



Shenzhen Hi-Link Electronic co., Ltd

HLK-M35 AT Command

Serial-to-WiFi Module

Catalog

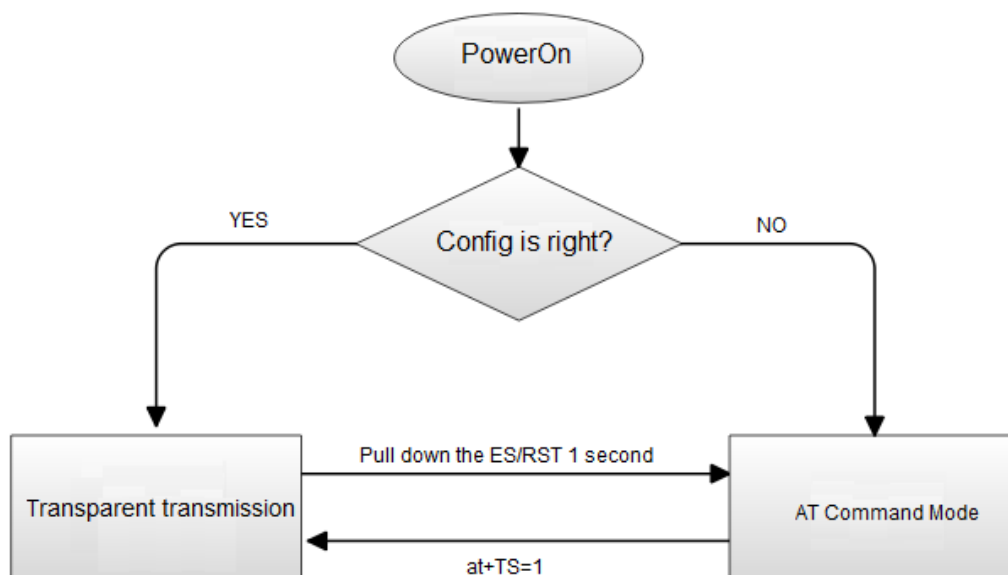
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1 At command Instruction

1.1 Mode conversion

When HLK-M35 module power on, it will enter transparent transmission mode, you can pull down the voltage of the ES/DST pin to let the module enter AT mode. Transparent transmission mode and at mode can change like this:



Serial Port Work Mode

When power on, the module will check the config of the network, if it can connect to the internet it will enter transparent transmission, if not, it will enter at command mode.

The method of change the transparent transmission mode to at command mode: pull down the voltage of the ES/RST pin more than 0.5s less than 5s, it will enter at command mode. If you pull down the ES/RST pin more than 6s, the module will back to factory config.

Send at+TS=1, the module will enter transparent transmission mode.

1.2 At command instruction

At at command mode, you can config the module by at command, the at format like below:

at+[command]=[value]\r, There need "\r", otherwise it will be considered wrong at instruction.

According to the different command module will return a different value

For example: "at+Ulp=192.168.11.133\r" Set the remote ip address: 192.168.11.133.

"at+Ulp=?\r" Query the remote ip address .

at command below: (Instruction is case sensitive)

KeyWord	Function
WA	Wifi mode, ap/sta
WM	Wifista method: manual or smartconfig
Sbssid	set target ap bssid
Sssid	set target ap ssid
Sssidl	set target ap ssid length
Sam	set target ap encryption method
Spw	set target ap key
Spwl	set length of target ap key
WC	calculation PMK
dhcp	set dhcp or static
ip	static ip
mask	Static mask
dns	Static DNS
gw	Static gateway
Ub	Set uart bandrate
Ud	Set uart datalength
Up	Serial parity bit

Us	Serial stop bit length
UType	Set TCP or UDP
Ulp	Set remote ip address
URPort	Set remote port
ULPort	Set local port
UPL	Set or query data length of automatic framing
UPT	Set or query period of automatic framing
UPT2	Set or query Interval period of automatic framing
DP	Prefix data for UDP/988 port executes the at command
DE	UDP/988 port executes the at command enable or disable
Rb	Reboot the module
ver	version
Df	Back to default setting
SO	Socket open
SC	Socket close
SL	Socket check
SW	Socket send
SR	Socket read
DR	Domain name resolution
GW	GPIO write
GR	GPIO read
TS	Transparent ransmission change
mac	Get mac address
Assid	Softap SSID
Assidl	Softap SSID length
Achan	Softap wifi channel
Aam	Softap encryption method
Apw	Softap key
Apwl	Softap key length
Aip	Softap the module's ip address

Note: The at instruction are case sensitive. "at" the two character is lowercase.

