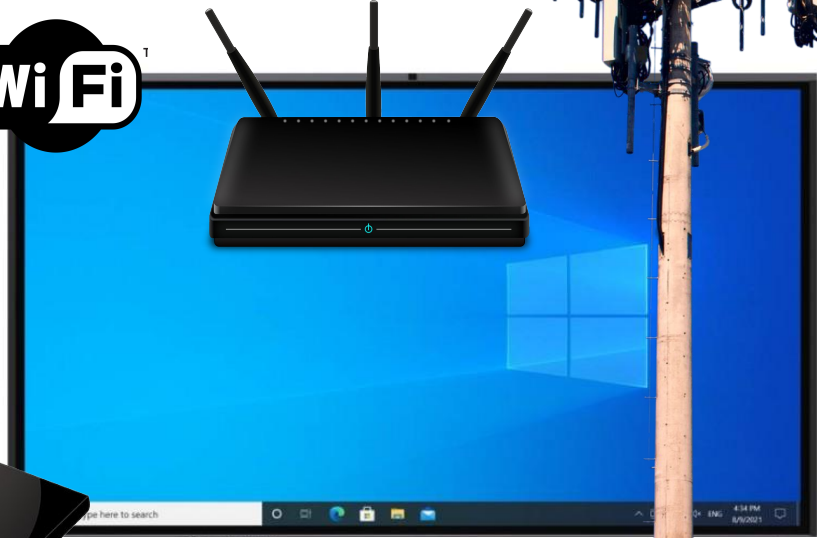


U.S. Federal Regulation of Wireless Radiation, A Case Study in Regulatory Gaps

Theodora Scarato
Environmental Health Trust

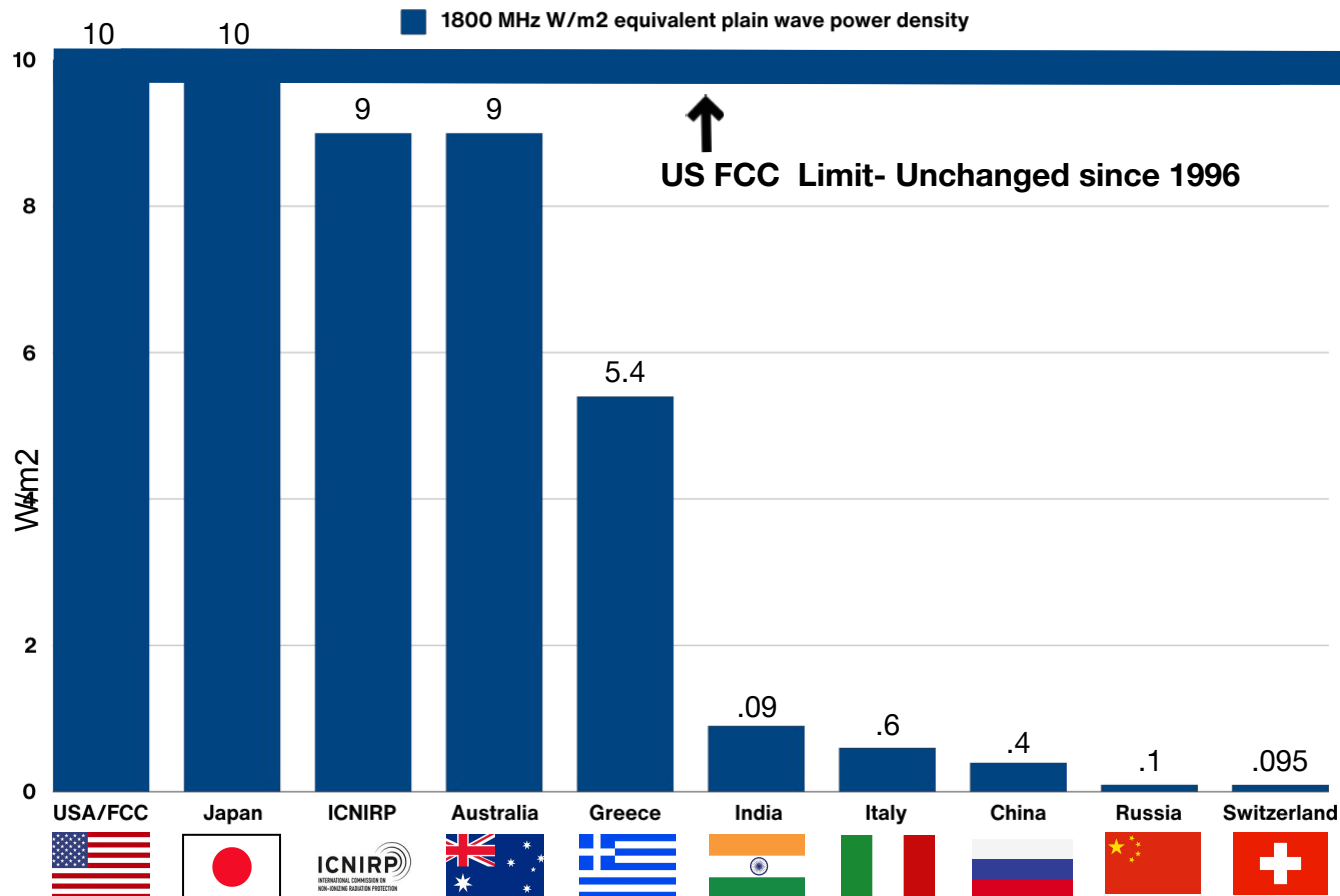


Our Wireless World



Country Comparison: RF Limits (Home and School)

1800 MHz W/m^2 equivalent plane wave density



Recent Changes to RF Limits



Italy (2024): Legislative Decree raised limit from 6 V/meter to 15 V/meter



Belgium (2022): Increases in all three regions, Flanders, Brussels and Wallonia (Brussels from 6V/M, to 9.1 V/M inside and 14.57 outside)



Poland (2020): Stringent to ICNIRP



Lithuania (2020): Stringent to ICNIRP



India (2012) to 1/10th of ICNIRP and premarket local SAR from ICNIRP (2.0 W/kg) to FCC (1.6/Wkg)



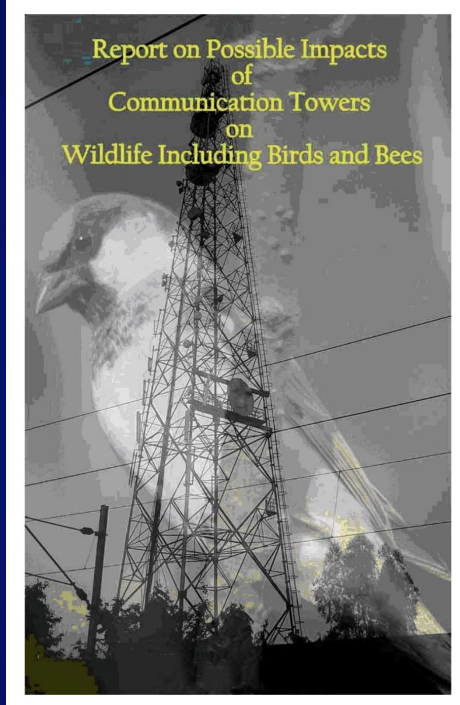
India: RF limits to 1/10 of ICNIRP

2012: Ministry of Environment and Forests reviewed the research on wildlife and concluded that while there were significant research gaps, the “vast majority of published literature indicate deleterious effects of EMFs in various species.”

Several recommendations

- Stringent RF limits
- EMFs be “recognised as a pollutant”
- Regular auditing of EMF levels near schools, hospitals, and ecologically sensitive areas.
- Removal of wireless in wildlife conservation areas
- More protections for flora and fauna in urban areas .

Sivani, S, and D. Sudarsanam. (2012): "Impacts of radio-frequency electromagnetic field (RF-EMF) from cell phone towers and wireless devices on biosystem and ecosystem-a review." *Biology and Medicine* 4, no. 4 202-216.



January 2024

India: Environment Ministry issues strict cell tower guidelines to protect tigers.

- Bans installation in core critical tiger habitat.
- No new towers within one km of existing towers “to avoid overlapping radiation”
- Recommended:
 - a. GIS mapping and public disclosure of base station locations/frequencies
 - b. monitoring the impact on wildlife, particularly birds and bees.





FCCs Refuses to Update 1996 RF Limits

Post WWII through 1970s and 1980s- active research by U.S. agencies

1995: EPA tasked to develop RF limits for short term heating effects as well as modulation **but then defunded**

1996: Telecom Act passed, FCC adopted RF limits and legal action filed by numerous groups.

