Xiamen caimore Zigbee User Manual

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Document version	Modification instruction	Release date	Author	issue
V1.0	The first office issue	2012.04.25	Linhj	

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1.Brief Introduction of Products

1.1 Products Overview

Xiamen caimore industrial Zigbee which is designed according to harsh environment, it has the advantages: Strong antijamming ability, lower power consumption, networking flexibly, good stability and easy to use etc. Zigbee can convert devices with RS232/485 interface to bidirectional conversion transmission device of Zigbee wireless communication network. Customers can select Caimore Zigbee2007pro according to their actual requirement. Caimore Zigbee includes three communication modes: coordinator, router, end device. Different communication mode has different network function. When it is used as coordinator, it will become central node of network, and take charge of the launching, organization, network maintain and management function of network. When it is used as router, it will take charge of Routing relay forwarding of data.When it is used as Terminal node pattern, the terminal node only conduct the function that sending and receiving the data of this node. In a Zigbee application network, there much be only one coordinator and multiple router or multiple end device.

The product adopts industrial design to meet the harsh environment using , the range of operating temperature is from-40ºC to +85ºC; the EMC / EMI performance is very excellent, the product has low power consumption feature to meet low power consumption environment, we were awarded "The Best Supplier of China's Industrial Control Industry" in 2010.

This product has been widely used in power meter reading, water meters reading, heating network monitoring, oil field monitoring, power grid monitoring, gas monitoring, water monitoring, environmental testing, meteorological monitoring, seismic monitoring,Intelligent Transportation, industrial automation, intelligent home, tunnel monitoring, street light control, wireless LED control, intelligent fire, vehicle detection, Security monitoring, Base station monitoring, Automatic Vending, Remote sensing

telemetry, Elevator monitoring etc industry.

1.2. The appearance of the products

Product Interface diagram:

		
Product Panorama	Front diagram	Back diagram

Product accessories diagram

		
Power supply	serial port line	One Antenna

1.3 Products feature

Industrial Design

- Industrial wireless module: using industrial wireless module, the interference is strong, and transmission is stable .
- Real-time operating system: built-in operating system

- Strengthened circuit board: PCB followed the principles of 20H and 3W, meanwhile circuit boards of all products use high-quality materials to ensure the plate material stable and reliable.
- Industrial components: machine components use strictly screened industrial-grade components.
- Industrial power supply: Wide voltage design, DC 5V to the DC32V power supply directly to the device; and built-in power supply over-voltage protection and reverse current protection
- Serial ports ESD protection: serial port RS232, built-in 15KV ESD protection.
- Metal shell: metal case, anti-radiation, anti-interference; shell and system security isolation, thunder protection design; meet the power requirements of safety regulations; protection rating IP30; particularly suit for harsh industrial control environments.

Stable and reliable

- Complete protocol stack: Using 802.15.4，Zigbee2007pro wireless protocol.
- Can select multiple operating mode, easy to use, flexible
- System configuration of AT command and maintain interface
- EMC performance outstanding: passed 3000V electrical shock test, especially suit for being used in harsh industrial environments; system EMC / EMI performance is very excellent, system is stable and reliable; passed EMC test; we were awarded "The Best Supplier of China's Industrial Control Industry" in 2010.

Easy to use

- Configure factory default parameter, customers only modify individual parameters, Can achieve to use equipment rapid.
- Graphical configuration tool: improved graphical configuration tool that provides rapid deployment capabilities for customers to achieve rapid deployment; provides bulk configuration.
- Check the software: Provides serial debugging software, network speed test

software, provide different levels of debugging output to facilitate customers to view a variety of information and locate the problem quickly.

- Support AT command
- The function of device is very complete and easy to use.

1.4 Hardware parameters:

Interface Type:

Item	Content
Serial ports	1 RS232 serial port Data bit: 7 or 8 bit Stop bits: 1 or 2 bit Parity: no parity, odd parity, even parity Serial speed: 600bps ~ 11520bps Flow Control: None flow control, hardware flow control
RS485	Support double line RS485 communication interface
Indicator	With power, communication indicator
Antenna Interface	Standard SMA female interface, 50 ohm; we also can provide 3M/5M/10M/15M antenna extension cable to meet different customers' different requirement.
Power Interface	Standard 3-pin power socket

Power supply：

Item	Content
Supply voltage	Wide voltage design, DC 5V to the DC32V power supply directly to the device; and built-in power supply over-voltage protection and reverse current protection
Standard power supply	DC9V/500mA

Current while Communicating	Average communication current : 30mA@9V instantaneous peak current: 50mA@9V

Notice: Can support the battery power supply

Physical features:

Item	Content
Shell	Metal shell: metal case, anti-radiation, anti-interference; shell and system security isolation, thunder protection design; meet the power requirements of safety regulations; protection rating IP30; particularly suit for harsh industrial control environments.
Product dimensions	81x55x20 mm（not include the antenna and the fixed parts）
Packing Size	298x226x60mm
Weight	0.41kg

