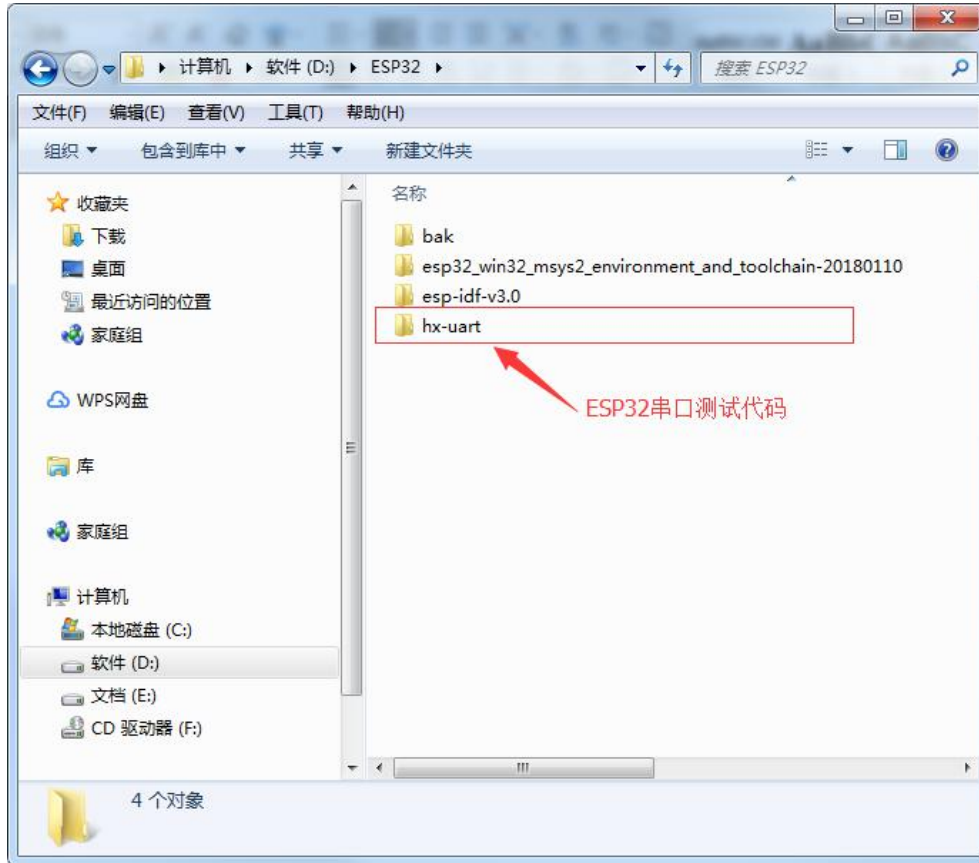


第一章 编译红旭等 ESP32 源码

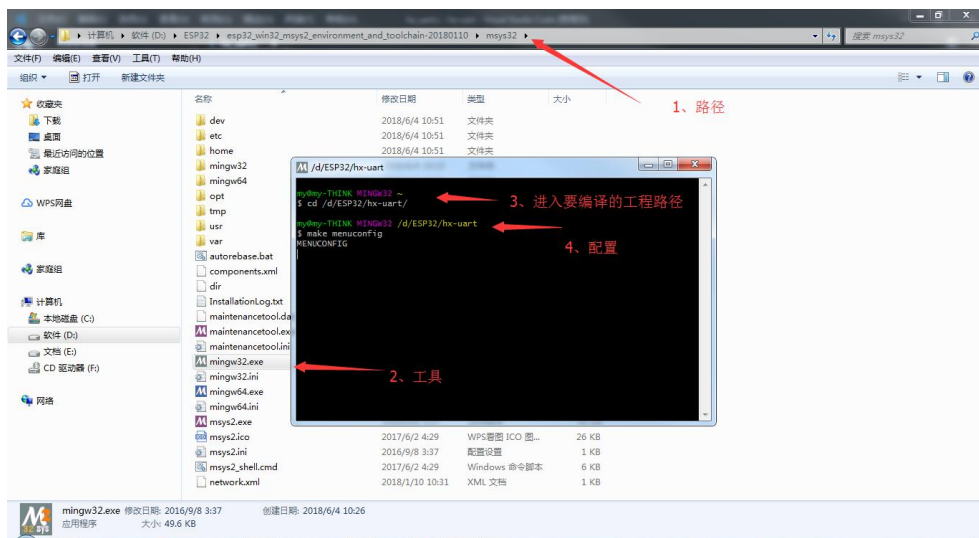
