

Inputs

PIC_SCL -
PIC_SDA -

From PIC16, bus is floated when PIC16 goes to sleep

ENSUREPSW -

PIC16 GPIO, 1.8V ensures PICPWR will remain on

AMPWR

Outputs

- **USBON**

1.8V = USB is plugged in, 0V = USB unplugged

USBON forces on PICPWR

- **MSWITCH**

1.8V = Main Switch is on, 0V = Main Switch is off

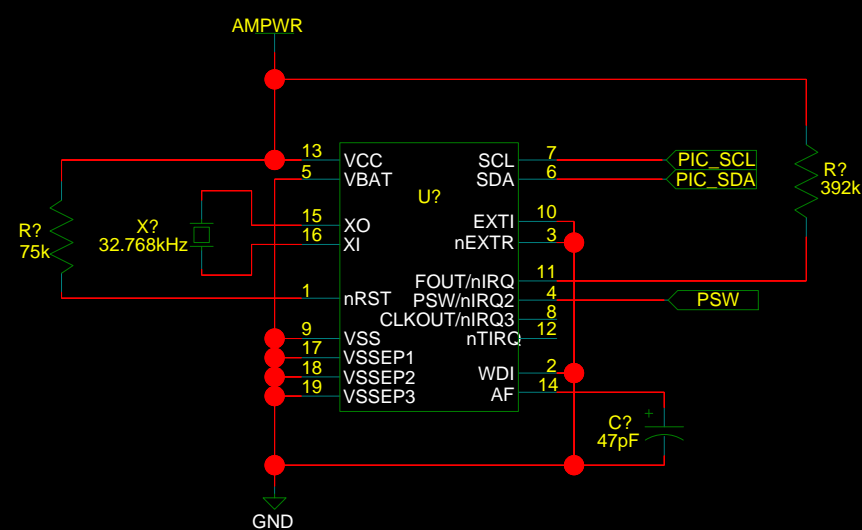
MSWITCH being on allows TC, PSW and ENSUREPSW to turn on PICPWR

◀ **TC**

1.8V = Main Switch was just turned on,
0V = Main Switch has been on for >4sec

PICPWR

PICPWR is on if:
USBON || (MSWITCH && (TC || PSW || ENSUREPSW))



PICPWR

VSYS

Bidirectional

I2C_SCLHV
 I2C_SDAHV

3V3NRF

Outputs

```
EEPROM_IN_USE
```

Inputs

- NRF USING EEPROM
- NRFCOMPLETE

```
NRF_USING_EEPROM
NRFCOMPLETE
```

Bidirectional

```

NRF_SDA
NRF_SCL

```

VGPS

Bidirectional

- GPS TXD
- GPS RXD
- GPS ANT

GPS_TXD

GPS_RXD
GPS_SDA

GPS_SCL

Other

```

graph LR
    USBON[USBON] --> TO[TO]
    TO --> MSWITCH[MSWITCH]
    MSWITCH --> BFAULTHV[BFAULTHV]
    BFAULTHV --> CHRG[CHRG]
    CHRG --> VCOMP[VCOMP]
    VCOMP --> ENSUREPSW[ENSUREPSW]
  
```

USBON

MSWITCH

BEAULTHV
CHRG
NORM

VCOMP

The diagram illustrates the inputs and outputs of the 74147 10-to-4 priority encoder. On the left, under the heading "Inputs", there is a vertical column of five inputs, each preceded by a green arrow pointing to the right: **USBN**, **TC**, **MSWITCH**, **BFAULTHV**, and **CHRG**. Below these is a green box labeled **VCOMP**. On the right, under the heading "Outputs", there is a vertical column of five outputs, each preceded by a green arrow pointing to the left: **ENSUREPSW**, **LED RED**, **LED GRN**, **LED BLU**, and **EHS6_EN**. Below these are three more outputs: **NRF_EN**, **GPS_EN**, and **MPGATE**.

