



A new study from [RootMetrics](#) has revealed that U.S. adults seem to care more about cell phone reception than the quality of neighborhood schools when buying a home.

The survey of 2,000 Americans found that 60% rank good school districts as important, compared to 76% who called out mobile service—the same proportion that ranked hospitals as essential.

Though respondents in all age groups (even those most likely to include parents of young kids) said cell service was more important than school district, older adults unsurprisingly tended to rank hospitals as increasingly more important.

If you are frustrated with the cell reception in your house or apartment, you aren't alone: 45% of Americans surveyed complained they have recurring problems with mobile signal or call quality at home.

Collocation is THE #1 Priority

First choice is to lease space on existing towers, water tanks, rooftops, steeples, smoke stacks and utility towers. IF they meet the following criteria...



- 1. Do they fall in the search area and provide the needed height to meet the coverage objective?**
- 2. Are they structurally sound enough to hold an array of antennas?**
- 3. Is the property owner interested in leasing the space?**

What does this tower do, anyway?

**Sends a radio signal to
Verizon subscribers' devices.**

Are these radio signals something I should be concerned about?

No.

In fact, you're surrounded by radio signals right now!

(And have been your whole life.)

Other Radio Operated Devices Around You



AM/FM Radio



TV



WIFI



**Microwave
Oven**



**Wireless
Router**



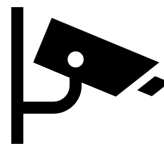
**Baby
Monitor**



**Bluetooth
Headset**



**Garage
Door
Opener**



**Security
System**

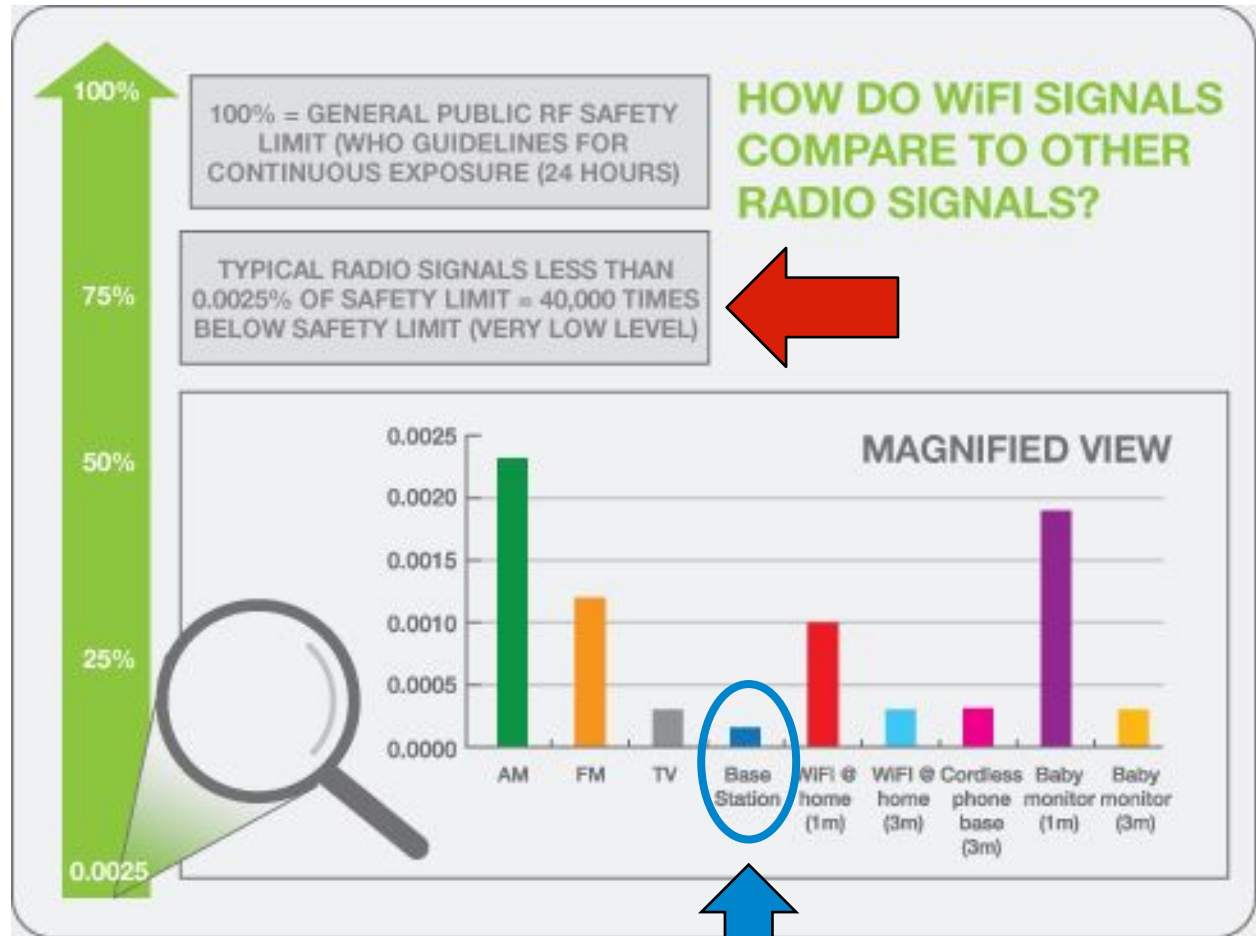


**Cordless
Phone**

Common Indoor RF Exposure Levels:

Some typical RF signals around you on a daily basis.

- AM/FM signals have been around since the 1920's.
- Television signals have been in the air since the 1950's.
- At customary heights, wireless antenna signals represent the lowest exposures among other ambient indoor signals.



How do I know these signals are safe?

Based on peer reviewed scientific studies performed by qualified scientists and engineers.

The FCC Governs and Regulates RF Emissions in the US

