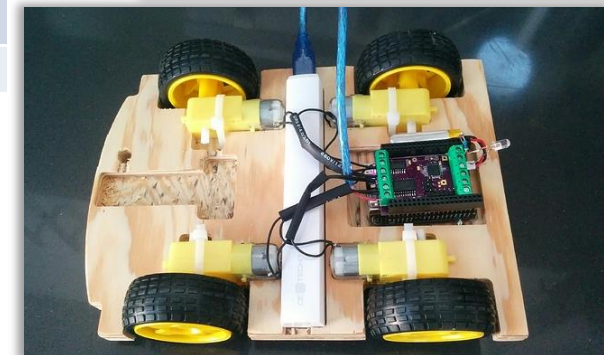
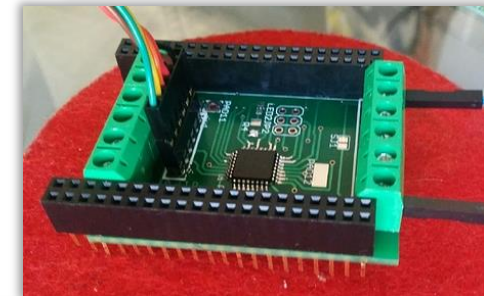
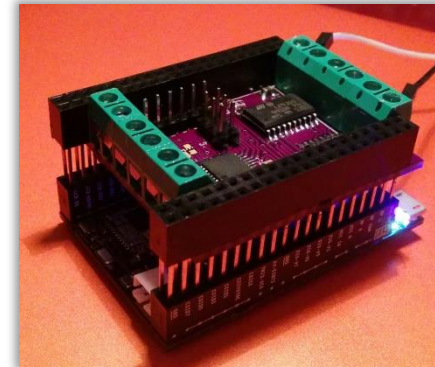
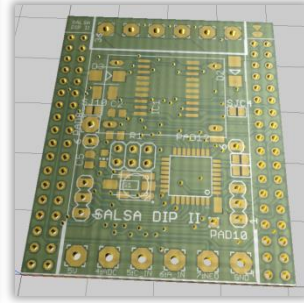
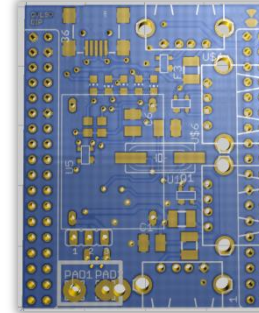


JKW boards – Confusion avoidance chart ☺

LEDv1.1 / Motor v1.1 / preSalsa / Salsa / Salsa II / Queso DIP

Function	Motor v1.1	LEDv1.1	PreSalsa	Salsa	Salsa II	Queso
X = possible - = not possible * = 'Or' .. E.g. Motor OR Mosfet / Optional						
Screw terminals that connects an external power supply to CHIP CHR-IN	X	X	X	X	X	X
Controller connected via I2C	-	X	X	X	X	-
Pins for driving ws2812 LEDs	-	X	X	X	X	-
Pins for analog reading	-	X	X	X	X	-
“Real-time” GPIOs	-	X	X	X	X	-
Mosfets to dim a lot of LEDs	-	4	4*	4*	4*/2X	-
Motor driver Channels	2	-	2*	2*	2*/1X	-
Input for “High voltage” (~7V for the Motor)	X	-	-	-	X	-
Internal connection to CHIP power button pin, e.g. to start the CHIP from power off, or to shut the CHIP down	-	-	-	X	X	-
“Seamless power” (run on CHIP battery, with CHIP powered down)	-	-	-	-	X	-
Option for onboard power supply (DC in 7-28V)	-	-	-	-	X	X
CHIP pins used by board (besides I2C bus which is not exclusively used)	*4	*1	*5	*6	*6	-
On board Ws2812 LED option	-	-	-	*	*	-
On board general purpose button (e.g. shutdown for CHIP?)	-	-	-	-	*	-
On board general purpose LED	-	-	X	*	*	-
4x USB Hub	-	-	-	-	-	X

preSalsa, Salsa and Salsa II can all be assembled as Dual-channel (4 outputs) Motor driver OR 4-channel Mosfet - PWM Driver (Salsa II can be configured as 1 channel motor AND 2 channel Mosfet – PWM)



Salsa II DIP

Photos

ORDERED 2016/03/03

Configuration PWM dimmer

Configuration Motor driver

Salsa II DIP

PinOut

	Atmega pin	DIP pin	Arduino Pin	Digital IN/OUT	Analog IN	PWM out	WS2812 support	C.H.I.P. pin	Motor Pins
PB2	PC0	P16	14	X	-	-	-	-	-
PB1	PD4	P15	4	X	-	-	-	-	-
P0	PB5	P14	13	X	-	-	-	-	DL
10	PB4	P13	12	X	-	-	-	-	DR
* / X	PD7	P12	7	X	-	-	X	-	-
-	PB0	P11	8	X	-	-	X	-	-
PC1	PC3	P10	17	X	X	-	-	-	-
PD5	PD3	P9	3	X	-	X	X	-	ER
PD6	PC2	P8	16	X	X	-	-	bridge to pwr on	-
PB2	PB3	P7	11	X	-	X	X + On board	-	-
PD2	PD2	P6	2	X	-	-	X	-	-
-	P5	P5	-	-	-	-	-	X	-
PC1	PC1	P4	15	X	X	-	-	-	-
PD5	PD5	P3	5	* / X	-	X	*	-	-
PD6	PD6	P2	6	* / X	-	X	*	-	-
PB1	P1	P1	9	* / X	-	X	*	-	-
* / X	P0	P0	10	-	X	-	*	-	EL

4x Transistor
+ Inverter on
Bottom and
Motor driver +
power supply on
the top layer!

