

# STM32H7B3I-DK

MB1332

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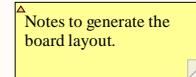
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## Legend

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

Text to be added to silkscreen.

Warning text.



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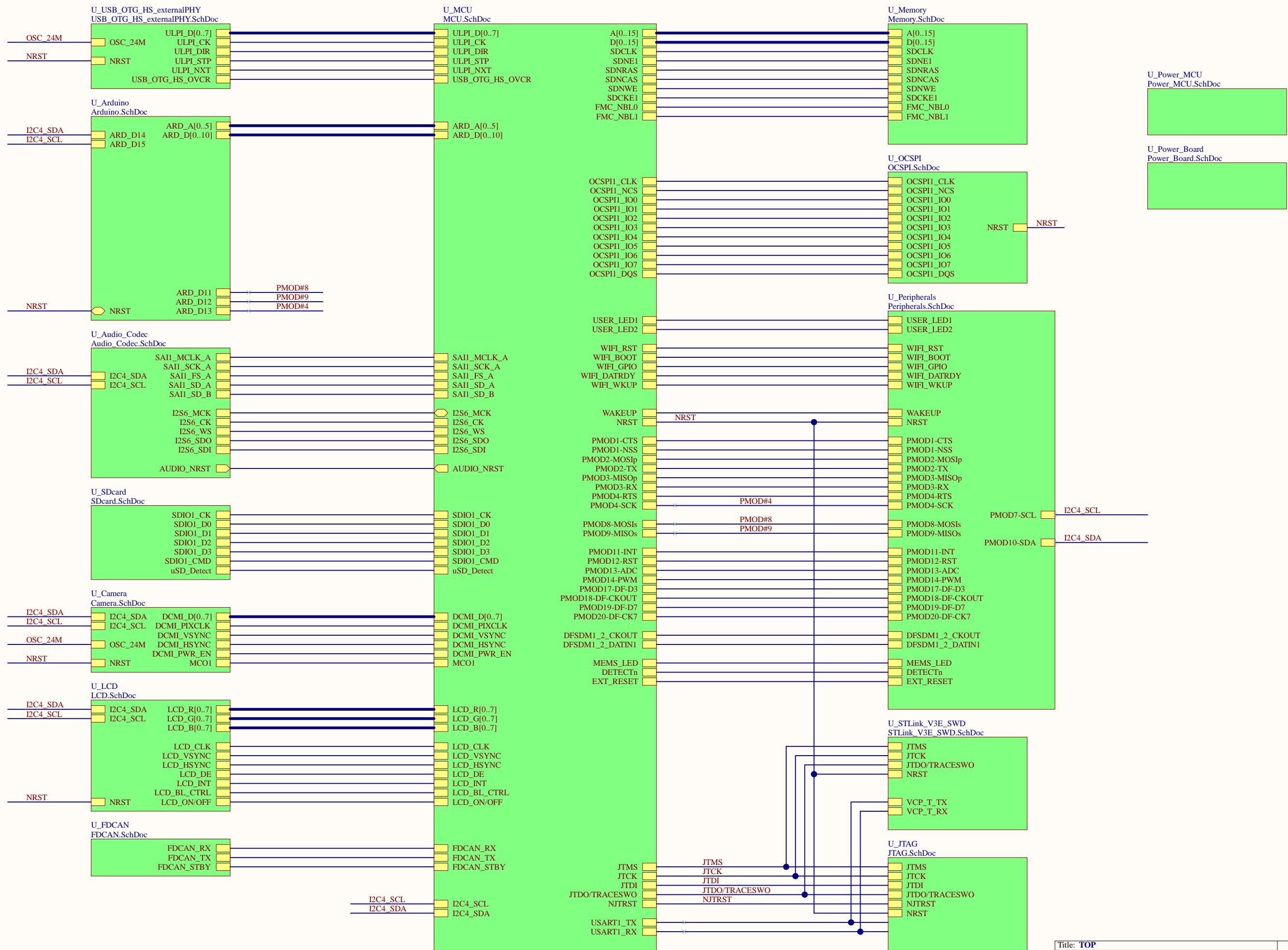
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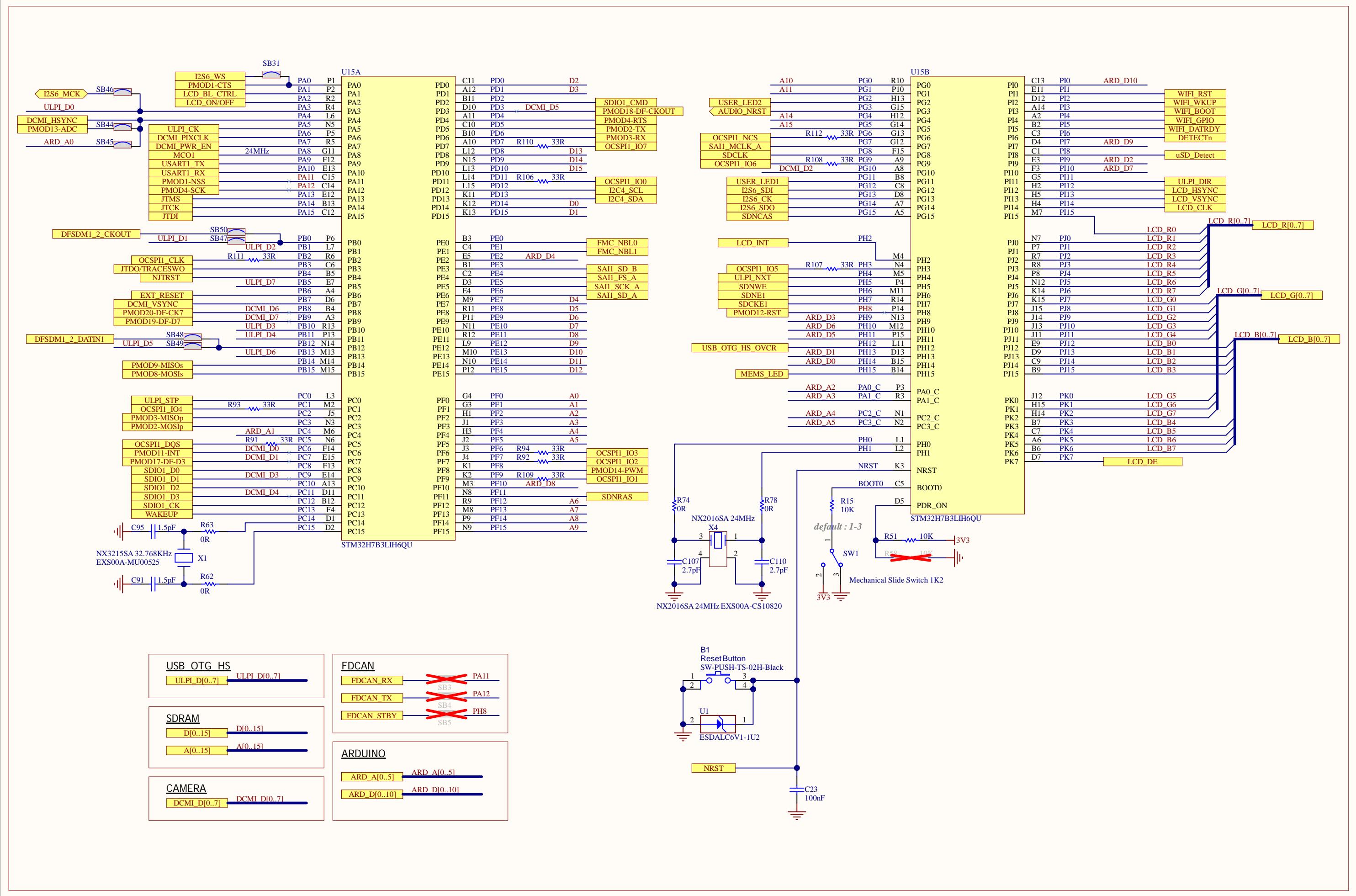
U\_Top  
MB1332\_TOP.SchDoc



