

Worcestershire County Council in partnership with Wavemobile

Worcestershire County Council is working in partnership with Wavemobile (officially Wave Mobile Ltd), a privately owned British mobile network operator and technology company.

Unlike organisations that operate traditional handheld two-way radio systems, Wavemobile is a specialist Mobile Virtual Network Operator (MVNO) and licensed Radio Access Network (RAN) provider. The company designs and deploys bespoke cellular infrastructure, including 2G, 4G and 5G solutions, to address mobile coverage "not-spots" in remote, rural and hard-to-reach locations.

Across Worcestershire, several towns and villages are already benefiting from Wavemobile installations that provide improved access to mobile network services. Before any site is commissioned, a comprehensive survey is undertaken, and an application is submitted to Ofcom for a Shared Access Licence. As part of this process, Ofcom carries out detailed technical assessments to ensure there is no risk of harmful interference or frequency conflicts with existing licensed services.

Shared Access Licences are only granted where Ofcom is satisfied that all regulatory and technical requirements have been met. All Wavemobile installations operating in partnership with Worcestershire County Council are covered by the appropriate Ofcom licence for their intended use.

A mobile signal can drop in a specific area for several reasons

Common causes include:

1. Network Congestion

If many people are connected to the same mobile mast at the same time, the available capacity can become saturated. This can result in slower data speeds, failed calls, or dropped connections.

2. Mast Faults or Maintenance

A local cell site may be experiencing:

- Equipment failure
- Power supply problems
- Backhaul (fibre or microwave link) issues
- Planned maintenance work

Any of these can reduce coverage or take a sector of the mast offline.

3. Terrain and Buildings

Mobile signals can be weakened by:

- Hills and valleys
- Dense woodland
- Thick walls or metal-clad buildings
- Underground locations

Even if coverage maps show service is available, local obstructions can create "dead spots."

4. Weather and Atmospheric Conditions

Heavy rain, storms, or unusual atmospheric conditions can affect radio propagation. In some cases, signals from distant transmitters can travel further than normal and cause interference to local services.

5. Frequency Interference

Although Ofcom coordinates spectrum assignments to minimise clashes, interference can still occur due to:

- Faulty radio equipment
- Illegal transmitters
- Damaged electronic equipment generating radio noise
- Rare propagation effects causing distant networks to interfere locally [\[ofcom.org.uk\]](https://www.ofcom.org.uk), [\[ofcom.org.uk\]](https://www.ofcom.org.uk)

6. Network Upgrades

Operators regularly reconfigure networks, for example:

- Switching off older 3G services
- Refarming frequencies to 4G or 5G
- Adjusting antenna settings

These changes can temporarily affect coverage in an area.

7. Mobile Phone Issues

Sometimes the problem is the handset rather than the network:

- SIM card faults
- Software bugs
- Incorrect network settings
- Antenna damage within the phone

Further information about frequency interference

One of the main purposes of Ofcom radio licensing is to prevent frequency interference.

Ofcom manages and authorises the use of radio spectrum in the UK. By assigning specific frequencies, power levels, locations, and operating conditions to licence holders, it helps ensure that different users do not interfere with each other. This reduces the risk of "frequency clashes" where two transmitters try to use the same or nearby frequencies in the same area.

For example:

- A community radio station may be assigned a particular FM frequency and transmitter power.
- Emergency services, aviation, businesses, and mobile networks are allocated different spectrum bands or coordinated frequencies.

Ofcom can refuse, modify, or coordinate licence applications if a proposed service would cause harmful interference to existing users.

However, a licence does not guarantee zero interference. Interference can still occur because of:

- Faulty or non-compliant equipment.
- Illegal transmitters (pirate radio).
- Atmospheric propagation conditions that allow signals to travel unusually long distances.
- Users operating outside their licence conditions.

So, in summary, Ofcom licensing is specifically designed to prevent radio frequency clashes by coordinating spectrum use and controlling how frequencies are assigned and operated within a geographic area, although occasional interference can still happen for technical or illegal-operation reasons.