

STM32 Integrated Microcontroller Demo Board

"SiMi Demo Board"

STM32H7VB0

[No Variations]

Table of contents

- Sheet 1: Project overview (this page)
- Sheet 2: Top
- Sheet 3: User
- Sheet 4: STM POWER
- Sheet 5: STM IO
- Sheet 6: Displays
- Sheet 7: Wireless
- Sheet 8: LED Matrix
- Sheet 9: Power
- Sheet 10: STLink
- Sheet 11: Analog
- Sheet 12: Audio
- Sheet 13: USB
- Sheet 14: Arduino Connector
- Sheet 15: Storage
- Sheet 16: Connectors

Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.

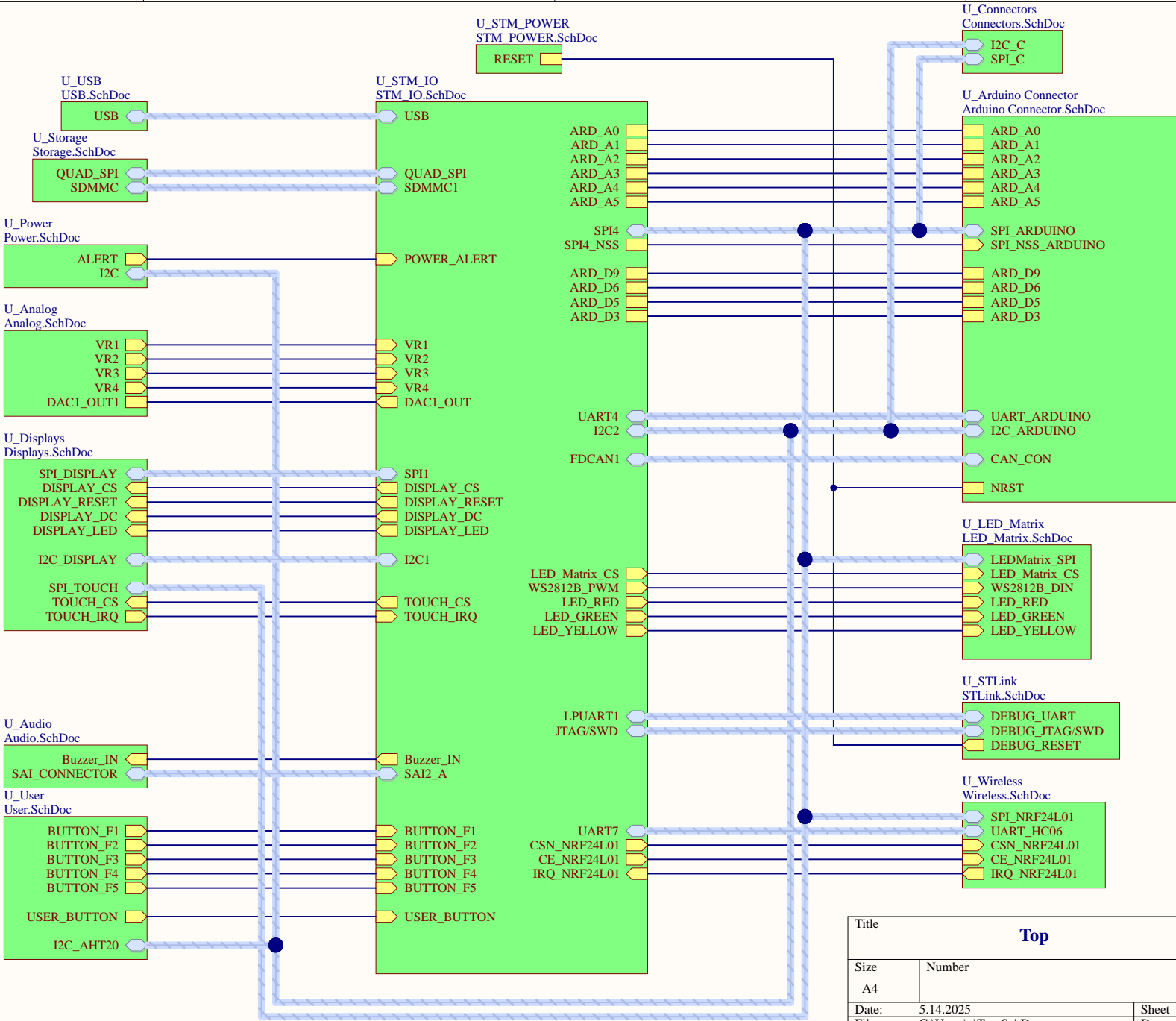
Notes to generate the board layout.



