

STM32H7B3I-DK

MB1332

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Legend

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

Text to be added to silkscreen.

Warning text.

Notes to generate the board layout.

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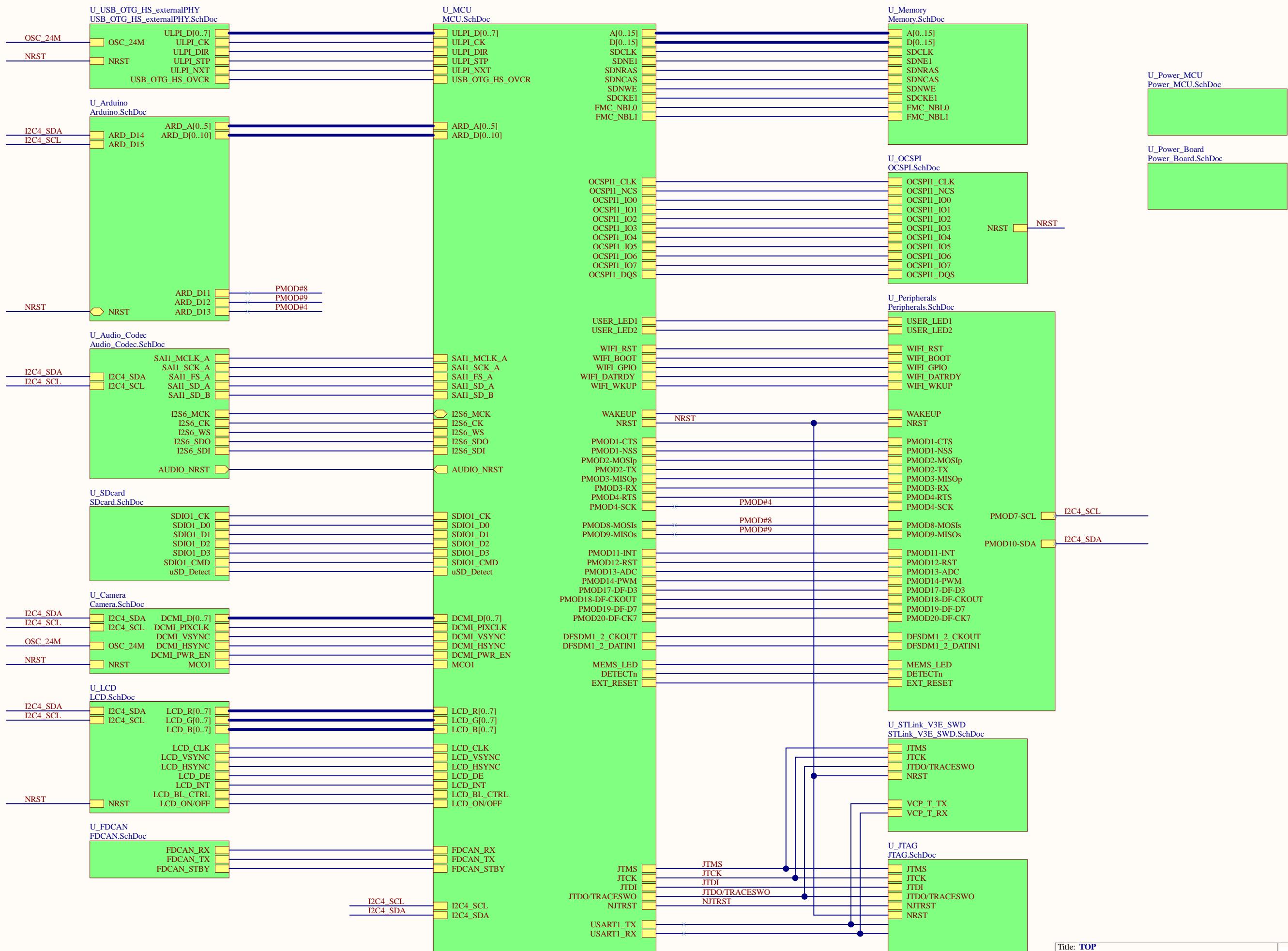
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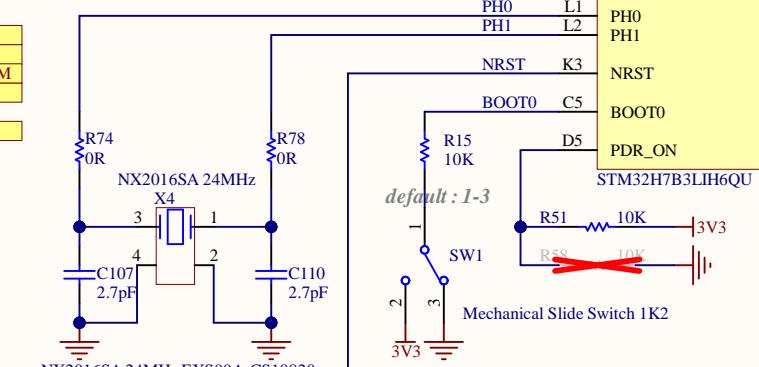
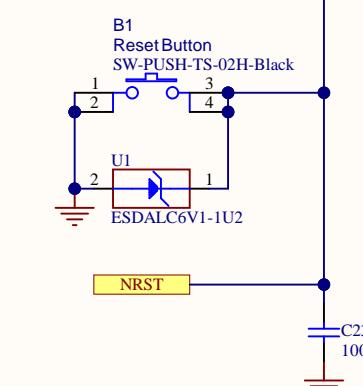
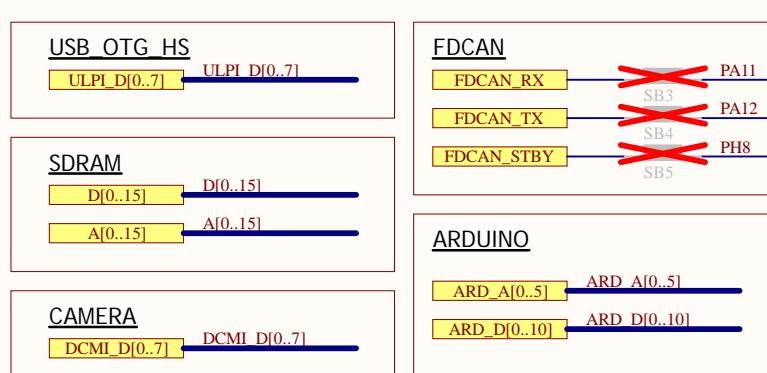
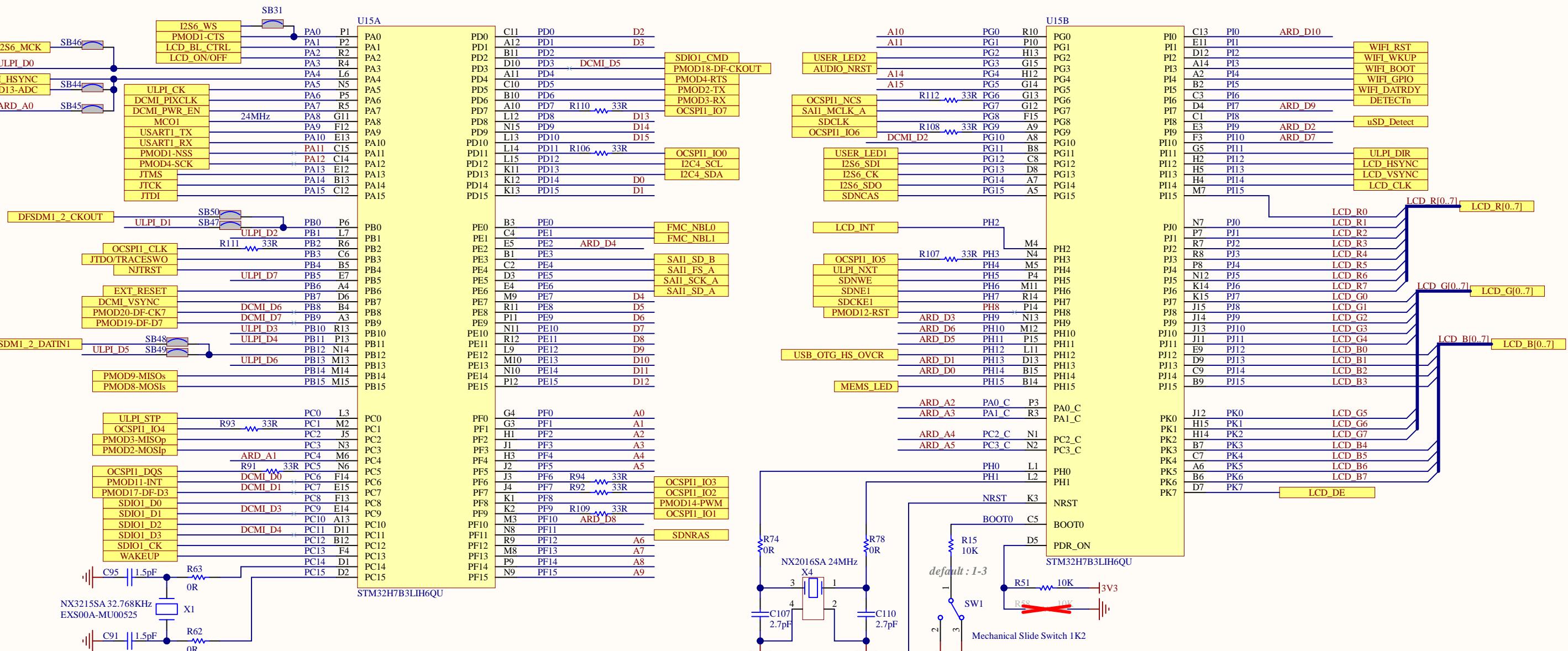
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U_Top
MB1332_TOP.SchDoc



