## CLAIMS

What is claimed is:

1. A communication method, wherein the method comprises:

determining, by a transmit end, a layer-2 address pair of a first vehicle-to-everything V2X service based on a frequency band of the first V2X service, wherein the layer-2 address pair of the first V2X service comprises a source layer-2 address of the first V2X service and a destination layer-2 address of the first V2X service, and the layer-2 address pair of the first V2X service corresponds to the frequency band of the first V2X service; and

sending, by the transmit end, data of the first V2X service to a receive end on the frequency band of the first V2X service based on the layer-2 address pair of the first V2X service.

2. The method according to claim 1, wherein the frequency band of the first V2X service is a first frequency band, and the layer-2 address pair of the first V2X service is different from a layer-2 address pair of a V2X service other than a V2X service corresponding to the first frequency band.

3. The method according to claim 1 or 2, wherein the method further comprises:

determining, by the transmit end, a layer-2 address pair of a second V2X service based on a frequency band of the second V2X service, wherein

the frequency band of the first V2X service is different from the frequency band of the second V2X service, and the layer-2 address pair of the first V2X service is different from the layer-2 address pair of the second V2X service.

4. The method according to any one of claims 1 to 3, wherein the determining, by a transmit end, a layer-2 address pair of a first V2X service based on a frequency band of the first V2X service comprises:

sending, by the transmit end, a first correspondence to an access stratum of the transmit end by using a V2X layer of the transmit end, wherein the first correspondence comprises a correspondence between a layer-2 address pair of a V2X service and a frequency band of the V2X service; and

the method further comprises: storing, by the transmit end, the first correspondence at the access stratum.

5. The method according to claim 4, wherein the sending, by the transmit end, data of the first V2X service to a receive end on the frequency band of the first V2X service based on the layer-2 address pair of the first V2X service comprises:

when the transmit end receives a first data packet at the access stratum and the first data packet carries the data of the first V2X service and the layer-2 address pair of the first V2X service, obtaining, by the transmit end, the frequency band of the first V2X service based on the first correspondence and the layer-2 address pair of the first V2X service; and

~~sending, by the transmit end at the access stratum, the data of the first V2X service to the receive end on the frequency band of the first V2X service based on the destination layer-2 address in the layer-2 address pair of the first V2X service.~~

~~6. The method according to any one of claims 1 to 5, wherein the determining, by a transmit end, a layer-2 address pair of a first V2X service based on a frequency band of the first V2X service comprises:~~

~~if a PC5 unicast link corresponding to the frequency band of the first V2X service exists between the transmit end and the receive end, using, by the transmit end, a layer-2 address pair of the PC5 unicast link as the layer-2 address pair of the first V2X service;~~

~~if no PC5 unicast link corresponding to the frequency band of the first V2X service exists between the transmit end and the receive end, sending, by the transmit end, a first request and the source layer-2 address of the first V2X service to the receive end, wherein the first request is used to request the destination layer-2 address of the first V2X service; and receiving, by the transmit end, a response to the first request and the destination layer-2 address of the first V2X service from the receive end; or~~

~~if no PC5 unicast link corresponding to the frequency band of the first V2X service exists between the transmit end and the receive end, sending, by the transmit end, a first request and the source layer-2 address of the first V2X service to the receive end, wherein the first request is used to request the destination layer-2 address of the first V2X service, and the first request comprises the source layer-2 address of the first V2X service; receiving, by the transmit end, a response to the first request and the destination layer-2 address of the first V2X service from the receive end, wherein the response to the first request comprises the destination layer-2 address of the first V2X service.~~

~~7. The method according to claim 6, wherein the method further comprises:~~

~~determining, by the transmit end based on the frequency band of the first V2X service and a second correspondence, whether the PC5 unicast link corresponding to the frequency band of the first V2X service exists between the transmit end and the receive end, wherein the second correspondence is a correspondence between an identifier of a PC5 unicast link and a frequency band.~~

~~8. The method according to claim 6 or 7, wherein the method further comprises:~~

~~sending, by the transmit end, a common layer-2 address to the receive end, wherein the common layer-2 address is used by the receive end to identify the frequency band of the first V2X service.~~

~~9. The method according to any one of claims 1 to 5, wherein the determining, by a transmit end, a layer-2 address pair of a first V2X service based on a frequency band of the first V2X service comprises:~~

