

Guideline to configure the transparent transmission mode of serial port 232/485 for 4G Router

The following uses a Local test environment as an example, shown as Figure1. For User's public Server network environment just refer to Figure2.

The network topology:

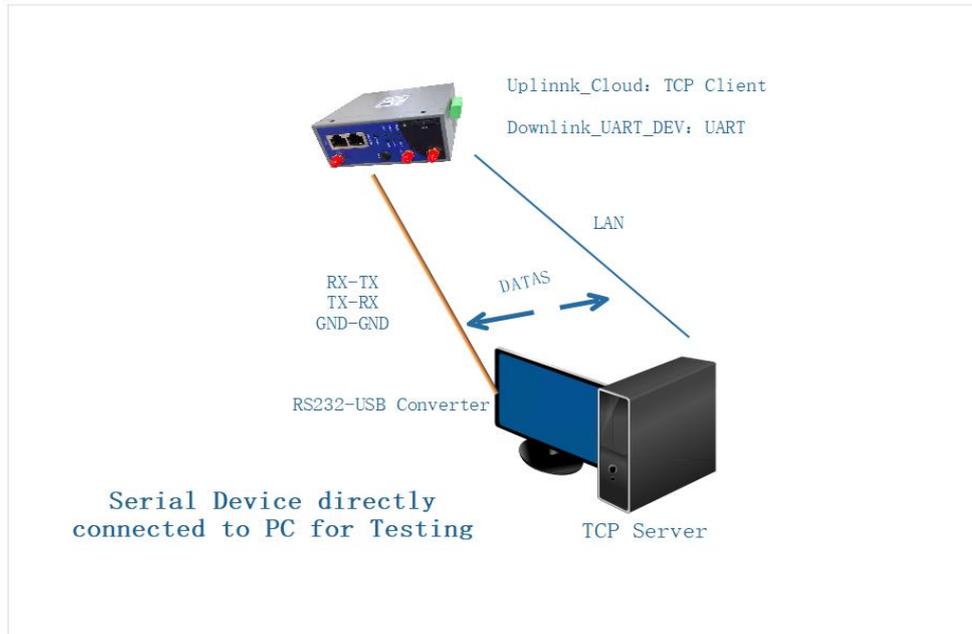


Figure1

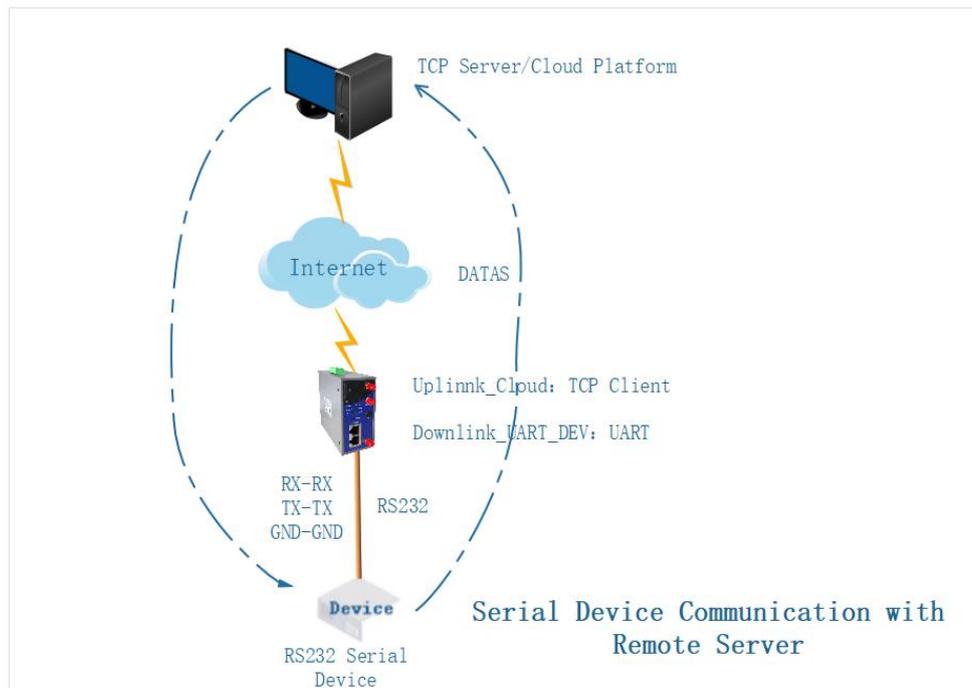
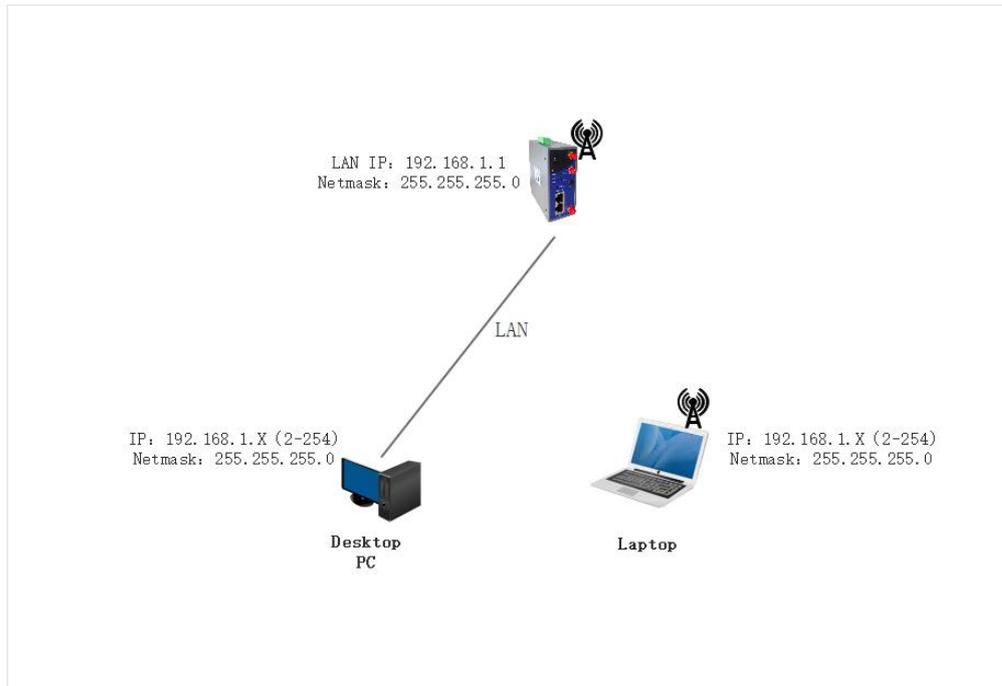
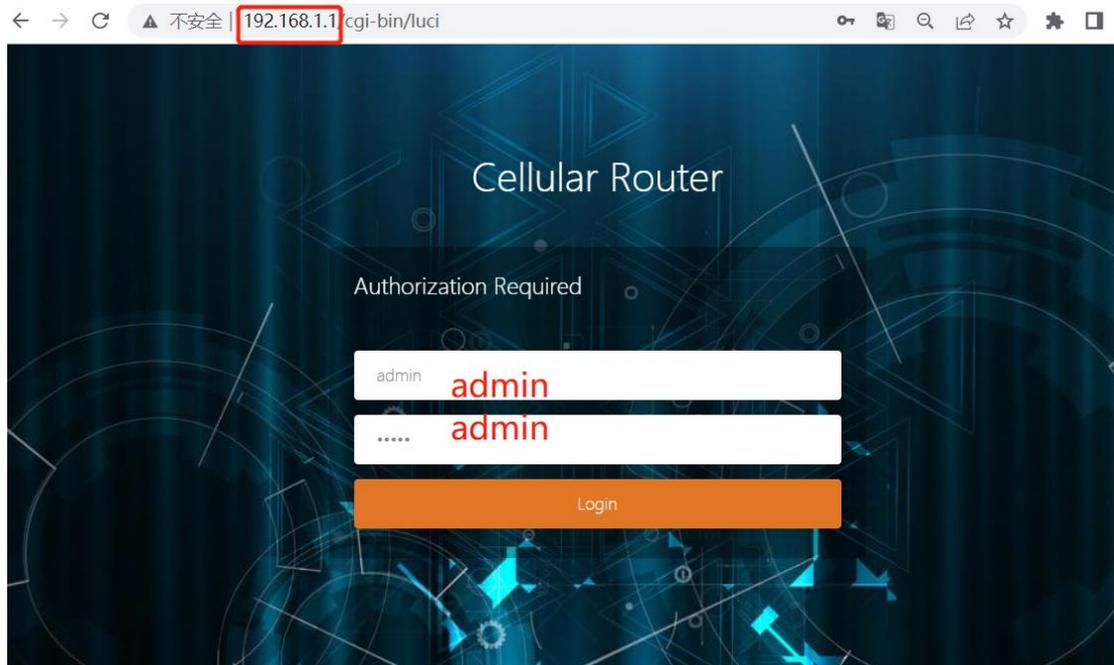


