# RTL8201FR-VD-CG
# Schematic

REV.1.1


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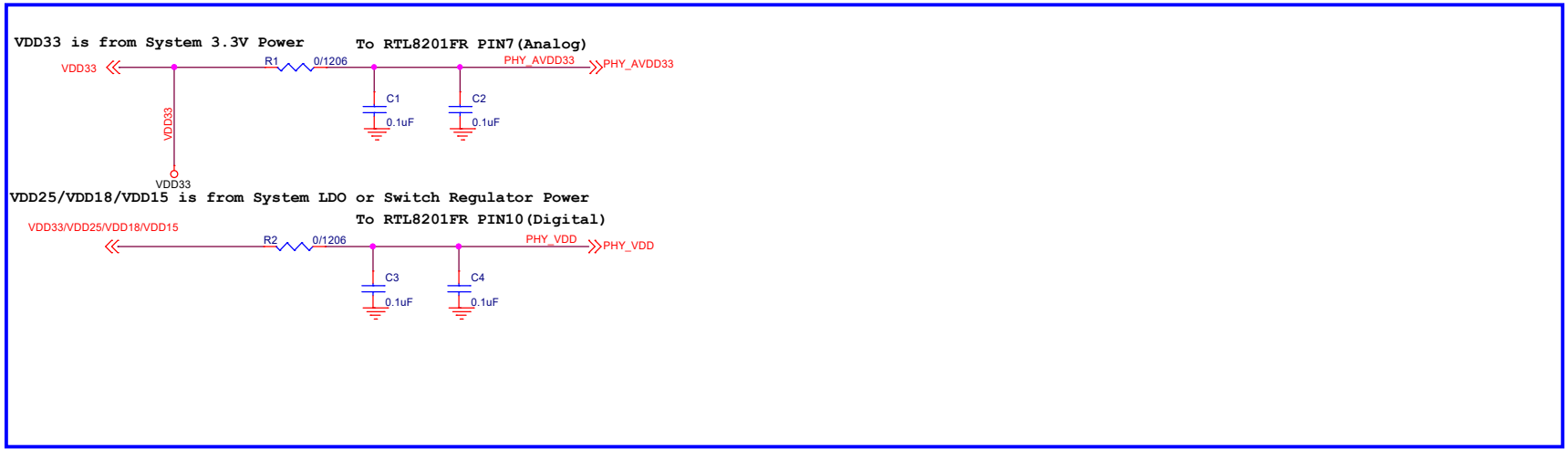
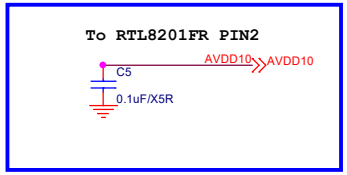
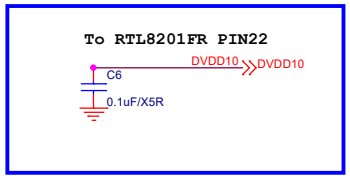
# Analog and Digital Power




## AVDD10




## DVDD10

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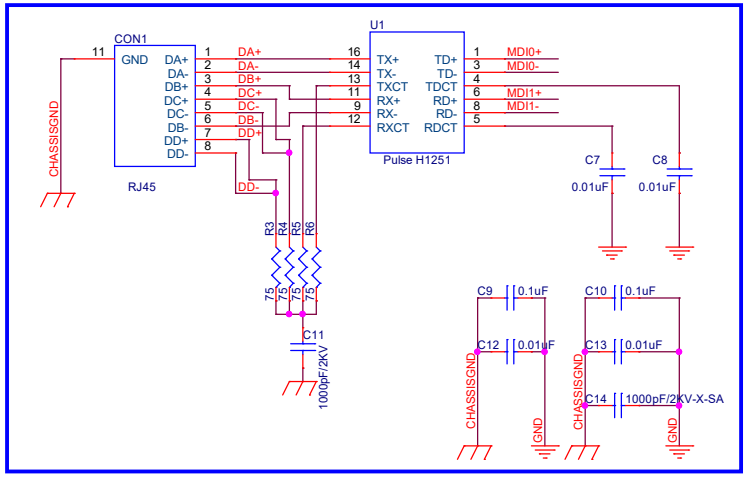
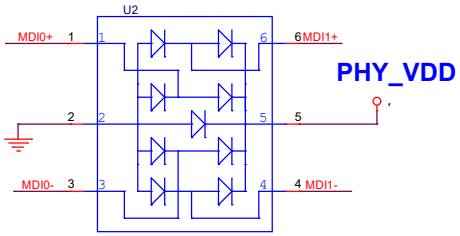
# RJ45 & Transformer

