- UART Download Boot

In SPI Boot mode, the ROM bootloader loads and executes the program from SPI flash to boot the system.

In Joint Download Boot mode, users can download binary files into flash using UART0 or USB interface. It is also possible to download binary files into SRAM and execute it from SRAM.

In addition to SPI Boot and Joint Download Boot modes, ESP32-C3 also supports SPI Download Boot mode. For details, please see *ESP32-C3 Technical Reference Manual* > Chapter *Chip Boot Control*.

3.2 ROM Messages Printing Control

During the boot process, the messages by the ROM code can be printed to:

- **(Default) UART0 and USB Serial/JTAG controller**

- UART0
- USB Serial/JTAG controller

EFUSE_UART_PRINT_CONTROL and GPIO8 control ROM messages printing to **UART0** as shown in Table 3-4 *UART0 ROM Message Printing Control*.

Table 3-4. UART0 ROM Message Printing Control

UART0 ROM Code Printing	EFUSE_UART_PRINT_CONTROL	GPIO8
Enabled	**0**	Ignored
	1	0
	2	1
Disabled	1	1
	2	0
	3	Ignored

[1] **Bold** marks the default value and configuration.

EFUSE_USB_PRINT_CHANNEL controls the printing to **USB Serial/JTAG controller** as shown in Table 3-5 *USB*