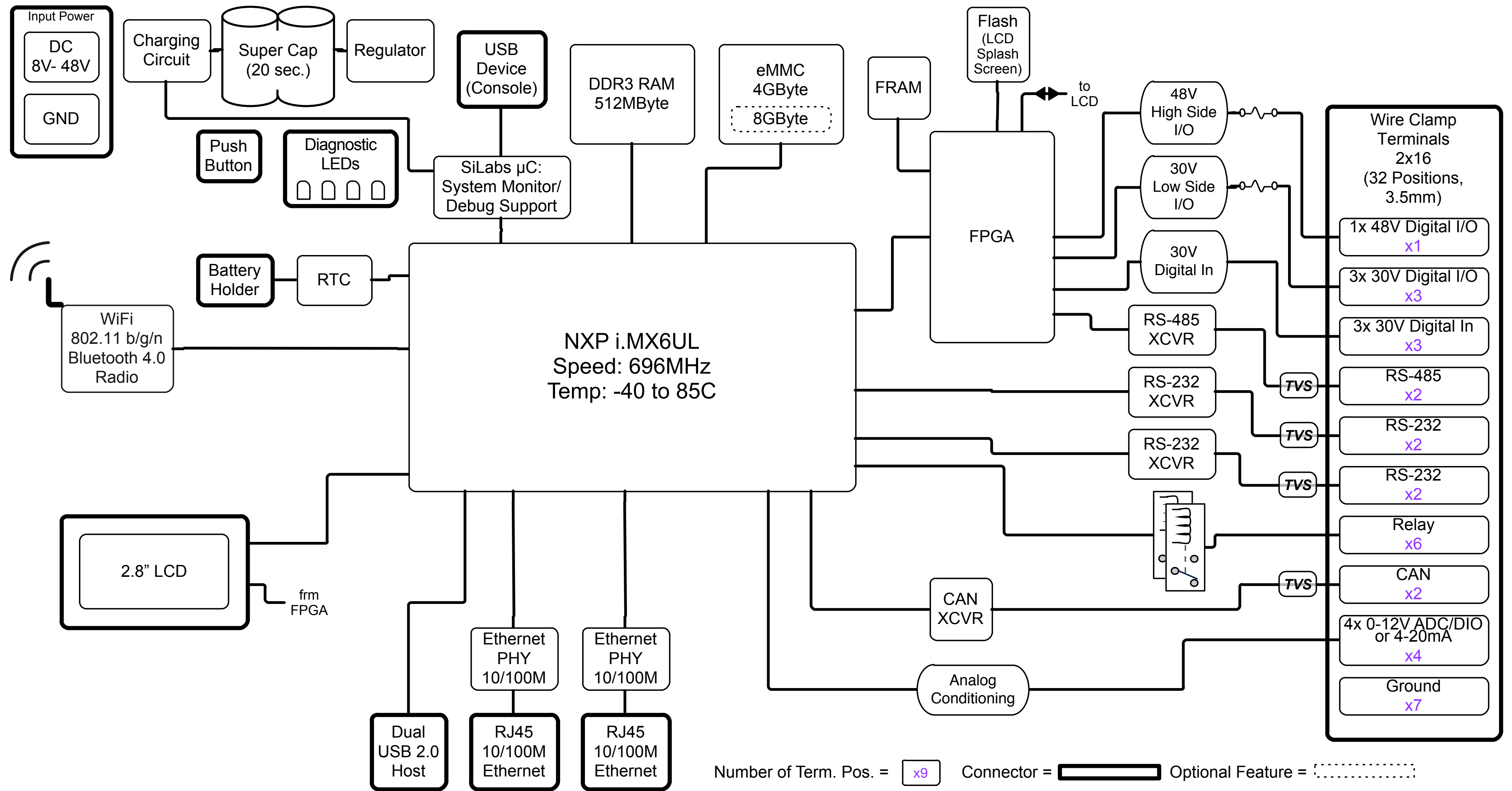


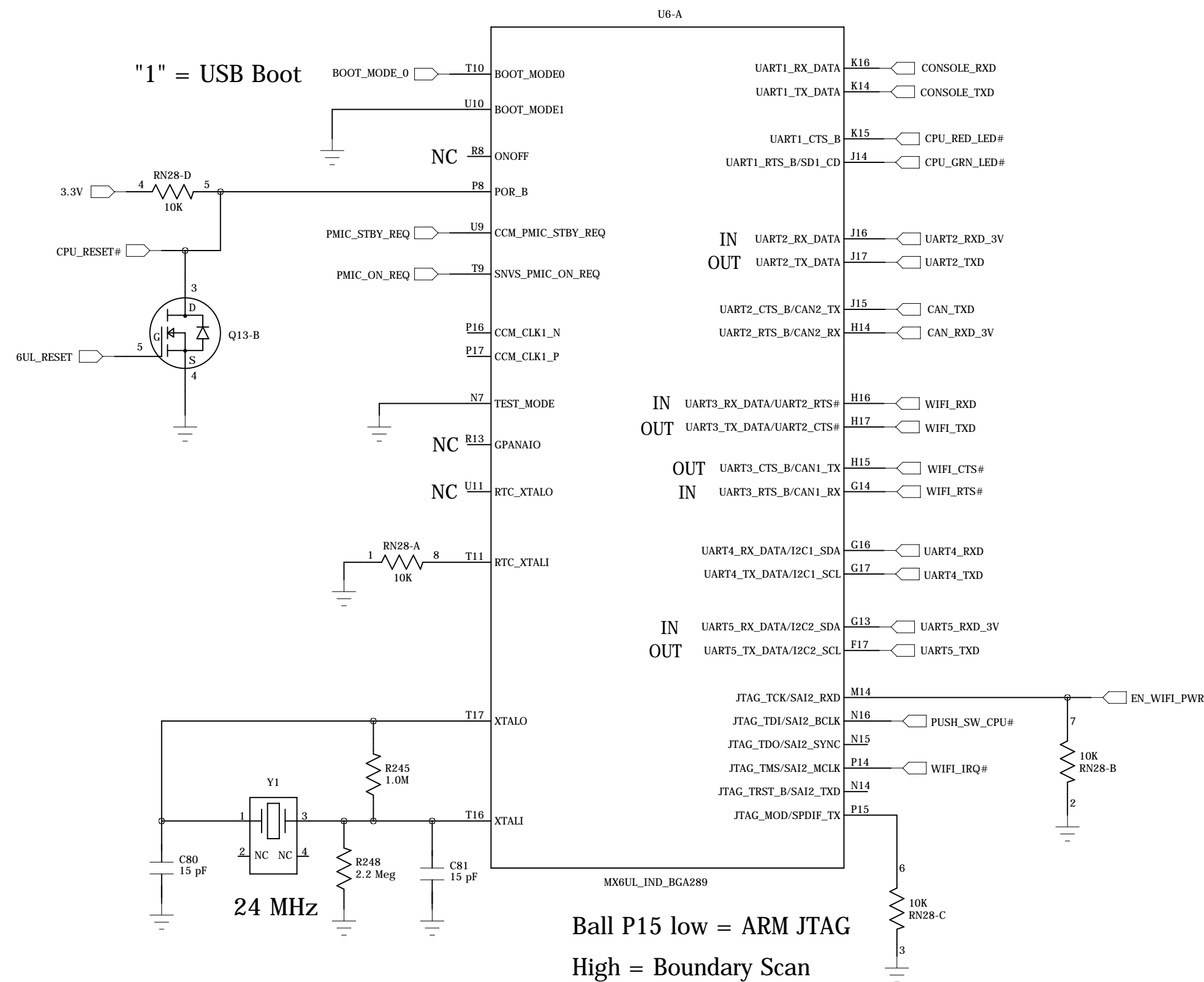
TS-7100

Small Foot print SBC: 2.4 inch x 3.6 inch x 1.7 inches when fully enclosed with a 2.8 inch LCD.

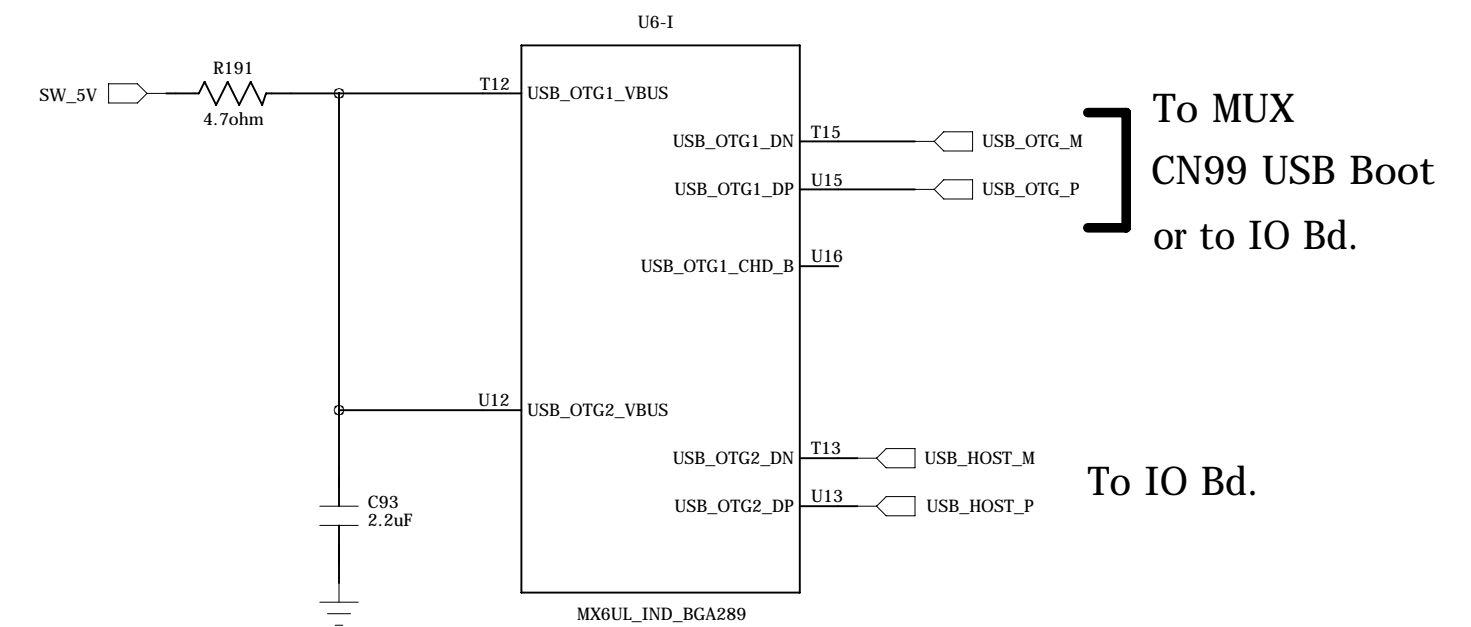


CPU Board

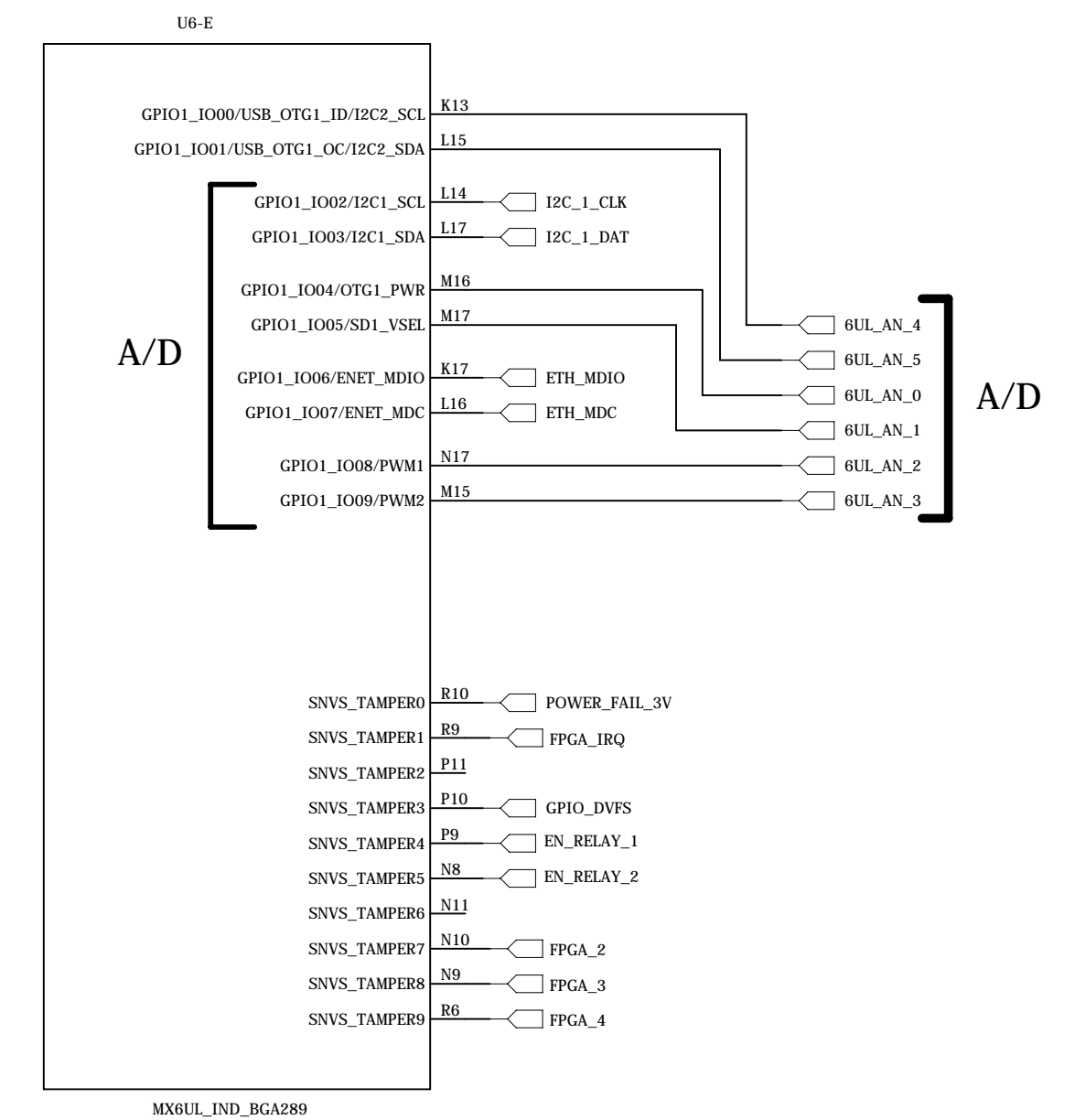
6UL UART and Control



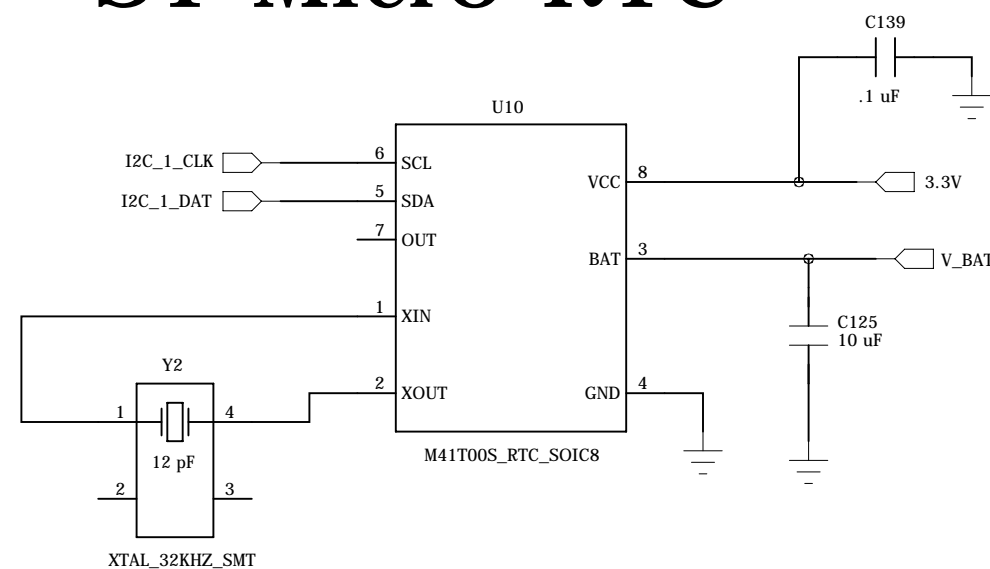
6UL USB Ports



6UL DIO



ST Micro RTC



UART2 and 5 = RS-232

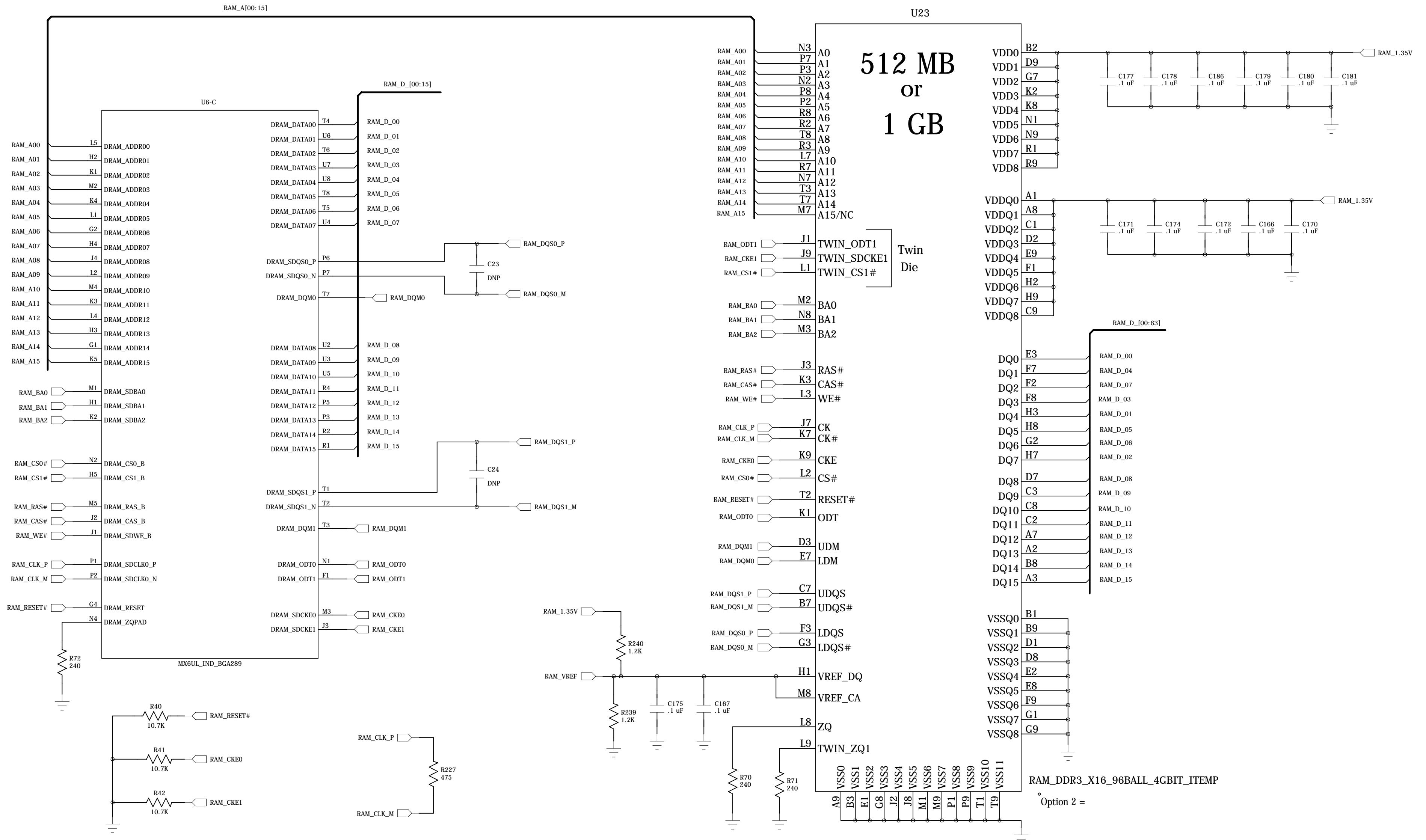
UART3 = BlueTooth

UART4 and 7 = FPGA

CPU Board

6UL RAM Interface

DDR3 RAM



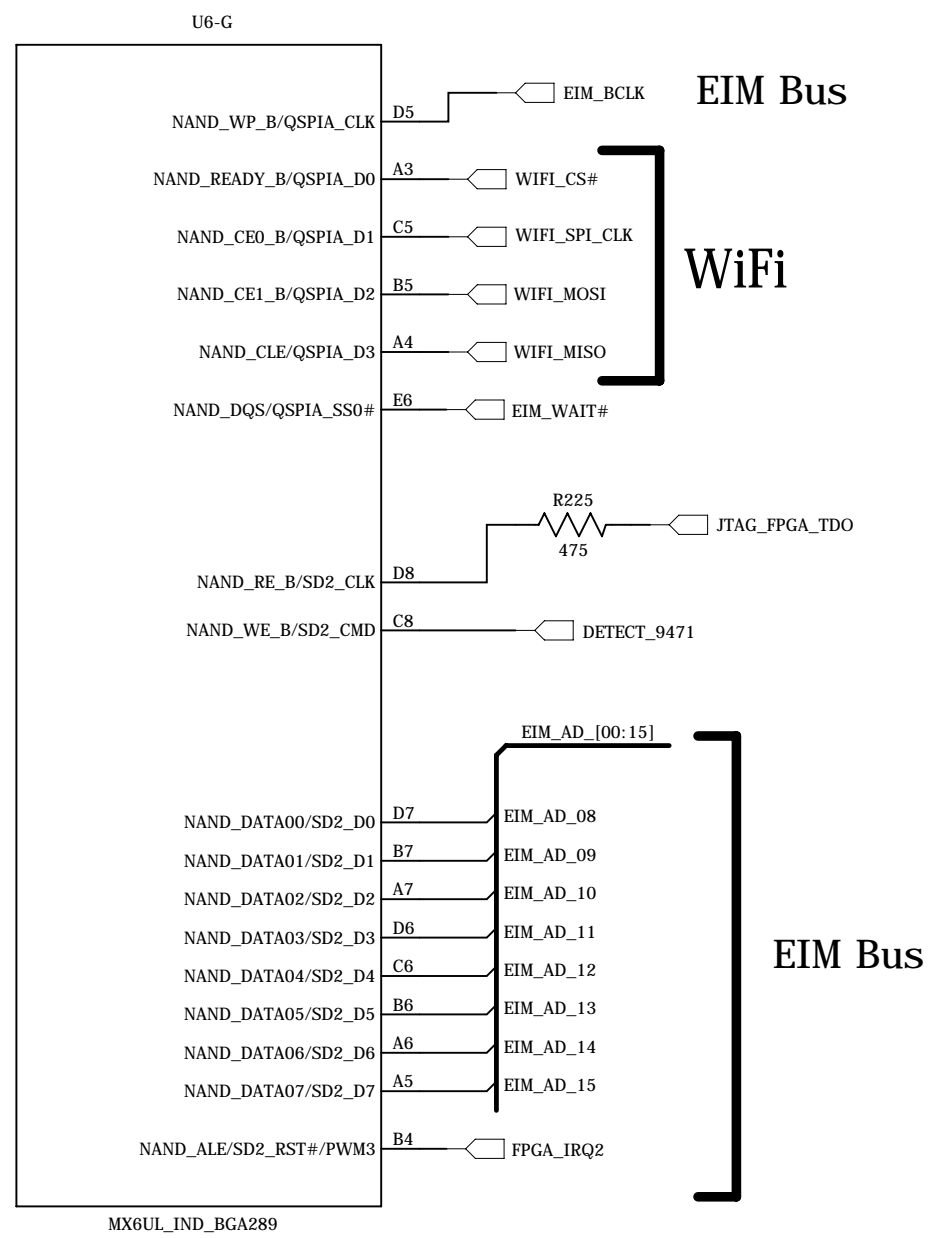
RAM 1.35V

Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
Rev: P1	Designer	Sheet 4 of 22

