CLAIMS

1. A method for configuring a relay mode, applied to a User Equipment (UE) and comprising:

receiving first configuration information from a core network device, wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

2. The method of claim 1, wherein the first configuration information further comprises at least one Relay Service Code (RSC), each corresponding to a respective one of the at least one relay mode.

3. The method of claim 2, further comprising:

receiving a first RSC from one or more other UEs; and

determining a relay mode of the other UEs corresponding to the first RSC based on the first configuration information.

~~4. The method of any of claims 1 to 3, wherein the first configuration information further comprises use condition information corresponding to the at least one relay mode respectively.~~

~~5. The method of claim 4, wherein the use condition information comprises at least one of the following: time information, area information, or service information.~~

~~6. The method of claim 5, wherein the area information comprises at least one of the following: identification corresponding to a Public Land Mobile Network (PLMN), identification corresponding to Timing Advance (TA), or identification corresponding to a geographical area.~~

~~7~~4. The method of any of claims 1 to ~~6~~3, wherein the at least one relay mode comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

~~8~~5. The method of any of claims 1 to ~~7~~4, wherein the first configuration information is carried in Prose configuration information; or the first configuration information is carried in UE Route

Selection Policy (URSP) configuration information.

~~9~~6. The method of any of claims 1 to ~~8~~5, wherein before the receiving the first configuration information from a core network device, the method further comprises:

sending relay capability information to the core network device, wherein the relay capability information comprises one or more relay modes supported by the UE.

~~10~~7. The method of claim ~~9~~6, wherein the one or more relay modes supported by the UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

~~11. The method of claim 9 or 10, wherein the at least one relay mode is included in the one or more relay modes supported by the UE.~~

~~12~~8. The method of any of claims 1 to ~~11~~7, wherein the UE is a UE providing a relay service; or the UE is a UE using the relay service.

~~13. The method of any of claims 1 to 12, wherein the core network device configures a same mapping relationship between relay modes and RSCs for a plurality of UEs.~~

~~14~~9. A method for configuring a relay mode, applied to a core network device and comprising:

sending first configuration information to a User Equipment (UE), wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

~~15~~10. The method of claim ~~14~~9, wherein the first configuration information further comprises at least one Relay Service Code (RSC), each corresponding to a respective one of the at least one relay mode.

~~16. The method of claim 14 or 15, wherein the first configuration information further comprises use condition information corresponding to the at least one relay mode respectively.~~

~~17. The method of claim 16, wherein the use condition information comprises at least one of the following: time information, area information, or service information.~~

~~18. The method of claim 17, wherein the area information comprises at least one of the following: identification corresponding to a Public Land Mobile Network (PLMN), identification corresponding to Timing Advance (TA), or identification corresponding to a geographical area.~~

~~19~~11. The method of any of claims ~~14~~ 9 to ~~18~~10, wherein the at least one relay mode comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

~~20~~12. The method of any of claims 9~~14~~ to ~~19~~11, wherein the first configuration information is carried in Prose configuration information; or the first configuration information is carried in UE Route Selection Policy (URSP) configuration information.

~~21~~13. The method of any of claims ~~14~~ 9 to ~~20~~12, wherein before the sending the first configuration information to the UE, the method further comprises:

receiving relay capability information from the UE, wherein the relay capability information comprises one or more relay modes supported by the UE.

~~22~~14. The method of claim ~~21~~13, wherein the one or more relay modes supported by the UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

~~23. The method of claim 21 or 22, wherein the at least one relay mode is included in the one or more relay modes supported by the UE.~~

~~24~~15. The method of any of claims ~~14~~ 9 to ~~23~~14, wherein the UE is a UE providing a relay service; or the UE is a UE using the relay service.

~~25~~16. The method of any of claims ~~14~~ 9 to ~~24~~15, wherein the core network device configures a same mapping relationship between relay modes and RSCs for a plurality of UEs.

17. A User Equipment, UE, comprising a processor and a memory storing a computer program, wherein the processor, when executing the computer program, is configured to perform the method of any of claims 1 to 8.

18. A core network device, comprising a processor and a memory storing a computer program, wherein the processor, when executing the computer program, is configured to perform the method of any of claims 9 to 16.

