

1. Description

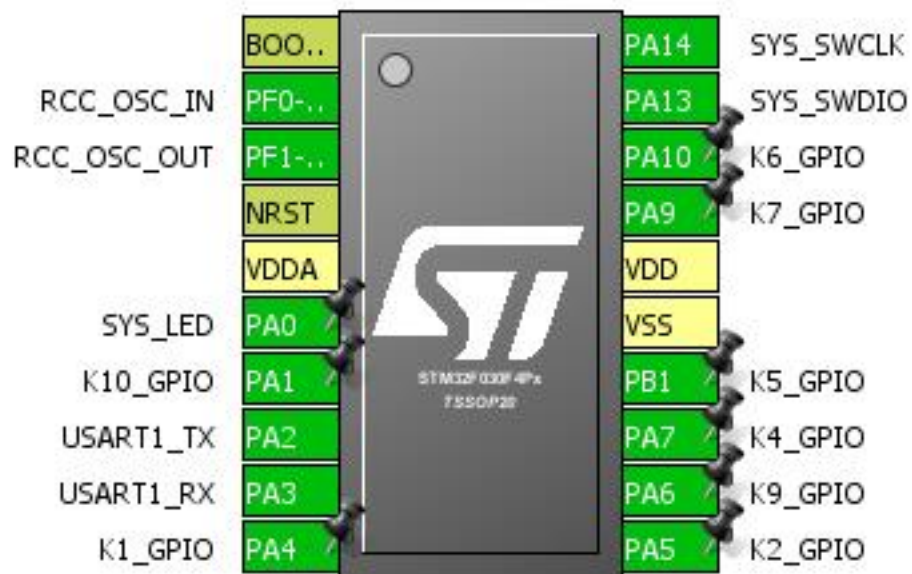
1.1. Project

Project Name	INC-MBPCM1-01
Board Name	custom
Generated with:	STM32CubeMX 4.26.0
Date	06/29/2018

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x0 Value Line
MCU name	STM32F030F4Px
MCU Package	TSSOP20
MCU Pin number	20

2. Pinout Configuration



3. Pins Configuration

Pin Number TSSOP20	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	BOOT0	Boot		
2	PF0-OSC_IN	I/O	RCC_OSC_IN	
3	PF1-OSC_OUT	I/O	RCC_OSC_OUT	
4	NRST	Reset		
5	VDDA	Power		
6	PA0 *	I/O	GPIO_Output	SYS_LED
7	PA1 *	I/O	GPIO_Output	K10_GPIO
8	PA2	I/O	USART1_TX	
9	PA3	I/O	USART1_RX	
10	PA4 *	I/O	GPIO_Output	K1_GPIO
11	PA5 *	I/O	GPIO_Output	K2_GPIO
12	PA6 *	I/O	GPIO_Output	K9_GPIO
13	PA7 *	I/O	GPIO_Output	K4_GPIO
14	PB1 *	I/O	GPIO_Output	K5_GPIO
15	VSS	Power		
16	VDD	Power		
17	PA9 *	I/O	GPIO_Output	K7_GPIO
18	PA10 *	I/O	GPIO_Output	K6_GPIO
19	PA13	I/O	SYS_SWDIO	
20	PA14	I/O	SYS_SWCLK	

* The pin is affected with an I/O function

5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.1.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Prefetch Buffer	Enabled
Flash Latency(WS)	1 WS (2 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
HSE Startup Timeout Value (ms)	200 *
LSE Startup Timeout Value (ms)	5000

5.2. SYS

mode: Debug Serial Wire

Timebase Source: TIM1

5.3. USART1

Mode: Asynchronous

5.3.1. 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:

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

5.4. FREERTOS

mode: Enabled

5.4.1. Config parameters:

Versions:

FreeRTOS version	9.0.0
CMSIS-RTOS version	1.02

Kernel settings:

USE_PREEMPTION	Enabled
CPU_CLOCK_HZ	SystemCoreClock
TICK_RATE_HZ	1000
MAX_PRIORITIES	7
MINIMAL_STACK_SIZE	96
MAX_TASK_NAME_LEN	16
USE_16_BIT_TICKS	Disabled
IDLE_SHOULD_YIELD	Enabled
USE_MUTEXES	Enabled
USE_RECURSIVE_MUTEXES	Disabled
USE_COUNTING_SEMAPHORES	Disabled
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

Memory management settings:

Memory Allocation	Dynamic
TOTAL_HEAP_SIZE	2048
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	Disabled
USE_STATS_FORMATTING_FUNCTIONS	Disabled

Co-routine related definitions:

USE_CO_ROUTINES	Disabled
MAX_CO_ROUTINE_PRIORITIES	2

Software timer definitions:

USE_TIMERS	Disabled
------------	----------

Interrupt nesting behaviour configuration:

LIBRARY_LOWEST_INTERRUPT_PRIORITY	3
LIBRARY_MAX_SYSCALL_INTERRUPT_PRIORITY	3

5.4.2. Include parameters:

Include definitions:

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

* 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	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_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
USART1	PA2	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	
	PA3	USART1_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	SYS_LED
	PA1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K10_GPIO
	PA4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K1_GPIO
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K2_GPIO
	PA6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K9_GPIO
	PA7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K4_GPIO
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K5_GPIO
	PA9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K7_GPIO
	PA10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	K6_GPIO

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
System service call via SWI instruction	true	0	0
Pendable request for system service	true	3	0
System tick timer	true	3	0
TIM1 break, update, trigger and commutation interrupts	true	0	0
USART1 global interrupt	true	3	0
Flash global interrupt	unused		
RCC global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x0 Value Line
MCU	STM32F030F4Px
Datasheet	024849_Rev2

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	INC-MBPCM1-01
Project Folder	E:\XCP Github\STM32F_CubeMX\STM32F030F4_CubeMX\INC-MBPCM1-01
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F0 V1.9.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	Copy all used libraries into the project folder
Generate peripheral initialization as a pair of '.c/.h' files	Yes
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