

File Version

Confidential

1.3

T260S Series Router Technical Specification

Version 1.3

Shenzhen Libtor Technology Co., Ltd

Page 1 of 23

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FCC Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Industrial 4g router must be installed and operated with a minimum distance of 20cm between the radiator and user body.

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General

T260S series industrial grade wireless router communication products which are based on 3G and 4G internet requirements and developed by Shenzhen Libtor Technology co. Ltd. They are mainly applied for data transmission of industrial users and support transparent data transmission, picture transmission, equipment monitoring and wireless router internet functions.

T260S use 32 bit processors , it can process protocols and a large amount of data in a high speed . It also can match with many types of industrial modules for 3G /4G internet .(3G:WCDMA/EVDO/TD-SCDMA, 4G:TD-LTE/FDD-LTE). Providing 10/100M Ethernet network port ,WIFI wireless connector, serial port ,USB connector for connecting many kinds of terminal equipment .

Supporting Web configuration , easy management and remote message control .

Application

Electronics, Oil industry, Mineral, Finance, Communication, Public security, Heating, Industrial control, Meteorology, Water conservancy, Public transportation, local council and so on .

1.Product Feature:

- Adopt high grade industrial wireless module.
- Support 3G(WCDMA/CDMA/TD-SCDMA),4G(FDD-LTE/TD-LTE).
- Adopt metal case, IP30 protection grade.
- Wide voltage and current input: DC6-35V/3A;
- Anti-reverse power connection protection, surge protection, ESD protection .
- Software and hardware watch dog design, support anti-crash *functions*. protect equipment work stable and reliable.
- Automatic detection when network disconnects, automatically restart when dialing fails, scheduled reboot etc.
- Serial transparent transmission function, It can access to order control mode by serial port , control router and other equipment .
- SMS control dialing , offline and restart function
- Support socket server and customer end mode.
- Support different types of DDNS service.
- Port mapping ,DMZ host function.
- Support VPN, PPTP client,L2TP client.
- Support ads pushing function by customer end verification.

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2.Product Function

2.1 Software function

Connection way	3G/4g connection, DHCP/Static IP/ PPPOE
User quantities	Wire: 253, Wireless: 30
Operation system	Windows XP/VISTA Linux 2.6 Windows 7 MAC OS : 10.3.7and above
Browser	IE:6.0 and above Safari:1.2.4 and above Firefox:2.0.0.8 and above
Security Management	Firewall setting: Protect the computer in the local area network purposed attacking from Internet MAC filtration: Prohibition MAC address already added Access control: control the right of access to computer in LAN. Port restriction: Stop some virus according to some port from connection at one time . Stop DOS attack.
Server	Virtual server: set inner service server and provide user to access DMZ :when you need set the opening port of virtual server is not sure, you can set it into DMZ host. Port trigger: it can realize WIFI router open to the inner service port automatically by accessing to the port of Internet Serial port service: realize the serial port transit transparently ,AT order control and so on. Message service: it can control connection, hanging off and restarting by message. Ads verification/pushing: Customer end verified management by WIFI Dog Protocols.

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Equipment management	Area setting NTP Server setting Copy and storage system setting Recovering the setting information from files Recovery to default setting Software updating Remote management Restart Reset password
WLAN mode security	Open System WPA-PSK WPA2-PSK WPAPSK WPA2PSK(combine WPA-PS with WPA2-PSK mode) WPA1WPA2(combine WPA with WPA2 mode)

2.2 Hardware specification

Wireless connector	IEEE802.11b/g/n
Operation frequency	2400-2483.5M
Main core chip	Ralink RT5350
Antenna	RP-SMA (Internal spiral+hole)
WIFI transmission speed	150Mbps

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Outer connector	LAN connector:2 pcs (LAN1 is the self adjustive of WAN/LAN port) RS232connector:1pcs SIM card slot:1pcs antenna connector:2 pcs indicator:4pcs DC power supply connector:1 pc reset button:1pcs
Data speed	802.11n:upto150Mbps 802.11b:1,2,5,5,11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Transmission power	11nHT40MCS7:+13.5Bm 11bCCK:+18dBm 11g OFDM: +13.5dBm
Receive sensitivity	-66dBmat150Mpbs -73dBmat54Mpbs -86dBm at 11Mpbs
Dimension	Long*width*Height: 83*66*26mm(excluding antenna interface)
Power	DC supply power: 6-35V 3A
Consumption (current)	Smaller than 400mA
Work environment	Work temperature:-20°C ~ +75°C Storage temperature:-40°C ~ +80°C Humidity: 5%~95%,No condensation

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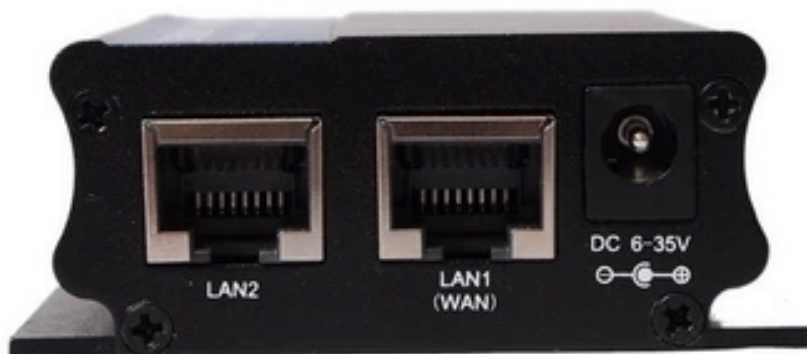
Mail:lemon@szlbt.net

2.3 Frequency in router application

Type	Frequency in use	Country /Territory
T260S (4G)	FDD-LTE: B1/2/3/5/7/8/20 WCDMA/HSDPA/HSPA+: B1/2/5/8 GSM/GPRS/EDGE: 850/900/1800/1900M	Europe, Asia Pacific ,Latin America, China and so on

3. Overview

A Side



B side

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**A side :**

- 1.LAN1/LAN2: Standard RJ45 connector; LAN1 can be used as WAN port in the standard router mode.
- 2.DC Power connector: use 2.1mm round head power connector
Inner "+" .Outer:"-", the Voltage Output is 6-35V, the power is larger than 10W.

