

LM43 User Manual

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1. About this Manual

The content of this User Manual has been made as accurate as possible. However, due to continual product improvements, specifications and other information are subject to change without notice.

2. Product Overview

LM43 supports LTE Band 2/4/13 (Subject to the configuration of LTE module) and it supports popular operating systems like Windows, Linux and Mac.

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.

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

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.**

3. Configuring the MIFI

The basic settings in WebGUI consist of seven main parts named Dashboard,4G,Status,LAN and System. You can login to WebGUI as follows, and configure the settings according to your requirements.

Connect the PC to LM43 with USB cable, waiting for about one minute until the device finished initializing. Please ensure that USIM card has been inserted into USIM slot.

3.1 Login

Open your Web browser and enter 10.0.0.1 in the address bar;

Login window will popup;

When prompted for User name and password, enter the following username and password.

Username/Password: admin/admin









3.2 Dashboard

After successful login, the following screen will appear and you will see six menus on the top bar of the WebGUI.

The bars in the middle indicate the received signal level, data connection status, USIM status shown as below picture:



	LTE signal level
	Data connection Icon, when MIFI connect to network, the icon is on, otherwise, it is grey
	USIM card status. If MIFI work without USIM card. The USIM card icon change to 
	Reboot key. It is used to reboot the device
	Log out key. It is used to log out Web page

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Figure 3-2-1 Icon

From dashboard page, you can also know 4G status, status, WAN Info, LAN Info, uplink/downlink and Device Info. You can see the dashboard page as figure 3-2-2.

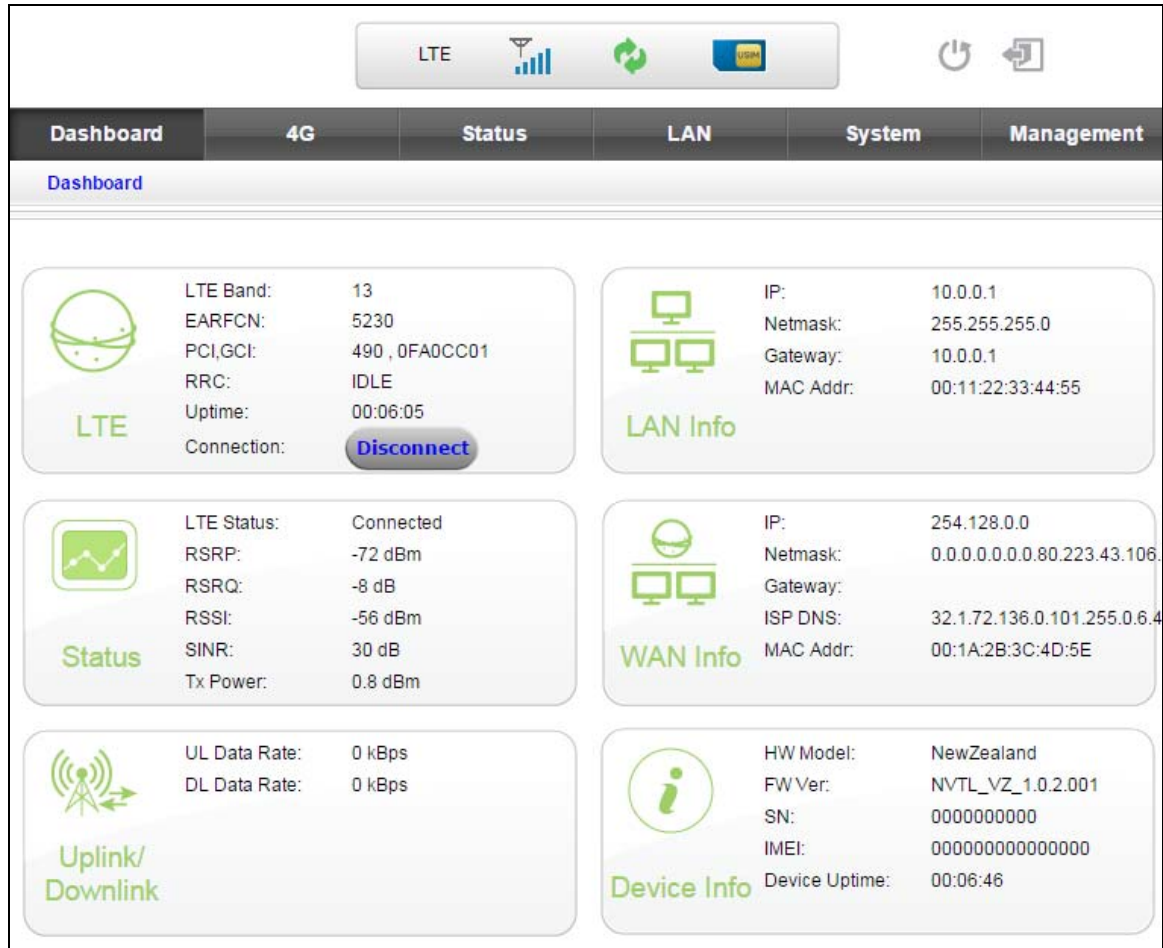


Figure 3-2-2 Dashboard Page

3.3 4G

3.3.1 Setting

Connection Mode: bridge and router, default mode is bridge

Connection Type: Auto and manual, default type is auto

Setting	
Connection Mode	Bridge ▼
Connection Type	Manual ▼
<input type="button" value="Apply"/>	

Figure 3-3-1-1 Setting

3.3.2 APN Settings

APN Settings	
APN Type	IPV4 ▼
APN Name	<input type="text"/>
Authentication	NONE ▼
User Name	<input type="text"/>
Password	<input type="text"/>
Admin APN Settings	
Enable Admin APN	<input type="checkbox"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Figure 3-3-2-1 APN Settings

The default APN type is IPV4 and APN is NULL, if you want to configure the LTE APN, you should choose the manual mode, and then you can configure the APN settings

3.3.3 PIN Management

From this page, you can see the USIM card status and PIN status.

DNS information can be displayed

WAN Status	
WAN IP Address	254.128.0.0
WAN Subnet Mask	0.0.0.0.0.0.80.223.43.106.1.255.255.255.255.255.255.255.255.255.255.255.255.255.255.255
WAN Default Gateway	
WAN Primary DNS	32.1.72.136.0.101.255.0.6.46.0.13.0.0.0.0
WAN Secondary DNS	32.1.72.136.0.100.255.0.6.32.0.13.0.0.0.0

Figure 3-4-1-1 WAN Status

3.4.2 LAN Status

From this page, you can see the LAN Status such as IP, local net mask, DHCP server and MAC address.

LAN Status	
LAN IP	10.0.0.1
Local Netmask	255.255.255.0
DHCP Server	10.0.0.10-10.0.0.10
LAN MAC Address	00:11:22:33:44:55

Figure 3-4-2-1 WiFi LAN Status

3.4.3 4G Status

Clicking on the “4G Status”, you can see the LTE information such as Connection Status, USIM Status, IMEI, IMSI, RSSI, and SINR.

4G Status	
Connection Mode	Bridge
Connection Status	Connected
USIM Status	USIM Ready
Signal Strength (RSRP)	-73 dBm
Signal Strength (RSRQ)	-10 dB
IMEI	0000000000000000
UICCID	89148000001360610850
IMSI	311480137850014
SINR	31 dB
RSSI	-56 dBm
Physical Cell ID	490
Global Cell ID	0FA0CC01
Transmission Mode	Open loop MIMO
PLMN	Verizon Wireless
Bandwidth	10 Mhz

Figure 3-4-3-1 LTE Status

I 3.4.4 Software Status

Software version and the DTB version can be displayed.

Software Status	
System Software Version	NVTL_VZ_1.0.2.001
DTB Version	HPC_P1_1.22.6

Figure 3-4-4-1 Software

3.5 LAN

The setting menu consists of two main menus named LAN Settings and Device List.

Dashboard	4G	Status	LAN	System	Management
-----------	----	--------	-----	--------	------------

LAN Settings | Device List

LAN Settings

IP Address	<input type="text" value="10.0.0.1"/>	
Subnet Mask	<input type="text" value="255.255.255.0"/>	
DHCP Server	<input type="text" value="Enabled"/>	
Start IP Address	<input type="text" value="10.0.0.10"/>	
End IP Address	<input type="text" value="10.0.0.10"/>	
Lease Time	<input type="text" value="10080"/>	
Static IP 1	MAC: <input type="text"/>	IP: <input type="text"/>
Static IP 2	MAC: <input type="text"/>	IP: <input type="text"/>
Static IP 3	MAC: <input type="text"/>	IP: <input type="text"/>
Static IP 4	MAC: <input type="text"/>	IP: <input type="text"/>
Static IP 5	MAC: <input type="text"/>	IP: <input type="text"/>

Help

On this page you can change your LAN interface settings.

IP Address: The routers private IP address (standard gateway).

DHCP Server: Enable or Disable DHCP Server on LAN.

Lease time: Time before the router releases an IP address.

Start & End IP-address: IP address range assignable to LAN clients.

Static IP: Used for assigning a static IP

Figure 3-5-1 Settings

3.5.1 LAN Settings

Clicking on the “LAN Settings” tab will take you to the “LAN Settings” header page. On this page, all settings for the internal LAN setup.

LAN Settings	
IP Address	<input type="text" value="10.0.0.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
DHCP Server	<input type="text" value="Enabled"/> ▾
Start IP Address	<input type="text" value="10.0.0.10"/>
End IP Address	<input type="text" value="10.0.0.10"/>
Lease Time	<input type="text" value="10080"/>
Static IP 1	MAC: <input type="text"/> IP: <input type="text"/>
Static IP 2	MAC: <input type="text"/> IP: <input type="text"/>
Static IP 3	MAC: <input type="text"/> IP: <input type="text"/>
Static IP 4	MAC: <input type="text"/> IP: <input type="text"/>
Static IP 5	MAC: <input type="text"/> IP: <input type="text"/>

Figure 3-5-1-1 LAN Settings

- **IP Address** - Enter the IP address of your router (factory default: 192.168.0.1).
- **Subnet Mask** - An address code that determines the size of the network. Normally use 255.255.255.0 as the subnet mask.
- **DHCP** - Enable or Disable the DHCP server. If you disable the Server, Client cannot get valid IP address from MIFI automatically. But you can configure the address of your PC manually to connect MIFI
- **Start IP Address** - Specify an IP address for the DHCP server to start with when assigning IP address. The default start address is 192.168.0.10.
- **End IP Address** - Specify an IP address for the DHCP Server to end with when assigning IP address. The default end address is 192.168.0.100.
- **Lease Time** - The Lease Time is the amount of time a network user will be allowed connection to the router with their current dynamic IP address. Enter the amount of time in minutes and the user will be "leased" this dynamic IP address. After the time is up, the user will be assigned a new dynamic IP address automatically.
- **Static IP** - IP/MAC binding function, the system will assign a fixed IP address to the MAC according to the rules.

 **Note:**

1. If you change the IP Address of LAN, you must use the new IP address to login to the MIFI router.

- If the new LAN IP address you set is not in the same subnet, the IP address pool of the DHCP server will change at the same time, while the Virtual Server and DMZ Host will not take effect until they are re-configured.

3.5.2 Device List

You can see the users' information, include hostname, MAC address, IP address and connection type.

Device List			
Hostname	IP Address	MAC Address	Connection Type
lwanglaptop-PC	10.0.0.10	00:11:22:33:44:56	USB

[Refresh](#)

Figure 3-5-2-1 Device List

3.6 System

On this page you can set System Menu: Password, backup&restore, firmware software upgrade.

The screenshot displays the router's configuration interface. At the top, there are status icons for LTE, 4G, and a Wi-Fi signal. Below that is a navigation menu with 'System' highlighted. Under 'System', there are three options: 'Password', 'Backup & Restore', and 'Firmware Upgrade'. The 'Password' section is active, showing a form with three input fields: 'Username' (containing 'admin'), 'New Password' (with a '(1~32)' character limit), and 'Confirm Password' (with a '(1~32)' character limit). 'Apply' and 'Cancel' buttons are located below the form. On the right side, there is a 'Help' section with a question mark icon, providing instructions for each field: 'Username: Show the current username.', 'New Password: You can enter 1-32 characters as your new password.', and 'Confirm Password: Again enter the new password.'

3.6.1 Password

The default password is admin, you can enter 1~32 characters for 2 times as your new password. Then you would logout automatically and you should login to the system by the new password.

Password	
Username	<input type="text" value="admin"/>
New Password	<input type="text"/> (1~32)
Confirm Password	<input type="text"/> (1~32)

Figure 3-6-1 Password

3.6.2 Backup & Restore

Clicking the “Export” button, the current settings will be saved as a data file to the local PC. You can import the device configuration from the files that you saved. You can restore and reboot the device.

Backup & Restore Settings	
Export Settings	<input type="button" value="Export"/>
Import Settings	<input type="button" value="Choose File"/> No file chosen <input type="button" value="Import"/>
Restore Factory Settings	<input type="button" value="Restore"/>

Reboot	
Reboot the device	<input type="button" value="Reboot"/>

Figure 3-6-2-1 Backup & Restore

3.8.3 Firmware Upgrade

On this page, you can upgrade the current Router version from the local PC.

Please wait until the whole upgrade complete, and then the device will reboot automatically



The screenshot shows a web-based interface for a firmware upgrade. At the top, there is a header bar with the text "Firmware Upgrade". Below this, there is a section labeled "Location". To the right of the "Location" label is a "Choose File" button, and to its right is the text "No file chosen". At the bottom of the interface is a large "Apply" button.

Figure 3-6-3-1 Firmware Upgrade

4. important information

4.1 End Product Labeling

This transmitter module is authorized only for use in devices where the antenna may be installed such that 20 centimeter may be maintained between the antenna and users. The final end product must be labeled in visible area with the following: “Contains FCC ID: [PKRNVWSM4401](#)”.

4.2 This device is intended only for OEM integrators under the following conditions:

The SM4401 may transmit simultaneously with other collocated radio transmitters within a host device, provided the following conditions are met:

1. Each collocated radio transmitter has been certified by FCC for mobile application.
2. At least 20 cm separation distance between the antennas of the collocated transmitters and the user’s body must be maintained at all times.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

IMPORTANT NOTE: In the event that these conditions cannot be met (for example co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for reevaluating the end product (including the transmitter) and obtaining a separate FCC authorization. As long as a condition above is met, further transmitter test will not be required. However, the OEM integrator is still

responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.)

4.3 Manual Information to the End user

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

4.4 Antenna Restriction

The antenna is designed with unique type RF connector and no consideration of replacement.

For mobile and fixed operating configurations the antenna gain, including cable loss, the device, module SM4401 must not exceed the following gain values per bands

for B2 1850-1910 MHz , 6.95 dBi gain

for B4 1710-1755 MHz, 5.37 dBi gain

for B13 777-787 MHz , 11.15 dBi gain