P8

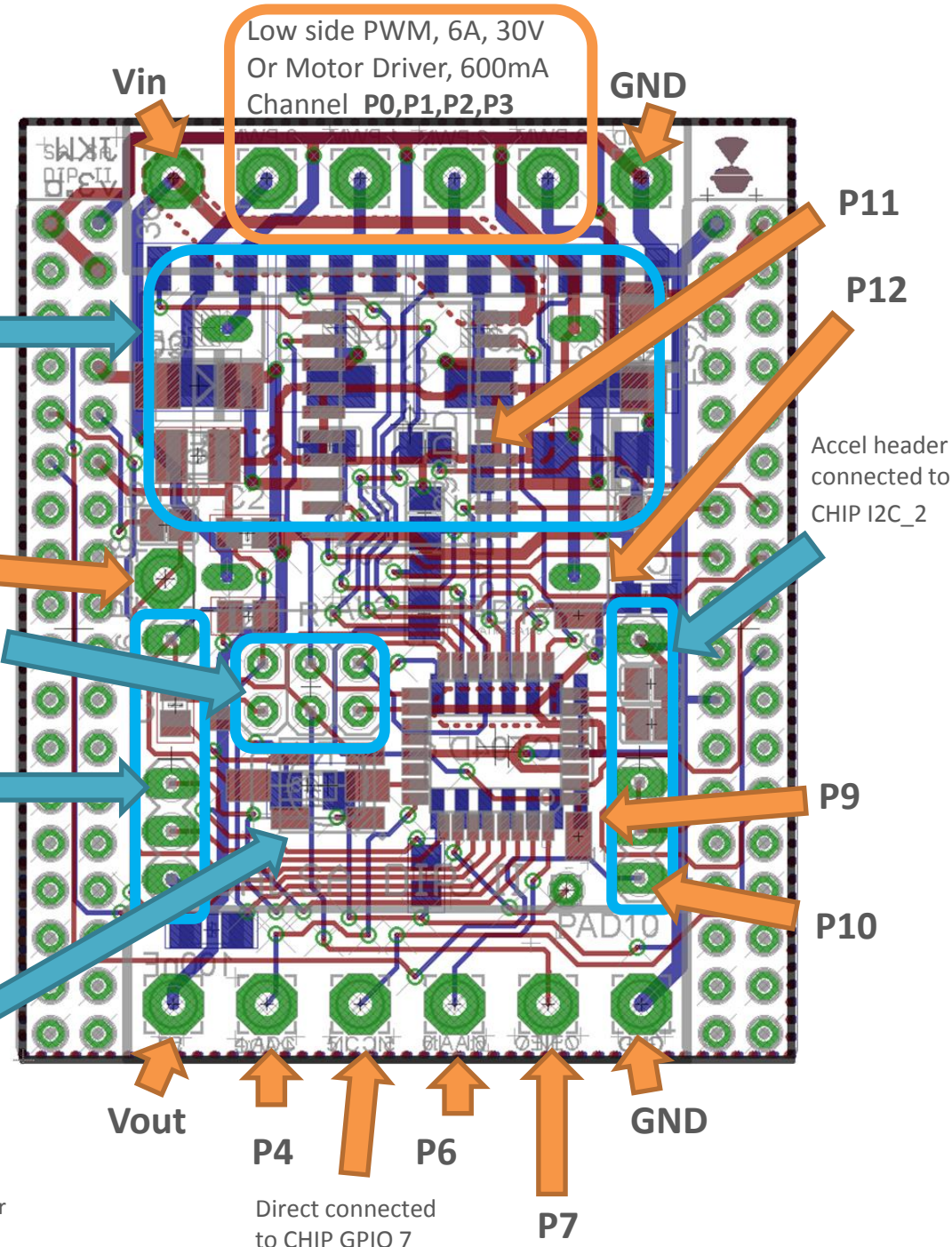
ICSP header

UART header

GND
-
PC TX
PC RX
Reset

LED or
Ws2812 or button

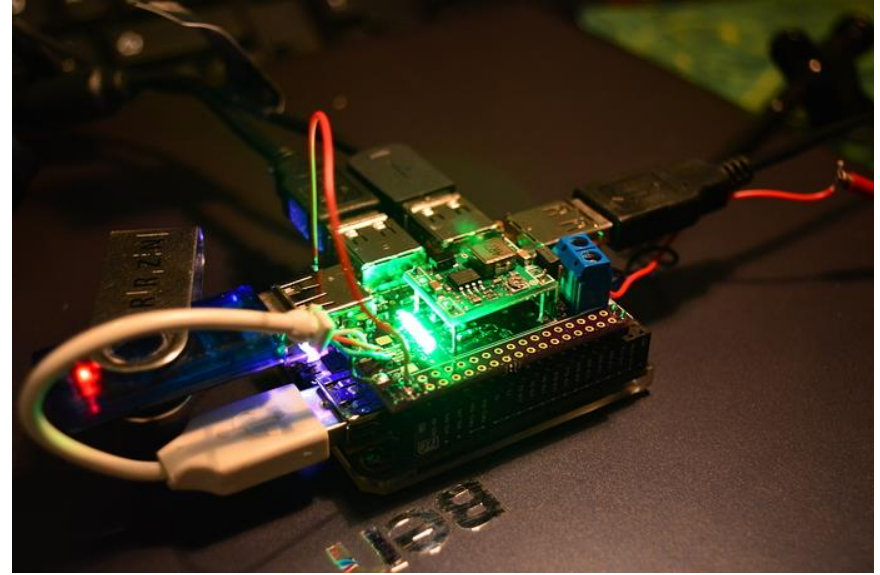
* Only without transistor
and a little solder bridge



Queso DIP v4.3

Photos

ORDERED 2016/03/01
EXPECTED 2nd Week of April



Test-board-photos



Queso DIP v4.3

PinOut

ORDERED 2016/03/01

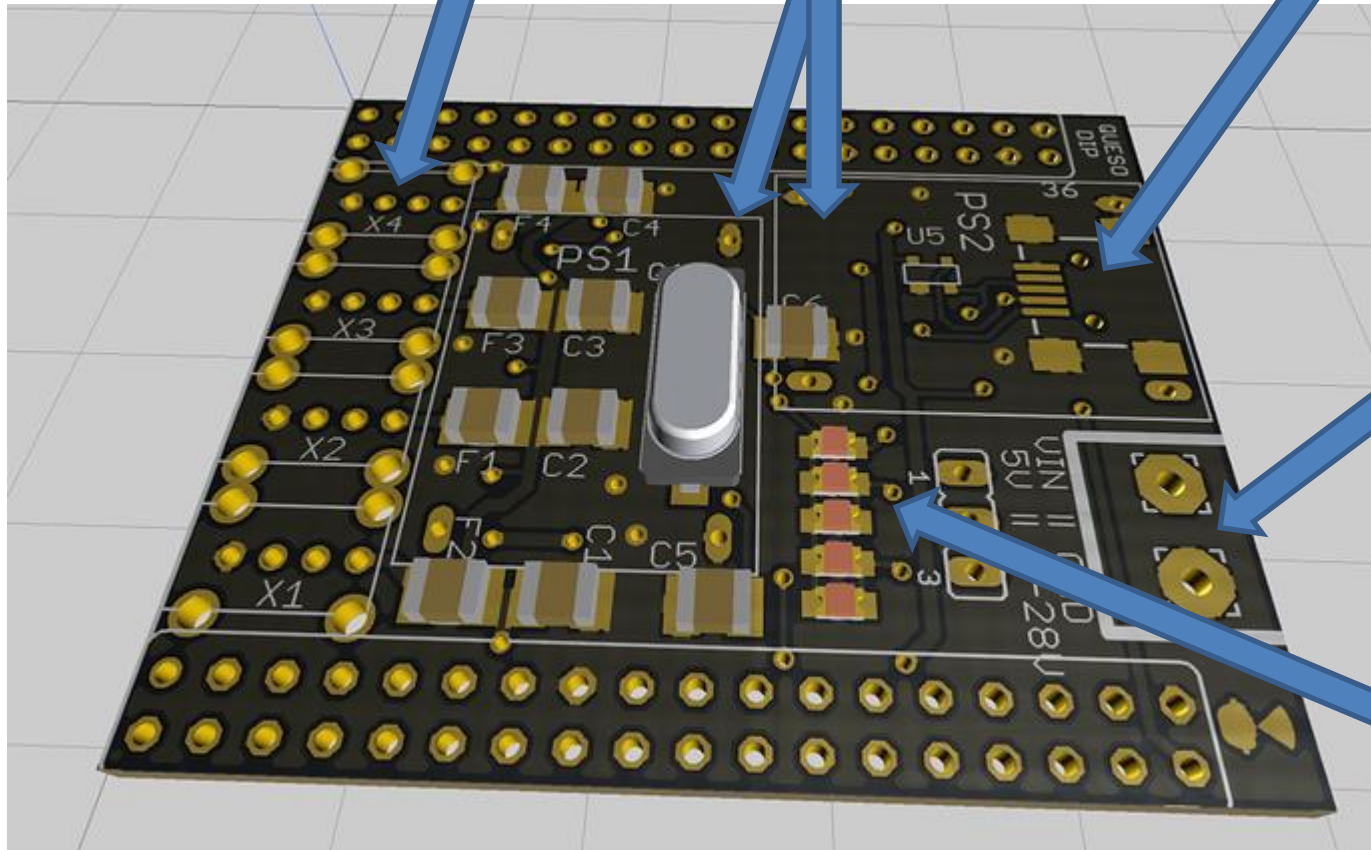
4x USB-A to the
bottom of the
board

Can carry one
(recommended) or
up to two DCDC
regulator

Micro USB
Input jack

Power IN via
Screw-Terminals
7-28V DC in, 5V
3A out

Port activity
LEDs

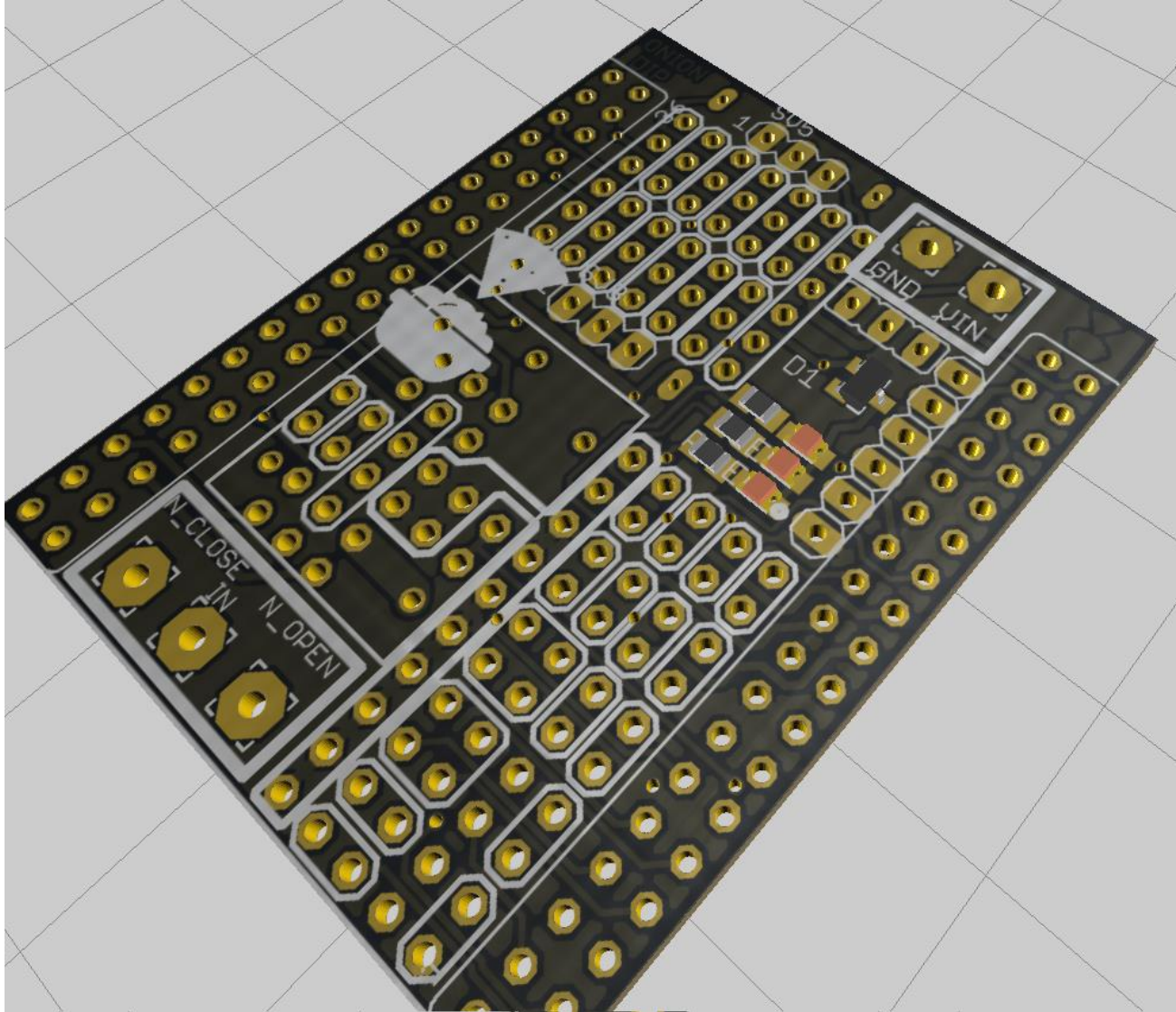


ONION DIP v1.0

Photos

ORDERED 2016/03/16

NOT YET RECEIVED



ONION DIP v1.0

PINOUT1/2

ORDERED 2016/03/16
NOT YET RECEIVED

Stand-alone tinker
area for DIL ICs with
power rails left &
right

Optional: DC-DC
regulator to power
the CHIP from 7-28V
DC, covering tinker
area

Optional: Relay to
switch e.g. 110/230V
AC Power lines @ 10A

Screw terminal
for Relay
contacts:
N_close, In,
N_open

Battery pins

Screw terminal
for power in

Standard USB-UART
Connector

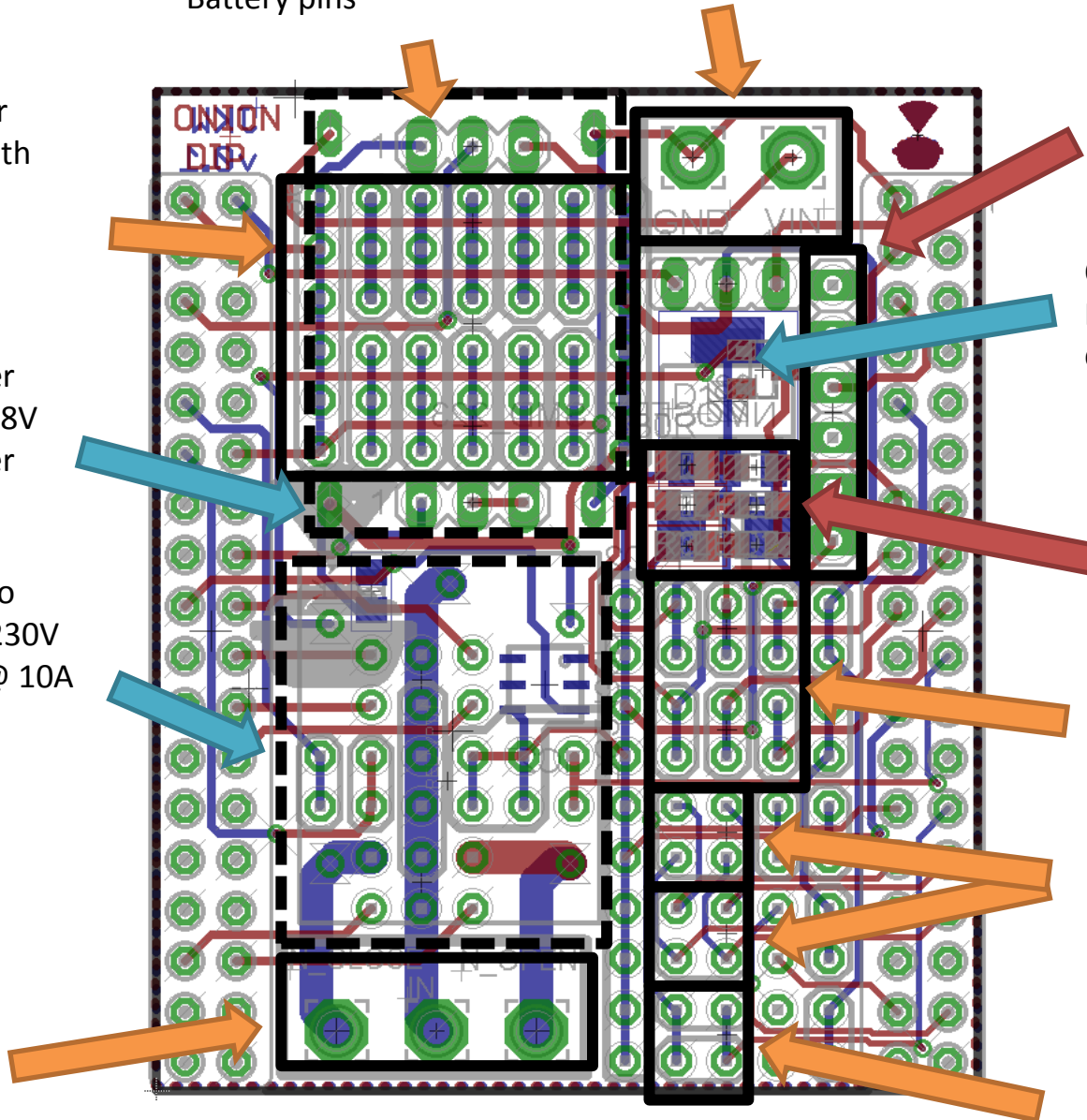
Optional: MOSFET on
P0 (active high) to
drive the relay

3x LED, P0 & P3
active low,
On Relay closed

GPIO P0-P5, each
pin twice

2x SPI-2

2x I2C-2



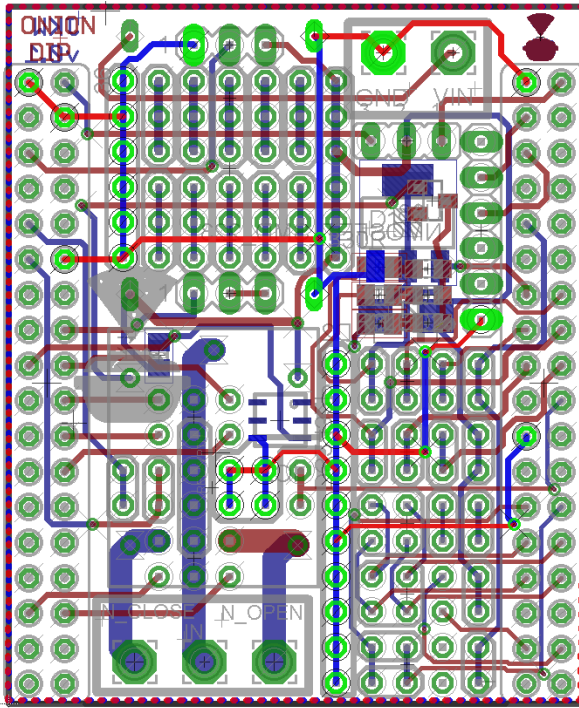
ONION DIP v1.0

PINOUT2/2

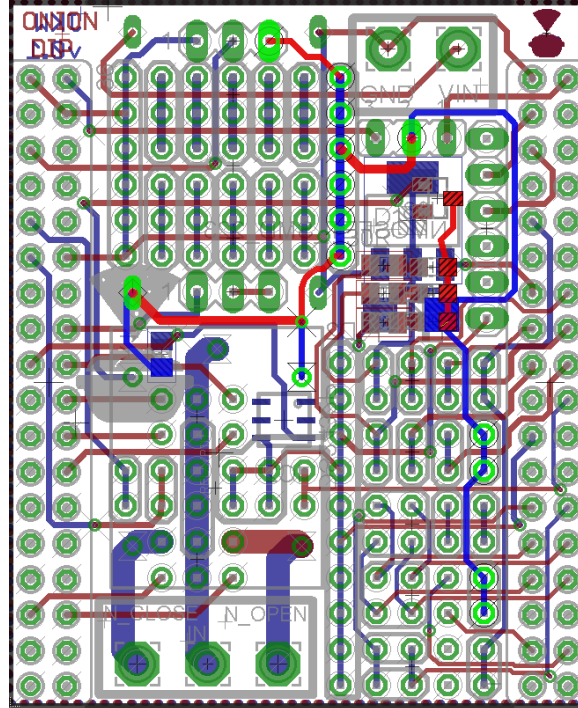
ORDERED 2016/03/16

NOT YET RECEIVED

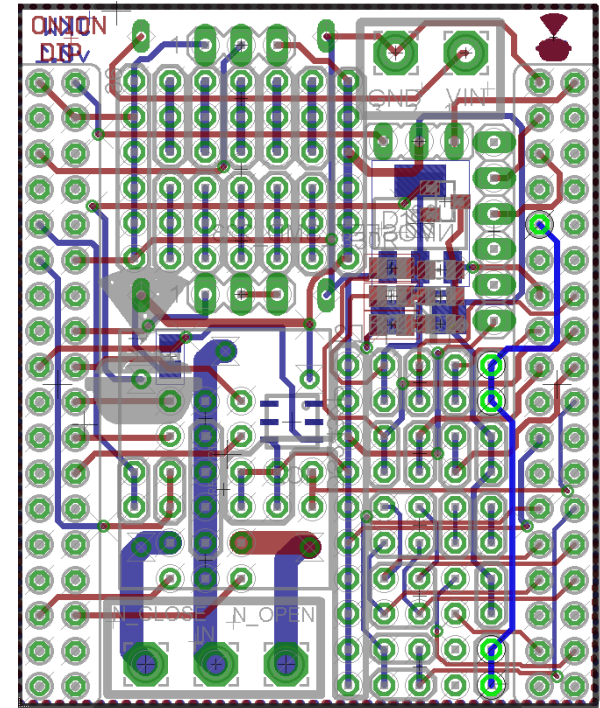
GND Rails highlighted



5V Rails highlighted



CHIP 3.3V Rails



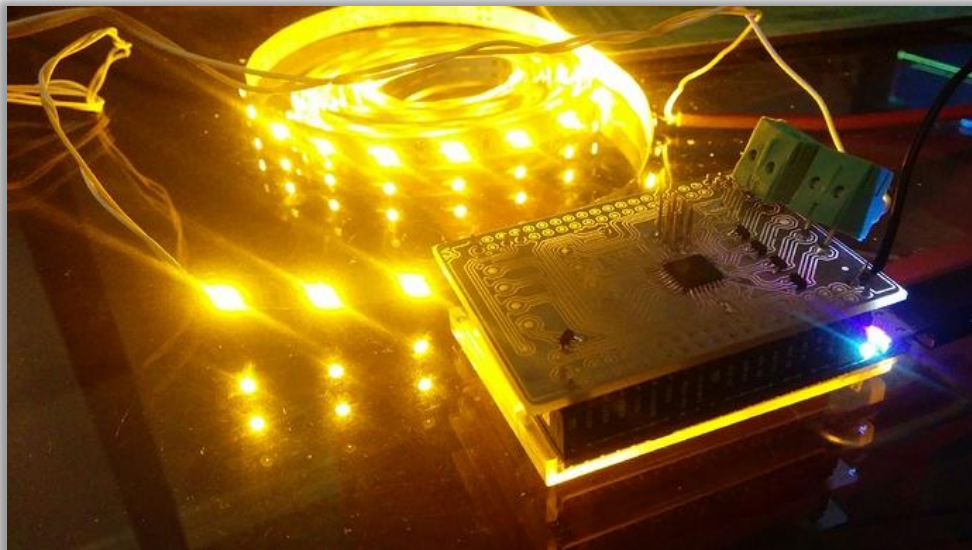
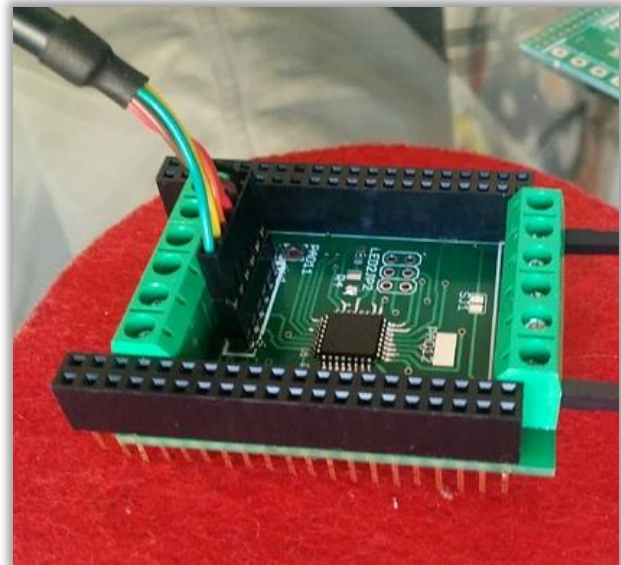
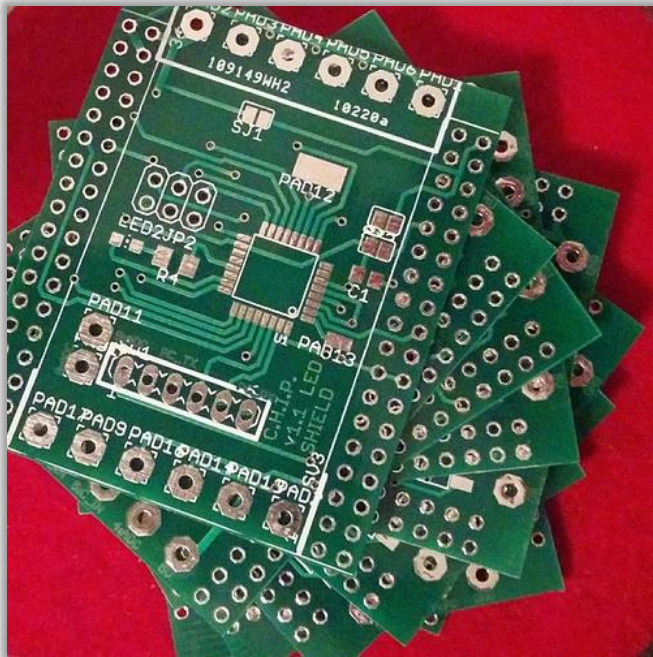
Old boards

The following pages show old boards, which are not longer produced:

- LED DIP v1.1
- preSalsa DIP
- Salsa I
- Motor Dip v1.1

LED DIP v1.1

Photo



LED DIP v1.1

PinOut

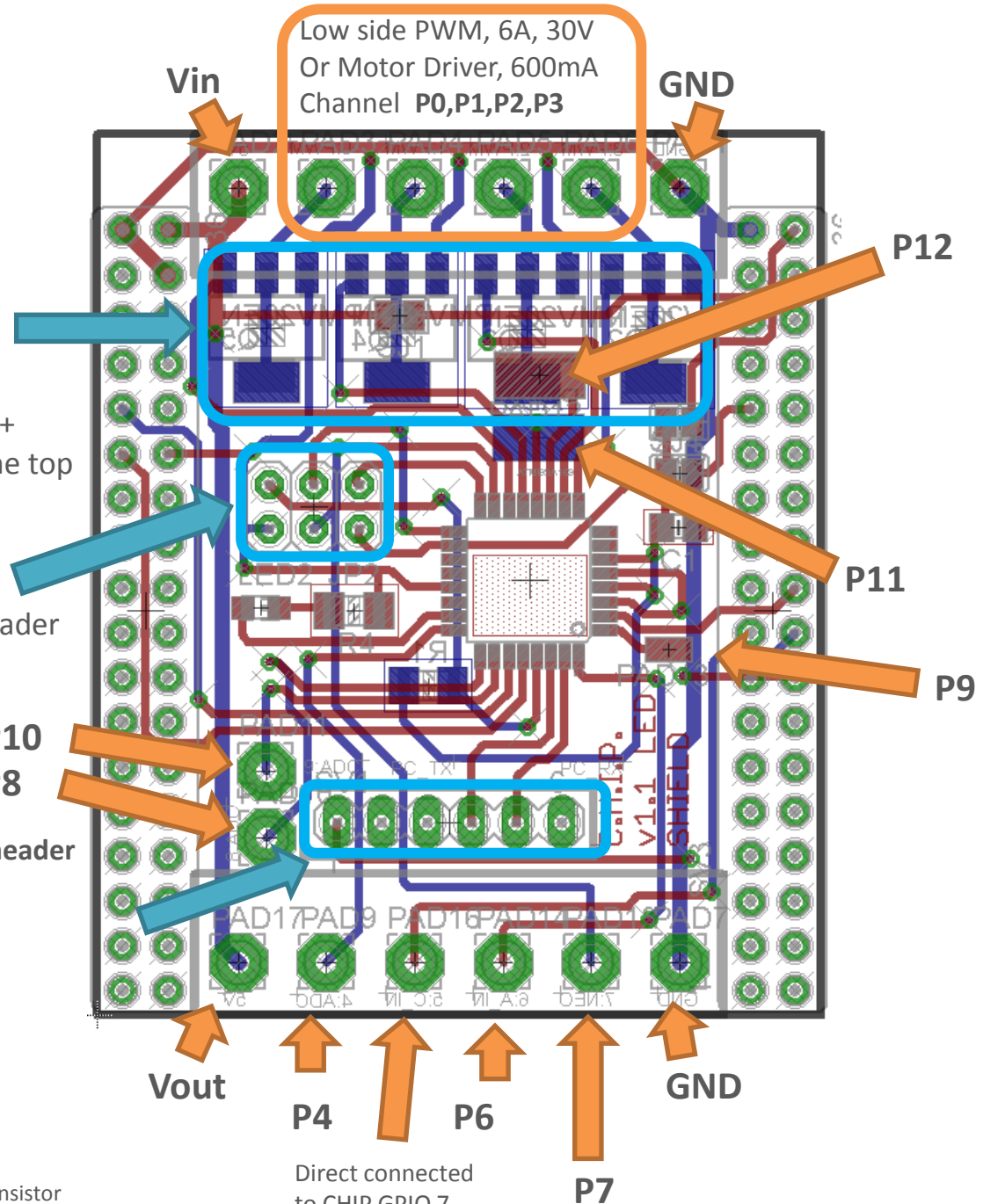
	Atmega pin	DIP pin	Arduino Pin	Digital IN/OUT	Analog IN	PWM out	WS2812 support	C.H.I.P. connection
	PD7	P12	7	X	-	-	X	-
	PB0	P11	8	X	-	-	X	-
	PC3	P10	17	X	X	-	-	-
	PD3	P9	3	X	-	X	X	-
	PC2	P8	16	X	X	-	-	-
	PB3	P7	11	X	-	X	X	-
	PD2	P6	2	X	-	-	X	-
	-	P5	-	-	-	-	-	X
	PC1	P4	15	X	X	-	-	-
	PD5	P3	5	*/X	-	X	*	-
	PD6	P2	6	*/X	-	X	*	-
	PB1	P1	9	*/X	-	X	*	-
	PB2	P0	10	*/X	-	X	*	-

4x Transistor
on Bottom or
Motor driver +
Inverter on the top
layer!

ICSP header

UART header

GND
PC TX
PC RX
Reset

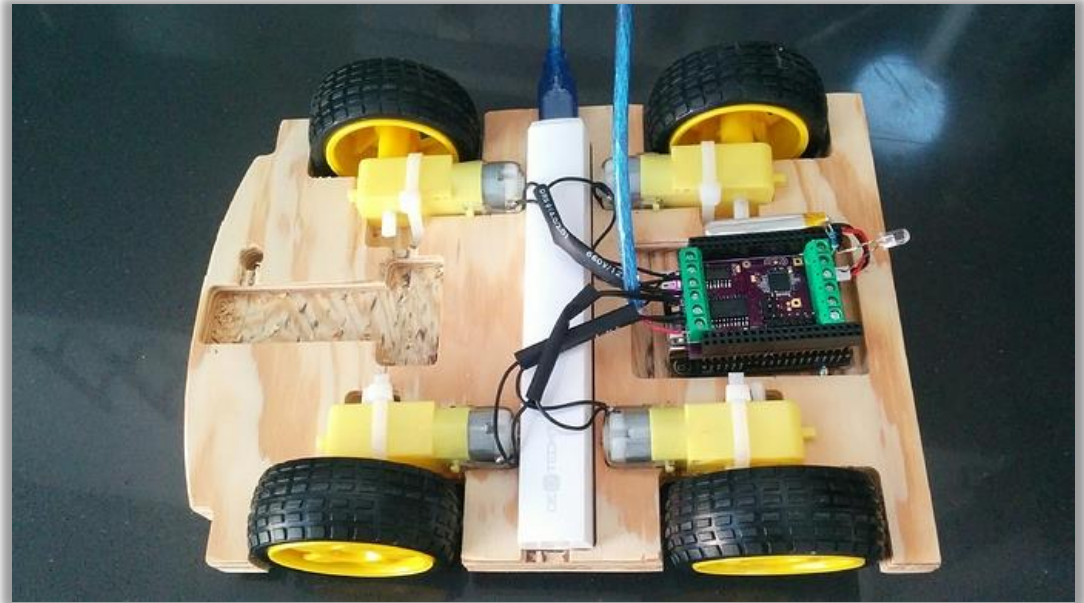


* Only without transistor
And a little solder bridge

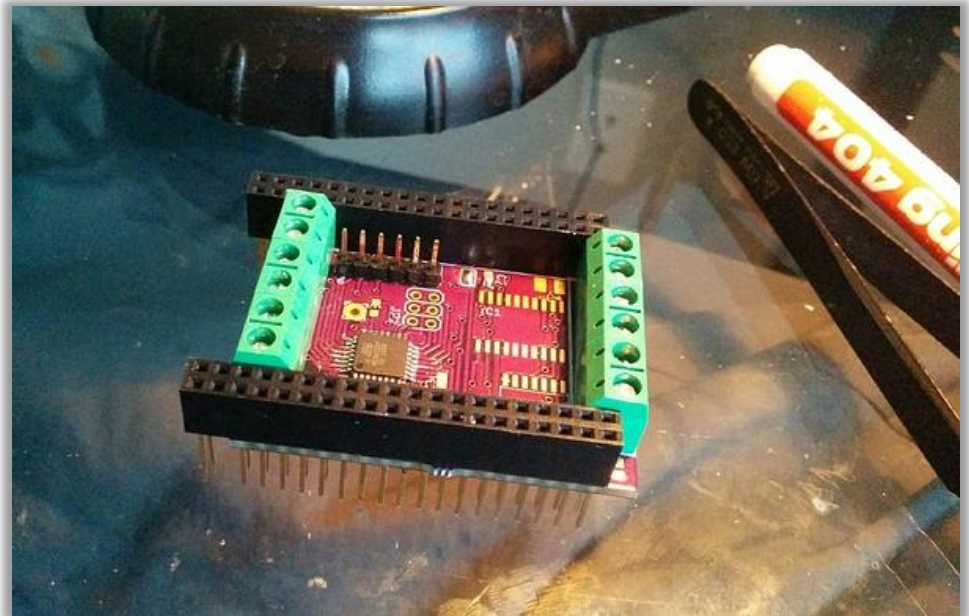
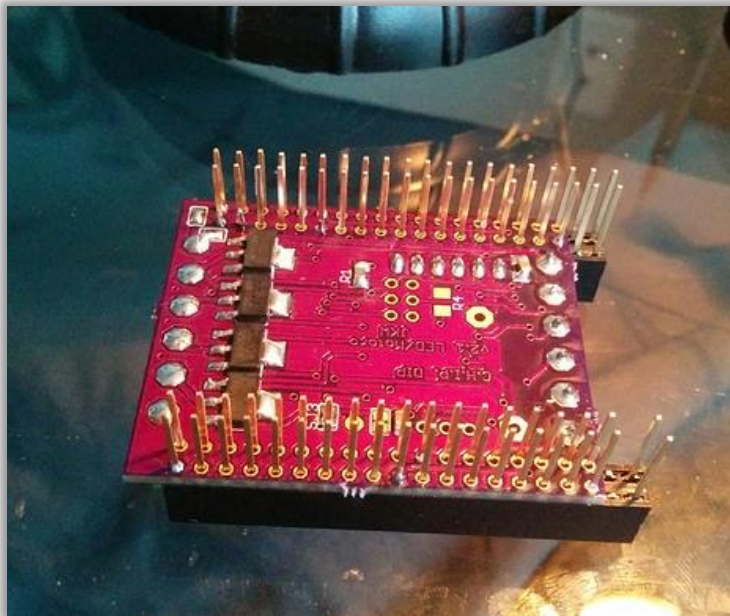
preSalsa DIP

Photo

Motor Version ->



LED Driver / Mosfet Version



preSalsa DIP

PinOut

	Atmega pin	DIP pin	Arduino Pin	Digital IN/OUT	Analog IN	PWM out	WS2812 support	C.H.I.P. connection
	PD7	P12	7	X	-	-	X	-
	PB0	P11	8	X	-	-	X	-
	PC3	P10	17	X	X	-	-	-
	PD3	P9	3	X	-	X	X	-
	PC2	P8	16	X	X	-	-	-
	PB3	P7	11	X	-	X	X	-
	PD2	P6	2	X	-	-	X	-
	-	P5	-	-	-	-	-	X
	PC1	P4	15	X	X	-	-	-
	PD5	P3	5	*/X	-	X	*	-
	PD6	P2	6	*/X	-	X	*	-
	PB1	P1	9	*/X	-	X	*	-
	PB2	P0	10	*/X	-	X	*	-

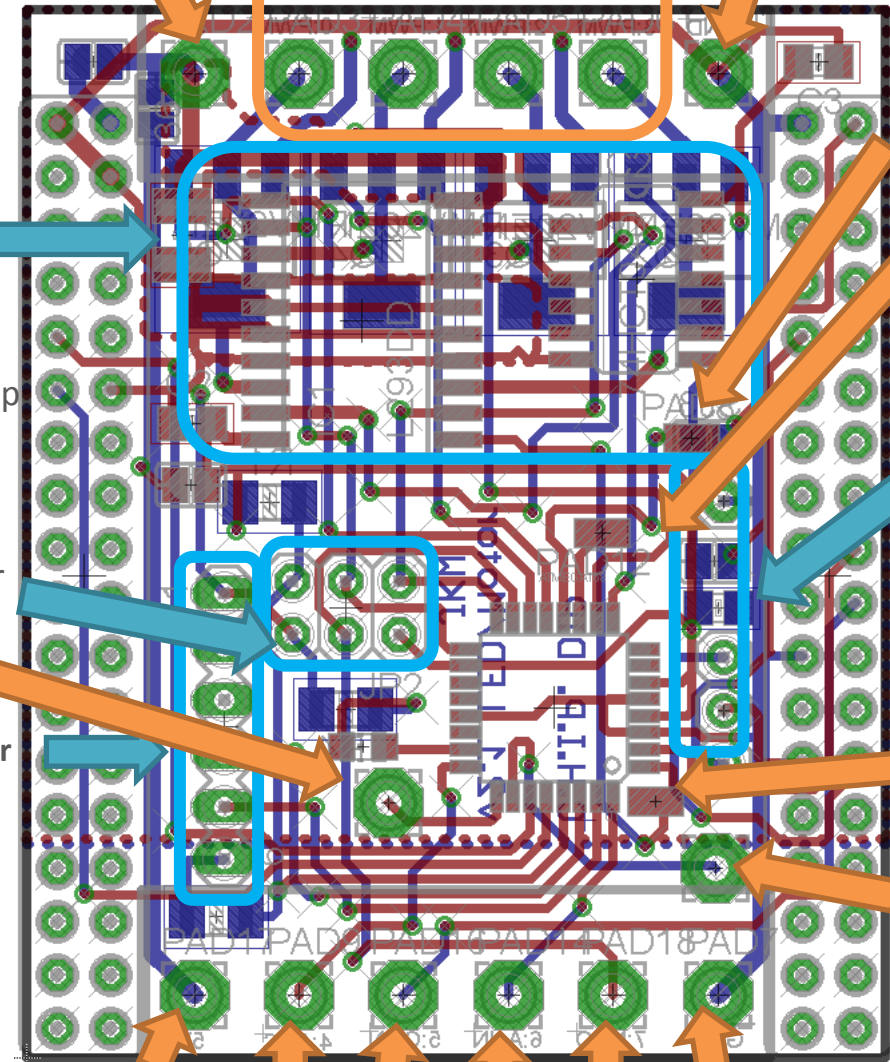
4x Transistor
on Bottom or
Motor driver +
Inverter on the top
layer!

ICSP header

UART header

GND
PC TX
PC RX
Reset

Low side PWM, 6A, 30V
Or Motor Driver, 600mA
Channel P0,P1,P2,P3



P11

P12

Accel header
connected to
CHIP I2C_2

P8

P9

P10

Vout

P4

P6

GND

Direct connected
to CHIP GPIO 7

P7

* Only without transistor
And a little solder bridge

PreSalsa

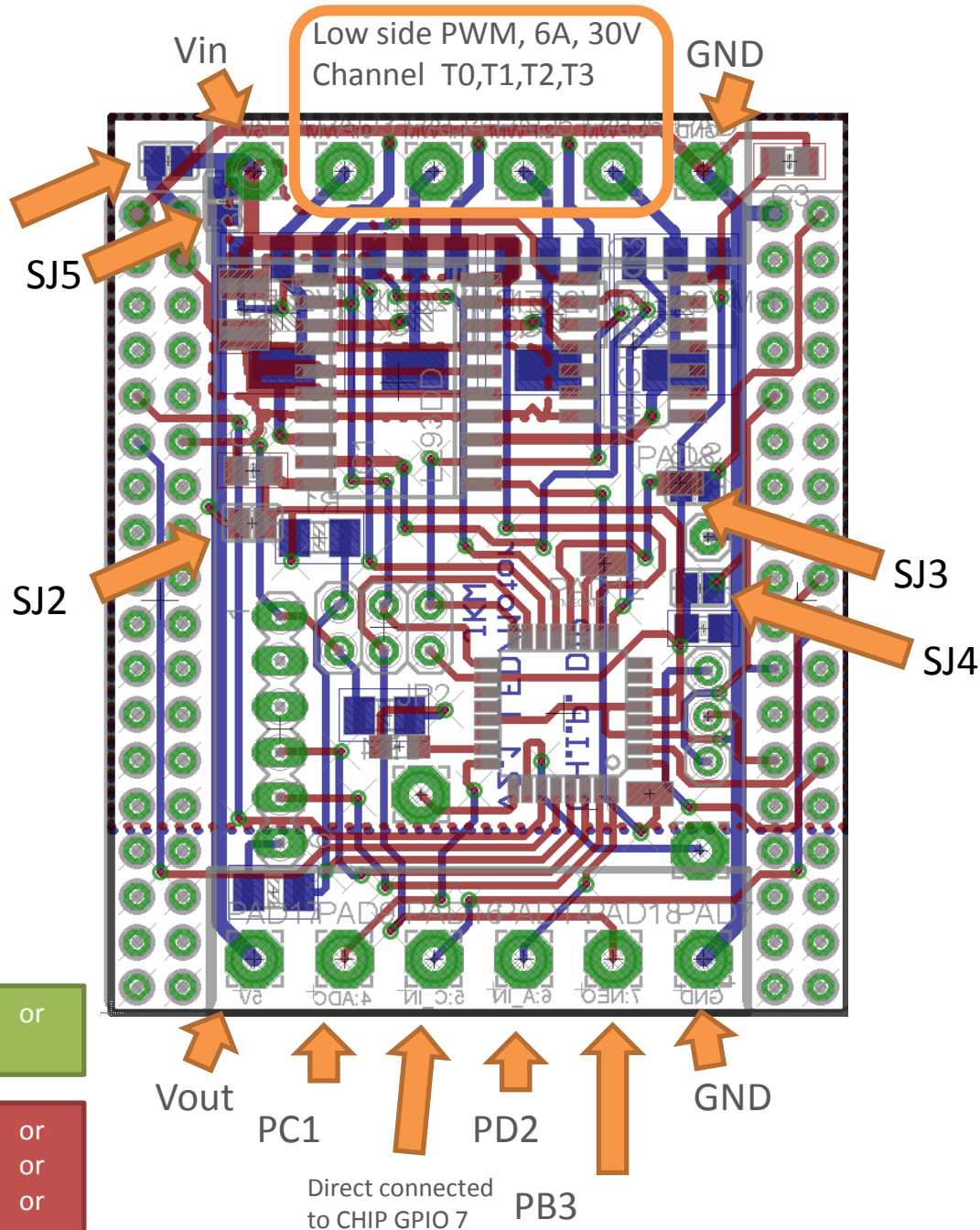
Jumper Config

SJ	Function
1	Vin to Charge in <ul style="list-style-type: none"> If your input voltage is 5V close this jumper. Your Vin will charge your Battery
2	Vout to Vcc <ul style="list-style-type: none"> If your Vin is not 5V close it, to get CHiPs 5V on the output If your Vin is 5V and you close SJ5, close this one to power the DIP from the VIN, in this case you must leave SJ3 and SJ4 open!
3	CHIP 5V to Vcc (bot) <ul style="list-style-type: none"> If you won't power the DIP via VIN, close this jumper to supply 5V power via the CHIP If you've destroyed your CHIP onboard 5V, close it to supply power to the USB ☺
4	CHIP 3.3V to Vcc (bot) <ul style="list-style-type: none"> If you want to work the DIP on the (limited) 3.3V of the CHIP
5	Vin to Vout <ul style="list-style-type: none"> To forward your input to the output

Combine: SJ1 + SJ5 + SJ2 if your Vin is 5V or
 SJ2 + SJ3 if you only draw a few mA to use the CHiPs 5V

Never combine: SJ3 and SJ4 or
 SJ4 + SJ2 + SJ5 and supply power via Vin/Vout or
 SJ3 + SJ2 + SJ5 and supply power via Vin/Vout or
 SJ1 if your Vin is NOT ~5V or SJ2 + SJ5 if your Vin > 5V

SJ1



Salsa DIP

Photos

WAITING ON CHINA POST
ORDERED 2016/02/10

Configuration PWM dimmer
Configuration Motor driver

Salsa DIP

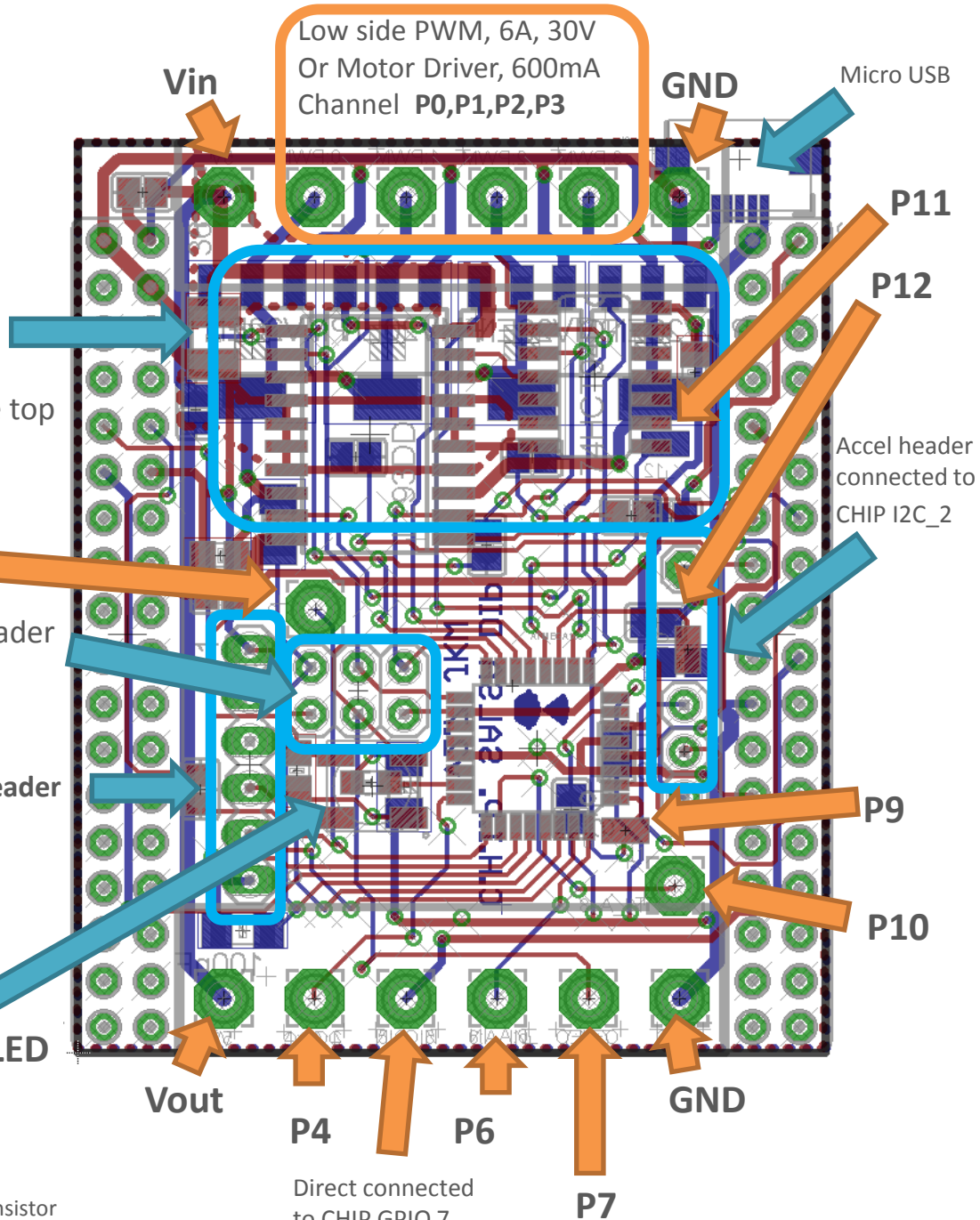
PinOut

	Atmega pin	DIP pin	Arduino Pin	Digital IN/OUT	Analog IN	PWM out	WS2812 support	C.H.I.P. pin	Motor Pins
PB2	PC0	P16	14	X	-	-	-	-	-
PB1	PD4	P15	4	X	-	-	-	-	-
P0	PB5	P14	13	X	-	-	-	-	DL
P1	PB4	P13	12	X	-	-	-	-	DR
P2	PD7	P12	7	X	-	-	X	-	-
P3	PB0	P11	8	X	-	-	X	-	-
P4	PC3	P10	17	X	X	-	-	-	-
P5	PD3	P9	3	X	-	X	X	-	ER
P6	PC2	P8	16	X	X	-	-	-	-
P7	PB3	P7	11	X	-	X	X	-	-
P8	PD2	P6	2	X	-	-	X	-	-
P9	-	P5	-	-	-	-	-	X	-
P10	PC1	P4	15	X	X	-	-	-	-
P11	PD5	P3	5	*/X	-	X	*	-	X
P12	PD6	P2	6	*/X	-	X	*	-	-
P13	PB1	P1	9	*/X	-	X	*	-	-
P14	P0	P10	10	*/X	-	X	*	-	EL

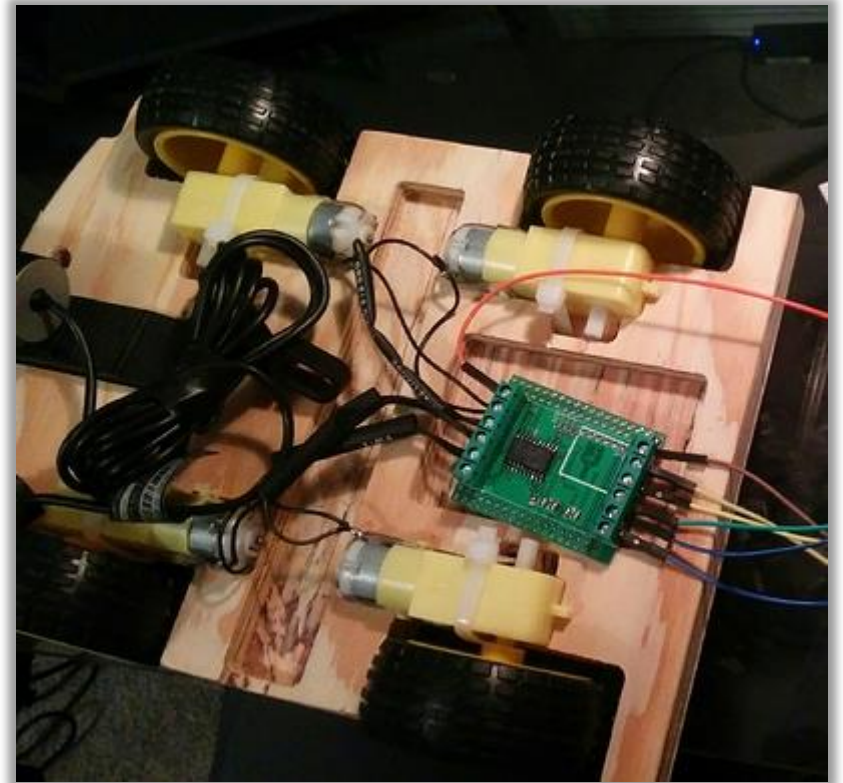
4x Transistor
on Bottom or
Motor driver +
Inverter on the top
layer!

