

# CHINA'S REVIEW OF SEMICONDUCTOR TRANSACTIONS



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## KEY CHALLENGES AND TIPS FOR MERGER CONTROL FILING IN CHINA FOR LISTED COMPANIES

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Given the characteristics of listed companies and special legal requirements for listed companies under the PRC merger control laws and regulations, there are special challenges and compliance risks concerning the merger control filing for listed companies in China. This article aims to discuss the challenges for merger control filing in China for listed companies under various transaction scenarios and puts forward corresponding suggestions to mitigate the antitrust compliance risks due to failure to comply with the filing obligations under the PRC merger control laws and regulations. If a transaction involving listed companies subject to merger control filing in China, it is advisable to take the timeline for merger control filing into consideration and prepare the filing materials as early as possible, so as to allow sufficient time for it obtaining a clearance, and ensure that the entire process of the transaction will be carried out smoothly and timely, with the relevant antitrust compliance risks being mitigated to the greatest extent possible.

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## I. OVERVIEW

Since 2018, semiconductor transactions accounted for 11 out of 22 of conditional approvals by China's antitrust authority, the State Administration of Market Regulation ("SAMR"), and 7 abandoned transactions that were notified to SAMR.<sup>2</sup> During the same period, based on public records, there were about a total of 47 unconditionally approved foreign transactions involving the semiconductor industry, amongst which 23 were cleared under simplified procedure and 24 under the normal procedure, with an average approval time of approximately 123 days.<sup>3</sup>

Based on authors' analysis, in addition to substantive antitrust issues, transactions that involve (1) products or service areas where China is highly dependent on foreign suppliers or faces the so-called "small yard with high fence," and/or (2) U.S. companies, particularly where a U.S. buyer is acquiring a non-U.S. target, have faced heightened scrutiny leading to prolonged review time.

Such trends are consistent with China's industrial policy focus on the transactions' potential to further limit China's access to the global semiconductor supply chain in light of the current and future U.S. EAR.

These observations are each discussed in detail below. Section II briefly examines the foreign semiconductor transactions that received speedy clearance under the simplified procedure in spite of the challenging geopolitical environment. Section III analyzes the trend between SAMR review time and transacting parties' positions on the supply chain. Section IV looks at the relationship between SAMR review time and the nationalities of transacting parties. Section V analyzes the prevalent remedies imposed in the conditionally approved semiconductor transactions, offering insights for dealmakers who wish to draw up remedies offers upfront to accelerate the deal timeline.

## II. SIMPLIFIED PROCEDURE STILL THE QUICKEST WAY

Despite the challenging geo-political environment, certain semiconductor transactions continued to be reviewed and cleared under the expedited simplified procedure. Since 2018, at least 23 semiconductor transactions involving at least one foreign party have been unconditionally cleared under the simplified procedure, with an impressive average approval time of approximately 17 days from case acceptance. This is in line with SAMR's general review timeline of clearing simplified-procedure cases within a month. In contrast, the 24 foreign semiconductor transactions that were unconditionally cleared under the normal procedure, had an average review time of approximately 188 days.<sup>4</sup>

The qualification for simplified procedure remains the best way for speedy clearance if a filing in China is required, semiconductor-related or not. Transactions are eligible for the simplified procedure when the parties' combined market shares in any overlapped market are below 15 percent and their individual shares in any vertically-related or conglomerate markets are below 25 percent. Overseas joint ventures with no business activities in China or those with changes from joint control to sole control where one joint-venture partner buys out its other partner also qualify. Fundamentally, these criteria identify transactions that are typically considered to raise low substantive antitrust risks, which should be considered during deal selection and structuring if possible.

