Header connectors

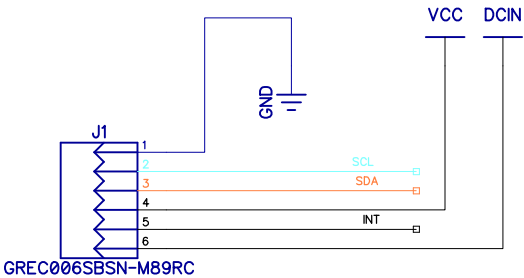## ヘッダーコネクタ

接頭連接器

VCC DCIN

GND

J1

1
2   SCL
3   SDA
4
5   INT
6

GREC006SBSN-M89RC

Notes:
VCC and DCIN are two power sources coming from the PinePhone.
DCIN translates to power from USB-C charger
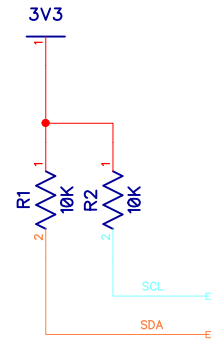VCC outputs a regulated 5V power source

I2C Level Shifter
レベルシフター
電平轉換器

I2C 3.3V Pull-up Resistors

3V3

R1 10K
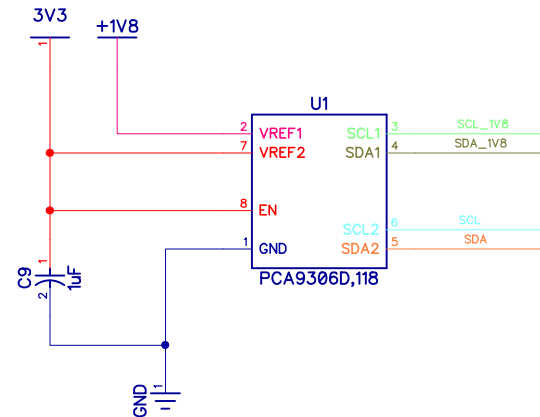R2 10K

SCL
SDA

I2C 1.8V Pull-up Resistors

+1V8

R3 4.7K
R4 4.7K

SCL_1V8
SDA_1V8
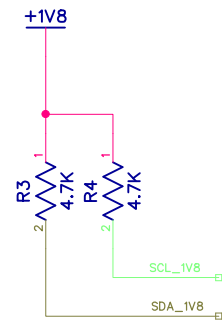
Bi-directional I2C level shifter
3.3V to 1.8V

VREF2 should be at least 1V higher than
VREF1 for best translation operation

3V3   +1V8

U1

2 VREF1   SCL1 3   SCL_1V8
7 VREF2   SDA1 4   SDA_1V8

8 EN   SCL2 6   SCL
1 GND   SDA2 5   SDA

C9 1uF
PCA9306D,118

GND

Place bypass capacitor C9 close to VREF2 pin

Title			
max30102 sensor board for PinePhone			
Size	Number		Rev
			1.0
		Drawn by jnavarro7	
pinephone-max30102.dch		I2C level shifter	

Power

力　　力量

3.3V LDO

DCIN　VCC

R5
Jumper

R6
Jumper

3V3

U2
IN　OUT
GND
MCP1700T-3302E/TT

C1 1uF

C2 1uF

D1

R7 100

GND

1.8V LDO

DCIN　VCC

R8
Jumper

R9
Jumper

+1V8

U3
VIN　VOUT
GND
MCP1700T-1802E/TT

C3 1uF

C4 1uF

GND_ANALOG
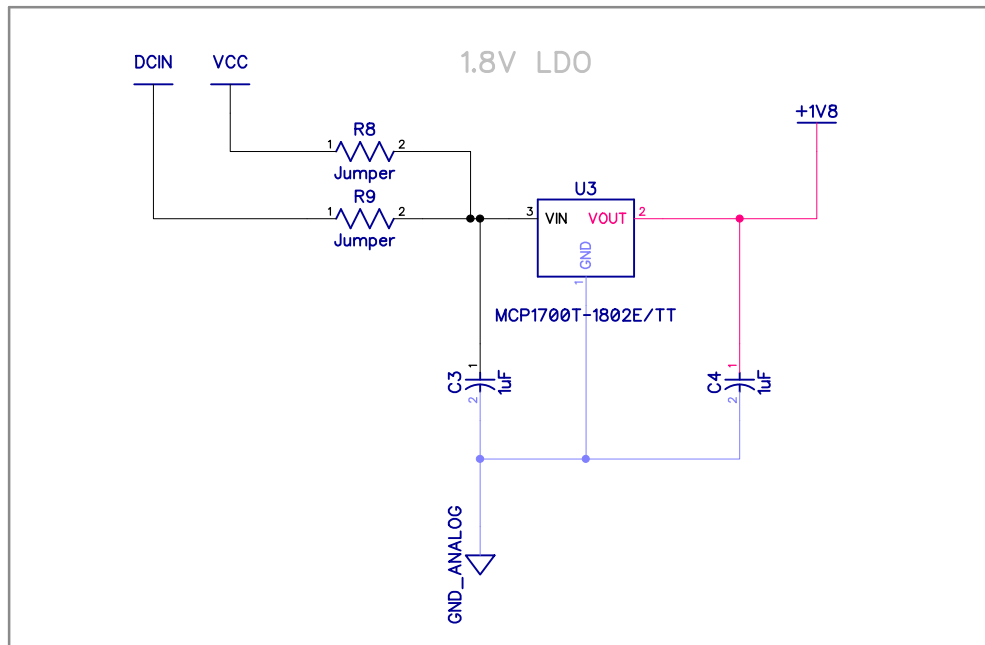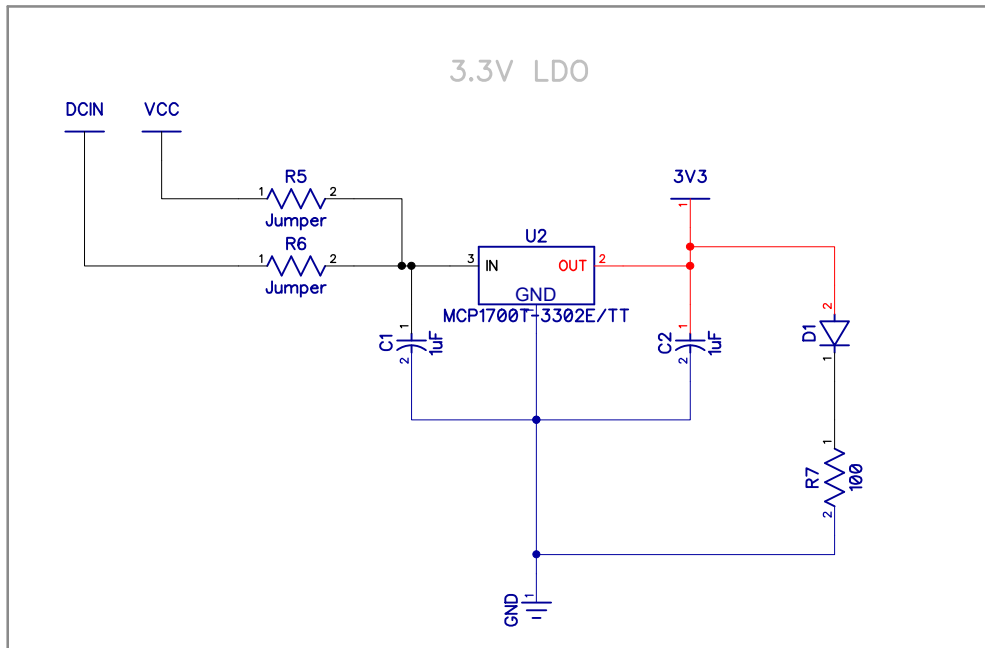
Notes:
R5, R6, R8 and R9 can be used to select
power source from either VCC or DCIN.

Title			
max30102 sensor board for PinePhone			
Size	Number		Rev
			1.0
		Drawn by jnavarro7	
pinephone-max30102.dch		power	

Pulse oximeter and heart-rate sensor
パルスオキシメーターと心拍数センサー

脈搏血氧儀和心率感測器

VLED+ and VLED+_2 Bypass capacitors

3V3

C5 10uF C6 0.1uF

GND_ANALOG

MAX30102 sensor

3V3 +1V8

3V3

U4

11	VDD	NC	6	
9	VLED+	NC	7	
10	VLED+_2	NC	5	
		NC	8	
2	SCL	NC	1	
3	SDA	NC	14	
		INT	13	
	GND		12	
	PGND		4	

SCL_1V8
SDA_1V8

max30102

R10 4.7K

R11
Jumper
INT

GND GND_ANALOG
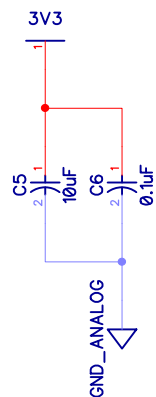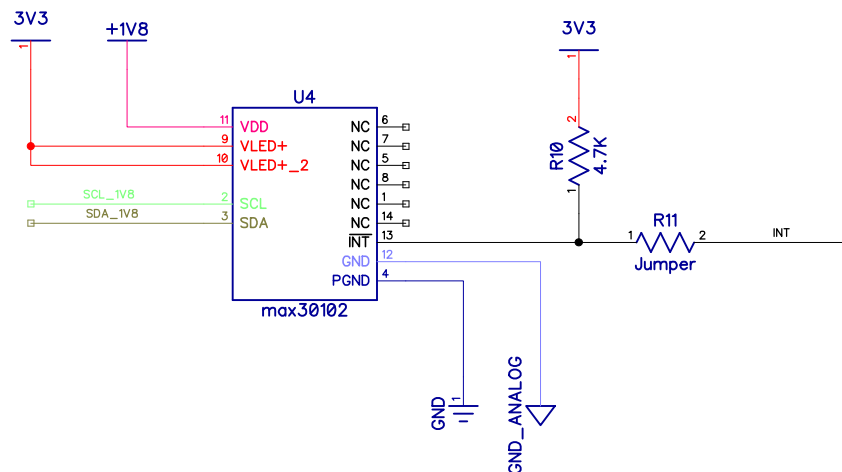
VDD Bypass capacitors

3V3

C7 4.7uF C8 0.1uF

GND
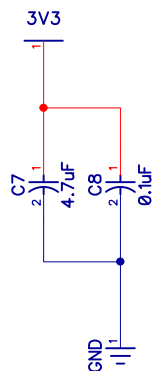
Place bypass capacitors close to VDD pin of MAX30102

Title				
max30102 sensor board for PinePhone				
Size	Number			Rev
				1.0
			Drawn by jnavarro7	
pinephone-max30102.dch		max30102		