

Note: Text in BLUE placed on a wire is not the net name. It just a COMMENT to give more details about the function, or it is the MCU port information.

REVISION E01:
Released 10 - April- 2017
- update U21 footprint.
- Replace R70 from 100K to 10K.
- Moved CN10 touch screen connector closer to CN16 to 1.5mm.
- Update CN1 μSD connector footprint to support new reference with positioning holes.

REVISION D01:
Released 22 - December- 2016
- Add USB_VBUS_ESD protection.

HW PART

HW17

BOARD REF

mb1274E-01 2yyywxxxxx

HW18

ES

HW1

PCB

STM32F413H-DISCO PCB 4L

HW2

BLISTER

STM32F413H-DISCO BLISTER

HW3

BLISTER CARD

STM32F413H-DISCO BLISTER CARD

H3

H2

H1

H4

HW8

Spacer 14mm

HW9

Spacer 14mm

HW10

Spacer 14mm

HW11

Spacer 14mm

HW7

Plastic Screw M3x6mm

HW13

Plastic Screw M3x6mm

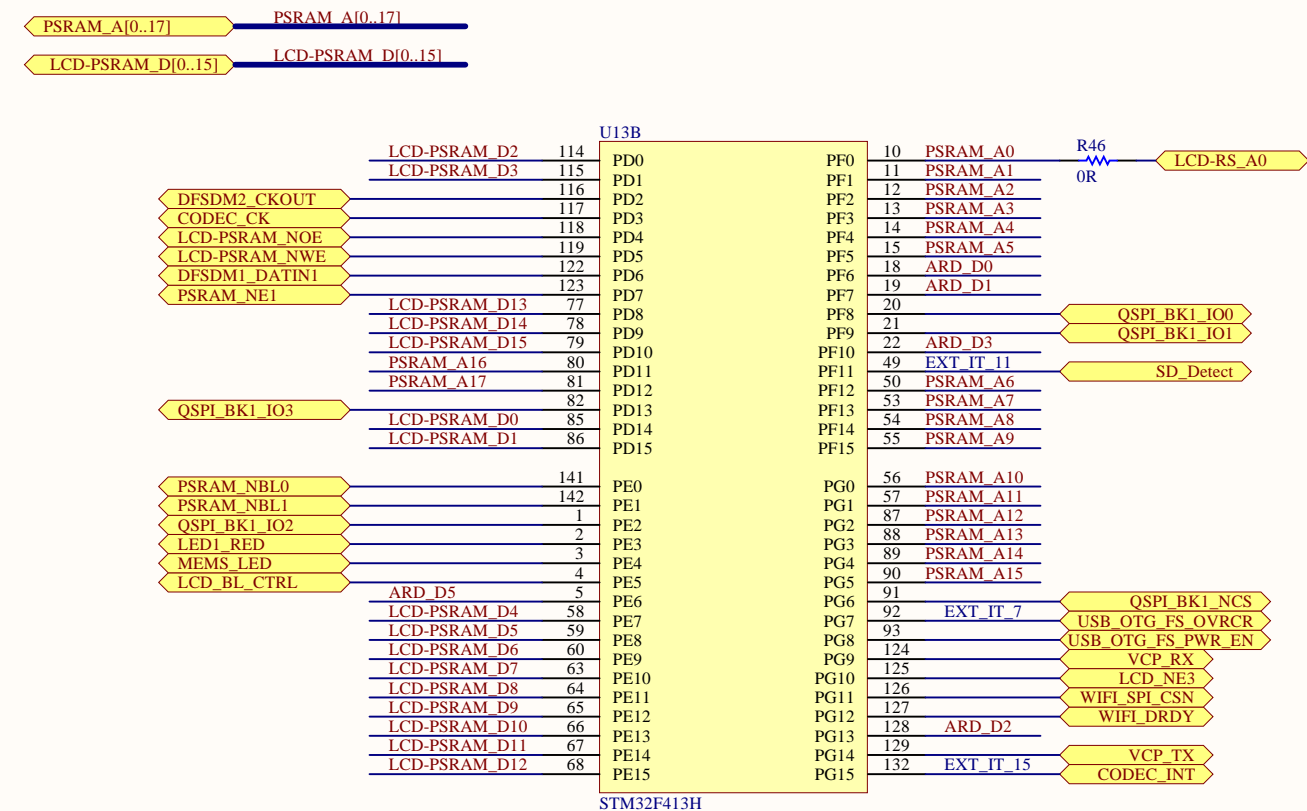
HW6

Plastic Screw M3x6mm

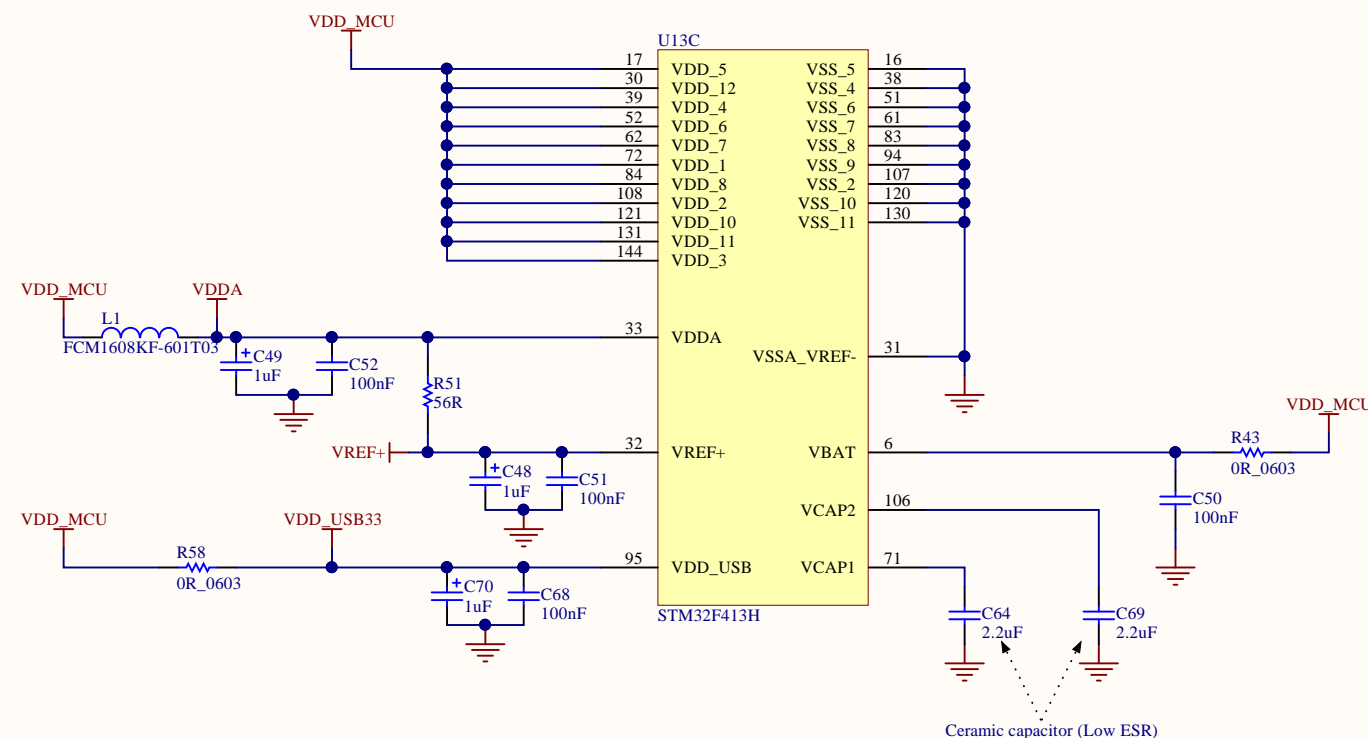
HW12

Plastic Screw M3x6mm

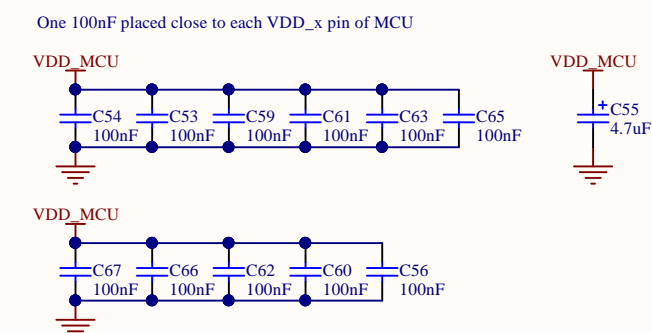
MCU GPIO BANK D, E, F, G



MCU PWR

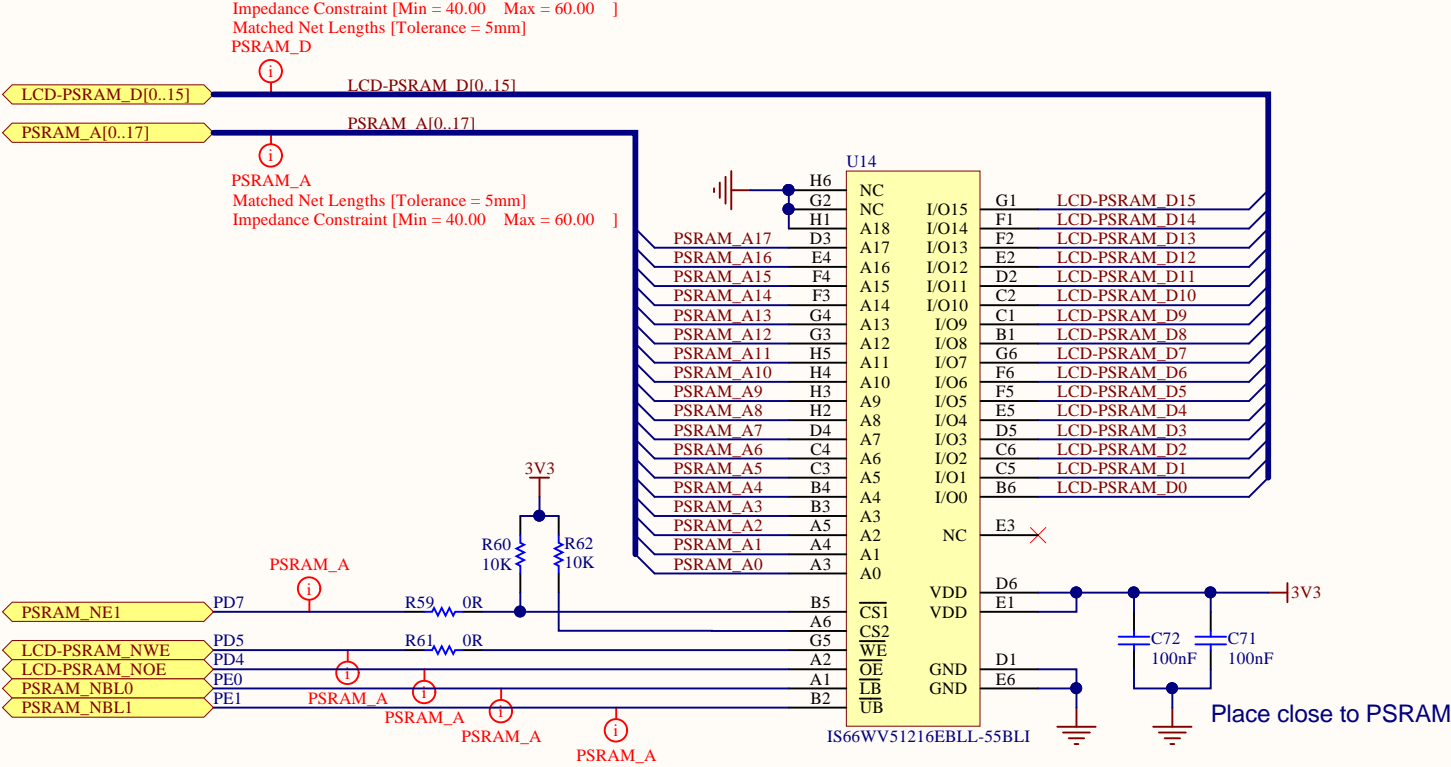


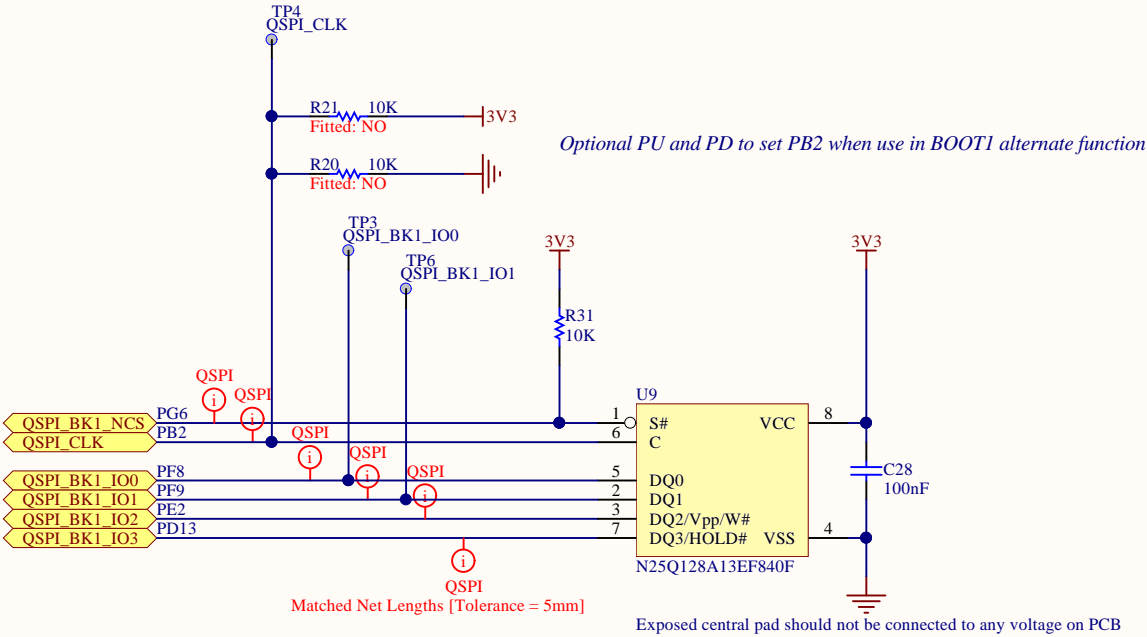
