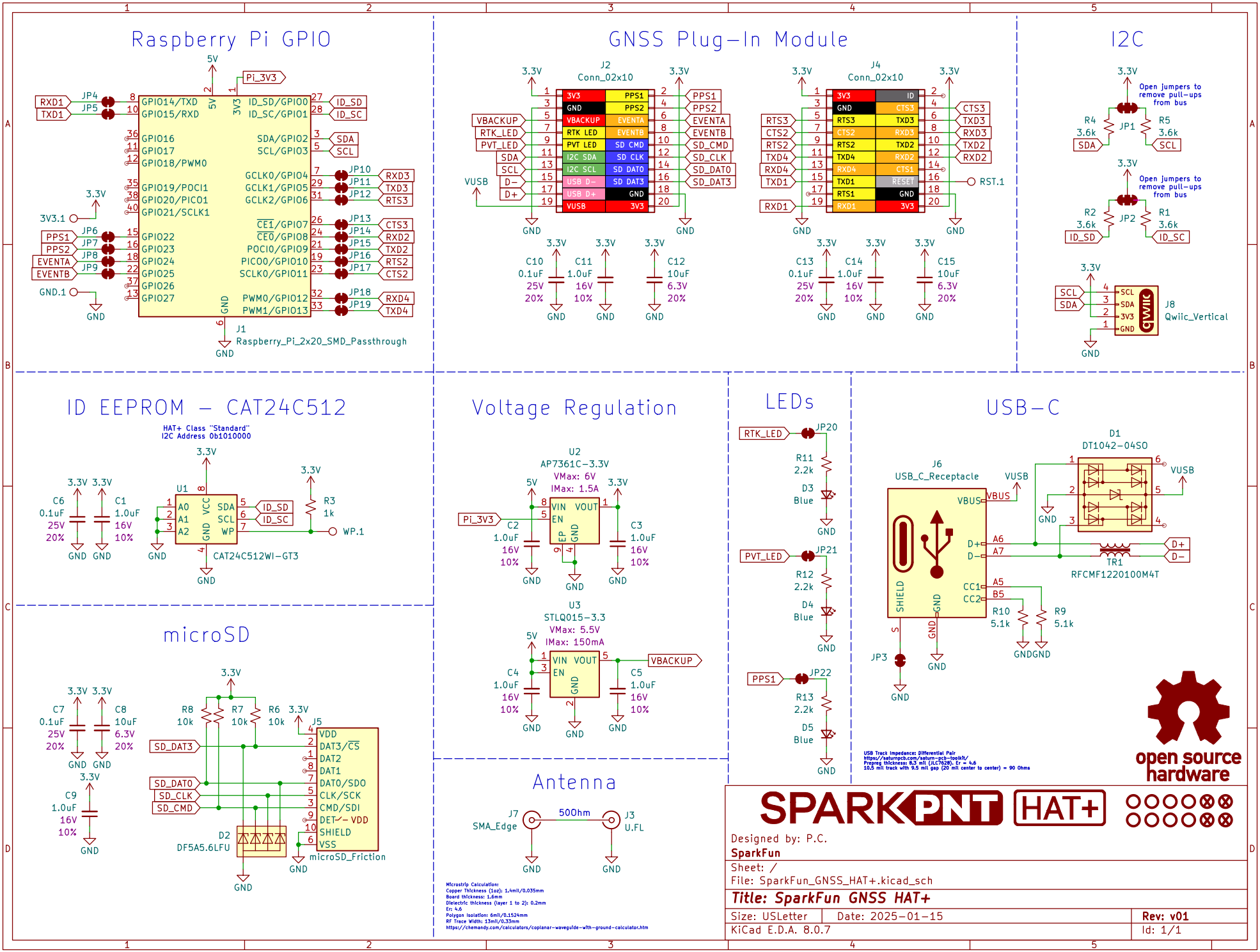
Raspberry Pi GPIO
J1
Raspberry_Pi_2x20_SMD_Passthrough
GNSS Plug-In Module
J2
Conn_02x10
J4
Conn_02x10
I2C
Open jumpers to remove pull-ups from bus
J8
Qwiic_Vertical
ID EEPROM – CAT24C512
HAT+ Class "Standard"
I2C Address 0b1010000
U1
CAT24C512WI-GT3
Voltage Regulation
U2
AP7361C-3.3V
VMax: 6V
IMax: 1.5A
U3
STLQ015-3.3
VMax: 5.5V
IMax: 150mA
LEDs
USB-C
J6
USB_C_Receptacle
D1
DT1042-04SO
TR1
RFCMF1220100M4T
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
microSD
J5
microSD_Friction
D2
DF5A5.6LFU
Antenna
J7
SMA_Edge
50Ohm
J3
U.FL
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
open source hardware
SPARKPNT HAT+
Designed by: P.C.
SparkFun
Sheet: /
File: SparkFun_GNSS_HAT+.kicad_sch
Title: SparkFun GNSS HAT+
Size: USLetter
Date: 2025-01-15
Rev: v01
KiCad E.D.A. 8.0.7
Id: 1/1