Before the
Federal Communications Commission
Washington DC 20554

In the Matter of: Satellite Spectrum	)))))	SB Docket No. 25-180; GN Docket No. 22-352; WT Docket No. 23-158; GN Docket No. 14-177

REPLY COMMENTS OF WIRED BROADBAND, INC.

ON BEHALF OF AMERICANS INJURED AND DISABLED

FROM ELECTROMAGNETIC RADIATION

(ELECTROMAGNETIC RADIATION SYNDROME – EMR-S)

August 26, 2025

Submitted by:
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FILING PARTIES

The parties listed below collectively constitute the "Filing Parties," have granted permission to submit these Comments on their behalf, and join together to submit these Comments.

- **The National Call for Safe Technology, Odette J. Wilkens, Chair & General Counsel, N.Y.**
- **Stand for Health Freedom, Naples FL**

U.S. States	Filing Parties
AR - Arkansas	PACTS International, Ken Stroud, Advisory Board Member/Technical Director, with Havana Syndrome, Little Rock, AR
AZ - Arizona	Arizonans for Safe Technology
	EMF Wellness Tucson, Lisa Smith, PhD, Tucson, AZ
	Safe Tech Tucson, Tucson, AZ
	Floris R. Freshman, published artist and composer, with EMR-S, Scottsdale, AZ Susan Molloy, M.A., Snowflake, AZ Warren Woodard, Sedona, AZ
CA - California	EMF Safety Network, Sidnee Cox, Co-director, Windsor, CA
	Fiber First LA, Charlene Hopey, Topanga, CA
	Malibu for Safe Tech, Lonnie Gordon, Executive Director, Malibu, CA
	Napa Neighborhood for Safe Technology, Amy Martenson, Napa, CA
	Safe Tech International, Sara Aminoff, Union City, CA
	Sustainability Management Consulting, Angela Casler, Chico, CA
	5G Free California, Julie Levine, Topanga, CA, with EMR-S
	Eagle Forum of California, Orlean Koehle, CEO, Santa Rosa, CA
	Brenda Shafer, CA with EMR-S Gene Wagenbreth, Topanga, CA Margaret Holt Baird, Esq, San Diego, CA with EMR-S Raymond Michael LeVesque, RayGuardProtect.com, National Health Federation Board Member, Clear Lake Riviera, CA Nyla Blair, Santa Rosa. CA Lauren Ayers, Capay Valley, CA
CO - Colorado	Coloradans for Safe Technology, Andrea Mercier (mother of a severely disabled child who is adversely impacted various forms of non-ionizing radiation), Colorado Springs, CO
	Coloradans for Safe Technology, Nancy VanDover, DVM, OMD, Dipl Acup, disabled by EMR
	La Plata for Safe Technology, Ingrid Iverson, with EMR-S, CO
	Longmont for Safe Technology, Doe Kelly, Co-Founder, with EMR-S, Longmont, CO
	Deborah Shisler, with EMR-S, CO Virginia Farver, Fort Collins, CO
FL - Florida	Kay Fitt, Palm Harbor, FL; Susan Lee, Miami, FL Luanne Moore, P.E., Boynton Beach, FL Shirley Denton Jackson, with EMR-S, unexpected early retirement from School District of Palm Beach County, FL - Research Project Manager and Safe Schools Coordinator - due to EMR-S, North Palm Beach, Florida
IL - Illinois	Safer Cell Phone and Wi-Fi Project, Marne Glaser, Chicago, IL
LA - Louisiana	Southern EMF Radiation Solutions, Shari Champagne, with EMR-S, Houme, LA

MA - Massachusetts	Massachusetts for Safe Technology, Cecelia Doucette, Director, Ashland, MA
	Safe Tech International, Patricia Burke, journalist, with EMR-S, Millis, MA
	Sustainable Upton, Laurie Wodin, Co-Administrator, with EMR-S, Upton, MA
	Last Tree Laws (.com), Kirstin Beatty, with EMR-S, Director, Holyoke, MA
	Alison McDonough, with EMR-S, Canton, MA Janet FitzGerald, M.S., CCC-SLP Rowley, MA, member of Massachusetts for Safe Technology Anna Nelson, with EMR-S, Pittsfield, MA
MD - Maryland	Safe Tech International, Kate Kheel, Taneytown, MD
	Katherine Katzin, Takoma Park, MD
ME - Maine	Global Union Against Radiation Deployment from Space, Bowdoinham, ME
	Maine Coalition to Stop Smart Meters, Richmond, ME
	Friends of Merrymeeting Bay, Richmond, ME
	Janet Drew, retired Registered Nurse, York, ME Jen Goddard, Board Certified Doctor of Natural Health, Thriving Proof Holistic Health Practice, and 2025 United States of America Mrs. Maine Pageant, Brewer, ME
MN - Minnesota	Safe Tech Minnesota, Leo Cashman, Petra Brokken, St. Paul, MN
MO - Missouri	Loraine Uebele, FACHE, Kansas City, MO; Marty Freyer, Mexico, MO
NC - North Carolina	Sharon Behn, Arden, NC Susan Marlan, Asheville, NC
NE - Nebraska	Tammy Lee, with EMR-S, Lincoln, NE
NJ - New Jersey	Lisa Allen, Plainfield, NJ
NM - New Mexico	Lori Bagley, concerned individual with EMR-S, Albuquerque, NM
NY - New York	New Yorkers 4 Wired Tech, New York, NY
	New York City Alliance for Safe Technology, New York, NY
	Safe Tech Westchester, Ruth F. Moss, Westchester, NY
	Amy Harlib, Concerned Citizen, New York, NY Fred P. Sinclair, Jr., Alfred, NY Kate Reese Hurd, with EMR-S, Philmont, NY Gabriela Munoz, with EMR-S, Carmel, NY
OH - Ohio	Craig McDowell, veteran, Rocky River, OH Erin McDowell, Registered Nurse, with EMR-S Rocky River, OH, SWORT (Southwestern Ohio for Responsible Technology) Jennifer Manzler, Certified Health & Wellness Coach, Cincinnati, OH, SWORT Sean Polacik, Automation Control Systems Technician, OH Cristina Shonk, Cincinnati, OH
OR - Oregon	The Soft Lights Foundation, Mark Baker, President, Beaverton, OR

	Oregon for Safer Tech, Portland, OR
PA - Pennsylvania	Pennsylvanians for Safe Technology, Donna DeSanto Ott PT DPT MS FMCHC, Founder & President, PA
	Southwest Pennsylvania for Safe Technology, Mount Pleasant, PA, Susan Jennings, MPA, BA, Founder (son has EMR-S)
	Jan Kiefer, Scottdale, PA
RI - Rhode Island	Rhode Island 4 Safe Tech, Sheila Resseger, M.A., Co-Founder, Cranston, RI
TN - Tennessee	Janet Taché, Hohenwald, TN
UT - Utah	Rosemarie Russell, member of The Women's State Legislative Council of Utah, Hurricane, UT
VA - Virginia	Virginians for Safe Technology, Jenny DeMarco, Communications Director, and Mary Bauer, retired radio frequency engineer, Fredericksburg, VA
	Charles Frohman, M.Ed, HIA, lobbyist, National Health Federation, Williamsburg, VA Linda M. Cifelli, retired Registered Nurse, Williamsburg, VA Grace Hilbert, with EMR-S, Annandale, VA
VT - Vermont	Martine Victor, VT
WI - Wisconsin	Katrine Colton, with EMR-S, Sheboygan, WI

European Union	**Filing Parties**
Sweden	Eva Christina Andersson, E.U., Sweden

1) Executive Summary

Wired Broadband, Inc., on behalf of Americans injured or disabled by electromagnetic radiation, those who wish to avoid injury from electromagnetic radiation, and the Filing Parties set forth herein, respectfully submit these comments in strong opposition to any additional spectrum being made available for satellites, except as set forth in the following paragraph. Wired Broadband, Inc. is a not-for-profit corporation. The Filing Parties and our partner groups have a reach of at least 1,350,000 Americans across the country. We advocate for the safe deployment of communications infrastructure.

To summarize our position from our initial comments in the above-referenced dockets, we strongly oppose any additional spectrum being made available for satellite communications, especially within the high GHz ranges being proposed by the FCC,[1] until the FCC has determined and can assure, in compliance with the 2021 court remand order,[2] safe levels of radiofrequency exposure for humans, plants, animals, and microbes, and has updated its exposure limits and concomitant regulations to protect the public.

The amount of environmental pollution that the proposed rule will introduce is exponential. This will increasingly expose Americans to RF radiation on a constant, 24/7, basis from which there would be no escape. further satellite launches will exponentially increase the amount of environmental pollution: satellite debris with more satellite launches being facilitated, potential collisions with other satellites and space debris, short life-span of satellites of 5 years which then must fall back to and disintegrate over the earth, with thousands of satellites expiring every year.[3] The FCC should be focusing on wireline deployment with a once in a lifetime investment of $42.5 billion from the Infrastructure Investment and Jobs Act, without diverting it to satellite operating expenses.

2) Protecting Public Safety by Keeping Passive Bands Safe from Interference

We agree with the following for the need to keep passive bands safe from interference as they relate to important explorations into the universe and to public safety issues such as weather forecasting and severe storms: American Astronomical Association (AAA), National Radio Astronomy Observatory (NRAO), the Green Bank Observatory (GBO), The National Academy of Sciences' Committee on Radio Frequencies (CORF), American Geophysical Union (AGU),

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[1] https://www.federalregister.gov/documents/2025/06/27/2025-11966/satellite-spectrum-abundance; NPRM at https://docs.fcc.gov/public/attachments/FCC-25-29A1.pdf.
[2] *Environmental Health Trust, et al v. FCC*, 2021 D.C. Circuit Court of Appeals.
[3] For more information on toxic dust, including alumina, spread over the atmosphere, see Viasat, et al., v. FCC (DC Circuit, No 21-1123), brief filed August 6, 2021. https://www.thebalancegroup.net/uploads/7/0/4/2/7042138/viasat.bg_--_opening_brief.pdf

American Meteorological Society (AMS), National Weather Association (NWA), and University Corporation for Atmospheric Research (UCAR). In fact, this is likely the only group of filers that even broached the issue of public safety, costs of introducing interference in the subject and adjacent bands, and the benefits of keeping the passive bands safe from interference; e.g.,

> "The membership of AGU, AMS, NWA and UCAR include the world's leading Earth scientists and meteorologists, oceanographers and hydrologists, including operational forecasters, **emergency managers and broadcasters who work to keep U.S. communities safe**. These skilled professionals depend heavily on technology that is reliant on specific passive observations only available in the [52 GHz band and "W-band" frequencies of 92.0-94.0 GHz, 94.1-100 GHz, 102.0-109.5 GHz, and 111.8-114.25 GHz] for their forecasts and models to better understand the Earth's atmosphere, oceans and land **to predict natural hazards that impact lives, property and economies in the U.S. and across the world**."[4]

AGU, AMS, NWA and UCAR discuss how radio spectrum has many applications well beyond telecommunications, which "serve important functions in support of the economy, national security and **public safety**."[5] (Emphasis added) They also point out that "American lives and livelihoods depend upon reliable access to forecasts derived from appropriately calibrated Earth observations, which require access to spectrum **without harmful interference**."[6] (Emphasis added)

They stress the importance of passive microwave observations using environmental satellites which they describe as:

> "not communications signals and are **orders of magnitude weaker than typical communications links**. Passive instruments **do not emit or transmit** in passive bands, nor are they conventional radio receivers. These instruments measure power, but **do not detect and demodulate information content**. Further, the properties of the atmosphere are defined by the laws of physics and chemistry and **cannot be changed to optimize spectrum allocation**. These measurements are **especially vulnerable to harmful interference** as even faint out-of-band emissions can, in aggregate, contaminate the thermal noise floor of the target channel."[7] (Emphasis added)

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[4] https://www.fcc.gov/ecfs/document/10728088696934/1.
[5] Ibid.
[6] Ibid.
[7] Ibid.

There is also the threat of harmful interference and contamination of passive measurements from bands near 52 GHz and W-band including adjacent to 92GHz and 114Ghz. To generate accurate weather forecasting, a range of different passive systems are used in space and on the ground. Radiometric sensors on environmental satellites:

> "measure the weak thermal emissions of the atmosphere – essentially the vibration of water molecules and oxygen due to temperature . . . By measuring these incredibly quiet emissions, we can obtain a 3-D map of temperature and humidity worldwide, as well as surface characteristics such as ocean-surface windspeed. These crucial variables are the backbone of supercomputer models that allow forecasters to predict weather."[8]

These passive observations also benefit aviation, stadium event management, maritime shipping, universities who conduct applied research, the weather industry, and the insurance industry "to develop and populate their own models, which contribute to **public safety and disaster response**."[9] (Emphasis added)

The effect that these passive bands have on the economy in terms of weather forecasting is quantifiable and significant.

> "A study estimated weather had 3.4% annual effect on the nation's economy.[10] If that 3.4% is applied to the U.S. Bureau of Economic Analysis (BEA) 2024 GDP of 29.19 trillion, and nominal GDP estimates for 2025 will likely be about $30 trillion,[11] then weather currently has an annual direct effect of approximately $1 trillion on the nation's economy, while indirect impacts on weather-impacted industries are far greater. That number has only increased as the incidence of weather disasters has increased over the past two decades and is expected to continue to do so in the coming years."[12]

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[8] Ibid.
[9] Ibid.
[10] Lazo et al. U.S. economic sensitivity to weather variability. Bull. Amer. Meteor. Soc., 92, 709-720. DOI: https://doi.org/10.1175/2011BAMS2928.1.
[11] BEA News Release Gross Domestic Product, 1st Quarter 2025 (Third Estimate), GDP by Industry, and Corporate Profits (Revised), https://www.bea.gov/news/2025/gross-domestic-product-1st-quarter-2025-third-estimategdp-industry-and-corporate-profits.
[12] https://www.fcc.gov/ecfs/document/10728088696934/1.

CORF notes that:

> "NOAA has estimated that about one-third of the U.S. economy – hundreds of billions of dollars annually – is sensitive to weather and climate.[13] A NOAA report estimated that weather forecasts alone generated **$35 billion in annual economic benefits** to U.S. households in 2016."[14] (Emphasis added)

CORF underscores the importance of not contaminating the passive bands whose signals are fragile and that should be away from terrestrial transmitters:

> "the emissions that radio astronomers receive are extremely weak: a radio telescope receives less than 1 percent of one- billionth of one-billionth of a watt from a typical cosmic object. Because radio astronomy receivers are designed to pick up such remarkably weak signals, radio observatories are particularly vulnerable to interference from in-band emissions, spurious and out-of- band emissions ("OOBE") from licensed and unlicensed users of neighboring bands, and emissions that produce harmonic signals in the RAS [Radio Astronomy Service] bands, even if those human- made emissions are weak and distant."[15]

CORF discusses how agriculture also benefits from these passive bands:

> "in rural areas where farming is the dominant source of income, accurate weather forecasting and climate prediction have been shown to have direct impact on investments and profits from agricultural products."[16]

The critical importance of interference-free bands has also been underscored by the National Telecommunications and Information Administration (NTIA), as CORF points out:

> "[d]ue to the extreme sensitivity required to sense physical phenomena such as water vapor—in different heights of the atmosphere—and sea salinity, passive sensing bands are **extremely vulnerable to interference**

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[13] See NOAA Weather homepage, https://www.noaa.gov/weather (last viewed July 3, 2025).
[14] See "NOAA by the Numbers," June 2018, at page 8, available at https://www.noaa.gov/sites/default/files/legacy/document/2019/Nov/NOAA-by-the-Numbers-Accessible- Version-Corrected-17-JUL-18%20%281%29.pdf (last viewed July 3, 2025).
[15] https://www.fcc.gov/ecfs/document/1072852368008/1 at 3-4.
[16] From https://www.fcc.gov/ecfs/document/1072852368008/1: See, "Forecasting Profitability," National Bureau of Economic Research, available at https://www.nber.org/papers/w19334 (last viewed July 3, 2025).

coming from transmitters operating in adjacent bands with unwanted emissions extending into the passive band."[17] (Emphasis added)

Many federal users (NOAA, NSF, NASA, DOD, the National Weather Service, the Federal Emergency Management Agency, etc.) use the passive bands which impact "hundreds of billions of dollars in the U.S. economy, as well as **safety of life** . . . "[18]

Therefore, introducing interference into the subject passive bands and adjacent bands will have an adverse direct impact on public safety and human life, as well as the economy. We support the foregoing comments on harmful interference and urge the FCC to weigh the public interest in this and all of its actions. All too often, the FCC considers only the benefits to a narrow group of industry beneficiaries, without considering the broader public interest. For example, FCC was remanded by the DC Circuit for doing just this when it ignored environmental effects of an earlier rulemaking.[19]

3) Spectrum is Held by the FCC in the Public Trust

We strongly disagree with the CTIA, IEEE, and the mmWave Coaltion as they provide no cost/benefit analysis in their comments on the adverse biological effects on human life from radiation raining down from commercial satellites. Their exuberance for satellite spectrum should be tempered by such a cost/benefit calculus from readily observed existing scientific research in the FCC's dockets 03-137, 13-84, and 19-226, which were closed in 2019, subsequent scientific research and, from Addendum B ("Biological Hazards of RF Radiation") of our initial comments from July 28, 2025, incorporated herein by reference.

These commenters' reasoning appears to be that, just because there is spectrum that is not being used for commercial purposes, satellite operators should be entitled to it. On the contrary, it does not mean that such spectrum should be available for commercial purposes

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[17] From https://www.fcc.gov/ecfs/document/1072852368008/1: See, "The Spectrum Needs of U.S. Space-Based Operations: An Inventory of Current and Projected Uses," National Telecommunications and Information Administration, Office of Spectrum Management, July 2021 ("NTIA Report"), at page 15; also see NTIA Report for a more detailed summary of how passive Earth remote sensing/EESS works at 13-18, available at https://www.ntia.doc.gov/report/2021/spectrum-needs-us-space- based-operations-inventory-current-and-projected-uses.

[18] From https://www.fcc.gov/ecfs/document/1072852368008/1 at 5: See, e.g., NTIA Report at page 21 ("Should a disaster occur, EESS has a crucial role in disaster management. EESS data shows heat levels, as well as sea and lake ice levels, to help identify the areas affected, plan relief operations, and monitor the recovery from a disaster.") (citations omitted).

[19] See *Keetoowah, et al., v. FCC* (2019, DC Circuit, No 18-1129). https://media.cadc.uscourts.gov/opinions/docs/2019/08/18-1129-1801375.pdf

or that industry is entitled to it. It is not. These interests are held by the FCC in the public trust. There must be a cost/benefit analysis and based on the filings in the dockets cited above, it is clear that commercial spectrum will interject harmful interference in the passive bands and bands adjacent to them, which will adversely impact billions of lives.

Particularly concerning, even shocking, were the comments of mmWave Coalition that bemoaned "building entry loss" of satellite signals, most prominent from 3 Ghz to 100 Ghz, seeking to penetrate exterior walls, rooftops and multistory buildings.[20] That means that people within those buildings, including their families, children and babies, would be irradiated, without their consent, without protection, and without any determination of safety of this radiation. Again, we make reference to Addendum B ("Biological Hazards of RF Radiation") of our initial comments which clearly demonstrates the substantial scientific evidence of adverse biological effects known by industry, federal agencies (EPA, NTP- project of NIH, CIA, Navy, etc), scientific studies independent of industry, and the chronic disease clusters that have already cropped up around terrestrial cell towers.

4) Increased Satellite Spectrum Would Lead to More Satellite Launches and Pollution

Making new satellite spectrum available for commercial uses would increase exponentially the number of Low Earth Orbit (LEO) satellites, with multi-satellite constellations such as those operated by SpaceX or Amazon's Project Kuiper.[21] Americans have already reported intense noise pollution from sonic booms that rattle their homes,[22] "experiencing violent impacts of sonic booms."[23]

The California Coastal Commission reports that:

> "Sonic booms generated by proposed SpaceX rocket launches subject an extensive area of central and southern California's mainland coast and offshore islands to blast waves and elevated sound levels. Marine mammals and other coastal wildlife species outside of [the Vandenberg Space Force

[20] **https://www.fcc.gov/ecfs/document/10725344428181/1.**
[21] See, Spectrum Policy and the Future of Satellites – Aspen Institute, 2018.
[22] See, e.g., comments of Tevin Schmitt and Natalia Cuellar, scientists with the Wishtoyo Chumash Foundation, June 10, 2025: Public hearing on DAF EIS for potential Vandenberg launch increase, at about 00:53:00 and 00:57:27, https://www.youtube.com/watch?v=lGXQ0sFlviE.
[23] *"Sonic Booms Every three or Four Days?"* https://www.independent.com/2025/01/09/sonic-booms-every-three-or-four-days/.

> Base] experience these sound and pressure effects, and respond with startle responses and other behavioral changes."[24]

Communities that are near launch sites are heavily impacted and there were no observable comments from satellite operators or related organizations on Environmental Impact Statements (EIS) to protect those communities. EIS's become especially important in determining the impact to these communities. In addition to the adverse impacts of sonic booms, a single launch can use 1.5 million gallons of water.[25] The EPA averages that a family of four uses up to 400 gallons a day which means that the water from a single launch could last a family of four for a decade.[26] This depletes groundwater resources for communities.[27]

5) FCC's Statutory Responsibility to Protect the Human Environment

The FCC has a regulatory obligation to protect the human environment, but has made no mention of how satellite deployment of increased spectrum will affect human exposure. This neglects the FCC's statutory obligation to protect the human environment,[28] and unless corrected, will continue to cause irreparable harm to Americans and their children (see, e.g., the chronic disease cluster section in Addendum B ("Biological Hazards of RF Radiation") of our prior submission. While the satellite operators stand to benefit economically, the FCC should require that they also conduct a cost/benefit analysis with scientific studies on the biological effects of what they propose, on human life.

Although the FCC has gone on record in its 2013 Notice of Inquiry that it is "not a health and safety agency" and that it defers to other federal agencies on what are safe levels,[29] the FCC cannot absolve itself of its statutory obligation to, nonetheless, "protect life and property."[30] That point was underscored by the D.C. Circuit Court of Appeals in 2021 when it overruled and admonished the FCC for its reliance on a conclusory letter from the Food and Drug

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[24] Ibid.
[25] See, e.g., comments of Tevin Schmitt and Natalia Cuellar, scientists with the Wishtoyo Chumash Foundation, June 10, 2025: Public hearing on DAF EIS for potential Vandenberg launch increase, at about 00:53:00 and 00:57:27, https://www.youtube.com/watch?v=lGXQ0sFlviE.
[26] Ibid.
[27] Ibid.
[28] Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 USC §151 et seq.
[29] Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies, Notice of Inquiry, ET Docket 13-84, ¶¶ 5-9, 205-252 (2013) https://docs.fcc.gov/public/attachments/FCC-13-39A1.pdf.
[30] Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 USC §151 *et seq*.

Administration, which dismissed a finding of "clear evidence" of cancer by the FDA's own National Toxicology Programstudy. N.[31]

The court hammered home the FCC's statutory responsibility to protect human life when it remanded the case back to the FCC to examine in the FCC's docket the 11,000 pages of scientific, peer-reviewed studies showing adverse biological effects from RF radiation, and to examine long-term exposure effects to the public especially to children, and the environment.[32] The court stated that the FCC did not take a "reasoned" approach as required under the Administrative Procedures Act, to conduct a review of the records in its docket showing biological effects.

It should be noted that the FCC and filers in these dockets in support of increasing satellite spectrum have, no doubt, reviewed our filings in these dockets and continue to ignore mounting evidence. We cite in great detail the adverse biological effects that are well known by industry, the scientific community, the federal government, and especially the FCC as it is subject to the court remand order since 2021.

6) Chairman Brendan Carr Statement

Chairman Carr evangelizes on "satellite spectrum abundance" on the unproven premises of economic growth, national security and affordable broadband options.[33] While satellite operators may profit from this strategy, there have been no statistics provided either by the FCC or the operators to show how the economy would benefit. Fifth generation wireless is known to have security puncture points,[34] and yet is being deployed without resolution to potential security breaches which poses a risk to national security.

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[31] *Environmental Health Trust, et al v FCC*, D.C. Court of Appeals, 2021.

[32] https://media.cadc.uscourts.gov/opinions/docs/2021/08/20-1025-1910111.pdf

[33] Statement of FCC Chairman Brendan Carr: "When our satellite systems have abundant spectrum, America leads. Our economy grows. Our national security strengthens. And millions of Americans gain affordable broadband options." https://docs.fcc.gov/public/attachments/FCC-25-29A2.pdf.

[34] Cybersecurity risks are far greater with wireless networks, 5G being the least secure, as former FCC Chairman Tom Wheeler refers to "The 5G Cyber Paradox." 5G as a software-based system is easily hacked. https://www.cyber.forum.yale.edu/blog/2021/7/20/cybersecurity-risk-in-5g?iframe=1. Tom Wheeler noted that the structure of 5G networks to provide for additional capability "also introduce[s] new security vulnerabilities." https://www.brookings.edu/articles/the-digital-future-requires-making-5g-secure/.

Wireless broadband options have become less affordable for Americans. When the Affordable Connectivity Program (ACP) ended, 90% of wireline subscribers retained their service, whereas wireless services lost 80% of their subscribers and satellite services also had losses.[35] Broadband is not affordable in the U.S. For example, broadband "triple play" services in 2019 offering phone, TV and Internet cost $217/month on average in the United States compared to the more affordable average monthly cost of $25 to $47 in Europe.[36] Enabling additional satellite launches and rewarding the industry with more spectrum will foist additional, inferior wireless service on more Americans, who continue to become sicker and sicker amidst our chronic disease epidemic..

Chairman Carr's "Every megahertz matters" is placing the cart before the horse, reversing the FCC's statutory priority to "protect life and property." We respectfully correct the Chairman, and the statement should read:

"Every American life matters."

The FCC's statutory mandate is to "protect life and property" "**through** the use of wire and radio communication."[37] (Emphasis added). By law, Americans come first. There is no statutory reference or obligation that gives preference to industry over the public. The FCC's motto should be

"Americans First, Then Industry Follows."

That means that industry must compete on safety and be liable for every human injury caused by exposure to wireless radiation emanating from their equipment. That includes radiation beaming down from satellites.

7) Conclusion

For the foregoing reasons, the proposed FCC rule should be subject to a cost / benefit analysis in determining the cost of satellite spectrum to Americans in terms of adverse biological effects of RF radiation, and how losing passive bands would impact the economy, agriculture and human life.

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[35] https://broadbandbreakfast.com/acp-fallout-wireline-retains-most-wireless-and-satellite-face-major-losses/.

[36] Is America's 'Triple Play' Overcharged $170.00+ Per Month Compared to Europe? | by Bruce Kushnick | Medium, https://kushnickbruce.medium.com/is-americas-triple-play-overcharged-170-00-per-month-compared-to-europe-3a1d2c594d0d.

[37] Communications Act of 1934, Title 1, Sec. 1, Purpose.

The FCC should align itself within its statutory mandate to "protect life and property" as it holds spectrum for the public trust and prevent the irresponsible deployment of satellite communications that harm humansand the human environment.[38]

On behalf of Americans Injured and Disabled
from Electromagnetic Radiation and the Filing Parties

Respectfully Submitted,

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[38] Communications Act of 1934, Section 1, Purpose.