ESPRESSIF

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)
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发布 ESP32-MINI-1 / ESP32-MINI-1U 模组默认通用 AT 固件 V2.2.0.0 Release ESP32-MINI-1 / ESP32-MINI-1U Module Default Common AT Firmware V2.2.0.0			
PCN 编号 PCN No.	PCN-2021-027	提出日期 Issue Date of PCN	2021/10/18
变更日期 Proposed Date of Change	2021/11/23	首次出货日期 Proposed Date of First Shipment	2021/12/03
PCN 类型 / PCN Category	☑ 客户需要批准/Customer Approval Required ☐ 客户通知/Customer Notification		

1. 影响产品名称/Affected Product Name

   ESP32-MINI-1, ESP32-MINI-1U

2. 变更原因/Reason for Change

   正式发布段落 1 列出模组对应的 AT 固件，取代之前试用版的 AT 固件。

   Officially release the AT firmware of modules listed in Para 1, replacing the trial version AT firmware of the previous.

3. 变更描述/Description of Change

   正式发布模组默认烧写通用版本 AT 固件。

   Official release default universal version AT firmware on modules listed in Para 1.

4. 变更对比/Change Comparison

   请见附录 I：变更对比。Please refer to Appendix I: Change comparison.

   通过包装标签信息识别该变更。Identify the change by querying the Package Label Information.

5. 变更影响/Impact of Change

   1）品质和性能/ Quality & Performance:

     正式版本（V2.2.0.0）相对之前试用版本（V2.1.0.0）更加稳定。

     This official version (V2.2.0.0) on modules listed in Para 1 is more stable compared with the previous trial version (V2.1.0.0).

   2）交期/Delivery: 无/None

   3）生产料号/Material Part Numbers (MPN): 无/None

   4）认证/Certification: 无/None

6. 变更前后产品处理/How to Deal with Products

   FIFO。针对客户特殊要求的 AT 版本，按照客户实际要求执行。

   FIFO. Please proceed as requested if customers request a particular AT firmware version.

7. 变更验证结果/ Test Verification Result

☑Related ECN No.	ECN-2021-033
☑Performance Test	Performance Test is Pass.

Appendix I 变更对比/Change Comparison

1. ESP32-MINI-1 / ESP32-MINI-1U 模组变更信息
   ESP32-MINI-1 / ESP32-MINI-1U Modules Change Information

变更前 Before Change	变更后 After Change

2. ESP32-MINI-1 / ESP32-MINI-1U AT v2.2.0.0 发布说明
   ESP32-MINI-1 / ESP32-MINI-1U AT v2.2.0.0 Release Note

Features

Base AT command

- AT: Test AT startup.
- AT+RST: Restart a module.
- AT+GMR: Check version information.

- AT+CMD: List all AT commands and types supported in current firmware.
- AT+GSLP: Enter Deep-sleep mode.
- ATE: Configure AT commands echoing.
- AT+RESTORE: Restore factory default settings of the module.
- AT+UART_CUR: Current UART configuration, not saved in flash.
- AT+UART_DEF: Default UART configuration, saved in flash.
- AT+SLEEP: Set the sleep mode.
- AT+SYSRAM: Query current remaining heap size and minimum heap size.
- AT+SYSMSG: Query/Set System Prompt Information.
- AT+USERRAM: Operate user's free RAM.
- AT+SYSFLASH: Query/Set User Partitions in Flash.
- AT+RFPOWER: Query/Set RF TX Power.
- AT+SYSROLLBACK: Roll back to the previous firmware.
- AT+SYSTIMESTAMP: Query/Set local time stamp.
- AT+SYSLOG: Enable or disable the AT error code prompt.
- AT+SLEEPWKCFG: Query/Set the light-sleep wakeup source and awake GPIO.
- AT+SYSSTORE: Query/Set parameter store mode.
- AT+SYSREG: Read/write the register.

