

# 1. Description

# 1.1. Project

Project Name	stm32_stuff
Board Name	custom
Generated with:	STM32CubeMX 6.11.0
Date	03/29/2024

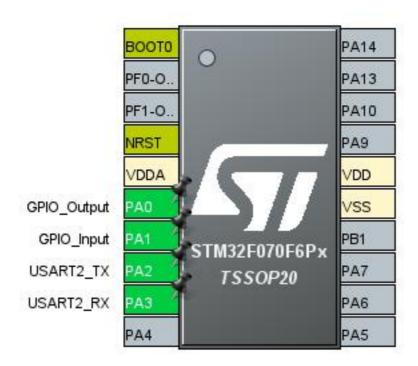
### 1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x0 Value Line
MCU name	STM32F070F6Px
MCU Package	TSSOP20
MCU Pin number	20

# 1.3. Core(s) information

Core(s)	Arm Cortex-M0

# 2. Pinout Configuration

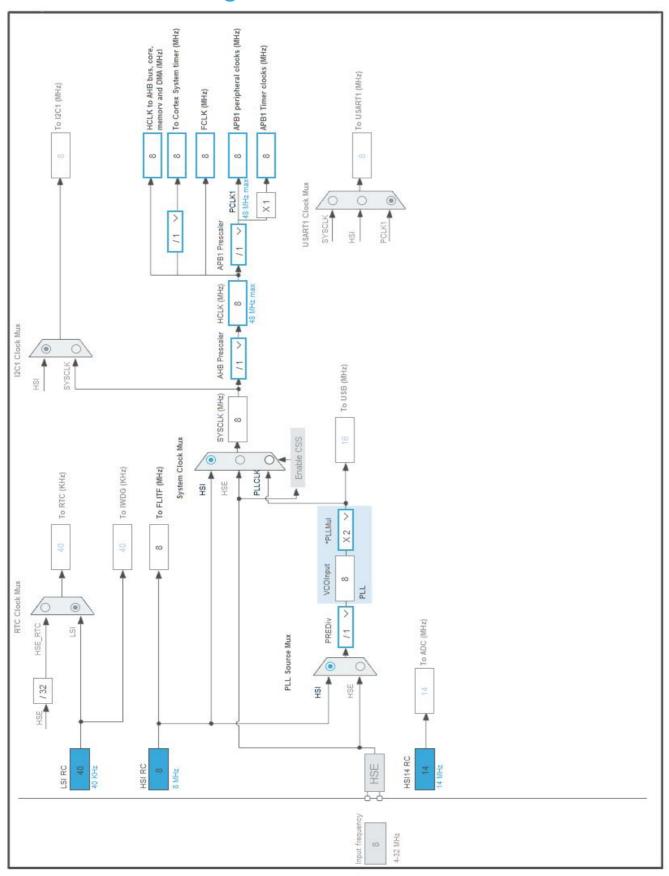


# 3. Pins Configuration

Pin Number TSSOP20	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	воото	Boot		
4	NRST	Reset		
5	VDDA	Power		
6	PA0 *	I/O	GPIO_Output	
7	PA1 *	I/O	GPIO_Input	
8	PA2	I/O	USART2_TX	
9	PA3	I/O	USART2_RX	
15	VSS	Power		
16	VDD	Power		

<sup>\*</sup> The pin is affected with an I/O function

# 4. Clock Tree Configuration



# 5. Software Project

## 5.1. Project Settings

Name	Value	
Project Name	stm32_stuff	
Project Folder	C:\Users\Andreas Pettersson\STM32CubeIDE\workspace_1.15.0\stm32_stuff	
Toolchain / IDE	STM32CubeIDE	
Firmware Package Name and Version	STM32Cube FW_F0 V1.11.4	
Application Structure	Advanced	
Generate Under Root	Yes	
Do not generate the main()	No	
Minimum Heap Size	0x200	
Minimum Stack Size	0x400	

## 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
Keep User Code when re-generating	Yes
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power	No
consumption)	
Enable Full Assert	No

### 5.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name	
1	SystemClock_Config	RCC	
2 MX_GPIO_Init		GPIO	
3	MX_USART2_UART_Init	USART2	

# 1. Power Consumption Calculator report

### 1.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x0 Value Line
MCU	STM32F070F6Px
Datasheet	DS10697_Rev2

### 1.2. Parameter Selection

Temperature	25
Vdd	3.6

### 1.3. Battery Selection

Battery	Li-SOCL2(A3400)
Capacity	3400.0 mAh
Self Discharge	0.08 %/month
Nominal Voltage	3.6 V
Max Cont Current	100.0 mA
Max Pulse Current	200.0 mA
Cells in series	1
Cells in parallel	1

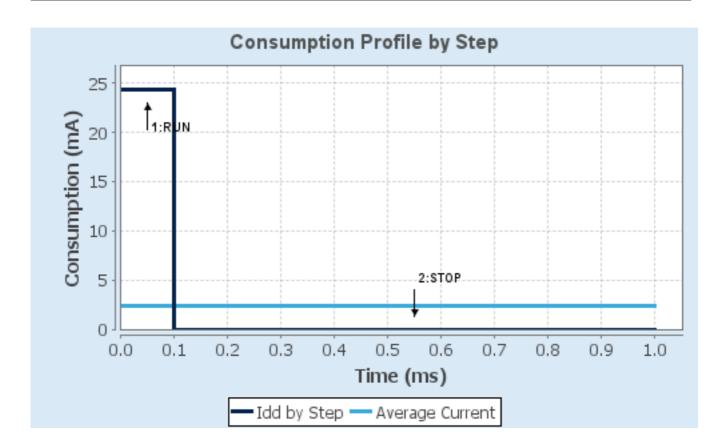
# 1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.6	3.6
Voltage Source	Battery	Battery
Range	No Scale	No Scale
Fetch Type	FLASH	n/a
CPU Frequency	48 MHz	0 Hz
Clock Configuration	HSI PLL All IPs ON	Regulator LP
Clock Source Frequency	8 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	24.34 mA	6.5 µA
Duration	0.1 ms	0.9 ms
DMIPS	0.0	0.0
Та Мах	98.34	105
Category	In DS Table	In DS Table

### 1.5. Results

Sequence Time	1 ms	Average Current	2.44 mA
Battery Life	1 month, 27 days,	Average DMIPS	0.0 DMIPS
	13 hours		

## 1.6. Chart



# 2. Peripherals and Middlewares Configuration

#### 2.1. RCC

#### 2.1.1. Parameter Settings:

#### **System Parameters:**

VDD voltage (V) 3.3
Prefetch Buffer Enabled

Flash Latency(WS) 0 WS (1 CPU cycle)

**RCC Parameters:** 

HSI Calibration Value 16
HSE Startup Timout Value (ms) 100
LSE Startup Timout Value (ms) 5000

#### 2.2. SYS

Timebase Source: SysTick

#### 2.3. **USART2**

**Mode: Asynchronous** 

#### 2.3.1. Parameter Settings:

#### **Basic Parameters:**

Baud Rate 115200 \*

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

#### 2.4. FREERTOS

Interface: CMSIS\_V2

#### 2.4.1. Config parameters:

API:

FreeRTOS API CMSIS v2

Versions:

FreeRTOS version 10.0.1 CMSIS-RTOS version 2.00

Kernel settings:

USE\_PREEMPTION Enabled

CPU\_CLOCK\_HZ SystemCoreClock

TICK\_RATE\_HZ

1000

MAX\_PRIORITIES

56

MINIMAL\_STACK\_SIZE

128

MAX\_TASK\_NAME\_LEN

16

USE\_16\_BIT\_TICKS

Disabled

IDLE\_SHOULD\_YIELD

LISE\_MILTEXES

Enabled

USE\_MUTEXES Enabled
USE\_RECURSIVE\_MUTEXES Enabled
USE\_COUNTING\_SEMAPHORES Enabled

QUEUE\_REGISTRY\_SIZE 8

USE\_APPLICATION\_TASK\_TAG Disabled
ENABLE\_BACKWARD\_COMPATIBILITY Enabled
USE\_PORT\_OPTIMISED\_TASK\_SELECTION Disabled
USE\_TICKLESS\_IDLE Disabled
USE\_TASK\_NOTIFICATIONS Enabled
RECORD\_STACK\_HIGH\_ADDRESS Disabled

Memory management settings:

Memory Allocation Dynamic / Static

TOTAL\_HEAP\_SIZE 3072

Memory Management scheme heap\_4

Hook function related definitions:

USE\_IDLE\_HOOK Disabled
USE\_TICK\_HOOK Disabled
USE\_MALLOC\_FAILED\_HOOK Disabled
USE\_DAEMON\_TASK\_STARTUP\_HOOK Disabled
CHECK\_FOR\_STACK\_OVERFLOW Disabled

#### Run time and task stats gathering related definitions:

GENERATE\_RUN\_TIME\_STATS Disabled
USE\_TRACE\_FACILITY Enabled
USE\_STATS\_FORMATTING\_FUNCTIONS Disabled

Co-routine related definitions:

USE\_CO\_ROUTINES Disabled
MAX\_CO\_ROUTINE\_PRIORITIES 2

Software timer definitions:

USE\_TIMERS Enabled
TIMER\_TASK\_PRIORITY 2
TIMER\_QUEUE\_LENGTH 10
TIMER\_TASK\_STACK\_DEPTH 256

### 2.4.2. Include parameters:

#### Include definitions:

vTaskPrioritySet Enabled uxTaskPriorityGet Enabled vTaskDelete Enabled vTaskCleanUpResources Disabled vTaskSuspend Enabled Enabled vTaskDelayUntil Enabled vTaskDelay xTaskGetSchedulerState Enabled xTaskResumeFromISR Enabled Enabled xQueueGetMutexHolder xSemaphoreGetMutexHolder Disabled Disabled pcTaskGetTaskName Enabled uxTaskGetStackHighWaterMark xTaskGetCurrentTaskHandle Disabled Enabled eTaskGetState Disabled xEventGroupSetBitFromISR xTimerPendFunctionCall Enabled xTaskAbortDelay Disabled Disabled xTaskGetHandle

#### 2.4.3. Advanced settings:

Newlib settings (see parameter description first):

USE\_NEWLIB\_REENTRANT Enabled \*

Project settings (see parameter description first):

Use FW pack heap file Enabled

stm32_	_stuff	Project
Configur	ation	Report

\* User modified value

# 3. System Configuration

# 3.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
USART2	PA2	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PA3	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
GPIO	PA0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	

# 3.2. DMA configuration

nothing configured in DMA service

# 3.3. NVIC configuration

# 3.3.1. NVIC

Interrupt Table	Enable	Preenmption Priority	SubPriority
Non maskable interrupt	true	0	0
Hard fault interrupt	true	0	0
System service call via SWI instruction	true	0	0
Pendable request for system service	true	3	0
System tick timer	true	3	0
Flash global interrupt	unused		
RCC global interrupt	unused		
USART2 global interrupt	unused		

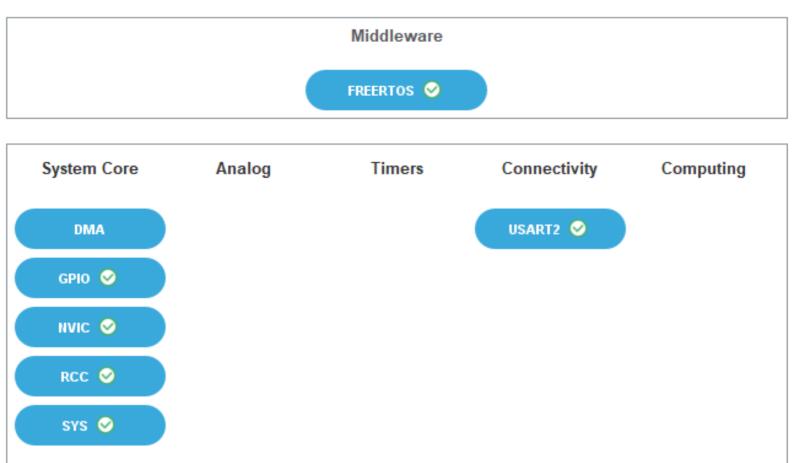
## 3.3.2. NVIC Code generation

Enabled interrupt Table	Select for init	Generate IRQ	Call HAL handler
	sequence ordering	handler	
Non maskable interrupt	false	true	false
Hard fault interrupt	false	true	false
System service call via SWI instruction	false	false	false
Pendable request for system service	false	false	false
System tick timer	false	true	true

<sup>\*</sup> User modified value

# 4. System Views

- 4.1. Category view
- 4.1.1. Current



### 5. Docs & Resources

Type Link

IBIS models https://www.st.com/resource/en/ibis\_model/stm32f0\_ibis.zip

System View https://www.st.com/resource/en/svd/stm32f0\_svd.zip

Description

Presentations https://www.st.com/resource/en/product\_presentation/gt\_stm32f0-l0.pdf

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for related Tools with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-

& Software stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5361-getting-started-

for related Tools with-projects-based-on-dualcore-stm32h7-microcontrollers-in-

& Software stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5394-getting-started-

for related Tools with-projects-based-on-the-stm32l5-series-in-stm32cubeide-

& Software stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5418-how-to-build-a-for related Tools simple-usbpd-sink-application-with-stm32cubemx-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application\_note/an5426-migrating-for related Tools graphics-middleware-projects-from-stm32cubemx-540-to-stm32cubemx-

& Software 550-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application note/an5464-position-control-

for related Tools of-a-threephase-permanent-magnet-motor-using-xcubemcsdk-or-

& Software xcubemcsdkful-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5564-getting-started-

for related Tools with-projects-based-on-dualcore-stm32wl-microcontrollers-in-

& Software stm32cubeide-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5698-adapting-the-for related Tools xcubestl-functional-safety-package-for-stm32-iec-61508-compliant-to-

& Software other-safety-standards-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application\_note/an5731-stm32cubemx-

for related Tools and-stm32cubeide-threadsafe-solution-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application\_note/an4502-stm32-

for related Tools smbuspmbus-expansion-package-for-stm32cube-stmicroelectronics.pdf

& Software

Application Notes https://www.st.com/resource/en/application\_note/an5952-how-to-use-

for related Tools cmake-in-stm32cubeide-stmicroelectronics.pdf

& Software

Errata Sheets https://www.st.com/resource/en/errata\_sheet/es0291-stm32f070x6xb-

device-errata-stmicroelectronics.pdf

Datasheet https://www.st.com/resource/en/datasheet/dm00141386.pdf

Programming https://www.st.com/resource/en/programming\_manual/pm0215-stm32f0-

Manuals series-cortexm0-programming-manual-stmicroelectronics.pdf

Reference https://www.st.com/resource/en/reference\_manual/rm0360-

Manuals stm32f030x4x6x8xc-and-stm32f070x6xb-advanced-armbased-32bit-

mcus-stmicroelectronics.pdf

Technical Notes https://www.st.com/resource/en/technical\_note/tn1163-description-of-

& Articles wlcsp-for-microcontrollers-and-recommendations-for-its-use-

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Technical Notes https://www.st.com/resource/en/technical\_note/tn1205-tape-and-reel-

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Technical Notes https://www.st.com/resource/en/technical\_note/tn1206-tape-and-reel-

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stmicroelectronics.pdf

Technical Notes https://www.st.com/resource/en/technical\_note/tn1207-tape-and-reel-

& Articles shipping-media-for-stm8-and-stm32-microcontrollers-in-so-packages-

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packages-stmicroelectronics.pdf

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stmicroelectronics.pdf

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stmicroelectronics.pdf