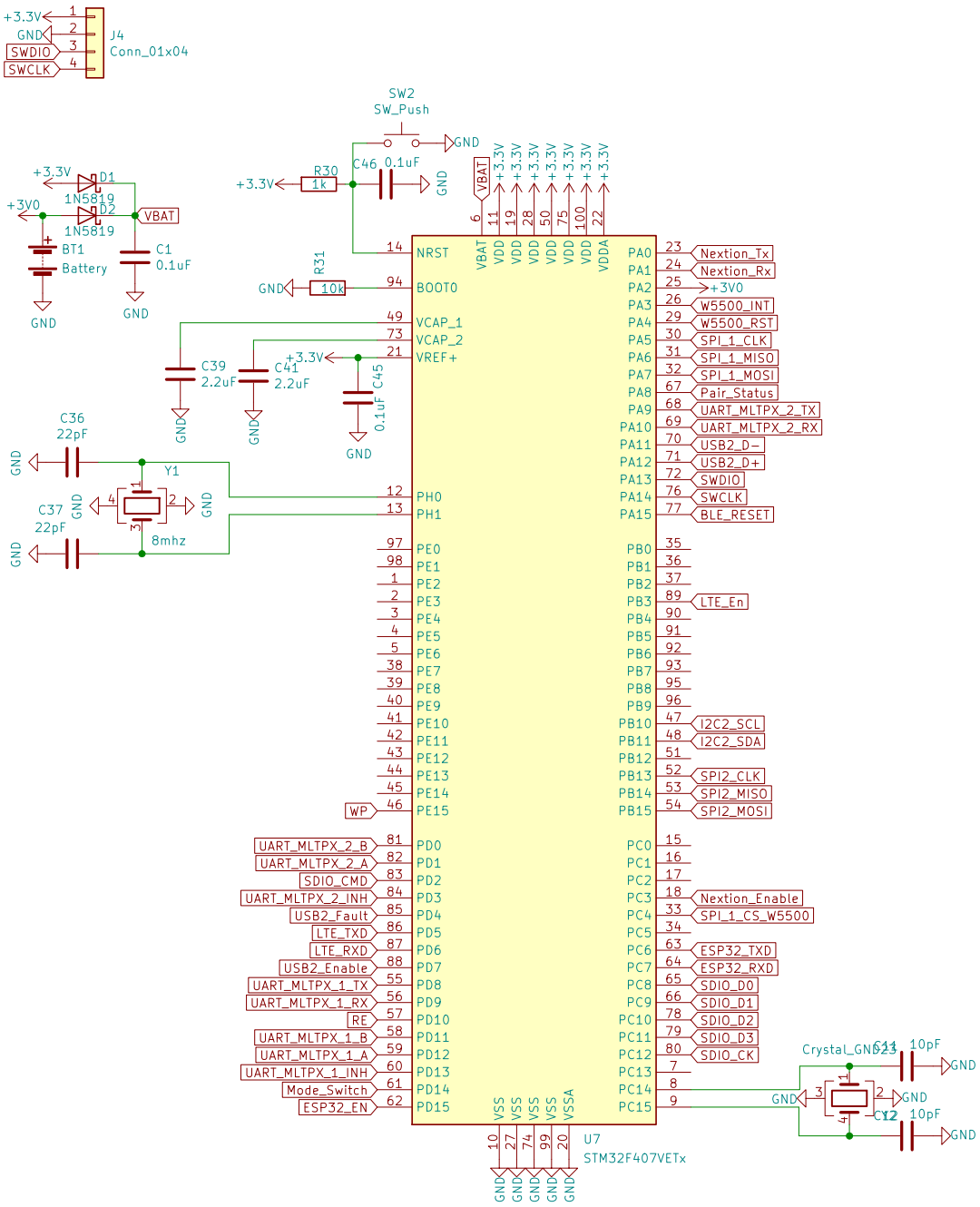
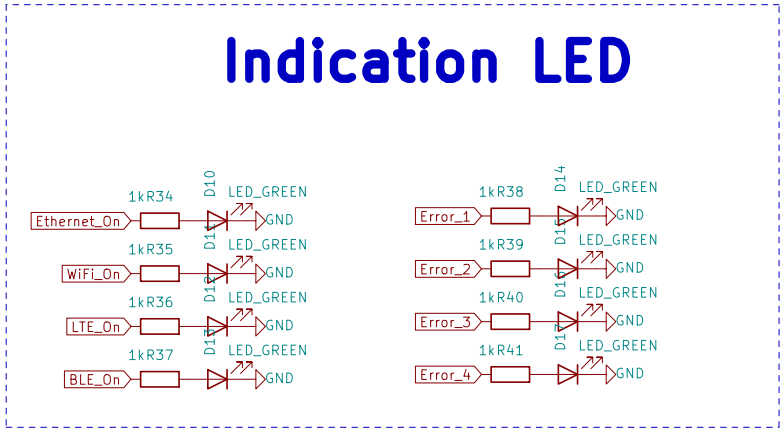
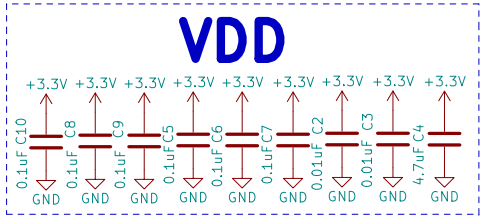