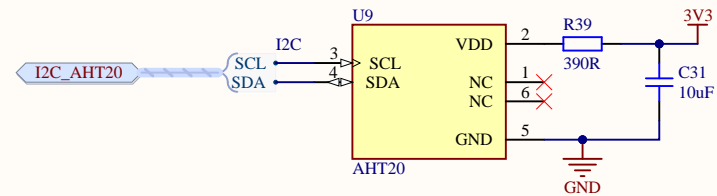
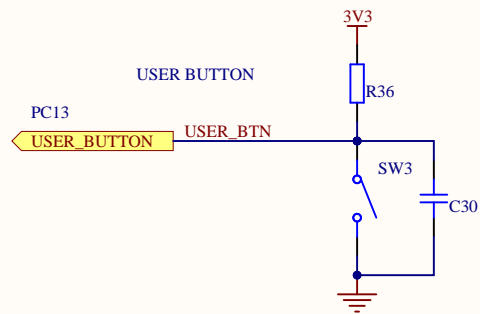
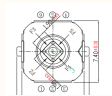
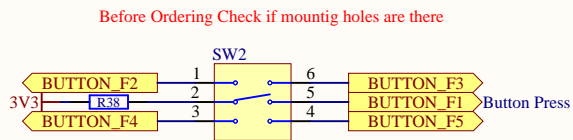
U_Top
Top.SchDoc



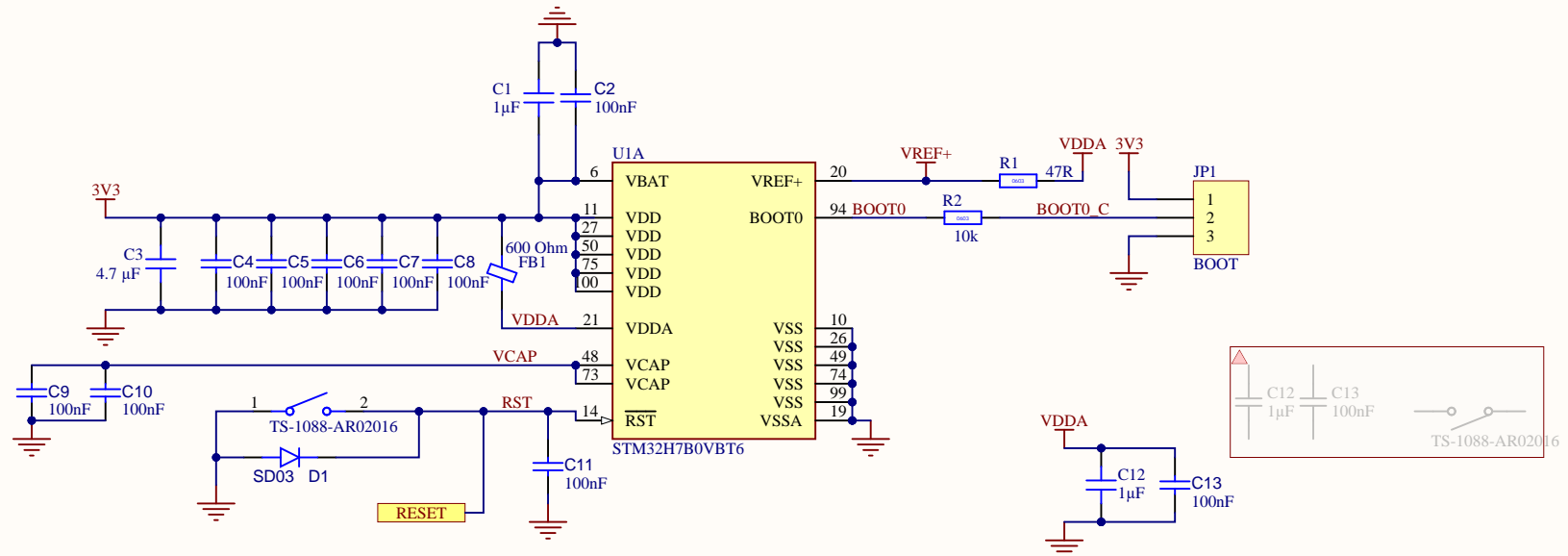
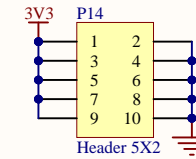
TitleProject Overview		
SizeA4	Number	RevisionV31
Date:5.14.2025	Sheet of	
File:C:\Users\...\Project_Overview.SchDoc	Drawn By: Simon Mayr	



Title			Top	
Size	Number		Revision	
A4			V31	
Date:	5.14.2025		Sheet of	
File:	C:\Users\...\Top.SchDoc		Drawn By:	Simon Mayr



Title		
User		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\User.SchDoc	Drawn By: Simon Mayr



Title			STM_POWER		
Size A4	Number				Revision V31
Date:	5.14.2025			Sheet	of
File:	C:\Users\...\STM_POWER.SchDoc			Drawn By:	Simon Mayr



