

# **Research on 4G LTE-ADVANCE technology in mobile communications**

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**Abstract:** In the context of the rapid development of mobile information technology, this topic focuses on researching and applying 4G LTE-ADVANCE technology. The reason for choosing this topic is that modern 4G technology brings significant benefits to the data transmission industry on mobile devices. The objective of the topic is to explore key technical characteristics, evaluate performance, and implement practical applications of this technology. The research method combines theory with experimentation to ensure comprehensiveness and accuracy. The expected results will contribute significantly to improving the quality of mobile services, while providing new technical solutions for the communications industry.

**Keywords:** 4G LTE-ADVANCE, Mobile Technology, Application Research