



## 1. Description

### 1.1. Project

Project Name	CCTV3_F407_REV200
Board Name	custom
Generated with:	STM32CubeMX 6.5.0
Date	10/25/2022

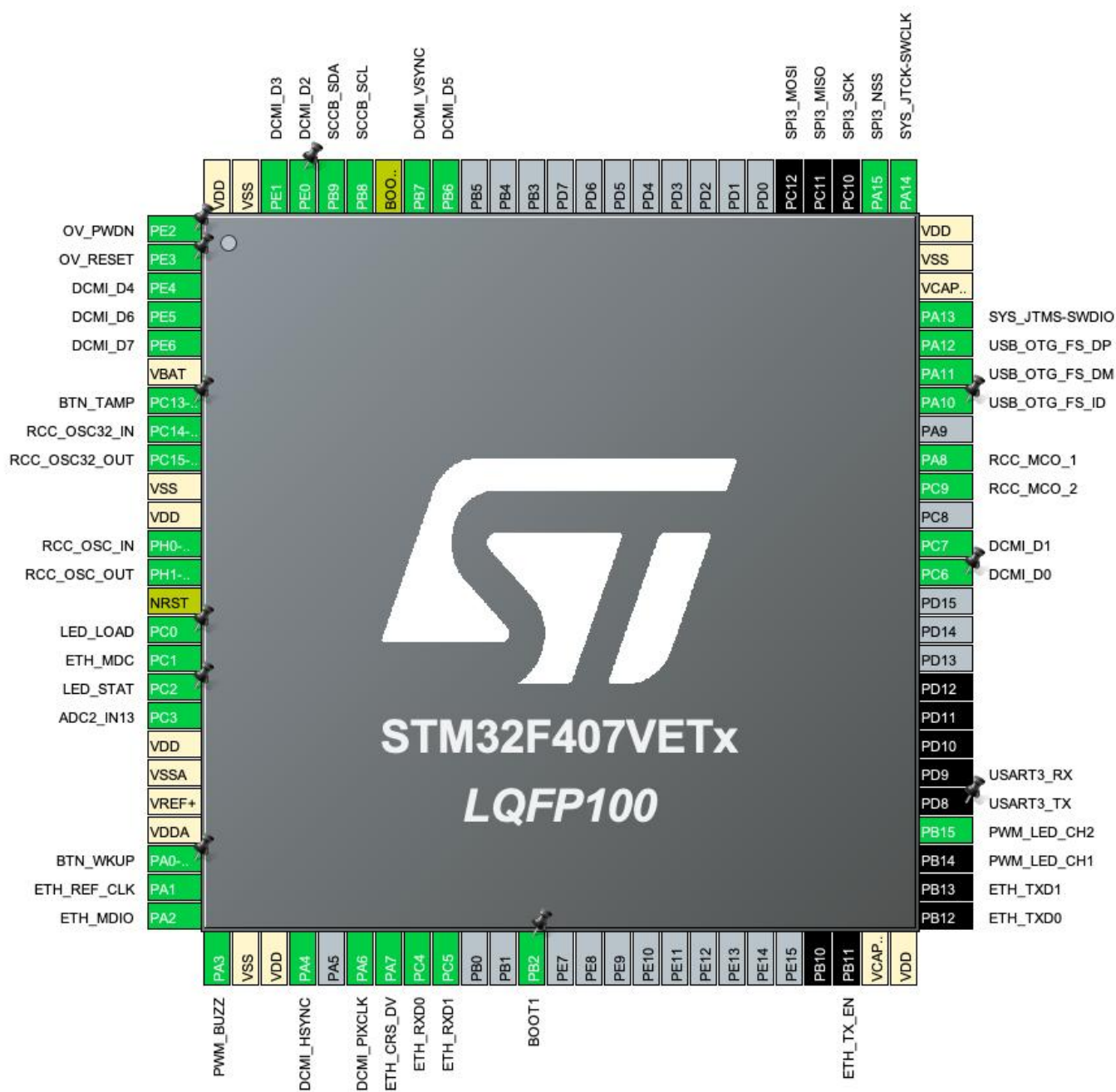
### 1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F407/417
MCU name	STM32F407VETx
MCU Package	LQFP100
MCU Pin number	100