DECOUPLING CAPACITORS



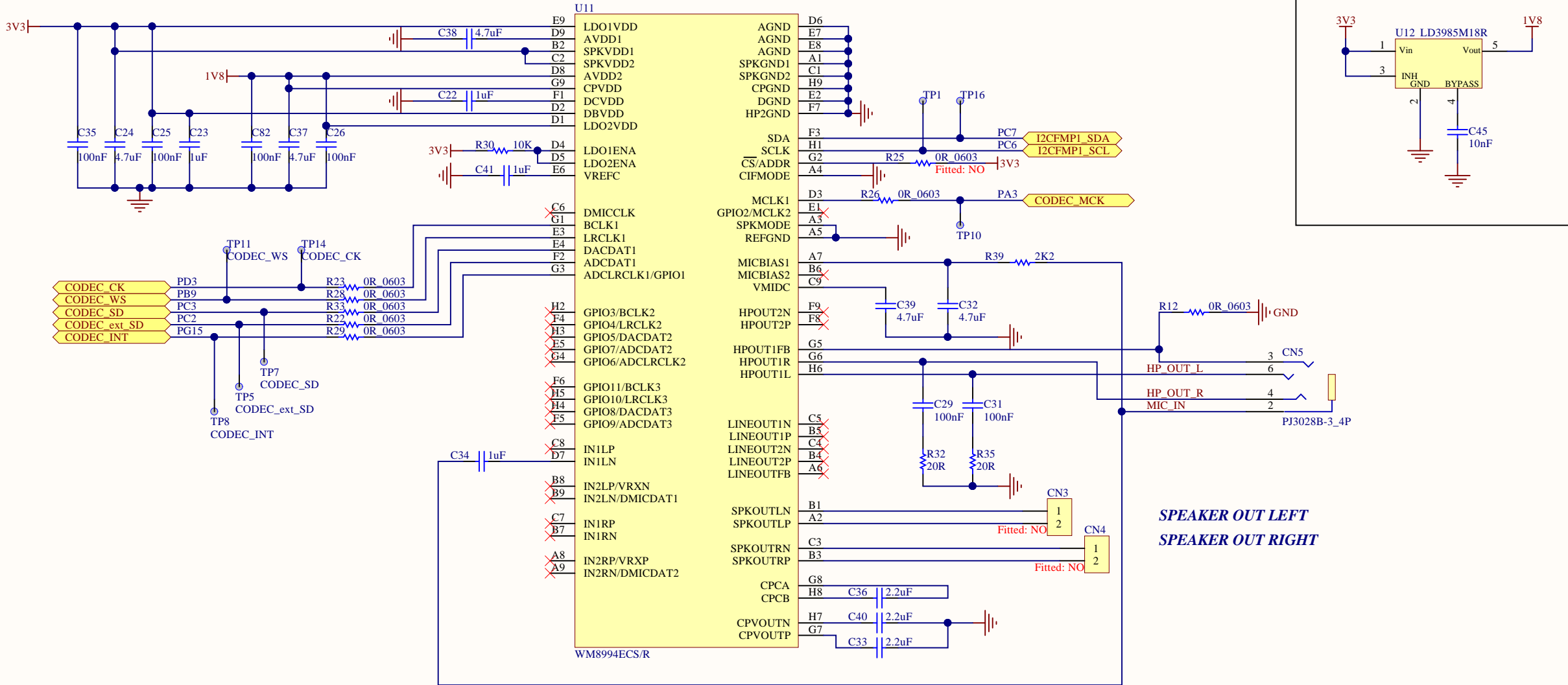
PSRAM

PSRAM Data, NWE & NOE shared with LCD



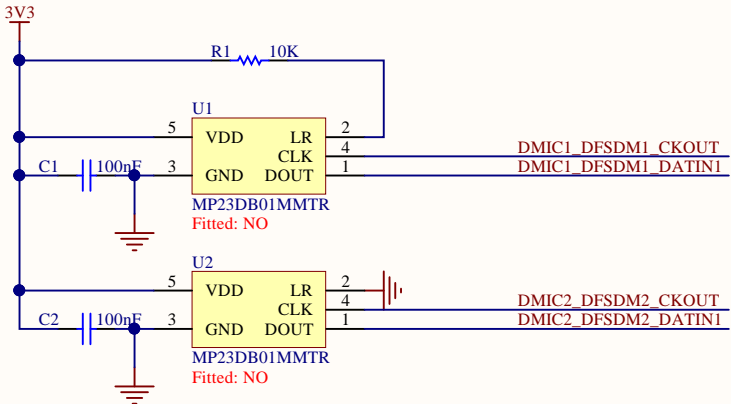


CODEC WOLFSON
WM8994 I2C Address : 0011 0100
Operating range: 1.62<VDD<3.6V

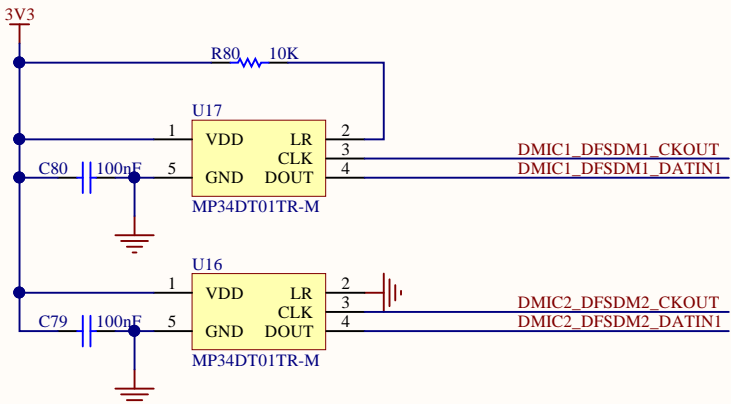


SPEAKER OUT LEFT
SPEAKER OUT RIGHT

MEMS

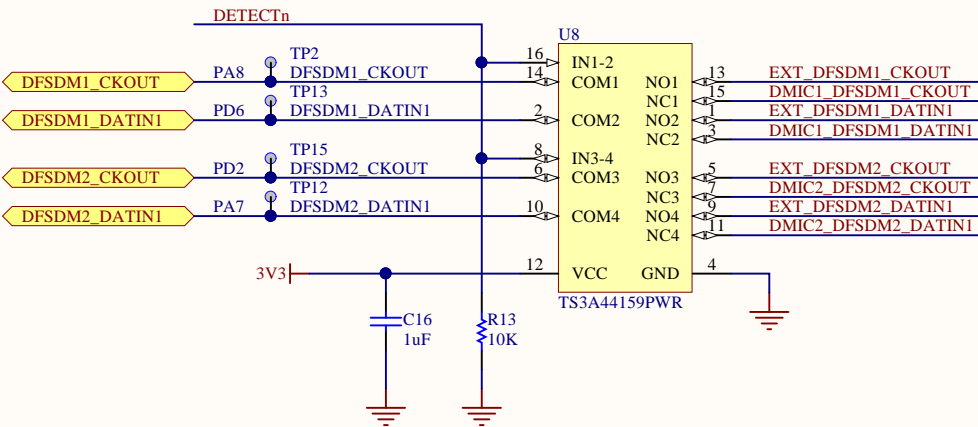


21mm distance between a pair of microphones



21mm distance between a pair of microphones

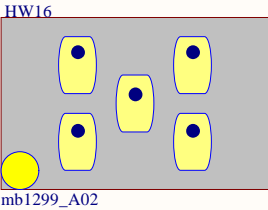
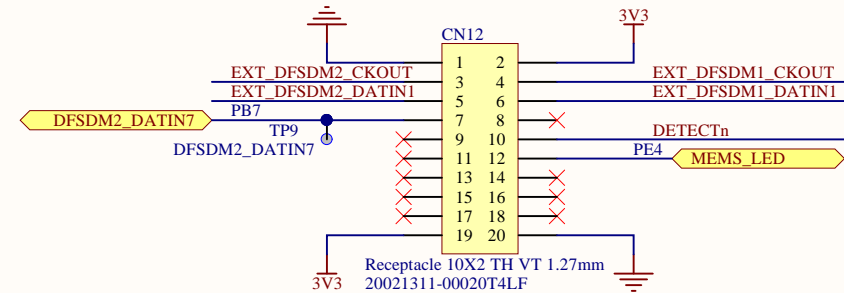
Microphone switch



