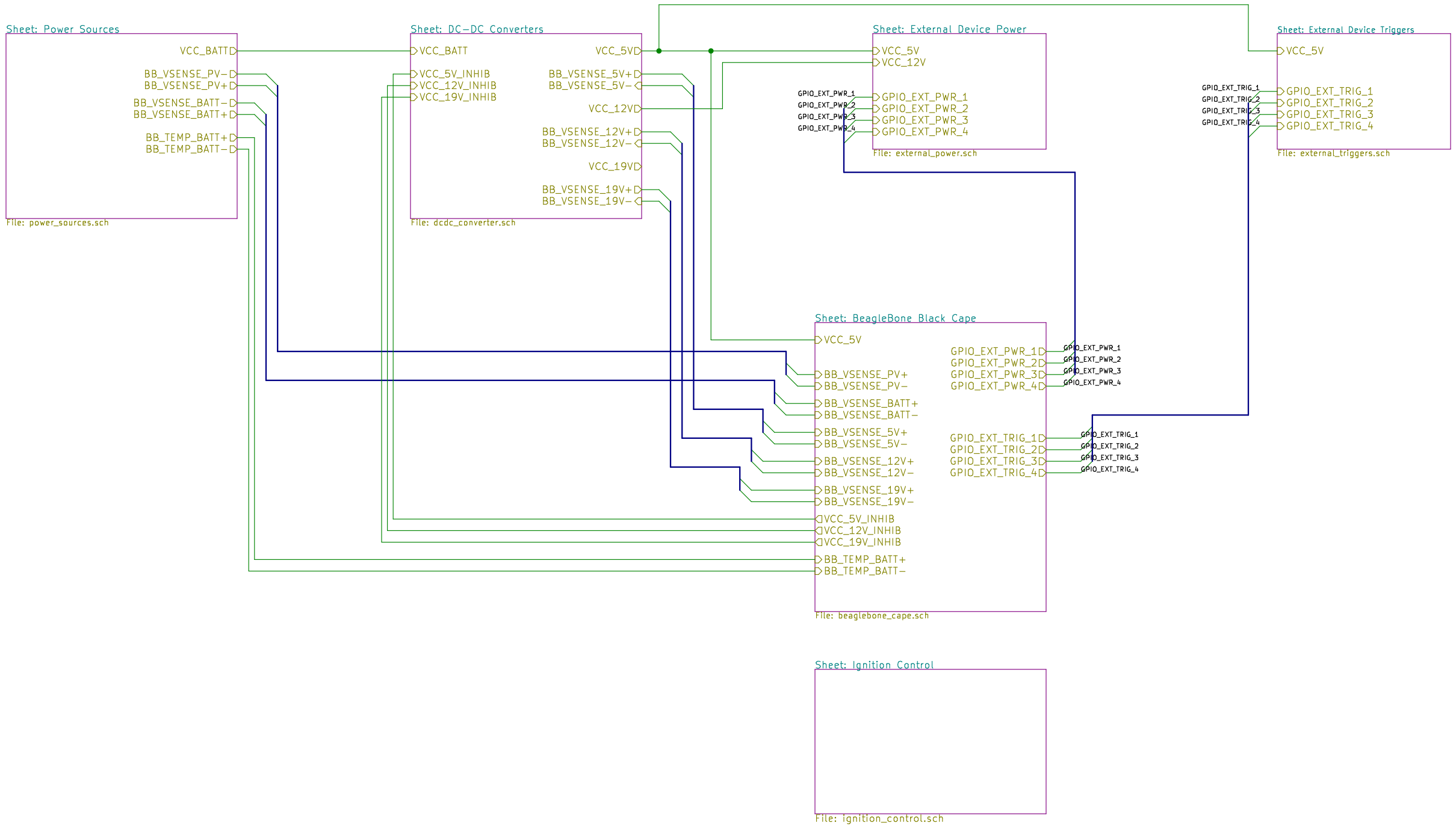

TODO:
1) Do we need a common ground pin on each sub−sheet?