### 1.3. Core(s) information

Core(s)	Arm Cortex-M4
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## 2. Pinout Configuration



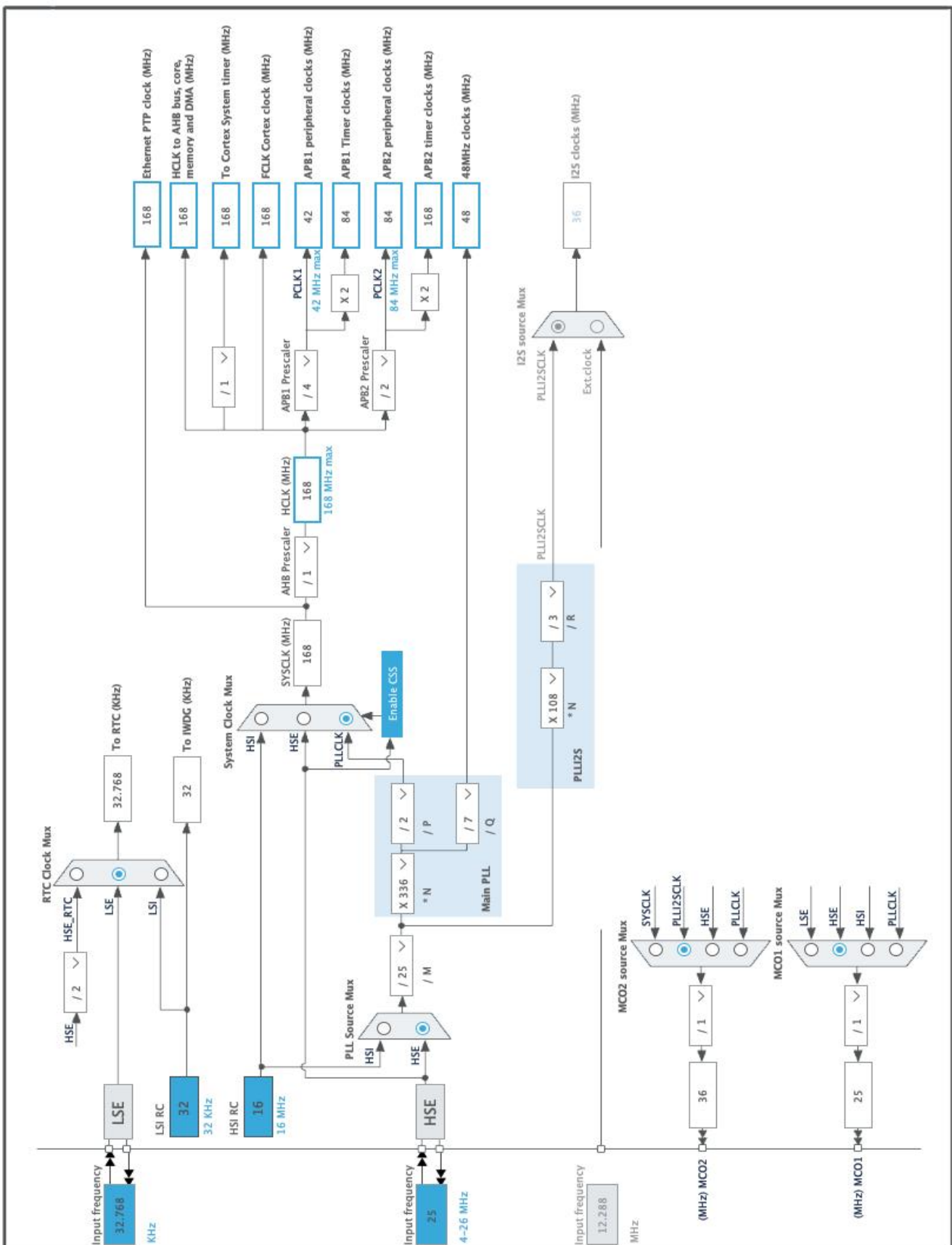
### 3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2 *	I/O	GPIO_Output	OV_PWDN
2	PE3 *	I/O	GPIO_Output	OV_RESET
3	PE4	I/O	DCMI_D4	
4	PE5	I/O	DCMI_D6	
5	PE6	I/O	DCMI_D7	
6	VBAT	Power		
7	PC13-ANTI_TAMP *	I/O	GPIO_Input	BTN_TAMP
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	PH0-OSC_IN	I/O	RCC_OSC_IN	
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
15	PC0 *	I/O	GPIO_Output	LED_LOAD
16	PC1	I/O	ETH_MDC	
17	PC2 *	I/O	GPIO_Output	LED_STAT
18	PC3	I/O	ADC2_IN13	
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP *	I/O	GPIO_Input	BTN_WKUP
24	PA1	I/O	ETH_REF_CLK	
25	PA2	I/O	ETH_MDIO	
26	PA3	I/O	TIM9_CH2	PWM_BUZZ
27	VSS	Power		
28	VDD	Power		
29	PA4	I/O	DCMI_HSYNC	
31	PA6	I/O	DCMI_PIXCLK	
32	PA7	I/O	ETH_CRS_DV	
33	PC4	I/O	ETH_RXD0	
34	PC5	I/O	ETH_RXD1	
37	PB2 *	I/O	GPIO_Input	BOOT1
48	PB11	I/O	ETH_TX_EN	
49	VCAP_1	Power		

