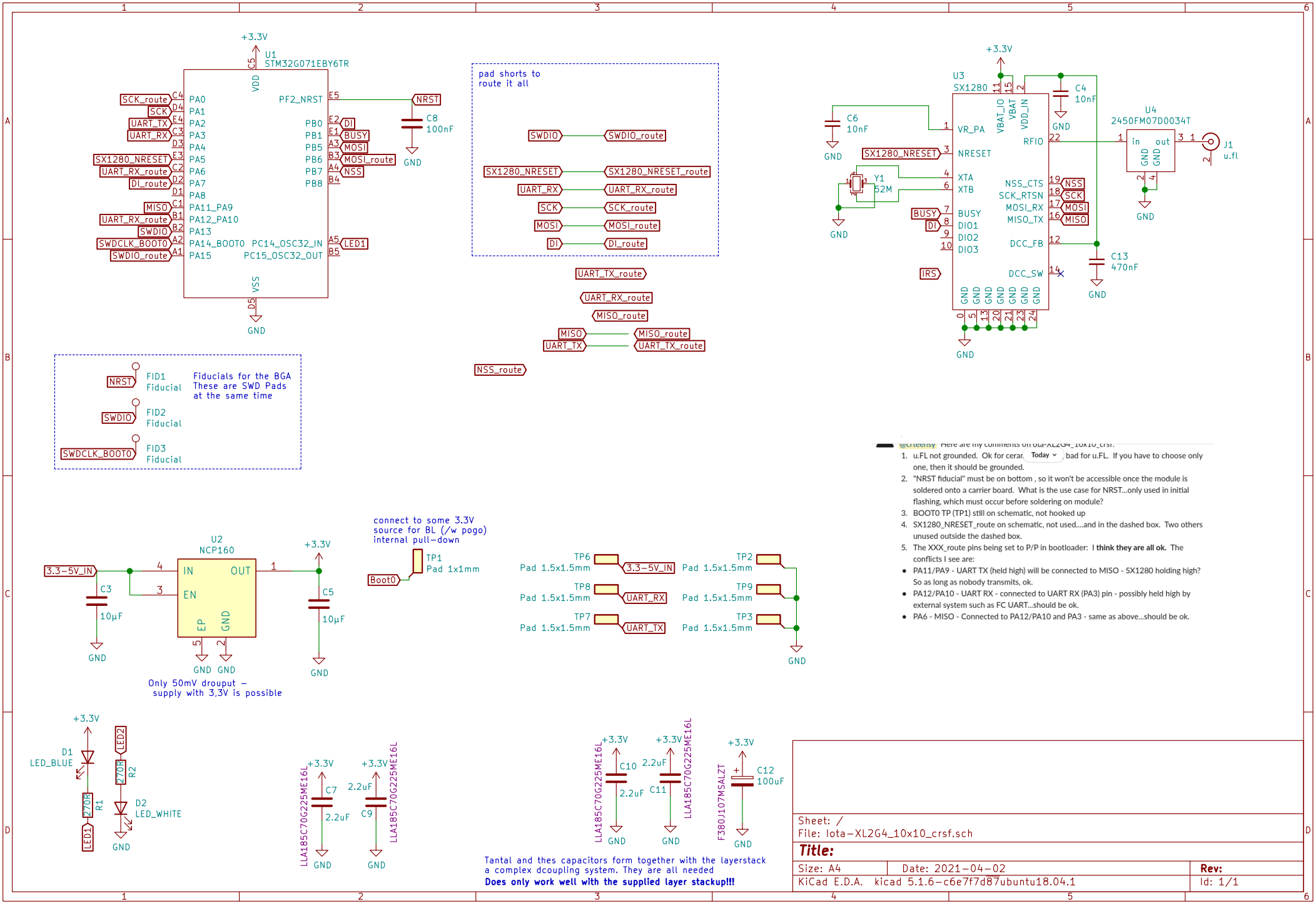
U1
STM32G071EBY6TR
+3.3V
VDD
VSS
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA11_PA9
PA12_PA10
PA13
PA14_BOOT0
PA15
PC14_OSC32_IN
PC15_OSC32_OUT
PF2_NRST
PB0
PB1
PB5
PB6
PB7
PB8
SCK_route
SCK
UART_TX
UART_RX
SX1280_NRESET
UART_RX_route
DI_route
MISO
UART_RX_route
SWDIO
SWDCLK_BOOT0
SWDIO_route
NRST
C8
100nF
GND
DI
BUSY
MOSI
MOSI_route
NSS
LED1
pad shorts to
route it all
SWDIO
SWDIO_route
SX1280_NRESET
SX1280_NRESET_route
UART_RX
UART_RX_route
SCK
SCK_route
MOSI
MOSI_route
DI
DI_route
UART_TX_route
UART_RX_route
MISO_route
MISO
MISO_route
UART_TX
UART_TX_route
NSS_route
U3
SX1280
VR_PA
NRESET
XTA
XTB
BUSY
DIO1
DIO2
DIO3
VBAT_IO
VBAT
VDD_IN
RFIO
NSS_CTS
SCK_RTSN
MOSI_RX
MISO_TX
DCC_FB
DCC_SW
IRS
C6
10nF
C4
10nF
Y1
52M
C13
470nF
U4
2450FM07D0034T
in
out
J1
u.fl
FID1
Fiducial
FID2
Fiducial
FID3
Fiducial
Fiducials for the BGA
These are SWD Pads
at the same time
U2
NCP160
3.3-5V_IN
IN
OUT
EN
EP
C3
10µF
C5
10µF
connect to some 3.3V
source for BL (/w pogo)
internal pull-down
TP1
Pad 1x1mm
Boot0
TP6
Pad 1.5x1.5mm
TP8
Pad 1.5x1.5mm
TP7
Pad 1.5x1.5mm
TP2
Pad 1.5x1.5mm
TP9
Pad 1.5x1.5mm
TP3
Pad 1.5x1.5mm
Only 50mV drouput -
supply with 3,3V is possible
D1
LED_BLUE
LED2
270R
R2
D2
LED_WHITE
270R
R1
LED1
C7
2.2uF
C9
2.2uF
LLA185C70G225ME16L
C10
2.2uF
C11
2.2uF
C12
100uF
F380J107M5ALZT
Tantal and thes capacitors form together with the layerstack
a complex dcoupling system. They are all needed
Does only work well with the supplied layer stackup!!!
Here are my comments on lota-XL2G4_10x10_crsf.
1. u.FL not grounded. Ok for cerar. Today bad for u.FL. If you have to choose only one, then it should be grounded.
2. "NRST fiducial" must be on bottom , so it won't be accessible once the module is soldered onto a carrier board. What is the use case for NRST...only used in initial flashing, which must occur before soldering on module?
3. BOOT0 TP (TP1) still on schematic, not hooked up
4. SX1280_NRESET_route on schematic, not used....and in the dashed box. Two others unused outside the dashed box.
5. The XXX_route pins being set to P/P in bootloader: I think they are all ok. The conflicts I see are:
- PA11/PA9 - UART TX (held high) will be connected to MISO - SX1280 holding high? So as long as nobody transmits, ok.
- PA12/PA10 - UART RX - connected to UART RX (PA3) pin - possibly held high by external system such as FC UART...should be ok.
- PA6 - MISO - Connected to PA12/PA10 and PA3 - same as above...should be ok.
Sheet: /
File: lota-XL2G4_10x10_crsf.sch
Title:
Size: A4
Date: 2021-04-02
Rev:
KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1
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