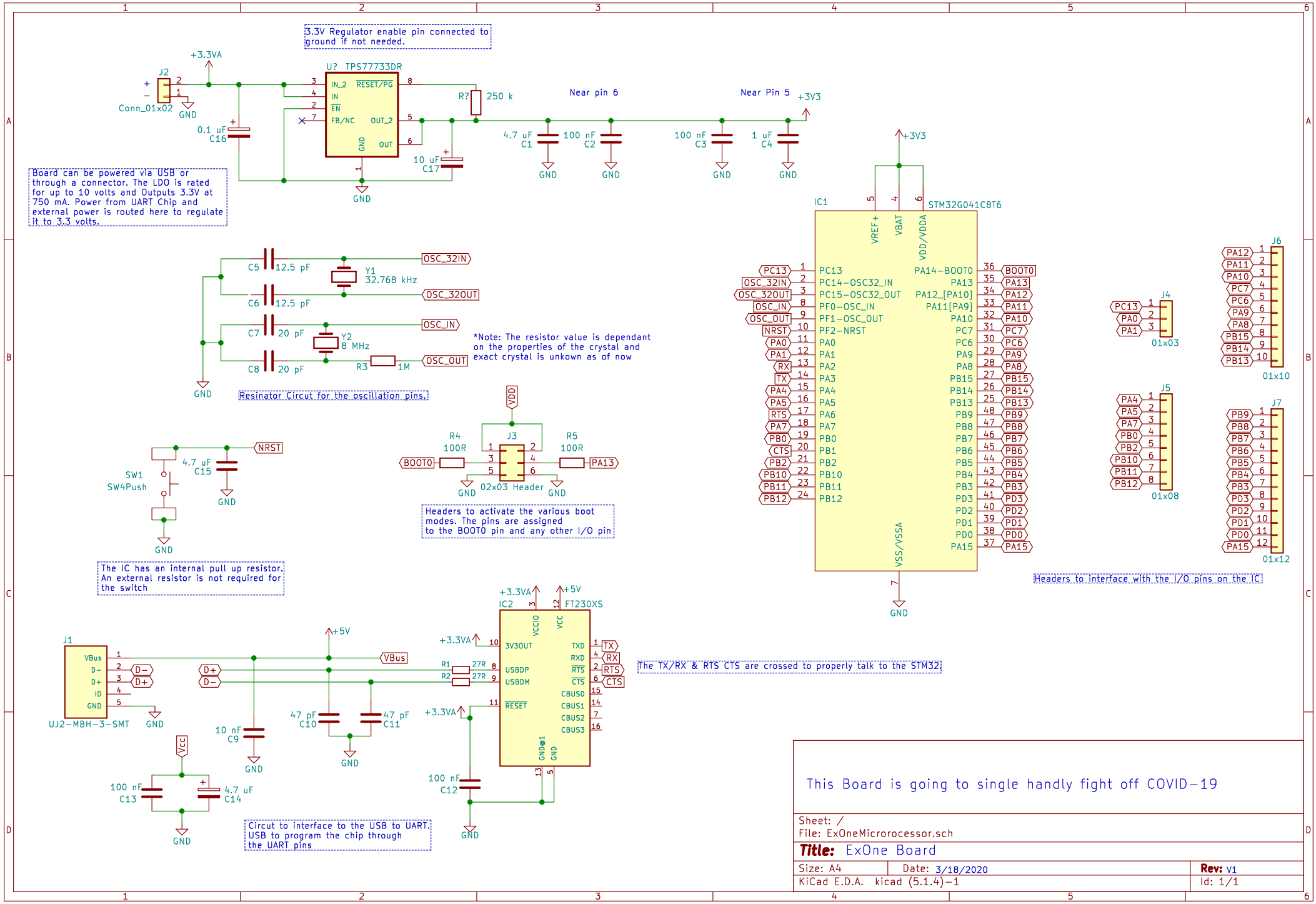
3.3V Regulator enable pin connected to ground if not needed.
U? TPS77733DR
IN_2
RESET/PG
IN
EN
FB/NC
OUT_2
GND
OUT
J2
Conn_01x02
+3.3VA
GND
0.1 uF
C16
R?
250 k
10 uF
C17
Near pin 6
Near Pin 5
+3V3
4.7 uF
C1
100 nF
C2
100 nF
C3
1 uF
C4
Board can be powered via USB or through a connector. The LDO is rated for up to 10 volts and Outputs 3.3V at 750 mA. Power from UART Chip and external power is routed here to regulate it to 3.3 volts.
C5
12.5 pF
C6
12.5 pF
Y1
32.768 kHz
OSC_32IN
OSC_32OUT
C7
20 pF
C8
20 pF
Y2
8 MHz
R3
1M
OSC_IN
OSC_OUT
*Note: The resistor value is dependant on the properties of the crystal and exact crystal is unkown as of now
Resinator Circut for the oscillation pins.
IC1
STM32G041C8T6
VREF+
VBAT
VDD/VDDA
VSS/VSSA
PC13
PC14-OSC32_IN
PC15-OSC32_OUT
PF0-OSC_IN
PF1-OSC_OUT
PF2-NRST
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PB0
PB1
PB2
PB10
PB11
PB12
PA14-BOOT0
PA13
PA12_[PA10]
PA11[PA9]
PA10
PC7
PC6
PA9
PA8
PB15
PB14
PB13
PB9
PB8
PB7
PB6
PB5
PB4
PB3
PD3
PD2
PD1
PD0
PA15
BOOT0
RX
TX
RTS
CTS
J4
01x03
J5
01x08
J6
01x10
J7
01x12
Headers to interface with the I/O pins on the IC
SW1
SW4Push
4.7 uF
C15
NRST
The IC has an internal pull up resistor. An external resistor is not required for the switch
VDD
R4
100R
R5
100R
J3
02x03 Header
Headers to activate the various boot modes. The pins are assigned to the BOOT0 pin and any other I/O pin
J1
UJ2-MBH-3-SMT
VBus
D-
D+
ID
GND
+5V
10 nF
C9
47 pF
C10
47 pF
C11
Vcc
100 nF
C13
4.7 uF
C14
Circut to interface to the USB to UART. USB to program the chip through the UART pins
IC2
FT230XS
+3.3VA
+5V
VCCIO
VCC
3V3OUT
USBDP
USBDM
RESET
TXD
RXD
RTS
CTS
CBUS0
CBUS1
CBUS2
CBUS3
GND@1
R1
27R
R2
27R
100 nF
C12
The TX/RX & RTS CTS are crossed to properly talk to the STM32
This Board is going to single handly fight off COVID-19
Sheet: /
File: ExOneMicrorocessor.sch
Title: ExOne Board
Size: A4
Date: 3/18/2020
Rev: V1
KiCad E.D.A. kicad (5.1.4)-1
Id: 1/1