Wireless parameter

Item	content
Wireless module	use industrial ZIGBEE wireless module
RF frequency channel	2405MHz～2480MHz
communication protocol	IEEE 802.15.4　Zigbee2007pro
network structure	point-to-point, point-to-multiple points, mesh
modulation mode	DSSS(O-QPSK)
transmission rate	250Kbps
communication range	the maximum is 2000m
addressing mode	64 bits IEEE address，8 bits network address
data encryption	128bit AES
Error Checking	CRC16/32
Channel access mode	CSMA-CA and Time buttress CSMA-CA
Number of channel	16
transmitted power	<20dBm
Receiving sensitivity	<-98.8dBm

Other parameters:

Item	Content
Operating Temperature	-40 ℃ ~+80℃
Extended operating temperature	-40 ℃~+85℃
Storage Temperature	-40~+85℃
Relative humidity	95%(No condensation)

2. installation

2.1 overview

Zigbee must be installed correctly to achieve design function. Usually, The installation of equipment must be under the guidance of qualified engineers who is approved by Ximen Caimore communication technology co.,Ltd.

Notice:

- Don't install Zigbee with power

2.2 packing list

Thank you for that you choose Caimore products, after opening the packing box, please check whether the goods in the box is consistent with the item listed in the packing list. The standard accessories are as follow:

Zigbee	One unit
DB9 RS232 line	One
DC 9V power adaptor	One
2.4G antenna（SMA interface）	One
CD of products instruction	One

Notice:

Please confirm that the accessories coincides with packing list when you open the

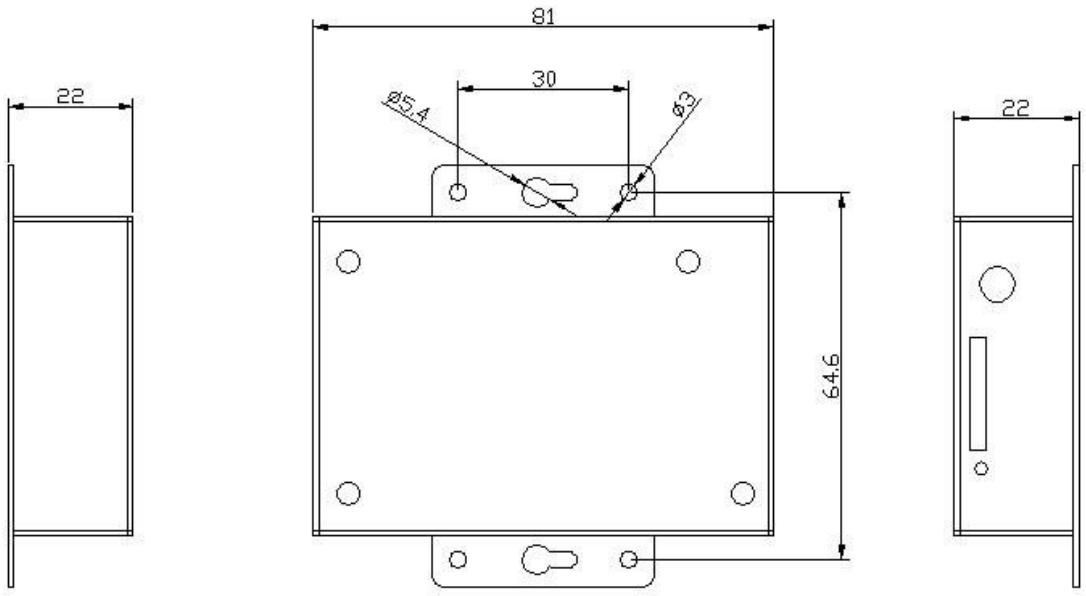
product box.

2.3 Description of products

The sizes of ZIGBEE:

Zigbee encapsulated in the metal casing can be used independently, there are fixed holes on the two flanks or both sides, it is convenient for customers to install, specific fixed sizes are as follow,

User's data cable interface access the bottom of the module, considering the reliability of the connection, we equip installation accessories to fix User's data cable and enhance the reliability of the connection.

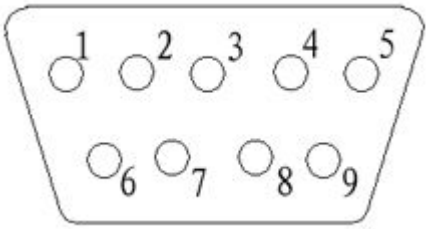


2.4 Installation of antenna

Spin the SMA male clockwise and stop spinning when it is tight.