Nonetheless, it should be flagged that SAMR has the full discretion to determine if a transaction that meet the abovementioned criteria could be reviewed under the simplified procedure. While uncommon, at least two semiconductor transactions, Diode's acquisition of Lite-On and Maxlinear's acquisition of Silicon Motion, were asked to refile under the normal procedure after initially filing as a simple case. The Diode/Lite-On transaction was ultimately unconditionally cleared with a review time of approximately 283 days. The Maxlinear/Silicon Motion transaction underwent a lengthy review process of approximately 385 days between the first filing under the simplified procedure and the ultimate conditional approval; however, the transaction was abandoned mere hours after receiving clearance from SAMR. Another transaction, Japan Investment Corp ("JIC")'s proposed acquisition of JSR that initially filed under the simplified procedure in September 2023 reportedly struggled to be accepted as a simple case; it was however eventually allowed to be withdrawn in March 2024 as it fell below the new thresholds that came into effects in January 2024.

In addition to competition concerns, other non-antitrust factors are also at play here. Both *Diodes/Lite-On* and *Maxlinear/Silicon Motion* involve the acquisition of a Taiwanese target by a U.S. buyer. Despite unconditionally cleared by SAMR, Lite-On was required to divest its con-

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<sup>2</sup> Two abandoned transactions, *MaxLinear/SiliconMotion* and *Global Wafers/Siltronic*, were eventually conditionally approved by SAMR. These are also counted towards the 11 conditionally approved semiconductor transactions.

<sup>3</sup> Review time for unconditionally approved transactions reviewed under the normal procedure is calculated from deal announcement to clearance as the filing dates are generally not publicly available.

<sup>4</sup> *Id.*

trolling stake in Shanghai-based chip designer On-Bright Electronics as part of the national security review by China's National Development and Reform Commission. In *Maxlinear/Silicon Motion*, despite the absence of traditional antitrust concerns, SAMR imposed remedies on the parties to ensure an undisrupted supply of Silicon Motion's NAND flash controllers and continued support for Chinese customers for a five-year period (which became moot after the transaction was abandoned).

### III. SAMR REVIEW TIME AND TRANSACTING PARTIES' SUPPLY CHAIN POSITION

Transactions involving products or services where China is highly dependent on foreign suppliers ("Foreign-Dependent Products"), have attracted heightened scrutiny leading to prolonged review time compared to those that do not.

Products and services where China is highly dependent on foreign suppliers include, for example, wafer fabrication equipment, materials (including specialty chemicals and wafers), standard essential patents ("SEPs"), and design services. China enjoys more self-sufficiency in semiconductor manufacturing activities, including both front-end foundries and back-end packaging, assembly and testing as well as electronics manufacturing services and original equipment.

To start, it is notable that five out of the seven transactions that were abandoned due to prolonged review time in China since 2018 are semiconductor transactions involving Foreign-Dependent Products. These are Qualcomm's proposed acquisition of NXP involving SEPs, Global wafer's proposed acquisition of Siltronic involving silicon wafers, Applied Materials' proposed acquisition of KOKUSAI Electric involving wafer fabrication equipment, Nvidia's proposed acquisition of ARM involving chip architecture licensing, as well as DuPont's proposed acquisition of Rogers involving chemical and materials.

Based on authors' analysis, semiconductor transactions involving at least one foreign party and reviewed under the normal procedure since 2018 had notably different review time when involving Foreign-Dependent Products. Transactions involving Foreign-Dependent Products had an average review time of approximately 357 days, while those that do not had a comparably shorter review time of approximately 245 days on average.

This is consistent with China's industrial policy of preserving access to foreign supplies in areas of relative weakness and foreign dependency. According to a 2023 paper by the Center for Strategic and International Studies ("CSIS"),<sup>5</sup> for example:

- For silicon wafers, an importance part of the semiconductor materials, five non-Chinese suppliers account for 95 percent of the global market in 2020.
- For wafer fabrication equipment, Chinese suppliers only account for 2 percent of the global market in 2021.

In contrast, China has made significant progress when it comes to the manufacturing stage, with 303 foundries located in China as of March 2023, trailing only behind North America at 342.<sup>6</sup> Thanks to substantial government incentives and subsidies, China has also announced 19 new foundries to start constructure before December 2024. It goes without saying however that none of these foundries can maintain or start operations without access to upstream inputs such as silicon wafers and wafer fabrication equipment.

### IV. U.S. TRANSACTIONS FACE PROLONGED REVIEW

Although U.S. EAR's application is not limited to the activities of U.S. companies, SAMR appears to be particularly concerned with how a U.S. buyer's acquisition of a non-U.S. target may subject more semiconductor products and services to U.S. EAR and thereby out of reach for Chinese customers. Furthermore, mergers and acquisitions between U.S. companies have also faced heightened scrutiny and prolonged review, in part as a retaliatory tact.

Since 2018, 10 out of the 11 semiconductor transactions conditionally approved by SAMR as well as another five abandoned ones all involved at least one U.S. company.<sup>7</sup> The table below provides an overview of the nationalities of the transacting parties and SAMR review time in

5 CSIS Analysis, "Mapping the Semiconductor Supply Chain," Akhil Thadani and Gregory C. Allen, March 2023, <https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region>.

6 CSIS analysis; "World Fab Forecast," SEMI, March 14, 2023, <https://www.semi.org/en/products-services/market-data/world-fab-forecast>.

7 These are Qualcomm's proposed acquisition of NXP, Applied Materials' proposed acquisition of KOKUSAI ELECTRIC, Nvidia's proposed acquisition of ARM, Dupont's proposed acquisition of Rogers, and Intel's proposed acquisition of Tower Semiconductor. Another two abandoned transactions, Global Wafer's proposed acquisition of Siltronic and Max-Linear's proposed acquisition of SiliconMotion, have been counted towards the 11 conditionally approved transactions.

these transactions. It shows that semiconductor transactions involving at least one U.S. company are more likely to face prolonged review time and/or remedy requirements.

**Table 1.** Nationalities of Parties in Conditionally Approved/Abandoned Semiconductor Transactions (2018-2023)

No.	Transaction	Nationalities of Buyer / Target	Review Time <sup>8</sup> (Days)
1	Qualcomm's Proposed Acquisition of NXP	U.S. / Netherlands	636
2	KLA's Acquisition of Orbotech	U.S. / Israel	291
3	II-VI's Acquisition of Finisar	U.S. / U.S.	263
4	Nvidia's Acquisition of Mellanox	U.S. / U.S.	358
5	Infineon's Acquisition of Cypress	Germany / U.S.	238
6	Cisco's Acquisition of Acacia	U.S. / U.S.	450
7	SK Hynix's Acquisition of Intel NAND Business	South Korea / U.S.	372
8	Applied Materials' Proposed Acquisition of KOKUSAI ELECTRIC	U.S. / Japan	639 (Abandoned)
9	GlobalWafers' Acquisition of Siltronic	Taiwan / Germany	391 (Approved but abandoned)
10	AMD's Acquisition of Xilinx	U.S. / U.S.	367
11	II-VI's Acquisition of Coherent	U.S. / U.S.	371
12	Nvidia's Proposed Acquisition of ARM	U.S. / U.K.	512 (Abandoned due to challenges by U.S./U.K. regulators)
13	DuPont's Proposed Acquisition of Rogers	U.S. / U.S.	364 (Abandoned)
14	MaxLinear's Acquisition of SiliconMotion	U.S. / Taiwan	385 (Approved but abandoned)
15	Intel's Proposed Acquisition of Tower Semiconductor	U.S. / Taiwan	547 (Abandoned)
16	Broadcom's Acquisition of VMWare	U.S. / U.S.	441

The same pattern is apparent in unconditionally approved semiconductor transactions. Based on authors' analysis, there are a total of approximately 47 unconditionally approved semiconductor transactions involving at least one foreign party from 2018 to 2023. Amongst the 47 transactions, 23 were reviewed and cleared under the normal procedure.<sup>9</sup> Amongst these 23, the average review time for those that involved a U.S. company was approximately 223 days, counting from deal announcement to clearance,<sup>10</sup> whereas the average review time for those that did not involve a U.S. company was approximately 144 days.