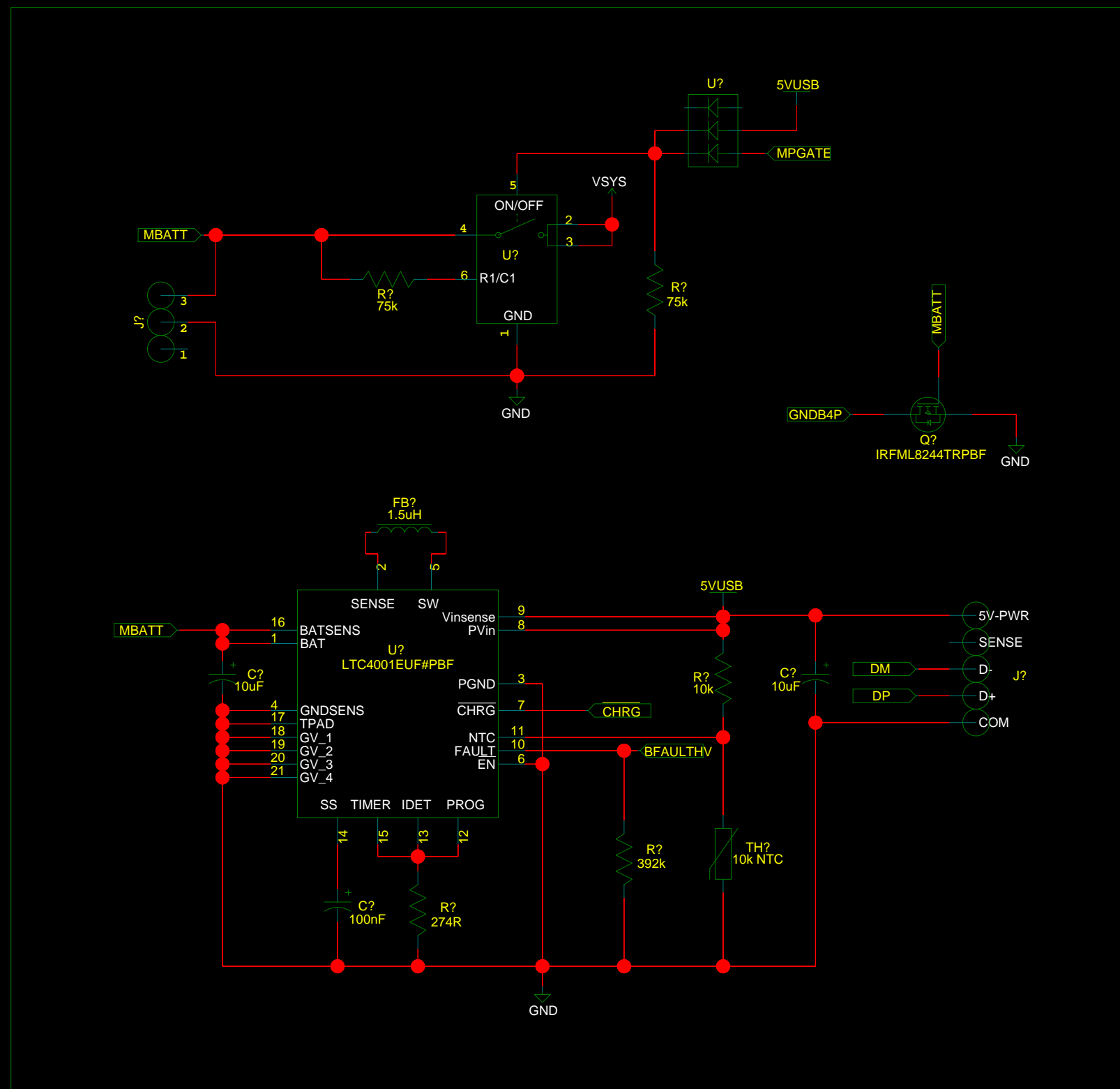
ENSUREPSW
LED RED

LED GRN

