



MPC5668 Evaluation Board

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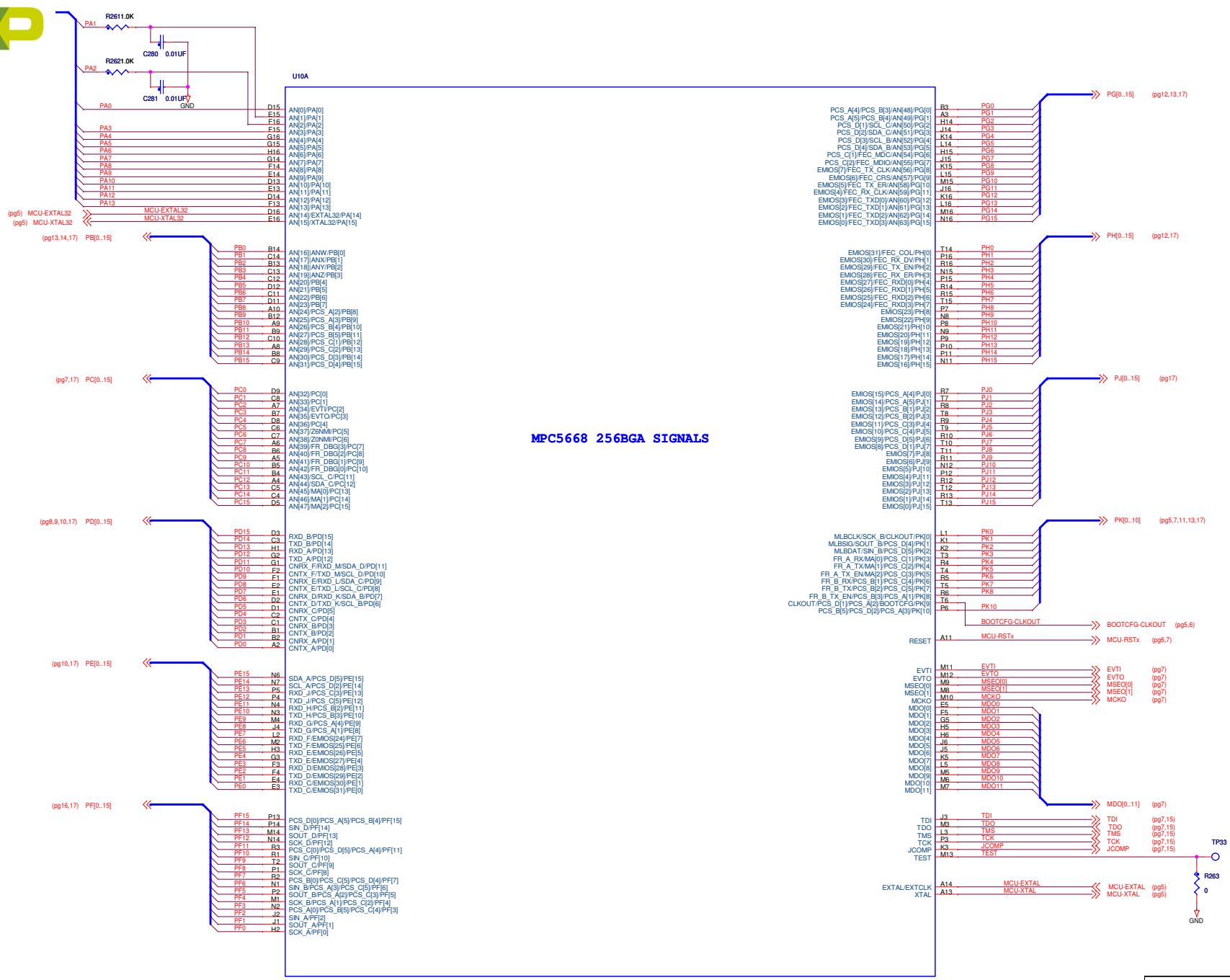
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Revisions

Rev	Description	Date	Designer
A	Original Release	July 23rd 2008	D.McMenamin & D.McKenna
B	Changes based on reviews	March 10th 2009	D.McMenamin

		Microcontroller Solutions Group	
		6501 William Cannon Drive West Austin, TX 78735-8598	
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Designer: R62709 & B06321		Drawing Title: MPC5668EVB	
Drawn by: R62709 & B06321		Page Title: TITLE PAGE	
Approved: R29414	Size C	Document Number SCH-25189 PDF: SPF-25189	Rev X1
Date: Tuesday, November 10, 2009		Sheet 1 of 18	

Because of an order from the United States International Trade Commission, BGA-packaged product lines and part numbers indicated here currently are not available from Freescale for import or sale in the United States prior to September 2010: MPC5668x products in 208 and 256 MAFBGA packages



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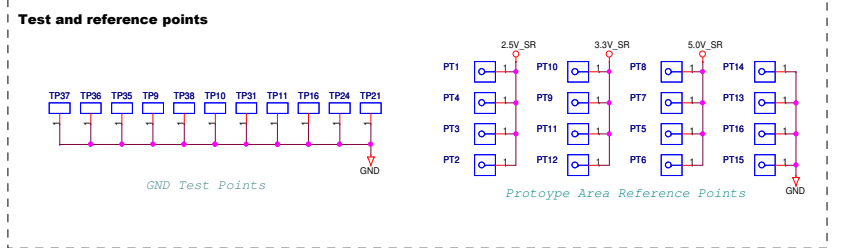
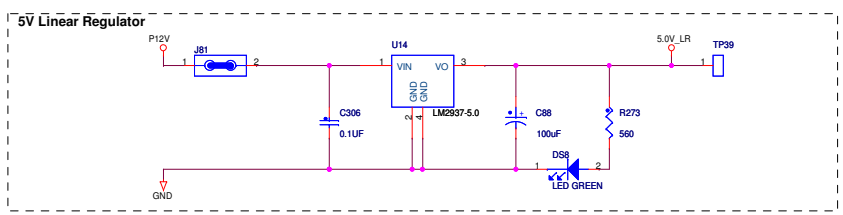
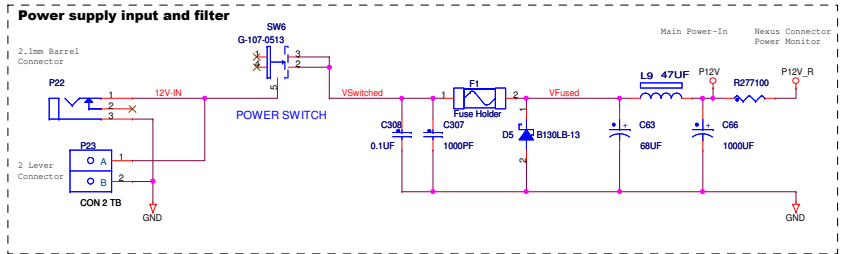
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Drawing Title: **MPC5668EV8**

