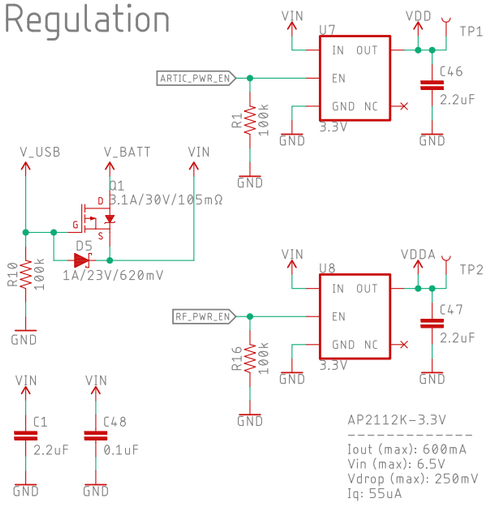
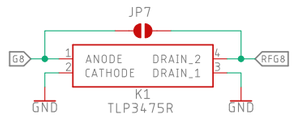
Power Switching & 3.3V Regulation



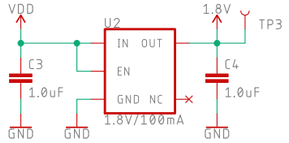
AP2112K-3.3V

Iout (max): 600mA
Vin (max): 6.5V
Vdrop (max): 250mV
Iq: 55uA

Gain Opto-Isolation



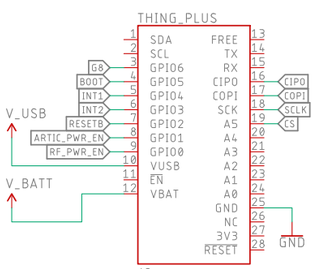
1.8V Regulator



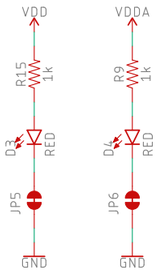
SP6214-1.8V

Iout (max): 100mA
Vin (max): 7.0V
Vdrop (max): 250mV
Iq: 65uA

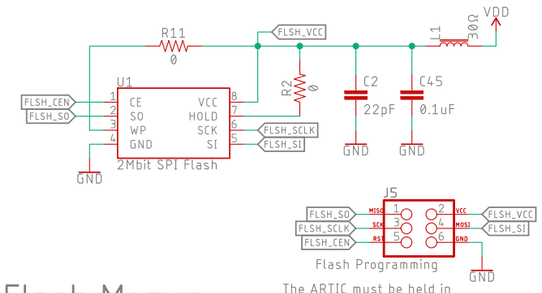
Pins



LEDs

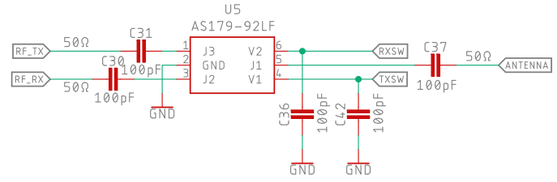


Flash Memory

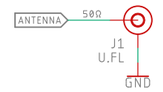


The ARTIC must be held in reset while programming flash

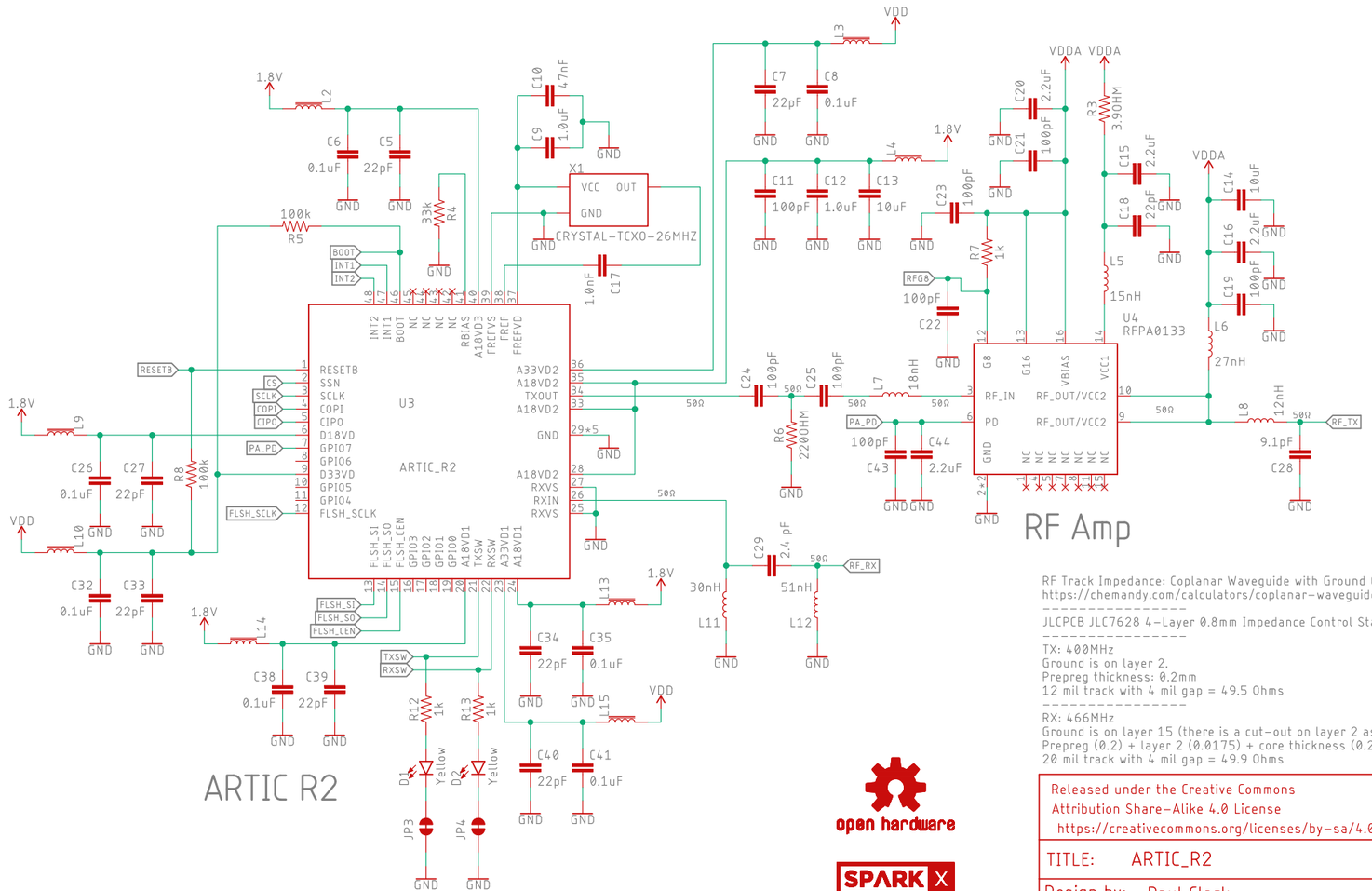
Antenna Switch



Antenna



ARTIC R2



RF Amp

RF Track Impedance: Coplanar Waveguide with Ground Calculations
https://chemandy.com/calculators/coplanar-waveguide-with-ground-calculator.htm

JLCPCB JLC7628 4-Layer 0.8mm Impedance Control Stackup (Er = 4.6)

TX: 400MHz
Ground is on layer 2.
Prepreg thickness: 0.2mm
12 mil track with 4 mil gap = 49.5 Ohms

RX: 466MHz
Ground is on layer 15 (there is a cut-out on layer 2 as per AnSem's design guide).
Prepreg (0.2) + layer 2 (0.0175) + core thickness (0.265) = 0.4825mm
20 mil track with 4 mil gap = 49.9 Ohms

open hardware

SPARK X

Special Instructions

TITLE: ARTIC_R2		
Design by: Paul Clark Based on the Icoteq Reference Design		REV: X02
Date: 15/11/2020 13:53	Sheet: 1/1	