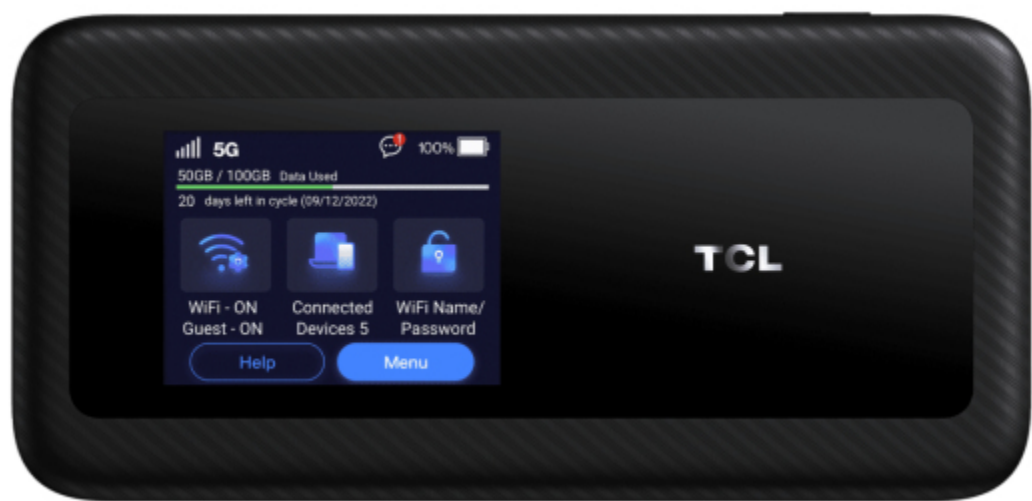


TCL MW513U

Hotspot with a Shield Internet SIM card



Version Control

Mark A Phillips NI2O	Initial Version	V1.01 09/04/2026

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1 Abstract

This document aims to explain to the reader how to make a TCL MW513U 5G/4G LTE hotspot function reliably using a Shield Internet SIM card.

It does not educate the reader on how to use any of the device's other functions. Refer to the manufacturer's documentation which can be found at

<https://us.tcl.com/products/linkzone-5g-uw>

2 Required hardware

An unlocked TCL MW513U also known as a TCL Linkzone 5G UW. USB cable. Power supply. Laptop/desktop/tablet computer with WiFi.

2.1 What does “unlocked” mean?

A device is considered “locked” when its original vendor bonds the device to their network. It will no longer function on any other network. A device locked to Verizon will only work on Verizon. This is regardless of the SIM installed into the device. Putting a T-Mobile SIM card into a Verizon phone will not yield a functioning phone.

When “unlocked” a device (phone/hotspot/tablet/etc) may function on another vendor's network assuming the device uses the same technology as the new vendor's SIM card. Most 4G LTE and 5G devices are compatible with networks that they were not originally made for. However, radio frequencies vary from vendor network to vendor network and so your device still may not function. The TCL MW513U will function on Verizon (as it was intended) and to a limited extent on GSM compatible networks such as AT&T and T-Mobile including all of their various MVNO clients (eg, Mint/Shield/Smartless/Tello/Ultra/Google Fi/Boost/etc).

3 Procedure

3.1 Install the SIM card

Remove the battery cover from the TCL MW513U. Remove the battery. Locate the SIM card slot.

Break out your Shield Internet SIM card from its credit card carrier. It will have a few different sizes of SIM punchout options. Break out the smallest possible option. This is known as a “nano SIM” and is barely bigger than the small square gold chip it holds.

Observe the missing corner on the nano SIM. It will have a 45 degree angle instead of a square corner. Turn the card so that the chip is facing downwards. Insert the nano SIM into the slot with the missing corner at the top left. There is a small engraved icon above the slot to demonstrate the SIM card orientation. Push the SIM card in until it is flush with the bottom of the slot.



