1. Description

1.1. Project

Project Name	WS0010_STM32
Board Name	NUCLEO-F411RE
Generated with:	STM32CubeMX 5.2.0
Date	07/02/2019

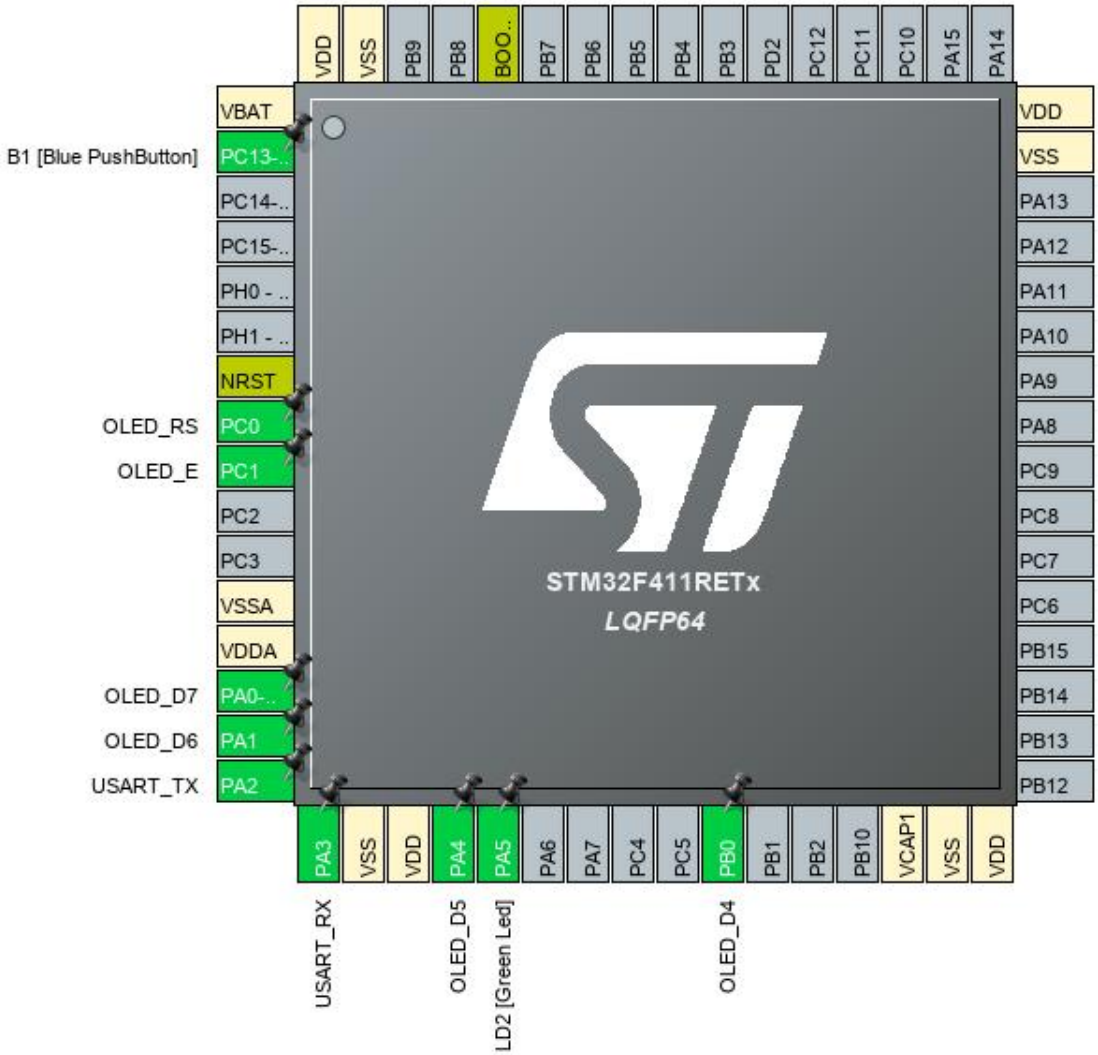
1.2. MCU

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

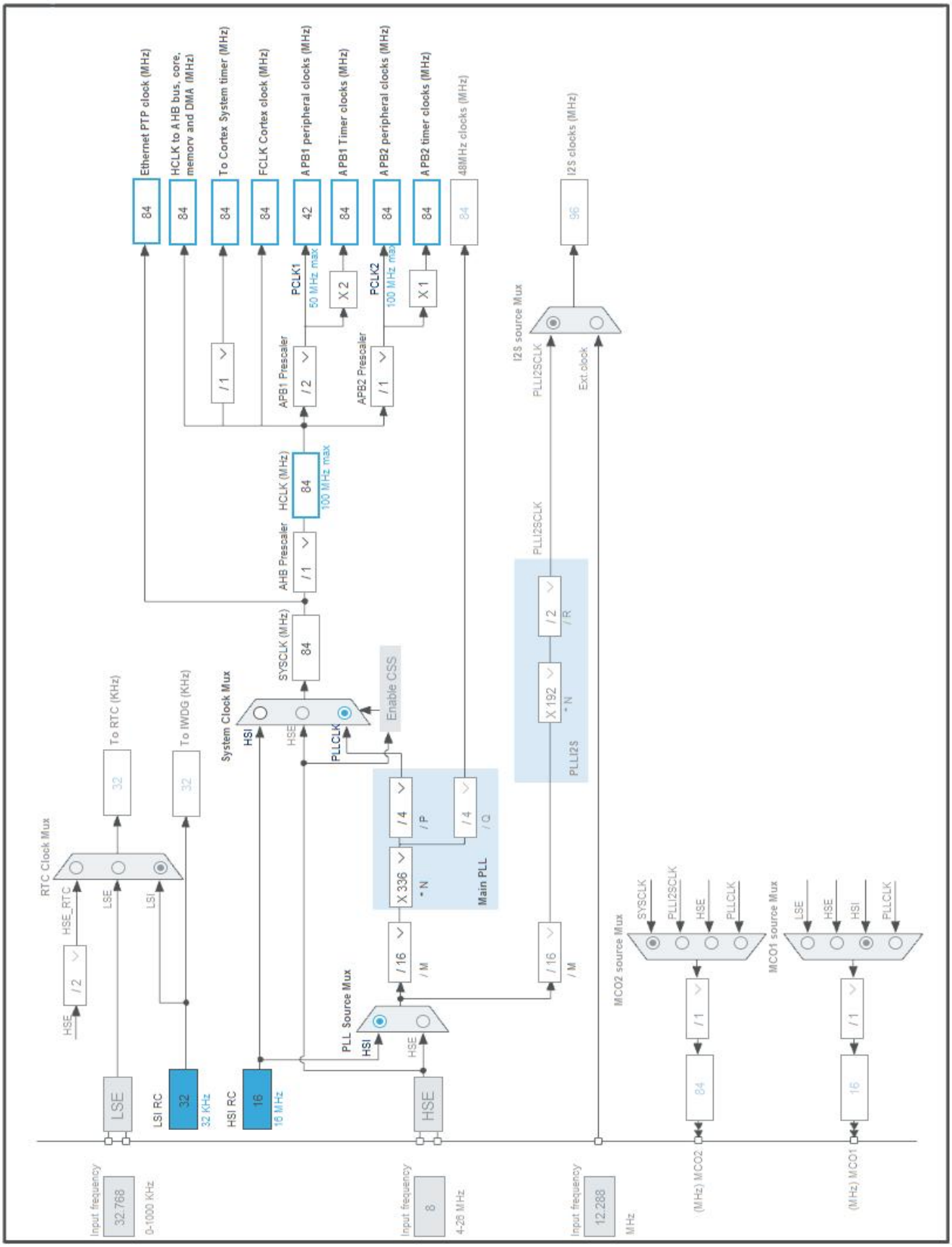


3. Pins Configuration

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]
7	NRST	Reset		
8	PC0 *	I/O	GPIO_Output	OLED_RS
9	PC1 *	I/O	GPIO_Output	OLED_E
12	VSSA	Power		
13	VDDA	Power		
14	PA0-WKUP *	I/O	GPIO_Output	OLED_D7
15	PA1 *	I/O	GPIO_Output	OLED_D6
16	PA2	I/O	USART2_TX	USART_TX
17	PA3	I/O	USART2_RX	USART_RX
18	VSS	Power		
19	VDD	Power		
20	PA4 *	I/O	GPIO_Output	OLED_D5
21	PA5 *	I/O	GPIO_Output	LD2 [Green Led]
26	PB0 *	I/O	GPIO_Output	OLED_D4
30	VCAP1	Power		
31	VSS	Power		
32	VDD	Power		
47	VSS	Power		
48	VDD	Power		
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	WS0010_STM32
Project Folder	F:\STM32\WS0010_STM32
Toolchain / IDE	TrueSTUDIO
Firmware Package Name and Version	STM32Cube FW_F4 V1.24.1

5.2. 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

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32F4
Line	STM32F411
MCU	STM32F411RETx
Datasheet	026289_Rev6

6.2. Parameter Selection

Temperature	25
Vdd	null

7. IPs and Middleware Configuration

7.1. RCC

7.1.1. 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 Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

Power Parameters:

Power Regulatror Voltage Scale	Power Regulator Voltage Scale 1

7.2. SYS

Timebase Source: SysTick

7.3. USART2

Mode: Asynchronous

7.3.1. 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**

8. System Configuration

8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
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]
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_RS
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_E
	PA0-WKUP	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_D7
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_D6
	PA4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_D5
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD2 [Green Led]
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OLED_D4

8.2. DMA configuration

nothing configured in DMA service

8.3. 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
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART2 global interrupt	unused		
EXTI line[15:10] interrupts	unused		
FPU global interrupt	unused		

*** User modified value**

9. Software Pack Report