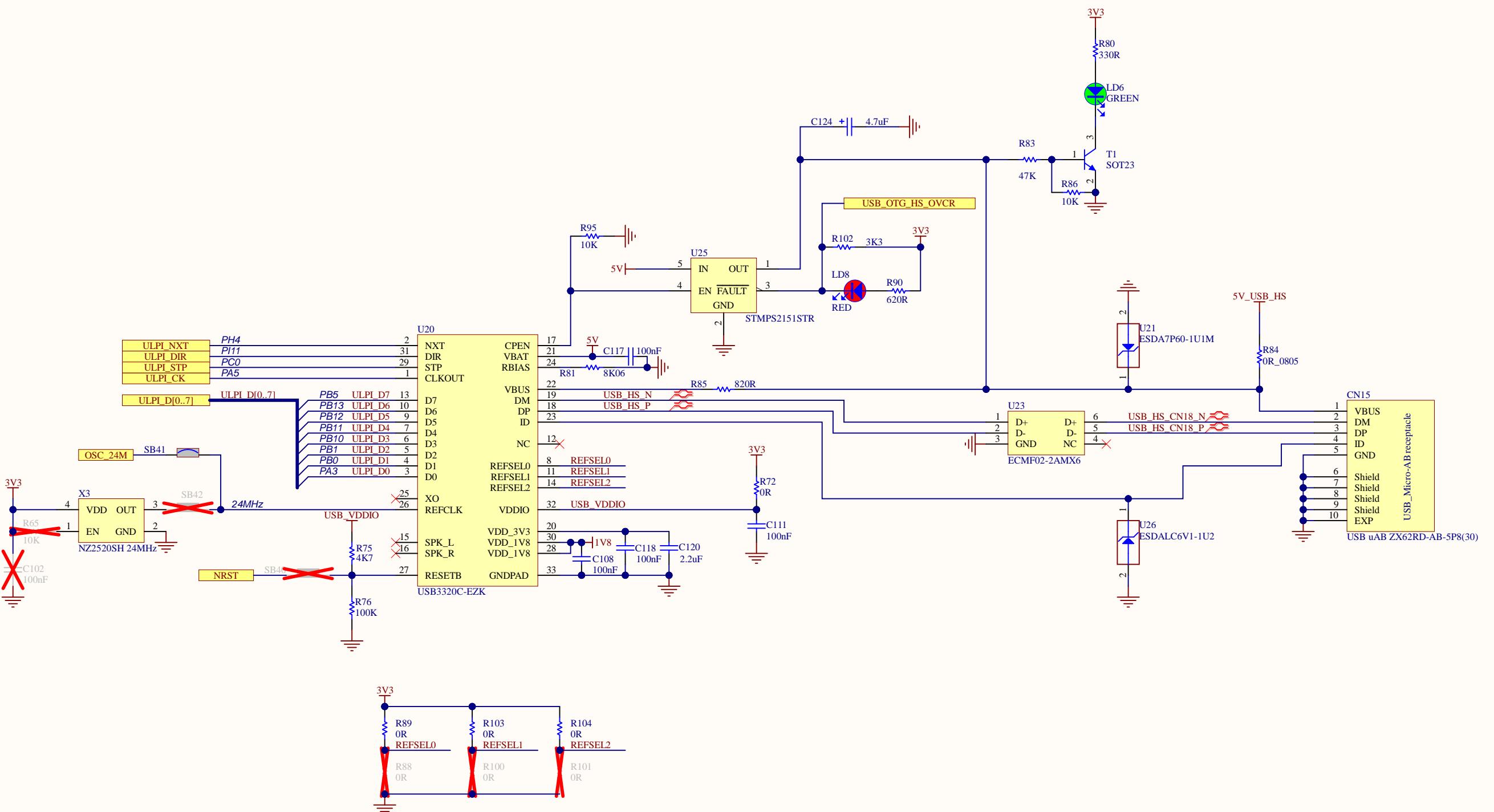
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Variant: H7B3I	Revision: C-02	
Size: A4	Date: 13-NOV-2020	
Reference: MB1332	Sheet: 1 of 17	



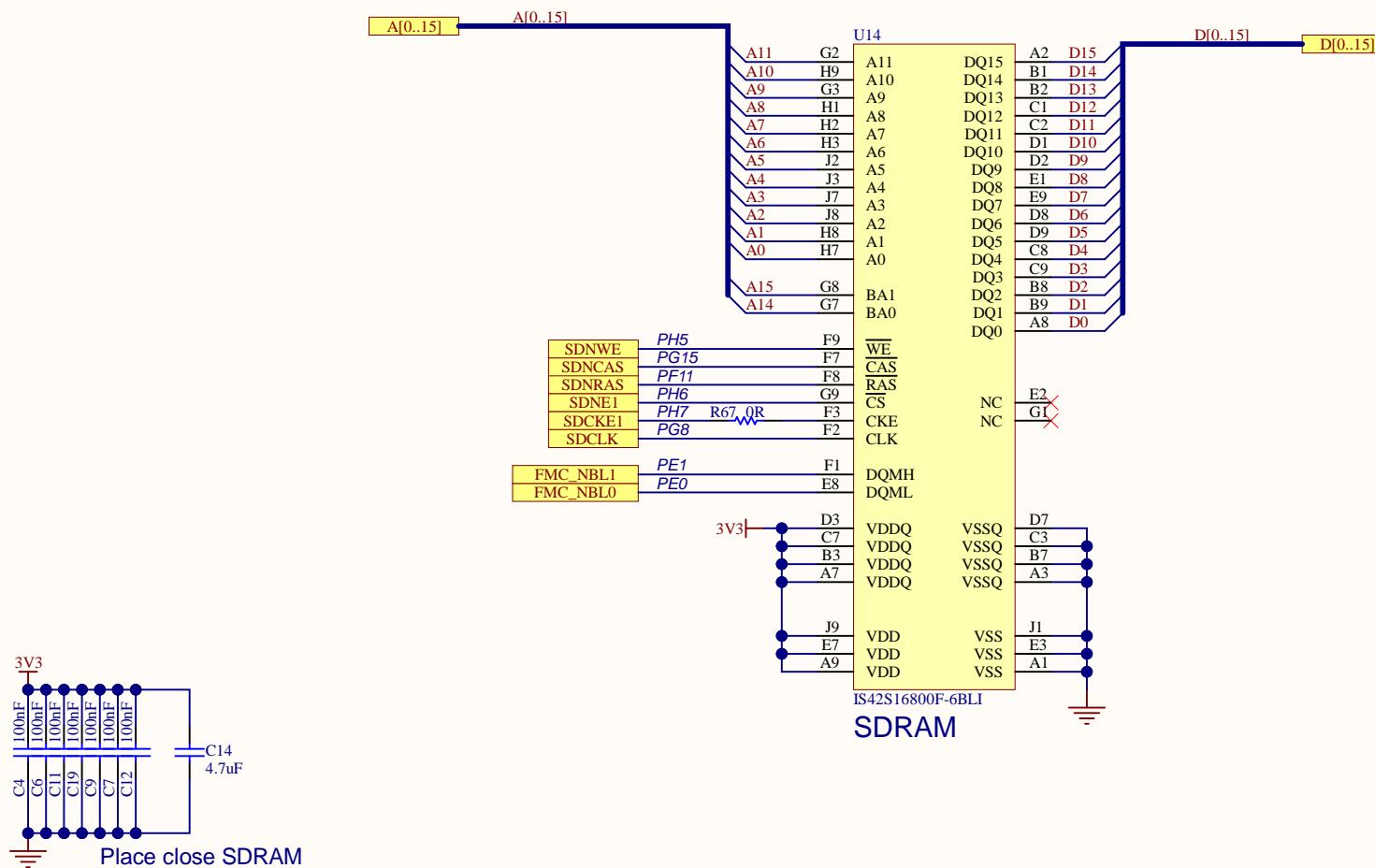


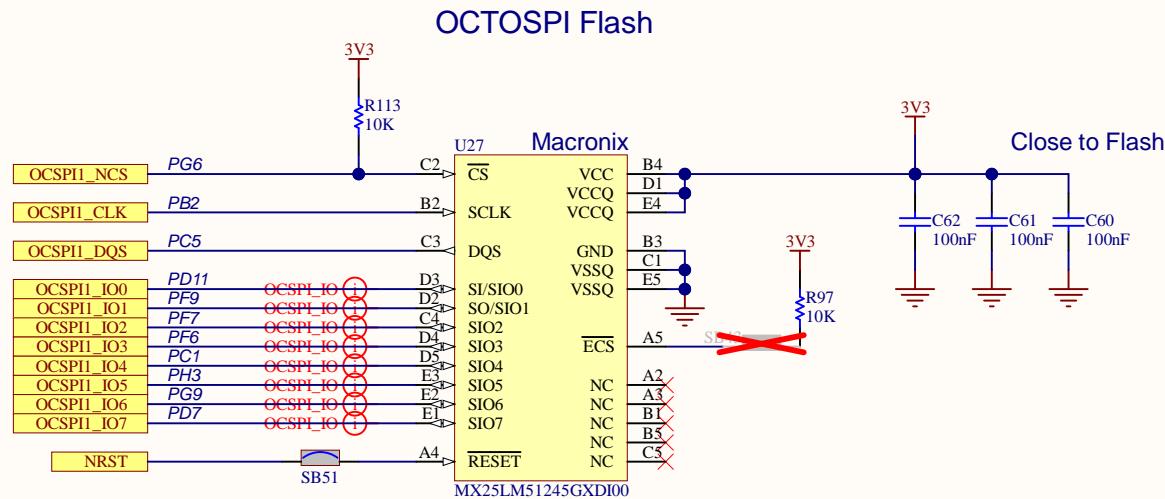
Title: MCU STM32H7B3LH6QU		
Project: STM32H7B3I-DK		
Variant: H7B3I		
Revision: C-02	Reference: MBI332	
Size: A3	Date: 13-NOV-2020	Sheet: 3 of 17





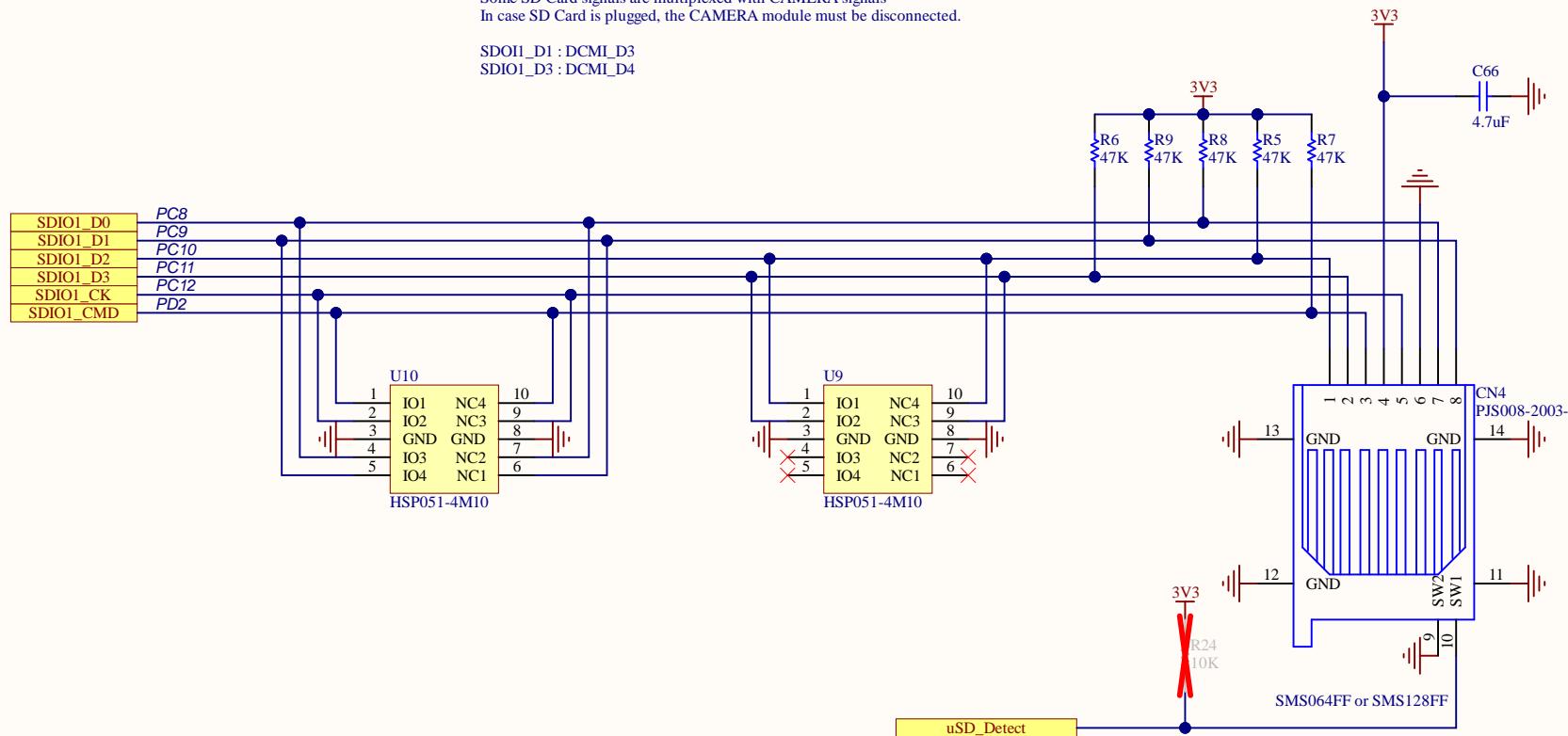
Memory

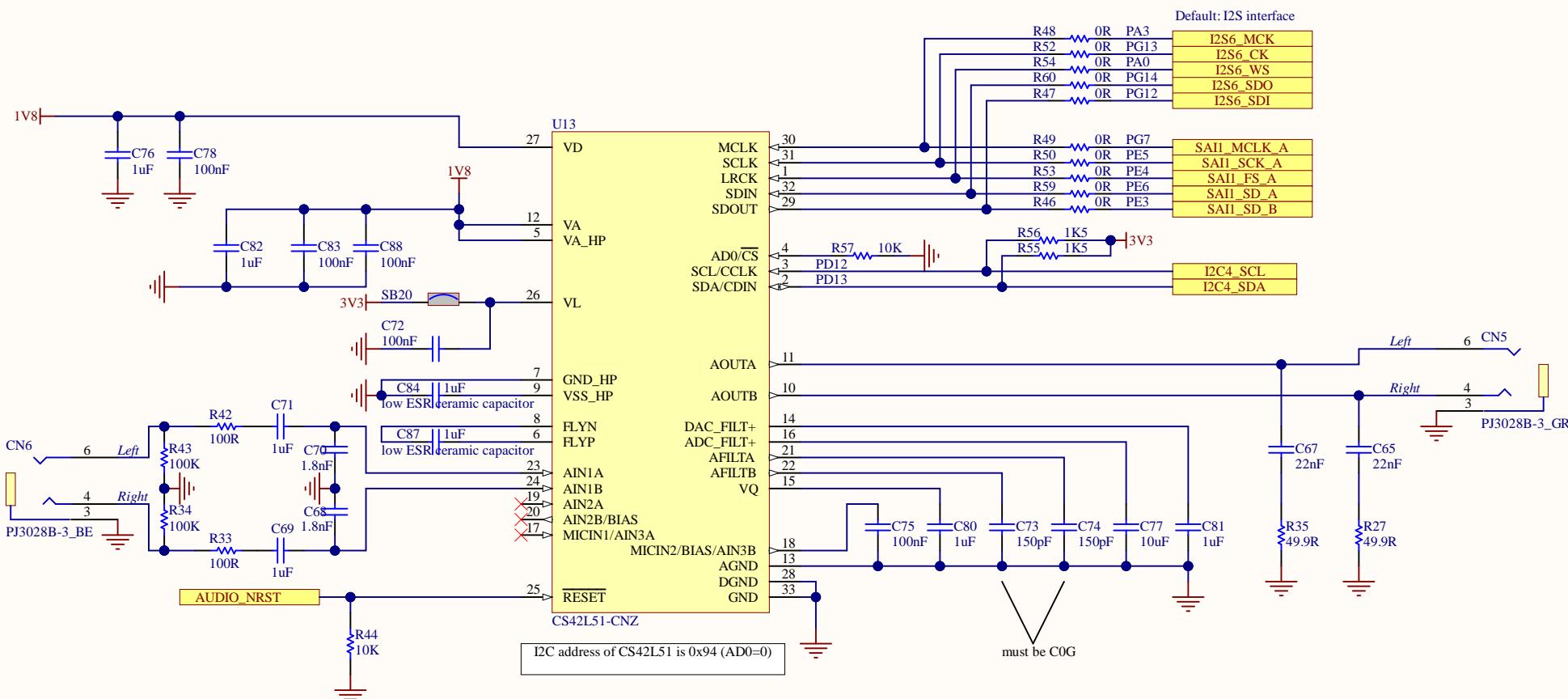




LIMITATION :
Some SD Card signals are multiplexed with CAMERA signals
In case SD Card is plugged, the CAMERA module must be disconnected

SDOI1_D1 : DCMI_D2
SDIO1_D3 : DCMI_D4



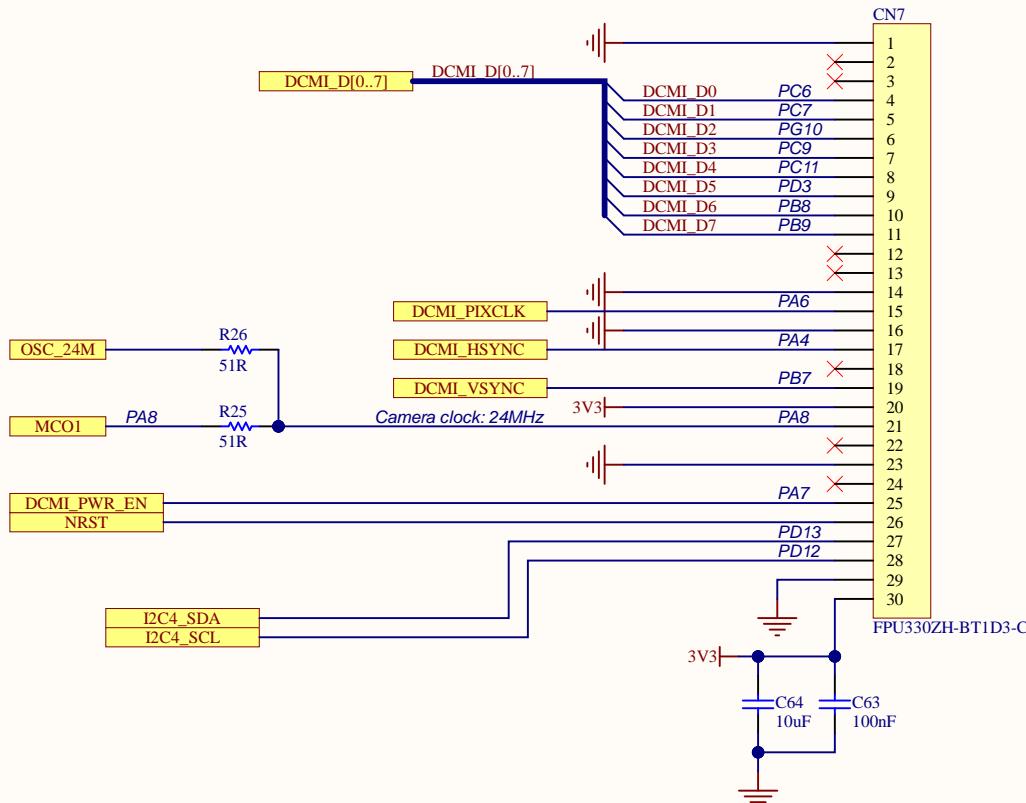


Title: Audio Codec		
Project: STM32H7B3I-DK		
Variant: H7B3I		
Revision: C-02		
Size: A4	Date: 13-NOV-2020	Reference: MB1332

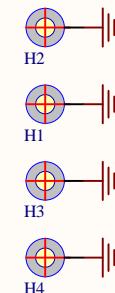
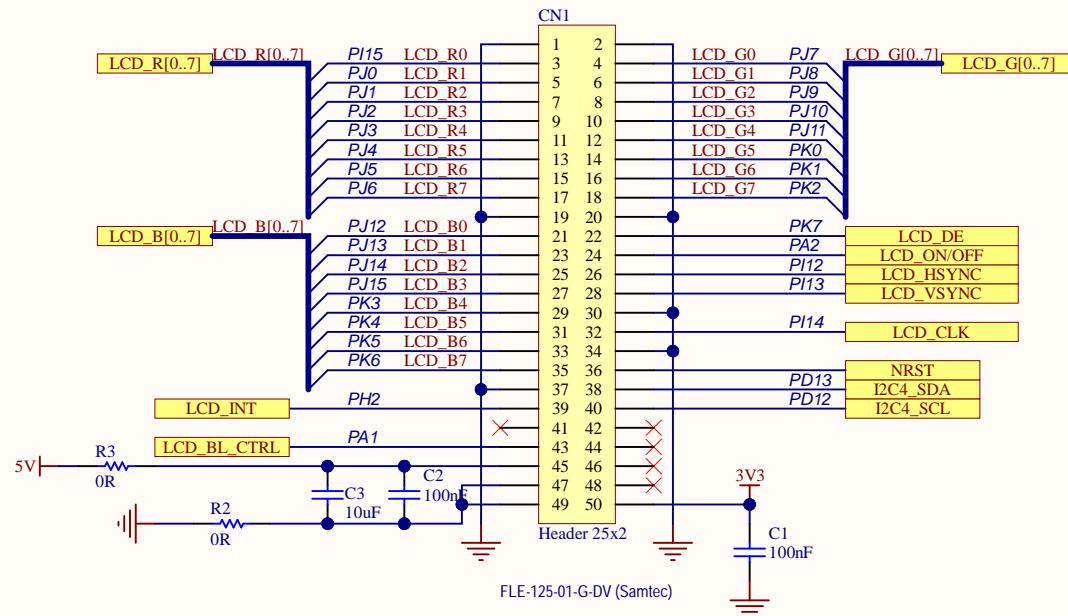
LIMITATION :
DCMI signals are multiplexed with several functions (SD Card, STMOD+ and Arduino)
In case CAMERA module is plugged, SD Card, STMOD+ and Arduino must be disconnected.
Videos are stored in USB.

DCMI_D0 : PMOD#11-INT
DCMI_D1 : PMOD#17-DF-D3
DCMI_D3: SDIOI_D1
DCMI_D4 : SDIOI_D4
DCMI_D5: PMOD#18-DF-CKOUT
DCMI_D6 : PMOD#20-DF-CK7
DCMI_D7 : PMOD#19-DF-D7
DCMI_HSYNC : PMOD#13-ADC and ARD_A0

Camera connector for STM32F4DIS-CAM



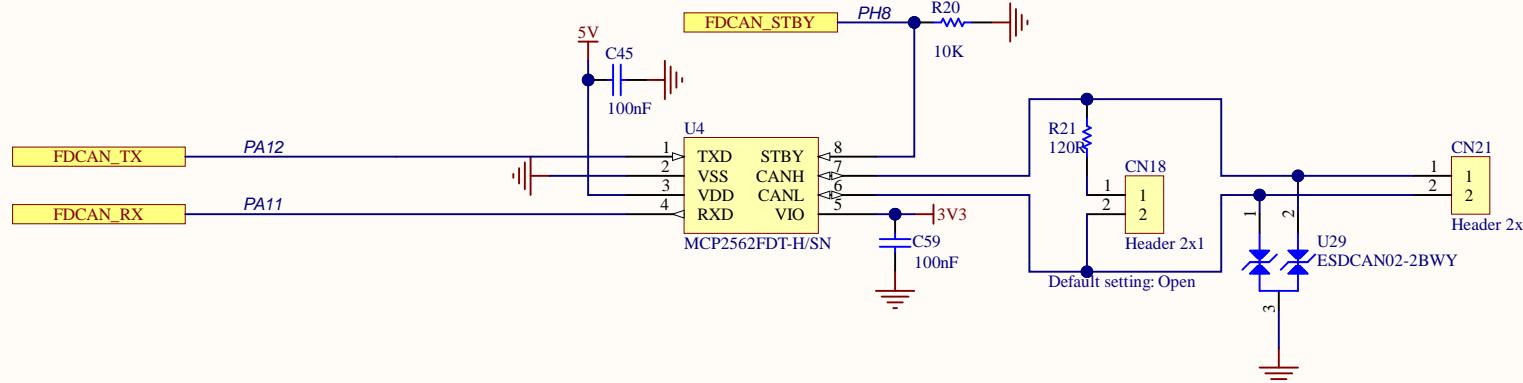
Compatible with MB1315 (4.3 inch LCD board)



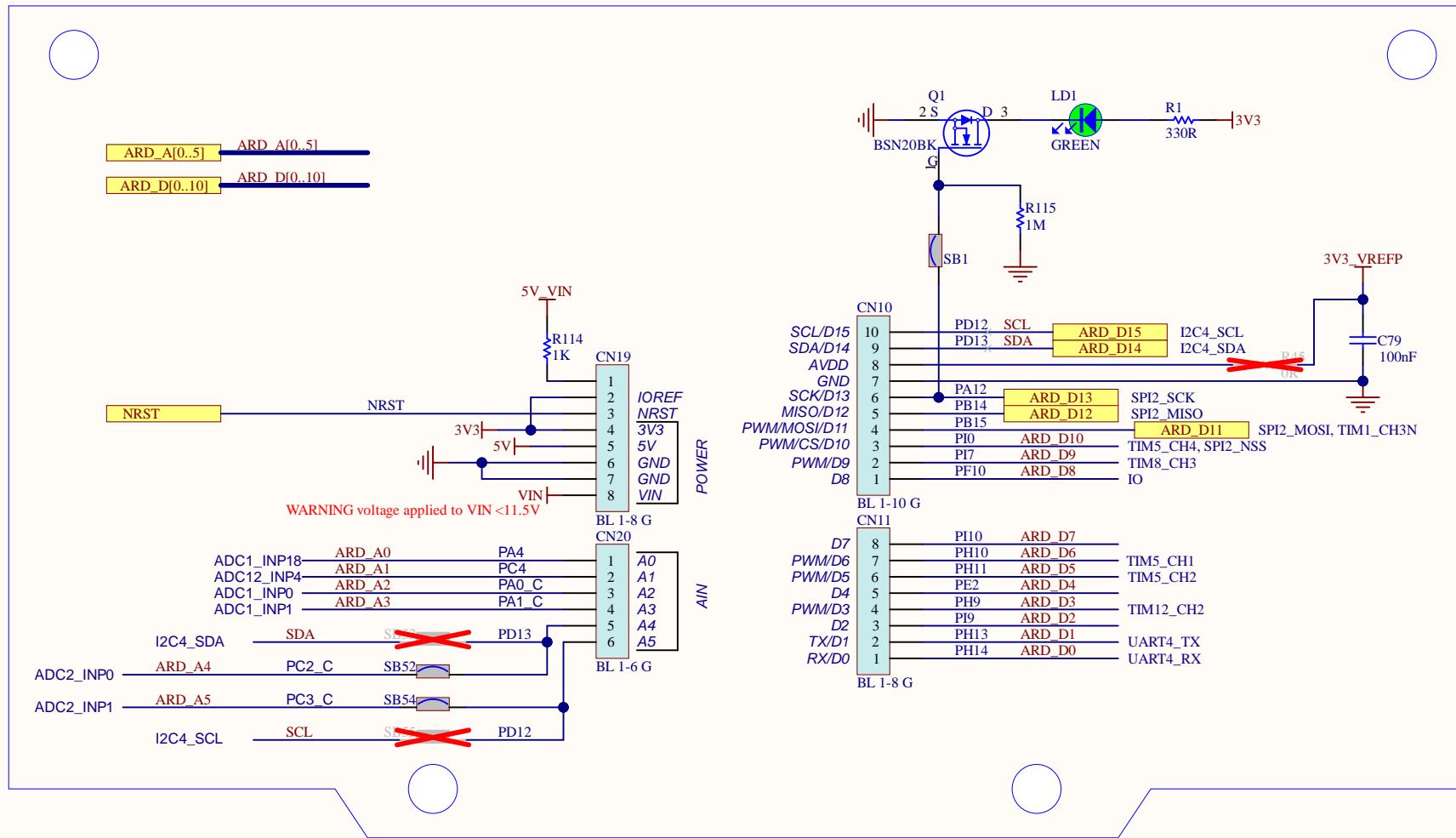
MB1315 - LCD 4.3 inch daughter board

LIMITATION :
FD-CAN signals are multiplexed with STMOD+ function
In case FD-CAN module is connected, STMOD+ must be disconnected