Power

File: Power.kicad_sch

Ethernet

File: Ethernet.kicad_sch

LTE

File: LTE.kicad_sch

WIFI

File: WIFI.kicad_sch

RS-485 & 232

File: RS-485 & 232.kicad

COM PORT & BLE

File: COM PORT & BLE.kic

SD Card

File: SD Card.kicad_sch

EEPROM

File: EEPROM.kicad_sch

Temperature

File: Temperature.kicad_sc

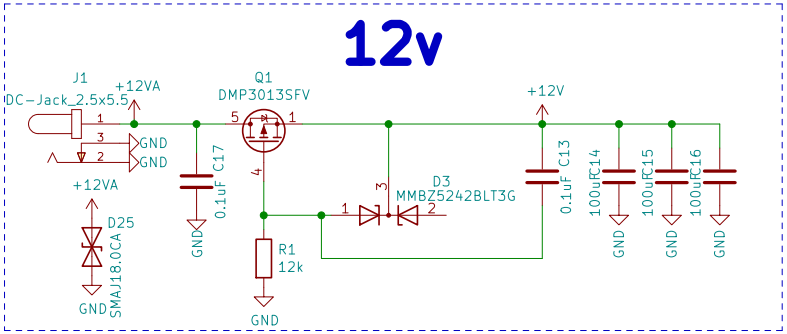
Ext Connectors

File: Ext Connectors.kicad

