Contents

Revisions

Rev	Description	Date	Approved
X1	Release to A070	11-9-2011	L.S
A	Release to A085	11-28-2011	L.S

Microcontroller Solutions Group

6501 William Cannon Drive West
Austin, TX 78735-8598

ICAP Classification: FCP: FIUO: X PUBI:

Designer: J.Antony (L&T)
Drawing Title: **TWR-K40D100M**
Drawn by: J.Antony (L&T)
Page Title: **Table of Contents/Revisions**
Approved: Shellaby Lawrence
Size: C
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ified:
ms
F

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_TRG_USB	5V	Output of USB power switch controlled by the VTRG_EN signal from the JM60 MCU. Provides input to regulator.
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_ELEV	5V	5V power on the Tower Elevator. This board provides power from P5V_TRG_USB to the elevator connectors through a diode.
P3V3	3.3V	Output of 3.3V regulator using USB power input (P5V_TRG_USB).
P1V8	1.8V	Output of 1.8V regulator using P3V3 power input.
V_BRD	1.8V/3.3V	Board power - selected from either the 1.8V or 3.3V supplies by a header and shunt.
MCU_PWR	1.8V/3.3V	MCU digital power. Filtered from V_BRD.
VDDA	3.3V	VDDA power for MCU and analog circuits. Filtered from 3V3_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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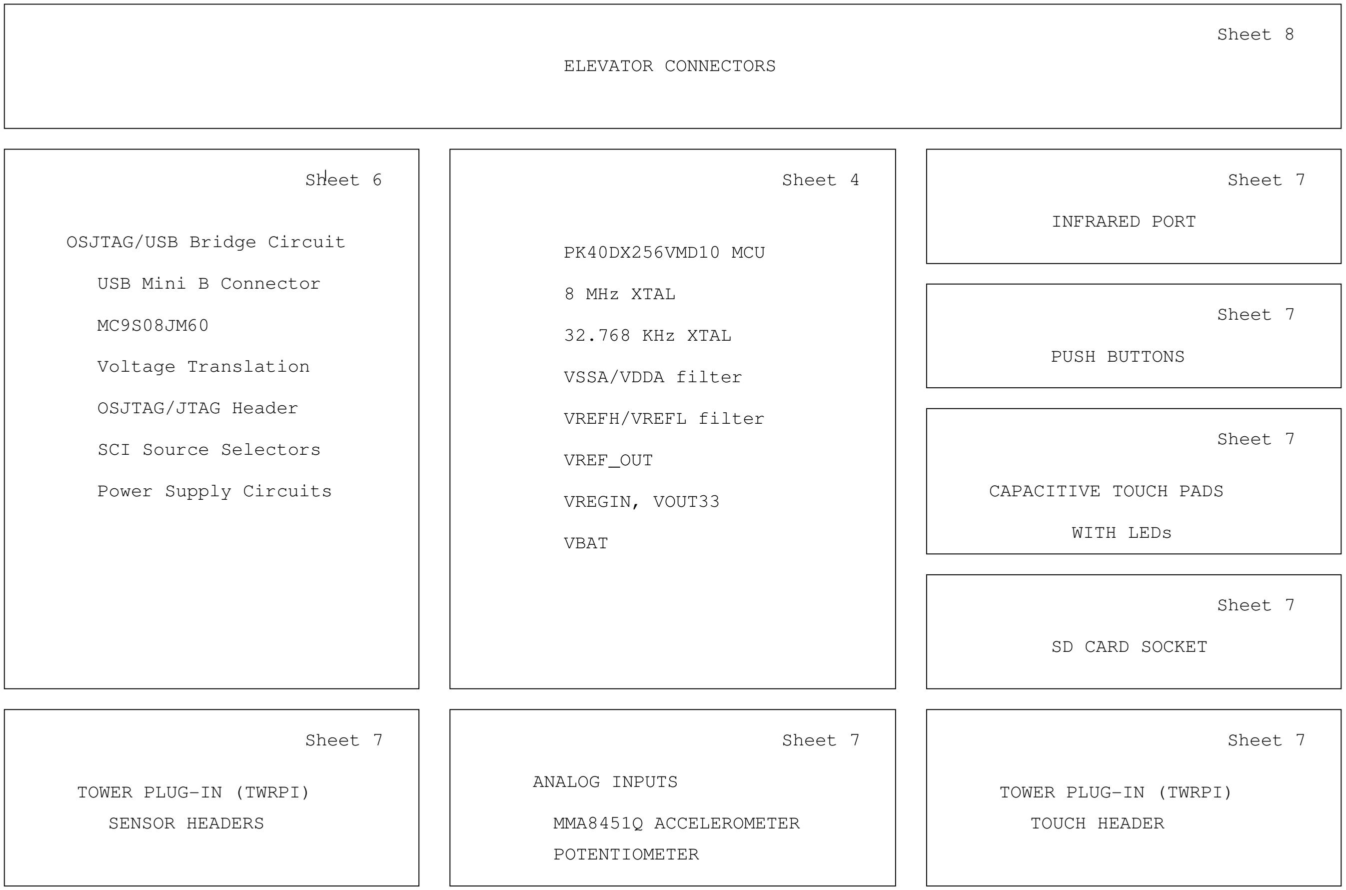

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Block Diagram

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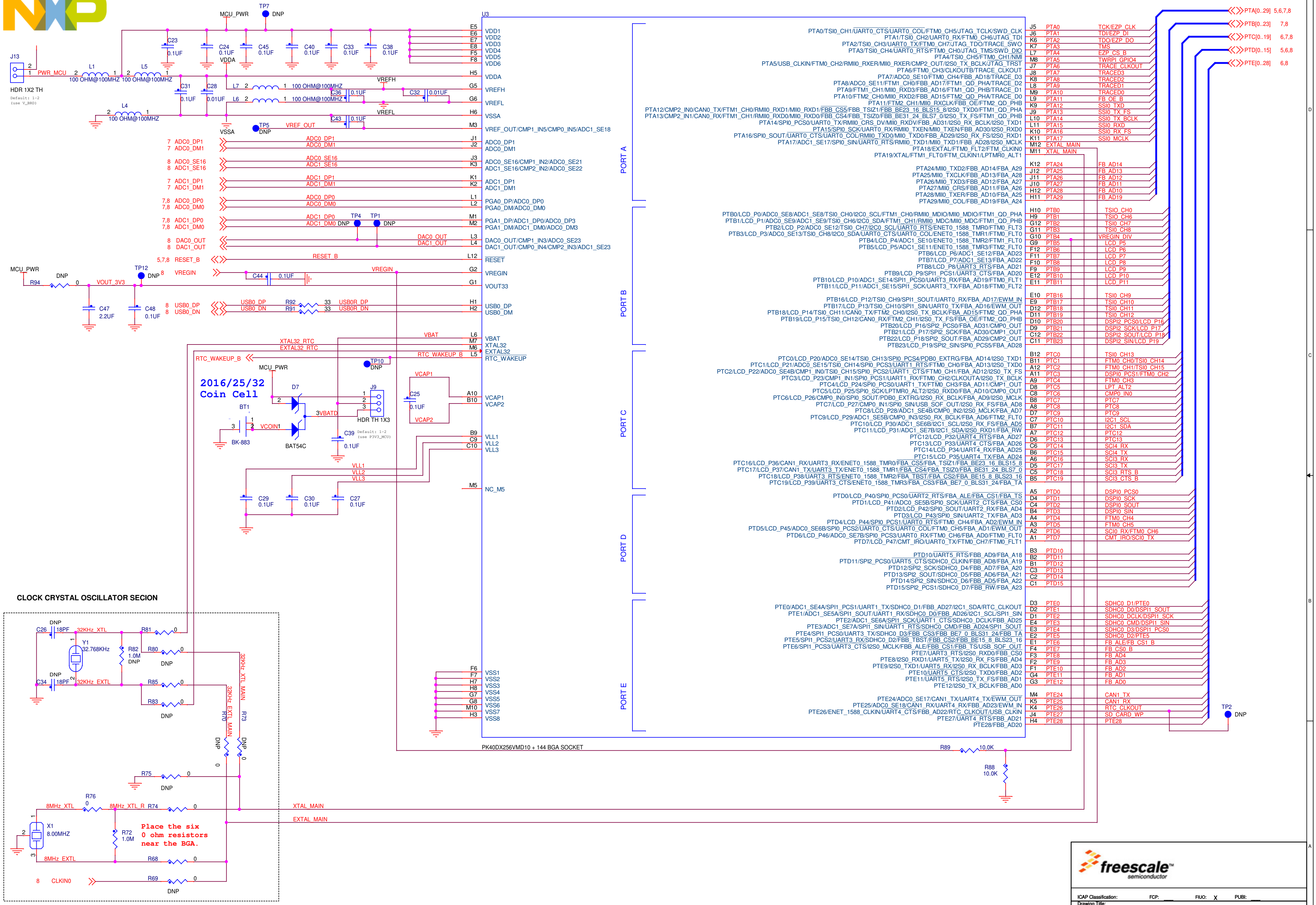

CLOCK CRYSTAL OSCILLATOR SECION

Place the six
0 ohm resistors
near the BGA.

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TWR-K40D100M_MCU

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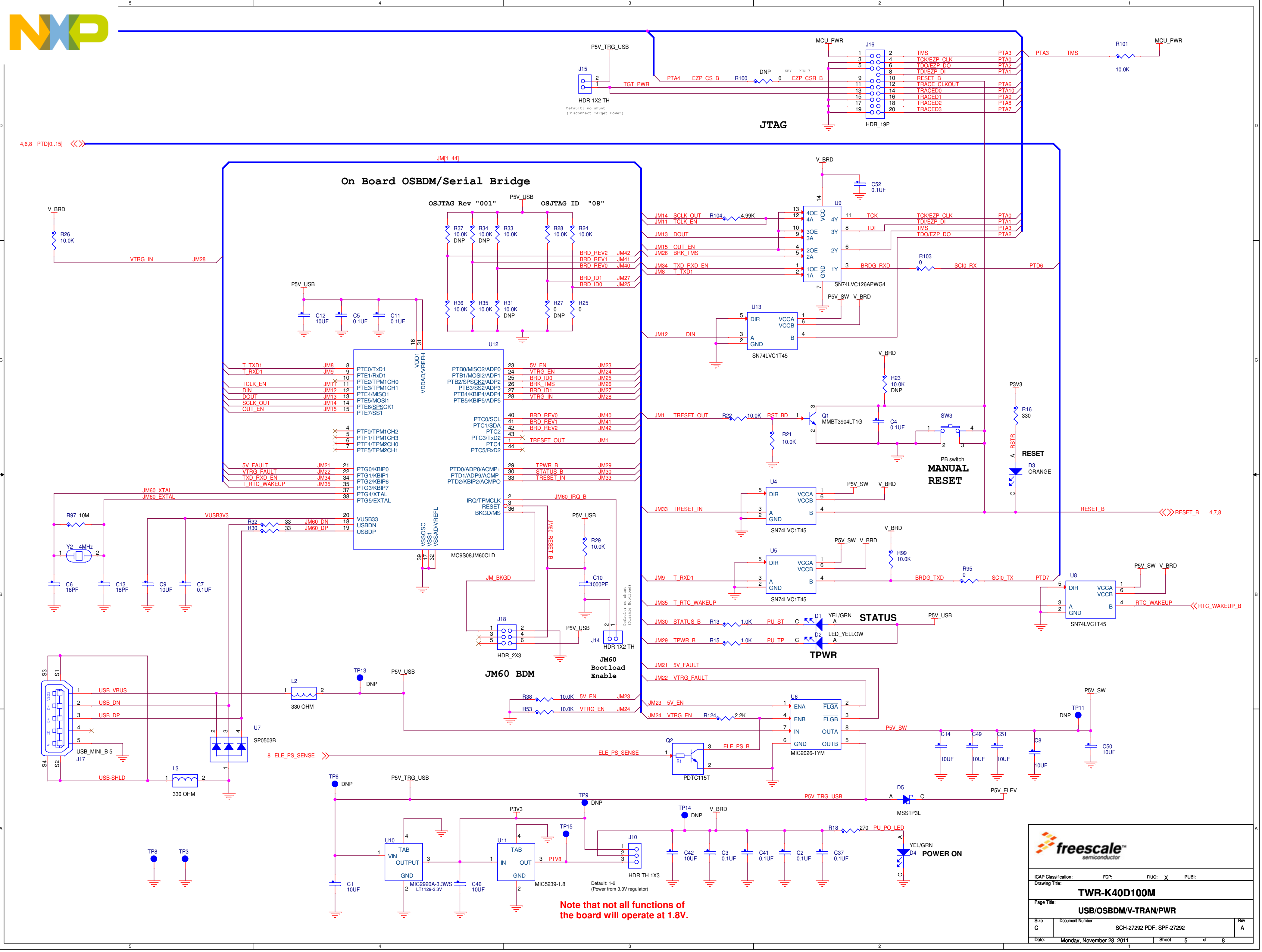

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USB/OSBDM/V-TRAN/PWR

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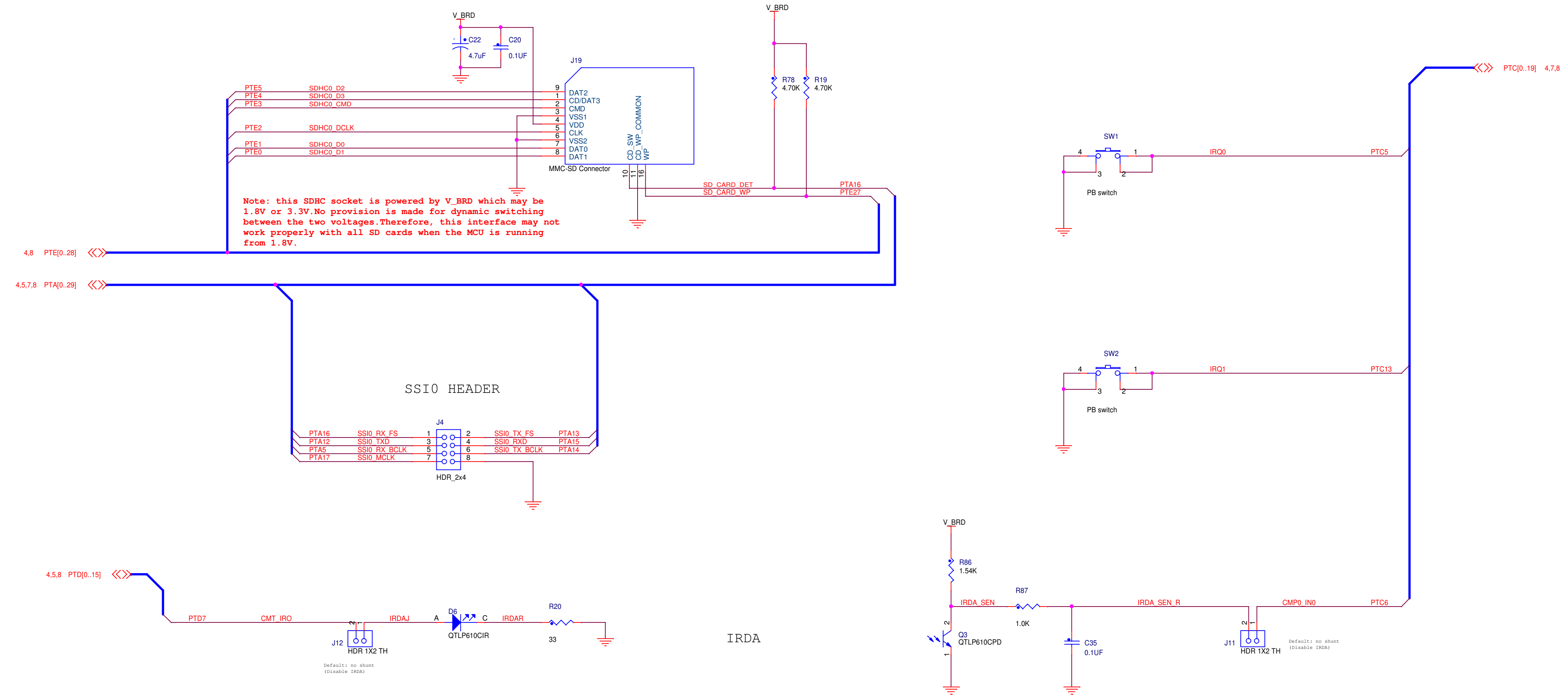

Note: this SDHC socket is powered by V_BRD which may be 1.8V or 3.3V.No provision is made for dynamic switching between the two voltages.Therefore, this interface may not work properly with all SD cards when the MCU is running from 1.8V.

