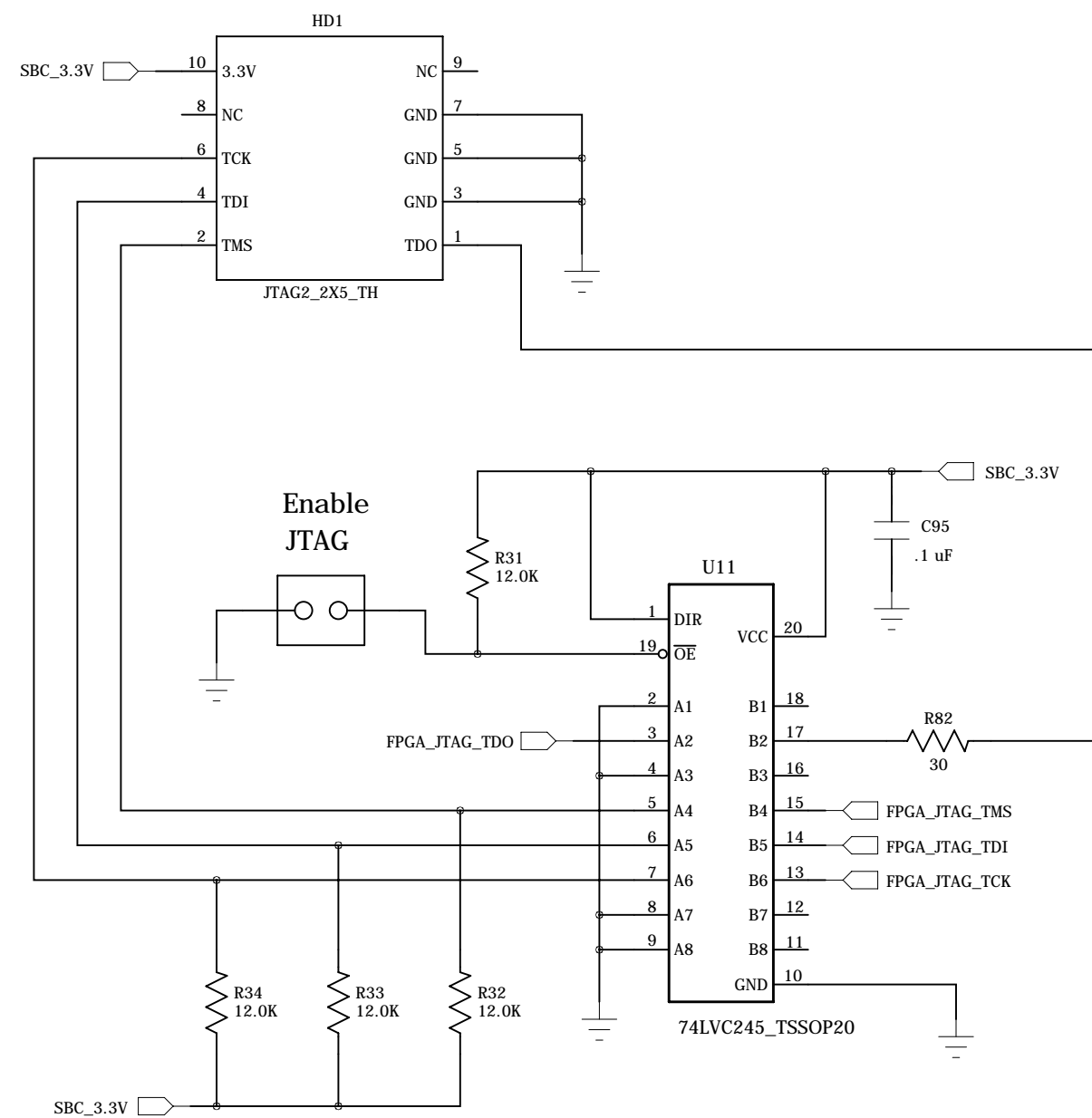


Changes from TS-8500 to TS-8550

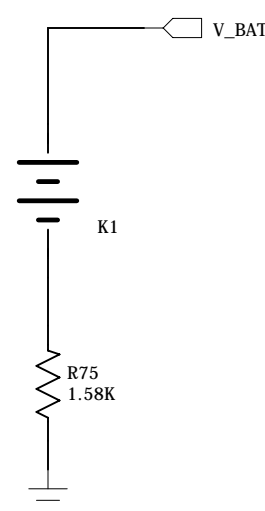
Changed primary MagJack to 1 Gigabit
Added 2nd MagJack
Removed USB Device port
Fixed CAN problem with TS-4200 (add res)
SATA pins changed on CN2
Add caps to SATA Diff pairs
Allow half-size PCIe conn.
Change to different 5V reg
Add TS-4900 SPI Flash for booting
Add 2x10 JTAG Header (for CPU)
Remove PCIe clock generator
Add USB Hub - 3 external Host ports
Add USB interface to mini-PCIe
Add 1.5V Reg. to mini-PCIe
Remove Temp sensor
Add Bias Resistors for TS-4900 Boot
Change board ID to Hex 13
Add Test Point hooks for GND ?

Technologic Systems	Date	May 8, 2014
Title: TS-8550 Documentation		
Rev: A	Designer	Sheet 1 of 9

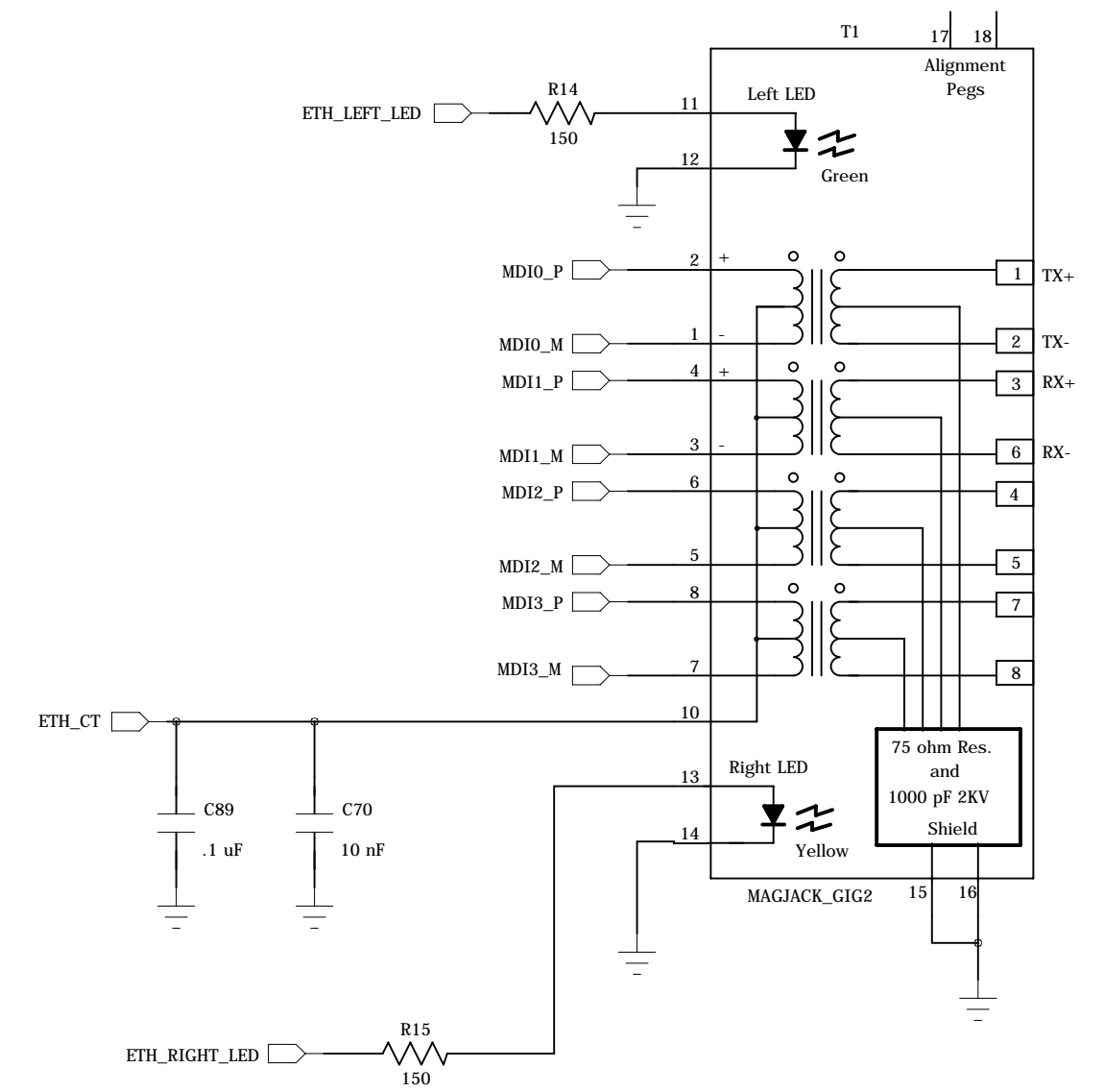
FPGA JTAG Header



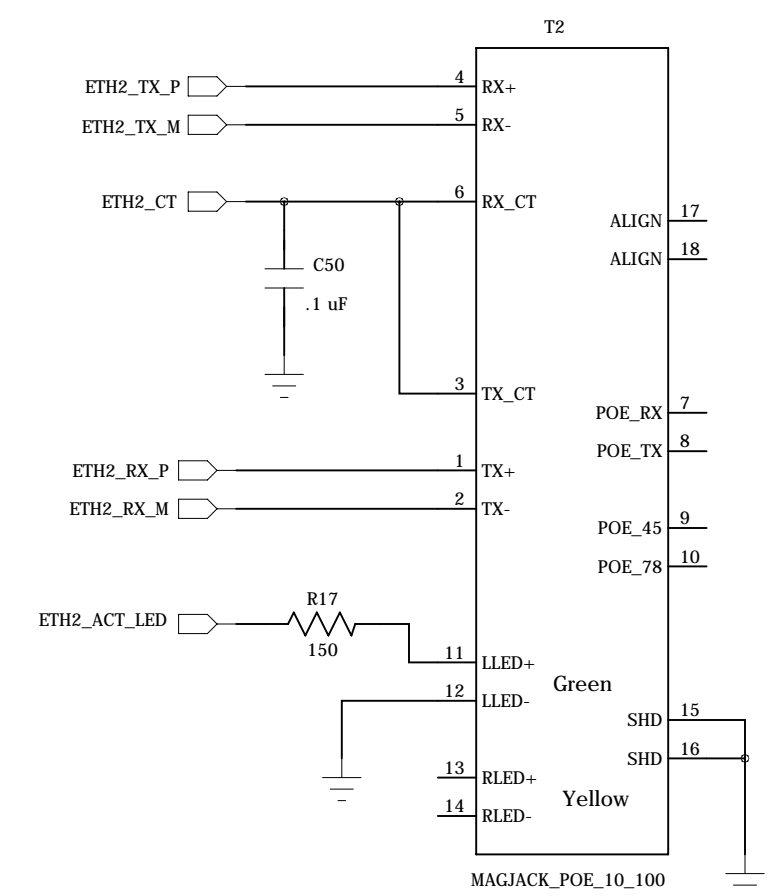
RTC Battery



Gig MagJack

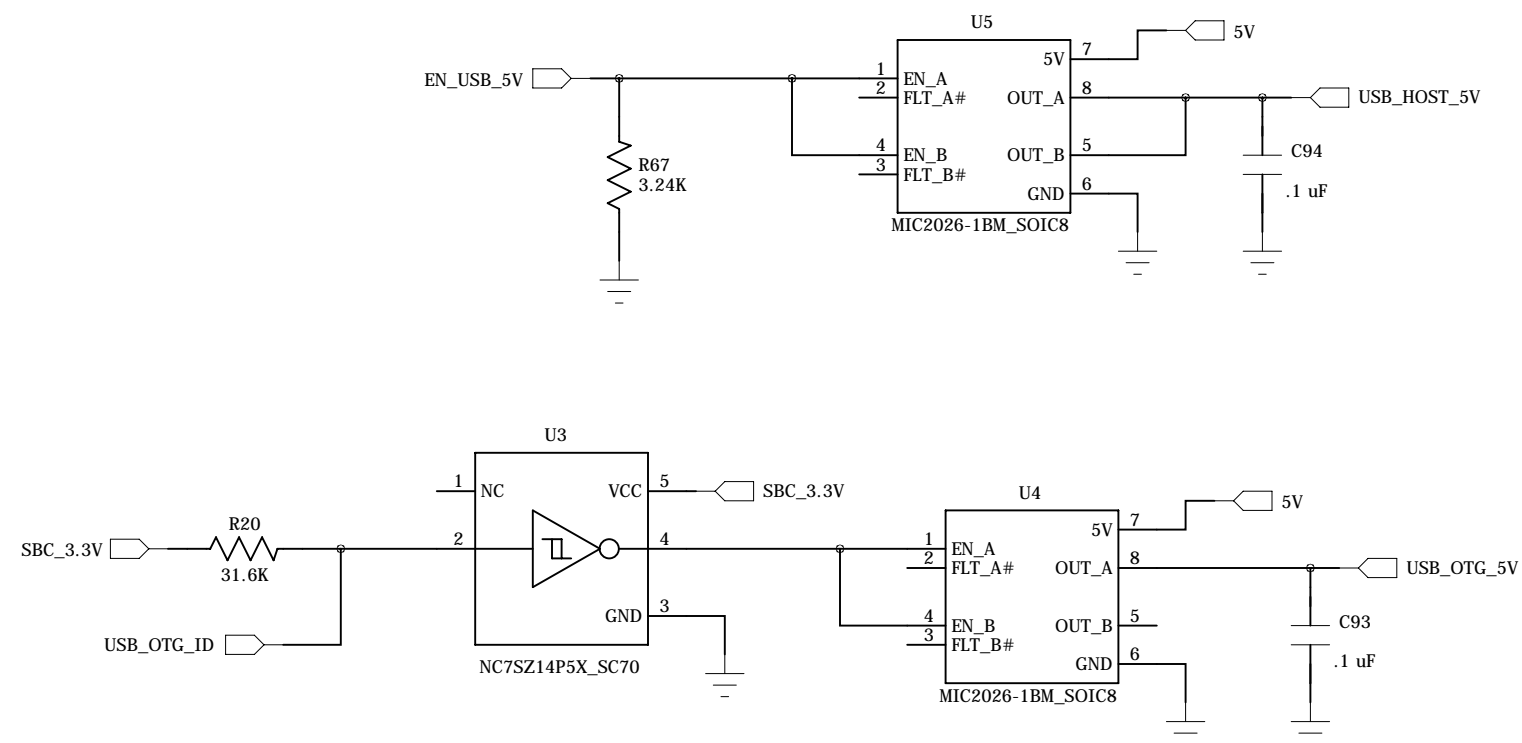


10/100 MagJack

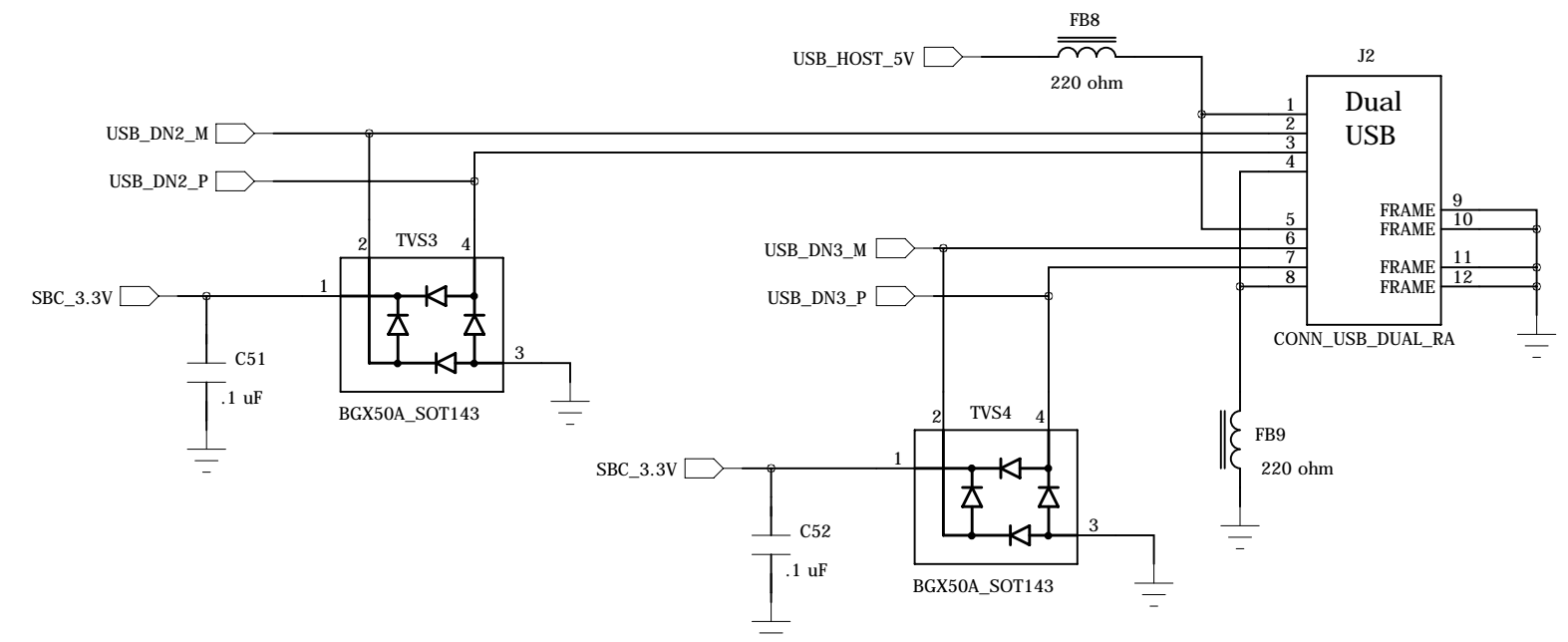


Swapped RX and TX Pairs

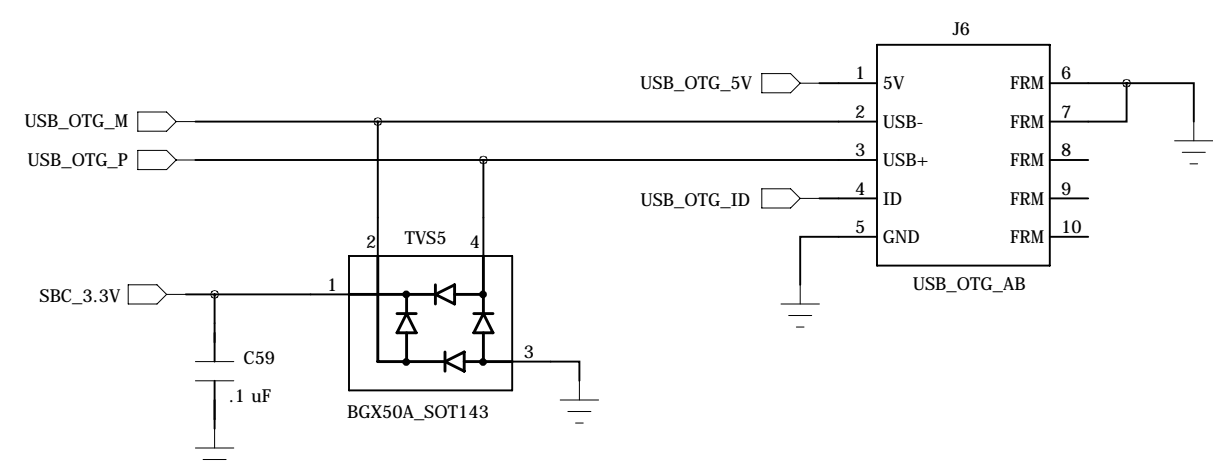
USB Power Switches



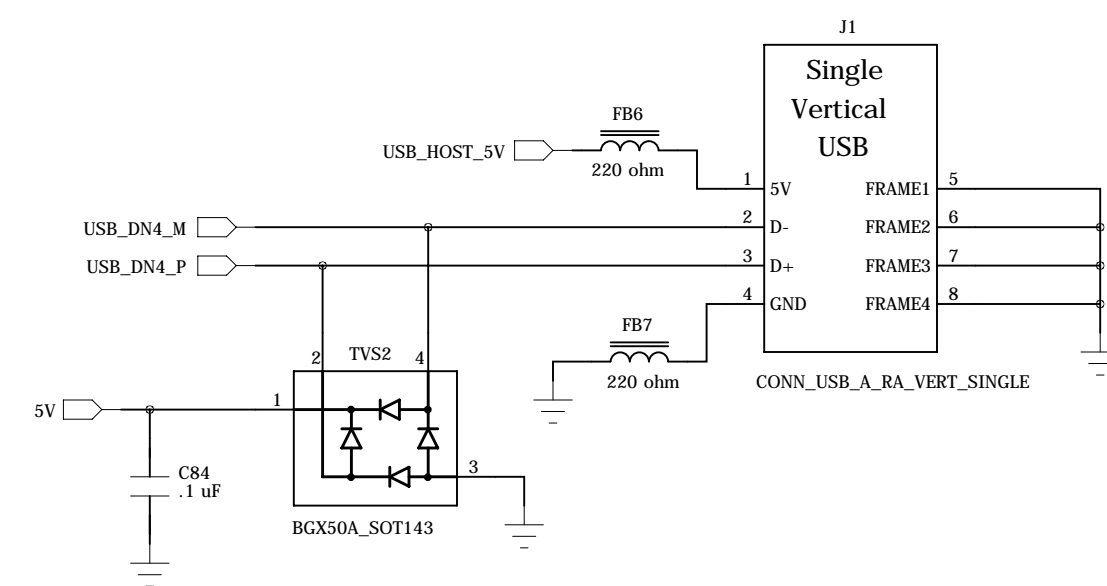
Dual Host USB



USB Micro A/B OTG Port



Host USB

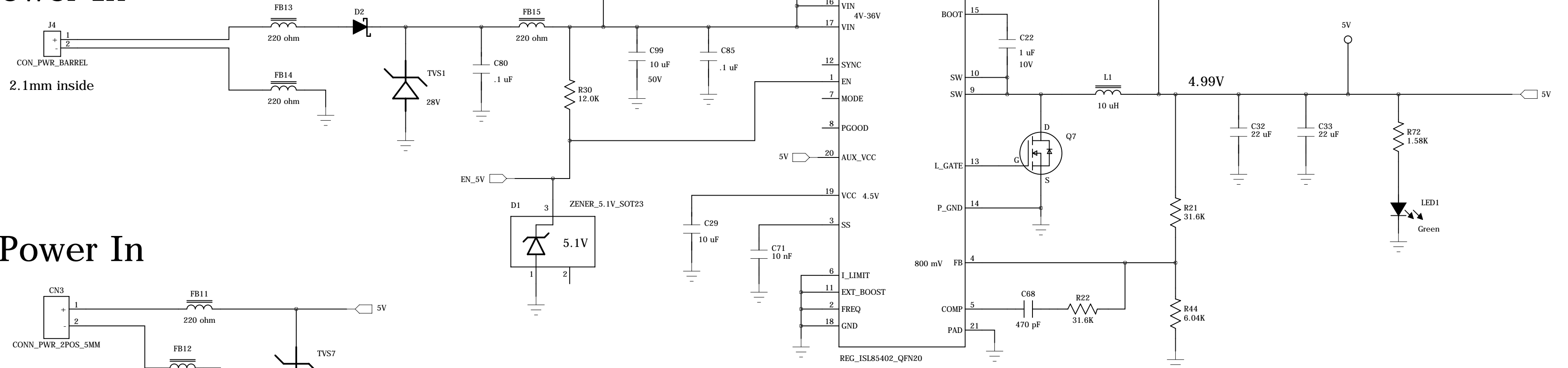


Technologic Systems		Date May 8, 2014
Title: TS-8550 USB Ports, USB Power		
Rev: A	Designer	Sheet 3 of 9