Wi-Fi command

- AT+CWMODE: Set the Wi-Fi mode (Station/SoftAP/Station+SoftAP).
- AT+CWSTATE: Query the Wi-Fi state and Wi-Fi information.
- AT+CWJAP: Connect to an AP.
- AT+CWRECONNCFG: Query/Set the Wi-Fi reconnecting configuration.
- AT+CWLAPOPT: Set the configuration for the command AT+CWLAP.
- AT+CWLAP: List available APs.
- AT+CWQAP: Disconnect from an AP.
- AT+CWSAP: Query/Set the configuration of an ESP SoftAP.
- AT+CWLIF: Obtain IP address of the station that connects to an ESP SoftAP.
- AT+CWQIF: Disconnect stations from an ESP SoftAP.
- AT+CWDHCP: Enable/disable DHCP.
- AT+CWDHCPS: Query/Set the IP addresses allocated by an ESP SoftAP DHCP server.
- AT+CWAUTOCONN: Connect to an AP automatically when powered on.
- AT+CWAPPROTO: Query/Set the 802.11 b/g/n protocol standard of SoftAP mode.
- AT+CWSTAPROTO: Query/Set the 802.11 b/g/n protocol standard of station mode.
- AT+CIPSTAMAC: Query/Set the MAC address of an ESP station.
- AT+CIPAPMAC: Query/Set the MAC address of an ESP SoftAP.
- AT+CIPSTA: Query/Set the IP address of an ESP station.

- AT+CIPAP: Query/Set the IP address of an ESP SoftAP.
- AT+CWSTARTSMART: Start SmartConfig.
- AT+CWSTOPSMART: Stop SmartConfig.
- AT+WPS: Enable the WPS function.
- AT+MDNS: Configure the mDNS function.
- AT+CWHOSTNAME: Query/Set the host name of an ESP station.
- AT+CWCOUNTRY: Query/Set the Wi-Fi Country Code.

TCP/IP command

- AT+CIPV6: Enable/disable the network of Internet Protocol Version 6 (IPv6).
- AT+CIPSTATUS: Obtain the TCP/UDP/SSL connection status and information.
- AT+CIPDOMAIN: Resolve a Domain Name.
- AT+CIPSTART: Establish TCP connection, UDP transmission, or SSL connection.
- AT+CIPSTARTEX: Establish TCP connection, UDP transmission, or SSL connection with an automatically assigned ID.
- [Passthrough Mode Only] +++: Exit the passthrough mode.
- AT+CIPSEND: Send data in the normal transmission mode or Wi-Fi passthrough mode.
- AT+CIPSENDEX: Send data in the normal transmission mode in expanded ways.
- AT+CIPCLOSE: Close TCP/UDP/SSL connection.
- AT+CIFSR: Obtain the local IP address and MAC address.
- AT+CIPMUX: Enable/disable the multiple connections mode.
- AT+CIPSERVER: Delete/create a TCP/SSL server.
- AT+CIPSERVERMAXCONN: Query/Set the maximum connections allowed by a server.
- AT+CIPMODE: Query/Set the transmission mode.
- AT+SAVETRANSLINK: Set whether to enter Wi-Fi passthrough mode on power-up.
- AT+CIPSTO: Query/Set the local TCP Server Timeout.
- AT+CIPSNTPCFG: Query/Set the time zone and SNTP server.
- AT+CIPSNTPTIME: Query the SNTP time.
- AT+CIUPDATE: Upgrade the firmware through Wi-Fi.
- AT+CIPDINFO: Set "+IPD" message mode.
- AT+CIPSSLCONF: Query/Set SSL clients.
- AT+CIPSSLCCN: Query/Set the Common Name of the SSL client.
- AT+CIPSSLCSNI: Query/Set SSL client Server Name Indication (SNI).
- AT+CIPSSLCALPN: Query/Set SSL client Application Layer Protocol Negotiation (ALPN).
- AT+CIPSSLCPSK: Query/Set SSL client Pre-shared Key (PSK).
- AT+CIPRECONNINTV: Query/Set the TCP/UDP/SSL reconnection interval for the Wi-Fi passthrough mode.
- AT+CIPRECVMODE: Query/Set socket receiving mode.

- AT+CIPRECVDATA: Obtain socket data in passive receiving mode.
- AT+CIPRECVLEN: Obtain socket data length in passive receiving mode.
- AT+PING: Ping the remote host.
- AT+CIPDNS: Query/Set DNS server information.
- AT+CIPTCPOPT: Query/Set the socket options.

BT&BLE command

- AT+BLEINIT: Bluetooth LE initialization.
- AT+BLEADDR: Query/Set Bluetooth LE device address.
- AT+BLENAME: Query/Set Bluetooth LE device name.
- AT+BLESCANPARAM: Query/Set parameters of Bluetooth LE scanning.
- AT+BLESCAN: Enable Bluetooth LE scanning.
- AT+BLESCANRSPDATA: Set Bluetooth LE scan response.
- AT+BLEADVPARAM: Query/Set parameters of Bluetooth LE advertising.
- AT+BLEADVDATA: Set Bluetooth LE advertising data.
- AT+BLEADVDATAEX: Automatically set Bluetooth LE advertising data.
- AT+BLEADVSTART: Start Bluetooth LE advertising.
- AT+BLEADVSTOP: Stop Bluetooth LE advertising.
- AT+BLECONN: Establish Bluetooth LE connection.
- AT+BLECONNPARAM: Query/Update parameters of Bluetooth LE connection.
- AT+BLEDISCONN: End Bluetooth LE connection.
- AT+BLEDATALEN: Set Bluetooth LE data packet length.
- AT+BLECFGMTU: Set Bluetooth LE MTU length.
- AT+BLEGATTSSRVCRE: Generic Attributes Server (GATTS) creates services.
- AT+BLEGATTSSRVSTART: GATTS starts services.
- AT+BLEGATTSSRVSTOP: GATTS Stops Services.
- AT+BLEGATTSSRV: GATTS discovers services.
- AT+BLEGATTSCHAR: GATTS discovers characteristics.
- AT+BLEGATTSNTFY: Notify a client of the value of a characteristic value from the server.
- AT+BLEGATTSIND: Indicate the characteristic value from the server to a client.
- AT+BLEGATTSSETATTR: GATTS sets characteristics.
- AT+BLEGATTCPRIMSRV: Generic Attributes Client (GATTC) discovers primary services.
- AT+BLEGATTCINCLSRV: GATTC discovers included services.
- AT+BLEGATTCCHAR: GATTC discovers characteristics.
- AT+BLEGATTCRD: GATTC reads characteristics.
- AT+BLEGATTCWR: GATTC writes characteristics.
- AT+BLESPPCFG: Query/Set Bluetooth LE SPP parameters.
- AT+BLESPP: Enter Bluetooth LE SPP mode.

- AT+BLESECPARAM: Query/Set Bluetooth LE encryption parameters.
- AT+BLEENC: Initiate Bluetooth LE encryption request.
- AT+BLEENCRSP: Respond to the pairing request from the peer device.
- AT+BLEKEYREPLY: Reply the key value to the peer device in the legacy connection stage.
- AT+BLECONFREPLY: Reply the confirm value to the peer device in the legacy connection stage.
- AT+BLEENCDEV: Query bonded Bluetooth LE encryption device list.
- AT+BLEENCCLEAR: Clear Bluetooth LE encryption device list.
- AT+BLESETKEY: Set Bluetooth LE static pair key.
- AT+BLEHIDINIT: Bluetooth LE Human Interface Device (HID) profile initialization.
- AT+BLEHIDKB: Send Bluetooth LE HID keyboard information.
- AT+BLEHIDMUS: Send Bluetooth LE HID mouse information.
- AT+BLEHIDCONSUMER: Send Bluetooth LE HID consumer information.
- AT+BLUFI: Start or Stop BluFi.
- AT+BLUFINAME: Query/Set BluFi device name.

MQTT command

- AT+MQTTUSERCFG: Set MQTT user configuration
- 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 Brokers
- AT+MQTTPUB: Publish MQTT Messages in string
- AT+MQTTPUBRAW: Publish MQTT messages in binary
- AT+MQTTSUB: Subscribe to MQTT topics
- AT+MQTTUNSUB: Unsubscribe from MQTT topics
- AT+MQTTCLEAN: Close MQTT connections

HTTP command

- AT+HTTPCLIENT: Send HTTP Client Request
- AT+HTTPGETSIZE: Get HTTP Resource Size
- AT+HTTPCPOST: Post HTTP data of specified length

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:	