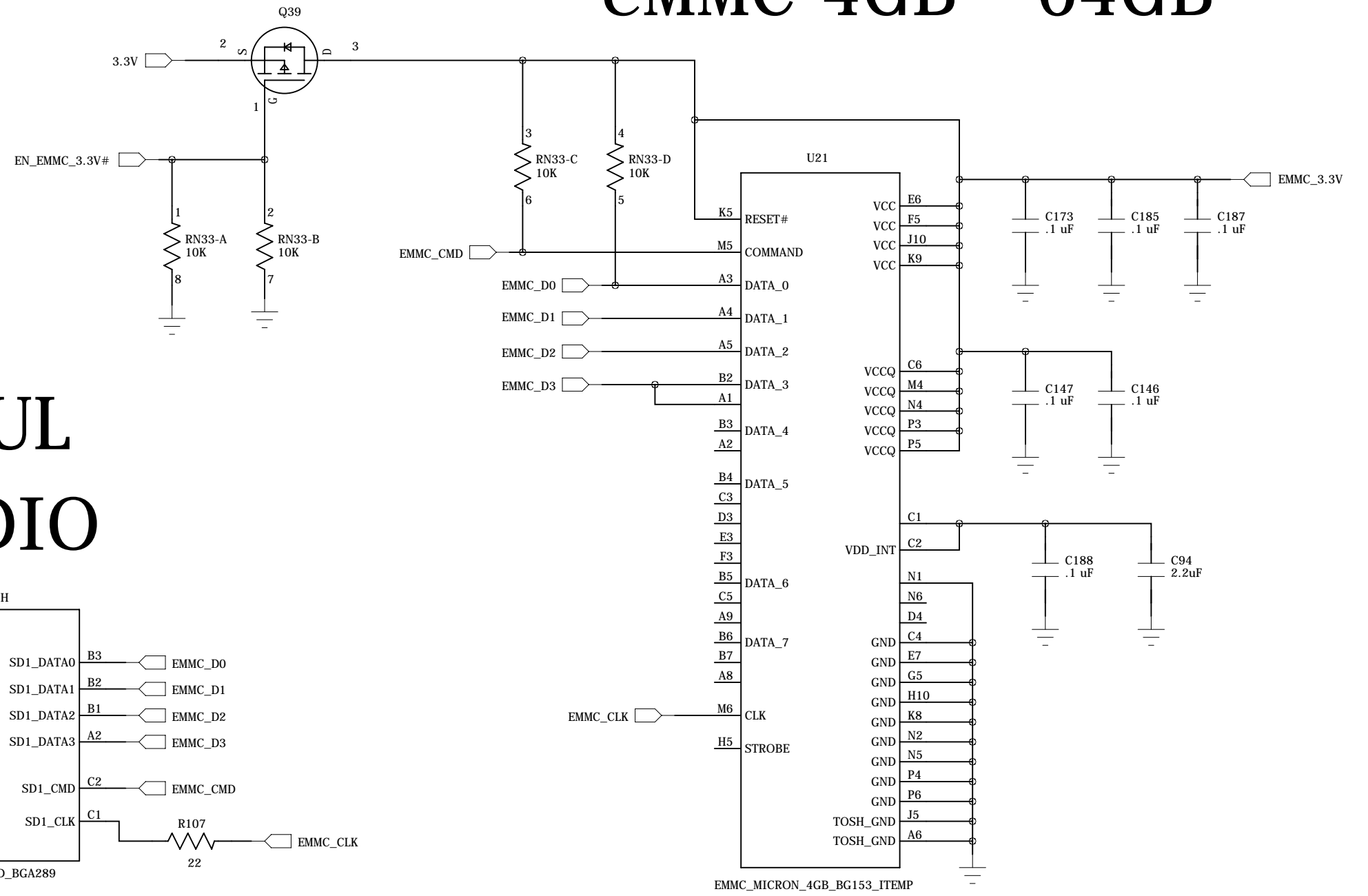
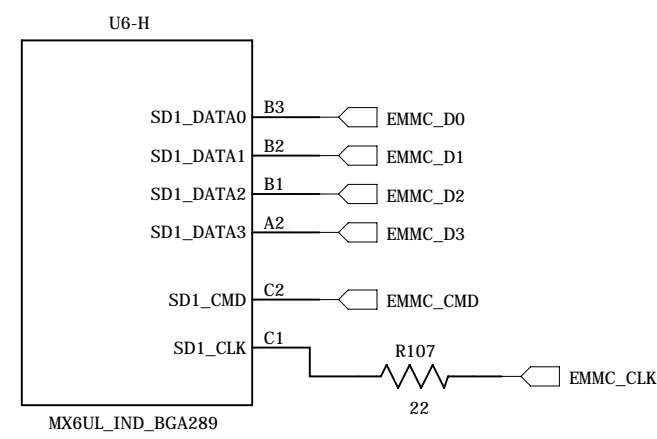
CPU Board

eMMC 4GB - 64GB

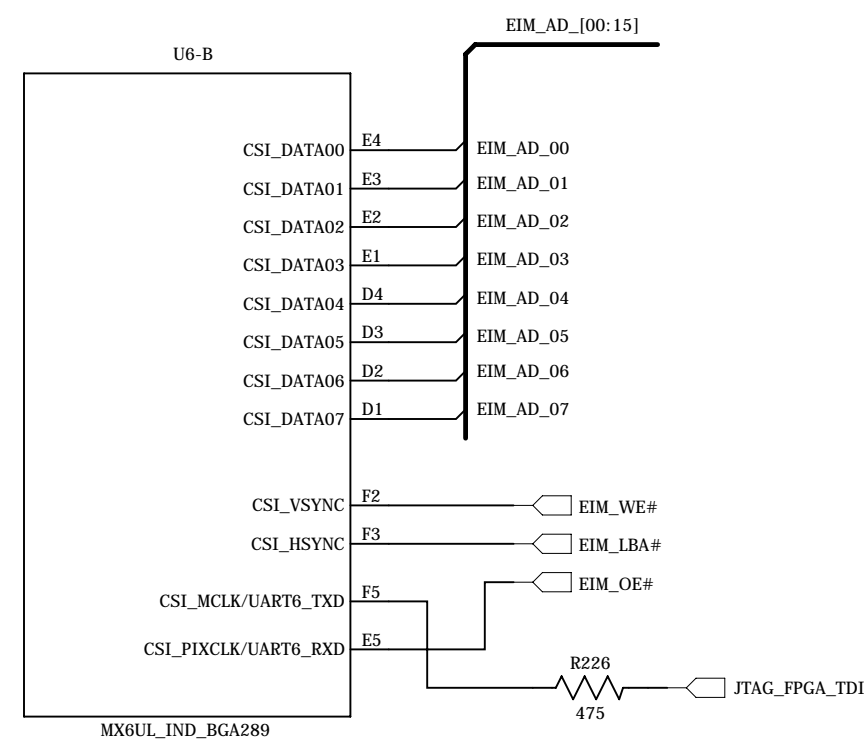
6UL EIM



6UL SDIO

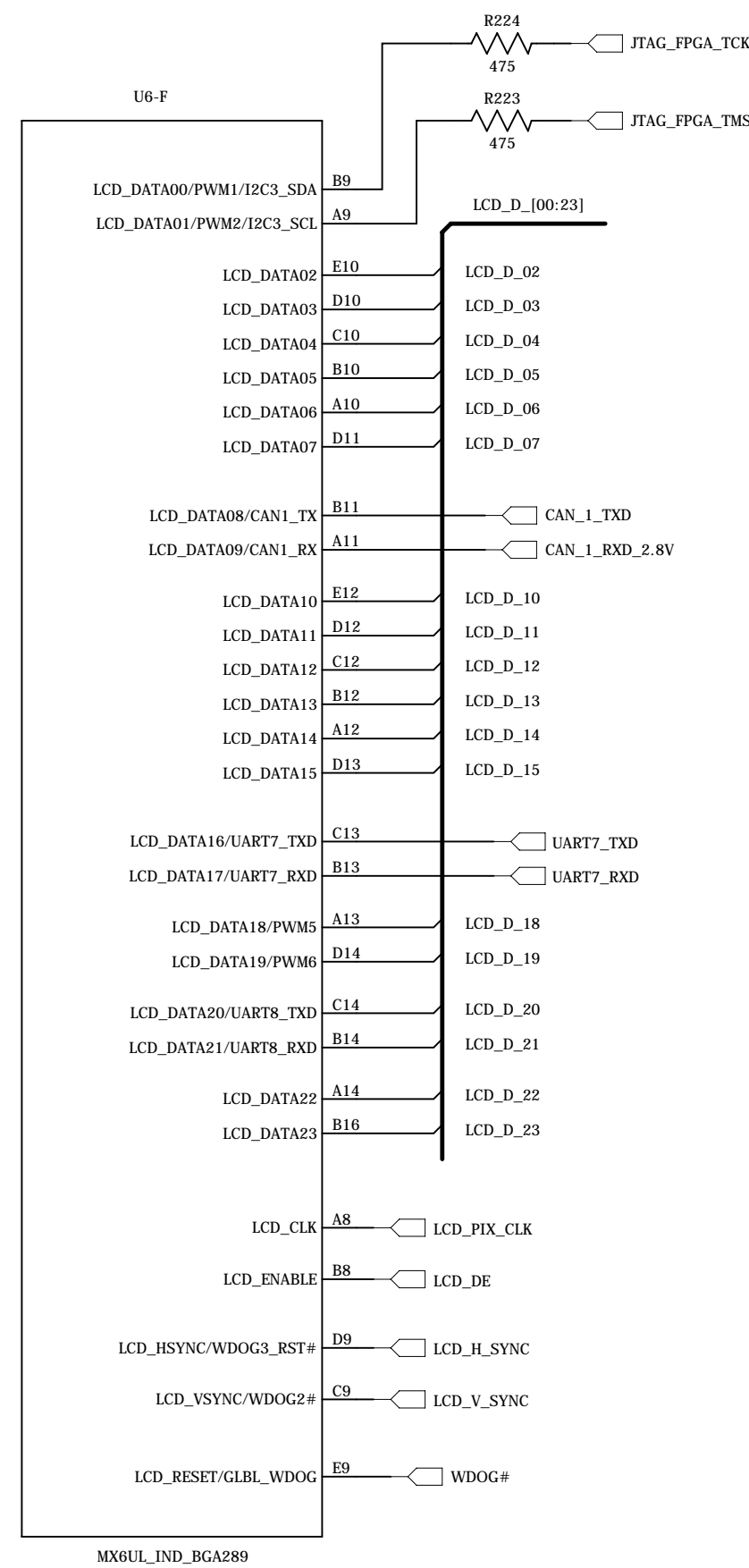


6UL EIM

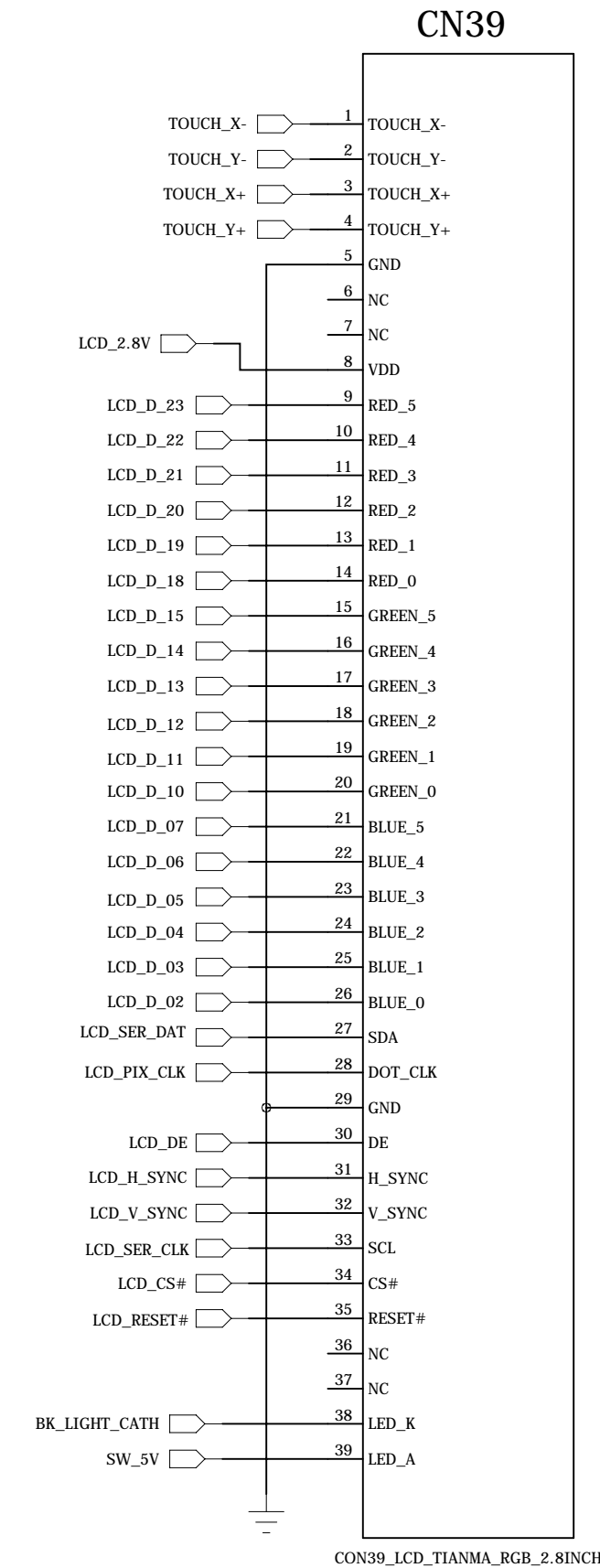
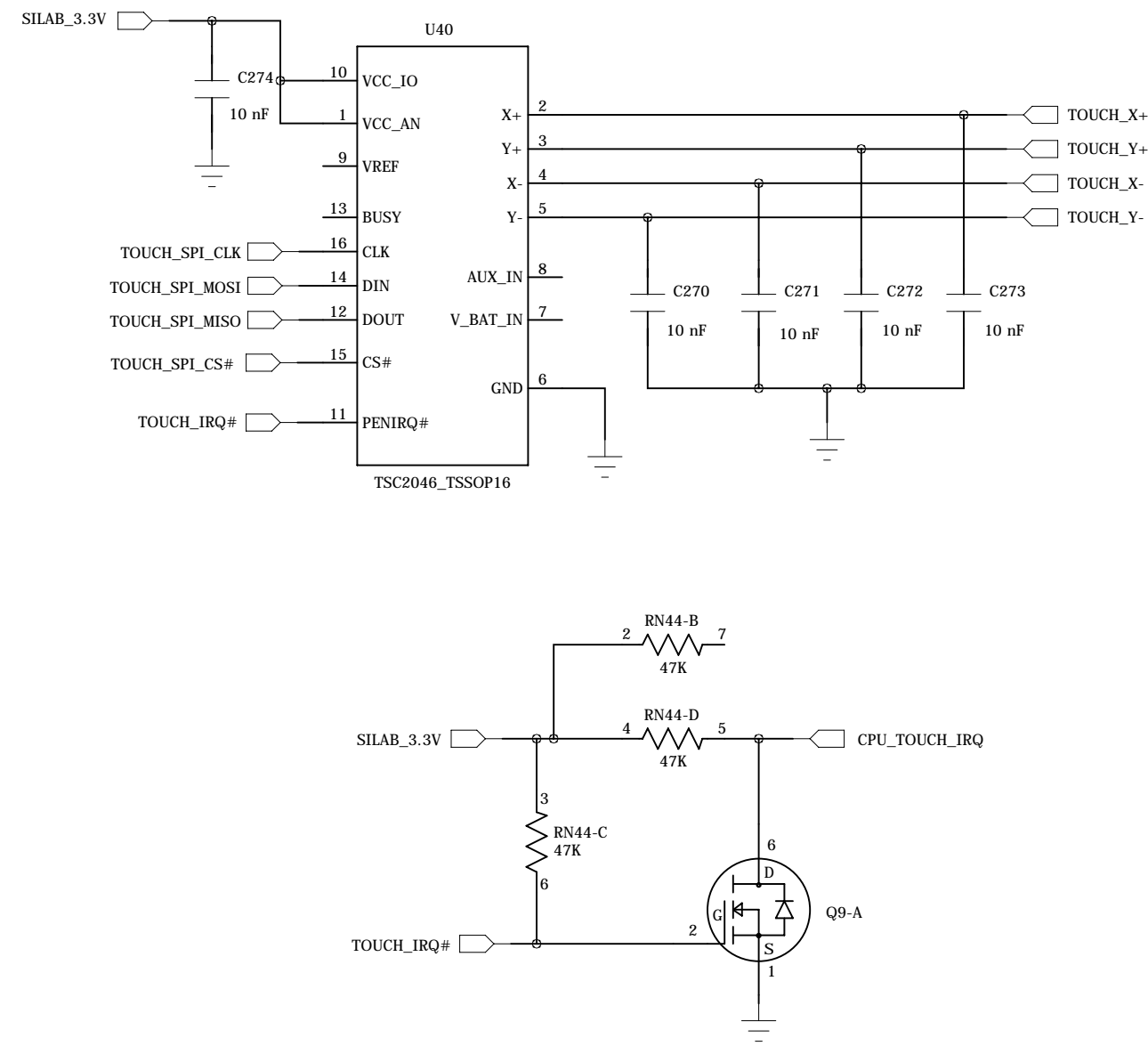