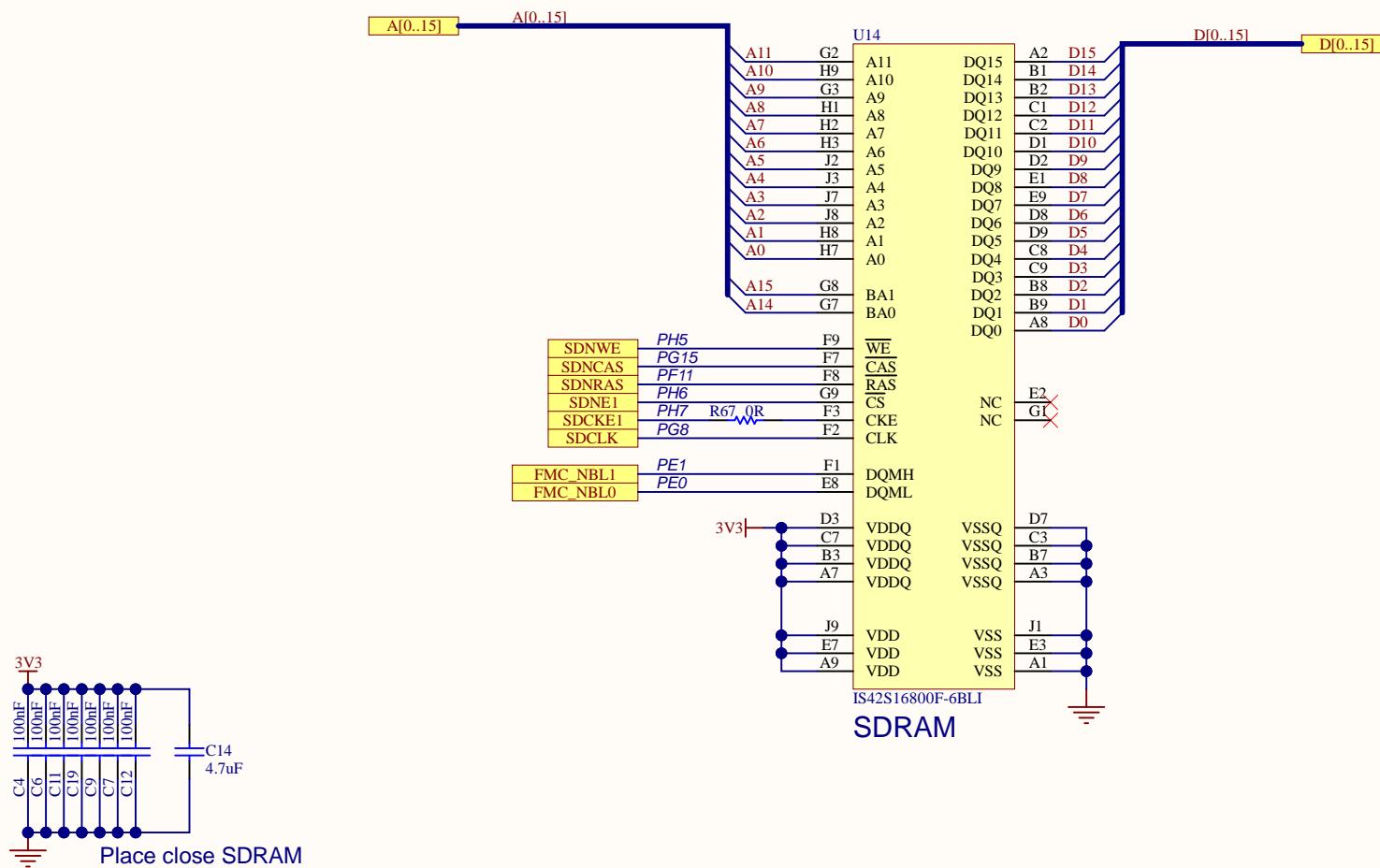
Title: <b>Project overview</b>	
Project: <b>STM32H7B3I-DK</b>	
Variant: <b>H7B3I</b>	
Revision: <b>C-01</b>	Reference: <b>MB1332</b>
Size: <b>A4</b>	Date: <b>21-FEB-20</b>
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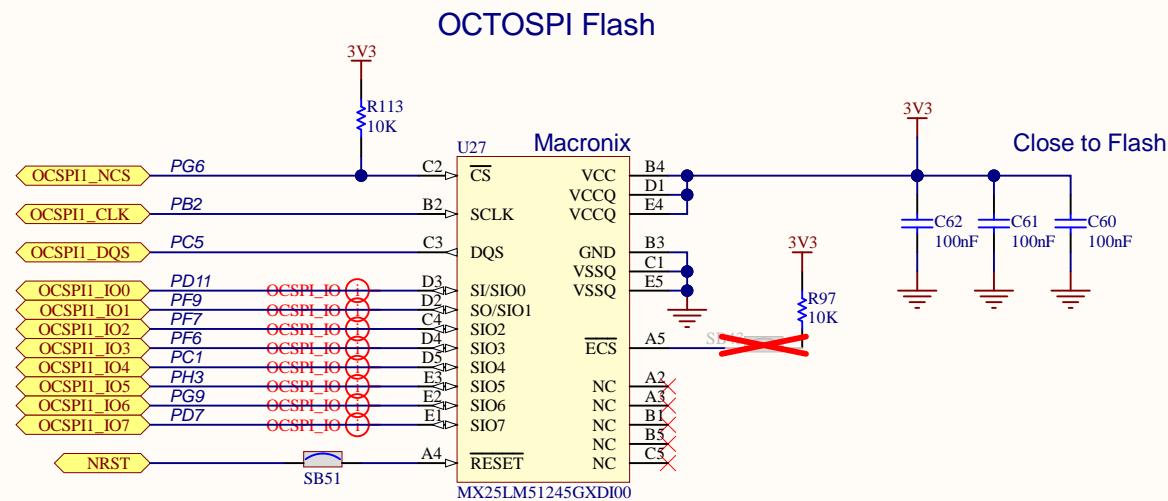


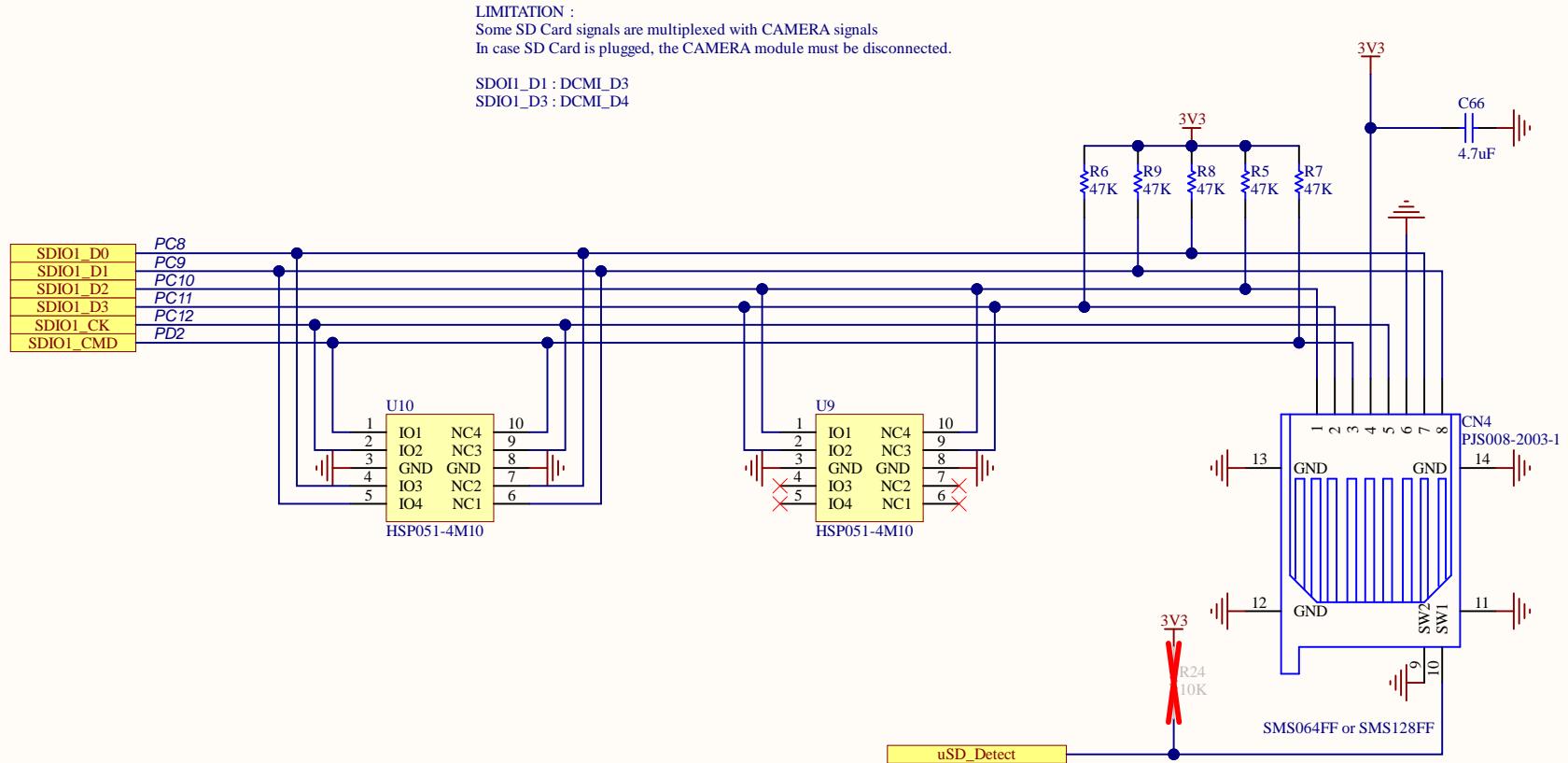


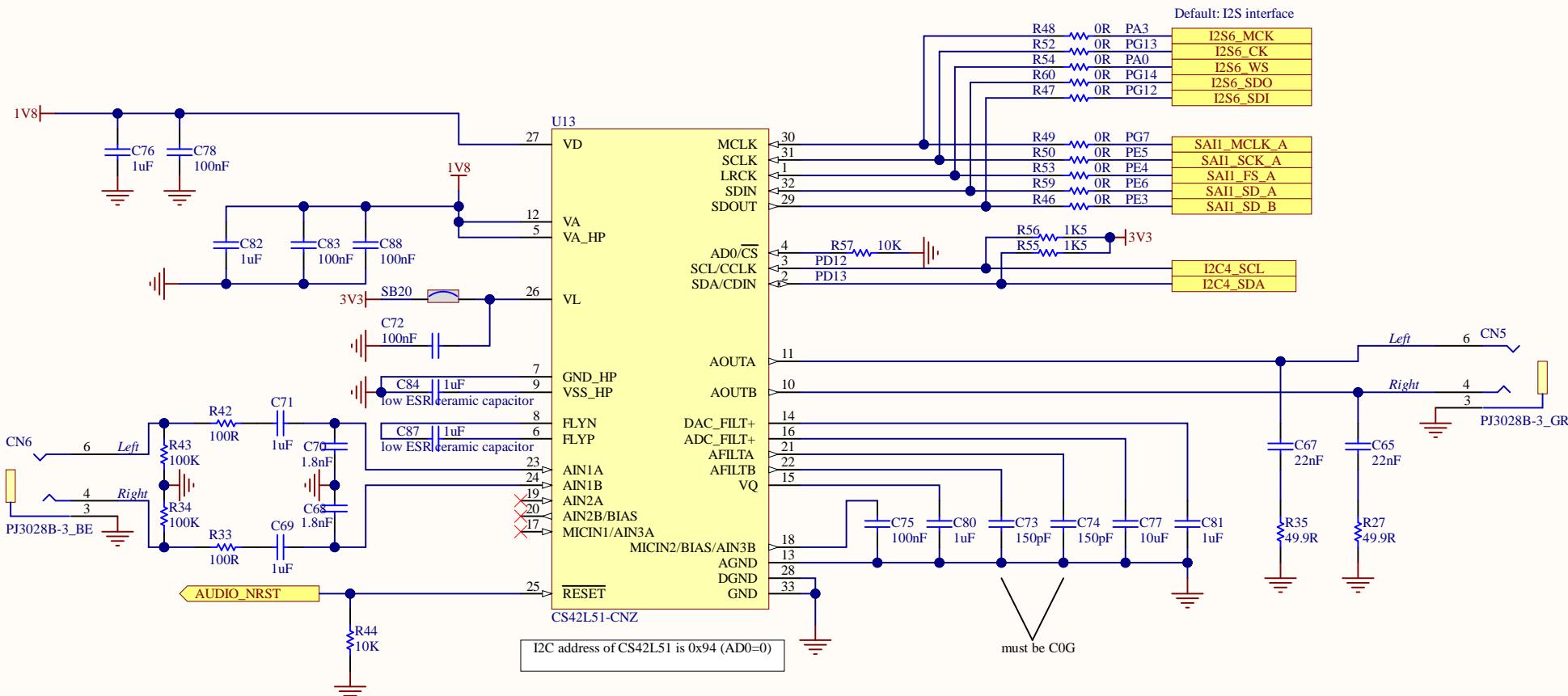


# Memory









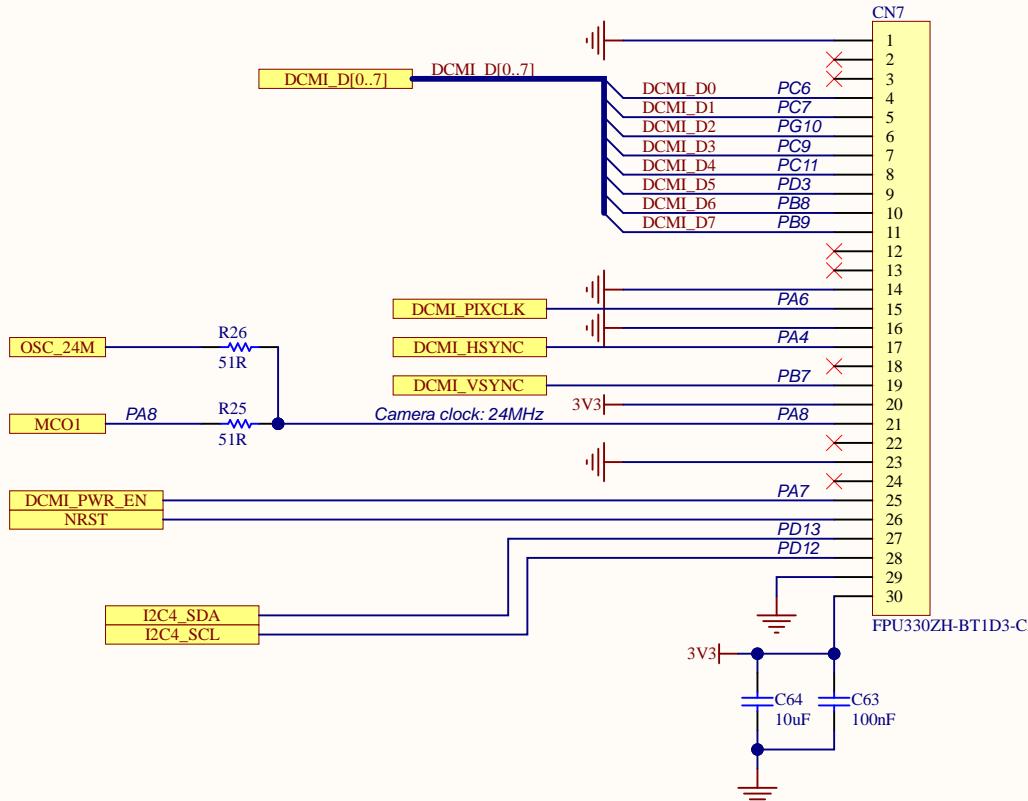
Title: <b>Audio Codec</b>	
Project: <b>STM32H7B3I-DK</b>	
Variant: <b>H7B3I</b>	
Revision: <b>C-01</b>	
Size: <b>A4</b>	Date: <b>21-FEB-20</b>
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LIMITATION :  
DCMI signals are multiplexed with several functions (SD Card, STMOD+ and Arduino)  
In case CAMERA module is plugged, SD Card, STMOD+ and Arduino must be disconnected.  
Videos are stored in USB

DCML\_D0 : PMOD#11-INT  
DCML\_D1 : PMOD#17-DF-D3  
DCML\_D3: SDIOII\_D1  
DCML\_D4 : SDIOI\_D4  
DCML\_D5 PMOD#18-DF-CKOUT  
DCML\_D6 : PMOD#20-DF-CK7  
DCML\_D7 : PMOD#19-DF-D7  
DCML\_HSYNC : PMOD#13-ADC and ARD\_A0

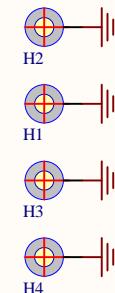
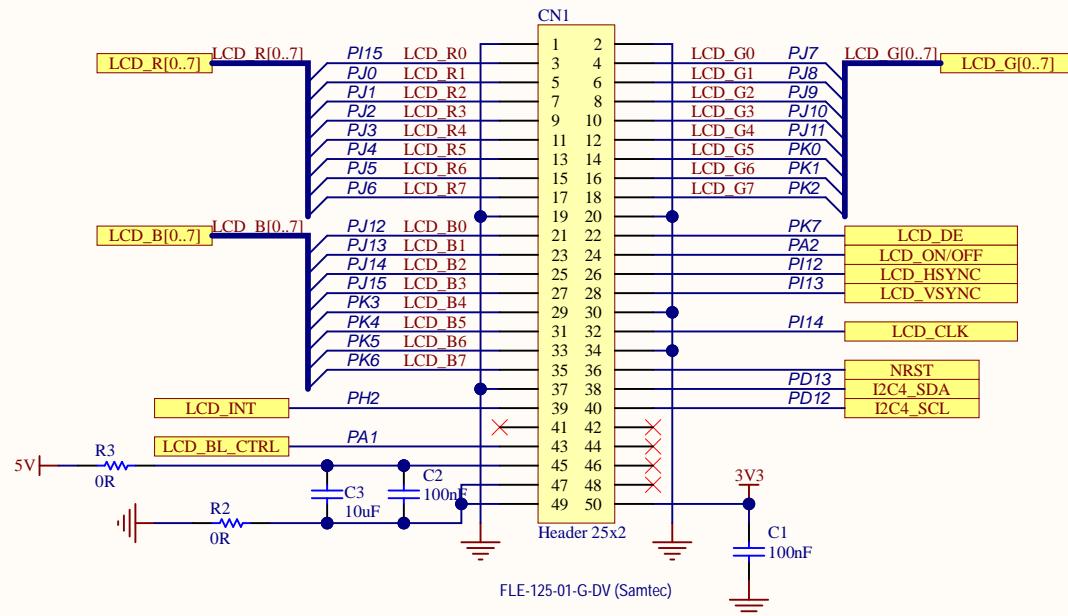
### Camera connector for STM32F4DIS-CAM



Title: Camera	
Project:	STM32H7B3I-DK
Variant:	H7B3I
Revision:	C-01
Size:	A4
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Compatible with MB1315 (4.3 inch LCD board)



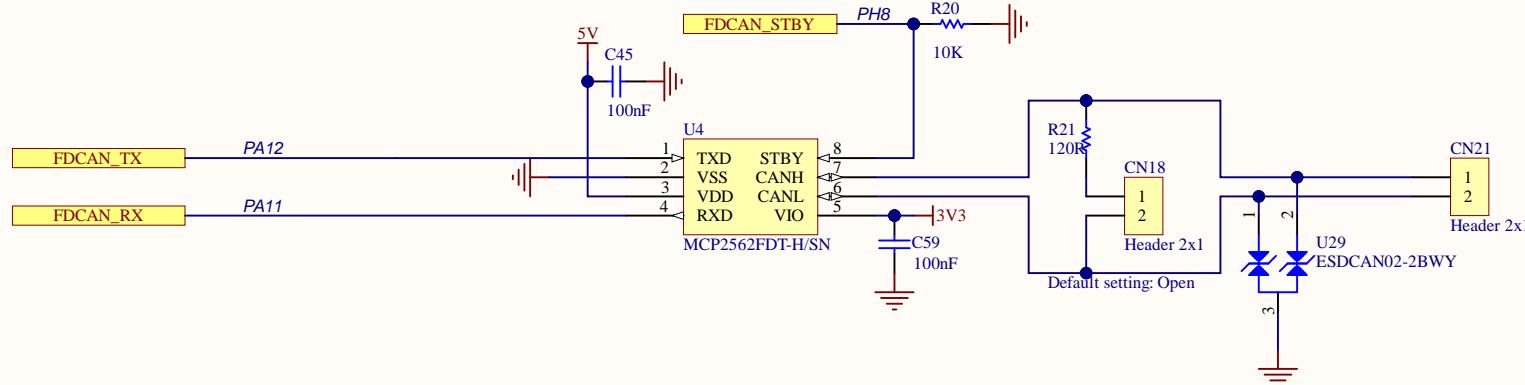
MB1315 - LCD 4.3 inch daughter board

Title: LCD	
Project: STM32H7B3I-DK	
Variant: H7B3I	
Revision: C-01	
Size: A4	Date: 21-FEB-20
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LIMITATION :  
 FD-CAN signals are multiplexed with STMOD+ function  
 In case FD-CAN module is connected, STMOD+ must be disconnected.

