WizFi360

AT command examples

Version 1.0.2

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History

Ver	Date	Description
1.0.0	Aug2019	Initial version
1.0.1	Oct2019	Typing error
1.0.2	Oct2019	Modified Overview description

Contents

1. Overview

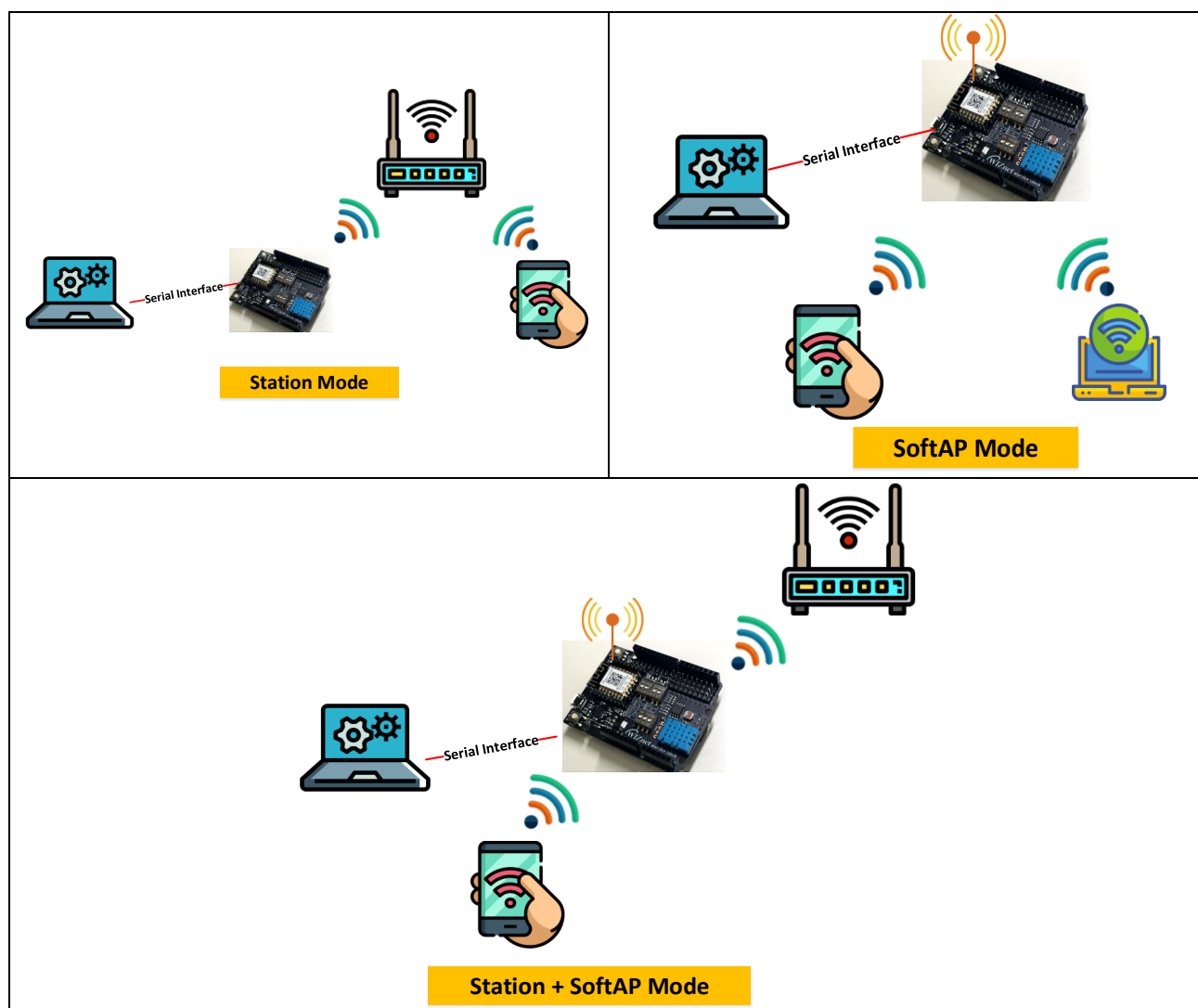There are three operating mode for WizFi360, as below.

- Station mode

- SoftAP mode

- Station + SoftAP mode

In Station mode, WizFi360 Connects to the AP (Access Point). WizFi360 obtain IP via DHCP from AP or set Static IP.

In SoftAP mode, WizFi360 runs as AP and other devices connect to WizFi360 as Station. WizFi360 assigns IP to connected devices and can only communicate in local network.

In Station + SoftAP mode, WizFi360 operates both Station and SoftAP mode.

Please refer to the figure below that modes.

Station Mode

SoftAP Mode

Station + SoftAP Mode

WizFi360 has a Normal Transmission mode and a Transparent Transmission mode.