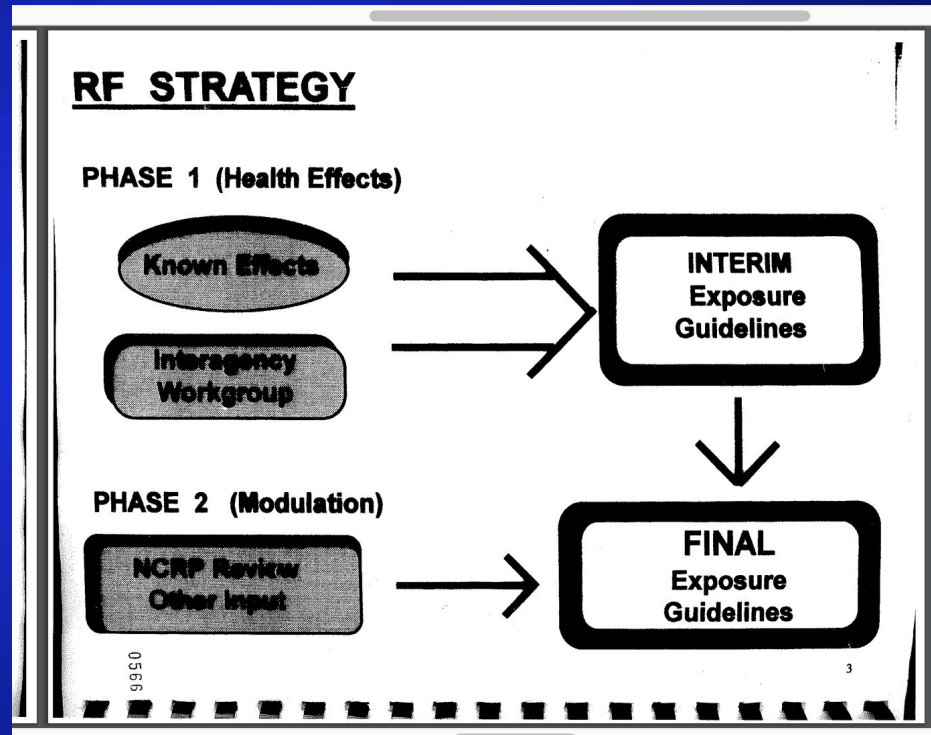
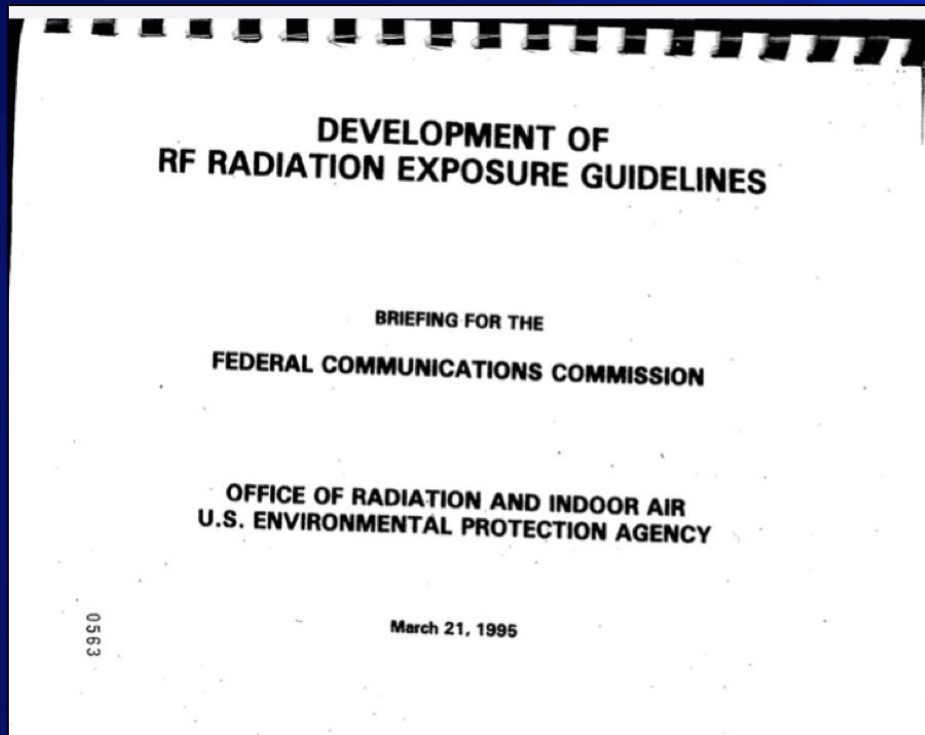
2000: Cellular Phone Task Force et al., v. the FCC

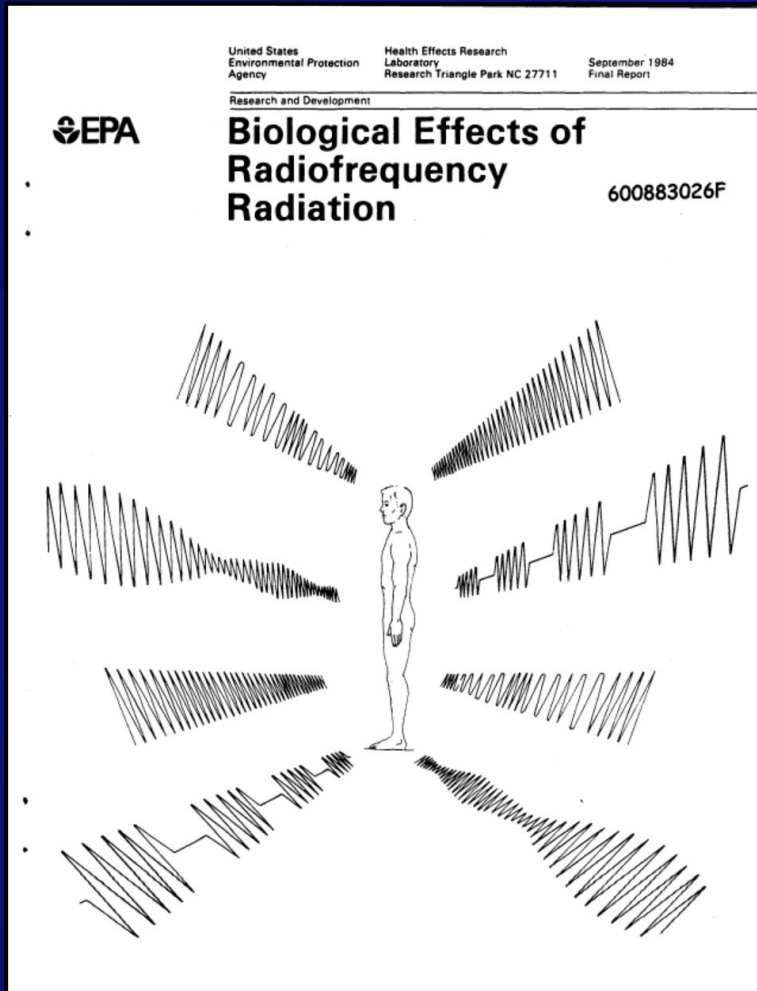
The Court decision stated the FCC “**could reasonably expect**” agencies such as the EPA “**to keep abreast of scientific developments**” as the EPA “had been on the verge of releasing its own draft guidelines pertaining to the health effects of RF radiation in 1996.”



1995 EPA Briefing to the FCC and NTIA

The EPA Was Developing RF Limits





“EPA’s **last review was in the 1984** document Biological Effects of Radiofrequency Radiation. The EPA **does not currently have a funded mandate** for radiofrequency matters.”

