

What is claimed is:

1. A method for semi-persistent granted uplink transmission, the method performed by a terminal device, and comprising:

receiving configuration information, wherein the configuration information is used to configure a plurality of semi-persistent granted resources, wherein

each of the plurality of semi-persistent granted resources corresponds to at least one subband of an unlicensed band, and more than one of semi-persistent granted resources are in an activated state;

the method further comprising:

activating more than one of the plurality of semi-persistent granted resources;

wherein the activating more than one of the plurality of semi-persistent granted resources comprises:

receiving high-layer signaling, wherein the high-layer signaling is used to configure the plurality of semi-persistent granted resources; and

receiving downlink activation signaling, wherein the downlink activation signaling is used to indicate activation resource identifier information, and indicate at least one subband of the unlicensed band for a semi-persistent granted resource corresponding to the activation resource identifier information, and the activation resource identifier information is used to instruct to activate more than one semi-persistent granted resources corresponding to the activation resource identifier information;

the method further comprising:

performing channel monitoring on at least one subband of the unlicensed band that corresponds to a semi-persistent granted resource in an activated state;

determining a target semi-persistent granted resource, wherein a channel monitoring result of at least one subband of the unlicensed band that corresponds to the target semi-persistent granted resource is idle; and

sending an uplink data channel on the target semi-persistent granted resource;

wherein the uplink data channel carries uplink control information (UCI); and

the UCI comprises identifier information of the target semi-persistent granted resource.

2. The method according to claim 1, further comprising:

deactivating more than one of semi-persistent granted resources in an activated state.

3. The method according to claim 2, wherein the activating more than one of the plurality of semi-persistent granted resources comprises:

receiving high-layer signaling, wherein the high-layer signaling is used to configure and activate the plurality of semi-persistent granted resources and the at least one subband of the unlicensed band that corresponds to each semi-persistent granted resource.

4. The method according to claim 2, wherein the deactivating one or more of semi-persistent granted resources in an activated state comprises:

receiving downlink deactivation signaling, wherein the downlink deactivation signaling is used to indicate at least one piece of deactivation resource identifier information, and the at least one piece of deactivation resource identifier information is used to instruct to deactivate a semi-persistent granted resource corresponding to each of the at least one piece of deactivation resource identifier information.

5. A method for semi-persistent granted uplink transmission, applied to a network side device, wherein the method comprises:

sending configuration information, wherein the configuration information is used to configure a plurality of semi-persistent granted resources for a terminal device, wherein

each of the plurality of semi-persistent granted resources corresponds to at least one subband of an unlicensed band, and more than one of semi-persistent granted resources are in an activated state;

the method further comprising:

activating more than one of the plurality of semi-persistent granted resources;

wherein the activating more than one of the plurality of semi-persistent granted resources comprises:

sending high-layer signaling, wherein the high-layer signaling is used to configure the plurality of semi-persistent granted resources; and

sending downlink activation signaling, wherein the downlink activation signaling is used to indicate activation resource identifier information, and indicate at least one subband of the unlicensed band for a semi-persistent granted resource

corresponding to the activation resource identifier information, and the activation resource identifier information is used to instruct to activate more than one semi-persistent granted resources corresponding to the activation resource identifier information;

wherein the method further comprises:

performing channel monitoring on at least one subband of the unlicensed band that corresponds to a semi-persistent granted resource in an activated state;

determining a target semi-persistent granted resource, wherein a channel monitoring result of at least one subband of the unlicensed band that corresponds to the target semi-persistent granted resource is idle; and

sending an uplink data channel on the target semi-persistent granted resource;

wherein the uplink data channel carries uplink control information (UCI); and

the UCI comprises identifier information of the target semi-persistent granted resource.

6. The method according to claim 5, further comprising:

deactivating one or more of semi-persistent granted resources in an activated state.

7. The method according to claim 6, wherein the activating more than one of the plurality of semi-persistent granted resources comprises:

sending high-layer signaling, wherein the high-layer signaling is used to configure and activate the plurality of semi-persistent granted resources and the at least

one subband of the unlicensed band that corresponds to each semi-persistent granted resource.

8. The method according to claim 6, wherein the deactivating one or more of semi-persistent granted resources in an activated state comprises:

sending downlink deactivation signaling, wherein the downlink deactivation signaling is used to indicate at least one piece of deactivation resource identifier information, and the at least one piece of deactivation resource identifier information is used to instruct to deactivate a semi-persistent granted resource corresponding to each of the at least one piece of deactivation resource identifier information⁹. A terminal device, comprising:

a receiving module, configured to receive configuration information, wherein the configuration information is used to configure a plurality of semi-persistent granted resources, wherein

each of the plurality of semi-persistent granted resources corresponds to at least one subband of an unlicensed band, and more than one of semi-persistent granted resources are in an activated state;

the terminal further comprising:

an activation module, configured to activate more than one of the plurality of semi-persistent granted resources;

wherein the activation module is further configured to:

receive high-layer signaling, where the high-layer signaling is used to configure the plurality of semi-persistent granted resources; and

receive downlink activation signaling, where the downlink activation signaling is used to indicate activation resource identifier information, and indicate at least one subband of the unlicensed band for a semi-persistent granted resource corresponding to the activation resource identifier information, and the activation resource identifier information is used to instruct to activate more than one semi-persistent granted resources corresponding to the activation resource identifier information;

wherein the activation module is further configured to:

perform channel monitoring on at least one subband of the unlicensed band that corresponds to a semi-persistent granted resource in an activated state;

determine a target semi-persistent granted resource, wherein a channel monitoring result of at least one subband of the unlicensed band that corresponds to the target semi-persistent granted resource is idle; and

send an uplink data channel on the target semi-persistent granted resource;

wherein the uplink data channel carries uplink control information (UCI); and

the UCI comprises identifier information of the target semi-persistent granted resource.

10. The terminal device according to claim 9, further comprising an activation module configured to activate more than one of the plurality of semi-persistent granted resources.

11. The terminal device according to claim 10, wherein the activation module is further configured to receive high-layer signaling, the high-layer signaling is used to configure and activate the plurality of semi-persistent granted resources and the at least

one subband of the unlicensed band that corresponds to each semi-persistent granted resource.

12. The terminal device according to claim 10, wherein

wherein the deactivation module is further configured to:

receive downlink deactivation signaling, where the downlink deactivation signaling is used to indicate at least one piece of deactivation resource identifier information, and the at least one piece of deactivation resource identifier information is used to instruct to deactivate a semi-persistent granted resource corresponding to each of the at least one piece of deactivation resource identifier information.

13. A terminal device, comprising: a memory, a processor, and a computer program stored in the memory and executable on the processor, wherein when the computer program is executed by the processor, the steps of the method for semi-persistent granted uplink transmission according to any one of claims 1 to 4 are performed.

14. A network side device, comprising:

a sending module, configured to send configuration information, wherein the configuration information is used to configure a plurality of semi-persistent granted resources for a terminal device, wherein

each of the plurality of semi-persistent granted resources corresponds to at least one subband of an unlicensed band, and more than one of semi-persistent granted resources are in an activated state;

the network side device further comprising:

an activation module, configured to activate more than one of the plurality of semi-persistent granted resources;

wherein the activation module is further configured to:

send high-layer signaling, wherein the high-layer signaling is used to configure the plurality of semi-persistent granted resources; and

send downlink activation signaling, wherein the downlink activation signaling is used to indicate activation resource identifier information, and indicate at least one subband of the unlicensed band for a semi-persistent granted resource corresponding to the activation resource identifier information, and the activation resource identifier information is used to instruct to activate more than one semi-persistent granted resources corresponding to the activation resource identifier information;

wherein the activation module is further configured to:

perform channel monitoring on at least one subband of the unlicensed band that corresponds to a semi-persistent granted resource in an activated state;

determine a target semi-persistent granted resource, wherein a channel monitoring result of at least one subband of the unlicensed band that corresponds to the target semi-persistent granted resource is idle; and

send an uplink data channel on the target semi-persistent granted resource;

wherein the uplink data channel carries uplink control information (UCI); and

the UCI comprises identifier information of the target semi-persistent granted resource.

15. The network side device according to claim 14, further comprising a deactivation module, configured to deactivate more than one of semi-persistent granted resources in an activated state.

16. The network side device according to claim 15, wherein the activation module is further configured to:

send high-layer signaling, where the high-layer signaling is used to configure and activate the plurality of semi-persistent granted resources and the at least one subband of the unlicensed band that corresponds to each semi-persistent granted resource.

17. A network side device, comprising: a memory, a processor, and a computer program stored in the memory and executable on the processor, wherein

when the computer program is executed by the processor, the steps of the method for semi-persistent granted uplink transmission according to any one of claims 5 to 8 are performed.