

## 1. Description

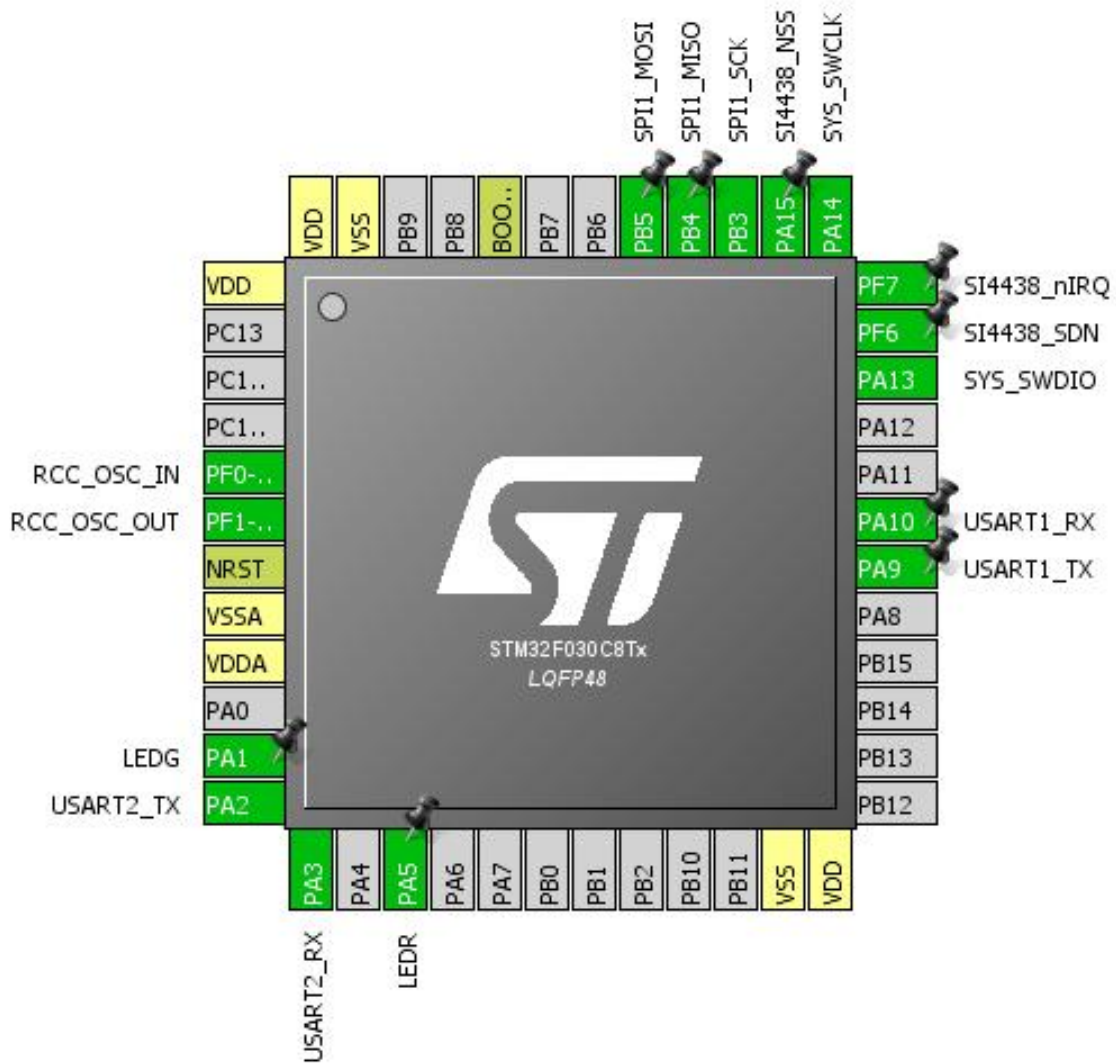
### 1.1. Project

Project Name	STM32F030C8_RTX
Board Name	custom
Generated with:	STM32CubeMX 4.26.0
Date	09/07/2018

### 1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x0 Value Line
MCU name	STM32F030C8Tx
MCU Package	LQFP48
MCU Pin number	48

## 2. Pinout Configuration

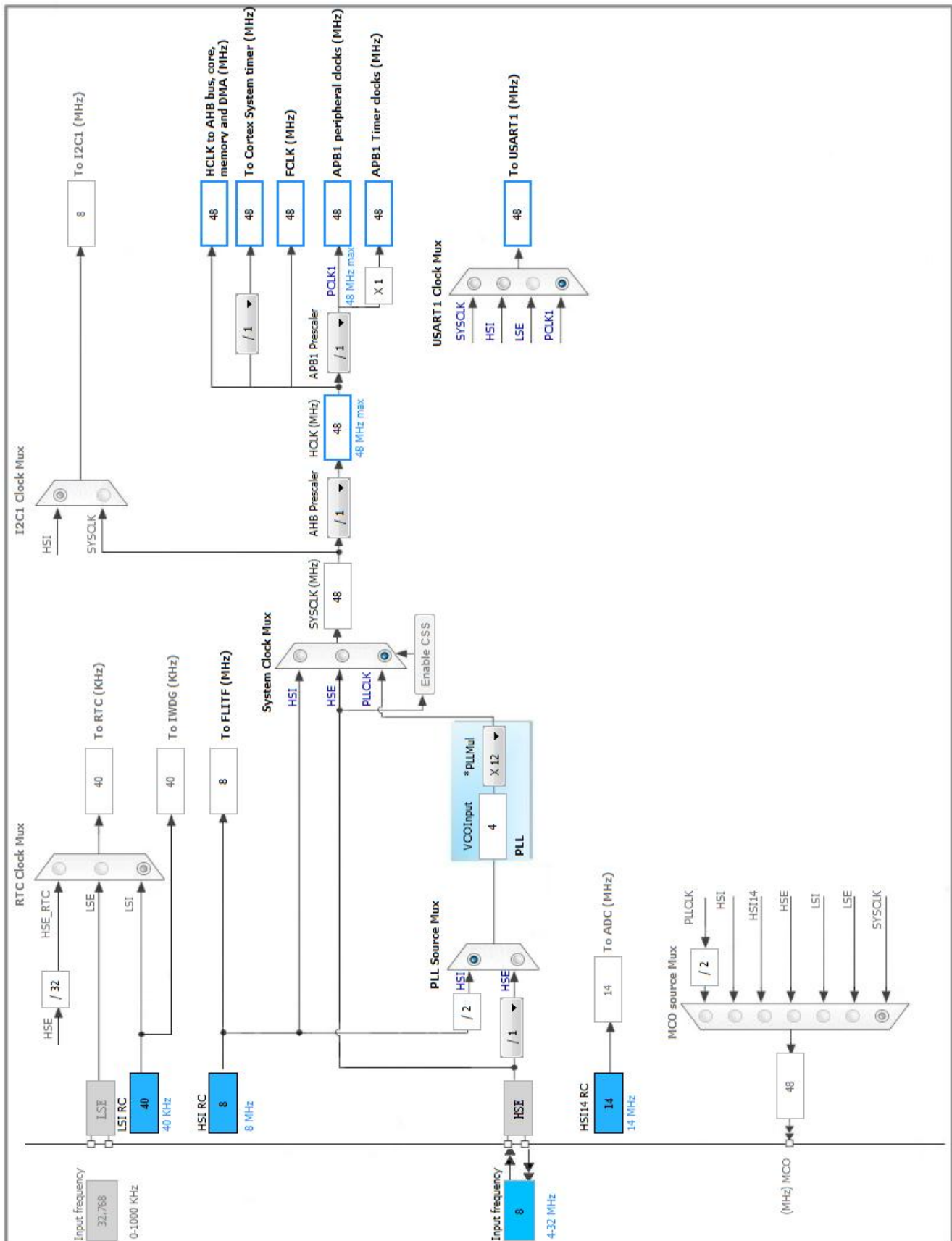


### 3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VDD	Power		
5	PF0-OSC_IN	I/O	RCC_OSC_IN	
6	PF1-OSC_OUT	I/O	RCC_OSC_OUT	
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
11	PA1 *	I/O	GPIO_Output	LEDG
12	PA2	I/O	USART2_TX	
13	PA3	I/O	USART2_RX	
15	PA5 *	I/O	GPIO_Output	LEDR
23	VSS	Power		
24	VDD	Power		
30	PA9	I/O	USART1_TX	
31	PA10	I/O	USART1_RX	
34	PA13	I/O	SYS_SWDIO	
35	PF6 *	I/O	GPIO_Output	SI4438_SDN
36	PF7	I/O	GPIO_EXTI7	SI4438_nIRQ
37	PA14	I/O	SYS_SWCLK	
38	PA15 *	I/O	GPIO_Output	SI4438_NSS
39	PB3	I/O	SPI1_SCK	
40	PB4	I/O	SPI1_MISO	
41	PB5	I/O	SPI1_MOSI	
44	BOOT0	Boot		
47	VSS	Power		
48	VDD	Power		

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

## 4. Clock Tree Configuration



## 5. IPs and Middleware Configuration

### 5.1. RCC

#### High Speed Clock (HSE): Crystal/Ceramic Resonator

##### 5.1.1. Parameter Settings:

###### System Parameters:

VDD voltage (V)	3.3
Prefetch Buffer	Enabled
Flash Latency(WS)	1 WS (2 CPU cycle)

###### RCC Parameters:

HSI Calibration Value	16
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

### 5.2. SPI1

#### Mode: Full-Duplex Master

##### 5.2.1. Parameter Settings:

###### Basic Parameters:

Frame Format	Motorola
Data Size	<b>8 Bits *</b>
First Bit	MSB First

###### Clock Parameters:

Prescaler (for Baud Rate)	<b>8 *</b>
Baud Rate	<b>6.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

###### Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Software

### 5.3. SYS

#### mode: Debug Serial Wire

**Timebase Source: SysTick**

## **5.4. USART1**

**Mode: Asynchronous**

### **5.4.1. Parameter Settings:**

#### **Basic Parameters:**

Baud Rate	38400
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

#### **Advanced Parameters:**

Data Direction	Receive and Transmit
Over Sampling	16 Samples
Single Sample	Disable

#### **Advanced Features:**

Auto Baudrate	Disable
TX Pin Active Level Inversion	Disable
RX Pin Active Level Inversion	Disable
Data Inversion	Disable
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

## **5.5. USART2**

**Mode: Asynchronous**

### **5.5.1. Parameter Settings:**

#### **Basic Parameters:**

Baud Rate	38400
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

#### **Advanced Parameters:**

Data Direction	Receive and Transmit
Over Sampling	16 Samples
Single Sample	Disable

**Advanced Features:**

TX Pin Active Level Inversion	Disable
RX Pin Active Level Inversion	Disable
Data Inversion	Disable
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

**\* 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	PF0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PF1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SPI1	PB3	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PB4	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PB5	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	High *	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PA10	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
GPIO	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LEDG
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LEDR
	PF6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	High *	SI4438_SDN
	PF7	GPIO_EXTI7	<b>External Interrupt Mode with Falling edge trigger detection</b>	No pull-up and no pull-down	n/a	SI4438_nIRQ
	PA15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	High *	SI4438_NSS

### 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
System service call via SWI instruction	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	0	0
EXTI line 4 to 15 interrupts	true	0	0
USART1 global interrupt	true	0	0
USART2 global interrupt	true	0	0
Flash global interrupt	unused		
RCC global interrupt	unused		
SPI1 global interrupt	unused		

\* User modified value

## 7. Power Consumption Calculator report

### 7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x0 Value Line
MCU	STM32F030C8Tx
Datasheet	024849_Rev2

### 7.2. Parameter Selection

Temperature	25
Vdd	3.6

## 8. Software Project

### 8.1. Project Settings

Name	Value
Project Name	STM32F030C8_RTX
Project Folder	E:\\STM32F030C8_RTX
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F0 V1.9.0

### 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

## ***9. Software Pack Report***