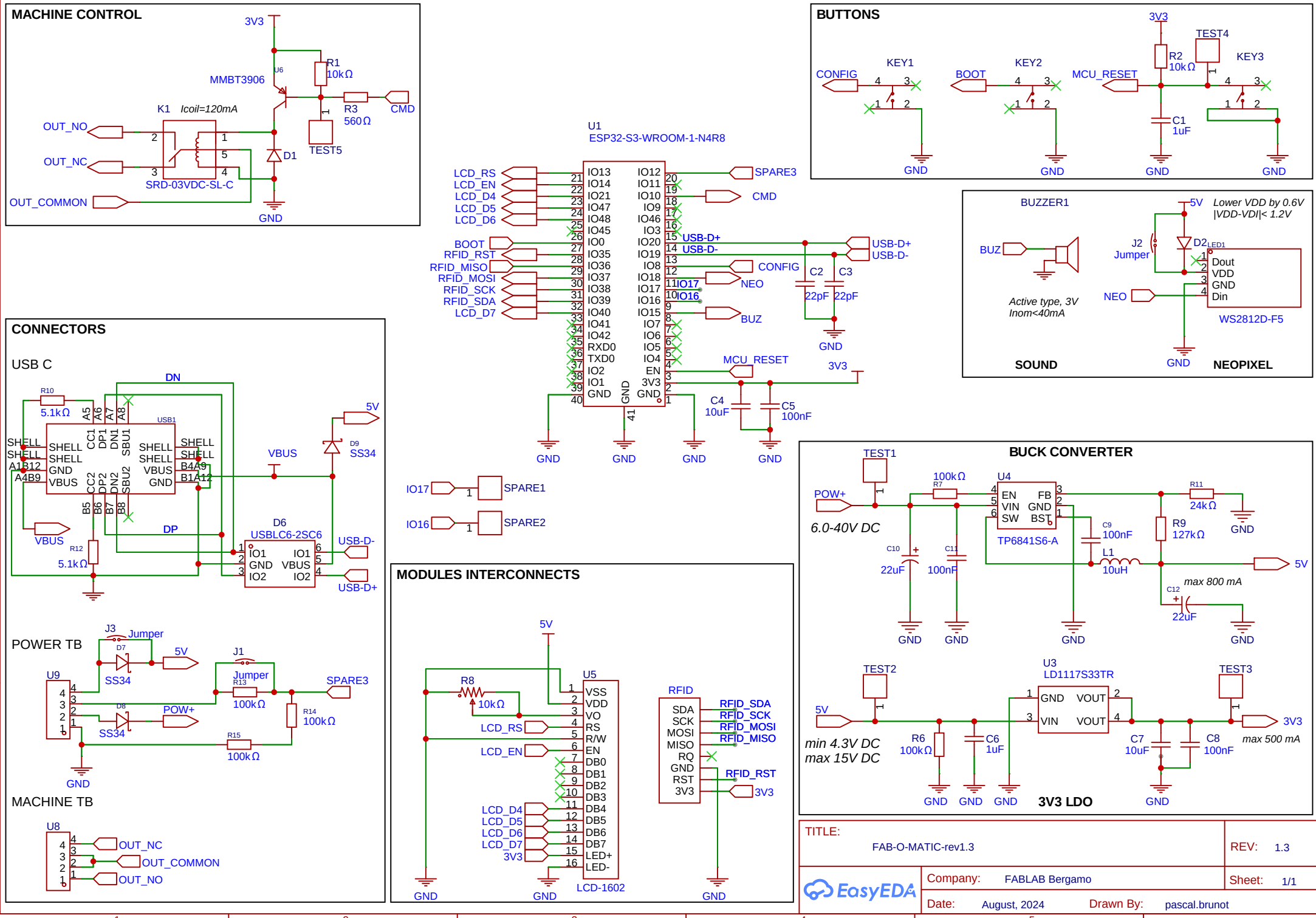
MACHINE CONTROL
3V3
R1
10kΩ
MMBT3906
U6
K1 Icoil=120mA
R3
560Ω
CMD
OUT_NO
OUT_NC
SRD-03VDC-SL-C
TEST5
D1
OUT_COMMON
GND
BUTTONS
CONFIG
KEY1
BOOT
KEY2
MCU_RESET
KEY3
TEST4
R2
10kΩ
C1
1uF
U1
ESP32-S3-WROOM-1-N4R8
LCD_RS
LCD_EN
LCD_D4
LCD_D5
LCD_D6
BOOT
RFID_RST
RFID_MISO
RFID_MOSI
RFID_SCK
RFID_SDA
LCD_D7
SPARE3
CMD
USB-D+
USB-D-
CONFIG
NEO
BUZ
MCU_RESET
C2
22pF
C3
22pF
C4
10uF
C5
100nF
BUZZER1
BUZ
Active type, 3V
Inom<40mA
SOUND
5V
Lower VDD by 0.6V
|VDD-VDI|< 1.2V
J2
Jumper
D2
LED1
Dout
VDD
GND
Din
NEO
WS2812D-F5
NEOPIXEL
CONNECTORS
USB C
R10
5.1kΩ
USB1
DN
DP
SHELL
A1B12
A4B9
VBUS
GND
R12
5.1kΩ
D9
SS34
D6
USBLC6-2SC6
USB-D-
USB-D+
IO17
SPARE1
IO16
SPARE2
POWER TB
J3
Jumper
D7
SS34
5V
J1
Jumper
R13
100kΩ
SPARE3
R14
100kΩ
D8
SS34
POW+
R15
100kΩ
U9
GND
MACHINE TB
U8
OUT_NC
OUT_COMMON
OUT_NO
MODULES INTERCONNECTS
5V
R8
10kΩ
U5
LCD_RS
LCD_EN
LCD_D4
LCD_D5
LCD_D6
LCD_D7
3V3
LCD-1602
RFID
SDA
SCK
MOSI
MISO
RQ
GND
RST
3V3
RFID_SDA
RFID_SCK
RFID_MOSI
RFID_MISO
RFID_RST
3V3
BUCK CONVERTER
TEST1
POW+
6.0-40V DC
R7
100kΩ
U4
TP6841S6-A
C10
22uF
C11
100nF
C9
100nF
L1
10uH
R11
24kΩ
R9
127kΩ