## V. COMMON REMEDIES IN SEMICONDUCTOR TRANSACTIONS

While its counterparts in the U.S. and Europe increasingly question the effectiveness of behavioral remedies at preserving or restoring competition, SAMR doubled down. The Chinese antitrust regulator has always been more willing to require or accept idiosyncratic behavioral remedies that are better suited to address non-antitrust concerns. This presents both challenges and opportunities for the transacting parties involved in semiconductor transactions subject to SAMR's review.

<sup>8</sup> For conditionally approved transactions, review time is calculated from filing to the date of clearance; for abandoned transactions, review time is calculated from public deal announcement date to abandonment.

<sup>9</sup> Transactions cleared under the simplified procedure have been excluded from this comparison as these transactions generally present little to no substantive antitrust risks by fact of their qualification for the simplified procedure review (e.g. low combined market share).

<sup>10</sup> The precise filing date of unconditionally approved transactions notified under the normal procedure is not publicly available. Authors therefore use the deal announcement date as an approximation.

While behavioral remedies can be burdensome to implement, this also leaves room for creative remedy design and upfront remedy offers to proactively address potential concerns. An illustrative example is the *II-VI/Finisar* transaction in 2019, where SAMR accepted a long-term hold-separate as a remedy for its horizontal theory of harm and approved the transaction without requiring divestitures.<sup>11</sup>

The table below summarizes the most frequently required remedies in semiconductor transactions conditionally approved by SAMR since 2018.

**Table 2.** The Most Common Remedies in Semiconductor Transactions (2018-2023)

Remedy Description	Number of Times Imposed
Continue to supply on fair, reasonable, and non-discriminatory (“FRAND”) terms	10
No tying/bundling or other unfair trade terms	7
Firewall or other confidential information protection mechanisms	5
Maintain third-party interoperability	5
Continue to fulfill current contracts	4

Notably, companies were required to “continue to supply on fair, reasonable, and non-discriminatory (“FRAND”) terms” in 10 out of the 11 conditionally approved semiconductor transactions in the last five years. This shows that regardless of the nature of the substantive antitrust concerns (horizontal, vertical, or conglomerate), Chinese customers’ ability to continue to access and therefore the transacting companies’ ability to continue to supply semiconductor products remain a top concern for SAMR. Other remedies that were required or offered to address this concern include:

- The commitment to allow Chinese customers to stockpile inventory in *Nvidia/Mellanox*;
- The commitment to not materially alter current business model in a manner that would frustrate or disrupt supply, to maintain R&D in Taiwan, and to maintain field engineers in China in *MaxLinear/SiliconMotion*.

When designing remedies, transacting parties must anticipate how current and future U.S. EAR rules may affect their ability to comply with the remedies going forwards. A SAMR official has remarked in a recent panel discussion organized by the China University of Political Science and Law that transacting parties who make commitments to SAMR should strictly comply with related decisions and should not invoke U.S. laws and policies to resist or challenge a SAMR decision in an effort to escape obligations set forth in the commitments.<sup>12</sup>

## VI. CONCLUSION

While semiconductor transactions are increasingly subject to heightened scrutiny and prolonged review time by SAMR amid ongoing U.S.-China tension, semiconductor transactions continue to receive clearance from the Chinese antitrust authority. To navigate these challenges, dealmakers seeking speedy antitrust clearance in China could consider prioritizing transactions that do not raise substantive antitrust concerns and do not involve products and services where China is highly dependent on foreign supplies. Given the key role of the U.S. in the global semiconductor supply chain, deal opportunities without any U.S. players may be limited. However, by proactively offering creative remedies aiming to address key concerns such as Chinese customers’ access to supply concerns early in the process, dealmakers can increase the chances of obtaining timely clearance for U.S.-related semiconductor transactions in China.

<sup>11</sup> In addition, the combined entity was required to continue to supply on fair, reasonable, and non-discriminatory terms were also required.

<sup>12</sup> Yan Yan, Deputy Director of Department II of SAMR Antimonopoly Enforcement, Panel “Merger Control in Tech Space,” 2023 International Antitrust Webinar.



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