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(57) Abstract :

The present invention discloses a high-gain and wideband antenna designed for 5G and future wireless communication systems, including beyond-5G and 6G applications. The antenna comprises a modified radiating element, optimized ground plane structure, and an efficient feeding mechanism to achieve broad impedance bandwidth across sub-6 GHz and millimeter-wave frequency bands. Structural enhancements such as slot loading, stacked elements, and array configurations. The design supports MIMO and beamforming technologies while maintaining compact size and low profile. The antenna is suitable for base stations, mobile devices, IoT platforms, and next-generation high-speed wireless networks. Accompanied Drawing [FIG. 1]

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