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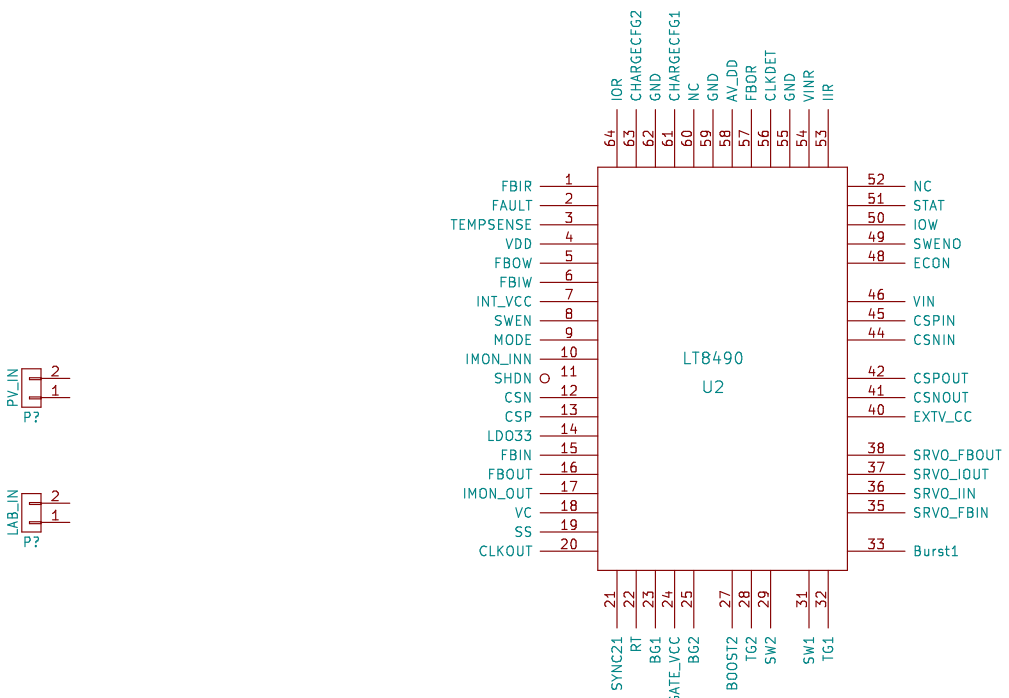
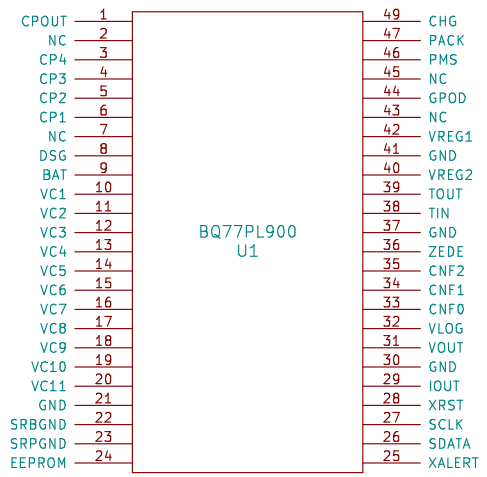
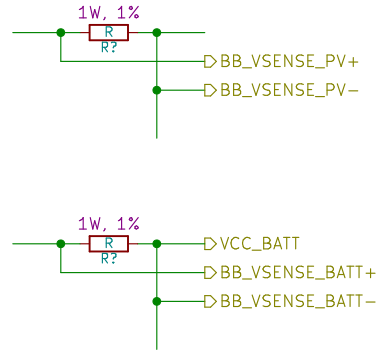
Sheet: / File: Launch_Tower_Computer_III.sch		
Title: Launch Tower Computer III (LTC3)		
Size: B	Date: 2015−06−30	**Rev: 1**
KiCad E.D.A. kicad no−vcs−found−product		Id: 1/7

