mode, such as a photographing mode or a video mode. Each of the front camera and the rear camera may be a fixed optical lens system or have focus and optical zoom capability.

[00184] The audio component 1405 is configured to output and/or input audio signals. For example, the audio component 1405 includes a microphone (MIC) configured to receive external audio signals when the apparatus 1400 is in an operation mode, such as a call mode, a recording mode, and a voice recognition mode. The received audio signal may be further stored in the memory 1402 or transmitted via the communication component 1408. In some embodiments, the audio component 1405 further includes a speaker for outputting audio signals.

[00185] The I/O interface 1406 provides an interface between the processing component 1401 and peripheral interface modules, such as a keyboard, a click wheel, buttons, and the like. The buttons may include, but are not limited to, a home button, a volume button, a start button, and a lock button.

[00186] The sensor component 1407 includes one or more sensors to provide status assessments of various aspects of the apparatus 1400. For instance, the sensor component 1407 may detect an on/off status of the apparatus 1400, relative positioning of components, e.g., the display device and the mini keyboard of the apparatus 1400, and the sensor component 1407 may also detect a position change of the apparatus 1400 or a component of the apparatus 1400, presence or absence of user contact with the apparatus 1400, orientation or acceleration/deceleration of the apparatus 1400, and temperature change of the apparatus 1400. The sensor component 1407 may include a proximity sensor configured to detect the presence of nearby objects without any physical contact. The sensor component 1407 may also include a light sensor, such as a CMOS or CCD image sensor, used for imaging applications. In some embodiments, the sensor component 1407 may also include an accelerometer sensor, a gyroscope sensor, a magnetic sensor, a pressure sensor, or a temperature sensor.

[00187] The communication component 1408 is configured to facilitate communication, wired or wirelessly, between the apparatus 1400 and other devices. The apparatus 1400 can access a wireless network based on a communication standard, such as WiFi, 2G, or 3G, or a combination thereof. In an exemplary embodiment, the communication component 1408 receives broadcast signals or broadcast associated information from an external broadcast management system via a broadcast channel. In an exemplary embodiment, the communication component 1408 further includes a near field communication (NFC) module to facilitate short-range communications.

CLAIMS

1. A method for accessing a base station, which is applied to a multi-mode terminal and comprises:

receiving, from a plurality of base stations, working mode candidates corresponding to the plurality of base stations respectively, each of the working mode candidates being a working mode in which a corresponding base station supports a terminal accessing thereto to work, wherein the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band;

determining a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates and a plurality of working modes supported by the multi-mode terminal; and

accessing the target base station.

2. The method according to claim 1, wherein determining a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates and a plurality of working modes supported by the multi-mode terminal comprises:

determining a target working mode candidate matching one of the plurality of working modes supported by the multi-mode terminal from the working mode candidates; and

determining a target base station matching the multi-mode terminal from the plurality of base stations according to the target working mode candidate.

3. The method according to claim 2, wherein determining a target base station matching the multi-mode terminal from the plurality of base stations according to the target working mode candidate comprises:

if a number of target working mode candidates is equal to 1, determining the base station corresponding to the working mode candidate of the plurality of base stations as the target base station matching the multi-mode terminal.

4. The method according to claim 2, wherein determining a target base station matching the multi-mode terminal from the plurality of base stations according to the target working mode candidate comprises:

if a number of target working mode candidates is greater than 1, determining a target

working mode candidate matching a current service requirement of the multi-mode terminal; and

determining a base station corresponding to the target working mode candidate matching the current service requirement as a target base station matching the multi-mode terminal.

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

during an access procedure of accessing the target base station or after accessing the target base station, reporting the plurality of working modes supported by the multi-mode terminal to the target base station, such that the target base station configures a target working mode matching the multi-mode terminal on the basis of the plurality of working modes.

6. A method for accessing a base station, which is applied to a base station and comprises:

transmitting one or more working mode candidates corresponding to the base station to a multi-mode terminal, such that the multi-mode terminal determines a target base station matching the multi-mode terminal from a plurality of base stations according to a plurality of working mode candidates that are transmitted by the plurality of base stations and correspond to the plurality of base stations respectively, and a plurality of working modes supported by the multi-mode terminal,

wherein each of the plurality of working mode candidates is a working mode in which a corresponding base station supports a terminal accessing thereto to work, the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band.

7. The method according to claim 6, wherein transmitting one or more working mode candidates corresponding to the base station to the multi-mode terminal comprises:

transmitting the one or more working mode candidates corresponding to the base station to the multi-mode terminal by system information.

8. The method according to claim 6, after transmitting the one or more working mode candidates corresponding to the base station to the multi-mode terminal, further comprising:

after the multi-mode terminal determines the base station as the target base station matching the multi-mode terminal, receiving, during an access procedure of accessing the target base station or after accessing the target base station, the plurality of working modes

supported by the multi-mode terminal; and

configuring a target working mode matching the multi-mode terminal according to the plurality of working modes.

9. An apparatus for accessing a base station, which is applied to a multi-mode terminal and comprises:

a first reception module configured to receive, from a plurality of base stations, working mode candidates corresponding to the plurality of base stations respectively, each of the working mode candidates being a working mode in which a corresponding base station supports a terminal accessing thereto to work, wherein the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band;

a base station determination module configured to determine a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates and a plurality of working modes supported by the multi-mode terminal; and

an access module configured to access the target base station.

10. The apparatus according to claim 9, wherein the base station determination module comprises:

a first determination submodule configured to determine a target working mode candidate matching one of the plurality of working modes supported by the multi-mode terminal from the working mode candidates; and

a second determination submodule configured to determine a target base station matching the multi-mode terminal from the plurality of base stations according to the target working mode candidate.

11. The apparatus according to claim 10, wherein the second determination submodule comprises:

a third determination submodule configured to, if the number of the target working mode candidates is equal to 1, determining the base station corresponding to the working mode candidate of the plurality of base stations as the target base station matching the multi-mode terminal.

12. The apparatus according to claim 10, wherein the second determination submodule comprises:

a fourth determination submodule configured to, if the number of the target working mode candidates is greater than 1, determine the target working mode candidate matching a current service requirement of the multi-mode terminal; and

a fifth determination submodule configured to determine a base station corresponding to the target working mode candidate matching the current service requirement as a target base station matching the multi-mode terminal.

13. The apparatus according to claim 9, further comprising:

a reporting module configured to, during the access procedures of accessing the target base station or after accessing the target base station, reporting the plurality of working modes supported by the multi-mode terminal to the target base station, such that the target base station configures a target working mode matching the multi-mode terminal on the basis of the plurality of working modes.

14. An apparatus for accessing a base station, which is applied to a base station and comprises:

a transmission module configured to transmit working mode candidates corresponding to the base station to a multi-mode terminal, such that the multi-mode terminal determines a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates that are transmitted by a plurality of base stations and correspond to the plurality of base stations respectively and a plurality of working modes supported by the multi-mode terminal, wherein

each of the working mode candidates is a working mode in which a corresponding base station supports a terminal accessing thereto to work, the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band.

15. The apparatus according to claim 14, wherein the transmission module comprises:

a transmission submodule configured to transmit working mode candidates corresponding to the base station to the multi-mode terminal by system information.

16. The apparatus according to claim 14, further comprising:

a second reception module configured to, after the multi-mode terminal determines the base station as the target base station matching the multi-mode terminal, receiving, during the access procedures of accessing the target base station or after accessing the target base station, the plurality of working modes supported by the multi-mode terminal; and

a working mode configuration module configured to configure the target working mode matching the multi-mode terminal according to the plurality of working modes.

17. A computer readable storage medium, configured to store computer programs thereon, the computer programs being configured to perform the method for accessing a base station according to any of claims 1 to 5.

18. A computer readable storage medium, configured to store computer programs thereon, the computer programs being configured to perform the method for accessing a base station according to any of claims 6 to 8.

19. An apparatus for accessing a base station, which is applied to a multi-mode terminal and comprises:

a processor; and

a memory configured to store processor executable instructions, wherein

the processor is configured to:

receive, from a plurality of base stations, working mode candidates corresponding to the plurality of base stations respectively, each of the working mode candidates being a working mode in which a corresponding base station supports a terminal accessing thereto to work, wherein the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band;

determine a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates and a plurality of working modes supported by the multi-mode terminal; and

access the target base station.

20. An apparatus for accessing a base station, which is applied to a base station and comprises:

a processor; and

a memory configured to store processor executable instructions, wherein

the processor is configured to:

transmit working mode candidates corresponding to the base station to a multi-mode terminal, such that the multi-mode terminal determines a target base station matching the multi-mode terminal from the plurality of base stations according to the working mode candidates that are transmitted by a plurality of base stations and correspond to the plurality of base stations respectively and a plurality of working modes supported by the multi-mode terminal, wherein

each of the working mode candidates is a working mode in which a corresponding base station supports a terminal accessing thereto to work, the multi-mode terminal supports numerology of different working modes, each of the different working modes corresponding to a different carrier band.