# Quality and Experience

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#### Performance highlights

- ♦ 74 NB models passed certification for China Energy Label (CEL) in 2020
- The creator series introduced new models with an emphasis on mobility and AI experience
- Received Outstanding Contribution Award for High Quality Development from the Kunshan Municipal Government for ongoing improvements in quality management

Association with SDGs





Clevo's notebook computers can be classified into four main categories: "gaming," "commercial," "mainstream," and "mobility/environment focused." The company adopts a business model of focusing on the design, research, development, manufacturing, and after-sale service of computers while relying on distributors for sale to end users. It may concentrate resources on introducing models that would deliver the best customer satisfaction.

We manage our markets with sustainability in mind, and by offering a wide variety of NBs, we satisfy customers' diverse needs. This chapter explains our efforts and progress with respect to "innovation," "flexibility," and "environment-friendliness" from a product and user experience perspective.

## 2.1 Clevo Value Chain

Value chain of the NB industry includes: passive component, chipset, graphics processor, memory module, central processing unit, and parts suppliers in the upstream; case, keyboard, power supply, display, and lens suppliers in the midstream; and system designers, manufacturers, and sellers in the downstream. Clevo operates primarily at the downstream of the value chain, selling products to branded manufacturers or regional distributors while leveraging support from the upstream and midstream of the value chain.



# 2.2 R&D and Innovation

### Material topic: Product safety

Policy	<ul> <li>To incorporate ISO standards into the design phase and observe international standards and requirements for the safety and environment friendliness of products manufactured, while making products functionally competitive in the market.</li> </ul>
Commitments and goals	To ensure compliance, we work with procurement, sales, and supply partners to evaluate regulations and standards local and abroad, and take the initiative to observe them.
Responsibilities and resources	► ❖R&D unit
Grievance system	<ul> <li>CLEVO CO. ADD: No.129, Xingde Rd., Sanchong Dist., New Taipei City 241, Taiwan (R.O.C.) TEL: 886-2-22789696 http:// www.clevo.com.tw E-mail: marketing@clevo.com.tw</li> <li>U.K. Contract Service Center Address : Unit 6 Suthons Business Park , Suthons Park Avenue , Earley , Reading, RG6 1AZ , UK Tel No. : +44(0)1189269988 Fax No. : +44(0)1189662244 E-mail: service@goldenstaruk.com</li> <li>U.S.A. Contract Service Center ADD: Rowland Heights, CA 91748 TEL: +1-626-965-1989 FAX: +1-626-965-1407 E-mail: support@goldenstarusa.com</li> <li>Germany Contract Service Center ADD: Rochusstr.2 . 41352 Korschenbroich, Germany TEL +49-2161-998520 FAX: +49-2161-9985219 E-mail: service@clevo-computer.de</li> </ul>
Actions in 2020	<ul> <li>The Kunshan Plant set up training courses on "ISO9001: 2015 Standards and Requirements" and "ISO14001: 2015 Standards and Requirements": The courses began since 2018 and course materials are valid for a period of 3 years. The company expects to introduce courses on relevant professional knowledge in 2021.</li> <li>The Taipei Headquarters: Online orientation training was organized to educate new recruits on CLEVO's product lines and naming rules. New recruits are required to complete within two weeks after commencing duty, thereby developing a basic understanding of the company's products.</li> <li>The Kunshan Plant organized courses on "Definition of 5S" - in which 15 employees completed 45 hours of training in total.</li> <li>The Product Planning Division organizes seminars on new components and technologies once a month. It takes initiative in keeping employees of relevant departments up to date on the latest market trends.</li> </ul>
Quantitative management system	<ul> <li>Customer satisfaction survey and complaint count</li> </ul>

Clevo's R&D unit continues to design differentiated and highly competitive products that deliver the needs and user experience of modern consumers with "innovation," "flexibility," and "environmentfriendliness" in mind. We expect to expand our product line with models that offer growth potential and continue looking for differentiation to further strengthen our advantage and market presence.

Motivated by our pursuit for environment friendliness, we commit to prohibiting the use of hazardous substances starting from the product design and development phase. By creating CLEVO HSF (Hazardous Substances Free) standards, we prevent hazardous substances from being mixed into our products, thereby ensuring compliance with environmental regulations around the world, such as RoHS Directive PACKAGING Directive, Battery Directive, REACH, PFOS Directive, PAHs etc. We avoid the use of hazardous substances ourselves, but we also exert influence over the supply chain to do the same.

The 2020 pandemic has caused profound changes to people's lifestyles and work habits. As most countries around the world maintain the work-from-home order, it is increasingly common for users to look for features that eliminate noise in conference calls. Clevo's products have been designed with new Al-assisted noise-canceling technology to improve customers' user experience. The combination of a high screen-to-body ratio and noise reduction technology greatly enhances the user extends, whereas longer battery life to reduce the need for charging, thereby increasing the versatility of the device.

We offer the following products and services:

#### Mainstream Notebook

Clevo introduced mainstream models in 2020 to meet the need for replacement purchases from government institutions in mature and emerging markets , as well as first-time purchases from large corporations, SMEs, consumers, and households in emerging markets. Not only did we design 11-17 inch mainstream models based on Intel's new processors: Intel Comet Lake H, Tiger Lake-U/H35, and Ice Lake-U, we also introduced new NB models based on AMD's Ryzen<sup>™</sup> 5000 series processors.</sup>

The 15.6-inch NL50 series weighs 1.59kg, which is 0.3kg less than the 1.9kg industry average. It requires fewer resources to package and ship, and therefore contributes to low carbon emission, energy conservation, and environmental protection.

Clevo will be directing R&D efforts toward creating mainstream NBs with the following features: powerful yet energy efficient, lightweight, increased mobility, fashionable, per-key full RGB backlighting, USB 4.0 with rich expansion capabilities, as well as the USB Power Delivery (PD) DC-in

function, fast charging and long battery life are the features of mainstream notebooks.

Features that meet the needs of all customer types



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#### Commercial Notebook

For the commercial NB market, Clevo will be targeting the replacement purchase demands of businesses in mature markets. The NV40MZ is a 14-inch NB introduced by Clevo in 2020 for commercial creators. Featuring an 11th generation Intel® Core<sup>™</sup> Tiger Lake-U processor (with enhanced 10nm process and new S SuperFin architecture), new Willow Cove microarchitecture, and Iris Xe graphics, the new processor handles AI, graphics, and computing better than the previous generation (Ice Lake). With integrated Iris Xe graphics, Tiger Lake is capable of delivering optimal CPU, GPU, AI acceleration, and software performance; noise-canceling, for example, is a feature in which user experience is enhanced through AI. Compared to other competing products, NBs have the potential to improve office productivity by

20%; for content creators, photo editing tasks can be up to 2.7 times faster, while video editing can be 2 times faster. Furthermore,

# Improved performance and stability for commercial users

the built-in ThunderBolt 4 ports allow for the connection of up to two 4K displays or one 8K display.

Each creator NB is also individually color factory calibrated and offers the following features:

- (1)Accurate color matching system using Pantone's color matching components for industry-level color accuracy
- (2)Color settings offline backup and recovery the NB uses EPROM to store industry-level color settings, which allows users to restore at any time
- (3)Color settings cloud backup and recovery even in the event of EPROM damage, system upgrade, or maintenance, users can still synchronize color settings online.

The new NS50MU is a 15.6-inch modern NB designed for commercial creators. With a 92% screen-to-body ratio and thin-bezel design, Clevo was able to fit a 15.6-inch NB inside the chassis of a 14 inch NB, which reduces packaging and shipment space for energy and environmental benefits while making it easier to carry.

In the future, we will continue to move towards a full-featured enterprise business computer that, including faster and larger productivity in the workplace, better portability, higher durability, and longer-lasting batteries.



#### Mobility/environment focused NBs

Clevo considers environmental friendliness to be an important concept in product design and innovation. In addition to complying with environmental protection rules of each country,

the company also strives to increase the use of recyclable materials in its products. All NBs produced today conform with the latest energy efficiency and environmental protection standards. While observing the latest energy efficiency standards, Clevo also designs NBs to be smaller in size and lighter in weight not only for portability, but to reduce packaging materials, shipment space, and fuel for environmental benefits as well. The addition of environmental elements has been proven to appeal to customers.

In the future, Clevo will continue making NBs with energy efficiency and environmental friendliness in mind and aim to reduce overall power consumption



# Energy efficiency focus and optimal energy management

and carbon emission. We are dedicated to bringing new user experiences to customers, and pursue technology R&D and innovation as the foundation for maintaining the market advantage.

#### Gaming Notebook

Aside from mainstream and commercial notebooks, gaming notebooks have emerged

to form a separate category of its own, as increasing popularity of e-sports has made gaming electronics a place for tech companies to showcase their latest technologies. Clevo's extensive exposure in this field has enabled it to accumulate strong R&D capacity and develop a comprehensive product lineup from 14-inch to 17.3-inch models with a 300Hz high refresh rate screen. Clevo was also one of the first players in the industry to make NBs featuring GeForce RTX™

30 series GPU and AMD Ryzen 5000 series, ZEN3based 7nm mobile CPU, bringing a faster and

Higher quality and poweroptimized gaming experience

longer-lasting experience to gamers as well as creators.

Clevo's X17KM-G gaming NB is powered by the latest GeForce RTX<sup>™</sup> 30 series GPU, which comes with DLSS, a break-through Al-assisted rendering technology that takes advantage of GeForce RTX's Tensor core (designed specifically for Al processing) to increase framerates without compromising image quality. The addition of DLSS frees up performance headroom for more detailed graphics settings and higher resolution, and thereby delivers unmatched visual experience. The X17KM-G has two ThunderBolt 4 connectors built in, allowing for the connection to two 4K displays or one 8K display.

In terms of NB performance and power consumption, Clevo offers dynamic CPU/ GPU power optimization, an automatic, adaptive, and continuous dynamic acceleration technology that adjusts CPU and GPU power on a per-frame basis, allocating extra power to the GPU for additional performance as needed.

By empowering gaming NBs the ability to automatically switch between the iGPU and the dGPU, depending on the frames rendered, users may have the best of both worlds between performance and battery life.

The different product categories mentioned above also incorporate the following technologies and applications:

In terms of gaming laptop performance, the new GeForce RTX<sup>™</sup> 30 series GPU features DLSS, a breakthrough AI rendering technology that increases frame rates without compromising image quality. In terms of power saving, CPU/GPU Dynamic Power Optimization technology can achieve automatic, adaptive, and continuous dynamic acceleration based on CPU and GPU per-frame basis usage, achieving a solution that is both quality and power efficient.

2Lead the industry in introducing the new AMD Ryzen 5000 series 7nm Power Edition (N7+) advanced processors in laptops. It also increases endurance by more than 2 hours and supports longer playback time when enjoying music.

Clevo has added a new user-friendly central processing CPU dynamic boost( Enable Dynamic Boost for CPU) interface to the Control Center of the notebook.

④The NV40MB uses an 11th generation Intel® Core™ Tiger Lake-U 10nm processor, featuring a color-calibrated screen, lightweight, and long battery life. The product meets all the needs of an average user from word processing, gaming, entertainment, and content creation. It is a welcome device for creators and those who work from home due to the pandemic.

• The NS50MU configures a 92% screen-to-body ratio that allows it to fit a 15.6-inch NB inside the chassis of a 14 inch NB, which reduces packaging and shipment space for energy and environmental benefits while making it easier to carry.

With respect to mainstream NBs, Clevo's new NL50 series is a 15.6-inch device that weighs 1.59kg, which is 0.3kg less than the industry average of 1.9kg. The lighter weight requires fewer materials, packaging, and shipment, thus reducing emission and energy for environmental benefits.

Demand for gaming NBs showed signs of plateau in 2020, indicating saturation of the market; meanwhile, global outbreak of COVID-19 has fundamentally changed people's lifestyle, increasing the duration of time spent at home. In light of this new trend, Clevo changed its product and market strategies, turning attention towards introducing new commercial NBs that meet the needs of all customers, whether they require low-, medium-, or high-level specs and whether they are working on-the-go, at home, or doing simple tasks.

