



AM4 LINUX USER INTERFACE Variant: LINUX\_AM4\_DUALCAN

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

REV F

- Page 2
  - Update PCB number to Q25098-005
- Page 8
  - Populate R811 bringing HW REV to 3
  - Depop R820
  - Change Q802 to 2N7002-7-F
- Layout Consideration
  - Update footprints of MS920T-FL27E and ML-1220/F1AN. Increase copper keepouts to include the entire bottom surface of the batteries

REV G

- Page 8
  - Update D800 to be Q14001-007

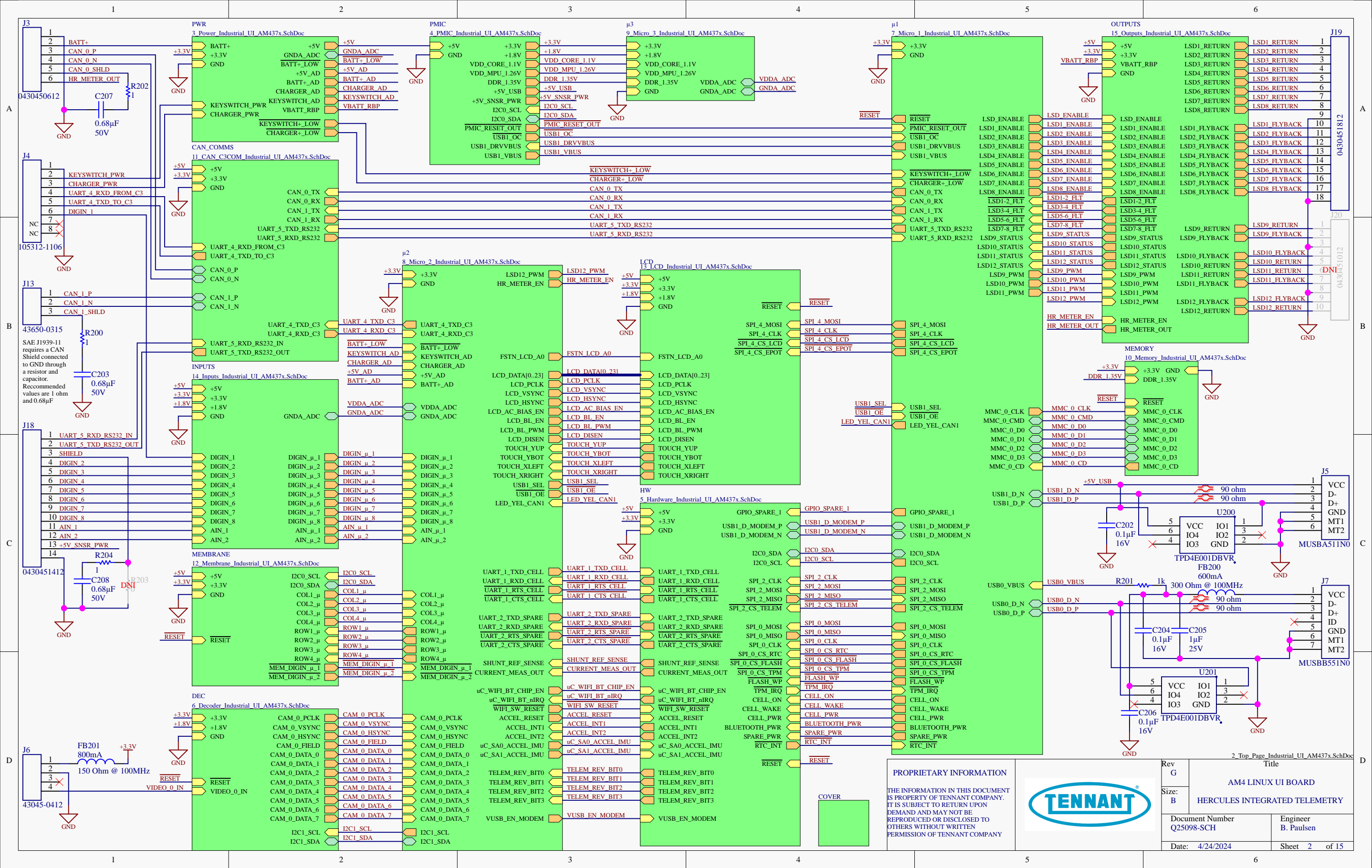
7-bit I2C addresses (I2C0)				
SA0 for IMU/Accel	0	1	0	1
SA1 for IMU/Accel	0	0	1	1
BMI270	0x68	0x69		
LSM6DSMTR	0x6A	0x6B		
ISM330DLC	0x6A	0x6B		
ISM330DHC	0x6A	0x6B		
ISM330DHCX	0x6A	0x6B		
BNO055	0x29	0x28		
Accel - FXLS8471QR1	0x1E	0x1D	0x1C	0x1F
LED Driver 0 - TLC59116FIRHBR	0x61			
LED Driver 1 - TLC59116FIRHBR	0x62			
EEPOT - ISL90728WIE627Z	0x3E			
PMIC - TPS65218D0	0x24			
7-bit I2C addresses (I2C1)				
Video Decoder - TW9990	0x45			

