UE and base station communication process

How does a UE node transmit a BSR?
The UE node transmits a BSR with a predefined periodicity as an out-of-band packet. You can use the connectUE object function of the nrGNB object to set the periodicity of the BSR report. Scheduling grant -- Upon receiving the BSR from the UE node, the base station provides grants (an out-of-band packet) to the UE node for the UL transmission.

Does the proposed method have more active base stations?
The results show that the proposed method has more active base stationsthan the method in in all the scenarios,because this paper proposes a solution to ensures the minimum data rate for a larger number of users,resulting in a reduced number of base stations that need to be shut down.

How does the number of base stations affect network performance?
Comparative analysis of performance with respect to the number of base stations. With an increase in the number of SBSs, both the network coverage and spectrum reuse ratio also increases. From Fig. 5 (d), it is evident that as the quantity of SBSs increases, so does the quantity of active SBSs.

What is ul data transmission?
UL data transmission -- This is an in-band packet. The UE node transmits the UL data over the physical uplink shared channel (PUSCH) when it receives the scheduling grant. This figure illustrates the DL transmission. The DL transmission consists of these packets. CSI reference signal (RS) -- The gNB node sends CSI-RSs to the UE node.

However, the deployment of numerous small cells results in a linear increase in energy consumption in wireless communication systems. To enhance system efficiency and ...

The invention provides a communication method, a base station and UE. The method comprises that a first base station determines measurement configuration information which indicates the ...

5G New Radio (NR) defines a set of physical channels that facilitate communication between the user equipment (UE) and the base ...

This page describes the two main types of 5G handover: handover initiated by the User Equipment (UE, or your phone) and handover initiated by the network (the 5G base station, ...

The communication of multi-band capability from UE to eNodeB/gNodeB is a fundamental process that supports the efficient operation of mobile networks. Through ...

In LTE (Long-Term Evolution), the Radio Resource Control (RRC) layer is crucial for managing communication between the User Equipment (UE) and the Evolved NodeB (eNodeB), or base ...

Communication Between gNB and UE Nodes Packet communication is central to the 5G new radio (NR) interface. This topic presents the ...

An apparatus and a method of communication are provided. The method of communication of a user equipment (UE) includes receiving a first downlink control information (DCI) from a base ...

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With the introduction of 5G technology, wireless communication is expected to enter a new age marked by unparalleled speed, low latency, and connection for numerous ...

This paper focuses on the significant processing delay in the control plane when a User Equipment (UE) state transitions from Radio Resource Control (RRC)-IDLE to RRC ...

5G New Radio (NR) defines a set of physical channels that facilitate communication between the user equipment (UE) and the base station (gNB, or Next ...

Communication Between gNB and UE Nodes Packet communication is central to the 5G new radio (NR) interface. This topic presents the communication flow between the 5G base station ...

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