

STM32F412G-DISCO

MB1209

Table of contents

Sheet 1: Project overview (this page)

Sheet 2: Top

Sheet 3: MCU

Sheet 4: Power

Sheet 5: ST-Link/V2-1

Sheet 6: QSPI

Sheet 7: Peripherals

Sheet 8: Audio

Sheet 9: USB_OTG_FS

Sheet 10: LCD

Sheet 11: Extension connectors

Legend

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

Text to be added to silkscreen.

Warning text.

Notes to generate the board layout.

Open Platform License Agreement

The Open Platform License Agreement ("Agreement") is a binding legal contract between you ("You") and STMicroelectronics International N.V. ("ST"), a company incorporated under the laws of the Netherlands acting for the purpose of this Agreement through its Swiss branch 39, Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva, Switzerland.

By using the enclosed reference designs, schematics, PC board layouts, and documentation, in hardcopy or CAD tool file format (collectively, the "Reference Material"), You are agreeing to be bound by the terms and conditions of this Agreement. Do not use the Reference Material until You have read and agreed to this Agreement terms and conditions. The use of the Reference Material automatically implies the acceptance of the Agreement terms and conditions.

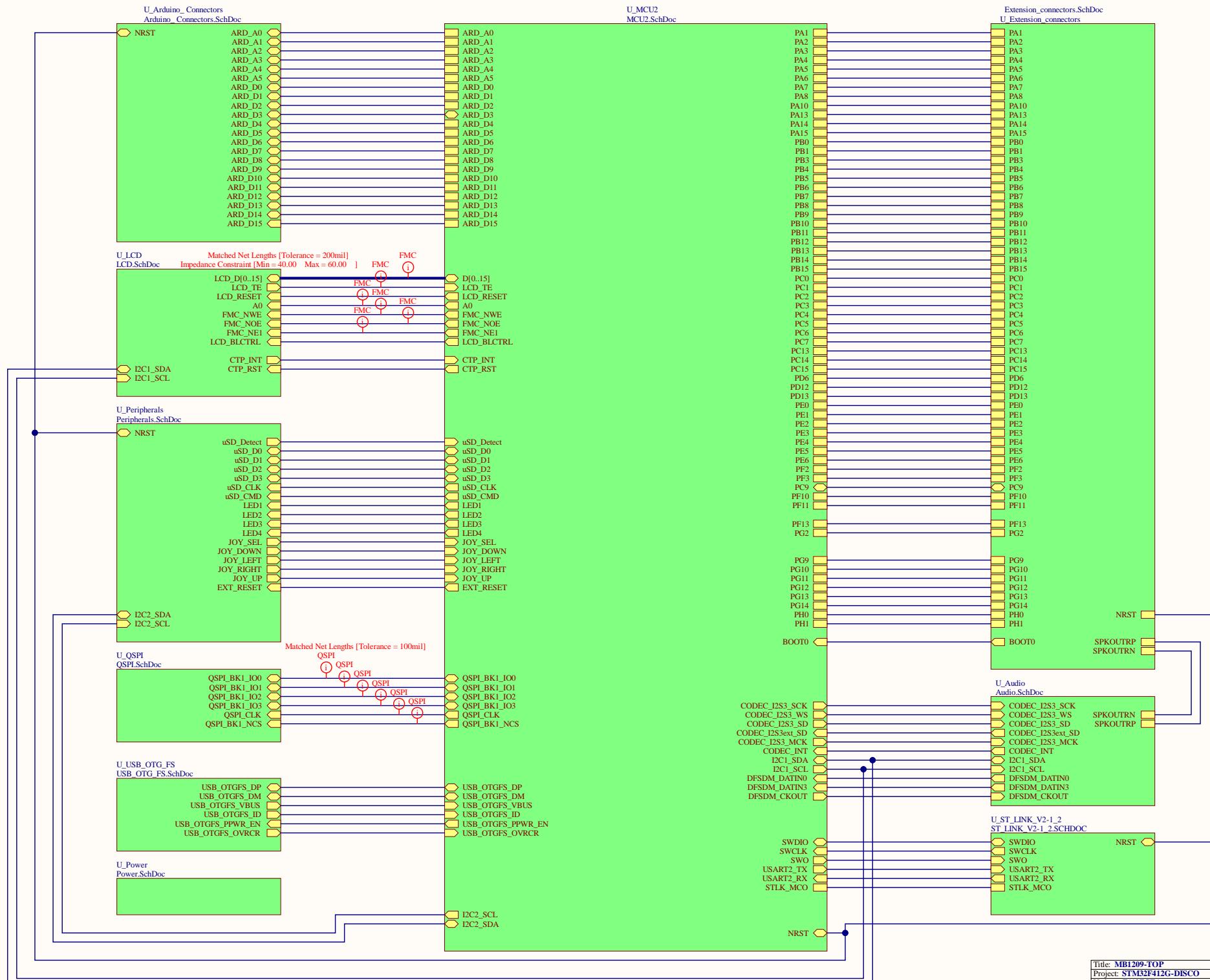
The complete Open Platform License Agreement can be found on www.st.com/ola.

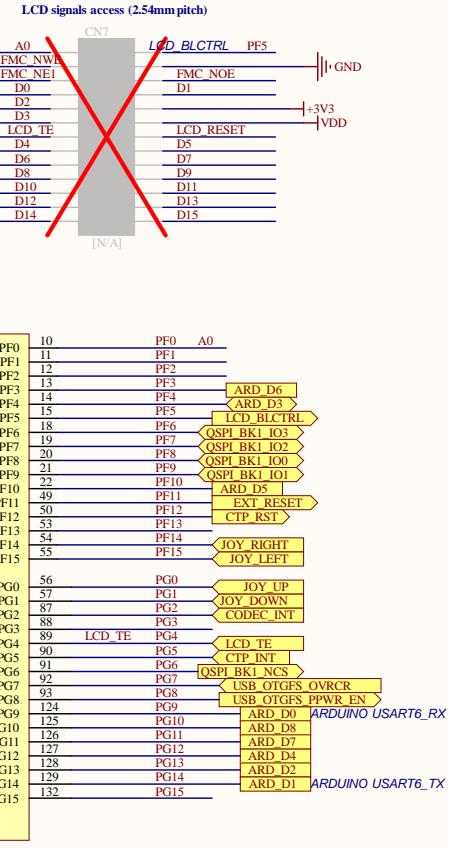
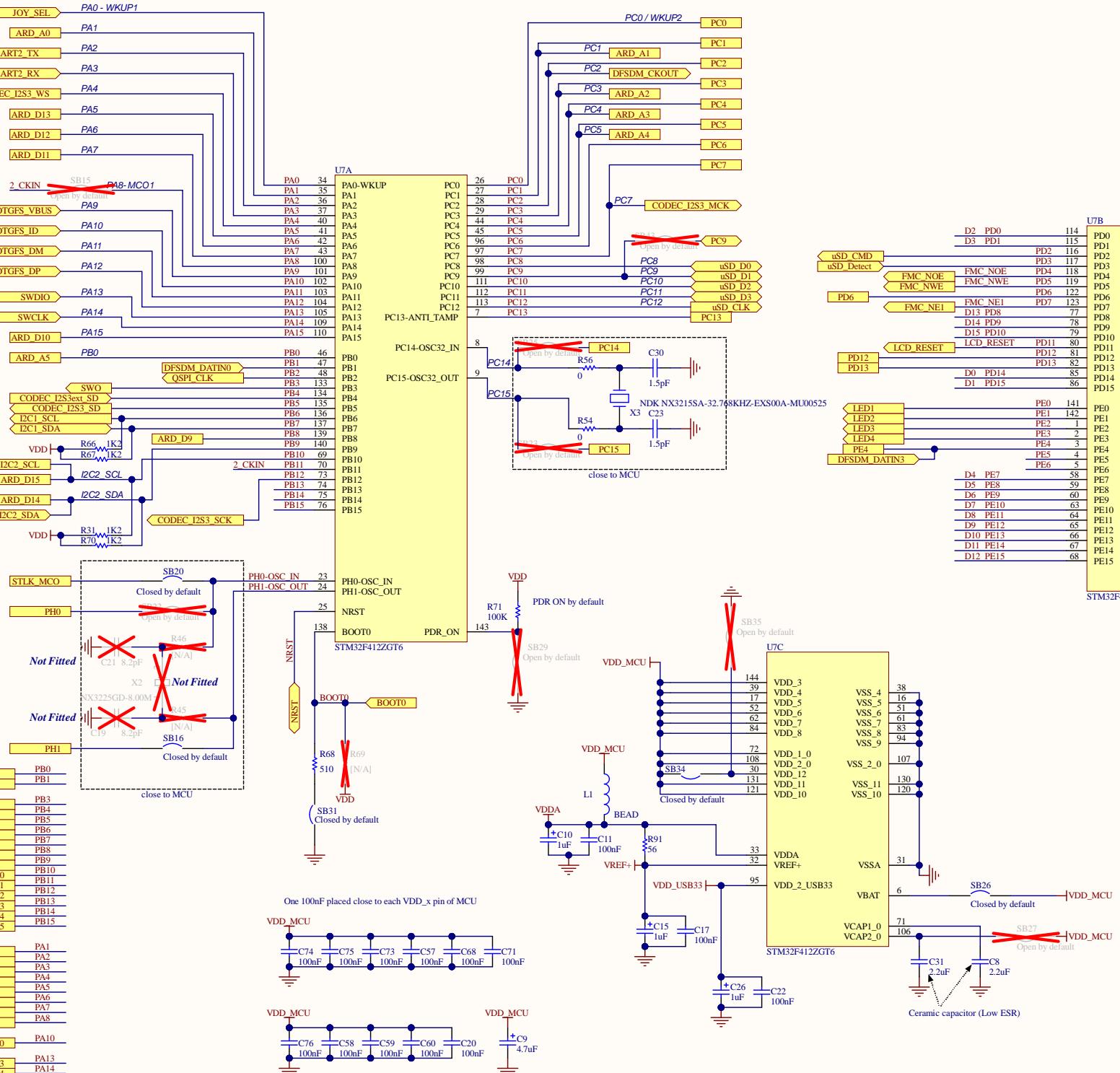
U_Top
Top.SchDoc