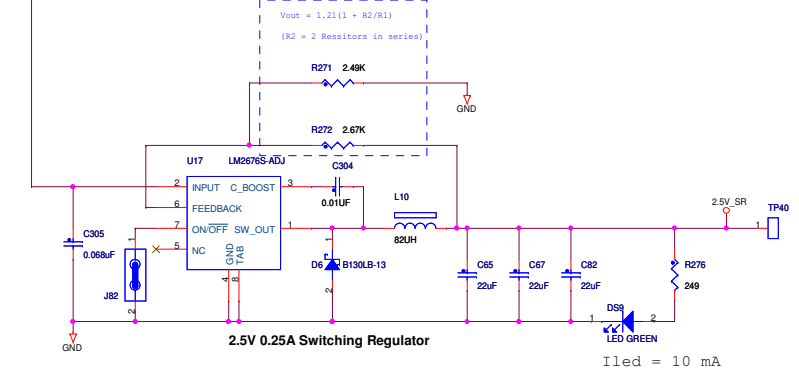
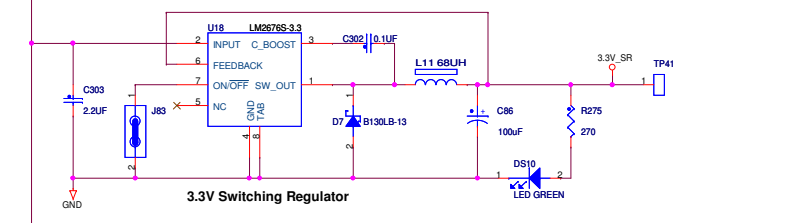
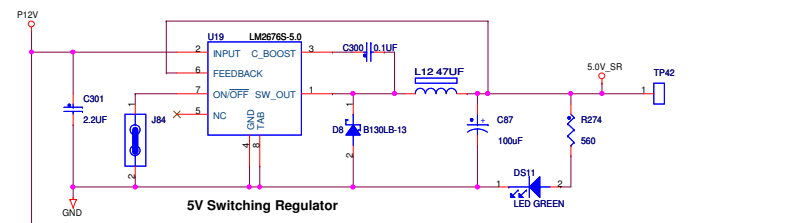
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Switching Regulators



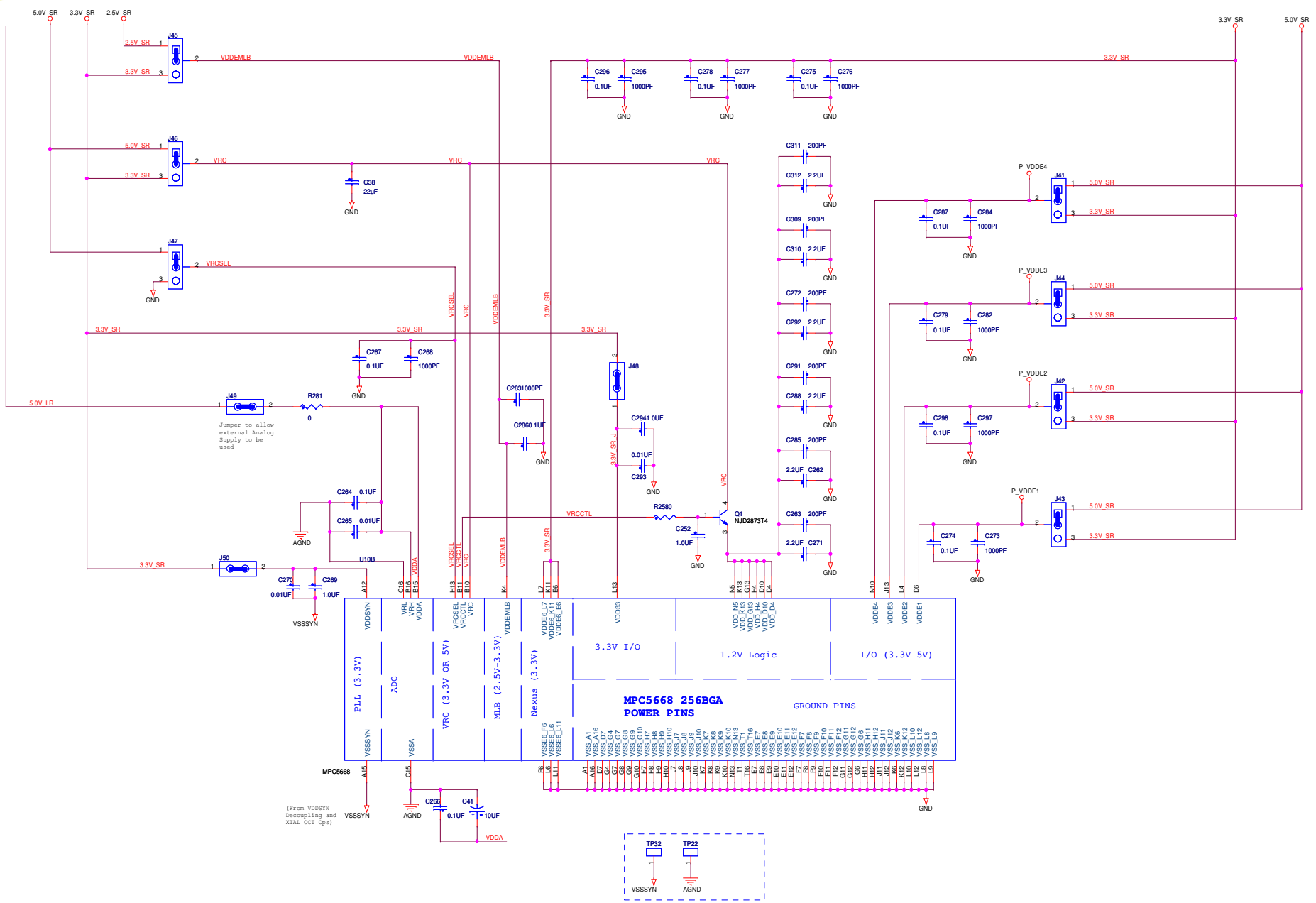
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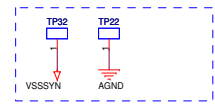
Page Title: **Power 1: Input, Linear and Switchers**

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(From VDDSYN
Decoupling and
XTAL CCT Cps)

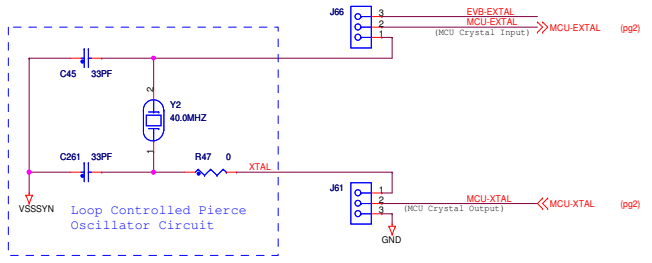
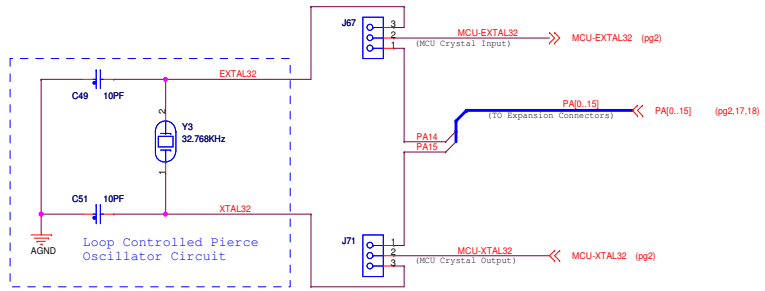


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ICAP Classification: FCP: FLUX: X PUBL:
Drawing Title: **MPC5668EVB**
Page Title: **Power 2: MCU and Routing**

