WHAT IS CLAIMED IS:

1. A method for channel state indication on an unlicensed spectrum, comprising:

sending, by a base station, channel state indication information through a first antenna panel, wherein the channel state indication information is configured to indicate channel state detection results of k antenna panels of the base station on at least one bandwidth unit BWU of an unlicensed spectrum, where k is a positive integer;

wherein, the channel state indication information comprises an idle indication signal corresponding to at least one antenna panel of the k antenna panels;

wherein, the idle indication signal corresponding to the at least one antenna panel is configured to indicate BWUs detected by the at least one antenna panel to be idle.

2. The method of claim 1, wherein, the k antenna panels comprise the first antenna panel.

3. The method of claim 2, wherein, when a plurality of antenna panels detect idle channel(s), the plurality of antenna panels send corresponding channel state indication information respectively;

wherein, the channel state indication information sent by the i-th antenna panel is configured to indicate the channel state detection result of the i-th antenna panel on at least one BWU of the unlicensed spectrum, where i is a positive integer.

4. The method of claim 1 or 2, wherein, the k antenna panels comprise at least one antenna panel of the base station, other than the first antenna panel, that detects idle channel(s).

5. The method of claim 1, wherein, the first antenna panel is an antenna panel that detects idle channel(s).

6. The method of claim 5, wherein, when a plurality of antenna panels detect idle channel(s), the first antenna panel is an antenna panel with the longest remaining channel occupation time and/or the greatest number of BWUs detected to be idle.

7. The method of claim 1, wherein, the first antenna panel is an antenna panel in a channel occupation time.

8. The method of claim 7, wherein, when there are multiple antenna panels in a channel occupation time, the first antenna panel is an antenna panel with the longest remaining channel occupation time and/or the greatest number of BWUs detected to be idle.

9. The method of claim 1, wherein, the channel state indication information comprises an idle indication signal corresponding to each of the k antenna panels;

wherein, the idle indication signal corresponding to the i-th antenna panel in the k antenna panels is configured to indicate BWUs detected by the i-th antenna panel to be idle, where i is a positive integer less than or equal to k.

10. The method of claim 9, wherein, the idle indication signal corresponding to the i-th antenna panel comprises:

a channel state indicator of each BWU detected by the i-th antenna panel;

wherein, the channel state indicator is configured to indicate whether the channel state detection result is idle.

11. The method of claim 9, wherein, the idle indication signal corresponding to the i-th antenna panel further comprises at least one of following: a channel occupancy time of the BWU detected by the i-th antenna panel to be idle; a time-slot format of the BWU detected by the i-th antenna panel to be idle, in the channel occupation time; and a resource allocation of the BWU detected by the i-th antenna panel to be idle, in the channel occupancy time.

12. The method of claim 9, wherein, the idle indication signal corresponding to the i-th antenna panel comprises:

an idle indication signal sent on each BWU detected by the i-th antenna panel to be idle;

wherein, the idle indication signal sent on a j-th BWU detected by the i-th antenna panel to be idle is configured to indicate that the channel state detection result of the ith antenna panel on the j-th BWU is idle, where j is a positive integer.

13. The method of claim 9, wherein, the idle indication signal corresponding to the i-th antenna panel comprises:

bandwidth part BWP switch indication information corresponding to the i-th antenna panel, wherein the BWP switch indication information is configured to indicate a target BWP to switch to when a terminal communicates with the i-th antenna panel of the base station,

and the target BWP comprises N BWUs of M BWUs detected by the i-th antenna panel to be idle, where N is less than or equal to M, M and N are both positive integers.

14. The method of claim 9, wherein,

the k antenna panels share a same idle indication signal;

or,

idle indication signals corresponding to the k antenna panels are not shared.

15. A method for channel state indication on an unlicensed spectrum, comprising:

detecting by a terminal according to a first cycle, channel state indication information issued by each antenna panel of a base station, wherein the channel state indication information is configured to indicate channel state detection results of k antenna panels of the base station on at least one bandwidth unit BWU of an unlicensed spectrum, where k is a positive integer;

after receiving by the terminal the channel state indication information sent by a first antenna panel of the base station, detecting by the terminal according to a second cycle, a physical downlink control channel PDCCH signaling issued by the first antenna panel;

wherein, the channel state indication information comprises an idle indication signal corresponding to at least one antenna panel of the k antenna panels;

wherein, the idle indication signal corresponding to the at least one antenna panel is configured to indicate BWUs detected by the at least one antenna panel to be idle.

16. The method of claim 15, wherein, the second cycle is greater than or equal to the first cycle.

17. The method of claim 15, wherein, the PDCCH signaling comprises: uplink and downlink resources of the first antenna panel scheduled by the base station to the terminal, and/or channel state detection results of antenna panels other than the first antenna panel of the base station.

18. An apparatus for channel state indication on an unlicensed spectrum, applied to~~performed by~~ a base station, comprising:

a processor; and

a memory, configured to store instructions executable by the processor,

wherein the processor is configured to:

send channel state indication information through a first antenna panel, wherein the channel state indication information is configured to indicate channel state detection results of k antenna panels of the base station on at least one bandwidth unit BWU of an unlicensed spectrum, where ~~K~~ k is a positive integer;

wherein, the channel state indication information comprises an idle indication signal corresponding to at least one antenna panel of the k antenna panels;

wherein, the idle indication signal corresponding to the at least one antenna panel is configured to indicate BWUs detected by the at least one antenna panel to be idle.

19. An apparatus for channel state indication on an unlicensed spectrum, applied to~~performed by~~ a terminal, comprising:

a processor; and

a memory, configured to store instructions executable by the processor,

wherein the processor is configured to:

detect according to a first cycle, channel state indication information issued by each antenna panel of a base station, wherein the channel state indication information is configured to indicate channel state detection results of k antenna panels of the base station on at least one bandwidth unit BWU of an unlicensed spectrum, where k is a positive integer;

after receiving the channel state indication information sent by a first antenna panel of the base station, detect according to a second cycle, a physical downlink control channel PDCCH signaling issued by the first antenna panel;

wherein, the channel state indication information comprises an idle indication signal corresponding to at least one antenna panel of the k antenna panels;

wherein, the idle indication signal corresponding to the at least one antenna panel is configured to indicate BWUs detected by the at least one antenna panel to be idle.

20. A non-transitory computer readable storage medium, stored thereon with a computer program wherein when the computer program is executed by a processor, the method according to any of claims 1-14 is implemented, or the method according to any of claims 15-17 is implemented.