NC = Normally Closed / NO Normally Open

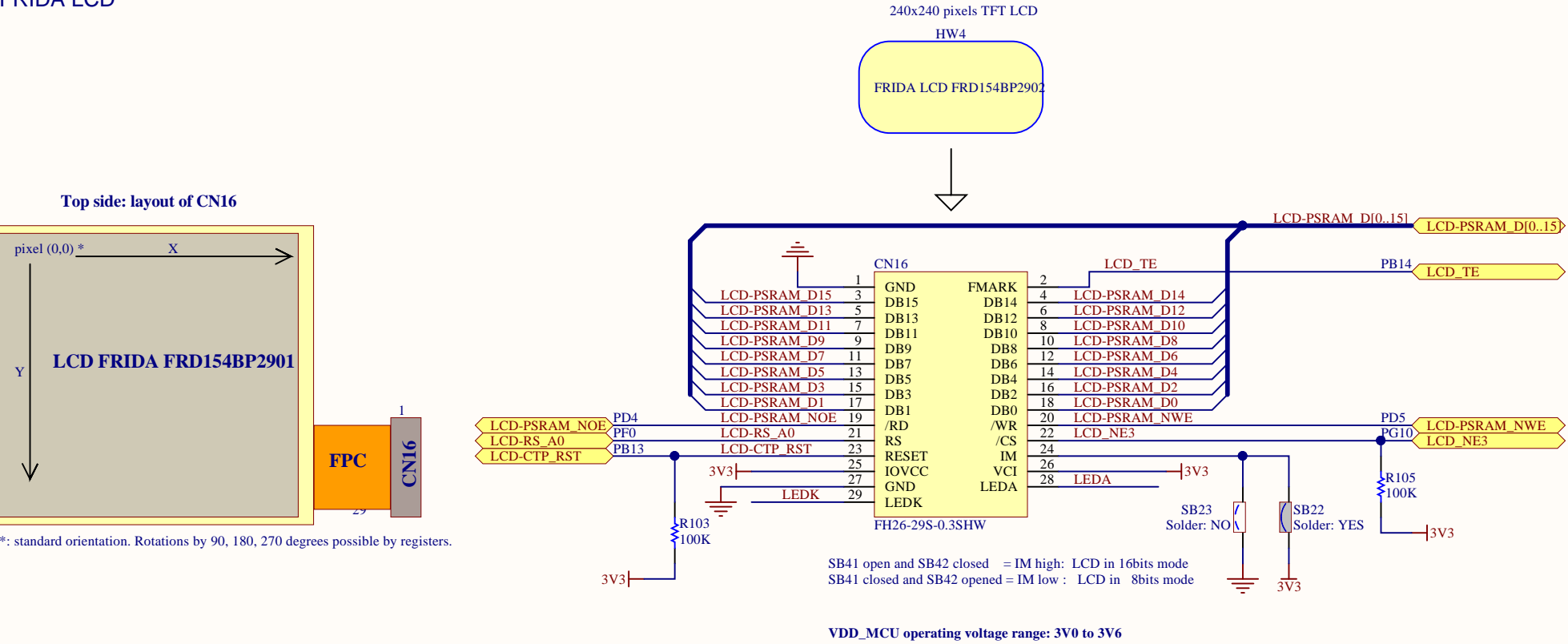
IN = L => COM TO NC / NC TO COM (NO OFF)
IN = H => COM TO NO / NO TO COM (NC OFF)

Extension microphones module

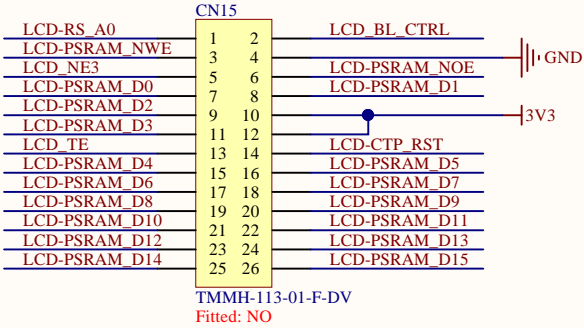


Receptacle connector pin 1 connected to header connector pin 2

FRIDA LCD

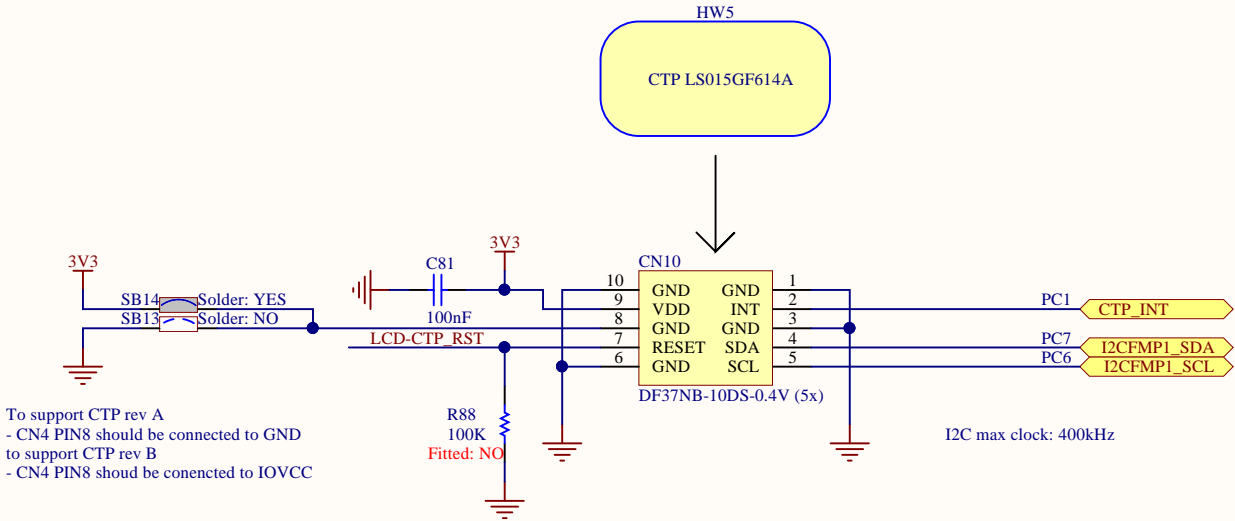


LCD signals access (2mm pitch)