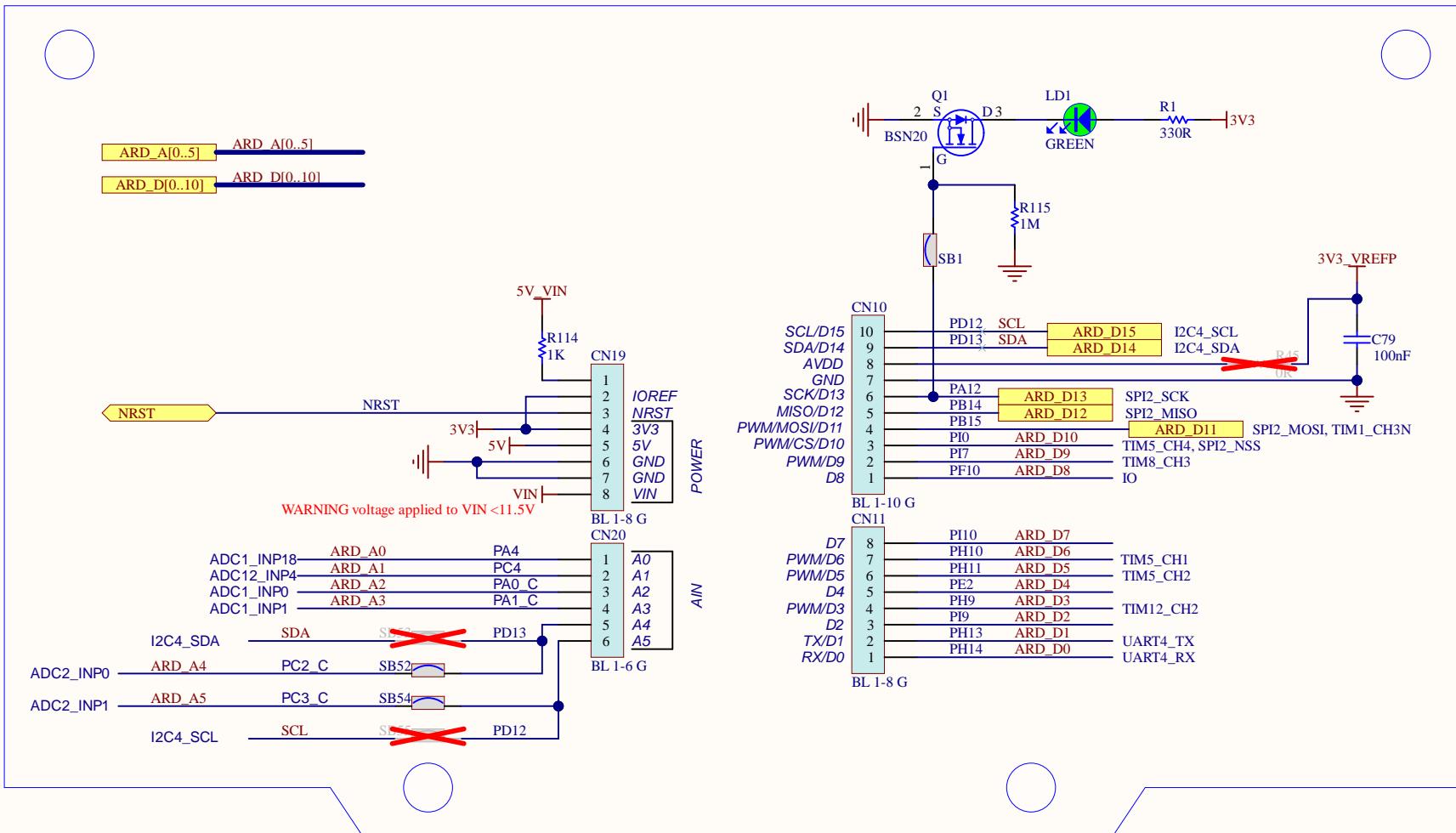
FDCAN\_RX : PMOD1-NSS  
 FDCAN\_TX : PMOD4-SCK  
 FDCAN\_STBY : PMOD12-RST



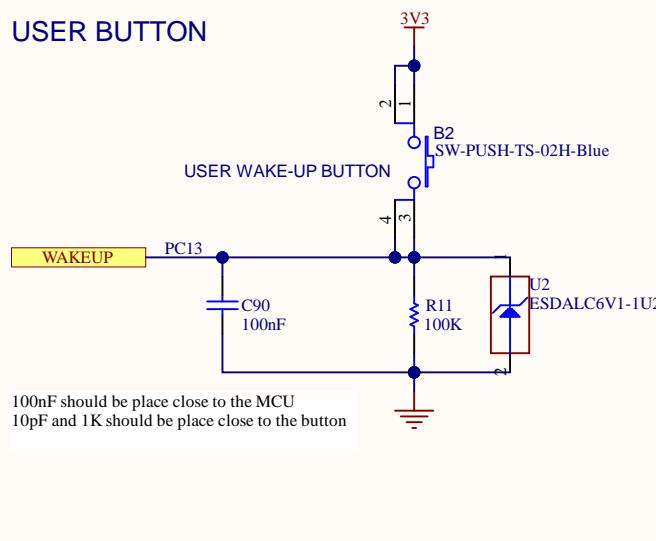
Title: <b>FD-CAN</b>	
Project: <b>STM32H7B3I-DK</b>	
Variant: <b>H7B3I</b>	
Revision: <b>C-01</b>	
Size: <b>A4</b>	Date: <b>21-FEB-20</b>
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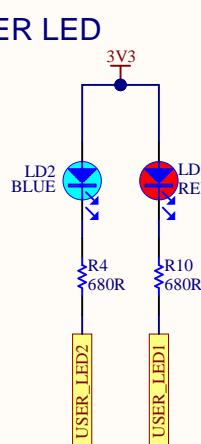
**LIMITATION :**  
ARDUINO signals are multiplexed with STMOD+ signals  
In case ARDUINO SHIELD is plugged, STMOD+ and Camera must be disconnected.



