

CLAIMS

WHAT IS CLAIMED IS:

1. A method of wireless communication by a user equipment (UE), comprising:
receiving a transmission of at least one of a plurality of first synchronization signals; and
receiving at least one repeat transmission of the at least one of the plurality of first synchronization signals,
wherein the transmission and the at least one repeat transmission are received in a same synchronization signal block.
2. The method of claim 1, further comprising:
estimating a carrier frequency offset based on the received transmission of the at least one of the plurality of first synchronization signals and the received at least one repeat transmission of the at least one of the plurality of first synchronization signals.
3. The method of claim 2, further comprising:
correcting a carrier frequency of the UE based on the carrier frequency offset.
4. The method of claim 2, wherein the carrier frequency offset is estimated based on a difference between the reception of the transmission of the at least one of the plurality of first synchronization signals and the reception of the at least one repeat transmission of the at least one of the plurality of first synchronization signals, the difference being at least one of a time difference or a frequency difference.
5. The method of claim 1, wherein the plurality of first synchronization signals include at least one of a beam reference signal (BRS), an extended synchronization signal (ESS), a primary synchronization signal (PSS), a secondary synchronization signal (SSS), or a physical broadcast channel (PBCH) signal.
6. The method of claim 1, wherein the at least one of plurality of first synchronization signals includes at least one of a physical broadcast channel (PBCH) signal or a demodulation reference signal (DMRS) for a PBCH signal.

7. The method of claim 2, further comprising:
receiving at least one of plurality of second synchronization signals, wherein the at least one of the plurality of first synchronization signals and the at least one of the plurality of second synchronization signals are received in a same synchronization subframe.
8. The method of claim 7, wherein the receiving the at least one of the plurality of second synchronization signals comprises receiving the at least one of the plurality of second synchronization signals after receiving the transmission of the at least one/ of the plurality of first synchronization signals and before receiving the at least one repeat transmission of the at least one of the plurality of first synchronization signals.
9. The method of claim 7, wherein the plurality of second synchronization signals include at least one of a primary synchronization signal (PSS) or a secondary synchronization signal (SSS).
10. The method of claim 7, wherein the at least one of the plurality of second synchronization signals includes a primary synchronization signal (PSS), and
wherein the carrier frequency offset is estimated further based on the PSS.
11. The method of claim 7, further comprising:
detecting a secondary synchronization signal (SSS) based on the estimated carrier frequency offset,
wherein the at least one of the plurality of second synchronization signals includes the SSS.
12. The method of claim 2, further comprising:
decoding the at least one of the plurality of first synchronization signals based on the estimated carrier frequency offset.
13. The method of claim 7, wherein the transmission of the at least one of the plurality of second synchronization signals is received via a first receive beam and the repeat transmission of the at least one of the plurality of second synchronization signals is received via a second receive beam, and

wherein the method further comprises:

selecting a receive beam from the first receive beam and the second receive beam based on a reception condition of the transmission of the at least one of the plurality of second synchronization signals and a reception condition of the repeated transmission of the at least one of the plurality of second synchronization signals.

14. The method of claim 7, wherein the plurality of first synchronization signals and the plurality of second synchronization signals are processed by time-division multiplexing the plurality of first synchronization signals and the plurality of second synchronization signals, and

wherein the method further comprises demultiplexing the plurality of first synchronization signals and the plurality of second synchronization signals.

15. A user equipment (UE) for wireless communication, comprising:

means for receiving a transmission of at least one of a plurality of first synchronization signals; and

means for receiving at least one repeat transmission of the at least one of the plurality of first synchronization signals,

wherein the transmission and the at least one repeat transmission are received in a same synchronization signal block.

16. The UE of claim 15, further comprising:

means for estimating a carrier frequency offset based on the received transmission of the at least one of the plurality of first synchronization signals and the received at least one repeat transmission of the at least one of the plurality of first synchronization signals.

17. The UE of claim 16, further comprising:

means for correcting a carrier frequency of the UE based on the carrier frequency offset.

18. The UE of claim 16, wherein the carrier frequency offset is estimated based on a difference between the reception of the transmission of the at least one of the plurality of first synchronization signals and the reception of the at least one repeat transmission

of the at least one of the plurality of first synchronization signals, the difference being at least one of a time difference or a frequency difference.

19. The UE of claim 15, wherein the plurality of first synchronization signals include at least one of a beam reference signal (BRS), an extended synchronization signal (ESS), a primary synchronization signal (PSS), a secondary synchronization signal (SSS), or a physical broadcast channel (PBCH) signal.

20. The UE of claim 15, wherein the at least one of plurality of first synchronization signals includes at least one of a physical broadcast channel (PBCH) signal or a demodulation reference signal (DMRS) for a PBCH signal.

21. The UE of claim 16, further comprising:
means for receiving at least one of plurality of second synchronization signals, wherein the at least one of the plurality of first synchronization signals and the at least one of the plurality of second synchronization signals are received in a same synchronization subframe.

22. The UE of claim 21, wherein the means for receiving the at least one of the plurality of second synchronization signals is configured to receive the at least one of the plurality of second synchronization signals after receiving the transmission of the at least one/ of the plurality of first synchronization signals and before receiving the at least one repeat transmission of the at least one of the plurality of first synchronization signals.