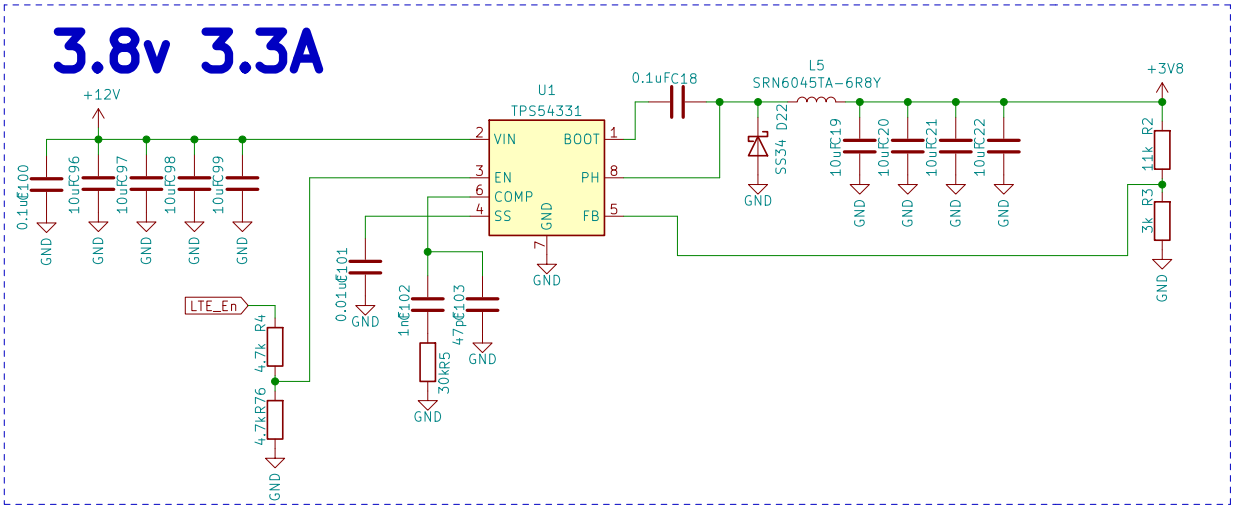
USB

File: USB.kicad_sch

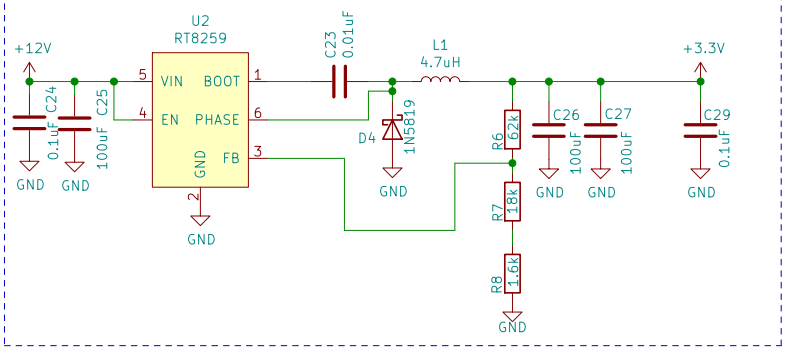
12v



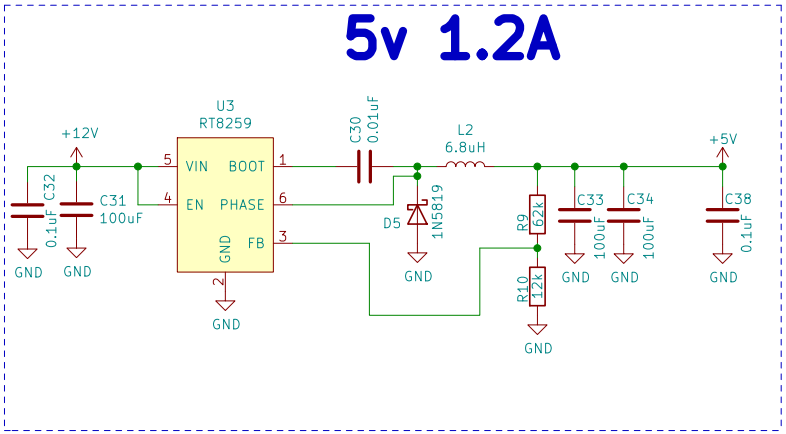
3.8v 3.3A



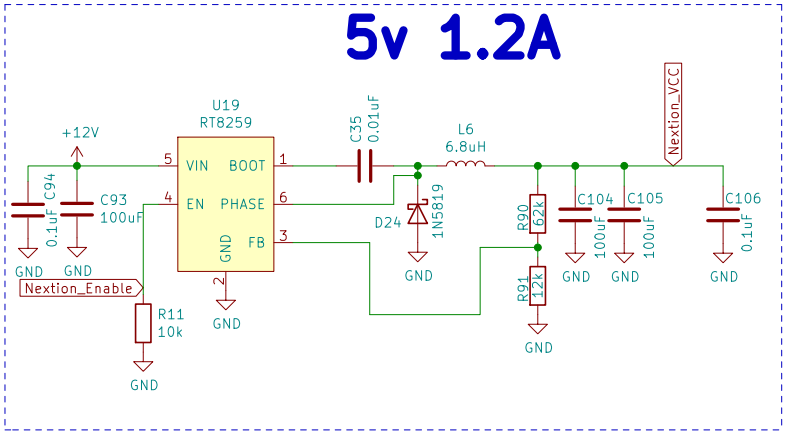
3.3v 1.2A



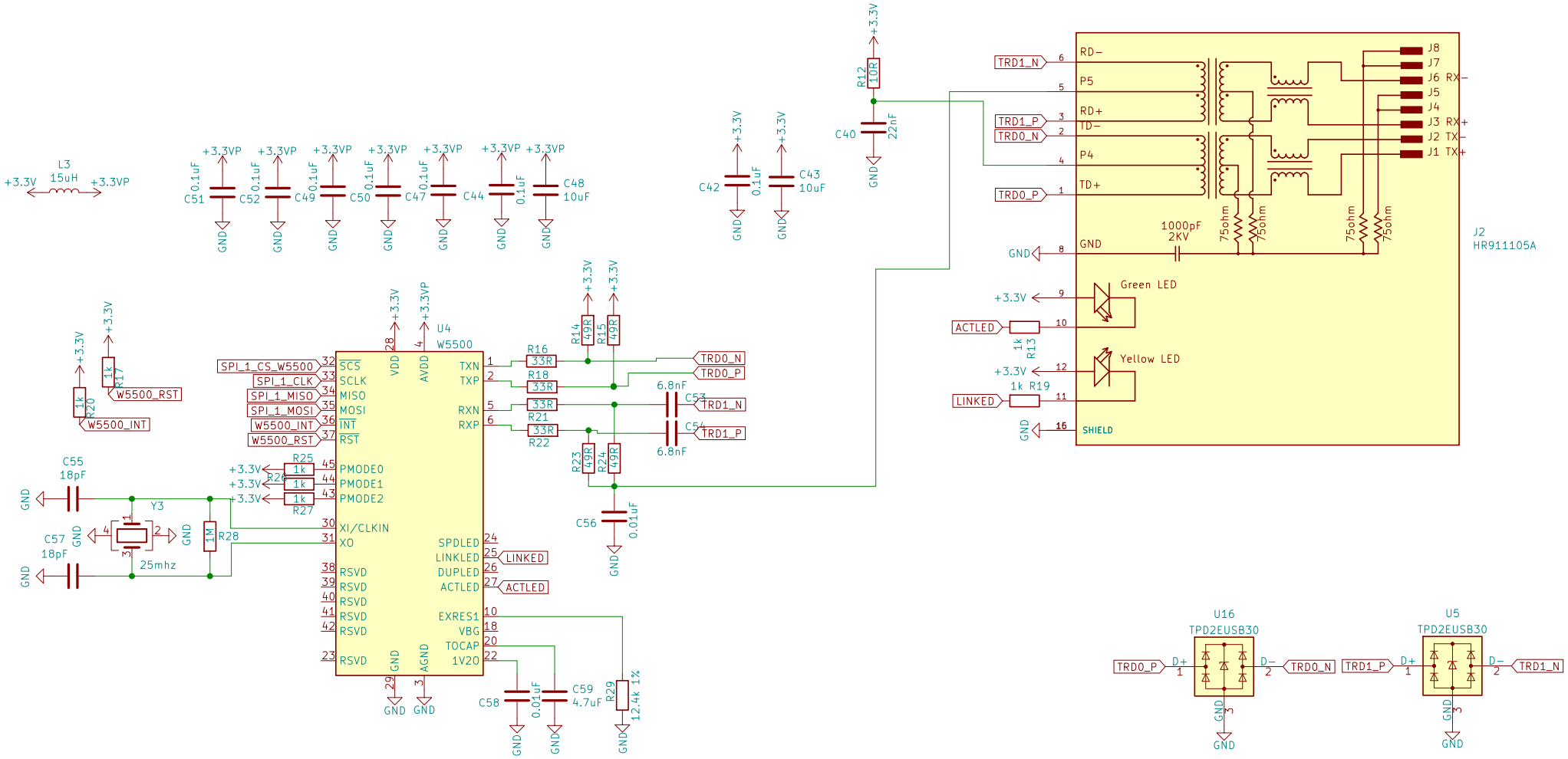
5v 1.2A



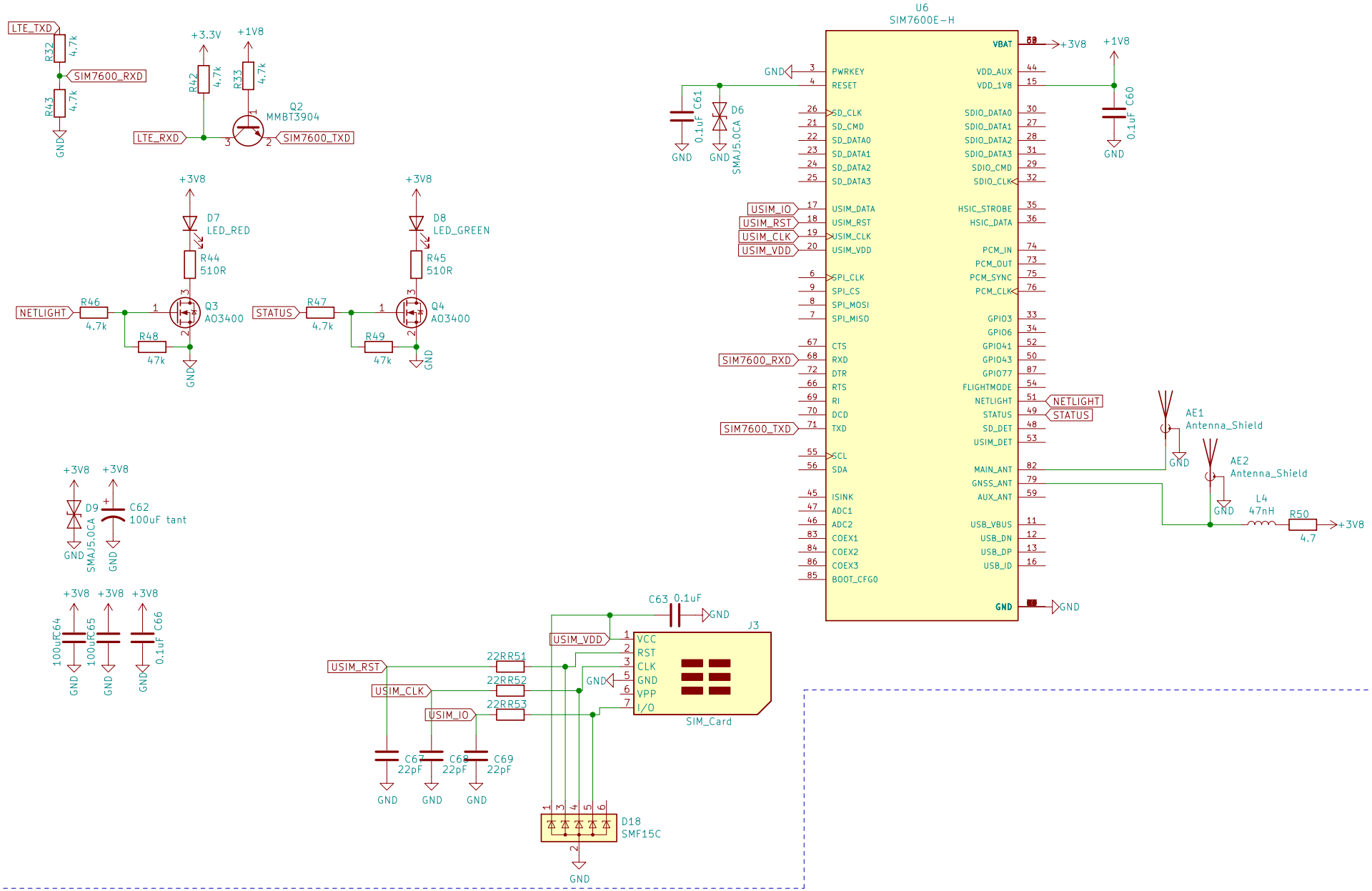
5v 1.2A

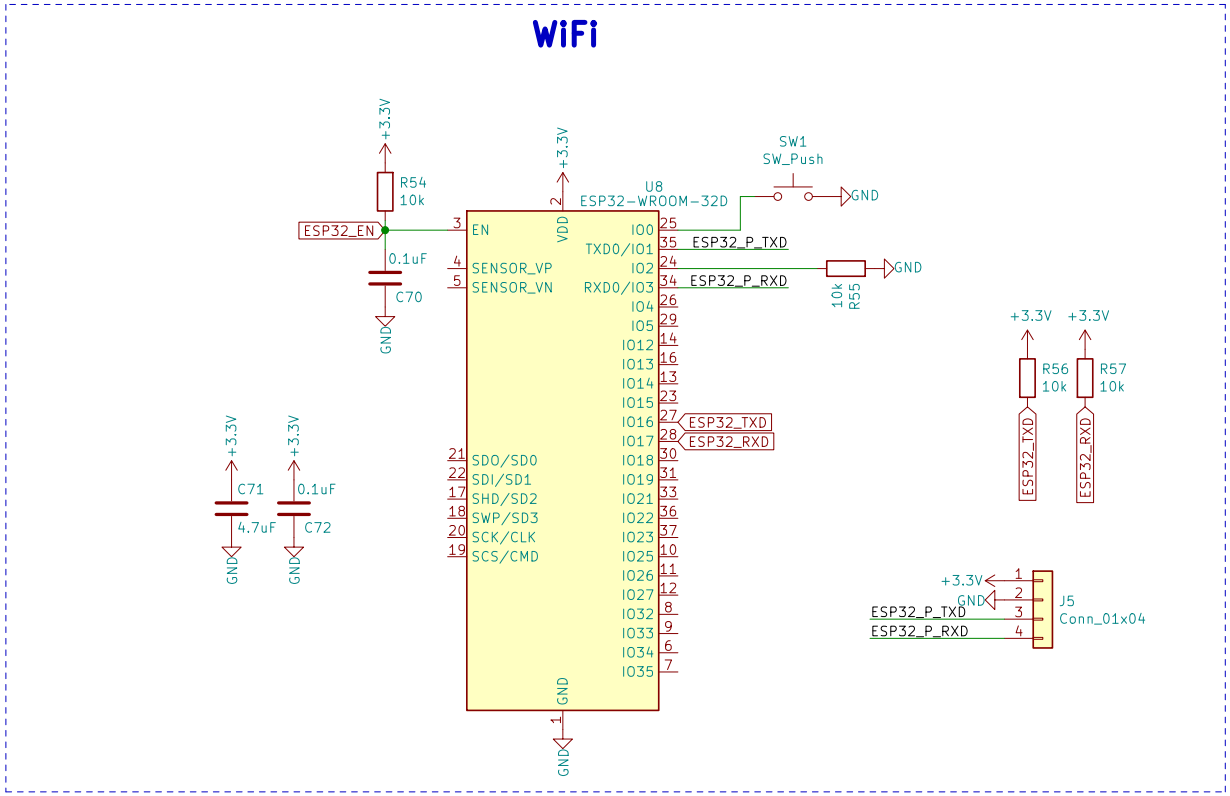


Ethernet

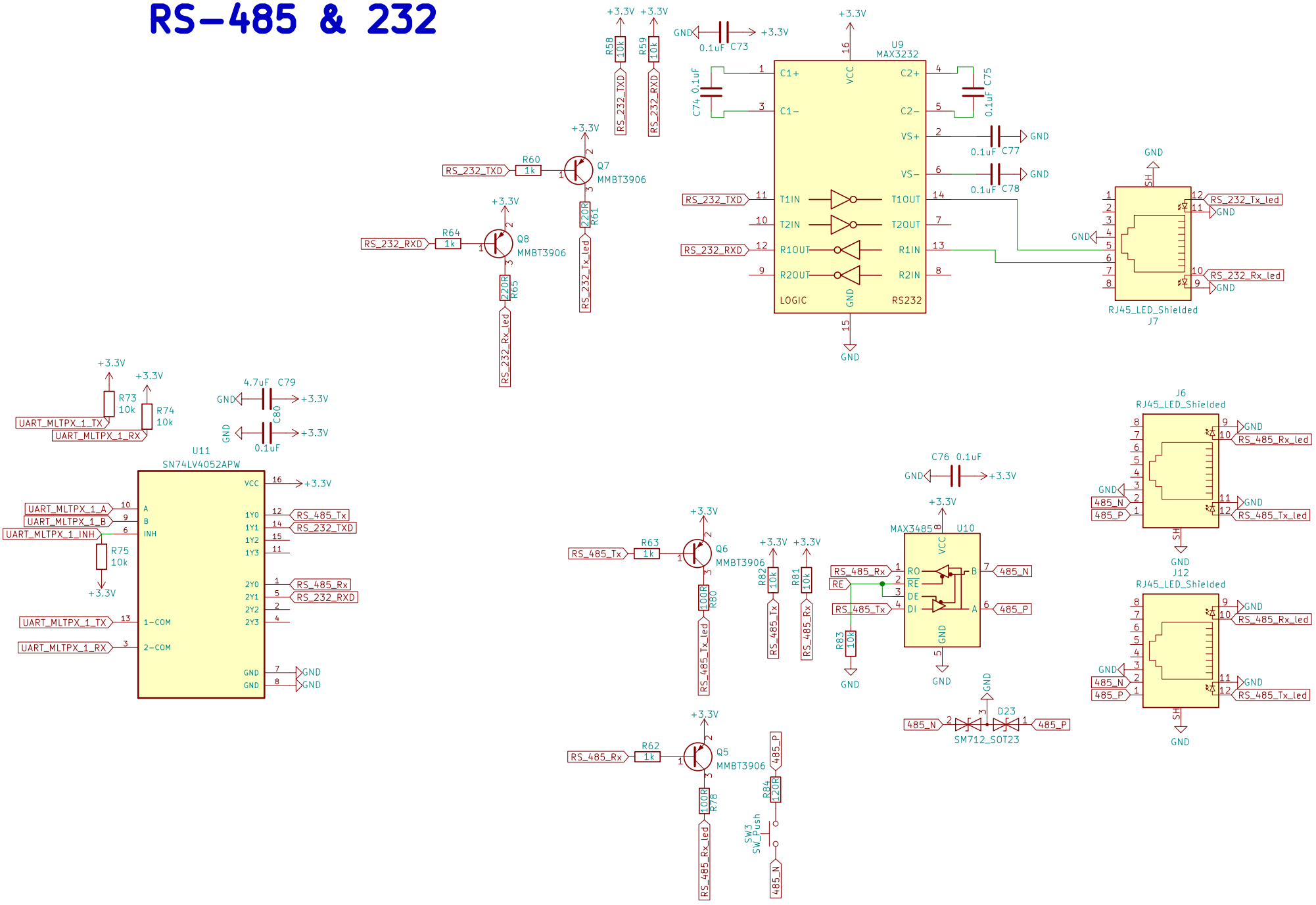

