

## 1. Description

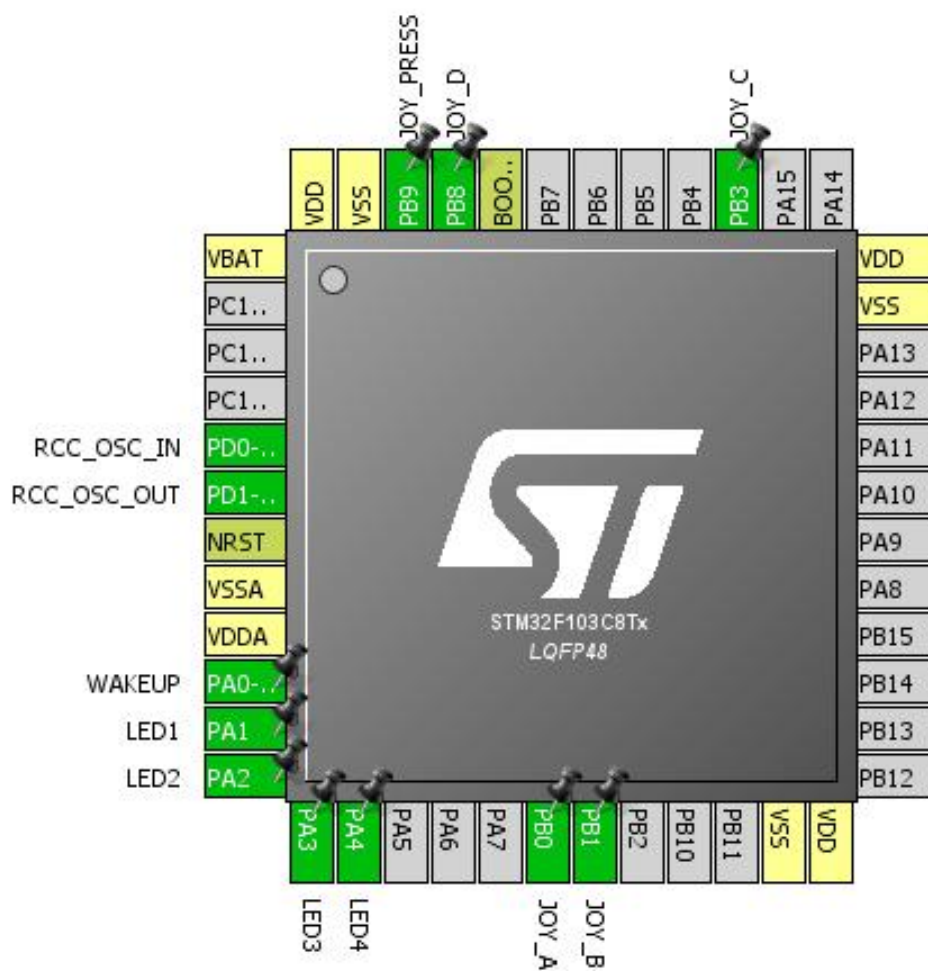
### 1.1. Project

Project Name	GPIO
Board Name	GPIO
Generated with:	STM32CubeMX 4.19.0
Date	03/22/2017

