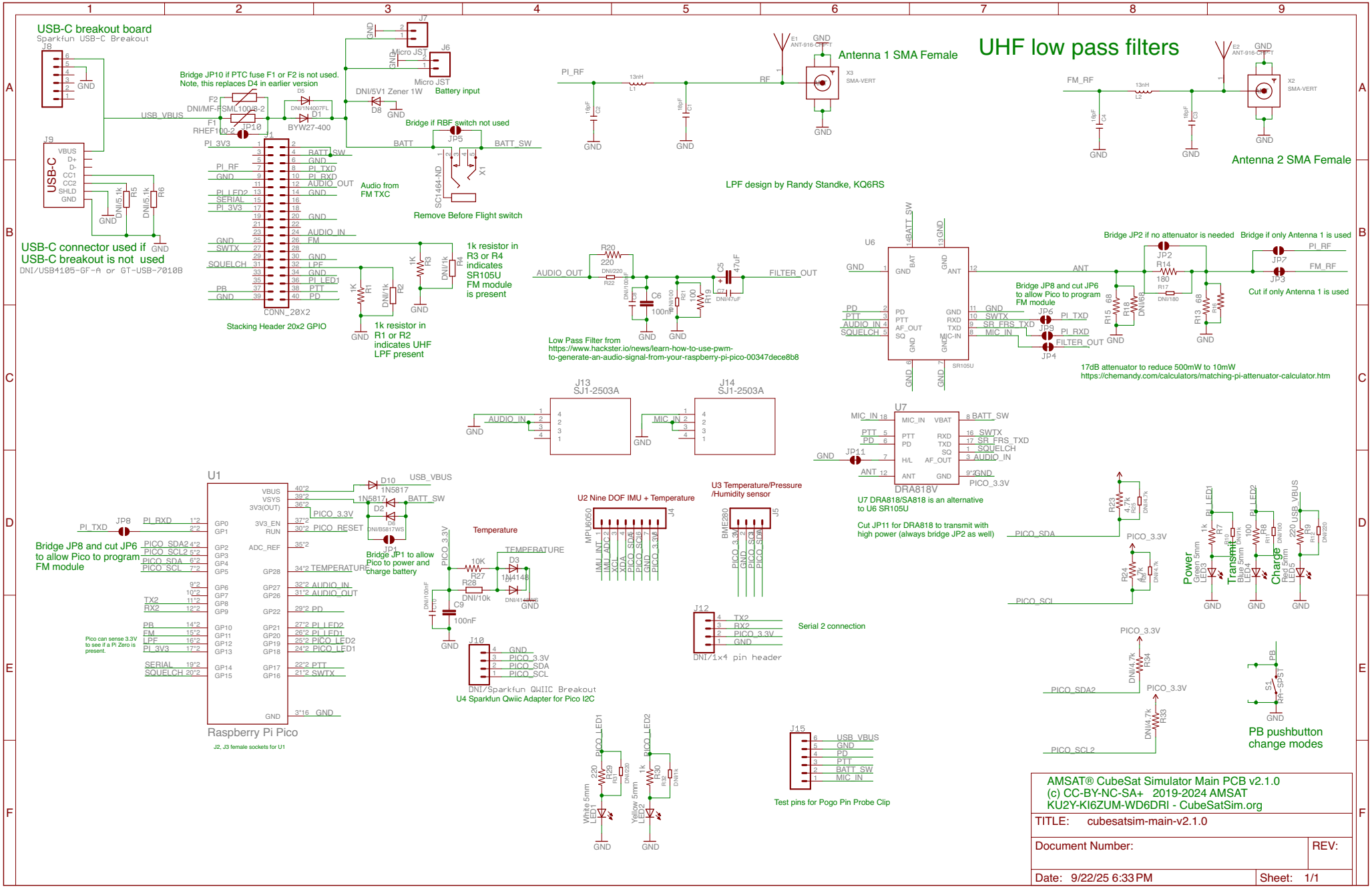
USB-C breakout board
Sparkfun USB-C Breakout
J8
J9
USB-C
USB-C connector used if USB-C breakout is not used
DNI/USB4105-GF-A or GT-USB-7010B
Bridge JP10 if PTC fuse F1 or F2 is not used. Note, this replaces D4 in earlier version
F2 DNI/MF-FSML1008-2
F1 RHEF100-2
JP10
USB_VBUS
D5 DNI/1N4007FL
D1 BYW27-400
DNI/5V1 Zener 1W
D8
J7
Micro JST
J6
Micro JST
Battery input
Bridge if RBF switch not used
JP5
BATT
BATT_SW
X1
SC1464-ND
Remove Before Flight switch
J1
CONN_20X2
Stacking Header 20x2 GPIO
Audio from FM TXC
1k resistor in R3 or R4 indicates SR105U FM module is present
1k resistor in R1 or R2 indicates UHF LPF present
Antenna 1 SMA Female
Antenna 2 SMA Female
UHF low pass filters
LPF design by Randy Standke, KQ6RS
Low Pass Filter from https://www.hackster.io/news/learn-how-to-use-pwm-to-generate-an-audio-signal-from-your-raspberry-pi-pico-00347dece8b8
U6
SR105U
Bridge JP2 if no attenuator is needed
Bridge if only Antenna 1 is used
Cut if only Antenna 1 is used
Bridge JP8 and cut JP6 to allow Pico to program FM module
17dB attenuator to reduce 500mW to 10mW
https://chemandy.com/calculators/matching-pi-attenuator-calculator.htm
J13 SJ1-2503A
J14 SJ1-2503A
U7
DRA818V
U7 DRA818/SA818 is an alternative to U6 SR105U
Cut JP11 for DRA818 to transmit with high power (always bridge JP2 as well)
U1
Raspberry Pi Pico
J2, J3 female sockets for U1
Bridge JP8 and cut JP6 to allow Pico to program FM module
Pico can sense 3.3V to see if a Pi Zero is present.
Bridge JP1 to allow Pico to power and charge battery
Temperature
U2 Nine DOF IMU + Temperature
U3 Temperature/Pressure /Humidity sensor
J12
Serial 2 connection
DNI/1x4 pin header
J10
DNI/Sparkfun QWIIC Breakout
U4 Sparkfun Qwiic Adapter for Pico I2C
J15
Test pins for Pogo Pin Probe Clip
Power
Transmit
Charge
PB pushbutton change modes
AMSAT® CubeSat Simulator Main PCB v2.1.0
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