

CS\_I2C/SPI [LIS302DL\_CS\_I2C/SPI]

PC14-OSC32\_IN

PC15-OSC32\_OUT

PH0-OSC\_IN

PH1-OSC\_OUT

OTG\_FS\_PowerSwitchOn

PDM\_OUT [MP45DT02\_DO UT]

B1 [Blue PushButton]

ADC1\_IN1

I2S3\_WS [CS43L22\_LRCK]  
I2S3\_SCK [LIS302DL\_SCL/SPI]

SP11\_MISO [LIS302DL\_SDO]  
OSI [LIS302DL\_SDA/SDO]

BOOT1

CLK\_IN [MP45DT02\_CLK]

MEMS\_INT2 [LIS302DL\_INT2]

Audio\_SDA [CS43L22\_SDA]

Audio\_SCL [CS43L22\_SCL]

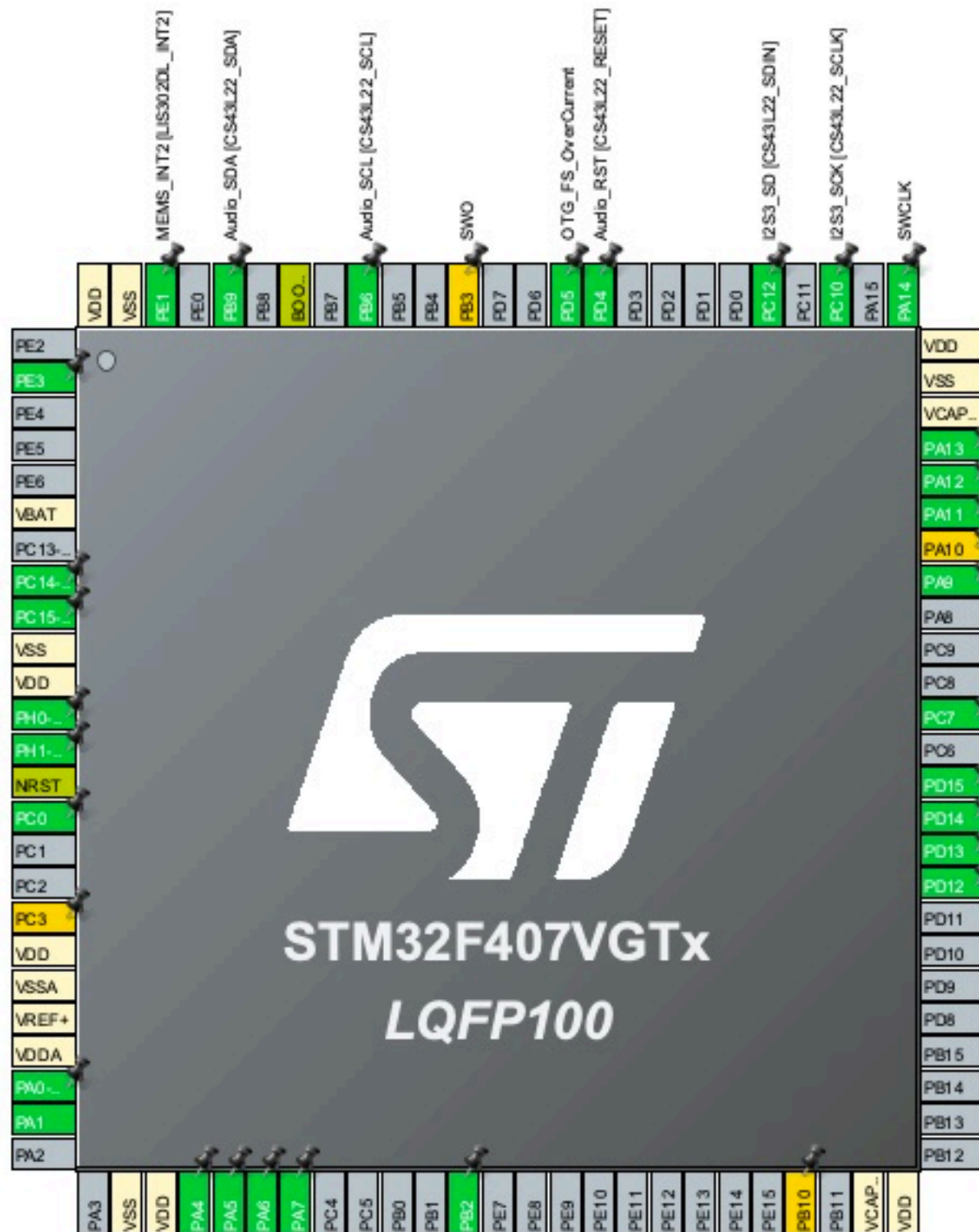
SWO

OTG\_FS\_OverCurrent  
Audio\_RST [CS43L22\_RESET]

I2S3\_SD [CS43L22\_SDI]

I2S3\_SCK [CS43L22\_SCLK]

SWCLK



STM32F407VGTx

LQFP100

Mode

High Speed Clock (HSE) Crystal/Ceramic Resonator

Low Speed Clock (LSE) Crystal/Ceramic Resonator

☐ Master Clock Output 1

☐ Master Clock Output 2

☐ Audio Clock Input (I2S\_CKIN)

Configuration

Reset Configuration

- ☒ Parameter Settings
- ☒ User Constants
- ☒ NVIC Settings
- ☒ GPIO Settings

Search Signals

Search (Ctrl+F)

☐ Show only Modified Pins

| Pin Name        | Signal on Pin | GPIO output level | GPIO mode | GPIO Pull-up/P... | Maximum outp... | User Label      | Modified                            |
|-----------------|---------------|-------------------|-----------|-------------------|-----------------|-----------------|-------------------------------------|
| PC14-OSC32_IN   | RCC_OSC32_IN  | n/a               | n/a       | n/a               | n/a             | PC14-OSC32_IN   | <input checked="" type="checkbox"/> |
| PC15-OSC32_O... | RCC_OSC32_OUT | n/a               | n/a       | n/a               | n/a             | PC15-OSC32_O... | <input checked="" type="checkbox"/> |
| PH0-OSC_IN      | RCC_OSC_IN    | n/a               | n/a       | n/a               | n/a             | PH0-OSC_IN      | <input checked="" type="checkbox"/> |
| PH1-OSC_OUT     | RCC_OSC_OUT   | n/a               | n/a       | n/a               | n/a             | PH1-OSC_OUT     | <input checked="" type="checkbox"/> |

ADC1 Mode and Configuration

Mode

☐ IN0

☒ IN1

☐ IN2

☐ IN3

☐ IN4

☐ IN5

☐ IN6

☐ IN7

☐ IN8

☐ IN9

☐ IN10

☐ IN11

☐ IN12

Configuration

Reset Configuration

- ☒ Parameter Settings
- ☒ User Constants
- ☒ NVIC Settings
- ☒ DMA Settings
- ☒ GPIO Settings

| NVIC Interrupt Table                  |  | Enabled                             | Preemption Priority | Sub Priority |
|---------------------------------------|--|-------------------------------------|---------------------|--------------|
| ADC1, ADC2 and ADC3 global interrupts |  | <input type="checkbox"/>            | 0                   | 0            |
| DMA2 stream0 global interrupt         |  | <input checked="" type="checkbox"/> | 0                   | 0            |

## System Core

DMA  
GPIO  
IWDG

NVIC

✓ RCC

⚠ SYS

WWDG

## Analog

⚠ ADC1

⚠ ADC2

⚠ ADC3

⊘ DAC

## Timers

RTC

✓ TIM1

⚠ TIM2

TIM3

⚠ TIM4

⚠ TIM5

TIM6

TIM7

⚠ TIM8

TIM9

TIM10

TIM11

TIM12

TIM13

TIM14

## Connectivity

## Configuration

✓ NVIC

✓ Code generation

Priority Group 0 bits for pre-emption priority 4 bits for ...

