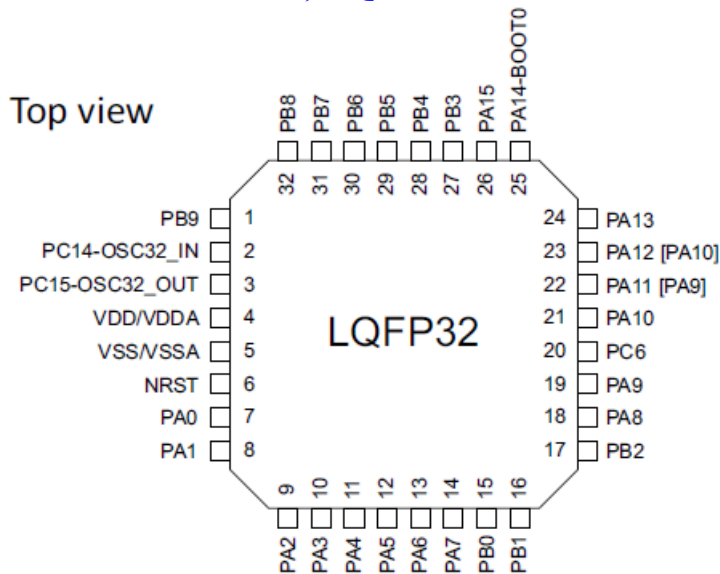


Součástky, procesory, vývody; pomocný dokument pro výuku B3B38LPE1 ČVUT – FEL  
pracovní verze 14.4.2024

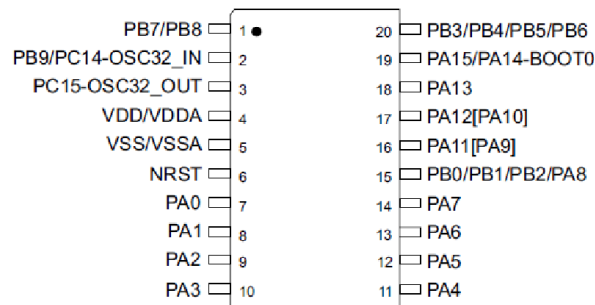
## STM32G030K8T6, LQFP32



č. 25 **PA14**, BOOT0; (USART2\_TX); č. 26 PA15, USART2-Rx;  
č.9 USART2\_Tx; č.10 USART2\_Rx;  
**č.19 USART1\_TX, č. 21 USART1\_Rx**

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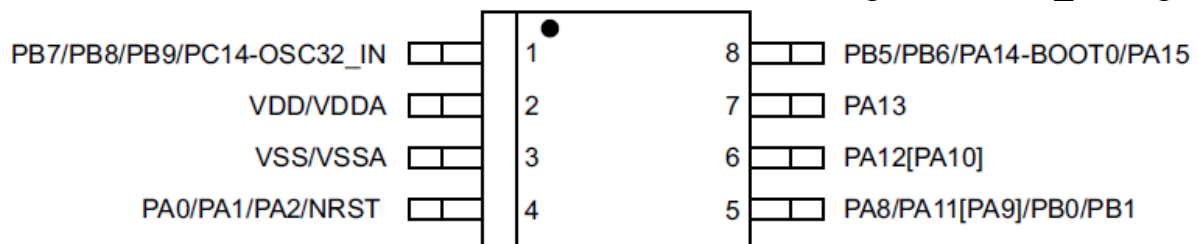
## STM32G030J6 TSSOP20



č. **20** PB6 USART1\_Tx; **č.1.** PB7 USART1\_Tx  
č. **16** PA11 **PA9\_Remap** USART1\_Tx,; **č.17** PA12, **PA10 Remap** USART1\_Rx

XXXXXXXXXXXXXXXXXXXXX

## STM32G030J6M6 SO8, BOOT USART č.5, PA9 Remap, č.6 PA10\_Remap



č. **5** PA11 , **PA9\_Remap** **USART1\_Tx** ; č. **6** PA12, **PA10 Remap** **USART1\_Rx**  
*Oscilloskop pro G030 používá : Ch1- PA13, Ch2 PB7, Ch3 PA0, PWM PB6,*  
UART Remapovaný; **č. 5** PA9 Remap USART1\_Tx; **č. 6** PA10 USART1\_Rx

