

1. Description

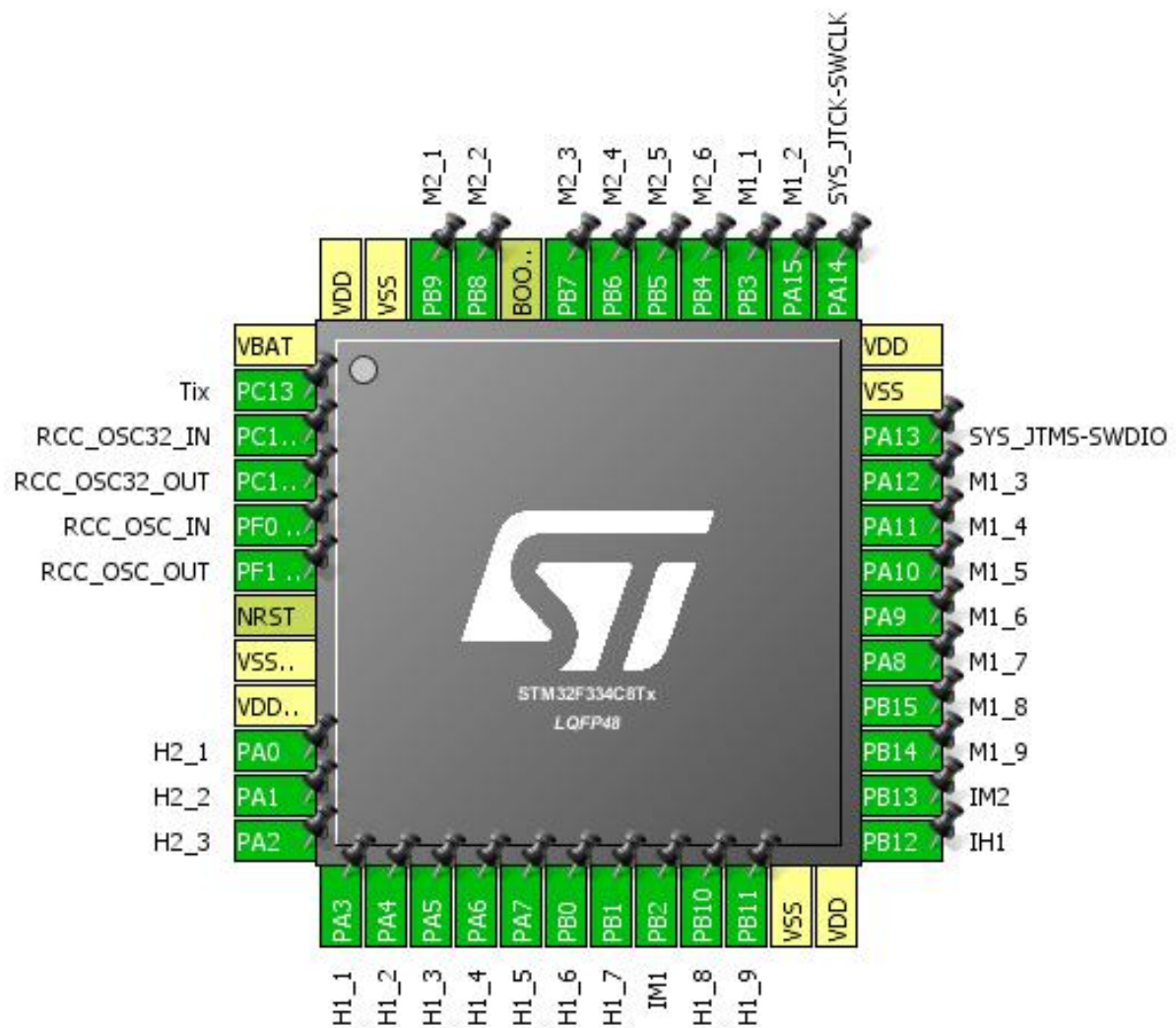
1.1. Project

Project Name	TixClockF334
Board Name	32F3348DISCOVERY
Generated with:	STM32CubeMX 4.27.0
Date	01/28/2020

1.2. MCU

MCU Series	STM32F3
MCU Line	STM32F334
MCU name	STM32F334C8Tx
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 *	I/O	GPIO_Output	Tix
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/VREF-	Power		
9	VDDA/VREF+	Power		
10	PA0 *	I/O	GPIO_Output	H2_1
11	PA1 *	I/O	GPIO_Output	H2_2
12	PA2 *	I/O	GPIO_Output	H2_3
13	PA3 *	I/O	GPIO_Output	H1_1
14	PA4 *	I/O	GPIO_Output	H1_2
15	PA5 *	I/O	GPIO_Output	H1_3
16	PA6 *	I/O	GPIO_Output	H1_4
17	PA7 *	I/O	GPIO_Output	H1_5
18	PB0 *	I/O	GPIO_Output	H1_6
19	PB1 *	I/O	GPIO_Output	H1_7
20	PB2 *	I/O	GPIO_Input	IM1
21	PB10 *	I/O	GPIO_Output	H1_8
22	PB11 *	I/O	GPIO_Output	H1_9
23	VSS	Power		
24	VDD	Power		
25	PB12 *	I/O	GPIO_Input	IH1
26	PB13 *	I/O	GPIO_Input	IM2
27	PB14 *	I/O	GPIO_Output	M1_9
28	PB15 *	I/O	GPIO_Output	M1_8
29	PA8 *	I/O	GPIO_Output	M1_7
30	PA9 *	I/O	GPIO_Output	M1_6
31	PA10 *	I/O	GPIO_Output	M1_5
32	PA11 *	I/O	GPIO_Output	M1_4
33	PA12 *	I/O	GPIO_Output	M1_3
34	PA13	I/O	SYS_JTMS-SWDIO	
35	VSS	Power		
36	VDD	Power		

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
37	PA14	I/O	SYS_JTCK-SWCLK	
38	PA15 *	I/O	GPIO_Output	M1_2
39	PB3 *	I/O	GPIO_Output	M1_1
40	PB4 *	I/O	GPIO_Output	M2_6
41	PB5 *	I/O	GPIO_Output	M2_5
42	PB6 *	I/O	GPIO_Output	M2_4
43	PB7 *	I/O	GPIO_Output	M2_3
44	BOOT0	Boot		
45	PB8 *	I/O	GPIO_Output	M2_2
46	PB9 *	I/O	GPIO_Output	M2_1
47	VSS	Power		
48	VDD	Power		

* The pin is affected with an I/O function

5. IPs and Middleware Configuration

5.1. IWDG

mode: Activated

5.1.1. Parameter Settings:

Watchdog Clocking:

IWDG counter clock prescaler	16 *
IWDG window value	4095
IWDG down-counter reload value	4095

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
Prefetch Buffer	Enabled
Flash Latency(WS)	2 WS (3 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000
LSE Drive Capability	LSE oscillator medium low drive capability *

5.3. RTC

mode: Activate Clock Source

5.3.1. Parameter Settings:

General:

Hour Format	Hourformat 24
Asynchronous Predivider value	127
Synchronous Predivider value	255

5.4. SYS

Debug: Serial Wire

Timebase Source: SysTick

* User modified value

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
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_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
GPIO	PC13	GPIO_Output	Output Push Pull	No pull up pull down	Low	Tix
	PA0	GPIO_Output	Output Push Pull	Pull up *	Low	H2_1
	PA1	GPIO_Output	Output Push Pull	Pull up *	Low	H2_2
	PA2	GPIO_Output	Output Push Pull	Pull up *	Low	H2_3
	PA3	GPIO_Output	Output Push Pull	Pull up *	Low	H1_1
	PA4	GPIO_Output	Output Push Pull	Pull up *	Low	H1_2
	PA5	GPIO_Output	Output Push Pull	Pull up *	Low	H1_3
	PA6	GPIO_Output	Output Push Pull	Pull up *	Low	H1_4
	PA7	GPIO_Output	Output Push Pull	Pull up *	Low	H1_5
	PB0	GPIO_Output	Output Push Pull	Pull up *	Low	H1_6
	PB1	GPIO_Output	Output Push Pull	Pull up *	Low	H1_7
	PB2	GPIO_Input	Input mode	Pull up *	n/a	IM1
	PB10	GPIO_Output	Output Push Pull	Pull up *	Low	H1_8
	PB11	GPIO_Output	Output Push Pull	Pull up *	Low	H1_9
	PB12	GPIO_Input	Input mode	Pull up *	n/a	IH1
	PB13	GPIO_Input	Input mode	Pull up *	n/a	IM2
	PB14	GPIO_Output	Output Push Pull	Pull up *	Low	M1_9
	PB15	GPIO_Output	Output Push Pull	Pull up *	Low	M1_8
	PA8	GPIO_Output	Output Push Pull	Pull up *	Low	M1_7
	PA9	GPIO_Output	Output Push Pull	Pull up *	Low	M1_6

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA10	GPIO_Output	Output Push Pull	Pull up *	Low	M1_5
	PA11	GPIO_Output	Output Push Pull	Pull up *	Low	M1_4
	PA12	GPIO_Output	Output Push Pull	Pull up *	Low	M1_3
	PA15	GPIO_Output	Output Push Pull	Pull up *	Low	M1_2
	PB3	GPIO_Output	Output Push Pull	Pull up *	Low	M1_1
	PB4	GPIO_Output	Output Push Pull	Pull up *	Low	M2_6
	PB5	GPIO_Output	Output Push Pull	Pull up *	Low	M2_5
	PB6	GPIO_Output	Output Push Pull	Pull up *	Low	M2_4
	PB7	GPIO_Output	Output Push Pull	Pull up *	Low	M2_3
	PB8	GPIO_Output	Output Push Pull	Pull up *	Low	M2_2
	PB9	GPIO_Output	Output Push Pull	Pull up *	Low	M2_1

6.2. DMA configuration

nothing configured in DMA service

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	1	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	STM32F334
MCU	STM32F334C8Tx
Datasheet	025409_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	3.6

7.3. Battery Selection

Battery	Li-MnO ₂ (CR2032)
Capacity	225.0 mAh
Self Discharge	0.12 %/month
Nominal Voltage	3.0 V
Max Cont Current	3.0 mA
Max Pulse Current	15.0 mA
Cells in series	1
Cells in parallel	1

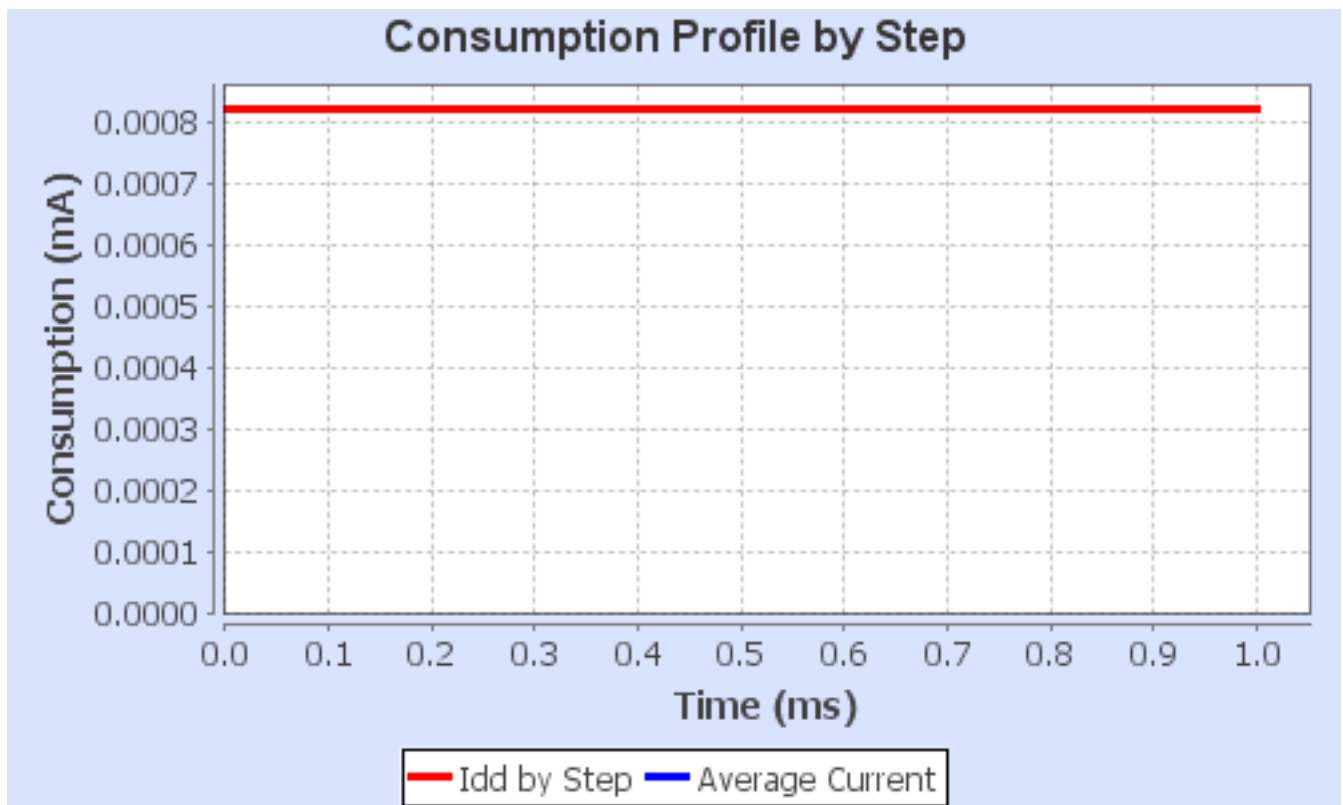
7.4. Sequence

Step	Step1
Mode	VBAT
Vdd	3.6
Voltage Source	Battery
Range	No Scale
Fetch Type	n/a
Clock Configuration	LSE RTC LowDriving
Clock Source Frequency	32.768 kHz
CPU Frequency	0 Hz
Peripherals	RTC*
Additional Cons.	0 mA
Average Current	820 nA
Duration	1 ms
DMIPS	0.0
Ta Max	105
Category	In DS Table

7.5. RESULTS

Sequence Time	1 ms	Average Current	820 nA
Battery Life	21 years, 6 months, 4 hours	Average DMIPS	0.0 DMIPS

7.6. Chart



8. Software Project

8.1. Project Settings

Name	Value
Project Name	TixClockF334
Project Folder	C:\Users\EC
Toolchain / IDE	EWARM V7
Firmware Package Name and Version	STM32Cube FW_F3 V1.10.0

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)	Yes

9. Software Pack Report