~~26. A relay communication method, applied to a first User Equipment (UE) and comprising:~~

~~performing a communication with second UE by means of relay UE based on a first relay mode, wherein~~

~~the first relay mode is included in one or more relay modes corresponding to first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.~~

~~27. The method of claim 26, wherein before the based on a first relay mode, performing a communication with the second UE by means of the relay UE, the method further comprises:~~

~~receiving first information from the relay UE, wherein the first information indicates a second relay mode; and~~

~~determining the first relay mode based on the second relay mode and the one or more relay modes corresponding to the first UE.~~

~~28. The method of claim 27, wherein the second relay mode comprises: the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the second UE.~~

~~29. The method of claim 27, wherein the second relay mode comprises a relay mode common to the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the second UE.~~

~~30. The method of any of claims 27 to 29, wherein the first information further comprises~~

identification information of the second UE; and the identification information of the second UE is used for identifying the second UE.

31. The method of any of claims 27 to 30, wherein the receiving first information from the relay UE comprises:

receiving first broadcast information from the relay UE, wherein the first information is carried in the first broadcast information.

32. The method of any of claims 27 to 30, wherein the receiving first information from the relay UE comprises:

broadcasting a first discovery request; and

receiving a first discovery response from the relay UE, wherein the first information is carried in the first discovery response.

33. The method of any of claims 27 to 32, wherein the first information comprises a Relay Service Code (RSC) corresponding to the second relay mode.

34. The method of claim 26, wherein before performing the communication with the second UE by means of the relay UE based on the first relay mode, the method further comprises:

sending fourth information to the relay UE, wherein the fourth information indicates the one or more relay modes corresponding to the first UE; and

receiving third information from the relay UE, wherein the third information indicates the first relay mode.

35. The method of claim 34, further comprising:

broadcasting a third discovery request, wherein the fourth information is carried in the third discovery request; and

receiving a third discovery response from the relay UE, wherein the third information is carried in the third discovery response.

36. The method of claim 34, further comprising:

broadcasting a first connection establishment request, wherein the fourth information

~~is carried in the first connection establishment request; and~~

~~receiving a first connection establishment response from the relay UE, wherein the third information is carried in the first connection establishment response.~~

~~37. The method of any one of claims 34 to 36, wherein~~

~~the fourth information comprises one or more RSCs corresponding to the one or more relay modes corresponding to the first UE; and~~

~~the third information comprises an RSC corresponding to the first relay mode.~~

~~38. The method of any one of claims 26 to 37, wherein~~

~~the one or more relay modes corresponding to the first UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode;~~

~~the one or more relay modes corresponding to the relay UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode; and~~

~~the one or more relay modes corresponding to the second UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.~~

~~39. The method of any one of claims 26 to 38, wherein~~

~~the one or more relay modes corresponding to the first UE comprises any one of the following: a relay mode supported by the first UE, and a relay mode supported by the first UE and configured for the first UE by a core network device;~~

~~the one or more relay modes corresponding to the relay UE comprises any one of the following: a relay mode supported by the relay UE, and a relay mode supported by the relay UE and configured for the relay UE by the core network device; and~~

~~the one or more relay modes corresponding to the second UE comprises any one of the following: a relay mode supported by the second UE, and a relay mode supported by the second UE and configured for the second UE by the core network device.~~

~~40. A relay communication method, applied to a relay User Equipment (UE) and comprising:~~

~~performing a communication between a first UE and a second UE by means of the relay UE based on a first relay mode, wherein~~

~~the first relay mode is included in one or more relay modes corresponding to the first~~

~~UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.~~

~~41. The method of claim 40, wherein before performing the communication between the first UE and the second UE by means of the relay UE based on the first relay mode, the method further comprises:~~

~~receiving second information from the second UE, wherein the second information indicates a one or more relay modes corresponding to the second UE; and~~

~~sending first information to the first UE, wherein the first information indicates a second relay mode, and is determined based on the second information.~~

~~42. The method of claim 41, wherein the second relay mode comprises: the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the second UE.~~

~~43. The method of claim 41, wherein the second relay mode comprises a relay mode common to the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the second UE.~~

~~44. The method of any of claims 41 to 43, wherein the first information further comprises identification information of the second UE; and the identification information of the second UE is used for identifying the second UE.~~

~~45. The method of any one of claims 41 to 44, wherein~~

~~the second information is carried in second broadcast information from the second UE;~~

~~or,~~

~~the second information is sent to the relay UE during a process of registering the second UE to the relay UE;~~

~~or,~~

~~the second information is sent to the relay UE during a process of establishing a connection between the second UE and the relay UE.~~

46. The method of claim 45, wherein the sending first information to the first UE comprises:

broadcasting first broadcast information, wherein the first information is carried in the first broadcast information.

47. The method of any of claims 41 to 44, further comprising:

receiving a first discovery request from the first UE;

broadcasting a second discovery request, wherein the second discovery request is determined based on the first discovery request;

receiving a second discovery response from the second UE, wherein the second information is carried in the second discovery response; and

sending a first discovery response to the first UE, wherein the first information is carried in the first discovery response.

48. The method of any one of claims 41 to 47, wherein

the second information comprises one or more Relay Service Codes (RSCs) corresponding to the one or more relay modes corresponding to the second UE; and

the first information comprises an RSC corresponding to the second relay mode.

49. The method of claim 40, wherein before performing the communication between the first UE and the second UE by means of the relay UE based on a first relay mode, the method further comprises:

receiving fourth information from the first UE, wherein the fourth information indicates the one or more relay modes corresponding to the first UE;

sending fifth information to the second UE, wherein the fifth information indicates a third relay mode, and is determined based on the fourth information;

receiving third information from the second UE, wherein the third information indicates the first relay mode; and

sending the third information to the first UE.

50. The method of claim 49, wherein the third relay mode comprises: the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the

first UE.

51. The method of claim 49, wherein the third relay mode comprises a relay mode common to the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the first UE.

52. The method of any of claims 49 to 51, wherein the fifth information further comprises identification information of the first UE; and the identification information of the first UE is used for identifying the first UE.

53. The method of any of claims 49 to 52, further comprising:

receiving a third discovery request from the first UE, wherein the fourth information is carried in the third discovery request;

broadcasting a fourth discovery request, wherein the fifth information is carried in the fourth discovery request;

receiving a fourth discovery response from the second UE, wherein the third information is carried in the fourth discovery response; and

sending a third discovery response to the first UE, wherein the third information is carried in the third discovery response.

54. The method of any of claims 49 to 52, further comprising:

receiving a first connection establishment request from the first UE, wherein the fourth information is carried in the first connection establishment request;

broadcasting a second connection establishment request, wherein the fifth information is carried in the second connection establishment request;

receiving a second connection establishment response from the second UE, wherein the third information is carried in the second connection establishment response; and

sending a first connection establishment response to the first UE, wherein the third information is carried in the first connection establishment response.

55. The method of any one of claims 49 to 54, wherein

the fourth information comprises one or more RSCs corresponding to the one or more

relay modes corresponding to the first UE; and

the fifth information comprises an RSC corresponding to the third relay mode; and

the third information comprises an RSC corresponding to the first relay mode.

56. The method of any one of claims 40 to 55, wherein

the one or more relay modes corresponding to the first UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode;

the one or more relay modes corresponding to the relay UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode; and

the one or more relay modes corresponding to the second UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

57. The method of any one of claims 40 to 56, wherein

the one or more relay modes corresponding to the first UE comprises any one of the following: a relay mode supported by the first UE, and a relay mode supported by the first UE and configured for the first UE by a core network device;

the one or more relay modes corresponding to the relay UE comprises any one of the following: a relay mode supported by the relay UE, and a relay mode supported by the relay UE and configured for the relay UE by the core network device; and

the one or more relay modes corresponding to the second UE comprises any one of the following: a relay mode supported by the second UE, and a relay mode supported by the second UE and configured for the second UE by the core network device.

58. A relay communication method, applied to a second User Equipment (UE) and comprising:

performing a communication with a first UE by means of a relay UE based on a first relay mode, wherein

the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.

59. The method of claim 58, wherein before performing the communication with the first UE

by means of the relay UE based on the first relay mode, the method further comprises:

sending second information to the relay UE, wherein the second information indicates the one or more relay modes corresponding to the second UE.

60. The method of claim 59, wherein the sending second information to the relay UE comprises:

broadcasting second broadcast information, wherein the second information is carried in the second broadcast information;

or,

sending the second information to the relay UE during a process of registering the second UE to the relay UE;

or,

sending the second information to the relay UE during a process of establishing a connection between the second UE and the relay UE.

61. The method of claim 59, wherein sending second information to the relay UE comprises:

receiving a second discovery request from the relay UE; and

sending a second discovery response to the relay UE, wherein the second information is carried in the second discovery response.

62. The method of any of claims 59 to 61, wherein second information comprises one or more Relay Service Codes (RSCs) corresponding to the one or more relay modes corresponding to the second UE.

63. The method of claim 58, wherein before performing the communication with first UE by means of the relay UE based on the first relay mode, the method further comprises:

receiving fifth information from the relay UE, wherein the fifth information indicates a third relay mode;

determining the first relay mode based on the third relay mode and the one or more relay modes corresponding to the second UE; and

sending third information to the relay UE, wherein the third information indicates the first relay mode.

