MINI-USB-

GND 5
NC 4
D+ 3
D- 2
VBUS 1

X1

GND

+5V

USB to RS232

IC11

19 VCC
1 VCCIO
18 RESET
27 OSCI
28 OSCO

16 3V3OUT

14 USBDP
15 USBDM

24 GND

FT232RQ

TXD 30
RXD 2
RTS 32
CTS 8
DTR 31
DSR 6
DCD 7
RI 3

CBUS0 22
CBUS1 21
CBUS2 10
CBUS3 11
CBUS4 9

TEST 26
GND 4
GND 17
GND 20

100nF
C4

GND GND

+5V +5V

100R R3
150R R4

LED2 TX (blue)
LED3 RX (red)

GND

IC16 2N7002

SRST/2.1D

GND

TX->/2.4C
<-RX/2.4C

L1 0,68µH

C1 10nF

GND

+5V

1 USB-PWR BAT 5
4 DC-PWR
2 GND CHG 3

IC12

MAX1555

GND

+5V

LED1 charge

200R R1

C2 1µF

GND

+3V3

IC14

3 VCC R+ 4
2 OUT
1 GND R- 5

MAX4372F

I_MON/2.6A

+3V3

MAX8881

2 GND POK 6
4 FB SHDN 5
3 OUT IN 1

IC15

+3V3

C3 4.7µF

GND GND

Power Management

1N4148 D1

Batt
BATT + BATT GND
JP4

Li-Ion
BATT + BATT GND
JP5

GND

P$2
P$3 P$1

SMD_SWITCH

IC13

shunt 0.4R R2

1M R5

V_MON/2.5A

1.5M R6

GND

10k R17

+3V3

PB2/2.4A

S1 SWITCH

GND

+3V3

LED4 green
LED5 orange

200R R15
200R R16

PD5/2.5C
PD7/2.5D

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C11 1.2pF
1.2pF 2.7nH C10
GND GND
L3
2.7nH
1.2pF L4 1.2pF
C12 C9
GND GND

IC21 2.4GHZ_ANTENNA_RAVEN

+3V3

1µF L2
GND C25 10µH

PB2/1.2D
PB[0..7]

PA0/3.6C PA1/3.6C V_MON/1.6C I_MON/4B
SD_EN/3.5B ChipSelect BCD AREF

+3V3
GND

1µF
C8

IC22 XC_16MHZ
3 GND GND

12pF 12pF
C6 C7
GND

IC23
TH
GNDPAD AVSS AVSS AVSS AVDD EVDD AVSS XTAL1 XTAL2
32 31 30 29 28 27 26 25
GND

hier nochmal gucken

1 DIG3
2 DIG4
3 AVSS
4 RFP
5 RFN
6 AVSS
7 DVSS
8 RST

AT86RF231

24 PD6 IRQ
23 PB4 SEL
22 PB5 MOSI
21 DVSS
20 PB6 MISO
19 PB7 SCLK
18 DVSS
17 CLKM

R7 470R
1.2pF C5
GND

TP1 TP2 TP3
+3V3
GND

TH
GND

IC24 ATMEGA1284P_MLF
44 PB4 43 PB3 42 PB2 41 PB1 40 PB0 39 VCC 38 PA0 37 PA1 36 PA2 35 PA3 34
GNDPAD
(SS-OC0B)PB4 (AIN1-OC0A)PB3 (T1-CLK0)PB1 (XCK0-T0)PB0 VCC (ADC0)PA0 (ADC1)PA1 (ADC2)PA2 (ADC3)PA3

1 PB5 PB5(MOSI) (ADC4)PA4 33
2 PB6 PB6(MISO) (ADC5)PA5 32 CS0
3 PB7 PB7(SCK) (ADC6)PA6 31 CS1
4 RESET (ADC7)PA7 30 CS2
5 VCC AREF 29
6 GND GND 28
7 XTAL2 AVCC 27
8 XTAL1 (TOSC2)PC7 26 PC7
9 PD0(RXD0) (TOSC1)PC6 25 PC6
TX-> 10 PD1(TXD0) (TDI)PC5 24 PC5
<-RX 11 PD2(RXD1) (TDO)PC4 23 PC4

TX->/1.3B
<-RX/1.3B

PD3(TXD1) PD4(XCK1) PD5(OC1A) PD6(OC2B-ICP) PD7(OC2A) VCC GND PC0(SCL) PC1(SDA) PC2(TCK) PC3(TMS)
12 13 14 15 16 17 18 19 20 21 22

+3V3
GND

L5 10µH
+3V3
100nF C14
GND GND

R11 0R
GND

N.M.0R R13
0R R12

C15 C16
1µF 1µF
GND GND GND GND

PB3
PB0

MSPI2 MSPI1 MSPI0 PD6
MSPI-Bus MSPI[0..2]

PC0 PC1 PC2 PC3
PD5/1.3D
PD7/1.3D

PC[0..7]

+3V3 10k R10
SRST/1.3B
100nF C13
GND GND

SRST
PC2 PC3 PC4 PC5
TCK TMS TDO TDI
10 9 8 7 6 5 4 3 2 1
GND SCL SDA
AREF

+3V3

IC25 XC_32.768KHZ
PC7 PC6
4 GND GND
NC2 NC3
1
PC1 PC0

R8 10k
+3V3
R9 10k
SDA SCL
I2C:PC0,PC1 I2C-Bus

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MSPI0: SCK
MSPI1: MOSI
MSPI2: MISO

MSPI[0..2]

CS[1..7]

CS[0..2]

+3V3

IC33
74LCX138
CS0 1 A0   O0 15
CS1 2 A1   O1 14 CST
CS2 3 A2   O2 13 CS2
     4 E1   O3 12 CS3
     5 E2   O4 11 CS4
     6 E3   O5 10 CS5
     16 VCC   O6 9   CS6
     8 GND   O7 7   CS7

GND

IC34
AT45DB161
MSPI2 8 SO   WP   5 +3V3
MSPI1 1 SI   RESET 3
MSPI0 2 SCK   VCC   6
       CST 4 CS   GND 7

C17
100nF

GND

+3V3

ADXL345
         1 VDD_IO SDO   12 MSPI2
         3 SDI/SDIO   13 MSPI1
         RES SCL   14 MSPI0
         6 V_S   CS   7 CS2
         8 INT_1 NC GND   IC35
         9 INT_2 GND GND RES
         10 5 4 3 2 11

C18   C19
100nF   1µF

GND

+3V3

CS5

IC36
74LCX126
        14 VCC   GND 7
         1 OE0   O0   3
MSPI1   A0
         4 OE1
         5 A1   O1   6 MSPI2
        13 OE2
        12 A2   O2 11
MSPI0   10 OE3
         9 A3   O3   8

IC37
FSA1156
         6 VCC   A 1
         2 GND
         4 S
         5 NC   B 3

SD_EN/2.6A

GND

GND

micro SD card
         6 GND   NC 1
         4 VCC   NC 8
         7 SCK
         5 DO
         3 DI
         2 CS

PC0: SCL
PC1: SDA

I2C:PC0,PC1

IC31
BMP085
         2 EOC   VDD   4 +3V3
PC0   6 SCL   VDDA 3
PC1   7 SDA
         8 XCLR   GND   1
         5 NC

C20
100nF

GND

+3V3

IC32
L3G4200D
         1 VDDIO SCL   3 PC0
        16 VDD   SDA/SDI 4 PC1
        15 RSVDV SDO   5
                   CS
         8 RSVDG
         9 RSVDG INT2   6
        10 RSVDG INT1   7
        11 RSDVG
        12 RSVDG PLL   14
        13 GND

1µF   100nF
C22   C21

GND

C24
470nF

10k
R14

C23
10nF

GND

MSPI[0..2]

CS[1..7]

JP2
         5 4 3 2 1
<-RX/2.4C
TX->/2.4C

MSPI2
MSPI: MISO
MSPI: MOSI
MSPI: SCK

JP1
         5 4 3 2 1
PA1/2.5A
PA0/2.5A

CS3
CS4

+5V

PA1/ADC1
AREF

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