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
50	VDD	Power		
51	PB12	I/O	ETH_TXD0	
52	PB13	I/O	ETH_TXD1	
53	PB14	I/O	TIM12_CH1	PWM_LED_CH1
54	PB15	I/O	TIM12_CH2	PWM_LED_CH2
55	PD8	I/O	USART3_TX	
56	PD9	I/O	USART3_RX	
63	PC6	I/O	DCMI_D0	
64	PC7	I/O	DCMI_D1	
66	PC9	I/O	RCC_MCO_2	
67	PA8	I/O	RCC_MCO_1	
69	PA10 *	I/O	GPIO_Input	USB_OTG_FS_ID
70	PA11	I/O	USB_OTG_FS_DM	
71	PA12	I/O	USB_OTG_FS_DP	
72	PA13	I/O	SYS_JTMS-SWDIO	
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
76	PA14	I/O	SYS_JTCK-SWCLK	
77	PA15	I/O	SPI3_NSS	
78	PC10	I/O	SPI3_SCK	
79	PC11	I/O	SPI3_MISO	
80	PC12	I/O	SPI3_MOSI	
92	PB6	I/O	DCMI_D5	
93	PB7	I/O	DCMI_VSYNC	
94	BOOT0	Boot		
95	PB8	I/O	I2C1_SCL	SCCB_SCL
96	PB9	I/O	I2C1_SDA	SCCB_SDA
97	PE0	I/O	DCMI_D2	
98	PE1	I/O	DCMI_D3	
99	VSS	Power		
100	VDD	Power		

\* The pin is affected with an I/O function

## 4. Clock Tree Configuration



## 5. Software Project

### 5.1. Project Settings

Name	Value
Project Name	CCTV3_F407_REV200
Project Folder	/Users/aiox718/Private/Workspace/CCTV3.0-
Toolchain / IDE	EWARM V8.50
Firmware Package Name and Version	STM32Cube FW_F4 V1.27.1
Application Structure	Advanced
Generate Under Root	No
Do not generate the main()	No
Minimum Heap Size	0x200
Minimum Stack Size	0x400

### 5.2. Code Generation Settings

Name	Value
STM32Cube MCU packages and embedded software	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
Keep User Code when re-generating	Yes
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No
Enable Full Assert	No

### 5.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	SystemClock_Config	RCC
2	MX_GPIO_Init	GPIO
3	MX_ADC1_Init	ADC1
4	MX_ADC2_Init	ADC2
5	MX_DCMI_Init	DCMI
6	MX_ETH_Init	ETH
7	MX_I2C1_Init	I2C1
8	MX_IWDG_Init	IWDG
9	MX_RNG_Init	RNG
10	MX_RTC_Init	RTC
11	MX_SPI3_Init	SPI3

Rank	Function Name	Peripheral Instance Name
12	MX_TIM9_Init	TIM9
13	MX_TIM12_Init	TIM12
14	MX_USART3_UART_Init	USART3
15	MX_FATFS_Init	FATFS
16	MX_USB_DEVICE_Init	USB_DEVICE



