

## 1. Description

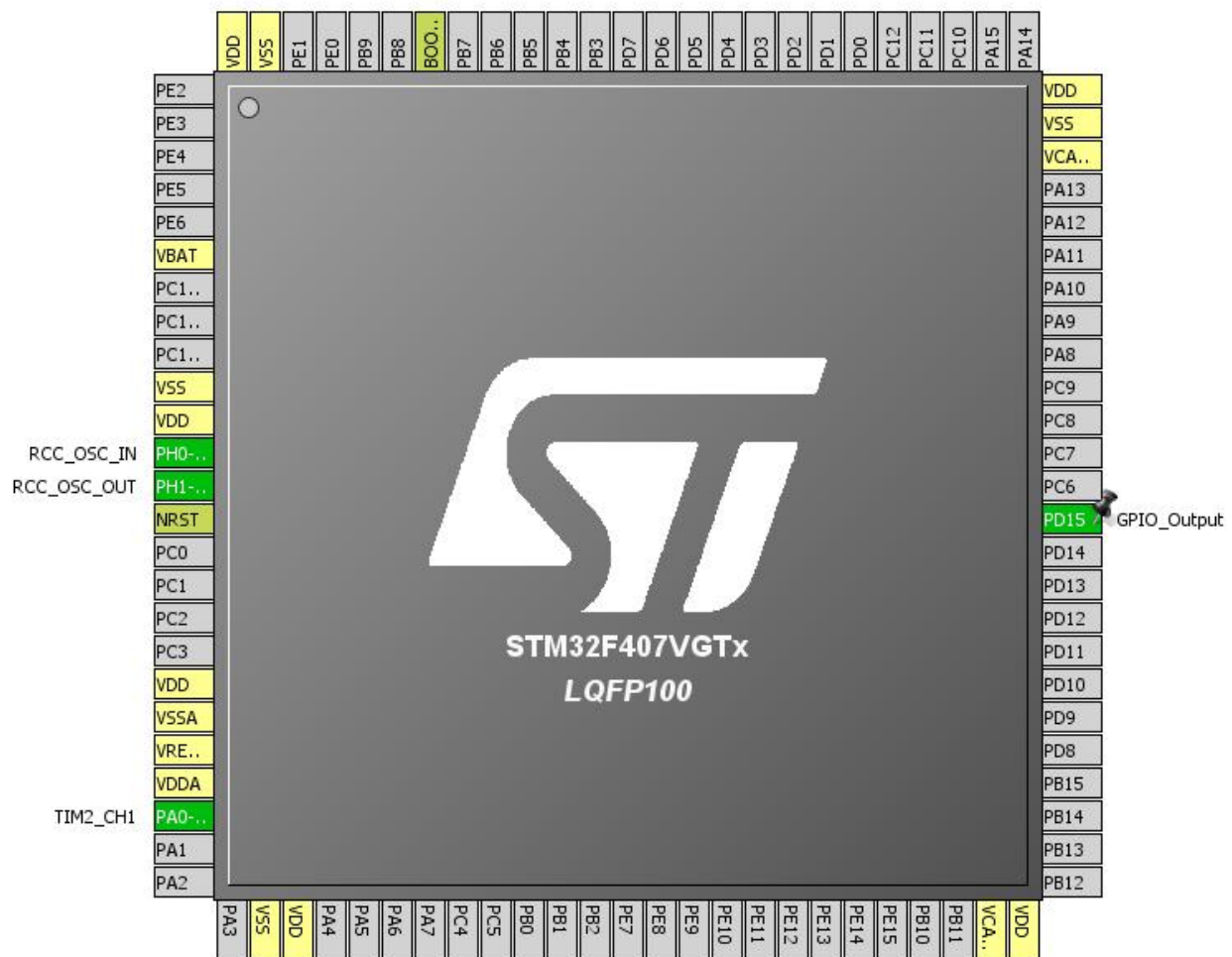
### 1.1. Project

Project Name	Timer_Counter
Board Name	Timer_Counter
Generated with:	STM32CubeMX 4.14.0
Date	12/25/2016

### 1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F407/417
MCU name	STM32F407VGTx
MCU Package	LQFP100
MCU Pin number	100

