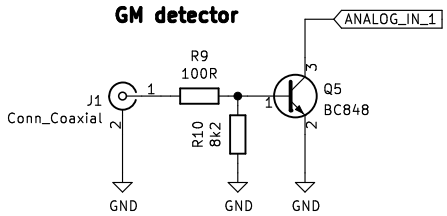
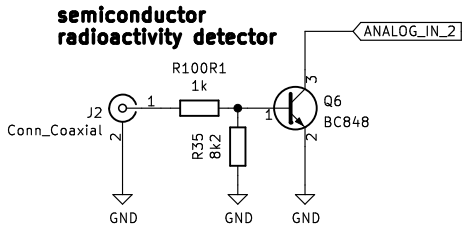
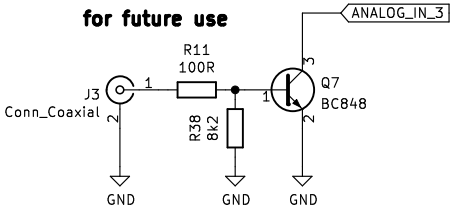
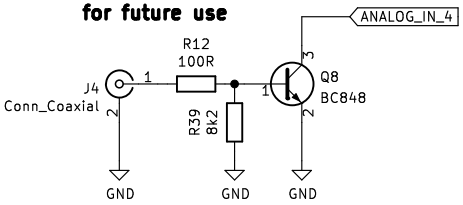
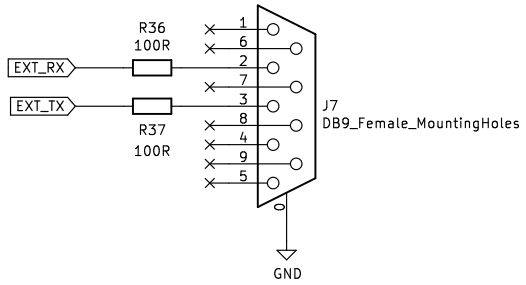