## USER BUTTON

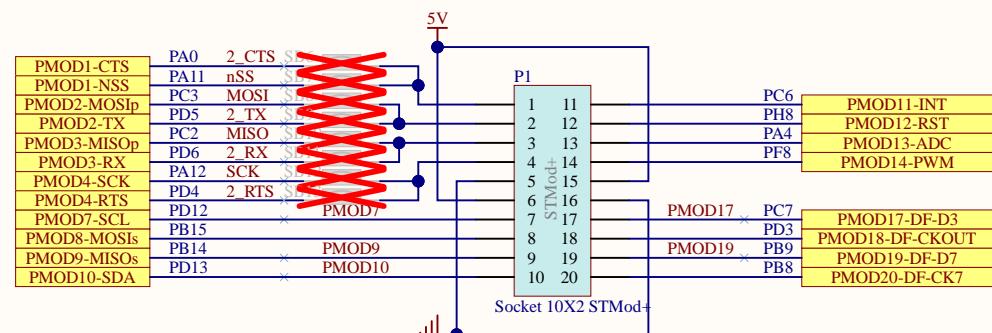


## USER LED



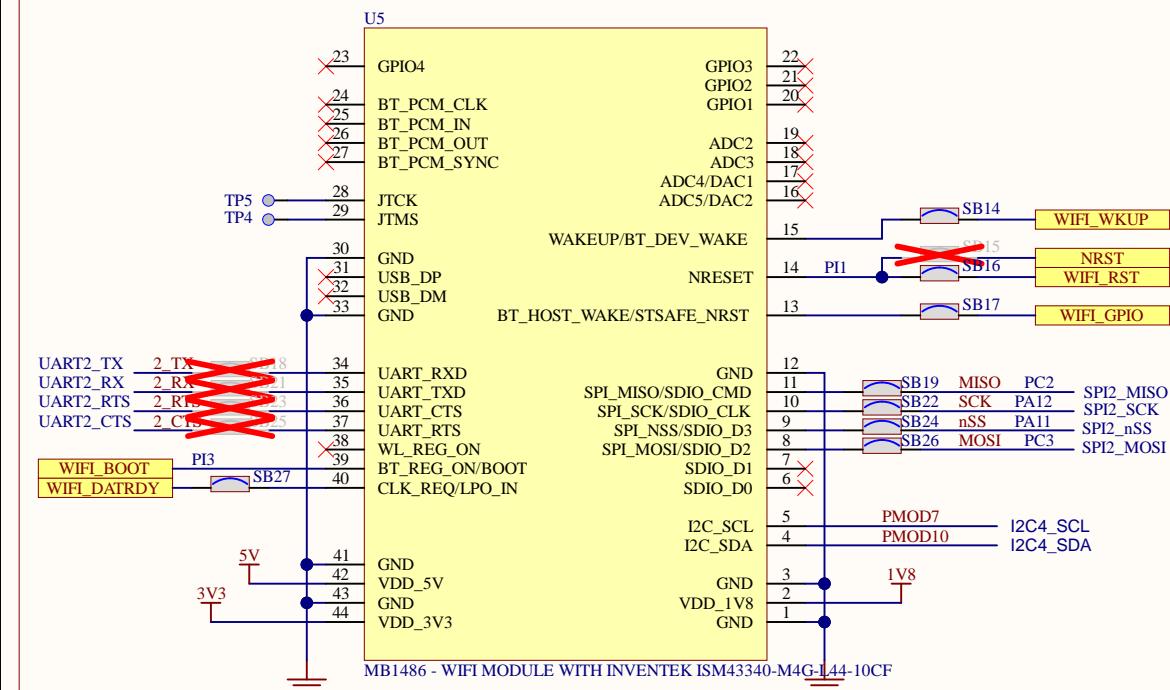
## STMOD+

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



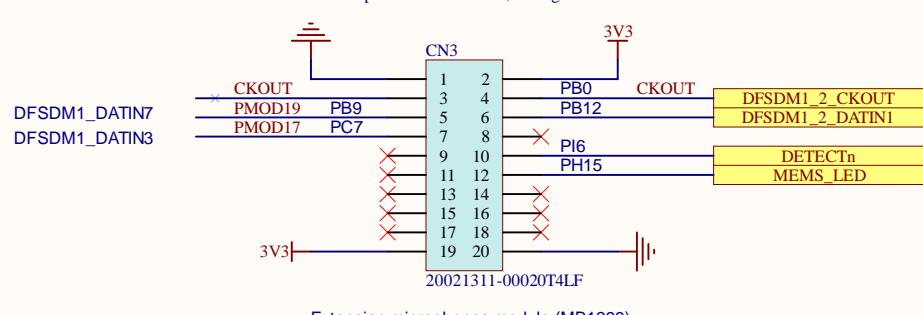
## WIFI MODULE (ISM43340-M4G-L44-10CF)

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

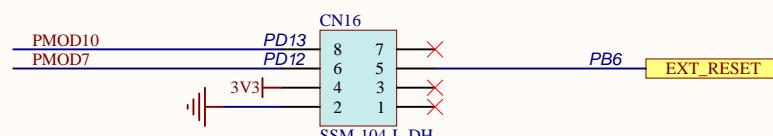


## AUDIO DFSDM

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

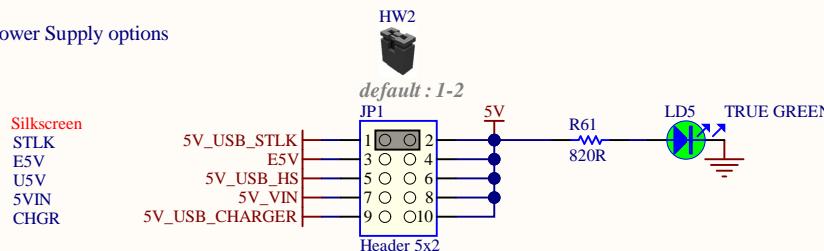


## I2C Connector

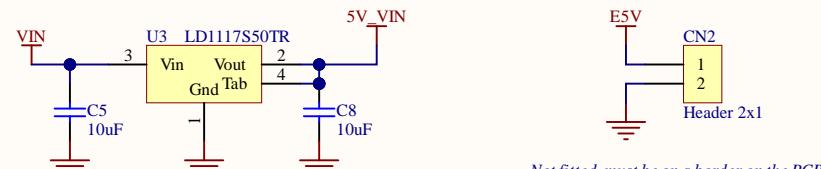


## Board power

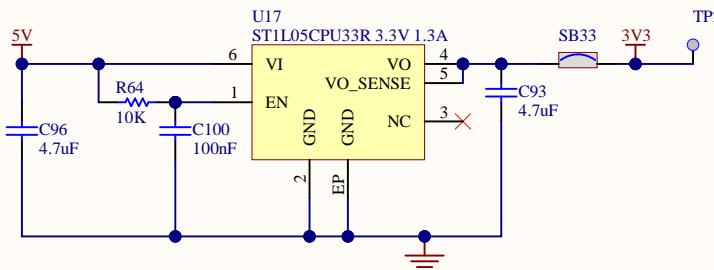
### 5V Power Supply options



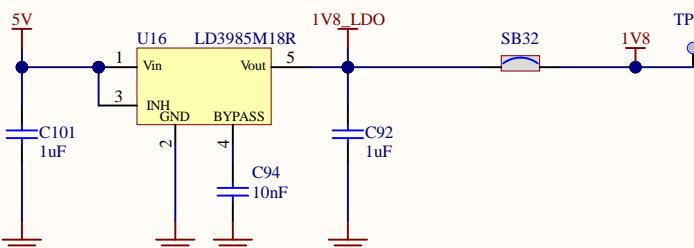
### 5V External Supply



### 3V3 and VDD MCU Supplies



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



Title: Board Power

Project: STM32H7B3I-DK

Variant: H7B3I

Revision: C-01

Size: A4

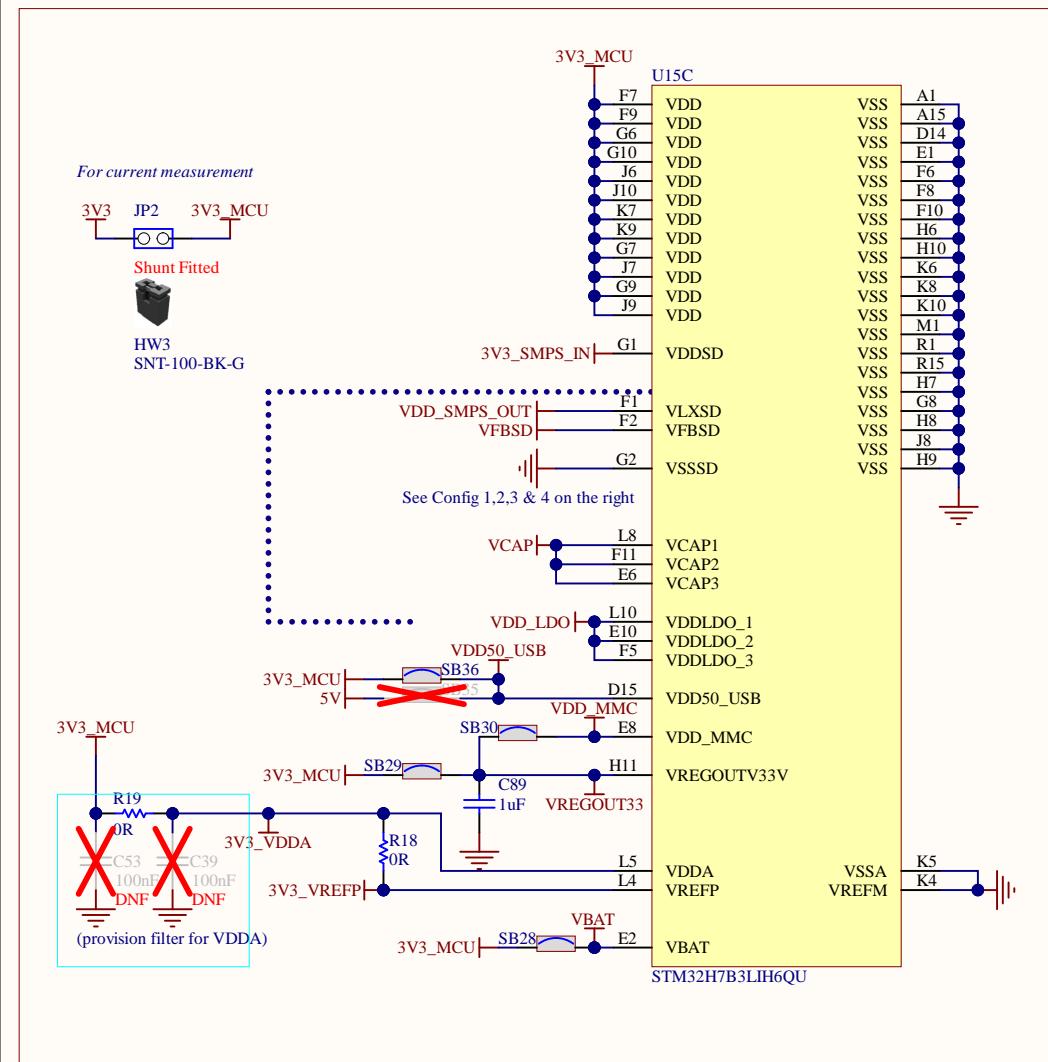
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Reference: MB1332



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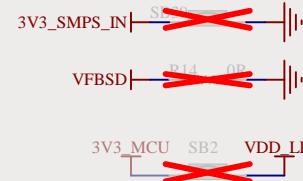
# MCU power



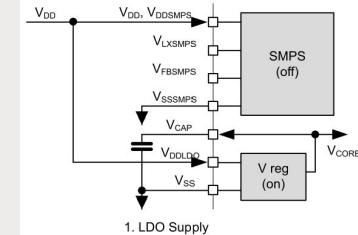
## Internal SMPS Supply Config

For further details, please see [TINY\\_SHARK\\_PWR.pdf](#)

