Chengdu Ebyte Electronic Technology Co.,Ltd

Wireless Modem

User Manual



E870-LxxxLG1x-S Series User Manual

All rights to interpret and modify this manual belong to
Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of contents

Chapter 1 Product Introduction 3
1.1 Basic Parameters 3
1.2 Interface Description 4
1.3 Dimensions Figure 5
Chapter 2 Hardware Connections 6
Chapter 3 Configuration Tools 6
3.1 Host computer configuration 6
3.2 Webpage Configuration 7
3.3 Device Network 8
3.3.1 Ethernet 8
3.3.2 WiFi 9
3.3.3 4G 9
3.4 Gateway Parameter Configuration 10
3.4.1 Gateway Configuration 10
3.4.2 Frequency Band Configuration 10
3.5 NTP service configuration 14
3.6 Restart Plan 15
3.6.1 Interval restart 15
3.6.2 Scheduled restart 15
3.7 Network Detection Configuration Information 15
Revision History 16
About Us ..... **错误！未定义书签。**

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Features

- Supports one wired WAN port, 10M/100M ;
- Supports LED status detection ;
- Supports one-click factory reset ;
- Supports web platform management and configuration ;
- Supports host computer management and configuration;
- Supports automatic switching between multiple internet access methods;
- Supports log viewing ;
- APN configuration is supported (some models support this feature);
- Supports NTP;
- Supports restart schedule configuration;
- Supports remote upgrades;

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Chapter 1 Product Introduction

E870-LxxxLG1x-S is a small, rail-mounted LoRaWAN gateway independently developed by Chengdu Ebyte Electronics Technology Co., Ltd. This product uses a wide DC voltage range of 8V to 28V and supports Ethernet/WiFi. STA network access, some versions support 4G network access , support multiple regional frequency bands, and can meet different usage needs .

1.1 Basic Parameters

Parameter Comparison Table						
	E870-L470LG11-S	E870-L470LG12-S	E870-L868LG11-S	E870-L868LG12-S	E870-L915LG11-S	E870-L915LG12-S
Power supply voltage	DC 8～28V					
Work schedule	half-duplex					
4G	√	×	√	×	√	×
4G band	LTE-FDD : B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 (140 MHz)	-	LTE-FDD : B1/3/5/7/8/20/28 LTE-TDD: B38/40/41	-	LTE-FDD : B1/3/5/7/8/20/28 LTE-TDD: B38/40/41	-
Ethernet	√	√	√	√	√	√
WiFi STA	√	√	√	√	√	√
Operating temperature	-20℃～55℃	-40℃～85℃	-20℃～55℃	-40℃～85℃	-20℃～55℃	-40℃～85℃
Product Dimensions	101.6×30×63mm					
Supported frequency bands	CN470 is supported in the 470-510MHz range.		863～870MHz supports EU868, RU864, IN865		Supports US915, AU915, AS923, and KR920 processors in the 902–928MHz range.	

E870-L470LG11-S supports CN470 region codes and 4G/Ethernet/WiFi STA network access.

E870-L470LG12-S supports CN470 region codes and Ethernet/WiFi STA network access.

E870-L868LG11-S supports EU868, RU864, and IN865 region codes and supports 4G/Ethernet/WiFi STA network access.

E870-L868LG12-S supports EU868, RU864, and IN865 region codes and supports Ethernet/WiFi STA network access .

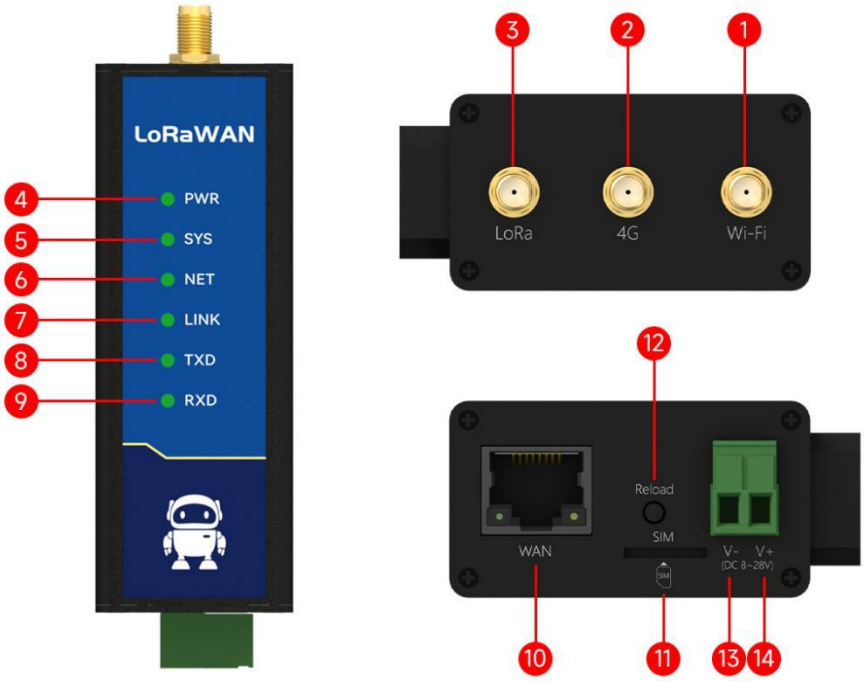
Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

