1. Description

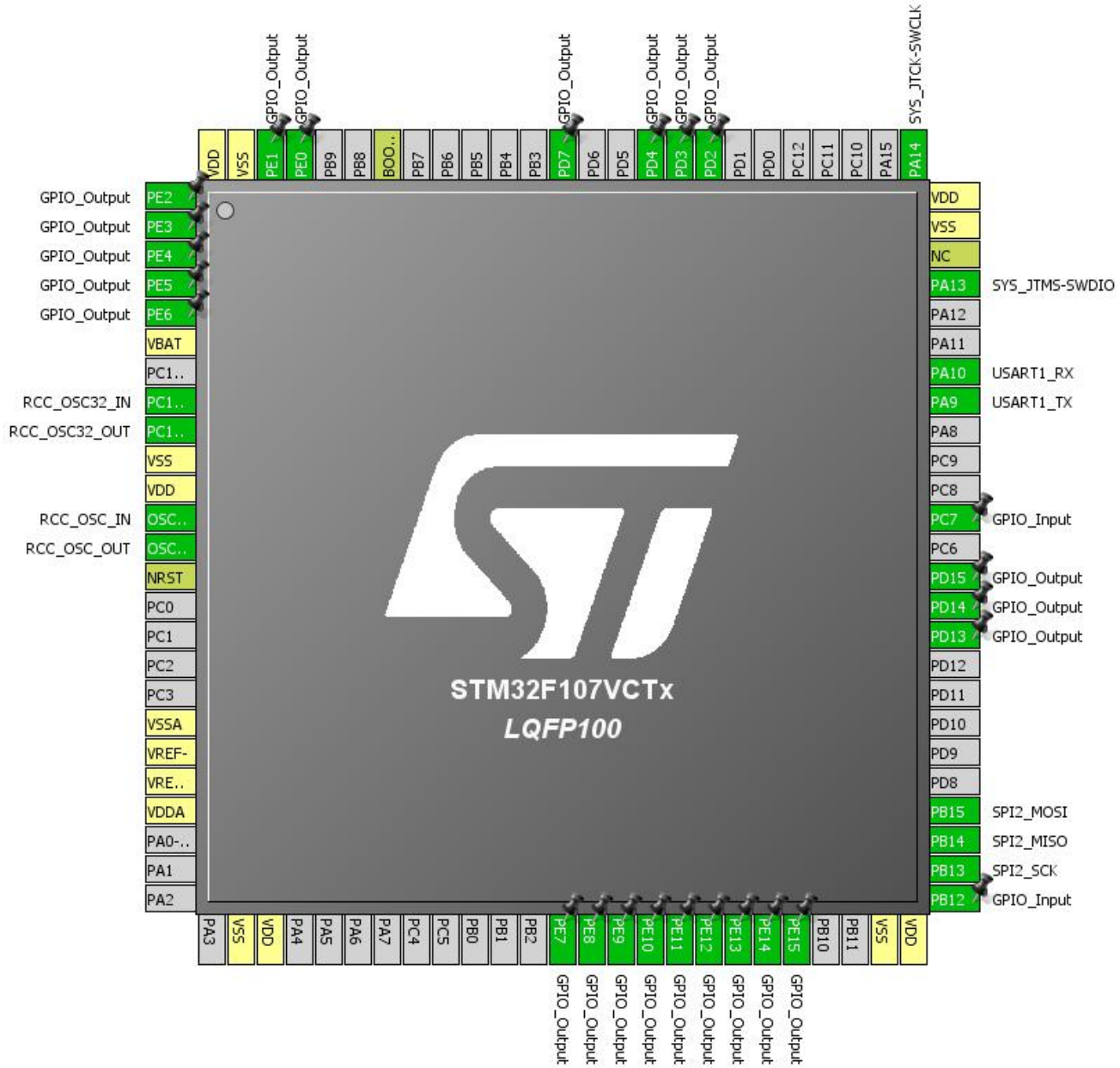
1.1. Project

Project Name	cube_prj
Board Name	cube_prj
Generated with:	STM32CubeMX 4.14.0
Date	10/03/2016

1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F105/107
MCU name	STM32F107VCTx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



