ESP32 AT V1.0 20171117 Release Note

Documentation:

esp32_at_instruction_set_and_examples_en.pdf or esp32_at_instruction_set_and_examples_cn.pdf.

BLE AT

- AT+BLEINIT : Bluetooth Low Energy (BLE) initialization
- AT+BLEADDR : Sets BLE device's address
- AT+BLENAME : Sets BLE device's name
- AT+BLESCANPARAM : Sets parameters of BLE scanning
- AT+BLESCAN : Enables BLE scanning
- AT+BLESCANRSPDATA : Sets BLE scan response
- AT+BLEADVPARAM : Sets parameters of BLE advertising
- AT+BLEADVDATA : Sets BLE advertising data
- AT+BLEADVSTART : Starts BLE advertising
- AT+BLEADVSTOP : Stops BLE advertising
- AT+BLECONN : Establishes BLE connection
- AT+BLEDISCONN : Ends BLE connection
- AT+BLEDATALEN : Sets BLE data length
- AT+BLECFGMTU : Sets BLE MTU length
- AT+BLEGATTSSRVCRE : Generic Attributes Server (GATTS) creates services
- AT+BLEGATTSSRVSTART : GATTS starts services
- AT+BLEGATTSSRV : GATTS discovers services
- AT+BLEGATTSCHAR : GATTS discovers characteristics
- AT+BLEGATTSNTFY : GATTS notifies of characteristics
- AT+BLEGATTSIND : GATTS indicates characteristics
- AT+BLEGATTSSETATTR : GATTS sets attributes
- 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

System AT

Bug fixes

- Fix a bug that error log is printed when startup
- Fix restart problem after boot-strap
- Fix crash after use hardware AES driver

Optimizations

- AT+FS : fatfs is supported
- Add custom partitions table
- Rename at customize area and add command to operate partition
- Set frequency 80Mhz to reduce power consumption
- Add ESP32 AT custom partitions table
- Add firmware version in AT+GMR
- Change the configuration of UART flow control
- Enable ble in sdkconfig.defaults
- **partition:** Adjust partition table for ble
- Set xtal freq to be 40Mhz by default

WiFi AT

Bug fixes

- Fix a bug that fail to send UDP packet in some cases
- Fix wrong IP format
- Fix error server timeout
- Fix AT+CWQAP shows OK in ap mode
- Fix a bug that system may crash if the SSID length is 32 in smartconfig
- Fix a bug that server timeout does not work for SSL connection in some scenarios
- Fix a bug that "+IPD" is apart from data
- Fix a bug that sometimes AT+CIPCLOSE cannot return

Optimizations

- AT+CWSTARTSMART : Airkiss + ESP-TOUCH
- AT+PING : ping function
- AT+MDNS : mdns function
- AT+CIPSERVERMAXCONN : set the max connections allowed by server
- Add AT+CWMODE=0 to stop WiFi
- Add prefix in the string by AT+CWLIF responsed
- Modify the information of query server
- Support more ssl protocal version
- SSL client supports transparent transmission

- Support ssl server and add AT+CIPSERVER? command
- Optimize AT+CIUPDATE to support ssl update
- Add parameter for AT+CIUPDATE to specify ota version
- Configure six sockets by default
- Modify README of tools for AT, and provide ssl cert bin for testing
- Optimize UART-WiFi passthrough mode for autoconnection and UDP transmission
- Optimize smartconfig to save SSID and password into flash
- Optimize SSL connection.

Tools

- Add tool for PKI bin
- Add GATT service bin generation tool

ESP32 AT V0.10 20170614 Release Note

This is the first release of ESP32 AT firmware, which supports AT commands through UART.

Here is a list of AT commands.

Basic AT Commands

- AT : Tests AT startup.
- AT+RST : Restarts a module.
- AT+GMR : Checks version information.
- AT+GSLP : Enters Deep-sleep mode.
- ATE : Configures echoing of AT commands.
- AT+RESTORE : Restores the factory default settings of the module.
- AT+UART : UART configuration.
- AT+UART_CUR : Current UART configuration.
- AT+UART_DEF : Default UART configuration, saved in flash.
- AT+SLEEP : Sets the sleep mode.
- AT+SYSRAM : Checks the remaining space of RAM.

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 ESP32 SoftAP.
- AT+CWLIF : Gets the Station IP to which the ESP32 SoftAP is connected.
- AT+CWDHCP : Enables/disables DHCP.
- AT+CWDHCPS : Sets the IP range of the ESP32 SoftAP DHCP server. Saves the setting in flash.
- AT+CWAUTOCONN : Connects to the AP automatically on power-up.
- AT+CIPSTAMAC : Sets the MAC address of ESP32 Station.
- AT+CIPAPMAC : Sets the MAC address of ESP32 SoftAP.
- AT+CIPSTA : Sets the IP address of ESP32 Station.
- AT+CIPAP : Sets the IP address of ESP32 SoftAP.
- AT+CWSTARTSMART : Starts SmartConfig.
- AT+CWSTOPSMART : Stops SmartConfig.
- AT+WPS : Enables the WPS function.

TCP/IP-Related AT Commands

- AT+CIPSTATUS : Gets the connection status.
- AT+CIPDOMAIN : DNS function.
- AT+CIPSTART : Establishes TCP connection, UDP transmission or SSL connection.
- AT+CIPSEND : Sends data.
- AT+CIPSENDEX : Sends data when length of data is , 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 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+CIUPDATE : Updates the software through Wi-Fi.
- AT+CIPDINFO : Shows remote IP and remote port with +IPD.
- AT+CIPSNTPCFG : Configures the time domain and SNTP server.
- AT+CIPSNTPTIME : Queries the SNTP time.