E870-L915LG11-S supports US915, AU915, AS923, and KR920 region codes and supports 4G/Ethernet/WiFi STA network access.

E870-L915LG12-S supports US915, AU915, AS923, and KR920 region codes and supports Ethernet/WiFi STA network access .

1.2 Interface Description



The hardware interface is described as follows:

Interface serial number	Name	Remark
1	WIFI antenna	WIFI antenna (SMA interface)
2	4G antenna	4G antenna (SMA interface), only supported by 4G version devices.
3	LoRa antenna	LoRa antenna (SMA interface)
4	PWR	Power indicator light (red) - Solid on: Normal ; Off: Abnormal
5	SYS	Operation indicator light (blue) - Solid on: Normal; Off: Abnormal
6	NET	Network indicator light (green) - ETH network access: solid light; WIFI STA network access: slow flash (500ms on, 500ms off); 4G network access: fast flash (100ms on, 100ms off); No network AP operating: very slow flash (2000ms on, 2000ms off); All network interfaces not operating normally: NET light off
7	LINK	Connection indicator light (green) - stays on when connected to the server.
8	TXD	Data transmission indicator (yellow) - flashing when data is being transmitted.

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

9	RXD	Data reception indicator (yellow) - flashing when data is being received.
10	WAN	WAN port, 10/100Mbps
11	SIM card slot	Only 4G version devices are supported
12	Reload	The reset and factory reset buttons are used. A short press resets the device, while a long press for 3-10 seconds restores factory settings. Pressing and holding the power button forces the WiFi to switch to AP mode.
13	DC-IN-	Power supply range: DC: 8 ~ 28 V, negative terminal.
14	DC-IN+	Power supply range: DC 8~28 V, positive terminal.

1.3 Dimensions



Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Chapter 2 Hardware Connection

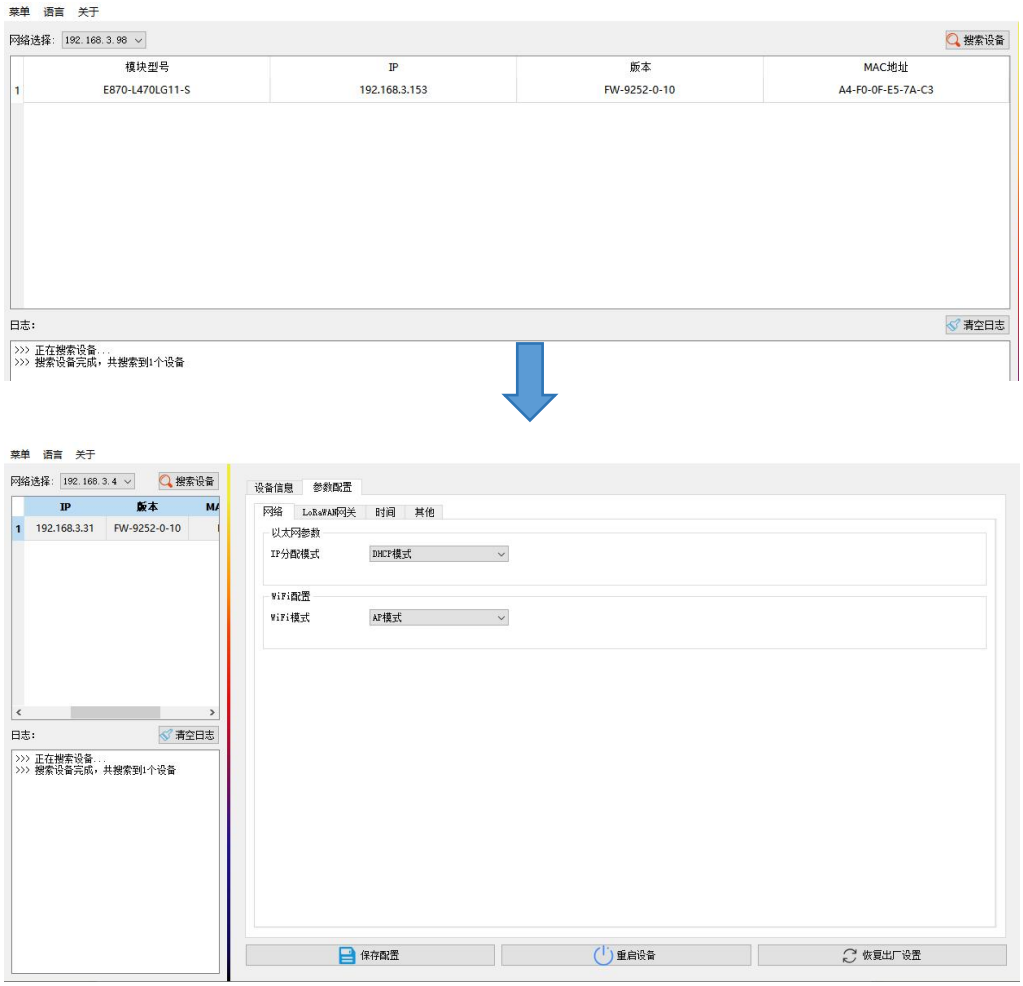
Connect the Wi-Fi antenna and LoRa antenna to the SMA ports marked on the device panel. After completing these steps, power on the gateway using the power supply provided with the device. Once powered on, the PWR indicator light on the panel will remain constantly lit, indicating that the device is receiving power normally . A constantly lit SYS indicator light will indicate that the device is operating normally .

Chapter 3 Configuration Tools

Before the gateway can be put into operation, users need to prepare at least one PC, one network cable, and the necessary accessories .

3.1 Configuration Software Tool

Once the device is powered on normally, connect it to the PC via a network cable to ensure they are on the same local area network. Open the configuration tool downloaded from the official website, click "Search Devices," and the device will be found. Then, click to enter the device's parameter information configuration interface.



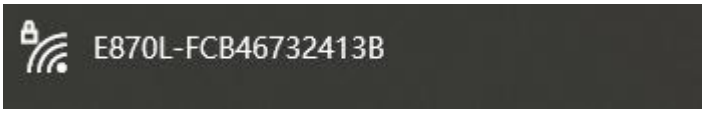
Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Modify the parameters as needed, then click "Save Configuration" and "Restart Device" for the configuration to take effect.

