

UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF INDUSTRY AND SECURITY
WASHINGTON, D.C. 20230

In the Matter of:

Cadence Design Systems, Inc.
2655 Seely Avenue
San Jose, CA 95134

Respondent

ORDER RELATING TO
CADENCE DESIGN SYSTEMS

The Bureau of Industry and Security, U.S. Department of Commerce (“BIS”), has notified Cadence Design Systems, Inc. of San Jose, CA (“Cadence” or “Respondent”) of its intention to initiate an administrative proceeding against Respondent pursuant to Section 766.3 of the Export Administration Regulations (the “Regulations”),¹ through the issuance of a Proposed Charging Letter to Respondent that alleges that Respondent committed 61 violations of the Regulations.² Specifically:

GENERAL ALLEGATIONS

¹ The Regulations originally issued under the Export Administration Act of 1979, 50 U.S.C. §§ 4601-4623 (Supp. III 2015) (“EAA”), which lapsed on August 21, 2001. The President, through Executive Order 13222 of August 17, 2001 (3 C.F.R., 2001 Comp. 783 (2002)), which has been extended by successive Presidential Notices, including the Notice of August 8, 2018 (83 Fed. Reg. 39,871 (Aug. 13, 2018)), has continued the Regulations in full force and effect under the International Emergency Economic Powers Act (50 U.S.C. § 1701, *et seq.*) (2012) (“IEEPA”). On August 13, 2018, the President signed into law the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which includes the Export Control Reform Act of 2018, 50 U.S.C. §§ 4801-4852 (“ECRA”). While Section 1766 of ECRA repeals the provisions of the EAA (except for three sections which are inapplicable here), Section 1768 of ECRA provides, in pertinent part, that all rules and regulations that were made or issued under the EAA, including as continued in effect pursuant to IEEPA, and were in effect as of ECRA’s date of enactment (August 13, 2018), shall continue in effect until modified, superseded, set aside, or revoked through action undertaken pursuant to the authority provided under ECRA.

² The Regulations are currently codified in the Code of Federal Regulations (the “Code”) at 15 C.F.R. Parts 730-774 (2025). The regulations governing the violations at issue, which occurred between 2016 – 2021, are found in the 2016 – 2021 versions of the Code (15 C.F.R. Parts 730-774 (2016 – 2021)). The 2025 Regulations govern the procedures that apply to this matter.

As described in further detail below, Cadence Design Systems Management (Shanghai) Co., Ltd. (“Cadence China”) is a subsidiary of Cadence located in the People’s Republic of China (“PRC”) through which Cadence sells products and services to customers in the PRC. Between approximately September 2015 and September 2020, Cadence China violated the Regulations on 56 occasions by selling and/or loaning items subject to the EAR to Central South CAD Center (“CSCC”), an alias of Entity List party National University of Defense Technology (“NUDT”), in China without the requisite license or other authorization from BIS. Specifically, Cadence China exported or caused the export of Electronic Design Automation (“EDA”) hardware and software and semiconductor design technology,³ in particular intellectual property (“IP”), controlled under Export Control Classification Numbers (“ECCN”) 3B991b.2.c, 3D991 or 3E991 or designated EAR99⁴ to CSCC in China with reason to know, or awareness of circumstances that should have prompted further due diligence, that CSCC was an alias for NUDT. Pursuant to Section 772.1 of the EAR, “knowledge of a circumstance (the term may be a variant, such as “know,” “reason to know,” or “reason to believe”) includes not only positive knowledge that the circumstance exists or is substantially certain to occur, but also an awareness of a high probability of its existence or future occurrence.” 15 C.F.R. § 772.1. This awareness may be inferred from evidence of a person’s conscious disregard of known facts or a person’s willful avoidance of facts. *See id.*

EDA comprises the software, hardware, and services that are combined to define, plan, design, implement, and verify the design of electrical devices, including semiconductor devices and electrical chips. EDA is used in designing electronic systems such as integrated circuits and printed circuit boards. EDA tools can also simulate the performance of integrated circuit designs and verify that the design will perform as intended.

The Entity List, which is set forth in Supplement 4 to Part 744 of the Regulations, identifies entities that are subject to additional export, reexport, and transfer restrictions because “there is reasonable cause to believe, based on specific and articulable facts, that the entity has been involved, is involved, or poses a significant risk of being or becoming involved in activities that are contrary to the national security or foreign policy interests of the United States.”⁵ Since NUDT’s addition to the Entity List in February 2015, all exports, reexports and transfers of items subject to the EAR to NUDT have required a BIS license.⁶

³ Pursuant to 15 C.F.R. § 772.1, “technology” includes information, tangible or intangible, necessary for the “development,” “production,” “use,” operation, installation, maintenance, repair, overhaul, or refurbishing of an item.

⁴ EAR99 is a designation for items subject to the Regulations but not listed on the Commerce Control List. *See* 15 C.F.R. §§ 734.3(c) and 772.1.

⁵ 15 C.F.R. § 744.11(b).

⁶ 80 Fed. Reg. 8524 (Feb. 18, 2015).

Later, with reason to know, including awareness of a high probability that items previously exported under CSCC's sales account had in fact been exported to NUDT in violation of the Entity List restrictions set forth in Section 744.11 of the Regulations, Cadence transferred CSCC's software and technology to Phytium Technology Co. Ltd, also known as Tianjin Phytium Information Technology, Phytium or Feiteng ("Phytium"), also in China. This conduct violated General Prohibition Ten of the Regulations, which states that "You may not . . . transfer . . . any item subject to the EAR. . . with knowledge that a violation of the [Regulations] . . . has occurred . . . in connection with the item."⁷ Cadence attempted a further violation of General Prohibition Ten of the regulations by attempting to transfer hardware items previously exported to CSCC to Phytium. At the time, Cadence China employees were aware that CSCC and Phytium were closely linked and shared some personnel.

Further, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, due to certain system-level gaps, three of the terminated customers were able to download software, subject to the EAR, after their designation to the Entity List. The terminated customers did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.

Key Parties

A. Cadence

Cadence, headquartered in San Jose, California, offers EDA hardware and software, semiconductor design technology, and related services. Cadence's EDA tools support the development of electronic chips and semiconductor devices used in a wide range of applications, including hyperscale computing. Cadence describes itself as "a computational software company...leveraging [its] algorithmic expertise to expand beyond the EDA market into system analysis, machine learning, and other domains."

Cadence China is a Cadence subsidiary located in China.

B. National University of Defense Technology

NUDT, a university supervised by China's Central Military Commission, was added to the Entity List on February 18, 2015.⁸ NUDT was added to the Entity List due to its use of U.S.-origin multicores, boards, and (co)processors to produce the TianHe-1A and TianHe-2 supercomputers, which are believed to be used in nuclear explosive activities

⁷ 15 C.F.R. § 736.2.

⁸ See 80 Fed. Reg. 8524. BIS subsequently added additional alias and address information, including addresses at 109 Deya Road and 47 Deya Road in Changsha, China, to NUDT's entry on the Entity List on June 24, 2019. See 84 Fed. Reg. 29371.

as described in § 744.2(a) of the EAR.⁹ The TianHe supercomputers are located at supercomputing centers in Changsha, Guangzhou and Tianjin, China. NUDT's primary campus is located in Changsha, China.

C. CSCC

Effective June 28, 2022, CSCC was added to the Entity List as an alias for NUDT.¹⁰ From 2002 until approximately September 2020, CSCC was a Cadence China customer.

D. Phytium

Phytium is a fabless Chinese semiconductor company that specializes in the design of electronic chips and semiconductor devices ("fabless" is a term used to distinguish firms whose focus is limited to designing these devices from firms that operate a fabrication plant, or "fab," to manufacture them). Phytium has publicly confirmed that it supplies processors to the TianHe series of supercomputers described above, and its publicly reported activities include using U.S.-origin EDA tools to design chips used to power a military supercomputer that models hypersonic flight.¹¹ Although Phytium was not on the Entity List during the relevant timeframe, it was later added, effective April 8, 2021, as the result of its "activities that support China's military actors, its destabilizing military modernization efforts, and/or its weapons of mass destruction (WMD) programs."¹²

STATEMENT OF CHARGES

Charges Related to the Sale and Loan of Export Controlled Hardware, Software and Technology to an Entity Listed Chinese Company

Charges 1-10 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately December 29, 2016 and June 29, 2020, Cadence China engaged in conduct prohibited by the Regulations on ten occasions when it sold and exported or caused the export of EDA hardware subject to the EAR and valued at approximately \$21,961,775.28 to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA hardware was classified under Export Control

⁹ *Id.*

¹⁰ *See* 87 Fed. Reg. 38920 (June 30, 2022).

¹¹ Ellen Nakashima and Gerry Shih, "China builds advanced weapons systems using American technology," The Washington Post (Apr. 9, 2021), available at https://www.washingtonpost.com/national-security/china-hypersonic-missiles-american-technology/2021/04/07/37a6b9be-96fd-11eb-b28d-bfa7bb5cb2a5_story.html.

¹² 86 Fed. Reg. 18437 (Apr. 9, 2021).

Classification Number (“ECCN”) 3B991b.2.c and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 11-27 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately December 16, 2016 and June 24, 2020, Cadence China engaged in conduct prohibited by the Regulations on seventeen occasions when it sold and exported or caused the export of EDA software subject to the EAR and valued at approximately \$2,625,845 to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA software was classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or was designated as EAR99. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 28-34 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately September 30, 2015 and June 22, 2020, Cadence China engaged in conduct prohibited by the Regulations on seven occasions when it sold and exported, caused the export of, or attempted to export semiconductor design technology, specifically IP, subject to the EAR and valued at approximately \$10,790,751, to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The technology was classified under ECCN 3E991 and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 35-56 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately April 9, 2018 and September 1, 2020, Cadence China engaged in conduct prohibited by the Regulations on twenty-two occasions when, as part of loan transactions, it exported or caused the export of EDA hardware and related software subject to the EAR and valued at approximately \$9,926,946.13, to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user, without the requisite license or other authorization from BIS. The EDA hardware was classified under ECCN 3B991b.2.c and controlled for Anti-

Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges Related to the Transfer of Export Controlled Software and Technology in Violation of General Prohibition 10

Charge 57 15 C.F.R. § 764.2(e) – Acting with Knowledge of a Violation

As described in further detail below, between approximately November 11, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by transferring (in-country) EDA software classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or designated as EAR99, and semiconductor design technology, specifically IP, classified under ECCN 3E991 and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the software and technology had previously been exported to CSCC, an alias of NUDT, and without the requisite license or other authorization from BIS. Because Cadence transferred the EDA software and semiconductor design technology to Phytium with reason to know that a violation of the Regulations had already occurred when the software and technology was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.”

Charge 58 15 C.F.R. § 764.2(c) – Attempting to Violate the EAR

As described in further detail below, between approximately November 1, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by attempting to transfer (in-country) EDA hardware, classified under ECCN 3B991b.2.c and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the hardware had previously been exported to CSCC, an alias of NUDT, without the requisite license or other authorization from BIS. Because Cadence attempted to transfer the EDA hardware to Phytium with reason to know that a violation of the Regulations had already occurred when the hardware was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.” On March 31, 2021, Cadence placed Phytium on export hold as a result of its internal compliance review and discontinued transactions with Phytium without successfully completing any of the anticipated hardware transfers. Phytium was later designated on the Entity List on April 8, 2021.

Charges Related to the Downloads by Entity Listed Companies of Export Controlled Software

Charges 59-61 15 C.F.R. § 764.2(a) – Engaging in Prohibited Conduct

As described in further detail below, between approximately September 8, 2016 and December 16, 2021, Cadence engaged in conduct prohibited by the Regulations when it exported EDA software, classified under ECCN 3D991 and controlled for Anti-Terrorism reasons or designated as EAR99, to three Entity Listed parties without the requisite license or other authorization from BIS. Specifically, while Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, certain system-level gaps allowed Joint Stock Company Mikron (“Mikron”), Huawei Technologies Co., Ltd. (“Huawei”), and Semiconductor Manufacturing International Corporation (“SMIC”) to continue making downloads after their additions to the Entity List. These downloads were exports prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

OVERVIEW AND BACKGROUND OF CHARGES

Overview

1. Cadence China maintained a sales relationship with CSCC since 2002 and for approximately five years after NUDT’s placement on the Entity List (effective February 18, 2015). Cadence China’s customer relationship and experience with the CSCC account gave certain China-based employees of Cadence China access to information indicating that CSCC was closely linked to NUDT, including, *inter alia*, information that CSCC and NUDT shared personnel and that equipment sold or loaned to CSCC was installed on the NUDT campus. Despite having reason to know that CSCC was an alias for NUDT, Cadence China continued to make sales and loans to CSCC until September 2020, when Cadence placed an export hold on the CSCC sales account.
2. Cadence China’s failure to act on the red flags linking CSCC with NUDT until approximately September 2020 resulted in numerous exports of EDA hardware, software, and semiconductor design technology subject to the EAR to NUDT without the requisite license or other authorization from BIS. These included the following fifty-six transactions between 2015 and 2020, totaling approximately \$45,305,317.41, which are also detailed in Charges 1-56:

- a. **Charges 1-10:** Ten sales and exports of EDA hardware totaling approximately \$21,961,775.28, including items classified under ECCNs 3B991b.2.c;
 - b. **Charges 11-27:** Seventeen sales and exports of EDA software totaling approximately \$2,625,845, including items classified under ECCN 3D991 and designated EAR99;
 - c. **Charges 28-34:** Seven sales and exports or attempted exports of semiconductor design technology, specifically IP, totaling approximately \$10,790,751.00, including items classified under ECCN 3E991; and
 - d. **Charges 35-56:** Twenty-two loans and exports of EDA hardware totaling approximately \$9,926,946.13, including items classified under ECCNs 3B991b.2.c and 3D991 and items designated EAR99.
3. In approximately September 2020, more than three years after it first shipped controlled items to CSCC in violation of the EAR, Cadence's U.S. Legal Team discovered the red flags linking CSCC with NUDT and as a result, took action by placing an export hold on the CSCC sales account. Cadence's U.S. Legal Team discovered the red flags after implementing enhanced due diligence in response to regulatory changes to Section 744.21 of the EAR. Upon learning of these red flags, Cadence's U.S. Legal Team took action to terminate CSCC as a customer.
 4. Cadence then agreed to assign its contracts with CSCC to Phytium, a separate corporate legal entity with certain connections to NUDT, and to transfer the EDA hardware, software, and semiconductor design technology that it had previously sold and exported to CSCC. At the time Cadence agreed to these transfers, and as discussed further below, Cadence China had reason to know that Phytium and CSCC were closely linked, including through overlapping personnel.
 5. Between approximately November 1, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, subject to the EAR to Phytium. The EDA software and semiconductor design technology had previously been exported to CSCC in violation of the Regulations. As a result, and as detailed in Charge 57, Cadence's subsequent transfer of EDA software and semiconductor design technology to Phytium violated General Prohibition Ten. Cadence discontinued the transfer process prior to Phytium's addition to the Entity List and without successfully completing any of the anticipated hardware transfers.