## 6. Power Consumption Calculator report

### 6.1. Microcontroller Selection

Series	STM32F4
Line	STM32F407/417
MCU	STM32F407VETx
Datasheet	DS8626_Rev8

### 6.2. Parameter Selection

Temperature	25
Vdd	3.3

### 6.3. Battery Selection

Battery	Li-SOCL2(A3400)
Capacity	3400.0 mAh
Self Discharge	0.08 %/month
Nominal Voltage	3.6 V
Max Cont Current	100.0 mA
Max Pulse Current	200.0 mA
Cells in series	1
Cells in parallel	1

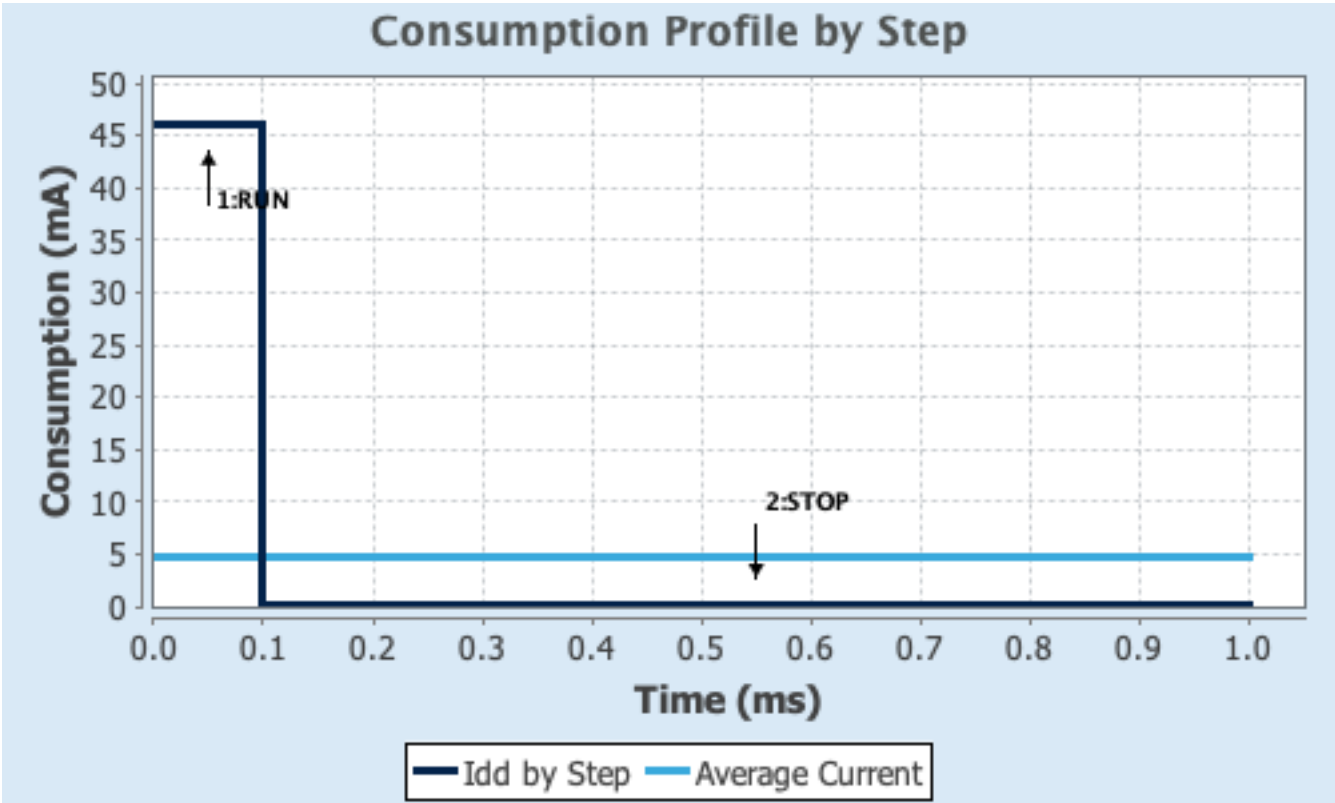
## 6.4. Sequence

<b>Step</b>	Step1	Step2
<b>Mode</b>	RUN	STOP
<b>Vdd</b>	3.3	3.3
<b>Voltage Source</b>	Battery	Battery
<b>Range</b>	Scale1-High	No Scale
<b>Fetch Type</b>	FLASH	n/a
<b>CPU Frequency</b>	168 MHz	0 Hz
<b>Clock Configuration</b>	HSE PLL	Regulator LP Flash-PwrDwn
<b>Clock Source Frequency</b>	4 MHz	0 Hz
<b>Peripherals</b>		
<b>Additional Cons.</b>	0 mA	0 mA
<b>Average Current</b>	46 mA	280 $\mu$ A
<b>Duration</b>	0.1 ms	0.9 ms
<b>DMIPS</b>	210.0	0.0
<b>Ta Max</b>	98.47	104.96
<b>Category</b>	In DS Table	In DS Table

## 6.5. Results

Sequence Time	1 ms	Average Current	4.85 mA
Battery Life	29 days, 4 hours	Average DMIPS	210.0 DMIPS

## 6.6. Chart



## 7. Peripherals and Middlewares Configuration

### 7.1. ADC1

**mode: Temperature Sensor Channel**

#### 7.1.1. Parameter Settings:

##### **ADCs\_Common\_Settings:**

Mode Independent mode

##### **ADC\_Settings:**

Clock Prescaler PCLK2 divided by 4

Resolution 12 bits (15 ADC Clock cycles)

Data Alignment Right alignment

Scan Conversion Mode Disabled

Continuous Conversion Mode Disabled

Discontinuous Conversion Mode Disabled

DMA Continuous Requests Disabled

End Of Conversion Selection EOC flag at the end of single channel conversion

##### **ADC\_Regular\_ConversionMode:**

Number Of Conversion 1

External Trigger Conversion Source Regular Conversion launched by software

External Trigger Conversion Edge None

Rank 1

Channel Channel Temperature Sensor

Sampling Time 3 Cycles