**STM32G431KBT6**,  $V_{SS}= 16; 32$ ,  $V_{SSA}= 14$ ,  
 $VDD= 1; 17$ ,  $VDDA= 15$ , č. 21 **USB DM-**, č. 22, **USB DP +**,

č.7 **USART2\_Tx**, **PA2**, *pozor na LPUART*,

č.8 **USART2\_RX**, **PA3**, *pozor na LPUART*,

č.7 **LPUART1\_TX**, **PA2**, 9600 Bd z 32768 Hz LSE

č.8 **LPUART1\_RX**, **PA3**, 9600 Bd z 32768 Hz LSE

č.19 **USART1 Tx**, **PA9**; č. 19 **I2C2SDA**

č. 20 **USART1 Rx**, **PA10**, **SPI2\_MISO**,

č.21 **PA11** **SPI2\_MOSI**,

č.24 **USART2\_TX**, **PA14**, č. 24 **I2C2\_SDA**,

č.25 **USART2 RX**, **PA15**. č. 25 **I2C1\_SCL**

č.26 **USART2\_TX**, **PB3**; č. 26 **SPI1\_SCK**, **SPI3\_SCK**

č.27 **USART2\_RX**, **PB4**, č.27 **SPI1\_MISO**, **SPI3\_MISO**

č.28 **SPI1\_MOSI**, **SPI3\_MOSI**

č.29 **USART1\_TX**, **PB6**,

