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|--------------------------|-----------------|--------------------------|--------------------------------------------------|
| 文件编号<br>Document No.     | ESP-00-2-007-03 | 文件名称<br>Document Name    | 产品/工艺变更通知<br>Product/Process Change Notice (PCN) |
| 文件版本<br>Document Version | 1.3             | 保存期限<br>Retention Period | 3 年<br>3 years                                   |

| ESP32 系列模组 AT 固件升级<br>AT BIN UPGRADE FOR ESP32 SERIES MODULE                                                                                                                                                                              |                                    |                                           |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|----------|
| PCN 编号<br>PCN No.                                                                                                                                                                                                                         | PCN-03-2018083001                  | 提出日期<br>Issue Date of PCN                 | 20180830 |
| 产品名称<br>Product Name                                                                                                                                                                                                                      | ESP32 系列模组<br>ESP32 Series Modules | 变更日期<br>Proposed Date of Change           | 20180830 |
| 封装类型/尺寸<br>Package Type/Size                                                                                                                                                                                                              | Module                             | 首次出货日期<br>Proposed Date of First Shipment | 20181130 |
| 客户批准/Consent: <input checked="" type="checkbox"/> 需要批准/Approval Required<br><input type="checkbox"/> 通知, 无需批准/Notification, Approval Not Required                                                                                         |                                    |                                           |          |
| 变更等级/Classification of Change: <input checked="" type="checkbox"/> 主要变更/Major<br><input type="checkbox"/> 轻微变更/Minor                                                                                                                      |                                    |                                           |          |
| <u>变更原因/Reason for Change:</u><br>ESP32 IDF 升级, 同步升级 AT 应用固件: 新增部分功能, 并修复上一版本 Bug.<br>Because ESP32 IDF had been upgrade, So upgrade AT Bin. Content of change: adding some function and cover Bug of last version.                       |                                    |                                           |          |
| <u>变更描述/Description of Change:</u><br><b>ESP-IDF</b><br>变更内容: 由 V2.0.3 更新到 V3.0.1<br>详情请见: <a href="https://github.com/espressif/esp-idf/releases">https://github.com/espressif/esp-idf/releases</a>                                      |                                    |                                           |          |
| <b>BLE AT</b>                                                                                                                                                                                                                             |                                    |                                           |          |
| <b>Features</b><br>AT+BLESPPCFG : Sets BLE spp parameters<br>AT+BLESP : Enter BLE spp mode<br>AT+BLESECPARAM : Set BLE encryption parameters<br>AT+BLEENC : Initiate BLE encryption request AT+BLEENCRSP : Grant security request access. |                                    |                                           |          |

AT+BLEKEYREPLY : Reply the key value to the peer device in the lasecy connection stage.

AT+BLECONFREPLY : Reply the comfirm value to the peer device in the lasecy connection stage.

AT+BLEENCDEV : Query BLE encryption device list AT+BLEENCCLEAR : Clear BLE encryption device list