A

B

C

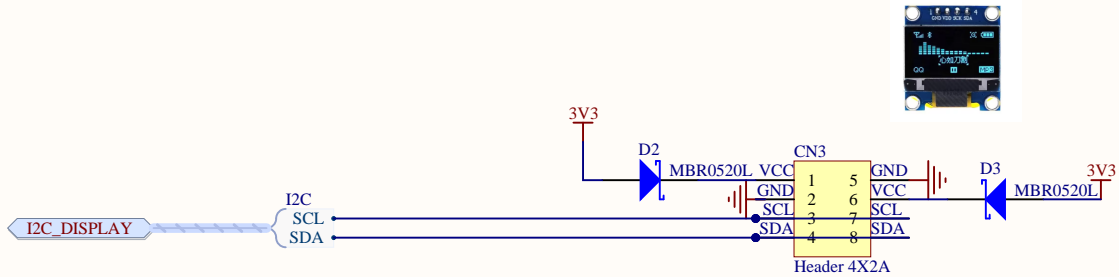
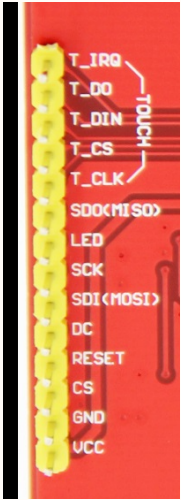
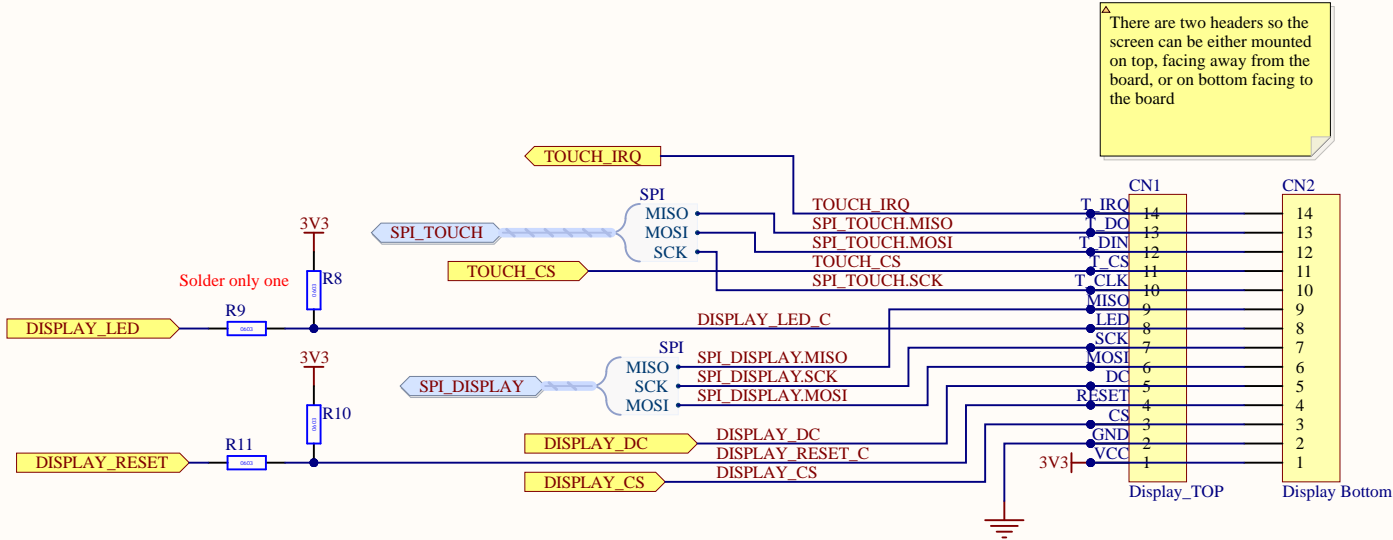
D

A

B

C

D



Title		
Displays		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Displays.SchDoc	Drawn By: Simon Mayr

A

A

B

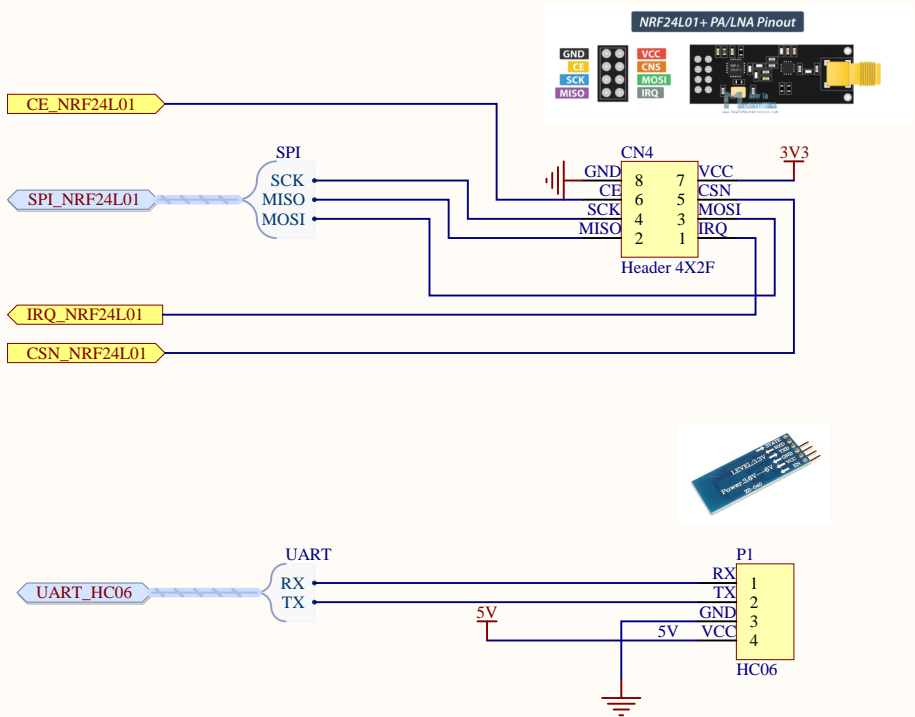
B

C

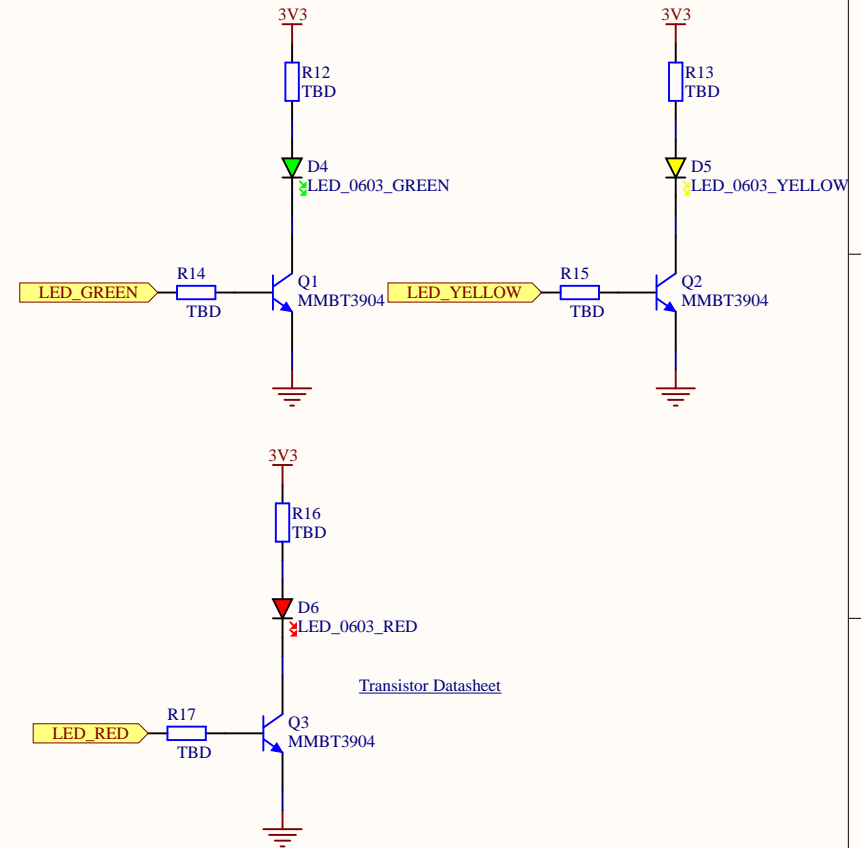
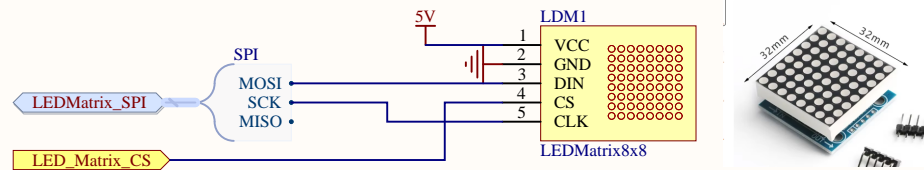
C

D

D



Title		
Wireless		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Wireless.SchDoc	Drawn By: Simon Mayr



Title			LED_Matrix		
Size	Number				Revision
A4					V31
Date:	5.14.2025			Sheet of	
File:	C:\Users\...\LED_Matrix.SchDoc			Drawn By: Simon Mayr	

