

Nucleo144 H7 SMPS with STLINK V3

MB1363

H745ZIQ

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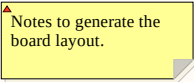
Sheet 9: ST-LINK V3E SWD

U_MB1363_Top
MB1363_Top.SchDoc



Legend

- General comment such as function title, configuration, ...
- Text to be added to silkscreen.
- Warning text.



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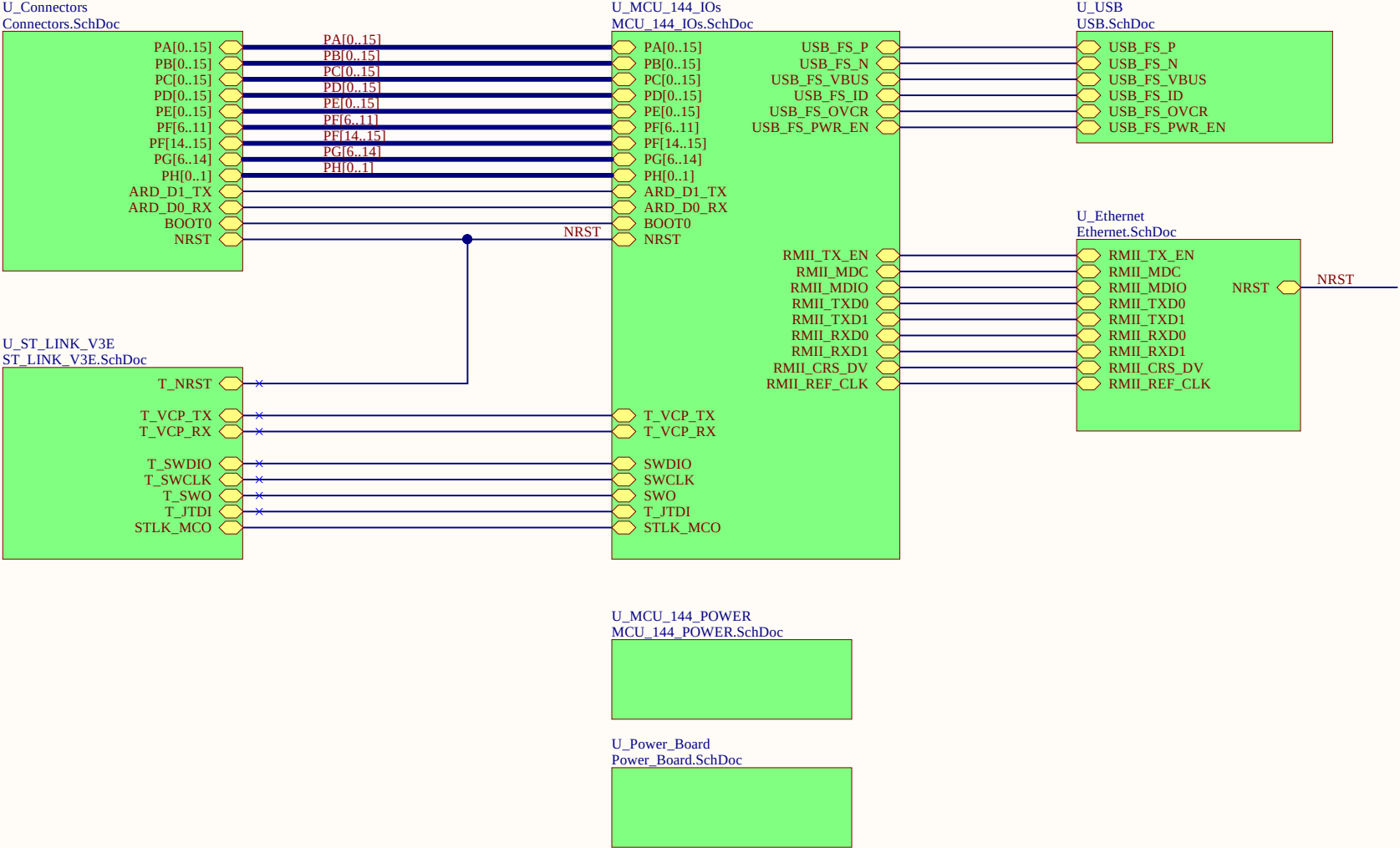
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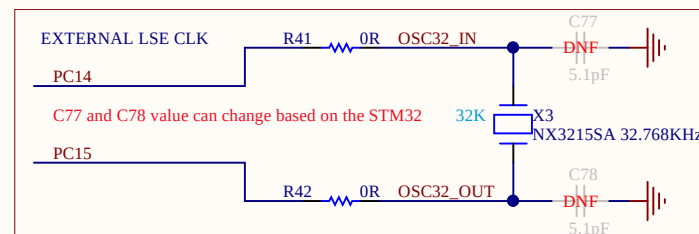
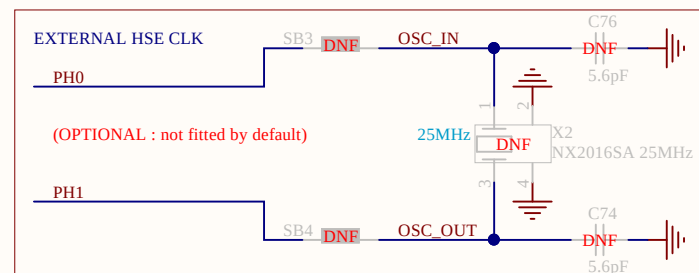
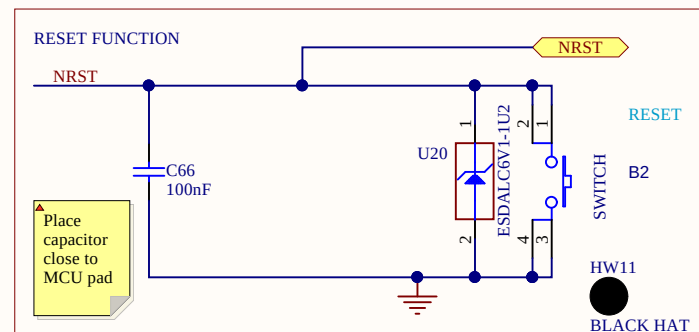
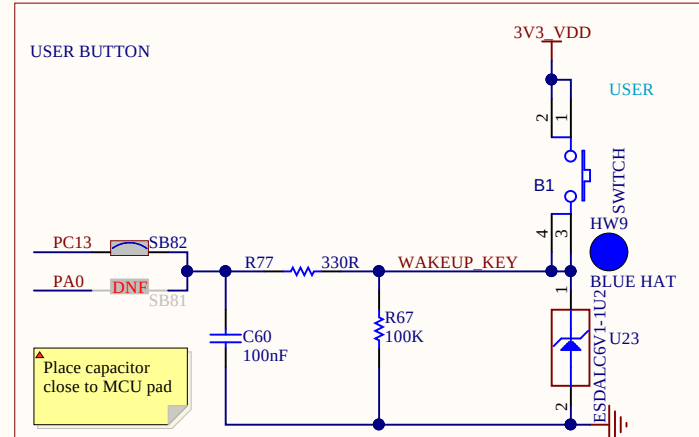
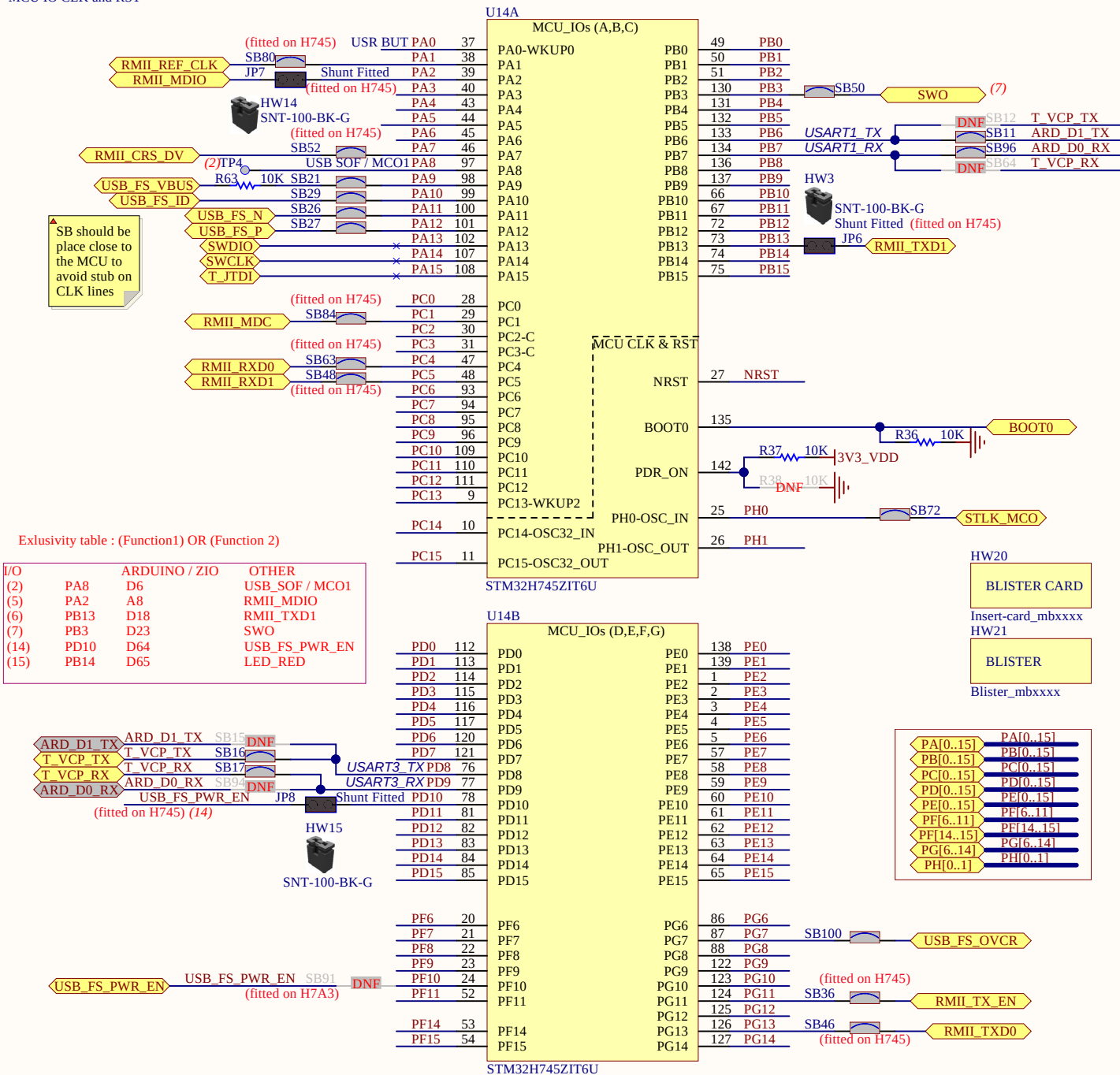
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Title: Project overview		
Project: Nucleo144 H7 SMPS with STLINK V3		
Variant: H745ZIQ		
Revision: C-01		Reference: MB1363
Size: A4	Date: 14-FEB-19	Sheet: 1 of 9

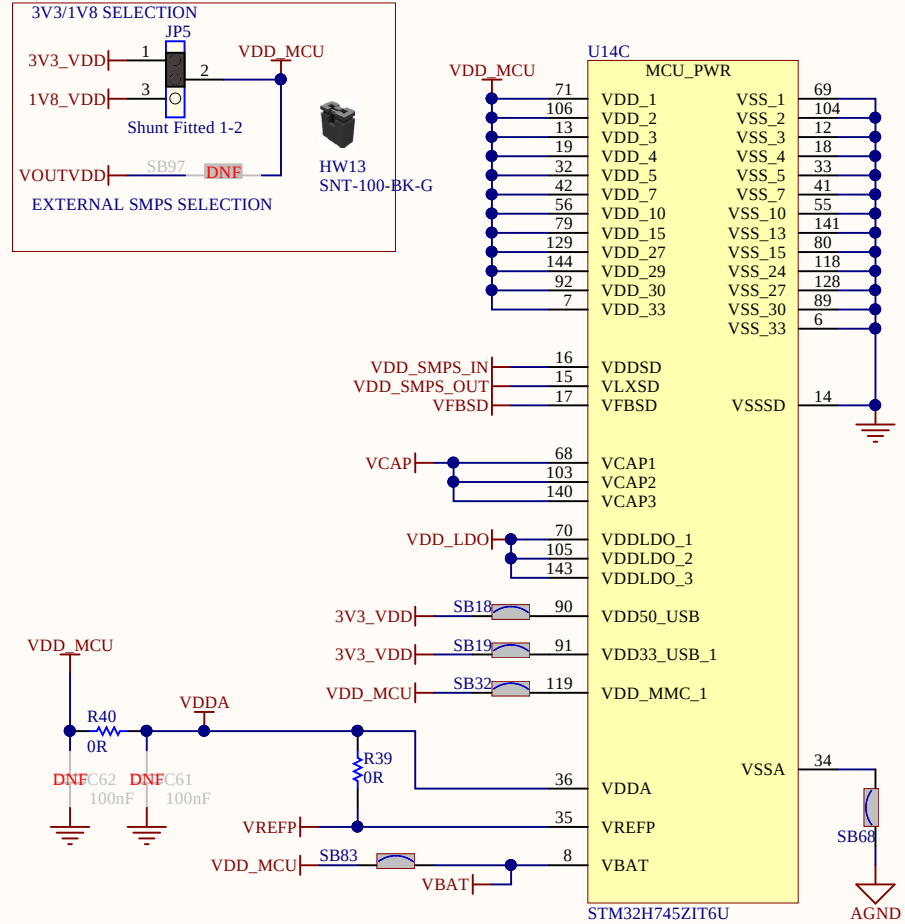




MCU IO CLK and RST



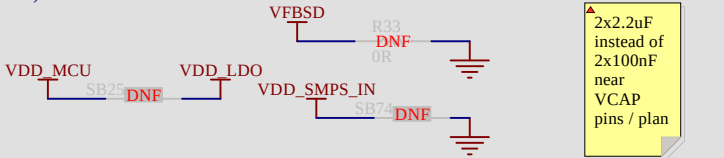
MCU PWR SUPPLIES



SMPS MCU Supply Config

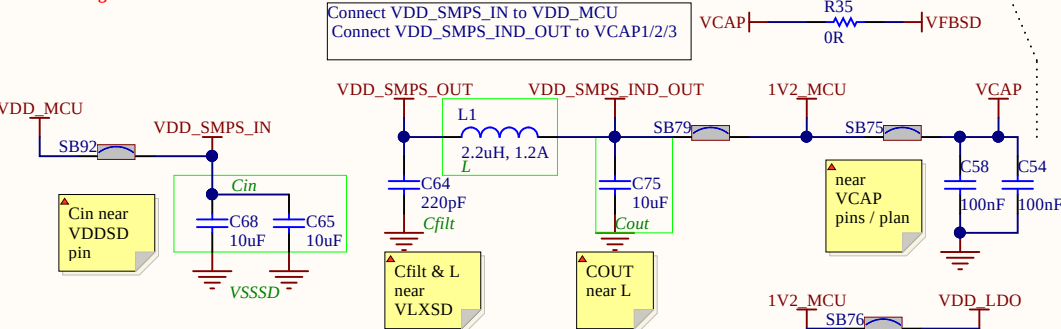
Supply Config 1 : LDO only (SMPS OFF, LDO ON)

Disconnect 3V3_SMPS_IN from 3V3_MCU
Connect 3V3_SMPS_IN to GND
Connect VDD_SMPS_IND_OUT to GND
Connect VDD_LDO to 3V3_MCU
2 x 2.2uF near VCAP plans/pins



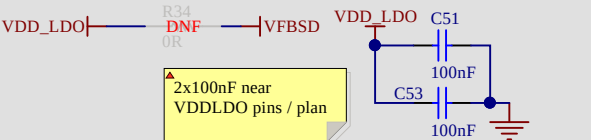
Supply Config 2 : Internal SMPS only (SMPS ON, LDO OFF)

Default config



Supply Config 3 : SMPS & LDO cascaded (SMPS & LDO ON)

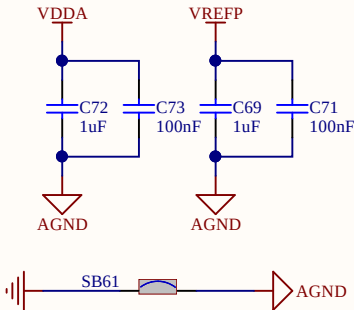
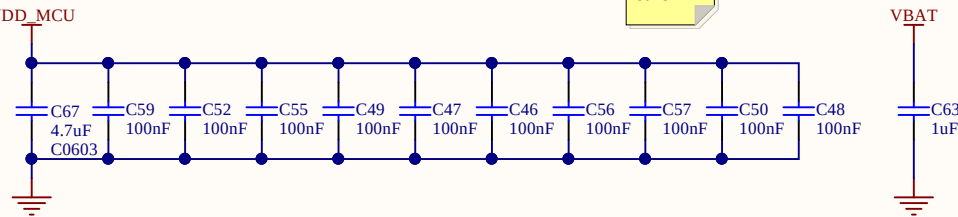
Compared to config 2 :
Disconnect VDD_SMPS_IND_OUT from VCAP
Connect VDD_SMPS_IND_OUT to VDD_LDO
Add 2x100nF near VDDLDO pins/plans
Add 2x2.2uF near VCAP pins/plans (see config 1)



Supply Config 5 : external SMPS

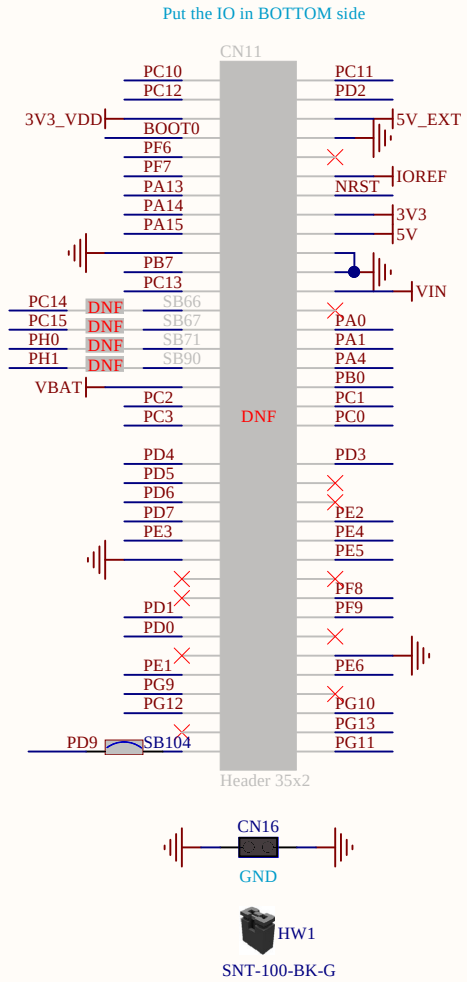
Disconnect 1V2_MCU from VDD_SMPS_IND_OUT
Connect 1V2_MCU to 1V2_VOUTCORE (Connectors page)

MCU DECAPS
Ceramic capacitor (Low ESR, ESR<1ohm)

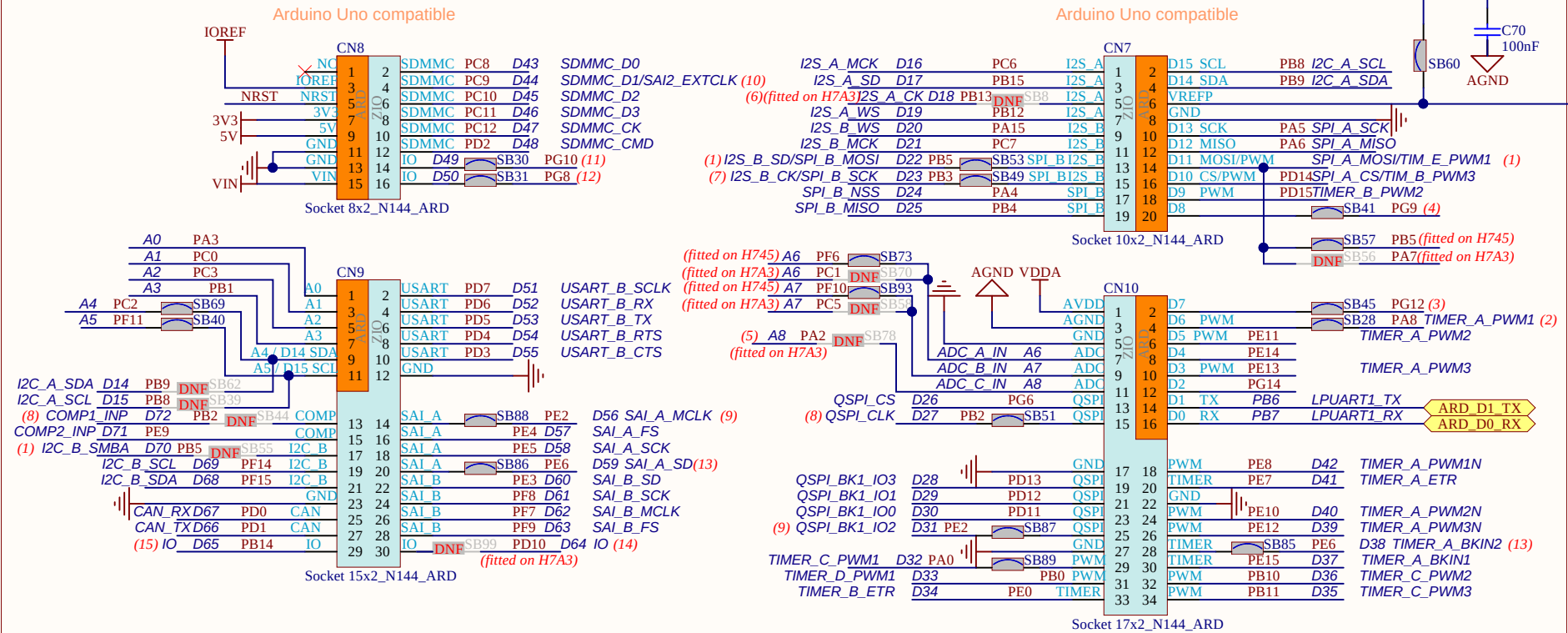


EXTENSION CONNECTORS, MCU INTERFACES

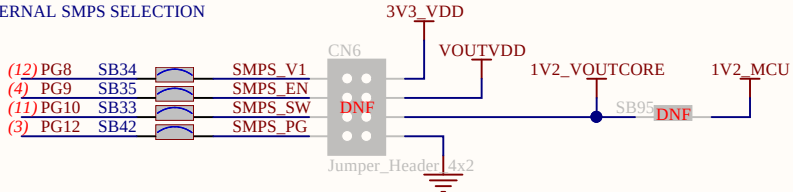
MORPHO CONNECTOR LEFT SIDE



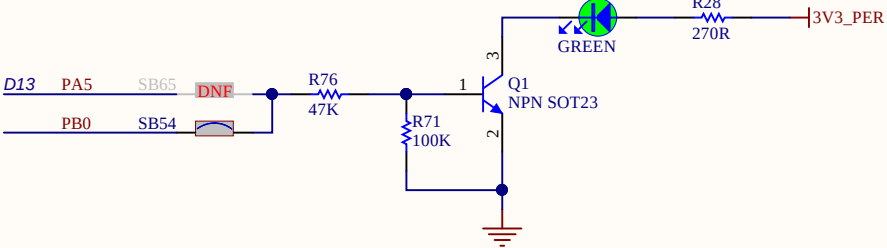
ZIO CONNECTOR ARDUINO UNO COMPATIBLE



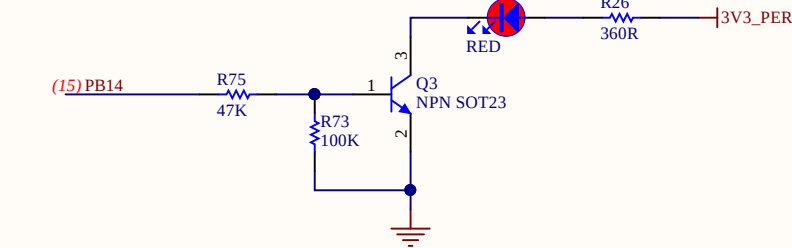
EXTERNAL SMPS SELECTION



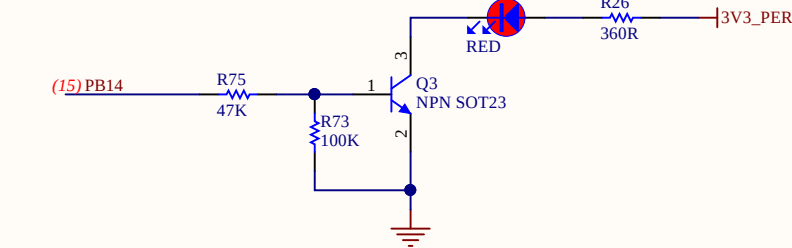
USER LED 1 : ARD_D13_LED



USER LED 2

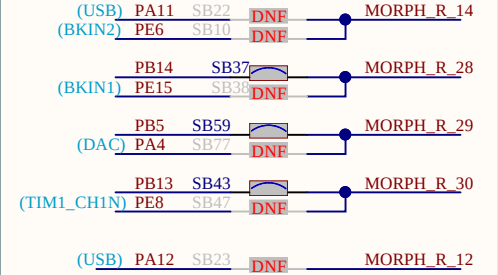


USER LED 3



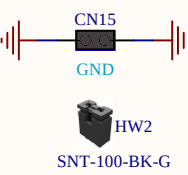
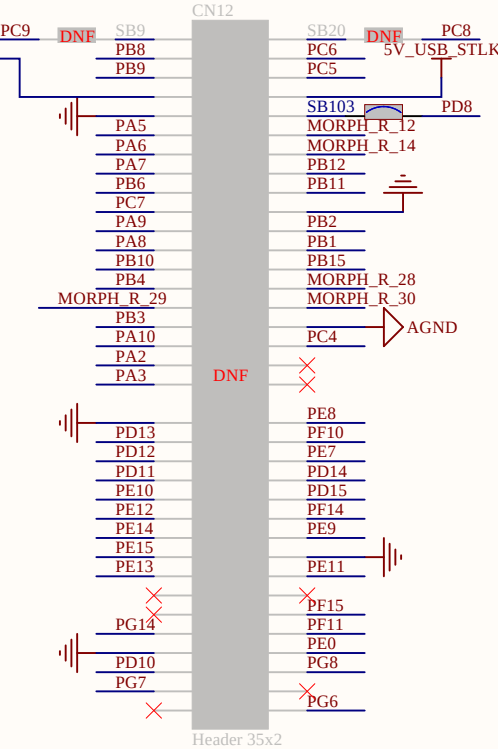
MORPHO CONNECTOR RIGHT SIDE

FOR X-NUCLEO-IHMXXM1 MOTOR CTRL COMPATIBILITY

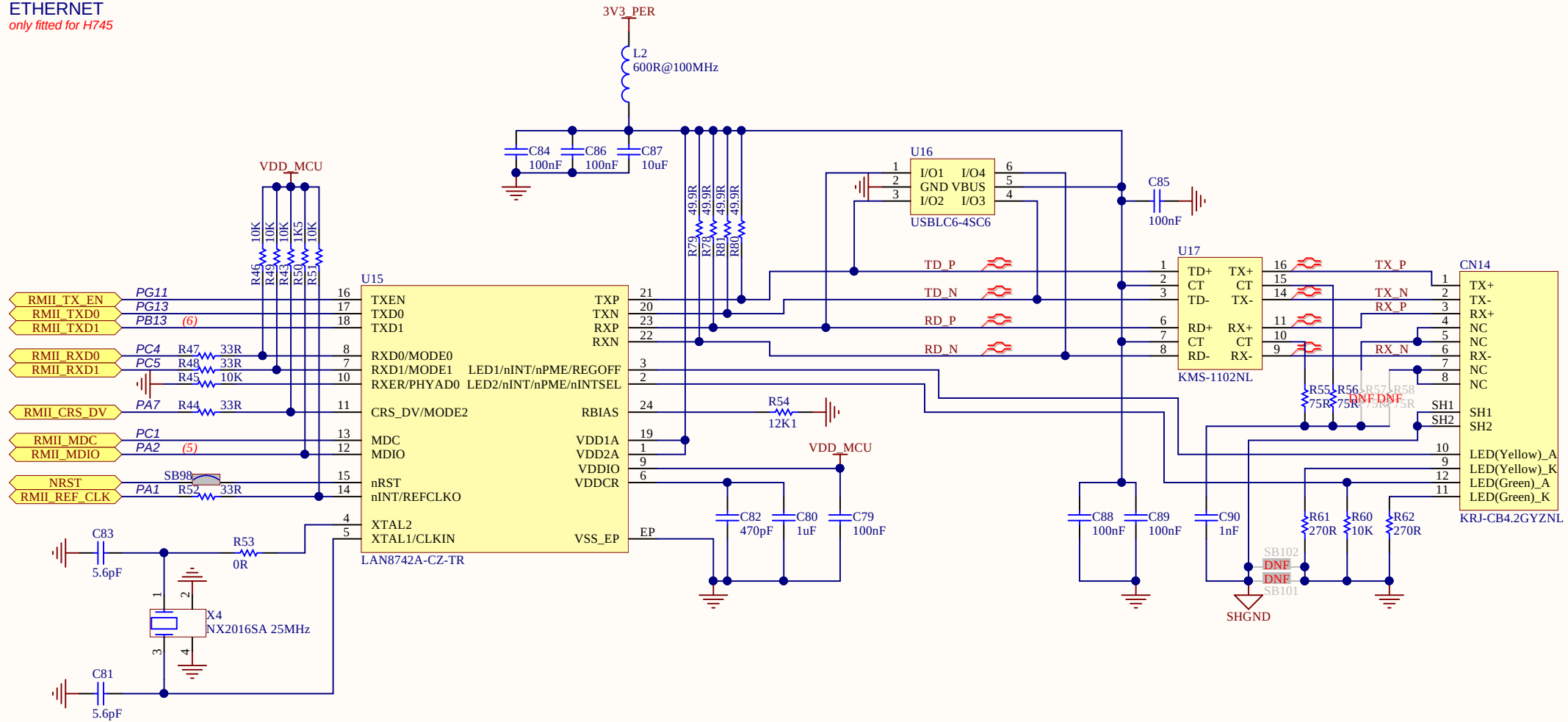


SBxx to avoid stub of SDMMC & USB signals

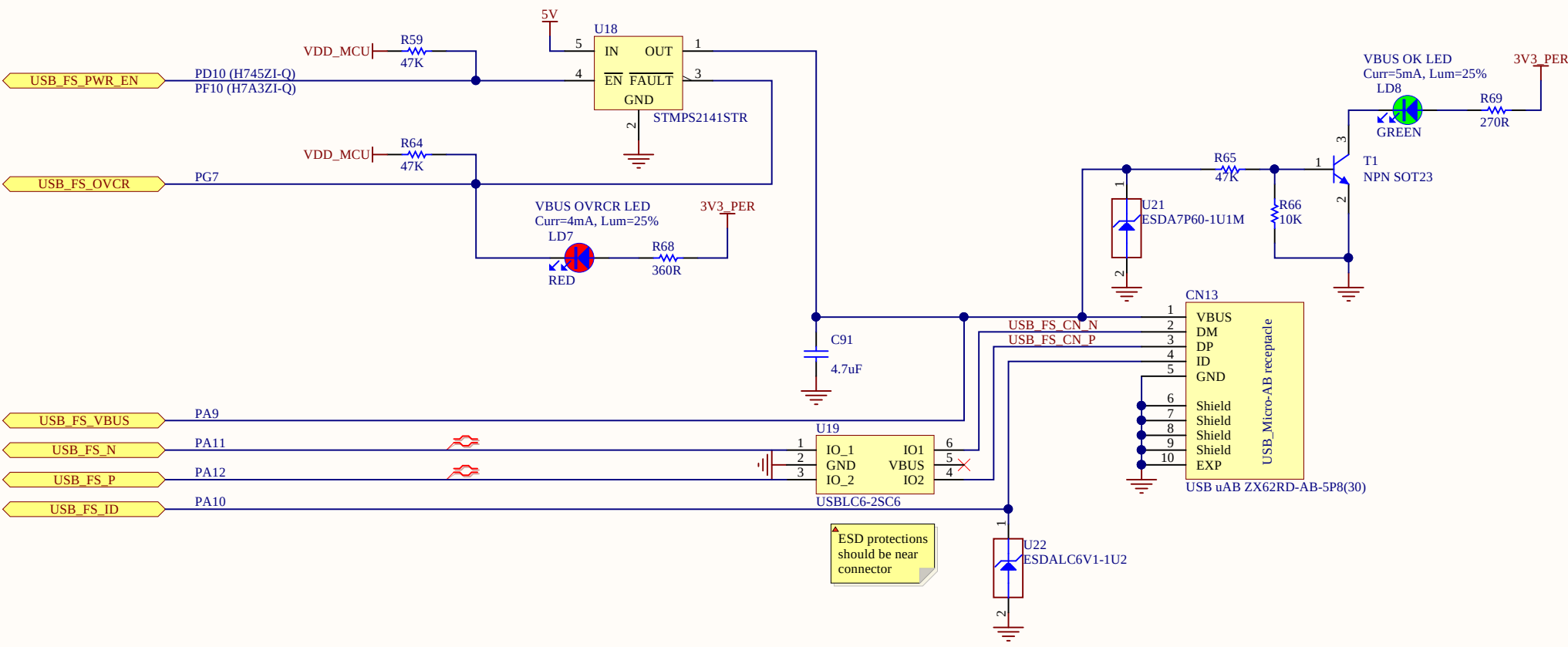
Put the IO in BOTTOM side



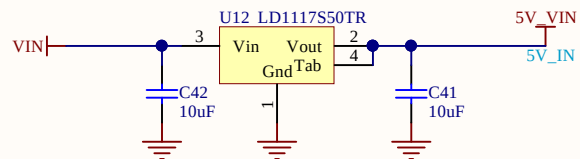
only fitted for H745



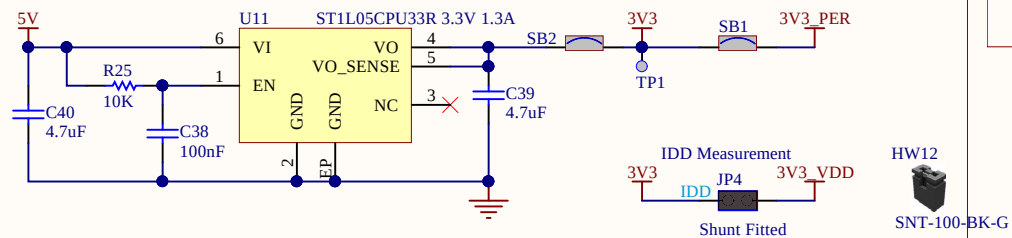
USB FS



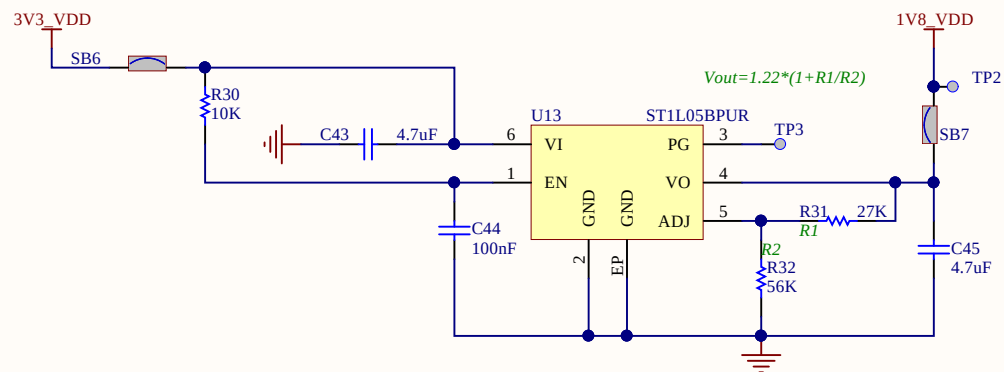
VIN / 5V PWR



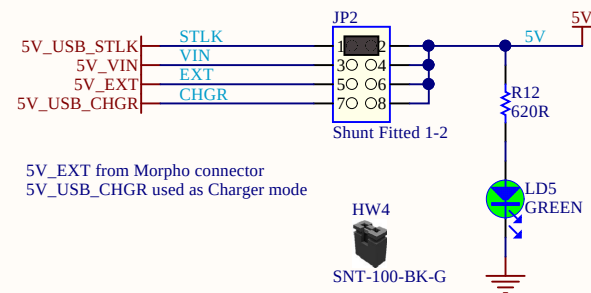
3V3 PWR



1V8 PWR

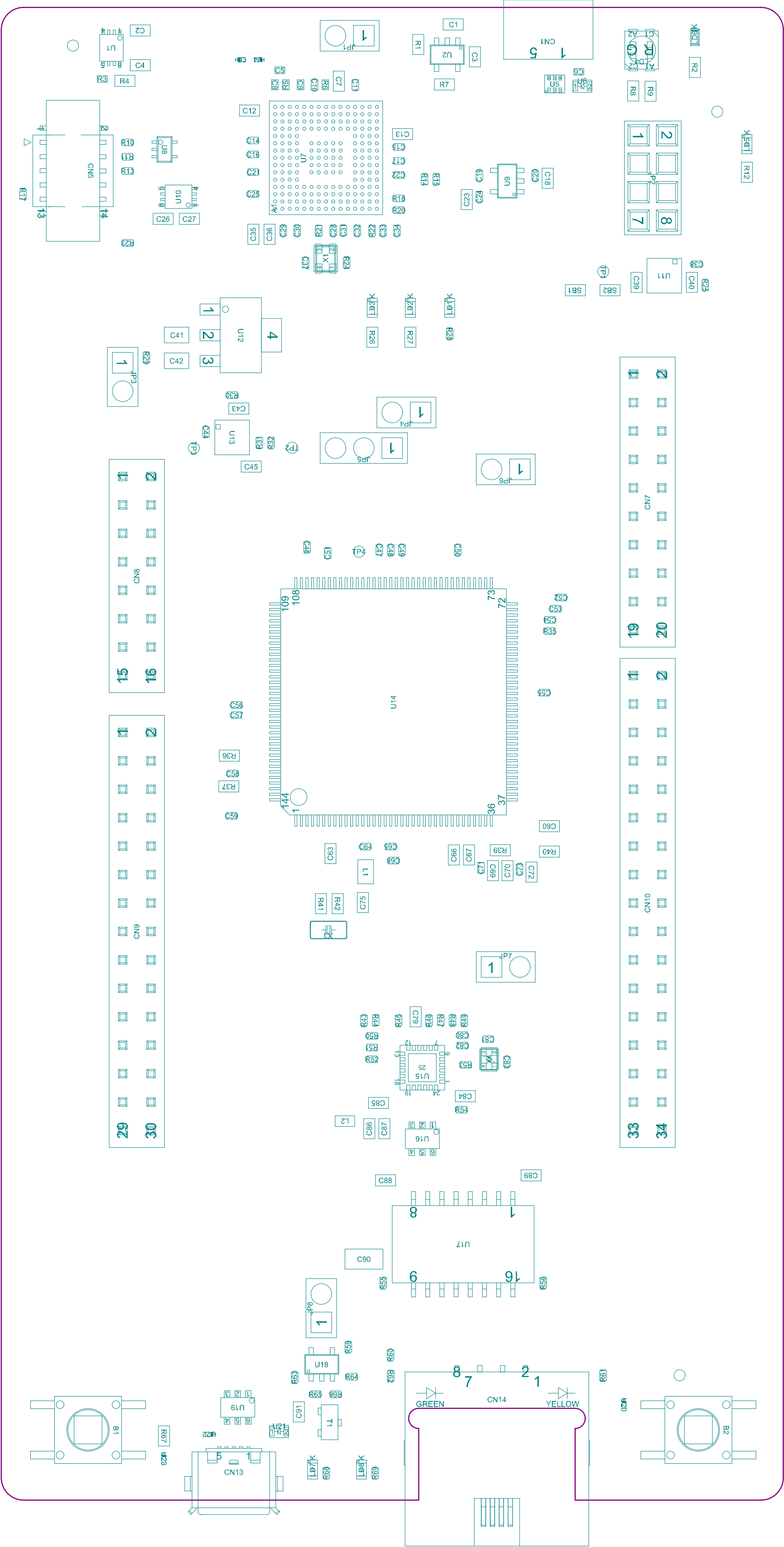


5V PWR SELECTION



Title: MAIN POWER 5V / 3V3 / 1V8		
Project: Nucleo144 H7 SMPS with STLINK V3		
Variant: H745ZIQ		
Revision: C-01		Reference: MB1363
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Project: Nucleo144 H7 SMPS with STLINK V3	
Layer: M14-Top Assembly	Gerber: .GM14
Variant: H745ZIQ	Ref: MB1363
Date: 14-FEB-19	Rev: C

