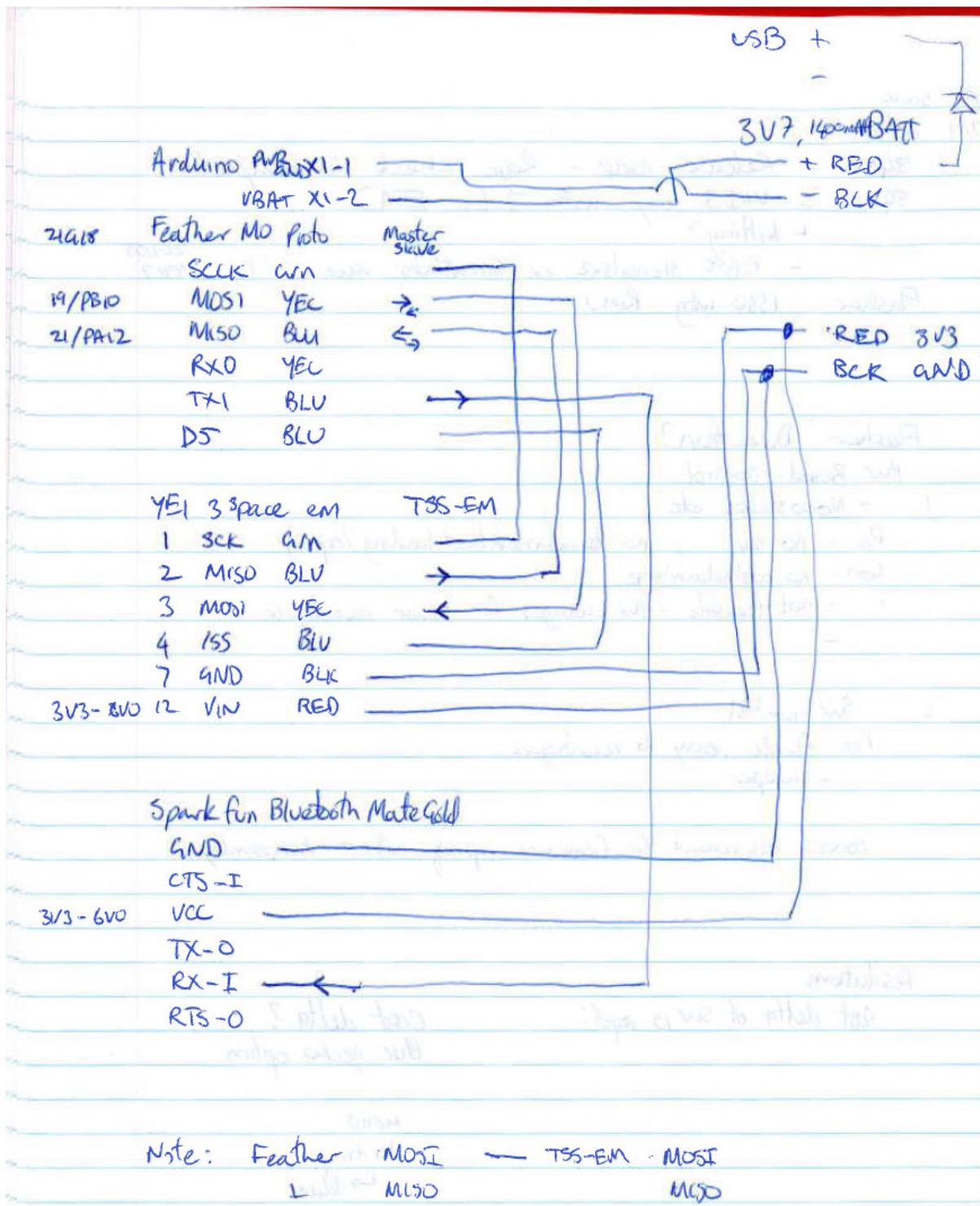
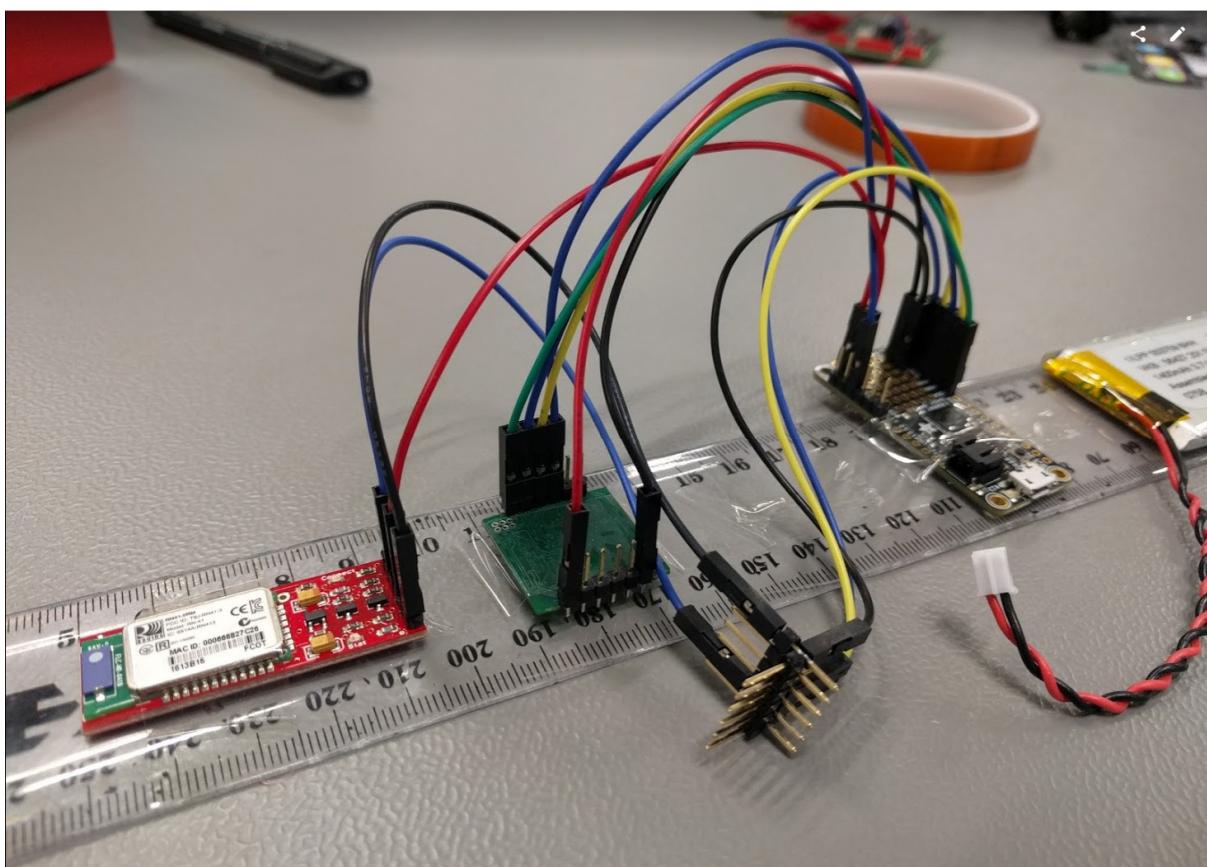
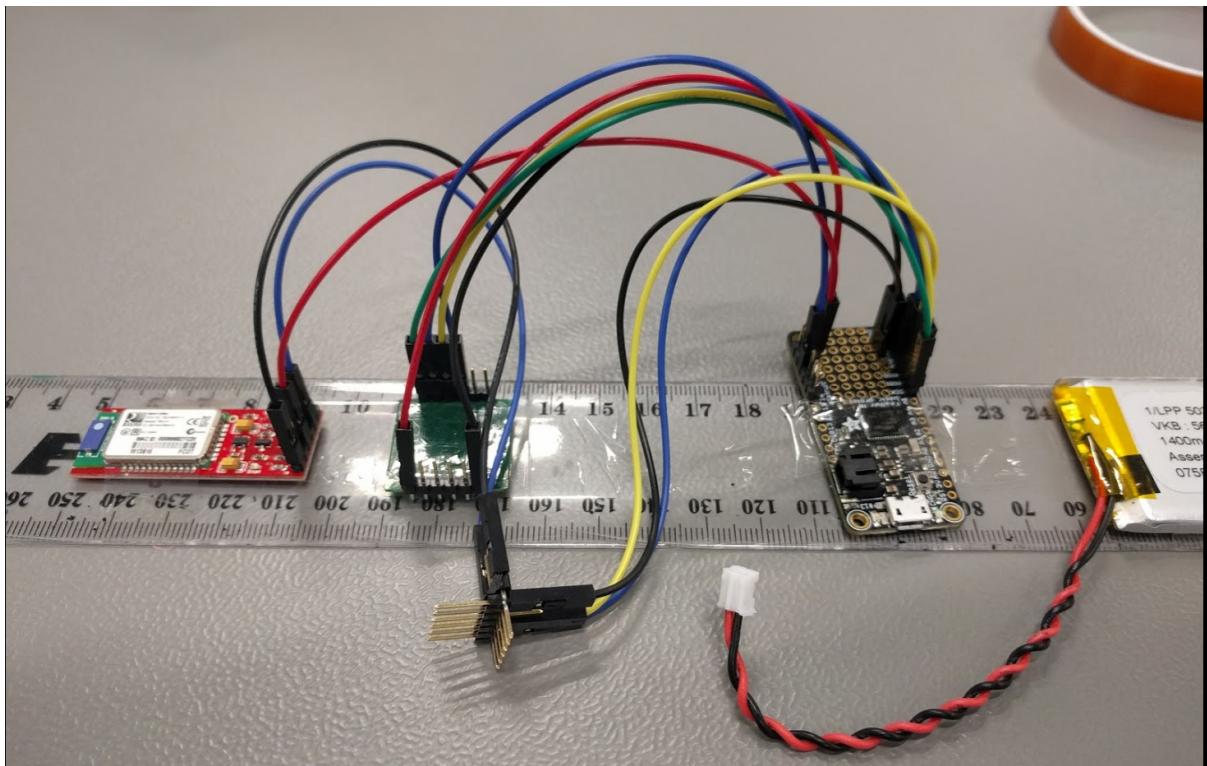
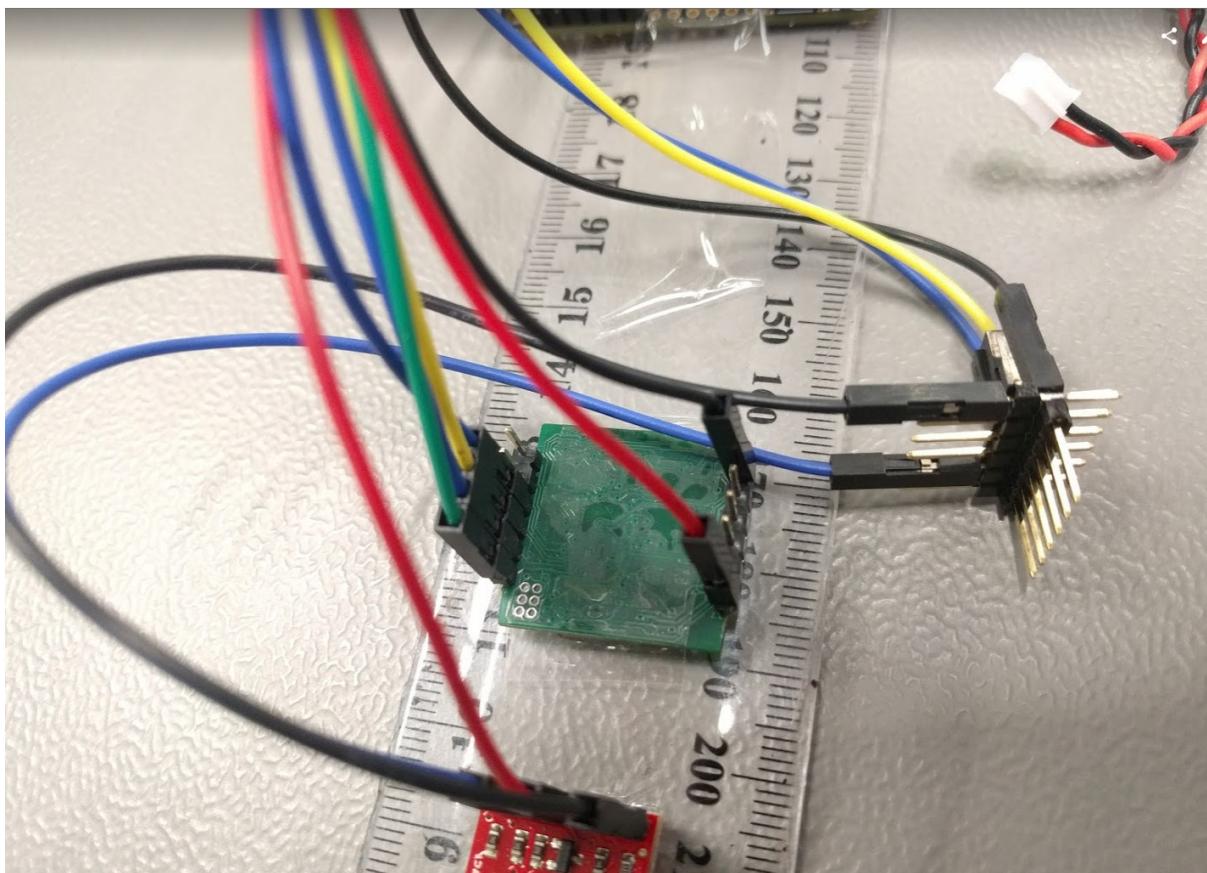