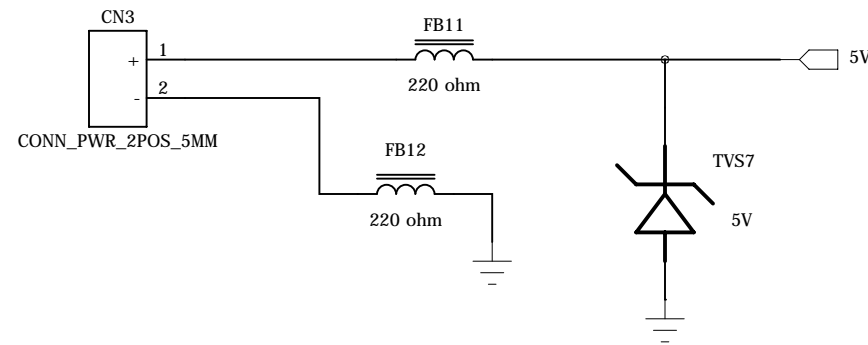
5V Power Supply (2000 mA)

8V to 28V

Power In



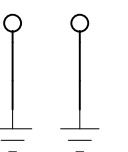
5V Power In



5011K-ND = Black

.063 hole

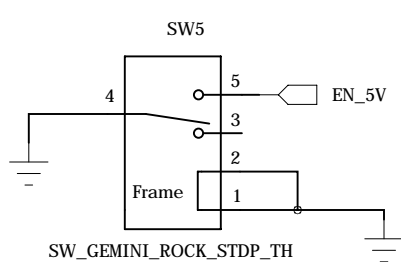
GND



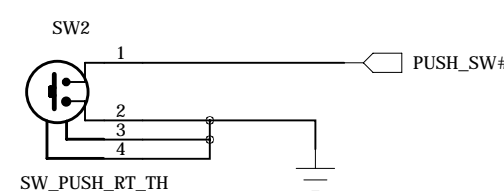
3.3V

SBC_3.3V

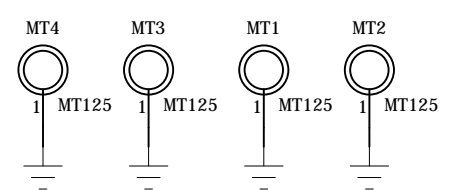
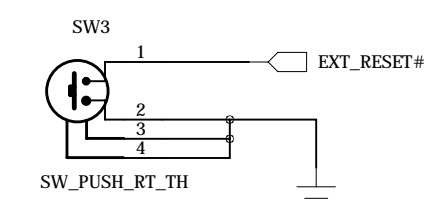
Power Switch



Push Switch



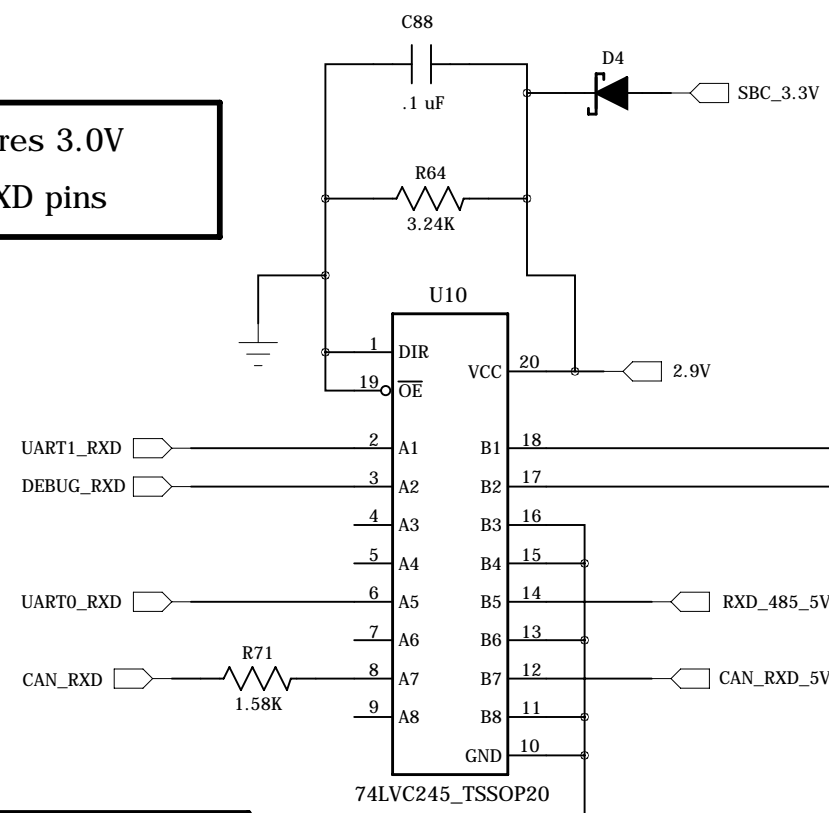
Reset Switch



Technologic Systems	Date May 8, 2014
Title: TS-8550 Power IN, 5V Reg, Switches	
Rev: A	Designer RLM Sheet 4 of 9

