

BIG GIG REFERENCE PLATFORM

ADC08/500/D500/D1000/D1020/D1500/D1520

MANUFACTURING KIT / REFERENCE DESIGN (A1)

National Semiconductor GHz 8 bit ADC + XILINX Virtex 4

SPECIAL NOTES

These schematics reflect the current state of product development. This design had NOT yet been fully tested at the time these schematics were generated.

Since this product is in development, the user of this document is strongly advised to check for the latest revision.

National Semiconductor reserves the right to make changes to this product.

ALL parts labeled "N/A" are NOT ASSEMBLED.

Print Instructions:


- To create a readable printout, we recommend to use A3 or 11x17" paper size.
- When printing from this PDF file, make sure to check the "Shrink to fit" box.

SYSTEM CONFIGURATION

Module	Configuration	Description
FRONT END	2 channel DIFFERENTIAL	AC/ DC COUPLING ON I CHANNEL SIGNAL PATH. AC COUPLING ONLY ON Q CHANNEL SIGNAL PATH.
CLOCK SOURCE	DIFFERENTIAL	LMX231X PLL
FPGA		XC4VLX15 - 363 PIN BGA
USB I/F		CY7C64613 EZ USB

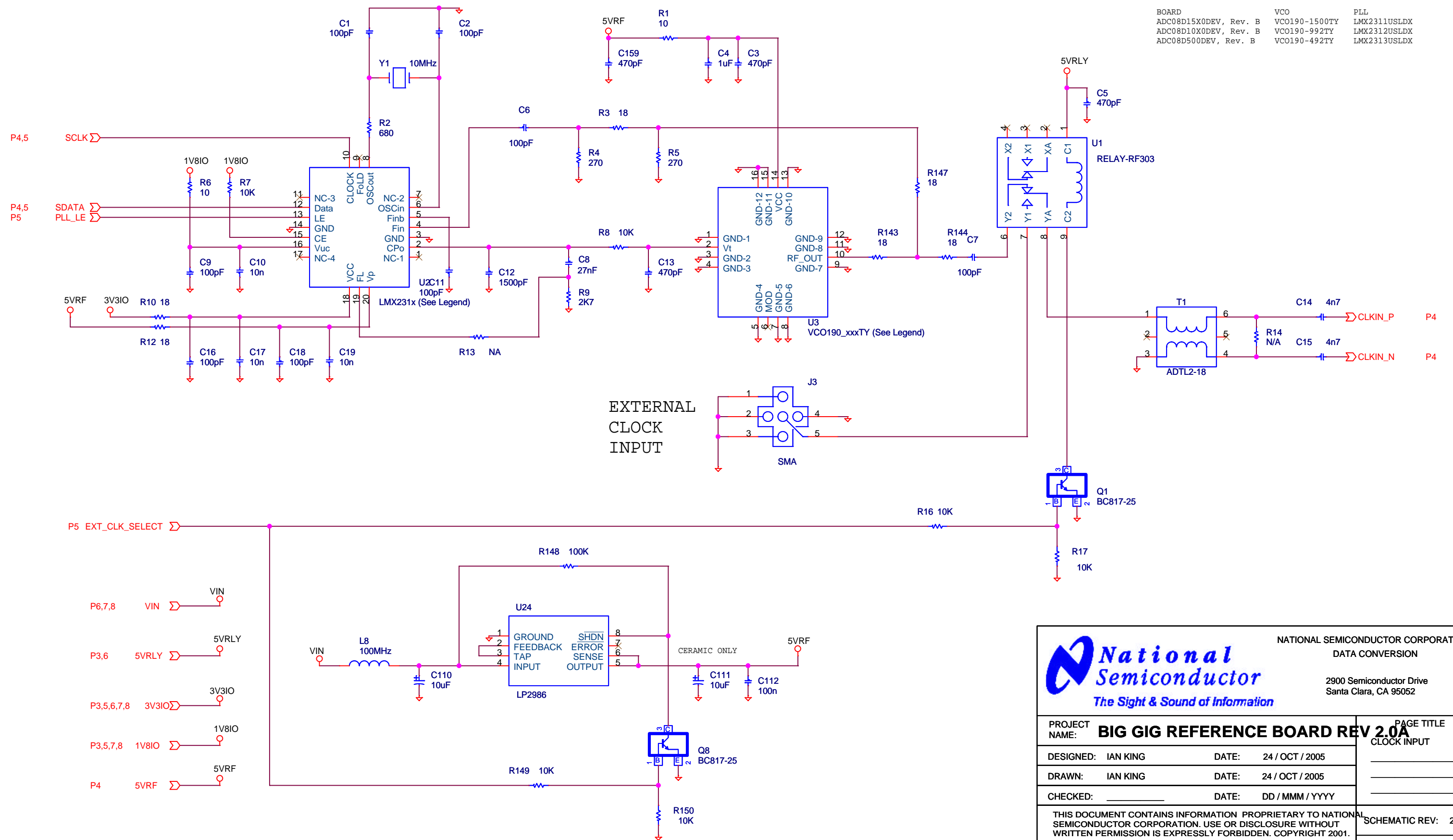
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VCO and PLL Legend

