



## 1. Description

### 1.1. Project

Project Name	trinamic_startrampe
Board Name	custom
Generated with:	STM32CubeMX 6.6.1
Date	05/17/2023

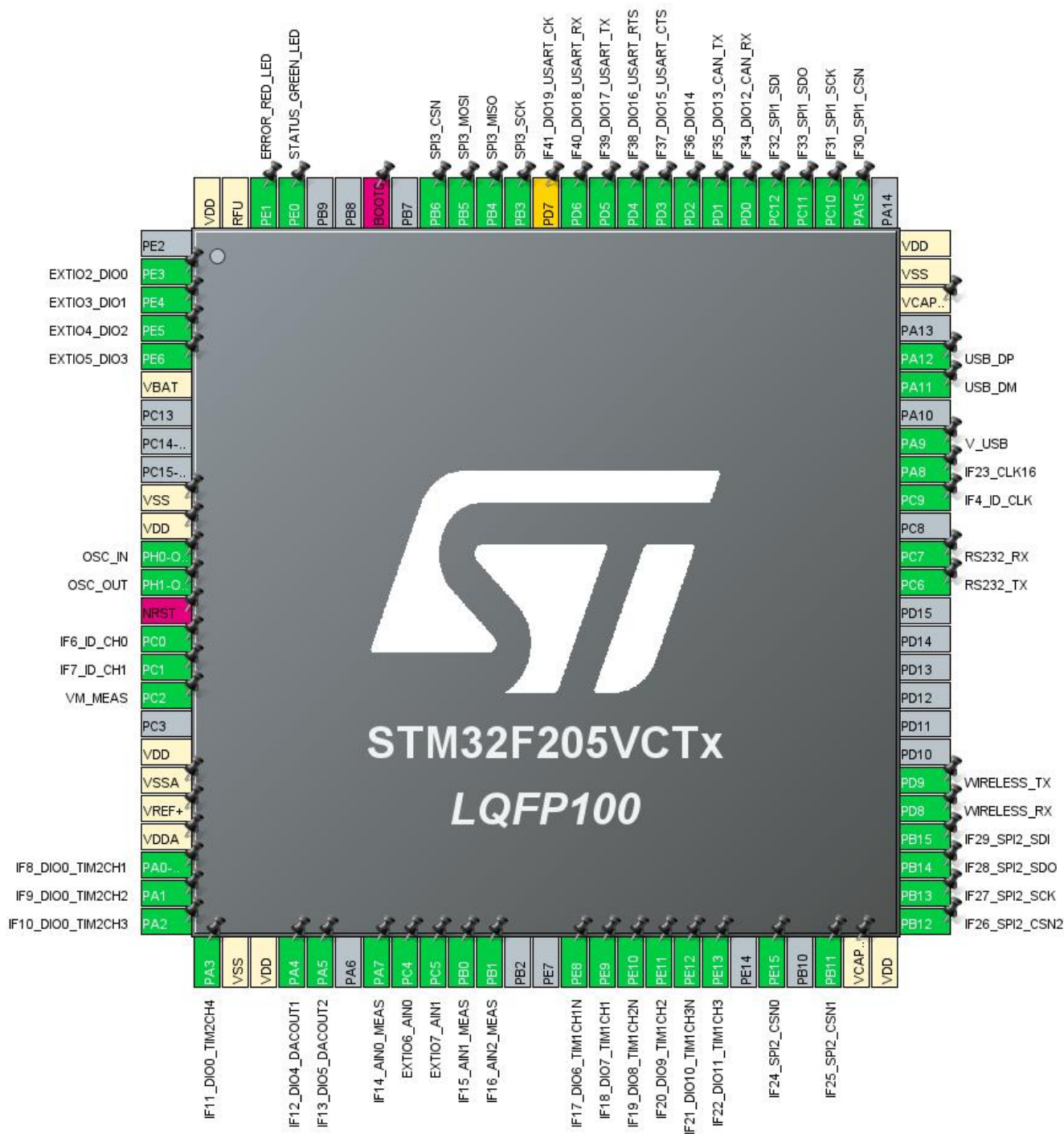
### 1.2. MCU

MCU Series	STM32F2
MCU Line	STM32F2x5
MCU name	STM32F205VCTx
MCU Package	LQFP100
MCU Pin number	100