Regarding birds, bees and trees “we are **not aware of any EPA reviews** that have been conducted ...”

-Lee Ann B. Veal
Director, Radiation Protection Division
Office of Radiation and Indoor Air
Email to Scarato July 8, 2020 and 2023



2012: GAO Report that **FCC's human exposure limits** “may not reflect current science” and “should be reassessed.”

2013: FCC opened Notice of Inquiry (NOI) on RF-EMF Limits

2019: FCC terminated NOI (03-137 and 13-84) **affirming its 1996 RF exposure limits and proposing new limits**

- *3 KHz to 300 KHz*
- *100 GHz up to 3 THz*

based on FCC's just issued determination that FCC's 1996 RF limits were adequate (ET Docket No. 19-226)

2020: EHT filed a challenge to the FCC's termination on the NOI.

2021: U.S. Court of Appeals issued a favorable decision in EHT et al v. the FCC

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued January 25, 2021

Decided August 13, 2021

No. 20-1025

ENVIRONMENTAL HEALTH TRUST, ET AL.,
PETITIONERS

v.

FEDERAL COMMUNICATIONS COMMISSION AND UNITED
STATES OF AMERICA,
RESPONDENTS

Environmental Health Trust et al. v. the FCC

August 13, 2021: United States Court of Appeals, D.C. Circuit ruled that the FCC's 2019 decision not to update 1996 wireless radiation limits was "arbitrary and capricious."

Court remanded the case to the FCC ordering the agency to "provide a reasoned explanation for its determination that its guidelines adequately protect against harmful effects of exposure to RF unrelated to cancer."

The FCC must specifically address:

- Impacts to children
- Effects of long-term exposure
- The ubiquity of wireless devices and technological developments since 1996.
- Premarket SAR compliance test procedures for phones and devices
- Impacts on the environment

2024: The FCC has not responded to the Court

National Law Review, "[Telecom Alert: DC Circuit Remands RF Rules](#)" August 23, 2021



National Toxicology Program
U.S. Department of Health and Human Services



The FCC has no agencies to defer to for RF safety evaluation.

Federal Communications Commission (FCC)

“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.**”

National Cancer Institute (NCI), Department of Labor (DOL), Department of Labor, National Institute for Occupational Safety and Health (NIOSH), the Centers for Disease Control and Prevention (CDC) and Environmental Protection Agency (EPA)

- **No scientific evaluations** of adequacy of FCC limits or risk/hazard of FCC.

National Toxicology Program (NTP)

- \$30M cell phone radiation animal study **found “clear evidence”** of an association with cancer and DNA damage. Follow up **research now halted.**

Food and Drug Administration (FDA)

- FDA only released **a limited literature review** (rejecting the NTP study the FDA had requested) focused **only on cell phones** (not frequencies above 6 GHz, not ambient RF of cell towers Wi-Fi, Bluetooth) and **only on cancer**, not impacts to the nervous, reproductive or endocrine system.

U.S. Government Accountability 2020 Report (GAO-21-26SP, 2020)

- The **FDA and other organizations “only reviewed a subset of the relevant research”** and stated in regards to the FDA’s 2018 Literature Review “The assessment focused on cancer-related animal and human studies of frequencies **below 6 GHz.**”

A REGULATORY VACUUM

No scientific reports by any U.S. federal agency in the FCC 6 year Inquiry.

“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...**”

-U.S. Court of Appeals, DC Circuit
EHT et al., v. the FCC

2021

Regulatory Gap: No Federal Agency is Addressing the Safety of Ambient Environment Exposure



“The FDA does not regulate cell towers or cell tower radiation. Therefore, the FDA has no studies or information on cell towers to provide in response to your questions.”

-Ellen Flannery, Director of the FDA Office of Policy Center for Devices and Radiological Health
January 11, 2022

“We don’t have jurisdiction over cellphone towers since those are environmental emitters.”

-Daniel Kassiday
Radiation Safety Engineer at U.S. Food and Drug Administration
June 20, 2016

“Small Cell” in front of New York apartment.



April 2024
New York City Department of Health

“The FCC has concluded the weight of scientific evidence has not linked 5G to health problems”

From: Kenneth E. Johnson III <kjohnson9@health.nyc.gov>

Sent: Tuesday, April 30, 2024 9:23 AM

To: XXXXX

Subject: RE: [EXTERNAL] DOH data on 5G towers?

Good morning Carla,

Hope you're doing well! This question comes up from time to time.

Please see below response from our Environmental Health unit:

Thank you for your email regarding potential adverse health impacts of 5G Cell Towers, which use radio frequency (RF) technology. The Federal Communications Commission, which has statutory authority to regulate RF transmission, concluded that the weight of scientific evidence has not linked 5G Cell Towers with health problems. The NYC Health Department continues to monitor the science-

Thank you,
Kenneth

Kenneth Johnson [[he/him/his](#)]

