

STM32L552E-EVAL

MB1372

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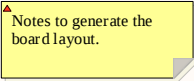
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Legend

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

Text to be added to silkscreen.

Warning text.



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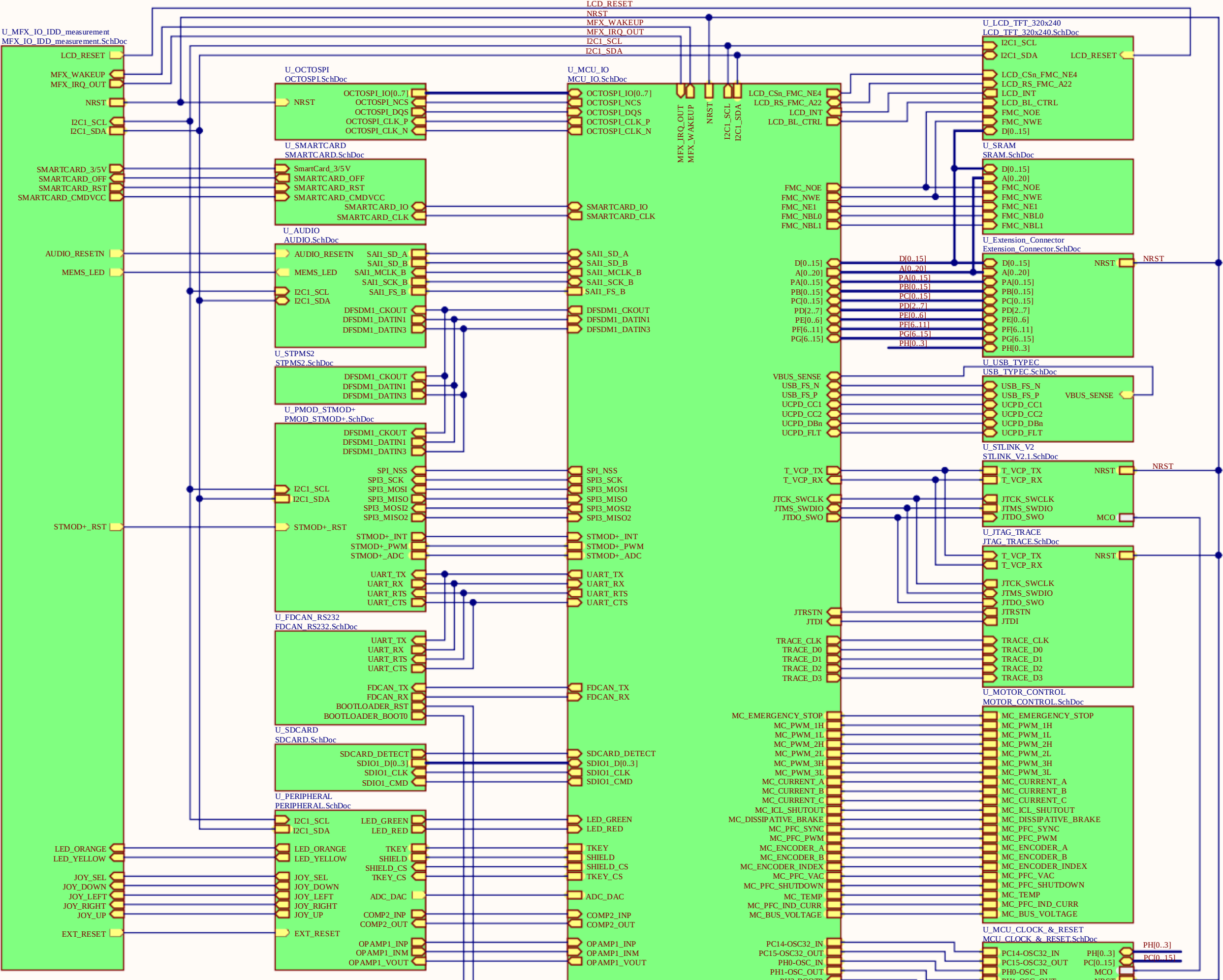
The complete Open Platform License Agreement can be found on www.st.com/opla.

U_MB1372_TOP
MB1372_TOP.SchDoc



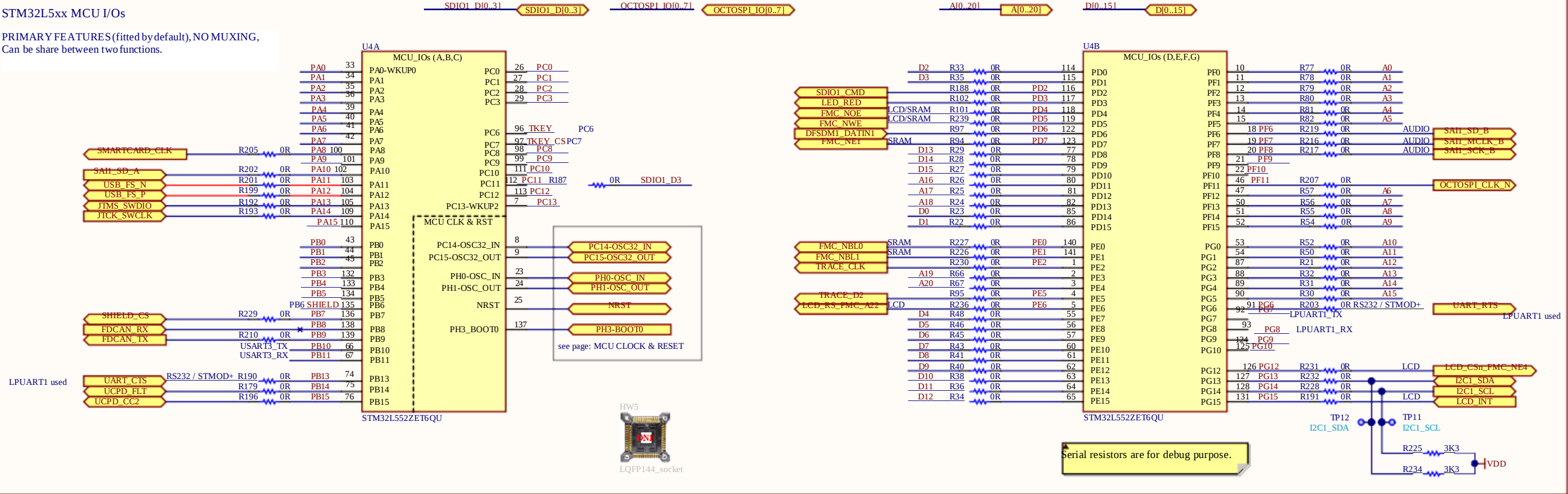
Title: Project overview		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02	Reference: MB1372	
Size: A4	Date: 27 MAY 2019	Sheet: 1 of 23





STM32L5xx MCU I/Os

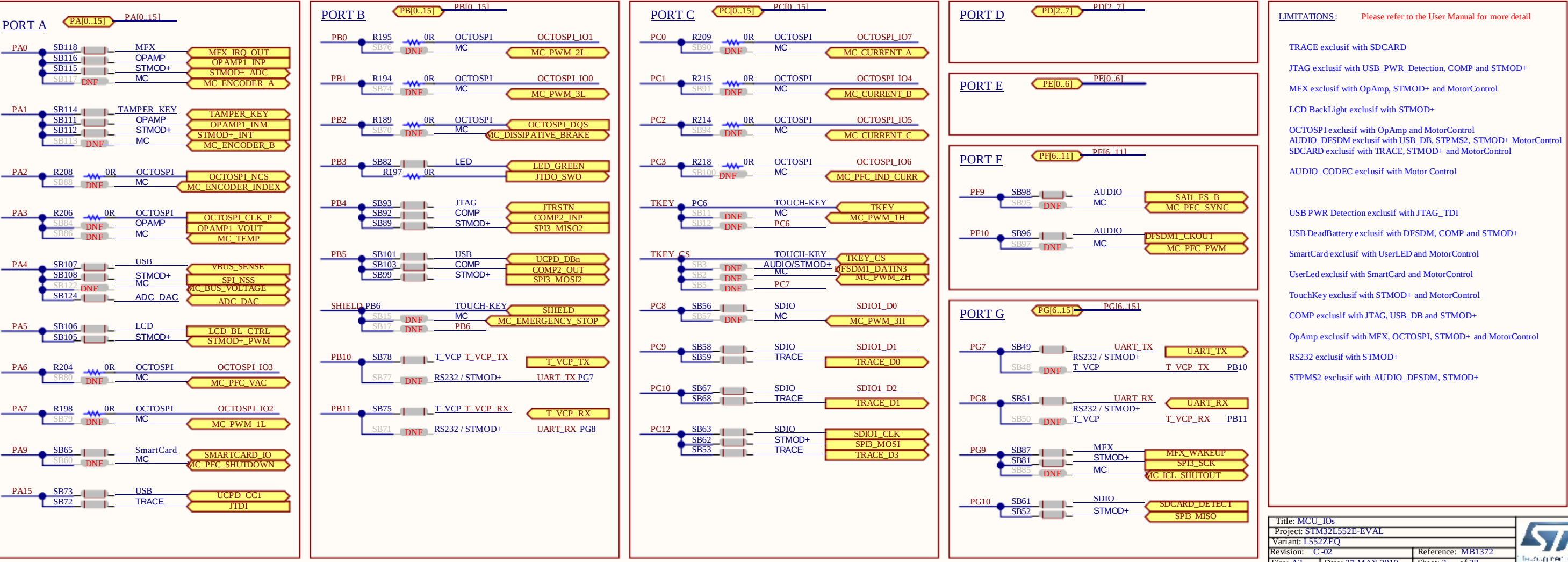
PRIMARY FEATURES(fitted by default),NO MUXING,
Can be share between two functions.



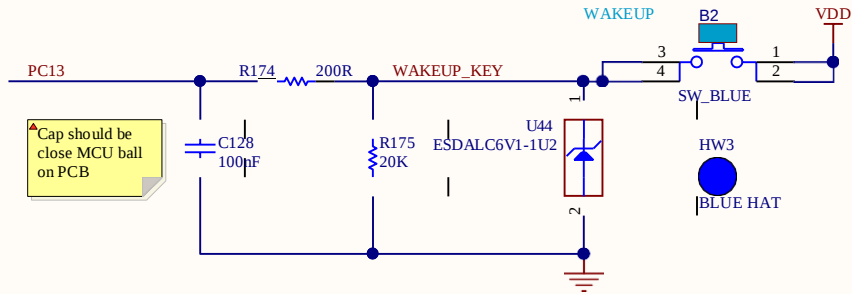
IO PORT MUXING TABLE

BOLD: PRIMARY FEATURES (exclusive use : SB fitted)

"ITALIC" front: SECONDARY FEATURES (can be not fitted by default)

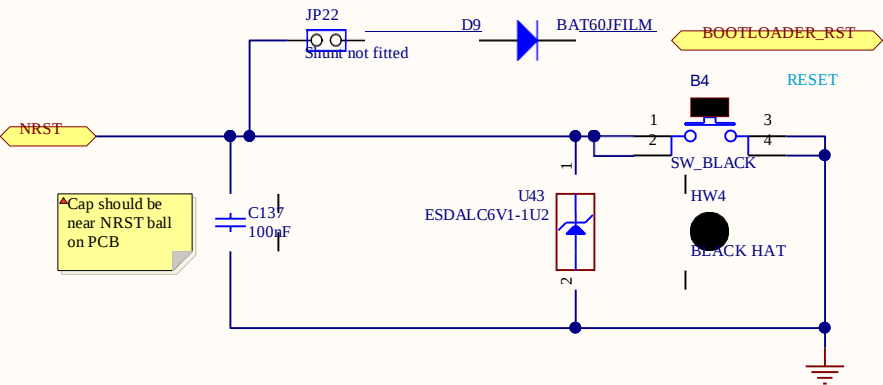


WAKEUP KEY



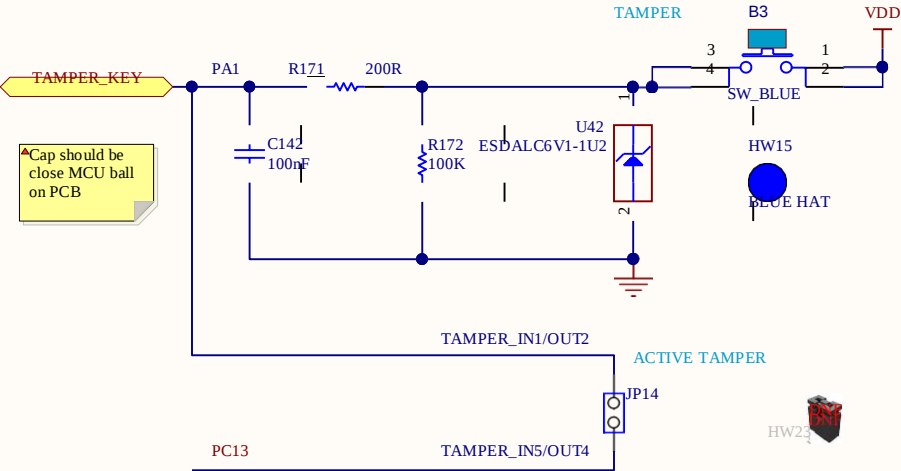
Cap should be close MCU ball on PCB

RESET FUNCTION



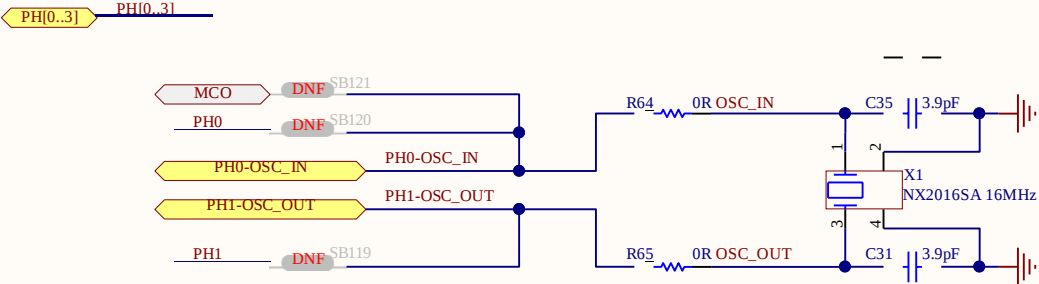
Cap should be near NRST ball on PCB

TAMPER FUNCTION



Cap should be close MCU ball on PCB

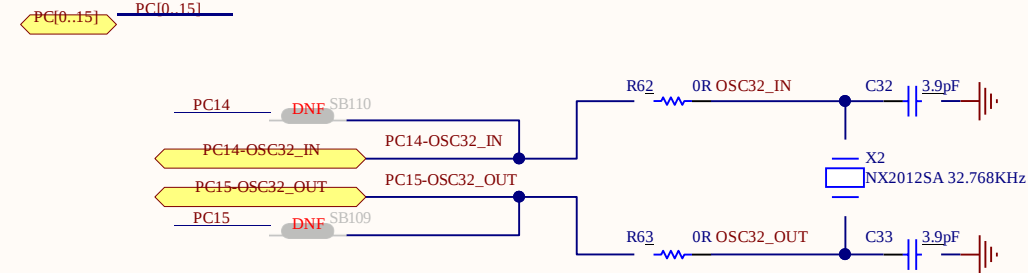
EXTERNAL HSE CLK



SB should be place close to the MCU to avoid stub on CLK lines

Please refer to STM AN2867: Oscillator design guide for STM32 microcontrollers

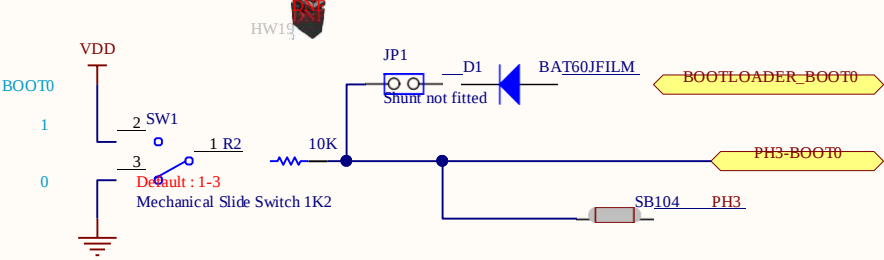
EXTERNAL LSE CLK



SB should be place close to the MCU to avoid stub on CLK lines

With SOCKET, update C32 and C33 to 1.8pF

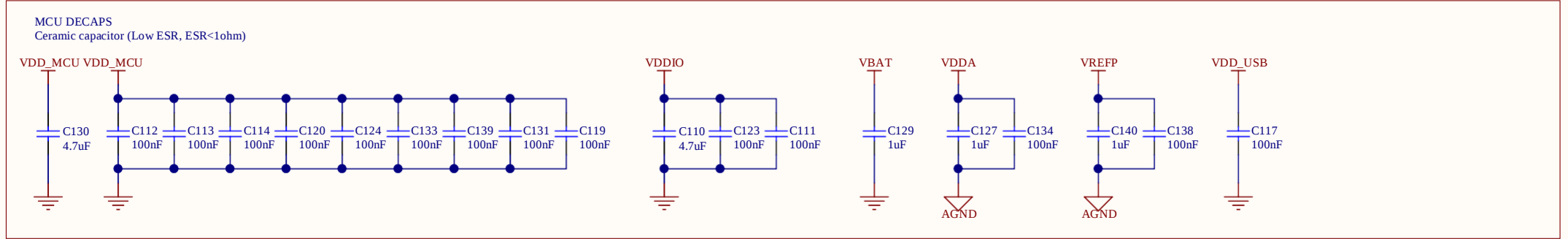
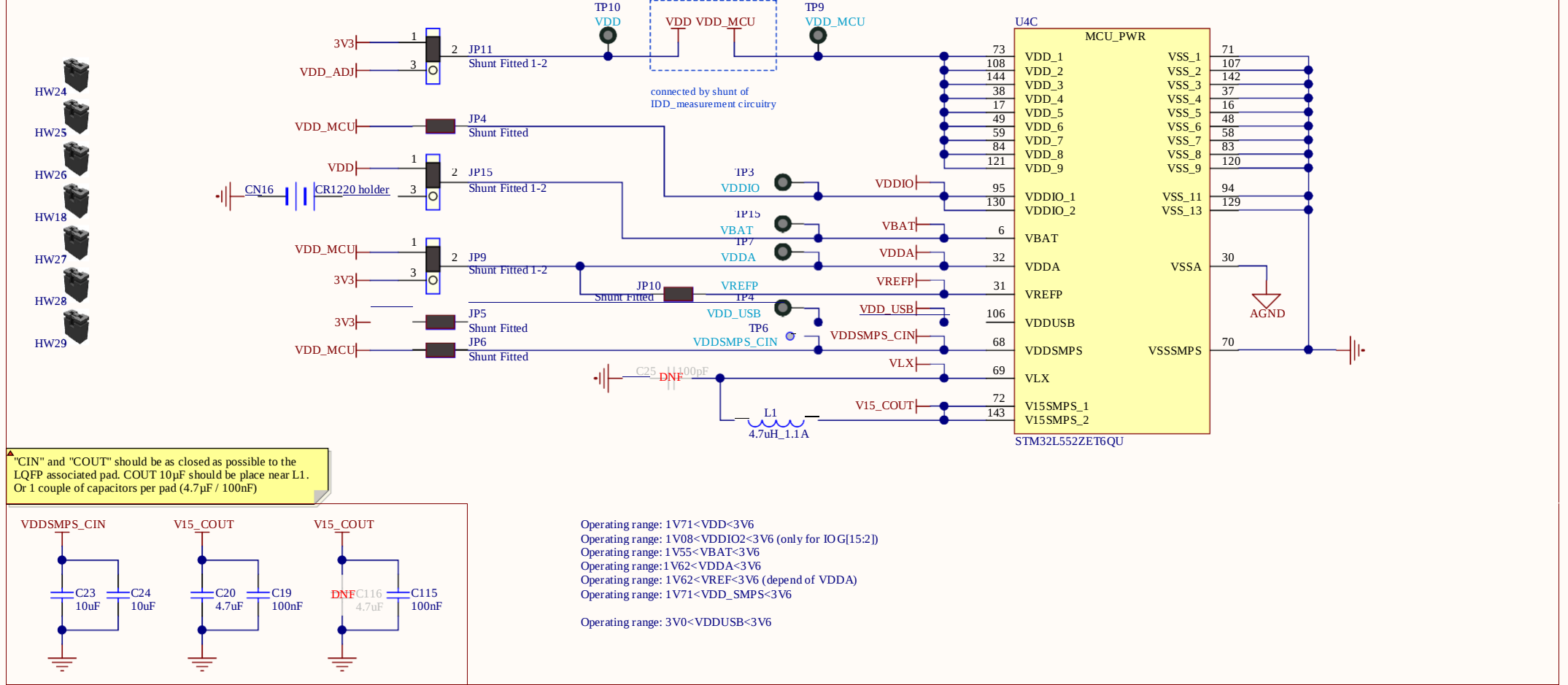
PH3_BOOT0



