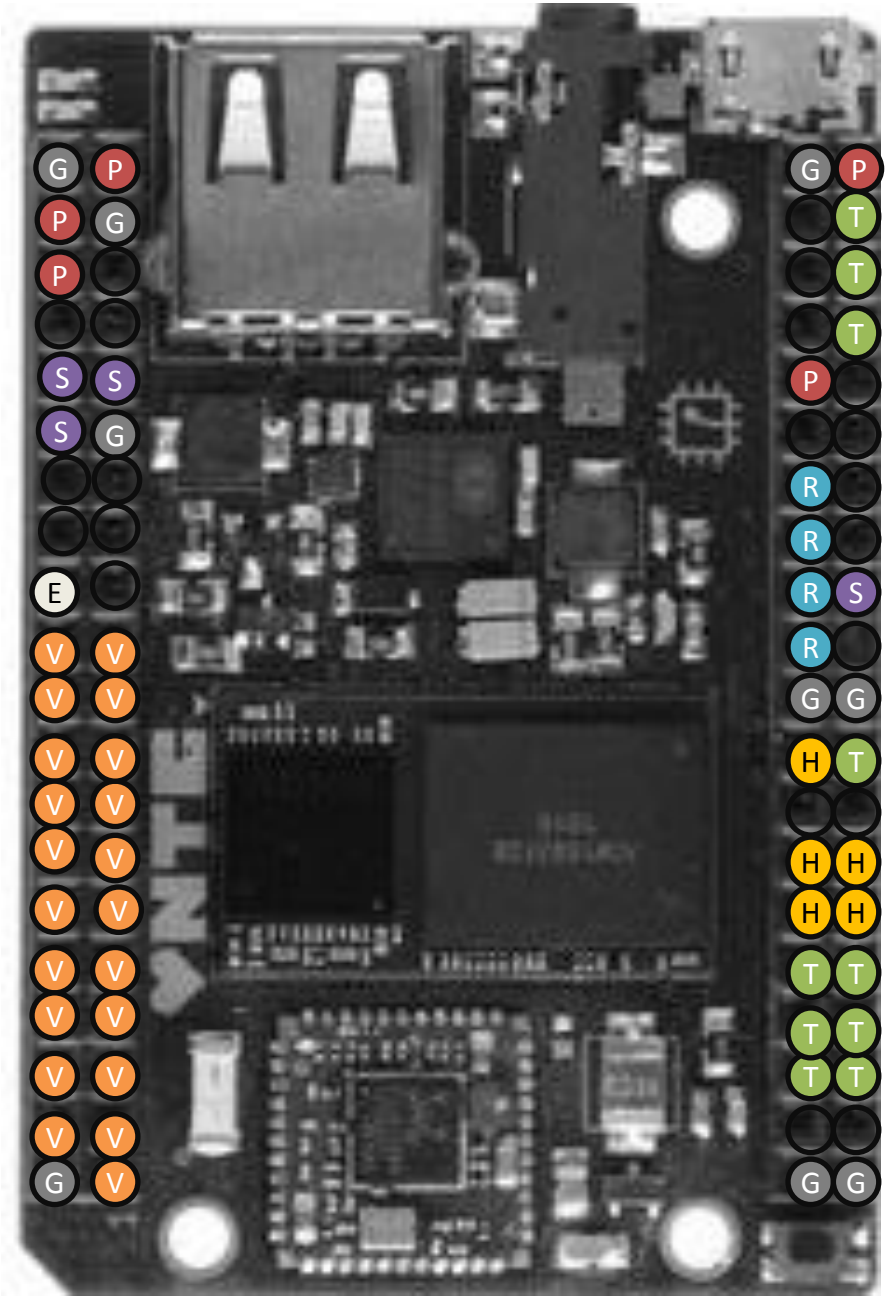
PinMap 08/2016

Humus, VGA, HDMI, Salsa, Relay, Tzatziki



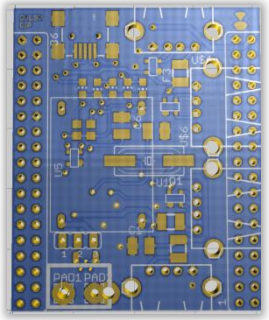
Left Func	Left Used by	Left Func	Left Used by
GND	*all	CHR-IN	*All with DCDC
VCC5V	*VGA / HDMI	GND	*all
VCC33	*VGA / HDMI	TS	
VCC18		VBAT	
IC2-1 SDA	I2C-1 *SALSA	PWRON	*SALSA
I2C-1 SCL	I2C-1 *SALSA	GND	*all
X1		X2	
Y1		Y2	
D2	***EEPROM**	PWM0	
D4	VGA / HDMI	D3	VGA / HDMI
D6	VGA / HDMI	D5	VGA / HDMI
D10	VGA / HDMI	D7	VGA / HDMI
D12	VGA / HDMI	D11	VGA / HDMI
D14	VGA / HDMI	D13	VGA / HDMI
D18	VGA / HDMI	D15	VGA / HDMI
D20	VGA / HDMI	D19	VGA / HDMI
D22	VGA / HDMI	D21	VGA / HDMI
CLK	HDMI	D23	VGA / HDMI
VSYNC	VGA / HDMI	HSYNC	VGA / HDMI
GND	*all	DE	VGA / HDMI

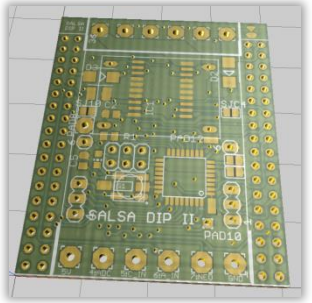
Right Func	Right Used by	Right Func	Right Used by
GND	*all	VCC5	*Power TZATZIKI
UART TX		HPL	Audio TZATZIKI
UART RX		HPCOM	Audio TZATZIKI
FEL		HPR	Audio TZATZIKI
VCC33	*Power HUMUS	MICM	
ADC		MICIN1	
P0	RELAY	P1	
P2	RELAY	P3	
P4	RELAY TZATZIKI	P5	*SALSA
P6	RELAY	P7	
GND	*all	GND	*all
EINT1	HUMUS	EINT3	Card det: TZATZIKI
I2C-2 SDA		I2C-2 SCL	
SPI CS0	HUMUS	SPI CLK	HUMUS
SPI MOSI	HUMUS	SPI MISO	HUMUS
CSID0	DATA0: TZATZIKI	CSID1	DATA1: TZATZIKI
CSID2	DATA2: TZATZIKI	CSID3	DATA3: TZATZIKI
CSID4	CMD: TZATZIKI	CSID5	CLK: TZATZIKI
CSID6		CSID7	
GND	*all	GND	*all

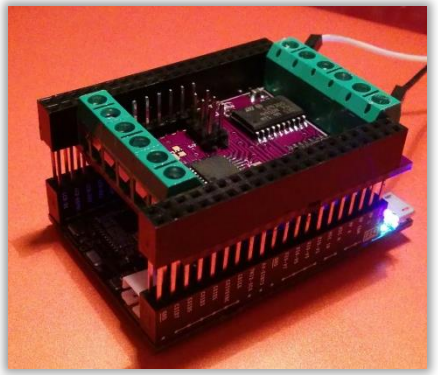
JKW boards – Confusion avoidance chart ☺

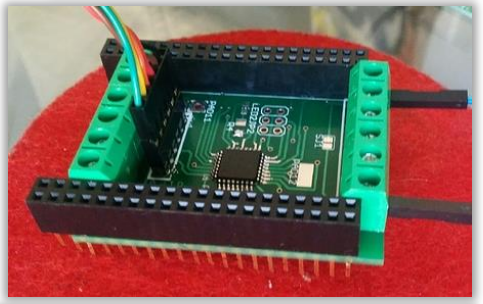
LEDv1.1 / Motor v1.1 / preSalsa / Salsa / Salsa II / Queso DIP

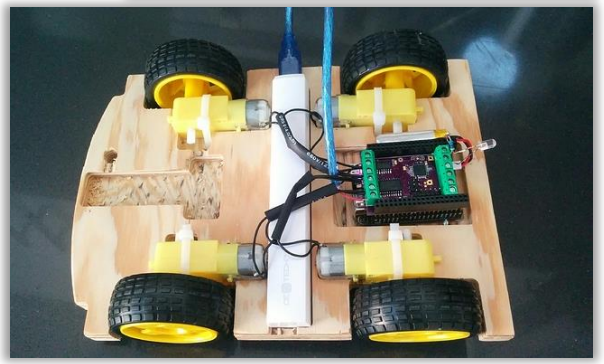
Function **X = possible** **- = not possible** *** = 'Or' .. E.g. Motor OR Mosfet / Optional**	Motor v1.1	LEDv1.1	PreSalsa	Salsa	Salsa II	Queso
Screw terminals that connects an external power supply to CHIP CHR-IN	X	X	X	X	X	X
Controller connected via I2C	-	X	X	X	X	-
Pins for driving ws2812 LEDs	-	X	X	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