64. The method of claim 63, wherein the third relay mode comprises: the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the first UE.

65. The method of claim 63, wherein the third relay mode comprises a relay mode common to the one or more relay modes corresponding to the relay UE and the one or more relay modes corresponding to the first UE.

66. The method of any of claims 63 to 65, wherein the fifth information further comprises identification information of the first UE; and the identification information of the first UE is used for identifying the first UE.

67. The method of any of claims 63 to 66, further comprising:

receiving a fourth discovery request from the relay UE, wherein the fifth information is carried in the fourth discovery response; and

sending a fourth discovery response to the relay UE, wherein the third information is carried in the fourth discovery response.

68. The method of any of claims 63 to 66, further comprising:

receiving a second connection establishment request from the relay UE, wherein the fifth information is carried in the second connection establishment request; and

sending a second connection establishment response to the relay UE, wherein the third information is carried in the second connection establishment response.

69. The method of any one of claims 63 to 68, wherein

the fifth information comprises an RSC corresponding to the third relay mode; and

the third information comprises an RSC corresponding to the first relay mode.

70. The method of any one of claims 58 to 69, wherein

the one or more relay modes corresponding to the first UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode;

the one or more relay modes corresponding to the relay UE comprises at least one of

the following: a layer 3-based relay mode, or a layer 2-based relay mode; and

the one or more relay modes corresponding to the second UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

71. The method of any one of claims 58 to 70, wherein

the one or more relay modes corresponding to the first UE comprises any one of the following: a relay mode supported by the first UE, and a relay mode supported by the first UE and configured for the first UE by a core network device;

the one or more relay modes corresponding to the relay UE comprises any one of the following: a relay mode supported by the relay UE, and a relay mode supported by the relay UE and configured for the relay UE by the core network device; and

the one or more relay modes corresponding to the second UE comprises any one of the following: a relay mode supported by the second UE, and a relay mode supported by the second UE and configured for the second UE by the core network device.

72. An apparatus for configuring a relay mode, disposed in a User Equipment (UE) and comprising:

a configuration information receiving module, configured to receive first configuration information from a core network device, wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

73. The apparatus of claim 72, wherein the first configuration information further comprises at least one Relay Service Code (RSC), each corresponding to a respective one of the at least one relay mode.

74. The apparatus of claim 73, further comprising:

a service code receiving module, configured to receive a first RSC from one or more other UEs; and

a relay mode determination module, configured to determine a relay mode of the other UEs corresponding to the first RSC based on the first configuration information.

75. The apparatus of any of claims 72 to 74, wherein the first configuration information further comprises use condition information corresponding to the at least one relay mode respectively.

76. The apparatus of claim 75, wherein the use condition information comprises at least one of the following: time information, area information, or service information.

77. The apparatus of claim 76, wherein the area information comprises at least one of the following: identification corresponding to a Public Land Mobile Network (PLMN), identification corresponding to Timing Advance (TA), or identification corresponding to a geographical area.

78. The apparatus of any of claims 72 to 77, wherein the at least one relay mode comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

79. The apparatus of any of claims 72 to 78, wherein the first configuration information is carried in Prose configuration information; or the first configuration information is carried in the UE Route Selection Policy (URSP) configuration information.

80. The apparatus of any of claims 72 to 79, further comprising:
a capability information sending module, configured to send relay capability information to the core network device, wherein the relay capability information comprises one or more relay modes supported by the UE.

81. The apparatus of claim 80, wherein the one or more relay modes supported by the UE comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

82. The apparatus of claim 80 or 81, wherein the at least one relay mode is included in the one or more relay modes supported by the UE.

83. The apparatus of any of claims 72 to 82, wherein the UE is a UE providing a relay service; or the UE is a UE using the relay service.

84. The apparatus of any of claims 72 to 83, wherein the core network device is configured to configure a same mapping relationship between relay modes and RSCs for a plurality of UEs.

85. An apparatus for configuring a relay mode, disposed in a core network device and comprising:

a configuration information sending module, configured to send first configuration information to a User Equipment (UE), wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

86. The apparatus of claim 85, wherein the first configuration information further comprises at least one Relay Service Code (RSC), each corresponding to a respective one of the at least one relay mode.

87. The apparatus of claim 85 or 86, wherein the first configuration information further comprises use condition information corresponding to the at least one relay mode respectively.

88. The apparatus of claim 87, wherein the use condition information comprises at least one of the following: time information, area information, or service information.

