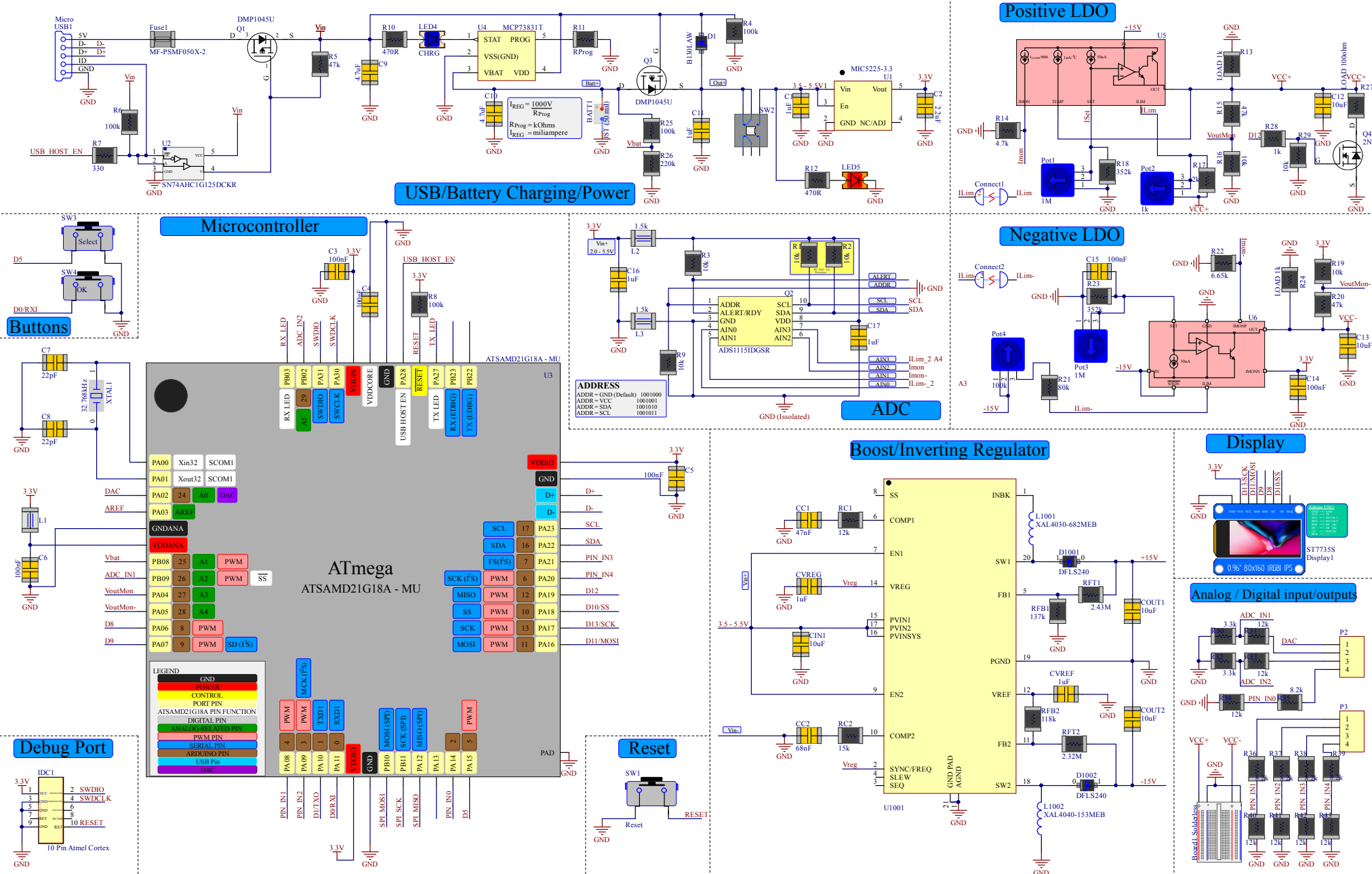
USB/Battery Charging/Power
Micro USB1
Fuse1
MF-PSMF050X-2
DMP1045U
Q1
R5 47k
R10 470R
LED4
CHRG
U4 MCP73831T
STAT PROG
VSS(GND)
VBAT VDD
R11 RProg
C9 4.7uF
C10 4.7uF
Q3
DMP1045U
B130LAW
D1
R4 100k
R25 100k
R26 220k
C11 1uF
SW2
MIC5225-3.3
U1
Vin Vout
En
GND NC/ADJ
C1 1uF
C2 2.2uF
R12 470R
LED5
R6 100k
R7 330
USB_HOST_EN
U2
SN74AHC1G125DCKR
Vin
Vbat
Batt+
Out+
BATT1
JST (2pin)
3.5 - 5.5V
3.3V
GND
Positive LDO
U5
+15V
VCC+
LOAD 1k
LOAD 100ohm
R13
R14 4.7k
R15 47k
R16 10k
R17 2k
R18 352k
R28 1k
R29 10k
D12
C12 10uF
Q4 2N
Pot1 1M
Pot2 1k
Connect1
ILim
Imon
VoutMon
Negative LDO
Connect2
ILim-
Imon-
VoutMon-
R22 6.65k
R23 352k
R24
R19 10k
R20 47k
C15 100nF
C13 10uF
C14 100nF
U6
Pot3 1M
Pot4 100k
R21 80k
-15V
VCC-
Buttons
SW3
Select
SW4
OK
D5
D0/RXI
Microcontroller
ATSAMD21G18A - MU
U3
ATmega
ATSAMD21G18A - MU
C3 100nF
C4 100nF
R8 100k
C7 22pF
C8 22pF
XTAL1
32.768kHz
L1
C6 100nF
C5 100nF
RX LED
ADC_IN2
SWDIO
SWDCLK
RESET
TX LED
USB HOST EN
DAC
AREF
Vbat
ADC_IN1
VoutMon
VoutMon-
D8
D9
D+
D-
SCL
SDA
PIN_IN3
PIN_IN4
D12
D10/SS
D13/SCK
D11/MOSI
PIN_IN1
PIN_IN2
D1/TXO
D0/RXI
SPI_MOSI
SPI_SCK
SPI_MISO
PIN_IN0
D5
LEGEND
GND
POWER
CONTROL
PORT PIN
ATSAMD21G18A PIN FUNCTION
DIGITAL PIN
ANALOG-RELATED PIN
PWM PIN
SERIAL PIN
ARDUINO PIN
USB Pin
DAC
ADC
ADS1115IDGSR
Q2
ADDR
ALERT/RDY
GND
AIN0
AIN1
SCL
SDA
VDD
AIN3
AIN2
L2 1.5k
L3 1.5k
R3 10k
R9 10k
C16 1uF
C17 1uF
R1 10k
R2 10k
Vin+ 2.0 - 5.5V
ALERT
ADDR
AIN3
AIN2
AIN1
AIN0
ILim_2 A4
Imon
Imon-
ILim-_2
GND (Isolated)
ADDRESS
ADDR = GND (Default) 1001000
ADDR = VCC 1001001
ADDR = SDA 1001010
ADDR = SCL 1001011
Boost/Inverting Regulator
U1001
SS
COMP1
EN1
VREG
PVIN1
PVIN2
PVINSYS
EN2
COMP2
SYNC/FREQ
SLEW
SEQ
INBK
SW1
FB1
PGND
VREF
FB2
SW2
GND PAD
AGND
CC1 47nF
RC1 12k
CVREG 1uF
CIN1 10uF
CC2 68nF
RC2 15k
L1001 XAL4030-682MEB
D1001 DFLS240
RFT1 2.43M
RFB1 137k
COUT1 10uF
CVREF 1uF
RFB2 118k
RFT2 2.32M
COUT2 10uF
D1002 DFLS240
L1002 XAL4040-153MEB
3.5 - 5.5V
Vin-
Vreg
+15V
-15V
Display
ST7735S Display1
0.96" 80x160 (RGB) IPS
D13/SCK
D11/MOSI
D9
D8
D10/SS
Analog / Digital input/outputs
ADC_IN1
DAC
ADC_IN2
PIN_IN0
P2
P3
R26 12k
R37 12k
R38 12k
R39 12k
R40 12k
R41 12k
R42 12k
R43 12k
PIN_IN1
PIN_IN2
PIN_IN3
PIN_IN4
Board1 Solderless
Debug Port
IDC1
10 Pin Atmel Cortex
SWDIO
SWDCLK
RESET
Reset
SW1
RESET