

From: [Mays, Don](#)
To: [Rosenson, Valerie](#)
Subject: FW: File No. A21-0364: 5G Mediation - AT&T and Verizon Agreement
Date: Friday, November 3, 2023 8:49:04 AM
Attachments: [ATT RF WOAS Handout Generalized 092822.pdf](#)
[Facts About RF Energy.pdf](#)
[Answering 5G Questions.pdf](#)

Valerie,

Will you please circulate this to the BOR?

Thanks,

Don

From: Rosenberg, Burt <BRosenberg@StamfordCT.gov>
Sent: Friday, October 20, 2023 11:29 AM
To: Mays, Don <DMays@StamfordCT.gov>
Cc: Cassone, Thomas <TCassone@StamfordCT.gov>
Subject: File No. A21-0364: 5G Mediation - AT&T and Verizon Agreement

Representative Mays:

Thank you for your very kind words during our phone call and for your interest in this matter,

Attached hereto are three documents which address the issue of RF risk to health,
Please also see: <https://www.who.int/news-room/questions-and-answers/item/radiation-5g-mobile-networks-and-health>

Myrtill Simko, a former Professor of Technology in Austria (<https://www.linkedin.com/in/myrtill-simko-4aa1753a/?originalSubdomain=se>) and Mats-Olof Mattsson, who has taught Technology at 3 European universities (<https://www.linkedin.com/in/mats-olof-mattsson-8a6a755a/?originalSubdomain=se>) have done extensive research in the field of RF radiation emitted by wireless communications facilities. Here is one such study:

<https://pubmed.ncbi.nlm.nih.gov/31540320/>



[5G Wireless
Communication and
Health Effects-A Pragmatic
Review Based on Available
Studies Regarding 6 to 100
GHz - PubMed](https://pubmed.ncbi.nlm.nih.gov/31540320/)

The introduction of the fifth generation (5G) of wireless communication will increase the number of high-frequency-powered base stations and other devices. The question is if such higher frequencies (in this review, 6-100 GHz, pubmed.ncbi.nlm.nih.gov

The conclusions are as follows:

5. Conclusions

Since the ranges up to 30 GHz and over 90 GHz are sparingly represented, this review mainly covers studies done in the frequency range from 30.1 to 65 GHz.

In summary, the majority of studies with MMW exposures show biological responses. From this observation, however, no in-depth conclusions can be drawn regarding the biological and health effects of MMW exposures in the 6–100 GHz frequency range. The studies are very different and the total number of studies is surprisingly low. The reactions occur both in vivo and in vitro and affect all biological endpoints studied.

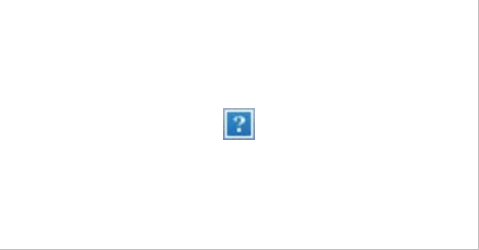
There does not seem to be a consistent relationship between intensity (power density), exposure time, or frequency, and the effects of exposure. On the contrary, and strikingly, higher power densities do not cause more frequent responses, since the percentage of responses in most frequency groups is already at 70%. Some authors refer to their study results as having “non-thermal” causes, but few have applied appropriate temperature controls. The question therefore remains whether warming is the main cause of any observed MMW effects?

In order to evaluate and summarize the 6–100 GHz data in this review, we draw the following conclusions:

- Regarding the health effects of MMW in the 6–100 GHz frequency range at power densities not exceeding the exposure guidelines the studies provide no clear evidence, due to contradictory information from the in vivo and in vitro investigations.
- Regarding the possibility of “non-thermal” effects, the available studies provide no clear explanation of any mode of action of observed effects.
- Regarding the quality of the presented studies, too few studies fulfill the minimal quality criteria to allow any further conclusions.

Lastly, here are the findings of the National Cancer Institute re RF radiation's effect upon

health: <https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet>

	<h2>Electromagnetic Fields and Cancer</h2>
	<p>A fact sheet about research on electric and magnetic fields and studies examining their potential connection with cancer.</p>
	<p>www.cancer.gov</p>

Again, I wish to thank you for your efforts regarding this matter as well as your kind support of the Law Department's efforts.

Burt Rosenberg
Asst. Corporation Counsel

Cell: 203 912-0799

Wireless Technology: Setting the Record Straight

Many claims about the safety of wireless technology have no basis in fact and contradict the findings of major, respected health organizations and scientists in the U.S. and around the world.

What AT&T says

We take the health and safety of our customers seriously. Period. That is why we want to acknowledge questions you may have about RF.

The Federal Communications Commission (FCC), the federal agency responsible for regulating wireless carriers' RF emissions, has adopted conservative RF exposure limits to protect the public. These limits apply to all wireless carriers and technologies, including current 4G and new 5G services and devices. AT&T's wireless sites, including small cells and 5G, comply with these rigorous FCC standards. And, RF exposure from AT&T's small cell sites is significantly below the FCC limit.

The FCC's mandatory RF exposure limits were developed based on information from health and safety experts including, but not limited to, the U.S. Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), the National Council on Radiation Protection and Measurements (NCRP), the American National Standards Institute (ANSI), and the Institute of Electrical and Electronics Engineers, Inc. (IEEE).

What does the industry say?

CTIA: "The scientific consensus is that there are no known health risks from all forms of RF energy at the low levels approved for everyday consumer use. While 5G networks are new, the FCC regulates RF emissions, including millimeter wave frequencies from 5G devices and equipment, and has adopted the recommendations of expert scientific organizations that have reviewed the science, including dozens of studies focused specifically on millimeter waves, and established safe exposure levels."

Learn more about CTIA and its members [here](#).

Experts agree, including:

- Federal Communications Commission
- World Health Organization
- American Cancer Society
- National Cancer Institute
- The Food & Drug Administration
- European Commission
- Government of Canada
- United Kingdom Health Protection Agency
- Swedish Council for Working Life & Social Research
- Australian Radiation and Family Protection Agency

Want to learn more?

For more information on wireless safety, please visit:

[FCC: RF Safety](#)
[Wireless Health Facts](#)



Facts About RF Energy

Radiofrequency (RF) energy is used to transmit information without wires. It has been safely used for over 100 years. Today, RF is used for life's daily connections – from radios and televisions to smart watches/fitness trackers and wireless headphones, Bluetooth and WiFi routers, and even baby monitors.

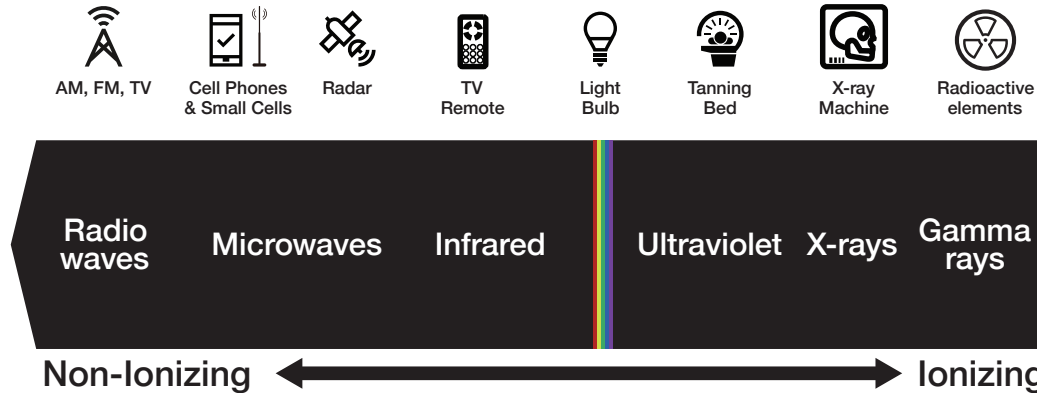
RF energy is also used for the wireless technology that provides connectivity for your mobile devices.

verizon[✓]



Energy Emissions of Household Items

Electromagnetic Spectrum¹



Sources

¹ Adapted from <https://www.fda.gov/radiation-emitting-products/cell-phones/radio-frequency-radiation-and-cell-phones>

² <https://www.fda.gov/media/135043/download>

³ <https://www.audubon.org/news/no-5g-radio-waves-do-not-kill-birds>

⁴ <https://americanbeejournal.com/why-we-shouldnt-fear-5g/>

Separating the myths from the facts

MYTH: 5G is new and has not been researched.

FACT: Scientists in the U.S. and around the world have conducted research on RF energy for decades. In 2020, the U.S. Food and Drug Administration (FDA) released a report reviewing studies on RF health and safety from the last ten years, and found that “there are no quantifiable adverse health effects in humans caused by exposures at or under the current cell phone exposure limits.”² The research continues to this day, and agencies continue to monitor it.

MYTH: 5G use of millimeter wave spectrum is harmful.

