USR-N510 AT Command Set

(Firmware 3031V1.0.4)

File version: 1.0.0

Content

1. What is the AT command.

AT command is used for controlling module. You can use AT command to configure and query the settings.

2. How to use the AT command

For USR device is in transparent mode normally, you must enter AT command mode at first. Then you can send AT command to configure or query the settings. After you configure the USR device, you should restart the USR device to make the settings take effect. Every time module restart will work in work mode rather AT command mode.
Every AT command must add character carriage return <CR> and line feed <LF>. In Hex, <CR> is 0x0D <LF> is 0x0A.

2.1. How to enter AT command mode

Please read this FAQ about entering AT command mode.
http://www.usriot.com/enter-serial-command-mode/

3. AT command set

Command	Function
E	Query/Set AT command echo
Z	Restart the USR device
VER	Query firmware version
ENTM	Exit serial AT command mode and enter work mode
MAC	Query MAC address
RELD	Restore factory settings
WANN	Query/Set WAN port parameters
DNS	Query/Set DNS address
WEBU	Query/Set settings web server username and password
WEBPORT	Query/Set settings web server port number
SEARCH	Query/Set search port and keyword in LAN
PLANG	Query/Set default language of` web server
UART1	Query/Set serial port parameters
UARTTL1	Query/Set serial package time and length
SOCKA1	Query/Set socket A parameters
SOCKB1	Query/Set socket B parameters

SOCKLKA1	Query socket A connection status
SOCKLKB1	Query socket B connection status
WEBSOCKPORT1	Query/Set serial port websocket port number
REGEN1	Query/Set serial port identity packet enable/disable
REGTCP1	Query/Set serial port Sending Method of identity packet
REGUSR1	Query/Set serial port User's identity packet data
REGCLOUD1	Query/Set serial port USR Cloud ID and password
HTPTP1	Query/Set serial port HTTP method
HTPURL1	Query/Set serial port URL
HTPHEAD1	Query/Set serial port HTTP header
HTPCHD1	Query/Set serial port filtering HTTP header of response data enabled/ disabled
HEARTEN1	Query/Set serial port heartbeat packet enabled/disabled
HEARTTP1	Query/Set serial port type of heartbeat packet
HEARTDT1	Query/Set serial port user's heartbeat packet data
HEARTTM1	Query/Set serial port heartbeat packet interval time

4. AT command details

Special Characters		
Character	Note	Hex
<CR>	Carriage Return	0x0D
<LF>	Line Feed	0x0A

4.1. AT+E

Parameter	Description	Default Value	Range
<Status>	Echo of AT command	ON	ON: Enable the echo
			OFF: Disable the echo
Format			
Query	AT+E<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+E=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.2.AT+Z

Format	
Set	AT+Z<CR>
Return	<CR><LF>+OK<CR><LF>

4.3.AT+VER

Parameter	Description
<VER>	Firmware version of the module
Format	
Query	AT+VER<CR>
Return	<CR><LF>+OK=<VER><CR><LF>

4.4.AT+ENTM

Format	
Query	AT+ENTM<CR>
Return	<CR><LF>+OK<CR><LF>

4.5.AT+MAC

Parameter	Description	Range
<MAC>	MAC address of the module.	USR MAC start with D8B04C
Format		
Query	AT+MAC<CR>	
Return	<CR><LF>+OK=<MAC><CR><LF>	

4.6.AT+RELD

Format	
Set	AT+RELD<CR>
Return	<CR><LF>+OK<CR><LF>

4.7.AT+WANN

Parameter	Description	Default Value	Range
<Mode>	Method of how to get IP address	STATIC	STATIC: Get the IP address manually
			DHCP: Get the IP address automatically
<IP address>	IP address	192.168.0.7	0.0.0.0~255.255.255.255
<Mask>	Subnet mask	255.255.255.0	0.0.0.0~255.255.255.255
<Gateway>	Gateway address	192.168.0.1	0.0.0.0~255.255.255.255
Format			
Query	AT+WANN<CR>		
Return	<CR><LF>+OK=<Mode>,<IP address>,<Mask>,<Gateway><CR><LF>		
Set	AT+WANN=<Mode>,<IP address>,<Mask>,<Gateway><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.8.AT+DNS

Parameter	Description	Default Value	Range
<Address>	DNS server address	192.168.0.1	0.0.0.0~255.255.255.255
Format			
Query	AT+DNS<CR>		
Return	<CR><LF>+OK=<Address><CR><LF>		
Set	AT+DNS=<Address><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.9.AT+WEBU

Parameter	Description	Default Value	Range
<Username>	Username of module	admin	1~6 bytes
<Password>	Password of module	admin	1~6 bytes

Format	
Query	AT+WEBU<CR>
Return	<CR><LF>+OK=<Username>,<Password><CR><LF>
Set	AT+WEBU=<Username>,<Password><CR>
Return	<CR><LF>+OK<CR><LF>

4.10. AT+WEBPORT

Parameter	Description	Default Value	Range
<Port>	Port of web server	80	1~65535
Format			
Query	AT+WEBPORT<CR>		
Return	<CR><LF>+OK=<Port><CR><LF>		
Set	AT+WEBPORT=<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.11. AT+SEARCH

Parameter	Description	Default Value	Range
<Port>	UDP Port for searching	48899	1~65535
<Keyword>	Search keyword	WWW.USR.CN	1~20 bytes
Format			
Query	AT+SEARCH<CR>		
Return	<CR><LF>+OK=<Port>,<Keyword><CR><LF>		
Set	AT+SEARCH=<Port>,<Keyword><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.12. AT+PLANG

Parameter	Description	Default Value	Range
<Language>	Language of web server	EN	EN: English
			CH: Chinese
Format			

Query	AT+PLANG<CR>
Return	<CR><LF>+OK=<Language><CR><LF>
Set	AT+PLANG=<Language><CR>
Return	<CR><LF>+OK<CR><LF>

4.13. AT+UART1

Parameter	Description	Default Value	Range
<Baudrate>	Baudrate	115200	600~1024000
<Data bits>	Data bits	8	5,6,7,8
<Stop bits>	Stop bits	1	1,2
<Parity>	Parity	NONE	NONE,EVEN,ODD,MASK,SPACE
<Flow Control>	Flow Control	NFC	NFC: No flow control
			FC: Hardware flow control(RTS/CTS)
Format			
Query	AT+UART1<CR>		
Return	<CR><LF>+OK=<Baudrate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR><LF>		
Set	AT+UART1=<Baudrate>,<Data bits>,<Stop bits>,<Parity><Flow Control><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.14. AT+UARTTL1

Parameter	Description	Default Value	Range
<Time>	Serial port packaging time	0	0~255 ms
<Length>	Serial port packaging length	0	0~1460 bytes
Format			
Query	AT+UARTTL1<CR>		
Return	<CR><LF>+OK=<Time>,<Length><CR><LF>		
Set	AT+UARTTL1=<Time>,<Length><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.15. AT+SOCKA1

Parameter	Description	Default Value	Range
<Protocol>	Network protocol	TCPS	TCPS: TCP Server mode
			TCPC: TCP Client mode
			UDPS: UDP Server mode
			UDPC: UDP Client mode
			HTPC: HTTP Client mode
<IP address>	Remote Server IP address (in client mode)	192.168.0.201	0.0.0.0~255.255.255.255
<Port>	Port number	8899	1~65535 Local port in Server mode Remote port in Client mode
Format			
Query	AT+SOCKA1<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCKA1=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.16. AT+SOCKB1

Parameter	Description	Default Value	Range
<Protocol>	Network protocol	NONE	TCPC: TCP Client mode
			UDPC: UDP Client mode
<IP address>	Remote Server IP address (in client mode)	192.168.0.201	0.0.0.0~255.255.255.255
<Port>	Port number	20105	1~65535 Local port in Server mode Remote port in Client mode
Format			
Query	AT+SOCKB1<CR>		
Return	<CR><LF>+OK=<Protocol>,<IP address>,<Port><CR><LF>		
Set	AT+SOCKB1=<Protocol>,<IP address>,<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.17. AT+SOCKLKA1

Parameter	Description	Default Value	Range	Description
<Status>	Status of socket A of serial port n	LISTEN	IDLE	Module is booting or disable Keep-alive
			LISTEN	Waiting client (Module is in TCP Server mode)
			CONNECTING	Module is connecting to TCP Server (Module is in TCP Client mode)
			CONNECTED	TCP connection is established
			CONNECTED(n)	n is the number of TCP clients which connect to module (Module is in TCP server mode)
			ERROR	Connection Error
Format				
Query	AT+SOCKLKA1<CR>			
Return	<CR><LF>+OK=<Status><CR><LF>			

4.18. AT+SOCKLKB1

Parameter	Description	Default Value	Range	Description
<Status>	Status of socket B	IDLE	IDLE	Module is booting or disable Keep-alive
			LISTEN	Waiting client (Module is in TCP Server mode)
			CONNECTING	Module is connecting to TCP Server (Module is in TCP Client mode)
			CONNECTED	TCP connection is established
			CONNECTED(n)	n is the number of TCP clients which connect to module (Module is in TCP server mode)

			ERROR	Connection Error
Format				
Query	AT+SOCKLKB1<CR>			
Return	<CR><LF>+OK=<Status><CR><LF>			

4.19. AT+WEBSOCKPORT1

Parameter	Description	Default Value	Range
<Port>	Port of websocket	6432	1~65535
Format			
Query	AT+WEBSOCKPORT1<CR>		
Return	<CR><LF>+OK=<Port><CR><LF>		
Set	AT+WEBSOCKPORT1=<Port><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.20. AT+REGEN1

Parameter	Description	Default Value	Range
<Status>	Status of identity packet	OFF	OFF: Disable the identity packet
			MAC: Use MAC address as identity packet
			CLOUD: Using USR Cloud ID as Identity packet
			USR：Use the user's identity packet
Format			
Query	AT+REGEN1<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+REGEN1=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.21. AT+REGTCP1

Parameter	Description	Default Value	Range
<Method>	Method of Sending identity packet	First	First: Send Identity packet before first packet after the connected
			Every: Send Identity packet in every packet.
			ALL: Sending identity packet with both methods.
Format			
Query	AT+REGTCP1<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+REGTCP1=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.22. AT+REGUSR1

Parameter	Description	Default Value	Range
<Data>	User's identity packet data	www.usr.cn	Length: 1~40 bytes
Format			
Query	AT+REGUSR1<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+REGUSR1=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.23. AT+REGCLOUD1

Parameter	Description	Range
<ID>	ID of USR Cloud	Length: 20 bytes
<Password>	Password of USR Cloud	Length: 8 bytes
Format		
Query	AT+REGCLOUD1<CR>	
Return	<C+R><LF>+OK=<ID>,<Password><CR><LF>	
Set	AT+REGCLOUD1=<ID>,<Password><CR>	
Return	<CR><LF>+OK<CR><LF>	

4.24. AT+HTPTP1

Parameter	Description	Default Value	Range
<Method>	HTTP method	GET	GET: HTTP GET
			POST: HTTP POST
Format			
Query	AT+HTPTP1<CR>		
Return	<CR><LF>+OK=<Method><CR><LF>		
Set	AT+HTPTP1=<Method><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.25. AT+HTPURL1

Parameter	Description	Default Value	Range
<URL>	HTTP URL	/1.php?	Length:1~100 bytes
Format			
Query	AT+HTPURL1<CR>		
Return	<CR><LF>+OK=<URL><CR><LF>		
Set	AT+HTPURL1=<URL><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.26. AT+HTPHEAD1

Parameter	Description	Default Value	Range
<Header>	HTTP Header	User_Agent: Mozilla/4.0	Length: 0~180 bytes
Format			
Query	AT+HTPHEAD1<CR>		
Return	<CR><LF>+OK=<Header><CR><LF>		
Set	AT+HTPHEAD1=<Header><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.27. AT+HTPCHD1

Parameter	Description	Default Value	Range
<Status>	Status of filtering HTTP header of response data	ON	ON/OFF
Format			
Query	AT+HTPCHD1<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HTPCHD1=<Status><CR>		
Return:	<CR><LF>+OK<CR><LF>		

4.28. AT+HEARTEN1

Parameter	Description	Default Value	Range
<Status>	Status of heartbeat packet	OFF	ON/OFF
Format			
Query	AT+HEARTEN1<CR>		
Return	<CR><LF>+OK=<Status><CR><LF>		
Set	AT+HEARTEN1=<Status><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.29. AT+HEARTTP1

Parameter	Description	Default Value	Range
<Type>	Type of heartbeat packet	NONE	NONE: Disable the heartbeat packet
			NET: Send heartbeat packet to network
			COM: Send heartbeat to serial port
Format			
Query	AT+HEARTTP1<CR>		
Return	<CR><LF>+OK=<Type><CR><LF>		
Set	AT+HEARTTP1=<Type><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.30. AT+HEARTDT1

Parameter	Description	Default Value	Range
<Data>	Heartbeat packet data	www.usr.cn	Length: 1~40 bytes
Format			
Query	AT+HEARTDT1<CR>		
Return	<CR><LF>+OK=<Data><CR><LF>		
Set	AT+HEARTDT1=<Data><CR>		
Return	<CR><LF>+OK<CR><LF>		

4.31. AT+HEARTTM1

Parameter	Description	Default Value	Range
<Time>	Heartbeat packet interval	30	1~65535 seconds
Format			
Query	AT+HEARTTM1<CR>		
Return	<CR><LF>+OK=<Time><CR><LF>		
Set	AT+HEARTTM1=<Time><CR>		
Return	<CR><LF>+OK<CR><LF>		

5. Contact

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7. Update History

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