2.5 Install cables

The connection plug-in of data interface DB9 cable of zigbee users is BoxHrader. spacing: 2.0mm, 9pin



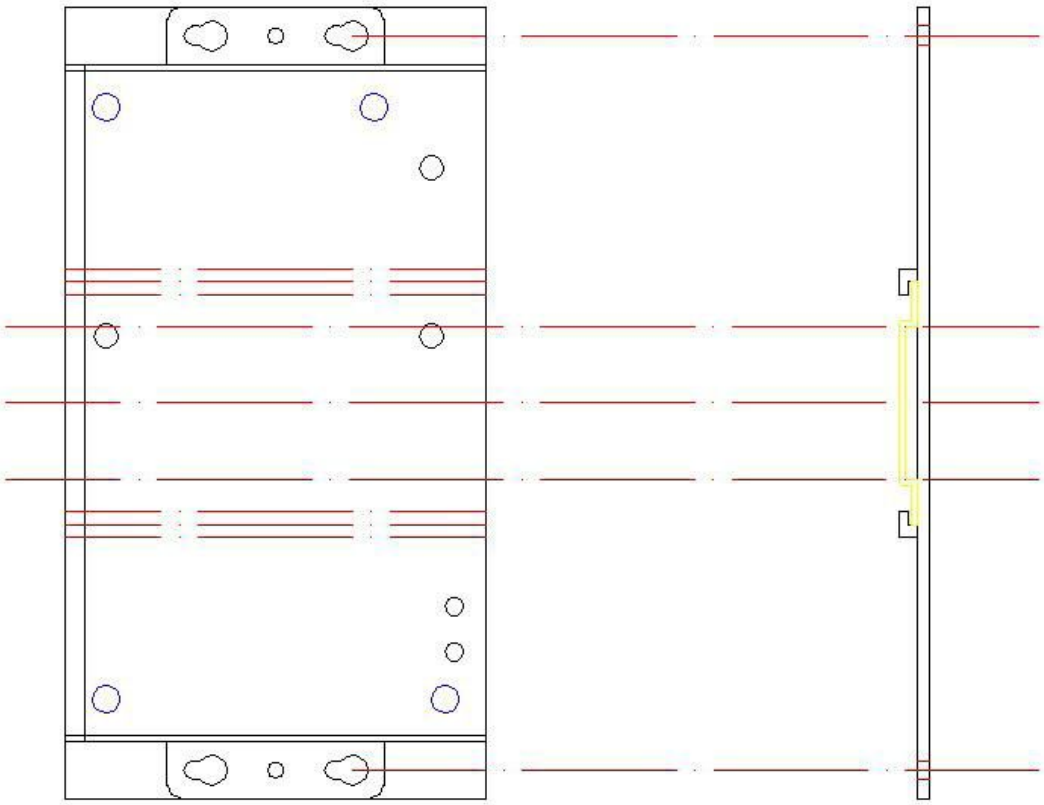
pin	signal name
1	NONE
2	RX
3	TX
4	NONE
5	GND
6	NONE
7	NONE
8	NONE
9	NONE

2.6 power supply

The ZIGBEE module can be used in complex environment, the range of power is usual very big, The Power supply adopts advanced power technology and is provided power directly by the external power supply transformer to adapt to complex application environment excellently and improve the stability of system.

2.7 Guide rail installation

You can use our our fixed guide rail, Installation diagram of guide rail is as follow:



3. Rapid configuration

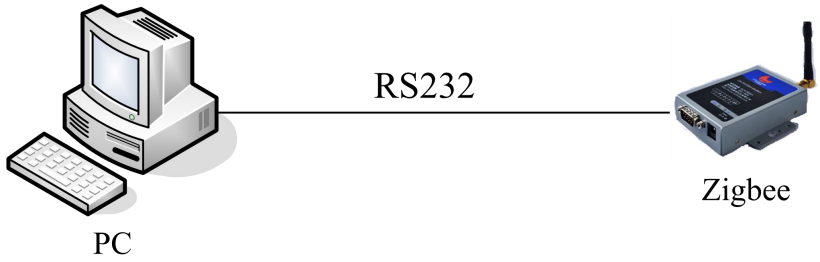
On the one hand, in order to make the customers detect rapidly the Zigbee device and confirm whether it is in good condition and whether it can operate normally after receiving devices; on the other hand, for the customers who only need to modify the configuration parameters in the rapid configuration and other parameters adopts factory default parameter. So we specially make the instructions of rapid configuration to make it convenient for the customers to configure Zigbee rapidly. The following examples based on WINDOW 7 explain the process of rapid configuration of xiamen caimore industrial Zigbee.