89. The apparatus of claim 88, wherein the area information comprises at least one of the following: identification corresponding to a Public Land Mobile Network (PLMN), identification corresponding to Timing Advance (TA), or identification corresponding to a geographical area.

90. The apparatus of any of claims 85 to 89, wherein the at least one relay mode comprises at least one of the following: a layer 3-based relay mode, or a layer 2-based relay mode.

91. The apparatus of any of claims 85 to 90, wherein the first configuration information is carried in Prose configuration information; or the first configuration information is carried in UE Route Selection Policy (URSP) configuration information.

92. The apparatus of any of claims 85 to 91, further comprising:
a capability information receiving module, configured to receive relay capability information from the UE, wherein the relay capability information comprises one or more relay modes supported by the UE.

93. The apparatus of claim 92, wherein the one or more relay modes supported by the UE comprises at least one of the following: a layer-3-based relay mode, or a layer-2-based relay mode.

94. The apparatus of claim 92 or 93, wherein the at least one relay mode is included in the one or more relay modes supported by the UE.

95. The apparatus of any of claims 85 to 94, wherein the UE is a UE providing a relay service; or the UE is a UE using the relay service.

96. The apparatus of any of claims 85 to 95, wherein the core network device configures a same mapping relationship between relay modes and RSCs for a plurality of UEs.

97. A relay communication apparatus, disposed in a first User Equipment (UE) and comprising:
a first communication module, configured to perform a communication with a second UE by means of a relay UE based on a first relay mode, wherein
the first relay mode is included in one or more relay modes corresponding to first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.

98. A relay communication apparatus, disposed in a relay User Equipment (UE) and comprising:
a relay communication module, configured to perform a communication between a first UE and a second UE by means of a relay UE based on a first relay mode, wherein
the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE;

and the first relay mode is included in one or more relay modes corresponding to the second UE.

99. A relay communication apparatus, disposed in a second User Equipment (UE) and comprising:

a second communication module, configured to perform a communication with a first UE by means of a relay UE based on a first relay mode, wherein

the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.

100. A User Equipment (UE), comprising: a processor; and a transceiver connected to the processor, wherein

the transceiver is configured to receive first configuration information from a core network device, wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

101. A core network device, comprising: a processor; and a transceiver connected to the processor, wherein

the transceiver is configured to send first configuration information to a User Equipment (UE), wherein the first configuration information comprises at least one relay mode configured for the UE by the core network device, and the UE is a device having a Proximity Service (Prose) capability.

102. A first User Equipment (UE), comprising: a processor and a transceiver connected to the processor, wherein

the transceiver is configured to perform a communication with a second UE by means of a relay UE based on a first relay mode, wherein

the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE;

~~and the first relay mode is included in one or more relay modes corresponding to the second UE.~~

~~103. A relay User Equipment (UE), comprising: a processor and a transceiver connected to the processor, wherein~~

~~the transceiver is configured to perform a communication between a first UE and a second UE by means of a relay UE based on a first relay mode, wherein~~

~~the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.~~

~~104. A second User Equipment (UE), comprising: a processor and a transceiver connected to the processor, wherein~~

~~the transceiver is configured to perform a communication with a first UE by means of a relay UE based on a first relay mode, wherein~~

~~the first relay mode is included in one or more relay modes corresponding to the first UE; the first relay mode is included in one or more relay modes corresponding to the relay UE; and the first relay mode is included in one or more relay modes corresponding to the second UE.~~

~~105~~19. A computer-readable storage medium, having a computer program stored thereon, wherein the computer program is configured to be executed by a processor of a User Equipment (UE), to implement the method for configuring a relay mode of any of claims 1 to ~~13~~8.

~~106~~20. A computer-readable storage medium, having a computer program stored thereon, wherein the computer program is configured to be executed by a processor of a core network device, to implement the method for configuring a relay mode of any of claims ~~14~~ 9 to ~~25~~16.

~~107. A computer-readable storage medium, having a computer program stored thereon, wherein the computer program is configured to be executed by a processor of a first User Equipment (UE), to implement the relay communication method of any of claims 26 to 39.~~

~~108. A computer-readable storage medium, having a computer program stored thereon, wherein the computer program is configured to be executed by a processor of a relay User Equipment (UE), to implement the relay communication method of any of claims 40 to 57.~~

~~109. A computer-readable storage medium, having a computer program stored thereon, wherein the computer program is configured to be executed by a processor of a relay User Equipment (UE), to implement the relay communication method of any of claims 58 to 71.~~