The USART ISP interface is implemented on the following pins:
- PIO0_29 for receive
- PIO0_30 for transmit

The USB interface is implemented on the following pins:
- PIO0_22 for VBUS
- USB0_DP for USB D+
- USB0_DM for USB D

RIO has:
1 USB host
1 USB device
16 DIO on mx
10 DIO
8 AI (0–5V)
2 AO (0–5V)
1 I2C 400KHz (5v compatible)
1 SPI 4MHz w/4 CS lines (5v compatible)
1 TTL UART
1 RS232 UART
10 PWM (330 ohm series resistor) 5V drive 150KHz max
4 forward relay (680 ohm series resistor) 5V drive
4 reverse relay (680 ohm series resistor) 5V drive
RSL open collector drive up to 16V @ 120 ma
3 axis Accel, 12 bit resolution

power outputs:
6V @ 2.2A
5V  @ 1A
3.3V @ 1.225A

power supply:
4–16V 45W max

Using PIO0_31 as an output (even though it is connected to a
switch that can shunt it to ground) is OK if it is configured in
open-drain mode (high-side driver disabled.)

Battery Voltage Monitor

Bypass Capacitors

Raspberry PI Header

https://github.com/johnwinans/2056-LPC546xxJyyyBD208-breakout

Sheet: /
File: 2056-LPC546xxJyyyBD208-breakout.sch
Title: ORIO Processor
Size: USLedger  |  Date: 2019-11-02  |  Rev: 1.2
KiCad E.D.A.  kicad 5.1.4-e60b26684ubuntu18.04.1  |  Id: 1/2

Sheet: POWER
File: POWER.sch

+BATT
FB1
PWR_FLAG
C15 10uF
GND
C16 .01uF
U4 FAN8303
L1 22uH
PWR_FLAG +6V
6V, 2A
7 Enable
Vin
BS
SW 3
8 SS
Gnd
Comp
FB 5
R3 18K
C19 22uF
C21 .01uF
4
6
C23 390pF
D2 DB2460600L (60V 3A)
R13 2K
R15 56K
GND

+BATT
FB2 MI0805M221R-10
PWR_FLAG
C17 10uF
GND
C18 .01uF
U5 FAN8303
L2 22uH
5V Clean, 2A
PWR_FLAG +5V
7 Enable
Vin
BS
SW 3
8 SS
Gnd
Comp
FB 5
R4 18K
C20 22uF
C34 22uF
C35 22uF
C22 .01uF
1292-1386-1-ND
C24 560pF
D3 DB2460600L (60V 3A)
R14 2K4
R16 43K
GND

PWR_FLAG
FB4 MI0805M221R-10
U6 NCP1117ST50T3G
+BATT
IN
ADJ/GND
OUT 2
OUT 4
5V_dirty
5V Dirty, 1A
C27 10uF
C28 10uF
GND

+BATT
FB3 MI0805M221R-10
PWR_FLAG
C25 10uF
GND
C26 .01uF
U7 FAN8303
L3 15uH
PWR_FLAG +3.3V 2A
7 Enable
Vin
BS
SW 3
8 SS
Gnd
Comp
FB 5
R17 18K
C29 22uF
C38 22uF
C30 .01uF
C31 820pF
D4 DB2460600L (60V 3A)
R18 4K
R19 27K
GND

J34 TBL001-500-02GY-2GY
D5 D_ALT
PWR_FLAG
+BATT
2
1
10A
C39 10uF
C40 10uF
C41 10uF
GND
GND
12V Battery

Sheet: /POWER/
File: POWER.sch
Title: ORIO Power
Size: USLedger | Date: 2019-11-02 | Rev: 1.2
KiCad E.D.A. kicad 5.1.4-e60b26684ubuntu18.04.1 | Id: 2/2