3.1 Connect antenna (see 2.4)

3.2 local serial port configuration

3.2.1 Tool configuration

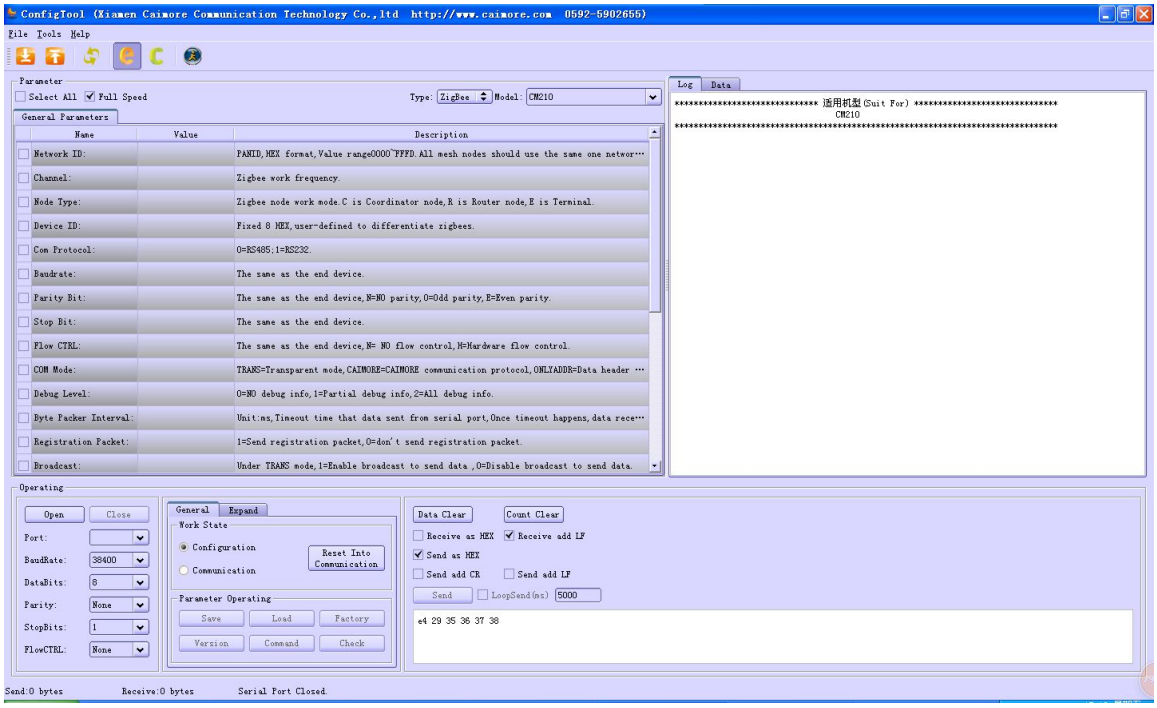
1. Please connect the serial port of Zigbee and serial port of computer with serial port line and pay attention to the serial numbers of computer. The principle of connection between ZIGBEE and computer which is configured parameter is as follow:



✧ Notice:

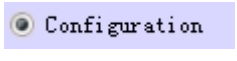
Please connect the computer and ZIGBEE with serial port line when you connect company to carry on configuration. Then supply power to the ZIGBEE according to the cue of configuration software.

2. Please find "**ConfigTool.exe** " in the configuration CD and open the program. The interface of program is as following picture:

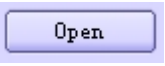


3. Please select corresponding "**Zigbee**" and "**CM210**" according to the product model which needs to be configured from "selection region of products model".

4. Please choose " configuration state" from the " switch zone of operating state of configuration tool". As follow:



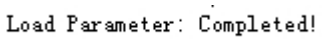
5. Please select " serial port number" which is used to connect Zigbee and computer from " the parameters configuration area of serial port", select "baud rate" as 38400, data bits as 8, parity bits as NONE, stop bits as 1, flow control as NONE, then click

"open" 

button to open serial port".

6. It will appear the cue of "please power on the device!" in "display area of process log".

7. Please don't configure parameter until appear the cue of " Load parameter: Completed!" in the " display area of process log". As follow,



8. Please see the configuration process in < 6. the detailed configuration of Zigbee>

9. After finish configuring, please click "save" button in the "Function button area" to save configuration parameter. As follow,

3.2.2 Manual configuration

1. Please open " serial port tool" software or " super terminal" software.

2. Please select serial port number coincides with serial port number which is used to connect Zigbee and computer, then configure serial port parameter and open serial port. Configure serial port parameter for: baud rate—38400, data bits—8, parity bits—none, stop bits—1 , flow control—none .

3. Please press "s" button when you supply power to Zigbee, till appearing the cue of entering into configuration state.(also can press " AT+LIST" to enter into configuration state)

4. Please configure parameter of Zigbee by AT command.(please see The detailed AT command in < Appendix II , AT command set>

5, Please reboot Zigbee after finishing configuration.

Notice:

We suggest you use tool configuration, rather than manual configuration. Because the tool configuration is very simple and easy to operate.

4. Batch configuration of Zigbee

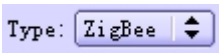
4.1 Batch configuration

Users only modify individual parameters to complete configuration work, no need to reconfigure all the parameters every time via batch configuration.

1. Open the configuration tool.

2. Please select corresponding model:

Select “Zigbee” from “ product type”



Select corresponding equipment model from “model”

3. Open serial port

1) Please select corresponding number of serial port, configure baud rate for 38400bps, data bits for 8, parity bits for NONE, stop bits for 1 and flow control for NONE.
2) Please Click “open” button to open serial port.

4. If there are saved configuration file, please import them to the configuration tool, please see the detailed importing steps in <4.3 importing configuration>.

5. If there are not saved configuration file, and the first thing is needed to do is reading configuration information from Zigbee equipment.

6. Modifying corresponding parameter (Please see the detailed configuration in < 3. configure Zigbee rapidly> or < 5. detailed configuration of Zigbee >. After modifying, it will be marked with “√” automatically in the frond box of the line in where parameter

locates. (As picture 5-1, after modifying the address of primary center and backup center, it will mark "√" in the front box.)

