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Revisions

Rev	Description	Date	Approved
A	Proto Release	30 Jul 10	J.H.
B	Pilot Release	20 Sep 10	DK
C	Impliment ECO28507	11 Oct 10	J.H.
CX1	Changes per ECR05201	16 Dec 10	DK
D	Release for A085	20 Dec 10	DK

		Microcontroller Solutions Group	
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Designer: Jay Harvigsen		ICAP Classification: FOP: FUK: X PUB:	
Drawing Title: Manjula		TWR-K60N512	
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1. Unless Otherwise Specified:

- All resistors are in ohms
- All capacitors are in uF
- All voltages are DC
- All polarized capacitors are aluminum electrolytic

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_SW	5V	Output of USB power switch controlled by the 5V_EN signal from the JM60 MCU. Used by OSBDM voltage translation circuits.
P5V_TRG_USB	5V	Output of USB power switch controlled by the VTRG_EN signal from the JM60 MCU. Provides input to regulator.
P3V3	3.3V	Output of regulator using USB power input (P5V_TRG_USB).
P3V3_MCU	3.3V	MCU digital power. Filtered from P3V3.
VDDA	3.3V	VDDA power for MCU and analog circuits. Filtered from P3V3_MCU.
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.



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Sheet 8

ELEVATOR CONNECTORS

Sheet 5

OSJTAG/USB Bridge Circuit
USB Mini B Connector
MC9S08JM60
Voltage Translation
OSJTAG/JTAG Header
SCI Source Selectors
Power Supply Circuits

Sheet 4

K60N512 MCU
50 MHz XTAL
32.768 KHz XTAL
VSSA/VDDA filter
VREFH/VREFL filter
VREF_OUT
VREGIN, VOUT33
VBAT