☐ Sort by Preemption Priority and Sub Priority☐ Sort by interrupts names

Search

Search (Ctrl+F)



Show

available interrupts

☒ Force DMA channels Interrupts

| NVIC Interrupt Table                                               | Enabled                             | Preemption Priority | Sub Priority |
|--------------------------------------------------------------------|-------------------------------------|---------------------|--------------|
| Non maskable interrupt                                             | <input checked="" type="checkbox"/> | 0                   | 0            |
| Hard fault interrupt                                               | <input checked="" type="checkbox"/> | 0                   | 0            |
| Memory management fault                                            | <input checked="" type="checkbox"/> | 0                   | 0            |
| Pre-fetch fault, memory access fault                               | <input checked="" type="checkbox"/> | 0                   | 0            |
| Undefined instruction or illegal state                             | <input checked="" type="checkbox"/> | 0                   | 0            |
| System service call via SWI instruction                            | <input checked="" type="checkbox"/> | 0                   | 0            |
| Debug monitor                                                      | <input checked="" type="checkbox"/> | 0                   | 0            |
| Pendable request for system service                                | <input checked="" type="checkbox"/> | 0                   | 0            |
| Time base: System tick timer                                       | <input checked="" type="checkbox"/> | 0                   | 0            |
| PVD interrupt through EXTI line 16                                 | <input type="checkbox"/>            | 0                   | 0            |
| Flash global interrupt                                             | <input type="checkbox"/>            | 0                   | 0            |
| RCC global interrupt                                               | <input type="checkbox"/>            | 0                   | 0            |
| ADC1, ADC2 and ADC3 global interrupts                              | <input type="checkbox"/>            | 0                   | 0            |
| TIM1 break interrupt and TIM9 global interrupt                     | <input type="checkbox"/>            | 0                   | 0            |
| TIM1 update interrupt and TIM10 global interrupt                   | <input type="checkbox"/>            | 0                   | 0            |
| TIM1 trigger and commutation interrupts and TIM11 global interrupt | <input type="checkbox"/>            | 0                   | 0            |
| TIM1 capture compare interrupt                                     | <input type="checkbox"/>            | 0                   | 0            |
| I2C1 event interrupt                                               | <input type="checkbox"/>            | 0                   | 0            |
| I2C1 error interrupt                                               | <input type="checkbox"/>            | 0                   | 0            |
| SPI1 global interrupt                                              | <input type="checkbox"/>            | 0                   | 0            |
| SPI3 global interrupt                                              | <input type="checkbox"/>            | 0                   | 0            |
| DMA2 stream0 global interrupt                                      | <input checked="" type="checkbox"/> | 0                   | 0            |
| USB On The Go FS global interrupt                                  | <input checked="" type="checkbox"/> | 0                   | 0            |
| FPU global interrupt                                               | <input type="checkbox"/>            | 0                   | 0            |