3.2 Webpage Configuration

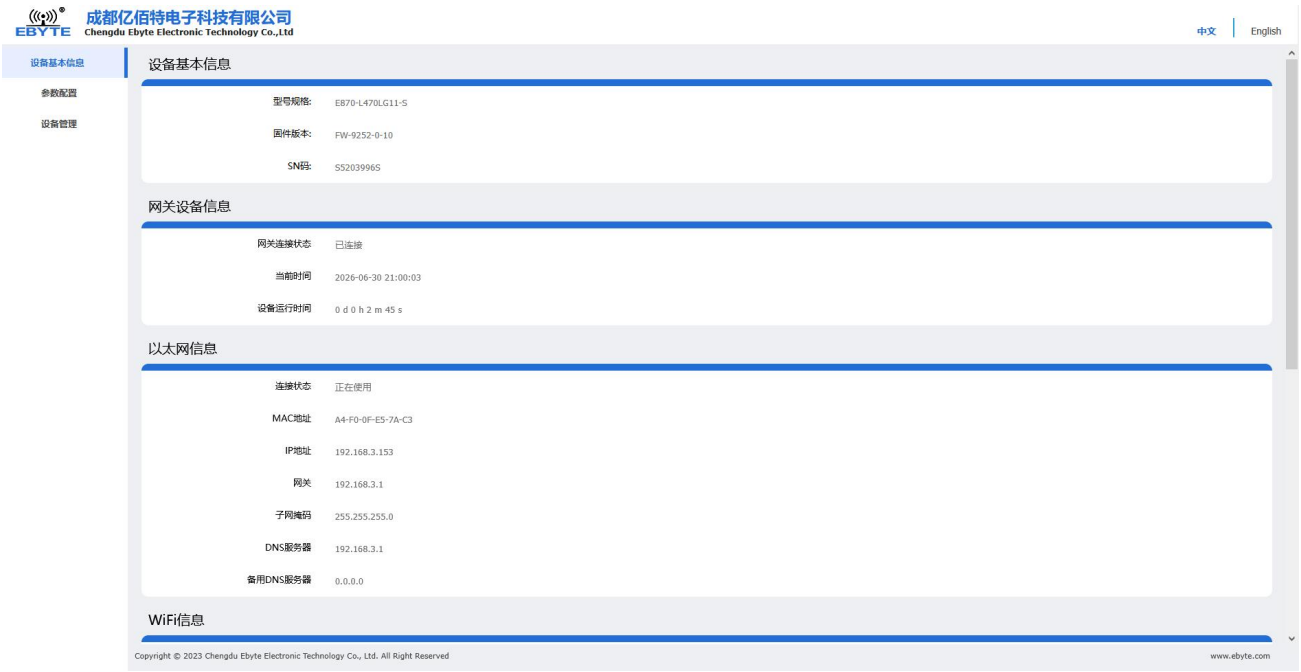
The device powers on normally. The default WiFi mode is AP mode. After powering on, connect to the device's WiFi network, name it as E870L-XXXXXXXXXXX, with the default password "12345678". After successful connection, access the web interface via a browser at "192.168.10.1". The default username and password are both "admin". Log in to access the device's parameter information configuration interface. (Note: It is recommended to connect the WiFi antenna before connecting to the device's WiFi to ensure a stable WiFi signal. If the device later switches to WiFi STA mode, you can also check the IP address of the connected router and access the configuration webpage directly via the IP address.)





Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



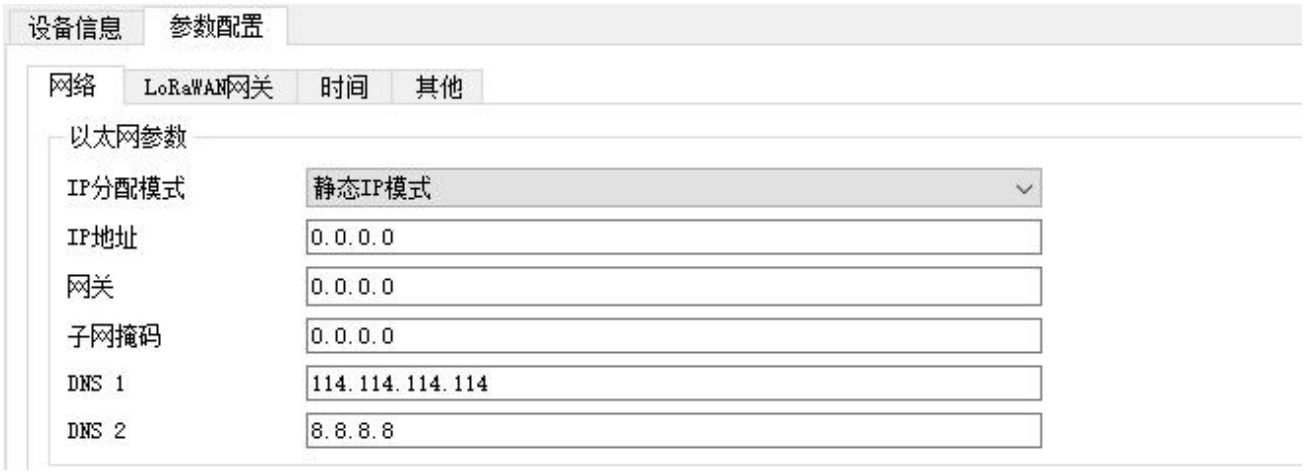
Modify the parameters as needed. After modifying the parameters, click "Save Configuration" in the device management interface, and then "Restart Device" for the configuration to take effect.

3.3 Device Network

E870-LxxxLG1x-S series devices have three network access methods: 4G, WiFi STA, and Ethernet. 4G network access is only supported by the 4G version, E870-L470LG11-S. When multiple network access methods are set, the network priority is WiFi STA > Ethernet > 4G . The "Device Information" will display information for WiFi STA, Ethernet, and 4G. There are three network connection statuses: 1. Not connected: No network; 2. In use: Network available and currently accessing the internet in this mode; 3. Ready: Network available but not currently accessing the internet in this mode.

3.3.1 Ethernet

The device is set to DHCP by default at the factory. Users can set it to a static IP address, or access the configuration webpage through the IP address assigned to the device.



Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Once the Ethernet connection is established, you can view relevant Ethernet information in the "Device Information" interface.



3.3.2 WiFi

The device defaults to AP mode by default. In this mode, you can access the configuration webpage by connecting to the device's WiFi and visiting "192.168.10.1". Users can then switch to WiFi STA mode for internet access. After switching to WiFi STA mode, the AP hotspot will be turned off. At this point, you can access the configuration webpage directly by checking the IP address of the router to which the device is connected .

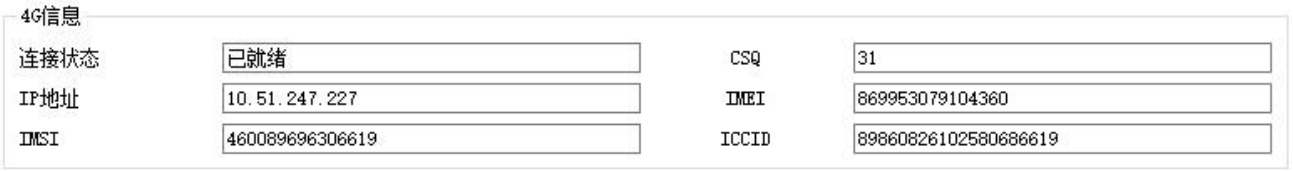


After the WiFi STA is successfully connected, you can view the Ethernet-related information in the "Device Information" interface.



3.3.3 4G

Currently, only some device versions support 4G network access (see parameter comparison table for details). Simply insert a working SIM card according to the markings to connect to the 4G network. After a successful 4G connection, you can view 4G-related information in the "Device Information" interface.



APN Configuration (only supported on E870-L868LG1 1 - S and E870-L 915 LG1 1 - S): Supports three authentication modes: None (no username and password authentication), PAP (plaintext password authentication), and CHAP (challenge handshake authentication, more secure than PAP).



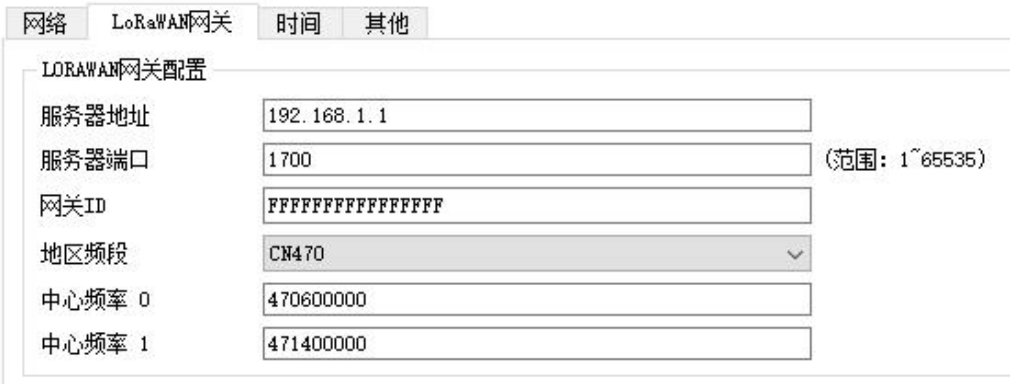
Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.4 Gateway Parameter Configuration

3.4.1 Gateway configuration

Users can configure the address and port of the LoRaWAN server to be connected, as well as the gateway ID, via the configuration software tool /web page .



The default server address is "192.168.1.1", the port is "1700" (1~65535), and the gateway ID is " FFFFFFFFFFFFFFFF " (16 bits).

