CLAIMS

1. A user equipment (UE) for wireless communication, comprising:

at least one memory; and

at least one processor coupled with the at least one memory and configured to cause the UE to:

receive channel state information reference signal (CSI-RS) on a first CSI-RS resource with a first number of CSI-RS ports, wherein the first number is more than 32; and

perform CSI reporting based on the CSI-RS and a channel state information (CSI) reference resource;

wherein the CSI reference resource is determined based on a reference slot number, and wherein for periodic CSI reporting or semi-persistent CSI reporting, the reference slot number is a smallest value greater than or equal to $(4 + K) \cdot 2^{\mu_{DL}}$, wherein K is an integer lager than or equal to 0, and μ_{DL} is a subcarrier spacing configuration for downlink.

2. The UE of Claim 1, wherein the first CSI-RS resource includes at least two second CSI-RS resources, and to perform CSI reporting, the at least one processor is configured to cause the UE to:

transmit a first CSI report only after receiving at least one CSI-RS transmission occasion for each of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI interference measurement (CSI-IM) occasion for interference measurement no later than the CSI reference resource; or

when discontinuous reception (DRX) is configured, transmit the first CSI report only if receiving at least one CSI-RS transmission occasion for each of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI-IM occasion for interference measurement in a DRX active time no later than the CSI reference resource.

3. The UE of Claim 2, wherein to perform CSI reporting, the at least one processor is configured to cause the UE to:

transmit a second CSI report only after receiving at least one CSI-RS transmission occasion for at least one second CSI-RS resource but not all of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI-IM occasion for interference measurement no later than the CSI reference resource, or

when DRX is configured, transmit the second CSI report only if receiving at least one CSI-RS transmission occasion for at least one second CSI-RS resource but not all of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI-IM occasion for interference measurement in a DRX active time no later than the CSI reference resource; and

wherein the second CSI report includes CSI determined based on a first one of the at least one second CSI-RS resource or determined based on a second CSI-RS resource selected from the at least one second CSI-RS resource by the UE.

4. The UE of Claim 3, wherein the at least one processor is further configured to cause the UE to receive configuration information for a codebook associated with the at least two second CSI-RS resources, wherein the second CSI report is based on the codebook.

5. The UE of Claim 1, wherein the first CSI-RS resource includes at least two second CSI-RS resources, and the at least one processor is further configured to cause the UE to transmit capability information indicating whether the UE supports a CSI report based on at least one second CSI-RS resource but not all of the at least two second CSI-RS resources.

6. The UE of Claim 2, wherein to perform CSI reporting, the at least one processor is configured to cause the UE to:

transmit a third CSI report only after receiving at least one CSI-RS transmission occasion for at least one second CSI-RS resource but not all of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI-IM occasion for interference measurement no later than the CSI reference resource, or

when DRX is configured, transmit the third CSI report only if receiving at least one CSI-RS transmission occasion for at least one second CSI-RS resource but not all of the at least two second CSI-RS resources for channel measurement and CSI-RS and/or CSI-IM occasion for interference measurement in a DRX active time no later than the CSI reference resource; and

wherein the third CSI report includes CSI using all of the first number of CSI-RS ports derived based on received CSI-RS.

7. The UE of Claim 1, wherein the at least one processor is further configured to cause the UE to transmit capability information indicating whether the UE supports a CSI report using all of the first number of CSI-RS ports derived based on CSI-RS with part of the first number of CSI-RS ports received before the CSI reference resource.

8. The UE of Claim 1, wherein the CSI reference resource is determined based on a reference slot number, and wherein for periodic CSI reporting or semi-persistent CSI reporting, the at least one processor is further configured to cause the UE to transmit capability information indicating a capability level which corresponds to a value of the reference slot number.

9. The UE of Claim 1, wherein K is a predefined value, or the at least one processor is further configured to cause the UE to transmit capability information explicitly or implicitly indicating a value of K.

10. The UE of Claim 1, wherein for aperiodic CSI reporting, the at least one processor is further configured to cause the UE to perform CSI reporting further based on a first time Z or a second time Z', wherein Z includes a first additional time relative to a third

time Z_2 for no more than 32 CSI-RS ports, or Z' includes a second additional time relative to a fourth time Z_2' for no more than 32 CSI-RS ports.

11. The UE of Claim 10, wherein the at least one processor is further configured to cause the UE to transmit capability information indicating whether to support the first additional time or the second additional time.

12. The UE of Claim 10, wherein the first additional time is determined based on $k_1 Z_2$ or $k_1 Z_2'$, or the second additional time is determined based on $k_1 Z_2'$, and $0 \leq k_1 \leq 1$.

13. The UE of Claim 12, wherein the at least one processor is further configured to cause the UE to transmit capability information indicating a value of k_1.

14. The UE of Claim 10, wherein the first CSI-RS resource includes at least two second CSI-RS resources, and the first additional time or the second additional time is determined based on a maximum orthogonal frequency division multiplexing (OFDM) symbol spacing between two second CSI-RS resources of the at least two second CSI-RS resources.

15. The UE of Claim 14, wherein the first additional time or the second additional time is 14 or 28 OFDM symbols.

16. The UE of Claim 10, wherein the first CSI-RS resource includes at least two second CSI-RS resources, and wherein:

the first additional time is determined based on $k_{11} Z_2 + k_{12}$ or $k_{21} Z_2' + k_{22}$, wherein $0 \leq k_{11} \leq 1$, k_{12} is based on a maximum OFDM symbol spacing between two second CSI-RS resources of the at least two second CSI-RS resources, $0 \leq k_{21} \leq 1$, and k_{22} is based on the maximum OFDM symbol spacing between two second CSI-RS resources of the at least two second CSI-RS resources; or

the second additional time is determined based on $k_{21} Z_2' + k_{22}$.

17. A processor for wireless communication, comprising:

at least one controller coupled with at least one memory and configured to cause the processor to:

receive channel state information reference signal (CSI-RS) on a first CSI-RS resource with a first number of CSI-RS ports, wherein the first number is more than 32; and

perform CSI reporting based on the CSI-RS and a channel state information (CSI) reference resource;

wherein the CSI reference resource is determined based on a reference slot number, and wherein for periodic CSI reporting or semi-persistent CSI reporting, the reference slot number is a smallest value greater than or equal to $(4 + K) \cdot 2^{\mu_{DL}}$, wherein K is an integer lager than or equal to 0, and μ_{DL} is a subcarrier spacing configuration for downlink.

18. A base station (BS) for wireless communication, comprising:

at least one memory; and

at least one processor coupled with the at least one memory and configured to cause the BS to:

transmit channel state information reference signal (CSI-RS) on a first CSI-RS resource with a first number of CSI-RS ports, wherein the first number is more than 32; and

receive, from a user equipment (UE), a CSI report based on the CSI-RS and a channel state information (CSI) reference resource;

wherein the CSI reference resource is determined based on a reference slot number, and wherein for periodic CSI reports or semi-persistent CSI reports, the reference slot number is a smallest value greater than or equal to $(4 + K) \cdot 2^{\mu_{DL}}$, wherein K is an integer lager than or equal to 0, and μ_{DL} is a subcarrier spacing configuration for downlink.

19. A method performed by a user equipment (UE), the method comprising:

receiving channel state information reference signal (CSI-RS) on a first CSI-RS resource with a first number of CSI-RS ports, wherein the first number is more than 32; and

performing CSI reporting based on the CSI-RS and a channel state information (CSI) reference resource;

wherein the CSI reference resource is determined based on a reference slot number, and wherein for periodic CSI reporting or semi-persistent CSI reporting, the reference slot number is a smallest value greater than or equal to $(4 + K) \cdot 2^{\mu_{DL}}$, wherein K is an integer lager than or equal to 0, and μ_{DL} is a subcarrier spacing configuration for downlink.