

H1 hcRTOS 裕太phy驱动使用说明

H2 概述

hcRTOS 使用裕太MAC PHY驱动说明.

H2 DTS 修改

需要在DTS中添加以下节点信息

需要注意的是, 这里常用T13 GPIO 来作为连接到PHY RESET, 而T13 GPIO 需要配置寄存器 0xb88000094 BIT19 来配置对应的starp pin, 具体如下所示

```
1  eth0 {
2      compatible = "hichip,toe";
3      device_type = "network";
4      model = "HiChip TOE";
5      reg = <0x18828000 0x2000 0x18800000 0x4>;
6      interrupts = <14>;
7      rx-csum-enable = <0>;
8      tx-csum-enable = <0>;
9      phy-mode = "rmii";
10     phy-reversemii = <0>;
11     phy-handle = <&phy1>;
12
13     phy-reset-gpios = <PINPAD_T13 0>;
14     reg_bit = <0xb8800094 19 1>;      # 如果是使用T13 GPIO作为连接到PHY
reset, 这里需要调整对应的starp pin配置
15     pinmux-active = <PINPAD_R00 6 PINPAD_R01 6 PINPAD_R02 6 PINPAD_R03
6 PINPAD_R04 6 PINPAD_R07 6 PINPAD_R08 6 PINPAD_R09 6 PINPAD_R10 6>;
16     status = "okay";
17     mdio {
18         #address-cells = <1>;
19         #size-cells = <0>;
20         status = "okay";
21         phy1: ethernet-phy@1 {
22             reg = <1>;
23             device_type = "ethernet-phy";
24         };
25     };
26 }
```

H2 menuconfig 配置

需要配置以下两个宏开关

- CONFIG_NET
- BR2_PACKAGE_PREBUILTS_TOE2

选择配置裕太PHY驱动的 menuconfig 位置

```
| There is no help available for this option.  
| Symbol: BR2_PACKAGE_PREBUILTS_TOE [=y]  
| Type : bool  
| Prompt: mac support for general  
| Location:  
|   -> Components  
|     -> prebuilts (BR2_PACKAGE_PREBUILTS [=y])  
|       -> MAC PHY select ( [=y])
```

目前 **prebuilts** 目录下有两个 PHY 的驱动,

- libtoe.a : 这是通用的PHY 驱动, 对应的menuconfig 宏为 BR2_PACKAGE_PREBUILTS_TOE
- libtoe2_yt.a: 这是专门用于裕太系列的PHY驱动, 对应的menu从fig 宏为
BR2_PACKAGE_PREBUILTS_TOE2

由此可见, 这里只能二选一, 因此这里需要配置 BR2_PACKAGE_PREBUILTS_TOE2

H2 编译

完成以上配置, 输入以下指令编译并烧录即可

```
1 make kernel-rebuild cmds-rebuild all
```

H2 板端上电使用

板端接上网线, 上电后输入以下命令使能

```
1 net
2 ifconfig eth0 up
3 dhclient eth0
4 ifconfig
5 quit
6 net ping baidu.com
```