LIMITATIONS: see IO muxing sheet and User Manual for more detail

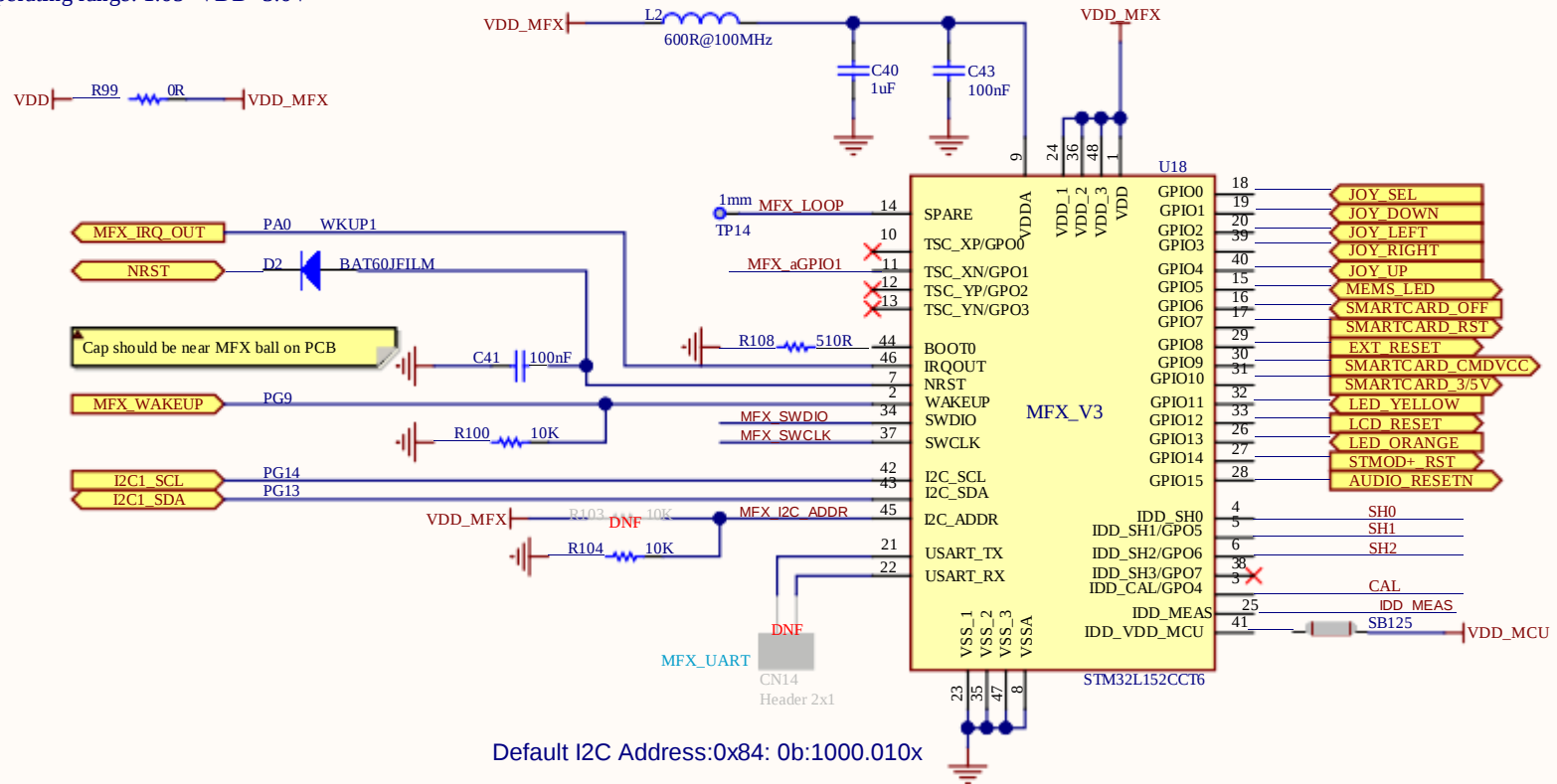
NO LIMITATION

MCU PWR SUPPLIES

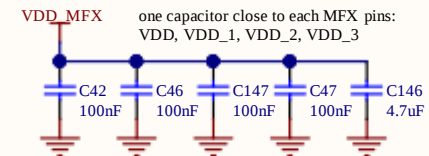


MFX I/O EXPANDER

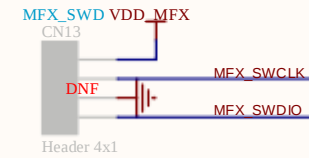
Operating range: $1.65 < V_{DD} < 3.6V$



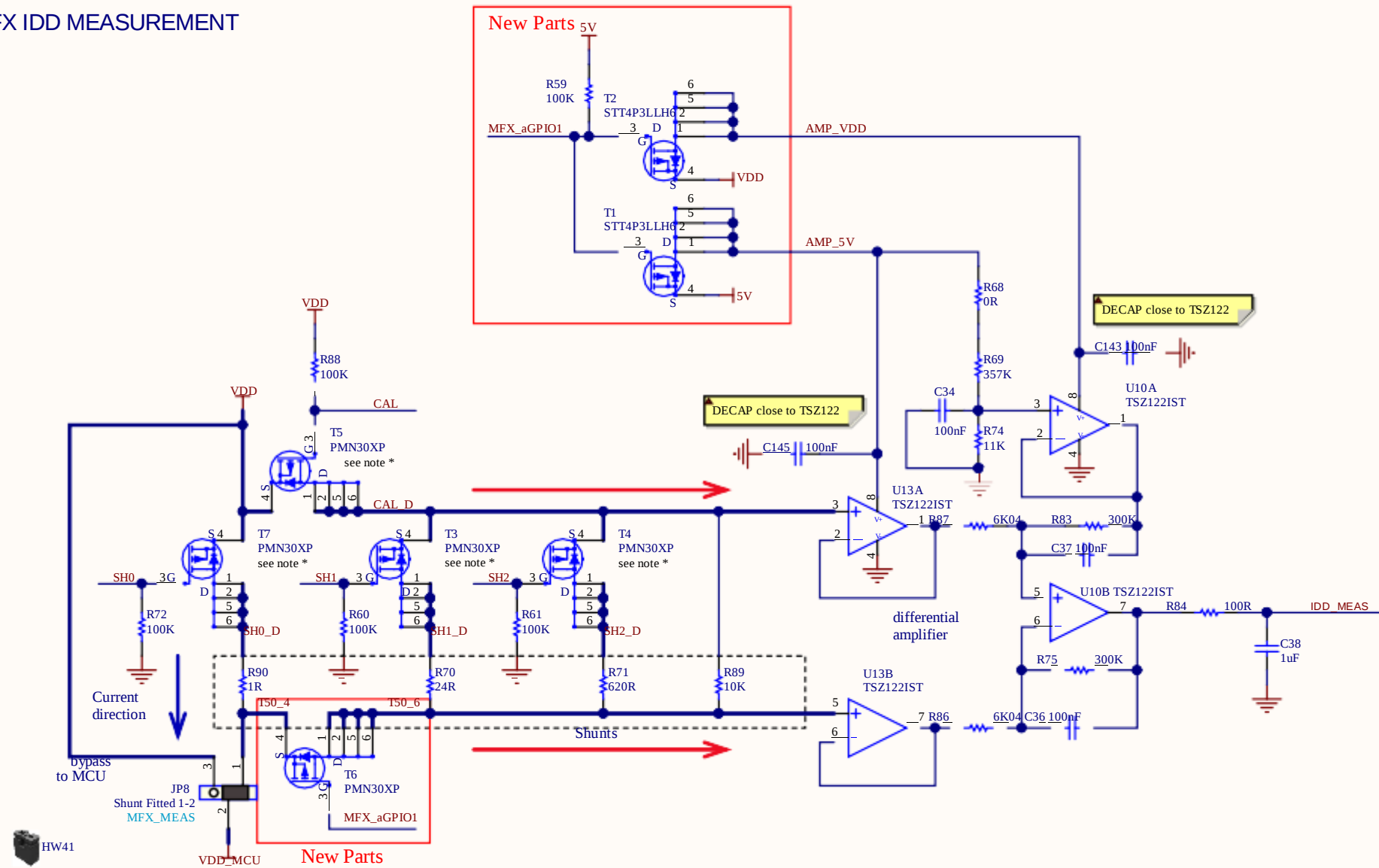
MFX DECAPS



MFX DEBUG SWD INTERFACE



MFX IDD MEASUREMENT

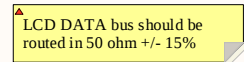


LIMITATIONS: see IO muxing sheet and User Manual for more detail

MFX_WAKEUP (prio1) exclusif with STMOD+ and MC (prio2)
MFX_IRQ_OUT (prio1) exclusif with OpAmp, STMOD+ and MC (prio2)



Operating range: $1.65 < V_{DD} < 3.3V$

[illegible]

H3

HW45
NUT M3

HW22
SCREWS M3x18

HW46
Spacer M3x10

H4

HW48
NUT M3

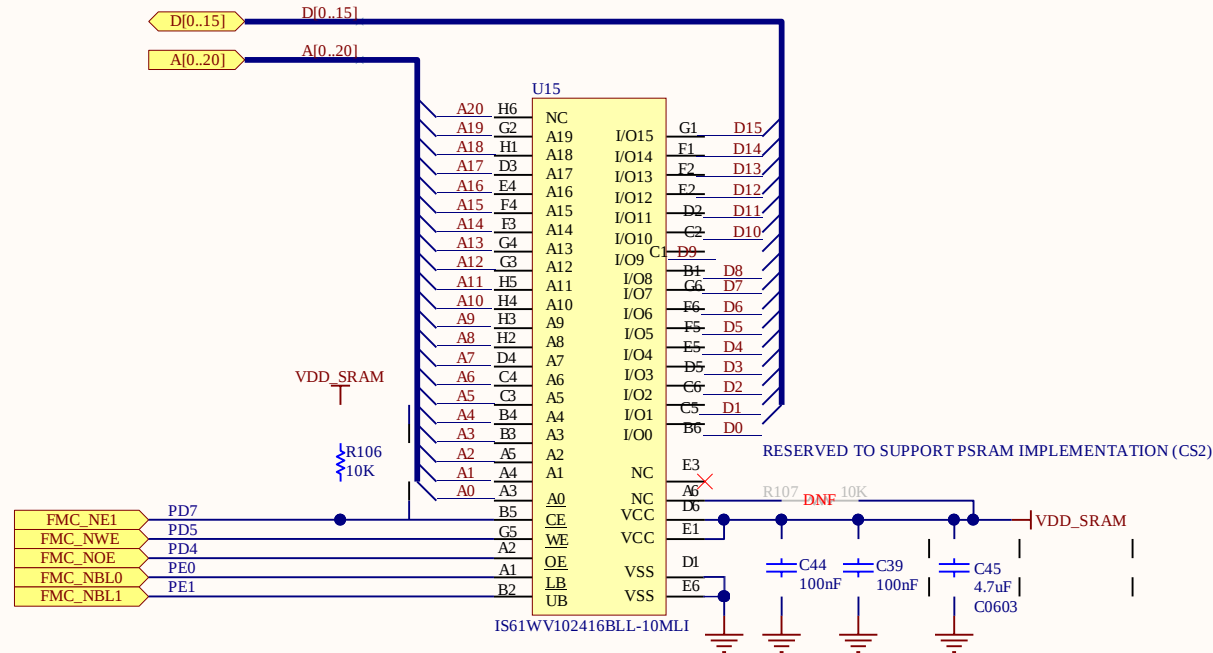
HW47
SCREWS M3x18

HW49
Spacer M3x10

LCD_BL_CTRL (prio1) exclusif with STMOD+ (prio2)

Title: LCD			 www.st.com
Project: STM32L552E-EVAL			
Variant: L552ZEQ			
Revision: C-02		Reference: MBI372	
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Operating range: $2.4 < V_{DD} < 3.6V$



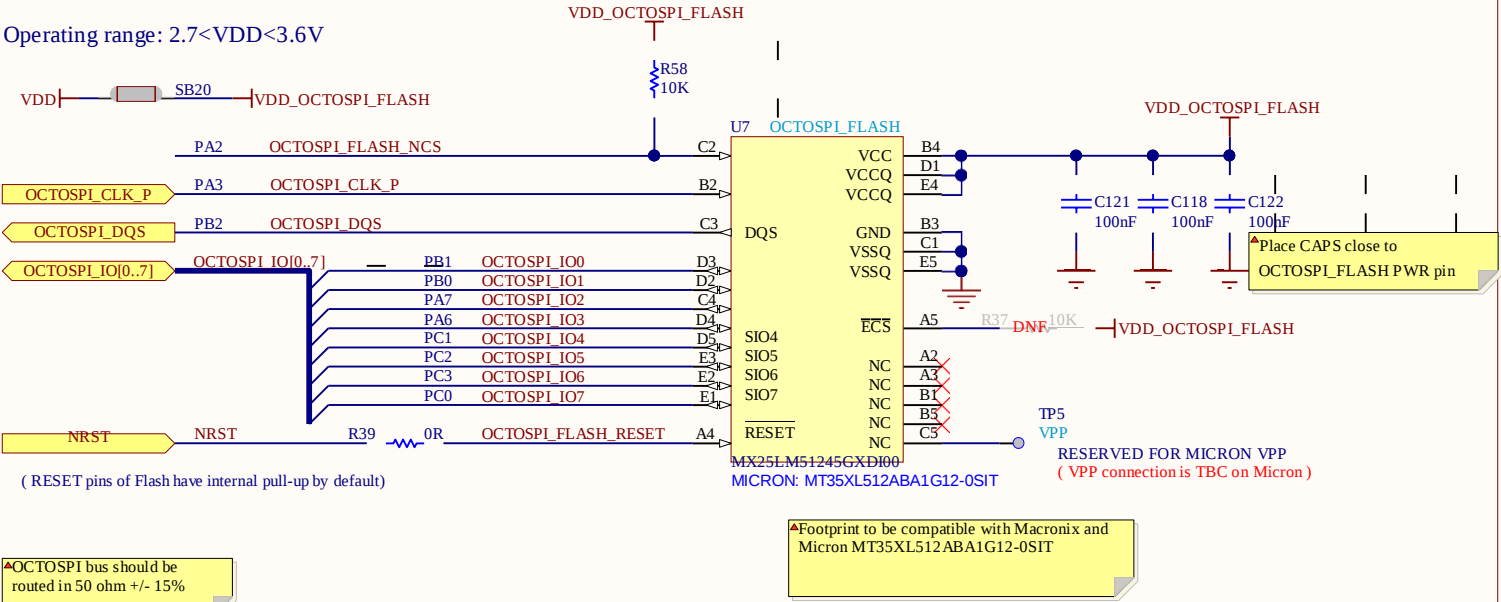
Place CAPS close to SRAM PWR pin

Title: SRAM		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02		Reference: MB1372
Size: A4	Date: 27 MAY 2019	Sheet: 8 of 23

