

STM32MP13XXAF_STPMIC1LA (up to 650 MHz)

Schematics and layout only for example

Table of contents

- Sheet 1: Project overview (this page)
- Sheet 2: Top
- Sheet 3: STM32 MPU I/Os
- Sheet 4: STM32 MPU power
- Sheet 5: Board power
- Sheet 6: DDR3L 16bits
- Sheet 7: Ethernet1 - RMII - WoL support
- Sheet 8: Ethernet2 - RMII
- Sheet 9: WLAN & Bluetooth
- Sheet 10: LCD 4.3"
- Sheet 11: CSI camera bridge
- Sheet 12: USB Host HUB
- Sheet 13: USB Type-C DRP
- Sheet 14: Expansion connector
- Sheet 15: Peripherals
- Sheet 16: IO expander
- Sheet 17: ST-LINK V3E

Notes

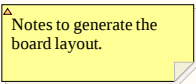
- This reference design is based on Discovery kit with STM32MP135F MPU (STM32MP135F-DK):
- The STPMIC1DPQR replaced by STPMIC1LAPQR
- It is applicable to STM32MP13xA and STM32MP13xC (CPU freq up to 650 MHz)

Legend

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

Text to be added to silkscreen.

Warning text.



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.

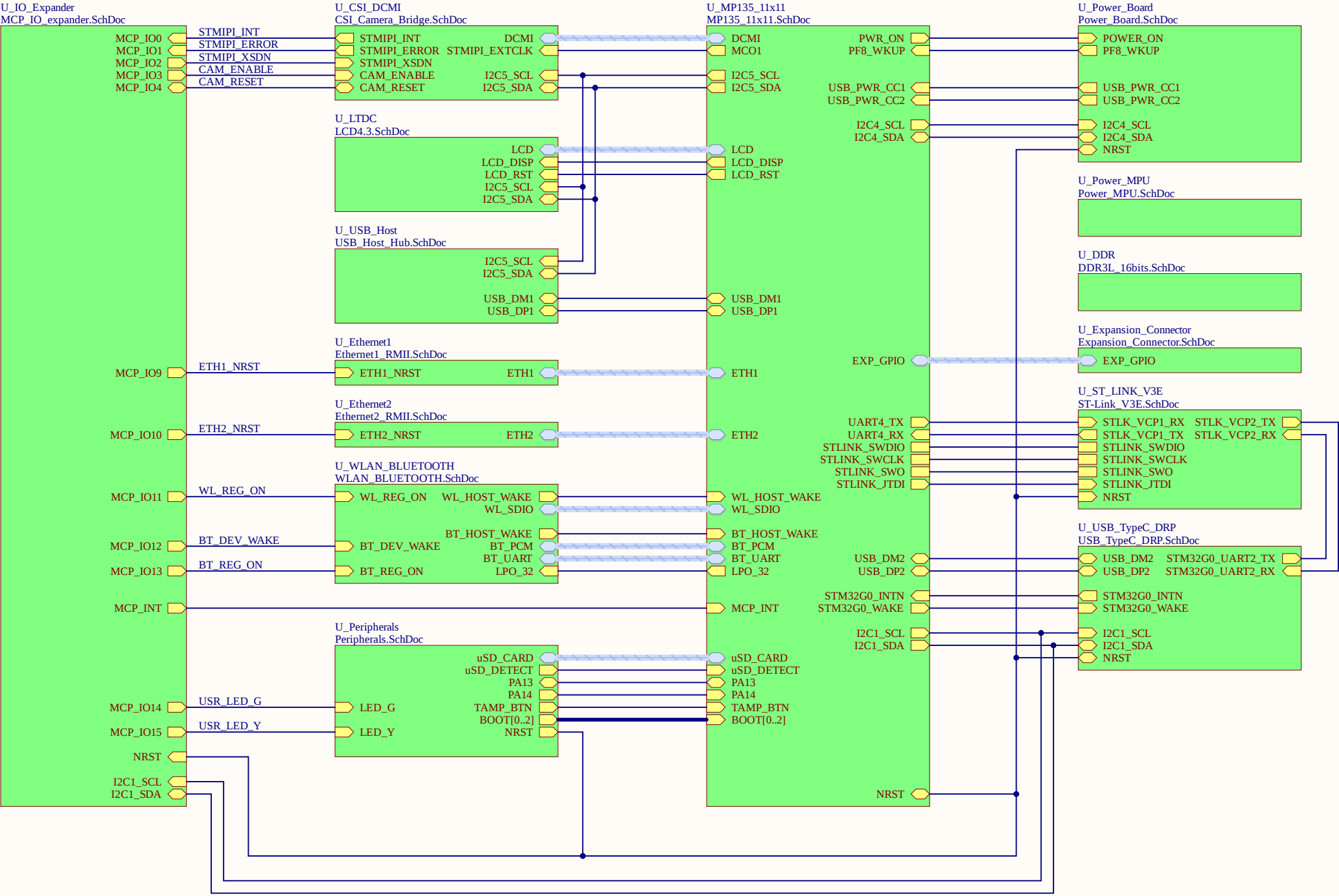
The complete Open Platform License Agreement can be found on www.st.com/opla.

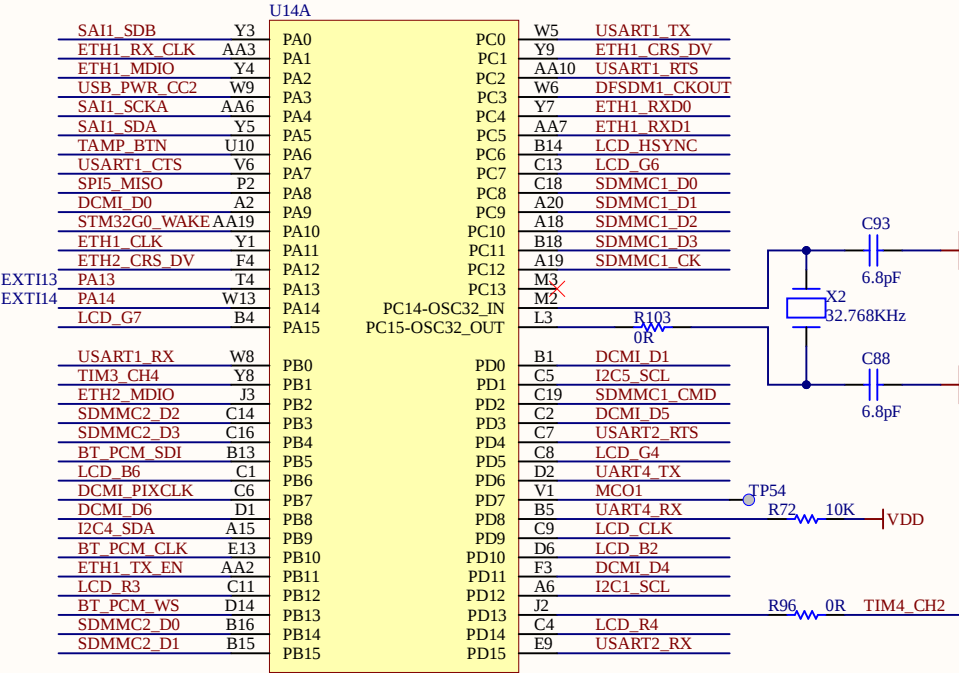
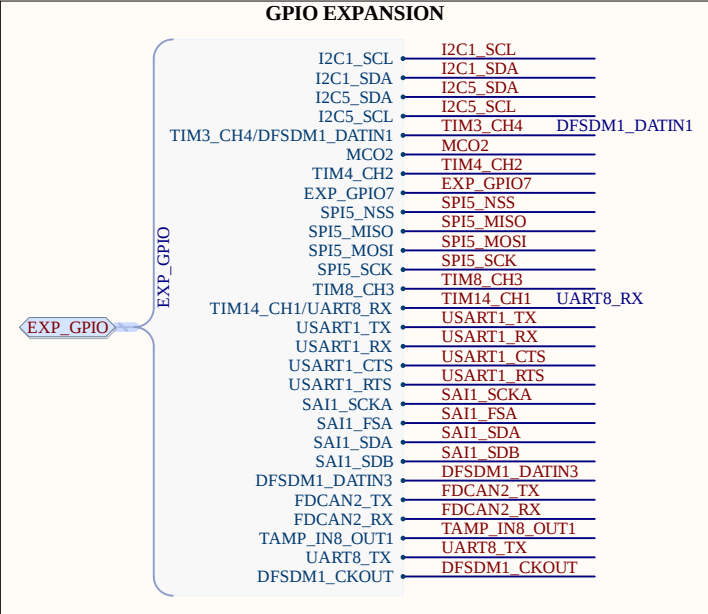
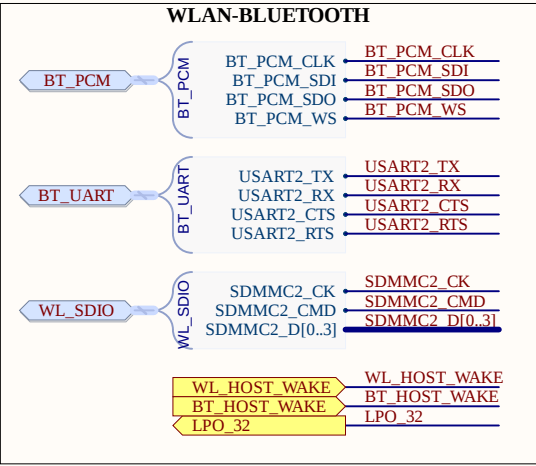
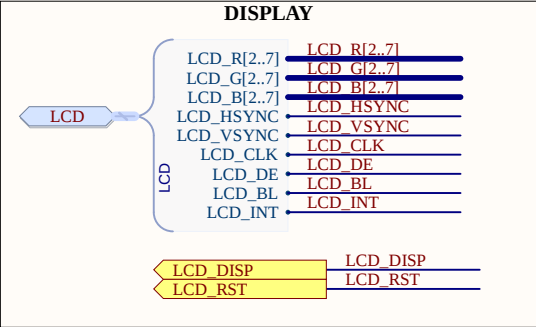
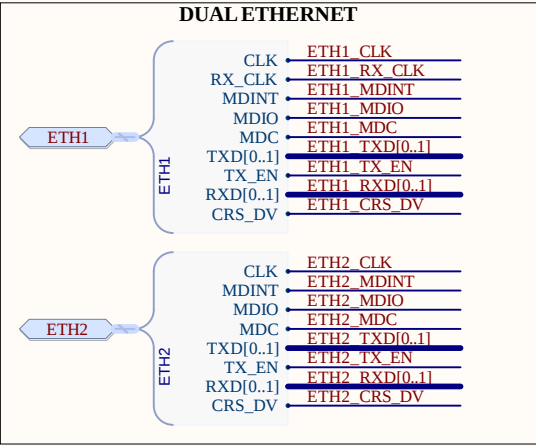
U_MB2192-TOP
MB2192-TOP.SchDoc