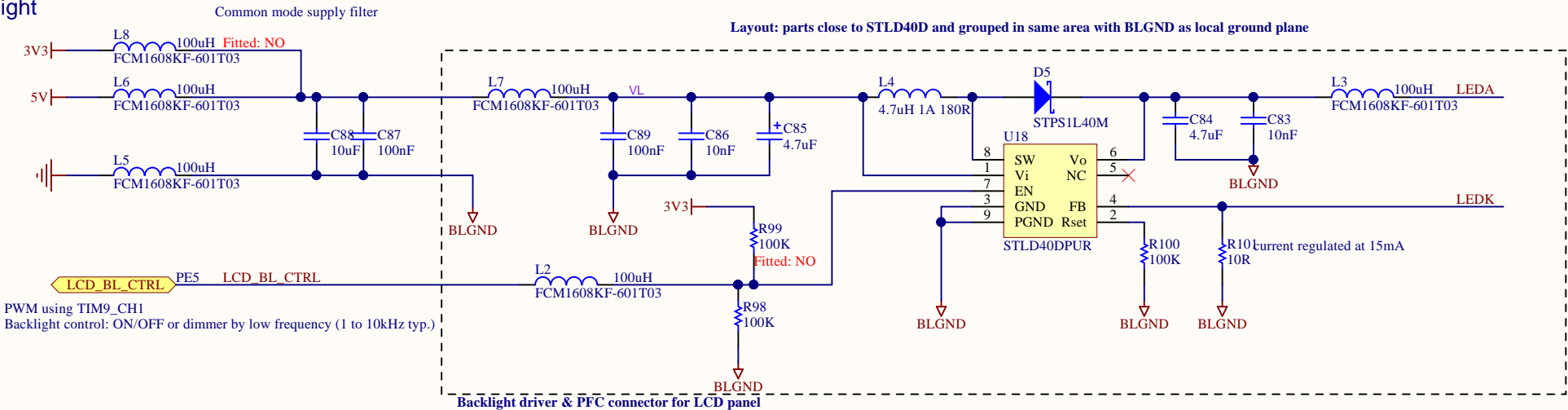


Capacitive Touch Panel

LCD RST and CTP RST share the same PIO for RST. Active LOW

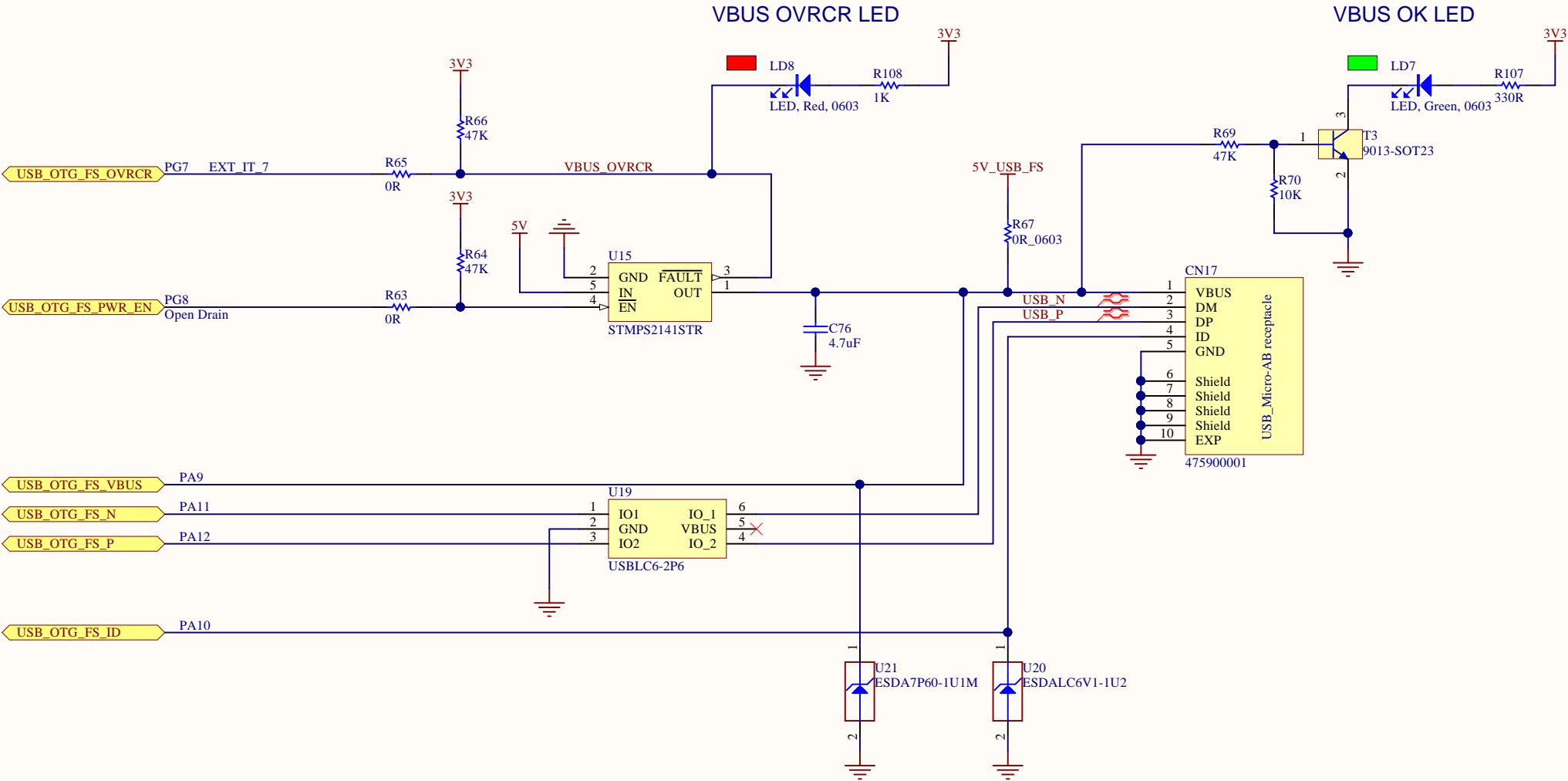


LCD Backlight



USB_OTG_FS

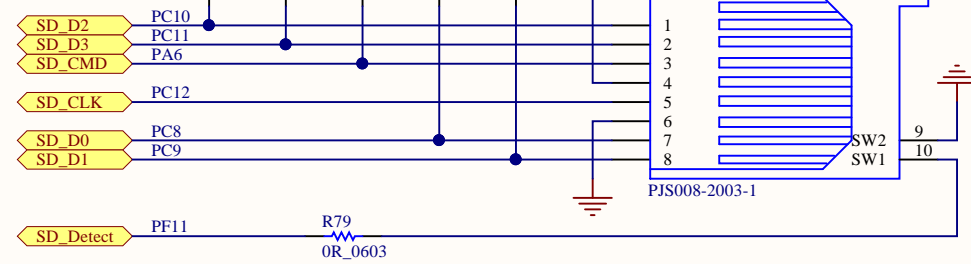
USB Full Speed operating range voltage: 3.0V<VDDUSB<3.6V



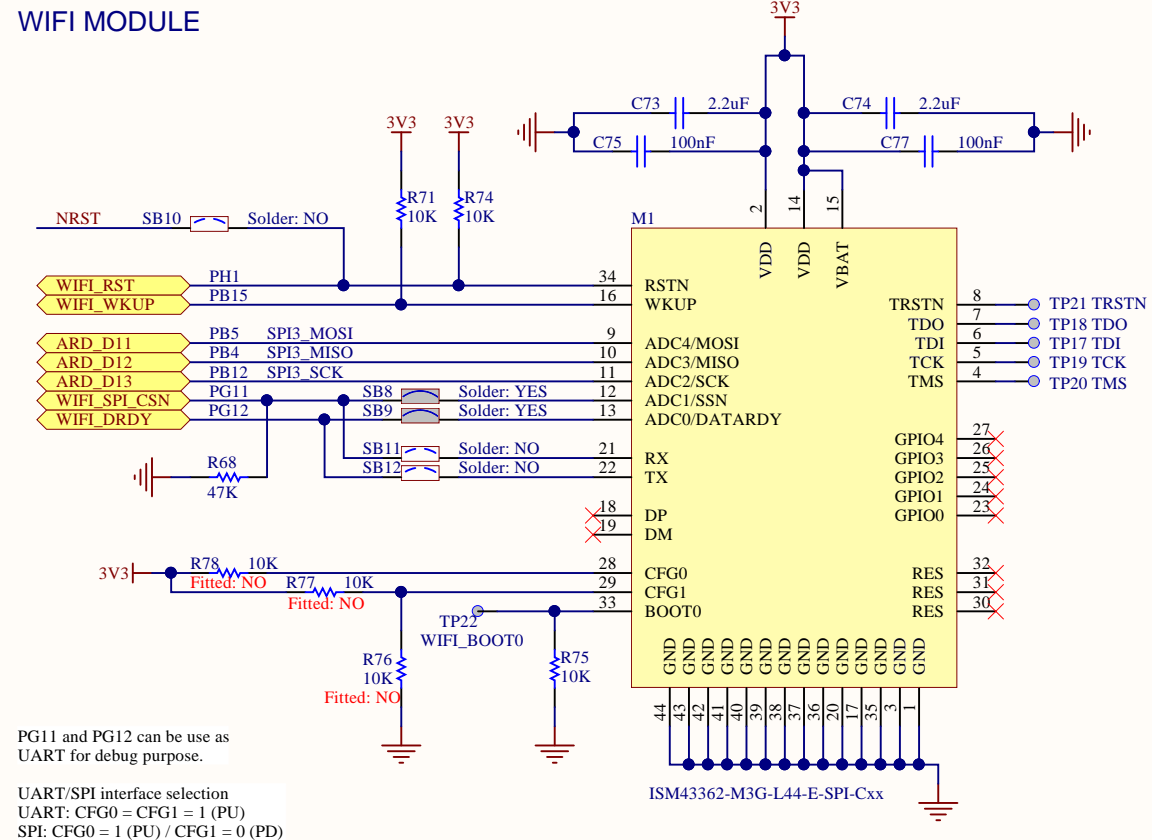
ESD PROTECTION SHOULD BE CLOSE TO THE CONNECTOR