L3
15uH
+3.3V
+3.3VP
C51 0.1uF
C52 0.1uF
C49 0.1uF
C50 0.1uF
C47 0.1uF
C44 0.1uF
C48 10uF
C42 0.1uF
C43 10uF
R12 10R
C40 22nF
U4
W5500
SPI_1_CS_W5500
SPI_1_CLK
SPI_1_MISO
SPI_1_MOSI
W5500_INT
W5500_RST
SCS
SCLK
MISO
MOSI
INT
RST
VDD
AVDD
TXN
TXP
RXN
RXP
R16 33R
R18 33R
R21 33R
R22 33R
R14 49R
R15 49R
R23 49R
R24 49R
6.8nF C53
6.8nF C54
C56 0.01uF
TRD0_N
TRD0_P
TRD1_N
TRD1_P
R17 1k
R20 1k
R25 1k
R26 1k
R27 1k
PMODE0
PMODE1
PMODE2
C55 18pF
C57 18pF
Y3
25mhz
R28 1M
XI/CLKIN
XO
SPDLED
LINKLED
DUPLED
ACTLED
LINKED
ACTLED
RSVD
EXRES1
VBG
TOCAP
1V20
AGND
GND
C58 0.01uF
C59 4.7uF
R29 12.4k 1%
J2
HR911105A
RD−
P5
RD+
TD−
P4
TD+
GND
SHIELD
1000pF 2KV
75ohm
Green LED
Yellow LED
ACTLED
LINKED
1k R13
1k R19
J8
J7
J6 RX−
J5
J4
J3 RX+
J2 TX−
J1 TX+
U16
TPD2EUSB30
U5
TPD2EUSB30
D+
D−