Cadence China's Sales and Loans to CSCC

6. CSCC was an existing Cadence China customer account holder from 2002 until September 2020, more than 5 years after NUDT's designation in February 2015. In its customer database, Cadence China identified CSCC under the name "Central South CAD Center," or "CSCC," associated with the address "54 Beiya

Road, Changsha, China.” This address does not exist but closely matches another address on the NUDT campus: 54 Deya Road.

7. Certain Cadence China personnel sometimes used the acronym “CSCC” together with the Chinese characters for NUDT in correspondence, indicating a link between the two. For example, in May 2015 (a few months after NUDT’s designation), one now-former Cadence China employee wrote in an email to colleagues, “Be careful we call CSCC, or 国防科技大学 is OK.” The author of the email also wrote that “the subject [was] too sensitive.”
8. In the words of certain of Cadence China’s own sales personnel, CSCC was a “key account,” consistent with other accounts of similar value. Certain Cadence China sales and technical personnel in China maintained customer relationships with CSCC personnel, some of whom were known by Cadence China to be associated with NUDT. As a result of this familiarity and interaction, and as detailed further below, certain personnel within Cadence China across multiple roles had reason to know that CSCC was an alias for NUDT. Nevertheless, Cadence China continued exporting to CSCC after NUDT’s designation on February 18, 2015.

Cadence China’s Sales Personnel Had Reason to Know that CSCC was an Alias for NUDT

9. Certain of Cadence China’s sales personnel interacted over several years with CSCC personnel who were also associated with NUDT. As a result of their familiarity with CSCC and these personnel, Cadence China had reason to know that CSCC was an alias for NUDT by the time NUDT was placed on the Entity List on February 18, 2015.
10. For example, on June 27, 2014, at the request of a NUDT researcher, a now-former Cadence China sales representative requested training invitations for “seven guys f[ro]m CSCC” to attend training in France. Cadence China then prepared seven invitation letters, one addressed to each individual, at “School of Computer, National University of Defense Technology, Changsha, Hunan, China 410073.” Each letter also stated, “National University of Defense Technology will cover all necessary expenses during your stay in France.”
11. Even after NUDT’s addition to the Entity List, Cadence China continued to issue similar training invitations, referencing NUDT, to and on behalf of CSCC personnel. On August 19, 2016, a now-former Cadence China sales representative requested similar letters for “3 customers from CSCC” for a training event in Israel, and shortly afterward requested another letter for “one more guy[] from CSCC” to attend the same training. Although Cadence China issued the letters for CSCC personnel, each letter contained the same language referencing NUDT. Cadence China also prepared additional letters for two other events, one in 2016 and another in 2017, that included the same references to

NUDT, despite the fact that Cadence China was issuing the letters on behalf of CSCC personnel.

12. Cadence China's sales team also directed CSCC sales account documents to NUDT personnel, including at NUDT-associated email addresses. For example, on March 2, 2017, over two years after NUDT's placement onto the Entity List, a now-former Cadence China sales representative emailed a partially executed limited license agreement for a CSCC hardware pre-sale evaluation to a NUDT researcher at his NUDT email address. Cadence China identified another individual as the point of contact for over two dozen other CSCC sales, despite the fact that certain Cadence China employees had identified that individual as a NUDT researcher in a training letter request as early as 2017.
13. Certain of Cadence China's sales personnel also interacted in person with CSCC representatives known to be associated with NUDT. In September 2017, a now-former Cadence China sales representative traveled to Changsha, China and hosted meals with CSCC representatives. For three of these CSCC representatives, Cadence China had previously prepared training invitations acknowledging their association with NUDT. Additionally, although the former sales representative's expense report identified the customer as "Central South CAD Center," the report also identifies the customer as NUDT twice, demonstrating that Cadence China had reason to know that CSCC was an alias for NUDT.
14. In 2019, Cadence China's sales team conducted a review of the CSCC account that demonstrated Cadence China's working relationship with CSCC. In its own words, Cadence China's strategies for its relationship with CSCC included "[d]eeply understand[ing] customer's project details and technical requirements," "[c]losely co-work[ing] on advanced technology to meet customer target," and providing "Backend Strong Support on 7nm project" (7nm is a reference to advanced chip design). The sales team also developed a "Relationship Mapping" strategy identifying Cadence China contacts for fifteen key CSCC individuals.
15. As a result of the familiarity of certain of Cadence China's sales personnel in China with and knowledge of CSCC's business practices, Cadence China had reason to know that CSCC was an alias for NUDT.

Cadence China's Technical Personnel Had Reason to Know that CSCC was an Alias for NUDT

16. Certain of Cadence China's technical personnel also maintained contact with CSCC by providing, among other things, on-site technical support. Through these contacts and interactions, Cadence China had reason to know that CSCC was an alias for NUDT.
17. For example, certain Cadence China personnel met with two CSCC representatives, both of whom Cadence China had previously identified in

- training invitation letters as being associated with NUDT. Meeting minutes reflect the need for additional meetings and the assignment of follow-up tasks, including one task assigned jointly to a Cadence China-based engineer and one of the CSCC representatives indicated in the training invitation letters as being associated with NUDT.
18. These Cadence China technical personnel used the same CSCC representative's NUDT email address to set up subsequent meetings and to communicate on other occasions. For instance, on December 28, 2017, a now-former Cadence China engineer wrote to the CSCC representative at his NUDT email address, thanking him for his "great support and close cooperation." The CSCC representative responded with a technical explanation of the support that Cadence China's employees provided and stated, "Thank you and hope for deeper cooperation."
 19. Cadence China's knowledge of CSCC went beyond these meetings and electronic communications. The hardware transactions between Cadence China and CSCC required specific, on-site technical support from Cadence China, including at known NUDT locations, further indicating that certain Cadence China personnel had reason to know that CSCC was an alias for NUDT.
 20. For example, in December 2017, a Cadence China field service representative was tasked with a work order to resolve a hardware issue. The CSCC point of contact for the work order was a known NUDT representative, using his NUDT email address. On May 22, 2020, Cadence China-affiliated engineers supervised the installation of equipment at an NUDT site, specifically "North Gate, National University of Defense Technology (NUDT), Sanyi Avenue, Changsha City."
 21. Technicians performing site visits had the opportunity to see that Cadence hardware was installed on the NUDT campus. One technician described the site as a "military based campus"; another technician explained that "they don't have email and they don't have internet access at this facility" because it is "military related with very strict rules."

Cadence Personnel Knew About Information Associated with CSCC That Should Have Prompted Further Due Diligence

22. Through their review of CSCC's account as a result of CSCC's poor credit performance, certain Cadence global finance and management personnel knew information about CSCC that should have prompted further due diligence. Despite Cadence's inability to verify information about CSCC in connection with its check of CSCC's credit, Cadence finance and management teams chose to resolve the credit issues at hand, allowing business as usual to go forward, while failing to escalate or otherwise address that information. When confronted with export compliance-related issues, Cadence undertook additional due diligence to address such red flags, including requesting a Letter of Assurance from CSCC in January 2019 to confirm that there was no prohibited end-use and/or end-user involved in transactions with CSCC.
23. On August 25, 2016, a Cadence Vice President in charge of the Asia Pacific region ("VP-AP") wrote to another now-former Senior Vice President that Cadence China was "losing multi-billion gates business" to competitors because of a decision not to ship new hardware to CSCC as a result of a delinquent payment. The VP-AP further stated, "We will get the money back eventually but no more future business. CSCC is fabless maker for the China TianHe supercomputer – fastest in the world 2 years in a row until 2015." After this exchange, Cadence China went on to make over \$43 million in sales to CSCC, with the VP-AP personally approving two of the transactions.
24. The VP-AP continued to note the connection between CSCC and the TianHe supercomputer program to others in Cadence management. On June 9, 2017, he explained to a now-former Cadence SVP, "CSCC is the design arm of the 2nd fastest supercomputer maker (TianHe) in the world. They were #1 until last year." The now-former SVP responded, "Cool. We can meet their needs. Let's sign them up."
25. The VP-AP's direct relationship with CSCC is illustrated by his expression of frustration in an email sent while Cadence China was trying to complete a loaner transaction in September 2018: "I am sick and tired of receiving complaint calls from CSCC CEO. I am his good friend and I can't do this forever. If our company doesn't want their business including HW, SW, and IP altogether, I will ask him to leave me alone and go somewhere else."
26. A now-former Vice President in Finance also periodically weighed in on credit concerns with CSCC, approving at least three transactions and asking to be kept "in the loop" on another. In September 2019, he reviewed CSCC's credit issues with another senior Cadence executive, who recommended requiring payment in advance. The now-former Vice President in Finance ultimately authorized payment terms where Cadence China would ship the hardware items after receipt of an initial payment of 70% of the value.

27. Scrutiny of CSCC's payment history by some Cadence executives continued throughout its sales relationship. In April 2020, when asked to approve another transaction that raised credit concerns, the now-former Vice President in Finance asked whether Cadence had received financials or a credit application from CSCC, or whether CSCC's financials were posted online. A Cadence credit manager explained that no such information was available; rather, Cadence had conducted credit reviews of CSCC since 2011 and had never had financial information on the company. The credit manager then added, "CSCC is an interesting internet phenomena, there is literally nothing about them in English, and [a finance employee] confirmed she could find nothing in Chinese either. Company is not listed in either D&B [Dun & Bradstreet] or CreditSafe. I recall it was not listed in CRMZ [ticker for CreditRiskMonitor.com, Inc.] either." The now-former Vice President in Finance suggested that Cadence China could go forward using CSCC's payment history as support for extending credit. Cadence China went on to make \$15.6 million in exports to CSCC after this discussion.

Summary

28. Accordingly, as discussed above, significant information linking CSCC to NUDT should have been apparent to Cadence or Cadence China personnel in multiple roles over a period of several years. This information included Cadence China's communication and interactions with employees associated with both CSCC and NUDT, Cadence China's installations of equipment sold or loaned to CSCC on NUDT's campus, and Cadence's inability to properly confirm CSCC's bona fides. On multiple occasions, before and after NUDT's placement on the Entity List in 2015, Cadence China personnel acknowledged the connections between CSCC and NUDT. As a result, Cadence China had reason to know that CSCC was an alias for NUDT when NUDT was placed on the Entity List on February 18, 2015. Nevertheless, Cadence China continued its sales and loans to CSCC until approximately September 2020. As specified in Charges 1-56, between 2015 and 2020, Cadence China's actions resulted in the unlawful export of EDA hardware, software, and semiconductor design technology, on approximately 56 occasions and totaling approximately \$45,305,317.41 to CSCC with reason to know that CSCC was an alias for NUDT.

Cadence's Actual and Attempted Transfers to Phytium

29. In September 2020, years after Cadence China first had reason to know of the ties between CSCC and NUDT, Cadence placed CSCC's sales account on an export hold. Cadence then proceeded to transfer items previously exported to CSCC to Phytium.
30. At the time that Cadence transferred the items to Phytium, certain Cadence and Cadence China personnel had reason to know that CSCC and Phytium were linked and considered, in the words of one Cadence employee, "the same customer." Over the course of Cadence China's relationship with CSCC,

- Cadence China employees communicated with CSCC employees who were also known to have associations with Phytium, as well as with NUDT. Certain of these CSCC affiliated employees used email addresses with the domain @phytium.com.cn and sometimes referred to themselves directly as Phytium employees. By the time CSCC was placed on the sales and export hold, some Phytium-associated email addresses were identified as contacts for CSCC in Cadence's customer database.
31. In early October 2020, after placing CSCC on an export hold, Cadence began discussing the reassignment of its existing CSCC contracts to Phytium. On October 28, 2020, a now-former Vice President and Deputy General Counsel ("VP-1") provided a now-former sales group director in China with draft assignment letters for the IP and asked her to obtain relevant contact and location information from Phytium, noting, "of course the email addresses should all be @phytium.com.cn corporate addresses."
 32. In November 2020, an operations analyst raised a concern regarding an expiring CSCC hardware loan and noted the need for legal guidance on whether Cadence China could de-install the items or convert them to a permanent import and keep them at the CSCC site. The now-former sales group director in China (explained that the customer had "placed almost \$20M orders to Cadence this year" and "all the loaners are fully occupied by their projects." The sales group director added, "If we want to take back the loaners, they are ok with it if we have the back up solution to make sure the seamless transition as their project schedule can not be delayed any more. Otherwise, it will be very difficult." A Vice President in the System & Verification Group responded, "Customer relationship is very important Our first priority is to keep them happy," and that they should discuss further. One of the copied employees forwarded the email chain to Cadence's VP-1, who asked, "BTW, do you think that any failure to resolve the loan issue in a normal way could affect revenue on the new [hardware] deal? I know it's two different parties, CSCC and Phytium, but we also know they are related with respect to all these transactions."
 33. On November 6, 2020, an Engineering Group Director explained the process of transferring CSCC's IP to VP-1: "What I will need to do is to move the "enterprises" in our system from CSCC to Phytium, removing any remaining CSCC contacts and adding the ones from the sheets...will need to ensure all the appropriate Phytium contacts are moved in [the customer database] to Phytium (many are CSCC now)."
 34. In January 2021, a Cadence senior materials manager explained, "though we are aware of both CSCC and Phytium are the same customer but just located in different city/province, we will have to send two different document[s] per audit process." The materials manager then sent the two audit letters attached to a single email to a Phytium representative known by Cadence China to be associated with both CSCC and NUDT.

