CLAIMS

1. A method for wireless communications by a peer device, comprising:

generating control information to schedule peer-to-peer communication, wherein the control information comprises a first portion with a first set of control information and a second portion with a second set of control information;

transmitting the first portion of the control information in a first stage using first time and frequency resources, wherein the first portion indicates a control information format of the second portion; and

transmitting the second portion of the control information in a second stage using second time and frequency resources and the indicated control information format, wherein one of:

content included in the second set of control information varies based on cast type of the peer-to-peer communication; or

the second set of control information comprises information regarding a location of the peer device.

2. The method of claim 1, wherein:

the first portion is transmitted with a first code rate based on a number of symbols carrying the first portion; and

the second portion is transmitted with a second code rate based on a modulation and coding scheme (MCS) of data associated with the control information.

3. The method of claim 1, wherein code rates for the first and second portions are determined differently.

4. The method of claim 1, wherein the second set of control information comprises the information regarding the location of the peer device.

5. The method of claim 1, wherein the second set of control information comprises the information regarding the location of the peer device based on the control information format indicated in the first portion.

6. The method of claim 1, wherein:

the first set of control information comprises information that indicates assignments of resources for the peer-to-peer communication; and

the second set of control information comprises a destination ID.

7. The method of claim 1, wherein the first set of control information indicates a periodicity if same resources are reserved for periodic peer-to-peer communication.

8. The method of claim 1, wherein the first set of control information indicates:

a reference signal (RS) pattern for the second time and frequency resources.

9. The method of claim 1, wherein the second set of control information comprises an identifier indicating one or more intended recipients of traffic.

10. A method for wireless communications by a peer device, comprising:

receiving, in a first stage using first time and frequency resources, a first portion of control information to schedule peer-to-peer communication, the first portion including a first set of control information comprising an indication of a control information format of a second portion of the control information; and

receiving, in a second stage using second time and frequency resources and the indication of the control information format, the second portion of the control information, the second portion comprising a second set of control information, wherein one of:

content included in the second set of control information varies based on cast type of the peer-to-peer communication; or

the second set of control information comprises information regarding a location of a transmitter.

11. The method of claim 10, wherein:

the first portion is received having a first code rate based on a number of symbols carrying the first portion; and

the second portion is received having a second code rate based on a modulation and coding scheme (MCS) of data associated with the control information.

12. The method of claim 10, wherein code rates for the first and second portions are determined differently.

13. The method of claim 10, wherein the second set of control information comprises the information regarding the location of the transmitter.

14. The method of claim 10, wherein the second set of control information comprises the information regarding the location of the transmitter based on the control information format indicated in the first portion.

15. The method of claim 10, wherein:

the first set of control information comprises information that indicates assignments of resources for the peer-to-peer communication; and

the second set of control information comprises a destination ID.

16. The method of claim 10, wherein the first set of control information indicates a periodicity if same resources are reserved for periodic peer-to-peer communication.

17. The method of claim 10, wherein the first set of control information indicates:

a reference signal (RS) pattern for the second time and frequency resources.

18. The method of claim 10, wherein the second set of control information comprises an identifier indicating one or more intended recipients of traffic.

19. A peer wireless communication device, comprising:

a memory; and

a processor coupled to the memory, the processor and the memory being configured to:

generate control information to schedule peer-to-peer communication, wherein the control information comprises a first portion with a first set of control information and a second portion with a second set of control information;

transmit the first portion of the control information in a first stage using first time and frequency resources, wherein the first portion indicates a control information format of the second portion; and

transmit the second portion of the control information in a second stage using second time and frequency resources and the indicated control information format, wherein one of:

content included in the second set of control information varies based on cast type of the peer-to-peer communication; or

the second set of control information comprises information regarding a location of the peer wireless communication device.

20. The peer wireless communication device of claim 19, wherein:

the first portion is transmitted with a first code rate based on a number of symbols carrying the first portion; and

the second portion is transmitted with a second code rate based on a modulation and coding scheme (MCS) of data associated with the control information.

21. The peer wireless communication device of claim 19, wherein code rates for the first and second portions are determined differently.

22. The peer wireless communication device of claim 19, wherein the second set of control information comprises the information regarding the location of the peer wireless communication device.

23. The peer wireless communication device of claim 19, wherein the second set of control information comprises the information regarding the location of the peer wireless communication device based on the control information format indicated in the first portion.

24. The peer wireless communication device of claim 19, wherein:

the first set of control information comprises information that indicates assignments of resources for the peer-to-peer communication; and

the second set of control information comprises a destination ID.

25. A peer wireless communication device, comprising:

a memory; and

a processor coupled to the memory, the processor and the memory being configured to:

receive, in a first stage using first time and frequency resources, a first portion of control information to schedule peer-to-peer communication, the first portion including a first set of control information comprising an indication of a control information format of a second portion of the control information; and

receive, in a second stage using second time and frequency resources and the indication of the control information format, the second portion of the control information, the second portion comprising a second set of control information, wherein one of:

content included in the second set of control information varies based on cast type of the peer-to-peer communication; or

the second set of control information comprises information regarding a location of a transmitter.

26. The peer wireless communication device of claim 25, wherein:

the first portion is received having a first code rate based on a number of symbols carrying the first portion; and

the second portion is received having a second code rate based on a modulation and coding scheme (MCS) of data associated with the control information.

27. The peer wireless communication device of claim 25, wherein code rates for the first and second portions are determined differently.

28. The peer wireless communication device of claim 25, wherein the second set of control information comprises the information regarding the location of the transmitter.

29. The peer wireless communication device of claim 25, wherein the second set of control information comprises the information regarding the location of the transmitter based on the control information format indicated in the first portion.

30. The peer wireless communication device of claim 25, wherein:

the first set of control information comprises information that indicates assignments of resources for the peer-to-peer communication; and

the second set of control information comprises a destination ID.