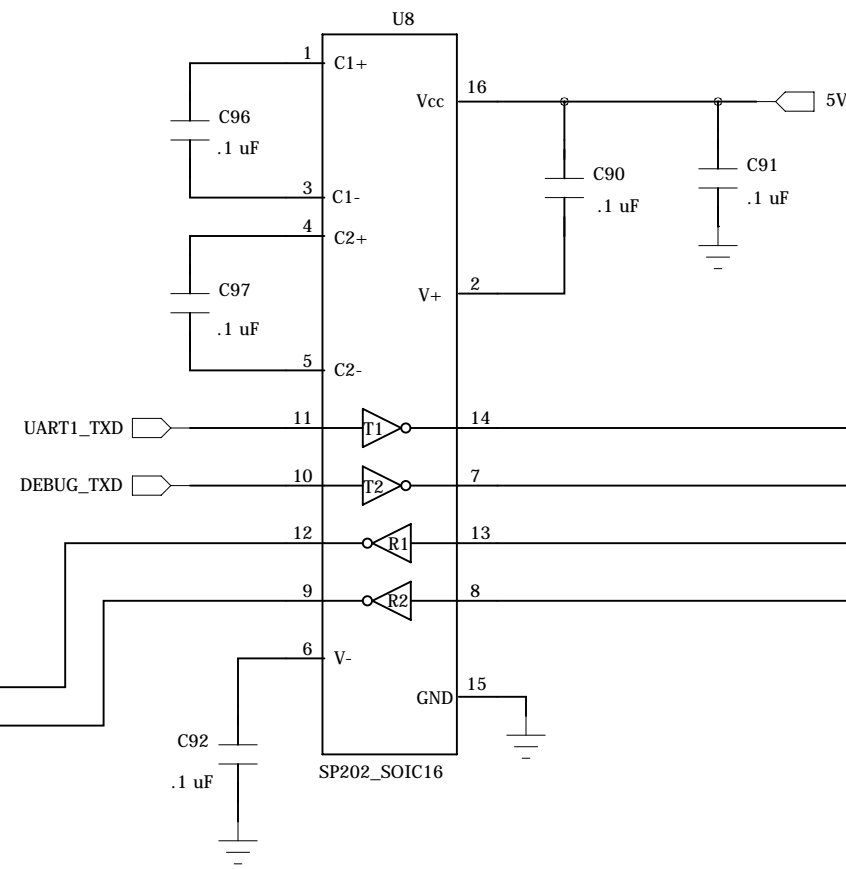
2.9V <-- 5V Level shifter

TS-4800 requires 3.0V
max on the RXD pins

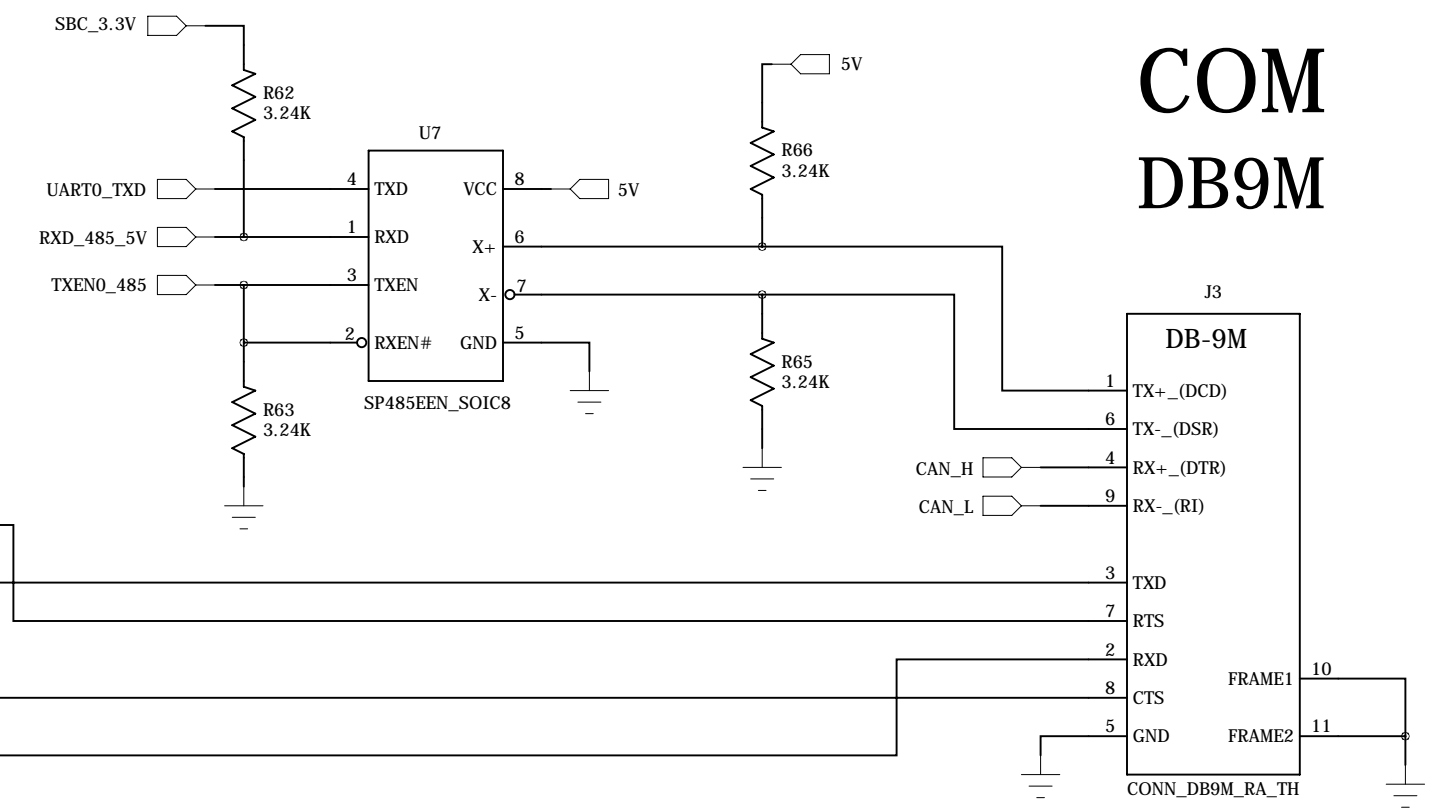


TS-4200 has 1.8V levels
on the CAN RXD

RS-232 Transceiver



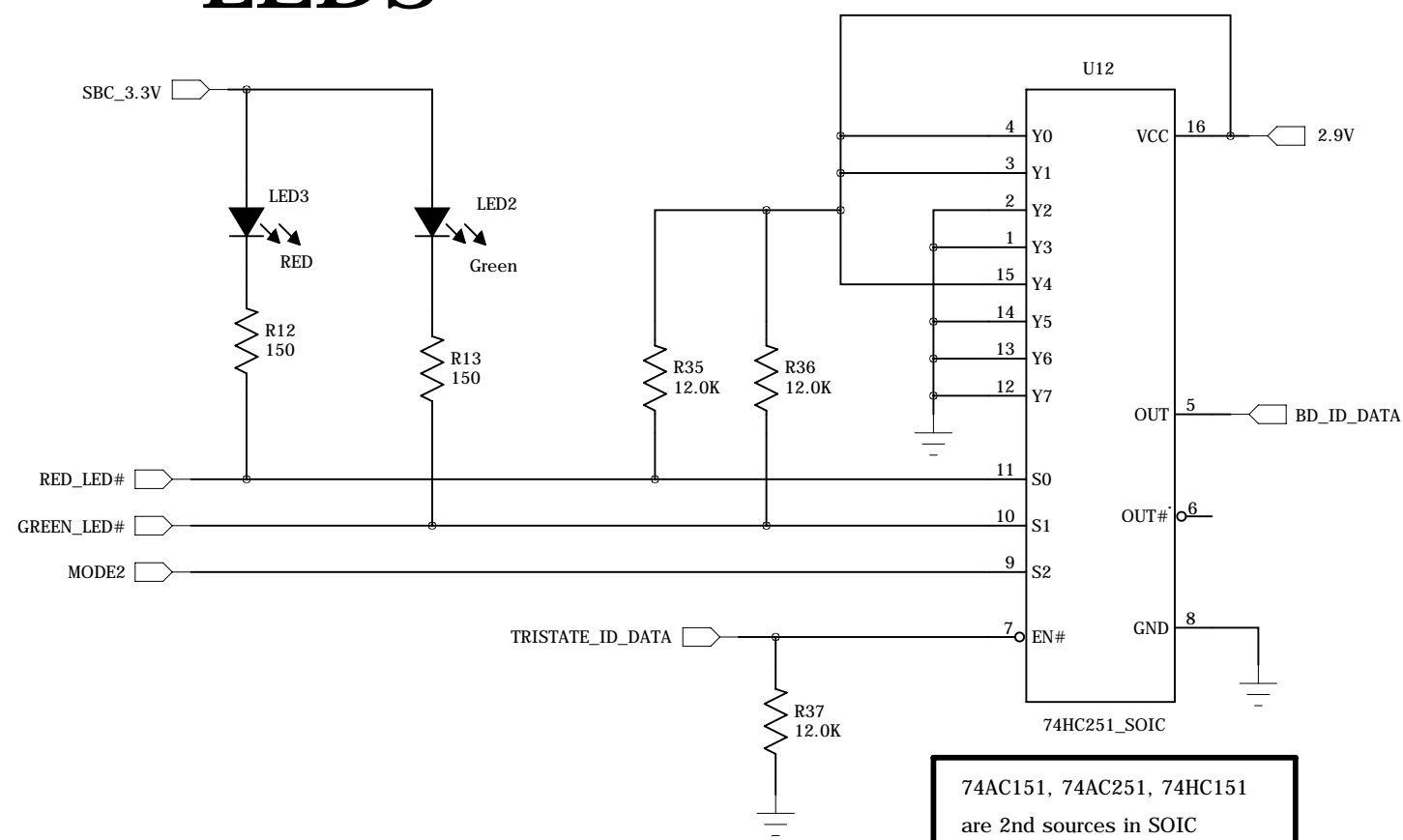
RS-485 Driver



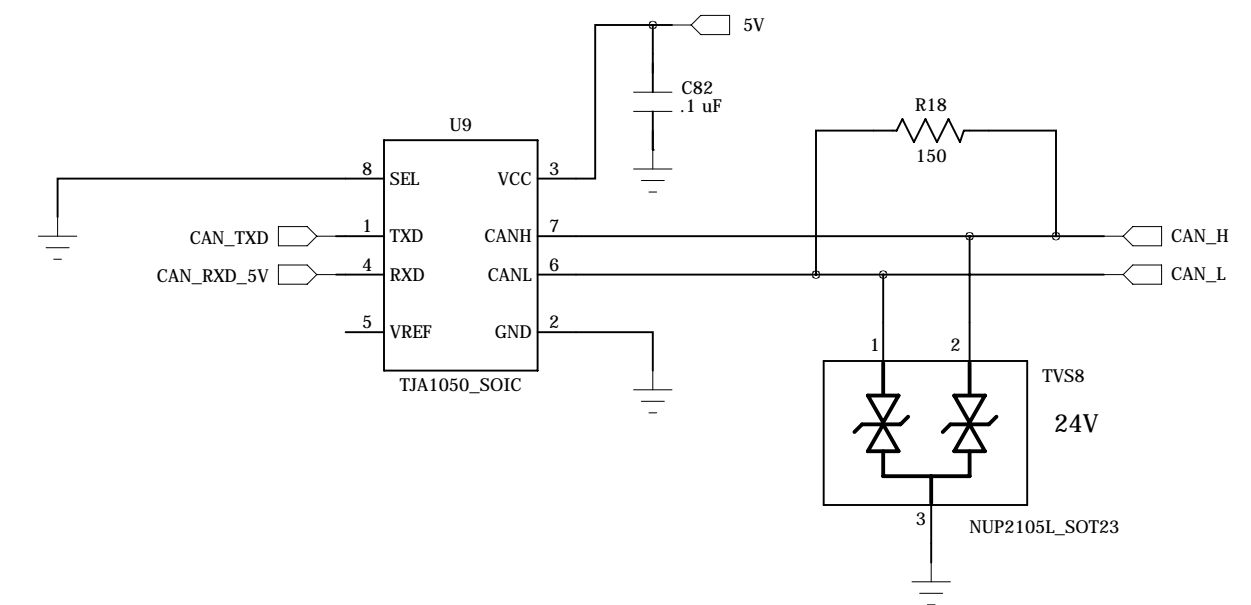
COM DB9M

LEDs

Board ID = 19

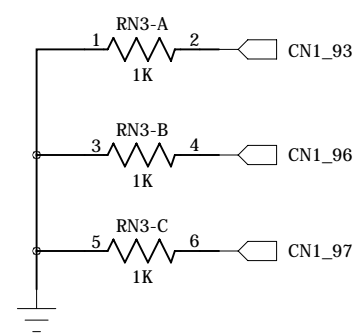
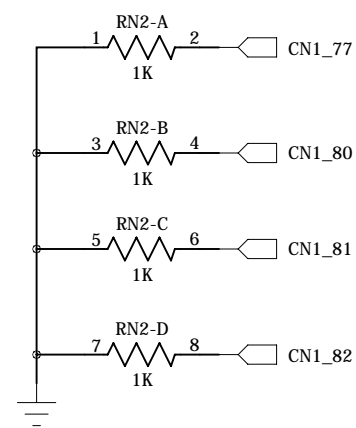
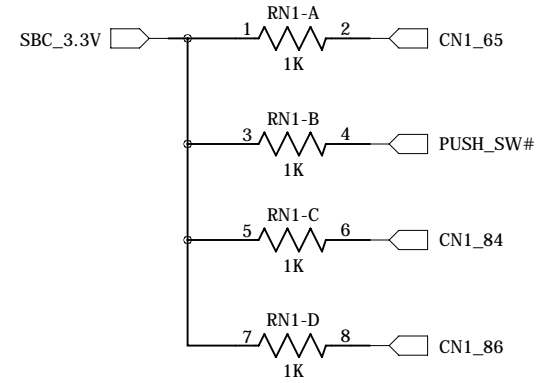


