

Instruction manual of MT7688

BG96 module

BG96MC-128-SGNS

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1、Overview

The functions of BG96-MT7688 model are WIFI、cellular、GPS. The detail image as Figure1.

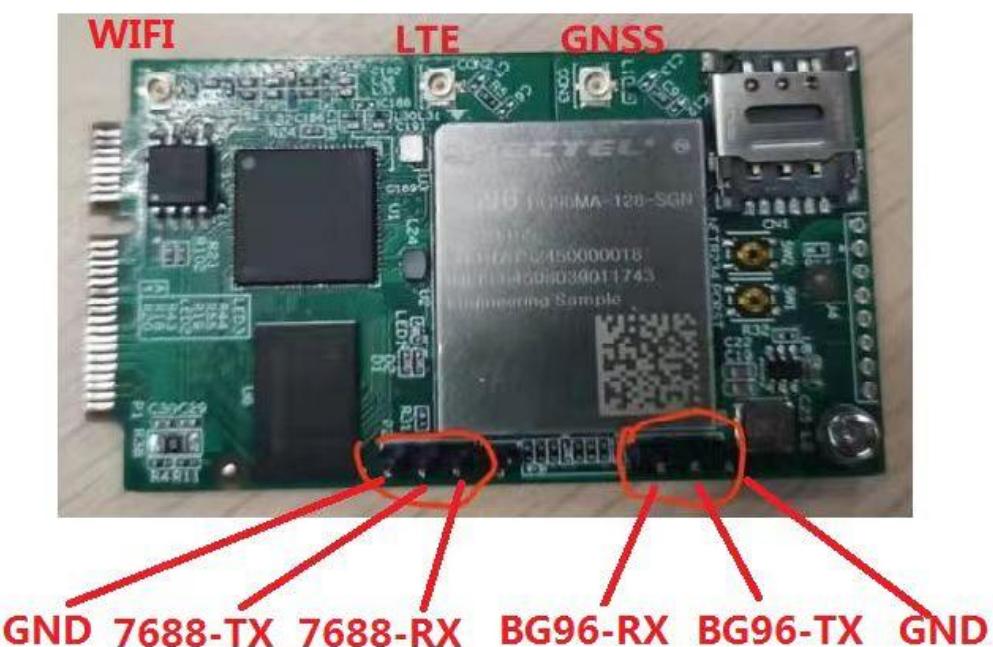


Figure1.

2、Hardware connection

The use of BG96 module depends on the Main board and DVI board. Assemble as shown in Figure2.

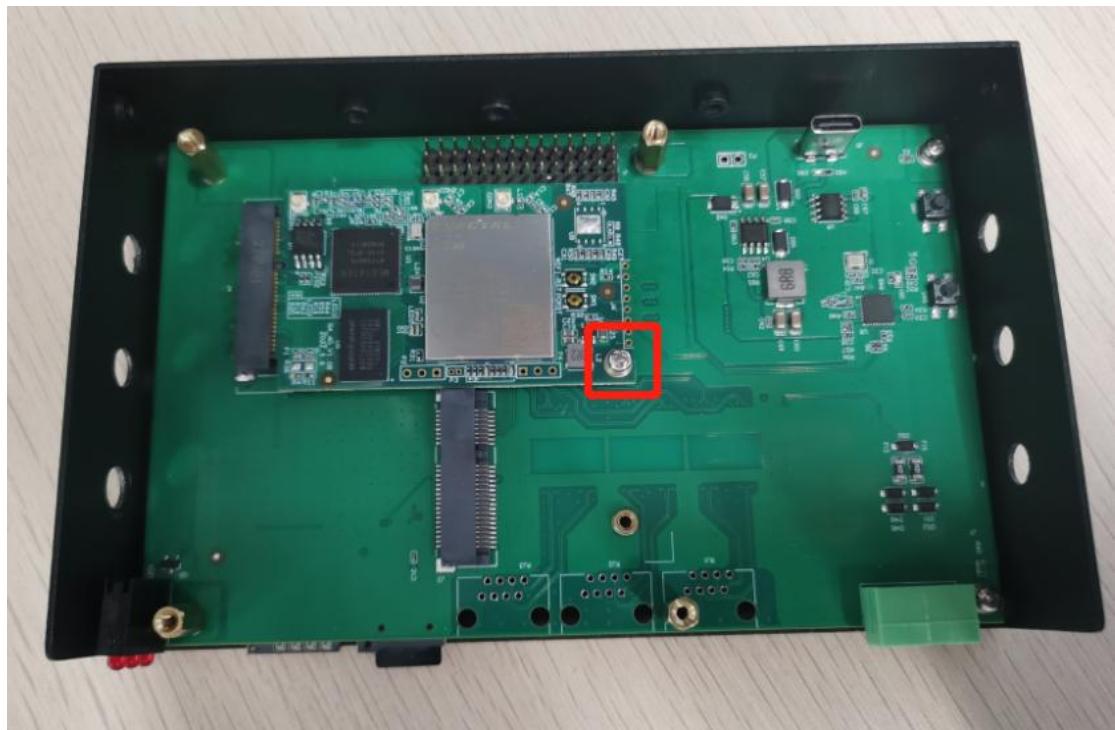


Figure2.

3、Binding pairing

Using bind MT7688 with mainboard.

4、Instruction for 7688

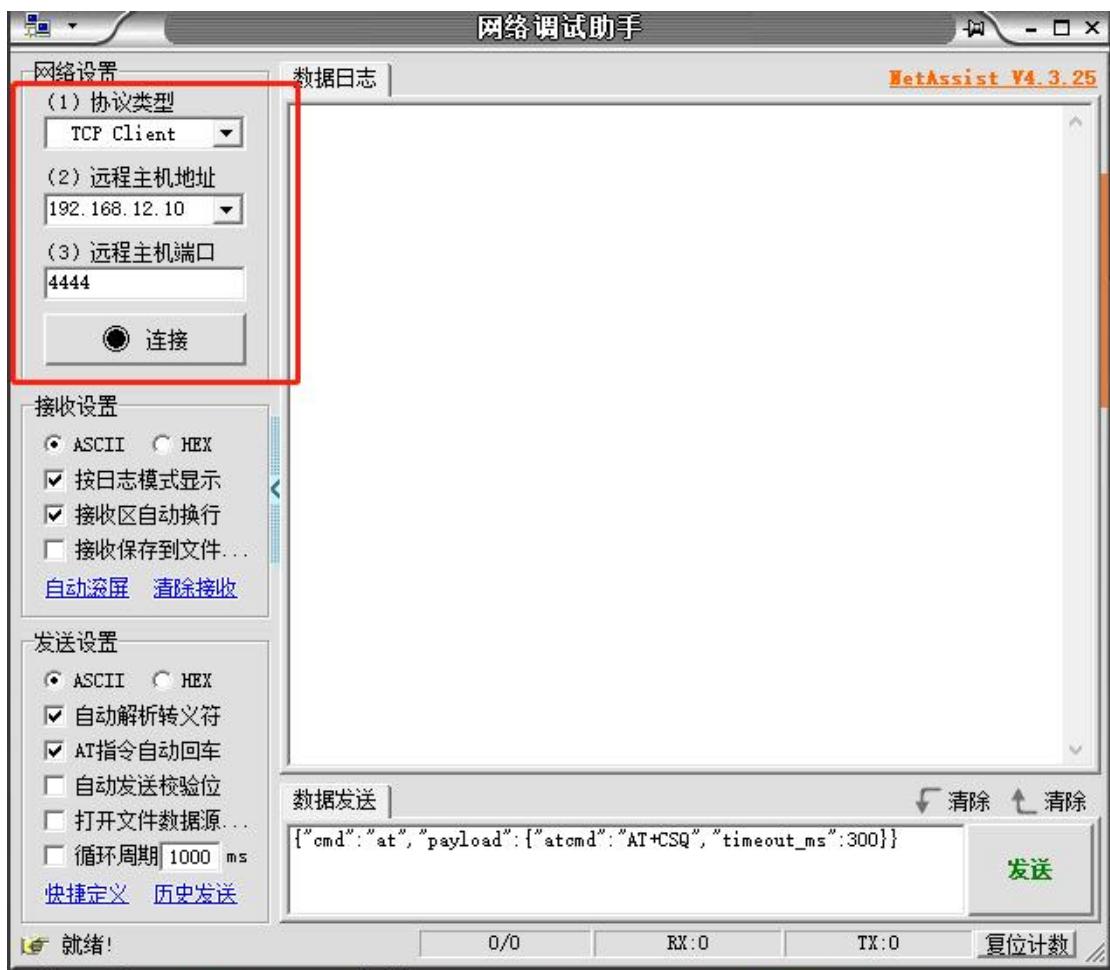
Linking PC with 7688 first.