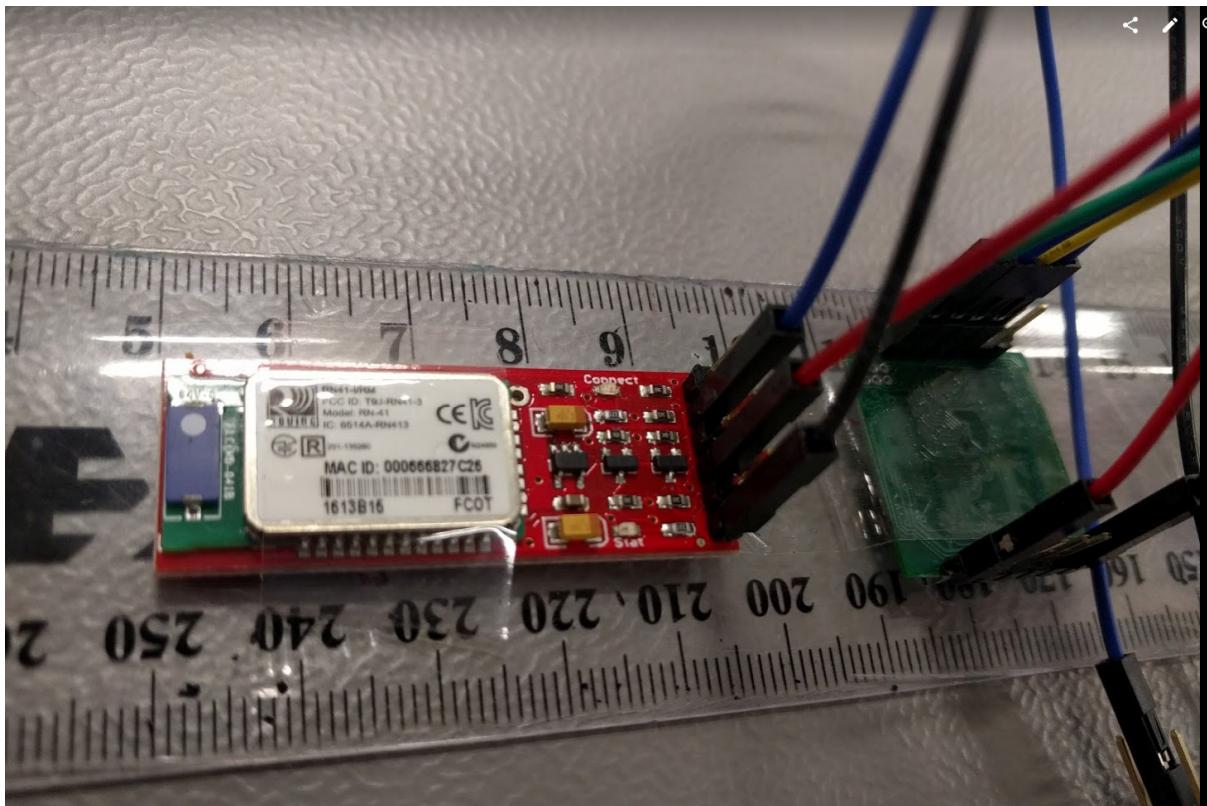
Prototype 1, P1

First Demo wiring, as received, P1









YEI 3-space Module

<https://yostlabs.com/product/3-space-embedded/>

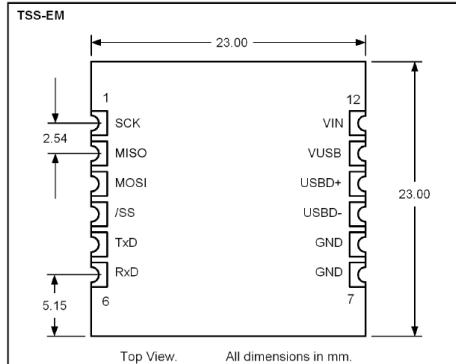
http://yostlabs.com/wp/wp-content/downloads/3-Space/YEI_TSS_Users_Manual_3.0_r1_4Nov2014.pdf