7. Exporting the information of modified configuration parameter (In order to make the next configuration more convenient, we suggest you export the configuration parameter. If you do not want to export parameter, please skip this step).

8. Please click "tool" in the "menu bar" of configuration tool and click "batch configuration mode " in the drop-down menu of "tool". As following,

4-3

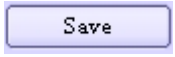
9. Please click "save" button to save the modified parameter. If you conduct the batch configuration with the method of importing configuration files, skip this step.

The configuration does not complete until appearing the cue of " save parameter success!". You can also use Zigbee which is not configured to configure.

10. Please connect Zigbee which is not configured to the serial port of computer, and supply power to Zigbee, till appearing the cue of "close echo: success!".

11. Modify differently the parameter of Zigbee. For example, the ID number of each Zigbee is different, so you need to modify the ID number when you configure every DTU in batch configuration.

12. Please click "save" to save the modified parameter.



13. Please disconnect the connection between Zigbee which is configured and serial port of computer. Then repeat 9~12 steps, till finishing configuration of all

Zigbee.

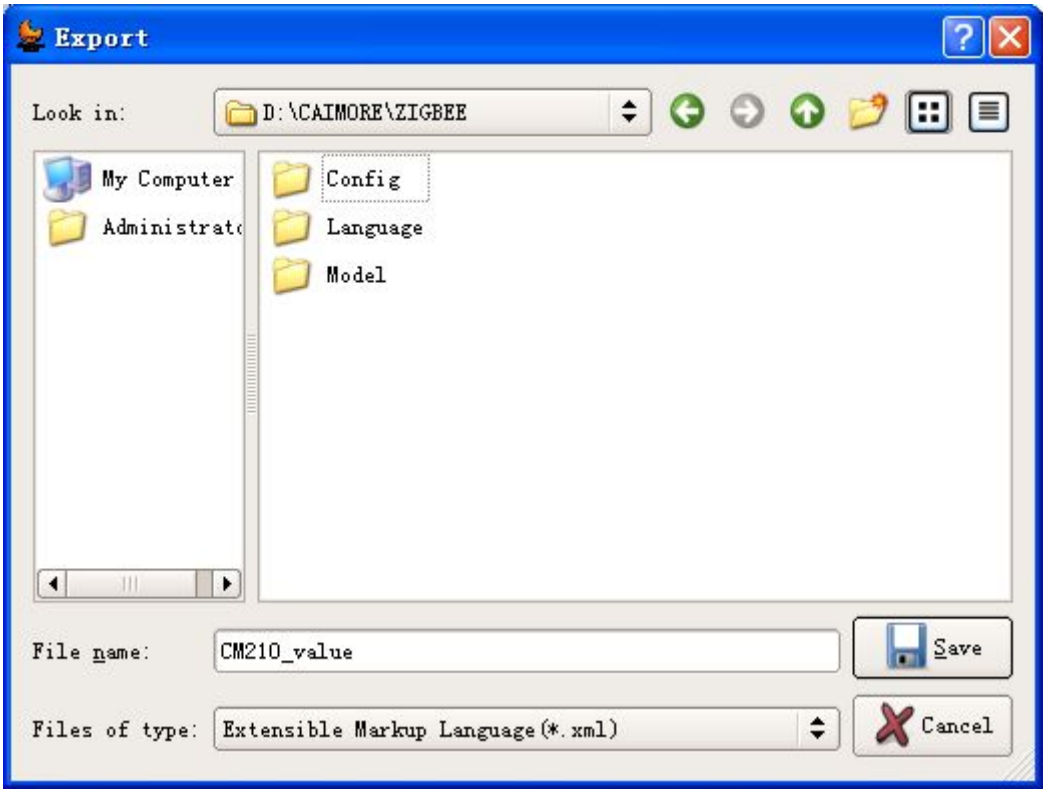
4.2 Exporting configuration

Users can save configuration information with text form via exporting configuration.

1. Please open configuration tool
2. Please use configuration tool to make Zigbee enter into configuration status, and read configuration information.
3. After reading configuration information, please click "file" in the " menu bar" of configuration tool, and click " export configuration parameter" in the pull-down menu of " file". As picture 4-4

4-4

4. Po up an “exporting” saving window. As picture 4-5



4-5

5. Please select position of the configuration files which you want to save from “selecting files saving path” window.. Fill the name which you appoint into the blank box next to “file name”, then click "save" button.

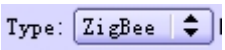
4.3 Importing configuration

Users import the configuration information which is saved previously via importing configuration.

