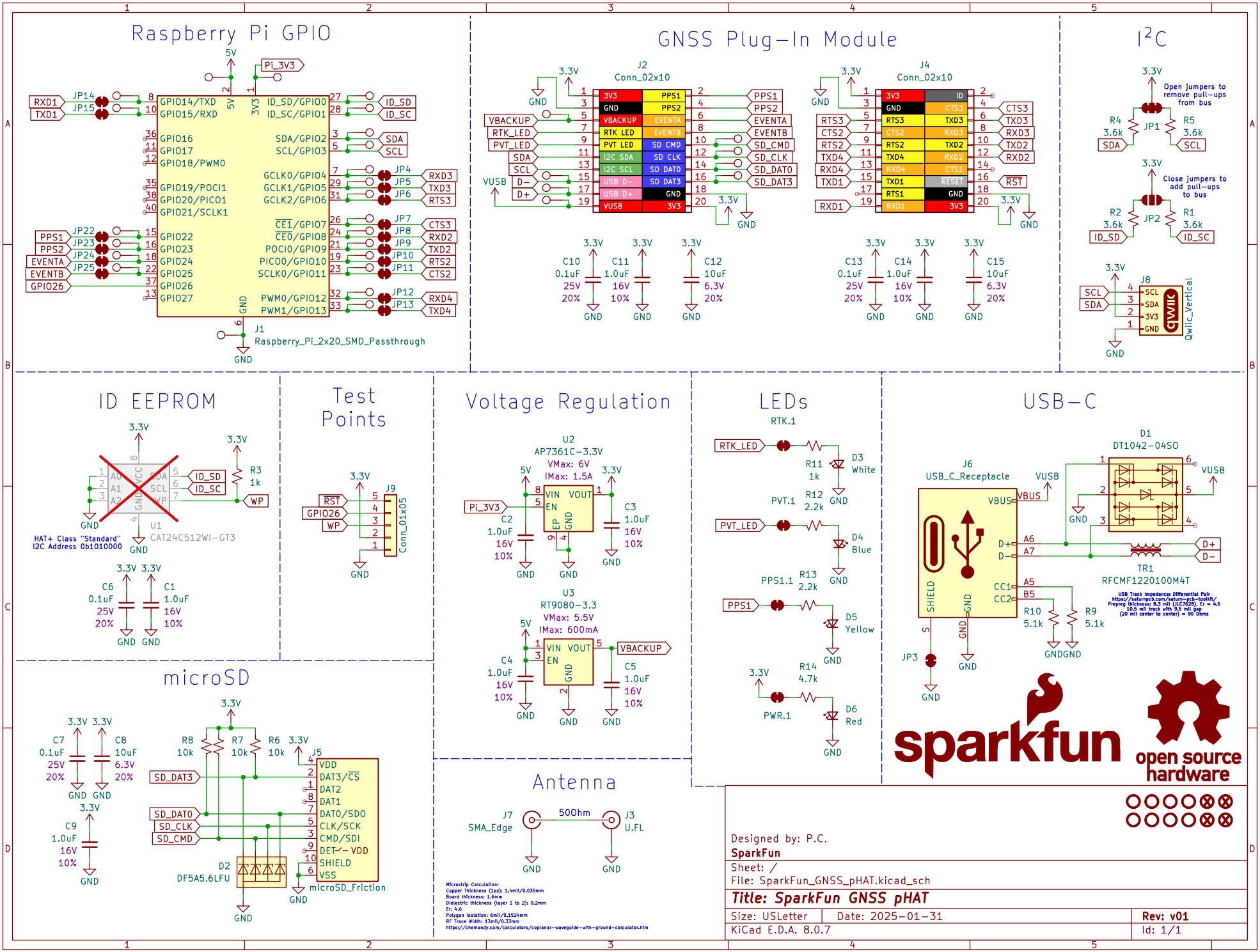
Raspberry Pi GPIO
GNSS Plug-In Module
I²C
ID EEPROM
Test Points
Voltage Regulation
LEDs
USB-C
microSD
Antenna
J1
Raspberry_Pi_2x20_SMD_Passthrough
J2
Conn_02x10
J4
Conn_02x10
Open jumpers to remove pull-ups from bus
Close jumpers to add pull-ups to bus
J8
Qwiic_Vertical
U1
CAT24C512WI-GT3
HAT+ Class "Standard"
I2C Address 0b1010000
J9
Conn_01x05
U2
AP7361C-3.3V
VMax: 6V
IMax: 1.5A
U3
RT9080-3.3
VMax: 5.5V
IMax: 600mA
J6
USB_C_Receptacle
D1
DT1042-04SO
TR1
RFCMF1220100M4T
USB Track Impedances: 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
J5
microSD_Friction
DF5A5.6LFU
J7
SMA_Edge
J3
U.FL
50Ohm
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
Designed by: P.C.
SparkFun
Sheet: /
File: SparkFun_GNSS_pHAT.kicad_sch
Title: SparkFun GNSS pHAT
Size: USLetter
Date: 2025-01-31
Rev: v01
KiCad E.D.A. 8.0.7
Id: 1/1