

**UNITED STATES OF AMERICA  
BEFORE THE FEDERAL TRADE COMMISSION  
OFFICE OF ADMINISTRATIVE LAW JUDGES**

In the Matter of

NVIDIA Corporation,

a corporation

SoftBank Group Corp.,

a corporation,

and

Arm Ltd.,

a corporation.

Docket No. 9404

**PUBLIC VERSION**

**ANSWER AND DEFENSES OF RESPONDENTS**  
**NVIDIA CORPORATION,**  
**SOFTBANK GROUP CORP., AND ARM LTD.**

Pursuant to Rule 3.12 of the Federal Trade Commission’s (“FTC”) Rules of Practice for Adjudicative Proceedings, Respondents NVIDIA Corporation (“NVIDIA”), SoftBank Group Corp. (“SoftBank”), and Arm Ltd. (“Arm”) (together, “Respondents” or the “Parties”) answer the Complaint (the “Complaint”) filed by the FTC in relation to NVIDIA’s proposed acquisition of Arm (the “Proposed Acquisition” or the “Transaction”) as follows:

## PRELIMINARY STATEMENT

NVIDIA's acquisition of Arm will dramatically enhance innovation and competition in the semiconductor industry and, thus, benefit industry participants, consumers, and the U.S. economy.

Arm develops and licenses CPU IP. Arm has a terrific team, a strong core business, and a well-earned reputation for high-quality, dependable CPU designs. Arm faces significant challenges, however, in finding paths for future growth. Arm's original market and the largest source of its revenue (mobile devices) has become saturated. Other applications for CPUs (most notably, datacenter servers and PCs) have been and will continue to be exceptionally difficult to crack. The incumbent suppliers of datacenter and PC CPUs (Intel and AMD) benefit from a well-established "ecosystem" of developers, software, systems, and peripherals that use and support their x86-based CPUs. Additionally, Intel and AMD profit from their vertical integration and can make massive R&D investments, which further entrench their positions. With a much smaller ecosystem and R&D budget, Arm-based datacenter and PC CPUs are at a significant disadvantage when trying to compete with x86.

With this Transaction, NVIDIA will elevate Arm beyond these challenges and create new opportunities for Arm to grow and compete. Importantly, NVIDIA does not develop solutions that compete with Arm CPU IP. Instead, NVIDIA develops GPUs and other platforms that function as *complements* to CPUs. NVIDIA's products accelerate computing systems by offloading certain tasks from the CPU, thus allowing the CPU to focus on other core tasks. NVIDIA also complements Arm in its industry segment expertise—NVIDIA has deep understandings of the datacenter and PC segments (where Arm has only limited penetration), and NVIDIA is widely recognized for its leading-edge work in areas like AI and machine learning.

By bringing NVIDIA's experience, expertise, and substantially larger R&D resources to Arm, NVIDIA can accelerate Arm's development of innovative, world-class datacenter and PC CPU IP and cultivate the ecosystem that Arm needs to be able to meaningfully compete against x86-based solutions. And, importantly, NVIDIA has strong incentives to license Arm CPU IP to all interested parties for the simple reason that enhancing innovation and competition in the markets for CPUs will create new opportunities to expand demand for NVIDIA's complementary GPUs and other solutions.

The FTC's Complaint fails on many levels. The Complaint never confronts the many challenges that Arm faces, or the opportunities the Transaction creates. Instead, the Complaint merely speculates that NVIDIA *might* act in ways that *might* disadvantage its potential competitors. But there is no evidence that a combined NVIDIA and Arm would have either the ability or the incentive to harm competition. Instead, the undisputed testimony and documentary support regarding NVIDIA's reasons for entering into the Transaction in the first place directly contradict the FTC's speculation.

The FTC's concerns are without merit:

- *First*, NVIDIA has powerful economic incentives to continue licensing Arm CPU IP as broadly as Arm does today. NVIDIA's GPU business will directly benefit from the increased diversity and de-concentration of datacenter and PC CPUs.
- *Second*, a merged NVIDIA/Arm will have no ability to harm competition. Arm faces significant competitive threats from other CPU architectures, including x86 (Intel, AMD) and RISC-V (open source), and that competition will further prevent NVIDIA from engaging in the types of conduct the Complaint imagines.

- *Third*, Arm’s contracts preclude Respondents from engaging in the types of conduct the Complaint imagines.

Regardless, to put the FTC’s wholly speculative concerns to rest, Respondents have offered a comprehensive remedy, including structural commitments that would ensure all Arm licensees have unbiased, nondiscriminatory access to Arm’s IP, product plans, roadmaps, and innovations. This remedy should address any doubts about the Transaction, and indeed will ensure a *more* fair and level playing field for Arm licensees than Arm provides today.

In answering the FTC’s Complaint, the Parties emphasize five central points:

**1. The Transaction unlocks Arm’s ability to grow and expand its CPU IP business.** The FTC’s Complaint is built upon a misunderstanding about why NVIDIA agreed to buy Arm and the nature of the technological advancements that only this Transaction can enable. This Transaction enables Respondents to diversify and deconcentrate the CPU market—something that the industry has long needed—by creating an innovative alternative to the long-dominant x86 architecture. As a stand-alone company, Arm faces tremendous resource and technology challenges in trying to compete with x86. The Transaction will result in billions of dollars of additional investment to develop and license world-class Arm-based CPU IP that will open innovative new markets for datacenters and PCs. That will benefit competition as a whole because NVIDIA (through the creation of an independent licensing entity, as described below) will license *all* of Arm’s IP to *all* interested companies on nondiscriminatory terms—beyond what Arm itself offers today. As an additional advancement that is possible only if this Transaction proceeds, NVIDIA will license any Arm-based CPU IP that NVIDIA’s design teams develop to all interested companies on nondiscriminatory terms. This Transaction will promote competition and innovation in the CPU marketplace and, in turn, will strengthen downstream

competition through the broad adoption of more advanced Arm-based CPU designs by a wider range of Arm licensees.

2. **NVIDIA wants more—not less—competition in CPUs.** The FTC’s theory does not match commercial realities. Arm develops and licenses CPU designs for use by third-party chip designers (“CPU implementation IP”) that today largely target mobile handsets and other low-power devices—not datacenter servers or PCs. Arm licensees have repeatedly failed to find meaningful traction in datacenter. Qualcomm, for example, exited the datacenter server CPU business in 2018 and cited the lack of a supporting Arm datacenter ecosystem as one of the reasons for its exit. Broadcom and Marvell have likewise exited or repurposed their efforts to develop Arm-based datacenter server CPUs.