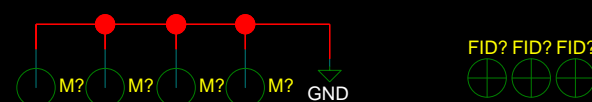
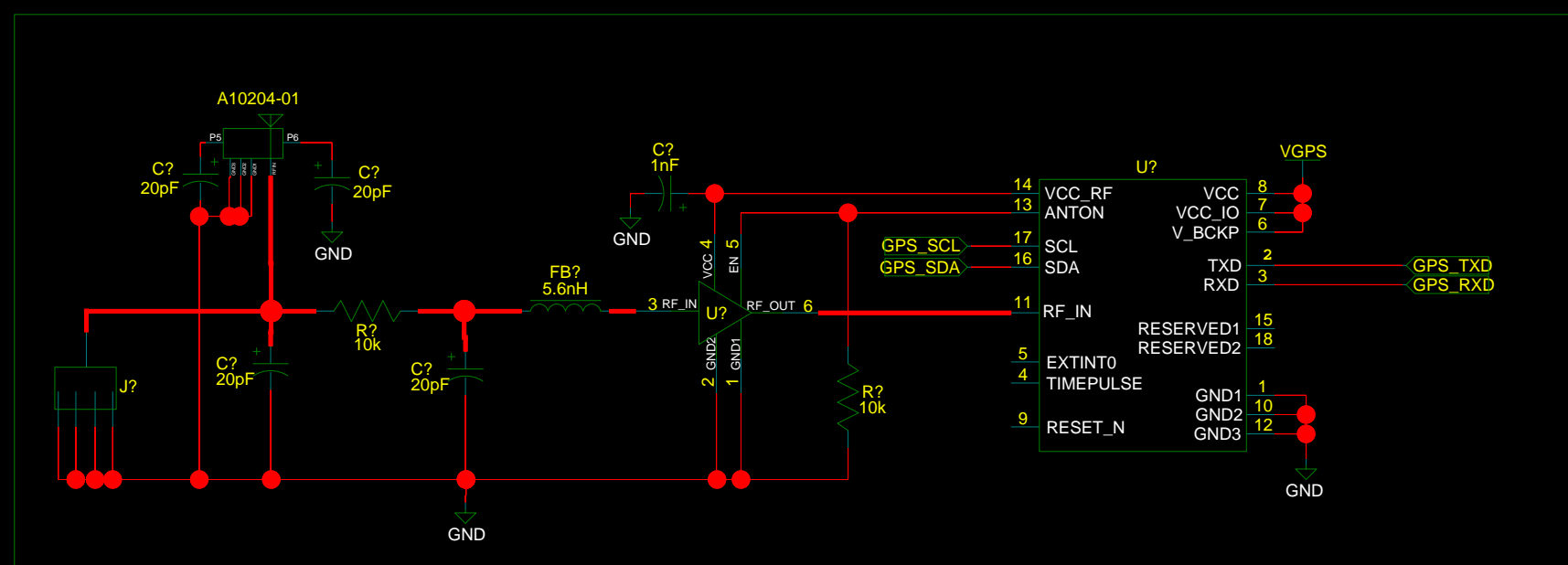
EHS6_EN