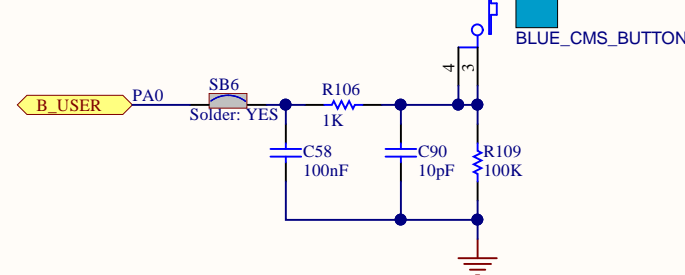
MICRO SD CARD



WIFI MODULE

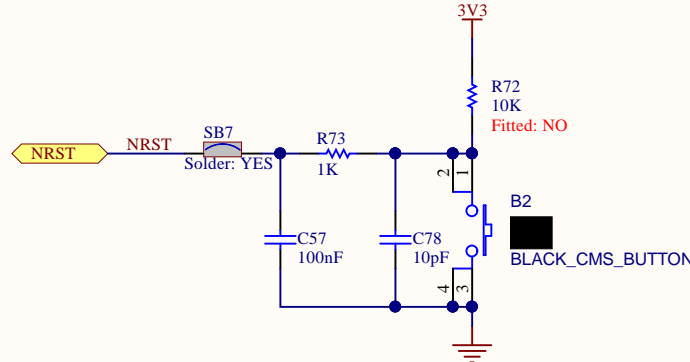


USER WAKE-UP Button



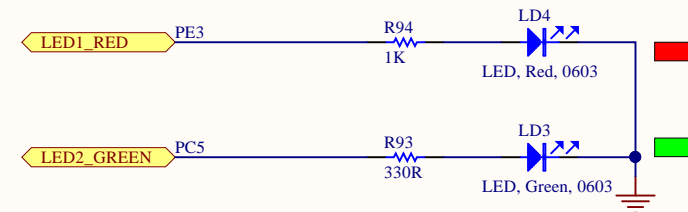
100nF should be place close to the MCU
10pF and 1K should be place close to the button

RESET BUTTON

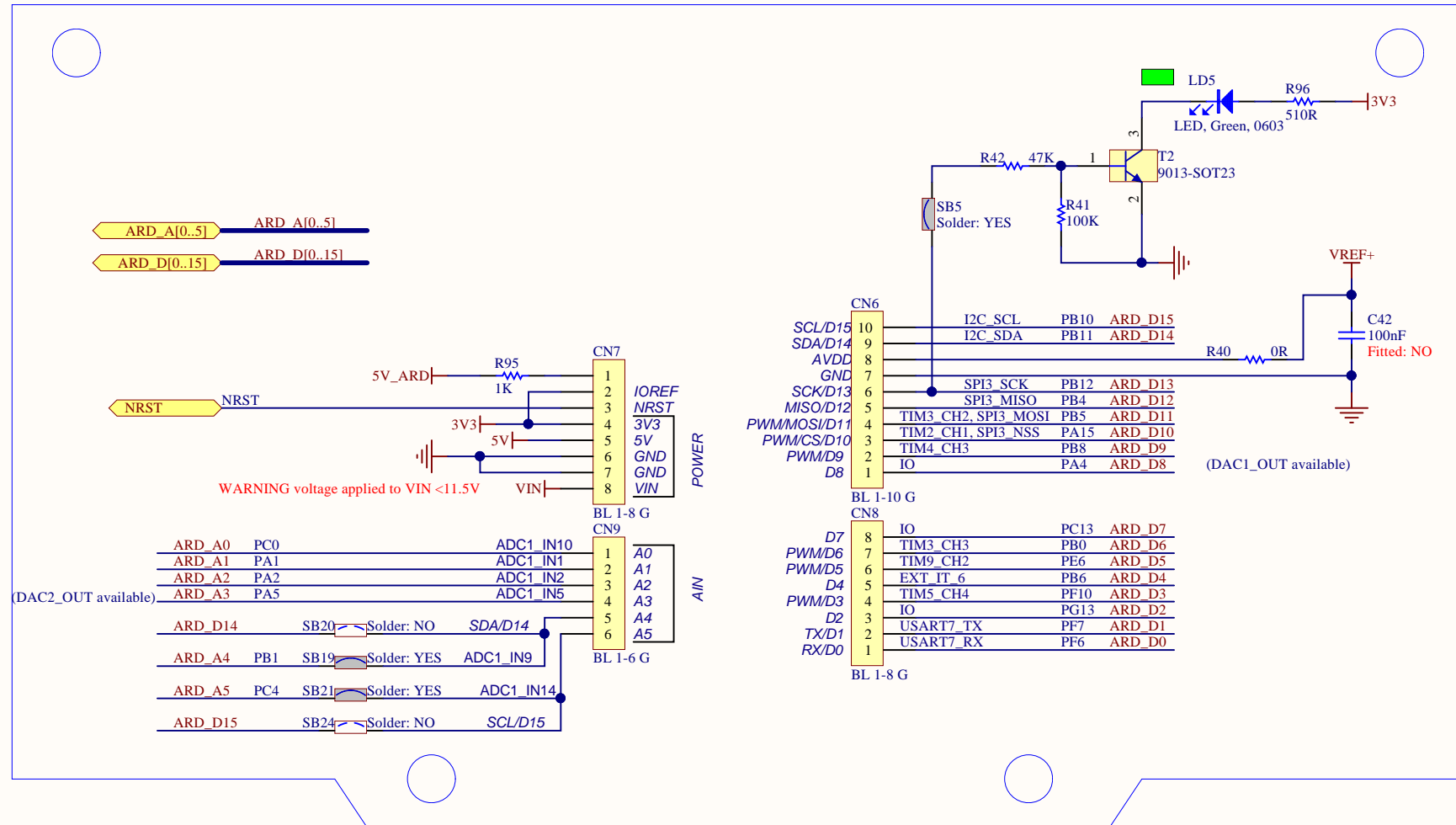


100nF should be place close to the MCU
10pF and 1K should be place close to the button

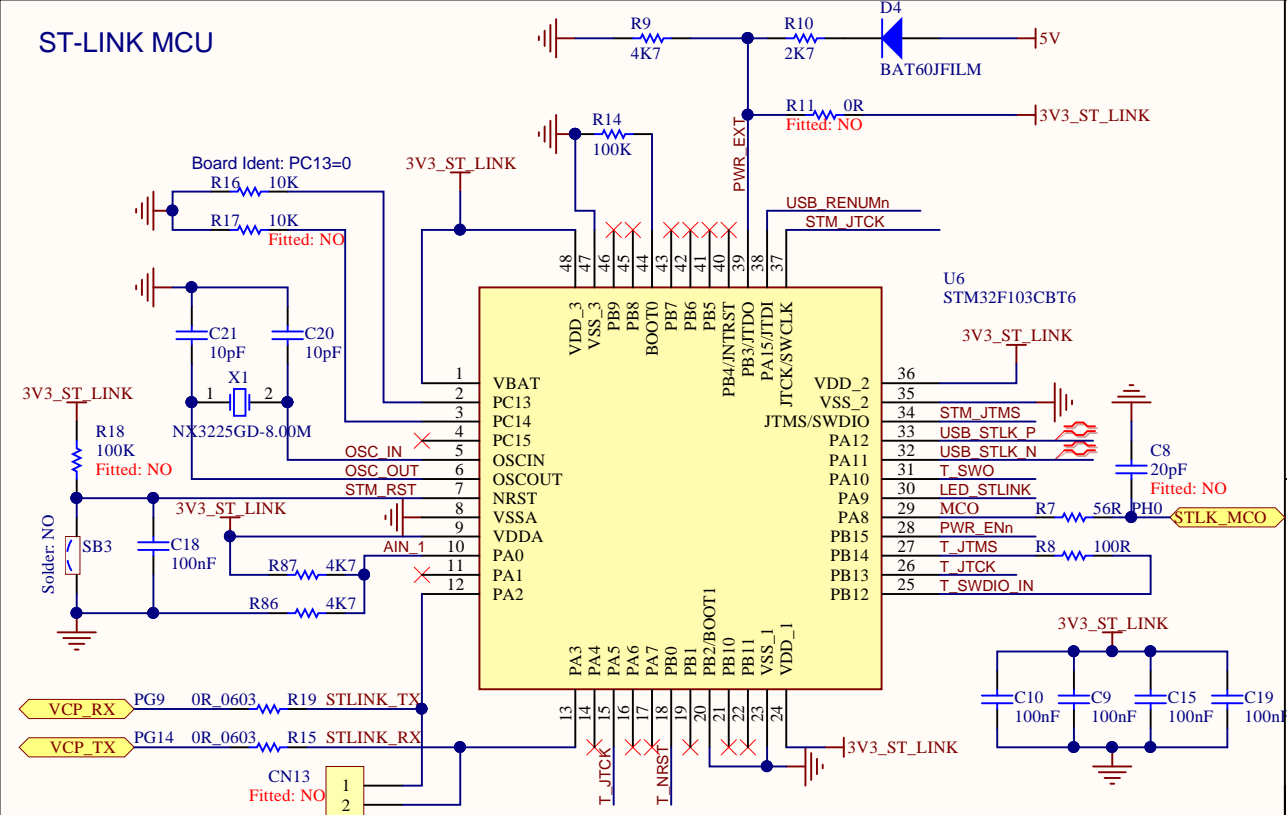
USER LED
The 2 LEDs are top side



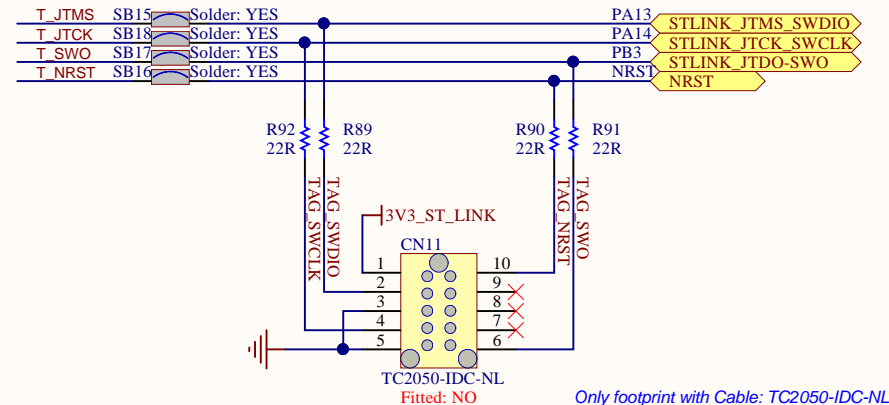
Title: Peripherals		
Project: STM32F413H-DISCO		
Size: A4	Reference: MB1274	Revision: E-01
Date: 10/04/2017		Sheet: 8 of 11



