

## FAQ'S

Information provided by the American Cancer Society.

[www.cancer.org](http://www.cancer.org)

### How do cell phone towers expose people to RF waves?

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Cell phone base stations can be free-standing towers or mounted on existing structures, such as trees, water tanks, or tall buildings. The antennas need to be high enough to adequately cover a certain area. Base stations are usually from 50 to 200 feet high.

Cell phones communicate with nearby cell towers mainly through RF waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. Like FM radio waves, microwaves, visible light, and heat, they are forms of non-ionizing radiation. This means they do not directly damage the DNA inside cells, which is how stronger (ionizing) types of radiation such as x-rays, gamma rays, and ultraviolet (UV) rays are thought to be able to cause cancer.

#### On the ground near a cell phone tower

RF waves from a cell phone tower antenna, like those from other telecommunication antennas, are directed toward the horizon (parallel to the ground), with some downward scatter. Base station antennas use higher power levels than other types of land-mobile antennas, but much lower levels than those from radio and television broadcast stations. The amount of energy from RF waves decreases rapidly as the distance from the antenna increases. As a result, the level of exposure to RF waves at ground level is much lower than the level close to the antenna.

At ground level near typical cellular base stations, the amount of energy from RF waves is hundreds to thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.

#### Do cell phone towers cause cancer?

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 isn't a lot of evidence to support this idea. Still, more research is needed to be sure.

#### What expert agencies say

The American Cancer Society (ACS) does not have any official position or statement on whether or not radiofrequency (RF) radiation from cell phones, cell phone towers, or other sources is a cause of cancer. ACS generally looks to other expert organizations to determine if something causes cancer (that is, if it is a carcinogen), including:

The International Agency for Research on Cancer (IARC), which is part of the World Health Organization (WHO)

The US National Toxicology Program (NTP), which is formed from parts of several different government agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA)

Other major organizations might also comment on the ability of certain exposures to cause cancer.

## FAQ'S

Information provided by the CTIA.

[www.wirelesshealthfacts.com](http://www.wirelesshealthfacts.com)

### Are cellphones, cell towers, small cells and antennas safe?

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Radiofrequency energy from wireless devices and networks, including radiofrequencies used by 5G, have not been shown to cause health problems, according to the international scientific community. To cite one example, the Food and Drug Administration said, "Based on the FDA's ongoing evaluation, the available epidemiological and cancer incidence data continues to support the Agency's determination that there are no quantifiable adverse health effects in humans caused by exposures at or under the current cell phone exposure limits."

### Have wireless devices and networks been shown to cause cancer in humans?

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No, according to the international scientific consensus, wireless devices and networks have not been shown to cause cancer in humans. In fact, an analysis of government statistics shows that since the introduction of mobile phones in the 1980s, rates of brain cancer have remained unchanged while the exposure to RF energy from wireless networks has gone up. Many studies have explored whether cellphones cause cancer with the American Cancer Society concluding that "RF waves given off by cell phones do not have enough energy to damage DNA directly or to heat body tissues. Because of this, it's not clear how cell phones might be able to cause cancer."

### Is 5G safe?

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The scientific consensus is that there are no known health risks from all forms of RF energy at the low levels approved for everyday consumer use. The FCC regulates RF emissions, including millimeter waves from 5G devices and equipment, and has adopted the recommendations of expert scientific organizations that have reviewed the science, including dozens of studies focused specifically on millimeter waves, and established safe exposure levels. In December 2019, the FCC reaffirmed—on a unanimous and bipartisan basis—these safety standards. Typical exposure to 5G devices—such as small cells attached to phone poles or the sides of buildings—is far below the permissible levels and comparable to Bluetooth devices and baby monitors (New Orleans City Council Hearing, 2019). The FCC continues to monitor the science to ensure that its regulations are protective of public health.

### Do cellphones and wireless equipment have to meet safety standards?

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Yes. Safety standards are set by the Federal Communications Commission in order to protect public health. In December 2019, the FCC reaffirmed—on a unanimous and bipartisan basis—these safety standards. The Food and Drug Administration has also said that "the existing safety limits for cell phones remain acceptable for protecting the public health." Wireless devices go through a rigorous approval process to ensure they meet guidelines and they operate well under safety limits. These limits are based on recommendations from the scientific community and expert non-government organizations including the National Council on Radiation Protection and Measurements.

# THE TRUTH ABOUT 5G

Radiation measured from a microwave and compared to a 5G tower.

my broadband.co.za

## Common misconceptions with 5G:

Spreads COVID

Causes cancer

High radiation levels

Poses a health risk

Uses more energy

Is not essential

**“We expect 5G to become the worldwide dominating mobile communications standard of the next decade.”**

**– Dr. Christoph Grote, Senior Vice President Electronics, BMW Group**



**Radiation from a microwave:  
4W/square meter**



**Radiation from 5G tower:  
.004 W/square meter**

# HOW DOES THE PROXIMITY TO A CELL TOWER IMPACT HOME VALUES?

Information provided by the Valbridge Property Advisors.

[www.valbridge.com/how-does-the-proximity-to-a-cell-tower-impact-home-values/](http://www.valbridge.com/how-does-the-proximity-to-a-cell-tower-impact-home-values/)

Valbridge Property Advisors conducts market studies to determine the impact of wireless communication towers on property values in four metropolitan U.S. cities.

