

## 1. Description

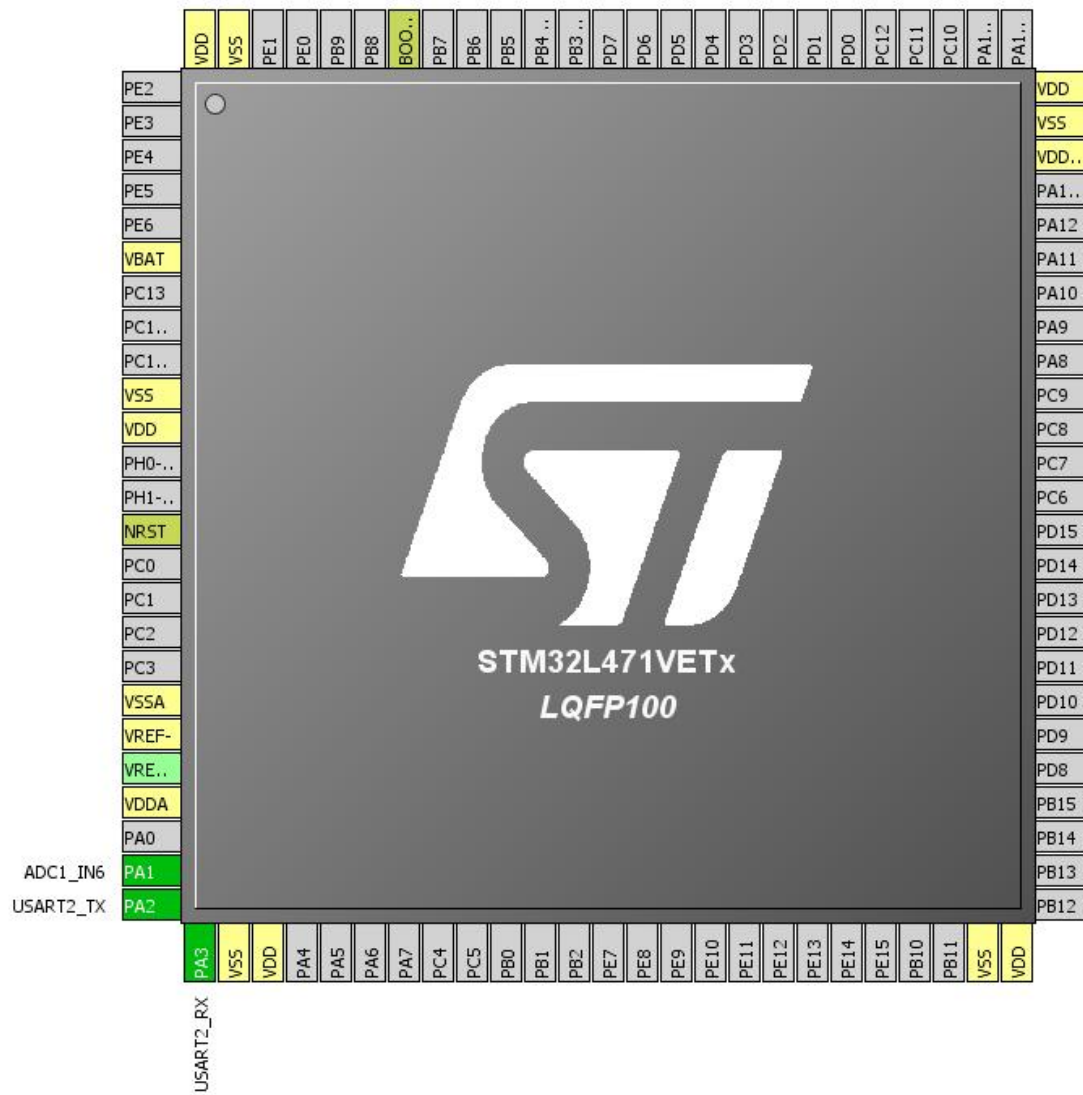
### 1.1. Project

Project Name	ADC
Board Name	ADC
Generated with:	STM32CubeMX 4.23.0
Date	06/14/2018

### 1.2. MCU

MCU Series	STM32L4
MCU Line	STM32L4x1
MCU name	STM32L471VETx
MCU Package	LQFP100
MCU Pin number	100