1. 下载串口测试代码到电脑

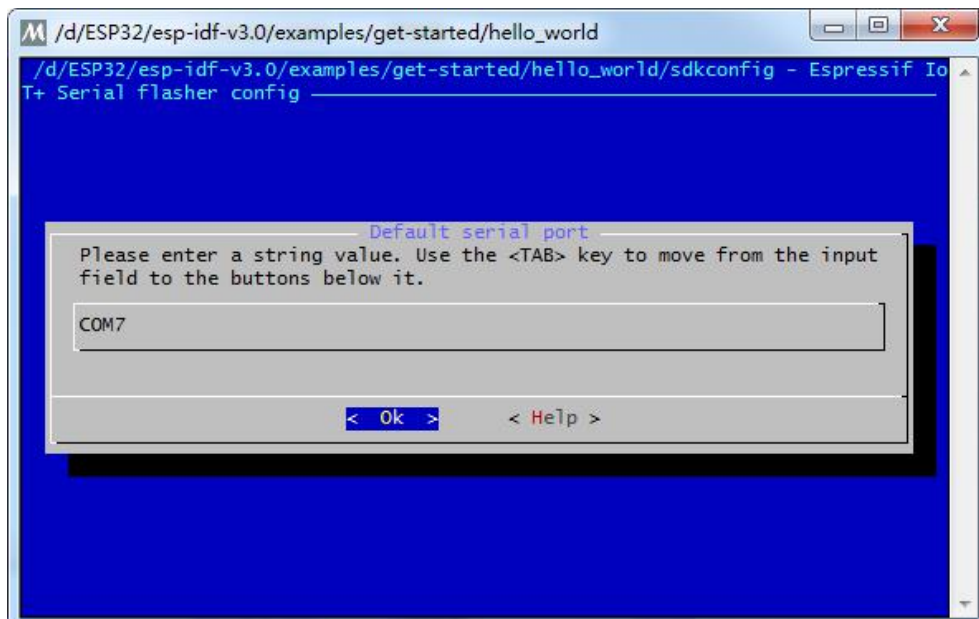
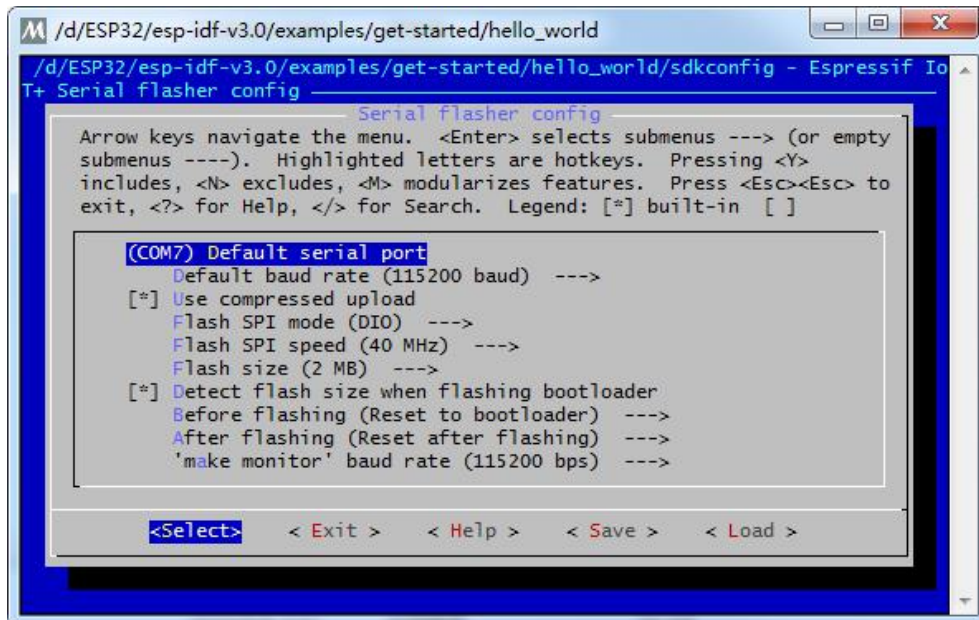