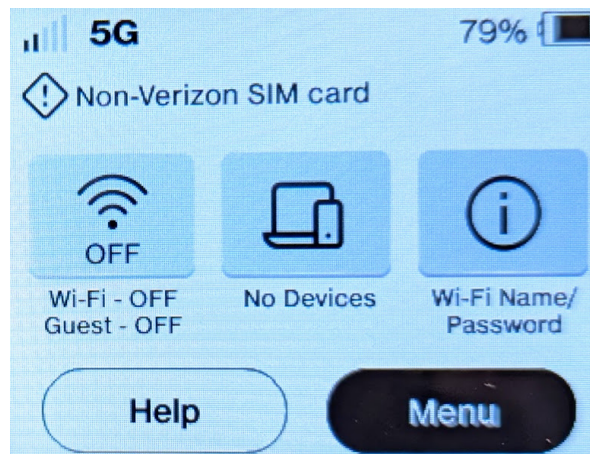
Replace the battery and the cover.

3.2 Charge the battery before use

Plug the USB cable into the TCL MW513U and wait for the battery to charge to at least 50% before proceeding.

3.3 Turn on the hotspot device

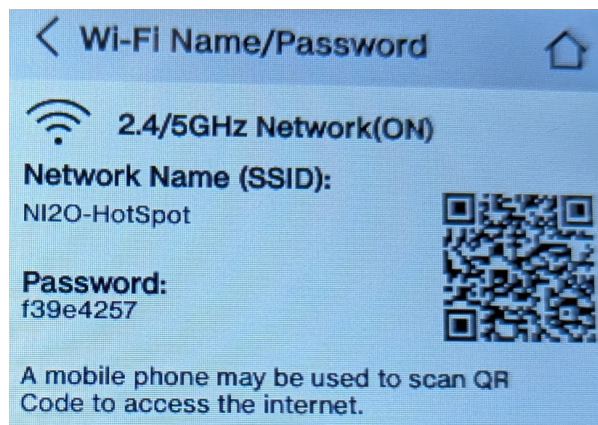
Press the button found on the top right of the hotspot for a few seconds to turn it on. Observe the LCD screen step through a few screens before arriving at the below screen:



Note the warning about a Non-Verizon SIM card. This warning will be permanently displayed when there is no Verizon SIM card installed. There is no issue with the operation of your hotspot.

3.4 Connect to the hotspot WiFi

On the hotspot device press the “Wi-Fi Name/Password” button to display both the WiFi SSID and the current password. Connect your computer to this network.



3.5 Confirm Internet access

At this point your hotspot should be able to connect your computer to the Internet. Disconnect any other network you may have e.g. wired Ethernet. Open a terminal prompt (Windows Command/Linux Terminal/MacOS Shell/etc) and PING an IP address you know to be on the Internet;

```
ping 1.1.1.1 (Linux/MacOS)
ping /t 1.1.1.1 (Windows)
```

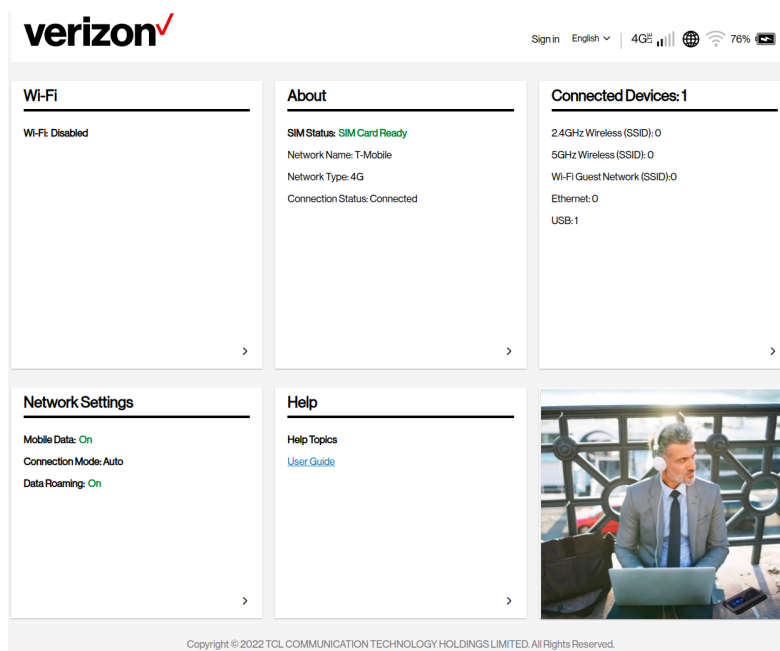
You will find that the connection is not reliable. It works for a few seconds and then does not work for a few seconds and then it does work again. Back and forth until you stop the ping using <CTRL-C>.

3.6 Roll back to 4G LTE

While the TCL MW513U claims to support GSM compatible networks in addition to its native Verizon network the device is not equipped with the correct radio frequencies to access Shield/T-Mobile's (shield is a T-Mobile MNVO) 5G radio bands. You will need to change the hotspot's default network connection from 5G to 4G LTE.

3.6.1 Connect to the hotspot web GUI

While remaining disconnected from any other network point your browser at <http://192.168.1.1> to access the hotspot's web GUI. From here you can make changes to the hotspot's behavior.



Sign into the hotspot by clicking on the “Sign in” label found on the right side of the title bar. You will be presented with a login prompt. Enter the WiFi password.

×

Sign in

* Admin Password:

.....

Show

☒ Remember password

Sign in

I have accepted the [Terms of Use](#) and [Privacy Policy](#).

Once logged in you will not notice a change other than the “Sign in” label now says “Sign Out”. Click on the arrow found in the bottom right corner of the section labeled “Network Settings”

Network Settings

Mobile Data: On

Connection Mode: Auto

Data Roaming: On

>

Using the menu on the left select “Network Settings”. Then change the “Network Mode” drop-down box to “4G Only”. Click “Apply”.

verizon

Sign Out English 4G 77%

Home

Wi-Fi

Data Usage

Connected Devices

Messages

Mobile Network

Network Connection

Profile Management

Network Settings

SIM PIN Management

Manual DNS

Network Settings

Network Mode: 4G Only

Network Search Mode: ☒ 4G Only ☐ Auto ☐ Manual

Apply Search Cancel

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Having clicked “Apply” your hotspot will now change its display screen to reflect your change while at the same time connect to the 4G LTE network. The “About” pane in the web GUI will also show 4G.

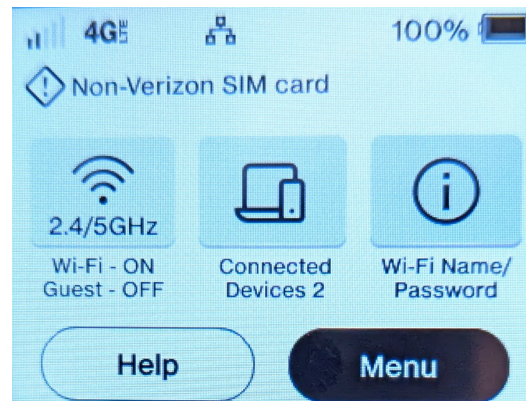
About

SIM Status: SIM Card Ready

Network Name: T-Mobile

Network Type: 4G

Connection Status: Connected



Your TCL MW513U is now correctly connected to the Shield Internet network and should offer you many years of reliable service.

4 Service expectations

While it is true that Shield Internet offers a 5G data service and that service does indeed operate at 5G speeds often upwards of 1gbps the limitations of the TCL MW513U are such that you will never achieve those speeds.

The TCL MW513U is capable of CAT19 4G LTE speeds which run at around 150mbps download. Upload speeds are usually in the 35-50mbps range. These speeds are often faster than your local cable company offers over their wire.

These speeds are more than enough to sustain a 4K video Netflix/Amazon/Hulu/AppleTV session without interruption along with many other Internet activities running concurrently such as gaming or web surfing.

5 Security

5.1 TCP/IP Version 4 (IPv4)

While your connected equipment is somewhat protected by the significant difficulties of the IPv4 CGNAT system used by Shield/T-mobile you should still take precautions to prevent unwanted access to your equipment. The TCL MW513U has limited firewalling facilities which should keep your equipment generally safe.

5.2 TCP/IP Version 6 (IPv6)

Your service also supports IPv6 connections. In keeping with the IPv6 protocol standards your TCL MW513U passes a unique IPv6 address along to every device connected to it. This means that there is a potential for Internet based bad actors to compromise your connected devices. It is beyond the scope of this document to advise the reader about possible mitigation strategies.

6 Credits

Thanks goes Shield Internet and specifically their customer support team who gave excellent service and support in the creation of this document.

An updated version of this document may be found at <https://ni2o.ampr.org/documents/>