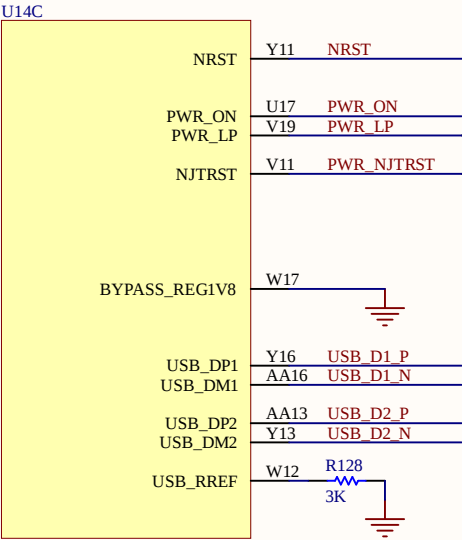
Title: Project overview		
Project: STM32MP13XXAF_STPMIC1LA (up to 650 MHz)		
Variant: MP135F		
Revision: C-01		Reference: MB2192
Size: A4	Date: 14-OCT-2025	Sheet: 1 of 17



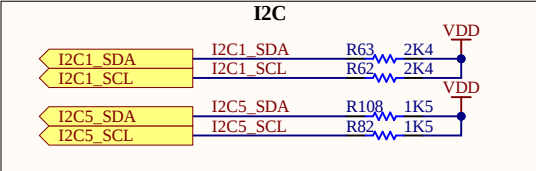
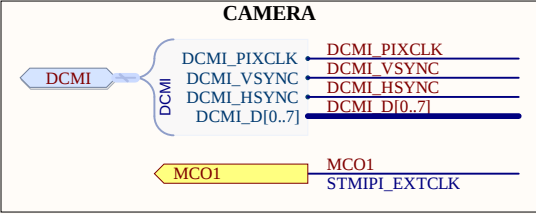
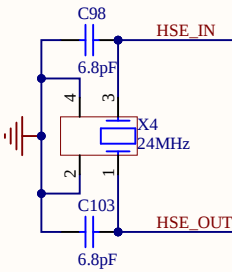
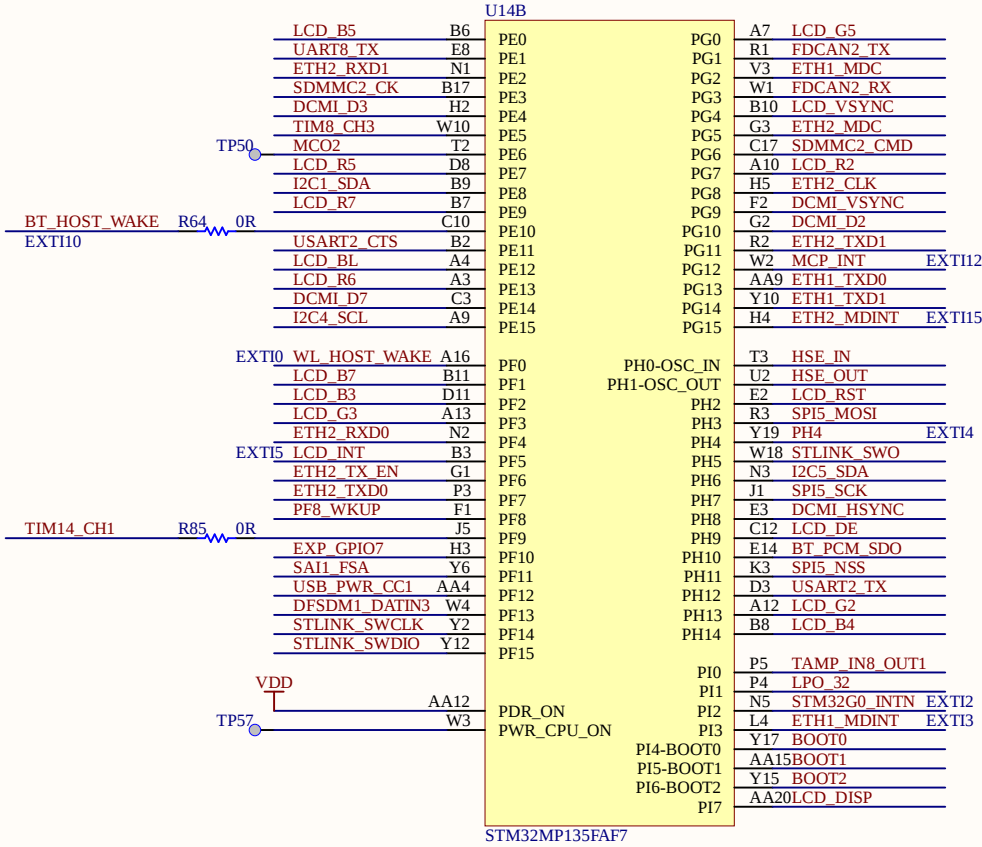




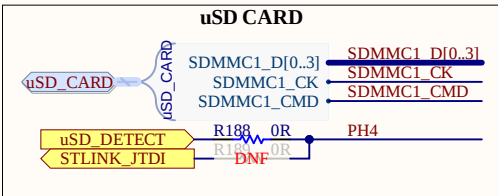
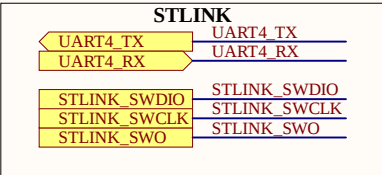
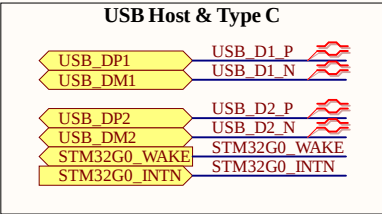
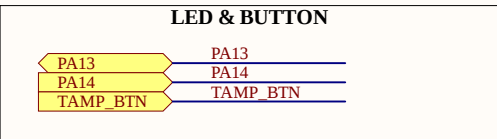
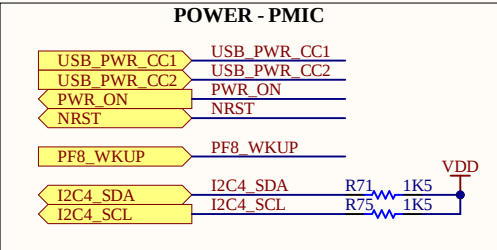
STM32MP135FAF7

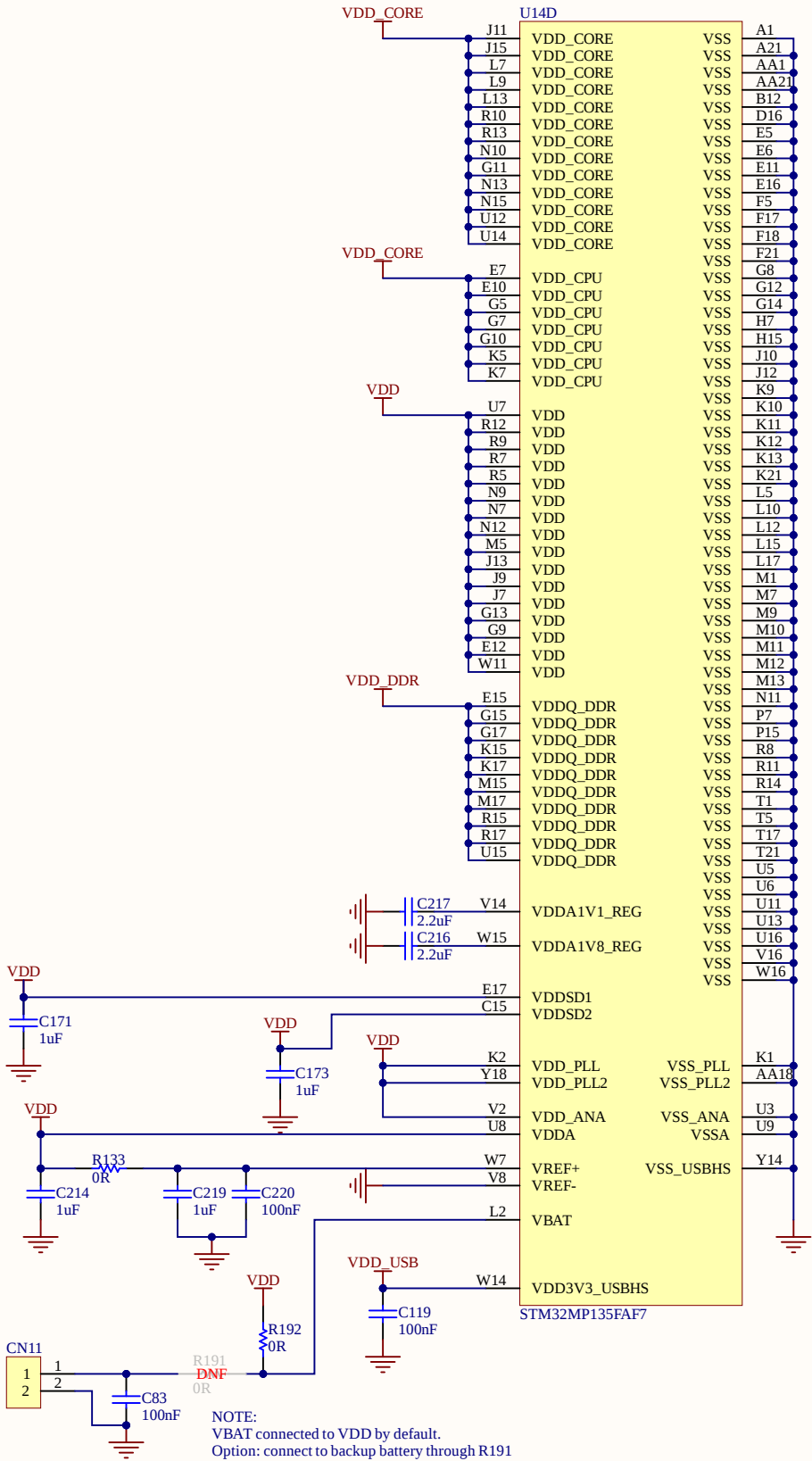
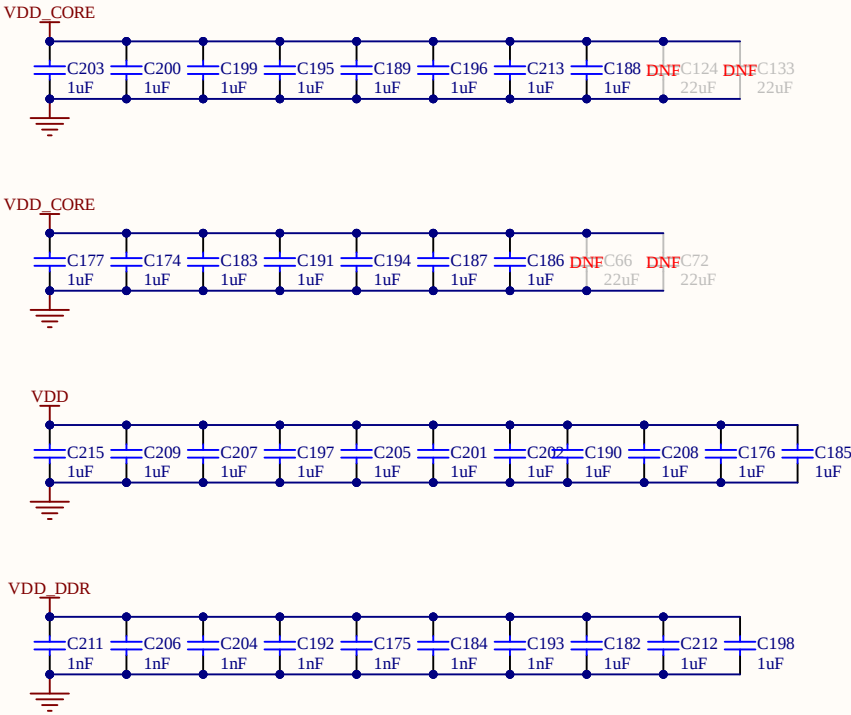


STM32MP135FAF7



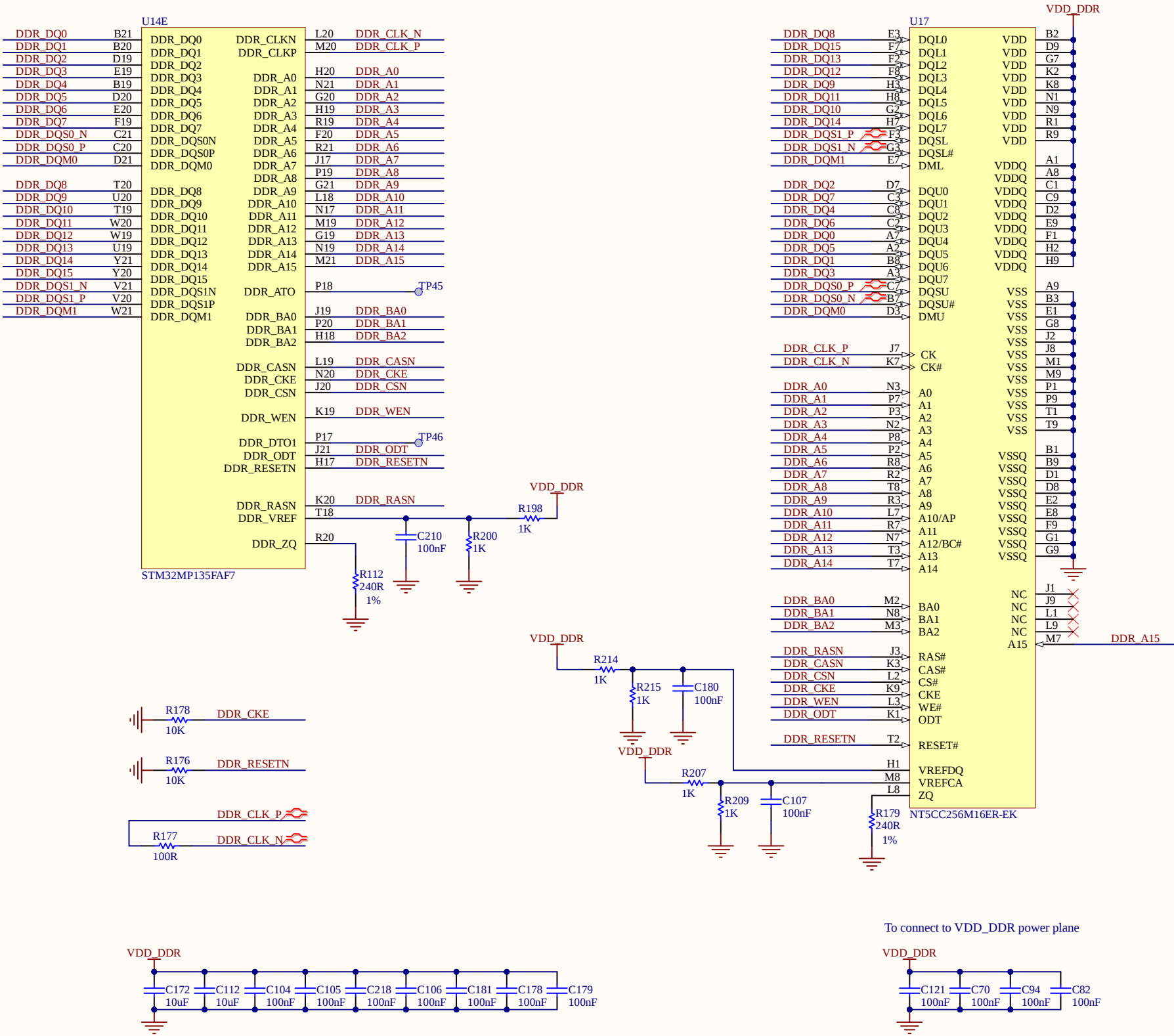
I2C PERIPHERAL	ADDRESS	I2C
IO expander	0100001X	I2C1
USB Type C	1010001X & 1010011X	I2C1
STPMIC	0110011X	I2C4
STMIPID02	0010100X	I2C5
ST camera module	0111100X	I2C5
USB HUB Type A	1010000X	I2C5
Touchscreen	1011101X	I2C5
Expansion connector	Shield dependant	I2C1&5