- **FCC is the federal agency responsible for establishing, implementing and enforcing communications standards, laws and regulations in the US.**
- **FCC safety standards are based on recommendations received from expert organizations such as American National Standards Institute ([ANSI](#)), Institute of Electrical and Electronics Engineers, Inc. ([IEEE](#)), and the National Council on Radiation Protection and Measurements ([NCRP](#)) regarding human exposure to RF electromagnetic fields and endorsed by agencies of the Federal Government responsible for health and safety.**
- **Measurements of RF at typical telecom installations, especially cell towers, show ground-level power densities hundreds to thousands of times less than FCC's limits deemed for safe exposure.**

A Sample of Worldwide Organizations Attesting to RF Safety

- ❖ **Federal Communications Commission**
- ❖ **World Health Organization**
- ❖ **Occupational Safety and Health Administration (OSHA)**
- ❖ **Food and Drug Administration (FDA)**
- ❖ **National Institute for Occupational Safety and Health (NIOSH)**
- ❖ **National Council on Radiation Protection and Measurements (NCRP)**
- ❖ **Institute of Electrical and Electronics Engineers (IEEE)**
- ❖ **The European Commission**
- ❖ **Harvard University Dept. of Environmental Health & Safety**

What the Experts Say...

“Radiofrequency emissions from antennas used for cellular and PCS [personal communications service] transmissions result in exposure levels on the ground that are typically thousands of times below safety limits. These safety limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety. Therefore, there is no reason to believe that such towers could constitute a potential health hazard to nearby residents or students.”

-FCC

“The balance of evidence to date suggest that exposures to RF radiation below NRPB and ICNIRP guidelines do not cause adverse health effects to the general population.”

-NRPB

“Based on current research there are no established health effects that can be attributed to the low RF EME exposure from mobile phone base station antennas.”

-ARPANSA

“...the overwhelming majority of consensus documents from various health agencies worldwide agree that cell phones and base-station antennas are unlikely to cause cancer.”