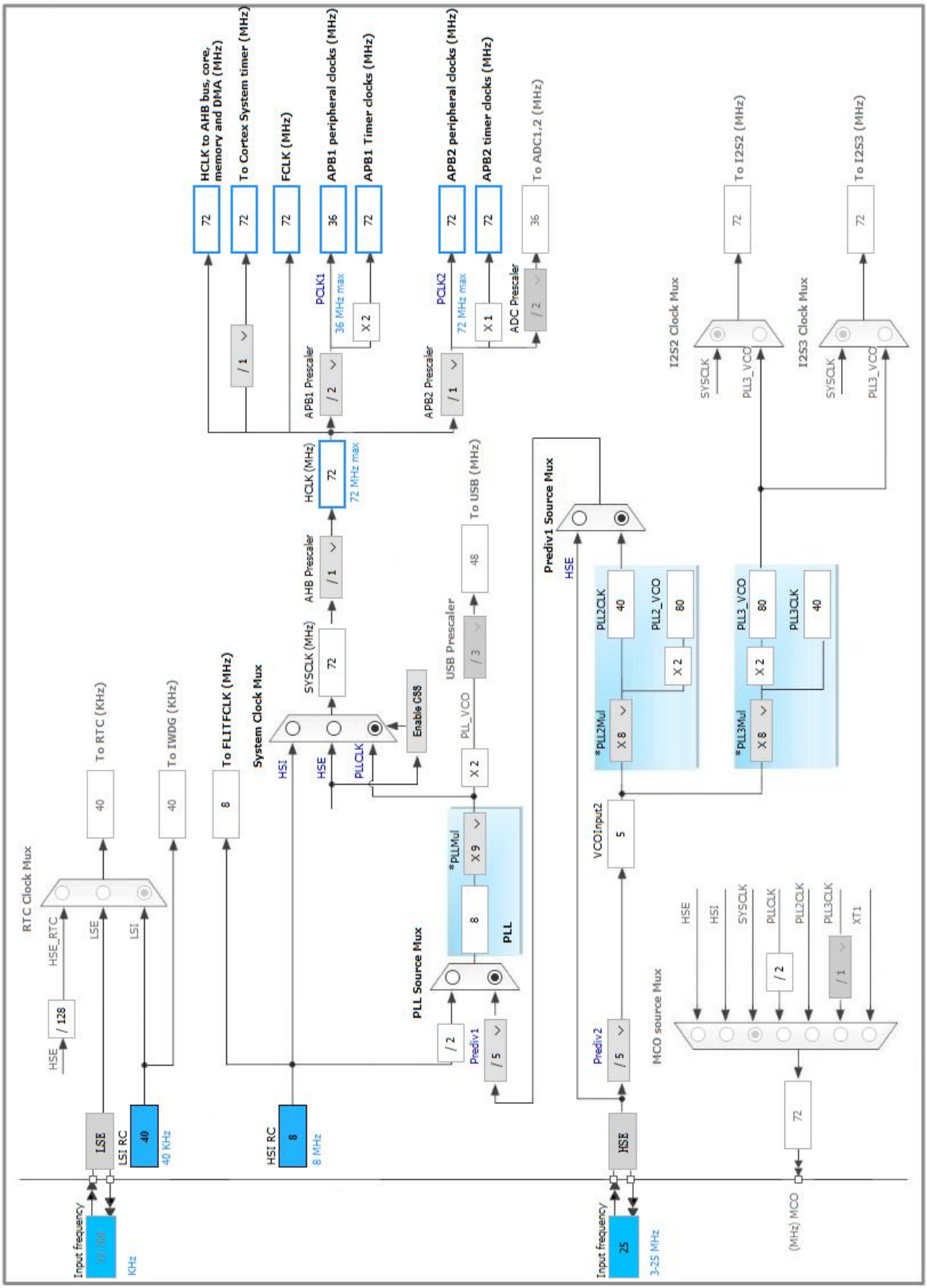
3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2 *	I/O	GPIO_Output	
2	PE3 *	I/O	GPIO_Output	
3	PE4 *	I/O	GPIO_Output	
4	PE5 *	I/O	GPIO_Output	
5	PE6 *	I/O	GPIO_Output	
6	VBAT	Power		
8	PC14-OSC32_IN	I/O	RCC_OSC32_IN	
9	PC15-OSC32_OUT	I/O	RCC_OSC32_OUT	
10	VSS	Power		
11	VDD	Power		
12	OSC_IN	I/O	RCC_OSC_IN	
13	OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
19	VSSA	Power		
20	VREF-	Power		
21	VREF+	Power		
22	VDDA	Power		
27	VSS	Power		
28	VDD	Power		
38	PE7 *	I/O	GPIO_Output	
39	PE8 *	I/O	GPIO_Output	
40	PE9 *	I/O	GPIO_Output	
41	PE10 *	I/O	GPIO_Output	
42	PE11 *	I/O	GPIO_Output	
43	PE12 *	I/O	GPIO_Output	
44	PE13 *	I/O	GPIO_Output	
45	PE14 *	I/O	GPIO_Output	
46	PE15 *	I/O	GPIO_Output	
49	VSS	Power		
50	VDD	Power		
51	PB12 *	I/O	GPIO_Input	
52	PB13	I/O	SPI2_SCK	
53	PB14	I/O	SPI2_MISO	
54	PB15	I/O	SPI2_MOSI	
60	PD13 *	I/O	GPIO_Output	
61	PD14 *	I/O	GPIO_Output	