User's Manual

2.3.4 Embedded Sensor

2.3.4.1 Embedded Sensor Hardware Overview

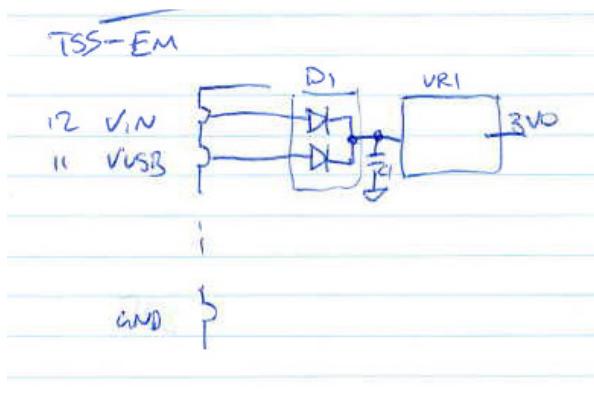
The YEI 3-Space Embedded is packaged as a 23mmx23mmx2.2mm castellated edge SMT module. Alternatively, the module can be through-hole mounted by adding standard 0.1" header strips to the castellated edge pads.



2.3.5.1 Pin Functions

Pad Number	Signal Name	Description
1	SCK	SPI Serial Clock Input to Module.
2	MISO / INT	SPI Master In Slave Out. Output from Module. Can be configured to act as filter update Interrupt.
3	MOSI	SPI Master Out Slave In. Input to Module.
4	/SS	SPI Slave Select Active Low Input to Module.
5	TxD / INT	UART Asynchronous Transmit Data Output from Module. Can be configured to act as filter update Interrupt.
6	RxD	UART Asynchronous Receive Data Input to Module.
7	GND	Ground. Only one ground pad must be connected.
8	GND	Ground. Only one ground pad must be connected. Commonly connected to USB supply ground.
9	USB-	USB Data Minus. Only requires connection during USB mode use.
10	USB+	USB Data Plus. Only requires connection during USB mode use.
11	VUSB	+5v USB Power Supply Input. Only requires connection during USB mode use.
12	VIN	Voltage Input +3.3v ~ +6.0v. Only required when USB power is not being used.

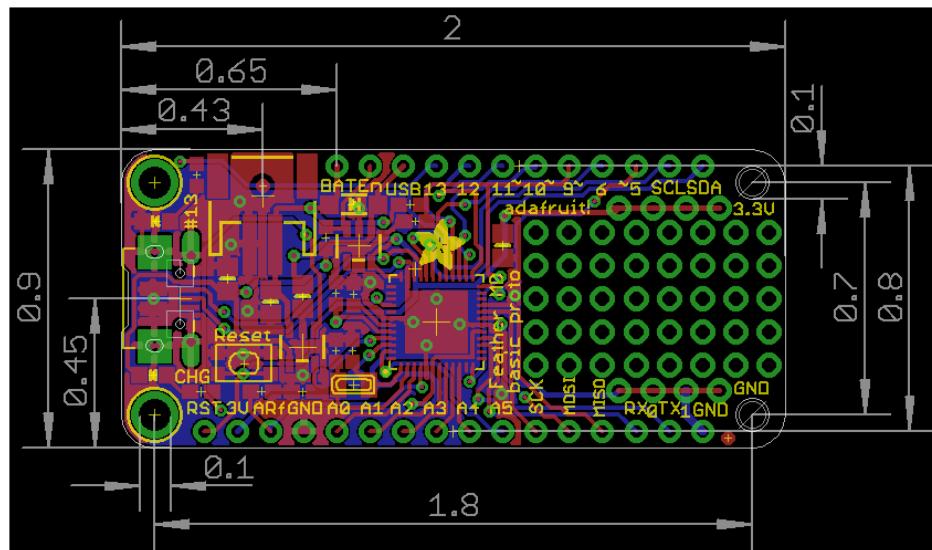
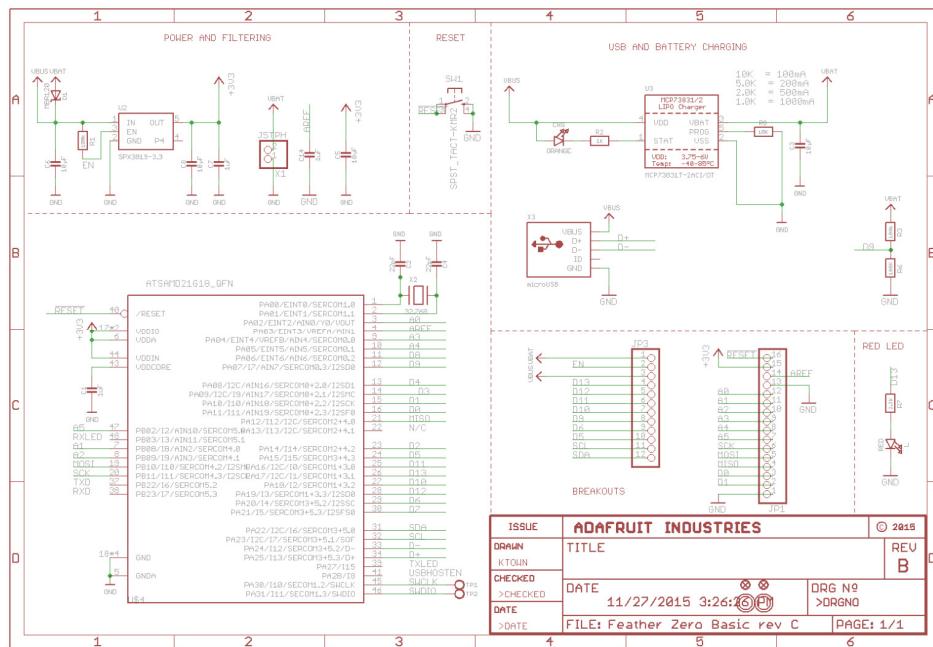
21