Figure2

1. Connect the LAN port of the router to the computer, and set the automatic dhcp mode for the computer Network Interface Card, and ensure that the computer can obtain the address 192.168.1.x, netmask 255.255.255.0 (with dhcp mode or static ip).



2. Open the browser, type the default IP address of the router with 192.168.1.1, then press Enter. And then input the username/password with admin/admin to login the Router.



3. After logging in, you will see overview details about the router system, including the software/hardware version, product model, product ID, networking mode, and MAC address, etc.

The screenshot shows the web interface for an M2M wireless terminal. The browser address bar displays the URL `192.168.1.1/cgi-bin/luci/`. The page title is "M2M wireless terminal" and "Cellular Router". The left sidebar contains navigation menus for System Status, Basic Network, Advanced Network, VPN Configuration, System Management, and Logout. The main content area is titled "Status" and contains a table of system information:

System			
Router Name	M2M	Product Name	ZR2721S
Firmware Version	Premium Wireless Router v2.5.221125	Product ID	1120ZR21908270518
Local Time	Mon Nov 28 19:44:33 2022	Hardware Class	Single Model Single Card
Uptime	0h 8m 39s	MAC Address	34:0a:68:24:b8:ec
Load Average	1.06, 1.11, 0.58	WAN Mode	4G/5G and Wired

Below the system information is a section for "MobileWAN Status" with a table of interface details:

MobileWAN Status	
Interface	Mobile Network1
Gateway	-
IPv4Address	-
DNS	-
Modem Type	LTE/WCDMA/TD-SCDMA/EVDO/CDMA/EDGE/GPRS/GSM
Modem IMEI	868821041133992
Modem IMSI	-
Modem ICCID	-
Network Operator	-

4. Check the LAN IP address of the router and PC address connected to router, shown as follows:

The screenshot shows the "Wired Network" configuration page in the web interface. The "LAN" tab is selected and highlighted with a red box. The page title is "Interfaces - LAN". Below the title is a section for "Common Configuration" with two tabs: "General Setup" and "Advanced Settings". The "General Setup" tab is active, showing the following configuration:

Common Configuration	
Status	Collecting data...
Protocol	Static address
IPv4 address	192.168.1.1/24
Use custom DNS servers	
IPv6 assignment length	64
IPv6 assignment hint	

System Status > Overview > Smartlink > Wired Network > eth1

MAC Address: 34:0A:68:24:B8:EC
 Netmask: 255.255.255.255
 Gateway: 0.0.0.0

Active Connections: 160 / 16384 (0%)

Memory

Total Available	72172 kB / 123688 kB (58%)
Free	64404 kB / 123688 kB (52%)
Buffered	7768 kB / 123688 kB (6%)

DHCP Leases

Hostname	IP Address	MAC-Address	Leasetime remaining
mc007	192.168.1.236	E4:E7:49:1A:A7:F3	11h 49m 21s

Wireless

Generic MAC80211 802.11bgn Wireless Controller (radio0)

SSID: ZR2721S-24b8ec
 Mode: Master
 Channel: 6 (2.437 GHz)
 Bitrate: ? Mbit/s
 BSSID: 34:0A:68:24:B8:EE
 Encryption: mixed WPA/WPA2 PSK (CCMP)
 Uptime: 0h 10m 57s

SSID: default
 Mode: Client
 Channel: 6 (2.437 GHz)
 Bitrate: ? Mbit/s
 Wireless is disabled or not associated

5. Start to configure smartlink usage.

5.1 to config 'cloud'/'uplink device' option: set it to TCP Client mode, and make sure the IP address and port of the server must be the same as that of the PC.

