1. Description

1.1. Project

Project Name	YS-F1Pro
Board Name	YS-F1Pro
Generated with:	STM32CubeMX 4.14.0
Date	06/25/2016

1.2. MCU

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

2. Pinout Configuration
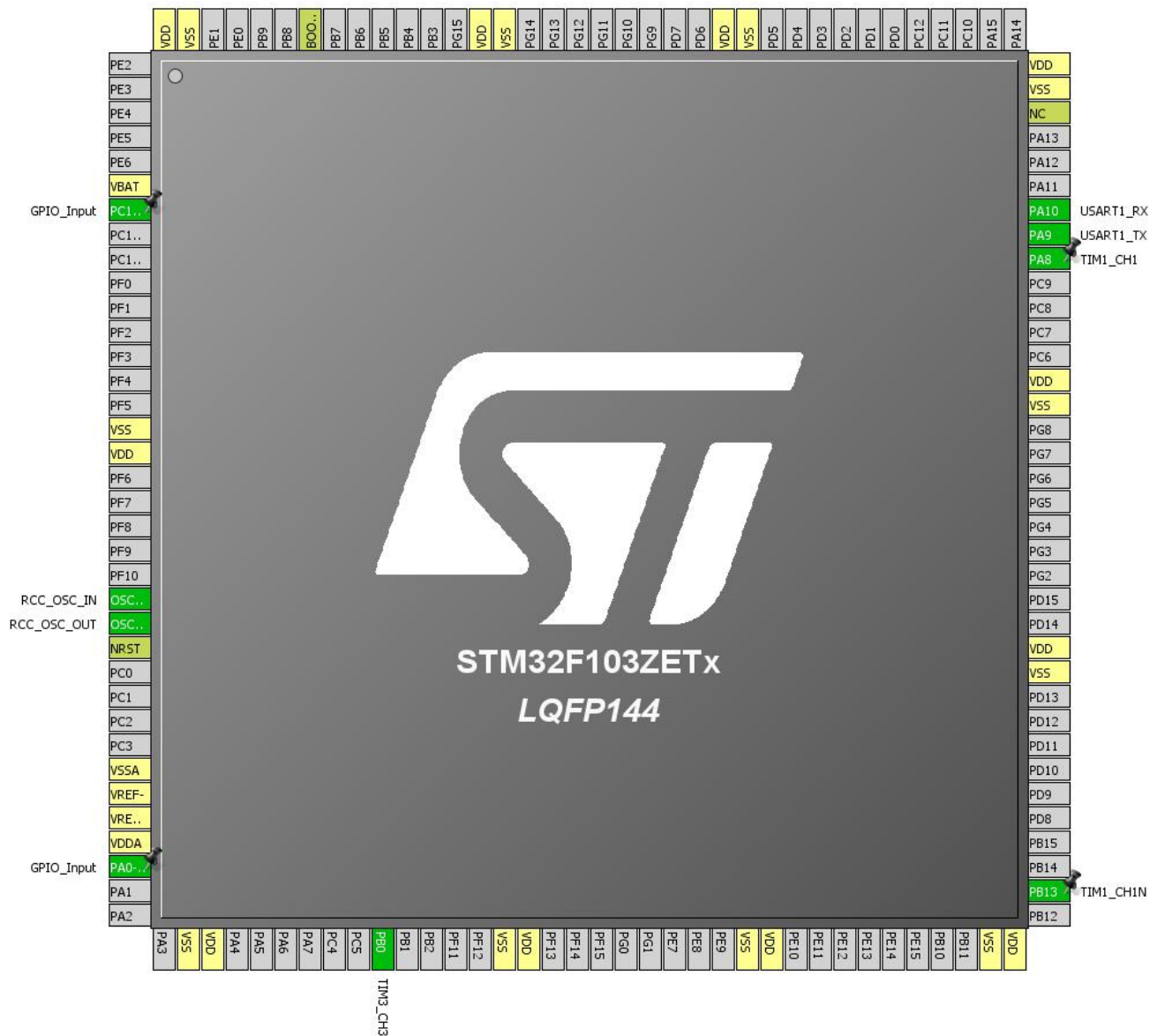
3. Pins Configuration

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
7	PC13-TAMPER-RTC *	I/O	GPIO_Input	
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		
34	PA0-WKUP *	I/O	GPIO_Input	
38	VSS	Power		
39	VDD	Power		
46	PB0	I/O	TIM3_CH3	
51	VSS	Power		
52	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
74	PB13	I/O	TIM1_CH1N	
83	VSS	Power		
84	VDD	Power		
94	VSS	Power		
95	VDD	Power		
100	PA8	I/O	TIM1_CH1	
101	PA9	I/O	USART1_TX	
102	PA10	I/O	USART1_RX	
106	NC	NC		
107	VSS	Power		
108	VDD	Power		
120	VSS	Power		
121	VDD	Power		
130	VSS	Power		
131	VDD	Power		

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
138	BOOT0	Boot		
143	VSS	Power		
144	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration
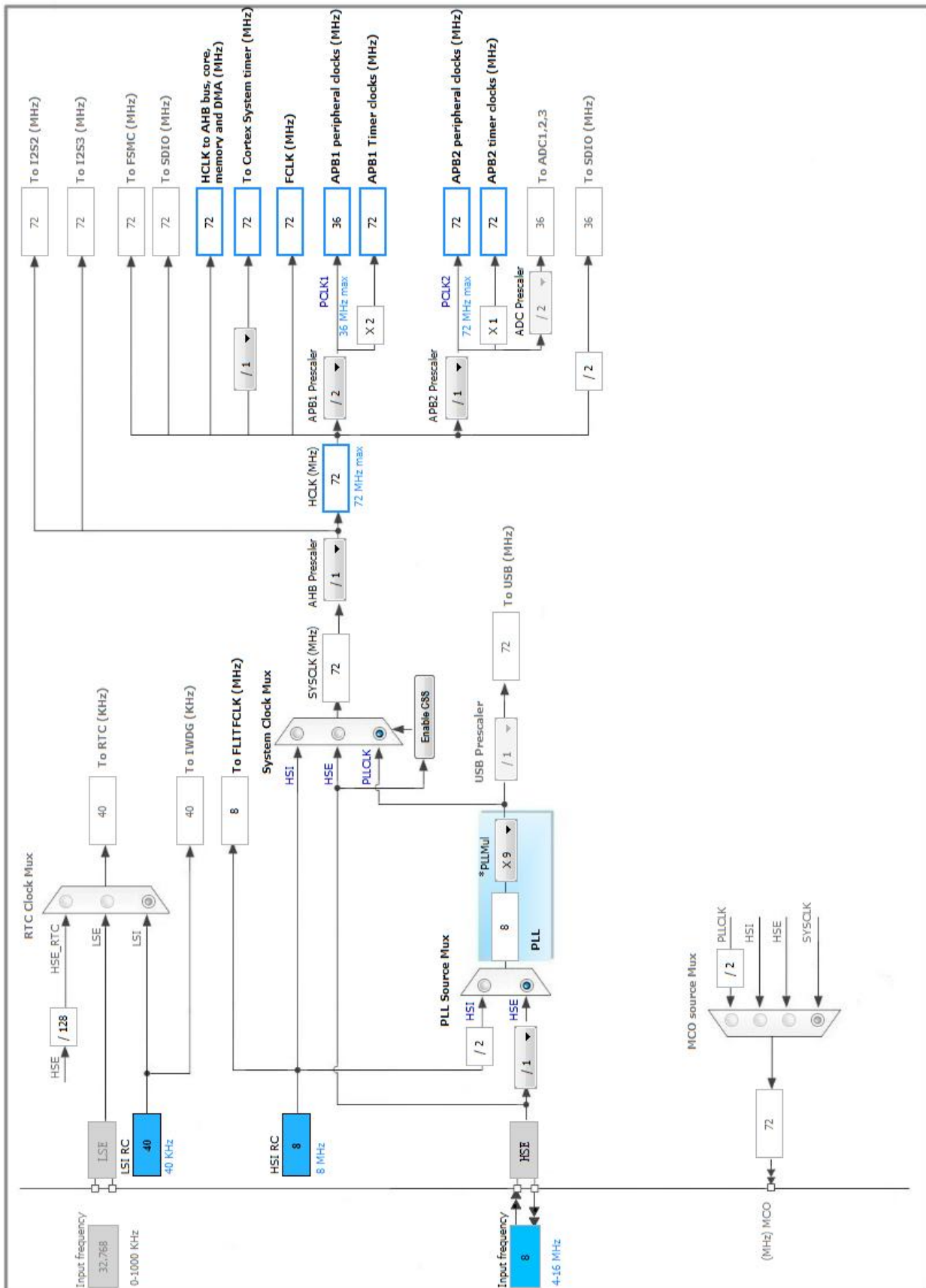
5. IPs and Middleware Configuration

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

5.2. SYS

Timebase Source: SysTick

5.3. TIM1

Clock Source   : Internal Clock
Channel1: PWM Generation CH1 CH1N

5.3.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**1 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**900 ***
Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Break And Dead Time management - BRK Configuration:

BRK State	Disable
BRK Polarity	High

Break And Dead Time management - Output Configuration:

Automatic Output State	Disable
Off State Selection for Run Mode (OSSR)	Disable
Off State Selection for Idle Mode (OSSI)	Disable
Lock Configuration	Off
Dead Time	0

PWM Generation Channel 1 and 1N:

Mode	PWM mode 1
Pulse (16 bits value)	**450 ***
Fast Mode	Disable
CH Polarity	High
CHN Polarity	High
CH Idle State	Reset
CHN Idle State	Reset

5.4. TIM3

Clock Source   : Internal Clock
Channel3: Input Capture direct mode

5.4.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	**71 ***
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	**0xFFFF ***
Internal Clock Division (CKD)	No Division

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

Input Capture Channel 3:

Polarity Selection	Rising Edge
IC Selection	Direct
Prescaler Division Ratio	No division
Input Filter (4 bits value)	0

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	OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
TIM1	PB13	TIM1_CH1N	Alternate Function Push Pull	n/a	**High ***	
	PA8	TIM1_CH1	Alternate Function Push Pull	n/a	**High ***	
TIM3	PB0	TIM3_CH3	Input mode	No pull-up and no pull-down	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	PC13-TAMPER-RTC	GPIO_Input	Input mode	**Pull-up ***	n/a	
	PA0-WKUP	GPIO_Input	Input mode	**Pull-down ***	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
Debug monitor	true	0	0
System tick timer	true	0	0
TIM3 global interrupt	true	1	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
TIM1 break interrupt	unused		
TIM1 update interrupt	unused		
TIM1 trigger and commutation interrupts	unused		
TIM1 capture compare 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)\5. (HAL)\\YSF1_HAL_MOTOR-042. 25GA370(L298N)
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