

EWOK_VL53L1A1 Expansion Board

PCB000669-4.0

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REVISION HISTORY

V1.0:
- Initial Version
V1.1:
- New display, Add I2C expander, Add push button,
Remove bottom connector
V1.2:
- Swap resistors by solder drop
V1.3:
- Swap between DIGIT_Ax signals
V1.4:
- Swap resistors 0603 to 0402
- Add two decoupling capacitor
V1.5:
- Swap resistors Display 0603 to 0402
- Remove P7, P8, P9, P10, P15, P16
V1.6:
- Swap resistors Display 470 to 4.7k
V2.0:
- Add two solder drop U50, U51
V3.0:
-All Level Shifter removed
V4.0:
-Add solder drop U53/U54/U55 (XSHUT/XSHUT_R/XSHUT_L)
- Swap all resistor 4.7K to 470

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CONSTRAINTS

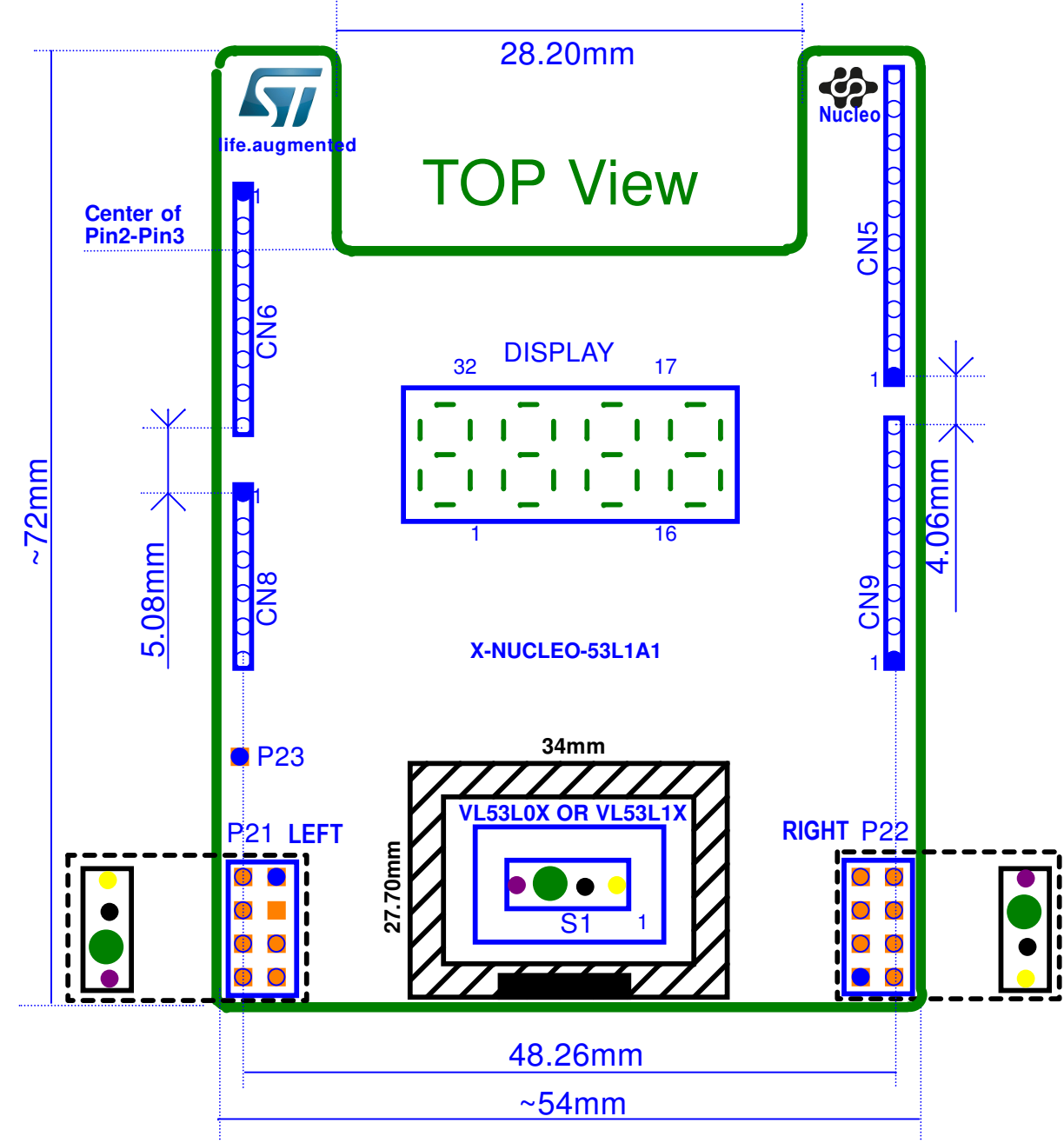
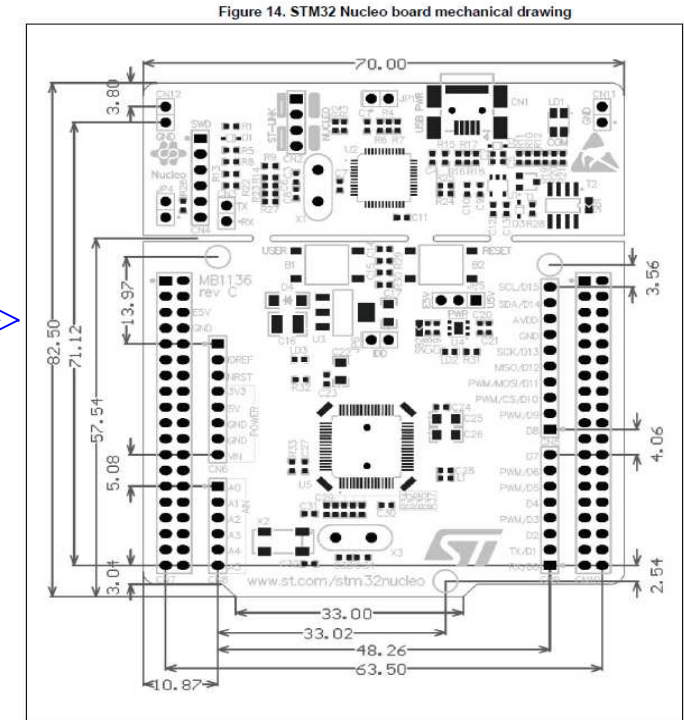
Mechanical Constraints