### 1.2. MCU

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

## 2. Pinout Configuration

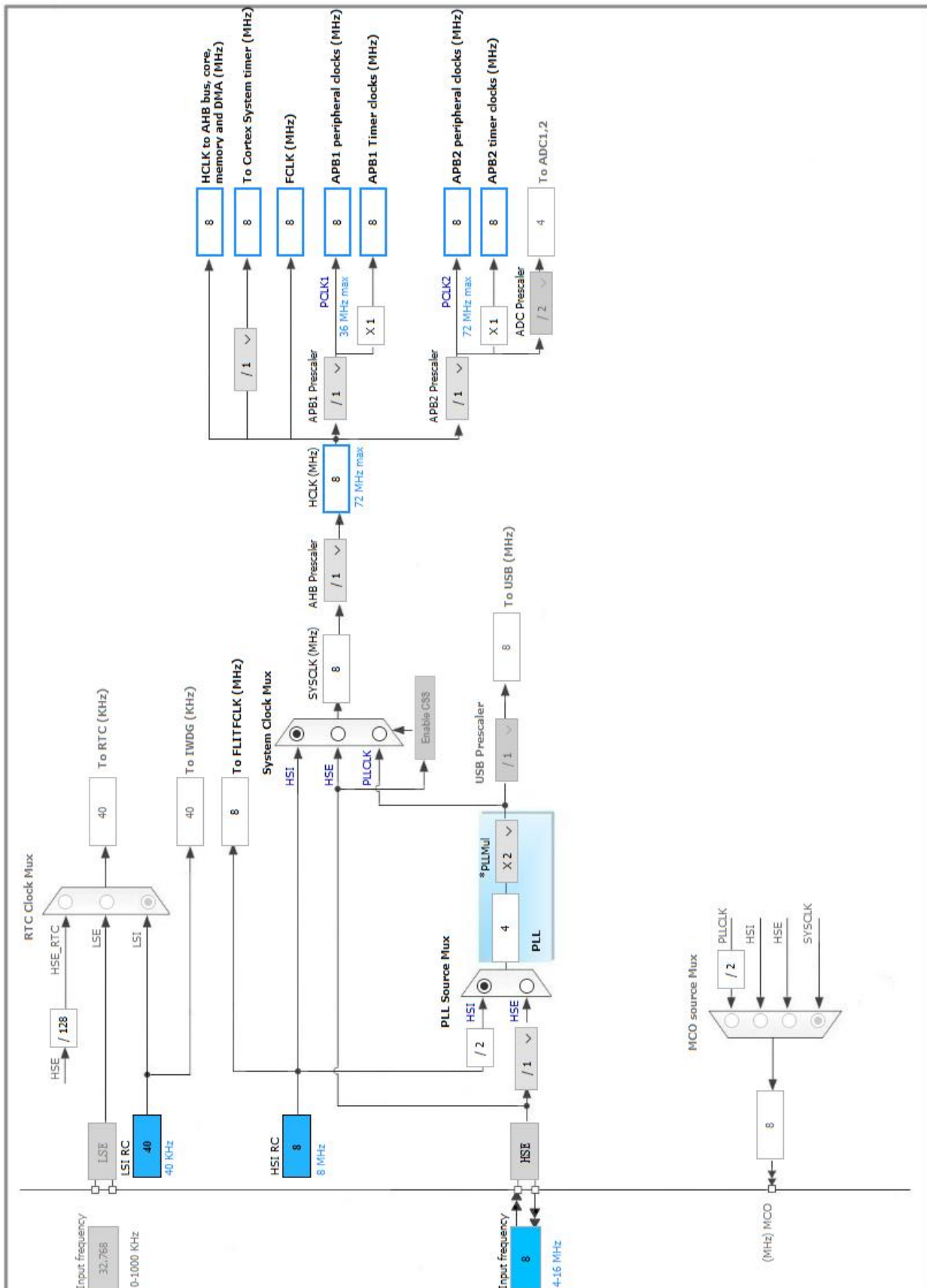


### 3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate 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		
10	PA0-WKUP *	I/O	GPIO_Input	WAKEUP
11	PA1 *	I/O	GPIO_Output	LED1
12	PA2 *	I/O	GPIO_Output	LED2
13	PA3 *	I/O	GPIO_Output	LED3
14	PA4 *	I/O	GPIO_Output	LED4
18	PB0 *	I/O	GPIO_Input	JOY_A
19	PB1 *	I/O	GPIO_Input	JOY_B
23	VSS	Power		
24	VDD	Power		
35	VSS	Power		
36	VDD	Power		
39	PB3 *	I/O	GPIO_Input	JOY_C
44	BOOT0	Boot		
45	PB8 *	I/O	GPIO_Input	JOY_D
46	PB9 *	I/O	GPIO_Input	JOY_PRESS
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)	0 WS (1 CPU cycle)

###### RCC Parameters:

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

### 5.2. SYS

Debug: No Debug

Timebase Source: SysTick

\* 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	PD0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PD1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
GPIO	PA0-WKUP	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	WAKEUP
	PA1	GPIO_Output	Output Push Pull	<b>n/a</b>	Low	LED1
	PA2	GPIO_Output	Output Push Pull	<b>n/a</b>	Low	LED2
	PA3	GPIO_Output	Output Push Pull	<b>n/a</b>	Low	LED3
	PA4	GPIO_Output	Output Push Pull	<b>n/a</b>	Low	LED4
	PB0	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	JOY_A
	PB1	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	JOY_B
	PB3	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	JOY_C
	PB8	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	JOY_D
	PB9	GPIO_Input	Input mode	<b>Pull-up *</b>	n/a	JOY_PRESS

### 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		

\* 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	GPIO
Project Folder	E:\Open103C-Demo-HAL\1.GPIO\GPIO
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.4.0

### 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	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