č.30 **USART1\_RX**, **PB7**,

č.31 **USART3\_RX**, **PB8-BOOT**,

č.32 **USART1\_RX** **PE1**,

č.2 **OSC-IN**, **PF0**, ; č. 2 **I2C2\_SDA**

č.3 **OSC\_OUT**, **PF1**, č.3 **SPI2\_SCK**

č.4 **NRST**, **MCO**, PG10-NRST

č.10 **SPI1\_SCK**, PA5

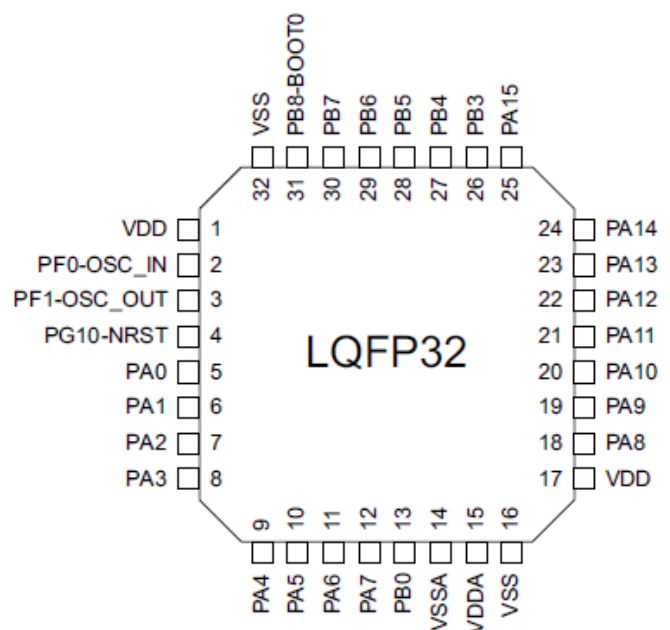
č.11 **SPI1\_MISO** PA6

č.12 **SPI1\_MOSI** PA7

č.18 **I2C2\_SDA**

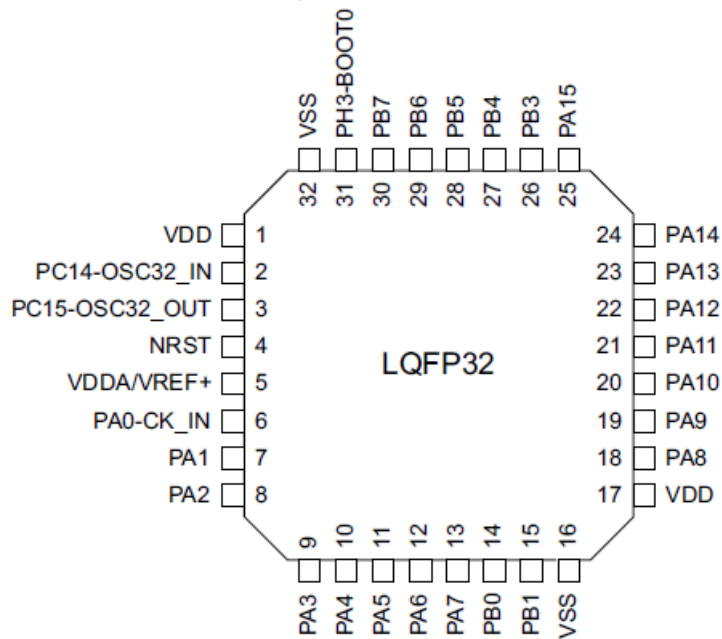
č.23 **I2C1\_SCL**

Bootuje z USART1 (USAT2), pokud  
je odpojeno USB



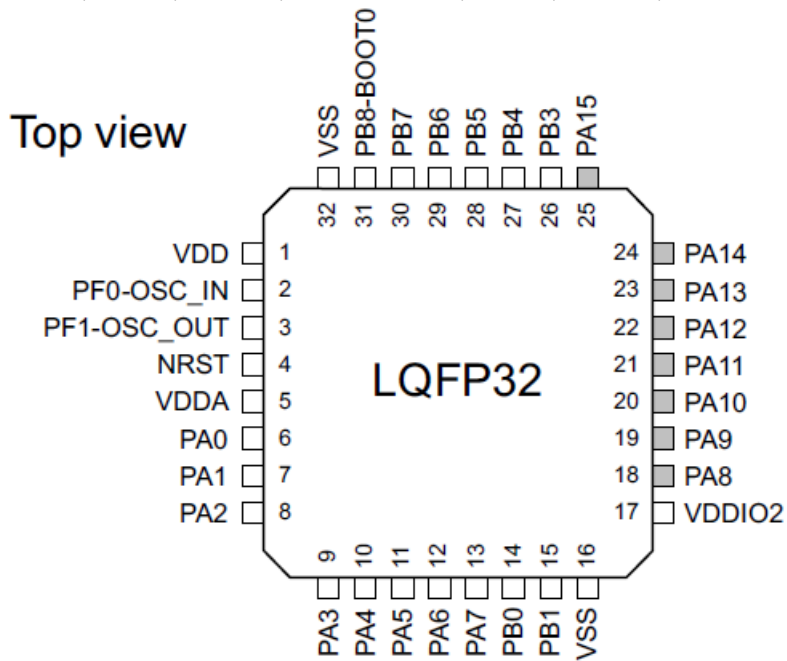
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### STM32L412KBT6,



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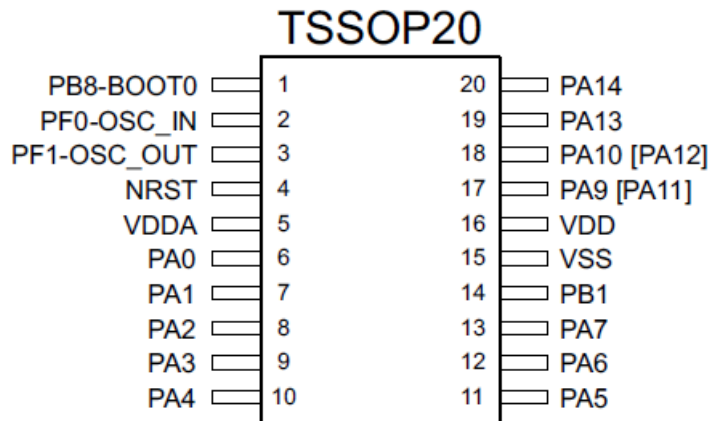
### STM32F042KB, č. 22, PA12, USB DP +, č. 21, PA10, USB DM, -