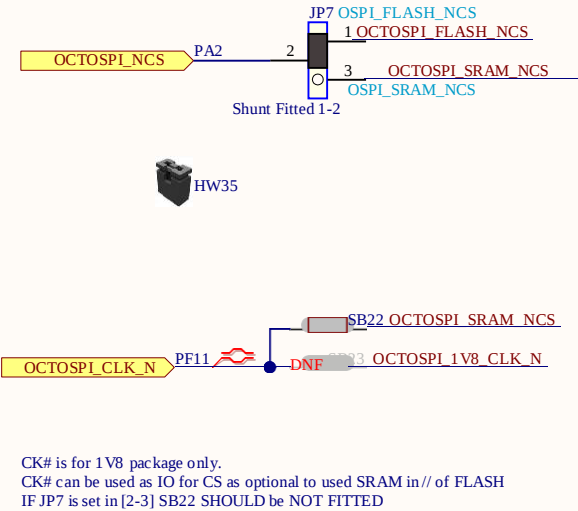


OCTOSPI FLASH

Operating range: 2.7<VDD<3.6V

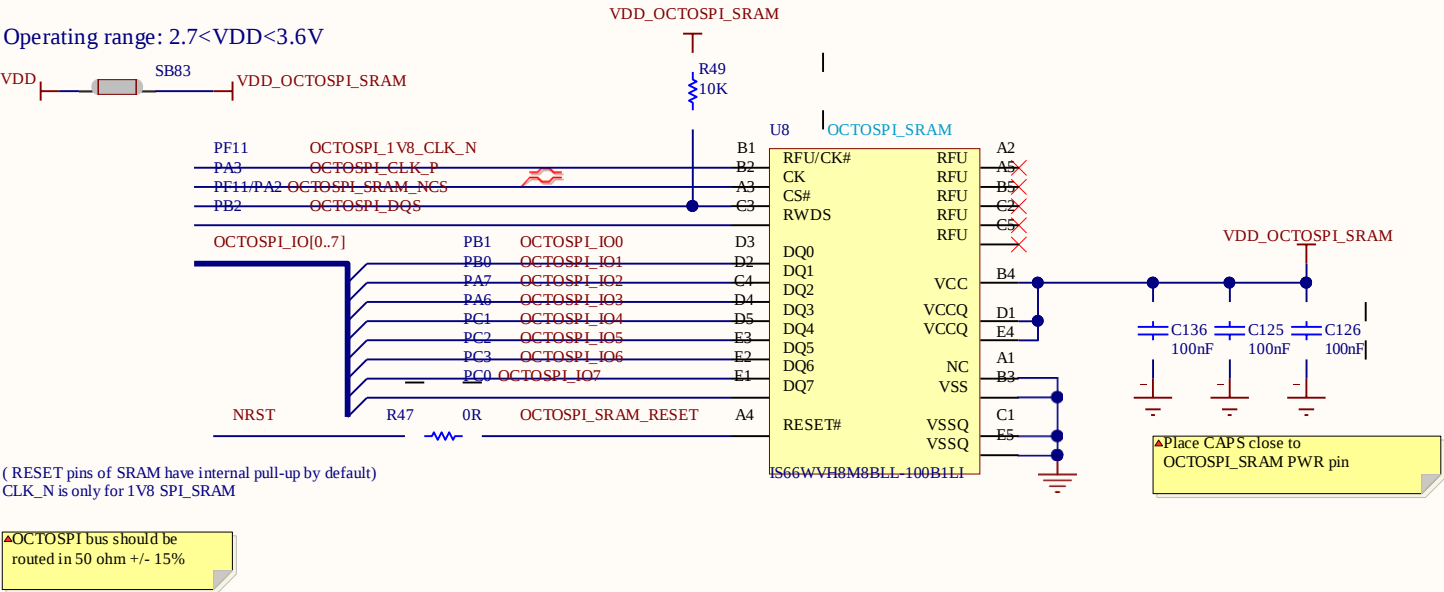


OCTOSPI NCS SELECTION



OCTOSPI SRAM

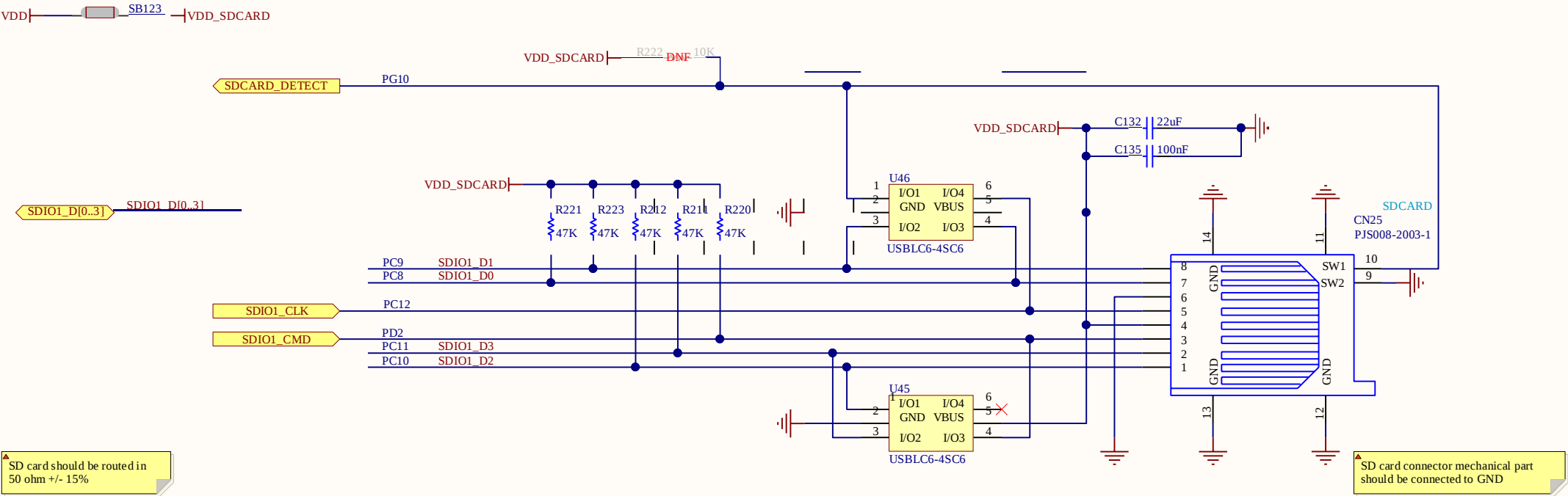
Operating range: 2.7<VDD<3.6V



LIMITATIONS: see IO muxing sheet and User Manual for more detail

All OCTOSPI IO shared with MC.
OCTOSPI (prio1) exclusif with MC (prio2)
OCTOSPI_CLK (prio1) exclusif with OpAmp (prio2)

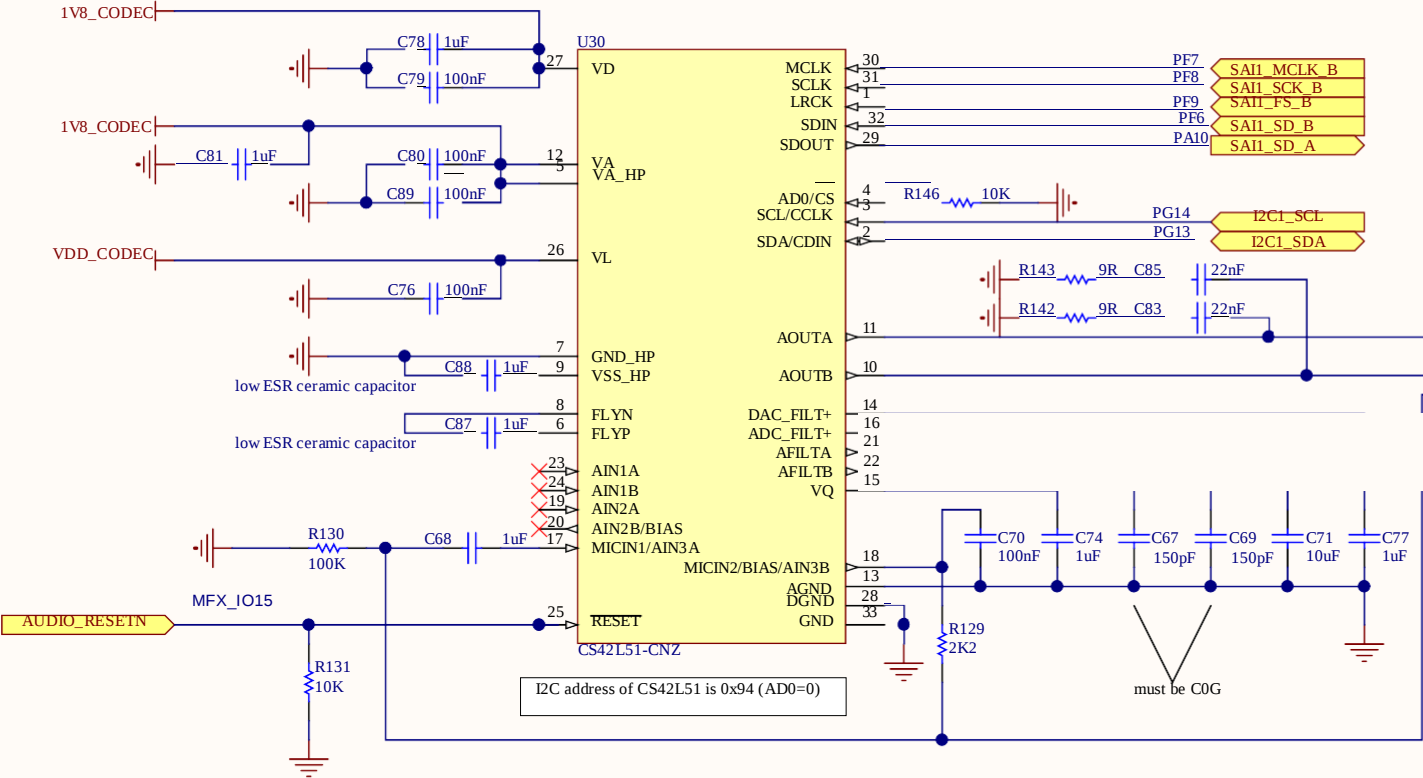
SD CARD
Operating range: 2.7<VDD<3.6V



LIMITATIONS: see IO muxing sheet and User Manual for more detail

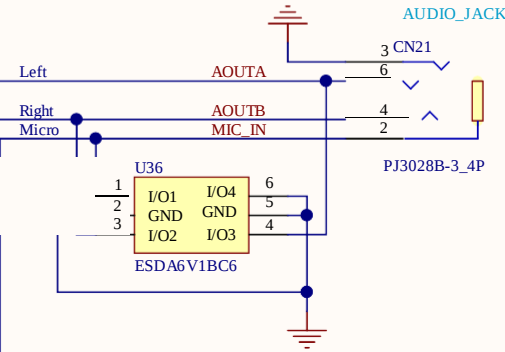
SDIO_CLK/D1/D2 (prio1) exclusif with TRACE_D0/D1/D3 (prio2)
SDIO_D0 (prio1) exclusif with MC (prio2)
SDIO_CLK and SD_CARD_DETECT (prio1) exclusif with STMOD+ (prio2)

AUDIO CODEC



Operating range: $1.65 < V_L < 3.47V$
Operating range: $1.65 < V_A/V_D < 2.63V$

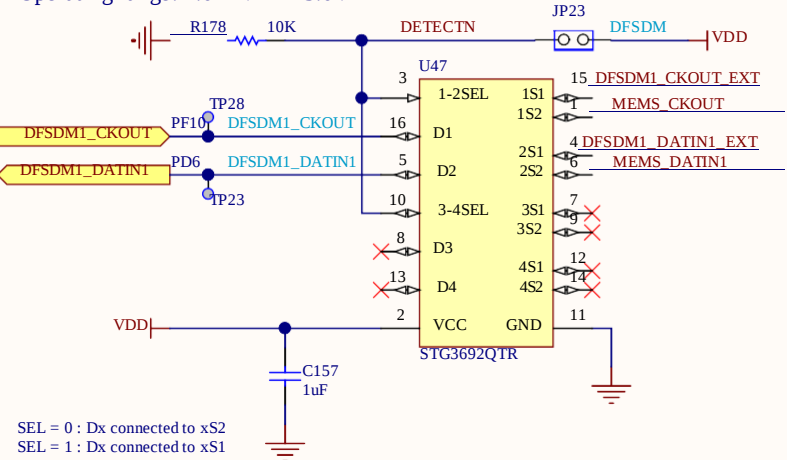
AUDIO STEREO OUTPUT
with microphone input



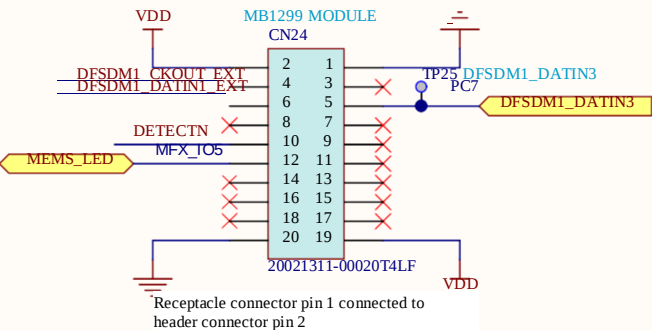
LIMITATIONS: see IO muxing sheet and User Manual for more detail
SAI_FS_B (prio1) exclusif with MotorControl (prio2)

