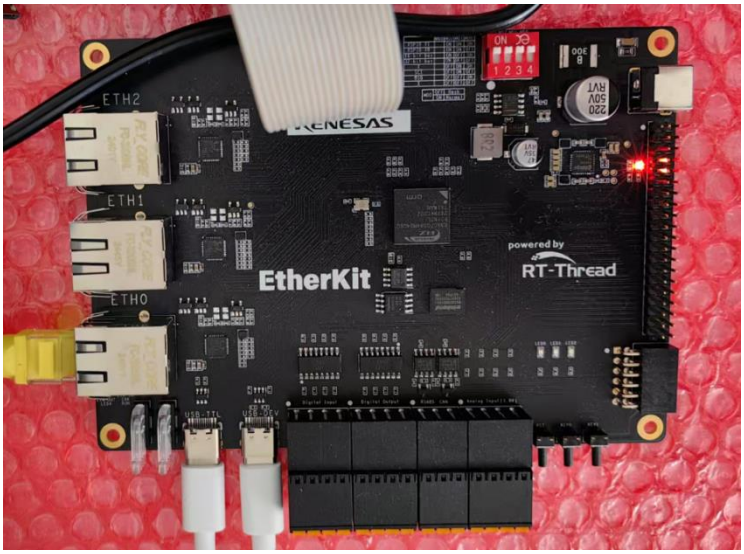
RZN2L ADC 例程操作手册-----基于 Etherkit 开发板

简介

本应用笔记介绍了基于 RZ/N2 Etherkit 开发板的 ADC 例程操作。分别介绍 IDE IAR 和 E2studio 软件下的操作。

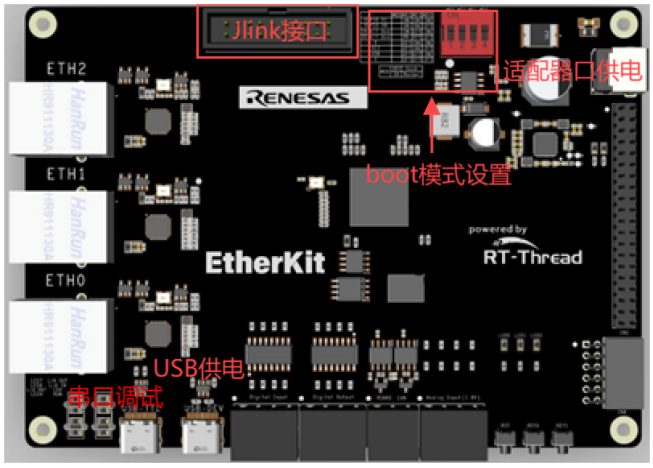
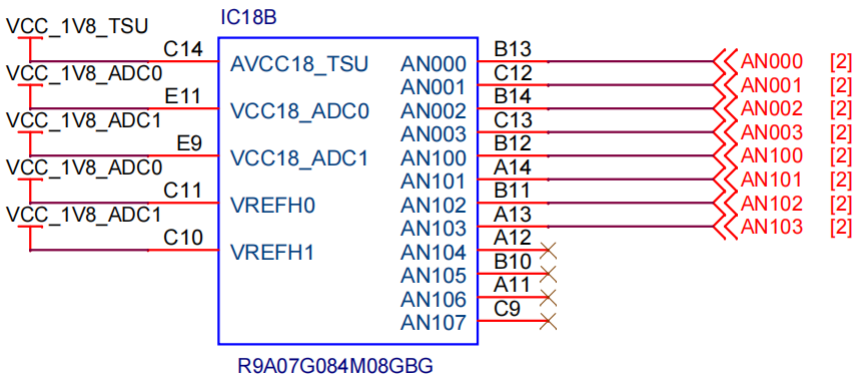


开发工具	实验材料
• IDE: IAR EW for Arm 9.50.2 E2studio 2024-01.1 • FSP：RZ/N2 FSP V2.0 • 仿真器： Jlink V12	• Etherkit 开发板 • Jlink 仿真器，需支持瑞萨 R52 内核

实验部分

1 .硬件设置及软件安装

本节 EtherKit 开发板硬件设置。

1.1	开发板设置： ● 供电：可选 USB 供电或适配器供电 ● Boot 模式设置：推荐 xSPI0 x1 boot mode ● Jlink v12 ● USB 线一根接串口调试 
1.2	硬件原理图：  如上图 EtherKit 上留有 Analog Input 8 通道接口分别连接到单片机的 adc0、adc1 的通道 0、1、2、3；（注意，Analog Input 的耐压范围为 0~1.8v）；

本节完

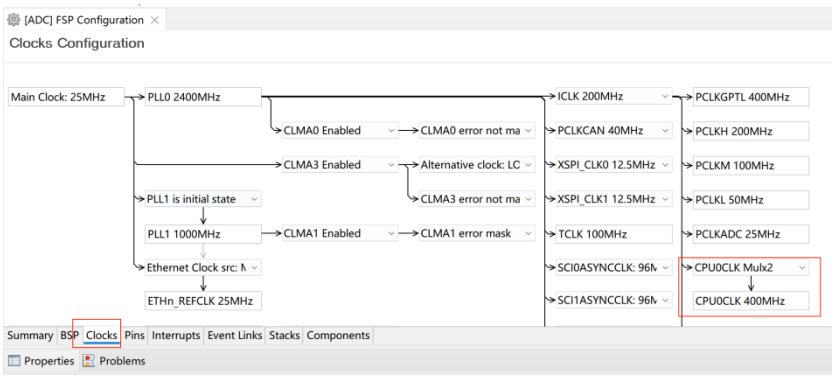
2 .IAR 环境工程介绍

本节介绍 IAR 环境下 ADC 工程。

2.1

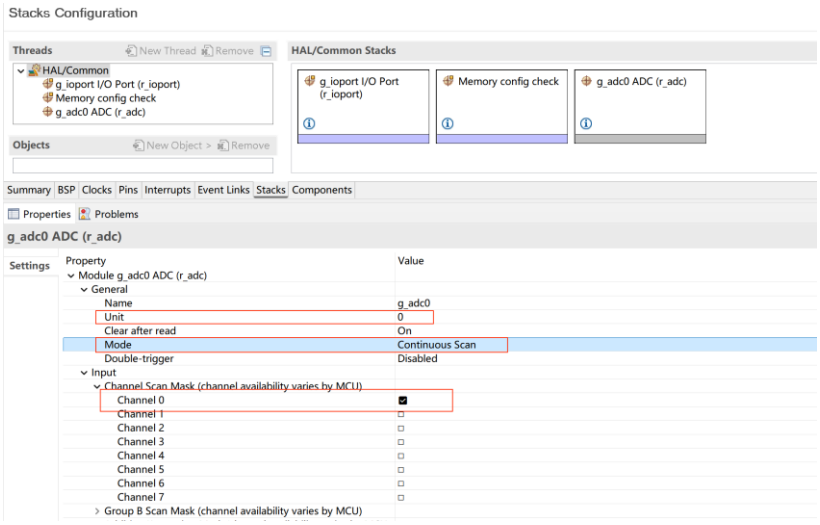
- 打开 FSP 新建工程：**ADC**

1. 主时钟设置 400MHZ

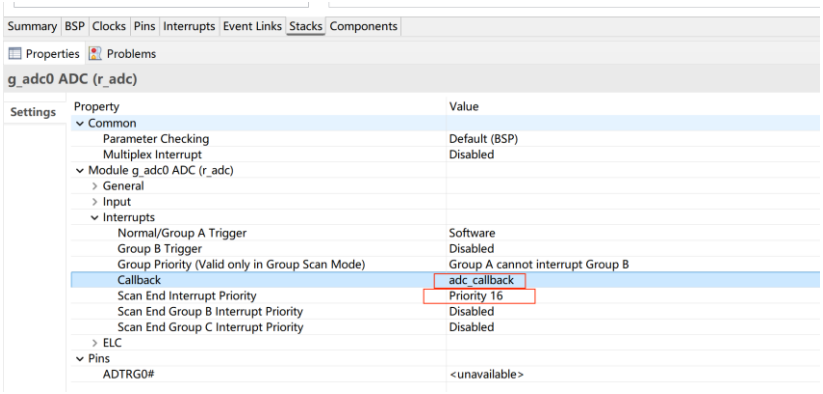


2. 新建 r_adc Stack

