

SMALL CELL SAFETY



Features and benefits of small cell technology

Features

Key features of 5G networks:



Speed

- Much higher data rates (1-20 Gbit/s).
- 10X faster than 4G LTE



Reduced Latency

- Much lower latency, meaning very little lag, or buffering.

This would mean a full HD movie could be downloaded in 10 seconds, as opposed to 10 minutes today!



Greater Capacity

- Capable of handling 1000X more traffic than today's networks equals seamless connectivity experiences.

Benefits

5G has benefits to all of us. 5G technology will be the foundation for:

- Telehealth
- Remote learning
- Public safety
- Industrial automations
- Enhanced entertainment experiences
- Increased access to broadband services for residential and business
- Economic growth:
 - 2,979 jobs created in NJ*
 - 104.4K jobs created in NY*

* Local impact figures estimated for job creation are based on the top 10 cities by state data from: Majed Al Amine Et Al., How 5G Can Help Municipalities Become Vibrant Smart Cities (Accenture Strategy, 2017)

Comparing mean power density

Measured near common household devices:



Wi-Fi signal



Small cell



Microwave oven



Cell phone

.001mW/cm²

0.2mW/cm²

The FCC limit for radio frequency (RF) exposure is 1 milliwatt per square centimeter (1mW/cm²)



What is needed?

To receive these benefits, we need extensive network infrastructure, which requires building many sites for small cell deployments.

5G. As safe as it is superior.

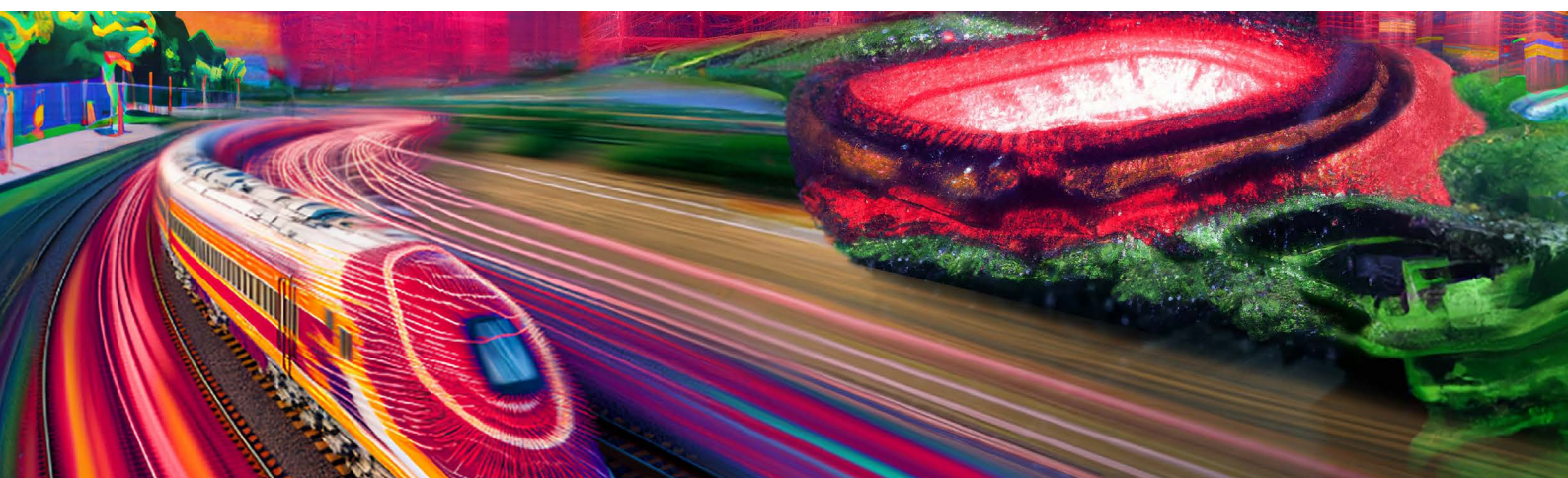


Small cell safety

Small Cells are designed to service localised subscribers in close proximity to the cell location. They provide additional network bandwidth in high traffic areas and are therefore widely found in urban environments. Small Cells typically transmit 8 to 16 times lower power than a regular cell site and 100's of times lower than a legacy TV or FM radio tower. This power generates very low radio frequency emissions which can be safely transmitted in close proximity to the public.

5G technology

5G will utilise both traditional cellular spectrum bands and new millimeter (MM) wave spectrum to provide the next generation of cellular service. Traditional cellular frequencies emit very low energy waves. In comparison, MM wave signals will not travel as far and will not be able to penetrate buildings or surfaces as effectively as the traditional bands. 5G small cells will also utilise smart antennas and beamforming technology to improve performance. The use of this new spectrum and advanced technology eliminates any incremental health concerns.



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