ESP32-C6 AT Release v4.0.0.0

Documentation for Release v4.0.0.0 is available at https://docs.espressif.com/projects/esp-at/en/release-v4.0.0.0/esp32c6/index.html

ESP32-C6 AT v4.0.0.0 is the first released version of AT firmware for ESP32-C6.

The firmware:

- ESP32-C6-4MB-V4.0.0.0.zip

Known Issues

- Unable to use Long Range mode in the AT+CWSTAPROTO and AT+CWAPPROTO commands.
- Deinit BluFi will result in a memory leak.
- The third BLE connection cannot be paired.
- In some scenarios, there may be no prompt to write the attribute value of UUID 0x2902.

Features

Basic AT Commands

- 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+SAVETRANSLINK: Set whether to enter Passthrough Mode on power-up.
- AT+TRANSINTVL: Set the data transmission interval in the Passthrough Mode.
- 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+SYSMSGFILTER: Enable or disable the system message filter.
- AT+SYSMSGFILTERCFG: Query/Set the system message filters.
- AT+SYSFLASH: Query/Set User Partitions in Flash.
- AT+SYSMFG: Query/Set manufacturing nvs User Partitions.
- 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 AT Commands

- AT+CWINIT: Initialize/Deinitialize Wi-Fi driver.
- 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 ESP32-C6 SoftAP.
- AT+CWLIF: Obtain IP address of the station that connects to an ESP32-C6 SoftAP.
- AT+CWQIF: Disconnect stations from an ESP32-C6 SoftAP.
- AT+CWDHCP: Enable/disable DHCP.
- AT+CWDHCPS: Query/Set the IPv4 addresses allocated by an ESP32-C6 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 ESP32-C6 station.
- AT+CIPAPMAC: Query/Set the MAC address of an ESP32-C6 SoftAP.
- AT+CIPSTA: Query/Set the IP address of an ESP32-C6 station.
- AT+CIPAP: Query/Set the IP address of an ESP32-C6 SoftAP.
- AT+CWSTARTSMART: Start SmartConfig.
- AT+CWSTOPSMART: Stop SmartConfig.
- AT+WPS: Enable the WPS function.
- AT+MDNS: Configure the mDNS function.
- AT+CWJEAP: Connect to a WPA2 Enterprise AP.
- AT+CWHOSTNAME: Query/Set the host name of an ESP32-C6 station.
- AT+CWCOUNTRY: Query/Set the Wi-Fi Country Code.

TCP/IP AT Commands

- AT+CIPV6: Enable/disable the network of Internet Protocol Version 6 (IPv6).
- AT+CIPSTATE: Obtain the TCP/UDP/SSL connection information.
- AT+CIPSTATUS (deprecated): 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.
- [Data Mode Only] +++: Exit from the data mode.
- AT+SAVETRANSLINK: Set whether to enter Wi-Fi Passthrough Mode on power-up.
- AT+CIPSEND: Send data in the normal transmission mode or Wi-Fi normal transmission mode.
- AT+CIPSENDL: Send long data in parallel in the normal transmission mode.
- AT+CIPSENDLCFG: Set the configuration for the command AT+CIPSENDL.

- 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+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+CIPSNTPINTV: Query/Set the SNTP time synchronization interval.
- AT+CIPFWVER: Query the existing AT firmware version on the server.
- AT+CIUPDATE: Upgrade the firmware through Wi-Fi.
- AT+CIPDINFO: Set "+IPD" message mode.
- AT+CIPSSLCCONF: 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) in string format.
- AT+CIPSSLCPSKHEX: Query/Set SSL client Pre-shared Key (PSK) in hexadecimal format.
- AT+CIPRECONNINTV: Query/Set the TCP/UDP/SSL reconnection interval for the Wi-Fi normal transmission mode.
- AT+CIPRECVTYPE: 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.

Bluetooth® Low Energy AT Commands

- 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+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+SAVETRANSLINK: Set whether to enter Bluetooth LE :term:Passthrough Mode on power-up.
- 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.
- 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+BLEPERIODICDATA: Set Bluetooth LE periodic advertising dATa.
- AT+BLEPERIODICSTART: Start Bluetooth LE periodic advertising.
- AT+BLEPERIODICSTOP: Stop Bluetooth LE periodic advertising.
- AT+BLESYNCSTART: Start to synchronize with periodic advertising.
- AT+BLESYNCSTOP: Stop synchronizing with periodic advertising.
- AT+BLEREADPHY: Query the current transmitter PHY.
- AT+BLESETPHY: Set the current transmitter PHY.

MQTT AT Commands

- AT+MQTTUSERCFG: Set MQTT user configuration.
- AT+MQTTLONGCLIENTID: Set MQTT client ID.
- AT+MQTTLONGUSERNAME: Set MQTT username.
- AT+MQTTLONGPASSWORD: Set MQTT password.
- AT+MQTTCONNCFG: Set configuration of MQTT connection.
- AT+MQTTALPN: Set MQTT Application Layer Protocol Negotiation (ALPN).
- AT+MQTTSNI: Set MQTT Server Name Indication (SNI).
- AT+MQTTCONN: Connect to MQTT Brokers.
- AT+MQTTPUB: Publish MQTT Messages in string.
- AT+MQTTPUBRAW: Publish long MQTT messages.
- AT+MQTTSUB: Subscribe to MQTT topics.
- AT+MQTTUNSUB: Unsubscribe from MQTT topics.
- AT+MQTTCLEAN: Close MQTT connections.

HTTP AT Commands

- AT+HTTPCLIENT: Send HTTP Client Request.
- AT+HTTPGETSIZE: Get HTTP Resource Size.
- AT+HTTPCGET: Get HTTP Resource.
- AT+HTTPCPOST: Post HTTP data of specified length.
- AT+HTTPCPUT: Put HTTP data of specified length.
- AT+HTTPURLCFG: Set/Get long HTTP URL.
- AT+HTTPCHEAD: Set/Query HTTP request headers.

User AT Commands

- AT+USERRAM: Operate user's free RAM.
- AT+USEROTA: Upgrade the firmware according to the specified URL.
- AT+USERWKMCUCFG: Configure how AT wakes up MCU.
- AT+USERMCUSLEEP: MCU indicates its sleep state.
- AT+USERDOCS: Query the ESP-AT user guide for current firmware.