

## 1. Description

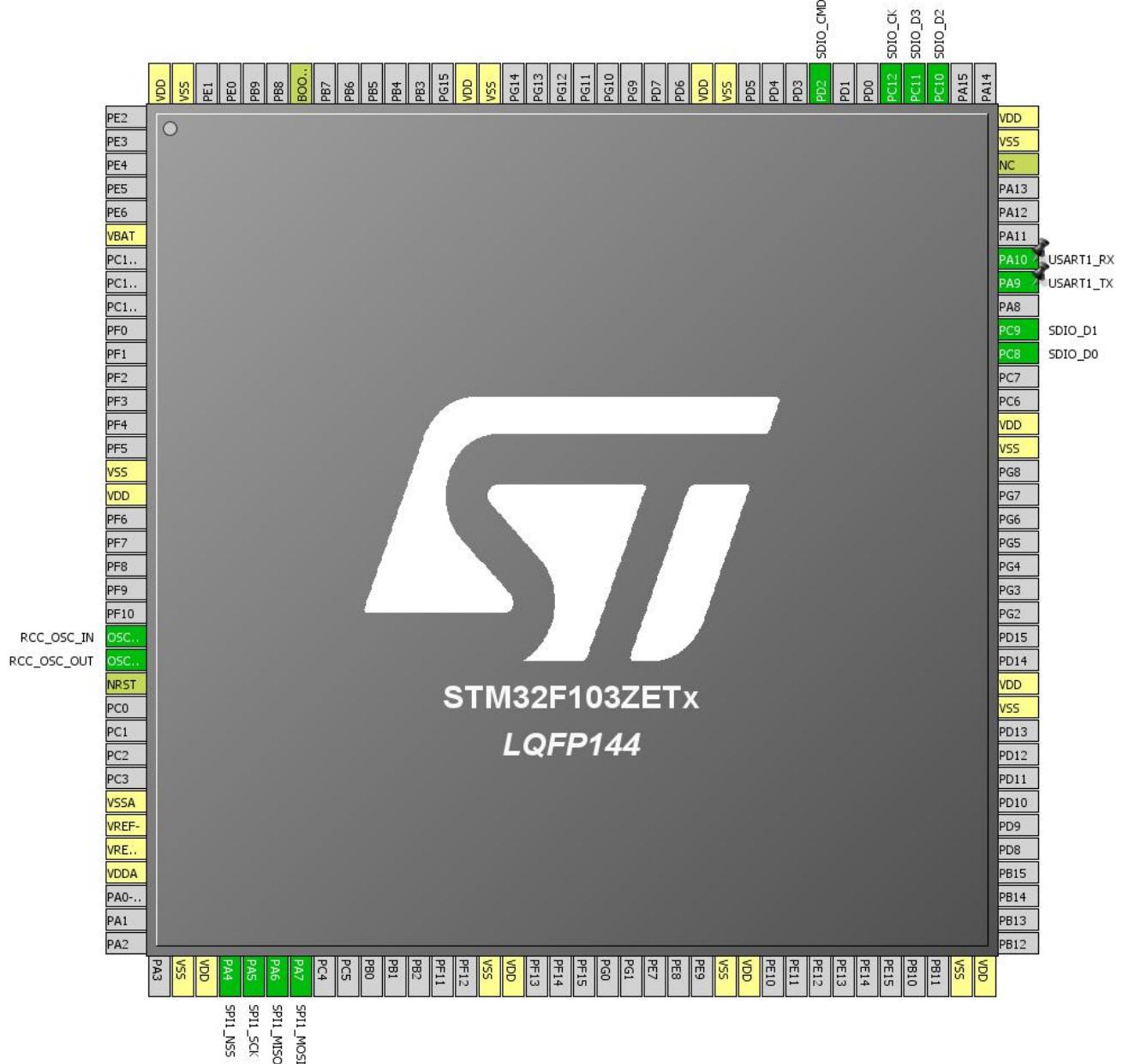
### 1.1. Project

Project Name	YS-F1Pro
Board Name	YS-F1Pro
Generated with:	STM32CubeMX 4.14.0
Date	06/08/2016

### 1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F103
MCU name	STM32F103ZETx
MCU Package	LQFP144
MCU Pin number	144

## 2. Pinout Configuration



### 3. Pins Configuration

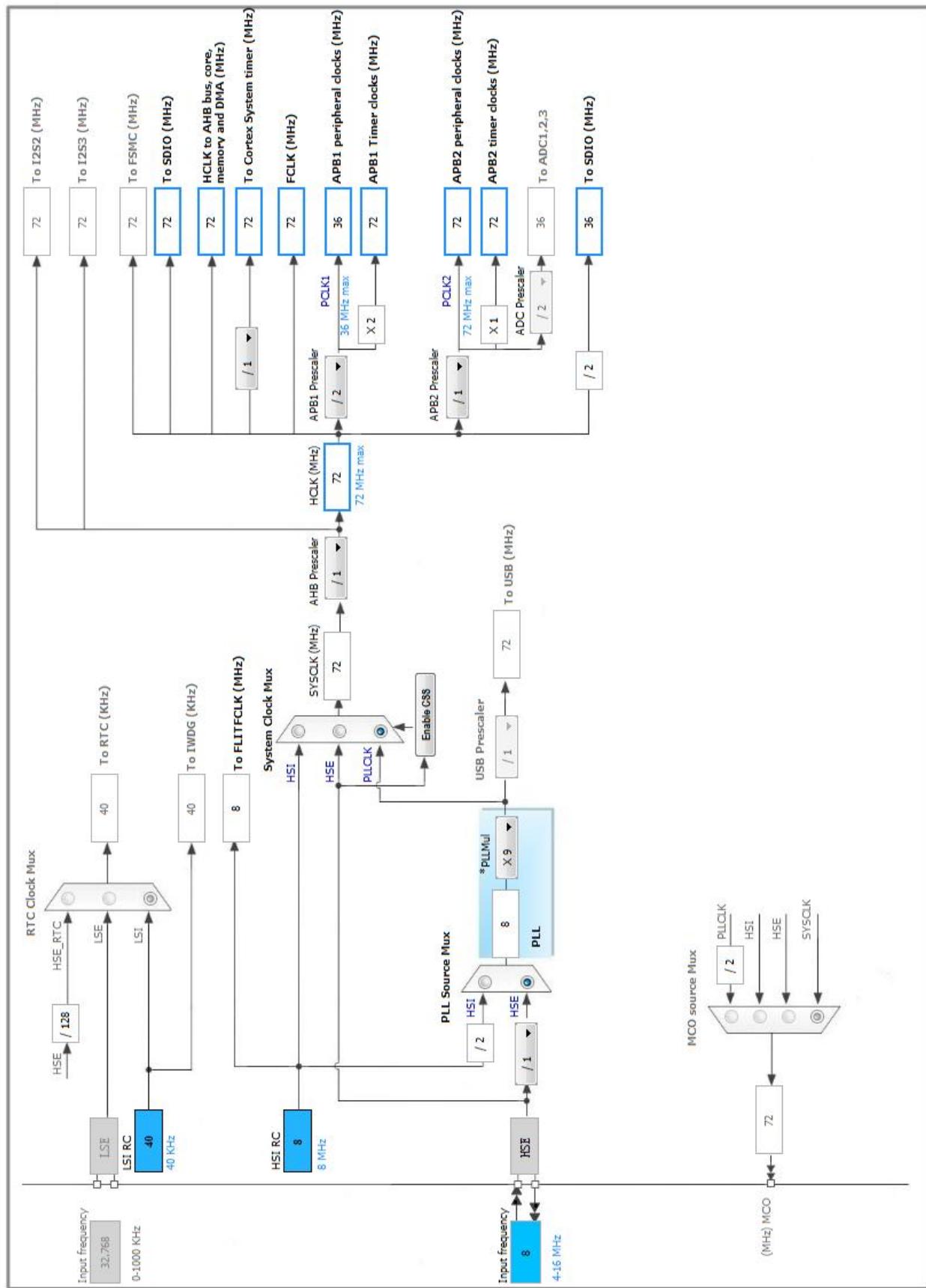
Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
16	VSS	Power		
17	VDD	Power		
23	OSC_IN	I/O	RCC_OSC_IN	
24	OSC_OUT	I/O	RCC_OSC_OUT	
25	NRST	Reset		
30	VSSA	Power		
31	VREF-	Power		
32	VREF+	Power		
33	VDDA	Power		
38	VSS	Power		
39	VDD	Power		
40	PA4	I/O	SPI1_NSS	
41	PA5	I/O	SPI1_SCK	
42	PA6	I/O	SPI1_MISO	
43	PA7	I/O	SPI1_MOSI	
51	VSS	Power		
52	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
83	VSS	Power		
84	VDD	Power		
94	VSS	Power		
95	VDD	Power		
98	PC8	I/O	SDIO_D0	
99	PC9	I/O	SDIO_D1	
101	PA9	I/O	USART1_TX	
102	PA10	I/O	USART1_RX	
106	NC	NC		
107	VSS	Power		
108	VDD	Power		
111	PC10	I/O	SDIO_D2	
112	PC11	I/O	SDIO_D3	
113	PC12	I/O	SDIO_CK	

YS-F1Pro Project  
Configuration Report

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Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
116	PD2	I/O	SDIO_CMD	
120	VSS	Power		
121	VDD	Power		
130	VSS	Power		
131	VDD	Power		
138	BOOT0	Boot		
143	VSS	Power		
144	VDD	Power		

## 4. Clock Tree Configuration



## 5. IPs and Middleware Configuration

### 5.1. RCC

**High Speed Clock (HSE): Crystal/Ceramic Resonator**

#### 5.1.1. Parameter Settings:

##### System Parameters:

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

##### RCC Parameters:

HSI Calibration Value	16
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### 5.2. SDIO

**Mode: SD 4 bits Wide bus**

#### 5.2.1. Parameter Settings:

##### SDIO parameters:

SDIOCLK clock divide factor	2 *
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### 5.3. SPI1

**Mode: Full-Duplex Master**

**Hardware NSS Signal: Hardware NSS Output Signal**

#### 5.3.1. Parameter Settings:

##### Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

##### Clock Parameters:

Prescaler (for Baud Rate)
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	<b>4 *</b>
Baud Rate	<b>18.0 MBits/s *</b>
Clock Polarity (CPOL)	<b>High *</b>
Clock Phase (CPHA)	<b>2 Edge *</b>

**Advanced Parameters:**

CRC Calculation	Disabled
NSS Signal Type	Output Hardware

## 5.4. SYS

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

## 5.6. FATFS

mode: SD Card

mode: User-defined

### 5.6.1. Set Defines:

**Version:**

FATFS version	R0.11
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**Function Parameters:**

FS_TINY (Tiny mode)	Disabled
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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_FORWARD (Forward function)	Disabled
USE_LABEL (Volume label functions)	Disabled
USE_FASTSEEK (Fast seek function)	Enabled

#### Locale and Namespace Parameters:

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

#### Physical Drive Parameters:

VOLUMES (Logical drives)	2
MAX_SS (Maximum Sector Size)	<b>4096 *</b>
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_NORTC (Timestamp feature)	<b>Fixed timestamp *</b>
NORTC_YEAR (Year for timestamp)	2015
NORTC_MON (Month for timestamp)	<b>10 *</b>
NORTC_MDAY (Day for timestamp)	4
WORD_ACCESS (Platform dependent access option)	Byte access
FS_REENTRANT (Re-Entrancy)	Disabled
FS_TIMEOUT (Timeout ticks)	1000
SYNC_t (O/S sync object)	osSemaphoreId
FS_LOCK (Number of files opened simultaneously)	2

#### 5.6.2. IPs instances:

##### SDIO/SDMMC:

SDIO instance	SDIO1
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\* 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	OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SDIO	PC8	SDIO_D0	Alternate Function Push Pull	n/a	High	
	PC9	SDIO_D1	Alternate Function Push Pull	n/a	High	
	PC10	SDIO_D2	Alternate Function Push Pull	n/a	High	
	PC11	SDIO_D3	Alternate Function Push Pull	n/a	High	
	PC12	SDIO_CK	Alternate Function Push Pull	n/a	High	
	PD2	SDIO_CMD	Alternate Function Push Pull	n/a	High	
SPI1	PA4	SPI1_NSS	Alternate Function Push Pull	n/a	<b>High *</b>	
	PA5	SPI1_SCK	Alternate Function Push Pull	n/a	<b>High *</b>	
	PA6	SPI1_MISO	Input mode	No pull-up and no pull-down	<b>n/a</b>	
	PA7	SPI1_MOSI	Alternate Function Push Pull	n/a	<b>High *</b>	
USART1	PA9	USART1_TX	Alternate Function Push Pull	n/a	<b>High *</b>	
	PA10	USART1_RX	Input mode	No pull-up and no pull-down	<b>n/a</b>	

## 6.2. DMA configuration

DMA request	Stream	Direction	Priority
SDIO	DMA2_Channel4	Peripheral To Memory	<b>Very High *</b>

### SDIO: DMA2\_Channel4 DMA request Settings:

Mode: Normal  
Peripheral Increment: Disable  
Memory Increment: **Enable \***  
Peripheral Data Width: **Word \***  
Memory Data Width: Word

### 6.3. NVIC configuration

Interrupt Table	Enable	Preenemption 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
SDIO global interrupt	true	0	1
DMA2 channel4 and channel5 global interrupts	true	0	2
PVD interrupt through EXTI line 16		unused	
Flash global interrupt		unused	
RCC global interrupt		unused	
SPI1 global interrupt		unused	
USART1 global interrupt		unused	

\* User modified value

## 7. Power Plugin report

### 7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F103
MCU	STM32F103ZETx
Datasheet	14611_Rev11

### 7.2. Parameter Selection

Temperature	25
Vdd	3.3

## 8. Software Project

### 8.1. Project Settings

Name	Value
Project Name	YS-F1Pro
Project Folder	E:\2. (HAL)\1. (HAL)\YSF1_HAL-049. SPI-FlashFatFS
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