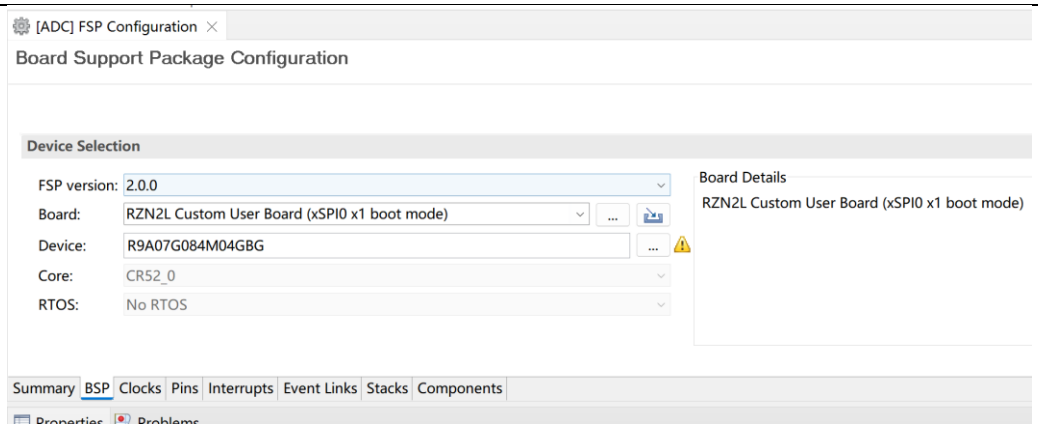
➢ 配置 Unit0 通道 0 continues scan mode



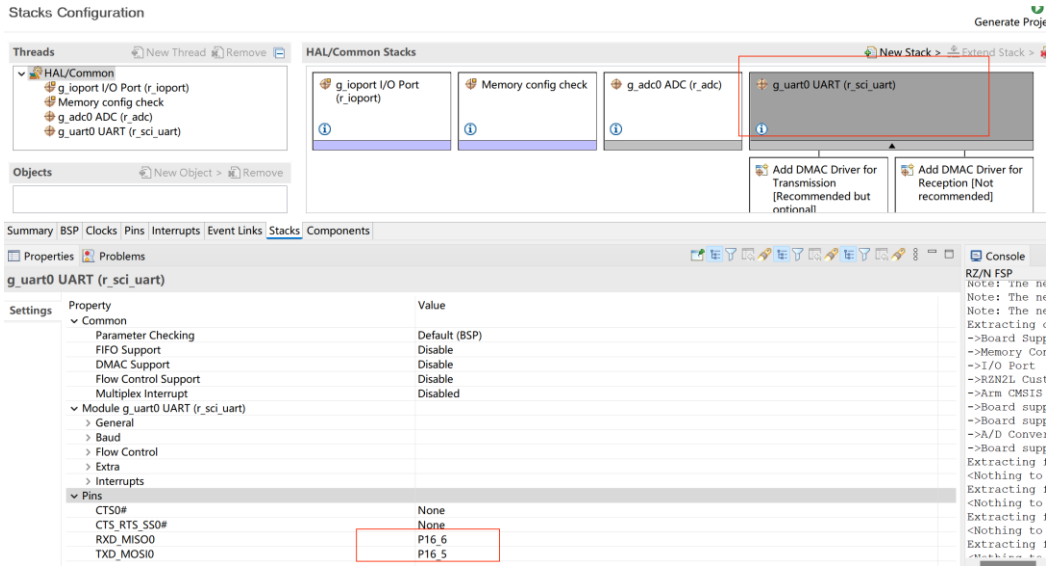
➢ 开中断，设置回调函数 adc_callback



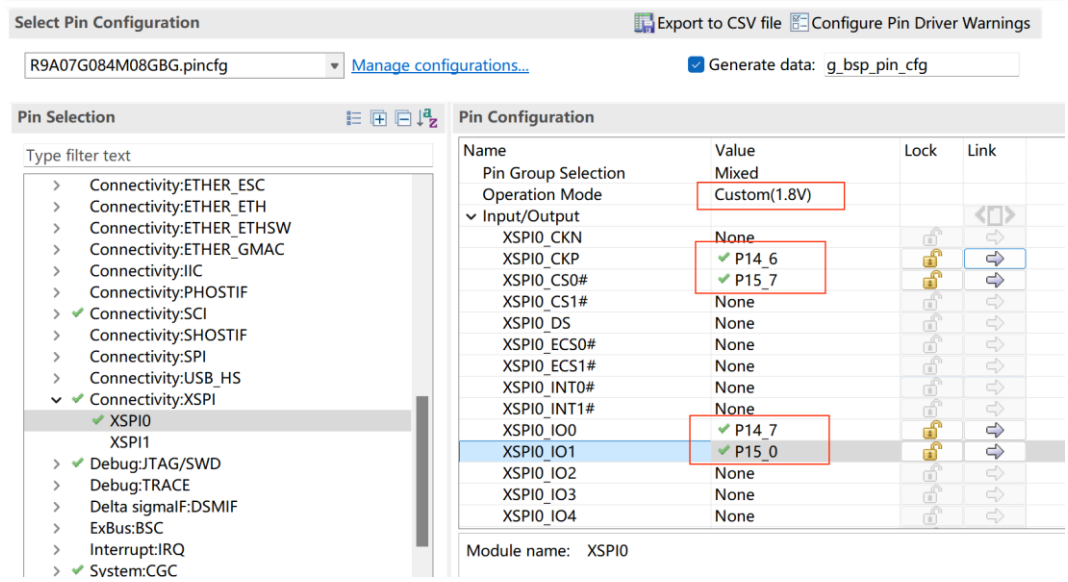
➢ 选择 RZN2L Customer User Board（xSPI0 X1 boot mode）



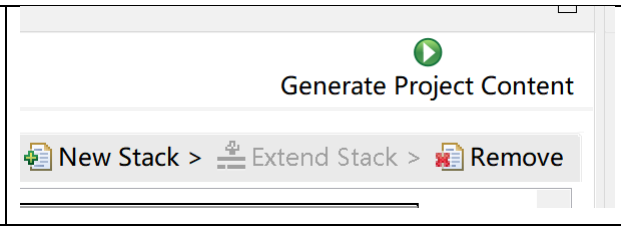
➢ 设置串口 0，用于 log 输出



➢ 配置 XSPI0

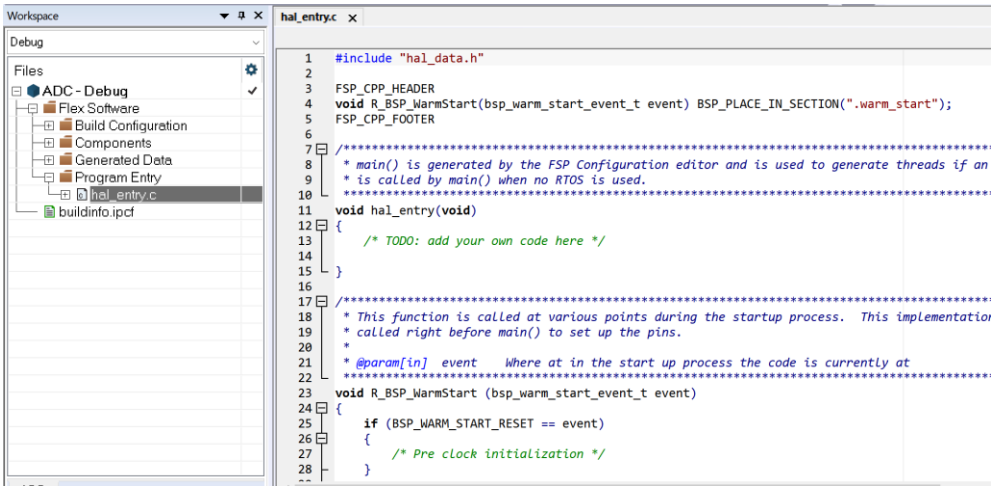


➢ 点击：Generate Project Content 生成代码

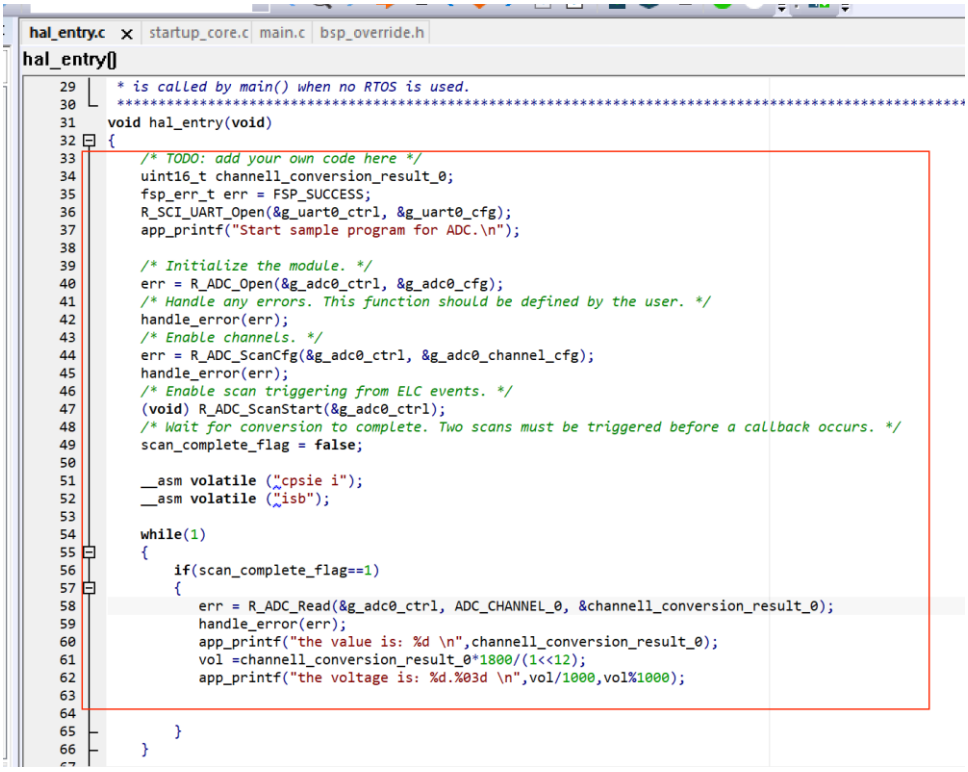

Generate Project Content
New Stack >
Extend Stack >
Remove

2.2

- 打开生成的代码



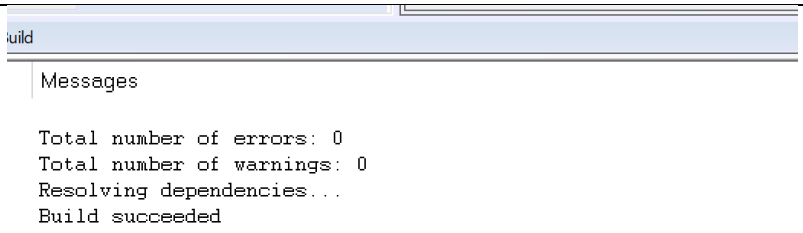
- 仿真器由 Ijet 切换为 Jlink
- 编写用户代码



- 回调函数编写

```
void adc_callback(adc_callback_args_t * p_args)
{
    scan_complete_flag = true;
}
```

