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TWR-KL46Z48M

Revisions			
Rev	Description	Date	Approved
X1	Initial Release	26/09/2012	Luis Puebla
X2	TWRPI-SLCD integrated with TOUCH PAD TWRPI A070 Release	05/10/2012	Luis Puebla
X3	The Assembly option for U10 IC MCU is changed to DNP	08/10/2012	Luis/Ramon
A	Prototype Release	10/10/2012	Luis Puebla
AX1	1. R553 with 4.7K value added on PTA4 net 2. USB data lines are swapped at MCU end 3. I2S signals added at J12 and U10,U11 4. U8 removed and U508,U509 added. 5. Reset Switch connection modified. 6. Zero Ohm DNP Resistor added in I2C lines	13/12/2012 14/12/2012	Luis Puebla
B	J12- A24 and A25 are swapped. I2S net labels updated at J12. J10-2 connected to UART2_TX_TGTMCU(PTE16) J11(2) connected to UART2_TX_TGTMCU(PTE17) U10,U11 - PTA15 renamed as I2S0_RXD0 U10, U11 - PTA14 made NC. Rev B- A085 Release	09/01/2013	Luis Puebla
BX1	U11(Sub assmely), C511 removed. U10 (MCU) - Assembly option changed from DNP to 'Mounted' R509,R543,R544 - Populated PTA7,PTA14,PTC18,PTB20,PTB21,PTB22 connected to Elevator connector at B55,B57,B59,A50,A51,A53. J4,J18 replaced by 3 pin header. R7 connected (from RST_OUTB signal) to PTA6/TPM0 CH3	15/03/2013	Luis Puebla
BX2	1. C539 - Added in P5V_VREGIN_KL46 net. 2. J13-2 connection chngaed from PTA5/FTM0_CH2 to Pin33(PTE26/TPM0_CH5)	22/03/2013	Luis Puebla
C	A085 Release	01/04/2013	Luis Puebla

		Microcontroller Solutions Group 6501 William Cannon Drive West Austin, TX 78735-8598	
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Designer: K.S Chelvi		Drawing Title: TWR-KL46Z48M	
Drawn by: K.S Chelvi		Page Title: TABLE OF CONTENTS	
Approved: Luis Puebla	Size C	Document Number SCH-27760 PDF: SPF-27760	Rev C
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1. Unless Otherwise Specified:

All resistors are in ohms
All capacitors are in uF
All voltages are DC

2. Interrupted lines coded with the same letter or letter combinations are electrically connected.

3. Device type number is for reference only. The number varies with the manufacturer.

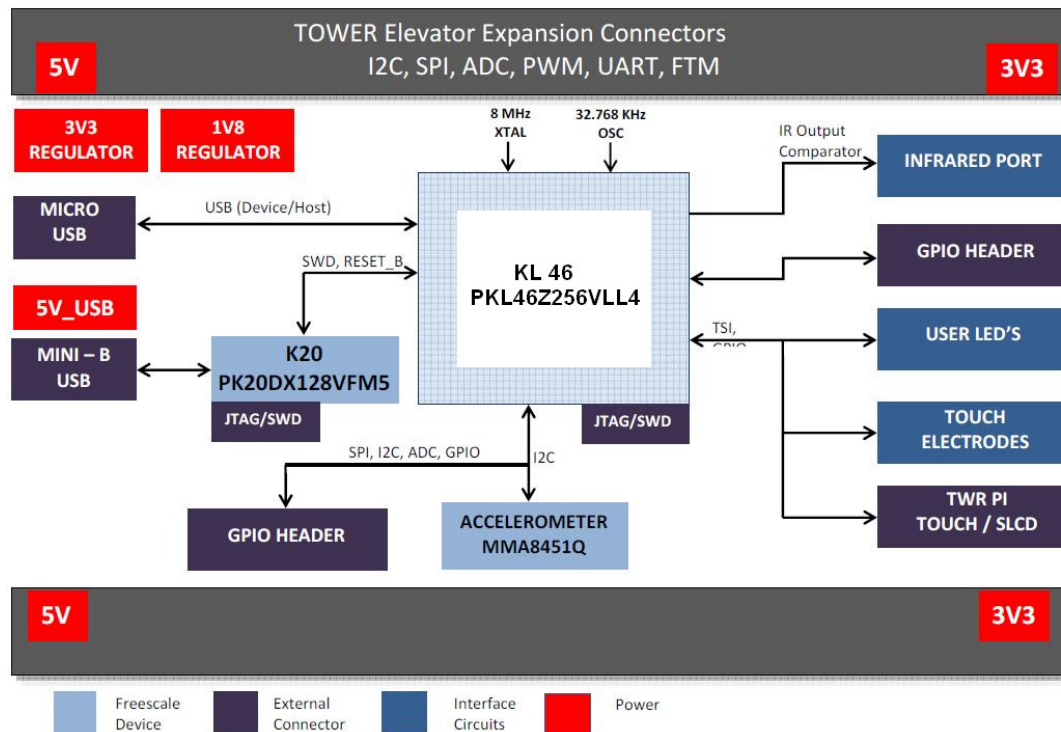
4. Special signal usage:

_B Denotes - Active-Low Signal
<> or [] Denotes - Vectored Signals

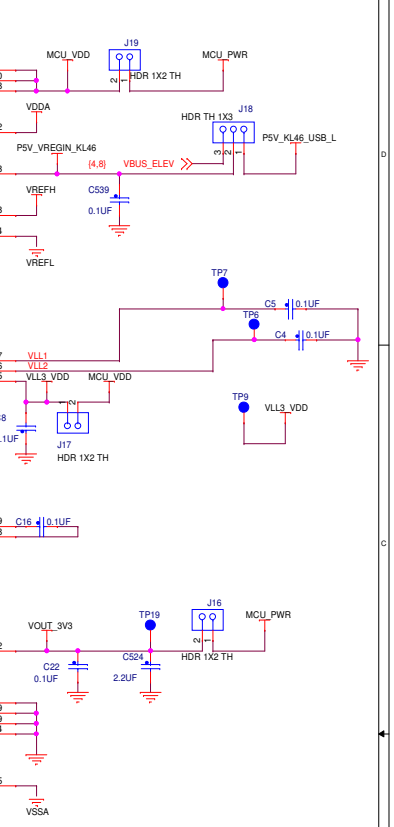
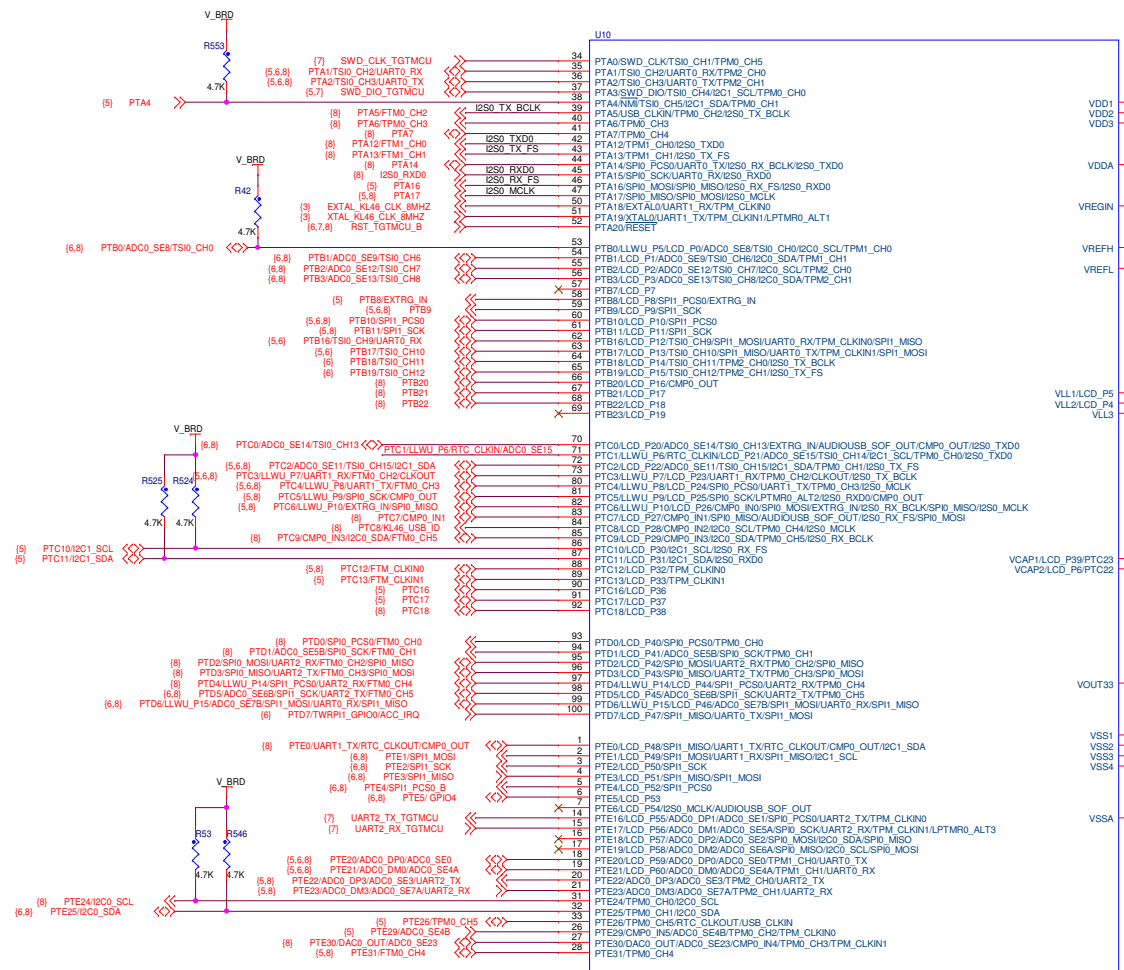
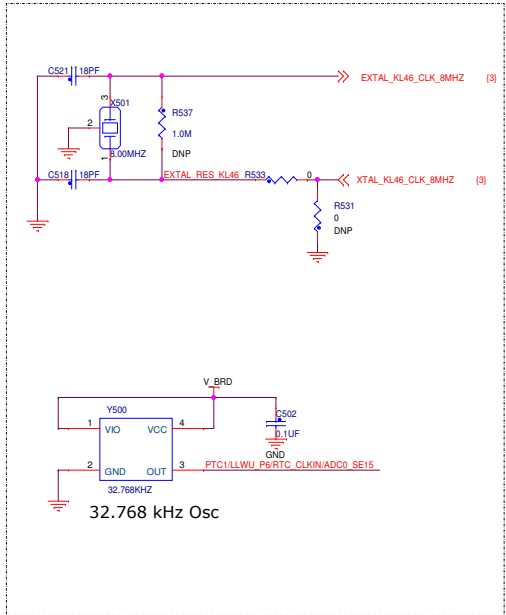
5. Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

Power & Ground Nets

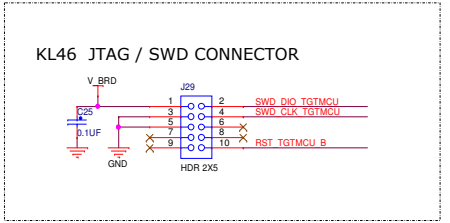
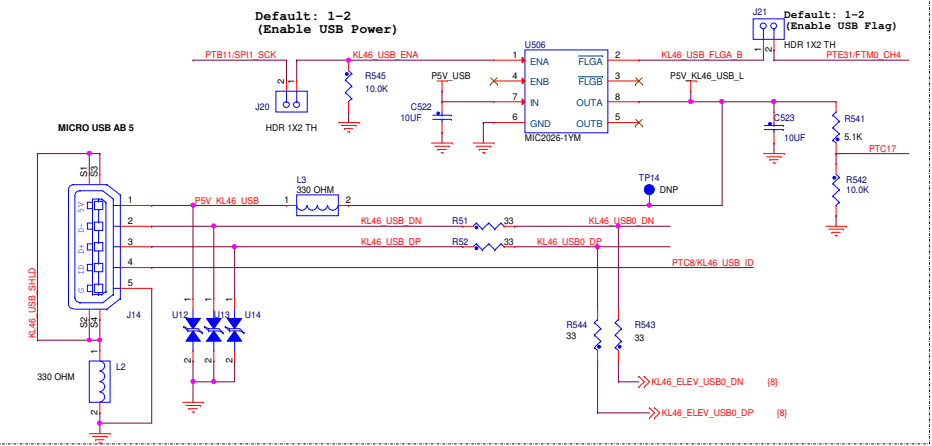
NET	VOLTAGE	DESCRIPTION
P5V_USB	5V	Primary input power. Filtered from USB connector. Input to USB power switch.
P5V_TRG_USB	5V	Output of USB power switch controlled by the VTRG_EN signal from the JM60 MCU. Provides input to regulator.
P3V3_REG	3.3V	Output of regulator U503 or from the Elevator connector
P1V8	1.8V	Output of regulator U504
V_BRD	3.3v or 1.8v	MCU & Interface circuit input power
VDDA	3.3V	VDDA power for MCU and analog circuits. Filtered from MCU_PWR.
VREFH	3.3V	Upper reference voltage for ADC on the MCU. Filtered from VDDA.
VREFL	0V	Lower reference voltage for ADC on the MCU. Filtered from VSSA.
VSSA	0V	VSSA power for MCU and analog circuits. Filtered from GND.
GND	0V	Digital Ground.



KL46 - 100 LQFP



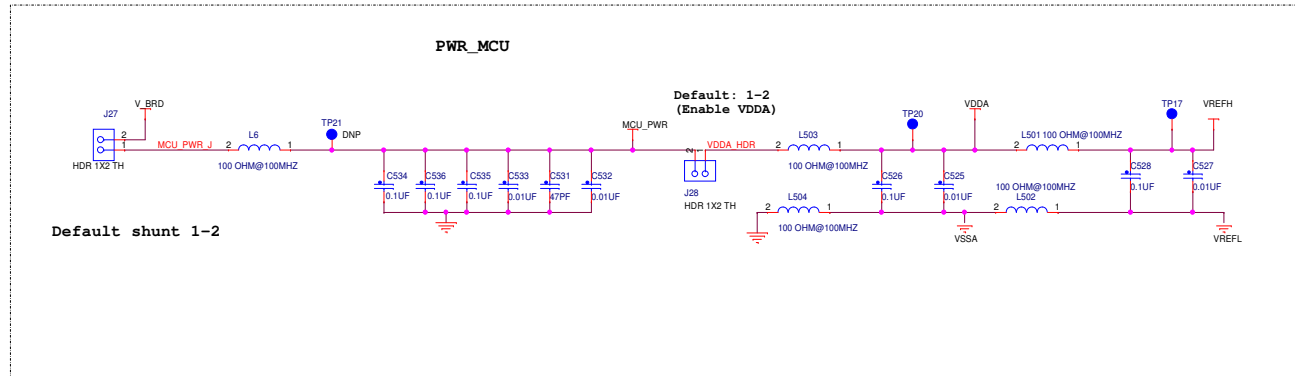
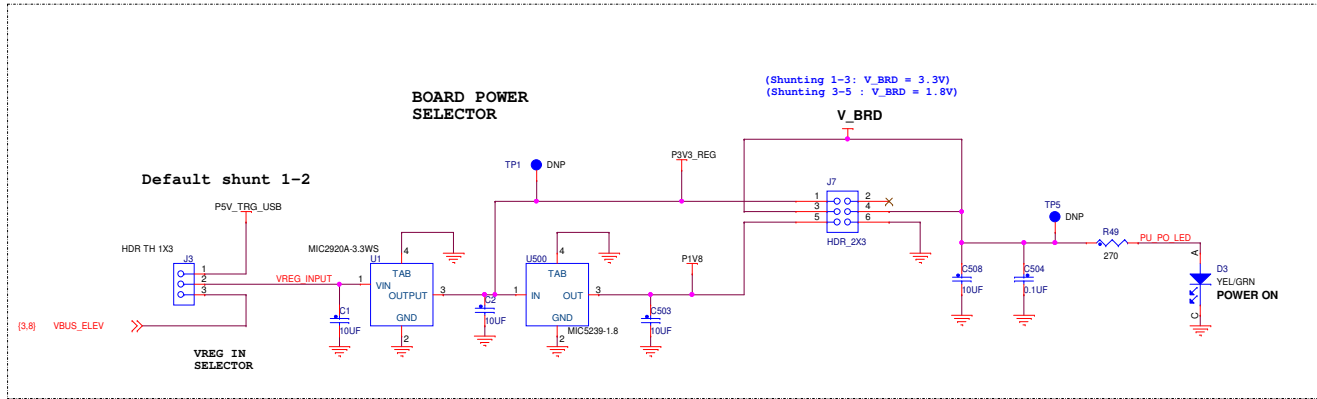
KL46 USB Interface (Host, Device, OTG)



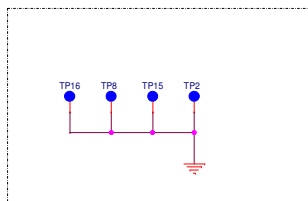
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 Page Title: **PKL46Z256VLL4 (100LQFP)**

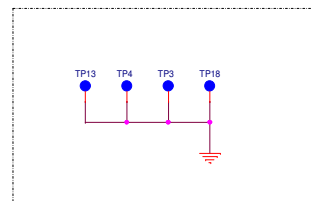
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GND LOOP TEST PADS

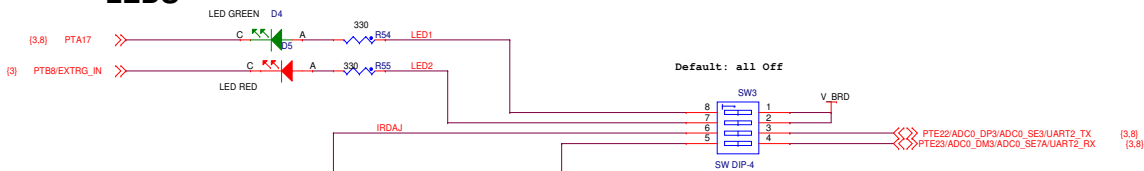


GND LOOP TEST LOOPS

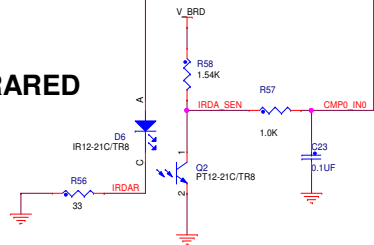


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Drawing Title:		TWR-KL46Z48M		
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LEDS

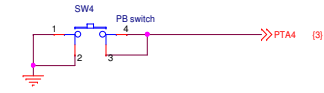


INFRARED

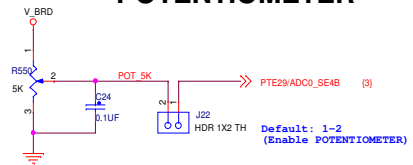


Intensity will be different between V_BRD = 1.8V and 3.3V.

