1. Description

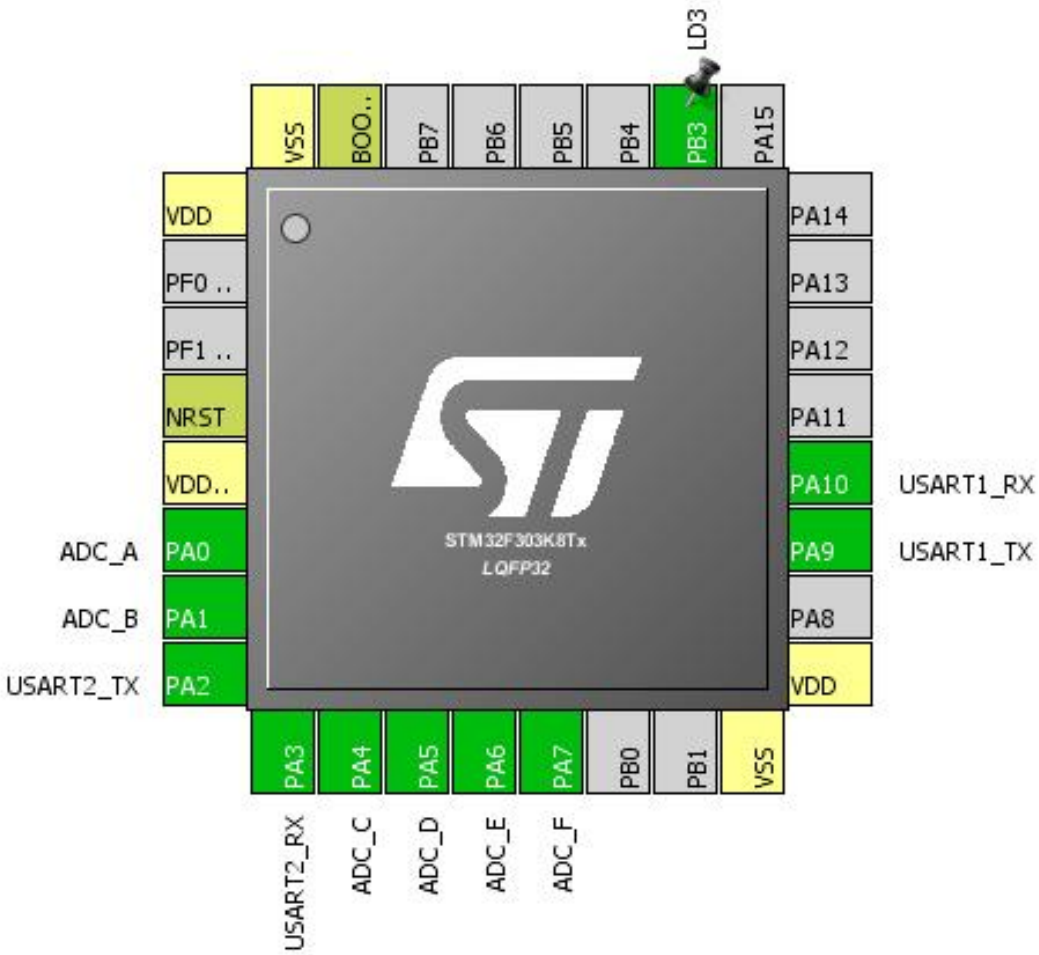
1.1. Project

Project Name	_Fury_Zero
Board Name	_Fury_Zero
Generated with:	STM32CubeMX 4.25.0
Date	04/09/2018

1.2. MCU

MCU Series	STM32F3
MCU Line	STM32F303
MCU name	STM32F303K8Tx
MCU Package	LQFP32
MCU Pin number	32