## 2. Pinout Configuration

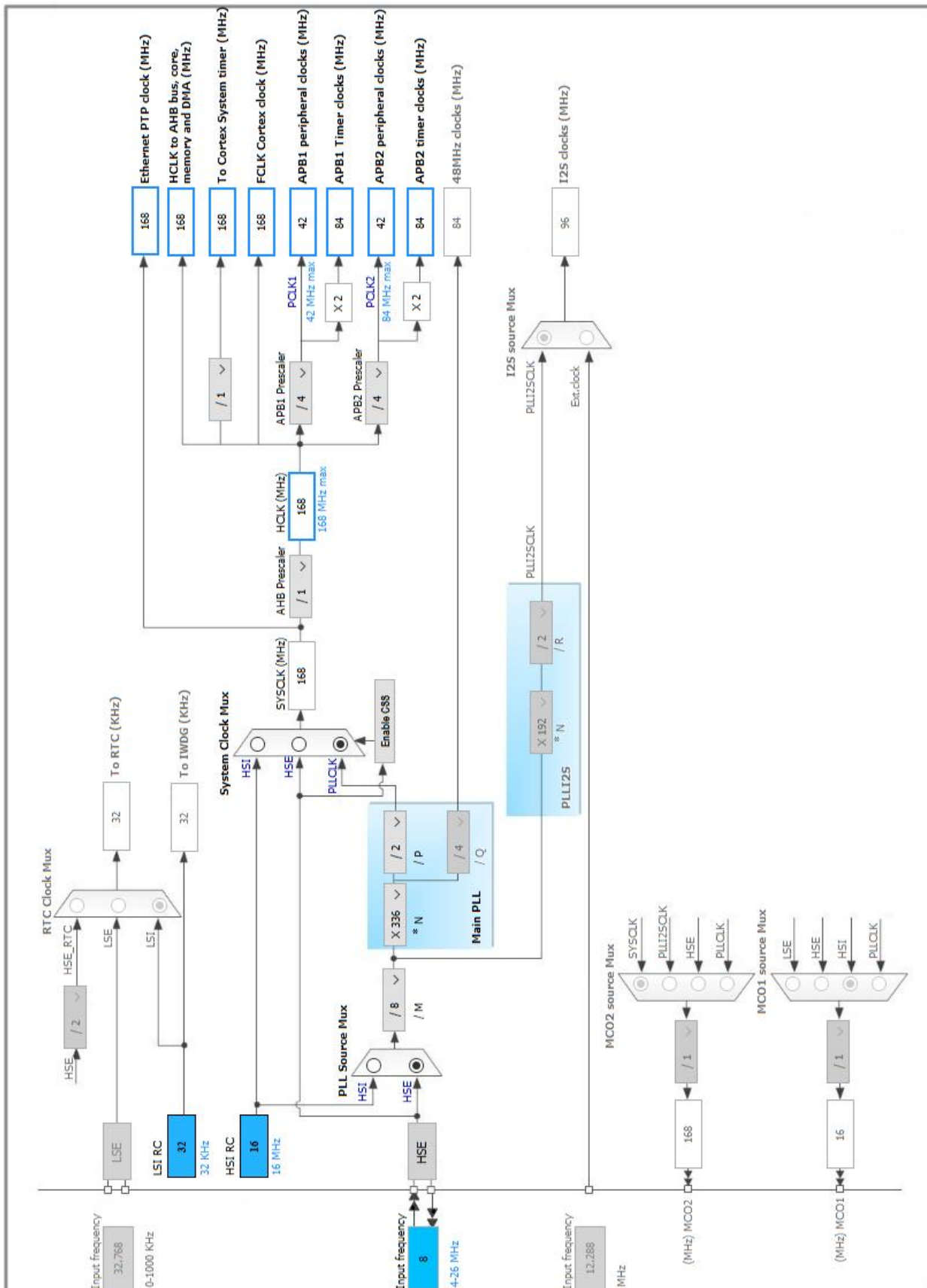


### 3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	TIM2_CH1	
27	VSS	Power		
28	VDD	Power		
49	VCAP_1	Power		
50	VDD	Power		
62	PD15 *	I/O	GPIO_Output	
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
94	BOOT0	Boot		
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. RCC

#### High Speed Clock (HSE): 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)	5 WS (6 CPU cycle)

###### RCC Parameters:

HSI Calibration Value	16
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###### Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
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### 5.2. SYS

#### Timebase Source: SysTick

### 5.3. TIM2

#### Slave Mode: External Clock Mode 1

#### Trigger Source: TI1FP1

##### 5.3.1. Parameter Settings:

###### Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value )	<b>10 *</b>
Internal Clock Division (CKD)	No Division
Slave Mode Controller	ETR mode 1

###### Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves)
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Trigger Event Selection

Reset (UG bit from TIMx\_EGR)

**Trigger:**

Trigger Polarity

Rising Edge

Trigger Filter (4 bits value)

**15 \***

**\* 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	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
TIM2	PA0-WKUP	TIM2_CH1	Alternate Function Push Pull	No pull-up and no pull-down	<b>High *</b>	
GPIO	PD15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	<b>High *</b>	

### 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
Pre-fetch 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
TIM2 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	STM32F4
Line	STM32F407/417
MCU	STM32F407VGTx
Datasheet	022152_Rev6

### 7.2. Parameter Selection

Temperature	25
Vdd	3.3

## 8. Software Project

### 8.1. Project Settings

Name	Value
Project Name	Timer_Counter
Project Folder	C:\Users\Duy Luan\Desktop\STM\EXT\Timer_Counter
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.11.0

### 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