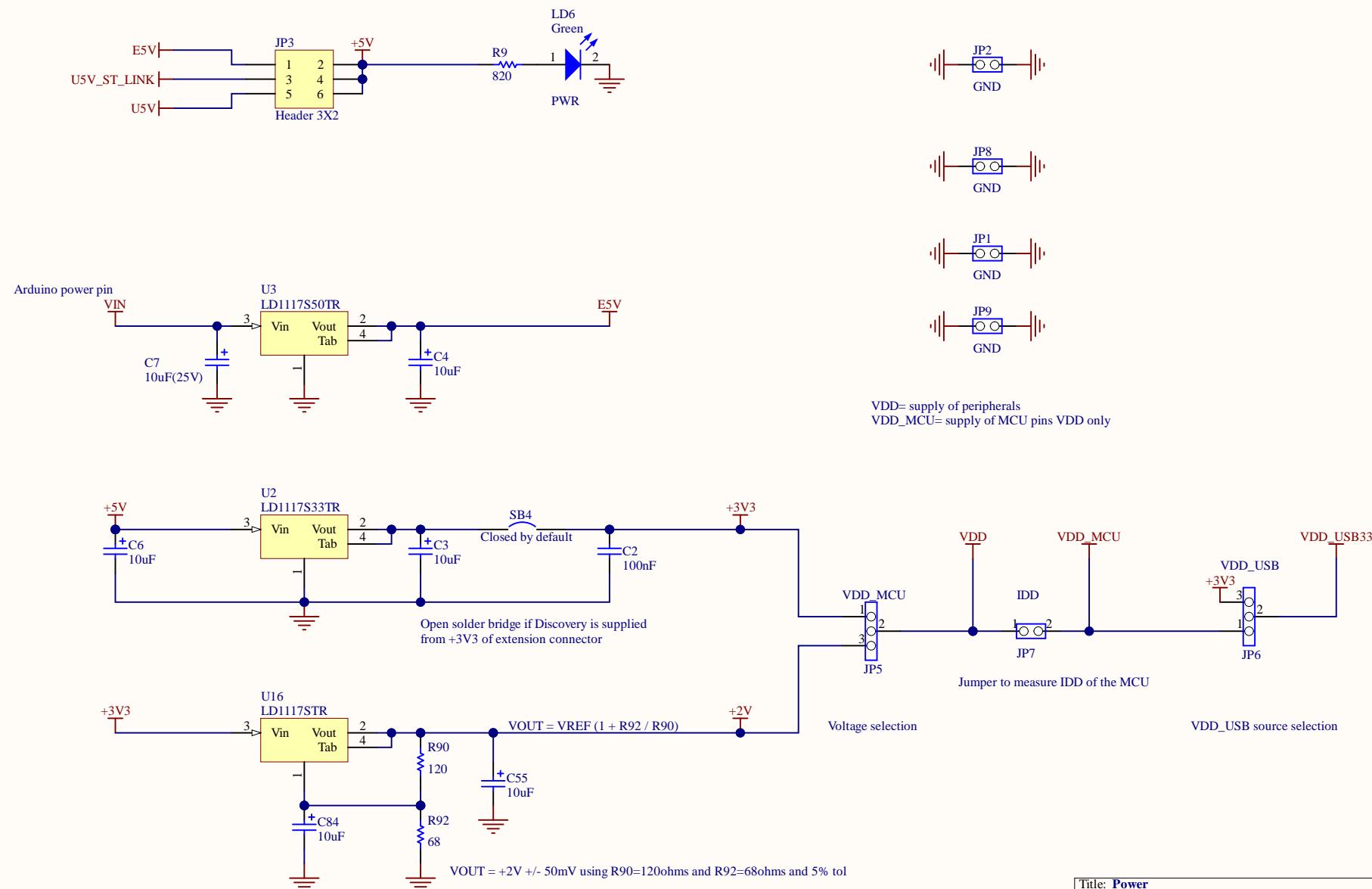
Title: Project Overview	
Project: STM32F412G-DISCO	
Variant: F412ZG16	
Revision: D-04	Reference: MB1209
Size: A4	Date: 02/06/2021
	Sheet: 1 of 12