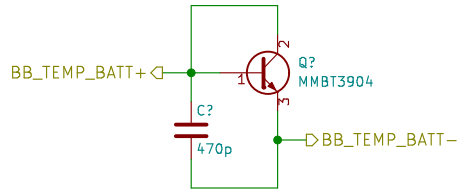




LiPo Batteries



R_sense = 1/Imax**2
1 A = 1 ohm
3 A = 0.1 ohm
5 A = 0.04 ohms
10 A = 0.01 ohms



Temperature Sensor, Main Battery

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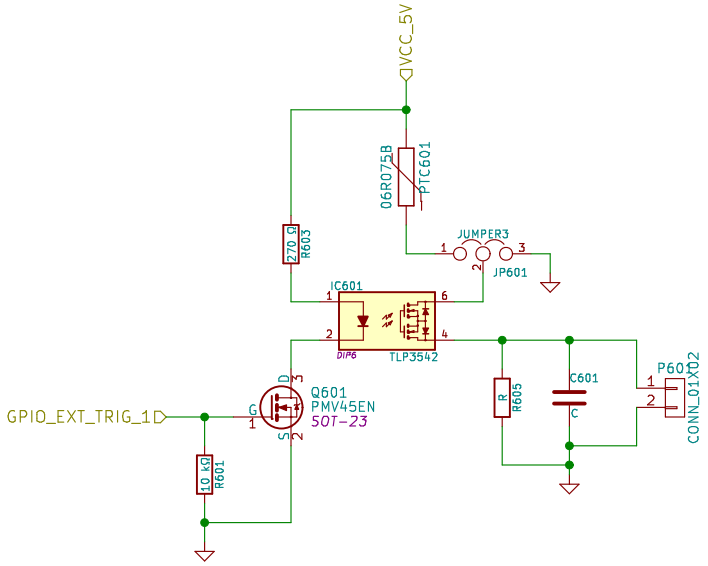
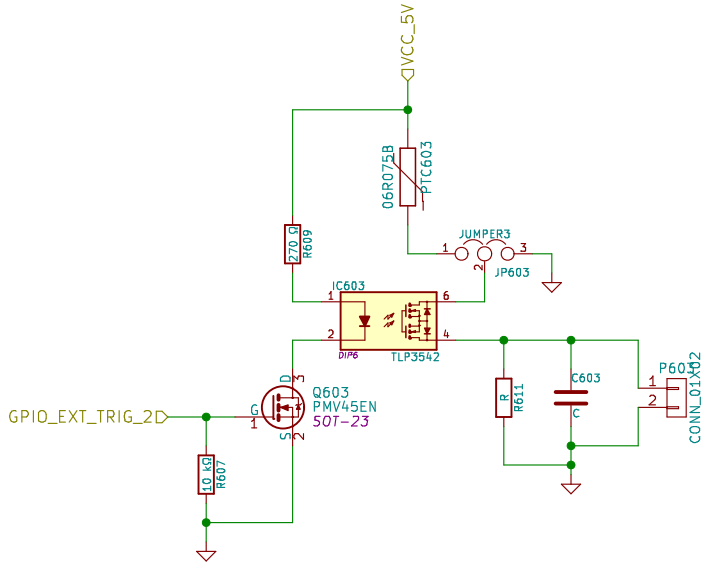
Sheet: /Power Sources/
File: power_sources.sch