NVIDIA has learned from history. Building a world-class Arm-based CPU for datacenter servers and PCs is not enough to create broad-based demand for Arm in those segments. Instead, Arm and NVIDIA will cultivate broad-based support for the still-developing Arm “ecosystem” of datacenter-server and PC software, middleware, database, and peripheral suppliers and, thus, create momentum for Arm-based server and PC CPUs. In other words, ***NVIDIA will need to license these innovative new Arm-based CPU designs as broadly as possible and to as many other companies as possible.*** This is how Respondents will build support for a new Arm-based ecosystem that, over time, can create new alternatives and competition with x86-based solutions, drive down CPU prices, and create more opportunities to sell NVIDIA’s GPUs and other accelerators. This is also why the FTC’s fears are unfounded. NVIDIA will not foreclose its competitors in downstream markets. Far from it. ***NVIDIA wants these other companies to thrive and succeed.*** This is the only way to build a viable alternative to the x86 CPUs and ecosystem.

3. **Arm faces multiple competitive challenges.** Arm and the semiconductor industry are at a crossroads. As innovative and hard-working as the Arm team has been, Arm's IP-licensing business model (and revenues) leave Arm's R&D budget dwarfed by the billions of dollars that Intel and AMD are each able to pour into their x86 chips and ecosystem. Arm faces significant challenges in deciding where to invest and how to compete. NVIDIA brings massive scale and deep expertise in the datacenter to Arm's R&D portfolio that neither Arm nor NVIDIA can hope to achieve on its own.

The competition that Arm faces is ever-evolving. In the 15 months since Respondents signed the Transaction, new threats have emerged that further challenge Arm's growth. In March 2021, Intel launched a broadside attack on Arm by introducing its Intel Foundry Services ("IFS") program. Under this program, Intel customers can develop their own custom x86-based CPUs with Intel for datacenter or other applications. This is a monumental change for Intel. And Intel was explicit about why it started customizing x86 CPUs: to cause a "meaningful shift" in how customers think about Arm versus x86. The announcement of this Transaction has already had a significant and procompetitive effect on the CPU space, but that impact will dissipate if this Transaction is blocked. Intel expressly plans to leverage the "trillion lines of code" that are optimized to x86 to retain customers that might have otherwise considered a move to an Arm-based CPU solution. Intel is expressly targeting datacenter customers like Cloud Service Providers ("CSPs") to block Arm-based CPUs from getting an entry point into datacenters.

Arm's second competitive threat comes from the open-source CPU architecture, RISC-V. RISC-V is a license-free, royalty-free chip architecture that is designed in many ways to emulate (or improve upon) the Arm architecture. Multiple vendors, such as SiFive and Imagination

Technologies are developing and commercializing RISC-V-based CPU IP with the express goal of replacing Arm's CPU implementation IP designs. As Arm's current licensees look to negotiate new licenses for new chip designs, there are now RISC-V-based designs that are viable (and, increasingly attractive) alternatives. RISC-V is an important actual or potential competitor for all the product areas that are at issue in the FTC's Complaint, with RISC-V suppliers having announced or released CPU IP that targets datacenter applications, as well as automotive SoCs. Indeed, RISC-V suppliers today offer CPU IP that could be used in devices like data processing units ("DPUs" or "SmartNICs")—for example, NVIDIA's BlueField DPU uses RISC-V as one of its core processors today.

In the face of these structural challenges and competitive threats, this Transaction presents the best alternative for growing Arm's CPU IP business, expanding Arm's R&D budget, and creating a competitive ecosystem that can take on x86 in datacenter servers and PCs.

**4. Respondents have already proposed a comprehensive set of commitments that will guarantee their post-Transaction commitment to competition.** The FTC's Complaint ignores the transformative, pro-competitive rationale for the Transaction and, instead, posits an unrealistic, hypothetical world where NVIDIA would illogically foreclose its competitors from access to Arm CPU IP for the sake of its GPU business. *First*, it is telling that the FTC's Complaint cites *no substantive evidence* to support these speculative accusations. This is because there is none. To the contrary, the documents and sworn testimony of NVIDIA's executives all support the same conclusion: that NVIDIA wants to strengthen Arm and license its IP more broadly to create additional opportunities to sell its GPUs and DPUs.

*Second*, the FTC's foreclosure theory assumes the exact *opposite* of what NVIDIA's post-Transaction incentives will be. The best proof of this is the set of commitments that

NVIDIA has already voluntarily proposed to regulators around the world, including the FTC— and which the FTC’s Complaint failed to even acknowledge:

(1) **Arm Licensing Company.** NVIDIA will establish an independent entity (“Arm Licensing Company” or “ALC”), which will have the exclusive and sole right (excluding China) to license Arm CPU IP to any and all third parties.

- NVIDIA has never intended to withhold or limit access to Arm CPU IP because that would be both contrary and counterproductive to the entire purpose of this Transaction. This commitment resolves any alleged concern by the FTC that NVIDIA would be able to target competitors by removing NVIDIA from the licensing and sales negotiations with Arm customers.

(2) **Firewalls to protect licensees’ information.** ALC will be surrounded by firewalls that will prevent any confidential and competitively sensitive information of Arm’s licensees from being shared with NVIDIA. ALC will share only anonymized and/or aggregated information with NVIDIA.

- The FTC’s Complaint overstates the extent to which Arm’s licensees share confidential information with Arm. This commitment resolves the FTC’s allegation that NVIDIA would be able to access and use its rivals’ competitively sensitive information. NVIDIA makes this commitment because NVIDIA wants Arm’s licensees to trust and feel comfortable continuing to do business with Arm.

(3) **Arm will be legally obligated to license its CPU IP to all companies on nondiscriminatory terms.** ALC will, of course, honor all existing Arm licenses. For

any new licenses, ALC will make Arm CPU IP equally available to all companies on nondiscriminatory terms.

- This commitment is another example of NVIDIA's post-Transaction interest in strengthening Arm and the *entire* ecosystem of Arm licensees and software developers. This commitment resolves any possible allegation that NVIDIA would be able to foreclose competitors.

(4) **Same technical support from ALC.** Arm licensees will receive technical support through ALC at the same level it is available today.

- This commitment resolves the FTC's allegation that NVIDIA would be able to disadvantage its competitors, and ensures that Arm licensees will continue to receive at least the same level of technical support that is provided today. NVIDIA makes this commitment because it wants Arm's licensees to have the technical support they need to build better Arm-based products and strengthen the overall Arm ecosystem.

(5) **Arm licensees will have the opportunity to access to Arm CPU IP at substantially the same time as NVIDIA's design teams.** Arm CPU IP will be available to all licensees at the same time it is made available to NVIDIA design teams.