■ I/O supplied from VDDIO2

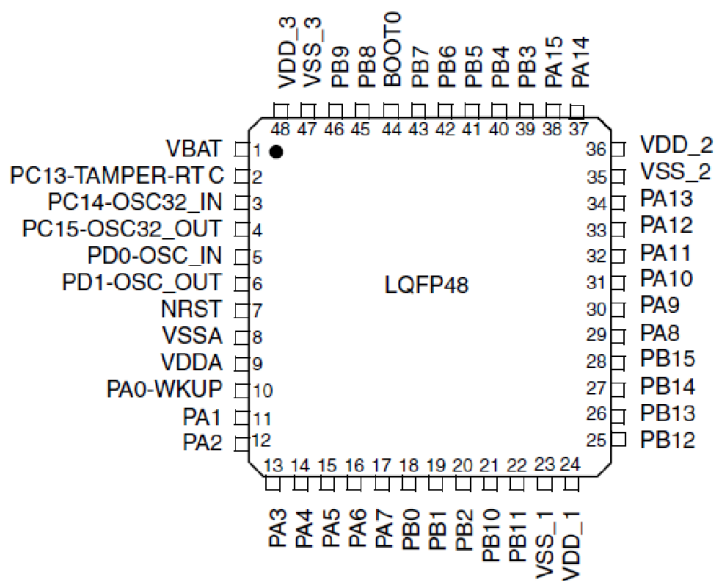
XXXXXXXXXXXXXXXXXXXX

**STM32F042F6P6**, č. 18 , PA12 - USB DP + USB, č. 17 PA11, USB DM - USB;  
č.1 BOOT0;



XXXXXXXXXXXXXXXXXXXX

**STM32F103CB 48 pin**, č. 33, PA12, USB DP+, č.32, PA11, USBDM-, BOOT  
USART1, pin č. 31, PA10 USART1 Rx; PA9 USART1 Tx, pin č. 30

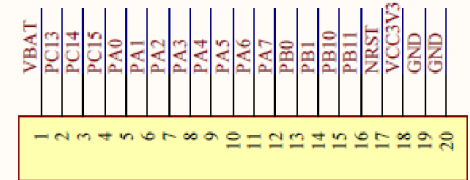
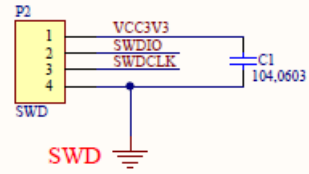
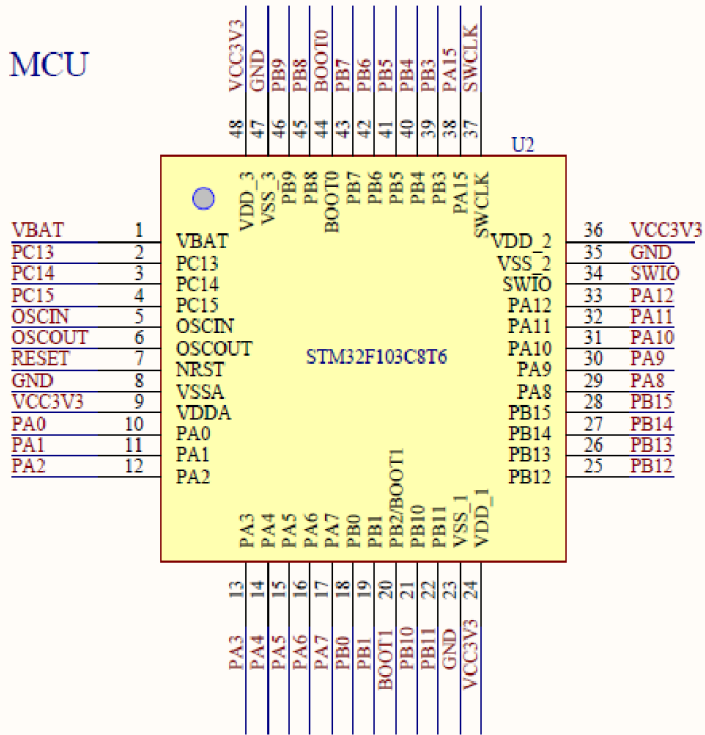


Blue Pill PC13

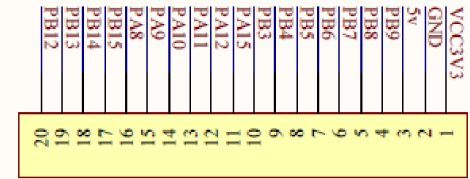
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# Blue PILL STM32F103C8

