

## Product Introduction

This product adopts ARM9 industrial-grade high-performance embedded processor, takes real-time operating system as the software supporting platform, with super-large memory and embedded TCP/IP protocol stack with independent intellectual property rights. The device supports double-data center backup and multi-data center synchronous receiving data and support sending Alarm SMS; The equipment provides online maintenance technology to keep the data terminal permanently online, keep the data link unblocked at any time, and realize high-speed, stable and reliable TCP/UDP transparent data transmission function.



This product has been widely used in power centralized meter reading, water meter centralized meter reading, heat network monitoring, gas monitoring, water conservancy monitoring, environmental protection testing, meteorological testing, earthquake monitoring, traffic control and other industries.

## Model No.

Model No.	Interface Type	Network	RS232	RS485	Data Cache
CM510-71F	DB9 Interface	4G	Support	N/A	8K
CM510-71R	DB9 Interface	5G	Support	N/A	8K

# Technical Parameters

## Device Interface Diagram



## CM510-71X Accessories



Power Connector

RS232 Serial Cable

Antenna

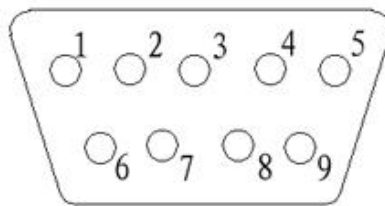
Model NO.	CM510-71X
<b>Cellular Parameters</b>	
<b>Network</b>	LTE-FDD/HSPA+/UMTS/HSDPA/HSUPA/WCDMA/EDGE/GSM
<b>Standards and Frequency Bands</b>	EGSM 900 Power Class 4 2 W, 33 dBm
	GSM 1800 / 1900 Power Class 1 1 W, 30 dBm
	EDGE Power Class for 900MHz Class E21 27 dBm, 0.5 W
	EDGE Power Class for 1800 / 1900MHz Class E21 26 dBm, 0.4 W
	Others. (It depends on area and country.)
<b>Coding Scheme</b>	HSPA+ / DC-HSPA+ / GPRS / EDGE
<b>Communication Bandwidth</b>	100 Mbps DL within 20 MHz bandwidth (Peak DL data rate in 10 MHz bandwidth: 70 Mbps (approx.) for Cat 3 device)
<b>Transmit Power</b>	50 Mbps UL within 20 MHz bandwidth
<b>Receiver Sensitivity</b>	<24dBm
<b>Cellular Parameters</b>	
<b>Network</b>	5G NR/LTE/HSPA+
<b>Wireless Module</b>	Adopt industrial-grade wireless module
<b>Standards and Frequency</b>	5G NR:n1/n2/n3/n5/n7/n8/n20/n28/n41/n66/n71/n77/n78/n79

<b>Bands</b>	LTE:b1/b2/b3/b4/b5/b7/b8/b12/b13/b14/b17/b20/b25/b26/b28/b29/ b30/b38/b39/b40/b41/b42/b43/b46/b48
<b>Theoretical bandwidth</b>	5G NR: DL 3.4Gbps, UL: 350Mbps LTE Cat20: DL 2.0Gbps, UL: 150Mbps HSPA+: DL 42Mbps, UL: 5.76Mbps
<b>Transmit Power</b>	<23dBm
<b>Receiver Sensitivity</b>	<-97dBm
<b>Serial Port Parameters</b>	
<b>Data Bit</b>	8
<b>Stop Bit</b>	1/1.5/2
<b>Parity Bit</b>	No parity / Odd parity / Even parity
<b>Serial Speed</b>	300bps ~ 115200bps
<b>Flow Control</b>	None flow control
<b>Interface</b>	1*RS232 DB9
<b>Interface</b>	
<b>Indicator</b>	Power / ACT / Online
<b>Antenna Interface</b>	Standard SMA female interface,50ohm; optional 3M/5M/10M/15M antenna extension cable, meet the different needs of customers.
<b>UIM Interface</b>	1.8V/3V/5V standard putter user card interface, built-in 15KV ESD protection.
<b>Power Interface</b>	Standard 3-pin power jack.
<b>Enable Pin</b>	Support customer to control power up and down of equipment.
<b>Power Supply</b>	
<b>Supply Voltage</b>	DC6V to 32V. Over-voltage protection. Power reverse protection.
<b>Standard Power Supply</b>	DC9V/1500mA
<b>Average Communication Current</b>	80mA@+9VDC
<b>Communicating Instantaneous Peak Current</b>	1.0A@+9VDC
<b>Standby Current</b>	<34mA@+ 9VDC
<b>Operation System</b>	
<b>OS</b>	Linux
<b>Physical Features</b>	
<b>Shell</b>	Metal shell: metal case, anti-radiation, anti-interference; shell and system security isolation, lightning protection design; meet the power requirements of safety regulations; protection rating IP41; particularly suit for harsh industrial control environments.
<b>Product Dimension</b>	100*62*24 mm(Antenna and fixer are not included)
<b>Package Size</b>	298*226*60mm
<b>Weight</b>	0.41kg
<b>Other Parameters</b>	
<b>Operating Temperature</b>	-25°C ~ +65°C
<b>Extended Operating Temperature</b>	-35°C ~ +75°C