- NVIDIA's goal with this Transaction is to build a stronger Arm ecosystem that will benefit NVIDIA and all of Arm's potential customers. To do so, NVIDIA needs the trust and cooperation of the other companies who license Arm CPU IP, and so NVIDIA is committed to making Arm CPU IP available to other companies at substantially the same time that NVIDIA's design teams

receive it. This commitment resolves the FTC's allegation that NVIDIA will have any unfair "early access" to Arm CPU IP.

(6) **Continued opportunities to participate in the Arm Technical Advisory**

**Board.** NVIDIA will continue to offer the ALC and all architectural licensees the opportunity to participate in the Arm Technical Advisory Board with at least the same level of access and participation as Arm currently provides.

- Again, NVIDIA wants to strengthen the Arm ecosystem and so NVIDIA is committed to providing companies with at least the same level of advisory technical participation they currently have. This commitment resolves the FTC's allegation that Arm licensees will not have the same ability that they have today to be heard and encourage the Arm roadmap and products to incorporate the necessary technologies and capabilities that they need or want to develop and market their products.

(7) **All Arm ISA modifications and instructions shared with NVIDIA's**

**design teams will be published broadly and publicly.** NVIDIA will promptly publish every Arm ISA (including all versions, enhancements, and modifications) or instructions developed by or disclosed to any NVIDIA design team, in a manner consistent with Arm's current practices.

- Again, NVIDIA's goal with the Transaction is to grow as strong and diverse an Arm ecosystem as possible. This commitment resolves the FTC's allegation that Arm licensees will not have the information they receive today on a timeline that matters for product development; and

(8) **Interoperability.** Arm licensees will be able to create Arm-based products that interoperate with any other products with which the licensee would like its products to interoperate, without discrimination against non-NVIDIA products.

- NVIDIA has no intention of limiting the interoperability of Arm licensees' products. To the contrary, promoting interoperability is part of the path to attract companies and build a stronger Arm ecosystem. This voluntary commitment resolves any possible allegation that Arm licensees will be unable to design products that interoperate with non-NVIDIA products and/or that have decreased interoperability as compared to NVIDIA products.

5. **This Transaction should be cleared.** The FTC cannot meet its burden of proving that the effect of this Transaction “may be substantially to lessen competition.” That burden is significant under any circumstances, but particularly so when the FTC can offer nothing more than speculation grounded in self-serving objections by companies who stand to benefit from blocking this Transaction. The procompetitive effects of vertical mergers and the resulting efficiencies that promote consumer welfare have been recognized by legal precedent, agency guidelines, and economic literature for decades. Here, Respondents have a real opportunity to drive innovation and increase competition in the CPU category, for the benefit of U.S. consumers. The Transaction should be cleared.

Prior to the filing of this administrative complaint, Respondents expressed a willingness to engage in good faith discussions with the FTC and a willingness to address any lingering questions the FTC may have about the Transaction. That willingness remains. Respondents are confident that the Transaction will benefit the semiconductor industry and consumers, and

believe that the FTC will arrive at that same conclusion after an open-minded review of the evidence and the Respondents' commitments.

### **RESPONSES TO THE SPECIFIC ALLEGATIONS OF THE COMPLAINT**

Except to the extent specifically stated herein, Respondents deny each and every allegation contained in the Complaint, including all allegations contained in headings or otherwise not contained in one of the Complaint's 123 numbered paragraphs.

The preamble to the Complaint characterizes this action and asserts legal conclusions to which no response is required; to the extent that a response is deemed necessary, Respondents state that the FTC has issued a Complaint regarding the Transaction and in all other respects deny the allegations in the preamble to the Complaint.

### **NATURE OF THE CASE**

1. Respondents admit that NVIDIA is an innovative company that pioneered accelerated computing. Respondents admit that NVIDIA proposes to acquire Arm and that the Proposed Acquisition is currently valued at more than \$40 billion. Except as so stated, Respondents deny the allegations in Paragraph 1.

2. Respondents admit that Arm develops and licenses central processing unit ("CPU") designs and architectures ("Arm Processor Technology"); that Arm licenses two different types of intellectual property: (1) implementation licenses for finished CPU designs; and (2) architectural licenses for a CPU instruction set architecture ("ISA") that licensees use to develop their own CPU designs; and that Arm sometimes provides some customers with certain types of services and/or support for an additional fee. Respondents admit that Arm Processor Technology is, or has been, incorporated in billions of chips worldwide. Respondents further

admit that Arm has an IP-licensing business model and note that Arm currently has IP licenses with many different companies that contain different contractual terms, such as different license fees and royalties. Respondents further admit that Arm CPU IP is most commonly used in CPUs that are used in mobile phones and note that other CPU technologies (such as x86, RISC-V, MIPS, and Power) are more commonly used in other segments. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 2.

3. Respondents admit that Arm Processor Technology is incorporated into a variety of electronic products, including smartphones, among others. Respondents further state that the Arm ecosystem in datacenter is not comparable to the x86 ecosystem because Arm lacks the resources necessary to promote widespread use of Arm-based CPUs in datacenter (an area dominated by x86 for decades), which in turn prevents the development of a robust Arm ecosystem in datacenter. Respondents deny that the deployment of Arm's Processor Technology "has fostered a vibrant ecosystem of software and hardware developers, software, and devices" using Arm Processor Technology in many segments where an ecosystem is necessary, including CPUs used in datacenters. Except as so stated, Respondents deny the allegations in Paragraph 3.

4. Respondents admit that Arm does not make or sell computer chips ("chips") or chip-based devices; that Arm licenses Arm Processor Technology; and that Arm sometimes promotes its licensees' products that incorporate Arm Processor Technology even as those licensees' products may compete with other Arm licensees' products that incorporate Arm Processor Technology. Respondents further admit that Arm's licensees sometimes, on a voluntary basis, provide non-public information to Arm. Respondents further admit that Arm

has an IP-licensing business model and, subject to export control or other applicable legal restrictions, offers licenses to all parties wishing to purchase a license at the terms and prices that Arm negotiates with those licensees to maximize Arm's own profits or otherwise benefit Arm's business. Respondents deny that Arm provides the same IP to all licensees at the same time, or on the same terms, and note that Arm currently has many licenses that contain different contractual terms, such as different license fees and royalties. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 4. Except as so stated, Respondents deny the allegations in Paragraph 4.

5. Respondents admit that NVIDIA supplies and markets finished chips and devices; that NVIDIA sells standalone graphics processing units ("GPUs") for personal computers ("PCs") and datacenters, which are computing facilities with large numbers of server computers; and that GPUs are sometimes used for artificial intelligence ("AI") processing and graphics processing, among other computational tasks. Except as so stated, Respondents deny the allegations in Paragraph 5.

6. Respondents admit that NVIDIA has licensed Arm's Processor Technology for years; that NVIDIA has used an Arm core in a system-on-a-chip ("SoC") for advanced driver assistance systems ("ADAS") for passenger cars, among other purposes; that NVIDIA has used an Arm core in an SoC in additional categories of products, including some advanced networking products and one datacenter product, among others; and that NVIDIA's designs for standalone GPUs do not incorporate Arm Processor Technology. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they

relate to every other person or entity as referred to in Paragraph 6. Except as so stated, Respondents deny the allegations in Paragraph 6.

7. Respondents deny the allegations in Paragraph 7.

8. Respondents deny the allegations in Paragraph 8.

9. Respondents deny the allegations in Paragraph 9.

10. Respondents admit that Arm's licensees sometimes, on a voluntary basis, provide non-public information to Arm. Respondents further state that they proposed a remedy to create a new and independent entity, ALC, which would be solely responsible for negotiating, licensing, and distributing Arm IP and technical support to all interested third parties; and that ALC would foreclose any possibility that NVIDIA could acquire or misuse any purported competitively sensitive information that Arm licensees today choose to share with Arm. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 10. Except as so stated, Respondents deny the allegations in Paragraph 10.

11. Respondents admit that Arm sometimes, on a voluntary basis, receives information from licensees that relates to Arm's technological developments, which Arm considers among other factors in its research and development. Except as so stated, Respondents deny the allegations in Paragraph 11.

12. Respondents state that Paragraph 12 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 12.

### **JURISDICTION**

13. Respondents state that Paragraph 13 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents refer to Section 4 of the FTC Act, 15 U.S.C. § 44, and Section 1 of the Clayton Act, 15 U.S.C. § 12, for their contents.

14. Respondents state that Paragraph 14 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 14 and refer to Section 4 of the FTC Act, 15 U.S.C. § 44, and Section 1 of the Clayton Act, 15 U.S.C. § 12, for their contents.

15. Respondents state that Paragraph 15 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 15 and refer to Section 7 of the Clayton Act, 15 U.S.C. § 18, for its contents.

### **RESPONDENTS AND THE PROPOSED ACQUISITION**

16. Respondents admit that NVIDIA is a publicly-traded Delaware corporation headquartered in Santa Clara, California; that NVIDIA was founded in 1993; that NVIDIA's total revenues in the fiscal year ending January 31, 2021 were \$16.68 billion; that NVIDIA develops and markets microprocessor products, including GPUs, chips, advanced networking products, ADAS, CPUs used in datacenters, devices, and associated software; and that NVIDIA is a supplier of standalone GPUs. Except as so stated, Respondents deny the allegations in Paragraph 16.

17. Respondents admit that Arm is a corporation headquartered in Cambridge, United Kingdom; that Arm was founded in 1990; that Arm's total revenues in the fiscal year ending

March 31, 2021 were \$1.98 billion; that SoftBank is the majority-owner of Arm; that SoftBank first acquired stock in Arm in 2016; and that Arm develops Arm Processor Technology, licenses such technology to certain chip designers, and sometimes provides some licensees with certain types of services and support. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 17.

18. Respondents admit that SoftBank is a kabushiki kaisha formed under the Companies Act of Japan and is headquartered in Tokyo, Japan; that SoftBank was founded in 1981; that SoftBank is the majority-owner of Arm; that SoftBank currently operates as a strategic investment holding company; that as of March 31, 2021, SoftBank had 1,943 subsidiaries and affiliates; and that SoftBank's net sales in fiscal year 2020 were 5,238.9 billion yen. Respondents admit that SoftBank had considered and rejected an initial public offering ("IPO") of Arm in 2019 and again in early 2020. Respondents admit that SoftBank began exploring the sale of Arm in Spring 2020 after deciding that an IPO of Arm was not an attractive option because the public markets would not give SoftBank its sought after return on investment, and Arm "determined that the pressure to deliver short-term revenue growth and profitability would suffocate its ability to invest, expand, move fast, and innovate." Respondents further admit that several companies expressed some interest in potentially purchasing Arm, but only NVIDIA made a formal offer. Respondents further admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every

other person or entity as referred to in Paragraph 18. Except as so stated, Respondents deny the allegations in Paragraph 18.

19. Respondents admit that SoftBank, among other entities, entered into a Share Purchase Agreement to sell Arm to NVIDIA on September 13, 2020, and that the deal was valued at \$40 billion at signing. Respondents admit that, as of December 9, 2021, the deal was valued at more than \$50 billion, measured by the then-current value of NVIDIA stock. Except as so stated, Respondents deny the allegations in Paragraph 19.

20. Respondents admit that they recognized that the Proposed Acquisition would likely meet the filing thresholds for, and thus be subject to review by, various regulatory bodies, including antitrust enforcement agencies. Respondents further admit that pursuant to the Share Purchase Agreement, Arts. VII, VIII, NVIDIA deposited an amount of \$1,250,000,000 in escrow, “which shall become non-refundable upon the occurrence of the closing of the Proposed Acquisition or any termination” on account of, among other things, failure to secure “Regulatory Approvals.” Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 20. Except as so stated, Respondents deny the allegations in Paragraph 20.

### **BACKGROUND**

21. Respondents admit that Arm Processor Technology has been incorporated in billions of chips and devices, including certain products sold by NVIDIA and certain products sold by certain companies that may compete with NVIDIA with respect to some aspect of its business. Respondents further state that Arm derives the majority of its revenues from licensing and royalties from its general-purpose semiconductor IP to mobile handset suppliers, a segment in which NVIDIA is not active. Respondents state that in the few areas where NVIDIA uses, or

is planning to use, an Arm-based CPU, NVIDIA and NVIDIA's competitors have numerous alternatives (including x86 and RISC-V) and thus deny that Arm Processor Technology is a "critical input" that enables NVIDIA to compete. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 21. Except as so stated, Respondents deny the allegations in Paragraph 21.

22. Respondents admit that Arm licenses Arm Processor Technology to a range of licensees, including companies that have not yet made any sales as well as large technology companies; and that NVIDIA, an Arm licensee, is a "fabless" semiconductor company that designs and markets computer chips and/or products containing chips, but outsources the physical manufacturing of such chips and/or products containing chips to specialized manufacturers. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 22. Except as so stated, Respondents deny the allegations in Paragraph 22.

