McuLink Power and USB

File: mculink_kicad_power_usb.kicad_sch

LPC55S69 IO Ports

File: mculink_kicad_ioports.kicad_sch

Debug interface

File: mculink_kicad_debug.kicad_sch

UART Interface to Target

File: mculink_kicad_uart.kicad_sch

Open:
- n/a

Changes v0.5:
- added isolation jumpers for RTS and CTS
- changed Resistor and Capacitor size from 0603 to 0402
- removed all designators on silkscreen
- moved components to left side to fit additional header for Pixhawk GPIO
- added NXP logo on the back
- added 3 pin 2.54mm Pixhawk header for logic analyzer access

Changes v0.4:
- changed R5 (resistor for CTS) from pull-up to pull-down, as signal is low active, to cover the situation with no cable attached.

Changes v0.3:
- added UART CTS/RTS to NavQPlus connector, including level shifter

Changes v0.2:
- improved silkscreen, marks for pin numbers on connectors
- all UART connections through SN74LVC1T45GW buffers to prevent backfeeding
- added VTARGET to tracking voltage

FID1 Fiducial

FID2 Fiducial

FID3 Fiducial

H1 MountingHole_Pad — GND

H2 MountingHole_Pad — GND

H3 MountingHole_Pad — GND

H4 MountingHole_Pad — GND

L6 Logo HSLU

L7 Logo NXP

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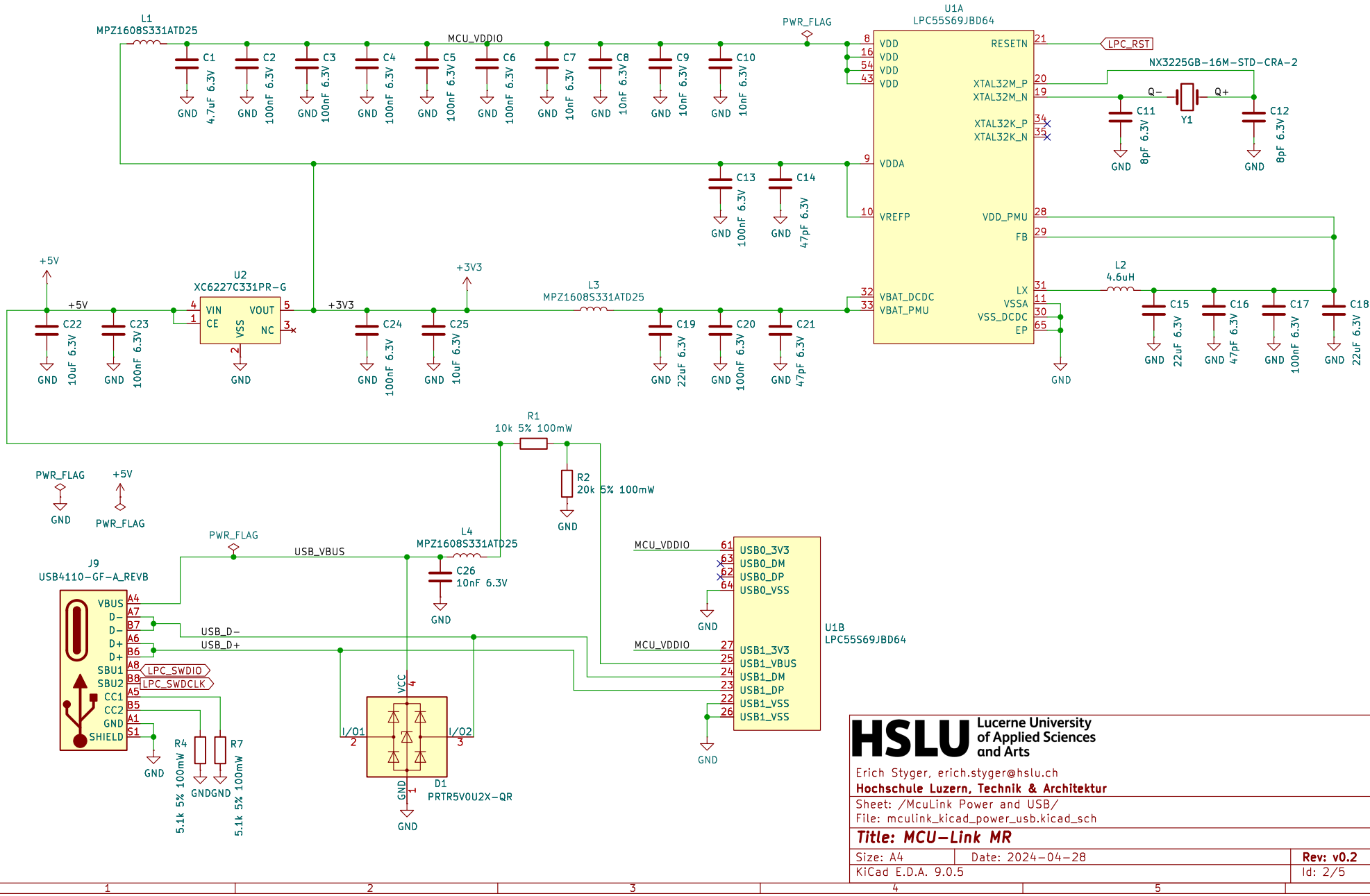
Sheet: /

