

文件编号 Document No.	ESP-07-2-007-03	文件名称 Document Name	产品/工艺变更通知 Product/Process Change Notice (PCN)
文件版本 Document Version	1.3	保存期限 Retention Period	5 年 5 years

引入 AT 固件版本 v2.1.0.0 作为 ESP32-S2 系列模组和开发板的首发 AT 固件
Introduction of AT firmware V2.1.0.0 as the first published AT firmware for ESP32-S2 series
Modules and DevKits

PCN 编号 PCN No.	PCN-2020-014	提出日期 Issue Date of PCN	2020/9/11
变更日期 Proposed Date of Change	2020/9/11	首次出货日期 Proposed Date of First Shipment	2020/12/11
PCN 类型 / PCN Category	<input checked="" type="checkbox"/> 客户需要批准/Customer Approval Required <input type="checkbox"/> 客户通知/Customer Notification		

1. 影响产品名称/Affected Product Name

Modules:

ESP32-S2-WROVER
 ESP32-S2-WROVER-I
 ESP32-S2-WROOM
 ESP32-S2-WROOM-I
 ESP32-S2-SOLO
 ESP32-S2-SOLO-U
 ESP32-S2-MINI-1
 ESP32-S2-MINI-1U

Devkits:

ESP32-S2-Kaluga-1
 ESP32-S2-Saola-1R
 ESP32-S2-Saola-1M
 ESP32-S2-Saola-1RI
 ESP32-S2-Saola-1MI

2. 变更原因/Reason for Change

段落 1 列出的模组和开发板在出厂时没默认的 AT 固件，该变更引入了 AT 固件版本 V2.1.0.0 作为段落 1 列出模组和开发板的首发 AT 固件。

The modules and devkits listed in para 1 do not have default AT firmware during production. This change is aimed to introduce AT firmware, V2.1.0.0 as the first published AT firmware for the modules and devkits listed in

para 1.

The firmware information for ESP32-S2-WROVER / ESP32-S2-WROVER-I module is listed below:

- ◆ Firmware name: ESP32S2-WROVER_4M_80M_2.1.0_AT_2.1.0.0_20200821.bin
- ◆ Firmware description: ESP32-S2-WROVER v2.1.0 general purpose UART AT firmware
- ◆ IDF: v4.2 AT: 2.1.0.0

The firmware information for ESP32-S2-WROOM / ESP32-S2-WROOM-I module is listed below:

- ◆ Firmware name: ESP32S2-WROOM_4M_80M_2.1.0_AT_2.1.0.0_20200821.bin
- ◆ Firmware description: ESP32-S2-WROOM v2.1.0 general purpose UART AT firmware
- ◆ IDF: v4.2 AT: 2.1.0.0

The firmware information for ESP32-S2-SOLO / ESP32-S2-SOLO-U module is listed below:

- ◆ Firmware name: ESP32S2-SOLO_4M_80M_2.1.0_AT_2.1.0.0_20200821.bin
- ◆ Firmware description: ESP32-S2-SOLO v2.1.0 UART AT 通用固件
- ◆ IDF: v4.2 AT: 2.1.0.0

The firmware information for ESP32-S2-MINI-1 / ESP32-S2-MINI-1U module is listed below:

- ◆ Firmware name: ESP32S2-MINI_4M_80M_2.1.0_AT_2.1.0.0_20200821.bin
- ◆ Firmware description: ESP32-S2-MINI v2.1.0 general purpose UART AT firmware
- ◆ IDF: v4.2 AT: 2.1.0.0

3. 变更描述/Description of Change

Feature

Basic AT Commands

- AT : Tests AT startup.
- AT+RST : Restarts a module.
- AT+GMR : Checks version information.
- ATE : Configures echoing of AT commands.
- AT+RESTORE : Restores the factory default settings of the module.
- AT+UART_CUR : Current UART configuration.
- AT+UART_DEF : Default UART configuration, saved in flash.
- AT+SYSRAM : Checks current remaining heap size and minimum heap size.
- AT+SYSMSG : Set message format.
- AT+RFPOWER : Set RF TX Power.
- AT+SYSFLASH : Set User Partitions in Flash.

