Congress of the United States

Washington, DC 20510

December 3, 2018

The Honorable Brendan Carr Commissioner Federal Communications Commission 445 12th Street, SW Washington, DC 20554

Dear Commissioner Carr:

We write with interest regarding your recent remarks on the safety of 5G technologies during a Senate Commerce Committee field hearing in Sioux Falls, South Dakota.

During this hearing, the Mayor of Sioux Falls, the Honorable Paul TenHaken, asked about "the health ramifications of 5G and small cell deployment." His request, as the leader of his municipality, was for "clear direction, talking points, studies that have been done that show that there is no harm to our constituents and to the taxpayers on putting these small cells on towers close to libraries, close to schools, close to their homes."

Speaking on behalf of the Federal Communications Commission (FCC), you explained, "Federal law actually says that state and local governments can't take [radiofrequency] concerns into account given how much work has gone into this issue at the federal level...Both at the FCC and other expert health agencies in Washington, they stay very much up to speed on these issues and have reached the determination that these are safe."

Most of our current regulations regarding radiofrequency safety were adopted in 1996 and have not yet been updated for next generation equipment and devices. For example, the FCC's specific absorption rate (SAR) limits do not apply to devices operating above 6.0 GHz; however, 5G devices will operate at frequencies as high as or even exceeding 24 GHz. The FCC has acknowledged, "The SAR probe calibration, measurement accuracy, tissue dielectric parameters and other SAR measurement procedures required for testing recent generation wireless devices need further examination."¹

Furthermore, the final results of the world's largest and most expensive study to date on the link between radiofrequency radiation and cancer were only just released on November 1, 2018 by the National Toxicology Program (NTP)—an inter-agency program within the U.S.

¹ Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, "SAR Measurement Requirements for 100 MHz TO 6 GHz,"

https://apps.fcc.gov/kdb/GetAttachment.html?id=RUMcMDL7fmDLsdRSsbCNoA%3D%3D&desc=865664%20D0 1%20SAR%20Measurement%20100%20MHz%20to%206%20GHz%20v01r04&tracking_number=28242.

Department of Health and Human Services.² That study, which began in 1999, is limited in scope to radiofrequency radiation associated with 2G and 3G cell phones. As you know, this study found evidence of cancerous heart tumors, as well as some evidence of cancerous brain tumors, in male rats exposed to exposed to high levels of radiofrequency radiation like that used in 2G and 3G cell phones. However, researchers have cautioned that findings "do not apply to 4G or 5G technologies."³

To ensure we communicate accurate information to our constituents—many of whom have concerns similar to Mayor TenHaken's—we respectfully request you provide to our offices the 5G safety determination from FCC and relevant health agencies that you referred to during the field hearing. Please also include current citations for the studies informing that safety determination. Like Mayor TenHaken, we recognize that the literature on 5G technology may be limited "because it's so new," and are interested in acquainting ourselves with the latest studies evaluating the health effects of high-band frequencies and modulations that would be used in 5G networks.

The cooperation and partnership of localities and states will be critical as we move forward with this transformative technology, which promises wireless speeds as much as five times faster and with much lower latency. Carriers will also need updated guidelines governing the authorization of devices to be used with 5G. We also believe it is critical for the FCC to act on its March 27, 2013 Further Notice of Proposed Rulemaking and Inquiry to ensure all individuals, and especially those working in close proximity to the hundreds of thousands of small cell facilities to be deployed, are protected from any kind of excess radiofrequency radiation.⁴

We look forward to hearing from you on this important matter. We respectfully request a response by December 17, 2018.

- A Blan

Richard Blumenthal United States Senator

Sincerely

Anna G.-Eshoo —- Member of Congress

² William J. Broad, "Study of Cellphone Risks Finds 'Some Evidence' of Link to Cancer, at Least in Male Rats," New York Times (New York, New York), November 1, 2018,

https://www.nytimes.com/2018/11/01/health/cellphone-radiation-cancer.html.

³ National Toxicology Program, "Cell Phone Radio Frequency Radiation Studies,"

https://www.niehs.nih.gov/health/materials/cell_phone_radiofrequency_radiation_studies_508.pdf.

⁴ Federal Communications Commission, "Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies; Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields," 28 FCC Rcd 3498 (4), https://docs.fcc.gov/public/attachments/FCC-13-39A1.pdf.

PETER A. DEFAZIO 4TH DISTRICT, OREGON

TRANSPORTATION AND INFRASTRUCTURE CHAIRMAN



PLEASE RESPOND TO:

	2134 RAYBURN HOUSE OFFICE BUILDING WASHINGTON, DC 20515-3704 (202) 225-6416
	405 EAST 8TH AVENUE, #2030 EUGENE, OR 97401 (541) 465-6732 1-800-944-9603
	125 CENTRAL AVENUE, #350 COOS BAY, OR 97420 (541) 269-2609
S8	612 SE JACKSON STREET, #9 Roseburg, OR 97470 (541) 440-3523
	defazio house gov

Congress of the United States House of Representatives

April 15, 2019

Chairman Ajit Pai Federal Communications Commission 445 12th Street SW Washington, DC 20554

Dear Chairman Pai and Acting Commissioner Sharpless:

I write to inquire about the status of the federal government's research into the potential health effects of radiofrequency (RF) radiation and its relation to the Federal Communications Commission's (FCC) current guidelines for what it considers to be safe RF exposure levels for humans.

As you know, the impending rollout of 5G technology will require the installation of hundreds of thousands of "small cell" sites in neighborhoods and communities throughout the country, and these installations will emit higher-frequency radio waves than previous generations of cellular technology. This means that Americans will be exposed to more non-ionizing RF radiation than ever before.

The FCC's current guidelines for RF safety were adopted in 1996, a time when our society's relationship with and understanding of wireless technology was much different than it is today. In fact, in August 2012 – almost seven years ago – the Government Accountability Office (GAO) released a report recommending that the FCC "should formally reassess and, if appropriate, change its current RF energy exposure limit and mobile phone tested requirements..."¹ The report continued:

The [FCC's] RF energy exposure limit may not reflect the latest research, and testing requirements may not identify maximum exposure in all possible usage conditions...By not formally reassessing its current limit, FCC cannot ensure it is using a limit that reflects the latest research on RF energy exposure. FCC has also not reassessed its testing requirements to ensure that they identify the maximum RF energy exposure a user could experience.

While I was pleased to see the FCC seek comments in 2013 on whether its RF safety guidelines should be reassessed,² it is unacceptable that six years later the FCC still has not conducted a reassessment of its 1996 guidelines.

Meanwhile, concern about exposure to RF radiation has been increasing. My constituents in southwest Oregon have expressed their concerns regarding possible health effects from increased RF exposure, particularly in light of upcoming 5G technology. They are not alone – Americans across the country are expressing similar worries about possible adverse health effects from this technology, and they are understandably demanding answers from the federal government.

Moreover, states and municipalities across the country, including in my congressional district, are hearing from citizens who are concerned about this technology being installed in their communities. Yet

¹ Government Accountability Office, "Exposure and Testing Requirements for Mobile Phones Should Be Reassessed," GAO-12-771, July 2012, <u>https://www.gao.gov/assets/600/592901.pdf</u>.

² Federal Communications Commission, "Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies: Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields," FCC 13-39, 29 March 2013, <u>https://docs.fcc.gov/public/attachments/FCC-13-39A1.pdf</u>.

because Section 704(a) of the Telecommunications Act of 1996 – legislation which I opposed – expressly prohibits state and local governments from regulating wireless infrastructure based on RF emissions, and because the FCC's onerous new clarifying rules³ usurp local control over 5G small cell installations, states and municipalities are forced to depend on the federal government for information about the safety of 5G technology.

It is clear that the federal government has not been transparent enough about the current status of 5G RF radiation research and its guidelines on RF exposure limits. As Senator Richard Blumenthal noted in a February 2019 Senate hearing,⁴ the FCC's and FDA's responses to congressional inquiries on this issue have been less than satisfactory, merely reiterating general statements that 5G technology is safe without citing specific research or studies.

Even though the FDA states that it "believes the weight of scientific evidence does not show an association between exposure to radiofrequency from cell phones and adverse health outcomes," it also states that "there is consensus that additional research is warranted to address gaps in knowledge..."⁵

I request the FCC and FDA provide answers to the following questions:

- 1. What scientific literature or research has the FCC and FDA used to determine that 5G technology will not cause any adverse health effects in humans? Please cite specific studies and research conducted.
- 2. What gaps exist in our current understanding of possible health effects from 5G technology, as well as the possible health effects of RF radiation writ large?
- 3. What efforts has the federal government taken to educate the public, as well as state and local governments, about its research on RF radiation and safety guidelines as it relates to 5G technology?

I strongly urge the FCC, FDA, and relevant agencies to be open and transparent about the research and methods used for determining RF safety guidelines, as well as any outstanding questions your agencies may have about this new technology. Full transparency is needed, and the American people expect and deserve no less from their government.

I look forward to your reply.

PETER A. DEFAZIO Member of Congress

³ Federal Communications Commission, "Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment," FCC 18-111, 2 August 2018; <u>https://docs.fcc.gov/public/attachments/FCC-18-</u>

 <u>111A1.pdf</u>; and FCC 18-133, 26 September 2018, <u>https://docs.fcc.gov/public/attachments/FCC-18-133A1.pdf</u>.
 ⁴ Senate Committee on Commerce, Science, and Transportation; Hearing: "Winning the Race to 5G and the Next Era of Technology Innovation in the United States," 02:03:59 – 2:08:50, 6 February 2019,

https://www.commerce.senate.gov/public/index.cfm/hearings?ID=06336057-CC60-45DF-A361-32D7401EE6CB. ⁵ U.S. Food and Drug Administration, "Radiation-Emitting Products: Current Research Results,"

https://www.fda.gov/Radiation-

EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm11633 5.htm

Congress of the United States Washington, DC 20515

April 16, 2019

The Honorable Ajit Pai Chairman Federal Communications Commission 445 12th Street. SW Washington, DC 20554

Dear Chairman Pai,

I write to express the concern of constituents and local officials in my district regarding possible detrimental health effects of radiofrequency radiation (RF) emitted by 5G small cells.

From Huntington to Lake Success and beyond, small cell towers are being installed in residential neighborhoods in close proximity to houses throughout my district. I have heard instances of these antennae being installed on light poles directly outside the window of a young child's bedroom. Rightly so, my constituents are worried that should this technology be proven hazardous in the future, the health of their families and value of their properties would be at serious risk.

As I am sure you are aware, the National Toxicology Program (NTP) released a study in November of last year which linked RF radiation used in 2G and 3G networks to cancerous growths in rats.¹ Though this \$30 million, 10 year long study does not apply to 4G or 5G technology, the ubiquity of cellphone use throughout our country requires that this research be taken seriously in safety determinations of cellular technologies moving forward. While I understand that the FDA has reviewed this specific study, I wish to pass along my constituents' strong desire that further studies also be taken seriously and given a proper evaluation.² This is just one of the many pieces of research forwarded to my office by passionate activists who want to ensure the safety of their family, friends, and communities.

Another area of concern for many of my constituents is the FCC's outdated guidelines for safe human exposure to RF energy. The Commission's original updated guidelines were created in 1996 when much of the technology in use today was not yet available for widespread consumption, including 5G.³ In a letter dated December 17, 2018, Commissioner Carr explains

https://www.niehs.nih.gov/health/materials/cell_phone_radiofrequency_radiation_studies_508.pdf

¹ National Toxicology Program, "Cell Phone Radio Frequency Radiation Studies,"

² U.S. Food and Drug Administration, Office of the Commissioner. "Press Announcements - Statement from Jeffrey Shuren, M.D., J.D., Director of the FDA's Center for Devices and Radiological Health on the National Toxicology Program's Report on Radiofrequency Energy Exposure." U S Food and Drug Administration Home Page. November 1, 2018. https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm624809.htm.

³ "Human Exposure to Radio Frequency Fields: Guidelines for Cellular Antenna Sites." Federal Communications Commission. March 12, 2019. https://www.fcc.gov/consumers/guides/human-exposure-radio-frequency-fields-guidelines-cellular-and-pcs-sites.

that safe exposure limits have been altered and updated in the FCC's guidelines since that time. How have these safety determinations been made and does the FCC plan on releasing the data it used to set these new limits?

5G will bring about a transformation to how people and networks communicate. While I understand the importance of this technology for the future of the American economy, I believe we must also be as certain as possible that it is safe. I respectfully request that you provide my office and all relevant House Committees with the information used by the FCC, FDA, and other related health agencies to make 5G safety determinations.

Please contact Michael Christesen (michael.christesen@mail.house.gov) in my office with any questions.

Sincerely,

Thomas R. Suozz Member of Congress

(TRS/mcc)



April 21, 2022

The Honorable Jessica Rosenworcel, Chairwoman Federal Communications Commission 45 L Street NE Washington, DC 20554

RE: August 13, 2021 judgment by the U.S. Court of Appeals for the District of Columbia Circuit, in Environmental Health Trust et al. v. the FCC

Dear Chairwoman Rosenworcel,

In response to the judgment by the U.S. Court of Appeals in the Environmental Health Trust case, I am requesting that appropriate actions be taken immediately to wireless radiofrequency radiation levels. I request that the FCC ensure an up to date examination of its wireless radiofrequency radiation regulations by reopening Docket 13-84 ("Reassessment of FCC Radiofrequency Exposure Limits and Policies") to refresh the record before issuing its final response to the judgment.

The current scientific research must be immediately reviewed and acted upon in a timely manner so that the health and safety of our citizens is prioritized. Consumers must have accurate information related to the benefits and risks of the products and services available to them. Policies should be reflective of current scientific research performed in accordance with utilization. It is impossible for consumers to make educated decisions without accurate information; therefore, I am requesting that you take immediate action as directed by the courts to review the research and update any policies as necessary for the health and wellbeing of all citizens, including the most vulnerable, our children.

Sincerely turder

Mark Gordon Governor of Wyoming

MG:jd:kh

200 WEST 24TH STREET CHEYENNE, WY 82002-0010 MARK GORDON GOVERNOR OF WYOMING

307.777.7434 • GOVERNOR@WYO.GOV HTTP://GOVERNOR.WYO.GOV

Congress of the United States House of Representatives

Washington, DC 20515–3003

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March 28, 2019

The Honorable Ajit Pai Chairman Federal Communications Commission 445 12th Street, SW Washington, D.C. 20554

Dear Chairman Pai,

I write to you regarding the Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment order, the public health concerns surrounding 5G technologies, questions surrounding the safety measures taken by your agency prior to implementation of this technology and the role of local governments in overseeing deployment and retaining control over infrastructure and rights-of-way in their communities.

As you know, current regulations governing radiofrequency (RF) safety were put in place in 1996 and have not yet been reassessed for newer generation technologies. Currently, the FCC's specific absorption rate (SAR) limits only apply to devices operating at frequencies up to 6.0 GHz. However, 5G technology operates at frequencies at and exceeding 24 GHz, which requires numerous small cell sites to be densely installed close to homes, schools, and workplaces. Despite the close proximity to sensitive areas where these high-band cells will be installed, little research has been conducted to examine 5G safety. The FCC has admitted, "the SAR probe calibration, measurement accuracy, tissue dielectric parameters and other SAR measurement procedures required for testing recent generation wireless devices need further examination".¹

On November 14, 2018 the FCC initiated an auction for 28 GHz and 24 GHz bands.² The deployment of these cells continues today despite little knowledge of the long-term health outcomes of this technology. Lacking existing studies into the human impact of high-band 5G cells, further investigation is needed to ensure that elevated RF levels in new locally deployed small cell sites will not be a health risk to communities on the ground.

As you know, the FCC's Declaratory Ruling on September 26, 2018 made several regulatory changes to local governments' ability to administer the rollout of 5G technology.³ These changes

¹ Federal Communications Commission, Office of Engineering and Technology, Laboratory Division, "SAR Measurement Requirements for 100 MHz TO 6 GHz"

https://apps.fcc.gov/kdb/GetAttachment.html?id=RUMcMDL7fmDLsdRSsbCNoA%3D%3D&desc=865664%20D01%20SAR% 20Measurement%20100%20MHz%20to%206%20GHz%20v01r04&tracking_number=28242

² Federal Communications Commission, "AUCTIONS OF UPPER MICROWAVE FLEXIBLE USE LICENSES FOR NEXT-GENERATION WIRELESS SERVICES", Public Notice, FCC-18-109, August 3, 2018, <u>https://docs.fcc.gov/public/attachments/FCC-18-109A1.pdf</u>

³ Federal Communications Commission, "Declaratory Ruling and Third Report and Order", FCC 18-133, September 26, 2018.

include restrictions on how towns and cities review small cell deployment applications, a new "shot-clock" that opens up local governments to lawsuits from 5G providers after 60 days without a final decision on a small cell application, and a cap on the fees that cities can charge for filing deployment applications. A city's ability to regulate and manage 5G deployment is essential to protecting the health, safety and welfare of its residents.⁴

I have heard from a number of my constituents in Lavallette, New Jersey who are worried about the deployment of small cell 5G networks in their neighborhoods. Specifically, my constituents worry that FCC has failed to thoroughly explore all potential safety concerns regarding 5G technologies for human exposure. They are also concerned that local government possess little power to oversee and influence the deployment process. In order to ensure that my constituents are aptly educated on 5G's potential impacts on public health, I would appreciate your response to the following questions:

- 1. What recent, independent scientific studies demonstrate the safety of 5G technologies?
- 2. Has the FCC or any other agency conducted research into potential long-term health outcomes of repeated exposure to radiofrequencies similar to those present in high-band 5G cells? If so, what were the results of such study?
- 3. Have any 5G telecommunications service providers conducted studies into the long-term health outcomes of repeated exposure to radiofrequencies similar to those present in high-band 5G cells? If so, what were the results of such study?
- 4. How are the FCC and 5G service providers working with local governments and municipalities to address citizens' concerns concerning 5G implementation?
- 5. What procedure exists for residents to file complaints with the FCC regarding the installation of small cell 5G sites in their neighborhoods?

In order to ensure accurate and swift communication of information to my constituents regarding this issue, I respectfully request a prompt response to these questions.

I look forward to hearing from you on this important matter.

Sincerely,

andread

Andy Kim Member of Congress

CC: The Honorable Michael O'Rielly, Commissioner, Federal Communications Commission The Honorable Jessica Rosenworcel, Commissioner, Federal Communications Commission The Honorable Brendan Carr, Commissioner, Federal Communications Commission The Honorable Geoffrey Starks, Commissioner, Federal Communications Commission

https://docs.fcc.gov/public/attachments/FCC-18-133A1.pdf

⁴ City of Philadelphia Law Department, "Comments of the City of Philadelphia", September 19, 2018 https://ecfsapi.fcc.gov/file/109192671202479/City%20of%20Philadelphia%20Comments%20to%20Draft%20Declaratory%20Ru ling%20and%20Third%20Report%20and%20Order%20(WT%2017-79%3B%20WC%2017-84.pdf

Anthony Maffuccio, City Council Member, City of Pittsfield Letter in Support of Wireless Right To Know Bills in Massachusetts, October 3, 2021,

From: Maffuccio, Anthony <amaffuccio@cityofpittsfield.org>
To: jointcmte-consumerprotection@malegislature.gov
<jointcmte-consumerprotection@malegislature.gov>; tricia.farley-bouvier@mahouse.gov>;
<tricia.farley-bouvier@mahouse.gov>;
adam.hinds@masenate.gov<adam.hinds@masenate.gov>;
Sent: Sunday, October 3, 2021, 05:29:50 AM EDT
Subject: Resolve S. 186 and S. 187 Testimony

Dear Esteemed Legislators,

Thank you for advancing Senator Cyr's wireless radiation bills in prior legislative sessions. Please do everything in your power to ensure these bills are passed this session as the cumulative harm is mounting from today's rapidly increasing levels of radiofrequency radiation.

In Pittsfield, residents have been diagnosed with EHS, or electromagnetic sensitivity after they developed symptoms of headaches, nausea, dizziness, insomnia, skin rash, palpitations and tinnitus after a cell tower started transmitting adjacent to their neighborhood.

As taught by doctors at the international <u>EMF Medical Conference 2021</u>, electromagnetic fields (EMFs) from radiation pulsed by cell towers, small cells and utility "smart meters" and wireless devices is the leading cause of the rise in electromagnetic illnesses.

In their own homes, residents can choose to options like hardwired Ethernet connections, increasing their distance from devices, and placing them on airplane mode or turning off Wi-Fi when not in use, but only if they know these options are available. S. 183 is a "right to know" bill and helps educate consumers about wireless safety practices.

As municipal leaders, we look to the state for guidance on wireless safety.

S.186, to form a commission to investigate the health and environmental impact of today's wireless technology is vital as the science has been shared with us. We are looking to you to translate the science into policy change and protections that can then be applied across the state.

Engineers can readily develop safe, sustainable, energy-efficient technology but it is up to our legislatures to require it. You have that opportunity in Senator Cyr's Resolve S. 186 and S. 187.

Please pass these bills to form a commission to investigate the health and environmental impact of today's wireless technology, especially as it impacts our children, our pollinators and our planet.

Other states have implemented protections, and it's time for Massachusetts to ensure safe and sustainable technology, too. Our municipal leaders and volunteer boards should not have to navigate these issues alone. Thank you for providing our cities and towns with the guidance they need to ensure the health and safety of all Massachusetts residents.

Respectfully,

Councilor Anthony V Maffuccio

Anthony Maffuccio Ward 7 Councilor City Council City of Pittsfield Download Letter From Peter White Councilor City of Pittsfield to Massachusetts State Legislature in Favor of Wireless Right to Know Legislation October 4, 2021

From: White, Peter <pwhite@cityofpittsfield.org>
To: jointcmte-consumerprotection@malegislature.gov <jointcmte-consumerprotection@malegislature.gov>; Tricia
Farley-Bouvier <Tricia.Farley-Bouvier@mahouse.gov>; Adam Hinds <adam.hinds@masenate.gov>;
Sent: Monday, October 4, 2021, 04:19:48 PM EDT
Subject: Resolve S. 186 and S. 187 Testimony

Dear Esteemed Legislators,

Thank you for advancing State Senator Cyr's wireless radiation bills in prior legislative sessions. Please do everything in your jurisdiction to ensure these bills are passed this session as the number of reported people affected by today's rapidly increasing levels of radiofrequency radiation is rising.

In Pittsfield, residents have reported to us they have been diagnosed with electromagnetic sensitivity after developing symptoms of headaches, nausea, dizziness, insomnia, skin rash, palpitations and tinnitus after a cell tower started transmitting adjacent to their neighborhood.

In their own homes, residents can choose to use options like hardwired Ethernet connections, increasing their distance from devices, and placing them on airplane mode or turning off Wi-Fi when not in use, but only if they know these options are available. S. 187 is a "right to know" bill and helps educate consumers about wireless safety practices.

As a municipal leader myself, I look to the state for guidance on wireless safety.

S.186, to form a commission to investigate the health and environmental impact of today's wireless technology is vital as the science has been shared with us. We are looking to you to translate the science into policy change and protections that can then be applied across the state.

Engineers can readily develop safe, sustainable, energy-efficient technology but it is up to our legislatures to require it. You have that opportunity in Senator Cyr's Resolve S. 186 and S. 187 to help Massachusetts municipalities have consistency.

Please pass form a commission to investigate the health and environmental impact of today's wireless technology.

Other states have implemented protections, and it's time for Massachusetts to ensure safe and sustainable technology, as well. Our municipal leaders and volunteer boards should not have to navigate these issues alone. Thank you for providing our cities and towns with the guidance we need to ensure the health and safety of all Massachusetts residents. We also need verified information and guidance moving forward to assist with decision making.

Respectfully,

Pete White

Pittsfield City Councilor At Large

Pittsfield, MA 01201

CHRISTOPHER H. SMITH 4TH DISTRICT, NEW JERSEY

CONSTITUENT SERVICE CENTERS:

OCEAN Visit: 33 Washington Street Toms River, NJ 08754 Mail: PO Box 728 Toms River, NJ 08754 (732) 504–0567

MONMOUTH 1715 Highway 35 North Suite 303 Middletown, NJ 07748 (732) 780–3035



Congress of the United States Bouse of Representatives

CHAIRMAN, CONGRESSIONAL EXECUTIVE COMMISSION ON CHINA

CHAIRMAN, GLOBAL HEALTH, GLOBAL HUMAN RIGHTS, AND INTERNATIONAL ORGANIZATIONS SUBCOMMITTEE

CO-CHAIRMAN, TOM LANTOS HUMAN RIGHTS COMMISSION

SENIOR MEMBER, HOUSE FOREIGN AFFAIRS COMMITTEE

www.chrissmith.house.gov

August 16, 2023

Mr. Robert Fisher Senior Vice President, Federal Government Relations Verizon One Verizon Way Basking Ridge, New Jersey 07920

Dear Mr. Fisher:

I write to express my strong opposition to Verizon's plans to install imposing, unsightly 5G infrastructure along the beachfront in the Borough of Belmar in my Congressional District.

In light of the shocking revelation that Verizon had erroneously filed suit against Belmar to push through its proposal—when the Borough had no jurisdiction over the property in question—I urge you to seize this opportunity to work transparently with the lawful owner of the right-of-way, the County of Monmouth.

I have worked closely with Monmouth County Commissioner Director Tom Arnone, who has advised me that the County is requesting that Verizon rescind its initial plan. I support this recission, as it will allow Verizon to re-examine the substantial objections raised by members of the local community and respond to the concerns of Belmar residents and those of other shore municipalities throughout the State of New Jersey.

Belmar is a booming tourist destination and is regularly named among the best beach towns in New Jersey. Not surprisingly, Belmar's pristine beaches create significant seasonal revenue which helps to sustain the town's economy throughout the year. Local community leaders and residents of Belmar have reasonably argued that the 30-foot 5G towers will obstruct ocean views, devalue real estate, hurt tourism and harm local businesses.

Additionally, many residents have raised serious questions about the potential health ramifications of this new technology on residents and wildlife. And though long-term human health studies have yet to be completed on 5G frequencies utilized in this relatively new use of

the technology, I believe it would be short-sighted to dismiss health concerns until adequate and comprehensive studies have been conducted.

Why the rush? Why the aggressive legal battle against the wrong governing body?

I believe that the rights of public and private property owners should not be summarily dismissed in the name of "so-called" tech progress, and I urge Verizon, as a good corporate citizen, to heed the genuine economic, aesthetic, environmental and health concerns of the community.

CHRISTOPHER H. SMITH Member of Congress

Congress of the United States

Washington, DC 20510

March 28, 2023

The Honorable Jessica Rosenworcel Chairwomen Federal Communications Commission 45 L Street NE Washington, DC 20554

Dear Chairwomen Rosenworcel:

I am writing to relay the well-founded concerns of my constituents in Wyandotte, Michigan. T-Mobile has recently begun the construction of a 5G cell phone tower situated above the playground area of Washington Elementary School, causing a great deal of concern and apprehension for parents. Many of the parents have specifically voiced their concerns regarding the impacts of radiofrequency radiation (RF) on their children, faculty, and staff. To this end, more than 1,500 individuals have signed a petition demanding for the swift removal of the tower. The parents have repeatedly stated that they are not opposed to 5G Technology, but there is no doubt that the placement of a cell phone tower near a children's schoolyard is precarious.

Furthermore, the Federal Communications Commission (FCC) has sustained a twentysix-year-old precedent in maintaining radiofrequency exposure limits, which have not been updated since 1996. We have made significant technological advancements since, particularly in the realms of telecommunications and other wireless-related technologies. As a result, the FCC should reconsider the exposure limits currently in place. Moreover, the <u>U.S. Government</u> <u>Accountability Office</u> previously stated that the FCC's exposure limit might not reflect the latest research as international organizations have updated their exposure limit recommendations which countries in the European Union (EU) have implemented. Similarly, the <u>U.S. Court of</u> <u>Appeals for the District of Columbia</u> judged in favor of environmental health groups and petitioners on August 13, 2021, citing the current limits as "arbitrary and capricious."

Research, specifically the impacts of <u>RF on children</u>, warrants increased attention from government agencies and academia. Although, the prevailing theory is that the effects of RF exposure produce minimal defects, it remains inconclusive. The current research should be interpreted cautiously as studies and methods must be improved immensely to reach a consensus. Thus, placing cell phone towers on school grounds should be reviewed by the agency and external partners.

Lastly, the voices of my constituents and their children are profoundly important to me. The FCC must become more responsive to the needs of our citizens and devise ways to increase trust among the American public. I implore the FCC to revise the RF limits, collaborate with leading researchers and academic institutions, and promulgate essential research findings to the American public.

Thank you for considering this important matter.

Shudganed

Shri Thanedar, Ph.D. Member of Congress



SENATOR STEVE WILSON

Ohio's 7th Senate District

Committees: Financial Institutions & Technology - Chair Energy and Public Utilities Insurance Veterans & Public Safety

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

I am writing you today to call attention to an alarming issue presented to me by two of my constituents located in the 7th District of Ohio. Two constituents have voiced to me that the FCC's agency rules and regulations for radiofrequency emissions needs to be updated. According to one constituent, the FCC's human exposure limits for radiofrequency has not been updated since 1996 and she is greatly concerned with the number of cell towers and the levels of EMF exposure in Warren County, Ohio.

I kindly request you consider my constituents concerns and re-evaluate the rules surrounding radiation. If you have any questions please do not hesitate to contact my office

Slove Wilson

Senator Steve Wilson 7th District



Ohio Senate Senate Building 1 Capitol Square Columbus, Ohio 43215 Phone: (614) 466-5980 Ingram@ohiosenate.gov Committees: Education Ranking Member Medicaid Ranking Member Workforce & Higher Education Ranking Member Insurance Health

CATHERINE D. INGRAM State Senator 9th Senate District

Dear Secretary Dortch,

I am writing to you today to notify you of an issue brought to my attention by one of my constituents located in the 9th Senate District of Ohio. The constituent raised concerns about the FCC's current agency rules and regulations regarding radiofrequency emissions, and explained the dire need to update these rules and regulations. The FCC's guidelines for human exposure limits to radiofrequency have not been updated since 1996. The constituent is concerned with the addition of cell towers and subsequent increased EMF exposure in Hamilton County, Ohio.

I respectfully request your consideration of my constituent's concerns. I also request a careful re-evaluation of the rules surrounding radiofrequency radiation and emission, as the FCC was ordered to complete by the US Court of Appeals in the DC Circuit in 2019. I appreciate your attention to this important matter, and my office will be happy to address any questions or concerns you may have.

Sincerely,

erine D

State Senator

The 9th Senate District encompasses parts of Hamilton County, including Cincinnati, Elmwood Place, Norwood, Springfield Township, St. Bernard, Amberly, Arlington Heights, Columbia Township (part), Fairfax, Golf Manor, Lincoln Heights, Lockland, Mariemont, Silverton, Sycamore Township (part), Woodlawn and Wyoming.



29TH HOUSE DISTRICT

Parts of Hamilton County Including: Villages of Cleves and North Bend, City of Harrison, City of Mt Healthy, City of North College Hill, and Colerain, Crosby, Harrison, Miami, Springfield, and Whitewater Townships

COMMITTEES

Commerce and labor Criminal Justice Finance Finance Subcommittee on Public Safety Homeland Security



COLUMBUS OFFICE

VERN RIFFE CENTER 77 South High Street 13th Floor Columbus, OH 43215 Phone: (614) 466- 9091 rep29@ohiohouse.gov

State Representative Cindy Abrams Ohio House of Representatives

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington DC, 20554

Dear Secretary Dortch,

I am writing to you today to call attention to an alarming issue brought to me by several residents of the 29th Ohio House District. These constituents expressed concerns that the FCC's agency rules and regulations for radiofrequency emissions need to be updated. My constituents highlighted that the human exposure limits for radiofrequency have remained unchanged since 1996. Furthermore, there is great apprehension regarding the proliferation of cell towers and the associated levels of electromagnetic field (EMF) exposure in Hamilton County, Ohio.

I urge you to take these concerns into consideration when reviewing and revising the current regulations. It is crucial to prioritize the well-being and safety of the residents in District 29. Thank you for your attention on this matter. Should you have any questions, please feel free to contact my office at your earliest convenience.

Sincerely,

Cindy abrams

Cindy Abrams State Representative 29th Ohio House District Office: (614) 466-9091

77 SOUTH HIGH STREET, COLUMBUS, OHIO 43215-6111 www.ohiohouse.gov 56th House District Warren County, Ohio

Columbus Office Vern Riffe Center 77 S. High Street 11th Floor Columbus, Ohio 43215-6111 (614) 644-6027 <u>Rep56@ohiohouse.gov</u> www.ohiohouse.gov



Adam Mathews State Representative

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

I am writing you today to notify you of an issue brought forth to me by a constituent located in the 56th House District of Ohio. This constituent has expressed concern that the FCC's agency rules and regulations governing radiofrequency emissions need to be updated. She noted to me that some of the rules governing exposure limits to radiofrequencies have gone un-updated since 1996, and she further expressed concern with the number of cell towers and the level of exposure in Warren County, Ohio.

I kindly request that you hear my constituent's concerns, and I thank you for your attention to this matter. If you have any questions please do not hesitate to contact my office.

Sincerely,

Representative Adam Mathews 56th District

Committees

Vice Chair, Civil Justice Joint Committee on Agency Rule Review Constitutional Resolutions Families and Aging Aviation and Aerospace 55th House District Warren County (part)

COLUMBUS OFFICE VERN RIFFE CENTER 77 SOUTH HIGH STREET 13TH FLOOR COLUMBUS, OH 43215-0253 PHONE: (614) 644-6023 REP55@OHIOHOUSE.GOV



<u>Committees</u> Chair: Public Health Policy Families & Aging Primary & Secondary Education

JOINT MEDICAID OVERSIGHT COMMITTEE

State Representative P. Scott Lipps Ohio House of Representatives

June 28, 2023

Marlene H. Dortch Federal Communication Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

We are writing you today to call attention to an issue presented to us by a Warren County resident. This resident voiced to us that the FCC's agency rules and regulations regarding radiofrequency emissions may need to be updated. According to our resident, the human exposure limits regarding radiofrequency has not been updated since 1996.

We would like you to consider my residents' concerns and when the time comes to re-evaluate the rules, that you keep our district in mind. If you have any questions please do not hesitate to contact my office.

Sincerely,

P. Scott Lipps55th District

Louis W. Blessing III

State Senator 8th Senate District 1 Capitol Square Columbus, Ohio 43215 (614) 466-8068



Committees

Ways & Means, *Chairman* Primary & Secondary Education Finance Insurance

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

I am writing you today to call attention to an alarming issue presented to me by one of my constituents located in the 8th Senate District of Ohio. The constituent has expressed concern that the FCC's agency rules and regulations for radiofrequency emissions needs to be updated. According to the constituent, the FCC's human exposure limits for radiofrequency has not been updated since 1996, and she is greatly concerned with the number of cell towers and the levels of EMF exposure in Hamilton County, Ohio.

I kindly request you consider my constituents concerns and re-evaluate the rules surrounding radiation. I thank you for your attention to this matter. If you have any questions please do not hesitate to contact my office

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Louis W. Blessing III State Senator Ohio's 8th Senate District





May 23, 2024

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

On behalf of the Council of the Village of Greenhills, I would like to express our concern on two matters. The first is the fact that the FCC's agency rules and regulations pertaining to radiofrequency emissions have remained unchanged since first developed in 1996. Of specific concern are the limits for radiofrequency exposure for humans that should be examined on a regular basis.

The second matter pertains to this same issue - as well as many others - where the local government's ability to impact these issues is non-existent and adds to the continual erosion of the concept of home rule.

We thank you for your consideration of these matters.

Respectfully David M

Mayor

C: Council Members: Jim Boerman Jeff Halter Melanie Hermes Rachel Hudson Jack Lee Maria Waltherr

Committees:

Armed Services and Veterans Affairs House Health Provider Services Joint Medicaid Oversight Committee State and Local Government Technology and Innovation



Contact Information:

Office: 614-466-8550 Email: rep45@ohiohouse.gov 77 S. High Street, 13th Floor Columbus, Ohio 43215-6111

Representative Jennifer Gross The Ohio House of Representatives

07/15/2024

Marlene H. Dortch Federal Communication Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

I respectfully request your attention concerning an issue that has been brought to me by a constituent. There is growing apprehension that FCC agency rules and regulations regarding radiofrequency emissions are outdated. Several constituents voiced concerns that human exposure limits regarding radiofrequency have not been updated since 1996. The ubiquity of cell towers and the associated levels of electromagnetic field (EMF) exposure in my district has caused trepidation over the safety and well-being of residents in District 45.

As the FCC reviews its agency rules and regulations, please consider these concerns, and reevaluate the rules referencing radiofrequency. Thank you for your attention to this matter. If you have any questions, please do not hesitate to contact my office.

Respectfully,

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Jennifer Gross State Representative 45th Ohio House District

<u>Committees</u> Criminal Justice State and Local Government Finance



<u>Committees:</u> Finance Subcommittee on Public Safety Homeland Security Pensions

Cecil Thomas State Representative, Ohio House District 25

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Dear Secretary Dortch,

I am writing to bring to your attention an issue raised by one of my constituents in the 25th House District of Ohio. The constituent has expressed concern that the FCC's rules and regulations regarding radiofrequency emissions need to be updated. Specifically, she is worried that the FCC's human exposure limits for radiofrequency have not been revised since 1996. She is particularly concerned about the proliferation of cell towers and the resulting levels of electromagnetic field (EMF) exposure in Hamilton County, Ohio.

I respectfully request that you consider my constituent's concerns and carefully re-evaluate the rules governing radiofrequency radiation and emissions, as the FCC was ordered to do by the U.S. Court of Appeals for the D.C. Circuit in 2021.

Thank you for your attention to this important matter. My office stands ready to address any questions or concerns you may have.

Sincerely,

Gul Shows

Representative Cecil Thomas District 25 – 135th General Assembly

Phone: 614-466-1646 | Email: rep25@ohiohouse.gov | Mail: 77 S. High St, 10th Floor, Columbus OH 43215



JEAN SCHMIDT STATE REPRESENTATIVE

Jessica Rosenworcel, Chairwoman Federal Communications Commission 45 L Street NE Washington, DC 20554

Chairwoman Rosenworcel,

It has been brought to my attention that the Federal Communications Commission's rules and regulations regarding radio frequency emissions and public exposure limits have remained the same for nearly 30 years. Some of my constituents have expressed serious concerns that the current emission and exposure limits have not been revised in decades. With the widespread use of radio and cell towers across my district and the State of Ohio, I believe it would be beneficial for the FCC to examine whether the existing limits protect humans from the signals these towers transmit or if they need to be revised.

The health and safety of the residents in my district is of the utmost importance to me. For this reason, I respectfully request that you fully and fairly consider the public health concerns I have raised when determining whether to review and revise the current limits. Thank you for your attention to this matter.

Jean Schmidt

Jean Schmidt State Representative <u>Rep62@OhioHouse.Gov</u>



Representative Michelle Teska Ohio House District 55

January 2025

Federal Communications Commission Attn: Jessica Rosenworcel 45 L Street NE Washington, DC 20554

Dear Chairwoman Rosenworcel,

I respectfully request your attention concerning an issue that has been brought to me by a constituent. There is growing apprehension that FCC agency rules and regulations regarding radiofrequency emissions are outdated. Several constituents voiced concerns that human exposure limits regarding radiofrequency have not been updated since 1996. The ubiquity of cell towers and the associated levels of electromagnetic field (EMF) exposure in my district has caused trepidation over the safety and well-being of residents in District 55.

As the FCC reviews its agency rules and regulations, please consider these concerns, and reevaluate the rules referencing radio frequency.

Thank you for your thoughtful consideration. Please do not hesitate to reach out to my office or myself if there is anything I can do to assist in this process or to clarify my support.

Respectfully Submitted,

nichelle Teska

Michelle Teska State Representative 55th Ohio House District

<u>Committees:</u>

Public Insurance and Pensions, Vice Chair Community Revitalization Financial Institutions Small Business www.ohiohouse.gov

Contact Information:

Office: 614-644-6023

77 S. High Street, 11th Floor Columbus, Ohio 43215-6111

Email: Rep55@ohiohouse.gov

85th House District Shelby County Champaign County Logan County (Part)

Columbus Office: 77 South High Street 11th Floor Columbus, OH 43215 (614) 466-1507 Rep85@ohiohouse.gov



Committees Medicaid, Vice-Chair Insurance Agriculture Health STABLE Account Advisory Board

TIMOTHY N. BARHORST

State Representative | Ohio House District 85

March 11, 2025

Dear Chairman Carr,

We are writing to request the FCC ensure its wireless radiation guidelines are up to date and protective.

In August 2021, a U.S. Court of Appeals for the DC Circuit <u>decision</u>¹ in Environmental Health Trust et al. v. FCC mandated that the agency provide a reasoned explanation for its <u>2019 Order</u>² retaining 1996 wireless radiation limits and cell phone test procedures. The court ordered the FCC to address specifically address record evidence related to the impacts of wireless on children, the health implications of long-term RF exposures, and RF impacts to birds, bees and trees.

Yet the FCC has done nothing in response to the court order.

We are writing to request the FCC comply with the court order and produce a reasoned and robust examination of wireless RF regulations that take into account all living things. The court found the FCC failed to adequately review the science. In addition, since 2019, several major studies on the impacts of wireless to human health and the environment-- have come out that must be considered in the review.³ If the FCC does not refresh the record with recent data, its conclusions would again be deficient because it would have ignored the latest findings.

Currently there is no federal agency with health or environmental expertise ensuring that cell towers and 5G small cells are safe for public health, nor for the environment (birds, bees and trees). These are significant regulatory gaps.

¹ United States Court of Appeals for the District of Columbia Circuit. (2021). Environmental Health Trust, et al., Petitioners v. Federal Communications Commission and United States of America, Respondents, No. 20-1025, Consolidated with 20-1138, Argued January 25, 2021, Decided August 13, 2021.

² Federal Communications Commission. (2019). FCC 19-126: In the Matter of Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields: Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies: Targeted Changes to the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields (ET Docket No. 03-137, ET Docket No. 13-84, ET Docket No. 19-226). Washington, D.C.

