ZTE



LTE Air Interface Key Technologies Analysis

Contents

Multiple Access Technology

Multi-antenna Technology

HARQ Technology

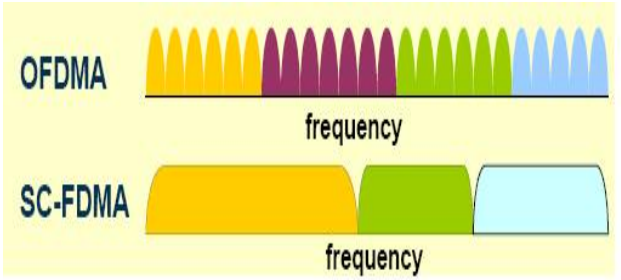
Link Adaptation Technology – AMC

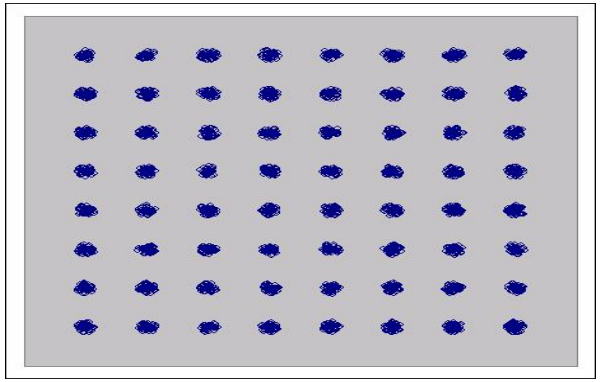
Quick MAC Scheduling Technology

Inter Cell Interference Coordination

LTE technology features

- Uplink and downlink multi-access and signal modulation schemes based on OFDM.
  - OFDMA is used on the DL.
  - SC-FDMA is used on the UL.
  - Eliminate self-interference in wireless networks.
  - Resource allocation is more flexible.





- Adopting higher-order modulation: 64QAM.
  - The system peak spectrum efficiency reaches 6 bps/Hz.

Principle of OFDM

- OFDM, Orthogonal Frequency Division Multiplexing, the subcarriers modulated by which can overlap each other and can stay orthogonal to each other, as compared to the conventional Multi-Carrier Modulation (MCM).

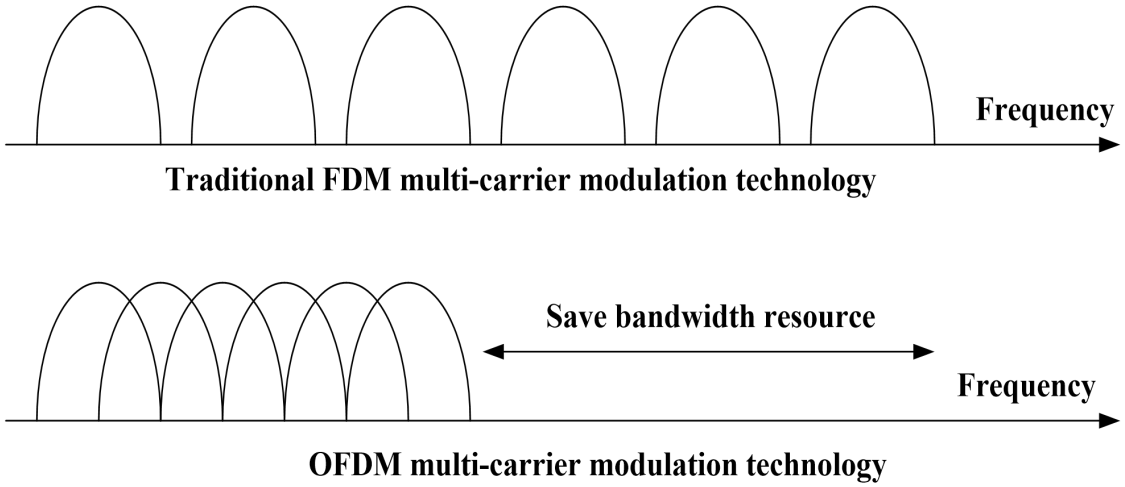


Figure Comparison of Bandwidth Utilization Between FDM and OFDM

- The basic principle of OFDM is to decompose the high-speed data streams into N parallel low-speed data streams and transmit them on N subcarriers at the same time. These data symbols transmitted simultaneously on N subcarriers constitute an OFDM symbol.

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