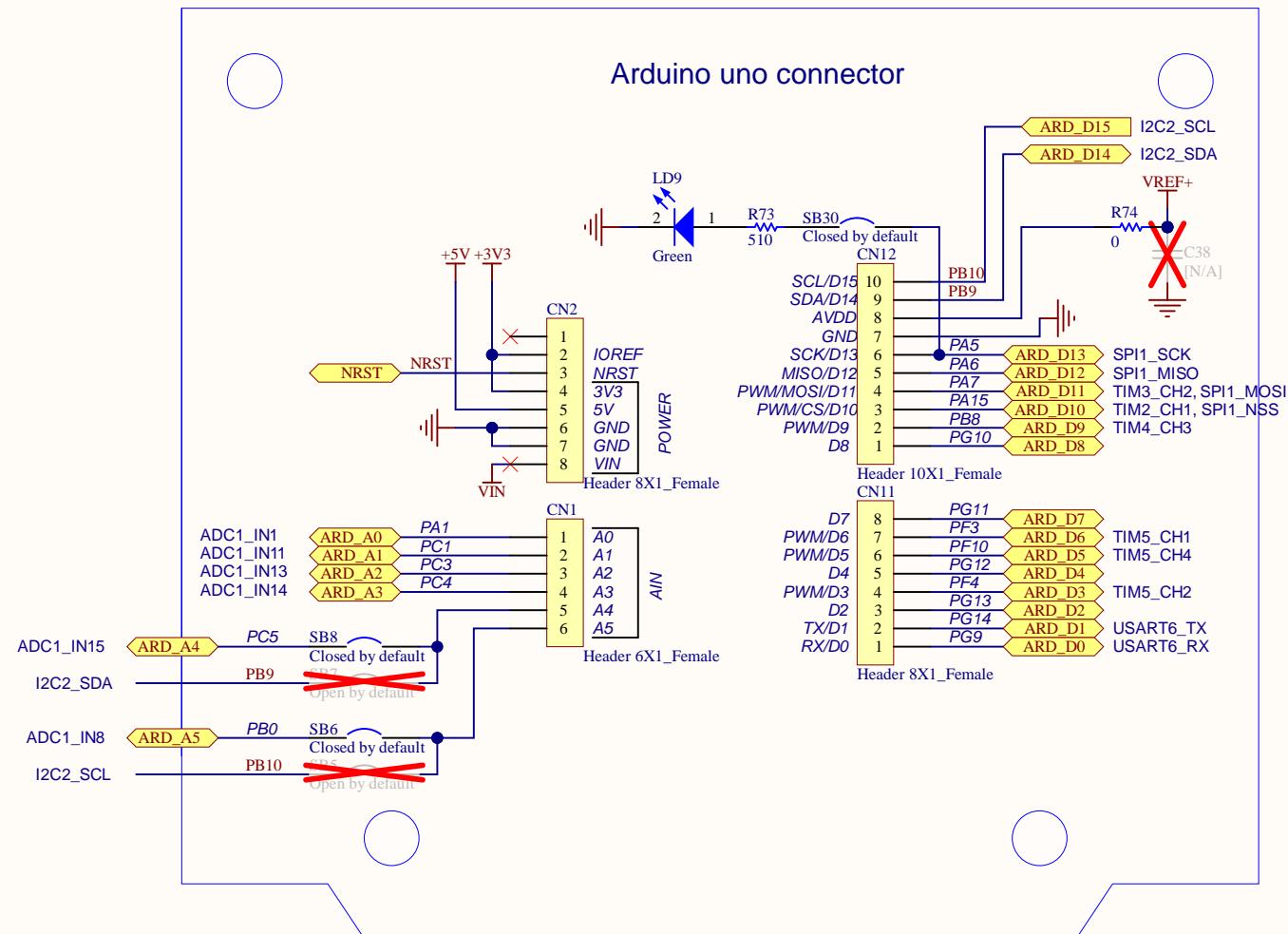


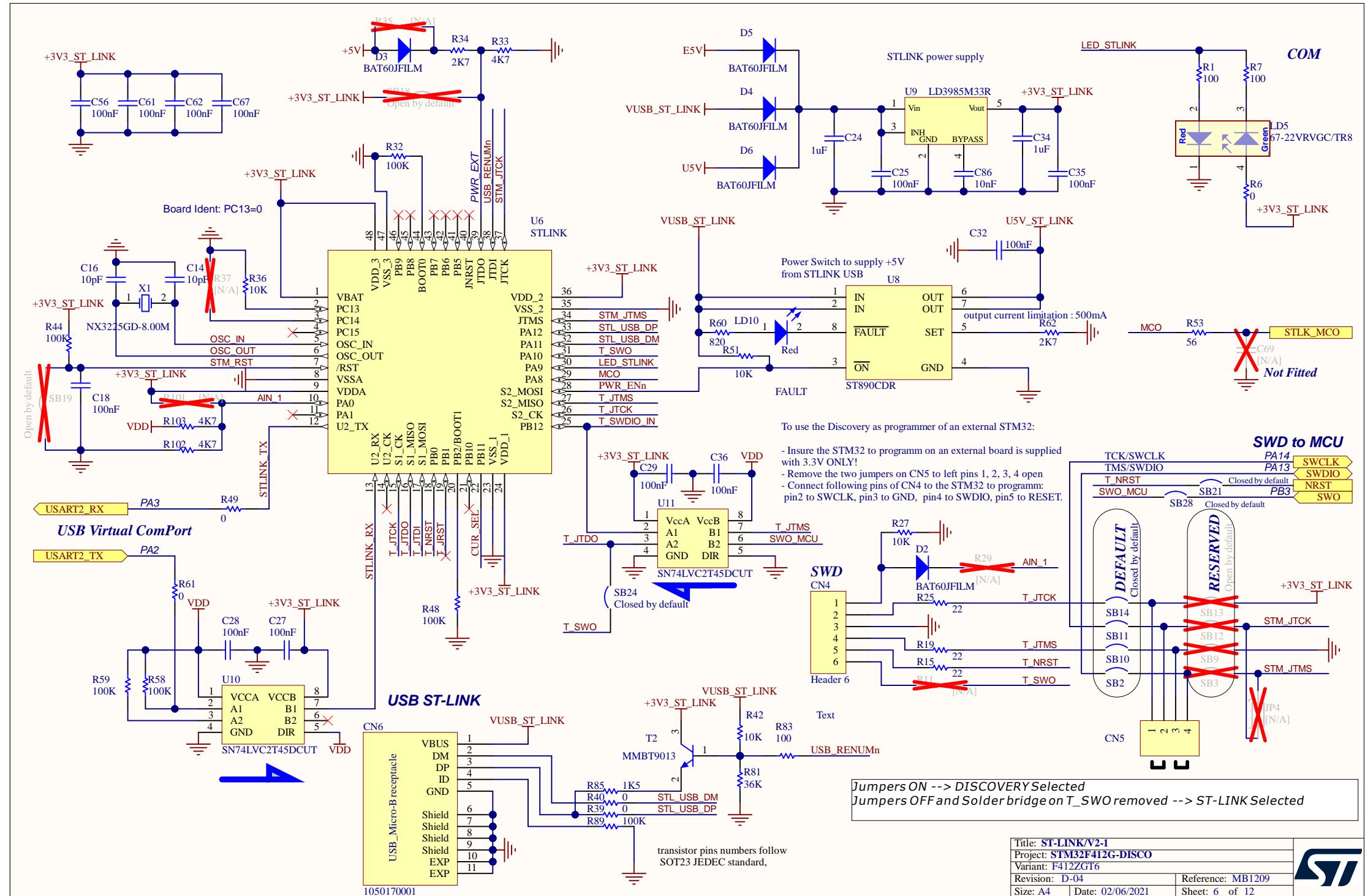


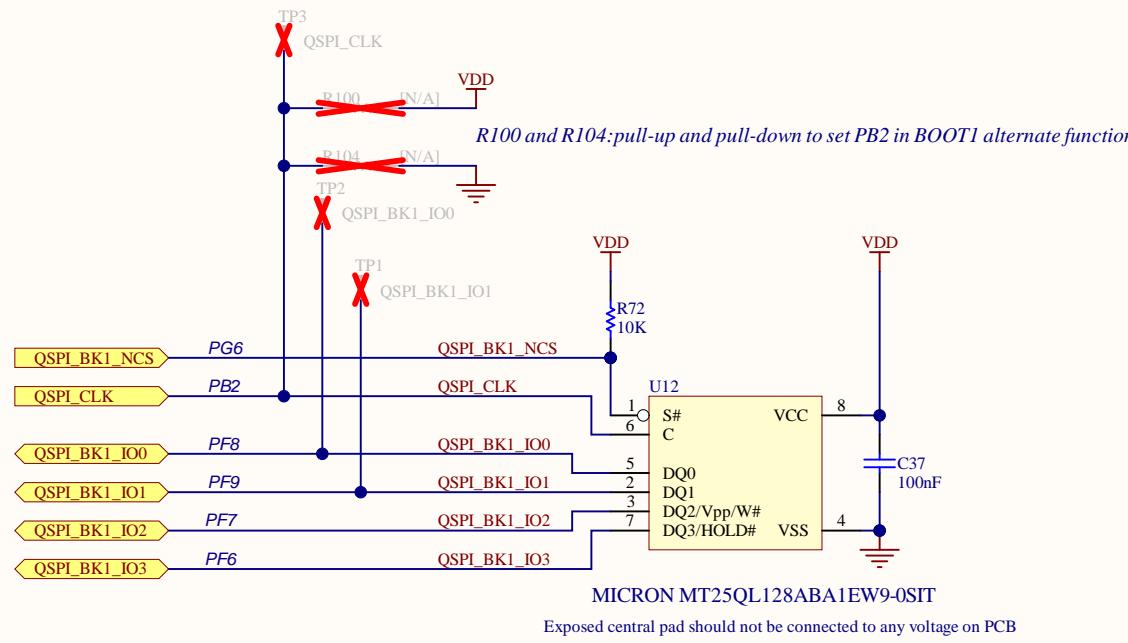


Title: MCU	
Project: STM32F412G-DISCO	
Variant: F412ZGT6	
Revision: D-04	Reference:
Size: A3	Date: 02/06/2021
	Sheet: 3