<b>Storage Temperature</b>	-40°C ~ +85°C
<b>Relative Humidity</b>	95%(No condensation)

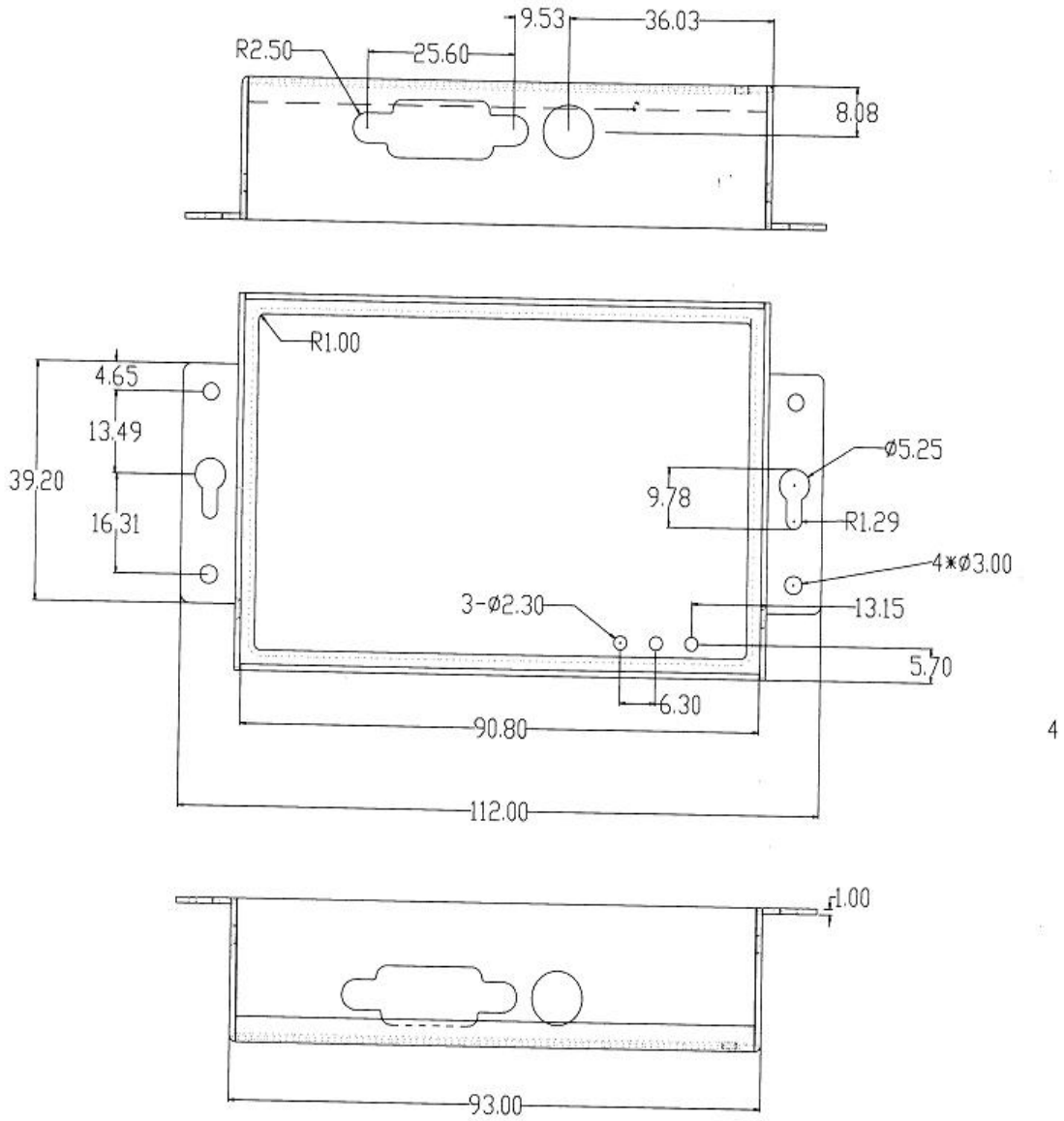
**DB9 Interface Definition**

**Interface Drawing**



NO.	Name	Function	Default Function	Input / Output	Electrical Characteristics
1	NC				-
2	RX	RS232	RS232 interface, receiver pin(if DTU connected to computer ,the date flow is: DTU<-computer)	Input	Standard RS232 voltage
3	TX		RS232 interface, sender pin(if DTU connected to computer ,the date flow is: DTU->computer)	Output	Standard RS232 voltage
4	NC		NC(Free pin)	-	
5	GND		RS232 ground lead	-	GND
6	NC				
7	SW	Enable Pin	IO port power switch (the power supply of the entire DTU can be switched on and off through this pin level, and DTU can be turned on when -10~0V voltage is connected or the pin is suspended. When the voltage is between 3.3 and 30V, the DTU is shut down). (Pls remind if need this function)	Input	When the input voltage is 0V, the DTU power supply is cut off. The DTU power supply is connected when suspended or high level is input.
8	NC				
9	NC				

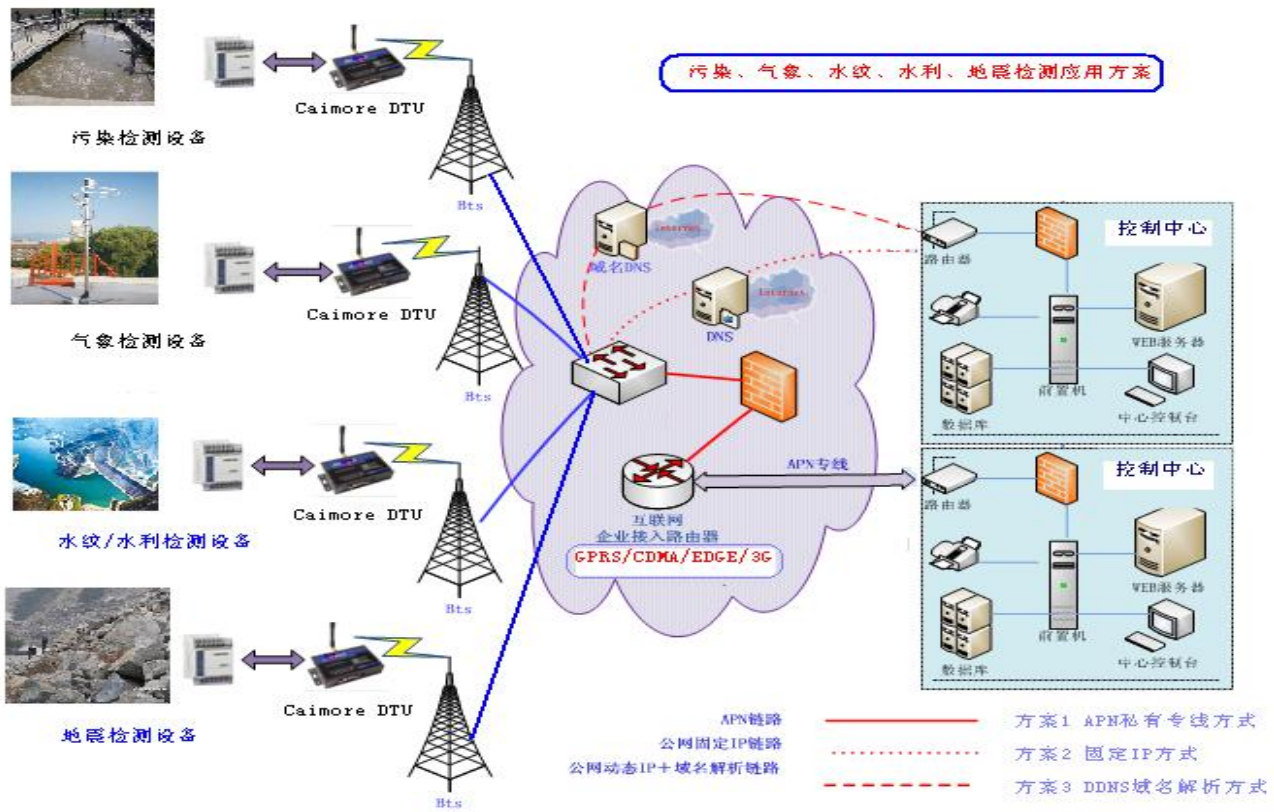
## Installation Dimension



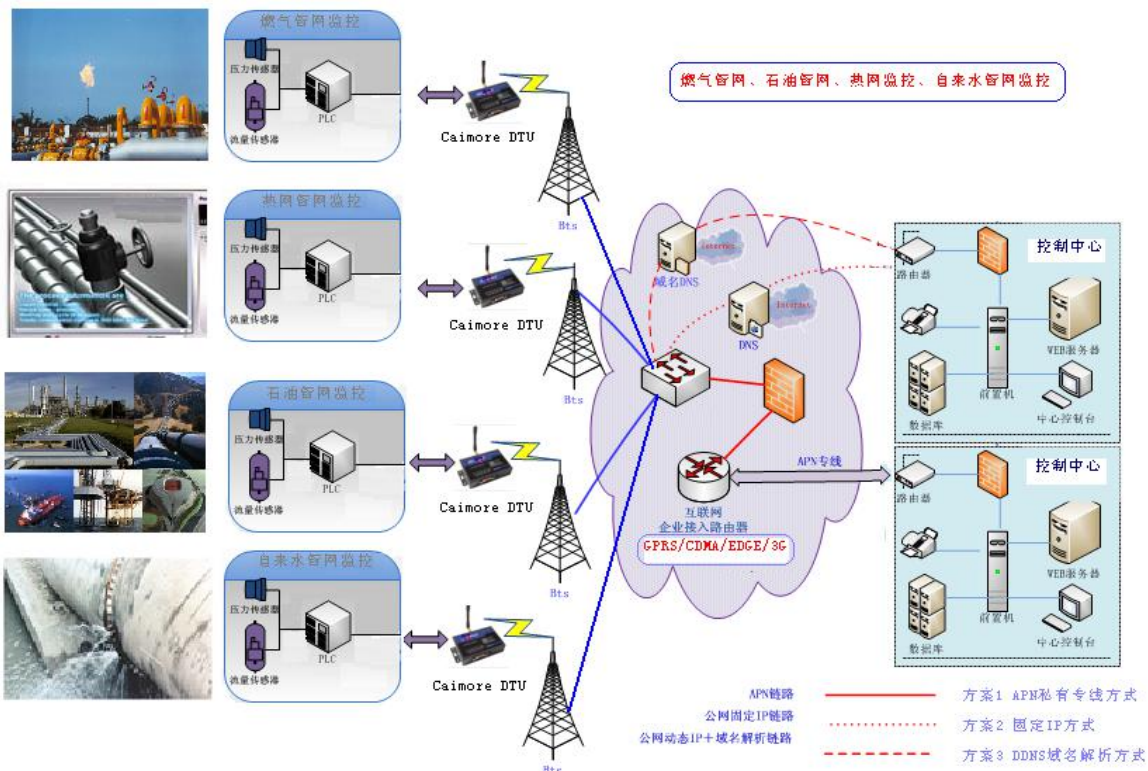


# Product Application

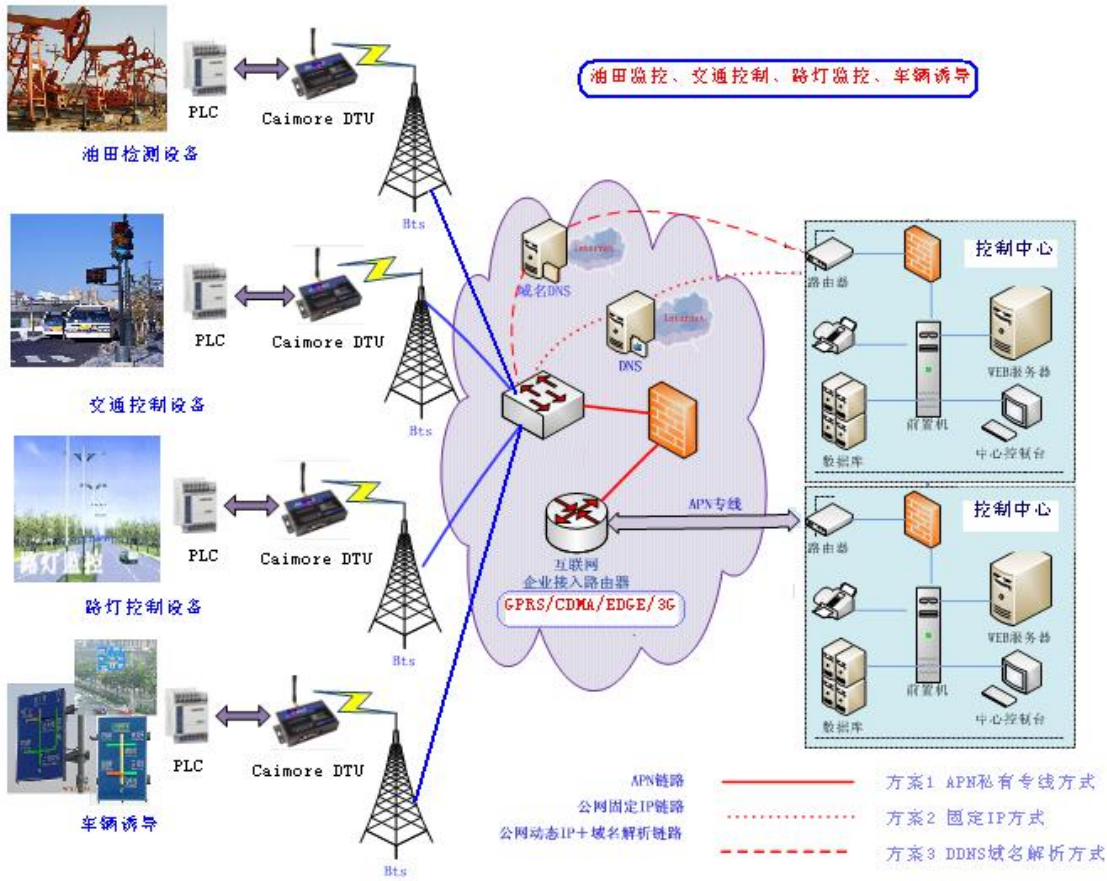
## 1. Application in detection industry (pollution, weather, watermark, water conservancy, earthquake, etc.)



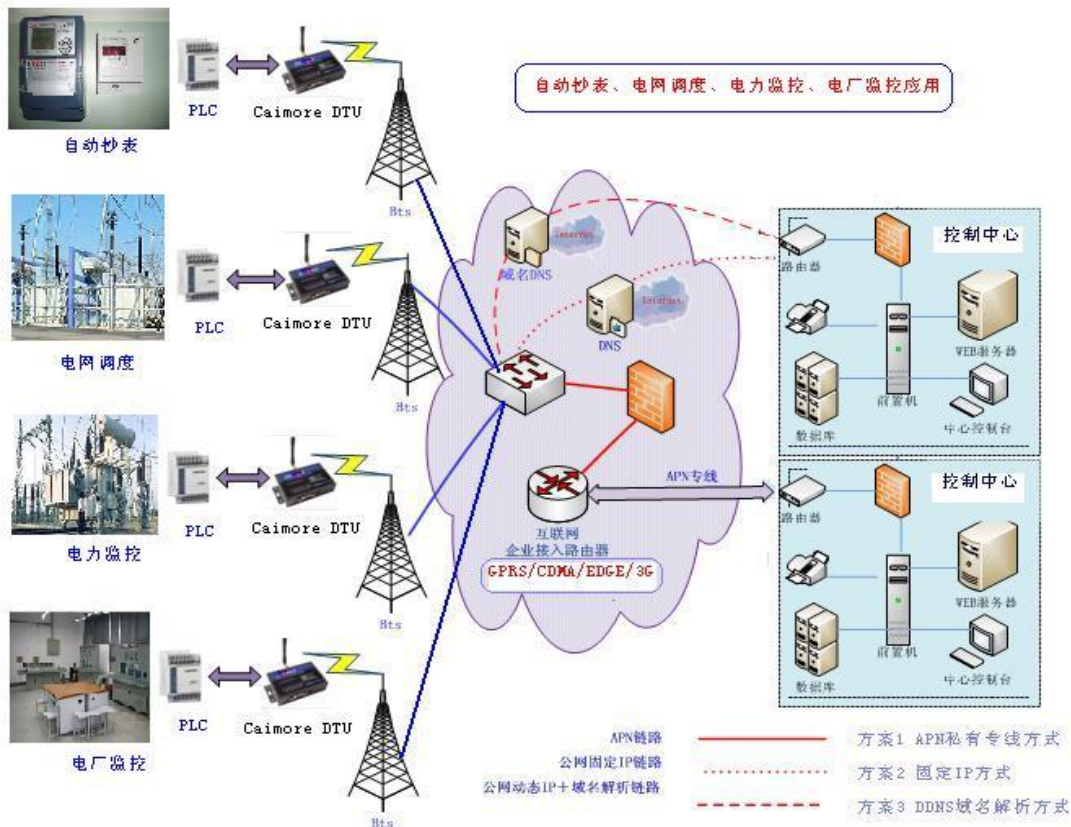
## 2. Network management monitoring industry application (gas pipe network, oil pipe network, heating network monitoring, tap water pipe network monitoring, etc.)



### 3. Oilfield monitoring, street light control, traffic control, vehicle guidance



### 4. Power industry application cases (distribution monitoring, grid automation, automatic meter reading, grid dispatching)





## Typical application

### Power Industry

- ◇ Street lamp monitoring
- ◇ Meter monitoring
- ◇ Computer room monitoring
- ◇ Automatic remote control system for power distribution network
- ◇ Remote meter reading

### Transportation Industry

- ◇ Traffic instructions
- ◇ Vehicle induction
- ◇ Highway monitoring
- ◇ Traffic light control and photo transmission

### Water conservancy industry

- ◇ Water conservancy monitoring
- ◇ Real-time transmission monitoring of water supply network

### Environment, meteorology, oil field and other industries

- ◇ Monitoring of key pollution sources
- ◇ Environmental monitoring
- ◇ Weather monitoring
- ◇ Real-time noise monitoring
- ◇ Oilfield monitoring
- ◇ Heat network monitoring
- ◇ Coal monitoring
- ◇ Earthquake monitoring
- ◇ All kinds of PLC with serial port or 485 interface;
- ◇ DTU realizes wireless data transmission

## Corporate Qualification

Item	Content
	<p>2011, it was rated as "the best supplier for customer satisfaction in China's industrial control industry"; the company's GPRS DTU product was rated as "innovative product award".</p> <p>2012, the company became a member of "China Quality Travel".</p> <p>2013, the company became a member of the "Technical Innovation Strategic Alliance of Intelligent Power Transmission and Distribution Equipment Industry".</p> <p>2014, it was rated as an innovative pilot enterprise .</p> <p>2014, the company's Zhanjiang Wi-Fi coverage project was awarded the "Sample Engineering Award" by the 13th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by China's industrial control industry.</p>



<b>Corporate Honor</b>	<p>2015, the noise monitoring project was awarded the "Sample Project Award" by the 14th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by Huaqiang Security Network.</p> <p>2016, the video products was rated by Huaqiang Security Network as "2015-2016 High-quality Supplier in China's Security Industry".</p> <p>2016, it was rated as the "best supplier of charging equipment parts" by charging pile communication equipment.</p> <p>2016, won the " Product Gold Award of 2016 7th Guangzhou International New Energy Automobile Industry Exhibition ".</p> <p>2016, The 3rd China Good Wi-Fi Organizing Committee awarded Caimore "2016 Best Wi-Fi Industry Application Solution Provider".</p> <p>2018, the company's industrial router was rated as "China's Top Ten Industrial Router Brands", and DTU was rated as "China's DTU Top Ten Brands"</p> <p>2018, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Fujian Province.</p> <p>2019, Shortlisted for China Telecom Corporation Limited, DICT solution partner of Shanghai branch</p> <p>2020, Selected as a key listed reserve company in Xiamen</p>
<b>High-tech Enterprise</b>	2009, it was recognized as a high-tech enterprise by the country
<b>Double-soft Enterprise</b>	2010, it was recognized as a double-soft enterprise by the country
<b>Occupational Health and Safety Management System Certification</b>	<p>ISO9001:2015 quality management system conforms to the standard</p> <p>ISO14001:2015 environmental management system conforms to the standard</p> <p>ISO45001:2018 occupational health and safety management system conforms to the standard</p>
<b>Copyright</b>	The company has 7 patented technology certificates to maintain equipment stability and 31 software copyright certificates.
<b>Offices</b>	Nine regional offices have been established nationwide to provide customers with close and considerate services.
<b>Registered Capital</b>	The company has a registered capital of 20.58 million; it is a key high-tech enterprise supported by Xiamen City.
<b>Historical Accumulation</b>	18 years of industry R&D accumulation and industry application test.