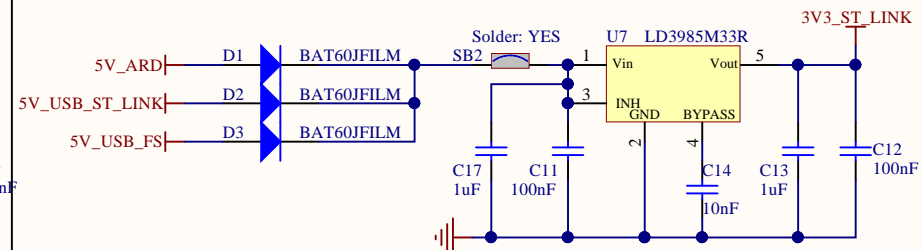
ST-LINK MCU



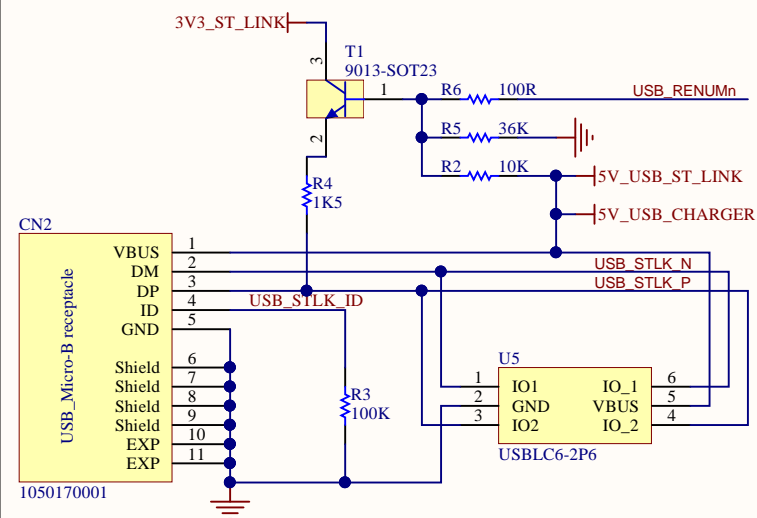
SWD INTERFACE



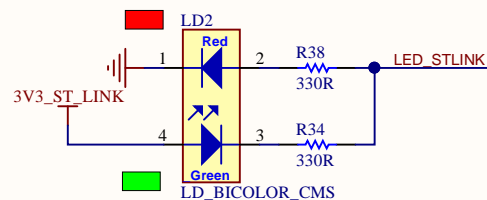
ST-LINK POWER 3V3 / 150mA



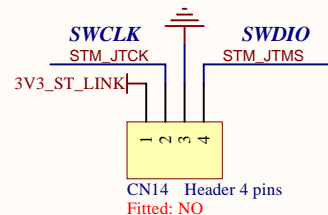
ST-LINK USB CONNECTOR



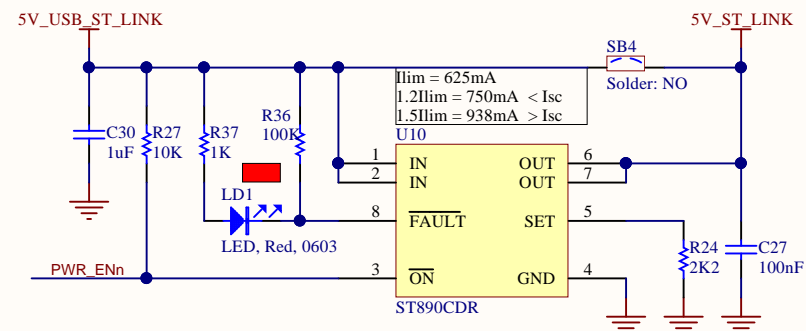
STLINK LED



ST-LINK DFU




ST LINK USB Power switch 5V / 1.2A

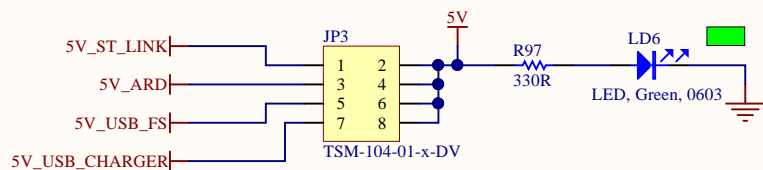


ESD PROTECTION SHOULD BE CLOSE TO THE CONNECTOR

Must be on a border or the PCB.

Title: ST-LINK/V2-1 with support of SWD only			 life.augmented
Project: STM32F413H-DISCO			
Size: A4	Reference: MB1274	Revision: E-01	
Date: 10/04/2017		Sheet: 10 of 11	

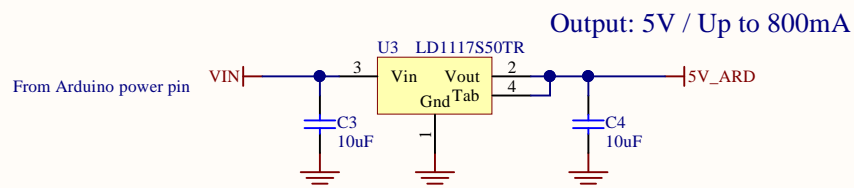
5V PWR SELECTION FROM EXTERNAL SOURCES



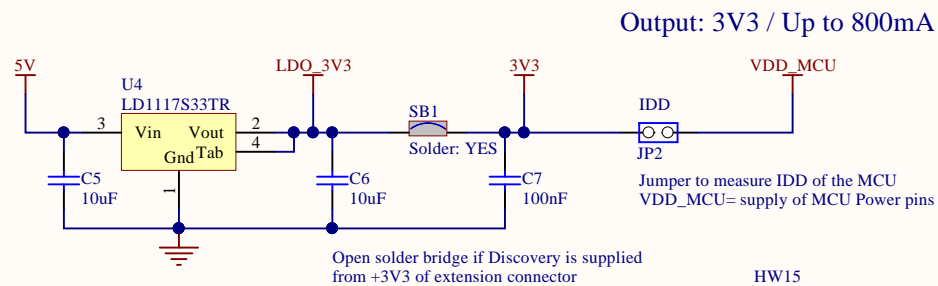
Connect only one jumper to supply the DISCO from one of the external 5V.
If the DK board is connected to an external 220/5V USB Charger, used Jumper on pin 7/8.



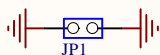
5V PWR FROM ARDUINO ($V_{IN} < 11.5V$)



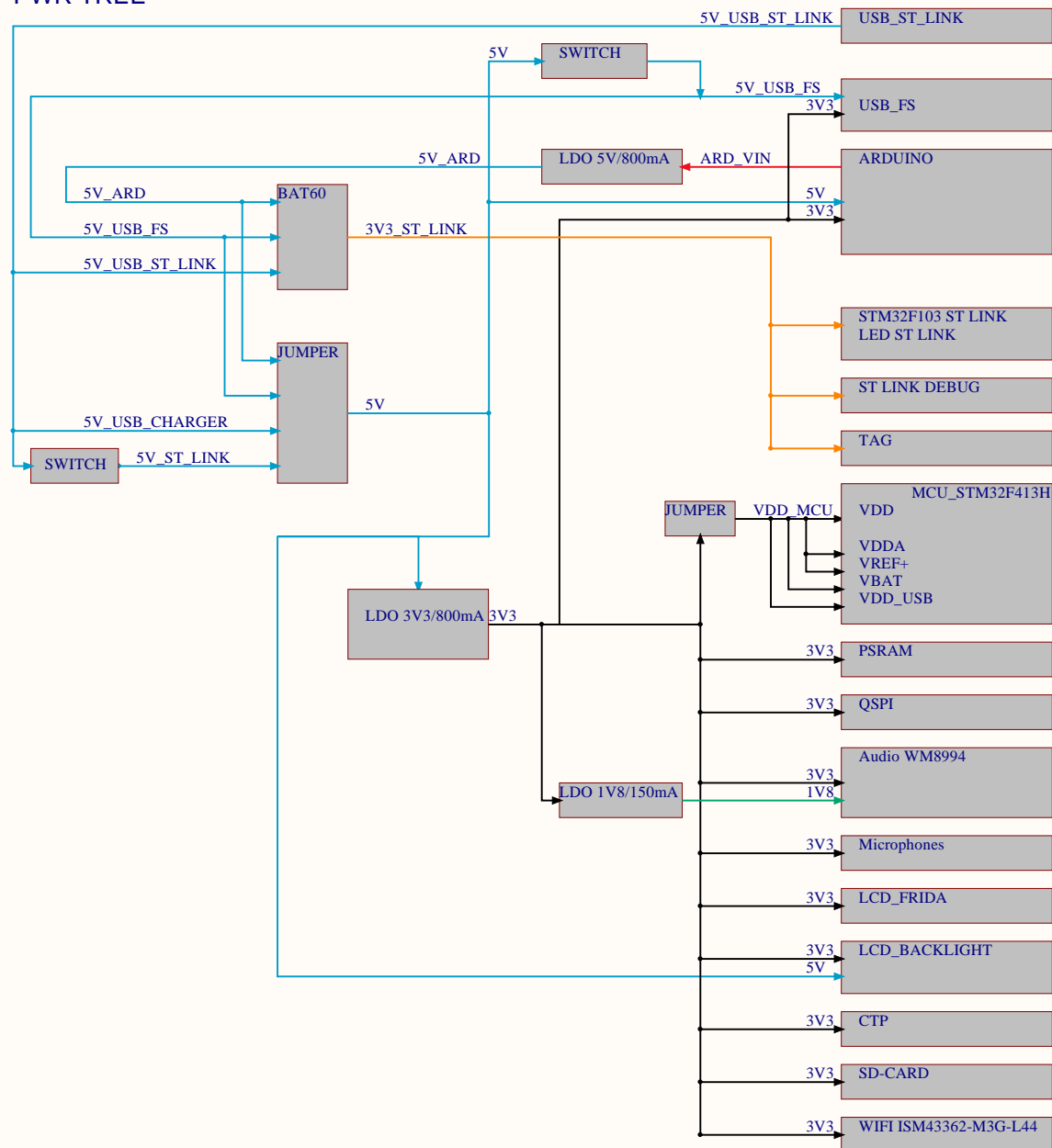
3V3 PWR



GND PROBE



PWR TREE



Title: Power		
Project: STM32F413H-DISCO		
Size: A4	Reference: MB1274	Revision: E-01
Date: 10/04/2017		Sheet: 11 of 11

