



COMMON INDUSTRIAL USER INTERFACE

Change Log:

REV B

- Page 2
 - Move C200 to page 3 to become C368
 - Pin 6 of J3 is now HR_METER_OUT instead of NC
 - Add R203, R204, C208
 - C201 moved to page 14 to become C1403
 - Add page 14 and 15 sheet symbols
 - Add J18, J19, J20
- Page 3
 - Change D301 to be bidirectional TVS diode
 - Change R310 and R313 100k and 52.3k, respectively values
- Page 4
 - Added 70mA current mirror
- Page 7
 - Added additional signals related to new inputs and outputs. No existing pins were changed
 - Added UART 5 to pins D16 and A15
 - Changed U703 to FSUSB30MUX
- Page 8
 - Delete R802 and R803
 - GPIO_SPARE_1 moved to pin B7 to accommodate PWM signal on pin E10
 - Delete R808 and reduce HWD REV bits to 3 total instead of 4.
 - Added additional input signals Digin 4 through Digin 10
 - Add new Ain pins to AA16 and AB15
- Page 11
 - Move Digin 3 circuit to page 14
 - Added U1105, C1108, C1109, C1110, C1111, C1112
- Page 12
 - Add R1226 through R1257
- Add Page 14
 - 7 new digins and 2 new Ains
- Add Page 15
 - 8 new 0.5A LSDs
 - 4 new 2A LSDs
 - 1 new 5V HSD for HR meters

REVC

- Page 7
 - Swap SPI Data lines. SPI_0_MISO now on Pin T22 and SPI_0_MOSI now on Pin T21
- Page 10
 - added pins C1, A2, and N1 to ease breakout of the eMMC part

REVD


- Page 3
 - Change R338, R339, and R340 to 2Meg ohm
 - Page 5
 - Add R504
 - Add B501
 - Page 7
 - Add R717 and R718
 - Net LED_YEL_CAN1 added to pin N23
 - Net GPIO_SPARE_1 moved to pin T24
 - Page 8
 - Change pin B7 connection to net name FSTN_LCD_A0
 - Add second Yellow LED for second CAN port
 - Add R818, R819, R820, Q802, D802.
 - Page 11
 - Add R1118
 - Add R1119
 - Page 13
 - Add connection to pin 3 of J14, FSTN_LCD_A0
 - Add Q1303, U1304, R1380 to control dot matrix LCD backlight
 - Add J21
 - Flipped J14 to fix connections to dot matrix LCD
 - page 15
 - D1505, D1503, D1512, D1509, D1519, D1516, D1523, and D1521 changed to 3A parts : SK310A-LTP
- Added U1506 and C1520

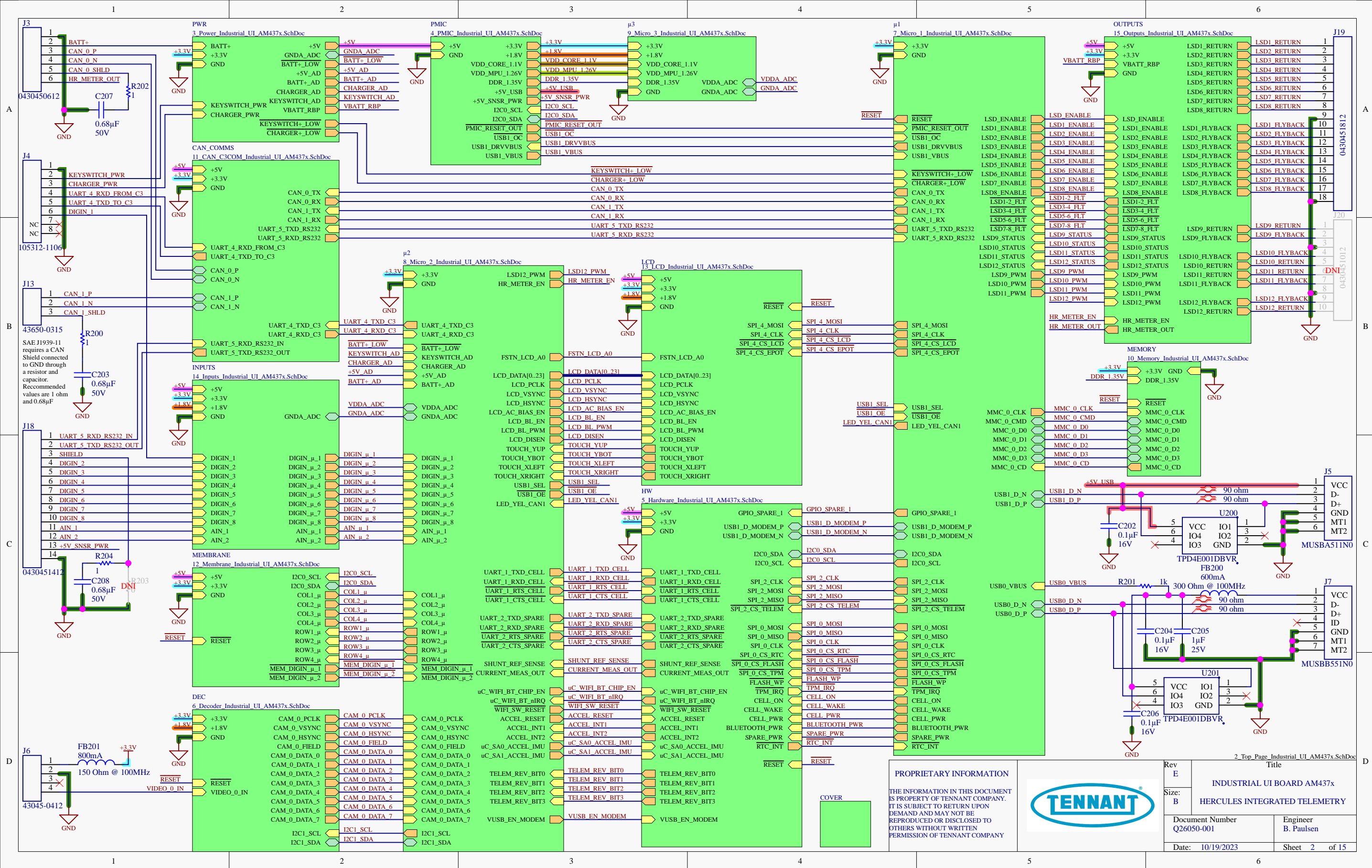
7-bit I2C addresses (12C0)				
SA0 for IMU/Accel	0	1	0	1
SA1 for IMU/Accel	0	0	1	1
BMI270	0x68	0x69		
LSM6DSMTR	0x6A	0x6B		
ISM330DLC	0x6A	0x6B		
ISM330DHC	0x6A	0x6B		
ISM330DHCX	0x6A	0x6B		
BNO055	0x29	0x28		
Accel - FXLS8471QR1	0x1E	0x1D	0x1C	0x1F
LED Driver 0 - TLC59116FIRHBR	0x61			
LED Driver 1 - TLC59116FIRHBR	0x62			
EEPOT - ISL90728WIE627Z	0x3E			
PMIC - TPS65218D0	0x24			
7-bit I2C addresses (I2C1)				
Video Decoder - TW9990	0x45			

