ESP32 project

U4 — ESP32-S3-WROOM-1-N8R2

VCC_3V3 ESP_3V3 GND GND

R24 0   CHIP_PU

C1 10uF/25V(20%) C2 0.1uF/50V(10%)

ESP_3V3 R5 10K(1%) CHIP_PU C6 1uF/16V(10%) GND

1 GND
2 3V3
3 EN
4 IO4
5 IO5
6 IO6
7 IO7
8 IO8
9 IO9
10 IO16
11 IO17
12 IO18
13 IO19
14 IO20

GPIO4 GPIO5 GPIO6 GPIO7 GPIO8 GPIO9 GPIO10 GPIO11 GPIO12 GPIO13 GPIO14

41 GND
40 GND
39 IO1
38 IO2
37 TXD0
36 RXD0
35 IO42
34 IO41
33 IO40
32 IO39
31 IO38
30 IO37
29 IO36
28 IO35
27 IO0

GPIO1 GPIO2 U0TXD U0RXD GPIO42 GPIO41 GPIO40 GPIO39 GPIO38 GPIO37 GPIO36 GPIO35 GPIO0

15 IO3 / 16 IO46 / 17 IO9 / 18 IO10 / 19 IO11 / 20 IO12 / 21 IO13 / 22 IO21 / 23 IO14 / 24 IO47 / 25 IO48 / 26 IO45

GPIO3 GPIO46 GPIO9 GPIO10 GPIO11 GPIO12 GPIO13 GPIO21 GPIO14 GPIO47 GPIO48 GPIO45

USB to UART

J2 MICRO-03-P2-A1T2
1 VCC
2 D-
3 D+
4 ID
5 GND
VBUS VCC_5V
D1 1N5819HW-7-F
USB_DN USB_DP
ESD5D5.0CT1G (D2, D3, D4)
C3 10uF/25V(20%)
GND

Esp_usb

J4 MICRO-03-P2-A1T2
1 VCC
2 D-
3 D+
4 ID
5 GND
VBUSB VCC_5V
D7 1N5819HW-7-F
GPIO19 GPIO20
ESD5D5.0CT1G (D8, D9, D10)
C5 10uF/25V(20%)
GND

U3 CP2102N-A02-GQFN28

VCC_3V3 USB_DP USB_DN C11 10uF/25V(20%) GND

1 DCD
2 RI/CLK
3 GND
4 D+
5 D-
6 VDD
7 VREGIN
8 VBUS
9 RSTb
10 NC
11 SUSPENDb
12 SUSPEND
13 CHREN
14 CHR1

28 EP / 29
27 DTR
26 DSR
25 TXD
24 RXD
23 RTS
22 CTS
21 GPIO.4
20 GPIO.5
19 GPIO.6
18 GPIO.0/TXT
17 GPIO.1/RXT
16 GPIO.2/RS485
15 GPIO.3/WAKEUP
CHR0

DTR R7 0(1%) U0RXD U0TXD R9 0(1%) RTS

R19 22.1K(1%) VBUS R14 10K(1%)(NC) GND R16 1K(1%) VCC_3V3 R18 47.5K(1%) C12 1uF/16V(10%) GND

Power Supply

U17 ICW7805T2G
+7.4V INPUT COM OUT VCC_5V
CN2 1725656
C4 0.33uF/16V(10%) C15 0.1uF/16V(10%)

R8 0(1%) CHIP_PU
DTR R10 10K(1%) Q1 L8050QLT1G
RTS R12 10K(1%) Q2 L8050QLT1G R13 0(1%) GPIO0

GPIO38 R17 10K(1%) RGB_CTRL GND VCC_3V3
D6 SK6812MINI-HS
1 GND
2 DIN
3 VDD
4 DOUT

U2 SGM2212-3.3XKC3G/TR

VCC_5V VCC_3V3
3 VIN VOUT 4
GND VOUT 2
1
C7 10uF/25V(20%) C8 0.1uF/50V(10%) GND
C9 0.1uF/50V(10%) C10 0.1uF/50V(10%) GND
R1 5.1K(1%)
D5 19-213/R8W-AM1N2/3T GND

SW1(BOOT) KH-6X6X14H-SMT-FS-D C13 0.1uF/50V(10%) GPIO0 GND
SW2(RESET) KH-6X6X14H-SMT-FS-D C14 0.1uF/50V(10%) CHIP_PU GND

Connectors J1 / J3 (X6511WV-22H-C30D60)

ESP_3V3 GND
CHIP_PU GPIO4 GPIO5 GPIO6 GPIO7 GPIO15 GPIO16 GPIO17 GPIO18 GPIO8 GPIO46 GPIO10 GPIO11 GPIO12 GPIO13 GPIO14
U0TXD U0RXD GPIO1 GPIO2 GPIO42 GPIO41 GPIO40 GPIO39 GPIO38 GPIO37 GPIO36 GPIO35 GPIO0 GPIO45 GPIO48 GPIO47 GPIO21 GPIO20 GPIO19
VCC_5V GND