

FAQS for 5G Technology

Last updated: April 2023





What is 5G?

Digital connectivity is vital in today's technologically driven world. Advanced, high quality and reliable communications infrastructure are essential for economic growth and social well-being

5G is the newest, fastest generation of mobile networking. 5G (20 Gbps) offers faster download speeds than 4G (1 Gbps). This would mean things that currently take minutes to download would only take seconds. Higher download speeds also mean many more users will have a better experience when at the same place and time.

Lower latency means increased reliability with the lack of buffering. Which provides a more consistent user experience for more advanced technology like in multiplayer gaming, factory automation and other tasks that demand quick responses.

5G will also allow for larger network capacity and increased availability, providing networks to better cope with rapidly increasing data demands and modern technological lifestyles including regular virtual reality and AI based tech.

What infrastructure changes are needed for it?

As the 5G rollout is underway, mobile operators are taking an evolutionary approach to infrastructure investment. They are beginning with upgrading their base stations to use advanced antennas at higher frequencies and technology which increases efficiency.

This investment means that as more devices support 5G, more users will be able to use it, resulting in a need for increased infrastructure to cope with growing traffic.

Since higher frequencies may weaken with distance and are affected by obstructions, small cell transceivers (ranging from paperback book size to pizza box size) will be installed across the city, indoors and outdoors to form a connectivity web to improve coverage and capacity of mobile networks.

In some circumstances, access to sites to accommodate small cells might avoid the building of additional masts, although some masts and monopoles will still be required.

Other significant changes for 5G will be undertaking large-scale fiberstation efforts and centralising processing through raw data transmissions instead of separate base stations.

West London Alliance's role in bringing 5G to the region?

Providing digital connectivity to residents and workers across West London is a priority shared by local authorities. Our definition of digital connectivity generally includes 'fixed line connectivity', which is focused on increasing faster and more robust full fibre connections to homes and businesses, and 'mobile connectivity', which encompasses 5G. We're improving both in West London.

It is the Government's ambition for the majority of the UK population to have access to 5G by 2027. Therefore boroughs' digital strategies recognise the importance of digital infrastructure in enabling the transformation of the services they deliver and contributing to the economic and social wellbeing of local communities.

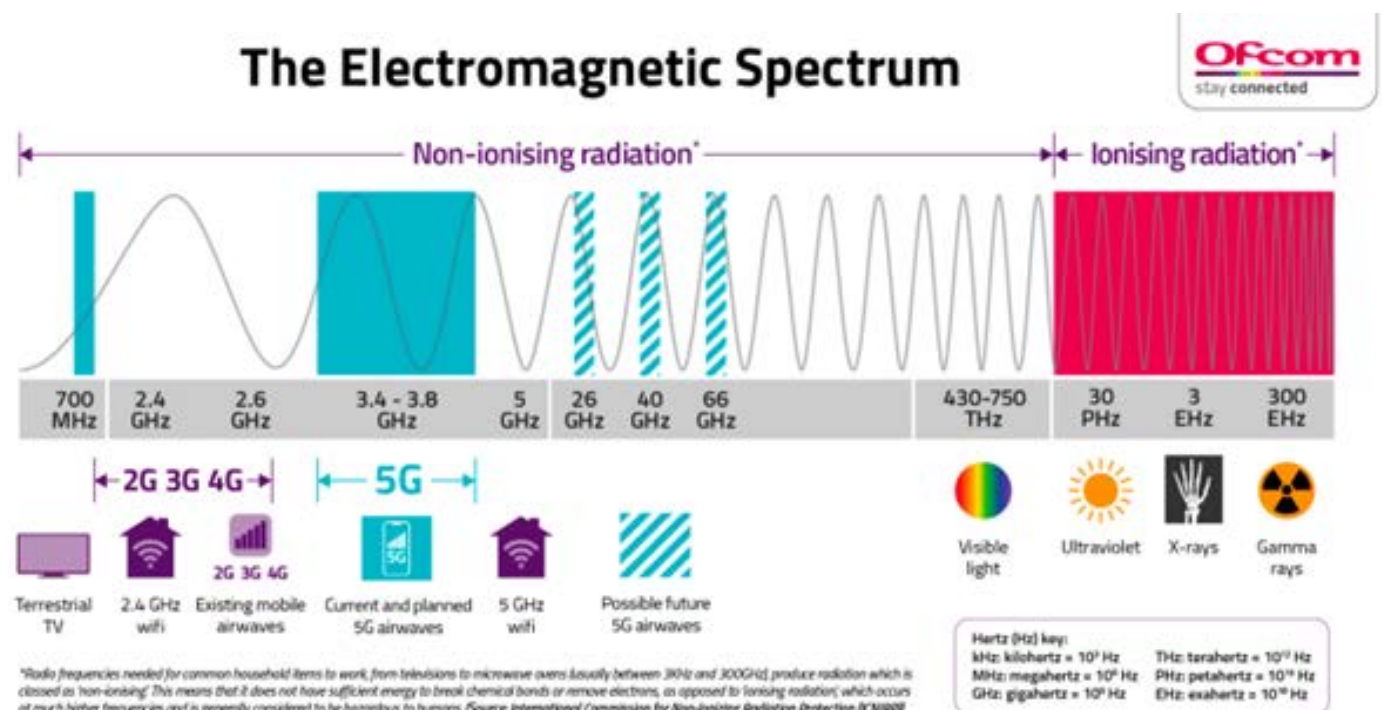
In West London, the roll out is still at a relatively early stage, but demand is expected to increase rapidly as more devices are 5G enabled. All seven WLA boroughs are collaborating on the 'Expanding Opportunities for All' programme. The programme aims to accelerate improvements to connectivity across the sub-region and ensure that all residents and businesses benefit from West London being truly super connected.

By working with the industry, and other stakeholders, the WLA is working to deploy 'small cells' in the region such as roof top installations, monopoles and cabinets. There is also growing interest in using local authority street assets to deploy small cells leading to the development of The Connected Map, a powerful new analytics tool, which will accelerate the deployment of 5G by helping inform mobile operators' network planning.

It is worth remembering that 16% of people have access to the internet only through their mobile phones. These mobile networks cannot function without proper infrastructure - masts and small cells.

Effects to Health?

Spectrum is the invisible radio frequencies that wireless signals travel over when they communicate wirelessly. There are many everyday devices that use a spectrum, including television, car fobs, baby monitors, wireless microphones, and satellites. The 5G network also operates on the spectrum; the waves are much less energetic than visible light, and these waves belong to the non-ionising radiation category.



Government guidance on radio waves related to 5G is based on advice from Public Health England. They have published a comprehensive guide on [**5G technologies: radio waves and health**](#).

This information is echoed internationally, through guidelines from the International Commission on [**Non-Ionizing Radiation Protection**](#) (ICNIRP), endorsed by the [**World Health Organization**](#) (WHO).

Further, OFCOM is responsible for regulating the telecom industry and managing and enforcing the use of radio spectrum by civilians. Together with the Government, they produced this guide that can be shared with residents and other stakeholders, [**5G mobile technology: a guide**](#). As for local government officers, [**This OFCOM presentation**](#) would be useful.

How do we know 5G remains at safe levels?

Following the launch of 5G in the UK, OFCOM published the results of electromagnetic field (EMF) measurements at 16 UK sites. It has continued to test since then and has now published an updated measurement report, which looks at 22 5G sites in 10 UK cities.

The latest results from the [**spectrum measurement programme**](#) show that the highest level from 5G signals specifically was just 0.039% of the maximum set out in the international guidelines.



Contact details

Further information is available on the Digital West London website:

[**https://digitalwestlondon.co.uk**](https://digitalwestlondon.co.uk)

For further questions, guidance or advice, please email:

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