BOM ITEMS:



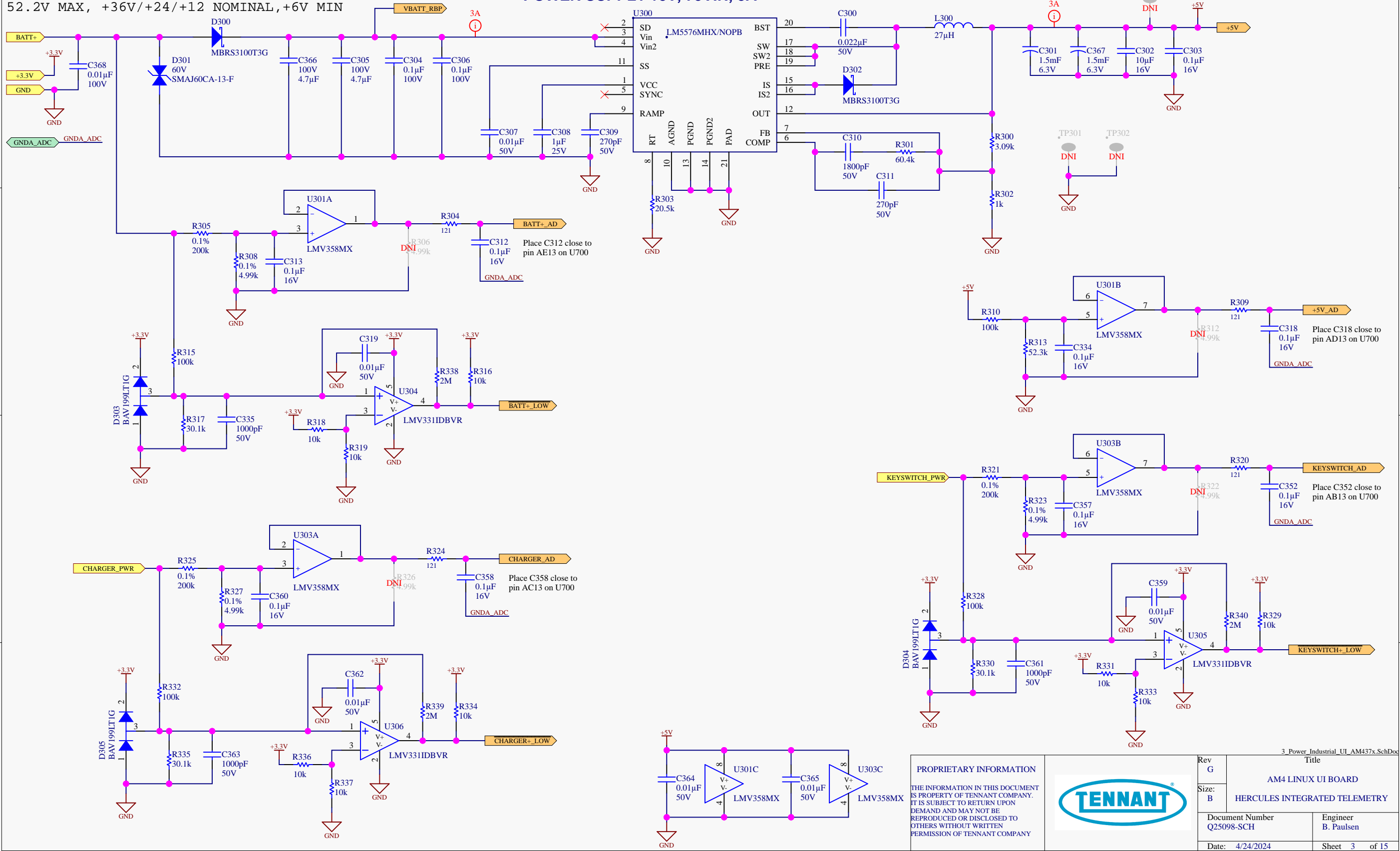
PCB	Q25098-005
BOM	PCB, Industrial UI
FW1	Q30124-001
DNI	Firmware-Application, U1001
FW2	Q30125-001
DNI	Firmware-Bootloader, U500

1_Cover_Page_Industrial_UI_AM437x.SchDoc		Rev G	Title	
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			HERCULES INTEGRATED TELEMETRY	
		Document Number Q25098-SCH	Engineer B. Paulsen	
		Date: 4/24/2024	Sheet 1 of 15	