LTE/GNSS

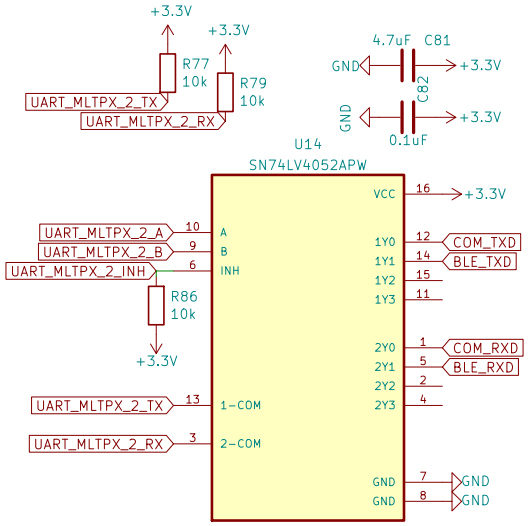

LTE_TXD
R32 4.7k
SIM7600_RXD
R43 4.7k
GND
+3.3V
+1V8
R42 4.7k
R33 4.7k
Q2
MMBT3904
LTE_RXD
SIM7600_TXD
+3V8
D7
LED_RED
R44
510R
NETLIGHT
R46
4.7k
Q3
AO3400
R48
47k
D8
LED_GREEN
R45
510R
STATUS
R47
4.7k
Q4
AO3400
R49
47k
U6
SIM7600E-H
VBAT
PWRKEY
RESET
SD_CLK
SD_CMD
SD_DATA0
SD_DATA1
SD_DATA2
SD_DATA3
USIM_DATA
USIM_RST
USIM_CLK
USIM_VDD
SPI_CLK
SPI_CS
SPI_MOSI
SPI_MISO
CTS
RXD
DTR
RTS
RI
DCD
TXD
SCL
SDA
ISINK
ADC1
ADC2
COEX1
COEX2
COEX3
BOOT_CFG0
VDD_AUX
VDD_1V8
SDIO_DATA0
SDIO_DATA1
SDIO_DATA2
SDIO_DATA3
SDIO_CMD
SDIO_CLK
HSIC_STROBE
HSIC_DATA
PCM_IN
PCM_OUT
PCM_SYNC
PCM_CLK
GPIO3
GPIO6
GPIO41
GPIO43
GPIO77
FLIGHTMODE
NETLIGHT
STATUS
SD_DET
USIM_DET
MAIN_ANT
GNSS_ANT
AUX_ANT
USB_VBUS
USB_DN
USB_DP
USB_ID
GND
C61 0.1uF
D6
SMAJ5.0CA
C60 0.1uF
AE1
Antenna_Shield
AE2
Antenna_Shield
L4
47nH
R50
4.7
D9
SMAJ5.0CA
C62
100uF tant
100uR64
100uR65
C66 0.1uF
C63 0.1uF
J3
SIM_Card
22RR51
22RR52
22RR53
C67 22pF
C68 22pF
C69 22pF
D18
SMF15C

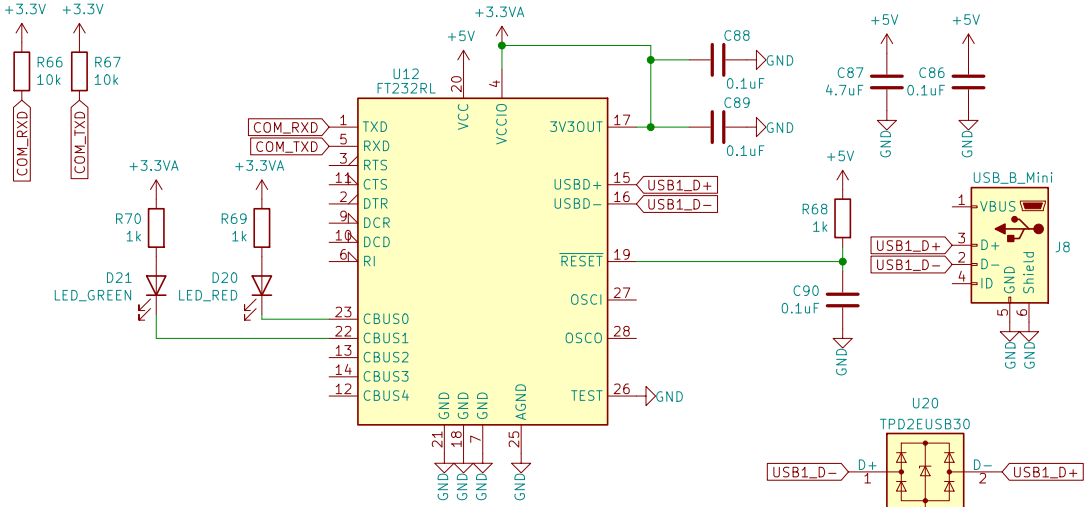

WiFi
+3.3V
R54
10k
ESP32_EN
0.1uF
C70
GND
U8
ESP32-WROOM-32D
EN
SENSOR_VP
SENSOR_VN
VDD
SDO/SD0
SDI/SD1
SHD/SD2
SWP/SD3
SCK/CLK
SCS/CMD
GND
IO0
TXD0/IO1
IO2
RXD0/IO3
IO4
IO5
IO12
IO13
IO14
IO15
IO16
IO17
IO18
IO19
IO21
IO22
IO23
IO25
IO26
IO27
IO32
IO33
IO34
IO35
ESP32_TXD
ESP32_RXD
ESP32_P_TXD
ESP32_P_RXD
SW1
SW_Push
10k
R55
C71
4.7uF
C72
R56
R57
J5
Conn_01x04