BOARD	VCO	PLL
ADC08D15X0DEV, Rev. B	VCO190-1500TY	LMX2311USLDX
ADC08D10X0DEV, Rev. B	VCO190-992TY	LMX2312USLDX
ADC08D500DEV, Rev. B	VCO190-492TY	LMX2313USLDX

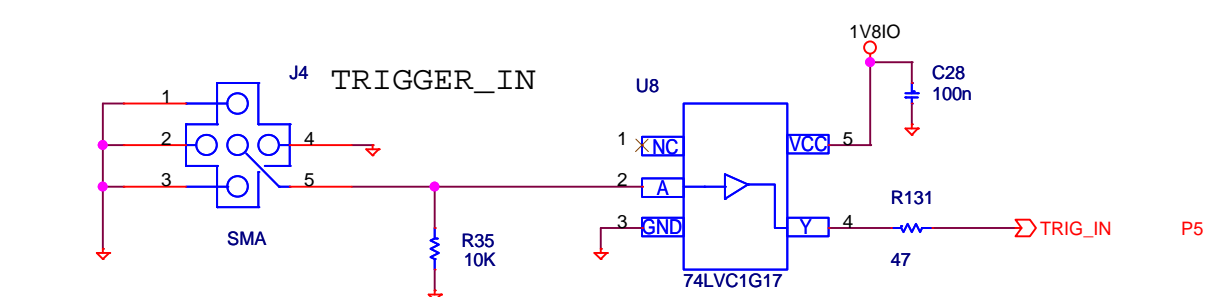
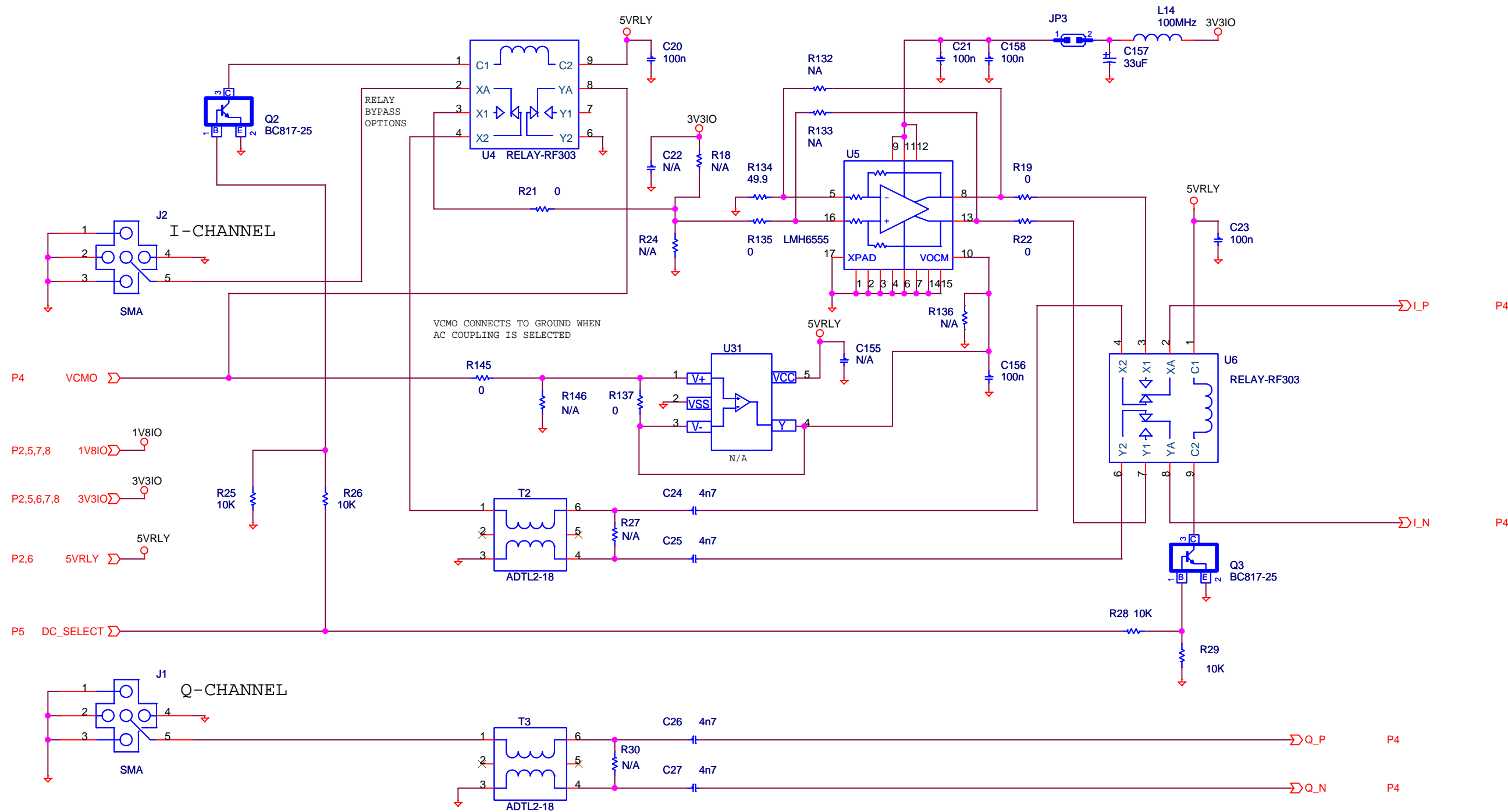