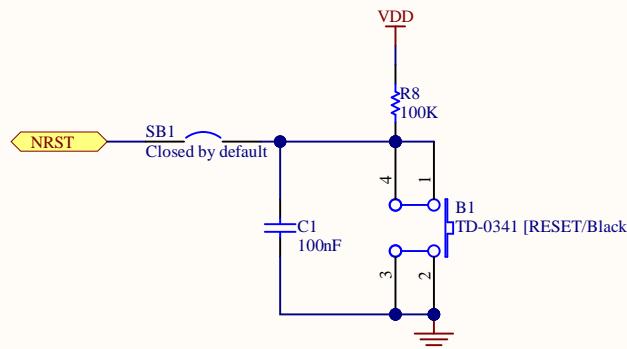




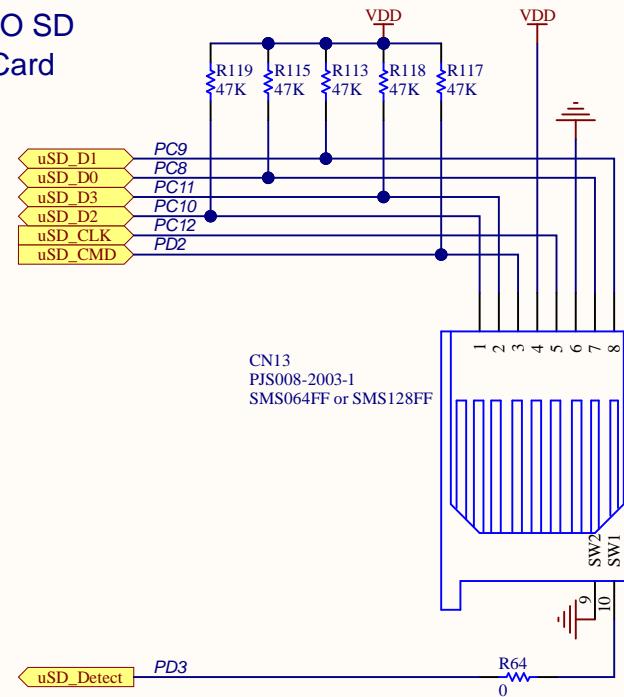




Reset Button

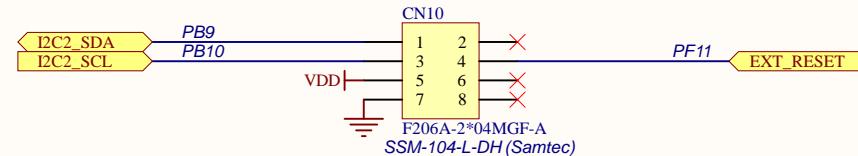


**MICRO SD
(TF) Card**

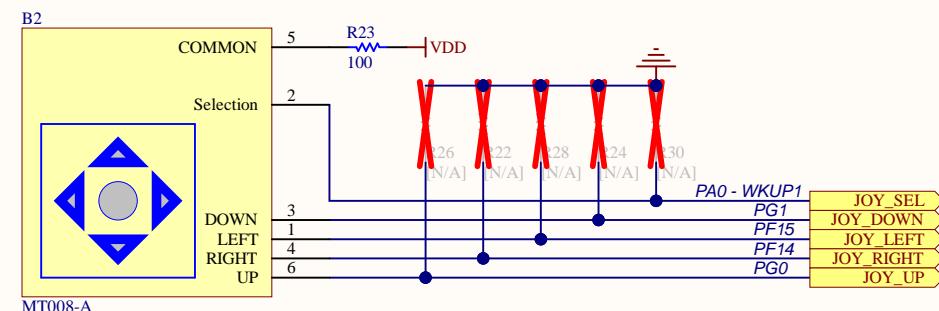


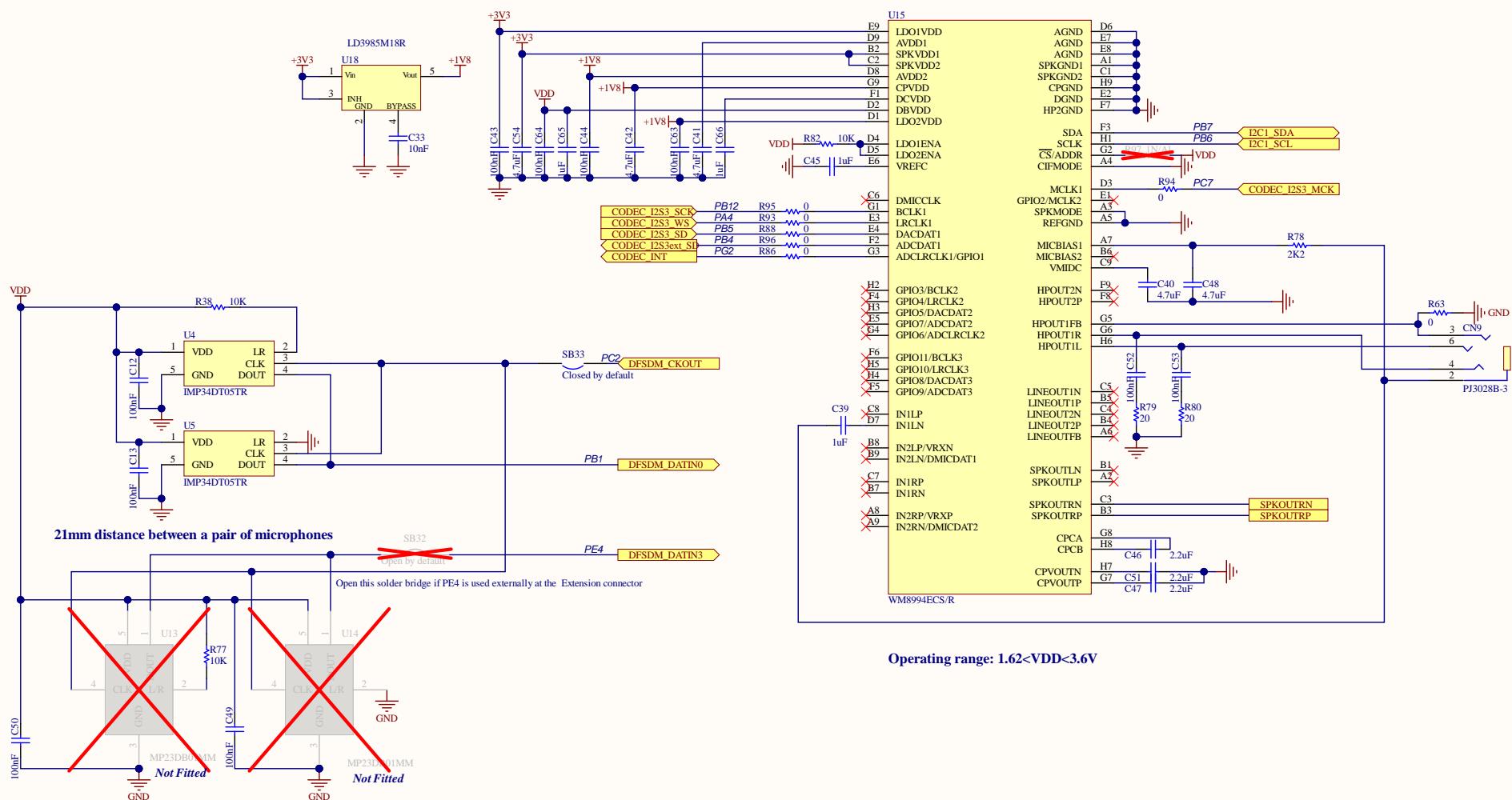
The 4 LEDs are top side

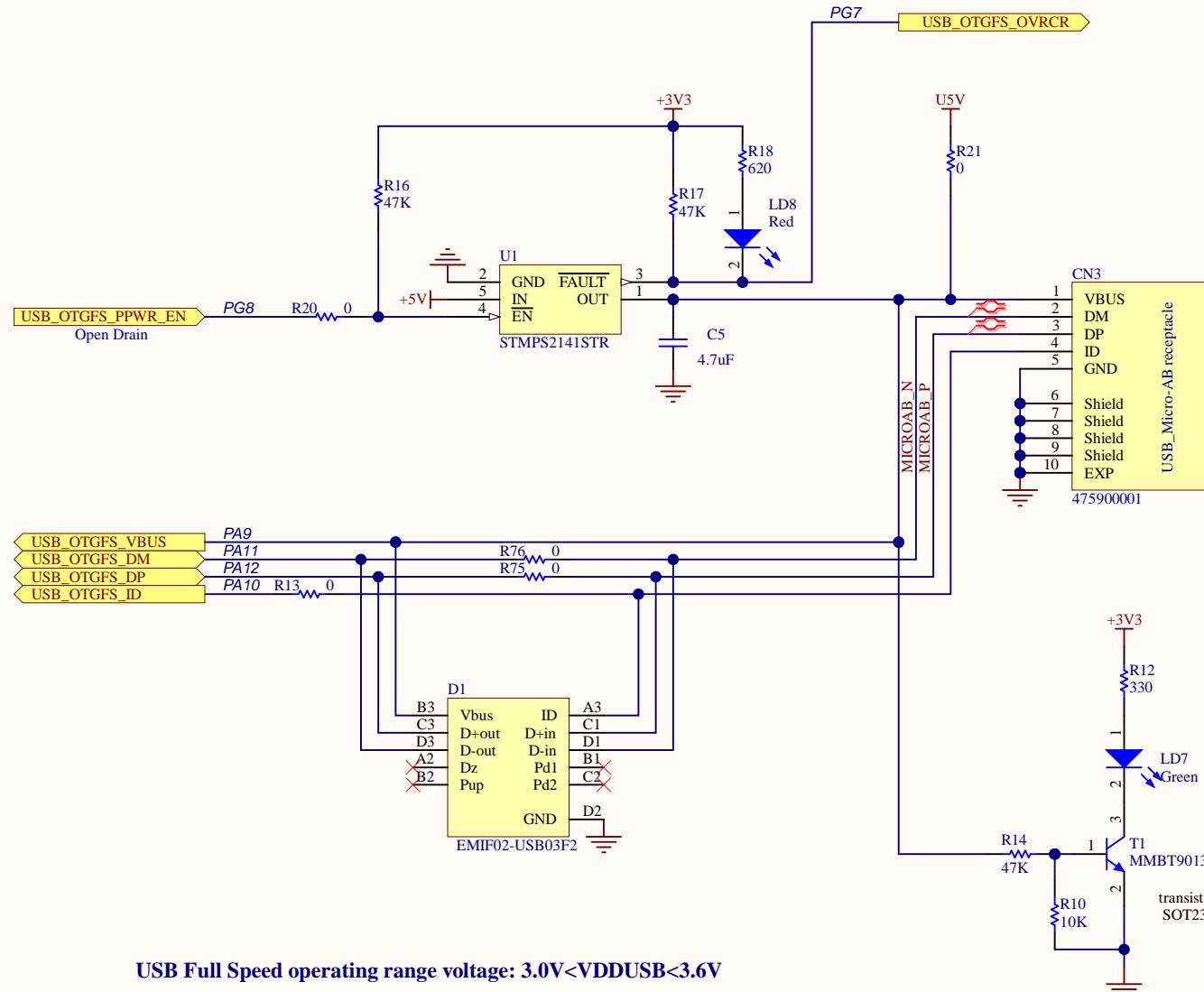
I2C Extension Connector



