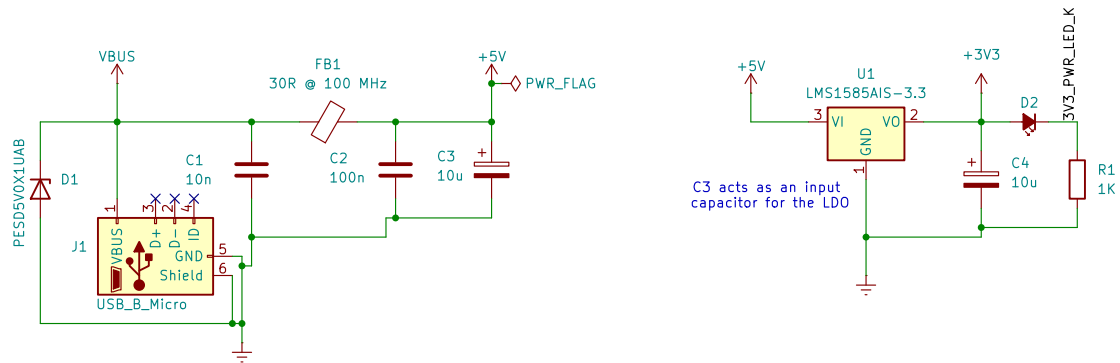


Sheet: /		
File: spekky_matrix.kicad_sch		
Title: Spekky Matrix Schematic		
Size: A5	Date: 2025-05-21	Rev: v18
KiCad E.D.A. 9.0.2		Id: 1/7