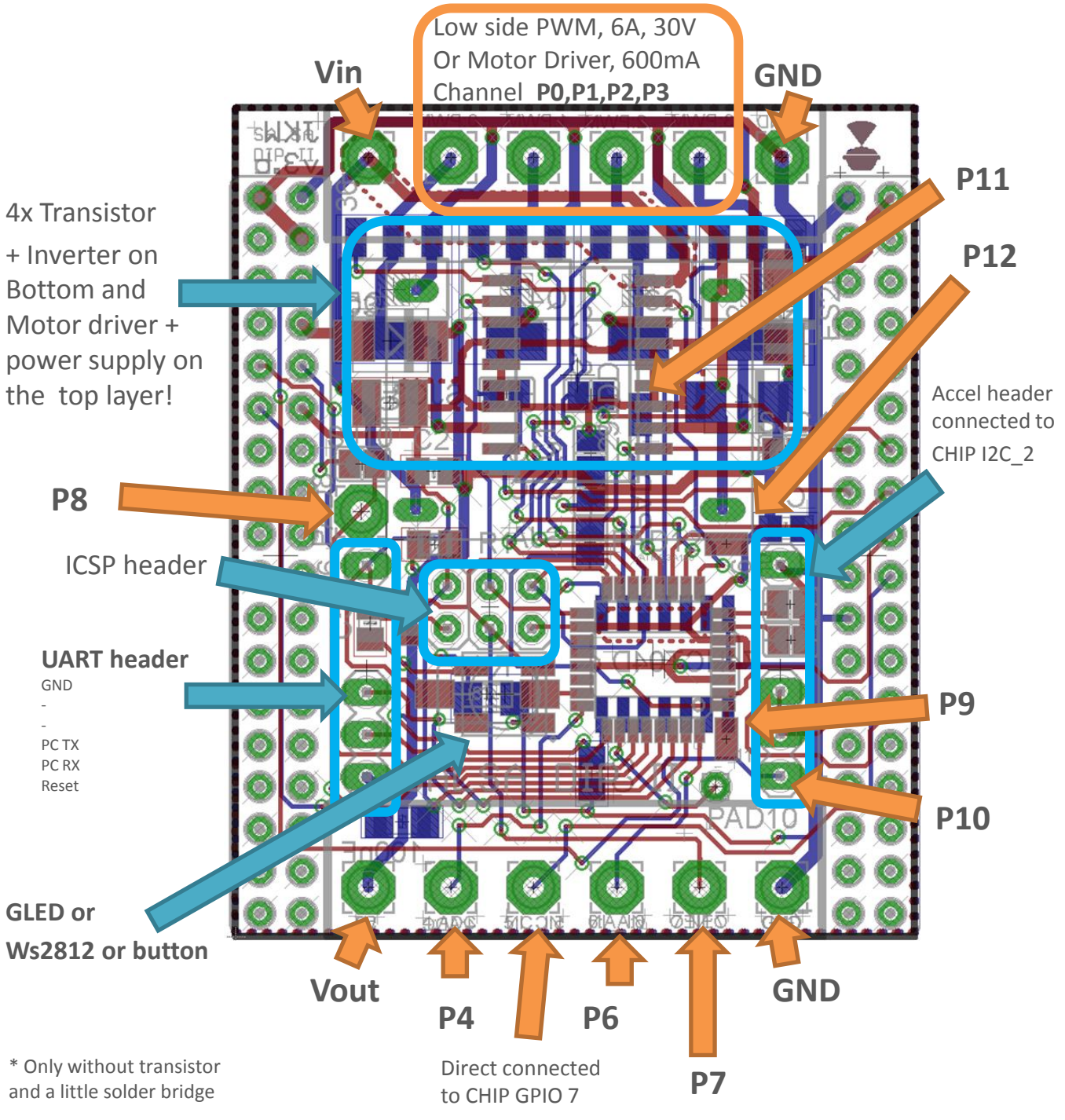
Photos

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
PC0	P16	14	X	-	-	-	-	-
PD4	P15	4	X	-	-	-	-	-
PB5	P14	13	X	-	-	-	-	DL
PB4	P13	12	X	-	-	-	-	DR
PD7	P12	7	X	-	-	X	-	-
PB0	P11	8	X	-	-	X	-	-
PC3	P10	17	X	X	-	-	-	-
PD3	P9	3	X	-	X	X	-	ER
PC2	P8	16	X	X	-	-	bridge to pwr on	-
PB3	P7	11	X	-	X	X + On board	-	-
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	*	-	EL

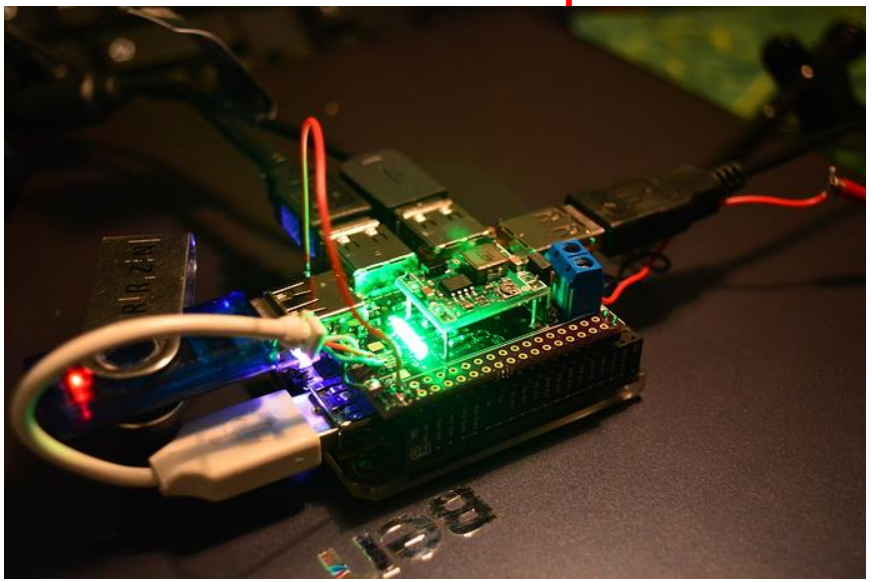


* Only without transistor and a little solder bridge

Queso DIP v4.3

Photos

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



Test-board-photos

Queso DIP v4.3

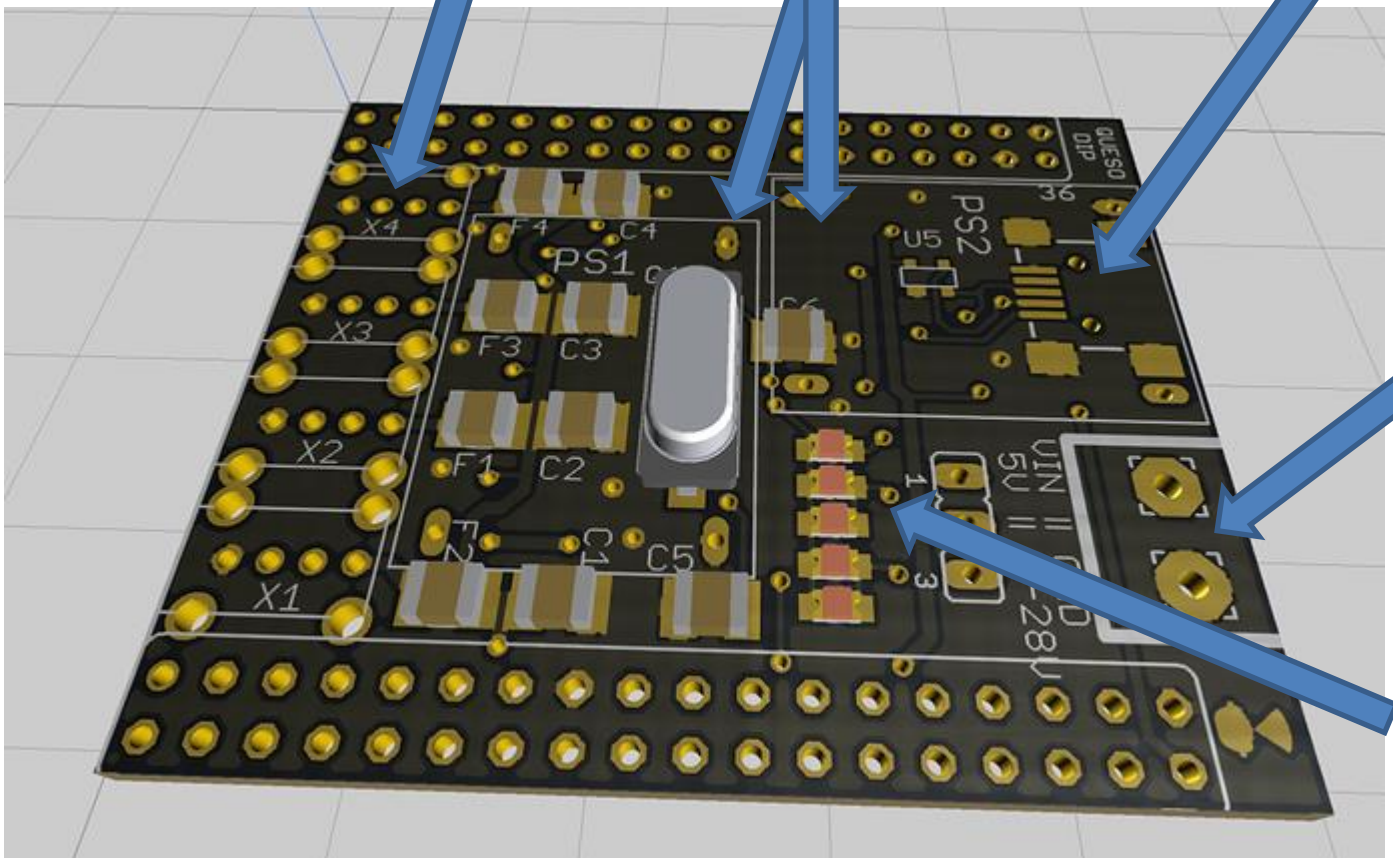
PinOut

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



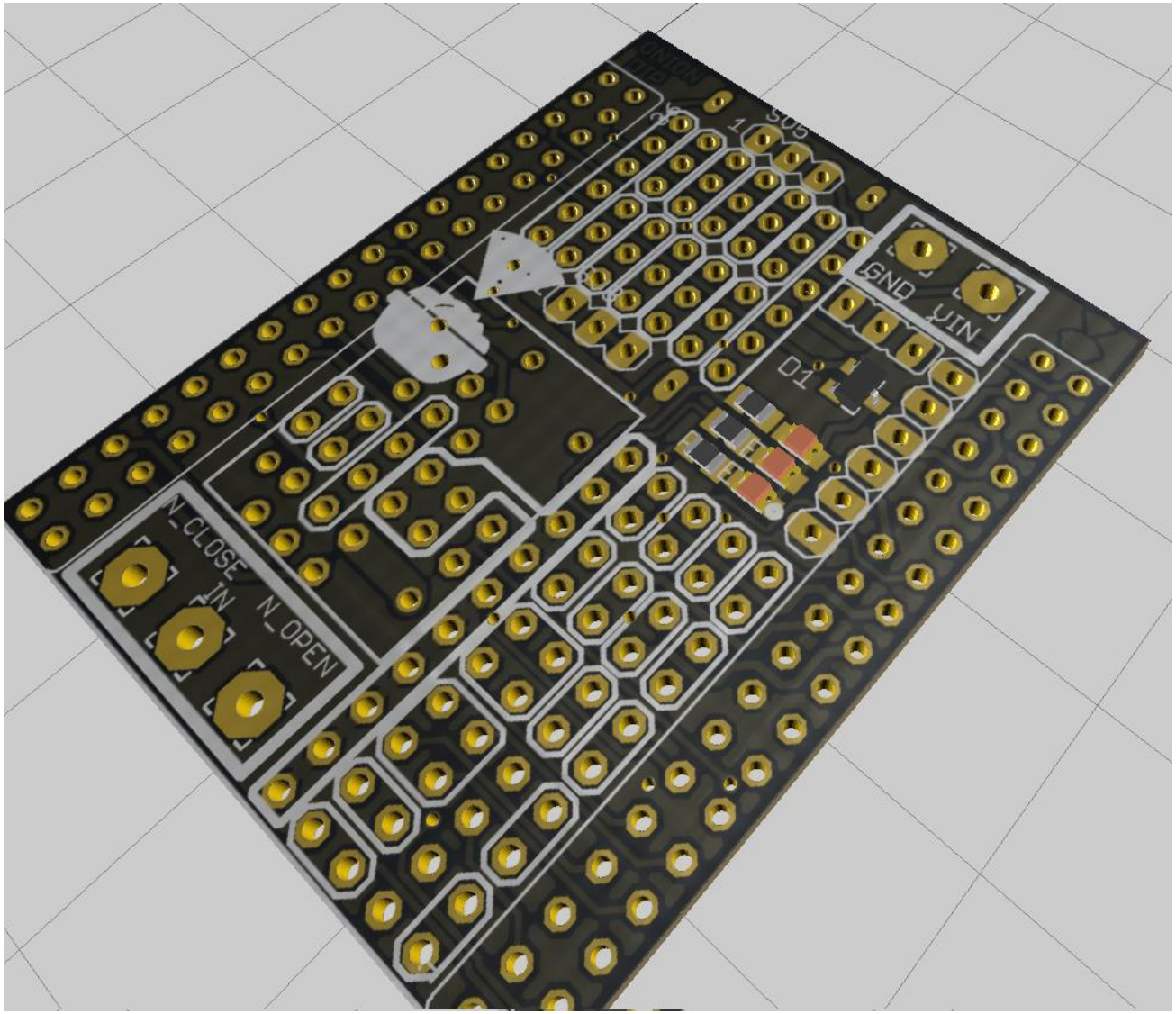
Power IN via Screw-Terminals 7-28V DC in, 5V 3A out

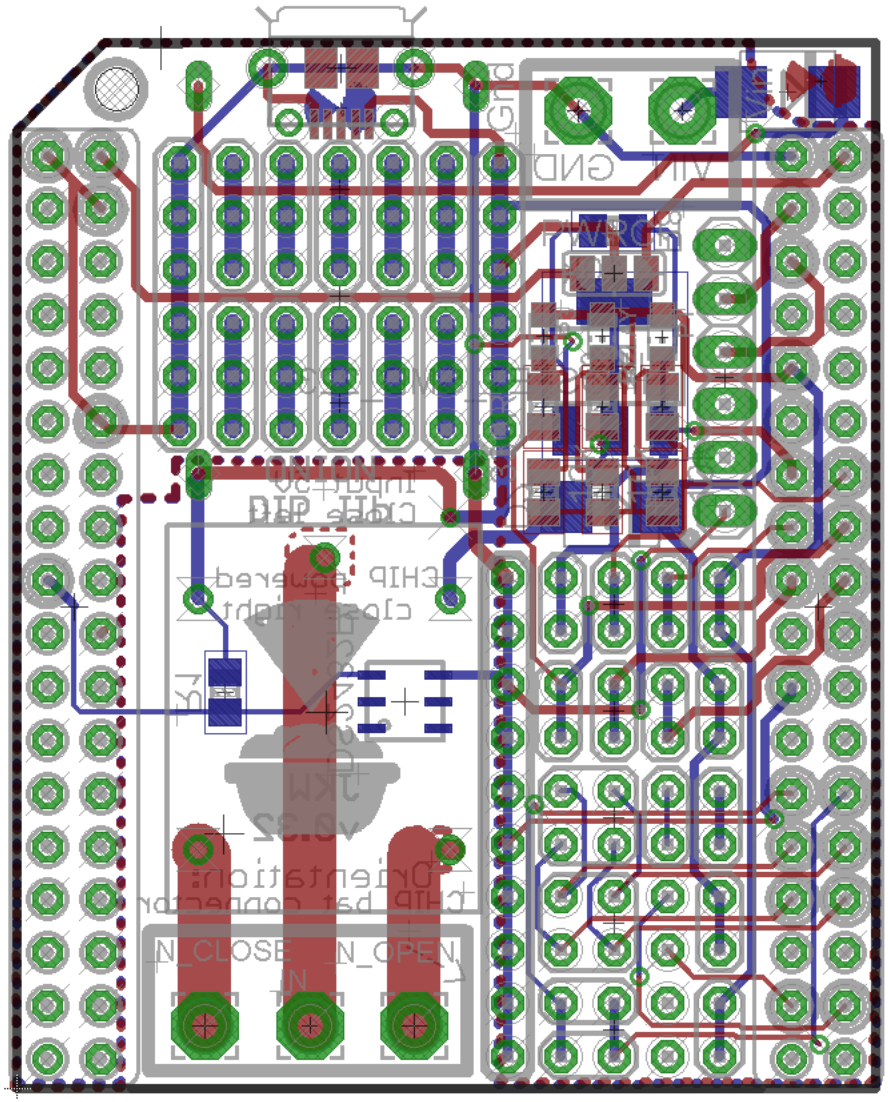
Port activity LEDs

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

Screw terminal for power in

Battery pins

Standard USB-UART Connector

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

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

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

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

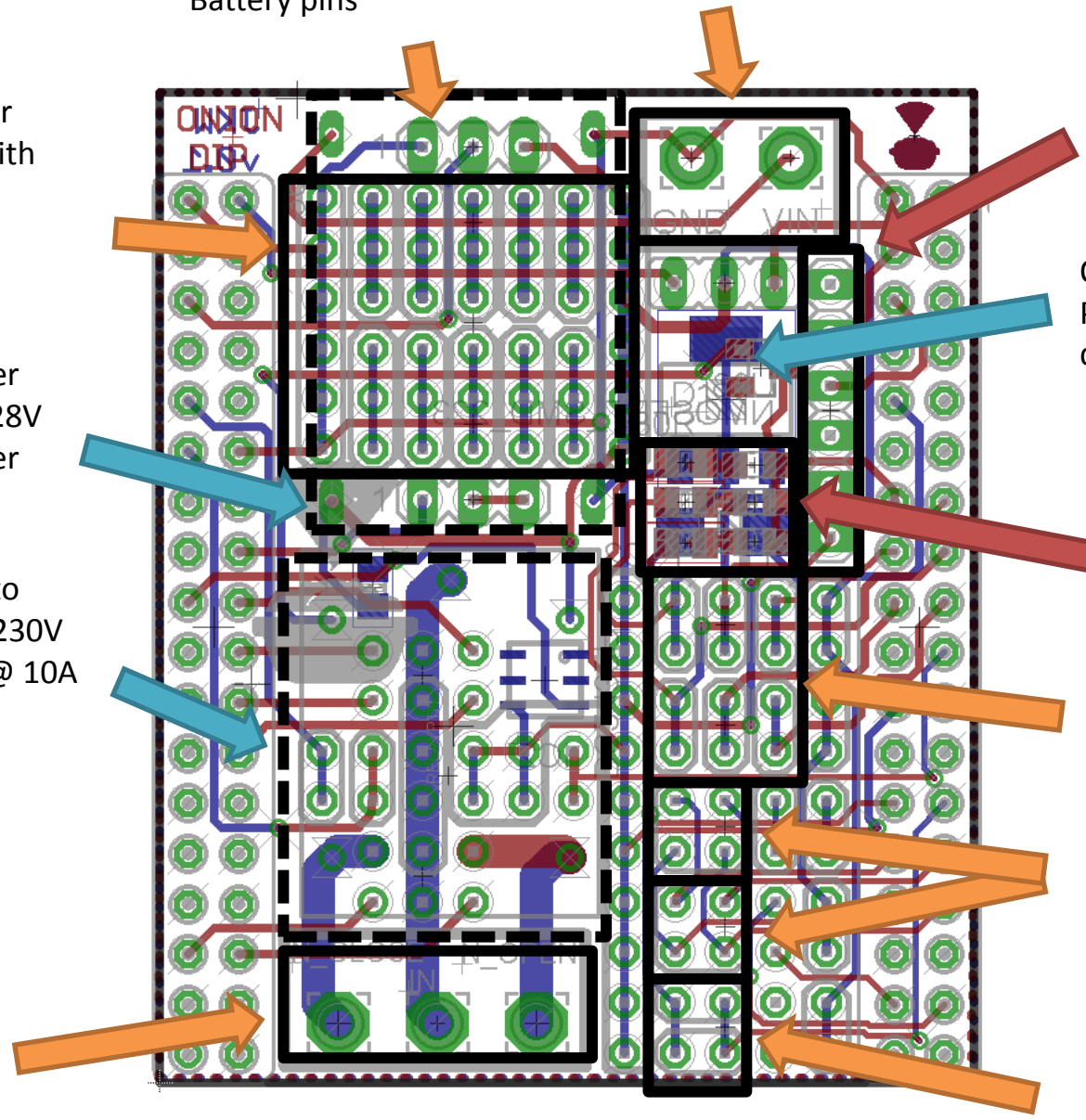
Optional: Relay to switch e.g. 110/230V AC Power lines @ 10A

GPIO P0-P5, each pin twice

2x SPI-2

Screw terminal for Relay contacts: N_close, In, N_open

2x I2C-2

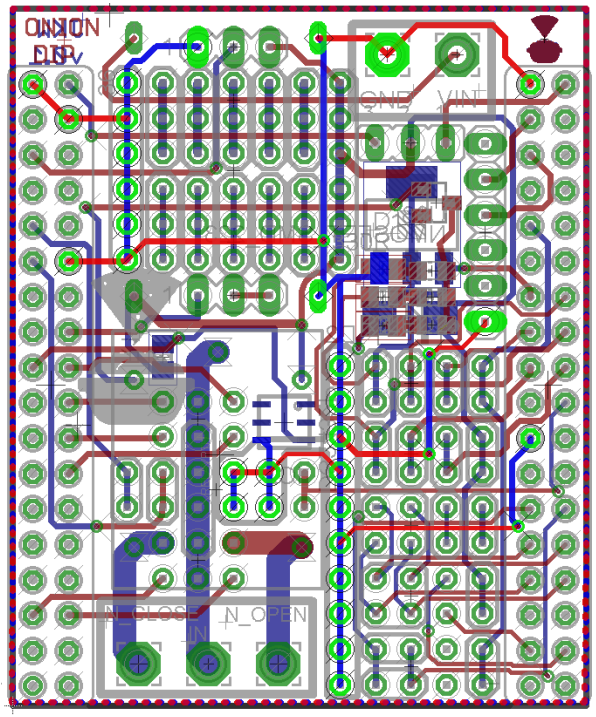


ONION DIP v1.0

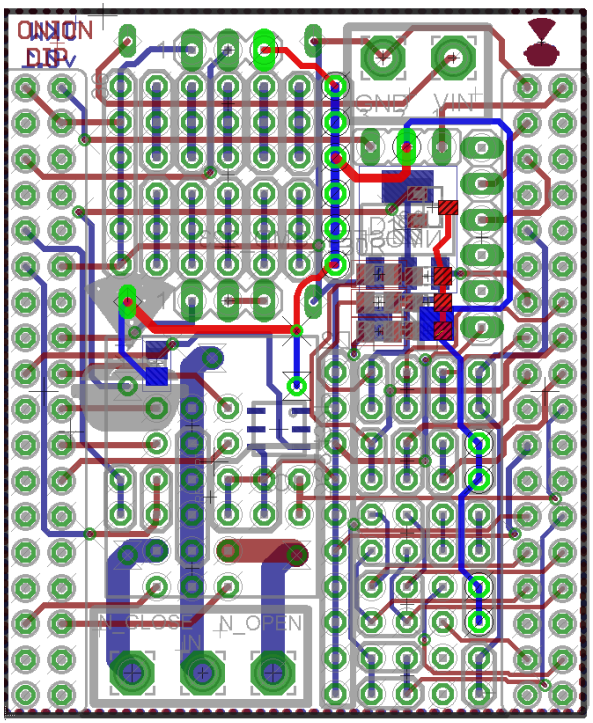
PINOUT2/2

ORDERED 2016/03/16
NOT YET RECEIVED

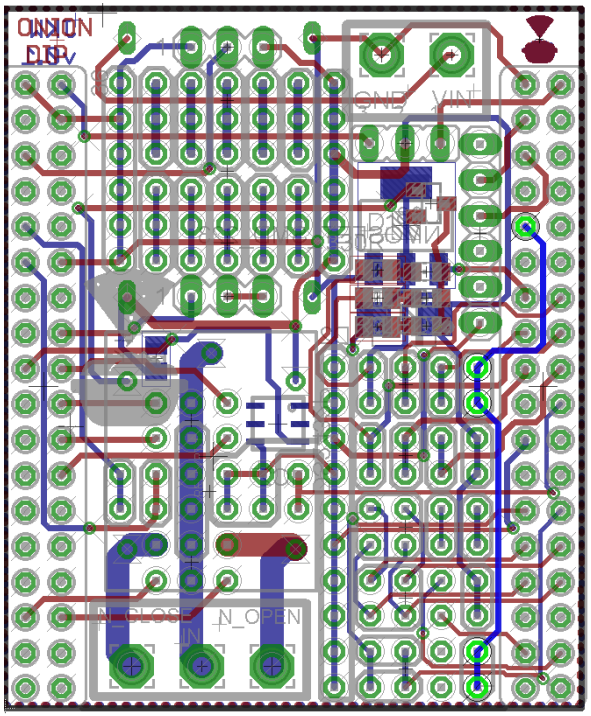
GND Rails highlighted



5V Rails highlighted

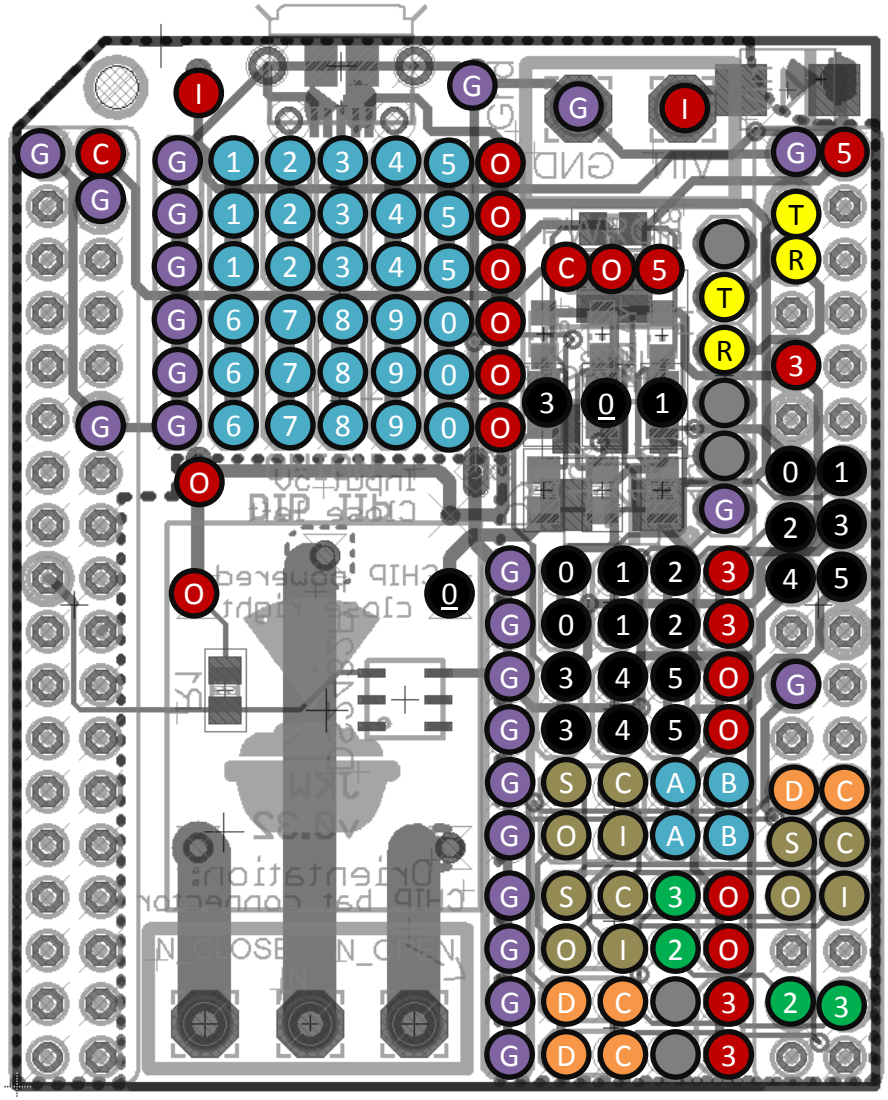


CHIP 3.3V Rails



ONION DIP v2.0

PINOUT



P	Desc.
D	SDA2
C	SCL2
I	Vin
O	Vout
C	Charge Voltage
5	5V from CHIP
3	3.3V from CHIP
G	GND
*	Tinker con
O	SPI MOSI (CSIHSYNC)
I	SPI MISO (CSIVSYNC)
C	SPI CLK (CSICK)
S	SPI CS0 (CSIPCK)
*	D pins
*	P pins
T/R	UART

a) Install a DCDC converter and supply 7-28V to Vin. This will power the Onion. Connect Vout to Vcharge to power C.H.I.P. as well.
b) Supply steady 5V to Vin, bridge Vin to Vout to power the Onion and Vout to Vcharge to power C.H.I.P.
c) Connect 5V to Vout if you have stable 5V on the C.H.I.P. but don't use a lot of current

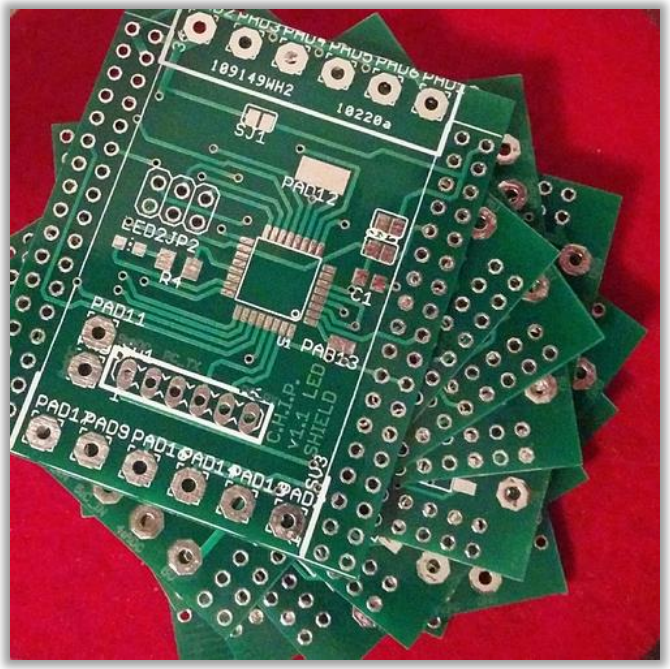
Old boards

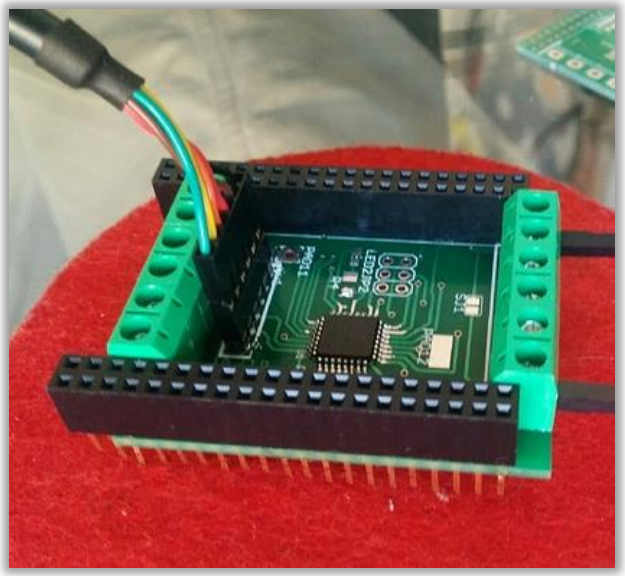
The following pages show old boards, which are not longer produced:

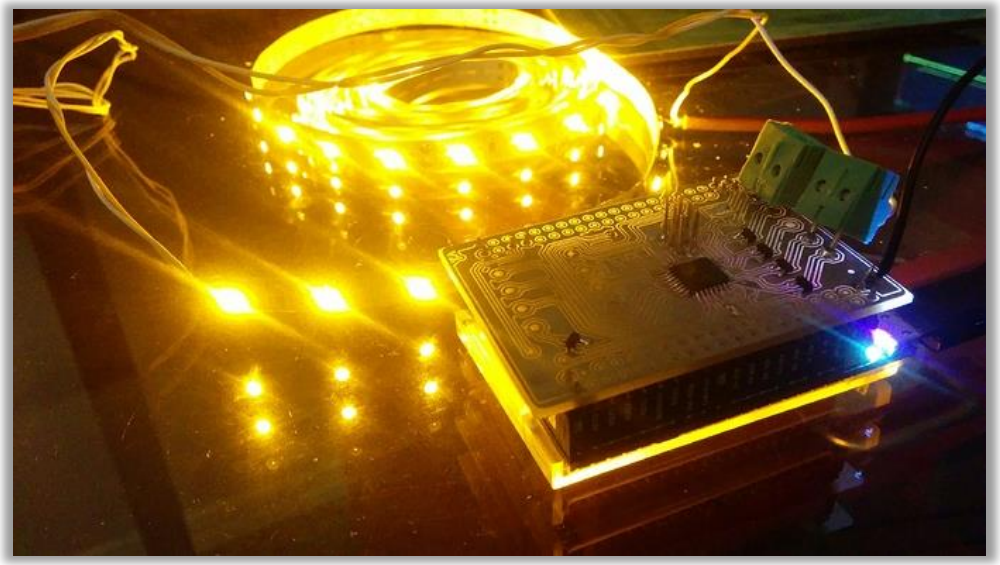
- LED DIP v1.1
- preSalsa DIP
- Salsa I
- Motor Dip v1.1

LED DIP v1.1

Photo



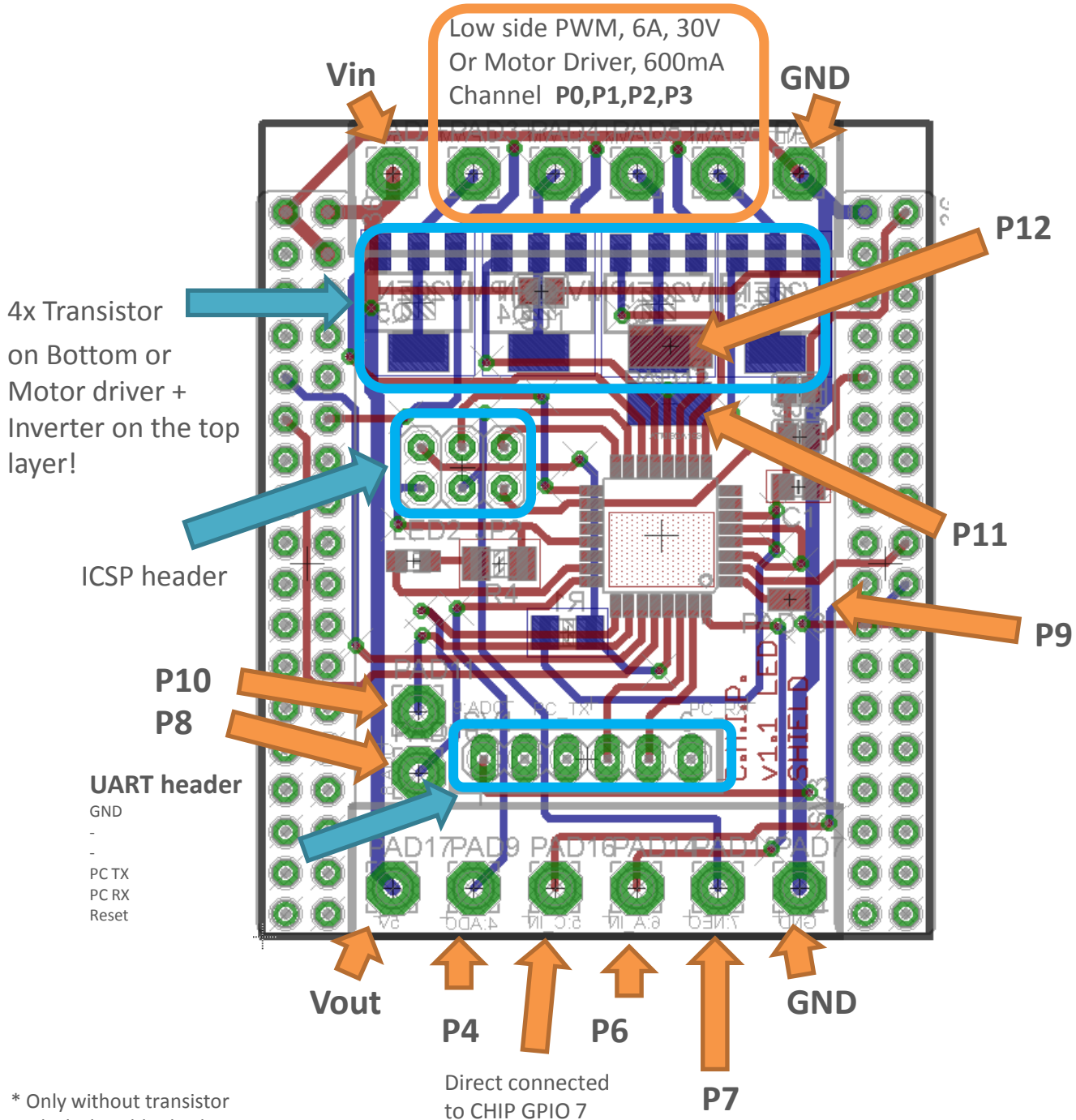




LED DIP v1.1

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	*	-

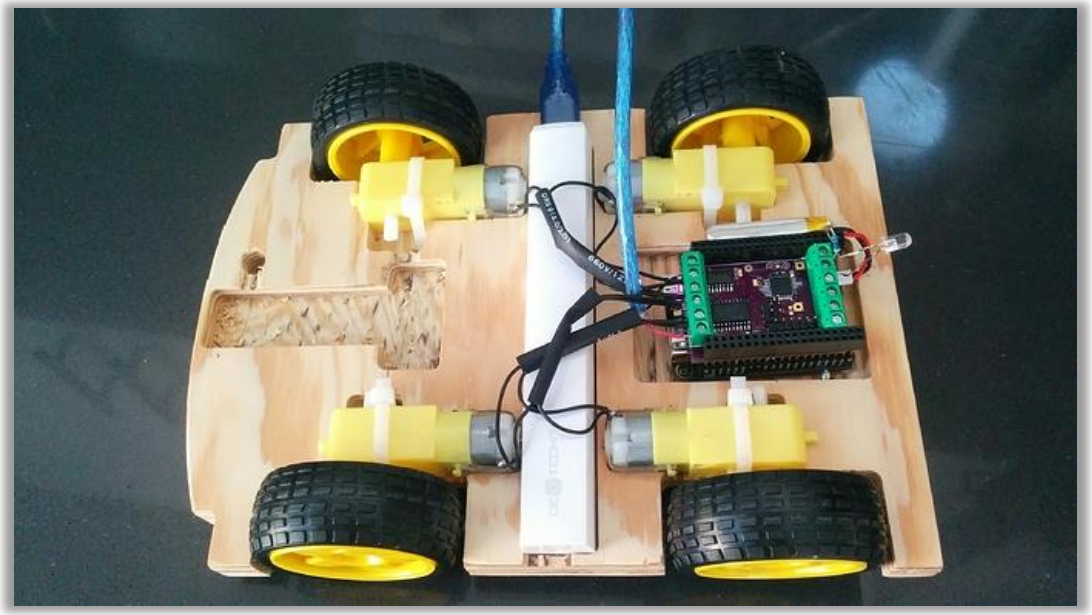


* Only without transistor
And a little solder bridge

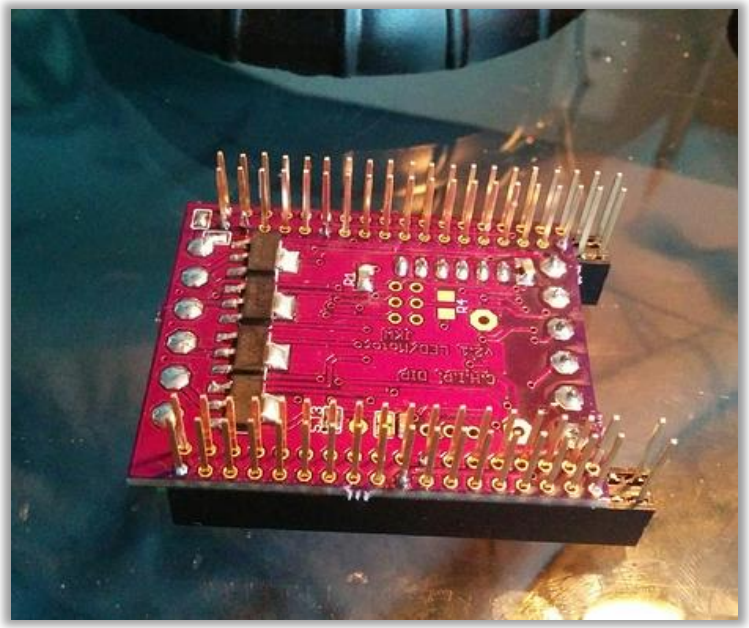
preSalsa DIP

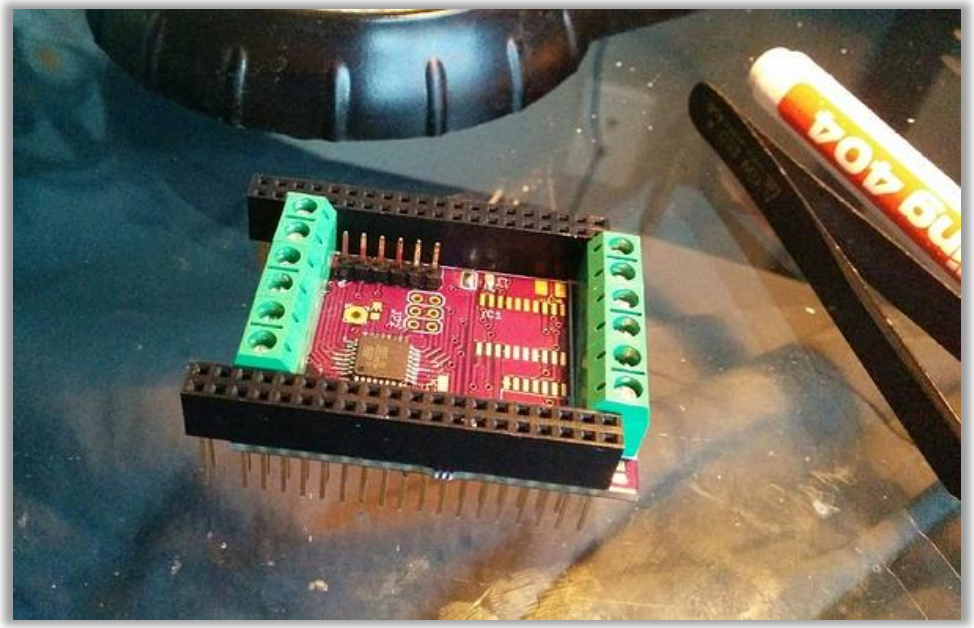
Photo

Motor Version ->



LED Driver / Mosfet Version

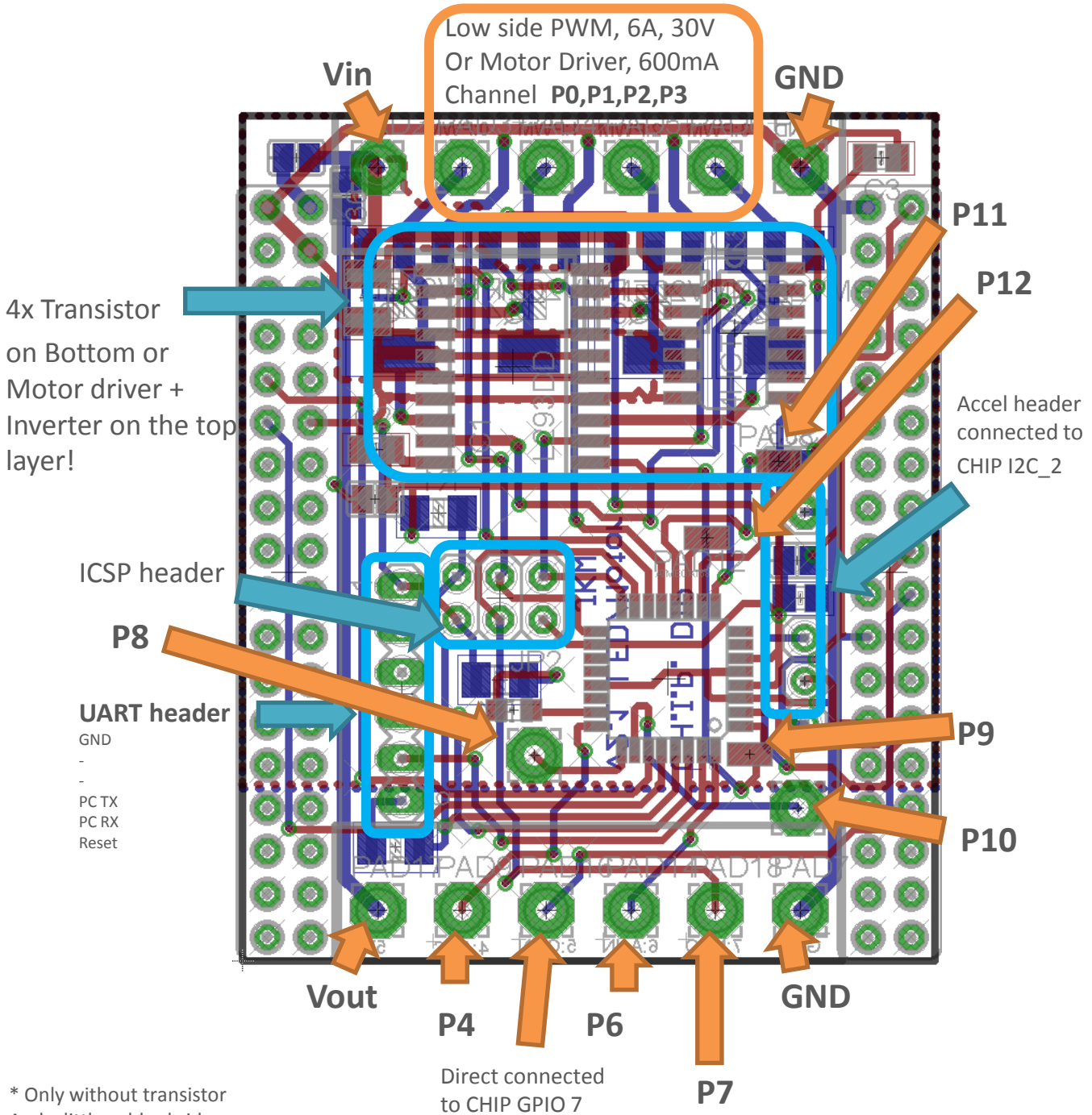




preSalsa DIP

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	*	-



* Only without transistor
And a little solder bridge

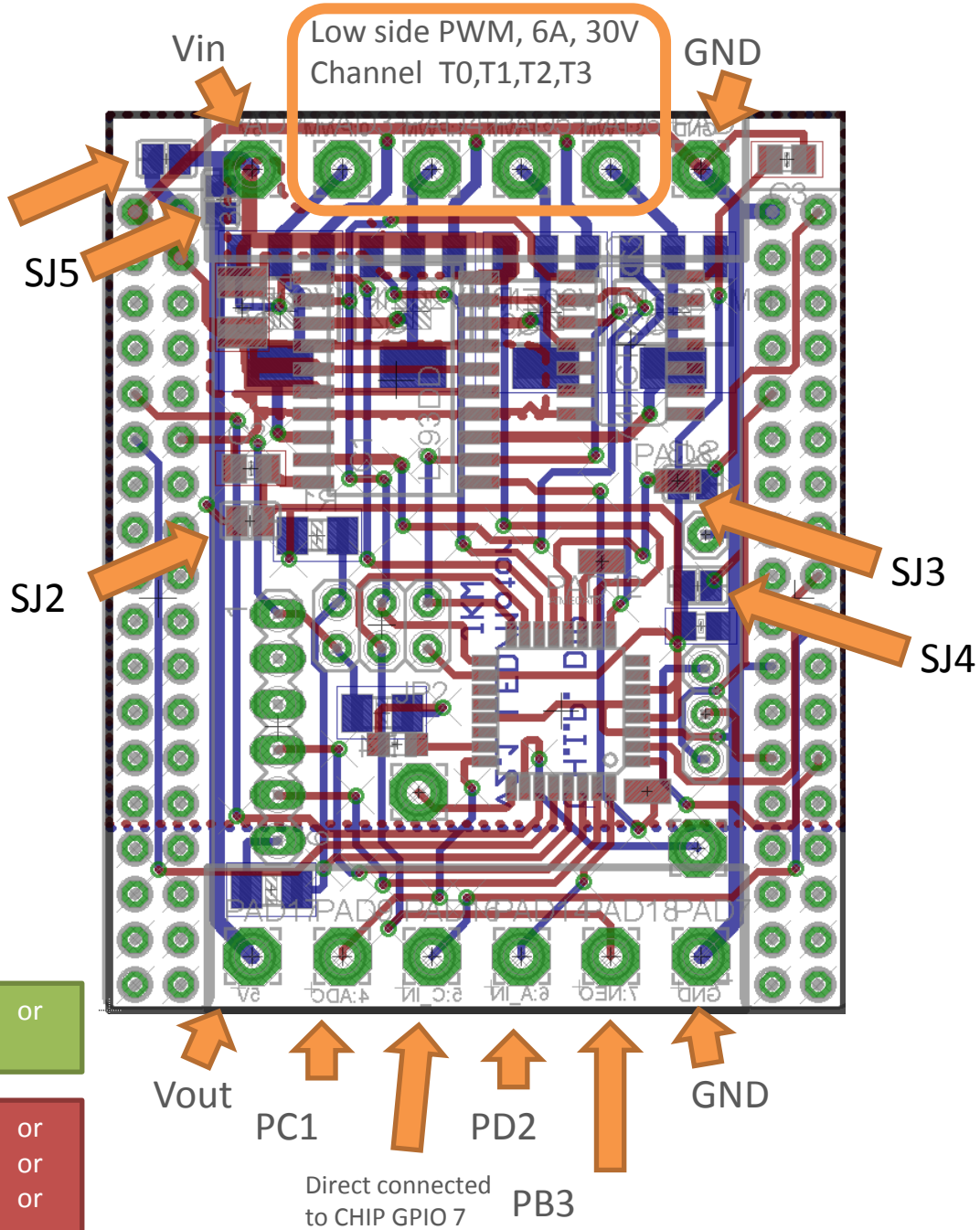
PreSalsa

Jumper Config

SJ	Function
1	Vin to Charge in • If your input voltage is 5V close this jumper. Your Vin will charge your Battery
2	Vout to Vcc • 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) • 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) • If you want to work the DIP on the (limited) 3.3V of the CHIP
5	Vin to Vout • 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**



Salsa DIP

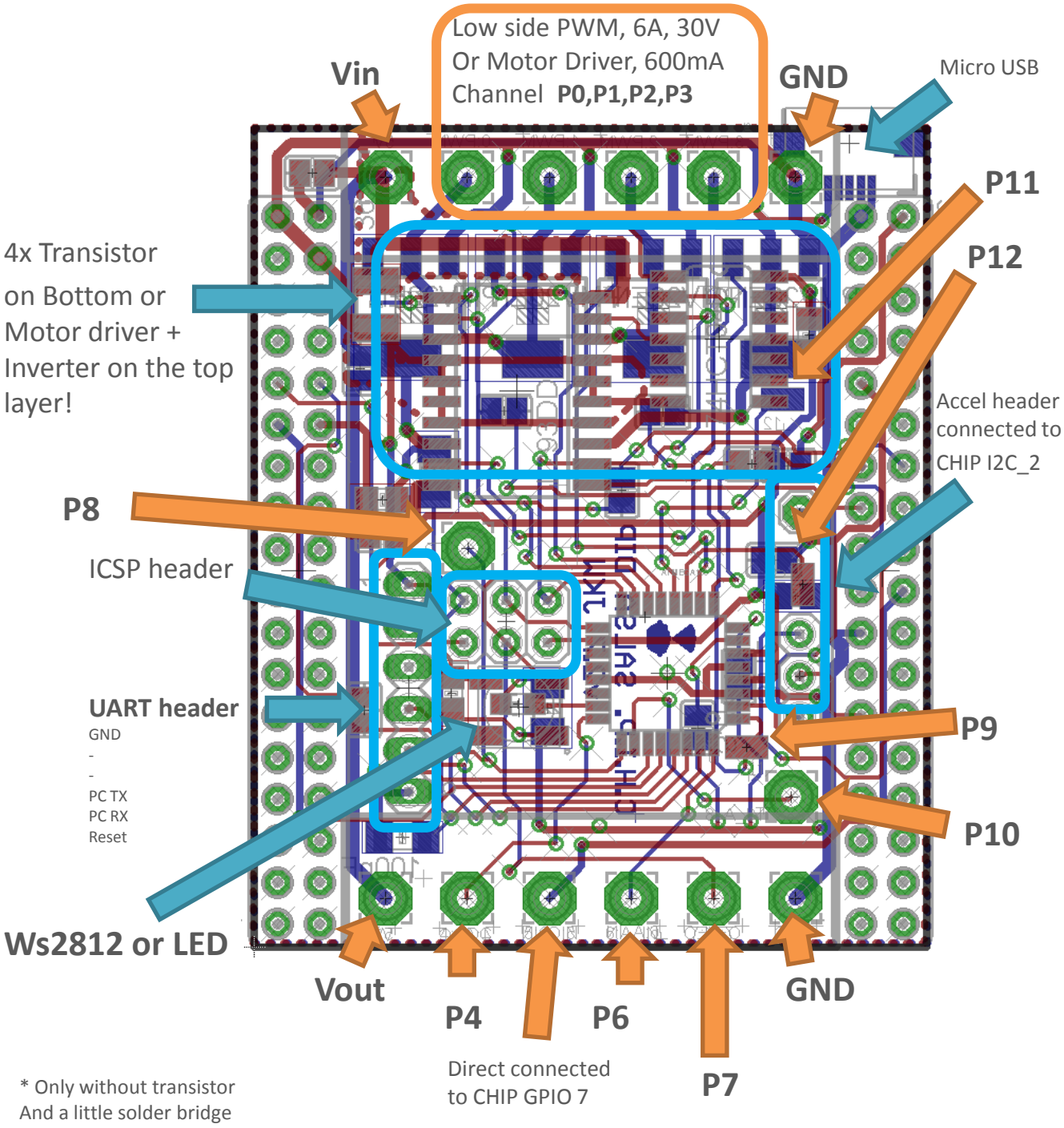
Photos

WAITING ON CHINA POST
ORDERED 2016/02/10

Configuration PWM dimmer
Configuration Motor driver

Salsa DIP PinOut

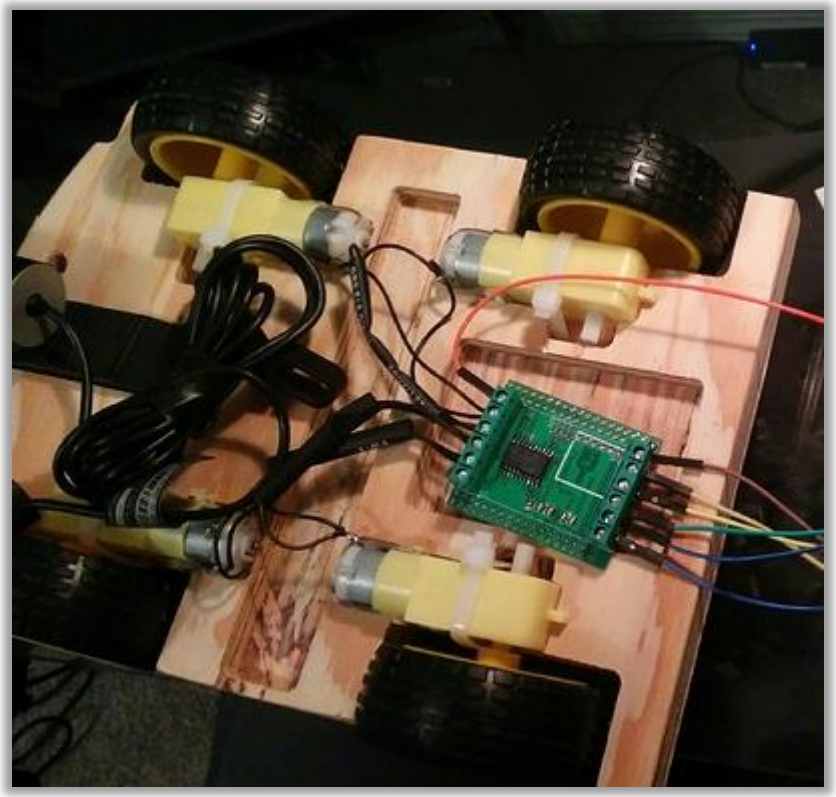
Atmega pin	DIP pin	Arduino Pin	Digital IN/OUT	Analog IN	PWM out	WS2812 support	C.H.I.P. pin	Motor Pins
PC0	P16	14	X	-	-	-	-	-
PD4	P15	4	X	-	-	-	-	-
PB5	P14	13	X	-	-	-	-	DL
PB4	P13	12	X	-	-	-	-	DR
PD7	P12	7	X	-	-	X	-	-
PB0	P11	8	X	-	-	X	-	-
PC3	P10	17	X	X	-	-	-	-
PD3	P9	3	X	-	X	X	-	ER
PC2	P8	16	X	X	-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