6UL LCD

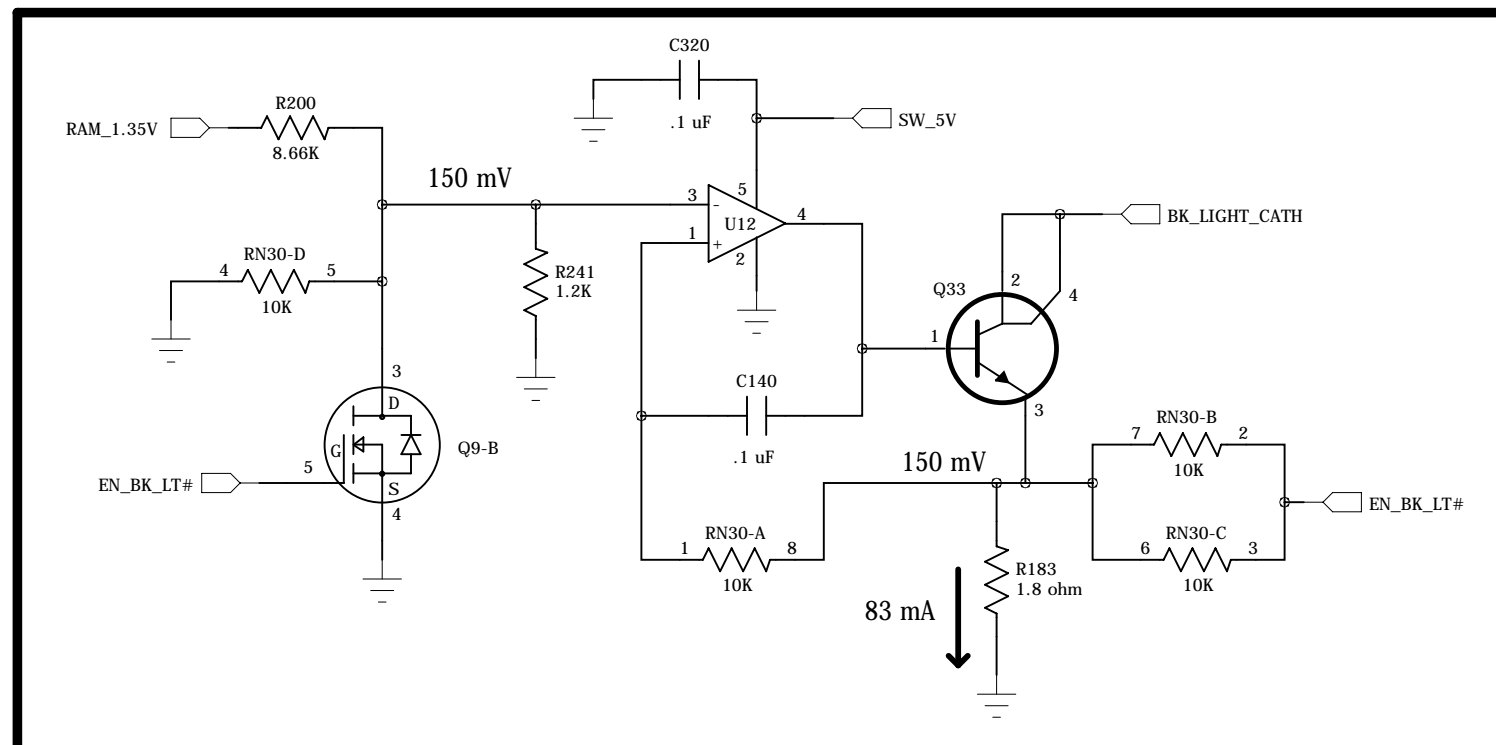
To 2.8 inch Tianma LCD



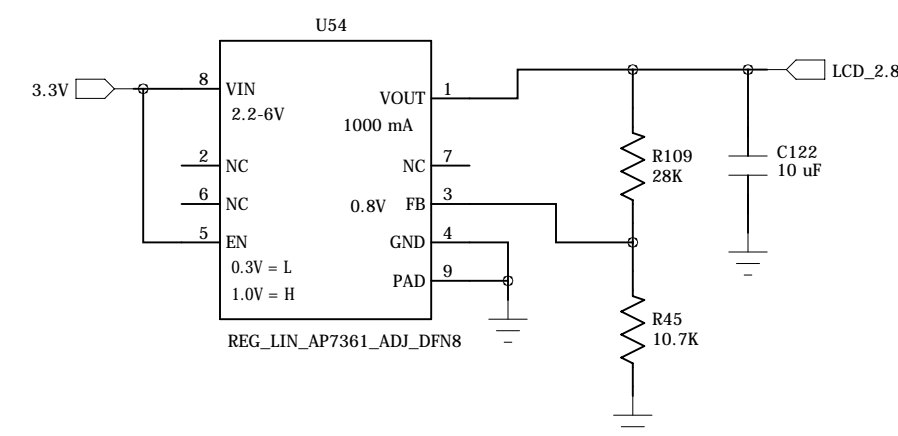
Resistive Touch Controller



2.8 inch LCD Back Light Driver



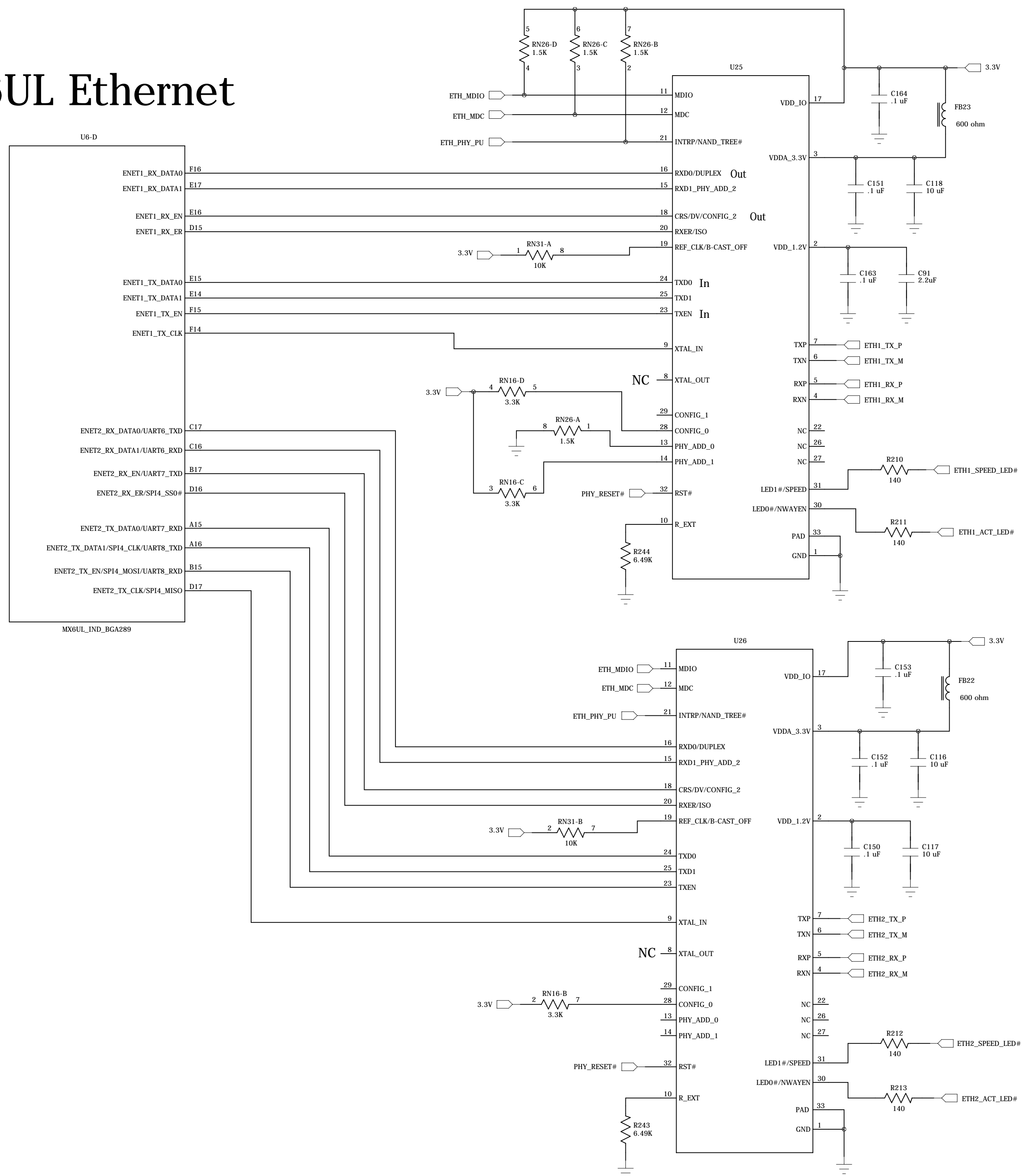
LCD 2.8V Reg.



Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
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CPU Board

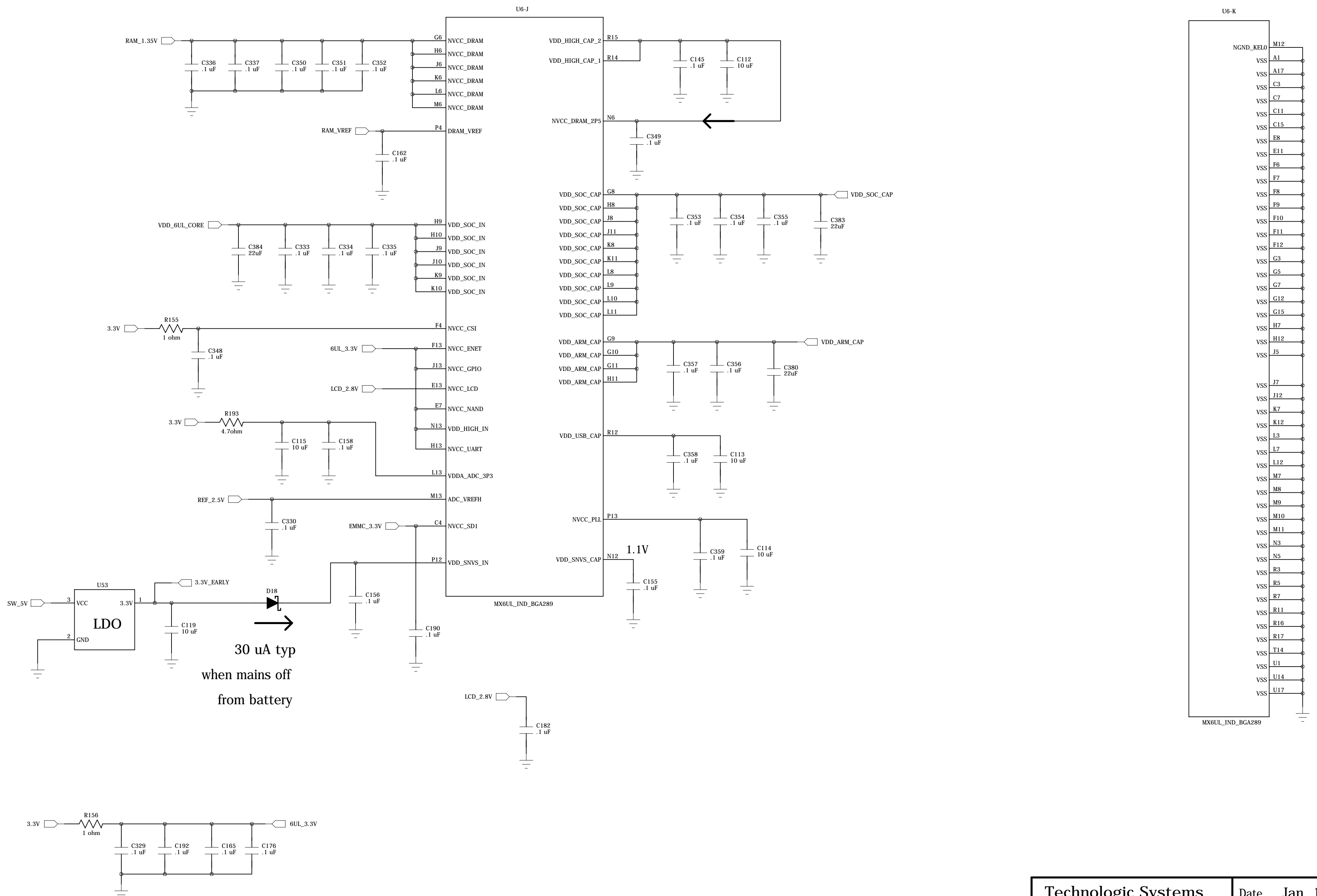
6UL Ethernet



CPU Board

6UL Power

6UL GND



Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
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CPU Board

3.3V 2A Reg #1

CPU Core 1A Reg #2

SW_5V

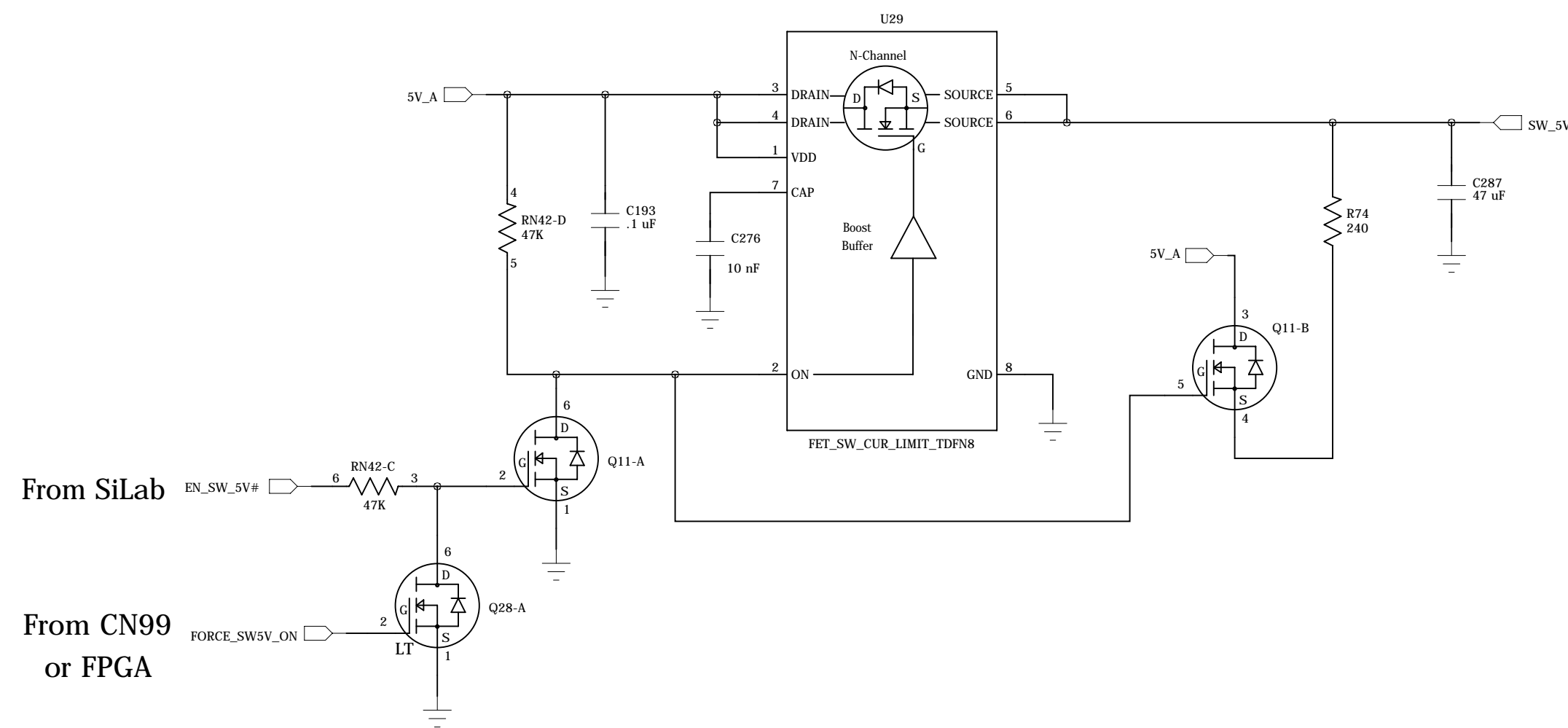
VDD_6UL_CORE

SW_5V

3.3V

Main 5V Power Sw.

RAM 1.35V 1A Reg #2



SW_5V

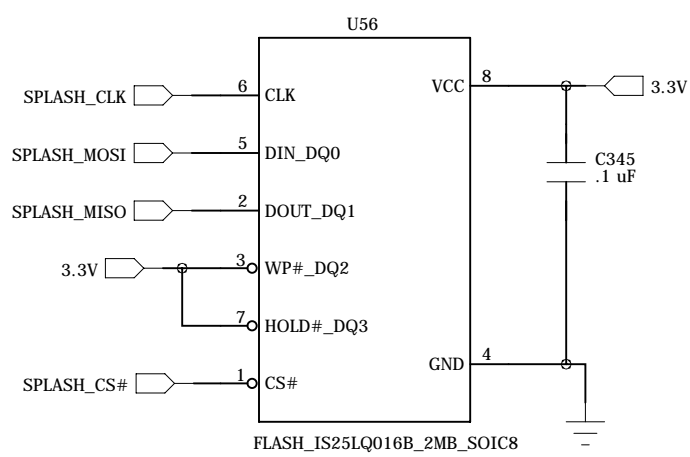
RAM_1.35V

Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
Rev: P1	Designer	Sheet 9 of 22

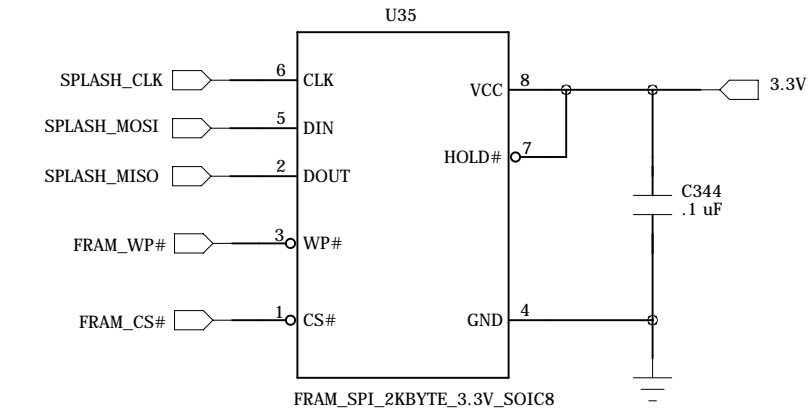
CPU Board

MACH XO2 FPGA

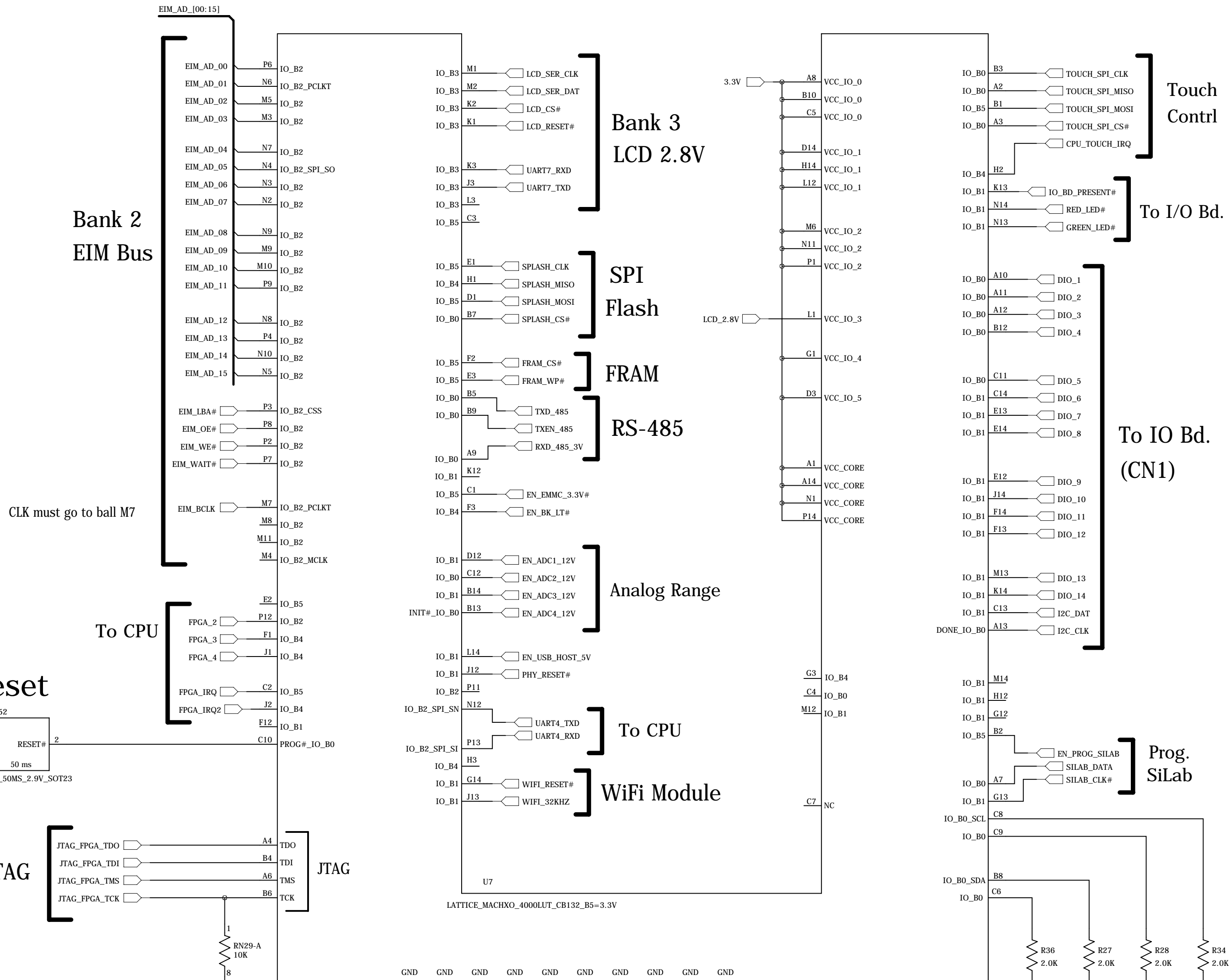
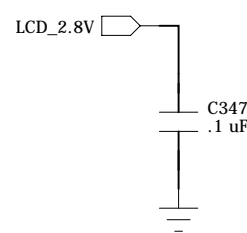
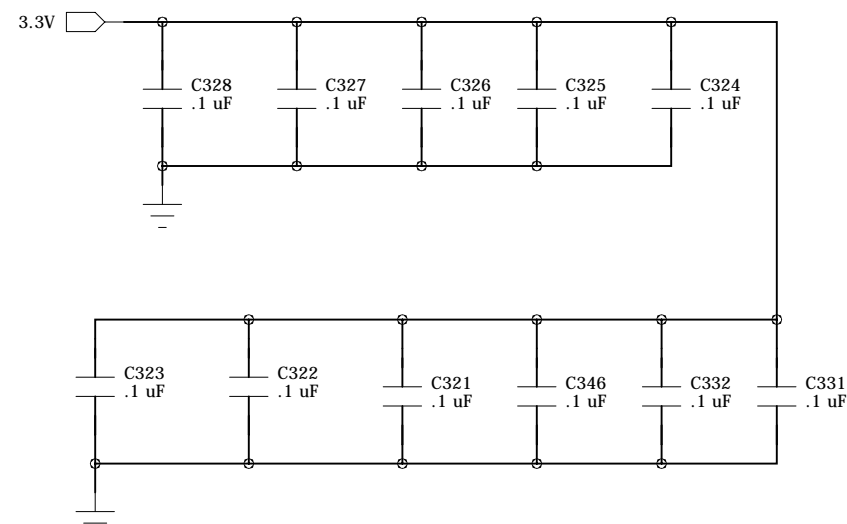
Splash Screen Flash