- AT+SYSROLLBACK : Roll back to the previous firmware.
- AT+SYSTIMESTAMP: Set local time stamp.
- AT+SYSLOG : Enable or disable the AT error code prompt.
- AT+SYSSTORE : Config parameter store mode.

Wi-Fi AT Commands

- AT+CWMODE : Sets the Wi-Fi mode (STA/AP/STA+AP).
- AT+CWJAP : Connects to an AP.
- AT+CWLAPOPT : Sets the configuration of command AT+CWLAP.
- AT+CWLAP : Lists available APs.
- AT+CWQAP : Disconnects from the AP.
- AT+CWSAP : Sets the configuration of the ESP SoftAP.
- AT+CWLIF : Gets the Station IP to which the ESP SoftAP is connected.
- AT+CWQIF : Disconnect Station from the ESP SoftAP.
- AT+CWDHCP : Enables/disables DHCP.
- AT+CWDHCPS : Sets the IP range of the ESP SoftAP DHCP server.
- AT+CWAUTOCONN : Connects to the AP automatically on power-up.
- AT+CWAPPROTO : Sets the 802.11 b/g/n protocol standard of SoftAP mode.
- AT+CWSTAPROTO : Sets the 802.11 b/g/n protocol standard of station mode.
- AT+CIPSTAMAC : Sets the MAC address of ESP Station.
- AT+CIPAPMAC : Sets the MAC address of ESP SoftAP.
- AT+CIPSTA : Sets the IP address of ESP Station.
- AT+CIPAP : Sets the IP address of ESP SoftAP.
- AT+CWSTARTSMART : Starts SmartConfig.
- AT+CWSTOPSMART : Stops SmartConfig.
- AT+WPS : Enables the WPS function.
- AT+MDNS : Configurates the MDNS function
- AT+CWHOOSTNAME : Configures the Name of ESP Station
- AT+CWCOUNTRY : Configures the Wi-Fi Country Code

TCP/IP AT Commands

- AT+CIPSTATUS : Gets the connection status.
- AT+CIPDOMAIN : Domain Name Resolution Function.
- AT+CIPSTART : Establishes TCP connection, UDP transmission or SSL connection.
- AT+CIPSTARTEX : Establishes TCP connection, UDP transmission or SSL connection with automatically assigned ID.
- AT+CIPSEND : Sends data.
- AT+CIPSENDEX : Sends data when length of data is <length>, or when \0 appears in the data.

- AT+CIPCLOSE : Closes TCP/UDP/SSL connection.
- AT+CIFSR : Gets the local IP address.
- AT+CIPMUX : Configures the multiple connections mode.
- AT+CIPSERVER : Deletes/Creates TCP or SSL server.
- AT+CIPSERVERMAXCONN : Set the Maximum Connections Allowed by Server.
- AT+CIPMODE : Configures the transmission mode.
- AT+SAVETRANSLINK : Saves the transparent transmission link in flash.
- AT+CIPSTO : Sets timeout when ESP32 runs as a TCP server.
- AT+CIPSNTPCFG : Configures the time domain and SNTP server.
- AT+CIPSNTPTIME : Queries the SNTP time.
- AT+CIUPDATE : Updates the software through Wi-Fi.
- AT+CIPDINFO : Shows remote IP and remote port with +IPD.
- AT+CIPSSLCCONF : Config SSL client.
- AT+CIPRECONNINTV: Set Wi-Fi transparent transmitting auto-connect interval.
- AT+CIPRECVMODE: Set Socket Receive Mode.
- AT+CIPRECVDATA: Get Socket Data in Passive Receive Mode.
- AT+CIPRECVLEN: Get Socket Data Length in Passive Receive Mode.
- AT+PING: Ping Packets
- AT+CIPDNS : Configures Domain Name System.
- AT+CIPTCPOPT : Configurates the socket options.

MQTT AT Commands

- AT+MQTTUSERCFG : Set MQTT User Config
- AT+MQTTCLIENTID : Set MQTT Client ID
- AT+MQTTUSERNAME : Set MQTT Username
- AT+MQTTPASSWORD : Set MQTT Password
- AT+MQTTCONNCFG : Set configuration of MQTT Connection
- AT+MQTTCONN : Connect to MQTT Broker
- AT+MQTTPUB : Publish MQTT Data in string
- AT+MQTTPUBRAW : Publish MQTT message in binary
- AT+MQTTSUB : Subscribe to MQTT Topic
- AT+MQTTUNSUB : Unsubscribe from MQTT Topic
- AT+MQTTCLEAN : Close the MQTT Connection

HTTP AT Commands

- AT+HTTPCLIENT - Send HTTP Client Request
- AT+HTTPGETSIZE - Get HTTP Resource Size

4. 变更对比/Change Comparison

变更前/Before Change:

段落 1 列出的模组和开发板没有默认的出厂 AT 固件。

The modules and devkits listed in para 1 do not have default AT firmware during production.

变更后/After Change:

段落 1 列出的模组和开发板有默认的出厂 AT 固件，版本为 V2.1.0.0。

The modules and devkits listed in para 1 have default AT firmware during production. The AT firmware's version is V2.1.0.0.

5. 变更影响/Impact of Change

品质和性能/Quality & Performance:

为段落 1 列出的模组和开发板引入默认 AT 固件不会影响产品本身的品质和性能；为段落 1 列出的模组和开发板引入默认 AT 固件可以使这些产品在出厂的时候支持段落 3 列出的功能。

The introduction of default AT firmware to the modules and devkits listed in para 1 will not affect their quality and performance. The introduction of default AT firmware makes the modules and devkits listed in para 1 support the features listed in para 3 without intendedly loading AT firmware into them.

交期/Delivery:

对于段落 1 列出模组和开发板产品的交期没有影响。

There is no impact to delivery performance of the affected Espressif modules and devkits listed in para 1.

生产料号/Material Part Numbers (MPN):

无需对段落 1 列出模组和开发板产品的 MPN 做出变更。客户可以用原有的 MPN 下单。

There is no change to the MPN of the affected Espressif modules and devkits listed in para 1. Customers can continue to use existing MPN to place orders.

认证/Certification:

该变更对 Wifi 和蓝牙的性能没有影响，因此对已有 Wifi 和蓝牙的认证的有效性没有影响。

The change does not affect the Wifi and BT performance of the products and does not affect the validity of their existing Wifi and BT certifications.

其他/Others:

NA

6. 变更前后产品处理/How to Deal with Products

FIFO

7. 相关报告/Report(s) Attached

Related ECN No. ECN-2020-041

Material Qualification Report

Performance Test Report

Reliability Test Report

Environment Related Report

(RoHS / REACH / HF etc.)

Certification

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. If you wish to stay updated on our products and services, please subscribe [here](#).

客户响应要求**Customer Response Requirements****需客户批准的变更/ Change Requiring Customer Approval:**

- a) 客户须在乐鑫发出 PCN 后的 30 天内告知乐鑫已收到 PCN。如客户未在接收到 PCN 后的 30 天内告知已收到，则视为客户收到变更。

Customers are requested to acknowledge receipt of the PCN within 30 calendar days from the date of issue of the PCN. Customers would be considered as notified 30 calendar days after issue of the PCN if no acknowledgement is received.

- b) 自发布 PCN 之日起 90 天内，客户没有任何其他反馈，则表示客户接受该 PCN。

The lack of any additional responses from customers within 90 calendar days from date of issue of the PCN constitutes acceptance of the proposed changes.

客户通知/ Customer Notification:

- a) 客户需在乐鑫发出 PCN 后 14 天内通知乐鑫收到该 PCN。如客户未在接收到 PCN 14 日反馈乐鑫，则视为客户确认该 PCN。

Customers are requested to acknowledge receipt of the PCN within 14 calendar days from the date of issue of the PCN. Customers would be considered as having acknowledged the PCN if no response is received after 14 calendar days.

请反馈至 pcn@espressif.com。

Please send feedback to 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/确认 Accepted/Acknowledged
 不批准/Rejected
 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:	