

ODMB7 Radiation Evaluation Test Board

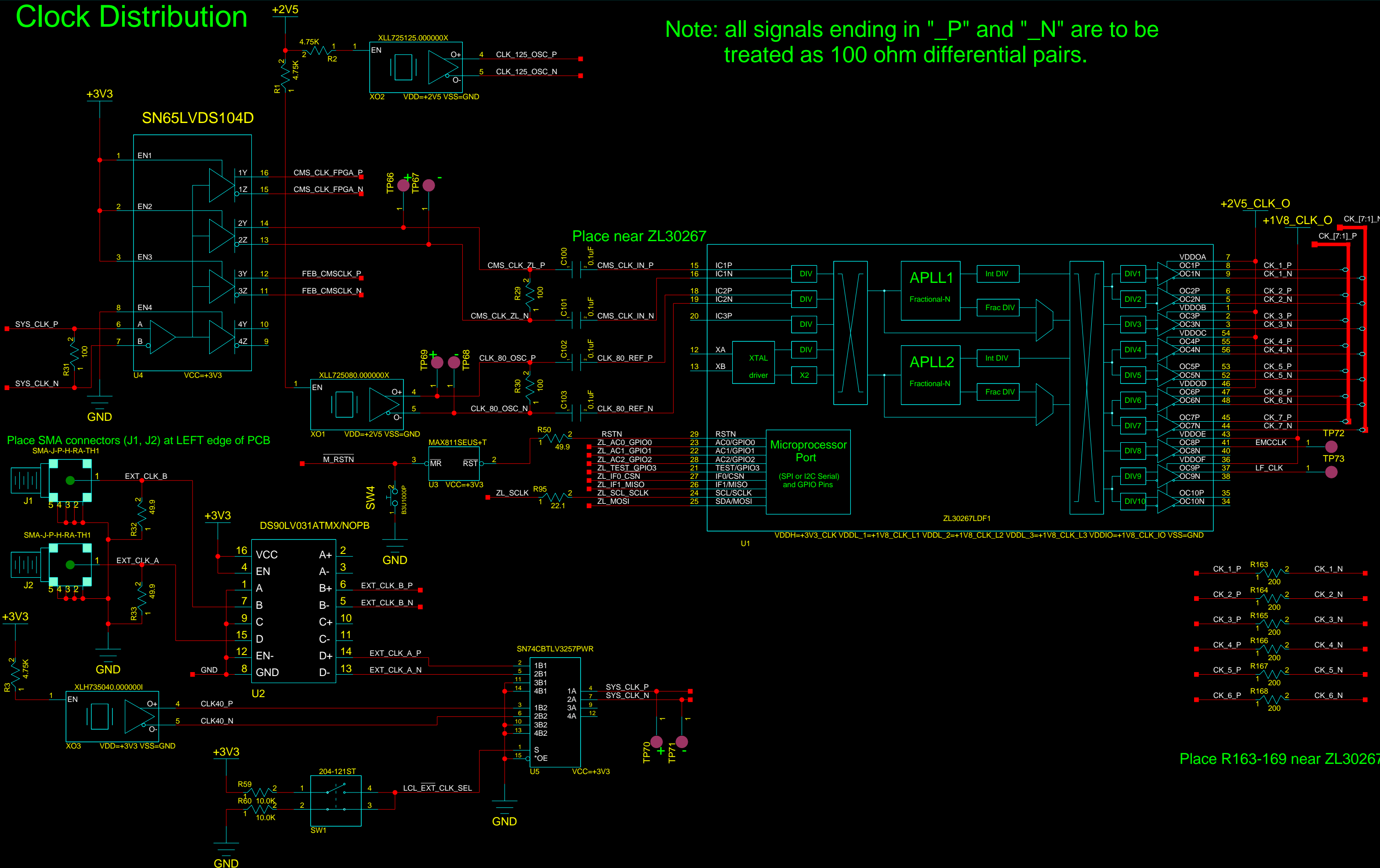
O7_Rad_Eval
Schematic Revision 5

CMS CSC Electronics

PHYSICS DEPARTMENT
THE OHIO STATE UNIVERSITY
191 WEST WOODRUFF AVE
COLUMBUS OHIO 43210

Clock Distribution

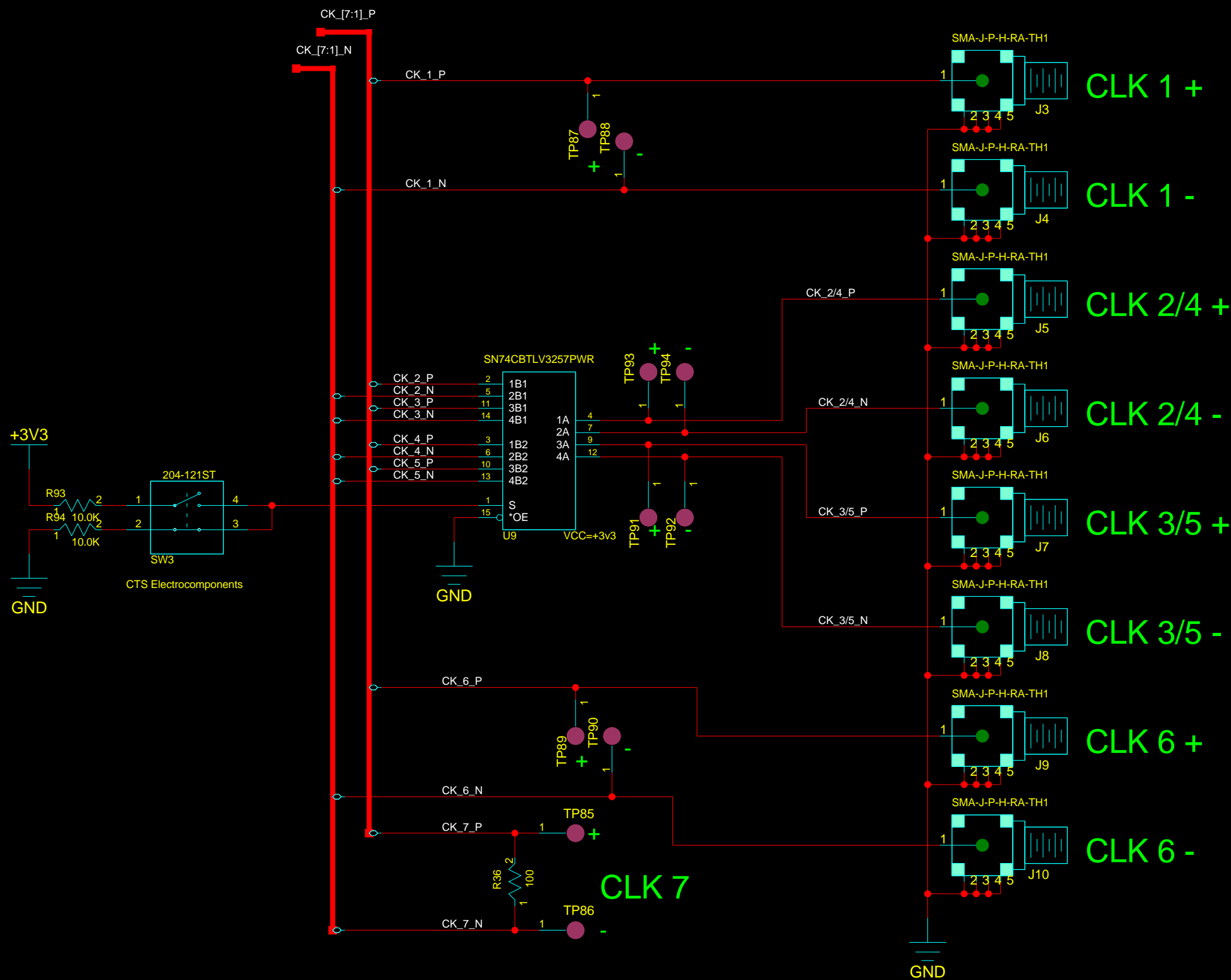
Note: all signals ending in "_P" and "_N" are to be treated as 100 ohm differential pairs.

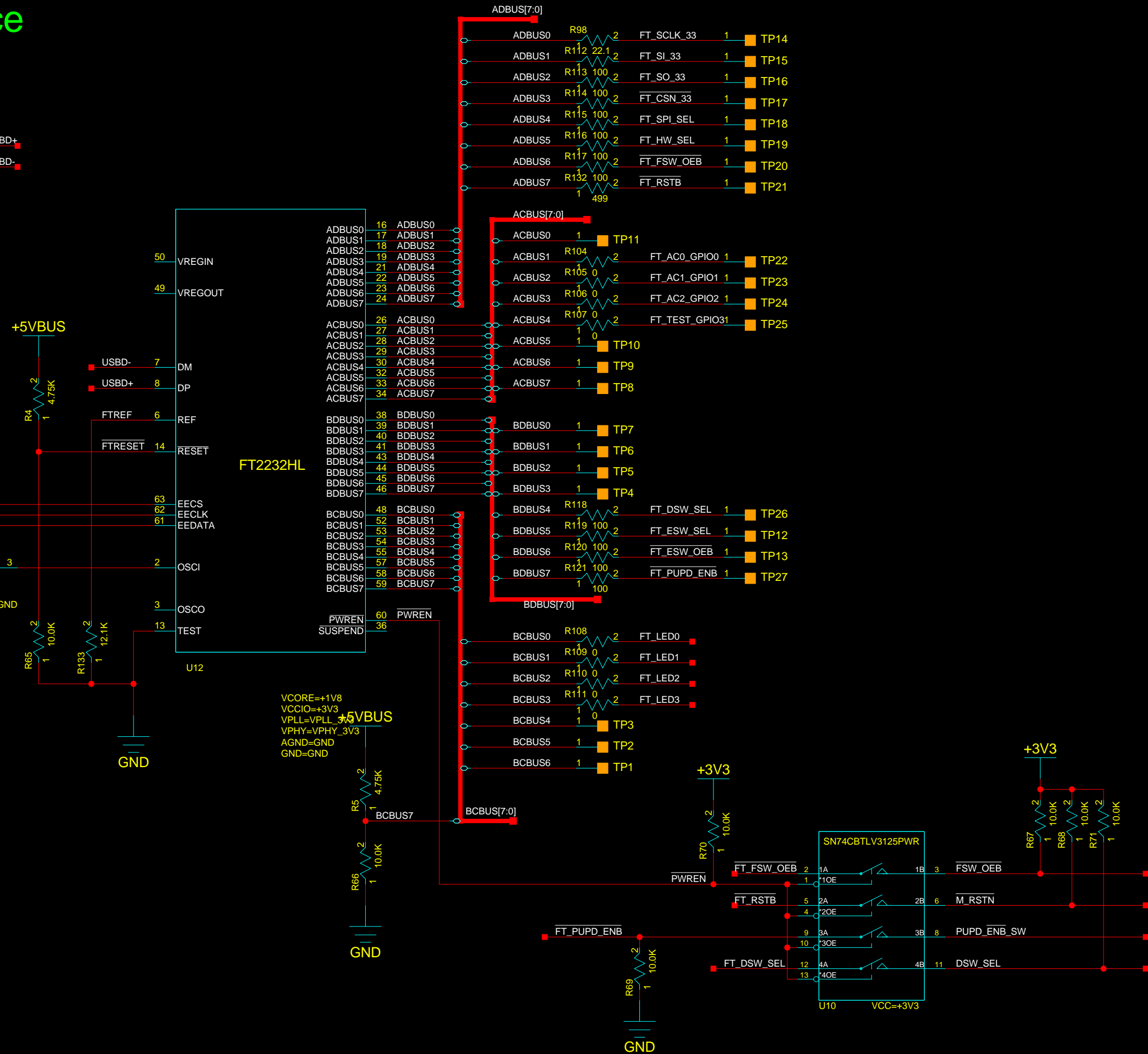


Place R163-169 near ZL30267

Clock Distribution: Reference Clocks

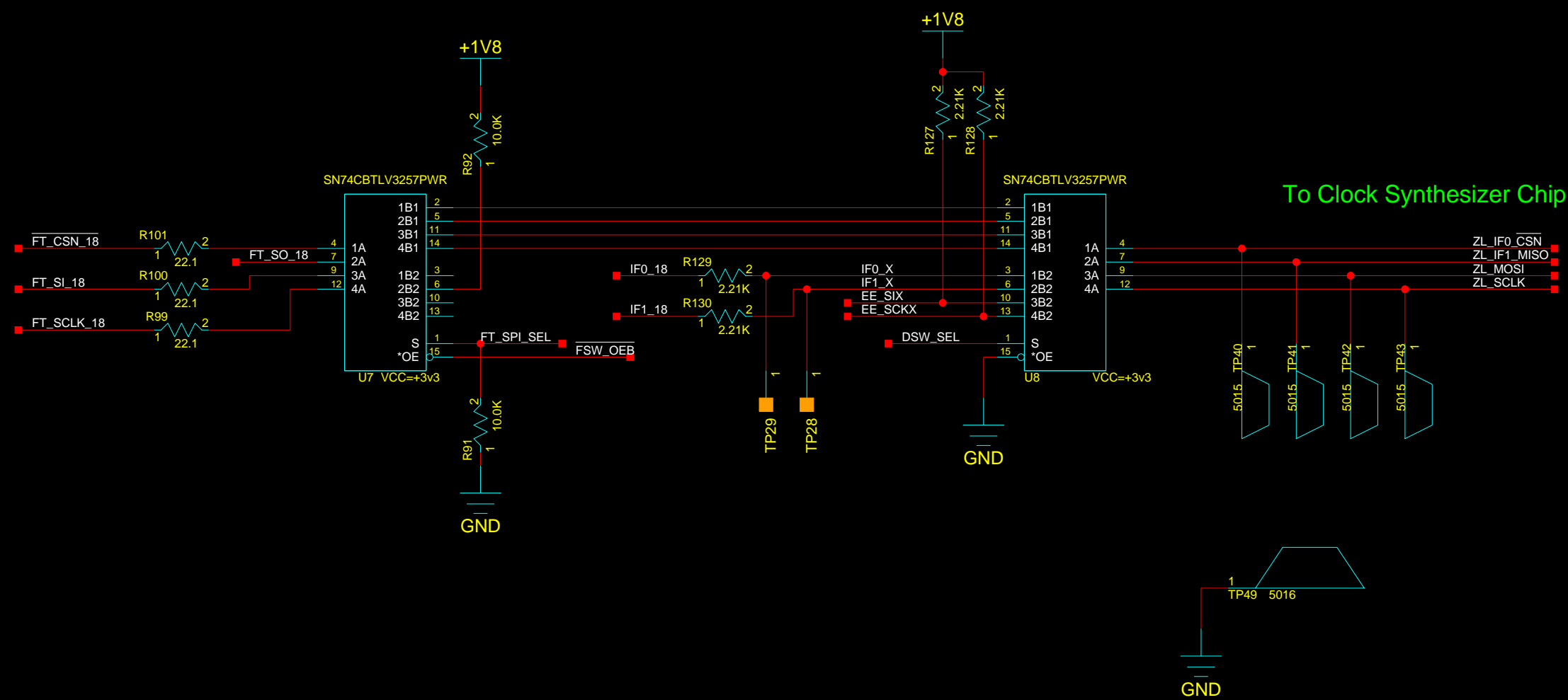
Place SMA connectors (J3-10) at right edge of PCB
Label in silkscreen as shown





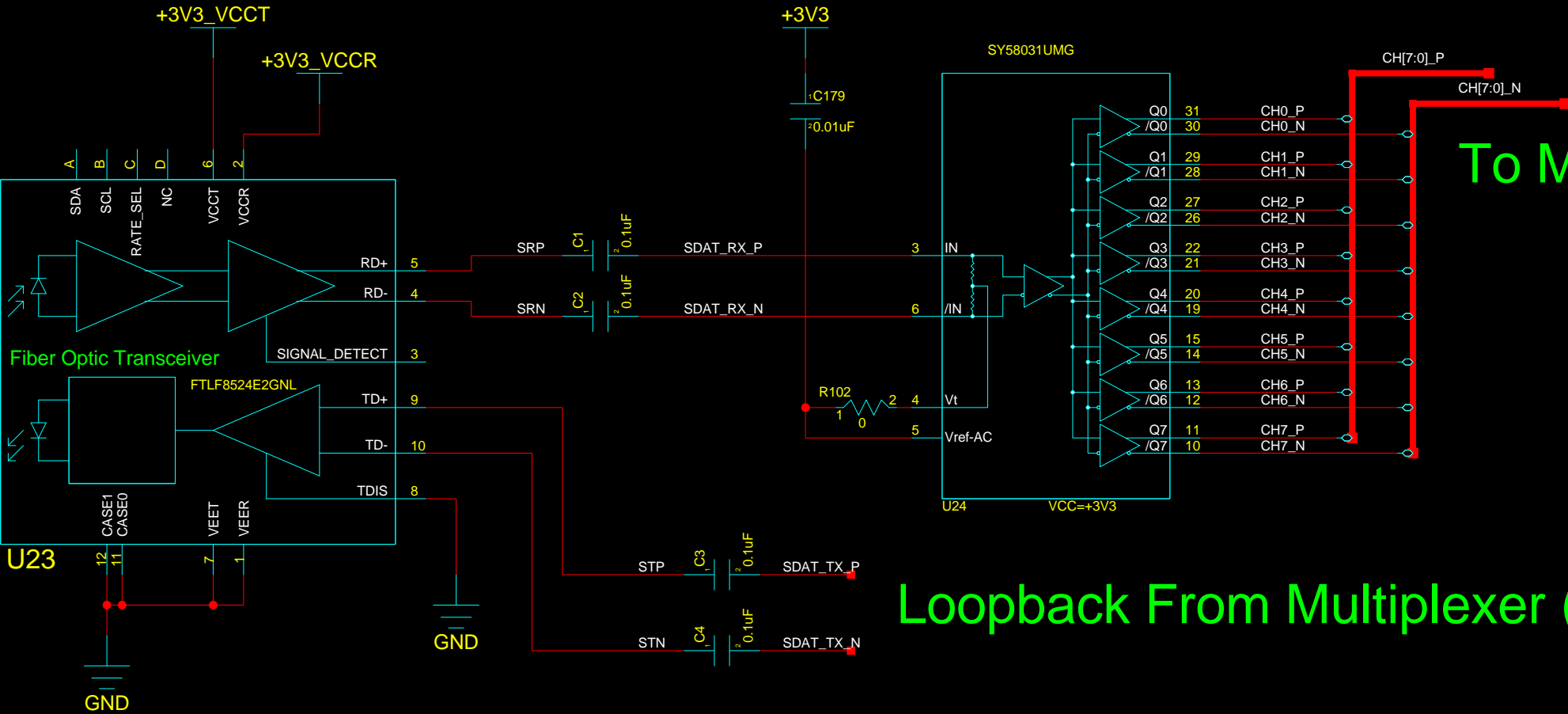
Clock Distribution: USB Interface - AC/GPIO HW Port Config

Clock Distribution: USB Interface - SPI Bus Switching



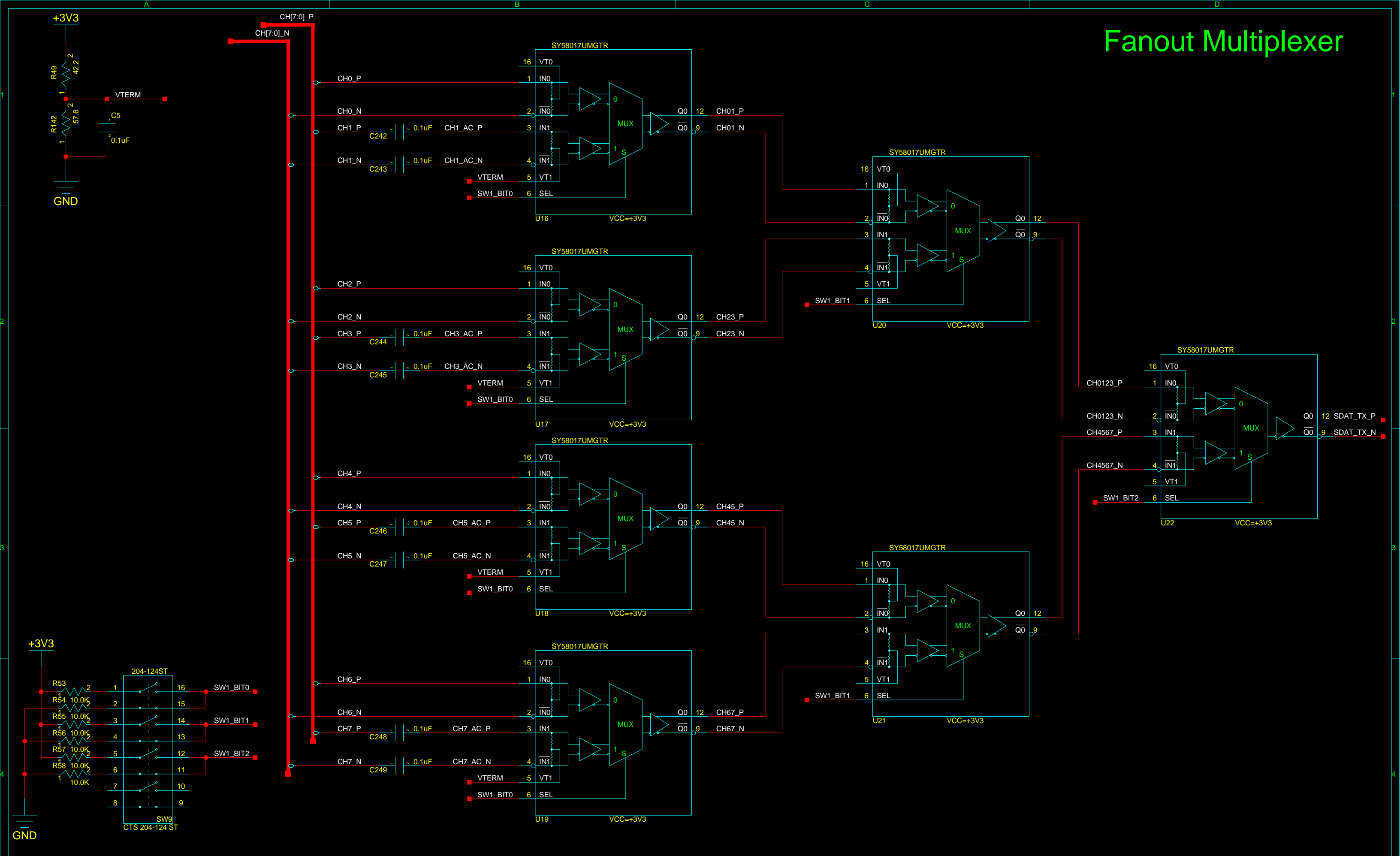
Optical Interface: Fanout

Finisar



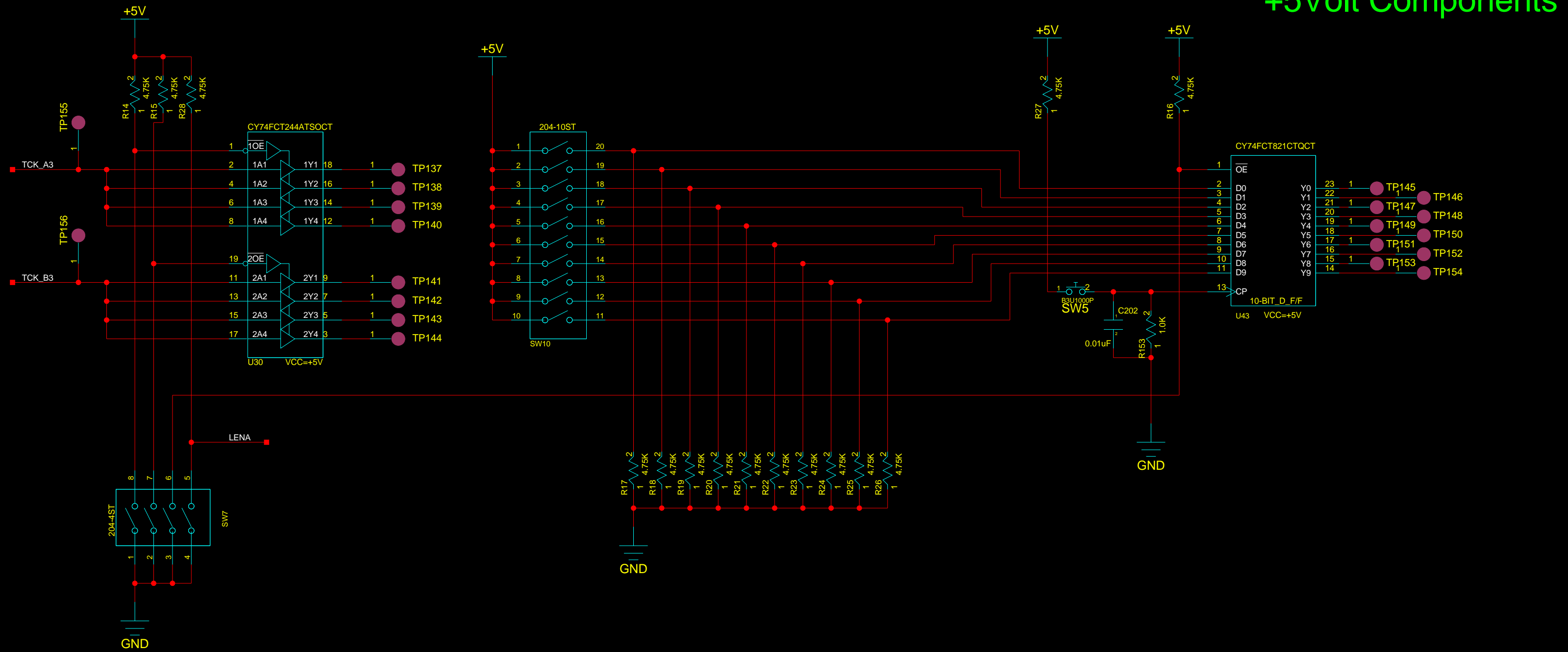
To Multiplexer (page 8)

Loopback From Multiplexer (page 8)

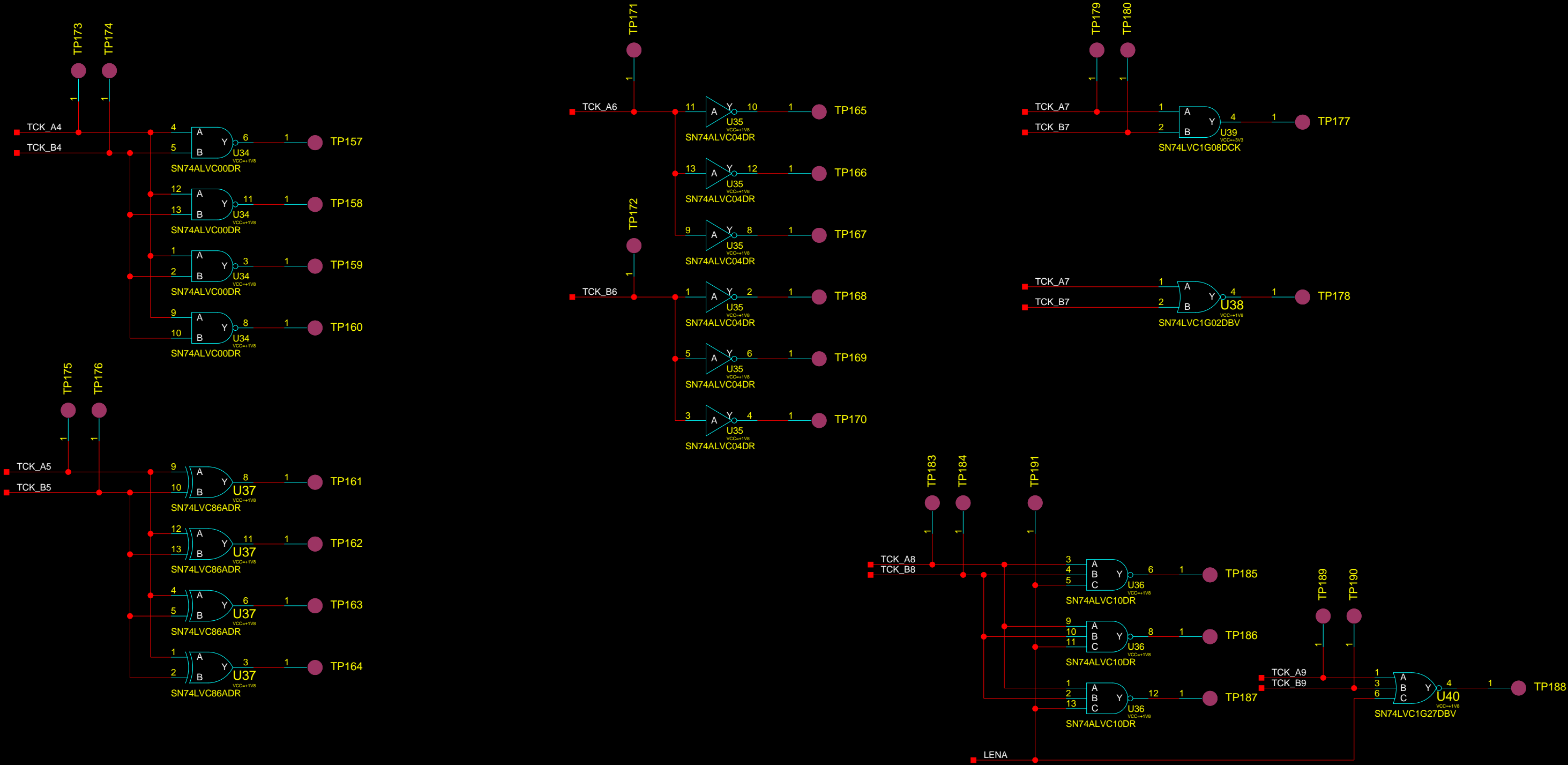




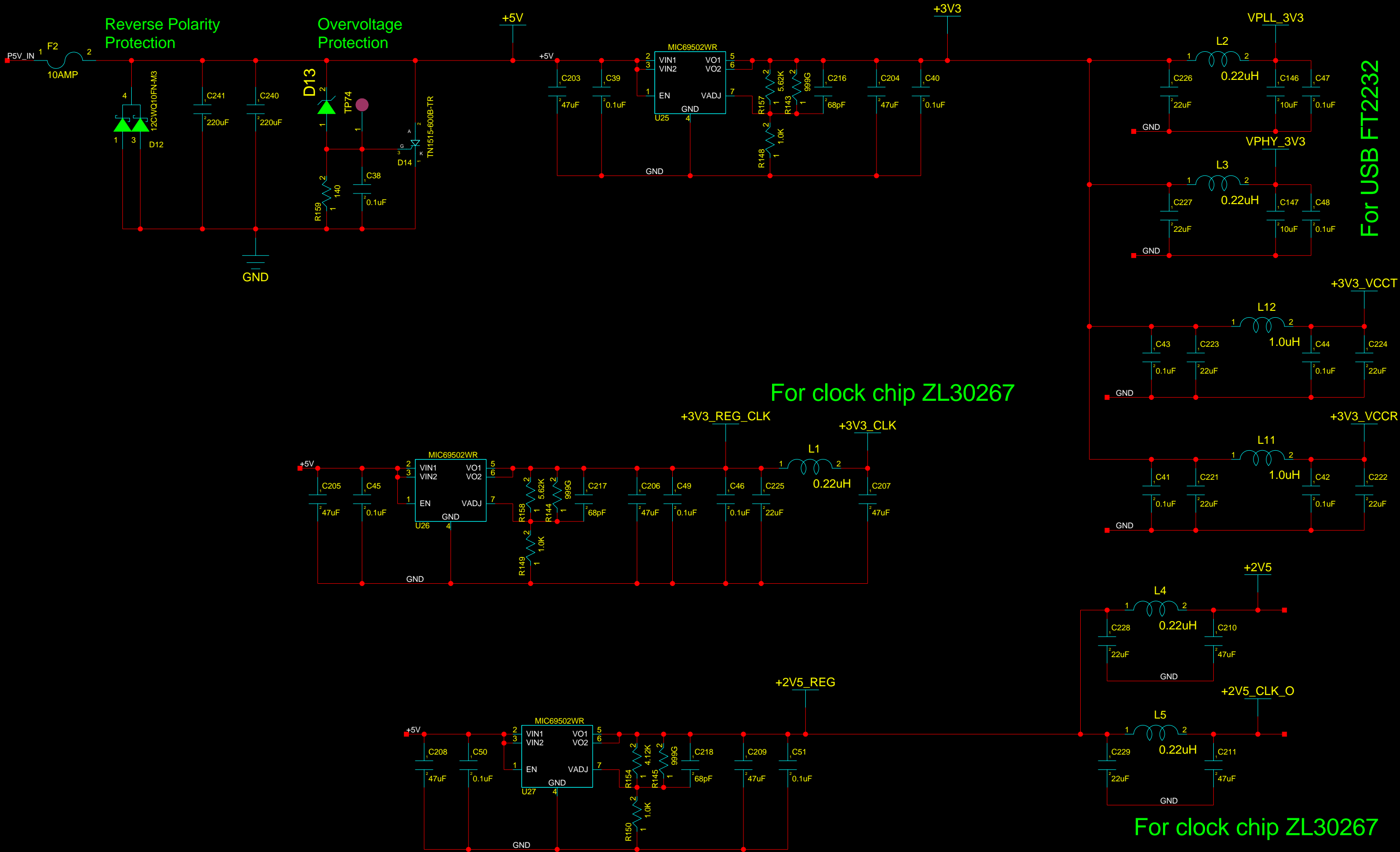
+5Volt Components



Discrete Logic Devices



Power Distribution: From 5 Volt Supply



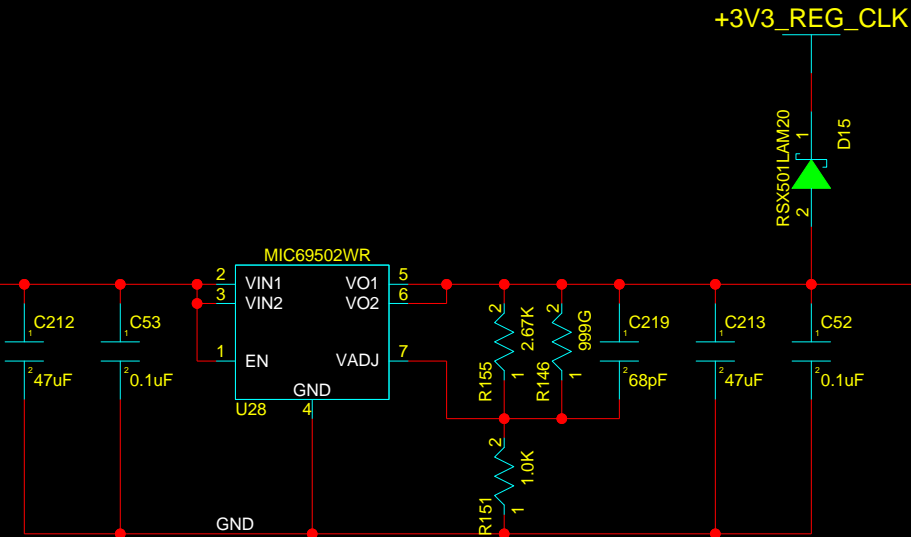
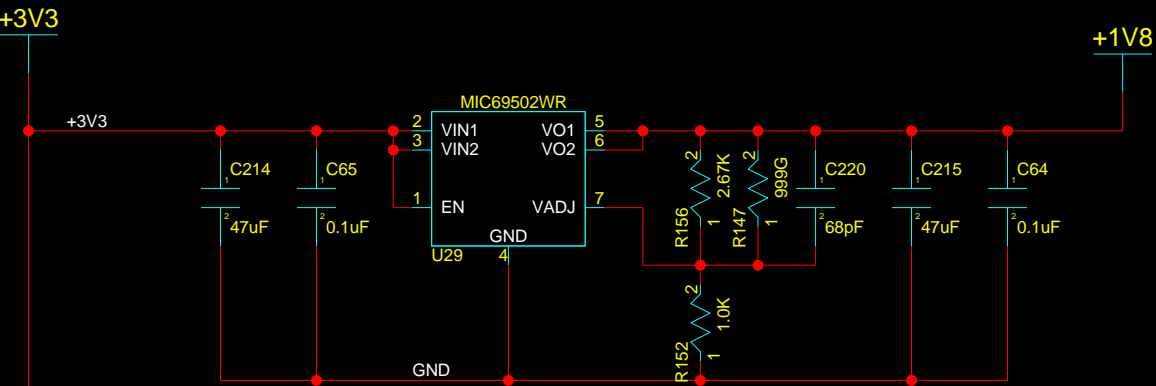
For USB FT2232