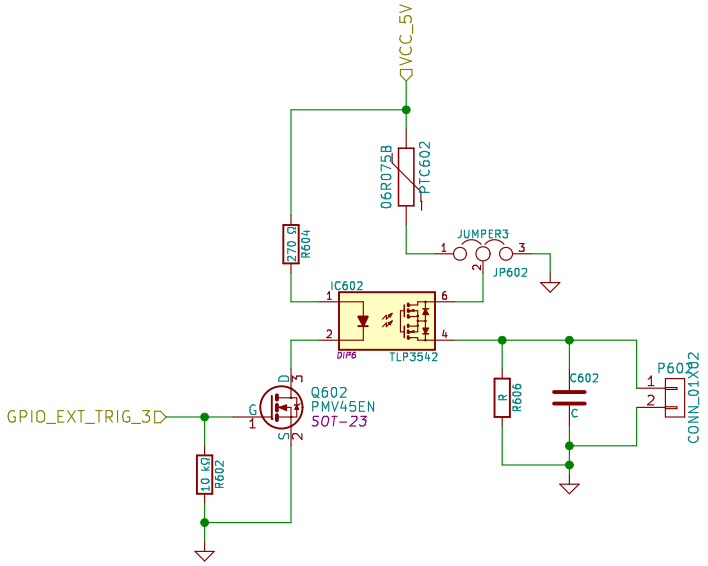
Title: LTC3 Power Inputs (Solar, Lab)

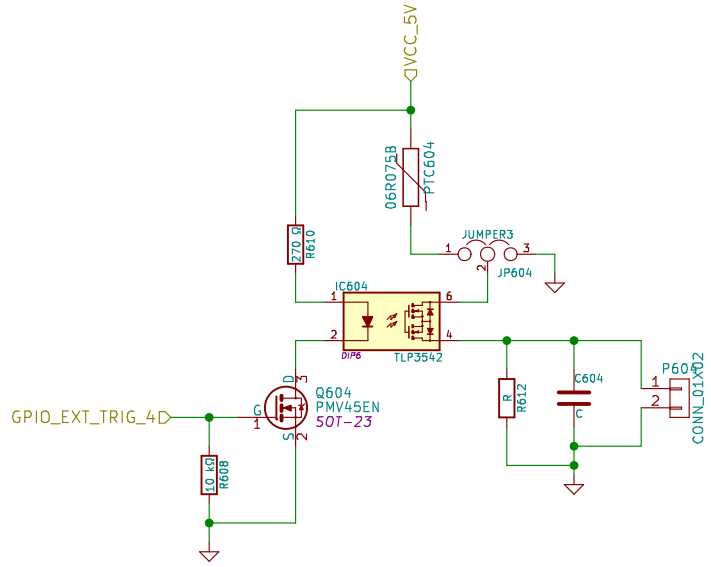
Size: B	Date: 30 may 2015	**Rev: 1**
KiCad E.D.A. kicad no-vcs-found-product		Id: 2/7

TODO: Determine values for bleeder resistor
and filter capacitor on each output connector.









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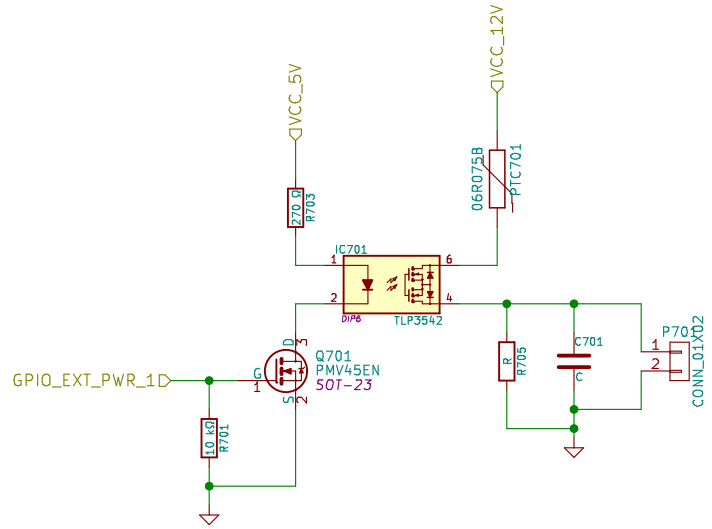
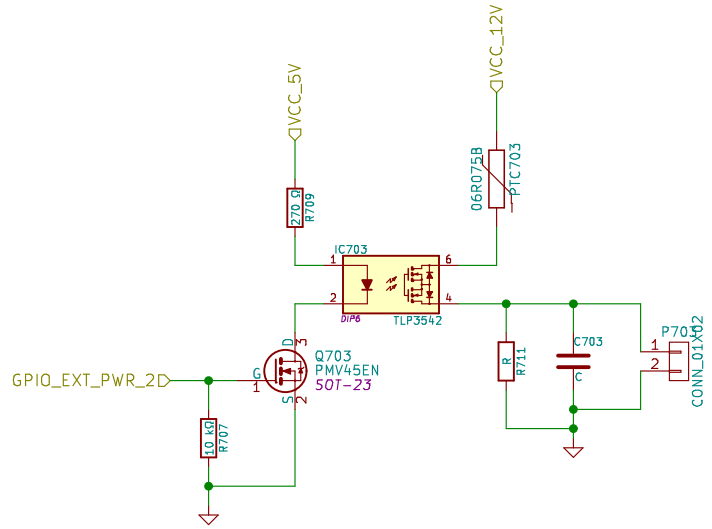
Sheet: /External Device Triggers/
File: external_triggers.sch

