METHOD FOR DETERMINING MEASUREMENT TIME

TECHNICAL FIELD

[0001] The present disclosure relates to the technical field of communications, and in particular to a method and an apparatus for determining a measurement time.

BACKGROUND

[0002] In the related art, a positioning method based on a carrier phase is proposed, and positioning measurement and report are performed according to a fraction part and an integer cycle of the carrier phase. However, there is an ambiguity of the integer cycle of the carrier phase, and there is still much room for improvement in the accuracy of positioning measurement.

SUMMARY

[0003] The embodiment of the present disclosure provides a method and an apparatus for determining a measurement time. A terminal can measure a multi-carrier-frequency positioning signal within a time range specified by a measurement time, such that the positioning accuracy can be improved.

[0004] In a first aspect, an embodiment of the present disclosure provides a method for determining a measurement time, applied to a terminal. The method includes: receiving positioning configuration information from a network-side device, in which the positioning configuration information indicates at least two pieces of carrier frequency information of a positioning signal; and receiving a measurement time configuration parameter from the network-side device, in which the measurement time configuration parameter indicates a measurement time of the positioning signal.

[0005] In the technical solution, the terminal receives the positioning configuration information from the network-side device, and acquires the at least two pieces of carrier frequency information that may be configured to send or receive the positioning signal. On this basis, in case that the terminal receives the measurement time configuration parameter from the network-side device which indicates the measurement time of the positioning signal, it can be determined that the at least two carrier frequency information can be configured to send or receive the positioning signal and measuring the measurement time of the positioning signal. Therefore, the terminal can measure a multi-carrier-frequency positioning signal within a time range specified by the

WHAT IS CLAIMED IS:

1. A method for determining a measurement time, performed by a terminal, comprising:

receiving positioning configuration information from a network-side device, wherein the positioning configuration information indicates at least two pieces of carrier frequency information of a positioning signal; and

receiving a measurement time configuration parameter from the network-side device, wherein the measurement time configuration parameter indicates a measurement time of the positioning signal.

2. The method according to claim 1, wherein the measurement time is one or more measurement gap (MG) sets, wherein receiving the measurement time configuration parameter from the network-side device comprises:

receiving (S32) first indication information from the network-side device, wherein the first indication information indicates the one or more MG sets.

3. The method according to claim 2, wherein the first indication information comprises:

a first radio resource control (RRC), wherein the first RRC indicates parameter information of each MG set; or

a second RRC and a first medium access control control unit (MAC CE), wherein the second RRC is used for configuring a plurality of MG identifications (IDs) and parameter information of a MG corresponding to each MG ID; and the first MAC CE indicates one or more activated MG IDs.

4. The method according to claim 1, further comprising:

sending (S42) first request information to the network-side device, wherein the first request information indicates an MG request.

5. The method according to claim 4, further comprising:

receiving (S43) MG configuration information from the network-side device, wherein the MG configuration information comprises one or more MG identifications (IDs) and parameter information of a MG corresponding to each MG ID.

6. The method according to claim 3 or claim 5, wherein the parameter information of the MG comprises at least one of: a period, a slot offset, or a gap duration.

7. The method according to claim 6, wherein in response to determining that one MG set is applicable to at least two carrier frequencies, positioning signals on different carrier frequencies are measured within different gap durations or within a same gap duration.

8. The method according to claim 1, wherein the measurement time is one or more processing window sets, wherein receiving the measurement time configuration parameter from the network-side device comprises:

receiving (S52) second indication information from the network-side device, wherein the second indication information indicates the one or more processing window sets.

9. The method according to claim 8, wherein the second indication information comprises a third radio resource control (RRC), wherein the third RRC indicates parameter information of each processing window set and a carrier frequency applicable to each processing window set.

10. The method according to claim 1, further comprising:

sending (S62) second request information to the network-side device, wherein the second request information indicates a processing window request; and

receiving (S63) processing window configuration information from the network-side device, wherein the processing window configuration information comprises one or more processing window IDs and parameter information of a processing window corresponding to each processing window ID;

wherein the second request information is a second uplink medium access control control unit (MAC CE), and the second uplink MAC CE comprises one or more processing window identifications (IDs) and a carrier frequency applicable to each processing window ID.

11. The method according to claim 9 or claim 10, wherein the parameter information of the processing window comprises at least one of a period, a starting slot value, a window duration, or a priority of the positioning signal within each processing window;

wherein in response determining that one processing window set is applicable to at least two carrier frequencies, positioning signals on different carrier frequencies are measured within different window durations, or positioning signals on different carrier frequencies are measured within a same window duration.

12. The method according to any one of claims 1-11, wherein the positioning signals comprise a positioning reference signal (PRS) or other signals for positioning.

13. A method for determining a measurement time, performed by a network-side device, comprising:

sending (S71, S81, S91, S101, S111) positioning configuration information to a terminal, wherein the positioning configuration information indicates at least two pieces of carrier frequency information of a positioning signal; and

sending (S72) a measurement time configuration parameter to the terminal, wherein the measurement time configuration parameter indicates a measurement time of the positioning signal.

14. The method according to claim 13, wherein the measurement time is one or more measurement gap (MG) sets, wherein sending the measurement time configuration parameter to the terminal comprises:

sending (S82) first indication information to the terminal, wherein the first indication information indicates the one or more MG sets.

15. The method according to claim 14, wherein the first indication information comprises:

a first radio resource control (RRC), wherein the first RRC indicates parameter information of each MG set; or

a second RRC and a first medium access control control unit (MAC CE), wherein the second RRC is used for configuring a plurality of MG identifications (IDs) and parameter information of a MG corresponding to each MG ID; and the first MAC CE indicates one or more activated MG IDs.

16. The method according to claim 13, further comprising:

receiving (S92) first request information from the terminal, wherein the first request information indicates a measurement gap (MG) request.

17. The method according to claim 16, further comprising:

sending (S93) MG configuration information to the terminal, wherein the MG configuration information comprises one or more MG identifications (IDs) and parameter information of a MG corresponding to each MG ID.

18. The method according to claim 15 or claim 17, wherein the parameter information of the MG comprises at least one of a period, a slot offset, or a gap duration.

19. The method according to claim 18, wherein in response to determining that one MG set is applicable to at least two carrier frequencies, positioning signals on different carrier frequencies are measured within different gap durations, or positioning signals on different carrier frequencies are measured within a same gap duration.

20. A terminal, comprising:

a processor; and

a memory storing instructions executable by the processor;

wherein the processor is configured to:

receive positioning configuration information from a network-side device, wherein the

positioning configuration information indicates at least two pieces of carrier frequency information of a positioning signal; and

receive a measurement time configuration parameter from the network-side device, wherein the measurement time configuration parameter indicates a measurement time of the positioning signal.