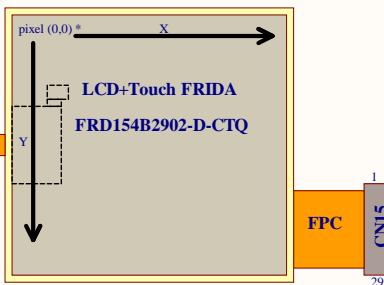
JOYSTICK







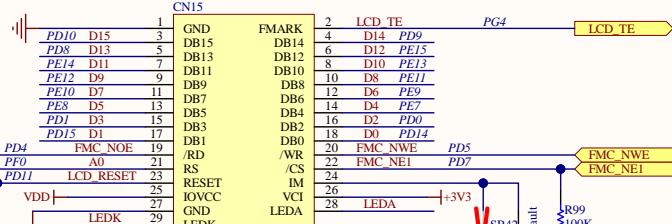
Top side: layout of CN15



*: standard orientation. Rotations by 90, 180, 270 degrees possible by registers.

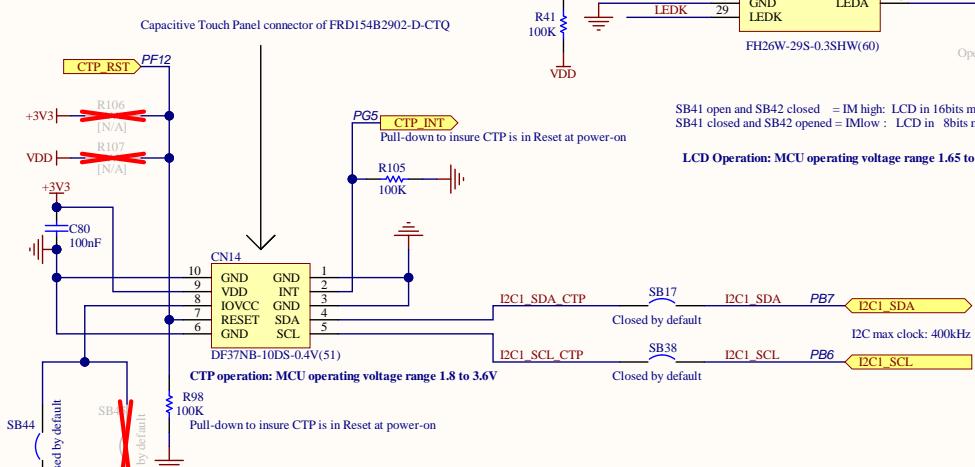
240x240 pixels TFT LCD with Capacitive Touch Panel

ZZI
FRD154B2902-D-CTQ