23. Respondents admit that Arm has an IP-licensing business model and, subject to export control or other applicable legal restrictions, offers licenses to all parties wishing to purchase a license at the terms and prices that Arm negotiates with those licensees to maximize Arm's own profits or otherwise benefit Arm's business. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that Arm does not always reach a licensing agreement with all parties wishing to purchase a license. Respondents deny that Arm provides the same IP to all licensees at the same time, or on the same terms and note that Arm currently has many licenses that

contain different contractual terms, such as different license fees and royalties. Except as so stated, Respondents deny the allegations in Paragraph 23.

24. Respondents admit that certain of Arm's licenses include upfront licensing fees and royalties, while certain of Arm's other licenses allow for different levels of access and fee structures. Respondents admit that Arm licenses two different types of IP: architectural licenses and implementation licenses; that architectural licenses grant holders the right to create their own Arm-based CPU designs compatible with Arm's ISA; and that implementation licenses grant holders the right to use Arm's own specific CPU designs in their products. Respondents further admit that Arm's business model is based on its and SoftBank's current commercial incentives, and that there exists an ecosystem of software and hardware developers, software, and devices that has developed from the use Arm's Processor Technology in mobile applications, which is orders of magnitude smaller than the ecosystem of software and hardware developers, software, and devices that has developed from the use of x86 CPU technology. Except as so stated, Respondents deny the allegations in Paragraph 24.

25. Respondents admit that Arm charges royalty fees to its licensees based on products shipped by its licensees that incorporate Arm Processor Technology; that Arm has an incentive to expand the usage of Arm Processor Technology; and that Arm provides assistance to its licensees as appropriate. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 25.

26. Respondents admit that Arm solicits input from some of its licenses for enhancing Arm's ISA and implementation designs, and that Arm sometimes works with certain licensees on

the development of certain features. Respondents further admit that Arm's licensees sometimes suggest new features to Arm and that Arm, in its sole discretion, sometimes incorporates this input from certain licensees in finished products that are available to all customers. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 26. Except as so stated, Respondents deny the allegations in Paragraph 26.

27. Respondents admit that Arm's licensees sometimes, on a voluntary basis, provide non-public information to Arm, and that, in such cases, Arm may include confidentiality provisions in the license agreement as required by the licensee. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 27. Except as so stated, Respondents deny the allegations in Paragraph 27.

28. Respondents admit that Arm provides support to some of its licensees to develop and implement products that incorporate Arm Processor Technology when requested by the licensee; and that as a part of this support, Arm sometimes provides licensees with explanations of certain aspects of Arm's architecture and/or assistance resolving technical difficulties. Except as so stated, Respondents deny the allegations in Paragraph 28.

29. Respondents admit that Arm sometimes expends time, effort, and resources to promote products that incorporate Arm Processor Technology, and that Arm occasionally interacts with certain of its licensees' customers in order to better understand those customers, explain Arm's capabilities and benefits, and assist licensees who seek to sell their products. Respondents are without knowledge or information sufficient to form a belief as to the truth of

the allegations as they relate to every other person or entity as referred to in Paragraph 29.

Except as so stated, Respondents deny the allegations in Paragraph 29.

30. Respondents admit that there are different types of computer processors, including CPUs, GPUs, and data processing units (DPUs or SmartNICs). Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that the value and importance of DPUs is uncertain as DPUs are not widely adopted today and that while NVIDIA sees significant value in DPU as a complementary computer processor to a CPU, it is not necessary for all computers and/or products requiring computer processors unlike a CPU, which is required in all computers.

Except as so stated, Respondents deny the allegations in Paragraph 30.

31. Respondents admit the allegations in Paragraph 31.

32. Respondents admit the allegations in Paragraph 32.

33. Respondents admit that there are lines of software code that may be available on one ISA and not available on another ISA today and that lines of code unique to one ISA can be “ported” or re-written by software developers to be compatible with another ISA. Respondents further admit that each ISA has its own ecosystem of associated software and hardware developers, software, and devices, and that an ISA is more attractive for most end-use applications if it has a sufficiently large associated ecosystem. Except as so stated, Respondents deny the allegations in Paragraph 33.

34. Respondents admit that x86 is the dominant ISA in CPUs for laptops, desktops, and servers; that Intel created the x86 ISA; that Intel and AMD are the only two suppliers of x86 CPUs in the United States and that VIA has a license to supply x86 CPUs in China.

Respondents admit that historically, the x86 ISA has not been licensable and that Intel and AMD have designed and marketed their own chips based on x86 ISA. Respondents further admit that on March 23, 2021, Intel made the announcement that it would license its “world-class IP portfolio” to its foundry customers opening up the licensing of its dominant x86 CPU IP to chip designers, including Arm’s customers, with Intel’s CEO Patrick Gelsinger stating that “the ability of our customers to take advantage of x86 this way will be a meaningful shift in how people think about ARM versus x86.” Respondents further state that Intel subsequently announced its Intel Foundry Service and has already announced partnerships and customers, including Qualcomm and Amazon (both of whom are currently Arm licensees). Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 34. Except as so stated, Respondents deny the allegations in Paragraph 34.

35. Respondents admit that RISC-V is a free, open-source ISA that researchers at the University of California, Berkeley first developed; that RISC-V was released to the public in 2011; and that development of the RISC-V ISA is managed by a nonprofit foundation. Respondents further state that over time, including subsequent to the announcement of the Proposed Acquisition, RISC-V has seen significant technological development and continues to gain traction as a royalty-free alternative to Arm that is poised for rapid growth; and that industry participants have continuously shown their commitment to RISC-V and its rapid development; multiple vendors (including SiFive, Imagination Technologies, Andes, Esperanto, Alibaba, NSI-TEXE, and Kneron) have announced they are now developing high-end RISC-V CPU IP that can deliver CPU IP in the same category as—and in direct competition with—Arm Processor Technology for use in mobile, automotive, datacenter, and other applications.

Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 35.

Except as so stated, Respondents deny the allegations in Paragraph 35.

36. Respondents admit that MIPS is an ISA that MIPS Computer Systems developed and that Wave Computing owns today. Respondents admit that Wave Computing has announced that it does not intend to develop new versions of its MIPS ISA in the future, with its new cores to be based on RISC-V instead. Respondents further state that MIPS announced it will continue to honor existing licensing agreements signed before restructuring such that existing licensees can therefore continue to build new and next-generation MIPS-based automotive SoCs as long as they continue paying royalties to MIPS; and that MIPS announced it will develop new industry-leading, standards-based CPU IP based on RISC-V. Except as so stated, Respondents deny the allegations in Paragraph 36.