B side:

1. 3G/4G/WIFI antenna connector: Sub Miniature A (outer part is helical and the inner part is hole connector)
2. Indicator :
LAN1/LAN2: The LAN1/LAN2 indicator light is on normally when wire internet connect with LAN1/LAN2 port. The indicator light will be flashing sometimes when data flow come through.

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SYS light: SYS light will be on when power is connected .It flashes slowly when system starts normally. It flashes quickly when press reset button .

3G/4G light: It flashes quickly when dial(bridge connection AP) in 3G/4G or WIFI bridge connection mode. It will be on normally when connect successfully.

3. R (reset) button : Press this button for 5 seconds when it is in open state , SYS light will be flashing quickly, restart . After that , Reset successfully.

4. Serial port connector: 2 mm 4 Pin connector. From left to Right is GDN/TX/RX/DC+, DC+ can be used as power output and power input.

5. SIM card slot : self locked slot, the card slot will be popped up when long press yellow button on the right

4.Sketch map

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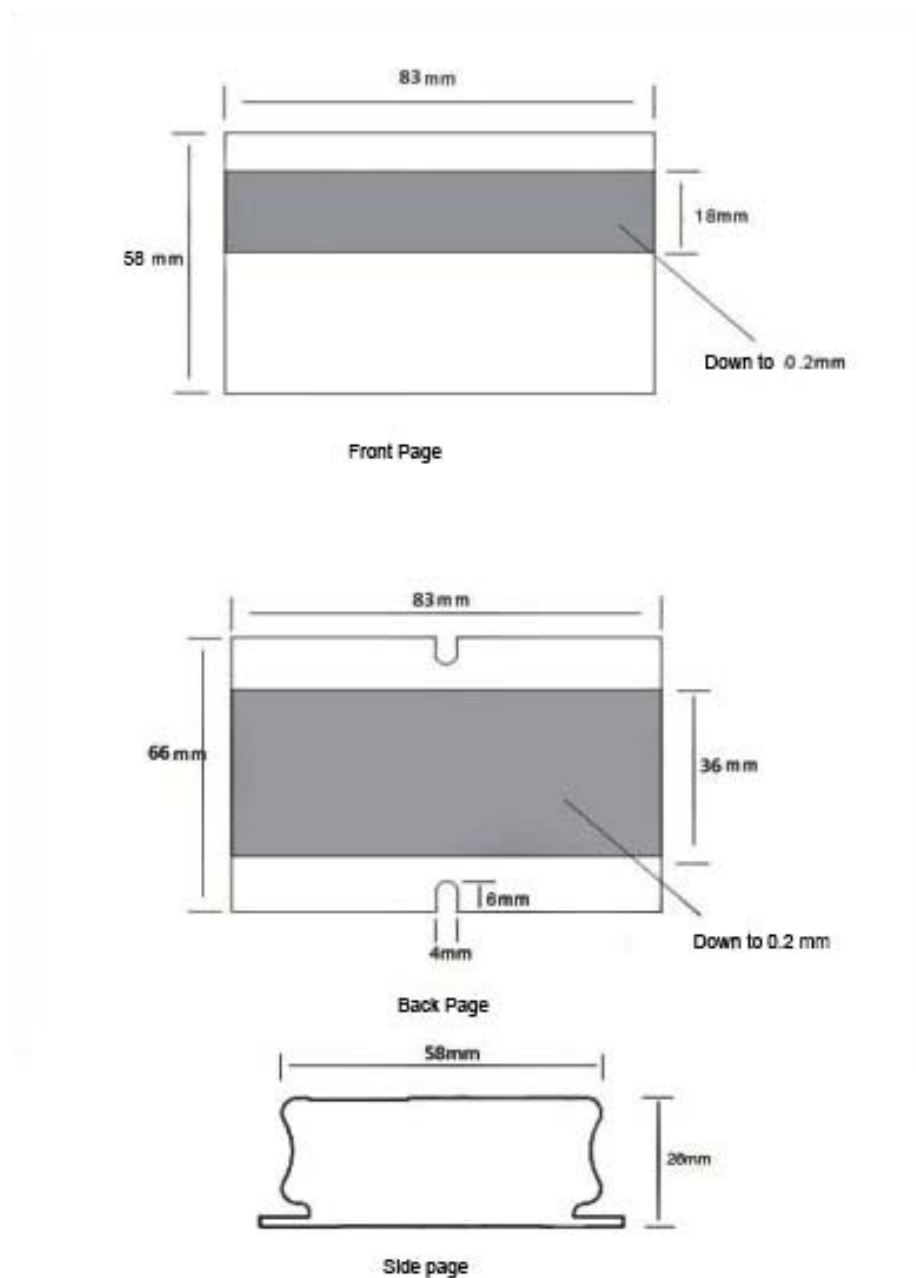
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5.T260S Serial Port manual specification

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1. Serial service can be divided into order mode and serial transparent transmission mode

a)Serial order mode: Send some orders to wireless router by serial port, we can obtain current time, current web type, current internet total data, current 3G/4G signal strength related information, detailed order can refer to serial port order table.

b)Serial port transparent mode : you can set the IP address and port of server you want to connect, Make 3G/4G router connected with the pointed TCP or UDP server, establish transparent data transmission channel ,realize the data transparent transmission.

C)If set serial service function open when it's power off, then it's on serial transparent mode and connect automatically pointed server when it's power on .

d) If set serial service function closed when it's power off, then it's on serial order mode and receive serial mode directly when it's power on.

e)You just need to sending “+++”if want to back to serial order mode from serial transparent mode. You just need to “ATO” if you want to back to transparent mode from serial port order mode.

2. Serial transparent mode can be divided into customer end mode and server mode ,

a) Customer end mode is normal use mode, it can connect remote server automatically when power on and can establish transparent data channel .

b) Server mode is detective mode , waiting for customer end connection. Only the assigned IP from China telecom is visible IP in public network and it can be used as server. The assigned IP from China mobile

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communication and China Unicom are inside network IP. External network can't access to, So it can't be used as server.

c)If you want to be used as a server, it can also use DDNS function. Namely is that fasten a fixed DN with assigned IP casually ,customer end only need to connect this fixed domain name and no worry the IP address frequency.

d)There are many providing DDNS service supplier so far ,such as "Oray","3322" and so on , Only need apply for related information (such as DN, user name, password) to service supplier and fill in the 3G/4G router setting. 3G/4G router can connect suppliers accordingly and automatically and complete fixed domain name .

3.If serial function is closed (transparent serial port function closed) ,then the serial port order can come into use.

6.T260S as customer end and realize serial data transmission

1. Use a computer's port (Terminal A) and serial connector of T260S(GND/TX1/RX1 from right to left) connect the serial port of computer .it should be (GND/RX/TX),Namely No.5 foot, No.2 foot, No.3 foot .

2. Use another computer (Server B), Link T260S with Internet line or WIFI, Open web setting of Wireless router (192.168.10.1), Open "system service", Choose "serial serve" to set

Current state working mode 3G setting LAN setting, WIFI setting QOS management web security system service router setting virtual service special application DMZ setting one-to-one NAT serial service Message service.

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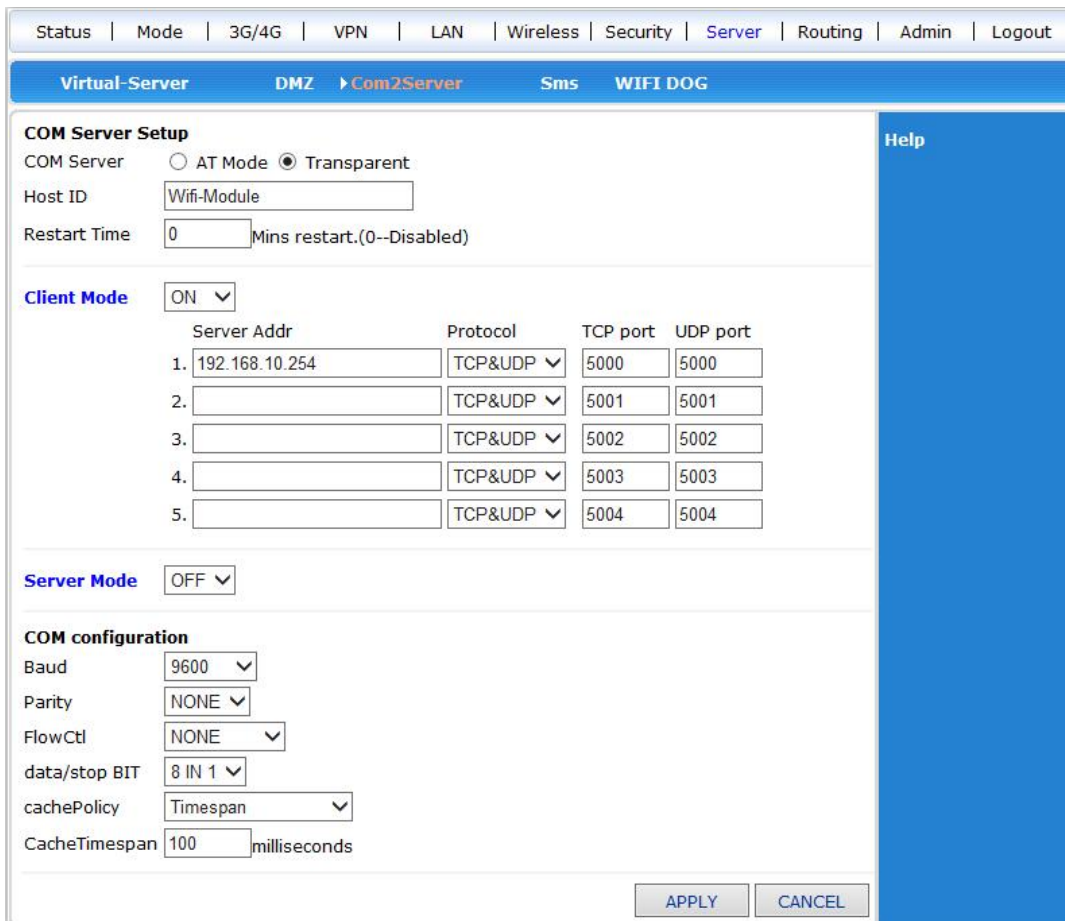
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7.T260S as customer end and realize serial data transmission

