

WHAT IS CLAIMED IS:

1. A method for transmitting uplink demodulation reference signal, characterized in comprising:

receiving, by a terminal device, first demodulation reference signal (DMRS) configuration information sent by a network device, the first DMRS configuration information indicating a type of a DMRS sequence;

receiving, by the terminal device, second DMRS configuration information sent by the network device, the second DMRS configuration information indicating at least one of an antenna port configuration of DMRS, a physical resource configuration of DMRS, and a sequence configuration of DMRS;

determining, by the terminal device, a configuration parameter indicated by the second DMRS configuration information according to the first DMRS configuration information;

determining, by the terminal device, a transmission parameter of DMRS according to the configuration parameter indicated by the second DMRS configuration information; and

transmitting, by the terminal device, DMRS to the network device according to the transmission parameter.

2. The method according to claim 1, wherein the transmission parameter of DMRS comprises at least one of an antenna port occupied by the DMRS, physical resource occupied by the DMRS, a DMRS sequence, and a transmission power of the DMRS.

3. The method according to claim 1 or 2, wherein the antenna port configuration of DMRS comprises an antenna port occupied by the DMRS or a number of antenna ports occupied by the DMRS.

4. The method according to any one of claims 1 to 3, wherein the determining, by the terminal device, a transmission parameter of DMRS according to the configuration parameter indicated by the second DMRS configuration information comprises:

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the antenna port configuration of DMRS, an antenna port occupied by the DMRS according to the antenna port configuration of DMRS; and/or,

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the antenna port configuration of DMRS, physical resource occupied by the DMRS according the antenna port configuration of DMRS; and/or,

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the antenna port configuration of DMRS, a transmission power of the DMRS according to the antenna port configuration of DMRS; and/or,

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the antenna port configuration of DMRS, a sequence cyclic shift and/or an orthogonal cover code (OCC) used by the DMRS according to the antenna port configuration of DMRS, and

generating, by the terminal device, the DMRS sequence according to the sequence cyclic shift and/or the OCC used by the DMRS.

5. The method according to any one of claims 1 to 3, wherein the physical resource configuration of DMRS comprises at least one of a number of orthogonal frequency division multiplexing (OFDM) symbols occupied by the DMRS, a subcarrier occupied by the DMRS, and a transmission pattern of the DMRS.

6. The method according to any one of claims 1 to 5, wherein the determining, by the terminal device, a transmission parameter of DMRS according to the configuration parameter indicated by the second DMRS configuration information comprises:

determining by the terminal device, when the terminal device determines the second

DMRS configuration information indicates the physical resource configuration of DMRS, physical resource occupied by the DMRS according to the physical resource configuration of DMRS; and/or

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the physical resource configuration of DMRS, the DMRS sequence according to the physical resource configuration of DMRS; and/or,

determining by the terminal device, when the terminal device determines the second DMRS configuration information indicates the physical resource configuration of DMRS, a transmission power of the DMRS according to the physical resource configuration of DMRS.

7. The method according to any one of claims 1 to 3, wherein the sequence configuration of DMRS comprises at least one of a sequence cyclic shift used by the DMRS, an OCC used by the DMRS, a root sequence identification (ID) used by the DMRS, and a scrambling sequence ID used by the DMRS.

8. The method according to any one of claims 1 to 7, wherein the receiving (S110), by a terminal device, first DMRS configuration information sent by a network device comprises:

receiving, by the terminal device, high layer signaling sent by the network device, the high layer signaling including the first DMRS configuration information; or

receiving, by the terminal device, downlink control information (DCI) sent by the network device, the DCI including the first DMRS configuration information.

9. A method for transmitting uplink demodulation reference signal, characterized in comprising:

generating, by a network device, first demodulation reference signal (DMRS) configuration information, the first DMRS configuration information indicating a type of a DMRS sequence;

generating, by the network device, second DMRS configuration information, the second

DMRS configuration information indicating at least one of an antenna port configuration of DMRS, a physical resource configuration of DMRS, and a sequence configuration of DMRS; and

sending, by the network device, the first DMRS configuration information and the second DMRS configuration information to a terminal device.

