

## Wireless Backhauling for 5G Small Cell Networks

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**Abstract :** Small cell backhaul solutions need to be cost-effective, scalable, and easy to install. This paper presents an overview of small cell backhaul technologies. Wireless solutions including TV white space, satellite, sub-6 GHz radio wave, microwave and mmWave with their backhaul characteristics are discussed. Recent research on issues like beamforming, backhaul architecture, precoding and large antenna arrays, and energy efficiency for dense small cell backhaul with mmWave communications is reviewed. Recent trials of 5G technologies are summarized.

**Keywords :** backhaul, small cells, wireless, 5G

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