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

POWER SUPPLY +5V, 75VIN, 3A

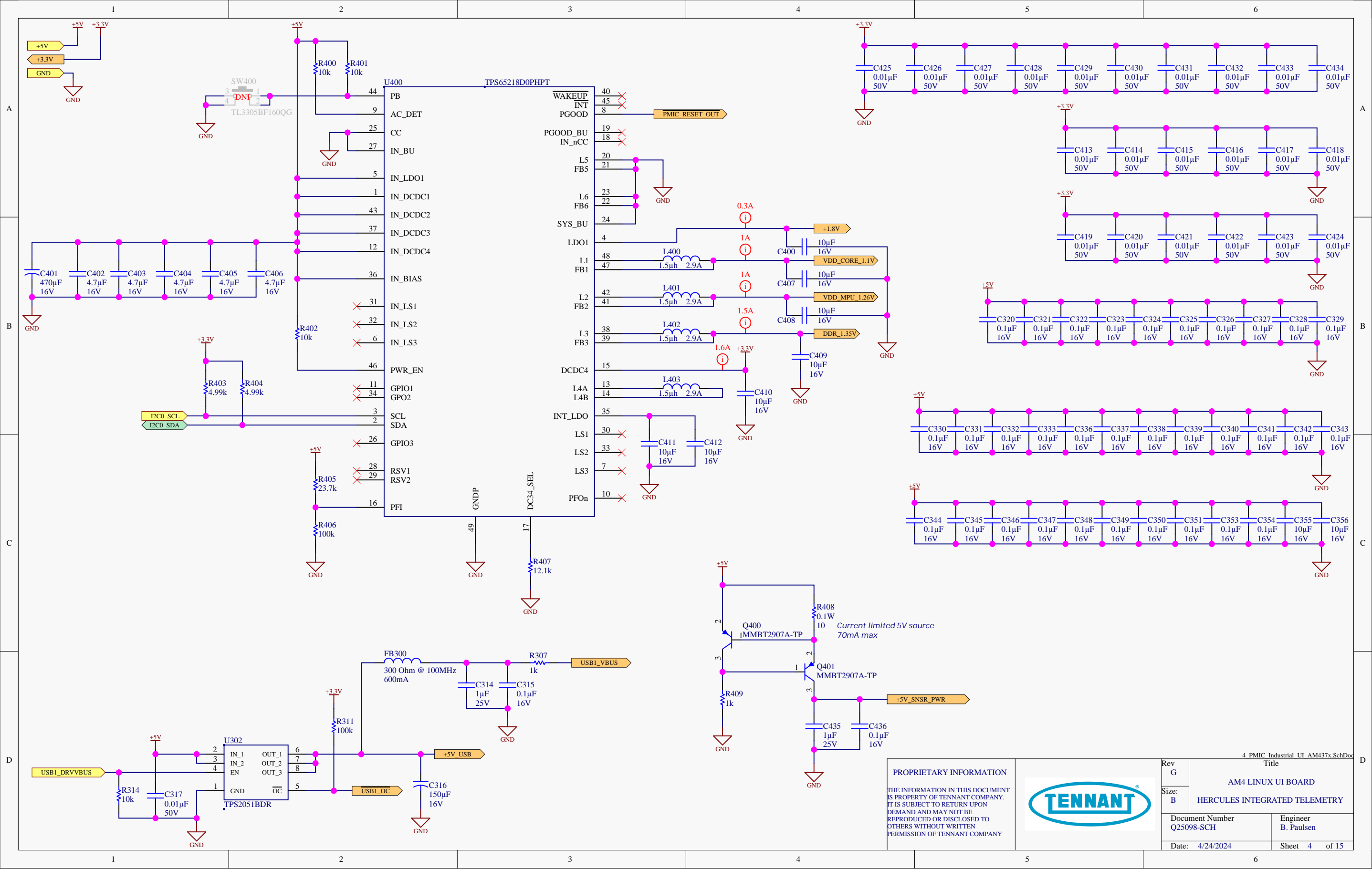


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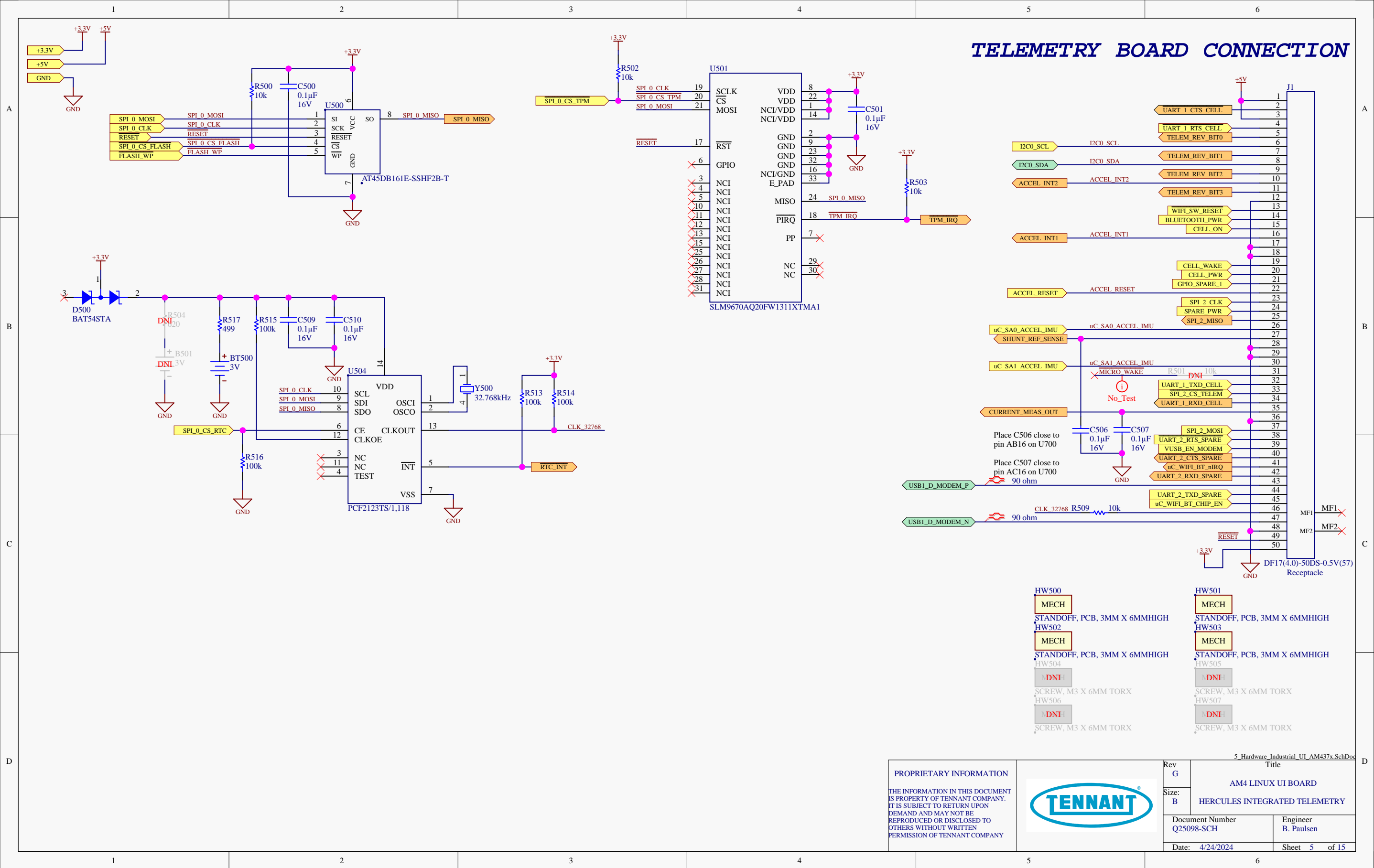
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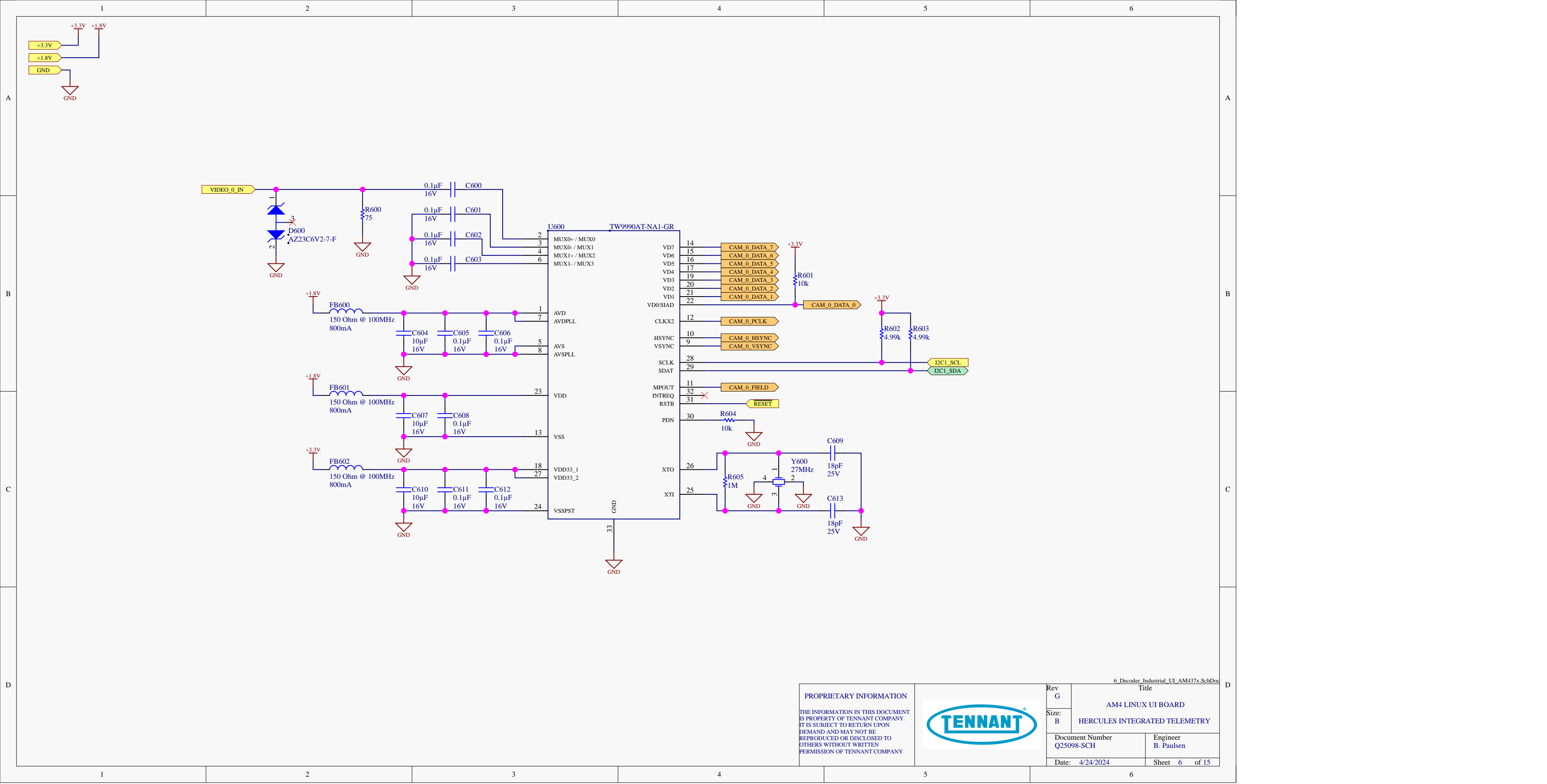