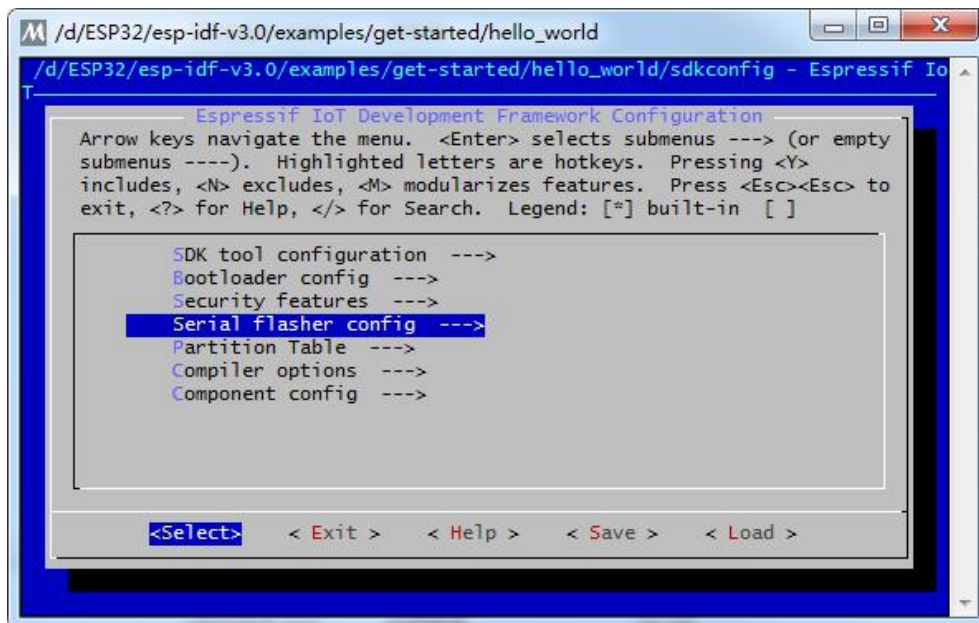
从红旭的 [github](#) 上下载 hx-uart 测试代码。

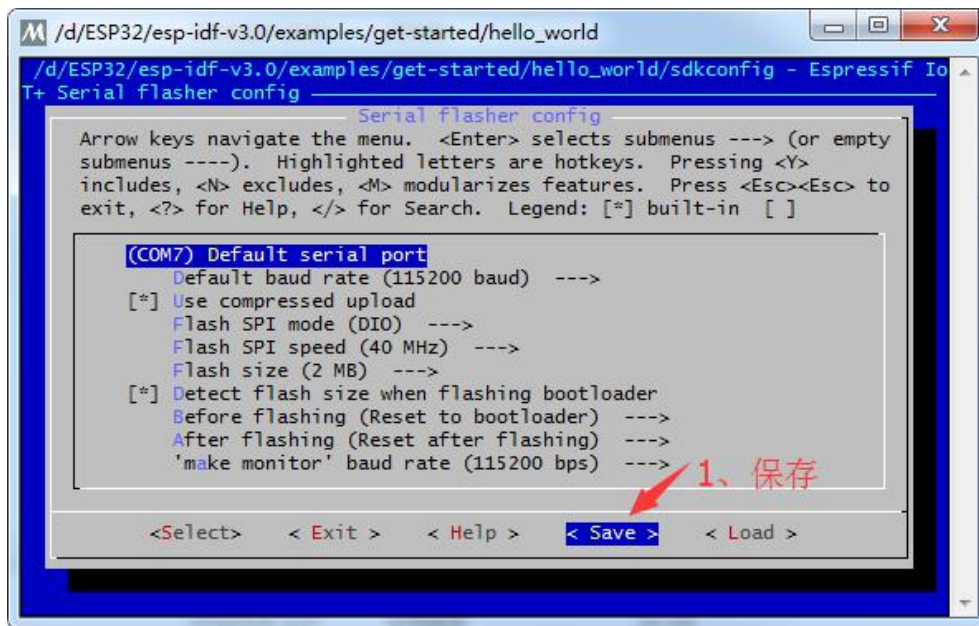


2. 配置工程

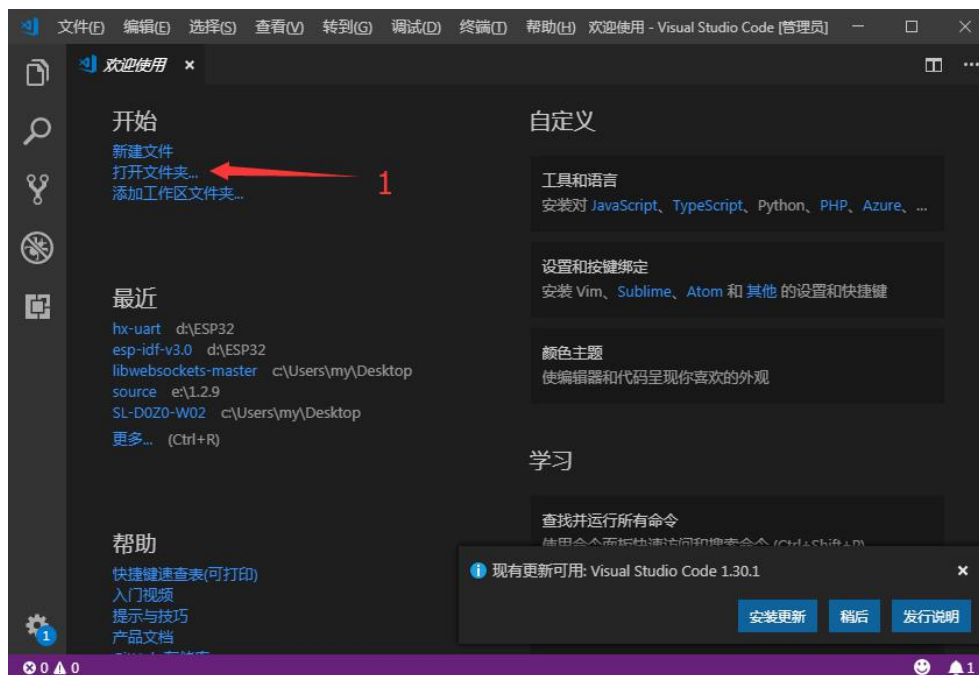
使用官方编译链里面的工具配置工程。

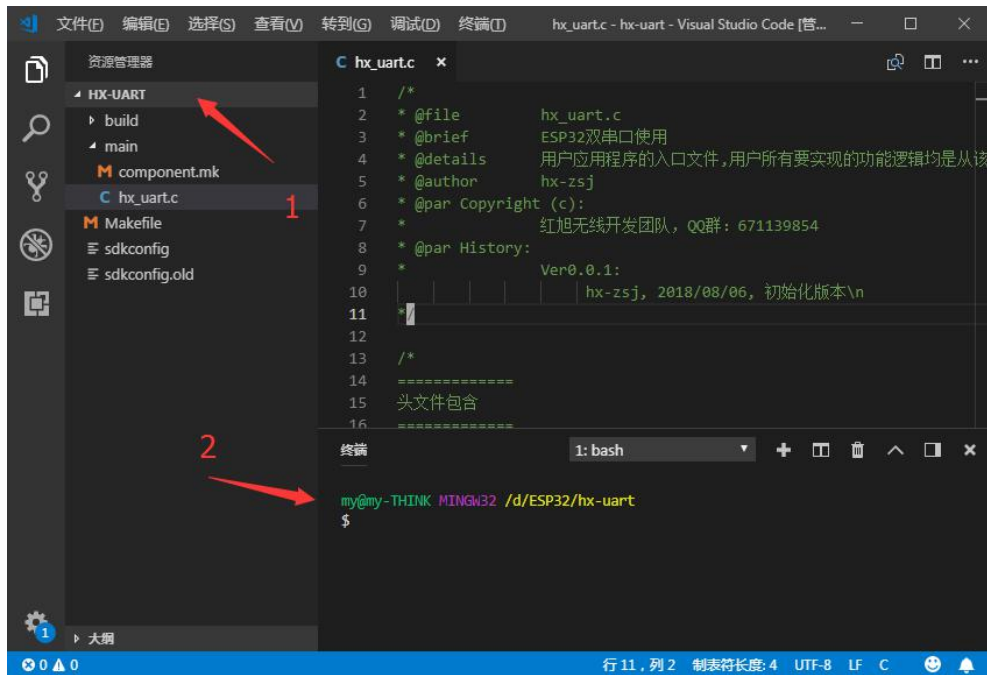




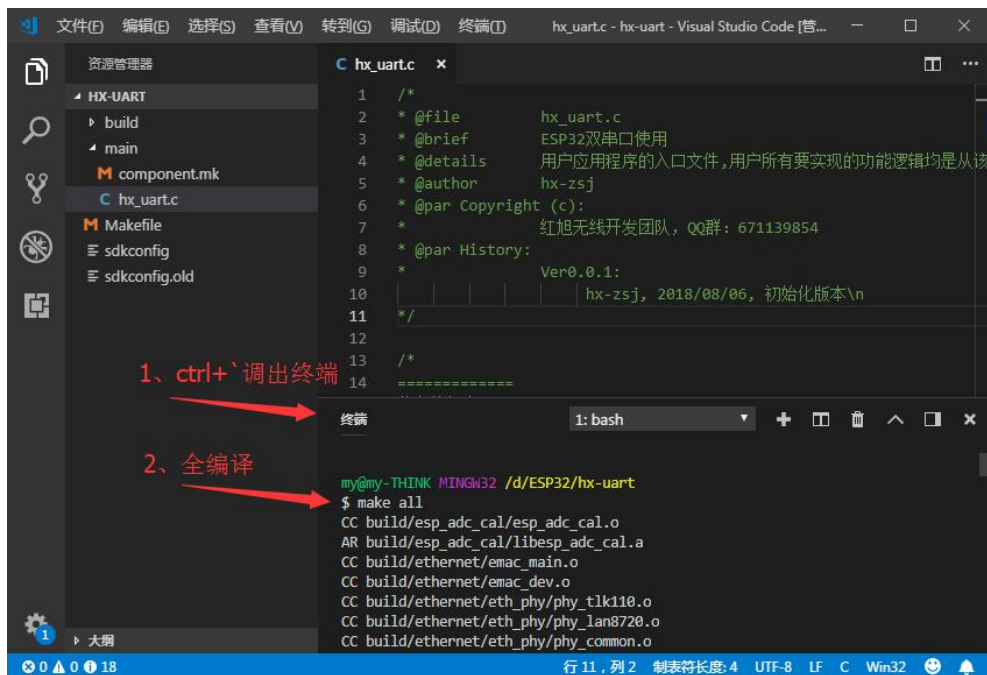


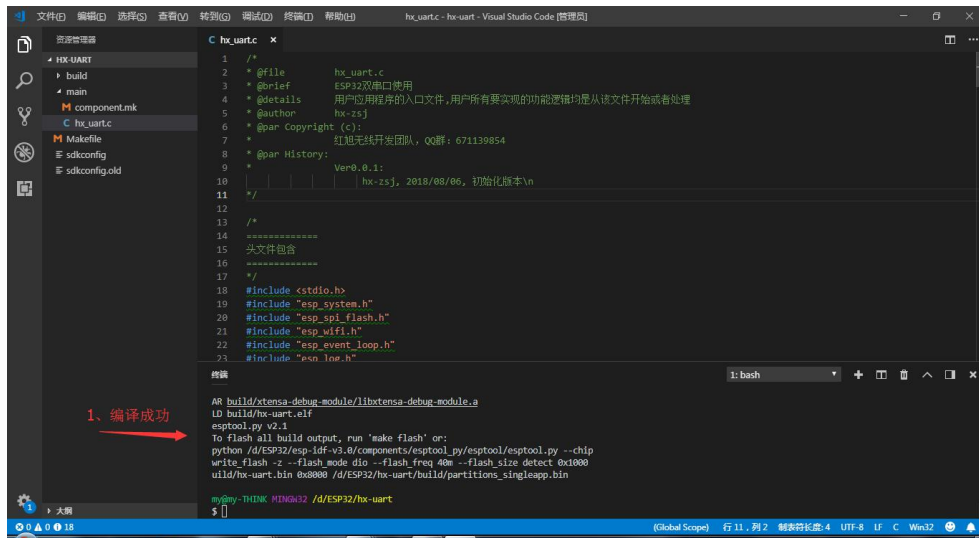
3. 使用 vs code 打开“hx-uart”文件夹



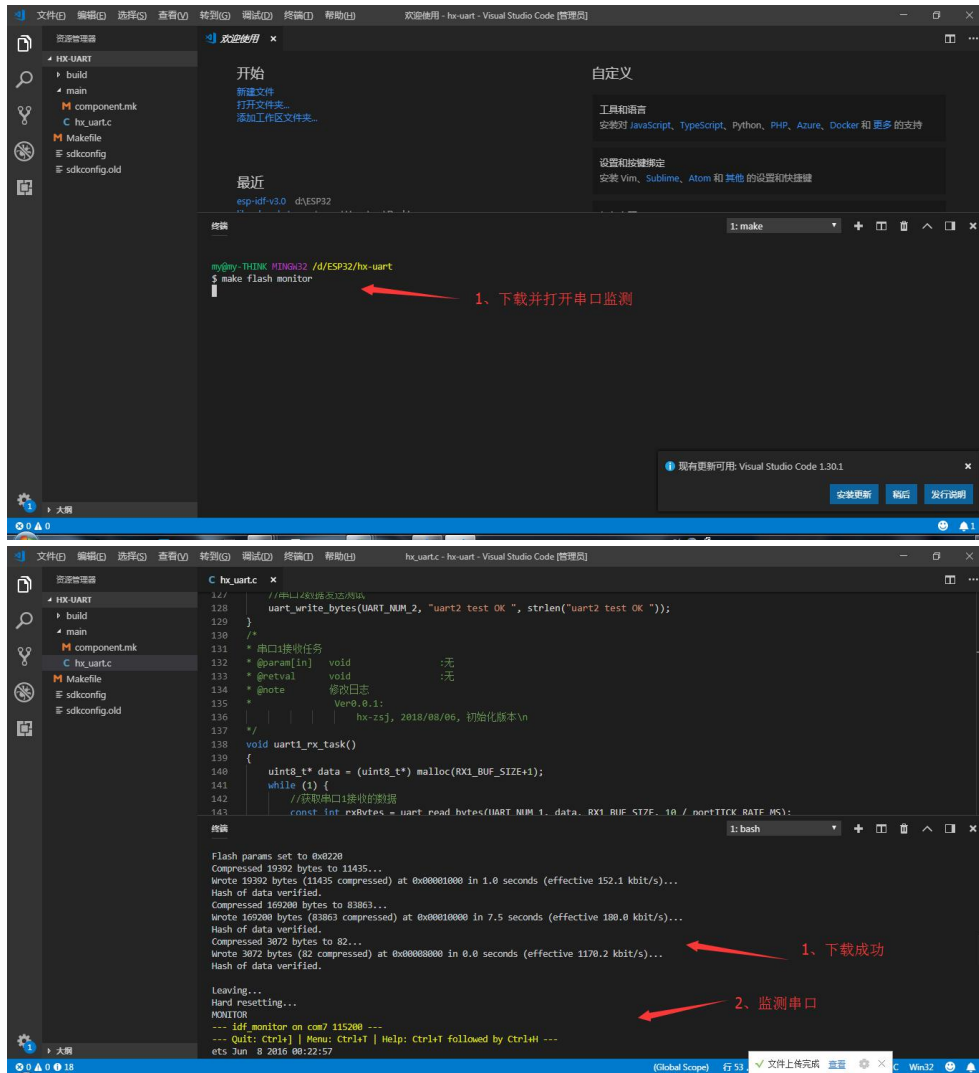


4. 编译工程





5. 通过串口下载程序并监测 ESP32 运行情况



6. 串口收发运行情况

按照源码中的 IO 定义, 插拔短路帽, 打开串口助手, 设定端口、波特率等参数, 发送数据, ESP32 接收到数据后, 会将数据原样发送, 测试如下。

```
/*
 * 定义
 */
//UART1
#define RX1_BUF_SIZE      (1024)
#define RX1_PIN           (GPIO_NUM_4)