Extension microphones module

Operating range: $1.64 < VDD < 3.6V$



SEL = 0 : Dx connected to xS2
SEL = 1 : Dx connected to xS1

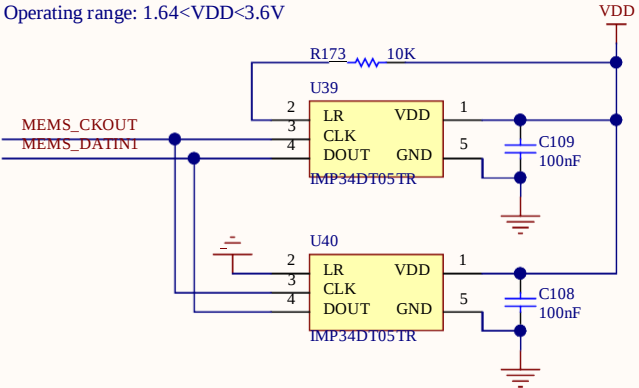


LIMITATIONS: see IO muxing sheet and User Manual for more detail

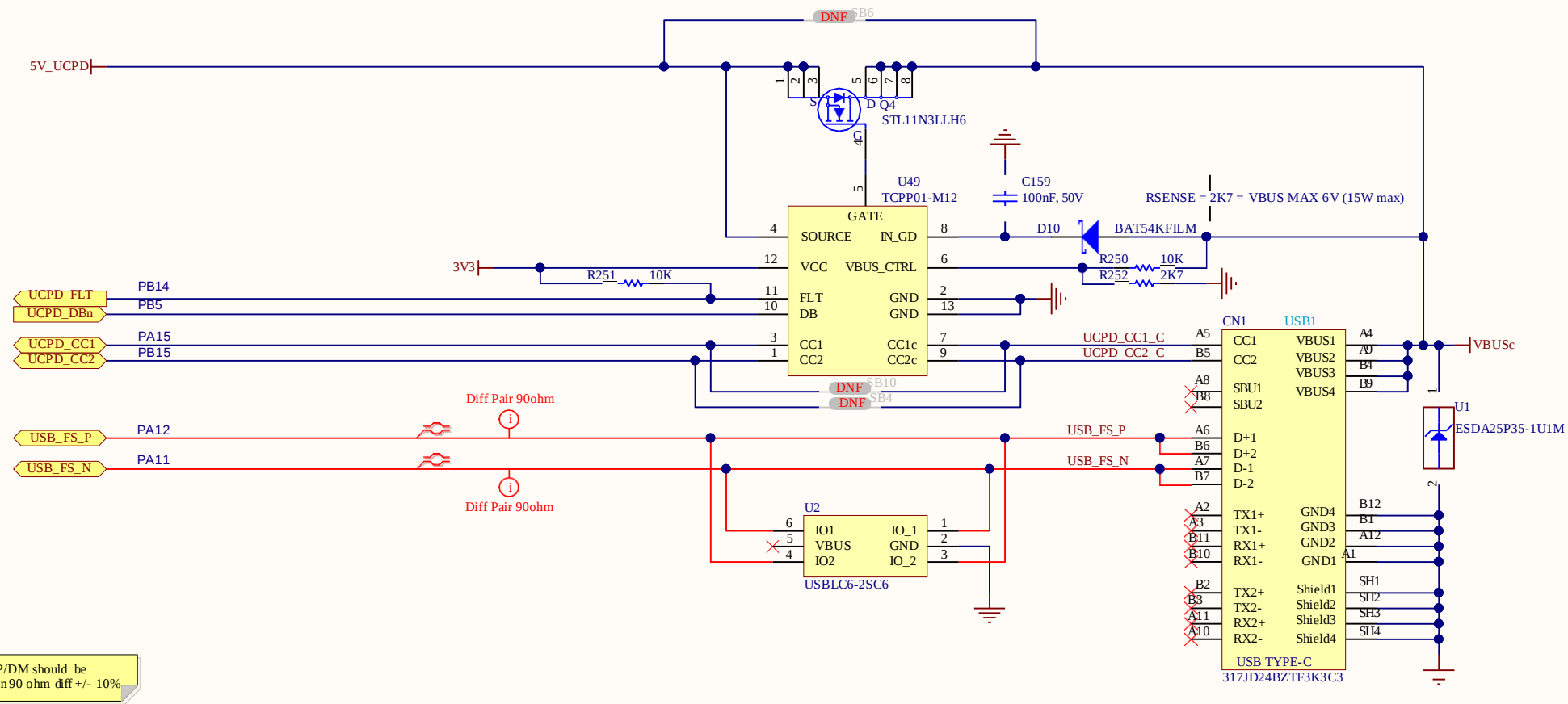
DFSDM1_CKOUT shared between MEMS, ext MEMS, STPMS2, STMOD+
DFSDM1_CKOUT (pio1) exclusif with MC (prio2)
DFSDM1_DATIN1 (prio1) shared between MEMS, STPMS2 and STMOD+

MEMS

Operating range: $1.64 < VDD < 3.6V$

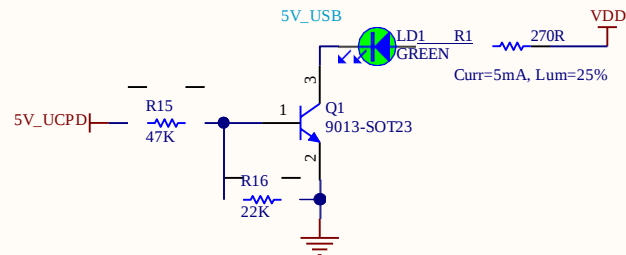


USB_TYPE_C

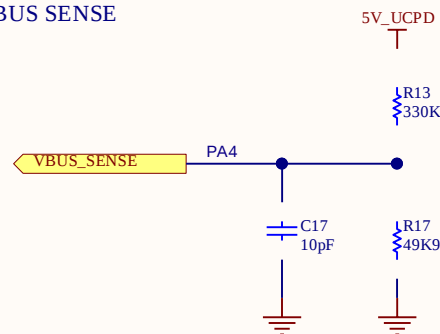


USB DP/DM should be routed in 90 ohm diff +/- 10%

5V_USB_LED



VBUS SENSE



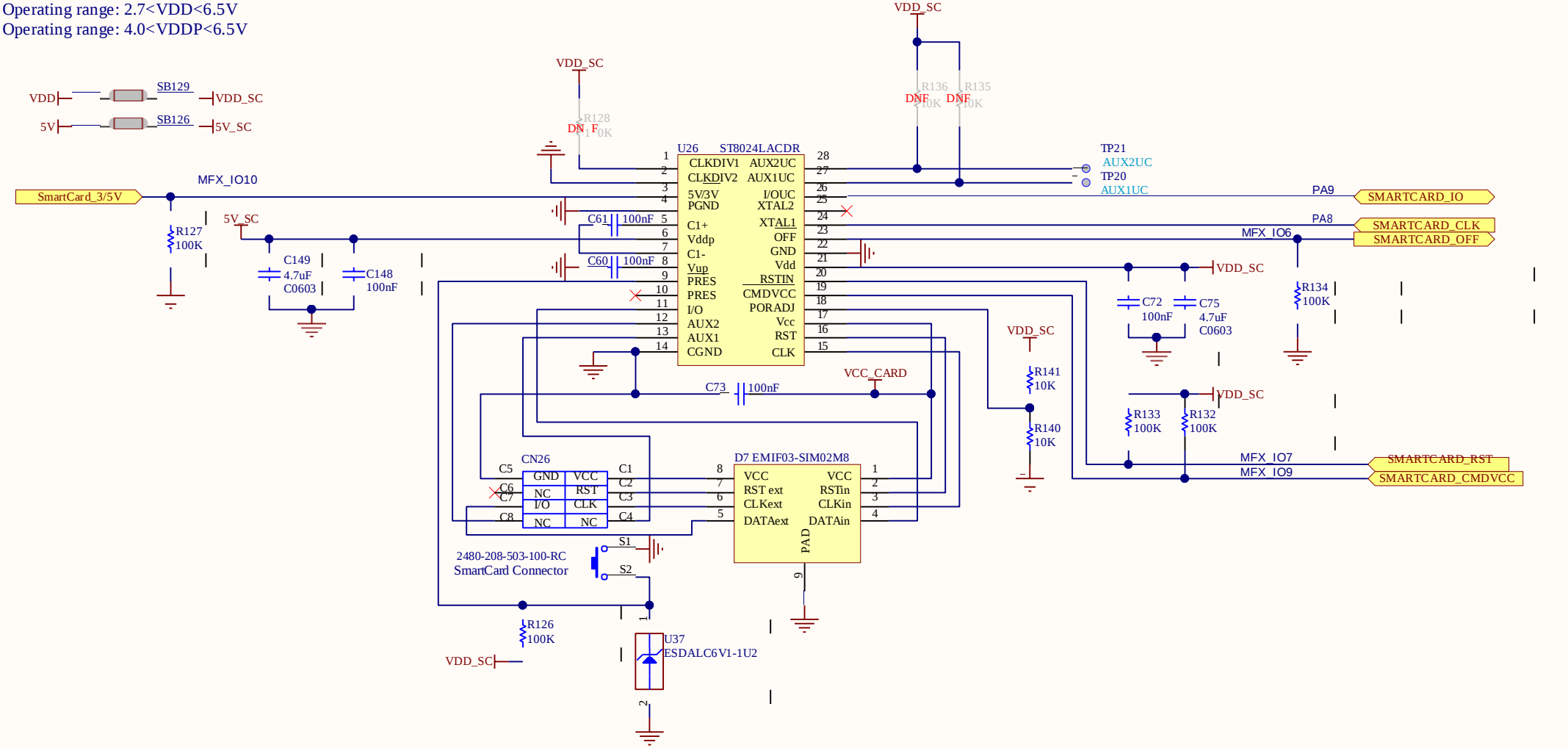
LIMITATIONS: see IO muxing sheet and User Manual for more detail

USB_CC1 (prio1) exclusif with JTAG_TDI (prio2)
USB_DBN (prio1) exclusif with COMP and STMOD+ (prio2)



SmartCard

Operating range: 2.7<VDD<6.5V
Operating range: 4.0<VDDP<6.5V



LIMITATIONS : see IO muxing sheet and User Manual for more detail

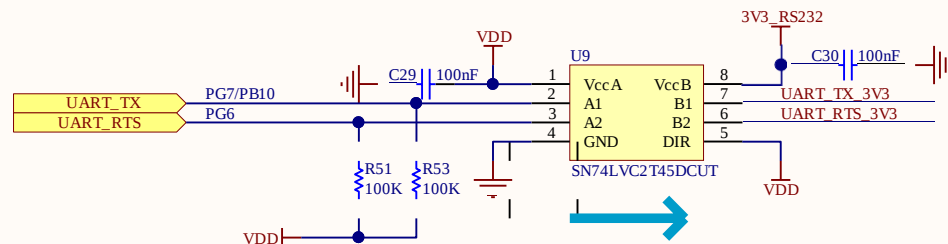
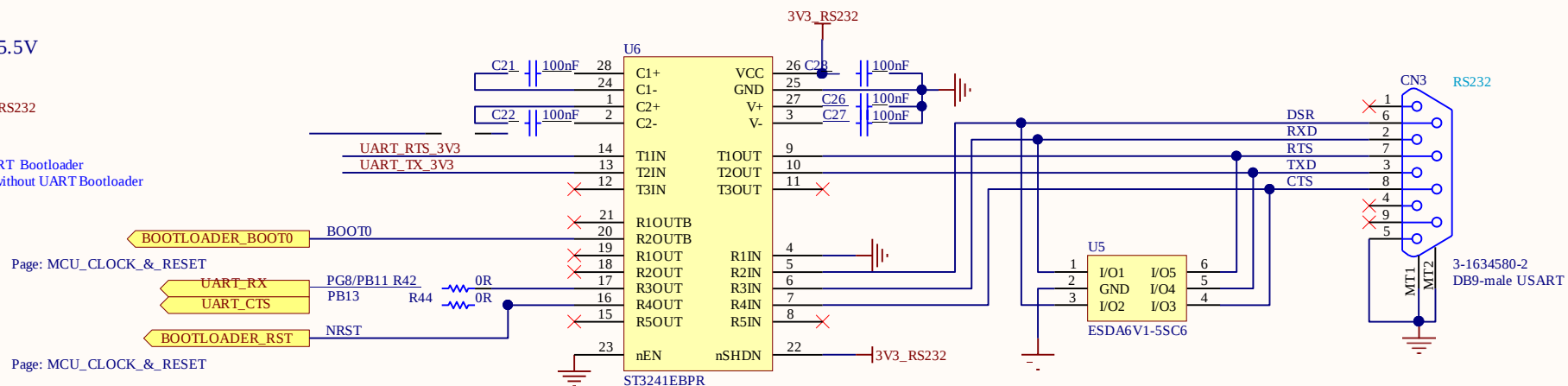
SmartCard_CLK (prio2) exclusif with UserLED Red (prio1)
SmartCard_TX (prio2) exclusif with UserLED Green (prio1) and MC (prio2)

Title: SMARTCARD		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02	Reference: MB1372	
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Operating range: $3V < V_{CC} < 5.5V$

RS232 interface can be:
 UART3 2wires RX/TX supported UART Bootloader
 LPUART1 4wires RX/TX/RTS/CTS without UART Bootloader

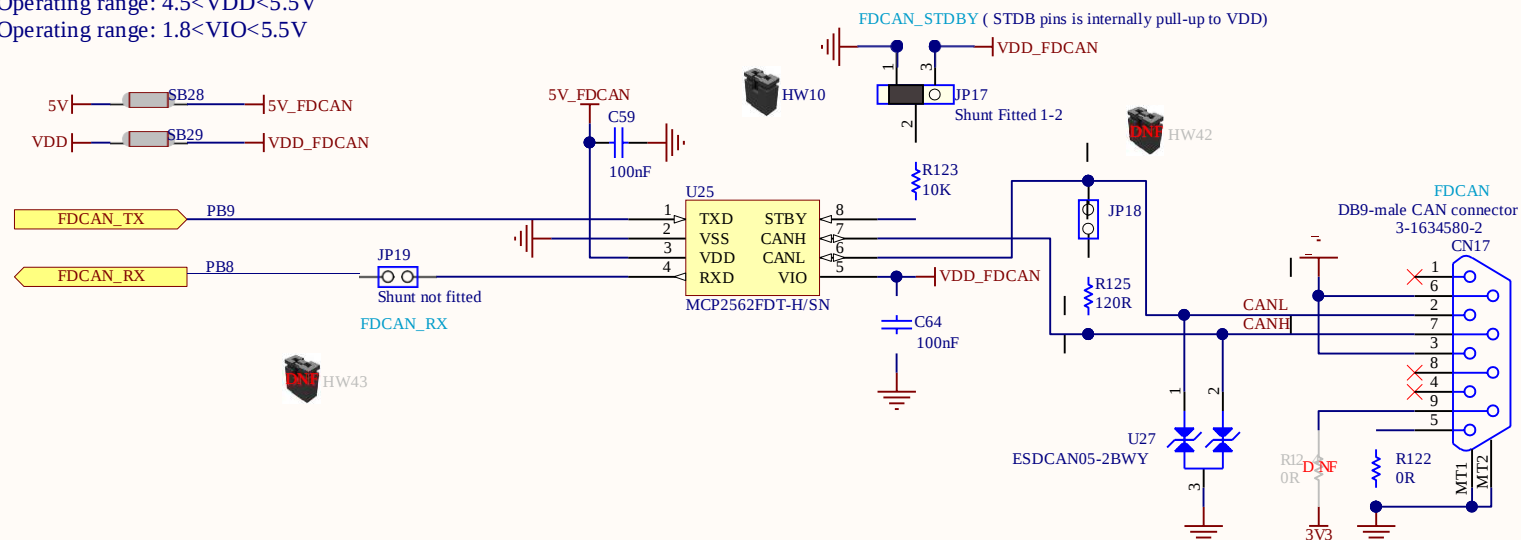


LIMITATIONS: see IO muxing sheet and User Manual for more detail

RS232 interface shared with STMOD+ UART interface

Operating range: $4.5 < V_{DD} < 5.5V$

Operating range: $1.8 < V_{IO} < 5.5V$

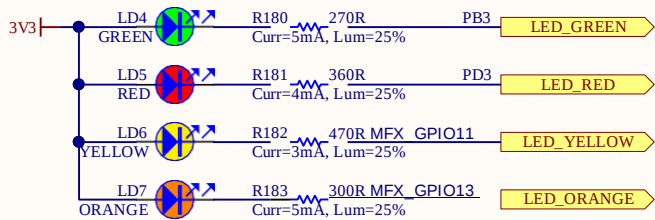


LIMITATIONS: see IO muxing sheet and User Manual for more detail
No Limitation

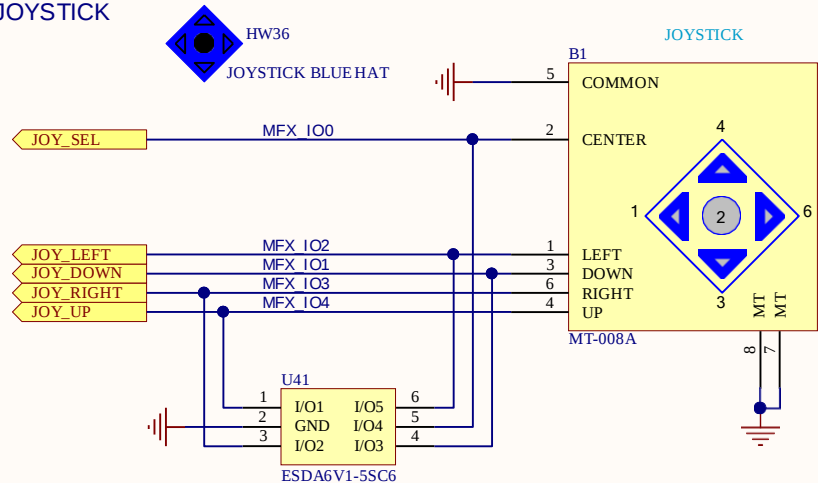
Title: FDCAN_RS232		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02		Reference: MB1372
Size: A4	Date: 27 MAY 2019	Sheet: 14 of 23



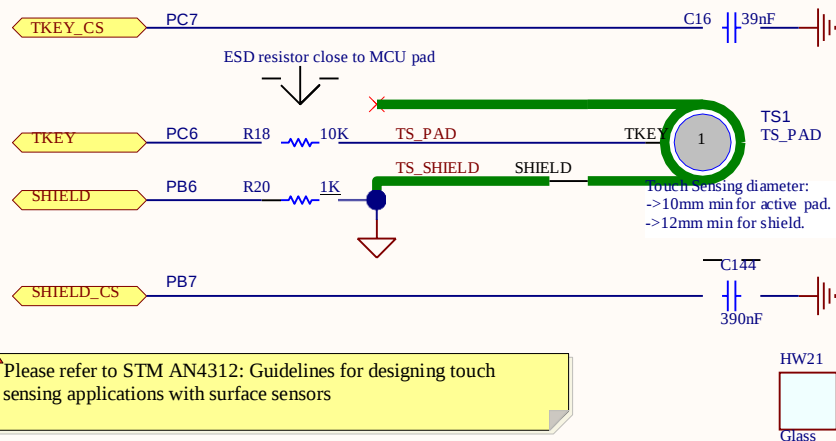
LEDs



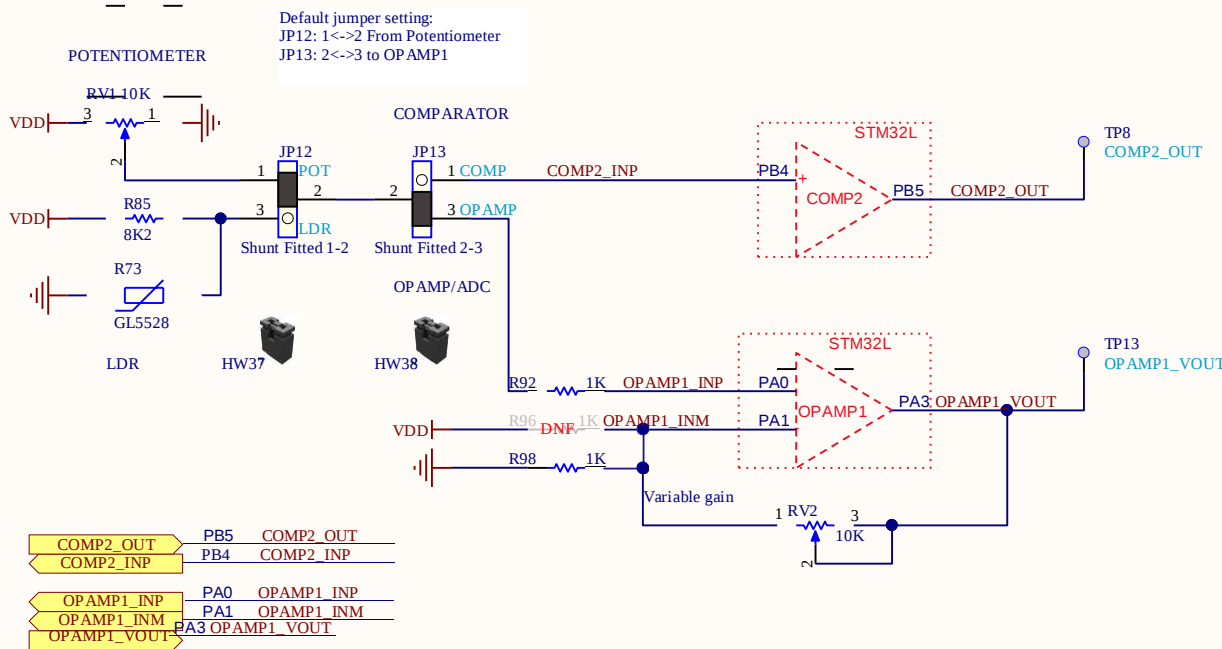
JOYSTICK



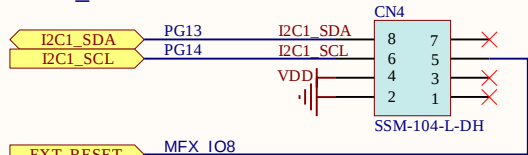
TOUCH_KEY



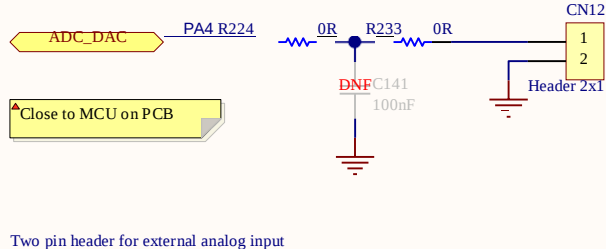
LDR / POTENTIOMETER



EXT_I2C

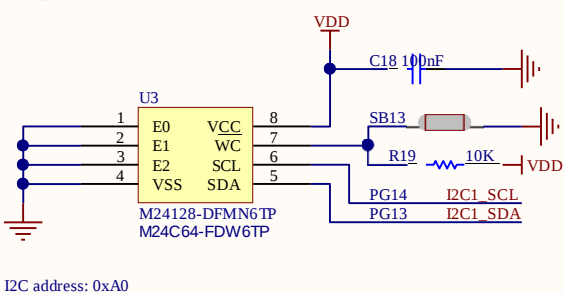


ADC / DAC CONNECTOR



I2C EEPROM

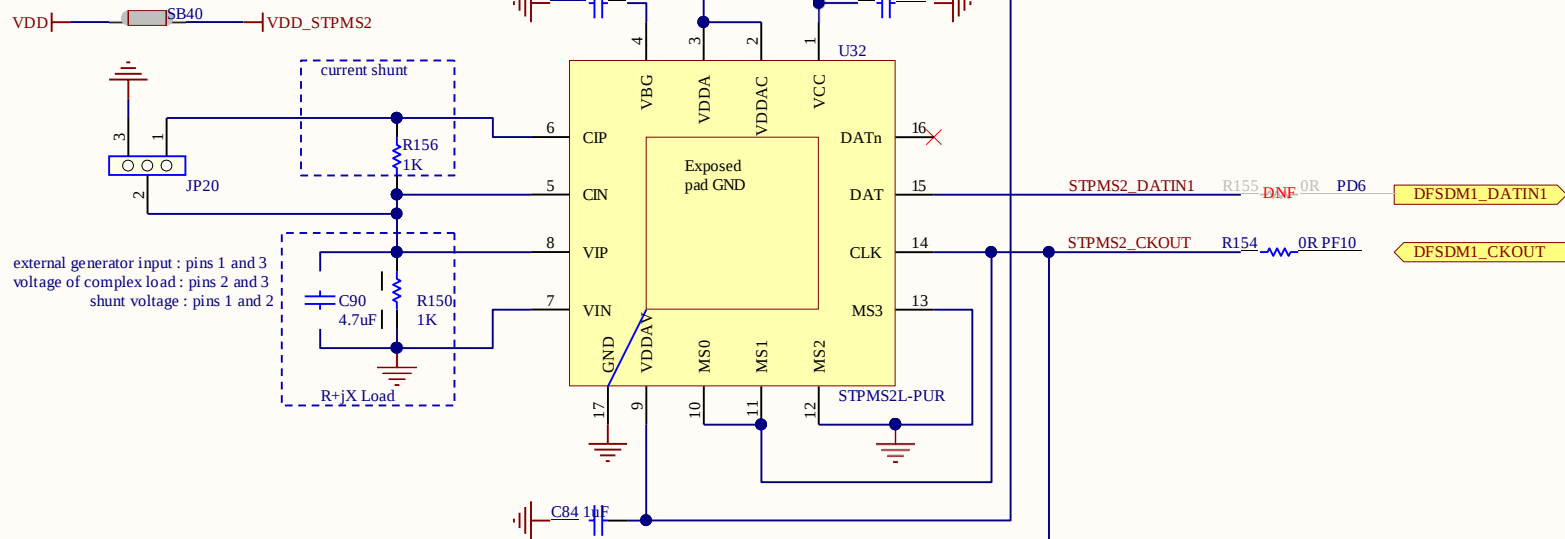
Operating range: 1.7V<VCC<5.5V



LIMITATIONS: see IO muxing sheet and User Manual for more detail

UserLED Green and Red (prio1) exclusif with SmarCard (prio2)
TouchKey exclusif with STMOD+ and MotorControl
COMP exclusif with JTAG, USB_DBN and STMOD+
OpAmp exclusif with MFX, OCTOSPI, STMOD+ and MotorControl