~~if a PC5 unicast link exists between the transmit end and the receive end, negotiating, by the transmit end, the layer-2 address pair of the first V2X service with the receive end over the PC5 unicast link;~~

if no PC5 unicast link exists between the transmit end and the receive end, sending, by the transmit end, a second request and a source layer-2 address of a PC5 unicast link to the receive end, wherein the second request is used to request the destination layer-2 address of the first V2X service, and the second request comprises the source layer-2 address of the first V2X service; and receiving, by the transmit end, a response to the second request and a destination layer-2 address of the PC5 unicast link from the receive end, wherein the response to the second request comprises the destination layer-2 address of the first V2X service; or

if no PC5 unicast link exists between the transmit end and the receive end, sending, by the transmit end, a second request and a source layer-2 address of a PC5 unicast link to the receive end, wherein the second request is used to request the destination layer-2 address of the first V2X service, and the second request comprises the source layer-2 address of the PC5 unicast link and the source layer-2 address of the first V2X service; and receiving, by the transmit end, a response to the second request and a destination layer-2 address of the PC5 unicast link from the receive end, wherein the response to the second request comprises the destination layer-2 address of the PC5 unicast link and the destination layer-2 address of the first V2X service.

10. The method according to claim 9, wherein the negotiating, by the transmit end, the layer-2 address pair of the first V2X service with the receive end over the PC5 unicast link comprises:

sending, by the transmit end, a third request and a layer-2 address pair of the PC5 unicast link to the receive end, wherein the third request is used to request the destination layer-2 address of the first V2X service, and the third request comprises the source layer-2 address of the first V2X service; and

receiving, by the transmit end, a response to the third request from the receive end, wherein the response to the third request comprises the destination layer-2 address of the first V2X service.

11. The method according to any one of claims 1 to 10, wherein the method further comprises:

determining, by the transmit end, the frequency band of the first V2X service based on an identifier of the first V2X service and a third correspondence, wherein the third correspondence is a correspondence between an identifier of a V2X service and a frequency band of the V2X service.

12. The method according to claim 11, wherein the method further comprises:

receiving, by the transmit end, the third correspondence from a policy control network element.

13. The method according to any one of claims 1 to 12, wherein the determining, by a transmit end, a layer-2 address pair of a first V2X service based on a frequency band of the first V2X service comprises:

if the frequency band of the first V2X service is an available frequency band between the transmit end and the receive end, determining, by the transmit end, the layer-2 address pair of the first V2X service based on the frequency band of the first V2X service.

~~14. A communication method, wherein the method comprises:~~

~~receiving, by a receive end, a first request and a source layer-2 address of a first vehicle to everything V2X service from a transmit end, wherein the first request is used to request a destination layer-2 address of the first V2X service;~~

~~allocating, by the receive end, a destination layer-2 address of the first V2X service based on the first request; and~~

~~sending, by the receive end, the destination layer-2 address of the first V2X service to the transmit end.~~

~~15. The method according to claim 14, wherein the sending, by the receive end, the destination layer-2 address of the first V2X service to the transmit end comprises: sending, by the receive end, a response to the first request to the transmit end, wherein the response to the first request comprises the destination layer-2 address of the first V2X service; or~~

~~sending, by the receive end, a response to the first request and the destination layer-2 address of the first V2X service to the transmit end, wherein the response to the first request comprises the destination layer-2 address of the first V2X service.~~

~~16. The method according to claim 14 or 15, wherein the first request comprises an identifier of the first V2X service; and the allocating, by the receive end, the destination layer-2 address of the first V2X service based on the first request comprises:~~

~~determining, by the receive end, a frequency band of the first V2X service based on the identifier of the first V2X service and a correspondence between an identifier of a V2X service and a frequency band of the V2X service; and~~

~~allocating, by the receive end, the destination layer-2 address of the first V2X service based on the frequency band of the first V2X service.~~

~~17. The method according to claim 14 or 15, wherein the first request comprises a common layer-2 address; and the allocating, by the receive end, the destination layer-2 address of the first V2X service based on the first request comprises:~~

~~determining, by the receive end, a frequency band of the first V2X service based on the common layer-2 address; and~~

~~allocating, by the receive end, the destination layer-2 address of the first V2X service based on the frequency band of the first V2X service.~~

~~18. The method according to claim 14 or 15, wherein the method further comprises: receiving, by the receive end, a common layer-2 address from the transmit end; and the allocating, by the receive end, the destination layer-2 address of the first V2X service based on the first request comprises:~~

~~allocating, by the receive end, the destination layer-2 address of the first V2X service based on the first request~~

~~and the common layer-2 address.~~

1~~9~~. A communication method, ~~wherein the method~~ comprisinges~~s~~:

determining, by a transmit end, a quality of service flow (QoS) flow of a first vehicle to everything (V2X) service based on a frequency band of the first V2X service and a ~~quality of service~~ QoS requirement of the first V2X service; and

sending, by the transmit end, data of the first V2X service to a receive end by using the QoS flow of the first V2X service.

2~~0~~. The method according to claim 1~~9~~, wherein the QoS requirement of the first V2X service comprises a delay requirement of the first V2X service and a rate requirement of the first V2X service~~the frequency band of the first V2X service is a first frequency band, the QoS requirement of the first V2X service is a first QoS requirement, and the QoS flow of the first V2X service is different from a QoS flow of a V2X service other than a V2X service corresponding to the first frequency band and the first QoS requirement~~.

~~21~~3. The method according to claim 1~~9~~ or 2~~0~~, wherein the method further comprises:

determining, by the transmit end, a QoS flow of a second V2X service based on a frequency band of the second V2X service and a QoS requirement of the second V2X service, wherein

the frequency band of the first V2X service is different from the frequency band of the second V2X service~~, and/or the QoS requirement of the first V2X service is different from the QoS requirement of the second V2X service~~, and the QoS flow of the first V2X service is different from the QoS flow of the second V2X service.

~~22~~4. The method according to any one of claims 1~~9~~ to ~~21~~3, wherein the method further comprises~~the sending, by the transmit end, data of the first V2X service to a receive end by using the QoS flow of the first V2X service comprises~~:

sending, by the transmit end, a fourth correspondence to an access stratum of the transmit end by using a V2X layer of the transmit end, wherein the fourth correspondence is a correspondence between an identifier of a QoS flow of a V2X service and a frequency band of the V2X service; and

~~the method further comprises:~~ storing, by the transmit end, the fourth correspondence at the access stratum.

5. The method according to claim 4, wherein the method further comprises:

filtering, by the V2X layer of the transmit end, data of the first V2X service to the QoS flow of the first V2X service, and delivering the data of the QoS flow of the first V2X service and an identifier of the QoS flow of the first V2X service to the access stratum of the transmit end; and

determining, by the access stratum of the transmit end based on the identifier of the QoS flow of the first V2X service and the fourth correspondence, to send the data in the QoS flow of the first V2X service to the receive end on the frequency band of the first V2X service.

~~23. The method according to claim 22, wherein the sending, by the transmit end, data of the first V2X service to a receive end by using the QoS flow of the first V2X service comprises:~~

~~when the transmit end receives a first data packet at the V2X layer and the first data packet carries the data of the first V2X service, filtering, by the transmit end at the V2X layer, the data of the first V2X service into the QoS flow of the first V2X service;~~

~~sending, by the transmit end at the V2X layer, a second data packet to the access stratum, wherein the second data packet comprises the data of the first V2X service, an identifier of the QoS flow of the first V2X service, and a layer 2 address pair of the first V2X service;~~

~~obtaining, by the transmit end at the access stratum, the frequency band of the first V2X service based on the fourth correspondence and the identifier of the QoS flow of the first V2X service; and~~

~~sending, by the transmit end at the access stratum, the data of the first V2X service to the receive end on the frequency band of the first V2X service based on a destination layer 2 address in the layer 2 address pair of the first V2X service, wherein the QoS flow of the first V2X service comprises the data of the first V2X service.~~

~~24~~6. The method according to any one of claims 1~~9~~ to ~~23~~5, wherein the determining, by a transmit end, a QoS flow of a first V2X service based on a frequency band of the first V2X service and a QoS requirement of the first V2X service comprises:

if a QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, determining, by the transmit end, the QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service as the QoS flow of the first V2X service; or

if no QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, establishing, by the transmit end, the QoS flow of the first V2X service for the first V2X service.

~~25~~7. The method according to any one of claims 1~~9~~ to ~~24~~6, wherein the method further comprises:

determining, by the transmit end, the frequency band of the first V2X service based on an identifier of the first V2X service and a third correspondence, wherein the third correspondence is a correspondence between an identifier of a V2X service and a frequency band of the V2X service.

~~26~~8. The method according to claim ~~25~~7, wherein the method further comprises:

receiving, by the transmit end, the third correspondence from a policy control network element.

9. The method according to claim 7 or 8, wherein the identifier of the first V2X service is a provider service identifier (PSID) or an intelligent transport system-application identifier (ITS-AID).

~~27~~10. A communications apparatus, wherein the communications apparatus comprises at least one processor, and the at least one processor is configured to perform ~~an action performed by the transmit end in~~ the communication method according to any one of claims 1 to ~~13~~9.

~~28~~11. A computer-readable storage medium, wherein the computer-readable storage medium ~~comprises~~ storages ~~a~~ computer instructions, and when the computer instructions ~~is~~ are run on a computer, the computer is enabled to perform the communication method according to any one of claims 1 to ~~13~~9.

~~29. A communications apparatus, wherein the communications apparatus comprises at least one processor, and the at least one processor is configured to perform an action performed by the receive end in the communication method according to any one of claims 14 to 18.~~

~~30. A computer readable storage medium, wherein the computer readable storage medium comprises a computer instruction, and when the computer instruction is run on a computer, the computer is enabled to perform the communication method according to any one of claims 14 to 18.~~

~~31. A communications apparatus, wherein the communications apparatus comprises at least one processor, and the at least one processor is configured to perform an action performed by the transmit end in the communication method according to any one of claims 19 to 26.~~

~~32. A computer readable storage medium, wherein the computer readable storage medium comprises a computer instruction, and when the computer instruction is run on a computer, the computer is enabled to perform the communication method according to any one of claims 19 to 26.~~

~~33. A communications system, wherein the communications system comprises a transmit end and a receive end, wherein~~

~~the transmit end is configured to: determine a layer 2 address pair of a first vehicle to everything V2X service based on a frequency band of the first V2X service, and send data of the first V2X service to the receive end on the frequency band of the first V2X service based on the layer 2 address pair of the first V2X service, wherein~~

~~the layer 2 address pair of the first V2X service comprises a source layer 2 address of the first V2X service and a destination layer 2 address of the first V2X service, and the layer 2 address pair of the first V2X service corresponds to the frequency band of the first V2X service.~~

~~34~~12. A communications system, ~~wherein the communications system~~ comprise~~s~~ing a transmit end and a receive end, wherein

the transmit end is configured to: determine a quality of service flow (QoS) flow of a first vehicle to everything (V2X) service based on a frequency band of the first V2X service and a ~~quality of service~~ QoS requirement of the first V2X service, and send data of the first V2X service to the receive end by using the QoS flow of the first V2X service;

and

the receive end is configured to: receive the data of the first V2X service.

13. The system according to claim 12, wherein the the transmit end is further configured to:

determine a QoS flow of a second V2X service based on a frequency band of the second V2X service and a QoS requirement of the second V2X service, wherein

the frequency band of the first V2X service is different from the frequency band of the second V2X service, and the QoS flow of the first V2X service is different from the QoS flow of the second V2X service.

14. The system according to claim 12 or 13, wherein the transmit end is further configured to:

if a QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, determine the QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service as the QoS flow of the first V2X service; or

if no QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, establish the QoS flow of the first V2X service for the first V2X service.

15. The system according to any one of claims 12 to 14, wherein the transmit end is further configured to:

determine the frequency band of the first V2X service based on an identifier of the first V2X service and a third correspondence, wherein the third correspondence is a correspondence between an identifier and a frequency band of a V2X service.

16. A communication method, comprising:

determining, by a transmit end, a quality of service flow (QoS) flow of a first vehicle to everything (V2X) service based on a frequency band of the first V2X service and a QoS requirement of the first V2X service;

sending, by the transmit end, data of the first V2X service to a receive end by using the QoS flow of the first V2X service; and

receiving, by the receive end, the data of the first V2X service.

17. The method according to claim 16, wherein the QoS requirement of the first V2X service comprises a delay requirement of the first V2X service and a rate requirement of the first V2X service.

18. The method according to claim 16 or 17, wherein the method further comprises:

determining, by the transmit end, a QoS flow of a second V2X service based on a frequency band of the second V2X service and a QoS requirement of the second V2X service, wherein

the frequency band of the first V2X service is different from the frequency band of the second V2X service, and

the QoS flow of the first V2X service is different from the QoS flow of the second V2X service.

19. The method according to any one of claims 16 to 18, wherein the method further comprises:

sending, by the transmit end, a fourth correspondence to an access stratum of the transmit end by using a V2X layer of the transmit end, wherein the fourth correspondence is a correspondence between an identifier of a QoS flow of a V2X service and a frequency band of the V2X service; and

storing, by the transmit end, the fourth correspondence at the access stratum.

20. The method according to any one of claims 16 to 19, wherein the determining, by a transmit end, a QoS flow of a first V2X service based on a frequency band of the first V2X service and a QoS requirement of the first V2X service comprises:

if a QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, determining, by the transmit end, the QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service as the QoS flow of the first V2X service; or

if no QoS flow corresponding to the frequency band of the first V2X service and the QoS requirement of the first V2X service exists between the transmit end and the receive end, establishing, by the transmit end, the QoS flow of the first V2X service for the first V2X service.