## Claims

**WHAT IS CLAIMED IS:**

1. A cell measurement method based on frequency point optimization, the method comprising:

when a cell measurement condition is satisfied, if a current serving cell of a terminal device matches a serving cell in a stored measurement record, measuring cell information of a frequency point corresponding to the highest measurement priority in the measurement record, wherein the measurement record is obtained from measurement results obtained by the terminal device measuring, during last cell measurement, all frequency points in a network device according to measurement configuration information sent by the network device, and the measurement record comprises serving cells of the terminal device, and frequency points respectively corresponding to multiple measurement priorities set according to the signal strength, and the cell measurement condition comprises receiving measurement configuration information sent by a network device or detecting that a measurement cycle is satisfied;

when the cell measurement condition is satisfied and the current serving cell of the terminal device does not match a serving cell in the measurement record, if the current serving cell of the terminal device is a cell corresponding to the frequency point corresponding to the highest measurement priority in the measurement record, measuring cell information of the frequency point corresponding to the highest measurement priority in the measurement record;

when the cell measurement condition is satisfied and the current serving cell of the terminal device does not match a serving cell in the measurement record, if the current serving cell of the terminal device is a cell corresponding to a specific frequency point, measuring cell information under a frequency point corresponding to a measurement priority to which the specific frequency point belongs, wherein the specific frequency point is a frequency point corresponding to a target measurement priority in the measurement record, and the target measurement priority is not the highest measurement priority in the measurement record;

if the cell measurement condition is satisfied, but the current serving cell of the terminal device is not a cell corresponding to the frequency points corresponding to any measurement priority, measuring cell information under a frequency point indicated by the measurement configuration information to obtain a measurement result which indicates the signal strength corresponding to each frequency point, so as to perform, according to the measurement result, measurement priority division on the frequency points comprised in the measurement configuration information to obtain the frequency points corresponding to the various measurement priorities, and obtain and store a measurement record according to the frequency points corresponding to the various measurement priorities and the serving cells of the terminal device; and

if the measurement configuration information sent by the network device is received, but the measurement record is not detected, executing the step of measuring cell information of a frequency point indicated by the measurement configuration information to obtain a measurement result.

2. The method according to claim 1, further comprising:

when the cell measurement condition is receiving the measurement configuration information sent by the network device, if the current serving cell of the terminal device does not match a serving cell in the measurement record, and the current serving cell of the terminal device is not a cell corresponding to the frequency point corresponding to any measurement priority in the measurement record, executing the step of measuring cell information under a frequency point indicated by the measurement configuration information to obtain a measurement result.

3. The method according to claim 2, wherein after the measuring cell information under a frequency point indicated by the measurement configuration information to obtain a measurement result, the method further comprises:

sending a measurement report message carrying the measurement result to the network device.

4. The method according to claim 1, wherein

the signal strength comprises at least one of the following: Reference Signal Receiving Power (RSRP), Reference Signal Receiving Quality (RSRQ), Signal to Interference plus Noise Ratio (SINR), and Received Signal Strength Indicator (RSSI).

5. A terminal device, the electronic device comprising:

a processing module, configured to: when a cell measurement condition is satisfied, if a current serving cell of the terminal device matches a serving cell in a stored measurement record, measure cell information of a frequency point corresponding to the highest measurement priority in the measurement record, wherein the measurement record is obtained from measurement results obtained by the terminal device measuring, during last cell measurement, all frequency points in a network device according to measurement configuration information sent by the network device, and the measurement record comprises serving cells of the terminal device, and frequency points respectively corresponding to multiple measurement priorities set according to the signal strength, and the cell measurement condition comprises receiving measurement configuration information sent by the network device or detecting that a measurement cycle is satisfied;

the processing module, further configured to: when the cell measurement condition is satisfied and the current serving cell of the terminal device does not match a serving cell in the measurement record, if the current serving cell of the terminal device is a cell corresponding to the frequency point corresponding to the highest measurement priority in the measurement record, measure cell information of the frequency point corresponding to the highest measurement priority in the measurement record;

the above processing module, further configured to: when the cell measurement condition is satisfied and the current serving cell of the terminal device does not match a serving cell in the measurement record, if the current serving cell of the terminal device is a cell corresponding to a specific frequency point, measure cell information under a frequency point corresponding to a measurement priority to which the specific frequency point belongs, wherein the specific frequency point is a frequency point corresponding to a target measurement priority in the measurement record, and the target measurement priority is not the highest measurement priority in the measurement record;

the processing module is further configured to: if the cell measurement condition is satisfied, but the current serving cell of the terminal device is not a cell corresponding to the frequency points corresponding to any measurement priority, measure cell information under a frequency point indicated by the measurement configuration information to obtain a measurement result which indicates the signal strength corresponding to each frequency point, so as to perform, according to the measurement result, measurement priority division on the frequency points comprised in the measurement configuration information to obtain the frequency points corresponding to the various measurement priorities, and obtain and store a measurement record according to the frequency points corresponding to the various measurement priorities and the serving cells of the terminal device; and

the processing module is further configured to: if the measurement configuration information sent by the network device is received, but the measurement record is not detected, execute the step of measuring cell information of a frequency point indicated by the measurement configuration information to obtain a measurement result.

6. The terminal device according to claim 5, wherein

when the cell measurement condition is receiving the measurement configuration information sent by the network device, if the current serving cell of the terminal device does not match a serving cell in the measurement record, and the current serving cell of the terminal device is not a cell corresponding to the frequency point corresponding to any measurement priority in the measurement record, the processing module is triggered to execute the step of measuring cell information under a frequency point indicated by the measurement configuration information to obtain a measurement result.

7. A terminal device, comprising:

a memory which stores executable program codes; and

a processor is coupled to the memory,

wherein the processor invokes the executable program codes stored in the memory to implement the cell measurement method based on frequency point optimization according to any one of claims 1 to 4.

8. A computer-readable storage medium, comprising instructions which, when run on a computer, causes the computer to implement the method according to any one of claims 1 to 4.