- Rebuild All---编译工程 无报错



2.3

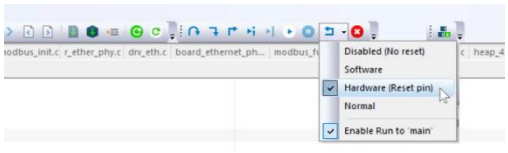
- Download and Debug ---下载程序

1. USB 串口调试接电脑

2. Jlink 正确连接，板子上电

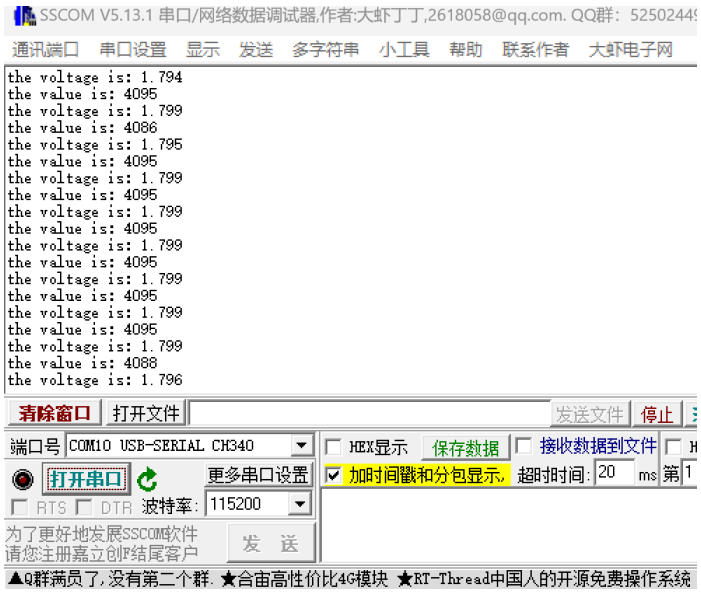
3. 下载工程到开发板，进入仿真界面

4. Debug 复位设置为 Hardware



5. 打开串口助手，观察 log

6. 全速运行代码，可以看到采样值和电压值



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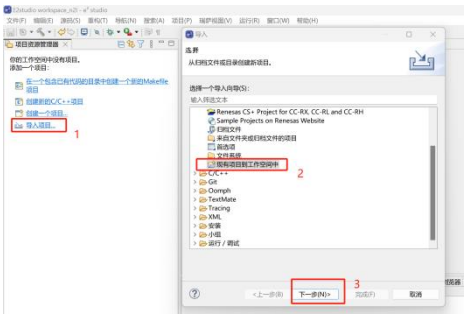
3 .E2studio 环境工程介绍