37. Respondents admit that CPUs based on the Arm ISA are found in billions of chips worldwide; and that Arm-based CPUs are well-suited for low-power-consumption applications and are found in a majority of smartphones, tablets, and other low-powered computing devices. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that Arm derives the majority of its revenues from licensing and royalties of its general-purpose semiconductor IP to mobile handset suppliers, a segment in which NVIDIA is not active. Respondents deny that there is a “vast” Arm ecosystem outside of mobile and state that the Arm ecosystem in datacenter is not comparable to the x86 ecosystem because Arm lacks the resources necessary to promote widespread use of Arm-based CPUs in datacenter, which in turn prevents the development of a

robust Arm ecosystem in datacenter. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 37. Except as so stated, Respondents deny the allegations in Paragraph 37.

38. Respondents admit that Arm-based CPUs have been used in some laptop and desktop PCs and in some datacenter servers; that Apple has begun switching Mac laptops and desktops from Intel x86 CPUs to a proprietary SoC (called the “M1”), which is compatible with the Arm ISA but does not contain any of Arm’s CPU designs, that was designed entirely by Apple [REDACTED] and that is not available to any other industry participant; and that Arm-based CPUs from chip suppliers MediaTek and Qualcomm have also been used in laptops. [REDACTED] [REDACTED] [REDACTED]. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that Arm licensees have had minimal success penetrating the datacenter market given the well-entrenched position of the dominant incumbent, x86. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 38. Except as so stated, Respondents deny the allegations in Paragraph 38.

39. Respondents admit that NVIDIA has used Arm cores in some of its ADAS product offerings and that certain ADAS systems for passenger vehicles offer computer-assisted

driving functions, such as automated lane changing, lane keeping, highway entrance and exit, and collision prevention. Except as so stated, Respondents deny the allegations in Paragraph 39.

40. Respondents admit that some computing devices contain one or more GPUs to assist in certain tasks; that GPUs were originally developed to perform specific graphics tasks in applications such as video games; that GPUs are parallel processors capable of accelerating certain types of computing tasks, including for use in machine learning and AI; that GPUs are currently used in a small percentage of datacenters; that NVIDIA has used CPUs with an Arm core in an SoC chipset, such as its ADAS SoC; and that a GPU must attach to a CPU and cannot run on its own in a computer or server without a CPU. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 40.

41. Respondents admit that DPUs or SmartNICs (sometimes also referred to as infrastructure processing units (“IPUs”)) are a category of networking devices designed for datacenters and other networked environments; that a DPU is a network interface device that allows for the offloading and isolating of networking, security, virtualization, and other datacenter support tasks from a CPU; that by isolating these tasks from a CPU, DPUs can provide added security, freeing up a CPU to focus on running users’ desired applications, rather than datacenter infrastructure functions; and that NVIDIA’s DPUs use Arm CPU cores. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as

referred to in Paragraph 41. Except as so stated, Respondents deny the allegations in Paragraph 41.

42. Respondents admit that NVIDIA offers its accelerated computing platforms and GPUs in a variety of computing segments today. Except as so stated, Respondents deny the allegations in Paragraph 42.

43. Respondents admit that NVIDIA has been a licensee of Arm since March 30, 2005; that NVIDIA has developed and sold SoCs that contain an NVIDIA-designed CPU based on the Arm ISA pursuant to an architectural license from Arm; and that NVIDIA has developed and sold SoCs that incorporate Arm-based CPU designs that NVIDIA obtained from Arm through implementation licenses. Except as so stated, Respondents deny the allegations in Paragraph 43.

44. Respondents admit that NVIDIA is an Arm licensee; that NVIDIA has developed products that use both Arm designs and NVIDIA's proprietary technology; that NVIDIA DRIVE Orin is an SoC for ADAS systems that is slated for 2022 vehicle product lines and is expected to incorporate an Arm CPU core; that NVIDIA Grace CPU is an NVIDIA-designed CPU that is not yet in the commercial market, but is expected to be based on the Arm ISA; that NVIDIA BlueField-3 is a DPU (or SmartNIC) that incorporates an Arm CPU core; and that NVIDIA designs other products that incorporate Arm CPU cores, including SoCs used in video gaming consoles, autonomous high-performance "Internet of Things" industrial devices, and other products. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 44.

45. Respondents admit that NVIDIA developed products that incorporated Arm CPU cores and Arm designs prior to pursuing this Proposed Acquisition. Respondents admit that the FTC purports to quote from the transcript for the “Acquisition of Arm Limited and SoftBank Vision Fund from SoftBank Group by NVIDIA call” on September 14, 2020. Respondents refer to this transcript for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 45.

46. Respondents admit that Arm is incentivized to expand the use of Arm Processor Technology; that Arm charges royalty fees to its licensees based on products shipped by its licensees that incorporate Arm Processor Technology; and that Arm provides assistance to its licensees as appropriate. Except as so stated, Respondents deny the allegations in Paragraph 46.

47. Respondents admit that NVIDIA sells various types of semiconductor chips, chipsets, and software, while Arm does not sell any semiconductor chips or chipsets and is solely in the business of licensing IP; and that NVIDIA sometimes competes in certain ways with certain companies that have licenses from Arm. Except as so stated, Respondents deny the allegations in Paragraph 47.

48. Respondents deny the allegations in Paragraph 48.

49. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 49.

50. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context

and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 50.

51. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 51.

52. Respondents admit that certain NVIDIA employees were aware of statements by certain industry analysts concerning the Proposed Acquisition before NVIDIA agreed to enter into the Proposed Acquisition. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 52.

53. Respondents deny the allegations in Paragraph 53.

#### **ALLEGED RELEVANT MARKETS AND ANTICOMPETITIVE EFFECTS**

54. Respondents state that Paragraph 54 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 54.

55. Respondents state that Paragraph 55 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 55.

56. Respondents state that Paragraph 56 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 56.

57. Respondents state that Paragraph 57 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 57.

58. Respondents state that Paragraph 58 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 58.

59. Respondents admit that DPUs (or SmartNICs) are network interface devices that incorporate software-programmable CPU cores for offloading and isolating processing tasks related to networking, security virtualization, and other datacenter support services from a server's CPU; and that DPUs can increase server compute efficiency and security. Except as so stated, Respondents deny the allegations in Paragraph 59.

60. Respondents admit that the DPU segment is comparatively new and is currently growing. Except as so stated, Respondents deny the allegations in Paragraph 60.

61. Respondents admit that NVIDIA sells NVIDIA BlueField-2 and NVIDIA BlueField-3 DPUs, which each contain an Arm CPU core; and that NVIDIA's sales of BlueField-2 and BlueField-3 have increased since their introductions. Except as so stated, Respondents deny the allegations in Paragraph 61.

