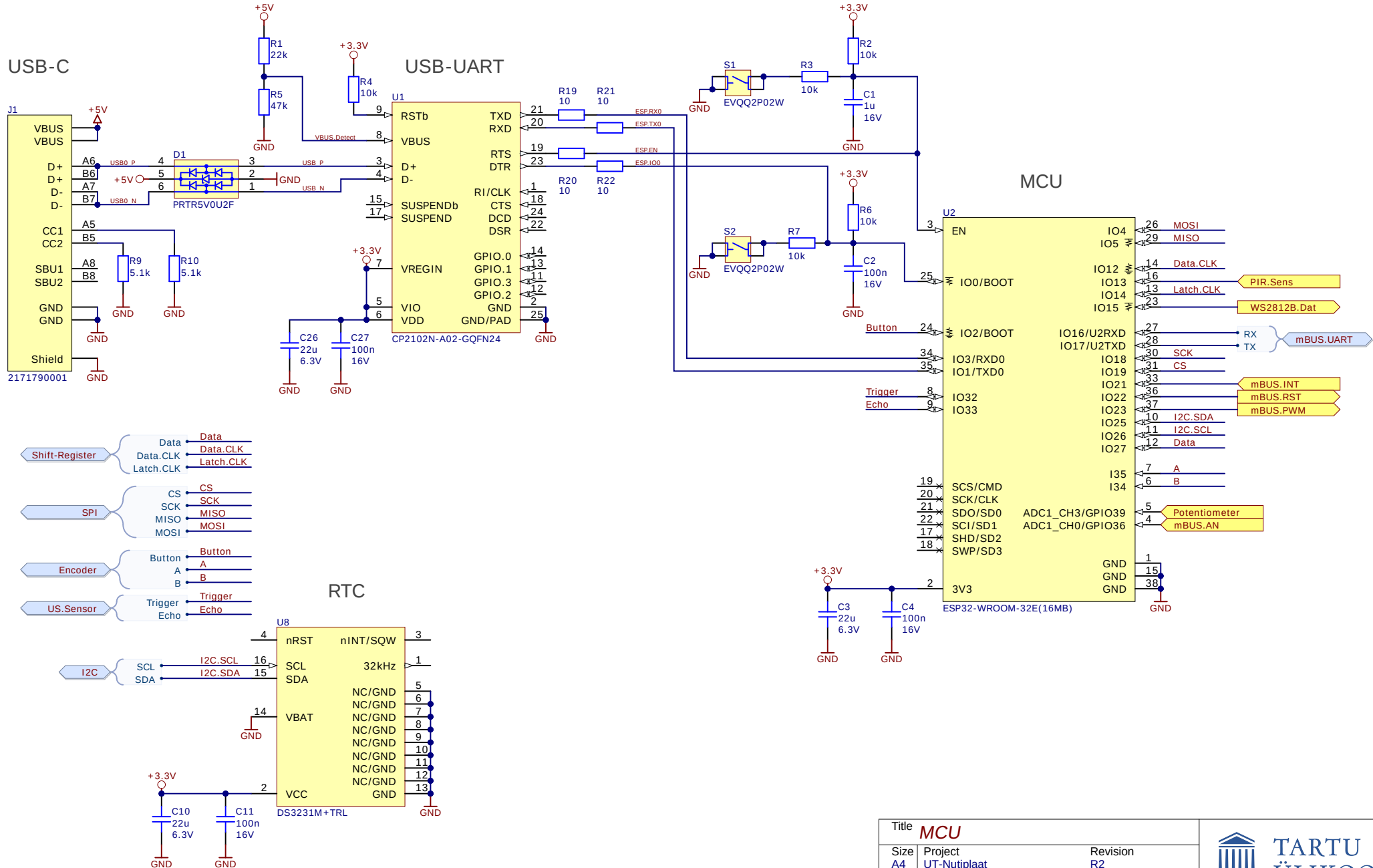