35. Later in January 2021, a Cadence employee prepared a cost estimate for the transfer of nine items of EDA hardware from CSCC to “New lab in Changsha (currently location TBD).” The employee noted in a cover email, whose recipients included a now-former senior group director, that the “cost for Cadence resources is huge” and could impact new emulator installs and servicing for other customers.
36. As detailed above, Cadence China used Phytium-associated email addresses to communicate with CSCC employees, who sometimes referred to themselves as Phytium employees, and one Cadence employee referred internally to CSCC and Phytium as “the same customer.”
37. Notwithstanding having a reason to know that CSCC was an alias of NUDT, Cadence agreed to transfer items previously exported to CSCC to Phytium. Specifically, on November 9, 2020, Cadence signed an agreement to transfer CSCC’s IP to Phytium. Cadence subsequently signed an agreement to transfer CSCC’s software to Phytium on December 2, 2020. Cadence transferred software and IP pursuant to these agreements between approximately November 11, 2020 and February 1, 2021. Although Cadence prepared an agreement to transfer CSCC’s hardware to Phytium, the transfer never took place. Cadence placed Phytium on an export hold as a result of its internal review, and prior to Phytium’s addition on the Entity List.
38. Accordingly, as detailed in Charges 57 and 58, between approximately November 11, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, and attempted to transfer hardware, classified under ECCNs 3E991, 3D991, 3B991b.2.c, and/or designated as EAR99, to Phytium. Further, as detailed above, the EDA software, semiconductor design technology, and EDA hardware had previously been exported to CSCC in violation of the Regulations. As a result, Cadence’s subsequent transfer and assignment of the EDA software and semiconductor design technology to Phytium and attempted transfer of hardware violated General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge [or reason to know] that a violation of the Regulations “has occurred . . . in connection with the item.” Cadence discontinued the transfer process prior to Phytium’s addition to the Entity List and without completing any of the anticipated hardware transfers.

Software Downloads by Entity Listed Parties

39. As noted above, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with companies who were later designated on the Entity List, due to certain system-level gaps, JSC Mikron, Huawei, and SMIC were able to download software, subject to the EAR, without the requisite BIS license or other

authorization. As a result of Cadence's compliance processes and procedures, the terminated companies did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.

40. Each of these companies was added to the Entity List based on a determination by the End User Review Committee that the company was acting contrary to the national security or foreign policy interests of the United States. Pursuant to Section 744.11 of the Regulations, exports, reexports, and transfers of all items subject to the Regulations to these companies are prohibited except with BIS authorization, and no license exceptions are available. No BIS license was sought or received.

WHEREAS, I have taken into consideration the Agreement between Respondent and the U.S. Department of Justice ("DOJ Agreement");

WHEREAS, BIS and Respondent have entered into a Settlement Agreement pursuant to Section 766.18(a) of the Regulations, whereby they agreed to settle this matter in accordance with the terms and conditions set forth therein;

WHEREAS, Respondent admits committing the alleged conduct described in the Proposed Charging Letter; and

WHEREAS, I have approved of the terms of such Settlement Agreement;

IT IS THEREFORE ORDERED:

FIRST, Respondent shall be assessed a civil penalty in the amount of \$95,312,000. Respondent shall pay the U.S. Department of Commerce \$47,656,000 within 30 days of the date of this Order. Payment shall be made in the manner specified in the attached instructions. Payment of the remaining \$47,656,000 shall be suspended until Respondent make payment of the U.S. Department of Justice ("DOJ") criminal penalty pursuant to the terms of the DOJ Agreement, and thereafter shall be credited towards the total \$95,312,000 penalty amount due under this agreement. If Respondent fails to pay the

DOJ criminal penalty, then the suspension shall be revoked and the full amount of the suspended penalty shall be imposed and become immediately due.

SECOND, that, pursuant to the Debt Collection Act of 1982, as amended (31 U.S.C. §§ 3701-3720E (2012)), the civil penalty owed under this Order accrues interest as more fully described in the attached Notice, and if payment is not made by the due date specified herein, Respondent will be assessed, in addition to the full amount of the civil penalty and interest, a penalty charge and an administrative charge, as more fully described in the attached Notice.


THIRD, Cadence shall complete two (2) internal audits of its export controls compliance program, including but not limited to its oversight over export controls compliance by Cadence China. The audits shall cover Cadence's compliance with U.S. export control laws (including recordkeeping requirements), with respect to all exports, reexports, or transfers (in country) that are subject to the Regulations. The results of the audits, including any relevant supporting materials, shall be submitted to the U.S. Department of Commerce, Bureau of Industry and Security, Office of Export Enforcement, 160 W. Santa Clara Street, Suite 725, San Jose, CA 95113 ("BIS San Jose Field Office"). The first annual audit shall cover the 12-month period beginning on September 1, 2025, and the related report shall be due to the BIS San Jose Field Office no later than March 1, 2027. The second annual audit shall cover the 12-month period beginning on September 1, 2026, and the related report shall be due to the BIS San Jose Field Office no later than March 1, 2028. Said audits shall be in substantial compliance with the Export Compliance Program (ECP) sample audit module and shall include an

assessment of Cadence's compliance with the Regulations. The ECP sample audit module is available on the BIS web site at <https://www.bis.doc.gov/index.php/documents/pdfs/1641-ecp/file>. In addition, where said audits identify actual or potential violations of the Regulations, Cadence shall promptly provide copies of the export control documents and supporting documentation to the BIS San Jose Field Office. Cadence may voluntarily disclose violations identified through the audits, copying the BIS San Jose Field Office.

FOURTH, that compliance with the terms of the Settlement Agreement and this Order, including the full and timely payment of the civil penalty agreed to in Paragraph 2.a of the Settlement Agreement, the timely completion of the audits and submission of the audit results agreed to in Paragraph 2.b. of the Settlement Agreement, and compliance with the terms of the DOJ Agreement, are hereby made conditions to the granting, restoration, or continuing validity of any export license, license exception, permission, or privilege granted, or to be granted, to Respondent.

FIFTH, the Proposed Charging Letter, the Settlement Agreement, and this Order shall be made available to the public.

This Order, which constitutes the final agency action in this matter, is effective immediately.



John Sonderman
Performing the Non-Exclusive Functions
and Duties of the Assistant Secretary for
Export Enforcement

Issued this 28 day of July, 2025.

UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF INDUSTRY AND SECURITY
WASHINGTON, D.C. 20230

In the Matter of:

Cadence Design Systems, Inc.
2655 Seely Avenue
San Jose, CA 95134

Respondent

SETTLEMENT AGREEMENT

This Settlement Agreement (“Agreement”) is made by and between Cadence Design Systems, Inc. of San Jose, CA (“Cadence” or “Respondent”) and the Bureau of Industry and Security, U.S. Department of Commerce (“BIS”) (collectively, the “Parties”), pursuant to Section 766.18(a) of the Export Administration Regulations (the “Regulations”).¹

WHEREAS, BIS has notified Respondent of its intention to initiate an administrative proceeding against Respondent, pursuant to the Regulations;²

¹ The Regulations originally issued under the Export Administration Act of 1979, 50 U.S.C. §§ 4601-4623 (Supp. III 2015) (“EAA”), which lapsed on August 21, 2001. The President, through Executive Order 13222 of August 17, 2001 (3 C.F.R., 2001 Comp. 783 (2002)), which has been extended by successive Presidential Notices, including the Notice of August 8, 2018 (83 Fed. Reg. 39,871 (Aug. 13, 2018)), has continued the Regulations in full force and effect under the International Emergency Economic Powers Act (50 U.S.C. § 1701, *et seq.*) (2012) (“IEEPA”). On August 13, 2018, the President signed into law the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which includes the Export Control Reform Act of 2018, 50 U.S.C. §§ 4801-4852 (“ECRA”). While Section 1766 of ECRA repeals the provisions of the EAA (except for three sections which are inapplicable here), Section 1768 of ECRA provides, in pertinent part, that all rules and regulations that were made or issued under the EAA, including as continued in effect pursuant to IEEPA, and were in effect as of ECRA’s date of enactment (August 13, 2018), shall continue in effect until modified, superseded, set aside, or revoked through action undertaken pursuant to the authority provided under ECRA.

² The Regulations are currently codified in the Code of Federal Regulations (the “Code”) at 15 C.F.R. Parts 730-774 (2025). The regulations governing the violations at issue, which occurred between 2016 – 2021, are found in the 2016 – 2021 versions of the Code (15 C.F.R. Parts 730-774 (2016 – 2021)). The 2025 Regulations govern the procedures that apply to this matter.

WHEREAS, BIS has issued a Proposed Charging Letter to Respondent that alleges that Respondent committed 61 violations of the Regulations, specifically:

GENERAL ALLEGATIONS

As described in further detail below, Cadence Design Systems Management (Shanghai) Co., Ltd. (“Cadence China”) is a subsidiary of Cadence located in the People’s Republic of China (“PRC”) through which Cadence sells products and services to customers in the PRC. Between approximately September 2015 and September 2020, Cadence China violated the Regulations on 56 occasions by selling and/or loaning items subject to the EAR to Central South CAD Center (“CSCC”), an alias of Entity List party National University of Defense Technology (“NUDT”), in China without the requisite license or other authorization from BIS. Specifically, Cadence China exported or caused the export of Electronic Design Automation (“EDA”) hardware and software and semiconductor design technology,³ in particular intellectual property (“IP”), controlled under Export Control Classification Numbers (“ECCN”) 3B991b.2.c, 3D991 or 3E991 or designated EAR99⁴ to CSCC in China with reason to know, or awareness of circumstances that should have prompted further due diligence, that CSCC was an alias for NUDT. Pursuant to Section 772.1 of the EAR, “knowledge of a circumstance (the term may be a variant, such as ‘know,’ ‘reason to know,’ or ‘reason to believe’) includes not only positive knowledge that the circumstance exists or is substantially certain to occur, but also an awareness of a high probability of its existence or future occurrence.” 15 C.F.R. § 772.1. This awareness may be inferred from evidence of a person’s conscious disregard of known facts or a person’s willful avoidance of facts. *See id.*

EDA comprises the software, hardware, and services that are combined to define, plan, design, implement, and verify the design of electrical devices, including semiconductor devices and electrical chips. EDA is used in designing electronic systems such as integrated circuits and printed circuit boards. EDA tools can also simulate the performance of integrated circuit designs and verify that the design will perform as intended.

The Entity List, which is set forth in Supplement 4 to Part 744 of the Regulations, identifies entities that are subject to additional export, reexport, and transfer restrictions because “there is reasonable cause to believe, based on specific and articulable facts, that the entity has been involved, is involved, or poses a significant risk of being or becoming involved in activities that are contrary to the national security or foreign policy interests

³ Pursuant to 15 C.F.R. § 772.1, “technology” includes information, tangible or intangible, necessary for the “development,” “production,” “use,” operation, installation, maintenance, repair, overhaul, or refurbishing of an item.

⁴ EAR99 is a designation for items subject to the Regulations but not listed on the Commerce Control List. *See* 15 C.F.R. §§ 734.3(c) and 772.1.

of the United States.”⁵ Since NUDT’s addition to the Entity List in February 2015, all exports, reexports and transfers of items subject to the EAR to NUDT have required a BIS license.⁶

Later, with reason to know, including awareness of a high probability that items previously exported under CSCC’s sales account had in fact been exported to NUDT in violation of the Entity List restrictions set forth in Section 744.11 of the Regulations, Cadence transferred CSCC’s software and technology to Phytium Technology Co. Ltd, also known as Tianjin Phytium Information Technology, Phytium or Feiteng (“Phytium”), also in China. This conduct violated General Prohibition Ten of the Regulations, which states that “You may not . . . transfer . . . any item subject to the EAR. . . with knowledge that a violation of the [Regulations] . . . has occurred . . . in connection with the item.”⁷ Cadence attempted a further violation of General Prohibition Ten of the regulations by attempting to transfer hardware items previously exported to CSCC to Phytium. At the time, Cadence China employees were aware that CSCC and Phytium were closely linked and shared some personnel.

Further, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, due to certain system-level gaps, three of the terminated customers were able to download software, subject to the EAR, after their designation to the Entity List. The terminated customers did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.

Key Parties

A. Cadence

Cadence, headquartered in San Jose, California, offers EDA hardware and software, semiconductor design technology, and related services. Cadence’s EDA tools support the development of electronic chips and semiconductor devices used in a wide range of applications, including hyperscale computing. Cadence describes itself as “a computational software company... leveraging [its] algorithmic expertise to expand beyond the EDA market into system analysis, machine learning, and other domains.”

Cadence China is a Cadence subsidiary located in China.

B. National University of Defense Technology

⁵ 15 C.F.R. § 744.11(b).

⁶ 80 Fed. Reg. 8524 (Feb. 18, 2015).

⁷ 15 C.F.R. § 736.2.

NUDT, a university supervised by China's Central Military Commission, was added to the Entity List on February 18, 2015.⁸ NUDT was added to the Entity List due to its use of U.S.-origin multicores, boards, and (co)processors to produce the TianHe-1A and TianHe-2 supercomputers, which are believed to be used in nuclear explosive activities as described in § 744.2(a) of the EAR.⁹ The TianHe supercomputers are located at supercomputing centers in Changsha, Guangzhou and Tianjin, China. NUDT's primary campus is located in Changsha, China.

C. CSCC

Effective June 28, 2022, CSCC was added to the Entity List as an alias for NUDT.¹⁰ From 2002 until approximately September 2020, CSCC was a Cadence China customer.

D. Phytium

Phytium is a fabless Chinese semiconductor company that specializes in the design of electronic chips and semiconductor devices ("fabless" is a term used to distinguish firms whose focus is limited to designing these devices from firms that operate a fabrication plant, or "fab," to manufacture them). Phytium has publicly confirmed that it supplies processors to the TianHe series of supercomputers described above, and its publicly reported activities include using U.S.-origin EDA tools to design chips used to power a military supercomputer that models hypersonic flight.¹¹ Although Phytium was not on the Entity List during the relevant timeframe, it was later added, effective April 8, 2021, as the result of its "activities that support China's military actors, its destabilizing military modernization efforts, and/or its weapons of mass destruction (WMD) programs."¹²

STATEMENT OF CHARGES

Charges Related to the Sale and Loan of Export Controlled Hardware, Software and Technology to an Entity Listed Chinese Company

Charges 1-10 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

⁸ See 80 Fed. Reg. 8524. BIS subsequently added additional alias and address information, including addresses at 109 Deya Road and 47 Deya Road in Changsha, China, to NUDT's entry on the Entity List on June 24, 2019. See 84 Fed. Reg. 29371.

⁹ *Id.*

¹⁰ See 87 Fed. Reg. 38920 (June 30, 2022).

¹¹ Ellen Nakashima and Gerry Shih, "China builds advanced weapons systems using American technology," The Washington Post (Apr. 9, 2021), available at https://www.washingtonpost.com/national-security/china-hypersonic-missiles-american-technology/2021/04/07/37a6b9be-96fd-11eb-b28d-bfa7bb5cb2a5_story.html.

¹² 86 Fed. Reg. 18437 (Apr. 9, 2021).

As described in further detail below, between approximately December 29, 2016 and June 29, 2020, Cadence China engaged in conduct prohibited by the Regulations on ten occasions when it sold and exported or caused the export of EDA hardware subject to the EAR and valued at approximately \$21,961,775.28 to CCCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA hardware was classified under Export Control Classification Number (“ECCN”) 3B991b.2.c and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 11-27 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately December 16, 2016 and June 24, 2020, Cadence China engaged in conduct prohibited by the Regulations on seventeen occasions when it sold and exported or caused the export of EDA software subject to the EAR and valued at approximately \$2,625,845 to CCCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA software was classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or was designated as EAR99. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 28-34 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately September 30, 2015 and June 22, 2020, Cadence China engaged in conduct prohibited by the Regulations on seven occasions when it sold and exported, caused the export of, or attempted to export semiconductor design technology, specifically IP, subject to the EAR and valued at approximately \$10,790,751, to CCCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The technology was classified under ECCN 3E991 and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 35-56 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below, between approximately April 9, 2018 and September 1, 2020, Cadence China engaged in conduct prohibited by the Regulations on twenty-two occasions when, as part of loan transactions, it exported or caused the export of EDA hardware and related software subject to the EAR and valued at approximately \$9,926,946.13, to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user, without the requisite license or other authorization from BIS. The EDA hardware was classified under ECCN 3B991b.2.c and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges Related to the Transfer of Export Controlled Software and Technology in Violation of General Prohibition 10

Charge 57 15 C.F.R. § 764.2(e) – Acting with Knowledge of a Violation

As described in further detail below, between approximately November 11, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by transferring (in-country) EDA software classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or designated as EAR99, and semiconductor design technology, specifically IP, classified under ECCN 3E991 and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the software and technology had previously been exported to CSCC, an alias of NUDT, and without the requisite license or other authorization from BIS. Because Cadence transferred the EDA software and semiconductor design technology to Phytium with reason to know that a violation of the Regulations had already occurred when the software and technology was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.”

Charge 58 15 C.F.R. § 764.2(c) – Attempting to Violate the EAR

As described in further detail below, between approximately November 1, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by attempting to transfer (in-country) EDA hardware, classified under ECCN 3B991b.2.c and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the hardware had previously been exported to CSCC, an alias of NUDT, without the requisite license or other authorization from BIS. Because Cadence attempted to transfer the EDA hardware to Phytium with reason to know that a violation of the

Regulations had already occurred when the hardware was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.” On March 31, 2021, Cadence placed Phytium on export hold as a result of its internal compliance review and discontinued transactions with Phytium without successfully completing any of the anticipated hardware transfers. Phytium was later designated on the Entity List on April 8, 2021.

Charges Related to the Downloads by Entity Listed Companies of Export Controlled Software

Charges 59-61 15 C.F.R. § 764.2(a) – Engaging in Prohibited Conduct

As described in further detail below, between approximately September 8, 2016 and December 16, 2021, Cadence engaged in conduct prohibited by the Regulations when it exported EDA software, classified under ECCN 3D991 and controlled for Anti-Terrorism reasons or designated as EAR99, to three Entity Listed parties without the requisite license or other authorization from BIS. Specifically, while Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, certain system-level gaps allowed Joint Stock Company Mikron (“Mikron”), Huawei Technologies Co., Ltd. (“Huawei”), and Semiconductor Manufacturing International Corporation (“SMIC”) to continue making downloads after their additions to the Entity List. These downloads were exports prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

OVERVIEW AND BACKGROUND OF CHARGES

Overview

1. Cadence China maintained a sales relationship with CSCC since 2002 and for approximately five years after NUDT’s placement on the Entity List (effective February 18, 2015). Cadence China’s customer relationship and experience with the CSCC account gave certain China-based employees of Cadence China access to information indicating that CSCC was closely linked to NUDT, including, *inter alia*, information that CSCC and NUDT shared personnel and that equipment sold or loaned to CSCC was installed on the NUDT campus. Despite having reason to know that CSCC was an alias for NUDT, Cadence China continued to make sales and loans to CSCC until September 2020, when Cadence placed an export hold on the CSCC sales account.

2. Cadence China's failure to act on the red flags linking CSCC with NUDT until approximately September 2020 resulted in numerous exports of EDA hardware, software, and semiconductor design technology subject to the EAR to NUDT without the requisite license or other authorization from BIS. These included the following fifty-six transactions between 2015 and 2020, totaling approximately \$45,305,317.41, which are also detailed in Charges 1-56:
 - a. **Charges 1-10:** Ten sales and exports of EDA hardware totaling approximately \$21,961,775.28, including items classified under ECCNs 3B991b.2.c;
 - b. **Charges 11-27:** Seventeen sales and exports of EDA software totaling approximately \$2,625,845, including items classified under ECCN 3D991 and designated EAR99;
 - c. **Charges 28-34:** Seven sales and exports or attempted exports of semiconductor design technology, specifically IP, totaling approximately \$10,790,751.00, including items classified under ECCN 3E991; and
 - d. **Charges 35-56:** Twenty-two loans and exports of EDA hardware totaling approximately \$9,926,946.13, including items classified under ECCNs 3B991b.2.c and 3D991 and items designated EAR99.
3. In approximately September 2020, more than three years after it first shipped controlled items to CSCC in violation of the EAR, Cadence's U.S. Legal Team discovered the red flags linking CSCC with NUDT and as a result, took action by placing an export hold on the CSCC sales account. Cadence's U.S. Legal Team discovered the red flags after implementing enhanced due diligence in response to regulatory changes to Section 744.21 of the EAR. Upon learning of these red flags, Cadence's U.S. Legal Team took action to terminate CSCC as a customer.
4. Cadence then agreed to assign its contracts with CSCC to Phytium, a separate corporate legal entity with certain connections to NUDT, and to transfer the EDA hardware, software, and semiconductor design technology that it had previously sold and exported to CSCC. At the time Cadence agreed to these transfers, and as discussed further below, Cadence China had reason to know that Phytium and CSCC were closely linked, including through overlapping personnel.
5. Between approximately November 1, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, subject to the EAR to Phytium. The EDA software and semiconductor design technology had previously been exported to CSCC in violation of the Regulations. As a result, and as detailed in Charge 57, Cadence's subsequent transfer of EDA software and semiconductor design technology to Phytium violated General Prohibition Ten. Cadence discontinued the transfer process prior to Phytium's

addition to the Entity List and without successfully completing any of the anticipated hardware transfers.

Cadence China's Sales and Loans to CSCC

6. CSCC was an existing Cadence China customer account holder from 2002 until September 2020, more than 5 years after NUDT's designation in February 2015. In its customer database, Cadence China identified CSCC under the name "Central South CAD Center," or "CSCC," associated with the address "54 Beiya Road, Changsha, China." This address does not exist but closely matches another address on the NUDT campus: 54 Deya Road.
7. Certain Cadence China personnel sometimes used the acronym "CSCC" together with the Chinese characters for NUDT in correspondence, indicating a link between the two. For example, in May 2015 (a few months after NUDT's designation), one now-former Cadence China employee wrote in an email to colleagues, "Be careful we call CSCC, or 国防科技大学 is OK." The author of the email also wrote that "the subject [was] too sensitive."
8. In the words of certain of Cadence China's own sales personnel, CSCC was a "key account," consistent with other accounts of similar value. Certain Cadence China sales and technical personnel in China maintained customer relationships with CSCC personnel, some of whom were known by Cadence China to be associated with NUDT. As a result of this familiarity and interaction, and as detailed further below, certain personnel within Cadence China across multiple roles had reason to know that CSCC was an alias for NUDT. Nevertheless, Cadence China continued exporting to CSCC after NUDT's designation on February 18, 2015.

Cadence China's Sales Personnel Had Reason to Know that CSCC was an Alias for NUDT

9. Certain of Cadence China's sales personnel interacted over several years with CSCC personnel who were also associated with NUDT. As a result of their familiarity with CSCC and these personnel, Cadence China had reason to know that CSCC was an alias for NUDT by the time NUDT was placed on the Entity List on February 18, 2015.
10. For example, on June 27, 2014, at the request of a NUDT researcher, a now-former Cadence China sales representative requested training invitations for "seven guys f[ro]m CSCC" to attend training in France. Cadence China then prepared seven invitation letters, one addressed to each individual, at "School of Computer, National University of Defense Technology, Changsha, Hunan, China 410073." Each letter also stated, "National University of Defense Technology will cover all necessary expenses during your stay in France."

11. Even after NUDT's addition to the Entity List, Cadence China continued to issue similar training invitations, referencing NUDT, to and on behalf of CSCC personnel. On August 19, 2016, a now-former Cadence China sales representative requested similar letters for "3 customers from CSCC" for a training event in Israel, and shortly afterward requested another letter for "one more guy[] from CSCC" to attend the same training. Although Cadence China issued the letters for CSCC personnel, each letter contained the same language referencing NUDT. Cadence China also prepared additional letters for two other events, one in 2016 and another in 2017, that included the same references to NUDT, despite the fact that Cadence China was issuing the letters on behalf of CSCC personnel.
12. Cadence China's sales team also directed CSCC sales account documents to NUDT personnel, including at NUDT-associated email addresses. For example, on March 2, 2017, over two years after NUDT's placement onto the Entity List, a now-former Cadence China sales representative emailed a partially executed limited license agreement for a CSCC hardware pre-sale evaluation to a NUDT researcher at his NUDT email address. Cadence China identified another individual as the point of contact for over two dozen other CSCC sales, despite the fact that certain Cadence China employees had identified that individual as a NUDT researcher in a training letter request as early as 2017.
13. Certain of Cadence China's sales personnel also interacted in person with CSCC representatives known to be associated with NUDT. In September 2017, a now-former Cadence China sales representative traveled to Changsha, China and hosted meals with CSCC representatives. For three of these CSCC representatives, Cadence China had previously prepared training invitations acknowledging their association with NUDT. Additionally, although the former sales representative's expense report identified the customer as "Central South CAD Center," the report also identifies the customer as NUDT twice, demonstrating that Cadence China had reason to know that CSCC was an alias for NUDT.
14. In 2019, Cadence China's sales team conducted a review of the CSCC account that demonstrated Cadence China's working relationship with CSCC. In its own words, Cadence China's strategies for its relationship with CSCC included "[d]eeply understand[ing] customer's project details and technical requirements," "[c]losely co-work[ing] on advanced technology to meet customer target," and providing "Backend Strong Support on 7nm project" (7nm is a reference to advanced chip design). The sales team also developed a "Relationship Mapping" strategy identifying Cadence China contacts for fifteen key CSCC individuals.
15. As a result of the familiarity of certain of Cadence China's sales personnel in China with and knowledge of CSCC's business practices, Cadence China had reason to know that CSCC was an alias for NUDT.

Cadence China's Technical Personnel Had Reason to Know that CSCC was an Alias for NUDT

16. Certain of Cadence China's technical personnel also maintained contact with CSCC by providing, among other things, on-site technical support. Through these contacts and interactions, Cadence China had reason to know that CSCC was an alias for NUDT.
17. For example, certain Cadence China personnel met with two CSCC representatives, both of whom Cadence China had previously identified in training invitation letters as being associated with NUDT. Meeting minutes reflect the need for additional meetings and the assignment of follow-up tasks, including one task assigned jointly to a Cadence China-based engineer and one of the CSCC representatives indicated in the training invitation letters as being associated with NUDT.
18. These Cadence China technical personnel used the same CSCC representative's NUDT email address to set up subsequent meetings and to communicate on other occasions. For instance, on December 28, 2017, a now-former Cadence China engineer wrote to the CSCC representative at his NUDT email address, thanking him for his "great support and close cooperation." The CSCC representative responded with a technical explanation of the support that Cadence China's employees provided and stated, "Thank you and hope for deeper cooperation."
19. Cadence China's knowledge of CSCC went beyond these meetings and electronic communications. The hardware transactions between Cadence China and CSCC required specific, on-site technical support from Cadence China, including at known NUDT locations, further indicating that certain Cadence China personnel had reason to know that CSCC was an alias for NUDT.
20. For example, in December 2017, a Cadence China field service representative was tasked with a work order to resolve a hardware issue. The CSCC point of contact for the work order was a known NUDT representative, using his NUDT email address. On May 22, 2020, Cadence China-affiliated engineers supervised the installation of equipment at an NUDT site, specifically "North Gate, National University of Defense Technology (NUDT), Sanyi Avenue, Changsha City."
21. Technicians performing site visits had the opportunity to see that Cadence hardware was installed on the NUDT campus. One technician described the site as a "military based campus"; another technician explained that "they don't have email and they don't have internet access at this facility" because it is "military related with very strict rules."

Cadence Personnel Knew About Information Associated with CSCC That Should Have Prompted Further Due Diligence

22. Through their review of CSCC's account as a result of CSCC's poor credit performance, certain Cadence global finance and management personnel knew information about CSCC that should have prompted further due diligence. Despite Cadence's inability to verify information about CSCC in connection with its check of CSCC's credit, Cadence finance and management teams chose to resolve the credit issues at hand, allowing business as usual to go forward, while failing to escalate or otherwise address that information. When confronted with export compliance-related issues, Cadence undertook additional due diligence to address such red flags, including requesting a Letter of Assurance from CSCC in January 2019 to confirm that there was no prohibited end-use and/or end-user involved in transactions with CSCC.
23. On August 25, 2016, a Cadence Vice President in charge of the Asia Pacific region ("VP-AP") wrote to another now-former Senior Vice President that Cadence China was "losing multi-billion gates business" to competitors because of a decision not to ship new hardware to CSCC as a result of a delinquent payment. The VP-AP further stated, "We will get the money back eventually but no more future business. CSCC is fabless maker for the China TianHe supercomputer – fastest in the world 2 years in a row until 2015." After this exchange, Cadence China went on to make over \$43 million in sales to CSCC, with the VP-AP personally approving two of the transactions.
24. The VP-AP continued to note the connection between CSCC and the TianHe supercomputer program to others in Cadence management. On June 9, 2017, he explained to a now-former Cadence SVP, "CSCC is the design arm of the 2nd fastest supercomputer maker (TianHe) in the world. They were #1 until last year." The now-former SVP responded, "Cool. We can meet their needs. Let's sign them up."
25. The VP-AP's direct relationship with CSCC is illustrated by his expression of frustration in an email sent while Cadence China was trying to complete a loaner transaction in September 2018: "I am sick and tired of receiving complaint calls from CSCC CEO. I am his good friend and I can't do this forever. If our company doesn't want their business including HW, SW, and IP altogether, I will ask him to leave me alone and go somewhere else."
26. A now-former Vice President in Finance also periodically weighed in on credit concerns with CSCC, approving at least three transactions and asking to be kept "in the loop" on another. In September 2019, he reviewed CSCC's credit issues with another senior Cadence executive, who recommended requiring payment in advance. The now-former Vice President in Finance ultimately authorized payment terms where Cadence China would ship the hardware items after receipt of an initial payment of 70% of the value.

27. Scrutiny of CSCC's payment history by some Cadence executives continued throughout its sales relationship. In April 2020, when asked to approve another transaction that raised credit concerns, the now-former Vice President in Finance asked whether Cadence had received financials or a credit application from CSCC, or whether CSCC's financials were posted online. A Cadence credit manager explained that no such information was available; rather, Cadence had conducted credit reviews of CSCC since 2011 and had never had financial information on the company. The credit manager then added, "CSCC is an interesting internet phenomena, there is literally nothing about them in English, and [a finance employee] confirmed she could find nothing in Chinese either. Company is not listed in either D&B [Dun & Bradstreet] or CreditSafe. I recall it was not listed in CRMZ [ticker for CreditRiskMonitor.com, Inc.] either." The now-former Vice President in Finance suggested that Cadence China could go forward using CSCC's payment history as support for extending credit. Cadence China went on to make \$15.6 million in exports to CSCC after this discussion.

Summary

28. Accordingly, as discussed above, significant information linking CSCC to NUDT should have been apparent to Cadence or Cadence China personnel in multiple roles over a period of several years. This information included Cadence China's communication and interactions with employees associated with both CSCC and NUDT, Cadence China's installations of equipment sold or loaned to CSCC on NUDT's campus, and Cadence's inability to properly confirm CSCC's bona fides. On multiple occasions, before and after NUDT's placement on the Entity List in 2015, Cadence China personnel acknowledged the connections between CSCC and NUDT. As a result, Cadence China had reason to know that CSCC was an alias for NUDT when NUDT was placed on the Entity List on February 18, 2015. Nevertheless, Cadence China continued its sales and loans to CSCC until approximately September 2020. As specified in Charges 1-56, between 2015 and 2020, Cadence China's actions resulted in the unlawful export of EDA hardware, software, and semiconductor design technology, on approximately 56 occasions and totaling approximately \$45,305,317.41 to CSCC with reason to know that CSCC was an alias for NUDT.

Cadence's Actual and Attempted Transfers to Phytium

29. In September 2020, years after Cadence China first had reason to know of the ties between CSCC and NUDT, Cadence placed CSCC's sales account on an export hold. Cadence then proceeded to transfer items previously exported to CSCC to Phytium.
30. At the time that Cadence transferred the items to Phytium, certain Cadence and Cadence China personnel had reason to know that CSCC and Phytium were

linked and considered, in the words of one Cadence employee, “the same customer.” Over the course of Cadence China’s relationship with CSCC, Cadence China employees communicated with CSCC employees who were also known to have associations with Phytium, as well as with NUDT. Certain of these CSCC affiliated employees used email addresses with the domain @phytium.com.cn and sometimes referred to themselves directly as Phytium employees. By the time CSCC was placed on the sales and export hold, some Phytium-associated email addresses were identified as contacts for CSCC in Cadence’s customer database.

31. In early October 2020, after placing CSCC on an export hold, Cadence began discussing the reassignment of its existing CSCC contracts to Phytium. On October 28, 2020, a now-former Vice President and Deputy General Counsel (“VP-1”) provided a now-former sales group director in China with draft assignment letters for the IP and asked her to obtain relevant contact and location information from Phytium, noting, “of course the email addresses should all be @phytium.com.cn corporate addresses.”
32. In November 2020, an operations analyst raised a concern regarding an expiring CSCC hardware loan and noted the need for legal guidance on whether Cadence China could de-install the items or convert them to a permanent import and keep them at the CSCC site. The now-former sales group director in China (explained that the customer had “placed almost \$20M orders to Cadence this year” and “all the loaners are fully occupied by their projects.” The sales group director added, “If we want to take back the loaners, they are ok with it if we have the back up solution to make sure the seamless transition as their project schedule can not be delayed any more. Otherwise, it will be very difficult.” A Vice President in the System & Verification Group responded, “Customer relationship is very important Our first priority is to keep them happy,” and that they should discuss further. One of the copied employees forwarded the email chain to Cadence’s VP-1, who asked, “BTW, do you think that any failure to resolve the loan issue in a normal way could affect revenue on the new [hardware] deal? I know it’s two different parties, CSCC and Phytium, but we also know they are related with respect to all these transactions.”
33. On November 6, 2020, an Engineering Group Director explained the process of transferring CSCC’s IP to VP-1: “What I will need to do is to move the “enterprises” in our system from CSCC to Phytium, removing any remaining CSCC contacts and adding the ones from the sheets...will need to ensure all the appropriate Phytium contacts are moved in [the customer database] to Phytium (many are CSCC now).”
34. In January 2021, a Cadence senior materials manager explained, “though we are aware of both CSCC and Phytium are the same customer but just located in different city/province, we will have to send two different document[s] per audit

process.” The materials manager then sent the two audit letters attached to a single email to a Phytium representative known by Cadence China to be associated with both CSCC and NUDT.

35. Later in January 2021, a Cadence employee prepared a cost estimate for the transfer of nine items of EDA hardware from CSCC to “New lab in Changsha (currently location TBD).” The employee noted in a cover email, whose recipients included a now-former senior group director, that the “cost for Cadence resources is huge” and could impact new emulator installs and servicing for other customers.
36. As detailed above, Cadence China used Phytium-associated email addresses to communicate with CSCC employees, who sometimes referred to themselves as Phytium employees, and one Cadence employee referred internally to CSCC and Phytium as “the same customer.”
37. Notwithstanding having a reason to know that CSCC was an alias of NUDT, Cadence agreed to transfer items previously exported to CSCC to Phytium. Specifically, on November 9, 2020, Cadence signed an agreement to transfer CSCC’s IP to Phytium. Cadence subsequently signed an agreement to transfer CSCC’s software to Phytium on December 2, 2020. Cadence transferred software and IP pursuant to these agreements between approximately November 11, 2020 and February 1, 2021. Although Cadence prepared an agreement to transfer CSCC’s hardware to Phytium, the transfer never took place. Cadence placed Phytium on an export hold as a result of its internal review, and prior to Phytium’s addition on the Entity List.
38. Accordingly, as detailed in Charges 57 and 58, between approximately November 11, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, and attempted to transfer hardware, classified under ECCNs 3E991, 3D991, 3B991b.2.c, and/or designated as EAR99, to Phytium. Further, as detailed above, the EDA software, semiconductor design technology, and EDA hardware had previously been exported to CSCC in violation of the Regulations. As a result, Cadence’s subsequent transfer and assignment of the EDA software and semiconductor design technology to Phytium and attempted transfer of hardware violated General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge [or reason to know] that a violation of the Regulations “has occurred . . . in connection with the item.” Cadence discontinued the transfer process prior to Phytium’s addition to the Entity List and without completing any of the anticipated hardware transfers.

Software Downloads by Entity Listed Parties

39. As noted above, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with companies who were later designated on the Entity List, due to certain system-level gaps, JSC Mikron, Huawei, and SMIC were able to download software, subject to the EAR, without the requisite BIS license or other authorization. As a result of Cadence's compliance processes and procedures, the terminated companies did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.
40. Each of these companies was added to the Entity List based on a determination by the End User Review Committee that the company was acting contrary to the national security or foreign policy interests of the United States. Pursuant to Section 744.11 of the Regulations, exports, reexports, and transfers of all items subject to the Regulations to these companies are prohibited except with BIS authorization, and no license exceptions are available. No BIS license was sought or received.

WHEREAS, Respondent has reviewed the Proposed Charging Letter and is aware of the allegations made against it and the administrative sanctions that could be imposed against it if the allegations are found to be true;

WHEREAS, Respondent fully understands the terms of this Agreement and the Order ("Order") that the Assistant Secretary of Commerce for Export Enforcement, or appropriate designee, will issue if he approves this Agreement as the final resolution of this matter;

WHEREAS, Respondent enters into this Agreement voluntarily and with full knowledge of its rights, after having consulted with counsel;

WHEREAS, the Parties enter into this Agreement having taken into consideration the agreement entered between Respondent and the U.S. Department of Justice ("DOJ Agreement");

WHEREAS, Respondent states that no promises or representations have been made to it other than the agreements and considerations herein expressed;

WHEREAS, Respondent admits committing the alleged conduct described in the Proposed Charging Letter; and

WHEREAS, Respondent agrees to be bound by the Order, if issued;

NOW THEREFORE, the Parties hereby agree, for purposes of this Settlement Agreement, as follows:

1. BIS has jurisdiction over Respondent, under the Regulations, in connection with the matters alleged in the Proposed Charging Letter.
2. The following sanctions shall be imposed against Respondent:
 - a. Respondent shall be assessed a civil penalty in the amount of \$95,312,000. Respondent shall pay the U.S. Department of Commerce \$47,656,000 within 30 days of the date of this Order. Payment shall be made in the manner specified in the attached instructions. Payment of the remaining \$47,656,000 shall be suspended until Respondent makes payment of the U.S. Department of Justice (“DOJ”) criminal penalty pursuant to the terms of the DOJ Agreement, and thereafter shall be credited towards the total \$95,312,000 penalty amount due under this agreement. If Respondent fails to pay the DOJ criminal penalty, then the suspension shall be revoked and the full amount of the suspended penalty shall be imposed and become immediately due.
 - b. Cadence shall complete two (2) internal audits of its export controls compliance program, including but not limited to its oversight over export controls compliance by Cadence China. The audits shall cover Cadence’s compliance with U.S. export control laws (including recordkeeping requirements), with respect to all exports, reexports, or transfers (in country) that are subject to the Regulations. The results of the audits, including any relevant supporting materials, shall be submitted to the U.S.

Department of Commerce, Bureau of Industry and Security, Office of Export Enforcement, 160 W. Santa Clara Street, Suite 725, San Jose, CA 95113 (“BIS San Jose Field Office”). The first annual audit shall cover the 12-month period beginning on September 1, 2025, and the related report shall be due to the BIS San Jose Field Office no later than March 1, 2027. The second annual audit shall cover the 12-month period beginning on September 1, 2026, and the related report shall be due to the BIS San Jose Field Office no later than March 1, 2028. Said audits shall be in substantial compliance with the Export Compliance Program (ECP) sample audit module and shall include an assessment of Cadence’s compliance with the Regulations. The ECP sample audit module is available on the BIS web site at <https://www.bis.doc.gov/index.php/documents/pdfs/1641-ecp/file>. In addition, where said audits identify actual or potential violations of the Regulations, Cadence shall promptly provide copies of the export control documents and supporting documentation to the BIS San Jose Field Office. Cadence may voluntarily disclose violations identified through the audits, copying the BIS San Jose Field Office.

c. Compliance with the terms of the Settlement Agreement and this Order, including the full and timely payment of the civil penalty agreed to in Paragraph 2.a of the Settlement Agreement, the timely completion of the audits and submission of the audit results agreed to in Paragraph 2.b. of the Settlement Agreement, and compliance with the terms of the DOJ Agreement, are hereby made conditions to the granting, restoration, or continuing validity of any export license, license exception, permission, or privilege granted, or to be granted, to Respondent. Failure to make full and timely payment of the civil penalty may result in the denial of all of Respondent’s export

privileges under the Regulations for one year from the date of the failure to make such payment.

3. Subject to the approval of this Agreement pursuant to Paragraph 8 hereof, Respondent hereby waives all rights to further procedural steps in this matter, including, without limitation, any right to: (a) an administrative hearing regarding the allegations in any charging letter; (b) request a refund of any civil penalty paid pursuant to this Agreement and the Order, if issued; and (c) seek judicial review or otherwise contest the validity of this Agreement or the Order, if issued. Respondent also waives and will not assert any Statute of Limitations defense, and the Statute of Limitations will be tolled, in connection with any violation of the Export Control Reform Act or the Regulations arising out of the transactions identified in the Proposed Charging Letter or in connection with collection of the civil penalty or enforcement of this Agreement and the Order, if issued, from the date of the Order, until Respondent pays in full the civil penalty agreed to in Paragraph 2.a of this Agreement, has completed the audits and submitted the audit results agreed to in Paragraph 2.b of this Agreement, and has fulfilled its obligations under the DOJ Agreement.

4. BIS agrees that upon successful compliance in full with the terms of this Agreement and the Order, if issued, BIS will not initiate any further administrative proceeding against Respondent in connection with any violation of the Regulations arising out of the transactions specifically detailed in the Proposed Charging Letter.

5. Respondent shall comply with all the terms in the DOJ Agreement.

6. This Agreement is for settlement purposes only. Therefore, if this Agreement is not accepted and the Order is not issued by the Assistant Secretary of

Commerce for Export Enforcement, or appropriate designee, pursuant to Section 766.18(a) of the Regulations, no Party may use this Agreement in any administrative or judicial proceeding and the Parties shall not be bound by the terms contained in this Agreement in any subsequent administrative or judicial proceeding.

7. No agreement, understanding, representation or interpretation not contained in this Agreement may be used to vary or otherwise affect the terms of this Agreement or the Order, if issued; nor shall this Agreement serve to bind, constrain, or otherwise limit any action by any other agency or department of the U.S. Government with respect to the facts and circumstances addressed herein.

8. This Agreement shall become binding on the Parties only if the Assistant Secretary of Commerce for Export Enforcement, or appropriate designee, approves it by issuing the Order, which will have the same force and effect as a decision and order issued after a full administrative hearing on the record.

9. BIS will make the Proposed Charging Letter, this Agreement, and the Order, if issued, available to the public.

10. Each signatory affirms that he/she has authority to enter into this Settlement Agreement and to bind his/her respective party to the terms and conditions set forth herein.

BUREAU OF INDUSTRY AND SECURITY
U.S. DEPARTMENT OF COMMERCE

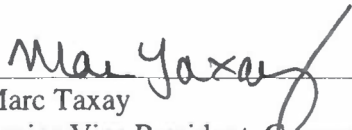
CADENCE DESIGN SYSTEMS, INC.

DAN
CLUTCH

Digitally signed by DAN
CLUTCH
Date: 2025.07.27
20:52:16 -04'00'

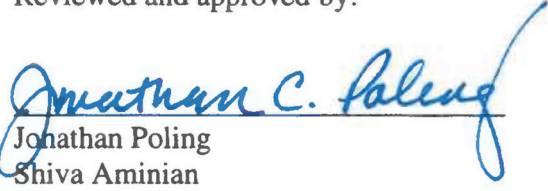
Dan Clutch
Acting Director of Export Enforcement

Date: 7/27/2025


Marc Taxay
Senior Vice President, General Counsel and
Corporate Secretary

Date: July 27, 2025

Reviewed and approved by:


Jonathan Poling
Shiva Aminian
George Pence
Akin Gump Strauss Hauer & Feld LLP
Counsel for Cadence Design Systems, Inc.

Date: 27 July 2025

PROPOSED CHARGING LETTER

U.S. REGISTERED MAIL- RETURN RECEIPT REQUESTED

Cadence Design Systems, Inc.
2655 Seely Avenue
San Jose, CA 95134

Attention: Marc Taxay, Senior Vice President, General Counsel & Corporate Secretary

Dear Mr. Taxay,

The Bureau of Industry and Security, U.S. Department of Commerce (“BIS”), has reason to believe that Cadence Design Systems, Inc. of San Jose, CA (“Cadence”) has committed 61 violations of the Export Administration Regulations (the “Regulations” or “EAR”).¹ Specifically, BIS alleges and charges the following:²

GENERAL ALLEGATIONS

As described in further detail below and the attached schedule of violations, Cadence Design Systems Management (Shanghai) Co., Ltd. (“Cadence China”) is a subsidiary of Cadence located in the People’s Republic of China (“PRC”) through which Cadence sells products and services to customers in the PRC. Between approximately September 2015 and September 2020, Cadence China violated the Regulations on 56 occasions by selling and/or loaning items subject to the EAR to Central South CAD Center (“CSCC”), an alias of Entity List party National University of Defense Technology (“NUDT”), in China without the requisite license or other authorization from BIS. Specifically, Cadence China exported or caused the export of Electronic Design Automation (“EDA”) hardware and software and semiconductor design technology,³ in particular intellectual property (“IP”), controlled under Export Control Classification Numbers (“ECCN”) 3B991b.2.c,

¹ The Regulations originally issued under the Export Administration Act of 1979, 50 U.S.C. §§ 4601-4623 (Supp. III 2015) (“EAA”), which lapsed on August 21, 2001. The President, through Executive Order 13222 of August 17, 2001 (3 C.F.R., 2001 Comp. 783 (2002)), which was extended by successive Presidential Notices, including the Notice of August 8, 2018 (83 Fed. Reg. 39,871 (Aug. 13, 2018)), continued the Regulations in full force and effect under the International Emergency Economic Powers Act (50 U.S.C. § 1701, *et seq.*) (2012) (“IEEPA”). On August 13, 2018, the President signed into law the John S. McCain National Defense Authorization Act for Fiscal Year 2019, which includes the Export Control Reform Act of 2018, 50 U.S.C. §§ 4801-4852 (“ECRA”). While Section 1766 of ECRA repeals the provisions of the EAA (except for three sections which are inapplicable here), Section 1768 of ECRA provides, in pertinent part, that all rules and regulations that were made or issued under the EAA, including as continued in effect pursuant to IEEPA, and were in effect as of ECRA’s date of enactment (August 13, 2018), shall continue in effect until modified, superseded, set aside, or revoked through action undertaken pursuant to the authority provided under ECRA.

² The Regulations are currently codified in the Code of Federal Regulations (the “Code”) at 15 C.F.R. Parts 730-774 (2025). The regulations governing the violations at issue, which occurred between 2016 – 2021, are found in the 2016 – 2021 versions of the Code (15 C.F.R. Parts 730-774 (2016 – 2021)). The 2022 Regulations govern the procedures that apply to this matter.

³ Pursuant to 15 C.F.R. § 772.1, “technology” includes information, tangible or intangible, necessary for the “development,” “production,” “use,” operation, installation, maintenance, repair, overhaul, or refurbishing of an item.

3D991 or 3E991 or designated EAR99⁴ to CSCC in China with reason to know, or awareness of circumstances that should have prompted further due diligence, that CSCC was an alias for NUDT. Pursuant to Section 772.1 of the EAR, “knowledge of a circumstance (the term may be a variant, such as “know,” “reason to know,” or “reason to believe”) includes not only positive knowledge that the circumstance exists or is substantially certain to occur, but also an awareness of a high probability of its existence or future occurrence.” 15 C.F.R. § 772.1. This awareness may be inferred from evidence of a person’s conscious disregard of known facts or a person’s willful avoidance of facts. *See id.*

EDA comprises the software, hardware, and services that are combined to define, plan, design, implement, and verify the design of electrical devices, including semiconductor devices and electrical chips. EDA is used in designing electronic systems such as integrated circuits and printed circuit boards. EDA tools can also simulate the performance of integrated circuit designs and verify that the design will perform as intended.

The Entity List, which is set forth in Supplement 4 to Part 744 of the Regulations, identifies entities that are subject to additional export, reexport, and transfer restrictions because “there is reasonable cause to believe, based on specific and articulable facts, that the entity has been involved, is involved, or poses a significant risk of being or becoming involved in activities that are contrary to the national security or foreign policy interests of the United States.”⁵ Since NUDT’s addition to the Entity List in February 2015, all exports, reexports and transfers of items subject to the EAR to NUDT have required a BIS license.⁶

Later, with reason to know, including awareness of a high probability that items previously exported under CSCC’s sales account had in fact been exported to NUDT in violation of the Entity List restrictions set forth in Section 744.11 of the Regulations, Cadence transferred CSCC’s software and technology to Phytium Technology Co. Ltd, also known as Tianjin Phytium Information Technology, Phytium or Feiteng (“Phytium”), also in China. This conduct violated General Prohibition Ten of the Regulations, which states that “You may not . . . transfer . . . any item subject to the EAR. . . with knowledge that a violation of the [Regulations] . . . has occurred . . . in connection with the item.”⁷ Cadence attempted a further violation of General Prohibition Ten of the regulations by attempting to transfer hardware items previously exported to CSCC to Phytium. At the time, Cadence China employees were aware that CSCC and Phytium were closely linked and shared some personnel.

Further, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, due to certain system-level gaps, three of the terminated customers were able to download software, subject to the EAR, after their designation to the Entity List. The

⁴ EAR99 is a designation for items subject to the Regulations but not listed on the Commerce Control List. *See* 15 C.F.R. §§ 734.3(c) and 772.1.

⁵ 15 C.F.R. § 744.11(b).

⁶ 80 Fed. Reg. 8524 (Feb. 18, 2015).

⁷ 15 C.F.R. § 736.2.

terminated customers did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.

Key Parties

A. Cadence

Cadence, headquartered in San Jose, California, offers EDA hardware and software, semiconductor design technology, and related services. Cadence's EDA tools support the development of electronic chips and semiconductor devices used in a wide range of applications, including hyperscale computing. Cadence describes itself as "a computational software company...leveraging [its] algorithmic expertise to expand beyond the EDA market into system analysis, machine learning, and other domains."

Cadence China is a Cadence subsidiary located in China.

B. National University of Defense Technology

NUDT, a university supervised by China's Central Military Commission, was added to the Entity List on February 18, 2015.⁸ NUDT was added to the Entity List due to its use of U.S.-origin multicores, boards, and (co)processors to produce the TianHe-1A and TianHe-2 supercomputers, which are believed to be used in nuclear explosive activities as described in § 744.2(a) of the EAR.⁹ The TianHe supercomputers are located at supercomputing centers in Changsha, Guangzhou and Tianjin, China. NUDT's primary campus is located in Changsha, China.

C. CSCC

Effective June 28, 2022, CSCC was added to the Entity List as an alias for NUDT.¹⁰ From 2002 until approximately September 2020, CSCC was a Cadence China customer.

D. Phytium

Phytium is a fabless Chinese semiconductor company that specializes in the design of electronic chips and semiconductor devices ("fabless" is a term used to distinguish firms whose focus is limited to designing these devices from firms that operate a fabrication plant, or "fab," to manufacture them). Phytium has publicly confirmed that it supplies processors to the TianHe series of supercomputers described above, and its publicly reported activities include using U.S.-origin EDA tools to design chips used to power a military supercomputer that models hypersonic flight.¹¹ Although Phytium was not on the Entity List during the relevant timeframe, it was later

⁸ See 80 Fed. Reg. 8524. BIS subsequently added additional alias and address information, including addresses at 109 Deya Road and 47 Deya Road in Changsha, China, to NUDT's entry on the Entity List on June 24, 2019. See 84 Fed. Reg. 29371.

⁹ *Id.*

¹⁰ See 87 Fed. Reg. 38920 (June 30, 2022).

¹¹ Ellen Nakashima and Gerry Shih, "China builds advanced weapons systems using American technology," *The Washington Post* (Apr. 9, 2021), available at https://www.washingtonpost.com/national-security/china-hypersonic-missiles-american-technology/2021/04/07/37a6b9be-96fd-11eb-b28d-bfa7bb5cb2a5_story.html.

added, effective April 8, 2021, as the result of its “activities that support China’s military actors, its destabilizing military modernization efforts, and/or its weapons of mass destruction (WMD) programs.”¹²

STATEMENT OF CHARGES

Charges Related to the Sale and Loan of Export Controlled Hardware, Software and Technology to an Entity Listed Chinese Company

Charges 1-10 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below and in the attached schedule of violations, between approximately December 29, 2016 and June 29, 2020, Cadence China engaged in conduct prohibited by the Regulations on ten occasions when it sold and exported or caused the export of EDA hardware subject to the EAR and valued at approximately \$21,961,775.28 to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA hardware was classified under Export Control Classification Number (“ECCN”) 3B991b.2.c and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 11-27 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below and in the attached schedule of violations, between approximately December 16, 2016 and June 24, 2020, Cadence China engaged in conduct prohibited by the Regulations on seventeen occasions when it sold and exported or caused the export of EDA software subject to the EAR and valued at approximately \$2,625,845 to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The EDA software was classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or was designated as EAR99. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 28-34 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below and in the attached schedule of violations, between approximately September 30, 2015 and June 22, 2020, Cadence China engaged in conduct prohibited by the Regulations on seven occasions when it sold and exported, caused the export of, or attempted to export semiconductor design technology, specifically IP, subject to the EAR and valued at approximately \$10,790,751, to CSCC, with reason to know, including awareness of a

¹² 86 Fed. Reg. 18437 (Apr. 9, 2021).

high probability, that NUDT would be the end user and without the requisite license or other authorization from BIS. The technology was classified under ECCN 3E991 and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges 35-56 15 C.F.R. § 764.2(e) – Unlicensed Exports to Entity List Party with Reason to Know of a Violation

As described in further detail below and in the attached schedule of violations, between approximately April 9, 2018 and September 1, 2020, Cadence China engaged in conduct prohibited by the Regulations on twenty-two occasions when, as part of loan transactions, it exported or caused the export of EDA hardware and related software subject to the EAR and valued at approximately \$9,926,946.13, to CSCC, with reason to know, including awareness of a high probability, that NUDT would be the end user, without the requisite license or other authorization from BIS. The EDA hardware was classified under ECCN 3B991b.2.c and controlled for Anti-Terrorism reasons. At all relevant times, NUDT was (and remains) on the Entity List, and all exports to NUDT were prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

Charges Related to the Transfer of Export Controlled Software and Technology in Violation of General Prohibition 10

Charge 57 15 C.F.R. § 764.2(e) – Acting with Knowledge of a Violation

As described in further detail below and in the attached schedule of violations, between approximately November 11, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by transferring (in-country) EDA software classified under ECCN 3D991 and controlled for Anti-Terrorism reasons, or designated as EAR99, and semiconductor design technology, specifically IP, classified under ECCN 3E991 and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the software and technology had previously been exported to CSCC, an alias of NUDT, and without the requisite license or other authorization from BIS. Because Cadence transferred the EDA software and semiconductor design technology to Phytium with reason to know that a violation of the Regulations had already occurred when the software and technology was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.”¹³

Charge 58 15 C.F.R. § 764.2(c) – Attempting to Violate the EAR

As described in further detail below and in the attached schedule of violations, between approximately November 1, 2020 and February 1, 2021, Cadence engaged in conduct prohibited by the Regulations by attempting to transfer (in-country) EDA hardware, classified under ECCN

¹³ 15 C.F.R. § 736.2.

3B991b.2.c and controlled for Anti-Terrorism reasons, to Phytium with reason to know, including awareness of a high probability, that the hardware had previously been exported to CSCC, an alias of NUDT, without the requisite license or other authorization from BIS. Because Cadence attempted to transfer the EDA hardware to Phytium with reason to know that a violation of the Regulations had already occurred when the hardware was originally exported to CSCC, Cadence violated or attempted to violate General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge that a violation of the Regulations “has occurred . . . in connection with the item.”¹⁴ On March 31, 2021, Cadence placed Phytium on export hold as a result of its internal compliance review and discontinued transactions with Phytium without successfully completing any of the anticipated hardware transfers. Phytium was later designated on the Entity List on April 8, 2021.

Charges Related to the Downloads by Entity Listed Companies of Export Controlled Software

Charges 59-61 15 C.F.R. § 764.2(a) – Engaging in Prohibited Conduct

As described in further detail below and in the attached schedule of violations, between approximately September 8, 2016 and December 16, 2021, Cadence engaged in conduct prohibited by the Regulations when it exported EDA software, classified under ECCN 3D991 and controlled for Anti-Terrorism reasons or designated as EAR99, to three Entity Listed parties without the requisite license or other authorization from BIS. Specifically, while Cadence had established compliance processes and procedures for terminating transactions with customers who were later designated on the Entity List, certain system-level gaps allowed Joint Stock Company Mikron (“Mikron”), Huawei Technologies Co., Ltd. (“Huawei”), and Semiconductor Manufacturing International Corporation (“SMIC”) to continue making downloads after their additions to the Entity List.¹⁵ These downloads were exports prohibited pursuant to Section 744.11 and Supplement 4 of the Regulations, unless authorized by BIS.

OVERVIEW AND BACKGROUND OF CHARGES

Overview

1. Cadence China maintained a sales relationship with CSCC since 2002 and for approximately five years after NUDT’s placement on the Entity List (effective February 18, 2015). Cadence China’s customer relationship and experience with the CSCC account gave certain China-based employees of Cadence China access to information indicating that CSCC was closely linked to NUDT, including, *inter alia*, information that CSCC and NUDT shared personnel and that equipment sold or loaned to CSCC was installed on the NUDT campus. Despite having reason to know that CSCC was an alias for NUDT, Cadence China continued to make sales and loans to CSCC until September 2020, when Cadence placed an export hold on the CSCC sales account.

¹⁴ 15 C.F.R. § 736.2.

¹⁵ 81 Fed. Reg. 61595 (Sept. 7, 2016); 84 Fed. Reg. 22961 (May 21, 2019); 85 Fed. Reg. 83416 (Dec. 22, 2020).

Cadence Design Systems
Proposed Charging Letter

2. Cadence China's failure to act on the red flags linking CSCC with NUDT until approximately September 2020 resulted in numerous exports of EDA hardware, software, and semiconductor design technology subject to the EAR to NUDT without the requisite license or other authorization from BIS. These included the following fifty-six transactions between 2015 and 2020, totaling approximately \$45,305,317.41, which are also detailed in Charges 1-56 and in the attached schedule of violations:
 - a. **Charges 1-10:** Ten sales and exports of EDA hardware totaling approximately \$21,961,775.28, including items classified under ECCNs 3B991b.2.c;
 - b. **Charges 11-27:** Seventeen sales and exports of EDA software totaling approximately \$2,625,845, including items classified under ECCN 3D991 and designated EAR99;
 - c. **Charges 28-34:** Seven sales and exports or attempted exports of semiconductor design technology, specifically IP, totaling approximately \$10,790,751.00, including items classified under ECCN 3E991; and
 - d. **Charges 35-56:** Twenty-two loans and exports of EDA hardware totaling approximately \$9,926,946.13, including items classified under ECCNs 3B991b.2.c and 3D991 and items designated EAR99.
3. In approximately September 2020, more than three years after it first shipped controlled items to CSCC in violation of the EAR, Cadence's U.S. Legal Team discovered the red flags linking CSCC with NUDT and as a result, took action by placing an export hold on the CSCC sales account. Cadence's U.S. Legal Team discovered the red flags after implementing enhanced due diligence in response to regulatory changes to Section 744.21 of the EAR. Upon learning of these red flags, Cadence's U.S. Legal Team took action to terminate CSCC as a customer.
4. Cadence then agreed to assign its contracts with CSCC to Phytium, a separate corporate legal entity with certain connections to NUDT, and to transfer the EDA hardware, software, and semiconductor design technology that it had previously sold and exported to CSCC. At the time Cadence agreed to these transfers, and as discussed further below, Cadence China had reason to know that Phytium and CSCC were closely linked, including through overlapping personnel.
5. Between approximately November 1, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, subject to the EAR to Phytium. The EDA software and semiconductor design technology had previously been exported to CSCC in violation of the Regulations. As a result, and as detailed in Charge 57 and the attached schedule of violations, Cadence's subsequent transfer of EDA software and semiconductor design technology to Phytium violated General Prohibition Ten. Cadence discontinued the transfer process prior to Phytium's addition to the Entity List and without successfully completing any of the anticipated hardware transfers.

Cadence China's Sales and Loans to CSCC

6. CSCC was an existing Cadence China customer account holder from 2002 until September 2020, more than 5 years after NUDT's designation in February 2015. In its customer database, Cadence China identified CSCC under the name "Central South CAD Center," or "CSCC," associated with the address "54 Beiya Road, Changsha, China." This address does not exist but closely matches another address on the NUDT campus: 54 Deya Road.
7. Certain Cadence China personnel sometimes used the acronym "CSCC" together with the Chinese characters for NUDT in correspondence, indicating a link between the two. For example, in May 2015 (a few months after NUDT's designation), one now-former Cadence China employee wrote in an email to colleagues, "Be careful we call CSCC, or 国防科技大学 is OK." The author of the email also wrote that "the subject [was] too sensitive."
8. In the words of certain of Cadence China's own sales personnel, CSCC was a "key account," consistent with other accounts of similar value. Certain Cadence China sales and technical personnel in China maintained customer relationships with CSCC personnel, some of whom were known by Cadence China to be associated with NUDT. As a result of this familiarity and interaction, and as detailed further below, certain personnel within Cadence China across multiple roles had reason to know that CSCC was an alias for NUDT. Nevertheless, Cadence China continued exporting to CSCC after NUDT's designation on February 18, 2015.

Cadence China's Sales Personnel Had Reason to Know that CSCC was an Alias for NUDT

9. Certain of Cadence China's sales personnel interacted over several years with CSCC personnel who were also associated with NUDT. As a result of their familiarity with CSCC and these personnel, Cadence China had reason to know that CSCC was an alias for NUDT by the time NUDT was placed on the Entity List on February 18, 2015.
10. For example, on June 27, 2014, at the request of a NUDT researcher, a now-former Cadence China sales representative requested training invitations for "seven guys f[ro]m CSCC" to attend training in France. Cadence China then prepared seven invitation letters, one addressed to each individual, at "School of Computer, National University of Defense Technology, Changsha, Hunan, China 410073." Each letter also stated, "National University of Defense Technology will cover all necessary expenses during your stay in France."
11. Even after NUDT's addition to the Entity List, Cadence China continued to issue similar training invitations, referencing NUDT, to and on behalf of CSCC personnel. On August 19, 2016, a now-former Cadence China sales representative requested similar letters for "3 customers from CSCC" for a training event in Israel, and shortly afterward requested another letter for "one more guy[] from CSCC" to attend the same training. Although Cadence China issued the letters for CSCC personnel, each letter contained the same language referencing NUDT. Cadence China also prepared additional letters for two other events, one in 2016 and another in 2017, that included the same references to NUDT, despite the fact that Cadence China was issuing the letters on behalf of CSCC personnel.

12. Cadence China's sales team also directed CSCC sales account documents to NUDT personnel, including at NUDT-associated email addresses. For example, on March 2, 2017, over two years after NUDT's placement onto the Entity List, a now-former Cadence China sales representative emailed a partially executed limited license agreement for a CSCC hardware pre-sale evaluation to a NUDT researcher at his NUDT email address. Cadence China identified another individual as the point of contact for over two dozen other CSCC sales, despite the fact that certain Cadence China employees had identified that individual as a NUDT researcher in a training letter request as early as 2017.
13. Certain of Cadence China's sales personnel also interacted in person with CSCC representatives known to be associated with NUDT. In September 2017, a now-former Cadence China sales representative traveled to Changsha, China and hosted meals with CSCC representatives. For three of these CSCC representatives, Cadence China had previously prepared training invitations acknowledging their association with NUDT. Additionally, although the former sales representative's expense report identified the customer as "Central South CAD Center," the report also identifies the customer as NUDT twice, demonstrating that Cadence China had reason to know that CSCC was an alias for NUDT.
14. In 2019, Cadence China's sales team conducted a review of the CSCC account that demonstrated Cadence China's working relationship with CSCC. In its own words, Cadence China's strategies for its relationship with CSCC included "[d]eeply understand[ing] customer's project details and technical requirements," "[c]losely co-work[ing] on advanced technology to meet customer target," and providing "Backend Strong Support on 7nm project" (7nm is a reference to advanced chip design). The sales team also developed a "Relationship Mapping" strategy identifying Cadence China contacts for fifteen key CSCC individuals.
15. As a result of the familiarity of certain of Cadence China's sales personnel in China with and knowledge of CSCC's business practices, Cadence China had reason to know that CSCC was an alias for NUDT.

Cadence China's Technical Personnel Had Reason to Know that CSCC was an Alias for NUDT

16. Certain of Cadence China's technical personnel also maintained contact with CSCC by providing, among other things, on-site technical support. Through these contacts and interactions, Cadence China had reason to know that CSCC was an alias for NUDT.
17. For example, certain Cadence China personnel met with two CSCC representatives, both of whom Cadence China had previously identified in training invitation letters as being associated with NUDT. Meeting minutes reflect the need for additional meetings and the assignment of follow-up tasks, including one task assigned jointly to a Cadence China-based engineer and one of the CSCC representatives indicated in the training invitation letters as being associated with NUDT.
18. These Cadence China technical personnel used the same CSCC representative's NUDT email address to set up subsequent meetings and to communicate on other occasions. For

instance, on December 28, 2017, a now-former Cadence China engineer wrote to the CSCC representative at his NUDT email address, thanking him for his “great support and close cooperation.” The CSCC representative responded with a technical explanation of the support that Cadence China’s employees provided and stated, “Thank you and hope for deeper cooperation.”

19. Cadence China’s knowledge of CSCC went beyond these meetings and electronic communications. The hardware transactions between Cadence China and CSCC required specific, on-site technical support from Cadence China, including at known NUDT locations, further indicating that certain Cadence China personnel had reason to know that CSCC was an alias for NUDT.
20. For example, in December 2017, a Cadence China field service representative was tasked with a work order to resolve a hardware issue. The CSCC point of contact for the work order was a known NUDT representative, using his NUDT email address. On May 22, 2020, Cadence China-affiliated engineers supervised the installation of equipment at an NUDT site, specifically “North Gate, National University of Defense Technology (NUDT), Sanyi Avenue, Changsha City.”
21. Technicians performing site visits had the opportunity to see that Cadence hardware was installed on the NUDT campus. One technician described the site as a “military based campus”; another technician explained that “they don’t have email and they don’t have internet access at this facility” because it is “military related with very strict rules.”

Cadence Personnel Knew About Information Associated with CSCC That Should Have Prompted Further Due Diligence

22. Through their review of CSCC’s account as a result of CSCC’s poor credit performance, certain Cadence global finance and management personnel knew information about CSCC that should have prompted further due diligence. Despite Cadence’s inability to verify information about CSCC in connection with its check of CSCC’s credit, Cadence finance and management teams chose to resolve the credit issues at hand, allowing business as usual to go forward, while failing to escalate or otherwise address that information. When confronted with export compliance-related issues, Cadence undertook additional due diligence to address such red flags, including requesting a Letter of Assurance from CSCC in January 2019 to confirm that there was no prohibited end-use and/or end-user involved in transactions with CSCC.
23. On August 25, 2016, a Cadence Vice President in charge of the Asia Pacific region (“VP-AP”) wrote to another now-former Senior Vice President that Cadence China was “losing multi-billion gates business” to competitors because of a decision not to ship new hardware to CSCC as a result of a delinquent payment. The VP-AP further stated, “We will get the money back eventually but no more future business. CSCC is fabless maker for the China TianHe supercomputer – fastest in the world 2 years in a row until 2015.” After this exchange, Cadence China went on to make over \$43 million in sales to CSCC, with the VP-AP personally approving two of the transactions.

Cadence Design Systems
Proposed Charging Letter

24. The VP-AP continued to note the connection between CSCC and the TianHe supercomputer program to others in Cadence management. On June 9, 2017, he explained to a now-former Cadence SVP, “CSCC is the design arm of the 2nd fastest supercomputer maker (TianHe) in the world. They were #1 until last year.” The now-former SVP responded, “Cool. We can meet their needs. Let’s sign them up.”
25. The VP-AP’s direct relationship with CSCC is illustrated by his expression of frustration in an email sent while Cadence China was trying to complete a loaner transaction in September 2018: “I am sick and tired of receiving complaint calls from CSCC CEO. I am his good friend and I can’t do this forever. If our company doesn’t want their business including HW, SW, and IP altogether, I will ask him to leave me alone and go somewhere else.”
26. A now-former Vice President in Finance also periodically weighed in on credit concerns with CSCC, approving at least three transactions and asking to be kept “in the loop” on another. In September 2019, he reviewed CSCC’s credit issues with another senior Cadence executive, who recommended requiring payment in advance. The now-former Vice President in Finance ultimately authorized payment terms where Cadence China would ship the hardware items after receipt of an initial payment of 70% of the value.
27. Scrutiny of CSCC’s payment history by some Cadence executives continued throughout its sales relationship. In April 2020, when asked to approve another transaction that raised credit concerns, the now-former Vice President in Finance asked whether Cadence had received financials or a credit application from CSCC, or whether CSCC’s financials were posted online. A Cadence credit manager explained that no such information was available; rather, Cadence had conducted credit reviews of CSCC since 2011 and had never had financial information on the company. The credit manager then added, “CSCC is an interesting internet phenomena, there is literally nothing about them in English, and [a finance employee] confirmed she could find nothing in Chinese either. Company is not listed in either D&B [Dun & Bradstreet] or CreditSafe. I recall it was not listed in CRMZ [ticker for [CreditRiskMonitor.com](https://www.creditriskmonitor.com), Inc.] either.” The now-former Vice President in Finance suggested that Cadence China could go forward using CSCC’s payment history as support for extending credit. Cadence China went on to make \$15.6 million in exports to CSCC after this discussion.