GPS EN
MPGATE

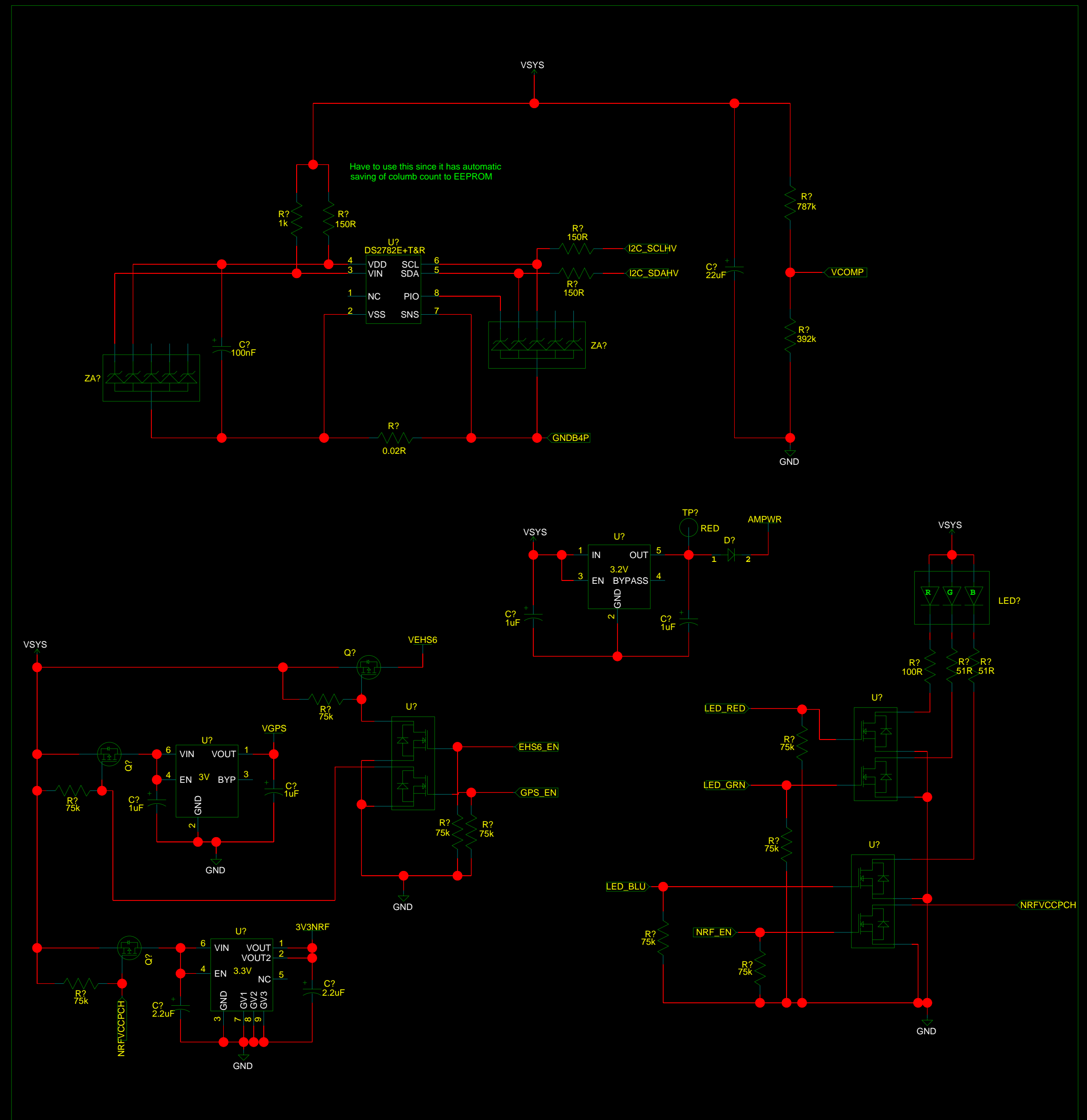
MBATT



VGPS



VSYS



Inputs

MPGATE
EHS6_EN
NRF_EN
LED_RED
LED_GRN
LED_BLU
GPS_EN

Ouputs

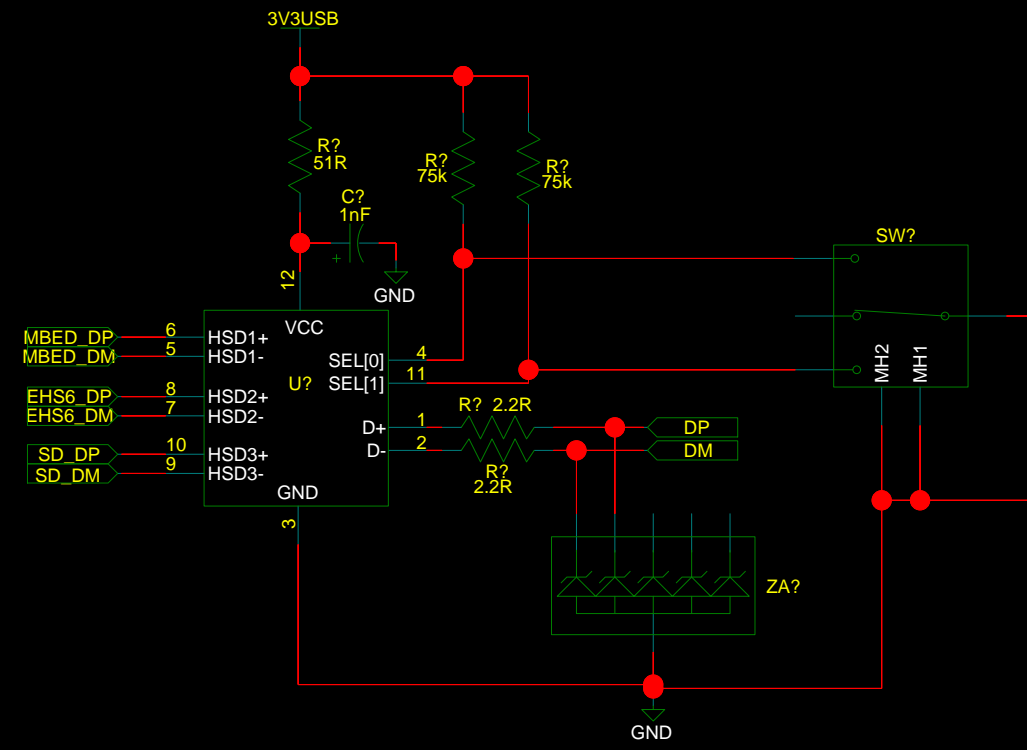
3V3NRF
VEHS6
AMPWR
VGPS
VCOMP
CHRG
BFAULTHV