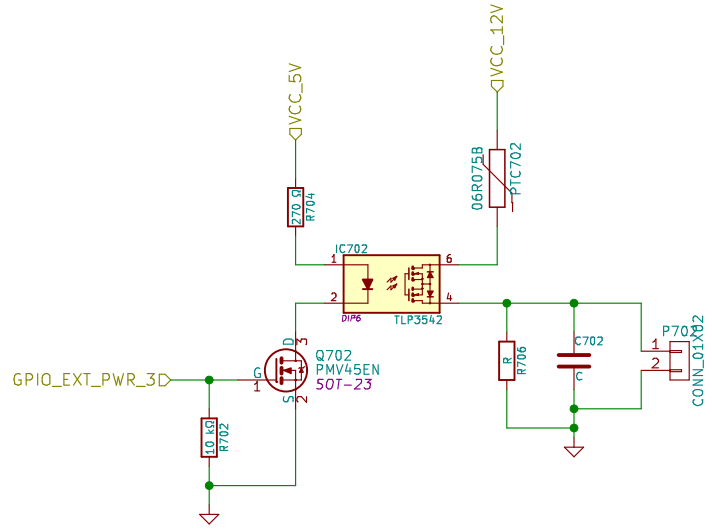
Title: LTC3 External Device Triggers

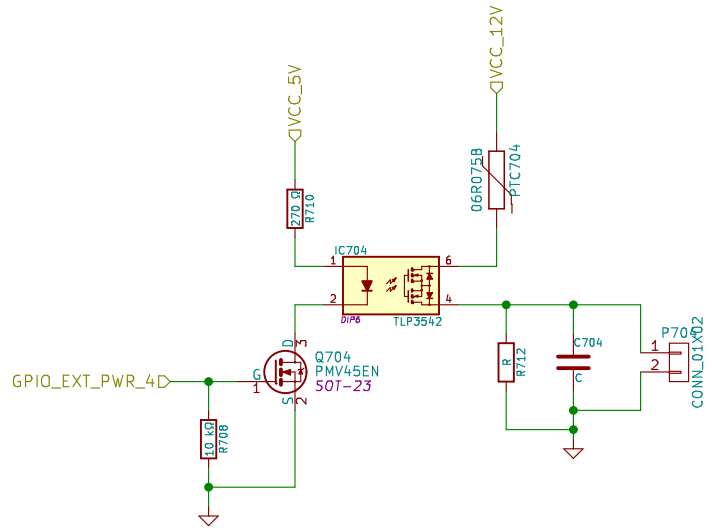
Size: B	Date: 30 may 2015	**Rev: 1**
KiCad E.D.A. kicad no-vcs-found-product		Id: 3/7

TODO: Determine values for bleeder resistor
and filter capacitor on each output connector.









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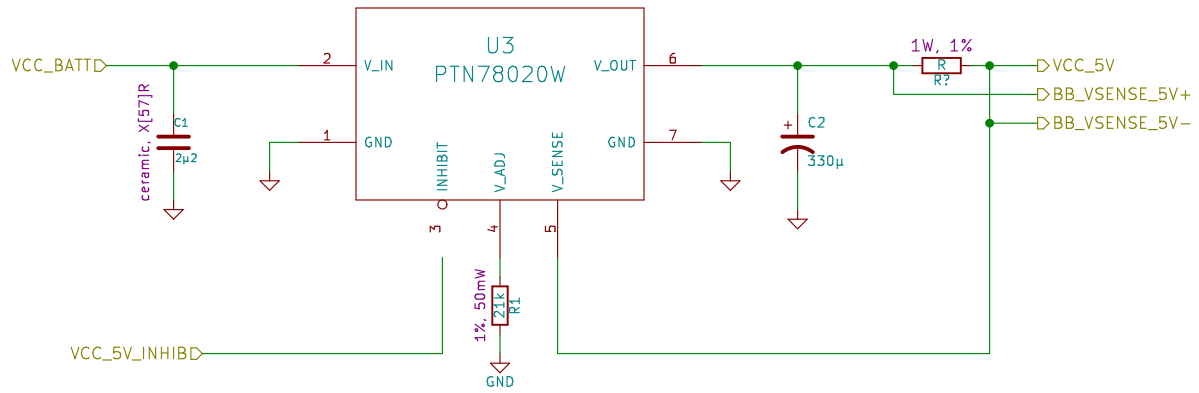
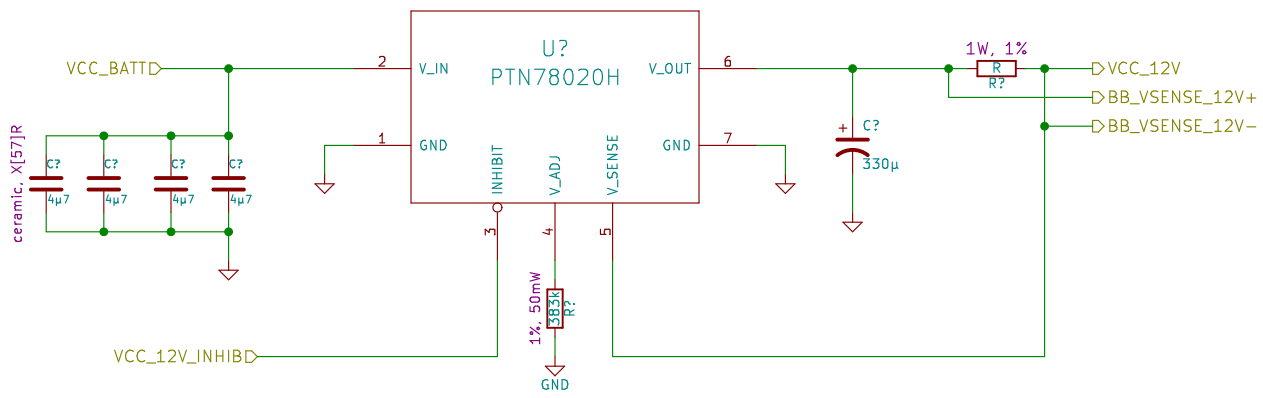
Sheet: /External Device Power/
File: external_power.sch

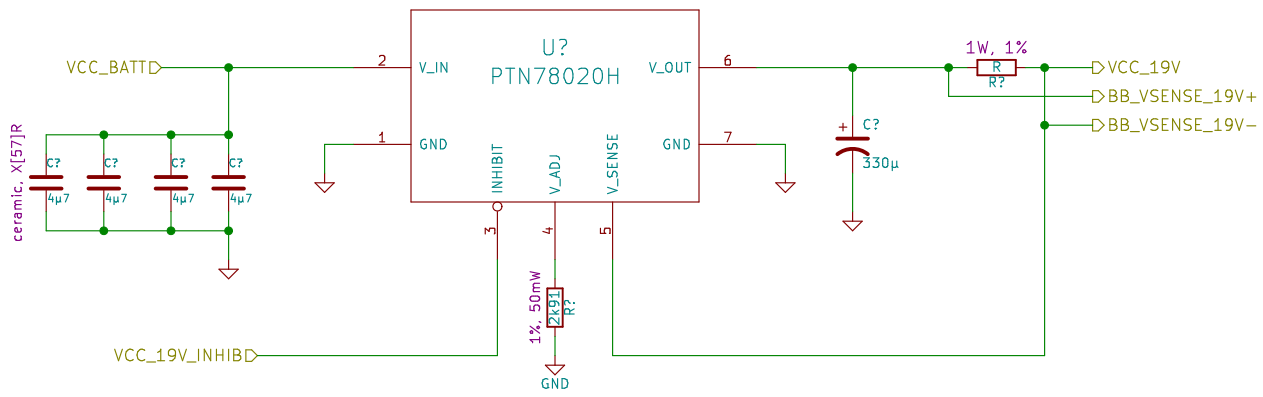
Title: LTC3 External Device Power

Size: B	Date: 30 may 2015	**Rev: 1**
KiCad E.D.A. kicad no-vcs-found-product		Id: 4/7

Sheet: /Ignition Control/	
File: ignition_control.sch	
Title:	
Size: A4	Date:
KiCad E.D.A. kicad no-vcs-found-product	Id: 5/7







NB:
1. V_sense should connect as close as possible
to the largest load on the given power rail.
2. Place Rset resistors as close to package pins as possible.
3. Ceramic (Cin) capacitors should be located within 0.5 in
of the input pins.
4. We may need heat sinks on the converters. The datasheet
indicates a range of 2W to 5W of power dissipation given our
specs.
5. Pay attention to the datasheet's recommendations regarding
capacitor selection.

TODO:
* Should shunt resistors should be 4-terminal devices?
* Capacitor values are minimums. Consider increasing these.
Consult datasheet for more info.

R_sense = 1/Imax**2
1 A = 1 ohm
3 A = 0.1 ohm
5 A = 0.04 ohms
10 A = 0.01 ohms

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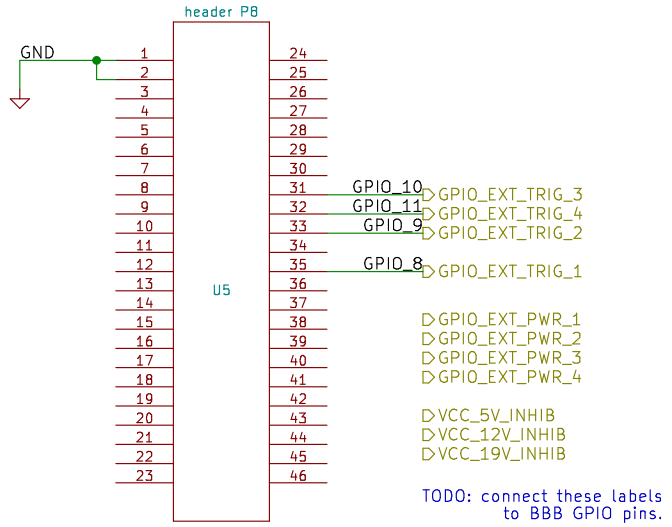
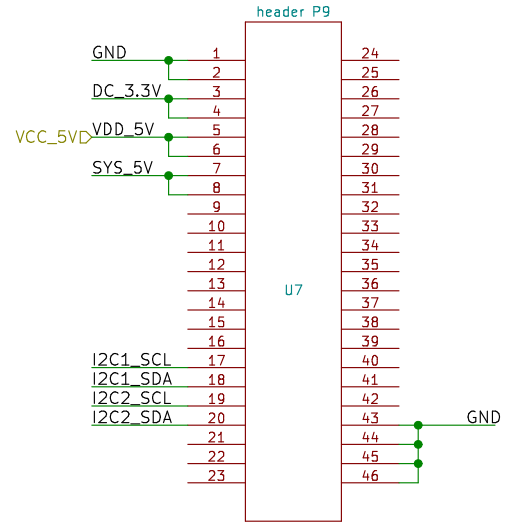
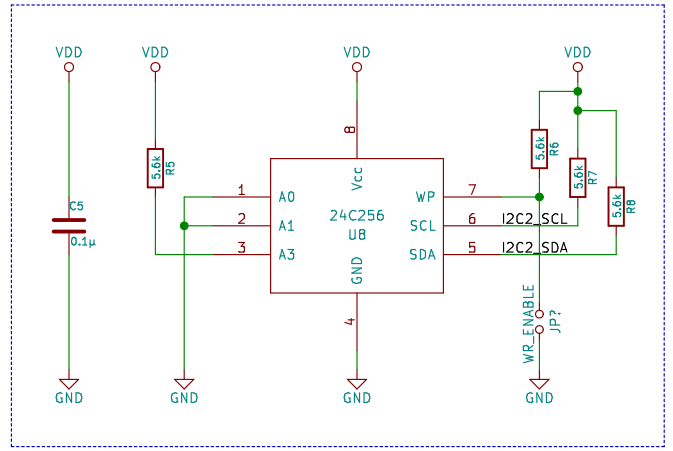
Sheet: /DC-DC Converters/
File: dcdc_converter.sch

