1. Description

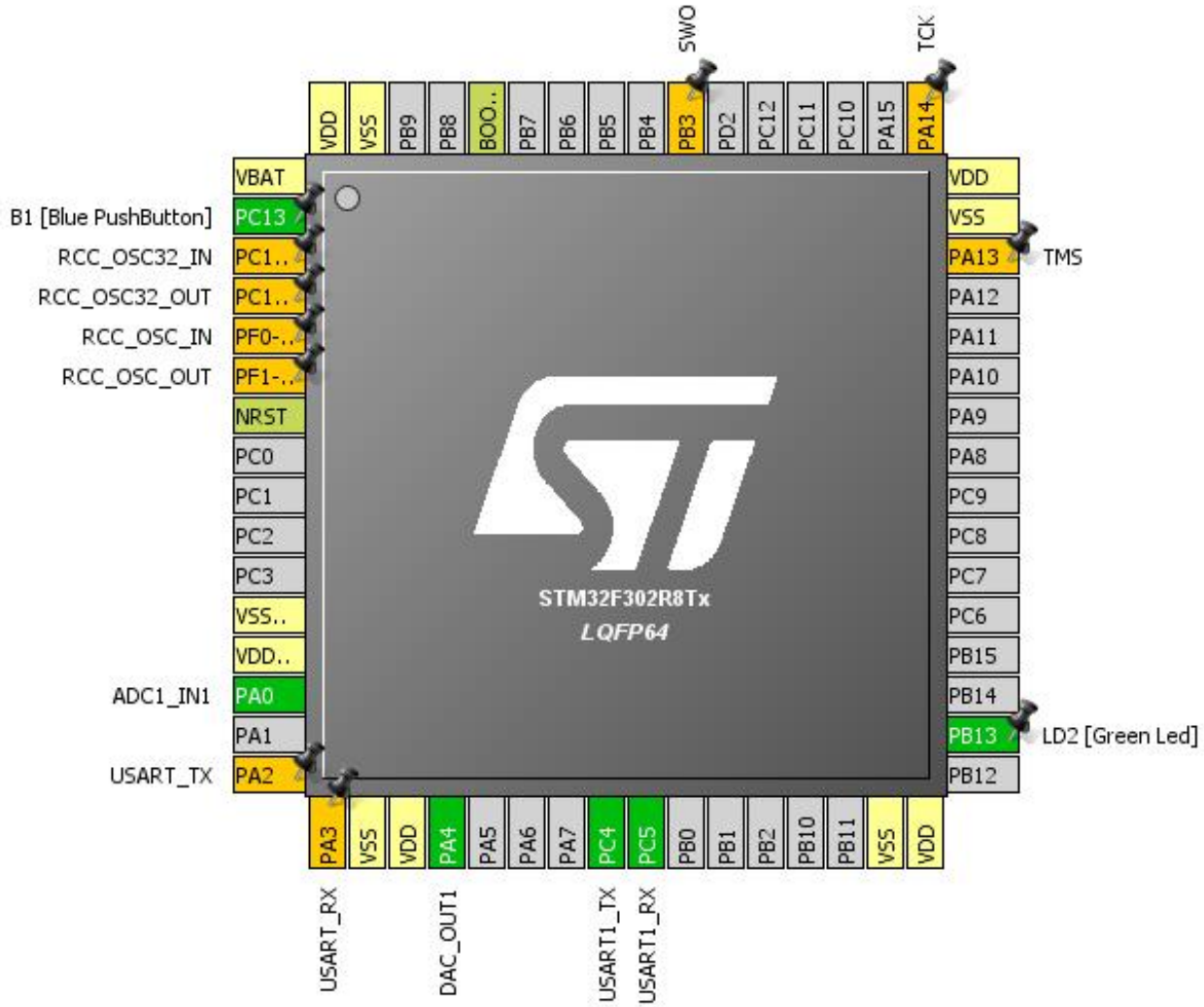
1.1. Project

Project Name	inz
Board Name	NUCLEO-F302R8
Generated with:	STM32CubeMX 4.22.1
Date	10/26/2017

1.2. MCU

MCU Series	STM32F3
MCU Line	STM32F302
MCU name	STM32F302R8Tx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration



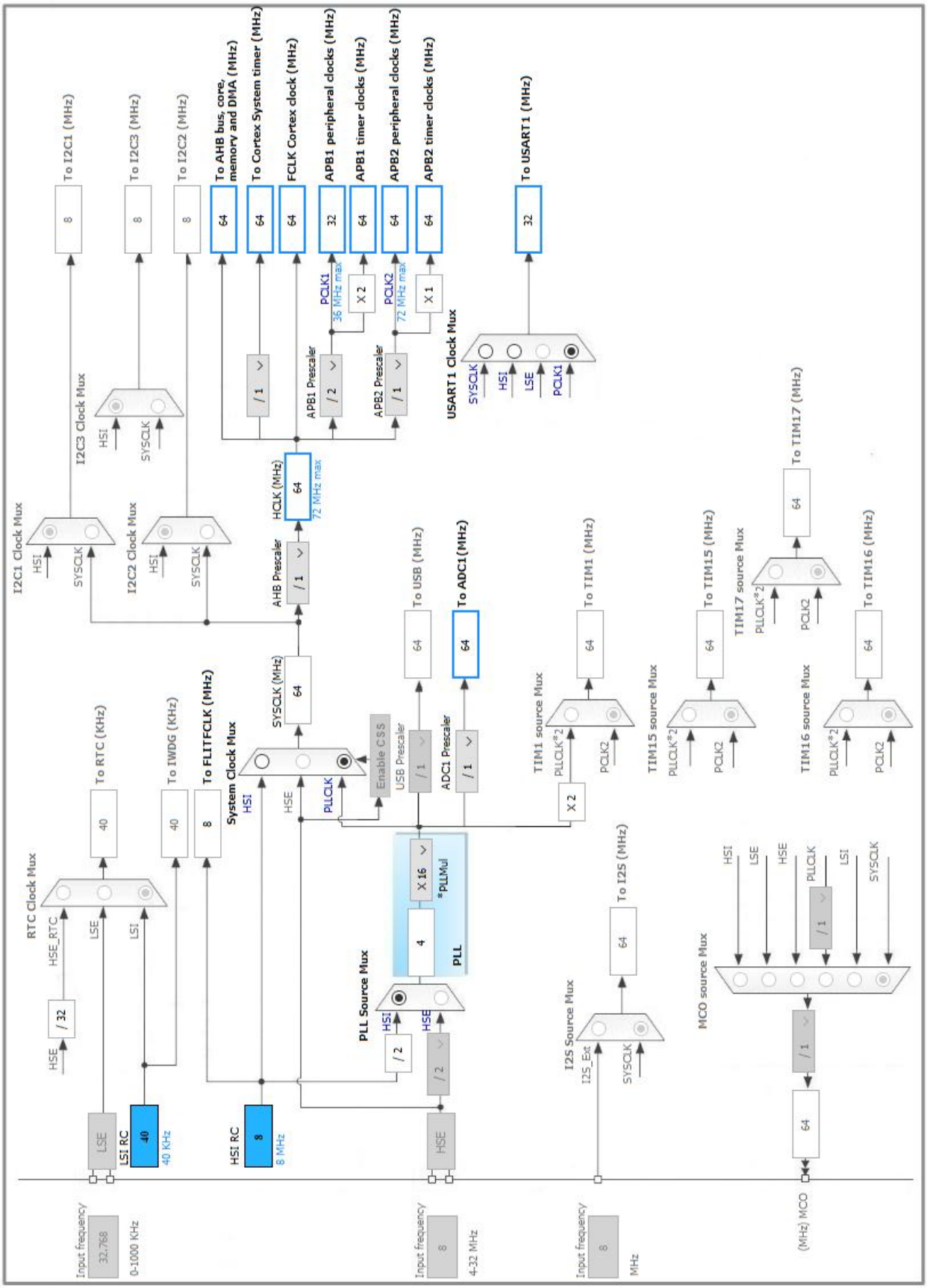
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
2	PC13	I/O	GPIO_EXTI13	B1 [Blue PushButton]
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		
12	VSSA/VREF-	Power		
13	VDDA/VREF+	Power		
14	PA0	I/O	ADC1_IN1	
16	PA2 *	I/O	USART2_TX	USART_TX
17	PA3 *	I/O	USART2_RX	USART_RX
18	VSS	Power		
19	VDD	Power		
20	PA4	I/O	DAC_OUT1	
24	PC4	I/O	USART1_TX	
25	PC5	I/O	USART1_RX	
31	VSS	Power		
32	VDD	Power		
34	PB13 **	I/O	GPIO_Output	LD2 [Green Led]
46	PA13 *	I/O	SYS_JTMS-SWDIO	TMS
47	VSS	Power		
48	VDD	Power		
49	PA14 *	I/O	SYS_JTCK-SWCLK	TCK
55	PB3 *	I/O	SYS_JTDO-TRACESWO	SWO
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

** The pin is affected with an I/O function

* The pin is affected with a peripheral function but no peripheral mode is activated

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC1

IN1: IN1 Single-ended

5.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	ADC Asynchronous clock mode
Resolution	ADC 12-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. DAC

mode: OUT1 Configuration

5.2.1. Parameter Settings:

DAC Out1 Settings:

Output Buffer	Enable
Trigger	**Timer 6 Trigger Out event ***
Wave generation mode	Disabled

5.3. SYS

Timebase Source: SysTick

5.4. TIM6

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**16 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**999 ***
auto-reload preload	Disable

Trigger Output (TRGO) Parameters:

Trigger Event Selection	**Update Event ***

5.5. USART1

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:

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	PA0	ADC1_IN1	Analog mode	No pull up pull down	n/a	
DAC	PA4	DAC_OUT1	Analog mode	No pull up pull down	n/a	
USART1	PC4	USART1_TX	Alternate Function Push Pull	Pull up	**High ***	
	PC5	USART1_RX	Alternate Function Push Pull	Pull up	**High ***	
Single Mapped Signals	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	
	PA2	USART2_TX	Alternate Function Push Pull	No pull up pull down	Low	USART_TX
	PA3	USART2_RX	Alternate Function Push Pull	No pull up pull down	Low	USART_RX
	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	TMS
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	TCK
	PB3	SYS_JTDO-TRACESWO	n/a	n/a	n/a	SWO
GPIO	PC13	GPIO_EXTI13	**External Interrupt Mode with Falling edge trigger detection**	No pull up pull down	n/a	B1 [Blue PushButton]
	PB13	GPIO_Output	Output Push Pull	No pull up pull down	Low	LD2 [Green Led]

6.2. DMA configuration

DMA request	Stream	Direction	Priority
ADC1	DMA1_Channel1	Peripheral To Memory	Low
DAC_CH1	DMA1_Channel3	Memory To Peripheral	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

DAC_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
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 channel1 global interrupt	true	0	0
DMA1 channel3 global interrupt	true	0	0
ADC1 interrupt	true	0	0
TIM6 global interrupt, DAC interrupts	true	0	0
PVD interrupt through EXTI line16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART1 global interrupt / USART1 wake-up interrupt through EXTI line 25	unused		
EXTI line[15:10] interrupts	unused		
Floating point unit interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F3
Line	STM32F302
MCU	STM32F302R8Tx
Datasheet	025147_Rev7

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	inz
Project Folder	C:\Users\adamk\STM32Cube\Projects\inz
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