WHAT IS CLAIMED IS:

1. A method for determining a detection beam for an unlicensed uplink channel, performed by a user equipment, comprising:

receiving first beam configuration information from a network device, wherein the first beam configuration information is configured to indicate a transmission beam for sending the unlicensed uplink channel; and

determining, based on the first beam configuration information, a detection beam for performing a listen before talk (LBT) detection on the unlicensed uplink channel.

2. The method of claim 1, further comprising:

receiving a high-layer signaling from the network device, wherein the high-layer signaling comprises LBT configuration information, and the LBT configuration information indicates that a LBT mode is a directional LBT.

3. The method of claim 1 or 2, wherein determining, based on the first beam configuration information, the detection beam for performing the LBT detection on the unlicensed uplink channel comprises at least one of:

determining, based on the transmission beam indicated by the first beam configuration information and a condition agreed in a protocol, the detection beam for performing the LBT detection on the unlicensed uplink channel, wherein the condition agreed in the protocol comprises at least one of a first selection condition or a second selection condition;

determining one or more detection beams based on the transmission beam indicated by the first beam configuration information and a first selection condition agreed in a protocol; or

determining, based on a second selection condition agreed in the protocol, one of the one or more detection beams as the detection beam for performing the LBT detection on the unlicensed uplink channel.

4. The method of claim 3, wherein the first selection condition at least comprises at least one of:

the detection beam being the transmission beam;

a coverage direction of the detection beam and a coverage direction of the transmission beam satisfying a preset relation; or

the detection beam being associated with the transmission beam.

5. The method of claim 3, wherein the second selection condition at least comprises at least one of:

a beamwidth at a preset attenuation degree being maximum; or

a spatial relation information index being minimum.

6. The method of any one of claims 1 to 5, wherein the detection beam for performing the LBT detection on the unlicensed uplink channel is an omni-directional beam.

7. A method for determining a detection beam for an unlicensed uplink channel, performed by a user equipment, comprising:

receiving second beam configuration information from a network device, wherein the second beam configuration information is configured to indicate a detection beam for performing a listen before talk (LBT) detection on the unlicensed uplink channel; and

determining, based on the second beam configuration information, the detection beam for performing the LBT detection on the unlicensed uplink channel.

8. The method of claim 7, wherein receiving the second beam configuration information from the network device comprises at least one of:

receiving a high-layer signaling from the network device, wherein the high-layer signaling comprises the second beam configuration information;

receiving a Radio Resource Control (RRC) signaling from the network device, wherein the RRC signaling comprises the second beam configuration information; wherein the second beam configuration information is configured to indicate one Sounding Reference Signal (SRS) resource to indicate the detection beam for performing the LBT detection on the unlicensed uplink channel; or

receiving scheduling downlink control information (DCI) from the network device, wherein the scheduling DCI comprises the second beam configuration information, and the second beam configuration information is configured to indicate one Sounding Reference Signal (SRS) resource to indicate the detection beam for performing the LBT detection on the unlicensed uplink channel.

9. The method of claim 7 or 8, wherein the second beam configuration information comprises multiple pieces of spatial relation information and the multiple pieces of spatial

relation information correspond to a plurality of uplink beams, and the method further comprises:

receiving a Medium Access Control Control Element (MAC CE) signaling from the network device, wherein the MAC CE signaling is configured to activate one of the plurality of uplink beams; and

determining an activated beam in the multiple pieces of spatial relation information as the detection beam for performing the LBT detection on the unlicensed uplink channel.

10. The method of claim 8 or 9, wherein the unlicensed uplink channel is a Physical Uplink Control Channel (PUCCH) or a Configured Grant Physical Uplink Shared Channel (CG-PUSCH).

11. The method of claim 8, wherein the unlicensed uplink channel is a Physical Uplink Shared Channel (PUSCH) or a Configured Grant Physical Uplink Shared Channel (CG-PUSCH).

12. The method of any one of claims 8 to 11, further comprising:

in response to not receiving the second beam configuration information from the network device, determining a default detection beam for performing the LBT detection on the unlicensed uplink channel.

13. The method of claim 12, wherein the default detection beam is a transmission beam for sending the unlicensed uplink channel or an omni-directional beam.

14. A method for determining a detection beam for an unlicensed uplink channel, performed by a network device, comprising:

sending first beam configuration information to a user equipment, wherein the first beam configuration information is configured to indicate a transmission beam for sending the unlicensed uplink channel, to enable the user equipment to determine, based on the first beam configuration information, the detection beam for performing a listen before talk (LBT) detection on the unlicensed uplink channel.

15. The method of claim 14, further comprising:

sending a high-layer signaling to the user equipment, wherein the high-layer signaling comprises LBT configuration information, and the LBT configuration information indicates that a LBT mode is a directional LBT.

16. A method for determining a detection beam of an unlicensed uplink channel, performed by a network device, comprising:

sending second beam configuration information to a user equipment, wherein the second beam configuration information is configured to indicate a detection beam for performing a listen before talk (LBT) detection on the unlicensed uplink channel, to enable the user equipment to determine, based on the second beam configuration information, the detection beam for performing the LBT detection on the unlicensed uplink channel.

17. The method of claim 16, wherein sending the second beam configuration information to the user equipment comprises at least one of:

sending a high-layer signaling to the user equipment, wherein the high-layer signaling comprises the second beam configuration information;

sending a Radio Resource Control (RRC) signaling to the user equipment, wherein the RRC signaling comprises the second beam configuration information, and the second beam configuration information is configured to indicate one SRS resource to indicate the detection beam for performing the LBT detection on the unlicensed uplink channel; or

sending scheduling Downlink Control Information (DCI) to the user equipment, wherein the scheduling DCI comprises the second beam configuration information, and the second beam configuration information is configured to indicate one SRS resource to indicate the detection beam for performing the LBT detection on the unlicensed uplink channel.

18. The method of claim 16 or 17, wherein the second beam configuration information comprises multiple pieces of spatial relation information, and the multiple pieces of spatial relation information correspond to a plurality of uplink beams, and the method further comprises:

sending a Medium Access Control Control Element (MAC CE) signaling to the user equipment, wherein the MAC CE signaling is configured to activate one of the plurality of uplink beams, to enable the user equipment to determine an activated beam in the multiple pieces of spatial relation information as the detection beam for performing the LBT detection on the unlicensed uplink channel.

19. A communication device, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program to perform the method of any one of claims 1 to 18.

20. A computer-readable storage medium, having instructions stored thereon, wherein when the instructions are called and executed by a computer, the computer is caused to perform any one of claims 1 to 18.