SB41 open and SB42 closed = IM high: LCD in 16bits mode
SB41 closed and SB42 opened = IMlow : LCD in 8bits mode

LCD Operation: MCU operating voltage range 1.65 to 3.6V



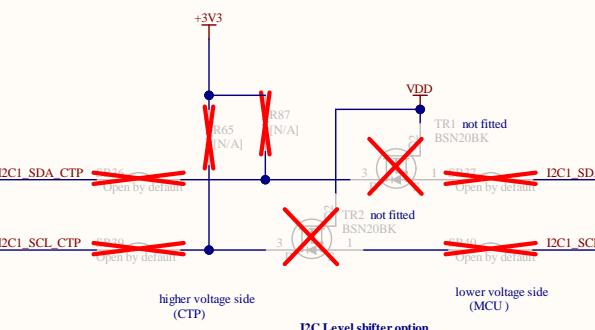
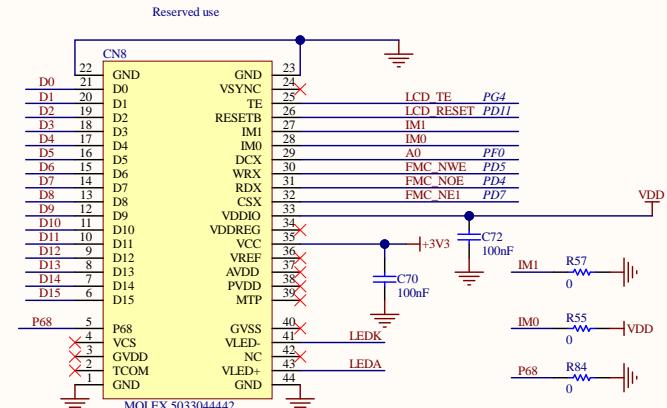
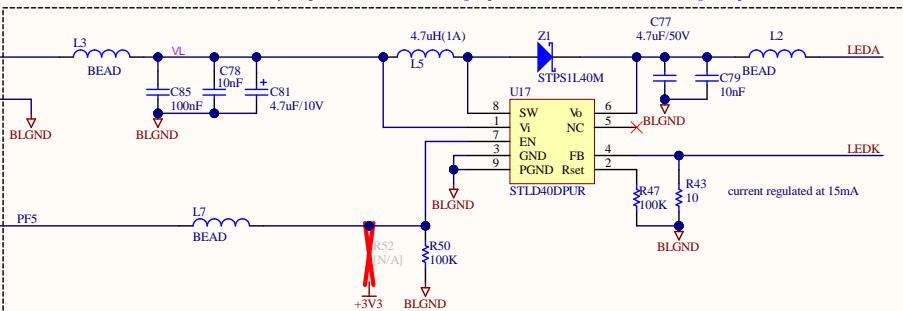
CTP operation: MCU operating voltage range 1.8 to 3.6V

