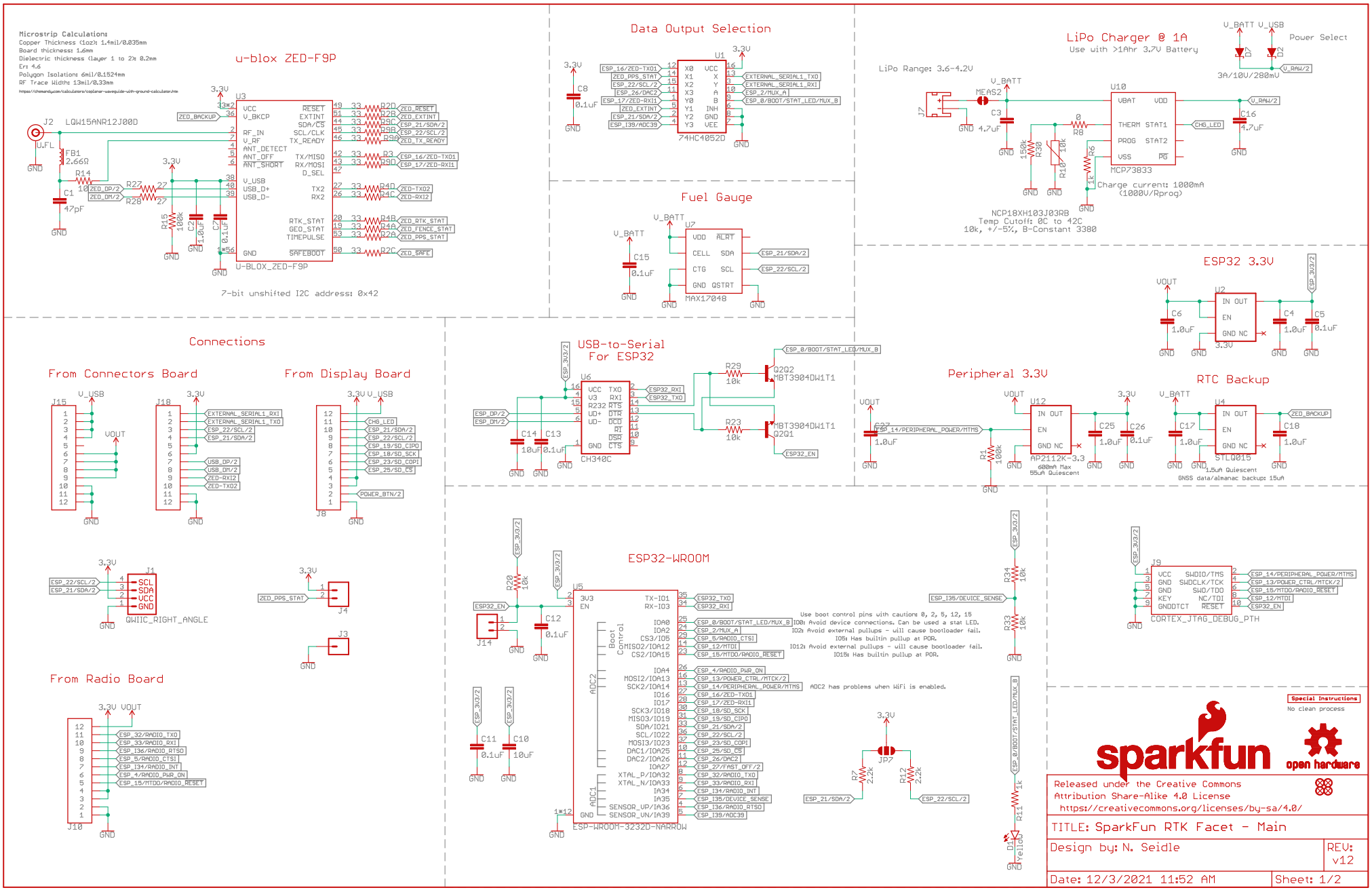
Microstrip Calculations:
Copper Thickness (1oz): 1.4mil/0.035mm
Board thickness: 1.6mm
Dielectric thickness (layer 1 to 2): 0.2mm
Er: 4.6
Polygon Isolation: 6mil/0.1524mm
RF Trace Width: 13mil/0.33mm
https://chemandy.com/calculators/coplanar-waveguide-with-ground-calculator.htm
u-blox ZED-F9P
U-BLOX_ZED-F9P
7-bit unshifted I2C address: 0x42
Data Output Selection
74HC4052D
Fuel Gauge
MAX17048
LiPo Charger @ 1A
Use with >1Ahr 3.7V Battery
LiPo Range: 3.6-4.2V
Power Select
MCP73833
Charge current: 1000mA
(1000V/Rprog)
NCP18XH103J03RB
Temp Cutoff 0C to 42C
10k, +/-5%, B-Constant 3380
ESP32 3.3V
AP2112K-3.3
600mA Max
55uA Quiescent
Peripheral 3.3V
RTC Backup
STL0015
1.5uA Quiescent
GNSS data/almanac backup: 15uA
Connections
From Connectors Board
From Display Board
From Radio Board
QWIIC_RIGHT_ANGLE
USB-to-Serial
For ESP32
CH340C
ESP32-WROOM
ESP-WROOM-3232D-NARROW
Use boot control pins with cautions 0, 2, 5, 12, 15