#define TX1_PIN           (GPIO_NUM_5)
//UART2
#define RX2_BUF_SIZE      (1024)
#define TX2_BUF_SIZE      (512)
#define RX2_PIN           (GPIO_NUM_12)
#define TX2_PIN           (GPIO_NUM_13)

//编译
Flash params set to 0x0020
Compressed 19392 bytes to 11435...
Wrote 19392 bytes (11435 compressed) at 0x00010000 in 1.0 seconds (effective 152.1 kbit/s)...
Hash of data verified.
Compressed 169200 bytes to 83863...
Wrote 169200 bytes (83863 compressed) at 0x00100000 in 7.5 seconds (effective 188.8 kbit/s)...
Hash of data verified.
Compressed 3072 bytes to 82...
Wrote 3072 bytes (82 compressed) at 0x00000000 in 0.0 seconds (effective 1170.2 kbit/s)...
Hash of data verified.
Leaving...
Hard resetting...
MONITOR
--- idf_monitor on /dev/ttyUSB0 ---
--- Quit: Ctrl+C | Menu: Ctrl+M | Help: Ctrl+H followed by Ctrl+M ---
ets Jun  8 2016 08:22:57

//串口1接收任务
uart_write_bytes(UART_NUM_2, "uart2 test OK ", strlen("uart2 test OK "));
}
/*
 * 串口1接收任务
 * @param[in]  void      :无
 * @retval    void      :无
 * @note      修改日志
 * Ver0.0.1:
 * |      |      |      |      |      |      |
 * |      |      |      |      |      |      |
 * |      |      |      |      |      |      |
 */
void uart1_rx_task()
{
    uint8_t* data = (uint8_t*) malloc(RX1_BUF_SIZE+1);
    while (1) {
        //获取串口1接收的数据
        const int rxBytes = uart_read_bytes(UART_NUM_1, data, RX1_BUF_SIZE, 10 / portTICK_RATE_MS);
        if (rxBytes > 0) {
            data[rxBytes] = 0;
            //将接收到的数据发出去
            uart_write_bytes(UART_NUM_1, (char *)data, rxBytes);
        }
        free(data);
    }
}
/*
 * 串口2接收任务
 * @param[in]  void      :无
 */
```