A

B

C

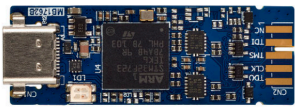
D

A

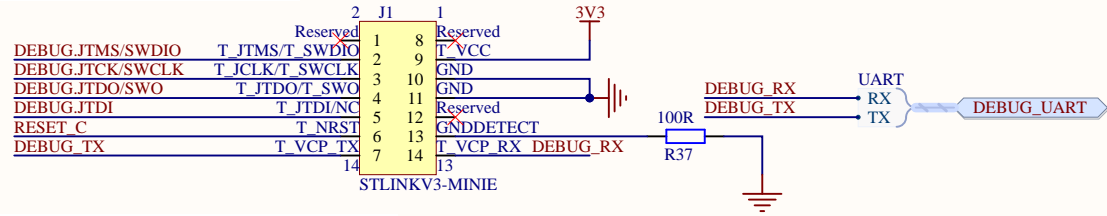
B

C

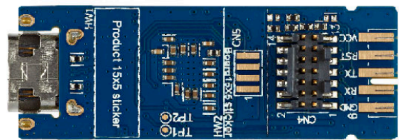
D



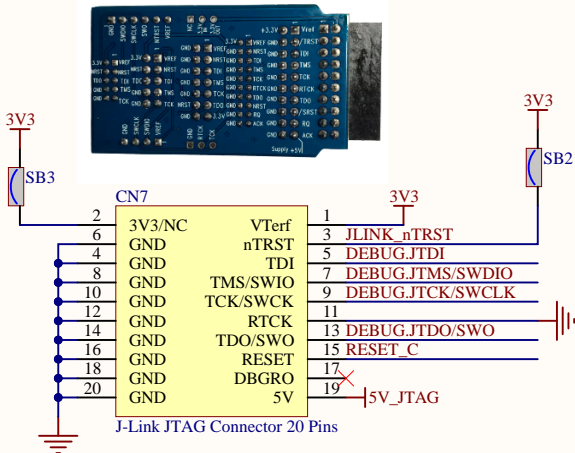
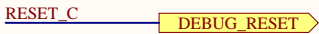
Original STLink's have a pin T_VCC (target VCC) which is to tell the STLink what voltage the target is using, so you're supposed to connect the target's power supply to this pin. The STLink does not power this pin. It only reads the voltage. Some programs like openocd will output error messages if this voltage is too low.



Pin Name	Signal on Pin
PA13	DEBUG_JTMS-SWDIO
PA14	DEBUG_JTCK-SWCLK
PA15	DEBUG_JTDI
PB3	DEBUG_JTDO-SWO

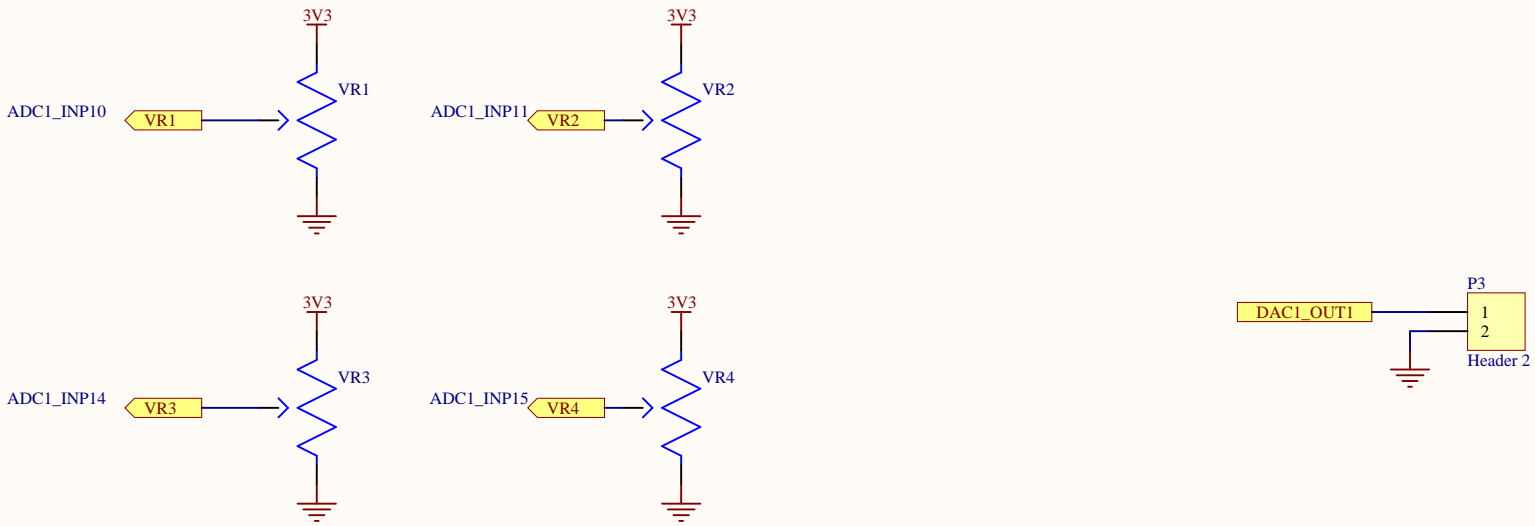


User Manual ST MINIE



Pinout Explanation

Title		
STLink		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\..\STLink.SchDoc	Drawn By: Simon Mayr



Title		
Analog		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Analog.SchDoc	Drawn By: Simon Mayr

