# Hardware Review Report

Version 1.0
Espressif Systems
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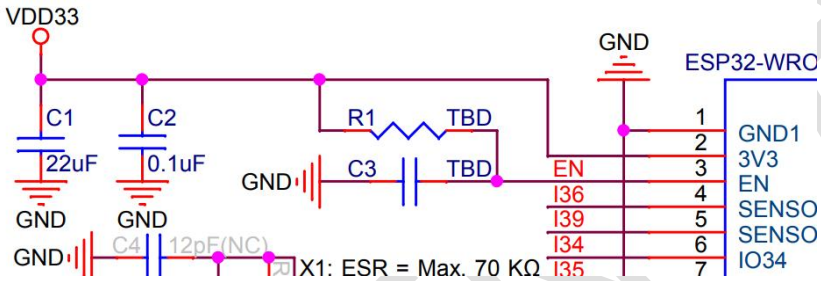
# 1. Schematics

## 1.1. Power and Ground

a. Please make sure the power supply current for ESP32 module is not less than 500 mA.

b. It is suggested to add 22 uF + 0.1 uF close to 3V3 power pin.




## 1.2. RF

a. NA

## 1.3. Clock

a. NA

## 1.4. Reset/Enable

a. OK

## 1.5. Sleep/Wake up

a. NA

## 1.6. External RC

a. NA

## 1.7. I/O

a. Please confirm that the GPIO input of ESP32 does not exceed 3.6 V.

b. Please note that GPIO34 and above are only inputs and have no internal pull-up and pull-down. Please add appropriate external resistors if necessary.

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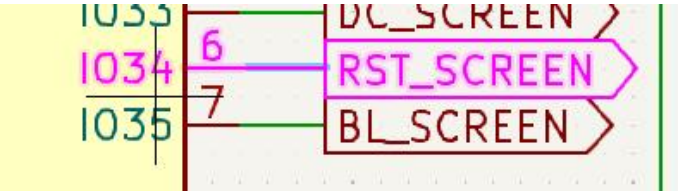


c. Please add a filter capacitor near the ADC GPIO pin to improve accuracy.

d. Please add a pull-up resistor at IO27 since it is an OD output.

e. It is suggested to add an external pull-up resistor at GPIO0.

## 1.8. Flash/PSRAM

a. NA

## 1.9. UART

a. OK

## 1.10. Package

a. It seems that you are using a 32UE from PCB layout, please confirm this point.

## 1.11. Others

a. NA

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# 2. PCB

## 2.1. PCB Check

a. FR4 material is recommended for PCB board.

## 2.2. Power and Ground

a. Please pour ground on all layers.

b. It is suggested to place power caps close to 3.3 V power pin of ESP32 module.

c. Please add more ground via on the entire board and the edge of the board.

## 2.3. RF

a. NA

## 2.4. Clock

a. NA

## 2.5. Reset/Enable

a. Please place RC close to the EN pin together.

b. It is recommended to surround the reset traces with ground.

## 2.6. External RC

a. NA

## 2.7. I/O

a. NA

## 2.8. UART Layout

a. It is recommended to surround the UART0 traces with ground.

## 2.9. Others

a. Please avoid acute angles for traces.

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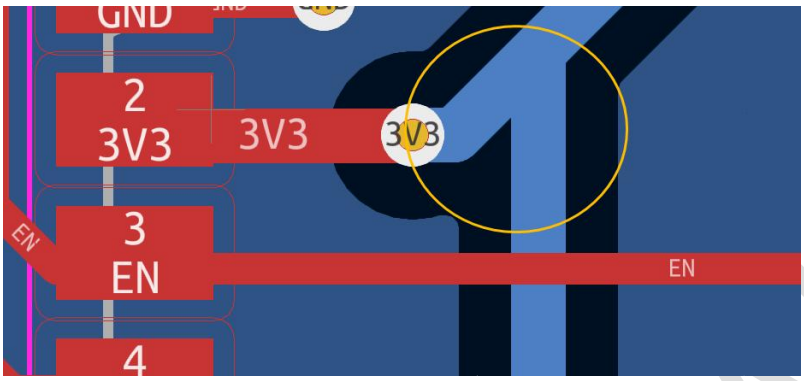


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