1. Use a computer's port (Terminal A) and serial connector of T260S(GND/TX1/RX1 from right to left) connect the serial port of computer .it should be (GND/RX/TX),Namely No.5 foot, No.2 foot, No.3 foot .
2. Use another computer (Server B), Link T260S with Internet line or WIFI, Open web setting of Wireless router (192.168.10.1), Open “system service”, Choose “serial serve” to set



The screenshot shows the web interface of the T260S router. The top navigation bar includes links for Status, Mode, 3G/4G, VPN, LAN, Wireless, Security, **Server**, Routing, Admin, and Logout. Below this, a sub-navigation bar highlights Virtual-Server, DMZ, **Com2Server**, Sms, and WIFI DOG. The main content area is titled "COM Server Setup" and contains the following sections:

- COM Server**: Radio buttons for AT Mode and Transparent (selected). Host ID is set to "Wifi-Module". Restart Time is set to 0 Mins restart.(0--Disabled).
- Client Mode**: A dropdown menu set to "ON". Below it is a table with 5 rows for server configuration:

	Server Addr	Protocol	TCP port	UDP port
1.	192.168.10.254	TCP&UDP	5000	5000
2.		TCP&UDP	5001	5001
3.		TCP&UDP	5002	5002
4.		TCP&UDP	5003	5003
5.		TCP&UDP	5004	5004

- Server Mode**: A dropdown menu set to "OFF".
- COM configuration**: Baud rate (9600), Parity (NONE), FlowCtl (NONE), data/stop BIT (8 IN 1), cachePolicy (Timespan), and CacheTimespan (100 milliseconds).

At the bottom right, there are "APPLY" and "CANCEL" buttons. A blue "Help" sidebar is visible on the right edge of the interface.

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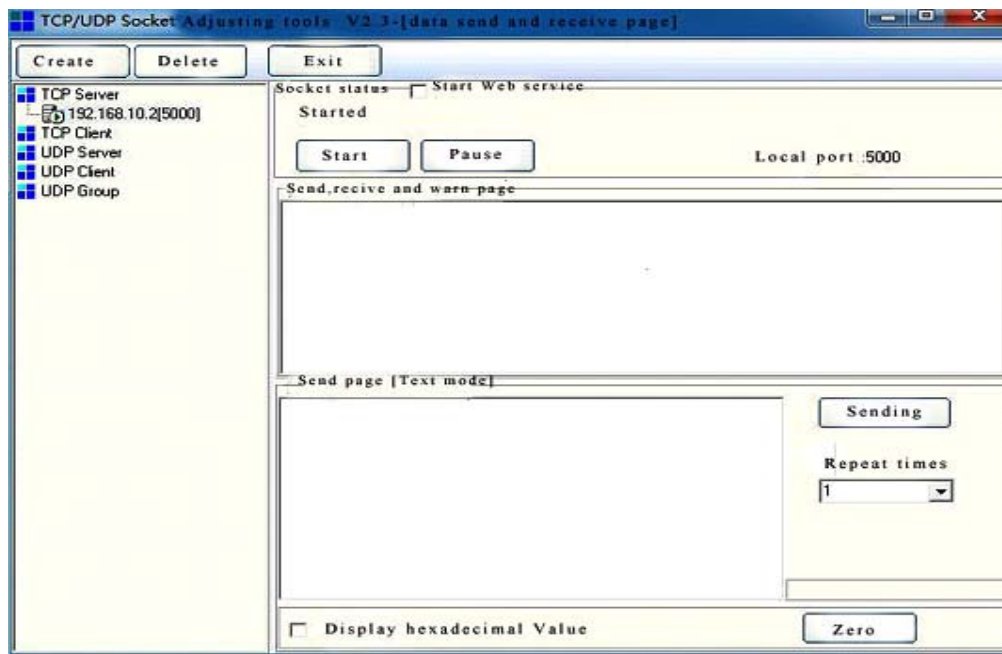
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3. Install server serial software in No. B computer. Set server type : TCP server, Server IP address:192.168.10.2, Serial port :5000.Router will search terminal equipment automatically and monitor connection successfully. Some software will get IP address automatically and can't revise, then it enters WEB setting screen, modify parameter of serial service for router. Make server's IP address accorded with ports one by one .



4.Open super terminal by using A computer, Choose COM1 connection, Pay attention to making Baud and so on parameters same with web setting of router .

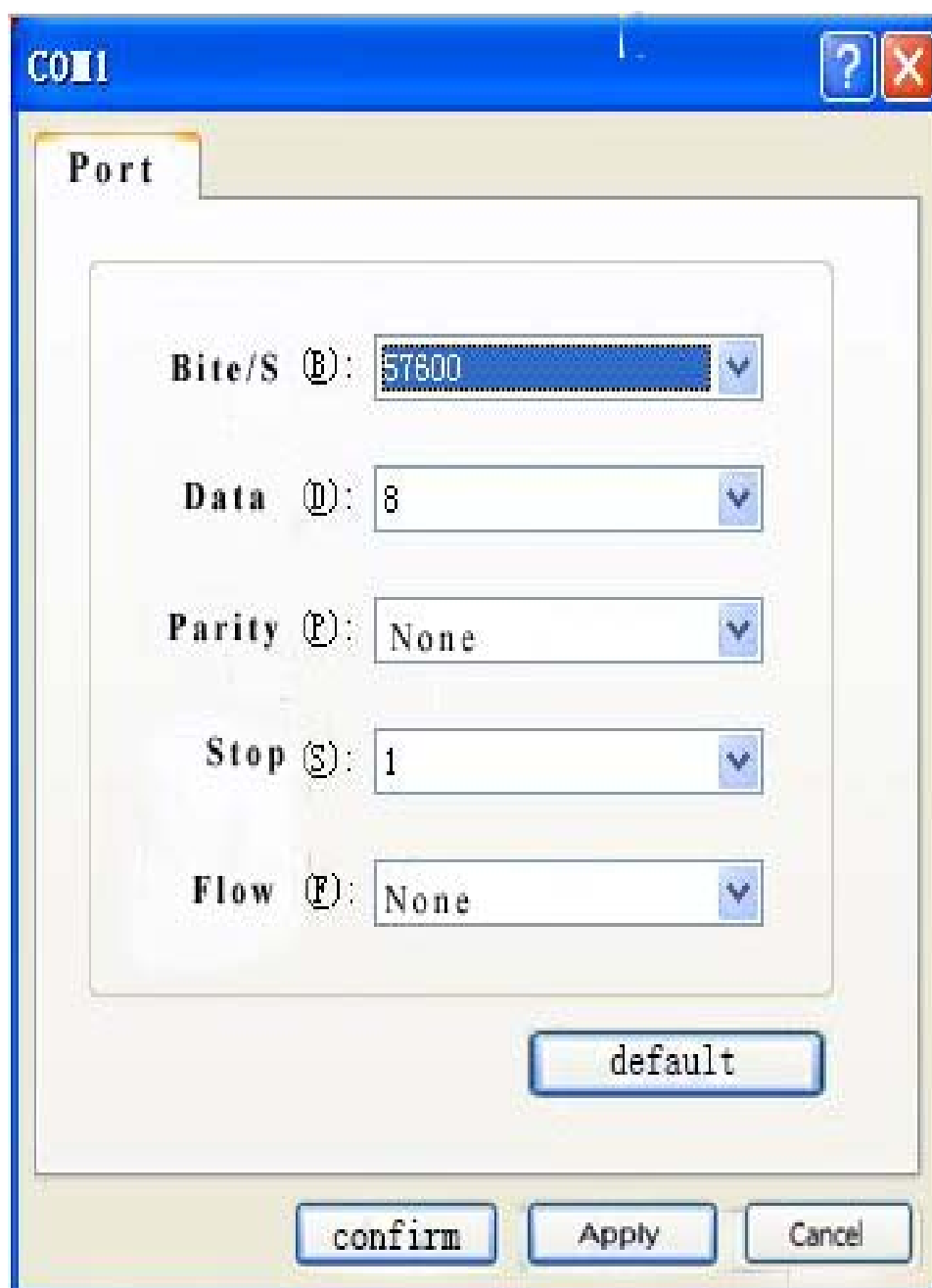
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COM1