Clevo's NB lines have been redesigned with battery life improved to suit users with the following needs:



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## 2.3 Procurement of Supplies - Supply Chain Management

Through supply chain management, Clevo works with business partners towards reducing business risks and enhancing sustainability. In addition to implementing a supplier management policy, we also communicate and coordinate proactively with suppliers to ensure that they are able to deliver goods or services at the quality, specifications, and timing specified while contributing to Clevo's sustainability vision. As of the end of 2020, Clevo had a total of 219 suppliers, with more than 90% domiciled in Asia. The outbreak of COVID-19 created a severe shortage in the supply of materials for the computer and peripherals industries in 2020. By exploring alternative sources of supply, making purchases ahead of time, increasing safety stock, changing product design, and adjusting production schedules, Clevo overcame material shortages and maintained production and shipment at consistent levels.

#### Clevo's supplier management policy

- Clevo examines suppliers' service quality from a sustainability perspective and works with them to create Clevo's own sustainable value chain.
- Clevo has well-defined rules, documents, and standards in place for supplier management. The Company conducts a full examination of each supplier's capabilities, such as quality and timeliness of delivery, to minimize business risks and enhance sustainability.
- In order to ensure that Clevo's products do not have a negative impact on the environment and to meet the requirements of our customers and domestic and international regulations, we require our suppliers not to use hazardous substances or substances that are banned internationally, and Clevo will always pay attention to the requirements and regulations related to hazardous substances in order to fulfill our social responsibility to the earth.

#### 2.3.1 Green Purchase

As a response to tightened environmental regulations around the world, Clevo specifically instructs its suppliers to refrain from using hazardous or internationally prohibited substances. Clevo also observes the latest environmental trends and EU's WEEE (Waste Electrical and Electronic Equipment) and RoHS (Restriction of Hazardous Substances) directives and commits R&D efforts to design green electronics that are friendly and less impactful on the environment. Through action, we respond to the changing landscape of the world's consumer electronics market as well as consumers' rising attention towards how manufacturers handle environmental protection issues.

Clevo manages its green supply chain from the source, requiring all suppliers and business partners to conform with the company's environmental protection requirements. A set of "GP Management Procedures" has been implemented specifically for this purpose, under which all suppliers and business partners are required to sign a "Letter of Commitment on Hazardous Substances" and "Declaration on Environmental Protection," and attach a chemical composition analysis report issued by a third-party certifier or a certified laboratory to serve as an assurance that none of the materials and parts acquired contains any hazardous substance prohibited by RoHS.

Furthermore, Clevo would take the initiative to verify whether a supplier has obtained or expects to obtain certification for ISO14001 Environmental Management System, and conducts a green production evaluation on suppliers and business partners to establish an understanding of the current state of management. Clevo's requirements and emphases on green parts and green factory are explained below.

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#### Consideration for green factory

Suppliers have to be certified for ISO 14001 - Environmental management system

Suppliers are inspected for implementation and adherence to the environmental management system	(1) Confirmation of the management organization and execution system				
	(2) Commitment from the senior management				
	(3) Environmental strategies, goals, policies, and action plans				
	(4) Compliance with environmental protection laws				
	(5) Elimination of hazardous substances in production procedures				
	(6) External reporting of environmental performance and activities				
	(7) Environmental protection education for employees				

#### 2.3.2 Supplier Evaluation and Management

Clevo has implemented a set of "Supplier Management Procedures" to provide guidance over the evaluation and auditing of suppliers' performance, and therefore ensure the quality of products made. The management procedures incorporate four main assessment criteria: "Operational management and production capacity," "Engineering technology," "Procedure and quality control," and "Quality system and assurance."

In addition to fulfilling its own responsibilities, Clevo also aims to lead suppliers in adopting

sustainable practices. Clevo assigns its employees to audit and evaluate suppliers' performance on-site, and ensure that performance is up to standard. Only those that pass evaluation/audit can be included in the approved supplier list. A supplier will have to score a total of 75 and above with "Quality system and assurance" and "Procedure and quality control," adding to no less than 35. In other words, the evaluation places more emphasis on suppliers' "Quality system and assurance" and "Procedure and quality control"; those that fail to achieve a combined score of 35 on the two aspects will not be accepted as supply partners.

#### Supplier evaluation criteria





# 2.4 Use and Disuse of Logistics

#### 2.4.1 Carbon Reduction in Logistics

Clevo has retained its packaging design from 2017 as it lowers carbon emissions during transportation and effectively increases the number of stackable cartons for sea freight. By reducing the size of carton boxes, Clevo is able to make optimal use of LCL (less than container load) for improved quality and efficiency of shipment.

Clevo continues to demonstrate its ambition and resolve towards reducing emissions throughout the value chain in the logistics and transportation process. The N350DV/DW 6CELL 1-IN-1 model, for example, has had package boxes redesigned and shrunken, with pallet loading patterns adjusted to maximize the use of pallet space. As a result, the maximum loading capacity per pallet was increased by 50% from 96 boxes to 144 boxes for the 1-IN-1 model and 18% for the 4-IN-1 model. By reducing the size of cartons and the number of pallets, Clevo required fewer shipments to deliver the same volume of products and therefore was able to cut down on carbon emission.

#### Comparison of sea freight stack count between original and downsized packaging designs

Packaging Type		Placement	Maximum Quantity(pcs)
Original Packaging		Vertical placement []A layer to put 16 boxes, a box of 1 pc, put six layers	96
Miniature Package	1-IN-1	Vertical placement []A layer to put 24 boxes, a box of 1 pc, put six layers	144
Original Packaging	4.001.2	Vertical placement []A layer to put 5 boxes, a box of 4 pcs, put six layers	120
Miniature Package	4-IN-1	Vertical placement []A layer to put 6 boxes, a box of 4 pcs, put six layers	144

Original packaging design (4-IN-1)

Downsized packaging design (4-IN-1)





#### 2.4.2 Improved Energy Efficiency in Consumer Use

In light of the increasing impacts that climate change and global warming have on Earth's environment, consumers are starting to take green labels and energy certifications into consideration when choosing products. Clevo has long been attentive to the use of energy labels at various locations, and requires relevant rules to be taken into consideration during the initial stages of product development and design, so that the final products can be certified for energy labels in all locations where they are sold.

We design our products with two main focuses: "energy efficiency" and "best user experience." We persistently explore innovative technologies to support our sustainability and energy efficiency goals so that consumers may continue to enjoy a good user experience and low power consumption while being friendly to the environment.

Currently, all of Clevo's models are able to achieve the level of energy efficiency needed for the Energy Star label. The Company's R&D department is constantly exploring new technologies, and new certifications are applied upon customer request. In terms of CEL certification, Clevo had 74 of its NB models certified in 2020.

#### 2.4.3 Reduction of Product Terminal Waste

We take an environment-friendly approach towards terminal waste and adopt a modular design concept with separable parts that make our products easy to disassemble, recycle, and reuse at the terminal stage.

Products are designed with five main considerations in mind:

Modular design Increasing the consistency of materials used helps reduce hassle in recycling and sorting

Ease of disassembly Products can be disassembled using ordinary tools without specialized eauioment Ease of separation Electronic components are designed to be easily detachable Reduced use of materials Reduce the number of bolts, washers, and nuts used

Use of recyclable materials Using recyclable materials as the priority

We apply the same design concept for packaging materials as we would for our products, including "easy of disassembly and recycling." Several proprietary innovations have been made to increase the recyclability of packaging materials, such as: instead of gluing EPE cushions inside carton boxes, a new packaging design was adopted to separate EPE cushions from carton boxes, so that customers can sort, recycle, and reuse waste with greater ease. This design not only raises customers' willingness and shortens the time taken to disassemble and recycle waste, but also reduces the use of materials during production.

## 2.5 Customer Service Management

Material topic: Market presence				
Policy	<ul> <li>Clevo has well-defined "customer service management," "non-conforming product control," and customer grievance handling procedures in place to ensure standardized services to customers.</li> <li>The Customer Service Division and Customer Quality Service (CQS), R&amp;D, and sales teams jointly devise responses to consumers' needs.</li> <li>Clevo maintains a positive market image to enhance customers' loyalty and satisfaction and improve operating performance and competitiveness.</li> </ul>			
Commitments and goals	*All employees of the Company share the common goal of raising customer satisfaction, and believe in the value of making persistent improvements to product and service quality, as it enables Clevo to thrive against the increasingly competitive consumer electronics market.			
Responsibilities and resources	♦ Customer Service Division			
Grievance system	<ul> <li>Customer satisfaction questionnaire</li> <li>Field Application Engineer (FAE)</li> </ul>			
Actions in 2020	<ul> <li>The Company withdrew participation from global consumer electronics exhibitions in 2020 due to the COVID-19 pandemic and shifted focus towards existing customers while engaging foreign customers through online conferences and online exhibitions.</li> <li>The Company conducts 2 customer satisfaction surveys a year.</li> </ul>			
Quantitative management system	Customer satisfaction survey			

Clevo values customers' suggestions and feedbacks, so much so that we have made "satisfying customers' needs" one of the Company's main missions. We hope to deliver the best shopping experience for every consumer and customer that purchases at Clevo. Clevo handles every defective product in need of repair and every request for after-sale service with care. We continually refine our products and customer service, and hope to raise customers' attachment, satisfaction, and trust in us by satisfying their needs one at a time.

Clevo has a "Customer Service Division" that is primarily responsible for product repair and customer service. The Company also has standard procedures on "customer service management" and "non-conforming product control" to provide employees with guidance on how to handle product defects and customers' complaints for a more timely response. Clevo did not encounter any violation of customers' privacy or loss of customers' data in 2020. Below is an explanation of Clevo's product repair and customer complaint handling procedures:

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#### 2.5.1 Customer Satisfaction Survey

Clevo builds its corporate culture around customers' needs. Every decision from product design, purchase of supplies, and production to sales is made with users' experience in mind, and all departments coordinate with each other to ensure customer satisfaction. The customer service team conducts customer satisfaction surveys twice a year. It issues questionnaires regularly to determine how satisfied customers are, and outcomes of the survey are analyzed, compared, and shared with sales and relevant departments for future improvements.

During the survey, we invite customers to score their satisfaction on five main aspects, including "sales," "quality," "technology," "customer service," and "design" using a 5-scale system (Outstanding, Good, Fair, Improvement Needed, Poor). This provides the Company with full knowledge of customers' experience and thoughts on the products offered.

Clevo distinguishes customer feedback into a number of categories such as operating and design-related, according to its "Customer Complaint Analysis and Feedback" procedures. The company received 15 questionnaires from an interim survey and 16 questionnaires from the yearend survey in 2020, which showed a slight increase in overall customer satisfaction by 0.4%.

"Work," "education," and "entertainment" had been the three prominent trends of NB purchase in 2020 due to the pandemic. Clevo's ability to deliver thin, lightweight, and high-performance NBs with long battery life and a wide range of connectivity options was the main reason behind the improved satisfaction.

Meanwhile, Clevo is making the following improvements to low-scoring aspects: having FAE sales contact customers more pro-actively and in a more timely manner; offering professional-level technical support on product issues reflected by customers and providing feedback to relevant teams; allocating resources to address "micro trends" in the market; and shifting design focus towards thin & light NBs, commercial NBs, and niche NBs for creators. The company will continue introducing gaming NBs with distinctive competitive advantages to satisfy the needs of all markets.

Clevo received 62 cases of customer feedbacks in 2020, which were 20 cases more compared to the 42 in 2019. The surge in customer feedbacks was mostly concerning increases in personnel turnover and defective materials supply, which were primarily caused by the pandemic. For improvement, we shall repeatedly examine product quality at every step of the production process, and live up to Clevo's persistence of bringing top-quality products to customers and consumers.

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Customer satisfaction survey in the last 3 years

	Overall	Quality	Sales	Design	Technology	Customer service
2018	76.0	39.1	82.8	92.7	86.9	74.0
2019	76.4	26.7	77.8	83.4	93.3	88.3
2020	80.0	43.5	81.5	90.0	83.5	90.5



Partner Award

Best Partner Award

Clevo Co.

MouseComputer Co., Ltd.



2020 - Clevo received LINC ODM Partner from Microsoft

Partner Award 2020 Partnership Award Clevo Co. MouseComputer Co., Ltd.

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#### 2020 - Clevo received Best Collaborator Award during Mouse Computer Conference



2020 – Clevo received Outstanding Contribution Award for High Quality Development from Kunshan Municipal Government

2020 - Clevo received Best Partner Award during Mouse Computer Conference

2020 - Clevo received The Best Partner Award from Intel



2020 - Clevo received Best Partner Award from GIGABYTE