Bidirectional

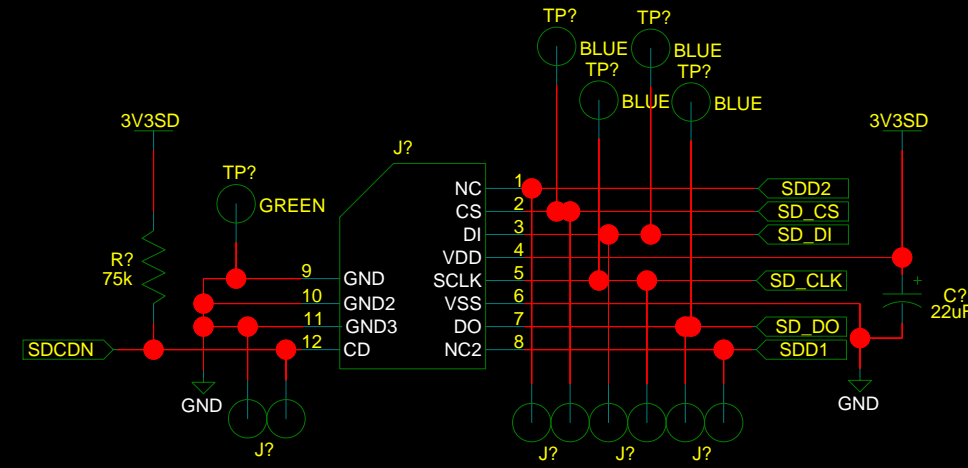
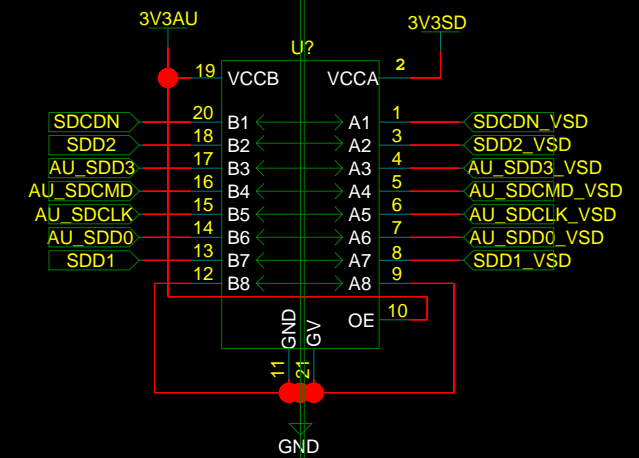
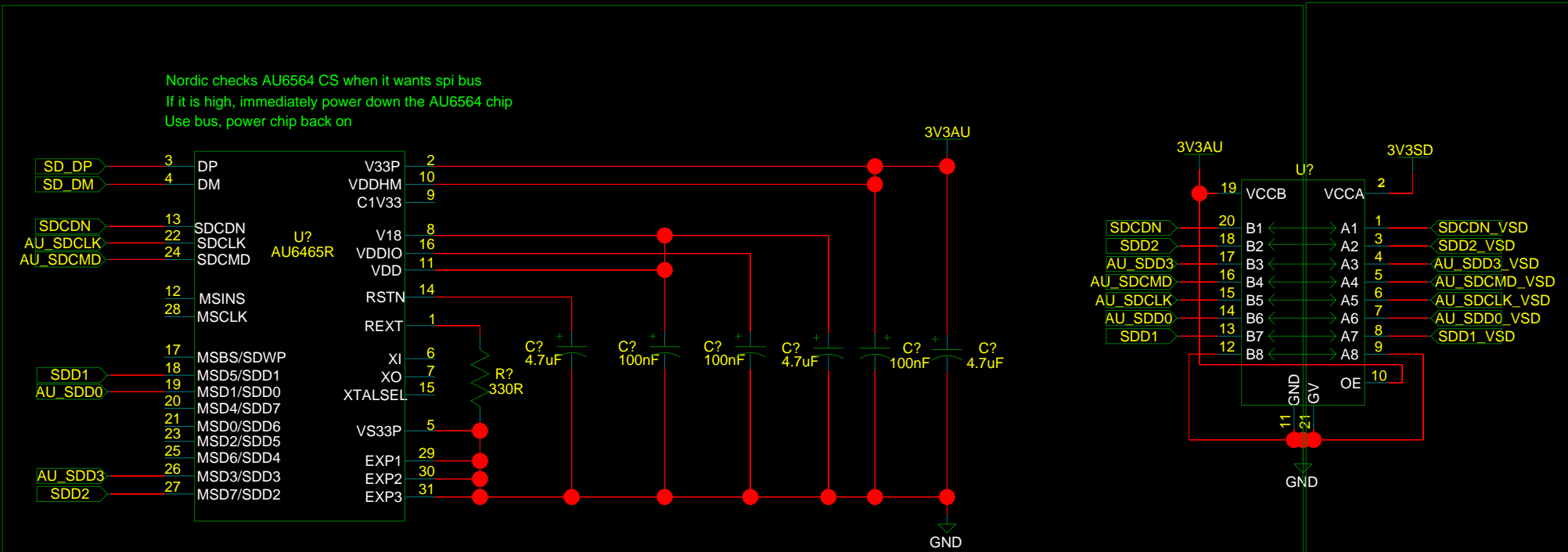
GPS_TXD
GPS_RXD
GPS_SCL
GPS_SDA
I2C_SCLHV
I2C_SDAHV
DM
DP