### 1.3. Core(s) information

Core(s)	Arm Cortex-M3
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## 2. Pinout Configuration



### 3. Pins Configuration

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
2	PE3 *	I/O	GPIO_Analog	EXTIO2_DIO0
3	PE4 *	I/O	GPIO_Analog	EXTIO3_DIO1
4	PE5 *	I/O	GPIO_Analog	EXTIO4_DIO2
5	PE6 *	I/O	GPIO_Analog	EXTIO5_DIO3
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
12	PH0-OSC_IN	I/O	RCC_OSC_IN	OSC_IN
13	PH1-OSC_OUT	I/O	RCC_OSC_OUT	OSC_OUT
14	NRST	Reset		
15	PC0	I/O	GPIO_EXTI0	IF6_ID_CH0
16	PC1	I/O	GPIO_EXTI1	IF7_ID_CH1
17	PC2	I/O	ADC1_IN12	VM_MEAS
19	VDD	Power		
20	VSSA	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	TIM2_CH1	IF8_DIO0_TIM2CH1
24	PA1	I/O	TIM2_CH2	IF9_DIO0_TIM2CH2
25	PA2	I/O	TIM2_CH3	IF10_DIO0_TIM2CH3
26	PA3	I/O	TIM2_CH4	IF11_DIO0_TIM2CH4
27	VSS	Power		
28	VDD	Power		
29	PA4	I/O	DAC_OUT1	IF12_DIO4_DACOUT1
30	PA5	I/O	DAC_OUT2	IF13_DIO5_DACOUT2
32	PA7	I/O	ADC1_IN7	IF14_AIN0_MEAS
33	PC4	I/O	ADC1_IN14	EXTIO6_AIN0
34	PC5	I/O	ADC1_IN15	EXTIO7_AIN1
35	PB0	I/O	ADC1_IN8	IF15_AIN1_MEAS
36	PB1	I/O	ADC1_IN9	IF16_AIN2_MEAS
39	PE8	I/O	TIM1_CH1N	IF17_DIO6_TIM1CH1N
40	PE9	I/O	TIM1_CH1	IF18_DIO7_TIM1CH1
41	PE10	I/O	TIM1_CH2N	IF19_DIO8_TIM1CH2N
42	PE11	I/O	TIM1_CH2	IF20_DIO9_TIM1CH2
43	PE12	I/O	TIM1_CH3N	IF21_DIO10_TIM1CH3N
44	PE13	I/O	TIM1_CH3	IF22_DIO11_TIM1CH3