All components except S1, Display must be on bottom side.
P21, P22 and P23 are not mounted

The objective is to have a double side PCB to lower the manufacturing cost

The dimensions of the board must match with mechanical characteristics of the STM32 Nucleo mother board

PCB must have ST dark blue painting and white silkscreen marking



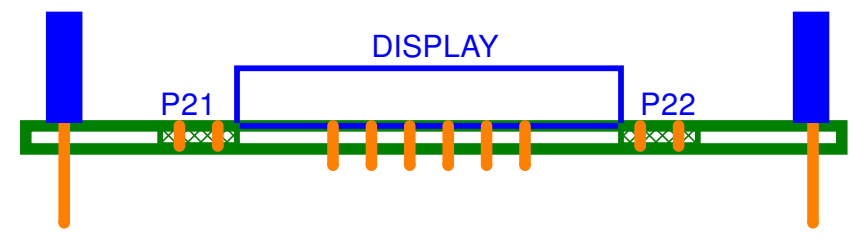
ST and Nucleo Logo

PCB must have ST dark blue painting and the 2 logos must be in white for image and text

The image shows the ST logo (a stylized 'S' and 'T' in a blue square) and the Nucleo logo (a blue square with a white stylized 'N' and the word 'Nucleo' below it). The ST logo is accompanied by the text 'life.augmented' in white.

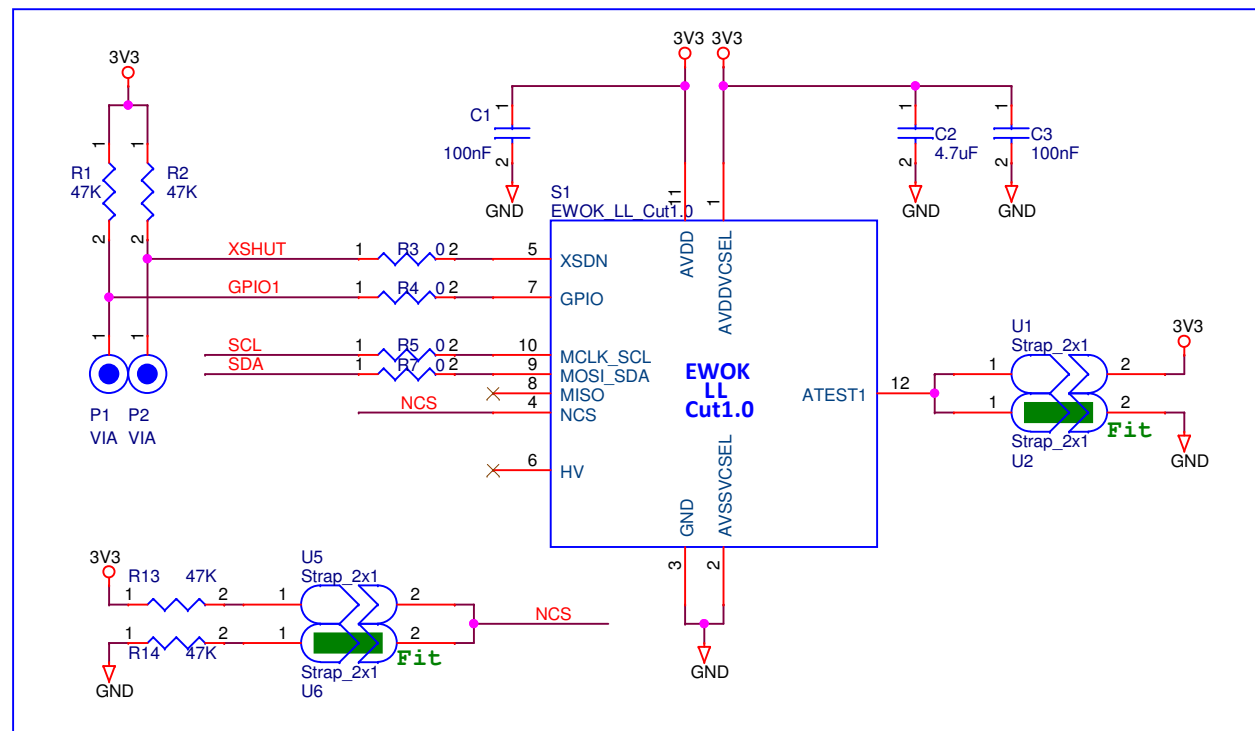
CONSTRAINTS

- I2C: same length +/- 3 mm
- SDA/SCL
- Clock: impedance 50 ohms
- SCL

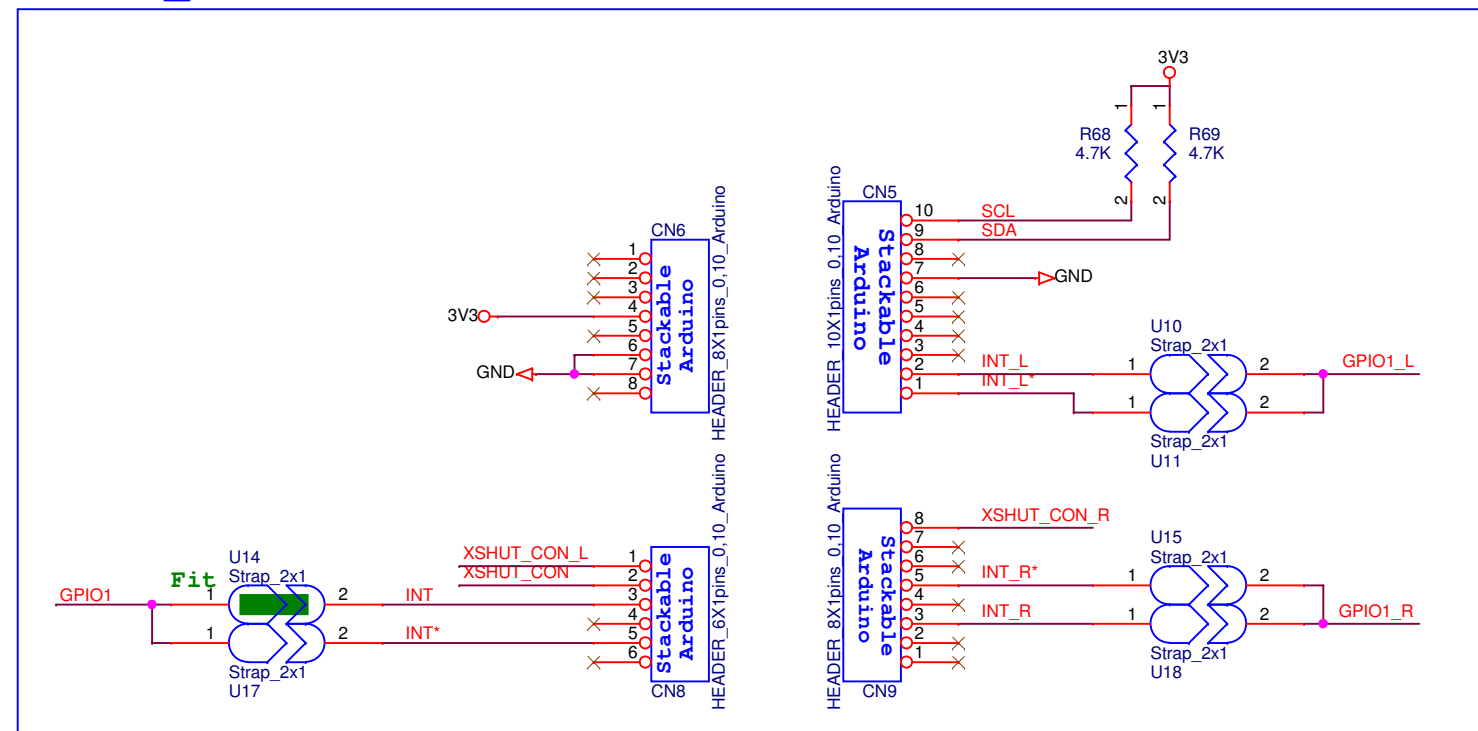


SENSOR INTERFACE

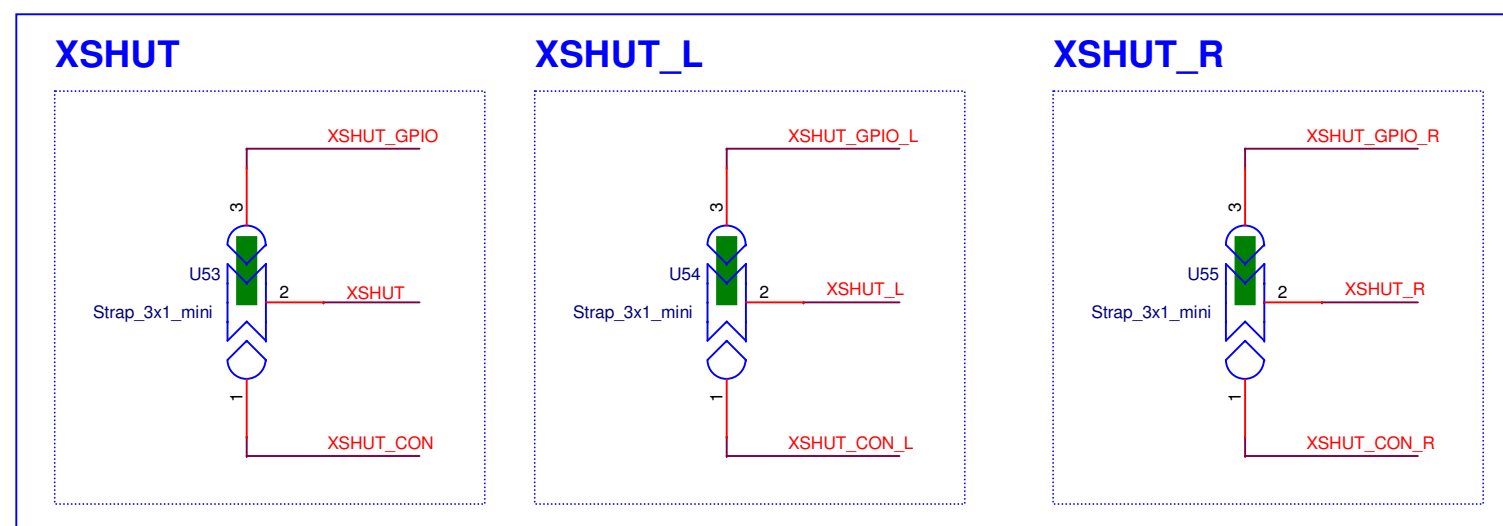
VL53LnX



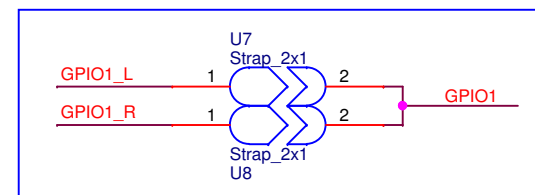
Nucleo_Arduino Connectors



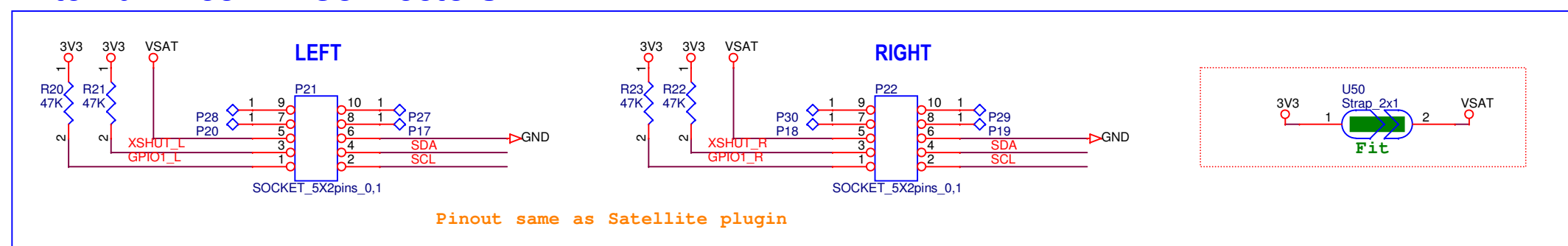
XSHUTDOWN



