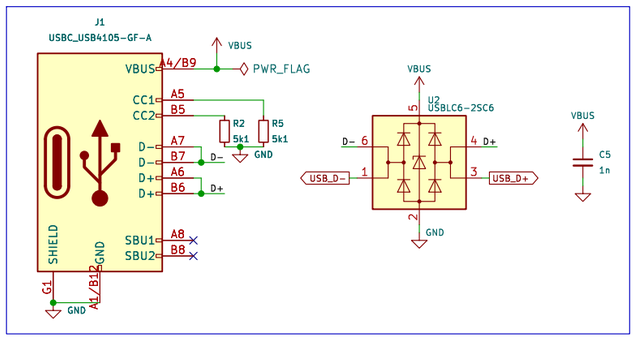
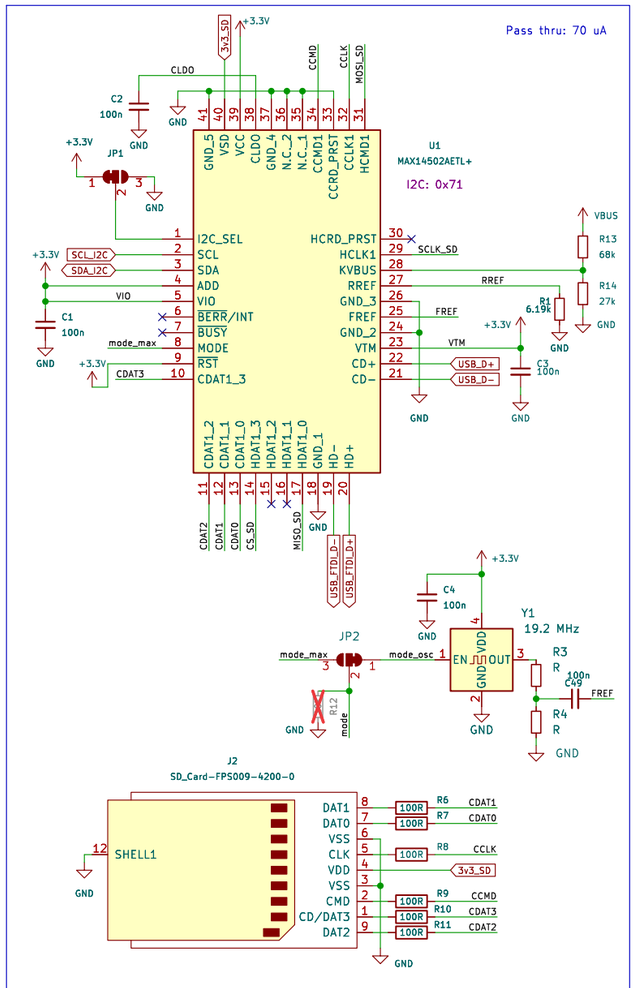
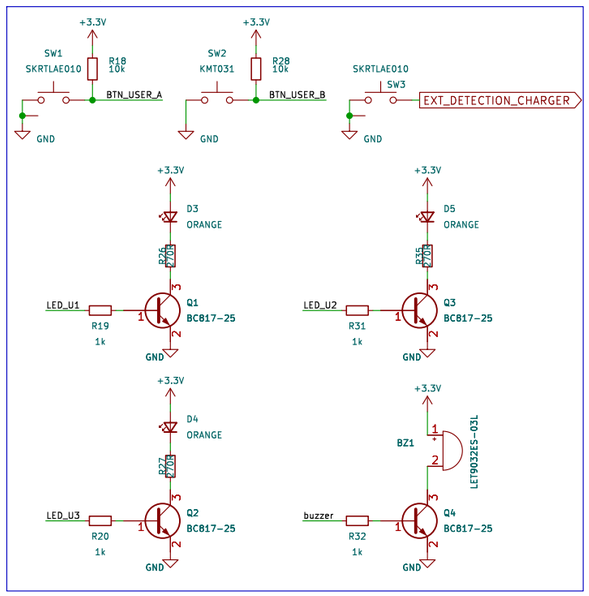
USB-C connector and ESD protection



