

## 1. Description

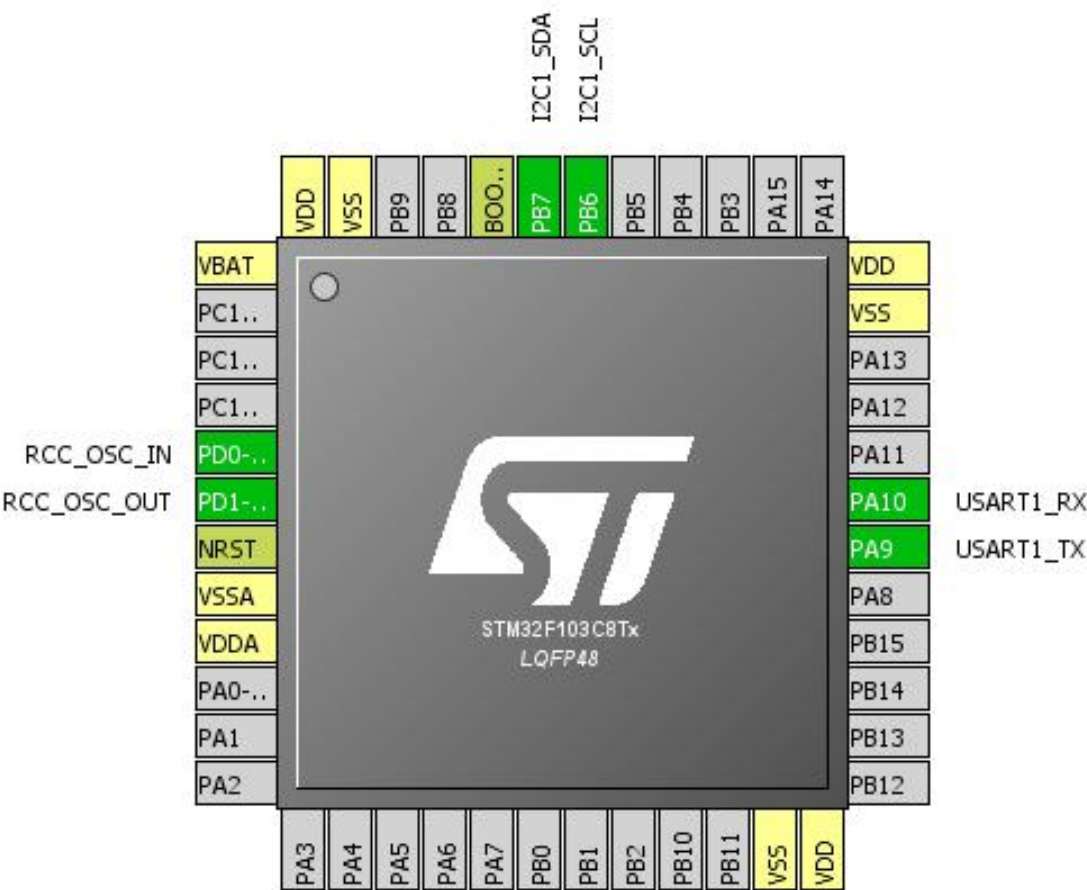
### 1.1. Project

|                 |                            |
|-----------------|----------------------------|
| Project Name    | STM32F103C8Tx-template-gcc |
| Board Name      | custom                     |
| Generated with: | STM32CubeMX 4.27.0         |
| Date            | 10/07/2018                 |

### 1.2. MCU

|                |               |
|----------------|---------------|
| MCU Series     | STM32F1       |
| MCU Line       | STM32F103     |
| MCU name       | STM32F103C8Tx |
| MCU Package    | LQFP48        |
| MCU Pin number | 48            |

