

ESP32-C3 AT Release v2.2.0.0

Documentation for Release v2.2.0.0 is available at https://docs.espressif.com/projects/esp-at/en/release-v2.2.0.0_esp32c3/

ESP32-C3 AT v2.2.0.0 is the first released firmware for ESP32-C3.

Known Issue

- AT command port will print several extra characters when the chip is restarted (affected commands: AT+RST, AT+RESTORE, AT+CIUPDATE)
- The set value of AT+RFPOWER command is inconsistent with the query value, when the value is greater than 80

Feature

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+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+FS: Filesystem Operations.
- 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+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+CWJEAP: Connect to a WPA2 Enterprise AP.
- AT+CWHOSTNAME: Query/Set the host name of an ESP 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+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+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+CIPSSLCPK: 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.

MQTT AT Commands

- 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 AT Commands

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

Web server AT Commands

- AT+WEBSERVER: Enable/disable Wi-Fi connection configuration via web server.

Driver AT Commands

- AT+DRVADC: Read ADC channel value.
- AT+DRVPWMINIT: Initialize PWM driver.
- AT+DRVPWMDUTY: Set PWM duty.
- AT+DRVPWMFADE: Set PWM fade.
- AT+DRV12CINIT: Initialize I2C master driver.
- AT+DRV12CRD: Read I2C data.
- AT+DRV12CWRDATA: Write I2C data.

- AT+DRVI2CWRBYTES: Write no more than 4 bytes I2C data.
- AT+DRVSPICONFGPIO: Configure SPI GPIO.
- AT+DRVSPIINIT: Initialize SPI master driver.
- AT+DRVSPIRD: Read SPI data.
- AT+DRVSPIWR: Write SPI data.