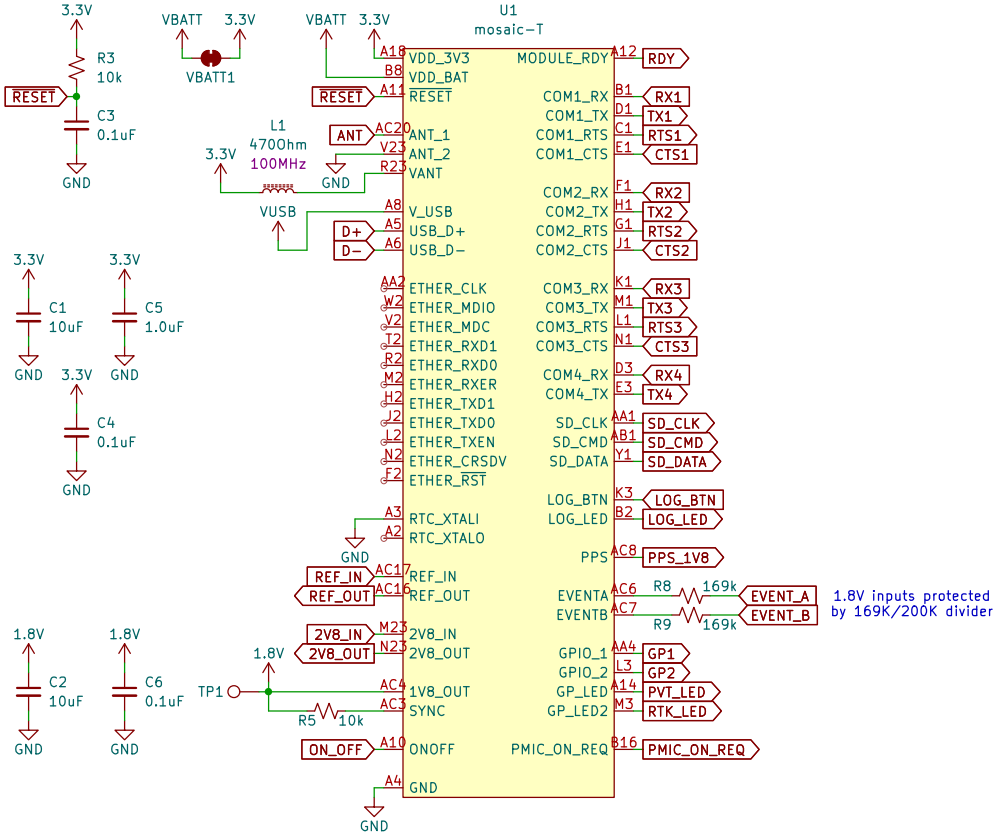
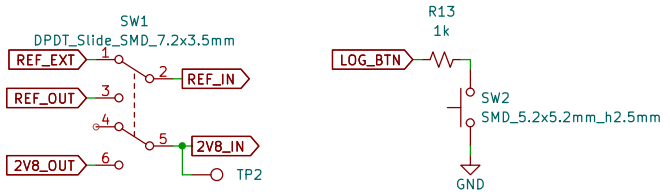
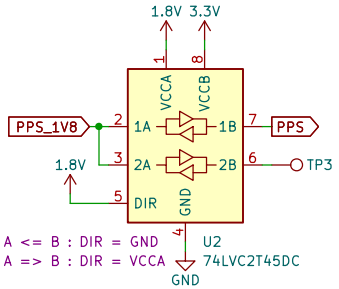
mosaic-T GNSS



Switches



PPS Level-Shifting - 74LVC2T45



Connectors

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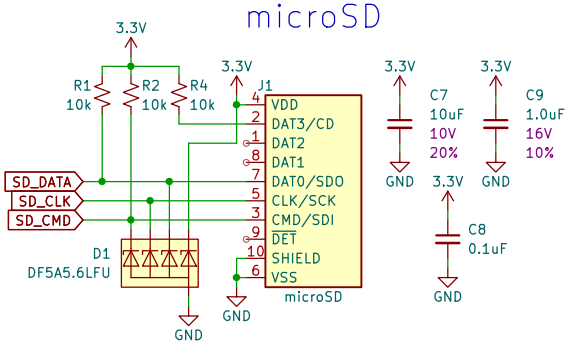
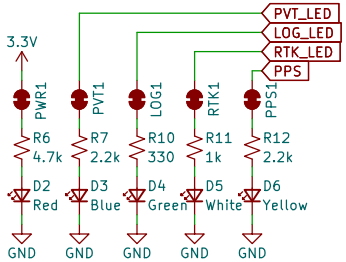
Power

File: Power.kicad_sch

microSD



LEDs



sparkfun

open source hardware

Designed by: P.C.

