Sparrow cdc通信协议

# 一协议格式

方向：上位机->ESP32

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 内容 | Start | Cmd | dataLen | Data | Checksum | End |
| 长度 | 2 | 1 | 2 |  | 1 | 2 |
| 值 | 0xD0、0x0D |  |  |  |  | 0xED、0xDE |

方向：ESP32->上位机

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 内容 | Start | Cmd | dataLen | Data | Checksum | End |
| 长度 | 2 | 1 | 2 |  | 1 | 2 |
| 值 | 0xD0、0x0D |  |  |  |  | 0xED、0xDE |

说明：

dataLen：数据长度；

Checksum：校验和，计算从Start开始到有效Data结束的累加和；

# 二协议

1. 设置背景图片
   1. 启动传输

方向：上位机->ESP32

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | ImageDataSize | Checksum | End |
| 1 | 2 | 2 | 1 |
| 0x05 |  |  |  |

* 1. 传输数据

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | FrameIndex | FrameLen | ImageData | Checksum | End |
| 1 | 2 | 2 | 2 |  | 1 |
| 0x06 |  |  |  |  |  |

说明：

ImageDataSize：图像数据总大小；

FrameIndex：当前帧索引；

FrameLen：当前帧数据长度；

ImageData：当前帧数据；

1. 发送磁盘使用情况

方向：上位机->ESP32

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | DiskNum | Disk0Path | TotalSize0 | RemainSize0 | .. | Checksum | End |
| 1 | 2 | 1 | 1 | 8 | 8 |  | 1 |
| 0x07 |  |  |  |  |  |  |  |

说明：

DiskNum：磁盘个数；

Disk0Path：磁盘0路径；

TotalSize0：磁盘0总大小；

RemainSize0：磁盘0剩余大小；

1. 发送系统信息

方向：上位机->ESP32

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Memery | Cpu | DataSpeed0 | DataSpeed1 |
| 1 | 2 | 1 | 1 | 8 | 8 |
| 0x08 |  |  |  |  |  |

|  |  |
| --- | --- |
| Checksum | End |
| 1 |
|  |

说明：

Memery：内存使用百分比；

Cpu：cpu使用百分比；

DataSpeed0：网络上传数据速率(KB/s)；

DataSpeed1：网络下载数据速率(KB/s)；

1. 清除wifi信息

方向：上位机->ESP32

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DataLen | Data | Checksum | End |
| 1 | 2 | 1 | 1 |
| 0x09 | 1 | 1 |  |

1. 设置wifi信息

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DATA\_LEN | SSID\_LEN | SSID | PASSWORD\_LEN | PASSWORD | CHECKSUM | End |
| 1 byte | 2 bytes | 1 byte |  | 1 byte |  | 1 byte |
| 0x0A |  |  |  |  |  |  |

方向：上位机->ESP32

说明：

SSID\_LEN：wifi名称长度；

SSID：wifi名称；

PASSWORD\_LEN：wifi密码长度；

PASSWORD：wifi密码；

1. 设置服务器信息

方向：上位机->ESP32

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Start | Cmd | DATA\_LEN | ADDR\_LEN | ADDR | USERNAME\_LEN |
| 1 byte | 2 bytes | 1 byte |  | 1 byte |
| 0x0B |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| USERNAME | PASSWORD\_LEN | PASSWORD | CHECKSUM | End |
|  | 1 byte |  | 1 byte |
|  |  |  |  |

说明：

ADDR\_LEN：服务器地址长度；

ADDR：服务器地址；

USERNAME\_LEN：用户名长度；

USERNAME：用户名；

PASSWORD\_LEN：密码长度；

PASSWORD：密码；

1. 设置天气服务地址

方向：上位机->ESP32

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Start | Cmd | DATA\_LEN | WEATHER\_LEN | WEATHER | CHECKSUM | End |
| 1 byte | 2 bytes | 1 byte |  | 1 byte |
| 0x0C |  |  |  |  |