FRAM Memory

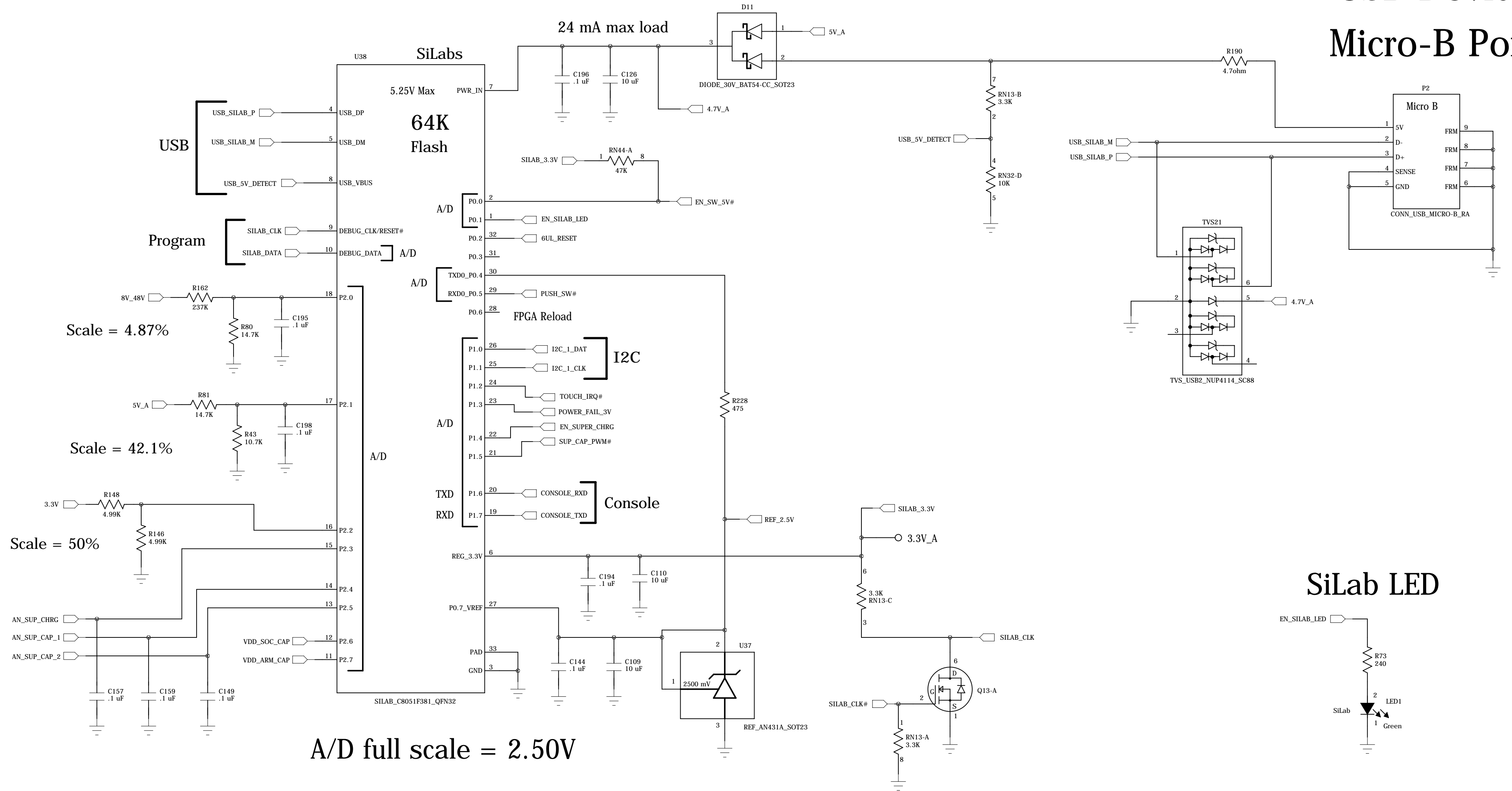


2K Bytes



CPU Board

USB Device Micro-B Port



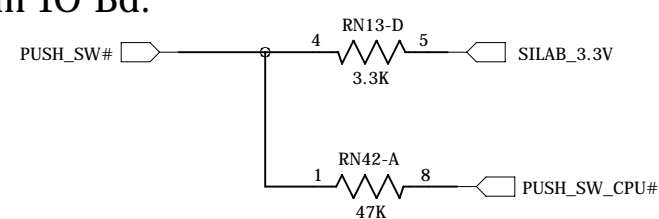
Scale = 4.87%

Scale = 42.1%

Scale = 50%

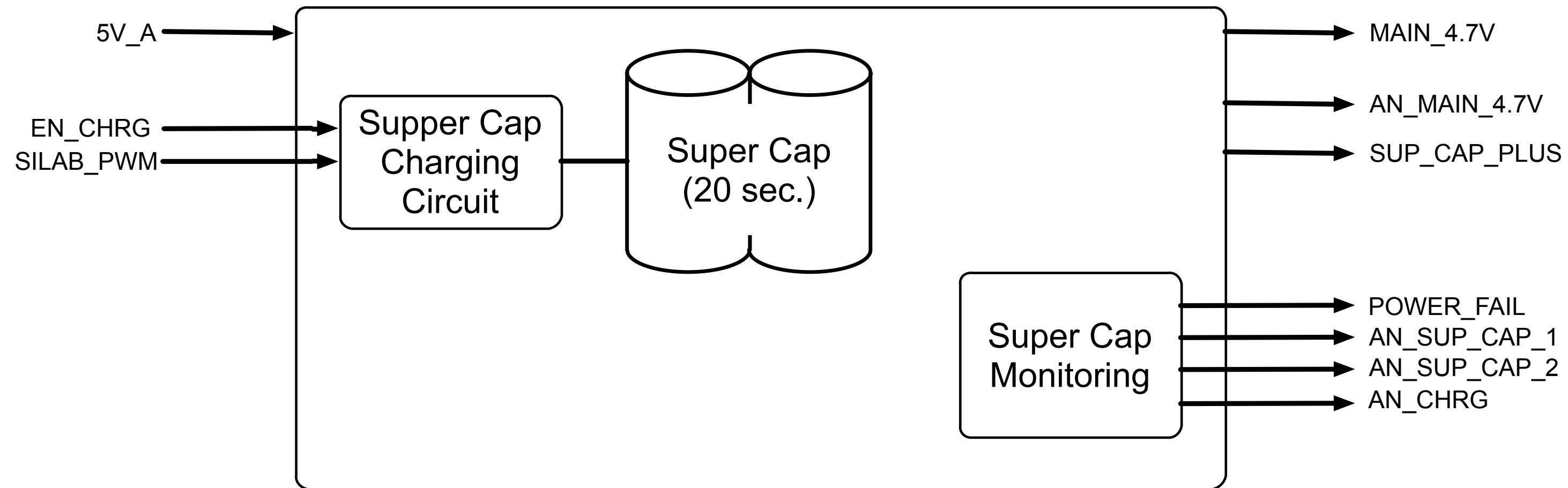
A/D full scale = 2.50V

From IO Bd.



Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
Rev: P1	Designer	Sheet 11 of 22

CPU Board - Super Cap Charger



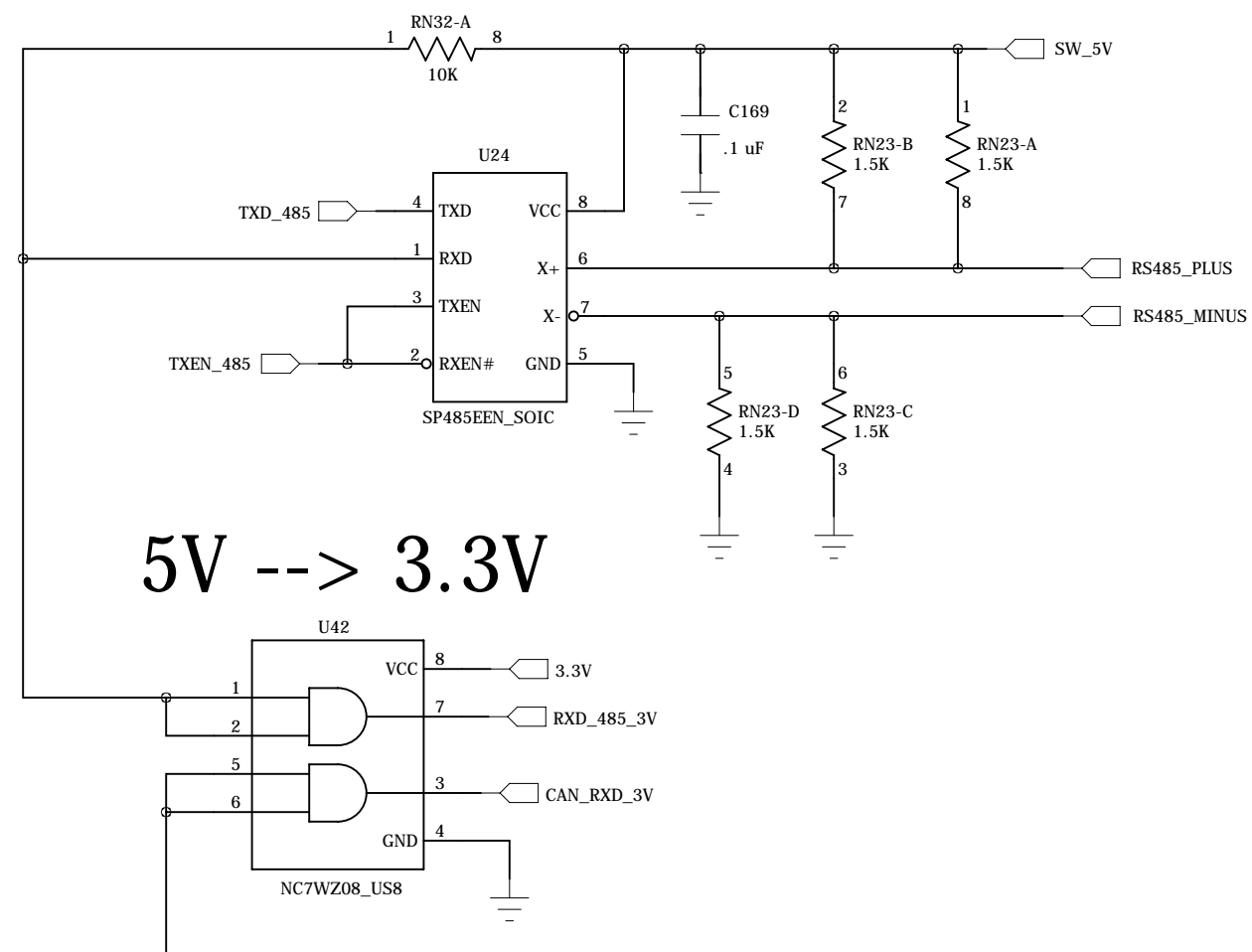
Net names may not match prototype board

USB Ports do not use Super Cap Backup

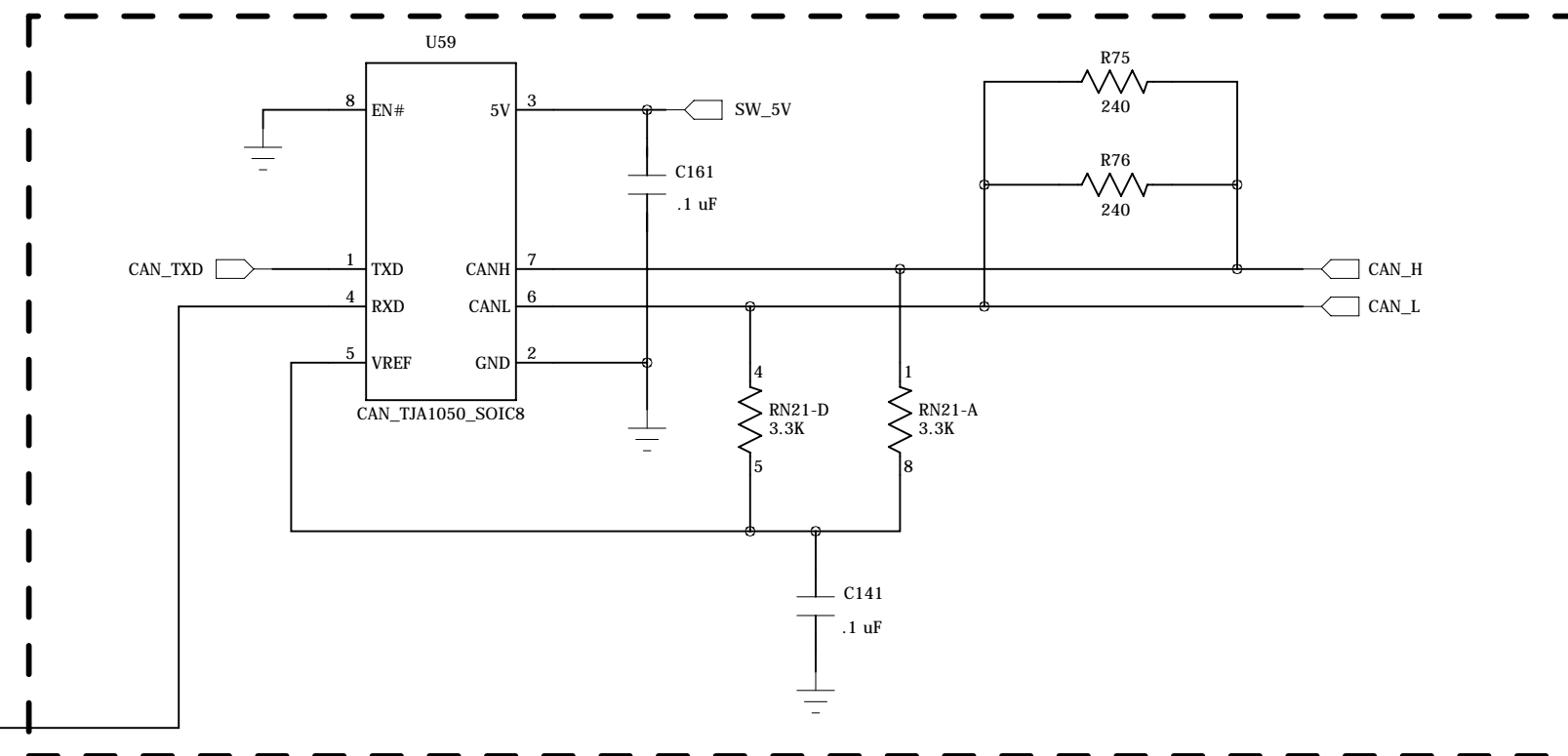
Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
Rev: P1	Designer	Sheet 12 of 22