GM detector
ANALOG_IN_1
R9
100R
J1
Conn_Coaxial
Q5
BC848
R10
8k2
GND
GND
GND

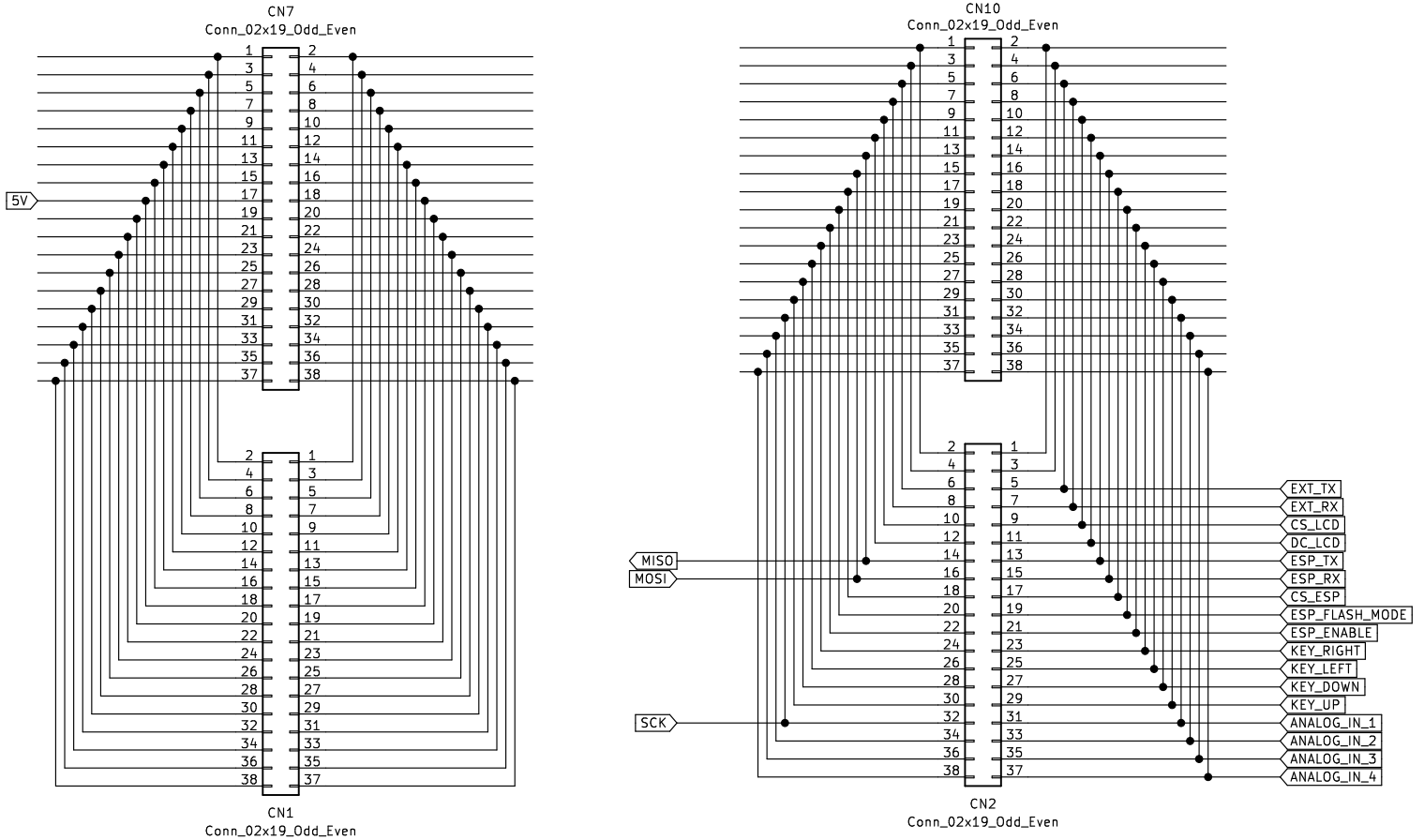

semiconductor
radioactivity detector
ANALOG_IN_2
R100R1
1k
J2
Conn_Coaxial
Q6
BC848
R35
8k2
GND
GND
GND

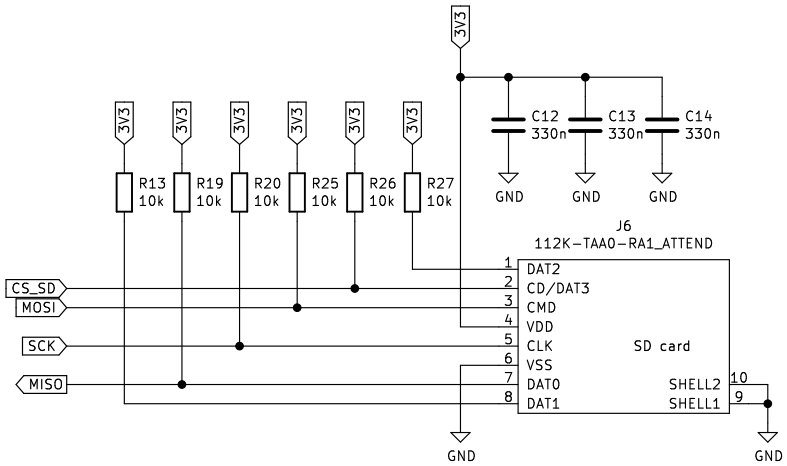

for future use
ANALOG_IN_3
R11
100R
J3
Conn_Coaxial
Q7
BC848
R38
8k2
GND
GND
GND


for future use
ANALOG_IN_4
R12
100R
J4
Conn_Coaxial
Q8
BC848
R39
8k2
GND
GND
GND


R36
100R
EXT_RX
EXT_TX
R37
100R
J7
DB9_Female_MountingHoles
GND

Note all is done via nucleo32 board connected on the bottom of the PCB.
On the top of the PCB there are connectors to stack new shield.

