Installation and Configuration Quick Guide QX210

Industrial Cellular Router

(2 Eth + 1 SIM + 1 RS232/485)

Package Contents

Before installing your QX210 Router, please verify the kit contents as following. 1 x QX210 Industrial Cellular Router 1 x power adapter(12V DC/1A) 1 x Quick Start Guide

1 x Ethernet Cable1 x SMA Cellular antenna (magnet/stubby optional)1 x SMA Wi-Fi antenna (magnet/stubby optional)

*If any of the above items is missing or damaged, please contact your sales representative.

Environmental Requirements

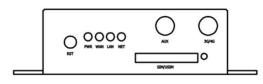
Input voltage: 7.5V-32V(standard DC12V/1A) Operating temperature: -30 to +70 °C Storage temperature: -40 to 85°C Relative humidity: < 95% (no condensation)

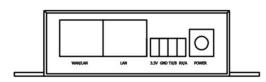
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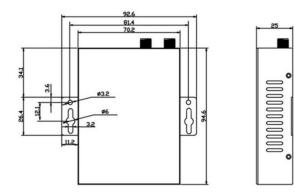
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Hardware Introduction

1. Overview







2. LED Indicators

| Name | Color | Status | Description | |
|------|-------|-----------------|--------------------------------|--|
| PWR | Green | On | Router is powered on | |
| | | Off | Router is powered off | |
| WAN | Green | On, blinking | Link connection is working | |
| | | (100 mSec blink | | |
| | | time) | | |
| | | Off | Link connection is not working | |
| LAN | Green | On, blinking | Link connection is working | |
| | | (100 mSec blink | | |
| | | time) | | |
| | | Off | Link connection is not working | |
| NET | Green | On, solid | Network is joined successfully | |
| | | | and worked in an optimum one | |
| | | On, blinking | Network is joined successfully | |
| | | | but worked in a lower-level | |
| | | | than standard | |
| | | Off | Network is not joined | |

3. Reset Button

1 0

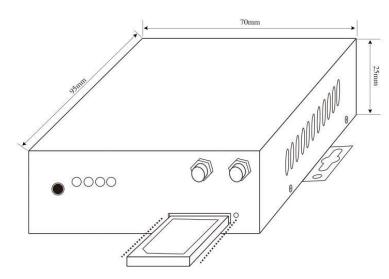
After powered up the router, press and hold the RST button for 10 seconds, and release the button to return the router to factory defaults.

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Hardware Installation

1. Insert or Remove SIM Card



Insert or remove the SIM card as shown in the following steps.

✓ Insert SIM card

1) Make sure router is powered off.

2) To open the SIM card slot, use a card removal pin plug in the card hole.

3) To insert SIM card, press the card with finger until your hear a click and then push back the sim card slot

✓ Remove SIM card

1) Make sure router is powered off.

2) To open the SIM card slot, use a card removal pin plug in the card hole.3) To remove SIM card, press the card with finger until it pops out and then

take out the card.4) To push back the sim card slot.

Note:

1) Use the specific card when the device is working in extreme temperature (temperature exceeding 40 °C), because the regular card for long-time working in harsh environment will be disconnected frequently.

2) Do not forget to push back the card to avoid being lost.

3) Do not touch the metal of the card surface in case information in the card will lose or be destroyed.

4) Do not bend or scratch the card.

5) Keep the card away from electricity and magnetism.

6) Make sure router is powered off before inserting or removing the card.

2. Attach External Antenna (SMA Type)

Attach external SMA antenna to the router's antenna connector and twist tightly. Make sure the antenna is within the correct frequency range provided by the ISP and with 50 Ohm impedance.

3. Mount the Router

The router can be placed on a desktop or mounted to a wall.

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Use 2 pieces of drywall screws to mount the router with the wall mounting kit on the wall.

4. Connect the Router to a Computer

Connect an Ethernet cable to the LAN port of the router, and connect the

PC Configuration

other end of the cable to your computer.

