

1. Description

1.1. Project

Project Name	St_Motor_Comtst
Board Name	NUCLEO-F411RE
Generated with:	STM32CubeMX 4.24.0
Date	04/04/2018

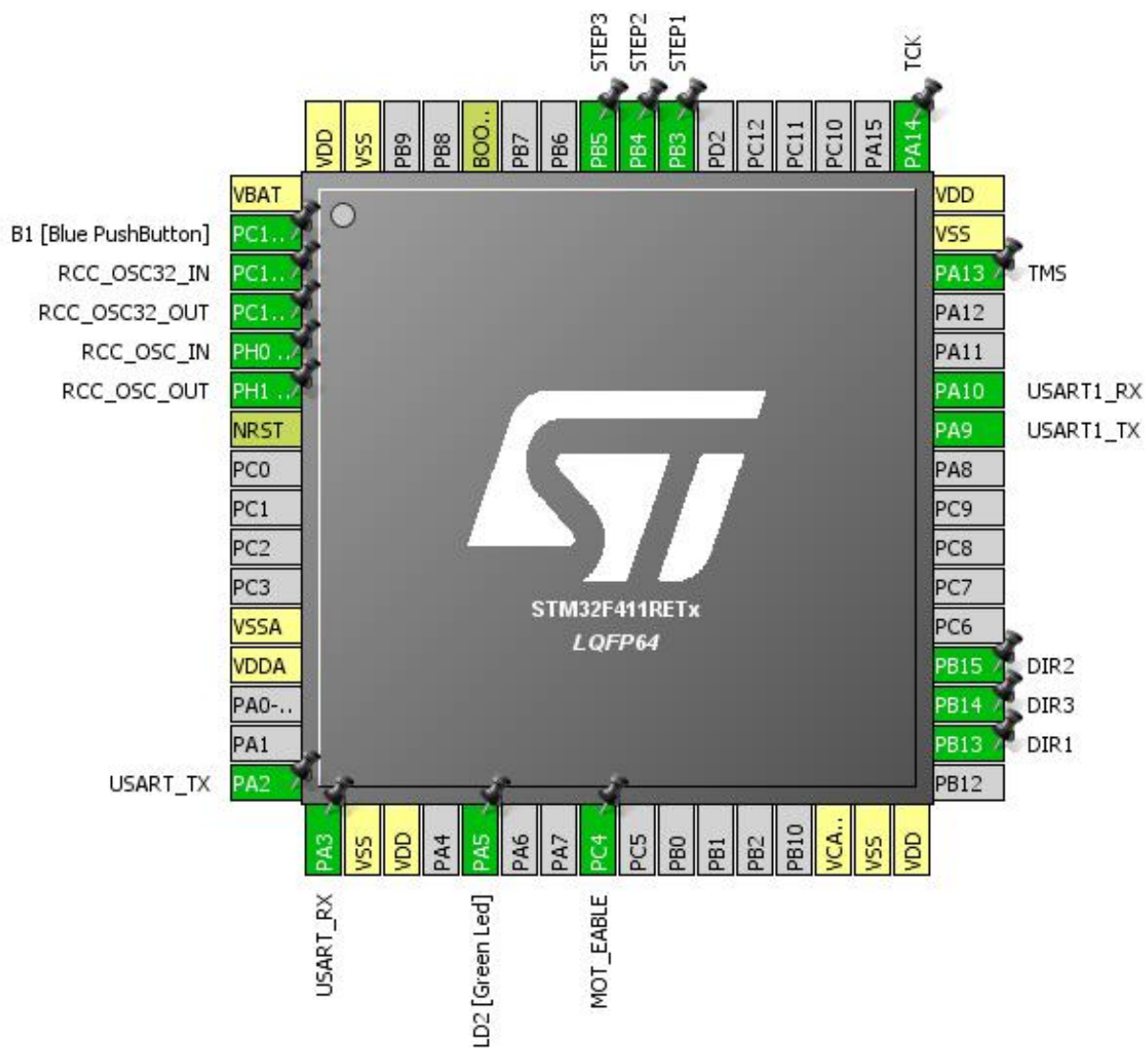
1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F411
MCU name	STM32F411RETx
MCU Package	LQFP64
MCU Pin number	64

1.3. Caution

The report was generated although the configuration was in a modified state. It may be not accurate

2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13-ANTI_TAMP	I/O	GPIO_EXTI13	B1 [Blue PushButton]
3	PC14-OSC32_IN	I/O	RCC_OSC32_IN	
4	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	
5	PH0 - OSC_IN	I/O	RCC_OSC_IN	
6	PH1 - OSC_OUT	I/O	RCC_OSC_OUT	
7	NRST	Reset		
12	VSSA	Power		
13	VDDA	Power		
16	PA2	I/O	USART2_TX	USART_TX
17	PA3	I/O	USART2_RX	USART_RX
18	VSS	Power		
19	VDD	Power		
21	PA5 *	I/O	GPIO_Output	LD2 [Green Led]
24	PC4 *	I/O	GPIO_Output	MOT_EABLE
30	VCAP1	Power		
31	VSS	Power		
32	VDD	Power		
34	PB13 *	I/O	GPIO_Output	DIR1
35	PB14 *	I/O	GPIO_Output	DIR3
36	PB15 *	I/O	GPIO_Output	DIR2
42	PA9	I/O	USART1_TX	
43	PA10	I/O	USART1_RX	
46	PA13	I/O	SYS_JTMS-SWDIO	TMS
47	VSS	Power		
48	VDD	Power		
49	PA14	I/O	SYS_JTCK-SWCLK	TCK
55	PB3 *	I/O	GPIO_Output	STEP1
56	PB4 *	I/O	GPIO_Output	STEP2
57	PB5 *	I/O	GPIO_Output	STEP3
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): BYPASS Clock Source

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.1.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	2 WS (3 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
TIM Prescaler Selection	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
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5.2. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.3. TIM10

mode: Activated

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	14 *
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	20 *

Internal Clock Division (CKD)

No Division

5.4. TIM11

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)

65535 *

Counter Mode

Up

Counter Period (AutoReload Register - 16 bits value)

1285 *

Internal Clock Division (CKD)

No Division

5.5. USART1

Mode: Asynchronous

5.5.1. Parameter Settings:

Basic Parameters:

Baud Rate

115200

Word Length

8 Bits (including Parity)

Parity

None

Stop Bits

1

Advanced Parameters:

Data Direction

Receive and Transmit

Over Sampling

16 Samples

5.6. USART2

Mode: Asynchronous

5.6.1. Parameter Settings:

Basic Parameters:

Baud Rate

115200

Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples

* User modified value

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PH0 - OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1 - OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	TCK
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	Very High *	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	Very High *	
USART2	PA2	USART2_TX	Alternate Function Push Pull	Pull-up	Very High *	USART_TX
	PA3	USART2_RX	Alternate Function Push Pull	Pull-up	Very High *	USART_RX
GPIO	PC13-ANTI_TAMP	GPIO_EXTI13	External Interrupt Mode with Falling edge trigger detection	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD2 [Green Led]
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MOT_EABLE
	PB13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	DIR1
	PB14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	DIR3
	PB15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	DIR2
	PB3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	STEP1
	PB4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	STEP2
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	STEP3

6.2. DMA configuration

nothing configured in DMA service

6.3. NVIC configuration

Interrupt Table	Enable	Preenmption Priority	SubPriority
Non maskable interrupt	true	0	0
Hard fault interrupt	true	0	0
Memory management fault	true	0	0
Pre-fetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	0	0
TIM1 update interrupt and TIM10 global interrupt	true	0	0
TIM1 trigger and commutation interrupts and TIM11 global interrupt	true	0	0
USART2 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART1 global interrupt	unused		
EXTI line[15:10] interrupts	unused		
FPU global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F411
MCU	STM32F411RETx
Datasheet	026289_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	St_Motor_Comtst
Project Folder	C:\Users\huber\Documents\Stm32\Com_Test\St_Motor_Comtst
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F4 V1.19.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy only the necessary library files
Generate peripheral initialization as a pair of '.c/.h' files	No
Backup previously generated files when re-generating	No
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No

9. Software Pack Report