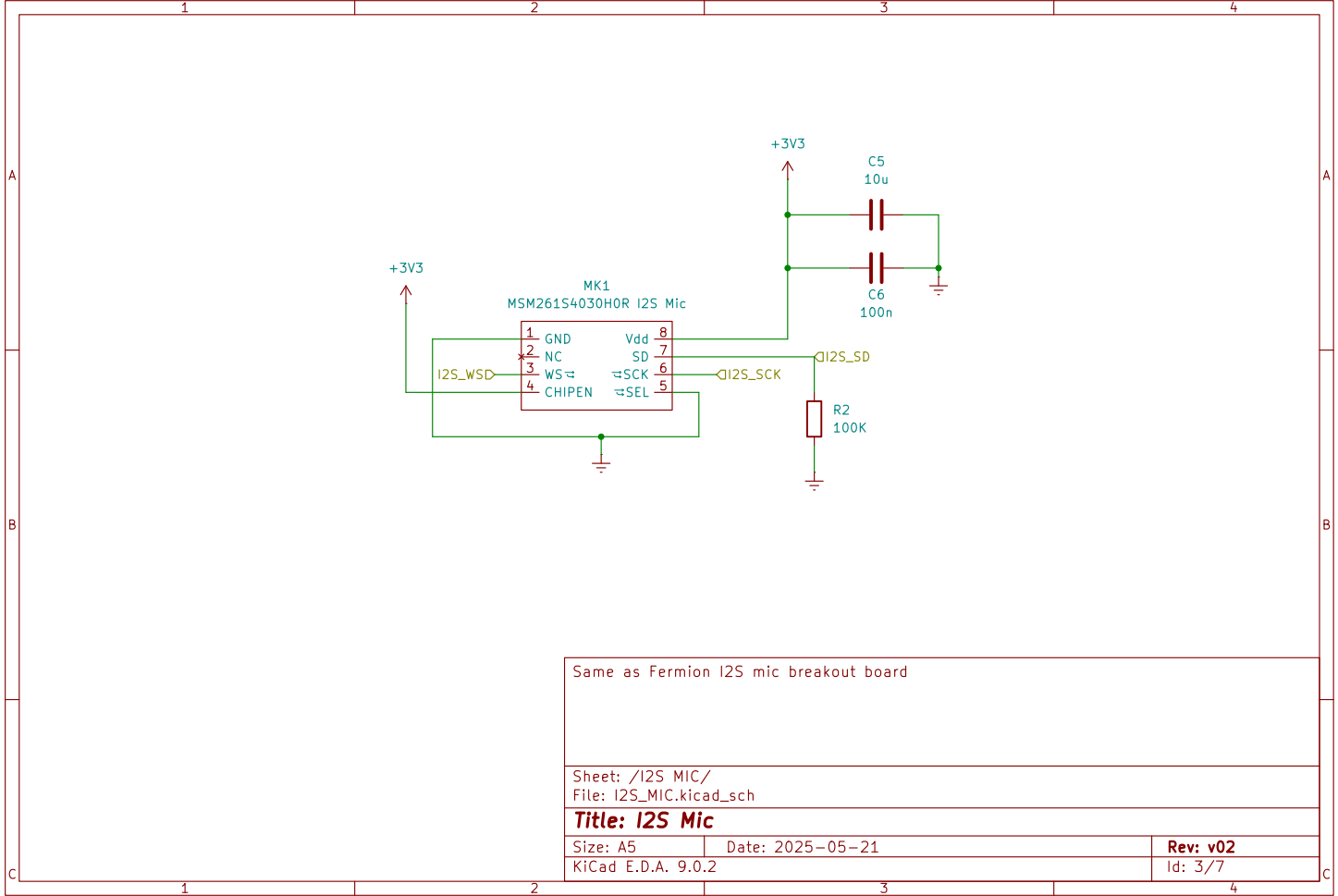
All things power related

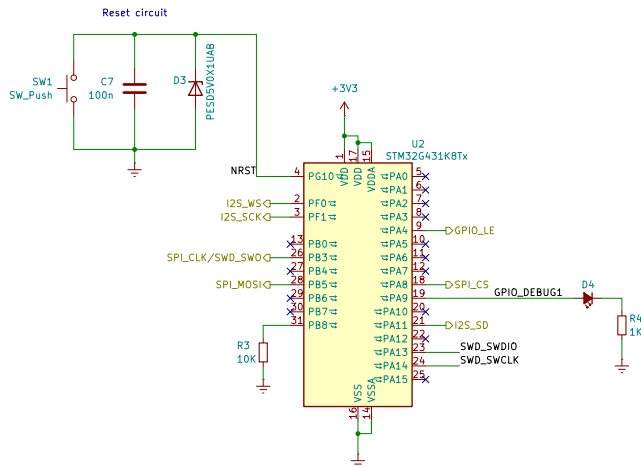
Sheet: /POWER SHEET/
File: POWER_SHEET.kicad_sch

Title: Power Sheet

Size: A5 Date: 2025-05-21
KiCad E.D.A. 9.0.2

Rev: v07
Id: 2/7



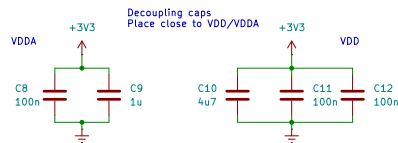
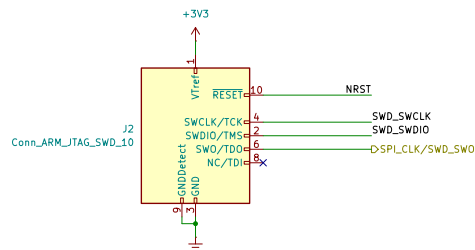


I2S Fsamp calculation: via STM32G431x reference manual

$$Fsamp = FI2sclk / ((64) * (2(I2SDIV + ODD)))$$

Currently FI2sclk is set to the HCLK * APB prescaler (HSI clock, 16 MHz)

(64 as DATALEN != 0b00, instead SD out is 24-bits therefore CHLEN = 1, otherwise replace 64 w/ 32)



On Nucleo32-STM32G431KB devices PF0 and PF1 are disconnected.
SB11 and SB8 must be connected for this schematic to work.
Decoupling capacitor info can be found on datasheet and application note AN5093
No ADC therefore tying VDDA to VDD and GND to GND