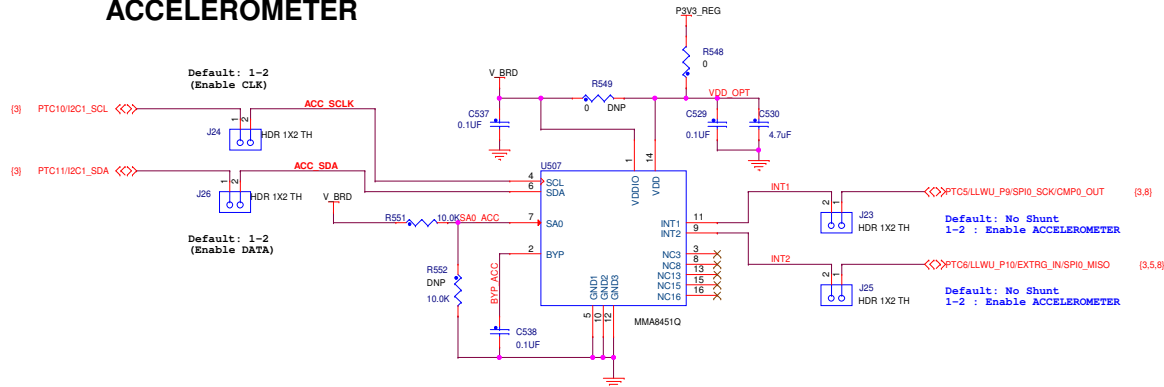
PUSH BUTTON



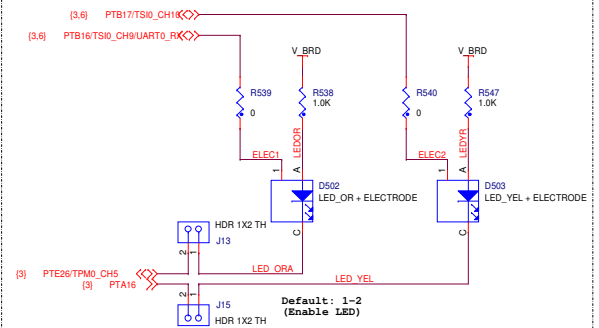
POTENTIOMETER



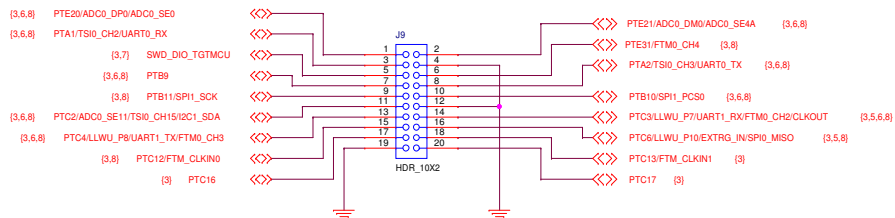
ACCELEROMETER



TOUCH ELECTRODES WITH LEDS



GPIO HDR



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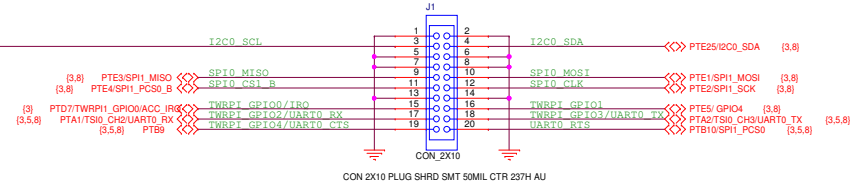
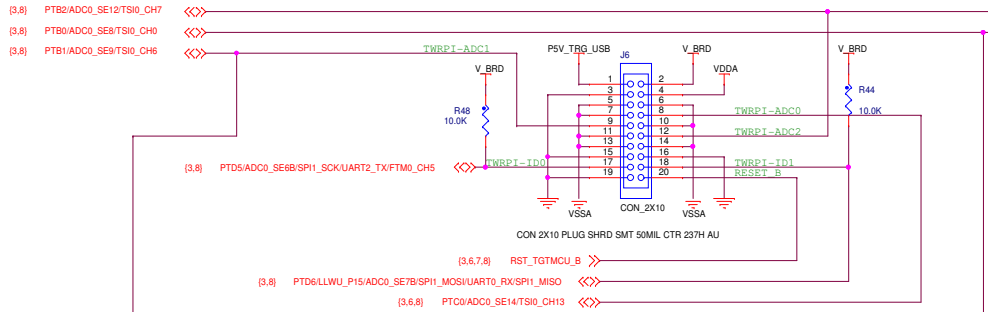
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GENERAL PURPOSE TWRPI 1

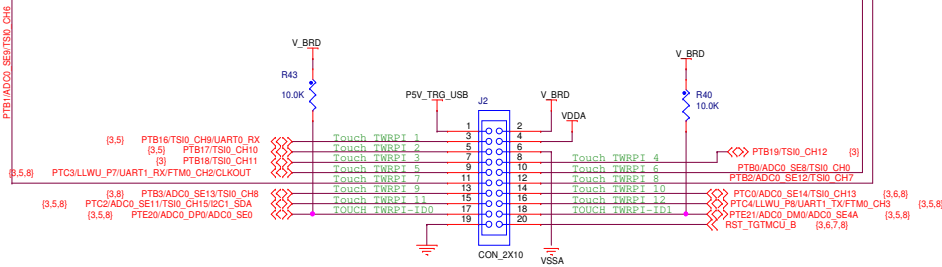
Note: The TWRPI connectors are powered by V_BRD which may be 1.8V or 3.3V.

Not all TWRPI boards will work at 1.8V.

Check that the TWRPI board will work at 1.8V before using it when this board is set for 1.8V.



TOUCH PAD TWRPI / SLCD



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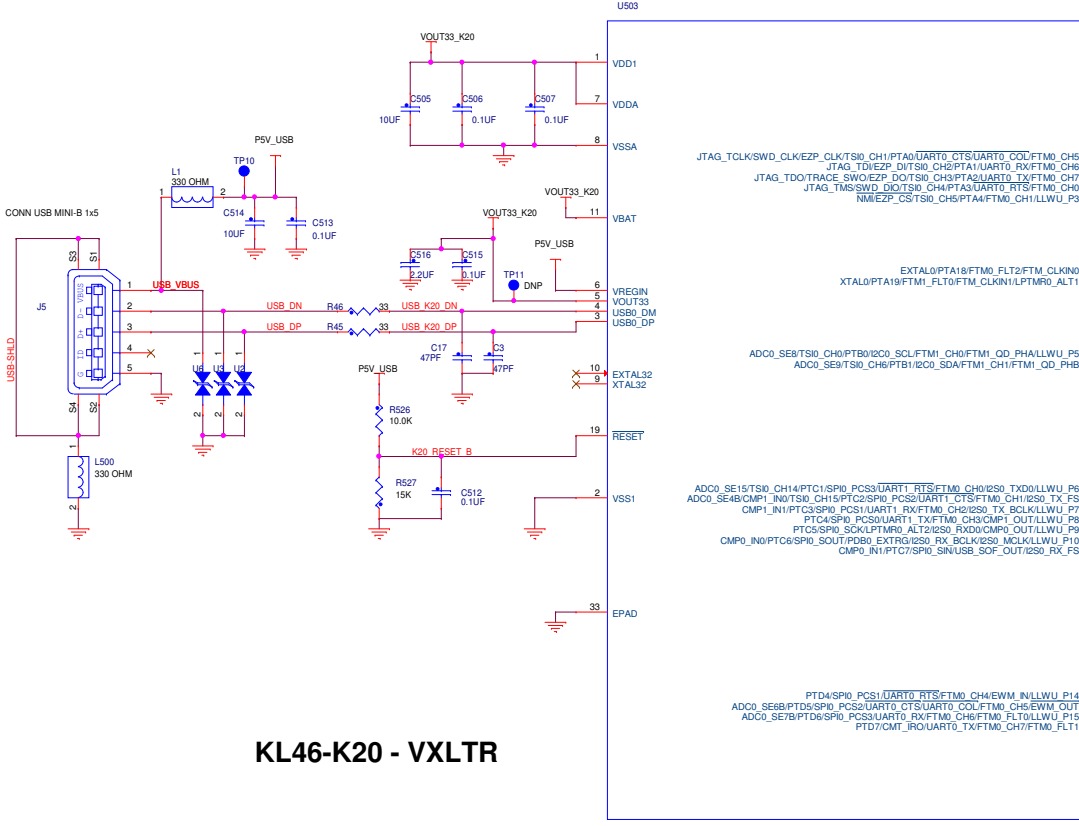
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Page Title: **TWRPI MODULES**

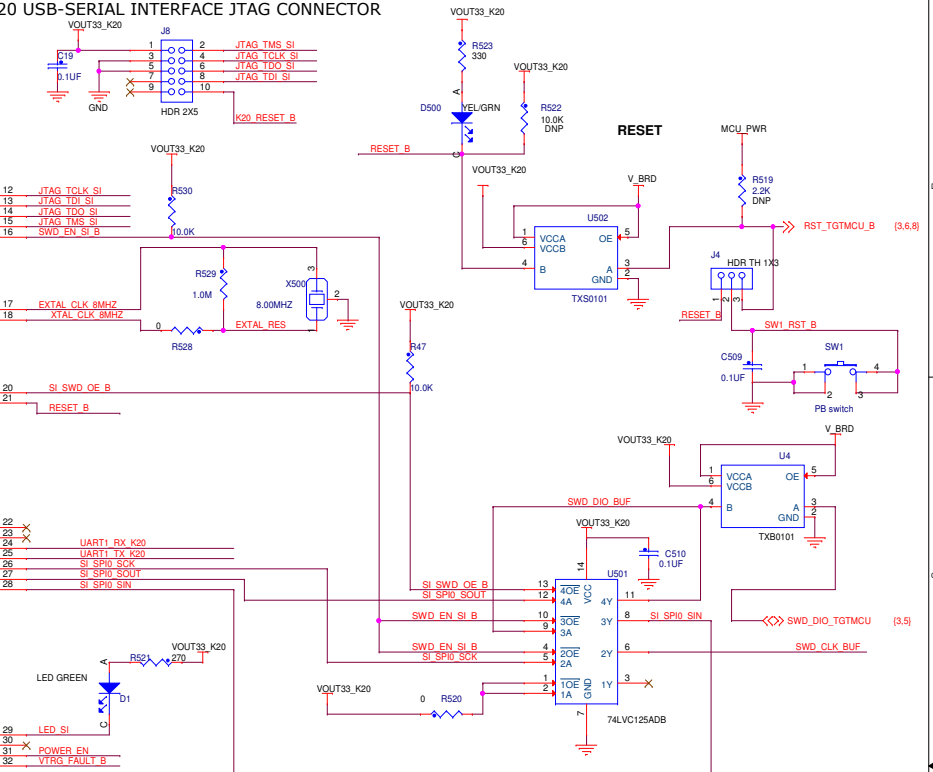
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K20 - 32QFN

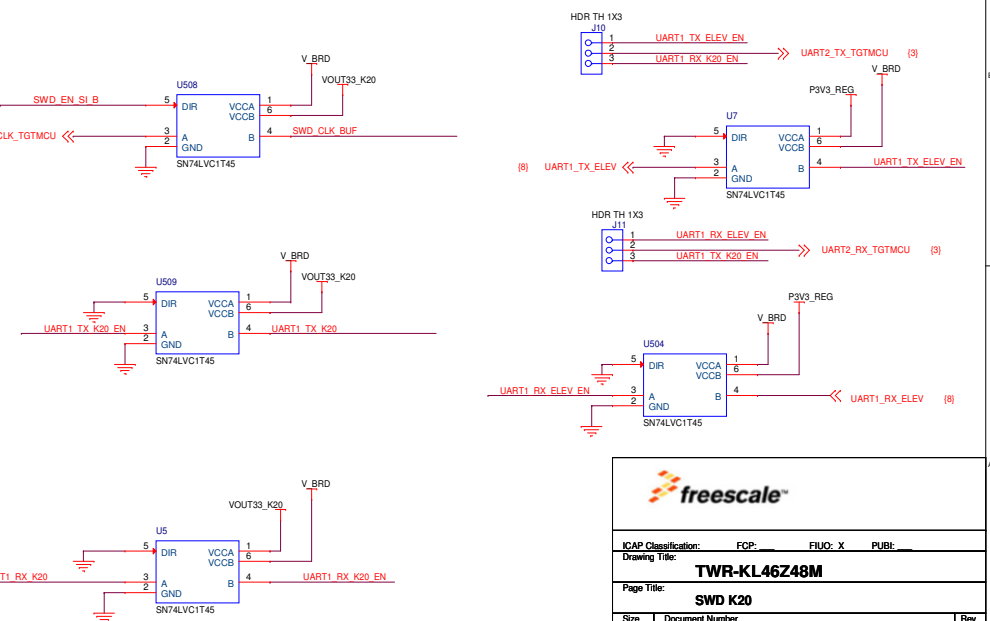
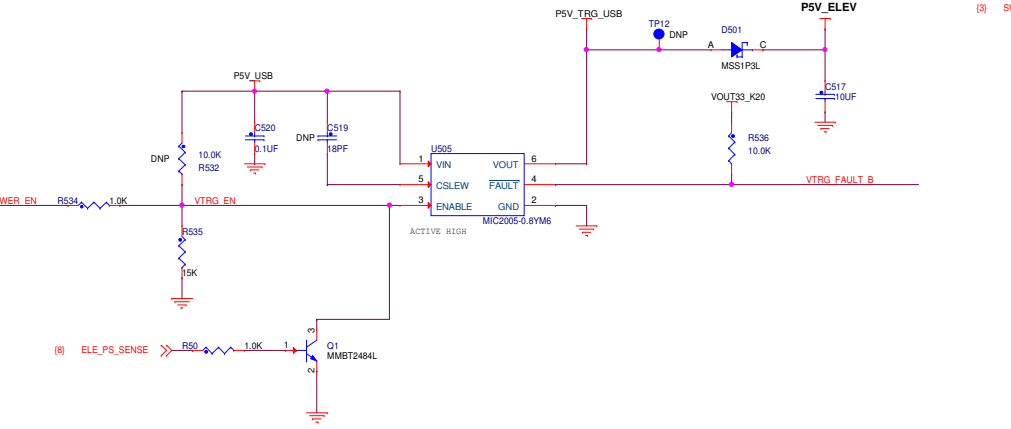
K20 USB-SERIAL INTERFACE JTAG CONNECTOR



KL46-K20 - VXLTR



PWR switch to enable 5v from USB connector

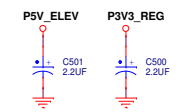
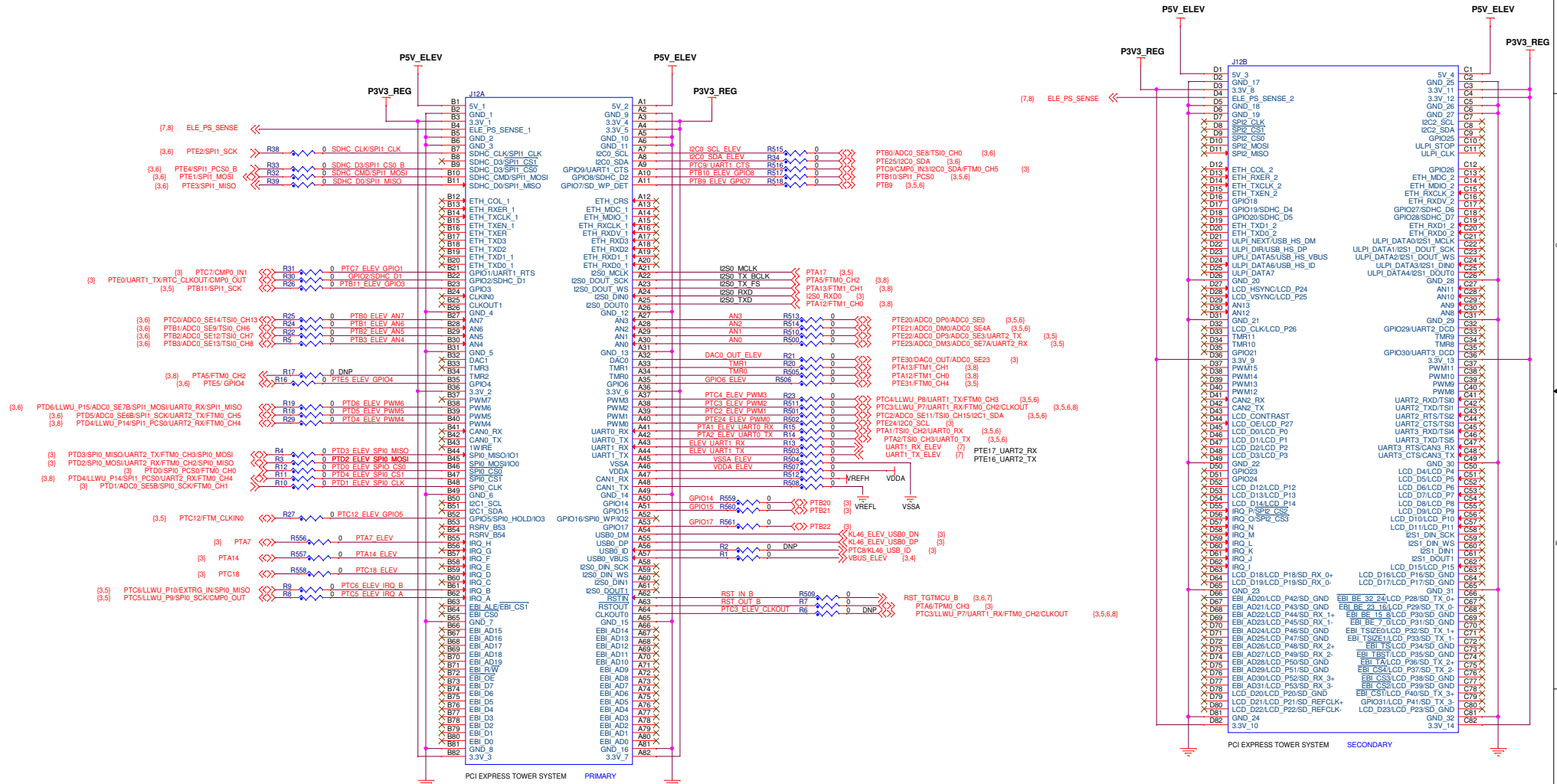


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ELEVATOR CONNECTOR



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