

All things power related

Sheet: /POWER SHEET/
File: POWER_SHEET.kicad_sch

Title: Power Sheet

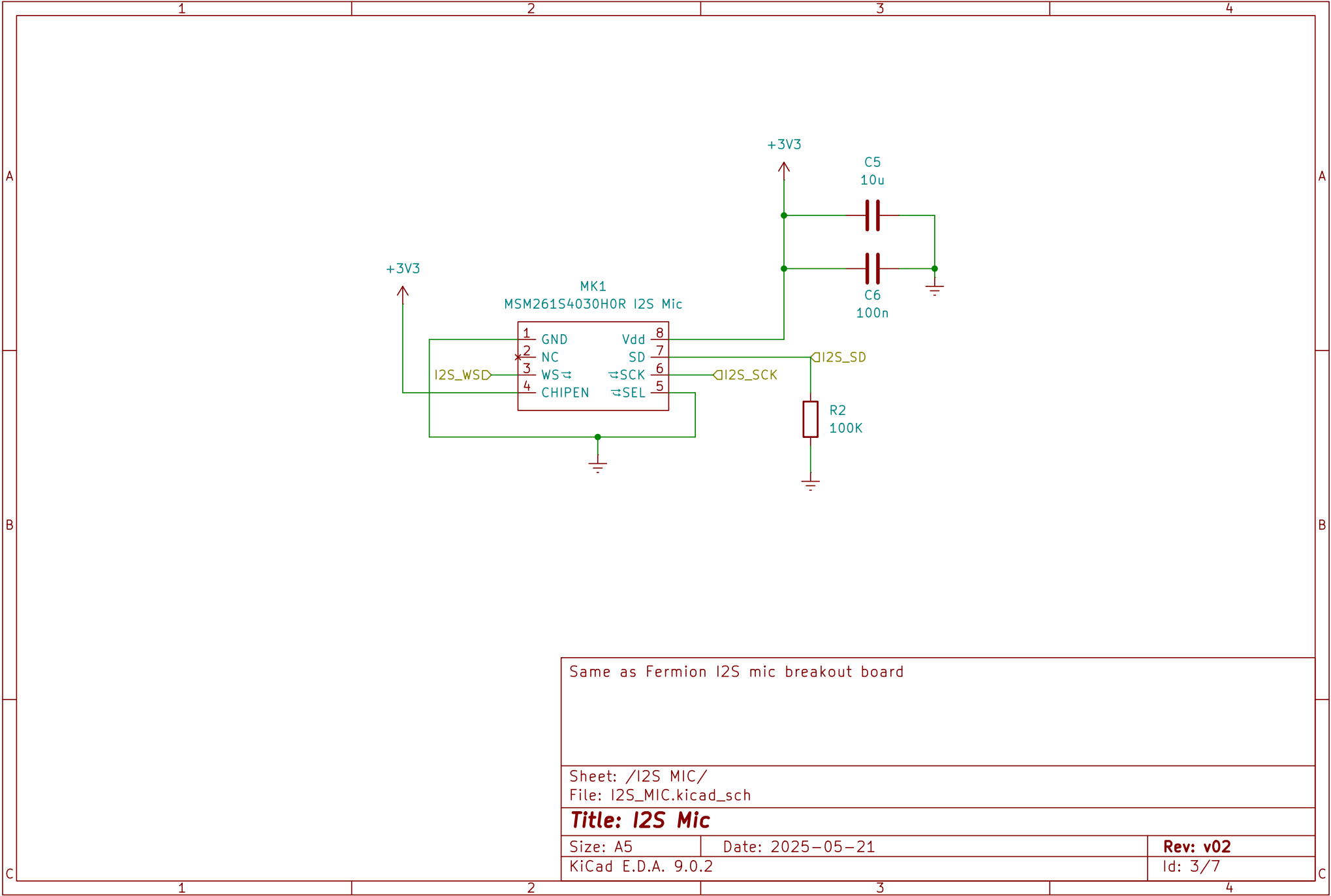
Size: A5

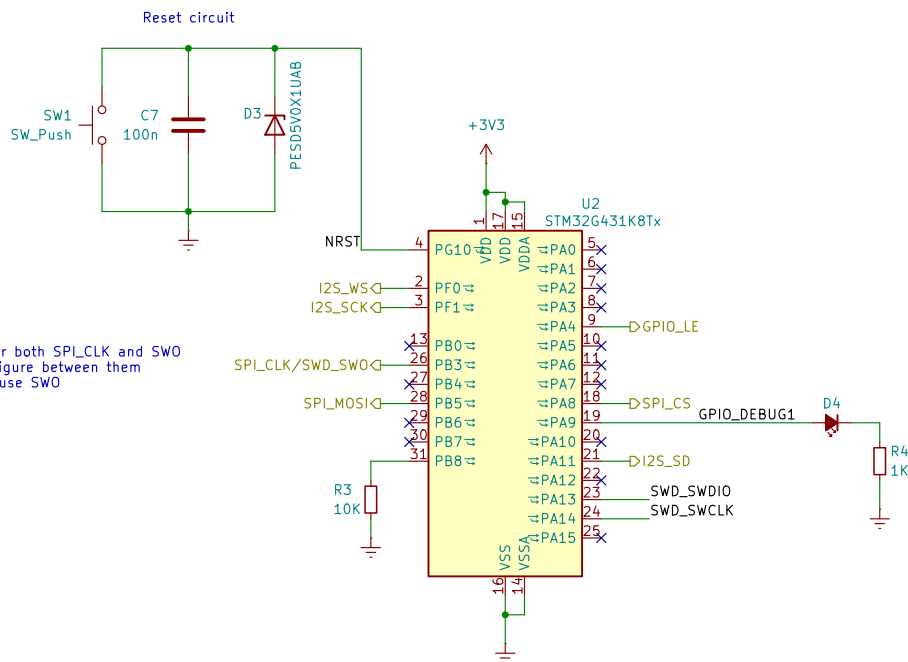
Date: 2025-05-21

Rev: v07

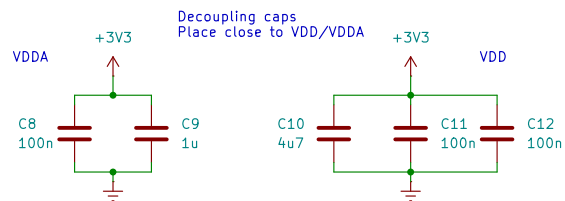
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PB3 cannot be used for both SPI_CLK and SWO
Programmer must configure between them
Spekky matrix doesn't use SWO

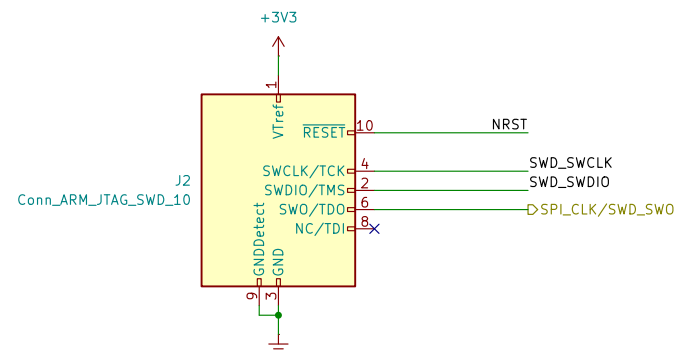


I2S Fsamp calculation: via STM32G431x reference manual

$$Fsamp = Fi2sclk / [(64)(2(I2SDIV + ODD))]$$

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: 2025-05-22

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Rev: v07

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Rev: v04
Id: 5/7



8x16 matrix

Sheet: /LED MATRIX ARRAY #1/
File: LED_MATRIX_ARRAY_1.kicad_sch

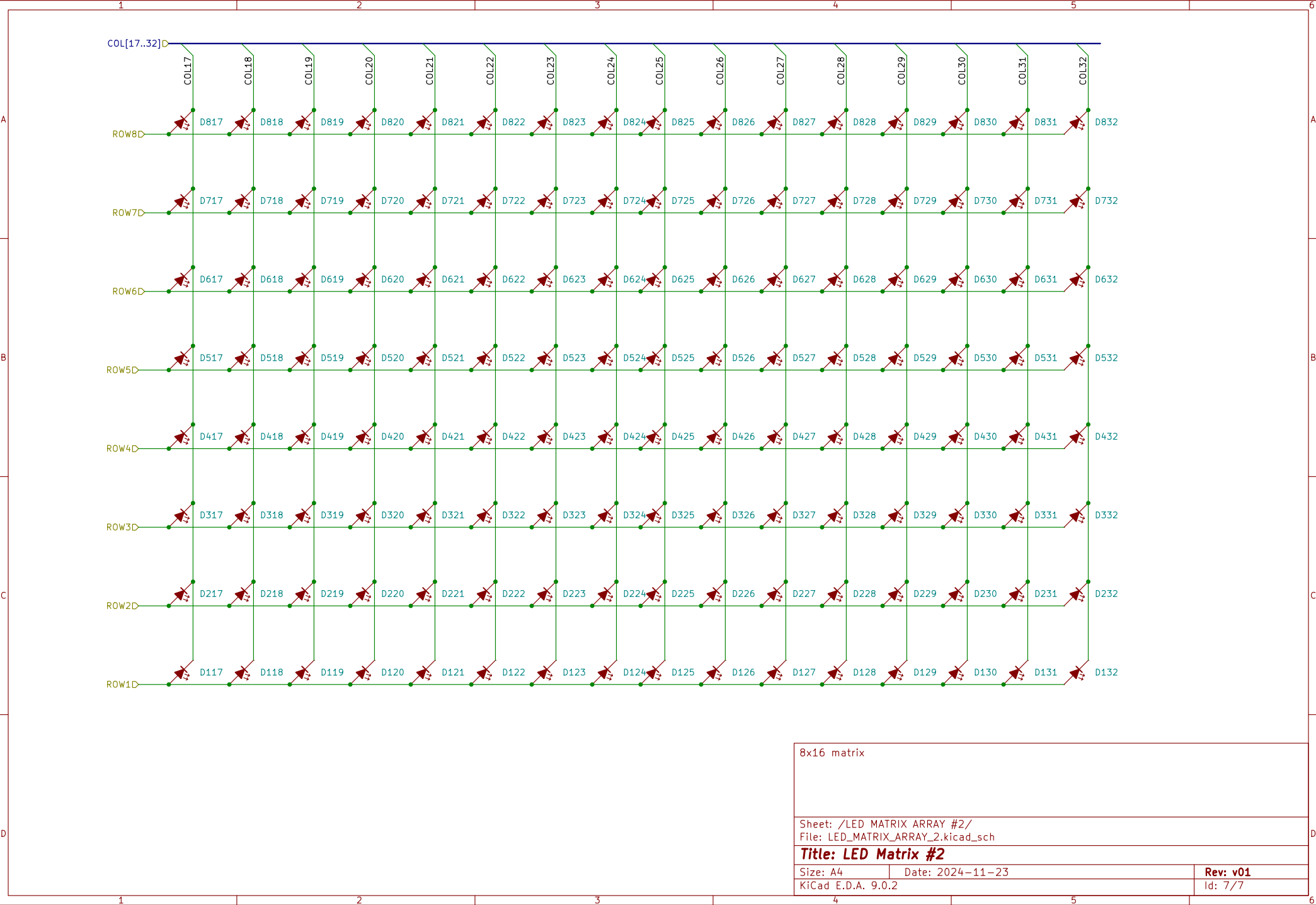
Title: LED Matrix #1

Size: A4 Date: 2024-11-23

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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

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Rev: v01
Id: 7/7