FACT: RF energy exists all around us, and has many helpful uses. For example, baby monitors and wifi routers use RF energy to convey information, while remote controls use it to open garage doors, lock your vehicle, and more. 5G technology uses RF energy to enable very fast wireless internet access service. And 5G technology that uses millimeter wave spectrum is subject to the same FCC safety standards that apply to all frequencies of spectrum used for wireless communications. So, 5G networks using millimeter wave spectrum not only provides faster and more reliable wireless communications, but also must meet FCC safety standards.

MYTH: Wireless carriers clustering in an area will cause cumulative RF energy to exceed FCC limits.

FACT: The cumulative RF energy generated by the aggregate antennas must fall within FCC limits.

MYTH: 5G networks put our children at risk.

FACT: No matter which generation of technology we use, all Verizon networks and equipment must comply with federal government safety standards. Those standards have wide safety margins and are designed to protect everyone, including children.

MYTH: 5G will harm the environment and wildlife, disrupting migratory patterns and killing off birds.

FACT: Reports suggesting harmful effects of RF to non-humans, including birds, honey bees, and other insects have been largely discredited. Audubon magazine³ published a piece observing that there is no evidence that 5G radio waves kill or otherwise harm birds. The American Bee Journal⁴ also published a piece addressing why there is “no good reason to expect [5G] to harm honeybees.”

BOTTOM LINE: Telecommunications networks and equipment that comply with FCC standards are safe for communities and consumers.

Answering Questions About 5G

Verizon may install wireless equipment to provide 5G service in your area. Some people are curious about 5G. Others have a few questions. We want to keep you informed about what's going on.

Let's be clear about one thing up-front:

Verizon's telecommunications equipment and all cellular phones sold in the United States must comply with all federal safety standards, so they are safe.



What is “5G,” anyway?

We call this service 5G because it is the fifth generation of wireless communication technology. The first generation (1G) gave us cell phones with voice capability. The second generation (2G) gave us text and messaging. The third generation (3G) gave us smartphones and wireless access to the internet. And the fourth generation (4G) gave us video streaming and many other connected services and devices that we rely on and enjoy today. Verizon is building 5G to improve existing communications and to support innovative applications. 5G will enable self-driving cars, virtual and augmented reality, smart homes, smart buildings, and smart cities. 5G is at the heart of the Internet of Things.

How does 5G work?

Like the equipment used for earlier generations of wireless technology, 5G equipment uses radio waves, or radiofrequency (RF) energy. It's the same type of energy that is all around us and that has been used safely for over 100 years. RF energy is used for radios, televisions, cordless phones, cell phones, WiFi routers, and garage door openers. The new 5G equipment includes “small cells,” which are low-powered radios attached to antennas. These small cells send and receive information from wireless devices using radio waves. The 5G small cells support both mobile and fixed broadband internet services to homes and businesses.

How is Verizon building the 5G network?

You may see us installing 5G small cells on poles and at other locations in your neighborhood. The 5G small cells sometimes are physically closer to users and more numerous than the wireless equipment we've used in the past. That's because the 5G radio waves that are capable of supporting very fast speeds and low latency do not travel as far as the radio waves that 4G service uses. So to provide super fast 5G service, we have to use more small cells to cover the same area as 4G service.

What makes it safe?

5G can operate in a wide range of spectrum, or radiofrequencies. All of the 5G equipment that operates in these various frequencies is subject to the same Federal Communications Commission (FCC) RF safety standards as the equipment used for other services, such as 3G and 4G. Those standards have wide safety margins and are designed to protect everyone, including children. And RF energy has been used safely for over 100 years.

What do the experts say?

Scientists have studied potential health effects of RF emissions from cell phones for decades. When reviewing the science, experts look at the entire body of scientific evidence, rather than rely on one or two specific studies. That's in part because there may be outliers and some studies are later determined to be flawed. Based on all the research, federal agencies have concluded that equipment that complies with the safety standards poses no known health risks. And advisers to the World Health Organization have specifically concluded that the same goes for 5G equipment. In fact, the RF safety standards adopted by the FCC are even more conservative than the levels adopted by some international standards bodies.

Here's the bottom line:

Everyday exposure to RF from 5G small cells is well within the FCC's safety limit. It is comparable to RF exposure from products such as baby monitors, WiFi routers, and Bluetooth devices. Verizon has a comprehensive program to ensure that our network functions within the FCC's safety limit. Here at Verizon, we are committed to your health and safety as we bring you everything 5G has to offer.