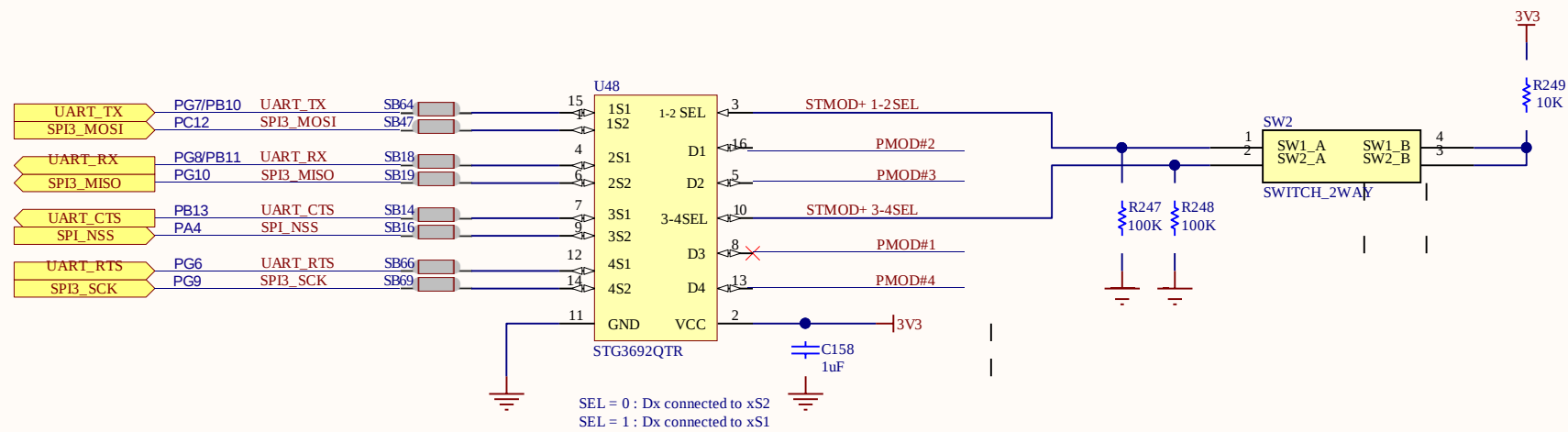
Operating range: $3.2 < V_{DD} < 5.5V$

[illegible]

DFSDM1_CKOUT shared between MEMS, ext MEMS, STPMS2, STMOD+
DFSDM1_CKOUT (pio1) exclusif with MC (prio2)
DFSDM1_DATIN1 shared between MEMS, STPMS2 and STMOD+
DFSDM1_DATIN3 exclusif with TouchKey and MC

Title: STPMS2		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02		Reference: MB1372
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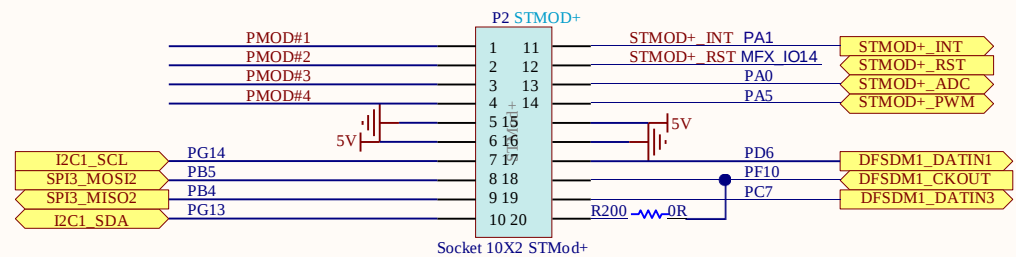
PMOD / STMOD+ SWITCH



	SPI	SPI/UART (*)	UART
STMOD+ 1-2SEL	0	1 (*)	1
STMOD+ 3-4SEL	0	0 (*)	1
PMOD#1	NSS	NSS	CTS
PMOD#2	MOSIp	TX	TX
PMOD#3	MISOp	RX	RX
PMOD#4	SCLK	SCLK	RTS

(*) default configuration to support MikroBus using STMOD+ MB1280 fan-out board

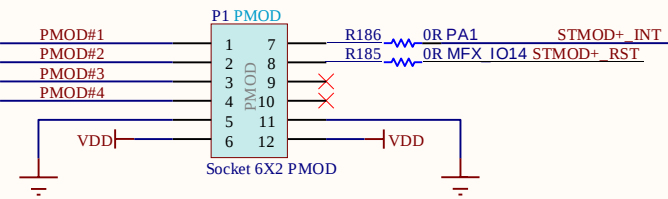
STMOD+



LIMITATIONS : see IO muxing sheet and User Manual for more detail

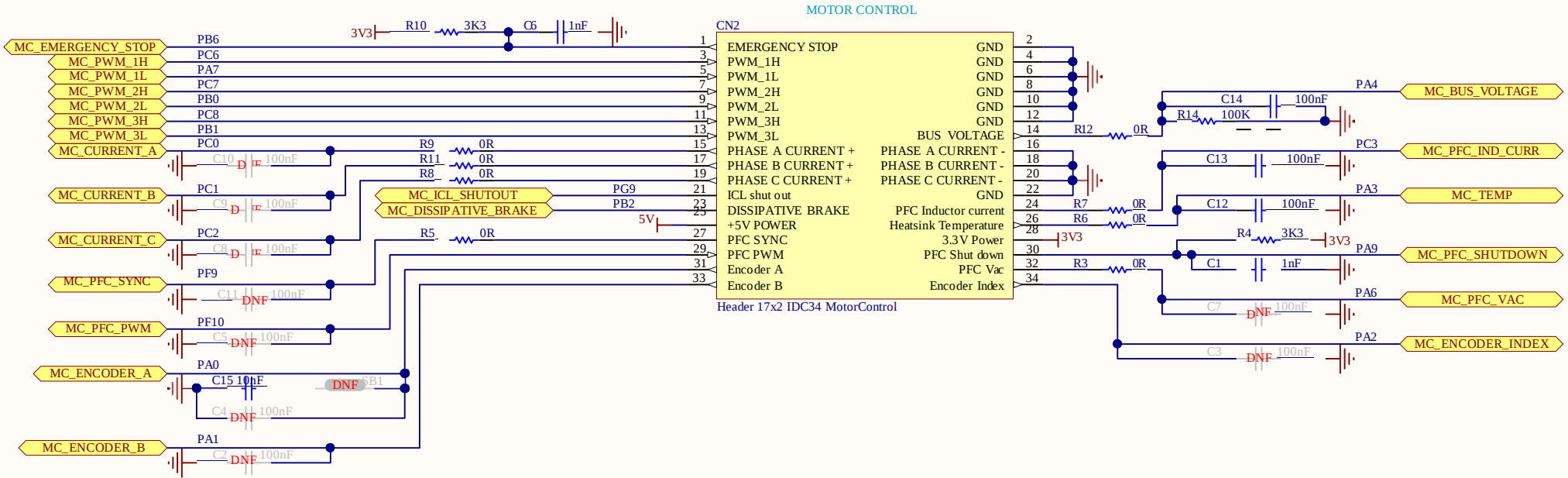
PMOD exclusif with MFX, SDCARD, RS232, OpAmp, STMOD+, MC

PMOD



LIMITATIONS : see IO muxing sheet and User Manual for more detail

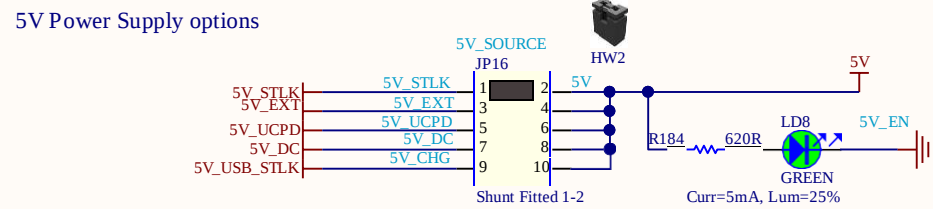
STMOD+ exclusif with MFX, LCD_BL, SDCARD, USB, JTAG, MEMS, RS232, COMP, OpAmp, PMOD, MC



LIMITATIONS : see IO muxing sheet and User Manual for more detail

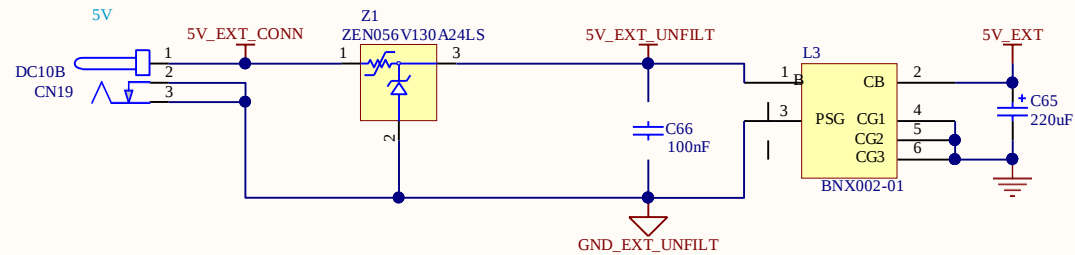


5V Power Supply options

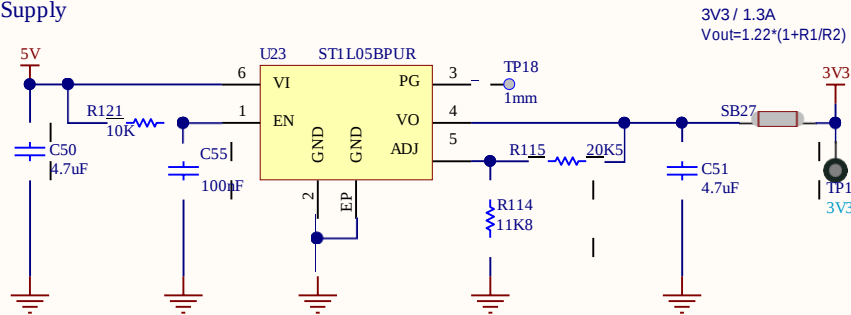


MAX CURRENT 500mA WHEN USING POWER INPUT 5V_STLK

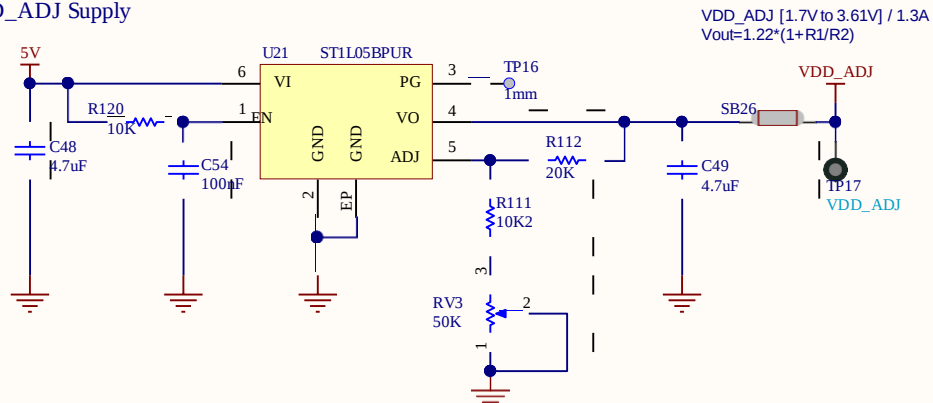
5V External supply



3V3 Supply

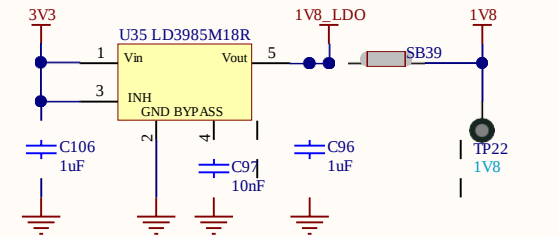


VDD_ADJ Supply

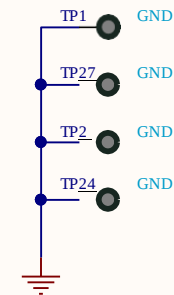


1V8_LDO: AUDIO_CODEC

1V8 / 150mA



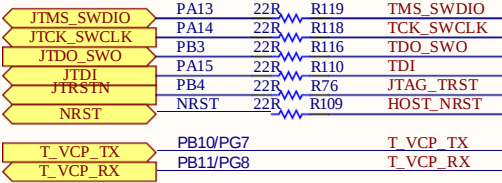
GND TEST POINT



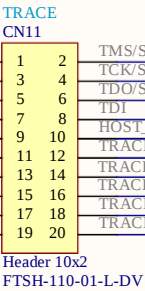
Title: BOARD_PWR		
Project: STM32L552E-EVAL		
Variant: L552ZEQ		
Revision: C-02		Reference: MB1372
Size: A4	Date: 27 MAY 2019	Sheet: 19 of 23

JTAG & TRACE

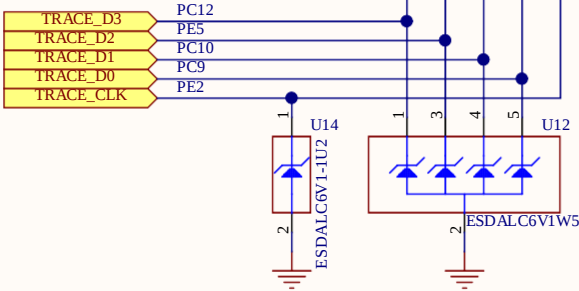
To disconnect JTAG connectors from target :
- Remove 22R resistors