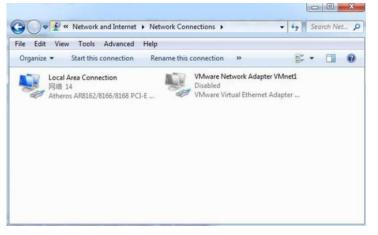
5. Power Supply

Connect the power adapter to the power input interface of the router. Note:Voltage input is during 7.5V-32V DC..

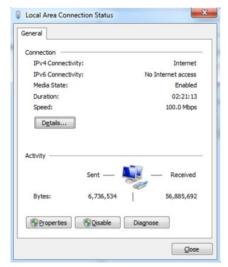
There are two methods to get IP address for the PC. One is to obtain an IP address automatically from "Local Area Connection", and another is to configure a static IP address manually within the same subnet of the router. Please refer to the steps below.

Here take Windows 10 as example, and the configuration for windows system is similar.

1. Click Start > Control panel, click Network and Internet, click Network and Sharing Center, click Change Adapter Settings, and then double-click Local Area Connection (Ethernet).



2. Click **Properties** in the window of **Local Area Connection (Ethernet)** Status.



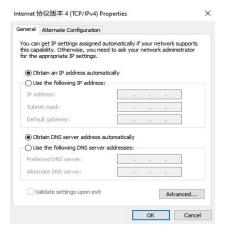
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3. Choose Internet Protocol Version 4 (TCP/IPv4) and click Properties.



4. Two ways for configuring the IP address of PC.

1) Obtain an IP address automatically:



2.) Use the following IP address

Configured a static IP address manually within the same subnet of the router, router default IP address is 192.168.1.1, so static IP address set as 192.168.1.xxx (XXX can be any number between $2\sim$ 254).

| eneral | |
|------------------------------|--|
| | d automatically if your network supports need to ask your network administrator |
| Obtain an IP address auto | matically |
| • Use the following IP addre | 55: |
| IP address: | 192.168.1.2 |
| Subnet mask: | 255.255.255.0 |
| Default gateway: | 192.168.1.1 |
| Obtain DNS server address | a notematically |
| Use the following DNS server | 2 C |
| Preferred DNS server: | 192.168.1.1 |
| Alternate DNS server: | |
| Validate settings upon exi | t Advanced |

5. Click **OK** to finish the configuration.

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Router Configuration

1. Log in the Router

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To log in to the management page and view the configuration status of your router, please follow the steps below.

1) On your PC, open a web browser such as Internet Explorer, Google or Firefox etc.

2) From your web browser, type the IP address of the router into the address bar and press enter. The default IP address of the router is **192.168.1.1**, though the actual address may vary.



3) In the login page, enter the username and password, then click **Login**. The default username and password are "**admin**".



4) After logging in, the home page of the QX210 Router's web interface is

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displayed, for example.

| System Status > 🔸 | C. | | | | |
|--------------------|------------------|-------------------------------------|----------------------------------|----------------|--------------------------|
| | | | | | |
| asic Network > | Status | | | | |
| dvanced Network > | | | | | |
| PN Configuration | System | | | | |
| | Router Name | M2M | | Product Name | ZR2721S |
| ystem Management > | Firmware Version | Premium Wireless Router v1.1.2.0302 | | Product ID | 1120ZR22004080001 |
| ogout | Local Time | Sun Apr 19 17:19:50 2020 | | Hardware Class | Single Model Single Carr |
| | Uptime | 0h 45m 33s | | MAC Address | 34.0ar68:25:0brcc |
| | Load Average | 0.16, 0.08, 0.20 | | WAN Mode | 3G/4G and Wired |
| | | | | | |
| | 3G/4G WAN Status | | | | |
| | Interface | | Mobile Network1 | | |
| | Address | | 10.45.82.104 | | |
| | Gateway | | 10.45.82.105 | | |
| | DNS | | 202.96.128.86 / 202.96.134.133 | | |
| | Modem Type | | LTE/WCDMA/TD-SCDMA/EVD0/CDMA/GSM | | |

2. Configure the Cellular Connection

There are two methods to dial up for cellular connection of this router.

