What is claimed is:

1. An automatic gain control method, applied to a microcontroller unit in an automatic gain control system, wherein the automatic gain control system comprises a peak detection device, the automatic gain control method comprises:

after configuring and initializing the peak detection device in an optical module, and inserting the optical module into a target port of a network device, obtaining a peak value of the peak detection device at a preset frequency, wherein the peak value at the preset frequency comprises peak values at two frequencies;

calculating an insertion loss value based on the peak value at the preset frequency;

calculating an automatic gain control target value for the target port based on the insertion loss value; and

adjusting a gain of a linear driver with a goal of matching the automatic gain control target value.

2. The automatic gain control method according to claim 1, wherein the peak detection device comprises a first peak detection unit and a second peak detection unit, and the step of after configuring and initializing the peak detection device in an optical module, and inserting the optical module into a target port of a network device, obtaining a peak value of the peak detection device at a preset frequency comprises:

after configuring and initializing the peak detection device in the optical module, and inserting the optical module into the target port of the network device, obtaining a first peak value by the first peak detection unit detecting a low-frequency signal, and obtaining a second peak value by the second peak detection unit detecting a high-frequency signal.

3. The automatic gain control method according to claim 2, wherein a cutoff frequency of the first peak detection unit is 1 GHz, and the step of obtaining a first peak value by the first peak detection unit detecting a low-frequency signal comprises:

obtaining the first peak value by detecting a low-frequency signal of 1 GHz through the first peak detection unit.

4. The automatic gain control method according to claim 2, wherein a center frequency of the second peak detection unit is 20 GHz, and the step of obtaining a second peak value by the second peak detection unit detecting a high-frequency signal comprises:

obtaining the second peak value by detecting a high-frequency signal of 20 GHz through the second peak detection unit.

5. The automatic gain control method according to claim 1, wherein the step of calculating an insertion loss value based on the peak value at the preset frequency comprises:

determining a normalized difference between the peak values at the two frequencies; and

determining the insertion loss value based on the normalized difference.

6. The automatic gain control method according to claim 5, wherein the step of determining a normalized difference between the peak values at the two frequencies comprised in the peak value at the preset frequency comprises:

determining a difference value between the peak values at the two frequencies comprised in the peak value at the preset frequency; and

determining a ratio of the difference value to the peak value at a higher frequency among the two frequencies comprised in the peak value at the preset frequency, so as to obtain the normalized difference between the peak values at the two frequencies.

7. The automatic gain control method according to claim 1, wherein the step of calculating an automatic gain control target value for the target port based on the insertion loss value comprises:

obtaining a predetermined automatic gain control reference value; and

determining the automatic gain control target value of the target port based on the automatic gain control reference value and the insertion loss value.

8. The automatic gain control method according to claim 7, wherein the step of determining the automatic gain control target value of the target port based on the automatic gain control reference value and the insertion loss value comprises:

determining a target parameter based on a predetermined first adjustment coefficient, a predetermined second adjustment coefficient, and the insertion loss value, wherein the first adjustment coefficient and the second adjustment coefficient are used respectively as a weighting factor and a bias factor of the insertion loss value to calculate the target parameter; and

determining the automatic gain control target value of the target port based on the automatic gain control reference value and the target parameter, wherein the target parameter serves as a weighting factor of the automatic gain control reference value to calculate the automatic gain control target value.

9. The automatic gain control method according to claim 1, wherein the step of adjusting a gain of a linear driver with a goal of matching the automatic gain control target value comprises:

adjusting the gain of the linear driver based on the automatic gain control target value;

obtaining a new peak value of the peak detection device at the preset frequency;

calculating a new insertion loss value according to the new peak value at the preset frequency; and

determining whether the gain adjustment of the linear driver is completed based on the new insertion loss value.

10. A microcontroller unit, configured to execute the automatic gain control method according to claim 1.

11. An automatic gain control system, comprising a microcontroller unit and a peak detection device, wherein the peak detection device is configured to detect peak values of a target port at two frequencies, and the microcontroller unit is configured to execute the automatic gain control method according to claim 1 based on the peak values at the two frequencies.

12. The automatic gain control system according to claim 11, wherein the peak detection device comprises a photoelectric converter, a first peak detection unit, and a second peak detection unit;

input terminals of the first peak detection unit and the second peak detection unit are respectively electrically connected to output terminals of the photoelectric converter,

the first peak detection unit is configured to detect a low-frequency signal in an electrical signal output by the photoelectric converter converting an optical signal of the target port, so as to obtain a first peak, and

the second peak detection unit is configured to detect a high-frequency signal in the electrical signal output by the photoelectric converter converting the optical signal of the target port, so as to obtain a second peak.

13. The automatic gain control system according to claim 11, wherein the first peak detection unit comprises a low-pass filter and a first detection chip; and

the low-pass filter is configured to allow a low-frequency signal to pass, and the first detection chip is configured to detect a peak value of the low-frequency signal.

14. The automatic gain control system according to claim 12, wherein the second peak detection unit comprises a band-pass filter and a second detection chip; and

the band-pass filter is configured to allow a high-frequency signal to pass, and the second detection chip is configured to detect a peak value of the high-frequency signal.