1. Description

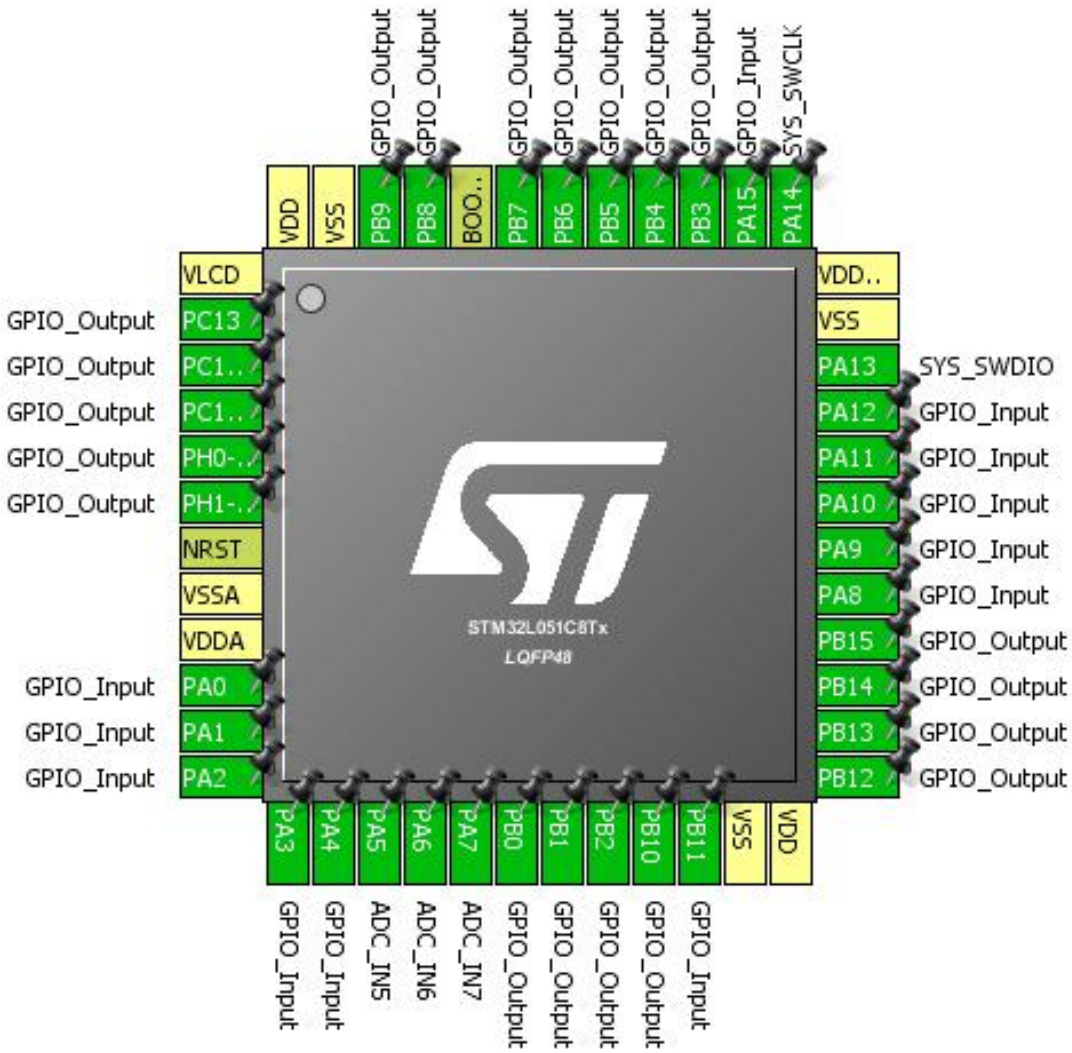
1.1. Project

Project Name	Communicator
Board Name	Communicator
Generated with:	STM32CubeMX 4.15.1
Date	10/05/2016

1.2. MCU

MCU Series	STM32L0
MCU Line	STM32L0x1
MCU name	STM32L051C8Tx
MCU Package	LQFP48
MCU Pin number	48

2. Pinout Configuration



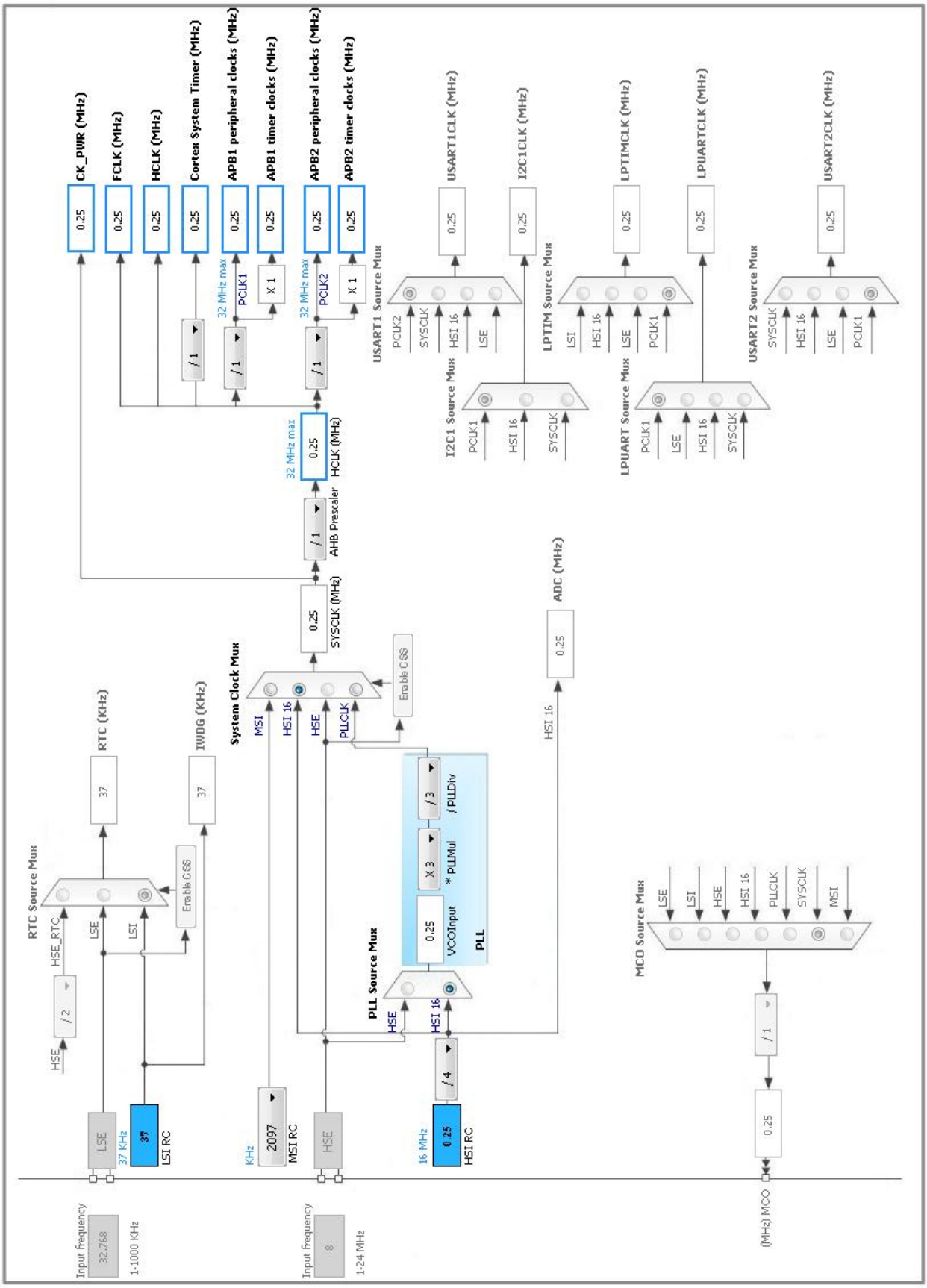
3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VLCD	Power		
2	PC13 *	I/O	GPIO_Output	
3	PC14-OSC32_IN *	I/O	GPIO_Output	
4	PC15-OSC32_OUT *	I/O	GPIO_Output	
5	PH0-OSC_IN *	I/O	GPIO_Output	
6	PH1-OSC_OUT *	I/O	GPIO_Output	
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
10	PA0 *	I/O	GPIO_Input	
11	PA1 *	I/O	GPIO_Input	
12	PA2 *	I/O	GPIO_Input	
13	PA3 *	I/O	GPIO_Input	
14	PA4 *	I/O	GPIO_Input	
15	PA5	I/O	ADC_IN5	
16	PA6	I/O	ADC_IN6	
17	PA7	I/O	ADC_IN7	
18	PB0 *	I/O	GPIO_Output	
19	PB1 *	I/O	GPIO_Output	
20	PB2 *	I/O	GPIO_Output	
21	PB10 *	I/O	GPIO_Output	
22	PB11 *	I/O	GPIO_Input	
23	VSS	Power		
24	VDD	Power		
25	PB12 *	I/O	GPIO_Output	
26	PB13 *	I/O	GPIO_Output	
27	PB14 *	I/O	GPIO_Output	
28	PB15 *	I/O	GPIO_Output	
29	PA8 *	I/O	GPIO_Input	
30	PA9 *	I/O	GPIO_Input	
31	PA10 *	I/O	GPIO_Input	
32	PA11 *	I/O	GPIO_Input	
33	PA12 *	I/O	GPIO_Input	
34	PA13	I/O	SYS_SWDIO	
35	VSS	Power		
36	VDD_USB	Power		

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
37	PA14	I/O	SYS_SWCLK	
38	PA15 *	I/O	GPIO_Input	
39	PB3 *	I/O	GPIO_Output	
40	PB4 *	I/O	GPIO_Output	
41	PB5 *	I/O	GPIO_Output	
42	PB6 *	I/O	GPIO_Output	
43	PB7 *	I/O	GPIO_Output	
44	BOOT0	Boot		
45	PB8 *	I/O	GPIO_Output	
46	PB9 *	I/O	GPIO_Output	
47	VSS	Power		
48	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC

mode: IN5

mode: IN6

mode: IN7

5.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler	Synchronous clock mode divided by 1
Resolution	ADC 12-bit resolution
Data Alignment	Right alignment
Scan Direction	Forward
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data preserved
Low Power Auto Wait	Disabled
Low Frequency Mode	Disabled
Auto Off	Disabled
Oversampling Mode	Disabled

ADC_Regular_ConversionMode:

Sampling Time	1.5 Cycles
External Trigger Conversion Edge	None

WatchDog:

Enable Analog WatchDog Mode	false

5.2. SYS

mode: Debug Serial Wire

Timebase Source: SysTick

5.3. TIM6

mode: Activated

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0

Trigger Output (TRGO) Parameters:

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
ADC	PA5	ADC_IN5	Analog mode	No pull-up and no pull-down	n/a	
	PA6	ADC_IN6	Analog mode	No pull-up and no pull-down	n/a	
	PA7	ADC_IN7	Analog mode	No pull-up and no pull-down	n/a	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
GPIO	PC13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC14-OSC32_IN	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PC15-OSC32_OUT	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PH0-OSC_IN	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PH1-OSC_OUT	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PB0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PB12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA9	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA12	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PA15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PB9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	

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	0	0
System tick timer	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash and EEPROM global interrupt	unused		
RCC global interrupt	unused		
ADC1, COMP1 and COMP2 interrupts (COMP interrupts through EXTI lines 21 and 22)	unused		
TIM6 global interrupt and DAC1/DAC2 underrun error interrupts	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32L0
Line	STM32L0x1
MCU	STM32L051C8Tx
Datasheet	025938_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	Communicator
Project Folder	F:\PROJECTS\Communicator\Communicator
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_L0 V1.7.0

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	No
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