CPU Board

RS-485 Driver

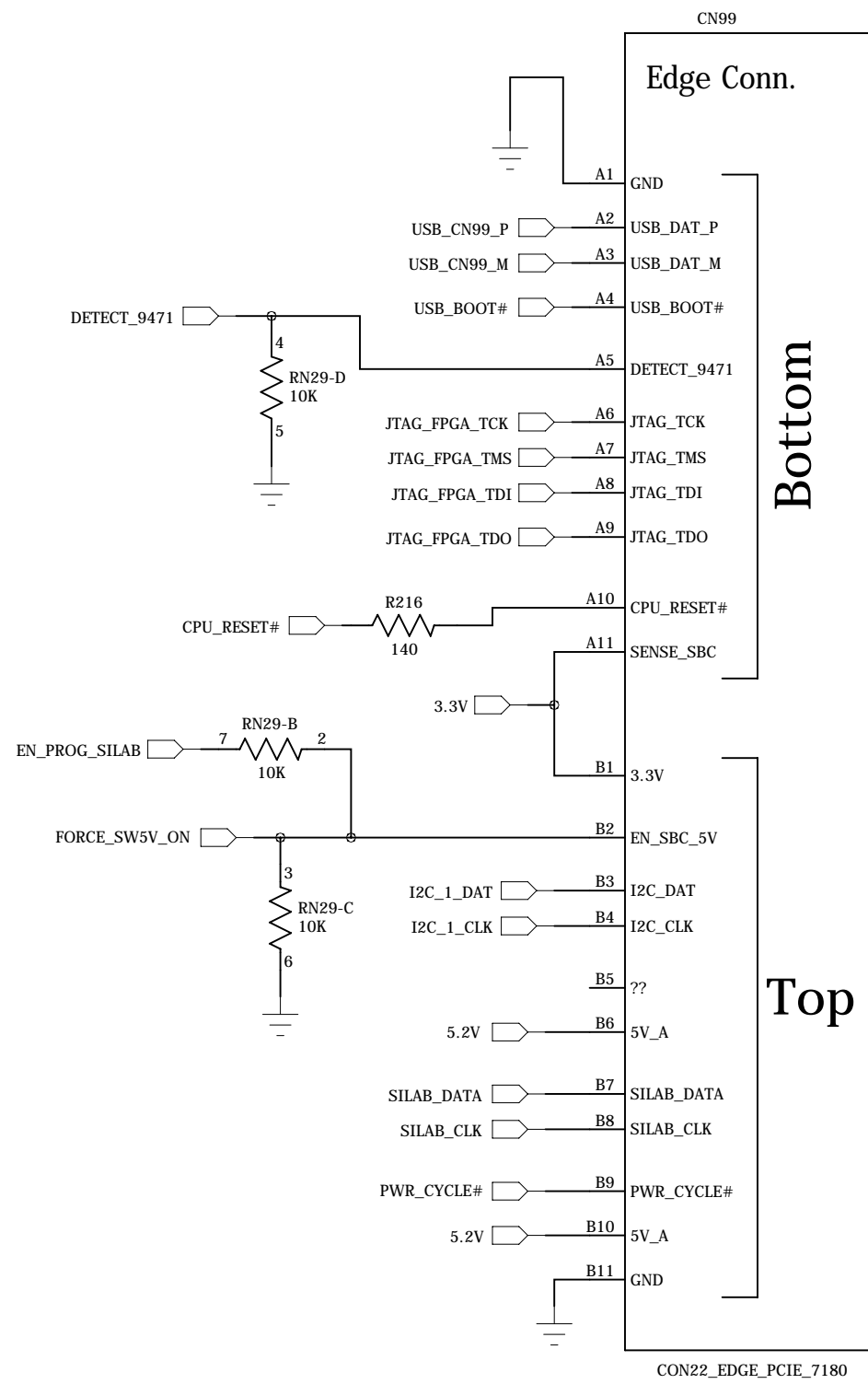


CAN Tranceiver

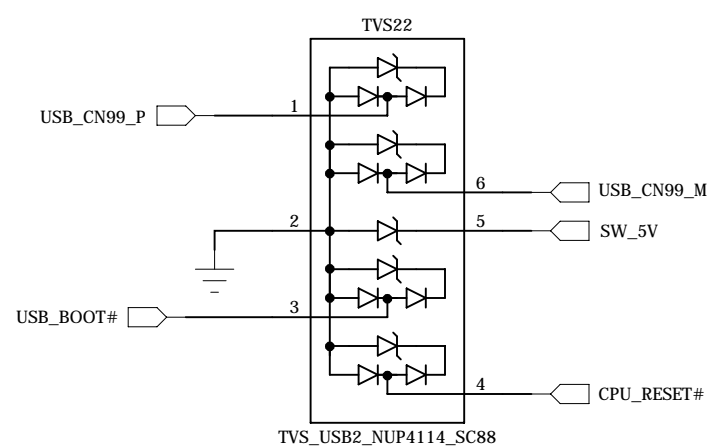


CPU Board

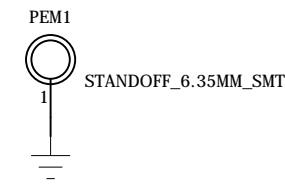
Factory Interface



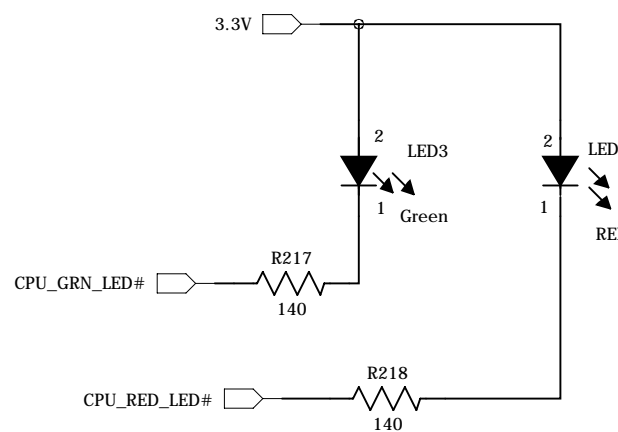
CN99 TVS



6.35mm Stand_off

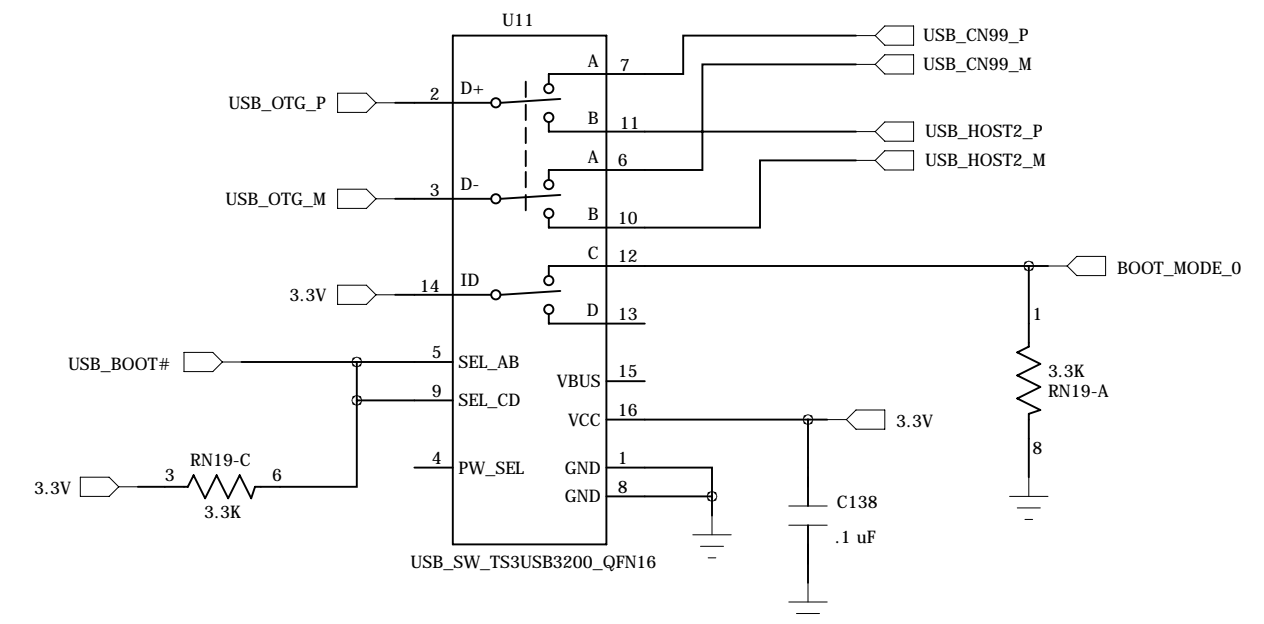


CPU LEDs

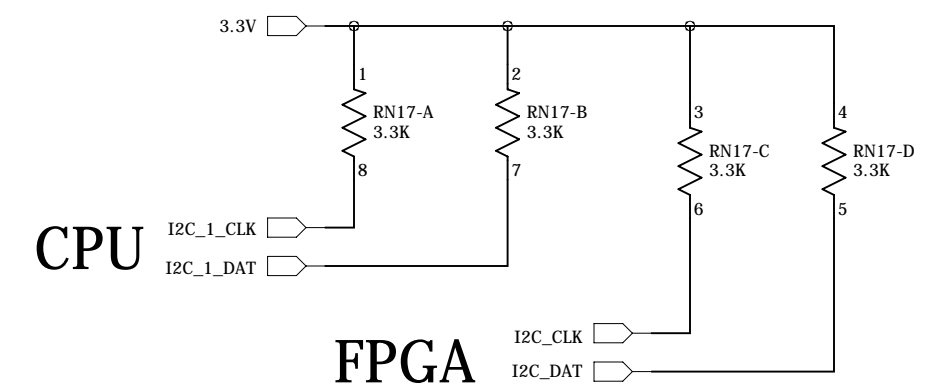


6UL USB OTG MUX

To I/O Bd. or CN99



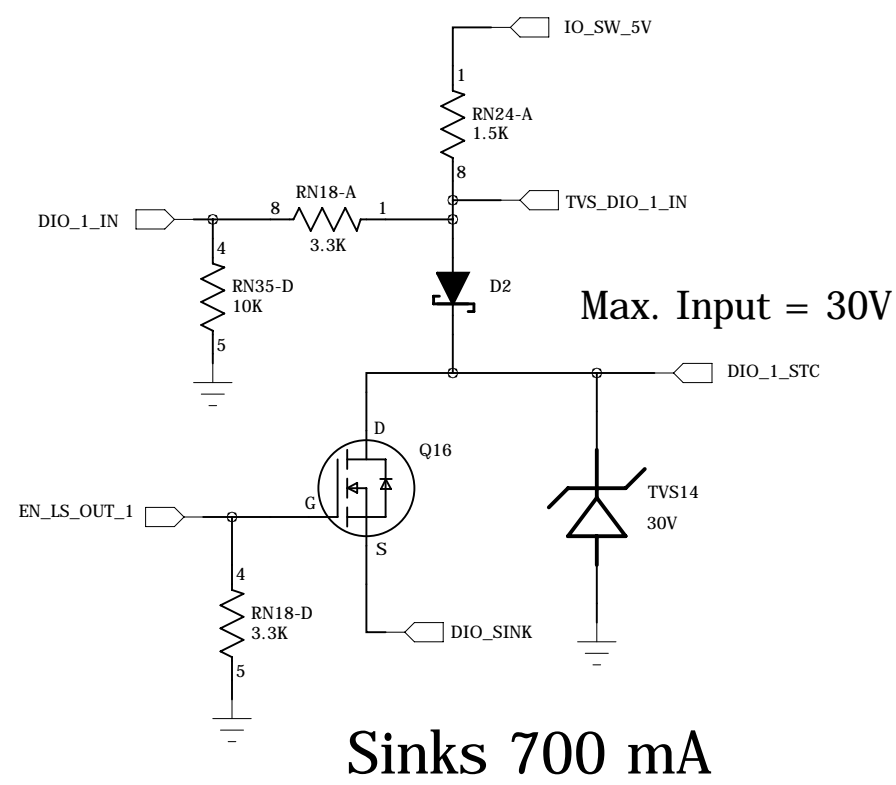
I2C PU Res.



IO Board

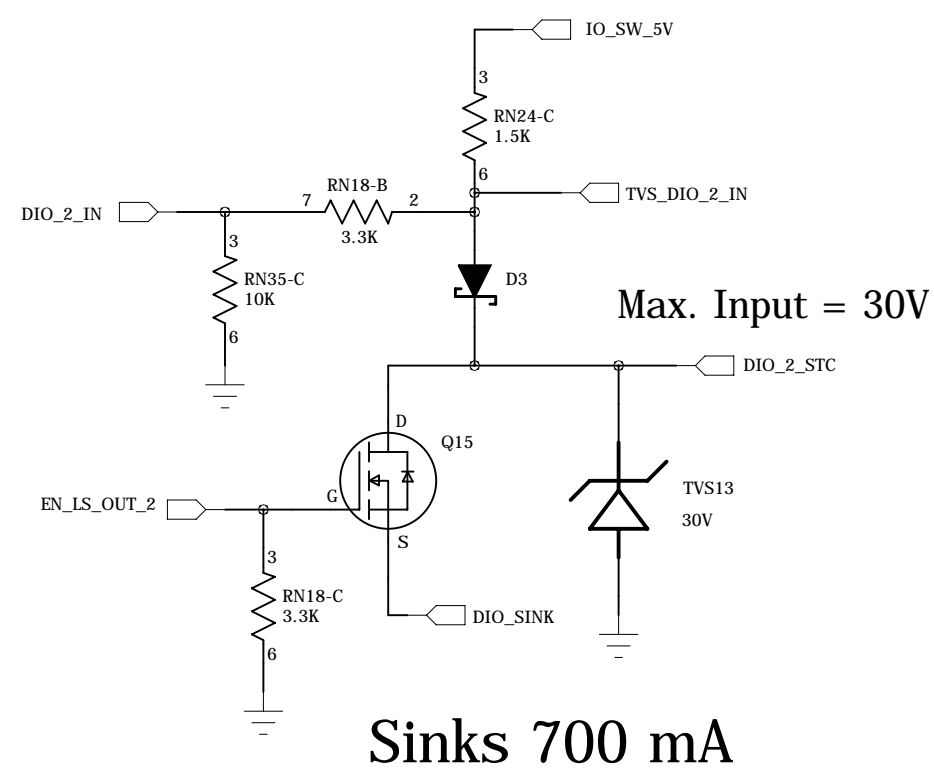
3 Dig Inputs or Outputs

Dig_IO_1

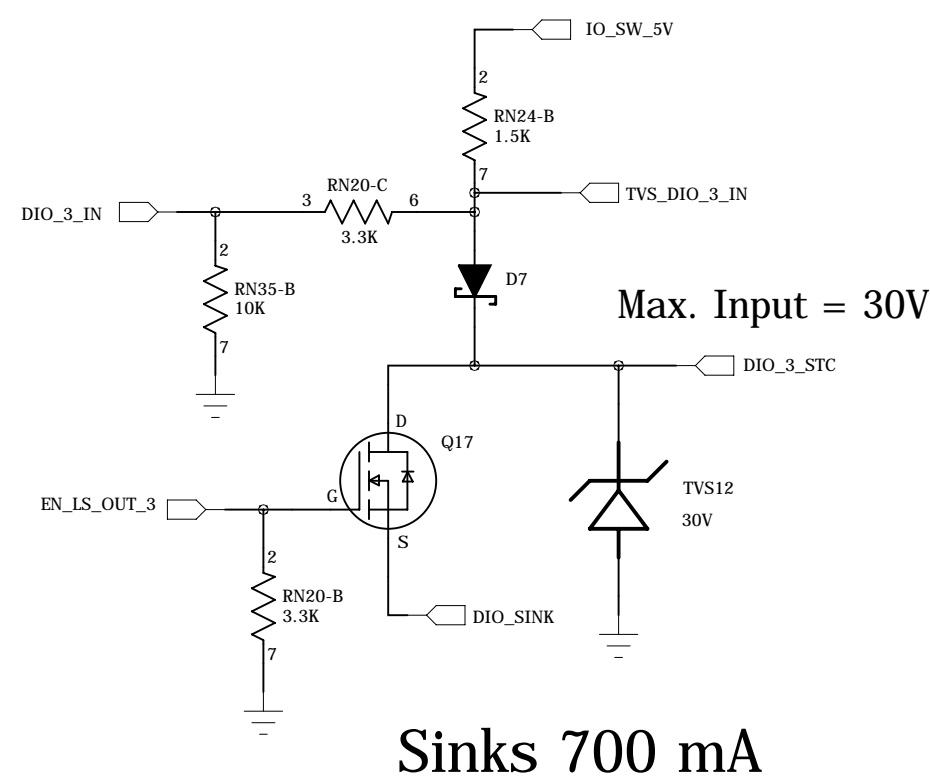


**Circuit Breaker
Trips at 1000 mA**

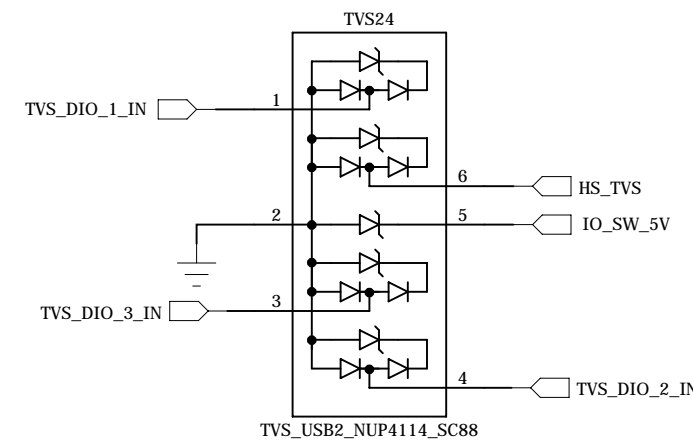
Dig_IO_2



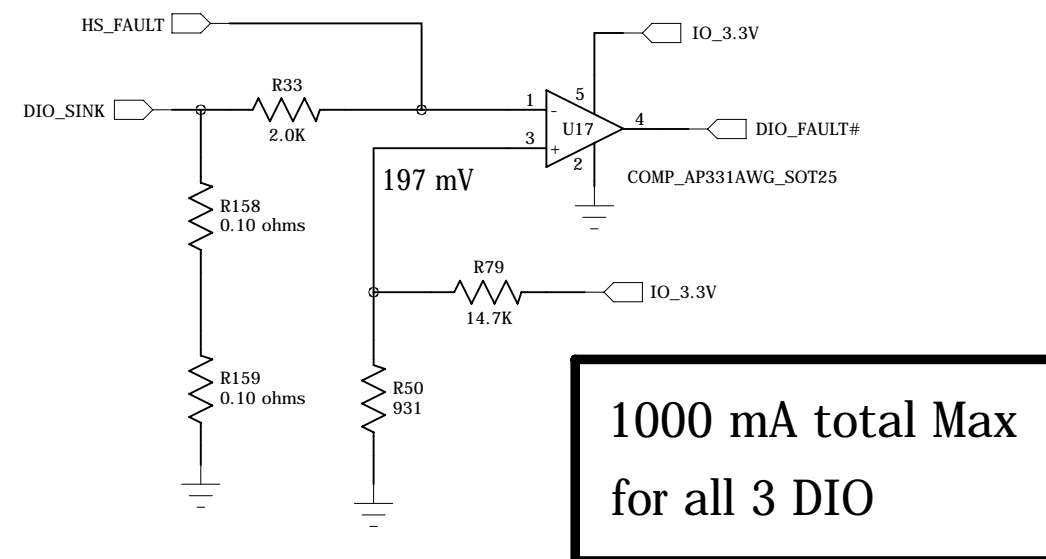
Dig_IO_3



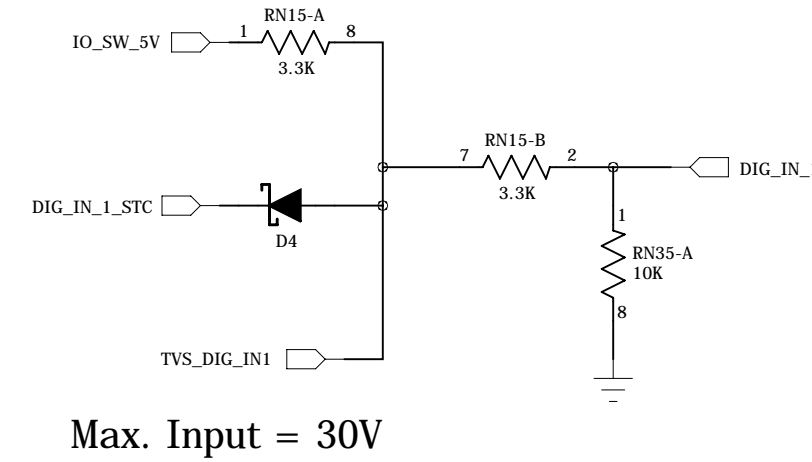
Dig IO TVS



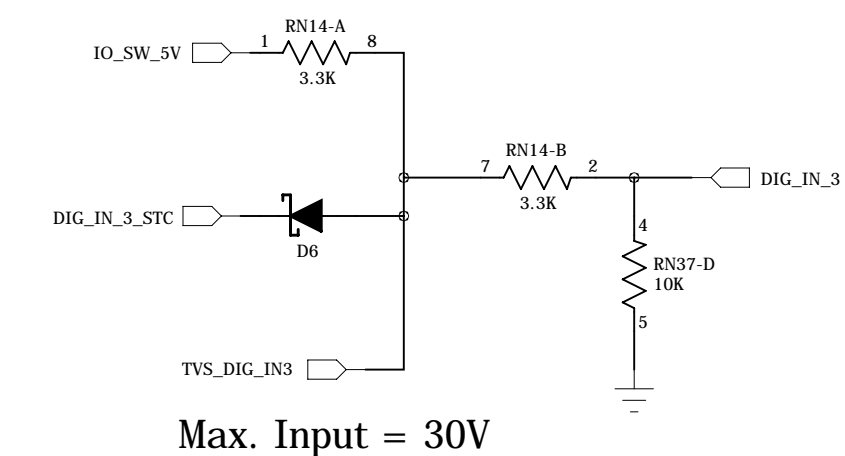
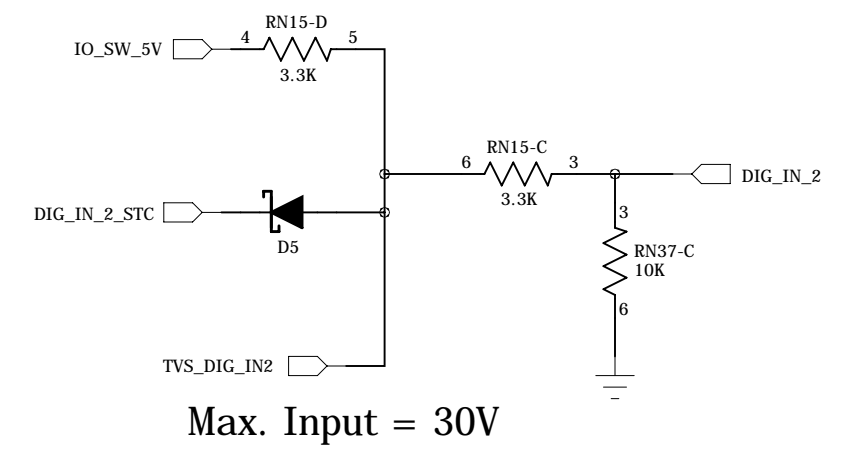
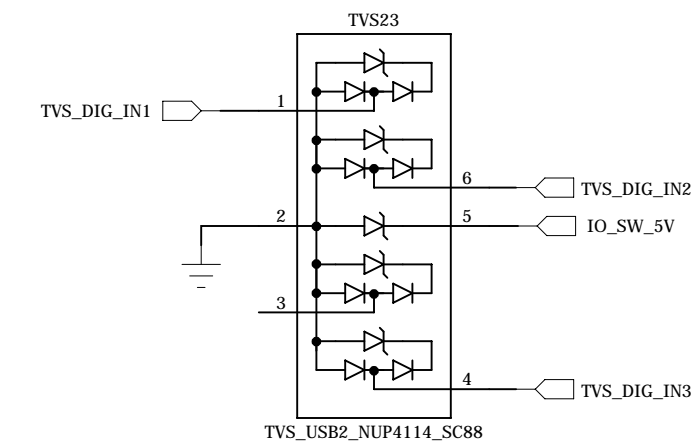
Over Current Breaker



3 Dig Inputs



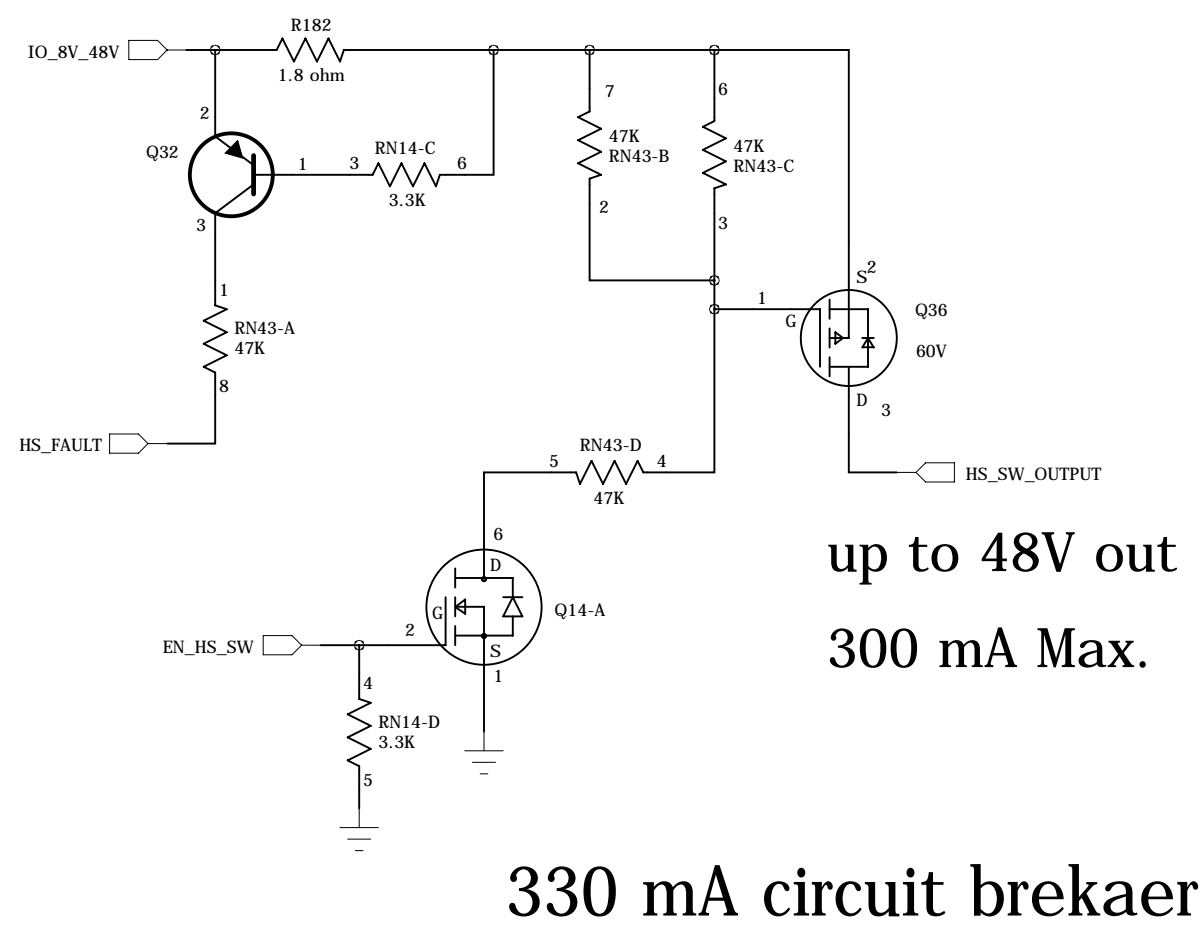
Dig IN TVS



IO Board

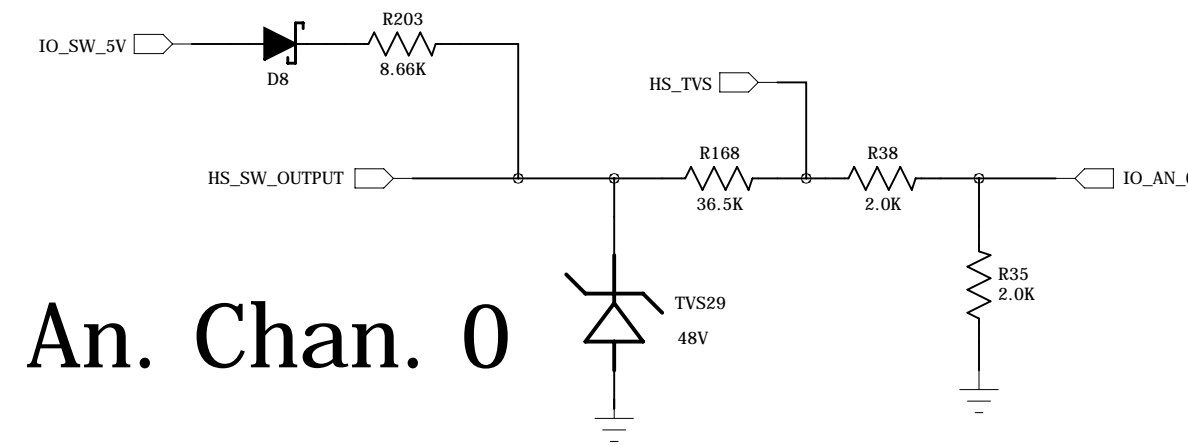
IO Bd.