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
62	PD15 *	I/O	GPIO_Output	
64	PC7 *	I/O	GPIO_Input	
68	PA9	I/O	USART1_TX	
69	PA10	I/O	USART1_RX	
72	PA13	I/O	SYS_JTMS-SWDIO	
73	NC	NC		
74	VSS	Power		
75	VDD	Power		
76	PA14	I/O	SYS_JTCK-SWCLK	
83	PD2 *	I/O	GPIO_Output	
84	PD3 *	I/O	GPIO_Output	
85	PD4 *	I/O	GPIO_Output	
88	PD7 *	I/O	GPIO_Output	
94	BOOT0	Boot		
97	PE0 *	I/O	GPIO_Output	
98	PE1 *	I/O	GPIO_Output	
99	VSS	Power		
100	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. CRC

mode: Activated

5.2. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator
Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.2.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	2 WS (3 CPU cycle)

RCC Parameters:

HSI Calibration Value	16

5.3. SPI2

Mode: Full-Duplex Master

5.3.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**18.0 MBits/s ***
Clock Polarity (CPOL)	**High ***
Clock Phase (CPHA)	**2 Edge ***

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software

5.4. SYS

Debug: Serial-Wire

Timebase Source: SysTick

5.5. USART1

Mode: Asynchronous

5.5.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
RCC	PC14-OSC32_IN	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	RCC_OSC32_OUT	n/a	n/a	n/a	
	OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SPI2	PB13	SPI2_SCK	Alternate Function Push Pull	n/a	**High ***	
	PB14	SPI2_MISO	Input mode	No pull-up and no pull-down	**n/a**	
	PB15	SPI2_MOSI	Alternate Function Push Pull	n/a	**High ***	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
USART1	PA9	USART1_TX	Alternate Function Push Pull	n/a	**High ***	
	PA10	USART1_RX	Input mode	No pull-up and no pull-down	**n/a**	
GPIO	PE2	GPIO_Output	Output Push Pull	n/a	*	
	PE3	GPIO_Output	Output Push Pull	n/a	*	
	PE4	GPIO_Output	Output Push Pull	n/a	*	
	PE5	GPIO_Output	Output Push Pull	n/a	*	
	PE6	GPIO_Output	Output Push Pull	n/a	*	
	PE7	GPIO_Output	Output Push Pull	n/a	*	
	PE8	GPIO_Output	Output Push Pull	n/a	*	
	PE9	GPIO_Output	Output Push Pull	n/a	*	
	PE10	GPIO_Output	Output Push Pull	n/a	*	
	PE11	GPIO_Output	Output Push Pull	n/a	*	
	PE12	GPIO_Output	Output Push Pull	n/a	*	
	PE13	GPIO_Output	Output Push Pull	n/a	*	
	PE14	GPIO_Output	Output Push Pull	n/a	*	
	PE15	GPIO_Output	Output Push Pull	n/a	*	
	PB12	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
	PD13	GPIO_Output	Output Push Pull	n/a	Low	
	PD14	GPIO_Output	Output Push Pull	n/a	Low	
	PD15	GPIO_Output	Output Push Pull	n/a	Low	
	PC7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	
	PD2	GPIO_Output	Output Push Pull	n/a	Low	
	PD3	GPIO_Output	Output Push Pull	n/a	Low	
	PD4	GPIO_Output	Output Push Pull	n/a	Low	
	PD7	GPIO_Output	Output Push Pull	n/a	Low	
	PE0	GPIO_Output	Output Push Pull	n/a	*	
	PE1	GPIO_Output	Output Push Pull	n/a	*	

6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART1_RX	DMA1_Channel5	Peripheral To Memory	**Medium ***
USART1_TX	DMA1_Channel4	Memory To Peripheral	**Medium ***

USART1_RX: DMA1_Channel5 DMA request Settings:

Mode:	**Circular ***
Peripheral Increment:	Disable
Memory Increment:	Disable
Peripheral Data Width:	Byte
Memory Data Width:	Byte

USART1_TX: DMA1_Channel4 DMA request Settings:

Mode:	Normal
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte

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
Prefetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
Debug monitor	true	0	0
System tick timer	true	0	0
DMA1 channel4 global interrupt	true	0	0
DMA1 channel5 global interrupt	true	0	0
SPI2 global interrupt	true	0	0
USART1 global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		

*** User modified value**

7. Power Plugin report

7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F105/107
MCU	STM32F107VCTx
Datasheet	15274_Rev9

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	cube_prj
Project Folder	F:\MDK_STM32\2. STM32CubeMX\1. STM32F107VCT6\9. SPI--ing\3.
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.3.1

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	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