3.4.2 Frequency Band Configuration

Users can configure the regional frequency band and center frequency of the gateway via the configuration software tool /web page. The gateway contains two radio frequency channels, radio0 and radio1. Internally, the gateway integrates eight demodulation channels, all using radio0 or radio1 as the center frequency and undergoing intermediate frequency offset to achieve parallel reception of multiple frequencies. Specifications vary by region; please refer to the following for details:

1. CN470

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-300KHz
chan_multiSF_1: radio0-100KHz
chan_multiSF_2: radio0+100KHz
chan_multiSF_3: radio0+300KHz
chan_multiSF_4: radio1-300KHz
chan_multiSF_5: radio1-100KHz
chan_multiSF_6: radio1+100KHz
chan_multiSF_7: radio1+300KHz
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
CN470_0: radio0: 470600000, radio1: 471400000
CN470_1: radio0: 472200000, radio1: 473000000
CN470_2: radio0: 473800000, radio1: 474600000
CN470_3: radio0: 475400000, radio1: 476200000
CN470_4: radio0: 477000000, radio1: 477800000
CN470_5: radio0: 478600000, radio1: 479400000
CN470_6: radio0: 480200000, radio1: 481000000
CN470_7: radio0: 481800000, radio1: 482600000
CN470_8: radio0: 483400000, radio1: 484200000
CN470_9: radio0: 485000000, radio1: 485800000
CN470_10: radio0: 486600000, radio1: 487400000
CN470_11: radio0: 488200000, radio1: 490000000
```

2. RU864

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-100KHz
chan_multiSF_1: radio0-100KHz
chan_multiSF_2: <close>
chan_multiSF_3: <close>
chan_multiSF_4: <close>
chan_multiSF_5: <close>
chan_multiSF_6: <close>
chan_multiSF_7: <close>
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
radio0: 869000000
radio1: 869000000 <close>
```

3. IN865

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-170KHz
chan_multiSF_1: radio0+170KHz
chan_multiSF_2: radio1
chan_multiSF_3: <close>
chan_multiSF_4: <close>
chan_multiSF_5: <close>
chan_multiSF_6: <close>
chan_multiSF_7: <close>
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
radio0: 865232500
radio1: 865985000
```

4. EU868

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-200KHz
chan_multiSF_1: radio0
chan_multiSF_2: radio0+200KHz
chan_multiSF_3: radio0-400KHz
chan_multiSF_4: radio1-200KHz
chan_multiSF_5: radio1
chan_multiSF_6: radio1+200KHz
chan_multiSF_7: radio1+400KHz
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
radio0: 868300000
radio1: 867500000
```

5. US915

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-300KHz
chan_multiSF_1: radio0-100KHz
chan_multiSF_2: radio0+100KHz
chan_multiSF_3: radio0+300KHz
chan_multiSF_4: radio1-300KHz
chan_multiSF_5: radio1-100KHz
chan_multiSF_6: radio1+100KHz
chan_multiSF_7: radio1+300KHz
chan_Lora_std:  radio0+400KHz
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
US915_0: radio0: 902600000, radio1: 903400000
US915_1: radio0: 904200000, radio1: 905000000
US915_2: radio0: 905800000, radio1: 906600000
US915_3: radio0: 907400000, radio1: 908200000
US915_4: radio0: 909000000, radio1: 909800000
US915_5: radio0: 910600000, radio1: 911400000
US915_6: radio0: 912200000, radio1: 913000000
US915_7: radio0: 913800000, radio1: 914600000
```

6. AU915

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-300KHz
chan_multiSF_1: radio0-100KHz
chan_multiSF_2: radio0+100KHz
chan_multiSF_3: radio0+300KHz
chan_multiSF_4: radio1-300KHz
chan_multiSF_5: radio1-100KHz
chan_multiSF_6: radio1+100KHz
chan_multiSF_7: radio1+300KHz
chan_Lora_std:  radio0+400KHz
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
AU915_0: radio0: 915500000, radio1: 916300000
AU915_1: radio0: 917100000, radio1: 917900000
AU915_2: radio0: 918700000, radio1: 919500000
AU915_3: radio0: 920300000, radio1: 921100000
AU915_4: radio0: 921900000, radio1: 922700000
AU915_5: radio0: 923500000, radio1: 924300000
AU915_6: radio0: 925100000, radio1: 925900000
AU915_7: radio0: 926700000, radio1: 927500000
```

