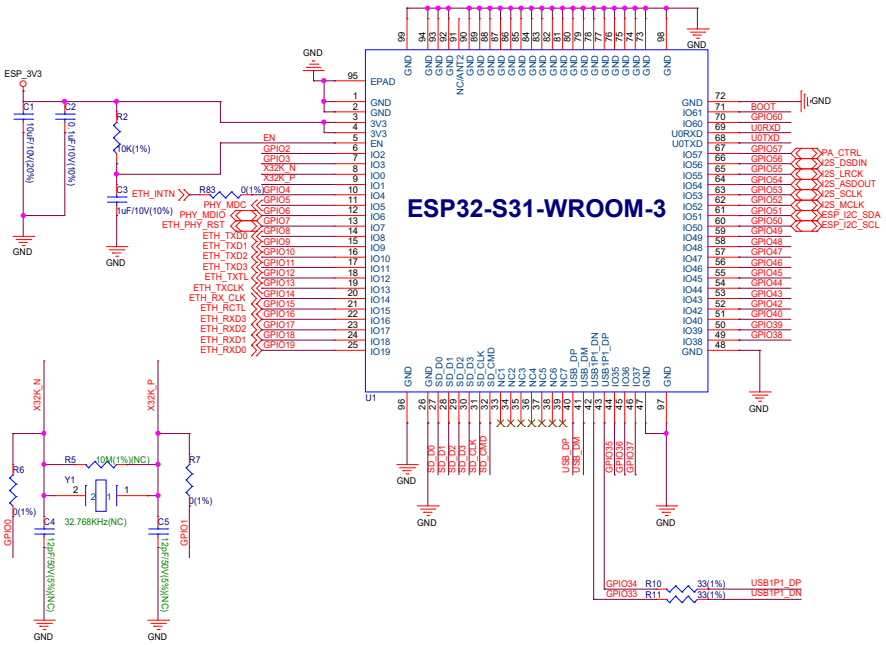
USB Serial/JTAG:



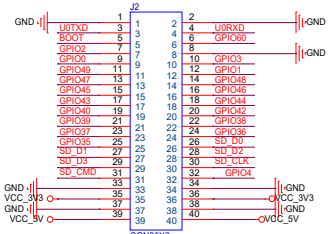
USB to UART:

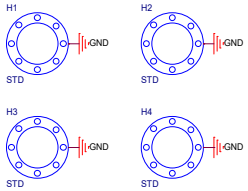


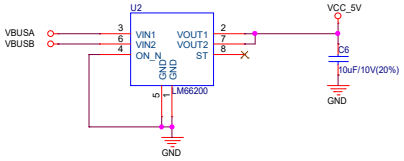
ESP32-S31-WROOM-3/3U:



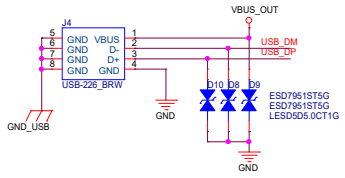
Pin Header:

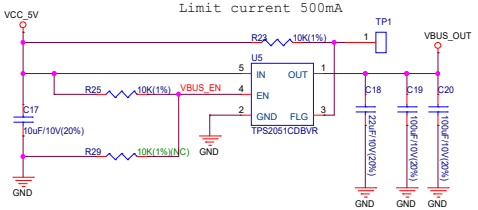




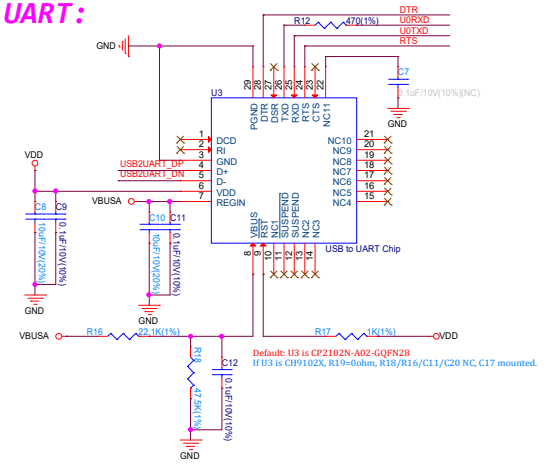


USB High Speed Host:

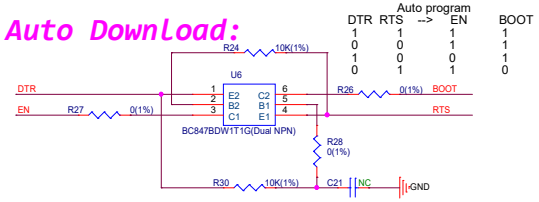




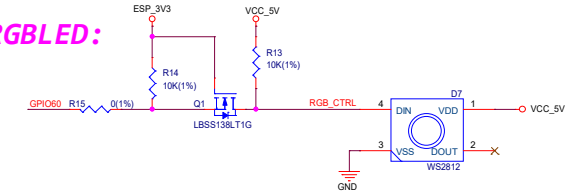
UART:



Auto Download:

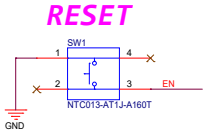


RGBLED:

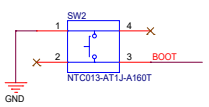


Buttons:

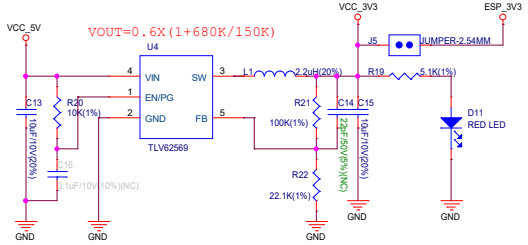
RESET



BOOT



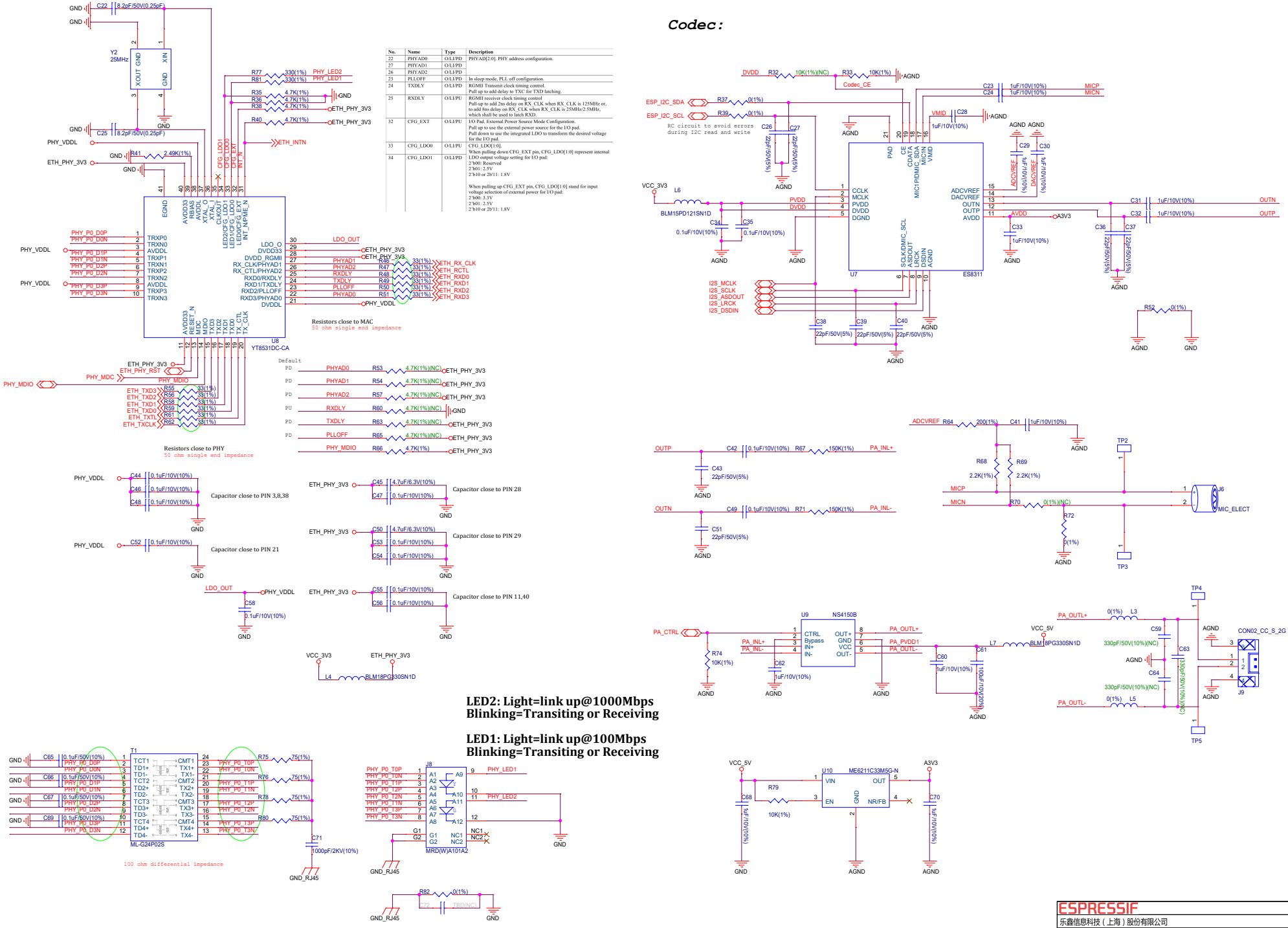
Power Regulator:



ESPRESSIF

乐鑫信息科技（上海）股份有限公司

Title	ESP32-S31-Function-Coreboard-1		
Size	Page Name	Rev	Confidential and Proprietary
C	02_ESP32-S31	V1.0	
Date:	Wednesday, May 13, 2026	Sheet	2 of 3



No.	Name	Type	Description
22	PHYAD0	O/LI/PD	PHYAD[2:0]. PHY address configuration.
27	PHYAD1	O/LI/PD	
26	PHYAD2	O/LI/PD	
23	PLLOFF	O/LI/PD	In sleep mode, PLL off configuration.
24	TXDLY	O/LI/PD	RGMII Transmit clock timing control. Pull up to add delay to TXC for TXD latching.
25	RXDLY	O/LI/PU	RGMII receiver clock timing control Pull-up to add 2ns delay on RX_CLK when RX_CLK is 125MHz or, to add 8ns delay on RX_CLK when RX_CLK is 25MHz/2.5MHz, which shall be used to latch RXD.
32	CFG_EXT	O/LI/PU	I/O Pad. External Power Source Mode Configuration. Pull up to use the external power source for the I/O pad. Pull down to use the integrated LDO to transform the desired voltage for the I/O pad.
33	CFG_LDO0	O/LI/PU	CFG_LDO[1:0]. When pulling down CFG_EXT pin, CFG_LDO[1:0] represent internal LDO output voltage setting for I/O pad: 2'b00: Reserved 2'b01: 2.5V 2'b10 or 2b'11: 1.8V
34	CFG_LDO1	O/LI/PD	When pulling up CFG_EXT pin, CFG_LDO[1:0] stand for input voltage selection of external power for I/O pad: 2'b00: 3.3V 2'b01: 2.5V 2'b10 or 2b'11: 1.8V

LED2: Light=link up@1000Mbps
Blinking=Transiting or Receiving

LED1: Light=link up@100Mbps
Blinking=Transiting or Receiving

ESPRESSIF			
乐鑫信息科技（上海）股份有限公司			
Title: ESP32-S31-Function-Coreboard-1			
Size: C	Page Name: 03_Ethernet	Rev: V1.0	Confidential and Proprietary
Date: Wednesday, May 13, 2026		Sheet 3 of 3	