Beacon外部控制管理通信协议

**REVISION HISTORY**

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| --- | --- | --- | --- | --- | --- |
| Version | Date | Section | Page | Line | Description |
| 1.0.0 | 5/31/2019 |  |  |  | 新增协议概述 |

# 协议概述

本协议基于TTL串口和蓝牙从设备提供的私用服务（蓝牙远程操作功能暂未实现，服务UUID:0x1803），实现外部对蓝牙beacon广播和扫描回应数据的读写功能，并动态改变广播数据以及扫描回应数据。

## 协议格式

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Header[21] | | | Fields[N] | | | | Parity | |
| START\_BYTE[1] | LEN[2] | TYPE | FIELD[0] | FIELD[1] | …… | FIELD[N-1] | PKT[1] | DATA[1] |
| **0xE9** |  |  |  |  |  |  | **0x2f** |  |

### 协议头说明

//数据传输顺序为低字节在前，高字节在后。

//目前版本不启用校验单元

Format: Header + Fields （+ Parity）;

Header: START\_BYTE + LEN + TYPE;

START\_BYTE: 固定为0xE9;

TYPE:

0x00:control/configuration

When a control packet is received the chip returns a control packet,with response fields that contain response data for some control packets,or indication of errors in the control packet.

The response packet for most fields just echoes back the control field identifier followed by a 0x00 byte to indicate that the control field was received successfully. For control fields that query for information, the response packet contains the Requested information (1 or more bytes depending upon the control field identifier).

PARITY:

PKT:固定为0x2f;

DATA:除了START\_BYE和DATA字段以外，数据包中所有字节的异或结果。

LEN: 数据包的总长度，即包含FIELD[0]到FIELD[N-1]，并加上Parity数据（如果启用了校验）的总和（注意并不包含Header[21]）。

### 协议数据段说明

Fileds字段具体定义如下：

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Control Packet-Fields | | |  |  |
| Field Identifier Name | Field Identifier Code | Request Data Len | Response Data Len | Direction | Description |
| FIELD\_IDENTIFIER\_GET\_BEACON\_ALL | 0x58 | none | 45 | O | Reference Appendix A. |
| FIELD\_IDENTIFIER\_SET\_BEACON\_ALL | 0x68 | 45 | none | I | Reference Appendix A. |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Appendix A

typedef struct{

unsigned char dev\_name[CUSTOMER\_MAX\_BEAON\_NAME\_LEN];//assic,设备名称

unsigned short adv\_interval\_ms;//广播间隔

unsigned char dev\_tx\_power;//发射功率

unsigned char uuid[CUSTOMER\_UUID\_LEN];//uuid号

unsigned short major;//主修

unsigned short minor;//辅修

unsigned short rssi\_one\_meter;//1m处的信号强度

}customerStorageBeaconInfo\_t;//45bytes.