Kauil_PCB V2.0
Logical interconnection diagram

USB ST-Link
(Debugging and programming)

USB USER
(ROS Communication)

STM32F3 Discovery

STM32F103C8T6
(ST Link)

PF0 8 MHz CLK
PA13,PA14,PB3
Program/Debug

PA12, PA11
USB

STM32F303VCT6
ARM Cortex M4
Microcontroller

3.3V

U9, U10
I2C1_3.3V

PB6 SCL   **I2C1**
PB7 SDA
PE5 INT2
PE4 INT1

A CNH **PE4** **PF9**
B CHN **PE5** **PF10**

A CNH **PE0** **PB8**
B CHN **PE1** **PB9**

U19
Right encoder

U20
Left encoder

5V

JP6
MD03_1

JP5
MD03_2

PA5 SCK
PA7 MOSI   **SPI1**
PA6 MISO
PE3 CS
PE1 INT2
PE0 INT1

Rx **PA10** **PC5**
Tx **PA9**

Rx **PD6**
Tx **PD5**

Rx **PC11**
Tx **PC10**

Rx **PD2**
Tx **PC12**

Rx **PD9**
Tx **PD8**

U22 USART1_5V

U23 USART2_5V

U24 UART4_5V

U25 UART5_5V

U26 USART3_3.3V

L3GD20
(Gryroscope)

U7, U8
I2C2_5V

LSM303DLHC
(3D Accelerometer and 3D Magnetometer)

PA1
PA4
PB1
PB12

ADC

U15 ADC1_IN2

U16 ADC2_IN1

U17 ADC3_IN1

U18 ADC4_IN3

JP4
I2C2_USB

PF1 SCL   **I2C2**
PA10 **PF0** SDA

GPIO

LS1 Buzzer

PF2

S1 STOP

PC8

ADC12_IN9 **PC3**
Mux A **PC0**
Mux B **PC1**
Mux C **PC2**

Battery measurement
Circuit

PE8, PE9, PE10, PE11
PE12,PE13,PE14,PE15

Color LEDs

PD1 SPI32_CS
PD7 SPI31_CS
PB3 SCK
PB5 MOSI   **SPI3**
PB4 MISO

MISO **PB14**
MOSI **PB15**   **SPI2**
SCK **PB13**
SPI22_CS **PB10**
SPI21_CS **PB11**

U2
Mux5

U6
Mux6

U11
SPI31_5V

U12
SPI32_5V

U13
SPI21_3.3V

U14
SPI22_3.3V