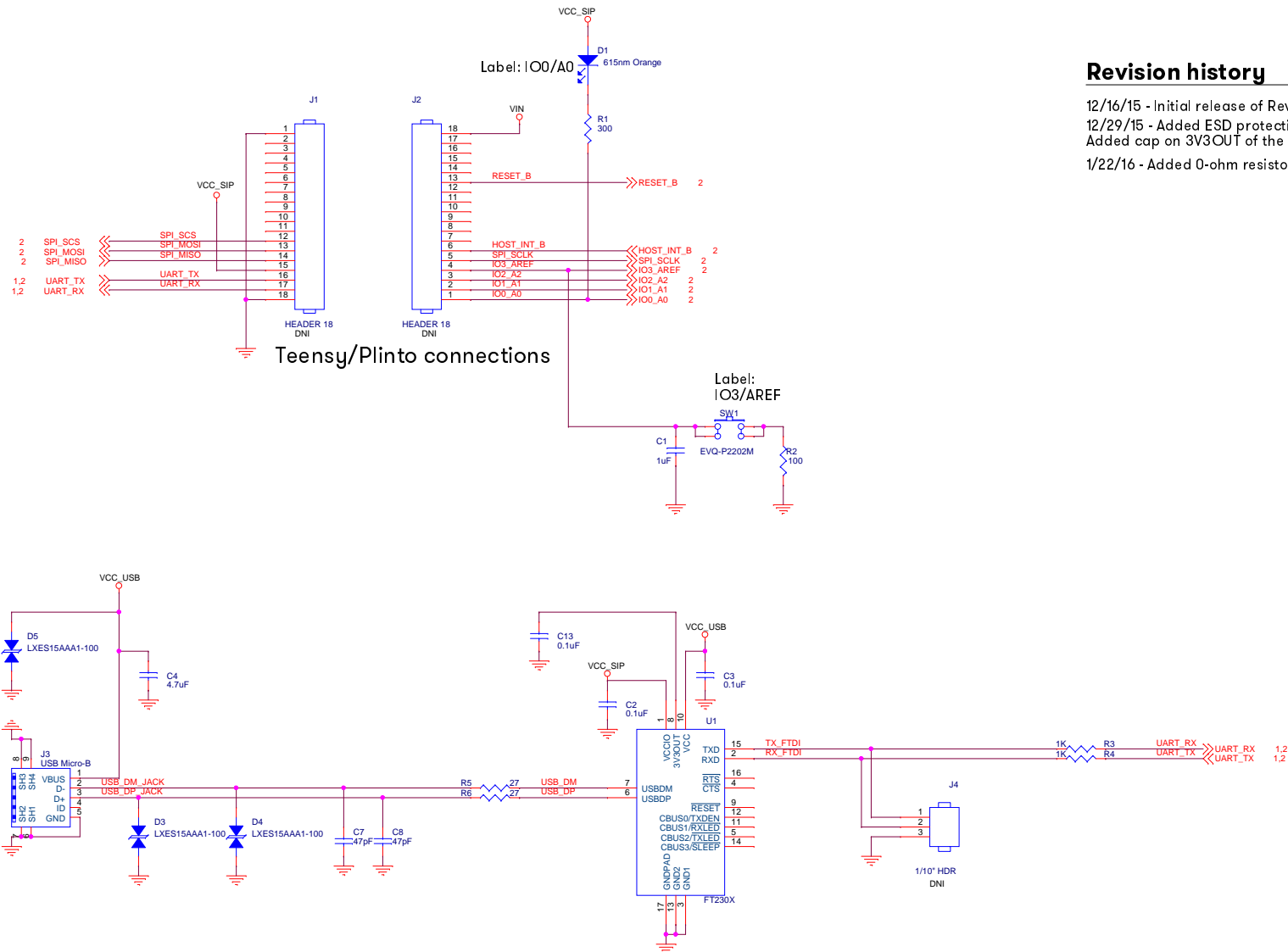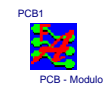# Afero Modulo

This board is designed to connect directly to a Teensy 3.1 board. It can also be attached to standard Arduino Uno shields by using the Afero Plinto adapter board.
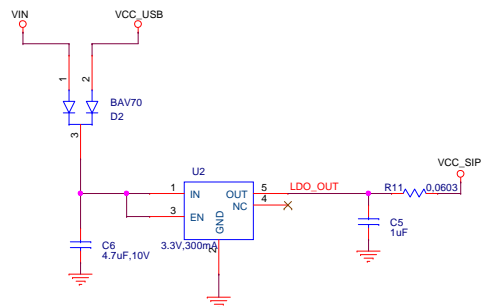
Revision history

