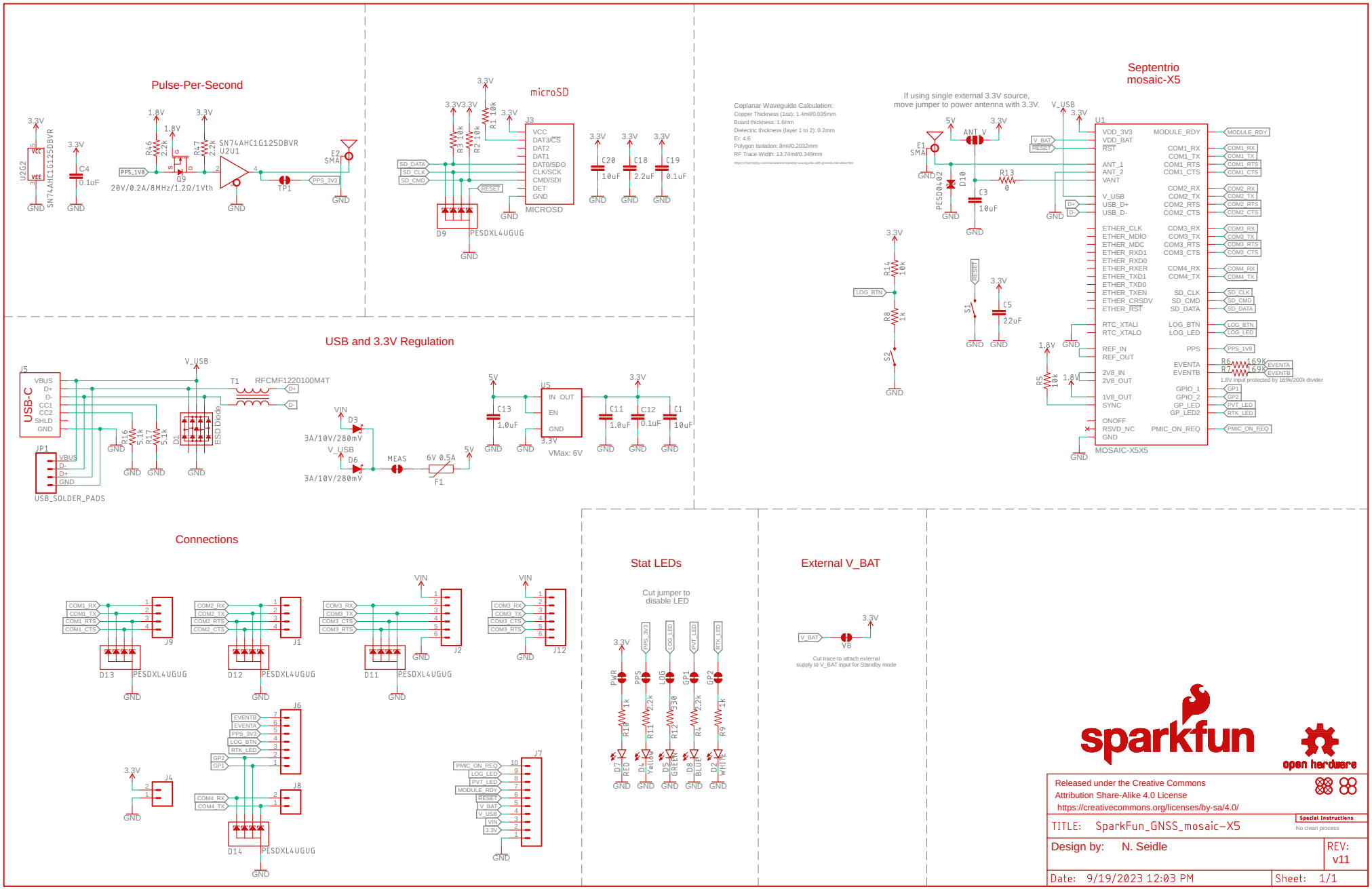
Pulse-Per-Second
SN74AHC1G125DBVR
U2U1
U2G2
C4
0.1uF
R46
2.2k
R47
2.2k
D9
20V/0.2A/8MHz/1.2Ω/1Vth
PPS_1V8
PPS_3V3
TP1
E2
SMA
microSD
J3
VCC
DAT3/CS
DAT2
DAT1
DAT0/SDO
CLK/SCK
CMD/SDI
DET
GND
MICROSD
SD_DATA
SD_CLK
SD_CMD
RESET
R3 10k
R2 10k
R1 10k
C20
10uF
C18
2.2uF
C19
0.1uF
D9
PESDXL4UGUG
Coplanar Waveguide 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: 8mil/0.2032mm
RF Trace Width: 13.74mil/0.349mm
https://chemandy.com/calculators/coplanar-waveguide-with-ground-calculator.htm
Septentrio
mosaic-X5
If using single external 3.3V source,
move jumper to power antenna with 3.3V.
E1
SMA
ANT_V
PESD0402
D10
R13
0
C3
10uF
U1
VDD_3V3
VDD_BAT
RST
ANT_1
ANT_2
VANT
V_USB
USB_D+
USB_D-
ETHER_CLK
ETHER_MDIO
ETHER_MDC
ETHER_RXD1
ETHER_RXD0
ETHER_RXER
ETHER_TXD1
ETHER_TXD0
ETHER_TXEN
ETHER_CRSDV
ETHER_RST
RTC_XTALI
RTC_XTALO
REF_IN
REF_OUT
2V8_IN
2V8_OUT
1V8_OUT
SYNC
ONOFF
RSVD_NC
GND
MODULE_RDY
COM1_RX
COM1_TX
COM1_RTS
COM1_CTS
COM2_RX
COM2_TX
COM2_RTS
COM2_CTS
COM3_RX
COM3_TX
COM3_RTS
COM3_CTS
COM4_RX
COM4_TX
SD_CLK
SD_CMD
SD_DATA
LOG_BTN
LOG_LED
PPS
EVENTA
EVENTB
GPIO_1
GPIO_2
GP_LED
GP_LED2
PMIC_ON_REQ
MOSAIC-X5X5
R14 10k
R8 1k
S1
S2
C5
22uF
R5 10k
R6 169k
R7 169k
1.8V Input protected by 169k/200k divider
USB and 3.3V Regulation
USB-C
J5
VBUS
D+
D-
CC1
CC2
SHLD
GND
J1
USB_SOLDER_PADS
T1
RFCMF1220100M4T
R16 5.1k
R17 5.1k
D1
ESD Diode
D3
3A/10V/280mV
D6
3A/10V/280mV
MEAS
6V 0.5A
F1
U5
IN OUT
EN
GND
VMax: 6V
C13
1.0uF
C11
1.0uF
C12
0.1uF
C1
10uF
Connections
J9
J1
J2
J12
J6
J8
J7
J4
D13
D12
D11
D14
PESDXL4UGUG
Stat LEDs
Cut jumper to
disable LED
PWR
PPS
LOG
GP1
GP2
R10 1k
R11 2.2k
R12 330
R4 2.2k
R9 1k
D7 RED
D4 Yellow
D5 GREEN
D8 BLUE
D2 WHITE
External V_BAT
VB
Cut trace to attach external
supply to V_BAT input for Standby mode
sparkfun
open hardware
Released under the Creative Commons
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https://creativecommons.org/licenses/by-sa/4.0/
TITLE: SparkFun_GNSS_mosaic-X5
Special Instructions
No clean process
Design by: N. Seidle
REV: v11
Date: 9/19/2023 12:03 PM
Sheet: 1/1