Valbridge Property Advisors recently completed market studies in Boston, Dallas, Phoenix, and Raleigh, to determine the impact of the presence of wireless communications towers on residential property values.

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## The Process

The studies were conducted in multiple sub-areas of each city, which were then compiled to produce measurable results. Home sale values demonstrated no measurable difference for those homes within a 0.25-mile radius sphere of influence of the cell tower and those homes in a 0.50-1.0 mile radius outside of the cell tower sphere of influence. In many of the sub-areas, home prices increased nominally. No measurable difference is defined as a less than 1% difference; nominal difference is defined as 1-3%.

To prepare the sub-area studies, the center points of each sub-area's primarily single-family residential areas or specific subdivisions were identified by latitude and longitude. Single-family residential sales with both a qualified buyer and a qualified seller from the first quarter 2015 through first quarter 2018 were located and verified to assess the transactions.

## THE RESULTS ARE IN

**BOSTON:** The Boston study revealed 10 of 22 pairings of home sales with higher sale prices within the 0.25-mile sphere of influence, 11 of 22 pairings with lower home prices, and one pairing indicating no difference. The data indicates cell towers do not have a negative impact on property values within a .25-mile radius of cell towers. Overall, the measurable difference is less than 1% in both the increasing and decreasing home price indications.

**DALLAS:** In Dallas, for homes in the .25 to 1.00-mile radius, there was no measurable difference. Out of 33 paired sales in five sub-areas, 20 pairings indicated higher values for those sales within the 0.25-mile sphere of influence, while 12 pairings indicated lower values and one indicated no difference. Overall, Dallas shows no measurable difference. The data indicates cell towers do not have a negative impact on property values within a .25-mile radius of cell towers.

**PHOENIX:** There were 37 paired sales in the Phoenix market, and 20 of the pairings indicated increased home prices within the 0.25-mile sphere of influence while seventeen of the 37 pairings indicated decreased home prices. Four of the five sub-areas studied had no measurable difference and one sub-area had a nominal difference.

**RALEIGH:** In Raleigh, fourteen of 22 pairings indicated higher home prices within the 0.25-mile sphere of influence while eight of 22 indicated slightly decreased home prices. Overall, the average and median prices increased in four of the five sub-areas and one sub-area indicated no measurable difference. The data indicates cell towers do not have a negative impact on property values within a .25-mile radius of cell towers. Overall, the measurable difference is less than 1% in both the increasing and decreasing home price indications.

## DIG DEEPER

To request a copy of the study findings, visit [Valbridge.com](http://Valbridge.com).

I am the Legal Director for Atlas Tower, and I would like to offer a few comments which may provide some clarity on the topic of Radio Frequency (RF) safety issues as they relate to human health.

1. There is a vast body of scientific evidence that has proven that RF communication devices are safe for humans of all ages. Reliable sources of information on this topic can easily be found at the Federal Communications Commission's (FCC) website. Other sources include the Occupation Health and Safety Administration (OSHA), the American Cancer Society, the World Health Organization (WHO), as well as reputable peer reviewed scientific and medical journals from prominent academic institutions of higher learning.

2. Every aspect of wireless technology, including the design, manufacture, and use of wireless devices is regulated for safety. Current regulations and court rulings regarding RF safety consistently affirm that RF exposure rules currently in place ensure that this technology is safe for both adults and children alike.

3. Congress has granted the authority to establish RF standards for safety only to the FCC. It is well established law that the FCC's rules and regulations for safety are not subject to challenge in state or local jurisdictions. Therefore, any concerns or questions about the regulation of RF, or requests to deny the use of RF approved equipment must be directed to the federal government through the FCC. Therefore, local governmental entities, such as a Planning & Zoning Commission, a Board of County Commissioners, or a School District may not regulate matters related to RF safety or deny an application based on health concerns.

4. Understandably, this topic is complex and and raises valid questions from concerned members of the public. Those questions should be directed to the FCC and other federal agencies that are charged by Congress with the responsibility to regulate the use of this technology. State and local governments may not issue statements on this topic, as the federal government has preemption on this subject matter. See Article VI, Paragraph 2 of the US Constitution and FCC Resolution 19-126 (regulation of health effects of cell phone RF Emmissions preempt state lawsuits alleging adverse health effects).

5. Atlas Tower is available to assist with any questions regarding the process that was followed to gain approval for this tower, and all other towers. Rest assured that Atlas Tower complied with all noticing requirements and other requirements, and will at all times continue to comply with all requirements.

6. Wireless technology is proven to be safe and good for the community. Wireless technology allows the community to function more efficiently, and it greatly facilitates first responder reaction times, thus improving emergency response and saving lives. Wireless communication allows families to stay in touch with their children and other family members. Wireless technology enables businesses, organizations and educational institutions to be more efficient and more equitable in their delivery of resources to all types of people, regardless of income or other inequities that may exist in society. The resounding demand for excellent wireless communication in your community is driven by the needs of your students, your parents, and your local community.

I am available to further assist or answer any follow up questions. Thank you for your assistance with this project.

-Mike

Michael Powers  
Director of Legal Affairs  
Atlas Tower  
Office: +1 303.448.8896  
Skype: mpowers.atlastower  
Mobile: +1 303.882.1956  
3002 Bluff St., Suite 300  
Boulder, CO, USA 80301  
[www.atlastowers.com](http://www.atlastowers.com)