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

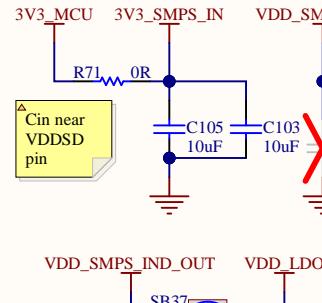


Disconnect 3V3\_SMPS\_IN from 3V3\_MCU  
Connect 3V3\_SMPS\_IN to GND  
Connect VDD\_SMPS\_IND\_OUT to GND  
Connect VDD\_LDO to 3V3\_MCU  
2 x 2.2uF near VCAP plans/pins

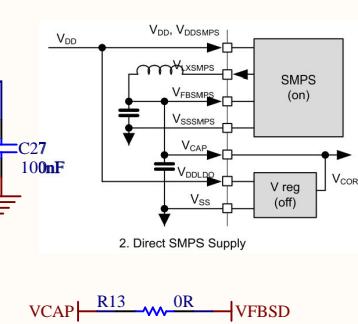


### Supply Config 2 : SMPS only (SMPS ON, LDO OFF)

**Default config**

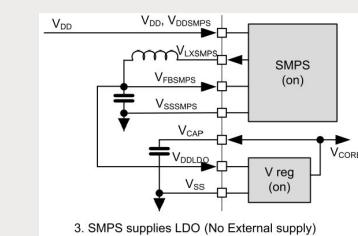
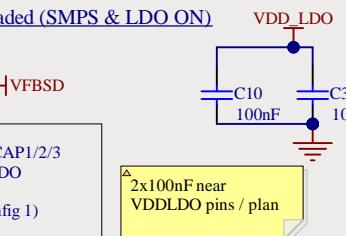


Connect 3V3\_SMPS\_IN to 3V3\_MCU  
Connect VDD\_SMPS\_IND\_OUT to VCAP1/2/3  
2x100nF near VCAP plans/pins



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

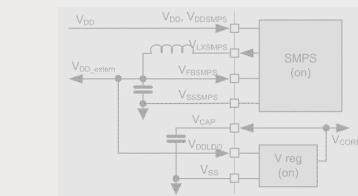
Compared to config 2 :  
Disconnect VDD\_SMPS\_IND\_OUT from VCAP1/2/3  
Connect VDD\_SMPS\_IND\_OUT to VDD\_LDO  
Add 2x100nF near VDDLDO pins/plans  
Add 2x2.2uF near VCAP pins/plans (see config 1)



### Supply Config 4 : same as config 3, but SMPS supplies also 1V8 to board

VDD\_SMPS\_IND\_OUT | SB38 | 1V8

Compared to config 3  
Connect VDD\_SMPS\_IND\_OUT to 1V8 board supply  
Add a 10uF close to the 1.8V board supply  
Add a 10uF close to one VDD\_LDO pin



Title: MCU\_Power

Project: STM32H7B3I-DK

Variant: H7B3I

Revision: C-01

Size: A4

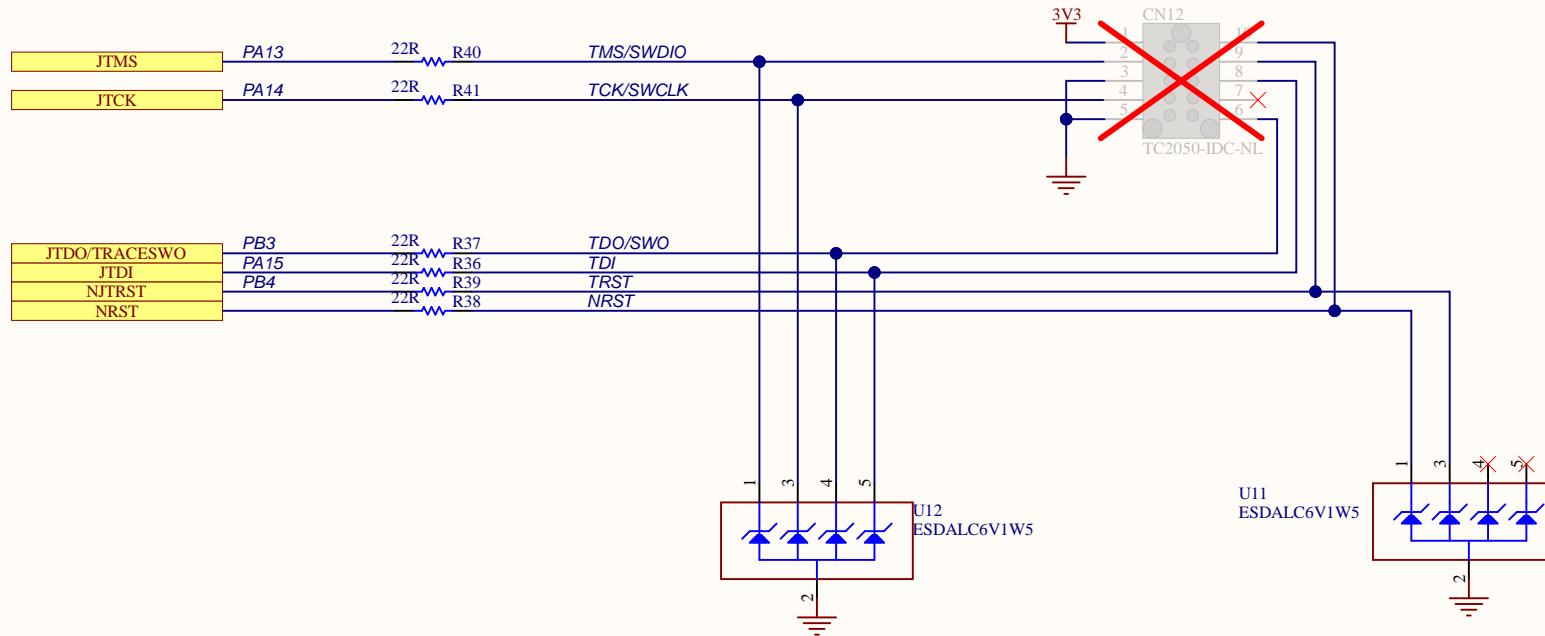
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# JTAG