A

B

C

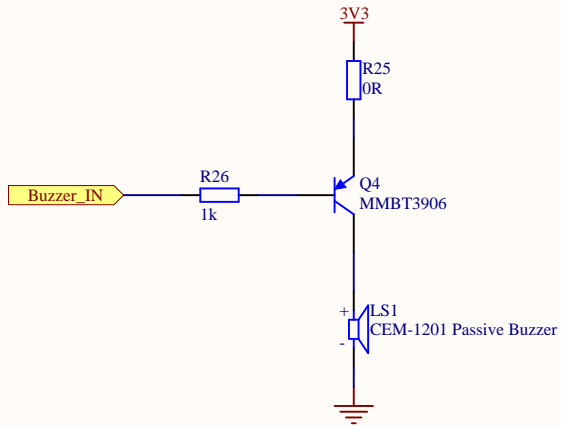
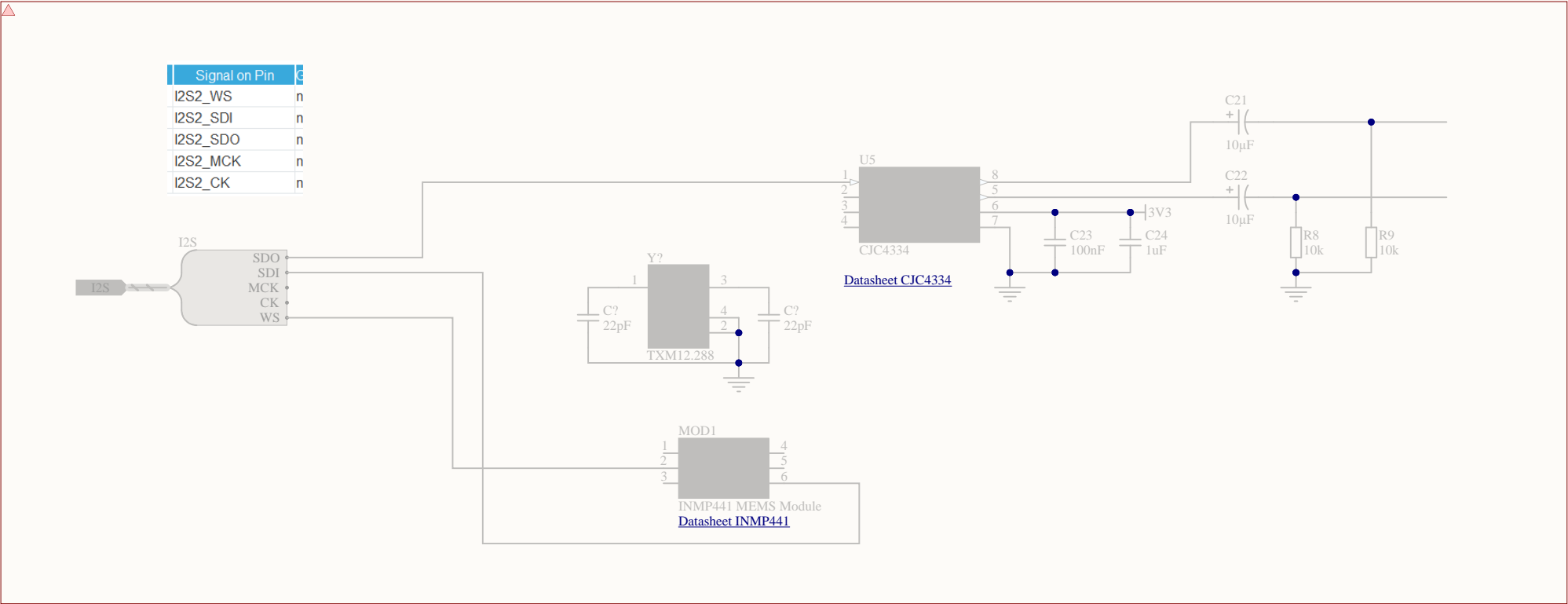
D