Community Liaison – The Bronx

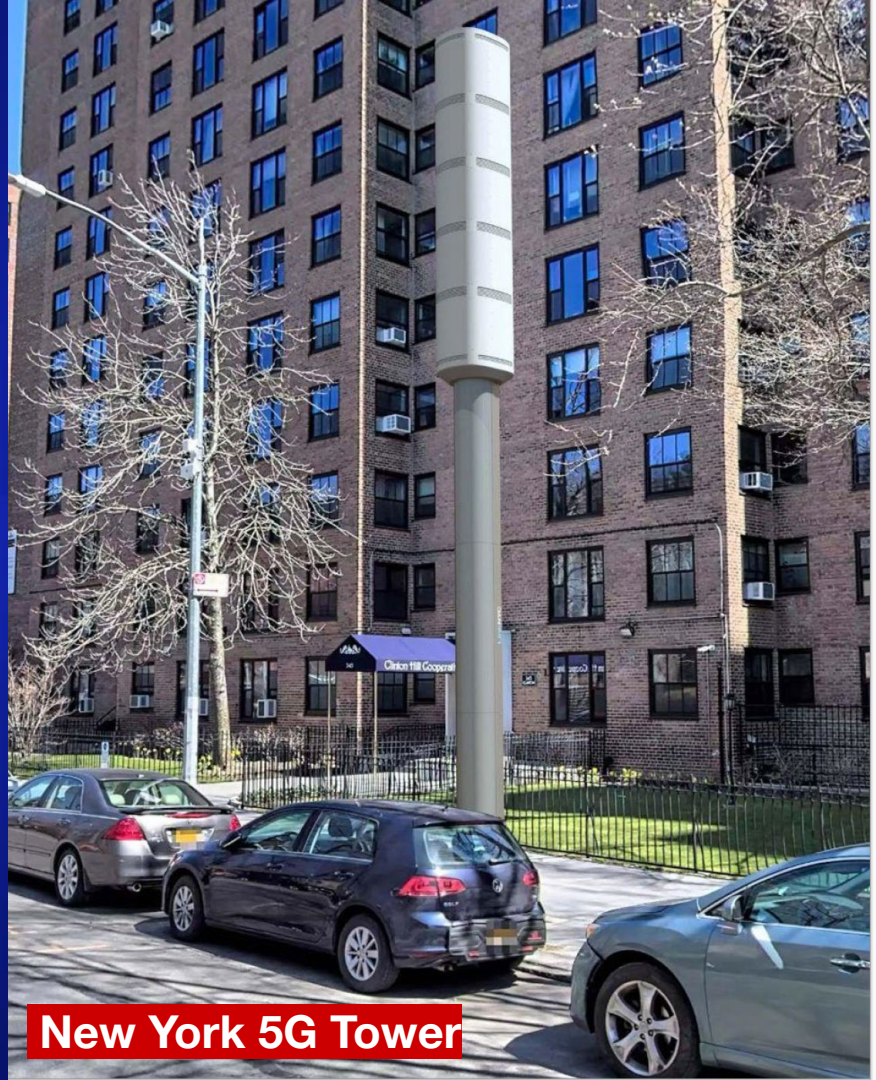
Office of External Affairs

NYC Department of Health and Mental Hygiene — City of New York

42-09 28th St., Long Island City, NY 11101

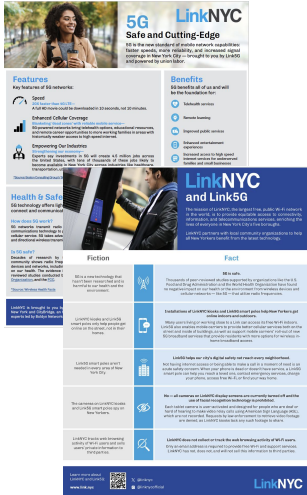
Telephone: 347-396-7612

Email: kjohnson9@health.nyc.gov | nyc.gov/health



New York 5G Tower

New York City: Link NYC Myth V. Fact Factsheets



Source: Website of CTIA
Wireless Industry

Fiction

5G is a new technology that hasn't been researched and is harmful to our health and the environment.



Is 5G safe?

Decades of research by the international scientific community shows radio frequency energy from wireless devices and networks, including 5G, has no negative effects on our health. The evidence includes thousands of peer-reviewed studies conducted by the [FDA](#), the [World Health Organization](#), and the [FCC](#).

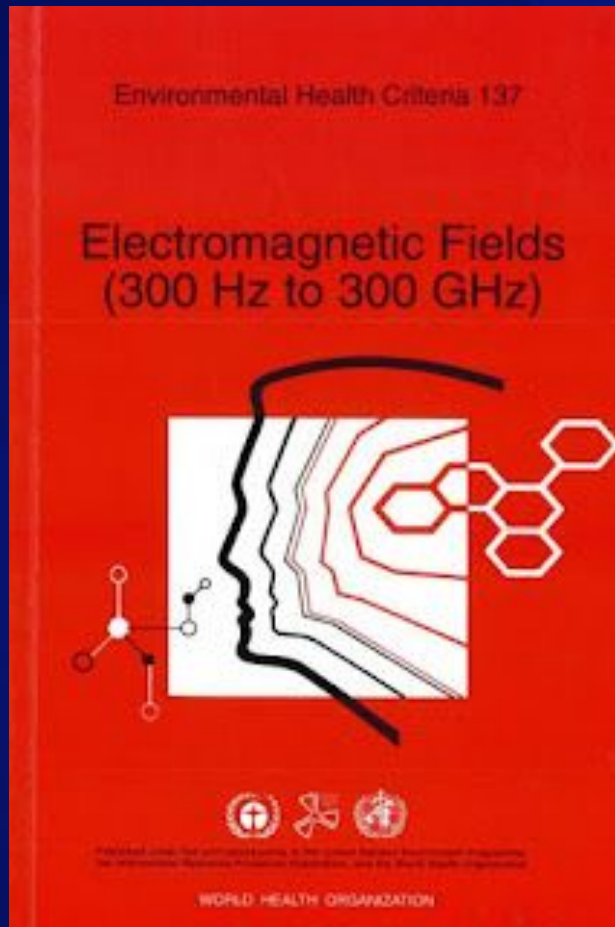
*Source: Wireless Health Facts

Fact

5G is safe.

