

CLAIMS

1. A method for wireless communication, comprising:
transmitting, via a master information block (MIB) or a system information block (SIB) to a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE; and
transmitting a control message having a subcarrier spacing in accordance with the indication.
2. The method of claim 1, wherein the indication is UE-specific.
3. The method of claim 1, wherein transmitting the indication comprises:
transmitting the indication via radio resource control (RRC) signaling.
4. A method for wireless communication, comprising:
transmitting, to a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE; and
transmitting a control message having a subcarrier spacing in accordance with the indication;
wherein transmitting the indication comprises:
transmitting the indication via physical downlink control channel (PDCCH) signaling,
and wherein the control message is configured with both the control channel subcarrier spacing indicated by the indication and a previous control channel subcarrier spacing.
5. A method for wireless communication, comprising:
transmitting, to a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE; and
transmitting a control message having a subcarrier spacing in accordance with the indication;
wherein transmitting the indication comprises:
transmitting the indication via a UE random access procedure.

6. A method for wireless communication, comprising:
 - transmitting, to a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE; and
 - transmitting a control message having a subcarrier spacing in accordance with the indication;
 - wherein transmitting the indication comprises:
 - transmitting the indication in response to a request by the UE; and
 - receiving the request in a physical uplink control channel (PUCCH) or in channel quality information (CQI) feedback.
7. A method for wireless communication, comprising:
 - transmitting, to a user equipment (UE), an indication of a change in a sequence of control channel subcarrier spacing on a per slot basis to be used by the UE; and
 - transmitting a control message having a subcarrier spacing in accordance with the indication.
8. A method for wireless communication, comprising:
 - receiving, via a master information block (MIB) or a system information block (SIB) at a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE;
 - configuring the UE to use the control channel subcarrier spacing based on the indication;
 - receiving a control message; and
 - decoding at least a portion of the control message using the control channel subcarrier spacing.
9. The method of claim 8, wherein the indication is UE-specific.
10. The method of claim 8, wherein receiving the indication comprises:
 - receiving the indication via radio resource control (RRC) signaling.

11. A method for wireless communication, comprising:
 receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
 configuring the UE to use the control channel subcarrier spacing based on the indication;
 receiving a control message; and
 decoding at least a portion of the control message using the control channel subcarrier spacing;
 wherein receiving the indication comprises:
 receiving the indication via physical downlink control channel (PDCCH) signaling,
 wherein the control message is configured with both the control channel subcarrier spacing indicated by the indication and a previous control channel subcarrier spacing.

12. A method for wireless communication, comprising:
 receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
 configuring the UE to use the control channel subcarrier spacing based on the indication;
 receiving a control message; and
 decoding at least a portion of the control message using the control channel subcarrier spacing;
 wherein receiving the indication comprises:
 receiving the indication via a UE random access procedure.

13. A method for wireless communication, comprising:
 receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
 configuring the UE to use the control channel subcarrier spacing based on the indication;
 receiving a control message; and
 decoding at least a portion of the control message using the control channel subcarrier spacing;
 wherein receiving the indication comprises:
 receiving the indication in response to a request by the UE; and

including the request in a physical uplink control channel (PUCCH) or in channel quality information (CQI) feedback.

14. A method for wireless communication, comprising:
receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
configuring the UE to use the control channel subcarrier spacing based on the indication;
receiving a control message; and
decoding at least a portion of the control message using the control channel subcarrier spacing;
wherein decoding at least the portion of the control message comprises:
blindly decoding the control message using the control channel subcarrier spacing.

15. A method for wireless communication, comprising:
receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
configuring the UE to use the control channel subcarrier spacing based on the indication;
receiving a control message; and
decoding at least a portion of the control message using the control channel subcarrier spacing;
wherein decoding at least the portion of the control message comprises:
decoding the control message in accordance to predefined rules regarding a sequence of control channel subcarrier spacing in the control message.

16. A method for wireless communication, comprising:
receiving, at a user equipment (UE), an indication of a change in a sequence of control channel subcarrier spacing on a per slot basis to be used by the UE;
configuring the UE to use the control channel subcarrier spacing based on the indication;
receiving a control message; and
decoding at least a portion of the control message using the control channel subcarrier spacing.

17. A method for wireless communication, comprising:
receiving, at a user equipment (UE), an indication of a control channel subcarrier spacing to be used by the UE;
configuring the UE to use the control channel subcarrier spacing based on the indication;
receiving a control message; and
decoding at least a portion of the control message using the control channel subcarrier spacing;
wherein the control message includes multiple portions using different control channel subcarrier spacing within a single slot;
wherein the multiple portions using different control channel subcarrier spacing each correspond to different UEs.

18. A method for wireless communication, comprising:
transmitting, to a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels; and
transmitting the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;
wherein the indicator channel is transmitted at a boundary of a base subcarrier spacing, wherein the base subcarrier spacing is predefined and constant.

19. A method for wireless communication, comprising:
transmitting, to a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels; and
transmitting the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;
wherein the indicator channel is transmitted before each switch in control channel subcarrier spacing.

20. A method for wireless communication, comprising:
transmitting, to a user equipment (UE), an indicator channel identifying at least a

subcarrier spacing to be used in one or more subsequent control channels; and

transmitting the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel further indicates a sequence of subcarrier spacing to be used in the one or more subsequent control channels, and is transmitted before a start of each symbol in the one or more control channels.

21. A method for wireless communication, comprising:

receiving, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;

decoding the indicator channel;

receiving the one or more subsequent control channels; and

decoding the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel is received at a boundary of a base subcarrier spacing, wherein the base subcarrier spacing is predefined and constant.

22. A method for wireless communication, comprising:

receiving, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;

decoding the indicator channel;

receiving the one or more subsequent control channels; and

decoding the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel is received before each switch in control channel subcarrier spacing.

23. A method for wireless communication, comprising:

receiving, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;

decoding the indicator channel;

receiving the one or more subsequent control channels; and
 decoding the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel further indicates a sequence of subcarrier spacing to be used in the one or more subsequent control channels, and is received before a start of each symbol in the one or more control channels.

24. An apparatus for wireless communication, comprising:
 a processor;
 memory in electronic communication with the processor; and
 the processor and memory configured to:

transmit, via a master information block (MIB) or a system information block (SIB) to a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE; and

transmit a control message having a subcarrier spacing in accordance with the indication.

25. The apparatus of claim 24, wherein the indication is UE-specific.

26. The apparatus of claim 24, wherein transmitting the indication comprises:
 transmitting the indication via radio resource control (RRC) signaling.

27. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

transmit, via a master information block (MIB) or a system information block (SIB) to a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE; and

transmit a control message having a subcarrier spacing in accordance with the indication.

28. The non-transitory computer-readable medium of claim 27, wherein the indication is UE-specific.

29. The non-transitory computer-readable medium of claim 27, wherein transmitting the indication comprises:

transmitting the indication via radio resource control (RRC) signaling.

30. An apparatus for wireless communication, comprising:

means for transmitting, via a master information block (MIB) or a system information block (SIB) to a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE; and

means for transmitting a control message having a subcarrier spacing in accordance with the indication.

31. An apparatus for wireless communication, comprising:

a processor;

memory in electronic communication with the processor; and

the processor and memory configured to:

receive, via a master information block (MIB) or a system information block (SIB) at a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE;

configure the UE to use the control channel subcarrier spacing based on the indication;

receive a control message; and

decode at least a portion of the control message using the control channel subcarrier spacing.

32. The apparatus of claim 31, wherein the indication is UE-specific.

33. The apparatus of claim 31, wherein receiving the indication comprises:

receiving the indication via radio resource control (RRC) signaling.

34. A non-transitory computer-readable medium storing code for wireless

communication, the code comprising instructions executable by a processor to:

- receive, via a master information block (MIB) or a system information block (SIB) at a user equipment (UE), an indication of a change in a sequence of a control channel subcarrier spacing to be used by the UE;

- configure the UE to use the control channel subcarrier spacing based on the indication;

- receive a control message; and

- decode at least a portion of the control message using the control channel subcarrier spacing.

35. The non-transitory computer-readable medium of claim 34, wherein the indication is UE-specific.

36. The non-transitory computer-readable medium of claim 34, wherein receiving the indication comprises:

- receiving the indication via radio resource control (RRC) signaling.

37. An apparatus for wireless communication, comprising:

- a processor;

- memory in electronic communication with the processor; and

- the processor and memory configured to:

- receive, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;

- decode the indicator channel;

- receive the one or more subsequent control channels; and

- decode the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

- wherein the indicator channel is received at a boundary of a base subcarrier spacing, wherein the base subcarrier spacing is predefined and constant.

38. An apparatus for wireless communication, comprising:

- a processor;

memory in electronic communication with the processor; and
the processor and memory configured to:

- receive, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;
- decode the indicator channel;
- receive the one or more subsequent control channels; and
- decode the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel is received before each switch in control channel subcarrier spacing.

39. An apparatus for wireless communication, comprising:

a processor;

memory in electronic communication with the processor; and
the processor and memory configured to:

- receive, at a user equipment (UE), an indicator channel identifying at least a subcarrier spacing to be used in one or more subsequent control channels;
- decode the indicator channel;
- receive the one or more subsequent control channels; and
- decode the one or more subsequent control channels in accordance with the subcarrier spacing indicated by the indicator channel;

wherein the indicator channel further indicates a sequence of subcarrier spacing to be used in the one or more subsequent control channels, and is received before a start of each symbol in the one or more control channels.

40. An apparatus for wireless communication, comprising:

a processor;

memory in electronic communication with the processor; and
the processor and memory configured to:

- transmit, to a user equipment (UE), an indication of a change in a sequence of control channel subcarrier spacing on a per slot basis to be used by the UE; and

transmit a control message having a subcarrier spacing in accordance with the indication.

41. An apparatus for wireless communication, comprising:
a processor;
memory in electronic communication with the processor; and
the processor and memory configured to:

receive, at a user equipment (UE), an indication of a change in a sequence of control channel subcarrier spacing on a per slot basis to be used by the UE;

configure the UE to use the control channel subcarrier spacing based on the indication;

receive a control message; and

decode at least a portion of the control message using the control channel subcarrier spacing.