23. The UE of claim 21, wherein the plurality of second synchronization signals include at least one of a primary synchronization signal (PSS) or a secondary synchronization signal (SSS).

24. The UE of claim 21, wherein the at least one of the plurality of second synchronization signals includes a primary synchronization signal (PSS), and
wherein the carrier frequency offset is estimated further based on the PSS.

25. The UE of claim 21, further comprising:

means for detecting a secondary synchronization signal (SSS) based on the estimated carrier frequency offset,

wherein the at least one of the plurality of second synchronization signals includes the SSS.

26. The UE of claim 16, further comprising:

means for decoding the at least one of the plurality of first synchronization signals based on the estimated carrier frequency offset.

27. The UE of claim 21, wherein the transmission of the at least one of the plurality of second synchronization signals is received via a first receive beam and the repeat transmission of the at least one of the plurality of second synchronization signals is received via a second receive beam, and

wherein the UE further comprises:

means for selecting a receive beam from the first receive beam and the second receive beam based on a reception condition of the transmission of the at least one of the plurality of second synchronization signals and a reception condition of the repeated transmission of the at least one of the plurality of second synchronization signals.

28. The UE of claim 21, wherein the plurality of first synchronization signals and the plurality of second synchronization signals are processed by time-division multiplexing the plurality of first synchronization signals and the plurality of second synchronization signals, and

wherein the UE further comprises means for demultiplexing the plurality of first synchronization signals and the plurality of second synchronization signals.

29. A user equipment (UE) for wireless communication, comprising:

a memory; and

at least one processor coupled to the memory and configured to:

receive a transmission of at least one of a plurality of first synchronization signals; and

receive at least one repeat transmission of the at least one of the plurality of first synchronization signals,

wherein the transmission and the at least one repeat transmission are received in a same synchronization signal block.

30. The UE of claim 29, wherein the at least one processor is further configured to:
estimate a carrier frequency offset based on the received transmission of the at least one of the plurality of first synchronization signals and the received at least one repeat transmission of the at least one of the plurality of first synchronization signals.
31. The UE of claim 30, wherein the at least one processor is further configured to:
correct a carrier frequency of the UE based on the carrier frequency offset.
32. The UE of claim 30, wherein the carrier frequency offset is estimated based on a difference between the reception of the transmission of the at least one of the plurality of first synchronization signals and the reception of the at least one repeat transmission of the at least one of the plurality of first synchronization signals, the difference being at least one of a time difference or a frequency difference.
33. The UE of claim 27, wherein the plurality of first synchronization signals include at least one of a beam reference signal (BRS), an extended synchronization signal (ESS), a primary synchronization signal (PSS), a secondary synchronization signal (SSS), or a physical broadcast channel (PBCH) signal.
34. The UE of claim 27, wherein the at least one of plurality of first synchronization signals includes at least one of a physical broadcast channel (PBCH) signal or a demodulation reference signal (DMRS) for a PBCH signal.
35. The UE of claim 30, wherein the at least one processor is further configured to:
receive at least one of plurality of second synchronization signals, wherein the at least one of the plurality of first synchronization signals and the at least one of the plurality of second synchronization signals are received in a same synchronization subframe.
36. The UE of claim 35, wherein the at least one processor configured to receive the at least one of the plurality of second synchronization signals is configured to receive

the at least one of the plurality of second synchronization signals after receiving the transmission of the at least one/ of the plurality of first synchronization signals and before receiving the at least one repeat transmission of the at least one of the plurality of first synchronization signals.

37. The UE of claim 35, wherein the plurality of second synchronization signals include at least one of a primary synchronization signal (PSS) or a secondary synchronization signal (SSS).

38. The UE of claim 35, wherein the at least one of the plurality of second synchronization signals includes a primary synchronization signal (PSS), and
wherein the carrier frequency offset is estimated further based on the PSS.

39. The UE of claim 35, wherein the at least one processor is further configured to:
detect a secondary synchronization signal (SSS) based on the estimated carrier frequency offset,
wherein the at least one of the plurality of second synchronization signals includes the SSS.

40. The UE of claim 30, wherein the at least one processor is further configured to:
decode the at least one of the plurality of first synchronization signals based on the estimated carrier frequency offset.

41. The UE of claim 35, wherein the transmission of the at least one of the plurality of second synchronization signals is received via a first receive beam and the repeat transmission of the at least one of the plurality of second synchronization signals is received via a second receive beam, and
wherein the at least one processor is further configured to:
select a receive beam from the first receive beam and the second receive beam based on a reception condition of the transmission of the at least one of the plurality of second synchronization signals and a reception condition of the repeated transmission of the at least one of the plurality of second synchronization signals.

42. The UE of claim 35, wherein the plurality of first synchronization signals and the plurality of second synchronization signals are processed by time-division multiplexing the plurality of first synchronization signals and the plurality of second synchronization signals, and

wherein the at least one processor is further configured to demultiplex the plurality of first synchronization signals and the plurality of second synchronization signals.

43. A computer-readable medium storing computer executable code for wireless communication by a user equipment (UE), comprising code to:

receive a transmission of at least one of a plurality of first synchronization signals;

receive at least one repeat transmission of the at least one of the plurality of first synchronization signals,

wherein the transmission and the at least one repeat transmission are received in a same synchronization signal block.