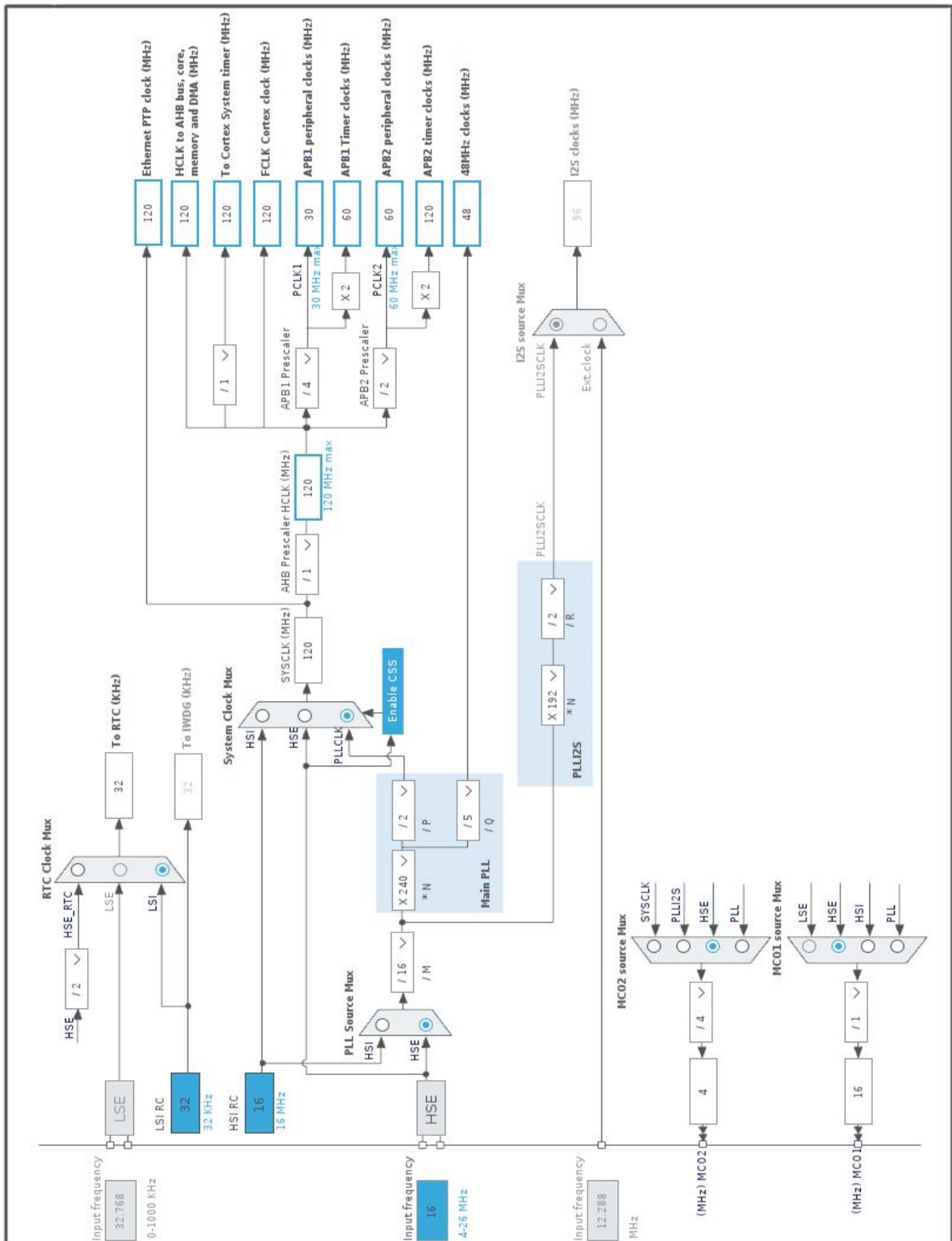
Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
46	PE15 *	I/O	GPIO_Output	IF24_SPI2_CSN0
48	PB11 *	I/O	GPIO_Output	IF25_SPI2_CSN1
49	VCAP_1	Power		
50	VDD	Power		
51	PB12 *	I/O	GPIO_Output	IF26_SPI2_CSN2
52	PB13	I/O	SPI2_SCK	IF27_SPI2_SCK
53	PB14	I/O	SPI2_MISO	IF28_SPI2_SDO
54	PB15	I/O	SPI2_MOSI	IF29_SPI2_SDI
55	PD8	I/O	USART3_TX	WIRELESS_RX
56	PD9	I/O	USART3_RX	WIRELESS_TX
63	PC6	I/O	USART6_TX	RS232_TX
64	PC7	I/O	USART6_RX	RS232_RX
66	PC9	I/O	RCC_MCO_2	IF4_ID_CLK
67	PA8	I/O	RCC_MCO_1	IF23_CLK16
68	PA9	I/O	USB_OTG_FS_VBUS	V_USB
70	PA11	I/O	USB_OTG_FS_DM	USB_DM
71	PA12	I/O	USB_OTG_FS_DP	USB_DP
73	VCAP_2	Power		
74	VSS	Power		
75	VDD	Power		
77	PA15 *	I/O	GPIO_Output	IF30_SPI1_CSN
78	PC10	I/O	SPI3_SCK	IF31_SPI1_SCK
79	PC11	I/O	SPI3_MISO	IF33_SPI1_SDO
80	PC12	I/O	SPI3_MOSI	IF32_SPI1_SDI
81	PD0	I/O	CAN1_RX	IF34_DIO12_CAN_RX
82	PD1	I/O	CAN1_TX	IF35_DIO13_CAN_TX
83	PD2 *	I/O	GPIO_Analog	IF36_DIO14
84	PD3	I/O	USART2_CTS	IF37_DIO15_USART_CTS
85	PD4	I/O	USART2_RTS	IF38_DIO16_USART_RTS
86	PD5	I/O	USART2_TX	IF39_DIO17_USART_TX
87	PD6	I/O	USART2_RX	IF40_DIO18_USART_RX
88	PD7 **	I/O	USART2_CK	IF41_DIO19_USART_CK
89	PB3	I/O	SPI1_SCK	SPI3_SCK
90	PB4	I/O	SPI1_MISO	SPI3_MISO
91	PB5	I/O	SPI1_MOSI	SPI3_MOSI
92	PB6 *	I/O	GPIO_Output	SPI3_CSN
94	BOOT0	Boot		
97	PE0 *	I/O	GPIO_Output	STATUS_GREEN_LED
98	PE1 *	I/O	GPIO_Output	ERROR_RED_LED

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
99	RFU	Power		
100	VDD	Power		

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

\*\* The pin is affected with a peripheral function but no peripheral mode is activated

## 4. Clock Tree Configuration



## 5. Software Project

### 5.1. Project Settings

Name	Value
Project Name	trinamic_startrampe
Project Folder	/store/EmbedTools/STM32CubeMX/trinamic_startrampe
Toolchain / IDE	EWARM V8.32
Firmware Package Name and Version	STM32Cube FW_F2 V1.9.4
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_CAN1_Init	CAN1
5	MX_DAC_Init	DAC
6	MX_RTC_Init	RTC
7	MX_SPI1_Init	SPI1
8	MX_SPI2_Init	SPI2
9	MX_SPI3_Init	SPI3
10	MX_TIM1_Init	TIM1
11	MX_TIM2_Init	TIM2



Rank	Function Name	Peripheral Instance Name
12	MX_USART2_UART_Init	USART2
13	MX_USART3_UART_Init	USART3
14	MX_USART6_UART_Init	USART6
15	MX_USB_OTG_FS_PCD_Init	USB_OTG_FS

## 6. Power Consumption Calculator report

### 6.1. Microcontroller Selection

Series	STM32F2
Line	STM32F2x5
MCU	STM32F205VCTx
Datasheet	DS6329_Rev15

### 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

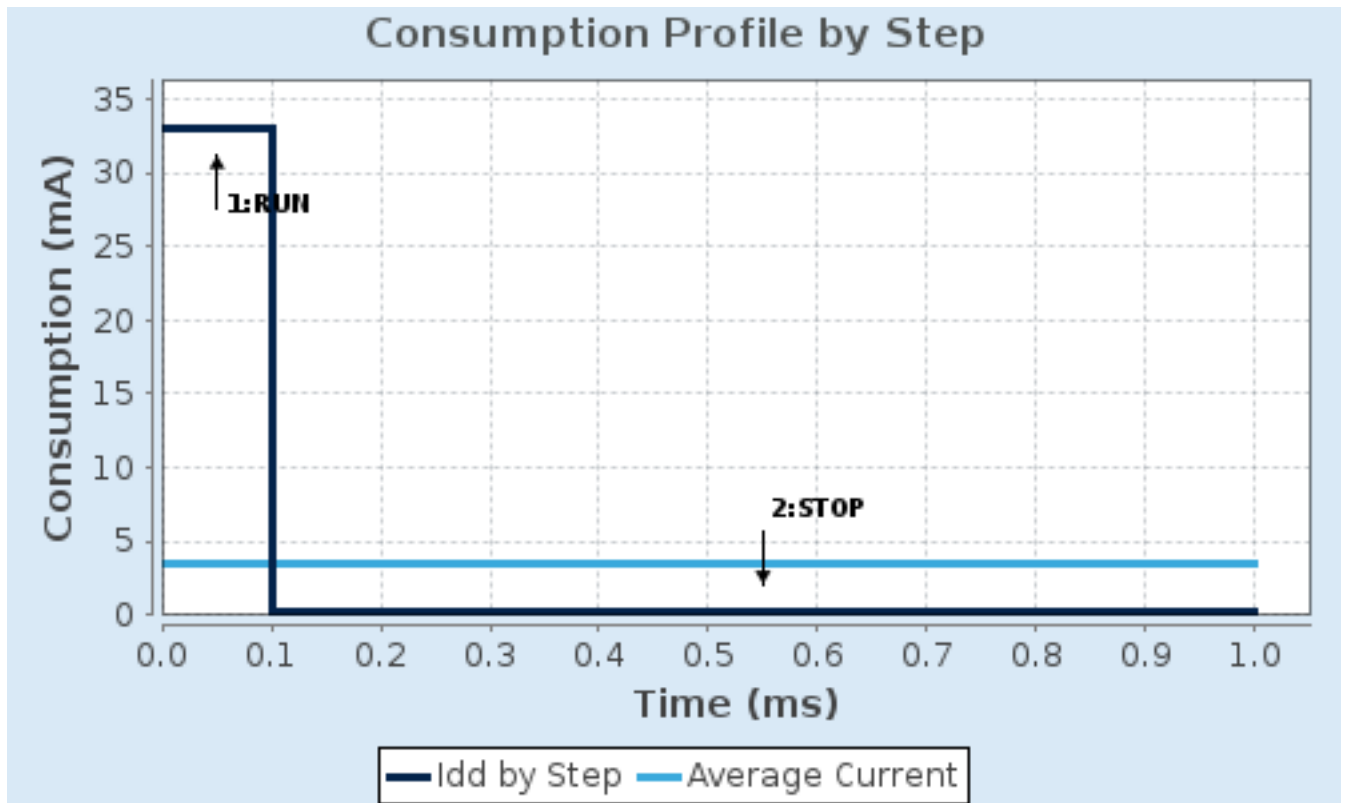
#### 6.4. Sequence

<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>	No-Scale	No Scale
<b>Fetch Type</b>	FLASH	n/a
<b>CPU Frequency</b>	120 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>	33 mA	300 $\mu$ A
