to measure the signal quality. When a specific reference signal is not configured at the network side, the UE uses a reference signal (RS) indicated in a transmission configuration indicator (TCI) state of a physical downlink control channel (PDCCH) configured at the network side for radio link monitoring (RLM). At most two RSs may be indicated in the TCI state, since there are multiple active TCI states for the UE at the same time, if the UE detects all RSs in these multiple TCI states, a lot of problems related to measurement complexity and power consumption will be brought. In addition, some RSs are not suitable for the UE to perform the RLM. Therefore, how to choose a suitable RS for the UE to perform the RLM is an urgent problem to be solved.

SUMMARY

Embodiments of the present disclosure provide a method and apparatus for selecting a resource for at least solving a lot of problems related to measurement complexity and power consumption brought to the UE in the related art when detecting all RSs in multiple TCI states because a suitable RS cannot be selected for the RLM.

According to an embodiment of the present disclosure, a method for selecting a resource is provided. The method includes steps described below. A user equipment (UE) receives a transmission configuration indicator (TCI) state of a downlink transmission, where the TCI state includes Quasi co-location (QCL) information, and the QCL information includes correspondences between a plurality of reference signals (RSs) and a plurality of QCL types. The UE selects one of the plurality of RSs according to one of the plurality of QCL types, and performs radio link monitoring (RLM) according to the RS.

According to another embodiment of the present disclosure, a method for selecting a resource is provided. The method includes steps described below. A user equipment (UE) receives a transmission configuration indicator (TCI) state of a downlink transmission, where the TCI state includes Quasi co-location (QCL) information, and the QCL information includes correspondences between a plurality of reference signals (RSs) and a plurality of QCL types. The plurality of QCL types includes: a first QCL type carrying Doppler shift, Doppler spread, average delay and delay spread; a second QCL type carrying Doppler shift and Doppler spread; a third QCL type carrying average delay and Doppler shift; and a fourth QCL type carrying a

Spatial Receive (Rx) parameter. The UE selects one of the plurality of RSs according to the fourth QCL type, and performs radio link monitoring (RLM) according to the RS.

According to another embodiment of the present disclosure, an apparatus for selecting a resource is further provided. The apparatus includes a first receiving module and a selecting module. The first receiving module is configured to receive a transmission configuration indicator (TCI) state of a downlink configured by a network side device; where the TCI state at least includes: multiple pieces of Quasi co-location (QCL) information, and the multiple pieces of QCL information at least includes: a reference signal (RS) and a QCL type corresponding to the RS. The selecting module is configured to select an RS to perform radio link monitoring (RLM) according to at least one of the RS or the QCL type.

What is claimed is:

1. A method for selecting a resource, comprising:

receiving, by a user equipment (UE), a transmission configuration indicator (TCI) state of a downlink transmission, wherein the TCI state comprises Quasi co-location (QCL) information, and the QCL information comprises correspondences between a plurality of reference signals (RSs) and a plurality of QCL types;

selecting, by the UE, one of the plurality of RSs according to one of the plurality of QCL types; and

performing, by the UE, radio link monitoring (RLM) according to the RS.

2. The method of claim 1, wherein the step of selecting one of the plurality of RSs further comprises selecting, by the UE, the RS located in an active BWP, the active BWP being indicated in the QCL information.

3. The method of claim 1, wherein the RS comprises at least one of:
a synchronization signal and physical broadcast channel block (SS/PBCH block) or a channel state information reference signal (CSI-RS).

4. The method of claim 1, wherein the wherein the QCL types comprise:
a first QCL type carrying Doppler shift, Doppler spread, average delay and delay spread;
a second QCL type carrying Doppler shift and Doppler spread;
a third QCL type carrying average delay and Doppler shift; and
a fourth QCL type carrying a Spatial Receive (Rx) parameter.

5. The method of claim 1, wherein the downlink transmission comprises a physical downlink control channel (PDCCH).

6. A method for selecting a resource, comprising:

receiving, by a user equipment (UE), a transmission configuration indicator (TCI) state of a downlink transmission, wherein the TCI state comprises Quasi co-location (QCL) information, and the QCL information comprises correspondences between a plurality of reference signals (RSs) and a plurality of QCL types;

wherein the plurality of QCL types comprise:

a first QCL type carrying Doppler shift, Doppler spread, average delay and delay

spread;

a second QCL type carrying Doppler shift and Doppler spread;

a third QCL type carrying average delay and Doppler shift; and

a fourth QCL type carrying a Spatial Receive (Rx) parameter;

selecting, by the UE, one of the plurality of RSs according to the fourth QCL type; and performing, by the UE, radio link monitoring (RLM) according to the RS.

7. The method of claim 6, wherein the step of selecting one of the plurality of RSs further comprises selecting, by the UE, the RS located in an active BWP, the active BWP being indicated in the QCL information.

8. The method of claim 6, wherein the RS comprises at least one of:
a synchronization signal and physical broadcast channel block (SS/PBCH block) or a channel state information reference signal (CSI-RS).

9. The method of claim 6, wherein the downlink transmission comprises a physical downlink control channel (PDCCH).

10. An apparatus, comprising a memory and a processor, wherein the memory is configured to store computer programs and the processor is configured to execute the computer programs for executing the method of claim 6.

11. An apparatus, comprising a memory and a processor, wherein the memory is configured to store computer programs and the processor is configured to execute the computer programs for executing the method of claim 7.

12. An apparatus, comprising a memory and a processor, wherein the memory is configured to store computer programs and the processor is configured to execute the computer programs for executing the method of claim 8.

13. An apparatus, comprising a memory and a processor, wherein the memory is configured to store computer programs and the processor is configured to execute the computer programs for executing the method of claim 9.