##### **ADC\_Injected\_ConversionMode:**

Number Of Conversions 0

##### **WatchDog:**

Enable Analog WatchDog Mode false

### 7.2. ADC2

**mode: IN13**

#### 7.2.1. Parameter Settings:

##### **ADCs\_Common\_Settings:**

Mode Independent mode

##### **ADC\_Settings:**

Clock Prescaler PCLK2 divided by 4

Resolution 12 bits (15 ADC Clock cycles)

Data Alignment Right alignment

Scan Conversion Mode	Disabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
DMA Continuous Requests	Disabled
End Of Conversion Selection	EOC flag at the end of single channel conversion

#### **ADC\_Regular\_ConversionMode:**

Number Of Conversion	1
External Trigger Conversion Source	Regular Conversion launched by software
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 13
Sampling Time	3 Cycles

#### **ADC\_Injected\_ConversionMode:**

Number Of Conversions	0
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#### **WatchDog:**

Enable Analog WatchDog Mode	false
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## **7.3. DCMi**

### **DCMi: Slave 8 bits External Synchro**

#### 7.3.1. Parameter Settings:

##### **Mode Config:**

Pixel clock polarity	Active on Falling edge
Vertical synchronization polarity	Active Low
Horizontal synchronization polarity	Active Low
Frequency of frame capture	All frames are captured
JPEG mode	Disabled

## **7.4. ETH**

### **Mode: RMii**

#### 7.4.1. Parameter Settings:

##### **General : Ethernet Configuration:**

Ethernet MAC Address	00:80:E1:00:00:00
Rx Buffers Length	1524

##### **Ethernet Basic Configuration:**

Rx Mode	Polling Mode
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## 7.4.2. Advanced Parameters:

### External PHY Configuration:

PHY	LAN8742A_PHY_ADDRESS
PHY Reset delay these values are based on a 1 ms Systick interrupt	<b>0x000000FF *</b>
PHY Configuration delay	<b>0x000000FF *</b>
PHY Read TimeOut	<b>0x0000FFFF *</b>
PHY Write TimeOut	<b>0x0000FFFF *</b>

