
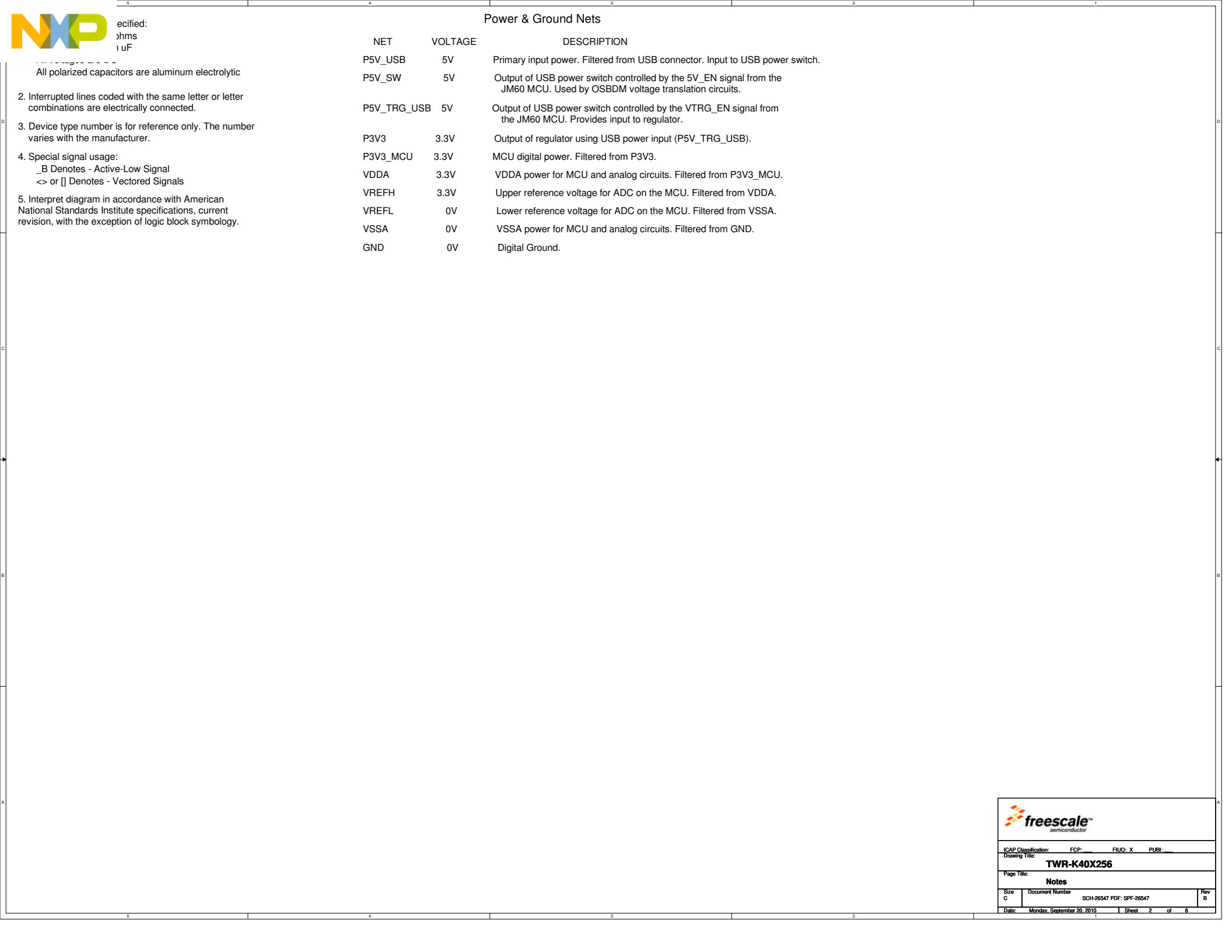


Contents	
5	TRAN/PWR
6	Peripherals
7	Sensors
8	Elevator Connectors

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

		Microcontroller Solutions Group 6501 William Cannon Drive West Austin, TX 78735-8598	
<small>This document contains information proprietary to Freescale Semiconductor and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of Freescale Semiconductor.</small>			
Designer: Jay Harvigsen		ICAP Classification: FCP: FIUQ: X PUB:	
Drawn by: Jay Harvigsen		TWR-K40X256	
Table of Contents/Revisions			
Approved: Marilyn Hubbard	Size C	Document Number SCH-26547 PDF: SPF-26547	Rev B
Date: Tuesday, September 21, 2010		Sheet 1 of 8	



pecified:
hms
1 uF

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.

- All polarized capacitors are aluminum electrolytic
- Interrupted lines coded with the same letter or letter combinations are electrically connected.
 - Device type number is for reference only. The number varies with the manufacturer.
 - Special signal usage:
 _B Denotes - Active-Low Signal
 <> or [] Denotes - Vectored Signals
 - Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

ICAP Classification: FCP: FIUC: X PUBI: _____		
Drawing Title: TWR-K40X256		
Page Title: Notes		
Size C	Document Number SCH-26547 PDF: SPF-26547	Rev B
Date: Monday, September 20, 2010	Sheet 2	of 8



ELEVATOR CONNECTORS

Sheet 8

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

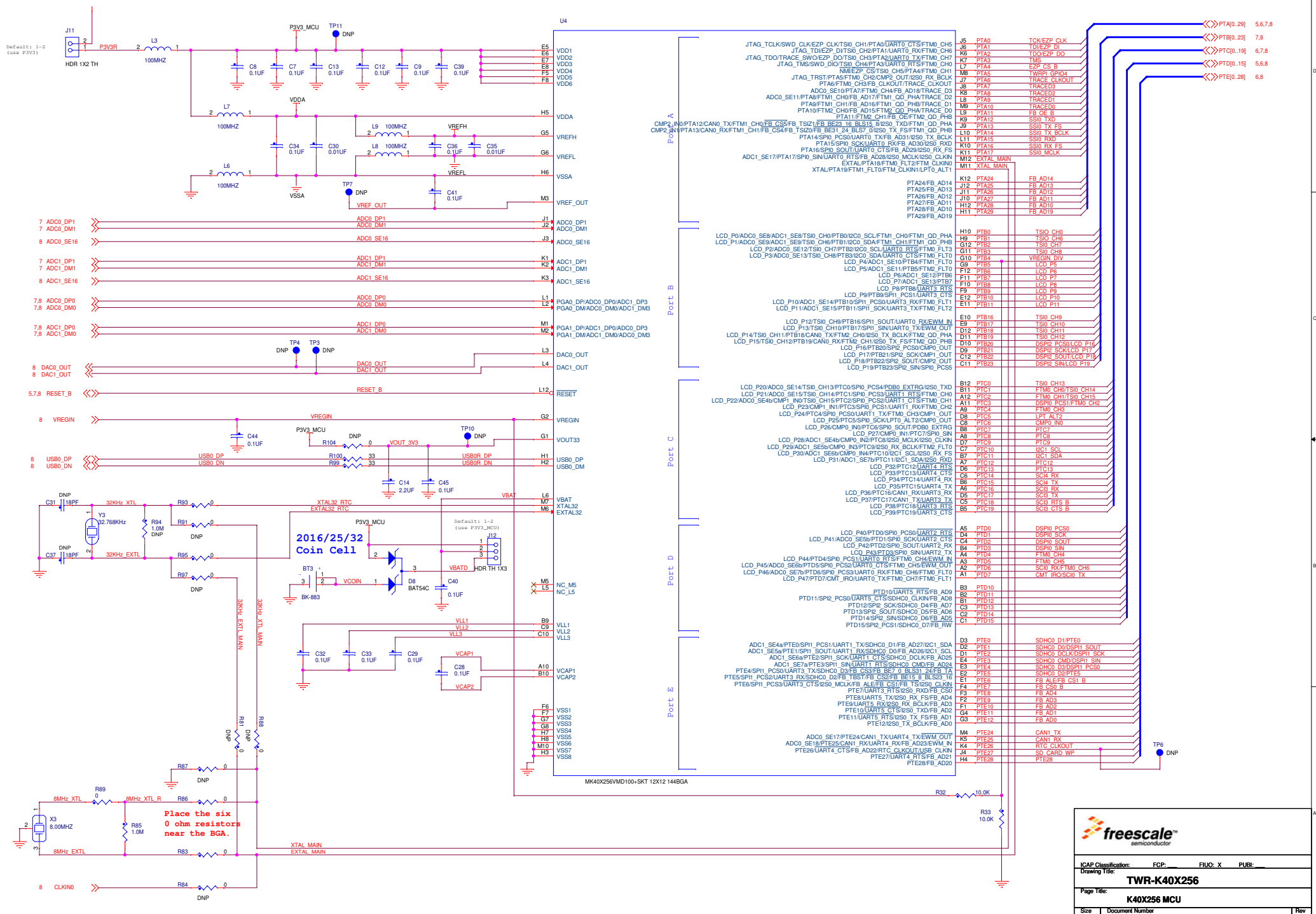
Sheet 7

ANALOG INPUTS
 MMA7660 ACCELEROMETER
 POTENTIOMETER

Sheet 7

TOWER PLUG-IN (TWRPI)
 TOUCH HEADER

ICAP Classification:		FCP:	FIUC: X PUBL:
Drawing Title:			
TWR-K40X256			
Page Title:			
Block Diagram			
Size	Document Number	Rev	
C	SCH-26547 PDF: SPF-26547	B	
Date:	Monday, September 20, 2010	Sheet	3 of 8



Default: 1-2
(use P3V3)

Place the six 0 ohm resistors near the BGA.

