

WiFi RS-232 Serial Adapter

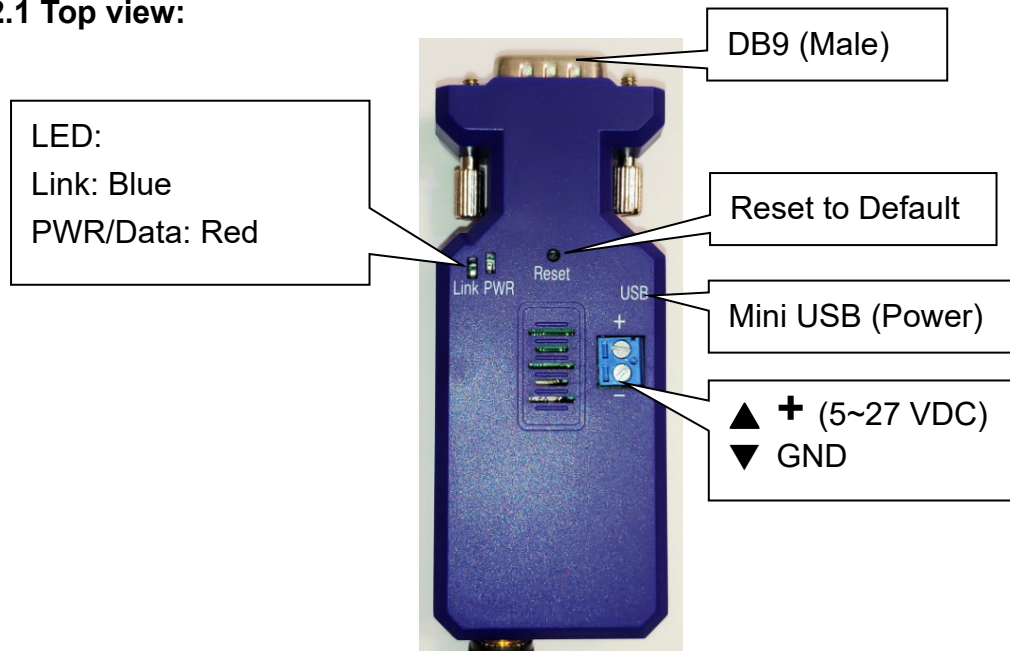
Model: S2W232E-C216

1. Package content:

WiFi RS-232 adapter  White Box Dimension: 11 x 6 x 5 (cm) Total Package Weight: 105 g 	Package Contents: ● WiFi RS-232 adapter x 1 ● A4 User manual x 1 ● Mini USB Cable x 1 
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2. Profile:

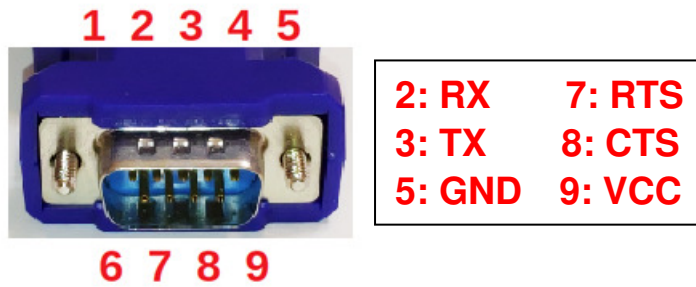
2.1 Top view:



2.2 Rear Side:



2.3 DB9 connector (Male)



Pin	Signal	DTE Direction	DCE Direction	Description
1	N/A			
2	RxD	Output	Input	Transmitted data
3	TxD	Input	Output	Received data
4	N/A			
5	GND			Ground
6	N/A			
7	RTS	Input	Output	Clear to send
8	CTS	Output	Input	Request to send (Default)
9	VCC			Power Input (5~27 VDC)

3. Power supply:

3.1 Voltage: 5~40 VDC, **Don't exceed the limit.**

3.2 There're 3 ways to power the adapter: Mini USB, 2P Terminal Block (Blue) and pin9 of DB9, please choose one. **Don't power the adapter by more than one source.**

3.3 The mini USB to type A cable is inside the standard package.

4. Specifications:

4.1 Default value:

- Baud rate: 115,200 bps
- Data bit: 8
- Parity: none
- Stop bit: 1
- Flow control: none
- SSID: USR-C216
- Configuration Webpage IP: 10.10.100.254
- Socket: TCP server, IP: 10.10.100.254, Port: 8899
- Log in ID: admin, PWD: admin

4.2 Serial Port:

- Baud Rate: 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200, 128000, 230400, 460800 bps
- Data bit: 7, 8
- Parity: none, even, odd, mark, space

- Stop bit: 1, 2
- Flow control/485: CTS/RTS (FC), NFC, 485

4.3 Support Wi-Fi 2.4 GHz 802.11b/g/n

4.4 Transmit Power:

- 802.11b: +19dBm(Max.@11Mbps , CCK)
- 802.11g: +18dBm(Max.@54Mbps , OFDM)
- 802.11n: +16dBm(Max.@HT20 , MCS7)

4.5 Receive Sensitivity:

- 802.11b: -85 dBm(@11Mbps , CCK)
- 802.11g: -70 dBm(@54Mbps , OFDM)
- 802.11n: -68 dBm(@HT20 , MCS7)

4.6 Operating Current (work with 3.3V power supply)

- AP: 74mA (average), 285mA (peak)
- STA: 32mA (average), 196mA (peak)

4.7 Support WPA/WPA2 security mode.

4.8 Socket: TCP Server, TCP Client, UDP Server, UDP Client

4.9 Wireless Network Type: AP, STA, AP+STA

4.10 Security: WPA-PSK/WPA2-PSK

4.11 Encryption: TKIP, AES

4.12 Network Protocol: IPv4, TCP/UDP

4.13 User Configuration: AT+command, Webpage setting

4.14 Support TCP Server/Client, Httpd Client

4.15 Support class RFC2217

4.16 Operation Temperature: -20 °C to +85 °C

4.17 Dimensions: 88.7 mm (L) x 35 mm (W) x 18.5 mm (H), without MA connector, with SMA connector 94.5mm (L)

4.18 Antenna Gain: max. 2 dB (default)

Remark: All contents are subject to change without notice.

5. Configuration:

5.1 Webpage:

5.1.1 Scan the SSID "USR-C216" by smartphone or PC, then connect it.

5.1.2 Execute the browser and type the IP address "10.10.100.254"

5.1.3 Log in the webpage by the ID: admin and PWD: admin.

5.1.4 Set the COM port by the webpage.

System Status	WiFi Mode Select	Help
WiFi Setting	WiFi Work Mode: AP mode	Network Name(SSID): 1-32 characters; Case sensitive Password: The AP password is 8-63 bytes (STA password without this restriction), NONE said no encryption; Case sensitive DHCP:
Trans Setting	Network Name(SSID):	
Extra Function	Password(8-63 bytes): NONE	
System Setting	IP Address: 10.10.100.254	
Firmware Update	Mask: 255.255.255.0	
About USR	Save	

5.1.5 Set the WiFi network by the webpage.

System Status	Serial Port Setting	Help
WiFi Setting	Baud Rate (1200-460800 bps): 115200 bps	Baud Rate: 1200~460800bps CTSRTS/485: Default is NFC Port: 1~65535 Server IP Address: When the module is Client, the remote server address to be connected; When it's TCP server, the parameter is invalid; The parameter can be IP or domain name
Trans Setting	Data Bit: 8 bit	
Extra Function	Check Bit: None	
System Setting	Stop Bit: 1 bit	
Firmware Update	CTSRTS/485: NFC	
About USR	Network Setting	
	Mode: Transparent	
	SocketA Connect Setting	
	Protocol: TCP-Server	
	Port: 8899	
	Server IP Address: 10.10.100.254	
	SocketB Connect Setting	
	Protocol: OFF	
	Port: 8899	
	Server IP Address: 10.10.100.254	

5.2 AT command

5.2.1 Connect the adapter via RS-232 with the PC.

5.2.2 Configure the COM port by default setting: 115,200 bps, 8 data bits, 1 stop bit, None parity.

5.2.3 Execute the terminal software, EX. Teraterm. Type “+++” enter the command mode. The adapter will echo “a”, please type “a” within 3 seconds.

