

## An Overview of Recent FRAND Remedies in China

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## Introduction

A great deal has been written about the meaning and effect of the "fair, reasonable, and non-discriminatory" or "reasonable and non-discriminatory" ("FRAND") commitments in the context of antitrust scrutiny of licensing of standard-essential patents ("SEP"). Outside the patent licensing/standardization sphere, however, FRAND commitments have also been accepted by competition authorities around the world as behavioral remedies to maintain the supply of, or promote access to, critical inputs, networks, or infrastructures.

Accepted commitments to supply products or provide services on FRAND terms ("FRAND remedies") are found in merger decisions across a range of sectors such as telecommunications, semiconductors, specialty equipment, military, agriculture, and retail. Unlike in the field of standardization, FRAND remedies are by nature merger-specific and at the mercy of market tests and remedy negotiation dynamics. Therefore, the criteria for "FRAND" and the scope of FRAND remedies may vary from case to case even if imposed by the same competition authority for transactions in the same sector. On the other hand, since "FRAND" is inherently a high standard mainly suitable to restrain entrenched market power and FRAND remedies often require protracted supervision of commercial activities associated with high administrative costs, there seems to be a consensus that, in principle, FRAND remedies should be imposed in limited scenarios.

In recent years, FRAND remedies have been more frequently used in China than in other jurisdictions. Out of ten conditional approvals published by the State Administration for Market Regulation ("SAMR") between 2020 and today, seven decisions included FRAND remedies. These decisions encapsulate the typical criteria for "FRAND" and the acceptable scope of

FRAND remedies in the context of China's merger remedy practice.

In Section II, we summarise all the FRAND remedies imposed under the merger context in China since 2020 with an analysis of the prevailing practice of SAMR. We conclude that there is a trend of expansive use of FRAND remedies. Moreover, there is a tendency that SAMR is pursuing standardized language for FRAND remedies while preserving the option to consider innovative FRAND commitments.

In Section III, we present a brief comparative study of the FRAND remedies of SAMR and of its global peers that reveals some key conceptual difference in the benchmarks and scope of FRAND remedies. We also discuss the divergence between in the mechanisms to monitor compliance of FRAND commitments between China and EU.

## Overview of Recent FRAND Remedies Imposed by SAMR

Since 2020, 70% of the conditional approvals published by SAMR adopted FRAND remedies. The three residual cases were either conditional upon pure structural remedies (i.e. *Danaher/GE BioPharma* and *Eaton/Danfoss*) or approved with remedies similar to FRAND commitments (i.e. *MTS/ITW*). The seven remedy packages that included FRAND remedies were purely behavioral reliefs with one exception: *Siltronic/Global Wafers*, in which a hybrid of divestiture and standalone conduct commitments were imposed. Notably, six of the seven cases were related to the semiconductor industry across different value chains. We have summarised the terms of the FRAND commitments and main theory of harm for the seven cases and *MTS/ITW* in an **Annex** for ease of reference.

## Standard and Content of FRAND Remedies

SAMR's recent record demonstrates an increasingly clear pattern of FRAND remedies.

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As shown in Table 1 above, FRAND remedies in China are generally continuous supply orders comprised of four common elements:<sup>2</sup>

- i. Maintain existing commercial agreements
- ii. No discriminatory treatment in terms of key supply terms (including price, delivery time, after-sales service)
- iii. Quality of service/after-sale service should be no less favourable than pre-merger level
- iv. No refusal to, restrictions of, or delay in supply

These limbs shape the standard of FRAND supply and have salient implications for external customers of the merged entities. For existing customers, the FRAND requirement means that the mergers should not impact existing supply agreements, and the merged entities should not arbitrage by decreasing quality of service, product, or after-sale service. As to potential customers, the merged entities should refrain from price (as well as other supply terms) discrimination against them, i.e. supply terms should be similar under equivalent conditions, and decline of the general level of service or after service associated with the underlying products would also be deemed as non-compliance with FRAND commitments. Moreover, the merged entities have a general duty to deal with actual or potential purchasers (on FRAND terms, if interpreted appropriately) in terms of the underlying products. It derives from the above that, in general, "FRAND" terms are measured through historical lens (vertical comparison) and "peer review" among customers (horizontal comparison).

Despite the above commonalities, some nuances or variances are also noticeable:

#### *a) More stringent standard of FRAND price*

SAMR has not shied away from adopting more stringent FRAND standards. In *Intel/SK Hynix*, the merged entity was required to supply all of its products to the Chinese market on FRAND terms, and the prices of the key relevant products (PCIe enterprise SSDs and SATA enterprise SSDs) in China would not be deemed

FRAND if they exceeded the average prices in the past 24 months under equivalent terms (subject to fair and reasonable increase in new contracts based on inflation and/or input price). In *MTS/ITW*, SAMR imposed price caps for the relevant product based on historical average prices adjustable upon inflation and/or input price increase, while also considering costs of R&D and individualised configuration in terms of prices of new products.

In addition to price caps, SAMR has also required the merged entity to offer Chinese customers prices that "no less favourable" than pre-merger level in *Xilinx/AMD*, and in *Acacia/Cisco*, "more favourable" than pre-merger level. It is unclear whether existing contracts are subject to these requirements and whether SAMR considers that the current prices offered by the respective merged entities would not be fair and reasonable post closing.

#### *b) FRAND commitments beyond the duty to supply*

Recent FRAND remedies are not limited to duty to supply. In *Xilinx/AMD*, the merged entity was also obliged to maintain its level of investment in the domestic R&D of CPU, GPU, and FPGA post closing. In *Wabco/ZF*, the FRAND remedies extended to the provision of opportunities to develop an AMT controller to Chinese customers on FRAND terms to ensure future supply. According to the published remedy package, the merged entity could not reject reasonable commercial requests for development (unless there is a valid justification). Moreover, the merged entity could not hamper any joint development arrangement regarding AMT between its customers and other AMT suppliers. In *Mellanox/Nvidia*, the merged entity was not only required to continue supply of relevant products, but also provide customers, distributors, and OEMs with the opportunity to purchase and stockpile these products for one-year consumption on FRAND terms.

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<sup>2</sup> As exceptions, the non-discriminatory requirement is not included in the published text of remedy package for *Intel/SK Hynix*, and remedy package for *Cypress/Infineon* does not specify the requirement to maintain existing agreements. However, it is likely that the two cases are subject to these fundamental requirements as well under the overarching principle of "continuous supply on fair, reasonable, and non-discriminatory terms".

These examples of special FRAND obligations may provide little precedential value, since there are obvious traits indicating special national economic concerns as well as stakeholder's involvement. However, it is evident from these mutations that SAMR is ready to accept innovative FRAND commitments beyond the duty to supply or license if conceptually sufficient and embraced by market tests.

### **Coverage of FRAND Remedies**

As a conspicuous feature, the scope of the products/services subject to FRAND commitments may be more expansive than the products identified with competition concerns. For example, although the competition concerns of the *Intel/SK Hynix* transaction were only identified on the relevant markets for PCIe enterprise SSDs and SATA enterprise SSDs, one of the conditions imposed on the transaction was to continue to provide all products to the Chinese market on FRAND terms. Similarly, in *Siltronic/Global Wafers*, the merged entity was required to continue to supply all types of wafers on FRAND terms, while the competition concern in China, which was contemplated to be mainly resolved by a divestiture, lied only in potential coordinated effects on the market for 8-inch zone melting wafers.

Conglomerate mergers such as *Cypress/Infineon* and *Xilinx/AMD* are more subtle examples of the expansive product coverage of FRAND commitments. In each case the merged entity was considered to have the incentive and ability to leverage its market power in one or two relevant markets to foreclose competition in one or more neighboring market(s) through tying/bundling, refusal to deal, and/or degradation of Interoperability. However, although a no tying/bundling order and interoperability remedies were already in place, the supply of products in the neighboring markets (where the merged entities were not perceived to have

significant market power) were also subject to FRAND requirement in each case.

The above feature easily leads to the view that FRAND remedies in China are not always aimed to only restraining the abuse of entrenched market power resulting from mergers. One of the reasons is that the authority may deem FRAND remedies can be used to address potential adverse impact on national economic development in addition to substantive competition concerns. Moreover, third-party stakeholders that are likely to be affected by or have an interest in a merger may see SAMR's market test and remedy negotiation as the opportunity to secure its commercial advantage, which may also explain the broad scope of FRAND remedies in some cases.

### **Comparative Study of FRAND Remedies in China and in Other Jurisdictions**

FRAND remedies to mergers are by no means exclusive to China. Remedies enabling access to key infrastructure, networks, key technology, including patents, know-how or other intellectual property rights, or essential inputs are commonly referred to as "access remedies" in the EU Commission's guidance on commitments<sup>3</sup> and the CMA's merger remedies guidance.<sup>4</sup> In particular, the CMA's merger remedies guidance provides that "[i]n certain circumstances, it may be possible to simplify the specification of an access remedy by obliging the merged entity to supply a particular product on fair, reasonable and non-discriminatory (FRAND) terms, where supplies to external customers are provided on the same or similar terms as apply to its own businesses."<sup>5</sup> The EU Commission's guidance on commitments states that "[n]ormally, the parties grant such access to third parties on a non-discriminatory and transparent basis."<sup>6</sup> In practice, the EU Commission has accepted a number of such commitments also on fair and reasonable terms.

<sup>3</sup> Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 ("Commission Notice")

<sup>4</sup> Guidance on merger remedies in Phase 1 and Phase 2 investigations (2018) ("Guidance")

<sup>5</sup> Commission Notice, para 62

<sup>6</sup> Guidance, para 7.21



Table 1: Examples of EU merger cases involves non-SEP FRAND remedies

| Case  | Summary of FRAND remedies  |
|---|--|
| M.6800 – PRSfM/GEMA/TIM/JV                          | commitment to provide copyright administration services to music copyright Management organisations on FRAND terms |
| M.7194 – Liberty Global/Corelio/W&W/De Vijver Media | commitments to grant access to TV channels on FRAND terms  |
| M.7873 – Worldline/Equens/Paysquare                 | commitment to grant a license to a <i>de facto</i> industry standard software on FRAND terms                       |
| M.8665 – Discovery/Scripps                          | commitment to grant access to TV channels on FRAND terms   |
| M.9064 – Telia/Bonnier                              | commitment to grant access to TV channels on FRAND terms   |
| M.9674 – INWIT/Telecom Italia/Vodafone JV           | commitment to provide hosting services on FRAND terms and conditions   |

FRAND remedies are also seen, though less frequently, in other jurisdictions, such as Japan<sup>7</sup> and Singapore<sup>8</sup>. Even in the US where behavioral remedies are discernibly disfavoured, FRAND-like conditions were also imposed<sup>9</sup>.

Looking outward from China, we note the following key divergence of the notion in remedy design:

### **Benchmark of FRAND in Vertical Mergers**

For vertical mergers where FRAND remedies are imposed to resolve foreclosure concerns, FRAND means that the merged entity should not treat its external customers or suppliers less favourably than its own businesses. In *Worldline/Equens/PaySquare* before the EU Commission, Worldline's software (Poseidon) gives it a "near monopolistic position" on the upstream market for the application software designed specifically for network service provider ("NSP"), and PaySquare had a 5% to 10% share in the downstream markets for NSP

activities. One of the competition concerns was that Worldline might pursue a strategy to raise the licensing fee it charged to the competitors of PaySquare. To address such concern, the EU Commission approved a commitment to "enter into non-exclusive, non-transferable, non-assignable Poseidon licensing agreements and non-exclusive maintenance service agreements with third-party NSPs, without right to sublicense, upon request, under fair, reasonable and non-discriminatory terms and on no worse terms than the ones granted to PaySquare"<sup>10</sup>. Similarly, to secure the EU Commission's approval of *Telia/Bonnier*, Telia committed to license its certain channels on no less favourable terms to TV service providers than the ones available to the merged entity.

In contrast, SAMR does not seem to have adopted similar language. In *Acacia/Cisco* and *Wabco/ZF* where SAMR identified vertical concerns, the merged entities were required to maintain existing commercial agreements and

<sup>7</sup> *ASML/Cymer* (2013) (commitment to continuously do business with competitors of ASML under fair, reasonable and non-discriminatory terms of trade)

<sup>8</sup> *Times/Penguin* (2017) (commitment to supply third party retailers the full range of the relevant English books on FRAND terms)

<sup>9</sup> *Northrop Grumman/Orbital* (2018) (commitment to supply solid rocket motors and related services on a non-discriminatory basis to all competitors for missile contracts)

<sup>10</sup> Commitment package offered by Worldline, *M.7873 – Worldline/Equens/Paysquare*

impose similar supply terms under equivalent conditions (non-discriminatory treatment), and the supply terms offered to the in-house businesses were not expressly used as benchmarks of FRAND.

### ***Scope of Product/Service***

FRAND remedies identified in other jurisdictions are usually related to the product or service in which the competition concern is identified. Taking *Time/Penguin* as an example, when reviewing Times Publishing Limited's ("TPL") acquisition of the target companies from Penguin Random House Limited ("PRH"), the Competition and Consumer Commission of Singapore ("CCCS") noticed that the acquisition entailed an exclusive distribution agreement between the target companies with certain publishers affiliated with PRH. Prior to the acquisition, the PRH or the target companies were not affiliated with any book retailer in Singapore, and books published by PRH were then sold by different distributors to retailers. CCCS considered that the merged entity will have a greater ability and incentive to discriminate or restrict supply of the publishers' titles to retailers other than TPL's affiliated retailers because of the exclusive distribution agreement. To address the competition concerns, CCCS accepted TPL's commitment to supply third-party retailers books on a FRAND basis during the period of exclusive distribution, and the scope of books was only limited to those published by the publishers or in which the publishers controls rights.

In contrast, as discussed previously, business subject to FRAND commitments in China can extend to products irrelevant to the competition concern. Directly related to this feature, it is worth mentioning that SAMR is willing to attach FRAND commitments to the remedy packages addressing various types of horizontal, vertical, and conglomerate concerns, while FRAND remedies in other jurisdictions are primarily used to address foreclosure issues.

### ***Procedural Safeguard***

Effective enforcement of FRAND remedies is a difficult task for competition authorities around the world. First, like other behavioral remedies, enforcement of FRAND remedies requires the

regulation and supervision of the merged parties' commercial activities, which can be costly and ineffective, especially in markets where regulatory oversight had not been in place. Moreover, the assessment of whether prices conform to FRAND standard is not a mechanic process: the non-discriminatory limb requires case-by-case evaluation of the equivalence of conditions of offers, and FRAND prices for new or modified products are notoriously onerous to determine. What leads to more challenges is that FRAND remedies typically require supervision of quality of product/service as well (since ensuring quality level is necessary and typically integral to FRAND remedies in China as well as in other jurisdictions to prevent profitable evasion of FRAND price restrictions). That said, complaints from third parties may serve as effective channels to identify non-compliance of FRAND commitments. As beneficiaries of FRAND commitments, firms dealing with the merged entities may raise concerns to the monitoring trustee or competition authority that the supply terms they received are not FRAND enough. In this sense, procedural safeguard to protect third parties is critical to the success of FRAND remedies.

The EU Commission has introduced fast-track dispute resolution and arbitration mechanisms in addition to monitoring trustees for the purpose of supervising compliance with FRAND commitments. For example, the EU Commission's decision in *Telia/Bonnier* provides for an optional "fast track dispute resolution" that third parties may choose to claim non-compliance of FRAND commitments, under which any third party may send a written request to the merged entity (with a copy to the monitoring trustee) setting out in detail the reasons why commitments have not been observed, and the merged entity and the third party will use their best efforts to resolve all differences of opinion and to settle all disputes that may arise through cooperation and consultation within a reasonable period of time. Although the monitoring trustee shall present its own proposal, should they fail to resolve their differences, the third party may serve a request for arbitration and the merged entity is

committed to honoring any existing agreement with the third party (even after the expiration of any such existing agreement on the current terms) until arbitration is completed before the relevant arbitral tribunal.

The EU Commission has also resorted to independent experts in determining whether supply terms are FRAND in the monitoring of FRAND remedies. In *INWIT/Telecom Italia/Vodafone JV*, the decision provided an alternative "fast track expert dispute resolution" under which experts in mobile telecommunication networks would be appointed to adjudicate on the dispute between third parties and the merged entities regarding whether the terms of hosting services are reasonable and non-discriminatory.

In contrast, supervision of FRAND remedies is always delegated to monitoring trustees in China, though SAMR is entitled to supervise on its own as a matter of law. There has not been any comprehensive report on whether the FRAND remedies are successfully implemented, but the heavy reliance on monitoring trustees poses apparent issues in China. Specifically, as law firms and accounting firms are the "usual suspects" delegated to supervise commitment compliance, they are more effective in monitoring divestiture processes and less equipped in adjudicating whether contract terms are equivalent or reasonable in the context of various sectors such as semiconductors, telecommunications, etc. Nor does SAMR itself have the expertise or resources to monitor supply terms post-closing.

It is true that third parties are not blocked from reporting to monitoring trustees or SAMR, and there were reported investigations on non-compliance arising out of third-party complaints. However, there has not been any transparent and institutionalized procedural protection for third-party claims. Another potential repercussion would be that disputes around the interpretation of a FRAND commitment may

evolve into rampant litigations in lack of clear procedural guidance from the competition authorities. There is no evidence showing an arbitration clause is a panacea, but if FRAND remedies are not imposed solely out of an abundance of caution, reasonable reliance on an independent dispute resolution system may alleviate the unreasonable burden on monitoring trustees and competition authorities.

## Conclusion

FRAND remedies were used intensively in recent SAMR's decisions of conditional approval. There is a tendency that SAMR is pursuing standardized language for FRAND remedies while preserving the option to consider innovative FRAND commitments. A closer look also reveals that the scope of products or services subject to FRAND commitments may be more expansive than those identified with competition concern.

FRAND remedies are used to address non-SEP competition concern resulting from mergers in EU, Singapore, Japan as well as other jurisdictions. Nevertheless, our comparative study shows that FRAND remedies in China can be conceptually different from others in terms of the benchmarks and scope of FRAND remedies in some cases.

As to the supervision of FRAND remedies, it is recognised that third-party complaints are important to effective supervision of FRAND remedies. However, SAMR has not adopted any institutionalized procedural protection of third-party claims and instead relied heavily on monitoring trustees who are no expert in determining whether specific supply terms are FRAND. EU has been adopting dispute resolution mechanism tailored to FRAND remedy enforcement and we believe similar mechanisms may help resolve some of the underlying enforcement issues in China.

## Annex: Recent FRAND remedies imposed by SAMR (Jan 2020 to February 2022)

| Case<br>(Date of Approval)             | Theory of Harm   | Summary of FRAND remedies  |
|--|--|--|
| Xilinx/AMD<br>(2022.1.27)              | <p><u>Conglomerate concern</u></p> <p>Leveraging market power in the FPGA market to foreclose competition in the CPU and GPU accelerator markets (adjacent markets) by (1) tying and bundling, (2) refusal to supply and (3) degradation of interoperability.</p> <p><i>* Xilinx has market power in FPGA, a type of IC that is (i) generally purchased with and interoperable with CPU and GPU accelerators and (ii) necessary to the upgrade and design of CPU and GPU accelerator. AMD offers CPU and GPU accelerators.</i></p> | <p>Continuous provision of <u>CPU, GPU accelerators, FPGA and relevant software and accessories</u> on <b>FRAND terms</b> to the China market, including:</p> <ul style="list-style-type: none"> <li>• To maintain existing commercial agreements (unless terminated by customers)</li> <li>• No discriminatory treatment in terms of price, delivery time, after-sales service</li> <li>• No refusal to, restrictions of, or delay in supply</li> <li>• Price, delivery time, and quality of service should be no less favourable than pre-merger level</li> <li>• Investment in domestic R&amp;D should be no less than pre-merger level, and no material change to the business model</li> </ul> <p><i>* In addition to the above, the remedy package also included, inter alia, remedies relating to no tying/bundling and interoperability.</i></p> |
| Siltronic/Global Wafers<br>(2022.1.21) | <p><u>Horizontal concern</u></p> <p>Unilateral effects and coordinated effects on the global and China market for 8 inch zone melting wafers</p> <p><i>*Global Wafers and Siltronic overlap in the global and China market for 8 inch zone melting wafers</i></p>  | <p>Continuous provision of <u>all types of wafers</u> to Chinese customers on <b>FRAND terms</b>, including:</p> <ul style="list-style-type: none"> <li>• To maintain and renew existing commercial agreements on no less favourable terms</li> <li>• No discriminatory treatment in terms of price, quality, quantity, delivery time, and after-sales service</li> <li>• No refusal to, restrictions of, or delay in supply; no other unreasonable terms</li> <li>• Quality of service should be no less favourable than pre-merger level</li> </ul> <p><i>* In addition to the above, the remedy package also included, inter alia, divestiture of the melting wafers business of Global wafers</i></p>  |



|  |  |   |
|--|--|---|
| <p>Intel/SK Hynix<br/>(2021.12.22)</p>       | <p><u>Horizontal concern</u></p> <p>Unilateral effects and coordinated effects on the global and China market for PCIe enterprise SSDs and SATA enterprise SSDs</p> <p><i>* SK Hynix and the target Intel business overlap in the global and China markets for PCIe enterprise SSDs and SATA enterprise SSDs</i></p> | <p><b>Reasonable price</b> of <u>PCIe enterprise SSDs and SATA enterprise SSDs</u>: no higher than the average price in the past 24 months under equivalent terms, subject to <b>fair and reasonable increase</b> based on inflation and/or input price.</p> <p>Continuous provision of <u>all products</u> to the China market on <b>FRAND terms</b>, including:</p> <ul style="list-style-type: none"> <li>• To maintain existing commercial agreements</li> <li>• No refusal to, restrictions of, or delay in supply</li> <li>• Quality/technology of the product/service, delivery time, quality of after-sale service should be no less favourable</li> </ul> <p><i>* In addition to the above, the remedy package also includes, inter alia, commitment to expand production, commitment to facilitate entry of one competitor</i></p>  |
| <p>MTS/ITW<sup>11</sup><br/>(2021.11.18)</p> | <p><u>Horizontal concern</u></p> <p>Unilateral effects on the China market for high-end electro-hydraulic servo material test equipment</p> <p><i>* MTS and ITW overlap in the China market for high-end electro-hydraulic servo material test equipment</i></p>   | <p>Price of <u>dynamic electro-hydraulic servo material test equipment and related service</u>:</p> <ul style="list-style-type: none"> <li>- no higher than the average price in the past 24 months under equivalent terms, subject to <b>fair and reasonable increase</b> based on inflation and/or input price</li> </ul> <p>Price of <u>new dynamic electro-hydraulic servo material test equipment related service</u></p> <ul style="list-style-type: none"> <li>- in the initial 12 months, <b>fair and reasonable price</b> reflecting costs and innovation</li> <li>- after the initial 12 months, benchmarked on the average price in the initial 12 months, subject to <b>fair and reasonable increase</b> based on inflation and/or input price</li> </ul> <p>Continuous Provision of <u>dynamic electro-hydraulic servo material test equipment and related service</u> to the Chinese customers:</p> <ul style="list-style-type: none"> <li>• To maintain existing commercial agreements and standard of service</li> <li>• No refusal to, restrictions of, or delay in supply; no other unreasonable terms</li> <li>• Quality/technology of product/service, delivery time, and quality of after-sale service no less favourable than pre-merger level</li> </ul> |

<sup>11</sup> The remedy package for MTS/ITW does not contain the full term of "fair, reasonable, and non-discriminatory" but commitments similar to FRAND requirements.

|                                     |   |  |
|-------------------------------------|---|--|
| <p>Acacia/Cisco<br/>(2021.1.19)</p> | <p><u>Vertical concern</u></p> <p>Unilateral effects (input foreclosure and raising rival's costs) on the downstream market for optical transmission system</p> <p><i>* Acacia has market power in coherent DSPs, a core component of optical transmission system. Cisco provides optical transmission system</i></p>       | <p>Continuous provision of <u>coherent DSPs</u> to Chinese customers on <b>FRAND terms</b>, including but not limited to :</p> <ul style="list-style-type: none"> <li>• To maintain existing commercial agreements (unless terminated by customers)</li> <li>• No discriminatory treatment in terms of price, quality, quantity, technical specifications, delivery, after-sales service, contract term/supply security</li> <li>• No refusal to, restrictions of, or delay in supply</li> <li>• Price, quality, quantity, technical specifications, delivery, after-sales service, contract term/supply security should be more favourable than pre-merger level</li> </ul>   |
| <p>Wabco/ZF<br/>(2020.5.15)</p>     | <p><u>Vertical concern</u></p> <p>Unilateral effects (input foreclosure) on the downstream market for AMT; (a named local competitor would be squeezed out of the market by potential input foreclosure)</p> <p><i>* Wabco has market power in AMT controller, a core component of AMT. ZF has market power in AMT.</i></p> | <p>Continuous provision of <u>AMT controller or components</u> to existing customers with no less favourable price, quality, quantity, delivery time, technological advancement, after-sale service (compared to the existing terms)</p> <p>Continuous provision of <u>AMT controller</u> to Chinese customers on <b>FRAND terms</b>:</p> <ul style="list-style-type: none"> <li>• No discriminatory treatment in terms of price, quality, quantity, delivery time, after-sales service</li> <li>• No refusal to, restrictions of, or delay in supply; no other unreasonable terms</li> <li>• Quality of service should be no less favourable than pre-merger level)</li> </ul> <p>Continuous provision of <u>the opportunities to develop AMT controller</u> to Chinese customers on <b>FRAND terms</b> so as to ensure future supply:</p> <ul style="list-style-type: none"> <li>• No rejection to reasonable commercial request for development (unless there is a valid justification)</li> <li>• No restriction on joint development with other suppliers of AMT controller</li> <li>• To ensure the technological advancement, competitiveness, and cost-savings of AMT controllers during the term of future development contract with Chinese customers</li> </ul> |

|  |   |  |
|--|---|--|
| <p>Mellanox/Nvidia<br/>(2020.4.16)</p> | <p><u>Conglomerate concern</u></p> <p>Leveraging market power in the markets of GPU accelerators and/or high-speed network interconnection devices to foreclose competition in the other markets (adjacent markets) by (1) tying and bundling, (2) refusal to supply, (3) degradation of interoperability (4) access to competitors' confidential information</p> <p><i>* Nvidia has market power in GPU accelerator; Mellanox has market power in high-speed network interconnection devices; these are key components of servers.</i></p> | <p>Continuous provision of <u>Nvidia GPU accelerators, Mellanox high-speed network interconnection devices, and the related software and accessories</u> to Chinese customers on <b>FRAND terms</b>:</p> <ul style="list-style-type: none"> <li>• To maintain existing commercial agreements</li> <li>• No discriminatory treatment in terms of price, delivery, after-sales service</li> <li>• No refusal to, restrictions of, or delay in; no other unreasonable terms</li> <li>• No less favourable quality of service (compared to pre-merger level)</li> <li>• To provide customers, distributors, and OEMs with the opportunity to purchase and stockpile Nvidia's GPU accelerators and Mellanox's high-speed network interconnection equipment sufficient for one-year consumption on <b>FRAND terms</b></li> </ul> <p><i>* In addition to the above, the remedy package also includes, inter alia, interoperability remedies and access to source code of related software</i></p> |
| <p>Cypress/Infineon<br/>(2020.4.8)</p> | <p><u>Conglomerate concern</u></p> <p>Leveraging market power in the markets of automotive IGBT/automotive NOR flash memory to foreclose competition in the automotive MCU market (adjacent markets) by (1) tying and bundling, (2) refusal to supply, (3) degradation of interoperability</p> <p><i>* Infineon has market power in automotive IGBT; Cypress has market power in automotive NOR flash memory.</i></p>   | <p>Continuous provision of <u>automotive-grade IGBT, automotive-grade NOR and automotive-grade MCUs</u> to Chinese customers on <b>FRAND terms</b>:</p> <ul style="list-style-type: none"> <li>• No discriminatory treatment in terms of price, delivery time, after-sales service</li> <li>• No refusal to, restrictions of, or delay in supply; no other unreasonable terms</li> <li>• Quality of service should be no less favourable than pre-merger level)</li> </ul> <p><i>* In addition to the above, the remedy package also includes, inter alia, no tying/bundling and interoperability remedies</i></p>   |