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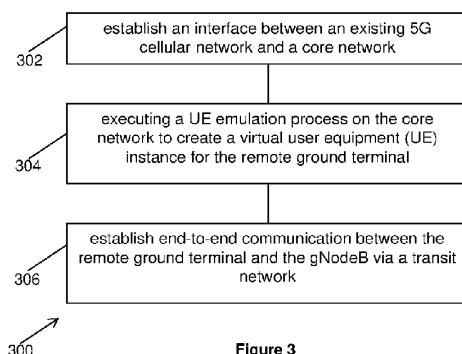


Figure 3

(57) Abstract: Methods and systems of extending 5G service to a remote ground terminal. One method includes: establishing an interface between an existing 5G cellular network and a core network, wherein a gNodeB (5G base station) is installed on the existing 5G cellular network or within the core network; executing a UE emulation process on the core network to create a virtual user equipment (UE) instance for the remote ground terminal; and establishing end-to-end communication between the remote ground terminal and the gNodeB via a transit network, such that the remote ground terminal appears as a 5G UE attached to the existing 5G cellular network.

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