

Your 5G mmWave mobile devices need these 4 things

5G NR mmWave operates in a new portion of the radio frequency (RF) spectrum. This brings about a new wave of opportunities for mobile communications. However, integrating 5G mmWave technology into mobile devices creates challenges for both design and testing. Stay well informed of compliance testing requirements and considerations.



Possible RF exposure mitigation

- Using beam-forming to point transmitted signal away from the user.



mmWave portable device RF exposure testing

- Traditional power density measurement was single-axis.
- The U.S. Federal Communications Commission (FCC) now requires isotropic power density measurement.



Battery life

- Battery and power requirements differ from 3G and 4G.
- The risk of battery failure increases the chance of safety issues.
- Two most important battery performance parameters: capacity and cycle life.



Thermal considerations

- Requires more attention to the design of printed circuits and printed circuit boards.
- Thermal factor becomes more critical and challenging due to data rates in the gigabit range and operating frequencies in the mmWave bands.

Leverage UL's in-depth technical expertise to realize the full potential of 5G.
For more information, visit [UL.com/5g](https://www.ul.com/5g).



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