-Harvard University

“Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there is very little evidence to support this idea.”

-American Cancer Society

“The consensus of the scientific community, both in the US and internationally, is that the power from these mobile phone base station antennas is far too low to produce health hazards as long as people are kept away from direct access to the antennas.”

-Medical College of Wisconsin

Wireless Networks and Your Health: THE FACTS

FACTS

- Wireless devices and facilities must adhere to radio frequency ("RF") emission guidelines established and enforced by the Federal Communications Commission ("FCC").

See FCC, Second Memorandum Opinion and Order and Notice of Proposed Rulemaking, 12 FCC Rcd 13494

- Under federal law, state and local governments may not regulate the placement, construction, and modification of wireless facilities on the basis of environmental effects of RF emissions if the facilities comply with FCC regulations governing RF emissions.

47 U.S.C. § 332(c)(7)(B)(iv)

- RF emissions from wireless facilities generally are significantly lower than permitted. According to recent studies, "RF exposures from base stations range from 0.002% to 2% of the levels of international exposure guidelines."

World Health Organization, Electromagnetic Fields and Public Health, <http://www.who.int/mediacentre/factsheets/fs304/en/>

- There is no credible scientific evidence that RF emissions from wireless base stations and wireless networks have adverse health or environmental effects.

CONCLUSIONS

- The World Health Organization has conducted a review of all available studies and concluded that "there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects."

World Health Organization, Electromagnetic Fields and Public Health, <http://www.who.int/mediacentre/factsheets/fs304/en/>

- The U.S. Food and Drug Administration has determined that based on all available evidence, there is "no increased health risk due to radio-frequency (RF) energy."

U.S. Food and Drug Administration, Consumer Updates: No Evidence Linking Cell Phone Use to Risk of Brain Tumors, <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm212273.htm>

- The National Cancer Institute has concluded that despite the rise in cell phone use, brain cancer rates did not increase between 1987 and 2005.

U.S. Food and Drug Administration, Consumer Updates: No Evidence Linking Cell Phone Use to Risk of Brain Tumors, <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm212273.htm>

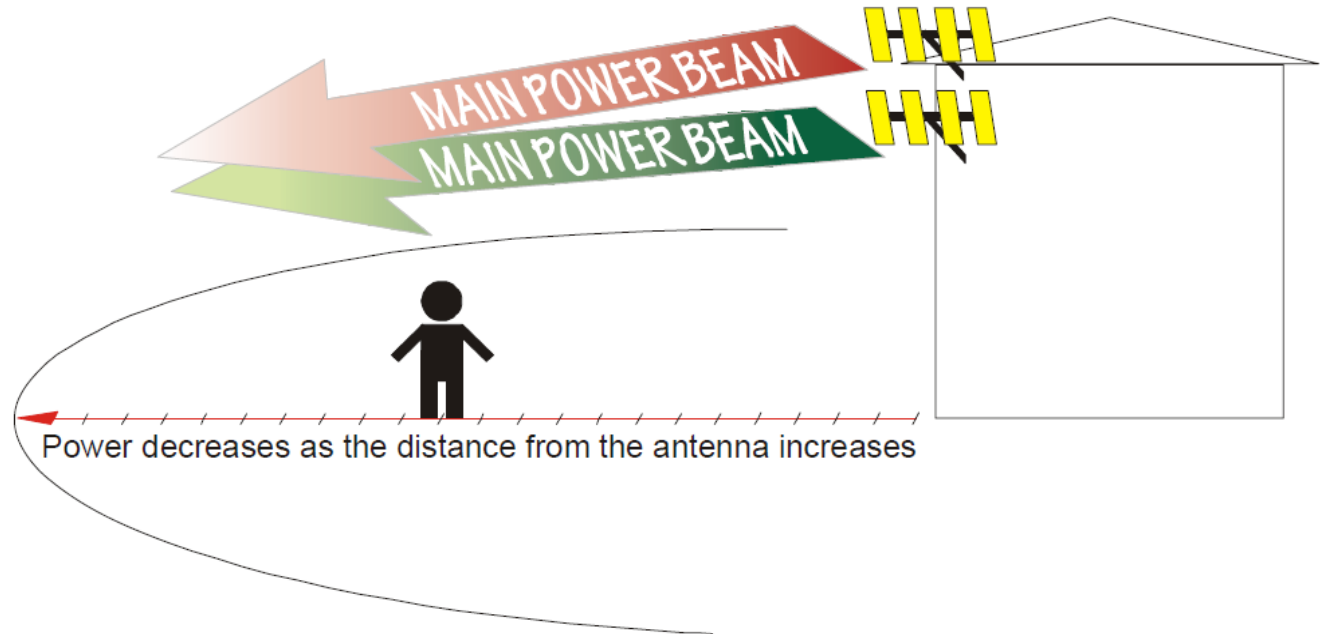
- The FCC has concluded that "[t]here is no scientific evidence to date that proves that wireless phone usage can lead to cancer or a variety of other health effects, including headaches, dizziness or memory loss."

FCC, Office of Engineering and Technology, RF Safety FAQs, <http://www.fcc.gov/oet/ef/safety/rf-faqs.html#Q6>

Key RF Factors:

Remember L-D-D-R:

- ✓ Wireless signals are **LOW POWER**.
- ✓ The signal beam is **DIRECTIONAL**.
- ✓ Signal intensity **DISSIPATES RAPIDLY** the farther from the antenna the signal travels.



Q: So what's the minimum distance from an antenna* the FCC considers safe?

A: It's impossible to get close enough to the antennas to be in harm's way - unless you climb the tower.

***Antenna ≠ Tower**

FACT

According to the FDA and FCC...

“To be exposed to levels at or near the FCC limits for cellular or PCS frequencies, an individual would essentially have to remain in the main transmitted radio signal (at the height of the antenna) and within a few feet of the antenna...” for an extended period of time.

RF Safety Resources

FCC RF Safety FAQ

<https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety>

American Cancer Society

<https://www.cancer.org/cancer/cancer-causes/radiation-exposure/cellular-phone-towers.html>

WHO Electromagnetic Fields and Public Health Fact Sheet

<http://www.who.int/peh-emf/publications/facts/fs304/en/>

IEEE Standard for Safety Levels with Respect to Human Exposure to RFE

<http://emfguide.itu.int/pdfs/C95.1-2005.pdf>

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Datasheet on Mobile Phone Base Stations and Health

<https://www.arpansa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/mobile-phone-base-stations>

Health Physics Society

<http://hps.org/publicinformation/ate/faqs/cellphoneqa.html>

Harvard University RF Safety Fact Sheet

<https://www.ehs.harvard.edu/sites/ehs.harvard.edu/files/CellphoneTowerFacts.pdf>

Wireless Infrastructure Association Fact Sheet

https://wia.org/wp-content/uploads/Advocacy_Docs/pcia_rf_fact_sheet.pdf

National Radiation Protection Board of Great Britain

http://webarchive.nationalarchives.gov.uk/20110930030001/http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1194947334474

Centers for Disease Control and Prevention (CDC)/NIOSH

<https://www.cdc.gov/niosh/topics/emf/>

Q: How common are these things, especially in residential areas or around schools or parks?

A: More common than you might imagine.

For example...

Schools...



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Conant HS Schaumburg, IL



Downers S HS Downers Grove, IL



Westmont HS Westmont, IL



Hoffman Estates HS Hoffman Estates, IL



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Notre Dame HS Niles, IL



Parks...



Gilbert Park Downers Grove, IL



Atten Park Wheaton, IL



Elk Grove Ballfield Elk Grove Vg., IL



Maple Hill Pool Downers Grove, IL