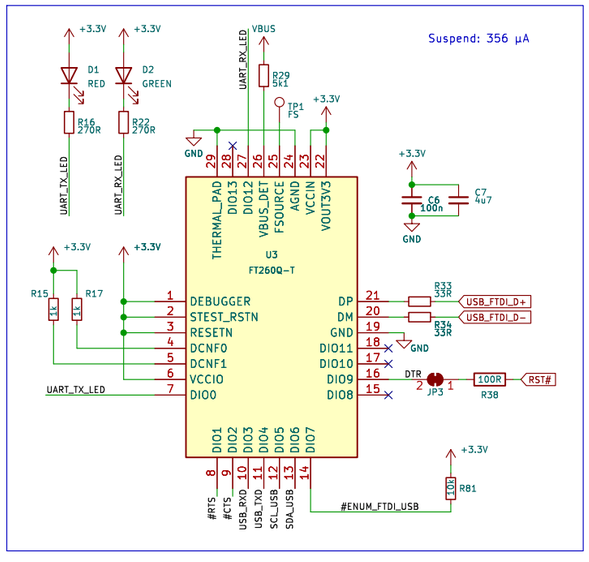
SD card interface (USB to SDcard reader and USB-bridge to FTDI)



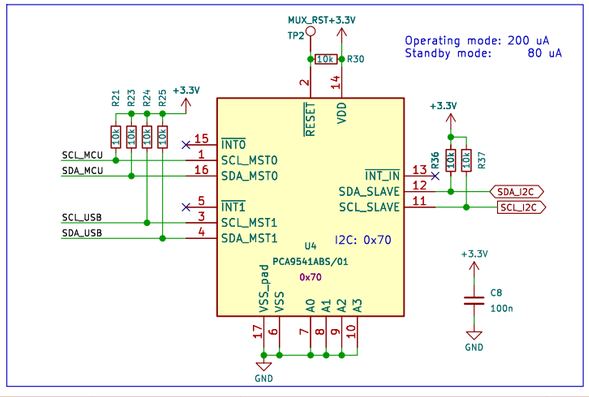
User interface (LED indicators, Buttons)



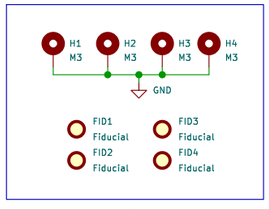
FTDI (USB to UART and I2C)



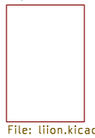
I2C master selector (from FTDI or ATmega)