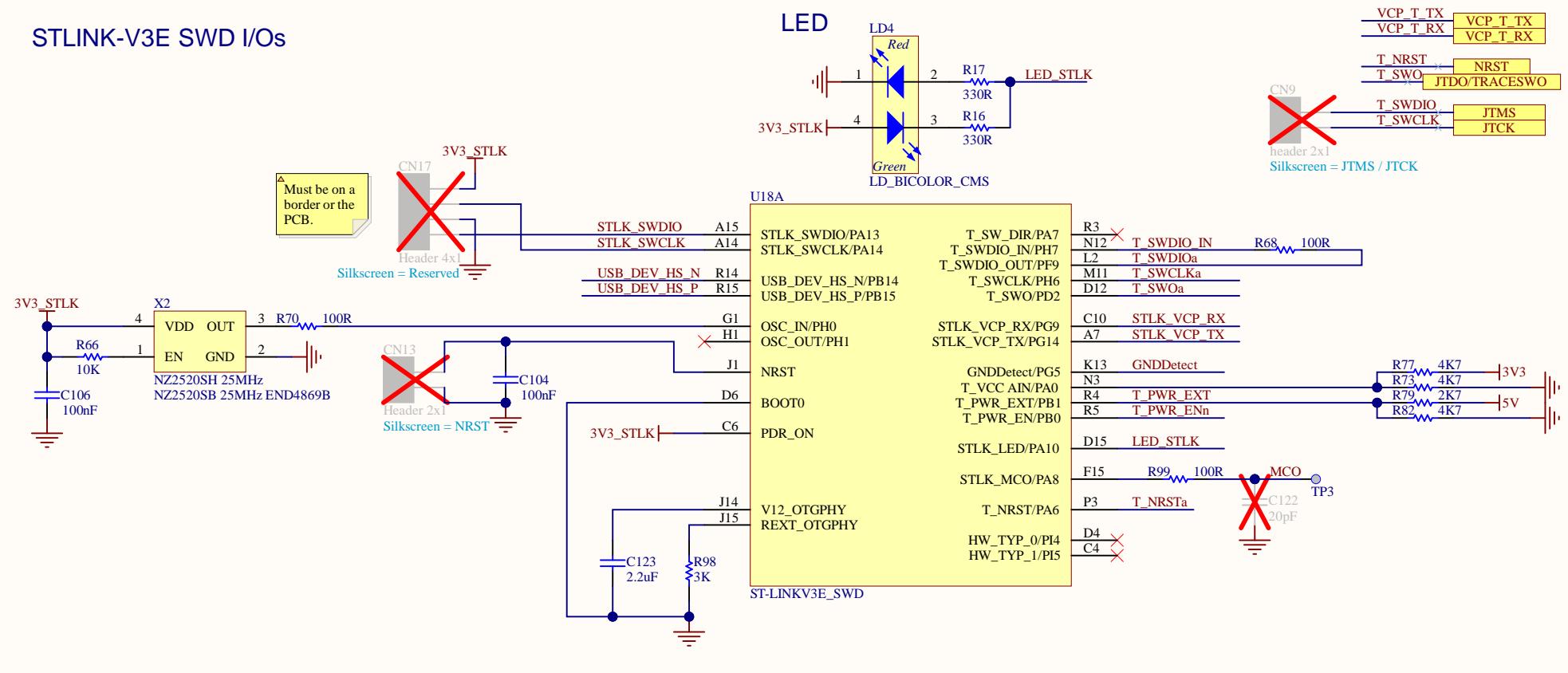


Title: <b>JTAG</b>	
Project: <b>STM32H7B3I-DK</b>	
Variant: <b>H7B3I</b>	
Revision: <b>C-01</b>	
Size: <b>A4</b>	Date: <b>21-FEB-20</b>
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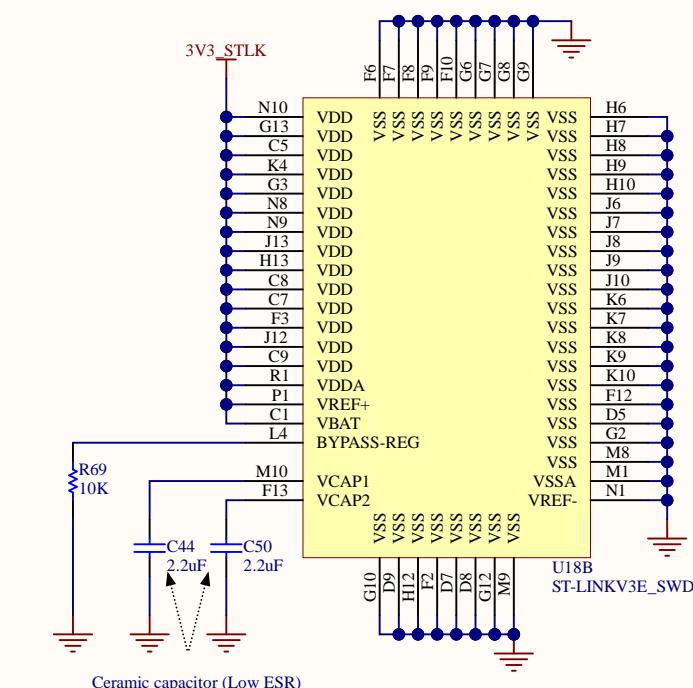


STLINK-V3E SWD

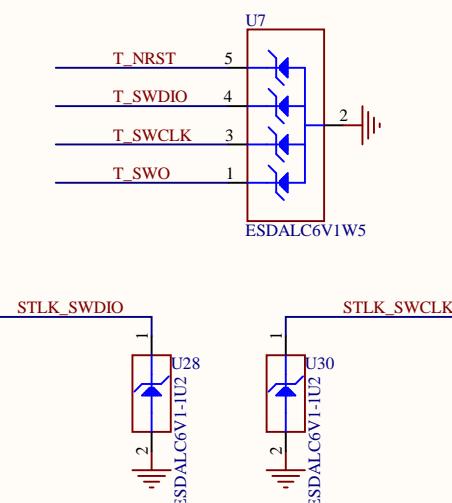
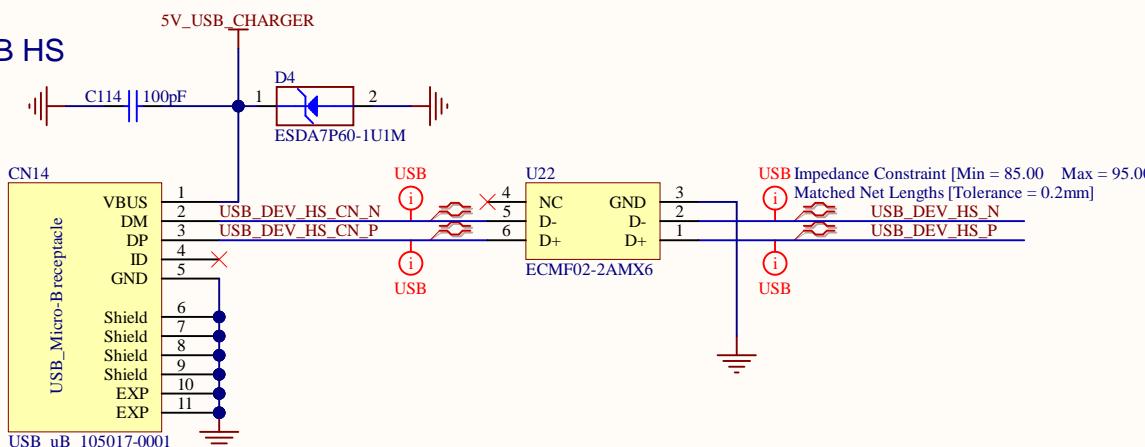
STLINK-V3E SWD I/Os



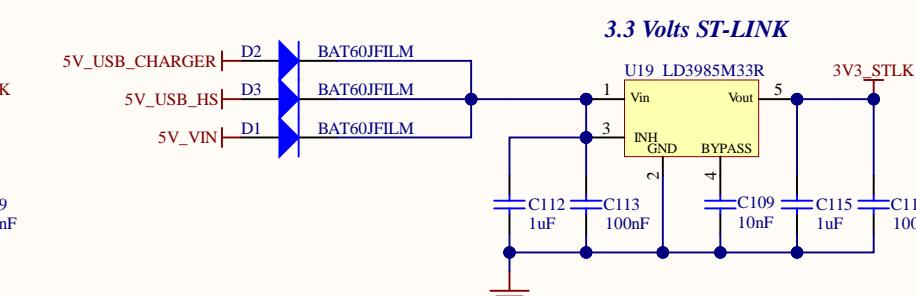
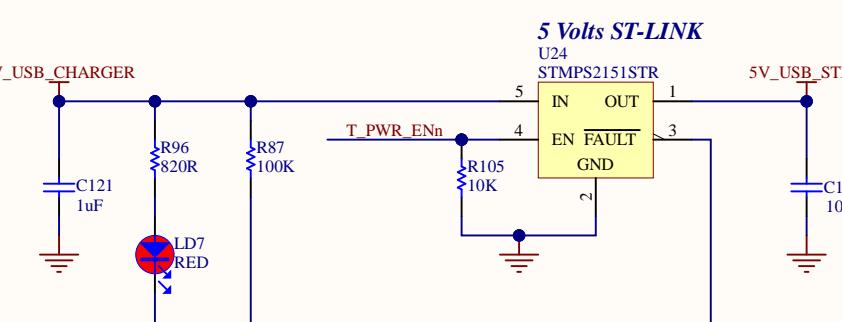
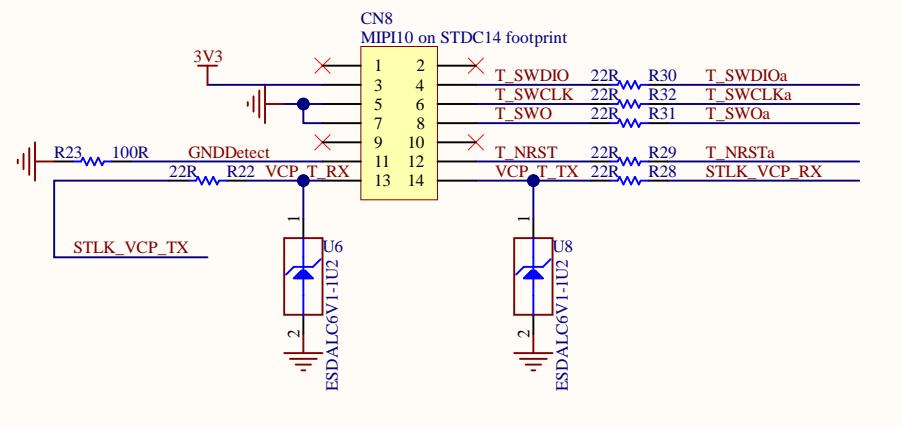
STLINK-V3E SWD POWER

