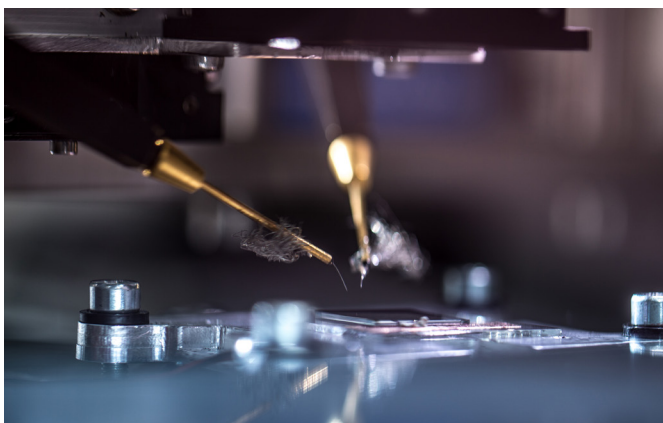


On December 2, 2024, BIS announced two new rules updating the Export Administration Regulations (EAR) with the stated goal of impairing China’s capability to produce advanced-node semiconductors used in artificial intelligence (AI) and advanced computing.

The first rule is an [interim final rule \(IFR\)](#) that adds two new Foreign-Direct Product (FDP) rules to the EAR; adds or modifies controls for certain advanced computing items, supercomputers and semiconductor manufacturing equipment (SME); and adds additional “Red Flags” to BIS’s “Know Your Customer Guidance.” The second is a [final rule](#) that adds 140 entities to the Entity List and modifies 14 existing entries, all of which are involved with the development and production of “advanced-node integrated circuits” (advanced-node ICs).

This highly anticipated rule package is a continuation of a series of BIS rules that control exports of advanced computing ICs, computer commodities that contain such ICs and certain semiconductor manufacturing items. This series of rules began in [October 2022](#) with subsequent revisions and additions in October 2023 ([Advanced Computing/Supercomputing IFR \(AC/S IFR\)](#)) and [Export Controls on Semiconductor Manufacturing Items](#)), and again in [April 2024](#). The most recent IFR continues BIS’s policy of establishing controls on advanced computing items, supercomputing items and SME that are exported, reexported or transferred (in-country) to, or within China (including Macau and any other US arms embargoed country designated as D:5 in the EAR). These rules are aimed at delaying China’s development of advanced AI and impairing its development of an indigenous semiconductor industry. BIS assesses these areas pose a substantial risk to US national security.

Broadly, the new IFR adds two new FDP rules to the EAR, revises sections of the EAR related to the production of semiconductors, adds new controls on high bandwidth memory (HBM) under export control classification number (ECCN) 3A090.c., clarifies export controls that apply to software keys that allow access to certain information, revises existing ECCNs and adds two new license exceptions related to the new controls. The rules were published to the Federal Register on December 5, 2024, both rules are effective as of December 2. There is a delayed compliance date of December 31, 2024, for certain items going to entities on the Entity List with a new footnote 5 designation (discussed below).



## Policy Implications of the New Rules

From a policy perspective, we see this IFR as rounding-out a regulatory framework restricting the export of advanced computing and semiconductor technologies that was primarily conceptualized and developed under the Biden Administration. This framework reflects a culmination of efforts to tighten controls on technologies critical to both economic competitiveness and national security, particularly in the face of strategic challenges posed by the People’s Republic of China (PRC).

From a national security standpoint, this IFR focuses on limiting China’s ability to develop advanced-node ICs, a key technology for HBM used in AI, supercomputing and military applications.

These ICs are critical for tools like autonomous weapons, advanced computing systems and mass surveillance. The rule establishes stricter controls through updated ECCNs and FDP rules, extending US oversight to foreign-produced items derived from US technology. This aims to block China from using these technologies for activities that threaten US security.

Enhanced control over HBM technologies under this IFR is notable. This type of advanced memory, critical to AI and machine learning applications, has been recognized as vulnerable under legacy export control approaches that focused too narrowly on specific processor technologies or computational hardware, inadvertently leaving memory systems like HBM underregulated. The IFR updates definitions and parameters for dynamic random access memory (DRAM) ICs, ensuring controls account for evolving architectures, including three-dimensional stacking and other density-enhancing innovations. By refining the criteria for “advanced-node ICs” and capturing HBM within its ambit, the rule appears to prevent potential loopholes that would allow adversarial adaptation or circumvention.

The IFR also introduces a License Exception for Restricted Fabrication Facilities (RFF), permitting limited exports to less advanced facilities under strict conditions. This allows US companies to continue serving global markets for older technologies without undermining the rule’s primary goal of restricting China’s access to cutting-edge capabilities. Additionally, the IFR implements compliance tools, including eight new “Red Flags,” to help exporters identify and mitigate risks in transactions, addressing enforcement gaps and strengthening due diligence requirements.

The timing of the IFR’s release, i.e., at the end of the year and during a presidential transition, is significant. Publishing in December provides businesses with a phased compliance timeline while establishing clear regulations immediately. Politically, it helps ensure continuity in critical national security policies while solidifying the outgoing administration’s efforts to counter China’s rise in technology. For the incoming Trump Administration, the IFR appears to complement its expected tough stance on China, reinforcing a regulatory framework to maintain US leadership in advanced computing and semiconductor technology that was largely conceptualized and developed under President Biden.

## Key Regulatory Changes

Below is a high-level overview of the IFR's changes to the EAR. For ease of reference, where "China" is mentioned, the rule includes Macau and all other US arms embargoed countries listed in country group D:5 in the EAR.

- Two new FDP rules in § 734.9 of the EAR cause foreign-made SME and items destined for footnote 5 (FN5) entities to be subject to the EAR.

Under the new FN5 FDP rule at paragraph (e)(3), a foreign-produced commodity is subject to the EAR if it meets both the product scope and the end-user scope.

- **Product Scope** – The product scope captures foreign-made items described in certain control parameters in Category 3B and is the direct product of specified technology or software or is produces using equipment that is the direct product of specified technology or software. However, this rule adds a new way that a foreign-made item can satisfy the product scope. The product scope is satisfied if the foreign-made item contains a commodity (for example, an IC) produced by equipment that is the direct product of specified technology or software.
- **End-user Scope** – End-user scope requirement is satisfied if the exporter, reexporter or transferor of the item has "knowledge" (including a reason to know) that:
  1. Such foreign-produced commodities will be incorporated in any "part," "component" or "equipment" produced, purchased or ordered by an entity with a FN5 designation
  2. Any entity with a FN5 designation is a party to any transaction involving such foreign-produced commodities

Under the new SME FDP rule at paragraph (k), a foreign-produced commodity is subject to the EAR if it meets both the product scope and the destination scope.

- **Product Scope** – Like the FN5 rule (and other FDP rules), the product scope captures foreign-made items described in certain control parameters in Category 3B and is the direct product of specified technology or software or is produces using equipment that is the direct product of specified technology or software. This rule also includes the new element that the product scope is satisfied if the foreign-made item contains a commodity (for example, an IC) produced by equipment that is the direct product of specified technology or software.
- **Destination Scope** – A foreign-produced item meets the destination scope if there is "knowledge" that the foreign-produced item is destined to Macau, or a destination in Country Group D:5.
- New *de minimis* rules in § 734.4 of the EAR cause foreign-made SME to be subject to the EAR. The *de minimis* rule provides that foreign-made items are not subject to the EAR unless they contain more than a *de minimis* amount of controlled US content by value. The IFR enhances an existing exception and establishes two new exceptions to the *de minimis* rule to cause more foreign made SME to be subject to the EAR.
  - Exception for lithography equipment to all destinations (734.4(a)(3)) specifies there is no *de minimis* level for foreign-made equipment under the a new ECCN 3B993.f.1 (lithography equipment) when the equipment is destined for use in the "development" or "production" of "advanced-node integrated circuits," unless the country from which the foreign-made item was first exported has a commodity specified on an export control list.
  - Exception for certain foreign made SME (734.4(a)(8)) specifies there is no *de minimis* level for foreign-made commodities meeting certain control parameters in ECCNs 3B001 or 3B002 when the foreign-made commodity contain US-origin ICs and is destined for D:5 country (or Macau), unless the commodity is excluded from national security or regional stability controls.
  - Exception for remaining SME destined for FN5 entities (734.4(a)(9)) specifies there is no *de minimis* level for foreign-made commodities meeting the control parameters in Category 3B (except those already covered by the (a)(8) paragraph) when the foreign-made commodity contain US-origin ICs and is destined for an entity with a FN5 designation.
- **Controls on Software Keys** – A new provision is added to the "access information" section at 734.19 to place controls on software keys that allow users the ability to use the "software" or hardware, or software keys that renew existing "software" or hardware use licenses. Software keys are now classified and controlled under the same ECCNs as the corresponding "software" or hardware to which they provide access.
- Additional controls on 24 types of SME and related items used in the production of advanced-node ICs and a new license exception Restricted Fabrication Facility (RFF).
  - The covered SME includes certain etch, deposition, lithography, ion implantation, annealing, metrology and inspection, as well as cleaning tools.
  - Creation of License Exception RFF under § 740.26 when certain specified SME ECCNs are exported, reexported or transferred (in-country) to certain fabrication facilities (fabs) that are subject to end-user-based license requirements (e.g. on the Entity List), but that are not currently producing advanced node ICs to allow these fabs to obtain legacy equipment and related items to produce non-advanced node ICs.
- New controls and a license exception for high-bandwidth memory (HBM)—critical for AI training and a key component of advanced computing ICs.
  - Creation of ECCN 3A090.c to control HBM having a memory bandwidth density greater than 2 GB per second per square millimeter (mm).
  - HBM includes dynamic random access memory ICs, regardless of whether they conform to the JEDEC standards for high bandwidth memory, provided they have a memory bandwidth density greater than 2 GB per second per square mm.
  - The HBM controls apply to US-origin HBM, as well as foreign-produced HBM subject to the EAR under the advanced computing FDP rule.
  - Creation of License Exception HBM under § 740.25 when all of the following apply:
    1. The exporter, reexporter or transferor is headquartered in the US or a destination specified in Country Group A:5 without an ultimate parent in China
    2. The 3A090.c item has a memory bandwidth density less than 3.3 GB/s/mm<sup>2</sup>
    3. The 3A090.c items exported, reexported or transferred to, or within China must be directly purchased by the designer of the co-packaged commodity not otherwise prohibited from receipt of the item
    4. The 3A090.c items must be exported, reexported or transferred (in-country) directly to the packaging site