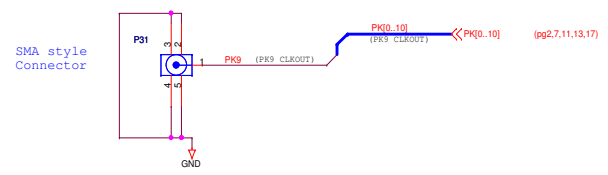
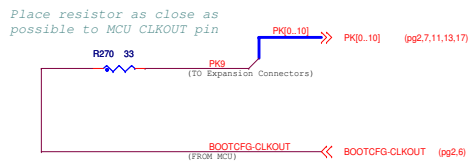
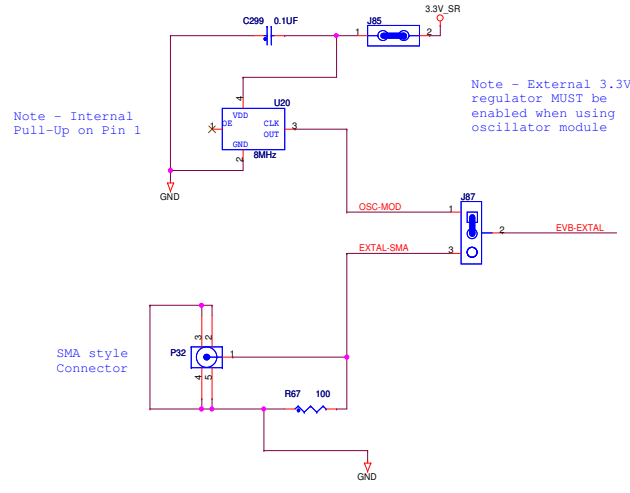
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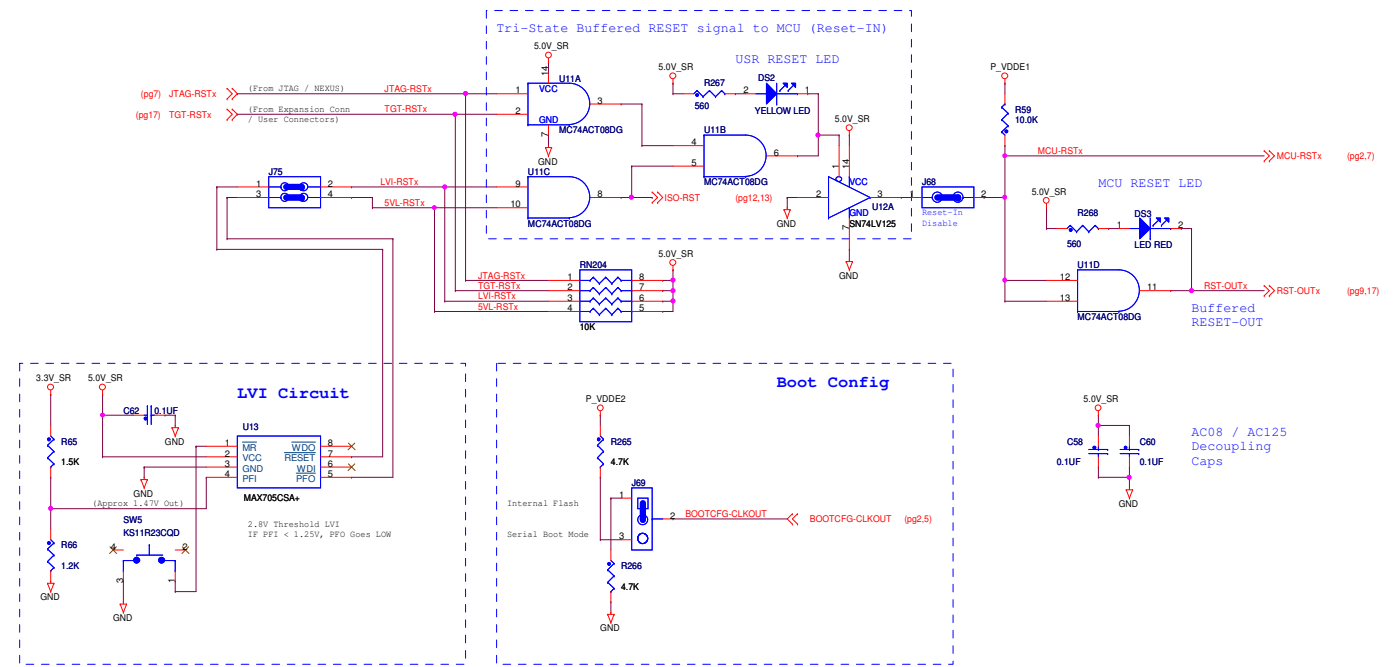
REMOVE XTAL jumper when driving EXTAL from Oscillator Module or External Source (PLL Enabled)

Connect XTAL jumper to GND when driving EXTAL from Oscillator Module or External Source (PLL Bypass Mode)

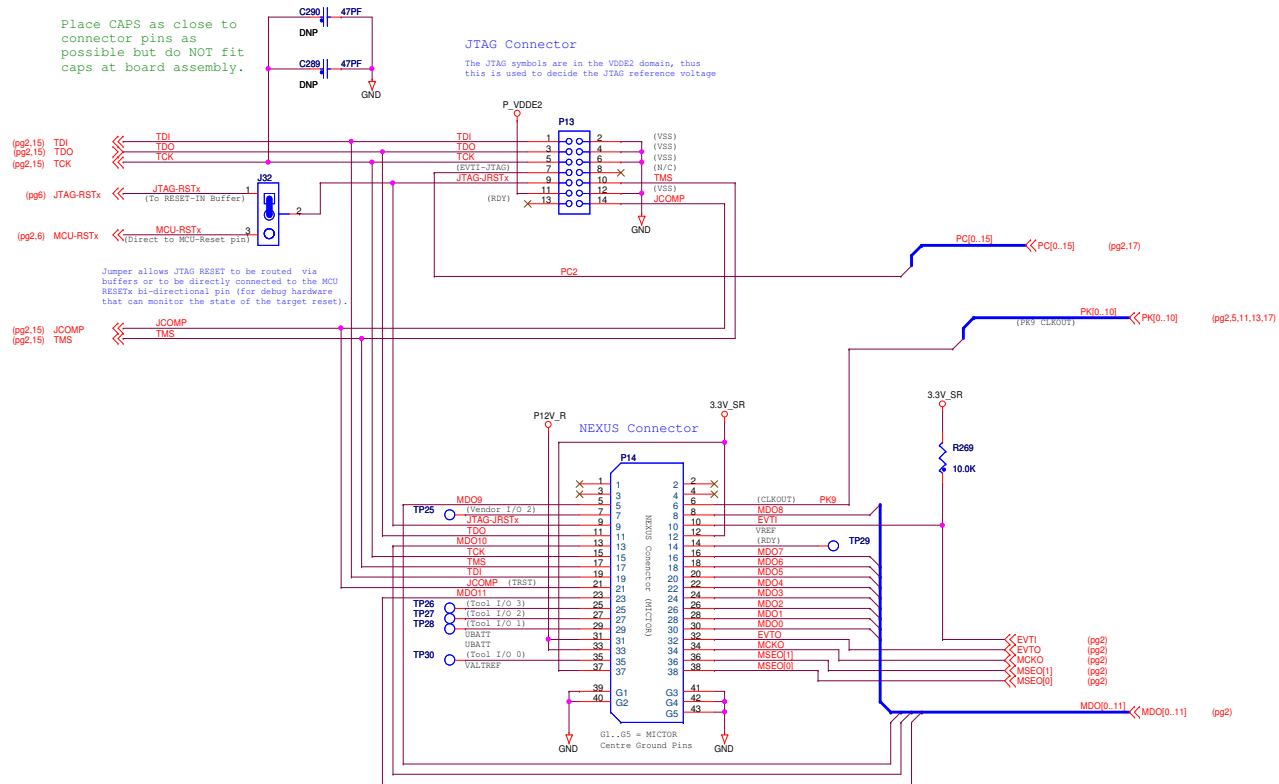


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ICAP Classification: FCP: FLUQ: X PUBI:			
Drawing Title: MPC5668EVB			
Page Title: Clock Circuitry			
Size C	Document Number	SCH-25183 PDF: SPF-25183	Rev X1
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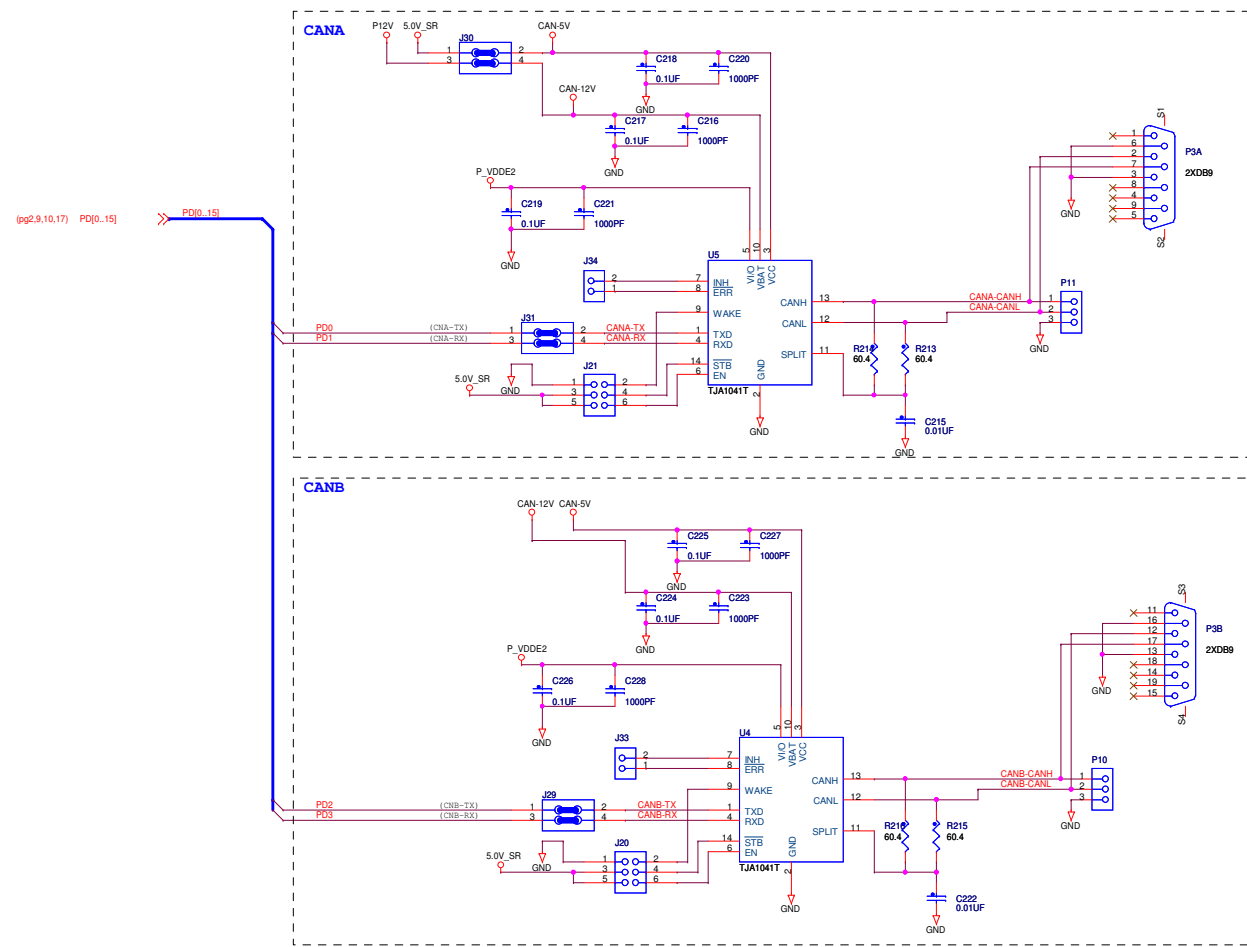
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ICAP Classification: FCP: FLUX: X PUB: _____
 Drawing Title: **MPC5668EVB**
 Page Title: **JTAG and Nexus Connectors**

Size C	Document Number SCH-25183 PDF: SPF-25183	Rev X1
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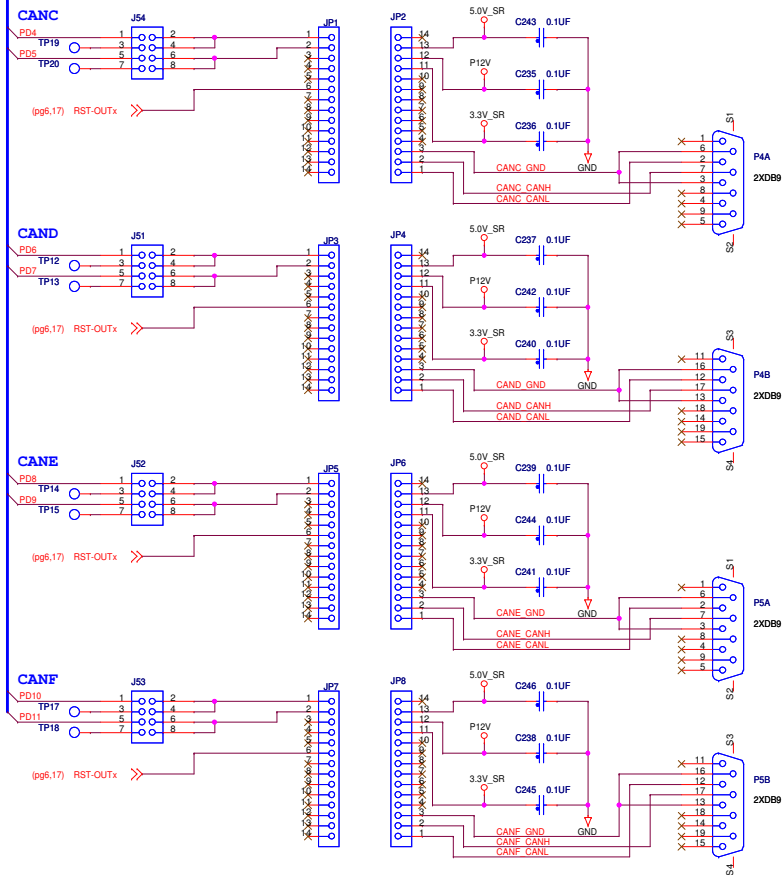


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ICAP Classification: FCP: FLUQ: X PUBI:			
Drawing Title: MPC5668EVB			
Page Title: CAN PHYSICAL INTERFACE			
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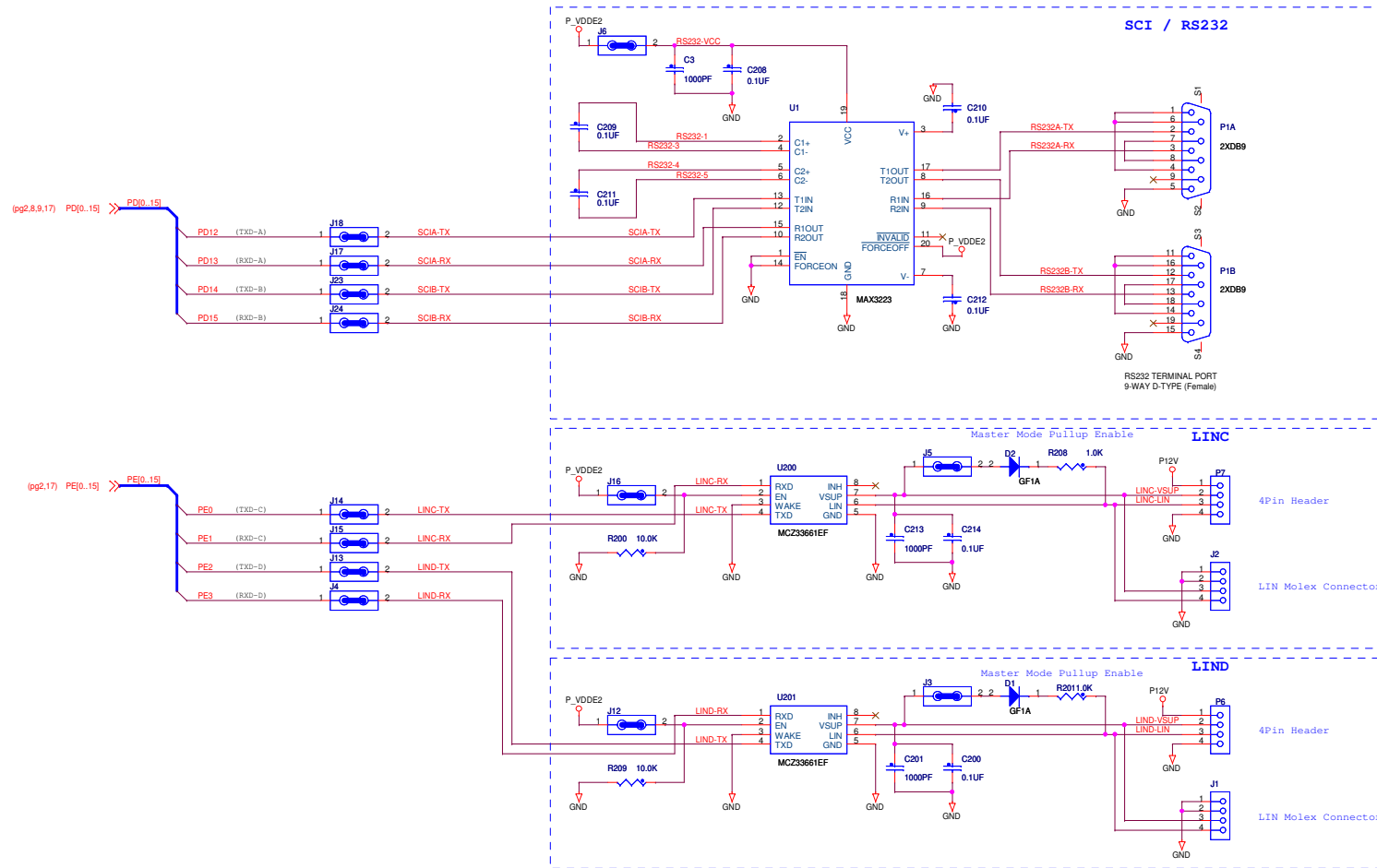


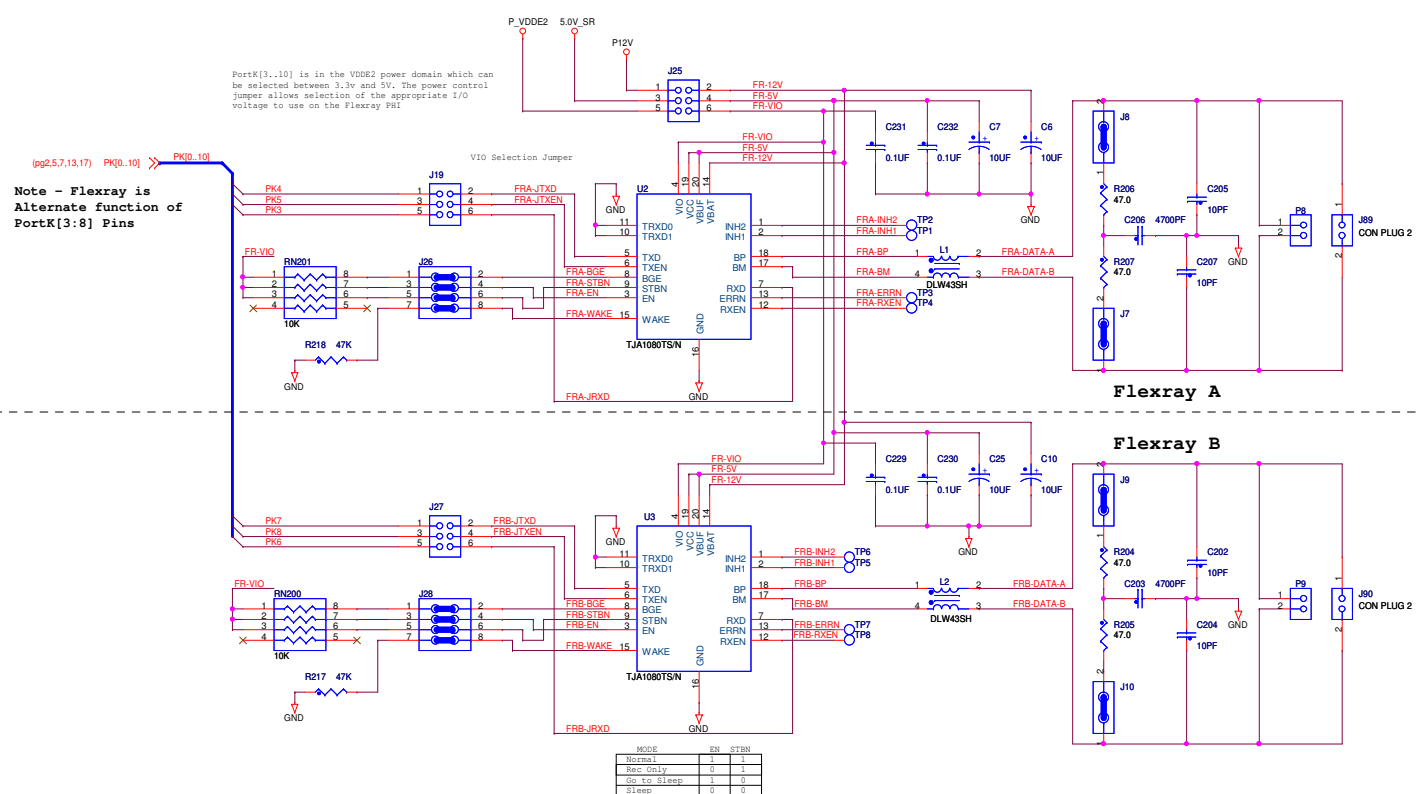
(pg2,8,10,17) PD[0..15]



