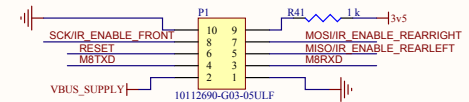
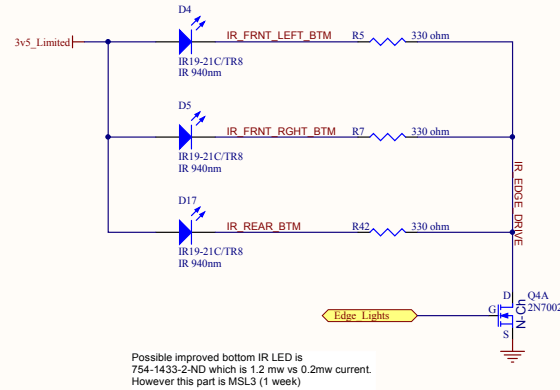
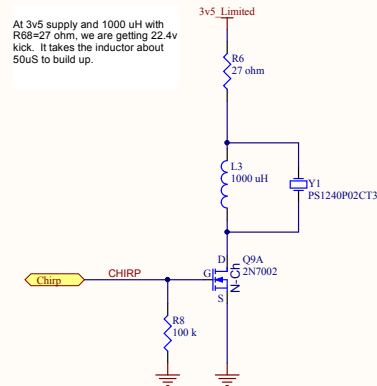
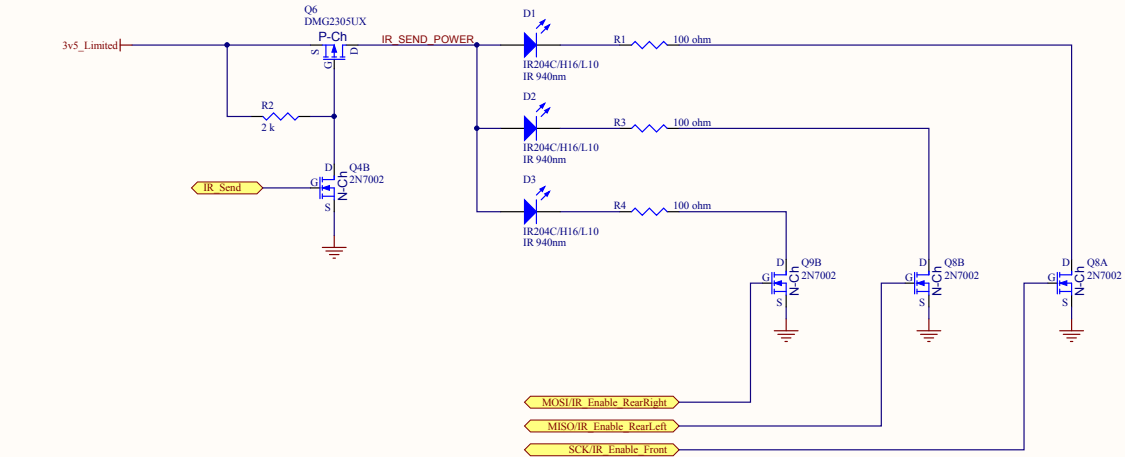
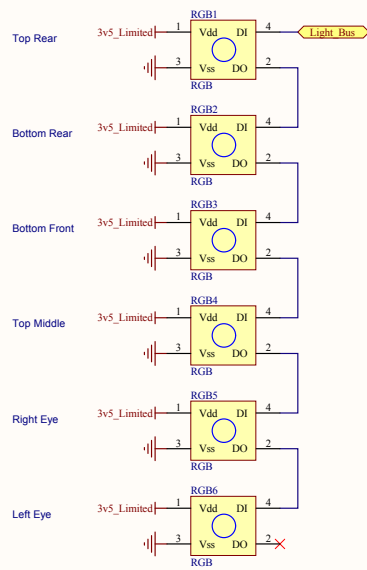


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Title: Ringo Main Rev04			Plum Geek LLC 229 E. Reserve St. #102 Vancouver, WA 98661 info@plumgeek.com
Size: 8.5x11	Version:	Designer:*	
Date: 9/18/2015	Time: 12:22:16 PM	Sheet of	
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Title: Ringo MCU Rev04				Plum Geek LLC 229 E. Reserve St. #102 Vancouver, WA 98661 info@plumgeek.com
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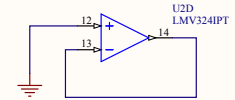
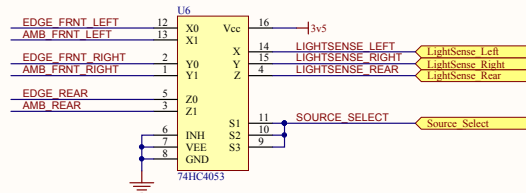
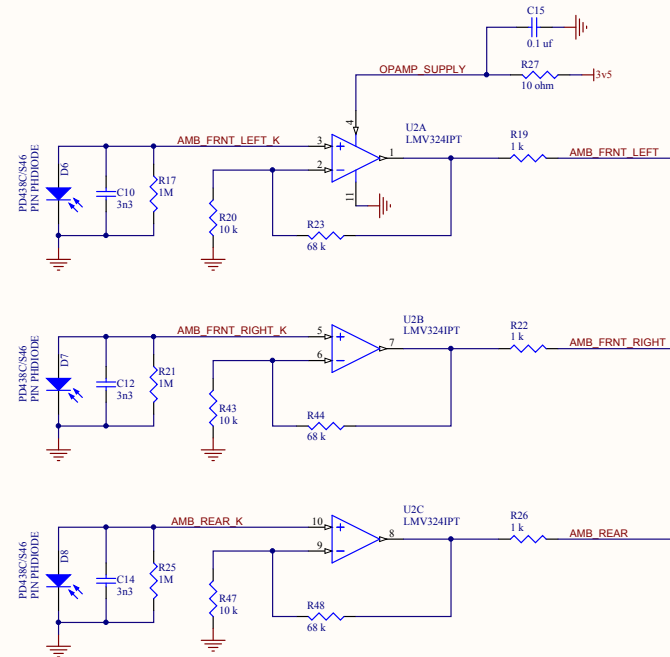
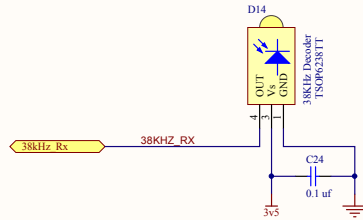
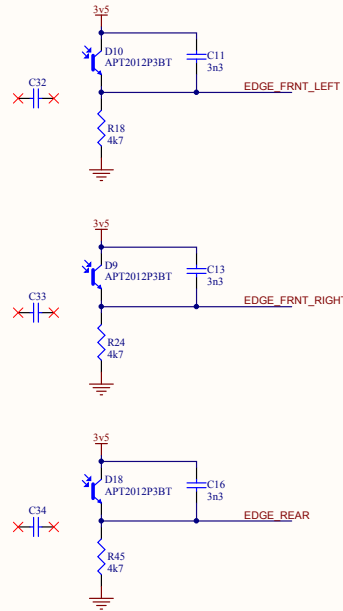
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Capacitors C32, C33, C34 are used as light barriers to prevent D4, D5, D17 from shining directly into light sensors D10, D8, D18. These caps should be 0805 and tall (greater than 1mm). They can be of any value.



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Title: Ringo Light Sensors Rev04			Plum Geek LLC	
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Date: 9/18/2015	Time: 12:22:16 PM	Sheet: 1 of 1	Vancouver, WA 98661	
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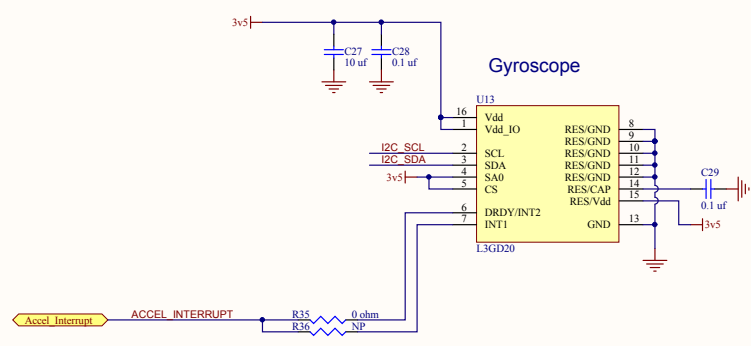
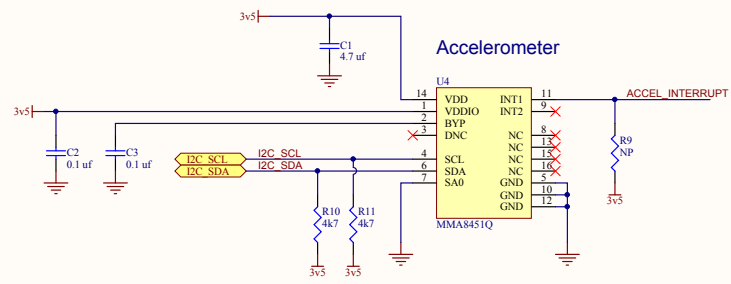
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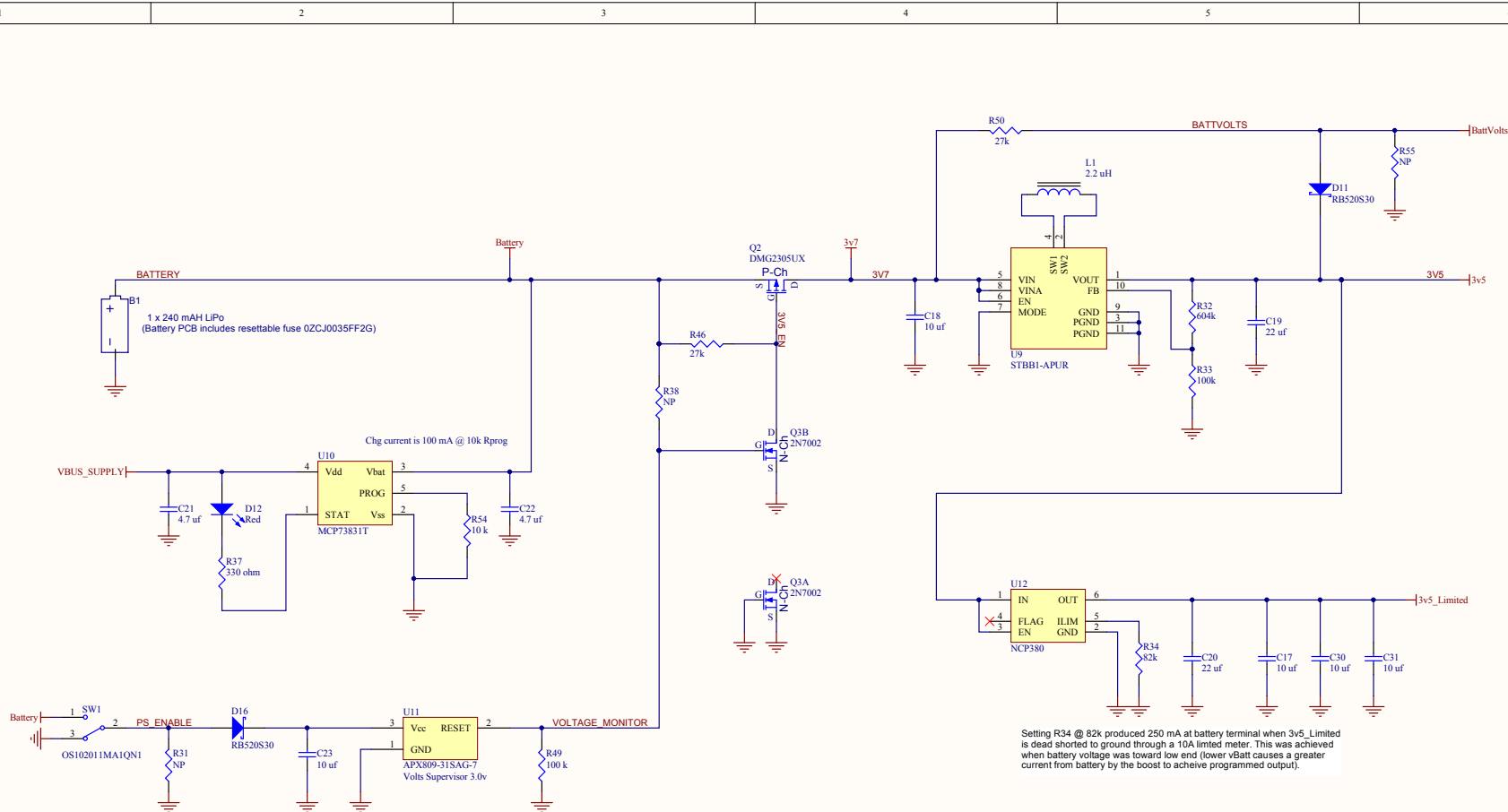
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Title: Ringo Accelerometer Rev04				Plum Geek LLC	
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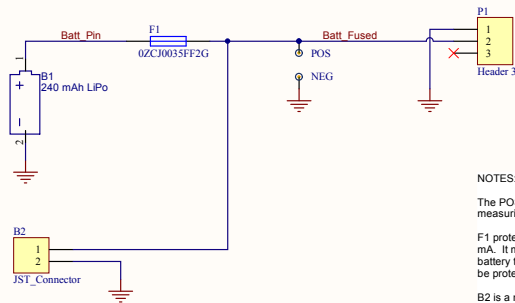


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Title: Ringo Power Supply Rev04			Plum Geek LLC	
Size: 8.5x11	Version:	Designer:*	229 E. Reserve St. #102	
Date: 9/18/2015	Time: 12:22:17 PM	Sheet: of	Vancouver, WA 98661	
File: E:\B\Ringo Rev04\Ringo Power Supply Rev04_SchDoc			info@plumgeek.com	

Battery Tab

This is the actual physical battery PCB.



NOTES:

The POS and NEG pads are provided on the bottom side of the board to allow easily measuring actual battery voltage with a multi-meter.

F1 protects battery B1 from over-current. This is a resettable fuse that trips at 300 mA. It may take a few minutes to fully reset. The fuse is buried under the LiPo battery to make sure any short circuit of any contact on the battery circuit board will be protected by the fuse.

B2 is a non-populated JST connector footprint. The JST is the common connector used on small LiPo batteries. You'll likely never have a use for this pad, but it's there in case you really want to connect a different LiPo battery. If you do use a different LiPo keep the following points in mind to avoid hurting yourself or starting a fire:

- 1) REMOVE THE SUPPLIED LIPO BATTERY BEFORE TRYING TO HOOK UP A DIFFERENT BATTERY VIA THE B2 CONNECTOR. THIS IS VERY IMPORTANT!
- 2) The B2 connector is NOT fuse protected. A short at the P1 connector will short your battery on B2. It is recommended to use a battery with an internal protection circuit - most of the small LiPo batts supplied with wires and a JST connector do have this circuit - you can usually feel a circuit board with some parts right where the wires come out of the battery if it does include this protection circuit.
- 3) If you use a through-hole JST connector, be sure to clip the leads as short as possible on the top side of the board after soldering the connector. If you leave the leads in place they can puncture the battery which would be bad. (It may ignite on fire or explode).

You can find connectors here:
Surface Mount Part: <https://www.sparkfun.com/products/8612>
Through Hole Part: <https://www.sparkfun.com/products/9749>



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