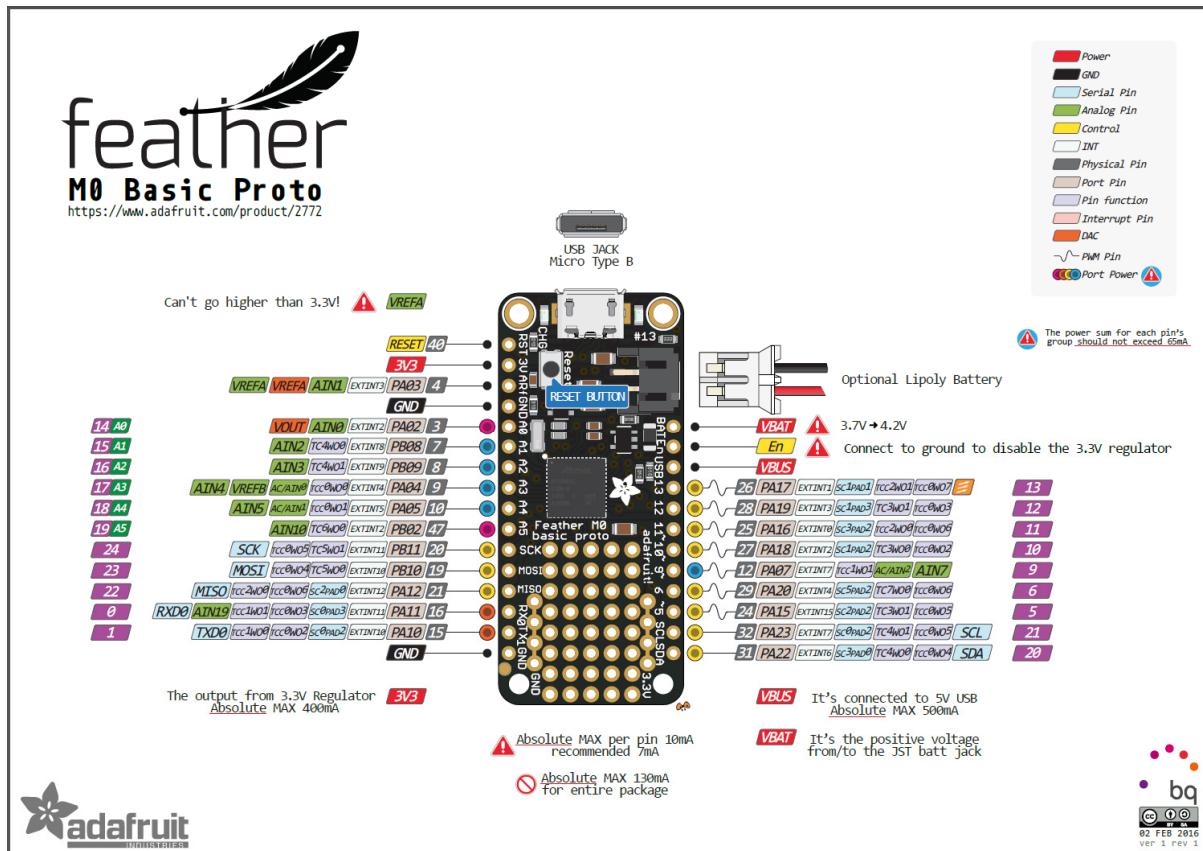


Feather M0 Proto

<https://www.adafruit.com/product/2772>

<https://learn.adafruit.com/adafruit-feather-m0-basic-proto/downloads>



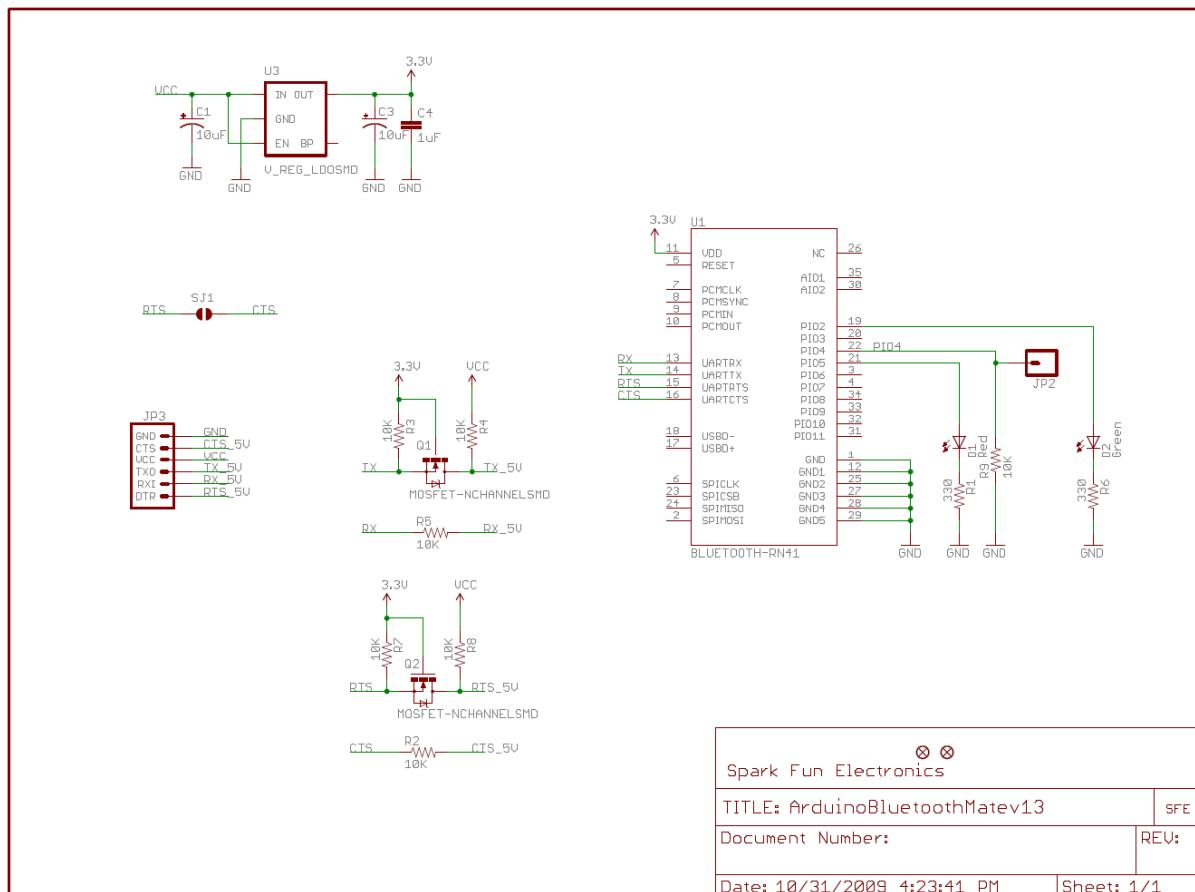


SparkFun Bluetooth Mate Gold

<https://www.sparkfun.com/products/12580>

<https://www.sparkfun.com/datasheets/Wireless/Bluetooth/ArduinoBluetoothMatev13.pdf>

<http://cdn.sparkfun.com/datasheets/Wireless/Bluetooth/Bluetooth-RN-41-DS.pdf>



TTL Interface

<http://www.ftdichip.com/Products/Cables/USBTTLSerial.htm#TTL-232R-5V>

http://www.ftdichip.com/Support/Documents/DataSheets/Cables/DS_TTL-232R_CABLES.pdf



4 TTL-232R-5V and TTL-232R-3V3 Cables

The TTL-232R-5V and TTL-232R-3V3 cables are both terminated by a 6 way, 0.1", Single-In-Line (SIL) connector. The difference between the two cables is that the TTL-232R-5V operates at +5V levels (signals and power supply) and the TTL-232R-3V3 operates at +3.3V levels (signals only, VCC= +5V).

4.1 TTL-232R-5V, TTL-232R-3V3 Connector Pin Out and Mechanical details

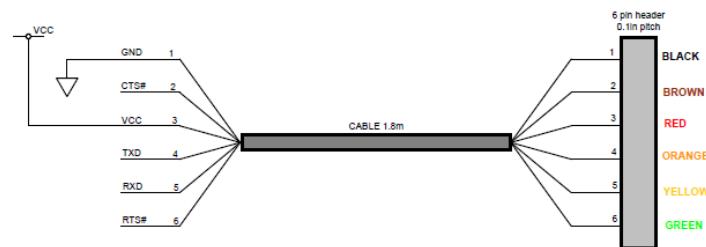


Figure 4.1 TTL-232R-5V and TTL-232R-3V3, 6 Way Header Pin Out

The mechanical details of the 6 way connector are shown in the following diagram

4.2 TTL-232R-5V and TTL-232R-3V3 Cable Signal Descriptions

Header Pin Number	Name	Type	Colour	Description
1	GND	GND	Black	Device ground supply pin.
2	CTS#	Input	Brown	Clear to Send Control input / Handshake signal.
3	VCC	Output	Red	+5V output,