1. Please open configuration tool

2. Please select corresponding model:

Select “ Zigbee” from “ type”

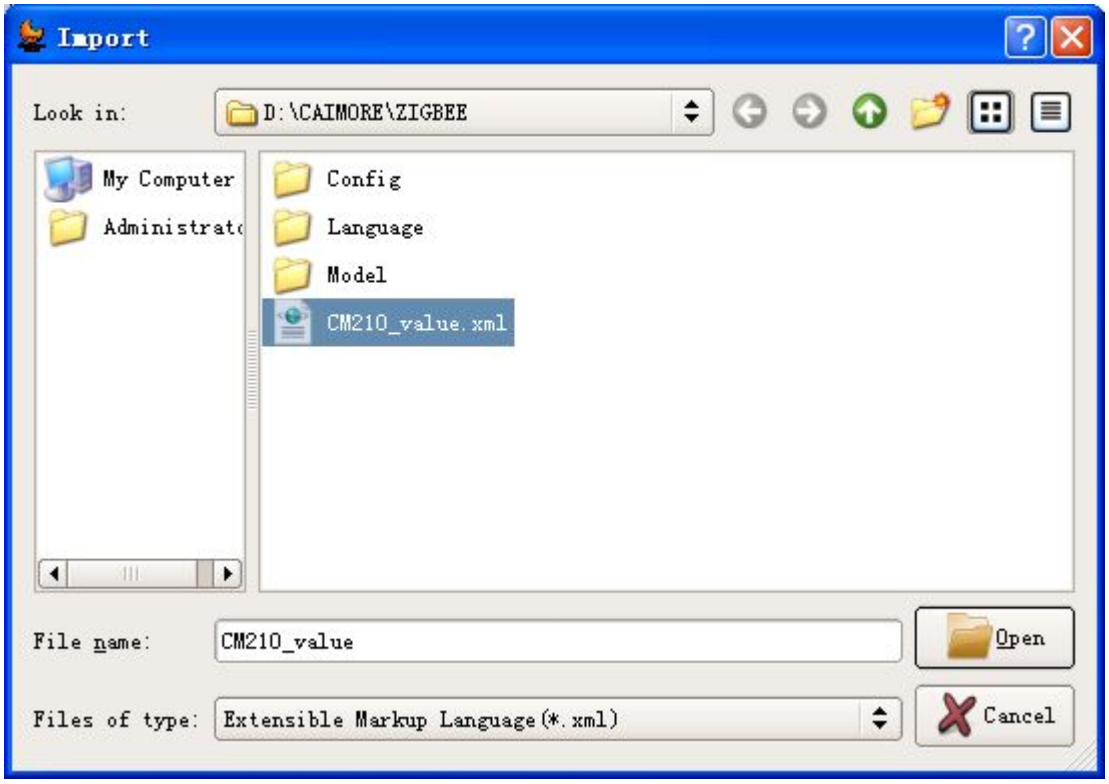


Select corresponding equipment model from “Products model”

3. After entering into configuration. Please click “file” button in the "menu bar" of configuration tool, then click “ import configuration parameter” button in the pull-down menu of “file”. As follow 4-6

4-6

4. Pop up an “import” window. As picture 4-7



4-7

5. Please select the “configuration files” which you want to import from “selecting files saving path ” window, then click "open" button, and import configuration to configuration tool successfully.

Notice: Please click " save"  to complete configuration work.

5. Detailed configuration of Zigbee

5.1 Instruction of basic parameters

Network ID

Command： AT+PANID=value （value：0x0000～0xFFFD）

Effect： All the node which consist in Zigbee network must adopt the same network ID

Channel

Command： AT+CHANNEL=value （value：11~26）

Effect：Set the operating frequency band of Zigbee, please see <Appendix III. The operating frequency band list of Zigbee > that center frequency which is corresponding to each channel

Node type

Command： AT+NTYPE=value （value：C\R\E）

Effect：Set the node type of Zigbee, C stands for coordinator node , R stands for router node, E stands for terminal node.

The ID of equipment

Command： AT+ID=value （value：Fixed 8 bits hexadecimal number）

Effect： Is used to identify different Zigbee device

Baud rate of serial port

Command ： AT+IPR=value （ value ： 300\600\1200\2400\4800\9600\19200\38400\57600\115200）

Effect： Set the baud rate of serial port

Parity bits of serial port

Command： AT+PARYTY=value （value：N\O\E）

Effect：Set the parity bits of serial port, N stands for NONE, O stands for Odd, E stands for Even

Stop bits of serial port

Command： AT+STOPBIT=value （value：1\2）

Effect：Set stop bits of serial port

Flow control of serial port

Command： AT+FLOWCTRL=value （value：N\H）

Effect： Set flow control of serial port, N stands for NONE, H stands for hardware flow control

Operating mode

Command： AT+MODE=value （value：TRANS\CAIMORE\ONLYADDR）

Effect：Set operating mode of Zigbee, please see the details in < 6. Instruction of operating mode of Zigbee>

Debug level

Command： AT+DEBUG=value （value：0\1\2）

Effect： Set the debug level of Zigbee, O stands for NONE, 1 stands for Part debugging information, 2 stands for all debugging information.

Time interval

Command： AT+BYTEINT=value （value：1~65535）

Effect：Set the packet time of Zigbee, the unit is millisecond (ms)

Yes / No sending registration packet

Command： AT+EREG=value （value：1\0）

Effect：Set yes / no sending registration packet, 1 stands for sending registration packet when Zigbee is connected to internet, O stands for that do not send registration packet when Zigbee is connected to internet.