In Normal Transmission mode, AT Command can be used to send and receive data through Command. Data is sent through SEND command, and data is received with data size through +IPD.

In Transparent Transmission mode, AT command cannot be used. WizFi360 only receives serial input to be sent after AT+CIPSEND command. When receiving data, unlike the normal transmission mode, it receives data without +IPD. If you want to execute AT Command, enter "+++" to change to Normal Transmission mode.

2. Default setting value of AT command

AT Command	Description
ATE1	Echo Enable
+CWMODE:2<CR><LF>	SoftAP mode
+UART_DEF:115200,8,1,0,0<CR><LF>	Setting UART
+CIPDNS_DEF:192.168.1.1<CR><LF>	Setting DNS address
+CIPSTA_DEF:ip:"192.168.1.1"<CR><LF> **+CIPSTA_DEF:gateway:"192.168.1.1"**<CR><LF> **+CIPSTA_DEF:netmask:"255.255.255.0"**<CR><LF>	Used network information in Station mode
+CIPAP_CUR:ip:"192.168.36.1"<CR><LF> **+CIPAP_CUR:gateway:"192.168.36.1"**<CR><LF> **+CIPAP_CUR:netmask:"255.255.255.0"**<CR><LF>	Used network information in SoftAP mode
+CIPSTAMAC_DEF:"00:08:dc:a1:b2:33"<CR><LF>	Setting MAC address in Station mode
+CWDHCPS_CUR:120,"192.168.36.2","192.168.36.101"<CR><LF>	Setting IP allocation area as DHCP server
+CWSAP_CUR:"WizFi360","",11,0,0,0<CR><LF>	Setting SSID, PW, etc in SoftAP mode
+CIPMODE:0<CR><LF>	AT command mode in data transparent mode
+CIFSR:APIP,"192.168.36.1"<CR><LF> **+CIFSR:APMAC,"02:08:dc:a1:b2:33"**<CR><LF>	Setting IP/MAC address in SoftAP mode

3. Using Serial Command

3.1 AT Command mode

AT command	Terminal

AT	`AT<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`

3.2 Station/SoftAP/Station+SoftAP mode

3.2.1 Station

AT command	Terminal

AT
 	
AT+CWMODE_CUR=1
 	
AT+CWDHCP_CUR=1,1
 	
AT+CWLAP
 	
AT+CWJAP_CUR="wizms1","maker0701"
 	
AT+CIPSTA_CUR?
	`AT<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CWMODE_CUR=1<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CWDHCP_CUR=1,1<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CWLAP<CR><LF>`
	`+CWLAP:(4,"DIR-815_Wiznet",-59,"_____",1)<CR><LF>`
	`+CWLAP:(0,"ESP_574935",-71,"_____",1)<CR><LF>`
	`+CWLAP:(3,"##WIZnet_irina",-46,"(_____",1)<CR><LF>`
	`+CWLAP:(3,"Matthew2.4",-63,"_____",2)<CR><LF>`
	`+CWLAP:(3,"rena",-46,"_____",3)<CR><LF>`
	`+CWLAP:(0,"iptime",-67,"_____",4)<CR><LF>`
	`+CWLAP:(3,"Dap",-63,"_____",5)<CR><LF>`
	`+CWLAP:(0,"ESP_577CC7",-67,"_____",6)<CR><LF>`
	`+CWLAP:(3,"wizms1",-63,"_____",6)<CR><LF>`
	`+CWLAP:(0,"Wizfi360",-69,"_____",6)<CR><LF>`
	`+CWLAP:(4,"DLINK-IPv6",-55,"_____",10)<CR><LF>`
	`+CWLAP:(0,"iptime",-59,"_____",11)<CR><LF>`
	`+CWLAP:(3,"WIZnet_Scott",-51,"_____",11)<CR><LF>`
	`+CWLAP:(0,"WizFi360_A1B2D1",-69,"_____",11)<CR><LF>`
	`+CWLAP:(3,"Teddy_AP",-57,"_____",13)<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CWJAP_CUR="wizms1","maker0701"<CR><LF>`
	`WIFI DISCONNECT<CR><LF>`
	`WIFI CONNECTED<CR><LF>`
	`WIFI GOT IP<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CIPSTA_CUR?<CR><LF>`
	`+CIPSTA_CUR:ip:"192.168.1.120"<CR><LF>`
	`+CIPSTA_CUR:gateway:"192.168.1.1"<CR><LF>`
	`+CIPSTA_CUR:netmask:"255.255.255.0"<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`

3.2.2 SoftAP

AT command	Terminal
AT AT+CWMODE_CUR=2 AT+CWDHCP_CUR=0,1 AT+CWSAP_CUR="WizFi360_ffffff","0123456789",1,3,4,0 AT+CIPAP_CUR="192.168.36.1","192.168.36.1","255.255.255.0" AT+CWDHCPS_CUR=1,120,"192.168.36.100","192.168.36.200"	AT\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWMODE_CUR=2\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWDHCP_CUR=0,1\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWSAP_CUR="WizFi360_ffffff","0123456789",1,3,4,0\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CIPAP_CUR="192.168.36.1","192.168.36.1","255.255.255.0"\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWDHCPS_CUR=1,120,"192.168.36.100","192.168.36.200"\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF>

3.2.3 Station+SoftAP

AT command	Terminal
AT+CWMODE_CUR=3 AT+CWDHCP_CUR=2,1 AT+CWDHCPS_CUR=1,120,"192.168.36.100","192.168.36.200" AT+CWSAP_CUR="WizFi360_ffffff","0123456789",1,3,4,0 AT+CIPAP_CUR="192.168.36.1","192.168.36.1","255.255.255.0" AT+CWJAP_CUR="wizms1","maker0701"	AT+CWMODE_CUR=3\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWDHCP_CUR=2,1\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWDHCPS_CUR=1,120,"192.168.36.100","192.168.36.200"\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWSAP_CUR="WizFi360_ffffff","0123456789",1,3,4,0\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CIPAP_CUR="192.168.36.1","192.168.36.1","255.255.255.0"\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF> AT+CWJAP_CUR="wizms1","maker0701"\<CR>\<LF> WIFI CONNECTED\<CR>\<LF> WIFI GOT IP\<CR>\<LF> \<CR>\<LF> OK\<CR>\<LF>

3.3 TCP/IP

3.3.1 TCP Server

AT command	Terminal

AT+CIPMUX=1
 	
AT+CIPSERVER=1,5000
 	
AT+CIPSENDBUF=0,10
 	
        0123456789 => 10byte data
 	
AT+CIPSENDEX=0,10
 	
        012₩0 =>3byte data
	`AT+CIPMUX=1<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CIPSERVER=1,5000<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`0,CONNECT<CR><LF>`
	`AT+CIPSENDBUF=0,10<CR><LF>`
	`1,0<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`0123456789`
	`<CR><LF>`
	`Recv 10 bytes<CR><LF>`
	`<CR><LF>`
	`0,1,SEND OK<CR><LF>`
	`AT+CIPSENDEX=0,10<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`012\0`
	`<CR><LF>`
	`Recv 3 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`

3.3.2 TCP Client

AT command	Terminal

AT+CIPSTART="TCP","192.168.1.74",5000
 	
AT+CIPSENDBUF=10
 	
        0123456789 => 10byte data
 	
AT+CIPSENDEX=10
 	
        012₩0 =>3byte data
	`AT+CIPSTART="TCP","192.168.1.74",5000<CR><LF>`
	`CONNECT<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CIPSENDBUF=10<CR><LF>`
	`1,0<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`0123456789`
	`<CR><LF>`
	`Recv 10 bytes<CR><LF>`
	`<CR><LF>`
	`1,SEND OK<CR><LF>`
	`AT+CIPSENDEX=10<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`012\0`
	`<CR><LF>`
	`Recv 3 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`

3.3.3 UDP

AT command	Terminal

AT+CIPSTART="UDP","192.168.1.74",5000,8888
 	
AT+CIPSEND=10
         0123456789 => 10byte data
AT+CIPSEND=10,"192.168.1.74",5000
         0123456789 => 10byte data
AT+CIPSENDEX=10
        012₩0 =>3byte data
	`AT+CIPSTART="UDP","192.168.1.74",5000,8888<CR><LF>`
	`CONNECT<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CIPSEND=10<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`0123456789`
	`<CR><LF>`
	`Recv 10 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`
	`AT+CIPSEND=10,"192.168.1.74",5000<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`0123456789`
	`<CR><LF>`
	`Recv 10 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`
	`AT+CIPSENDEX=10<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`012\0`
	`<CR><LF>`
	`Recv 3 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`