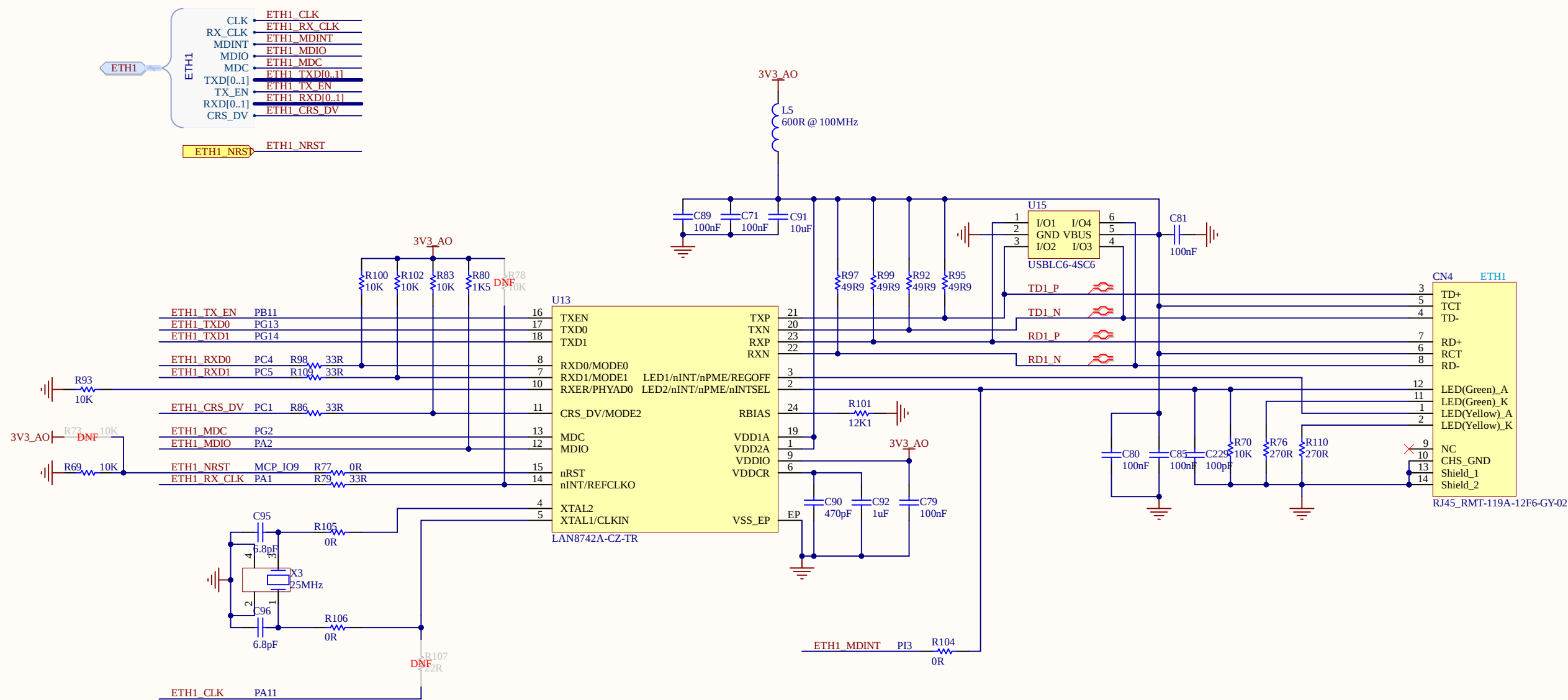


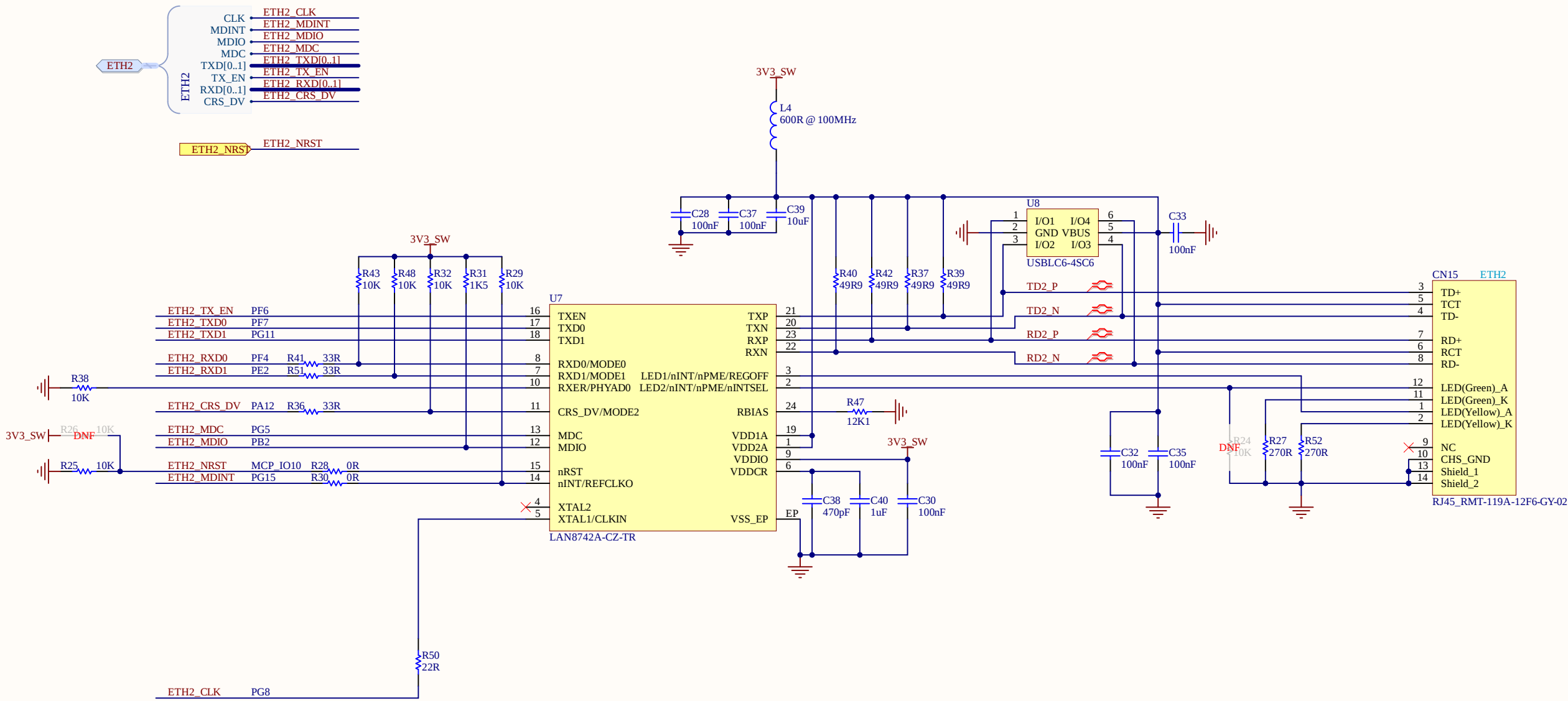


Board Power

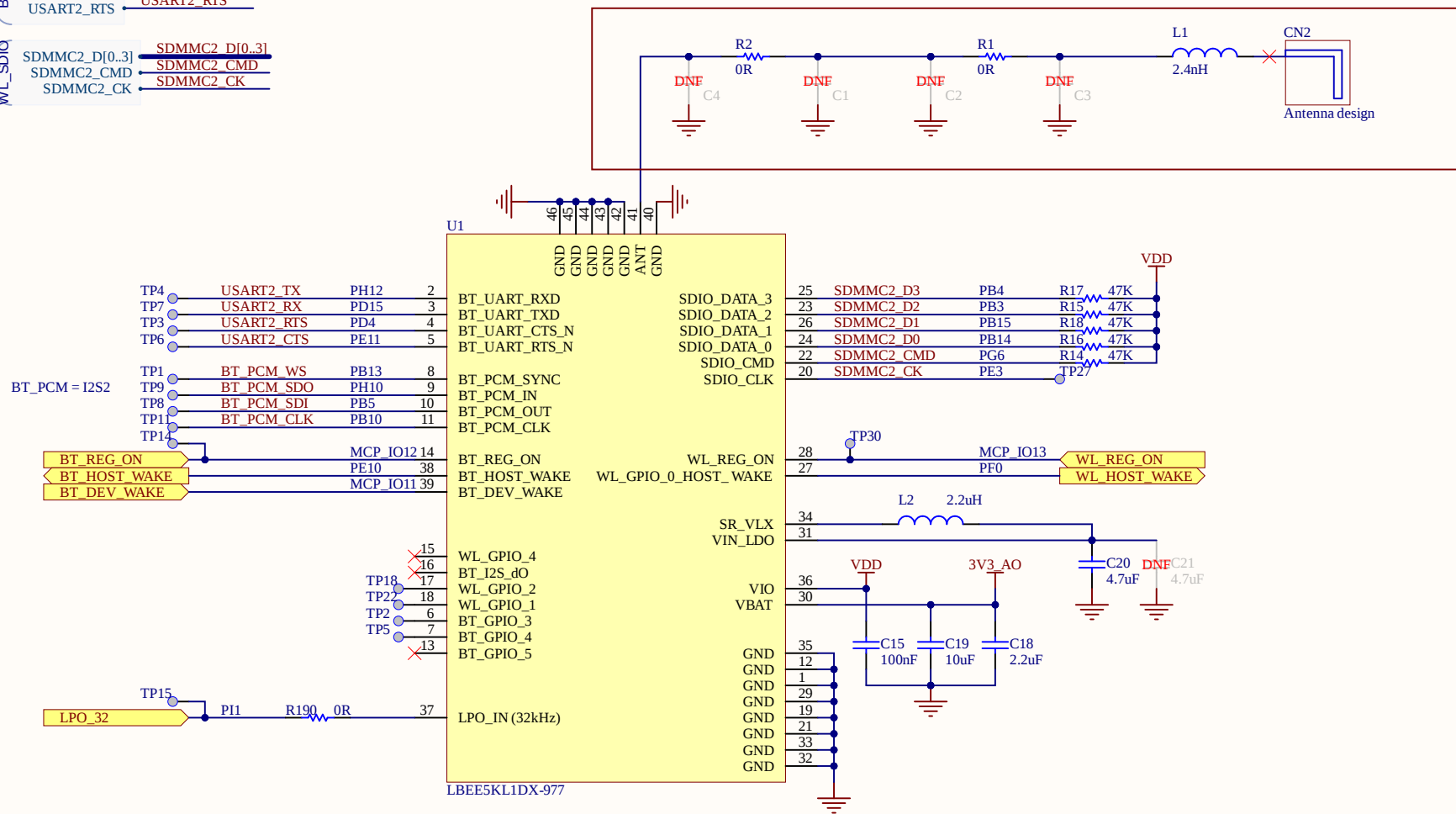