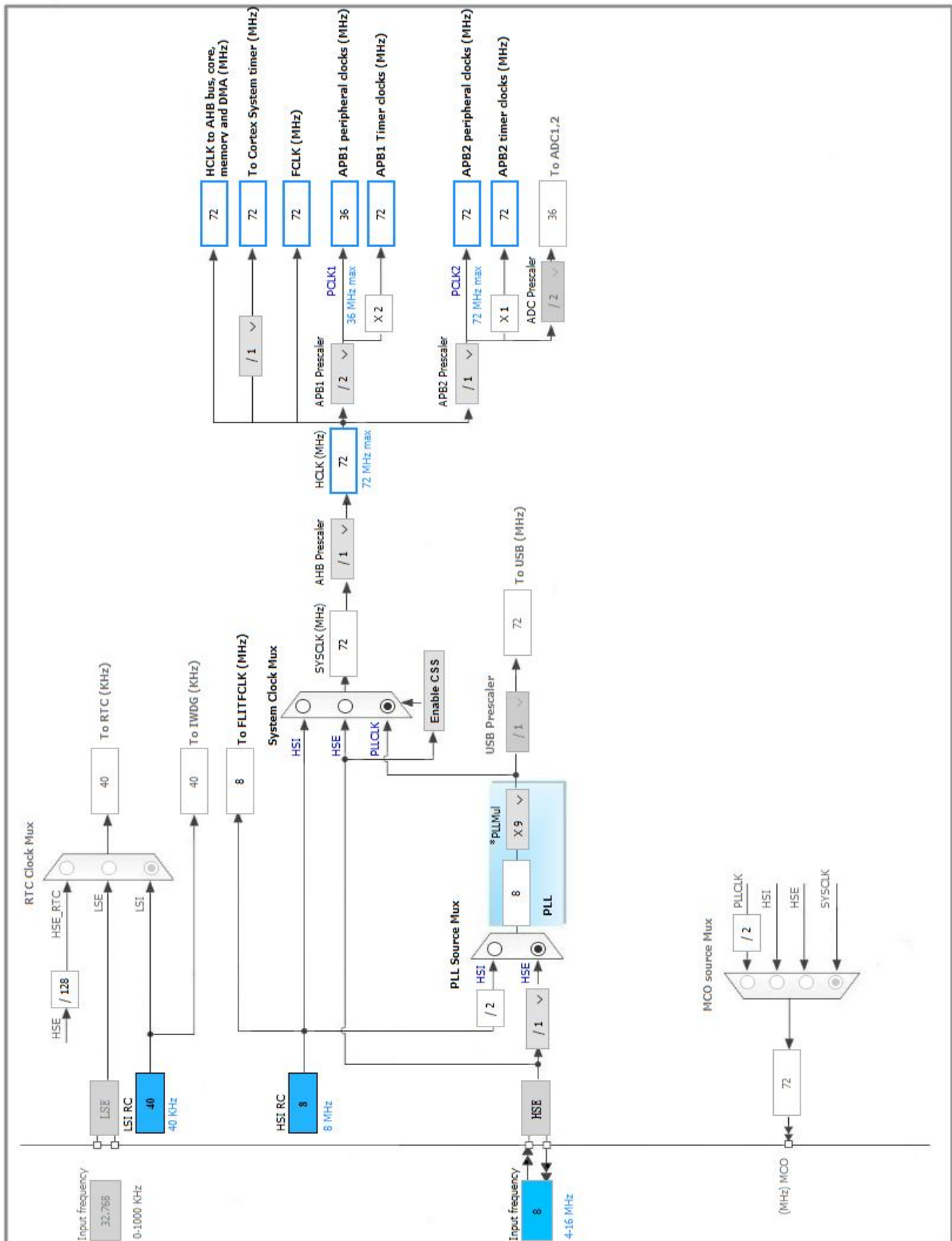
## 2. Pinout Configuration



### 3. Pins Configuration

| Pin Number<br>LQFP48 | Pin Name<br>(function after<br>reset) | Pin Type | Alternate<br>Function(s) | Label |
|----------------------|---------------------------------------|----------|--------------------------|-------|
| 1                    | VBAT                                  | Power    |                          |       |
| 5                    | PD0-OSC_IN                            | I/O      | RCC_OSC_IN               |       |
| 6                    | PD1-OSC_OUT                           | I/O      | RCC_OSC_OUT              |       |
| 7                    | NRST                                  | Reset    |                          |       |
| 8                    | VSSA                                  | Power    |                          |       |
| 9                    | VDDA                                  | Power    |                          |       |
| 23                   | VSS                                   | Power    |                          |       |
| 24                   | VDD                                   | Power    |                          |       |
| 30                   | PA9                                   | I/O      | USART1_TX                |       |
| 31                   | PA10                                  | I/O      | USART1_RX                |       |
| 35                   | VSS                                   | Power    |                          |       |
| 36                   | VDD                                   | Power    |                          |       |
| 42                   | PB6                                   | I/O      | I2C1_SCL                 |       |
| 43                   | PB7                                   | I/O      | I2C1_SDA                 |       |
| 44                   | BOOT0                                 | Boot     |                          |       |
| 47                   | VSS                                   | Power    |                          |       |
| 48                   | VDD                                   | Power    |                          |       |

## 4. Clock Tree Configuration



## 5. IPs and Middleware Configuration

### 5.1. I2C1

#### I2C: I2C

##### 5.1.1. Parameter Settings:

###### Master Features:

|                      |               |
|----------------------|---------------|
| I2C Speed Mode       | Standard Mode |
| I2C Clock Speed (Hz) | 100000        |

###### Slave Features:

|                                  |          |
|----------------------------------|----------|
| Clock No Stretch Mode            | Disabled |
| Primary Address Length selection | 7-bit    |
| Dual Address Acknowledged        | Disabled |
| Primary slave address            | 0        |
| General Call address detection   | Disabled |