3.3.4 SSL

AT command	Terminal

AT+CIPSTART="SSL","facebook.com",443
 	
AT+CIPSEND=18
     GET / HTTP/1.1{0x0d}{0x0a} =>Send Data
	`AT+CIPSTART="SSL","facebook.com",443<CR><LF>`
	`CONNECT<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`AT+CIPSEND=18<CR><LF>`
	`<CR><LF>`
	`OK<CR><LF>`
	`>`
	`GET / HTTP/1.1{0x0d}{0x0a}`
	`<CR><LF>`
	`Recv 18 bytes<CR><LF>`
	`<CR><LF>`
	`SEND OK<CR><LF>`

```
<CR><LF>
+IPD,1500:HTTP/1.1 400 Bad Request<CR><LF>
Content-Type: text/html; charset=utf-8<CR><LF>
Date: Thu, 11 Jul 2019 07:21:45 GMT<CR><LF>
Connection: close<CR><LF>
Content-Length: 2959<CR><LF>
<CR><LF>
<!DOCTYPE html><LF>
<html lang="en" id="facebook"><LF>
  <head><LF>
    <title>Facebook | Error</title><LF>
    <meta charset="utf-8"><LF>
    <meta http-equiv="cache-control" content="no-cache"><LF>
    <meta http-equiv="cache-control" content="no-store"><LF>
    <meta http-equiv="cache-control" content="max-age=0"><LF>
    <meta http-equiv="expires" content="-1"><LF>
    <meta http-equiv="pragma" content="no-cache"><LF>
    <meta name="robots" content="noindex,nofollow"><LF>
    <style><LF>
      html, body {<LF>
        color: #141823;<LF>
        background-color: #e9eaed;<LF>
        font-family: Helvetica, Lucida Grande, Arial,<LF>
                     Tahoma, Verdana, sans-serif;<LF>
        margin: 0;<LF>
        padding: 0;<LF>
        text-align: center;<LF>
      }<LF>
<LF>
      #header {<LF>
        height: 30px;<LF>
        padding-bottom: 10px;<LF>
        padding-top: 10px;<LF>
        text-align: center;<LF>
      }<LF>
<LF>
      #icon {<LF>
        width: 30px;<LF>
      }<LF>
<LF>
      h1 {<LF>
        font-size: 18px;<LF>
      }<LF>
<LF>
      p {<LF>
        font-size: 13px;<LF>
      }<LF>
<LF>
      #footer {<LF>
        border-top: 1px solid #ddd;<LF>
        color: #9197a3;<LF>
        font-size: 12px;<LF>
        padding: 5px 8px 6px 0;<LF>
      }<LF>
    </style><LF>
  </head><LF>
  <body><LF>
    <div id="header"><LF>
      <a href="//www.facebook.com/"><LF>
        <img id="icon" src="//static.facebook.com/images/logos/facebook_2x.png" /><LF>
      </a><LF>
    </div><LF>
    <div id="core"><LF>
      <h1 id="sorry">Sor<CR><LF>
+IPD,1605:ry, something went wrong.</h1><LF>
      <p id="promise"><LF>
        We're working on it and we'll get it fixed as soon as we can.<LF>
      </p><LF>
      <p id="back-link"><LF>
        <a id="back" href="//www.facebook.com/">Go Back</a><LF>
      </p><LF>
      <div id="footer"><LF>
        Facebook<LF>
        <span id="copyright"><LF>
          &copy; 2019<LF>
        </span><LF>
        <span id="help-link"><LF>
          &#183;<LF>
          <a id="help" href="//www.facebook.com/help/">Help Center</a><LF>
        </span><LF>
      </div><LF>
    </div><LF>
    <script><LF>
      document.getElementById('back').onclick = function() {<LF>
        if (history.length > 1) {<LF>
          history.back();<LF>
          return false;<LF>
        }<LF>
      };<LF>
<LF>
      // Adjust the display based on the window size<LF>
      if (window.innerHeight < 80 || window.innerWidth < 80) {<LF>
        // Blank if window is too small<LF>
        document.body.style.display = 'none';<LF>
      };<LF>
      if (window.innerWidth < 200 || window.innerHeight < 150) {<LF>
        document.getElementById('back-link').style.display = 'none';<LF>
        document.getElementById('help-link').style.display = 'none';<LF>
      };<LF>
      if (window.innerWidth < 200) {<LF>
        document.getElementById('sorry').style.fontSize = '16px';<LF>
      };<LF>
      if (window.innerWidth < 150) {<LF>
        document.getElementById('promise').style.display = 'none';<LF>
      };<LF>
      if (window.innerHeight < 150) {<LF>
        document.getElementById('sorry').style.margin = '4px 0 0';<LF>
        document.getElementById('sorry').style.fontSize = '14px';<LF>
        document.getElementById('promise').style.display = 'none';<LF>
      };<LF>
    </script><LF>
  </body><LF>
</html><LF>
<CR><LF>
+IPD,2:<SOH><NUL>CLOSED<CR><LF>
```

3.3.5   SNTP

AT command	Terminal
AT+CIPSNTPCFG=1,8 AT+CIPSNTPTIME?	AT+CIPSNTPCFG=1,8<CR><LF> <CR><LF> OK<CR><LF> AT+CIPSNTPTIME?<CR><LF> +CIPSNTPTIME:Wed Aug 07 08:21:19 2019<LF><CR><LF> OK<CR><LF>