Filed by Supernova Partners Acquisition Company II, Ltd.
pursuant to Rule 425 under the Securities Act of 1933
and deemed filed pursuant to Rule 14a-12
under the Securities Exchange Act of 1934
Subject Company: Supernova Partners Acquisition Company II, Ltd.
Commission File No. 001-40140
Date: December 20, 2021

Rigetti Provides Business Update and Nine-Month 2021 Financial Highlights

BERKELEY, Calif., Dec. 20, 2021 (GLOBE NEWSWIRE) – Rigetti Computing ("Rigetti" or the "Company"), a pioneer and leader in hybrid quantum-classical computing, today announced business highlights for the year to date and financial highlights for the nine months ended October 31, 2021. These highlights include approximately \$6.9 million in revenue for the nine months ended October 31, 2021, and the availability of the world's first scalable multi-chip quantum processor.

Rigetti, currently a privately held company, announced in October 2021 that it had entered into an agreement and plan of merger with Supernova Partners Acquisition Company II (NYSE: SNII) ("Supernova"), a publicly traded special purpose acquisition company. The proposed transaction is subject to the approval of Supernova stockholders and other closing conditions. Following consummation of the proposed transaction, the surviving combined company will be named Rigetti Computing, Inc.

GAAP Financial Highlights for Nine Months Ended October 31, 2021*

- Revenue increased by 68% to \$6.9 million for the nine-months ended October 31, 2021, from \$4.1 million for the same period in 2020. The increase in revenue was primarily driven by new customer relationships and the expansion of existing development contracts.
- Total operating expenses increased by 7%, to \$32.0 million for the nine months ended October 31, 2021, from \$29.8 million in same period in 2020.
- R&D expenses increased by 14%, to \$21.2 million for the nine months ended October 31, 2021, from \$18.6 million for the same period in 2020, representing 66% of total operating expenses for the nine months ended October 31, 2021 and underscoring the Company's commitment to advancing its technology and product roadmap.
- Net operating loss declined 3% to (\$26.2) million for the nine months ended October 31, 2021, from (\$26.9) million in the same period in 2020.

"We believe the time for quantum computing has arrived," said Chad Rigetti, founder and Chief Executive Officer of Rigetti. "Customer demand is increasing as Rigetti quantum computers begin to address high-impact computational problems.

"Consistent with our mission to build the world's most powerful computers to help solve humanity's most important and pressing problems, Rigetti achieved many critical milestones in 2021. We introduced the 80-qubit Aspen-M system, the world's first multi-chip quantum processor, expanded our customer and partner footprint, and delivered substantial year-over-year revenue growth," continued Rigetti. "We look forward to continued momentum as we expect customers to leverage the increasing speed and scale of Rigetti hardware and quantum solutions in their pursuits to solve important problems that lie beyond the capabilities of today's classical computers."

Rigetti is fully vertically integrated, from chip design and production to cloud delivery. Rigetti's primary business model is Quantum Computing as a Service ("QCaaS"). In 2021, Rigetti introduced the world's first scalable multi-chip quantum processor, which Rigetti believes is a key advancement in quantum processor scalability. Industry researchers estimate fully fault tolerant quantum computers could ultimately produce up to \$850 billion in annual value creation for end-users and technology companies. Rigetti believes its scalable chip technology has the potential to help unlock this transformative opportunity going forward.

Business Highlights in 2021 YTD

Technology Developments

World's First Scalable Multi-chip Quantum Processor

Rigetti launched the world's first multi-chip quantum processor in June 2021. The processor incorporates a proprietary modular
architecture that accelerates the path to commercialization and solves key scaling challenges toward fault-tolerant quantum
computers.

40-Qubit System

• Rigetti made its next generation 40-qubit system, featuring 2.5x speedups in quantum processing time, available on Rigetti Quantum Cloud Services, Amazon Braket and Strangeworks Ecosystem in December 2021.

80-Qubit System

 Rigetti made Aspen-M, its 80-qubit system powered by its proprietary multi-chip technology, available to customers in private beta on its Quantum Cloud Services platform in December 2021.

Industry Collaboration Developments

Inclusion in Microsoft's Azure Quantum Service

Rigetti announced in December 2021 it is collaborating with Microsoft to provide Rigetti quantum computers over the cloud to users
of Microsoft's Azure Quantum service. When the Rigetti system becomes available, it is expected to be the largest quantum
computer accessible on Azure Quantum. The two companies expect the integration to be completed and available to users of the
service in the first quarter of 2022.