IO0: Avoid device connections. Can be used a stat LED.
IO2: Avoid external pullups - will cause bootloader fail.
IO5: Has builtin pullup at POR.
IO12: Avoid external pullups - will cause bootloader fail.
IO15: Has builtin pullup at POR.
ADC2 has problems when WiFi is enabled.
CORTEX_JTAG_DEBUG_PTH
Special Instructions
No clean process
sparkfun
open hardware
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https://creativecommons.org/licenses/by-sa/4.0/
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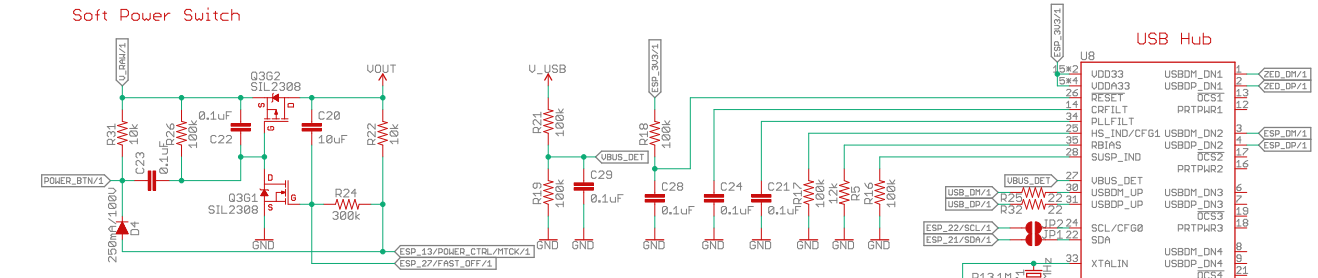
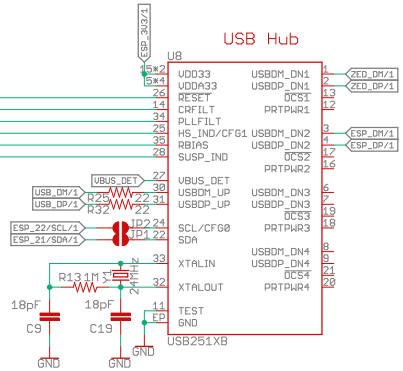
Design by: N. Seidle
REV: v12
Date: 12/3/2021 11:52 AM
Sheet: 1/2

## Soft Power Switch




Power Button on Membrane Overlay

## USB Hub




7-bit unshifted I2C address: 0x2C

Any USB2512, USB2513, or USB2514 can be used

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| | |
|---|---|
| TITLE: SparkFun RTK Facet - Main | |
| Design by: | REV: |
| Date: 12/3/2021 11:52 AM | Sheet: 2/2 |