BOM ITEMS:

FID1	FID2	FID3
DNI	DNI	DNI
FID4	FID5	FID6
DNI	DNI	DNI

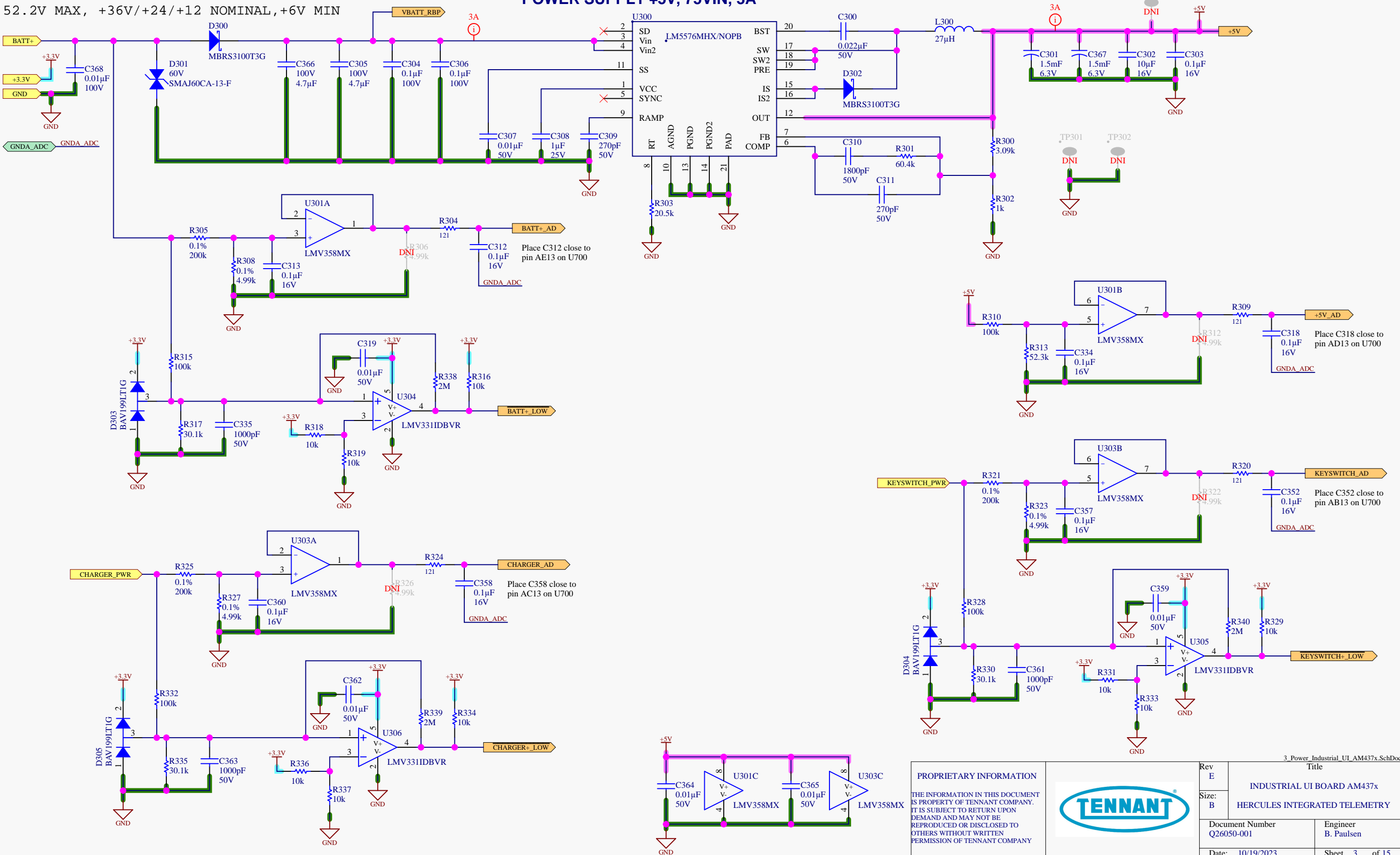
PCB	
BOM	Q25098-004 PCB, Industrial UI
FW1	Q30124-001 Firmware-Application, U1001
FW2	Q30125-001 Firmware-Bootloader, U500

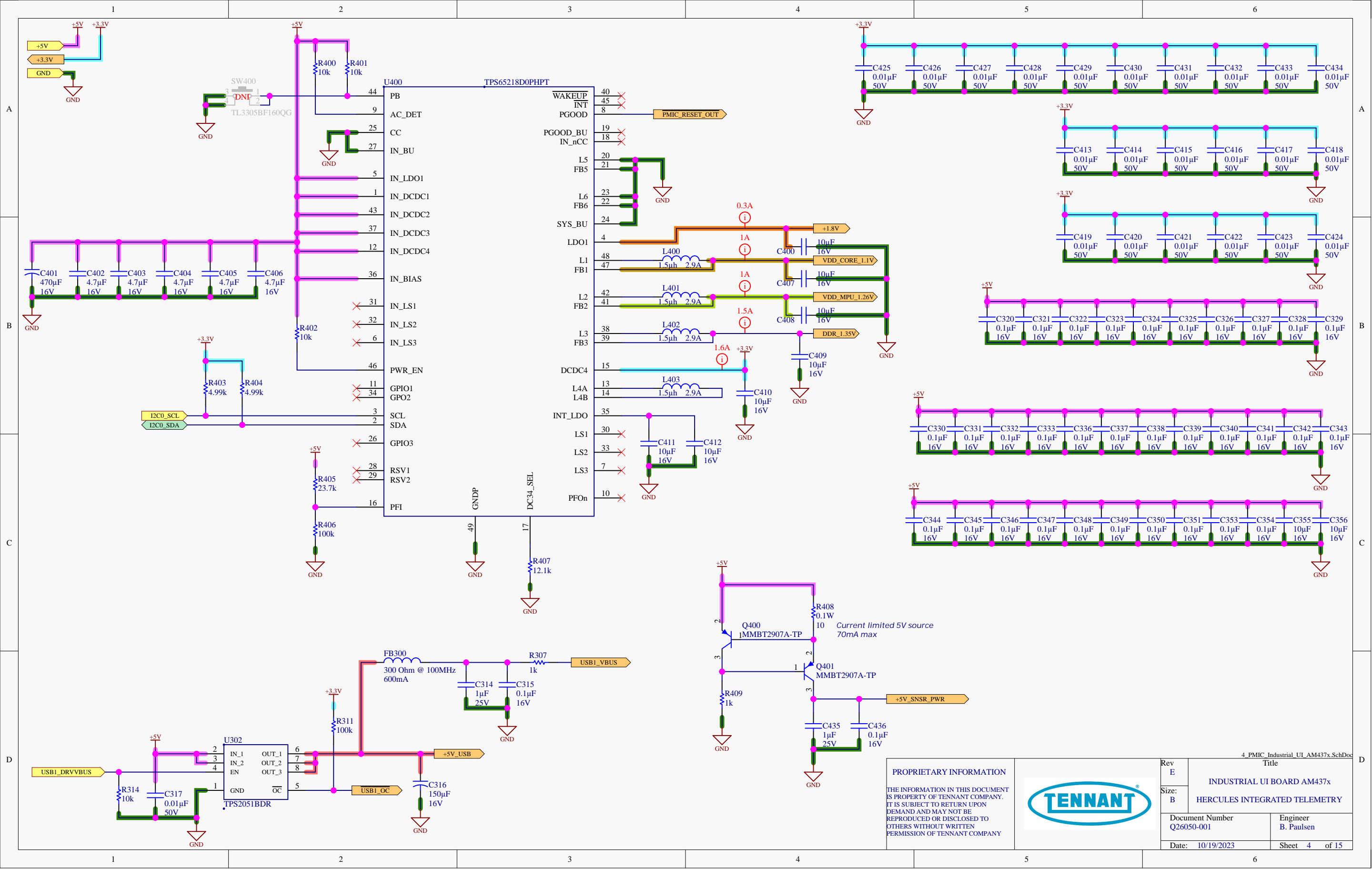
PROPRIETARY INFORMATION			Rev E	Title		
THE INFORMATION IN THIS DOCUMENT IS PROPERTY OF TENNANT COMPANY. IT IS SUBJECT TO RETURN UPON DEMAND AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY			Size: B	INDUSTRIAL UI BOARD AM437x HERCULES INTEGRATED TELEMETRY		
			Document Number Q26050-001		Engineer B. Paulsen	
			Date: 10/19/2023		Sheet 1 of 15	



