Milesight Industrial Router Technical FAQ

Wi-Fi & GPS

Version V1.0



1. What is the maximum Wi-Fi data rate of the UR35, and what is its maximum coverage range?

The UR35 supports 2.4 GHz Wi-Fi, with a theoretical maximum wireless link rate of up to 150 Mbps.

Actual throughput and coverage depend heavily on the deployment environment. Factors such as installation location, walls and other obstacles, wireless interference, and client device performance can all affect Wi-Fi performance.

Typical theoretical coverage ranges are:

Open area: Approximately 80 meters

Indoor environment: Approximately 5–10 meters

Actual coverage may vary depending on the specific environment.

2. How many Wi-Fi clients can Milesight routers support when operating as a Wi-Fi Access Point?

When operating as a Wi-Fi Access Point (AP):

- **UR32S/UR32/UR35:** Theoretically support up to approximately 15 simultaneous Wi-Fi clients.
- **UR75/UF51:** Theoretically support up to approximately 128 simultaneous Wi-Fi clients. For better network performance and stability, it is recommended to keep the number of connected clients within 60 in actual deployments.

The actual number of supported clients depends on factors such as network traffic, application type, wireless environment, and device performance.

For applications with a large number of concurrent users or high bandwidth requirements, on-site testing is recommended.

3. What is the positioning accuracy of the built-in GNSS/GPS module on the UR32?

The built-in GNSS/GPS module of the UR32 provides a typical positioning accuracy of 2.5 meters (CEP 50%).

This value is measured under standard test conditions in an open outdoor environment without obstructions. It means that approximately 50% of the positioning results are within 2.5 meters of the actual position.

Actual positioning accuracy may be affected by satellite signal conditions, antenna installation, weather, and surrounding obstacles such as buildings and trees.

4. What are the recommended Wi-Fi and cellular antenna installation guidelines for the UR75?

For optimal wireless performance, the following installation guidelines are recommended:

- **Wi-Fi antennas:** The UR75 is equipped with two dual-band Wi-Fi antennas supporting **2.4 GHz and 5 GHz**. Install the antennas in an open area, avoid obstruction by metal objects, and keep them vertically oriented whenever possible.
- **Cellular antennas:** The UR75 is equipped with four cellular antennas. Install them in an unobstructed location and secure them properly using screws or magnetic mounts as applicable. To minimize signal loss, it is recommended to keep the antenna cable length within approximately 2 meters whenever possible.
- **Router installation:** Install the router in a location with good signal coverage and away from large metal objects or strong sources of electromagnetic interference.

For vehicle applications, antennas are generally recommended to be installed near the vehicle roof or another unobstructed location to achieve better wireless coverage.

5. Can Milesight routers with GPS support obtain GPS data without a SIM card?

Yes. Milesight routers with GPS capability can obtain positioning information without a SIM card. GPS/GNSS positioning does not depend on cellular connectivity, as long as the router can receive valid GNSS satellite signals.

If the router and a computer are on the same local network via Wi-Fi or Ethernet, a TCP Server can be run on the computer. You can then configure GPS IP Forwarding on the router to forward GPS data to the TCP Server.

For detailed configuration instructions, please refer to:

How to Use GPS in Milesight Routers

6. Does the UR75 support 4×4 MIMO? Is it available for both 5G and 4G?

The UR75 supports 4×4 MIMO for 5G networks only.

Under 4G/LTE networks, 4×4 MIMO is not supported.

7. Can the UR75 use high-gain cellular antennas? Is there any antenna gain limitation?

Yes. The UR75 can be connected to high-gain cellular antennas, and the router itself does not impose a specific antenna gain limitation.

However, the deployment must comply with local regulations regarding EIRP (Equivalent Isotropically Radiated Power) and RF equipment.

When selecting an external antenna, make sure that the complete system, including the router, antenna, and cable, complies with applicable local certification and regulatory requirements.

8. Does the UF51 5G CPE support external cellular antennas?

No. The Milesight UF51 5G CPE uses a built-in antenna design and does not provide external cellular antenna connectors.

Therefore, external cellular antennas cannot be connected to the UF51.