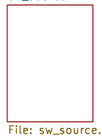
Mechanical



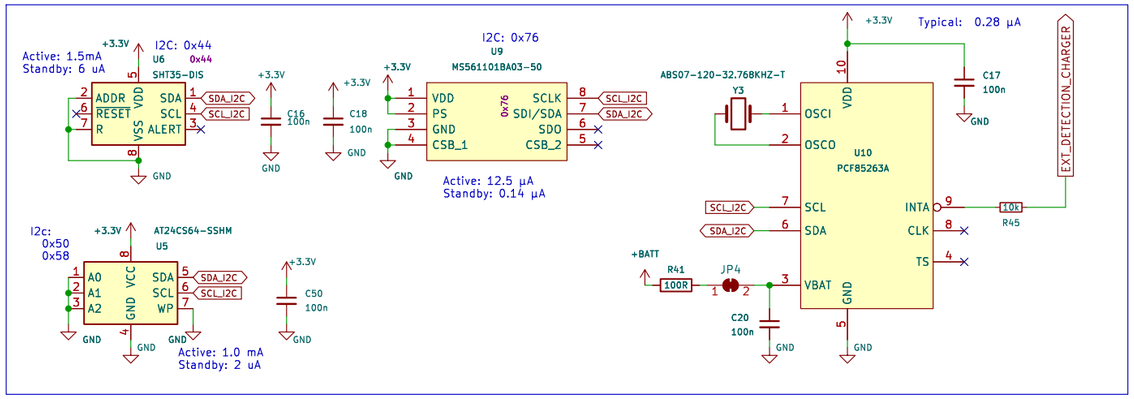
liion



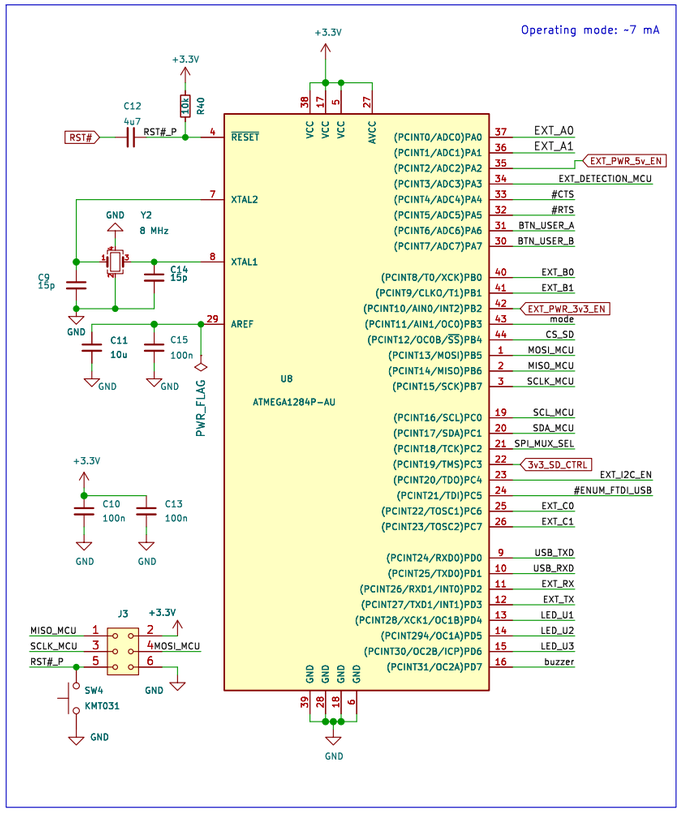
sw_source



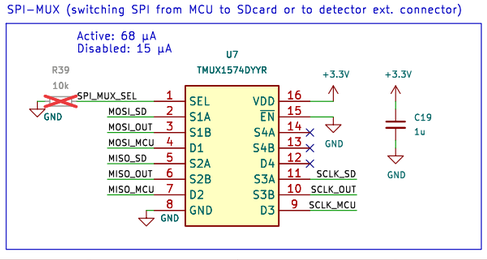
I2C sensors and accessories (hygrometer, altimeter, eeprom, RTC)



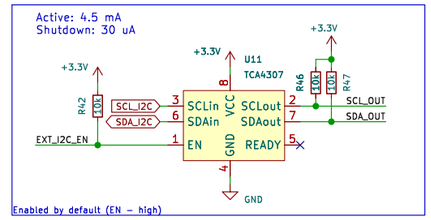
ATmega 1284p microcontroller



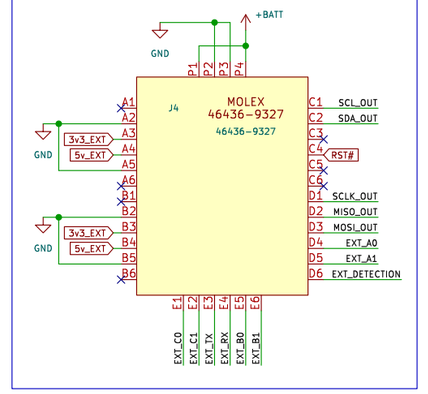
SPI-MUX (switching SPI from MCU to SDcard or to detector ext. connector)



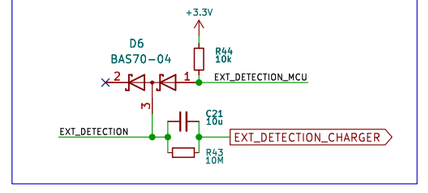
I2C buffer, allows to unconnect external I2C



Connector for detector board



Auto-power up wiring



Title: BATDATUNTI01

Universal battery and data storage unit.

Author: MLAB.cz, roman-dvorak

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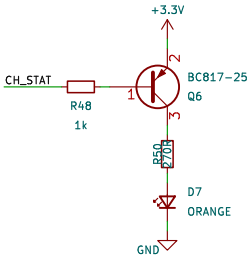
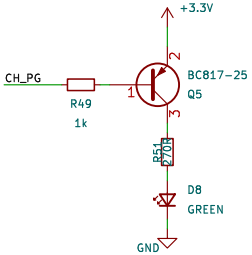
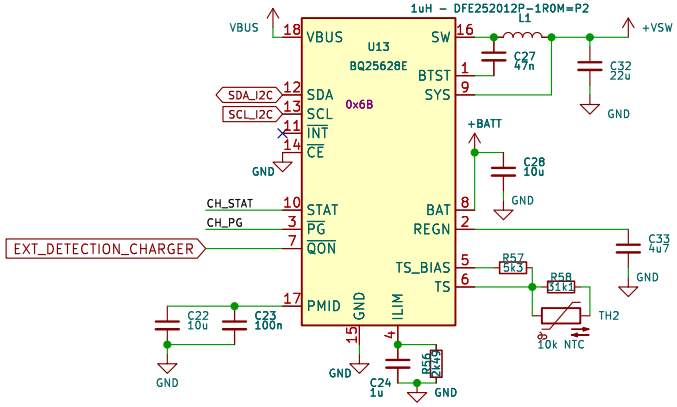
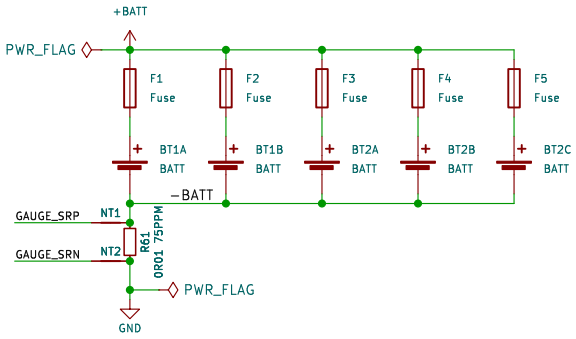
BATTERY CHARGER

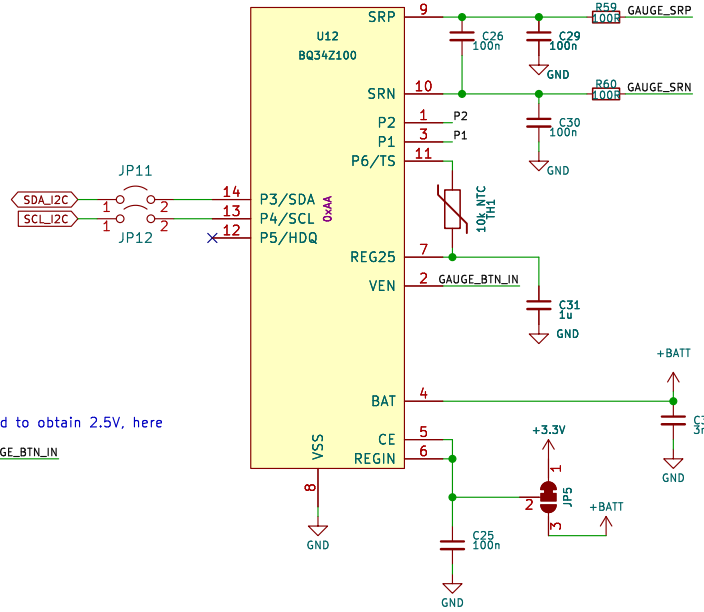


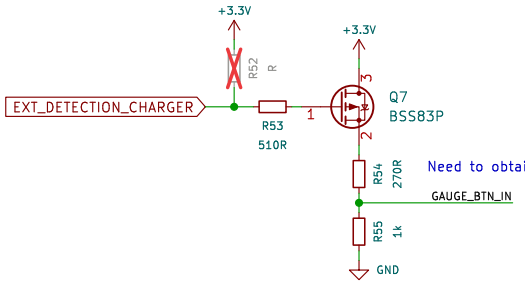






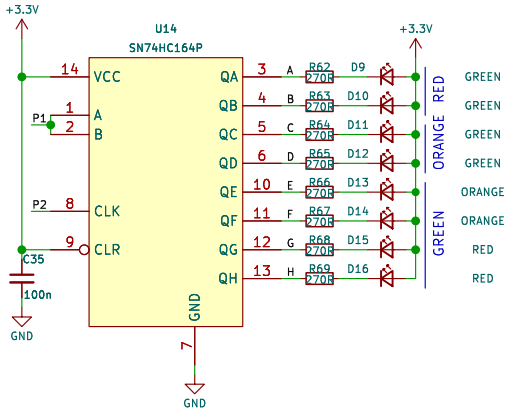
FUEL GAUGE





Need to obtain 2.5V, here

Battery Status Indicator



Doodhadnout optimální hodnoty odporů k LEDkám

Title: BATDATUNTI01

Universial battery and data storage unit.

Author: MLAB.cz

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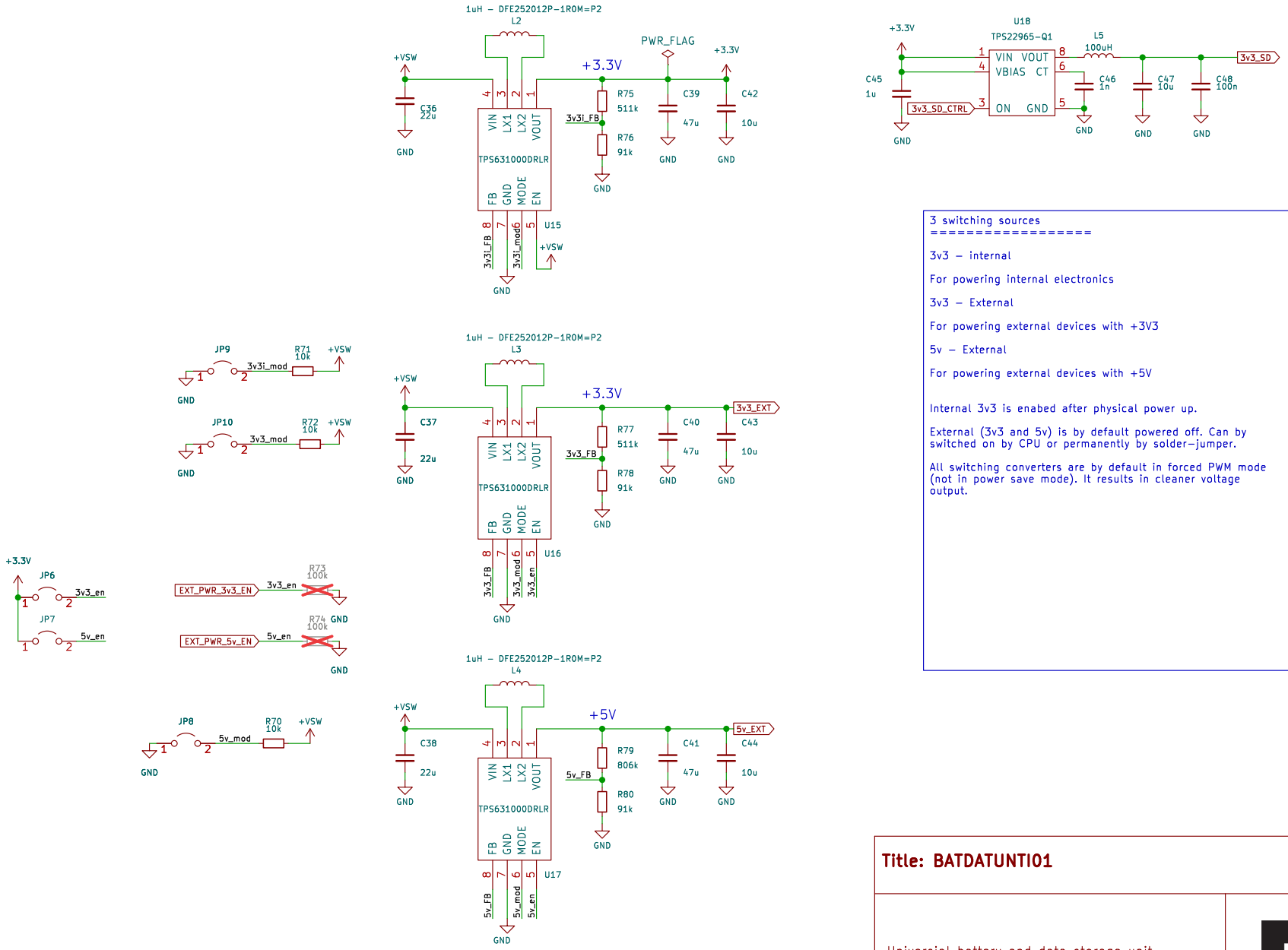
mlab


1uH – DFE252012P-1R0M=P2
L2
+VSW
C36
22u
GND
VIN LX1 LX2 VOUT
TPS631000DRLR
FB GND MODE EN
3v3i_FB
3v3i_mod
U15
+3.3V
R75
511k
R76
91k
C39
47u
C42
10u
PWR_FLAG
3v3i_FB
JP9
R71
10k
3v3i_mod
JP10
R72
10k
3v3_mod
1uH – DFE252012P-1R0M=P2
L3
C37
22u
3v3_FB
3v3_mod
3v3_en
U16
R77
511k
R78
91k
C40
47u
C43
10u
3v3_EXT
+3.3V
JP6
3v3_en
JP7
5v_en
EXT_PWR_3v3_EN
EXT_PWR_5v_EN
R73
100k
R74
100k
1uH – DFE252012P-1R0M=P2
L4
C38
22u
5v_FB
5v_mod
5v_en
U17
R79
806k
R80
91k
C41
47u
C44
10u
5v_EXT
+5V
JP8
R70
10k
5v_mod
U18
TPS22965-Q1
VIN VOUT
VBIAS CT
ON GND
L5
100uH
C45
1u
C46
1n
C47
10u
C48
100n
3v3_SD_CTRL
3v3_SD
3 switching sources
==========
3v3 – internal
For powering internal electronics
3v3 – External
For powering external devices with +3V3
5v – External
For powering external devices with +5V
Internal 3v3 is enabed after physical power up.
External (3v3 and 5v) is by default powered off. Can by switched on by CPU or permanently by solder-jumper.
All switching converters are by default in forced PWM mode (not in power save mode). It results in cleaner voltage output.
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Universial battery and data storage unit.
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