WLAN device tree configuration

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1 Article purpose

The purpose of this article is to explain how to configure the WLAN when the peripheral *(or peripheral associated to the framework)* is assigned to Linux$^{®}$ OS**.**

The configuration is performed using the device tree mechanism that provides a hardware description of the WLAN peripheral connected on SDIO bus.

The purpose of this article is to explain Cypress WLAN/BT companion chip[1]device tree node

2 DT bindings documentation

The *WLAN*[2] **tree bindings are composed by :**

- SDIO link configuration[3]

- WLAN device configuration[4]

3 DT configuration

This hardware description is a combination of the STM32 microprocessor device tree files (.dtsi extension) and board device tree files (.dts extension). See the Device tree for an explanation of the device tree file split.

3.1 DT configuration (STM32 level)

The companion chip uses the SDIO link so the DT is based on the SDMMC peripheral node which is located in *stm32mp157c.dtsi*

- This is a set of properties that may not vary for given STM32 device, such as: registers address, clock, reset.

The SDMMC DT configuration is explained at SDMMC device tree configuration

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

3.2 DT configuration (board level)

Part of the device tree is used to describe the WLAN hardware used on a given board. The DT node (**"sdmmc2"**) must be filled in:

- mmc-pwrseq: phandle to the MMC power sequence node
- keep-power-in-suspend: preserves the card power during a suspend/resume cycle

```
&sdmmc2 {
        ...
        vmmc-supply = <&v3v3>;
        mmc-pwrseq = <&wifi_pwrseq>;               /* phandle to the MMC power sequence n
        ...
        keep-power-in-suspend;                     /* preserves the card power during a s
        brcmf: bcrmf@1 {                           /* node of WLAN companion chip */
            reg = <1>;
            compatible = "brcm,bcm4329-fmac";
        }
    }
}
```

4 References

1. ↑ [1], CYW4343W
2. ↑ WLAN and Bluetooth hardware component
3. ↑ SDMMC device tree configuration
4. ↑ Documentation/devicetree/bindings/net/wireless/brcm,bcm43xx-fmac.txt

Operating System

BlueTooth

Device Tree

MultimediaCard