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深圳市海凌科电子有限公司

HLK-RM04 功能说明

ETHERNET 以太网

WIFI 无线网

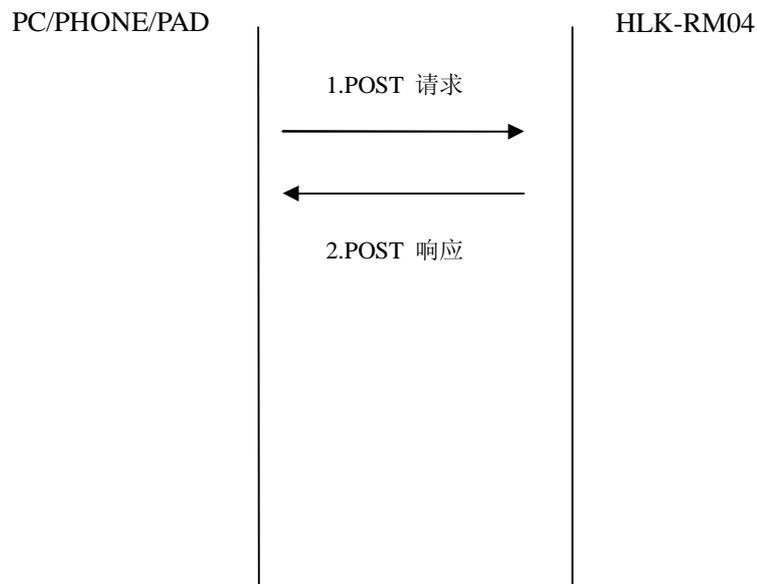
全功能串口网络/无线模块

HTTP 执行 AT 指令说明

应用场景:

网络端通过工具配置模块。提供接口方便执行 at 指令。

执行流程:



1. 向模块发送 http post 请求，POST 格式如下：

```
POST /goform/ser2netconfigAT HTTP/1.1  
Host: 192.168.16.254  
Connection: keep-alive  
Authorization: Basic YWRtaW46YWRtaW4=  
Content-Length: 16  
  
ver=?&remoteip=?
```

COMMAND0=[VALUE0]& COMMAND1=[VALUE1]&...

2. 模块返回 post 响应，包含 AT 指令响应，格式如下：

HTTP/1.0 200 OK

Server: HLK-RM04-Webs

Pragma: no-cache

Cache-control: no-cache

Content-Type: text/html

<html>

<head>

<title>My Title</title><link rel="stylesheet" href="/style/normal_ws.css" type="text/css"><meta http-equiv="content-type" content="text/html; charset=utf-8"></head>

<body>

at+ver=? V1.71(Jun 3 2013) at+remoteip=? 192.168.1.245

</body>

</html>

示例 1:

浏览器打开 http://192.168.16.254/ser2net_at.asp, 界面返回执行结果。

浏览器发送 tcp 数据如下 (chrome 25.0.1364.172 m):

POST /goform/ser2netconfigAT HTTP/1.1

Host: 192.168.16.254

Connection: keep-alive

Content-Length: 681

Cache-Control: max-age=0

Authorization: Basic YWRtaW46YWRtaW4=

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8

Origin: http://192.168.16.254

User-Agent: Mozilla/5.0 (Windows NT 5.1) AppleWebKit/537.22 (KHTML, like Gecko) Chrome/25.0.1364.172 Safari/537.22

Content-Type: application/x-www-form-urlencoded

Referer: http://192.168.16.254/ser2net_at.asp

Accept-Encoding: gzip, deflate, sdch

Accept-Language: zh-CN,zh;q=0.8

Accept-Charset: GBK,utf-8;q=0.7,*;q=0.3

```

ver=%3F&remoteip=%3F&remoteport=%3F&CLport=%3F&remotepro=%3F&timeout=%3F&mode=%3F&uart=%3F&uartpacklen=%3F&uart
packtimeout=%3F&uartpackintertimeout=%3F&escap=%3F&escap2=%3F&escap2_time=%3F&RTS=%3F&XON_XOFF=%3F&netmode=%3F
&wifi_conf=%3F&dhcpcd=%3F&dhcpcd_ip=%3F&dhcpcd_dns=%3F&dhcpcd_time=%3F&dhcpcd=%3F&dhcpc=%3F&net_ip=%3F&net_dns=%3F
&net_wanip=%3F&tcp_auto=%3F&tcp_client_check=%3F&Channel=%3F&S2N_Stat=%3F&wifi_ConState=%3F&wifi_Scan=%3F&StaList=%
3F&C2_uart=%3F&C2_mode=%3F&C2_remoteip=%3F&C2_port=%3F&C2_CLport=%3F&C2_protocol=%3F&C2_timeout=%3F&C2_uartpac
klen=%3F&C2_uartpacktimeout=%3F&C2_uartpackintertimeout=%3F&C2_tcp_auto=%3F&C2_tcp_client_check=%3F&C2_RTS=%3F&C2_X
ON_XOFF=%3F
    
```

```

[+] Hypertext Transfer Protocol
[+] POST /goform/ser2netconfigAT HTTP/1.1\r\n
    Host: 192.168.16.254\r\n
    Connection: keep-alive\r\n
[+] Content-Length: 681\r\n
    Cache-Control: max-age=0\r\n
[+] Authorization: Basic YwRtaW46YWRtaW4=\r\n
    Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
    Origin: http://192.168.16.254\r\n
    User-Agent: Mozilla/5.0 (windows NT 5.1) AppleWebKit/537.22 (KHTML, like Gecko) Chrome/25.0.1364.172 safari/537.
    Content-Type: application/x-www-form-urlencoded\r\n
    Referer: http://192.168.16.254/ser2net_at.asp\r\n
    Accept-Encoding: gzip, deflate, sdch\r\n
    Accept-Language: zh-CN,zh;q=0.8\r\n
    Accept-Charset: GBK,utf-8;q=0.7,*;q=0.3\r\n
\r\n
[Full request URI: http://192.168.16.254/goform/ser2netconfigAT]
    
```

```

[+] Line-based text data: application/x-www-form-urlencoded
0270 3a 20 47 42 4b 2c 75 74 66 2d 38 3b 71 3d 30 2e : GBK,utf-8;q=0.
0280 37 2c 2a 3b 71 3d 30 2e 33 0d 0a 0d 0a 76 65 72 7, *;q=0.3...ver
0290 3d 25 33 46 26 72 65 6d 6f 74 65 69 70 3d 25 33 =%3F&remoteip=%3
02a0 46 26 72 65 6d 6f 74 65 70 6f 72 74 3d 25 33 46 F&remoteport=%3F
02b0 26 43 4c 70 6f 72 74 3d 25 33 46 26 72 65 6d 6f &CLport=%3F&remo
02c0 74 65 70 72 6f 3d 25 33 46 26 74 69 6d 65 6f 75 tepro=%3F&remot
02d0 74 3d 25 33 46 26 6d 6f 64 65 3d 25 33 46 26 75 t=%3F&mode=%3F&u
02e0 61 72 74 3d 25 33 46 26 75 61 72 74 70 61 63 6b art=%3F&uartpack
02f0 6c 65 6e 3d 25 33 46 26 75 61 72 74 70 61 63 6b len=%3F&uartpack
0300 74 69 6d 65 6f 75 74 3d 25 33 46 26 75 61 72 74 timeout=%3F&uart
0310 70 61 63 6b 69 6e 74 65 72 74 69 6d 65 6f 75 74 packintertimeout=
0320 3d 25 33 46 26 65 73 63 61 70 3d 25 33 46 26 65 =%3F&escap=%3F&e
0330 73 63 61 70 32 3d 25 33 46 26 65 73 63 61 70 32 scap2=%3F&escap2
0340 5f 74 69 6d 65 3d 25 33 46 26 52 54 53 3d 25 33 time=%3F&RTS=%3
    
```

模块返回数据如下:

← → ↻ 192.168.16.254/goform/ser2netconfigAT

```
at+ver=? V1.71(Jun 3 2013) at+remoteip=? 192.168.1.245 at+remoteport=? 8080 at+CLport=? 0
at+remotepro=? tcp at+timeout=? 0 at+mode=? client at+uart=? 115200,8,n,1 at+uartpacklen=?
64 at+uartpacktimeout=? 10 at+uartpackintertimeout=? 255 at+escap=? 0 at+escap2=? 1
at+escap2_time=? 300 at+RTS=? 1 at+XON_XOFF=? 0 at+netmode=? 0 at+wifi_conf=? HI-
LINK_12C7,wpa2_aes,12345678 at+dhcpd=? ? 1 at+dhcpd_ip=?
192.168.16.100,192.168.16.200,255.255.255.0,192.168.16.1 at+dhcpd_dns=?
192.168.16.1,8.8.8.8 at+dhcpd_time=? 86400 at+dhcpd=? ? 1 at+dhcpc=? 1 at+net_ip=?
192.168.11.254,255.255.255.0,192.168.11.1 at+net_dns=? 192.168.11.1,8.8.8.8 at+net_wanip=?
192.168.1.109,255.255.255.0,192.168.1.1 at+tcp_auto=? 1 at+tcp_client_check=? 1
at+Channel=? 1 at+S2N_Stat=? 1 at+wifi_ConState=? error at+wifi_Scan=? Ch SSID BSSID
Security Sigantl()W-Mode ExtCH NT WPS DPID 1 CMCC 5c:0e:8b:24:41:70 NONE 34 11b/g/n
```

示例 2:

通过 tcp 工具发送 http post, 接收分析响应:



发送数据（注意空格）:

```
POST /goform/ser2netconfigAT HTTP/1.1
Host: 192.168.16.254
Connection: keep-alive
Authorization: Basic YWRtaW46YWRtaW4=
Content-Length: 16

ver=?&remoteip=?
```

接收数据（工具原因没有显示返回数据，以下是通过抓包工具看到的数据）:

