
From: ARPANSA Info <Info@arpansa.gov.au>

Sent: Thursday, 4 June 2020 6:23 AM

To: s 47F - privacy

Subject: FW: oxygen absorption at 60GHz s 22 - Irrelevant

Dear s
47F

ARPANSA has previously given you, in response to other inquiries, its assessment of the science and health implications of RF EME exposure, including from exposures to the 5G network. To reiterate, it is the assessment of ARPANSA and international organisations such as the [World Health Organisation \(WHO\)](#) and the [International Commission on Non-Ionising Radiation \(ICNIRP\)](#) that there is no substantiated scientific evidence to support any adverse health effects from low level exposure to RF EME fields associated with telecommunications and wireless technology below the limits set within the ARPANSA standard including the 5G network.

Initially, the 5G network will be deployed using similar frequencies to the 4G network. Moving into the future, 5G will use frequencies up to about 27 GHz. The biophysical interactions and health effects of this frequency range are well understood and there is no reason to believe that there is any particular cause for concern due to very low exposure levels from telecommunications applications. RF electromagnetic energy becomes less penetrating into body tissue with increasing frequency and, at frequencies above 6 GHz, the depth of penetration is relatively short with surface heating (at the skin and eyes) being the predominant effect at high exposure levels. At levels below the limits of the ARPANSA standard ([Radiation Protection Series, No.3](#)) there is no appreciable heating at the skin surface or in the eyes. Further, for the range of frequencies covered by the Standard, the limits are set well below levels at which any established adverse health effects are known to occur.

While it is true oxygen can absorb the energy from radiofrequency (RF) electromagnetic energy (EME) at particular frequencies, at the currently used frequencies and power levels for telecommunications this does not lead to any changes in the chemical reactive properties of oxygen, and therefore does not have any established effect on health. There has been research done on the potential health effects from RF EME at many different frequencies, including 60 GHz. Reviews that examined some of this research include:

- the review by the Scientific Committee on Emerging and Newly Identified Health Risks ([link](#)) and
- the review of by the Independent Advisory Group on Non-ionising Radiation ([link](#)).

ARPANSA and the WHO both have factsheets that address some of the concerns regarding 5G and the COVID-19 virus.

[ARPANSA factsheet](#)

[WHO factsheet](#)

We now refer you to the [terms of use](#) for our Talk to a Scientist Program. This service is available to members of the public, however there are some conditions of operation that help us ensure that the service is available to as many people as possible. One condition noted in our terms of use is that 'Scientists will not enter into debate about ARPANSA's assessment of the evidence. They will provide advice and answer questions but will not participate in arguments based on differences of opinion.'

s 22 - Irrelevant

We encourage you to continue to engage with content, advice and information provided to the public through our website, including [news announcements](#), [literature surveys](#) and [technical reports](#) that may be of interest.

Kind regards,
Talk to a scientist team

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Phone 1800 022 333
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<http://www.arpansa.gov.au>



From: s 47F - privacy
Sent: Sunday, 31 May 2020 1:16 AM
To: ARPANSA Info <Info@arpansa.gov.au>
Subject: Re:oxygen absorption at 60GHz s 22 - Irrelevant

Hi,

s 22 - Irrelevant

What about the effects of oxygen absorption from Electro-magnetic waves?

s 22 - Irrelevant

s 22 - Irrelevant

Kind regards,

s 47F

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