1. Description

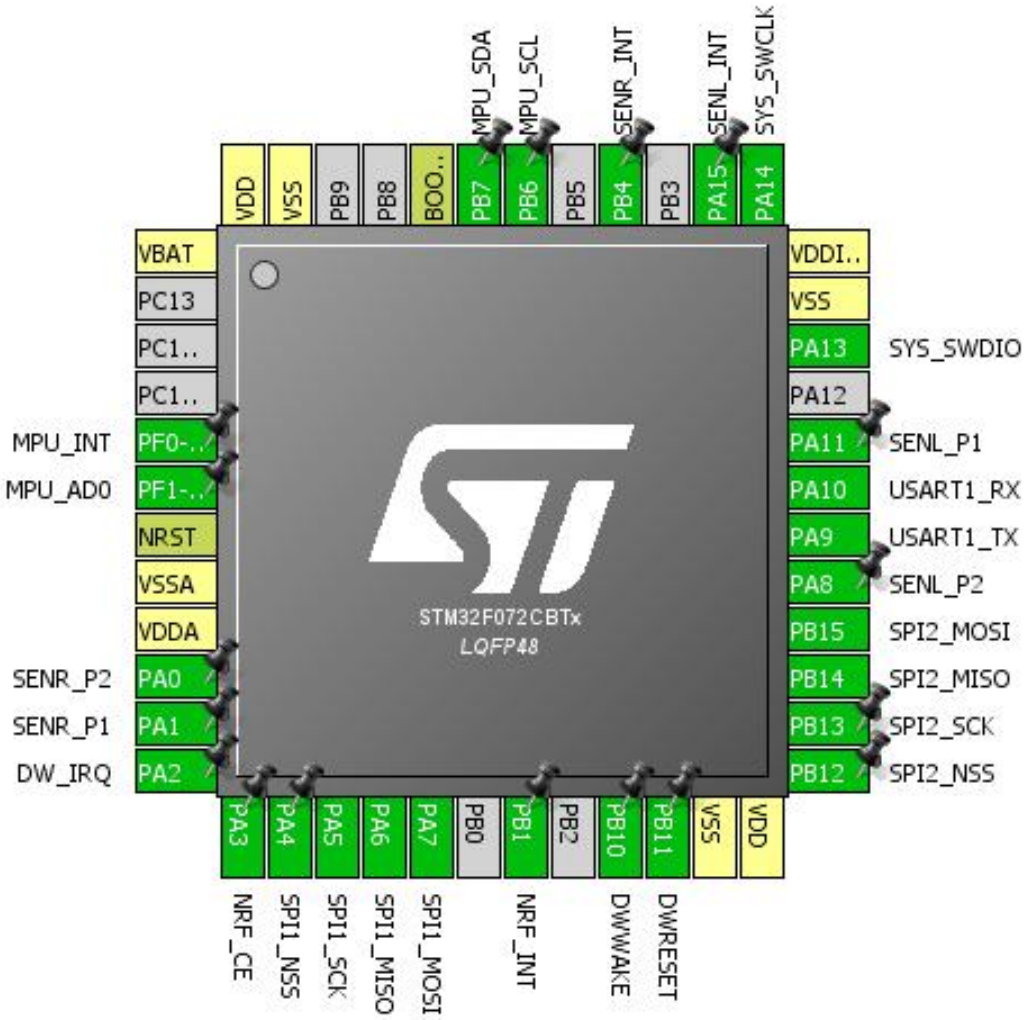
1.1. Project

Project Name	f072cbt6
Board Name	f072cbt6
Generated with:	STM32CubeMX 4.16.0
Date	04/19/2017

1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x2
MCU name	STM32F072CBTx
MCU Package	LQFP48
MCU Pin number	48

2. Pinout Configuration



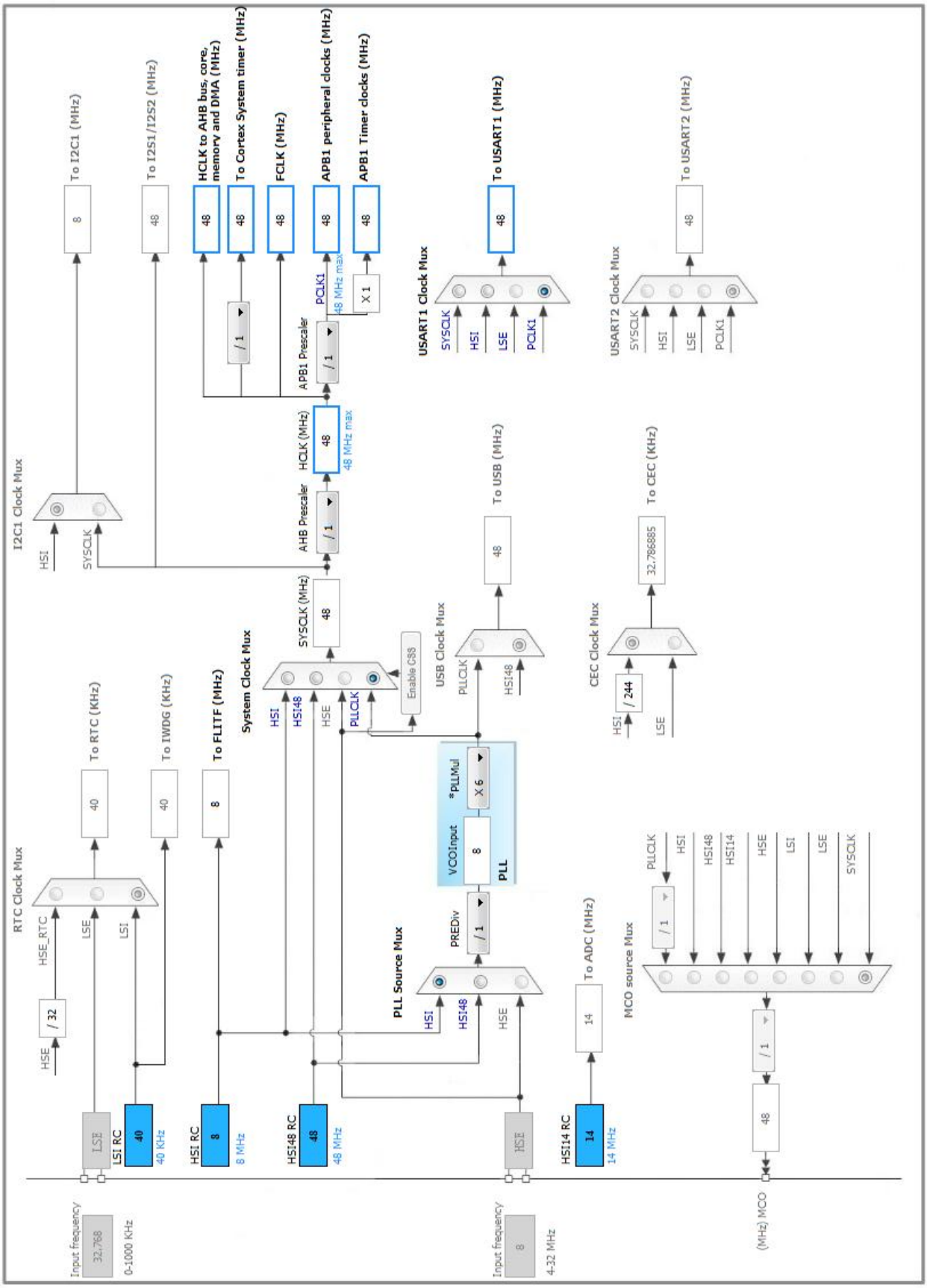
3. Pins Configuration

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
5	PF0-OSC_IN	I/O	GPIO_EXTI0	MPU_INT
6	PF1-OSC_OUT *	I/O	GPIO_Output	MPU_AD0
7	NRST	Reset		
8	VSSA	Power		
9	VDDA	Power		
10	PA0 *	I/O	GPIO_Output	SENR_P2
11	PA1 *	I/O	GPIO_Output	SENR_P1
12	PA2	I/O	GPIO_EXTI2	DW_IRQ
13	PA3 *	I/O	GPIO_Output	NRF_CE
14	PA4 *	I/O	GPIO_Output	SPI1_NSS
15	PA5	I/O	SPI1_SCK	
16	PA6	I/O	SPI1_MISO	
17	PA7	I/O	SPI1_MOSI	
19	PB1	I/O	GPIO_EXTI1	NRF_INT
21	PB10 *	I/O	GPIO_Output	DWWAKE
22	PB11 *	I/O	GPIO_Input	DWRESET
23	VSS	Power		
24	VDD	Power		
25	PB12 *	I/O	GPIO_Output	SPI2_NSS
26	PB13	I/O	SPI2_SCK	
27	PB14	I/O	SPI2_MISO	
28	PB15	I/O	SPI2_MOSI	
29	PA8 *	I/O	GPIO_Output	SENL_P2
30	PA9	I/O	USART1_TX	
31	PA10	I/O	USART1_RX	
32	PA11 *	I/O	GPIO_Output	SENL_P1
34	PA13	I/O	SYS_SWDIO	
35	VSS	Power		
36	VDDIO2	Power		
37	PA14	I/O	SYS_SWCLK	
38	PA15 *	I/O	GPIO_Input	SENL_INT
40	PB4 *	I/O	GPIO_Input	SENR_INT
42	PB6 *	I/O	GPIO_Output	MPU_SCL
43	PB7 *	I/O	GPIO_Output	MPU_SDA
44	BOOT0	Boot		