Ws2812 or LED

* Only without transistor
And a little solder bridge



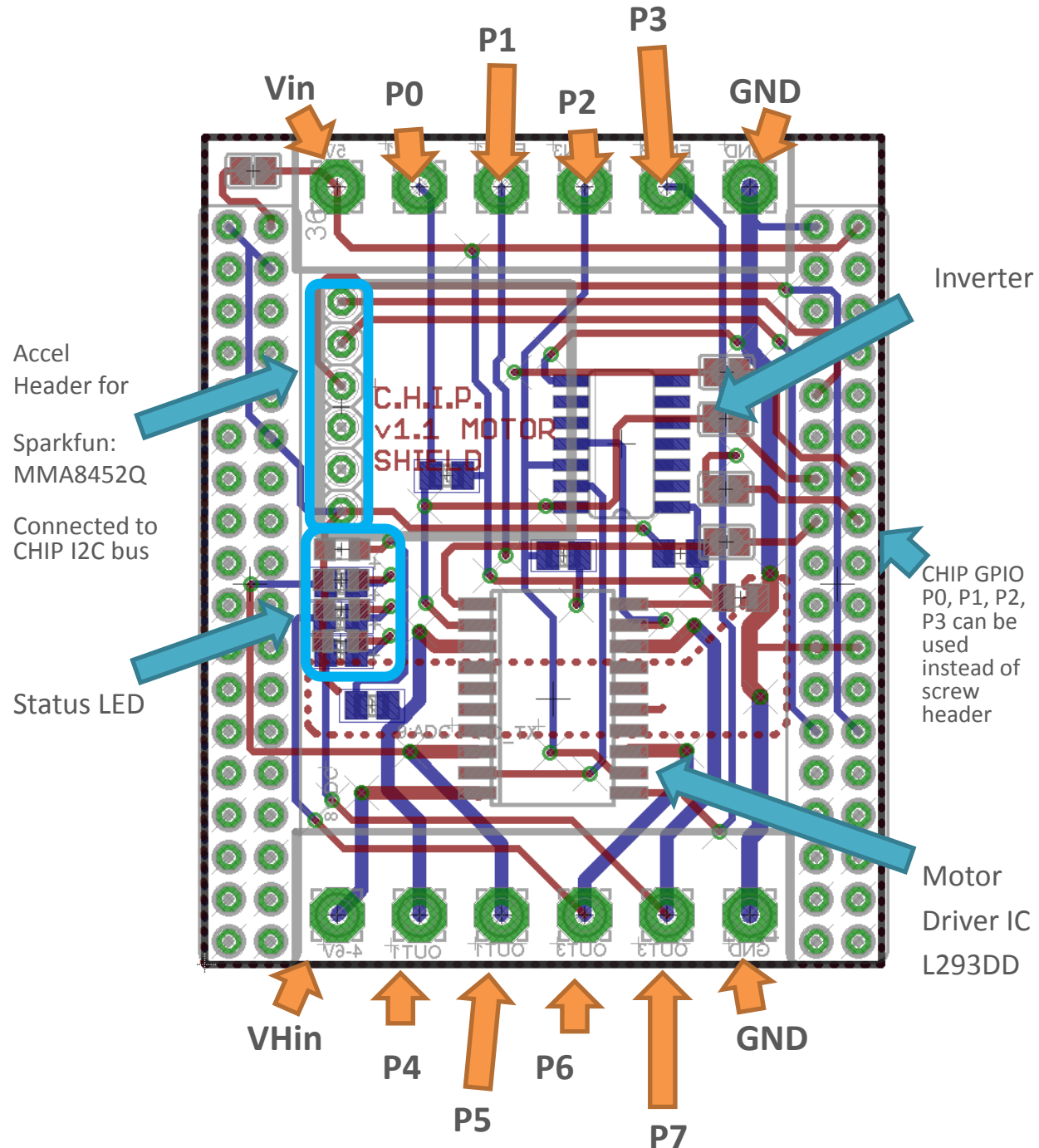
Photos



Motor DIP v1.1

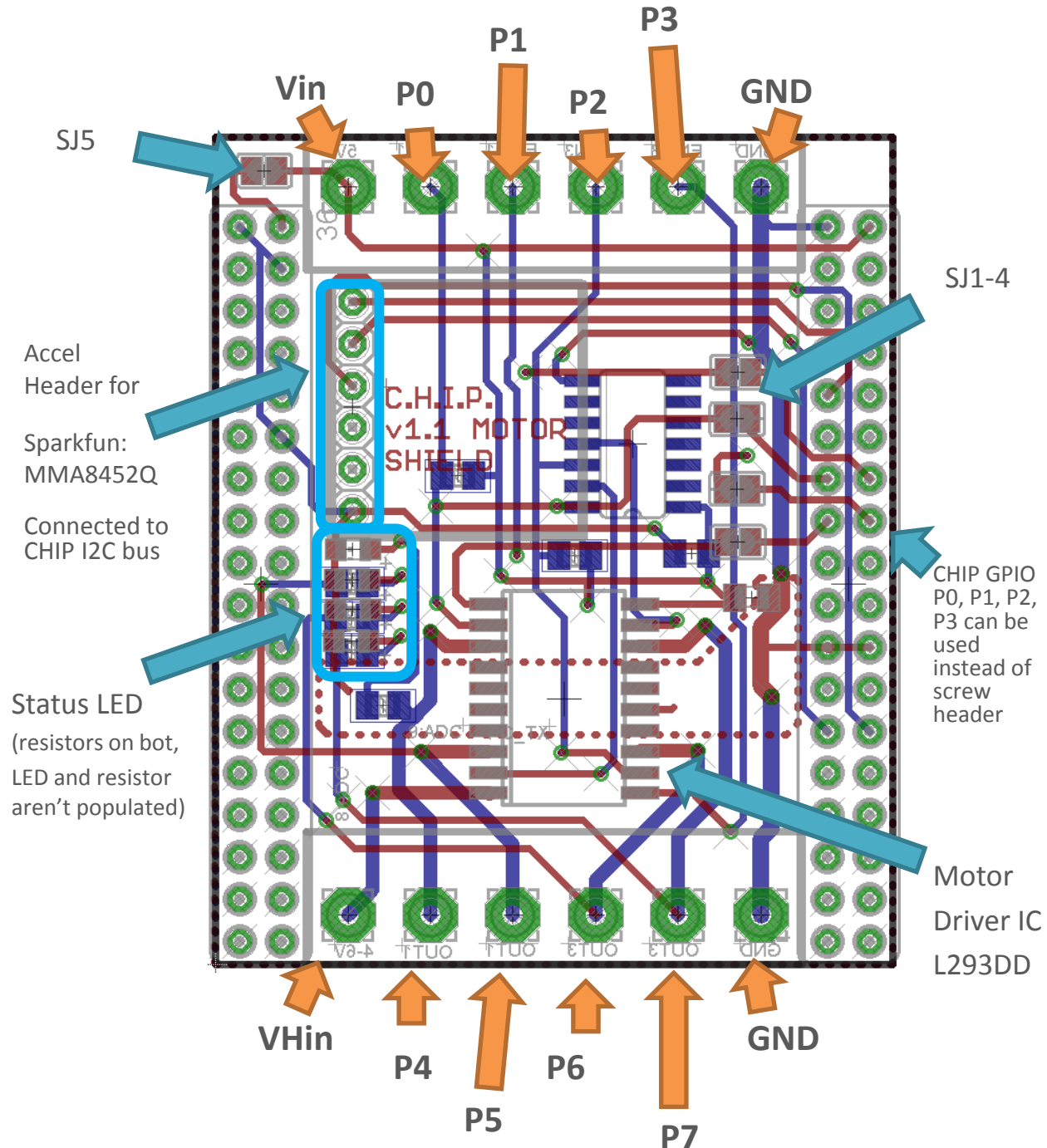
Pin Out

#	Function
Vin	Logic voltage, 5V
P0	Channel 1 direction
P1	Channel 1 enable
P2	Channel 3 direction
P3	Channel 3 enable
GND	Ground for logic voltage
VHin	"High" voltage for Motor (5-36 Volt), can be connected to Vin
P4	Channel 1 output
P5	Channel 2 output (inverse of channel 1)
P6	Channel 3 output
P7	Channel 4 output (inverse of channel 3)
GND	Ground for "high" voltage



Jumper Config

SJ	Function
1-4	<p>Use CHIP GPIO as input</p> <ul style="list-style-type: none"> • Close them, if you use the CHIP GPIO to generate the control signals. • Leave them open if you want to use the screw header
5	<p>Vin to Charge in</p> <ul style="list-style-type: none"> • Close it if you Vin is 5V from a power supply or external battery to power this CHIP over this pin as well • Leave it open, if you feed the CHIP 5V to the Vin



More photos

