CLAIMS

1. A wireless sensing method, wherein the method comprises:

sending, by an access point (AP) in a wireless local area network (WLAN), a beacon frame through a first antenna;

receiving, by the AP, an echo signal through a second antenna, wherein the echo signal is obtained by reflecting or scattering the beacon frame; and

performing, by the AP, environment sensing based on the received echo signal.

2. The method according to claim 1, wherein the first antenna and the second antenna are different antennas that are connected to a same baseband circuit of the AP.

3. The method according to claim 1, wherein the first antenna and the second antenna are respectively connected to different baseband circuits of the AP.

4. The method according to any one of claims 1 to 3, wherein sending, by the AP, the beacon frame through the first antenna comprises:

sending, by the AP, the beacon frame on both a primary channel and a secondary channel through the first antenna.

5. The method according to any one of claims 1 to 4, wherein performing, by the AP, environment sensing based on the received echo signal comprises:

calculating, by the AP, channel state information (CSI) based on the received echo signal;

performing, by the AP, amplitude and phase compensation on the CSI based on a preset amplitude and phase compensation relationship and an automatic gain control (AGC) level corresponding to the echo signal, wherein the amplitude and phase compensation relationship comprises amplitude compensation values and/or phase compensation values corresponding to a plurality of AGC levels; and

performing, by the AP, environment sensing based on the CSI on which the amplitude and phase compensation is performed.

6. An access point (AP) in a wireless local area network (WLAN), comprising:

a sending module, configured to send a beacon frame through a first antenna;

a receiving module, configured to receive an echo signal through a second antenna, wherein the echo signal is obtained by reflecting or scattering the beacon frame; and

a processing module, configured to perform environment sensing based on the received echo signal.

7. The AP according to claim 6, wherein the first antenna and the second antenna are different antennas that are connected to a same baseband circuit of the AP.

8. The AP according to claim 6, wherein the first antenna and the second antenna are

respectively connected to different baseband circuits of the AP.

9. The AP according to any one of claims 6 to 8, wherein the sending module is configured to:

send the beacon frame on both a primary channel and a secondary channel through the first antenna.

10. The AP according to any one of claims 6 to 9, wherein the processing module is configured to:

calculate channel state information (CSI) based on the received echo signal;

perform amplitude and phase compensation on the CSI based on a preset amplitude and phase compensation relationship and an automatic gain control (AGC) level corresponding to the echo signal, wherein the amplitude and phase compensation relationship comprises amplitude compensation values and/or phase compensation values corresponding to a plurality of AGC levels; and

perform environment sensing based on the CSI on which the amplitude and phase compensation is performed.

11. An access point (AP) in a wireless local area network (WLAN), comprising: a processor, a memory, a transceiver, and a plurality of antennas, wherein

the transceiver is configured to send a beacon frame through a first antenna in the plurality of antennas;

the transceiver is further configured to receive an echo signal through a second antenna in the plurality of antennas, wherein the echo signal is obtained by reflecting or scattering the beacon frame; and

the processor is configured to invoke a computer program stored in the memory, to perform environment sensing based on the received echo signal.

12. The AP according to claim 11, wherein the first antenna and the second antenna are different antennas that are connected to a same baseband circuit of the AP.

13. The AP according to claim 11, wherein the first antenna and the second antenna are respectively connected to different baseband circuits of the AP.

14. The AP according to any one of claims 11 to 13, wherein the transceiver is configured to:

send the beacon frame on both a primary channel and a secondary channel through the first antenna.

15. The AP according to any one of claims 11 to 14, wherein the processor is configured to:

calculate channel state information (CSI) based on the received echo signal;

perform amplitude and phase compensation on the CSI based on a preset amplitude and phase compensation relationship and automatic gain control (AGC) level corresponding to the echo

signal, wherein the amplitude and phase compensation relationship comprises amplitude compensation values and/or phase compensation values corresponding to a plurality of AGC levels; and

perform environment sensing based on the CSI on which the amplitude and phase compensation is performed.