MERCKU

FAQ & TROUBLESHOOTING GUIDE

M2 Queen Router and Bee Nodes

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Installation and Set-Up

1. I have an XXX ft^2 house. Which device(s) should I purchase?

Please refer to the information below to ensure maximum coverage for your house. If you need further assistance, please email us at support@mercku.com

- The **M2 (Queen) standalone router** placed in an open location can support a house with coverage up to 3,000 ft^2 (280 m^2)
- **One Bee node** placed in an open location can add an additional 500 ft^2 (50 m^2) of coverage
- **One M2 (Queen) node** placed in an open location can add an additional 3,000 ft^2 (280 m^2) of coverage

Please Note: Walls and materials impact Wi-Fi strength. When placed in an open area, the optimal distance between nodes is 23 ft (7 m), but can be reduced by the following types of materials:

- Wood or plastic: 16.5 ft (5 m)
- Glass: 6.5 ft (2 m)
- Cement or metal: 3.3 ft (1 m)

2. What are some tips when placing M2 nodes around the home to ensure optimized performance?

- Avoid placing nodes in areas with obstructions and poor ventilation (e.g. next to furniture)
- Place nodes in higher areas of the room to optimize coverage (e.g. on a shelf, desk, etc.)
- Avoid placing your nodes in areas close to electronic appliances that may cause signal interference. E.g. microwaves, 2.4G wireless mouse, and 2.4G wireless telephones
- Consider the building materials used to construct your home, as it may impact signal strength between nodes

Did you know?
Walls and materials impact Wi-Fi strength. When placed in an open area, the optimal distance between nodes is within 23 ft (7 m), but can be reduced by the following types of materials:

- *Wood or plastic: 16.5 ft (5 m)*
- *Glass: 6.5 ft (2 m)*
- *Cement or metal: 3.3 ft (1 m)*

3. Do you have different plug types available for countries outside of North America?

In addition to the **North American** plug type (Type A), we have plug types available for the following regions:

- **Europe** – Type C (for a list of countries that use this plug type, visit: https://www.iec.ch/worldplugs/typeC.htm)
- **UK, Ireland, Cyprus, Malaysia, Singapore, Hong Kong** – Type G (for a list of countries that use this plug type, visit: https://www.iec.ch/worldplugs/typeG.htm)
- **Australia, New Zealand** – Type I (for a list of countries that use this plug type, visit: https://www.iec.ch/worldplugs/typeI.htm)

4. How can I access and manage my network?

a. Mobile Devices: You can access and manage your network using the **Mercku App** – available on the Google Play Store and Apple Store.

b. Web Portal: You can access your Mercku Portal at: http://mywifi.mercku.tech

Please ensure that you are connected to your Mercku network before accessing the Mercku App and Portal.

5. How do I know which Mercku App version I am using?

To check the version your application is on, please open your Mercku App > Select > Select *About*

Please ensure you have your Mercku App upgraded to the latest version to have the best experience with our products!

6. What are my options for registering an account?

You can register using any of the following:

- Phone number
- Google account
- Facebook account

7. What is the difference between my Wi-Fi password and router admin password?

The **Wi-Fi password** is used to access your Mercku network when you want to connect to the internet, and your **router admin password** is used to access the Mercku App and web interface so you can manage your system.

By default, the admin password is the same as your Wi-Fi password unless you set it up otherwise during installation.

8. What are the password requirements when setting up my account?

Please make sure the password you have created has met the following conditions:

- The password length must be between 6-24 characters
- You can enter numbers, letters, or special characters such as"!"#$%&'()*+,-./:;<=>?@[\]^_`{|}~"

9. Can I set-up my router without creating an account in the Mercku App?

Yes, you can! You can set up your Mercku device using our web interface if you don't want to create an account in the Mercku App. Please keep in mind that you won't be able to access your network remotely without the Mercku App.

To set up your network using the web interface, please do the following:

1. Connect your device to the M2's open Wi-Fi network or use the provided ethernet cable and open http://mywifi.mercku.tech on your web browser.
2. Follow the instructions to set up your M2 and set up your SSID and network/admin password.
3. Once the M2 has been configured successfully, the router indicator light will turn white. You can now connect your devices to the network and manage the system through the web interface.

10. How do I change the phone number associated with my account?

1. In the Mercku App, go to *Settings*> Select *Unbind*
2. Click > *Logout*
3. Click *Login* > *Register* > Enter new phone number and create password
4. Once the login is complete, connect your Mercku network and follow the instructions on the App interface

11. Why can't I access http://mywifi.mercku.tech?

Please ensure that you are connected to the Mercku Wi-Fi network in order to access the website.
If you are still experiencing difficulties, please email support@mercku.com.