3V3USB

3V3SD



3V3AU



Inputs

3V3NRF
5VUSB

Outputs

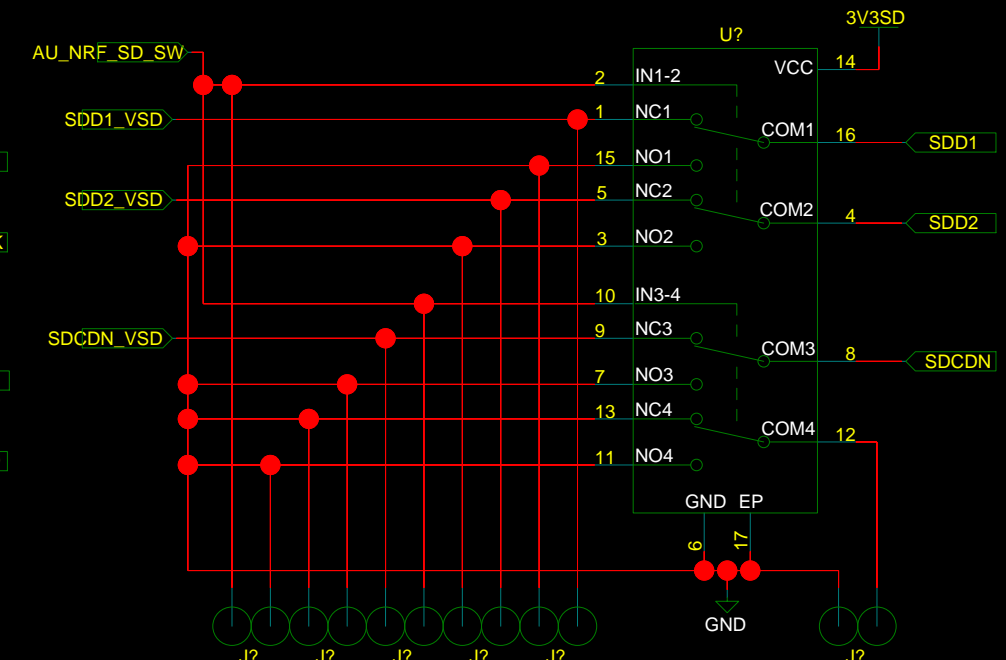
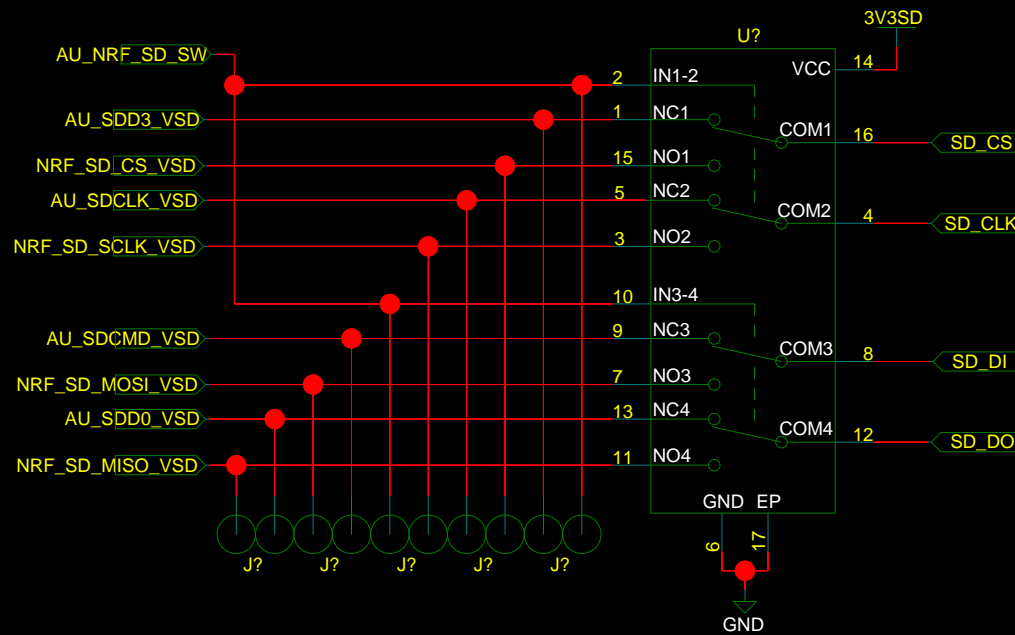
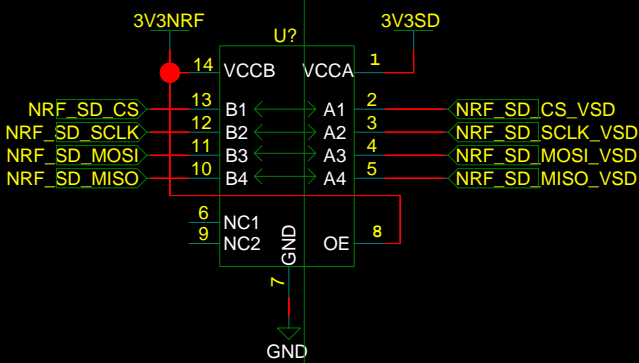
- <AU_ON OFF
- <AU_NRF_SD_SW
- <NRF_SD_CS
- <NRF_SD_SCLK
- <NRF_SD_MOSI
- <NRF_SD_MISO

