1. Description

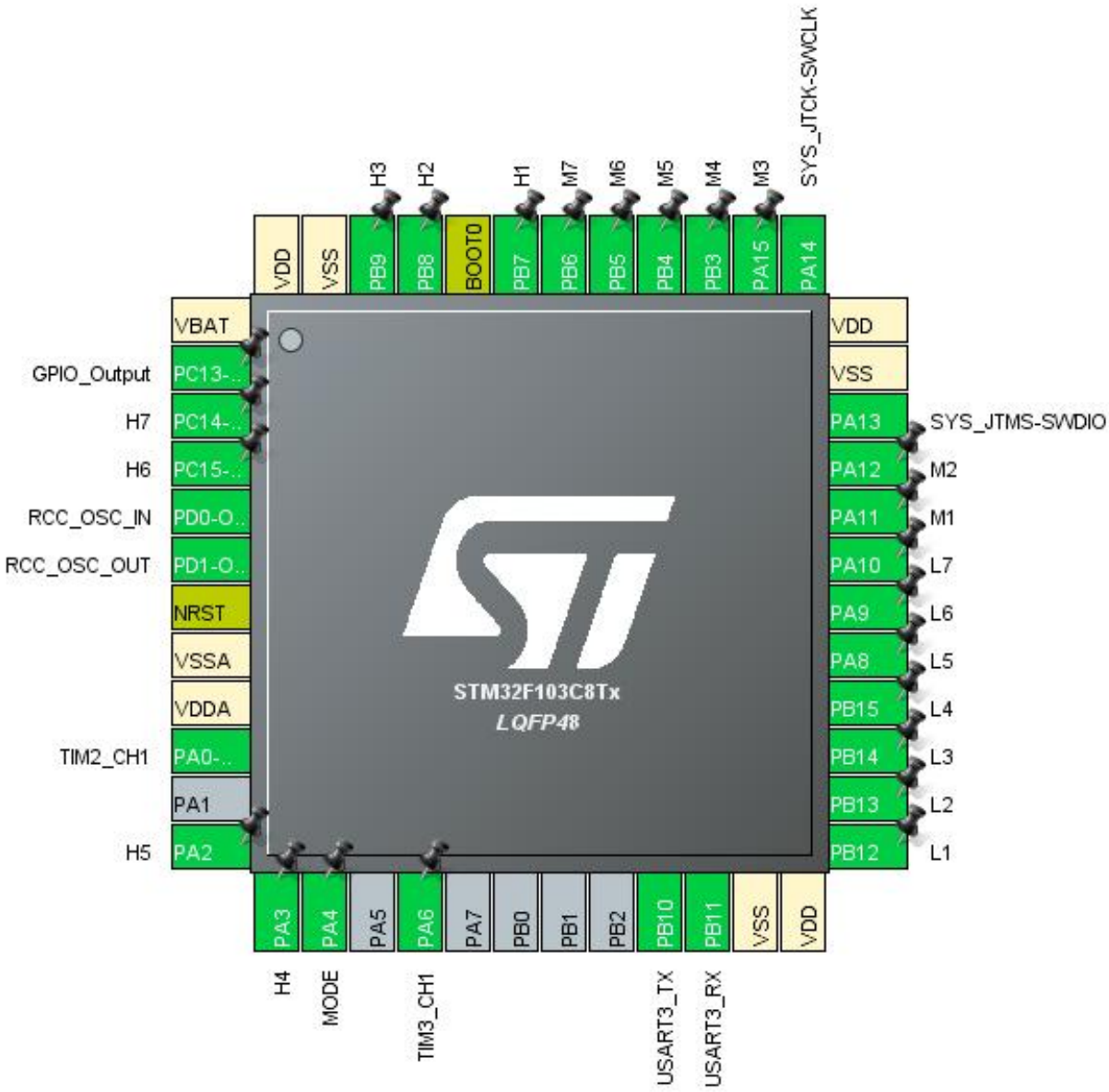
1.1. Project

Project Name	DZQCX
Board Name	custom
Generated with:	STM32CubeMX 5.3.0
Date	09/05/2019

1.2. MCU

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

2. Pinout Configuration



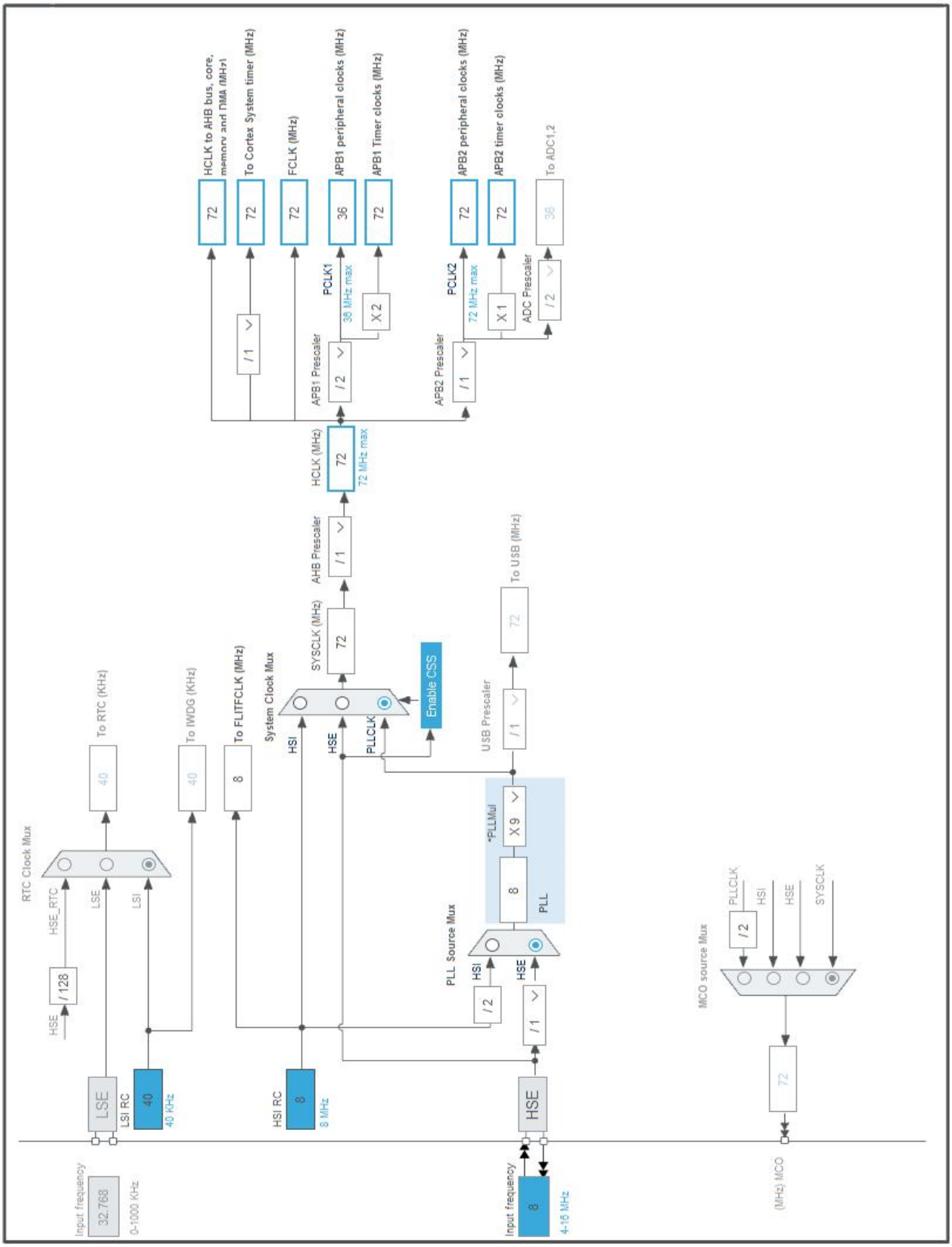
3. Pins Configuration

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_Input	H7
4	PC15-OSC32_OUT *	I/O	GPIO_Input	H6
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	TIM2_CH1	
12	PA2 *	I/O	GPIO_Input	H5
13	PA3 *	I/O	GPIO_Input	H4
14	PA4 *	I/O	GPIO_Input	MODE
16	PA6	I/O	TIM3_CH1	
21	PB10	I/O	USART3_TX	
22	PB11	I/O	USART3_RX	
23	VSS	Power		
24	VDD	Power		
25	PB12 *	I/O	GPIO_Input	L1
26	PB13 *	I/O	GPIO_Input	L2
27	PB14 *	I/O	GPIO_Input	L3
28	PB15 *	I/O	GPIO_Input	L4
29	PA8 *	I/O	GPIO_Input	L5
30	PA9 *	I/O	GPIO_Input	L6
31	PA10 *	I/O	GPIO_Input	L7
32	PA11 *	I/O	GPIO_Input	M1
33	PA12 *	I/O	GPIO_Input	M2
34	PA13	I/O	SYS_JTMS-SWDIO	
35	VSS	Power		
36	VDD	Power		
37	PA14	I/O	SYS_JTCK-SWCLK	
38	PA15 *	I/O	GPIO_Input	M3
39	PB3 *	I/O	GPIO_Input	M4
40	PB4 *	I/O	GPIO_Input	M5
41	PB5 *	I/O	GPIO_Input	M6
42	PB6 *	I/O	GPIO_Input	M7

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
43	PB7 *	I/O	GPIO_Input	H1
44	BOOT0	Boot		
45	PB8 *	I/O	GPIO_Input	H2
46	PB9 *	I/O	GPIO_Input	H3
47	VSS	Power		
48	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	DZQCX
Project Folder	C:\Users\39552\Desktop\DZQCX
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.8.0

5.2. Code Generation Settings

Name	Value
STM32Cube MCU packages and embedded software	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

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32F1
Line	STM32F103
MCU	STM32F103C8Tx
Datasheet	13587_Rev17

6.2. Parameter Selection

Temperature	25
Vdd	3.3

7. IPs and Middleware Configuration

7.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

7.1.1. 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 Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000

7.2. SYS

Debug: Serial Wire

Timebase Source: SysTick

7.3. TIM2

Channel1: PWM Generation CH1

7.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**9-1 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**4000-1 ***
Internal Clock Division (CKD)	No Division
auto-reload preload	**Enable ***

Trigger Output (TRGO) Parameters:

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

PWM Generation Channel 1:

Mode	PWM mode 1
Pulse (16 bits value)	**2000 ***
Fast Mode	**Enable ***
CH Polarity	High

7.4. TIM3

Channel1: PWM Generation CH1

7.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**9-1 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**4000-1 ***
Internal Clock Division (CKD)	No Division
auto-reload preload	**Enable ***

Trigger Output (TRGO) Parameters:

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

PWM Generation Channel 1:

Mode	PWM mode 1
Pulse (16 bits value)	**2000 ***
Fast Mode	**Enable ***
CH Polarity	High

7.5. USART3

Mode: Asynchronous

7.5.1. Parameter Settings:

Basic Parameters:

Baud Rate	**460800 ***
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**

8. System Configuration

8.1. 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	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
TIM2	PA0-WKUP	TIM2_CH1	Alternate Function Push Pull	n/a	Low	
TIM3	PA6	TIM3_CH1	Alternate Function Push Pull	n/a	Low	
USART3	PB10	USART3_TX	Alternate Function Push Pull	n/a	**High ***	
	PB11	USART3_RX	Input mode	No pull-up and no pull-down	**n/a**	
GPIO	PC13-TAMPER-RTC	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC14-OSC32_IN	GPIO_Input	Input mode	**Pull-up ***	n/a	H7
	PC15-OSC32_OUT	GPIO_Input	Input mode	**Pull-up ***	n/a	H6
	PA2	GPIO_Input	Input mode	**Pull-up ***	n/a	H5
	PA3	GPIO_Input	Input mode	**Pull-up ***	n/a	H4
	PA4	GPIO_Input	Input mode	**Pull-down ***	n/a	MODE
	PB12	GPIO_Input	Input mode	**Pull-up ***	n/a	L1
	PB13	GPIO_Input	Input mode	**Pull-up ***	n/a	L2
	PB14	GPIO_Input	Input mode	**Pull-up ***	n/a	L3
	PB15	GPIO_Input	Input mode	**Pull-up ***	n/a	L4
	PA8	GPIO_Input	Input mode	**Pull-up ***	n/a	L5
	PA9	GPIO_Input	Input mode	**Pull-up ***	n/a	L6
	PA10	GPIO_Input	Input mode	**Pull-up ***	n/a	L7
	PA11	GPIO_Input	Input mode	**Pull-up ***	n/a	M1
	PA12	GPIO_Input	Input mode	**Pull-up ***	n/a	M2
	PA15	GPIO_Input	Input mode	**Pull-up ***	n/a	M3
	PB3	GPIO_Input	Input mode	**Pull-up ***	n/a	M4

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB4	GPIO_Input	Input mode	**Pull-up ***	n/a	M5
	PB5	GPIO_Input	Input mode	**Pull-up ***	n/a	M6
	PB6	GPIO_Input	Input mode	**Pull-up ***	n/a	M7
	PB7	GPIO_Input	Input mode	**Pull-up ***	n/a	H1
	PB8	GPIO_Input	Input mode	**Pull-up ***	n/a	H2
	PB9	GPIO_Input	Input mode	**Pull-up ***	n/a	H3

8.2. DMA configuration

nothing configured in DMA service

8.3. 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		
TIM2 global interrupt	unused		
TIM3 global interrupt	unused		
USART3 global interrupt	unused		

*** User modified value**

9. Software Pack Report