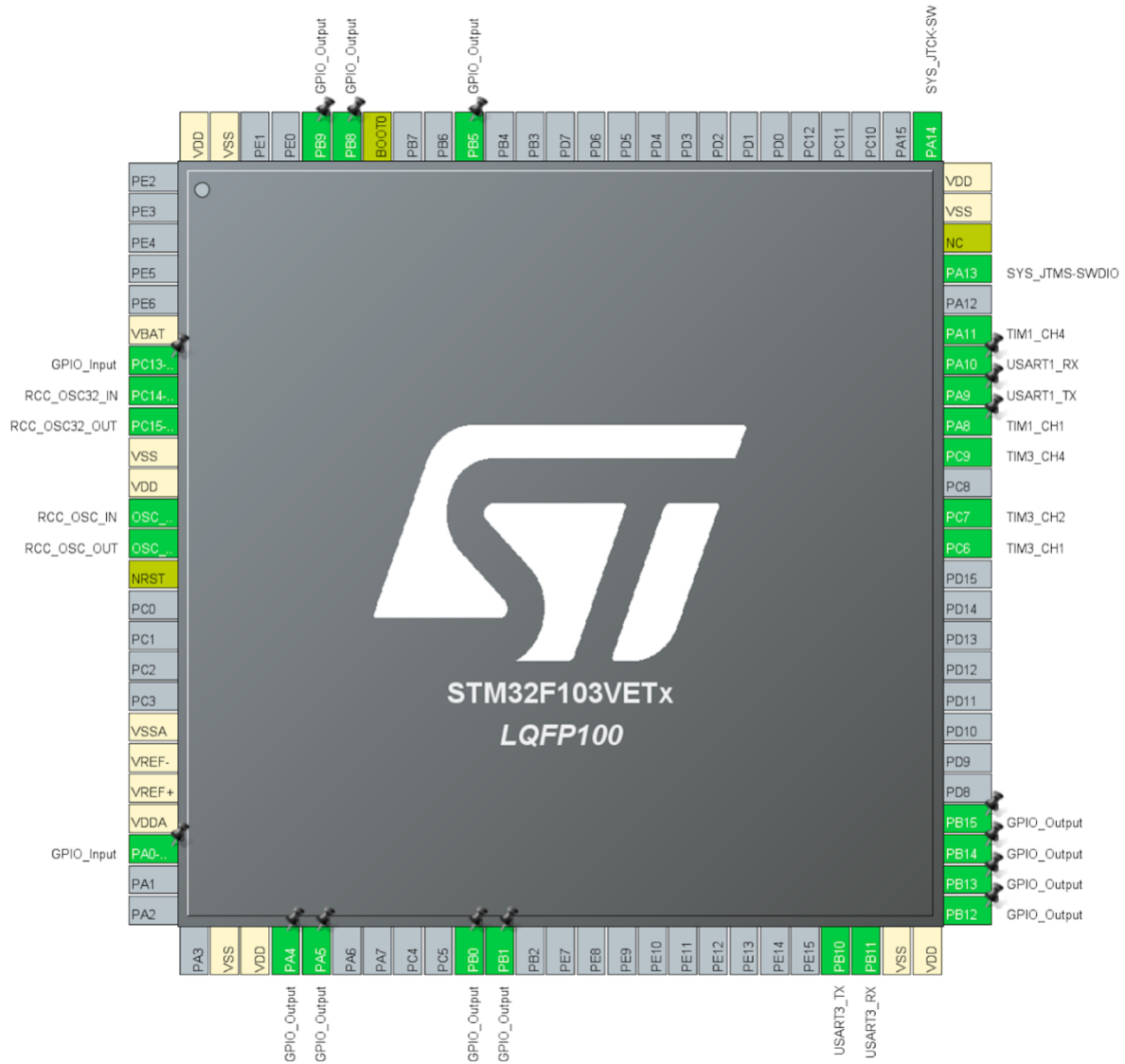


# UST Wanderer

## Master Board Documentation



Function	Device	Port and Pin	CubeMX Config
Ultrasonic Sensor	Front Ultrasound	PA8	TIM1_CH1
		PA4	GPIO_OutPut
	Back Ultrasound	PA11	TIM1_CH4
		PA5	GPIO_OutPut

*\* For all Timers, the mode is set to Input Capture direct mode.*

*\* For all Timers, Prescaler = 0x0047 and AutoReload Register = 0xFFFF-1.*

*\* For all Timers, Capture Compare Interrupt is enabled.*

*\* For all Input Capture Channels, it is all configured to Rising Edge.*

*\* For all GPIO\_Output without specification, the pin is configured with Output Push Pull and without pull-up and pull-down resistors.*

Function	Device	Port and Pin	CubeMX Config
PWM	Left Motor PWM	PC6	TIM3_CH1
	Right Motor PWM	PC7	TIM3_CH2
	Back Motor PWM	PC9	TIM3_CH4

*\* For all Timers, the mode is set to PWM Generation.*

*\* For all Timers, Prescaler = 0x0000 and AutoReload Register = 0x03E7.*

Function	Device	Port and Pin	CubeMX Config
UART	Bluetooth	PA10	USART1_RX
		PA9	USART1_TX
	UART	PB11	USART3_RX
		PB10	USART3_TX

*\* All UART's are configured with Baud Rate = 115200 Bits/s.*

Function	Device	Port and Pin	CubeMX Config
Motor	Left Motor	PB8	GPIO_Output
		PB9	GPIO_Output
	Right Motor	PB12	GPIO_Output
		PB13	GPIO_Output
	Back Motor	PB14	GPIO_Output
		PB15	GPIO_Output

*\* For all GPIO\_Output without specification, the pin is configured with Output Push Pull and without pull-up and pull-down resistors.*

Function	Device	Port and Pin	CubeMX Config
LED	LED Red	PB5	GPIO_Input
	LED Green	PB0	GPIO_Input
	LED Blue	PA1	GPIO_Input

*\* For all GPIO\_Input, the pin is configured with No pull-up and No pull-down resistors.*

Function	Device	Port and Pin	CubeMX Config
Button	KEY1	PA0	GPIO_Input

*\* For all GPIO\_Input, the pin is configured with No pull-up and No pull-down resistors.*