- Addition of eight new “Red Flags” under supplement no. 3 to part 732 (BIS’s “Know Your Customer” Guidance).
  - Where a non-advanced fabrication facility orders equipment designed for “advanced-node IC” production.
  - Where an exporter, reexporter or transferor receives an order for equipment for the development or production of ICs for which the ultimate owner or user of the items is uncertain.
  - Where the exporter, reexporter or transferor an order or request related to an item that would require an export, reexport or in-country transfer license from BIS (or another foreign government) has uncertainty about the license history for the item.
  - Where an exporter, reexporter or transferor receives a request to service, install, upgrade or otherwise maintain an item that was altered after export by a third-party for a more advanced end-use that would normally require a license for the destination.
  - Where an exporter, reexporter or transferor receives a request to service, install, upgrade or otherwise maintain an item for a new customer whose senior management or technical leadership overlaps with an entity on the Entity List.
  - Where an exporter, reexporter or transferor receives a request to service, install, upgrade or otherwise maintain an item that was designed or modified for an existing or former customer that is now designated on the Entity List.
  - Where an exporter, reexporter or transferor needs to conduct due diligence when a foreign-produced items meets the product scope of the new FDP rules.
  - Where an end-user is a facility that is physically connected to a separate facility where production of advanced-node ICs occurs.
- Changes to end-use and end-user controls in Part 744.
  - US person restrictions in § 744.6(c)(2)(iii) that prohibit “support” to SME activities not subject to the EAR without a license (including facilitating the shipment, transmission, transfer or servicing of certain items) were amended to capture the item parameters of ECCNs 3B001.a.4, c, d, f.1, f.5, k to n, p.2, p.4, r, 3B002.c, 3D992 or 3E992 regardless of end-use or end-user.
  - Addition of license requirements under § 744.11(a)(2) (v) for entities on the Entity List with a FN5 designation for specified SME, semiconductor test and inspection equipment and SME that enables advanced-node IC production under the following ECCNs (with certain exceptions): 3B001, 3B002, 3B611, 3B903, 3B991, 3B992, 3B993 and 3B994.
  - Amending § 744.23(a)(1) to require a BIS license prior to the export, reexport or transfer (in-country) of Electronic Computer Aided Design (ECAD) or Technology Computer Aided Design (TCAD) “software” and “technology” subject to the EAR when a person knows the item will be used in the design of an advanced-node IC that will be produced in China.
  - Amending § 744.23(a)(3) to include HBM controls under the newly added ECCN 3A090.c. when an item is destined for an entity that is headquartered in, or whose ultimate parent company is headquartered in, China.

The concurrent Entity List Rule adds 140 entities and modifies 14 others. These entities include Chinese tool manufacturers, semiconductor fabs and investment companies that BIS has identified as being involved in advancing the Chinese government’s military modernization efforts. Nine of the newly added entities, and seven of the modified entries received the FN5 designation (discussed above) to restrict their ability to obtain foreign-produced items supporting the production of advanced-node ICs.

These concurrent regulations will require affected businesses to institute new compliance measures or risk BIS enforcement actions and significant penalties. Firms that were affected by the October 2022, and October 2023 rules should re-assess how the most recent rules affect existing compliance programs. Additionally, the updates to the Entity List and incorporation of two new FDP rules will require additional diligence for more items subject to the EAR.

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