Sheet: /STM32 MCU/
File: STM32_MCU.kicad_sch

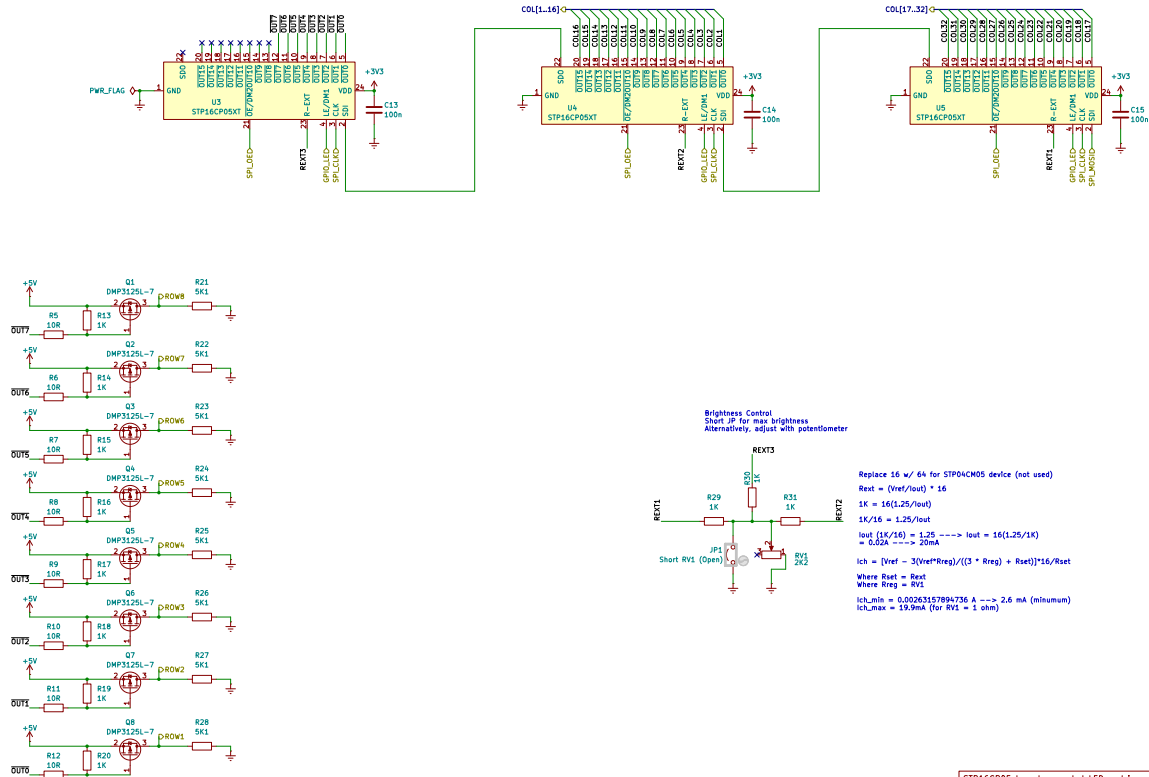
Title: STM32G431Kx Schematic

Size: A4 Date: 2025-05-21
KiCad E.D.A. 9.0.2

Rev: v06
Id: 4/7

Cascade Direction

Last (in chain) <--- First (in chain)