Thousands of peer-reviewed studies supported by organizations like the U.S. Food and Drug Administration and the World Health Organization have found no negative impact on our health or the environment from wireless devices and cellular networks — like 5G — that utilize radio frequencies.





WHO 1993 Environmental Health Criteria

Despite the **WHO EMF Project webpages** proclaiming “no adverse health effects”
The last WHO risk assessment criteria document is from 1993.

Transparency Issues

Unanswered letters sent by scientists to WHO EMF Project Dr. Deventer in 2019 and 2020

- Who is selecting the research teams for the reviews?
- Will industry funding for university research be stated on COI forms?
- Which scientists wrote the WHO factsheets online?

Henry Lai, PhD, Professor Emeritus, University of Washington, Seattle, WA
 Devra Davis PhD, MPH, Environmental Health Trust
 Simona Carrubba, PhD, Mercyhurst University, Erie, PA
 Kjell Hansson Milod, Department of Radiation Sciences Umeå University SE-901 87 Umeå, Sweden
 Semra Tepe Çam, Assoc.Prof., Turkish Atomic Energy Authority Ankara Turkey
 Alvaro Augusto de Salles, Ph.D., Professor, Federal University of Rio Grande do Sul- UFRGS, Porto Alegre, Brazil
 Alfonso Balmore, BSc, Biologist, Spain
 Samuel Milham MD, MPH., Retired Washington State Health Department
 Kavindra Kesari, Ph.D., Senior Scientist, Department of Applied Physics, Aalto University, Espoo, Finland
 Livio Giuliani, , “dirigente di ricerca” of Italian National Health Service, ICEMS Spokesman
 Jerry L. Phillips, Ph.D., Executive Director, Excel Centers, Professor Attendant, Department of Chemistry & Biochemistry
 David O. Carpenter, M.D., Director, Institute for Health and the Environment, University at Albany
 Wenjun Sun, PhD, Professor, Zhejiang University School of Medicine, Hangzhou, China
 Lukas H. Margaritis, Professor Emeritus of Cell Biology and Radiobiology, Dept of Cell Biology and Biophysics Faculty of Biology, University of Athens
 Carl F. Blackman, U.S. Environmental Protection Agency (1970-2014), Retired
 Dr. Besarion Partsvania, Georgian Technical University
 Hidetake Miyata, PhD., Associate Professor, Department of Physics, Tohoku University, Japan
 Marie-Claire Cammaerts., University of Brussels, Belgium, Retired
 Martin L. Pall PHD, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University
 Paul Héroux, PhD, Professor of Toxicology and Health Effects of Electromagnetism, McGill University Medicine, Department of Surgery, McGill University Health Center
 Theodora Scarato MSW, Environmental Health Trust

(The EMF Project is a separate entity from the WHO International Agency for Research on Cancer (IARC) that issued a 2011 determination that RF is a Class 2B “possible” carcinogen.)

FDA Cannot Offer Safety Determinations for Wildlife



“protecting non-human biological systems from electronic product radiation are not within the scope of FDA’s authorities.”

-Ellen Flannery, Director of the
FDA Office of Policy Center for
Devices and Radiological Health
[FDA to Soft Lights rejecting
petition](#)

May 24, 2024





1996 Telecom Act

No state or local governments may regulate wireless facilities “on the basis of the environmental effects” so long as the facilities comply with the FCC regulations.

47 U.S.C. § 332(c)(7)(B)(iv)

U.S. Oversight, Compliance and Enforcement Program for EMF?

- No registry of all wireless sites (small cell, 4G, 5G)
- No nationwide monitoring or mapping
- No auditing or oversight for industry RF compliance reports for cell towers and wireless facilities



Governments That Have RF Compliance Program and/or Measure Environmental Cell Tower Radiation



France, Greece, Turkey, Switzerland, India,
Israel, United Kingdom, Australia, French
Polynesia, Senegal, Guinea, Monaco,
Bhutan, Austria, Gibraltar, Brussels
Belgium, Bulgaria, Tunisia, Bahrain,
Norway, Brazil, Malta, Thailand, Croatia,
Lithuania, Serbia, Spain



Switzerland

- Share
- Print
- Draw & Measure on map
- Advanced tools

Radio transmitter

Change topic

Antenna positions

☒ 5G antenna locations (NR)



☒ 4G antenna locations (LTE)



☒ 3G antenna locations (UMTS)



