



Commercial Membrane User Interface Board

Samll Emerge Membrane User Interface Board Using NXP i.MX RT 144 pin processor

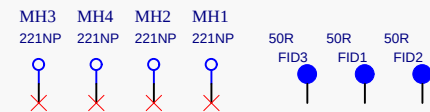
Changelog:
Schematic Q26047-001 REV A,
PCB Q25095-001:

Schematic Q26047-002 REV A,
PCB Q25095-002:
--HARDWARE REV BITS 0001.
--RECONFIGURE INPUTS AND OUTPUTS ON KEYPAD.
--R114 CHANGE FROM 1K TO 10K.
--MOVE SERIAL EEPROM TO ITS OWN BUS, I2C4.
--CHANGED 3.3V REG TO TPS74533 FOR BETTER ACCURACY.
--CHANGED C1,C2 FROM 47 TO 1500UF.
--ADD 1000pF CAPACITORS C166-C169 TO MEMBRANE KEYPAD INPUTS.

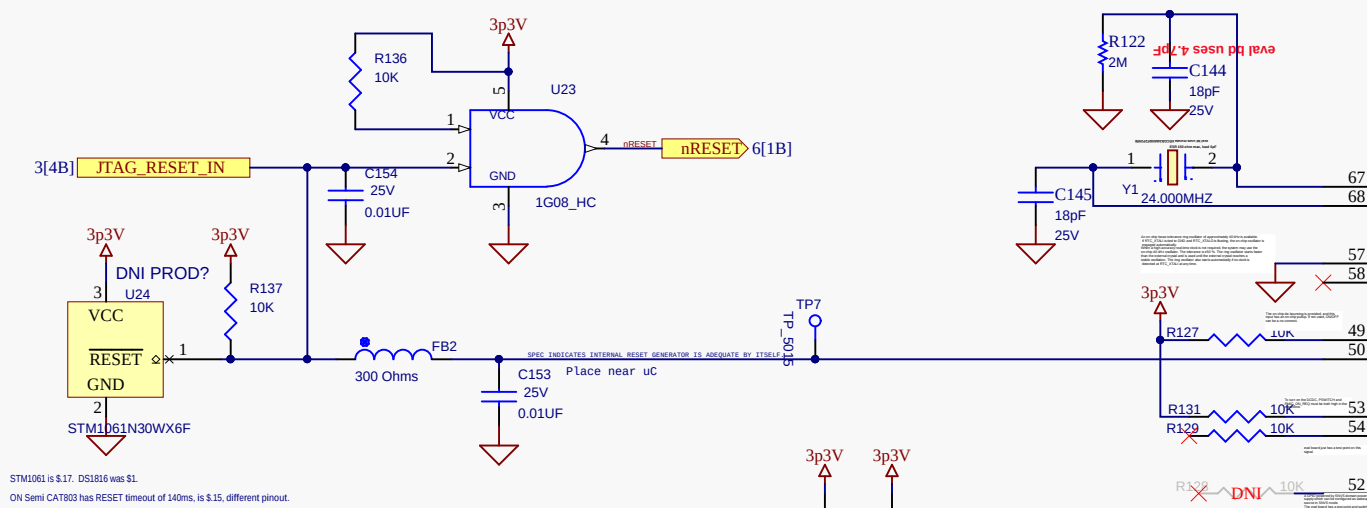
Schematic Q26047-002 REV B,
PCB Q25095-002:
--DEPOPULATE R74. POPULATE R70.

