

WHAT IS CLAIMED IS:

1. A method of wireless communication performed by a base station (BS), comprising:
transmitting, for a first type of user equipment with a first user equipment capability, a first synchronization signal block associated with a first set of configuration parameters; and
transmitting, for a second type of user equipment with a second user equipment capability that is different from the first user equipment capability, a second synchronization signal block associated with a second set of configuration parameters that is different from the first set of configuration parameters.
2. The method of claim 1, wherein the second set of configuration parameters differs from the first set of configuration parameters with reference to at least one of:
a numerology parameter,
a periodicity parameter,
a synchronization channel raster parameter,
a synchronization channel time location parameter,
a synchronization signal block bitmap configuration parameter, or
a physical broadcast channel payload content.
3. The method of claim 1, wherein the first user equipment capability differs from the second user equipment capability with reference to at least one of:
a latency characteristic,
a reliability characteristic,
a data rate characteristic,
a coverage characteristic,
a bandwidth characteristic, or
a radio access technology characteristic.
4. The method of claim 1, further comprising:
indicating, in connection with the first synchronization signal block, that the first synchronization signal block is for the first type of user equipment; and
indicating, in connection with the second synchronization signal block, that the second synchronization signal block is for the second type of user equipment.
5. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on a first primary synchronization signal position within the first synchronization signal block; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on a second primary synchronization signal position within the second synchronization signal block.

6. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on a first physical broadcast channel demodulation reference signal mapping or demodulation reference signal mapping sequence generation for the first synchronization signal block; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on a second physical broadcast channel demodulation reference signal mapping or demodulation reference signal mapping sequence generation for the second synchronization signal block.

7. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on a first physical broadcast channel data mapping or data scrambling sequence for the first synchronization signal block; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on a second physical broadcast channel data mapping or data scrambling sequence for the second synchronization signal block.

8. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on a first bit indicator of a first master information block; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on a second bit indicator of a second master information block.

9. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on a first bandwidth for a control resource set satisfying a threshold; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on a second bandwidth for the control resource set not satisfying the threshold.

10. The method of claim 1, further comprising:

indicating that the first synchronization signal block is for the first type of user equipment based at least in part on conveying the first synchronization signal block using a first synchronization channel raster grid reserved for the first type of user equipment; and

indicating that the second synchronization signal block is for the second type of user equipment based at least in part on conveying the second synchronization signal block using a second synchronization channel raster grid reserved for the second type of user equipment.

11. The method of claim 10, wherein the second synchronization channel raster grid is a subset of the first synchronization channel raster grid.

12. The method of claim 10, wherein the second synchronization channel raster grid is separate from the first synchronization channel raster grid.

13. The method of claim 10, wherein the second synchronization channel raster grid is derived from at least one of the first synchronization channel raster grid or a frequency offset.

14. The method of claim 1, wherein at least a first portion of the first synchronization signal block is quasi-co-located with at least a second portion of the second synchronization signal block with respect to a receiver spatial parameter.

15. A method of wireless communication performed by a user equipment, comprising:

receiving at least one of a first synchronization signal block associated with a first set of configuration parameters for a first type of user equipment with a first user equipment capability or a second synchronization signal block associated with a second set of configuration parameters that is different from the first set of configuration parameters for a second type of user equipment with a second user equipment capability that is different from the first user equipment capability; and

decoding at least one of the first synchronization signal block or the second synchronization signal block based at least in part on a particular user equipment capability of the user equipment.

16. The method of claim 15, wherein the second set of configuration parameters differs from the first set of configuration parameters with reference to at least one of:

- a numerology parameter,
- a periodicity parameter,
- a synchronization channel raster parameter,
- a synchronization channel time location parameter,
- a synchronization signal block bitmap configuration parameter, or
- a physical broadcast channel payload content.

17. The method of claim 15, wherein the first user equipment capability differs from the second user equipment capability with reference to at least one of:

- a latency characteristic,
- a reliability characteristic,
- a data rate characteristic,
- a coverage characteristic,
- a bandwidth characteristic, or
- a radio access technology characteristic.

18. The method of claim 15, further comprising determining, in connection with the first synchronization signal block, that the first synchronization signal block is for the first type of user equipment or, in connection with the second synchronization signal block, that the second synchronization signal block is for the second type of user equipment.

19. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on a first primary synchronization signal position within the first synchronization signal block or that the second synchronization signal block is for the second type of user equipment based at least in part on a second primary synchronization signal position within the second synchronization signal block.

20. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on a first physical broadcast channel demodulation reference signal mapping or demodulation reference signal mapping sequence generation for the first synchronization signal block or that the second synchronization signal block is for the second type of user equipment based at least in part on a second physical broadcast channel demodulation reference signal mapping or demodulation reference signal mapping sequence generation for the second synchronization signal block.

21. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on a first physical broadcast channel data mapping or data scrambling sequence for the first synchronization signal block or that the second synchronization signal block is for the second type of user equipment based at least in part on a second physical broadcast channel data mapping or data scrambling sequence for the second synchronization signal block.

22. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on a first bit indicator of a first master information block or that the second synchronization signal block is for the second type of user equipment based at least in part on a second bit indicator of a second master information block.

23. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on a first bandwidth for a control resource set exceeding a threshold or that the second synchronization signal block is for the second type of user equipment based at least in part on a second bandwidth for the control resource set not exceeding the threshold.

24. The method of claim 15, further comprising determining that the first synchronization signal block is for the first type of user equipment based at least in part on conveying the first synchronization signal block using a first synchronization channel raster grid reserved for the first type of user equipment or that the second synchronization signal block is for the second type of user equipment based at least in part on conveying the second synchronization signal block using a second synchronization channel raster grid reserved for the second type of user equipment.

25. The method of claim 24, wherein the second synchronization channel raster grid is a subset of the first synchronization channel raster grid.

26. The method of claim 24, wherein the second synchronization channel raster grid is separate from the first synchronization channel raster grid.

27. The method of claim 24, wherein the second synchronization channel raster grid is derived from at least one of the first synchronization channel raster grid or a frequency offset.

28. The method of claim 15, wherein at least a first portion of the first synchronization signal block is quasi-co-located with at least a second portion of the second synchronization signal block with respect to a receiver spatial parameter.

29. A base station (BS) for wireless communication, comprising:
a memory; and
one or more processors operatively coupled to the memory, the memory and the one or more processors configured to:
transmit, for a first type of user equipment with a first user equipment capability, a first synchronization signal block associated with a first set of configuration parameters;
and
transmit, for a second type of user equipment with a second user equipment capability that is different from the first user equipment capability, a second synchronization signal block associated with a second set of configuration parameters that is different from the first set of configuration parameters.

30. A user equipment for wireless communication, comprising:
a memory; and
one or more processors operatively coupled to the memory, the memory and the one or more processors configured to:
receive at least one of a first synchronization signal block associated with a first set of configuration parameters for a first type of user equipment with a first user equipment capability or a second synchronization signal block associated with a second set of configuration parameters that is different from the first set of configuration parameters for a second type of user equipment with a second user equipment capability that is different from the first user equipment capability; and
decode at least one of the first synchronization signal block or the second synchronization signal block based at least in part on a particular user equipment capability of the user equipment.