Port

Bite/S (B): 57600

Data (D): 8

Parity (P): None

Stop (S): 1

Flow (F): None

default

confirm Apply Cancel

5.Now , It can data transparent transmission between A and B

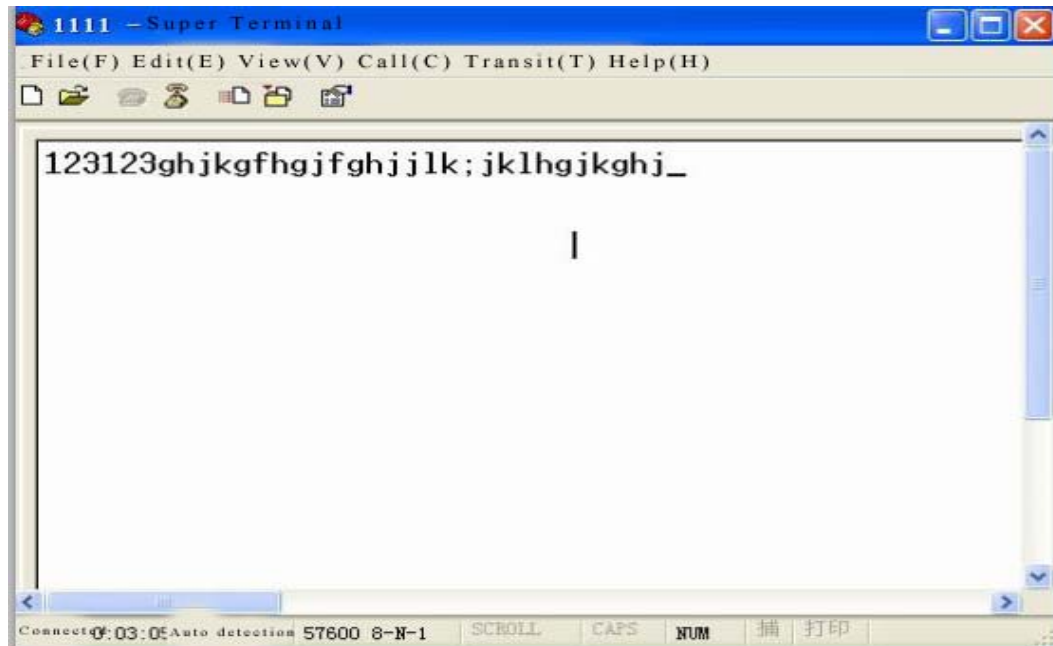
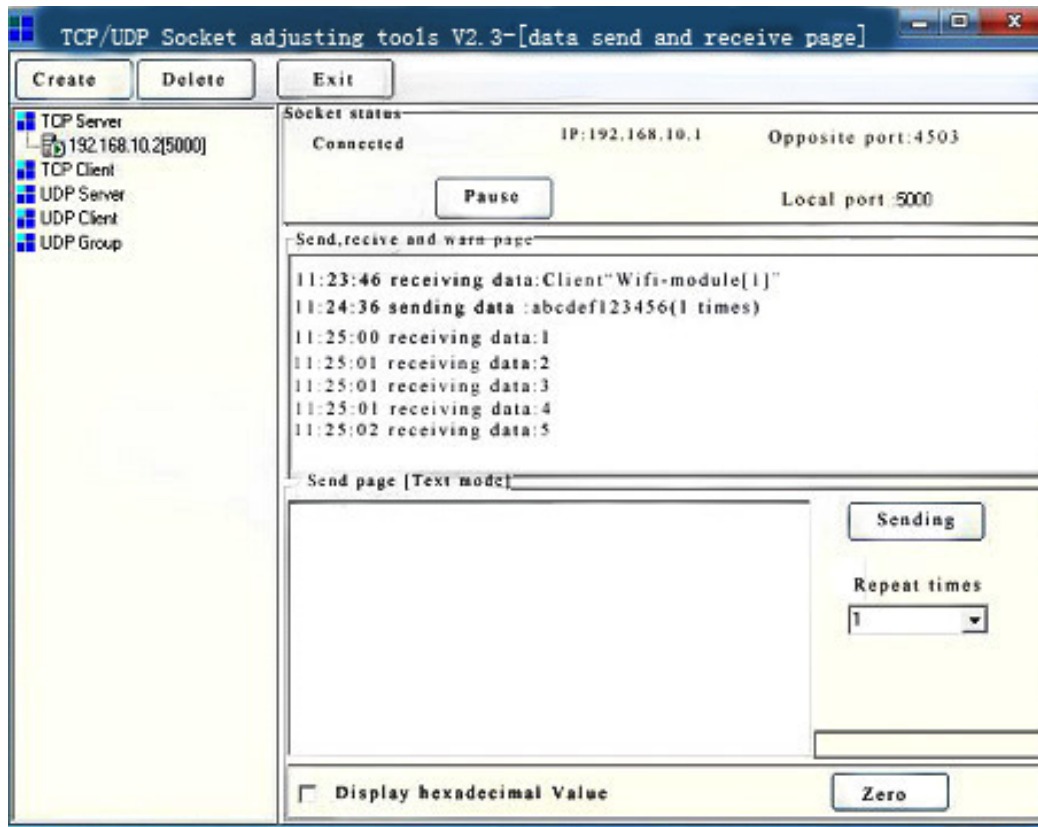
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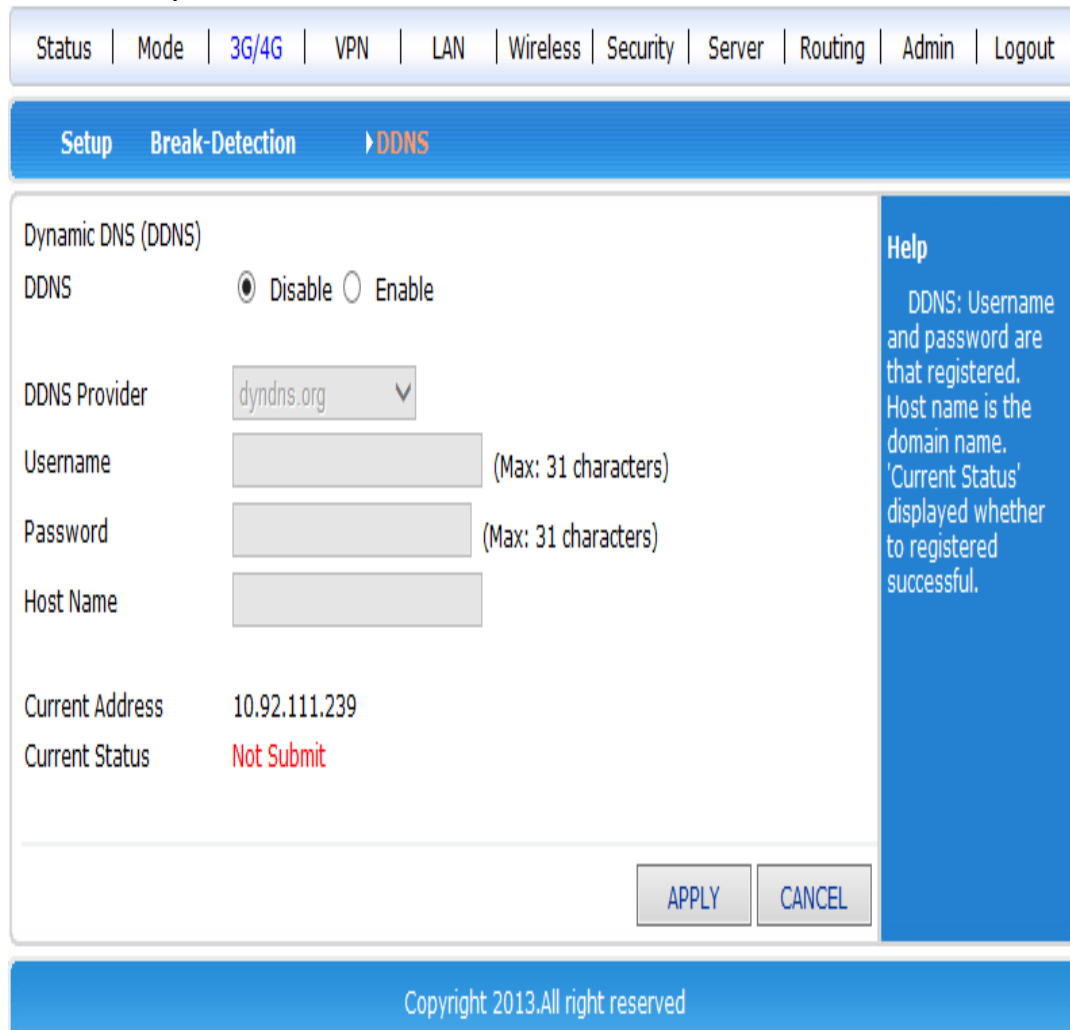
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8.T260S is used as server and realize remote data transmission

1. First, register a DDNS account, then ,we use “Oray” to test ,apply for Oray account is szlbt.xicp.net.
2. Enter T260S user management screen -3G/4G Setting -DDNS, fill in DDNS account information ,make sure the account could be registered successfully.



Dynamic DNS (DDNS)

DDNS ☒ Disable ☐ Enable

DDNS Provider dyndns.org

Username (Max: 31 characters)

Password (Max: 31 characters)

Host Name

Current Address 10.92.111.239

Current Status Not Submit

Help
DDNS: Username and password are that registered. Host name is the domain name. 'Current Status' displayed whether to registered successful.

APPLY CANCEL

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- 3.Enter system service -serial port service , Start T260S's server function

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Virtual-Server
DMZ
Com2Server
Sms
WIFI DOG

COM Server Setup

COM Server ☐ AT Mode ☒ Transparent

Host ID

Restart Time Mins restart.(0--Disabled)

Client Mode

	Server Addr	Protocol	TCP port	UDP port
1.	192.168.10.254	TCP&UDP	5000	5000
2.		TCP&UDP	5001	5001
3.		TCP&UDP	5002	5002
4.		TCP&UDP	5003	5003
5.		TCP&UDP	5004	5004

Server Mode

COM configuration

Baud

Parity

FlowCtl

data/stop BIT

cachePolicy

CacheTimespan milliseconds

Help

4.T260S connect Internet by China telecom 3G/4G web. Especially explaining, Only China telecom provide external IP in domestic 3G/4G Internet. China Unicom and China mobile telecom provide internal IP , We can't use DDNS

5. Find a computer whatever you want, Ping szlbt.xicp.net, obtain

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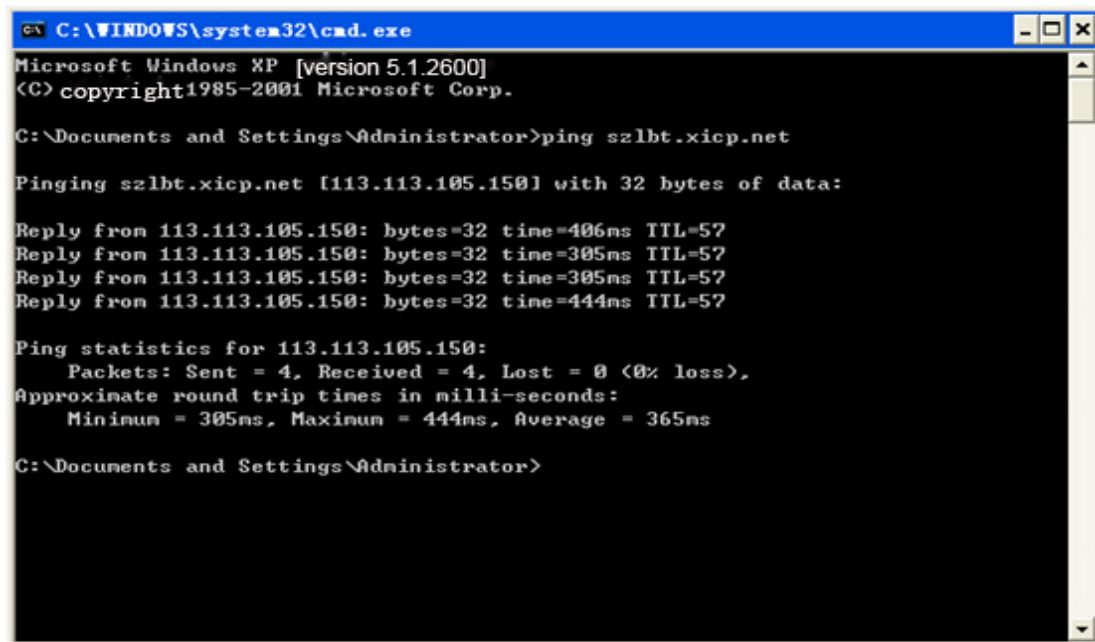
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T260S's IP address. We can obtain IP address (113.113.105.150).



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [version 5.1.2600]
(C) copyright1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>ping szlbt.xicp.net

Pinging szlbt.xicp.net [113.113.105.150] with 32 bytes of data:

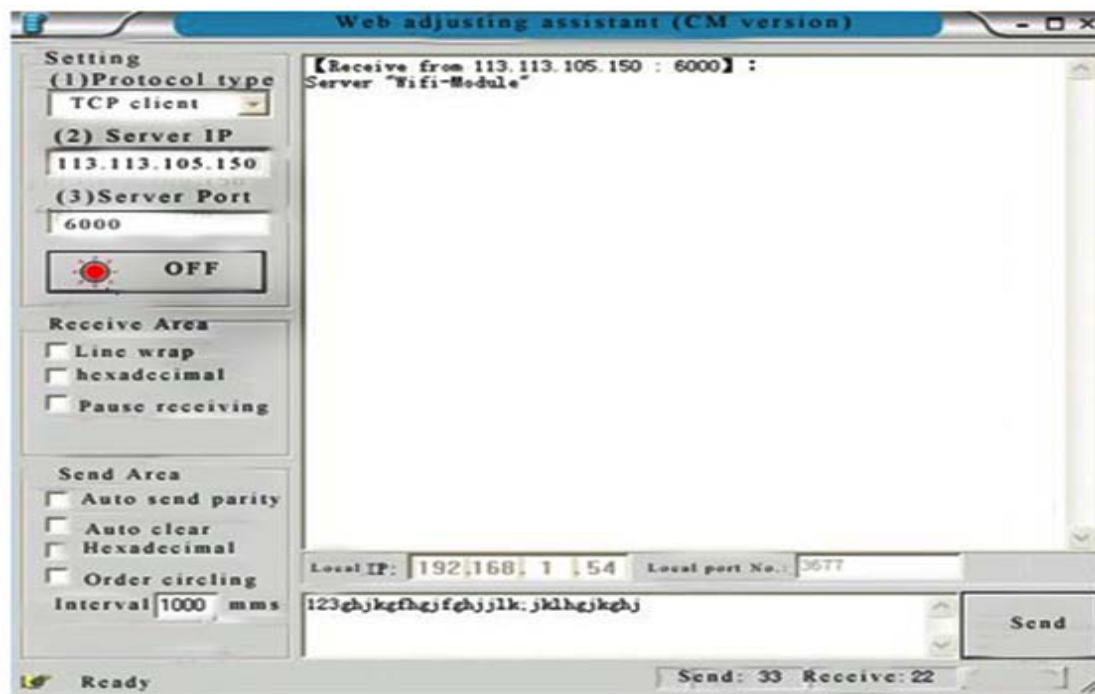
Reply from 113.113.105.150: bytes=32 time=406ms TTL=57
Reply from 113.113.105.150: bytes=32 time=305ms TTL=57
Reply from 113.113.105.150: bytes=32 time=305ms TTL=57
Reply from 113.113.105.150: bytes=32 time=444ms TTL=57

Ping statistics for 113.113.105.150:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 305ms, Maximum = 444ms, Average = 365ms

C:\Documents and Settings\Administrator>
```

TCP/UDP Socket adjusting tools V2.3-[data send and receive page]

6.Install TCP customer end software on computer. Do related setting .



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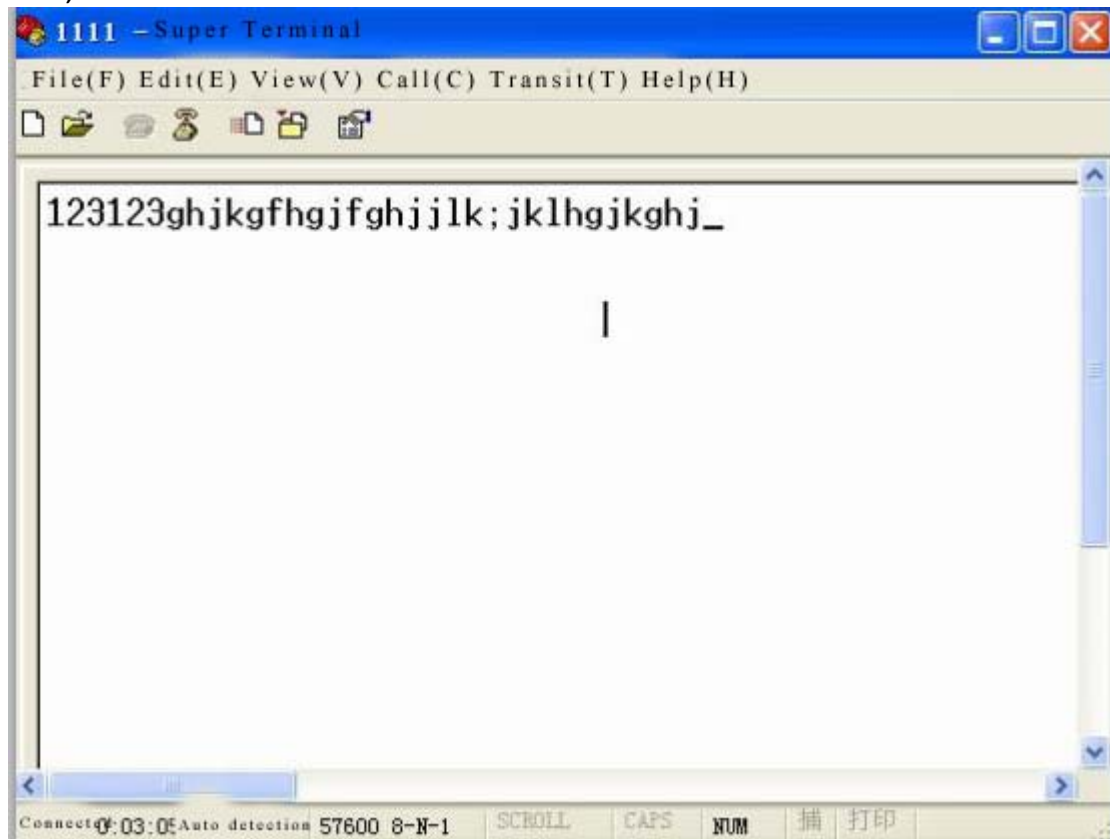
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7. T260S use serial port to connect a computer, open super customer end, then it can obtain the data from customer end .



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