WHAT IS CLAIMED IS:

1. A method for reporting power headroom, performed by a user equipment (UE), comprising:

obtaining one or more physical uplink shared channels (PUSCHs) transmitted towards a plurality of transmission and reception points (TRPs);

selecting at least one reporting target TRP from the plurality of TRPs;

obtaining at least one power headroom reporting (PHR) of at least one PUSCH of the at least one reporting target TRP; and

selecting at least one target PHR from the at least one PHR and reporting the at least one target PHR;

wherein selecting the at least one reporting target TRP from the plurality of TRPs comprises:

obtaining sounding reference signal (SRS) resource set identifiers (IDs) related to the plurality of TRPs respectively; and selecting one reporting target TRP from the plurality of TRPs based on the SRS resource set IDs related to the plurality of TRPs; or

obtaining a plurality of sounding reference signal (SRS) resource indicator (SRIs) corresponding to the plurality of TRPs; and selecting one reporting target TRP from the plurality of TRPs based on a ranking list of the plurality of SRIs; or

selecting all of the plurality of TRPs as reporting target TRPs.

2. The method of claim 1, wherein each SRS resource set ID is configured to represent ranking information, and a TRP related to a largest SRS resource set ID or a smallest SRS resource set ID is selected in a pre-defined manner or in a configured manner through a signaling from a network side device, as the reporting target TRP.

3. The method of claim 1, wherein a TRP corresponding to a first SRI or a last SRI in the ranking list is determined as the reporting target TRP.

4. The method of claim 1, wherein selecting the at least one target PHR from the at least one PHR and reporting the at least one target PHR comprises:

selecting one target PHR from a plurality of PHRs corresponding to the reporting target TRPs and reporting the target PHR.

5. The method of claim 4, wherein selecting one target PHR from the plurality of

PHRs corresponding to the reporting target TRPs and reporting the target PHR comprises:

in response to at least one of the plurality of PHRs being a negative value, determining one of at least one PHR corresponding to the at least one negative value as the target PHR and reporting the target PHR.

6. The method of claim 4, wherein selecting one target PHR from the plurality of PHRs corresponding to the reporting target TRPs and reporting the target PHR comprises:

in response to values of the plurality of PHRs all being negative, determining a PHR with a largest absolute value as the target PHR and reporting the target PHR.

7. The method of claim 4, wherein selecting one target PHR from the plurality of PHRs corresponding to the reporting target TRPs and reporting the target PHR comprises:

in response to values of the plurality of PHRs all being positive, determining a PHR with a smallest absolute value as the target PHR and reporting the target PHR.

8. The method of any one of claims 4 to 7, further comprising:

reporting a sounding reference signal (SRS) resource indicator (SRI) ranking value or a SRS resource set identifier (ID) related to the TRP corresponding to the target PHR.

9. The method of any one of claims 1 to 8, wherein the PHR is obtained by:

obtaining an actual transmit power of a corresponding TRP;

obtaining a maximum transmit power; and

obtaining the PHR based on the actual transmit power and the maximum transmit power.

10. The method of any one of claims 1 to 9, further comprising:

obtaining actual PHR measurement values corresponding to the plurality of TRPs; and

reporting the actual PHR measurement values corresponding to the plurality of TRPs.

11. The method of claim 10, wherein reporting the actual PHR measurement values corresponding to the plurality of TRPs comprises:

reporting the actual PHR measurement values corresponding to the plurality of TRPs based on a pre-defined order or a ranking order based on sounding reference signal (SRS) resource set identifiers (IDs).

12. The method of claim 10, wherein reporting the actual PHR measurement values

corresponding to the plurality of TRPs comprises:

reporting at least one actual PHR measurement value corresponding to a part of the plurality of TRPs as a selected actual PHR measurement value, and reporting differences of actual PHR measurement values, corresponding to a remaining part of the plurality of TRPs, compared to the at least one actual PHR measurement value.

13. A communication device, comprising: a transceiver, a memory, and a processor connected to the transceiver and the memory respectively, wherein when computer executable instructions stored on the memory are executed by the processor, transmitting and receiving of wireless signals of the transceiver are controlled, and the method of any one of claims 1 to 12 is performed.

14. A non-transitory computer-readable storage medium having stored thereon computer-executable instructions that when are executed by a processor, cause the processor to perform the method of any one of claims 1 to 12.