For Finisar Optical Transceiver

For clock chip ZL30267

For clock chip ZL30267

Power Distribution: From 3.3 Volt Regulator



+3V3_REG_CLK



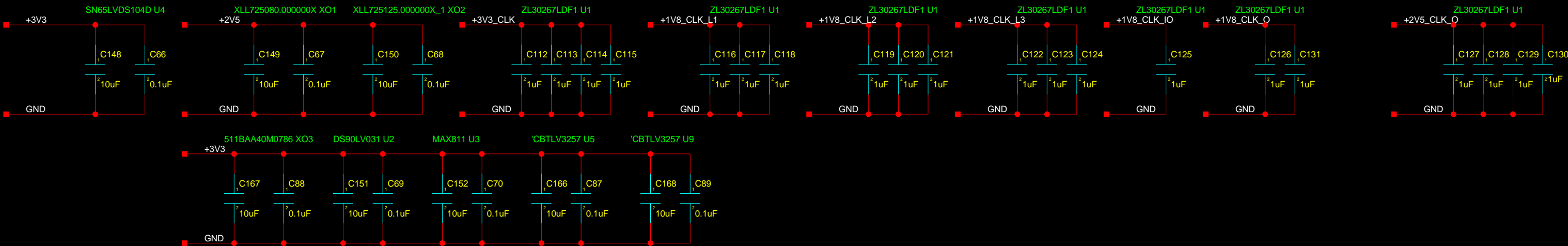
For clock chip ZL30267

+1V8_REG_CLK

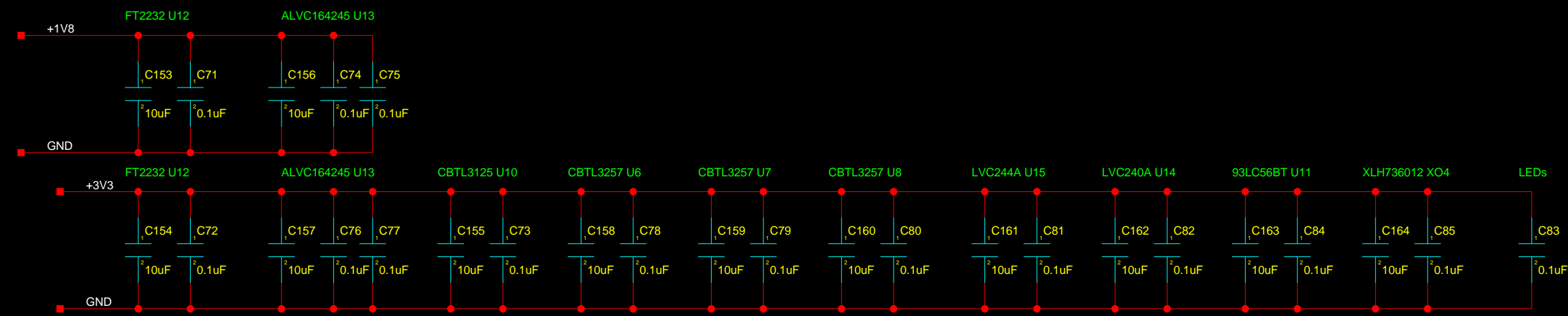


Bypass Capacitors

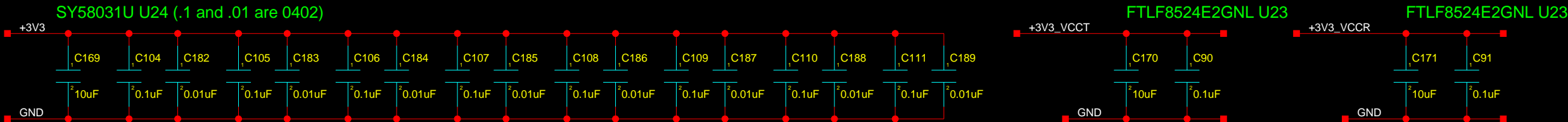
Clocks Page 2, 3



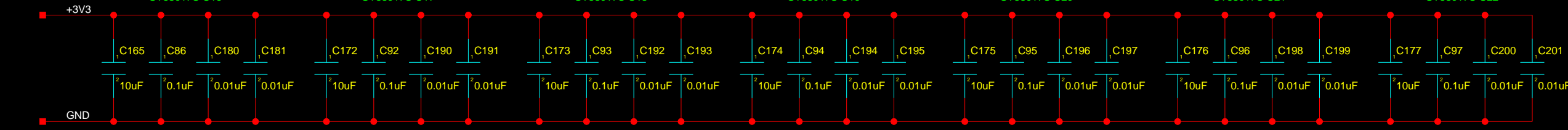
USB Interface Pages 4, 5, 6



Clock Fanout Page 7

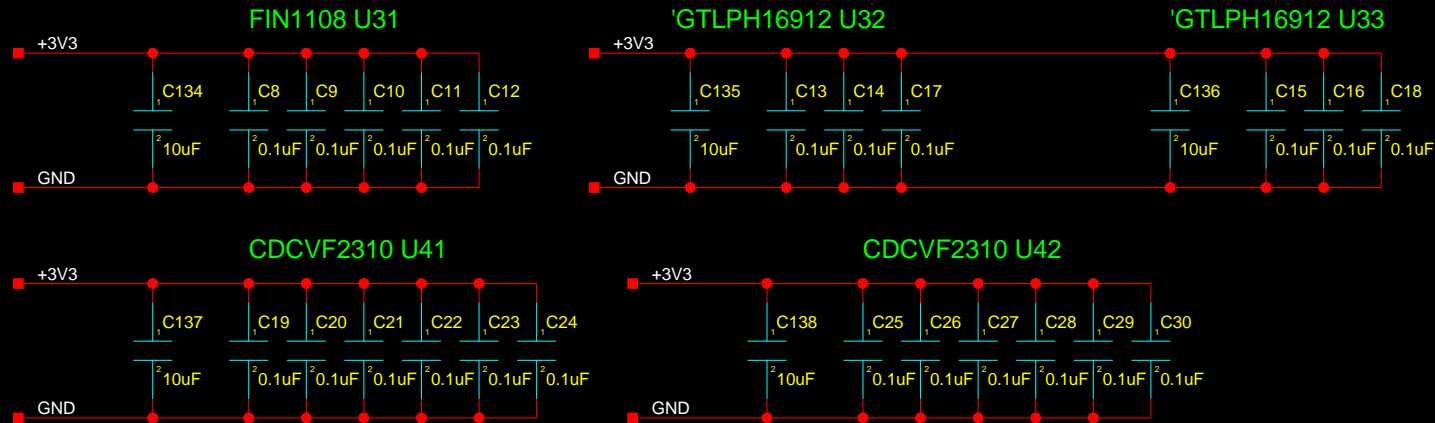


Clock Mux Page 8

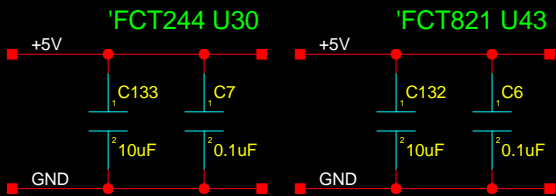


Bypass Capacitors Cont.

