
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**POST-EFFECTIVE AMENDMENT NO. 2
TO
FORM S-1
REGISTRATION STATEMENT**
*Under
The Securities Act of 1933*

AMPRIUS TECHNOLOGIES, INC.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3690
(Primary Standard Industrial
Classification Code Number)

98-1591811
(I.R.S. Employer
Identification Number)

**1180 Page Avenue
Fremont, California 94538
(800) 425-8803**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

**Dr. Kang Sun
Chief Executive Officer
Amprius Technologies, Inc.
1180 Page Avenue
Fremont, California 94538
(800) 425-8803**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Michael J. Danaher
Mark B. Baudler
Austin D. March
Wilson Sonsini Goodrich & Rosati, P.C.
650 Page Mill Road
Palo Alto, CA 94304
(650) 493-9300**

Approximate date of commencement of proposed sale to the public: Not applicable.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

DEREGISTRATION OF SECURITIES

This Post-Effective Amendment No. 2 is filed with the Securities and Exchange Commission (the “Commission”) by Amprius Technologies, Inc. (the “Registrant”) in respect of the Registrant’s registration statement initially filed with the Commission on Form S-1 (File No. 333-267691) on September 30, 2022, as amended on October 25, 2022, November 16, 2022 and December 27, 2022, and declared effective by the Commission on December 27, 2022, as further amended by the Post-Effective Amendment No. 1 filed with the Commission on April 5, 2023 and declared effective on April 7, 2023 (the “Registration Statement”).

At the time the Post-Effective Amendment No. 1 was declared effective, the Registration Statement registered the offer and resale of up to 16,409,222 shares of the Registrant’s common stock by B. Riley Principal Capital II, LLC (“BRPC II”), pursuant to a common stock purchase agreement, dated as of September 27, 2022, between the Registrant and BRPC II (the “Purchase Agreement”). On October 2, 2023, the Registrant and BRPC II mutually agreed to terminate the Purchase Agreement.

In accordance with an undertaking made by the Company in the Registration Statement to remove by means of a post-effective amendment any of the securities registered that remain unsold at the termination of the offering, this Post-Effective Amendment No. 2 is being filed to terminate the effectiveness of the Registration Statement and to remove from registration the 13,787,810 shares of the Registrant’s common stock that were registered but not sold under the Registration Statement.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Fremont, California, on October 27, 2023.

AMPRIUS TECHNOLOGIES, INC.

By: /s/ Sandra Wallach

Name: Sandra Wallach

Title: Chief Financial Officer