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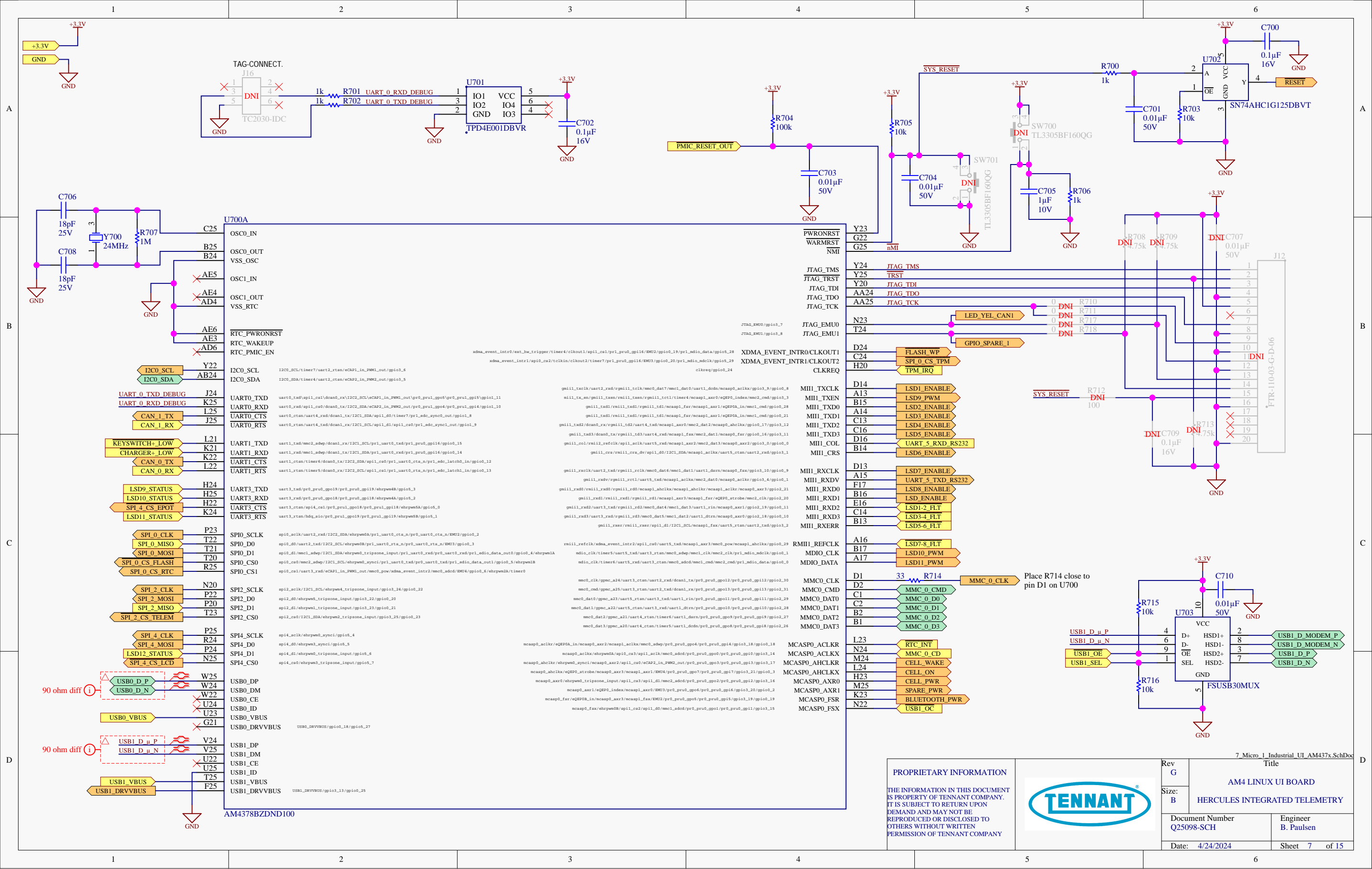


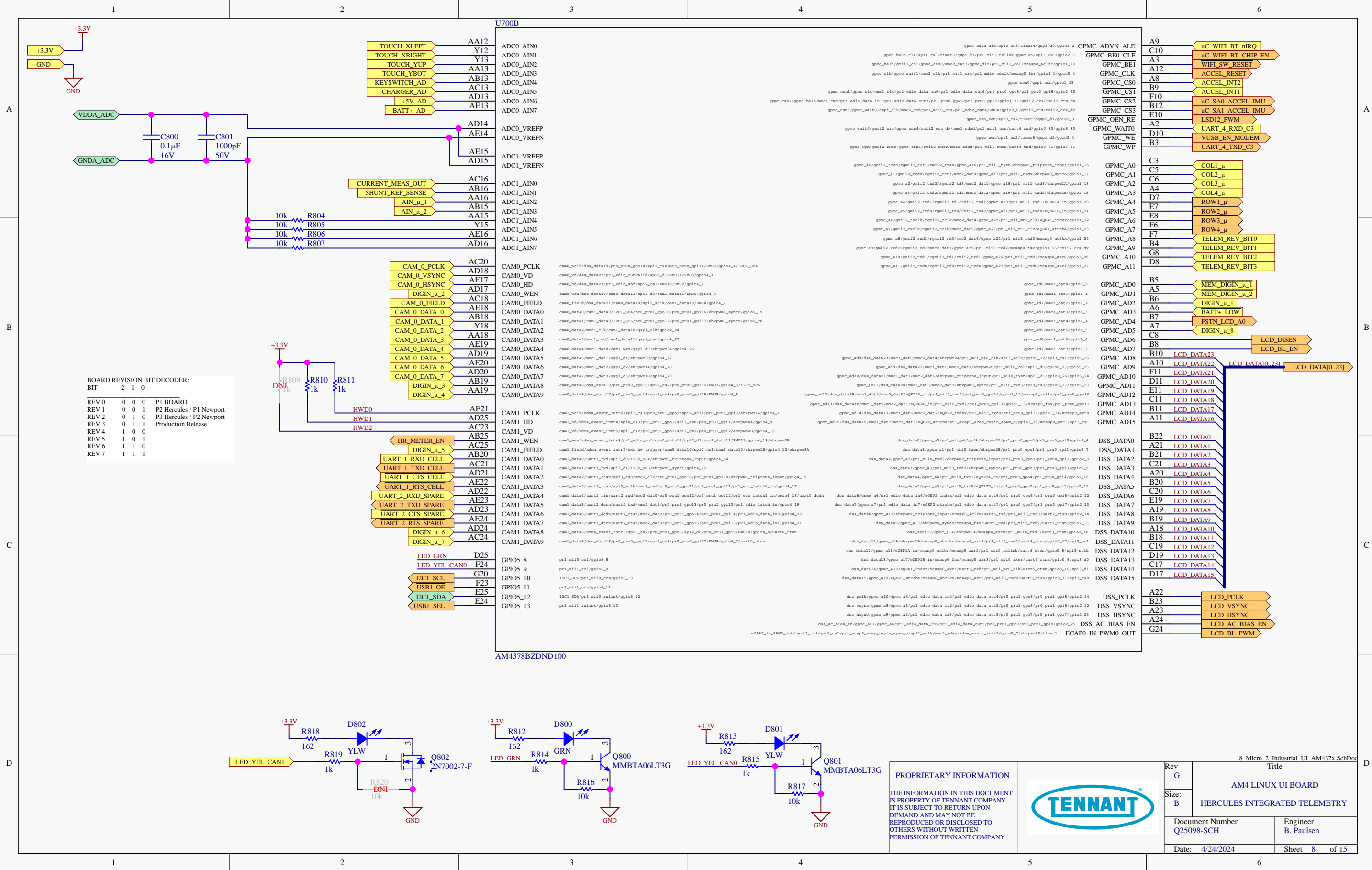


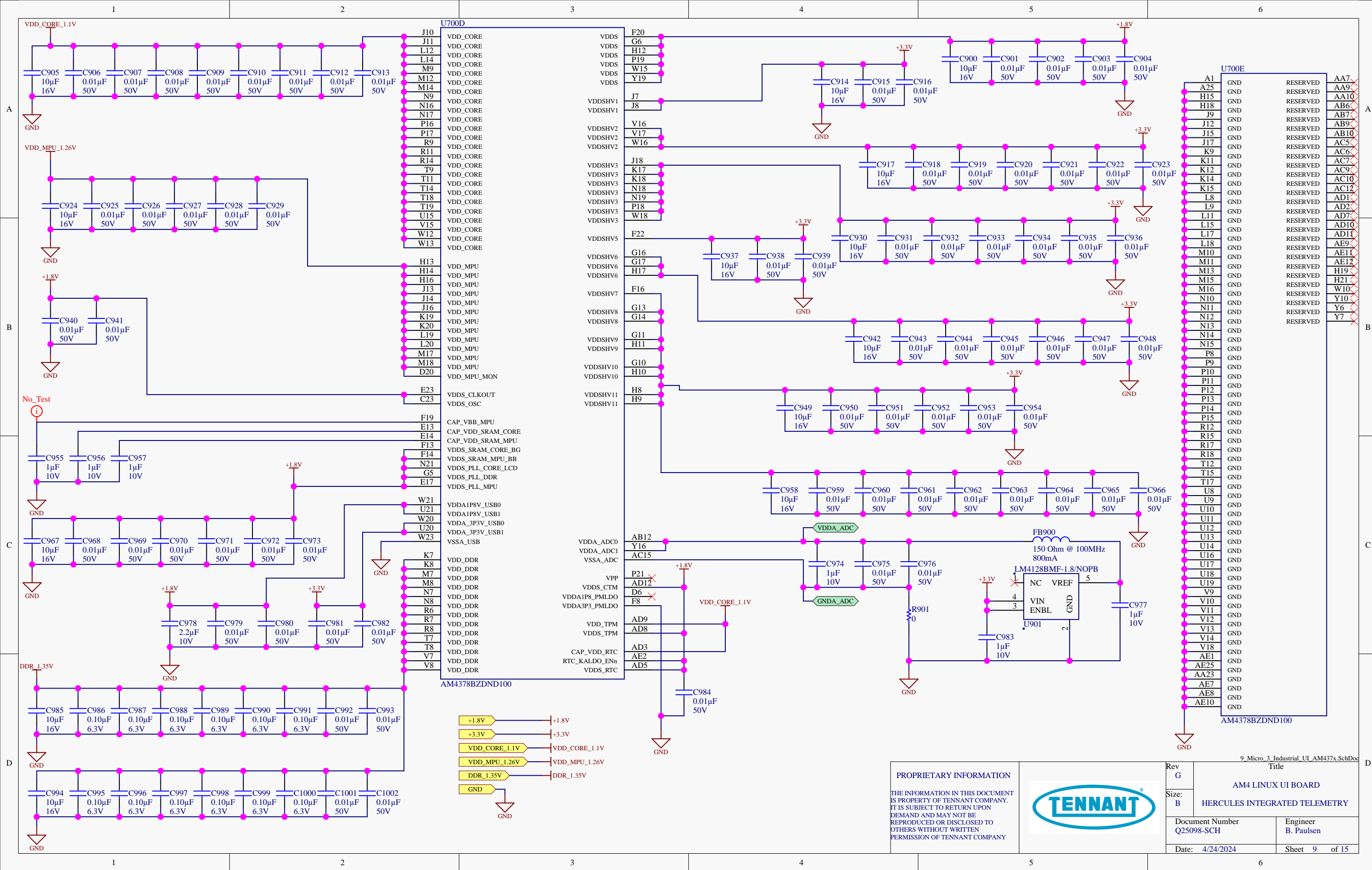




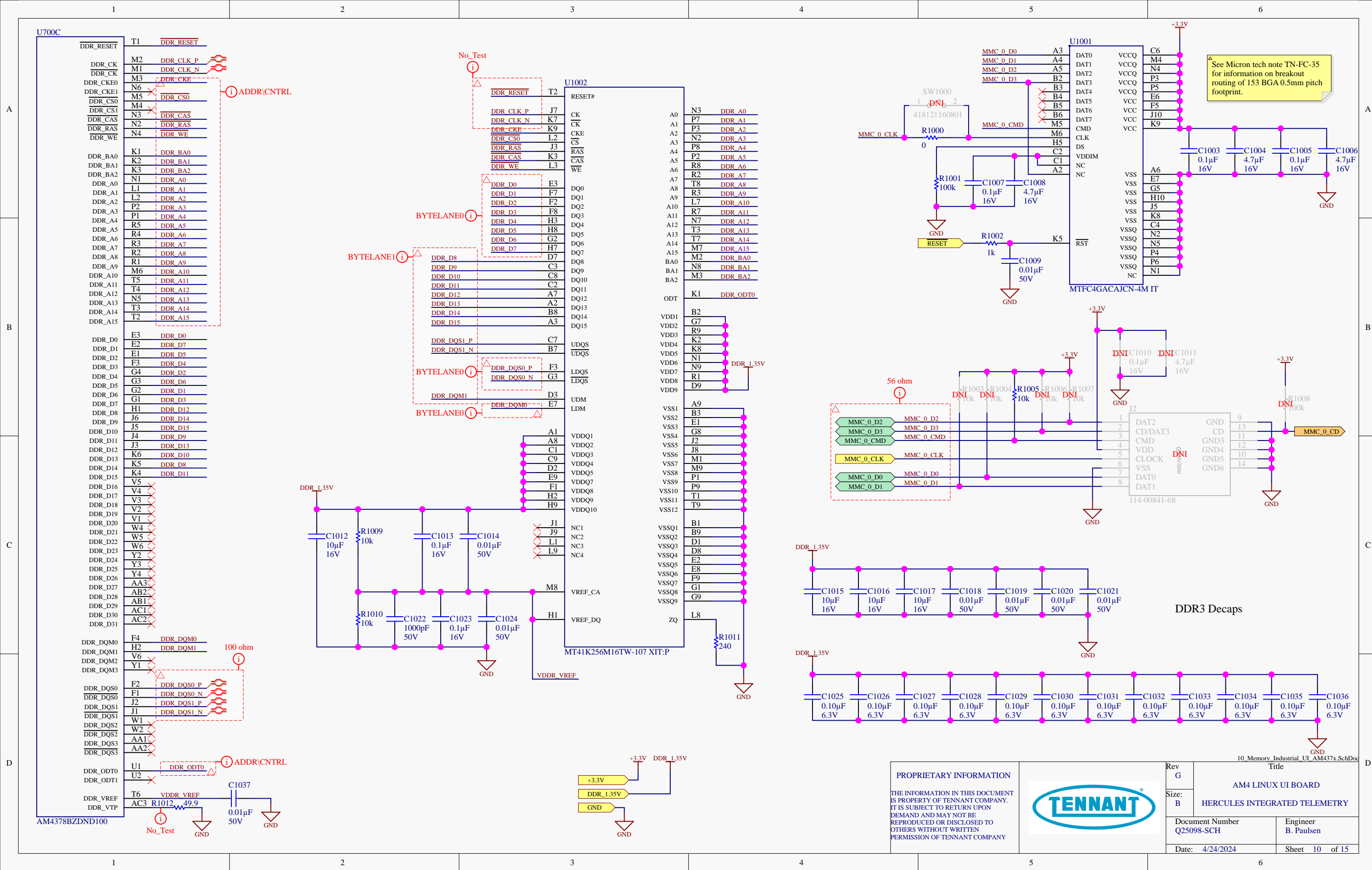
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