SparkFun

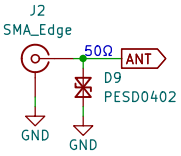
Sheet: /

File: SparkFun_GNSS_mosaic-T.kicad_sch

Title: SparkFun GNSS mosaic-T

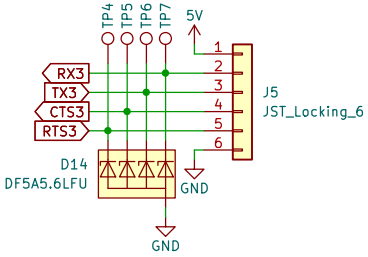
Size: USLetter	Date: 2025-03-10	**Rev: v01**
KiCad E.D.A. 9.0.0		Id: 1/3

GNSS Antenna

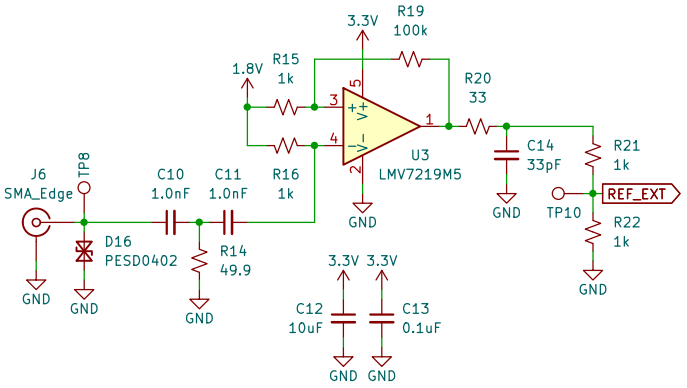


Microstrip Calculation:
Copper Thickness (1oz): 1.4mil/0.035mm
Board thickness: 1.6mm
Dielectric thickness (layer 1 to 2): 0.2mm
Er: 4.6
Polygon Isolation: 6mil/0.1524mm
RF Trace Width: 13mil/0.33mm
https://chemandy.com/calculators/coplanar-waveguide-with-ground-calculator.htm

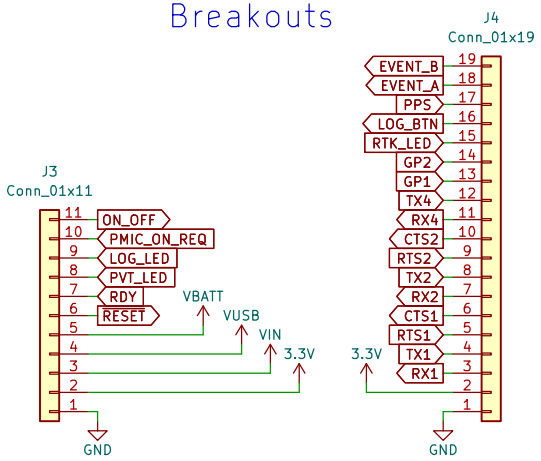
6-pin JST GH Connector



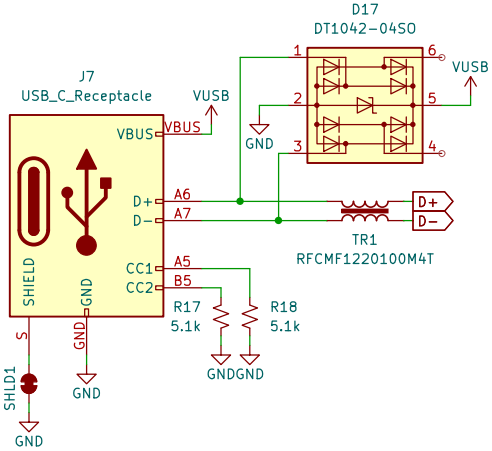
External Reference (10MHz)



Breakouts

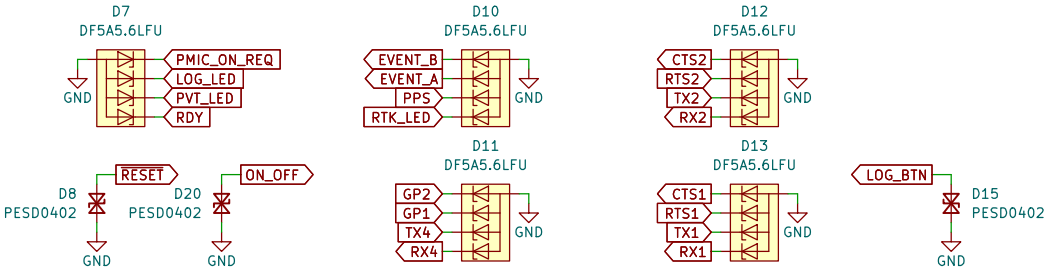


USB



USB Track Impedance: Differential Pair
https://saturnpcb.com/saturn-pcb-toolkit/
Prepreg thickness: 8.3 mil (JLC7628). Er = 4.6
10.5 mil track with 9.5 mil gap (20 mil center to center) = 90 Ohms

ESD Protection



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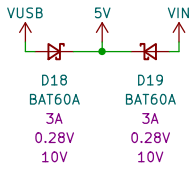
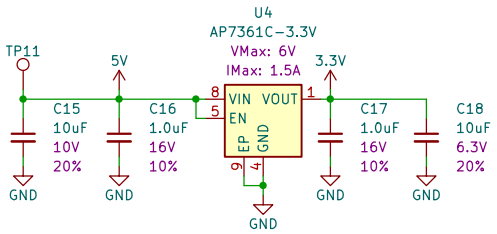
Size: USLetter	Date:
KiCad E.D.A. 9.0.0	Id: 2/3

Power Mux



Voltage Regulation



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