High-Side Switch Output

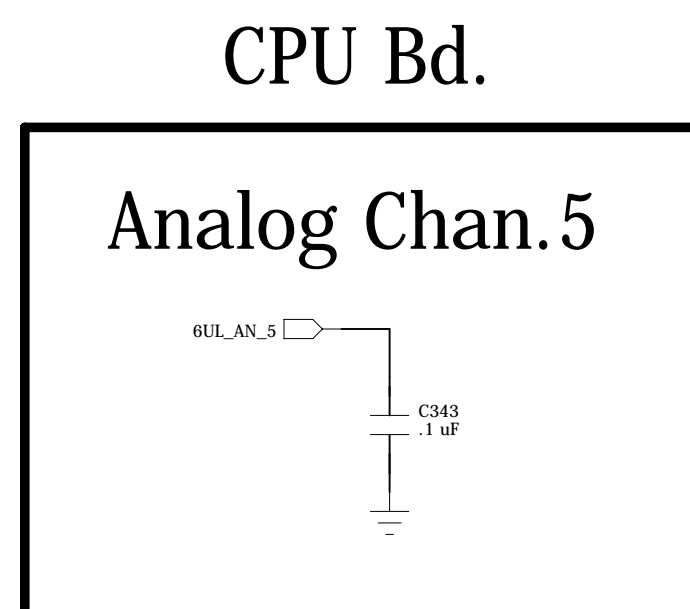
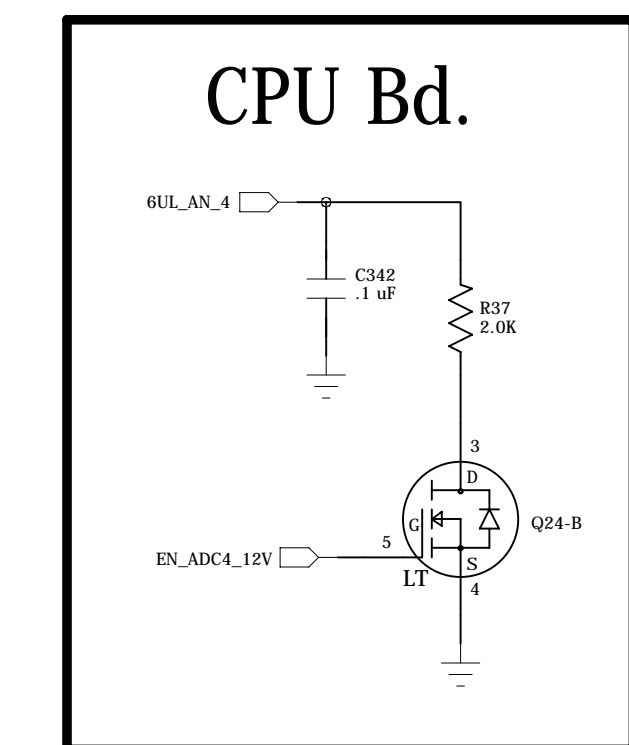
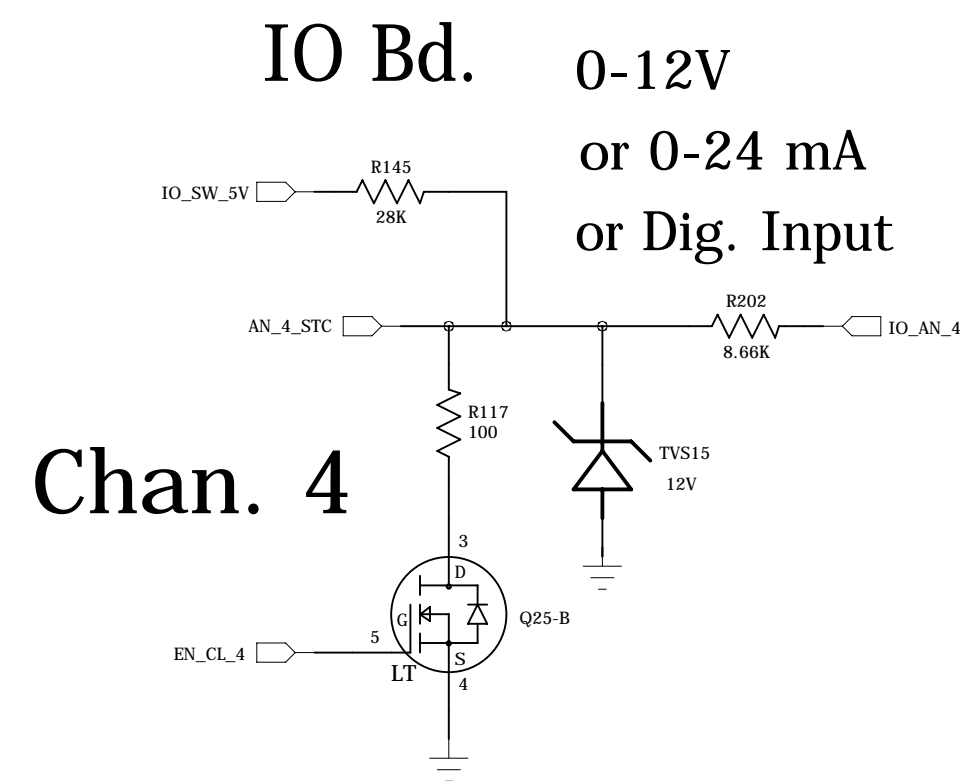
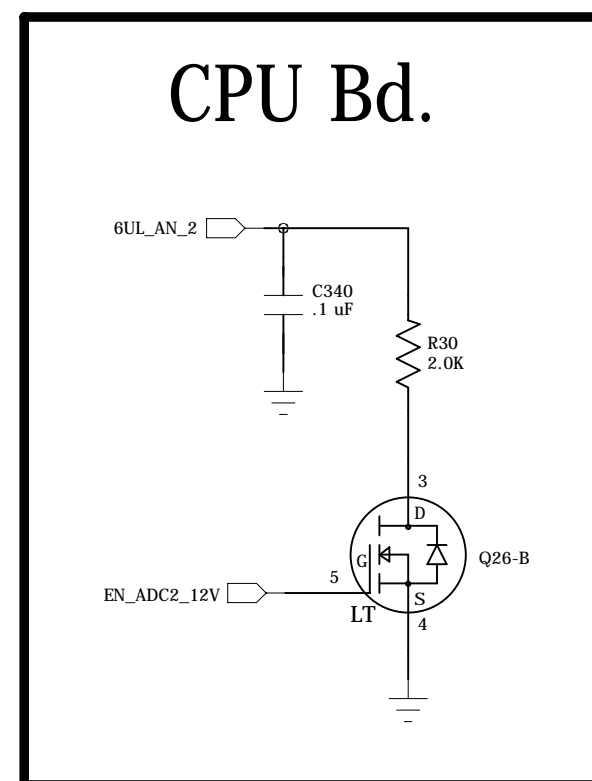
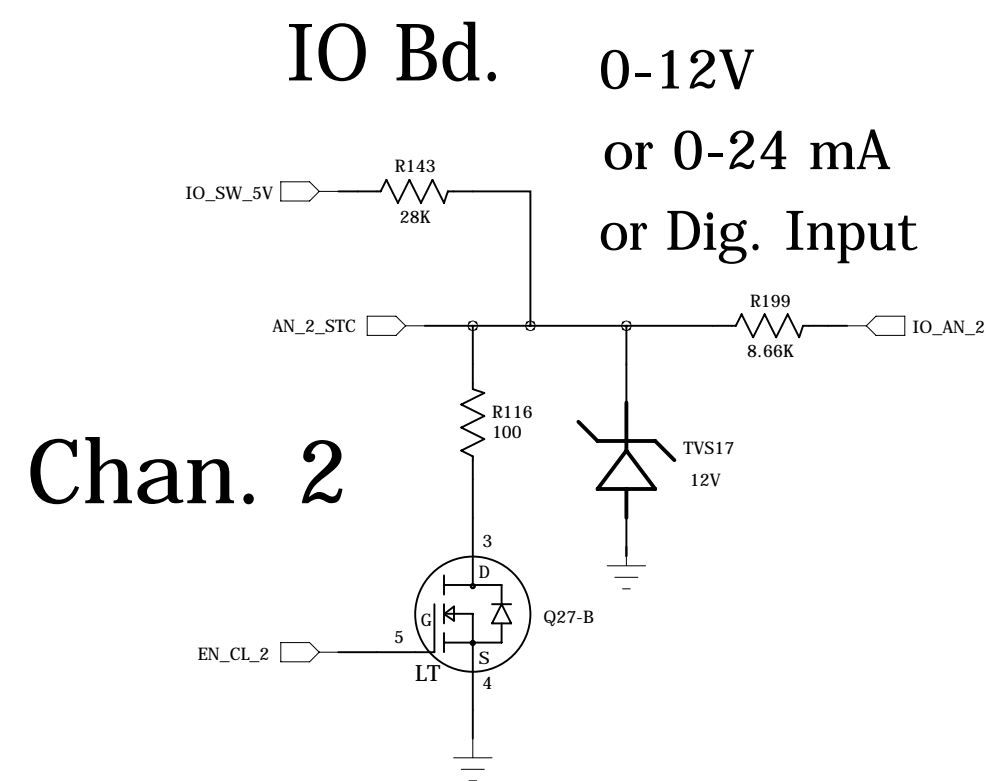
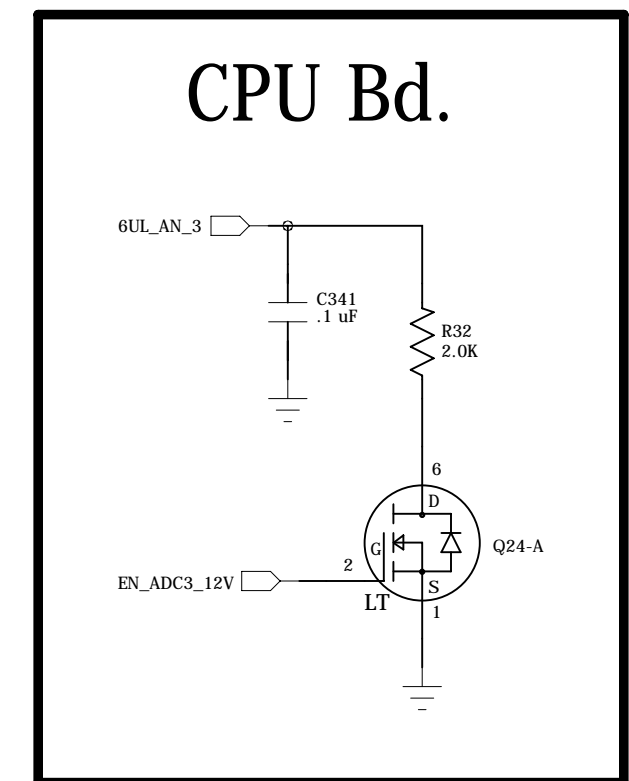
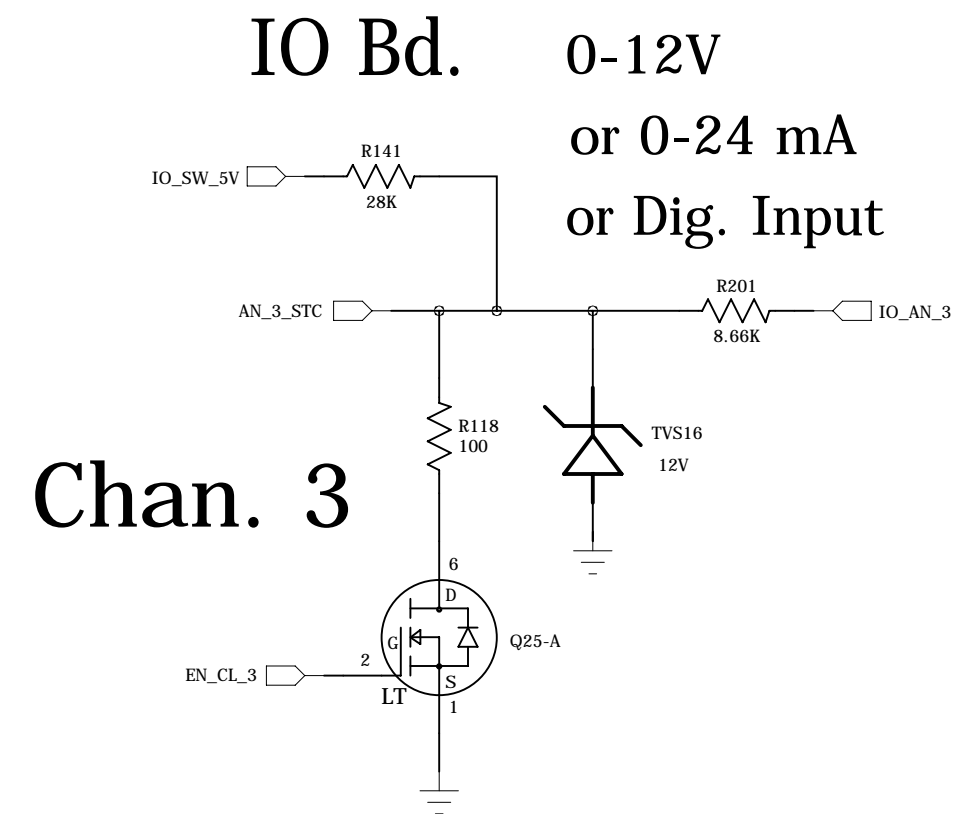
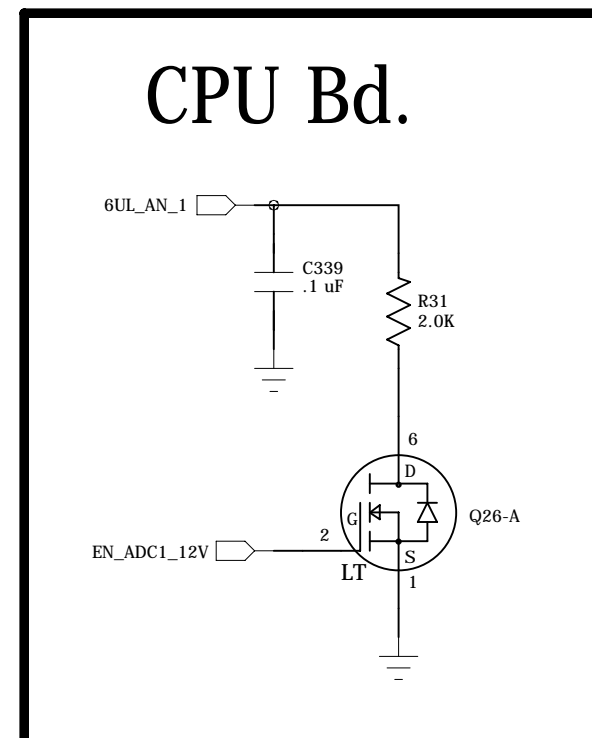
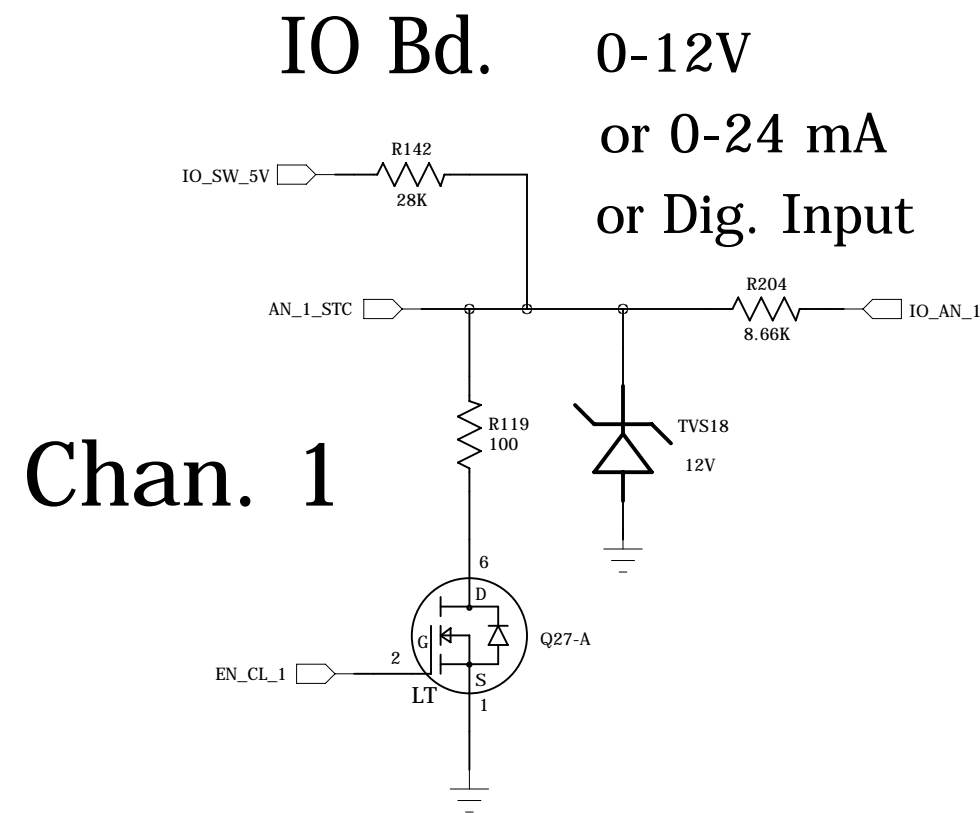


IO Bd.

0-50V analog Input
or Dig. Input
or HS Output

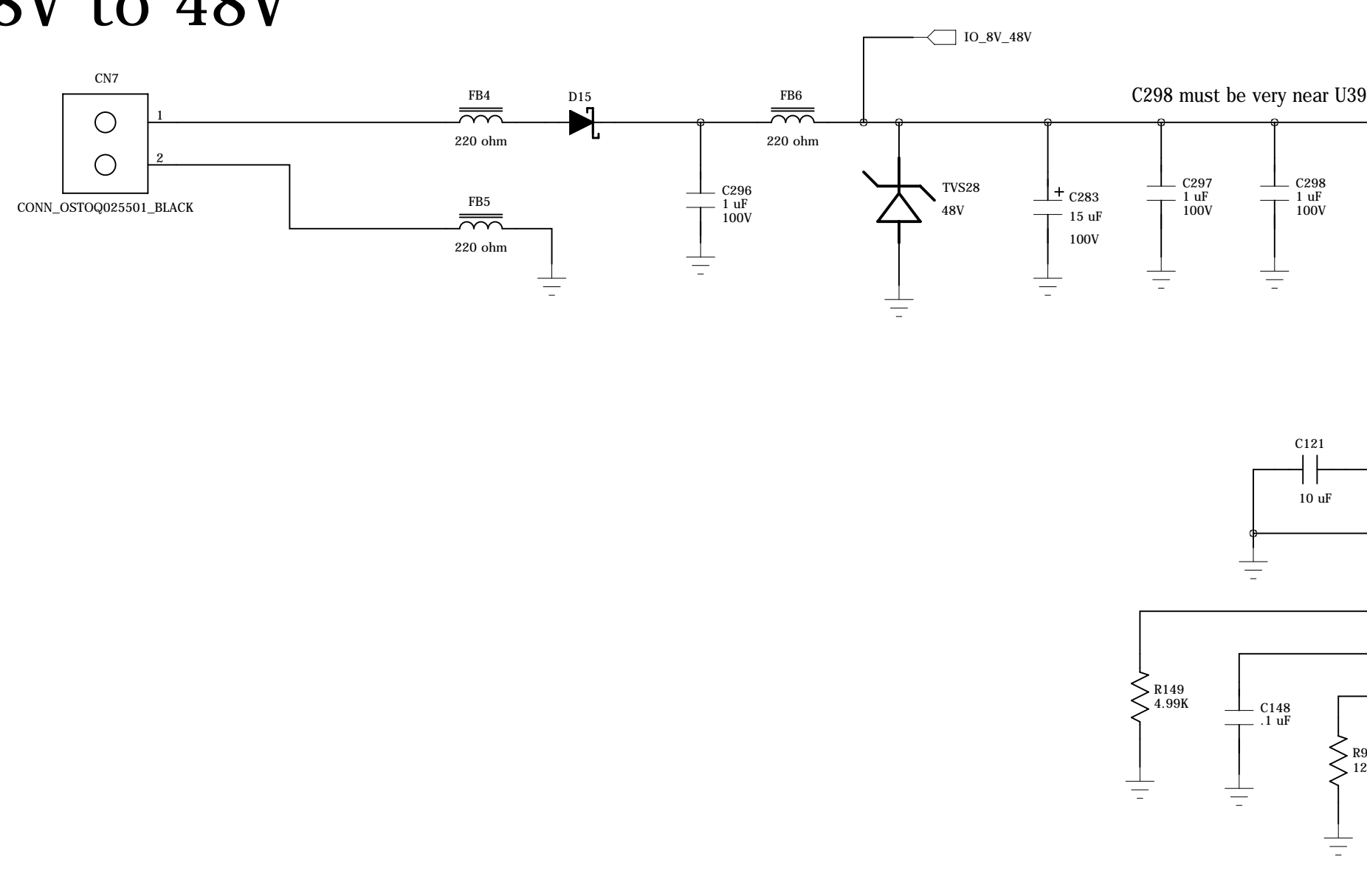


Analog - Parts on both CPU and IO boards

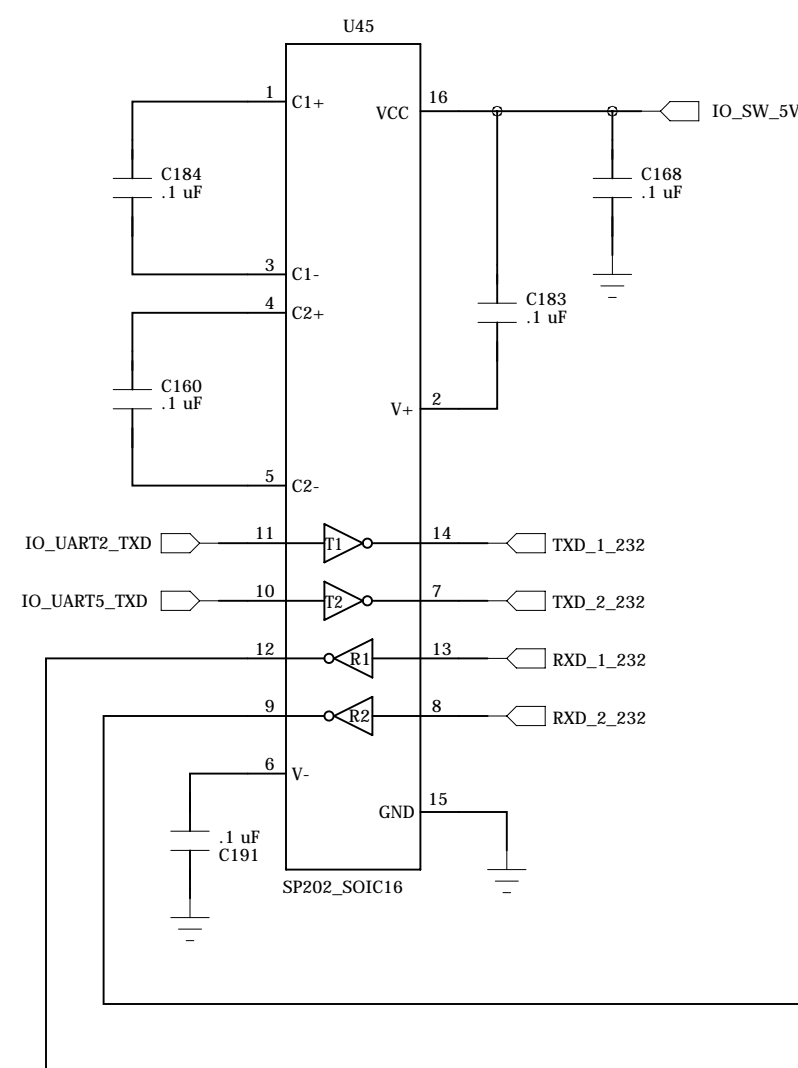


I/O Board

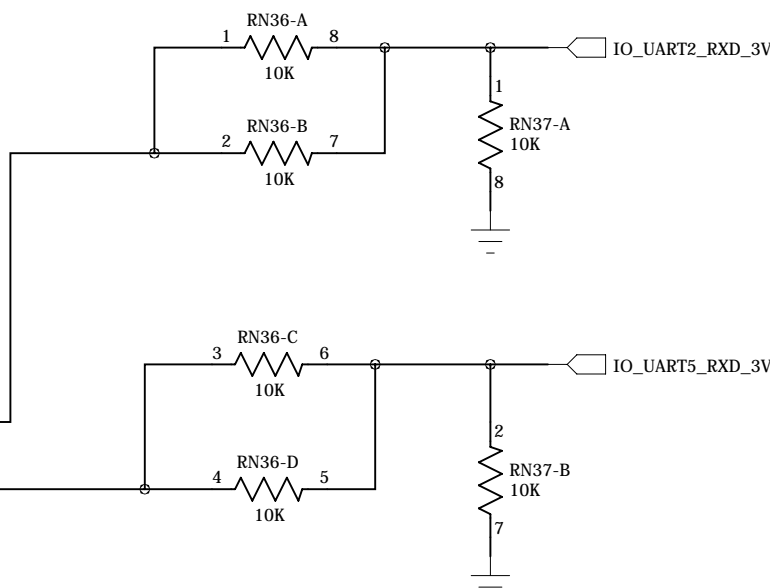
Power Input 8V to 48V



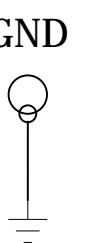
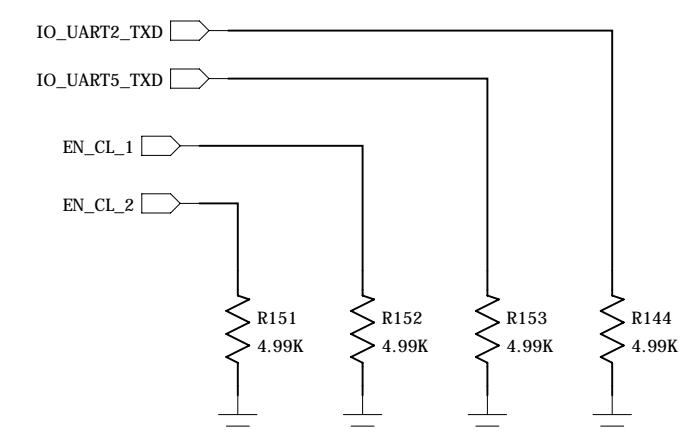
RS-232 Transceiver



RS-232 Level Shifter 5V --> 3.3V



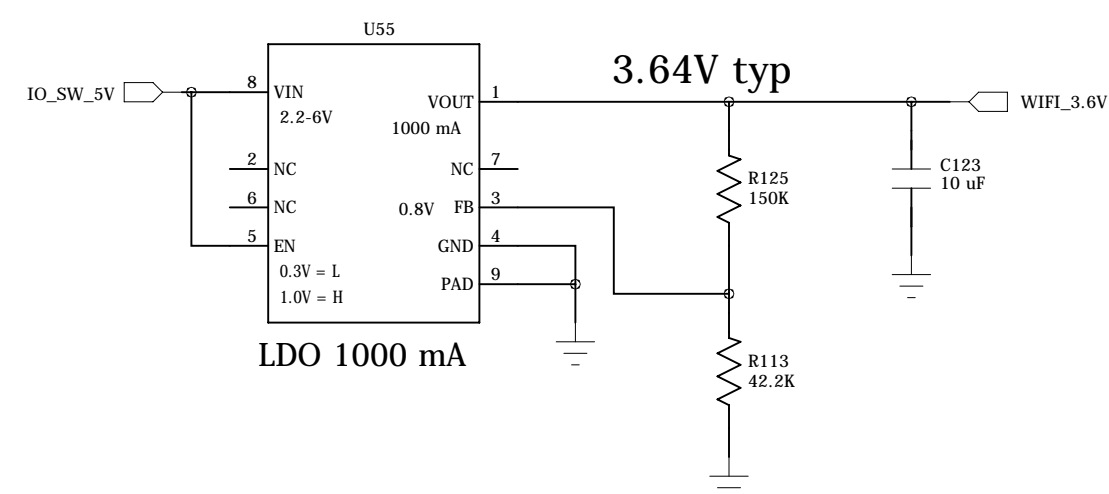
IO Board Resistor Straps



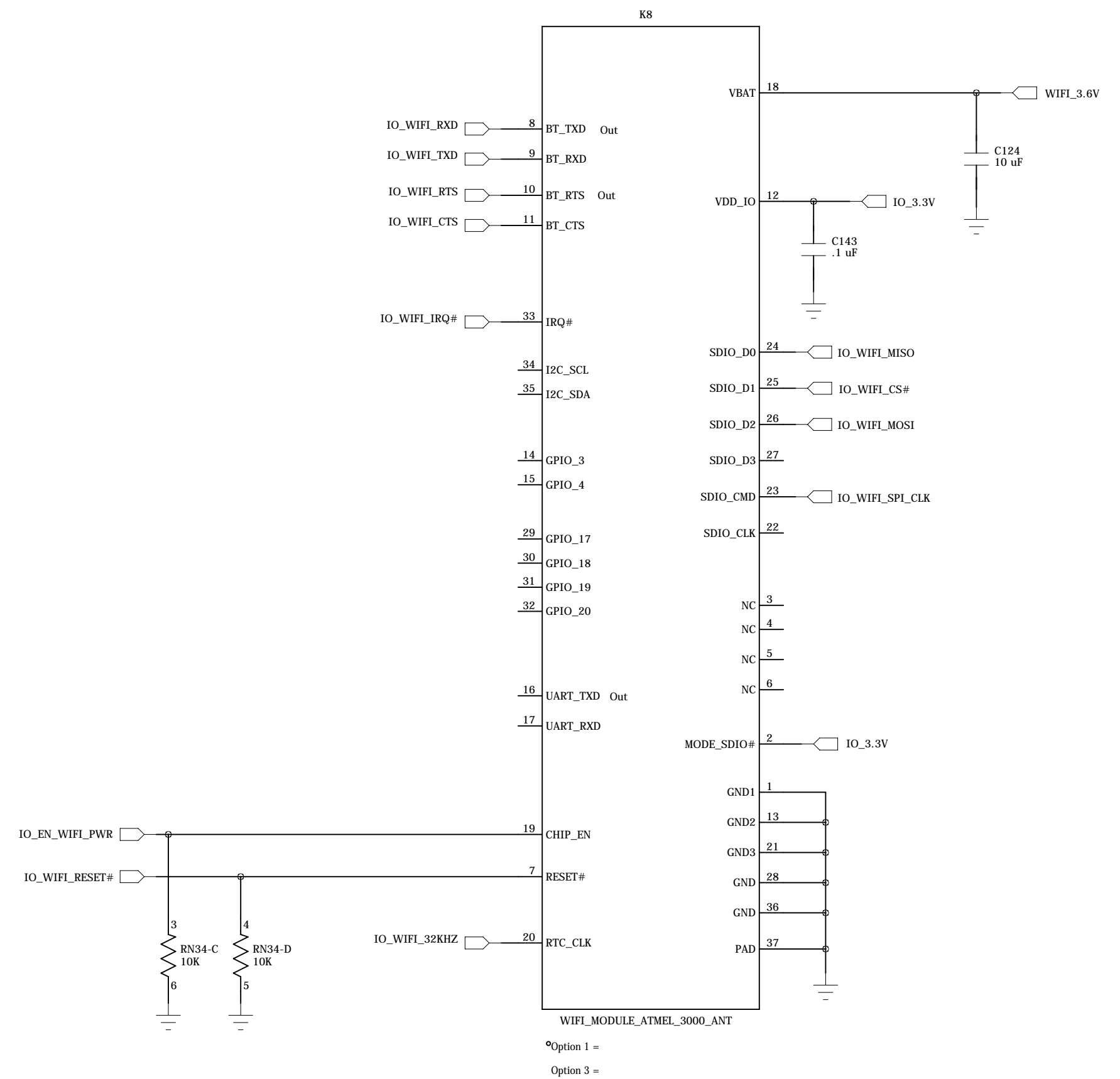
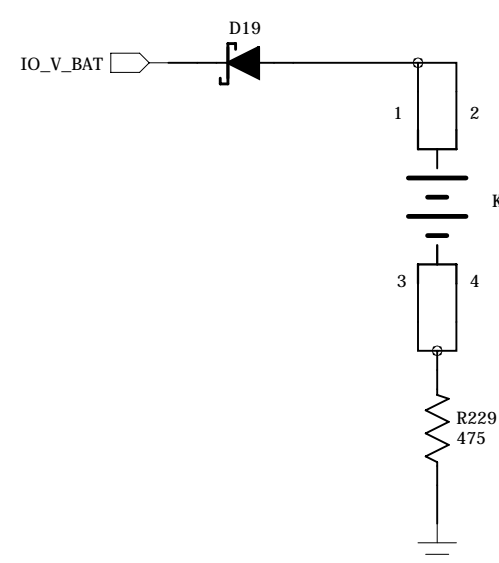
I/O Board

WiFi / Bluetooth Radio Module

WiFi 3.6V Reg.