File: MCU-Link_MR.kicad_sch

Title: MCU-Link MR

Size: A4	Date: 2025-10-29	**Rev: v0.5**
KiCad E.D.A. 9.0.5		Id: 1/5

LPC55S69 MCU Powering and USB



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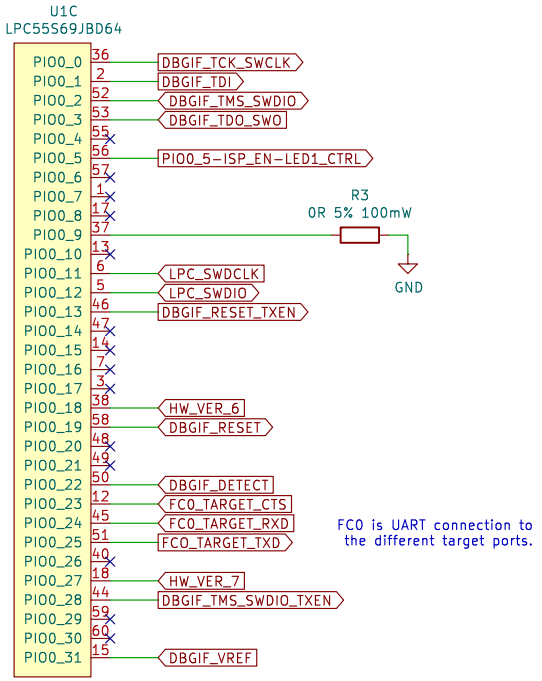
Sheet: /McuLink Power and USB/

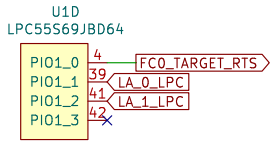
File: mculink_kicad_power_usb.kicad_sch

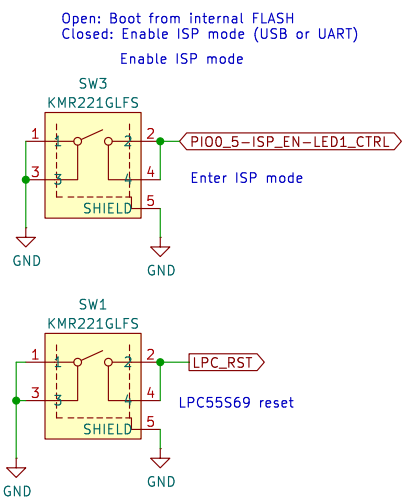
Title: MCU-Link MR

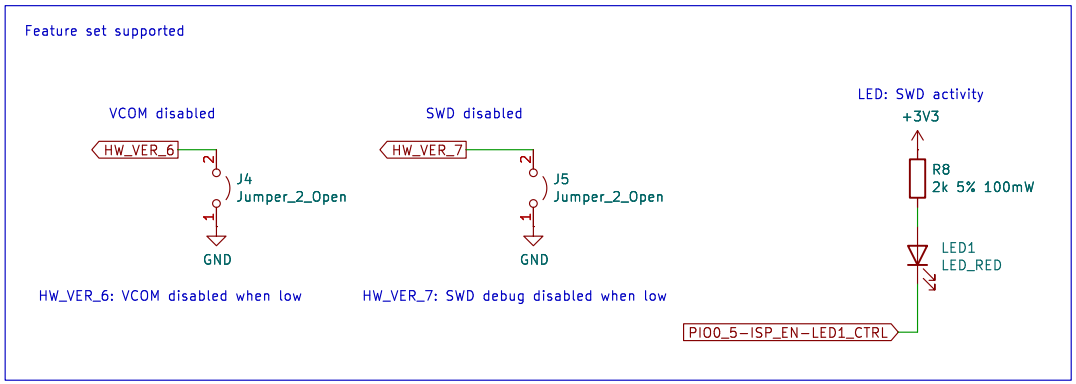
Size: A4	Date: 2024-04-28	**Rev: v0.2**
KiCad E.D.A. 9.0.5		Id: 2/5

LPC55S69 IO Ports









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Title: MCU-Link MR

Size: A4	Date: 2025-10-29	**Rev: v0.5**
KiCad E.D.A. 9.0.5		Id: 3/5

Debug & UART Interface

Debug Console: TX/RX is from PX4 point of view
Holybro Pixhawk 6X RT: 115200 baud
FTDI Yellow: -> to PC
FTDI Orange: <- from PC

https://nxp.gitbook.io/hovergames/rddrone-fmuk66/connectors/debug-interface-dcd-lz

Target Cortex Debug (SWD/JTAG)

Circuit tracks target reference voltage (VTARGET) and generates IF_VREF output voltage.

To disable tracking of reference voltage:
- remove R16
- cut JP2 connection between 1-2
- solder JP2 to position 2-3

Tracking of reference voltage, supports target systems from 1.2V to 5V

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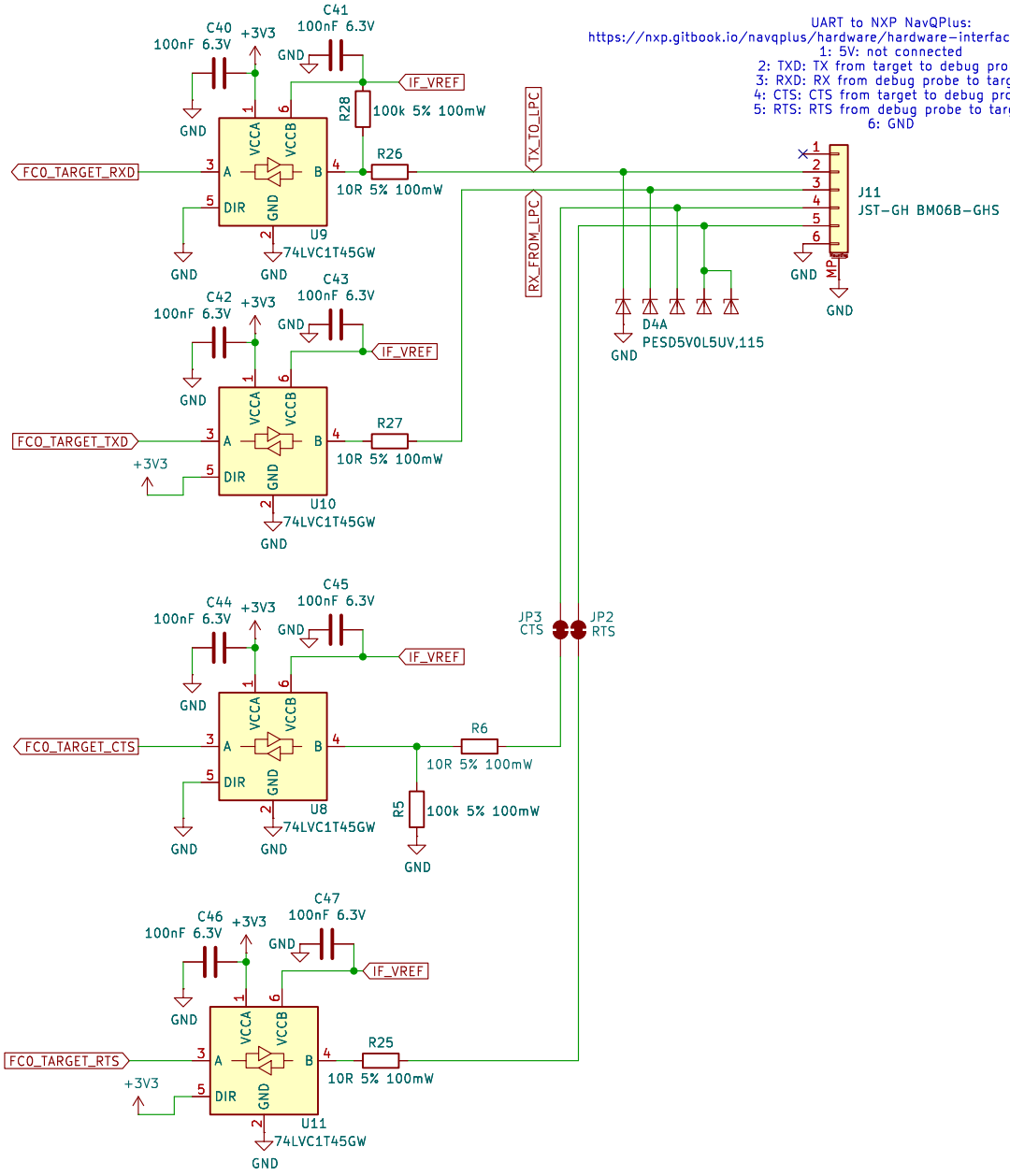
Title: MCU-Link MR

Size: A4	Date: 2024-11-24	Rev: v0.5
KiCad E.D.A. 9.0.5		Id: 4/5

UART Interface to Target (NavQPlus)

UART to NXP NavQPlus:
https://nxp.gitbook.io/navqplus/hardware/hardware-interfaces/uart/uart2-a53-debug
1: 5V: not connected
2: TXD: TX from target to debug probe
3: RXD: RX from debug probe to target
4: CTS: CTS from target to debug probe
5: RTS: RTS from debug probe to target
6: GND



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Sheet: /UART Interface to Target/
File: mculink_kicad_uart.kicad_sch

Title: MCU-Link MR

Size: A4	Date: 2024-07-02	**Rev: v0.3**
KiCad E.D.A. 9.0.5		Id: 5/5