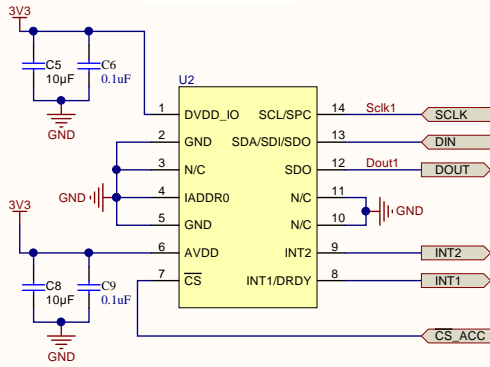
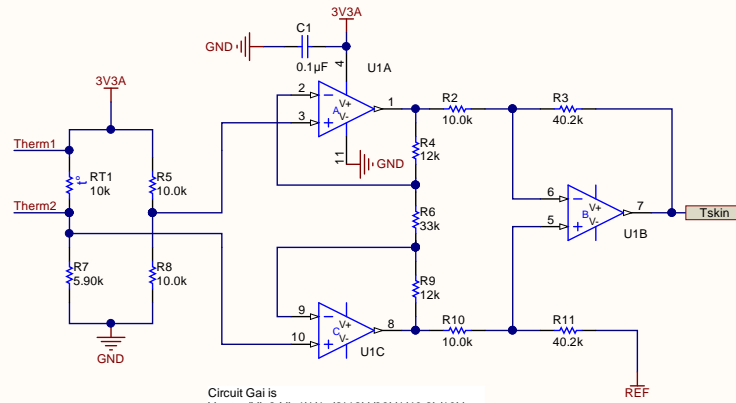


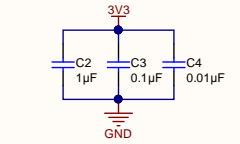
### 3 Axis accelerometer



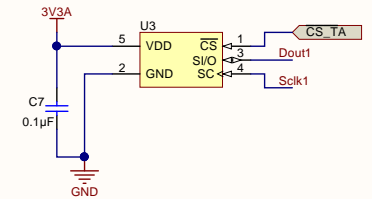
### Skin temperature sensing



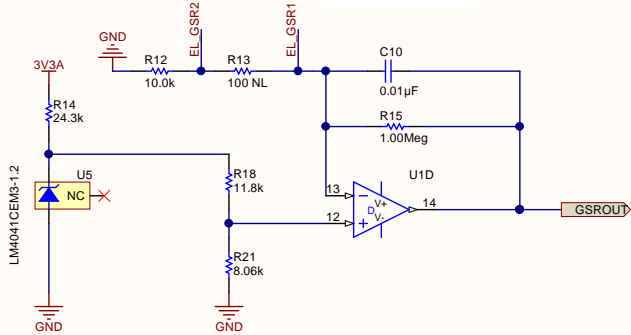
Use LMP2234 for thermistor amplifier



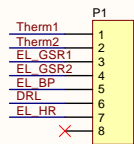
### Ambient temperature sensing



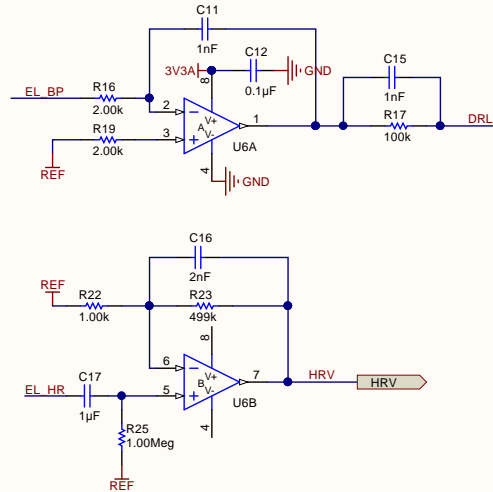
### GSR Circuit



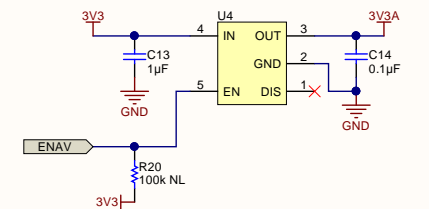
GSR electrodes will be connected in place of 100 Ohm NL resistor.



### Heart Rate Monitor

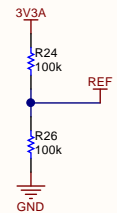


### Load switch



Load switch for analog supply to minimize quiescent current draw

### Reference Voltage



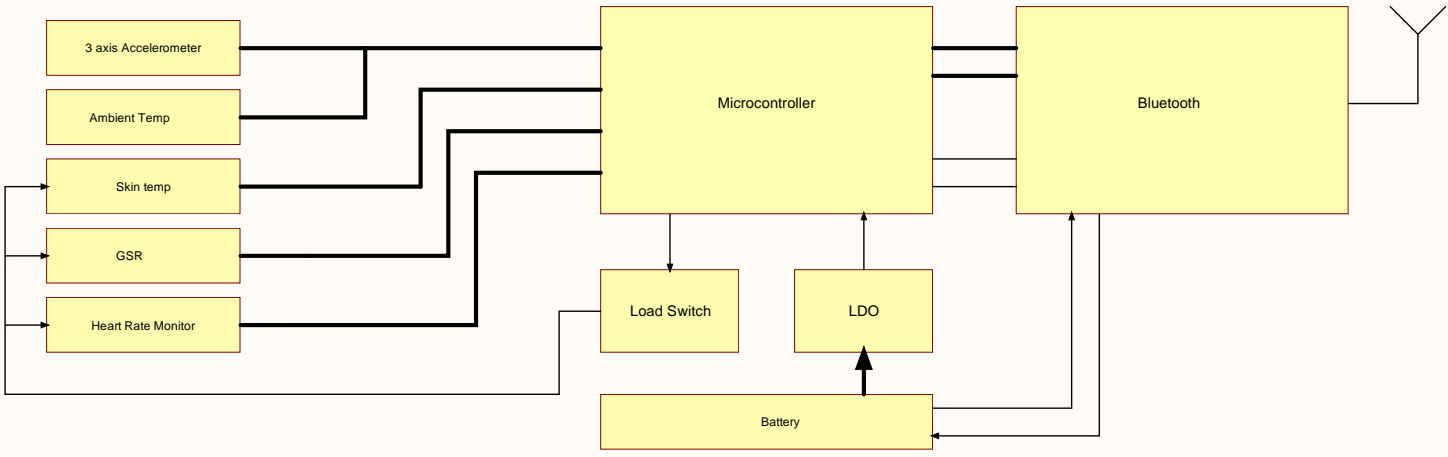
Connector where external electrodes connect to the board. This are in reality just solder pads (through holes) where wires coming from electrodes/sensors will be connected to the board.

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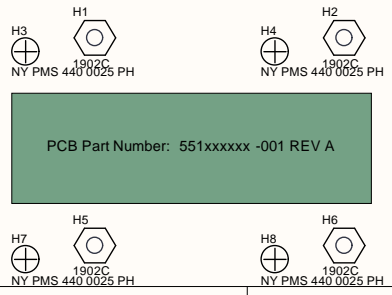
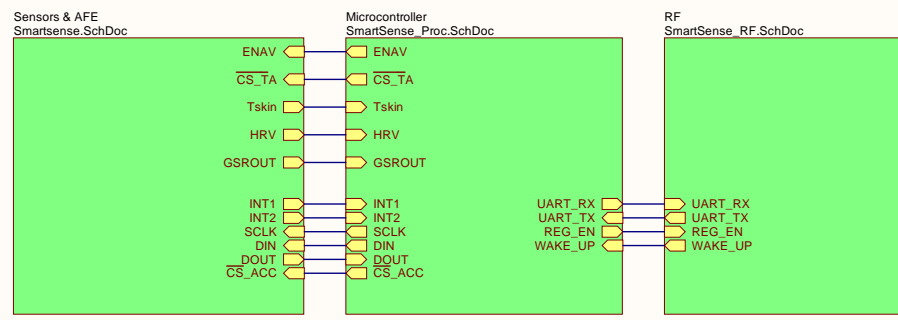
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 Sheet Title: ChangeMe | Sheet: 1 of 1  
 Size: B | Schematic: 870xxxxxx | Rev: X1  
 Assembly Variant: [No Variations]  
 File: Smartsense\_Sch.Doc  
 Contact: <http://www.national.com/support>



<http://www.national.com>  
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Revision History	
Revision	Notes

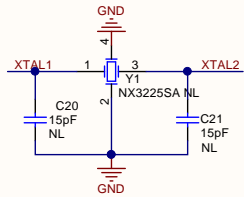
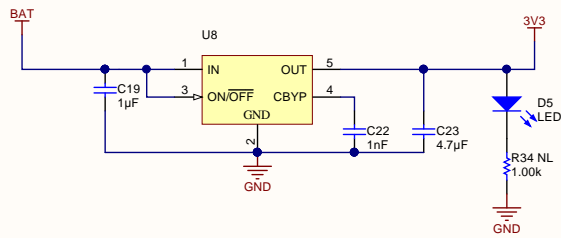


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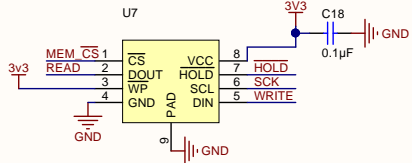
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File: Smartsense_Cover Sheet.SchDoc	
Contact: <a href="http://www.national.com/support">http://www.national.com/support</a>	



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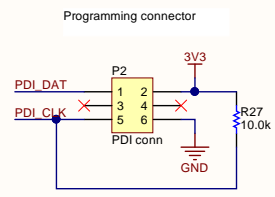


External crystal and load capacitors are optional. Do not populate.



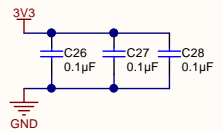
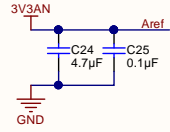
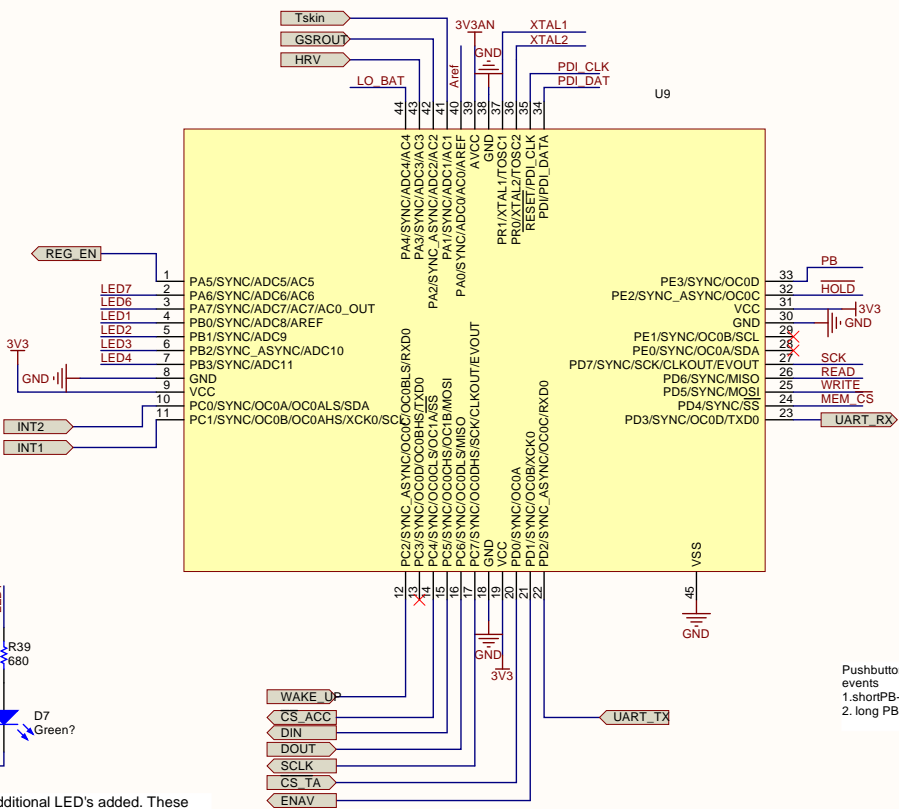
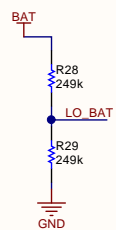
64Mb serial Flash w/ SPI

Write protect option  
WP=1 No protection  
WP=0 Write protection enabled

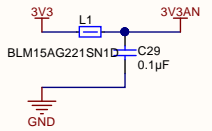


Programming connector

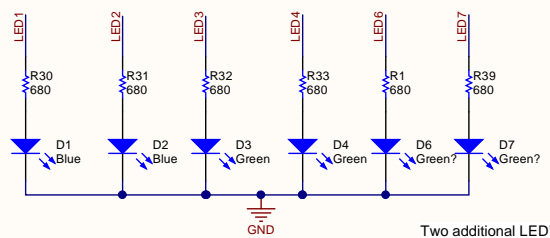
Low battery detection  
Battery Voltage measurement  
LO\_BAT = BAT/2  
Indicate low battery at 3.5V BAT  
-->LO\_BAT=1.75V



Place bypass capacitors as possible of the supply pins

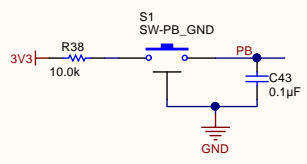


Ferrite bead for filtering,  
220Ohm @100MHz  
Separates analog and digital power.



Two additional LED's added. These are LED6 and LED7. In the original design these were not present (ports PA6&7 were NC).

Pushbutton to trigger some events  
1. shortPB-->sync mode  
2. long PB --> pairing



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Contact: <a href="http://www.national.com/support">http://www.national.com/support</a>	



A

B

C

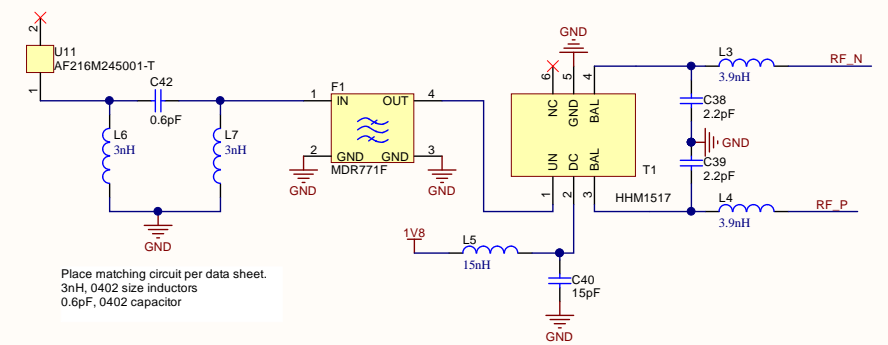
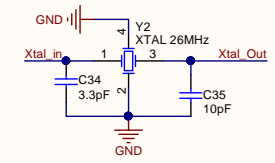
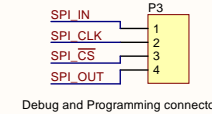
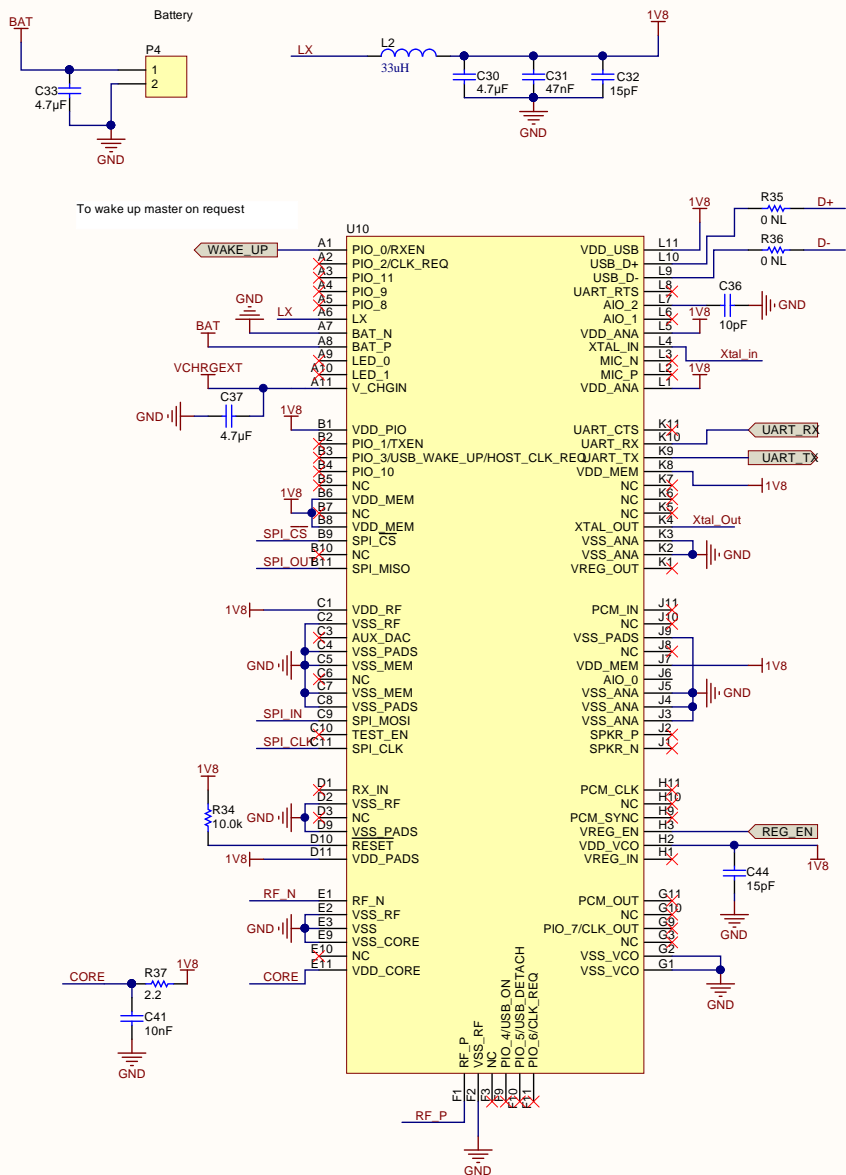
D

A

B

C

D



Place matching circuit per data sheet.  
3nH, 0402 size inductors  
0.6pF, 0402 capacitor

Need to place uUSB connector for external charger.  
Pinout is as follows:  
pin1 --> Vcc  
pin2 --> D-  
pin3 --> D+  
pin4 --> ID  
connect to GND for type A plug  
NC for type B plug  
pin5 --> GND

