

## Fast access Wi-Fi (usrlink)

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When one module works in AP mode, it opens a UDP port used to receive fast access Wi-Fi commands, the port number is 1902. The phone PDA can directly connect to Wi-Fi network of the module, send commands to search router list and set SSID and password. After the completion of set up, module will automatically restart, connected to the router, work in the STA mode at this time.

#### Protocol format

##### a) Searching command

No	Name	Num of Bytes	Description
1	head	1	fixed value:0xFF
2	length	2	Sum of data bytes from length bytes to check byte(not contain length bytes and check byte).
3	cmd	1	Command type, 0x01
4	check	1	Sum of bytes from head (not contained) byte to check byte (not contained).

##### Response for searching

No	Name	Num of Bytes	Description
1	head	1	fixed value:0xFF
2	length	2	Sum of data bytes from length bytes to check byte(not contain length bytes and check byte).
3	cmd	1	Command type, 0x81
4	reserve	1	fixed value:0x00
5	SSID1	Unsize	The SSID of router 1
6	separator	1	Separator of SSID1, fixed value:0x00
7	Signal	1	Signal strength of router 1,0~100: 0%~100%

	strength1		
8	separator	2	Separator of signal strength1, fixed value: 0x0D,0x0A
...	...	...	.....
M	SSID n	Unsize	The SSID of router n
M+1	separator	1	Separator of SSID n, fixed value:0x00
M+2	Signal strength	1	Signal strength of router n,0~100: 0%~100%
M+3	separator	2	fixed value:0x0D,0x0A
M+4	check	1	Sum of bytes from head (not contained) byte to check byte (not contained).

Example:

Data from phone PDA to module (HEX): FF 00 01 01 02

Data from module to phone PDA (HEX): FF 00 14 81 00 54 45 53 54 31 00 40 0D 0A 54 45 53  
54 32 00 37 0D 0A 1D

Explanation:

The phone PDA send searching command to module, the response from module is: SSID of router1 is "TEST1", signal strength of router1 is 64%; SSID of router2 is "TEST2", signal strength of router2 is 55%.

Note: The information of routers is ordered by signal strength.

#### b) Setting command

No	Name	Num of Bytes	Description
1	head	1	fixed value:0xFF
2	length	2	Sum of data bytes from length bytes to check byte (not contain length bytes and check byte).
3	cmd	1	Command type, 0x02
4	reserve	1	fixed value:0x00

5	SSID	Unsize	SSID of router
6	separator	2	fixed value:0x0D,0x0A
7	password	Unsize	Password of router
8	check	1	Sum of bytes from head (not contained) byte to check byte (not contained).

#### Response for setting

No	Name	Num of Bytes	Description
1	head	1	fixed value:0xFF
2	length	2	Sum of data bytes from length bytes to check byte(not contain length bytes and check byte).
3	cmd	1	Command type, 0x82
4	Check for SSID	1	If the SSID set by PDA exist, check value is 0x01, otherwise is 0x00.
5	Check for password	1	If the form of password set by PDA is correct, check value is 0x01, otherwise is 0x00.
6	check	1	Sum of bytes from head (not contained) byte to check byte (not contained).

#### Example:

Data from phone PDA to module (HEX): FF 00 0F 02 00 54 45 53 54 31 0D 0A 31 32 33 34 35 36 CE

Data from module to phone PDA (HEX): FF 00 03 82 01 01 87

#### Explanation:

The phone PDA send setting command to module, SSID is set to "TEST1", password is set to "123456". The response from module is that the "TEST1" Wi-Fi network exist, the form of password is correct.