* Only without transistor
And a little solder bridge

Motor DIP v1.1

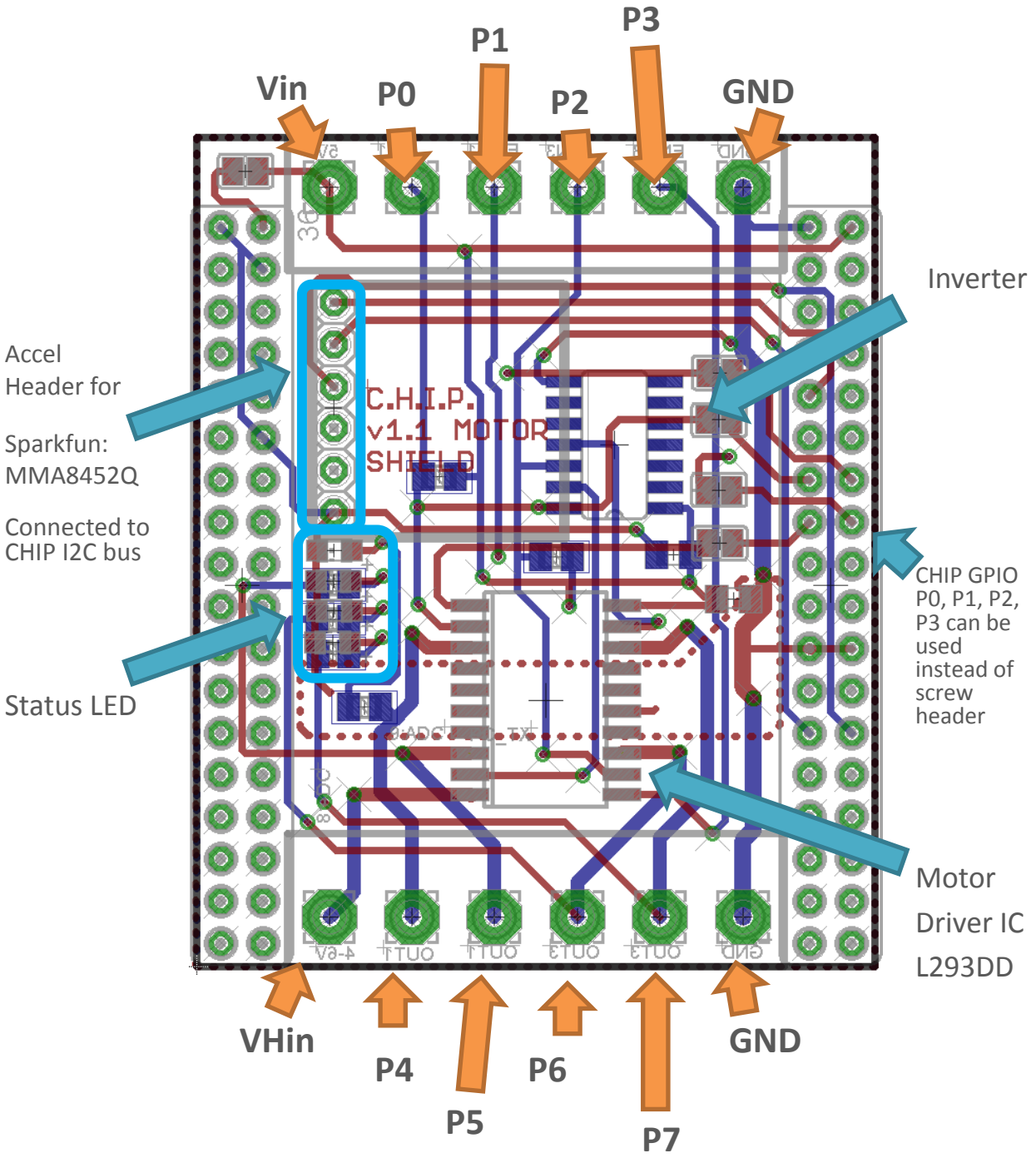
Photos



Motor DIP v1.1

Pin Out

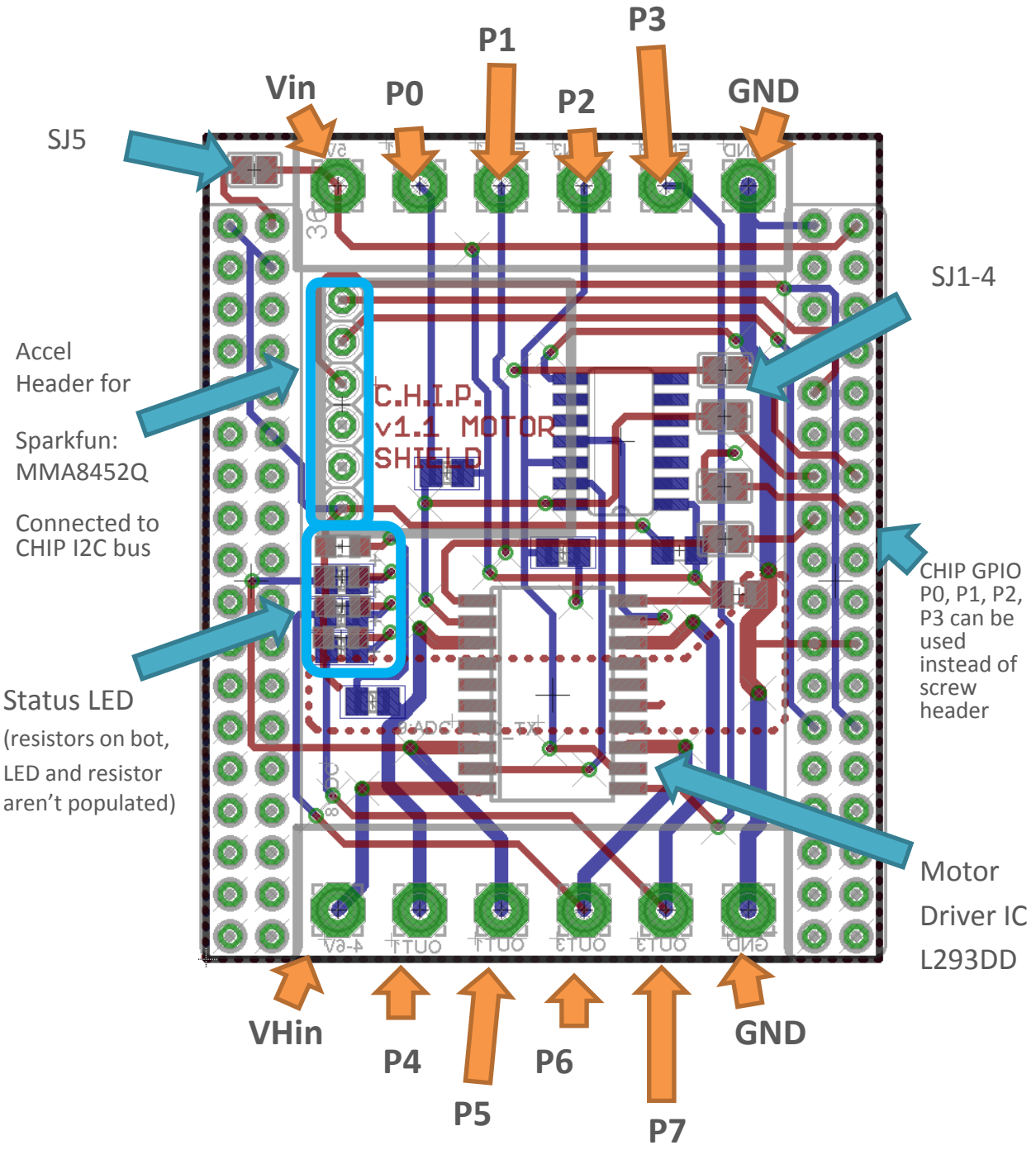
#	Function
Vin	Logic voltage, 5V
P0	Channel **1 direction**
P1	Channel **1 enable**
P2	Channel **3 direction**
P3	Channel **3 enable**
GND	Ground for logic voltage
VHin	“High” voltage for Motor (5-36 Volt), can be connected to Vin
P4	Channel **1 output**
P5	Channel **2 output** (inverse of channel 1)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



Motor DIP v1.1

Jumper Config

SJ	Function
1-4	Use CHIP GPIO as input • **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	Vin to Charge in • **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