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ICAP Classification: FCP: _____ FLUQ: X PUBL: _____			
Drawing Title: MPC5668EVB			
Page Title: CAN PHYSICAL INTERFACE			
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PortK[3..10] is in the VDD2 power domain which can be selected between 3.3v and 5V. The power control jumper allows selection of the appropriate I/O voltage to use on the Flexray PHI

(pg2.5.7.13.17) PK[0..10] >> PK[0..10]

Note - Flexray is Alternate function of PortK[3:8] Pins

MODE	EN	STBN
Normal	1	1
Rec Only	0	1
Go to Sleep	1	0
Sleep	0	0

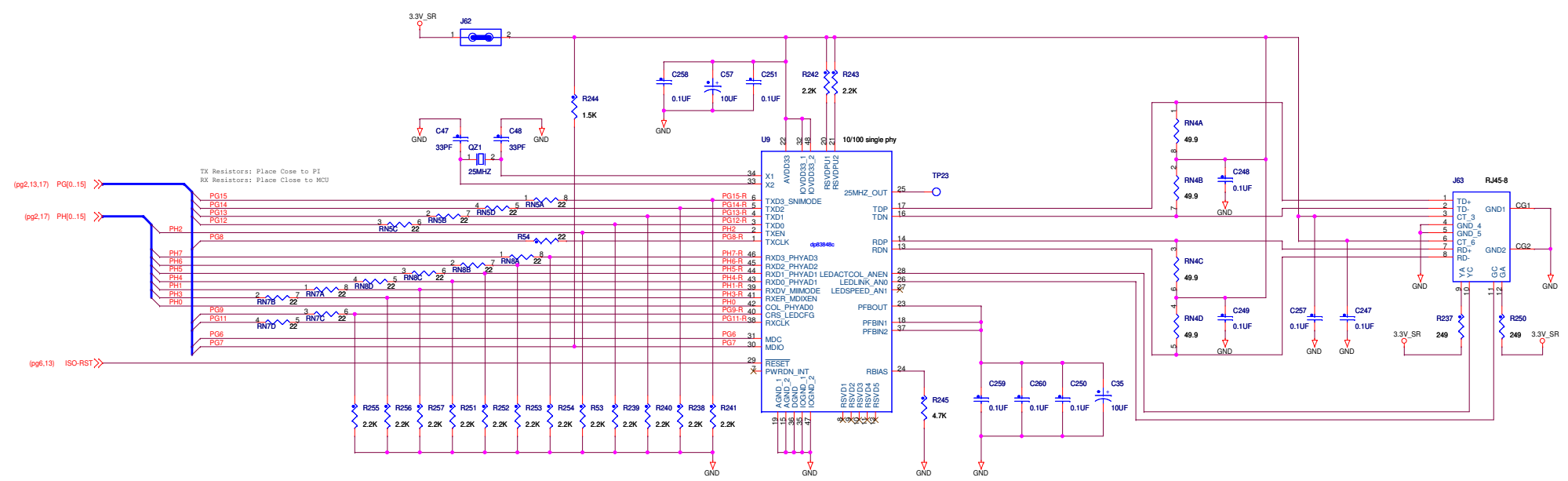
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Drawing Title: **MPC5668EVB**

Page Title: **FLEXRAY PHYSICAL INTERFACE**

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TX Resistors: Place Close to P1
 RX Resistors: Place Close to MCU

(pg2.13.17) PG(0..15)

(pg2.17) PH(0..15)

(pg6.13) ISO-RST

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ICAP Classification: FCP: FLUQ: X PUBI:
 Drawing Title: **MPC5668EVB**

Page Title: **ETHERNET PHYSICAL INTERFACE AND RJ45**

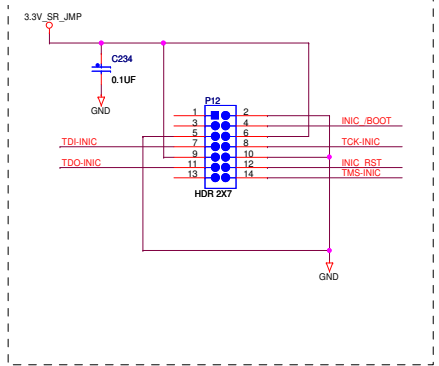
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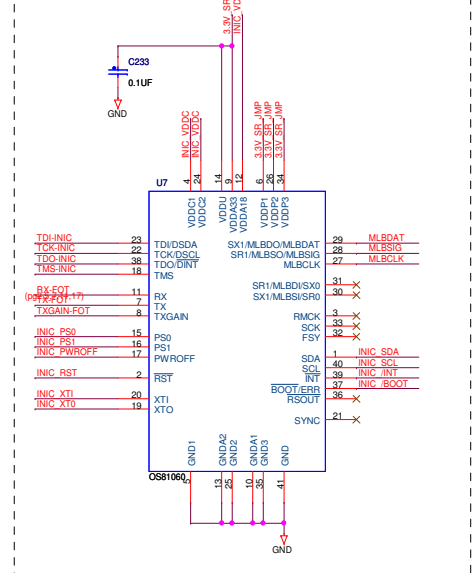


POWER SUPPLY DECOUPLING (as per KANIS)

INIC JTAG



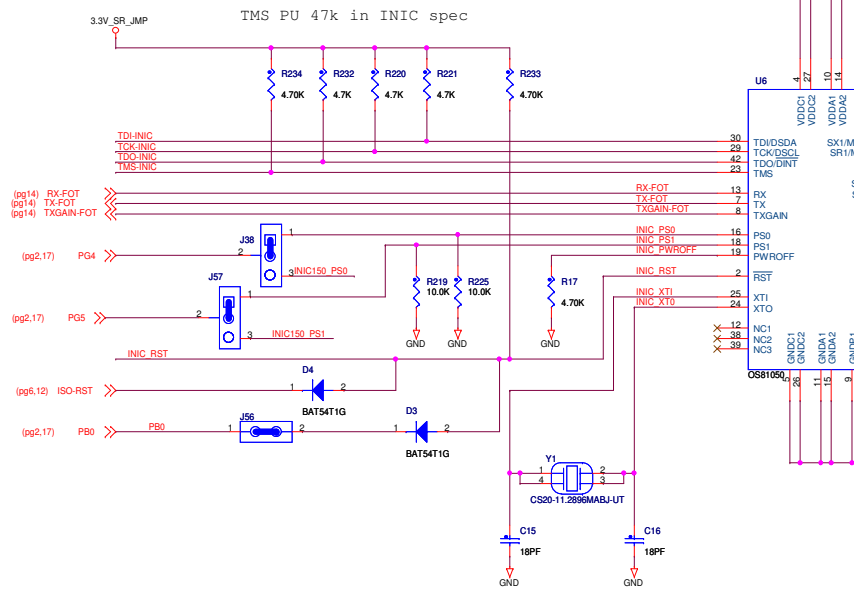
INIC ROM



1.8V External Supply MUST be applied here if using ROM INIC.

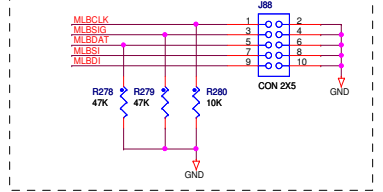
Resistors to control rise/fall times

TMS PU 47k in INIC spec



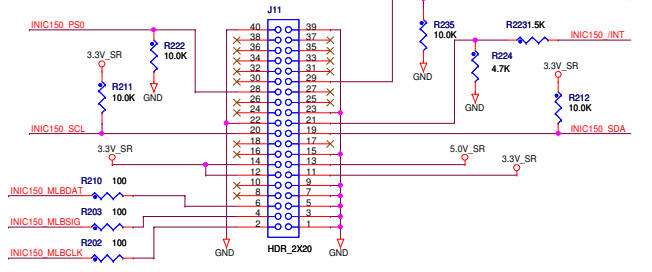
Connected to I2C-C. Must be set to 3.3V

MLB MONITOR



CHECK caps

INIC150 Connector



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ICAP Classification: FCP: FLUC: X PUBL:

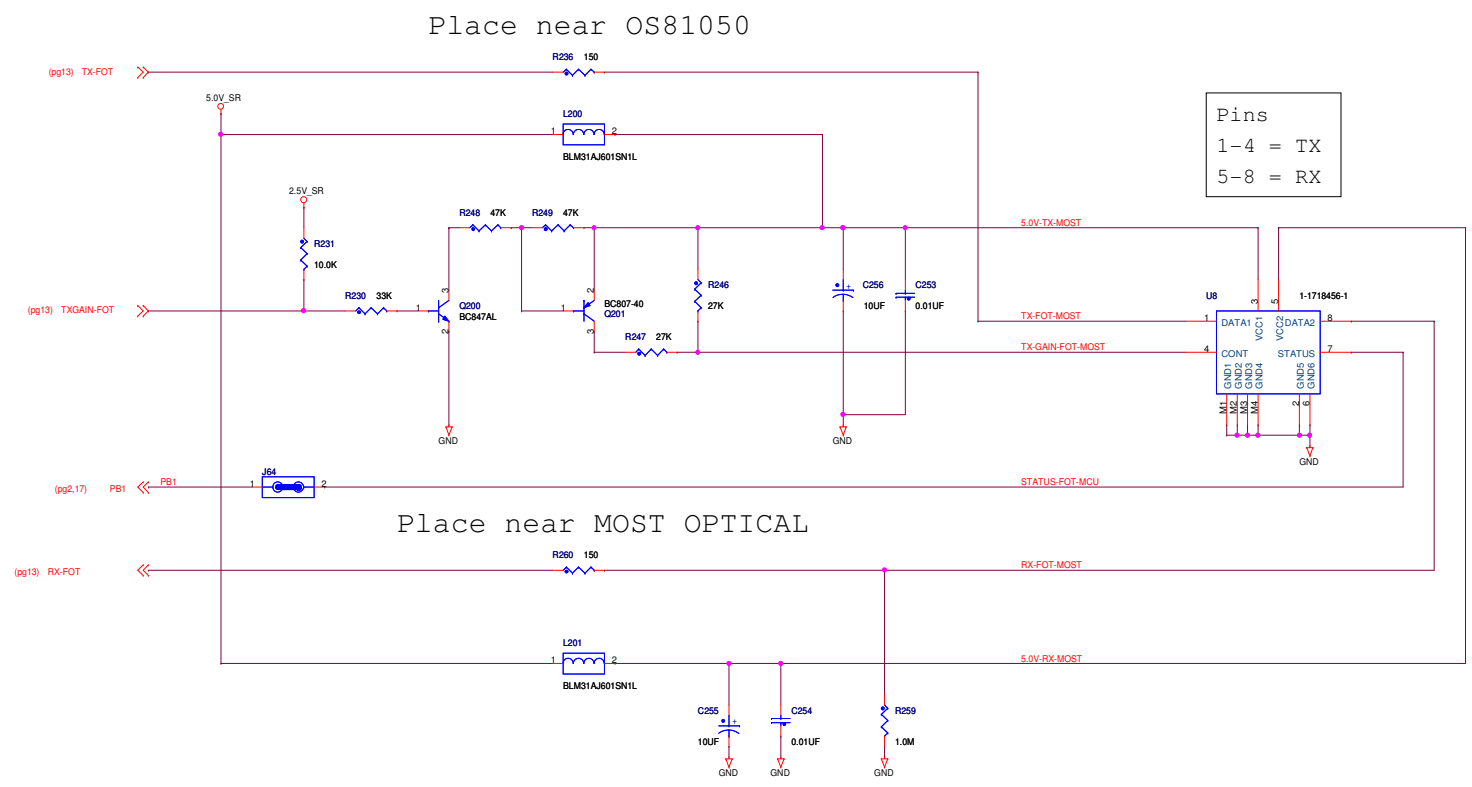
Drawing Title: **MPC5668EV8**

Page Title: **MLB INIC**

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Layout Guidelines:

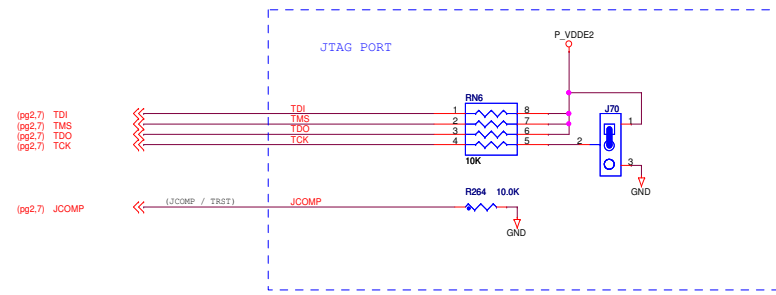
- As per MPC5510ADAPMLB (LAY-23554)
- MOST Optical should be close to OS81050
- Place R68 next to OS81050
- Place R75 next to MOST Optical



Pins
1-4 = TX
5-8 = RX

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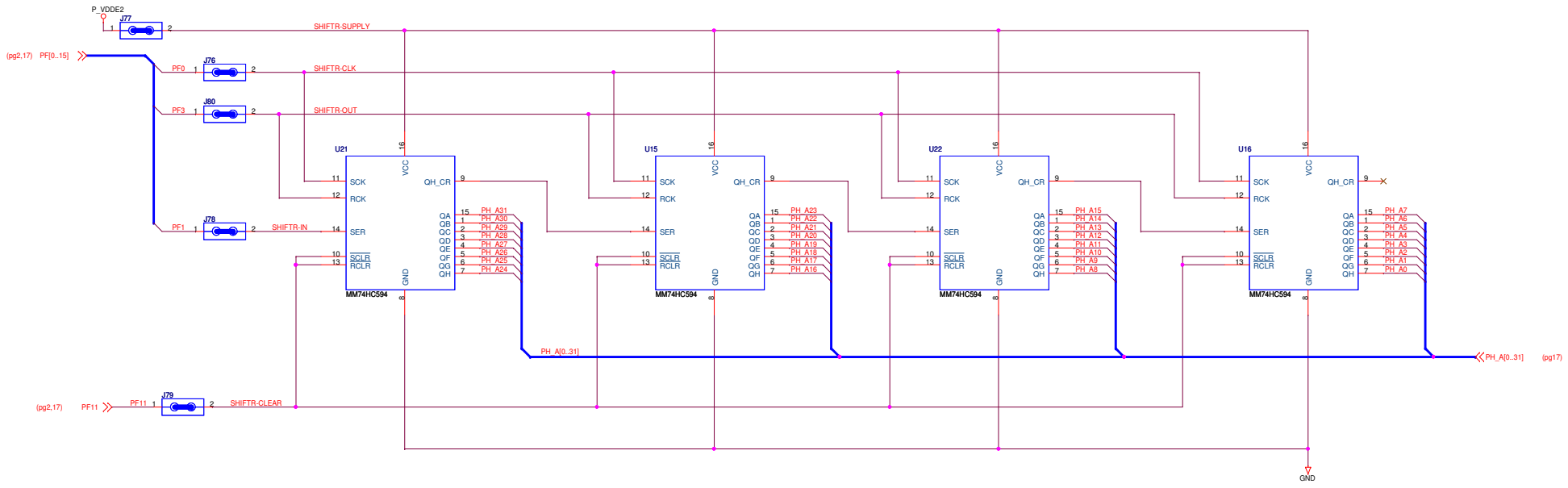
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Drawing Title: MPC5668EVB				
Page Title: MOST PHYSICAL INTERFACE				
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All RESET Pullup Resistors are shown on Reset Circuitry page

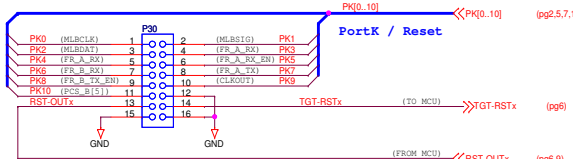
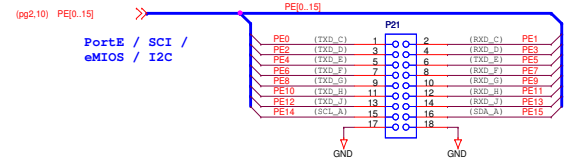
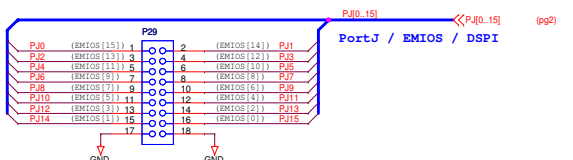
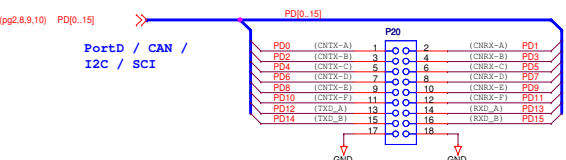
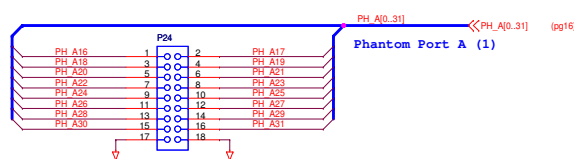
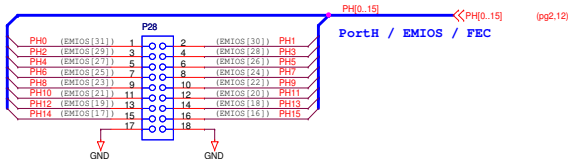
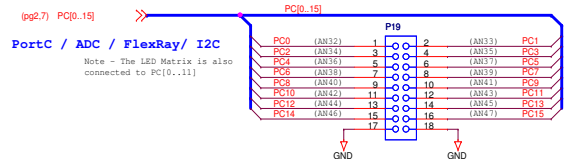
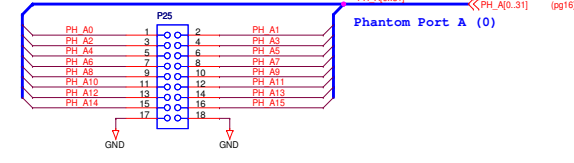
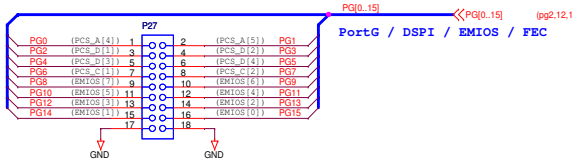
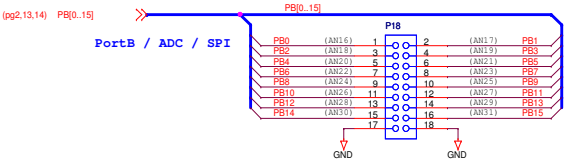
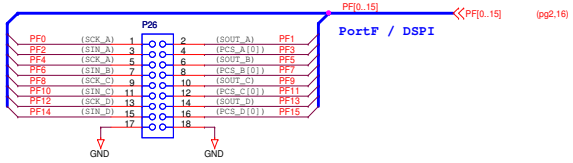
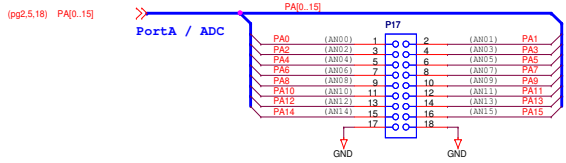
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Page Title:		TERMINATION RESISTORS	
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Drawing Title:			
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PHANTOM PORT CIRCUITRY			
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NOTE: All Connectors are 0.1" through-hole headers

ICAP Classification: FCP: FLUQ: X PUBL:

Drawing Title: **MPC5668EVB**

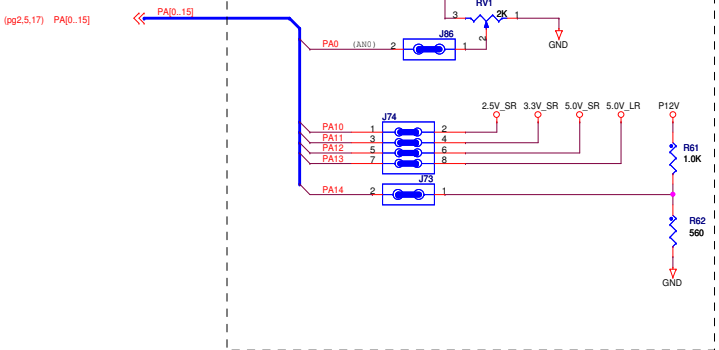
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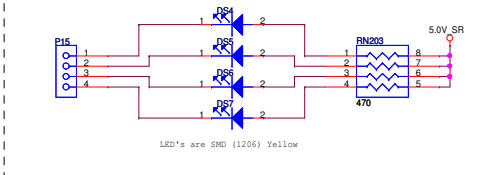
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AN0 Potentiometer/Filters/Voltage Monitors

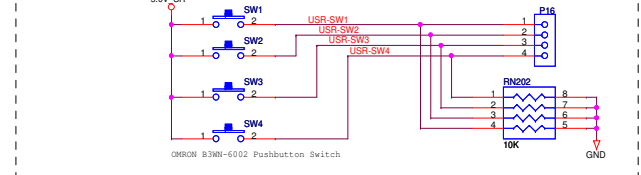
(Note - This is run from linear 5.0v regulator to provide a stable input voltage)



User LED's



User Switches



ICAP Classification: FCP: FLUQ: X PUB:			
Drawing Title: MPC5668EVB			
Page Title: User Peripherals Inc Prototyping			
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