Open network assistant NetAssist_v4.3.25.

protocol type: Tcp Client

Host address: 192.168.12.10

Port: 4444



AT test command:

```

{"cmd": "at", "payload": {"atcmd": "AT+CIMI", "timeout_ms": 300}} #Read SIM
{"cmd": "at", "payload": {"atcmd": "AT+CSQ", "timeout_ms": 300}} #Acquired signal quality
{"cmd": "at", "payload": {"atcmd": "AT+CREG?", "timeout_ms": 300}} #Obtain the network registration
status
{"cmd": "at", "payload": {"atcmd": "AT+QGPS=1", "timeout_ms": 300}} #Open GPS
{"cmd": "at", "payload": {"atcmd": "AT+QGPS?", "timeout_ms": 300}} #Query GPS open or
not
{"cmd": "at", "payload": {"atcmd": "AT+QGPSLOC?", "timeout_ms": 300}} #Acquired GPS data
{"cmd": "at", "payload": {"atcmd": "AT+QGPSEND", "timeout_ms": 300}} #Close GPS

```

5、F/W Update

- 1) Use your PC to connect the Guardian-xxxx Wi-Fi (password CMIIC@123) and open the link (<http://192.168.12.10> from a Browser (root passcode 12345678))

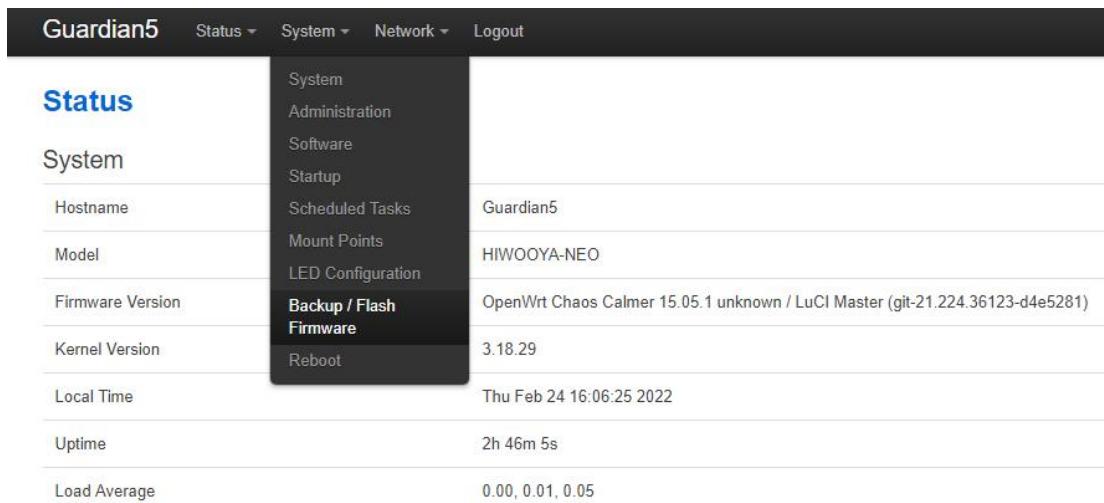
Authorization Required

Please enter your username and password.