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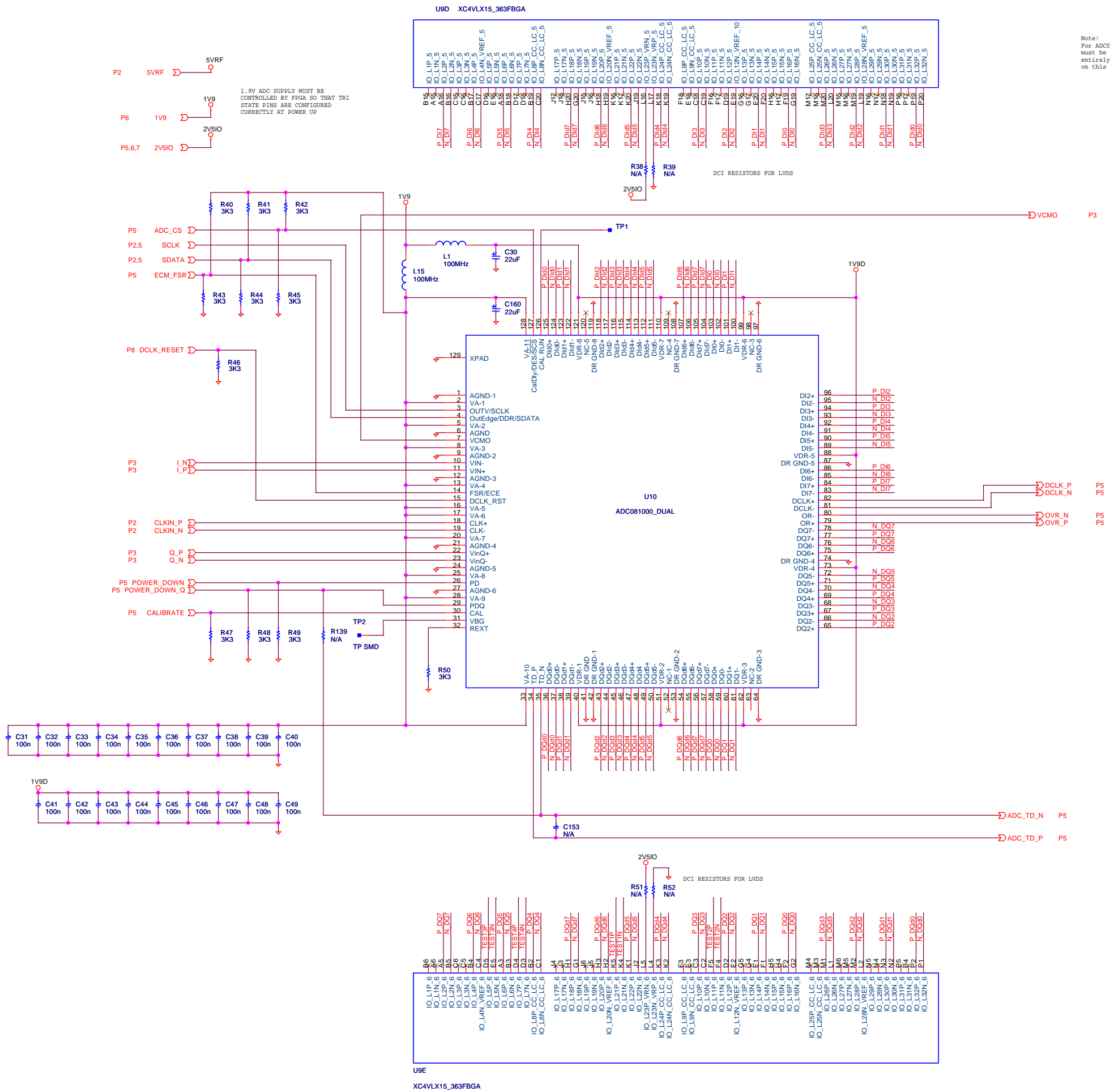


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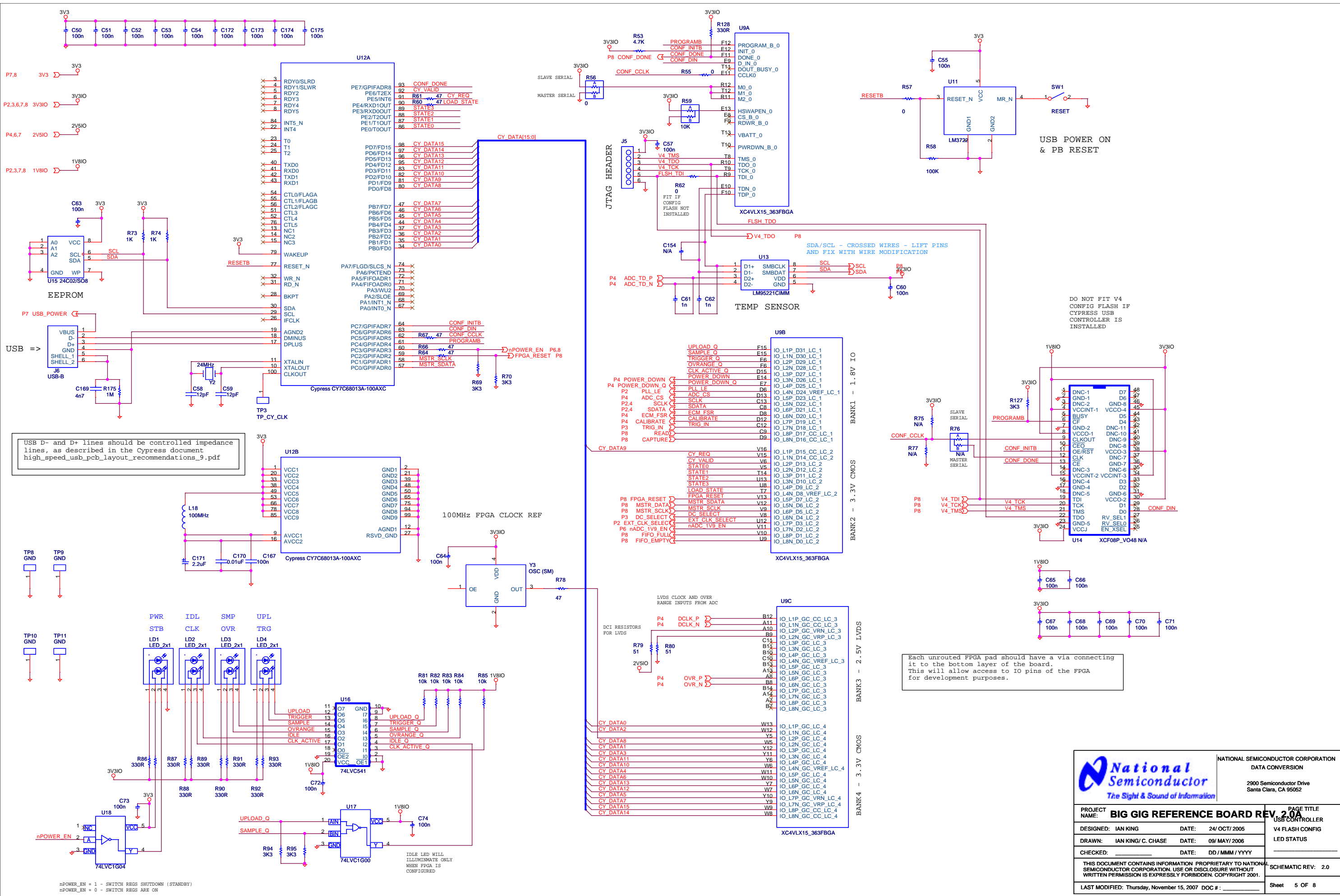
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Note:
For ADC08D1X20, pin 41 on the chip itself must be either lifted or, preferably, entirely removed for the chip to function on this board.

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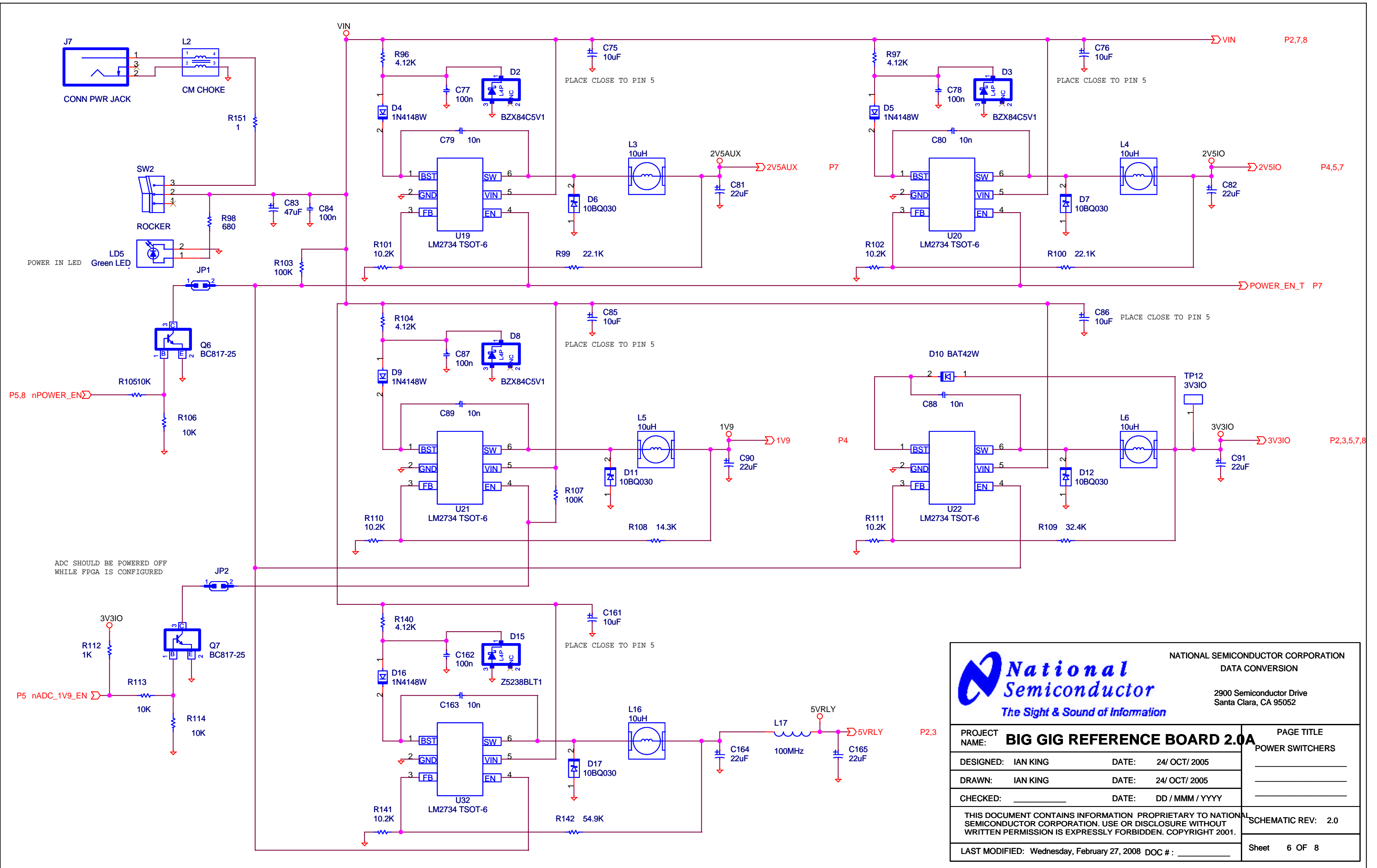


USB D- and D+ lines should be controlled impedance lines, as described in the Cypress document [high_speed_usb_pcb_layout_recommendations_9.pdf](#)

Each unrouted FPGA pad should have a via connecting it to the bottom layer of the board. This will allow access to IO pins of the FPGA for development purposes.

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*POWER_EN = 1 - SWITCH RESG SHUTDOWN (STANDBY)
 *POWER_EN = 0 - SWITCH RESG ARE ON

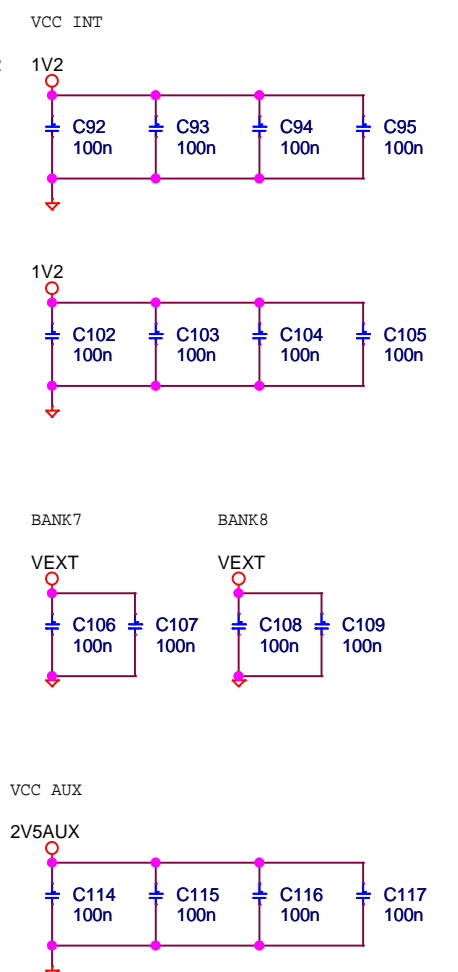
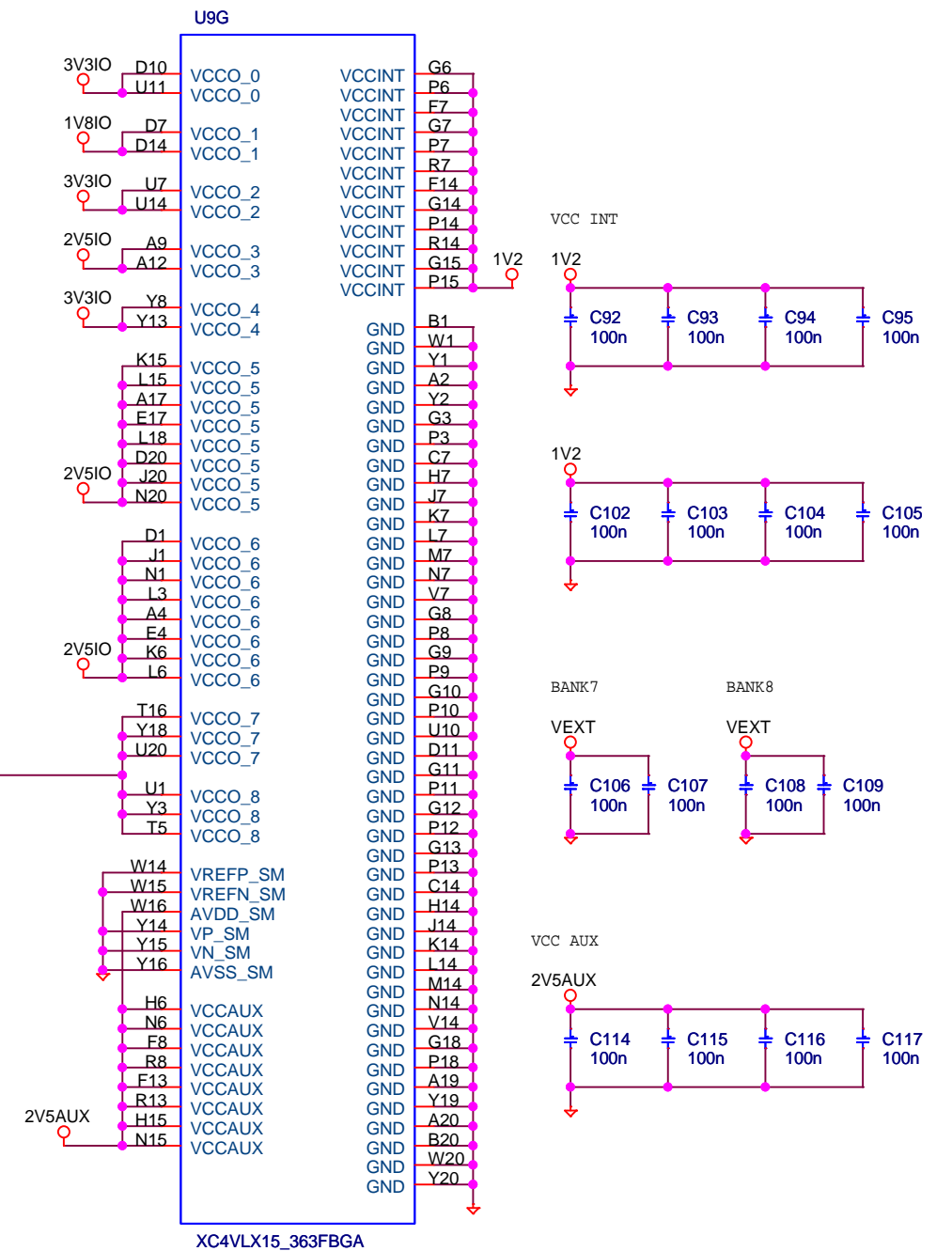
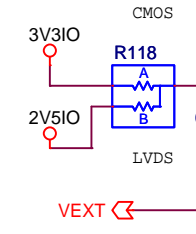
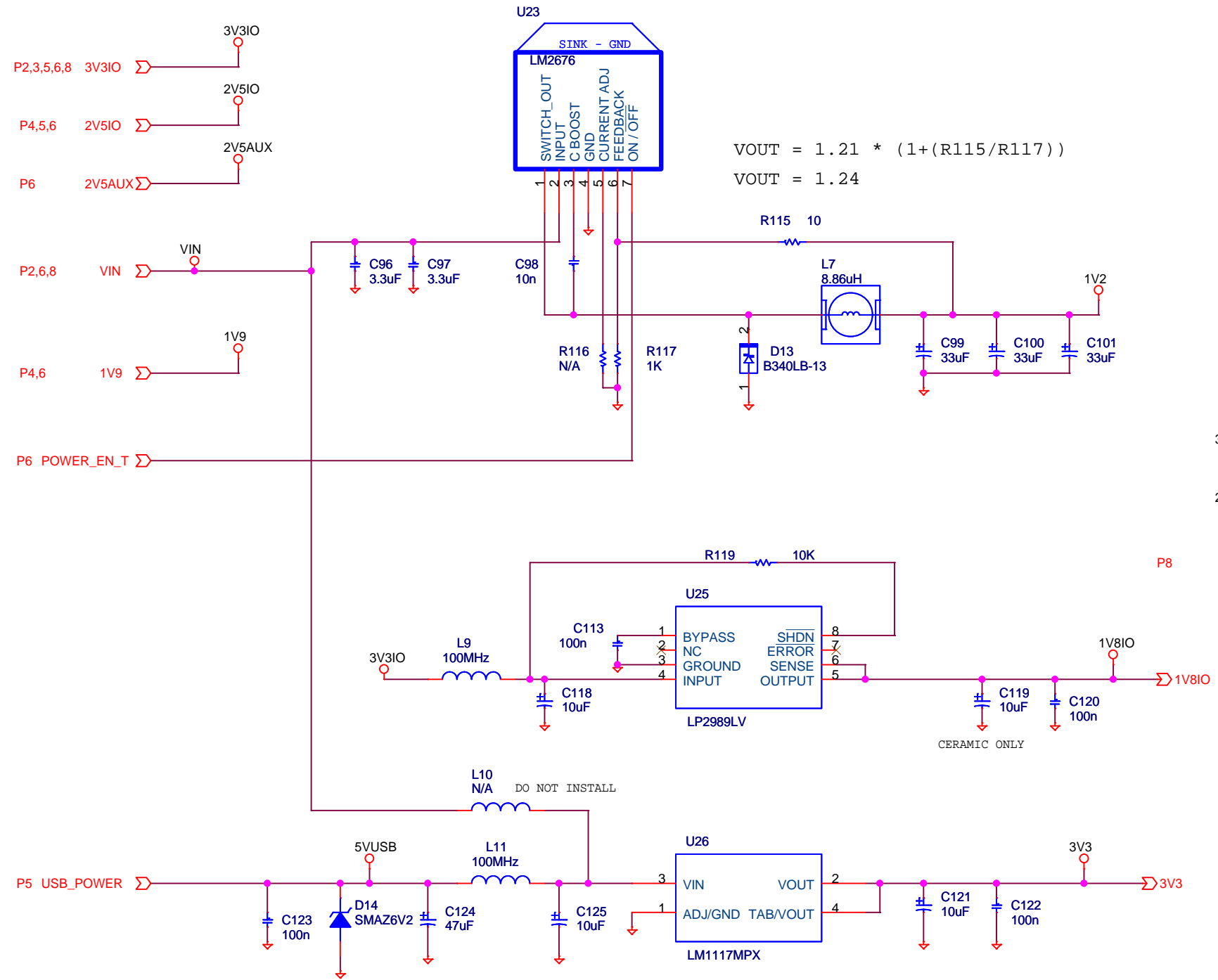


