

# ESP8266\_AT\_V1.6.1\_18\_02\_13 Release Notes

1. Fix an issue that light sleep current is larger than before.

## Github:

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[ESP8266\\_NonOS\\_SDK\\_and\\_AT\\_Bin\\_on\\_Github](#)

# ESP8266\_AT\_V1.6.0\_18\_02\_06 Release Notes

1. Update AT version to 1.6.0.0;
2. Add a new command `AT+SYSMSG` to enable some report information;
3. Add a new command `AT+CWCOUNTRY` ;
  - `AT+CWCOUNTRY=<country_policy>,"country_code",<start_channel>,<total_channel_number>`
4. Add new command `AT+CIPSERVERMAXCONN` ;
  - `AT+CIPSERVERMAXCONN=<num>`
5. Update command `AT+CWLAP` ;
  - `AT+CWLAP =<ssid>[,<mac>,<ch>,<scan_type>,<scan_time_min>,<scan_time_max>]`
6. Update command `AT+CWLAPOPT` ;
  - Mask changes from 0x7F to 0x7FF
7. Optimize tcp server by using new `espconn_recv` ;
8. Fix an issue that getting error from string when print messages after upgrade;
9. Fix an issue that baudrate is not correctly set when it was set at 1,200;
10. Fix an issue that it should return error if the link id is wrong;
11. Fix an issue that DNS auto mode is used by default;
12. Fix a wrong link id issue when client connection number reaches maximum;
13. Fix an issue that error will be reported when the maximum connection number is more than 5;
14. Fix the message is incorrect when creating UDP if ip is a domain name;
15. Fix GSLP too long time error;
16. Fix that `AT+CIPSTART` causes busy if the server is connected at the same time;

# ESP8266\_NONOS\_SDK\_V2.2.0\_18\_02\_06 Release Notes

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## System

1. Add APIs to ensure flash erasing safe;
  - `bool spi_flash_erase_protect_enable(void) ;`
  - `bool spi_flash_erase_protect_disable(void) ;`
2. Add `-DUSE_OPTIMIZE_PRINTF` in `third_party/Makefile`;
3. Update `libc.a` & `libgcc.a`;
  - `libc.a` from `newlib 2.0.0`, `libgcc.a` from `gcc 4.8.5`
    - Strip the functions which are already in rom code
    - Add a readme in `lib` folder to show how to strip the origin libraries
4. Update scripts to generate SSL related binaries;
5. Put `libm.a` into `.irom0.text`;
6. Compile some libraries with `-ffunction-sections -fdata-sections` ;
  - Modify `ld` to put `this.text.*` into `.irom0.text`
7. Remove `time()` function from `libmain`;
8. Fix issues of deep-sleep sleep 0 or sleep for a long time;
9. Fix an issue about driver compiling;
10. Fix `ets_delay_us` declaration;
11. Fix `os_malloc` declaration;

## Examples

1. Add an example for WPA2 enterprise;
2. Update `IoT_Demo` project, fix user sector error;
3. Update `mqtt demo` project;

## LWIP & espconn

1. [LWIP] Add LWIP source codes in the `third_party` folder;
2. [LWIP] Redefine `err_t` in `lwip`;
3. [LWIP] Fix the sequence number error of RST+ACK;
4. [LWIP] Fix an issue that two or more `pbuf` will be used when sending one TCP packet with `LWIP_NETIF_TX_SINGLE_PBUF` enabled;
5. [LWIP] Fix the length of TCP data in one packet is more than 1460;
6. [espconn] Fix an issue that duplicate UDP packet may be sent by `espconn_sendto`;
7. [espconn] Enable block option for fetching the proactive data;
8. [espconn] Manual fetch the receive data after the communication ends;

## mbedTLS

1. Add `mbedTLS` source codes in the `third_party` folder;

2. Fix an issue that mbedTLS may memory leak in some cases when ESP8266 running as SSL/TLS client;
3. Fix an issue that the sent callback may not be called in some cases;
4. Fix load cert failure if the private key is in front of the cert in the esp\_cert\_private\_key.bin;
5. Fix disconnect callback function never be called;
6. Speed up mbedtls handshake process;
7. Fix `already freed` and exception when esp8266 acts as SSL/TLS server;

## Wi-Fi

1. Update libphy.a to version 1136;
2. Add APIs to set WPA2 Enterprise identity;
  - `int wifi_station_set_enterprise_identity(u8* identity, int len) ;`
  - `void wifi_station_clear_enterprise_identity(void) ;`
3. Add an example for WPA2 Enterprise;
4. Add support for passive scan;
5. Add support for scan threshold and dwell time;
6. Add APIs to set country code;
7. Add support for recording more information of scanned AP;
8. Fix the WPA/WPA2 PTK/GTK reinstallation vulnerability issue;
9. Fix softAP wrong behavior after calling `system_timer_reinit` ;
10. Update esp\_init\_data\_default.bin to v08;
  - Adjusted the default target power, from the 34th byte to the 39th byte of esp\_init\_data\_default.bin, lower the target power of each level, optimized the frequency spectrum Mask and the EVM.
11. Add keep connection for station to keep connection with AP;
12. Add softAP distributes station ip event;

## History Info.

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### ESP8266\_AT\_V1.5.1\_17\_11\_06 Release Notes

1. Fixed the WPA2 KRACK issue.
2. Fixed the issue of wrong messages being displayed after upgrading the firmware.

### ESP8266\_NONOS\_SDK\_V2.1.0\_17\_05\_05 Release Notes

## System

1. Fix and update the license;
2. Add definitions of ROM functions;
3. Add efuse mac crc, save efuse mac into the system parameter area of flash, as a backup mac;
4. Implement uart\_div\_modify, which can support a 32-bit DivLatchValue in the SDK instead of the ROM one, and also remove uartdivmodify from the Id file;
5. Reduce iRAM usage by transferring some functions to flash;
  - add weak function void user\_spi\_flash\_dio\_to\_qio\_pre\_init(void). If the dio to qio flash mode is not used,

users can add an empty `user_spi_flash_dio_to_qio_pre_init` on the application side to reduce iRAM usage;

6. Fix WDT in `system_restart`;
7. Fix Write & Read issue in SPI overlap mode;
8. Support 8MB & 16MB spi flash;
9. Update boot v1.7;
10. Support 8MB & 16MB spi flash;
11. Try boot the first bin for 3 times. If it fails, then boot the backup bin;
12. Fix http packet error, BBP301;
13. Support long periods of deep sleep;
14. Fix NMI handle crash on unaligned memory access, BBP309;

## Lwip

1. Add set and get dns server APIs:
  - `espconn_dns_setserver`
  - `espconn_dns_getserver`
2. Fix 2038 overflow bug in `sntp_get_current_timestamp`;
3. Fix MTU negotiate bug;

## AT

1. Add new commands, `AT+UART?` and `AT+UART_DEF?`;
2. Add new command, `AT+SYSRAM?`;
3. Add new commands, `AT+SYSIO` series;
4. Add new command, `AT+CWHOSTNAME`;
5. Add new command, `AT+SYSADC?`;
6. Add new commands, `AT+CIPSNTPCFG` and `AT+CIPSNTPTIME`;
7. Add new commands, `AT+CIPDNS_CUR` and `AT+CIPDNS_DEF`;
8. Support a maximum of 8 stations;
9. Modify keepalive count to 3 times;
10. Fix scan hidden ssid issue in `AT+CWLAP`;
11. Fix the issue of the UART stop bit being 0 when queried for the first time;
12. Fix MAC addr conflict in AP+STA mode;
13. Add new commands, `AT+RFAUTOTRACE`;

## WiFi

1. Optimize the RF frequency calibration workflow, having the frequency trace disabled by default;
  - users can call `system_phy_freq_trace_enable` in `user_rf_pre_init` to enable it;
2. Update `libphy.a` to version 1134\_0;
3. Allow sending a broadcast ESP-NOW packet, but make sure that the packet is unencrypted;
4. Fix soft queue error;
5. Fix `EVENT_STAMODE_AUTHMODE_CHANGE` event mode info;
6. Fix `lmac` assert;

7. Fix bug in sniffer mode;
8. Fix arp loss continuously issue;
9. Fix bug in WiFi event;
  - auth mode changed event cannot be throw when station is in the process of scanning;
  - error old auth mode and new auth mode;
  - op mode change process cannot be blocked, so add an event to notify the caller that op mode is changed;
10. Fix the bug in mic failure handler;
11. Fix the bug which causes failure of connection to an AP with shared WEP;
12. Fix the bug which causes failure of connection to an AP with hidden ssid;
13. Fix softAP deauth;
14. Fix reconnect policy when trying to connect to an AP that does not exist;
15. Fix scan issue;
16. Fix extra bytes in UDP broadcast packet, BBP310;

## **ESP8266\_NONOS\_SDK\_V2.0.0\_16\_08\_10 Release Notes**

### **Optimization:**

1. Changed the license of some source files to espressif MIT.
2. Updated libphy.a to 1055, fixed an issue of large current in Light-sleep.
3. Updated AT+ to 1.3.0:
  - Added Light-sleep wakeup command, AT+WAKEUPGPIO;
  - Fixed abnormal AT+CWDHCPSP IP allocation;
  - Added at\_sdio demo under example directory.
4. Fixed probable system default when calling cur and def interfaces.
5. Fixed the issue of high current in Deep-sleep mode without disabling SPI first.
6. Fixed an issue where the SDK would crash when switching from AP to Station mode by calling wifi\_set\_phy\_mode.
7. Updated secondary boot loader to v1.6:
  - Supports AT + based on SDIO;
  - Supports entering testing mode through GPIO.
8. Added support for MXIC Flash QIO mode.
9. Fixed exception caused during TCP handshake and retransmission.
10. Fixed issues in ESP-NOW.
11. Added ESP-PAIR (Simple-Pair) feature, for APIs please refer to ESP8266 SDK API Guide.
12. wpa2-enterprise time function derivation and time check disable can be set by users.
13. Support for PEAP/TTLS in wpa2-enterprise, for APIs please refer to ESP8266 SDK API Guide.
14. Added mqtt demos under examples directory.
15. Other issue fixes.
16. Resolved an issue that RF\_Init\_data sector may be broken in stress test. Provided a function user\_rf\_cal\_sector\_set which has to be added in application by software developer. More details about user\_rf\_cal\_sector\_set refer to documentation "2C-ESP8266\_SDK\_API Guide". (Resolved in ESP8266\_NONOS\_SDK\_V1.5.4.1)

17. Fix a potential risk that will cause rf not work after external reset. (Resolved in ESP8266\_NONOS\_SDK\_V1.5.4.1)
18. Add SDIO AT support. (Resolved in ESP8266\_NONOS\_SDK\_V1.5.4.1)
19. Fix a potential bug in espconn. (Resolved in ESP8266\_NONOS\_SDK\_V1.5.4.1)

## **Notes:**

esp\_init\_data.bin has to be downloaded into flash at least once. Download blank.bin to initialize the sector stored RF\_CAL parameter (set by user\_rf\_cal\_sector\_set), and download esp\_init\_data.bin into flash, when the system needs to be initialized, or RF needs to be calibrated again.