62. Respondents admit that NVIDIA competes, to some extent, against several companies for the sale of DPUs, including Pensando, [REDACTED], Xilinx, Broadcom, Marvell, Synopsys, Kalray, and Intel. Respondents further admit that Pensando, [REDACTED], Xilinx, Broadcom, Marvell, and Intel have (or have had) Arm licenses and may use Arm-based designs for some of their DPU products. Respondents further state that Intel offers a DPU that includes x86 processors. Respondents further state that both [REDACTED] and Marvell also use MIPS-based

designs for their DPUs, and other companies such as Synopsys and Kalray do not rely on Arm-based designs for their SmartNICs. Respondents further state that some customers produce their own DPUs by combining a Network Interface Card (“NIC”) with a FPGA or other device to provide DPU functionality. Except as so stated, Respondents deny the allegations in Paragraph 62.

63. Respondents admit that NICs and DPUs fall within a spectrum of devices that customers use to route and manage network traffic in connected computer environments, such as datacenters. Respondents further admit that DPUs allow certain security features by isolating computing workloads to protect applications running on a main server CPU from potential attacks. Except as so stated, Respondents deny the allegations in Paragraph 63.

64. Respondents deny the allegations in Paragraph 64.

65. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 65. Except as so stated, Respondents deny the allegations in Paragraph 65.

66. Respondents admit that Arm Processor Technology offers licensees the ability to build highly efficient (in terms of power, performance, and area) CPU cores that are customizable and scalable; and that Arm provides some support for the IP it provides to its customers, offers limited design review services to those customers, and sometimes coordinates joint press releases with customers marketing Arm-based DPU products. Except as so stated, Respondents deny the allegations in Paragraph 66.

67. Respondents deny the allegations in Paragraph 67.

68. Respondents state their understanding that Intel's DPU Iventec uses an FPGA and an x86 processor and that Intel has announced plans for a product, code named Mount Evans, that is not yet in the commercial market and may use an Arm core if or when it is deployed in the future. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 68. However, Respondents deny the allegations in Paragraph 68.

69. Respondents deny the allegations in Paragraph 69.

70. Respondents admit that NVIDIA sells DPUs. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 70.

71. Respondents admit that NVIDIA predicts demand for DPUs will grow. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 71.

72. Respondents state that Paragraph 72 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 72.

73. Respondents admit that NVIDIA assesses competitive conditions as they relate to NVIDIA BlueField-2 and NVIDIA BlueField-3. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent

it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 73.

74. Respondents state that Paragraph 74 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 74.

75. Respondents state that Paragraph 75 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 75.

76. Respondents state that Paragraph 76 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 76.

77. Respondents admit that SAE International, a professional standard-setting organization, categorizes six levels of automation in vehicles, ranging from ADAS Level 0 (involving some driver assistance technology such as lane departure and blind spot warnings) to Level 5 (a fully automated vehicle driving itself with no restrictions). Except as so stated, Respondents deny the allegations in Paragraph 77.

78. Respondents admit that Level 2 automated driving is defined by the U.S. Department of Transportation as systems that provide steering and brake/acceleration support, as well as lane centering and adaptive cruise control; that Level 2+ is not an official SEA level, but is sometimes used to refer to an improvement to Level 2 that adds surround perception and AI to increase safety and convenience features, but does not reach the capabilities of Level 3; and that Levels 3 to 5 include a range of actual autonomous driving technologies that enable the automated system to monitor the driving environment with varying levels of involvement by the

driver. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 78. Except as so stated, Respondents deny the allegations in Paragraph 78.

79. Respondents admit that ADAS systems may incorporate chips and/or SoCs other than “central compute” SoCs, as that term is defined in the Complaint. Respondents state that Paragraph 79 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 79.

80. Respondents admit that there are multiple suppliers who provide chips for Level 0/Level 1 ADAS. Respondents state that Paragraph 80 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 80.

81. Respondents admit that Level 4/Level 5 ADAS are at an earlier stage of development than Level 1, Level 2, or Level 3 ADAS; and that there are companies developing Level 4/Level 5 ADAS technology. Respondents state that Paragraph 81 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 81. Except as so stated, Respondents deny the allegations in Paragraph 81.

82. Respondents admit that NVIDIA sells and/or offers to sell its AV solution, NVIDIA DRIVE, and/or SoCs to automakers as well as OEMs and Tier 1 suppliers, who also buy AV platforms and/or SoCs from Qualcomm (in partnership with Veoneer) and Renesas; that Tesla Motors used Intel/Mobileye for ADAS until it switched to custom Arm-based chips in its ADAS solution today; and that NVIDIA offers an AV solution that competes against Mobileye

(which incorporates some SoCs based on the MIPS ISA). Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 82. Except as so stated, Respondents deny the allegations in Paragraph 82.

83. Respondents state that Paragraph 83 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 83.

84. Respondents admit that Arm-based SoCs are highly programmable and can support third-party software. Respondents state that Paragraph 84 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 84. Except as so stated, Respondents deny the allegations in Paragraph 84.

85. Respondents admit that Arm has developed IP for automotive end uses, including ADAS, under the “Automotive Enhanced” label. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 85. Except as so stated, Respondents deny the allegations in Paragraph 85.

86. Respondents admit that Wave Computing has announced that it does not intend to develop new versions of its MIPS ISA in the future, with its new cores to be based on RISC-V instead. Respondents admit that the FTC purports to quote from one or more unidentified

sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that MIPS announced it will continue to honor existing licensing agreements signed before restructuring such that existing licensees can therefore continue to build new and next-generation MIPS-based automotive SoCs as long as they continue paying royalties to MIPS; and that MIPS announced it will develop new industry-leading, standards-based CPU IP based on RISC-V. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 86. Except as so stated, Respondents deny the allegations in Paragraph 86.

87. Respondents state that Paragraph 87 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 87.

88. Respondents deny the allegations in Paragraph 88.

89. Respondents admit that NVIDIA and Arm predict that the number of vehicles with ADAS will grow over the next decade. Respondents state that Paragraph 89 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 89. Except as so stated, Respondents deny the allegations in Paragraph 89.

90. Respondents deny the allegations in Paragraph 90.

91. Respondents admit that NVIDIA supplies certain products to automakers, including its NVIDIA DRIVE solution and/or SoCs for ADAS. Respondents state that Paragraph 91 contains legal arguments and conclusions to which no response is required.

Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 91.

Except as so stated, Respondents deny the allegations in Paragraph 91.

92. Respondents state that Paragraph 92 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 92.

93. Respondents state that Paragraph 93 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 93.

94. Respondents state that Paragraph 94 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 94.

95. Respondents admit that datacenters consist of large numbers of server computers. Respondents further admit that Arm offers CPU IP that can be used in datacenter servers. Except as so stated, Respondents deny the allegations in Paragraph 95.