max 800 mA
C12
22uF
5V
TEST2
5V
min 4.3V DC
max 15V DC
R6
100kΩ
C6
1uF
U3
LD1117S33TR
C7
10uF
C8
100nF
TEST3
3V3
max 500 mA
3V3 LDO
TITLE:
FAB-O-MATIC-rev1.3
REV: 1.3
EasyEDA
Company: FABLAB Bergamo
Sheet: 1/1
Date: August, 2024
Drawn By: pascal.brunot

IDEAS

- use ENIG gold finish on front panel for graphical element
- evaluate protection if both USB and external power are active.
- Implement overvoltage protection on 5V
- Layout: move switching converter away from the rest. Review layout based on PCB in datasheets.
- Make the design 230VAC compliant, add earthing connection

CHANGELOG

- Rev1.3 : diode for reverse powerflow USB protection
- Rev1.3 : mains AC on PCB change
- Rev1.2 : fixed input protection
- Rev1.2 : soldering pad for 5V/3V3 EXT
- Rev1.1 : fixed R11 connection between FB and GND
- Rev1.1 : fixed footprint of RFID chip (pins description in reverse order)
- Rev1.1 : moved buzzer to top side
- Rev1.1 : fixed wrong footprint of Q1

Schematic	FAB-O-MATIC	Update Date	2024-08-17
		Create Date	2024-08-17
Page	Notes	Part Number	JLCPCB-002
Drawn	PBrunot		
Reviewed			

	VER	SIZE	PAGE 2 OF 2
EasyEDA	V0.1	A4	FabLab BG