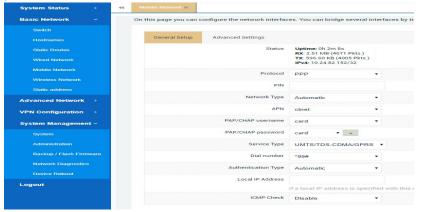
1) DHCP dial-up (Default)

Click **Basic Network > Mobile Network,** choose "**DHCP client**" as the Protocol, don't change other default settings, click **SAVE & APPLY** button.

| System Status | | 44 | Mobile Network 🕿 👘 | | | |
|-------------------|------|----|------------------------|-------------------------------|--|--------------------------------|
| Basic Network | | | nterfaces - 3GWA | | | |
| | | 0 | on this page you can o | onfigure the network interfac | es. You can bridge several ir | nterfaces by ticking the "brid |
| | | | General Setup | Advanced Settings | | |
| | | | | | | |
| Wired Network | | | | Status | Uptime: 1h 6m 2s MAC: 22-88-47-E3-DB-A5 | |
| | | | | | RX: 72.63 MB (70252 Pkts.) | |
| | | | | | TX: 5.84 MB (54215 Pkts.) IPv4: 10.45.82.104/28 | |
| | | | | | | |
| | | | | Protocol | DHCP client | - |
| Advanced Network | | | Hostname t | o send when requesting DHCP | MSM | |
| VPN Configuration | | | | PIN | | |
| System Manageme | nt > | | | Network Type | Automatic | • |
| Logout | | | | APN | ctnet | - |
| | | | | PAP/CHAP username | oard | • |
| | | | | PAP/CHAP password | card • - | |
| | | | | Authentication Type | CHAP | - |
| | | | | ICMP Check | Disable | - |

2) PPP dial-up

When you don't want to dial up with DHCP, this router also provide PPP dial-up option. Click **Basic Network > Mobile Network**, choose "**PPP**" as the Protocol, click **SWITCH PROTOCOL** button, no need to change the default parameter, click **SAVE & APPLY** button.



3) Check the cellular connection status

Click **System Status > 3G/4G WAN Status** to view the status of the cellular connection, the details status information will be displayed.

| System Status 🛛 👻 | 44 Mobile Network × Overview × | |
|---------------------|--------------------------------|----------------------------------|
| Overview | 3G/4G WAN Status | |
| Routes | Interface | Mobile Network1 |
| System Log | Address | 10.6.114.224 |
| Kernel Log | Gateway | 10.6.114.225 |
| Kerner Log | DNS | 202.96.134.33 / 202.96.128.166 |
| Realtime Graphs | Modem Type | LTE/WCDMA/TD-SCDMA/EVD0/CDMA/GSM |
| Load Balancing | Modem IMEI | 863879043609893 |
| Basic Network > | Modem IMSI | 460030787067217 |
| | Network Operator | China Telecom |
| Advanced Network > | Current Network Standard | FDD LTE |
| VPN Configuration | USIM Status | simready |
| | RSSI | 31 🚚 (-51 dBm / 100%) |
| System Management > | ConnectStatus | connected 0h 1m 23s |
| Logout | | |

Note:

A) This router support IoT and VPDN card of multiple carriers.

B) Generally, this router will identify APN information automatically. When dail-up fail with some IoT card and VPDN card, please contact your carrier and fill in the AP data such as username, password to configure then get cellular connection.

C) This router support wired connection, the configuration is similar with cellular network. Click **Basic Network > Wired Network > WAN**, choose "**DHCP client**" (Optional PPPoE, Static address) as the Protocol, click **SAVE & APPLY** button.

3. Configure the WiFi Connection (WiFi Client Mode)

Besides Wired Ethernet and Cellular connection, this router also support WiFi connect to internet (WiFi Client Mode)