1.2.1 WA

Fuction:

Wifi network mode

Format:

at+WA=<WA>\r

Parameter:

Network mode

Value	Meaning
1	AP mode
others	STA mode

1.2.2 WM

Fuction:

Wifi sta work method

Format:

at+WM=<WM>\r

Parameter:

sta work method

Value	Meaning
0	Auto>manual wait for 3 times than smart connect
1	Smart connect
2	manual

1.2.3 Sbssid

Fuction:

Set target ap bssid.

Format:

at+Sbssid=<sbssid>\r

Parameter:

sbssid: bssid. bssid usually refer to the wireless router broadcast MAC address.

For example:at+Sbssid=?\r, Returns the current setting of the BSSID,default is all zero.

1.2.4 Sssid

Fuction:

Set target ap ssid.

Format:

at+Ssid=<Ssid>\r

Parameter:

Ssid:ssid。 usually SSID is the wireless router broadcast name.

For example:at+Ssid=? Returns the current setting of the SSID。

1.2.5 Ssidl

Fuction:

Set the length of the target ssid。

Format:

at+Ssidl=<Ssidl>\r

Parameter:

Ssidl:the length of ssid.Ssidl.It's decimal number.When use at command to config the module,this parameter should be configed.

For example: at+Ssidl=7\r. The corresponding SSID name:HLK-M35.

If Ssidl and SSID's real length do not match,the module can not connect to the wireless router.

1.2.6 Sam

Fuction:

set target ap encryption method

Format:

at+Sam=<Sam>\r

Parameter:

Sam: encryption method

Encryption

Value	Meaning
0	None
1	Wep_share
2	Wep_open
4	Wpa_aes/wpa_tkip
7	Wpa2_aes/wpa2_tkip
9	Wpa/wpa2_aes

1.2.7 Spw

Fuction:

set target ap's key

Format:

at+Spw=<Spw>\r

Parameter:

Spw: key. The most commonly used encryption method is wpa2-aes, which is the most secure encryption mode

1.2.8 Spwl

Fuction:

Set the length of target ap's key

Format:

at+Spwl=<Spwl>\r

Parameter:

Spwl:spwl,

If Spwl and the key's real length do not match,the module can not connect to the wireless router.

1.2.9 WC

Fuction:

Calculate PMK. When set the sta wifi Parameter,this instruction should be executed at the end,this instruction is to calculate the PMK. It takes about 6 seconds.if the encryption is open or wep,this at command do not need to execute.

Format:

at+WC=1\r

Parameter:

1.2.10 dhcp

Fuction:

STA ip mode: static/dynamic.

Format:

at+dhcp=<dhcp>\r

Parameter:

Value	Meaning
0	static
1	Dynamic dhcp

1.2.11 ip

Fuction:

static ip。

Format:

at+ip=<ip>\r

Parameter:

ip: ip address,format:192,168,1,22. Seprated by a comma.This command is valid when at+dhcp=0.When at+dhcp=1,this command is invalid.

1.2.12 mask

Fuction:

static mask。

Format:

at+mask=<maks>\r

Parameter:

maks: netmask, Format:255,255,255,0, Seprated by a comma.

This command is valid when at+dhcp=0.When at+dhcp=1,this command is invalid

1.2.13 dns

Fuction:

static dns。

Format:

at+dns=<dns>\r

Parameter:

Dns:dns address, Format:192,168,1,1. Seprated by a comma.

This command is valid when at+dhcp=0.When at+dhcp=1,this command is invalid

1.2.14 gw

Fuction:

static gateway。

Format:

at+gw=<gw>\r

Parameter:

gw: gateway address,Format:192,168,1,1. Seprated by a comma.

This command is valid when at+dhcp=0.When at+dhcp=1,this command is invalid

1.2.15 Ub

Fuction:

Uart bandrate.

Format:

at+Ub=<Ub>\r

Parameter:

Ub:bandrate.Set the uart bandrate,support 1200-230400bps.

For example:at+Ub=115200\r.return:ok.

1.2.16 Ud

Fuction:

Set uart datalength.

Format:

at+Ud=<Ud>\r

Parameter:

Ud: data length,support 7bit and 8bit

1.2.17 Up

Fuction:

Serial parity bit

Format:

at+Up=<Up>\r

Parameter:

Up:Parity bit.

1.2.18 Us

Fuction:

Serial stop bit length.

Format:

at+Us=<Us>\r

Parameter:

Us: stop bit length.

1.2.19 UType

Fuction:

Network type

Format:

at+UType=<UType>\r

Parameter:

UType: network type。

Network protocol type

Value	Meaning
0	none
1	Tcp Server
2	Tcp Client
3	Udp Server
4	Udp Client

1.2.20 UIp

Fuction:

Remote IP or domain

Format:

at+UIp=<UIp>\r

Parameter:

Uip:ip address or domain,Format:192.168.1.22 or www.hlktech.com. Seprated by a dot.

1.2.21 URPort

Fuction:

Remote IP or domain's port.

Format:

at+URPort=<URPort>\r

Parameter:

URPort: port number. This at command only valid when the module work at tcp client or udp client mode.

1.2.22 ULPort

Fuction:

Local port。

Format:

at+ULPort=<ULPort>\r

Parameter:

ULPort:port number. This at command only valid when the module work at tcp server or udp

server mode.

1.2.23 UPL

Fuction:

Set or query data length of automatic framing.This parameter is only effective when serial is in transparent transmission mode.

Format:

at+UPL=<UPL>\r

Parameter:

UPL:frame length.Auto framing length, its range is 64 ~ 512 bytes.。

1.2.24 UPT

Fuction:

Set or query period of automatic framing.This parameter is only effective when serial is in transparent transmission mode.

Format:

at+UPT=<UPT>\r

Parameter:

UPT:auto framing period, its range is 100 ~ 10000ms

1.2.25 UPT2

Fuction:

Set or query interval period of automatic framing.This parameter is only effective when serial is in transparent transmission mode.

Format:

at+UPT2=<UPT2>\r

Parameter:

UPT2:interval period of automatic framing. its range is 100 ~ 10000ms

1.2.26 DP

Fuction:

Prefix data for UDP/988 port executes the at command

Format:

at+DP=<DP>\r

Parameter:

DP:Prefix data.

When the module have connect to the router,Establish udp client,port is:988,send

command by wireless you should add this parameter in front of the at command.

Default value is hlkAT. For example: modify the module's baud rate as follows:

Send: hlkATat+Ub=115200\r, by udp it will change the baud rate to 115200

1.2.27 DE

Function:

Enable or disable the udp send at command

Format:

at+DE=<DE>\r

Parameter:

DE: udp send at command enable/disable, default is enable.

udp send at command

Value	Meaning
0	enable
1	disable

1.2.28 Rb

Function:

Reboot the module.

Format:

at+Rb=1\r

1.2.29 ver

Function:

The version of firmware.

Format:

at+ver=? \r

Parameter:

For example: at+ver=?\r. return: HLK-M35(V2.10(Aug 7 2014))

1.2.30 Df

Function:

Reback to factory setting.

Format:

at+Df=1\r

Parameter:

1.2.31 SO

Fuction:

Socket open

Format:

at+SO=<Type>,<Remote Ip>,<Remote Port>,<Local Port>\r

Parameter:

Type:

Network type

Value	Meaning
0	None
1	Tcp Server
2	Tcp Client
3	Udp Server
4	Udp Client

Remote Ip:remote ip or domain

Remote Port:remote port

Local Port:local port

Return index.return the socket number.