<b>Duration</b>	0.1 ms	0.9 ms
<b>DMIPS</b>	150.0	0.0
<b>Ta Max</b>	99.99	104.95
<b>Category</b>	In DS Table	In DS Table

#### 6.5. Results

Sequence Time	1 ms	Average Current	3.57 mA
Battery Life	1 month, 9 days, 5 hours	Average DMIPS	150.0 DMIPS

#### 6.6. Chart



## 7. Peripherals and Middlewares Configuration

### 7.1. ADC1

mode: IN7

mode: IN8

mode: IN9

mode: IN12

mode: IN14

mode: IN15

mode: Temperature Sensor Channel

#### 7.1.1. Parameter Settings:

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

Mode Independent mode

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

Clock Prescaler PCLK2 divided by 2

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. CAN1

mode: Activated

### 7.2.1. Parameter Settings:

#### **Bit Timings Parameters:**

Prescaler (for Time Quantum)	16
Time Quantum	<b>533.3333333333334 *</b>
Time Quanta in Bit Segment 1	1 Time
Time Quanta in Bit Segment 2	1 Time
Time for one Bit	<b>1600 *</b>
Baud Rate	<b>625000 *</b>
ReSynchronization Jump Width	1 Time

#### **Basic Parameters:**

Time Triggered Communication Mode	Disable
Automatic Bus-Off Management	Disable
Automatic Wake-Up Mode	Disable
Automatic Retransmission	Disable
Receive Fifo Locked Mode	Disable
Transmit Fifo Priority	Disable

#### **Advanced Parameters:**

Operating Mode	Normal
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## **7.3. DAC**