PART NUMBERS FOR REFERENCE ONLY:
PRINTED CIRCUIT ASSEMBLY 1248505

 FW1 FIRMWARE	Q30119-001
 PCB1 PCB	Q25095-002
 SCHEMATIC1 SCHEMATIC	Q26047-002

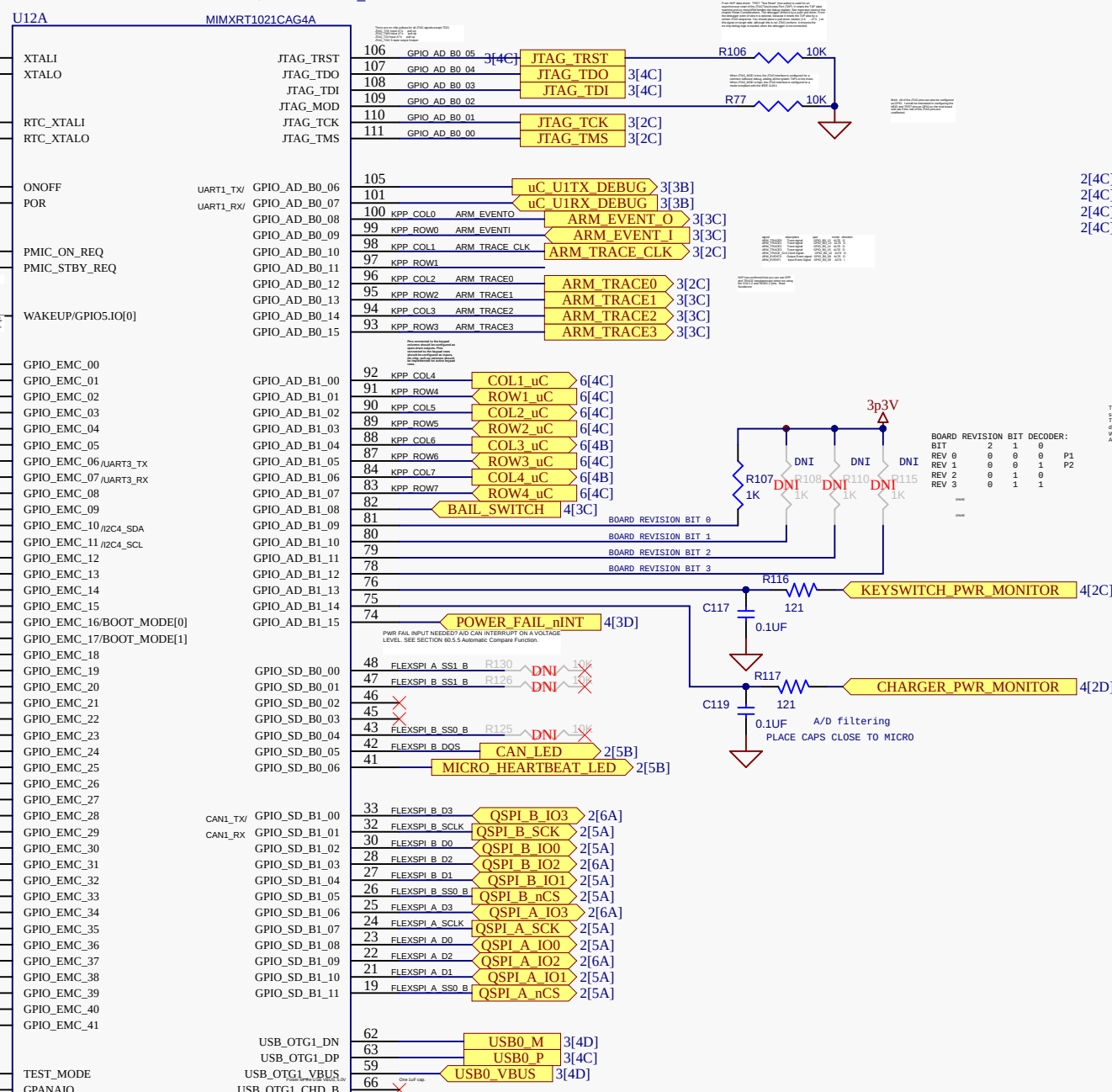


PROPRIETARY INFORMATION THE INFORMATION IN THIS DOCUMENT IS PROPERTY OF TENNANT COMPANY. IT IS SUBJECT TO RETURN UPON DEMAND AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY		Rev B	Title ChUI MEMBRANE BOARD	
		Size: C	<Title2>	
		Document Number Q26047-002		Engineer D. WORKMAN
		Date: 4/23/2020		Sheet 1 of 6

