CLAIMS

1. A method for wireless communications by a user equipment (UE), comprising: receiving a system information block (SIB) containing system information, wherein values of bits of the system information indicate a resource set of sixteen configured resource sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; receiving downlink control information (DCI) in a physical downlink control channel (PDCCH) containing resource indicator (RI) bits; determining a resource index, r, corresponding to one of the sixteen resources of the indicated resource set based on an explicit value of the RI bits and on a control channel element (CCE) index of the PDCCH; and transmitting uplink control information (UCI) in the PUCCH using the one of the sixteen resources.

2. The method of claim 1, wherein the system information is received via remaining system information (RMSI) bits.

3. The method of claim 2, wherein: the RMSI bit comprise 4 bits, and the RI bits comprise 3 bits.

4. The method of claim 1, wherein at least one of: the set of RB indexes for the sixteen resource sets comprises sets of 2 RBs, 4 RBs, and 8 RBs, or the set of OCC indexes indicates 1 or 2 OCCs.

5. The method of claim 1, wherein: a first RB index is for a first hop of a frequency hopping pattern, and the method further comprises determining a second RB index for a second hop of the frequency hopping pattern based on the frequency hopping pattern and the first RB index for the first hop.

6. The method of claim 1, wherein: determining the resource index is based on a

function of the values of the RI bits and the CCE index.

7. The method of claim 1, further comprising: determining one or more relative resource indexes; and deriving one or more of the set of one or more initial CS indexes implicitly based on the relative resource indexes.

8. The method of claim 1, wherein the one of the sixteen resources is at an edge of a system bandwidth.

9. A method for wireless communications by a base station (BS), comprising: transmitting a system information block (SIB), to a user equipment (UE), containing system information, wherein values of bits of the system information indicate a resource set of a-sixteen configured resource sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; transmitting downlink control information (DCI) on physical downlink control channel (PDCCH) associated with a control channel element (CCE) index, to the UE, containing resource indicator (RI) bits, wherein the CCE index and an explicit value of the RI bits together indicate a resource index, r, corresponding to one of the sixteen resources of the indicated resource set available for the UE to use for transmitting uplink control information (UCI) in the PUCCH transmission; and monitoring the one of the sixteen resources for the PUCCH transmission.

10. The method of claim 9, wherein the system information is provided via remaining system information (RMSI) bits.

11. The method of claim 10, wherein: the RMSI bits comprise 4 bits, and the RI bits comprise 3 bits.

12. The method of claim 9, wherein at least one of: the set of RB indexes for the sixteen

resource sets comprises sets of 2 RBs, 4 RBs, and 8 RBs, or the set of one or more OCC indexes indicates 1 or 2 OCCs.

13. The method of claim 9, wherein: a first RB index is for a first hop of a frequency hopping pattern, and a second RB index is for a second hop of the frequency hopping pattern based on the frequency hopping pattern and the first RB index for the first hop.

14. The method of claim 9, wherein: the resource index is indicated via a function of the values of the RI bits and the CCE index.

15. The method of claim 14, wherein: the CS index is implicitly derived based on one or more relative resource indexes.

16. The method of claim 9, wherein the one of the sixteen resources is at an edge of a system bandwidth.

17. An apparatus for wireless communications, comprising: at least one processor; and a memory coupled to the at least one processor, the memory comprising code executable by the at least one processor to cause the apparatus to: receive a system information block (SIB) containing system information, wherein values of bits of the system information indicate a resource set of sixteen configured resource sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; receive downlink control information (DCI) in a physical downlink control channel (PDCCH) containing resource indicator (RI) bits; determine a resource index, r, corresponding to one of the sixteen resources of the indicated resource set based on an explicit value of the RI bits and on a control channel element (CCE) index of the PDCCH; and transmit uplink control information (UCI) in the PUCCH using the one of the sixteen resources.

18. The apparatus of claim 17, wherein the system information is received via remaining system information (RMSI) bits.

19. The apparatus of claim 18, wherein: the RMSI bit comprise 4 bits, and the RI bits comprise 3 bits.

20. The apparatus of claim 17, wherein at least one of: the set of RB indexes for the sixteen resource sets comprises sets of 2 RBs, 4 RBs, and 8 RBs, or the set of OCC indexes indicates 1 or 2 OCCs.

