

## 1. Description

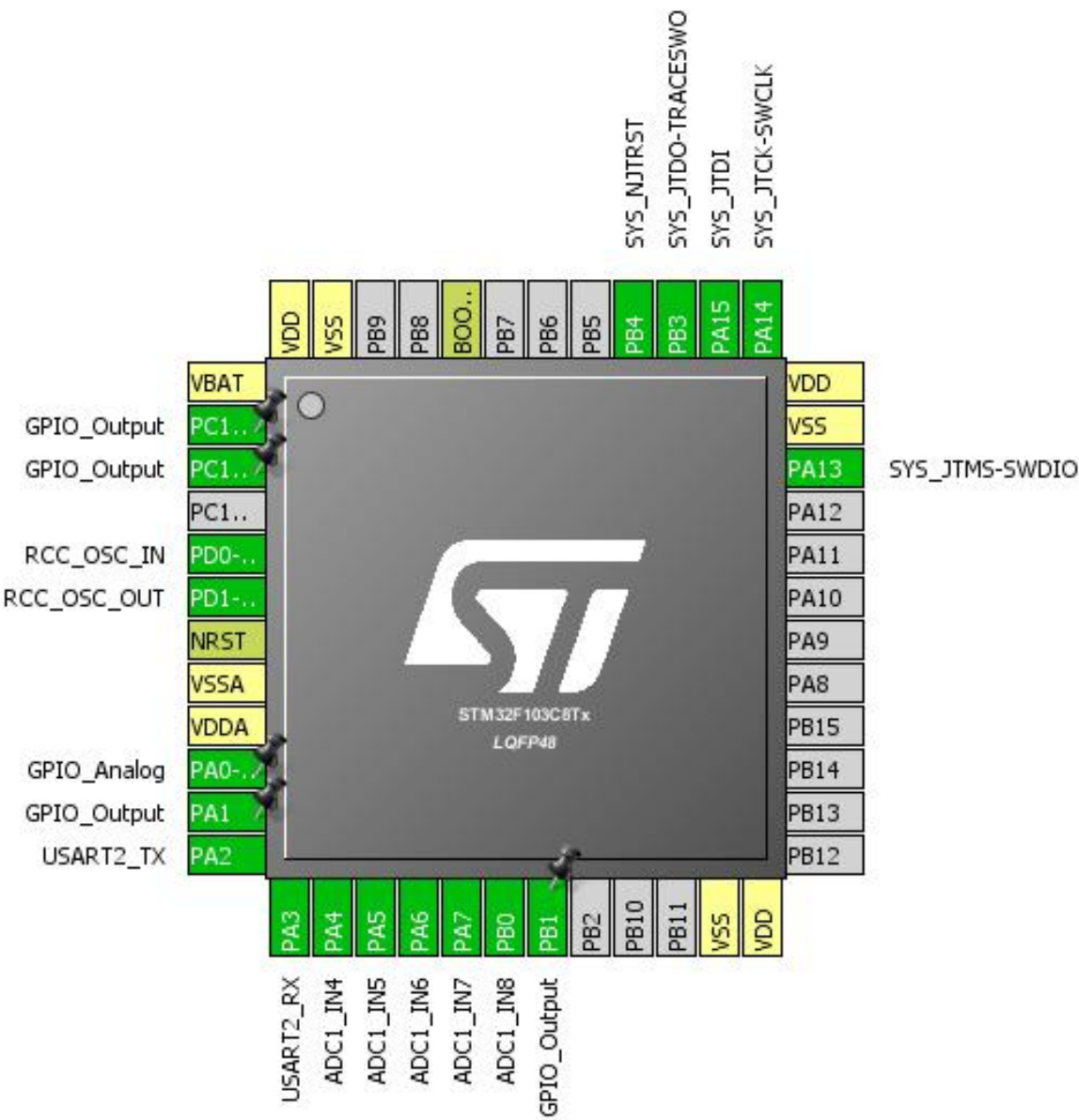
### 1.1. Project

Project Name	Station_Weather_Data
Board Name	custom
Generated with:	STM32CubeMX 4.27.0
Date	01/26/2019

### 1.2. MCU

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

## 2. Pinout Configuration

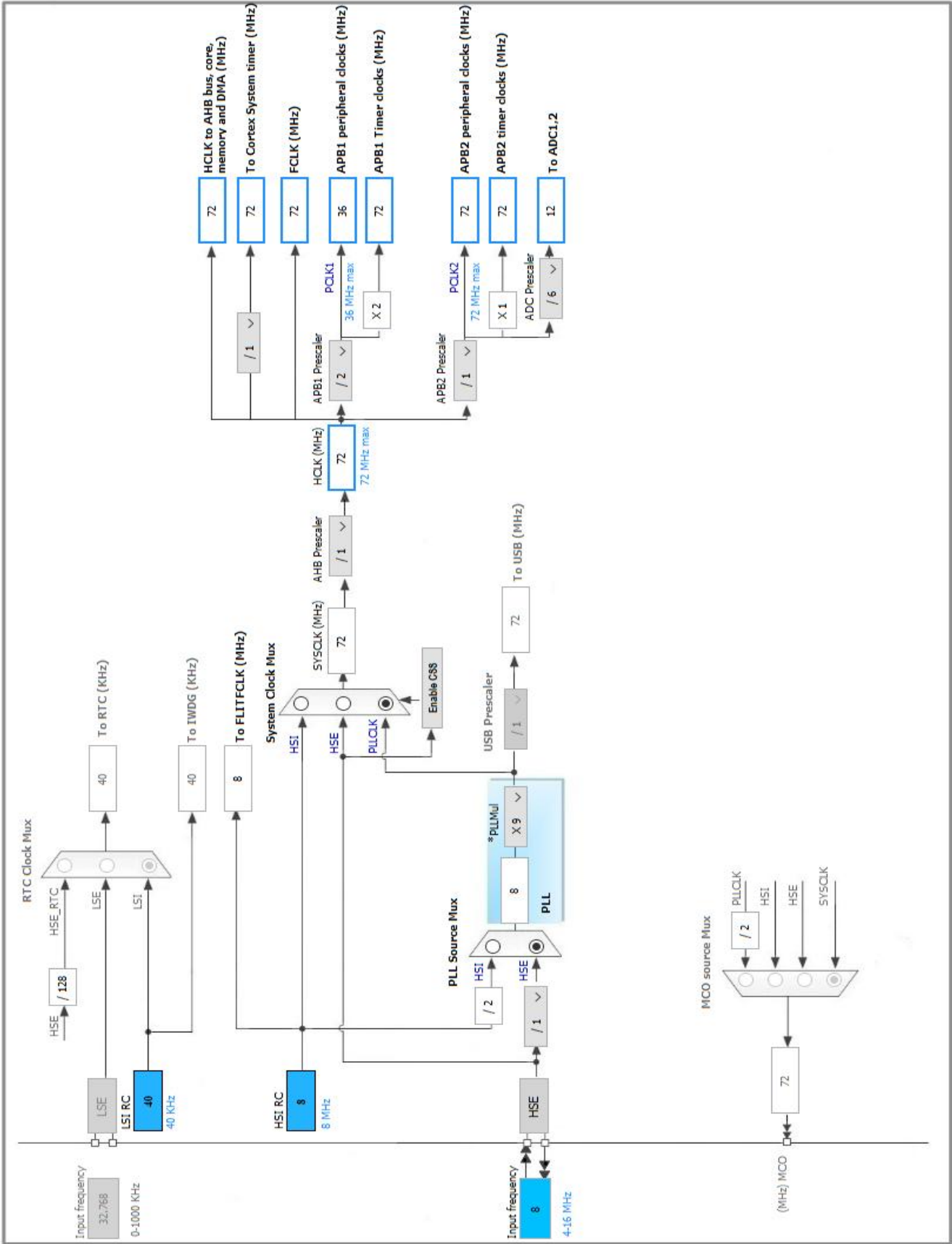


### 3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13-TAMPER-RTC *	I/O	GPIO_Output	
3	PC14-OSC32_IN *	I/O	GPIO_Output	
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_Analog	
11	PA1 *	I/O	GPIO_Output	
12	PA2	I/O	USART2_TX	
13	PA3	I/O	USART2_RX	
14	PA4	I/O	ADC1_IN4	
15	PA5	I/O	ADC1_IN5	
16	PA6	I/O	ADC1_IN6	
17	PA7	I/O	ADC1_IN7	
18	PB0	I/O	ADC1_IN8	
19	PB1 *	I/O	GPIO_Output	
23	VSS	Power		
24	VDD	Power		
34	PA13	I/O	SYS_JTMS-SWDIO	
35	VSS	Power		
36	VDD	Power		
37	PA14	I/O	SYS_JTCK-SWCLK	
38	PA15	I/O	SYS_JTDI	
39	PB3	I/O	SYS_JTDO-TRACESWO	
40	PB4	I/O	SYS_NJTRST	
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. ADC1

mode: IN4

mode: IN5

mode: IN6

mode: IN7

mode: IN8

mode: Temperature Sensor Channel

#### 5.1.1. Parameter Settings:

##### ADCs\_Common\_Settings:

Mode	Independent mode
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##### ADC\_Settings:

Data Alignment	Right alignment
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Scan Conversion Mode	Disabled
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Continuous Conversion Mode	Disabled
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Discontinuous Conversion Mode	Disabled
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##### ADC\_Regular\_ConversionMode:

Enable Regular Conversions	Enable
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Number Of Conversion	1
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External Trigger Conversion Source	Regular Conversion launched by software
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Rank	1
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Channel	Channel 4
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Sampling Time	1.5 Cycles
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##### ADC\_Injected\_ConversionMode:

Number Of Conversions	0