10. The method according to claim 9, wherein the antenna port configuration of DMRS comprises an antenna port occupied by the DMRS or a number of antenna ports occupied by the DMRS.

11. The method according to claim 9 or 10, wherein the physical resource configuration of DMRS comprises at least one of a number of orthogonal frequency division multiplexing (OFDM) symbols occupied by the DMRS, a subcarrier occupied by the DMRS, and a transmission pattern of the DMRS.

12. The method according to any one of claims 9 to 11, wherein the sequence configuration of DMRS comprises at least one of a sequence cyclic shift used by the DMRS, an orthogonal cover code (OCC) used by the DMRS, a root sequence identification (ID) used by the DMRS, and a scrambling sequence ID used by the DMRS.

13. A terminal device, characterized in comprising:

a transceiving module, configured to receive first demodulation reference signal (DMRS) configuration information sent by a network device, the first DMRS configuration information indicating a type of a DMRS sequence;

the transceiving module is further configured to receive second DMRS configuration information sent by the network device, the second DMRS configuration information indicating at least one of an antenna port configuration of DMRS, a physical resource configuration of DMRS, and a sequence configuration of DMRS;

a processing module, configured to determine a configuration parameter indicated by the

second DMRS configuration information according to the first DMRS configuration information;

the processing module is further configured to determine a transmission parameter of DMRS according to the configuration parameter indicated by the second DMRS configuration information; and

the transceiving module is further configured to transmit DMRS to the network device according to the transmission parameter.

14. The terminal device according to claim 13, wherein the transmission parameter of DMRS comprises at least one of an antenna port occupied by the DMRS, physical resource occupied by the DMRS, a DMRS sequence, and a transmission power of the DMRS.

15. The terminal device according to claim 13 or 14, wherein the antenna port configuration of DMRS comprises an antenna port occupied by the DMRS or a number of antenna ports occupied by the DMRS.

16. The terminal device according to any one of claims 13 to 15, wherein the processing module is specifically configured to:

determine, when the second DMRS configuration information is determined as indicating the antenna port configuration of DMRS, an antenna port occupied by the DMRS according to the antenna port configuration of DMRS; and/or,

determine, when the second DMRS configuration information is determined as indicating the antenna port configuration of DMRS, physical resource occupied by the DMRS according to the antenna port configuration of DMRS; and/or,

determine, when the second DMRS configuration information is determined as indicating the antenna port configuration of DMRS, a transmission power of the DMRS according to the antenna port configuration of DMRS; and/or,

determine, when the second DMRS configuration information is determined as

indicating the antenna port configuration of DMRS, a sequence cyclic shift and/or an orthogonal cover code (OCC) used by the DMRS according to the antenna port configuration of DMRS, and

generate the DMRS sequence according to the sequence cyclic shift and/or the OCC used by the DMRS.

17. The terminal device according to any one of claims 13 to 15, wherein the physical resource configuration of DMRS comprises at least one of a number of orthogonal frequency division multiplexing (OFDM) symbols occupied by the DMRS, a subcarrier occupied by the DMRS, and a transmission pattern of the DMRS.

18. The terminal device according to any one of claims 13 to 17, wherein the processing module is specifically configured to:

determine, when the second DMRS configuration information is determined as indicating the physical resource configuration of DMRS, physical resource occupied by the DMRS according to the physical resource configuration of DMRS; and/or

determine, when the second DMRS configuration information is determined as indicating the physical resource configuration of DMRS, the DMRS sequence according to the physical resource configuration of DMRS; and/or,

determine, when the second DMRS configuration information is determined as indicating the physical resource configuration of DMRS, a transmission power of the DMRS according to the physical resource configuration of DMRS.

19. The terminal device according to any one of claims 13 to 15, wherein the sequence configuration of DMRS comprises at least one of a sequence cyclic shift used by the DMRS, an OCC used by the DMRS, a root sequence identification (ID) used by the DMRS, and a scrambling sequence ID used by the DMRS.

20. The terminal device according to any one of claims 13 to 19, wherein the

transceiving module is specifically configured to:

receive high layer signaling sent by the network device, the high layer signaling including the first DMRS configuration information; or

receive downlink control information (DCI) sent by the network device, the DCI including the first DMRS configuration information.