Pin Number LQFP48	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
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. SPI1

Mode: Full-Duplex Master

5.1.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	**8 Bits ***
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	**32 ***
Baud Rate	**1.5 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	**Disabled ***
NSS Signal Type	Software

5.2. SPI2

Mode: Full-Duplex Master

5.2.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	**8 Bits ***
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	**32 ***
Baud Rate	**1.5 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	**Disabled ***
NSS Signal Type	Software

5.3. SYS

mode: Debug Serial Wire

Timebase Source: SysTick

5.4. TIM14

mode: Activated

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**4799 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**2000 ***
Internal Clock Division (CKD)	No Division

5.5. USART1

Mode: Asynchronous

5.5.1. Parameter Settings:

Basic Parameters:

Baud Rate	**9600 ***
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

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	**Pull-up ***	**High ***	
	PA6	SPI1_MISO	Alternate Function Push Pull	**Pull-up ***	**High ***	
	PA7	SPI1_MOSI	Alternate Function Push Pull	**Pull-up ***	**High ***	
SPI2	PB13	SPI2_SCK	Alternate Function Push Pull	**Pull-up ***	**High ***	
	PB14	SPI2_MISO	Alternate Function Push Pull	**Pull-up ***	**High ***	
	PB15	SPI2_MOSI	Alternate Function Push Pull	**Pull-up ***	**High ***	
SYS	PA13	SYS_SWDIO	n/a	n/a	n/a	
	PA14	SYS_SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**High ***	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**High ***	
GPIO	PF0-OSC_IN	GPIO_EXTI0	External Interrupt Mode with Rising edge trigger detection	**Pull-down ***	n/a	MPU_INT
	PF1-OSC_OUT	GPIO_Output	Output Push Pull	**Pull-down ***	Low	MPU_AD0
	PA0	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	SENR_P2
	PA1	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	SENR_P1
	PA2	GPIO_EXTI2	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	**n/a**	DW_IRQ
	PA3	GPIO_Output	Output Push Pull	**Pull-down ***	**High ***	NRF_CE
	PA4	GPIO_Output	Output Push Pull	**Pull-up ***	**High ***	SPI1_NSS
	PB1	GPIO_EXTI1	External Interrupt Mode with Rising edge trigger detection	**Pull-down ***	**n/a**	NRF_INT
	PB10	GPIO_Output	Output Push Pull	**Pull-down ***	Low	DWWAKE
	PB11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	DWRESET
	PB12	GPIO_Output	Output Push Pull	**Pull-up ***	**High ***	SPI2_NSS
	PA8	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	SENL_P2
	PA11	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	SENL_P1
	PA15	GPIO_Input	Input mode	**Pull-down ***	**n/a**	SENL_INT
	PB4	GPIO_Input	Input mode	**Pull-down ***	**n/a**	SENR_INT
	PB6	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	MPU_SCL
	PB7	GPIO_Output	**Output Open Drain ***	**Pull-up ***	**High ***	MPU_SDA

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
TIM14 global interrupt	true	0	0
PVD and VDDIO2 supply comparator interrupts through EXTI lines 16 and 31	unused		
Flash global interrupt	unused		
RCC and CRS global interrupts	unused		
EXTI line 0 and 1 interrupts	unused		
EXTI line 2 and 3 interrupts	unused		
SPI1 global interrupt	unused		
SPI2 global interrupt	unused		
USART1 global interrupt / USART1 wake-up interrupt through EXTI line 25	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x2
MCU	STM32F072CBTx
Datasheet	025004_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	3.6

8. Software Project

8.1. Project Settings

Name	Value
Project Name	f072cbt6
Project Folder	F:\STM32_Projects\Cube\f72cbt6\f072cbt6
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F0 V1.6.0

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