RTC Battery Holder

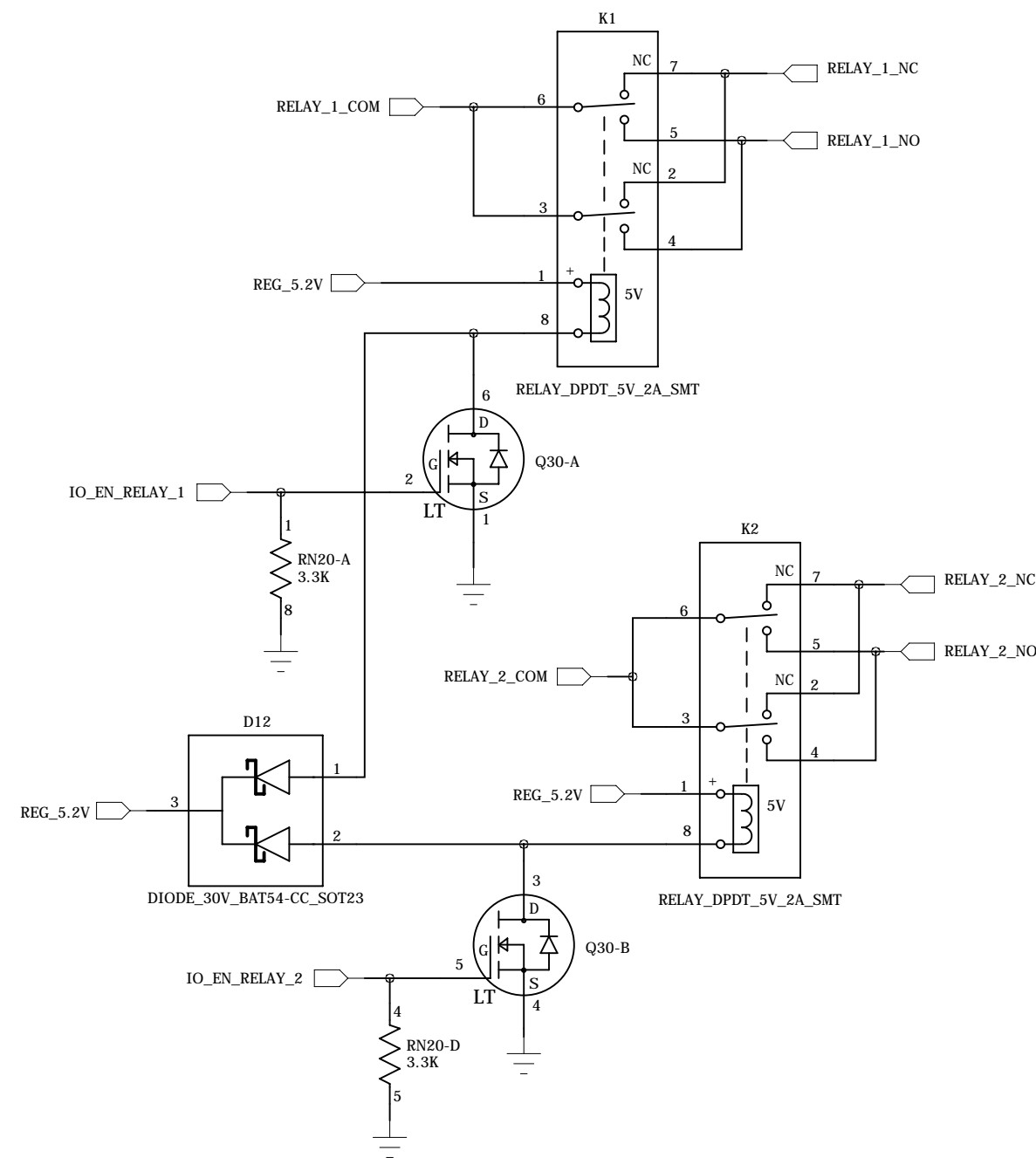


I/O Board

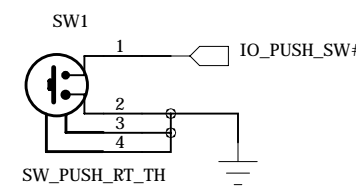
Relays

3A max load

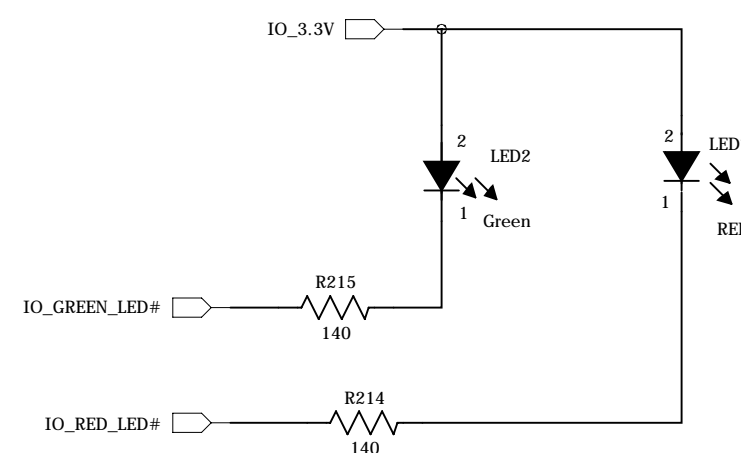
250 VAC or 200 VDC Max



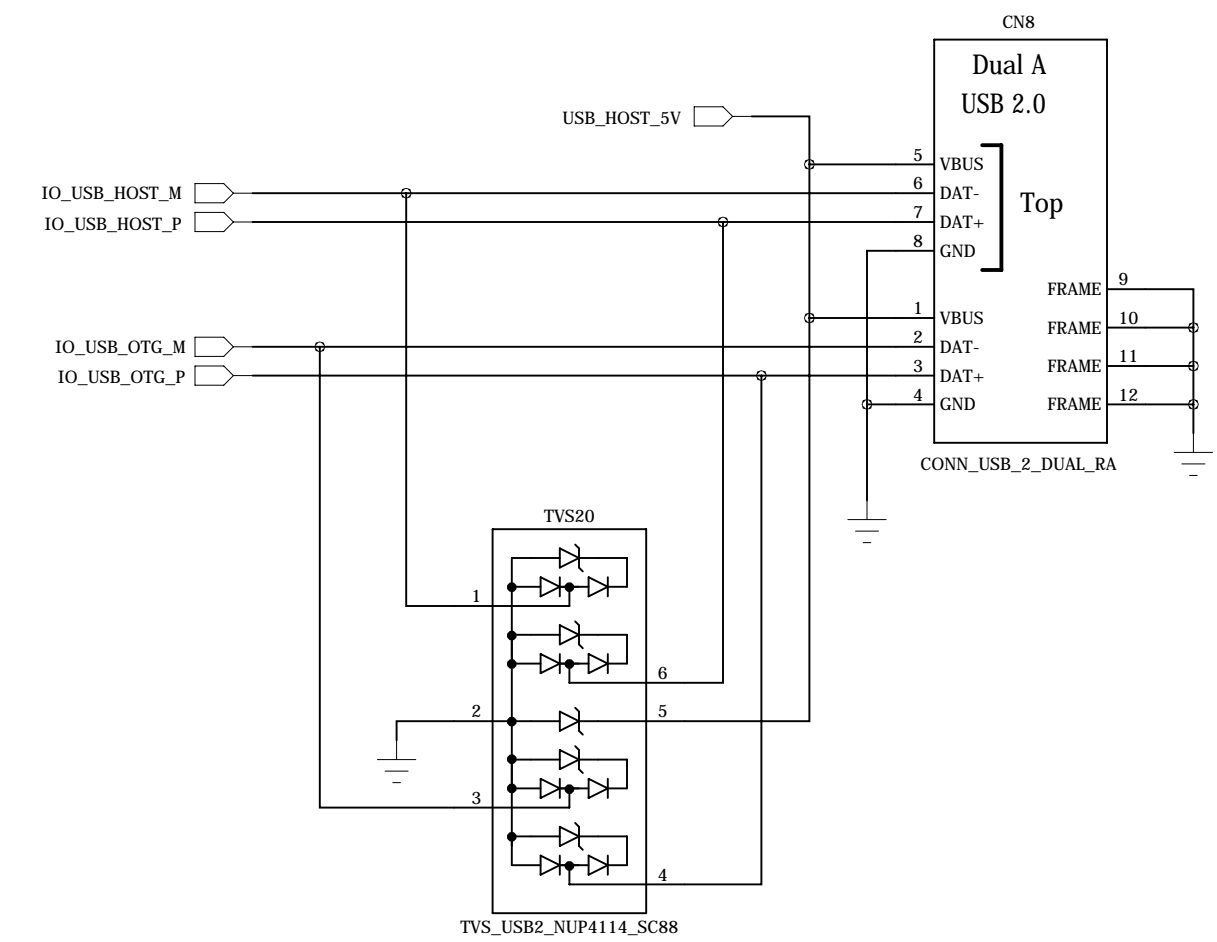
Push Switch



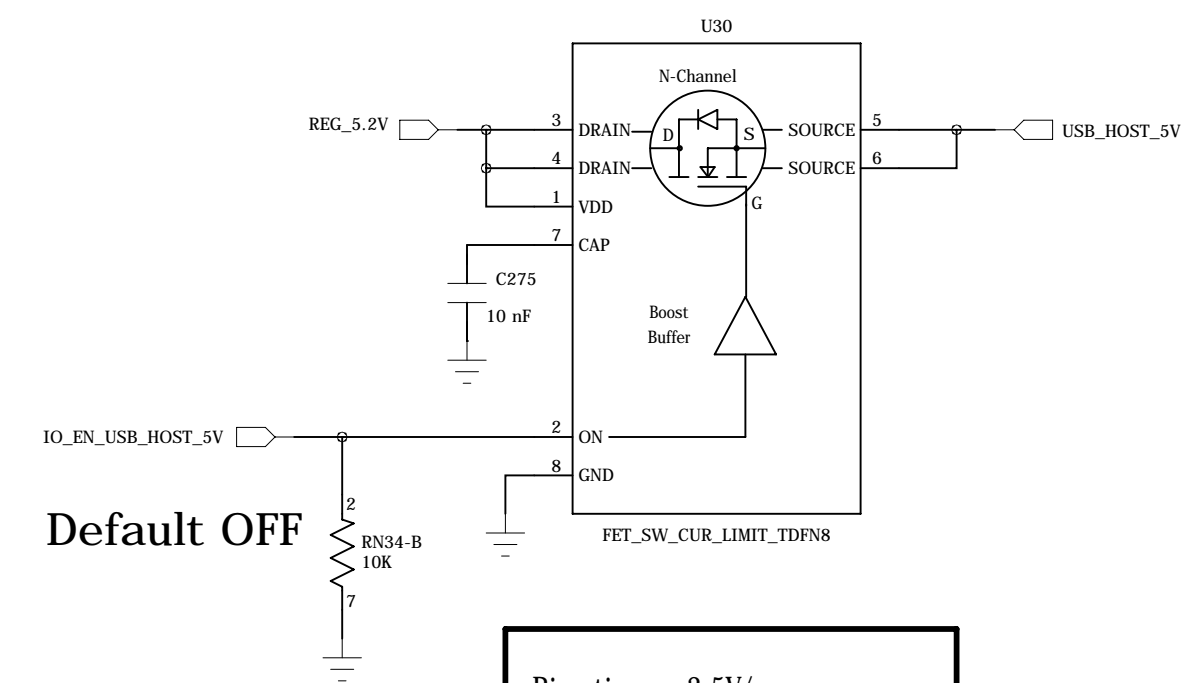
IO LEDs



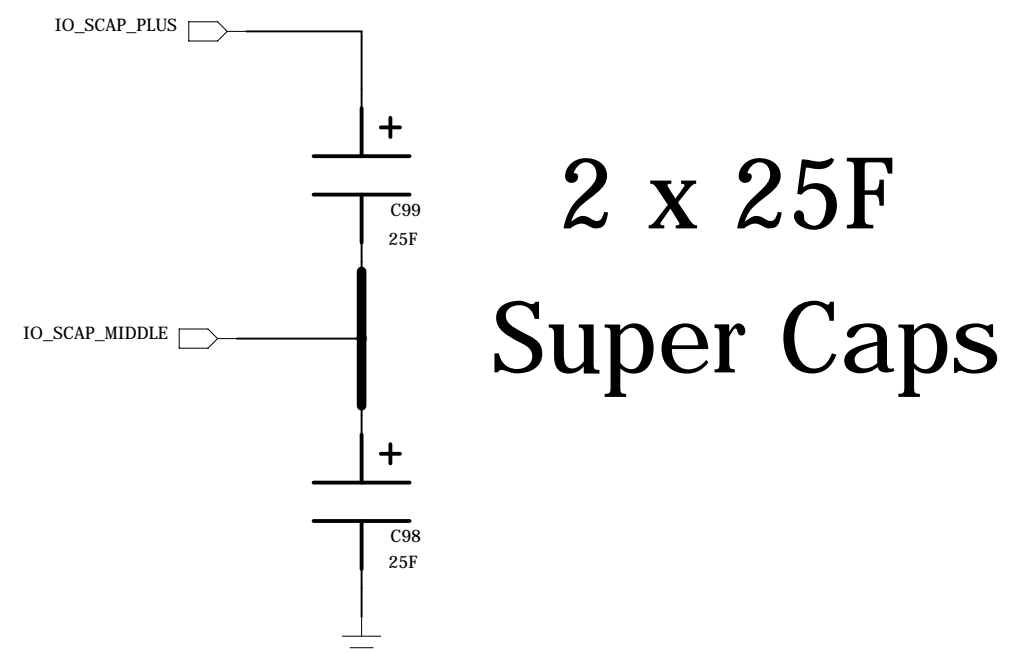
Dual Host USB



USB Sw. 5V



Rise time = 3.5V/ms

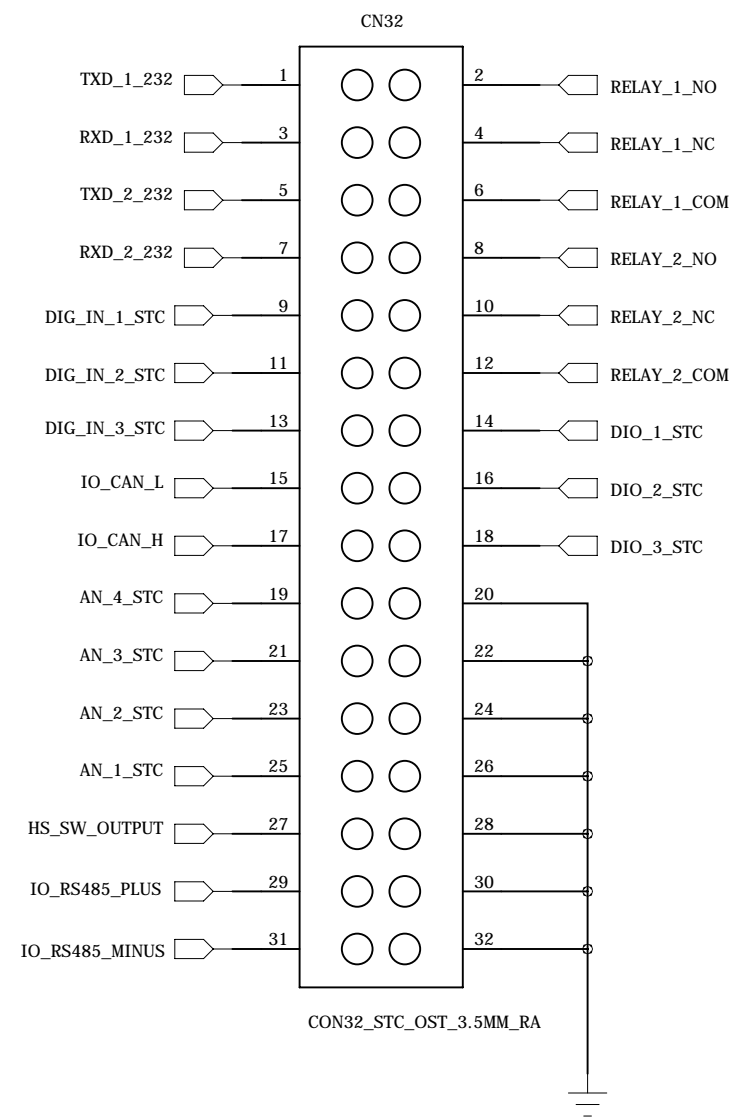


2 x 25F
Super Caps

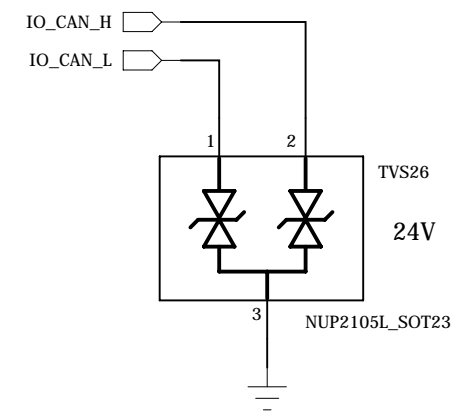
Technologic Systems	Date	Jan. 12, 2019
Title: TS-7100 = Fez board		
Rev: P1	Designer	Sheet 20 of 22

I/O Board

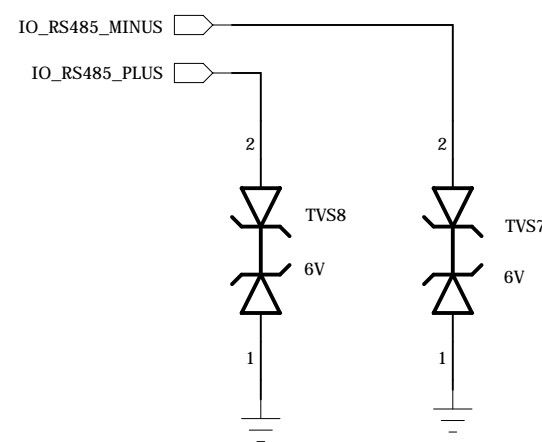
2x16 STC



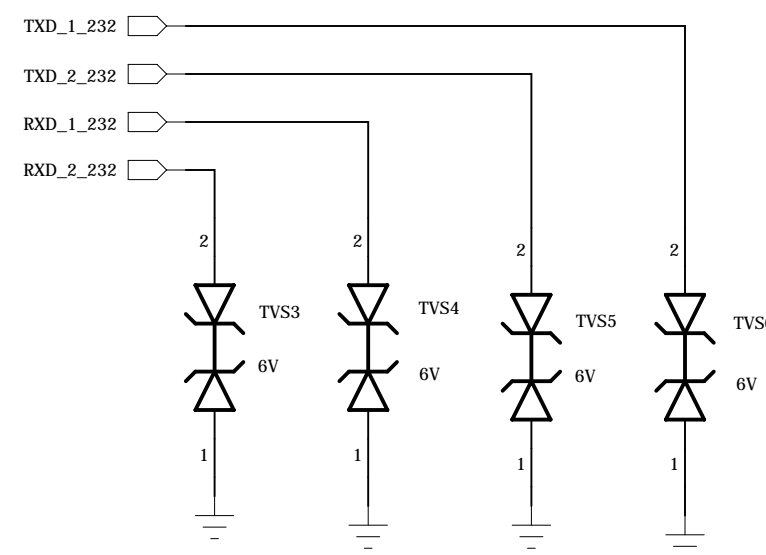
CAN TVS



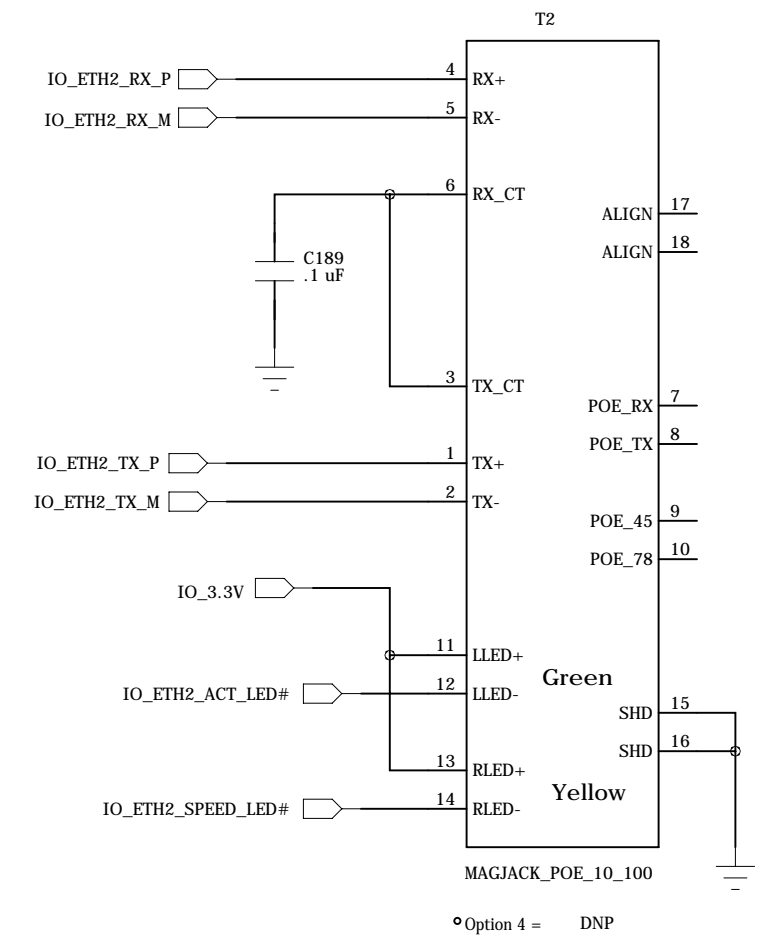
RS-485 TVS



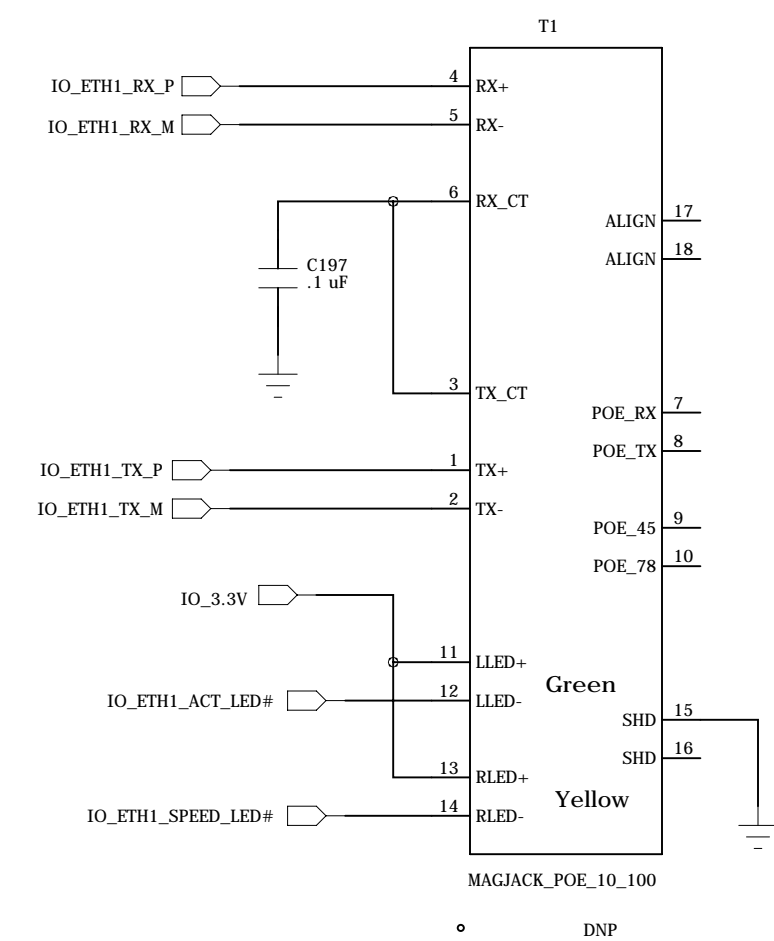
RS-232 TVS



10/100 MagJack



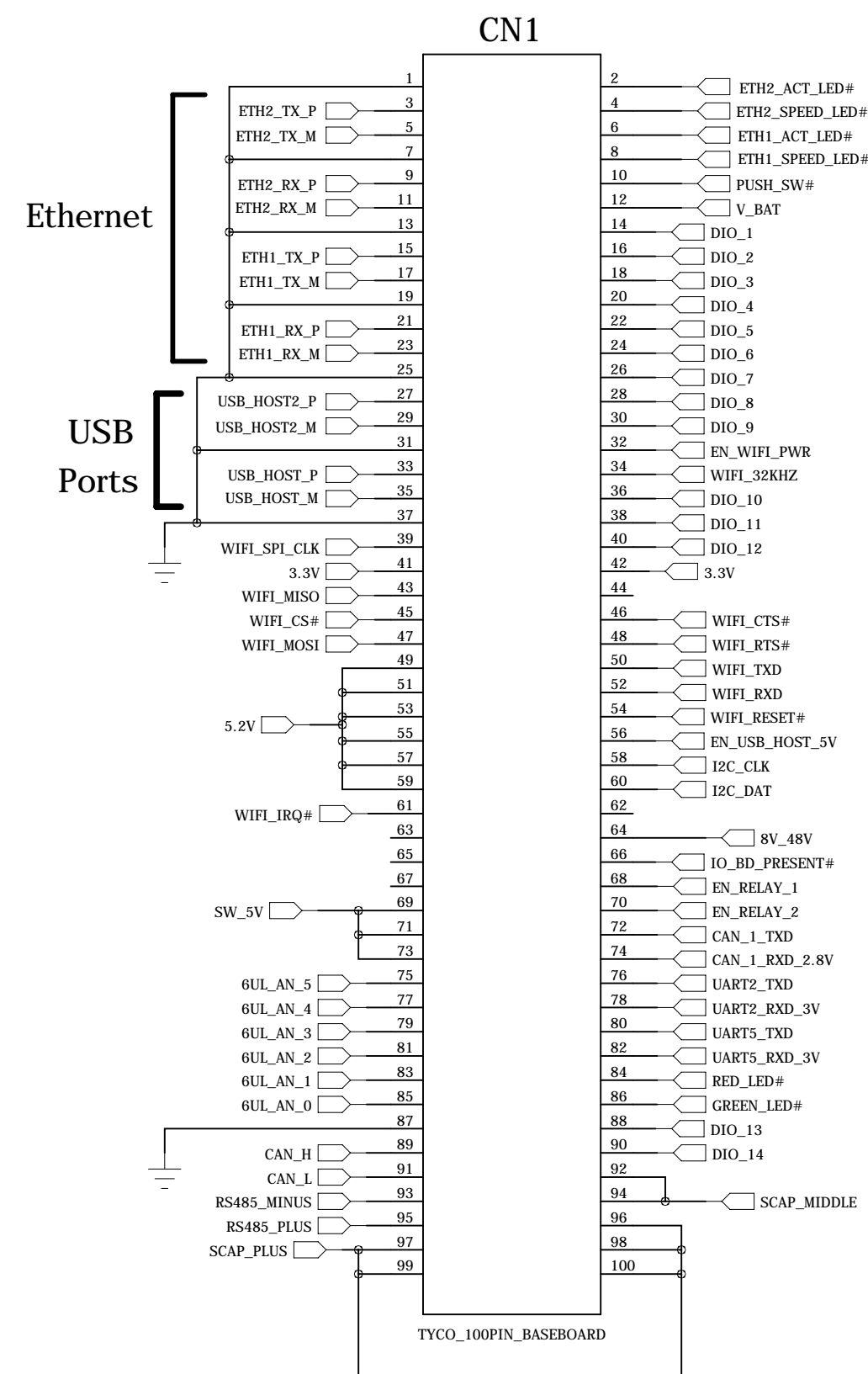
10/100 MagJack



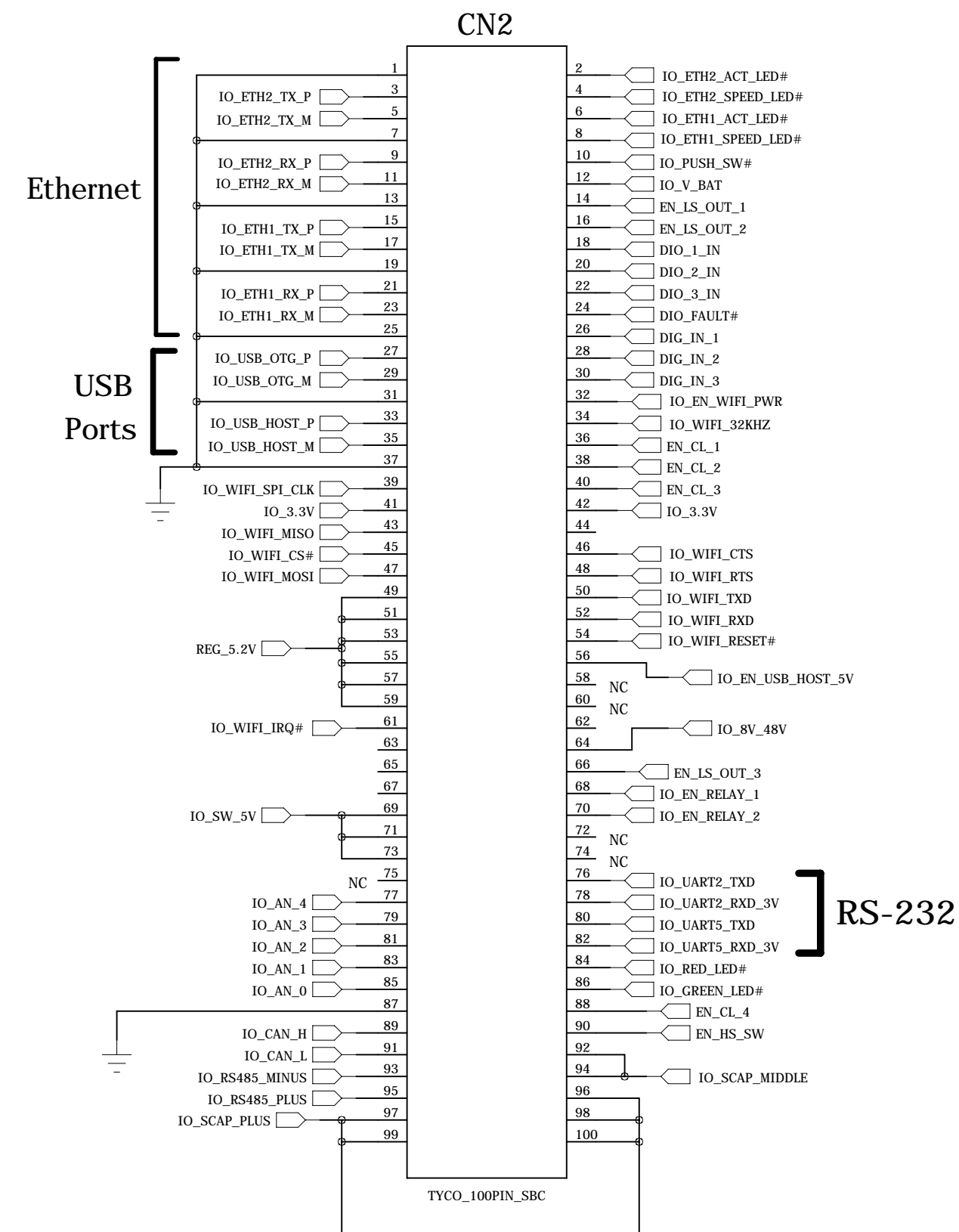
CN1 is on CPU board

CN2 is on IO board

CPU Bd.



IO Bd.



IO Bd. Max load on 3.3V rail is 300 mA

CN2 pin 66 must be biased low on IO Bd.

CPU Bd.	IO Bd.
DIO_1	EN_LS_OUT_1
DIO_2	EN_LS_OUT_2
DIO_3	DIO_1_IN
DIO_4	DIO_2_IN
DIO_5	DIO_3_IN
DIO_6	DIO_Fault#
DIO_7	DIG_IN_1
DIO_8	DIG_IN_2
DIO_9	DIG_IN_3

CPU Bd.	IO Bd.
DIO_10	EN_CL_1
DIO_11	EN_CL_2
DIO_12	EN_CL_3
DIO_13	EN_CL_4
DIO_14	EN_HS_SW
DIO_15	
DIO_16	
IO_BD_PRESENT#	EN_LS_SW_3

UART2 and 5 = RS-232
 UART3 = BlueTooth
 UART4 and 7 = FPGA