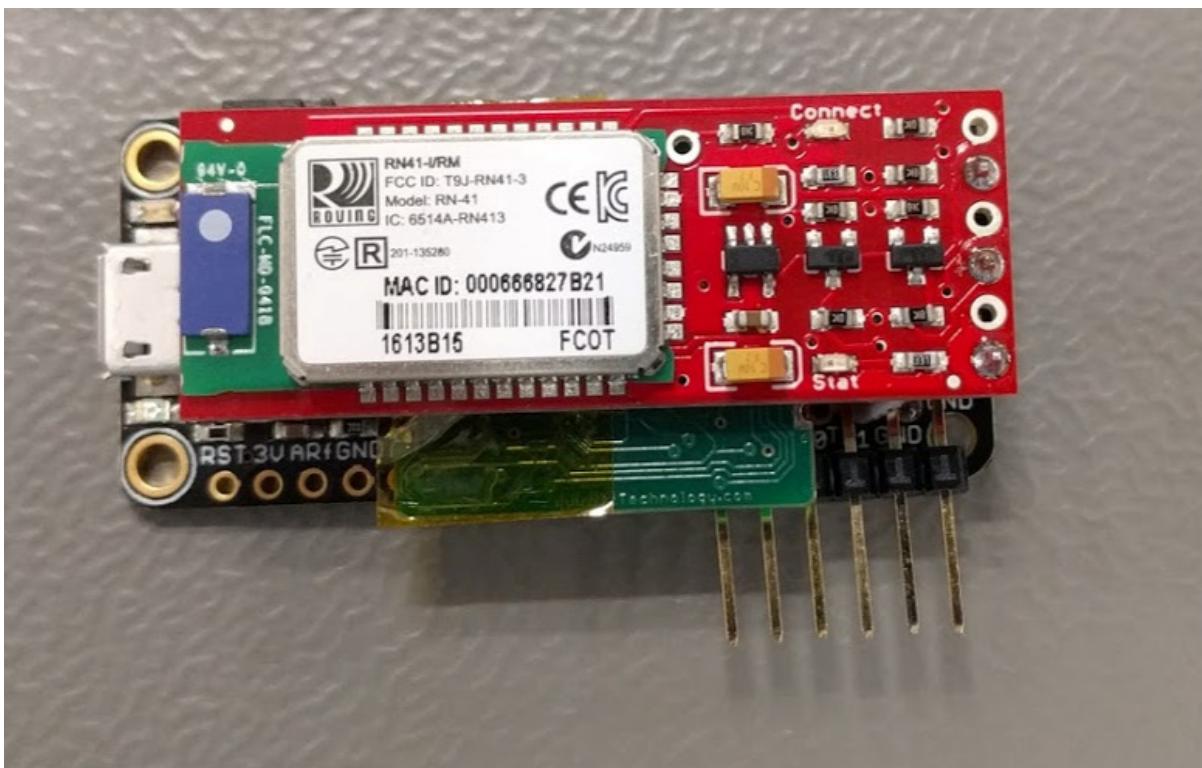


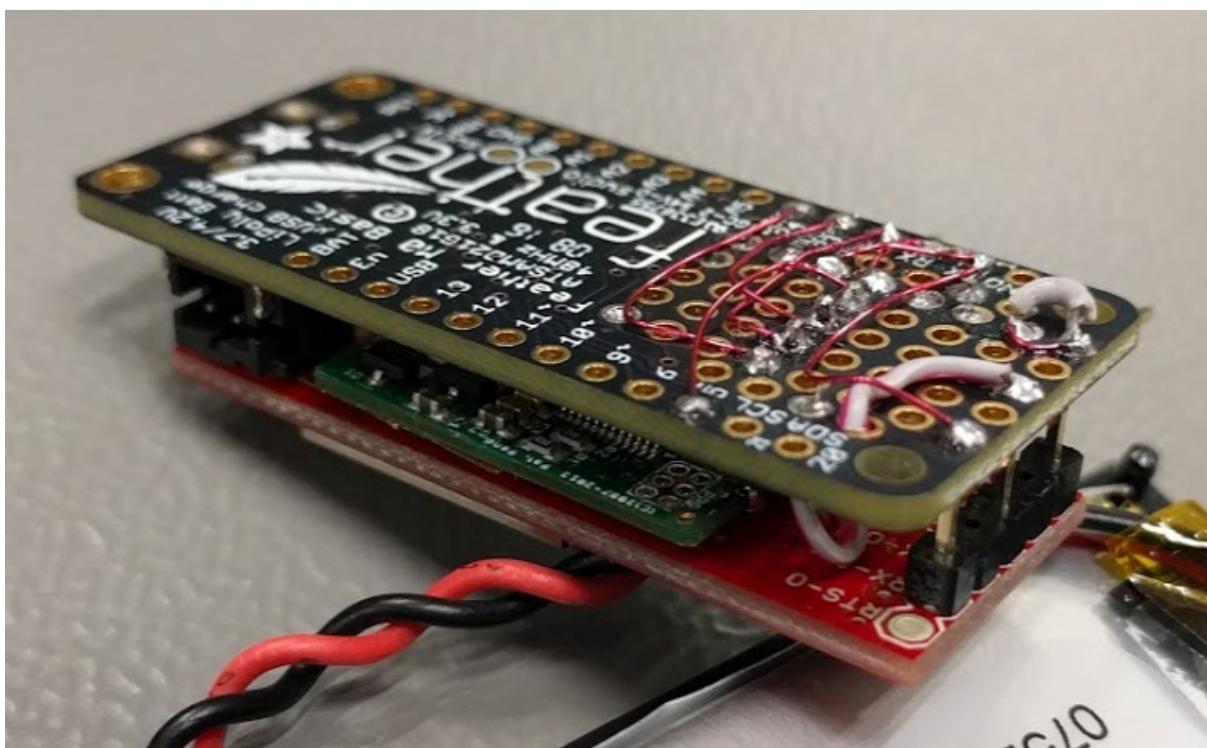
Document Reference No.: FT_000054
TTL-232R TTL TO USB SERIAL CONVERTER RANGE OF CABLES Datasheet Version 2.03
Clearance No.: FTDI# 53

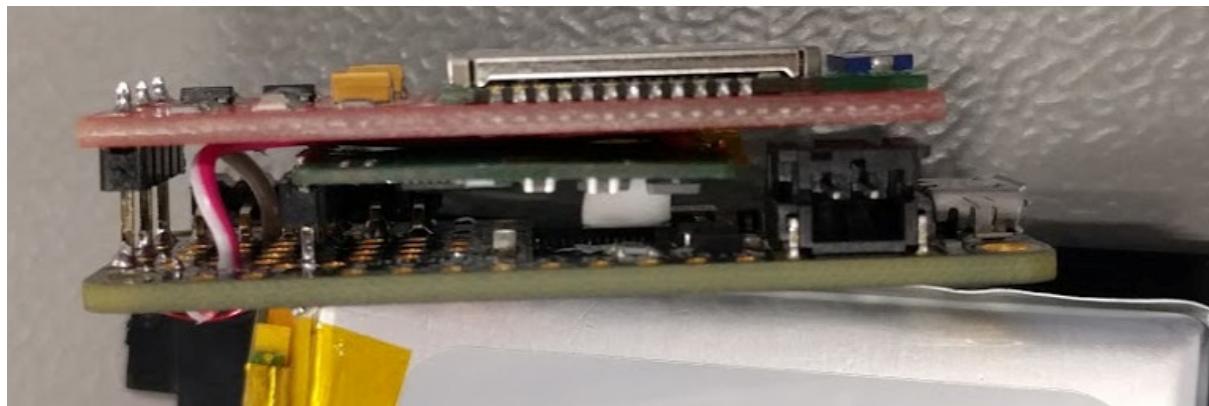
Header Pin Number	Name	Type	Colour	Description
4	TXD	Output	Orange	Transmit Asynchronous Data output.
5	RXD	Input	Yellow	Receive Asynchronous Data input.
6	RTS#	Output	Green	Request To Send Control Output / Handshake signal.

Table 4.1 TTL-232R-5V and TTL-232R-3V3 Cable Signal Descriptions

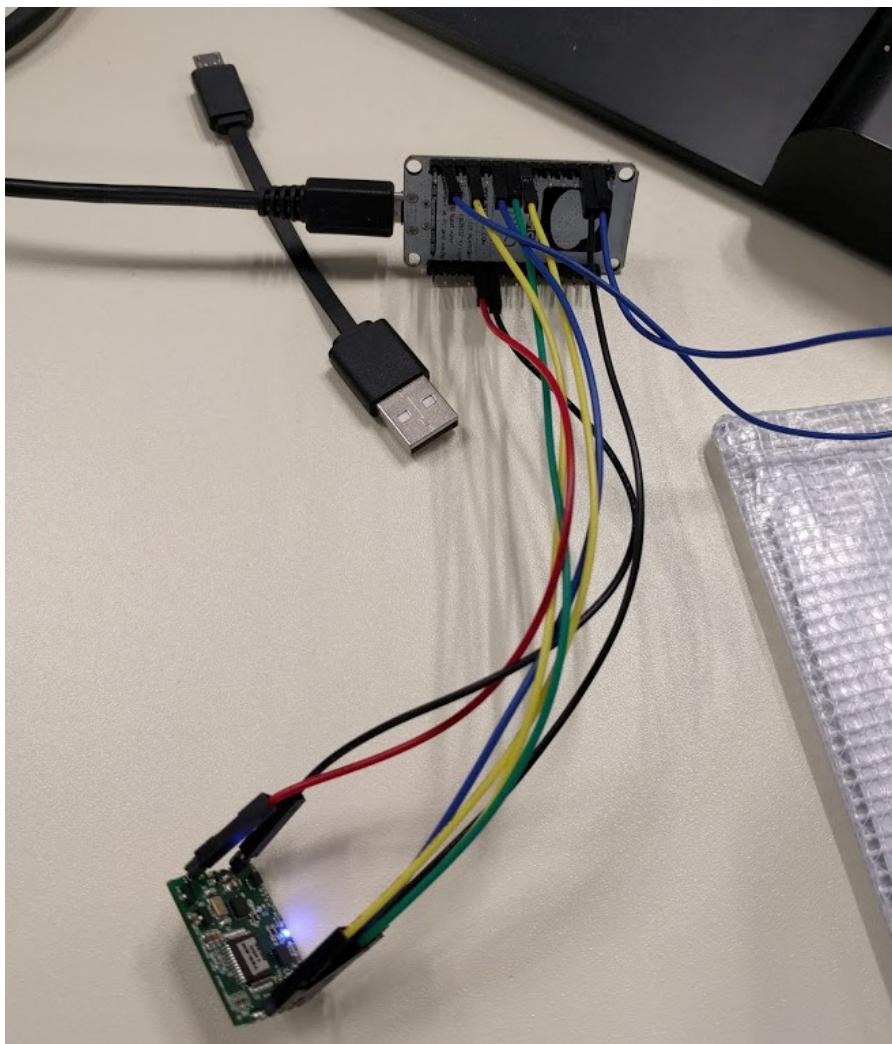
Final Photos of P1





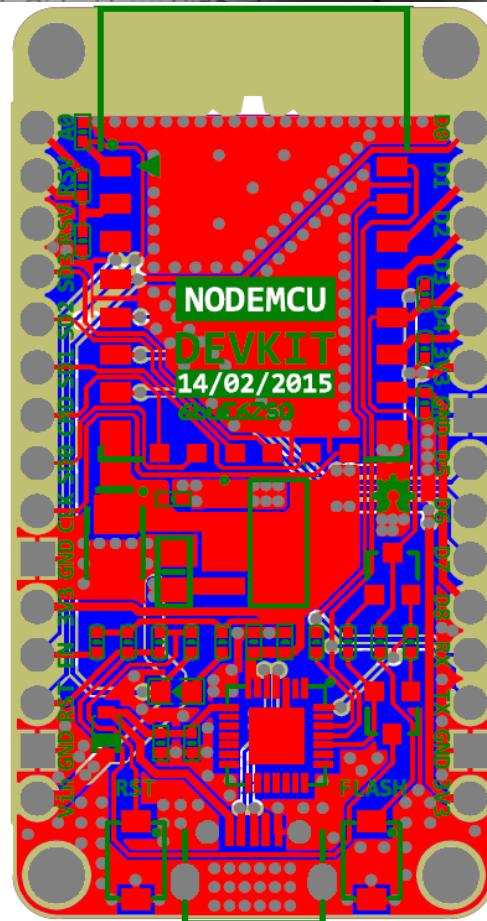
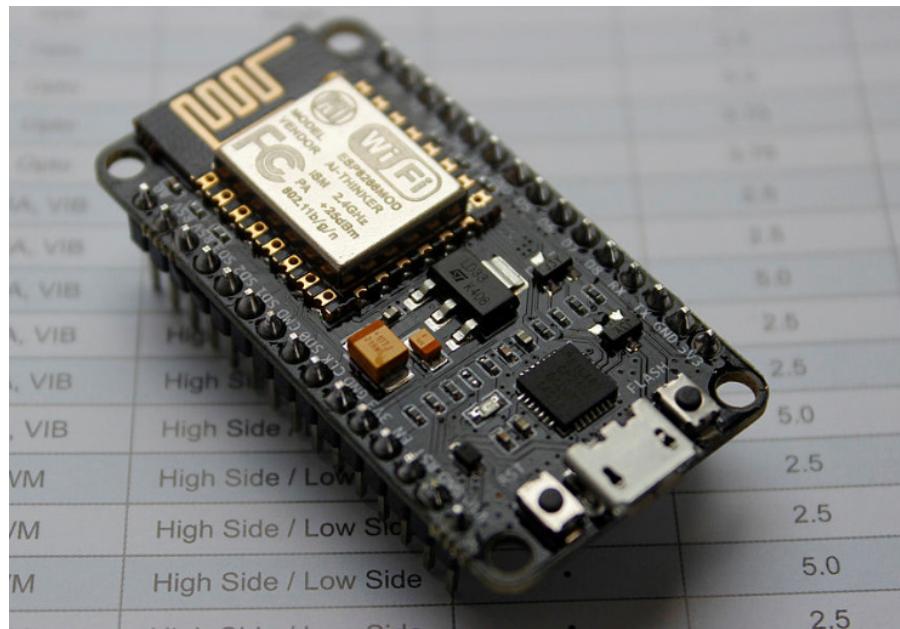


Prototype2, New MCU and WLAN Board - P2



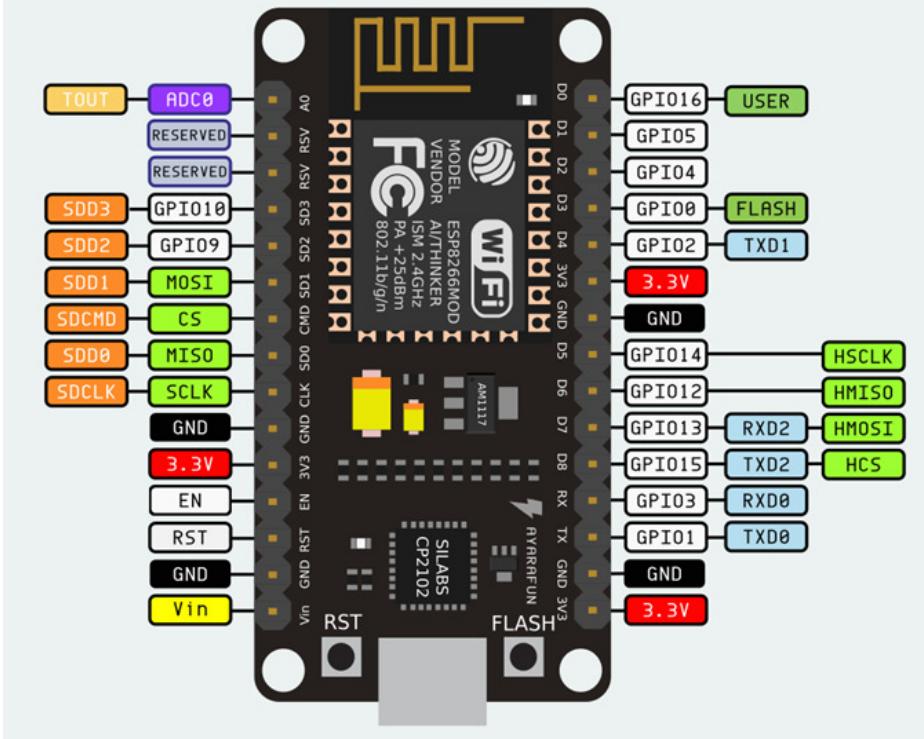
NodeMCU

<https://github.com/nodemcu/nodemcu-devkit-v1.0>

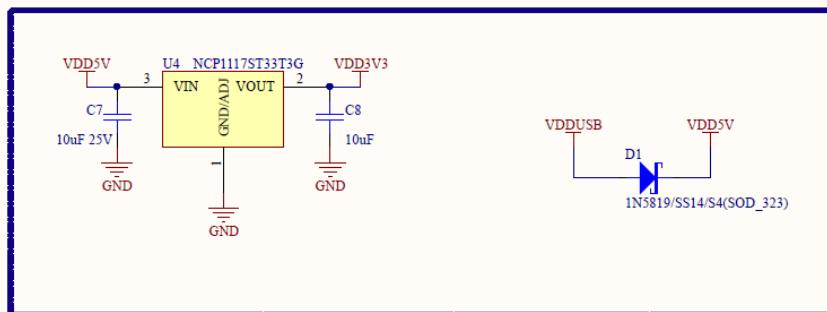


2.5400x4.8260cm

PIN DEFINITION

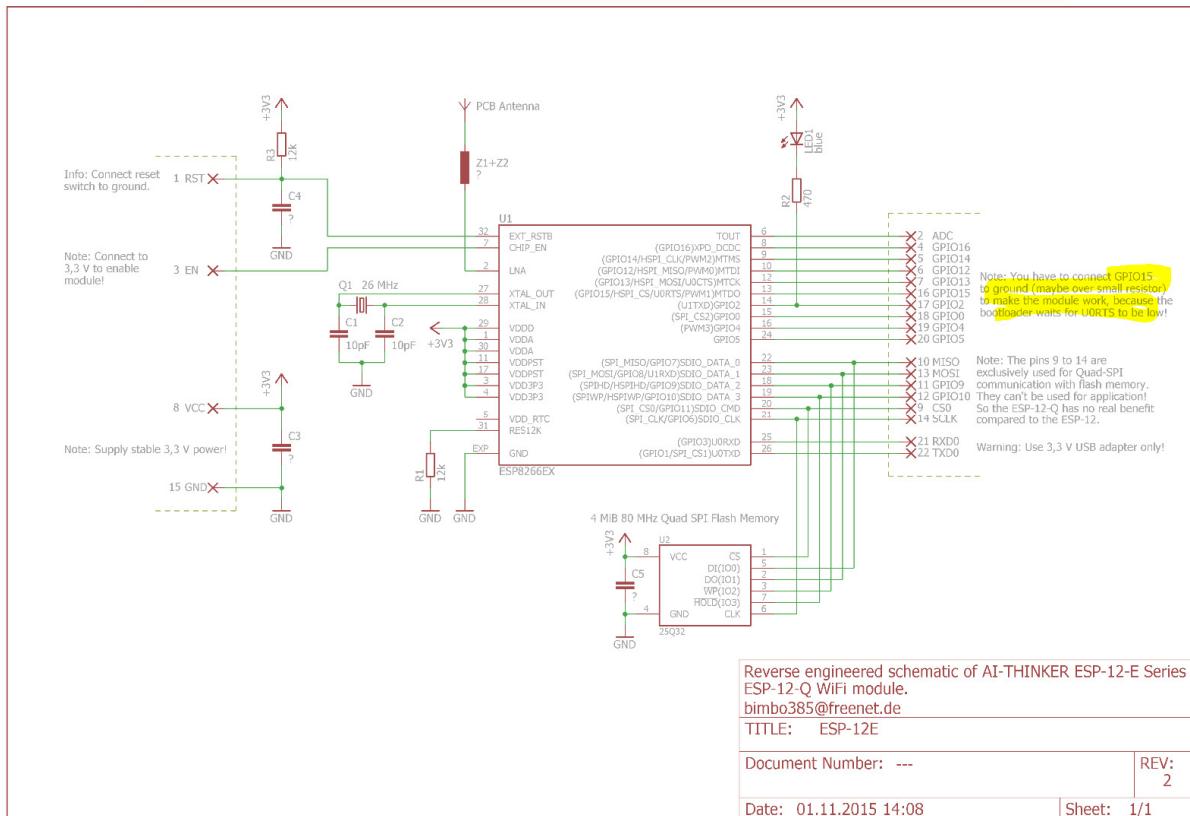
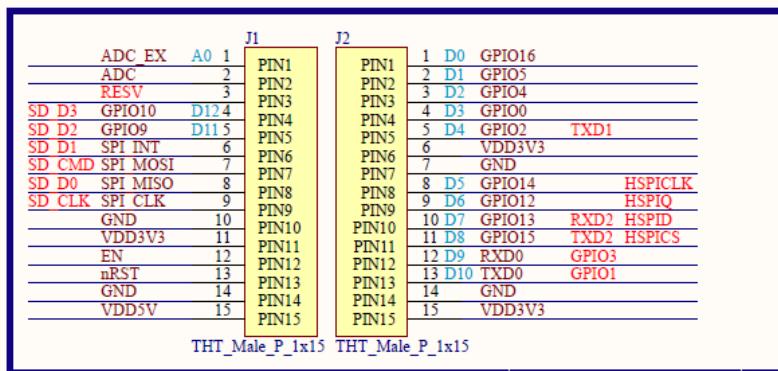


POWER



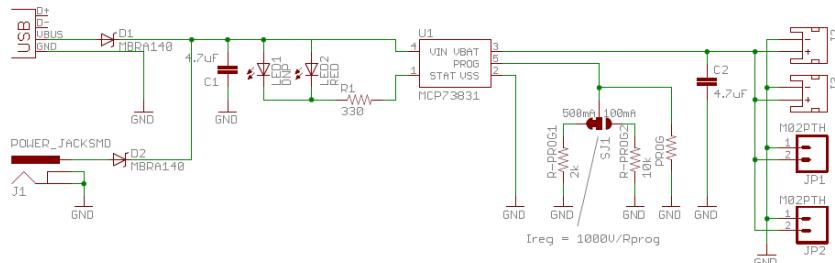
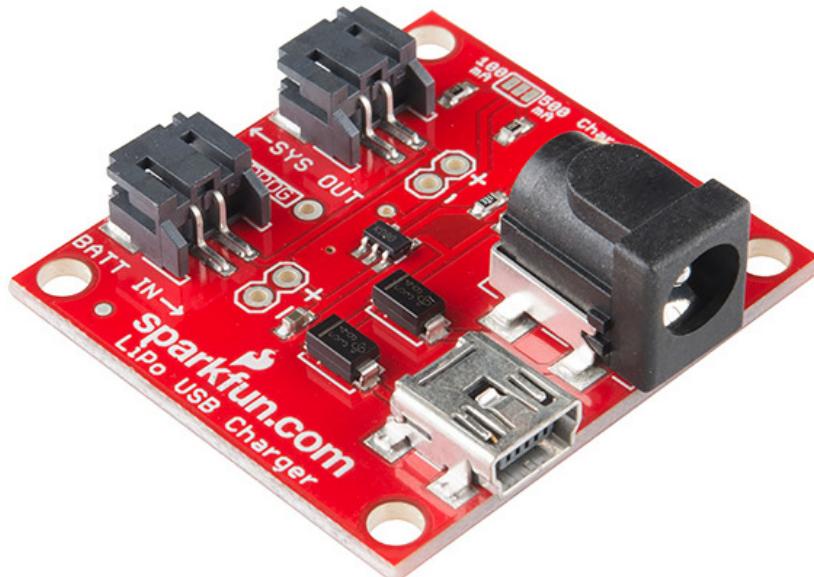
Working Output: 3.3V 800mA
Working Current Limit: 1000mA
Max Current: 1000mA
Max Supply Voltage: 20V
Voltage Dropout: 1.2V@800mA

IO CONN



SparkFun LiPoly Charger

<https://www.sparkfun.com/products/12711>



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<http://creativecommons.org/licenses/by-sa/3.0>

© SFE

TITLE: USB_LiPolyCharger_SingleCell

REV:

U20

Design by: Jim Lindblom

Revised by: Patrick Alberts

Date: 1/21/2014 11:37:34 AM

Sheet: 1/1



LDO Replaced

U4 AS1114 regulator has 1.2V dropout, which when powered by a 3.7V LiPoly will not give a 3.3V regulated output. Replace U4 with an LT1963.

Note different pinout! Rotate component on footprint.

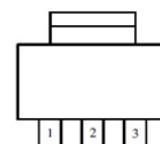


PIN CONNECTIONS

SOT-223 Top View

3 PIN FIXED/ADJUSTABLE
VERSION

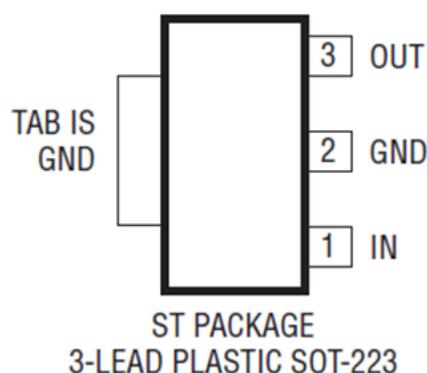
- 1- Ground/Adjust
- 2- V_{OUT}
- 3- V_{IN}