Sheet 6

INFRARED PORT

Sheet 6

PUSH BUTTONS

Sheet 7

LEDs

Sheet 6

SD CARD SOCKET

Sheet 7

TOWER PLUG-IN (TWRPI)
SENSOR HEADERS

Sheet 7

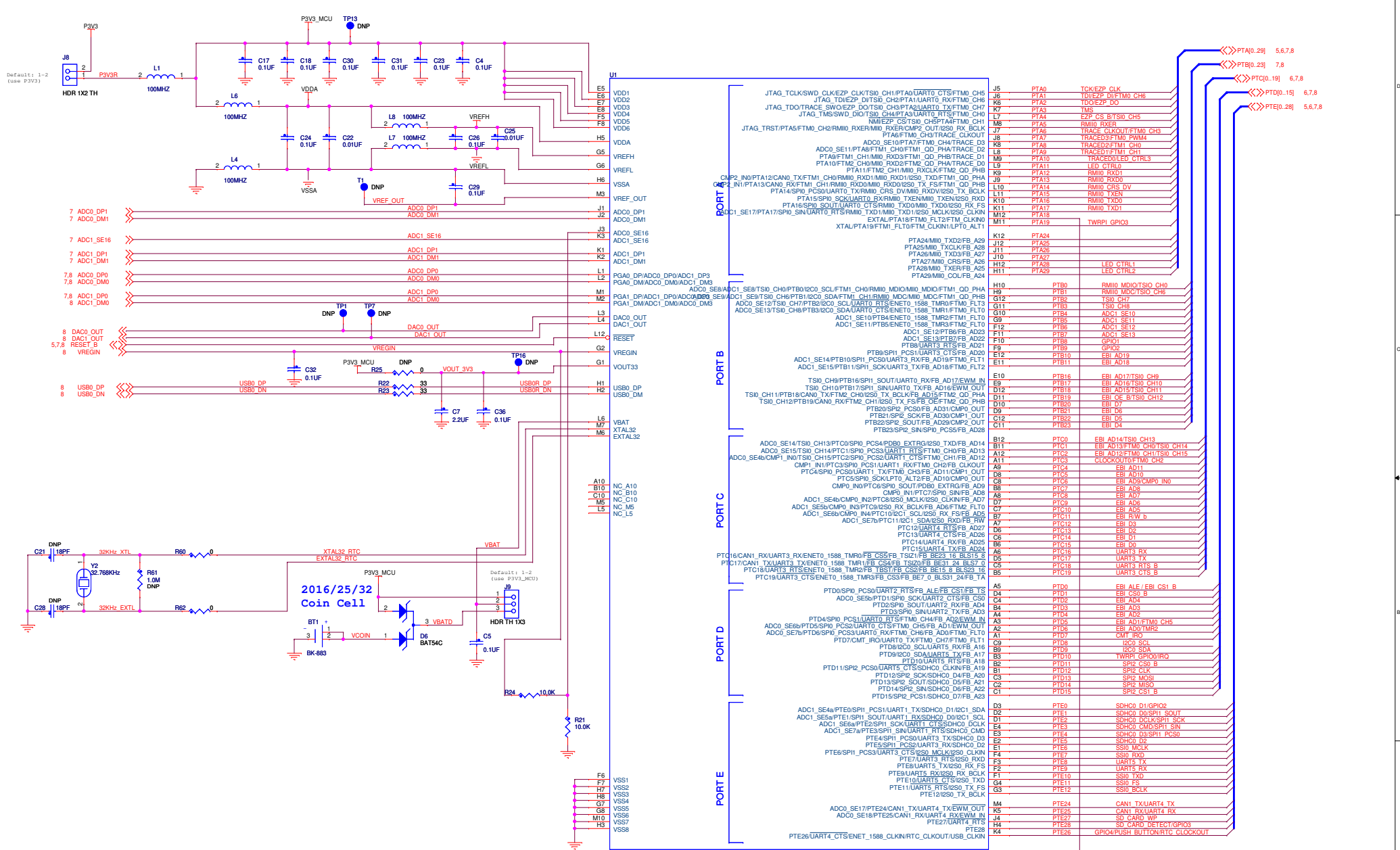
ANALOG INPUTS
MMA7660 ACCELEROMETER
POTENTIOMETER

Sheet 7

TOWER PLUG-IN (TWRPI)
TOUCH HEADER



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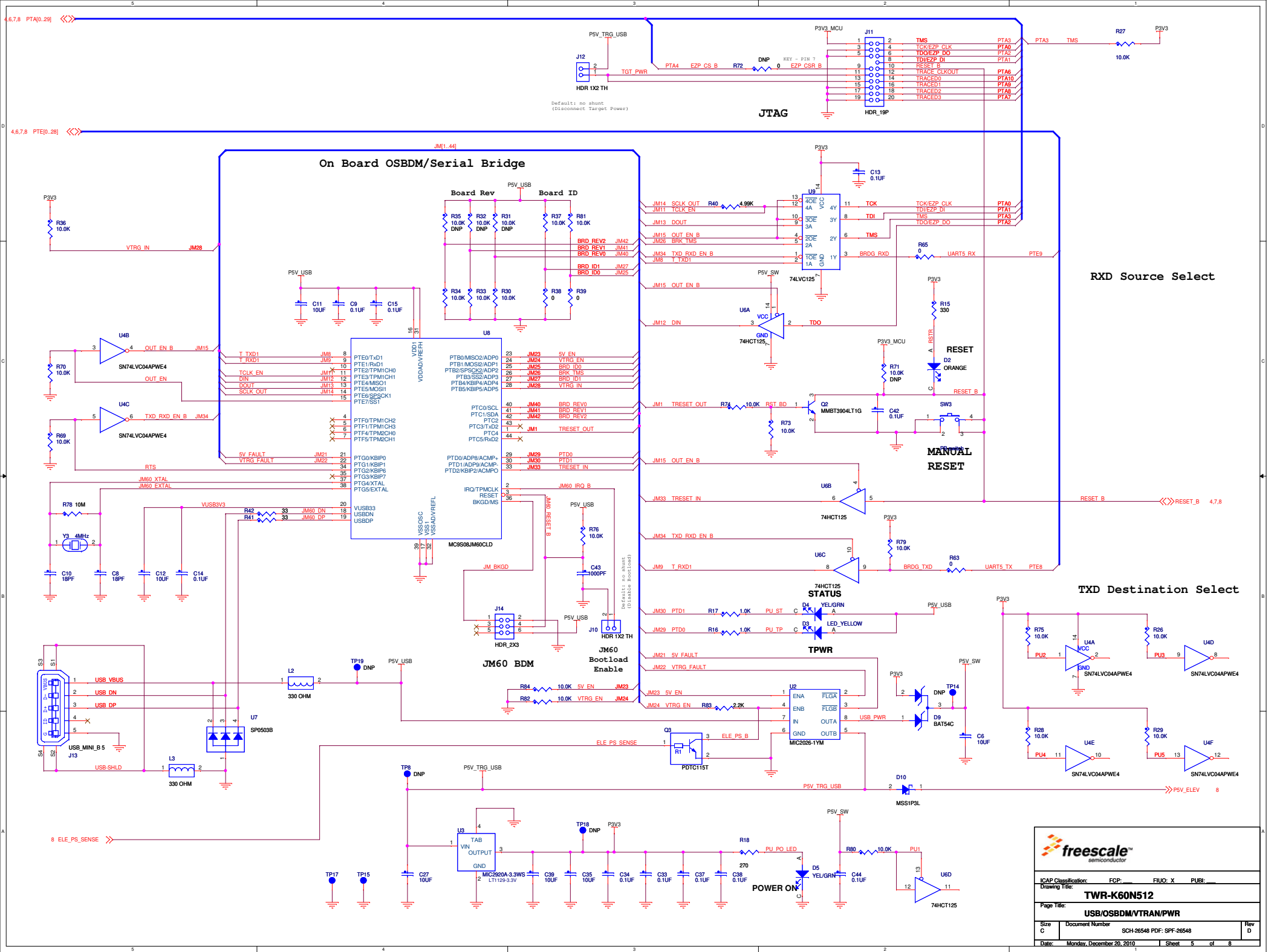


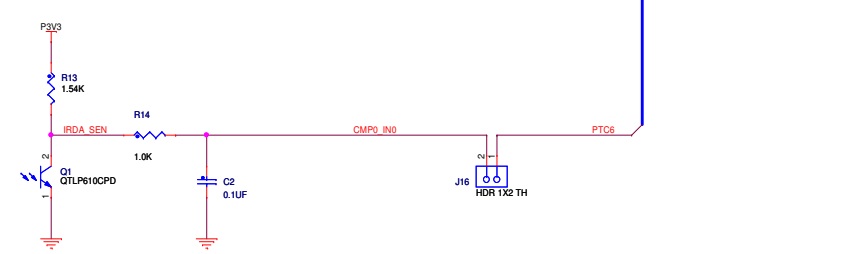
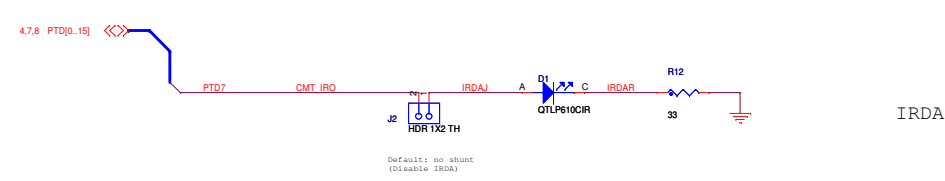
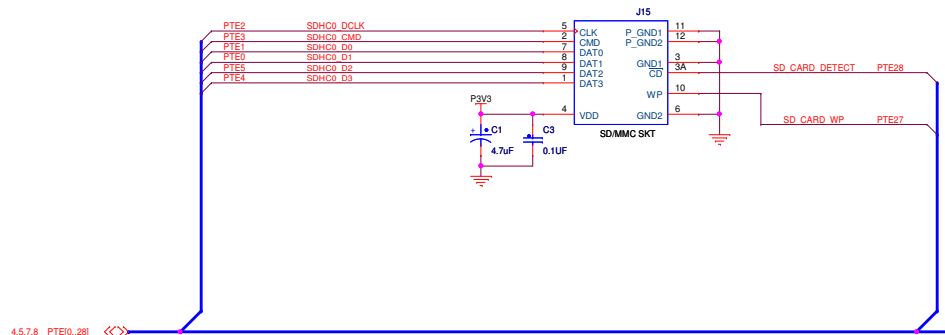
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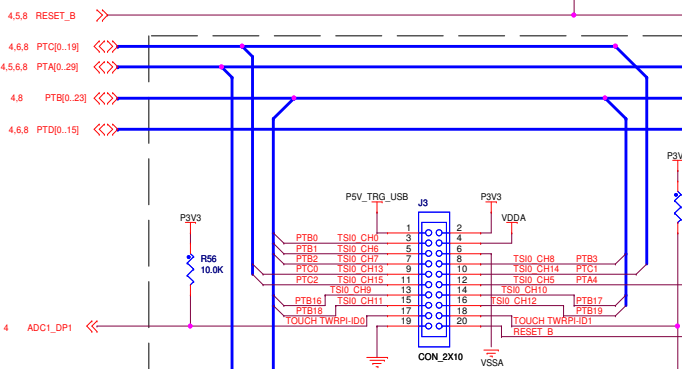
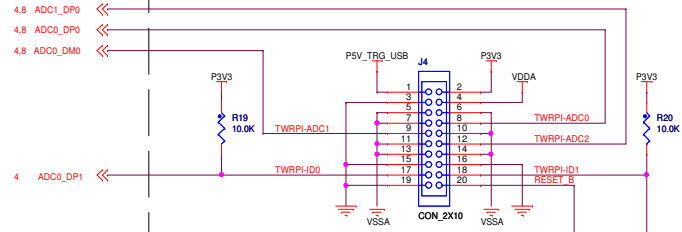
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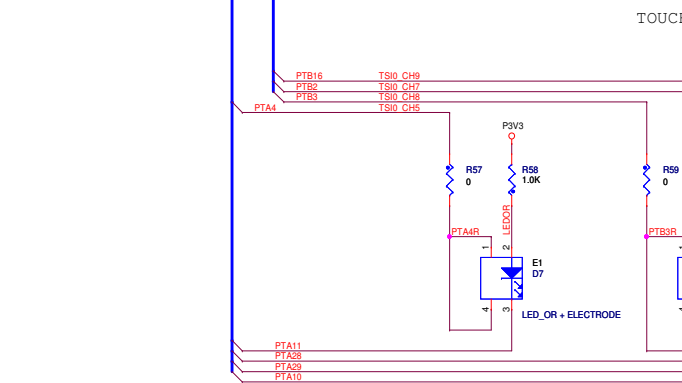
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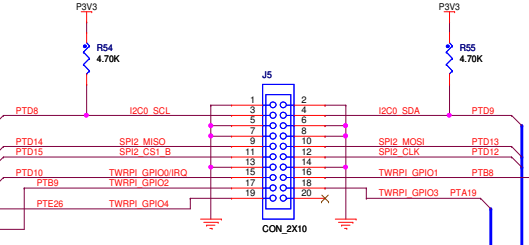
GENERAL PURPOSE
TWRPI



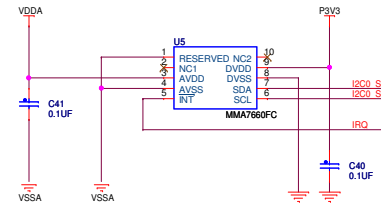
TOUCH PAD
TWRPI



TOUCH ELECTRODES WITH LEADS

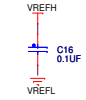


ACCELEROMETER



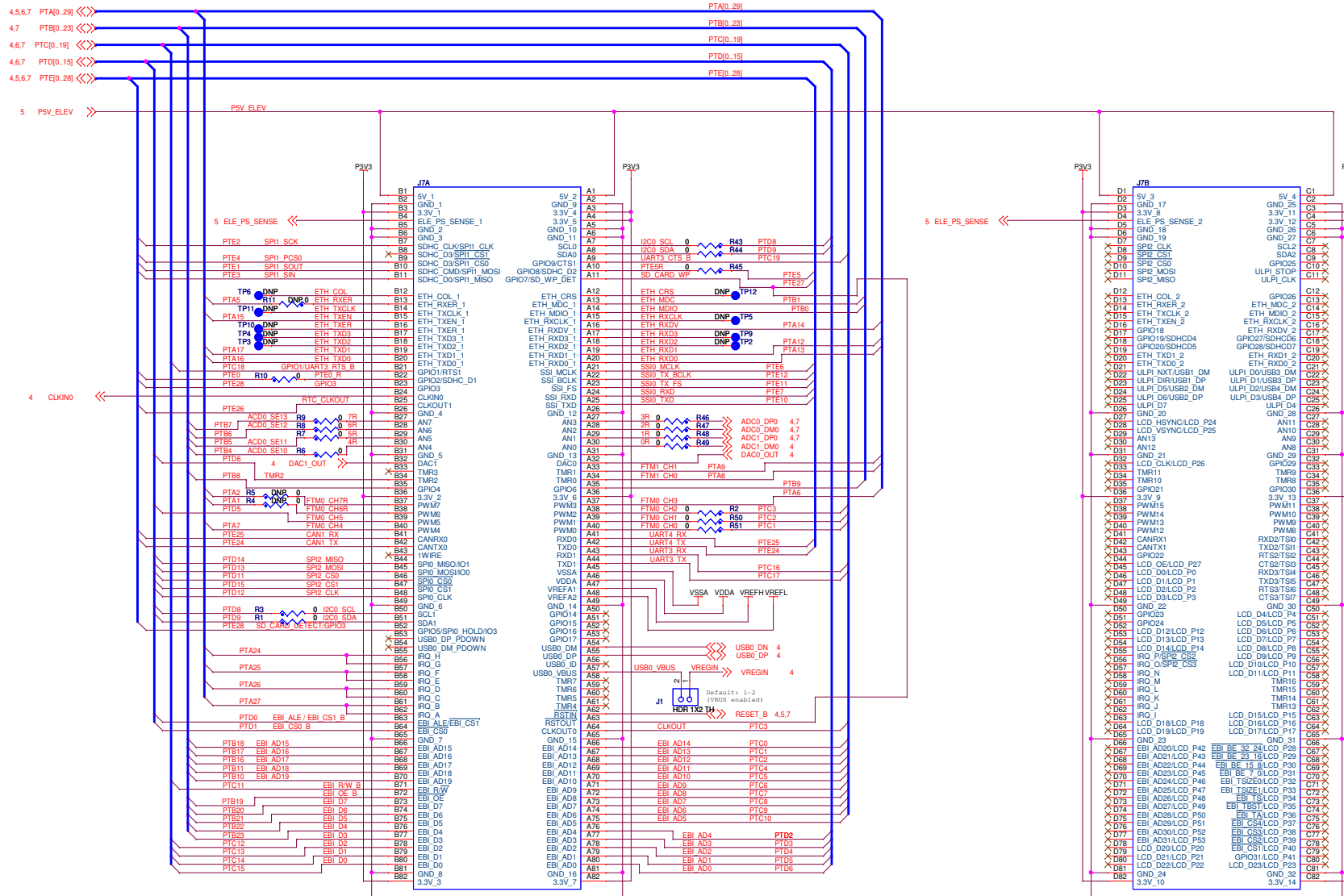
POTENTIOMETER

VREF BYPASS



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