96. Respondents admit that CSPs are large datacenter operators that provide computing services remotely or for rent to customers. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 96. Except as so stated, Respondents deny the allegations in Paragraph 96.

97. Respondents admit that CPUs used in datacenters are, and have been historically, dominated by x86-based products offered by Intel and AMD. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they

relate to every other person or entity as referred to in Paragraph 97. Except as so stated, Respondents deny the allegations in Paragraph 97.

98. Respondents admit that some CPUs that use Arm Processor Technology are capable of powering datacenter servers for some CSPs. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 98. Except as so stated, Respondents deny the allegations in Paragraph 98.

99. Respondents admit that x86-based datacenter CPUs may, in some circumstances, directly compete with Arm-based CPUs for datacenter customers; that the ISA for Arm-based CPUs differs from the ISA for x86-based CPUs; and that the ecosystems for Arm-based CPUs and for x86-based CPUs are not the same. Respondents state that Paragraph 99 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 99. Except as so stated, Respondents deny the allegations in Paragraph 99.

100. Respondents admit that Arm-based CPUs can serve the needs of some CSPs for their datacenters, depending on the requirements and expectations of the CSP. Respondents state that Paragraph 100 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 100. Except as so stated, Respondents deny the allegations in Paragraph 100.

101. Respondents admit that Marvell, Ampere Computing, and NVIDIA (among others) are Arm licensees; that NVIDIA is designing an Arm-based CPUs for datacenter; and



107. Respondents admit that NVIDIA is developing its Grace CPU, which is expected to be an Arm-based CPUs for datacenter, but is not yet available; and that NVIDIA has the right to design additional Arm-based CPUs, including custom and semi-custom designs, using its Arm licenses. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 107.

108. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 108.

109. Respondents deny the allegations in Paragraph 109.

110. Respondents deny the allegations in Paragraph 110.

111. Respondents deny the allegations in Paragraph 111.

112. Respondents deny the allegations in Paragraph 112.

113. Respondents deny the allegations in Paragraph 113.

114. Respondents deny the allegations in Paragraph 114.

115. Respondents admit that Arm sometimes, on a voluntary basis, receives information from licensees that relates to Arm's technological developments, which Arm considers among other factors in its research and development. Except as so stated, Respondents deny the allegations in Paragraph 115.

116. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context

and deny any characterization thereof. Respondents state that Paragraph 116 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 116.

117. Respondents admit that CPUs and GPUs may, depending on the circumstances, be capable of processing the same computing tasks; and that NVIDIA markets some of its GPUs for AI inferencing workloads, but state that GPUs cannot operate without being attached to a CPU, whereas CPUs can operate without any GPUs. Respondents further admit that Arm has pursued some development initiatives related to AI processing, such as machine learning, but that some of those projects have been deprioritized due to resource constraints. Respondents state that Paragraph 117 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 117.

118. Respondents state that Paragraph 118 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 118.

#### **ALLEGED ABSENCE OF ADDITIONAL FACTORS**

119. Respondents deny the allegations in Paragraph 119.

120. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents state that Paragraph 120 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 120.

### **ALLEGED VIOLATIONS**

121. Respondents state that, to the extent that a separate response is required, Respondents incorporate their responses to paragraphs 1 through 120 as though fully stated herein.

122. Respondents state that Paragraph 122 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny such allegations. Except as so stated, Respondents deny the allegations in Paragraph 122.

123. Respondents state that Paragraph 123 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 123.

### **DEFENSES**

Respondents assert the following defenses, without assuming the burden of proof on such defenses that would otherwise rest with the FTC.

1. The Complaint fails to state a claim on which relief can be granted.
2. The combination of NVIDIA and Arm's businesses will be procompetitive. The Transaction will result in substantial merger-specific efficiencies, cost synergies, and other procompetitive effects that will directly benefit competition and consumers. These benefits greatly outweigh any and all alleged anticompetitive effects.
3. The FTC's claims are too speculative to support any claim on which relief can be granted.
4. The set of commitments that Respondents voluntarily proposed to the FTC address any and all of the alleged anticompetitive effects in the alleged downstream market(s),

which the FTC failed to define, and ensure that there will be no harm to competition or consumers.

5. The FTC has failed to define any appropriate relevant market or markets.
6. The FTC has failed to establish that Respondents exercise market power with respect to any relevant market.
7. The FTC's claim reflects improper selective enforcement of the antitrust laws.
8. The FTC's claim is barred in whole or in part by failure to show any plausible harm to consumers or consumer welfare or any plausible anticompetitive effect.
9. The customers at issue in the Complaint have a variety of tools to ensure that they receive competitive pricing and terms.
10. The FTC fails to allege a time frame for the alleged anticompetitive effects.
11. The relief that the FTC seeks is inconsistent with the public interest. The public interest favors consummation of the Transaction and alternative remedies are available to the Commission.
12. These proceedings are invalid because the constraints on removal of the Commissioners violate Article II of the Constitution and the separation of powers.
13. These proceedings are invalid because the constraints on removal of the Administrative Law Judge violate Article II of the Constitution and the separation of powers.
14. These proceedings are invalid because adjudication of this matter by the Administrative Law Judge and, in turn, the Commission violates Article III of the Constitution and the separation of powers.
15. These proceedings are invalid because adjudication of this matter by the Administrative Law Judge and, in turn, the Commission violates the right to due process of law

under the Fifth Amendment to the Constitution, including because of the lack of a neutral decision-maker.

16. These proceedings violate the right to due process under the Fifth Amendment to the Constitution, which requires equal protection of the laws.

Respondents reserve the right to assert any other available defenses.

### **NOTICE**

Respondents state that the Notice of the Complaint is a restatement of the rules of the FTC to which no response is required. To the extent a response is required, Respondents deny the allegations in the Notice of the Complaint except state that the FTC has provided notice of a hearing date on August 9, 2022.

### **NOTICE OF CONTEMPLATED RELIEF**

Respondents state that the Notice of Contemplated Relief is a restatement of the rules of the FTC to which no response is required. To the extent a response is required, Respondents deny the allegations in the Notice of Contemplated Relief.

Respondents respectfully request that the Court: (i) deny the FTC's requested relief; (ii) dismiss the Complaint in its entirety with prejudice; (iii) award to Respondents their costs of suit, including expert fees and reasonable attorneys' fees, as may be allowed by law; and (iv) award to Respondents such other and further relief as the Court deems just and appropriate.

Dated: December 21, 2021

Respectfully submitted,

/s/ Belinda S Lee

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