12. I cannot go further on Mercku App after connecting to the Mercku Wi-Fi. What should I do?

Please ensure your Mercku App has been granted full permissions on your device and make sure location services is enabled when using the App. If you are still experiencing this issue, please contact Mercku support at support@mercku.com

General

1. Can the M2 (Queen) work alone to provide internet?

No, the M2 (Queen) is a router and not a modem. It will not work alone to provide internet connection but works in conjunction with your internet service provider's modem to increase network coverage.

2. Can the system be placed outdoors?

No, and make sure that your Mercku devices are always dry.

The M2 (Queen) router and the Bees can withstand temperatures from -20°C to 50°C (-4°F to +122°F)

3. What color options are there?

The M2 (Queen) and Bees only come in black.

4. Does your system have dual-band capability?

Our system is dual-band and transmits both 2.4 GHz and 5 GHz signals. Please note that different devices have higher performance on different bands. Please contact your device manufacturer if you have any questions or refer to this guide: https://beebom.com/what-is-5ghz-network-devices-compatible/

5. What is "Smart Connect" and how can I turn this on?

Smart Connect combines both the 2.4 GHz and 5 GHz networks into a single SSID. This enables your device to connect automatically to the appropriate network depending on the device's capabilities.

Please Note: Some devices, especially IoT devices, only support 2.4 GHz and they may not be able to connect when Smart Connect is enabled.

6. How can I unbind a router from my account?

Unbinding a device dissociates your M2 (Queen) from your account. This can be used in the event you change the phone number that's associated with your Mercku App account.

Please ensure that you are using the latest app version. There are two different ways to unbind:

1. On the Mercku App, go to *Settings* > Select *Unbind* (at the bottom of the page).
2. You can also reboot, and factory reset your M2 (Queen) router to unbind your account. You can factor reset your router by doing one of the following:
    - On the Mercku App: Select the main router > Press *Factory Reset*
    - On the Mercku Portal: Under *My WiFi* > Select *Router Management* > Click on *List* > Click *Factory Reset* beside the router you would like to factory reset
    - Press the reset button at the bottom of the M2 (Queen) and wait until the indicator light is blinking red. **Please Note:** do not press and hold the button

If rebooting and factory resetting doesn't fix your problem, please send us an email at support@mercku.com containing the SN number on the bottom of the M2 and we'll look into unbinding your router on our end.

7. What should I do if I see "Invalid code 100200"?

Please reboot your system by disconnecting the power, then plugging it back in after 10 seconds. If you continue to get this error message, please factory reset your router.

You can factory reset by doing one of the following:

- On the Mercku App: Select the main router > Press *Factory Reset*
- On the Mercku Portal: Under *My Wi-Fi*> Select *Router Management* > Click on *List* > Click *Factory Reset* beside the router you would like to factory reset
- Press and hold the reset button underneath the system until the front LED begins alternating green and red, then unplug.

Please contact support@mercku.com if you continue to receive this error message.

8. Can the M2 (Queen) band steer? Why can't I control the band steering components of the router?

Yes, the M2 (Queen) does have QoS features including passive band steering. Band steering automatically connects devices to the best available Wi-Fi frequency in your home.

The M2 (Queen) supports **passive** band steering, which includes preferences pre-defined by the chipset provider, Realtek, and relies on end-user device smart band

selection. We have not made band steering settings available at this time because the M2's Realtek chipset does not support **active** (or router-defined) band steering.

While you are not able to manually control band steering, please note the following:

- End-user devices like your smartphone, tablet, and laptop enables their own smart band selection, and can affect band steering on your network
- With the growing adoption of Smart Home and IoT devices in homes, there are a significant number of devices that only use the 2.4 GHz band and can limit the capabilities of the system to band steer

9. What does the indicator light mean?

Red	Steadily illuminated	No Internet connection
	Blinking	Interactions (add nodes, upgrades, reboots)
	Blinking frequently	Restore to factory settings
Green	Steadily illuminated	Stable network connection
	Blinking	Poor mesh connection

10. My router keeps flashing green and red. What should I do?

The problem may due to the following:

- The reset button has been pressed too early after plugging it in when adding a node
- Mesh nodes may be too far away, causing the LED indicator to be fluctuating between green and red

Please give the following a try:

1. Check if your M2 (Queen) has connected to the internet properly:
    - Using the Mercku App: Select *Toolbox* > *Network Diagnosis*.
    - If you are connected, you will see a checkmark beside "Internet". If you are not connected to the internet, please see below.
2. Reboot the M2 (Queen) by unplugging and plugging it back in (please don't touch the reset button).
3. If you are still experiencing the issue, please email support@mercku.com.

DEPLOYMENT

1. What is the suggested arrangement when placing Mercku nodes?

Please keep in mind that the following factors may affect connectivity between your mesh nodes: housing structure, indoor obstacles, interference emitted by electronic appliances, and the deployment of mesh nodes to the main unit (the gateway router).