本节介绍使用 E2studio 环境 RTC 工程。

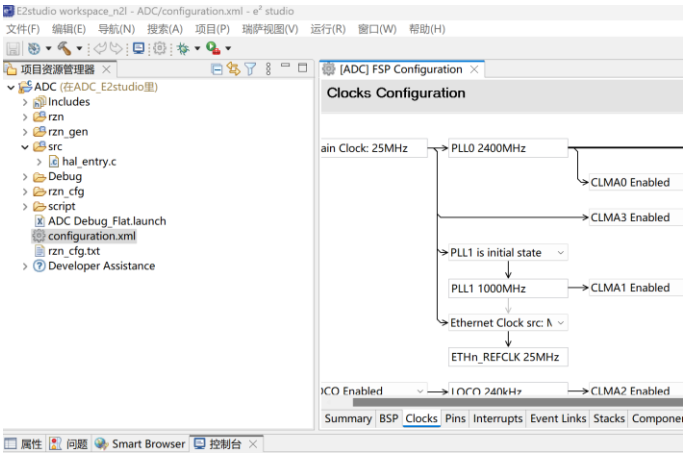
3.1

- 打开 E2studio，导入工程

1. 选择 文件--导入--下一步：

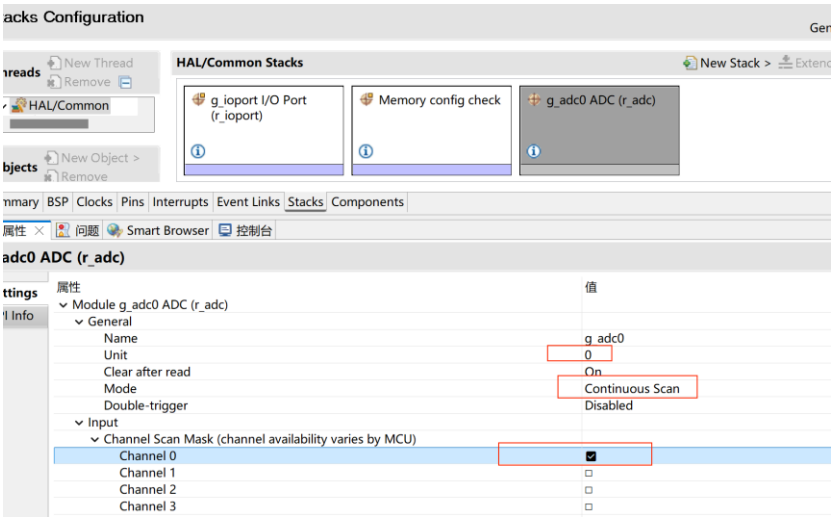


2. 浏览--指定到工程文件夹---完成--打开工程



3.2 新建 r_adc Stack

➢ 配置 Unit0 通道 0 continues scan mode



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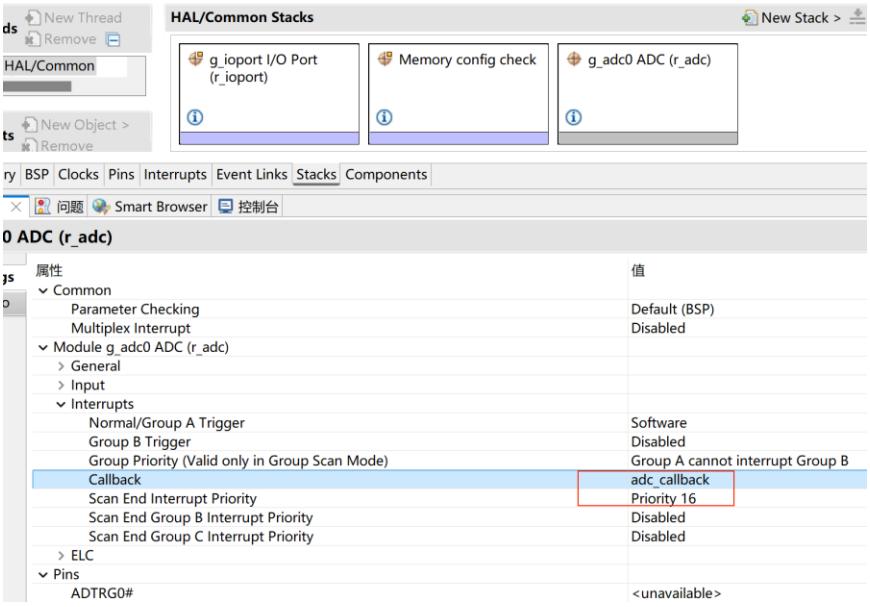
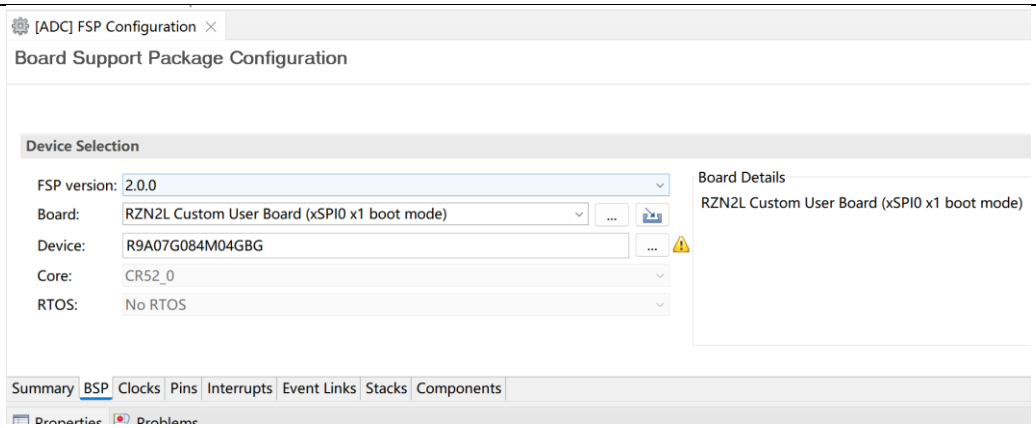
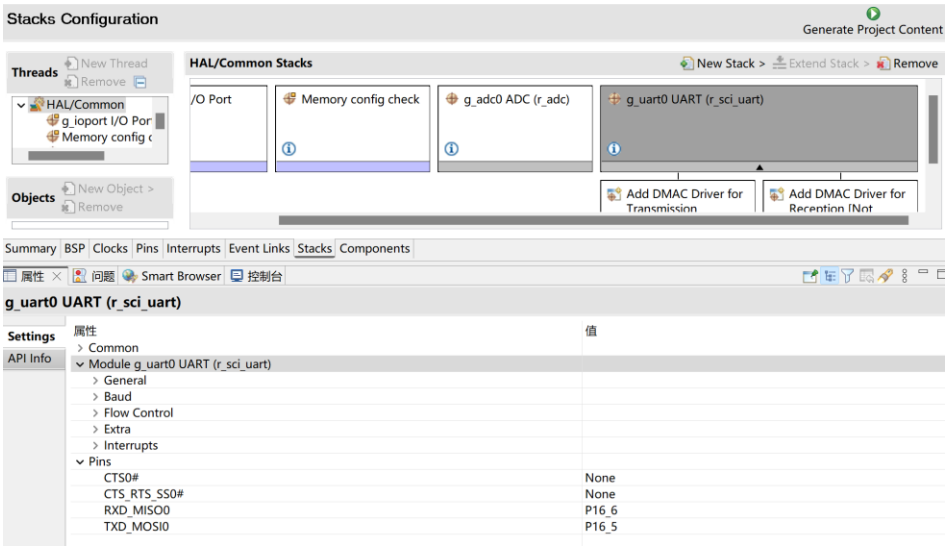


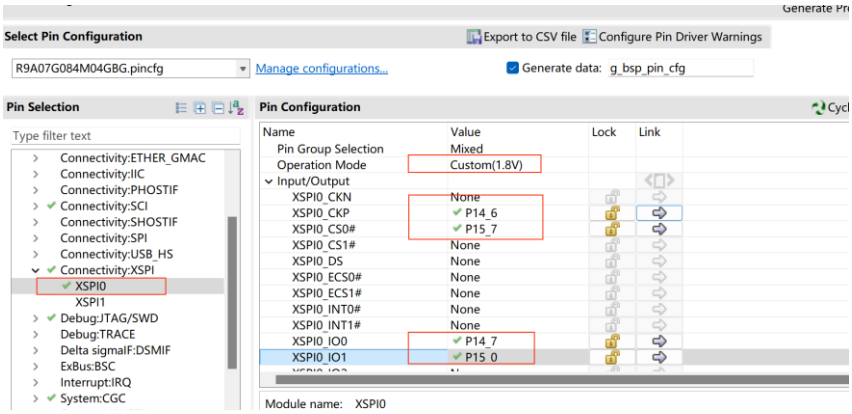
➢ 选择 RZN2L Customer User Board（xSPI0 X1 boot mode）



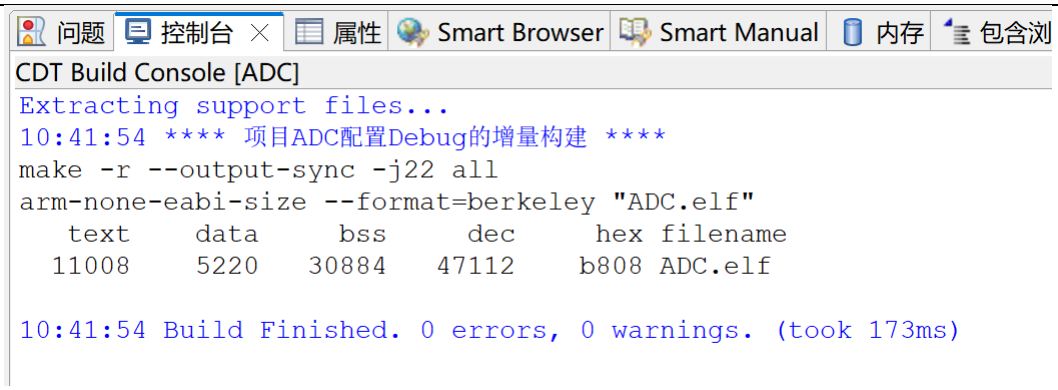
➢ 设置串口 0，用于 log 输出



➢ 配置 XSPI0



➢ 编译工程，无报错



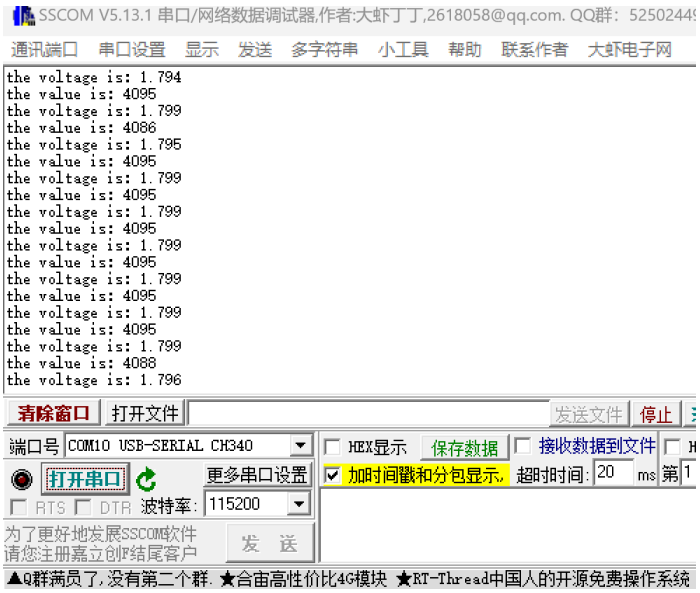
3.3

- 下载代码到开发板

E2studio 在线仿真下载，全速运行

3.4

- 全速运行代码，可以看到采样值和电压值



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