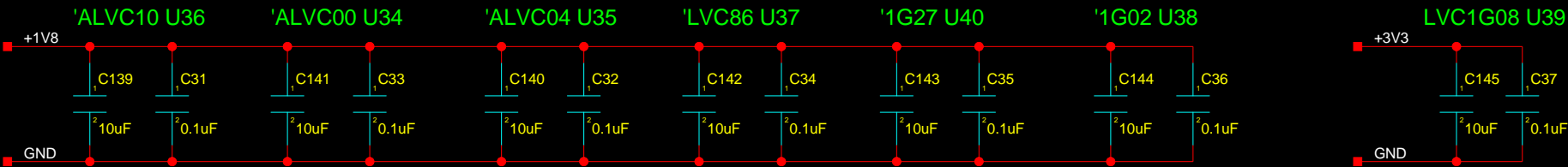
FIN1108 and GTLP Transcievers Page 9



5Volt Components Pages 10

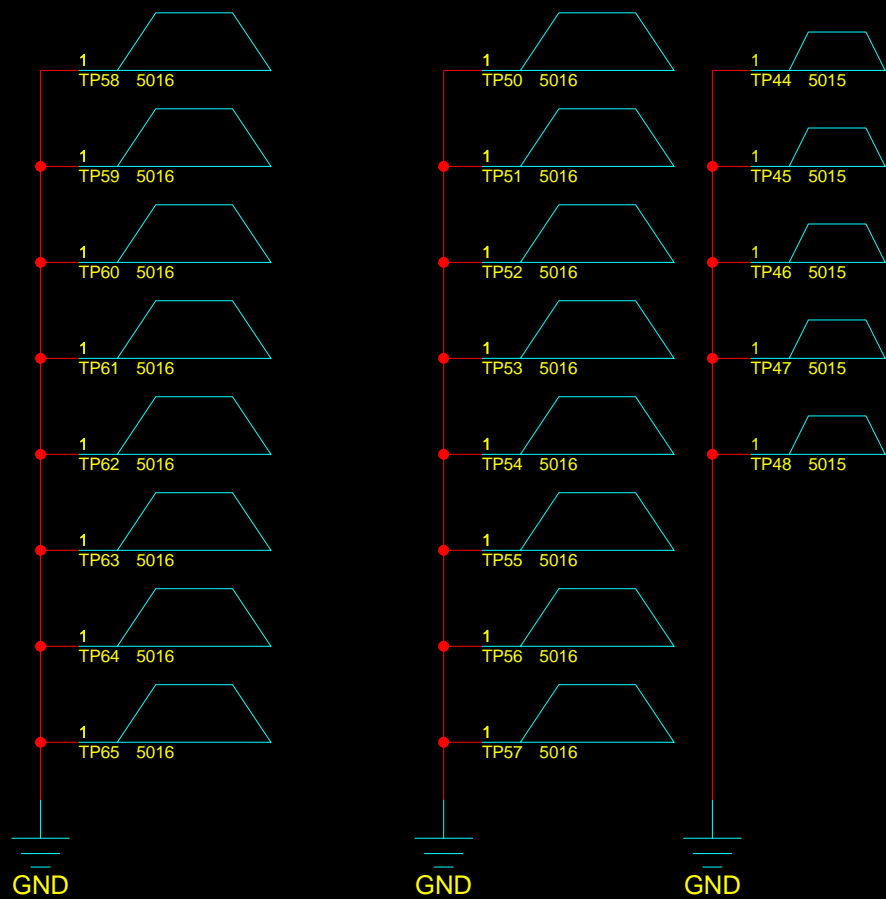


Discrete Logic Page 11

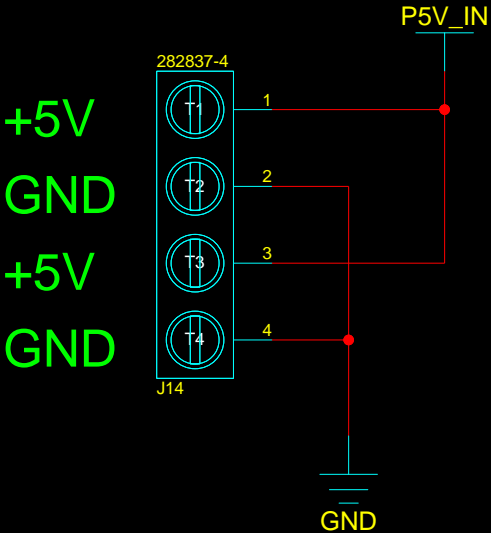


Mechanical Components

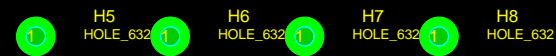
Ground Test Points



Power Lug



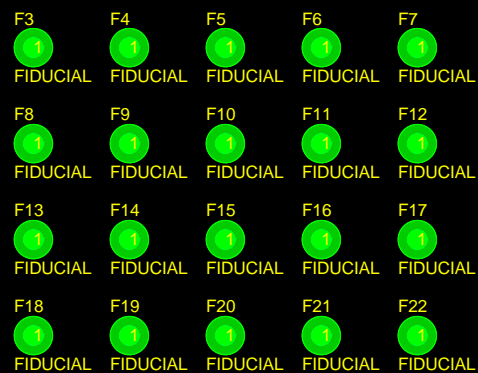
Standoff Mounting Holes



Note: Mounting holes are to be 144 mil hole with a 270 mil OD annular ring

Note: Place mounting holes near board corners

Fiducials

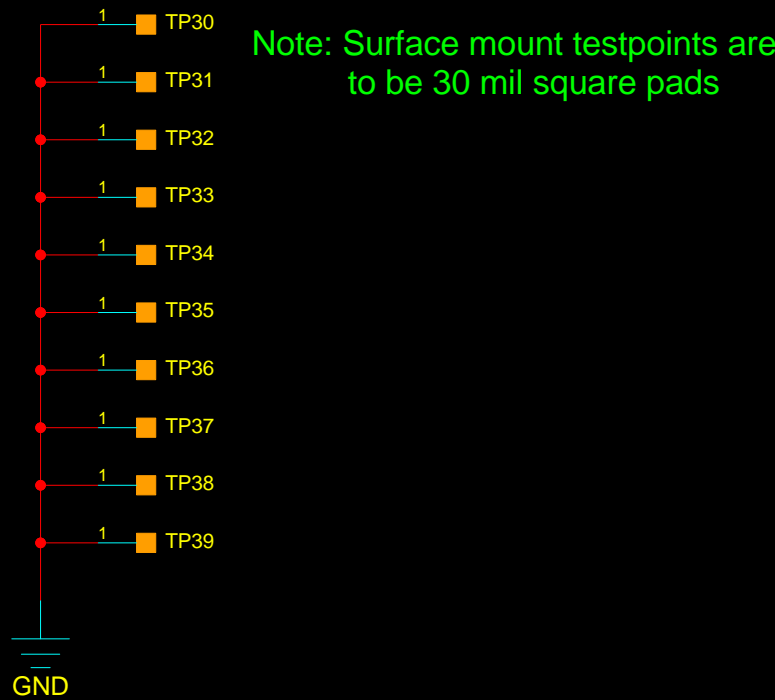


Note: Fiducials are to be 50 mil pad with 160 mil solder mask and 160 mil keepout

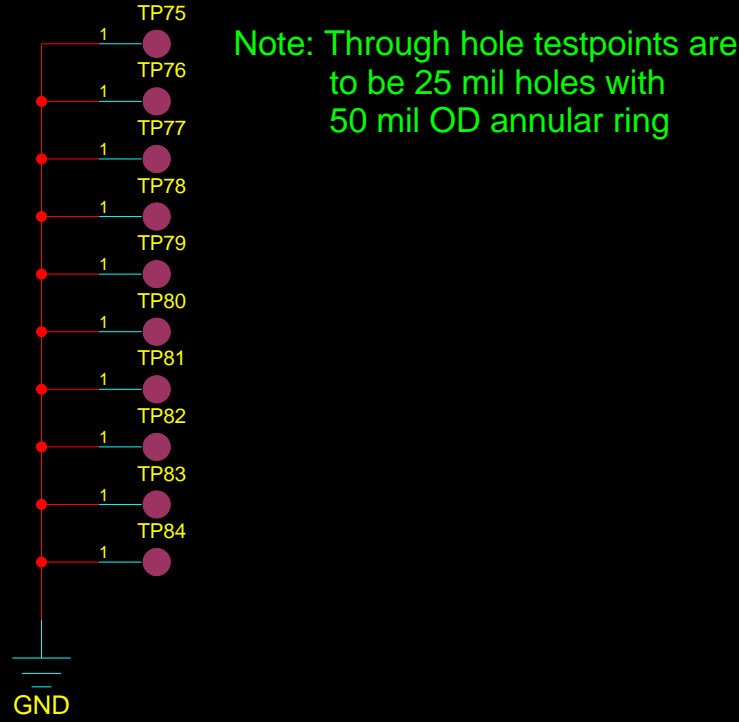
Note: Place fiducials near BGAs and fine pitch components and at two diagonal corners of the board.

Distribute ground test points around the board

Surface Mount Test Points



Through Hole Test Points



Place heat sinks directly on on PCB near regulators.