Backlight control: ON/OFF or dimmer by low frequency (1 to 10kHz typ.) PWM using TIM5_CH3

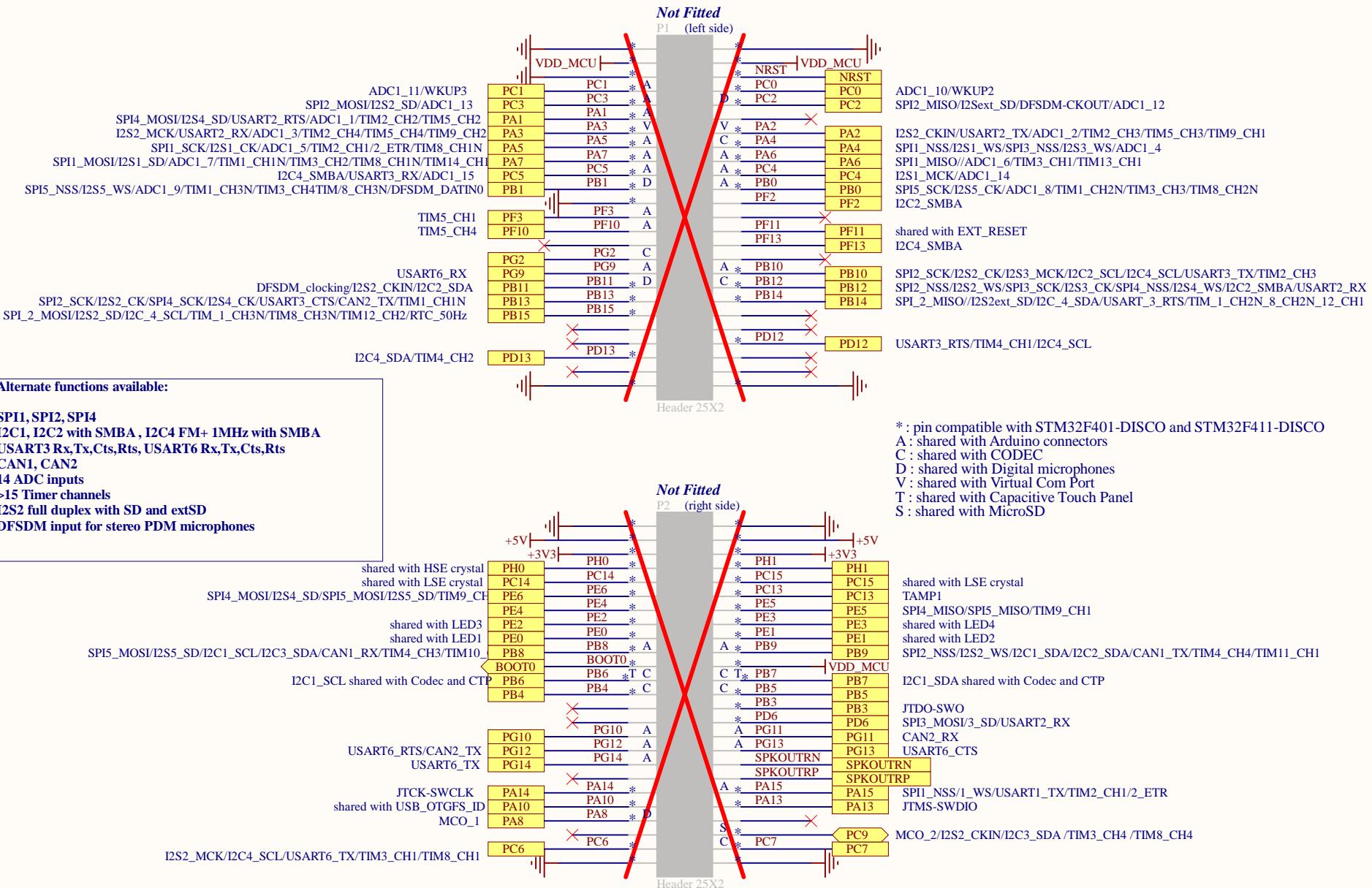
LCD_BLCCTRL

Backlight driver & PFC connector for LCD panel

Layout: parts close to STLD40D and grouped in same area with BLGND as local ground plane



I2C Level shifter option
(TR1, TR2, R65, R87 parts are not soldered)



Title: Extension connectors		
Project: STM32F412G-DISCO		
Variant: F412ZG16		
Revision: D-04	Reference: MB1209	
Size: A4	Date: 02/06/2021	Sheet: 12 of 12