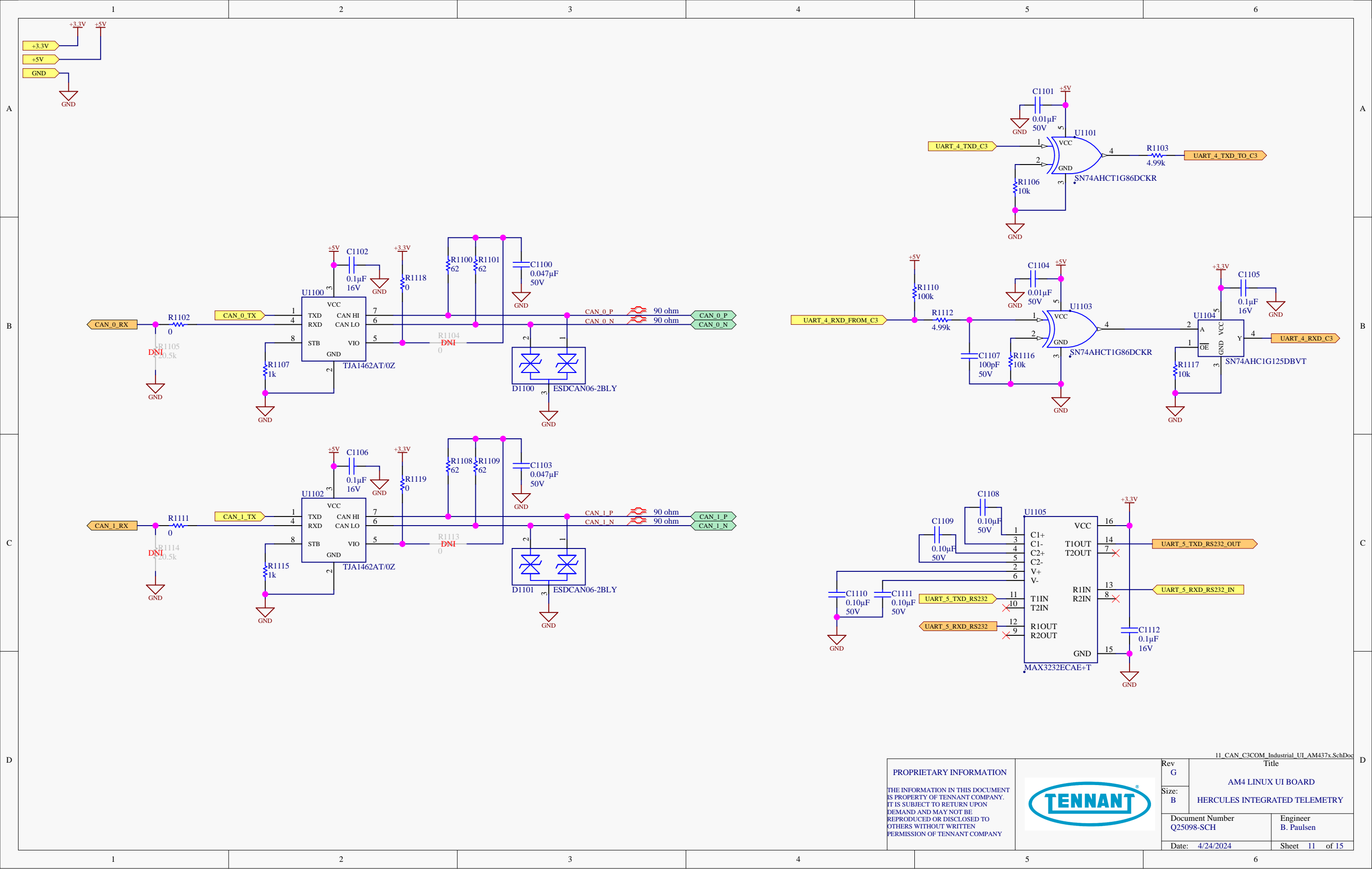












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