Collaboration with Deloitte and Strangeworks

 Rigetti detailed its plans to collaborate with Deloitte and Strangeworks to explore quantum applications in material simulation, optimization, and machine learning in a December 2021 announcement.

Customer and Quantum-Application Developments

Predictive Weather Modeling with Quantum Machine Learning

 Rigetti developed an effective solution to a weather modeling problem using quantum computers and published the results in November 2021. Building on existing machine learning workflows, Rigetti applied a combination of classical quantum machine learning techniques to produce high-quality synthetic weather radar data and improve classical models for storm prediction. The work was performed on Rigetti's 32-qubit system, demonstrating that practical applications are within reach for near-term quantum hardware.

Fusion Energy via Quantum Computing for Department of Energy

Rigetti announced in November 2021 it was selected to lead a quantum simulation project for fusion energy awarded by the
Department of Energy. Rigetti is collaborating with Lawrence Livermore National Laboratory and the University of Southern
California on the three-year, \$3.1 million project that is designed to simulate plasma dynamics on Rigetti's cloud-based quantum
computers.

Drug Discovery with Quantum Computing via Partnerships with Riverlane and Astex Pharmaceuticals

Rigetti UK Limited, a wholly owned subsidiary of Rigetti, announced in July 2021 that it is partnering with Riverlane and Astex
Pharmaceuticals to develop an integrated application for simulating molecular systems using Rigetti Quantum Cloud Services. This
cooperation paves the way for new commercial applications of Rigetti's quantum computing solutions, with the potential to
transform drug discovery in pharmaceutical R&D.

Talent Developments

Key Hires Bolster Rigetti's Talent

- Rigetti appointed Brian Sereda to the position of Chief Financial Officer of the Company in August 2021. Sereda has more than 25 years of senior level financial experience, most recently serving as Chief Financial Officer at Energous Corporation (NASDAQ: WATT) where he led the raise of significant working capital and oversaw finance, legal, investor relations, human resources and IT.
- Rigetti appointed Jackie Kaweck to the position of Senior Vice President, Human Resources, in July 2021. Kaweck brings more than 20 years of experience in human resources and executive leadership to the role, most recently as SVP, People at Vivid Seats.
- Rigetti appointed David Pappas to the position of Senior Principal Scientist in September 2021. Pappas joined the Company after 25 years at the National Institute of Standards and Technology, where he most recently led the Quantum Processing Group. Rigetti also added Josh Mutus, former Google quantum research scientist, to its hardware development team as Director, Quantum Materials in April 2021.
- * The Company changed its fiscal year end from January 31 to December 31, effective December 31, 2021, and will first reflect the change in fiscal years for interim and annual filings for fiscal years beginning January 1, 2022.

About Rigetti Computing

Rigetti Computing is a pioneer in full-stack quantum computing. The company has operated quantum computers over the cloud since 2017 and serves global enterprise, government and research clients through its Rigetti Quantum Cloud Services platform. The proprietary quantum-classical infrastructure provides ultra-low latency integration with public and private clouds for high-performance practical quantum computing. Rigetti has developed the industry's first multi-chip quantum processor for scalable quantum computing systems. The Company designs and manufactures its chips in-house at Fab-1, the industry's first dedicated and integrated quantum device manufacturing facility. Rigetti was founded in 2013 by Chad Rigetti and today employs more than 140 people with offices in the United States, U.K. and Australia. Learn more at www.rigetti.com.

About Supernova Partners Acquisition Company II

Supernova II is led by Michael Clifton, who was most recently a technology investor at The Carlyle Group; Robert Reid, a long-time senior partner at Blackstone; Spencer Rascoff, a serial entrepreneur who co-founded Hotwire, Zillow, dot.LA and Pacaso and who led Zillow as CEO for nearly a decade; and Alexander Klabin, founder and CEO of Ancient and former managing partner, co-CIO and co-founder of Senator Investment Group.