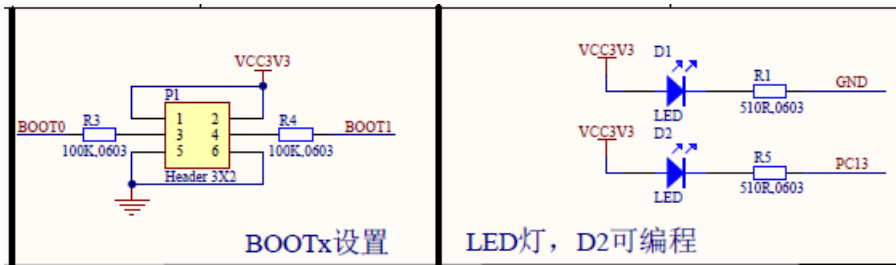
MCU



P3 Header 20



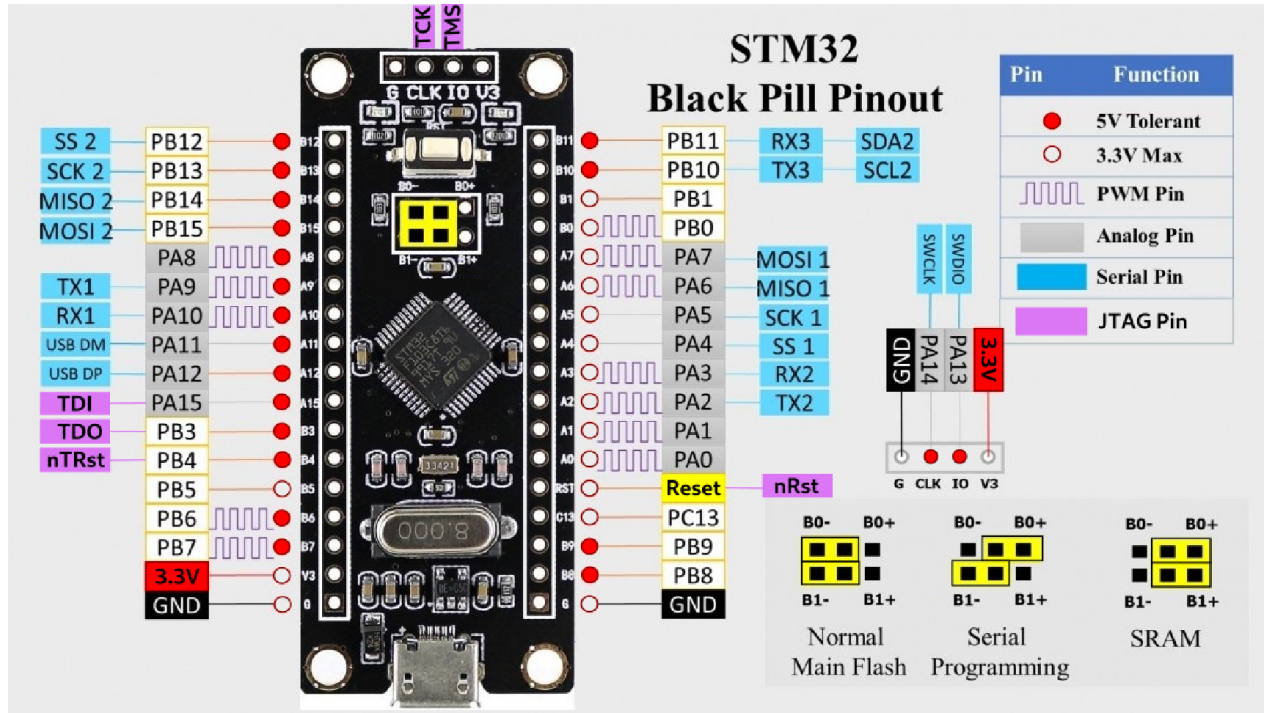
P4 Header 20



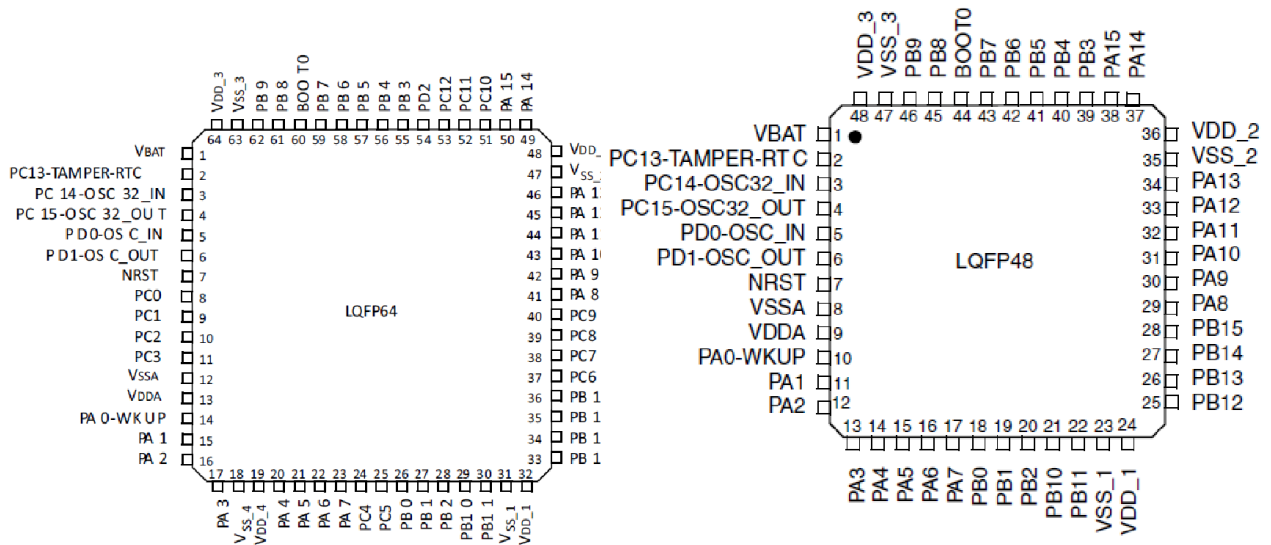
BOOTx设置

LED灯, D2可编程

# Black PILL STM32F103C8



**STM32F103RB 64 pin, č. 45, PA12, USB DP +, č.44, PA11, USB DM-,**



LQFP48: č.7 NRST; **č. 44 BOOT0**; č. 20 BOOT1/PB2  
**č.30 USART1\_Tx**; **č.31 USART1\_Rx –Boot** u STM32F103C8  
 č. 12 USART2 Tx; č.13 USART2\_Rx;  
 XXXXXXXXXXXXXXXXXXXXXXX

**Table 9. Boot modes**

Boot mode selection pins		Boot mode	Aliasing
BOOT1	BOOT0		
x	0	Main Flash memory	Main Flash memory is selected as boot space
0	1	System memory	System memory is selected as boot space
1	1	Embedded SRAM	Embedded SRAM is selected as boot space

**Boot modes**

At startup, boot pins are used to select one of three boot options:

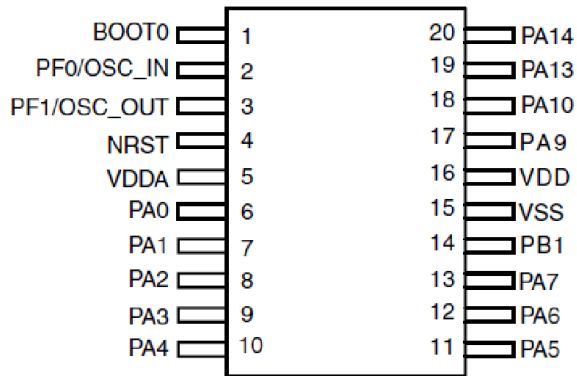
- Boot from User Flash
- Boot from System Memory
- Boot from embedded SRAM

The boot loader is located in System Memory. It is used to reprogram the Flash memory by using USART1. For further details please refer to AN2606.

**BOOT STM32F103 – USART 1 výše**

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## STM32F030 (= STM32F031), USART1 BOOT



12	8	8	8	PA2	I/O	TTa	TIM2_CH3, USART1_TX <sup>(3)</sup>	ADC_IN2
13	9	9	9	PA3	I/O	TTa	TIM2_CH4, USART1_RX <sup>(3)</sup>	ADC_IN3

Piny č. 8 a č 9.

30	19	19	17	PA9	I/O	FTf	USART1_TX, TIM1_CH2, I2C1_SCL <sup>(3)</sup>	
31	20	20	18	PA10	I/O	FTf	USART1_RX, TIM1_CH3, TIM17_BKIN, I2C1_SDA <sup>(3)</sup>	

Piny č. 17, 18 USART1 TSSOP20,

## STM32F031

### Boot modes

At startup, the boot pin and boot selector option bit are used to select one of the three boot options:

- Boot from User Flash memory
- Boot from System Memory
- Boot from embedded SRAM

The boot loader is located in System Memory. It is used to reprogram the Flash memory by using USART on pins PA14/PA15 or PA9/PA10.

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