System Status > Overview > Smartlink > Wired Network > Tab operation

General | Collection | Advance

Mode Configuration

Enabled	Uplink Device	Downlink Device	
✓	Cloud	UART_DEV	EDIT DELETE

[ADD](#)

Connection Configuration

Enabled	Name	Working Mode	Target Address	Status	Conns	Protocol	
✓	Cloud	TCP Server	30001	Listening	0	Pass-Through	EDIT DELETE
✓	UART_DEV	UART	COM1	Connected	1	Pass-Through	EDIT DELETE

[ADD](#)

Serial Configuration

Interface	Speed	Data Bit	Stop Bit	Parity	Flow Control	
COM1	115200	8	1	None	None	EDIT

[SAVE & APPLY](#) [RESET](#)

System Status > Overview x Smartlink x Wired Network x Tab operation

General Collection Advance

Cloud

Enabled

Name Cloud

Working Mode TCP Client

Server Address 192.168.1.236:20000 +

PPort

Protocol Pass-Through

Enable Heartbeat

BACK TO OVERVIEW SAVE & APPLY RESET

5.2 Set serial port parameters, such as baud rate, data bit, and parity bit.

System Status > Overview x Smartlink x Wired Network x Tab operation

Mode Configuration

Enabled	Uplink Device	Downlink Device	EDIT	DELETE
<input checked="" type="checkbox"/>	Cloud	UART_DEV	EDIT	DELETE

ADD

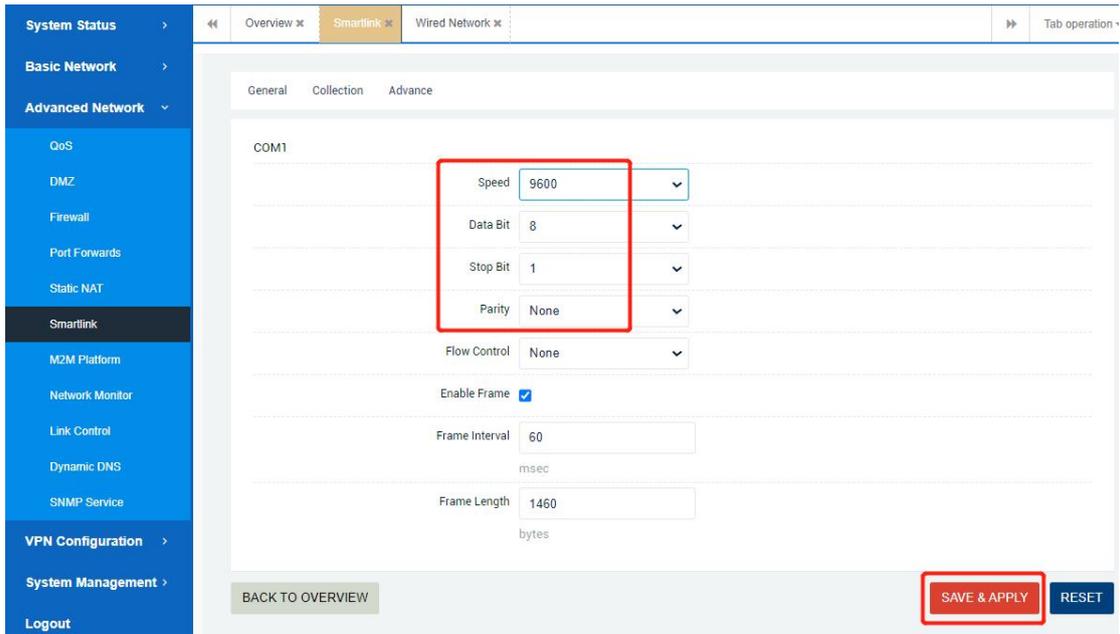
Connection Configuration

Enabled	Name	Working Mode	Target Address	Status	Conns	Protocol	EDIT	DELETE
<input checked="" type="checkbox"/>	Cloud	TCP Client	192.168.1.236:20000	Disconnect	0	Pass-Through	EDIT	DELETE
<input checked="" type="checkbox"/>	UART_DEV	UART	COM1	Connected	1	Pass-Through	EDIT	DELETE

