

All things power related

Sheet: /POWER SHEET/  
File: POWER\_SHEET.kicad\_sch

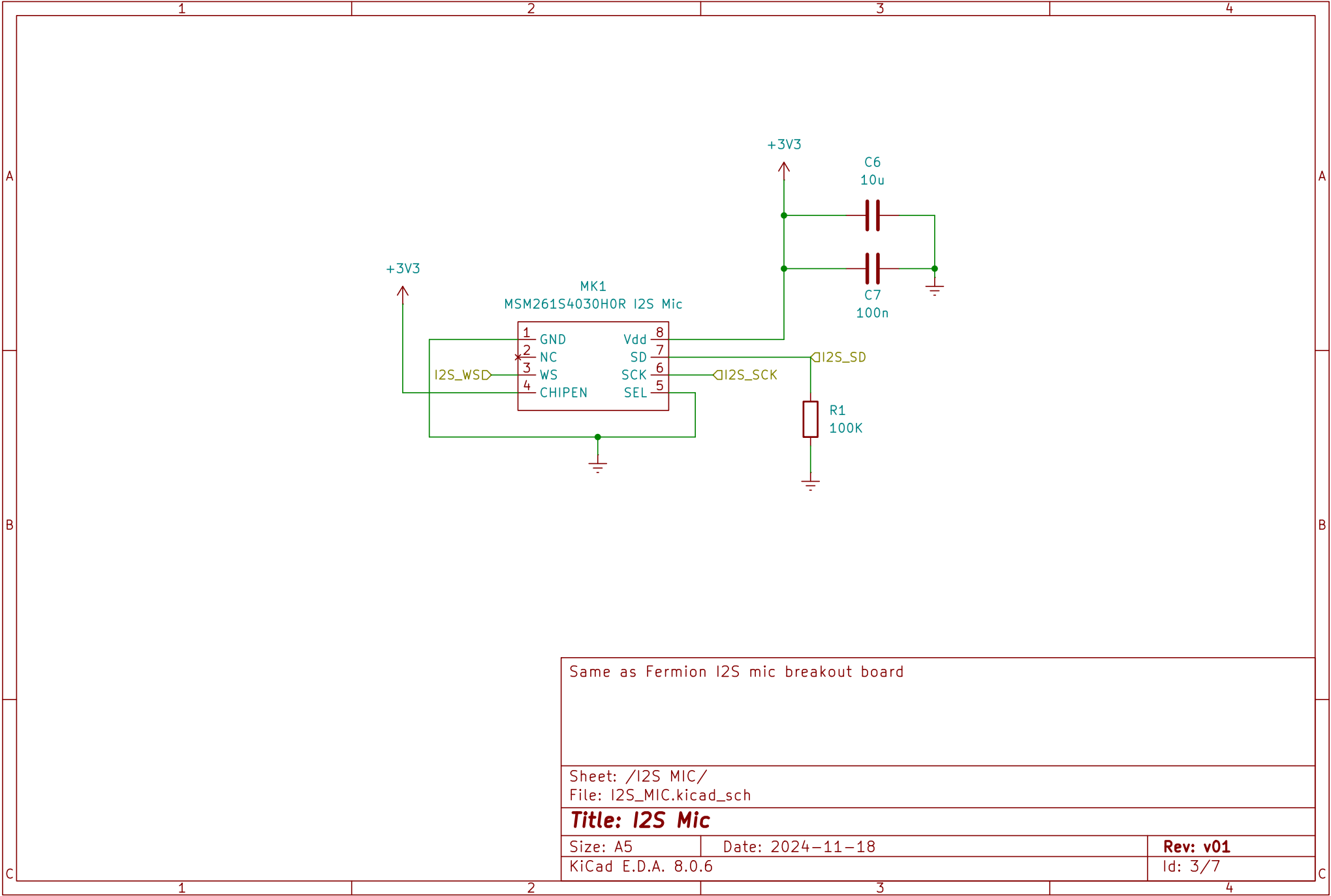
**Title: Power Sheet**

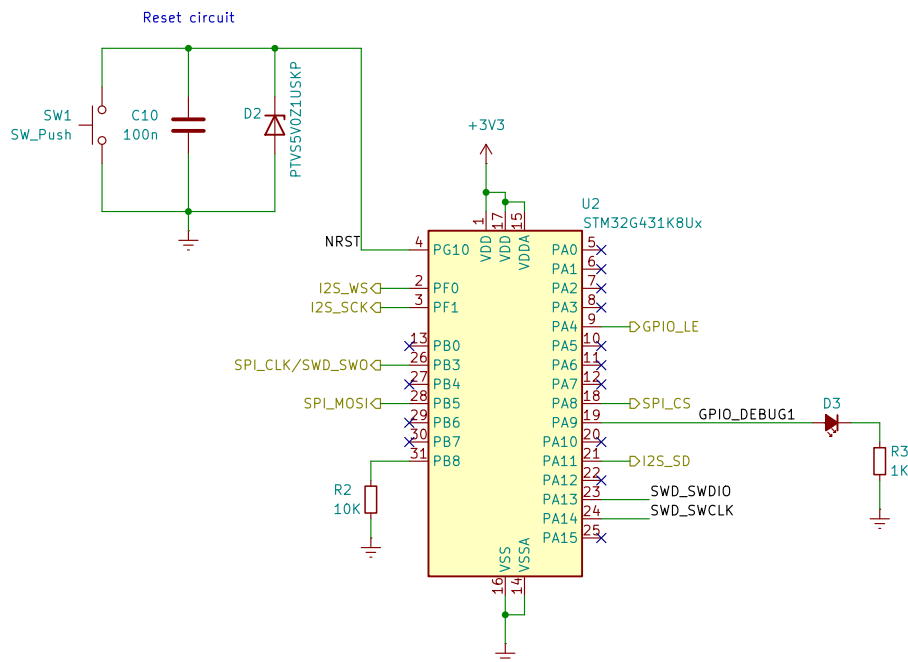
Size: A5 Date: 2024-12-03

Rev: v04

KiCad E.D.A. 8.0.6

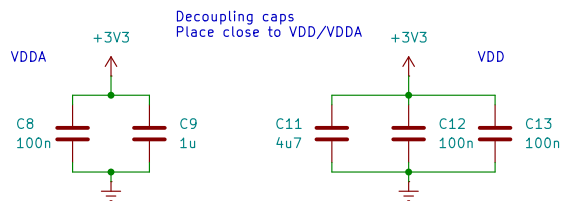
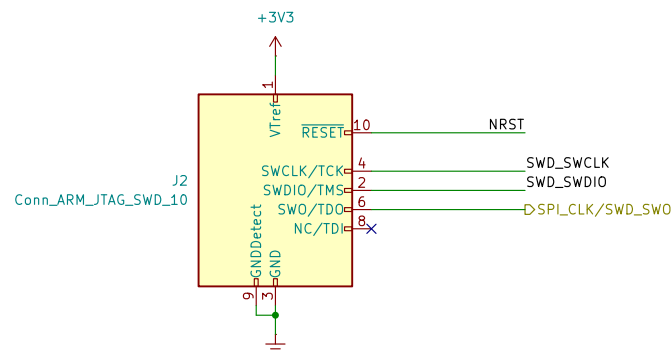
Id: 2/7





I2S Fsamp calculation: via STM32G431x reference manual  

$$Fsamp = \frac{Fi2sclk}{[(64)(2(I2SDIV + ODD))]}$$
  
 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)



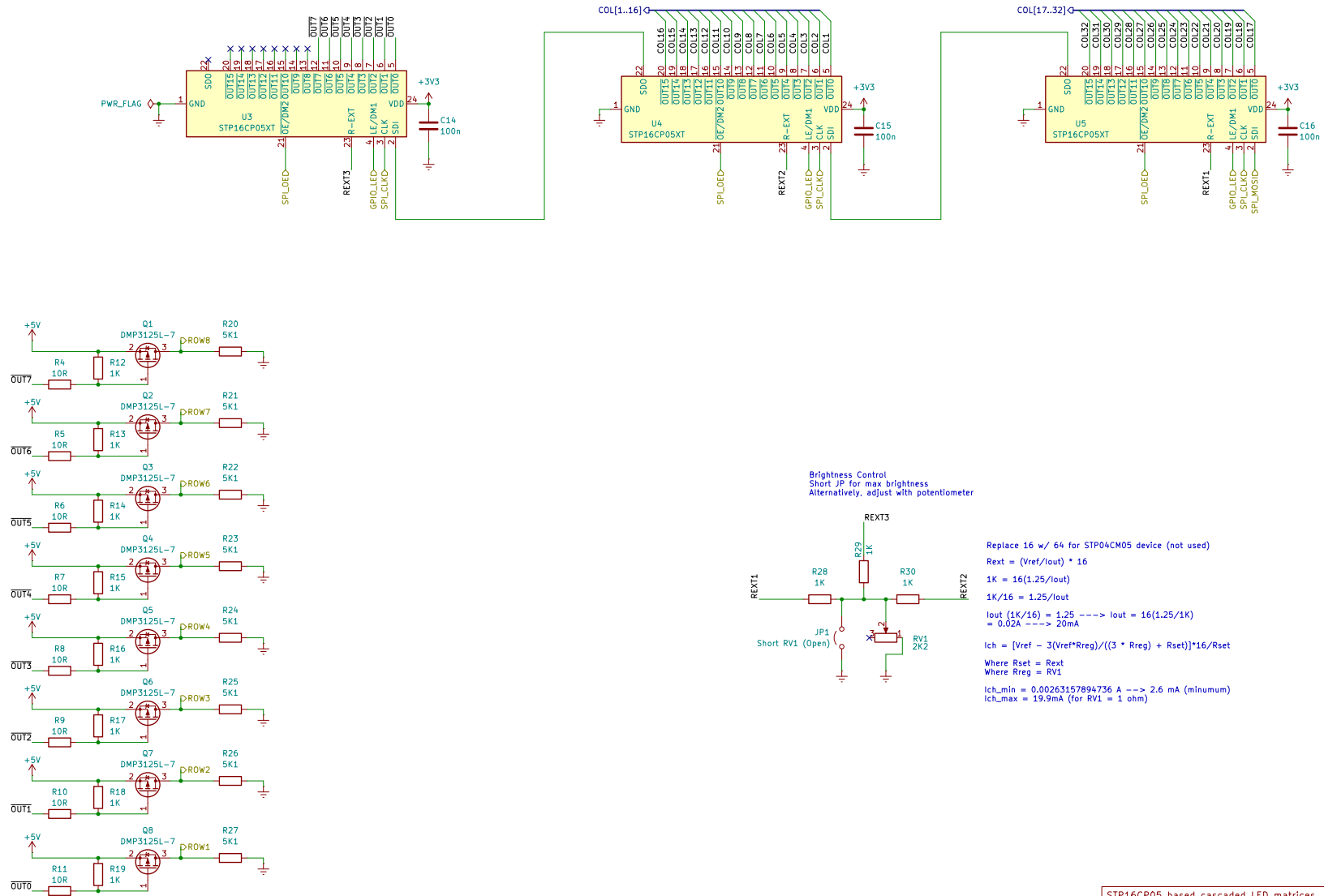
On Nucleo32-STM32G431KB devices PF0 and PF1 are disconnected.  
 SB11 and SB8 must be connected for this schematic to work.  
 Decoupling capacitor info can be found on datasheet and application note AN5093  
 No ADC therefore tying VDDA to VDD and GND to GND

Sheet: /STM32 MCU/  
 File: STM32\_MCU.kicad\_sch

### Title: STM32G431KB Schematic

Size: A4	Date: 2024-11-24	Rev: v03
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Cascade Direction  
Last (in chain) <--- First (in chain)