freescale
semiconductor

ICAP Classification: FCP: FIUC: X PUBL:
Drawing Title: **TWR-K40X256**

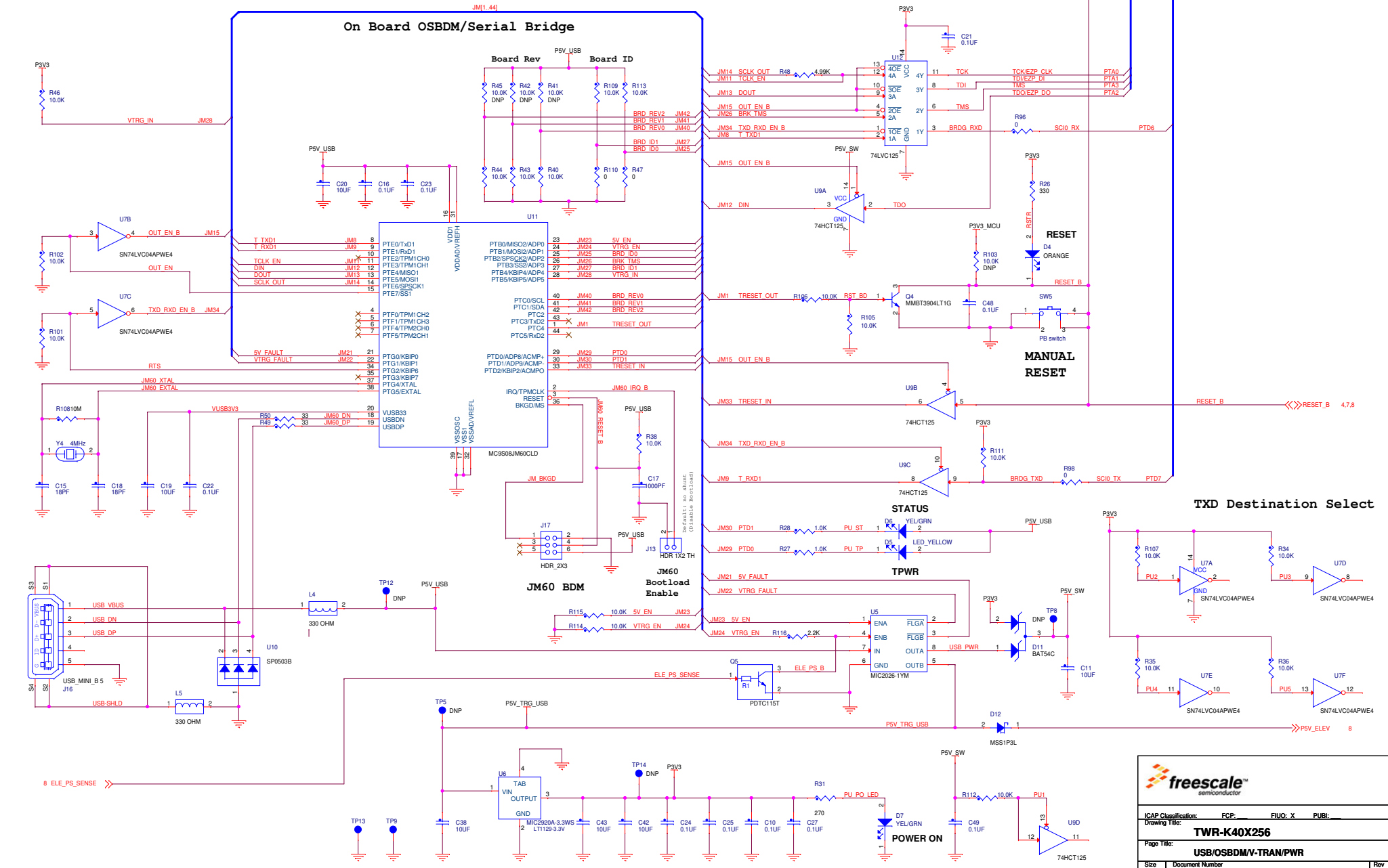
Page Title: **K40X256 MCU**

Size C	Document Number SCH-26547 PDF: SPF-26547	Rev B
--------	--	-------

