



CRC device tree configuration



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Stable: 13.05.2020 - 08:24 / Revision: 13.05.2020 - 08:20

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1 Article purpose

The purpose of this article is to explain how to configure the *CRC*^[1] when the peripheral is assigned to Linux®OS.

The configuration is performed using the **device tree mechanism**^[2].

The *Device tree* provides a hardware description of the *CRC*^[1], used by *STM32 CRC Linux driver*.

If the peripheral is assigned to another execution context, refer to *How to assign an internal peripheral to a runtime context* article for guidelines on peripheral assignment and configuration.

2 DT bindings documentation

The *CRC*^[1] is represented by the *STM32 CRC device tree bindings*^[3]

3 DT configuration

This hardware description is a combination of STM32 microprocessor and board device tree files. See *Device tree* for explanations on device tree file split.

The **STM32CubeMX** can be used to generate the board device tree. Refer to *#How_to_configure_the_DT_using_STM32CubeMX* for more details.

3.1 DT configuration (STM32 level)

The CRC node is declared in *stm32mp151.dtsi*^[4]. It provides the hardware registers base address and the clock.

```
crc1: crc@58009000 {
    compatible = "st,stm32f7-crc";
    reg = <0x58009000 0x400>;
    clocks = <&rcc CRC1>;
    status = "disabled";
};
```



This device tree part is related to STM32 microprocessors. It should be kept as is, without being modified by the end-user.

3.2 DT configuration (board level)

This part is used to enable the CRC used on a board. This is done by setting the **status** property to **okay**.

3.3 DT configuration examples

```
&crc1 {
    status = "okay";
};
```

4 How to configure the DT using STM32CubeMX

The [STM32CubeMX](#) tool can be used to configure the STM32MPU device and get the corresponding [platform configuration device tree files](#).

The [STM32CubeMX](#) may not support all the properties described in the above [DT bindings documentation](#) paragraph. If so, the tool inserts **user sections** in the generated device tree. These sections can then be edited to add some properties and they are preserved from one generation to another. Refer to [STM32CubeMX user manual](#) for further information.

5 References

Please refer to the following links for additional information:

- [1.01.11.2 CRC internal peripheral](#)
- [Device tree](#)
- [Documentation/devicetree/bindings/crypto/st,stm32-crc.txt](#)
- [STM32MP151 device tree file](#)



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Cyclic redundancy check calculation unit

Operating System

Device Tree