7. KR920

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

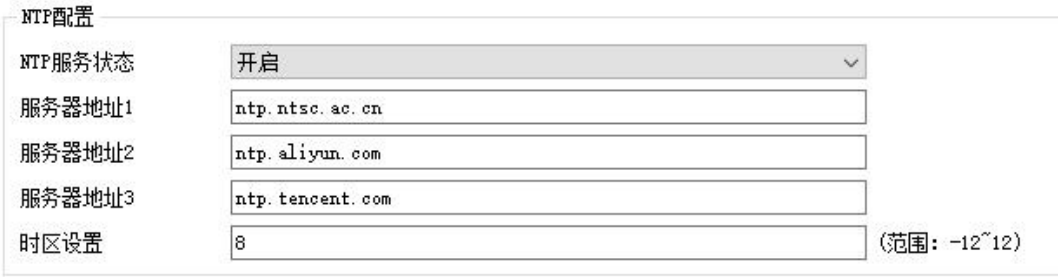
```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-200KHz
chan_multiSF_1: radio0
chan_multiSF_2: radio1+200KHz
chan_multiSF_3: <close>
chan_multiSF_4: <close>
chan_multiSF_5: <close>
chan_multiSF_6: <close>
chan_multiSF_7: <close>
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
radio0: 922300000
radio1: 922300000 <close>
```

8. AS923

```
/*
各信道频率偏移计算
Calculation of frequency offsets for each channel
*/
chan_multiSF_0: radio0-100KHz
chan_multiSF_1: radio0+100KHz
chan_multiSF_2: <close>
chan_multiSF_3: <close>
chan_multiSF_4: <close>
chan_multiSF_5: <close>
chan_multiSF_6: <close>
chan_multiSF_7: <close>
chan_Lora_std:  <close>
/*
不同子频段的中心频率
Calculation of frequency offsets for each channel
*/
AS923: radio0: 923300000, radio1: 923300000
AS923_2: radio0: 921500000, radio1: 921500000
AS923_3: radio0: 916700000, radio1: 916700000
AS923_4: radio0: 917400000, radio1: 917400000
```

3.5 NTP service configuration

E870-LxxxLG1x-S series devices support NTP service, which is enabled by default at the factory. The devices support three NTP servers, and the default parameters are shown in the figure below. Note: NTP requires a network connection to function properly.



Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.6 Restart Plan

The device supports two restart methods: interval restart and scheduled restart. The restart schedule is disabled by default at the factory, but users can choose to enable it if needed.

3.6.1 Intermittent restart

Interval restart means automatically restarting the device at fixed time intervals; the configured parameter needs to be greater than 60 seconds.



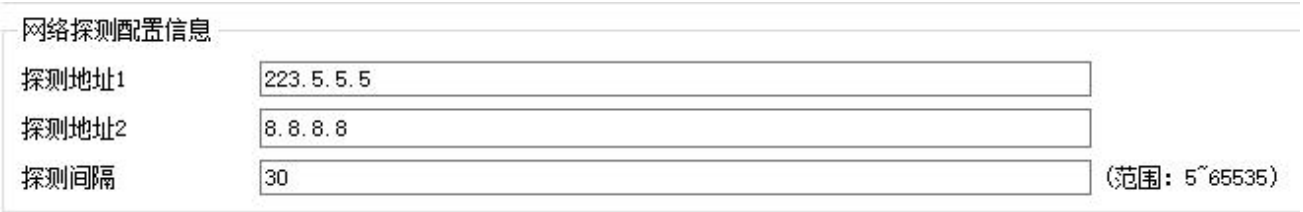
3.6.2 Scheduled restart

Scheduled restart means the device will automatically restart at a fixed time. You can customize the restart time to select a specific time on a day from Monday to Sunday .



3.7 Network Detection Configuration Information

The device automatically detects network changes and switches networks automatically. It supports two probe addresses, defaulting to "223.5.5.5" and "8.8.8.8"; the default probe interval is 30 seconds, but the probe address and interval can be customized by the user.



Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Revision History

Version	Revision Date	Revision Notes	Maintained by
1.0	2025-07-23	Initial version	ZYD
1.1	2026-06-30	Modified section description images	ZYD
1.2	2026-07-08	New products	ZYD

About Us

Technical support: service@cdebyte.com

Documents and RF Setting download link: www.cdebyte.com

Thank you for using Ebyte products! Please contact us with any questions or suggestions: info@cdebyte.com

---

Web: www.cdebyte.com

Address: B5 Mould Park, 199# Xiqu Ave, High-tech District, Sichuan, China

成都亿佰特电子科技有限公司
Chengdu Ebyte Electronic Technology Co.,Ltd.

Copyright ©2012–2026 , Chengdu Ebyte Electronic Technology Co., Ltd.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000