Summary

28. Accordingly, as discussed above, significant information linking CSCC to NUDT should have been apparent to Cadence or Cadence China personnel in multiple roles over a period of several years. This information included Cadence China’s communication and interactions with employees associated with both CSCC and NUDT, Cadence China’s installations of equipment sold or loaned to CSCC on NUDT’s campus, and Cadence’s inability to properly confirm CSCC’s bona fides. On multiple occasions, before and after NUDT’s placement on the Entity List in 2015, Cadence China personnel acknowledged the connections between CSCC and NUDT. As a result, Cadence China had reason to know that CSCC was an alias for NUDT when NUDT was placed on the Entity List on February 18, 2015. Nevertheless, Cadence China continued its sales and loans to CSCC until

approximately September 2020. As specified in Charges 1-56 and detailed in the attached schedule of violations, between 2015 and 2020, Cadence China's actions resulted in the unlawful export of EDA hardware, software, and semiconductor design technology, on approximately 56 occasions and totaling approximately \$45,305,317.41 to CSCC with reason to know that CSCC was an alias for NUDT.

Cadence's Actual and Attempted Transfers to Phytium

29. In September 2020, years after Cadence China first had reason to know of the ties between CSCC and NUDT, Cadence placed CSCC's sales account on an export hold. Cadence then proceeded to transfer items previously exported to CSCC to Phytium.
30. At the time that Cadence transferred the items to Phytium, certain Cadence and Cadence China personnel had reason to know that CSCC and Phytium were linked and considered, in the words of one Cadence employee, "the same customer." Over the course of Cadence China's relationship with CSCC, Cadence China employees communicated with CSCC employees who were also known to have associations with Phytium, as well as with NUDT. Certain of these CSCC affiliated employees used email addresses with the domain @phytium.com.cn and sometimes referred to themselves directly as Phytium employees. By the time CSCC was placed on the sales and export hold, some Phytium-associated email addresses were identified as contacts for CSCC in Cadence's customer database.
31. In early October 2020, after placing CSCC on an export hold, Cadence began discussing the reassignment of its existing CSCC contracts to Phytium. On October 28, 2020, a now former Vice President and Deputy General Counsel ("VP-1") provided a now-former sales group director in China with draft assignment letters for the IP and asked her to obtain relevant contact and location information from Phytium, noting, "of course the email addresses should all be @phytium.com.cn corporate addresses."
32. In November 2020, an operations analyst raised a concern regarding an expiring CSCC hardware loan and noted the need for legal guidance on whether Cadence China could de-install the items or convert them to a permanent import and keep them at the CSCC site. The now-former sales group director in China (explained that the customer had "placed almost \$20M orders to Cadence this year" and "all the loaners are fully occupied by their projects." The sales group director added, "If we want to take back the loaners, they are ok with it if we have the back up solution to make sure the seamless transition as their project schedule can not be delayed any more. Otherwise, it will be very difficult." A Vice President in the System & Verification Group responded, "Customer relationship is very important Our first priority is to keep them happy," and that they should discuss further. One of the copied employees forwarded the email chain to Cadence's VP-1, who asked, "BTW, do you think that any failure to resolve the loan issue in a normal way could affect revenue on the new [hardware] deal? I know it's two different parties, CSCC and Phytium, but we also know they are related with respect to all these transactions."
33. On November 6, 2020, an Engineering Group Director explained the process of transferring CSCC's IP to VP-1: "What I will need to do is to move the "enterprises" in our system from CSCC to Phytium, removing any remaining CSCC contacts and adding

- the ones from the sheets...will need to ensure all the appropriate Phytium contacts are moved in [the customer database] to Phytium (many are CSCC now).”
34. In January 2021, a Cadence senior materials manager explained, “though we are aware of both CSCC and Phytium are the same customer but just located in different city/province, we will have to send two different document[s] per audit process.” The materials manager then sent the two audit letters attached to a single email to a Phytium representative known by Cadence China to be associated with both CSCC and NUDT.
 35. Later in January 2021, a Cadence employee prepared a cost estimate for the transfer of nine items of EDA hardware from CSCC to “New lab in Changsha (currently location TBD).” The employee noted in a cover email, whose recipients included a now-former senior group director, that the “cost for Cadence resources is huge” and could impact new emulator installs and servicing for other customers.
 36. As detailed above, Cadence China used Phytium-associated email addresses to communicate with CSCC employees, who sometimes referred to themselves as Phytium employees, and one Cadence employee referred internally to CSCC and Phytium as “the same customer.”
 37. Notwithstanding having a reason to know that CSCC was an alias of NUDT, Cadence agreed to transfer items previously exported to CSCC to Phytium. Specifically, on November 9, 2020, Cadence signed an agreement to transfer CSCC’s IP to Phytium. Cadence subsequently signed an agreement to transfer CSCC’s software to Phytium on December 2, 2020. Cadence transferred software and IP pursuant to these agreements between approximately November 11, 2020 and February 1, 2021. Although Cadence prepared an agreement to transfer CSCC’s hardware to Phytium, the transfer never took place. Cadence placed Phytium on an export hold as a result of its internal review, and prior to Phytium’s addition on the Entity List.
 38. Accordingly, as detailed in Charges 57 and 58 and the attached schedule of violations, between approximately November 11, 2020 and February 1, 2021, Cadence transferred EDA software and semiconductor design technology, specifically IP, and attempted to transfer hardware, classified under ECCNs 3E991, 3D991, 3B991b.2.c, and/or designated as EAR99, to Phytium. Further, as detailed above, the EDA software, semiconductor design technology, and EDA hardware had previously been exported to CSCC in violation of the Regulations. As a result, Cadence’s subsequent transfer and assignment of the EDA software and semiconductor design technology to Phytium and attempted transfer of hardware violated General Prohibition Ten, which states that “[y]ou may not sell, transfer, export, reexport, finance, order, buy, remove, conceal, store, use, loan, dispose of, transport, forward, or otherwise service” any item with knowledge [or reason to know] that a violation of the Regulations “has occurred . . . in connection with the item.” Cadence discontinued the transfer process prior to Phytium’s addition to the Entity List and without completing any of the anticipated hardware transfers.

Software Downloads by Entity Listed Parties

39. As noted above, between September 2016 and December 2021, although Cadence had established compliance processes and procedures for terminating transactions with companies who were later designated on the Entity List, due to certain system-level gaps, JSC Mikron, Huawei, and SMIC were able to download software, subject to the EAR, without the requisite BIS license or other authorization. As a result of Cadence's compliance processes and procedures, the terminated companies did not receive the corresponding license keys from Cadence to unlock and use the majority of the unauthorized software downloads.
40. Each of these companies was added to the Entity List based on a determination by the End User Review Committee that the company was acting contrary to the national security or foreign policy interests of the United States. Pursuant to Section 744.11 of the Regulations, exports, reexports, and transfers of all items subject to the Regulations to these companies are prohibited except with BIS authorization, and no license exceptions are available. No BIS license was sought or received.

* * * * *

Conclusion

Accordingly, Cadence is hereby notified that an administrative proceeding is instituted against it pursuant to Part 766 of the Regulations for the purpose of obtaining an order imposing administrative sanctions,¹⁶ including, but not limited to any or all of the following:

- The maximum civil penalty allowed by law of up to the greater of \$377,700 per violation,¹⁷ or twice the value of the transaction that is the basis of the violation;
- Denial of export privileges;
- Exclusion from practice before BIS; and/or
- Any other liability, sanction, or penalty available under law.

If Cadence fails to answer the charges contained in this letter within 30 days after being served with notice of issuance of this letter, that failure will be treated as a default. *See* 15 C.F.R. §§ 766.6(a) and 766.7(a). If Cadence defaults, the Administrative Law Judge may find the charges alleged in this letter are true without a hearing or further notice to Cadence. The Under Secretary

¹⁶ For violations that occurred prior to August 13, 2018, the date of enactment of ECRA, the potential sanctions are provided for in IEEPA. In situations involving alleged violations that occurred on or after August 13, 2018, the potential sanctions are specified in Section 1750(c) of ECRA.

¹⁷ *See* 15 C.F.R. §§ 6.3(c)(4), 6.4. This amount is subject to annual increases pursuant to the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015, *See* 701 of Public Law 114-74, enacted on November 2, 2015. For violations occurring on or after the enactment of ECRA on August 13, 2018, the maximum civil penalty is \$374,474. *See* 50 U.S.C. § 4819 (prescribing civil monetary penalty amount for ECRA violation); 15 C.F.R. §§ 6.3(c)(6), 6.4 (adjusting civil monetary penalty amount for inflation).

Cadence Design Systems
Proposed Charging Letter

of Commerce for Industry and Security may then impose up to the maximum penalty for the charges in this letter. *See* 15 C.F.R. § 766.7(a).

Cadence is further notified that it is entitled to an agency hearing on the record if it files a written demand for one with its answer. *See* 15 C.F.R. § 766.6. Cadence is also entitled to be represented by counsel or other authorized representative who has power of attorney to represent it. *See* 15 C.F.R. §§ 766.3(a) and 766.4.

The Regulations provide for settlement without a hearing. *See* 15 C.F.R. § 766.18. Should Cadence have a proposal to settle this case, Cadence should transmit it to the attorneys representing BIS named below.

Cadence is further notified that under the Small Business Regulatory Enforcement Flexibility Act, Cadence may be eligible for assistance from the Office of the National Ombudsman of the Small Business Administration in this matter. To determine eligibility and get more information, please see: <http://www.sba.gov/ombudsman/>.

The U.S. Coast Guard is providing administrative law judge services in connection with the matters set forth in this letter. Accordingly, Cadence's answer must be filed in accordance with the instructions in Section 766.5(a) of the Regulations with:

U.S. Coast Guard ALJ Docketing Center
40 S. Gay Street
Baltimore, Maryland 21202-4022

In addition, a copy of Cadence's answer must be served on BIS at the following address:

Chief Counsel for Industry and Security
Attention: Laura Cole and Gregory Michelsen
Room H-3839
14th Street and Constitution Avenue, N.W.
Washington, D.C. 20230

Laura Cole and Greg Michelsen are the attorneys representing BIS in this case; any communications that Cadence may wish to have concerning this matter should occur through them. They may be contacted by email at lcole@doc.gov and gmichelsen@doc.gov.

Sincerely,

Dan Clutch
Acting Director
Office of Export Enforcement

Count	Date	Violation	Relevant Party	Description	Value (If Known)
1	12/29/2016	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$1,154,140.00
2	3/27/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$2,310,951.00
3	4/1/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$3,283,142.00
4	4/7/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$3,153,106.00
5	12/9/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$116,072.00
6	1/9/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$2,467,092.00
7	5/8/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$2,439,295.04
8	5/9/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$1,370,088.27
9	6/14/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$3,394,136.00
10	6/29/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$2,273,752.97
11	12/16/2016	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$35,860.00
12	1/10/2017	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991 and designated EAR99	\$400,173.00
13	9/26/2017	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$906,948.00

Count	Date	Violation	Relevant Party	Description	Value (If Known)
14	12/15/2017	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$100,000.00
15	9/18/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$9,738.00
16	9/19/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$119,770.00
17	11/15/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$34,213.00
18	4/29/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$44,711.00
19	8/29/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$680,974.00
20	9/6/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$67,501.00
21	9/25/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$92,203.00
22	3/23/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$72,699.00
23	6/17/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991 and designated EAR99	\$18,291.00
24	6/18/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$20,121.00
25	6/18/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$6,068.00
26	6/24/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$13,132.00

Count	Date	Violation	Relevant Party	Description	Value (If Known)
27	6/24/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$3,443.00
28	9/30/2015	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$1,500,000.00
29	12/26/2018	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$1,900,000.00
30	9/6/2019	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$1,260,751.00
31	9/23/2019	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$1,230,000.00
32	5/6/2020	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$2,200,000.00
33	5/13/2020	15 C.F.R. 764.2(e)	NUDT	Attempted export of semiconductor design IP controlled under ECCN 3E991	\$300,000.00
34	6/22/2020	15 C.F.R. 764.2(e)	NUDT	Export of semiconductor design IP controlled under ECCN 3E991	\$2,400,000.00
35	4/5/2017	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$3,118,342.02
36	4/10/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware designated EAR99	\$42,515.46
37	9/21/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$957,588.65
38	10/11/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$1,705,951.74
39	11/9/2018	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991.b.2.c	\$204,578.10
40	5/15/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$155,027.54

Count	Date	Violation	Relevant Party	Description	Value (If Known)
41	7/13/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$1,016,394.60
42	7/19/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$11,661.84
43	8/15/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$614,072.84
44	9/4/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$5,880.20
45	11/5/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$405,038.66
46	12/13/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$137,060.34
47	12/30/2019	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$940.00
48	1/5/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$51,779.28
49	4/18/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware controlled under 3B991.b.2.c	\$7,000.00
50	5/21/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware controlled under 3B991.b.2.c	\$35,853.54
51	5/21/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under 3B991.b.2.c	\$45,719.08
52	5/21/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA software controlled under ECCN 3D991	\$30,400.00
53	7/1/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware designated EAR99	\$660.24
54	7/17/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$440,080.32
55	8/6/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$894,268.72

Count	Date	Violation	Relevant Party	Description	Value (If Known)
56	9/1/2020	15 C.F.R. 764.2(e)	NUDT	Export of EDA hardware, including items controlled under ECCN 3B991b.2.c	\$46,132.96
57	Approx. 11/1/2020 - 2/1/2021	15 C.F.R. 764.2(c)	NUDT, Phytium	Transfer of EDA software controlled under ECCN 3D991 and designated EAR99 and semiconductor design IP controlled under ECCN 3E991	
58	Approx. 11/1/2020 - 2/1/2021	15 C.F.R. 764.2(a)	NUDT, Phytium	Attempted transfer of EDA hardware controlled under ECCN 3B991b.2.c	
59	10/4/2016 - 8/15/2018	15 C.F.R. 764.2(a)	JSC Mikron	Export of EDA software controlled under ECCN 3D991 or designated EAR99	
60	5/29/2019 - 4/14/2021	15 C.F.R. 764.2(a)	Huawei	Export of EDA software controlled under ECCN 3D991 or designated EAR99	
61	4/28/2021 - 12/16/2021	15 C.F.R. 764.2(a)	SMIC	Export of EDA software controlled under ECCN 3D991 or designated EAR99	