Broadcast

Command： AT+BROADCAST=value （value：1\0）

Effect：Set whether or not broadcast, this setup is only valid under the TRANS operating mode, 1 stands for that node send data with broadcast, 0 stands for that node send data without broadcast.

6. Operating mode of Zigbee

Xiamen caimore Zigbee has 3 kinds of operating mode, namely: TRANS/ CAIMORE/ ONLYADDR. Different operating mode has different data sending format.

1. **TRANS(Transparent transmission mode)**

Description of mode：Under this mode, after opening broadcast, terminal node(E) and router node(R)will send the data to all the node included in the network; If do not open the broadcast, terminal node(E) and router node(R)will send the data to coordinator node included in the network; No matter

what whether or not open broadcast, coordinator node(C) send the data to all the node included in the network.

Date sending format: data

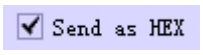
For example, sending the data " qwer", user only needs to send the "qwer" in the **configuration tool**.

2. **CAIMORE(CAIMORE mode)**

   Description of mode：Under this mode, node will send the data to destination address

   Date sending format： 7B 01 02 +00 00 00 00 00 00 +destination address+data

   For example, sending the Hexadecimal data 00 01 02, destination address : 0xAA29

   User only needs to select 

in the "operating area of serial port" of **configuration tool,** then send 7B 01 02 29 AA 00 01 02

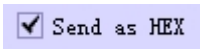
   Notice: Byte order of the address included in data packet is opposite to that of the actual address

3. **ONLYADDR(address mode)**

   Description of mode：Under this mode, node will send the data to destination address

   Date sending format：destination address+data

   For example, sending the Hexadecimal data 00 01 02, destination address : 0xAA29

   User only needs to select 

in the "operating area of serial port" of **configuration tool,** then send 29 AA 00 01 02

   Notice: Byte order of the address included in data packet is opposite to that of the actual address

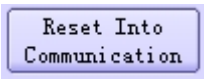
7. Fast using specification

1. Please prepare at least 2 units Caimore Zigbee (Notice: there must be only one coordinator (C) in a Zigbee network).

2. Please let these 2 units Zigbee restore the factory settings, the detailed steps, please see <Appendix II. Restore the factory settings>, the restoring factory settings configuration is as following picture:

Network ID:	0x0016	PANID, HEX format, Value range0000~FFFD. All mesh nodes
Channel:	11	Zigbee work frequency.
Node Type:	E	Zigbee node work mode. C is Coordinator node, R is Rou
Device ID:	20151200	Fixed 8 HEX, user-defined to differentiate zigbees.
Com Protocol:	1	0=RS485; 1=RS232.
Baudrate:	38400	The same as the end device.
Parity Bit:	N	The same as the end device, N=NO parity, O=Odd parity,
Stop Bit:	1	The same as the end device.
Flow CTRL:	N	The same as the end device, N= NO flow control, H=Hard
COM Mode:	ONLYADDR	TRANS=Transparent mode, CAIMORE=CAIMORE communication
Debug Level:	1	0=NO debug info, 1=Partial debug info, 2=All debug inf
Byte Packer Interval:	200	Unit:ms, Timeout time that data sent from serial port,
Registration Packet:	1	1=Send registration packet, 0=don't send registration
Broadcast:	1	Under TRANS mode, 1=Enable broadcast to send data , 0=
Enable Heartbeat:	0	0=Disable, 1=Enable.
Output Mode:	0	0=Serialoutput, 1=IO output priority, if NO IO output
Enable IO:	7	3 bits binary seperately represents IO1, IO2, IO3, 1=En
IO1 Low Level CTRL:	off1	Max length is 16 Bytes, users can use this command to
IO1 High Level CTRL:	on1	Max length is 16 Bytes, users can use this command to
IO2 Low Level CTRL:	off2	Max length is 16 Bytes, users can use this command to
IO2 High Level CTRL:	on2	Max length is 16 Bytes, users can use this command to
IO3 Low Level CTRL:	off3	Max length is 16 Bytes, users can use this command to
IO3 High Level CTRL:	on3	Max length is 16 Bytes, users can use this command to
MAC Address:	00 12 4B 00…	Device MAC address, unique identification for the dev

3. Please modify the node type of one of the two Zigbee to R or E, and configure the ID to 00000001(make sure that the ID of these two Zigbee is different), then save the configuration.

4. Please click " reboot and enter into communication state" 

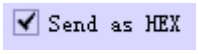
on these two zigbee.

5. Please click "data" 

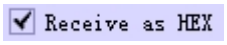
,

```
Transport Mode:ADDR
Ext Addr:00 12 4B 00 02 77 9E DD
Connect Success:0x4B3C
Parent Addr:0x0000
Send Register Packet Success
```

The OxO is the network address of coordinator (C), 0xED9 is the network address of terminal node (E)

6. Please mark √ 

in the configuration tool of coordinator, then send "D9 0E 01 23" (the operating mode of restoring factory settings is ONLYADDR, and the data format adopts " address + data" mode, please find more operating mode in <6. Operating mode of Zigbee>.).