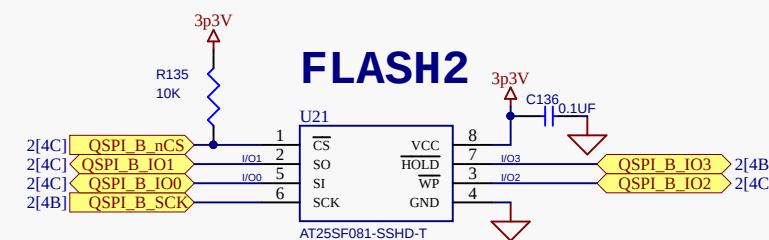


MICROCONTROLLER

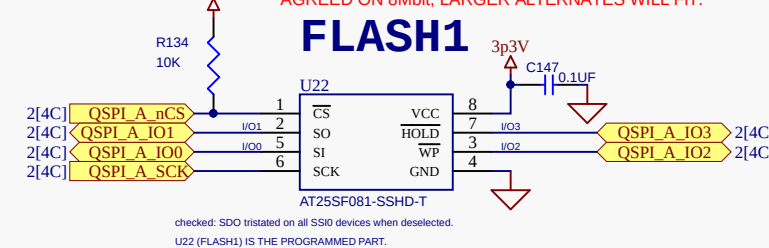
INPUTS ARE NOT 5V TOLERANT, EXCEPT USB_VBUS.



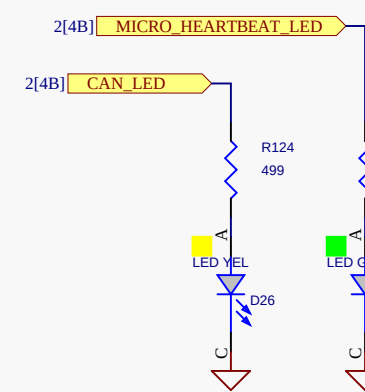
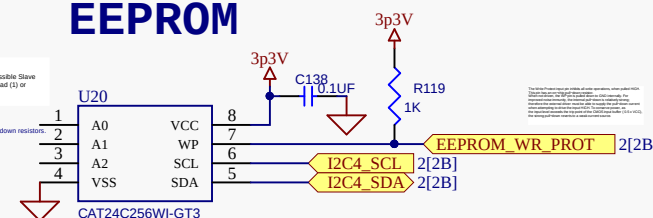
FLASH2