12/16/15 - Initial release of Rev 03
12/29/15 - Added ESD protection to USB lines
Added cap on 3V3OUT of the FTDI
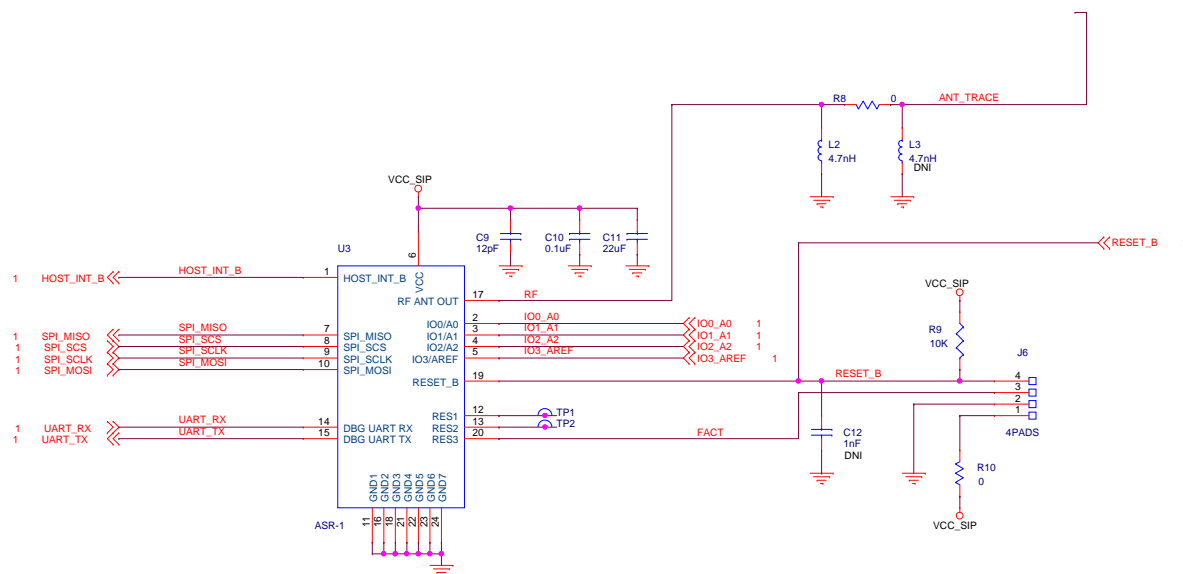1/22/16 - Added 0-ohm resistor on LDO output

VCC_SIP

D1
615nm Orange
Label: IO0/A0

VIN

R1
300

RESET_B

RESET_B   2

J1   J2

VCC_SIP

SPI_SCS   SPI_SCS
SPI_MOSI   SPI_MOSI
SPI_MISO   SPI_MISO

UART_TX   UART_TX
UART_RX   UART_RX

HEADER 18
DNI

HEADER 18
DNI

HOST_INT_B   HOST_INT_B   2
SPI_SCLK   SPI_SCLK   2
IO3_AREF   IO3_AREF   2
IO2_A2   IO2_A2   2
IO1_A1   IO1_A1   2
IO0_A0   IO0_A0   2

Teensy/Plinto connections

Label:
IO3/AREF

SW1

C1
1uF

EVQ-P2202M

R2
100

VCC_USB

D5
LXES15AAA1-100

C4
4.7uF

C13
0.1uF

VCC_USB

VCC_SIP

C2
0.1uF

C3
0.1uF

U1

TXD   15   TX_FTDI   UART_RX
RXD   2   RX_FTDI   UART_RX   1,2
                             UART_TX   1,2

J3
USB Micro-B

SH3
SH4
VBUS
D-
D+
ID
GND

SH2
SH1

RTS   16
CTS   4

1K   R3
1K   R4

J4

R5   27   USB_DM
R6   27   USB_DP

USBDM   7
USBDP   6

RESET   9
CBUS0/TXDEN   12
CBUS1/RXLED   11
CBUS2/TXLED   5
CBUS3/SLEEP   14

1
2
3

D3   D4
LXES15AAA1-100 LXES15AAA1-100

C7   C8
47pF   47pF

GNDPAD   17
GND2   13
GND1   3

FT230X

1/10" HDR
DNI

VCCIO   1
3V3OUT   8
VCC   10

USB<>UART
interface

PCB1

PCB - Modulo

VIN
VCC_USB

1
2
BAV70
D2
3

U2
1 IN   OUT 5   LDO_OUT   R11 0.0603   VCC_SIP
3 EN   NC 4
GND
3.3V,300mA
C6
4.7uF,10V
C5
1uF

LDO

VCC_SIP

R8   0   ANT_TRACE

L2
4.7nH
L3
4.7nH
DNI

U3
C9
12pF
C10
0.1uF
C11
22uF

RESET_B   1

1   HOST_INT_B   HOST_INT_B   1   HOST_INT_B   VCC   6
RF ANT OUT   17   RF
IO0/A0   2   IO0_A0   IO0_A0   1
VCC_SIP
1   SPI_MISO   SPI_SCS   7   SPI_MISO   IO1/A1   3   IO1_A1   IO1_A1   1
1   SPI_SCS   SPI_SCS   8   SPI_SCS   IO2/A2   4   IO2_A2   IO2_A2   1
R9
10K
1   SPI_SCLK   SPI_SCLK   9   SPI_SCLK   IO3/AREF   5   IO3_AREF   IO3_AREF   1
1   SPI_MOSI   SPI_MOSI   10   SPI_MOSI   J6
RESET_B   19   RESET_B   RESET_B   4
3
1   UART_RX   UART_RX   14   DBG UART RX   RES1   12   TP1   2
1   UART_TX   UART_TX   15   DBG UART TX   RES2   13   TP2   1
RES3   20   FACT   4PADS
C12
1nF
DNI
GND1   11
GND2   16
GND3   18
GND4   21
GND5   22
GND6   23
GND7   24   R10
0
ASR-1
VCC_SIP

Afero module