

1. A method performed by a wireless communication node, comprising:
transmitting first information to a wireless communication device;
receiving a first message from the wireless communication device for an access of the wireless communication device to the wireless communication node; and
transmitting a second message to the wireless communication device in response to the first message,
wherein the first information comprises information about a time offset for the wireless communication device to start monitoring for the second message after the time offset from an end of a transmission of the first message.
2. The method of claim 1, wherein the first information further comprises information about a time window configured for the wireless communication device to monitor for the second message within the time window, wherein the time window starts after the time offset from the end of the transmission of the first message.
3. The method of claim 1, wherein the first information is transmitted in at least one of the following: system information and a Radio Resource Control (RRC) message.
4. The method of claim 1, wherein the second message comprises information related to a System Frame Number (SFN) for transmitting the first message by the wireless communication device.
5. The method of claim 4, wherein the second message comprises one or more least significant bits of the SFN for indicating the SFN for transmitting the first message.

6. The method of claim 4, wherein the second message comprises a remainder of the SFN when divided by N for indicating the SFN, wherein N is a positive integer.
7. The method of claim 6, wherein N is equal to a positive power of 2.
8. The method of claim 4, wherein the SFN is indicated to the wireless communication device via at least one of the following: a Media Access Control (MAC) Random Access Response and Downlink Control Information (DCI) in the second message.
9. The method of claim 4, further comprising configuring the time offset for the wireless communication device after determining that a quantity of bits needed for indicating the SFN is larger than a pre-determined threshold.
10. The method of claim 1, further comprising configuring the time offset for the wireless communication device after determining that a desired time window is longer than a pre-determined threshold.
11. The method of claim 10, wherein the desired time window is a time window desired to be configured for the wireless communication device to monitor for the second message within the desired time window starting from the end of the transmission of the first message, without a configuration of the time offset.

12. The method of claim 10, wherein the desired time window is determined at least partially based on at least one of the following:
- a first delay related to the transmission of the first message; and
 - a second delay related to processing the first message.
13. The method of claim 10, wherein the time offset is determined at least partially based on at least one of the following:
- the desired time window;
 - a first delay related to the transmission of the first message; and
 - a second delay related to processing the first message.
14. The method of claim 1, wherein the second message indicates whether the second message is for a 2-step random access or a 4-step random access.
15. A method performed by a wireless communication device, comprising:
- receiving first information from a wireless communication node;
 - transmitting a first message to the wireless communication node for an access of the wireless communication device to the wireless communication node; and
 - receiving, from the wireless communication node, a second message in response to the first message,
- wherein the first information comprises information about a time offset for the wireless communication device to start monitoring for the second message after the time offset from an end of transmitting the first message.

16. The method of claim 15, further comprising:
monitoring for the second message within a time window, wherein the time window is indicated in the first information and starts after the time offset from the end of transmitting the first message.
17. The method of claim 15, wherein the first information is received in at least one of the following: system information and a Radio Resource Control (RRC) message.
18. The method of claim 15, wherein the second message comprises information related to a System Frame Number (SFN) for transmitting the first message to the wireless communication node.
19. The method of claim 18, wherein the second message comprises one or more least significant bits of the SFN for indicating the SFN.
20. The method of claim 18, wherein the second message comprises a remainder of the SFN when divided by N for indicating the SFN, wherein N is a positive integer.
21. The method of claim 20, wherein N is equal to a positive power of 2.
22. The method of claim 18, wherein the SFN is indicated via at least one of the following: a Media Access Control (MAC) Random Access Response and Downlink Control Information (DCI) in the second message.

23. The method of claim 18, wherein the time offset is configured for the wireless communication device based on a determination that a quantity of bits needed for indicating the SFN is larger than a pre-determined threshold.

24. The method of claim 15, wherein the time offset is configured for the wireless communication device based on a determination that a desired time window is longer than a pre-determined threshold.

25. The method of claim 24, wherein the desired time window is a time window desired to be configured for the wireless communication device to monitor for the second message within the desired time window starting from the end of transmitting the first message, without a configuration of the time offset.

26. The method of claim 24, wherein the desired time window is determined at least partially based on at least one of the following:

- a first delay related to the transmission of the first message; and
- a second delay related to processing the first message.

27. The method of claim 24, wherein the time offset is determined at least partially based on at least one of the following:

- the desired time window;
- a first delay related to the transmission of the first message; and
- a second delay related to processing the first message.

28. The method of claim 15, wherein the second message indicates whether the second message is for a 2-step random access or a 4-step random access.
29. A computing device comprising at least one processor and a memory coupled to the processor, the at least one processor configured to carry out the method of any one of claims 1 through 28.
30. A non-transitory computer-readable medium having stored thereon computer-executable instructions for carrying out the method of any one of claims 1 through 28.