- All nodes should be placed in an area without obstructions
- Place nodes in higher areas in your room to improve coverage

- Avoid placing your nodes in areas close to electronic appliances that may cause signal interference. E.g. microwaves, 2.4G wireless mouse, and 2.4G wireless telephones
- Avoid placing your mesh nodes in a straight line to avoid linear multi-hop structure

2. What is the best deployment suggested for best network experience?

a. Place the M2 (Queen) in an open area without any obstructions around it
b. Avoid placing nodes in a linear fashion
c. Please see below for the optimal distance between nodes. This ensures the indicator light will be green and always on:
    - Open space – 23 ft (7 m)
    - Wood and plastic – 16.5 ft (5 m)
    - Glass – 6.5 ft (2 m)
    - Cement or metal walls/doors - nodes should be right close to the wall

3. Why has the speed and connection decreased when placing 2 or more nodes in a single room? Shouldn't this increase both the speed and coverage?

Consider the fact that a conversation between two people is much clearer in the library rather than the crowded street - that's the same with mesh communication. The signal may not necessarily be the best when strong signals are intertwining with each other.

SPEED AND CONNECTIONS

1. I am experiencing slow speed and constant buffering. What should I do?

Slow speed may be caused by:

- Weak connection
- Busy network
- Slow internet offered by your internet service provider

Here are some suggestions regarding the slow speed caused by weak signal:

a. Place your device closer to the M2 (Queen) or connect it directly instead of a busy node if there is a high requirement for internet speed and bandwidth (e.g. downloading a big file or watching an online movie in HD).
b. Try to place the M2 (Queen) in an open area in the center of the whole mesh wi-fi network. Since the signal from the M2 (Queen) is stronger than a Bee through a wall, it is suggested to place the other M2 node in an area where you experience the slowest speeds.
c. Turn on the **Increase Mesh Coverage**: Go to the Mercku App > Select *Wi-Fi Point*s > Turn on *Increase Mesh Coverage* at the top of the page.
d. Submit technical feedback with a system log and draw a floor plan of your Mercku units to us – a simple sketch will be helpful. We will offer some assistance to optimize deployment for better performance.

2. My device connects and disconnects from the Mercku network for short periods of time, what should I do?

- Please try to place nodes and M2 (Queen) closer to each other in order to have a stronger signal.
- Please change the encryption (WPA/WPA2) to WPA2 only:
    a. On the Mercku App: Go to *Settings* > Select *Wi-Fi Settings* > Select *Encryption* > Select *WPA2-PSK*
    b. On the Mercku Portal: Go to *Settings*> Select *Wi-Fi Settings* > Select *Encryption* > Select *WPA2-PSK*

2. My device says I'm connected to the Wi-Fi, but I don't have any internet connection, what do I do?

1. Reboot the devices to see if the problem can be solved. To do this, open the Mercku App > Select *Wi-Fi points* > Go to each Wi-Fi point and click the *Reboot* button. Alternatively, you can unplug each device, wait for 1 minute, and plug them back in.
2. Please make sure all your nodes are well connected with each other and LED indicator lights are solid green.
3. Try to connect your M2 (Queen) to a PC using an ethernet cable, then check if there is an internet connection. If not, then you need to check with your ISP or see if you have connected it with your modem properly.
4. Please test if you can visit Mercku's webpage interface via Mercku mesh Wi-Fi. If not, please try to set up DNS manually with your local service provider's DNS and email to get assistance from our team.

3. My Mercku devices are constantly rebooting. What should I do?

Please see if this occurs with only one specific device or with all your devices. If it is only one device that is having this issue, please move the device closer to the main router. Please ensure that there is a strong connection between the nodes by viewing the mesh topology map available on the Mercku App, by clicking *Wi-Fi points*.

Please ensure that your Mercku devices are placed in an open location so signal strength is optimized.

Email us at support@mercku.com if you require further assistance.

4. I accidentally blacklisted my device from the network, how do I remove it from the blacklist?

Open the Mercku App > *Settings* > *Blacklist* > Press and hold the first device name on the list, then select the devices you would like to remove from the list and click *Delete*.

FIRMWARE

1. How do I complete an offline upgrade for my device(s)?

An offline upgrade can only be completed through the Mercku Portal at http://mywifi.mercku.tech, and not through the Mercku App.

Please Note: We recommend you upgrade your **mesh nodes (Bees/M2 Queen)** before the M2 (Queen) gateway router.