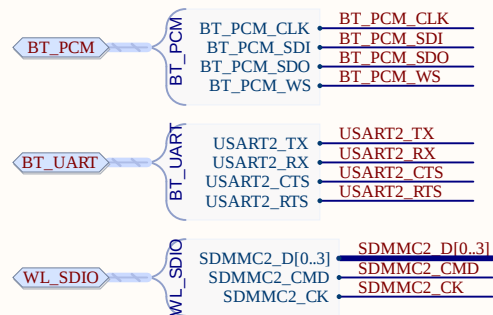




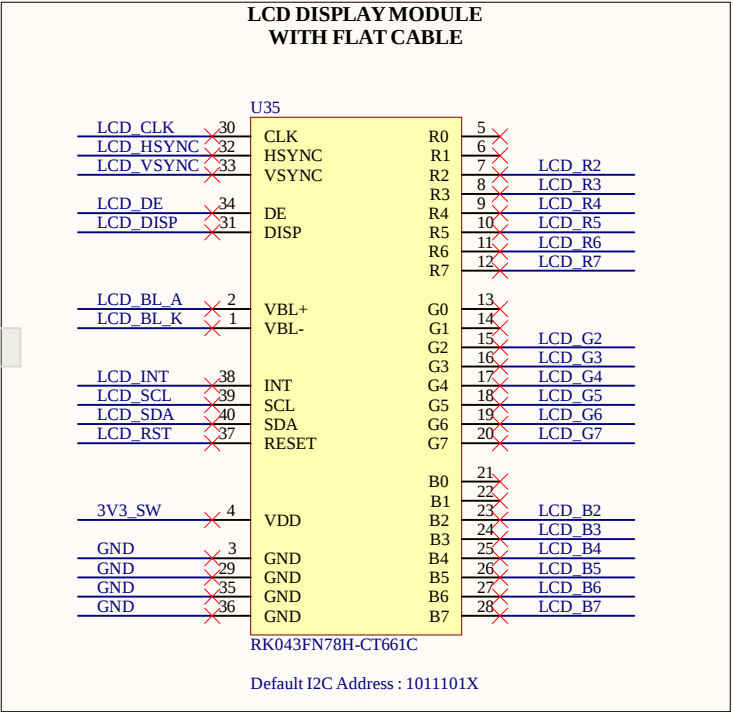
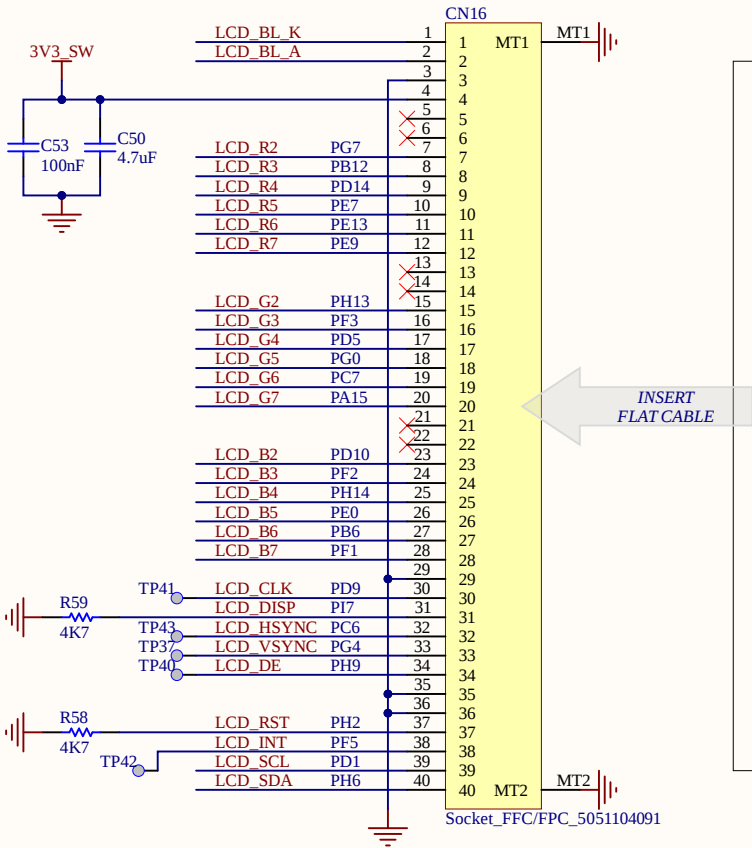
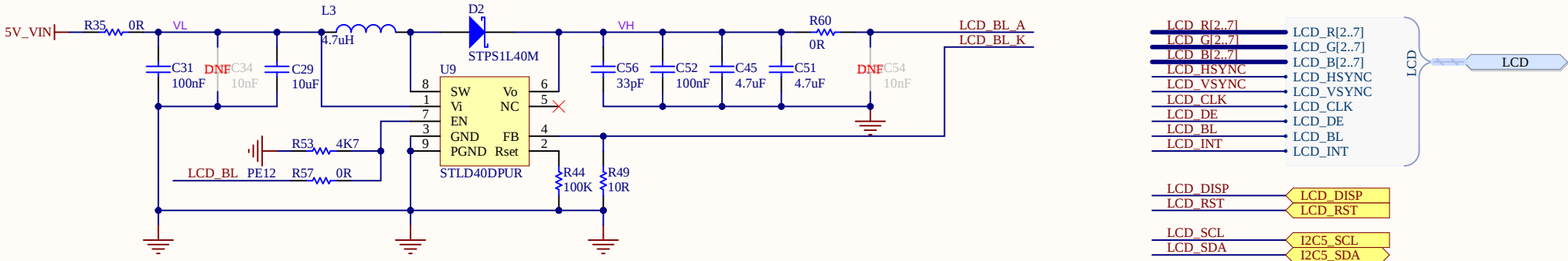


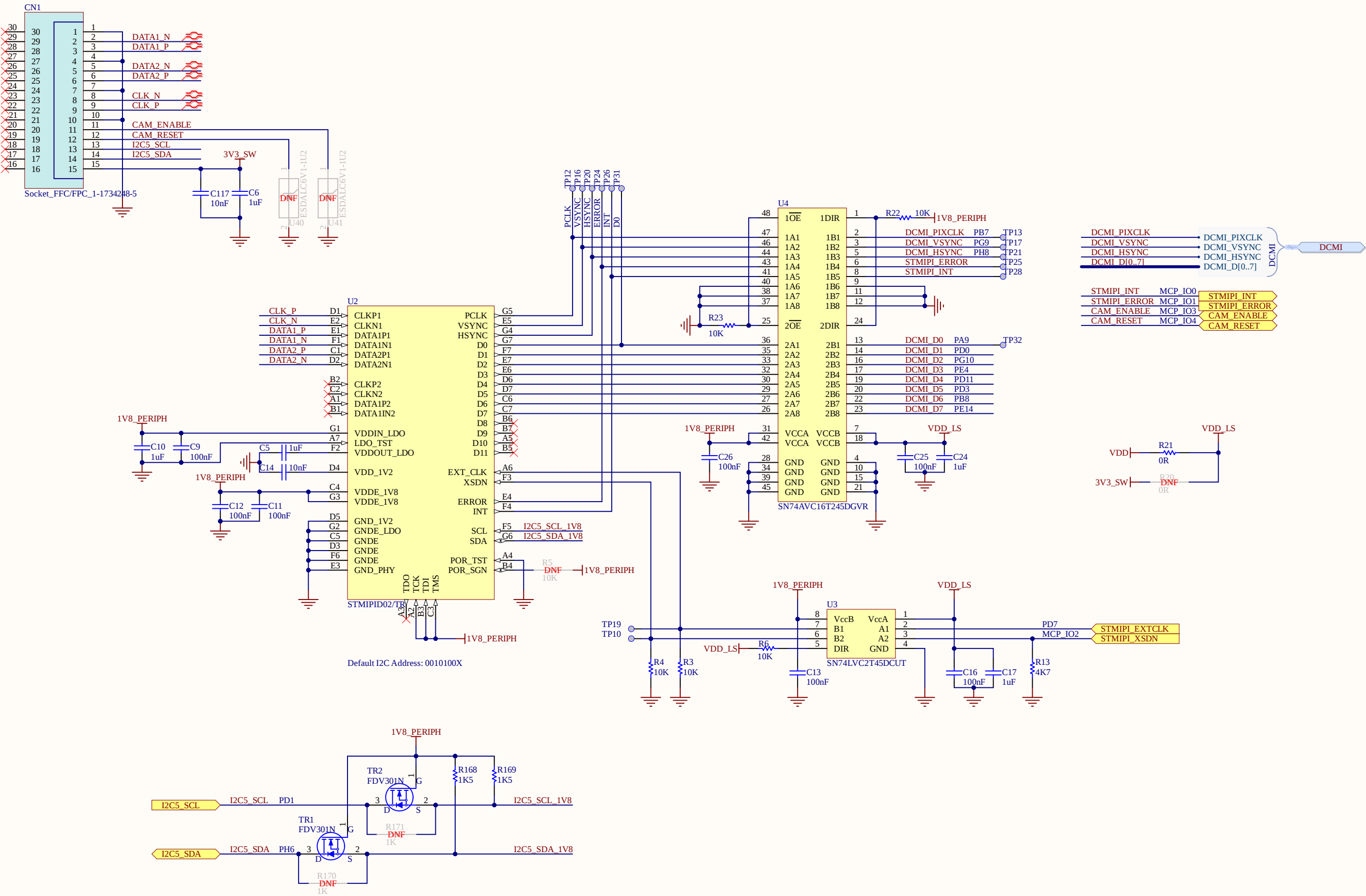


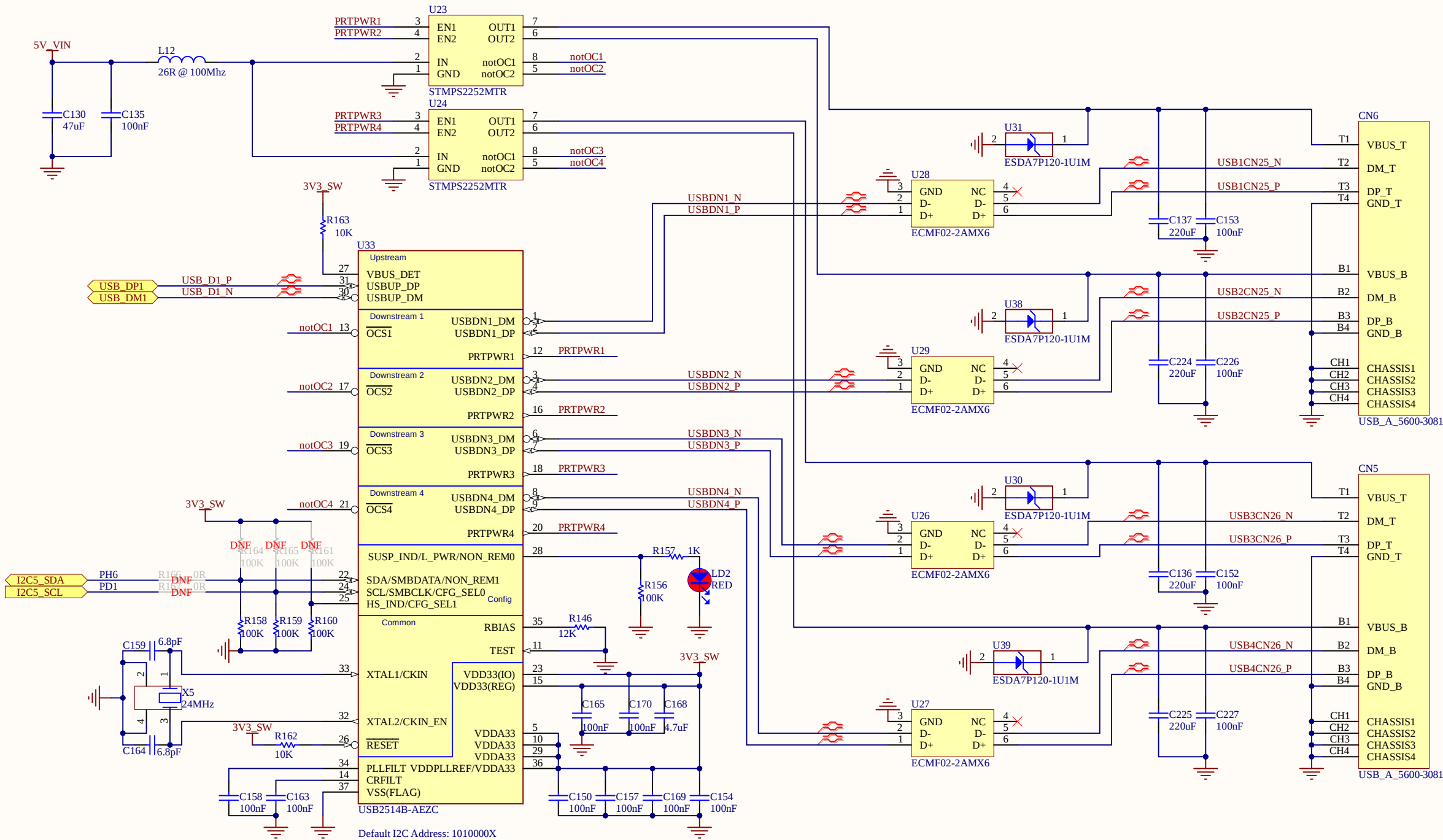
WLAN & Bluetooth



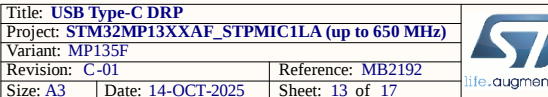
LCD 4.3"



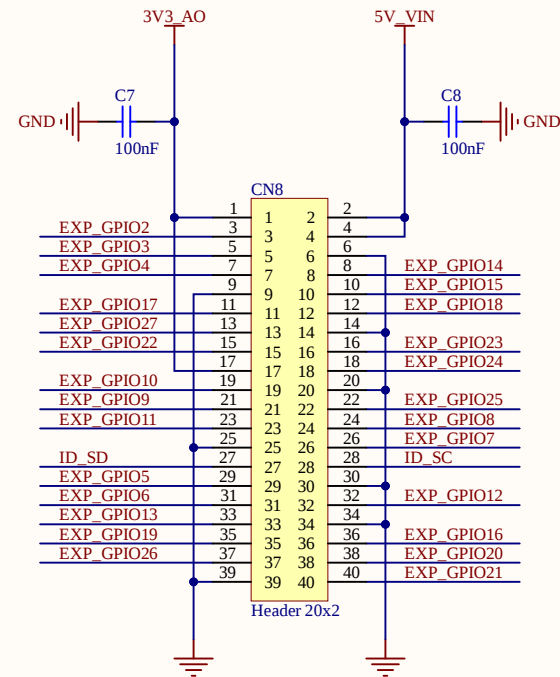
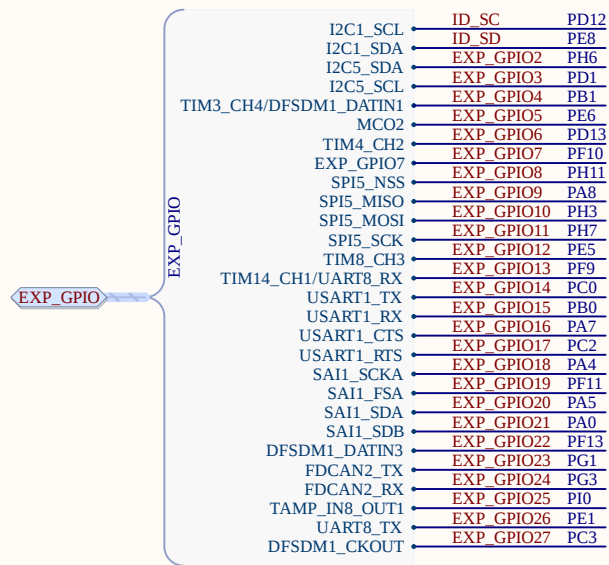




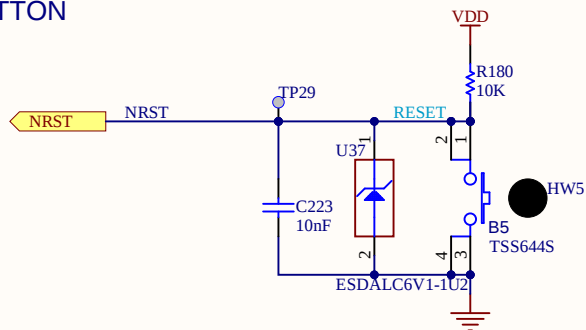
Source/Sink



EXPANSION CONNECTOR



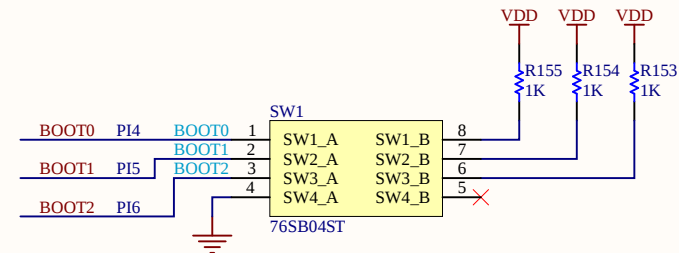
RESET BUTTON



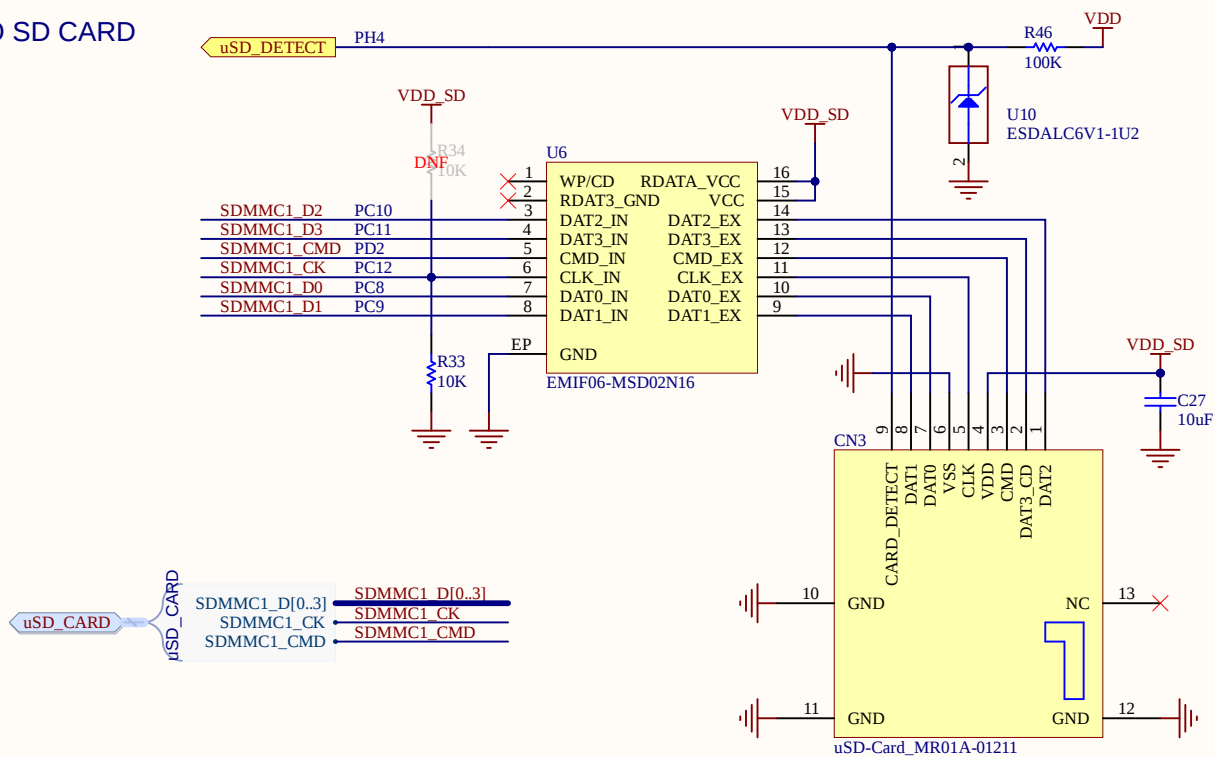
BOOT MODE



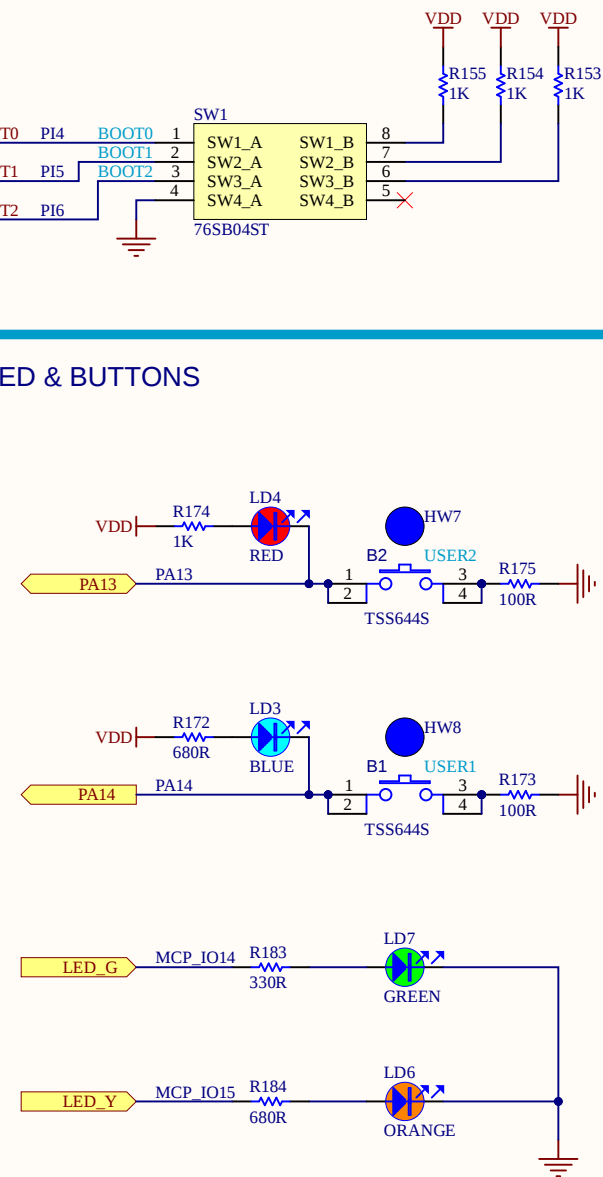
BOOT MODE	BOOT2	BOOT1	BOOT0
SD-Card	1	0	1
Forced UART/USB	0	0	0
Reserved	1	0	0