Date: Tuesday, September 21, 2010 Sheet 4 of 8



4.6.8 PTD[0..15]



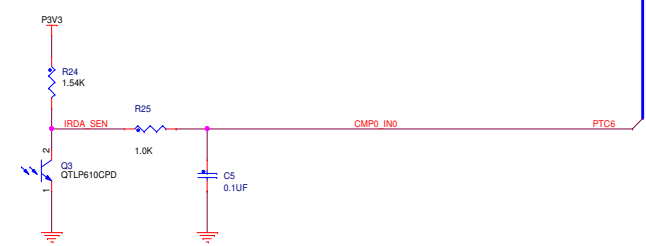
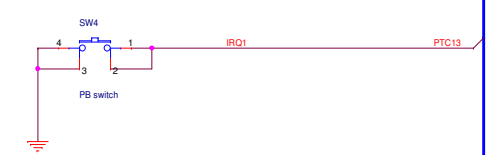
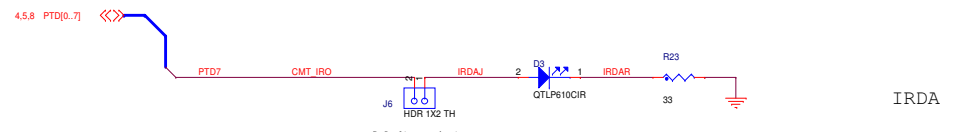
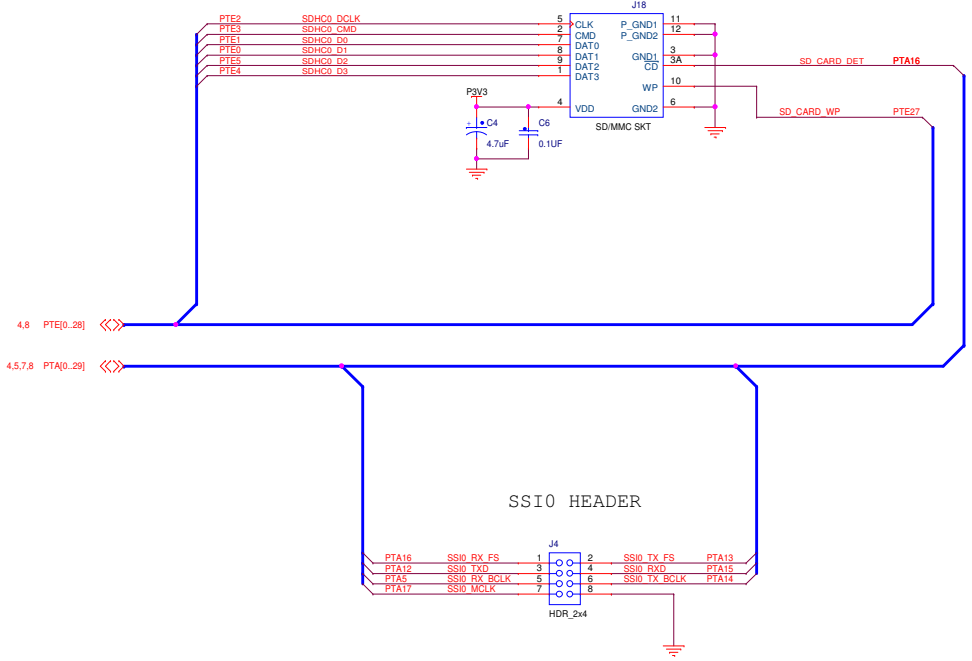
freescale
semiconductor