COST REDUCED PART, NEW DRIVER REQUIRED.
 AGREED ON 8Mbit, LARGER ALTERNATES WILL FIT



EEPROM



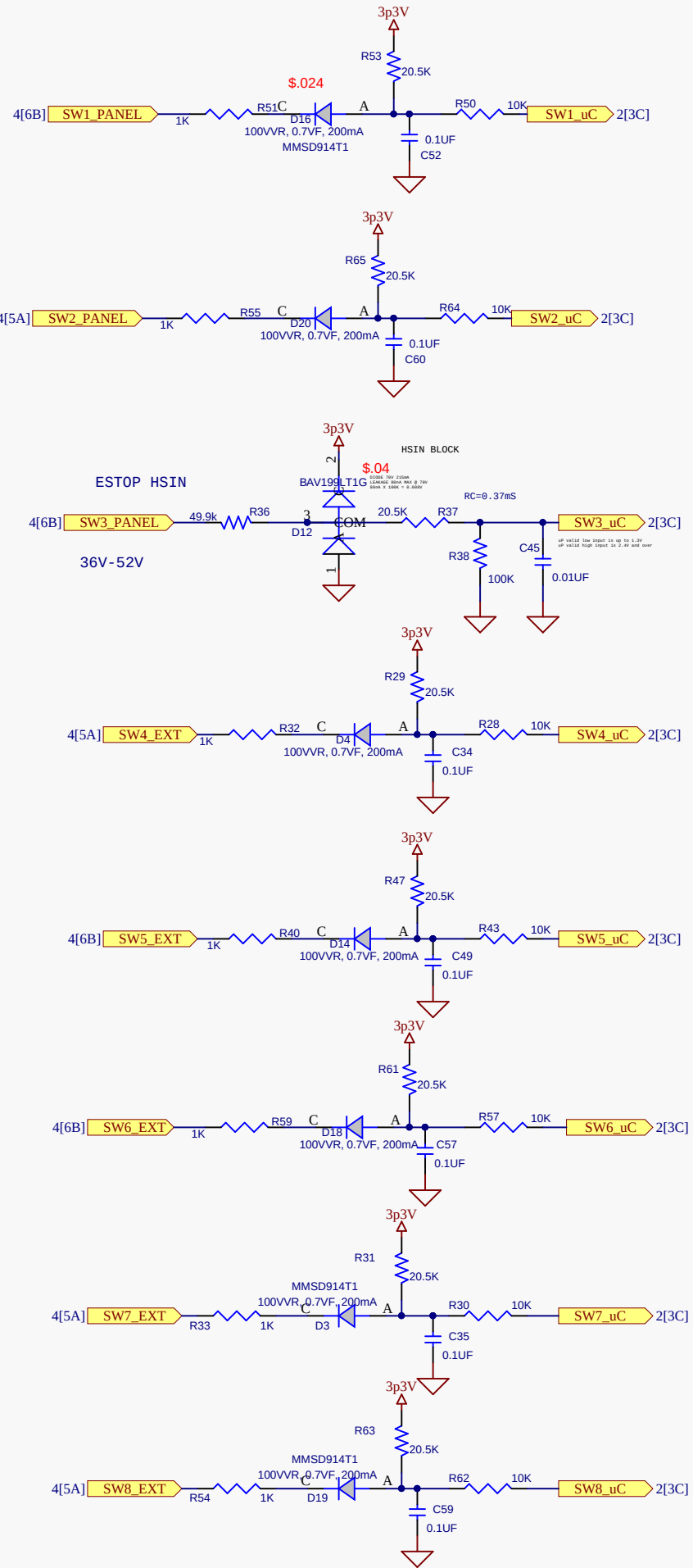
A

B

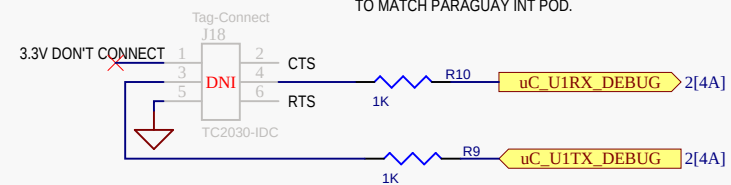
C

D

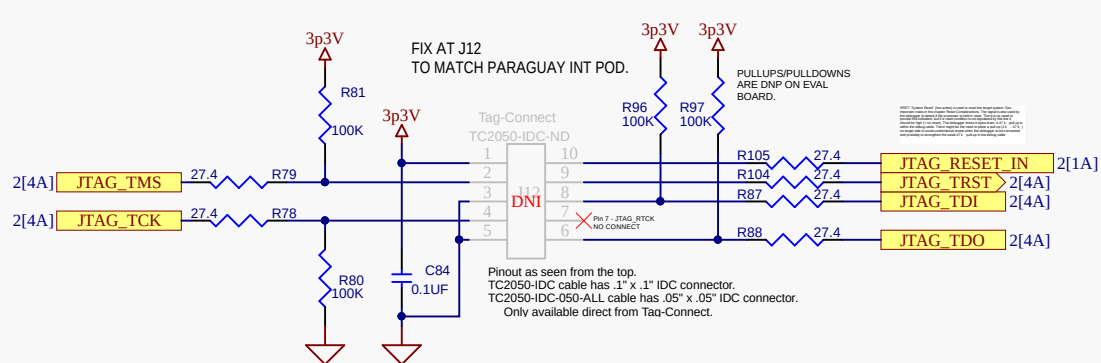
1 2 3 4 3 6 5 6



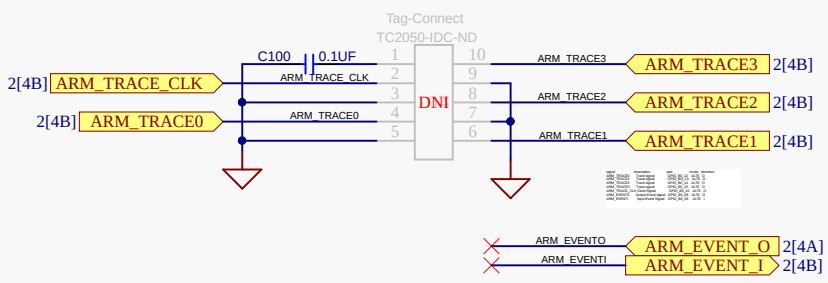
DEBUG UART



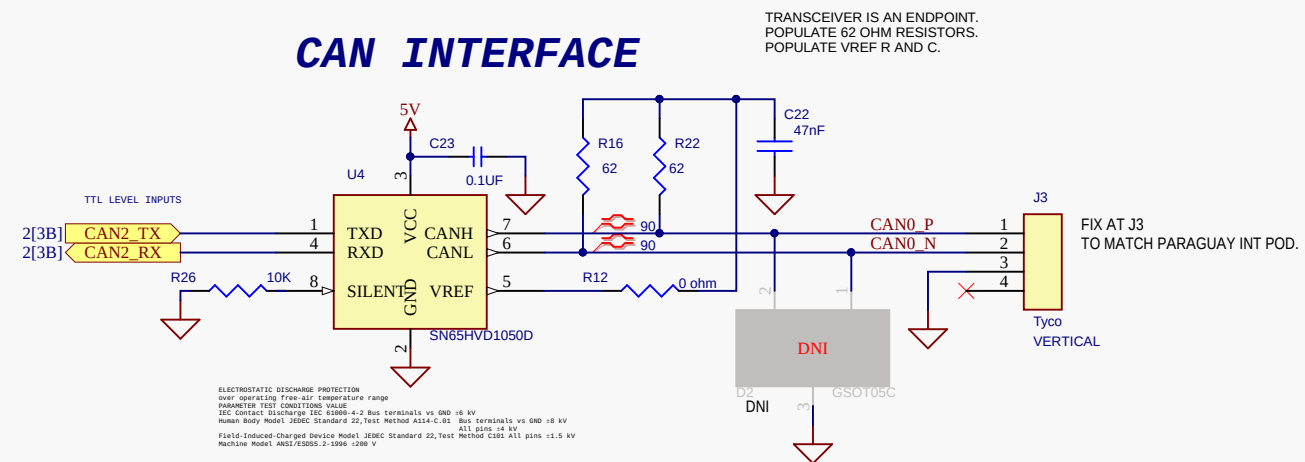
uC JTAG