STP16CP05 based cascaded LED matrices

Sheet: /LED DRIVING/

File: LED_DRIVING.kicad_sch

Title: 8x32 LED Matrix

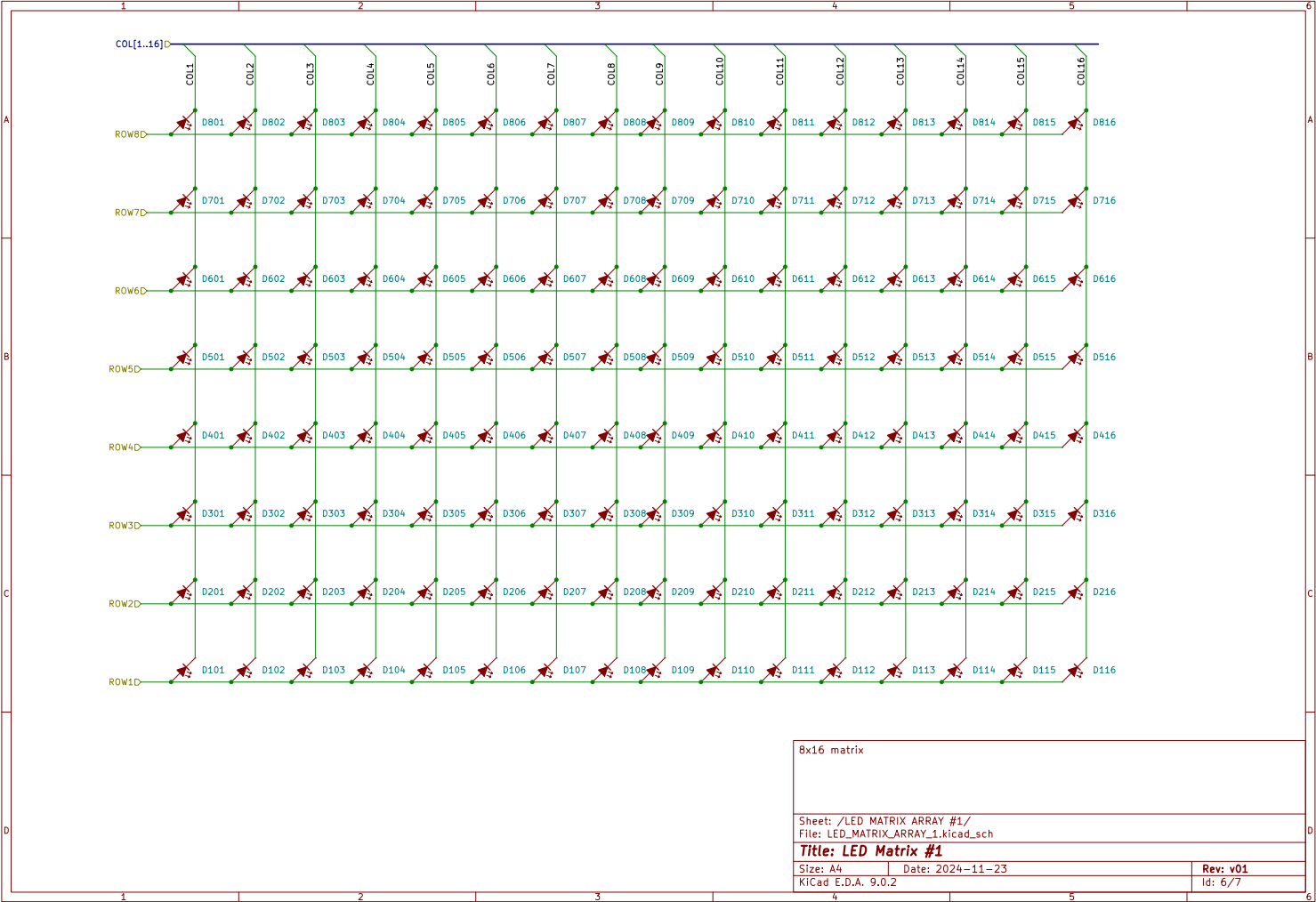
Site: A3

Date: 2025-05-21

KiCad E.D.A. 9.0.2

Rev: v06

Id: 5/7



8x16 matrix

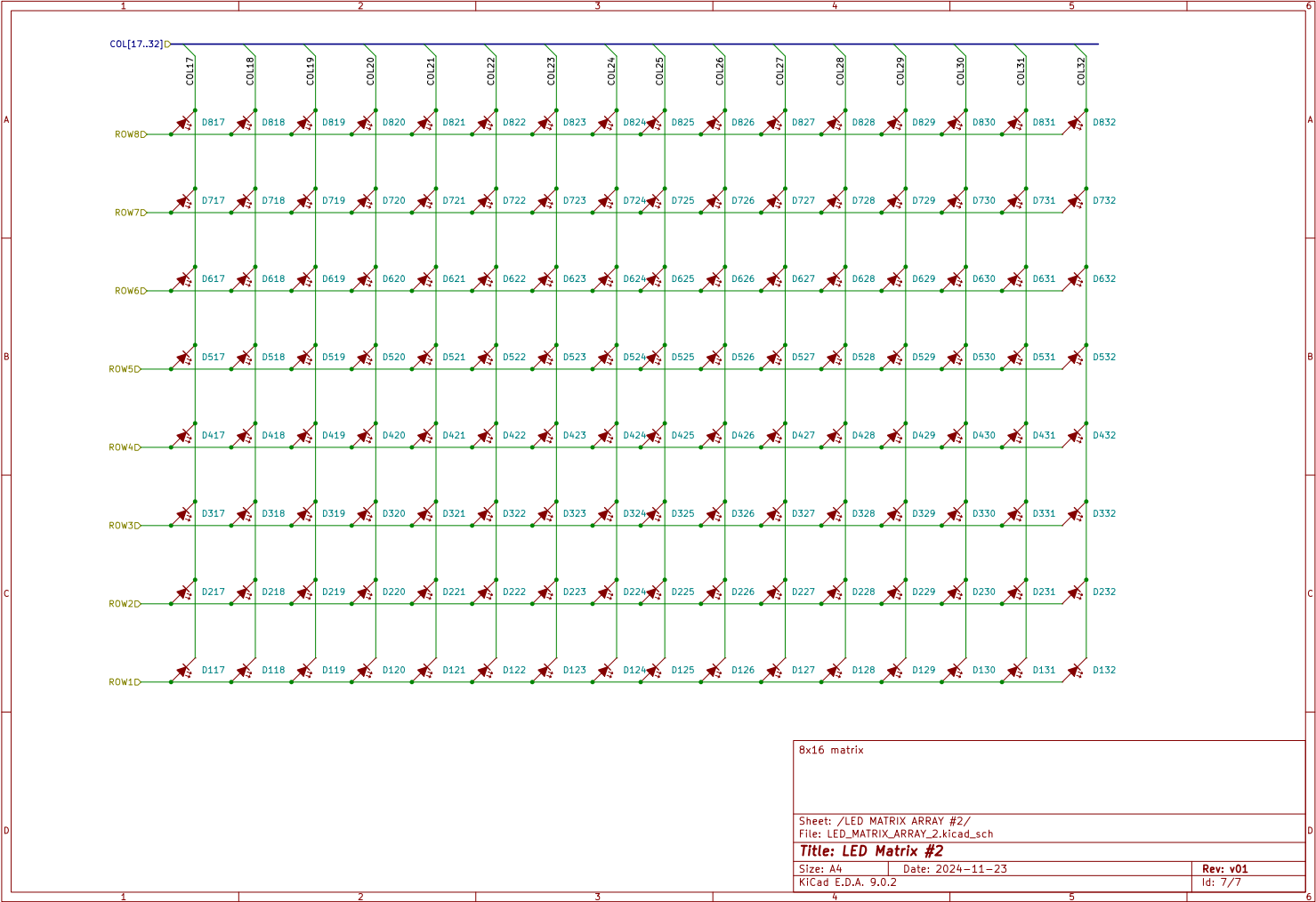
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File: LED_MATRIX_ARRAY_1.kicad_sch

Title: LED Matrix #1

Size: A4
KiCad E.D.A. 9.0.2

Date: 2024-11-23

Rev: v01
Id: 6/7



8x16 matrix

Sheet: /LED MATRIX ARRAY #2/
File: LED_MATRIX_ARRAY_2.kicad_sch

Title: LED Matrix #2

Size: A4 | Date: 2024-11-23 | Rev: v01
KiCad E.D.A. 9.0.2 | Id: 7/7