☐ Enabled

Preemption Priority



Sub Priority





🔍

Categories A->Z

System Core

- DMA
- GPIO
- IWDG
- NVIC
- ✓ RCC
- ⚠ SYS
- WWDG

Analog

- ⚠ ADC1
- ⚠ ADC2
- ⚠ ADC3
- ⊘ DAC

Timers

- RTC
- ✓ TIM1
- ⚠ TIM2
- TIM3
- ⚠ TIM4
- ⚠ TIM5
- TIM6
- TIM7
- ⚠ TIM8
- TIM9
- TIM10
- TIM11
- TIM12
- TIM13
- TIM14

Connectivity >

TIM1 Mode and Configuration

Mode

Slave Mode

Trigger Source

Clock Source

Channel1

Channel2

Channel3

Channel4

Combined Channels

☐ Activate-Break-Input

☐ Use ETR as Clearing Source

☐ XOR activation

☐ One Pulse Mode

Configuration

Reset Configuration

- ✓ Parameter Settings
- ✓ User Constants
- ✓ NVIC Settings
- ✓ DMA Settings

| NVIC Interrupt Table                                               |  |  |  | Enabled                  | Preemption Priority | Sub Priority |
|--------------------------------------------------------------------|--|--|--|--------------------------|---------------------|--------------|
| TIM1 break interrupt and TIM9 global interrupt                     |  |  |  | <input type="checkbox"/> | 0                   | 0            |
| TIM1 update interrupt and TIM10 global interrupt                   |  |  |  | <input type="checkbox"/> | 0                   | 0            |
| TIM1 trigger and commutation interrupts and TIM11 global interrupt |  |  |  | <input type="checkbox"/> | 0                   | 0            |
| TIM1 capture compare interrupt                                     |  |  |  | <input type="checkbox"/> | 0                   | 0            |

ADC1 Mode and Configuration

Mode

☐ IN0

☒ IN1

☐ IN2

☐ IN3

☐ IN4

☐ IN5

☐ IN6

☐ IN7

☐ IN8

☐ IN9

☐ IN10

☐ IN11

☐ IN12

Configuration

Reset Configuration

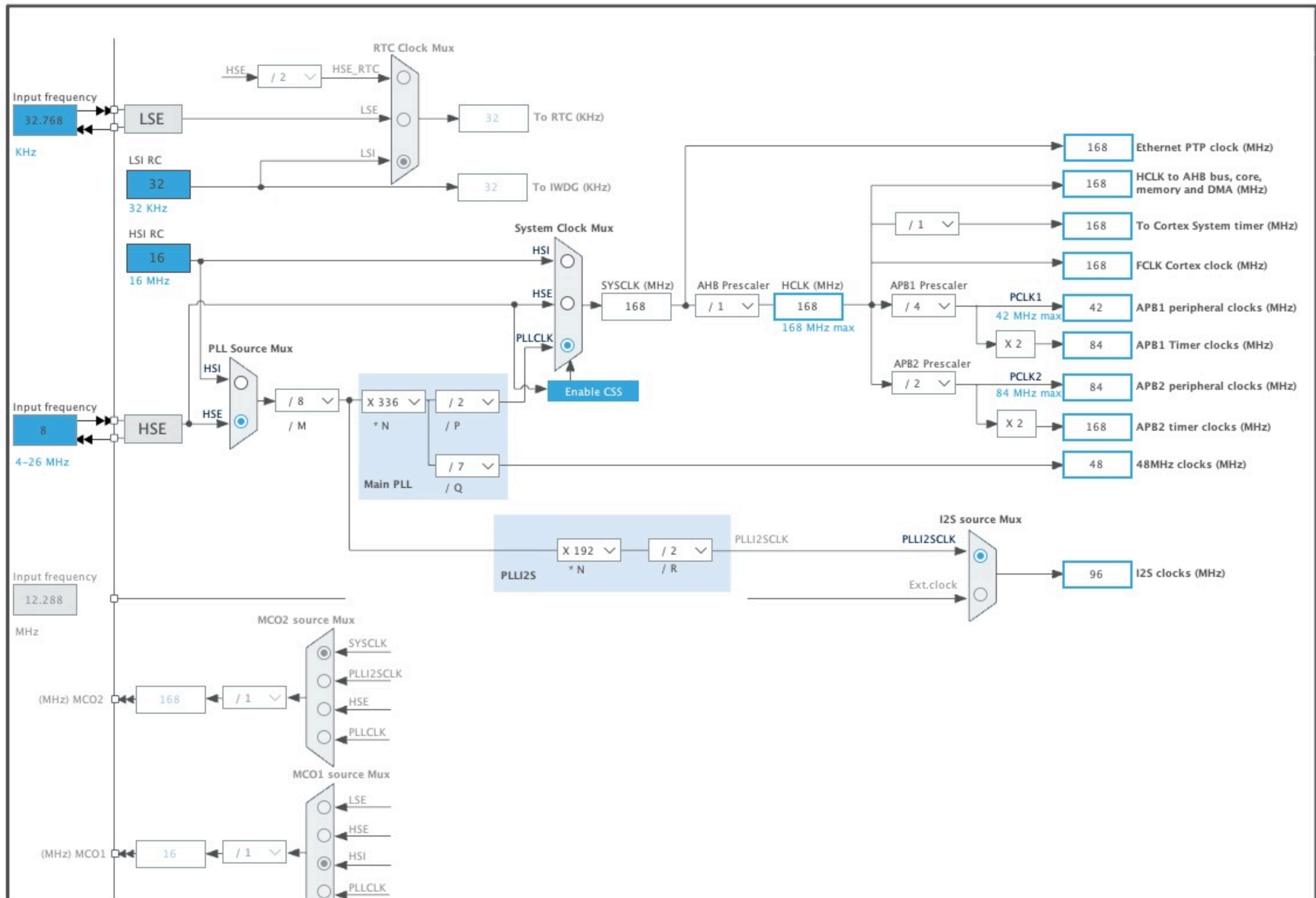
- ☒ Parameter Settings
- ☒ User Constants
- ☒ NVIC Settings
- ☒ DMA Settings
- ☒ GPIO Settings