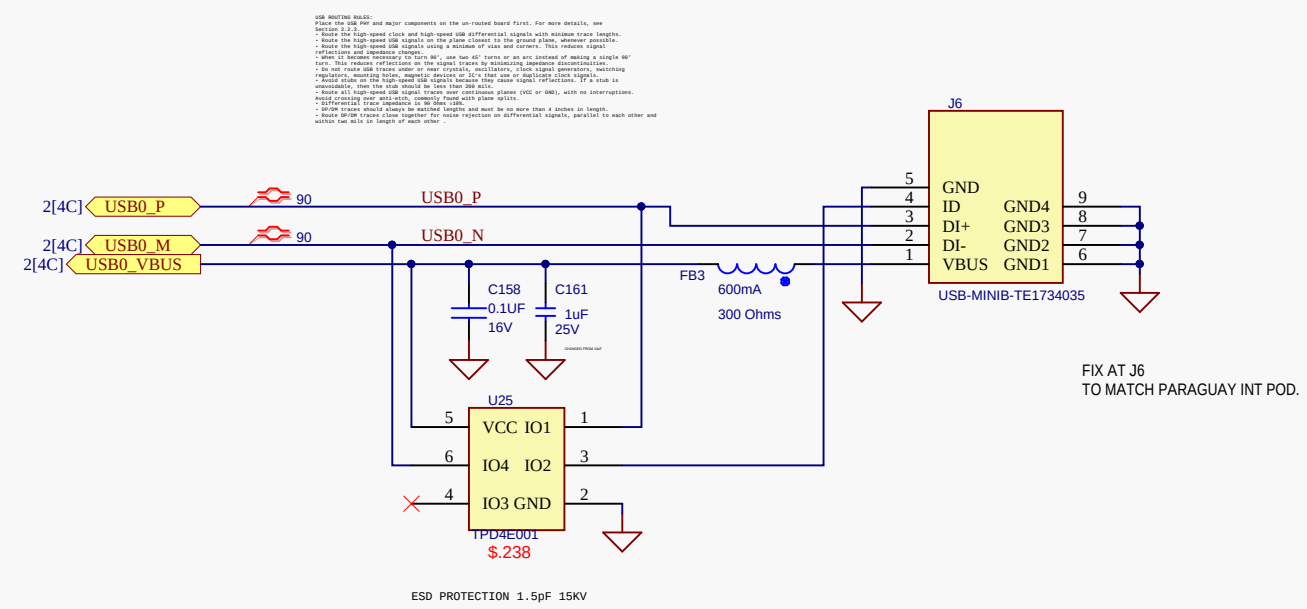
TRACE



CAN INTERFACE



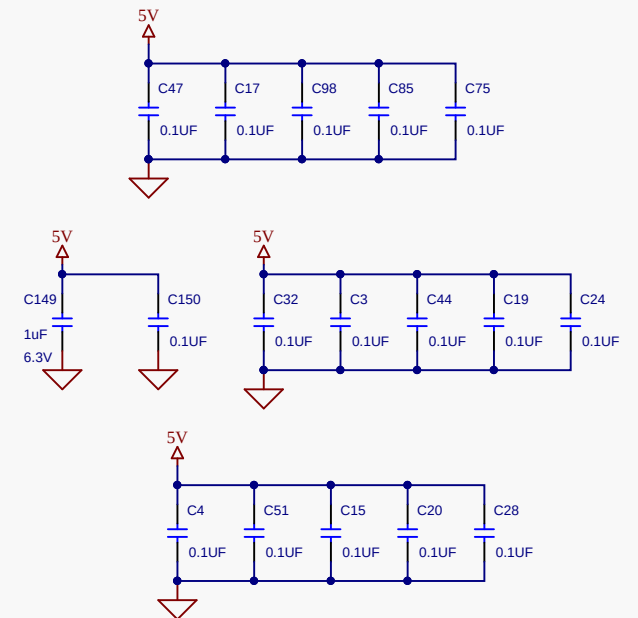
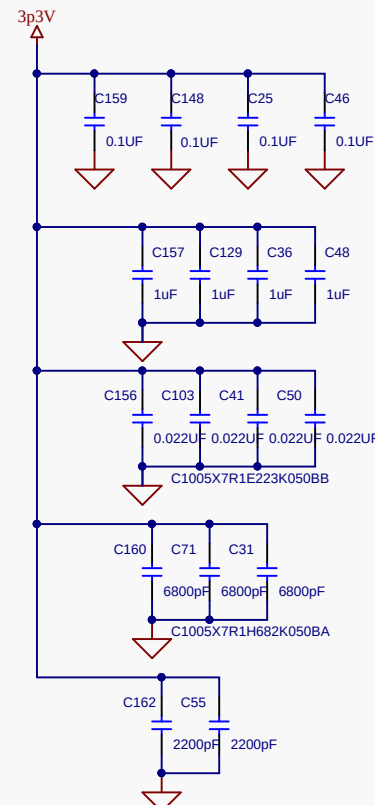
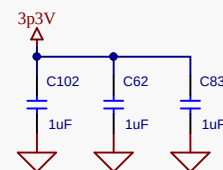
USB



