

CLAIMS

1. A method (300), performed by a wireless device (50) operating in a wireless network, the method (300) comprising:

obtaining (302) a set of configuration parameters for Radio Signal Strength Indicator, RSSI, measurements, the configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and
adapting (306) operation of the wireless device (50) with respect to a measurement that is based on RSSI measurement samples, based on the obtained set of configuration parameters and such that all symbols in a given RSSI duration are available within a same reporting interval of the measurement that is based on RSSI measurement samples; and
reporting a result of the measurement that is based on RSSI measurement samples and having the reporting interval to a network node (30) in the wireless network.

2. The method (300) of claim 1, where said adapting (306) comprises adapting one or more of:
the reporting interval for the measurement that is based on RSSI measurement samples,
at least one RSSI configuration parameter from the obtained set of configuration parameters for the RSSI measurements, for performing the measurement that is based on RSSI measurement samples, and
usage of the RSSI measurement samples for performing the measurement that is based on RSSI measurement samples.

3. The method (300) of claim 1 or 2, wherein said adapting (306) comprises adapting a time offset to be applied to the intervals in which RSSI measurement samples are obtained, for performing the measurement that is based on RSSI measurement samples.

4. The method (300) of claim 3, wherein adapting the time offset comprises selecting a time offset for inter-frequency RSSI measurements, based on the quality requirement.

5. The method (300) of any of claims 1-4, wherein said adapting (306) comprises adapting a triggering condition for reporting the measurement that is based on RSSI measurement samples, based on the quality requirement.

6. The method (300) of any of claims 1-5, wherein said adapting (306) comprises changing the length of one or more RSSI measurement durations or the RSSI measurement periodicity, for performing the measurement that is based on RSSI measurement samples.

7. The method (300) of any of claims 1-6, wherein said adapting (306) comprises discarding one or more RSSI measurement samples, based on the quality requirement.

8. The method (300) of any of claims 1-7, wherein said adapting (306) comprises postponing a use of one or more RSSI measurements from a first measurement interval for the measurement that is based on RSSI measurements to a second measurement interval for the measurement that is based on RSSI measurement samples, based on the quality requirement.

9. The method (300) of any of claims 1-8, wherein the measurement based on RSSI samples comprises at least one of a channel occupancy measurement and an RSSI measurement.

10. The method (300) of any of claims 1-9, wherein the method further comprises obtaining (304) the quality requirement for the measurement that is based on RSSI measurement samples.

11. A method (400), performed by a network node (30) operating in a wireless network and serving a wireless device (50), the method (400) comprising:

determining (404) one or more configuration parameters for a wireless device measurement that is based on Radio Signal Strength Indicator, RSSI, measurement samples; wherein the measurement that is based on RSSI measurement samples has a reporting interval; wherein the one or more configuration parameters are determined such that all symbols in a given RSSI measurement duration are available within the same reporting interval of the measurement that is based on RSSI measurement samples; and

sending (406) a set of configuration parameters to the wireless device (50), wherein the set of configuration parameters includes configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and

wherein the set of configuration parameters includes the determined one or more configuration parameters.

12. The method (400) of claim 11, wherein the determined one or more configuration parameters relate to one of or more of:

the reporting interval for the wireless device measurement, the length for RSSI measurement durations in which RSSI measurement samples are obtained, the RSSI measurement periodicity for the RSSI measurement durations, a time offset for the RSSI duration windows, and a condition or configuration for controlling reporting of the wireless device measurement.

13. The method (400) of claim 12, wherein determining (404) the one or more configuration parameters comprises at least one of: determining a length of the reporting interval to ensure that all RSSI measurement samples from within a RSSI measurement duration are obtained within the reporting interval.

14. The method (400) of claim 12 or 13, wherein determining (404) the one or more configuration parameters comprises determining a time offset for the RSSI measurement durations, so as to shift the RSSI measurement durations to ensure that all RSSI measurement samples from within a RSSI measurement duration are obtained within a reporting interval.

15. The method (400) of any of claims 12-14, wherein determining (404) the one or more configuration parameters comprises determining the length for RSSI measurement durations, so as to fit within a reporting interval.

16. A wireless device (50) adapted for operation in a wireless network, the wireless device (50) being adapted to:

obtain a set of configuration parameters for Radio Signal Strength Indicator, RSSI, measurements, the configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations;

adapt operation of the wireless device (50) with respect to a measurement that is based on RSSI measurement samples, based on the obtained set of configuration parameters and such that all symbols in a given RSSI duration are available within a same

reporting interval of the measurement that is based on RSSI measurement samples;
and
report a result of the measurement that is based on RSSI measurement samples and having
the reporting interval to a network node (30) in the wireless network.

17. The wireless device (50) of claim 16, wherein the wireless device (50) is adapted to adapt one or more:

the reporting interval for the measurement that is based on RSSI measurement samples,
at least one RSSI configuration parameter from the obtained set of configuration parameters
for the RSSI measurements, for performing the measurement that is based on RSSI
measurement samples, and
usage of the RSSI measurement samples for performing the measurement that is based on
RSSI measurement samples.

18. The wireless device (50) of claim 16 or 19, wherein the wireless device (50) is adapted to adapt a
time offset to be applied to the intervals in which RSSI measurement samples are obtained, for
performing the measurement that is based on RSSI measurement samples.

19. The wireless device (50) of claim 18, wherein the wireless device (50) is adapted to adapt the
time offset by selecting a time offset for inter-frequency RSSI measurements, based on the quality
requirement.

20. The wireless device (50) of any of claims 16-19, wherein the wireless device (50) is adapted to
adapt a triggering condition for reporting the measurement that is based on RSSI measurement
samples, based on the quality requirement.

21. The wireless device (50) of any of claims 16-20, wherein the wireless device (50) is adapted to
change the length of one or more RSSI measurement durations or the RSSI measurement periodicity,
for performing the measurement that is based on RSSI measurement samples.

22. The wireless device (50) of any of claims 16-21, wherein the wireless device (50) is adapted to
discard one or more RSSI measurement samples, based on the quality requirement.

23. The wireless device (50) of any of claims 16-22, wherein the wireless device (50) is adapted to postpone a use of one or more RSSI measurements from a first measurement interval for the measurement that is based on RSSI measurements to a second measurement interval for the measurement that is based on RSSI measurement samples, based on the quality requirement.

24. The wireless device (50) of any of claims 16-23, wherein the measurement based on RSSI samples comprises at least one of a channel occupancy measurement and an RSSI measurement.

25. A network node (30) adapted for operation in a wireless network and for serving a wireless device (50), wherein the network node (30) is adapted to:

- determine one or more configuration parameters for a wireless device measurement that is based on Radio Signal Strength Indicator, RSSI, measurement samples; wherein the measurement that is based on RSSI measurement samples has a reporting interval; wherein the one or more configuration parameters are determined such that all symbols in a given RSSI measurement duration are available within the same reporting interval of the measurement that is based on RSSI measurement samples; and

- send a set of configuration parameters to the wireless device (50), wherein the set of configuration parameters includes configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and wherein the set of configuration parameters includes the determined one or more configuration parameters.

26. The network node (30) of claim 25 wherein the determined one or more configuration parameters relate to one of or more of:

the reporting interval for the wireless device measurement, the length for RSSI measurement durations in which RSSI measurement samples are obtained, the RSSI measurement periodicity for the RSSI measurement durations, a time offset for the RSSI duration windows, and a condition or configuration for controlling reporting of the wireless device measurement.

27. The network node (30) of claim 25 or 26, wherein the network node (30) is adapted to determine a length of the reporting interval to ensure that all RSSI measurement samples from within a RSSI measurement duration are obtained within the reporting interval.

28. The network node (30) of claim 25, 26 or 27, wherein the network node (30) is adapted to determine a time offset for the RSSI measurement durations, so as to shift the RSSI measurement durations to ensure that all RSSI measurement samples from within a RSSI measurement duration are obtained within a reporting interval.

29. The network node (30) of any of claims 25-28, wherein the network node (30) is adapted to determine the length for RSSI measurement durations, so as to fit within a reporting interval.

30. A wireless device (50), comprising:

- a transceiver circuit (56);
- a processor (62) operatively coupled to the transceiver circuit (56); and
- a memory circuit (64) operatively coupled to the processor (62) and comprising computer program instructions (66) for execution by the processor (62) and configured so as to cause the wireless device (50), when the computer program instructions (66) are executed, to carry out the method (300) of any of claims 1-13.

31. A network node (30), comprising:

- a transceiver circuit (36);
- a processor (42) operatively coupled to the transceiver circuit (36); and
- a memory circuit (44) operatively coupled to the processor (42) and comprising computer program instructions for execution by the processor (42) and configured so as to cause the network node (30), when the computer program instructions (46) are executed, to carry out the method (400) of any of claims 14-19.

32. A wireless device (50), comprising:

- a configuration module (702) for obtaining a set of configuration parameters for Radio Signal Strength Indicator, RSSI, measurements, the configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations;
- an adapting module (706) for adapting operation of the wireless device (50) with respect to a measurement that is based on RSSI measurement samples, based on the obtained set of configuration parameters and such that all symbols in a given RSSI duration

are available within a same reporting interval of the measurement that is based on RSSI measurement samples; and
a reporting module for reporting a result of the measurement that is based on RSSI measurement samples and having the reporting interval to a network node (30) in the wireless network.

33. A network node (30), comprising:

a determining module (804) for determining one or more configuration parameters for a wireless device measurement that is based on Radio Signal Strength Indicator, RSSI, measurement samples; wherein the measurement that is based on RSSI measurement samples has a reporting interval; wherein the one or more configuration parameters are determined such that all symbols in a given RSSI measurement duration are available within the same reporting interval of the measurement that is based on RSSI measurement samples;
a sending module (806) for sending a set of configuration parameters to the wireless device (50), wherein the set of configuration parameters includes configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and wherein the set of configuration parameters includes the determined one or more configuration parameters.

34. A computer program product (64) comprising program instructions (66) for execution by a processor (62) of a wireless device (50) operating in a wireless network, the program instructions (66) comprising instructions for:

obtaining a set of configuration parameters for Radio Signal Strength Indicator, RSSI, measurements, the configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and
adapting operation of the wireless device (50) with respect to a measurement that is based on RSSI measurement samples, based on the obtained set of configuration parameters and such that all symbols in a given RSSI duration are available within a same reporting interval of the measurement that is based on RSSI measurement samples; and

reporting a result of the measurement that is based on RSSI measurement samples and having the reporting interval to a network node (30) in the wireless network..

35. A computer program product (44) comprising program instructions (46) for execution by a processor (42) of a network node (30) operating in a wireless network and serving a wireless device (50), the program instructions (46) comprising instructions for:

determining one or more configuration parameters for a wireless device measurement that is based on Radio Signal Strength Indicator, RSSI, measurement samples; wherein the measurement that is based on RSSI measurement samples has a reporting interval; wherein the one or more configuration parameters are determined such that all symbols in a given RSSI measurement duration are available within the same reporting interval of the measurement that is based on RSSI measurement samples; and

sending a set of configuration parameters to the wireless device (50), wherein the set of configuration parameters includes configuration parameters specifying a length for RSSI measurement durations in which RSSI measurement samples are obtained and an RSSI measurement periodicity for the RSSI measurement durations; and wherein the set of configuration parameters includes the determined one or more configuration parameters.

36. A computer-readable medium (44, 64), which may be non-transitory, comprising the computer program product of claim 41 or 42.