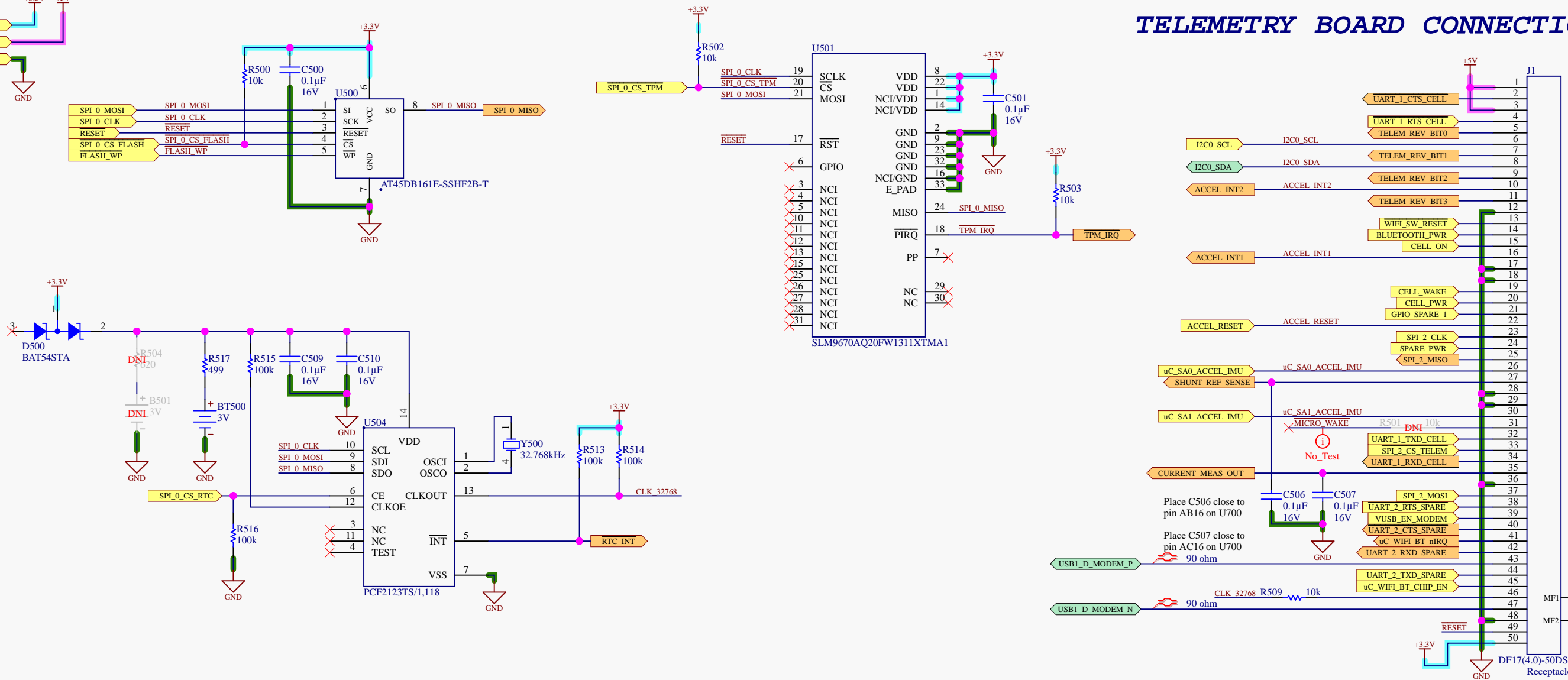
POWER INPUT
52.2V MAX, +36V/+24/+12 NOMINAL, +6V MIN

POWER SUPPLY +5V, 75VIN, 3A





TELEMETRY BOARD CONNECTION



- HW500

MECH

STANDOFF, PCB, 3MM X 6MMHIGH

HW502

MECH

STANDOFF, PCB, 3MM X 6MMHIGH

HW504

DNI

SCREW, M3 X 6MM TORX

HW506

DNI

SCREW, M3 X 6MM TORX
- HW501

MECH

STANDOFF, PCB, 3MM X 6MMHIGH

HW503

MECH

STANDOFF, PCB, 3MM X 6MMHIGH

HW505

DNI

SCREW, M3 X 6MM TORX

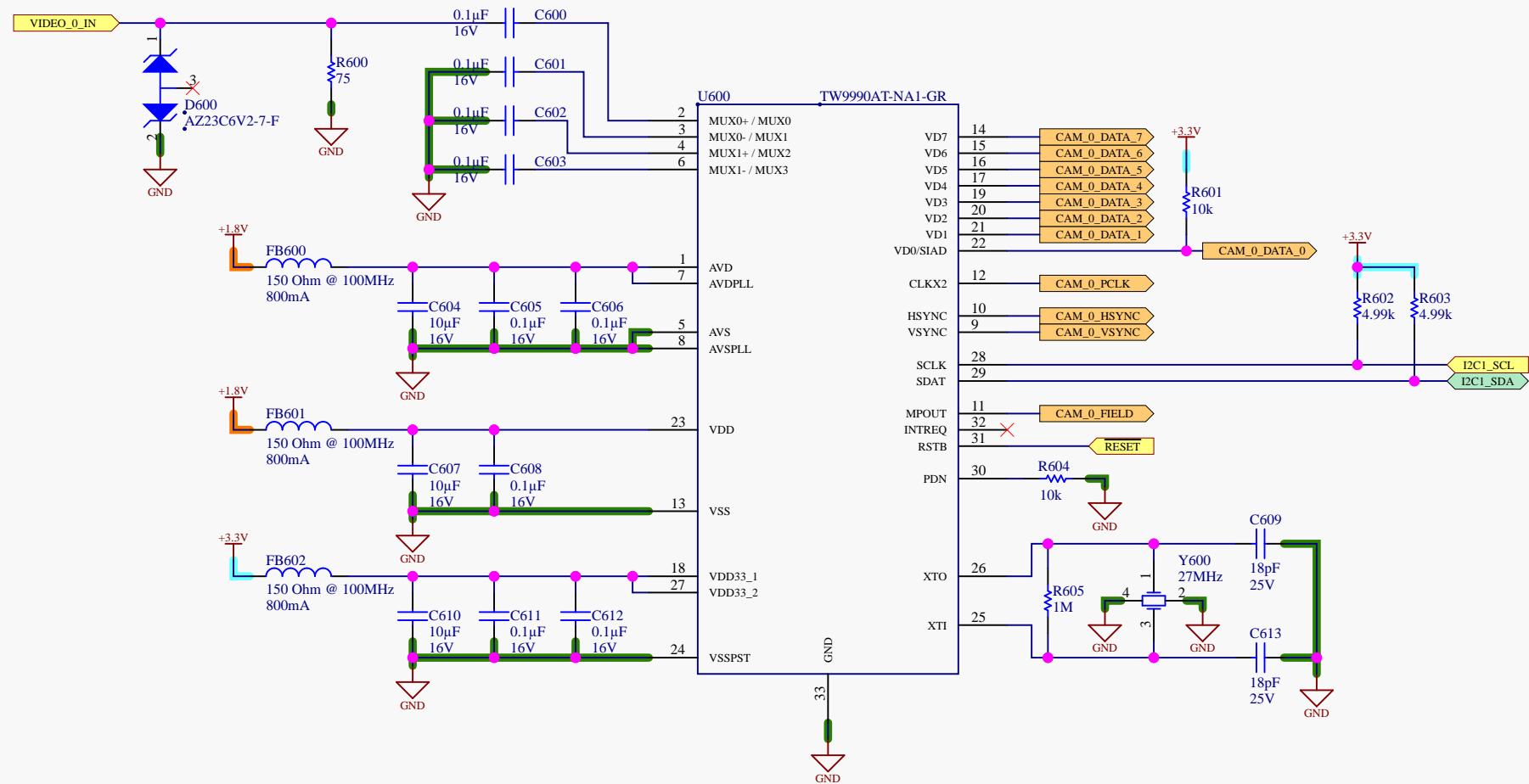
HW507

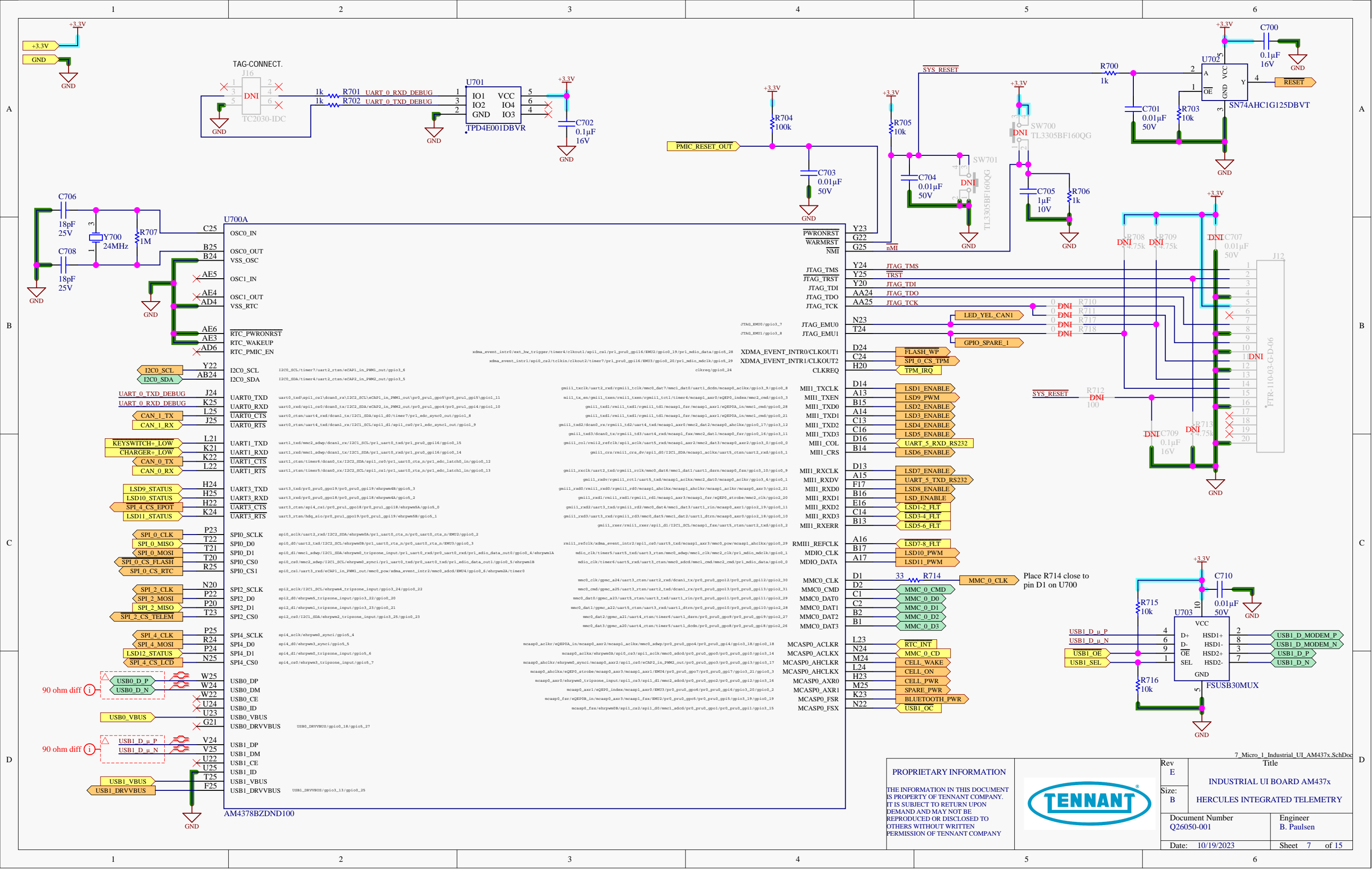
DNI

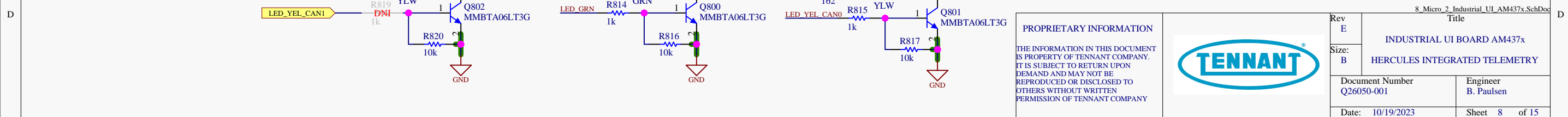
SCREW, M3 X 6MM TORX

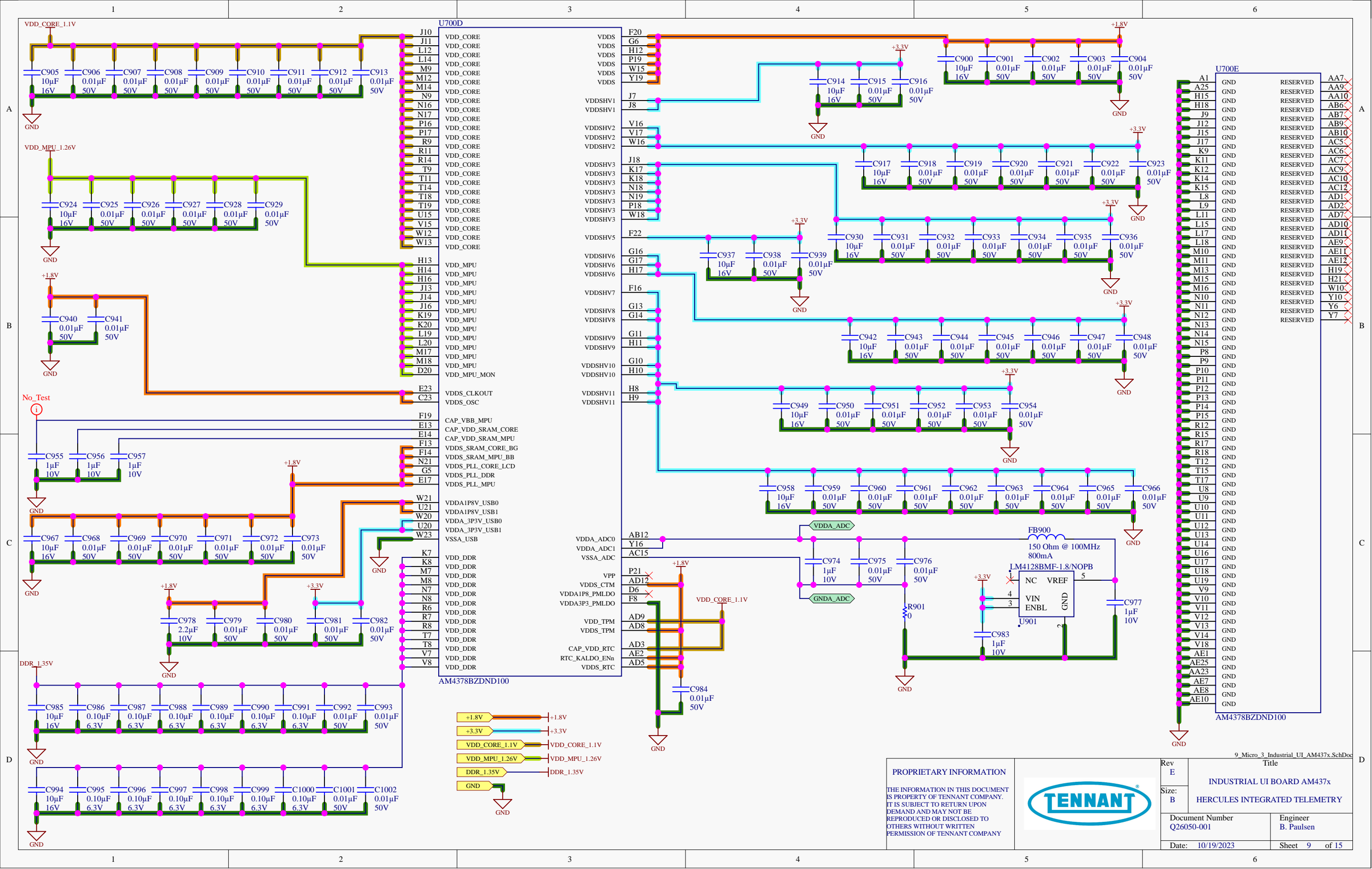
PROPRIETARY INFORMATION		5 Hardware Industrial UI AM437x.SchDoc	
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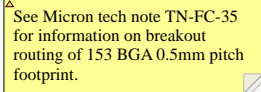


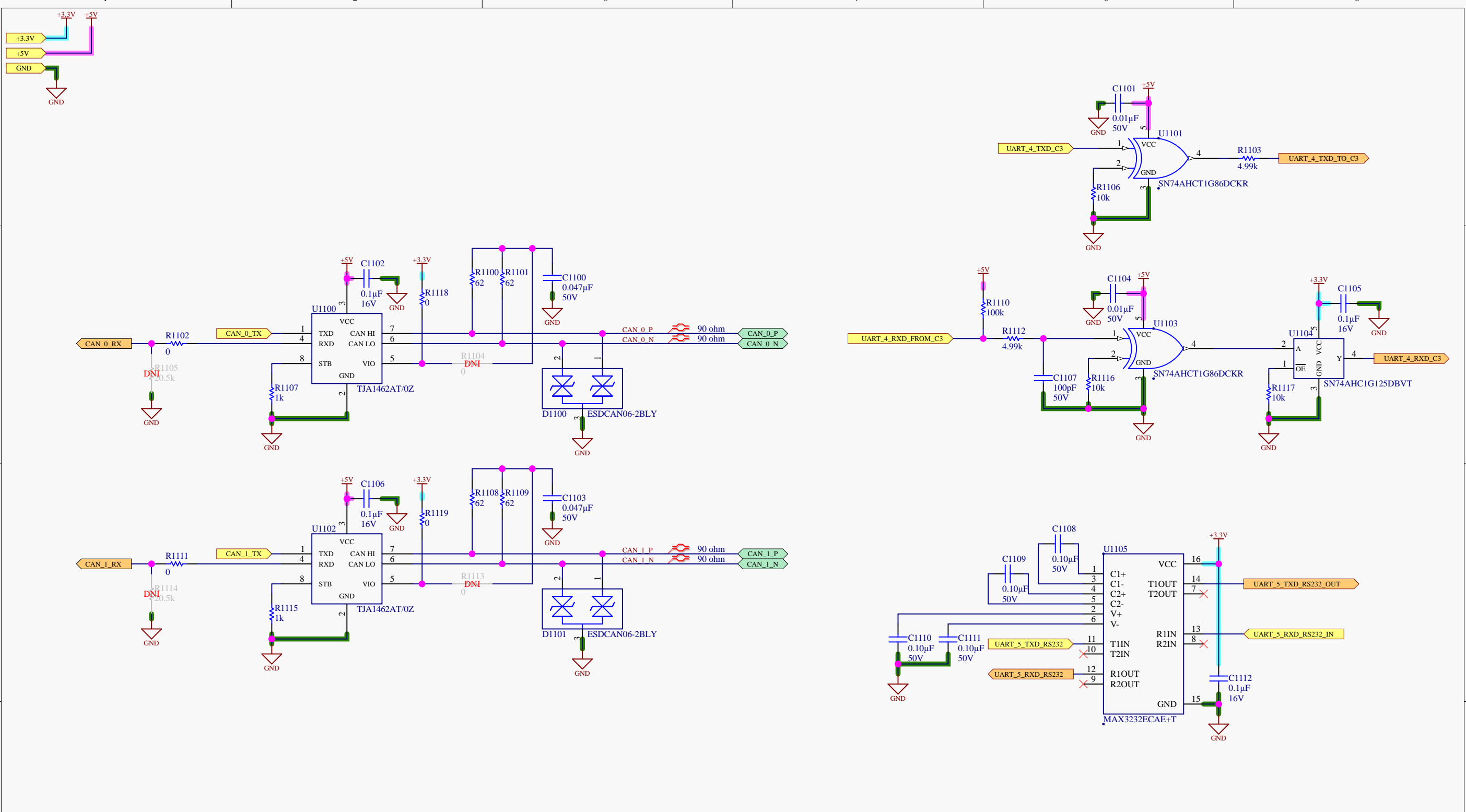


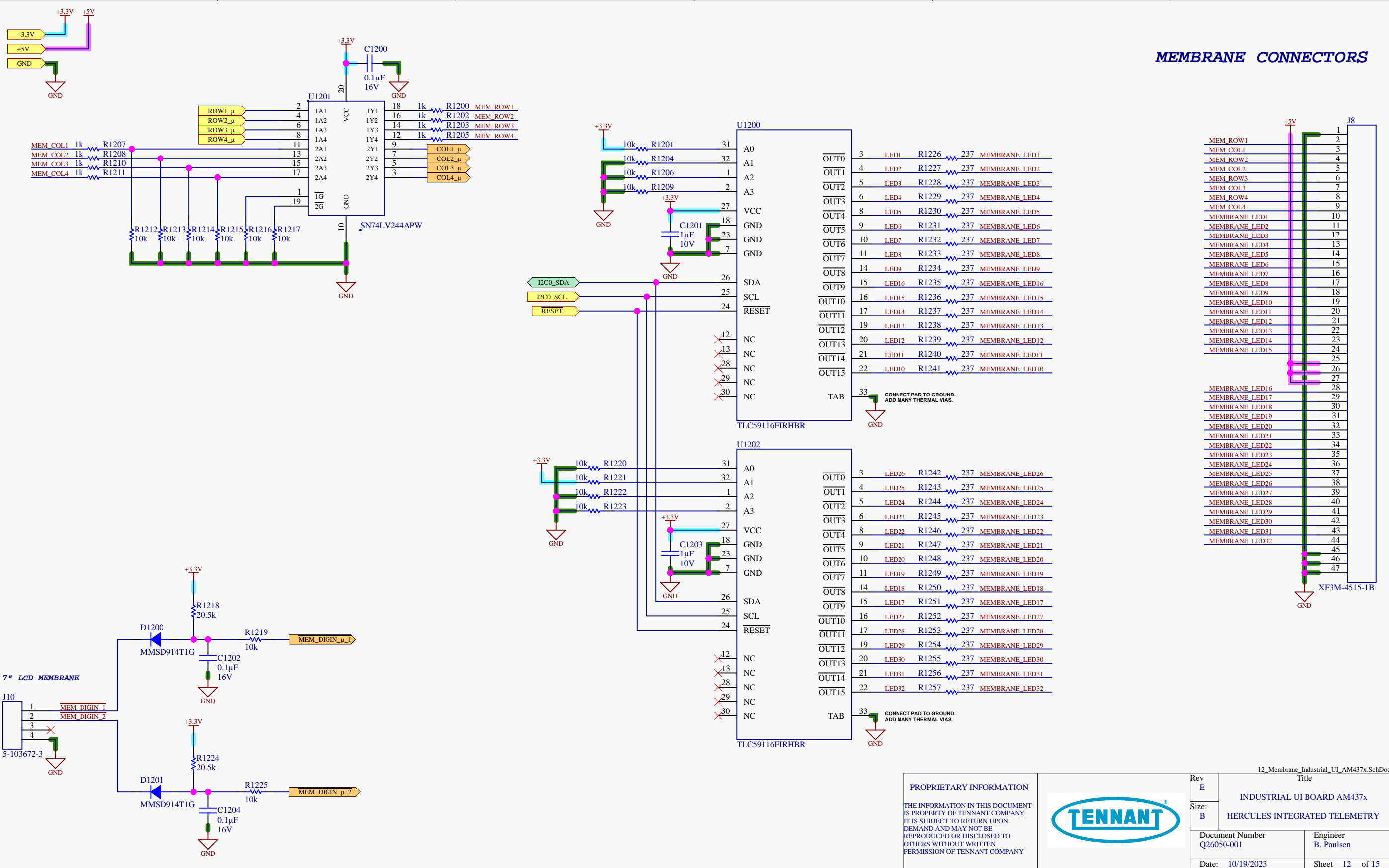












MEMBRANE CONNECTORS

