Digital watermarking is a technique used to provide a proof of intellectual ownership by embedding a secret information, known as a watermark, into multimedia data. In this paper, we propose a digital watermarking technique based on Gaussian pixel-weighting marks and amplitude modulation, and its retrieval method based on mean filter. The watermarking scheme employs a technique of modifying the pixel's amplitude, which is applied to each channel of RGB color components of image. The proposed scheme utilizes a technique of weighting marks by averaging the luminance of its own pixel and its neighboring pixels in watermark embedding process. Experimental results showed that the improved performances were obtained when applying the Gaussian pixel-weighting marks technique, compared to other techniques, namely equal gain and no pixel-weighting marks techniques. The efficiency was further improved by utilizing the average value of mean filter in the retrieval process to determine the embedded watermark bit. The results were compared and illustrated by the improved PSNR and retrieval percentage.