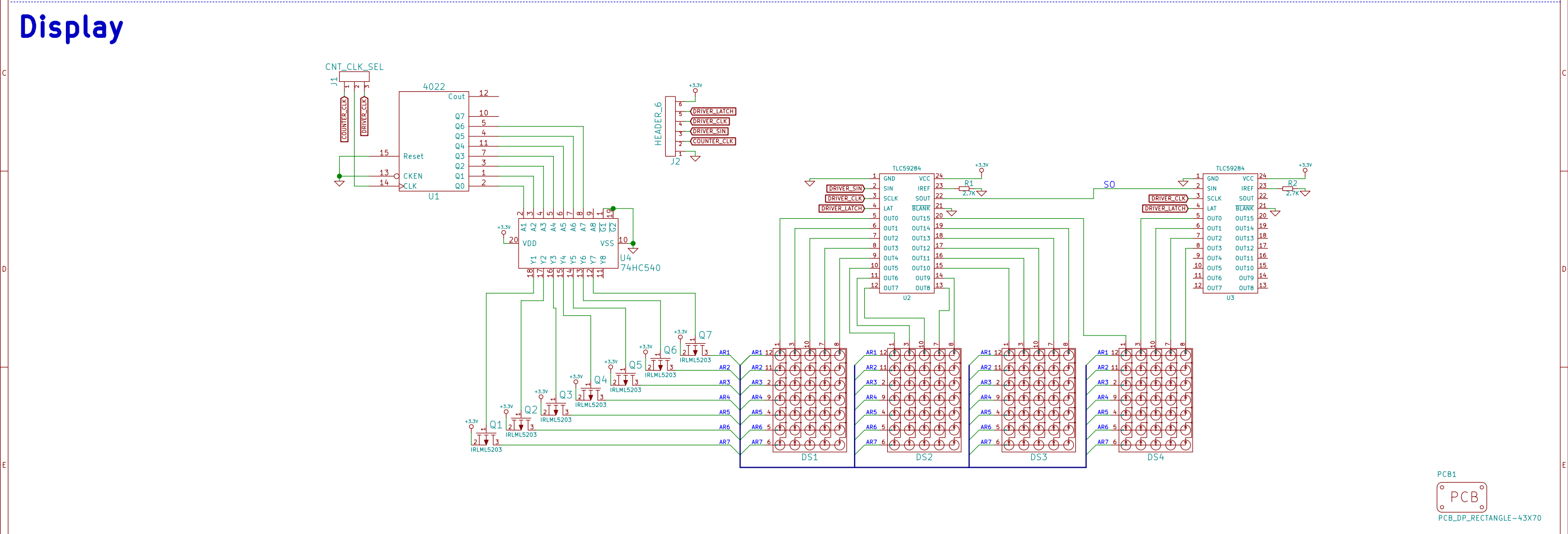


Controller

The diagram illustrates the pin configuration and connections for the MKL02Z32VFM4 microcontroller (U5). The microcontroller is connected to a +3.3V power source (J4) and ground. Key connections include:

- Power and Ground:** VDD (pin 3) and VSS (pin 6) are connected to +3.3V. VREFH (pin 4) and VREFL (pin 5) are connected to ground.
- LED (LD1):** Connected to pin 2 (COUNTER_CLK) through a 220 ohm resistor (R3) and to ground.
- SPI Interface (J3):** Pins 9 (SPL_SS), 10 (SPL_MISO), 11 (SPL_MOSI), and 16 (SPL_CLK) are connected to the SPI interface.
- UART Interface (J6):** Pins 17 (UART_TX) and 18 (UART_RX) are connected to the UART interface.
- I2C Interface (J5):** Pins 23 (I2C_SCL) and 24 (I2C_SDA) are connected to the I2C interface.
- POGOPROG Interface (J4):** Pins 30 (RESET), 31 (SWDIO), and 32 (SWDCLK) are connected to the POGOPROG interface.
- PROGRAMMING Interface (J7):** Pins 1 (RESET), 2 (SWDIO), 3 (SWDCLK), 4 (SWDIO), 5 (SWDCLK), and 6 (RESET) are connected to the PROGRAMMING interface.



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