³ Levitt BB, Lai HC, Manville AM. (2021) Effects of non-ionizing electromagnetic fields on flora and fauna, Part 3. Exposure standards, public policy, Jaws, and future directions. Rev Environ Health. Sep 27. Choi Yoon-Jung et al., (2020) <u>Cellular Phone Use and Risk of Tumors: Systematic Review and Meta-Analysis</u>, International Journal of Environmental Research and Public Health. 17(21), 8079 Schuermann, David, and Meike Mevissen (2021) "Manmade Electromagnetic Fields and Oxidative Stress—Biological Effects and Consequences for Health" International Journal of Molecular Sciences 22, no. 7: 3772. and Halgamuge MN, Skafidas E, Davis D. (2020) <u>A meta-analysis of in vitro exposures to weak radiofrequency radiation exposure from mobile phones (1990–2015)</u>. Environmental Research, Volume 184 and Uche, U.I., Naidenko, O.V. (2021) <u>"Development of health-based exposure limits for adorferquency radiation from wireless devices using a benchmark dose approach." Environmental Health 20, 84 (2021) Davis, D., Birnbaum, L., Ben-Ishai, P., Taylor, H., Sears, M., Butler, T., & Scarato, T. (2023). Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks. Current Problems in Pediatric and Adolescent Health Care, 53(2), 101374.</u>

Thus, in order to provide a comprehensive basis on which to set standards, the FCC, before responding to the court order, should:

Refresh the record by reopening <u>Docket 13-84</u> "Reassessment of FCC Radiofrequency Exposure Limits and <u>Polic</u>ies to ensure recent science is included.

Ask the relevant U.S. health, safety and environmental agencies to systematically review the relevant science on wireless technologies in a transparent process.

Sincerely,

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Dahorst Yml I

Tim Barhorst State Representative | *District 85*



Ohio Senate Senate Building 1 Capitol Square Columbus, Ohio 43215 (614) 466-6247 Stephen. Huffman@ohiosenate.gov Committees:

Health - Chair Medicaid - Vice Chair Education General Government Workforce Development

Stephen A. Huffman State Senator 5th District

April 9, 2025

Marlene H. Dortch Federal Communications Commission Office of the Secretary 45 L. Street NE Washington, DC 20554

Dear Secretary Dortch,

It has been brought to my attention, as well as other members of the Ohio Legislature representing the southwest portion of the state from our constituents, that certain FCC guidelines regarding communication infrastructure have not been updated since 1996. As the state continues to upgrade existing infrastructure to meet the needs of businesses and consumers, we humbly request that the FCC review these guidelines and make the necessary changes to uphold our constituents' requests and support sound policy.

Please do not hesitate to reach out to my office with any additional questions regarding this matter. We appreciate your addressing of these concerns.

Stephen A. Huffman State Senator, 5th District

30[™] HOUSE DISTRICT

Parts of Hamilton County Including: City of Cheviot Townships of Delhi, Green, and Miami Villages of Addyston, Cleves and North Bend

COMMITTEES

Education Children and Human Services Energy Judiciary



COLUMBUS OFFICE

VERN RIFFE CENTER 77 South High Street 13th Floor Columbus, OH 43215 Phone: (614) 466- 8258 rep30@ohiohouse.gov

State Representative Mike Odioso Ohio House of Representatives

April 23, 2025

Dear Chairman Carr,

I am writing to request that the FCC ensure its wireless radiation guidelines are up to date and protective.

In August 2021, a U.S. Court of Appeals for the DC Circuit <u>decision</u>ⁱ in Environmental Health Trust et al. v. FCC mandated that the agency provide a reasoned explanation for its <u>2019 Order</u>ⁱⁱ retaining 1996 wireless radiation limits and cell phone test procedures. The court ordered the FCC to specifically address record evidence related to the impacts of wireless on children, the health implications of long-term RF exposures, and RF impacts to birds, bees, and trees.

Yet the FCC has failed to respond to the court order.

I am writing to request that the FCC comply with the court order and produce a reasoned and robust examination of wireless RF regulations that consider all living things. The court found the FCC failed to adequately review the science. In addition, since 2019, several major studies on the impacts of wireless on human health and the environment have come out that must be considered in the review.ⁱⁱⁱ If the FCC does not refresh the record with recent data, its conclusions would again be deficient because it would have ignored the latest findings.

Currently, there is no federal agency with health or environmental expertise ensuring that cell towers and 5G small cells are safe for public health, nor for the environment (birds, bees, and trees). These are significant regulatory gaps.

Thus, to provide a comprehensive basis on which to set standards, the FCC, before responding to the court order, should:

Refresh the record by reopening <u>Docket 13-84 "Reassessment of FCC Radiofrequency Exposure</u> <u>Limits and Polic</u>ies to ensure recent science is included.

Ask the relevant U.S. health, safety, and environmental agencies to systematically review the relevant science on wireless technologies in a transparent process.

Sincerely,

77 SOUTH HIGH STREET, COLUMBUS, OHIO 43215-6111 www.ohiohouse.gov

MIN

Mike Odioso State Representative 30th Ohio House District

ⁱⁱⁱ Levitt BB, Lai HC, Manville AM. (2021) Effects of non-ionizing electromagnetic fields on flora and fauna, Part 3. Exposure standards, public policy, laws, and future directions. Rev Environ Health. Sep 27. Choi Yoon-Jung et al., (2020) Cellular Phone Use and Risk of Tumors: Systematic Review and Meta-Analysis. International Journal of Environmental Research and Public Health. 17(21), 8079 Schuermann, David, and Meike Mevissen (2021) "Manmade Electromagnetic Fields and Oxidative Stress—Biological Effects and Consequences for Health" International Journal of Molecular Sciences 22, no. 7: 3772. and Halgamuge MN, Skafidas E, Davis D. (2020) <u>A meta-analysis of in vitro exposures to</u> weak radiofrequency radiation exposure from mobile phones (1990–2015). Environmental Research, Volume 184 and Uche, U.I., Naidenko, O.V. (2021) "Development of healthbased exposure limits for radiofrequency radiation from wireless devices using a benchmark dose approach." Environmental Health 20, 84 (2021) Davis, D., Birnbaum, L., Ben-Ishai, P., Taylor, H., Sears, M., Butler, T., & Scarato, T. (2023). Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks. Current Problems in Pediatric and Adolescent Health Care, 53(2), 101374.



¹ United States Court of Appeals for the District of Columbia Circuit. (2021). Environmental Health Trust, et al., Petitioners v. Federal Communications Commission and United States of America, Respondents, No. 20-1025, Consolidated with 20-1138, Argued January 25, 2021, Decided August 13, 2021.

^{II} Federal Communications Commission. (2019). <u>FCC 19-126: In the Matter of Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields: Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies: Targeted Changes to the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields: Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies: Targeted Changes to the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields (ET Docket No. 03-137, ET Docket No. 13-84, ET Docket No. 19-226). Washington, D.C.</u>