1. Description

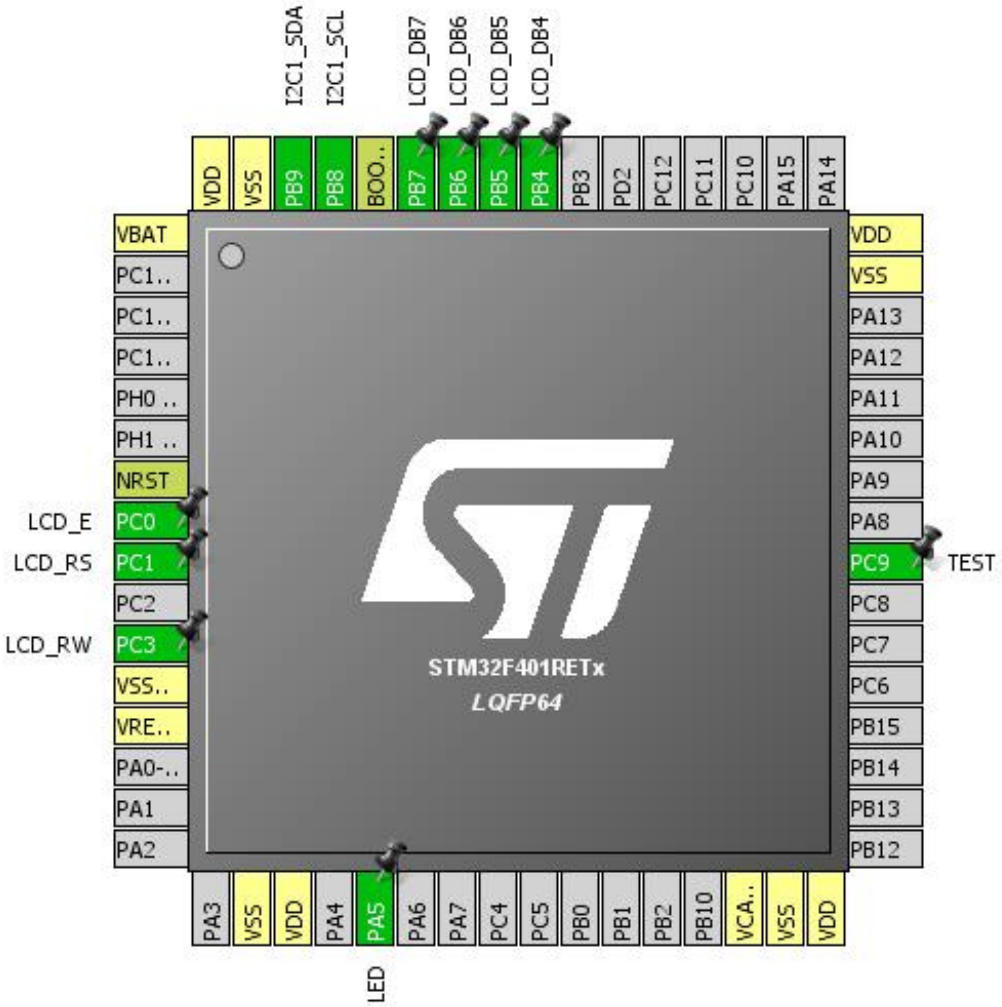
1.1. Project

Project Name	BMXX80_STM32
Board Name	BMXX80_STM32
Generated with:	STM32CubeMX 4.22.1
Date	08/12/2018

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F401
MCU name	STM32F401RETx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration

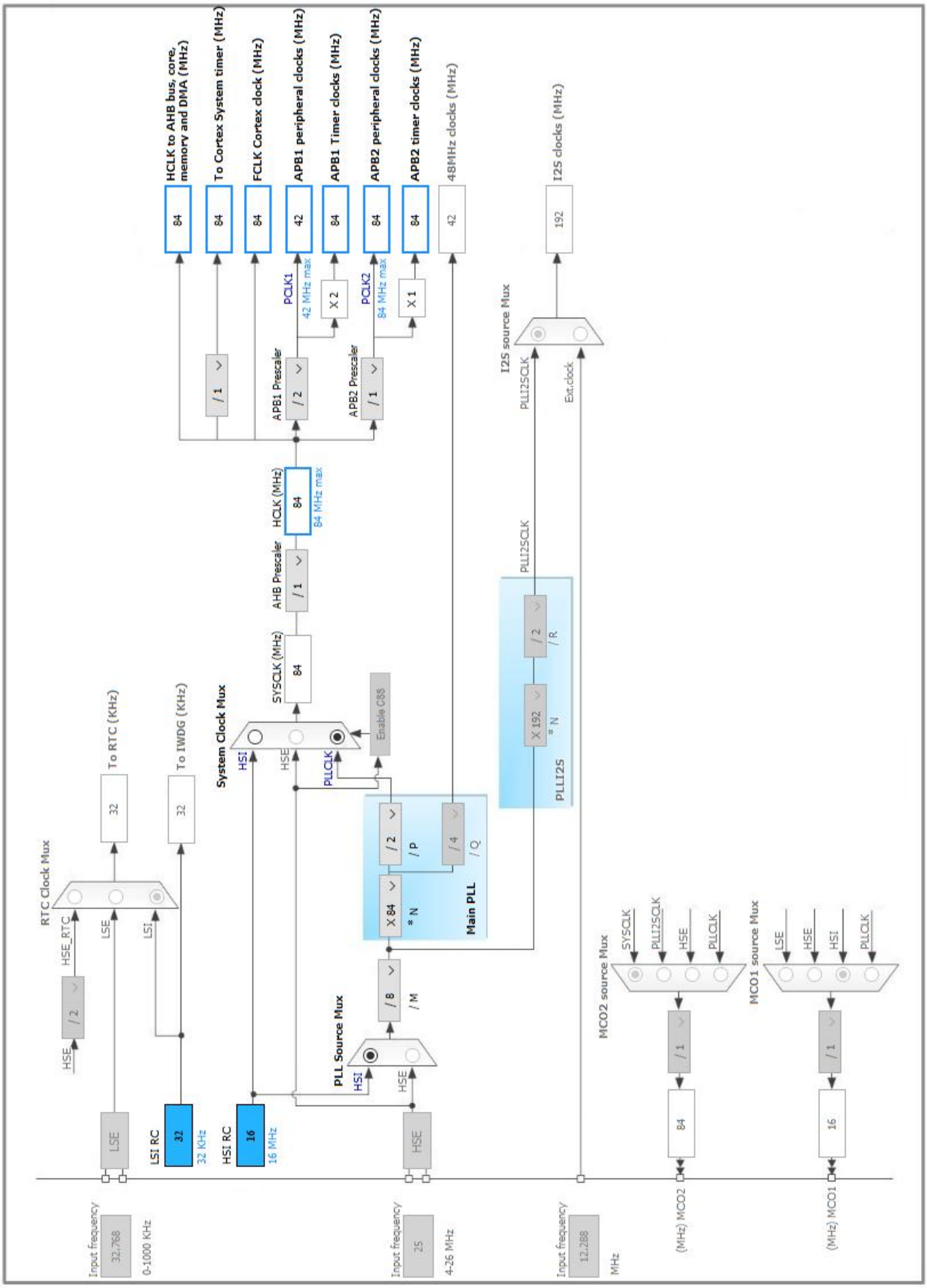


3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
8	PC0 *	I/O	GPIO_Output	LCD_E
9	PC1 *	I/O	GPIO_Output	LCD_RS
11	PC3 *	I/O	GPIO_Output	LCD_RW
12	VSSA/VREF-	Power		
13	VREF+	Power		
18	VSS	Power		
19	VDD	Power		
21	PA5 *	I/O	GPIO_Output	LED
30	VCAP1	Power		
31	VSS	Power		
32	VDD	Power		
40	PC9 *	I/O	GPIO_Output	TEST
47	VSS	Power		
48	VDD	Power		
56	PB4 *	I/O	GPIO_Output	LCD_DB4
57	PB5 *	I/O	GPIO_Output	LCD_DB5
58	PB6 *	I/O	GPIO_Output	LCD_DB6
59	PB7 *	I/O	GPIO_Output	LCD_DB7
60	BOOT0	Boot		
61	PB8	I/O	I2C1_SCL	
62	PB9	I/O	I2C1_SDA	
63	VSS	Power		
64	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. I2C1

I2C: I2C

5.1.1. Parameter Settings:

Master Features:

I2C Speed Mode	Standard Mode
I2C Clock Speed (Hz)	100000

Slave Features:

Clock No Stretch Mode	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0
General Call address detection	Disabled

5.2. SYS

Timebase Source: SysTick

5.3. TIM3

Clock Source : Internal Clock

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**83 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**65535 ***
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
I2C1	PB8	I2C1_SCL	Alternate Function Open Drain	Pull-up	**Very High ***	
	PB9	I2C1_SDA	Alternate Function Open Drain	Pull-up	**Very High ***	
GPIO	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_E
	PC1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_RS
	PC3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_RW
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED
	PC9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	TEST
	PB4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_DB4
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_DB5
	PB6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_DB6
	PB7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LCD_DB7

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	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
TIM3 global interrupt	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
FPU global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F401
MCU	STM32F401RETx
Datasheet	025644_Rev3

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	BMXX80_STM32
Project Folder	D:\GoogleDrive\Blog msalamon.pl\Materiay do wpisów\2 .BMP180, BMP280,
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F4 V1.16.0

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	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)	No