Bidirectional

```

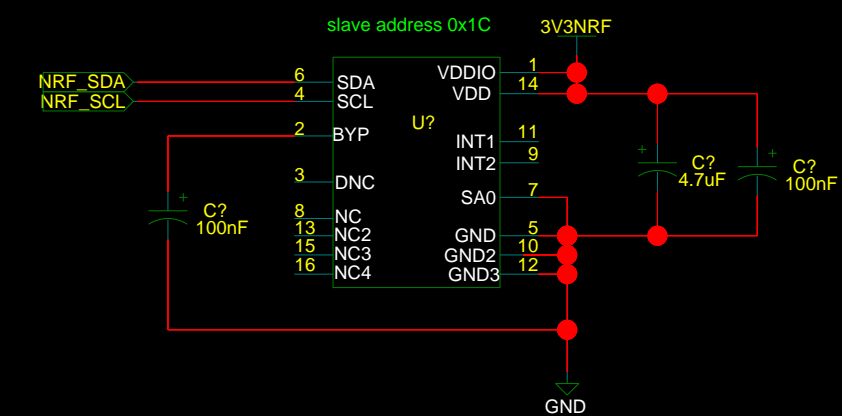
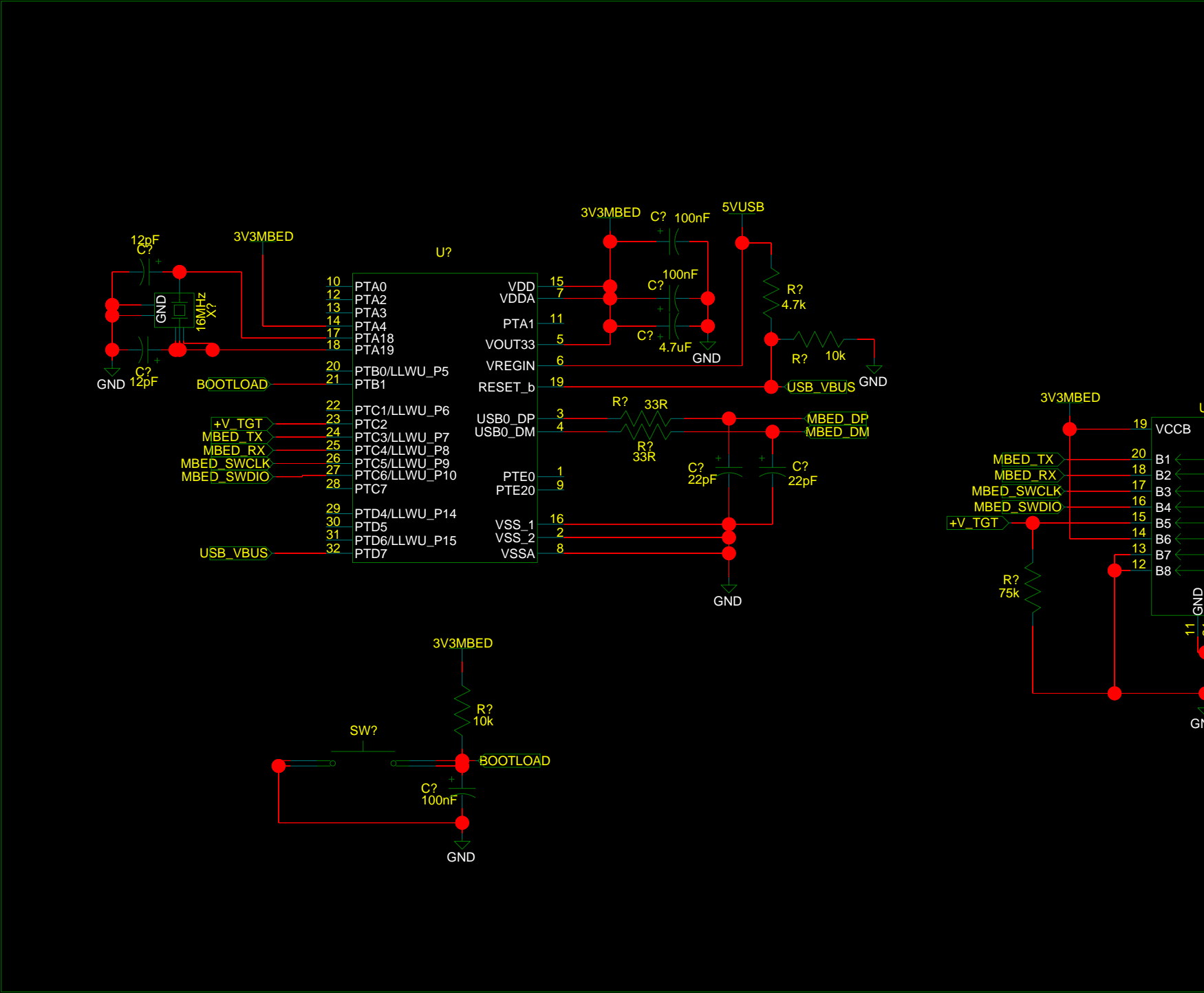
DP
DM
MBED_DP
MBED_DM
EHS6_DP
EHS6_DM

