Wireless and EMF Program
Environmental Health Sciences

To: Hon. Brett Guthrie, Chair
House Committee on Energy & Commerce

Hon. Frank Pallone, Ranking Member
House Committee on Energy & Commerce

Hon. Richard Hudson, Chair
House Subcommittee on Communications & Technology

Hon. Doris Matsui, Ranking Member
House Subcommittee on Communications & Technology

Members of the House Committee on Energy and Commerce
U.S. House of Representatives
2113 Rayburn House Office Building
Washington, DC 20515

January 12, 2026

Re: House Oversight Hearing to the FCC January 14, 2026- Questions for the FCC on Cell Phone and Wireless Radiation Transparency, Safety, and Compliance

Dear Chairman Brett Guthrie and Ranking Member Frank Pallone Jr., Chairman Hudson, Ranking Member Matsui, and Members of the Committee:

Environmental Health Sciences is a science-based nonprofit organization, and its Wireless and EMF Program is dedicated to advancing evidence-based, practical solutions to ensure that modern wireless technologies are deployed in ways that protect public health and the environment. Director of the EHS Wireless and EMF Program, Theodora Scarato just published a landmark policy review on the US regulation of wireless technologies entitled U.S. policy on wireless technologies and public health protection: Regulatory gaps and proposed reforms in the journal *Frontiers in Public Health as well as co-authored a review with U.S. experts on wildlife impacts entitled* Flora and fauna—How nonhuman species interact with natural and man-made EMF at ecosystem levels and public policy recommendations.[1,2] Both articles are attached to this letter and include robust policy recommendations to address current regulatory deficiencies.

[1] Scarato, T. (2025). U.S. policy on wireless technologies and public health protection: Regulatory gaps and proposed reforms. Frontiers in Public Health, 13, Article 1677583. https://doi.org/10.3389/fpubh.2025.1677583
[2] Levitt BB, Lai HC., Manville AM II, & ScaratoT. Flora and fauna—How nonhuman species interact with natural and man-made EMF at ecosystem levels and public policy recommendations. Frontiers in Public Health, 13. doi:10.3389/fpubh.2025.1693873

We respectfully urge the Committee to use its upcoming oversight hearing to question the Federal Communications Commission (FCC) on its lack of transparency, oversight, and enforcement regarding cell phone and wireless radiation safety. Substantial evidence from our Freedom of Information requests shows that the FCC has withheld critical safety information from the public, the courts, and policymakers, despite growing scientific evidence of harm and clear statutory obligations to protect public health.

This submission is intended to support the Committee's oversight responsibilities by identifying significant gaps in regulatory compliance, transparency, and public health protection related to federal wireless radiation policy.

Below are key specific questions we ask the Committee to raise with the FCC. This document includes background information with scientific references and more detailed questions.

1. How can the FCC fast-track cell towers when it has not responded to the 2021 D.C. Circuit Court mandate requiring the agency to explain how its cell tower and cell phone radiofrequency radiation exposure limits are adequately protective in light of mounting scientific evidence of harm. Details
2. How can the FCC provide public assurances of safety while no federal health or environmental agency is actively conducting comprehensive oversight of cell tower radiofrequency radiation exposures and when there is no premarket safety testing of wireless technologies nor post-market health surveillance? Details
3. Why did the FCC withhold its own laboratory test results, finding cell phone radiation exposure levels exceeding FCC radiation limits when phones were tested in body positions in positions of close contact (phone in a pocket), from the public? Details
4. Why did the FCC omit its cell phone radiation test results finding RF radiation that exceeded FCC limits from its court filings. Details
5. Why did the FCC omit its cell phone radiation test results, finding RF radiation that exceeded FCC limits, from its open rulemaking on RF radiation limits and rules? Details
6. Why is the FCC withholding its Apple iPhone 12 RF radiation measurement data? Details
7. How can the FCC fast-track cell towers, yet it lacks a national cell tower and wireless radiation measurement and monitoring program? Details
8. How can the FCC fast-track cell towers, yet it lacks adequate oversight, compliance, and enforcement mechanisms for cell towers and wireless facilities? Details
9. How can the FCC fast-track cell towers and wireless technologies, yet it lacks a robust oversight and enforcement program to protect workers from occupational radiofrequency radiation exposures? Details
10. Why is the FCC narrowing National Environmental Policy Act protections despite the fact that its rules omit protections for birds, bees, and trees, and that substantial science indicates ecological risks? Details
11. How can the FCC preempt health and environmental issues via Section 704 of the Telecommunications Act, despite continued reliance on outdated, and obsolete FCC exposure limits? Details
12. What is the FCC doing to compete on safety and promote already available wireless radiation exposure-reducing technologies? Details

The American public cannot make informed decisions about wireless technology when safety data are hidden, complaints are ignored, and oversight is virtually nonexistent. Transparency and accountability are not optional; they are fundamental to democracy.

We urge the Committee to press the FCC for clear answers and a concrete plan to bring U.S. wireless radiation regulatory policy in line with science and modern technologies.

Respectfully submitted,

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Additional FCC documents produced under the Freedom of Information Act are available upon request.

Background Facts and Additional Questions

1. The FCC Has Not Responded to the 2021 DC Circuit Court Mandate to Explain How its Cell Tower and Cell Phone Radiation Limits Are Adequately Protective Amidst Mounting Scientific Evidence of Harm

As a federal regulatory agency, the FCC is required to engage in reasoned decision-making and to ensure that its regulations adequately protect public health and the environment; however, the FCC has failed to respond to the D.C. Circuit's order in *EHT et al. v. FCC*[3] directing the agency to explain how its unchanged 1996 wireless RF radiation exposure limits protect children, address long-term and non-cancer health effects, and account for environmental impacts, despite record evidence concerning reproductive, endocrine, neurological, cardiovascular, developmental, and ecological harms. The court found the FCC did not show proper review of scientific evidence on its record, including impacts to memory, brain development, the studies indicating children's unique vulnerability, and research reporting impacts to the environment- birds, bees, and trees.

A central argument by petitioners is that FCC's wireless RF radiation exposure limits, adopted in 1996 and left unchanged for decades, are outdated and antiquated standards that were developed solely to prevent acute, short-term thermal effects, without consideration of long-term or cumulative exposures, contemporary wireless technologies, or the now-ubiquitous use of body-worn devices by children, whose patterns of exposure and biological vulnerability were neither anticipated nor evaluated at the time the limits were established.

The court noted that the FCC failed to respond to letters from the American Academy of Pediatrics urging an update to RF radiation limits to account for children's unique vulnerability, including their greater

[3] Environmental Health Trust v. Federal Communications Commission, 9 F.4th 893 (D.C. Cir. 2021). https://media.cadc.uscourts.gov/opinions/docs/2021/08/20-1025-1910111.pdf See also https://ehsciences.org/lawsuit-wireless-radiation-safety/

cumulative exposure into the brain[4], heightened biological sensitivity, and the modern pattern of cell phone and wireless device use in close proximity to the body.[5]

Children were not using cell phones in 1996, nor Wi-Fi and smart speakers. Recent studies have found that the placement of cell towers near schools increases children's baseline RF exposure[6], and that exposure is further elevated in classrooms densely populated with Wi-Fi devices, where multiple simultaneous emissions compound cumulative exposure levels.[7]

To date, the FCC has failed to provide any explanation as required by the court in 2021. In the meantime, a large and growing body of peer-reviewed science links cell phone and cell tower radiation to adverse health effects. [8][9][10][11][12] We have ensured this scientific evidence is submitted to the FCC[13] but have had no response from the FCC.

1. How can the FCC continue to promote and accelerate wireless densification, including 5G and 6G deployment, while it has failed to respond to the federal court's order in *EHT et al. v. FCC* requiring the agency to explain how its RF exposure limits protect public health, particularly children and against long-term exposure?
2. Why does the FCC continue to rely on and refuse to update its 1996 RF exposure limits, which are based largely on a small number of short-term animal studies involving less than one hour of exposure, despite decades of new scientific evidence on chronic, cumulative, and non-thermal effects of wireless radiation exposure?
3. How does the FCC justify relying on 1996 limits that were only designed to protect against short term health effects?
4. How can the FCC assert that its 1996 radiofrequency exposure limits adequately protect children's health when those limits were established before children routinely used wireless devices, do not account for children's higher relative absorption and lifelong cumulative

[4] Fernández, C., de Salles, A. A., Sears, M. E., Morris, R. D., & Davis, D. L. (2018). Absorption of wireless radiation in the child versus adult brain and eye from cell phone conversation or virtual reality. *Environmental Research*, *167*, 694–699.
[5] American Academy of Pediatrics Letters to the FCC, FDA and Members of Congress https://ehsciences.org/wp-content/uploads/2025/08/American-Academy-of-Pediatrics-Letters-to-FCC-and-Congress-on-cell-phone-radiation-health-effects-.pdf
[6] Lennart Hardell, Mona Nilsson. High Radiofrequency Radiation in the Surroundings of 10 Schools in Örebro. Fortune Journal of Health Sciences. 8 (2025): 306-310.
[7] Norton Escopelli Soares , Giovani Bulla , Claudio E. Fernández-Rodríguez , Alvaro A. A. de Salles. "SAR Estimations in a Classroom with Wireless Computers" Journal of Microwaves, Optoelectronics and Electromagnetic Applications, Vol. 24, No. 2, e2025288526 May 2025 DOI: http://dx.doi.org/10.1590/2179-10742025v24i3288526
[8] Hardell L, Nilsson M. Summary of seven Swedish case reports on the microwave syndrome associated with 5G radiofrequency radiation. *Reviews on Environmental Health*. 2025;40(1):147-157. doi:10.1515/reveh-2024-0017
[9] International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF), Belyaev I, Blackman C, et al. Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G. *Environ Health*. 2022;21(1). doi:10.1186/s12940-022-00900-9
[10] McCredden JE, Cook N, Weller S, Leach V. Wireless technology is an environmental stressor requiring new understanding and approaches in health care. *Front Public Health*. 2022;10. doi:10.3389/fpubh.2022.986315
[11] Lai H, Levitt BB. The roles of intensity, exposure duration, and modulation on the biological effects of radiofrequency radiation and exposure guidelines. *Electromagnetic Biology and Medicine*. 2022;41(2):230-255. doi:10.1080/15368378.2022.2065683
[12] Balmori A. Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer. *Environmental Research*. 2022;214:113851. doi:10.1016/j.envres.2022.113851
[13] Regulatory Filings & Correspondence by Environmental Health Sciences https://ehsciences.org/regulatory-filings-correspondence-by-environmental-health-sciences/; Se ealso over 100 submissions by Theodora Scarato to the FCC at https://www.fcc.gov/ecfs/search/search-filings/results?q=(filers.name:(%22Scarato%22))

exposure, and were based solely on preventing short-term heating effects rather than long-term or developmental harms?

2. The FCC Provides Misleading Assurances of Safety While Lacking Active Federal Health Oversight of Cell Tower Radiation

The wireless industry has repeatedly invoked FCC authority and its assurances of safety despite the reality that federal health and environmental agencies are not reviewing the totality of the scientific evidence to ensure public health and environmental protection.[14][15] There is no FCC required premarket safety testing of wireless technologies for health effects, nor post-market health surveillance. New technologies are given the green light so long as RF emissions meet 1996 limits, despite such technologies and frequencies not even being in existence at that time.

In a letter[16] opposing proposed wireless safety bills in Massachusetts, CTIA asserted that *"the FCC's oversight of these issues was confirmed in October 2018 by FCC Commissioner Carr,"* quoting his statement that *"the FCC, as well as other agencies that are experts in health and safety issues, are always looking very closely at these issues, staying up to date on the latest science… and have reached the determination that these are safe."* CTIA further claimed that *"the consensus among health experts is that the weight of scientific evidence shows no known adverse health effects to humans from exposure to wireless antennas or devices."* **Neither of these statements is accurate, yet the FCC has taken no action to correct or disavow these representations.**

In *EHT et al. v. FCC*, the D.C. Circuit highlighted how the record showed that federal health and safety agencies did not provide any substantive, independent evaluation of the FCC's radiofrequency exposure limits or affirm their adequacy, despite the FCC's repeated claims of interagency consensus.[17] The Environmental Protection Agency abandoned non-ionizing radiation research decades ago; OSHA and NIOSH have no active RF health research or surveillance programs; the National Cancer Institute does not conduct risk assessments or make safety determinations[18]; the CDC has repeatedly funded industry

[14] Levitt BB, Lai HC., Manville AM II, & ScaratoT. Flora and fauna—How nonhuman species interact with natural and man-made EMF at ecosystem levels and public policy recommendations. Frontiers in Public Health, 13. doi:10.3389/fpubh.2025.169387
[15] Scarato T. U.S. policy on wireless technologies and public health protection: regulatory gaps and proposed reforms. Front Public Health (2025) In press.
[16] https://api.ctia.org/wp-content/uploads/2019/06/ctia-letter-in-opposition-to-massachusetts-s1272-amp-s1275-5g-facilities.pdf
[17] Environmental Health Trust v. Federal Communications Commission, 9 F.4th 893 (D.C. Cir. 2021). https://media.cadc.uscourts.gov/opinions/docs/2021/08/20-1025-1910111.pdf See also https://ehsciences.org/lawsuit-wireless-radiation-safety/ The August 2021 DC Circuit Court ruling states on page 15 that, "The silence of other expert agencies, however, does not constitute a reasoned explanation for the Commission's decision to terminate its notice of inquiry for the same reason that the FDA's conclusory statements do not constitute a reasoned explanation: silence does not indicate why the expert agencies determined, in light of evidence suggesting to the contrary, that exposure to RF radiation at levels below the Commission's current limits does not cause negative health effects unrelated to cancer. Silence does not even indicate whether the expert agencies made any such determination, or whether they considered any of the evidence in the record."https://ehsciences.org/lawsuit-wireless-radiation-safety/#LFCD-What-Fed-Agencies-Submitted
[18] National Cancer Institute. Clarification on NCI reviews. https://ehsciences.org/wp81 content/uploads/2025/05/National-Cancer-Insitute-Cell-phone-safety-Theodora-Scarato-.pdf

consultants to draft its webpages[19]; and the FDA has only shown limited review to narrow questions about cell phones while disclaiming jurisdiction over cell tower emissions. Despite the rapid expansion of wireless infrastructure and near-universal exposure to wireless (RF) radiation, in practice, no federal agency is currently conducting comprehensive, ongoing oversight to evaluate real-world cell tower radiofrequency radiation exposures or associated long-term health risks.

The FCC itself has repeatedly acknowledged that it is not a health agency stating[20] that, "since the Commission is not a health and safety agency, we defer to other organizations and agencies with respect to interpreting the biological research necessary to determine what levels are safe." Yet there is no federal agency conducting such activities. The FCC also does not routinely measure or monitor emissions, nor have a robust oversight program post-deployment, leaving a regulatory vacuum in which no federal entity is meaningfully responsible for evaluating cumulative exposures, long-term health effects, or compliance for cell towers and wireless facilities in today's dense wireless environment.

Moreover, there is not a scientific consensus for safety as hundreds of scientists and medical doctors recommend public exposure be reduced due to mounting scientific evidence.[21,22,23,24,25]
Public health regulation requires a reasoned evaluation of credible evidence indicating risk, particularly where exposures are widespread, involuntary, and long-term. Yet instead, the FCC is moving forward with proposals to fast-track cell towers, which will increase RF radiation exposure.

Questions regarding the absence of cell tower and wireless radiation health risk activities to ensure public safety.

1. As the FCC is not a health or environmental agency, and there are no federal health or environmental agencies actively evaluating cell tower radiation health risks, which entity is currently responsible for protecting the public from chronic, cumulative cell tower RF radiation exposure from cell towers?
2. Given the regulatory vacuum, how can the FCC credibly assure the public that its policies protect public health and the environment?
3. Why hasn't the FCC corrected the record, the industry statements and media?

[19] Centers for Disease Control and Prevention (CDC). CDC Grant to NCRP Released to Scarato under FOIA.(2025). Available online at: https://ehsciences.org/wp-content/uploads/2025/05/CDC-Grant-to-NCRP-Released-to-Scarato-under-FOIA-.pdf
[20] Federal Communications Commission (FCC). First Report and Order, Further Notice of Proposed Rule Making, and Notice of Inquiry. FCC 13-39. (2013) https://docs.fcc.gov/public/attachments/FCC-13-39A1.pdf
[21] Héroux P. Building the gulf of opinions on the health and biological effects of electromagnetic radiation. Front Public Health. 2025 Jul 23;13:1589021. doi: 10.3389/fpubh.2025.1589021. PMID: 40771236; PMCID: PMC12325042.
[22] Kelley, E., Blank, M., Lai, H., Moskowitz, J., & Havas, M. (2015). International Appeal: Scientists call for protection from non-ionizing electromagnetic field exposure. *European Journal of Oncology*, *Volume 20*, 180–182.
[23] Environmental Health Sciences. Doctors and scientists on cell phone radiation health effects. EHSciences.org. 2025. Available at: https://ehsciences.org/doctors-and-scientists-on-cell-phone-radiation-health-effects/
[24] Environmental Health Sciences, Scientific Appeals on Wireless and EMF Health Effects (2025) https://ehsciences.org/scientific-appeals-on-wireless-and-emf-health-effects/
[25] Santa Clara County Medical Association. Recommendations for Best Practices for Safe Technology in Schools. Santa Clara County Medical Association. 2023. Available at: https://www.sccma.org/Portals/19/LiveBlog/3697/SCCMA%20Best%20Practices%20for%20Safe%20Technology%20in%20Schools%20Recommendations%20%2021423.pdf?ver=CwFQFTHs4ZuDmjDYrsLXzQ%3d%3d

3. Why Did the FCC Omit its Cell Phone Radiation Test Results Finding High Levels That Exceed FCC Limits From the Public?

These systemic oversight failures are compounded by the FCC's repeated withholding of safety-relevant data from the public, the courts, and policymakers.

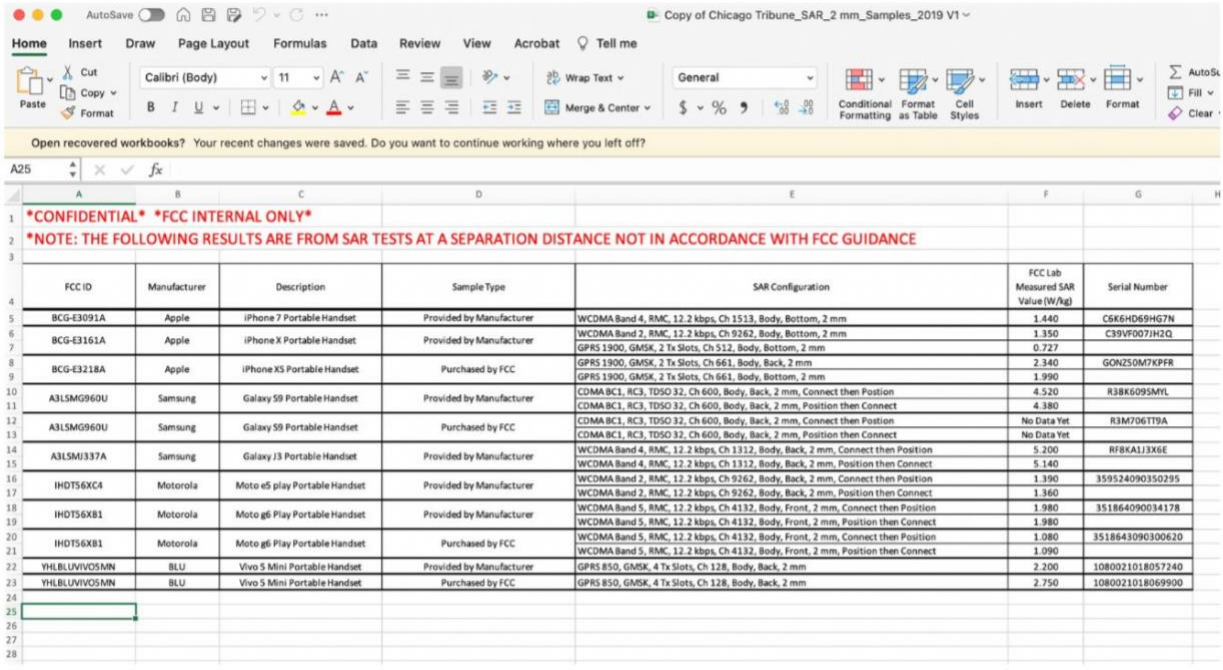
Background: Cell phones are tested for radiation compliance with the FCC's cell phone radiofrequency (RF) radiation exposure limit with SAR tests. SAR stands for the Specific Absorption Rate, and the SAR test places the cell phone in relation to a body phantom filled with a salt and sugar liquid. *Importantly*, FCC rules allow a separation distance (from 5 to 25 mm) *between the phone and body.* Cell phones are not required to be tested in body contact positions — like in a pocket or pressed to the abdomen — the way we use phones today. Manufacturers have long been able to choose the separation distance.

Research shows that cell phones radiation tested in body contact positions will exceed RF radiation limits, yet the FCC has so far refused to change its test requirement to ensure body contact (0 mm) tests for compliance.[26]

The Issue: After the Chicago Tribune's 2019 investigation[27] found that popular smartphones exceeded FCC wireless radiofrequency (RF) radiation limits when tested *closer to the body* (at 2 mm), the FCC conducted its own testing which found cell phone RF radiation levels exceeded the FCC limit when tested at 2 millimeter (mm) from the body, like a cell phone in the pocket—yet the FCC failed to disclose those results publicly or to the Tribune.[28]

The FCC cell phone test results found cell phone radiation SAR levels in the 2 mm tests as high as 5.2 W/kg -violating the FCC's limit of 1.6 W/kg *by over 3 times.* The FCC's letter states: "We observed that at a 2 mm separation distance, the FCC radiofrequency (RF) exposure limits were exceeded." The spreadsheet the FCC released stated "Confidential."

