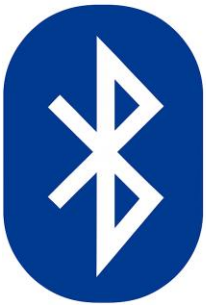
Bluetooth vs Wi-Fi

When to Use Which One for Your IoT Device?



Vs.

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Bluetooth and **Wi-Fi** are popular wireless technologies used in IoT devices.

Bluetooth is ideal for low data rate, low-power communication, while Wi-Fi offers higher data rates and longer range.

The right choice depends on the device's needs for power, speed, latency and available infrastructure.

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Key Differences

Feature	Bluetooth	Wi-Fi
Data Rate	Up to 3 Mbps	Up to 10 Gbps
Range	10–100 m	Can be wider, depending on APs
Power Consumption	Low	High
Mobility	Mobile-centric (phones, wearables)	Network-centric (routers, hubs, homes)
Security	Moderate	Strong (WPA3)

Where to Use WiFi in IoT

- Stationary devices like smart hubs and cameras
- Handles large data transfers (video, files)
- Supports strong security with WPA3

- Covers larger areas via access points
- Can connect with hundreds of devices simultaneously

Where to Use Bluetooth in IoT

- Best for mobile or battery-powered devices like wearables and fitness trackers
- Ideal for short-range communication (typically up to 10 meters)

- Suitable for sensors that send small amounts of data
- Offers easy device pairing without complex network setup

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