

TS-7670

Rev.A Rev.B Changes:

No schematic change

The 4 RA LEDs location and orientation changed

Rev.B to Rev.D Changes:

Changed HD1 to support POE daughter board

Changed BOM to ISL85403 Reg

Changed MX286 to be powered by 5V instead of 3.7 V

Changed uC from NXP M0 to SiLab 8051

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TS-7670

Programmer Edge Conn.

MX286 Serial Port Usage

UART0 = RS-232

UART1 = RS-232

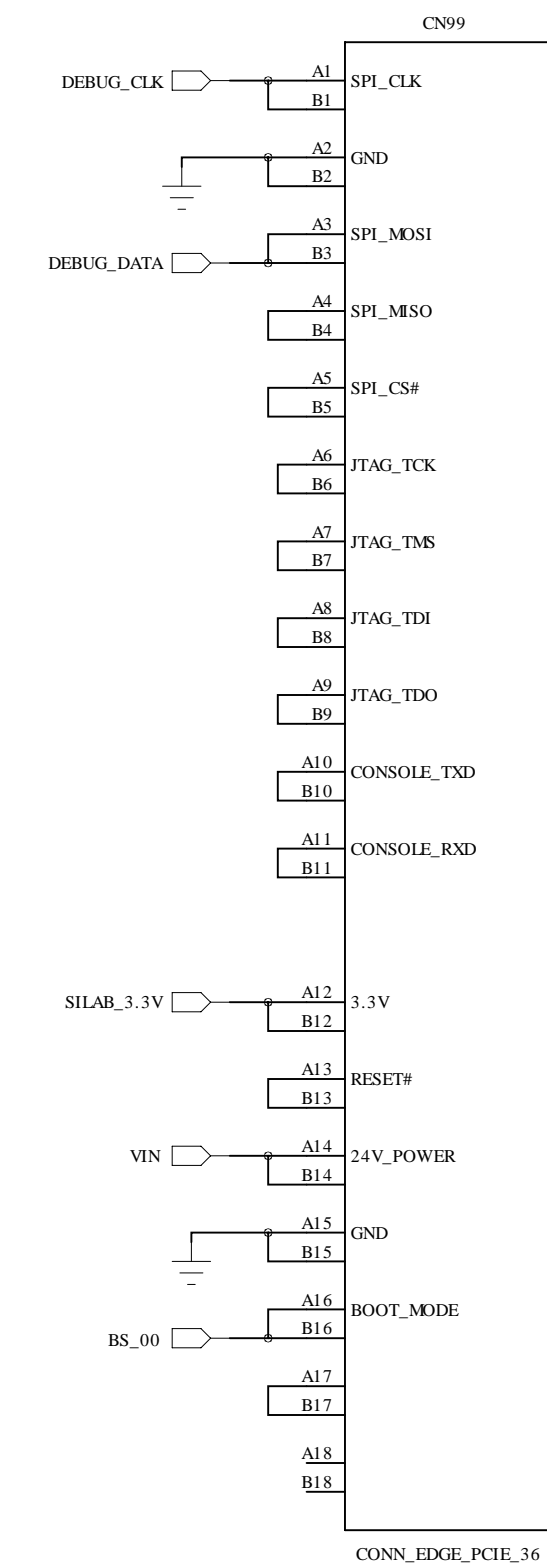
UART2 = Modbus

UART3 = HD1 daughter card

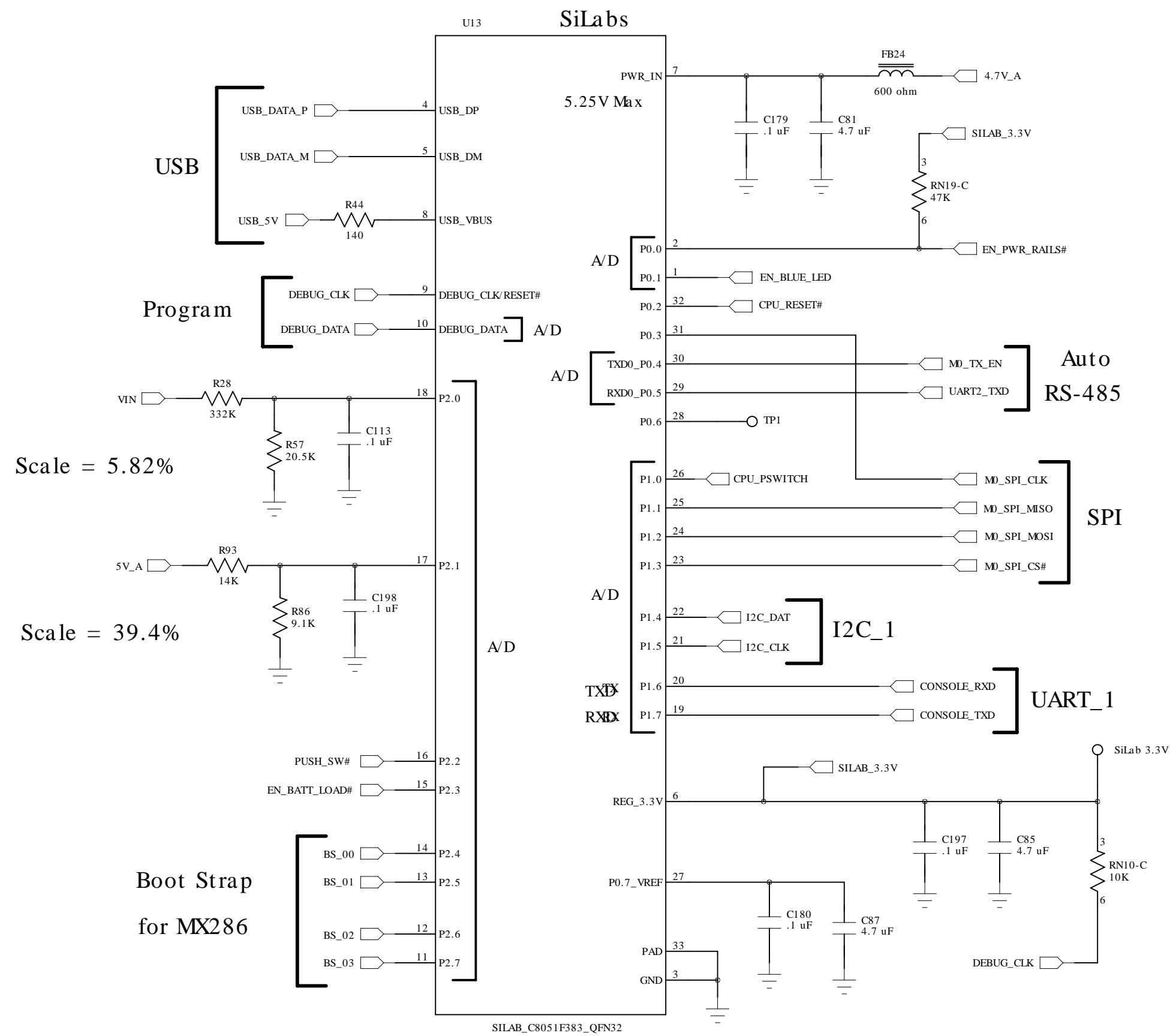
UART4 = GPS Radio

Debug = Console/USB

MX286 UART0 supports RTS/CTS handshakes



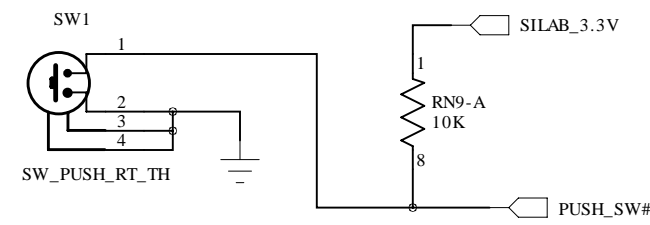
USB Device Port and SiLab uC



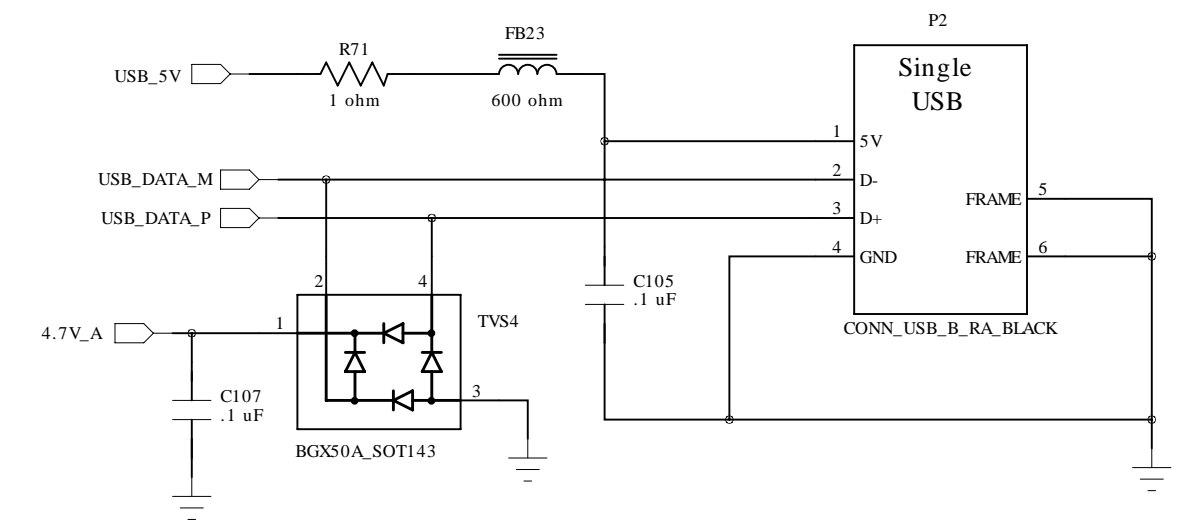
Boot Source

BS_3	BS_2	BS_1	BS_0	Source
0	0	1	0	SPI
1	0	0	1	SD0 Card
1	0	1	0	eMMC
0	0	0	0	USB
0	1	0	0	NAND

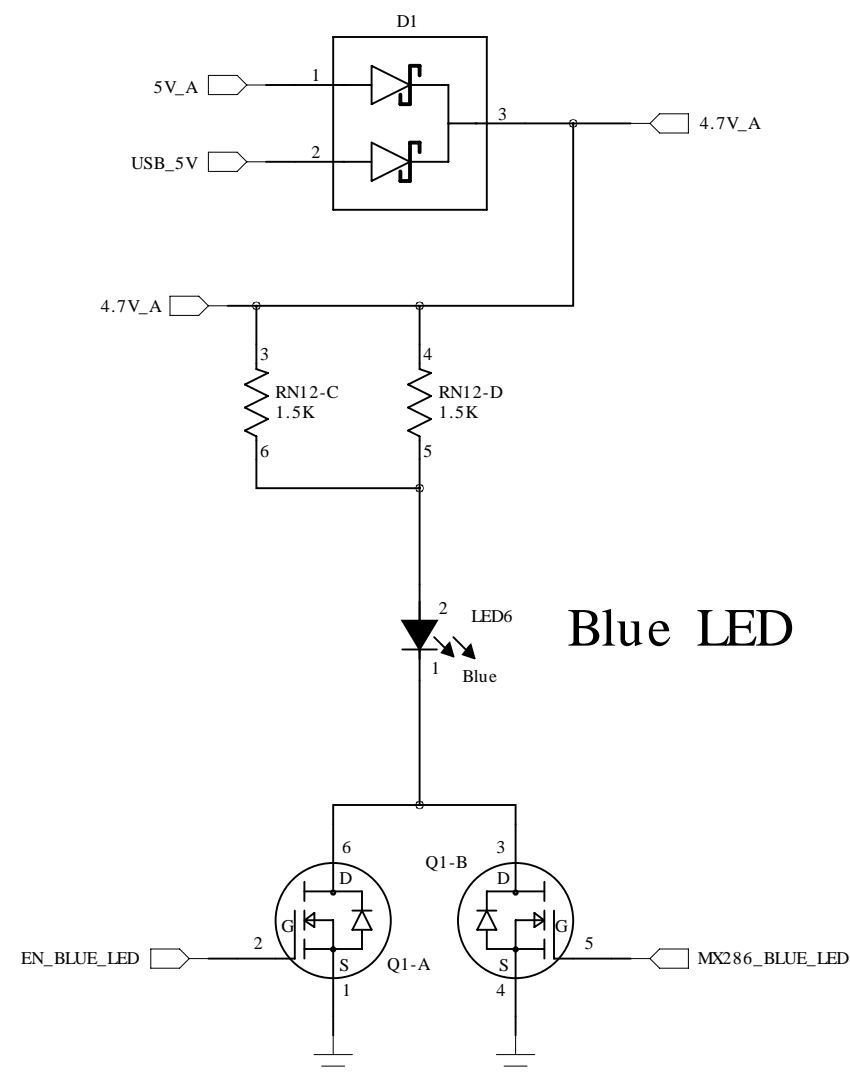
Push Switch



USB Device Port



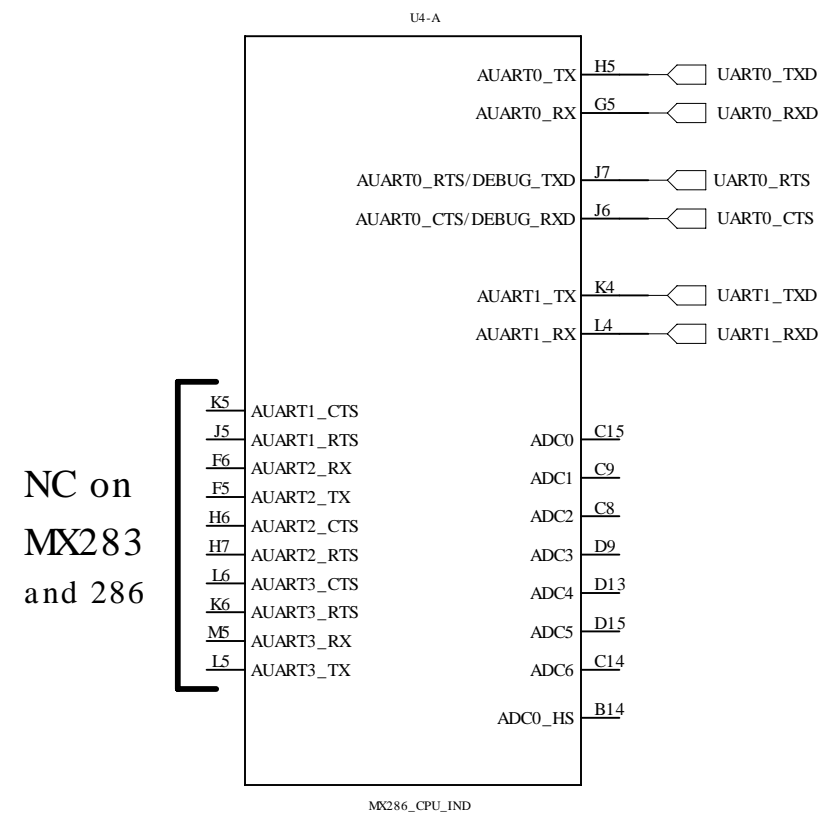
4.7V for SiLab



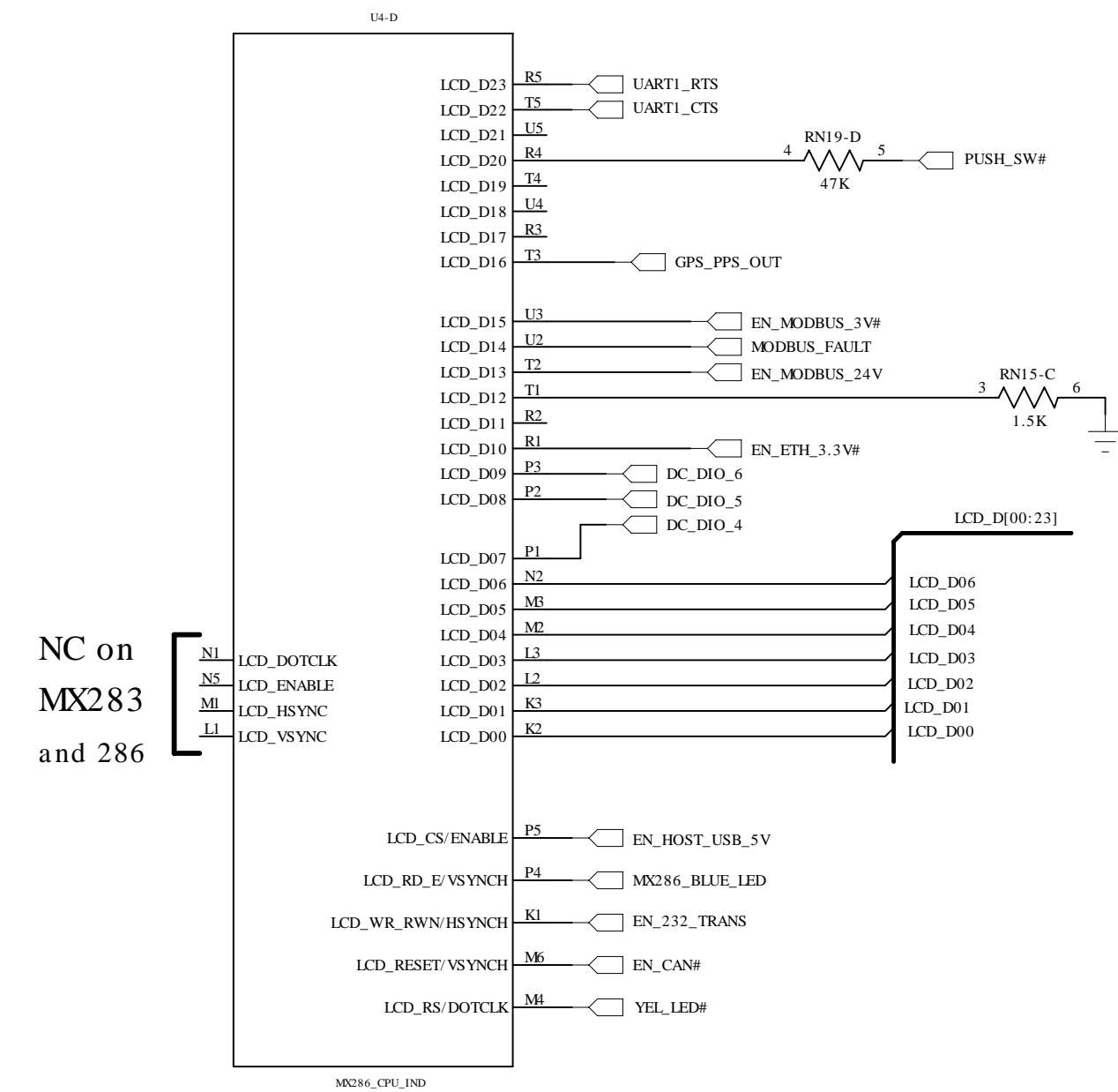
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MX286 ARM9 CPU

UARTs, ADC

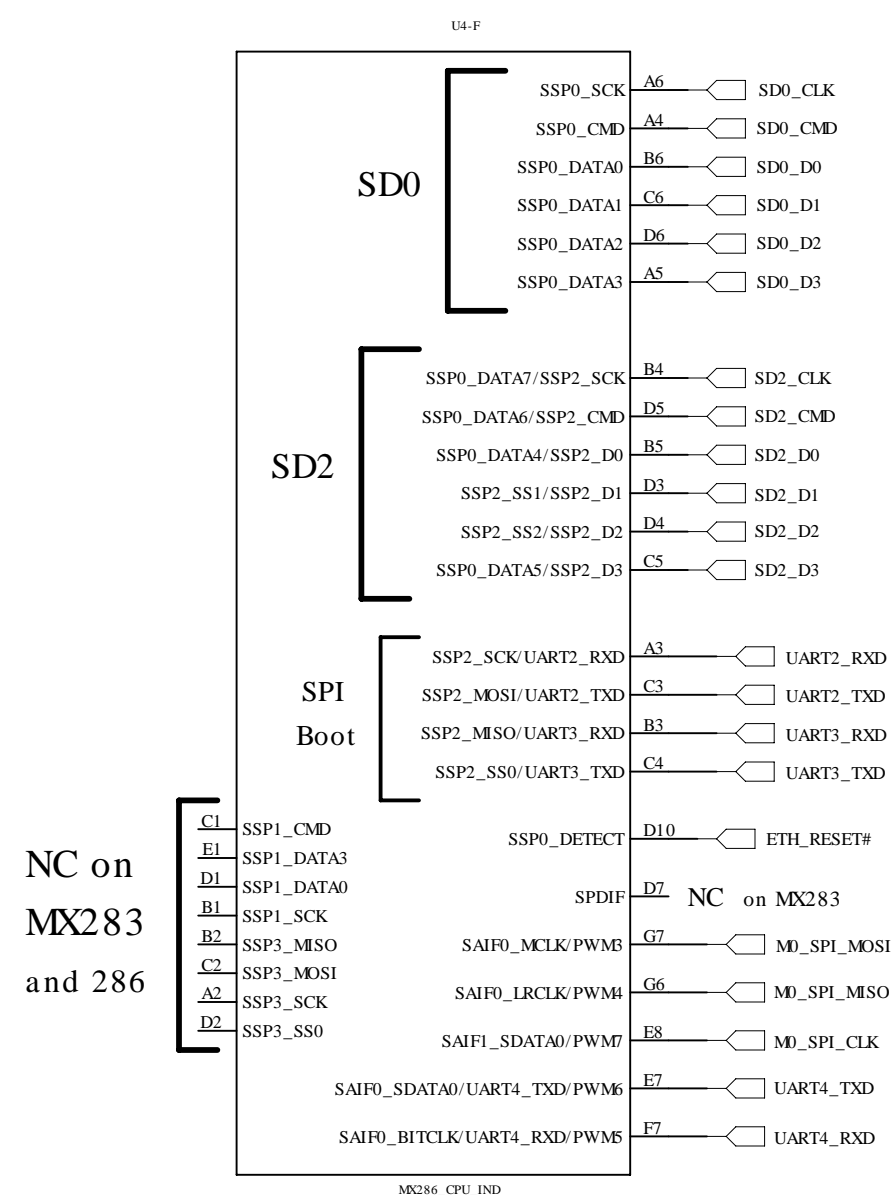
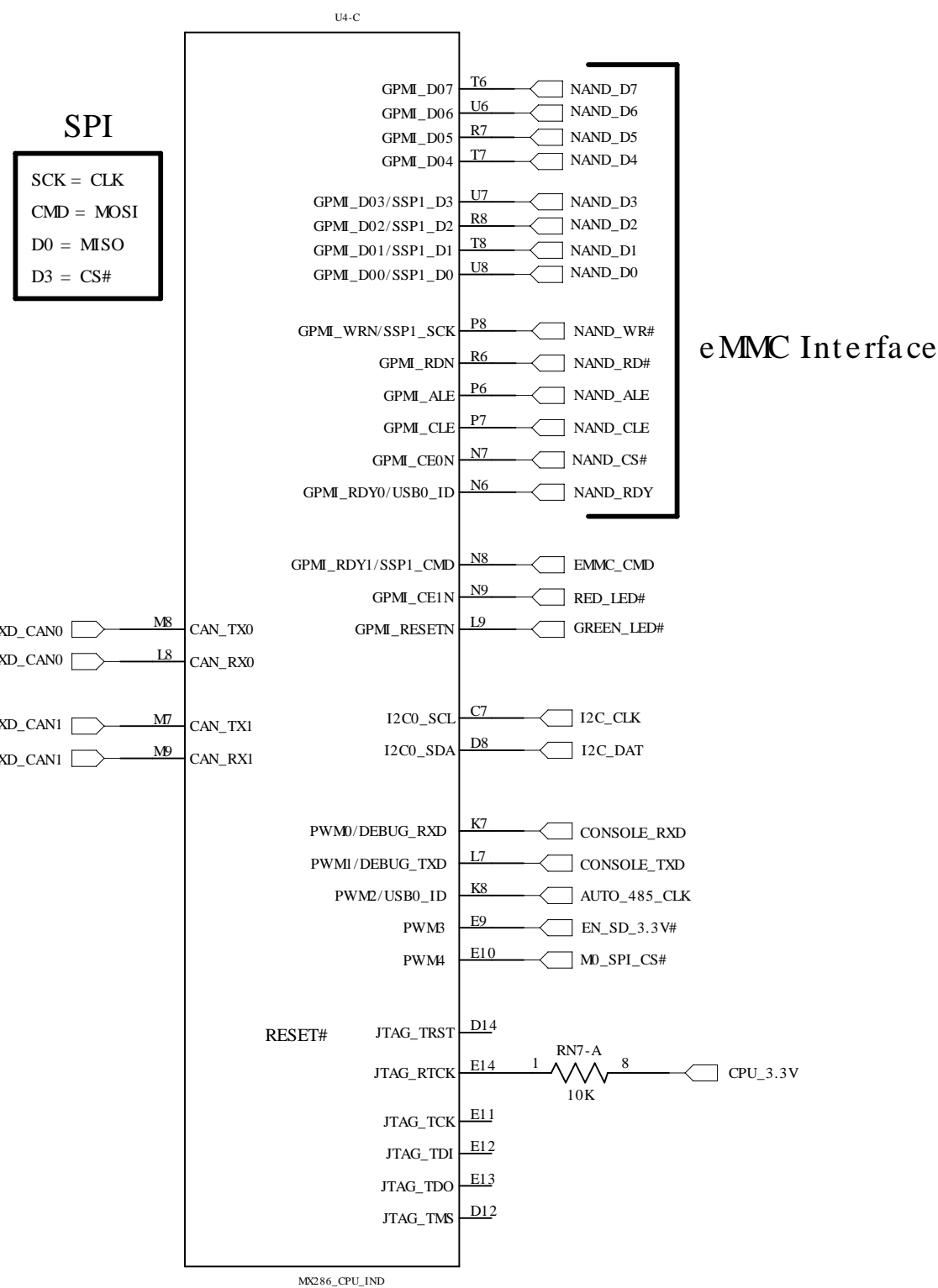


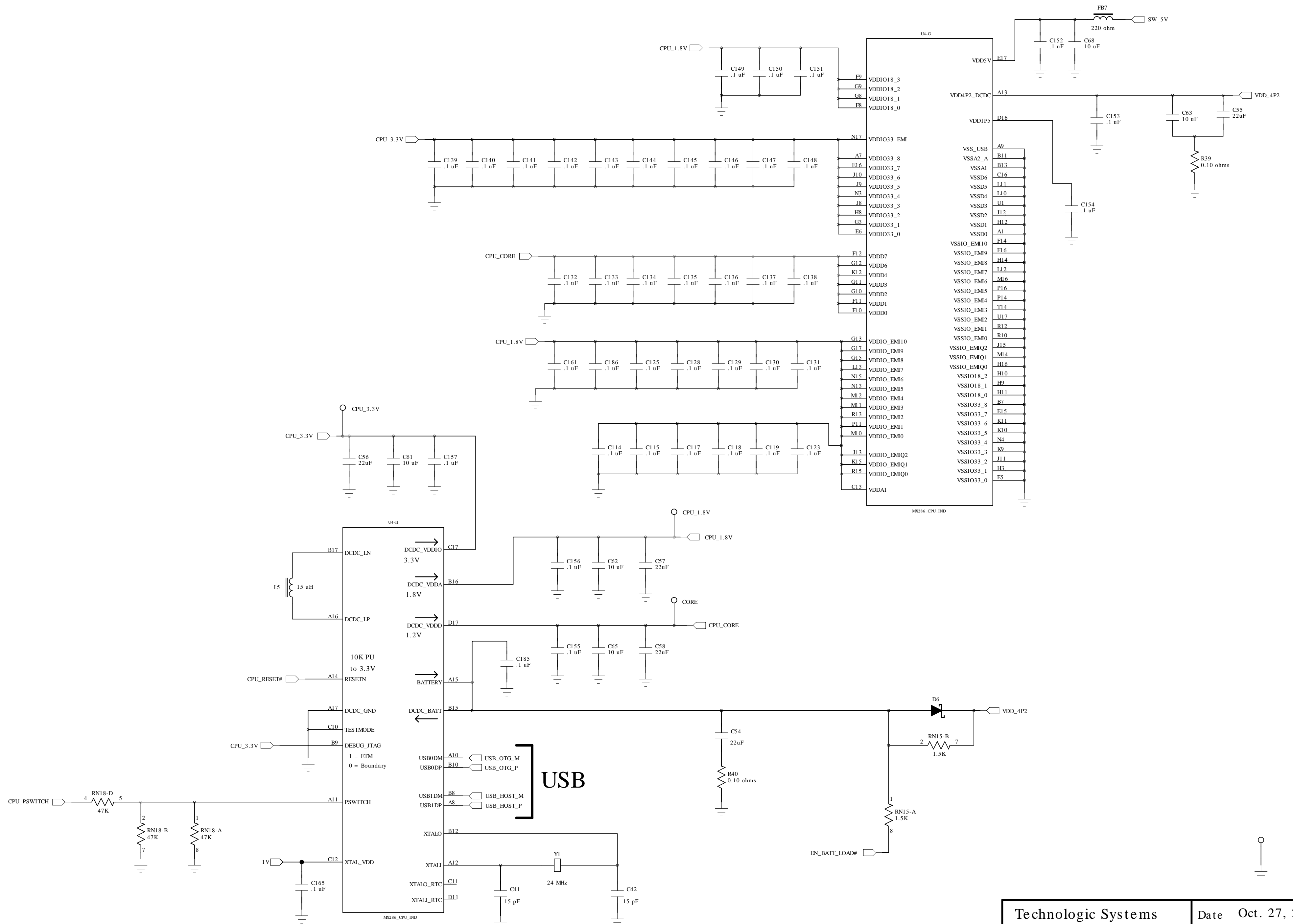
LCD



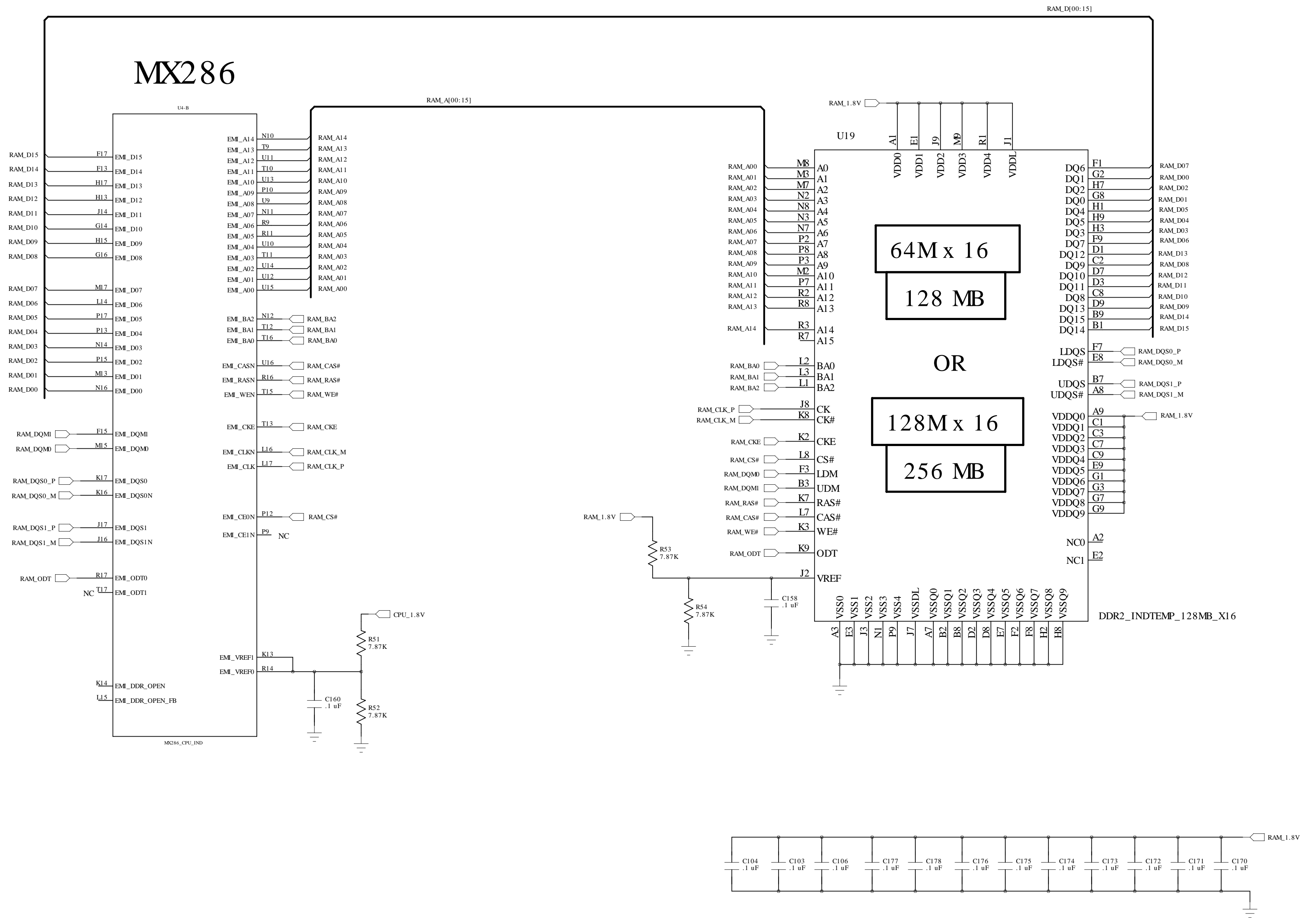
eMMC, PWM JTAG, I2C

Audio SD Card SPI Boot



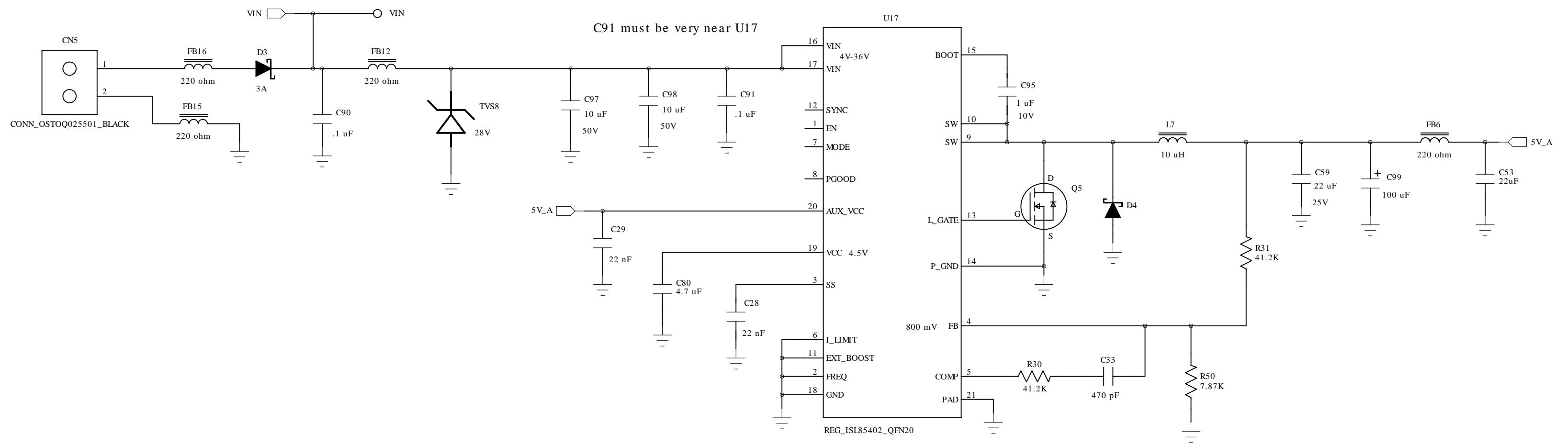


DDR2 SDRAM (128 or 256 MByte)

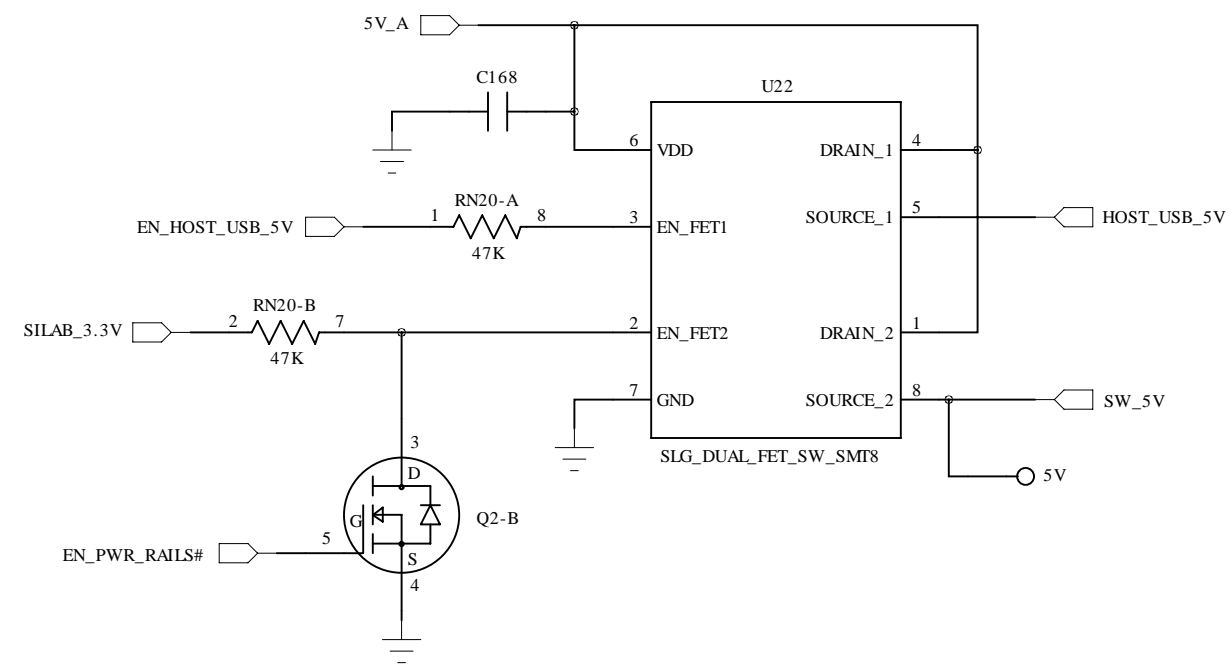


5V Power Supply (2000 mA)

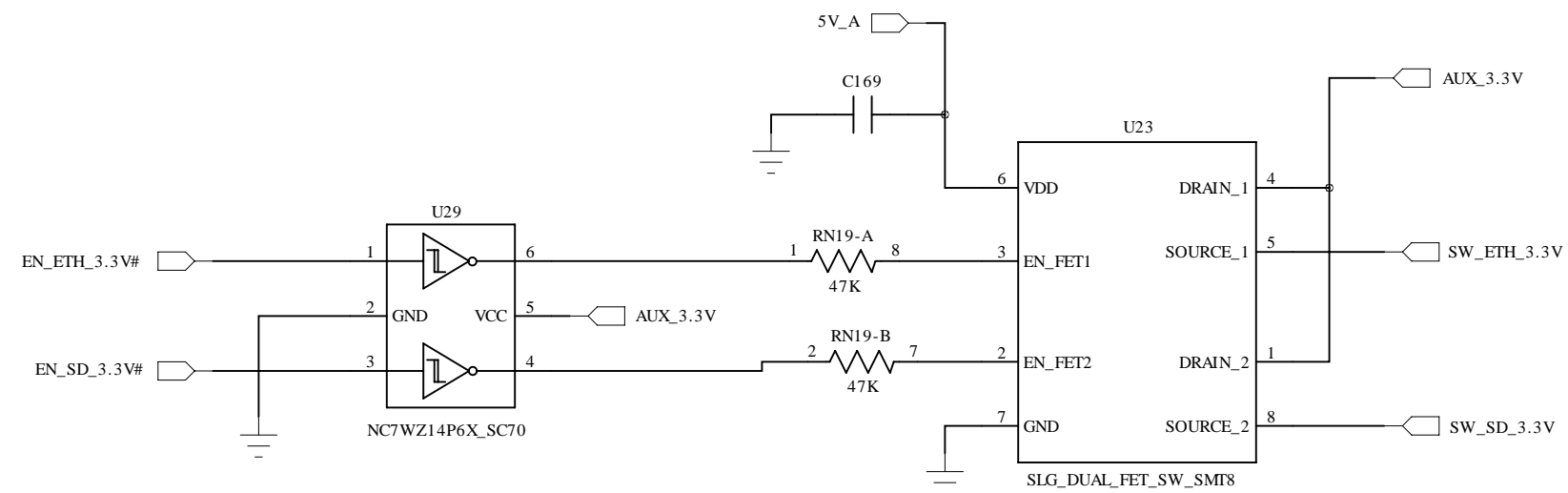
8-28 VDC
Power Input



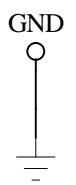
USB and MX286
Switched Power



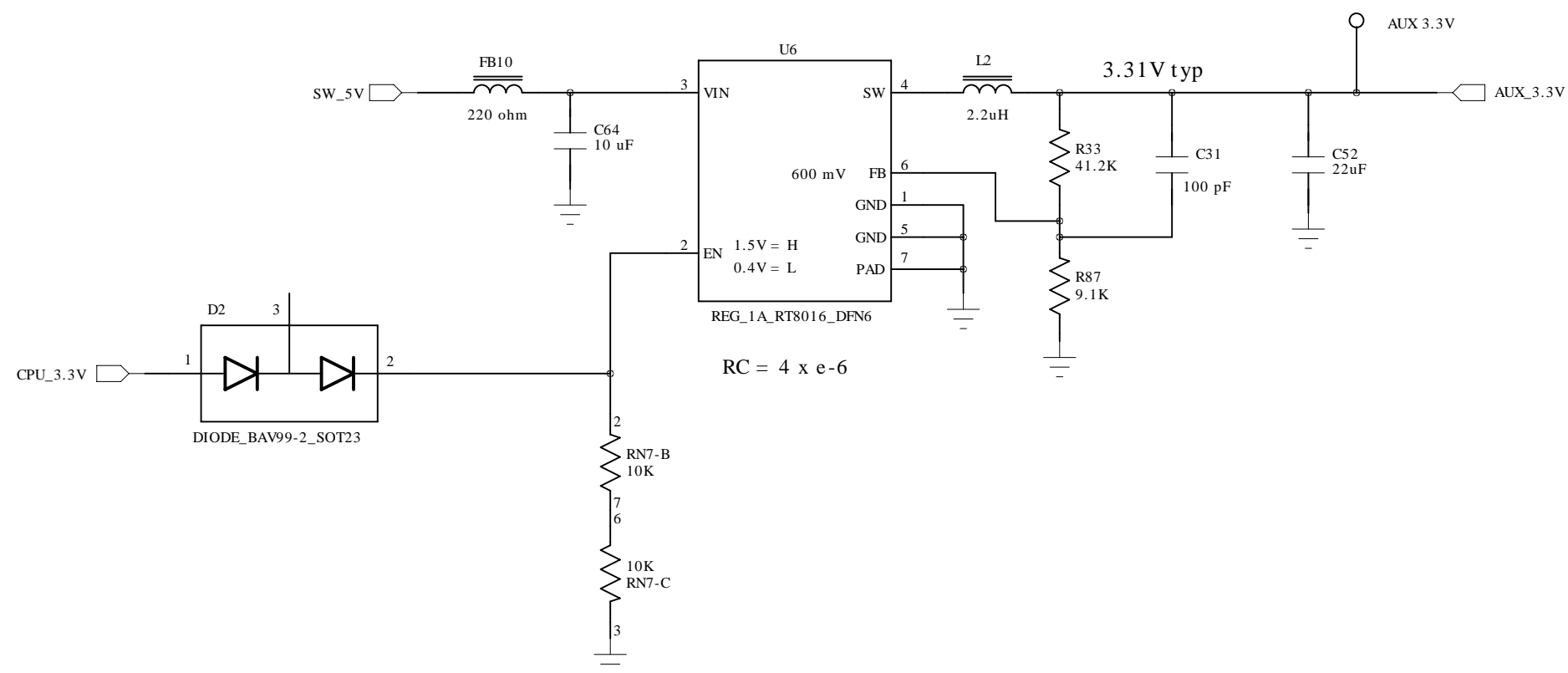
Ethernet and SD
Switched Power



.063 hole



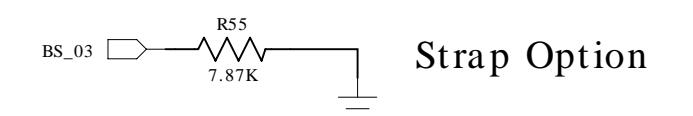
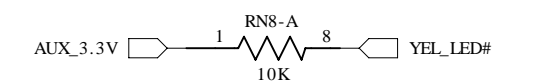
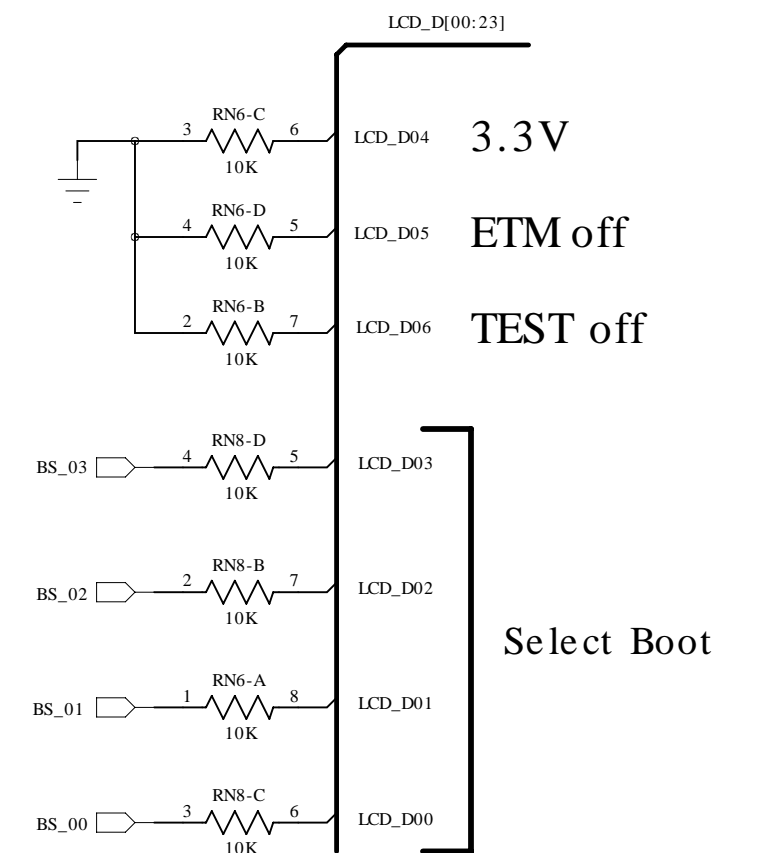
Aux. 3.3V Reg



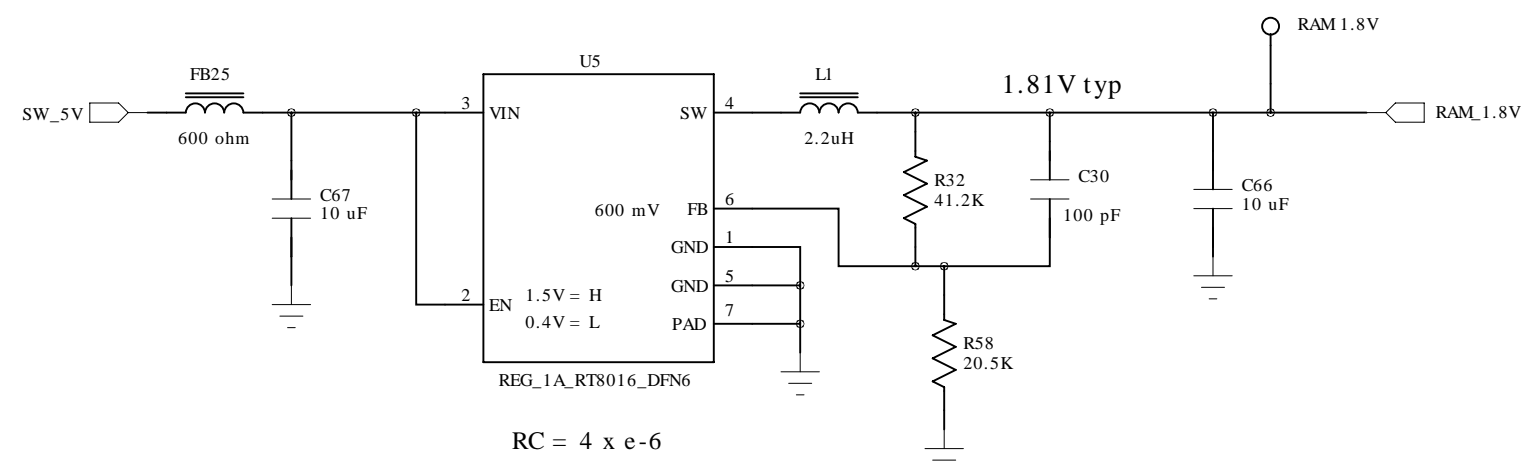
Boot Strap Bias Res.

Boot Source

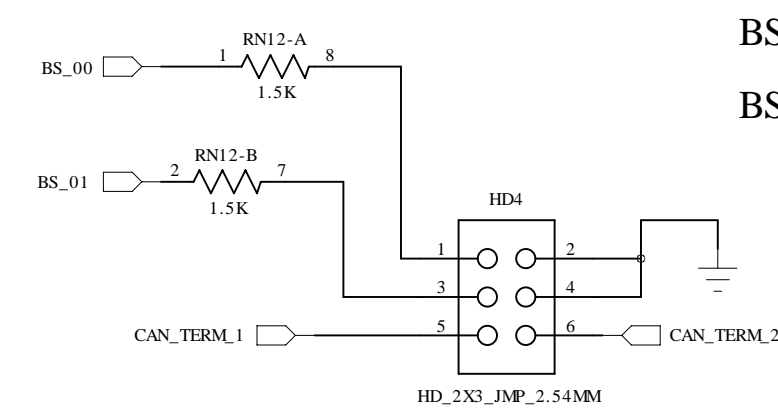
LCD_3	LCD_0		
0	0	1	SPI
1	0	0	SD0 Card
1	0	1	eMMC
0	0	0	USB
0	1	0	NAND



RAM 1.8V Reg

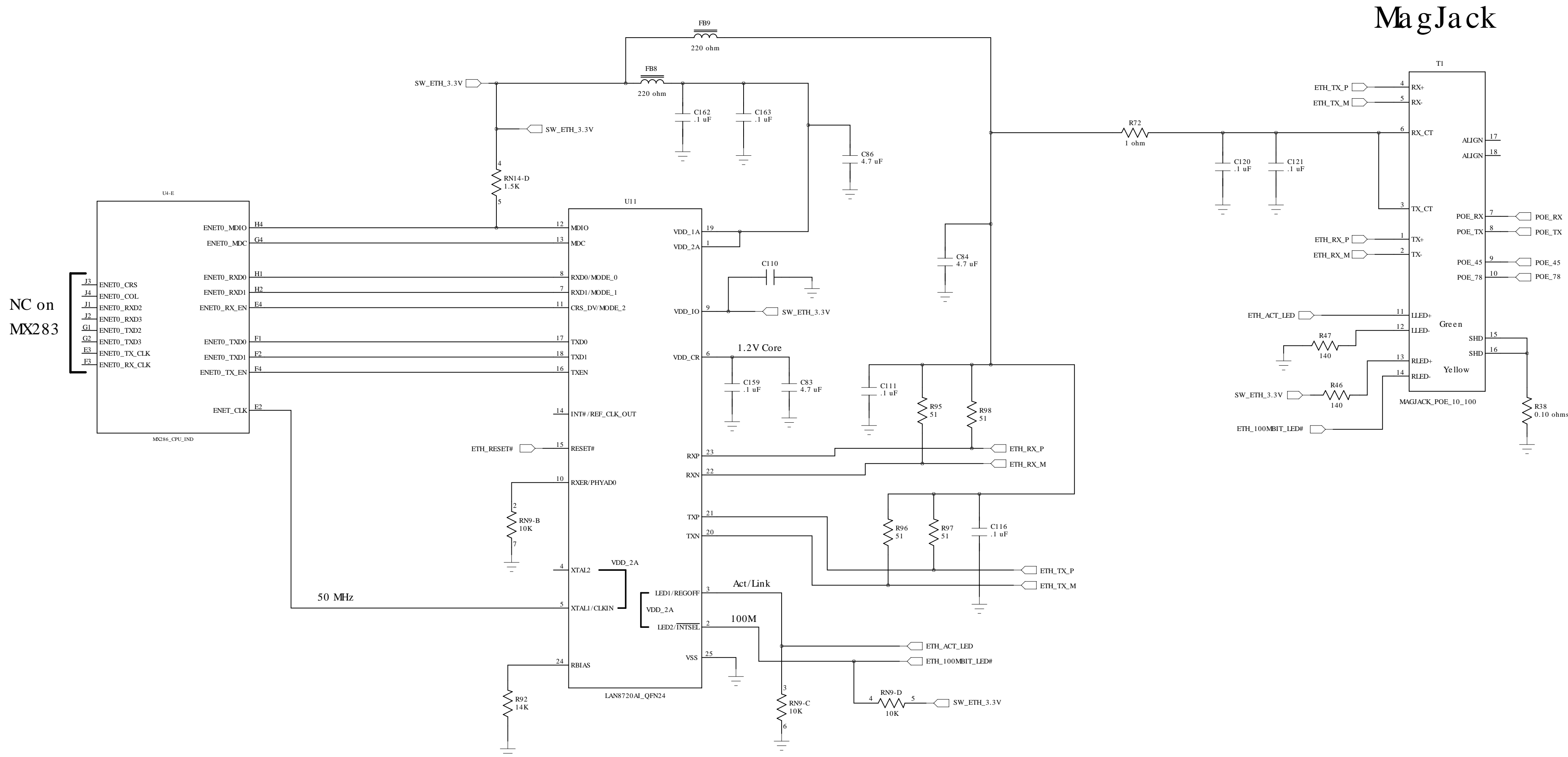


Boot Jumpers



BS_00 = SD Boot
BS_01 = JP2

10/100 Ethernet

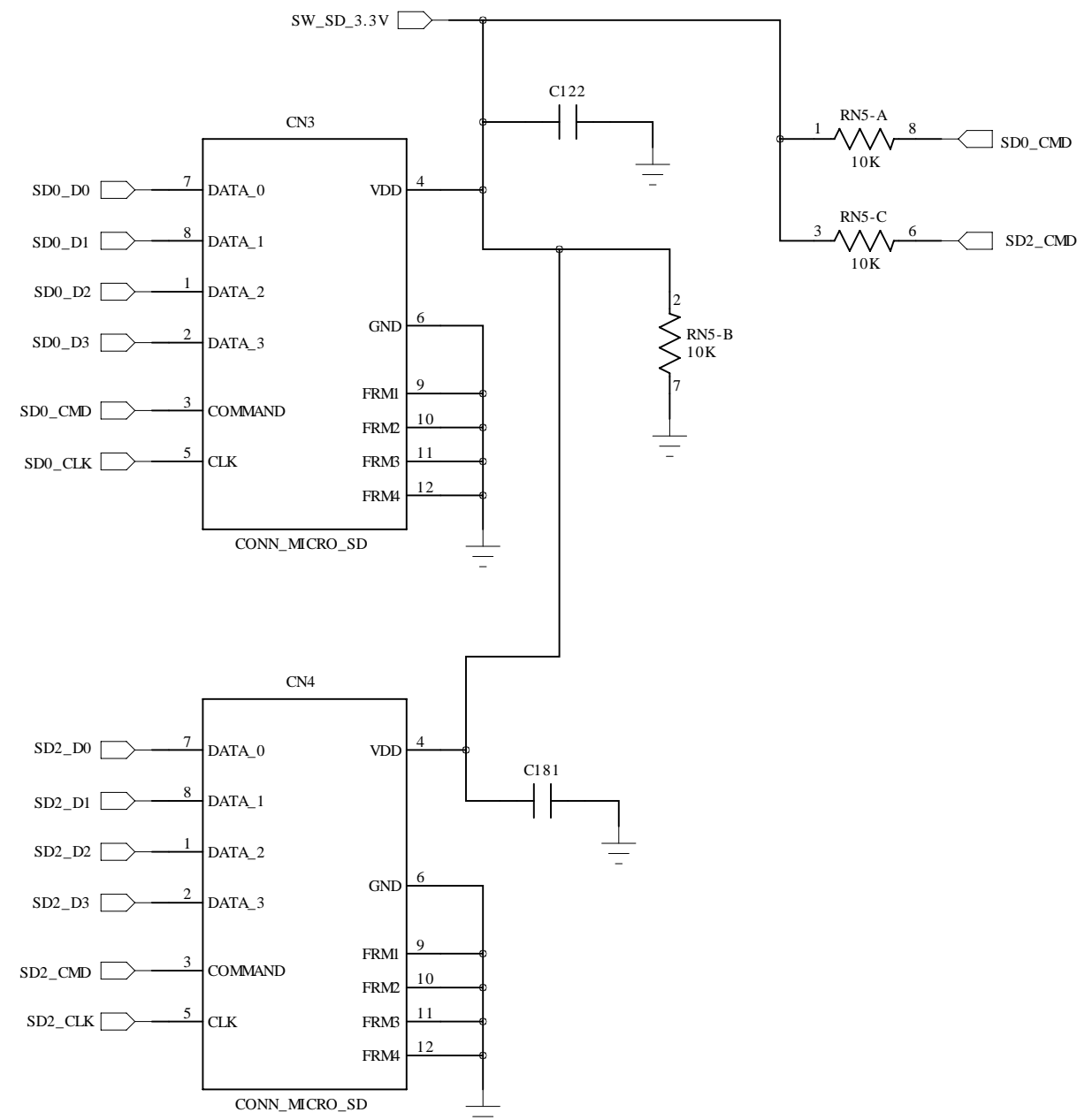


Auto MDIX is supported and
Polarity Correction supported

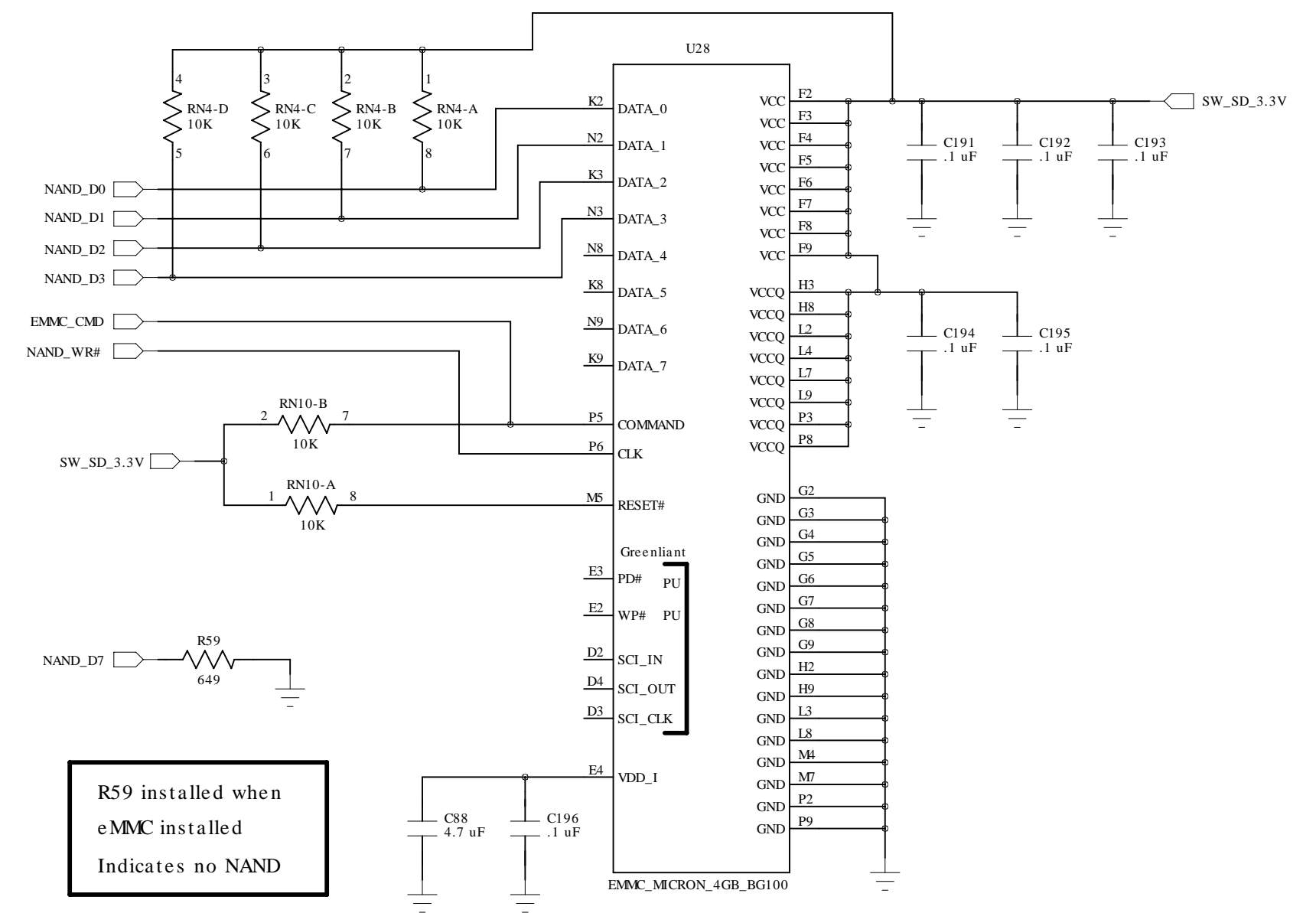
Technologic Systems	Date Oct. 27, 2014
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Flash Memory