A

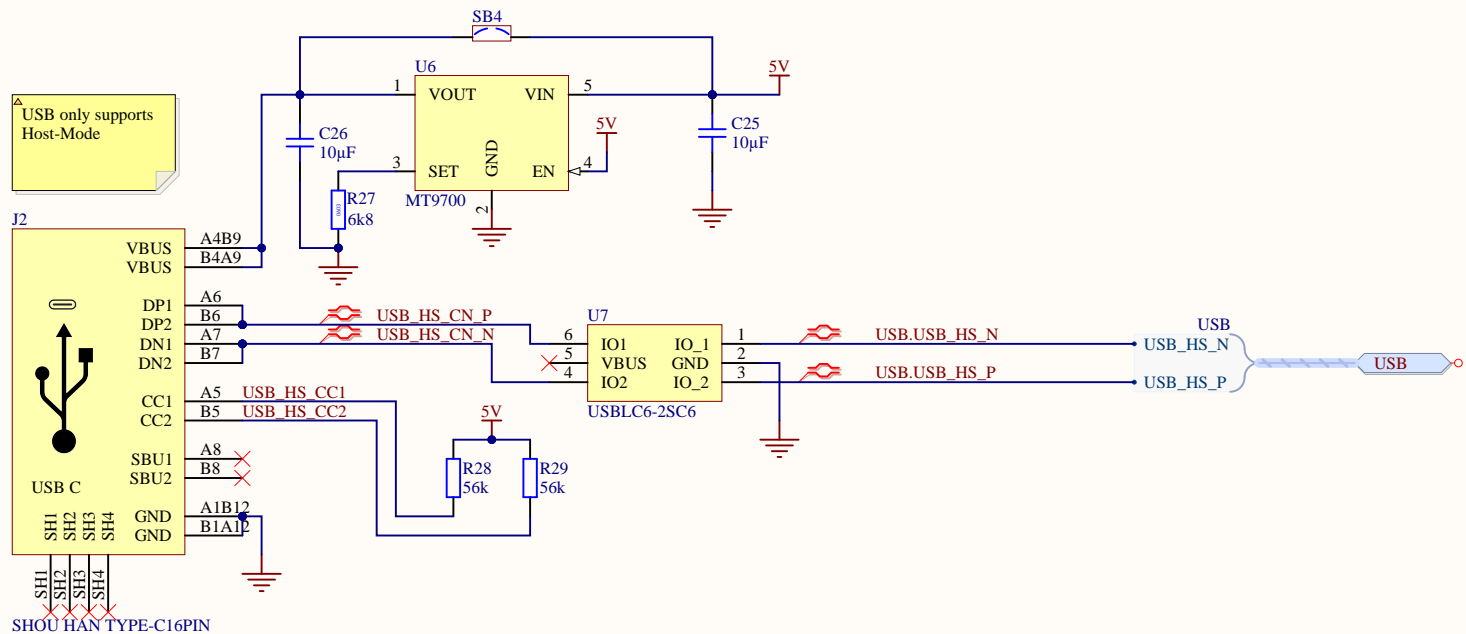
B

C

D



Title		
Audio		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Audio.SchDoc	Drawn By: Simon Mayr



Title		
USB		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\USB.SchDoc	Drawn By: Simon Mayr

A

B

C

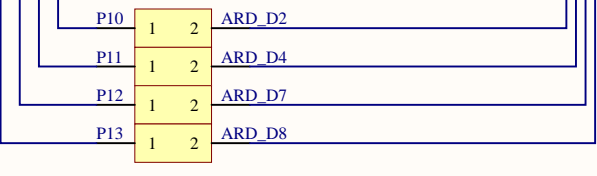
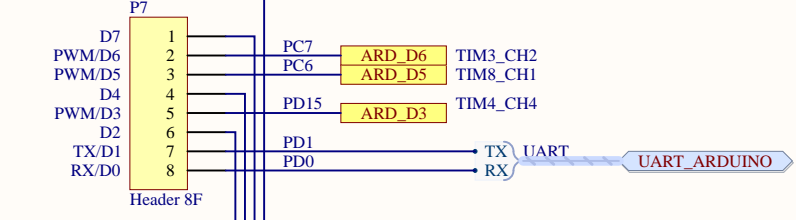
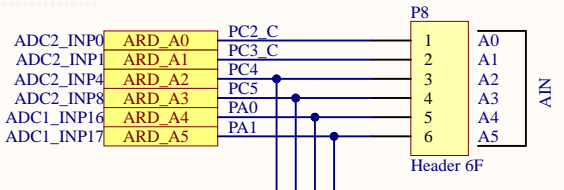
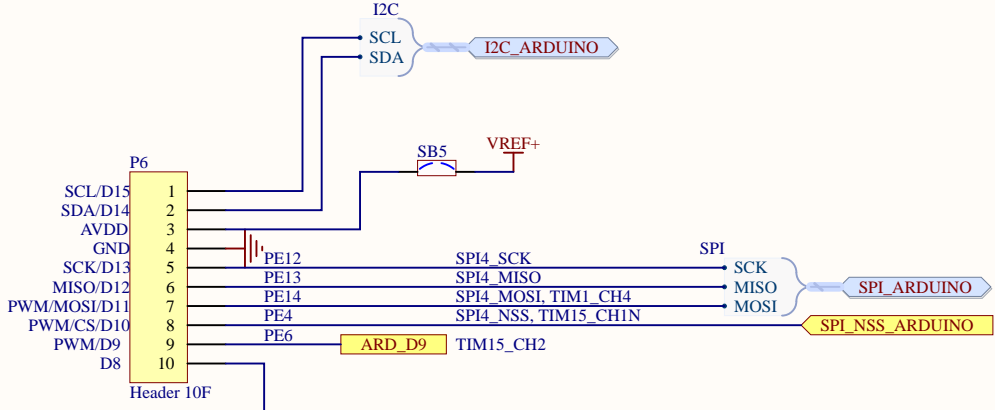
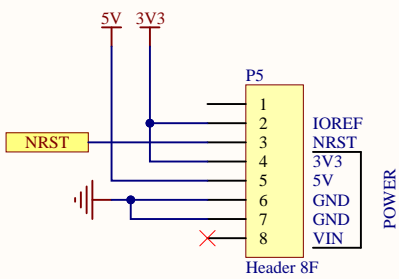
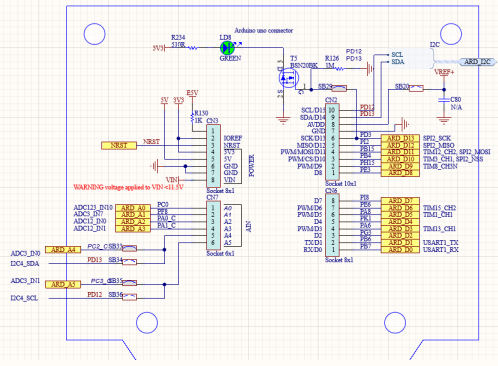
D

