

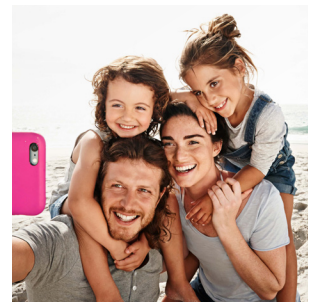


5G – a new era of connectivity

5G networks have the power to connect millions of people and billions of devices across America, unlocking the unlimited possibilities of IoT (Internet of Things). Even though wireless networks will soon provide 5G across the entire United States, there remains public confusion around what exactly it is.

What is 5G?

Fifth-generation wireless (5G) is the latest iteration of cellular technology. While 5G technology operates on the same radio signals as current 4G/4G LTE networks, it is engineered to transmit data more efficiently. That means superior speeds and support for more connected devices than ever before. The ultra-low latency of 5G means quick response times during data-demanding activities.



An investment in your community — and the future.

A strong 5G network in your community opens the door for IoT (the universe of connected devices, sensors, and objects) that can drastically improve safety, efficiency, quality of life, and economic opportunity for everyone.



PUBLIC SAFETY

Wireless sensors have the potential to reduce gun crimes by up to 50%.¹



UTILITIES

Adoption of smart grid technologies are predicted to save consumers up to \$2 trillion over the next 20 years.¹



TRANSPORTATION

Smart traffic management systems can reduce congestion by 40% and save \$100 million annually for taxpayers.¹



PUBLIC HEALTH

Self-driving cars combined with smart signals can result in up to 90% less emissions.

KNOW THE FACTS ABOUT 5G

Radio signals used for 5G are like those used by current 4G/4G LTE technologies and are covered by the same national Federal Communications Commission (FCC) safety guidelines that protect all members of the public and the environment.

¹ CTIA Smart Cities Playbook: Building Your Connected Community

The benefits of multi-spectrum 5G

When it comes to spectrum (radio signals), there are unique strengths of low-band, mid-band, and high-band (or millimeter wave) frequencies. Higher frequencies can transmit more information over short distances and are well suited for dense urban areas. Lower frequencies travel longer distances, are less hindered by obstacles, and are utilized for nationwide coverage, particularly in rural areas. That's why T-Mobile uses a layer-cake approach to 5G using three bands of spectrum.

T-MOBILE'S LAYER-CAKE APPROACH TO 5G

Low band
(Nationwide)

Low band + Mid band
(Suburban & Metropolitan)

Low band + Mid band +
High band (Dense urban)



DID YOU KNOW...

T-Mobile's 5G network uses the same frequencies as these common household items:



Baby monitor



Microwave



Wi-Fi Router

www.fcc.gov/5G

