CLAIMS

What is claimed is:

1. A method, comprising:

determining that it is desirable to undertake measurements with respect to one or more of a different frequency and a different technology when compared to one or more of a current frequency and technology associated with a network that is servicing user equipment; and

indicating to the network servicing the user equipment the desirability of undertaking the measurements.

2. The method of claim 1, further comprising:

indicating within a channel quality indicator report that undertaking measurements with respect to one or more of the different frequency and the different technology is desirable; and

transmitting the channel quality indicator report to a base station associated with the network.

3. The method of claim 1, further comprising relaying multiple indications of the desirability of undertaking the measurements to the network.

4. The method of claim 1, further comprising transmitting the indication to the network by way of layer 3 signaling.

5. The method of claim 1, further comprising transmitting the indication to the network by way of layer 2 signaling.

6. The method of claim 1, further comprising performing the measurements upon transmission of the indication to the network without awaiting receipt of an acknowledgment from the network.

7. The method of claim 1, further comprising:

receiving an acknowledgment that the network has received the indication; and

performing the measurements upon receipt of the acknowledgment.

8. The method of claim 1, further comprising indicating to the network that the user equipment has performed the measurements and is ready for additional data communication.

9. The method of claim 1, further comprising receiving an indication from the network that a request for a measurement gap has been denied.

10. The method of claim 1, further comprising:

receiving a schedule that indicates a duration of time within which measurements can be undertaken; and

performing the measurements in accordance with the schedule.

11. The method of claim 1, further comprising:

indicating within a MAC-e header that undertaking measurements with respect to one or more of the different frequency and the different technology is desirable; and

transmitting the MAC-e header to a base station associated with the network.

12. The method of claim 1, further comprising:

determining that quality of a downlink channel is below a threshold defined by the network; and

determining that it is desirable to undertake the measurements based at least in part upon the determination that the quality of the downlink channel is below the threshold.

13. User equipment configured to perform the method of claim 1.

14. A communications apparatus, comprising:

a memory that comprises instructions for indicating to a network that performing one or more of inter-frequency and inter-radio access technology measurements is desired; and

a processor that is configured to execute the instructions within the memory.

15. The communications apparatus of claim 14, the memory further comprises instructions for determining a quality metric with respect to a downlink channel associated with the communications apparatus.

16. The communications apparatus of claim 15, the memory further comprises instructions for comparing the determined quality metric with a pre-defined threshold defined by a network that is providing services to the communications apparatus.

17. The communications apparatus of claim 14, the memory further comprises instructions for performing the measurements upon transmittal of the indication to the network.

18. The communications apparatus of claim 14, the memory further comprises instructions for packaging the indication within a channel quality indicator report.

19. The communications apparatus of claim 14, the memory further comprises instructions for packaging the indication within a MAC-e header.

20. The communications apparatus of claim 14 being a mobile telephone.

21. The communications apparatus of claim 14, the memory further comprises instructions for indicating to a network that measurements have been performed and that the communications apparatus is ready for additional data communication.

22. A communications apparatus, comprising:

means for determining that a measurement gap is desired; and

means for indicating to a network servicing the communications apparatus that the measurement gap is desired.

23. The communications apparatus of claim 22 being a mobile telephone.

24. The communications apparatus of claim 22, further comprising means for determining that quality of a downlink channel is below a pre-defined threshold.

25. The communications apparatus of claim 22, further comprising:

means for analyzing a schedule provided by the network; and

means for performing measurements during a measurement gap defined within the schedule.

26. The communications apparatus of claim 22, further comprising means for setting a value within a channel quality indicator report to indicate that the measurement gap is desired.

27. The communications apparatus of claim 22, further comprising means for setting a value within a MAC-e header to indicate that the measurement gap is desired.

28. A computer-readable medium having computer-executable instructions stored thereon for:

determining that a measurement gap is desired; and

indicating to a base station that the measurement gap is desired.

29. The computer-readable medium of claim 28 having further computer-executable instructions stored thereon for indicating within a channel quality indicator report that the measurement gap is desired.

30. The computer-readable medium of claim 28 having further computer-executable instructions stored thereon for indicating within a MAC-e header that the measurement gap is desired.