INTERFACES

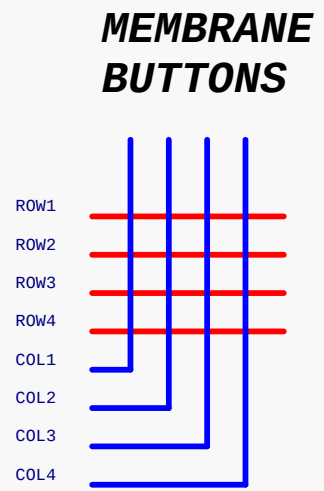
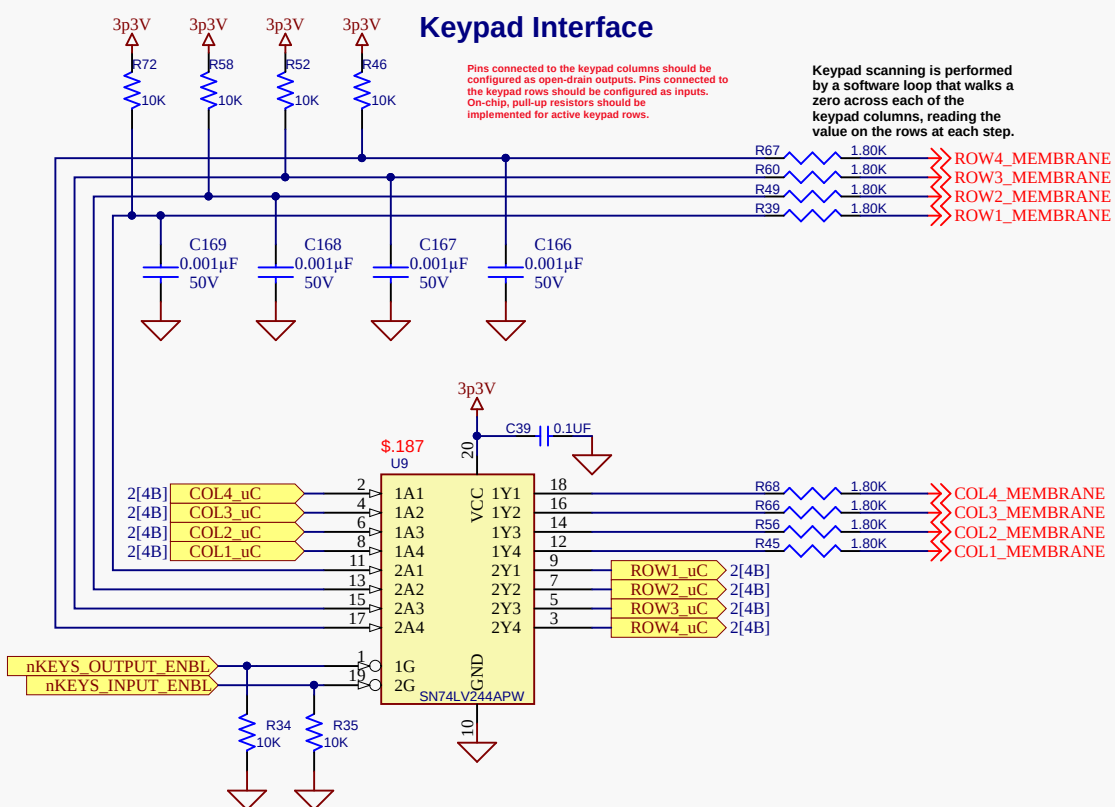
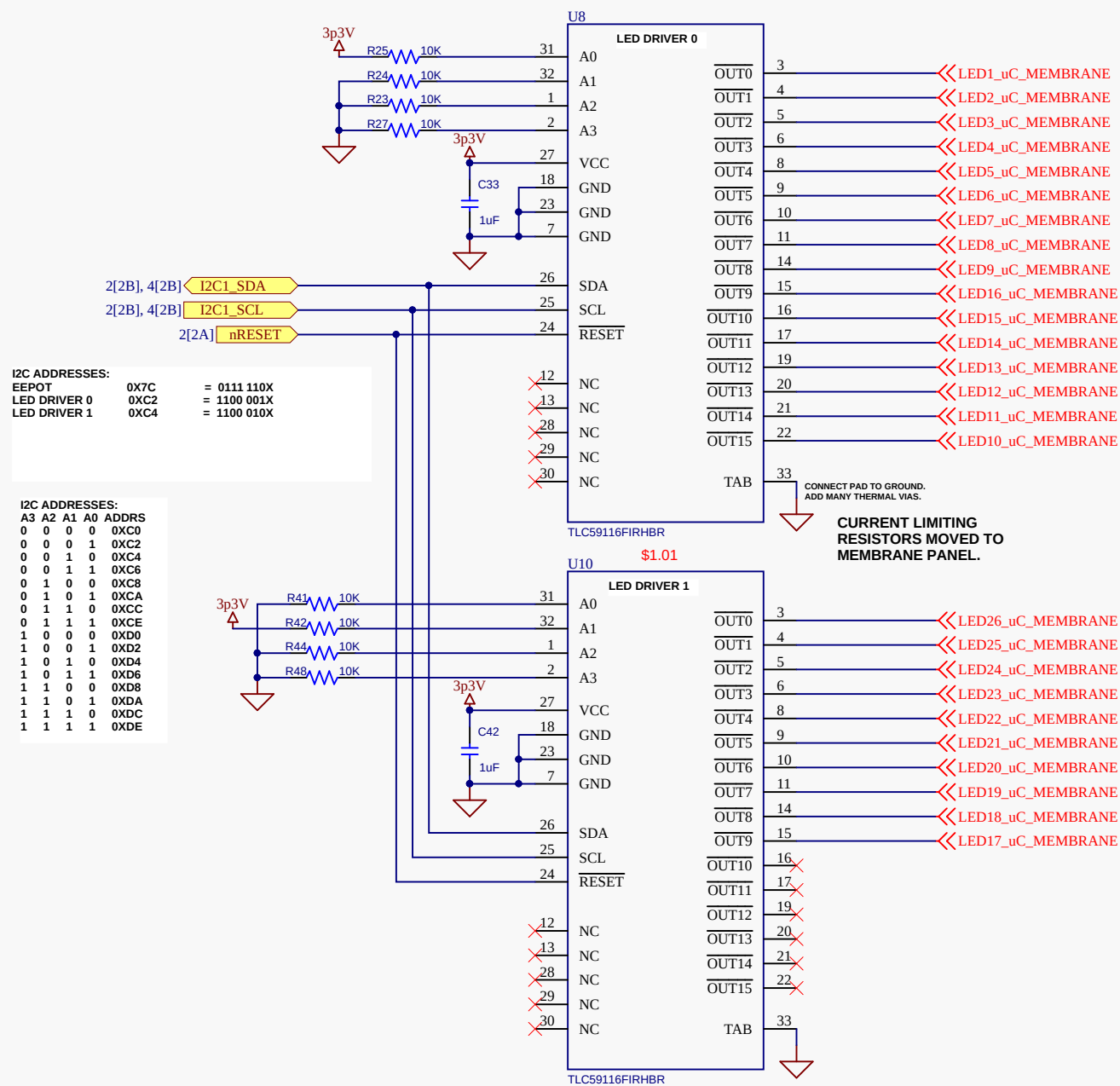
PROPRIETARY INFORMATION		Rev B		Title	
THE INFORMATION IN THIS DOCUMENT IS PROPERTY OF TENNANT COMPANY. IT IS SUBJECT TO RETURN UPON DEMAND AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY		Size: B		AM3 SMALL EMERGE CHUI MEMBRANE BOARD	
		Document Number Q26047-002		Engineer D. WORKMAN	
		Date: 4/23/2020		Sheet 3 of 6	