7. After marking √ 

in the configuration toll of terminal node (E), It will receive the

```
52 65 63 76 20 4C 65 6E 67 74 68 3A 32 0D 0A 01 23
```

Appendix I：AT Command set

Category	AT command	Instruction	Applicable model
Configuration command of Zigbee operating parameter	AT+MODE	Set operating mode: TRANS\CAIMORE\ONLYADDR)	All models
	AT+DEBUG	Set debugging level	All models
	AT+PANID	Set network ID	All models
	AT+ID	Set ID of device	All models
	AT+NTYPE	Set node type	All models
	AT+CHANNEL	Set channel	All models
	AT+BROADCAST	whether or not broadcast	All models
	AT+BYTEINT	interval time of packeting	All models
	AT+EREG	whether or not send registration packet	All models
configuration command of serial port parameter	AT+IPR	Setting the baud rate of serial port (value:300\600\1200\2400\4800\ 9600\19200\38400\57600\115200)	All models
	AT+PARYTY	Setting the parity bits of serial	All models

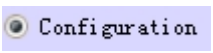
		port (Value:N\O\E)	
	AT+STOPBIT	Setting stop bits of serial port （value：1~2）	All models
	AT+FLOWCTRL	Setting Flow control of serial port （value：N/ H）	All models
Operating command	ATE0	echo off	All models
	ATE1	Echo on	All models
	AT+LIST	Display command list	All models
	AT+SHOW	Display parameter	All models
	AT+RESET	Reboot	All models
	AT+VER	Check version	All models
	AT+FACTORY	Restore factory settings	All models

Appendix II. Restore factory settings

1． Open “ configuration tool”.

2. Please select corresponding “**Zigbee**” and “**CM5XX(P_EP)**” according to the product model which needs to be configured from “selection region of products model”. As follow,

3. Please choose “ configuration state” from the “ switch zone of operating state of configuration tool”. As follow:



4. Please select “ serial port number” which is used to connect Zigbee and computer from “ the parameters configuration area of serial port”, select "baud rate" as 38400, data bits as 8, parity bits as NONE, stop bits as 1, flow control as NONE, then click “open"  button to open serial port”.

5. It will appear the cue of "please power on the device!" in “display area of process log”.

```
>>>Please power on the device!
```

6. Please don't configure parameter until appear the cue of “ reading configuration parameter: success!” in the “ display area of process log”. As follow,

```
Load Parameter: Completed!
```

7. please click “Factory"  button in the “Function button area” to restore the factory settings.

Appendix III. Operating frequency band list of Zigbee

Centre frequency (MHz)	Channel
2405	11
2410	12
2415	13
2420	14
2425	15
2430	16
2435	17
2440	18
2445	19
2450	20
2455	21

2460	22
2465	23
2470	24
2475	25
2480	26

Appendix IV. Instruction of indicator LED

Indictor LED	State	Instruction
Power supply	bright	The power supply of device is normal
	Not bright	Device is not powered on
Communication	bright	Device has be connected to Zigbee network
	Not bright	Device has not be connected to Zigbee network

Appendix V: Frequently Asked Questions

1. The power indicator is not bright.

Please check whether the cables are right connected， and at the same time please check whether the power supply is complied with the requirements and the standard, otherwise, maybe damage Zigbee.

2. Zigbee is not able to enter into the configuration state when you are configuring Zigbee

If you want to enter into the parameter configuration state of the Zigbee, you have to select "enter into the configuration state " from the " state" of the parameter configuration program. then it will appear "successfully enter into the configuration state" in the information box which is on the right side of the parameter configuration software.

You also have to check wether the DTU Baud rate is right (Baud rate of CM 210 series is 38400), check the Serial port line whether is normal.

If you want to use debugging tool of serial port to configure the parameters by the AT commands, you have to configure the baud rate for 38400bps, Even if you changed the communication Baud rate of your PC and Zigbee in the latter configuration .when you want to enter configuration program, you have to configure the Baud rate of debugging tool of serial port for 38400bps, 8 data bits, 1 Stop bit, no parity, and the flow control of debugging tool of serial port must be configured for no flow control. You have to press the S button of PC before supplying power to Zigbee or press the S button continuously after supplying power to Zigbee, until appearing the configuration menu interface.

3. The communication indicator LED of terminal node(E) or router node(R) is not bright.

a. Please check whether the node of device is configured to coordinator node(C), there must be only one coordinator node (C) in a Zigbee network.

b. Please check whether the network ID of terminal node(E) or router node(R) is consistent with coordinator (C).

4. Can not receive and send data

a. Please check whether the format of data which is sent by sender is consistent with the data format specified by the operating mode. The data format specified by operating mode, please see <6. Operating mode of Zigbee>.

b. Please check whether the data is sent by hexadecimal under CAIMORE(CAIMORE mode) and ONLYADDR(address mode) mode.

c. Please check whether the data is sent by hexadecimal under CAIMORE(CAIMORE mode) and ONLYADDR(address mode) mode.

d. Byte order of the address included in data packet is opposite to that of the actual address under CAIMORE(CAIMORE mode) and ONLYADDR(address mode) mode.