1. Description

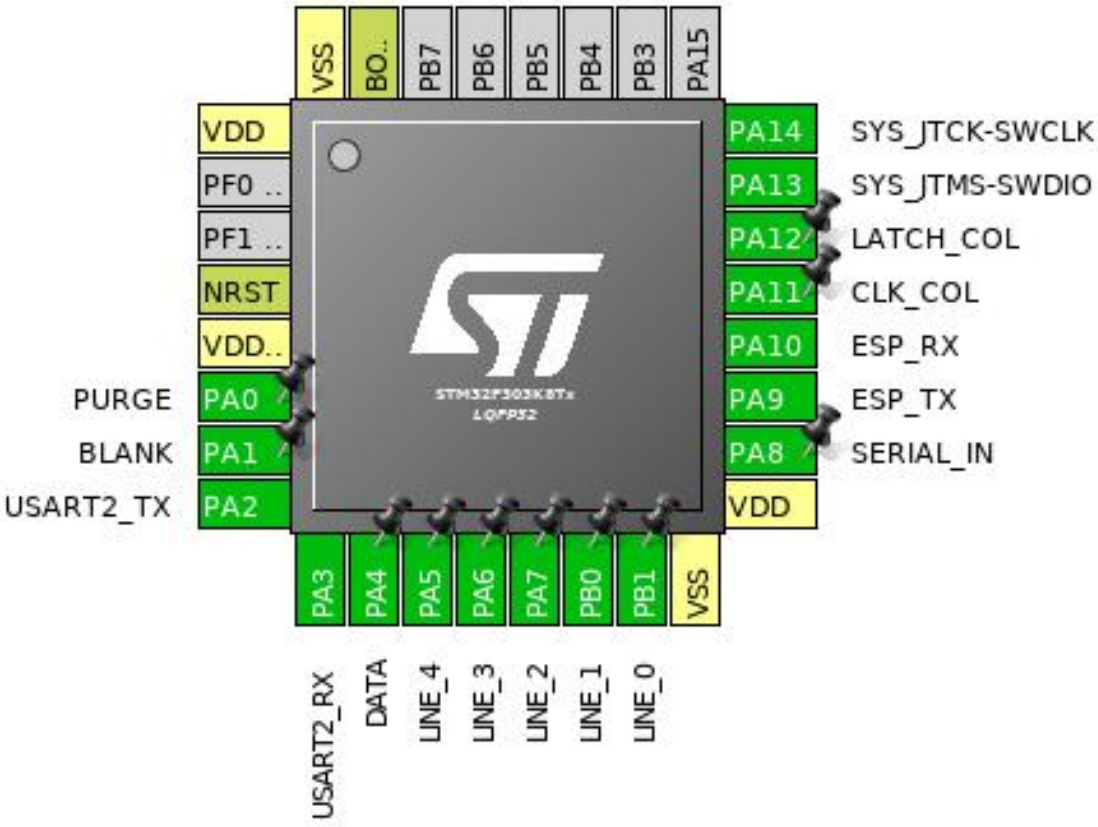
1.1. Project

Project Name	SCREEN
Board Name	SCREEN
Generated with:	STM32CubeMX 4.24.0
Date	03/13/2018