**mode: OUT1 Configuration**

**mode: OUT2 Configuration**

### 7.3.1. Parameter Settings:

#### **DAC Out1 Settings:**

Output Buffer	Enable
Trigger	None

#### **DAC Out2 Settings:**

Output Buffer	Enable
Trigger	None

## **7.4. RCC**

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

**mode: Master Clock Output 1**

## **mode: Master Clock Output 2**

### 7.4.1. Parameter Settings:

#### **System Parameters:**

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	3 WS (4 CPU cycle)

#### **RCC Parameters:**

HSI Calibration Value	16
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

## **7.5. RTC**

### **mode: Activate Clock Source**

#### 7.5.1. Parameter Settings:

##### **General:**

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

## **7.6. SPI1**

### **Mode: Full-Duplex Master**

#### 7.6.1. 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>30.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

##### **Advanced Parameters:**

CRC Calculation	Disabled
NSS Signal Type	Software

## 7.7. SPI2

### Mode: Full-Duplex Master

#### 7.7.1. 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>15.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

##### Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software

## 7.8. SPI3

### Mode: Full-Duplex Master

#### 7.8.1. 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>15.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

##### Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software



## 7.9. SYS

**Timebase Source: SysTick**

## 7.10. TIM1

**Clock Source : Internal Clock**

**Channel1: PWM Generation CH1 CH1N**

**Channel2: PWM Generation CH2 CH2N**

**Channel3: PWM Generation CH3 CH3N**

### 7.10.1. 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
Repetition Counter (RCR - 8 bits value)	0
auto-reload preload	Disable

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

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
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)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High
CHN Polarity	High
CH Idle State	Reset
CHN Idle State	Reset

#### **PWM Generation Channel 2 and 2N:**

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

#### **PWM Generation Channel 3 and 3N:**

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

### **7.11. TIM2**

**Clock Source : Internal Clock**

**Channel1: PWM Generation CH1**

**Channel2: PWM Generation CH2**

**Channel3: PWM Generation CH3**

**Channel4: PWM Generation CH4**

#### **7.11.1. Parameter Settings:**

##### **Counter Settings:**

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 32 bits value )	4294967295
Internal Clock Division (CKD)	No Division
auto-reload preload	Disable

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

Master/Slave Mode (MSM bit)	Disable (Trigger input effect not delayed)
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

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

Mode	PWM mode 1
Pulse (32 bits value)	0

Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

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

Mode	PWM mode 1
Pulse (32 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

#### **PWM Generation Channel 3:**

Mode	PWM mode 1
Pulse (32 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

#### **PWM Generation Channel 4:**

Mode	PWM mode 1
Pulse (32 bits value)	0
Output compare preload	Enable
Fast Mode	Disable
CH Polarity	High