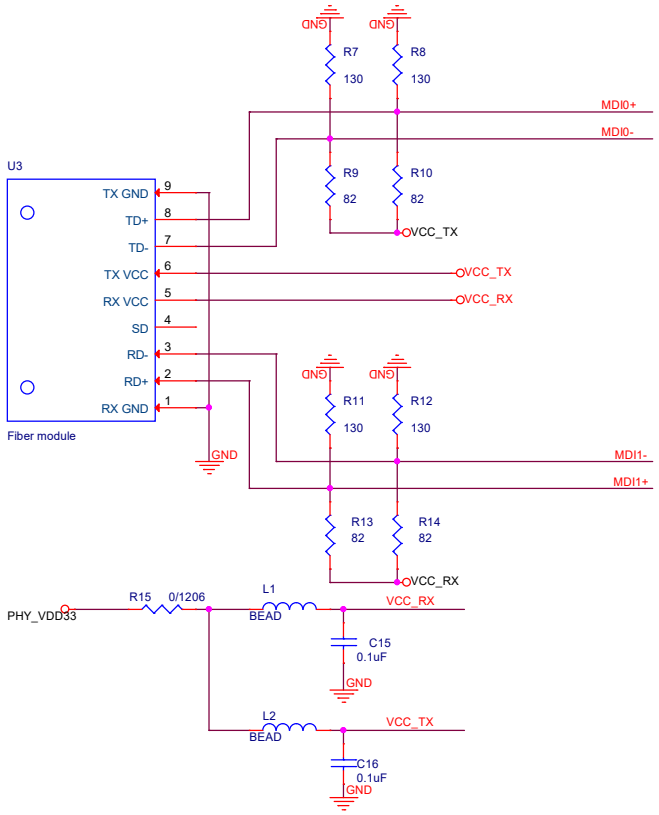



# TVS

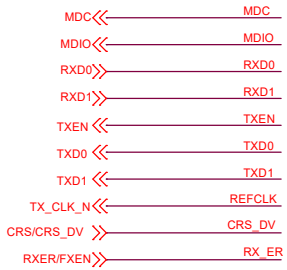



For RTL8201FR, the TVS device can be omit.
Because the contact discharge Cable ESD is 8KV.

# Fiber Module




# RMII interface




For RTL8201FR-CG
TX_CLK will be default setting as Output.
Note:RX_ER is an option input for MAC device.

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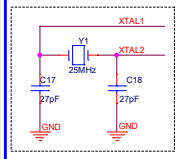
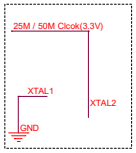
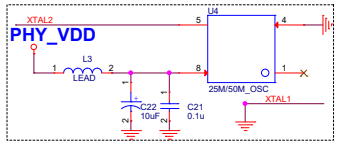
## XTAL/OSC/External Clock




Choice 1 :
Use 25MHz Crystal

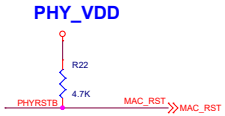



Choice 3 :
Use 25MHz / 50MHz Clock
XTAL1 must short to GND




Choice 2 :
Use 25MHz / 50MHz Oscillator

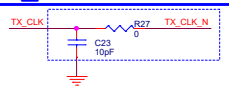
## PHY Reset




Please mount R22 if MAC_RST can not weak pull high.
PHYRSTB pin is 5V tolerance.

PHYRSTB Pin connect to MAC.
Please reference the RTL8201FR datasheet
section 9.1.3
Power on and PHY Reset Sequence.

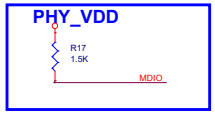
## TXC(REF_CLK)



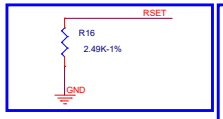

Place filter network close to TX_CLK PHY Site Pin.
Reserved for EMI(RMII Mode and REF_CLK is output use)

Place filter network close to TX_CLK MAC Site Pin.
Reserved for EMI(RMII Mode and REF_CLK is input use)

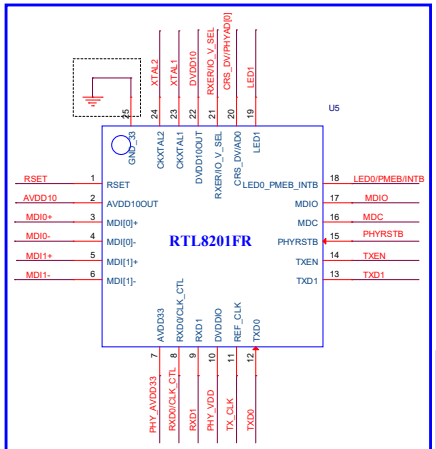
## MDIO




## RSET

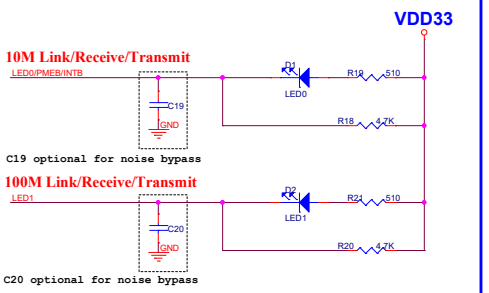



## RTL8201FR



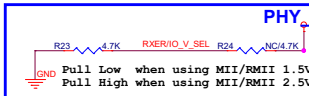

RTL8201FR is E-PAD GND.
E-PAD at leaset 9 via to system GND

## LED



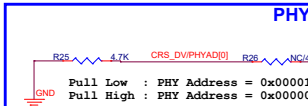

Note1 : LED need to drive by VDD33 with 510 ohm current limit resistor.
Note2 : LED only support low active.
Note3 : LED0/PMEB/INTB and LED1 pins are 5V tolerance.
Note4 : R18,R20 pull high for LED internal OD pins

## MII/RMII Voltage




Pull Low when using MII/RMII 1.5V/1.8V (default)
Pull High when using MII/RMII 2.5V/3.3V

## PHY Address

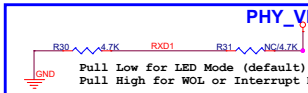



Pull Low : PHY Address = 0x00001 (default)
Pull High : PHY Address = 0x00000

## RMII REF_CLK direction

Pull Low for RMII REF_CLK Output mode (default)
Pull High for RMII REF_CLK Input mode

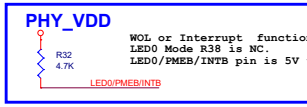
## WOL/Interrupt/LED0




Pull Low for LED Mode (default)
Pull High for WOL or Interrupt Mode

For WOL / Interrupt selection
Please refer to the datasheet
section 7.21 Page7 Register 23
Wake-On-LAN and Interrupt Function Control Registers

## WOL/Interrupt pull up




WOL or Interrupt function mode use
LED0 Mode R38 is NC.
LED0/PMEB/INTB pin is 5V tolerance.

REALTEK

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# History

| Version | Date | |
|---|---|---|
| V1.0 | 2013.4.10 | First release |
| V1.1 | 2019.5.22 | R18,R20 pull high for LED internal OD pins |
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