31. The computer-readable medium of claim 28 having further computer-executable instructions stored thereon for:

receiving a schedule from the base station, wherein the schedule includes the measurement gap; and

performing measurements within a time frame defined by the measurement gap.

32. A processor configured to execute instructions for:

indicating to a network that a measurement gap is desired; and

performing measurements upon a downlink buffer associated with the processor being flushed.

33. The processor of claim 32, wherein the processor further executes instructions for:

analyzing a schedule provided by the base station, wherein the schedule includes timing information associated with the measurement gap; and

performing measurements during a prescribed timeframe within the schedule.

34. The processor of claim 32, wherein the processor further executes instructions for setting a value within a channel quality indicator report to indicate that the measurement gap is desired.

35. The processor of claim 32, wherein the processor further executes instructions for setting a value within a MAC-e header to indicate that the measurement gap is desired.

36. A method, comprising:

receiving a request for a measurement gap from user equipment; and

scheduling downlink data to the user equipment based at least in part upon the received request.

37. The method of claim 36, further comprising:

generating a schedule that includes a measurement gap; and

transmitting the schedule to the user equipment.

38. The method of claim 36, further comprising:

setting a threshold value with respect to downlink channel quality perceived at user equipment; and

transmitting the threshold value to the user equipment.

39. The method of claim 38, further comprising transmitting the threshold value to a plurality of pieces of user equipment by way of a broadcast.

40. The method of claim 36, further comprising:

generating a schedule that includes a period of time with respect to which measurements can be undertaken by the user equipment; and

transmitting the schedule to the user equipment.

41. A network device configured to perform the method of claim 36.

42. The network device of claim 41 being a base station.

43. A communications apparatus, comprising:

a memory that comprises instructions for scheduling data to be delivered on a downlink to user equipment based at least in part upon a request for a measurement gap provided by the user equipment; and

a processor that is configured to execute the instructions.

44. The communications apparatus of claim 43, the memory further comprises instructions for:

creating a schedule that includes a measurement gap; and

transmitting the schedule to the user equipment.

45. The communications apparatus of claim 44, the memory further comprises instructions for creating the schedule based at least in part upon resources allocated to a plurality of pieces of user equipment being serviced by the communications apparatus.

46. The communications apparatus of claim 43, the memory further comprises instructions for analyzing a channel quality indicator report provided by the user equipment to determine the request for the measurement gap.

47. A communications apparatus, comprising:

means for receiving an indication that a measurement gap is desired from user equipment; and

means for scheduling downlink transmissions to the user equipment based at least in part upon the received indication.

48. The communications apparatus of claim 47, further comprising:

means for creating a schedule that includes a measurement gap in accordance with the indication; and

means for transmitting the schedule to the user equipment.

49. A computer-readable medium having stored thereon computer-executable instructions for:

receiving a channel quality indicator report from user equipment;

analyzing the channel quality indicator report;

determining that quality of a downlink channel associated with user equipment is below a pre-defined threshold based at least in part upon the analysis of the channel quality indicator report; and

scheduling a measurement gap for the user equipment.

50. The computer-readable medium of claim 49 having further instructions stored thereon for:

transmitting a schedule to the user equipment; and

scheduling downlink data to the user equipment according to contents of the schedule.

51. The computer-readable medium of claim 50, wherein the schedule includes a gap length that informs the user equipment when measurements can be completed.

52. A processor configured to execute instructions for:

determining that a request for a measurement gap has been received from user equipment; and

scheduling data on a downlink channel to the user equipment as a function of the request.

53. The processor of claim 52, wherein the processor further executes instructions for:

creating a schedule that includes a measurement gap corresponding to the request; and

transmitting the schedule to the user equipment.

CLAIMS

1. A method for determining signal quality in a communication network, comprising:

measuring, on a wireless communication device, a signal quality on a first network downlink channel;

comparing the signal quality of the first network downlink channel with a threshold quality value;

determining, based upon the comparing, whether to tune to a second network channel to obtain signal characteristics of the second network channel, wherein the second network channel corresponds to at least one of a different frequency and a different radio-access technology than the first network downlink channel;

requesting a measurement gap from a network base station, wherein the network base station is in communication with the wireless communication device via the first network downlink channel;

measuring a signal quality of the second network channel during the measurement gap; and

determining whether to switch communications to the communication network via the second network channel.

2. The method of claim **1**, wherein requesting a measurement gap comprises transmitting a channel quality indicator (CQI) report.

3. The method of claim **1**, further comprising relaying multiple indications of a desirability of undertaking the measurements to the network.

4. The method of claim **1**, further comprising transmitting the request for the measurement gap to the communication network by way of layer 3 signaling.

5. The method of claim **1**, further comprising transmitting the request for the measurement gap to the communication network by way of layer 2 signaling.

6. The method of claim **1**, further comprising performing the measurements upon requesting the measurement gap without awaiting receipt of an acknowledgment from the communication network.

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

receiving an acknowledgment that the communication network has received the request for the measurement gap; and

performing the measurements upon receipt of the acknowledgment.

8. The method of claim **1**, further comprising indicating to the communication network that the user equipment has performed the measurements and is ready for additional data communication.

9. The method of claim **1**, further comprising

receiving a schedule from the network base station, the schedule indicating a duration of time within which the second channel signal quality measurements can be undertaken; and

performing the measurements in accordance with the schedule.

10. The method of claim **1**, wherein requesting the measurement gap comprises transmitting an indication within a MAC-e header.

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

determining that it is desirable to undertake the measurements based at least in part upon the determination that the signal quality of the downlink channel is below the threshold.

12. User equipment configured to perform the method of claim **1**.

13. The method of claim **1**, wherein the threshold quality value relates to signal quality of a downlink channel.

14. A communications apparatus, comprising:

a memory that comprises instructions for indicating to a network that performing measurements on a second net-

work channel is desired, wherein the second network channel corresponds to at least one of a different frequency and a different radio-access technology than a first network downlink channel;

a processor that is configured to execute the instructions within the memory;

a quality metric component that measures a signal quality of the first network downlink channel, compares the signal quality metric with a threshold signal quality metric value, and in the event that the signal quality metric is below the threshold, generates a request for a measurement gap, where the measurement gap has a duration of at least one or more frame time-slots, and measures a signal quality of the second network channel during the measurement gap; and

a transceiver component to forward the measurement gap request to a network base station, wherein the network base station is in communication with the wireless communication device via the first network downlink channel.

15. The communications apparatus of claim **14**, the memory further comprises instructions for comparing the determined quality metric with a pre-defined threshold defined by a network that is providing services to the communications apparatus.

16. The communications apparatus of claim **14**, the memory further comprises instructions for performing the measurements without transmittal of the request to the network.

17. The communications apparatus of claim **14**, the memory further comprises instructions for packaging the request within a channel quality indicator report.

18. The communications apparatus of claim **14**, the memory further comprises instructions for packaging the request within a MAC-e header.

19. The communications apparatus of claim **14** being a mobile telephone.

20. The communications apparatus of claim **14**, the memory further comprises instructions for indicating to a network that measurements have been performed and that the communications apparatus is ready for additional data communication.

21. A communications apparatus, comprising:

means for measuring a signal quality of a first network downlink channel;

means for determining that the measured signal quality is below a threshold value;

means for determining that a measurement gap is desired, wherein a duration of the measurement gap comprises one or more frame time-slots;

means for indicating to a network base station that the measurement gap is desired, wherein the network base station is in communication with the wireless communication device via the first network downlink channel; and

means for measuring a signal quality of a second network channel during the measurement gap, wherein the second network channel corresponds to at least one of a different frequency and a different radio-access technology than the first network downlink channel.

22. A computer readable non-transitory storage medium, having stored thereon, computer executable instructions for determining signal quality in a communication network according to a method comprising:

measuring, on a wireless communication device, a signal quality on a first network downlink channel;

comparing the signal quality of the first network downlink channel with a threshold quality value;

determining, based upon the quality comparison, whether to tune to a second network channel to obtain signal characteristics of that channel, wherein the second network channel corresponds to at least one of a different frequency and a different radio-access technology than the first network downlink channel;

requesting a measurement gap from a network base station, wherein the network base station is in communication with the wireless communication device via the first network downlink channel;

measuring a signal quality of the second network channel during the measurement gap; and

determining whether to switch communications to the network via the second network channel.