MICRO SD CARD



LED & BUTTONS



HW3

STICKER PRODUCT

N/A

HW2

STICKER BOARD

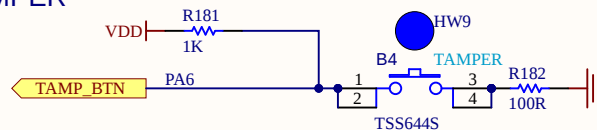
N/A

HW4

BCB

1

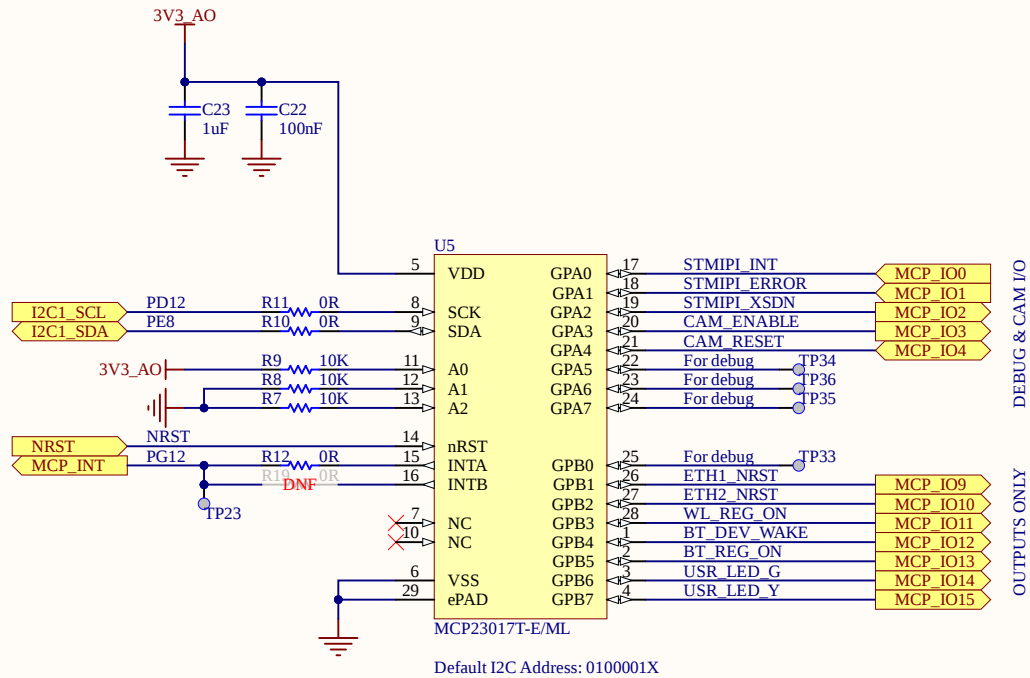
TAMPER



Title: Peripherals		
Project: STM32MP13XXAF_STPMIC1LA (up to 650 MHz)		
Variant: MP135F		
Revision: C-01		Reference: MB2192
Size: A4	Date: 14-OCT-2025	Sheet: 15 of 17

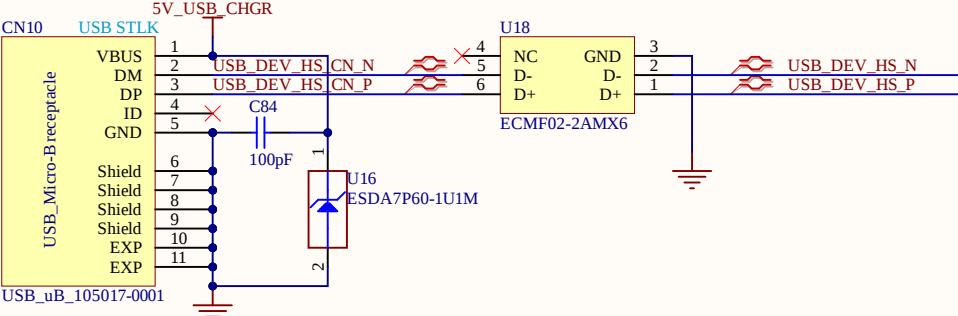


IO expander

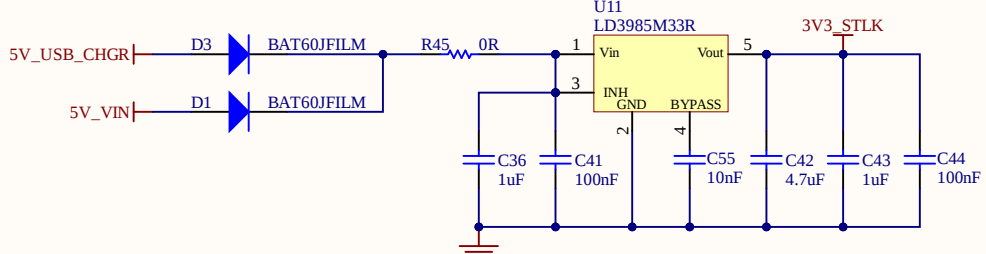


ST-LINKV3E

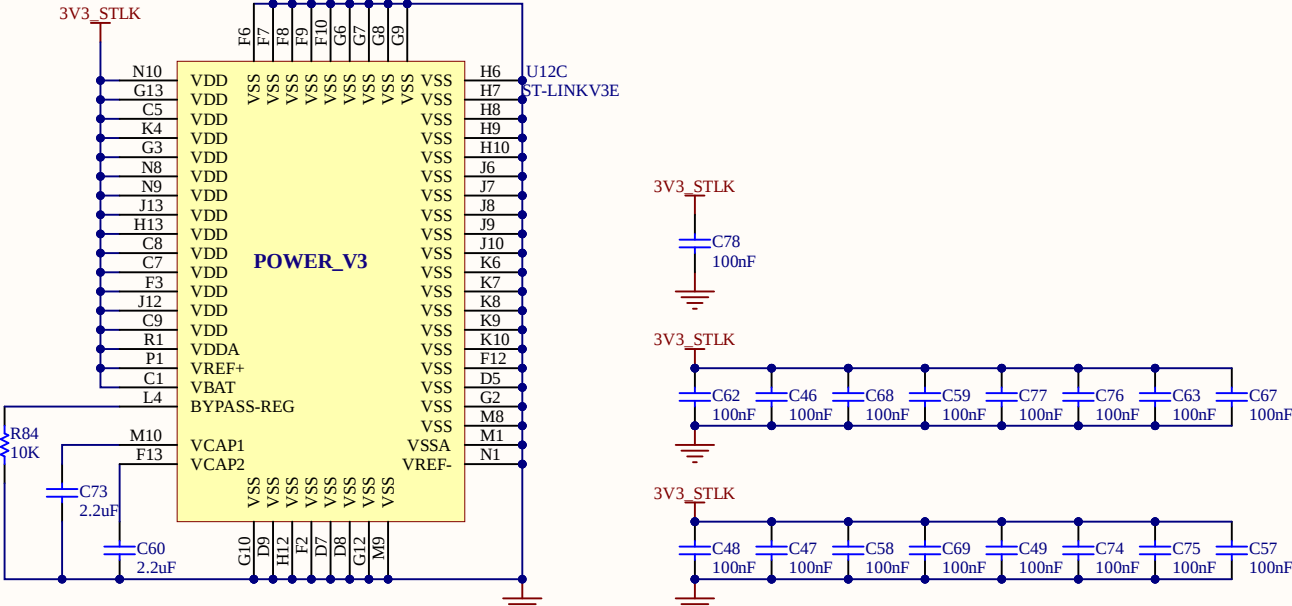
ST-LINKV3E USB HS & 5V USB CHARGER



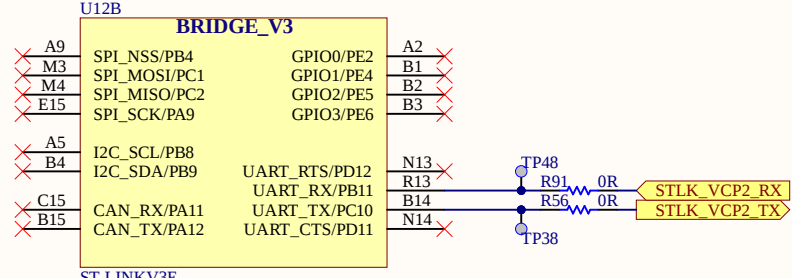
3V3 for ST-LINKV3E Only



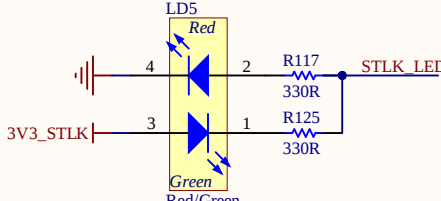
ST-LINKV3E MCU POWER



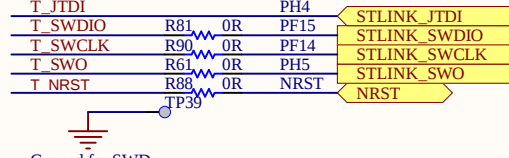
ST-LINKV3E Bridges (SPI/I2C/CAN/USART/GPIOs)



ST-LINKV3E Communication LEDs



SWD INTERACE



ST-LINKV3E JTAG/SWD/SWIM Debug Module

