UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934 (Amendment No.)*

Rigetti Computing, Inc.

(Name of Issuer)

Common Stock (Title of Class of Securities) Par value \$0.0001 per share

> 76655K103 (CUSIP Number)

Michael Clifton Supernova Partners II LLC 4301 50th Street NW Suite 300 PMB 1044 Washington, DC 20016 (202) 918-7050 (Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

March 2, 2022 (Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), Rule 13d-1(f) or Rule 13d-1(g), check the following box. \Box

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7(b) for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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CUSII	P NO. /0055K1	.05	13D	Page 1 of 8 page
1	Names of R	eporti	ng Persons	
	Supernova P	artner	rs II LLC	
2	Check the A		riate Box if a Member of a Group	
3	SEC Use Or	ly		
4	Source of Fu			
	00			
5	Check if dis	closur	e of legal proceedings is required pursuant to Items 2(d) or 2(e)	
6		or Pla	ce of Organization	
Ū	Childrenomp	51 1 100		
	Cayman Isla	nds		
		7	Sole Voting Power	
Ν	UMBER OF		12,868,000	
	SHARES	8	Shared Voting Power	
	NEFICIALLY	Ũ		
C	WNED BY EACH		0	
R	EPORTING	9	Sole Dispositive Power	
	PERSON		12,868,000	
	WITH	10	Shared Dispositive Power	
			r	
			0	
11	Aggregate A	moun	t Beneficially Owned by Each Reporting Person	
	12,868,000			
12				
		30-	egate Amount in Row (11) Excludes Certain Shares	
13	Percent of C	lass R	tepresented by Amount in Row (11)	
	10.9%			
14	Type of Rep			
	OO(I) imitor	l I inh	ility Company)	
		ı LidÜ	inty Company)	

Item 1. Security and Issuer.

This statement on Schedule 13D (the "Schedule 13D") relates to the common stock, par value \$0.0001 per share (the "Common Stock"), of Rigetti Computing, Inc., a Delaware corporation (the "Issuer") whose principal executive offices are located at 775 Heinz Avenue, Berkeley, California 94710.

Prior to the Business Combination (as defined below), the Issuer was known as Supernova Partners Acquisition Company II, Ltd. ("Supernova Co. II").

Item 2. Identity and Background.

The Schedule 13D is being filed by Supernova Partners II LLC (the "Reporting Person").

The Reporting Person is organized under the laws of the Cayman Islands. The address of the Reporting Person is 4301 50th Street NW, Suite 300 PMB 1044, Washington, DC 20016. The principal business of the Reporting Person is investing in securities, including securities of the Issuer.

Information with respect to the directors and officers of the Reporting Person (the "Related Persons"), including the name, business address, present principal occupation or employment and citizenship of each of the Related Persons is listed on the attached Schedule A, which is incorporated herein by reference.

During the last five years, none of the Reporting Person or Related Persons (i) has been convicted in any criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) was a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item 3. Source and Amount of Funds or Other Consideration.

Item 4 below summarizes certain provisions of the Merger Agreement (as defined below) that pertain to the securities acquired by the Reporting Person. In connection with the closing of the Business Combination (as defined below), the Reporting Person's existing securities in Supernova Co. II were converted into securities of the Issuer.

Item 4. Purpose of Transaction.

Domestication and Business Combination

On March 1, 2022, pursuant to the amended Agreement and Plan of Merger (as amended, the "Merger Agreement"), dated as of January 10, 2022, by and among Supernova Co. II, Supernova Merger Sub, Inc. ("First Merger Sub"), Romeo Supernova Merger Sub, LLC ("Second Merger Sub"), and Rigetti Holdings, Inc. ("Rigetti"), Supernova Co. II de-registered as an exempted company in the Cayman Islands, domesticated as a corporation in the State of

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Delaware and changed its name to "Rigetti Computing, Inc." (the "Domestication"). In connection with the Domestication, (i) each issued and outstanding Class A ordinary share, par value \$0.0001 per share (the "Class A ordinary shares"), and each issued and outstanding Class B ordinary share, par value \$0.0001 per share (the "Class B ordinary shares"), of Supernova Co. II was converted into one share of Common Stock of the Issuer; (ii) each issued and outstanding whole warrant to purchase Class A ordinary shares of Supernova Co. II automatically represented the right to purchase one share of Common Stock at an exercise price of \$11.50 per share on the same terms and conditions set forth during issuance; (iii) each issued and outstanding Supernova Co. II preference share continued to exist as a share of preferred stock of Legacy Rigetti; (iv) the governing documents of Supernova Co. II were amended and restated and became the certificate of incorporation and the bylaws of the Issuer; and (v) Supernova Co. II's name changed to "Rigetti Computing, Inc." As a result of the Domestication, the Reporting Person acquired 8,418,000 shares of Common Stock and warrants to purchase 4,450,000 shares of Common Stock from the Issuer.

On March 2, 2022 (the "Closing Date"), pursuant to the Merger Agreement, First Merger Sub merged with and into Legacy Rigetti, with Legacy Rigetti surviving such merger as a wholly owned subsidiary of the Issuer (the "First Merger"). Immediately following the First Merger and as part of the same overall transaction as the First Merger, Legacy Rigetti will merge with and into Second Merger Sub, with Second Merger Sub surviving such merger as a wholly owned subsidiary of the Issuer (the "Second Merger" and together with the First Merger, the "Business Combination").

Registration Rights Agreement

Concurrently with the consummation of the Business Combination, on the Closing Date, the Issuer, the Reporting Person, and certain former stockholders, directors and officers of Legacy Rigetti entered into the Amended and Restated Registration Rights Agreement (the "Registration Rights Agreement"), pursuant to which the Issuer agreed to register for resale, pursuant to Rule 415 under the Securities Act of 1933, as amended, certain shares of Common Stock and other equity securities of the Issuer that are held by the parties thereto from time to time, subject to the restrictions on transfer therein.

Sponsor Support Agreement

In connection with the execution of the Merger Agreement, the Reporting Person entered into a sponsor support agreement (the "*Sponsor Support Agreement*") with the Issuer. Pursuant to the Sponsor Support Agreement, the Reporting Person agreed that (i) 2,479,000 shares of Common Stock held by the Reporting Person will be unvested and subject to forfeiture as of the Closing Date and will only vest if, during the five year period following the Closing Date, the volume weighted average price of Issuer's Common Stock held by the Reporting Person will only vest if, during the five year period of thirty consecutive trading days, and (ii) 580,273 shares of Common Stock held by the Reporting Person will only vest if, during the five year period following the Closing Date, the volume weighted average price of Issuer's Common Stock held by the Reporting Person will only vest if, during the five year period following the Closing Date, the volume weighted average price of Issuer's Common Stock held by the Reporting Person will only vest if, during the five year period following the Closing Date, the volume weighted average price of Issuer's Common Stock equals or exceeds \$15.00 for any twenty trading days within a period of thirty consecutive trading days. Any shares of Common Stock held by the Reporting Person that remain unvested after the fifth anniversary of the Closing Date will be forfeited.

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The foregoing descriptions of the Registration Rights Agreement and the Sponsor Support Agreement do not purport to be complete and are qualified in their entirety by the full text of such agreements, each of which is attached as an exhibit to this Schedule 13D and incorporated herein by reference.

General

The Reporting Person acquired the securities described in this Schedule 13D for investment purposes and intends to review its investments in the Issuer on a continuing basis. Any actions the Reporting Person might undertake may be made at any time and from time to time without prior notice and will be dependent upon the Reporting Person's review of numerous factors, including, but not limited to: an ongoing evaluation of the Issuer's business, financial condition, operations and prospects; price levels of the Issuer's securities; general market, industry and economic conditions; the relative attractiveness of alternative business and investment opportunities; and other future developments.

Subject to the terms of the Sponsor Support Agreement, the Reporting Person may acquire additional securities of the Issuer, or retain or sell all or a portion of the securities then held, in the open market or in privately negotiated transactions. In addition, the Reporting Person may engage in discussions with management, the board of directors, and security holders of the Issuer and other relevant parties or encourage, cause or seek to cause the Issuer or such persons to consider or explore extraordinary corporate transactions, such as: a merger, reorganization or other transaction that could result in the de-listing or de-registration of the Common Stock; sales or acquisitions of assets or businesses; changes to the capitalization or distribution policy of the Issuer; or other material changes to the Issuer's business or corporate structure, including changes in management or the composition of the board of directors. There can be no assurance, however, that the Reporting Person will propose such a transaction, that any proposed transaction would receive the requisite approvals from the respective governing bodies and stockholders, as applicable, or that any such transaction would be successfully implemented.