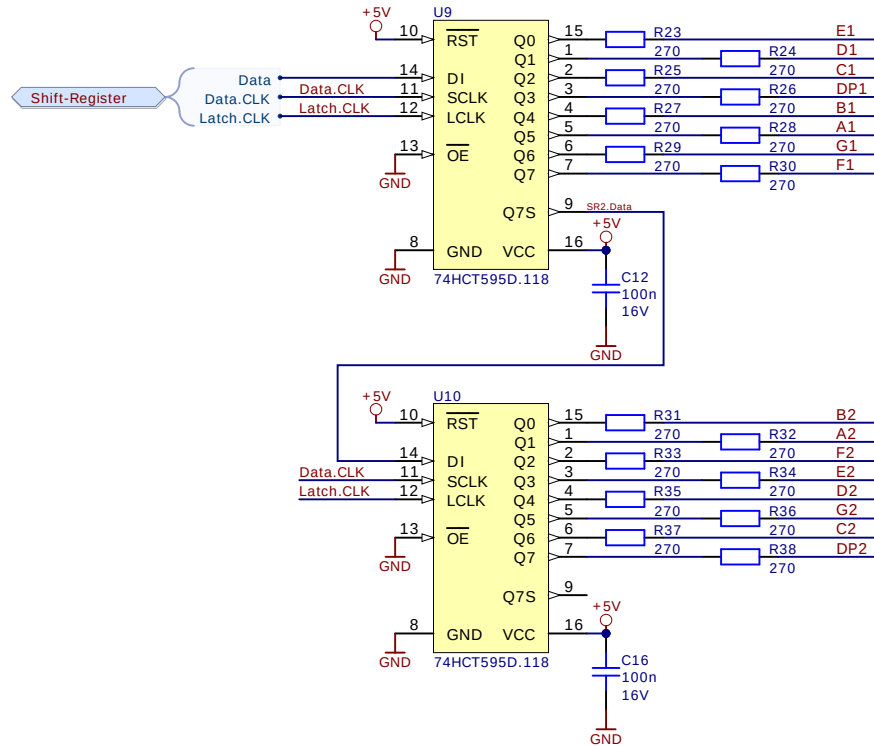




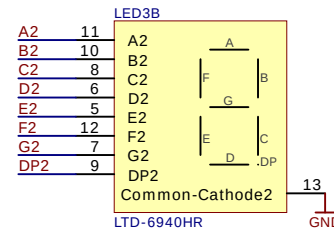
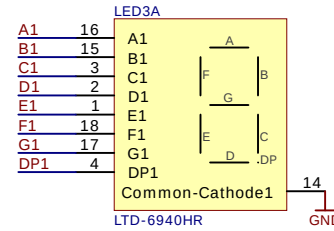
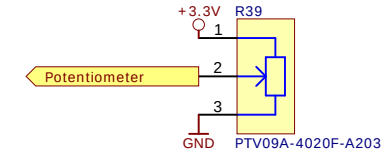
Title	MCU	
Size	Project	Revision
A4	UT-Nutiplaat	R2
Date	17/02/2025 02:15:27	Sheet 1 of 5
File	UT-Nutiplaat-MCU.SchDoc	



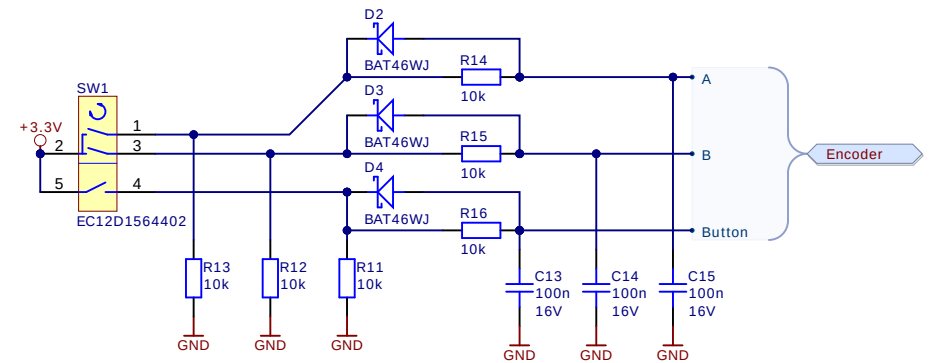
Shift-register 7-seg LEDs



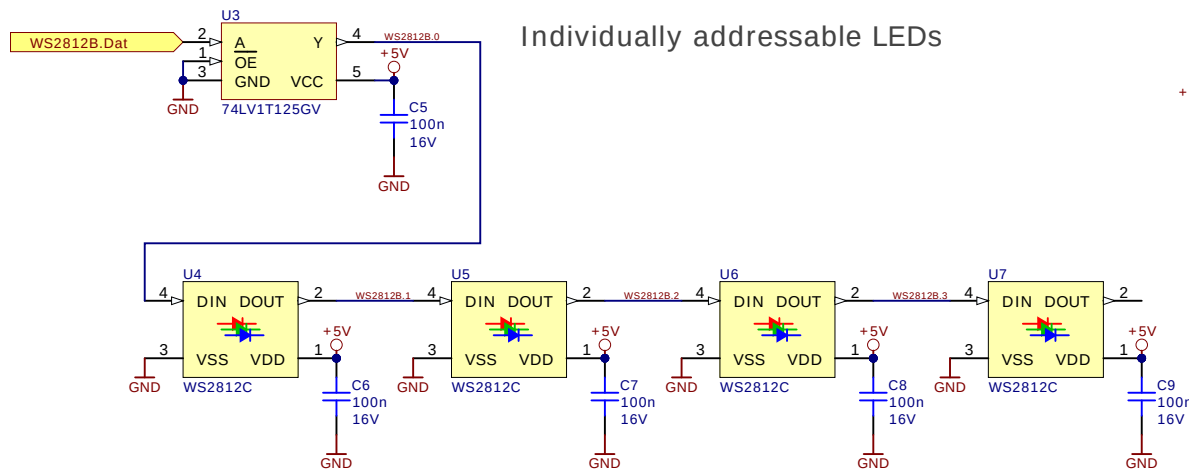
Analog potentiometer



Rotary encoder with debounce



Individually addressable LEDs



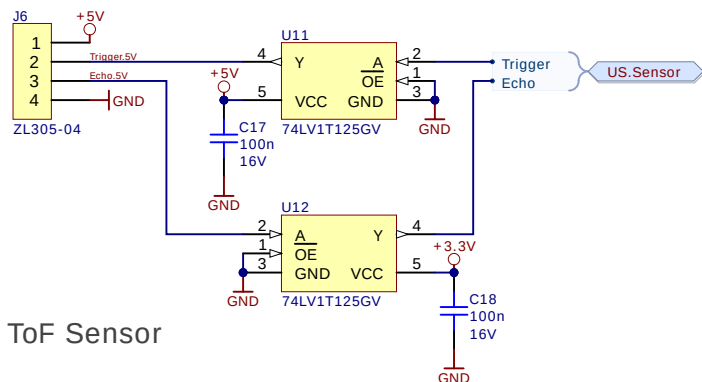
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Size	Project
A4	UT-Nutiplaat
Date	17/02/2025 02:15:28
File	UT-Nutiplaat-IO.SchDoc

Revision
R2
Sheet 2 of 5

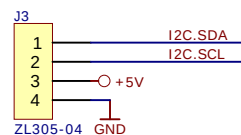


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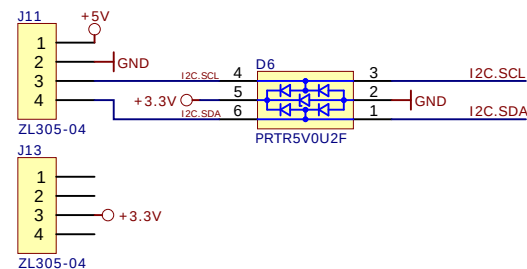
UltraSonic Sensor



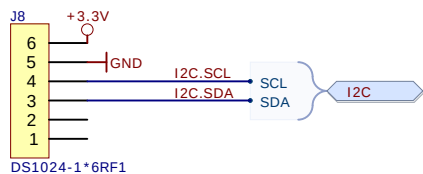
OLED



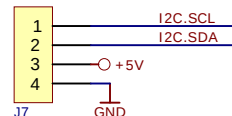
MPU6050



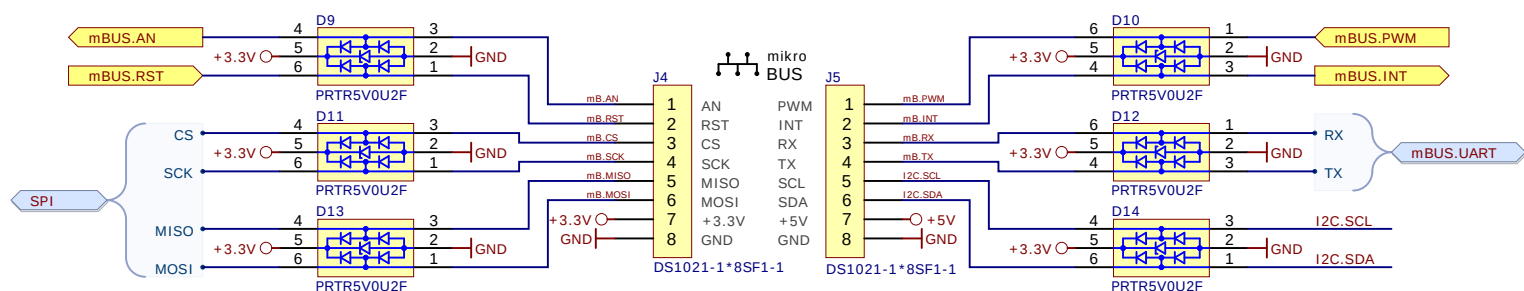
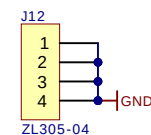
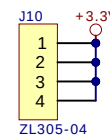
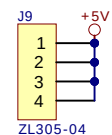
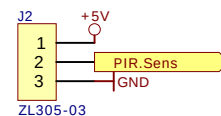
ToF Sensor



LCD



PIR



Title **Expansion headers**

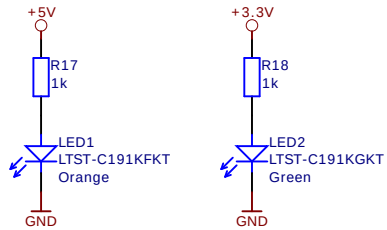
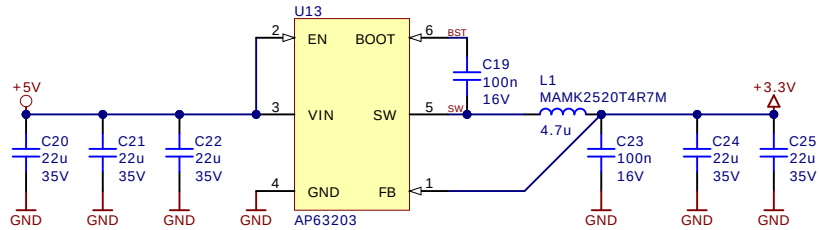
Size **A4**
Project **UT-Nutiplaat**

Revision **R2**
Sheet **3** of **5**

Date **17/02/2025 02:15:28**
File **UT-Nutiplaat-Expansion.SchDoc**



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R2pre1 to R2:

- Changed SR to 74HCT595D
- U12 VCC 5V -> 3.3V
- Changed Encoder to be PD instead of PU for boot pin states
- Swapped PIR and WS2812 pins on ESP to prevent PIR controlling Debug UART printing

R1 to R2pre1:

- Changed PSU to Switch mode for better efficiency
- Added microBUS headers
- removed Servo, SPI and BT module headers
- Added ESD diodes
- Added series resistors to CP2102 outputs
- Moved Potentiometer to ESP32 ADC1
- Moved to 4 layer board and optimised layout
- USB mini -> USB C
- Added actual documentation for manufacturing and assembly