

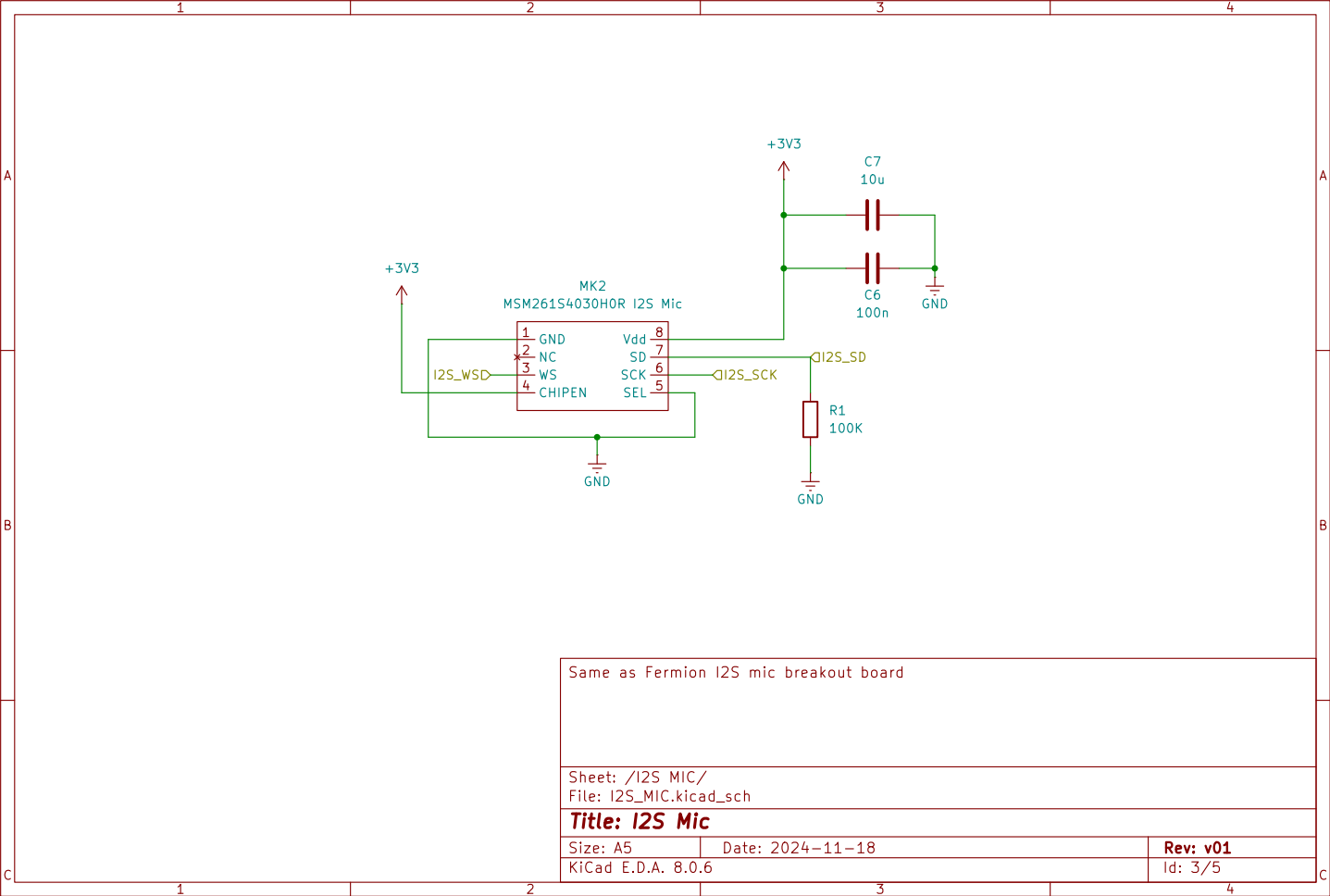
All things power related

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

**Title: Power Sheet**

Size: A5 Date: 2024-11-18  
KiCad E.D.A. 8.0.6

Rev: v02  
Id: 2/5



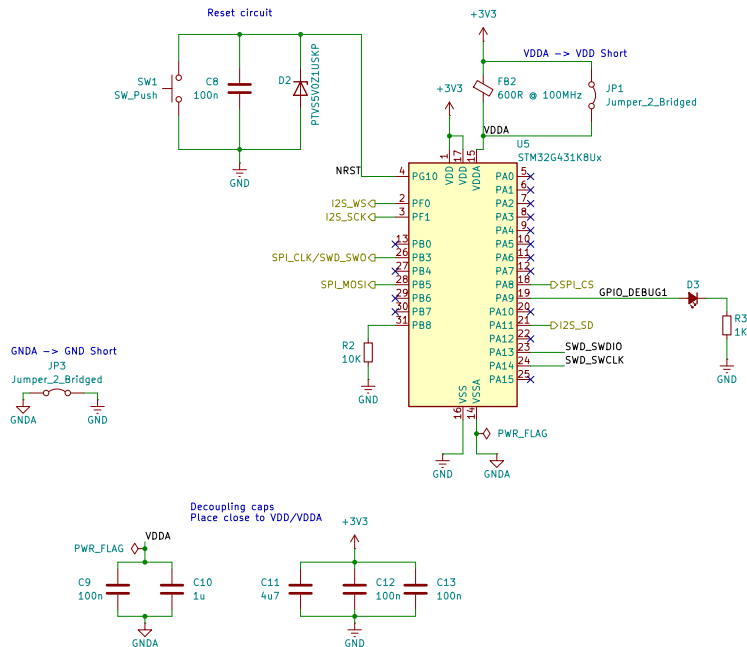
Same as Fermion I2S mic breakout board

Sheet: /I2S MIC/  
File: I2S\_MIC.kicad\_sch

**Title: I2S Mic**

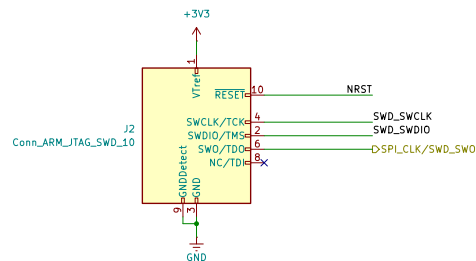
Size: A5 Date: 2024-11-18  
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**Rev: v01**  
Id: 3/5



I2S Fsamp calculation: via STM32G431x reference manual  

$$Fsamp = FI2sclock / [(64) \cdot (2 / (2SDIV + ODD))]$$
  
 Currently FI2sclock is set to the HCLK \* APB prescaler (HSI clock, 16 MHz)  
 (64 as DATALEN != 0b00, instead 5D out is 24-bits therefore CHLEN = 1, otherwise replace 64 w/ 32)

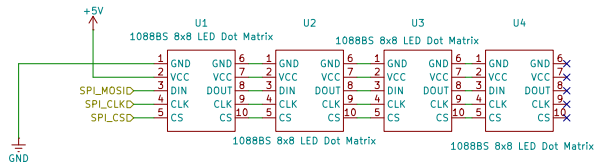


On Nucleo32-STM32G431KB devices PF0 and PF1 are disconnected.  
 SB11 and SB8 must be connected for this schematic to work.  
 Decoupling capacitor info can be found on datasheet and application note AN5093

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

**Title: STM32G431KB Schematic**

Size: A4	Date: 2024-11-19	Rev: v02
KiCad E.D.A. 8.0.6		Id: 4/5



MAX7219 based cascaded 8x8 LED matrices		
Sheet: /LED_MATRIX/		
File: LED_MATRIX.kicad_sch		
Title: 8x32 LED Matrix		
Size: A4	Date: 2024-11-18	Rev: v01
KiCad E.D.A. 8.0.6	Id: 5/5	