## **Bug fixes**

Fix bug that gatt client exception after disconnect

Fix gatt Server did not get correct write result code

Fix gatt cmd will not report error when disconnected

Fix ble incorrect optional parameter checking

Fix ble incorrect param type checking

Fix ble read/write to char/descriptor without permission did not return error

Fix ble Set ATTR value fail

Fix ble 128bit uuid crash

Fix bug that when deinit the ble, do not free gatts list

Fix ble autoconnect in passthrough mode

## **Optimizations**

support char write long and add param for multi connection

support gatts initiate disconnect from client

support multi conn for server

update connection param command support gatt server

## **WiFi AT**

### **Features**

AT+RFPOWER : Set RF TX Power AT+CIPSSLCONF : Config SSL client

### **Bug fixes**

Fix bug that UDP packet loss is serious when transparent transmission

Fix bug that print error log when startup

Fix bug restart problem after boot-strap

Fix bug that reconnect to TCP server twice in passthrough mode

Fix bug the throughput is very low when uart baudrate is 2000000

Fix bug that ssl connection doesn't reconnect to server when disconnected

Fix bug the current is about 77uA after deep sleep  
Fix ping repeatedly cause reboot  
Fix bug It crashes when UART baudrate and mcu mismatch  
Fix bug tcp server will be closed when connections reach max  
Fix bug that crash if the parameter number of AT command is less than `espatgetparaas_digit` parameter number  
Fix bug that it doesnot work when configure server max connection  
Fix bug that it print CLOSED after link disconnect when in transparent transimition  
Fix bug that remote port is incorrect.  
Fix bug the type of execution command parses error  
Fix Bug that it will reboot after restarting if setting AT+SAVETRANSLINK  
Fix Bug that works bad if delayed among each character when sending command  
Fix bug it crash when smartconfig,if SSID length is 32  
Fix connected UDP display wrong IP  
Fix bug that SSL server accepts fail  
Fix bug that Print 'CONNECT' when ssl connect fail  
Set the range of AT+CWLAPOPT  
Fix bug that Print wifi status when wifi status change  
Fix bug that Sometimes AT+CIPCLOSE cannot return  
Fix bug that TCP doesn't disconnect when WiFi station disconnected  
Fix bug that the static param `conning_flag` was not reset after deinit  
Fix bug that WiFi reconnect after AT+CWQAP  
Fix Delay time is incorrect  
Fix Dns servers change when connecting different AP  
Fix bug that ESP32-AT get crushed when been sent AT with 2 "`\r\n`"

## Optimizations

Set Default uart is flow control,and add uart query cmd  
Add AT command line terminator  
Add `espatcustomnetopsregist` in `espat.h` to callback some status about socket  
add query cmd for `blescanparam`  
Add multi-ca support for ssl client  
Add save SSID when using WPS  
Add prefix in the string by AT+CWLIF responded  
Optimize ssl memory in AT module

**变更影响/Impact of Change:**

新版 AT Bin 兼容旧版本的 AT Bin，客户如有疑问请联系 [pcn@espressif.com](mailto:pcn@espressif.com)

New version AT Bin can compat old AT bin , if any concerns please contact [pcn@espressif.com](mailto:pcn@espressif.com)

**变更识别方式/ Change-Identification Method:**

变更前 AT 版本: V0.10.0.0 变更后 AT 版本: V1.1.1.0

AT version change from V0.10.0.0 to V1.1.1.0

**变更前后产品处理/Product-Processing Before and After Change:**

先进先出原则

FIFO

**相关报告/Report(s) Attached:**

☒ Related ECN No.: E2018082101

☐ Reliability Report or Plan:

☐ Function Test Report:

☐ RoHS/HF Test Report:

☐ Other Reports (Pls specify):

**邮件订阅****Espressif Email Notifications**

乐鑫为注册用户提供电子邮件通知服务，用户可通过[乐鑫订阅系统](#)接收技术文档更新、新闻通讯、PCN 等邮件通知。

Espressif sends email notifications of technical documentation changes, along with newsletters, PCNs and other valuable information, to subscribed customers only, in order to keep them updated on its products and services. Please subscribe [here](#).

**客户响应要求****Customer Response Requirements**

客户须按照如下要求给予 Espressif PCN 反馈:

Customers are required to respond to Espressif, according to the following guidelines, and confirm receipt of the PCN:

**主要变更/For Major Changes:**

a) 客户须在接收到 PCN 后的 30 天内告知已收到 PCN。

Customers should confirm receipt of the PCN within 30 calendar days from the date Espressif sends it to them.

b) 如客户未在接收到 PCN 后的 30 天内告知已收到，则视为客户接受变更。

If customers do not confirm receipt of the PCN within 30 calendar days, they will be regarded as having accepted the proposed changes.

c) 客户告知确认收到 PCN 后，如未在 90 天内反馈其他要求，则视为客户接受变更。

After the customers confirm receipt of the PCN, the lack of any additional responses on their part within 90

calendar days constitutes acceptance of the proposed changes.

**轻微变更/For Minor Changes:**

a) 如客户未在接收到 PCN 后的 7 天内告知已收到, 则视为客户接受变更。

If customers do not confirm receipt of the PCN within 7 calendar days, they will be regarded as having accepted the proposed changes.

请反馈至 [pcn@espressif.com](mailto:pcn@espressif.com)。

Please send feedback to [pcn@espressif.com](mailto:pcn@espressif.com).

**客户批准/确认信息**

**Customer Approval/Acknowledgement and Remarks**

客户公司全称:

Customer's Company Name:

PCN 评审结果/PCN Review Result: ☐批准/Approval  
☐不批准/Disapproval  
☐需要分析/Further Analysis Required

客户意见/Comment:

公司代表人姓名

Representative's Name:

公司代表人职责

Representative's Job Title:

公司代表人签名

Representative's Signature:

日期

Date: