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Revisions

Rev	Description	Date	Approved
A	Prototype Release	23-Jul-10	J.H.
B	Pilot Release	21-Sep-10	DK

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Microcontroller Solutions Group

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ICAP Classification: FCP: FIUO: X PUBI:

Designer: Jay Hartvigsen	Drawing Title: **TWR-K40X256**	
Drawn by: Jay Hartvigsen	Page Title: **Table of Contents/Revisions**	
Approved: Marilyn Hubbard	Size C	Document Number SCH-26547 PDF: SPF-26547 Rev B
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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 6

OSJTAG/USB Bridge Circuit

USB Mini B Connector

MC9S08JM60

Voltage Translation

OSJTAG/JTAG Header

SCI Source Selectors

Power Supply Circuits

Sheet 4

K40X256 MCU

8 MHz XTAL

32.768 KHz XTAL

VSSA/VDDA filter

VREFH/VREFL filter

VREF_OUT

VREGIN, VOUT33

VBAT

Sheet 7

INFRARED PORT

Sheet 7

PUSH BUTTONS

Sheet 7

CAPACITIVE TOUCH PADS

WITH LEDs

Sheet 7

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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Drawing Title: **TWR-K40X256**

Page Title: **Block Diagram**

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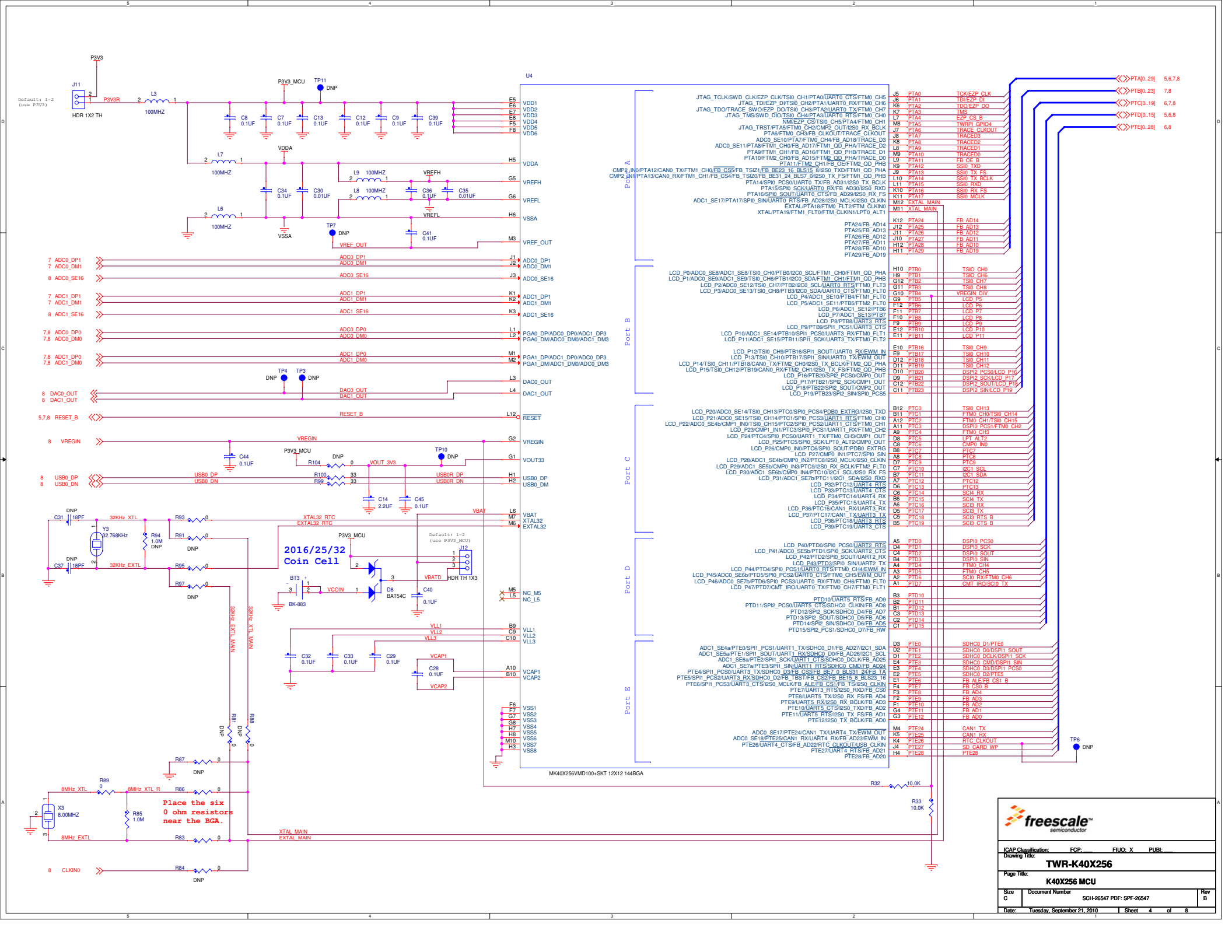
U4
MK40X256VMD100+SKT 12X12 144BGA
Port A
Port B
Port C
Port D
Port E
2016/25/32
Coin Cell
Place the six
0 ohm resistors
near the BGA.
TWR-K40X256
K40X256 MCU
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ICAP Classification:
FCP:
FIUO: X
PUBI:
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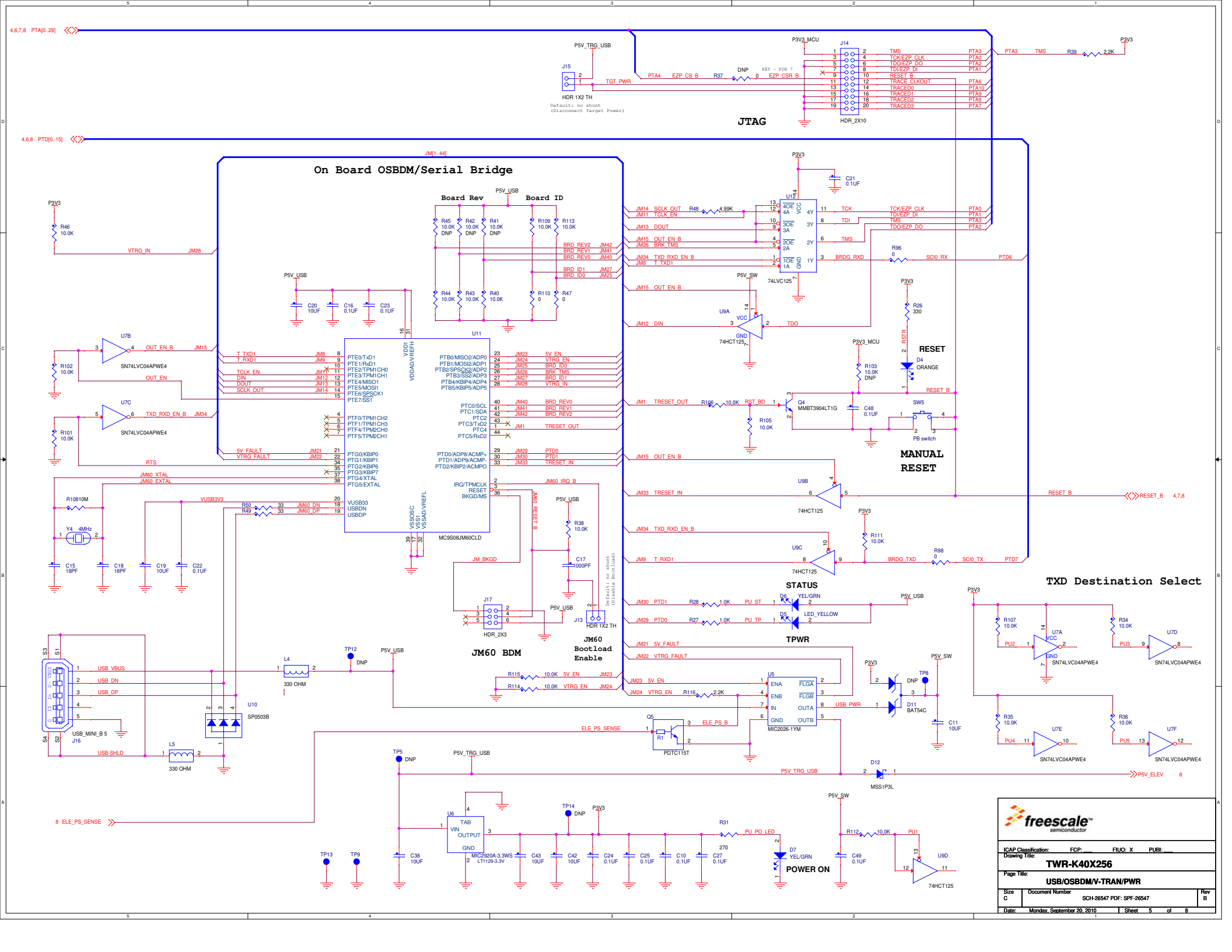
On Board OSBDM/Serial Bridge
JTAG
JM60 BDM
JM60 Bootload Enable
MANUAL RESET
STATUS
TPWR
TXD Destination Select
POWER ON
Board Rev
Board ID
MC9S08JM60CLD
SP0503B
MIC2026-1YM
MIC2920A-3.3WS
LT1129-3.3V
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ICAP Classification:
FCP:
FIUO: X
PUBI:
Drawing Title:
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Page Title:
USB/OSBDM/V-TRAN/PWR
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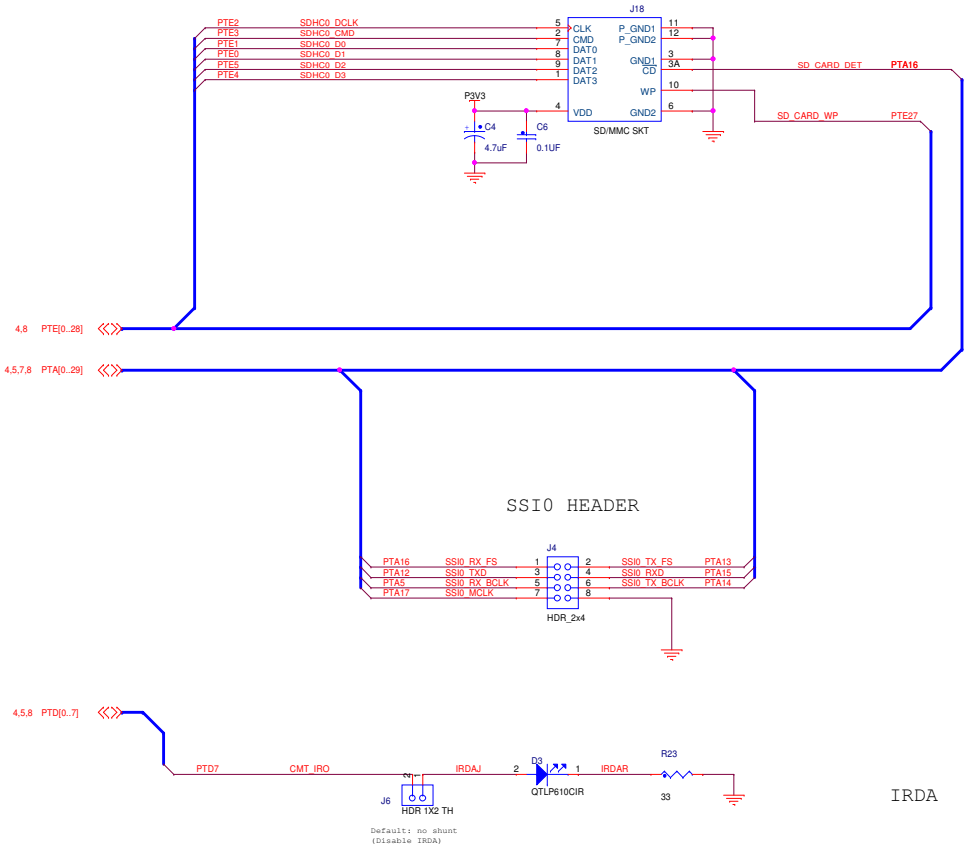