## **7.12. USART2**

**Mode: Asynchronous**

**Hardware Flow Control (RS232): CTS/RTS**

### 7.12.1. 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

## **7.13. USART3**

## Mode: Asynchronous

### 7.13.1. 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

## 7.14. USART6

### 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

### mode: Activate\_VBUS

#### 7.15.1. Parameter Settings:

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

**\* User modified value**

## 8. System Configuration

### 8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PC2	ADC1_IN12	Analog mode	No pull-up and no pull-down	n/a	VM_MEAS
	PA7	ADC1_IN7	Analog mode	No pull-up and no pull-down	n/a	IF14_AIN0_MEAS
	PC4	ADC1_IN14	Analog mode	No pull-up and no pull-down	n/a	EXTIO6_AIN0
	PC5	ADC1_IN15	Analog mode	No pull-up and no pull-down	n/a	EXTIO7_AIN1
	PB0	ADC1_IN8	Analog mode	No pull-up and no pull-down	n/a	IF15_AIN1_MEAS
	PB1	ADC1_IN9	Analog mode	No pull-up and no pull-down	n/a	IF16_AIN2_MEAS
CAN1	PD0	CAN1_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF34_DIO12_CAN_RX
	PD1	CAN1_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF35_DIO13_CAN_TX
DAC	PA4	DAC_OUT1	Analog mode	No pull-up and no pull-down	n/a	IF12_DIO4_DACOUT1
	PA5	DAC_OUT2	Analog mode	No pull-up and no pull-down	n/a	IF13_DIO5_DACOUT2
RCC	PH0-OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	OSC_IN
	PH1-OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	OSC_OUT
	PC9	RCC_MCO_2	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF4_ID_CLK
	PA8	RCC_MCO_1	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF23_CLK16
SPI1	PB3	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	High *	SPI3_SCK
	PB4	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	High *	SPI3_MISO
	PB5	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	High *	SPI3_MOSI
SPI2	PB13	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF27_SPI2_SCK
	PB14	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF28_SPI2_SDO
	PB15	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF29_SPI2_SDI
SPI3	PC10	SPI3_SCK	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF31_SPI1_SCK
	PC11	SPI3_MISO	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF33_SPI1_SDO
	PC12	SPI3_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF32_SPI1_SDI
TIM1	PE8	TIM1_CH1N	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF17_DIO6_TIM1CH1N
	PE9	TIM1_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF18_DIO7_TIM1CH1
	PE10	TIM1_CH2N	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF19_DIO8_TIM1CH2N
	PE11	TIM1_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF20_DIO9_TIM1CH2
	PE12	TIM1_CH3N	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF21_DIO10_TIM1CH3N
	PE13	TIM1_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF22_DIO11_TIM1CH3
TIM2	PA0-WKUP	TIM2_CH1	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF8_DIO0_TIM2CH1
	PA1	TIM2_CH2	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF9_DIO0_TIM2CH2
	PA2	TIM2_CH3	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF10_DIO0_TIM2CH3

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PA3	TIM2_CH4	Alternate Function Push Pull	No pull-up and no pull-down	Low	IF11_DIO0_TIM2CH4
USART2	PD3	USART2_CTS	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF37_DIO15_USART_CTS
	PD4	USART2_RTS	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF38_DIO16_USART_RTS
	PD5	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF39_DIO17_USART_TX
	PD6	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF40_DIO18_USART_RX
USART3	PD8	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	WIRELESS_RX
	PD9	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	WIRELESS_TX
USART6	PC6	USART6_TX	Alternate Function Push Pull	No pull-up and no pull-down	High *	RS232_TX
	PC7	USART6_RX	Alternate Function Push Pull	No pull-up and no pull-down	High *	RS232_RX
USB_OTG_FS	PA9	USB_OTG_FS_VBUS	Input mode	No pull-up and no pull-down	n/a	V_USB
	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	High *	USB_DM
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	High *	USB_DP
Single Mapped Signals	PD7	USART2_CK	Alternate Function Push Pull	No pull-up and no pull-down	High *	IF41_DIO19_USART_CK
GPIO	PE3	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	EXTIO2_DIO0
	PE4	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	EXTIO3_DIO1
	PE5	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	EXTIO4_DIO2
	PE6	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	EXTIO5_DIO3
	PC0	GPIO_EXTI0	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	IF6_ID_CH0
	PC1	GPIO_EXTI1	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	IF7_ID_CH1
	PE15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	IF24_SPI2_CSN0
	PB11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	IF25_SPI2_CSN1
	PB12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	IF26_SPI2_CSN2
	PA15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	IF30_SPI1_CSN
	PD2	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	IF36_DIO14
	PB6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	SPI3_CSN
	PE0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	STATUS_GREEN_LED
	PE1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	ERROR_RED_LED

## 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
PVD interrupt through EXTI line16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line0 interrupt	unused		
EXTI line1 interrupt	unused		
ADC1, ADC2 and ADC3 global interrupts	unused		
CAN1 TX interrupts	unused		
CAN1 RX0 interrupts	unused		
CAN1 RX1 interrupt	unused		
CAN1 SCE interrupt	unused		
TIM1 break interrupt and TIM9 global interrupt	unused		
TIM1 update interrupt and TIM10 global interrupt	unused		
TIM1 trigger and commutation interrupts and TIM11 global interrupt	unused		
TIM1 capture compare interrupt	unused		
TIM2 global interrupt	unused		
SPI1 global interrupt	unused		
SPI2 global interrupt	unused		
USART2 global interrupt	unused		
USART3 global interrupt	unused		
SPI3 global interrupt	unused		
TIM6 global interrupt, DAC1 and DAC2 underrun error interrupts	unused		
USB On The Go FS global interrupt	unused		
USART6 global interrupt	unused		

