

1. Description

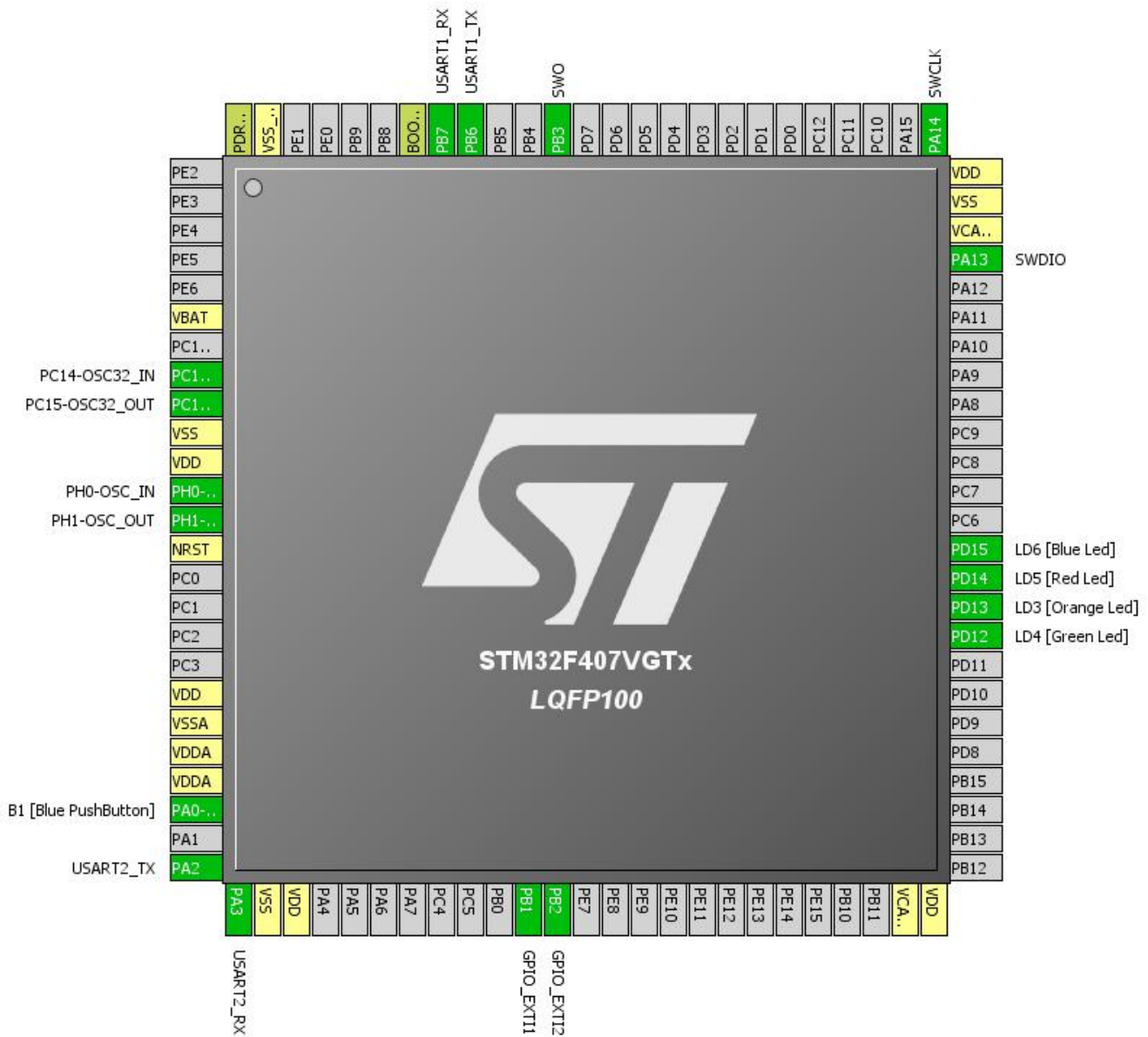
1.1. Project

Project Name	02_Dashboard_CubeProject
Generated with:	STM32CubeMX 4.2.0
Date	07/01/2014

1.2. MCU

MCU Serie	STM32F4
MCU Line	STM32F407/417
MCU name	STM32F407VGTx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



3. IPs and Middlewares Configuration

IP	Mode	Fonction	Pin
ADC1	Temperature Sensor Channel	N/A	N/A
	Vrefint Channel	N/A	N/A
	Vbat Channel	N/A	N/A
RCC	High Speed Clock (HSE): Crystal/Ceramic Resonator	RCC_OSC_IN	PH0-OSC_IN
		RCC_OSC_OUT	PH1-OSC_OUT
	Low Speed Clock (LSE) : Crystal/Ceramic Resonator	RCC_OSC32_IN	PC14-OSC32_IN
		RCC_OSC32_OUT	PC15-OSC32_OUT
SYS	Debug: SWD and Asynchronous Trace	SYS_JTMS-SWDIO	PA13
		SYS_JTCK-SWCLK	PA14
		SYS_JTDO-SWO	PB3
TIM2	Clock Source : Internal Clock	N/A	N/A
TIM3	Clock Source : Internal Clock	N/A	N/A
TIM4	Clock Source : Internal Clock	N/A	N/A
USART1	Mode: Asynchronous	USART1_RX	PB7
		USART1_TX	PB6
USART2	Mode: Asynchronous	USART2_RX	PA3
		USART2_TX	PA2

4. Pins Configuration

Pin	Pos	Function(s)	Label
PC14-OSC32_IN	8	RCC_OSC32_IN	PC14-OSC32_IN
PC15-OSC32_OUT	9	RCC_OSC32_OUT	PC15-OSC32_OUT
PH0-OSC_IN	12	RCC_OSC_IN	PH0-OSC_IN
PH1-OSC_OUT	13	RCC_OSC_OUT	PH1-OSC_OUT
PA0-WKUP	23	GPIO_EXTI0	B1 [Blue PushButton]
PA2	25	USART2_TX	
PA3	26	USART2_RX	
PB1	36	GPIO_EXTI1	
PB2	37	GPIO_EXTI2	
PD12 *	59	GPIO_Output	LD4 [Green Led]
PD13 *	60	GPIO_Output	LD3 [Orange Led]
PD14 *	61	GPIO_Output	LD5 [Red Led]
PD15 *	62	GPIO_Output	LD6 [Blue Led]
PA13	72	SYS_JTMS-SWDIO	SWDIO
PA14	76	SYS_JTCK-SWCLK	SWCLK
PB3	89	SYS_JTDO-SWO	SWO
PB6	92	USART1_TX	
PB7	93	USART1_RX	

* The pin is affected with an I/O function

5. Power Plugin report

5.1. Microcontroller Selection

Serie	STM32F4
Line	STM32F407/417
MCU	STM32F407VGTx
Datasheet	022152_Rev5

5.2. Parameter Selection

Temperature	25
Vdd	3.3

5.3. Battery Selection

Battery	Alkaline(9V)
Capacity	625.0 mAh
Self discharge	0.3 %/month
Nominal voltage	9.0 V
Max Cont Current	200.0 mA
Max Pulse Current	0.0 mA
Cells in series	1
Cells in parallel	1

5.4. Sequence

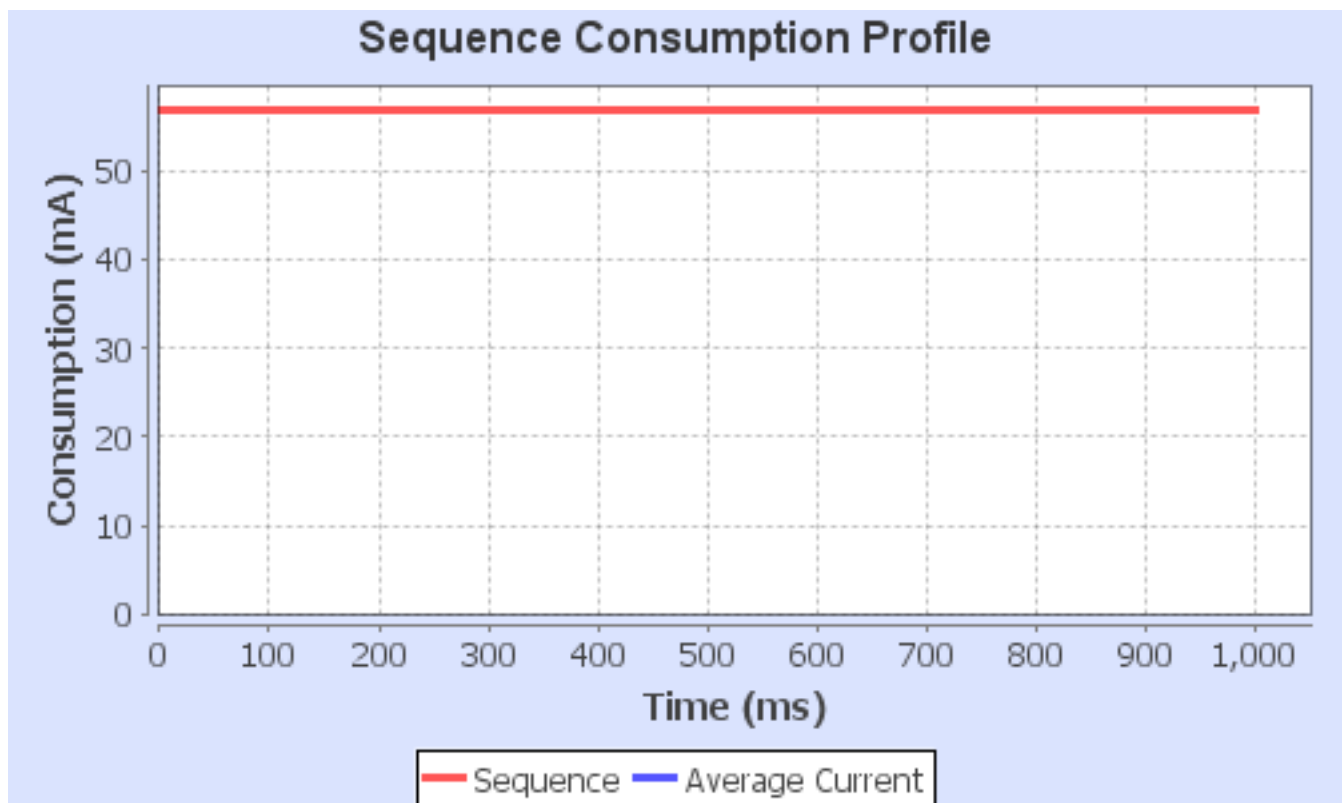
Step	STEP1
Mode	RUN
Range	Scale1-High
Fetch type	FLASH ART OFF
Clock Config.	HSE PLL ON

Clock Source Freq.	4.0 MHz
CPU Freq.	168.0 MHz
Periph.	ADC1 DMA1 DMA2 GPIOA GPIOB GPIOC GPIOD GPIOE GPIOH SYSCFG TIM2 TIM3 TIM4 USART1 USART2
Additional Cons.	0 mA
Average Current	56.879383 mA
Duration	1 s
DMIPS	210.0

5.5. Results

Sequence time	1.0 s	Average current	56.879 mA
Battery Life	10 hours	Average DMIPS	210.0 DMIPS

5.6. Chart



6. Software Project

6.1. Project Settings

Name	Value
Project Name	02_Dashboard_CubeProject
Project Folder	D:\ARM_projekte\02_Dashboard_CubeProject\02_Dashboard_CubeProject
Toolchain / IDE	MDK-ARM 4.73
Firmware Package Name and Version	STM32Cube FW_F4 V1.1.0

6.2. 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

6.3. Toolchains Settings

Name	Value
Compiler Optimizations	Balanced Size/Speed