CELL TOWER RADIATION LIMITS U.S. & WORLDWIDE

POLICY BRIEF

PUBLIC EXPOSURE LIMITS

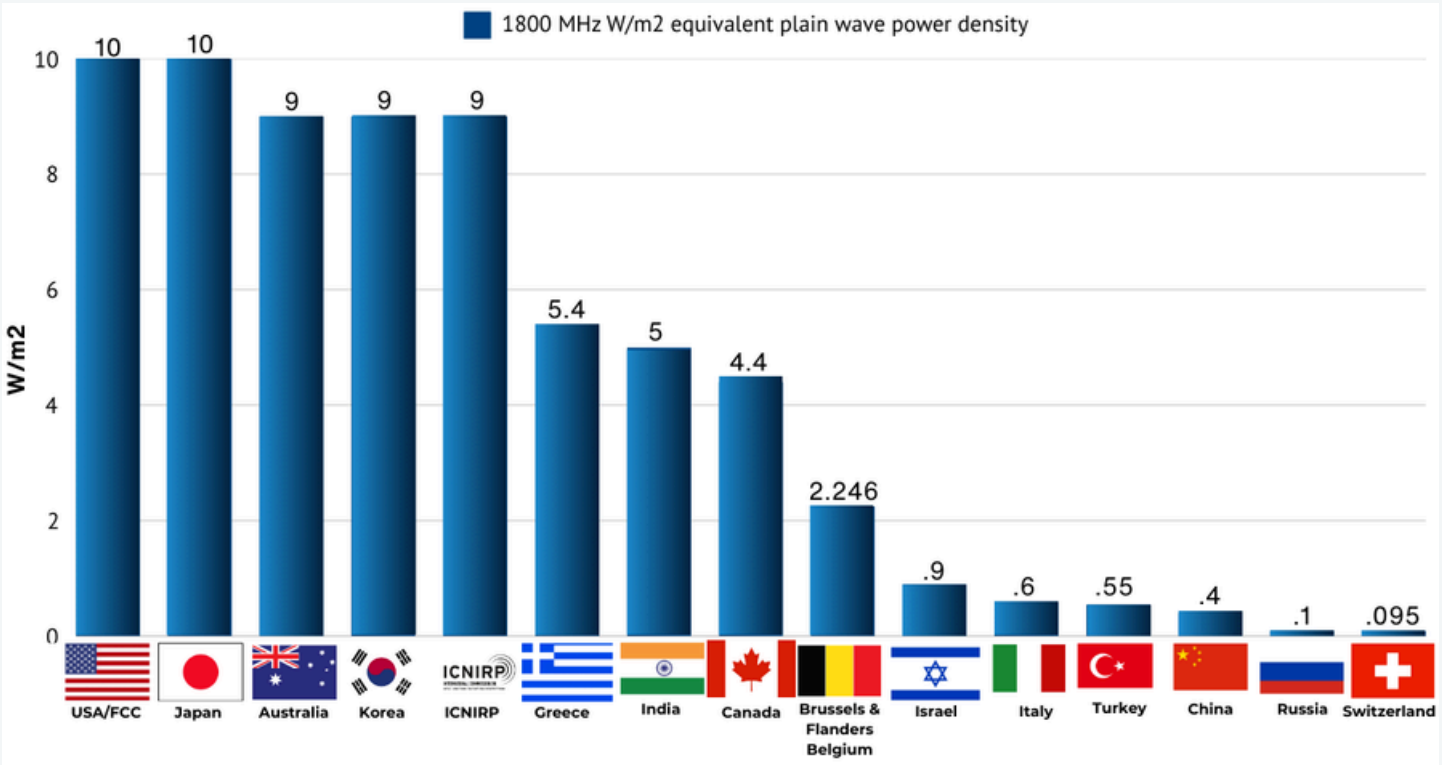
The wireless radiofrequency (RF) radiation maximum public exposure (MPE) limits set by the Federal Communication Commission (FCC) are used to assess ambient RF levels both inside buildings (i.e. classrooms and homes) and outside (i.e. playgrounds, sports fields). These limits also function as cell tower RF radiation compliance limits.