5.2.4 The adapter will echo “+OK” and enter the command mode.

5.2.5 Exit from command mode to data mode

AT+ENTM<CR>

Return

<CR><LF>+OK<CR><LF>

5.2.5 Command set: AT+<CMD>[op][para-1,para-2,para-3,para-4...]<CR>

AT+: Prefix

<CMD>: Command set, please check the section 5.2.6

[op]: “=” command; “NULL” inquire

[para-1,para-2,para-3,para-4...] parameters

<CR>: Suffix

5.2.6 Response message:

<CR><LF>+<RSP>[op] [para-1,para-2,para-3,para-4...]<CR><LF>

+ : Prefix

<RSP>: Response message

“OK”: Successful

“ERR”: Fail

[para-n]: parameters

<CR>: ASCII “0x0d”

<LF>: ASCII “0x0a”

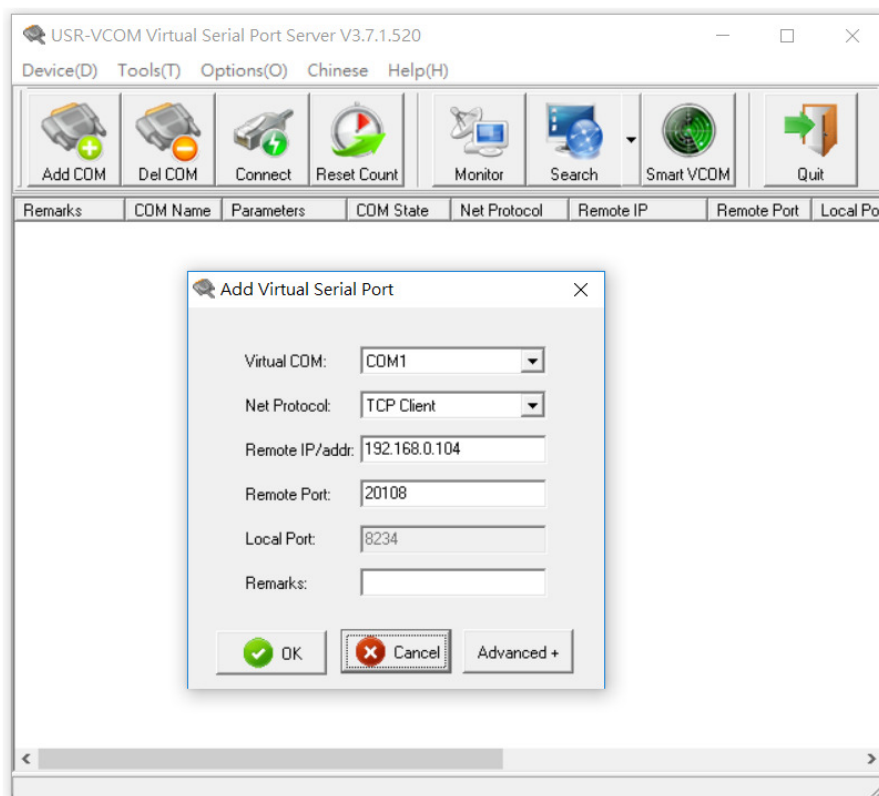
5.2.7 Command table

Command	Function
Basic Command	
ENTM	Exit serial AT command mode and enter work mode
E	Query/Set AT command echo
Z	Restart the USR device
CFGTF	Save the current setting as the user default factory setting
RELD	Restore user default factory setting
MAC	Query MAC address
SEARCH	Query/Set search port and keyword in LAN
MID	Query/Set module name
PLANG	Query/Set default language of settings webpage
VER	Query firmware version
WSCAN	Search surrounding AP
WIFI Settings command	
WMODE	Query/Set work mode of WIFI
WSTA	Query/Set SSID and password of connected AP
WANN	Query/Set module DHCP or Static IP, IP address, Mask, gateway address and DNS
WSLK	Query the status and RSSI in STA work mode
WAP	Query/Set AP parameter(SSID and key)
LANN	Query/Set IP address and MASK of module in AP work mode
CHANNEL	Query/Set the channel of module in AP work mode
Socket command	
SOCKA	Query/Set Networking protocol parameter of socketA
SOCKTOA	Query/Set timeout time of socketA
SOCKLKA	Query socketA TCP connection connect/disconnected
SOCKDISA	Query/Set socketA establish TCP connection ON/OFF
SOCKB	Query/Set Networking protocol parameter of socketB
SOCKTOB	Query/Set timeout time of socketB
SOCKLKB	Query socketB TCP connection connect/disconnected
SOCKDISB	Query/Set socketB establish TCP connection ON/OFF

Identity Headercommand	
REGENA	Query/Set status and method of identity header
REGID	Query/Set ID of identity header
REGUSR	Query/Set Customer's Self-defined identity header data
REGCLOUD	Query/Set USR Cloud name and password
UART command	
UART	Query/Set UART parameters
UARTTE	Query/Set intervalof UART Free-Frame
SLPTYPE	Query/Set sleep mode
RFCENA	Query/Set similar RFC2217 function ON/OFF
WKMOD	Query/Set Socket work mode
HTTPD Client command	
HTPSV	Query/Set HTTP Server Address and Port
HTPTP	Query/Set HTTP method
HTPHEAD	Query/Set HTTP header
HTPURL	Query/Set HTTP URL
HTPCHD	Query/Set filtering HTTP header of response data ON/OFF
HTPTO	Query/SetHTTP request timeout time
Other command	
PING	Network PING function
WEBU	Query/Set settings webpage username and password
GPIO	Query/Set GPIO parameters
SMTSL	Query/Set module smart connection mode
SMTLK	Enter smart connection mode
NTPEN	Query/Set NTP Network Clock function ON/OFF
NTPTM	Query time of Network Clock
NTPSER	Query/Set NTP server IP and timezone
NTPRF	Query/Set interval of proofing time
WAPM	Set displaying MAC suffix in SSID in AP mode ON/OFF;Set AP mode password;Set MAC suffix length
HEARTEN	Query/Set Heartbeat Packet ON/OFF
HEARTTP	Query/Set sending method of Heartbeat Packet
HEARTDT	Query/Set Heartbeat Packet data
HEARTTM	Query/Set sending interval of Heartbeat Packet
MDCH	Query/Set WIFI exception handling status

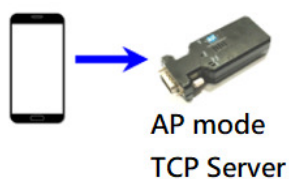
6. Virtual COM port software

The software will support convert the TCP socket to COM port on PC. The traditional application is available for the new WiFi to RS-232 adapter which will one to many



7. Network topology

7.1 AP mode (Default)



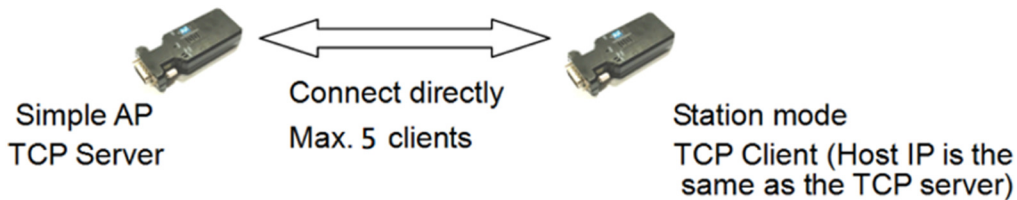
7.2 Station mode



7.3 TCP Client



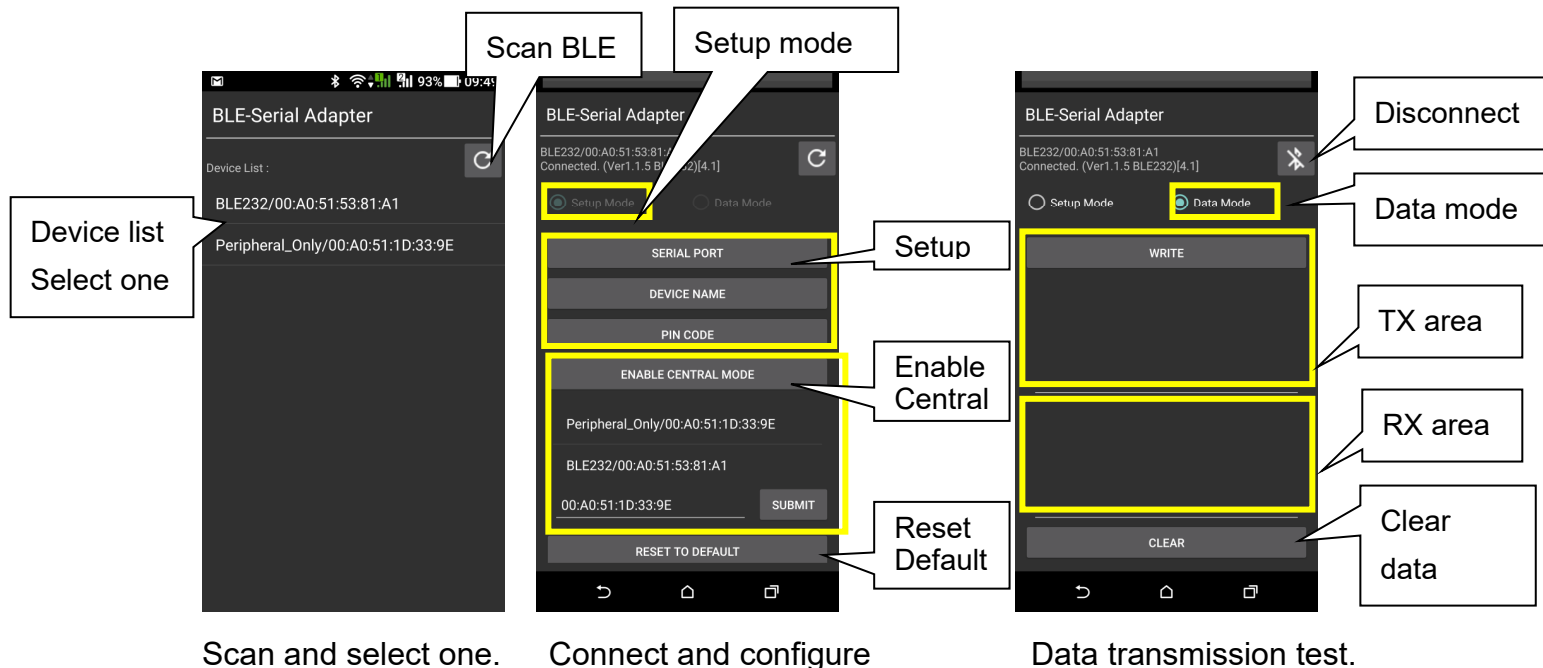
7.4 One to up to 5 broadcast



8. Download: The product is designed by USR C210 WiFi module. Please download the document and software from the site.

<https://pse.is/GFQZE>

9. APP: The APP is used for the configuration and the data transmission test.



Scan and select one.

Connect and configure

Data transmission test.

Serial Port Setting	Baud Rate	Stop Bit	Parity Bit	Flow Control
SERIAL PORT	921600	1	Even Parity	None
BAUD RATE	460800	1.5	Odd Parity	Hardware
DATA BITS	230400	2	No Parity	
STOP BIT	115200			
PARITY BIT	57600			
FLOW CONTROL	38400			
	19200			
	9600			
	4800			

Serial Port setting: Baud rate, Data bit. Stop bit. Parity. flow control.

Download: Please contact the supplier for the APP download or the sample code.

Android:



iOS:

