1. Description

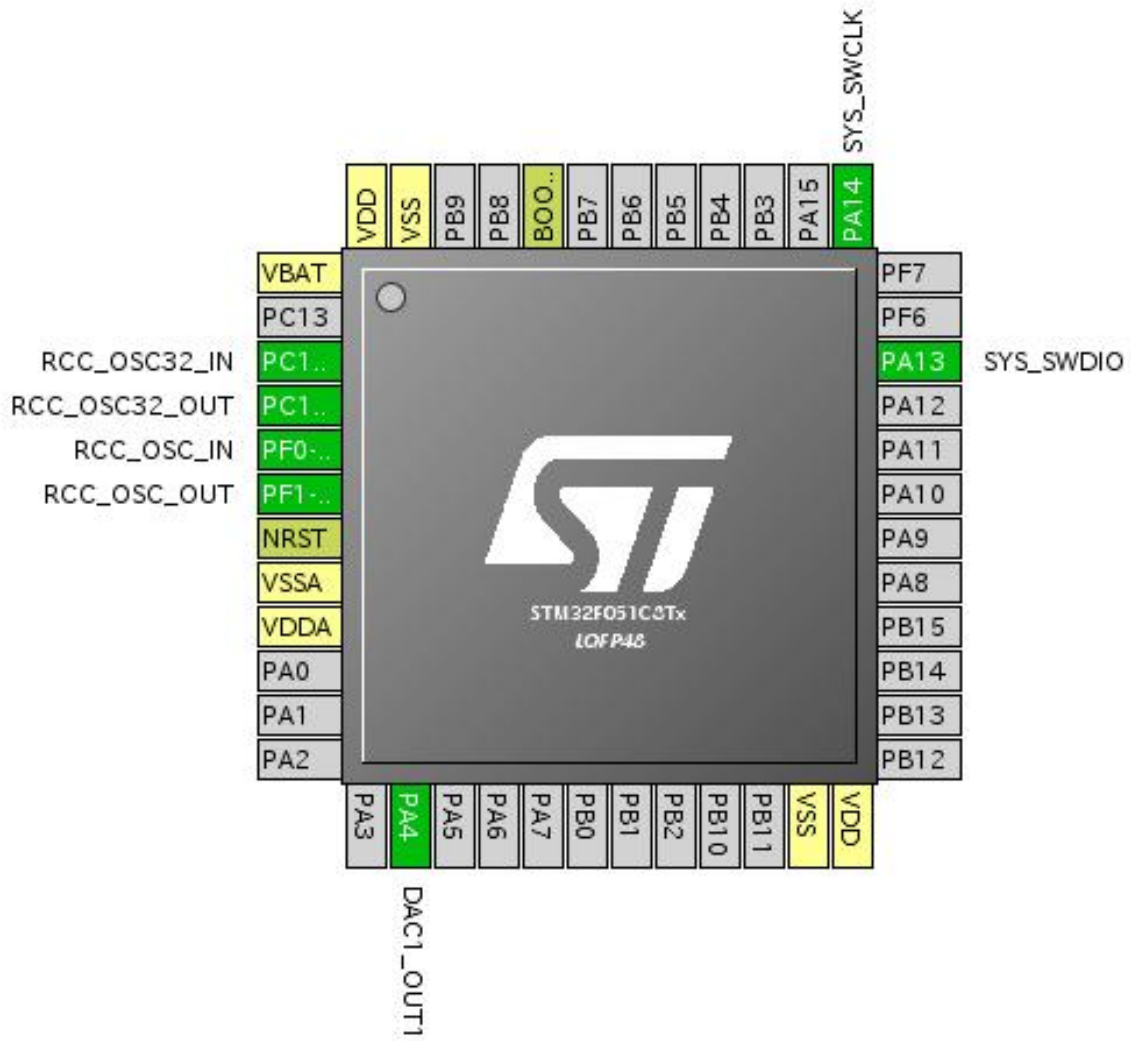
1.1. Project

Project Name	stm32f051_dma
Board Name	stm32f051_dma
Generated with:	STM32CubeMX 4.18.0
Date	01/19/2017

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x1
MCU name	STM32F051C8Tx
MCU Package	LQFP48
MCU Pin number	48

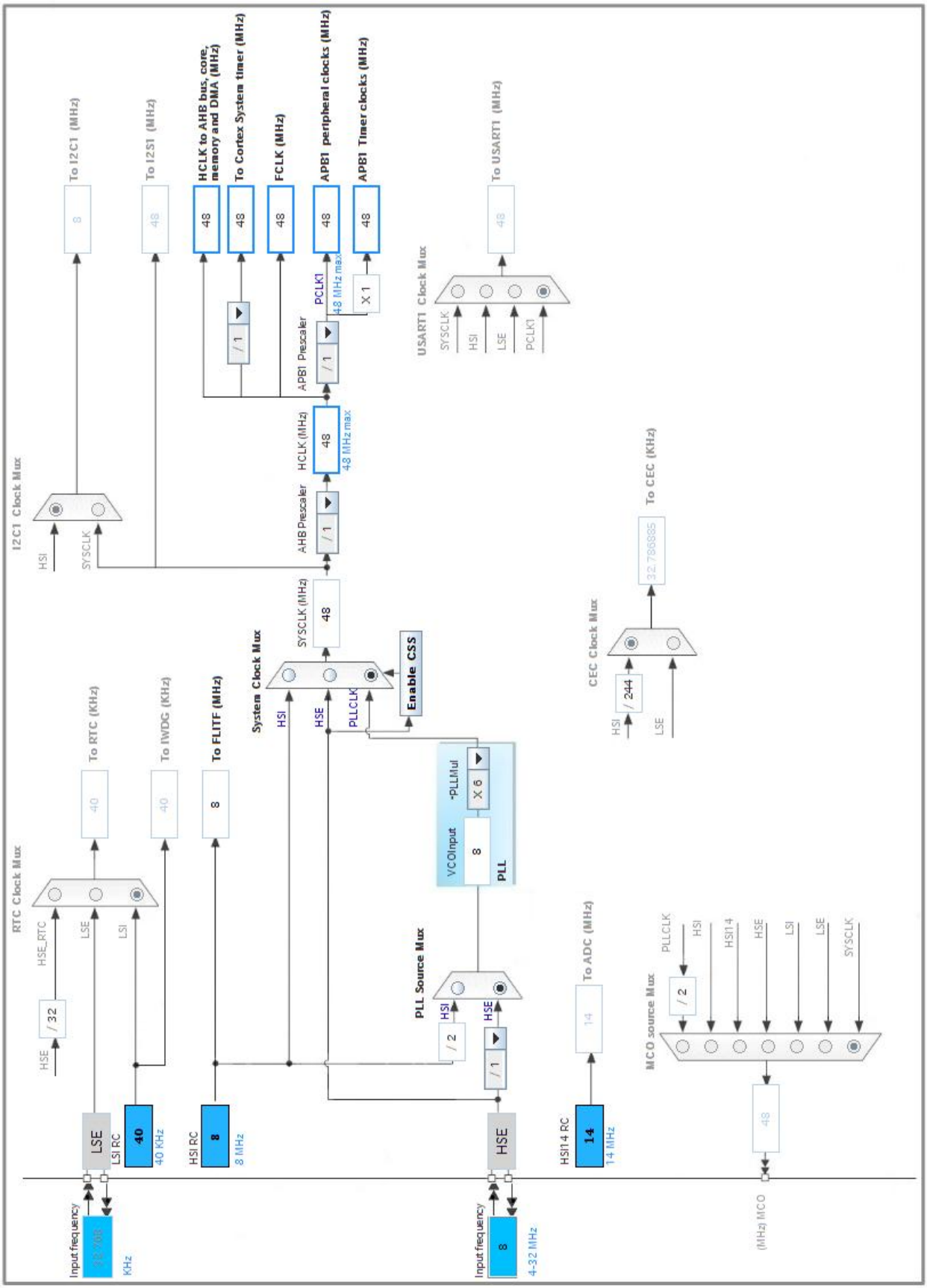
2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
3	PC14-OSC32_IN	I/O	RCC_OSC32_IN	
4	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	
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		
14	PA4	I/O	DAC1_OUT1	
23	VSS	Power		
24	VDD	Power		
34	PA13	I/O	SYS_SWDIO	
37	PA14	I/O	SYS_SWCLK	
44	BOOT0	Boot		
47	VSS	Power		
48	VDD	Power		

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. DAC1

mode: OUT1 Configuration

5.1.1. Parameter Settings:

DAC Out1 Settings:

Output Buffer	Enable
Trigger	**Timer 6 Trigger Out event ***

5.2. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator
Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.2.1. Parameter Settings:

System Parameters:

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

RCC Parameters:

HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

5.3. SYS

mode: Debug Serial Wire
Timebase Source: SysTick

5.4. TIM6

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**3000-1 ***
auto-reload preload	Disable

Trigger Output (TRGO) Parameters:

Trigger Event Selection	**Update Event ***

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
DAC1	PA4	DAC1_OUT1	Analog mode	No pull-up and no pull-down	n/a	
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	PF0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PF1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	

6.2. DMA configuration

DMA request	Stream	Direction	Priority
DAC1_CH1	DMA1_Channel3	Memory To Peripheral	Low

DAC1_CH1: DMA1_Channel3 DMA request Settings:

Mode:	**Circular ***
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Half Word
Memory Data Width:	Half Word

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
DMA1 channel 2 and 3 interrupts	true	0	0
PVD interrupt through EXTI Line16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
TIM6 global and DAC underrun error interrupts	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x1
MCU	STM32F051C8Tx
Datasheet	022265_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	stm32f051_dma
Project Folder	/home/stm/stm32project/stm32f051_dma
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F0 V1.7.0

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	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