

WHAT IS CLAIMED IS:

1. An information transmission method, performed by an access network device, comprising:

sending an availability configuration, wherein the availability configuration is configured to be used by a user equipment (UE) in a non-connected state for determining a reference signal configuration for downlink synchronization;

wherein the UE in the non-connected state comprises at least one of an idle UE or an inactive UE;

the method further comprising:

sending an effective indication in response to there being at least two availability configurations, wherein the effective indication is configured to indicate an effective availability configuration among the at least two availability configurations.

2. The method of claim 1, wherein the availability configuration comprises:

a first configuration, configured to indicate that the reference signal configuration is effective; or

a second configuration, configured to indicate that the reference signal configuration is ineffective.

3. The method of claim 2, wherein the reference signal configuration comprises one of:

a physical layer resource and a Quasi co-located (QCL) parameter; or

a physical layer resource.

4. The method of claim 2 or 3, wherein,

the availability configuration is carried by paging downlink control information (DCI); or

the availability configuration is associated with a paging early indication (PEI).

5. The method of claim 4, wherein the PEI comprises:

a PEI carried by DCI, wherein the DCI carrying the PEI carries the availability configuration; or

a sequence-based PEI signal, wherein the PEI signal is a physical layer signal, and the PEI signal is in a correspondence relation with the availability configuration.

6. The method of any one of claims 2 to 5, wherein sending the availability configuration comprises one of:

sending paging downlink control information (DCI) for indicating the first configuration;

sending paging DCI for indicating the second configuration;

sending a paging early indication (PEI) for indicating the first configuration; or

sending a PEI for indicating the second configuration.

7. The method of any one of claims 1 to 6, comprising:

determining by default that an availability configuration is effective in response to there being one availability configuration.

8. The method of any one of claims 1 to 6, wherein sending the availability configuration comprises: sending a system information block (SIB) carrying the availability configuration.

9. The method of any one of claims 1 to 6, wherein the reference signal configuration comprises at least one of:

a signal configuration for a tracking reference signal (TRS) or a signal configuration for a channel state information - reference signal (CSI-RS).

10. An information transmission method, performed by a user equipment (UE), comprising:

receiving an availability configuration; and

determining, based on the availability configuration, a reference signal configuration used by the UE in a non-connected state for downlink synchronization;

wherein the UE in the non-connected state comprises at least one of an idle UE or an inactive UE;

the method further comprising one of:

receiving an effective indication in response to there being at least two availability configurations, wherein the effective indication is configured to indicate an effective availability configuration among the at least two availability configurations.

11. The method of claim 10, wherein the availability configuration comprises: a first configuration and a second configuration; and

wherein determining, based on the availability configuration, the reference signal configuration used by the UE in the non-connected state for downlink synchronization comprises one of:

determining that the reference signal configuration is effective in response to

receiving the first configuration; or

determining that the reference signal configuration is ineffective in response to receiving the second configuration.

12. The method of claim 11, wherein the reference signal configuration comprises one of:

a physical layer resources and a Quasi co-located (QCL) parameter; or

a physical layer resource.

13. The method of claim 11 or 12, wherein receiving the availability configuration comprises at least one of:

receiving paging downlink control information (DCI) carrying the availability configuration; or

receiving a paging early indication (PEI), wherein the PEI is associated with the availability configuration.

14. The method of claim 13, wherein the PEI comprises:

a PEI carried by DCI, wherein the DCI carrying the PEI carries the availability configuration; or

a sequence-based PEI signal, wherein the PEI signal is a physical layer signal, and the PEI signal is in a correspondence relation with the availability configuration.

15. The method of any one of claims 11 to 14, wherein receiving the availability configuration comprises one of:

receiving paging downlink control information (DCI) for indicating the first configuration;

receiving paging DCI for indicating the second configuration;

receiving a paging early indication (PEI) for indicating the first configuration; or

receiving a PEI for indicating the second configuration.

16. The method of any one of claims 10 to 15, comprising:

determining by default that an availability configuration is effective in response to there being one availability configuration.

17. The method of any one of claims 10 to 15, wherein receiving the availability configuration comprises:

receiving a system information block (SIB) carrying the availability configuration.

18. The method of any one of claims 10 to 15, wherein the reference signal

configuration comprises at least one of:

a signal configuration for a tracking reference signal (TRS) or a signal configuration for a channel state information – reference signal (CSI-RS).

19. A communication device, comprising:

a processor; and

a memory storing an executable program executable by the processor, wherein the processor is configured to perform the information transmission method of any one of claims 1 to 9.

20. A communication device, comprising:

a processor; and

a memory storing an executable program executable by the processor, wherein the processor is configured to perform the information transmission method of any one of claims 10 to 18.