21. The apparatus of claim 17, wherein: a first RB index is for a first hop of a frequency hopping pattern, and the code is further executable by the at least one processor to cause the apparatus to determine a second RB index for a second hop of the frequency hopping pattern based on the frequency hopping pattern and the first RB index for the first hop.

22. The apparatus of claim 17, wherein: the code executable by the at least one processor to cause the apparatus to determine the resource index comprises code executable by the at least one processor to cause the apparatus to determine the resource index based on a function of the values of the RI bits and the CCE index.

23. The apparatus of claim 17, wherein the code is further executable by the at least one processor to cause the apparatus to: determine one or more relative resource indexes; and derive one or more of the set of one or more initial CS indexes implicitly based on the relative resource indexes.

24. The apparatus of claim 17, wherein the one of the sixteen resources is at an edge of a system bandwidth.

25. An apparatus for wireless communications, comprising: at least one processor; and a memory coupled to the at least one processor, the memory comprising code executable by the at least one processor to cause the apparatus to: transmit a system information block (SIB), to a user equipment (UE), containing system information, wherein values of bits of the system information indicate a resource set of sixteen configured resource

sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; transmit downlink control information (DCI) on physical downlink control channel (PDCCH) associated with a control channel element (CCE) index, to the UE, containing resource indicator (RI) bits, wherein the CCE index and an explicit value of the RI bits together indicate a resource index, r, corresponding to one of the sixteen resources of the indicated resource set available for the UE to use for transmitting uplink control information (UCI) in the PUCCH transmission; and monitor the one of the sixteen resources for the PUCCH transmission.

26. The apparatus of claim 25, wherein the system information is provided via remaining system information (RMSI) bits.

27. The apparatus of claim 26, wherein: the RMSI bits comprise 4 bits, and the RI bits comprise 3 bits.

28. The apparatus of claim 25, wherein at least one of: the set of RB indexes for the sixteen resource sets comprises sets of 2 RBs, 4 RBs, and 8 RBs, or the set of one or more OCC indexes indicates 1 or 2 OCCs.

29. The apparatus of claim 25, wherein: a first RB index is for a first hop of a frequency hopping pattern, and a second RB index is for a second hop of the frequency hopping pattern based on the frequency hopping pattern and the first RB index for the first hop.

30. The apparatus of claim 25, wherein: the resource index is indicated via a function of the values of the RI bits and the CCE index.

31. The apparatus of claim 30, wherein: the CS index is implicitly derived based on one or more relative resource indexes.

32. The apparatus of claim 25, wherein the one of the sixteen resources is at an edge of a system bandwidth.

33. A non-transitory computer readable medium storing computer executable code thereon for wireless communications, comprising: code for receiving a system information block (SIB) containing system information, wherein values of bits of the system information indicate a resource set of sixteen configured resource sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; code for receiving downlink control information (DCI) in a physical downlink control channel (PDCCH) containing resource indicator (RI) bits; code for determining a resource index, r, corresponding to one of the sixteen resources of the indicated resource set based on an explicit value of the RI bits and on a control channel element (CCE) index of the PDCCH; and code for transmitting uplink control information (UCI) in the PUCCH using the one of the sixteen resources.

34. A non-transitory computer readable medium storing computer executable code thereon for wireless communications, comprising: code for transmitting a system information block (SIB), to a user equipment (UE), containing system information, wherein values of bits of the system information indicate a resource set of sixteen configured resource sets, each resource set containing sixteen resources for physical uplink control channel (PUCCH) transmission, wherein the values of the bits of the system information map to a number of symbols, a first symbol, and a set of one or more initial cyclic shift (CS) indexes corresponding to the indicated resource set, and wherein the values of the bits of the system information further indicate a set of repetition factors for the PUCCH transmission, a set of RB indexes and a set of one or more orthogonal cover code (OCC) indexes for the PUCCH transmission; code for transmitting downlink control information (DCI) on physical downlink control channel (PDCCH) associated with a control channel element (CCE) index, to the UE, containing resource indicator (RI) bits, wherein the CCE index and an explicit value of the RI bits

together indicate a resource index, r, corresponding to one of the sixteen resources of the indicated resource set available for the UE to use for transmitting uplink control information (UCI) in the PUCCH transmission; and code for monitoring the one of the sixteen resources for the PUCCH transmission.