Additional Information and Where to Find It

Supernova Partners Acquisition Company II ("Supernova") has filed a registration statement on Form S-4 with the Securities Exchange Commission (the "SEC"), which includes a proxy statement/prospectus, that will be both the proxy statement to be distributed to holders of Supernova's common shares in connection with its solicitation of proxies for the vote by Supernova's shareholders with respect to the proposed business combination and other matters as may be described in the registration statement, as well as the prospectus relating to the offer and sale of the securities to be issued in the business combination. After the registration statement is declared effective, Supernova will mail a definitive proxy statement/prospectus and other relevant documents to its shareholders. This communication does not contain all the information that should be considered concerning the proposed business combination and is not intended to form the basis of any investment decision or any other decision in respect of the business combination. Supernova's shareholders and other interested persons are advised to read, when available, the preliminary proxy statement/prospectus included in the registration statement and the amendments thereto and the definitive proxy statement/prospectus and other documents filed in connection with the proposed business combination, as these materials will contain important information about Rigetti Holdings, Inc. ("Rigetti"), Supernova and the business combination. When available, the definitive proxy statement/prospectus and other relevant materials for the proposed business combination will be mailed to shareholders of Supernova as of a record date to be established for voting on the proposed business combination. Shareholders will also be able to obtain copies of the preliminary proxy statement, the definitive proxy statement and other documents filed with the SEC, without charge, once available, at the SEC's website at www.sec.gov, or by directing a request to Supernova's secretary at 4301 50th

Participants in the Solicitation

Supernova and its directors and executive officers may be deemed participants in the solicitation of proxies from Supernova's shareholders with respect to the proposed business combination. A list of the names of those directors and executive officers and a description of their interests in Supernova is contained in Supernova's prospectus dated March 3, 2021 relating to its initial public offering, which was filed with the SEC and is available free of charge at the SEC's website at www.sec.gov. To the extent such holdings of Supernova's securities may have changed since that time, such changes have been or will be reflected on Statements of Change in Ownership on Form 4 filed with the SEC. Additional information regarding the interests of such participants will be contained in the proxy statement/prospectus for the proposed business combination when available.

Rigetti and its directors and executive officers may also be deemed to be participants in the solicitation of proxies from the shareholders of Supernova in connection with the proposed business combination. A list of the names of such directors and executive officers and information regarding their interests in the proposed business combination will be included in the proxy statement/prospectus for the proposed business combination when available.

No Offer or Solicitation

This communication does not constitute (i) a solicitation of a proxy, consent or authorization with respect to any securities or in respect of the proposed business combination or (ii) an offer to sell, a solicitation of an offer to buy, or a recommendation to purchase any security of Supernova, Rigetti, or any of their respective affiliates.

Forward-Looking Statements

Certain statements in this communication may be considered forward-looking statements. Forward-looking statements generally relate to future events and can be identified by terminology such as "pro forma", "may", "should", "could", "might", "plan", "possible", "project", "strive", "budget", "forecast", "expect", "intend", "will", "estimate", "anticipate", "believe", "predict", "potential" or "continue", or the negatives of these terms or variations of them or similar terminology. Such forward-looking statements are subject to risks, uncertainties, and other factors which could cause actual results to differ materially from those expressed or implied by such forward looking statements. These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by Supernova and its management, and Rigetti and its management, as the case may be, are inherently uncertain. Factors that may cause actual results to differ materially from current expectations include, but are not limited to: the outcome of any legal proceedings that may be instituted against Supernova, Rigetti, the combined company or others following the announcement of the business combination and any definitive agreements with respect thereto; the inability to complete the proposed business combination due to the failure to obtain approval of the shareholders of Supernova or to satisfy other conditions to closing; changes to the proposed structure of the business combination that may be required or appropriate as a result of applicable laws or regulations or as a condition to obtaining regulatory approval of the business combination; the ability to meet stock exchange listing standards following the consummation of the business combination; the risk that the proposed business combination disrupts current plans and operations of Rigetti as a result of the announcement and consummation of the business combination; the ability to recognize the anticipated benefits of the business combination, which may be affected by, among other things, competition, the ability of the combined company to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employees; costs related to the business combination; changes in applicable laws or regulations; the possibility that Rigetti or the combined company may be adversely affected by other economic, business, or competitive factors; Rigetti's estimates of expenses

and profitability; the evolution of the markets in which Rigetti competes; the ability of Rigetti to execute on its technology roadmap; the ability of Rigetti to implement its strategic initiatives, expansion plans and continue to innovate its existing services; the impact of the COVID-19 pandemic on Rigetti's business; and other risks and uncertainties set forth in the section entitled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" in the registration on Form S-4 and proxy statement/prospectus discussed above and other documents filed with Supernova from time to time with the SEC.

Nothing in this communication should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. Neither Supernova nor Rigetti undertakes any duty to update these forward-looking statements.

Media Relations Contacts

Lauren Rugani press@rigetti.com

Investor Relations Contacts

Polly Pearson RGTI@investorrelations.com