

CLAIMS

1. A method of wireless communication, comprising:
transmitting, by a base station, a first signal according to a first numerology, wherein the first signal indicates a second numerology, wherein the first numerology defines a first slot including a first number of symbols having a first tone spacing and a first cyclic prefix (CP) overhead, wherein the second numerology defines a second slot including a second number of symbols having a second tone spacing different from the first tone spacing and a second CP overhead equal to the first CP overhead, and wherein the second slot includes a plurality of mini-slots of different length; and
communicating, by the base station with a wireless communication device, a second signal according to the second numerology during a first mini-slot of the plurality of mini-slots in the second slot including a third number of symbols less than the second number of symbols in the second slot,
wherein symbol boundaries of the symbols of the first numerology and symbol boundaries of the symbols of the second numerology are time-aligned at least at every 1 millisecond (ms) time interval.
2. The method of claim 1, wherein the transmitting the first signal includes transmitting a physical broadcast channel (PBCH) signal.
3. The method of claim 1, further comprising:
transmitting, by the base station, a transmission grant according to the second numerology, the transmission grant indicating a third numerology; and
transmitting, by the base station, a third signal according to the third numerology.
4. The method of claim 1, wherein the transmitting the first signal includes transmitting first system information associated with a network, and wherein the method further comprises:
transmitting, by the base station, second system information associated with the network according to the second numerology.
5. The method of claim 4, further comprising:

receiving, by the base station from the wireless communication device, a request for initial network access; and

transmitting, by the base station to the wireless communication device in response to the request, a response according to the second numerology.

6. The method of claim 4, further comprising:

transmitting, by the base station to the wireless communication device, a configuration indicating one or more third numerologies;

transmitting, by the base station to the wireless communication device, a third signal indicating a selection of one of the one or more third numerologies; and

communicating, by the base station with the wireless communication device based on the selection.

7. A method of wireless communication, comprising:

receiving, by a wireless communication device from a base station, a first signal according to a first numerology, wherein the first signal indicates a second numerology, wherein the first numerology defines a first slot including a first number of symbols having a first tone spacing and a first cyclic prefix (CP) overhead, wherein the second numerology defines a second slot including a second number of symbols having a second tone spacing different from the first tone spacing and a second CP overhead equal to the first CP overhead, and wherein the second slot includes a plurality of mini-slots of different length; and

communicating, by the wireless communication device with the base station, a second signal according to the second numerology during a first mini-slot of the plurality of mini-slots in the second slot including a third number of symbols less than the second number of symbols in the second slot,

wherein symbol boundaries of the symbols of the first numerology and symbol boundaries of the symbols of the second numerology are time-aligned at least at every 1 millisecond (ms) time interval.

8. The method of claim 7, wherein the receiving the first signal includes receiving a physical broadcast channel (PBCH) signal.

9. The method of claim 7, further comprising:

receiving, by the wireless communication device, a transmission grant according to the second numerology, the transmission grant indicating a third numerology; and

receiving, by the wireless communication device, a third signal according to the third numerology.

10. The method of claim 7, wherein the receiving the first signal includes receiving first system information associated with a network, and wherein the method further comprises:

receiving, by the wireless communication device, second system information associated with the network according to the second numerology.

11. The method of claim 10, further comprising:

transmitting, by the wireless communication device to the base station, a request for initial network access; and

receiving, by the wireless communication device from the base station in response to the request, a response according to the second numerology.

12. The method of claim 10, further comprising:

receiving, by the wireless communication device from the base station, a configuration indicating one or more third numerologies;

receiving, by the wireless communication device from the base station, a third signal indicating a selection of one of the one or more third numerologies; and

communicating, by the wireless communication device with the base station based on the selection.

13. An apparatus comprising:

a transceiver configured to:

transmit a first signal according to a first numerology, wherein the first signal indicates a second numerology, wherein the first numerology defines a first slot including a first number of symbols having a first tone spacing and a first cyclic prefix (CP) overhead, wherein the second numerology defines a second slot including a second number of symbols having a second tone spacing different from the first tone spacing and a second CP overhead equal to the first CP overhead, and wherein the second slot includes a plurality of mini-slots of different length; and

communicate, with a wireless communication device, a second signal according to the second numerology during a first mini-slot of the plurality of mini-slots in the second slot including a third number of symbols less than the second number of symbols in the second slot,

wherein symbol boundaries of the symbols of the first numerology and symbol boundaries of the symbols of the second numerology are time-aligned at least at every 1 millisecond (ms) time interval.

14. The apparatus of claim 13, wherein the first signal includes a physical broadcast channel (PBCH) signal.

15. The apparatus of claim 13, wherein the transceiver is further configured to:
transmit a transmission grant according to the second numerology, the transmission grant indicating a third numerology; and
transmit a third signal according to the third numerology.

16. The apparatus of claim 13, wherein the first signal includes first system information associated with a network, and wherein the transceiver is further configured to transmit second system information associated with the network according to the second numerology.

17. The apparatus of claim 16, wherein the transceiver is further configured to:
receive, from the wireless communication device, a request for initial network access;
and
transmit, to the wireless communication device in response to the request, a response according to the second numerology.

18. The apparatus of claim 16, wherein the transceiver is further configured to:
transmit, to the wireless communication device, a configuration indicating one or more third numerologies;
transmit, to the wireless communication device, a third signal indicating a selection of one of the one or more third numerologies; and
communicate, with the wireless communication device based on the selection.

19. An apparatus comprising:

a transceiver configured to:

receive, from a base station, a first signal according to a first numerology, wherein the first signal indicates a second numerology, wherein the first numerology defines a first slot including a first number of symbols having a first tone spacing and a first cyclic prefix (CP) overhead, wherein the second numerology defines a second slot including a second number of symbols having a second tone spacing different from the first tone spacing and a second CP overhead equal to the first CP overhead, and wherein the second slot includes a plurality of mini-slots of different length; and

communicate, with the base station, a second signal according to the second numerology during a first mini-slot of the plurality of mini-slots in the second slot including a third number of symbols less than the second number of symbols in the second slot,

wherein symbol boundaries of the symbols of the first numerology and symbol boundaries of the symbols of the second numerology are time-aligned at least at every 1 millisecond (ms) time interval.

20. The apparatus of claim 19, wherein the first signal includes a physical broadcast channel (PBCH) signal.

21. The apparatus of claim 19, wherein the transceiver is further configured to:

transmit a transmission grant according to the second numerology, the transmission grant indicating a third numerology; and

receive a third signal according to the third numerology.

22. The apparatus of claim 19, wherein the first signal includes first system information associated with a network, and wherein the transceiver is further configured to:

receive, from the base station, second system information associated with the network according to the second numerology.

23. The apparatus of claim 22, wherein the transceiver is further configured to:

transmit, to the base station, a request for initial network access; and

receive, from the base station in response to the request, a response according to the second numerology.

24. The apparatus of claim 22, wherein the transceiver is further configured to:
- receive, from the base station, a configuration indicating one or more third numerologies;
 - receive, from the base station, a third signal indicating a selection of one of the one or more third numerologies; and
 - communicate, with the base station based on the selection.