Search Signals

Search (Ctrl+F)

☐ Show only Modified Pins

| Pin Name | Signal on Pin | GPIO output level | GPIO mode   | GPIO Pull-up/Pull-down      | Maximum... | User Label | Modified                 |
|----------|---------------|-------------------|-------------|-----------------------------|------------|------------|--------------------------|
| PA1      | ADC1_IN1      | n/a               | Analog mode | No pull-up and no pull-down | n/a        |            | <input type="checkbox"/> |



# ADC1 Mode and Configuration

## Mode

☐ IN0

☒ IN1

☐ IN2

☐ IN3

## Configuration

Reset Configuration

☒ Parameter Settings

☒ User Constants

☒ NVIC Settings

☒ DMA Settings

☒ GPIO Settings

Configure the below parameters :



### ADCs\_Common\_Settings

Mode

Independent mode

### ADC\_Settings

Clock Prescaler

PCLK2 divided by 8

Resolution

12 bits (15 ADC Clock cycles)

Data Alignment

Right alignment

Scan Conversion Mode

Disabled

Continuous Conversion Mode

Enabled

Discontinuous Conversion Mode

Disabled

DMA Continuous Requests

Enabled

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

### ADC\_Injected\_ConversionMode

Number Of Conversions

0

### WatchDog

Enable Analog WatchDog Mode

☐



# Configuration

☒ DMA1
 ☒ DMA2
 ☒ MemToMem

| DMA Request | Stream        | Direction            | Priority |
|-------------|---------------|----------------------|----------|
| ADC1        | DMA2 Stream 0 | Peripheral To Memory | Low      |

DMA Request Settings

|          |                          |                   |                          |            |                                     |
|----------|--------------------------|-------------------|--------------------------|------------|-------------------------------------|
|          |                          | Peripheral        |                          | Memory     |                                     |
| Mode     | <div>Circular</div>      | Increment Address | <input type="checkbox"/> |            | <input checked="" type="checkbox"/> |
| Use Fifo | <input type="checkbox"/> | Threshold         | <div></div>              | Data Width | <div>Half Word</div>                |
|          |                          |                   |                          | Burst Size | <div></div>                         |

### ▼ Pinout



三↑

# RCC Mode and Configuration

## Mode

- High Speed Clock (HSE) Crystal/Ceramic Resonator ▼
- Low Speed Clock (LSE) Crystal/Ceramic Resonator ▼
- ☐ Master Clock Output 1
- ☐ Master Clock Output 2
- ☐ Audio Clock Input (I2S\_CKIN)

## Configuration

Reset Configuration

- ✔ Parameter Settings ✔ User Constants ✔ NVIC Settings ✔ GPIO Settings

Configure the below parameters :

Search (Ctrl+F)

System Parameters

VDD voltage (V)

3.3 V

Instruction Cache

Enabled

Prefetch Buffer

Enabled

Data Cache

Enabled

Flash Latency(WS)

5 WS (6 CPU cycle)

RCC Parameters

HSI Calibration Value

16

HSE Startup Timeout Value (ms)

100

LSE Startup Timeout Value (ms)

5000

Power Parameters

Power Regulator Voltage Scale

Power Regulator Voltage Scale 1

RCC Mode and Configuration

Mode

High Speed Clock (HSE) Crystal/Ceramic Resonator

Low Speed Clock (LSE) Crystal/Ceramic Resonator

- ☐ Master Clock Output 1
- ☐ Master Clock Output 2
- ☐ Audio Clock Input (I2S\_CKIN)

Configuration

Reset Configuration

- ✔ Parameter Settings
- ✔ User Constants
- ✔ NVIC Settings
- ✔ GPIO Settings

| NVIC Interrupt Table | Enabled                  | Preemption Priority | Sub Priority |
|----------------------|--------------------------|---------------------|--------------|
| RCC global interrupt | <input type="checkbox"/> | 0                   | 0            |



Debug Serial Wire



☐ System Wake-Up

Timebase Source SysTick



## Configuration

 **Warning:** This peripheral has no parameters to be configured.

# ADC1 Mode and Configuration

## Mode

☐ IN0

☒ IN1

☐ IN2

## Configuration

Reset Configuration

☒ Parameter Settings

☒ User Constants

☒ NVIC Settings

☒ DMA Settings

☒ GPIO Settings

Configure the below parameters :



### ADCs\_Common\_Settings

Mode

Independent mode

### ADC\_Settings

Clock Prescaler

PCLK2 divided by 8

Resolution

12 bits (15 ADC Clock cycles)

Data Alignment

Right alignment

Scan Conversion Mode

Disabled

Continuous Conversion Mode

Enabled

Discontinuous Conversion Mode

Disabled

DMA Continuous Requests

Enabled

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 1

Sampling Time

3 Cycles

### ADC\_Injected\_ConversionMode

Number Of Conversions

0

### WatchDog

Enable Analog WatchDog Mode

☐

## TIM1 Mode and Configuration

## Mode

|                |                |   |
|----------------|----------------|---|
| Slave Mode     | Disable        | ▼ |
| Trigger Source | Disable        | ▼ |
| Clock Source   | Internal Clock | ▼ |
| Channel1       | Disable        | ▼ |
| Channel2       | Disable        | ▼ |
| Channel3       | Disable        | ▼ |

## Configuration

Reset Configuration

✓ NVIC Settings

✓ DMA Settings

✓ Parameter Settings

✓ User Constants

Configure the below parameters :

Search (Ctrl+F)



## Counter Settings

Prescaler (PSC - 16 bits... 0

Counter Mode Up

Counter Period (AutoRe... 65535

Internal Clock Division... No Division

Repetition Counter (RC... 0

auto-reload preload Disable

## Trigger Output (TRGO) Parame...

Master/Slave Mode (MS... Enable (Trigger delayed for mast...

Trigger Event Selection Enable (CNT\_EN)

ADC1 Mode and Configuration

Mode

☐ IN0

☒ IN1

☐ IN2

Configuration

Reset Configuration

- ☒ Parameter Settings
- ☒ User Constants
- ☒ NVIC Settings
- ☒ DMA Settings
- ☒ GPIO Settings

Search Signals

*Search (Ctrl+F)*

☐ Show only Modified Pins

| Pin Name | Signal on Pin | GPIO output... | GPIO mode   | GPIO Pull-u... | Maximum o... | User Label | Modified                 |
|----------|---------------|----------------|-------------|----------------|--------------|------------|--------------------------|
| PA1      | ADC1_IN1      | n/a            | Analog mode | No pull-up ... | n/a          |            | <input type="checkbox"/> |

PA1 Configuration :

GPIO mode

Analog mode

GPIO Pull-up/Pull-down

No pull-up and no pull-down

User Label