Title: LTC3 12V-to-5V DC/DC Converter

Size: B	Date: 30 may 2015	**Rev: 1**
KiCad E.D.A. kicad no-vcs-found-product		Id: 6/7







Cape EEPROM
I2C addr 0x54

R_sense = 1/Imax**2
1 A = 1 ohm
3 A = 0.1 ohm
5 A = 0.04 ohms
10 A = 0.01 ohms

From the Requirements doc...
The LTC must provide sensors
to support the following:

* Voltage on each power rail

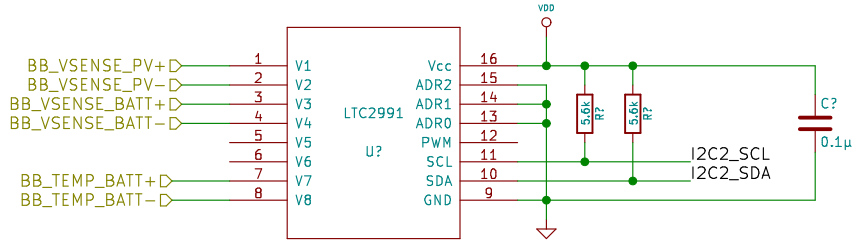
* Current consumption
** PV panels
** Main battery
** Rocket shore power

* Temperature
** Main board
** Main battery pack
** Enclosure interior

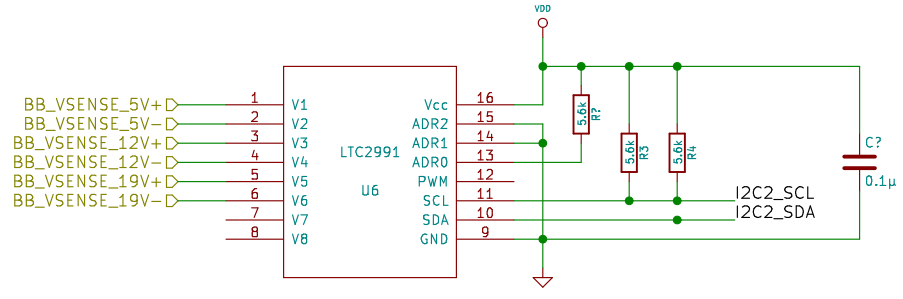
* Rocket-ready status

* Umbilical connection state

* Ignition fuse state



Voltage, Current & Temp Sensors, Sources
I2C addr 0x90



Voltage, Current & Temp Sensor, Sinks
I2C addr 0x91

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Sheet: /BeagleBone Black Cape/
File: beaglebone_cape.sch
Title: LTC3 BeagleBone Black Cape Interface
Size: B | Date: 30 may 2015 | Rev: 1
KiCad E.D.A. kicad no-vcs-found-product | Id: 7/7