Follow the steps below to perform an offline upgrade:

1. Go to www.mercku.com > Find the *Support* Tab > Click *Downloads* and download the desired firmware version to your computer.
2. Ensure that you are connected to the Mercku Wi-Fi and log on to http://mywifi.mercku.tech
3. Go to *Upgrade Firmware* > Select *Offline Upgrade* > Click on *Upload* > Select the file you downloaded from step 1
4. Select the number of Bee(s) you wish to upgrade > Click *Upgrade*.
5. A message will pop-up > Select *Upgrade* and wait for 1 minute.
6. After the upgrade, you will be re-directed to the homepage and then click on *List* and check if the firmware version of the device is correct.

NOTE: If the version is not updated right away, wait 1 minute while the network reboots, then refresh the page.

2. I failed to upgrade the firmware, what should I do?

If you've failed using the online firmware upgrade, please complete an offline upgrade. If you continue to have difficulties, please email support@mercku.com.

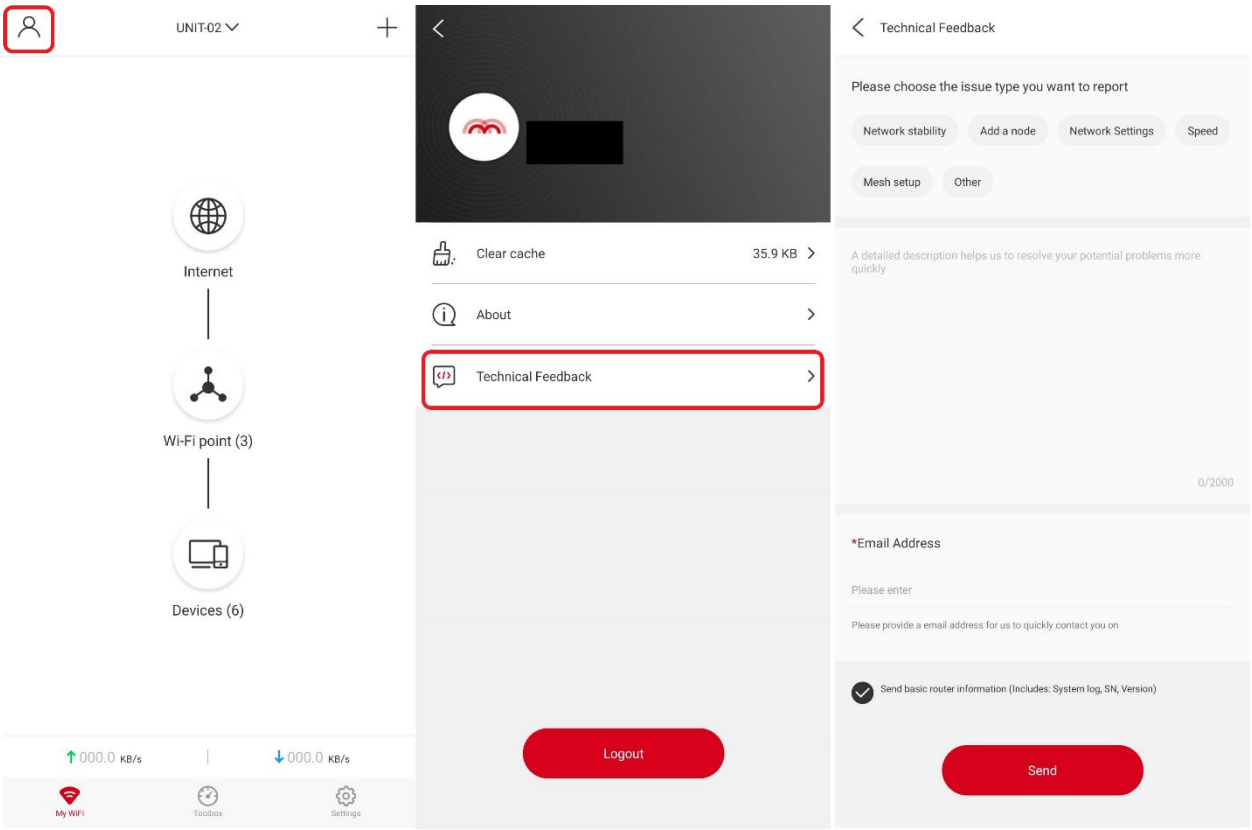
3. What should I do if there is a firmware mismatch between my M2 and bees?

Connectivity can be strained if the firmware versions of the M2 (Queen) and Bees are not the same.

If there are any mismatches, please use the upgrade tool in the Mercku App or web interface to upgrade any nodes on lower firmware versions to the current version. If you're still unable to resolve the mismatch, please follow the Offline Upgrade guide in the "How do I complete an offline upgrade for my device(s)?" section of this FAQ document.

STILL EXPERIENCING TECHNICAL DIFFICULTIES?

Please send us a **Technical Feedback** form using the Mercku App:



If you don't have access to the Mercku App, feel free to email us at: support@mercku.com