CLAIMS

1. A method of wireless communication, comprising:

transmitting a control signal to a mobile device using a first bandwidth; and

transmitting a data signal to the mobile device using a second bandwidth wider than the first bandwidth,

wherein the control signal and the data signal are transmitted over a single carrier frequency, wherein the control signal comprises an indication of a characteristic of the data signal, and wherein the data signal is transmitted after the control signal such that the data signal and control signal are separated by a time interval, wherein the time interval is based on a switching latency of the mobile device.

2. The method of claim 1, wherein the indication indicates that the second bandwidth completely occupies an available bandwidth.

3. The method of claim 1, wherein the indication indicates that the second bandwidth occupies only a portion of an available bandwidth.

4. The method of claim **1**, further comprising:

transmitting a second control signal using the second bandwidth, wherein the second control signal indicates that there is no subsequent data signal prior to a third control signal; and

transmitting the third control signal using the first bandwidth.

5. The method of claim **1**, wherein the second control signal comprises a control signal portion and a data signal portion.

6. The method of claim **1**, further comprising transmitting a second data signal to the mobile device using a third bandwidth over the single carrier frequency, wherein the third bandwidth is wider than the first bandwidth and different than the second bandwidth.

7. The method of claim **1**, further comprising:

receiving a capability message from the mobile device, wherein the capability message comprises a dynamic bandwidth switching capability indication of the mobile device; and

transmitting a response message comprising an indication that dynamic bandwidth switching is activated.

8. The method of claim **7**, wherein the capability message further comprises an indication of switching latency of the mobile device, and wherein the method further comprises:

determining the time interval between the control signal and the data signal based on the indication of switching latency, wherein the response message further comprises an indication of the time interval.

9. The method of claim **1**, further comprising transmitting a second data signal to a second mobile device using a second single carrier frequency, wherein the second single carrier frequency is different than the single carrier frequency, and wherein the second data signal overlaps in time with the data signal and does not overlap in frequency with the data signal.

10. A computer program product for wireless communications, comprising:

a non-transitory computer-readable medium having program code recorded thereon, the program code including:

code for causing a transmitter to transmit a control signal to a device using a first bandwidth; and

code for causing the transmitter to transmit a data signal to the device using a second bandwidth wider than the first bandwidth,

wherein the control signal and the data signal are transmitted over a single carrier frequency, wherein the control signal comprises an indication of a characteristic of the data signal, and wherein the data signal is transmitted after the control signal such that the data signal and control signal are separated by a time interval, wherein the time interval is based on a switching latency of the device.

11. The computer program product of claim **10**, wherein the indication indicates that the second bandwidth completely occupies an available bandwidth.

12. The computer program product of claim **10**, wherein the indication indicates that the second bandwidth occupies only a portion of an available bandwidth.

13. The computer program product of claim **10**, further comprising:

code for causing the transmitter to transmit a second control signal using the second bandwidth, wherein the second control signal indicates that there is no subsequent data signal prior to a third control signal; and

code for causing the transmitter to transmit the third control signal using the first bandwidth.

14. The computer program product of claim **10**, further comprising code for causing the transmitter to transmit a second data signal to the device using a third bandwidth over the single carrier frequency, wherein the third bandwidth is wider than the first bandwidth and different than the second bandwidth.

15. The computer program product of claim **10**, further comprising:

code for causing a receiver to receive a capability message from the device, wherein the capability message comprises a dynamic bandwidth switching capability indication of the device; and

code for causing the transmitter to transmit a response message comprising an indication that dynamic bandwidth switching is activated.

16. The computer program product of claim **15**, wherein the capability message further comprises an indication of switching latency of the device, and wherein the computer program product further comprises:

code for causing a processor to determine the time interval between the control signal and the data signal based on the indication of switching latency, wherein the response message further comprises an indication of the time interval.

17. The computer program product of claim **16**, wherein the data signal is transmitted after the control signal such that the data signal and control signal are separated by the time interval.

18. A method of wireless communication, comprising:

transmitting a control signal to a mobile device over a first carrier frequency using a first bandwidth; and

transmitting a data signal to the mobile device over the first carrier frequency using a second bandwidth wider than the first bandwidth, wherein the data signal is transmitted after the control signal such that the data signal and control signal are separated by a time interval based on a switching latency of the mobile device.

19. The method of claim **18**, wherein the control signal comprises an indication of a characteristic of the data signal.

20. The method of claim **19**, wherein the indication indicates that the second bandwidth completely occupies an available bandwidth.

21. The method of claim **19**, wherein the indication indicates that the second bandwidth occupies only a portion of an available bandwidth.

22. The method of claim **18**, further comprising:

transmitting a second control signal using the second bandwidth, wherein the second control signal indicates that there is no subsequent data signal prior to a third control signal; and

transmitting the third control signal using the first bandwidth.

23. The method of claim **18**, wherein the second control signal comprises a control signal portion and a data signal portion.

24. The method of claim **18**, further comprising transmitting a second data signal to the mobile device using a third bandwidth over the first carrier frequency, wherein the third bandwidth is wider than the first bandwidth and different than the second bandwidth.

25. The method of claim **18**, further comprising:

receiving a capability message from the mobile device, wherein the capability message comprises a dynamic bandwidth switching capability indication of the mobile device; and

transmitting a response message comprising an indication that dynamic bandwidth switching is activated.

26. The method of claim **25**, wherein the capability message further comprises an indication of switching latency of the mobile device, and wherein the method further comprises:

determining the time interval between the control signal and the data signal based on the indication of switching latency, wherein the response message further comprises an indication of the time interval.

27. The method of claim **18**, further comprising transmitting a second data signal to a second mobile device using a second carrier frequency, wherein the second carrier frequency is different than the first carrier frequency, and wherein the second data signal overlaps in time with the data signal and does not overlap in frequency with the data signal.

28. A computer program product for wireless communications, comprising:

anon-transitory computer-readable medium having program code recorded thereon, the program code including:

code for causing a transmitter to transmit a control signal to a device over a first carrier frequency using a first bandwidth; and

code for causing the transmitter to transmit a data signal to the device over the first carrier frequency using a second bandwidth wider than the first bandwidth the data signal is transmitted after the control signal such that the data signal and control signal are separated by a time interval based on a switching latency of the device.

29. The computer program product of claim **28**, wherein the control signal comprises an indication of a characteristic of the data signal.

30. The computer program product of claim **29**, wherein the indication indicates that the second bandwidth completely occupies an available bandwidth.

31. The computer program product of claim **29**, wherein the indication indicates that the second bandwidth occupies only a portion of an available bandwidth.

32. The computer program product of claim **28**, further comprising:

code for causing the transmitter to transmit a second control signal using the second bandwidth, wherein the second control signal indicates that there is no subsequent data signal prior to a third control signal; and

code for causing the transmitter to transmit the third control signal using the first bandwidth.

33. The computer program product of claim **28**, further comprising code for causing the transmitter to transmit a second data signal to the device using a third bandwidth over the first carrier frequency, wherein the third bandwidth is wider than the first bandwidth and different than the second bandwidth.

34. The computer program product of claim **28**, further comprising:

code for causing a receiver to receive a capability message from the device, wherein the capability message comprises a dynamic bandwidth switching capability indication of the device; and

code for causing the transmitter to transmit a response message comprising an indication that dynamic bandwidth switching is activated.

35. The computer program product of claim **34**, wherein the capability message further comprises an indication of switching latency of the device, and wherein the computer program product further comprises:

code for causing a processor to determine the time interval between the control signal and the data signal based on the indication of switching latency, wherein the response message further comprises an indication of the time interval.

36. The computer program product of claim **35**, further comprising:

code for causing the transmitter to transmit a second data signal to a second mobile device using a second carrier frequency, wherein the second carrier frequency is different than the first carrier frequency.

37. The computer program product of claim **36**, wherein the second data signal overlaps in time with the data signal and does not overlap in frequency with the data signal.