

1 BLOCK DIAGRAM (Data Flow Graph)

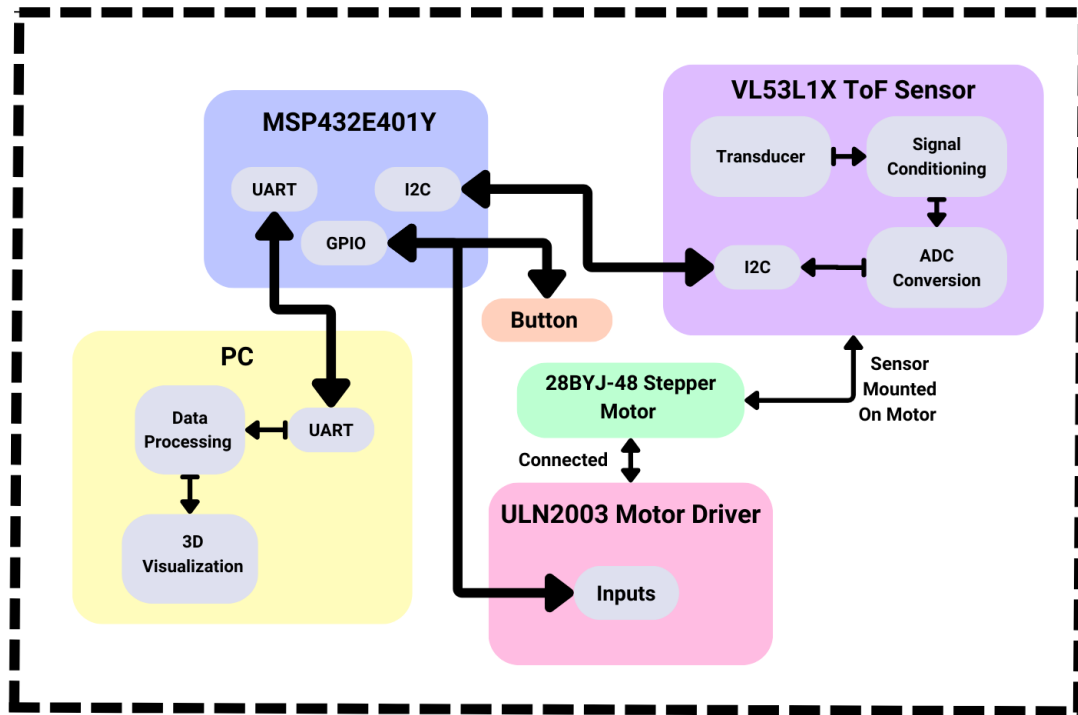


Figure 1 Block Diagram

2 DEVICE CHARACTERISTICS TABLE

Table 1 Device Specs

| Feature | Specification / Micro Pin | Description |
|---------------------------------|--|---|
| On Board LED D2 | PN0 | Measurement status LED, flashes at every instance of a measurement. |
| On Board LED D1 | PN1 | Additional status LED, flashes when the process is initiated. |
| Push Button | PN2 (Active Low) | Button used for starting each full scan. |
| ULN2003 Motor Driver Input Pins | IN1:IN4 connected to PM0:PM3 respectively | Used to drive the stepper motor |
| MSP432E401Y Bus Frequency | 30 MHz | Configured to 30MHz but can be changed. |
| VL53L1X SCL pin | PB2 | Serial Clock Line connection |
| VL53L1X SDA pin | PB3 | Serial Data Line connection |
| UART | JP4 and JP5 configured to be vertical jumpers. COM 3 (PC specific) | Uses UART0 (communication through USB connection to PC) |
| BAUD Rate | 115200 bps | Transmission rate of data. |

3 CIRCUIT SCHEMATIC

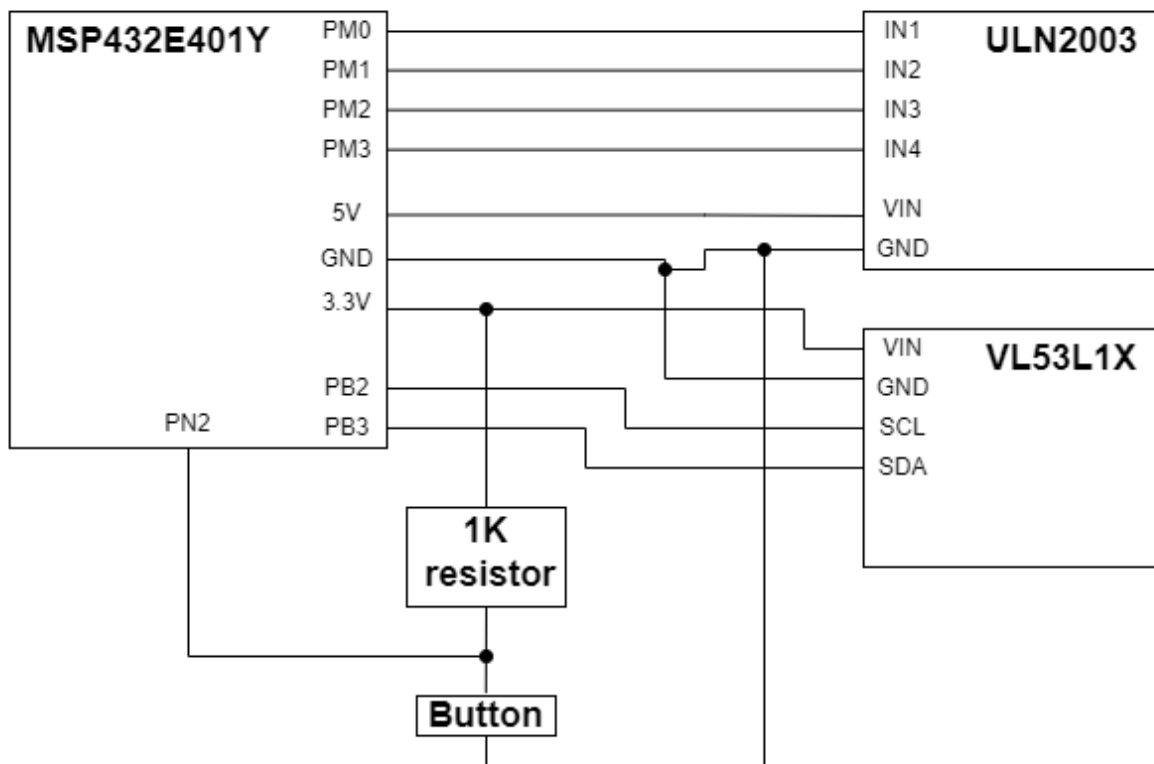


Figure 2 Circuit Schematic of Design