CLAIMS

1. A method for pre-configuring one-to-many narrow-band assisted multi millisecond ultra-wideband (NBA-MMS UWB) ranging, comprising:

broadcasting, by an initiator, an advertisement poll (ADV-POLL) message, to notify responders that the NBA-MMS UWB ranging needs to be performed;

receiving, by the initiator, an advertisement response (ADV-RESP) message from each of the responders;

broadcasting, by the initiator, an advertising confirmation (ADV-CONF) message to the responders, wherein the ADV-CONF message comprises time offsets indicating sending time of a start-of-ranging (SOR) message, the time offsets correspond to the responders one by one;

sending, by the initiator, the SOR message to the corresponding responder, wherein the SOR message comprises a time offset indicating sending time of a poll message.

2. A method for pre-configuring one-to-many narrow-band assisted multi millisecond ultra-wideband (NBA-MMS UWB) ranging, comprising:

receiving, by a responder, an advertisement poll (ADV-POLL) message from an initiator, wherein the ADV-POLL) message is broadcasted to notify the responder that the NBA-MMS UWB ranging needs to be performed;

sending, by the responder to the initiator, an advertisement response (ADV-RESP) message;

receiving, by the responder from the initiator, an advertising confirmation (ADV-CONF) message, wherein the ADV-CONF message comprises time offsets indicating a sending time of a start-of-ranging (SOR) message; and

receiving, by the responder, the SOR message from the initiator, wherein the SOR message comprises a time offset indicating a sending time of a poll message.

3. The method according to claim 1 or 2, wherein the ADV-CONF message comprising the time offsets, comprises:

the ADV-CONF message comprises a plurality of list elements, each list element comprises a device address of and the sending time of the corresponding SOR message.

4. The method according to claim 2, wherein the ADV-RESP message is sent in a contention-based access manner.

5. The method according to claim 3, wherein the ADV-CONF message comprising a content field, the content field comprising the plurality of list elements.

6. The method according to any one of claims 1 to 5, wherein the one-to-many NBA-MMS UWB ranging process is formed by a plurality of one-to-one NBA-MMS UWB ranging processes based on a sequence of execution time.

7. The method according to any one of claims 1 to 6, wherein the SOR message or the poll message is a compressed message.

8. A communication apparatus, comprising a processor, wherein the processor is coupled to a memory, the memory stores computer program instructions, and the processor is configured to execute the computer program instructions, to enable the communication apparatus to perform the method according to any one of claims 1 to 7.

9. A chip, comprising:

a communication interface, configured to receive/send a signal of the chip; and

a processor, configured to execute computer program instructions, to enable a communication apparatus that comprises the chip to perform the method according to any one of claims 1 to 7.

10. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, the computer program comprises program instructions, and when the program instructions are executed, a computer is enabled to perform the method according to any one of claims 1 to 7.

11. A computer program product, wherein when the computer program product runs on a computer, the computer is enabled to perform the method according to any one of claims 1 to 7.