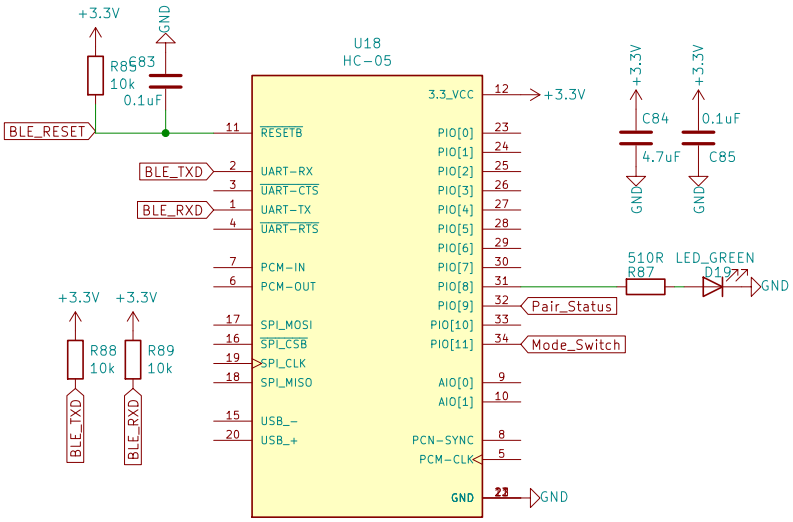
RS-485 & 232


+3.3V
R58 10k
R59 10k
RS_232_TXD
RS_232_RXD
GND
0.1uF C73
U9
MAX3232
C74 0.1uF
C75 0.1uF
C77 0.1uF
C78 0.1uF
C1+
C1-
C2+
C2-
VCC
VS+
VS-
T1IN
T2IN
R1OUT
R2OUT
T1OUT
T2OUT
R1IN
R2IN
LOGIC
RS232
R60 1k
Q7 MMBT3906
R64 1k
Q8 MMBT3906
220R R61
220R R65
RS_232_Tx_led
RS_232_Rx_led
RS_232_Tx_led
RS_232_Rx_led
SH
RJ45_LED_Shielded
J7
R73 10k
R74 10k
UART_MLTPX_1_TX
UART_MLTPX_1_RX
4.7uF C79
C80 0.1uF
U11
SN74LV4052APW
UART_MLTPX_1_A
UART_MLTPX_1_B
UART_MLTPX_1_INH
R75 10k
1-COM
2-COM
1Y0
1Y1
1Y2
1Y3
2Y0
2Y1
2Y2
2Y3
RS_485_Tx
RS_232_TXD
RS_485_Rx
RS_232_RXD
C76 0.1uF
R63 1k
Q6 MMBT3906
R80 100R
RS_485_Tx_led
R82 10k
R81 10k
RS_485_Tx
RS_485_Rx
MAX3485
U10
RS_485_Rx
RE
DE
DI
RO
B
A
485_N
485_P
R83 10k
D23
SM712_SOT23
J6
J12
RS_485_Rx_led
RS_485_Tx_led
R62 1k
Q5 MMBT3906
R78 100R
RS_485_Rx_led
R84 120R
SW3 SW_Push

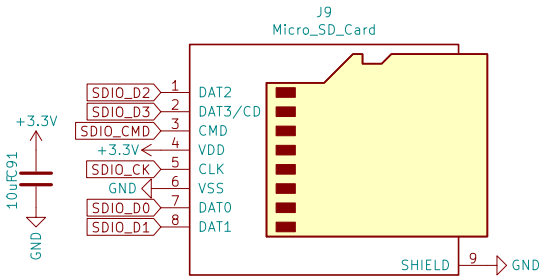
COM PORT & BLE

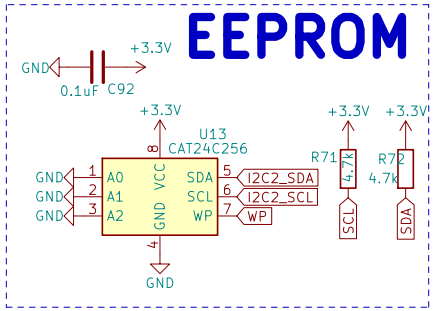

+3.3V
+3.3V
R77
10k
R79
10k
UART_MLTPX_2_TX
UART_MLTPX_2_RX
4.7uF
C81
GND
+3.3V
C82
GND
0.1uF
+3.3V
U14
SN74LV4052APW
VCC
+3.3V
UART_MLTPX_2_A
UART_MLTPX_2_B
UART_MLTPX_2_INH
A
B
INH
R86
10k
+3.3V
1Y0
1Y1
1Y2
1Y3
COM_TXD
BLE_TXD
2Y0
2Y1
2Y2
2Y3
COM_RXD
BLE_RXD
UART_MLTPX_2_TX
1-COM
UART_MLTPX_2_RX
2-COM
GND
GND
GND

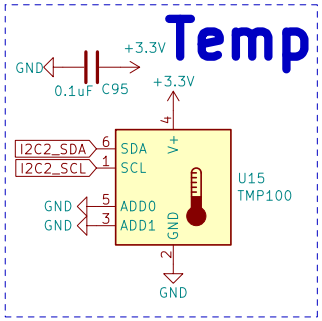

+3.3V
+3.3V
R66
10k
R67
10k
COM_RXD
COM_TXD
+3.3VA
+5V
+3.3VA
U12
FT232RL
VCC
VCCIO
C88
0.1uF
GND
C89
0.1uF
GND
+5V
+5V
C87
4.7uF
C86
0.1uF
GND
GND
COM_RXD
COM_TXD
TXD
RXD
RTS
CTS
DTR
DCR
DCD
RI
3V3OUT
USBD+
USBD-
USB1_D+
USB1_D-
RESET
OSCI
OSCO
TEST
GND
+3.3VA
+3.3VA
R70
1k
R69
1k
D21
LED_GREEN
D20
LED_RED
CBUS0
CBUS1
CBUS2
CBUS3
CBUS4
GND
GND
GND
AGND
+5V
R68
1k
C90
0.1uF
GND
USB_B_Mini
VBUS
D+
D-
ID
GND
Shield
J8
USB1_D+
USB1_D-
GND
GND
U20
TPD2EUSB30
USB1_D-
D+
D-
USB1_D+
GND
GND

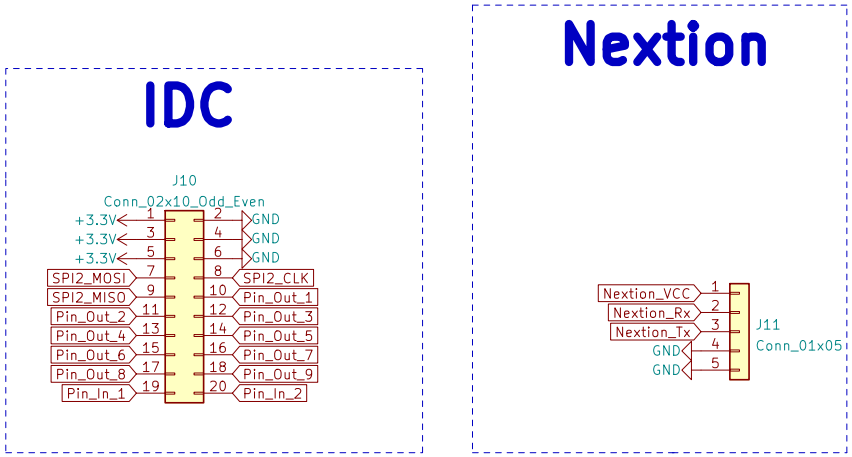

+3.3V
GND
R85
10k
C83
0.1uF
BLE_RESET
U18
HC-05
3.3_VCC
+3.3V
RESETB
PIO[0]
PIO[1]
PIO[2]
PIO[3]
PIO[4]
PIO[5]
PIO[6]
PIO[7]
PIO[8]
PIO[9]
PIO[10]
PIO[11]
AIO[0]
AIO[1]
PCN-SYNC
PCM-CLK
GND
BLE_TXD
BLE_RXD
UART-RX
UART-CTS
UART-TX
UART-RTS
PCM-IN
PCM-OUT
SPI_MOSI
SPI_CSB
SPI_CLK
SPI_MISO
USB_-
USB_+
+3.3V
+3.3V
C84
4.7uF
C85
0.1uF
GND
GND
510R
R87
LED_GREEN
D19
GND
Pair_Status
Mode_Switch
+3.3V
+3.3V
R88
10k
R89
10k
BLE_TXD
BLE_RXD

Micro SD CARD

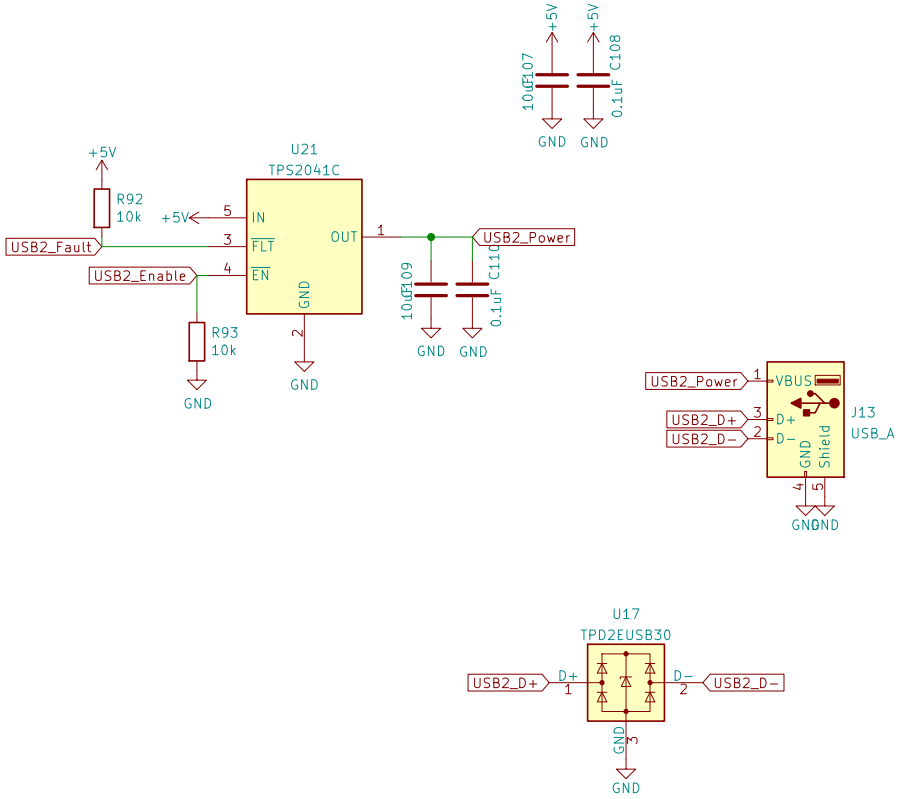



EEPROM
GND
+3.3V
0.1uF
C92
+3.3V
U13
CAT24C256
8
VCC
GND
4
GND
GND
GND
GND
1
2
3
A0
A1
A2
SDA
SCL
WP
5
6
7
I2C2_SDA
I2C2_SCL
WP
+3.3V
R71
4.7k
SCL
+3.3V
R72
4.7k
SDA


Temp
GND
0.1uF
C95
+3.3V
+3.3V
I2C2_SDA
I2C2_SCL
6
1
SDA
SCL
V+
4
GND
GND
5
3
ADD0
ADD1
GND
2
GND
U15
TMP100


IDC
J10
Conn_02x10_Odd_Even
+3.3V
1
2
GND
+3.3V
3
4
GND
+3.3V
5
6
GND
SPI2_MOSI
7
8
SPI2_CLK
SPI2_MISO
9
10
Pin_Out_1
Pin_Out_2
11
12
Pin_Out_3
Pin_Out_4
13
14
Pin_Out_5
Pin_Out_6
15
16
Pin_Out_7
Pin_Out_8
17
18
Pin_Out_9
Pin_In_1
19
20
Pin_In_2

Nextion
Nextion_VCC
1
Nextion_Rx
2
Nextion_Tx
3
GND
4
GND
5
J11
Conn_01x05


+5V
R92
10k
USB2_Fault
USB2_Enable
R93
10k
GND
U21
TPS2041C
5
IN
+5V
3
FLT
4
EN
OUT
1
GND
2
GND
USB2_Power
10uF C109
0.1uF C110
GND GND
+5V
10uF C107
+5V
0.1uF C108
GND GND
USB2_Power
1
VBUS
USB2_D+
3
D+
USB2_D−
2
D−
GND
Shield
4
5
GND GND
J13
USB_A
U17
TPD2EUSB30
USB2_D+
D+
1
D−
2
USB2_D−
GND
3
GND