```



3V3MBED

3V3NRF



Inputs

```

5VUSB
|
├── MBED_DP
├── MBED_DM
├── EEPROM_IN_USE
├── NRFS_SLAVE_CS
├── NRFS_SLAVE_SCLK
├── NRFS_SLAVE_MOSI
├── NRFS_SLAVE_MISO
├── PWR_IND
└── EMERG_RST

```

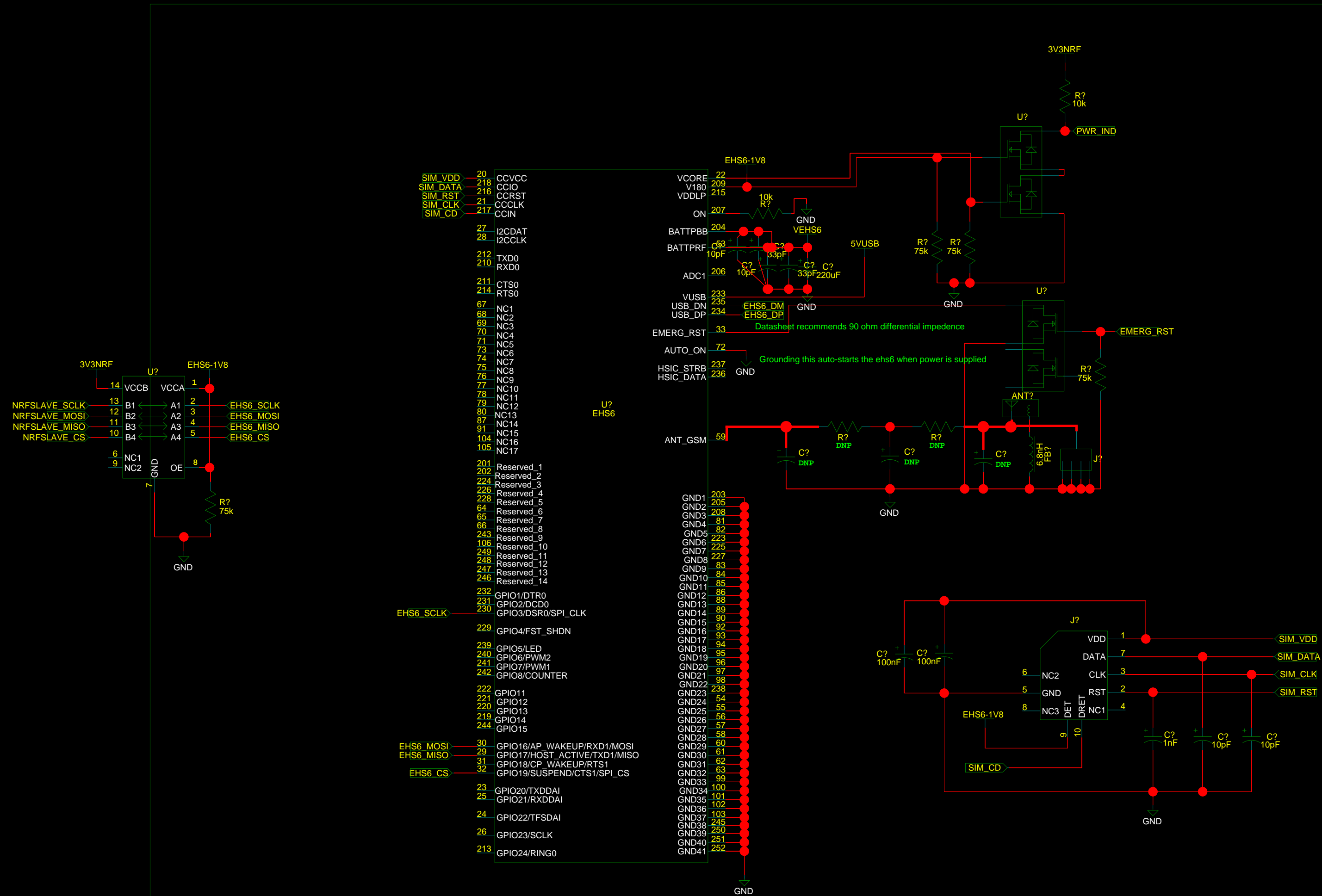
Outputs

```
NRF_USING_EEPROM<
  NRFCOMPLETE<
  AU_NRF_SD_SW<
    AU_ON_OFF<
      NRF_SD_CS<
      NRF_SD_SCLK<
      NRF_SD_MOSI<
      NRF_SD_MISO<
```

Bidirectional

NRF_SDA
NRF_SCL

VEHS6



Inputs

3V3NRF
- NRFLAVE_SCLK
- NRFLAVE_MOSI
- NRFLAVE_MISO
- NRFLAVE_CS
- EHS6_DM
- EHS6_DP
- PWR_IND
- EMERG_RST

Ouputs

Bidirectional