Micro SD Card Sockets



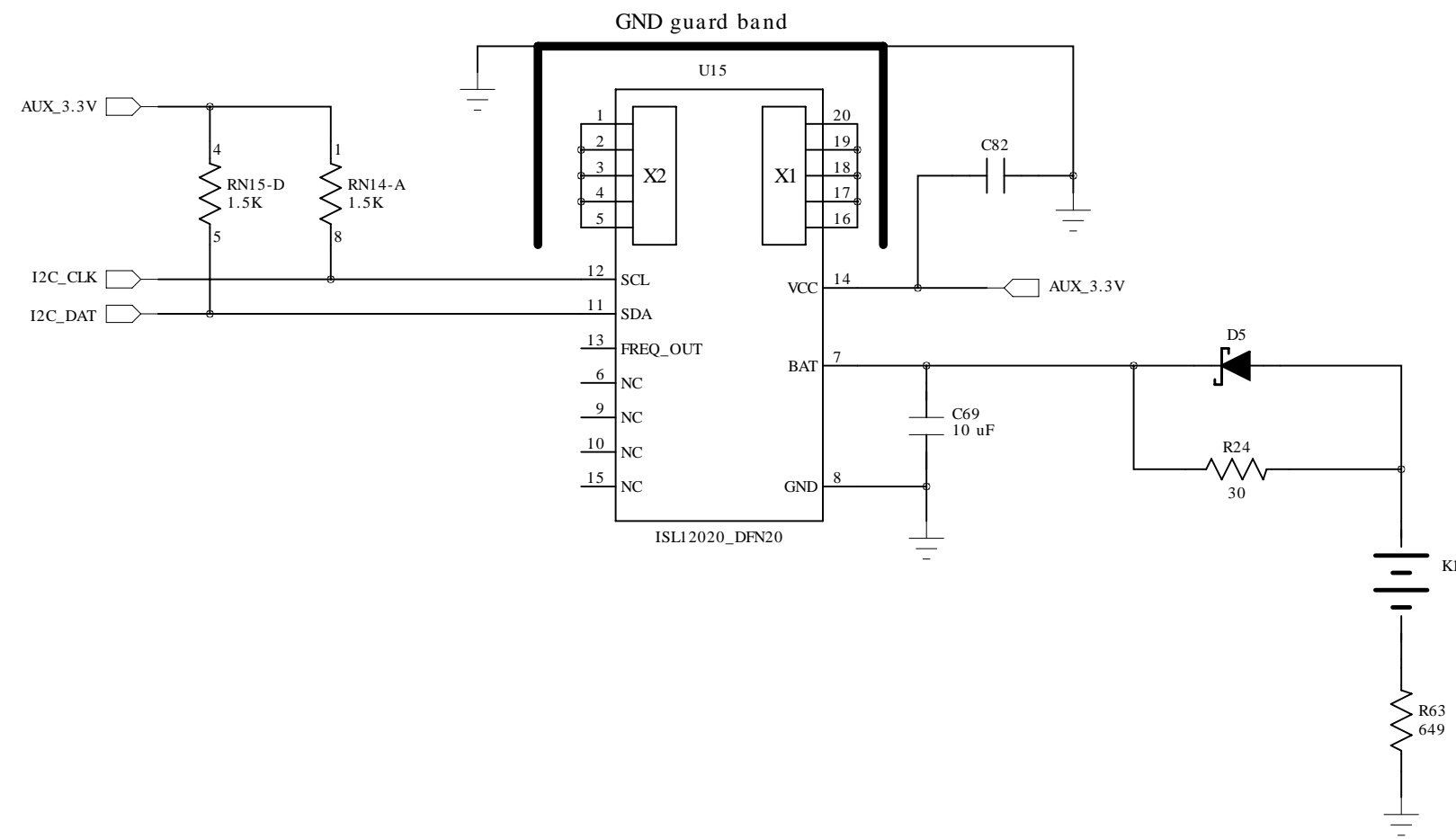
eMMC 4GB



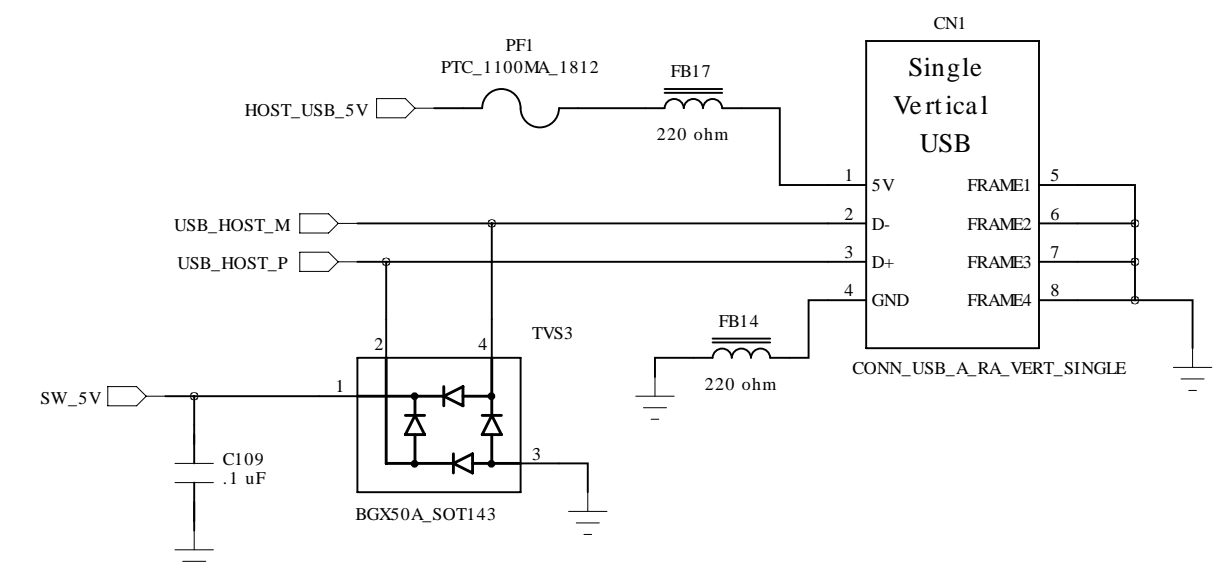
R59 installed when
eMMC installed
Indicates no NAND

RTC and Host USB

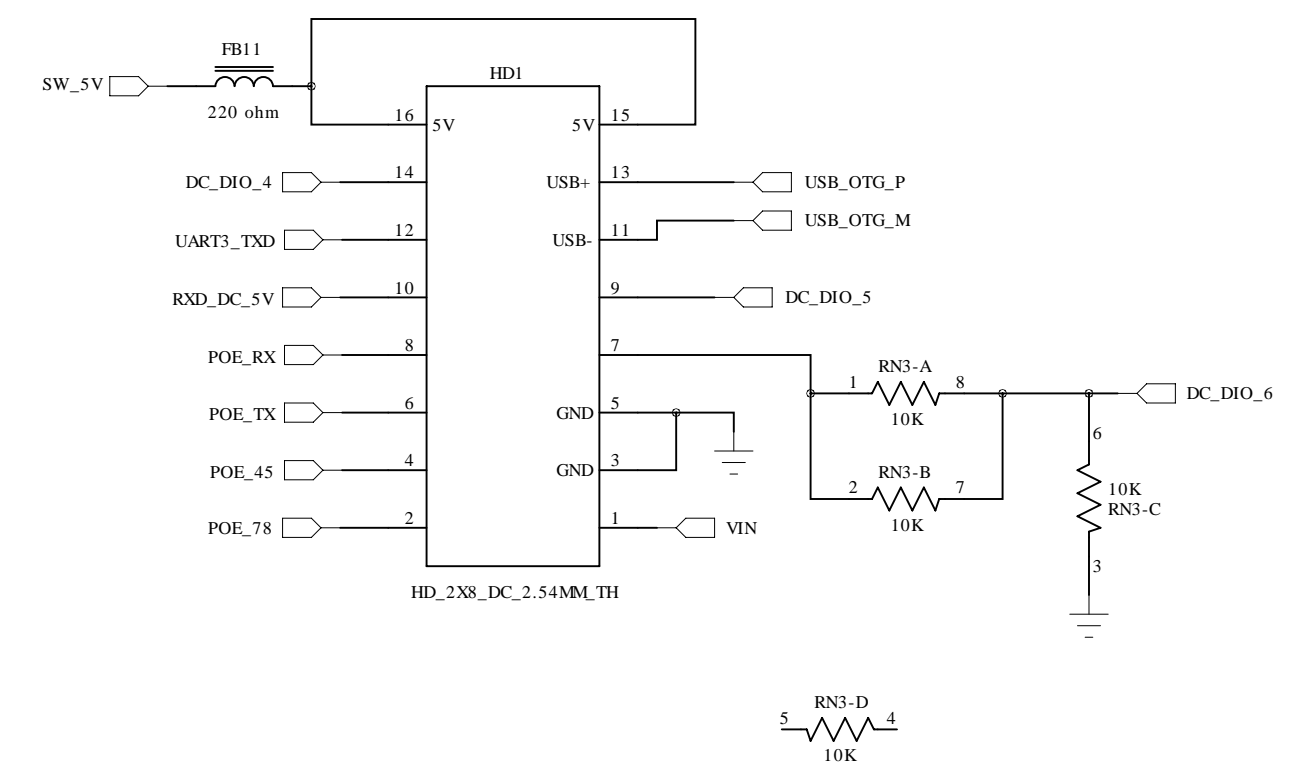
RTC and Temp. Sensor



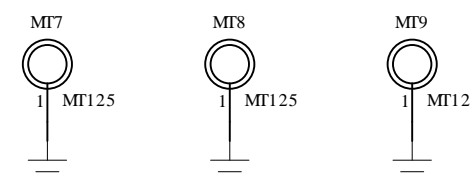
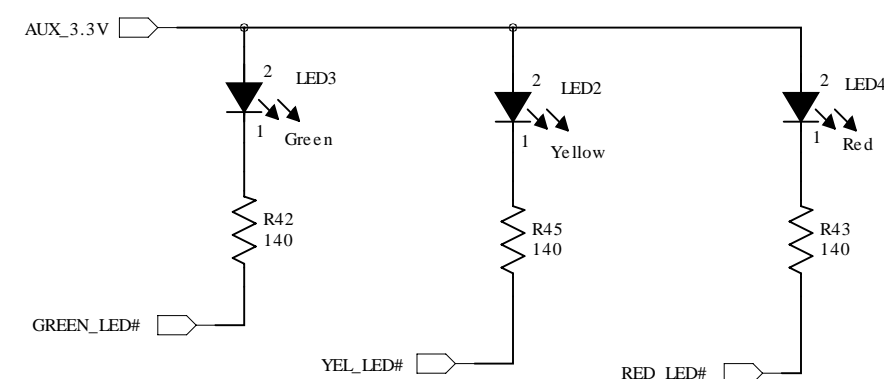
External Host USB Port



Daughter Card Interface



SMT RA LEDs

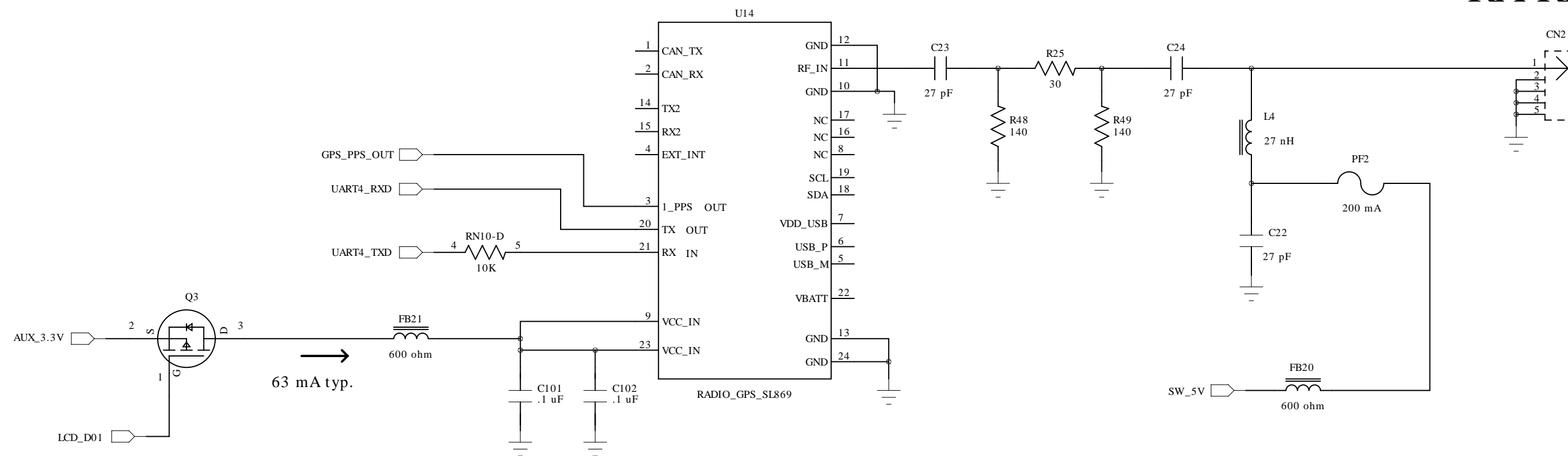


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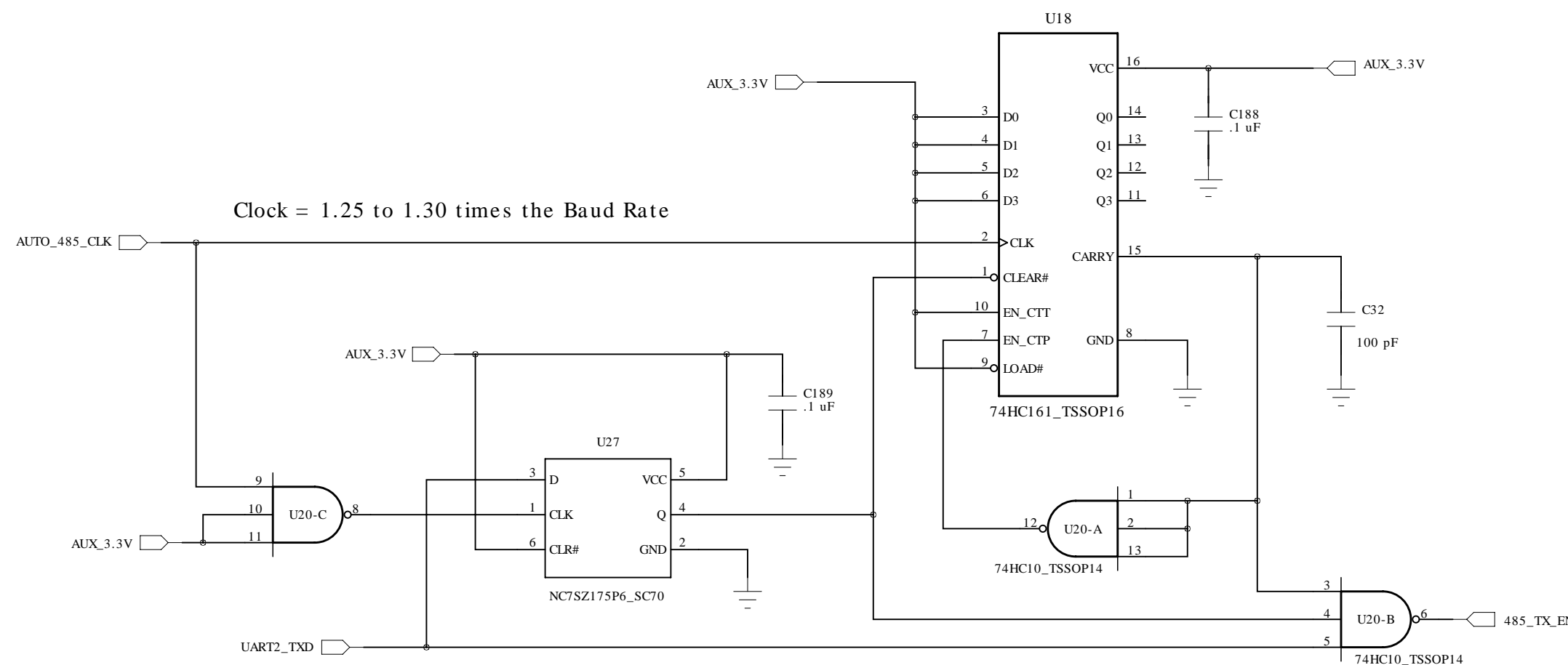
GPS Radio and Auto RS-485

Telit SL869 GPS Radio

RF Conn.
RA RMA



Modbus Auto 485 TX Enable



Auto RS-485 Enable

Counter asserts TX_EN for 14.5 clocks after Clear removed
 Assuming the clock is 1.28 times the Baud rate, this is 11.3 data bits
 Worst case (bit 7 = 0 of last data byte in packet),
 TX_EN asserted about 11 bit times past end of packet
 Quickest Turn off of TX_EN occurs when last packet byte is FF
 Then TX_EN turns off about 2 bit times after end of packet

Max Baud Rate supported is 1042 Kbaud

Clock for this baud rate is 1.33 MHz

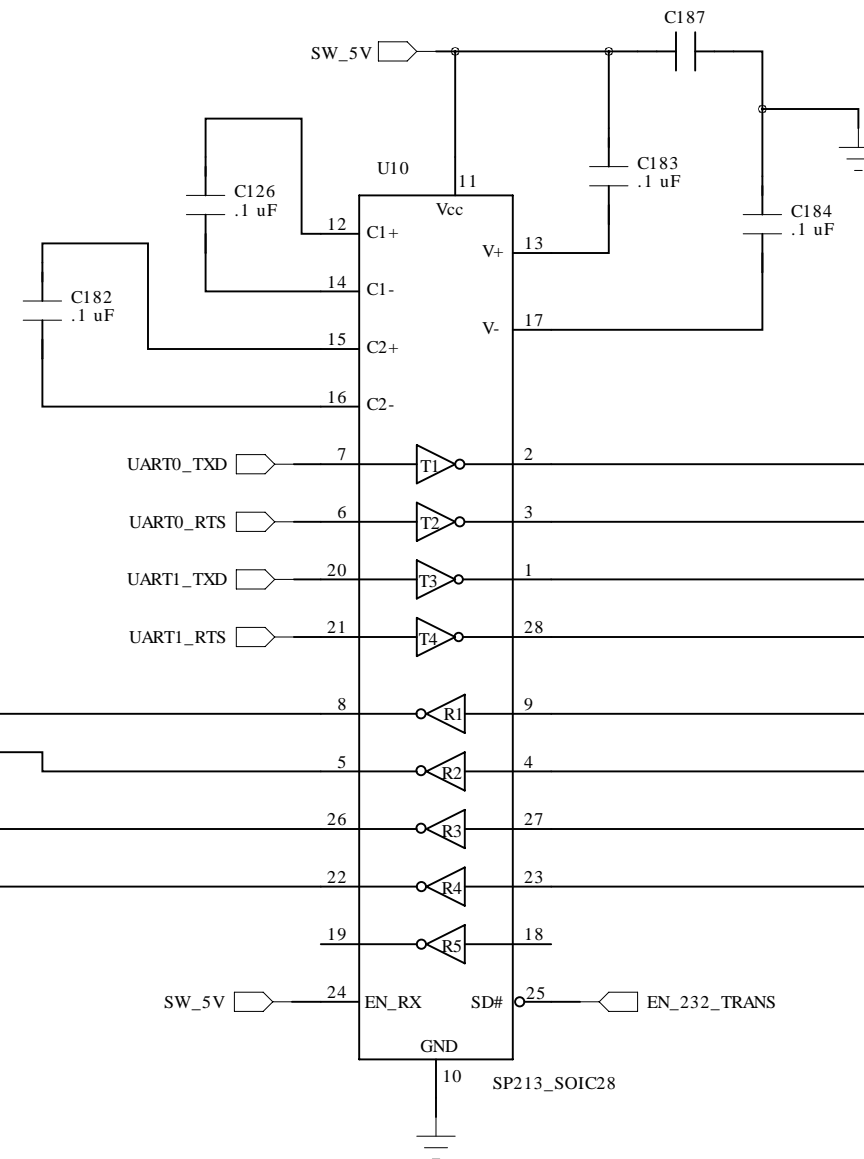
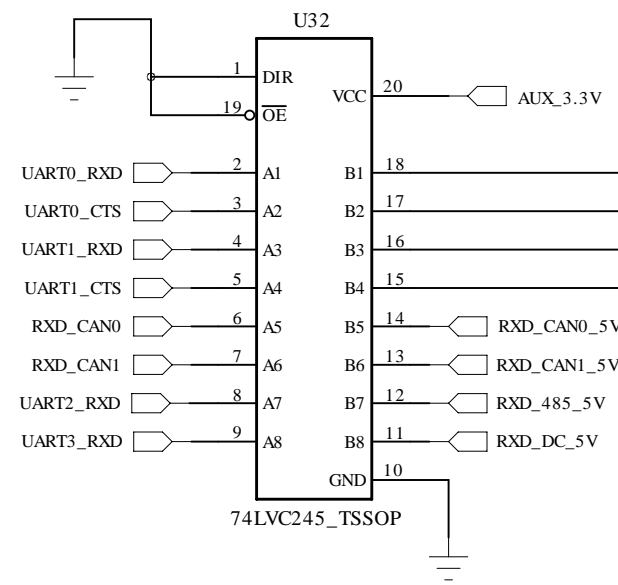
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RS-232 Ports

