1. Description

1.1. Project

Project Name	SWMarkiewiczMedyk
Board Name	NUCLEO-F411RE
Generated with:	STM32CubeMX 4.18.0
Date	01/15/2017

1.2. MCU

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

2. Pinout Configuration
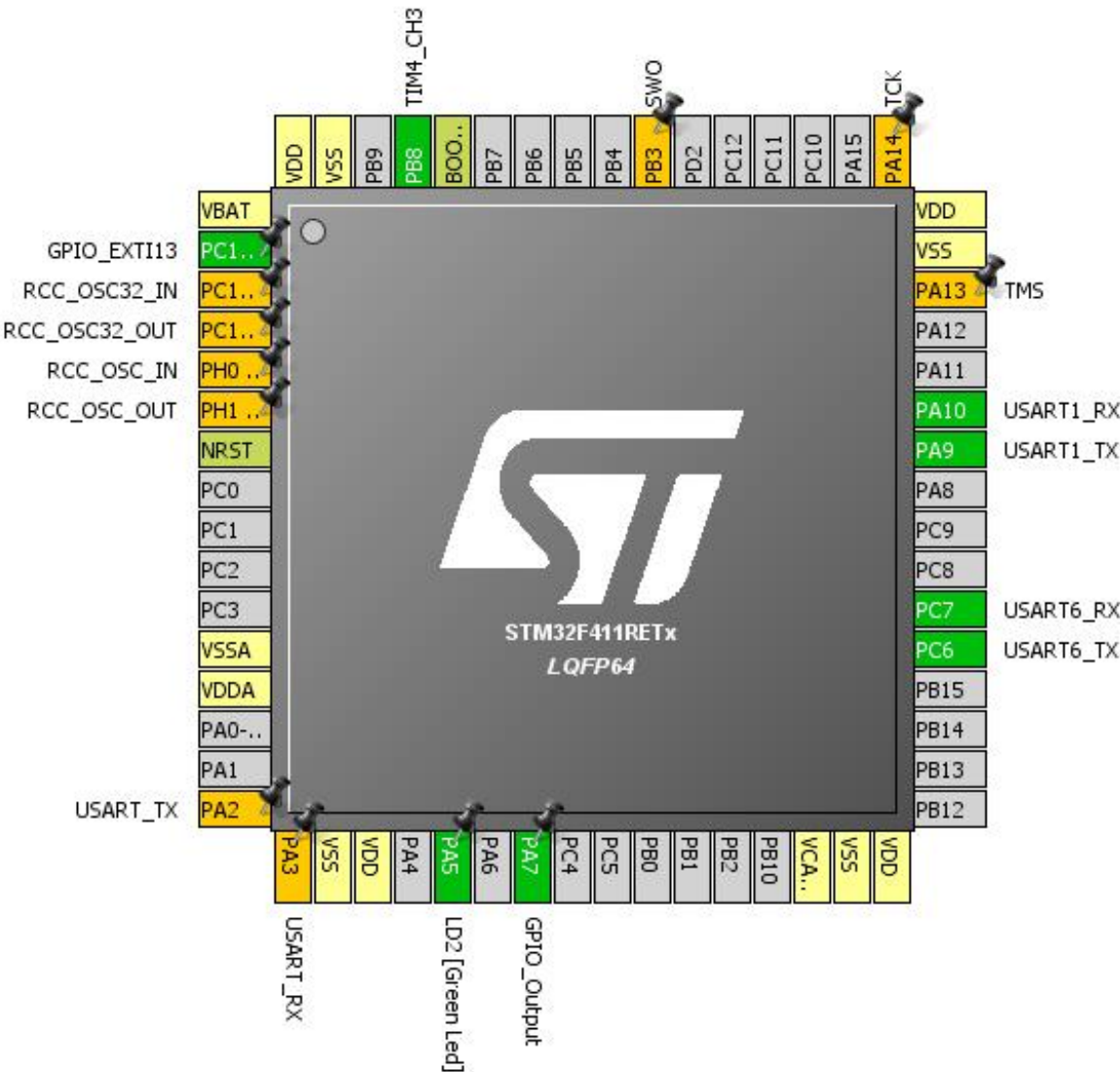
3. Pins Configuration

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	
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]
23	PA7 **	I/O	GPIO_Output	
30	VCAP1	Power		
31	VSS	Power		
32	VDD	Power		
37	PC6	I/O	USART6_TX	
38	PC7	I/O	USART6_RX	
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	SYS_JTDO-SWO	SWO
60	BOOT0	Boot		
61	PB8	I/O	TIM4_CH3	
63	VSS	Power		
64	VDD	Power		

** The pin is affected with an I/O function

 * The pin is affected with a peripheral function but no peripheral mode is activated

4. Clock Tree Configuration

5. IPs and Middleware Configuration

5.1. SYS

Timebase Source: SysTick

5.2. TIM4

mode: Clock Source

Channel3: PWM Generation CH3

5.2.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**4999 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**199 ***
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

PWM Generation Channel 3:

Mode	PWM mode 1
Pulse (16 bits value)	**9 ***
Fast Mode	Disable
CH Polarity	High

5.3. TIM10

mode: Activated

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**9999 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**499 ***
Internal Clock Division (CKD)	No Division

5.4. USART1

Mode: Asynchronous

5.4.1. Parameter Settings:

Basic Parameters:

Baud Rate	**9600** *
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples

5.5. USART6

Mode: Asynchronous

5.5.1. Parameter Settings:

Basic Parameters:

Baud Rate	**9600** *
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
TIM4	PB8	TIM4_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**Very High** *	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**Very High** *	
USART6	PC6	USART6_TX	Alternate Function Push Pull	Pull-up	**Very High** *	
	PC7	USART6_RX	Alternate Function Push Pull	Pull-up	**Very High** *	
Single Mapped Signals	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	
	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	USART_TX
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	**Very High** *	USART_RX
	PA13	SYS_JTMS-SWDIO	n/a	n/a	**n/a**	TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	**n/a**	TCK
	PB3	SYS_JTDO-SWO	n/a	n/a	**n/a**	SWO
GPIO	PC13-ANTI_TAMP	GPIO_EXTI13	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD2 [Green Led]
	PA7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	

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
TIM4 global interrupt	true	0	0
USART1 global interrupt	true	0	0
EXTI line[15:10] interrupts	true	0	0
USART6 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	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_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	SWMarkiewiczMedyk
Project Folder	C:\Users\lukar\Documents\CubeMx\SWMarkiewiczMedyk
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.14.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy all used libraries into the project folder
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