CLAIMS

What is claimed is:

1. A communication method, applied to a first responder, comprising:

receiving, from an initiator, a first frame for initiating a ranging process;

generating a first private address based on the first frame and information related to an identity of the first responder; and

transmitting a second frame carrying the first private address to the initiator.

2. The communication method according to claim 1, wherein the information related to the identity of the first responder comprises any one of: a public address of the first responder, multi-millisecond (MMS) ranging configuration requested by the first responder, a first random number generated by the first responder, or an identity resolving key (IRK) unique to the initiator and the first responder.

3. The communication method according to claim 2, wherein the first frame carries a second random number, and the second random number is associated with a second private address of the initiator; and

the generating a first private address based on the first frame and information related to an identity of the first responder comprises:

generating the first private address based on the second random number and the information related to the identity of the first responder.

4. The communication method according to claim 3, wherein the second private address is generated based on information related to an identity of a second responder, the generating a first private address based on the first frame and information related to an identity of the first responder comprises:

generating the first private address when it is determined that the second responder and the first responder are the same responder.

5. The communication method according to any one of claims 2 to 4, wherein the transmitting a second frame carrying the first private address to the initiator comprises:

transmitting the second frame carrying the first private address and the first random number to the initiator.

6. The communication method according to any one of claims 1 to 5, wherein the first frame is a ranging initialization message (RIM) frame carrying a list associated with responders that are scheduled to participate in an MMS ranging, wherein the responders comprise the first responder; and

the generating a first private address by using information related to an identity of a first responder comprises:

generating the first private address when it is determined that the first responder is scheduled to the first access slot among multiple access slots based on the list.

7. The communication method according to any one of claims 1 to 6, wherein the second frame comprises any one of: an advertising response (ADV-RESP) frame, a response (RESP) frame, or a report (RPRT) frame.

8. The communication method according to any one of claims 1 to 7, wherein the first frame or the second frame is a secured frame carrying encrypted information, wherein the encrypted information is obtained based on a first Nonce, and the first Nonce is associated with any one of: a private address carried by the secured frame, a random number used to generate the private address, or a time period for transmission of the secured frame.

9. The communication method according to claim 8, wherein the first Nonce comprises frame counter information, wherein the frame counter information indicates the time period for the transmission of the secured frame.

10. The communication method according to claim 8 or 9, wherein the first Nonce further comprises block structure indication information, wherein the block structure indication information indicates whether the second frame is transmitted inside or outside a block structure.

11. The communication method according to any one of claims 1 to 10, wherein the second frame further carries a private address of the initiator.

12. The communication method according to any one of claims 2 to 5, wherein the IRK is a common IRK between the initiator and the first responder, or the IRK is one IRK of the pairwise IRK unique to the initiator and the first responder.

13. A communication apparatus, comprising a processor and a memory, and the processor is connected to the memory; wherein the memory is configured to store instructions, and the processor is configured to execute the instructions; and when the processor executes the instructions stored in the memory, the processor is enabled to perform the method according to any one of claims 1 to 12.

14. A computer-readable storage medium, wherein the computer-readable storage medium stores instructions, and when the instructions run on a processor, the processor is enabled to perform the method according to any one of claims 1 to 12.

15. A computer program product, comprising computer program code, and when the computer program code runs on a computer, the computer is enabled to perform the method according to any one of claims 1 to 12.