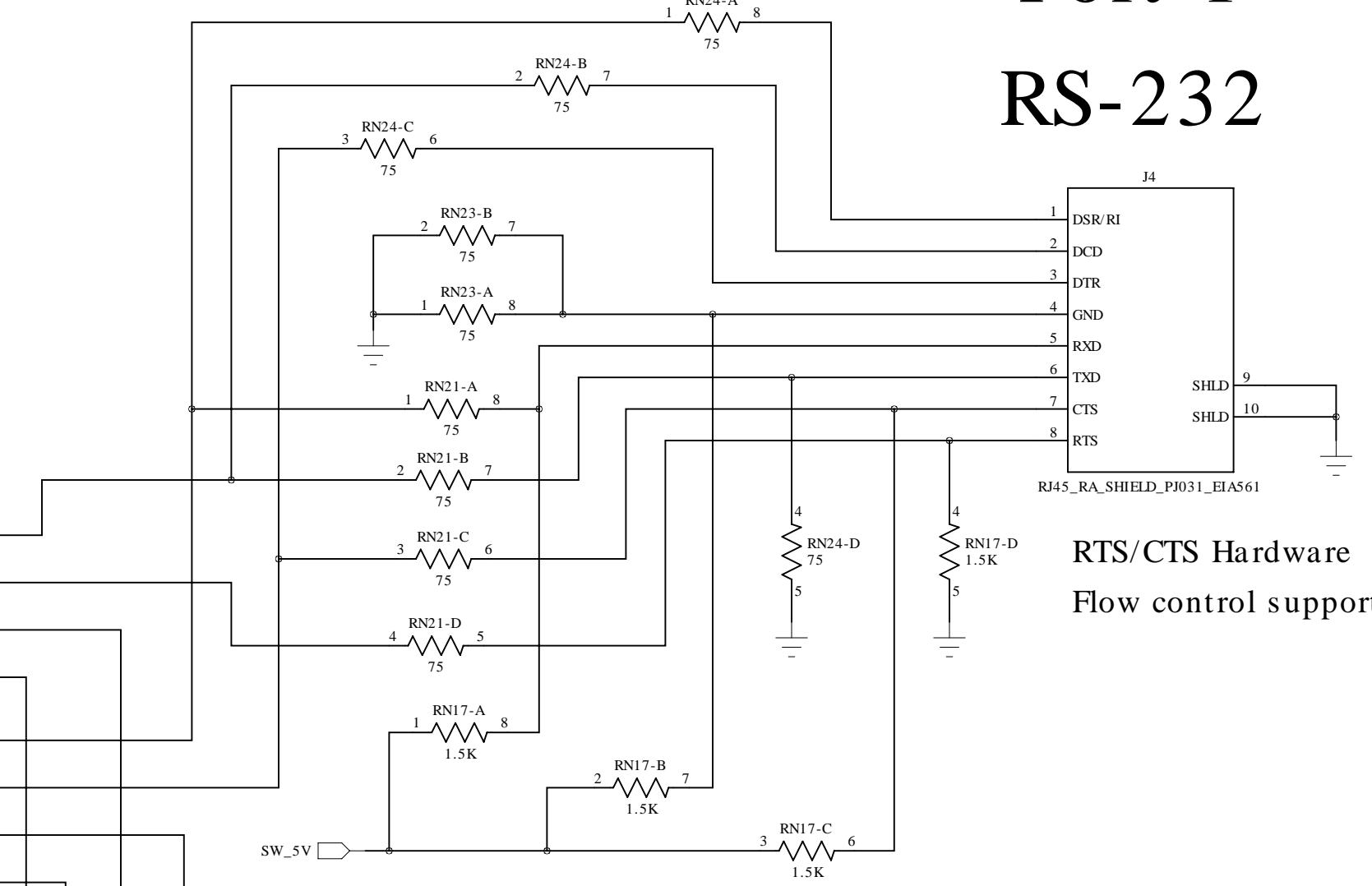
RS-232 Transceiver

3.3V <-- 5V

Level shifter

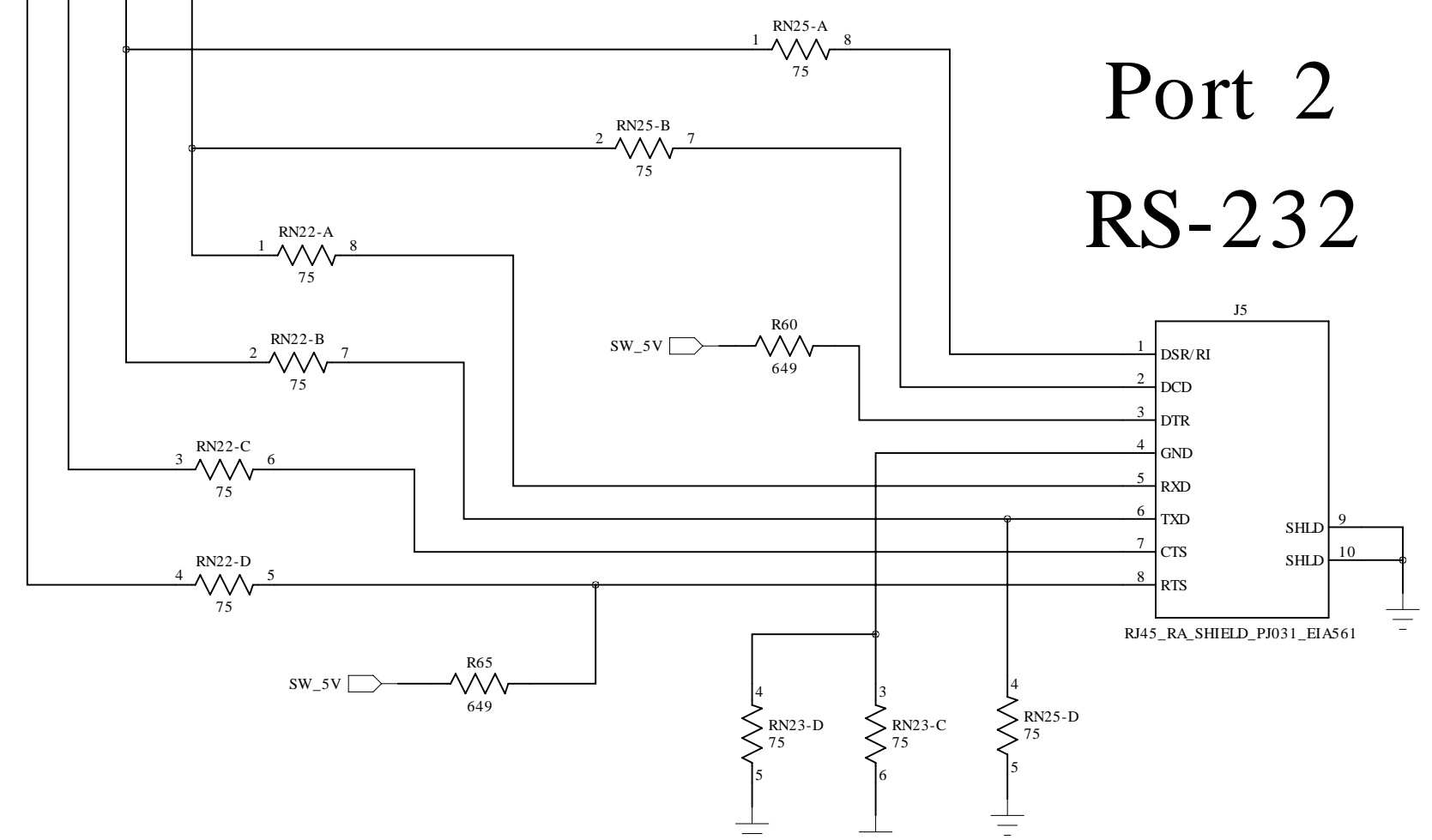


Port 1
RS-232



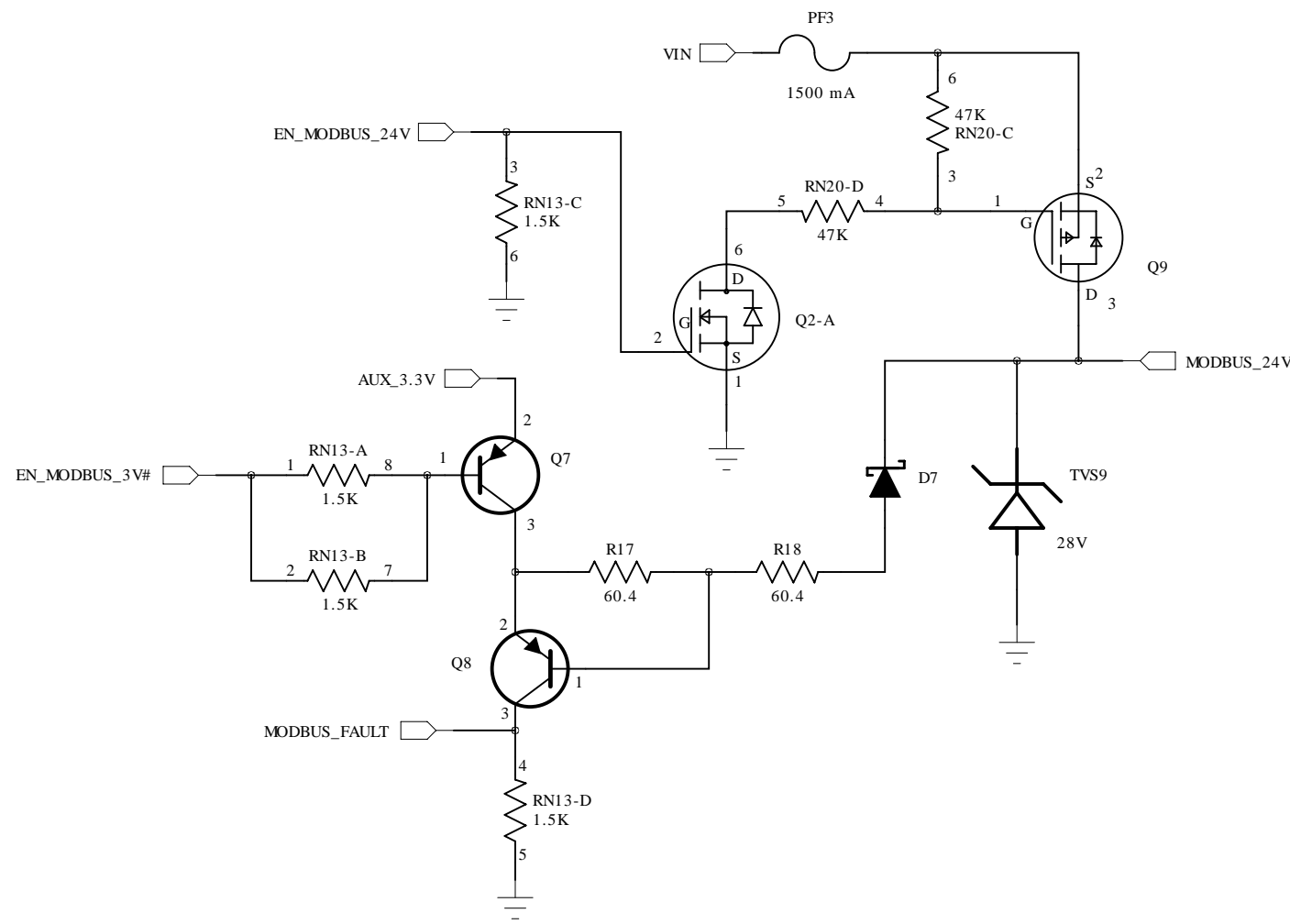
RTS/CTS Hardware
Flow control supported

Port 2
RS-232

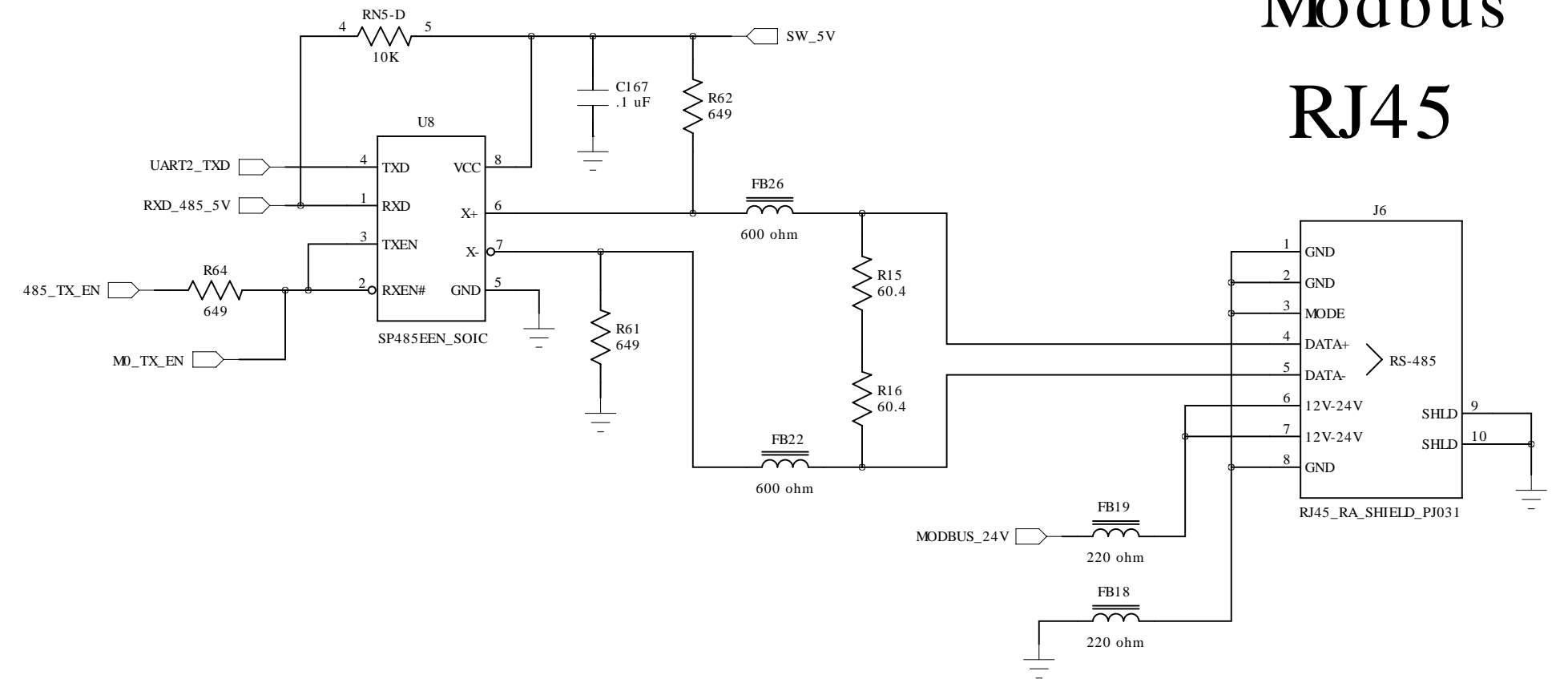


Mod Bus RS-485 and CAN Port

Modbus Power Switch

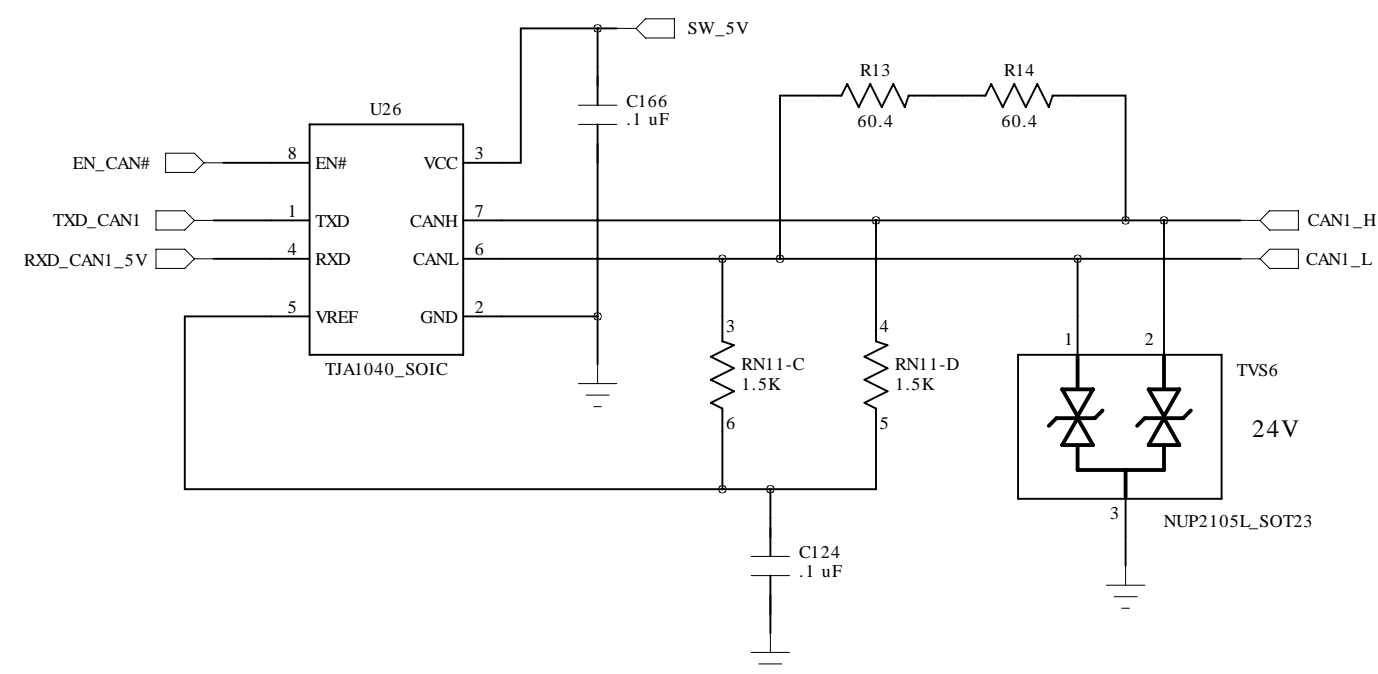


RS-485 Driver

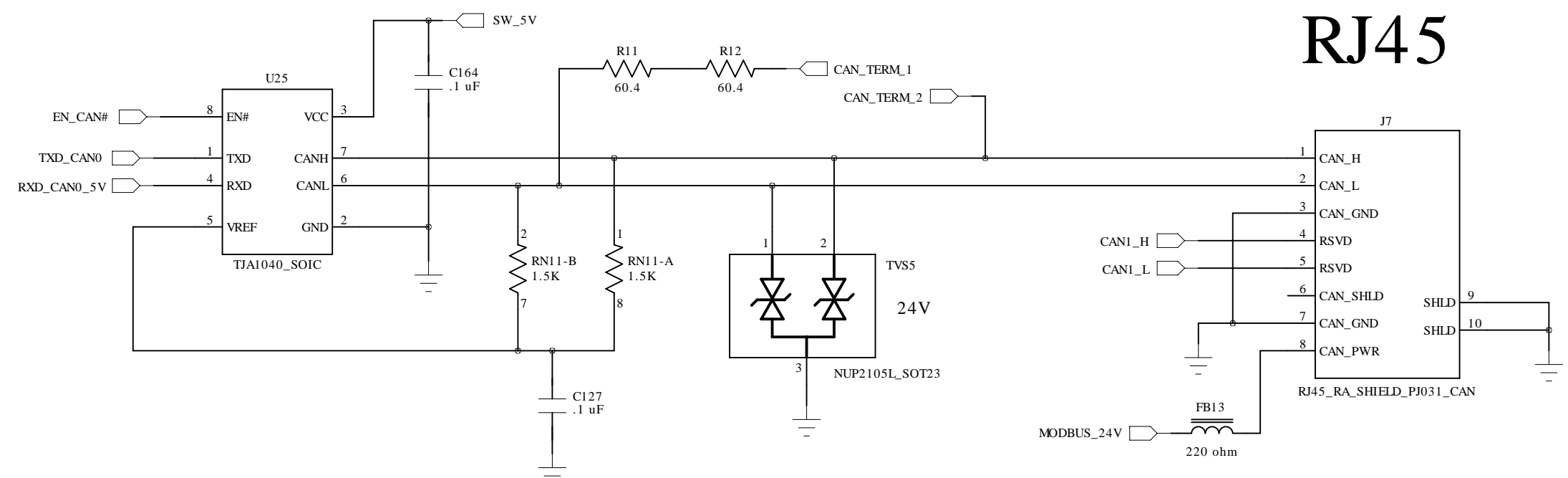


Modbus RJ45

CAN_1 Tranceiver



CAN_0 Tranceiver



CAN RJ45

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