1.2. MCU

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

2. Pinout Configuration

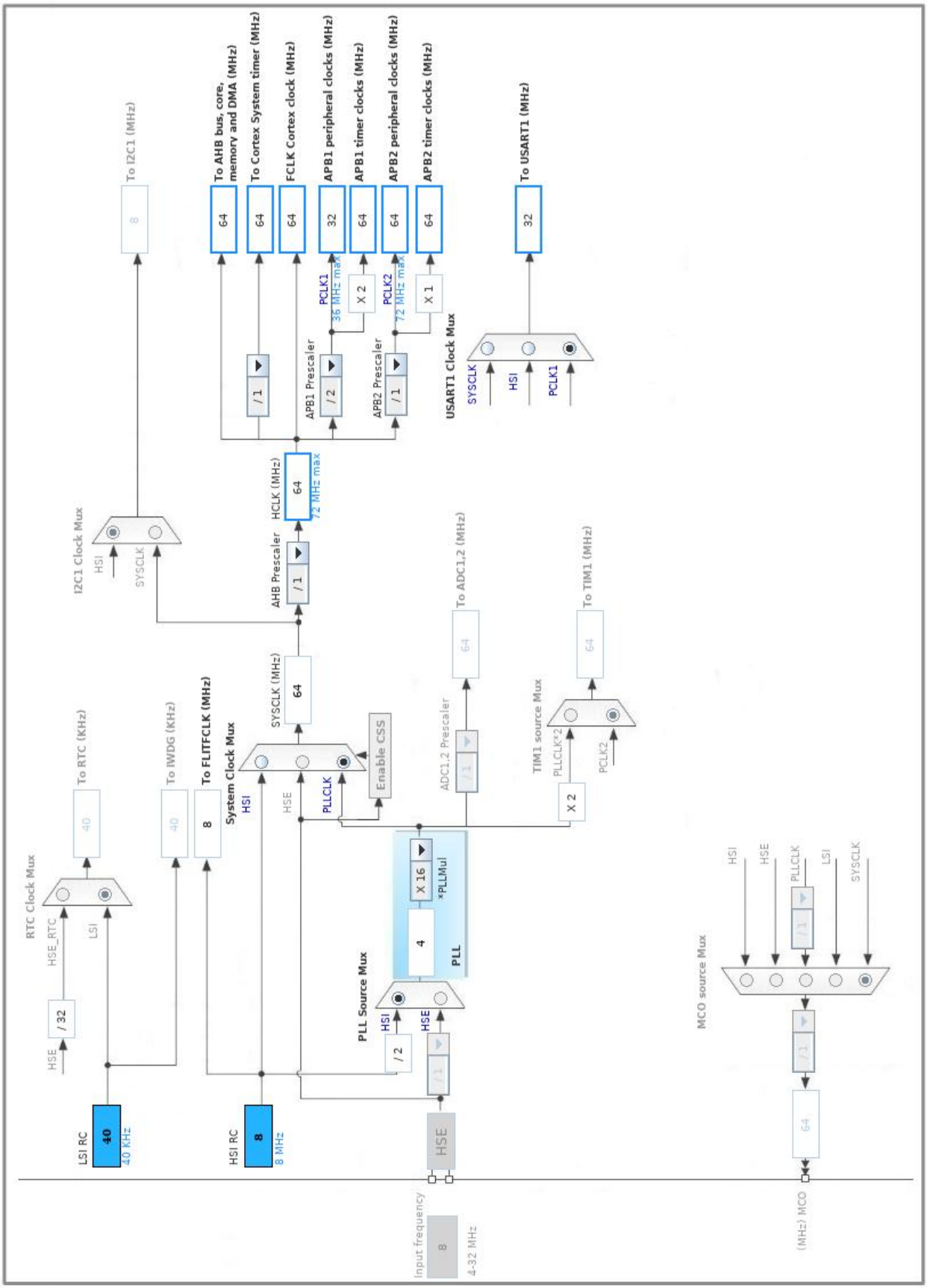


3. Pins Configuration

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	GPIO_Output	PURGE
7	PA1 *	I/O	GPIO_Output	BLANK
8	PA2	I/O	USART2_TX	
9	PA3	I/O	USART2_RX	
10	PA4 *	I/O	GPIO_Output	DATA
11	PA5 *	I/O	GPIO_Output	LINE_4
12	PA6 *	I/O	GPIO_Output	LINE_3
13	PA7 *	I/O	GPIO_Output	LINE_2
14	PB0 *	I/O	GPIO_Output	LINE_1
15	PB1 *	I/O	GPIO_Output	LINE_0
16	VSS	Power		
17	VDD	Power		
18	PA8 *	I/O	GPIO_Output	SERIAL_IN
19	PA9	I/O	USART1_TX	ESP_TX
20	PA10	I/O	USART1_RX	ESP_RX
21	PA11 *	I/O	GPIO_Output	CLK_COL
22	PA12 *	I/O	GPIO_Output	LATCH_COL
23	PA13	I/O	SYS_JTMS-SWDIO	
24	PA14	I/O	SYS_JTCK-SWCLK	
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. SYS

Debug: Serial Wire

Timebase Source: SysTick

5.2. TIM2

Clock Source : Internal Clock

5.2.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value)	**57143-1 ***
Internal Clock Division (CKD)	No Division
auto-reload preload	Disable

Trigger Output (TRGO) Parameters:

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection TRGO	Reset (UG bit from TIMx_EGR)

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. USART2

Mode: Asynchronous

5.4.1. Parameter Settings:

Basic Parameters:

Baud Rate	38400
Word Length	7 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
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	No pull up pull down	**High ***	ESP_TX
	PA10	USART1_RX	Alternate Function Push Pull	No pull up pull down	**High ***	ESP_RX
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	PA0	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	PURGE
	PA1	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	BLANK
	PA4	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	DATA
	PA5	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LINE_4
	PA6	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LINE_3
	PA7	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LINE_2
	PB0	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LINE_1
	PB1	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LINE_0
	PA8	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	SERIAL_IN
	PA11	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	CLK_COL
	PA12	GPIO_Output	Output Push Pull	No pull up pull down	**High ***	LATCH_COL

6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART1_RX	DMA1_Channel5	Peripheral To Memory	**High ***

USART1_RX: DMA1_Channel5 DMA request Settings:

Mode:	**Circular ***
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 channel5 global interrupt	true	0	0
TIM2 global interrupt	true	0	0
USART1 global interrupt / USART1 wake-up interrupt through EXT line 25	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART2 global interrupt / USART2 wake-up interrupt through EXT line 26	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 Pack Report

9. Software Project

9.1. Project Settings

Name	Value
Project Name	SCREEN
Project Folder	/home/antonin/Documents/Robotronik/git/cdfr2018/Programmation/Panneau_do
Toolchain / IDE	Makefile
Firmware Package Name and Version	STM32Cube FW_F3 V1.9.0

9.2. 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	Yes
Backup previously generated files when re-generating	Yes
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	Yes