[26] Gandhi, O. P. (2019). Microwave Emissions From Cell Phones Exceed Safety Limits in Europe and the US When Touching the Body. *IEEE Access*, *7*, 47050–47052.
[27] We tested popular cellphones for radiofrequency radiation. Now the FCC is investigating. – Chicago Tribune https://www.chicagotribune.com/2019/08/21/we-tested-popular-cellphones-for-radiofrequency-radiation-now-the-fcc-is-investigating/
[28] FCC Cell Phone Radiation Tests Found High Radiation - Environmental Health Sciences https://ehsciences.org/fcc-cell-phone-radiation-tests-released-exposure-limits-were-exceeded/



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*NOTE: THE FOLLOWING RESULTS ARE FROM SAR TESTS AT A SEPARATION DISTANCE NOT IN ACCORDANCE WITH FCC GUIDANCE

FCC ID	Manufacturer	Description	Sample Type	SAR Configuration	FCC Lab Measured SAR Value (W/kg)	Serial Number
BCG-E3091A	Apple	iPhone 7 Portable Handset	Provided by Manufacturer	WCDMA Band 4, RMC, 12.2 kbps, Ch 1513, Body, Bottom, 2 mm	1.440	C6K6HD69HG7N
BCG-E3161A	Apple	iPhone X Portable Handset	Provided by Manufacturer	WCDMA Band 2, RMC, 12.2 kbps, Ch 9262, Body, Bottom, 2 mm	1.350	C39VF007JH2Q
				GPRS 1900, GMSK, 2 Tx Slots, Ch 512, Body, Bottom, 2 mm	0.727	
BCG-E3218A	Apple	iPhone XS Portable Handset	Purchased by FCC	GPRS 1900, GMSK, 2 Tx Slots, Ch 661, Body, Back, 2 mm	2.340	GONZ50M7KPFR
				GPRS 1900, GMSK, 2 Tx Slots, Ch 661, Body, Bottom, 2 mm	1.990	
A3LSMG960U	Samsung	Galaxy S9 Portable Handset	Provided by Manufacturer	CDMA BC1, RC3, TDSO 32, Ch 600, Body, Back, 2 mm, Connect then Postion	4.520	R38K6095MYL
				CDMA BC1, RC3, TDSO 32, Ch 600, Body, Back, 2 mm, Position then Connect	4.380	
A3LSMG960U	Samsung	Galaxy S9 Portable Handset	Purchased by FCC	CDMA BC1, RC3, TDSO 32, Ch 600, Body, Back, 2 mm, Connect then Postion	No Data Yet	R3M706TT9A
				CDMA BC1, RC3, TDSO 32, Ch 600, Body, Back, 2 mm, Position then Connect	No Data Yet	
A3LSMJ337A	Samsung	Galaxy J3 Portable Handset	Provided by Manufacturer	WCDMA Band 4, RMC, 12.2 kbps, Ch 1312, Body, Back, 2 mm, Connect then Position	5.200	RF8KA1J3X6E
				WCDMA Band 4, RMC, 12.2 kbps, Ch 1312, Body, Back, 2 mm, Position then Connect	5.140	
IHDT56XC4	Motorola	Moto e5 play Portable Handset	Provided by Manufacturer	WCDMA Band 2, RMC, 12.2 kbps, Ch 9262, Body, Back, 2 mm, Connect then Position	1.390	359524090350295
				WCDMA Band 2, RMC, 12.2 kbps, Ch 9262, Body, Back, 2 mm, Position then Connect	1.360	
IHDT56XB1	Motorola	Moto g6 Play Portable Handset	Provided by Manufacturer	WCDMA Band 5, RMC, 12.2 kbps, Ch 4132, Body, Front, 2 mm, Connect then Position	1.980	351864090034178
				WCDMA Band 5, RMC, 12.2 kbps, Ch 4132, Body, Front, 2 mm, Position then Connect	1.980	
IHDT56XB1	Motorola	Moto g6 Play Portable Handset	Purchased by FCC	WCDMA Band 5, RMC, 12.2 kbps, Ch 4132, Body, Front, 2 mm, Connect then Position	1.080	351864090300620
				WCDMA Band 5, RMC, 12.2 kbps, Ch 4132, Body, Front, 2 mm, Position then Connect	1.090	
YHLBLUVIVO5MN	BLU	Vivo 5 Mini Portable Handset	Provided by Manufacturer	GPRS 850, GMSK, 4 Tx Slots, Ch 128, Body, Back, 2 mm	2.200	1080021018057240
YHLBLUVIVO5MN	BLU	Vivo 5 Mini Portable Handset	Purchased by FCC	GPRS 850, GMSK, 4 Tx Slots, Ch 128, Body, Back, 2 mm	2.750	1080021018069900

The FCC also tested cell phones at the separation distances the manufacturer chose (from 5 to 15 mm) and these tests showed radiation levels *compliant with FCC limits.* The FCC then issued a December 19, 2019, report which only shared the 5 to 15 mm test data, and omitted the FCC's radiation 2 mm pocket radiation tests. The Chicago Tribune then ran a follow up article the next day stating that the FCC found "no evidence of violations of any FCC rules" for the safety limit," which ended by stating "the FCC's recent study did not test phones at 2 mm distance" even though the FCC, had in fact, tested cell phones at 2 mm distance.

Questions to ask the FCC about its transparency to the American public

1. Why did the FCC release a report with only the compliant test data using larger manufacturer-selected distances (5–15 mm), while omitting the results showing exceedances of the FCC limit?
2. Why did the FCC not correct the public record when media reports (the Chicago Tribune) inaccurately stated that the FCC had not tested phones at 2 mm?
3. What is the basis for years of withholding factual testing data that directly relates to consumer safety and RF radiation exposure affecting millions of Americans?

4. Why Did the FCC Omit its 2 mm Cell Phone Radiation Test Results from Its Court Filings?

The FCC also omitted its 2 mm cell phone radiation test findings in their court statement of interest filings in the Apple v. Cohen case in which plaintiffs alleged that cell phones emitted excessive

radiation[29] and also in its court filings for the CTIA v. City of Berkeley case in which the CTIA Wireless Industry sued the city of Berkeley for its Cell Phone Right to Know ordinance which informed people at point of sale that phones could exceed radiation limits if not used with the separation distance.[30]

Questions to ask the FCC about its legal filings.

1. Why did the FCC omit its own 2 millimeter (mm) body-contact cell phone radiation test findings—which showed phones exceeding federal SAR limits—from its statements in Apple v. Cohen and CTIA v. City of Berkeley?
2. Given that these legal proceedings directly concerned cell phone radiation in close body conditions, how does the FCC justify withholding its own test results that demonstrated radiation limit exceedances when phones were tested as people actually use them, close to the body?

5. Why Did the FCC Omit its 2 mm Cell Phone Radiation Test Results From Its Open Rulemaking on RF Rules?

The FCC also omitted its 2 mm tests from its then open rulemaking on RF limits, which notably specifically requested comment on the cell phone radiation test procedures that allow manufacturers to use a separation distance. The 2013 FCC inquiry[31] asked, "Specifically, we seek comment on the feasibility of evaluating portable RF sources without a separation distance when worn on the body to ensure compliance with our limits under present-day usage conditions."

