

## Compact Guide

### Interruptions in WiFi Networks Causes and Countermeasures



Innovations – Made in Germany 

The German company MOBOTIX AG is known as the leading pioneer in network camera technology and its decentralized concept has made high-resolution video systems cost-efficient.

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# WiFi Interruptions

## CAUSES AND COUNTERMEASURES

Due to its nature, a wireless connection is never as reliable as a cable-based connection. The live viewing features of a WiFi client (e.g., MxDisplay, MOBOTIX App for iOS) or any other video management software on a wireless device (such as a notebook, tablet, or smartphone) can only be as good as permitted by the quality of the WiFi network that is currently used.

For example, the local conditions may be such that the connections in the WiFi frequency range used (most commonly, the 2.4 or 5 GHz band) can be disrupted temporarily or for longer periods of time. Interruptions usually become apparent when using the device – images are jerky, user actions take longer until their effects can be seen, latency times (i.e., scene-to-screen times) are increasing, connection losses are occurring more frequently, no more live images after switching cameras or audio quality is decreasing.

### Most Frequent Causes for WiFi Interruptions:

Other dual band, WiFi or wireless devices in the 2.4 or 5 GHz range (e.g., microwaves, monitors, cameras, baby monitors, wireless home phones, speakers, neighbor's radio equipment)

Activated Bluetooth connections in the WiFi range

Proximity to strong electrical fields, such as high-voltage power lines, electrical trains and power stations

Damaged coaxial cables and connections of satellite reception devices

Barriers/walls made from materials that obstruct the wireless connections between WiFi senders and receivers, such as reinforced concrete walls, drywalls with steel frames, objects containing large amounts of metal or water

### Countermeasures:

1. Bandwidth-optimized access by the MOBOTIX App: Toggle bandwidth switch and execute a reload (briefly shake the iOS device).
2. Change the location of the WiFi devices (or the WiFi router) to prevent obstruction of the radio waves.
3. Move the WiFi router to an open space (e.g., a cupboard) and change the orientation of the router antennae (if they are movable).
4. Use WiFi repeaters to boost the signal or bridge critical spots with a cable-based connection (e.g., using the MOBOTIX Mx2wire+ media converter, carries power and data via simple two-wire cables of up to 500 m/547 yd).
5. Change the WiFi channel – buildings with several apartments are particularly prone to WiFi issues. Since many WiFi networks are trying to use the same channels, the available bandwidth is reduced. Hint: Modern WiFi routers are automatically switching to a better channel after rebooting. If you want to search manually, you can use an iOS app for this purpose.
6. Install a new WiFi router with n or ac WiFi and multi-antenna technology. Thanks to the more modern dual-band technology, the router can use the less frequently used 5 GHz band. This band also offers more channels than b/g WiFi networks, which are only operating on the 2.4 GHz band. Hint: If you want to benefit from the 5 GHz band, but you still want to use older WiFi devices that can only use b/g WiFi networks, make sure that you are buying a dual-band WiFi router.