### Common : External PHY Configuration:

Transceiver Basic Control Register	<b>0x00 *</b>
Transceiver Basic Status Register	<b>0x01 *</b>
PHY Reset	<b>0x8000 *</b>
Select loop-back mode	<b>0x4000 *</b>
Set the full-duplex mode at 100 Mb/s	<b>0x2100 *</b>
Set the half-duplex mode at 100 Mb/s	<b>0x2000 *</b>
Set the full-duplex mode at 10 Mb/s	<b>0x0100 *</b>
Set the half-duplex mode at 10 Mb/s	<b>0x0000 *</b>
Enable auto-negotiation function	<b>0x1000 *</b>
Restart auto-negotiation function	<b>0x0200 *</b>
Select the power down mode	<b>0x0800 *</b>
Isolate PHY from MII	<b>0x0400 *</b>
Auto-Negotiation process completed	<b>0x0020 *</b>
Valid link established	<b>0x0004 *</b>
Jabber condition detected	<b>0x0002 *</b>

### Extended : External PHY Configuration:

PHY special control/status register Offset	<b>0x10 *</b>
PHY Speed mask	<b>0x0002 *</b>
PHY Duplex mask	<b>0x0004 *</b>
PHY Interrupt Source Flag register Offset	<b>0x001D *</b>
PHY Link down interrupt	<b>0x000B *</b>

## 7.5. I2C1

## I2C: I2C

### 7.5.1. Parameter Settings:

#### Master Features:

I2C Speed Mode	Standard Mode
I2C Clock Speed (Hz)	100000

#### Slave Features:

Clock No Stretch Mode	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0
General Call address detection	Disabled

## 7.6. IWDG

### mode: Activated

### 7.6.1. Parameter Settings:

#### Clocking:

IWDG counter clock prescaler	4
IWDG down-counter reload value	4095

## 7.7. RCC

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

### Low Speed Clock (LSE) : Crystal/Ceramic Resonator

### mode: Master Clock Output 1

### mode: Master Clock Output 2

### 7.7.1. 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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HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000
<b>Power Parameters:</b>	
Power Regulator Voltage Scale	Power Regulator Voltage Scale 1

## 7.8. RNG

**mode: Activated**

## 7.9. RTC

**mode: Activate Clock Source**

### 7.9.1. Parameter Settings:

#### **General:**

Hour Format	Hourformat 24
Asynchronous Predivider value	127
Synchronous Predivider value	255

## 7.10. SPI3

**Mode: Full-Duplex Master**

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

### 7.10.1. Parameter Settings:

#### **Basic Parameters:**

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

#### **Clock Parameters:**

Prescaler (for Baud Rate)	2
Baud Rate	<b>21.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

#### **Advanced Parameters:**

CRC Calculation	Disabled
NSS Signal Type	Output Hardware



## 7.11. SYS

**Debug: Serial Wire**

**Timebase Source: SysTick**

## 7.12. TIM9

**Channel2: PWM Generation CH2**

### 7.12.1. Parameter Settings:

#### **Counter Settings:**

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value )	65535
Internal Clock Division (CKD)	No Division
auto-reload preload	Disable

#### **PWM Generation Channel 2:**

Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

## 7.13. TIM12

**Channel1: PWM Generation CH1**

**Channel2: PWM Generation CH2**

### 7.13.1. Parameter Settings:

#### **Counter Settings:**

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value )	65535
Internal Clock Division (CKD)	No Division
auto-reload preload	Disable

#### **PWM Generation Channel 1:**

Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable

CH Polarity	High
<b>PWM Generation Channel 2:</b>	
Mode	PWM mode 1
Pulse (16 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

## 7.14. USART3

### Mode: Asynchronous

#### 7.14.1. 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

## 7.15. USB\_OTG\_FS

### Mode: Device\_Only

#### 7.15.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Low power	Disabled
Link Power Management	Disabled
VBUS sensing	Disabled
Signal start of frame	Disabled

## 7.16. FATFS

### mode: User-defined

#### 7.16.1. Set Defines:

##### Version:

FATFS version R0.12c

#### 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_EXPAND (Use f_expand function)	Disabled
USE_CHMOD (Change attributes function)	Disabled
USE_LABEL (Volume label functions)	Disabled
USE_FORWARD (Forward function)	Disabled

