USB

VCC
D-
D+
ID
GND
SHIELD
USB
USBVCC
PTCSMD
TP10
22R D-
22R D+
PADS1*10
PGB1010603
PGB1010603
TP15
GND

Battery charging

VBUS_IN
TP11
U3
VIN VBAT
PROG
STAT VSS
MCP73831
10k
2k
4.7uF
10k
0.1uF
GND
GND
TP14
SJ1
D2 B340A
D1 B340A
VBUS
VBAT
BSI
GND
VBAT_SENSE
GND
10uF
GND
10k
10k VBAT_EN
BATT_STAT

Soft power

TP12
VBUS
JP1
TP9
PWR_ONOFF
SW_PWR
10k
10k 10k
U8
A VCC
B
GND Y
NC7S32
0.1uF
3V3EN
GND
GND

3.3 V regulator

VBUS
U4
IN OUT
GND
EN BP
MIC5219-3.3
C2 0.1uF
C1 4.7uF
GND
3.3V TP13
C26 10uF
C27 0.1uF
GND
C4 470pF
GND

LCD

3.3V
12
11
10
9
8
7
6
5
4
3
2
1
LG132643-DG
R19 53R
LCD_BL
LCD_CS
LCD_RST
LCD_A0
SCK
MOSI
C35 1uF
C36
GND

Buttons

3.3V
10k 10k   10k 10k 10k
SW_D SW_A
SW_E SW_B
SW_C
GND

Microcontroller (QNF)

3.3V
RESET 10k
GND
13 RESET
14 VCC
34 VCC
24 AVCC
44 AVCC
42 AREF
PF7(ADC7) 36 LCD_BL
PF6(ADC6) 37 LCD_CS
PF5(ADC5) 38 DATA1
PF4(ADC4) 39 DATA2
PF1(ADC1) 40 SW_D
PF0(ADC0) 41 SW_E
0.1uF 0.1uF 0.1uF 0.1uF
GND
VBUS 7 VBUS
2 UVCC
6 UCAP
3.3V
PD2(RX) 20 SW_B
PD3(TX) 21 SW_A
PD1(SDA) 19 SDA
PD0(SCL) 18 SCL
1.5k
1.5k
D0
D1
D2
D3#
D4/A6
D5#
D6#/A7
D7
D8
D9#/A8
D10#
D11#
D12/A10
D13#
D17/RX LED
D15
D16
D14
D+ 4 D+
D- 3 D-
1uF
GND
PD4(ADC8) PC6 25 LCD_RST
PD7(ADC10) 31 SD_CS
PE6 27 RTC_INT
PB4(ADC11) 1 PWR_ONOFF
PB5(ADC12) 28 VBAT_EN
PB6(ADC13) 29 VBAT_SENSE
PB7 30 BATT_STAT
PD6(ADC9) 12 FLASH_CS
PC7 26 LCD_A0
32 SW_C
33 PE2/HWB
P$1
5 GND_PAD
15 UGND
GND
35 GND
43 GND
XTAL 1 17 XTAL1
XTAL2 16 XTAL2
8MHz
GND
PB0(SS) 9 SW_PWR
PB1(SCK) 4 SCK
PB2(MOSI) 10 MOSI
PB3(MISO) 11 MISO
PD5 22 TXLED
TX LED
A0
A1
A2
A3
A4
A5
SPARKFUN-DIGITALIC_QFN_ATMEGA32U4
GND

Temp sensor

3.3V
C31 0.1uF
VDD SDA SDA
VSS
ALERT SCL SCL
MCP9800
GND

SPI flash

3.3V
U$4
FLASH_CS CS VCC
MISO DO HOLD
WP CLK SCK
GND DI MOSI
W25Q80DV
C20 0.1uF
GND GND

RTC

3.3V
0.1uF C18
10k R2
U$14
32KHZ SCL SCL
VCC SDA SDA
INT/SQW VBAT
RTC_INT RST GND RTC_BATT
DS3231M
GND

Isothermal Plane

ISOTHERMAL
R26 10k
GND

RTC Battery

RTC_BATT
BAT1
GND

SD Card

GND
DATA2
SD_CS CS
MOSI DI
3.3V VDD
SCK SCLK
GND VSS
MISO DO
DATA1
CDN
MICRO-SDCARD-CONNECTOR-3300060P1
GND

ADC

IC1
TC2+ 1 CH1+ VDD
TC2- 2 CH1-
TC1+ 3 CH2+ SCL SCL
TC1- 4 CH2- SDA SDA
TC4+ 11 CH3+
TC4- 12 CH3- A0
TC3+ 13 CH4+ A1
TC3- 14 CH4- GND
MCP3424
3.3V
0.1uF 1uF
GND

Programming

ICSP1
SCL SDA
DATA2 DATA1
3.3V
ICSP
GND

ICSP

ICSP
MISO VBUS_IN
SCK MOSI
RESET
ICSP
GND

Thermocouples

3.3V
R27 1M R28 1M R29 1M R30 1M
ISOTHERMAL
0.1uF 0.1uF 0.1uF 0.1uF
TC P$1
P$2
500R 0.1uF 1uF TC3+
TC3-
500R 1uF TC4+
TC4-
500R 1uF TC1+
TC1-
500R 1uF TC2+
TC2-
R31 1M R32 1M R33 1M R34 1M
ISOTHERMAL
0.1uF 0.1uF 0.1uF 0.1uF
ISOTHERMAL