2. Pinout Configuration

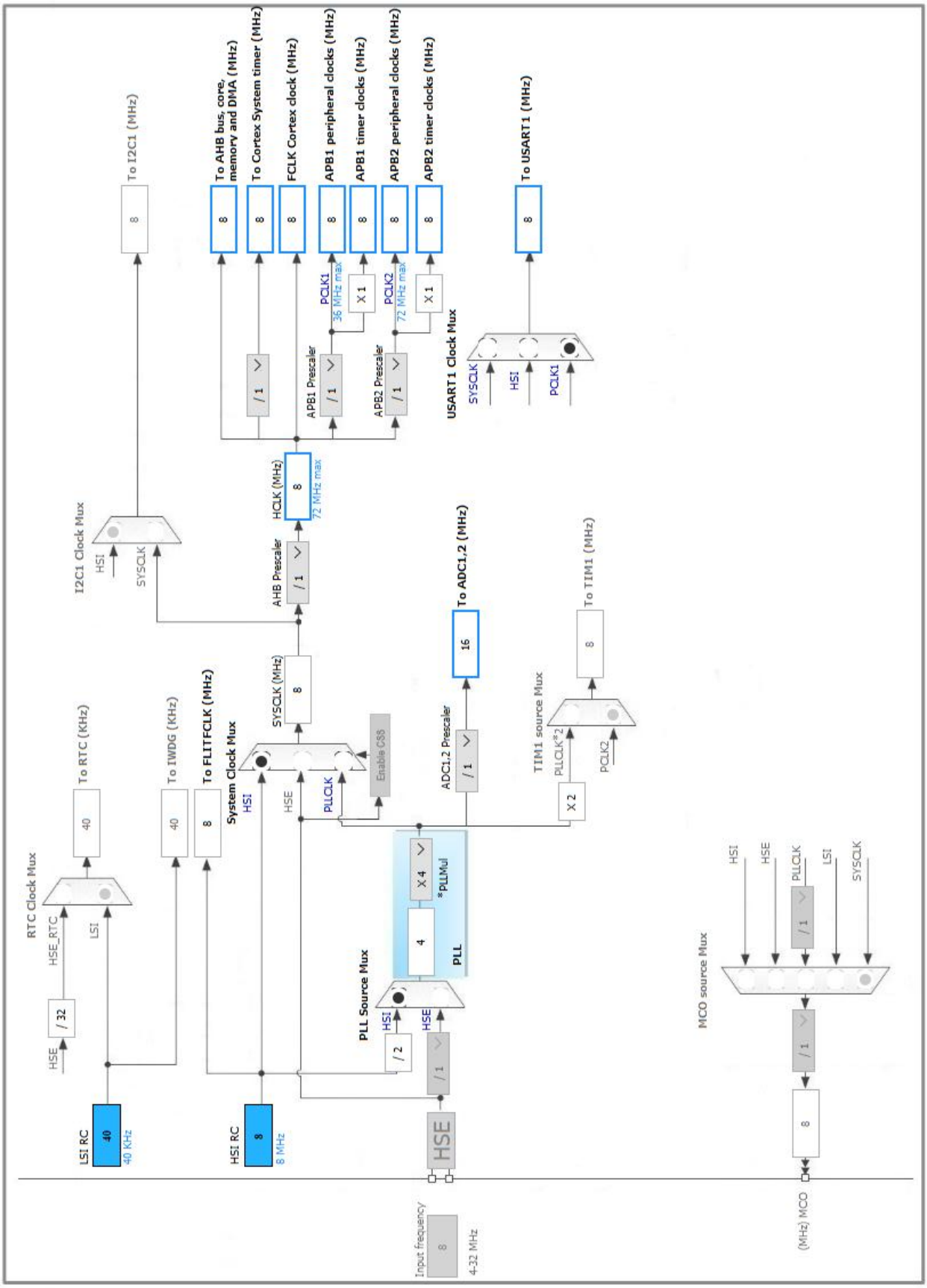


3. Pins Configuration

Pin Number LQFP32	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VDD	Power		
4	NRST	Reset		
5	VDDA/VREF+	Power		
6	PA0	I/O	ADC1_IN1	ADC_A
7	PA1	I/O	ADC1_IN2	ADC_B
8	PA2	I/O	USART2_TX	
9	PA3	I/O	USART2_RX	
10	PA4	I/O	ADC2_IN1	ADC_C
11	PA5	I/O	ADC2_IN2	ADC_D
12	PA6	I/O	ADC2_IN3	ADC_E
13	PA7	I/O	ADC2_IN4	ADC_F
16	VSS	Power		
17	VDD	Power		
19	PA9	I/O	USART1_TX	
20	PA10	I/O	USART1_RX	
26	PB3 *	I/O	GPIO_Output	LD3
31	BOOT0	Boot		
32	VSS	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC1

IN1: IN1 Single-ended

IN2: IN2 Single-ended

5.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Clock Prescaler	ADC Asynchronous clock mode
Resolution	**ADC 8-bit resolution ***
Data Alignment	Right alignment
Scan Conversion Mode	Disabled
Continuous Conversion Mode	**Enabled ***
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data overwritten
Low Power Auto Wait	Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions	Enable
Number Of Conversion	1
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 1
Sampling Time	1.5 Cycles
Offset Number	No offset
Offset	0

ADC_Injected_ConversionMode:

Enable Injected Conversions	Enable
Number Of Conversions	0

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. ADC2

IN1: IN1 Single-ended

IN2: IN2 Single-ended

IN3: IN3 Single-ended

mode: IN4

5.2.1. Parameter Settings:

ADCs_Common_Settings:

Mode	Independent mode

ADC_Settings:

Clock Prescaler	ADC Asynchronous clock mode
Resolution	**ADC 8-bit resolution ***
Data Alignment	Right alignment
Scan Conversion Mode	Disabled
Continuous Conversion Mode	**Enabled ***
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data overwritten
Low Power Auto Wait	Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions	Enable
Number Of Conversion	1
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 1
Sampling Time	1.5 Cycles
Offset Number	No offset
Offset	0

ADC_Injected_ConversionMode:

Enable Injected Conversions	Enable
Number Of Conversions	0

Analog Watchdog 1:

Enable Analog WatchDog1 Mode	false

Analog Watchdog 2:

Enable Analog WatchDog2 Mode	false

Analog Watchdog 3:

Enable Analog WatchDog3 Mode	false

5.3. SYS

Timebase Source: SysTick

5.4. USART1

Mode: Asynchronous

5.4.1. 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
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

5.5. USART2

Mode: Asynchronous

5.5.1. 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
Single Sample	Disable

Advanced Features:

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	PA0	ADC1_IN1	Analog mode	No pull up pull down	n/a	ADC_A
	PA1	ADC1_IN2	Analog mode	No pull up pull down	n/a	ADC_B
ADC2	PA4	ADC2_IN1	Analog mode	No pull up pull down	n/a	ADC_C
	PA5	ADC2_IN2	Analog mode	No pull up pull down	n/a	ADC_D
	PA6	ADC2_IN3	Analog mode	No pull up pull down	n/a	ADC_E
	PA7	ADC2_IN4	Analog mode	No pull up pull down	n/a	ADC_F
USART1	PA9	USART1_TX	Alternate Function Push Pull	No pull up pull down	**High ***	
	PA10	USART1_RX	Alternate Function Push Pull	No pull up pull down	**High ***	
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull up pull down	**High ***	
	PA3	USART2_RX	Alternate Function Push Pull	No pull up pull down	**High ***	
GPIO	PB3	GPIO_Output	Output Push Pull	No pull up pull down	Low	LD3

6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART1_RX	DMA1_Channel5	Peripheral To Memory	**Medium ***
USART1_TX	DMA1_Channel4	Memory To Peripheral	**Medium ***
USART2_RX	DMA1_Channel6	Peripheral To Memory	**Medium ***
USART2_TX	DMA1_Channel7	Memory To Peripheral	**Medium ***

USART1_RX: DMA1_Channel5 DMA request Settings:

Mode:	Normal
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

USART1_TX: DMA1_Channel4 DMA request Settings:

Mode:	Normal
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

USART2_RX: DMA1_Channel6 DMA request Settings:

Mode:	Normal
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

USART2_TX: DMA1_Channel7 DMA request Settings:

Mode:	Normal
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte

Memory Data Width:	Byte

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
Pre-fetch 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 channel4 global interrupt	true	0	0
DMA1 channel5 global interrupt	true	0	0
DMA1 channel6 global interrupt	true	0	0
DMA1 channel7 global interrupt	true	0	0
ADC1 and ADC2 interrupts	true	0	0
USART1 global interrupt / USART1 wake-up interrupt through EXT line 25	true	0	0
USART2 global interrupt / USART2 wake-up interrupt through EXT line 26	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
Floating point unit interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F3
Line	STM32F303
MCU	STM32F303K8Tx
Datasheet	025083_Rev5

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	_Fury_Zero
Project Folder	D:\Users\Samuel\workspace\METR4901_Fury_Zero
Toolchain / IDE	TrueSTUDIO
Firmware Package Name and Version	STM32Cube FW_F3 V1.9.0

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

9. Software Pack Report