### 5.2. RCC

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

##### 5.2.1. Parameter Settings:

###### System Parameters:

|                   |                    |
|-------------------|--------------------|
| VDD voltage (V)   | 3.3                |
| Prefetch Buffer   | Enabled            |
| Flash Latency(WS) | 2 WS (3 CPU cycle) |

###### RCC Parameters:

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

### 5.3. SYS

Debug: No Debug

Timebase Source: SysTick

### 5.4. USART1

**Mode: Asynchronous**

**5.4.1. 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 |
|--------|-------------|-------------|-------------------------------|-----------------------------|---------------|------------|
| I2C1   | PB6         | I2C1_SCL    | Alternate Function Open Drain | n/a                         | <b>High *</b> |            |
|        | PB7         | I2C1_SDA    | Alternate Function Open Drain | n/a                         | <b>High *</b> |            |
| RCC    | PD0-OSC_IN  | RCC_OSC_IN  | n/a                           | n/a                         | n/a           |            |
|        | PD1-OSC_OUT | RCC_OSC_OUT | n/a                           | n/a                         | n/a           |            |
| USART1 | PA9         | USART1_TX   | Alternate Function Push Pull  | n/a                         | <b>High *</b> |            |
|        | PA10        | USART1_RX   | Input mode                    | No pull-up and no pull-down | <b>n/a</b>    |            |

### 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           |
| Prefetch 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 |                      |             |
| I2C1 event interrupt                    | unused |                      |             |
| I2C1 error interrupt                    | unused |                      |             |
| USART1 global interrupt                 | unused |                      |             |

\* User modified value



## ***7. Power Consumption Calculator report***

### 7.1. Microcontroller Selection

|           |               |
|-----------|---------------|
| Series    | STM32F1       |
| Line      | STM32F103     |
| MCU       | STM32F103C8Tx |
| Datasheet | 13587_Rev17   |

### 7.2. Parameter Selection

|             |     |
|-------------|-----|
| Temperature | 25  |
| Vdd         | 3.3 |

## 8. Software Project

### 8.1. Project Settings

| Name                              | Value   |
|-----------------------------------|---|
| Project Name                      | STM32F103C8Tx-template-gcc  |
| Project Folder                    | C:\Users\kmal\Documents\workspace\stm32space\workspace\STM32F103C8Tx- |
| Toolchain / IDE                   | Makefile  |
| Firmware Package Name and Version | STM32Cube FW_F1 V1.6.1  |

### 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   | Yes   |
| 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***