Understanding the safety of 5G.

You’ve probably heard a lot about new 5G networks, and it’s only natural to wonder about their safety. Much like the signals for your TV, radio or wi-fi router, 5G travels to your device using electromagnetic energy—one of the most ubiquitous and well-studied phenomena in the universe.

Where 5G fits on the electromagnetic spectrum.

Long Wavelengths
Low Energy
Low Frequency

Non-ionizing spectrum
These wavelengths do not have enough energy to break DNA bonds and are considered safe.

Short Wavelengths
High Energy
High Frequency

Ionizing spectrum
These wavelengths have more energy and can damage cells. You should limit your exposure.

4G 5G
5G, like 4G, is well within the non-ionizing zone.
5G builds on 4G.

5G is the next generation of wireless technology, but it works pretty much the same as current 4G networks. To expand 5G throughout the country, carriers are working hard to expand small cells and fiber. The good news is that over 154,000 small cells are already deployed¹ throughout the US—powering many of the 4G and LTE networks in use today.

Low power minimizes exposure.

We're constantly surrounded by electromagnetic energy. Whether you're talking about 5G, 4G or your Bluetooth headset, the physics are the same, and the body’s response is essentially identical. You can see in this chart how emission levels from small cells compare to other common radio frequencies (RF)—all many times below what the FCC considers safe.

Key takeaways.

1. Studies show that cellular signals—including 5G—are safe.
2. 5G is the next generation of cellular networks and builds on 4G.
3. 5G emissions are similar to those from everyday technologies like TV, radio, wi-fi—even your toaster.

“The light produced by a light bulb is a form of electromagnetic radiation with energy and frequency that is approximately 17,000 greater than that of the highest frequencies used by 5G.”

Dr. Jerrold Bushberg, Vice Chair of COMAR and Clinical Professor, Radiology & Radiation Oncology, University of California, Davis School of Medicine

The research is clear.

The consensus of seven decades of research by worldwide health and safety organizations is that electromagnetic emissions at the levels allowed by FCC regulations are safe.

We encourage you to take a deeper dive if you'd like to know more.

The 5G Health Hazard That Isn't. The New York Times shows how misinformation about wireless technologies has spread. Read More

Research on Cell Signals and Cancer. The American Cancer Society provides a good summary of the available research and findings. Read More

¹https://www.ctia.org/infrastructure-channel