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Peripherals

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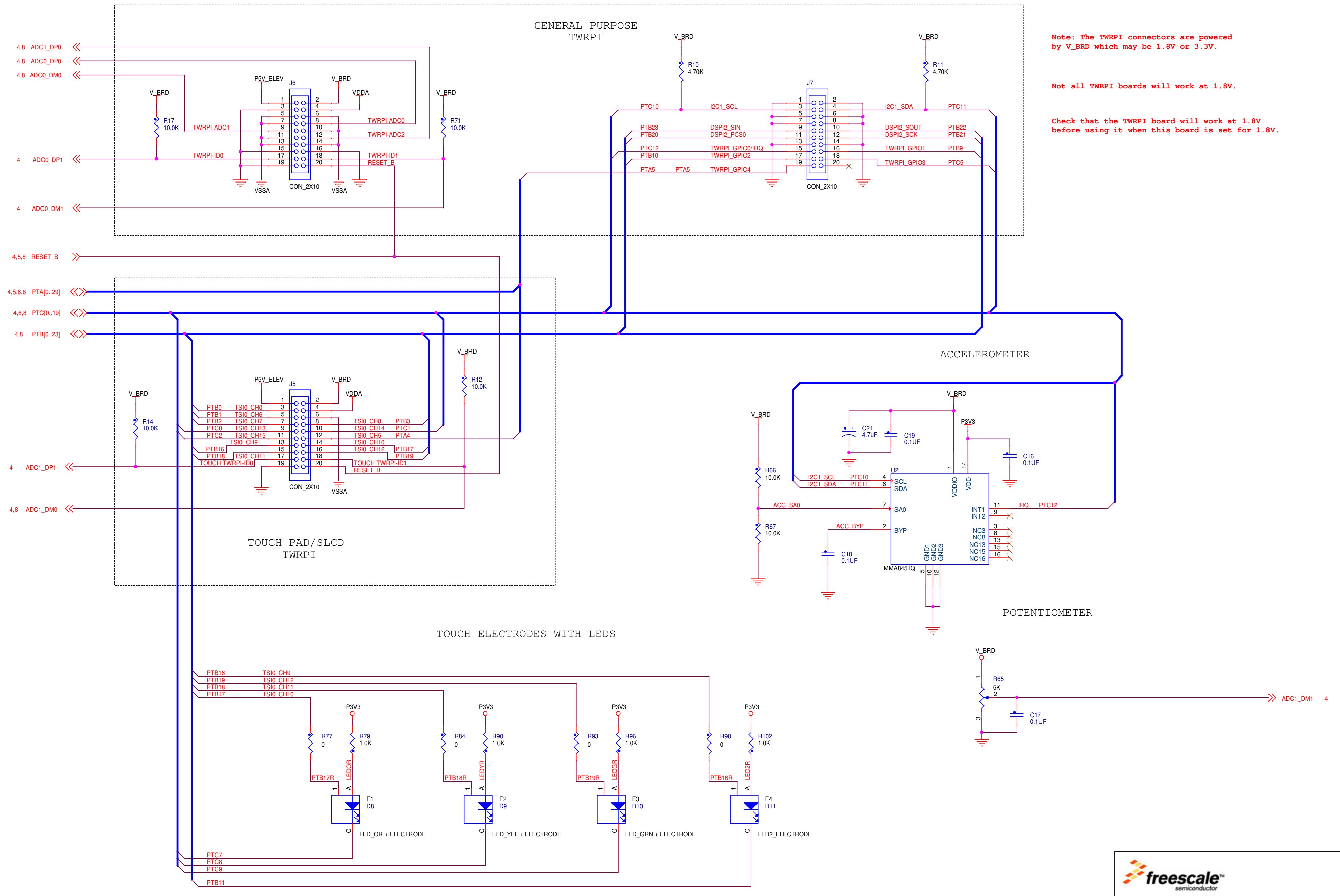

Note: The TWRPI connectors are powered by V_BRD which may be 1.8V or 3.3V.