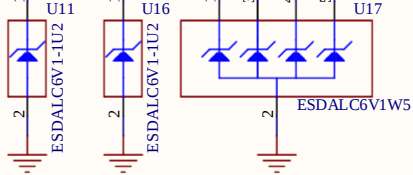
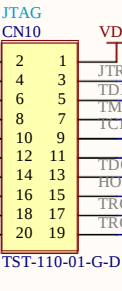
TRACE CONNECTOR



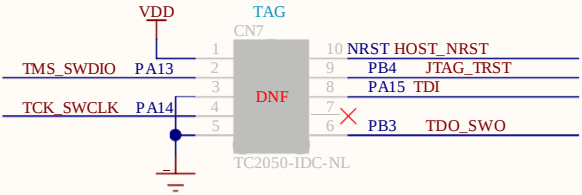
KEY



JTAG CONNECTOR

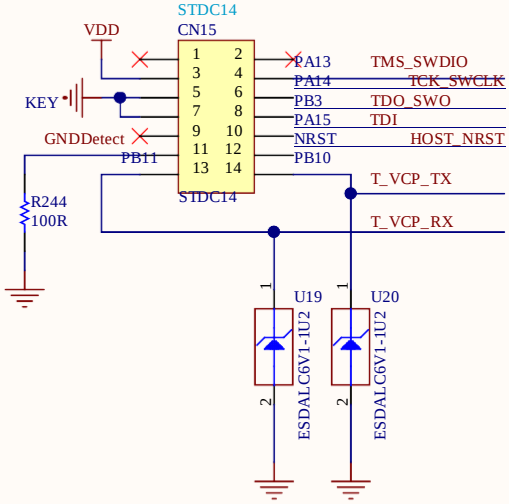


TAG CONNECTOR



TAG: Only footprint with cable: TC2050-IDC-NL

STDC14 RECEIVER

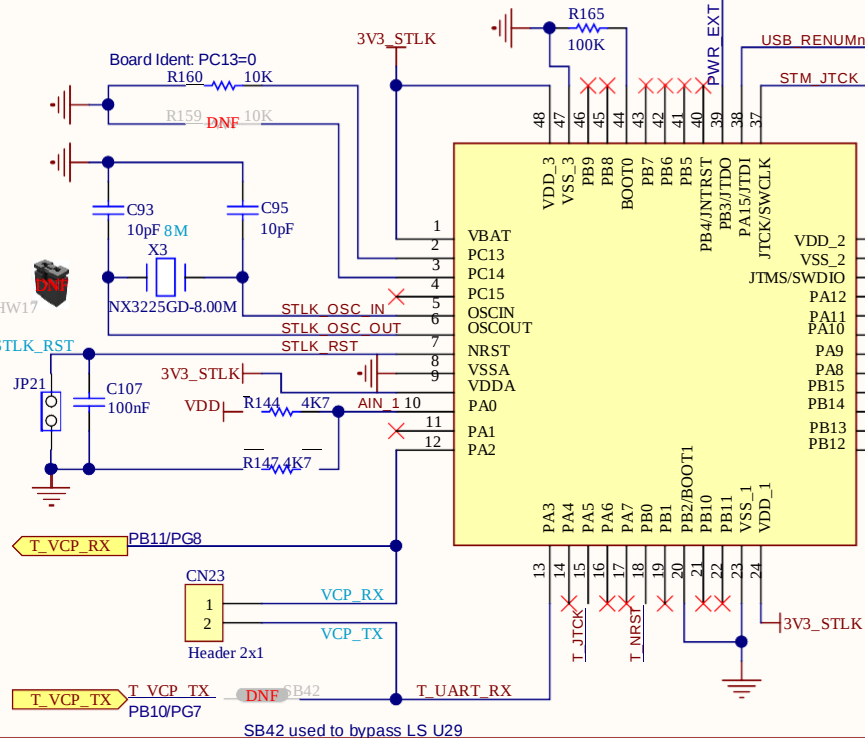


LIMITATIONS: see IO muxing sheet and User Manual for more detail

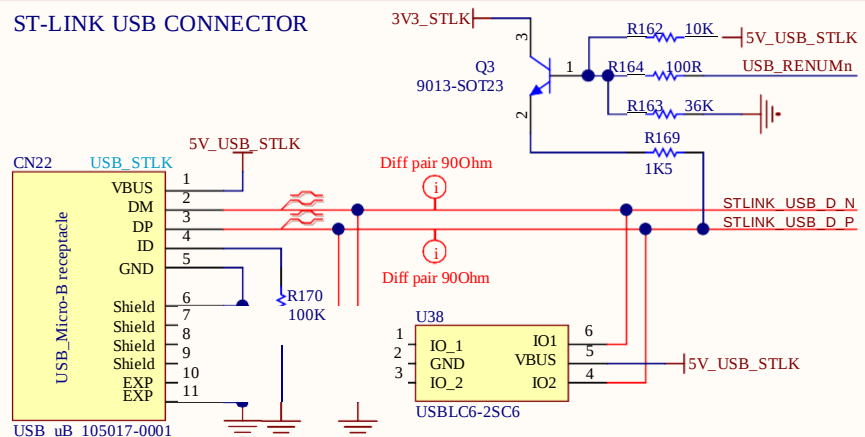
JTAG_TDI (prio2) exclusif with USB_CC1 (prio1)
JTAG_JTRSTN exclusif with COMP and STMOD+ (prio2)
TRACE_D0/D1/D3 exclusif with SDIO_CK/D1/D2 (prio1)

STLINK_MCU

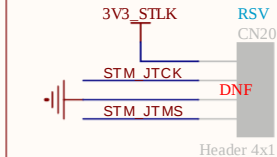
JTMS SWDIO	PA13	SB34	T JTMS
JTCK SWCLK	PA14	SB33	T JTCK
JTDO SWO	PB3	SB31	SWO_MCU
NRST	NRST	SB30	T_NRST



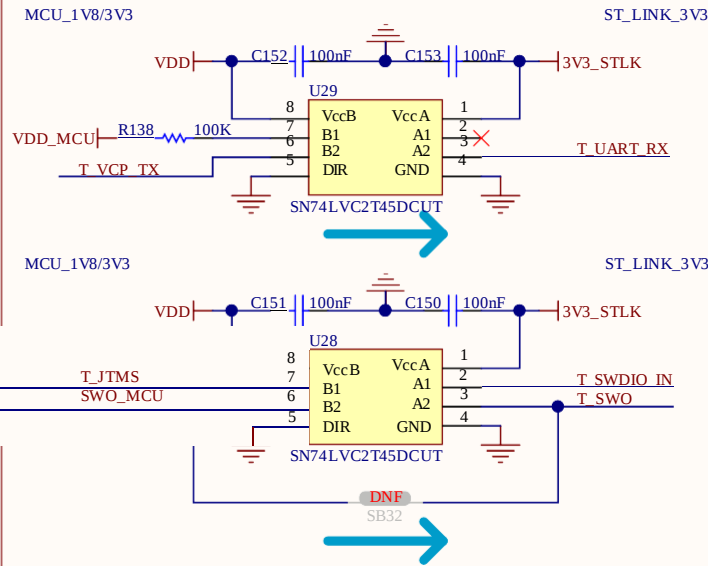
ST-LINK USB CONNECTOR



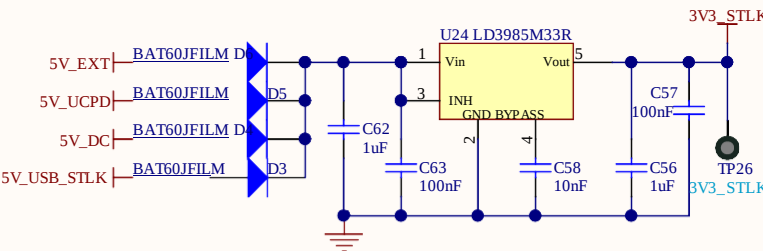
RESERVED



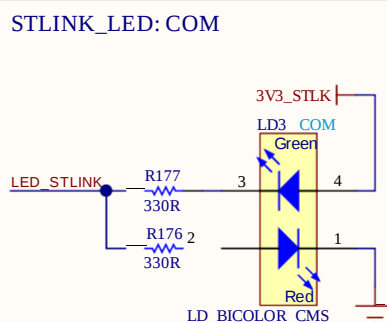
SW LEVEL SHIFTER FOR MCU_1V8



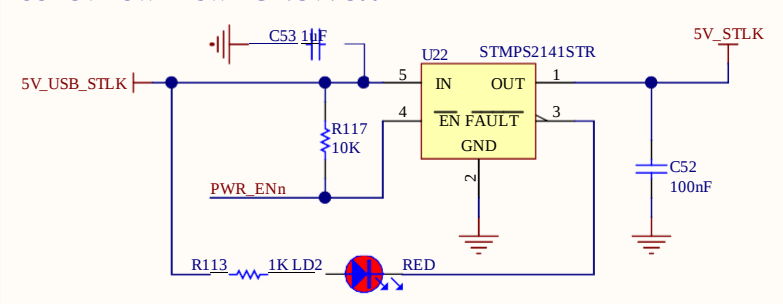
ST-LINK POWER: 3V3 / 150mA



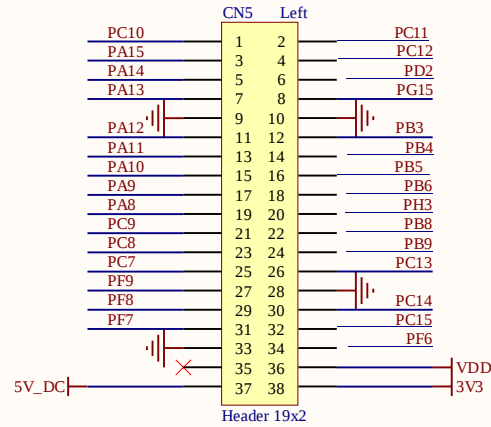
STLINK_LED: COM



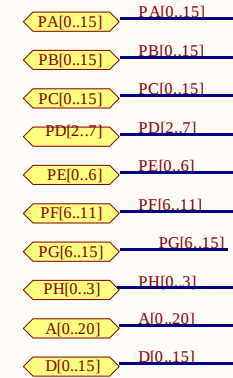
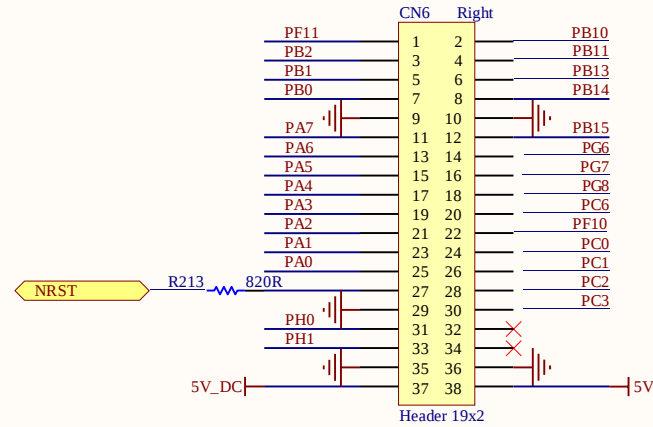
USB 5V POWER SWITCH: 5V / 500mA



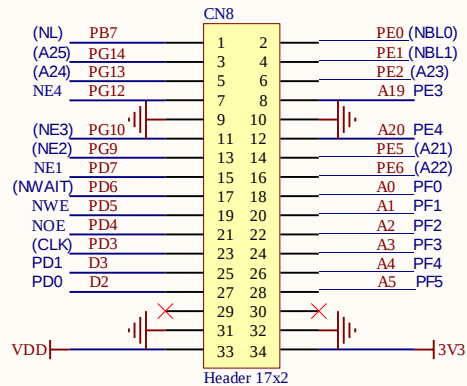
Placed close to MCU



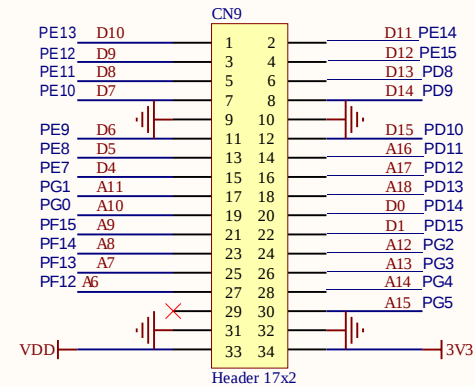
Placed close to MCU



Placed close to memory



Placed close to memory



STICKERS / LOGO

HW100



MB1372B-01 syywwxxxxx

HW101



STM32L552E-EVAL

HW103



MB1372B

HW104



LOGO ST

HW105



LOGO CE

HW106



LOGO ESD

HW107



LOGO ROHS

MECHANICAL PARTS



H5



H6



H1



H2



Rubber Foot (D=10mm , H=8mm)



Rubber Foot (D=10mm , H=8mm)



Rubber Foot (D=10mm , H=8mm)



Rubber Foot (D=10mm , H=8mm)



Rubber Foot (D=10mm , H=8mm)

ADDED MODULES

HW110



MB989_TFT_LCD_240x320