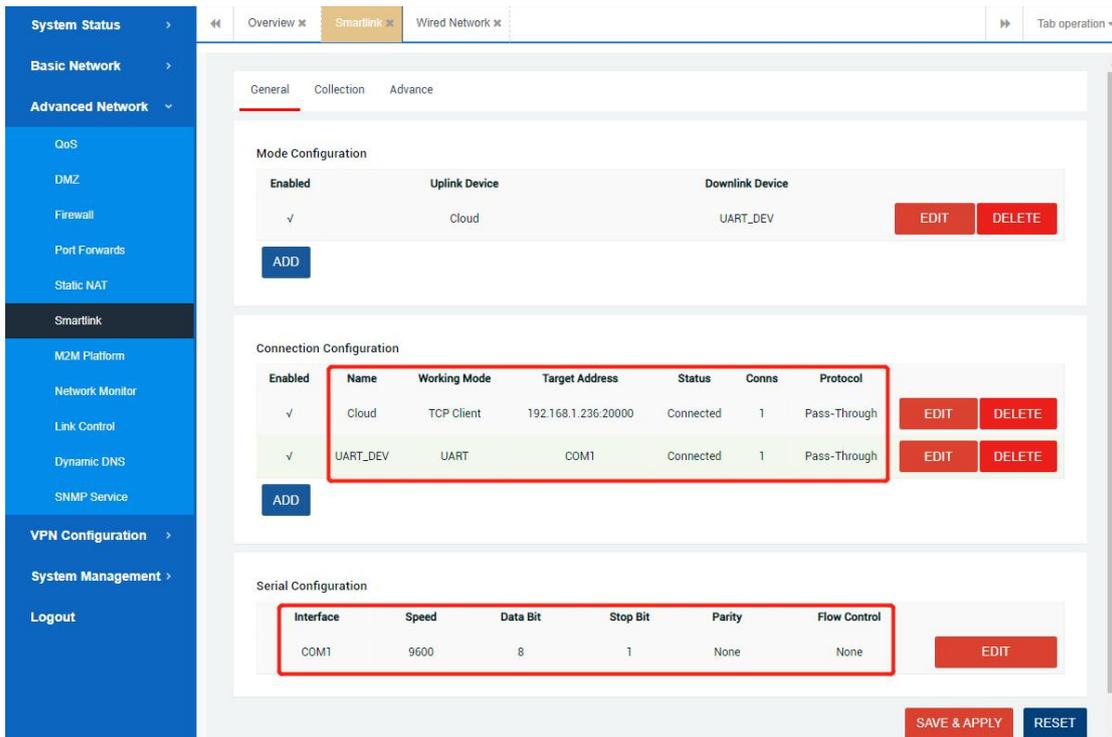
ADD

Serial Configuration

Interface	Speed	Data Bit	Stop Bit	Parity	Flow Control	EDIT
COM1	115200	8	1	None	None	EDIT



5.3 All configuration finished , show as figure below.



System Status > Overview < Smartlink > Tab operation >

Basic Network >

Advanced Network >

QoS

DMZ

Firewall

Port Forwards

Static NAT

Smartlink

M2M Platform

Network Monitor

Link Control

Dynamic DNS

SNMP Service

VPN Configuration >

System Management >

Logout

General Collection Advance

Mode Configuration

Enabled	Uplink Device	Downlink Device	
√	Cloud	UART_DEV	EDIT DELETE

ADD

Connection Configuration

Enabled	Name	Working Mode	Target Address	Status	Conns	Protocol	
√	Cloud	TCP Client	192.168.1.236:20000	Connected	1	Pass-Through	EDIT DELETE
√	UART_DEV	UART	COM1	Connected	1	Pass-Through	EDIT DELETE

ADD

Serial Configuration

Interface	Speed	Data Bit	Stop Bit	Parity	Flow Control	
COM1	9600	8	1	None	None	EDIT

SAVE & APPLY RESET

System Status > Overview < Smartlink > Tab operation >

Basic Network >

Advanced Network >

QoS

DMZ

Firewall

Port Forwards

Static NAT

Smartlink

M2M Platform

Network Monitor

Link Control

Dynamic DNS

SNMP Service

VPN Configuration >

System Management >

Logout

General Collection Advance

Cloud

Enabled

Name Cloud

Working Mode TCP Client

Server Address 192.168.1.236:20000 +

IPPort

Protocol Custom Proto

Msg Prefix

Standard hex string start at 0x or 0X, 4 Bytes length max

Msg Suffix

Standard hex string start at 0x or 0X, 4 Bytes length max

Msg Length Zone Byte 0

bytes

Msg Seq 0

bytes

Msg CRC NULL

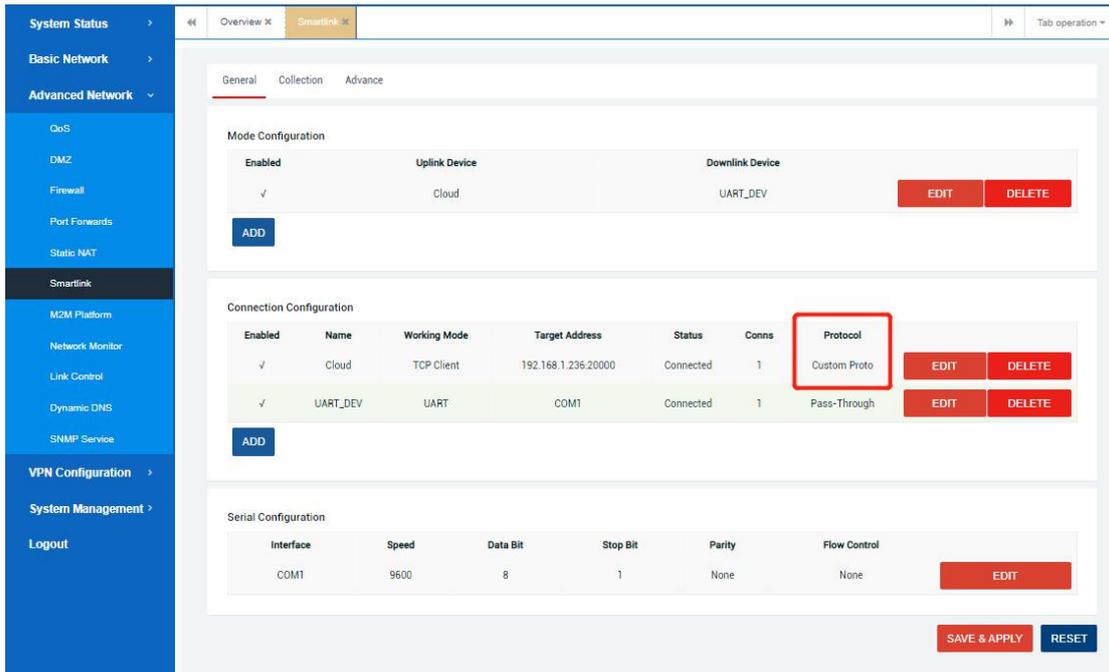
DeviceID 001

Support ASCII and HEX, standard hex string start at 0x or 0X, 16 Bytes length max

Report ID Only On Connect

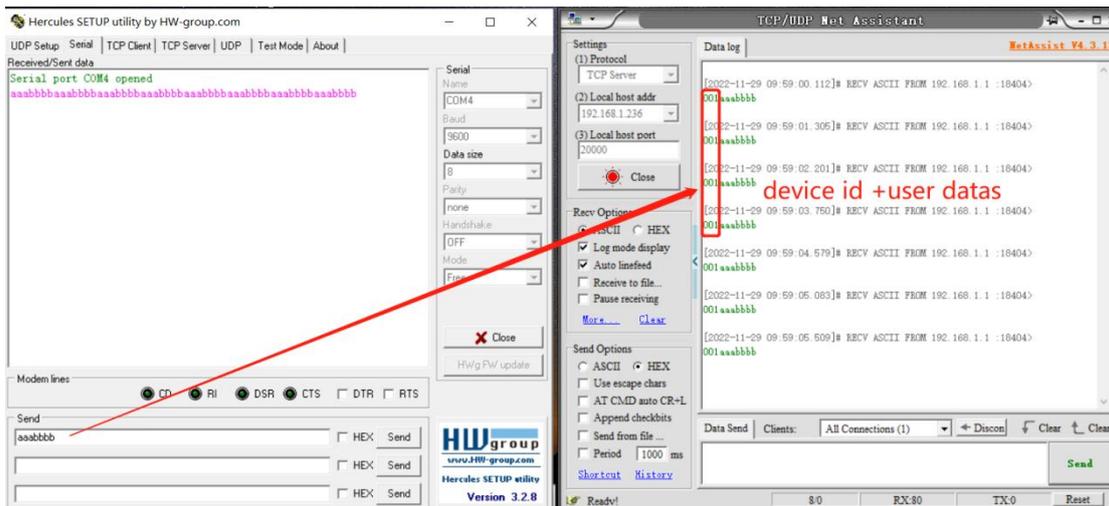
Enable Heartbeat

BACK TO OVERVIEW SAVE & APPLY RESET



In this case, you will see each piece of data received by the server contains a device ID, as shown in the following example:

Note: If the server also wants to send data to the remote serial port device/router, you must add the device ID before sending data. Otherwise, the router cannot parse and process data properly.



System Status Overview Smartlink Tab operation

Basic Network

Advanced Network

QoS

DMZ

Firewall

Port Forwards

Static NAT

Smartlink

M2M Platform

Network Monitor

Link Control

Dynamic DNS

SNMP Service

VPN Configuration

System Management

Logout

General Collection Advance

Cloud

Enabled

Name Cloud

Working Mode TCP Client

Server Address 192.168.1.236:20000

IP Port

Protocol Custom Proto

Msg Prefix

Standard hex string start at 0x or 0X, 4 Bytes length max

Msg Suffix

Standard hex string start at 0x or 0X, 4 Bytes length max

Msg Length Zone Byte 0

bytes

Msg Seq 0

bytes

Msg CRC NULL

DeviceID 005

Support ASCII and HEX, standard hex string start at 0x or 0X, 16 Bytes length max

Report ID Only On Connect

Enable Heartbeat

BACK TO OVERVIEW SAVE & APPLY RESET

System Status Overview Smartlink Tab operation

Basic Network

Advanced Network

QoS

DMZ

Firewall

Port Forwards

Static NAT

Smartlink

M2M Platform

Network Monitor

Link Control

Dynamic DNS

SNMP Service

VPN Configuration

System Management

Logout

General Collection Advance

Mode Configuration

Enabled	Uplink Device	Downlink Device	EDIT	DELETE
<input checked="" type="checkbox"/>	Cloud	UART_DEV	EDIT	DELETE

ADD

Connection Configuration

Enabled	Name	Working Mode	Target Address	Status	Conns	Protocol	EDIT	DELETE
<input checked="" type="checkbox"/>	Cloud	TCP Client	192.168.1.236:20000	Connected	1	Custom Proto	EDIT	DELETE
<input checked="" type="checkbox"/>	UART_DEV	UART	COM1	Connected	1	Pass-Through	EDIT	DELETE

ADD

Serial Configuration

Interface	Speed	Data Bit	Stop Bit	Parity	Flow Control	EDIT
COM1	9600	8	1	None	None	EDIT

SAVE & APPLY RESET

In this case, the test shows that the router reports the device ID every time it reconnects to the server. All data communication is normal transparent transmission, as shown below.