GPIO



External VL53LnX Connectors

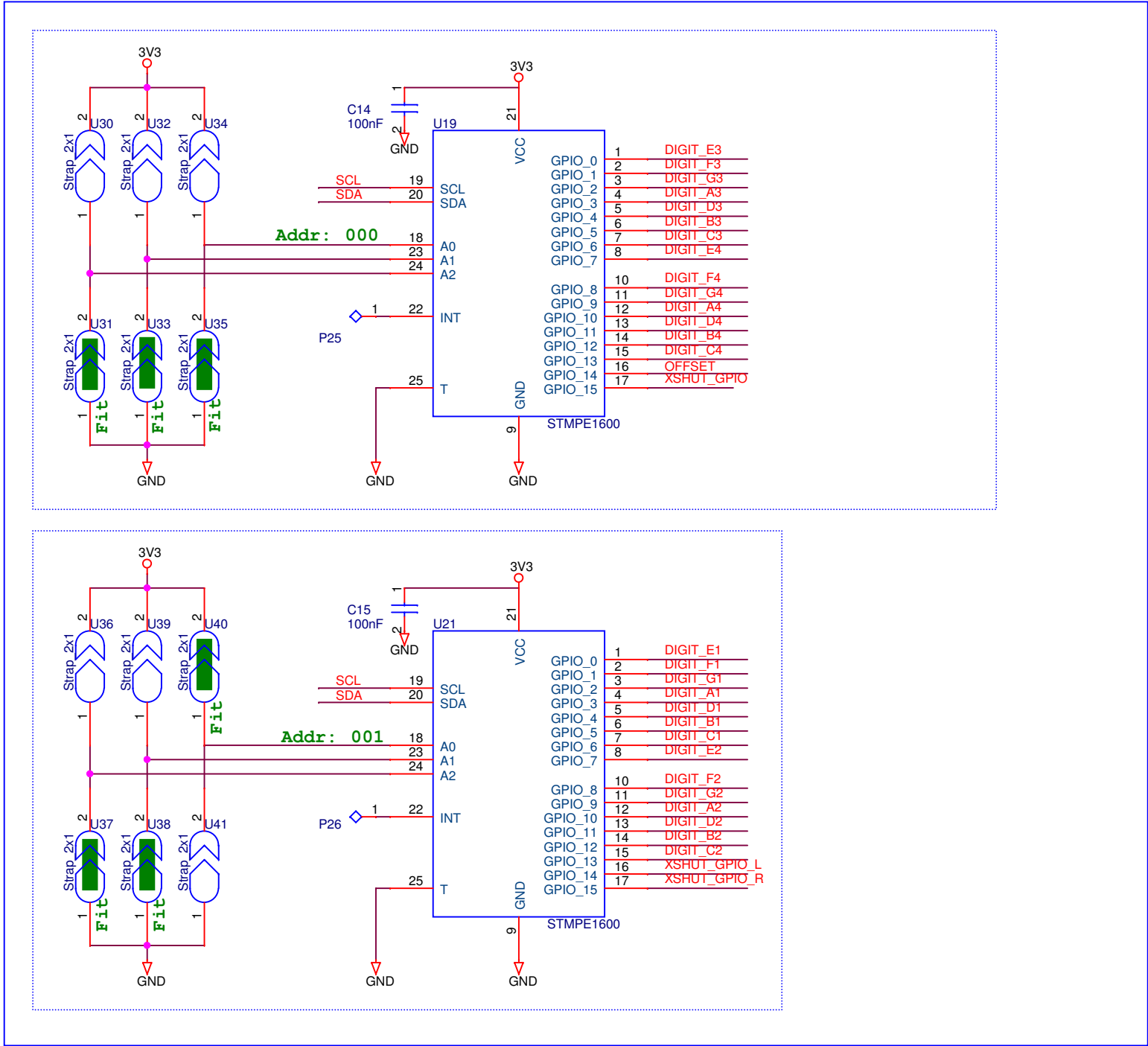


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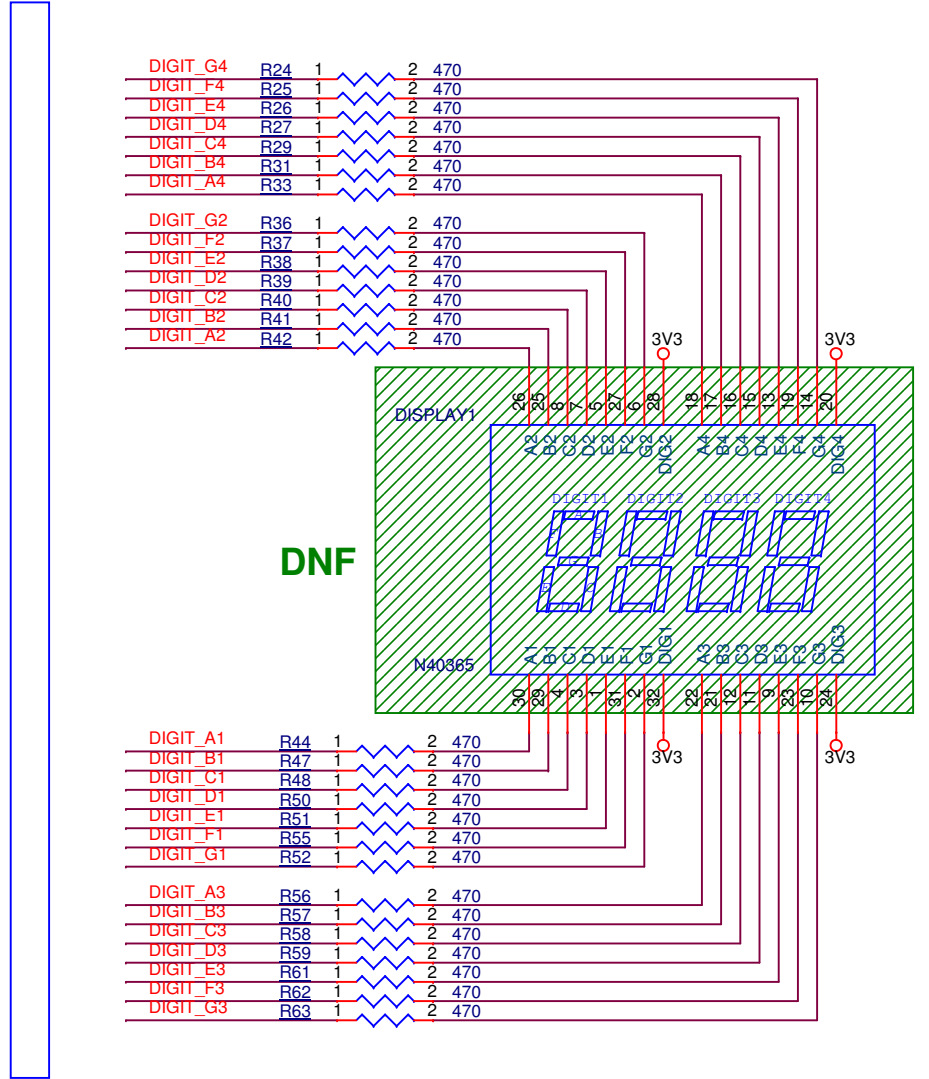