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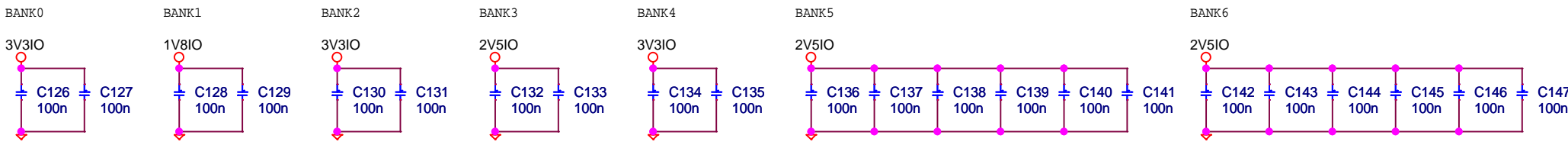
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0402 FPGA Decouplers

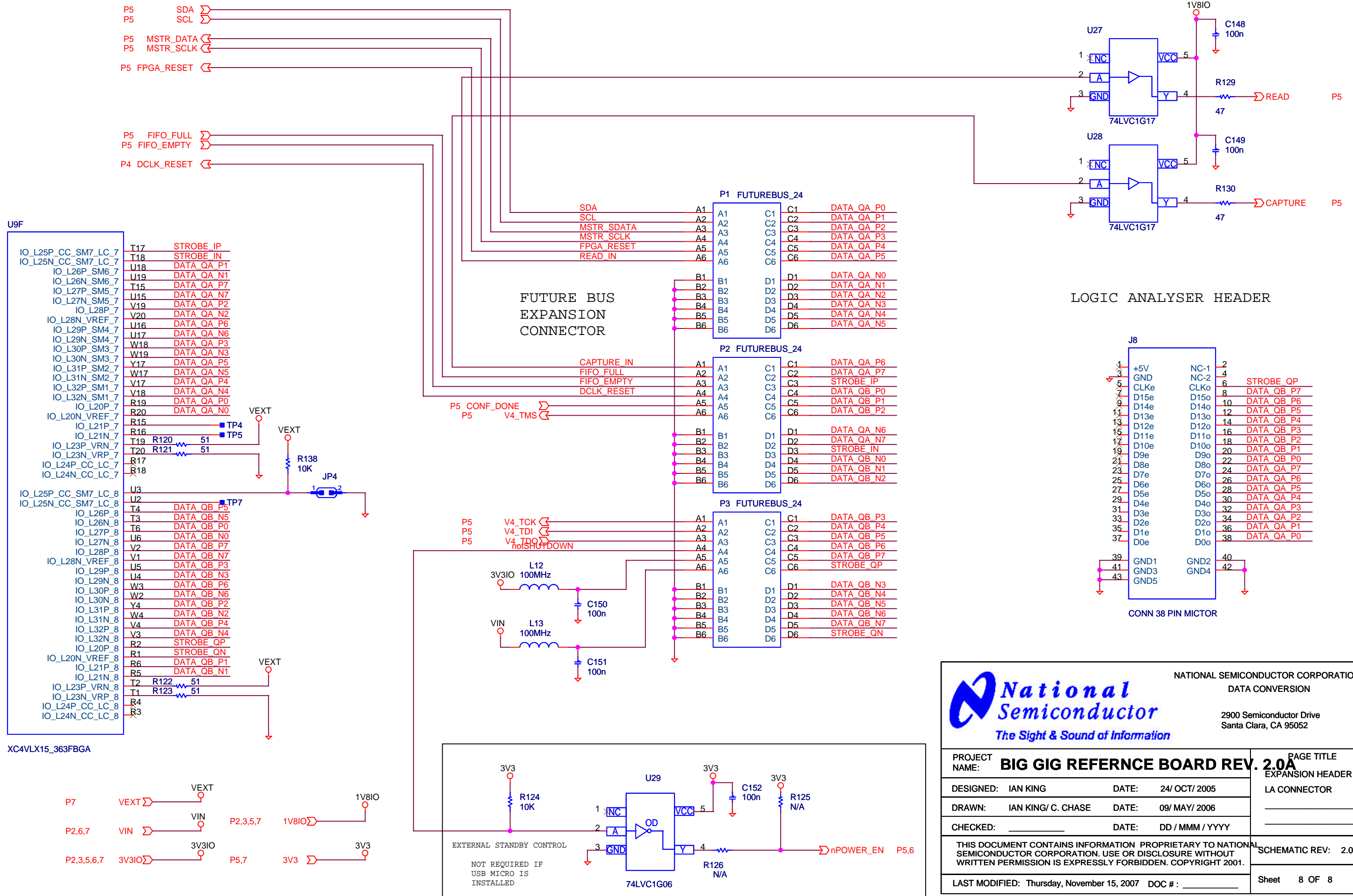


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