Other than as described above, the Reporting Person does not currently have any plans or proposals that relate to, or would result in, any of the matters listed in Items 4(a)–(j) of Schedule 13D, although, depending on the factors discussed herein, the Reporting Person may change its purpose or formulate different plans or proposals with respect thereto at any time.

Item 5. Interest in Securities of the Issuer.

(a) - (b)

The following sets forth, as of the date of this Schedule 13D, the aggregate number of shares of Common Stock and percentage of Common Stock beneficially owned by the Reporting Person, as well as the number of shares of Common Stock as to which the Reporting Person has the sole power to vote or to direct the vote, shared power to vote or to direct the vote, sole power to dispose or to direct the disposition of, or shared power to dispose or to direct the disposition of, based on 113,810,285 shares of Common Stock outstanding following consummation of the Business Combination:

			Sole	Snared	Sole power	Snared
			power to	power to	to dispose	power to
	Amount		vote or to	vote or to	or to direct	dispose or to
	beneficially	Percent	direct the	direct	the	direct the
Reporting Person	owned	of class	vote	the vote	disposition	disposition
Supernova Partners II LLC	12,868,000	10.9%	12,868,000	0	12,868,000	0

The Reporting Person is the beneficial owner of 12,868,000 shares of Common Stock, including (i) 8,418,000 shares of Common Stock held of record and (ii) 4,450,000 shares of Common Stock underlying warrants held of record that may be exercised within 60 days of the date of this Schedule 13D.

(c) Except as described in Item 3 and Item 4, during the past 60 days, neither the Reporting Person nor any of the Related Persons has effected any transactions in the Common Stock.

(d) None.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

Item 4 above summarizes certain provisions of the Registration Rights Agreement and the Sponsor Support Agreement and is incorporated herein by reference. A copy of each of these agreements is attached as an exhibit to this Schedule 13D, and each is incorporated herein by reference.

Except as set forth herein, none of the Reporting Persons or Related Persons has any contracts, arrangements, understandings or relationships (legal or otherwise) with any person with respect to any securities of the Issuer, including but not limited to any contracts, arrangements, understandings or relationships concerning the transfer or voting of such securities, finder's fees, joint ventures, loan or option arrangements, puts or calls, guarantees of profits, division of profits or losses, or the giving or withholding of proxies.

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Item 7. Materials to be Filed as Exhibits

Exhibit Number	Description
1	Amended and Restated Registration Rights Agreement, dated March 2, 2022, by and among the Issuer, Supernova Partners II LLC
	and certain former stockholders of Rigetti Holdings, Inc. (incorporated by reference to Exhibit 10.1 of the Issuer's Form 8-K filed with
	the Securities and Exchange Commission on March 7, 2022)
2	Sponsor Support Agreement, dated as of October 6, 2021, by and among Supernova Partners Acquisition Company II, Ltd., Rigetti
	Holdings, Inc., Supernova Partners II LLC and certain other parties thereto (incorporated by reference to Exhibit 10.3 of the Issuer's

Form 8-K filed with the Securities and Exchange Commission on October 6, 2021)

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SIGNATURES

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: March 14, 2022

SUPERNOVA PARTNERS II LLC

By:/s/ Michael CliftonName:Michael CliftonTitle:Manager

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SCHEDULE A

The name, present principal occupation or employment, business address and citizenship of each of the executive officers and directors of Supernova Partners II LLC are set forth below.

Supernova Partners II LLC

Name	Present Principal Occupation or Employment	Business Address	Citizenship
Spencer M. Rascoff	Manager	Maples Corporate Services Limited, PO	USA
		Box 309, Ugland House, Grand Cayman,	
		KY1-1104, Cayman Islands.	
Robert D. Reid	Manager	Maples Corporate Services Limited, PO	USA
		Box 309, Ugland House, Grand Cayman,	
		KY1-1104, Cayman Islands.	
Alexander M. Klabin	Manager	Maples Corporate Services Limited, PO	USA
		Box 309, Ugland House, Grand Cayman,	
		KY1-1104, Cayman Islands.	
Michael S. Clifton	Manager	Maples Corporate Services Limited, PO	USA
		Box 309, Ugland House, Grand Cayman,	
		KY1-1104, Cayman Islands.	