> Click Basic Network > Wireless Network, click SCAN button

| System Status | 66 WiteHiss Defects 8 | | | | | 39 Tab operation - |
|---------------------|-----------------------------|---|---------------|----------------|--|--|
| Basic Network 👻 | | | | | | |
| Switch | radic0: Client "ZUWL-HUAWD" | | | | | |
| Hottoms | Wireless Overview | | | | | |
| Math: Rocks | ≡ radic0 | Generic 802.11bgn Wireless Controller Channel: 7 (7 GHz) Bitrate: 7 Mbit/s | | | RESTART | SCAN |
| Wred Network | | contract (cour) and a rest of | | | | |
| Mobile Network | | SSID: ZUM_HUKWEI Mode: Client Wiveless is disabled | | | ENABLE | EDIT |
| Wreisss Notwork | | Province of Construction | | | | |
| Slats address | Associated Stations | | | | | |
| Advanced Network | Network | MAC-Address | Host | Signal / Noise | RX R | ate / TX Rate |
| VPN Configuration | | | No informatio | on available | | |
| System Management > | | | | | Browned by Observices (Mark W) Tackender | gy Co.1.1d. / Premium Windess Router v1.1.2.0002 |
| Logout | | | | | | g visse / remain marrie signifier a source |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

> Select the WiFi network you want to join, click **JOIN NETWORK** button

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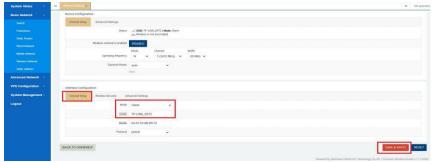
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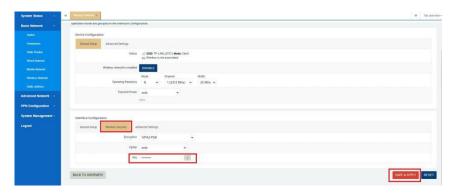
| System Status 🔹 🔲 | Western Balance B | | | | | | 34 Tati open |
|---------------------|------------------------|----------------|---------|--------|-------------------|----------------------|----------------------|
| Basic Network | Join Network: Wireless | Scan | | | | | |
| Selec | | | | | | | |
| Hechanics | Signal | SSID | Channel | Mode | 85510 | Encryption | |
| State Rootes | A 70% | JHR (1888) | | Master | 02:0A EB 9F80:60 | WFM2_P1K | JOIN NETWORK |
| Weed Network | | | | | | NUOR-LUN | Contract of Contract |
| Mobile Network | 4.68% | TP-LINK 0972 | 1 | Master | 54 A7 03 GB D9 72 | mined WPA/WPA2 - PSK | JOIN NETWORK |
| Western Notwork | | | | | | | |
| Third address | 4 60% | LEFENG_AT09 | 10 | Master | BC 52-C2-CE-A7-DA | mined WPA/WPA2 - PSK | JOIN NETWORK |
| Advanced Network | | | | | | | |
| VPN Configuration | 4 55% | ChinaNet-broeH | 11 | Master | 80.857527.80.58 | mined WPA_WPA2 - PSK | JOIN NETWORK |
| System Management > | | | | | | | - |
| Logout | 4.52% | chafe 2.40 | 7 | Master | 48-06-00 11-20-35 | mand WPA/WPA2 - PSK | JOIN NETWORK |
| | | | | | | | |
| | 4,51% | st. | | Master | FC 70.02 20-61 00 | miand WPA/WPA2 - PSK | JOIN NETWORK |
| | | | | | | | |
| | 4.57% | 308 | 7 | Master | 840F38E9.0710 | mond WPA/WPA2 - PSK | JOIN NETWORK |

> Full in password in WPA passphrase, click SUBMIT button

| System Status | 46 Weeker Bahmati at | Tab operation = |
|---------------------|--|-----------------------|
| Basic Network 👻 | Joining Network: "TP-LINK_D972" | |
| Switch | | |
| Hadmaners | Regilez-winiers configuration | |
| State Room | under site spinster in unterim one structure grand notific from their system. | |
| Wired Noteon | W/M postpleter | |
| Mobile Network | splany me secur olizybaln key nee | |
| Winness Network | Name of the rewinterterk wavam | |
| fittille address | The already characters are adjusted and just an | |
| Advanced Network | Crastic / Assign frevall-some water wassign (generation (Generatio) (Generation (Generation (Generatio) (Generatio) (Generatio | |
| VPN Configuration | Obease the fermal zone you want to assays to this interface. Telest unspectively to remove the enterface from the associated zone of fill out the cytate field to define a new zone and stack the interface to it. | |
| System Management > | BACK TO SCAN RESULTS | SUBMIT |
| Logout | Provend by therades Children Collink (CT Submitting Coll.11) / Premium Works | a finance with 2 GBD2 |
| | | |
| | | |
| | | |
| | | |

> Interface Configuration > Mode Select "Client", double check ESSID and Wireless Security (Key) is correct, click SAVE & APPLY button.





> Check WiFi connection status, click System Status > Overview > Wireless to view the status of the WiFi connection, the details status information will be displayed.

| - H. Course | | | | | Tall operatio |
|-------------|---|--|--|---------------------------|-------------------|
| | DESKTOP-OB7DOIT | f6c5;d60e:2656;a00/128 | 0001000126c67ceb00e070b1325e | expired | |
| | | | | | |
| Wreless | | | | | |
| Generic MA | C80211 802 11bgn Wireless Controller (radiod) | SSID: TP-L Mode: Clie | | | |
| | | Channel: 1 Bitrate: 15 | (2.412.0Hz) Motos | | |
| | | | A 68 25 08 CB WPV2 PSK (CCMP) | | |
| | | 72% Encryption Address 1 Gateway 1 | (2.166.1.10) (2.166.1.1) 116.116.116 | | |
| | | DNS 1: 11 DNS 2: 221 Uptime: 01 | 5.05.05 | | |
| | | upone o | | | |
| Associated | Stations | | | | |
| | MAC-Address | Signal Noise | RX Rate | TX Rate | |
| 4 | 54 A7 93 58 D9 72 | -59 dBm -95 dB | 1 162.0 Mbit/s, MCS 12, 40MHz | 15.0 Mbis/x, MCS 8, 40MHz | |
| Load Balan | cing | | | | |
| | Interface: you | face: 3gvan1 | | | |
| | | ua: Disabled | | | |
| | | | | | |

4.Connect PC and Terminal to Router

There are two methods to connect PC and terminal to this router. One is connect with Ethernet cable, another is connect through Wireless Access Point. Please refer to the steps below.

1) Ethernet cable connection (Wired)

Connect an Ethernet cable to the LAN port of the router, and connect the

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other end of the cable to your computer or terminal. Obtain an IP address automatically from "**Local Area Connection**", or to configure a static IP address manually, detail please refer to page 4 "PC Configuration"

2) Wireless Access Point (WiFi AP)

To log in to the router management page, please refer to Page 6 "Router Configuration"

Click Basic Network > Wireless Network> Wireless Overview, click EDIT button

| System Status > | · · | | | | | an 10 service |
|--|---------------------------|--|---------------|----------------|-----------|---------------|
| Basic Network - | | | | | | |
| (2000) | radial: Moder Testex0400* | | | | | |
| and the second s | Wireless Overview | | | | | |
| | Band | Generic 802.11bgn Wireless Controller | | | RESTART | SCAN |
| The Index | | Channel 5 (2 AST Ginz) (Binate: 1 Stbl/s | | | | |
| Millio Service | 200 | SSD terrentiktit (Made Manw | | | DISABLE | 103 |
| Transmit Materials | | 8080: 24154-58 25108 CE Broryption: WP42 PSK (2014P) | | | | |
| | Associated Stations | | | | | |
| Lovanced Network | Network | MAC-Address | - | Eignal / Noise | RX Rate / | TX Rate |
| TN Configuration | | | No informatio | e available | | |
| | | | | | | |

> General Setup, Choose "Access Point" as Mode, fill in ESSID, click SAVE & APPLY button.

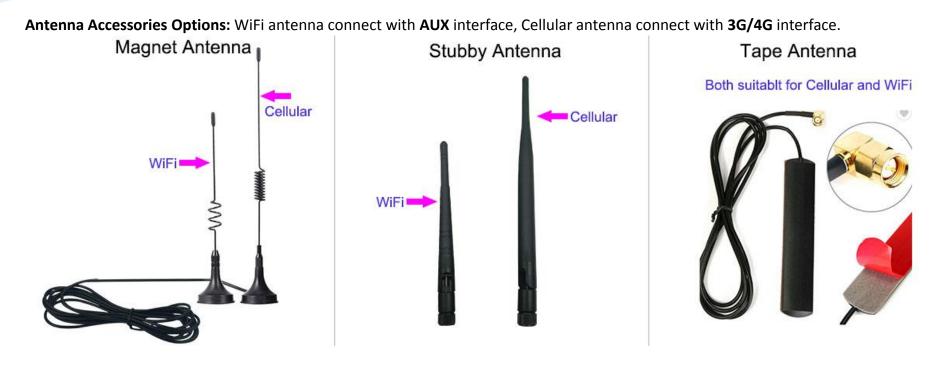
| System Status | 44 | Wentern Richwolt M. | | | | |
|---------------------|----|-----------------------------------|--|-------------|----------|--|
| Basic Network 🛛 👻 | | Status | Mode: Master SSID: | | | |
| | | Sietus | 0% BSSID: 34 0A 68 25 0 Encryption: WPA2 PS | BICE STREET | | |
| | | | Channel: 6 (2.437 GH Tx-Power: 20 dBm | | | |
| | | | Signal: 0 dBm Noise Bitrate: 0.0 Mbit/s 0 | | | |
| | | Wireless network is enabled | DISABLE | | | |
| | | | Mode Chan | | width | |
| | | Operating frequency | | 2437 MHz) * | 20 MHz · | |
| | | Transmit Power | auto | | | |
| Advanced Network | | | dBm | | | |
| VPN Configuration | | | | | | |
| System Management > | | Interface Configuration | | | | |
| Logout | | General Setup Wireless Security M | AC-Filter Advanced S | ettings | | |
| | | Mode | Access Point | | | |
| | | | | _ | | |
| | | ESSID | Router Test | | | |
| | | Hide ESSID | 8 | | | |
| | | | | | | |

> Wireless Security, recommend choose "WPA-PSK/WPA2-PSK Mixed
Mode" as Encryption, set password in key, click SAVE & APPLY button.

| System Status | • | Wholess Network × |
|-------------------|----|---|
| Basic Network | | Mode Channel Width |
| | | Operating frequency N • 6 (2437 MHz) • 20 MHz • |
| | | Transmit Power auto |
| Static Routes | | d0m |
| Wired Network | | |
| Mobile Network | | Interface Configuration |
| Wireless Network | | General Setup Wireless Security MAC-Filter Advanced Settings |
| Static address | | Encryption WPA-PSK/WPA2-PSK Mixed Mode • |
| Advanced Network | | Cipher auto + |
| VPN Configuration | | Key |
| System Managemen | t) | 802, 11r Fast Transition |
| Logout | | Enables fast roaming among access points that belong to the same Mobility Domain |
| | | 802.11w Management Frame Protection Disabled (default) • |
| | | Requires the "full" version of wpad/hostapd and support from the wifi driver (as of Feb 2017; ath/ak and ath10k, in LEDE also mwhwfi and mt76) |
| | | Enable key reinstallation (KRACK) |

When finished, use your computer or terminal scan available Wireless Access Point, choose your ESSID and key in password, then enjoy the high speed, stability, flexibility network.

9



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GuangZhou QiXiang Technology Co.,Ltd is a professional provider of machine-to-machine (M2M) and Internet of Things (IoT) connectivity products and services. Qi Xiang has been focusing on providing Industrial Cellular Router, Cellular Serial Modem, Network Print Server, Serial Device Server (DTU), Android Industrial Motherboard, Embedded Router Board, M2M Cloud Platform, etc.

With the powerful R&D team, efficient manufacturing plant, professional engineer and QA function, our rugged products offer mobile, high speed, reliable, flexible, 24*7 hours connectivity for multiple fields such as Oil Field, Smart Grid, Smart City, Transportation, Industry Automation, Telco Infrastructure, Retail, Video Surveillance, etc. Our products had been passed strict quality control according to CCC, CE, ISO 9001 regulations and implemented in many well-known companies such China Mobile, China Telecom, China Unicom, KingLong Bus, UnionPay, Hive Box, etc.

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