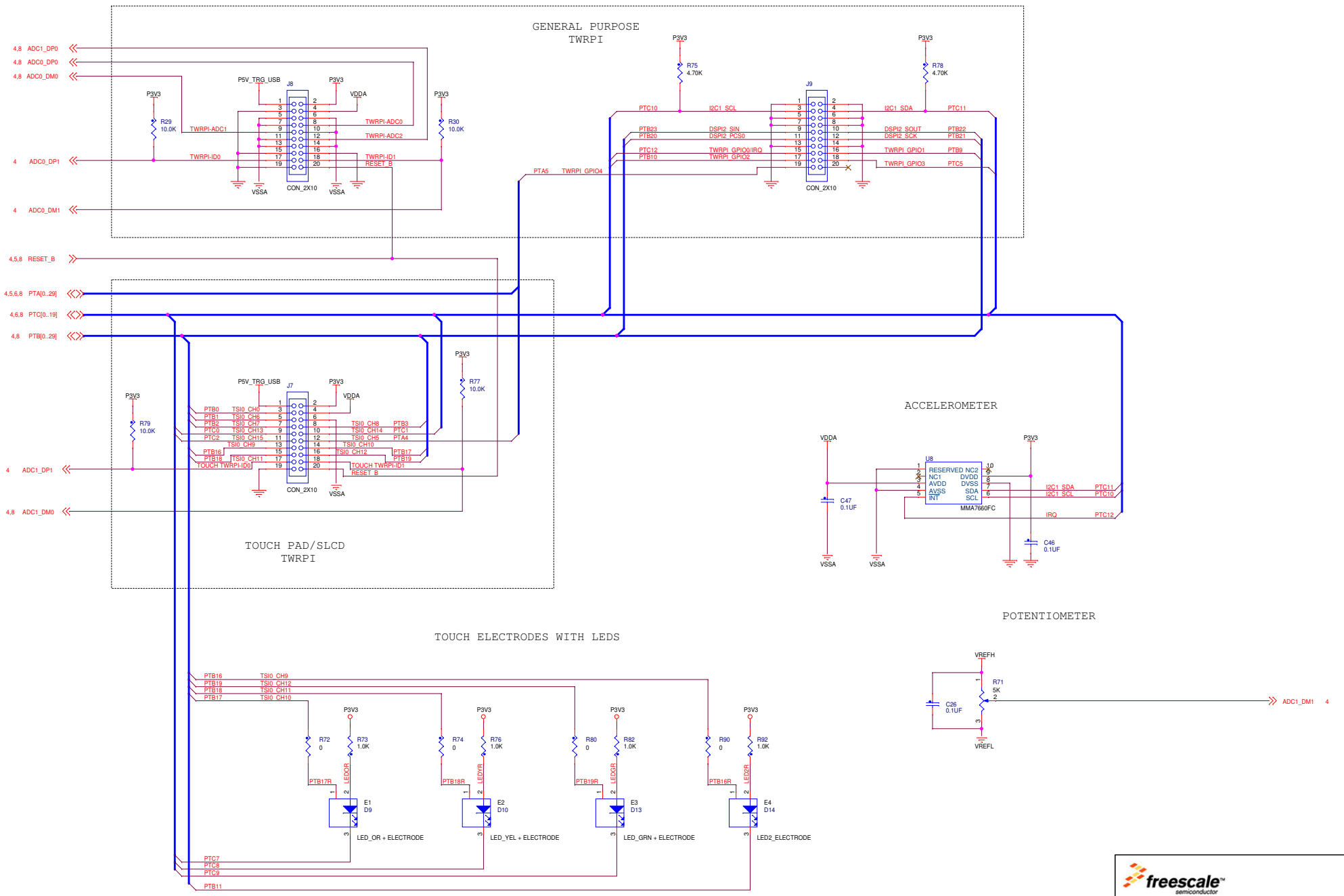
ICAP Classification: FCP: FIUC: X PUBL:
Drawing Title: **TWR-K40X256**

Page Title: **USB/OSBDMV-TRAN/PWR**

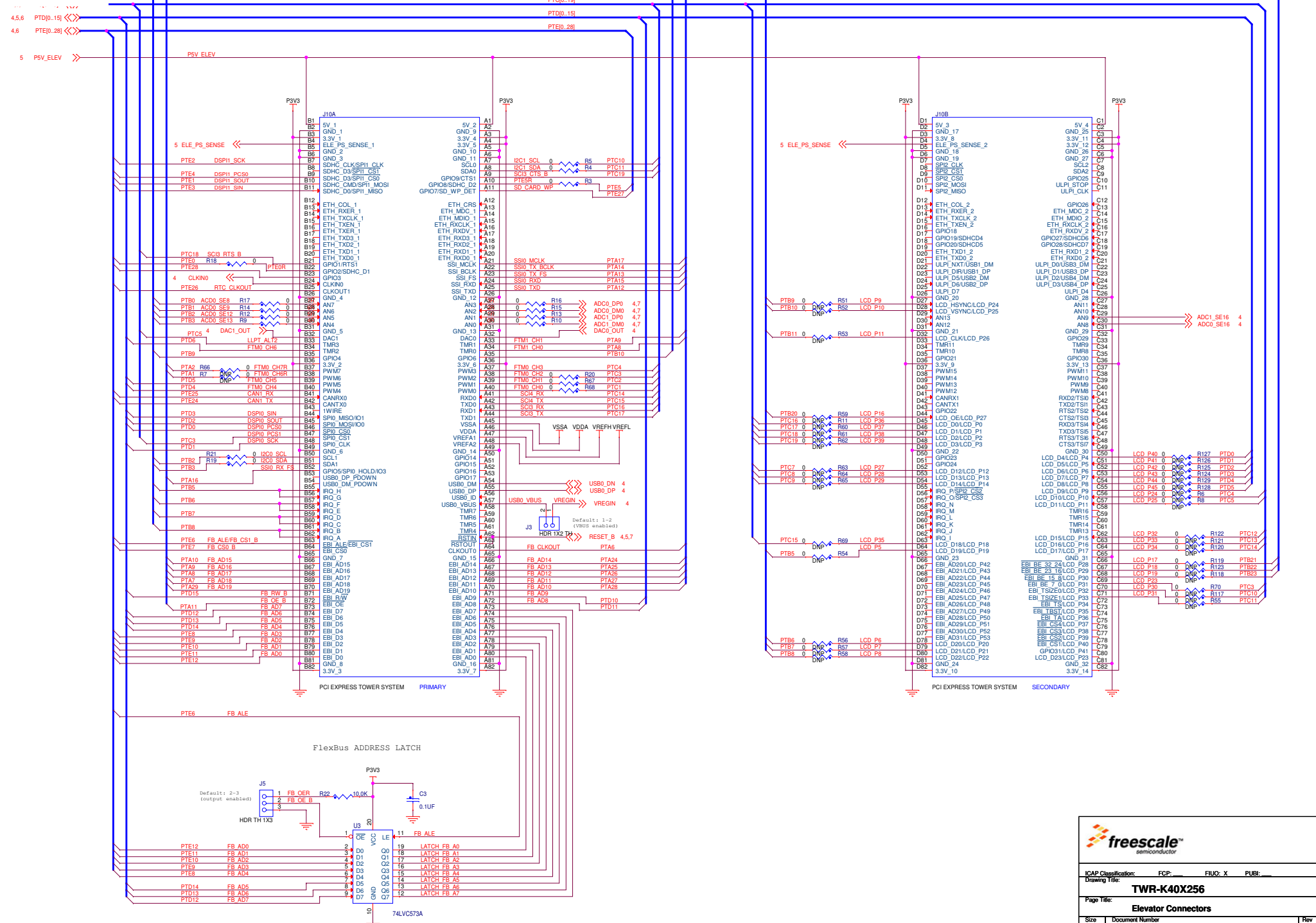
Size C Document Number SCH-26547 PDF: SPF-26547 Rev B

Date: Monday, September 20, 2010 Sheet 5 of 8





ICAP Classification: FCP: FIUC: X PUBI: _____	
TWR-K40X256	
Sensors	
Size C	Document Number SCH-26547 PDF: SPF-26547
Date: Monday, September 20, 2010	Sheet 7 of 8



freescale
semiconductor

ICAP Classification: FCP. FIUC: X. PUBI: .

Drawing Title: **TWR-K40X256**

Page Title: **Elevator Connectors**

Size C	Document Number SCH-26547 PDF: SPF-26547	Rev B
Date: Monday, September 20, 2010	Sheet 8	of 8