1. Description

1.1. Project

Project Name	test
Board Name	STM32F0DISCOVERY
Generated with:	STM32CubeMX 5.6.0
Date	04/05/2020

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x1
MCU name	STM32F051R8Tx
MCU Package	LQFP64
MCU Pin number	64

2. Pinout Configuration
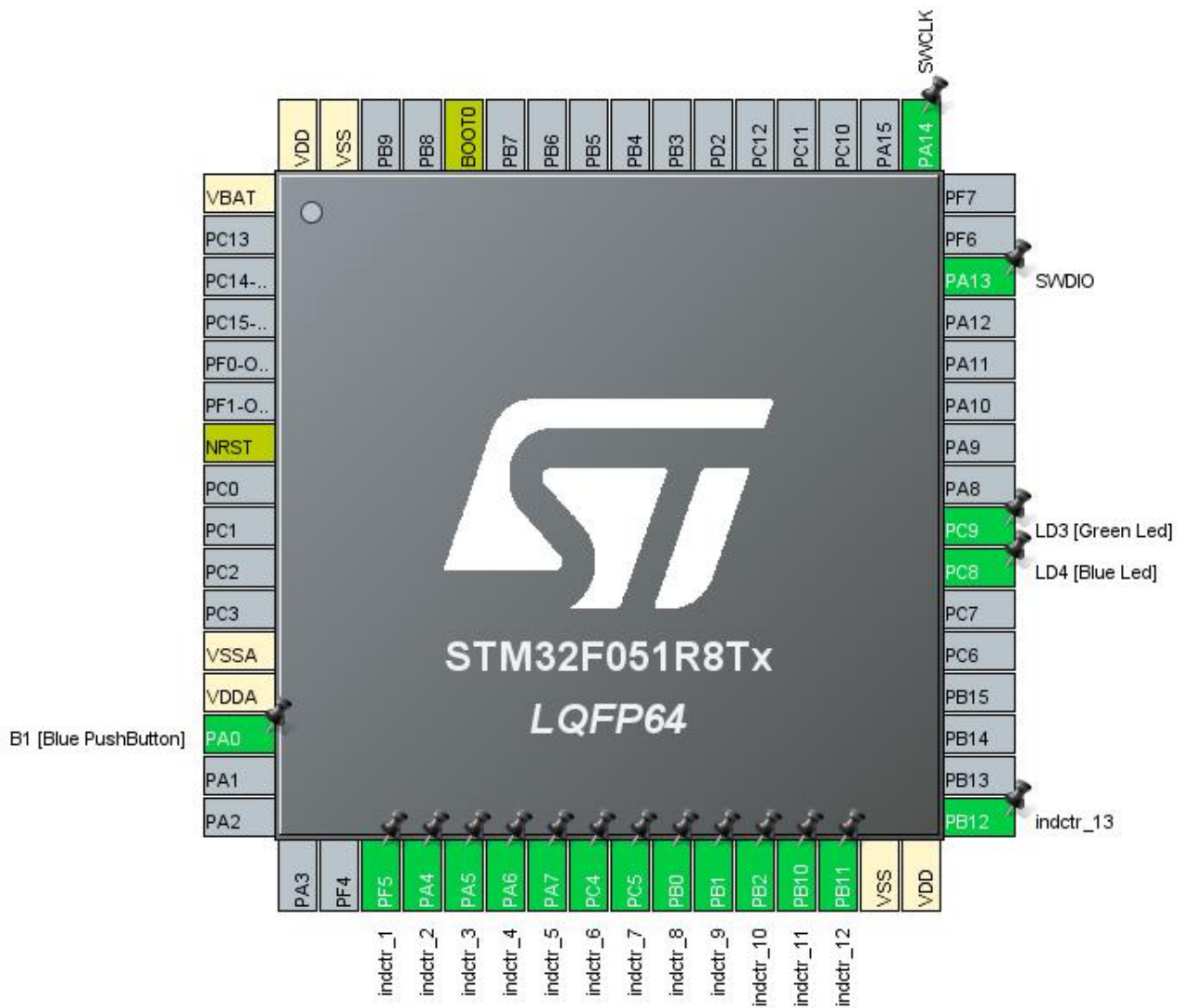
3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
12	VSSA	Power		
13	VDDA	Power		
14	PA0	I/O	GPIO_EXTI0	B1 [Blue PushButton]
19	PF5 *	I/O	GPIO_Output	indctr_1
20	PA4 *	I/O	GPIO_Output	indctr_2
21	PA5 *	I/O	GPIO_Output	indctr_3
22	PA6 *	I/O	GPIO_Output	indctr_4
23	PA7 *	I/O	GPIO_Output	indctr_5
24	PC4 *	I/O	GPIO_Output	indctr_6
25	PC5 *	I/O	GPIO_Output	indctr_7
26	PB0 *	I/O	GPIO_Output	indctr_8
27	PB1 *	I/O	GPIO_Output	indctr_9
28	PB2 *	I/O	GPIO_Output	indctr_10
29	PB10 *	I/O	GPIO_Output	indctr_11
30	PB11 *	I/O	GPIO_Output	indctr_12
31	VSS	Power		
32	VDD	Power		
33	PB12 *	I/O	GPIO_Output	indctr_13
39	PC8 *	I/O	GPIO_Output	LD4 [Blue Led]
40	PC9 *	I/O	GPIO_Output	LD3 [Green Led]
46	PA13	I/O	SYS_SWDIO	SWDIO
49	PA14	I/O	SYS_SWCLK	SWCLK
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

 * The pin is affected with an I/O function

4. Clock Tree Configuration
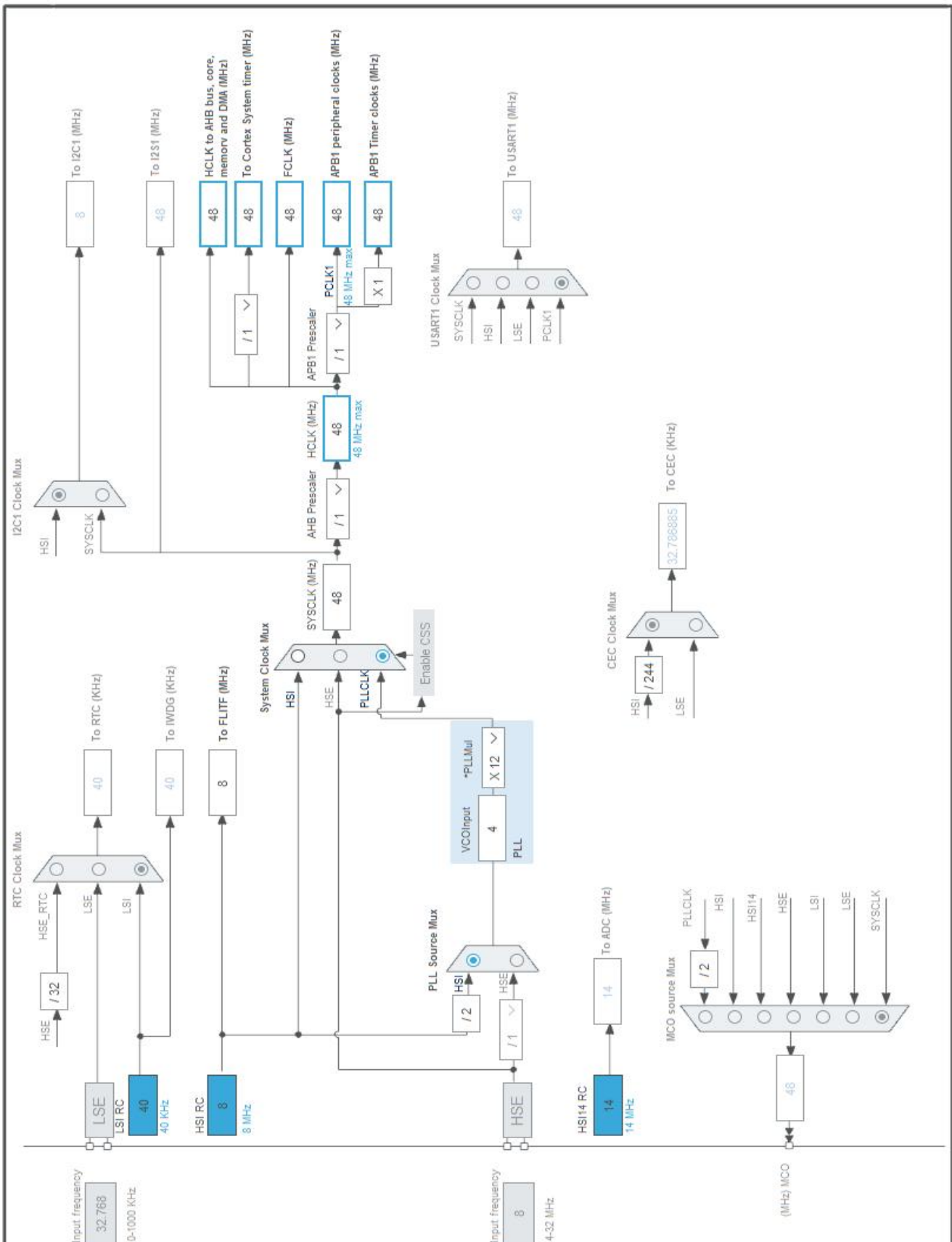
5. Software Project

5.1. Project Settings

Name	Value
Project Name	test
Project Folder	C:\Users\nekid\Desktop\indicator\test
Toolchain / IDE	MDK-ARM V5.27
Firmware Package Name and Version	STM32Cube FW_F0 V1.11.0

5.2. Code Generation Settings

Name	Value
STM32Cube MCU packages and embedded software	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

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x1
MCU	STM32F051R8Tx
Datasheet	022265_Rev7

6.2. Parameter Selection

Temperature	25
Vdd	3.3

6.3. 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

6.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.3	3.3
Voltage Source	Battery	Battery
Range	No Scale	No Scale
Fetch Type	FLASH	n/a
CPU Frequency	48 MHz	0 Hz
Clock Configuration	HSE PLL	Regulator_LP
Clock Source Frequency	8 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	13.45 mA	6.2 µA
Duration	0.1 ms	0.9 ms
DMIPS	0.0	0.0
Ta Max	103	105
Category	In DS Table	In DS Table

6.5. RESULTS

Sequence Time	1 ms	Average Current	1.35 mA
Battery Life	3 months, 13 days, 8 hours	Average DMIPS	0.0 DMIPS

6.6. Chart

Consumption Profile by Step
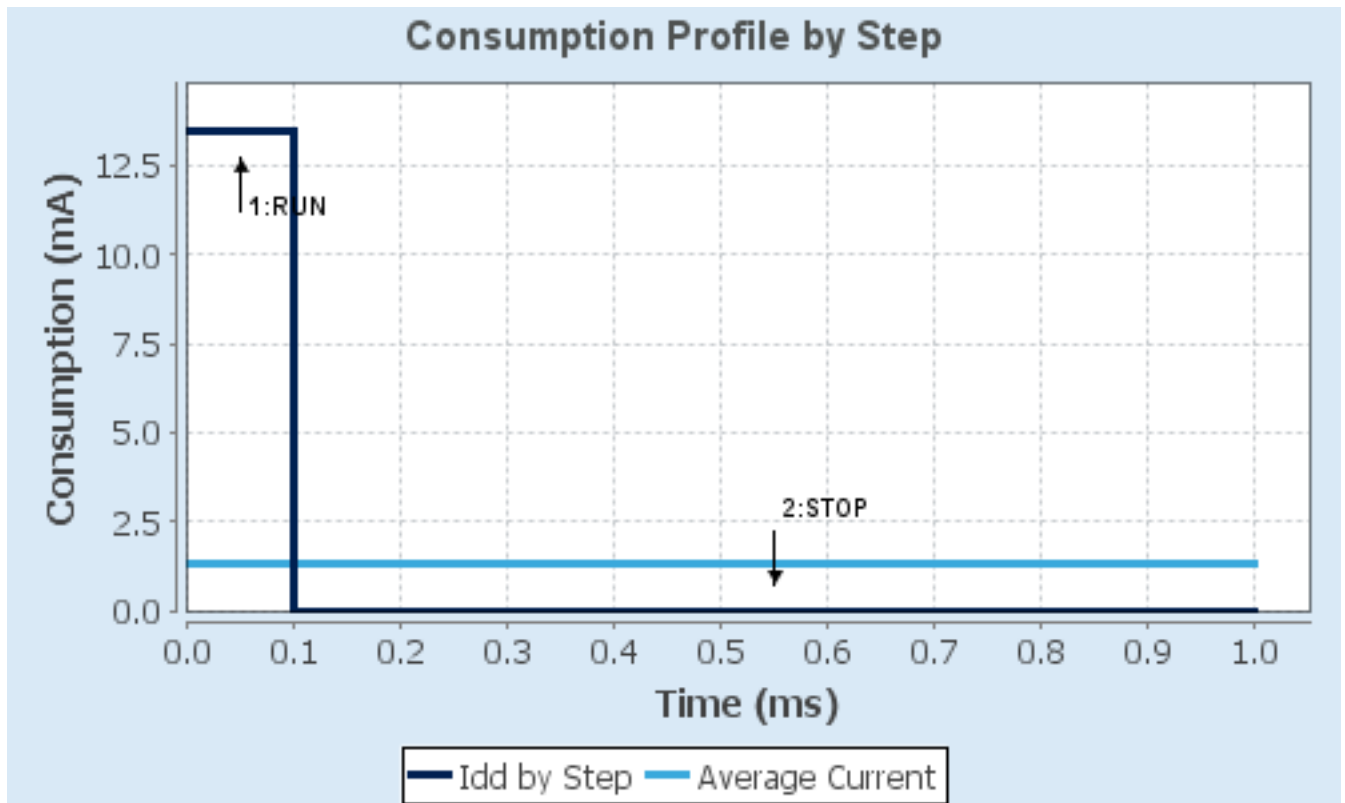
7. IPs and Middleware Configuration

7.1. GPIO

7.2. SYS

mode: Debug Serial Wire
Timebase Source: SysTick

* User modified value

8. System Configuration

8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	SWDIO
	PA14	SYS_SWCLK	n/a	n/a	n/a	SWCLK
GPIO	PA0	GPIO_EXTI0	**External Event Mode with Rising edge trigger detection ***	No pull-up and no pull-down	n/a	B1 [Blue PushButton]
	PF5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_1
	PA4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_2
	PA5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_3
	PA6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_4
	PA7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_5
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_6
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_7
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_8
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_9
	PB2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_10
	PB10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_11
	PB11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_12
	PB12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	indctr_13
	PC8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD4 [Blue Led]
	PC9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LD3 [Green Led]

8.2. DMA configuration

nothing configured in DMA service

8.3. 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	0	0
System tick timer	true	0	0
PVD interrupt through EXTI Line16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		

* User modified value

9. Predefined Views - Category view : Current

10. Software Pack Report