#### 8.3.2. NVIC Code generation

Enabled interrupt Table	Select for init	Generate IRQ	Call HAL handler
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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
System tick timer	false	true	true

\* User modified value

## 9. System Views

### 9.1. Category view

#### 9.1.1. Current

#### Middleware

#### System Core

#### Analog

#### Timers

#### Connectivity

#### Multimedia

#### Security

#### Computing

DMA

ADC1 

RTC 

CAN1 

GPIO 

DAC 

TIM1 

SPI1 

NVIC 

TIM2 

SPI2 

RCC 

SPI3 

SYS 

USART2 

USART3 

USART6 

USB\_FS 

## 10. Docs & Resources

Type	Link
BSDL files	<a href="https://www.st.com/resource/en/bsdl_model/stm32f2_bsdL.zip">https://www.st.com/resource/en/bsdl_model/stm32f2_bsdL.zip</a>
IBIS models	<a href="https://www.st.com/resource/en/ibis_model/stm32f2_ibis.zip">https://www.st.com/resource/en/ibis_model/stm32f2_ibis.zip</a>
System View Description	<a href="https://www.st.com/resource/en/svd/stm32f2_svd.zip">https://www.st.com/resource/en/svd/stm32f2_svd.zip</a>
BSDL files	<a href="https://www.st.com/resource/en/bsdl_model/stm32f2_bsdL.zip">https://www.st.com/resource/en/bsdl_model/stm32f2_bsdL.zip</a>
IBIS models	<a href="https://www.st.com/resource/en/ibis_model/stm32f2_ibis.zip">https://www.st.com/resource/en/ibis_model/stm32f2_ibis.zip</a>
System View Description	<a href="https://www.st.com/resource/en/svd/stm32f2_svd.zip">https://www.st.com/resource/en/svd/stm32f2_svd.zip</a>
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/flstm32nucleo.pdf">https://www.st.com/resource/en/flyer/flstm32nucleo.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>

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Application Notes [https://www.st.com/resource/en/application\\_note/an5225-usb-typec-power-delivery-using-stm32-mcus-and-mpus-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an5225-usb-typec-power-delivery-using-stm32-mcus-and-mpus-stmicroelectronics.pdf)

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Application Notes [https://www.st.com/resource/en/application\\_note/an4899-stm32-microcontroller-gpio-hardware-settings-and-lowpower-consumption-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an4899-stm32-microcontroller-gpio-hardware-settings-and-lowpower-consumption-stmicroelectronics.pdf)

Application Notes [https://www.st.com/resource/en/application\\_note/an5612-esd-protection-of-stm32-mcus-and-mpus-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an5612-esd-protection-of-stm32-mcus-and-mpus-stmicroelectronics.pdf)

Application Notes [https://www.st.com/resource/en/application\\_note/an5156-introduction-to-stm32-microcontrollers-security-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an5156-introduction-to-stm32-microcontrollers-security-stmicroelectronics.pdf)

Application Notes [https://www.st.com/resource/en/application\\_note/an1202\\_freertos\\_guide-for\\_related\\_Tools\\_freertos-guide-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an1202_freertos_guide-for_related_Tools_freertos-guide-stmicroelectronics.pdf)  
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Application Notes [https://www.st.com/resource/en/application\\_note/an1801\\_stm32cubeprog\\_for\\_related\\_Tools\\_rammer\\_in\\_truestudio-installing-stm32cubeprogrammer-in-truestudio-stmicroelectronics.pdf](https://www.st.com/resource/en/application_note/an1801_stm32cubeprog_for_related_Tools_rammer_in_truestudio-installing-stm32cubeprogrammer-in-truestudio-stmicroelectronics.pdf)  
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for related Tools   [direct-drive-using-the-stm32f10xx-fsmc-peripheral-stmicroelectronics.pdf](#)  
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