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##### WatchDog:

Enable Analog WatchDog Mode	false
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### 5.2. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

#### 5.2.1. Parameter Settings:

##### System Parameters:

VDD voltage (V)	3.3
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Prefetch Buffer	Enabled
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Flash Latency(WS)	2 WS (3 CPU cycle)
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**RCC Parameters:**

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

### 5.3. SYS

**Debug: JTAG (5 pins)**

**Timebase Source: SysTick**

### 5.4. USART2

**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
ADC1	PA4	ADC1_IN4	Analog mode	n/a	n/a	
	PA5	ADC1_IN5	Analog mode	n/a	n/a	
	PA6	ADC1_IN6	Analog mode	n/a	n/a	
	PA7	ADC1_IN7	Analog mode	n/a	n/a	
	PB0	ADC1_IN8	Analog mode	n/a	n/a	
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	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
	PA15	SYS_JTDI	n/a	n/a	n/a	
	PB3	SYS_JTDO-TRACESWO	n/a	n/a	n/a	
	PB4	SYS_NJTRST	n/a	n/a	n/a	
USART2	PA2	USART2_TX	Alternate Function Push Pull	n/a	High *	
	PA3	USART2_RX	Input mode	No pull-up and no pull-down	n/a	
GPIO	PC13-TAMPER-RTC	GPIO_Output	Output Push Pull	Pull-up *	High *	
	PC14-OSC32_IN	GPIO_Output	Output Push Pull	Pull-up *	High *	
	PA0-WKUP	GPIO_Analog	Analog mode	n/a	n/a	
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB1	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
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
USART2 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1 and ADC2 global interrupts	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	Station_Weather_Data
Project Folder	F:\CODE\STM32\Station_Weather_Data
Toolchain / IDE	TrueSTUDIO
Firmware Package Name and Version	STM32Cube FW_F1 V1.6.1

### 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	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***