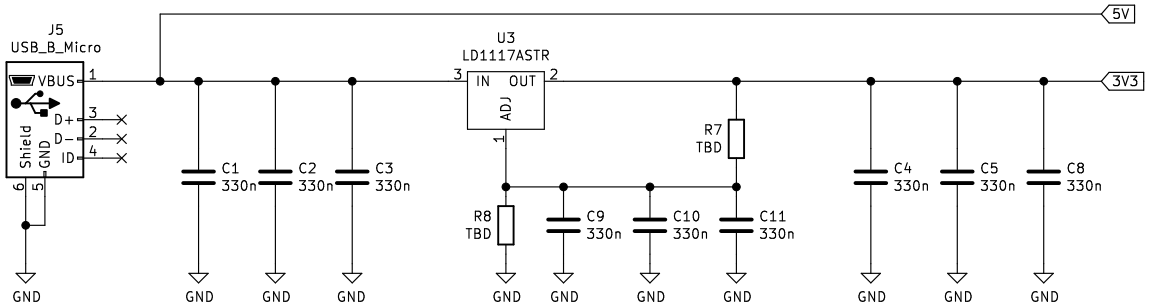


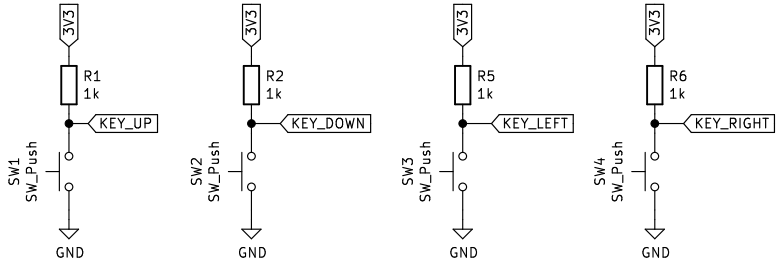

3V3
3V3
3V3
3V3
3V3
3V3
3V3
R13
10k
R19
10k
R20
10k
R25
10k
R26
10k
R27
10k
C12
330n
C13
330n
C14
330n
GND
GND
GND
J6
112K-TAA0-RA1_ATTEND
1
2
3
4
5
6
7
8
DAT2
CD/DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
SD card
SHELL2
SHELL1
10
9
CS_SD
MOSI
SCK
MISO
GND
GND

NOTE:
1/ ESP acceptable supply voltage: 3V–3V6
2/ Nucleo acceptable supply voltage: 5V
3/ ST7735S acceptable supply voltage: 3V3

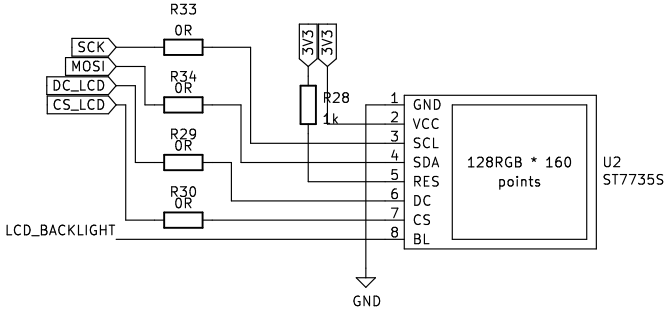
The device will be powered from power USB (no USB comunication, just used as power supply).
Nucleo will be alimented directly zith USB 5V.
ESP and ST7735S will be alimented with 3V3

Connecting nucleo to external power supply:
https://pitinker.wordpress.com/2016/05/22/battery-powered-mbed-st-nucleo-f411re/

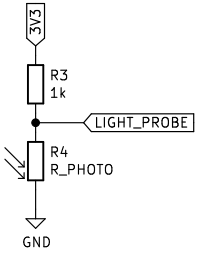




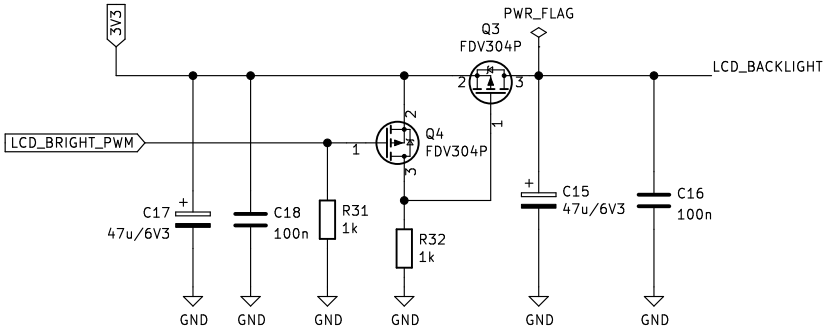
NOTE: key debouncing will be done in firmware.



NOTE: displays from difrent manufacturrers have different pinout.



NOTE: photoresistor is used to adjoust brightness of the LCD.



NOTE:
1/ LEDs connected to ESP are only for debugging of ESP during development. When board will be used, LCD will act as a medium for communication with user.
2/ ESP can be programmed via nucleo or externally via J8–J10 connectors.
3/ ESP can be electrically powered down via nucleo.