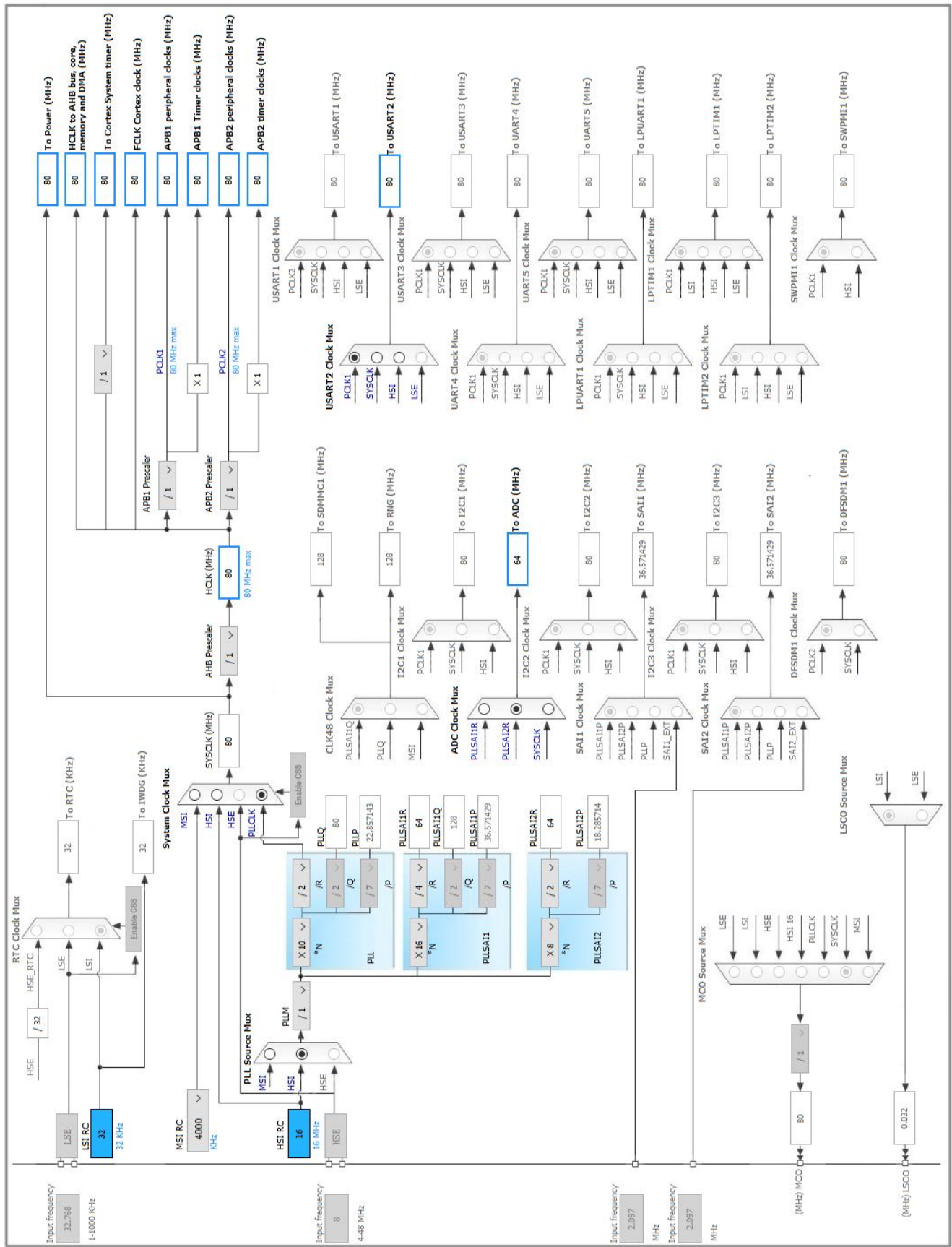
## 2. Pinout Configuration



### 3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
14	NRST	Reset		
19	VSSA	Power		
20	VREF-	Power		
22	VDDA	Power		
24	PA1	I/O	ADC1_IN6	
25	PA2	I/O	USART2_TX	
26	PA3	I/O	USART2_RX	
27	VSS	Power		
28	VDD	Power		
49	VSS	Power		
50	VDD	Power		
73	VDDUSB	Power		
74	VSS	Power		
75	VDD	Power		
94	BOOT0	Boot		
99	VSS	Power		
100	VDD	Power		

## 4. Clock Tree Configuration



## 5. IPs and Middleware Configuration

### 5.1. ADC1

#### IN6: IN6 Single-ended

##### 5.1.1. Parameter Settings:

###### ADCs\_Common\_Settings:

Mode Independent mode

###### ADC\_Settings:

Clock Prescaler Asynchronous clock mode divided by 1

Resolution ADC 12-bit resolution

Data Alignment Right alignment

Scan Conversion Mode Disabled

Continuous Conversion Mode Disabled

Discontinuous Conversion Mode Disabled

DMA Continuous Requests Disabled

End Of Conversion Selection End of single conversion

Overrun behaviour Overrun data preserved

Low Power Auto Wait Disabled

###### ADC\_Regular\_ConversionMode:

Enable Regular Conversions Enable

Enable Regular Oversampling Disable

Number Of Conversion 1

External Trigger Conversion Source Regular Conversion launched by software

External Trigger Conversion Edge None

Rank 1

Channel Channel 6

Sampling Time 2.5 Cycles

Offset Number No offset

###### ADC\_Injected\_ConversionMode:

Enable Injected Conversions Disable

###### Analog Watchdog 1:

Enable Analog WatchDog1 Mode false

###### Analog Watchdog 2:

Enable Analog WatchDog2 Mode false

###### Analog Watchdog 3:

Enable Analog WatchDog3 Mode false

## 5.2. SYS

Timebase Source: SysTick

## 5.3. USART2

Mode: Asynchronous

### 5.3.1. Parameter Settings:

#### Basic Parameters:

Baud Rate	115200
Word Length	<b>8 Bits (including Parity) *</b>
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

\* 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	PA1	ADC1_IN6	Analog mode for ADC conversion	No pull-up and no pull-down	n/a	
USART2	PA2	USART2_TX	Alternate Function Push Pull	Pull-up	<b>Very High</b> *	
	PA3	USART2_RX	Alternate Function Push Pull	Pull-up	<b>Very High</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/PVM1/PVM2/PVM3/PVM4 interrupts through EXTI lines 16/35/36/37/38	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1 and ADC2 interrupts	unused		
USART2 global interrupt	unused		
FPU global interrupt	unused		

\* User modified value



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

### 7.1. Microcontroller Selection

Series	STM32L4
Line	STM32L4x1
MCU	STM32L471VETx
Datasheet	027226_Rev1

### 7.2. Parameter Selection

Temperature	25
Vdd	null

## 8. Software Project

### 8.1. Project Settings

Name	Value
Project Name	ADC
Project Folder	E:\MCU_learning\STM32L4\STM32L431RC\STM32L431Demo\ADC_Test\ADC
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_L4 V1.10.0

### 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	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