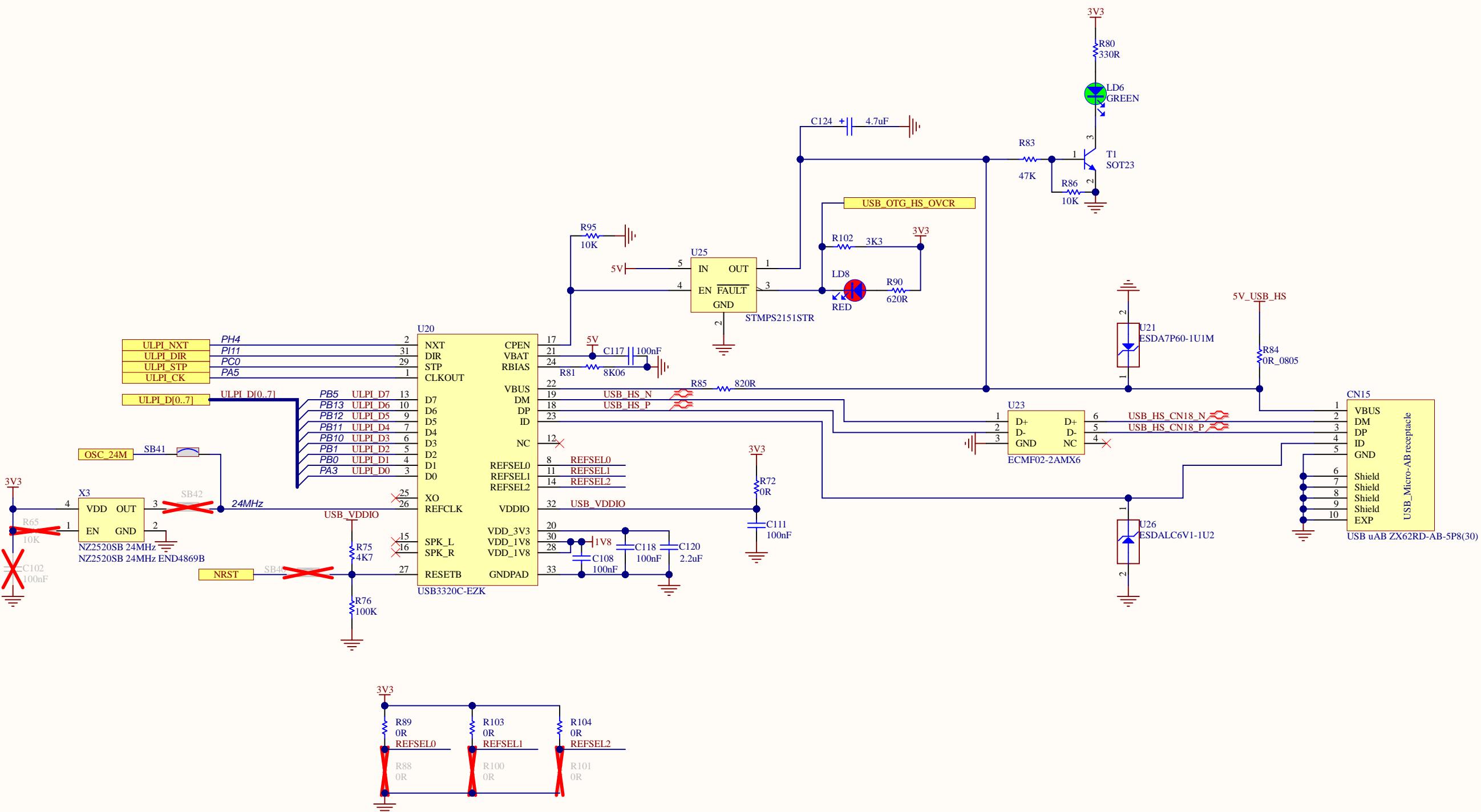


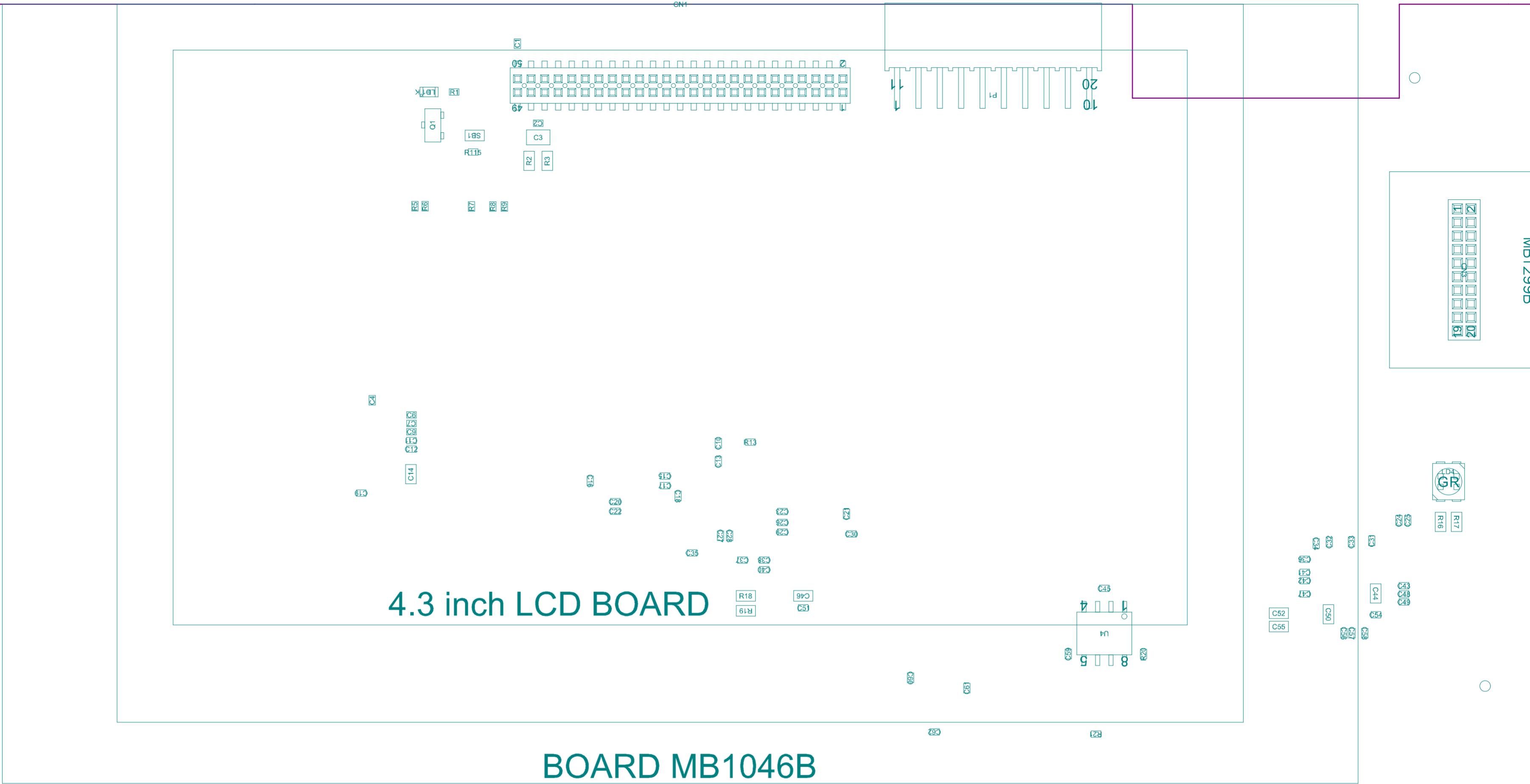
USB HS



STLINK-V3E SWD POWER







Project: STM32H7B3I-DK

Layer: M14-Top Assembly

Gerber: .GM14

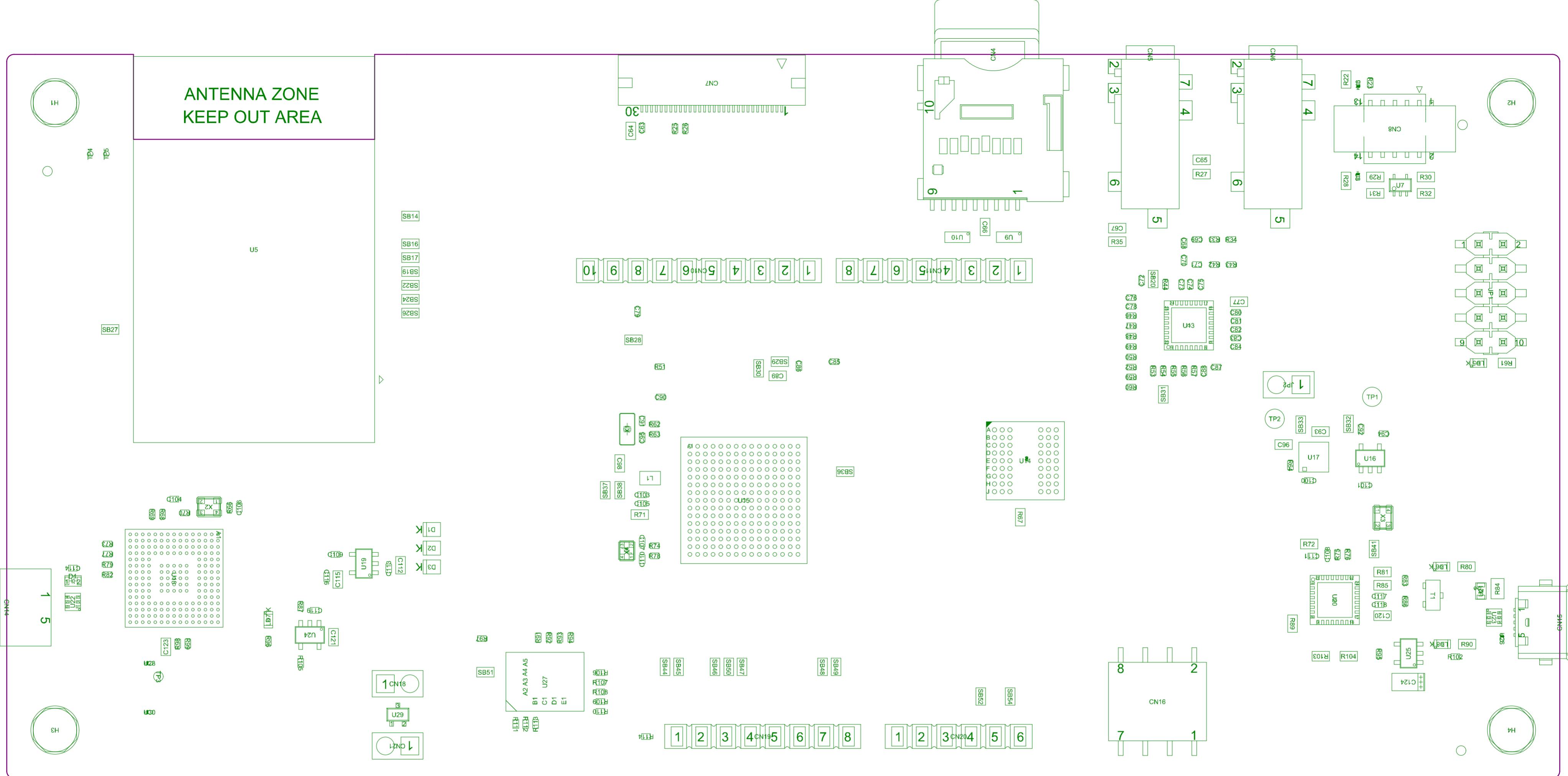
Variant: H7B3I

MB1332

Date: 21-FEB-20

Rev: C





# Project: STM32H7B3I-DK

## Layer: M15-Bottom Assembly

Gerber:.GM15

Variant: H7B3I

MB1332



