Skid Steer Board

ST-Link Connection

(SWD/JTAG)

SWDIO/TMS

SWDCLK/TCLK

SW0/TDO

STLK_RX

(DNU)

STLK_TX

NRST
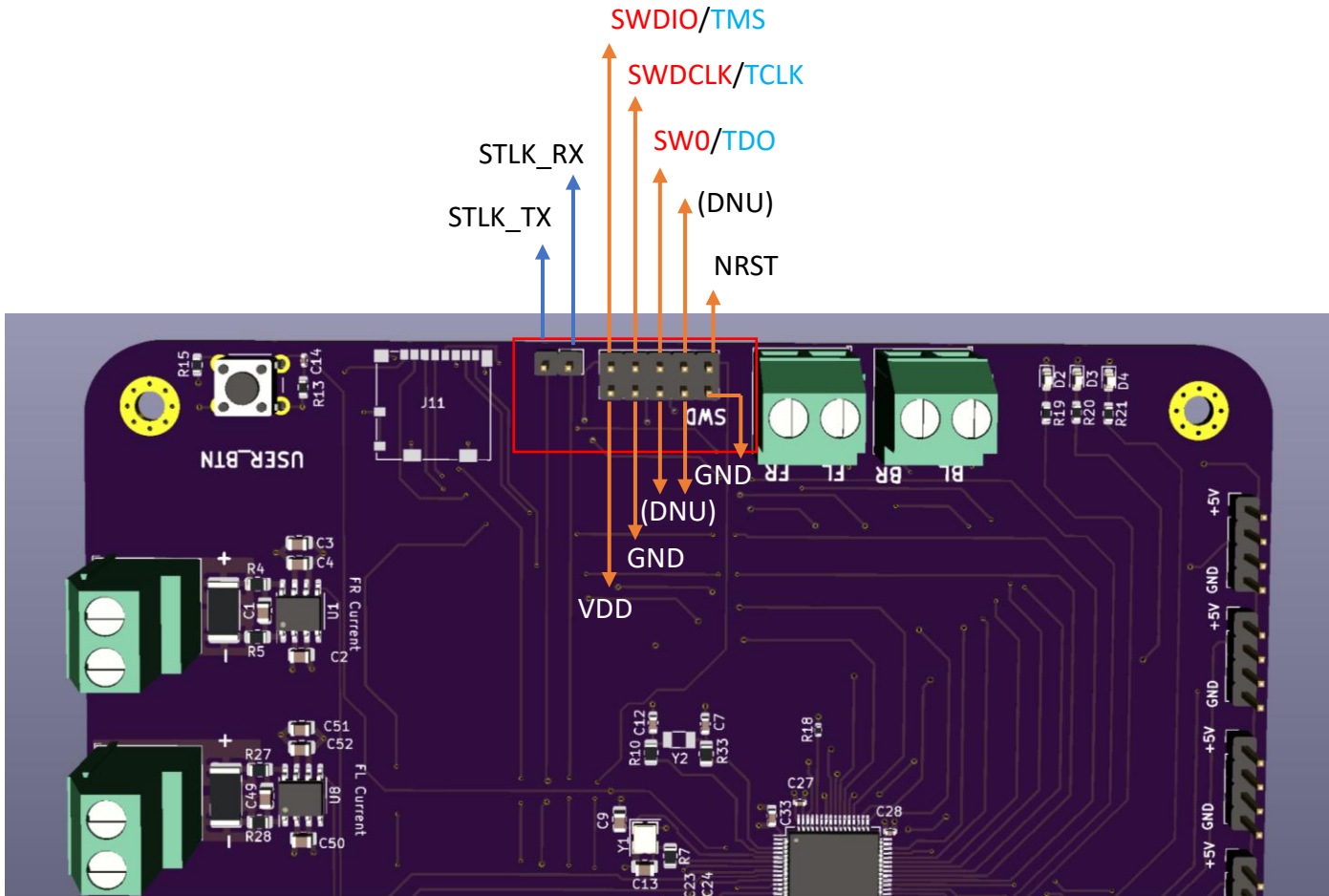
Note: STLK RX and TX are defined in perspective of the ST-LINK. (Connect STLK_RX to RX pin of the ST_LINK and STLK_TX to the TX pin). Similarly, SBC_RX and SBC_TX are defined in perspective of the SBC. Either STLK and SBC pins can be used for UART, the purpose of STLK was to have a dedicated UART pin to connect to a debugger. STLK is using USART2 and SBC is using USART3.

Microcontroller Pinout

VDD VDDA

VBAT

NRST

RST_PushBT

Pin	Signal		Pin	Signal

NRST — 7 — NRST — PA0 14 — encoderAMotorBL
BOOT0 — 60 — BOOT0 — PA1 15 — encoderBMotorBL
10K R18 — PA2 16 — STLK_RX
VCAP1 — 30 — VCAP_1 — PA3 17 — STLK_TX
PA4 20 — currentMotorFR
PA5 21
PA6 22 — currentMotorFL
PA7 23 — currentMotorBR
100 R19 Blue D2
PA8 41 — pwmMotorFR
PA9 42 — pwmMotorFL
PA10 43 — pwmMotorBL
HSE_OSC_IN — 5 — PH0 — PA11 44 — pwmMotorBR
HSE_OSC_OUT — 6 — PH1 — PA12 45 — CAN1_RX
PA13 46 — TMS
SDIO_CMD — 54 — PD2 — PA14 49 — TCK
PA15 50 — encoderAMotorFR
voltageBattery — 8 — PC0 — PB0 26 — currentMotorBL
currentBattery — 9 — PC1 — PB1 27 — SDIO_D2
SPI2_MISO — 10 — PC2 — PB2 28 — SDIO_CK
SPI2_MOSI — 11 — PC3 — PB3 55 — SWO
24 — PC4 — PB4 56
R20 680 D3 Red
Green D4 680 R21
SCB_TX — 25 — PC5 — PB5 57 — PB5 / PB4
encoderAMotorFL — 37 — PC6 — PB6 58 — encoderAMotorBR
encoderBMotorFL — 38 — PC7 — PB7 59 — encoderBMotorBR
SDIO_D0 — 39 — PC8 — PB8 61 — CAN1_TX
SDIO_D1 — 40 — PC9 — PB9 62 — encoderBMotorFR
SCB_RX — 51 — PC10 — PB10 29 — I2C2_SCL
SDIO_D3 — 52 — PC11 — PB12 33 — USART3_CLK
I2C2_SDA — 53 — PC12 — PB13 34 — SPI2_SCK
USER_BTN — 2 — PC13 — PB14 35 — PB14
LSE_OSC_IN — 3 — PC14 — PB15 36 — SD_Detect
PC13
LSE_OSC_OUT — 4 — PC15

GND

U3
STM32F446RETx