#### Locale and Namespace Parameters:

CODE_PAGE (Code page on target)	Latin 1
USE_LFN (Use Long Filename)	Disabled
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_EXFAT (Support of exFAT file system)	Disabled
FS_NORTC (Timestamp feature)	Dynamic timestamp
FS_REENTRANT (Re-Entrancy)	Disabled
FS_TIMEOUT (Timeout ticks)	1000
FS_LOCK (Number of files opened simultaneously)	2

## 7.17. USB\_DEVICE

### Class For FS IP: Mass Storage Class

#### 7.17.1. Parameter Settings:

##### Basic Parameters:

USBD_MAX_NUM_INTERFACES (Maximum number of supported interfaces)	1
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USBD_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBD_MAX_STR_DESC_SIZ (Maximum size for the string descriptors)	512
USBD_SELF_POWERED (Enabled self power)	Enabled
USBD_DEBUG_LEVEL (USBD Debug Level)	0: No debug message

**Class Parameters:**

MSC_MEDIA_PACKET (Media I/O buffer Size)	512
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**7.17.2. Device Descriptor:**

**Device Descriptor:**

VID (Vendor Identifier)	1155
LANGID_STRING (Language Identifier)	English(United States)
MANUFACTURER_STRING (Manufacturer Identifier)	STMicroelectronics

**Device Descriptor FS:**

PID (Product Identifier)	22314
PRODUCT_STRING (Product Identifier)	STM32 Mass Storage
CONFIGURATION_STRING (Configuration Identifier)	MSC Config
INTERFACE_STRING (Interface Identifier)	MSC Interface

\* User modified value

## 8. System Configuration

### 8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC2	PC3	ADC2_IN13	Analog mode	No pull-up and no pull-down	n/a	
DCMI	PE4	DCMI_D4	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE5	DCMI_D6	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE6	DCMI_D7	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA4	DCMI_HSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA6	DCMI_PIXCLK	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC6	DCMI_D0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC7	DCMI_D1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB6	DCMI_D5	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB7	DCMI_VSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE0	DCMI_D2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PE1	DCMI_D3	Alternate Function Push Pull	No pull-up and no pull-down	Low	
ETH	PC1	ETH_MDC	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PA1	ETH_REF_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PA2	ETH_MDIO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PA7	ETH_CRS_DV	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PC4	ETH_RXD0	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PC5	ETH_RXD1	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB11	ETH_TX_EN	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB12	ETH_TXD0	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PB13	ETH_TXD1	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
I2C1	PB8	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	SCCB_SCL
	PB9	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Very High *	SCCB_SDA

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	
	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
	PC9	RCC_MCO_2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA8	RCC_MCO_1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
SPI3	PA15	SPI3_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PC10	SPI3_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PC11	SPI3_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PC12	SPI3_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
SYS	PA13	SYS_JTMS-SWDIO	n/a	n/a	n/a	
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
TIM9	PA3	TIM9_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	PWM_BUZZ
TIM12	PB14	TIM12_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	PWM_LED_CH1
	PB15	TIM12_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	PWM_LED_CH2
USART3	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PD9	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
USB_OTG_FS	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Very High *	
GPIO	PE2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OV_PWDN
	PE3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	OV_RESET
	PC13-ANTI_TAMP	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BTN_TAMP
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_LOAD
	PC2	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_STAT

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA0-WKUP	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BTN_WKUP
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BOOT1
	PA10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	USB_OTG_FS_ID

## 8.2. DMA configuration

nothing configured in DMA service

## 8.3. NVIC configuration

### 8.3.1. NVIC

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
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	15	0
USB On The Go FS global interrupt	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
ADC1, ADC2 and ADC3 global interrupts	unused		
TIM1 break interrupt and TIM9 global interrupt	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
USART3 global interrupt	unused		
TIM8 break interrupt and TIM12 global interrupt	unused		
SPI3 global interrupt	unused		
Ethernet global interrupt	unused		
Ethernet wake-up interrupt through EXTI line 19	unused		
DCMI global interrupt	unused		
HASH and RNG global interrupts	unused		
FPU global interrupt	unused		