But instead of transparently sharing its 2 mm cell phone radiation data, the FCC stated in its December 4, 2019 decision to maintain its 1996 human exposure limits for RF that they were opposed to requiring manufacturers to premarket testing phones in body contact positions. The FCC concluded that "Even though some parties claim that the RF exposure evaluation procedures for phones should require testing with a "zero" spacing – against the body – this is unnecessary."[32]

The FCC then proceeded to withhold test data from the subsequent federal case EHT et al v. FCC United States Court of Appeals for the District of Columbia, Case Nos. 20-1025; 20-1138 (now on Remand)[33], which Theodora Scarato, director of the Wireless and EMF Program at Environmental Health Sciences is a petitioner in, despite the fact that the issue of the cellphone test set up that allows a separation distance was central to the case.[34]

[29] https://ehsciences.org/wp-content/uploads/2025/07/FCC-statement-of-interest-in-Apple-v-Cohen-April-13-2020-.pdf
[30] https://ehsciences.org/wp-content/uploads/2025/07/FCC-Statement-of-Interest-in-CTIA-v-Berkeley-06222020.pdf
[31] https://docs.fcc.gov/public/attachments/FCC-13-39A1.pdf
[32] https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf
[33] Environmental Health Trust v. Federal Communications Commission, 9 F.4th 893 (D.C. Cir. 2021). https://media.cadc.uscourts.gov/opinions/docs/2021/08/20-1025-1910111.pdf See also https://ehsciences.org/lawsuit-wireless-radiation-safety/
[34] https://ehsciences.org/lawsuit-wireless-radiation-safety/

Questions to ask the FCC about its transparency to the public and court regarding its rules for cell phone RF radiation compliance testing.

1. Given that the FCC NPRM directly asked if phones should be tested in body-contact conditions, how does the FCC justify withholding its own test results from its NPRM and court submissions in *Environmental Health Trust et al. v. FCC* that demonstrated limit exceedances when phones were tested in close body positions?

6. The FCC Lacks Oversight and Transparency for Cell Phone Radiation and is Withholding of the Apple iPhone 12 RF Radiation Measurements

In addition to the FCC's 2 mm cell phone SAR testing, we have filed multiple Freedom of Information requests seeking records of FCC-conducted cell phone radiation testing to understand the scope of the FCC's post-market surveillance and oversight of wireless devices. Through these requests, I obtained internal FCC records showing that the agency conducted only minimal surveillance testing, as approximately four cell phone surveillance tests were released when we requested surveillance activities for the time period of January 1, 2020 through November 22, 2024.[35]

France has addressed the excessive radiation of over 64 wireless devices, but the US has shown no similar oversight. France, in contrast to the USA is required to publicly release their cell phone radiation SAR test results and non-compliance findings. France has a robust post-market surveillance program that routinely tests cell phones to ensure compliance, and to date, France has required corrections or withdrawals for more than 64 cell phone or wireless device models. See the French government ANFR cell phone radiation test database here.[36] In fact, just recently ANFR was ordered to release tests it had omitted from this database thanks to the transparency work of the Phonegate Association.[37] Yet the FCC continues to withhold significant radiation and consumer safety information from U.S. consumers.

Released internal documents from Freedom of Information requests indicate that the FCC tested the Apple iPhone 12 in its own laboratories after France found radiation exceedances, yet the FCC has refused to release the Apple iPhone 12 radiation testing report and the underlying SAR measurement data from the tests, repeatedly invoking Exemption 5 even though it includes factual information.

[35] https://ehsciences.org/wp-content/uploads/2025/09/FCC-FOIA-Control-No.-2025-000263-Scarato-SAR-tests-.pdf
[36] https://data.anfr.fr/visualisation/table/?id=das-telephonie-mobile
[37] https://phonegatealert.org/en/the-cada-rules-in-favor-of-phonegate-alert

From: Dusmantha Tennakoon
To: Jake Novicky; Reza Biazaran; Alfonso Tarditi
Subject: RE: iPhone 12 SAR Surveillance Report
Date: Thursday, March 14, 2024 8:36:21 AM

Jake – after preliminary review of the report I have the following thoughts:

(b) (5) [redacted]

From: Jake Novicky
Sent: Wednesday, March 13, 2024 1:09 PM
To: Dusmantha Tennakoon ; Reza Biazaran ; Alfonso Tarditi
Subject: iPhone 12 SAR Surveillance Report

Greetings,
I have finished with the draft iPhone 12 SAR Surveillance Report. It is in the draft stage and should be reviewed by an engineer and management before being ready for distribution. It is on the K: drive here: (b) (5) [redacted]

Best Regards,
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Questions to ask about the scope of the FCC's Oversight for Cell Phone Radiation Tests and the Apple iPhone 12 Tests.

1. What post-market surveillance and oversight program does the FCC maintain to ensure that cell phones remain compliant with RF exposure limits after they are authorized for sale? S*pecifically, how many phones are tested each year, what criteria are used to select devices for testing, what testing distances and methodologies are employed, and on what timeline are such surveillance tests conducted and reported? Additionally, what procedures are in place to ensure transparency and public disclosure of the results of any post-market compliance testing?*
2. Why does the FCC not operate a publicly accessible cell phone radiation SAR compliance and enforcement program that publishes all pre-market and post-market cell phone SAR test results, clearly identifies non-compliant devices, and transparently discloses any enforcement actions taken to protect consumers?
3. Why is the FCC refusing to release the Apple iPhone 12 RF radiation SAR test measurements**?**

7. The FCC Lacks a National Measurement and Monitoring Program

The FCC does not maintain a national RF radiation measurement and environmental monitoring program, despite the rapid expansion of wireless infrastructure, dense small-cell deployment, and widespread 5G rollout. This absence represents a significant gap in federal oversight. Decades ago, the United States operated a national RF measurement and monitoring program that collected real-world exposure data; however, this program was discontinued and never replaced. The EPA published the last publicly available measurement report in 1986. A 2018 multi-country study[38] found RF environmental measurements in Los Angeles, California at 70 times higher than levels measured in City in the late '70s, as part of a twelve-city study[39] referenced in the 1986 EPA report. Decades ago, TV and FM radio broadcast antennas were the dominant contributors to environmental RF exposures. **Today the RF emissions from cellular base station antennas (cell towers and 4G/5G facilities) are the dominant contributor to ambient RF exposures in most outdoor areas.**

The FCC's approach is essentially the honor system. The FCC relies almost exclusively on pre-market compliance testing conducted by or for manufacturers, with minimal post-market surveillance and no systematic collection of real-world exposure data. This approach stands in stark contrast to practices in numerous other countries, which conduct ongoing environmental RF measurements, publish monitoring results, track changes in population exposure over time, and use this data to inform policy and enforcement decisions.

Without a national monitoring program, the FCC lacks confirmation of compliance and empirical data on cumulative, ambient, and long-term RF exposure levels experienced by the public—particularly in homes, schools, and communities subject to dense wireless deployments. The absence of such a program undermines transparency, prevents independent verification of safety assumptions, and leaves the public without basic information about their exposure.

Questions regarding the lack of a robust measurement and monitoring program:

1. Why has the FCC abandoned a basic national RF radiation measurement and monitoring function that previously existed?
2. What statutory, budgetary, or policy decisions led to the defunding or elimination of this program, and why has it not been reinstated despite dramatic increases in wireless networks?
3. How does the FCC assess real-world, cumulative RF exposure in the absence of systematic environmental measurements?
4. How can the FCC credibly assure the public that its exposure limits are protective without collecting data to assess public exposures and monitor health and environmental impacts
5. Why does the FCC not publish routine, location-based RF exposure measurements to enable public transparency and independent scientific review?

[38] Sagar, Sanjay, Seid M. Adem, Benjamin Struchen, Sarah P. Loughran, Michael E. Brunjes, Lisa Arangua, Mohamed Aqiel Dalvie, et al. 2018. "Comparison of Radiofrequency Electromagnetic Field Exposure Levels in Different Everyday Microenvironments in an International Context." Environment International 114 (May): 297–306. https://doi.org/10.1016/j.envint.2018.02.036.
[39] Tell, Richard A., and Edwin D. Mantiply. 1982. "Population Exposure to VHF and UHF Broadcast Radiation in the United States." Radio Science 17 (5S): 39S-47S. https://doi.org/10.1029/RS017i05Sp0039S.