CAN Transceiver

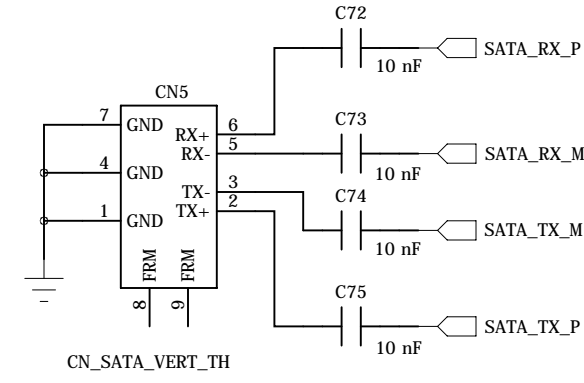


Technologic Systems	Date May 8, 2014
Title: TS-8550 COM Port, CAN, RS-485, ID	
Rev: A	Designer RLM Sheet 5 of 9

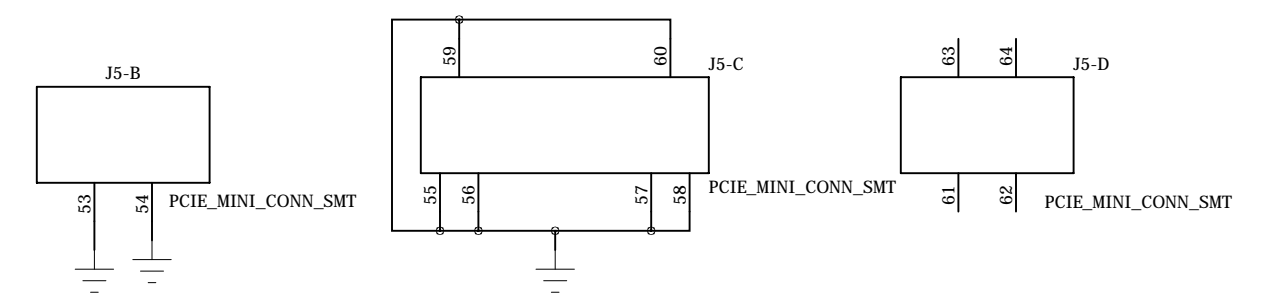
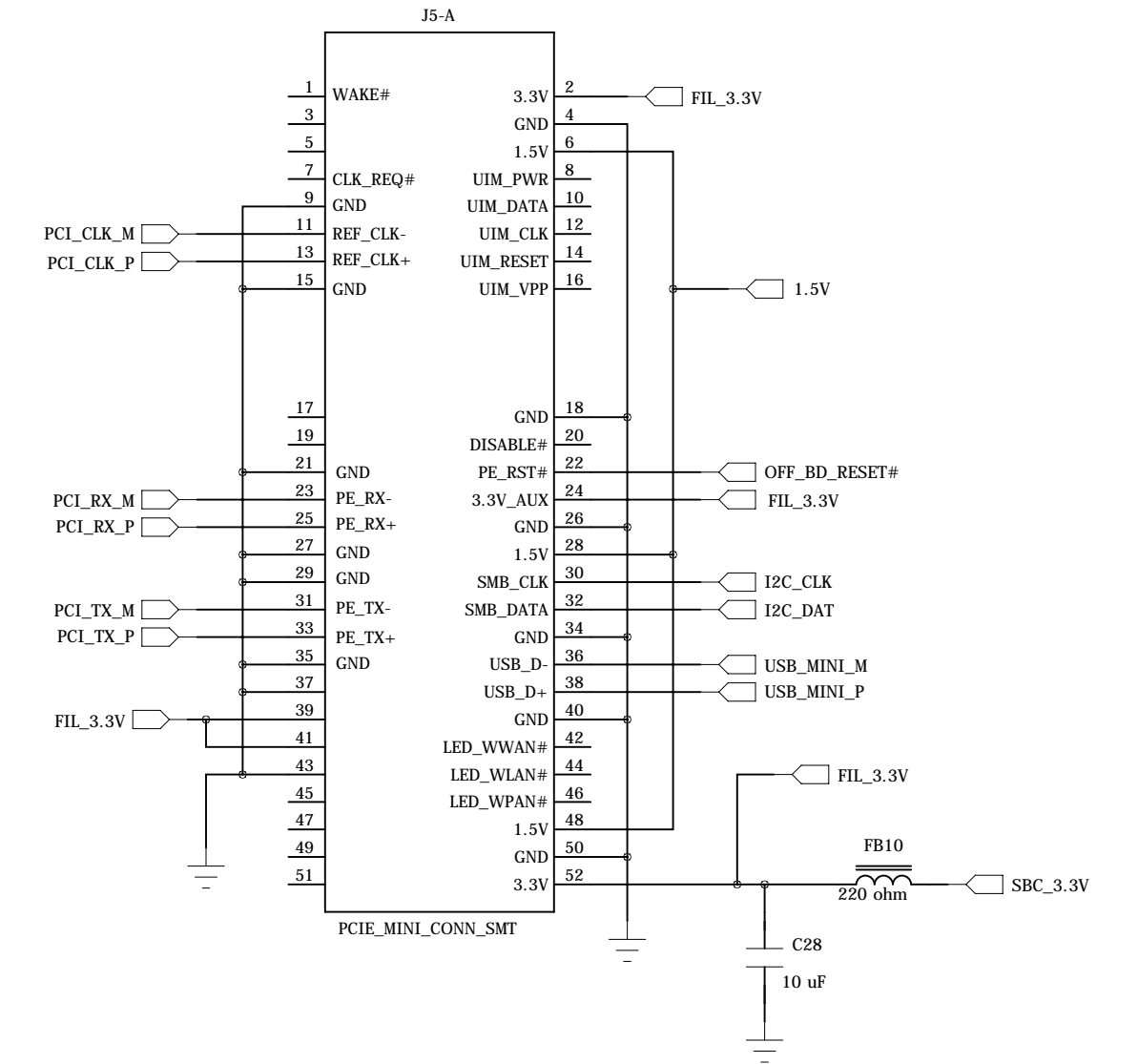
Bias Res.



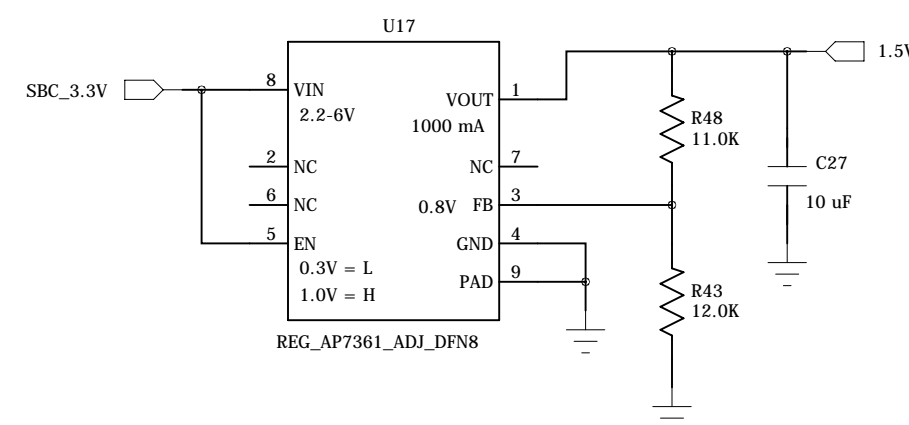
SATA Port



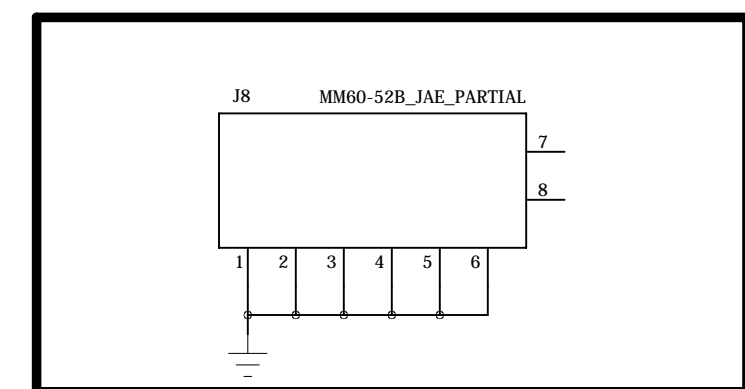
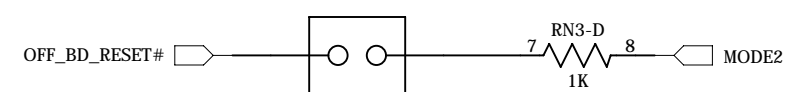
Mini PCIe Socket



Mini PCIe 1.5V Reg.



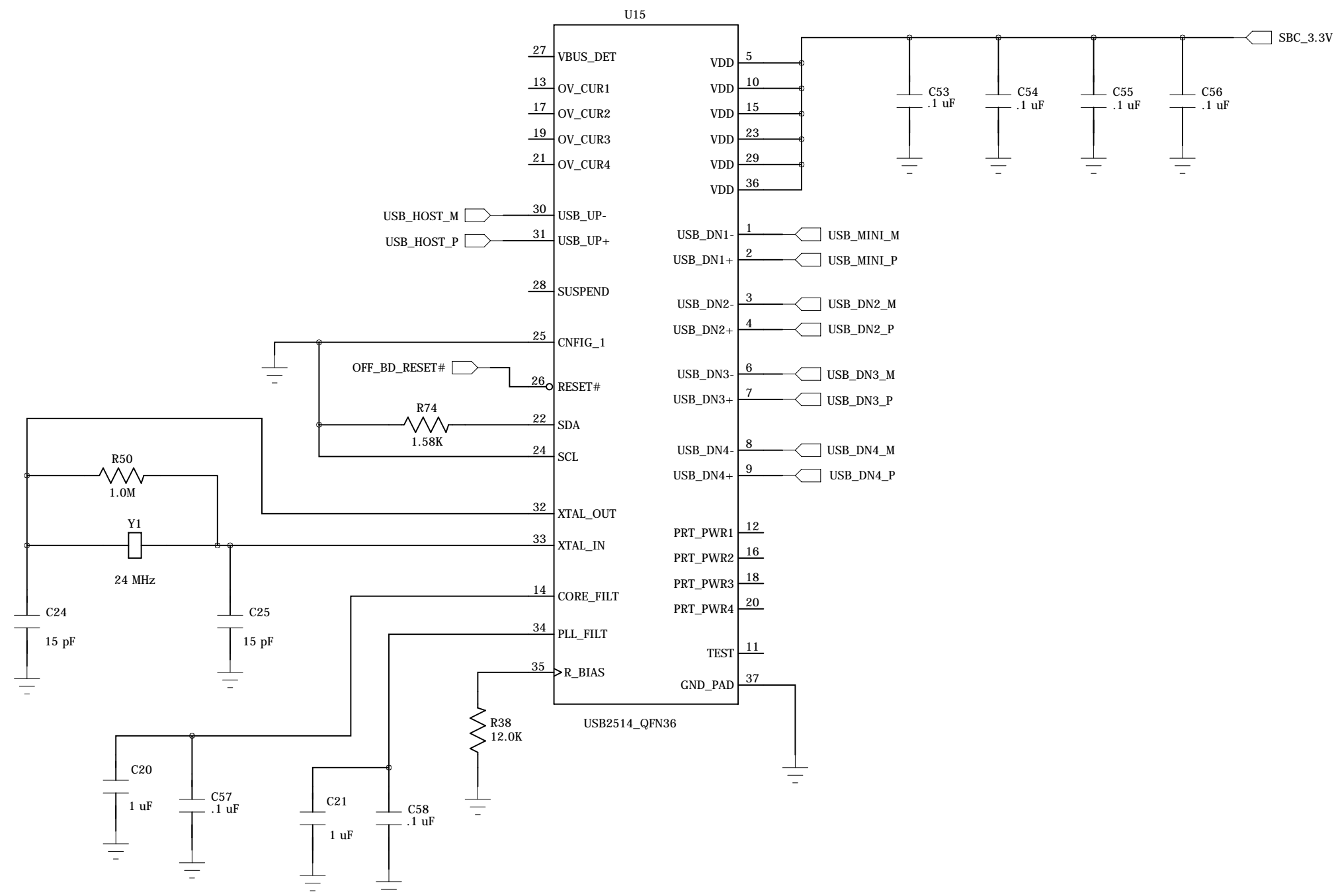
Boot to SD



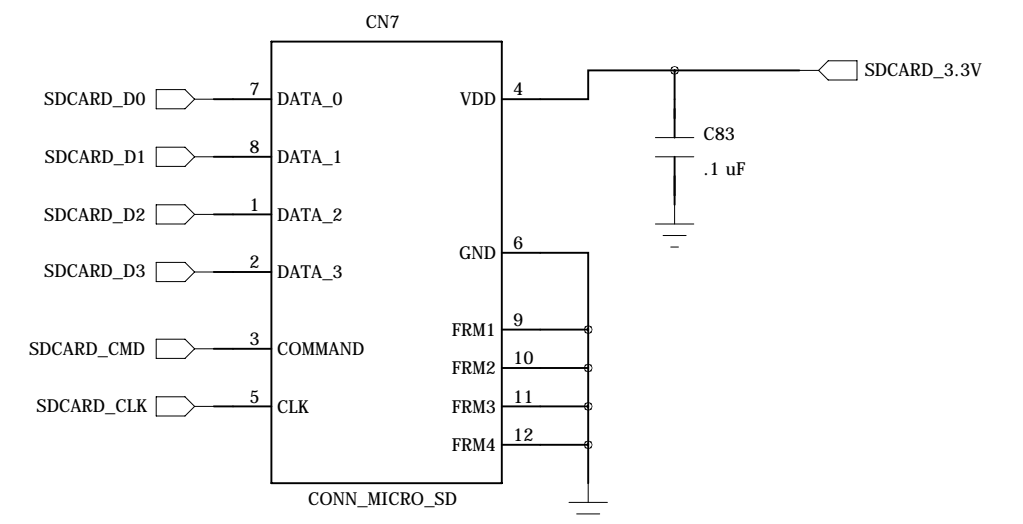
To Support Half-Size Mini-PCIe

Technologic Systems		Date May 8, 2014	
Title: TS-8550 PCIe, SATA, 4900 Bias Res.			
Rev: A	Designer RLM	Sheet 6 of 9	

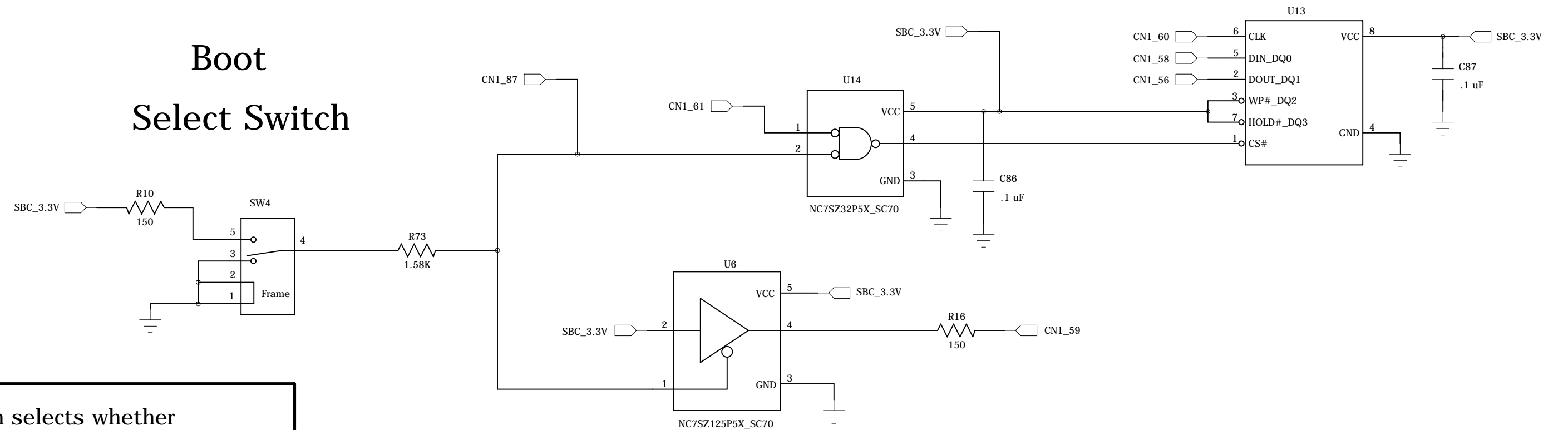
SMSC USB Hub



Micro SD Card Socket



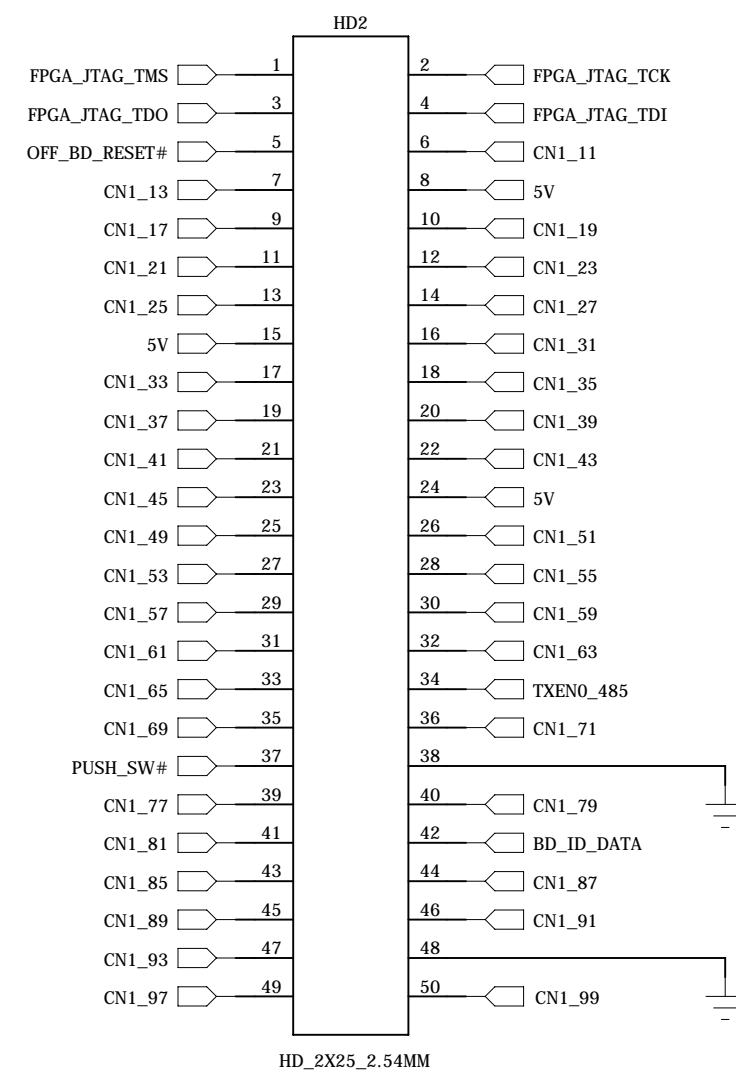
TS-4900 SPI Boot Flash



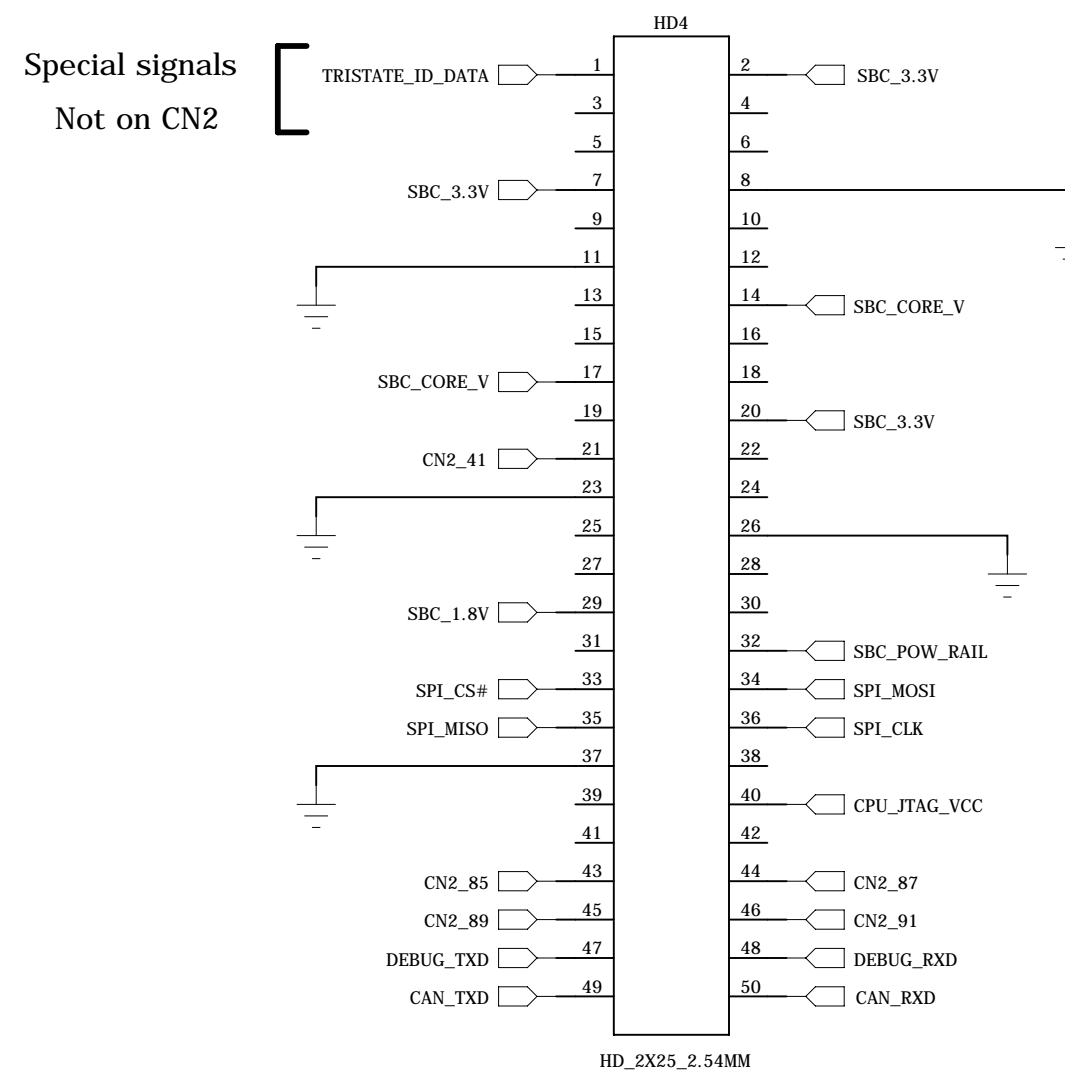
This switch selects whether the TS-4900 SPI Flash or the Base Bd. Flash is used to Boot

CN1_87 allows software to take control of which SPI Flash chip is accessed

CN1 Odd Pins

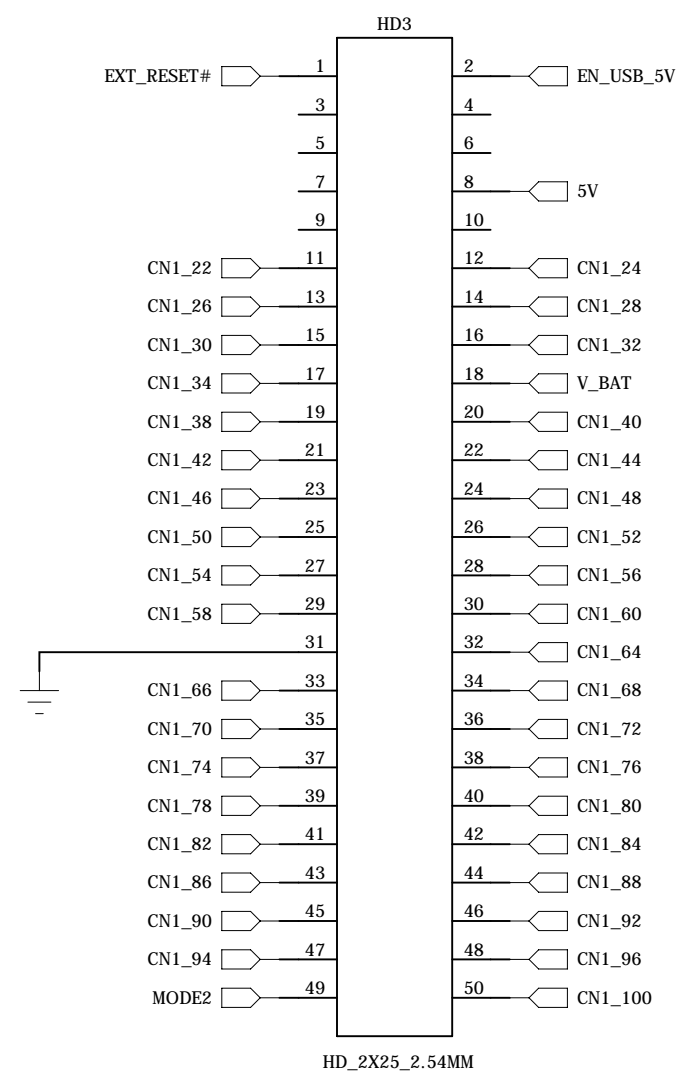


CN2 Odd Pins

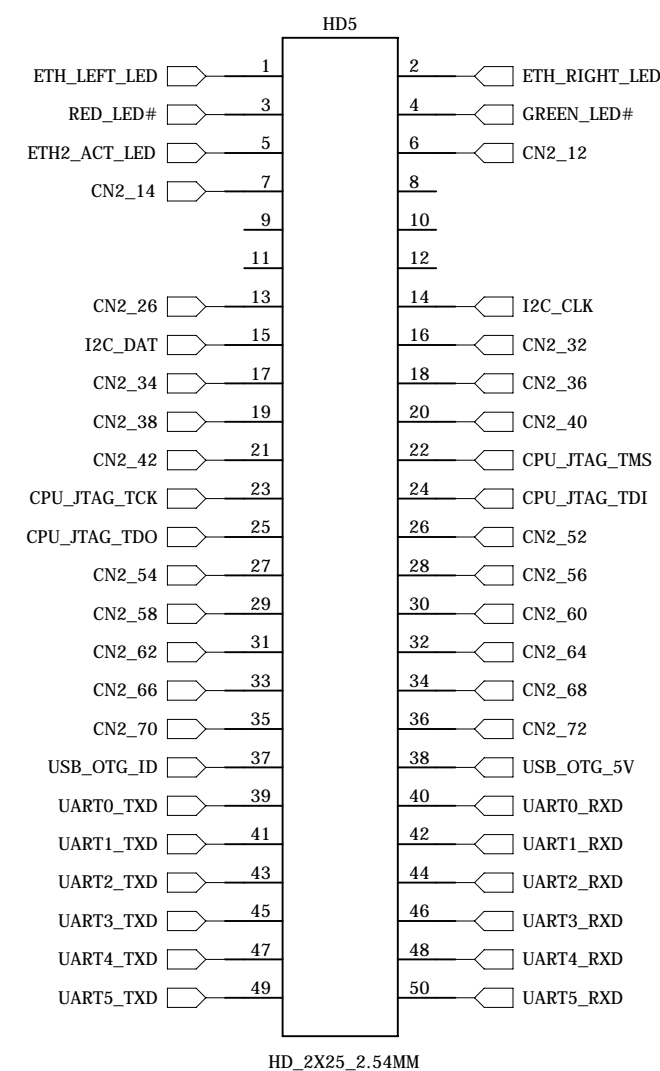


High-speed differential pairs are not routed to these headers
USB, SATA, Ethernet, SD card, PCIe and Ethernet pairs are not connected because this would mismatch the transmission lines.

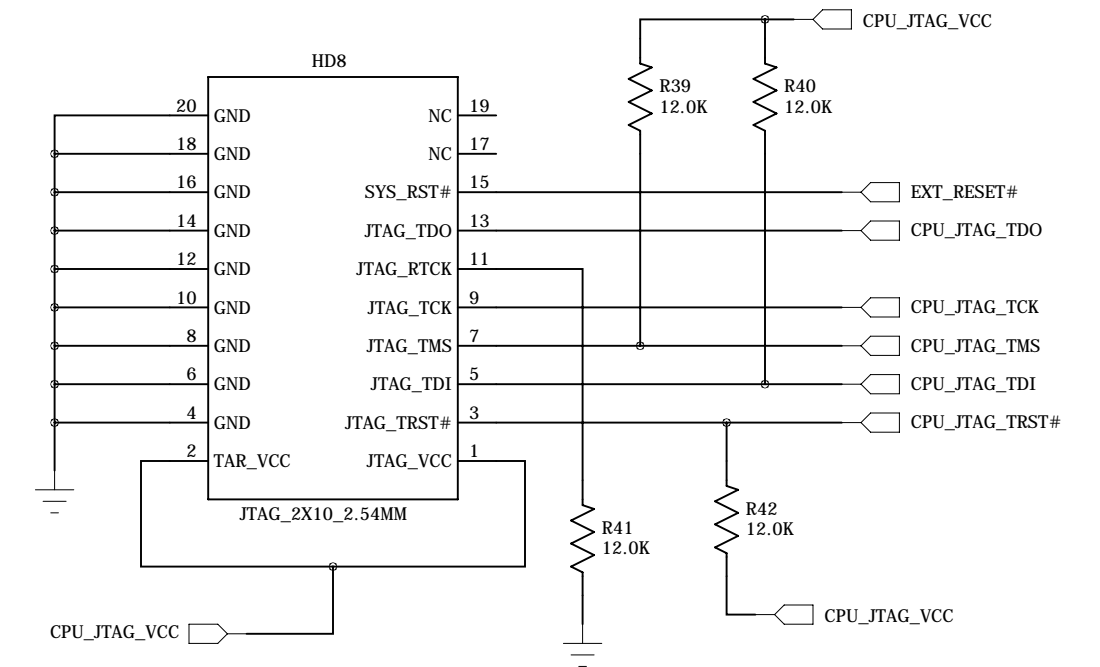
CN1 Even Pins



CN2 Even Pins



CPU JTAG



Two 100-pin Module Connectors

"5V" pins supply all power to the module
Apply 4.5V to 5.5V to these pins

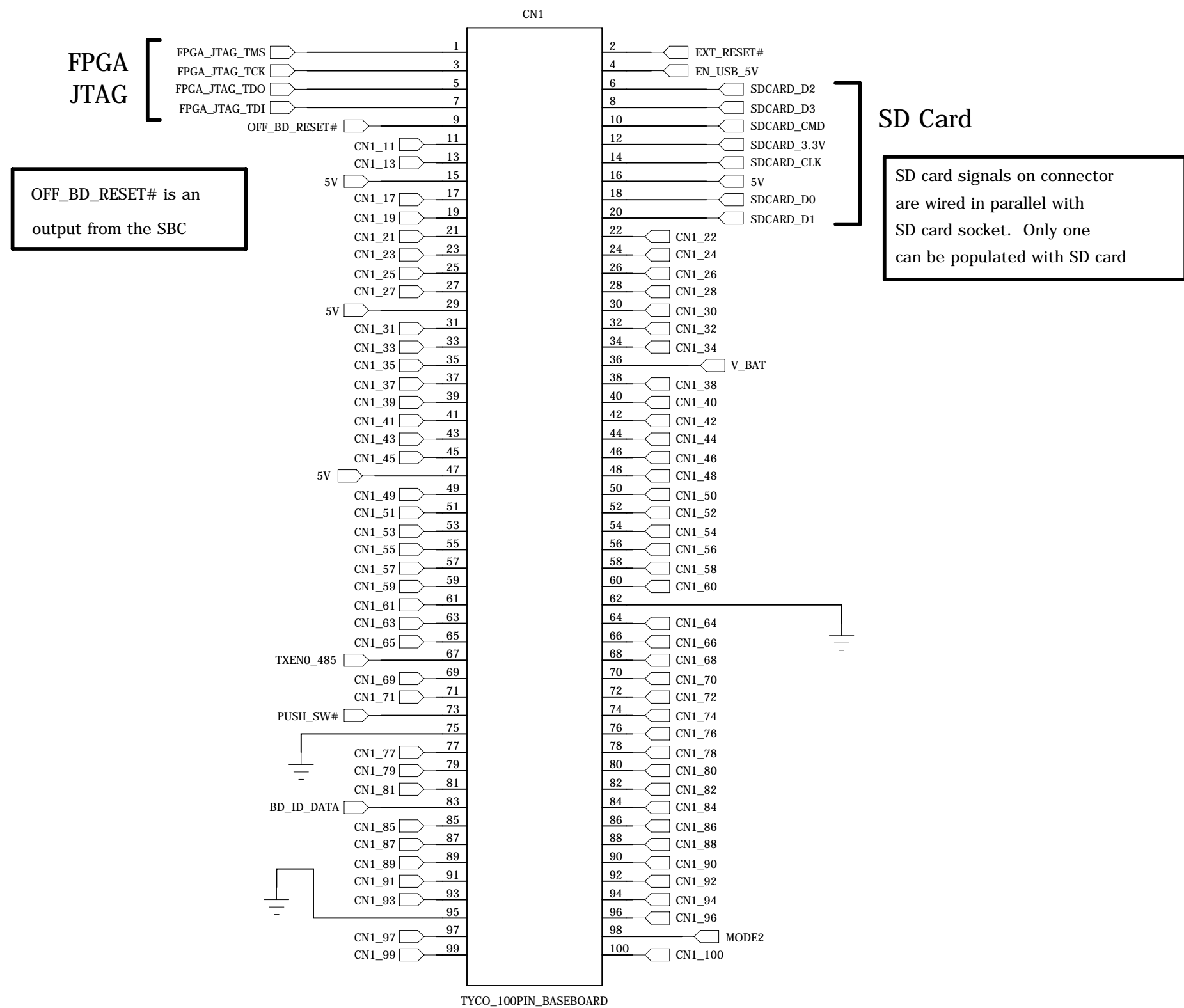
Current drain is < 800 mA
(less than 4 Watts)

EXT_RESET# is an Input to the
SBC used to reboot the CPU

Do not drive active high
(use open drain)

Left

Right



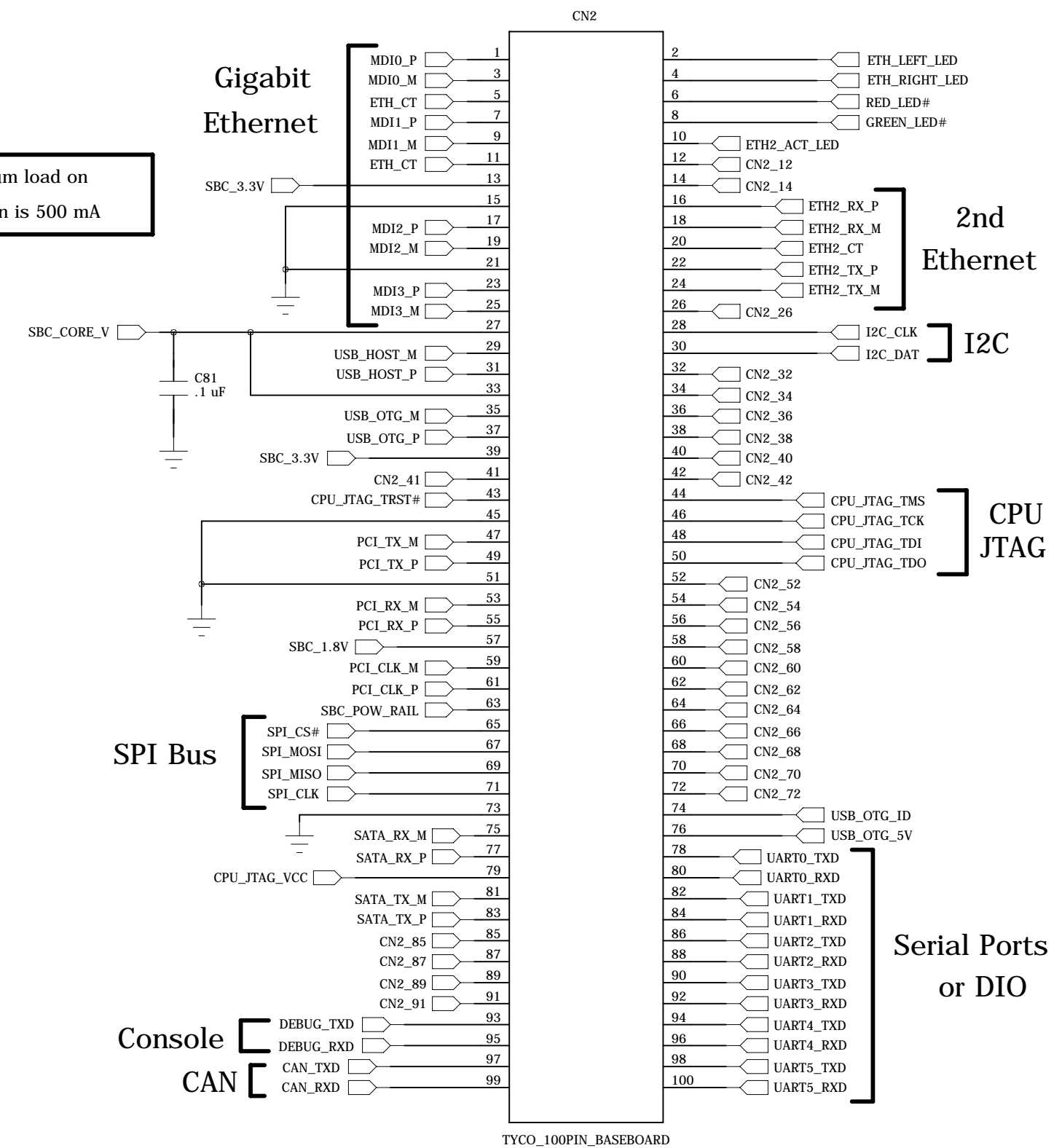
OFF_BD_RESET# is an
output from the SBC

SD Card

SD card signals on connector
are wired in parallel with
SD card socket. Only one
can be populated with SD card

Maximum load on
3.3V pin is 500 mA

CN2_63 ??



Mode 2	Boots from
1	NAND Flash
0	SD Card

MODE2 state is latched prior
to OFF_BD_RESET# deasserted

MODE2 has a 12K PU
on the SBC module