A

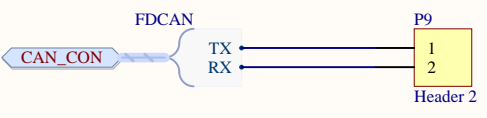
B

C

D



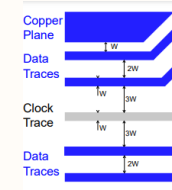
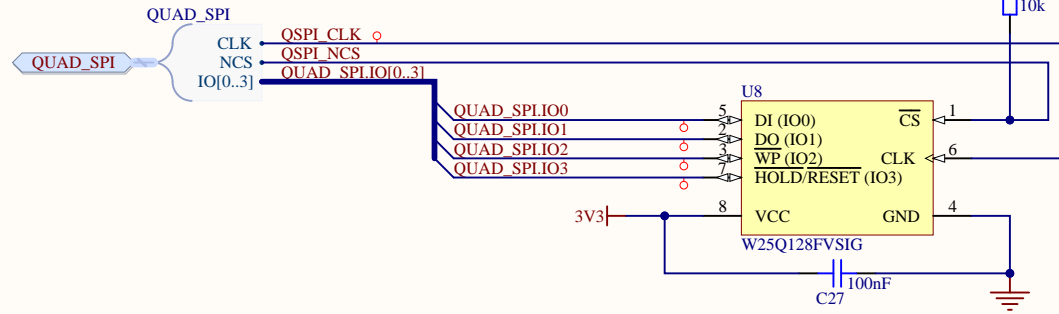
Because of pin shortage, the headers help to extend the GPIO's. Obviously both can't be used at the same time



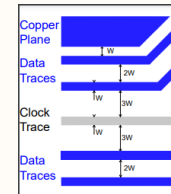
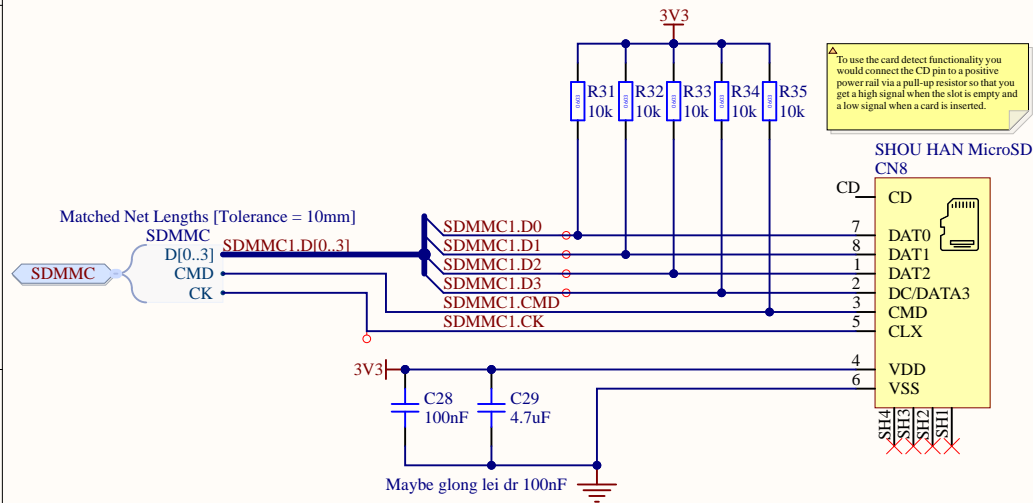
Title		
Arduino Connector		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Arduino Connector.SchDoc	Drawn By: Simon Mayr

Matched Net Lengths [Tolerance = 10mm]

50Ω ± 10% single-ended trace impedance Routing top or bottom



⚠ To use the card detect functionality you would connect the CD pin to a positive power rail via a pull-up resistor so that you get a high signal when the slot is empty and a low signal when a card is inserted.



<div> <div>Title</div> <div>Storage</div> </div>		
Size A4	Number	Revision V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Storage.SchDoc	Drawn By: Simon Mayr

A

B

C

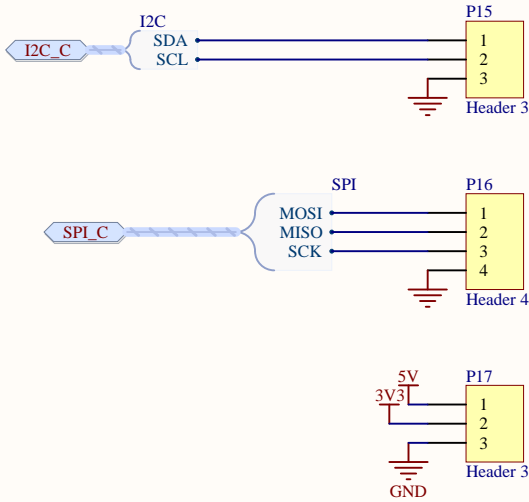
D

A

B

C

D



Title		
Connector		
Size	Number	Revision
A4		V31
Date:	5.14.2025	Sheet of
File:	C:\Users\...\Connectors.SchDoc	Drawn By: Simon Mayr