

CLAIMS

- 5 1. A method for transmitting a signal, comprising:
determining, by a first device, a basic transmission interval and at least one basic numerology; and
taking, by the first device, the basic transmission interval as a time domain unit and employing parameters in the at least one basic numerology to perform transmission
10 of at least one of data or a pilot signal with a second device.
2. The method of claim 1, wherein determining, by a first device, at least one basic numerology comprises:
determining, by the first device, the at least one basic numerology from multiple
15 basic numerologies.
3. The method of claim 1 or 2, wherein taking, by the first device, the basic transmission interval as a time domain unit and employing parameters in the at least one basic numerology to perform transmission of at least one of data or a pilot signal
20 with a second device comprises:
determining, by the first device, time lengths corresponding to transmission time units in each basic numerology in the at least one basic numerology according to the at least one basic numerology;
determining, by the first device, a number of transmission time units
25 corresponding to the each basic numerology according to the basic transmission interval as well as the time lengths corresponding to the transmission time units in the each basic numerology, the number of transmission time units being the number of transmission time units in the basic transmission interval; and
respectively taking, by the first device, the number of transmission time units
30 corresponding to the each basic numerology as a time domain unit to perform the transmission of at least one of the data or the pilot signal with the second device.
4. The method of any one of claims 1-3, wherein determining, by a first device, a basic transmission interval comprises:

determining, by the first device, the basic transmission interval according to stored preset information; or

determining, by the first device, the basic transmission interval according to a received control signaling sent by the second device, the control signaling being used
5 for indicating the basic transmission interval.

5. The method of any one of claims 1-3, after determining, by the first device, the basic transmission interval, further comprising:

sending, by the first device, a control signaling to the second device, so that the
10 second device determines the basic transmission interval according to the control signaling.

6. The method of any one of claims 1-5, wherein a time difference between a transmission time unit occupied by a scheduling signaling for scheduling at least one
15 of the data or the pilot signal and a transmission time unit that the first device sends or receives at least one of the data or the pilot signal is a positive integer multiple of the basic transmission interval.

7. The method of any one of claims 1-6, wherein a time difference between a
20 transmission time unit occupied by the data sent by the first device and a transmission time unit occupied by corresponding Acknowledgement (ACK)/Negative Acknowledgement (NACK) feedback information received by the first device is a positive integer multiple of the basic transmission interval, or a time difference between
25 a transmission time unit occupied by the data received by the first device and a transmission time unit occupied by the corresponding ACK/NACK feedback information sent by the first device is a positive integer multiple of the basic transmission interval.

8. The method of any one of claims 1-6, further comprising:

30 sending, by the first device, the ACK/NACK feedback information, the ACK/NACK feedback information being ACK/NACK feedback information corresponding to all data transmission blocks received by the first device in a single basic transmission interval; or receiving, by the first device, the ACK/NACK feedback

information, the ACK/NACK feedback information being ACK/NACK feedback information corresponding to all data transmission blocks sent by the first device in the single basic transmission interval.

5 9. The method of any one of claims 1-8, wherein the basic numerology comprises at least one parameter of the followings: a sub-carrier interval, a number of sub-carriers corresponding to a system bandwidth, the number of sub-carriers corresponding to a Physical Resource Block (PRB), the length of an OFDM symbol, the number of Fast Fourier Transformation(FFT) or Inverse Fast Fourier Transform (IFFT) points used for
10 generating an OFDM signal, the number of OFDM symbols comprised in a Transmission Time Interval (TTI), the number of TTIs comprised within a first time period and the length of a signal prefix.

10 10. The method of any one of claims 1-9, wherein the basic transmission interval is a positive integer multiple of 1 millisecond.

11. A device for transmitting a signal, the device being a first device, and the device comprises:

20 a determination unit, configured to determine a basic transmission interval and at least one basic numerology; and

a transmission unit, configured to take the basic transmission interval as a time domain unit and employ parameters in the at least one basic numerology to perform transmission of at least one of data or a pilot frequency signal with a second device.

25 12. The device of claim 11, wherein the determination unit is specifically configured to:

determining the at least one basic numerology from multiple basic numerologies pilot signal.

30 13. The device of claim 11 or 12, wherein the transmission unit is specifically configured to:

determine time lengths corresponding to transmission time units in each basic numerology in the at least one basic numerology according to the at least one basic numerology;

5 determine the number of transmission time units corresponding to the each basic numerology according to the basic transmission interval as well as the time lengths corresponding to the transmission time units in the each basic numerology, the number of transmission time units being the number of transmission time units in the basic transmission interval; and

10 respectively take the number of transmission time units corresponding to the each basic numerology as a time domain unit to perform the transmission of at least one of the data or the pilot frequency signal with the second device.

14. The device of any one of claims 11-13, wherein the determination unit is specifically configured to:

15 determine the basic transmission interval according to stored preset information; or

determine the basic transmission interval according to a received control signal sent by the second device, the control signal being used for indicating the basic transmission interval.

20

15. The device of any one of claims 11-13, further comprising: a sending unit, configured to send a control signal to the second device, so that the second device determines the basic transmission interval according to the control signal.

25 16. The device of any one of claims 11-15, wherein a time difference between a transmission time unit occupied by a scheduling signaling for scheduling at least one of the data or the pilot signal and a transmission time unit that the first device sends or receives at least one of the data or the pilot signal is a positive integer multiple of the basic transmission interval.

30

17. The device of any one of claims 11-16, wherein a time difference between a transmission time unit occupied by the data sent by the first device and a transmission time unit occupied by corresponding Acknowledgement (ACK)/Negative

Acknowledgement (NACK) feedback information received by the first device is a positive integer multiple of the basic transmission interval, or a time difference between a transmission time unit occupied by the data received by the first device and a transmission time unit occupied by the corresponding ACK/NACK feedback information sent by the first device is a positive integer multiple of the basic transmission interval.

18. The device of any one of claims 11-16, further comprising:
a second sending unit, configured to send the ACK/NACK feedback information, the ACK/NACK feedback information being ACK/NACK feedback information corresponding to all data transmission blocks received by the first device in a single basic transmission interval; or
a first receiving unit, configured to receive the ACK/NACK feedback information, the ACK/NACK feedback information being ACK/NACK feedback information corresponding to all data transmission blocks sent by the first device in the single basic transmission interval.

19. The device of any one of claims 11-18, wherein the basic numerology comprises at least one parameter of the followings: a sub-carrier interval, the number of sub-carriers corresponding to a system bandwidth, the number of sub-carriers corresponding to a Physical Resource Block (PRB), the length of an OFDM symbol, the number of Fast Fourier Transformation(FFT) or Inverse Fast Fourier Transform (IFFT) points used for generating an OFDM signal, the number of OFDM symbols comprised in a Transmission Time Interval (TTI), the number of TTIs included within a first time period and the length of a signal prefix.

20. The device of any one of claims 11-18, wherein the basic transmission interval is a positive integer multiple of 1 millisecond.