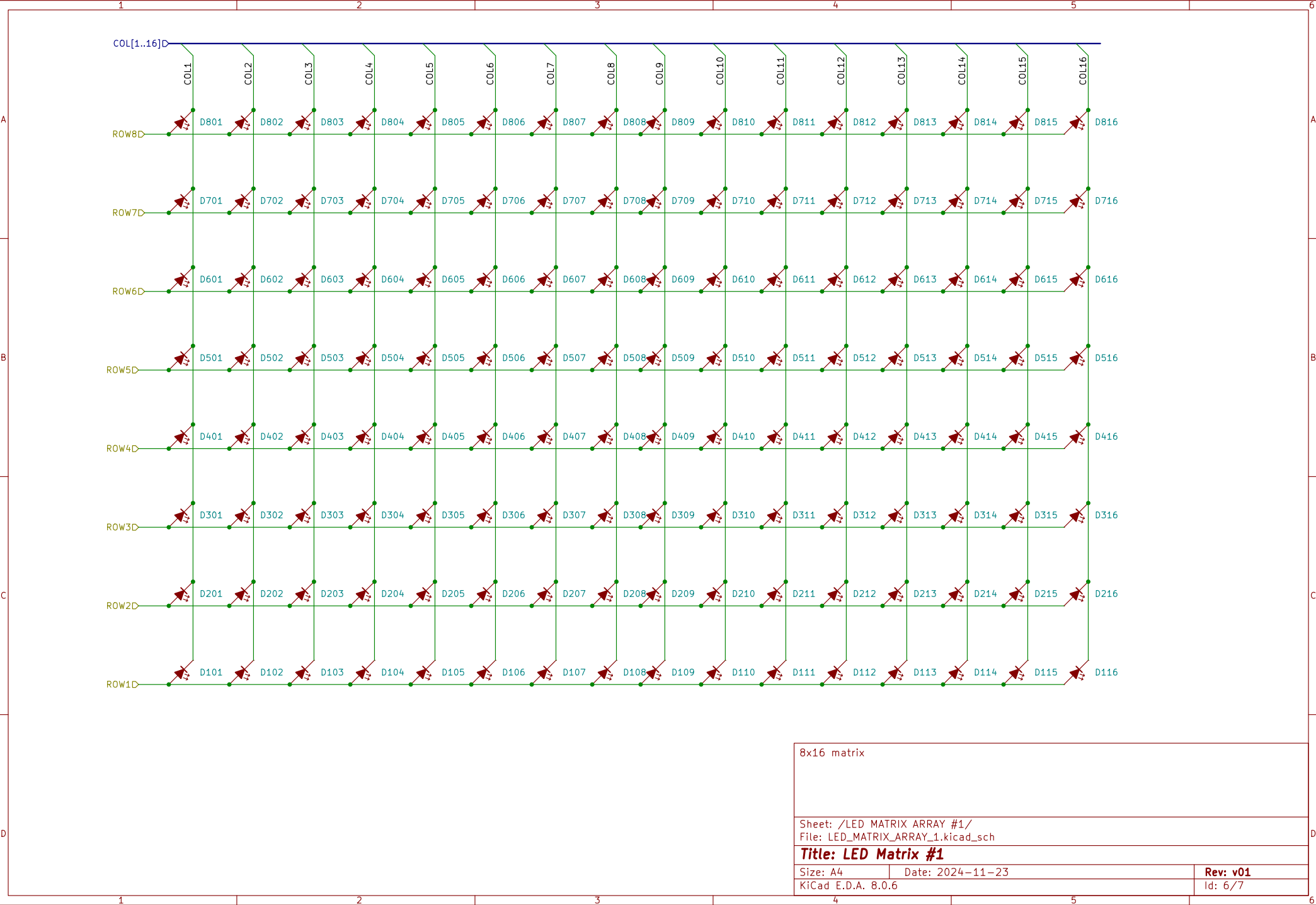
STP16CP05 based cascaded LED matrices

Sheet: /LED DRIVING/  
File: LED\_DRIVING.kicad\_sch

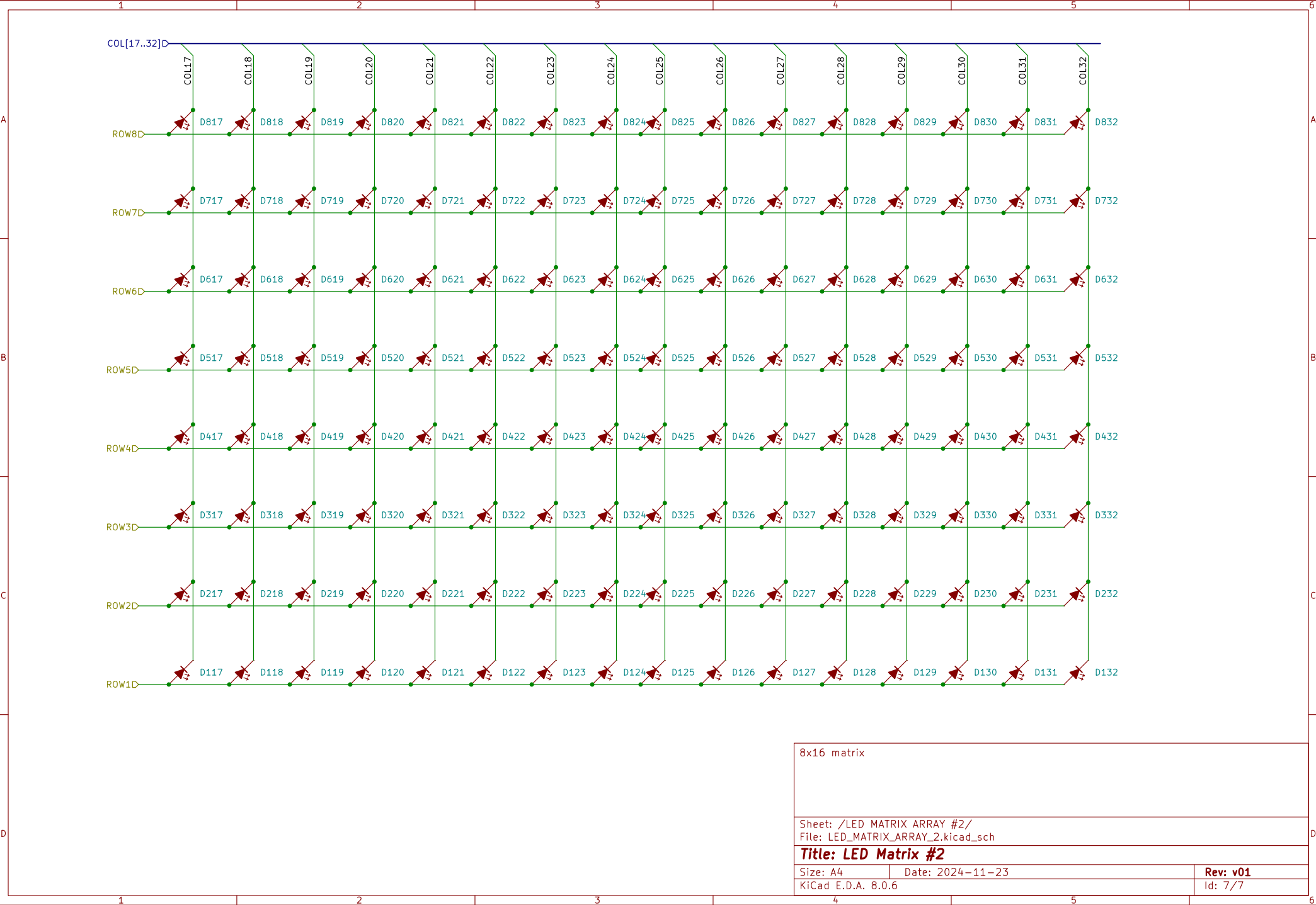
**Title: 8x32 LED Matrix**

Size: A3 Date: 2024-11-24  
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Rev: v03  
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	Rev: v01
KiCad E.D.A. 8.0.6		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
KiCad E.D.A. 8.0.6	Rev: v01 Id: 7/7