1. Description

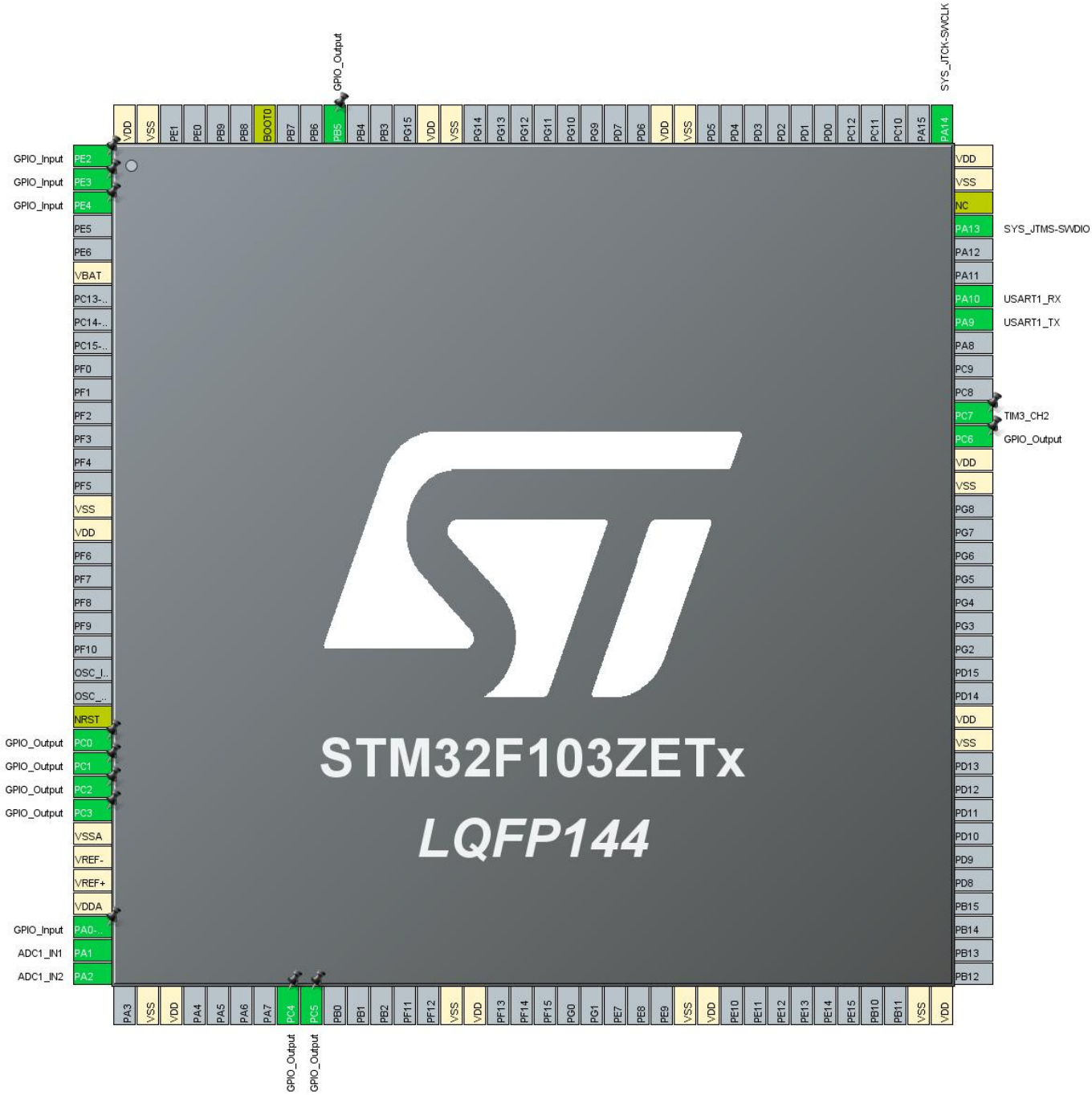
1.1. Project

Project Name	PZ_D00
Board Name	PZ_D00
Generated with:	STM32CubeMX 5.5.0
Date	11/26/2020

1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F103
MCU name	STM32F103ZETx
MCU Package	LQFP144
MCU Pin number	144

2. Pinout Configuration



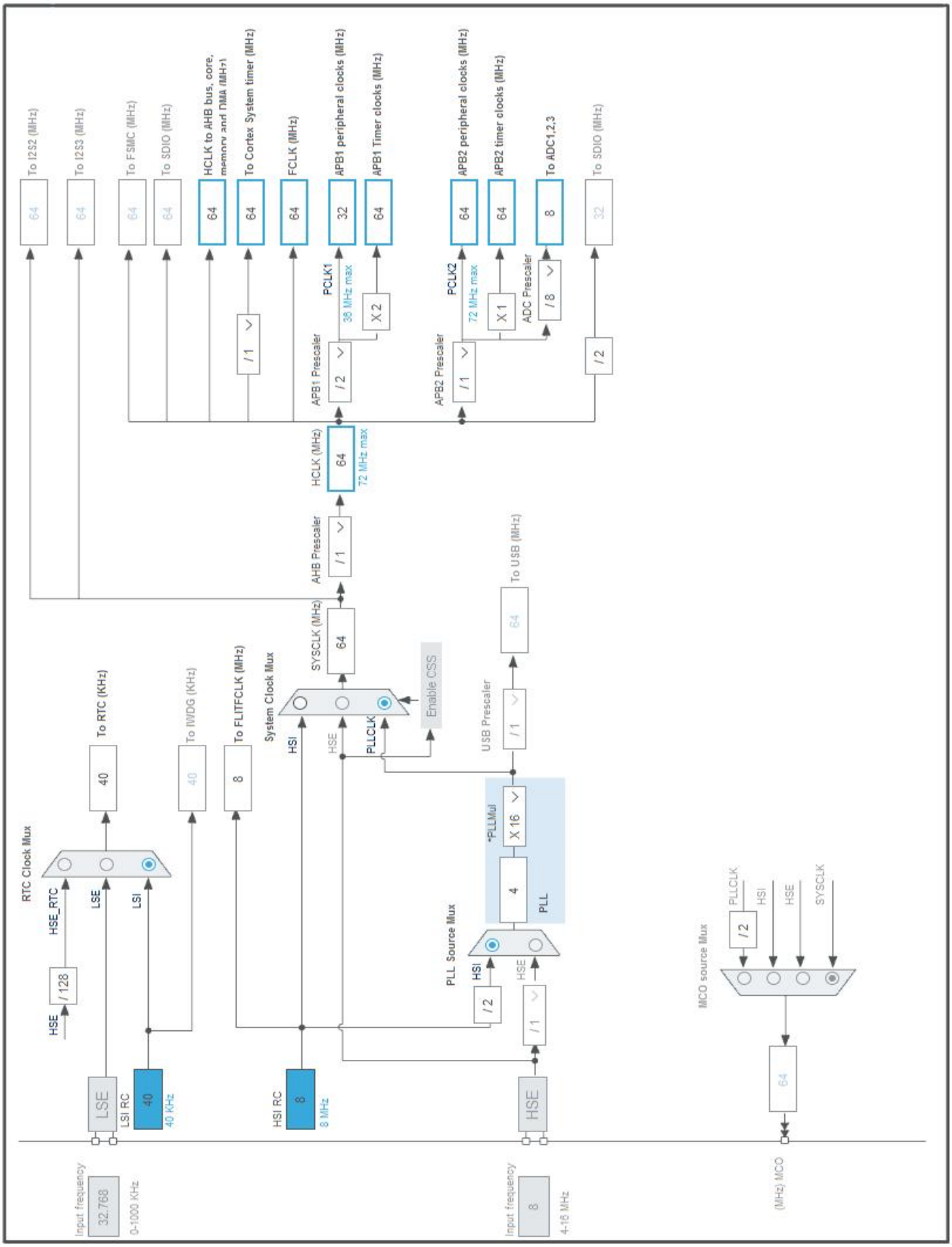
3. Pins Configuration

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2 *	I/O	GPIO_Input	
2	PE3 *	I/O	GPIO_Input	
3	PE4 *	I/O	GPIO_Input	
6	VBAT	Power		
16	VSS	Power		
17	VDD	Power		
25	NRST	Reset		
26	PC0 *	I/O	GPIO_Output	
27	PC1 *	I/O	GPIO_Output	
28	PC2 *	I/O	GPIO_Output	
29	PC3 *	I/O	GPIO_Output	
30	VSSA	Power		
31	VREF-	Power		
32	VREF+	Power		
33	VDDA	Power		
34	PA0-WKUP *	I/O	GPIO_Input	
35	PA1	I/O	ADC1_IN1	
36	PA2	I/O	ADC1_IN2	
38	VSS	Power		
39	VDD	Power		
44	PC4 *	I/O	GPIO_Output	
45	PC5 *	I/O	GPIO_Output	
51	VSS	Power		
52	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
83	VSS	Power		
84	VDD	Power		
94	VSS	Power		
95	VDD	Power		
96	PC6 *	I/O	GPIO_Output	
97	PC7	I/O	TIM3_CH2	
101	PA9	I/O	USART1_TX	
102	PA10	I/O	USART1_RX	

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
105	PA13	I/O	SYS_JTMS-SWDIO	
106	NC	NC		
107	VSS	Power		
108	VDD	Power		
109	PA14	I/O	SYS_JTCK-SWCLK	
120	VSS	Power		
121	VDD	Power		
130	VSS	Power		
131	VDD	Power		
135	PB5 *	I/O	GPIO_Output	
138	BOOT0	Boot		
143	VSS	Power		
144	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	PZ_D00
Project Folder	D:\STM\PZ_D00
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.8.3

5.2. Code Generation Settings

Name	Value
STM32Cube MCU packages and embedded software	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

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32F1
Line	STM32F103
MCU	STM32F103ZETx
Datasheet	14611_Rev12

6.2. Parameter Selection

Temperature	25
Vdd	3.3

7. IPs and Middleware Configuration

7.1. ADC1

mode: IN1

mode: IN2

7.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Data Alignment	Right alignment
Scan Conversion Mode	Enabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions	Enable
Number Of Conversion	**2 ***
External Trigger Conversion Source	**Timer 3 Trigger Out event ***
Rank	1
Channel	Channel 1
Sampling Time	**13.5 Cycles ***
Rank	**2 ***
Channel	**Channel 2 ***
Sampling Time	**13.5 Cycles ***

ADC_Injected_ConversionMode:

Enable Injected Conversions	Disable

WatchDog:

Enable Analog WatchDog Mode	false

7.2. GPIO

7.3. RCC

7.3.1. 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

7.4. RTC

mode: Activate Clock Source

7.4.1. Parameter Settings:

Calendar Time:

Data Format	**Binary data format ***

General:

Auto Predivider Calculation	Enabled
Asynchronous Predivider value	Automatic Predivider Calculation Enabled
Output	**RTC clock with a frequency divided by 64 on the TAMPER pin ***

7.5. SYS

Debug: Serial Wire

Timebase Source: SysTick

7.6. TIM3

Clock Source : Internal Clock

Channel2: PWM Generation CH2

7.6.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**7 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**2499 ***
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	**Compare Pulse (OC1) ***

PWM Generation Channel 2:

Mode	PWM mode 1
Pulse (16 bits value)	**6 ***
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

7.7. USART1

Mode: Asynchronous

7.7.1. Parameter Settings:

Basic Parameters:

Baud Rate	**9600 ***
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
ADC1	PA1	ADC1_IN1	Analog mode	n/a	n/a	
	PA2	ADC1_IN2	Analog mode	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	
TIM3	PC7	TIM3_CH2	Alternate Function Push Pull	n/a	Low	
USART1	PA9	USART1_TX	Alternate Function Push Pull	n/a	**High ***	
	PA10	USART1_RX	Input mode	No pull-up and no pull-down	**n/a**	
GPIO	PE2	GPIO_Input	Input mode	**Pull-up ***	n/a	
	PE3	GPIO_Input	Input mode	**Pull-up ***	n/a	
	PE4	GPIO_Input	Input mode	**Pull-up ***	n/a	
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA0-WKUP	GPIO_Input	Input mode	**Pull-down ***	n/a	
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB5	GPIO_Output	Output Push Pull	**Pull-up ***	Low	

8.2. DMA configuration

DMA request	Stream	Direction	Priority
ADC1	DMA1_Channel1	Peripheral To Memory	Low

ADC1: DMA1_Channel1 DMA request Settings:

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

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
DMA1 channel1 global interrupt	true	0	0
TIM3 global interrupt	true	0	0
USART1 global interrupt	true	1	0
PVD interrupt through EXTI line 16	unused		
RTC global interrupt	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1 and ADC2 global interrupts	unused		

*** User modified value**

9. Software Pack Report