

1. Description

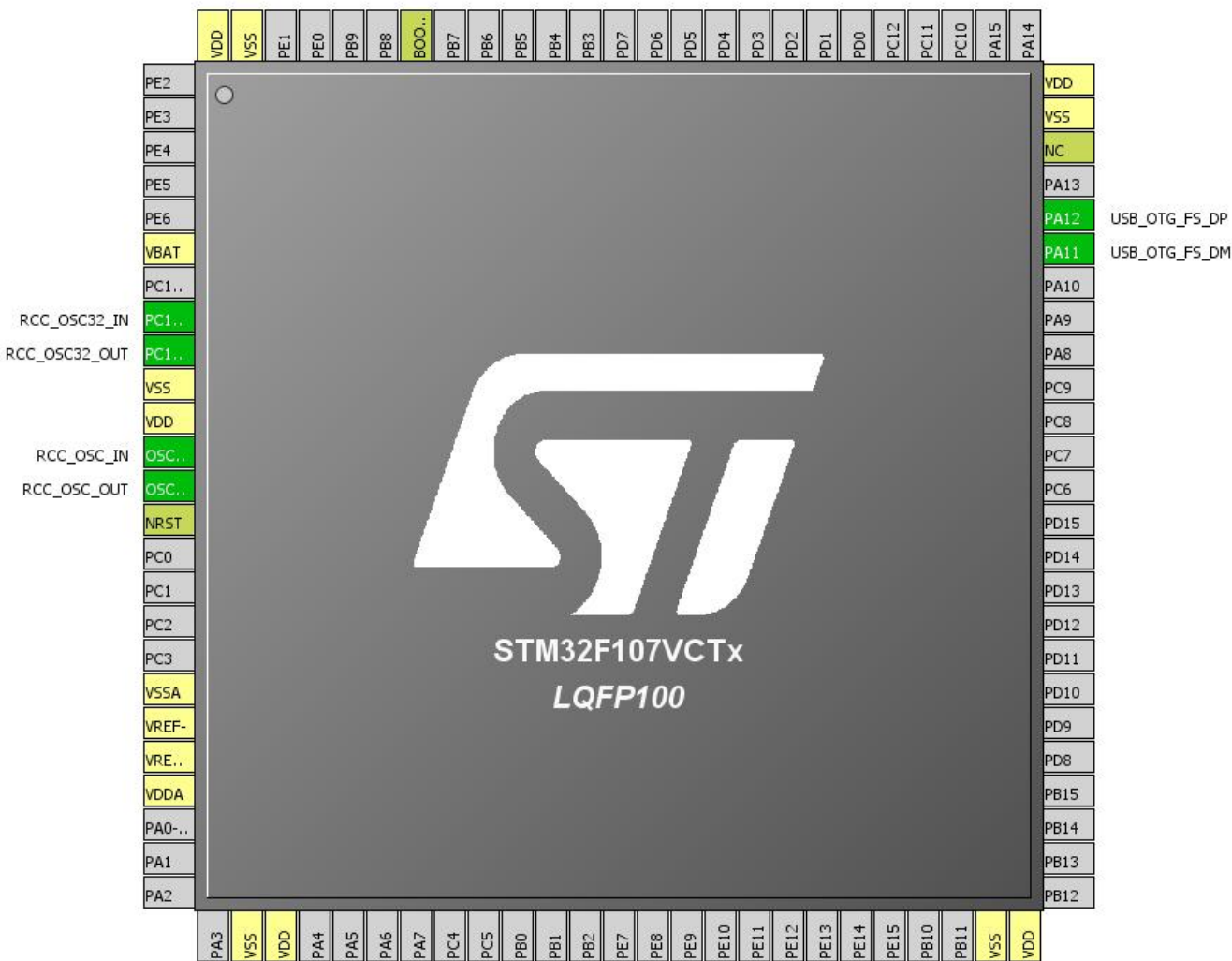
1.1. Project

Project Name	otg
Board Name	custom
Generated with:	STM32CubeMX 4.26.0
Date	08/07/2018

1.2. MCU

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

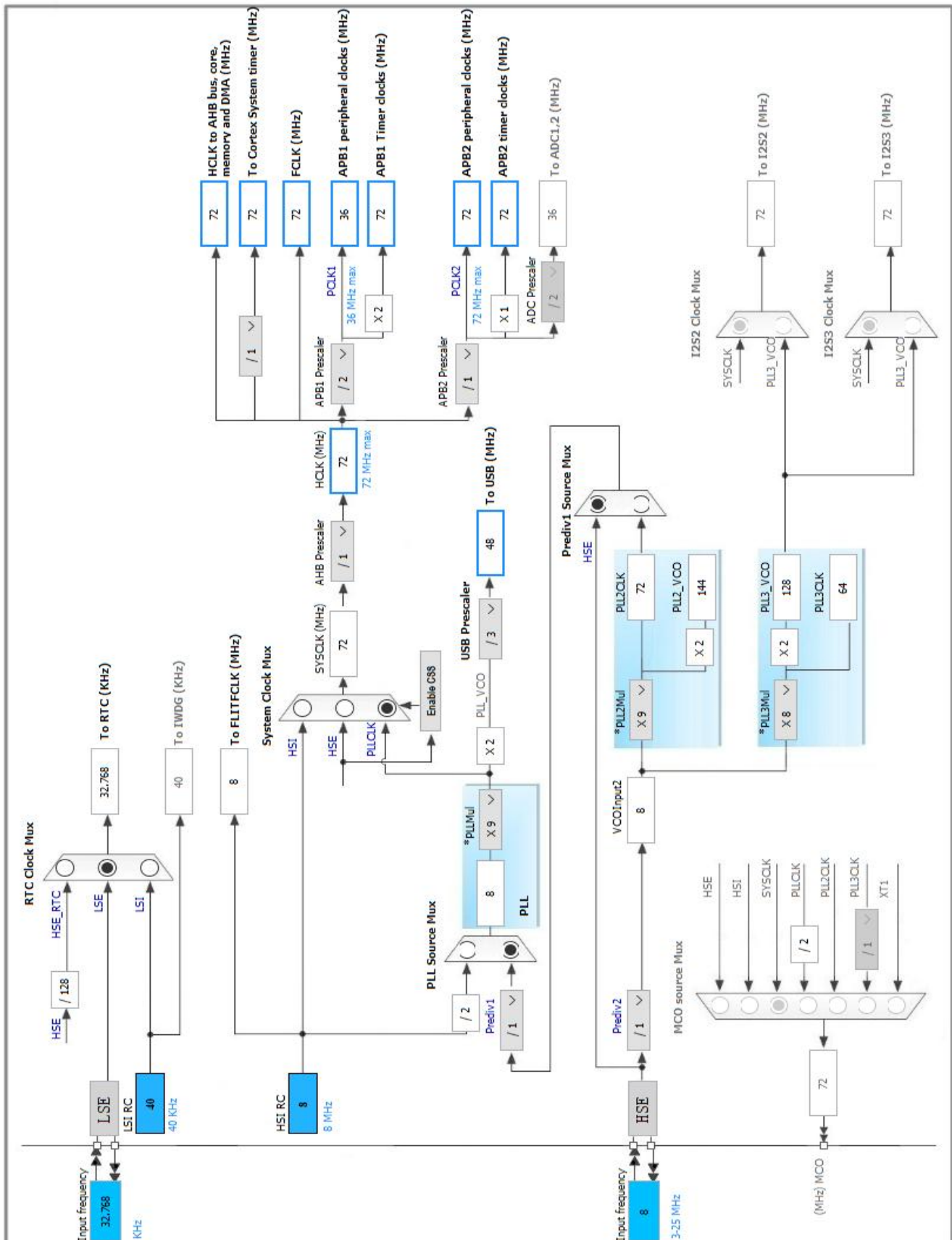
2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
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		
49	VSS	Power		
50	VDD	Power		
70	PA11	I/O	USB_OTG_FS_DM	
71	PA12	I/O	USB_OTG_FS_DP	
73	NC	NC		
74	VSS	Power		
75	VDD	Power		
94	BOOT0	Boot		
99	VSS	Power		
100	VDD	Power		

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

5.1.1. 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
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

5.2. RTC

mode: Activate Clock Source

5.2.1. Parameter Settings:

Calendar Time:

Data Format	BCD data format
-------------	-----------------

General:

Auto Predivider Calculation	Enabled
Asynchronous Predivider value	Automatic Predivider Calculation Enabled
Output	Alarm pulse signal on the TAMPER pin

5.3. SYS

Debug: No Debug

Timebase Source: SysTick

5.4. USB_OTG_FS

Mode: Host_Only

5.4.1. Parameter Settings:

Speed	Host Full Speed 12MBit/s
Signal start of frame	Disabled

5.5. FATFS

mode: USB Disk

5.5.1. Set Defines:

Version:

FATFS version	R0.11
---------------	-------

Function Parameters:

FS_READONLY (Read-only mode)	Disabled
FS_MINIMIZE (Minimization level)	Disabled
USE_STRFUNC (String functions)	Enabled with LF -> CRLF conversion
USE_FIND (Find functions)	Disabled
USE_MKFS (Make filesystem function)	Enabled
USE_FASTSEEK (Fast seek function)	Enabled
USE_LABEL (Volume label functions)	Disabled
USE_FORWARD (Forward function)	Disabled
USE_BUFF_WO_ALIGNMENT (Data alignment management)	Enabled

Locale and Namespace Parameters:

CODE_PAGE (Code page on target)	Simplified Chinese GBK (DBCS, OEM, Windows) *
USE_LFN (Use Long Filename)	Enabled with dynamic working buffer on the STACK *
MAX_LFN (Max Long Filename)	255
LFN_UNICODE (Enable Unicode)	ANSI/OEM
STRF_ENCODE (Character encoding)	UTF-8
FS_RPATH (Relative Path)	Disabled

Physical Drive Parameters:

VOLUMES (Logical drives)	1
MAX_SS (Maximum Sector Size)	512
MIN_SS (Minimum Sector Size)	512
MULTI_PARTITION (Volume partitions feature)	Disabled
USE_TRIM (Erase feature)	Disabled
FS_NOFSINFO (Force full FAT scan)	0

System Parameters:

FS_TINY (Tiny mode)	Disabled
---------------------	----------

FS_NORTC (Timestamp feature)	Dynamic timestamp
NORTC_YEAR (Year for timestamp)	2015
NORTC_MON (Month for timestamp)	6
NORTC_MDAY (Day for timestamp)	4
WORD_ACCESS (Platform dependent access option)	Byte access
FS_REENRANT (Re-Entrancy)	Disabled
FS_TIMEOUT (Timeout ticks)	1000
SYNC_t (O/S sync object)	osSemaphoreId
FS_LOCK (Number of files opened simultaneously)	2

5.5.2. IPs instances:

USBH:

USBH instance	USB Host MSC FS
---------------	-----------------

5.6. USB_HOST

Class for FS IP: Mass Storage Host Class

5.6.1. Parameter Settings:

Host Configuration:

USBH_MAX_NUM_ENDPOINTS (Maximum number of endpoints)	2
USBH_MAX_NUM_INTERFACES (Maximum number of interfaces)	2
USBH_MAX_NUM_SUPPORTED_CLASS (Maximum number of supported class)	1
USBH_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBH_KEEP_CFG_DESCRIPTOR (Keep the configuration into RAM)	Enabled
USBH_MAX_SIZE_CONFIGURATION (Maximum size in bytes for the Configuration Descriptor)	256
USBH_MAX_DATA_BUFFER (Maximum size of temporary data)	512
USBH_DEBUG_LEVEL (USBH Debug Level)	0: No debug message

CMSIS_RTOS:

USBH_USE_OS (Enable the support of an RTOS)	Disabled
---	----------

* 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	
USB_OTG_FS	PA11	USB_OTG_FS_DM	n/a	n/a	n/a	
	PA12	USB_OTG_FS_DP	n/a	n/a	n/a	

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
Memory management fault	true	0	0
Prefetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	0	0
USB OTG FS global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
RTC global interrupt	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		

* User modified value

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F105/107
MCU	STM32F107VCTx
Datasheet	15274_Rev10

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	otg
Project Folder	C:\Users\mrdong\Desktop\otg
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.6.1

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	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

9. Software Pack Report