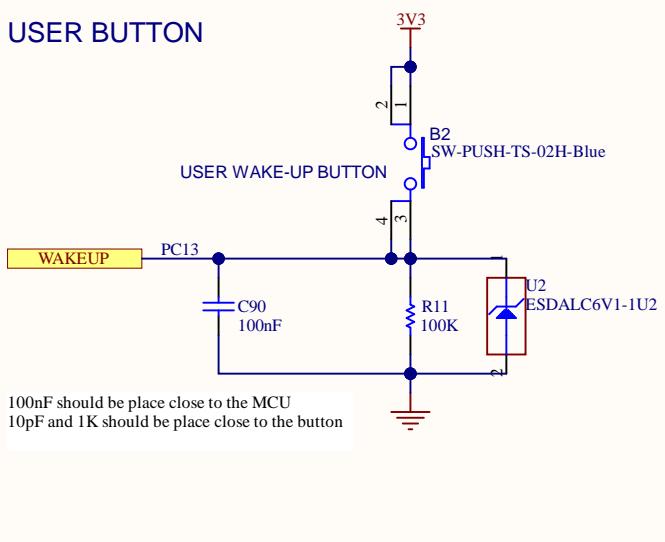
FDCAN_RX : PMOD1-NSS
FDCAN_TX : PMOD4-SCK
FDCAN_STBY : PMOD12-RST



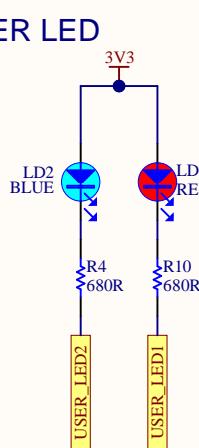
LIMITATION :
ARDUINO signals are multiplexed with STMOD+ signals
In case ARDUINO SHIELD is plugged, STMOD+ and Camera must be disconnected.



USER BUTTON

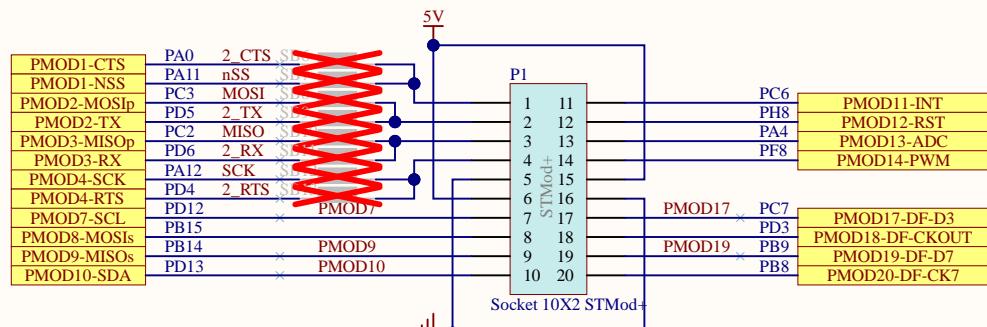


USER LED



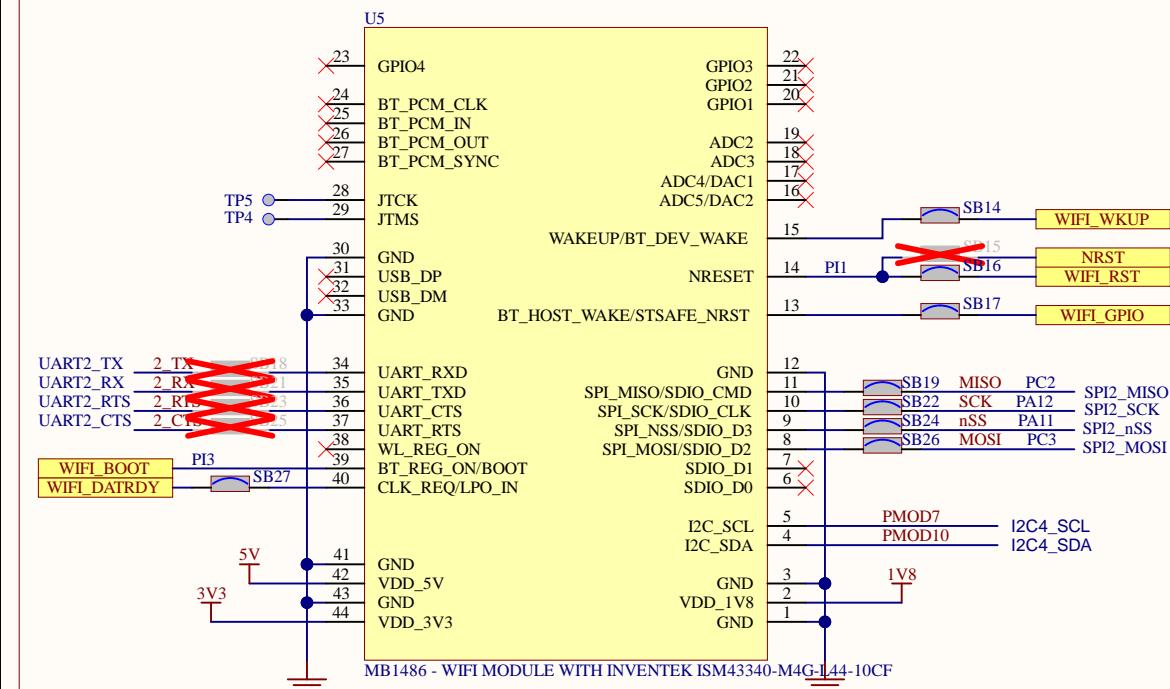
STMOD+

LIMITATION :
STMOD+ signals are multiplexed with AUDIO, CAMERA and Arduino signals
In case STMOD+ is used, Digital Microphones, Camera and Arduino must be disconnected.



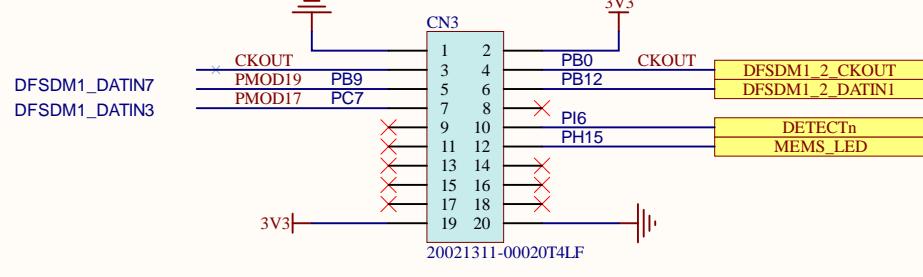
WIFI MODULE (ISM43340-M4G-L44-10CF)

LIMITATION :
WiFi signals are multiplexed with STMOD+
In case WiFi-BT is activated, STMOD+ must be disconnected

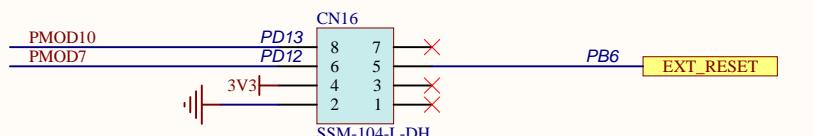


AUDIO DFSDM

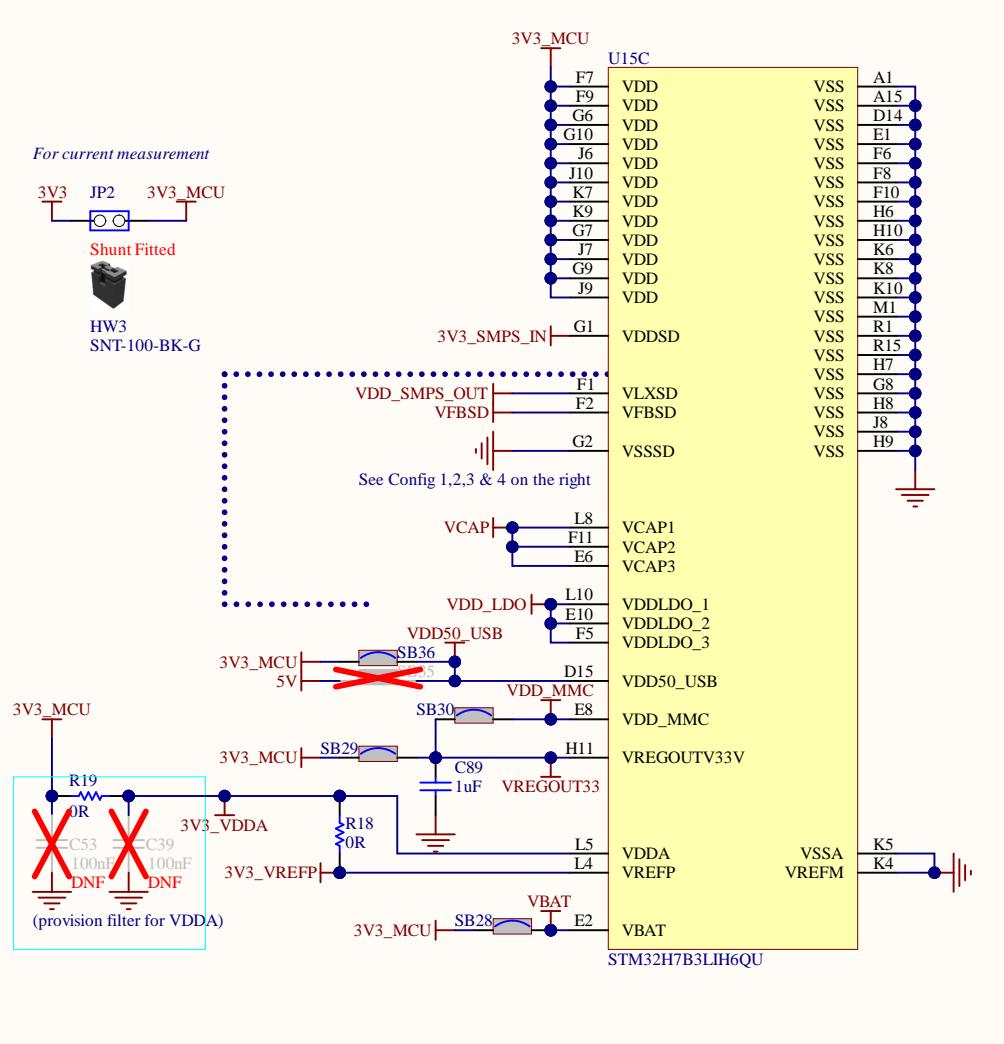
LIMITATION :
DFSDM signals are multiplexed with STMOD+ signals
In case microphones are activated, noting must be connected on STMOD+.



I2C Connectors



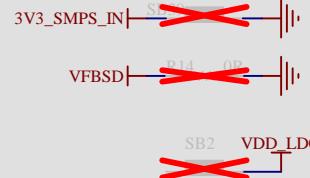
MCU power



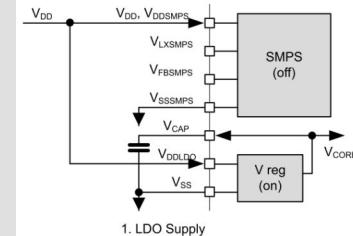
Internal SMPS Supply Config

For further details, please see [TINY_SHARK_PWR.pdf](#)

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

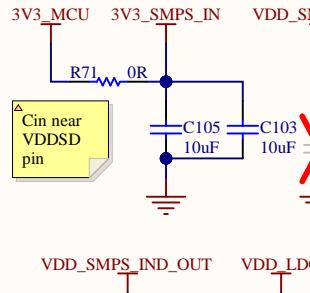


Disconnect 3V3_SMPS_IN from 3V3_MCU
Connect 3V3_SMPS_IN to GND
Connect VDD_SMPS_IND_OUT to GND
Connect VDD_LDO to 3V3_MCU
2 x 2.2uF near VCAP pins/pins

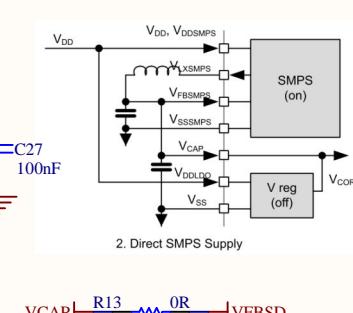


Supply Config 2 : SMPS only (SMPS ON, LDO OFF)

Default config



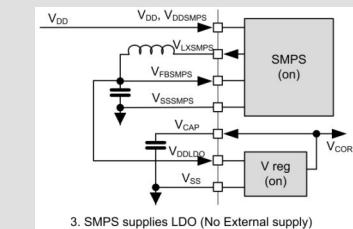
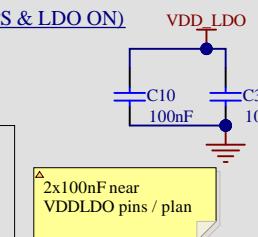
Connect 3V3_SMPS_IN to 3V3_MCU
Connect VDD_SMPS_IND_OUT to VCAP1/2/3
2x100nF near VCAP pins/pins



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

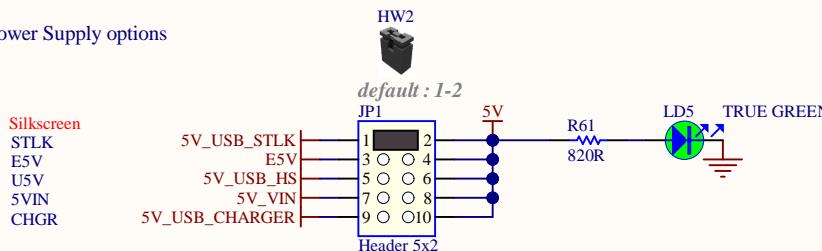


Compared to config 2 :
Disconnect VDD_SMPS_IND_OUT from VCAP1/2/3
Connect VDD_SMPS_IND_OUT to VDD_LDO
Add 2x100nF near VDDLDO pins/plans
Add 2x2.2uF near VCAP pins/plans (see config 1)

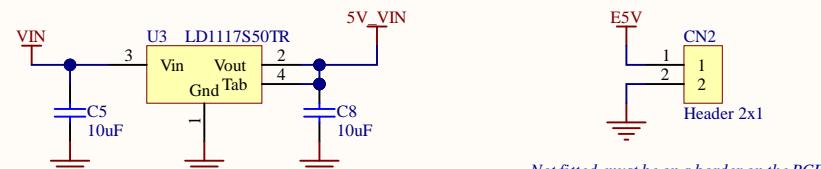


Board power

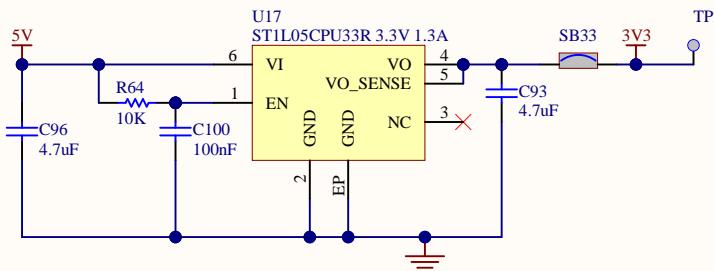
5V Power Supply options



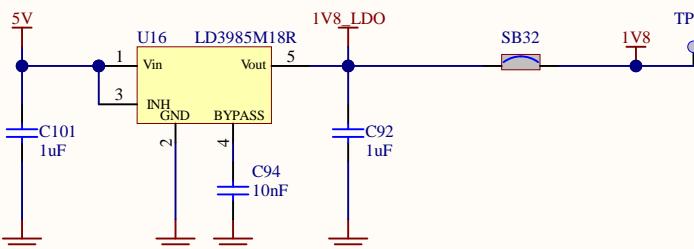
5V External Supply



3V3 and VDD MCU Supplies



1V8 / 150mA (Audio codec and USB HS)



Title: Board Power

Project: STM32H7B3I-DK

Variant: H7B3I

Revision: C-02

Date: 13-NOV-2020

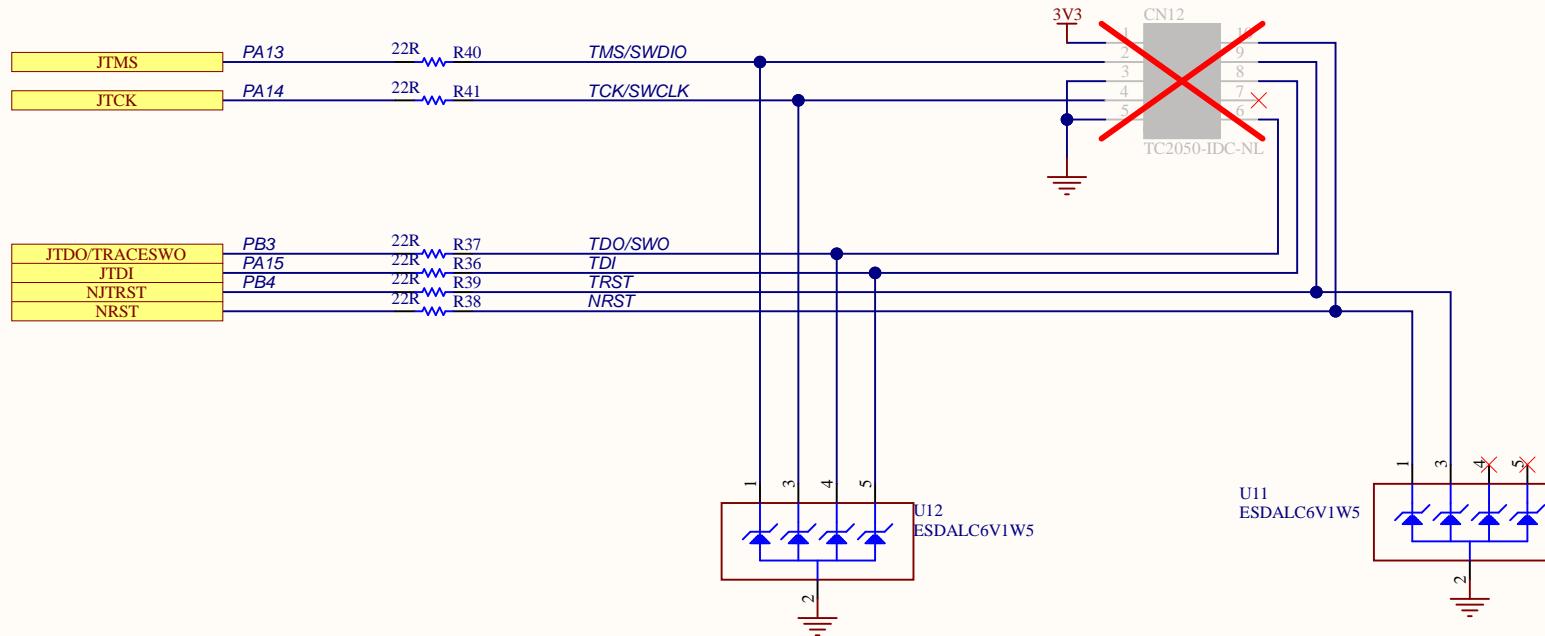
Reference: MB1332

Size: A4

Sheet: 15 of 17

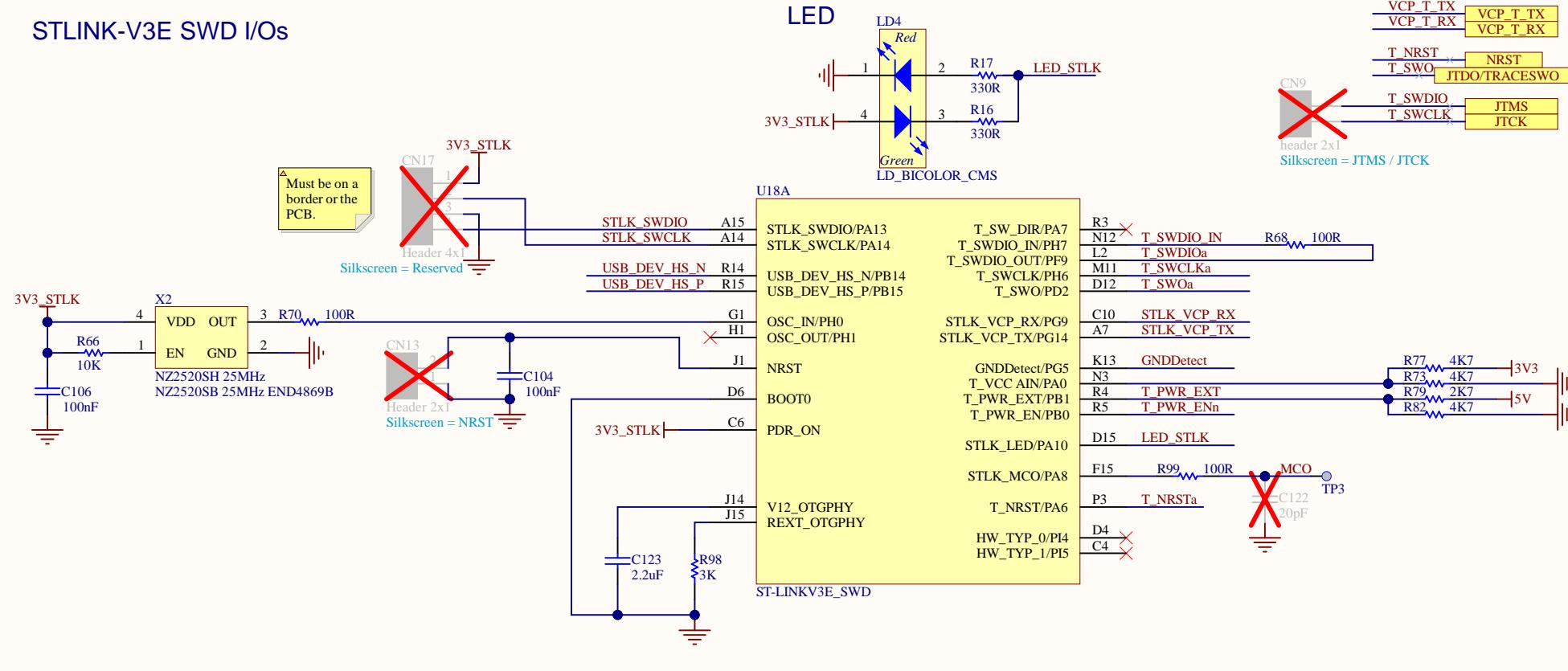


life augmented

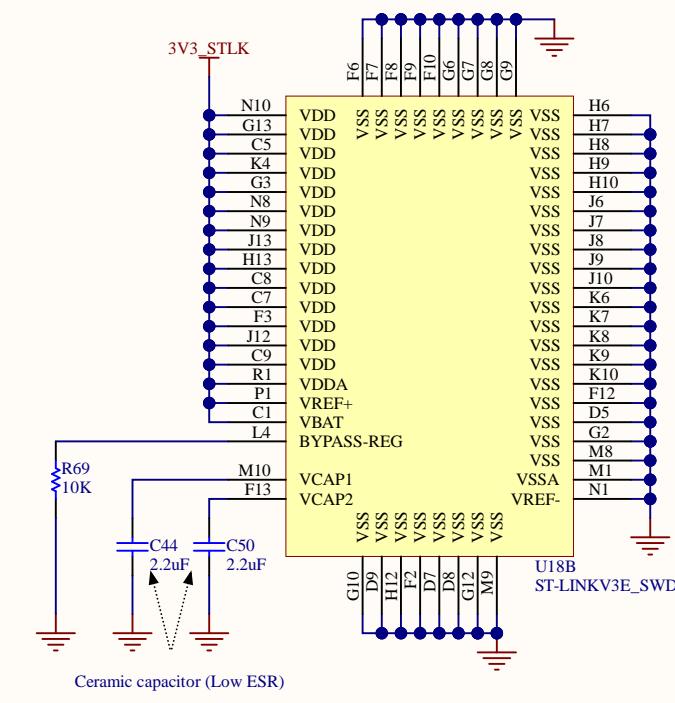


STLINK-V3E SWD

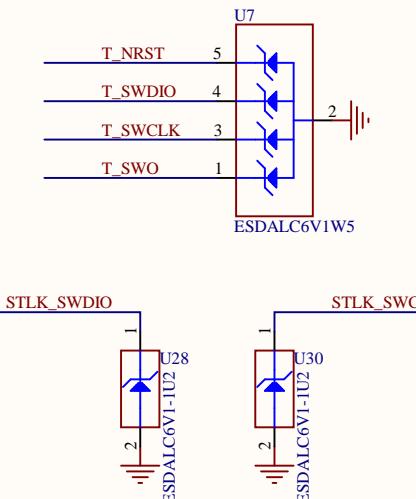
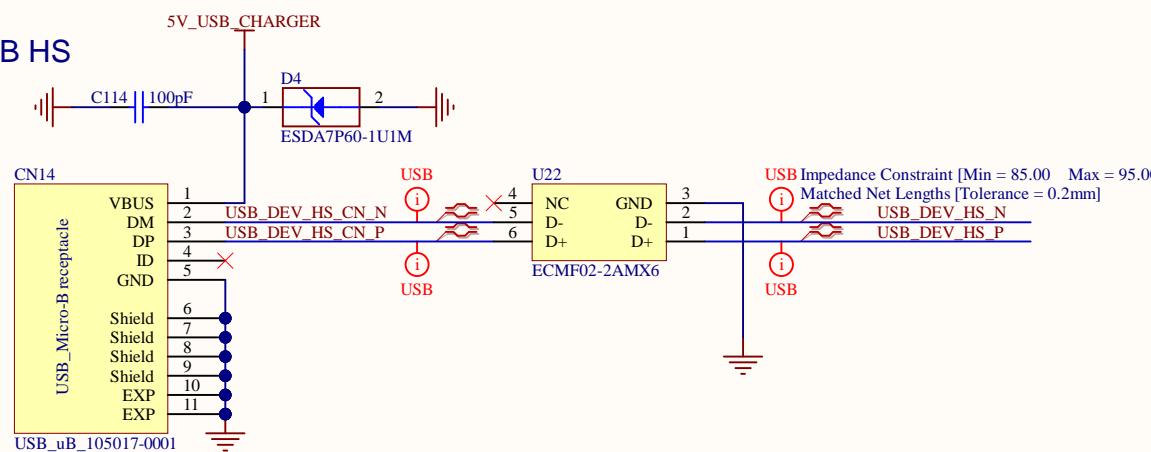
STLINK-V3E SWD I/Os



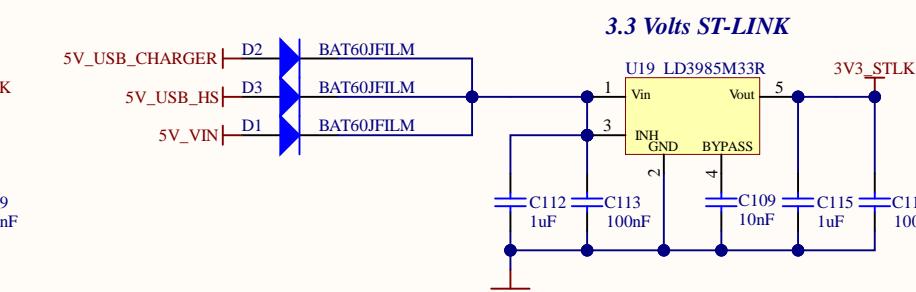
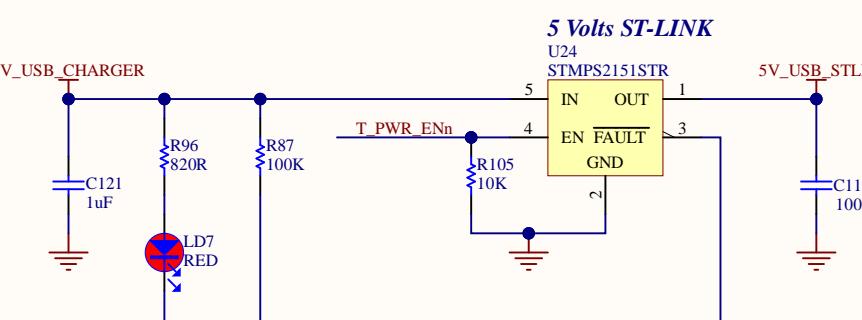
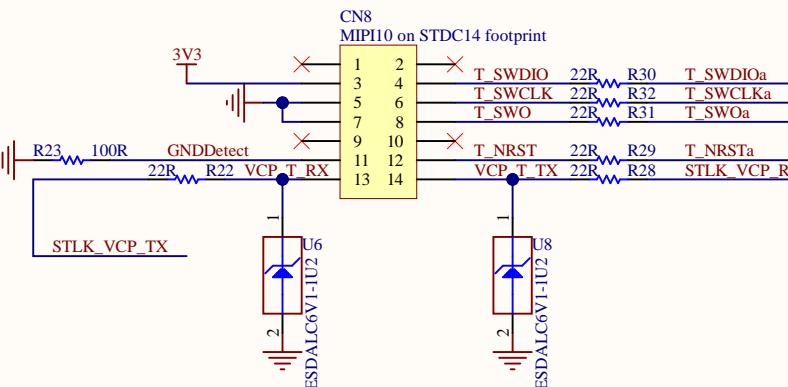
STLINK-V3E SWD POWER

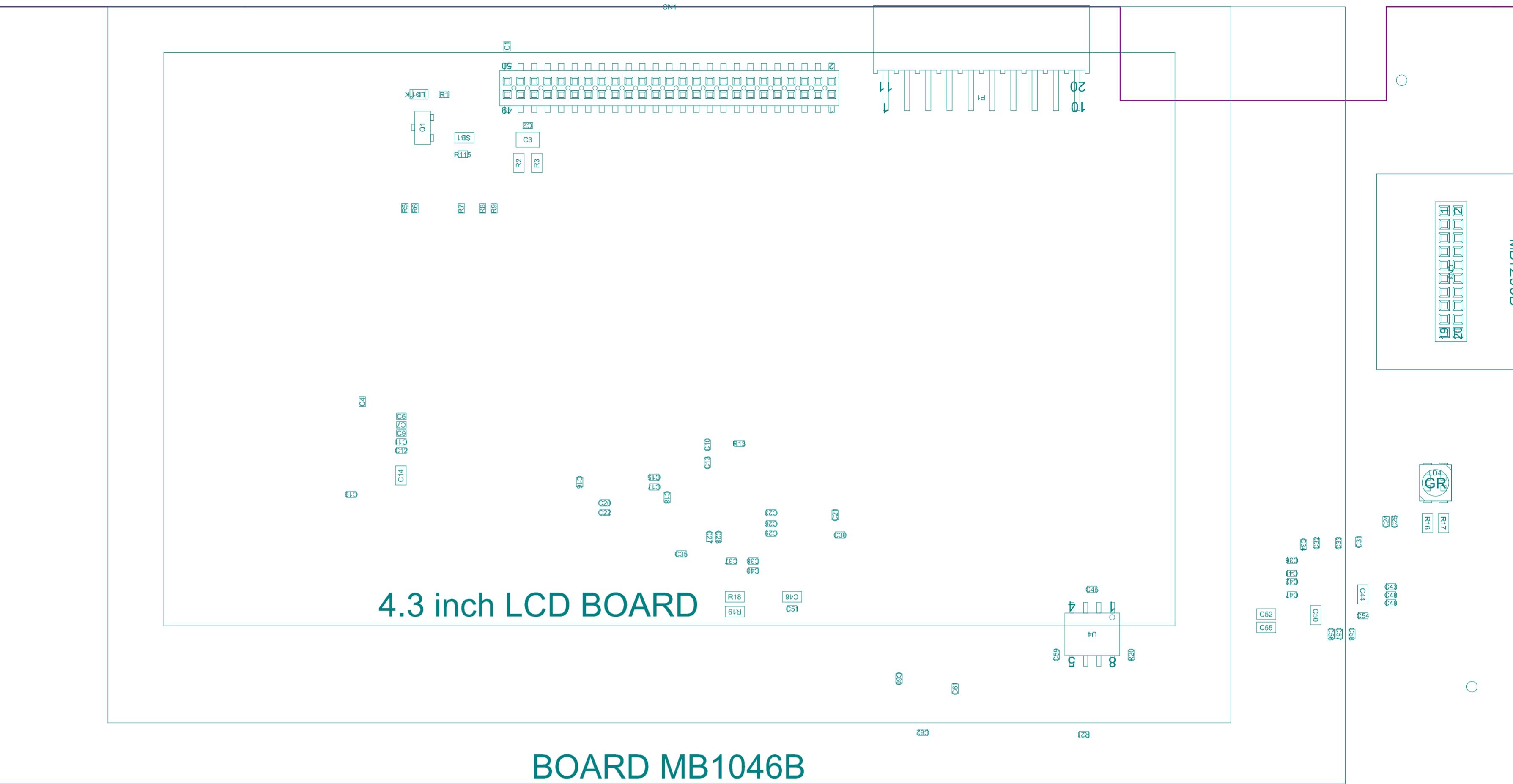


USB HS



STLINK-V3E SWD POWER





Project: STM32H7B3I-DK

Layer: M14-Top Assembly

Gerber: .GM14

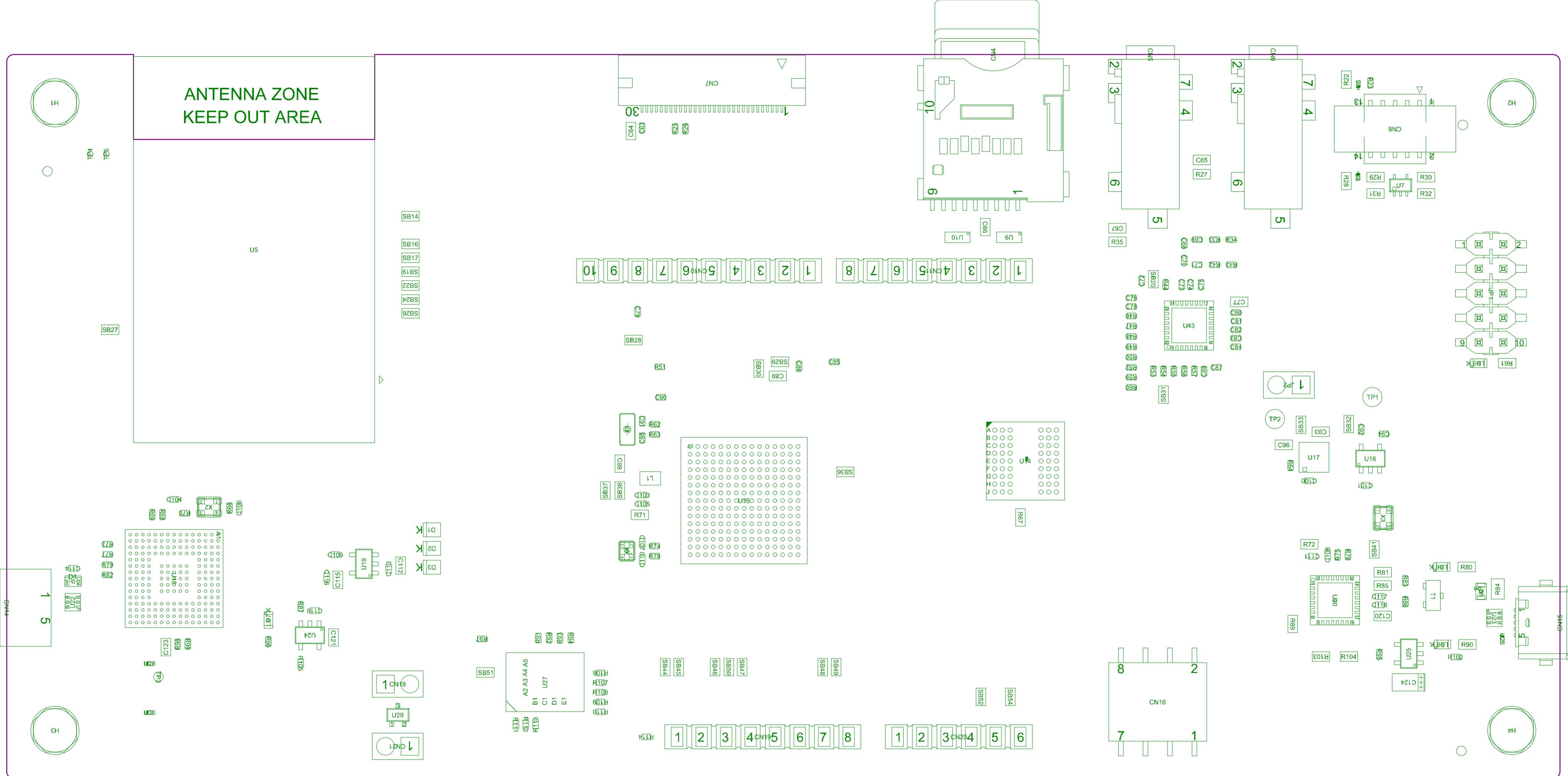
Variant: H7B3I

MB1332

Date: 13-NOV-2020

Rev: C





Project: STM32H7B3I-DK

Layer: M15-Bottom Assembly

Gerber:.GM15

Variant: H7B3I

MB1332

Date: 13-NOV-2020

Rev: C