### 8.3.2. NVIC Code generation

Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
Non maskable interrupt	false	true	false
Hard fault interrupt	false	true	false
Memory management fault	false	true	false
Pre-fetch fault, memory access fault	false	true	false
Undefined instruction or illegal state	false	true	false
System service call via SWI instruction	false	true	false
Debug monitor	false	true	false
Pendable request for system service	false	true	false



Enabled interrupt Table	Select for init sequence ordering	Generate IRQ handler	Call HAL handler
System tick timer	false	true	true
USB On The Go FS global interrupt	false	true	true

\* User modified value

## 9. System Views

### 9.1. Category view

#### 9.1.1. Current

Middleware						
<div>FATFS ✓USB_DEVICE ✓</div>						
System Core	Analog	Timers	Connectivity	Multimedia	Security	Computing
DMA	ADC1 ✓	RTC ✓	ETH ✓	DCMI ✓	RNG ✓	
GPIO ✓	ADC2 ✓	TIM9 ✓	I2C1 ✓			
IWDG ✓		TIM12 ✓	SPI3 ✓			
NVIC ✓			USART3 ✓			
RCC ✓			USB_FS ✓			
SYS ✓						

## 10. Docs & Resources

Type	Link
Presentations	<a href="https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf">https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf</a>
Presentations	<a href="https://www.st.com/resource/en/product_presentation/stm32_eval-tools_portfolio.pdf">https://www.st.com/resource/en/product_presentation/stm32_eval-tools_portfolio.pdf</a>
Presentations	<a href="https://www.st.com/resource/en/product_presentation/stm32_stm8_functional-safety-packages.pdf">https://www.st.com/resource/en/product_presentation/stm32_stm8_functional-safety-packages.pdf</a>
Presentations	<a href="https://www.st.com/resource/en/product_presentation/stm32-stm8_software_development_tools.pdf">https://www.st.com/resource/en/product_presentation/stm32-stm8_software_development_tools.pdf</a>
Training Material	<a href="https://www.st.com/resource/en/sales_guide/sg_sc2154.pdf">https://www.st.com/resource/en/sales_guide/sg_sc2154.pdf</a>
Flyers	<a href="https://www.st.com/resource/en/flyer/flnucleolrwan.pdf">https://www.st.com/resource/en/flyer/flnucleolrwan.pdf</a>
Flyers	<a href="https://www.st.com/resource/en/flyer/flstm32nucleo.pdf">https://www.st.com/resource/en/flyer/flstm32nucleo.pdf</a>
Flyers	<a href="https://www.st.com/resource/en/flyer/flstmcsuite.pdf">https://www.st.com/resource/en/flyer/flstmcsuite.pdf</a>
Flyers	<a href="https://www.st.com/resource/en/flyer/flstm32trust.pdf">https://www.st.com/resource/en/flyer/flstm32trust.pdf</a>
Product Certifications	<a href="https://www.st.com/resource/en/certification_document/stm32_authentication_can.pdf">https://www.st.com/resource/en/certification_document/stm32_authentication_can.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an1181-electrostatic-discharge-sensitivity-measurement-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an1181-electrostatic-discharge-sensitivity-measurement-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an1709-emc-design-guide-for-stm8-stm32-and-legacy-mcus-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an1709-emc-design-guide-for-stm8-stm32-and-legacy-mcus-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an2606-stm32-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an2606-stm32-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack-mcus-and-mpus-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack-mcus-and-mpus-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an2834-how-to-get-the-best-adc-accuracy-in-stm32-microcontrollers-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an2834-how-to-get-the-best-adc-accuracy-in-stm32-microcontrollers-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an2867-oscillator-design-guide-for-stm8afals-stm32-mcus-and-mpus-stmicroelectronics.pdf">https://www.st.com/resource/en/application_note/an2867-oscillator-design-guide-for-stm8afals-stm32-mcus-and-mpus-stmicroelectronics.pdf</a>
Application Notes	<a href="https://www.st.com/resource/en/application_note/an2945-stm8s-and-">https://www.st.com/resource/en/application_note/an2945-stm8s-and-</a>

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for related Tools    receivers-for-infrared-remote-control-protocols-using-stm32f10xxx-  
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for related Tools    direct-drive-using-the-stm32f10xx-fsmc-peripheral-stmicroelectronics.pdf  
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