| | | |
|--------------|------------------|---|
| SCL | >>> SCL | 4 |
| SDA | >>> SDA | 4 |
| XSHUT_GPIO | >>> XSHUT_GPIO | 4 |
| XSHUT_GPIO_L | >>> XSHUT_GPIO_L | 4 |
| XSHUT_GPIO_R | >>> XSHUT_GPIO_R | 4 |

DISPLAY

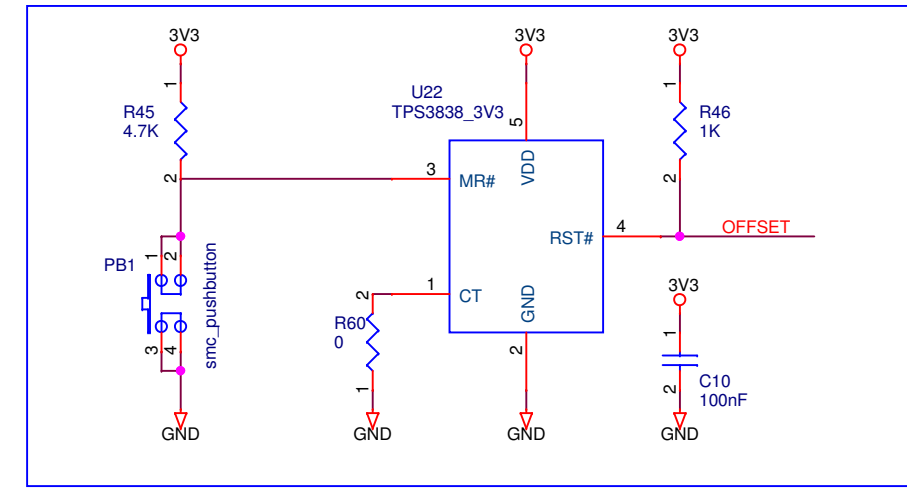
GPIO Expander



Display



BP SHUTDOWN



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