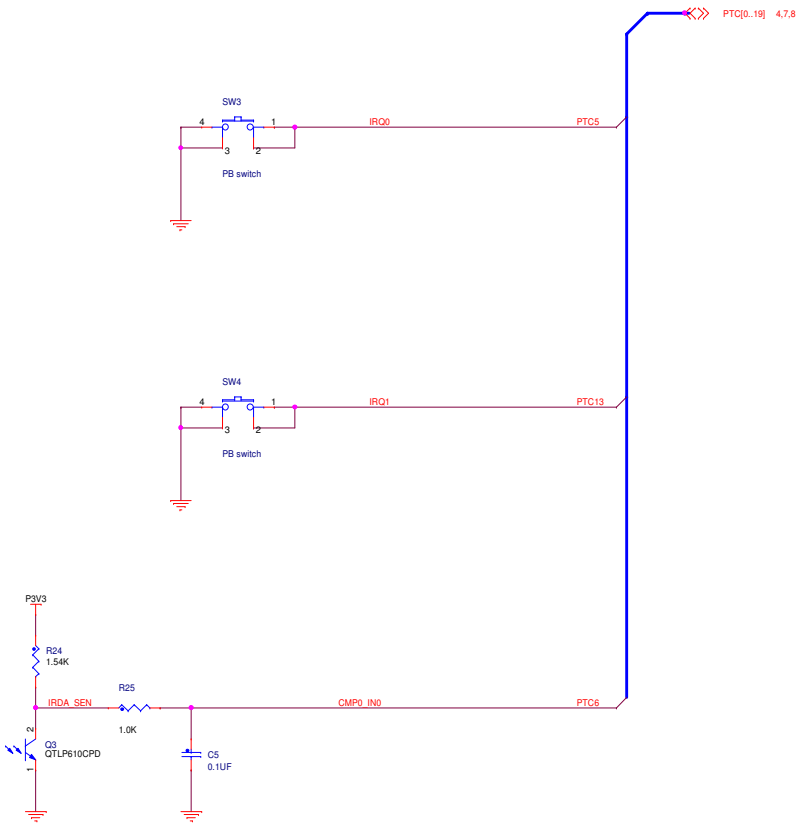

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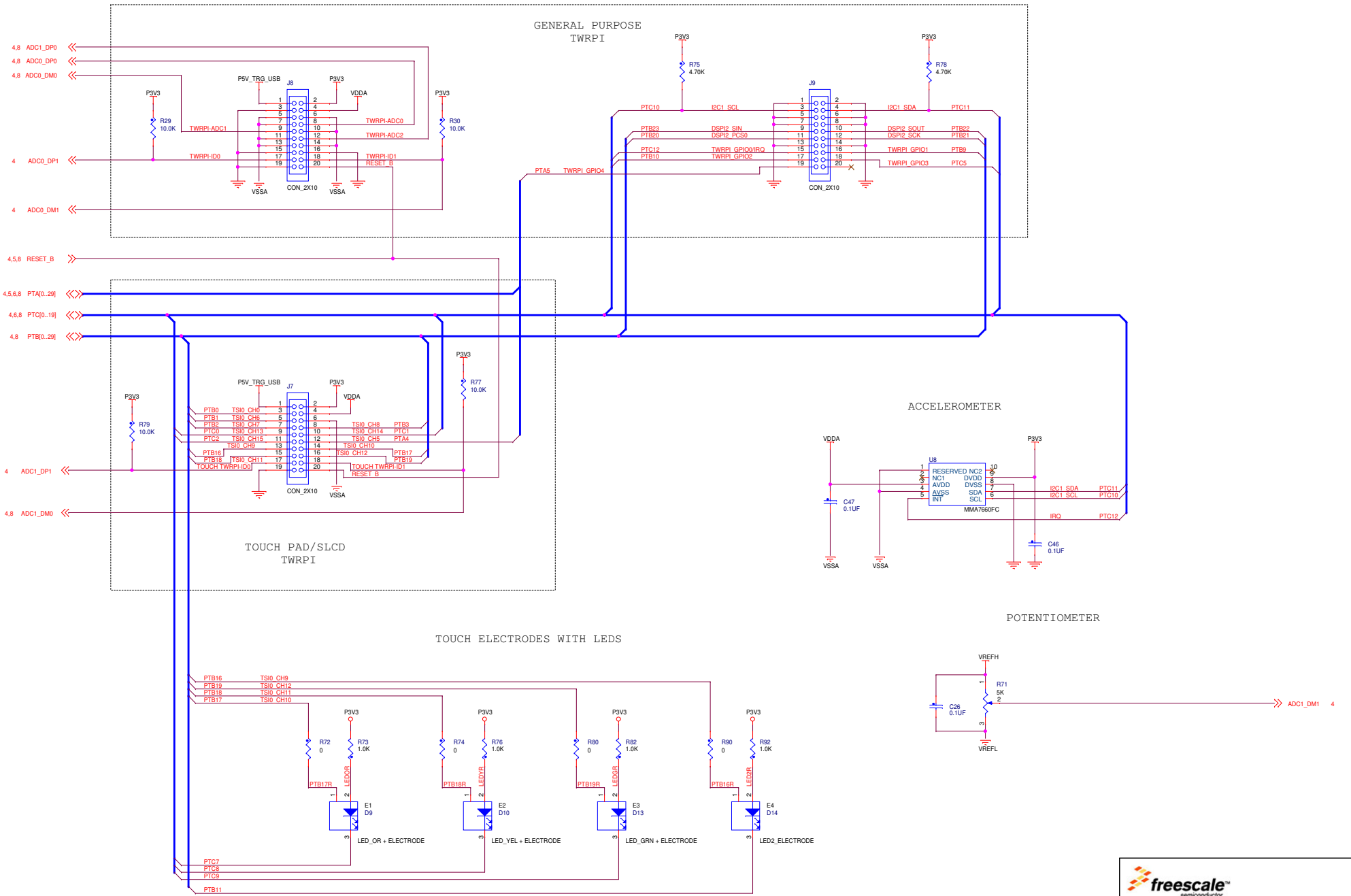

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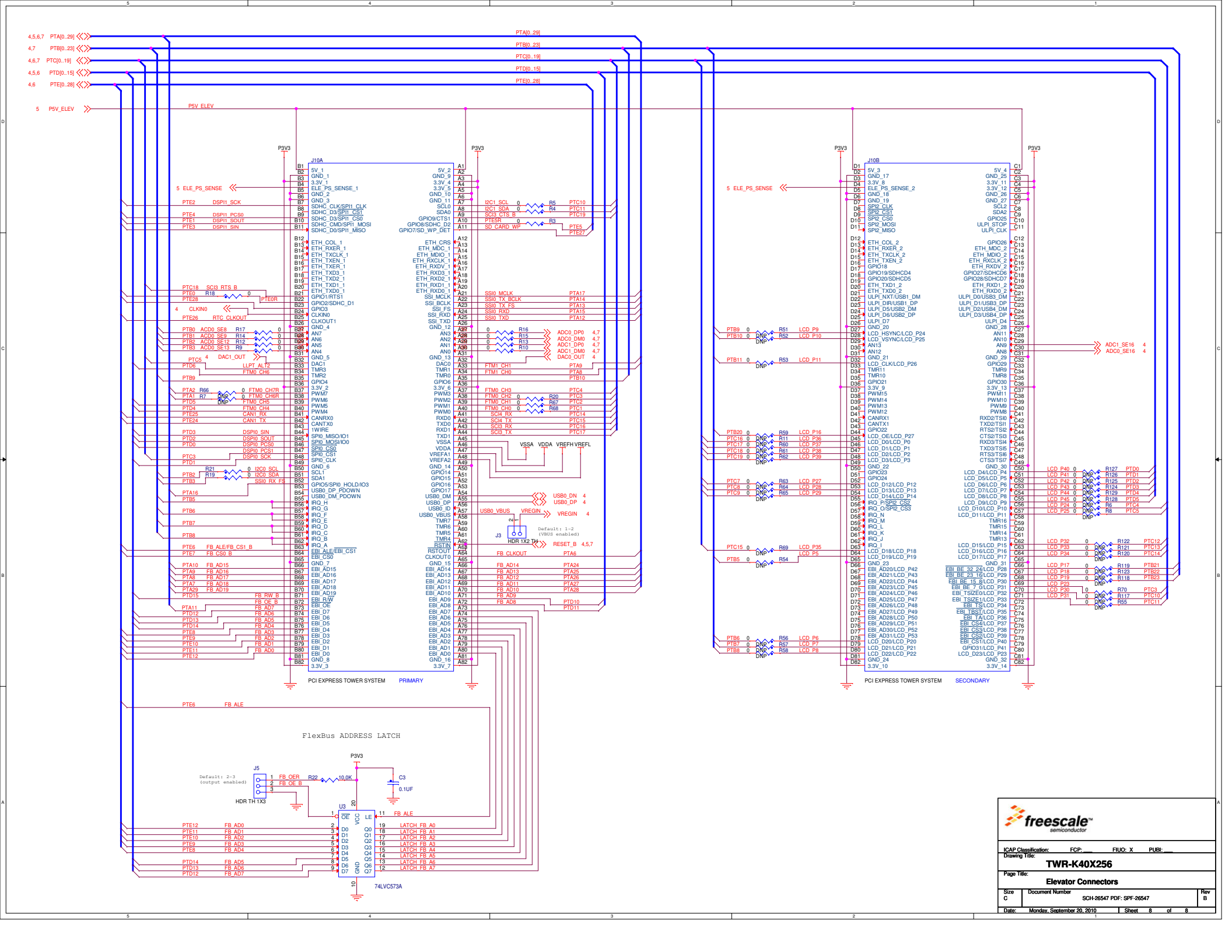

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