☒ 2G (GSM) antenna locations



☒ Radio and TV broadcasters



☐ Microwave links



Coverage areas

☐ Radio coverage areas



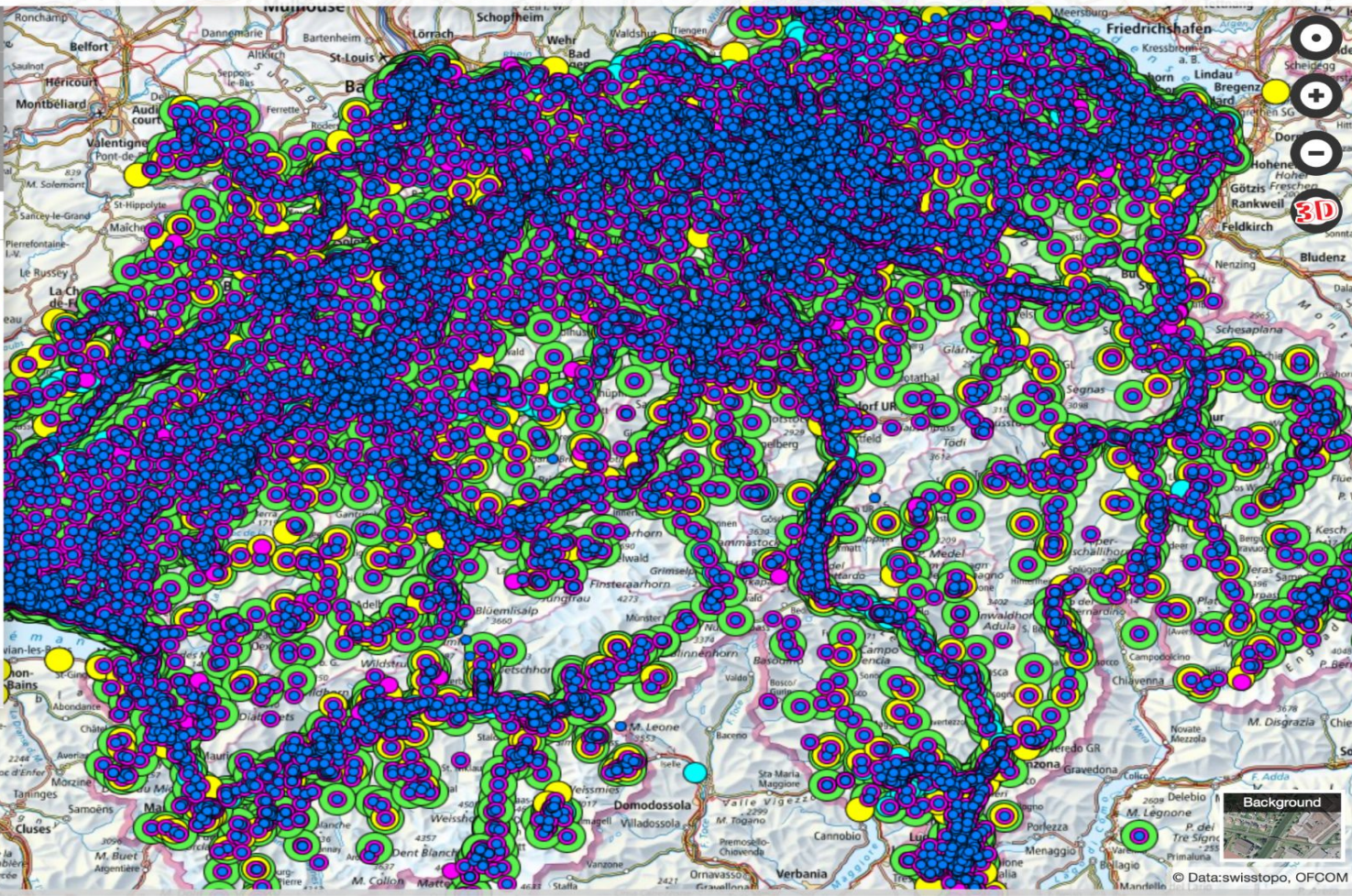
☐ TV coverage areas



☒ Background data

Maps displayed

Close menu



My Cartoradio - Connection

[Forgot password ?](#)



UNDERSTANDING CARTORADIO

GLOSSARY

F.A.Q

Cartoradio

The map of radio sites and wave measurements

Find the location of radio antennas.

Consult the measurements of exposure to the waves on all the French territory.

Register your own maps with the My Cartoradio account.