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.

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Sensors

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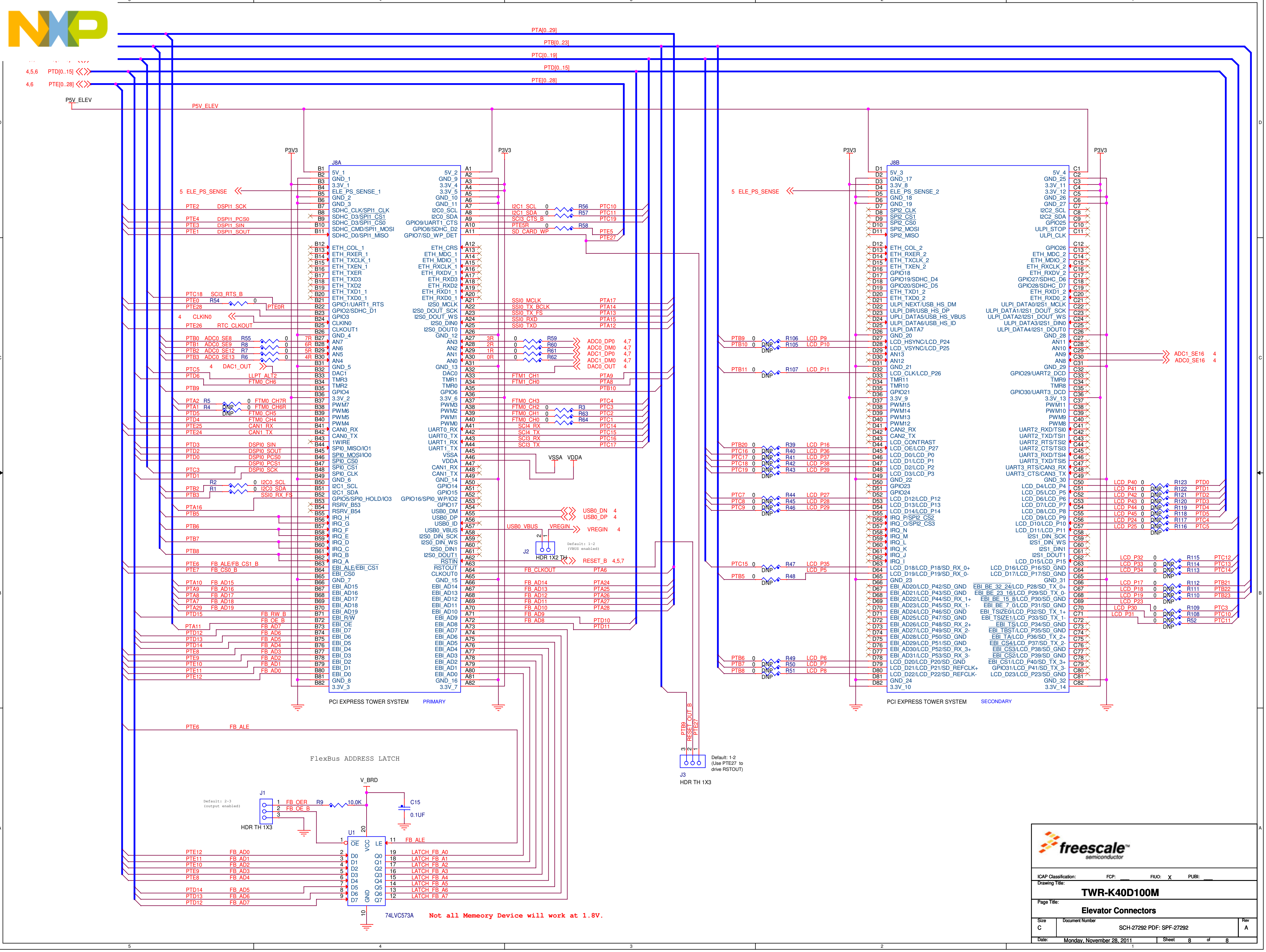

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Elevator Connectors

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