POWER SUPPLY +5V, 100VIN, 1A



-Power_Filtering.SchDoc

Keypad & LED interfaces



CAN WE GET BY WITH ONE LED DRIVER IC?	
NUMBER OF LED CHANNELS BY BOARD:	
B5/B7	12 LEDS 2 SWITCHES
T300	24 LEDS 6 SWITCHES
T500E	18 LEDS 2 SWITCHES
T600E	26 LEDS 16 SWITCHES
NUMBER OF LED CHANNELS BY MEMBRANE PANEL	
B5 POWER BUNDLE	1206025 12 LEDS 2 SWITCHES
B7 BASE	1206041 9 LEDS 0 SWITCHES
T300 BASE	1210739 11 LEDS 0 SWITCHES
T300 STANDARD	1220872 18 LEDS 3 SWITCHES
T300 PREMIUM	1210744 24 LEDS 7 SWITCHES
T300E INT POD	1227153 10 LEDS 0 SWITCHES
T500 STANDARD	1220474 22 LEDS 7 SWITCHES
T500E BASE	1220472 11 LEDS 0 SWITCHES
T500E OPTION	1220473 18 LEDS 3 SWITCHES
T600 INT POD	1233026 18 LEDS 3 SWITCHES
T600E INT POD	1233025 17 LEDS 3 SWITCHES

