

Reference: 2053011

Information Requests  
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22 September 2025

## Freedom of Information request: Right to know request

Thank you for your request for information about the environmental and biological risks from 5G infrastructure.

We received this request on 28 July 2025 and we have considered your request under the Environmental Information Regulations 2004 (the "EIR").

### Your request and our response

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It may be helpful for me to first provide some background on our role in relation to radio spectrum and electromagnetic fields (EMF).

In the UK, the UK Health Security Agency (UKHSA) takes the lead on public health matters associated with radiofrequency electromagnetic fields (EMF) and has a statutory duty to provide advice to Government on any health effects that may be caused by exposure to EMF. UKHSA publishes information on the possible health effects of EMF exposure on its [website](#).

Published advice from UKHSA and other internationally recognised health bodies including the World Health Organisation (WHO) and the International Commission for Non-Ionizing Radiation Protection (ICNIRP) support the view that EMF exposure below the limits recommended in the [ICNIRP Guidelines](#) do not appear to have any known consequence on health. In relation to 5G, UKHSA have said that "*the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health*". UKHSA's main [advice](#) is that EMF levels should therefore comply with the internationally agreed levels in the [ICNIRP Guidelines](#).

Ofcom is not a public health body and does not have medical or health expertise. We are also not responsible for setting EMF exposure levels. Rather, our role is to authorise and manage the use of the radio spectrum in the UK, including the spectrum used to deliver 5G services. We issue licences and set conditions for the use of spectrum without a licence. Further information on our role in relation to EMF is available on our [website](#) (see also our [General EMF queries](#)).

In recent years, some people have raised concerns around the safety of EMF emissions, particularly from new technologies such as 5G. In 2021, following public consultation, Ofcom decided to include [a new condition in spectrum licences](#), requiring licensees to ensure that their use of equipment (operating above a certain power) complies with the internationally agreed EMF levels in [the ICNIRP Guidelines](#) for the protection of the general public. This is consistent with advice from UKHSA.

Ofcom carries out unannounced tests of EMF levels around radio transmitters, including mobile phone masts, and can take [enforcement action](#) against spectrum licensees if they produce EMF at levels above those set out in the ICNIRP Guidelines. All [measurements](#) to date over many years have

shown that EMF levels are well within the internationally agreed levels in the ICNIRP Guidelines. We will continue to carry out EMF measurements as 5G rollout continues, and publish these on our website.

In response to your specific queries:

*1. Any risk assessments, environmental studies, or reports on biological effects of 4G/5G EMF radiation - including impacts on human health, pollinators, wildlife, or ecosystems.*

As noted above, Ofcom is not a public health body and does not have medical or health expertise. We do not therefore hold any risk assessments or reports on biological effects of 4G/5G EMF radiation on human health.

Ofcom also does not have environmental expertise and does not therefore hold any risk assessments, environmental studies or reports on biological effects of 4G/5G EMF radiation on pollinators, wildlife, or ecosystems.

The [Department for Environment, Food & Rural Affairs](#) (DEFRA) is the UK government department responsible for safeguarding our natural environment.

We understand none of the environmental reports or assessments referenced in the answers to questions on this topic provided by Members of Parliament have identified EMF exposure “*as a significant threat to pollinating insects*”. Instead they highlighted key threats such as habitat loss, inappropriate pesticide use and invasive species<sup>1</sup>

For example, in 2018, an EU-funded ‘EKLIPSE’ study concluded that “*few ecological studies exist, but when they do, the reported [EMF] effects are negligible, contrasting, or cannot be separated from other environmental factors*”.

We also understand that mobile network operators (MNOs) and local councils are required to take into account environmental considerations when submitting/assessing planning applications for new masts. Further information on [Masts and planning](#) is available on our website.

*2. Any correspondence (since Jan 2019) about risks of 5G tower proximity to schools, care homes, or nature reserves.*

For the same reasons as explained above, we do not hold any correspondence about risks of 5G tower proximity to schools, care homes, or nature reserves (unless such correspondence was provided to us in previous freedom of information requests). You can check [previous freedom of information requests](#) on our website.

*3. Any communications with DEFRA, UKHSA, or telecom providers about safety thresholds, EMF saturation, or modulation-related risks. If this information is not held, please confirm. I am happy to receive summaries or web links where appropriate.*

We do not hold any communications with DEFRA, UKHSA, or telecom providers about:

- How the EMF safety thresholds were determined or whether they remain appropriate in light of new research, technology or Court findings.
- EMF saturation i.e. communications that discuss the thresholds at which EMF levels in a given area may become biologically significant due to aggregate exposure, even if individual sources remain within ICNIRP guidelines.

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<sup>1</sup> See: <https://questions-statements.parliament.uk/written-questions/detail/2020-02-04/12213>

- Modulation-related risks.

As explained above, we are not a public health or environmental body and are not responsible for setting the EMF exposure levels.

It may however be helpful to note the following information:

- Section 3 of our [Guidance on EMF Compliance and Enforcement](#) explains that spectrum users can currently comply with the 1998 or 2020 version of the ICNIRP Guidelines. We also say that: *“Once work on the relevant standards explaining the methodology for assessing compliance with the 2020 Guidelines has progressed sufficiently, Ofcom will issue a public consultation on updating this Guidance to explain that going forward we will be requiring spectrum users subject to an EMF condition to comply with the 2020 Guidelines only.”*
- Section 8 of our [Guidance on EMF Compliance and Enforcement](#) contains guidance on carrying out EMF assessments on sites that are shared with another user.
- Both the 1998 and 2020 versions of the [ICNIRP Guidelines](#) contain sections on “Simultaneous Exposure to Multiple Frequency Fields”.

We hope this information is helpful. If you have any further queries, then please send them to [information.requests@ofcom.org.uk](mailto:information.requests@ofcom.org.uk) – quoting the reference number above in any future communications.

Yours sincerely,

## Information Requests

### Request an internal review

If you are unhappy with the response you have received to your request for information, or think that your request was refused without a reason valid under the law, you may ask for an internal review. If you do, it will be subject to an independent review within Ofcom. We will either uphold the original decision, or reverse or modify it.

If you would like to ask us to carry out an internal review, you should get in touch within two months of the date of this letter. There is no statutory deadline for us to complete our internal review, and the time it takes will depend on the complexity of the request. But we will try to complete the review within 20 working days (or no more than 40 working days in exceptional cases) and keep you informed of our progress. Please email the Information Requests team ([information.requests@ofcom.org.uk](mailto:information.requests@ofcom.org.uk)) to request an internal review.

### Taking it further

If you are unhappy with the outcome of our internal review, then you have the right to [complain to the Information Commissioner’s Office](#).