8. The FCC lacks oversight regarding compliance and enforcement for cell towers and wireless facilities.

Numerous countries conduct routine audits of cell tower sites to ensure compliance with RF exposure limits.[40,41,42,43,44,45,46] These programs often include spot checks of a defined percentage of cell towers and wireless sites each year, mandatory reporting, and in some cases, continuous national monitoring of ambient emissions. Further, the results are often publicly posted on easy-to-understand websites.

By contrast, the United States has no comparable national auditing, monitoring, or enforcement program. The FCC has not demonstrated that it conducts systematic inspections, routine spot checks, or any ongoing compliance verification of operational cell towers. The FCC has yet to fully respond to our repeated Freedom of Information requests[47] for enforcement actions and responses to RF-related complaints.

Out-of-compliance wireless facilities have been documented, especially in regards to rooftop sites which have been documented as failing to meet RF exposure compliance regulations for RF radiation exposure and also for issues like proper signage and containment of the high RF radiation exposure areas.[48,49]

As an example, a 2021 RF study that was part of a petition submitted to the U.S. Health and Human Services[50] used professional-grade calibrated spectrum management tools to measure RF levels in a rooftop lounge area, where people sunbathe, as it is next to wireless antennas, and they documented significant RF exceedances. According to their Crest Factor analysis, the emissions routinely spiked to 132-to-264% beyond the FCC Human RF exposure standard. This situation likely reflects a systemic issue with rooftop installations nationwide.

- What is the FCC doing to ensure cell tower and rooftop antenna compliance, given documented cases of RF exposure exceeding both public and occupational limits?
- Why does the FCC rely almost entirely on industry self-certification, conduct no routine audits, perform no random spot checks, and rarely investigate complaints related to cell tower RF

[40] France **https://www.anfr.fr/maitriser/information-du-public/observatoire-des-ondes**
[41] Brazil https://informacoes.anatel.gov.br/paineis/espectro-e-orbita/mapa-de-exposicao-a-campos-eletromagneticos
[42] Switzerland https://map.geo.admin.ch/#/map?lang=en&center=2660000,1190000&z=1&topic=funksender&layers=ch.bakom.standorte-mobilfunkanlagen&bgLayer=ch.swisstopo.pixelkarte-farbe&catalogNodes=funksender,403,408
[43] Greece https://paratiritirioemf.eeae.gr/en/
[44] China https://www.itu.int/dms_pub/itu-d/oth/07/16/D07160000060001PDFE.pdf
[45] United Kingdom https://www.ofcom.org.uk/spectrum/electromagnetic-fields/mobile-base-station-audits
[46] Bahrain https://safetymeasurements.tra.org.bh/
[47] FOIAs filed on
[48]Spectrum Cellular Management https://spectrumcm.com/about/
[49] Dugan, I. J., & Knutson, R. (2014, October 2). *Cellphone boom spurs antenna-safety worries: Many sites violate rules aimed at protecting workers from excessive radio-frequency radiation*. *Wall Street Journal*. https://www.wsj.com/articles/cellphone-boom-spurs-antenna-safety-worries-1412293055
[50] Americans for Responsible Technology Petition to Health and Human Services, page 225 statement by Sally Jewell Coxe and ATTACHMENT 1 RF Exposure Analysis: 2701 Connecticut Avenue, NW, Washington, DC by Cardinal Communications, a Division of Thought Delivery Systems, Inc. for THE BALANCE GROUP, https://ehsciences.org/wp-content/uploads/2025/12/2021-12-21-HHS_FDA-Petition-Final-Filed.pdf

radiation despite evidence of widespread non-compliance, particularly with higher-powered 5G installations?

- What is the FCC's process for receiving, investigating, and resolving RF exposure complaints, and why are all RF complaints, investigative findings, and agency responses not made publicly available?

9. The FCC Lacks an Adequate Oversight and Enforcement to Protect Workers From Occupational Exposures

Cell tower climbers, maintenance workers, broadcast technicians, utility workers, firefighters, and construction crews are increasingly subject to involuntary occupational radiofrequency (RF) exposure as wireless infrastructure rapidly densifies. Cell tower climbers have reported RF overexposure incidents[51], and a peer-reviewed case study published in the journal *Multiple Sclerosis and Related Disorders*[52] documented a worker with intense RF exposure who later developed neurological symptoms mimicking multiple sclerosis (MS) years after the initial exposure. **The FCC's occupational RF exposure limits, which allow workers to be exposed to up to five times the level permitted for the general public, are highly questionable**, particularly given the absence of routine monitoring, EMF measuring, medical surveillance, or enforcement, and the growing evidence of adverse health effects associated with RF exposure. The lack of a robust occupational RF radiation protection program in the U.S.A. leaves the true number of exposed and injured workers unknown and raises serious questions about how the FCC can determine whether its regulations are protective in real-world occupational settings.

Theodora Scarato's American Public Health Association (APHA) 2025 presentation documents that occupational RF exposure is now widespread across multiple job categories, from education and healthcare to retail, construction, emergency response, and telecommunications, and increasingly unavoidable in the modern workplace.[53,54] These exposures occur without routine monitoring, medical surveillance, or meaningful enforcement and are governed by outdated 1996 federal limits that fail to account for chronic, cumulative, and non-thermal biological effects documented in the scientific literature.[55]

Questions regarding the FCCS inadequate oversight for occupational RF exposures

1. Why are FCC RF radiation exposure limits for workers based solely on effects from short-term exposure when workers in modern workplaces are exposed daily to continuous RF radiation?

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[51] Tommy Schuch, founder of Climber Protection Group https://climberprotectiongroup.org/ documentary Why RF Safety Needs Regulation in the Tower Industry https://www.youtube.com/watch?v=DNvQo6JPO54

[52] Raefsky SM, Chaudhari A, Sy MY. Delayed-Onset multiphasic demyelinating lesions after high dose radiofrequency electromagnetic field exposure: A multiple sclerosis (MS) mimic. Mult Scler Relat Disord. 2020 Oct;45:102318. doi: 10.1016/j.msard.2020.102318.

[53] Stam R. Occupational exposure to radiofrequency electromagnetic fields. *Ind Health*. 2021;60(3):201-215. doi:10.2486/indhealth.2021-0129

[54] Environmental Health Sciences *Protecting Workers from Non-Ionizing EMF Exposure: A Call for Federal Oversight.November 2, 2025, American Public Health Association*, ***Occupational Health and Safety Section Poster. (2025) https://ehsciences.org/protecting-workers-from-non-ionizing-emf-exposure-a-call-for-federal-oversight/***

[55] International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF), Belyaev I, Blackman C, et al. Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G. *Environ Health*. 2022;21(1). doi:10.1186/s12940-022-00900-9

2. Why do FCC RF radiation exposure limits for workers allow higher RF exposures, especially in today's dense wireless environment where worker do not have as much control over the exposure.
3. What measures does the FCC require to protect cell tower climbers and maintenance workers from excessive radiofrequency (RF) exposure, given documented incidents of overexposure, injuries, and fatalities (including antenna shut-down procedures, lock-out/tag-out requirements, real-time RF monitoring, and post-exposure medical evaluation)
4. How does the FCC provide oversight and verify compliance in the field rather than relying on carrier self-reporting
5. How does the FCC verify compliance with occupational RF limits in the field, rather than relying on carrier self-certification and theoretical modeling?
6. How many inspections, audits, or enforcement actions related to occupational RF overexposure has the FCC conducted in the past five years?
7. Given that virtually all workers are now exposed to ambient RF radiation, what steps is the FCC taking to update its standards, monitoring, and enforcement to reflect real-world occupational conditions rather than theoretical compliance?

10. The FCC is Narrowing NEPA Protections Despite RF Related Rules That Omit Protections for Wildlife and Habitat

The FCC has moved to narrow and essentially eliminate most of the protections of the National Environmental Policy Act (NEPA) for wireless infrastructure via two proposed rulemakings, both "Modernizing the Commission's National Environmental Policy Act Rules", WT Docket No. 25- 217[56] and "Build America: Eliminating Barriers to Wireless Deployments, WT Docket No. 25-276,[57] at the same time that peer-reviewed scientific evidence documenting serious impacts to the environment, to flora and fauna, continues to grow. Studies have reported impacts to plants and trees [58,59,60,61,62] as well as a wide range of impacts to animals, including to their orientation, migration, reproduction, mating,

[56]FCC NPRMModernizing the Commission's National Environmental Policy Act Rules Notice of Proposed Rulemaking – WT Docket No. 25-217 2025 https://docs.fcc.gov/public/attachments/DOC-413047A1.pdf and https://www.federalregister.gov/documents/2025/08/19/2025-15818/modernizing-the-commissions-national-environmental-policy-act-rules
[57] FCC NPRM Build America: Eliminating Barriers to Wireless Deployments WT Docket No. 25-276 Released: September 30, 2025 https://docs.fcc.gov/public/attachments/FCC-25-67A1.pdf
[58] Kaur, S., Vian, A., Chandel, S., Singh, D. H., Batish, D., & Kohli, R. (2021). Sensitivity of plants to high frequency electromagnetic radiation: Cellular mechanisms and morphological changes. Reviews in Environmental Science and Bio/Technology, 20.
[59] Halgamuge, M. N., & Davis, D. (2019). Lessons learned from the application of machine learning to studies on plant response to radio-frequency. Environmental research, 178, 108634.
Halgamuge, M. N. (2017). Review: Weak radiofrequency radiation exposure from mobile phone radiation on plants. Electromagnetic Biology and Medicine, 36(2), 213–235.
[60] Ozel, HB, Cetin, M., Sevik, H., Varol, T., Isik, B., & Yaman, B. (2021). The effects of base station as an electromagnetic radiation source on flower and cone yield and germination percentage in Pinus brutia Ten. Biologia Futura , 72 (3), 359-365.
[61] Waldmann-Selsam, C., Balmori-de la Puente, A., Breunig, H., & Balmori, A. (2016). Radiofrequency radiation injures trees around mobile phone base stations. Science of The Total Environment, 572, 554–569.
[62] Panda DK, Das DP, Behera SK, Dhal NK. Review on the impact of cell phone radiation effects on green plants. Environ Monit Assess. 2024 May 21;196(6):565

nesting, den building, habitat and survivorship.[63,64,65] Newer technologies with higher frequencies are creating unique risks for honeybees and other insect pollinators as the frequencies are more highly absorbed into their smaller bodies.[66,67,68,69] Wildlife biologists are urgently calling for updated exposure limits along with safeguards for flora and fauna.[70,71,72,73]
Despite rising environmental levels, the FCC limits are solely designed to ensure protection for humans, not flora or fauna. FCC protections for birds, bees, trees and wildlife simply do not exist. This is a critical regulatory gap. Further, FCC RF compliance procedures entirely fail to protect wildlife, plants and trees as cell towers and base station antennas are allowed to have non-compliance zones that extend sometimes over 50 -100 feet, creating hazardous exposures for the animals that live in the air or in trees near the infrastructure. Yet consideration of these flora and fauna impacts is omitted from evaluations during the application process.

In its 2021decision, the DC Circuit stated that the FCC had "completely failed even to acknowledge, let alone respond to, comments concerning the impact of RF radiation on the environment," highlighting a U.S. Department of Interior letter which detailed published studies showing RF impacts to birds. The letter states that "There is a growing level of anecdotal evidence linking effects of non-thermal, non-ionizing electromagnetic radiation from communication towers on nesting and roosting wild birds and other wildlife." It further stated, "the electromagnetic radiation standards used by the Federal

[63] Balmori, A. The incidence of electromagnetic pollution on wild mammals: A new "poison" with a slow effect on nature?. Environmentalist 30, 90–97 (2010).
Cucurachi, S., Tamis, W. L. M., Vijver, M. G., Peijnenburg, W. J. G. M., Bolte, J. F. B., & de Snoo, G. R. (2013). A review of the ecological effects of radiofrequency electromagnetic fields (RF-EMF). Environment International, 51, 116–140.
[64] Balmori A. (2021) Electromagnetic radiation as an emerging driver factor for the decline of insects. Science of the Total Environment. 767: 144913
[65] Levitt, B. B., Lai, H. C., & Manville, A. M. (2021a). Effects of non-ionizing electromagnetic fields on flora and fauna, part 1. Rising ambient EMF levels in the environment. Reviews on Environmental Health, 37(1), 81–122.
Levitt, B. B., Lai, H. C., & Manville, A. M. (2021b). Effects of non-ionizing electromagnetic fields on flora and fauna, Part 2 impacts: How species interact with natural and man-made EMF. Reviews on Environmental Health, 37(3), 327–406.
[66] Thielens, A, Greco, MK, Verloock, L, Martens, L, and Joseph, W. Radio-frequency electromagnetic field exposure of western honey bees. *Sci Rep*. (2020) 10:461. doi: 10.1038/s41598-019-56948-0
[67] Jeladze, V, Nozadze, T, Partsvania, B, Thielens, A, Shoshiashvili, L, and Gogoladze, T. Numerical dosimetry of specific absorption rate of insects exposed to far-field radiofrequency electromagnetic fields. *Int J Radiat Biol*. (2025) 101:327–40. doi: 10.1080/09553002.2024.2442693
[68] Jeladze, V, Thielens, A, Nozadze, T, Korkotadze, G, Partsvania, B, and Zaridze, R. Estimation of the specific absorption rate for a honey bee exposed to radiofrequency electromagnetic fields from 2.5 to 100 GHz. In: *2023 IEEE XXVIII international seminar/workshop on direct and inverse problems of electromagnetic and acoustic wave theory (DIPED)*. Tbilisi, Georgia: IEEE (2023). 180–5.
[69] Thielens, A, Bell, D, Mortimore, DB, Greco, MK, Martens, L, and Joseph, W. Exposure of insects to radio-frequency electromagnetic fields from 2 to 120 GHz. *Sci Rep*. (2018) 8:3924. doi: 10.1038/s41598-018-22271-3
[70] Jérémy S. P. Froidevaux, Laura Recuero Virto, Marek Czerwiński, Arno Thielens, and Kirsty J. Park Addressing Wildlife Exposure to Radiofrequency Electromagnetic Fields: Time for Action Environmental Science & Technology Letters, 2024, 11, 1, 3–4
Levitt BB, Lai HC and Manville AM II (2022) Low-level EMF effects on wildlife and plants: What research tells us about an ecosystem approach. Front. Public Health 10:1000840. doi: 10.3389/fpubh.2022.1000840
Levitt, B. B., Lai, H. C., & Manville, A. M. (2021c). Effects of non-ionizing electromagnetic fields on flora and fauna, Part 3. Exposure standards, public policy, laws, and future directions. Reviews on Environmental Health.
[71] Levitt BB, Lai HC., Manville AM II, & ScaratoT. Flora and fauna—How nonhuman species interact with natural and man-made EMF at ecosystem levels and public policy recommendations. Frontiers in Public Health, 13. doi:10.3389/fpubh.2025.1693873
[72] Levitt, B. B., Lai, H. C., & Manville, A. M. (2021c). Effects of non-ionizing electromagnetic fields on flora and fauna, Part 3. Exposure standards, public policy, laws, and future directions. Reviews on Environmental Health.
[73] Balmori A. (2024) Radio-tracking systems emit pulsed waves that could affect the health and alter the orientation of animals. Journal for Nature Conservation Volume 77, January
Balmori A. (2021) Electromagnetic radiation as an emerging driver factor for the decline of insects. Science of the Total Environment. 767: 144913
Balmori, A. (2015). Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation. Science of The Total Environment, 518–519, 58–60.
Balmori A. (2014). Electrosmog and species conservation. Science of The Total Environment, 496:314-316

Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today."[74]

Questions regarding the FCC Narrowing of NEPA Protections

1. How can the FCC justify limiting or eliminating NEPA review for wireless infrastructure when there is mounting peer-reviewed evidence of RF radiation impacts on wildlife and the environment, and when the agency regulations do not pertain to impacts on flora and fauna?
2. If the FCC is not a health or environmental agency, and no other federal agency is actively evaluating environmental risks (flora and fauna) from chronic RF radiation exposure, which federal agency is currently responsible for ensuring that accelerated wireless deployment does not cause environmental harm?

11. Federal Preemption Under Section 704 of the Telecom Act Silences Health and Environmental Concerns Despite Outdated and Obsolete FCC Limits

Despite the growing body of peer-reviewed scientific evidence which indicates that the FCC's rules are inadequate, Section 704[75] of the Telecommunications Act of 1996 prohibits state and local governments from "regulating the placement, construction, or modification of personal wireless service facilities on the basis of the environmental effects of RF emissions, so long as such facilities comply with FCC regulations." This provision has been interpreted by some courts as a federal preemption, functioning in practice as a de facto "RF gag rule" to decisionmakers that shields the wireless industry.[76,77,78]

As a result, public discussion of health and environmental concerns related to RF radiation is effectively silenced during cell tower siting proceedings, and industry frequently invokes the threat of litigation when issues of health are raised (such as in cell towers going up near schools, daycares and homes).

This situation reflects a serious failure of governance: federal agencies have failed to conduct timely, rigorous scientific reviews, yet policymakers and local officials are effectively prohibited from acknowledging or addressing potential risks because federal standards remain outdated. Section 704 not only restricts state and local decision-makers from considering health or environmental concerns when siting wireless facilities near schools and homes, but also forecloses meaningful judicial review and due process, leaving communities without any practical mechanism to prevent harm and respond to legitimate health, safety, and ecological concerns related to cell tower siting.

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[74] https://www.ntia.doc.gov/files/ntia/us_doi_comments.pdf
[75] https://www.congress.gov/104/plaws/publ104/PLAW-104publ104.pdf
[76] Seymour WN, Seymour GN. Dollars, lobbying, and secrecy: how campaign contributions and lobbying affect public policy. Rev Environ Health (2013) 28: doi: 10.1515/reveh-2013-0500
[77] Kenneth A Jacobsen. A Tale of Two Circuits: Curbs on Legal Remedies for Exposure to Potentially Harmful Cell Phone Radiation Emissions. Seton Hall Circuit Rev (2014) 10:Article 1. https://scholarship.shu.edu/circuit_review/vol10/iss1/1
[78] Carol R. Goforth. A Bad Call: Preemption of State and Local Authority to Regulate Wireless Communication Facilities on the Basis of Radiofrequency Emissions. N Y Law Sch Law Rev (2001) 44:311–384. https://digitalcommons.nyls.edu/nyls_law_review/vol44/iss2/4/

12. The FCC Has Not Competed on Safety in the Race to Deploy Wireless Infrastructure nor Promoted Available RF Exposure-Reducing Technologies

The FCC is racing to fast-track cell towers and wireless deployment without comparably promoting innovation in device and network design that would reduce wireless RF radiation exposure. Peer-reviewed research demonstrates that wireless technologies can be engineered to substantially reduce RF radiation exposure through design choices such as optimized antenna configurations, miniaturized MIMO systems, power control, and deploying wired Ethernet and corded alternatives with exposure-conscious building design—particularly for schools and residential settings.[79, 80,81]

Engineering solutions for cell phones have been proposed by experts of the International Commission on the Biological Effects of Electromagnetic Fields that are simple and would drastically reduce exposure to cell phones.[82] Several publications document research focused on engineering design to reduce RF radiation. Researchers have found, as an example, the miniaturization of the MIMO mobile terminal antenna could significantly reduce wireless RF radiation absorption into head tissues: 85.51% in the scalp, 85.62% in the skull, 89.02% in the cerebrum, 93.04% in the cerebellum, and 88.02% in the brainstem.[83]

Despite the feasibility of these urgently needed solutions[84], the FCC has not fast-tracked safer technologies or incentives for exposure-minimizing designs and the related research and design needed. Instead, current FCC policies prioritize speed and cost *over* public and environmental health, allowing market forces to sideline safer designs rather than encouraging competition on safety.

Questions Regarding the FCC's Failure to Compete on Safety

- What is the FCC doing to ensure that U.S. companies are competing on safety, including the development, deployment and promotion of low and no RF radiation emitting communication technologies?
- How does the FCC justify fast-tracking cell towers without comparably promoting or incentivizing technologies that significantly reduce RF radiation exposure or have no RF

[79] Clegg, F. M., Sears, M., Friesen, M., Scarato, T., Metzinger, R., Russell, C., Stadtner, A., & Miller, A. B. (2020). Building science and radiofrequency radiation: What makes smart and healthy buildings. *Building and Environment*, *176*, 106324
[80]Theodora Scarato November 2, 2025**,** American Public Health Association, Occupational Health and Safety Section Poster https://ehsciences.org/addressing-cell-towers-at-schools-science-based-policy-health-risks/
[81] Collaborative on High Performance Schools Low EMF Best Practices Summary https://ehsciences.org/wp-content/uploads/2025/12/Collaborative-on-High-Performance-Schools-Low-EMF-Best-Practices-Summary-.pdf
[82] Héroux P, Belyaev I, Chamberlin K, Dasdag S, De Salles AAA, Rodriguez CEF, Hardell L, Kelley E, Kesari KK, Mallery-Blythe E, et al. Cell Phone Radiation Exposure Limits and Engineering Solutions. International Journal of Environmental Research and Public Health. 2023; 20(7):5398.
[83] Zhou W-Y, Li Y-X, Li W, Lu M, Xu J-J (2025) A novel radiation protection method for miniaturized MIMO mobile terminal antenna design based on metamaterials. PLoS One 20(5): e0323299. https://doi.org/10.1371/journal.pone.0323299
[84] Habash R, Baho GY. Transition Pathways Towards Electromagnetic Sustainability in the Built and Lived Environment. *Sustainability*. 2025; 17(22):10252. https://doi.org/10.3390/su172210252

radiation emissions (such as hardwired ethernet), despite peer-reviewed evidence that relatively simple engineering modifications can substantially reduce RF absorption into the brain?

- What concrete steps, if any, has the FCC taken to incentivize RF exposure-reducing technologies for sensitive populations, including use by children in schools, homes, and other sensitive environments?