CARTORADIO, COMMENT ÇA MARCHE ? LE TUTORIEL VIDÉO



Radio sites

Find radio antennas location and the



Measures

View the results of field wave exposure



My Cartoradio



NATIONAL OBSERVATORY
OF ELECTROMAGNETIC FIELDS

500 Fixed
STATIONS

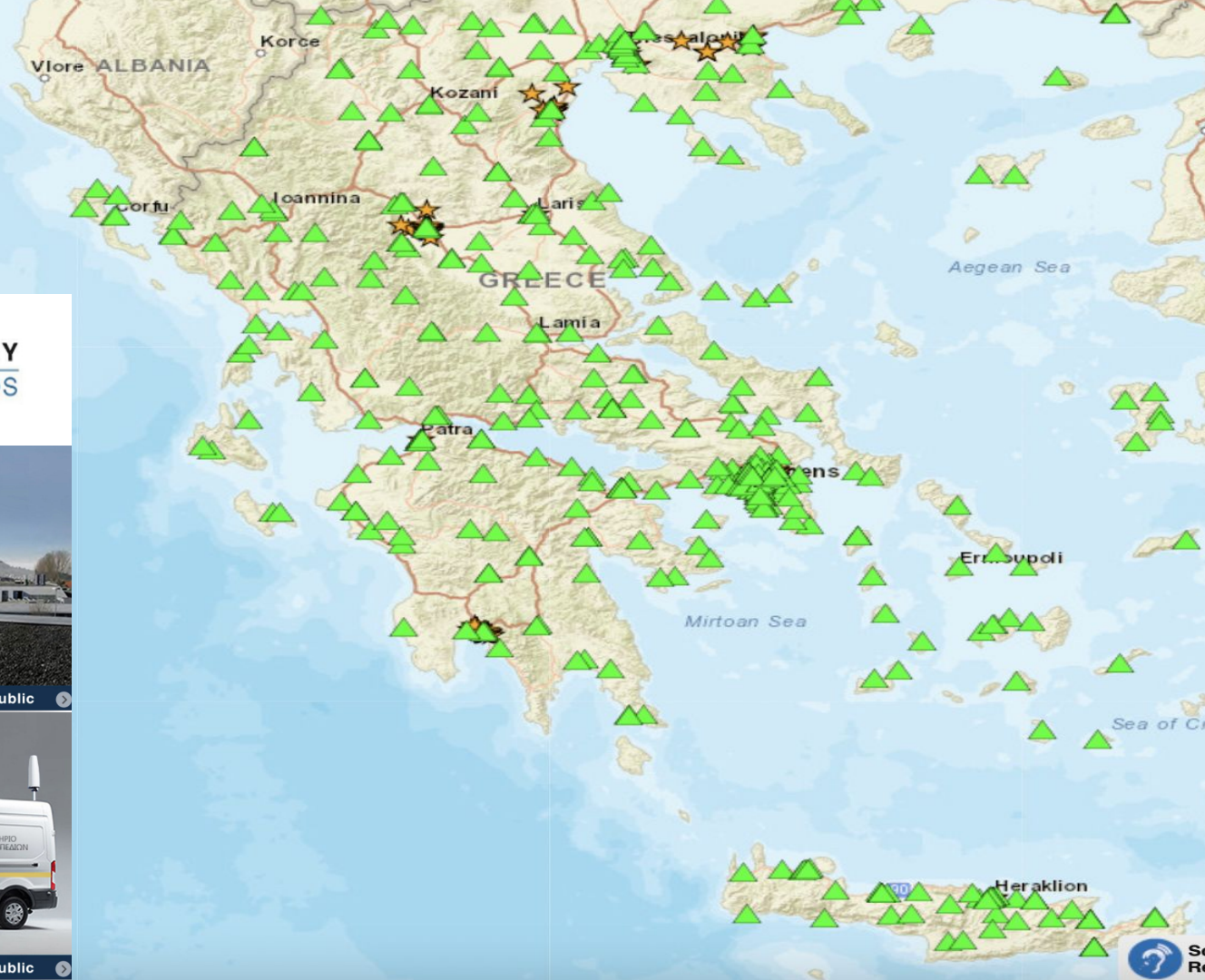


Electromagnetic field monitoring data - always **AVAILABLE** to the public

13 Mobile
STATIONS



Electromagnetic field monitoring data - always **AVAILABLE** to the public





Over **100 Congressional complaints** by EMR Policy Institute on **rooftop RF exceedances** *ignored by the FCC.*

No transparency even with Freedom of Information Requests.

- New York City: RF compliance reports on the 5G Towers, 2023
- FCC: RF Reports on rooftop antennas, 2023

verizon✓

Andre J. Lachance
Associate General Counsel
Federal Regulatory and Legal Affairs
1300 I Street, NW, Suite 500 East
Washington, DC 20005
Phone 703-304-4180
andy.lachance@verizon.com

March 29, 2023

Ms. Cerita Diggs
FOIA Coordinator, Enforcement Bureau
Federal Communications Commission
45 L Street, NE, Room 5.276
Washington, DC 20554

Re: FOIA Control No. FCC-2023-00324

Dear Ms. Diggs:

Verizon objects to the release of certain information contained in its 18-month and 30-month compliance reports under the 2014 consent decree between the FCC's Enforcement Bureau and Verizon.¹ Verizon sought confidential treatment of both reports at the time they were submitted to the FCC. Specifically, Verizon objects to the release of the total number of roof-top antenna locations owned by Verizon at the time of each report.

The total number of roof-top antenna locations information provided in the compliance reports should be granted confidential, non-public treatment pursuant to Sections 0.457 and 0.459 of the Commission's rules² and Exemption 4 of the Freedom of Information Act.³ As demonstrated below, Verizon has satisfied each of the elements of Section 0.459 of the Commission's rules:

1. **Specific information for which confidential treatment is sought.** 47 C.F.R. § 0.459(b)(1). Verizon requests confidential treatment for the total number of roof-top antenna locations information contained in Verizon's Second Compliance Report, dated October 30, 2015, and its Third Compliance Report, dated October 30, 2016. The total number of roof-top antenna locations information contained in these compliance reports is highly sensitive commercial information.
2. **Circumstances giving rise to this submission.** 47 C.F.R. § 0.459(b)(2). The compliance reports were sent pursuant to the 2014 Consent Decree Verizon entered into with the Enforcement Bureau directing Verizon to file the reports.

¹ FCC Reference Number EB-FIELDNER-12-00004011 (April 30, 2014).

² 47 C.F.R. §§ 0.457, 0.459.

“Specifically, Verizon **objects to the release** of the total number of roof-top antenna locations owned by Verizon...”

“The **total number of roof-top antenna locations** information provided in the compliance reports **should be granted confidential, non-public treatment...**”

-Verizon letter to FCC FOIA Coordinator regarding EHT FCC FOIA -2023-00324