1.2.32 SC

Fuction:

Socket close

Format:

at+SC=<index>\r

Parameter:

index:index.Index is the socket number

1.2.33 SL

Fuction:

Socket qurey。

Format:

at+SL=?\r

Parameter:

Return the four socket staus

1.2.34 SW

Fuction:

Socket write

Format:

at+SW=<index>,<data1>\r or
at+SW=<index>,b,<len>\r<data2>

Parameter:

Index:SO return value。

Len: data2 length

1.2.35 SR

Fuction:

Socket read

Format:

at+SR=<index>,<len>\r

Parameter:

1.2.36 DR

Fuction:

Domain name resolution

Format:

at+DR=<Doname>\r

Parameter:

Doname:domain,This command should be sent trice,the second time will return the ip address of the domain.

For example:at+DR=www.google.com return:error:-2

Send again:at+DR=www.google.com return:ok:173.194.127.84

1.2.37 GW

Fuction:

GPIO write。

Format:

at+GW=<index>,<value>\r

Parameter:

index	value	Meaning
0	1 or 0	GPIO0 output high level or the low level

1	1 or 0	GPIO1 output high level or the low level
2	1 or 0	GPIO2 output high level or the low level

For example:set the GPIO1 at high level:at+GW=1,1\r, reurn:ok,the GPIO1 will output high voltage

1.2.38 GR

Fuction:

GPIO read

Format:

at+GR=<index>\r

Parameter:

Index parameter is:0,1,2,Corresponding GPIO0,GPIO1,GPIO2.

For example:set the GPIO1as input,and read the GPIO1's voltage.

at+GR=1\r,return: 0:ok.the "0"means low voltage;when return "1",that means high voltage.

1.2.39 TS

Fuction:

Enter/exit transparent transmission

Format:

at+TS=<TS>\r

Parameter:

TS

Value	Meaning
0	Exit Transparent.only can be used at UDP/988 mode
1	Enter transparen transmission

1.2.40 mac

Fuction:

Get the module's mac address

Format:

at+mac=?\r

1.2.41 Assid

Fuction:

The ssid of the softap mode.

Format:

at+Assid=<Sssid>\r

Parameter:

Assid:ssid.The softap wireless broadcast name.

For example:at+Assid=?,it will back the ssid name

1.2.42 Assidl

Fuction:

SoftAP ssid length

Format:

at+Assidl=<Sssid>\r

Parameter:

Assidl: Assidl:the length of ssid.Sssidl.It's decimal number.When use at command to config the module,this parameter should be configed.

For example: at+Assidl=7\r. The corresponding SSID name:HLK-M35.

1.2.43 Achan

Fuction:

SoftAp wireless channel

Format:

at+Achan=1\r

Parameter:

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1.2.44 Aam

Fuction:

SoftAp encryption method,default is 7.

Format:

at+Aam=<Aam>\r

Parameter:

Aam: encryption method

Encryption method

Value	Meaning
4	Wpa_aes/wpa_tkip
7	Wpa2_aes/wpa2_tkip
9	Wpa/wpa2_aes

1.2.45 Apw

Fuction:

SoftAp key。

Format:

at+Apw=<Apw>\r

Parameter:

Apw:Key.The most commonly used encryption method is wpa2-aes, which is the most secure encryption mode,softap do not support WEP encryption.

1.2.46 Apwl

Fuction:

SoftAp key length

Format:

at+Apwl=<Apwl>\r

Parameter:

Apwl: apwl, If Spwl and the key's real length do not match,you can not change the key.

1.2.47 Aip

Fuction:

SoftAp the module's IP address

Format:

at+Aip=<Aip>\r

Parameter:

Aip: aip, the module's IP address, default is:192.168.11.254.Dhcp start at:192.168.11.100.

Version History

Version	Log	Release date
V1.0	Draft version	2014-8-10
V1.1	Change the “At” to ”at”	2014-9-10
V1.2	Add the explain of the at command	2014-9-20
V1.3	Add softap at command	2014-10-15