Environmental Sources

- **Cell towers**
- **4G/5G small cells**
- **Boosters**
- **Wi-Fi networks**
- **Rooftop antennas**

COUNTRY COMPARISON OF WIRELESS RF LIMITS

for Ambient Exposures That Apply to Schools and Homes (1800 MHz)
Environmental Sources: Cell Towers, Wi-Fi Networks, Cell Antennas



U.S. LIMITS: AMONG THE MOST LENIENT

The FCC's limits for environmental RF are among the most lenient worldwide and remain unchanged since 1996. Adverse biological impacts have been reported at levels far below FCC limits.

Compared to the U.S.A., many other governments enforce stricter limits, especially in children's areas. Countries like Italy and Switzerland take a precautionary approach, while China and Russia maintain active RF research programs to inform their limits.

The U.S. has no active research or agency ensuring scientific review of the FCC's 1996 limits, despite a 2021 federal court order.

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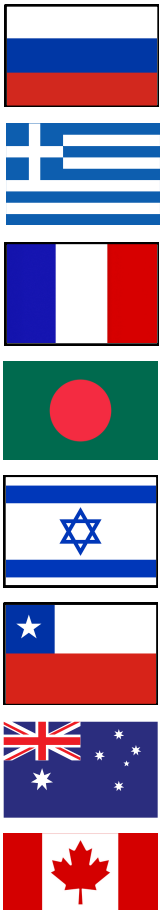
U.S. LOCAL POLICIES RESTRICTING CELL TOWERS NEAR SCHOOLS

The U.S. lacks federal regulations governing the placement of cell towers near homes, hospitals, and schools. However, some state and local communities have taken steps to address the issue.*

School District Bans on New Cell Towers: Los Angeles CA, Palo Alto CA, Temecula Valley CA, West Linn-Wilsonville OR, Loudoun County VA.

Local Policy with Cell Tower Setbacks: Shelburne MA (3,000 ft schools, 1,500 ft homes), Williamson County TN (1,500 ft schools), Copake NY (1,500 ft homes/schools), Sallisaw OK (1,500 ft homes), Walnut Creek CA (1,500 ft schools), Calabasas CA (1,000 ft homes/schools), Scarsdale NY (500 ft homes/schools), San Diego County CA (300 ft schools), Bedford NH (750 ft residential), Bar Harbor ME (1500 ft schools).

New Hampshire: State Commission Report on 5G Health and Environment recommends a 1,500 foot setback for cell towers and 4G/5G antennas.



INTERNATIONAL POLICIES TO PROTECT CHILDREN

Russia: Antennas for cell towers and base stations are no longer permitted near schools, with a national plan in place to relocate existing sites away from schools.

Lithuania: Cell antennas are prohibited on kindergartens and hospitals.

Greece: Towers are banned on school grounds. Stricter RF limits apply within a 300-meter radius around kindergartens, schools, hospitals, and elderly care facilities.

France: For towers or wireless facilities within 100 meters of schools, daycare centers, or healthcare establishments, levels must be minimized.

Bangladesh: Cell towers are prohibited on residential properties, schools, colleges, playing fields, densely populated areas, and heritage sites.

Israel: Minimum setback of 100 meters for cell towers near schools and homes.

Chile: Cell antennas are not allowed in “sensitive areas” such as kindergartens, hospitals, and nursing homes.

Queensland, Australia: New cell towers prohibited on school property, with a 200-meter setback and emissions capped at no more than 1% of federal guidelines.

New Zealand: Cell towers prohibited on school property and 50 meter setback from schools.

Toronto, Canada: A "Prudent Avoidance Policy" recommends keeping RF exposures at least 100 times below Health Canada’s guidelines.

Click on country or policy for hyperlink to source.

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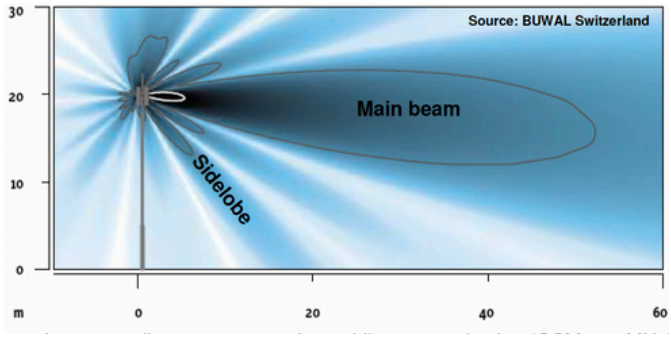
POLICY BRIEF

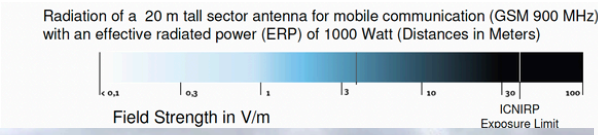
HIGHER RF RADIATION IN CLOSE PROXIMITY TO CELL ANTENNAS

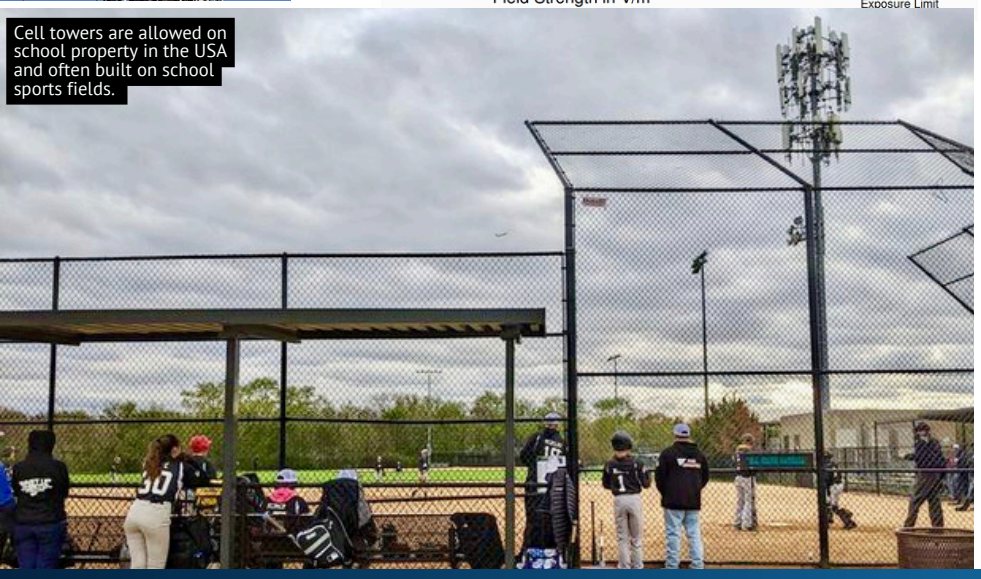
The 2022 study "**Measurements of radiofrequency electromagnetic fields, including 5G, in the city of Columbia, South Carolina, USA**" published in *World Academy of Sciences Journal* by Tarmo Koppel and Lennart Hardell, MD of the Environment and Cancer Research Foundation found the highest RF exposure readings were registered close to cell phone base station antennas.

Image: Hardell and Koppel (2022) Figure 7 - Gervais Street "Cell phone base station antenna placed close to street level and causing high exposure to pedestrians and nearby café visitors (exposure scenario illustration)."

RADIATION PATTERN OF A SECTOR CELL ANTENNA







Cell towers are allowed on school property in the USA and often built on school sports fields.

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Click on research paper to hyperlink to source.