Username	<input type="text" value="root"/>
Password	<input type="password"/>
<input type="button" value="Login"/> <input type="button" value="Reset"/>	

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2) Select System-->Backup/Flash Firmware:



The screenshot shows the Guardian5 web interface. At the top, there is a navigation bar with the title "Guardian5" and links for "Status", "System", "Network", and "Logout". Below the navigation bar is a table with the following data:

Status	
System	
Hostname	Guardian5
Model	HIWOOYA-NEO
Firmware Version	OpenWrt Chaos Calmer 15.05.1 unknown / LuCI Master (git-21.224.36123-d4e5281)
Kernel Version	3.18.29
Local Time	Thu Feb 24 16:06:25 2022
Uptime	2h 46m 5s
Load Average	0.00, 0.01, 0.05

A dropdown menu is open over the "System" row, showing the following options: "System", "Administration", "Software", "Startup", "Scheduled Tasks", "Mount Points", "LED Configuration", "Backup / Flash Firmware", and "Reboot". The "Backup / Flash Firmware" option is highlighted with a dark background.

3) Check Keep settings checkbox, click file button as below:



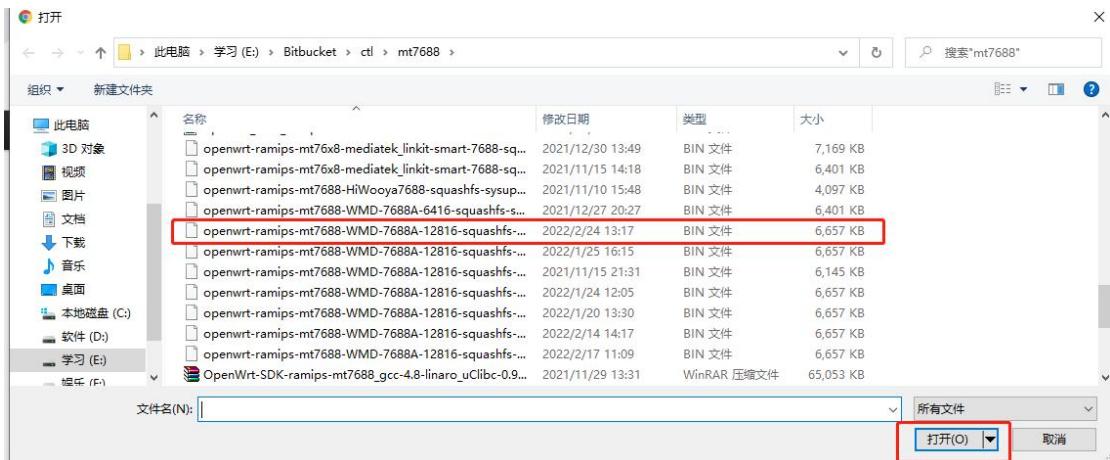
Flash new firmware image

Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration (requires an OpenWrt compatible firmware image).

Keep settings:

Image: 未选择任何文件

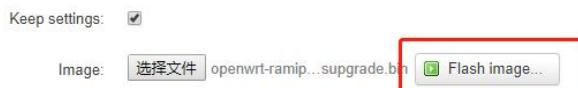
4) Select mt7688 firmware and click open button as blew.



5) Click Flash image button.

Flash new firmware image

Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration (requires an OpenWrt compatible firmware image).



6) Click the Flash image button, wait the updating for a few minutes.

Guardian5 Status System Network Logout

Flash Firmware - Verify

The flash image was uploaded. Below is the checksum and file size listed, compare them with the original file to ensure data integrity. Click "Proceed" below to start the flash procedure.

- Checksum: `698e3e613de445dc350a6c1d034b506e`
- Size: 6.50 MB (15.69 MB available)
- Configuration files will be kept.

Cancel Proceed

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7) Please don't power down and close the browser during updating.

System - Flashing...

The system is flashing now.

DO NOT POWER OFF THE DEVICE!

Wait a few minutes before you try to reconnect. It might be necessary to renew the address of your computer to reach the device again, depending on your settings.

 Waiting for changes to be applied...

8) You will see PC Wi-Fi is disconnected after updating and rebooting. A few minutes later, you can reconnect Guardian-xxxx Wi-Fi, if you can see login page in browser, the upgrade is successfully performed.

Authorization Required

Please enter your username and password.

Username

root

Password

Login

Reset

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FCC STATEMENT:

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.

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

Note: 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 equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body