AMS1117

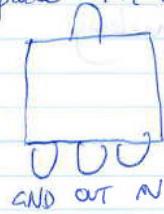
IA LOW DROPOUT VOLTAGE REGULATOR

FRONT VIEW



LT1963

AR Hackathon Mods for WiFi linear LDO vreg, NODEMCU
Replace 1117 equiv

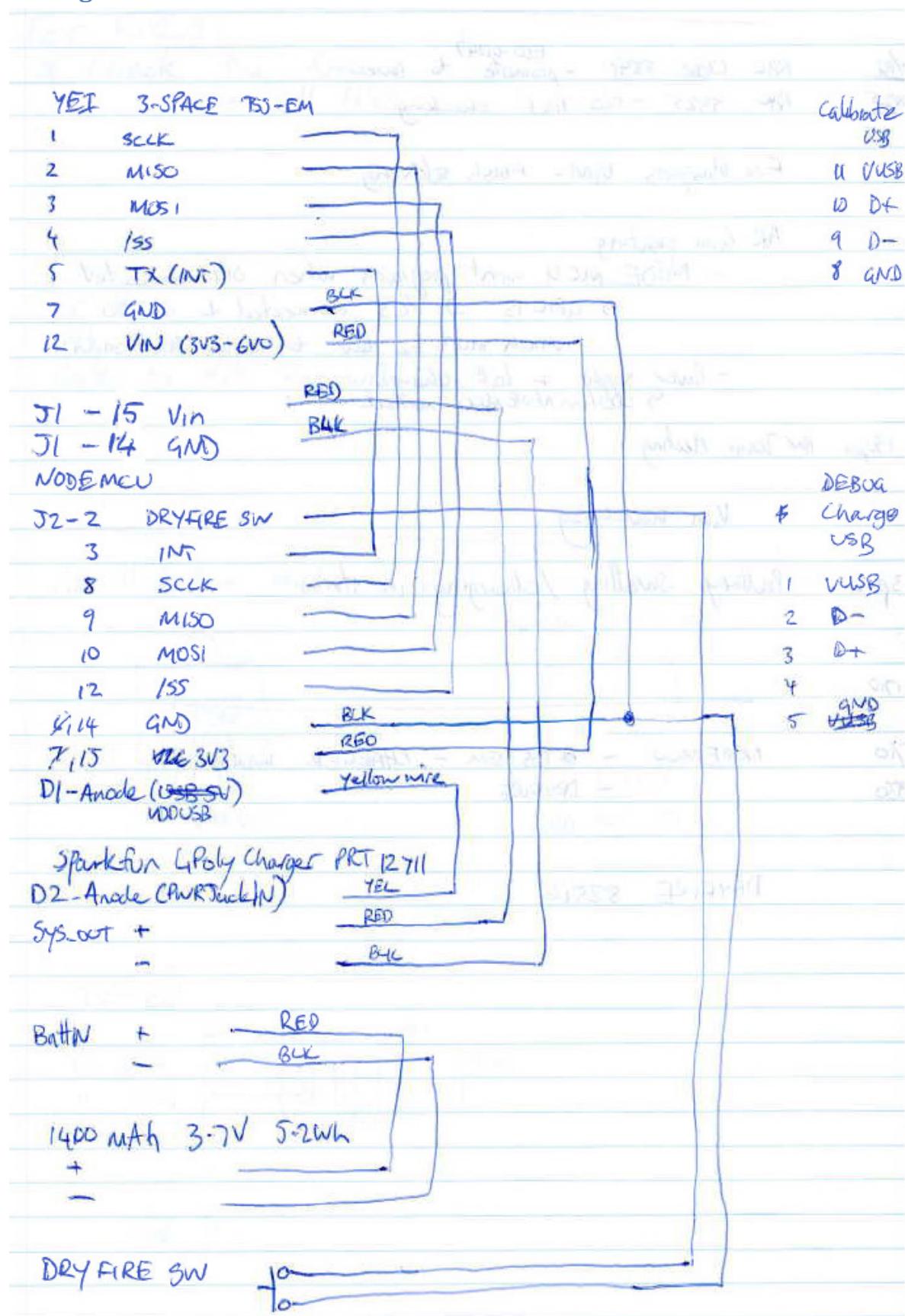


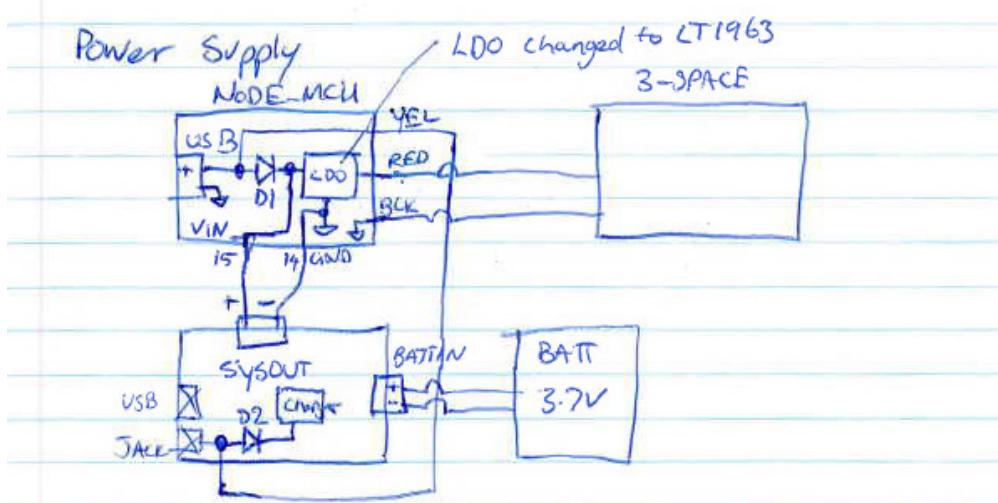
Fit

DryFire assembly 82516

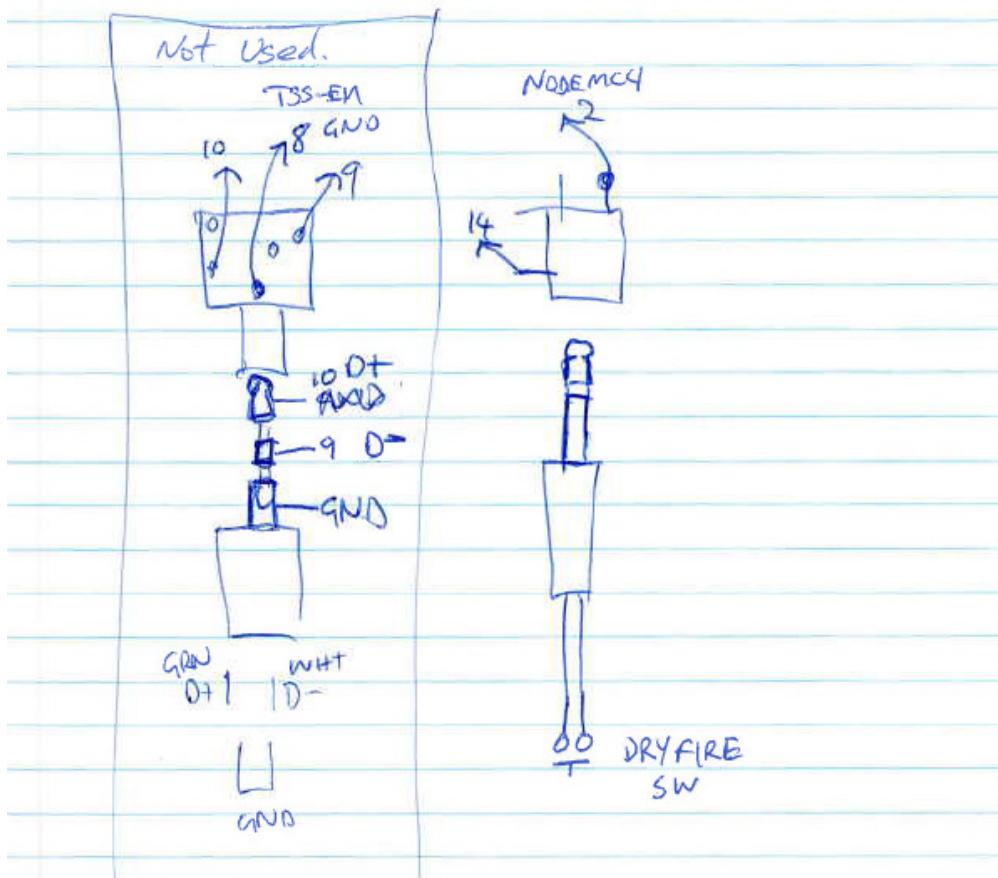
Added 2W 2.5mmplug with a 2.5mmjack on the Node MCU

Wiring





Removed USB + 3.5mm Jack input connectors



Sent with Dylan 5/10/16

