

WHAT IS CLAIMED IS:

1. A method for determining a contention window, comprising:

obtaining a transmission block (TB) based hybrid automatic repeat request (HARQ) feedback information within a predetermined time period, wherein the TB based HARQ feedback information
5 comprises a non-acknowledge identifier (NACK) and an acknowledge identifier (ACK);

determining a ratio of the NACK in the TB based HARQ feedback information; and

determining a contention window size (CWS) of a random access contention window on an unlicensed frequency band based on the ratio, wherein the ratio is determined based on a coefficient used to represent a proportion of the TB based HARQ feedback and a code based group (CBG) based
10 HARQ feedback in a statistical result.

2. The method of claim 1, wherein the method further comprises:

determining a first number of the TB based HARQ feedback information received within the predetermined time period;

determining a second number of the NACK identifier; and

15 determining the ratio of the second number to the first number.

3. The method of claim 1, wherein the ratio comprises a first ratio obtained based on the TB based HARQ feedback information.

4. The method of claim 3, further comprising:

determining the CWS of the random access contention window on the unlicensed frequency
20 band based on the first ratio.

5. A method for determining a contention window, comprising:

obtaining (S801) a code block group (CBG) based hybrid automatic repeat request (HARQ) feedback information within a predetermined time period, wherein the CBG based HARQ feedback information comprises a non-acknowledge identifier (NACK) and an acknowledge identifier (ACK);

25 determining (S820) a ratio of the NACK in the CBG based HARQ feedback information; and

determining (S830) a contention window size (CWS) of a random access contention window on an unlicensed frequency band based on the ratio, wherein the ratio is determined based on a coefficient used to represent a proportion of a transmission block (TB) based HARQ feedback and the CBG based HARQ feedback in a statistical result.

30 6. The method of claim 5, wherein the method further comprises:

determining (S910) a first number of the CBG based HARQ feedback information received within the predetermined time period;

determining (S920) a second number of the NACK; and

determining (S930) the ratio of the second number to the first number.

5 7. The method of claim 5, wherein the ratio comprises a second ratio obtained based on the CBG based HARQ feedback information.

8. The method of claim 7, further comprising:

determining the CWS of the random access contention window on the unlicensed frequency band based on the second ratio.

10 9. A communication device, comprising:

a processor; and

a non-transitory computer-readable storage medium storing a program to be executed by the processor, the program including instructions to:

15 obtain a transmission block (TB) based hybrid automatic repeat request (HARQ) feedback information within a predetermined time period, wherein the TB based HARQ feedback information comprises a non-acknowledge identifier (NACK) and an acknowledge identifier (ACK);

determine a ratio of the NACK in the TB based HARQ feedback information; and

20 determine a contention window size (CWS) of a random access contention window on an unlicensed frequency band based on the ratio, wherein the ratio is determined based on a coefficient used to represent a proportion of the TB based HARQ feedback and a code based group (CBG) based HARQ feedback in a statistical result.

10. A communication device, characterized in, comprising:

a processor; and

25 a non-transitory computer-readable storage medium storing a program to be executed by the processor, the program including instructions to:

obtain a code block group (CBG) based hybrid automatic repeat request (HARQ) feedback information within a predetermined time period, wherein the CBG based HARQ feedback information comprises a non-acknowledge identifier (NACK) and an acknowledge identifier (ACK);

determine a ratio of the NACK in the CBG based HARQ feedback information; and

30 determine a contention window size (CWS) of a random access contention window on an unlicensed frequency band based on the ratio, wherein the ratio is determined based on a coefficient

used to represent a proportion of a transmission block (TB) based HARQ feedback and the CBG based HARQ feedback in a statistical result.

11. The device of claim 10, wherein the program including instructions to:

determine a first number of the CBG based HARQ feedback information received within the

5 predetermined time period;

determine a second number of the NACK; and

determine the ratio of the second number to the first number.

12. The device of claim 10, wherein the ratio comprises a second ratio obtained based on the CBG based HARQ feedback information.

10 13. The device of claim 12, wherein the program including instructions to:

determine the CWS of the random access contention window on the unlicensed frequency band based on the second ratio.

14. A non-transitory computer-readable storage medium having processor-executable instructions stored thereon, characterized in that, the processor-executable instructions, when
15 executed, facilitate performance of the method of any of claims 1-8.