

Reference: 1542551

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Freedom of Information: Right to know request

Thank you for your request for information about 5G mast EMF emission.

We received this request on 2 December 2022 and have considered it under the Freedom of Information Act 2000 (“the Act”) and the Environmental Information Regulations 2004 (the “EIR”).

Your request

‘I would like to know if the total EMF from 5G base towers and surrounding small cell 5g radio kits installed on street furniture such as lampposts is monitored for a given postcode area for example? If this is not the case, then how can Ofcom confirm that the total EMF pollution in areas that mass deployment of unmonitored small cell 5g radio kits that also give off EMF, is safe for the public?’

Monitoring just the base station is not then monitoring the total amount of EMF emissions. Is there a limit to the total amount of 5G installations for any given area? If not then again, how can Ofcom demonstrate unlimited 5G EMF emissions are safe for the public, including from base stations and small cell installations combined?

If for example, I requested a reading for my postcode area, which shows a huge number of 5g installations according to 5g map trackers, then Ofcom is charging £1000 per request. This indicates that the area has never been monitored for EMF safety emissions, is this correct? My postcode area is. If the safety levels proved to be exceeding recommended guidelines, then who would be liable for any harm to members of the public? Do telecommunication companies erecting masts have liabilities in contract with the government, for any harm caused by 5G emf radiation harm?

For example; If I am suffering from a proven increase in temperature heat to both my skin and eyes due to 5G exposure, which causes irritation - then who is liable for this harm? When were tests for safety using the current levels of total 5G EMF emissions for any postcode area in the UK carried out and properly assessed? Where are the conclusive results that non ionising 5G radiation is completely safe for public exposure.

The WHO and the IARC have listed radio electromagnetic fields as possibly carcinogenic to humans.

https://www.iarc.who.int/wpcontent/uploads/2018/07/pr208_E.pdf<https://eur01.safelinks.protecti.on.outlook.com/?url=https%3A%2F%2Fwww.iarc.who.int%2Fwp-content%2Fuploads%2F2018%2F07%2Fpr208_E.pdf&data=05%7C01%7Cinformation.requests%40of.com.org.uk%7C7b6c91e40c3b463f104a08dad458c7bc%7C0af648de310c40688ae4f9418bae24cc%7C0%7C1%7C638055775018672209%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikh1haWwiLCJXVCI6Mn0%3D%7C2000%7C%7C%7C&sdata=wMGliXdO0UODnMCAYJIcmc70MfhHN0nKYil2%2BP08q3c%3D&reserved=0>

Does this bear any impact on future roll out of even more RF EMF into the environment? Why has Ofcom allowed the rollout of 5G across the UK, when there are unknowns on the effect on human health and more research is needed? The urgency of rolling out a technology so that people can download faster videos from the internet, in offset to potential ill effect to health, seems to fail a benefit vs risk assessment. It is reckless’.

It may be helpful for me to first provide some background on our role in relation to radio spectrum and electromagnetic fields (EMF). Ofcom authorises and manages the use of the radio spectrum in the UK. We issue licences and set conditions for the use of spectrum without a licence. 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.

However, we are not a public health body. The UK Health Security Agency (UKHSA) is responsible for public health matters associated with radiofrequency electromagnetic fields (EMF), or radio waves. (UKHSA took over these responsibilities from Public Health England on 1 October 2021). UKHSA publish information about EMF and health on their [website](#), including [in relation to 5G](#). UKHSA’s main advice is that EMF levels should comply with the internationally agreed levels in the ICNIRP Guidelines. On its website, UKHSA notes that “expert groups have examined the accumulated body of research evidence at national and international levels. Their conclusions support the view that health effects are unlikely to occur if exposures are below ICNIRP’s internationally agreed guideline levels.” 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”.

Ofcom also tests EMF levels near to radio masts (including mobile phone masts) to ensure they comply with the internationally agreed levels in the ICNIRP Guidelines. We have carried out these measurements over a period of many years and all of [our measurements](#) have shown that EMF levels are well within the internationally agreed levels in the ICNIRP Guidelines.

Starting from 2020, we started a new programme of testing EMF levels near to 5G-enabled mobile base stations. We do not test every single mast - rather, we perform tests on a selection of masts in a given area. Also, while the measurements are taken close to 5G-enabled mobile phone masts, they will also pick up emissions from other transmitters in the vicinity including 5G small cells for example. Our measurements around 5G-enabled masts has particularly focused on busy publicly accessible areas near to mobile phone masts where we can expect to see relatively high numbers of transmitters and high levels of mobile phone use. Again, all of these measurements have shown EMF levels that are well within the agreed levels - the maximum level we have measured to date is 7.1% of the ICNIRP Guideline levels. However, we recognise that there is a lot of public interest in this issue and we will continue to carry out EMF measurements as 5G rollout continues and publish these on our website.

Below, I provide a response to your additional questions:

Is there a limit to the total amount of 5G installations for any given area? If not then again, how can Ofcom demonstrate unlimited 5G EMF emissions are safe for the public, including from base stations and small cell installations combined?

As noted above, mobile operators are required by their licence to ensure that their equipment complies with the internationally agreed EMF levels in the ICNIRP Guidelines for the protection of the general public. There is not a limit to the total amount of 5G installations in any given area however Operators may only install a new piece of equipment if they can demonstrate that the total EMF exposure levels will remain below the general public EMF limits in any area where a member of the general public may be present when transmissions are taking place.

If for example, I requested a reading for my postcode area, which shows a huge number of 5g installations according to 5g map trackers, then Ofcom is charging £1000 per request. This indicates that the area has never been monitored for EMF safety emissions, is this correct? My postcode area is.

No, that is incorrect. Any member of the public can apply for Ofcom to undertake an EMF survey at their property, and these will incur a charge of £1,000 (excluding VAT) per survey, even if Ofcom have already undertaken EMF measurements at nearby mobile base stations.

If the safety levels proved to be exceeding recommended guidelines, then who would be liable for any harm to members of the public? Do telecommunication companies erecting masts have liabilities in contract with the government, for any harm caused by 5G emf radiation harm? For example; If I am suffering from a proven increase in temperature heat to both my skin and eyes due to 5G exposure, which causes irritation - then who is liable for this harm?

As explained above, Ofcom has carried out measurements over many years and has not identified any instance where EMF levels have been in breach of the ICNIRP Guideline levels in public areas.

Ofcom does not hold information on liabilities in any contracts between telecoms operators and the Government.

The WHO and the IARC have listed radio electromagnetic fields as possibly carcinogenic to humans. Does this bear any impact on future roll out of even more RF EMF into the environment? Why has Ofcom allowed the rollout of 5G across the UK, when there are unknowns on the effect on human health and more research is needed?

As explained above, the UKHSA is responsible for public health matters associated with radiofrequency electromagnetic fields (EMF), or radio waves. UKHSA's main advice is that EMF levels should comply with the internationally agreed levels in the ICNIRP Guidelines. Ofcom requires spectrum licensees to ensure that their use of radio equipment complies with the levels in the ICNIRP Guidelines.

I hope this information is helpful. If you have any further queries, then please send them to information.requests@ofcom.org.uk quoting the reference number above in any future communications.

Yours sincerely,

Gloria Akinyemi

If you are unhappy with the response you have received in relation to your request for information and/or consider that your request was refused without a reason valid under the law you may ask for an internal review. If you ask us for an internal review of our decision, it will be subject to an independent review within Ofcom.

The following outcomes are possible:

- the original decision is upheld; or
- the original decision is reversed or modified.

Timing

If you wish to exercise your right to an internal review **you should contact us within two months of the date of this letter**. There is no statutory deadline for responding to internal reviews and it will depend upon the complexity of the case. However, we aim to conclude all such reviews within 20 working days, and up to 40 working days in exceptional cases. We will keep you informed of the progress of any such review. If you wish to request an internal review, you should contact information.requests@ofcom.org.uk.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. Further information about this, and the internal review process can be found on the Information Commissioner's Office [here](#). Alternatively, the Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF