

# D2d communication technology without base station





## Overview

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What is D2D communication?

D2D communication allows direct communication between two UEs (User Equipments), with or without the network (Access Point (AP) or Base Station (BS)). These devices can be cell phones or vehicles. For a direct link to work, the devices need to be in close proximity.

What is device-to-Device (D2D) communication?

Based on this, Device-to-Device (D2D) communication has received widespread attention for its reusing of cellular frequency band resources, enabling traditional users to transmit data directly between mobile terminals without base station relaying [ 2 ].

What is D2d & how does it work?

Ultra-low Latency: D2D offers ultra-low latency communication, resulting in more reliable connectivity between devices. Solves Network Capacity Issues: By enabling direct device connectivity without involving the network, D2D alleviates network capacity issues in cellular systems.

What is D2d cellular network?

Network-Assisted D2D: The cellular network helps in device discovery, authentication, and resource allocation. Autonomous D2D: Devices communicate independently without any network assistance. In-Band D2D: Communication occurs within the licensed spectrum allocated to cellular networks.



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Device-to-Device (D2D) Communication: A Comprehensive ...

Device-to-Device (D2D) communication represents a paradigm shift in wireless networking, enabling direct communication between devices without necessarily traversing a traditional ...

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D2D Communications: Direct Device-to-Device Connectivity ...

Introduction to Device-to-Device (D2D) Communications With the rapid evolution of wireless communication technologies, Device-to-Device (D2D) communication has emerged as a game ...

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AI-Centric D2D in 6G Networks

Dec 9, 2024 · As a fundamental component of 6G, Device-to-Device (D2D) communication facilitates direct connections between devices without base stations. In order to support ...

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Editorial: Device-to-Device Communication in 5G Networks

Feb 6, 2020 · Editorial: Device-to-device (D2D) communication technology for fifth generation (5G) mobile networks enables user equipment (UE) to communicate directly with other UEs ...

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D2D Communication: Advantages and ...

This page covers the advantages and disadvantages of D2D (Device-to-Device) communication used in LTE and 5G NR. It outlines the benefits ...

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D2D Architecture & Applications: Building ...

2. Benefits of D2D Communication D2D communication offers several advantages that make it a promising technology for future wireless ...

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D2D Architecture & Applications: Building Direct ...

2. Benefits of D2D Communication D2D communication offers several advantages that make it a promising technology for future wireless networks. 2.1 Reduced Latency Since data is ...

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D2D Communications: Enhancing Wireless Connectivity

Jun 11, 2025 · D2D communications refer to the direct exchange of data between devices without the need for a centralized base station or network infrastructure. This technology enables ...

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Lightweight and secure D2D group ...

Jun 14, 2023 · In addition, D2D communication technology in 5G is a resource reuse technology, and the terminal equipment can communicate ...

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D2D Communication Architecture and Use Cases Enabling ...

Mar 18, 2025 · This article explores the architecture of D2D communication and highlights the key use cases that benefit from this technology. What is D2D Communication? Device-to-Device ...

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An efficient resource optimization scheme for D2D communication

Dec 1, 2022 · D2D communication technology enables mobile terminals in a cellular system to transmit data directly without base station forwarding, which can increase the data ...

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D2D Communication: Advantages and Disadvantages

This page covers the advantages and disadvantages of D2D (Device-to-Device) communication used in LTE and 5G NR. It outlines the benefits and challenges associated with this ...

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Lightweight and secure D2D group communication for ...

Jun 14, 2023 · In addition, D2D communication technology in 5G is a resource reuse technology, and the terminal equipment can communicate directly without passing through the base station.

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